STATE PROJECT NUMBER

1133-11-74

℄ USH 41 NB TO IH 43 SB
(RAMP 'IHA')

℄ WEITOR DRIVE

EXISTING IH 43 SB

EXISTING IH 43 NB

℄ USH 41 NB

EXISTING USH 41 SB

EXISTING USH 41 NB

℄ USH 41 SB

℄ USH 41 SB TO IH 43 SB
(RAMP 'SIH')

℄ IH 43 NB TO USH 41 NB
(RAMP 'NIH')

EXISTING IH 43 NB TO USH 41 NB

ACCESS HATCH LOCATION

EXISTING USH 41 NB TO IH 43 SB

S. ABUTMENT

170'-5"

PIER 1

248'-0"

PIER 2

248'-0"

PIER 3

248'-0"

PIER 4

172'-0"

PIER 5

172'-0"

PIER 6

248'-0"

PIER 7

248'-0"

PIER 8

248'-0"

PIER 9

182'-8"

1086'-5" UNIT 1

1098'-8" UNIT 2

MODULAR EXPANSION JOINT

COMMON PIER C1

MODULAR EXPANSION JOINT

STRUCTURE B-5-681

℄ IH 43 NB TO USH 41 SB
(RAMP 'IHB')

R-5-256

MODULAR EXPANSION JOINT

ACCESS HATCH LOCATION

FILE NAME : P:\153 USH 41 1133-10-00 ERS\Structures\B-5-679\001_site plan_v8_b-5-679.dgn
PLOT DATE : 5/30/2013

8

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

Original Plans Prepared By
ROMENESKO ENGINEERING, INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher KAR 06/03/13
CHIEF STRUCTURES DESIGN ENGINEER DATE

# STRUCTURE B-5-679

IH 43 NB TO USH 41 NB (RAMP 'NIH')

| COUNTY | ~~TOWN/CITY~~/VILLAGE |
|---|---|
| BROWN | HOWARD |

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

| DESIGNED BY | DESIGN CK'D. | DRAWN BY | PLANS CK'D. |
|---|---|---|---|
| TR | VR | TAW | TR |

SITE PLAN
B-5-679

SHEET 1 OF 91
890

I.D. 1133-10-00 DATE : $$...date...$$

WISCONSIN
THOMAS J. ROMENESKO
E-26318
MADISON
WI
PROFESSIONAL ENGINEER
5/31/13

ROMENESKO ENGINEERING, INC.
CONTACT: TOM ROMENESKO, P.E.
7325 CEDAR CREST DRIVE
SAUK CITY, WI 53583
(608) 644-1502

BRIDGE OFFICE CONTACT:
WILLIAM DREHER, P.E.
(608) 266-8489

NE REGION CONTACT:
DANIELLE BLOCK
(920) 492-2212

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

8

STATE PROJECT NUMBER

1133-11-74

## LIST OF DRAWINGS


1. SITE PLAN B-5-679
2. DRAWING LIST AND GENERAL NOTES
3. GENERAL PLAN AND ELEVATION - SPANS 1-3
4. GENERAL PLAN AND ELEVATION - SPANS 4-6
5. GENERAL PLAN AND ELEVATION - SPANS 7-8
6. GENERAL PLAN AND ELEVATION - SPANS 9-10
7. CROSS SECTION
8. QUANTITIES
9. ALIGNMENT & SUPERELEVATION
10. SUBSURFACE EXPLORATION
11. SUBSURFACE EXPLORATION
12. SUBSURFACE EXPLORATION
13. SOUTH ABUTMENT
14. SOUTH ABUTMENT
15. SOUTH ABUTMENT
16. WING 1
17. SOUTH ABUTMENT DETAILS
18. PIER 1 LAYOUT DETAILS
19. PIER 2 LAYOUT DETAILS
20. PIER 3 LAYOUT DETAILS
21. PIERS 4, 6, 7, & 8 LAYOUT DETAILS
22. PIER 5 LAYOUT DETAILS
23. PIER 9 LAYOUT DETAILS
24. PIER C1 LAYOUT DETAILS
25. PIER CAP DETAILS - PIERS 1, 2, 4 & 6 THRU 8
26. PIER CAP DETAILS - PIERS 1, 2, 4 & 6 THRU 8
27. PIER CAP DETAILS - PIERS 3 & 9
28. PIER CAP DETAILS - PIERS 3 & 9
29. PIER CAP DETAILS - PIER 5
30. PIER CAP DETAILS - PIER 5
31. PIER CAP DETAILS - PIER C1
32. PIER CAP DETAILS - PIER C1
33. BILL OF BARS - PIER CAP
34. SHAFT DETAILS - PIER 1
35. SHAFT DETAILS - PIER 2
36. SHAFT DETAILS - PIER 3
37. SHAFT DETAILS - PIER 4
38. SHAFT DETAILS - PIERS 5, 7, & C1
39. SHAFT DETAILS - PIER 6
40. SHAFT DETAILS - PIER 8
41. SHAFT DETAILS - PIER 9
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44. PIER FOOTING DETAILS
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47. DECK REINFORCEMENT - SPANS 1-3
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54. TOP OF DECK ELEVATIONS
55. SINGLE SLOPE PARAPET 32SS
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67. ELECTRICAL SITE PLAN B-5-679
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72. GIRDER LIGHTING PLAN & ELEV UNIT 1 - SPAN 5
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74. GIRDER LIGHTING PLAN & ELEV UNIT 2 - SPAN 7
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76. GIRDER LIGHTING PLAN & ELEV UNIT 2 - SPAN 9
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80. ELECTRICAL CROSS SECTION AT PIER
81. AESTHETIC DETAILS
82. FLOOR DRAIN TYPE 'GC'
83. FLOOR DRAIN DETAILS
84. FLOOR DRAIN DETAILS - 2
85. DECK FORM DETAILS
86. SLOPE PAVING SELECT CRUSHED MATERIAL
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## GENERAL NOTES

THIS CONTRACT INCLUDES ERECTING STRUCTURAL STEEL AND BEARINGS AND FURNISHING AND CONSTRUCTING/INSTALLING EXPANSION DEVICES, SHEAR STUD CONNECTORS, LIGHTING SYSTEMS, CONCRETE SUPERSTRUCTURE AND SUBSTRUCTURES, INCLUDING FOUNDATIONS AND AESTHETICS, AS SHOWN IN THESE PLANS AND DESCRIBED IN THE SPECIAL PROVISIONS.

"STEEL FABRICATION CONTRACT" PLANS ARE ATTACHED TO THESE "STEEL ERECTION AND SITE CONSTRUCTION CONTRACT" PLANS FOR REFERENCE. USE FOR ERECTION AND INSTALLATION OF STEEL GIRDERS AND BEARINGS UNDER THIS CONTRACT.

SHOP DRAWINGS ARE AVAILABLE UPON REQUEST FOR BIDDERS TO REVIEW.

AFTER STRUCTURE SHOP ASSEMBLY AND DISASSEMBLY, ANY ELEMENTS NOT INSTALLED BY THE CONTRACTOR OF THE FABRICATION CONTRACT ARE TO BE INSTALLED BY THE CONTRACTOR OF THIS ERECTION AND CONSTRUCTION CONTRACT.

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES. ALL STATIONS AND ELEVATIONS ARE IN FEET.

ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (1991).

GIRDERS AND OTHER ELEMENTS OF THE STRUCTURE ARE REFERRED TO AS 'LEFT' AND 'RIGHT'. THESE ORIENTATIONS ARE WITH RESPECT TO THE REFERENCE LINE WHEN LOOKING IN THE DIRECTION OF INCREASING STATION.

TRANSVERSE DIMENSIONS ARE RADIAL TO THE REFERENCE LINE UNLESS NOTED OTHERWISE.

STRUCTURE PLANS PREPARED BY:

ROMENESKO ENGINEERING, INC.

WISCONSIN
THOMAS J. ROMENESKO
E-26318
MADISON
WI
PROFESSIONAL ENGINEER
5/31/13

ELECTRICAL PLANS PREPARED BY:

URS

WISCONSIN
MOHAMMED A. ELSHOLI
E-37874-6
ORLAND HILLS, IL
PROFESSIONAL ENGINEER
05.01.2013

## GENERAL NOTES (CONT.)

THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR CONSIDERED ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATION AS TO TYPE AND LOCATION OF UNDERGROUND UTILITIES.

FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO DESIGNATION M153, TYPE I, II, OR III OR M213.

STAY-IN-PLACE METAL DECK FORMS ARE PERMITTED INSIDE BOX GIRDERS ONLY. STAY-IN-PLACE METAL DECK FORMS ARE CONSIDERED INCIDENTAL TO THE COST OF "HPC MASONRY STRUCTURES".

PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED TO THE INSIDE OF PARAPETS, AND TOP OF PARAPETS.

## STRUCTURAL STEEL

FABRICATED STRUCTURAL STEEL AND BEARINGS ARE FURNISHED BY OTHERS UNDER A SEPARATE CONTRACT. PROVIDE THE ENGINEER A MINIMUM OF THREE WEEKS WRITTEN NOTICE PRIOR TO WHEN THESE MATERIALS ARE REQUIRED ON SITE.

THE COST OF INSTALLING BEARINGS, ACCESS HATCHES, AND ERECTING STRUCTURAL STEEL ARE INCLUDED IN THE BID ITEM "ERECTING STRUCTURAL STEEL B-5-679."

A TECHNICAL REPRESENTATIVE FROM THE BEARING MANUFACTURER MUST BE PRESENT DURING INSTALLATION OF THE FIRST BEARING. PROVIDE THE ENGINEER A MINIMUM OF THREE WEEKS WRITTEN NOTICE OF THE SPECIFIC DAY THE BEARING MANUFACTURER REPRESENTATIVE NEEDS TO BE ON SITE. PAYMENT FOR THIS WORK IS MADE UNDER THE STEEL FABRICATION CONTRACT (1133-11-71).

THE CONTRACTOR IS RESPONSIBLE NOT TO OVER-ROTATE BEARING ASSEMBLIES. DO NOT DISASSEMBLE ANY BEARING WITHOUT THE PRESENCE OF THE TECHNICAL REPRESENTATIVE OF THE BEARING MANUFACTURER.

THE CONTRACTOR MUST COORDINATE WITH THE BEARING MANUFACTURER REGARDING FINAL DIMENSIONS AND DETAILS OF MASONRY PLATES AND ANCHOR BOLTS. NO ADDITIONAL PAYMENT WILL BE MADE DUE TO ANY CHANGES IN THE SUPPLIED BEARINGS AND AS SHOWN ON CONTRACT 1133-11-71.

SHEAR STUDS ARE FURNISHED AND INSTALLED UNDER THIS CONTRACT. SEE STEEL FABRICATION PLANS FOR LOCATIONS AND SPACING OF SHEAR STUDS. REMOVE 3MM COAT OF PRIMER FROM THE TOP FLANGE AT LOCATIONS OF SHEAR STUDS BEFORE INSTALLING STUDS.

SHEAR STUDS MUST BE EMBEDDED A MINIMUM OF 2" ABOVE BOTTOM MAT OF STEEL REINFORCEMENT.

PROVIDE ANCHOR RODS, NUTS AND WASHERS CONFORMING TO ASTM F1554 (GRADE 105) AND HOT-DIP GALVANIZE IN ACCORDANCE WITH AASHTO M232.

TEMPORARY SUPPORTS AND FALSEWORK (INCLUDING DECK OVERHANG BRACKETS) SHALL NOT BE ATTACHED TO OR BEAR ON GIRDER WEBS EXCEPT AT WEB STIFFENER LOCATIONS.

DESIGN THE CONNECTION BETWEEN STAY-IN-PLACE METAL FORMS (OPTIONAL FORMS) AND GIRDER FLANGES TO PROVIDE ADJUSTMENT OF VERTICAL POSITION BASED ON THE ACTUAL HAUNCH HEIGHT REQUIRED.

TOP OF STAY-IN-PLACE METAL FORMS SHALL BE ALIGNED WITH THE UNDERSIDE OF THE DECK SLAB AS SHOWN ON THE SUPERSTRUCTURE DETAILS SHEET.

## REINFORCING STEEL

ALL REINFORCING BARS ARE ENGLISH AND THE FIRST OR THE FIRST TWO DIGITS OF THE BAR MARK SIGNIFY THE BAR SIZE.

REINFORCING STEEL SHALL BE HIGH STRENGTH, GRADE 60 WITH FY=60 KSI. PROVIDE STAINLESS STEEL REINFORCEMENT CONFORMING TO ASTM A615, GRADE 60 REQUIREMENTS.

REINFORCING STEEL SHALL BE UNCOATED IN FOUNDATIONS (EXCEPT PIER SHAFT DOWELS) AND EPOXY COATED IN ALL OTHER LOCATIONS (INCLUDING PIER SHAFT DOWELS).

PLACE ALL REINFORCEMENT WITH A MINIMUM CLEAR COVER OF 2" UNLESS NOTED OTHERWISE.

PLACE REINFORCEMENT IN FOOTINGS AND PILECAPS WITH A MINIMUM CLEAR COVER OF 3" BOTTOM AND 2" TOP AND SIDES UNLESS NOTED OTHERWISE.

PLACE TOP LAYER OF REINFORCING STEEL IN THE DECK SURFACE WITH 2½" CLEAR COVER TO TOP OF SLAB.

PLACE BOTTOM LAYER OF REINFORCING STEEL IN THE DECK WITH 1½" CLEAR COVER TO BOTTOM OF SLAB.

ONLY REINFORCEMENT REQUIRED BY DESIGN IS SHOWN EXPLICITLY ON THE DRAWINGS. ADDITIONAL REINFORCEMENT MAY BE USED TO SIMPLIFY ASSEMBLY AND ERECTION OF THE REINFORCING STEEL AND MAY BE REQUIRED TO ENSURE STABILITY AND POSITIONING OF THE COMPLETED REINFORCEMENT CAGE. REINFORCEMENT IN ADDITION TO THAT SHOWN WILL NOT BE INCLUDED FOR PAYMENT.

LAP SPLICE LENGTHS SHALL BE CLASS C UNLESS NOTED OTHERWISE.

## DESIGN CRITERIA

DESIGN IS IN ACCORDANCE WITH AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) LRFD BRIDGE DESIGN SPECIFICATIONS, 5TH EDITION WITH 2010 INTERIM REVISIONS, AND THE WISDOT BRIDGE MANUAL.

ALL DETAILS, MATERIALS, AND FABRICATION SHALL CONFORM TO THE THE STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION. USE THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS AT THE TIME OF CONSTRUCTION.

LIVE LOAD PLUS DYNAMIC LOAD DEFLECTION LIMIT = SPAN / 800 (HL93).

## OTHER DESIGN LOADS

PROFILE GRADE LINE AND TOP OF DECK ELEVATIONS ARE TO THE TOP OF THE 10" DECK THICKNESS. THE 10" DECK THICKNESS INCLUDES A ½" INTEGRAL WEARING SURFACE, BUT DOES NOT INCLUDE AN ADDITIONAL EPOXY OVERLAY THAT WILL BE PROVIDED AFTER POURING OF THE DECK.
THE STRUCTURE IS DESIGNED FOR THE WEIGHT OF THE 10" THICKNESS OF CONCRETE PLUS ⅜" THICKNESS OF EPOXY OVERLAY.
UNIT WEIGHTS ASSUMED FOR DESIGN WERE 150 PCF FOR CONCRETE AND 3 PSF FOR ⅜" EPOXY OVERLAY.

TEMPERATURE CHANGE FOR DETERMINING THERMAL FORCES ON SUBSTRUCTURES = 90°F.

BEARING MOVEMENT RANGE IS BASED ON BEARING CENTERED AT 60°F AND ACCOMODATING 90°F OF MOVEMENT IN EITHER DIRECTION.

DESIGN ASSUMED A WEIGHT PER GIRDER OF 10 PSF FOR STAY-IN-PLACE METAL DECK FORMS INSIDE EACH GIRDER ONLY AND 13.5 PSF FOR CONCRETE WITHIN THE RIBS OF THESE FORMS.

DESIGN ASSUMED 7.5 PSF FOR TEMPORARY FORMWORK IN ADDITION TO STAY-IN-PLACE METAL DECK FORMS.

PARAPETS WERE ASSUMED TO WEIGH 563 PLF AND 464 PLF FOR 42" AND 32" SECTIONS RESPECTIVELY.

ALL OTHER LOADS IN ACCORDANCE WITH AASHTO.

## DESIGN LIVE LOAD

DESIGN LOADING: HL-93

INVENTORY RATING FACTOR: RF = 1.28

OPERATING RATING FACTOR: RF = 1.66

WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 KIPS

## EXCAVATION AND BACKFILL

THE FINISHED GRADE LINE SHALL BE THE UPPER LIMITS OF EXCAVATION FOR STRUCTURES.

## CONCRETE

CONCRETE QUANTITY IN THE HAUNCHES IS CALCULATED BASED ON AN ASSUMED CONSTANT DEPTH OF 4" MEASURED FROM TOP OF WEB TO UNDERSIDE OF SLAB (EXCLUDING THE VOLUME TAKEN UP BY THE TOP FLANGE). THIS IS THE MAXIMUM HAUNCH QUANTITY FOR WHICH PAYMENT WILL BE MADE.

CONCRETE QUANTITY IN THE STAY-IN-PLACE METAL DECK FORM RIBS IS CALCULATED BASED ON AN ASSUMED RIB HEIGHT OF 3", WIDTH OF 3" AND RIB ANGLE OF 45°. THIS IS THE MAXIMUM RIB QUANTITY FOR WHICH PAYMENT WILL BE MADE.

CHAMFER ALL EXPOSED OUTSIDE CORNERS ¾" UNLESS NOTED OTHERWISE.

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

DRAWING LIST AND GENERAL NOTES

SHEET 2 OF 91
891

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

FILE NAME : P:\153 USH 41 1133-10-00 UBS\Structures\B-5-679\002.drawinglist_notes_v8.b-5-679.dgn

PLOT DATE : 5/29/2013

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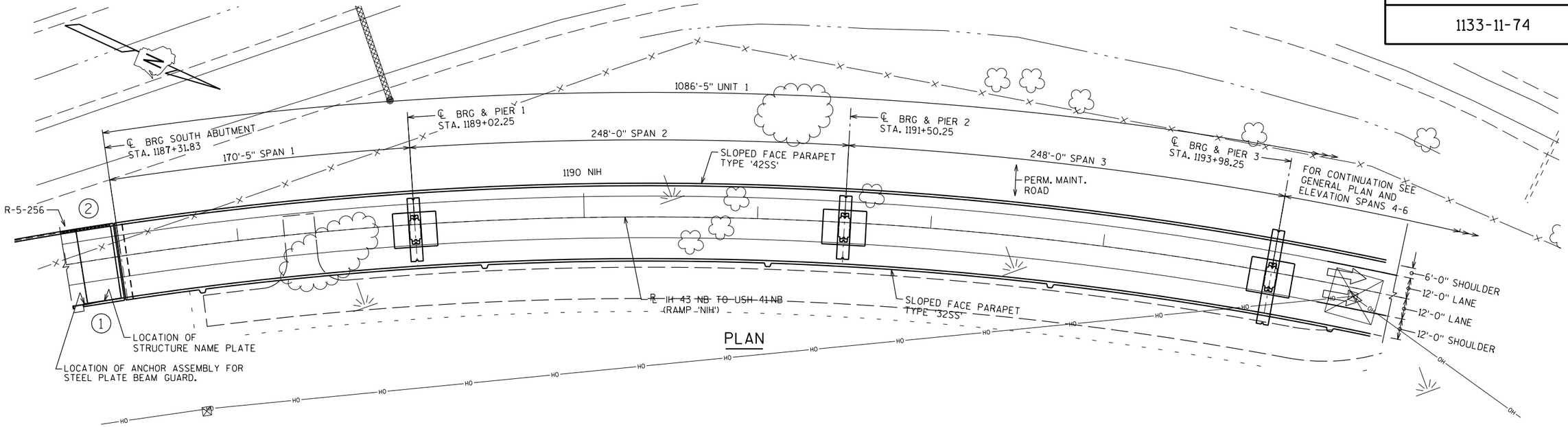
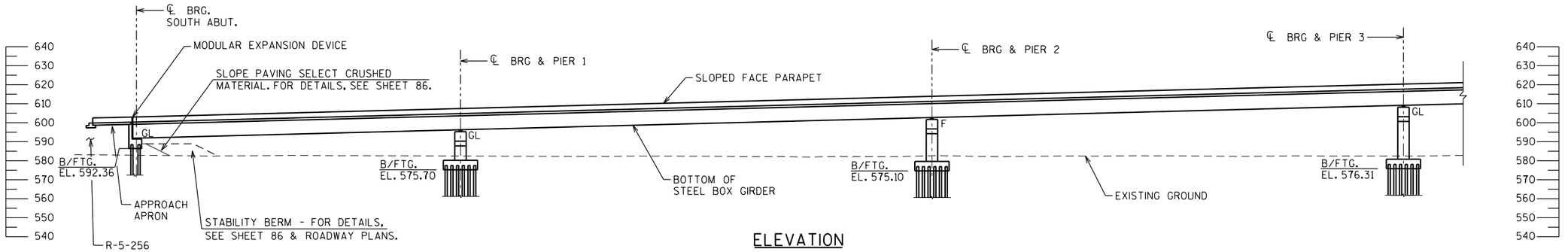
STATE PROJECT NUMBER

1133-11-74




## PLAN




## ELEVATION

(ALONG ℄ LOOKING SOUTHWEST)

## BENCH MARK

| NO. | DESCRIPTION | ELEVATION |
|---|---|---|
| BM 778 | RR SPIKE IN DECIDUOUS TREE | 586.61 |

## DESIGN DATA

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY, HIGH PERFORMANCE CONCRETE
SLAB---------- f'c = 4,000 P.S.I.
ALL OTHER---------- f'c = 4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60---------- fy = 60,000 P.S.I.
HIGH STRENGTH STRUCTURAL STEEL,---------- fy = 50,000 P.S.I.
(ASTM A709, GRADE 50, HPS50W)

## FOUNDATION DATA

SOUTH ABUTMENT TO BE SUPPORTED ON HP14X73 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 250 TONS PER PILE AS DETERMINED BY THE PDA/CAPWAP METHODS. ESTIMATED 75 FEET LONG.

PIERS 1 THROUGH PIER C1 TO BE SUPPORTED ON HP14X73 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 250 TONS PER PILE AS DETERMINED BY THE PDA/CAPWAP METHODS. SEE PIER SHEETS FOR ESTIMATED LENGTHS.

THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.8 USING THE PDA/CAPWAP METHODS AND THE PREVIOUSLY COMPLETED STATIC LOAD TEST TO DETERMINE THE REQUIRED DRIVING RESISTANCE.

HARD DRIVING MATERIAL SHOULD BE ANTICIPATED IN LAYERS SIGNIFICANTLY ABOVE MINIMUM TIP ELEVATION AT SOME LOCATIONS. IT IS RECOMMENDED THAT THE CONTRACTOR VERIFY THAT THE PILE DRIVING SYSTEM CAN ADVANCE PILES TO DEVELOP THE REQUIRED DRIVING RESISTANCE AND MINIMUM TIP ELEVATION WITHOUT DAMAGE TO THE PILE. DETAILED DRIVEABILITY ANALYSIS SHOULD BE PART OF CONTRACTOR VERIFICATION. IF MINIMUM TIP ELEVATION CANNOT BE ACHIEVED SEE ENGINEER.

## TRAFFIC VOLUME:

RAMP NIH
ADT (2035) = 10,200
R.D.S. = 70 M.P.H.

RAMP IHB
ADT (2035) = 17,600
R.D.S. = 60-70 M.P.H.

## STRUCTURE TYPE

5-SPAN CONTINUOUS STEEL BOX GIRDER BRIDGE UNIT 1
5-SPAN CONTINUOUS STEEL BOX GIRDER BRIDGE UNIT 2

## NOTES:

ALL SUBSTRUCTURE UNITS ARE NORMAL TO ℄.

DIMENSIONS SHOWN ARE ALONG ℄.

SPAN LENGTHS SHOWN ARE MEASURED ALONG ℄.

FOR CURVE DATA SEE ALIGNMENT LAYOUT AND SUPERELEVATION SHEET.

LIGHT POLE LOCATIONS ARE NOT YET DETERMINED.

GUIDED LONGITUDINAL BEARINGS WILL BE ALIGNED PARALLEL WITH ℄.

EXISTING AND FUTURE UTILITIES ARE SHOWN FOR INFORMATION ONLY. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING ALL UTILITIES PRIOR TO EXCAVATION OR PILE DRIVING.

## LEGEND

F- FIXED BEARING
GL - GUIDED LONGITUDINAL UNIDIRECTIONAL BEARING
(X) INDICATES WING/CORNER NUMBER

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

GENERAL PLAN AND ELEVATION SPANS 1-3

SHEET 3 OF 91
892

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

FILE NAME : P:\153 USH 41 1133-10-00 URS\Structures\B-5-679\003_genplan_spans_1-3_v8_b-5-679.dgn

PLOT DATE : 5/30/2013

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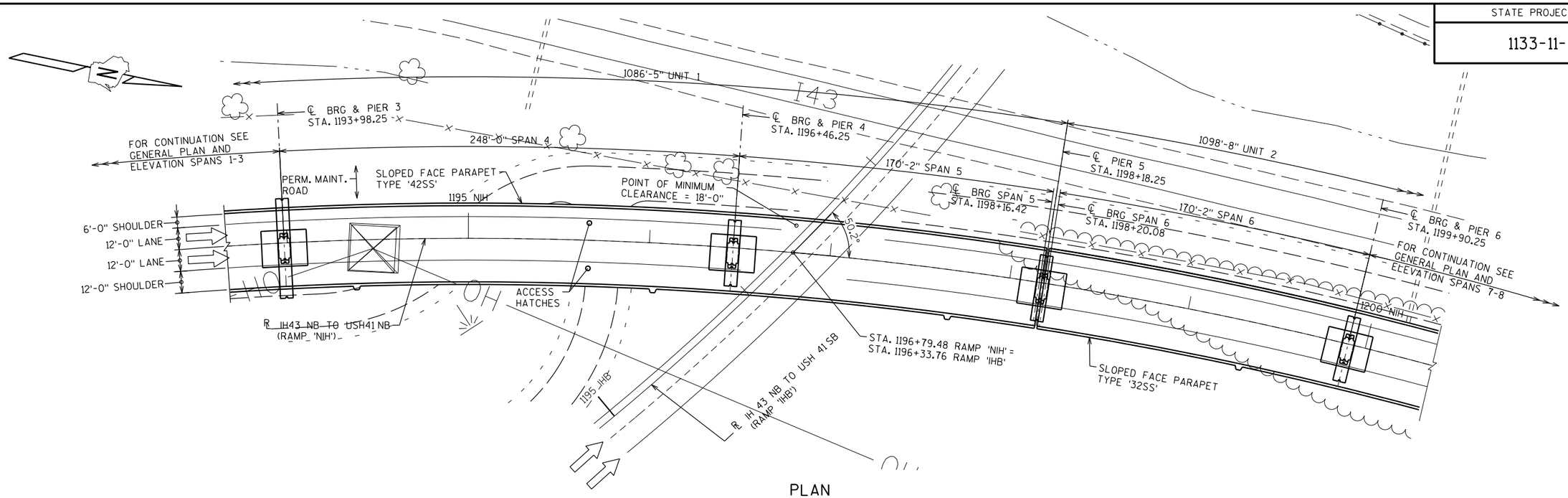
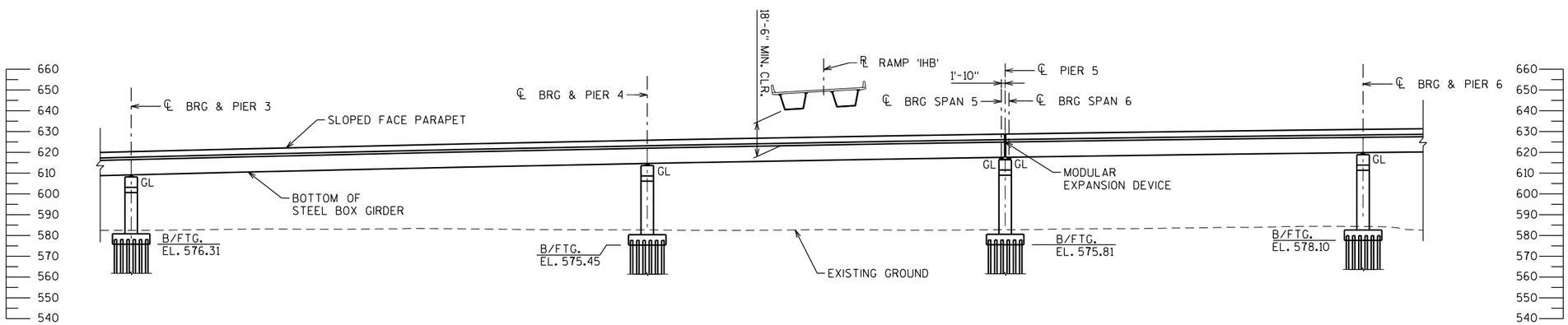
STATE PROJECT NUMBER

1133-11-74




PLAN




ELEVATION

(ALONG ℞ LOOKING SOUTHWEST)

## LEGEND

F- FIXED BEARING
GL - GUIDED LONGITUDINAL UNIDIRECTIONAL BEARING

## NOTES:

FOR NOTES, SEE SHEET TITLED "GENERAL PLAN & ELEVATION SPANS 1-3"

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

GENERAL PLAN AND ELEVATION SPANS 4-6

SHEET 4 OF 91

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STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

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FILE NAME : P:\153 USH 41 1133-10-00 UDCS\Structures\B-5-679\004_genplan_spans_4-6_v8_b-5-679.dgn

PLOT DATE : 5/30/2013

| STATE PROJECT NUMBER |
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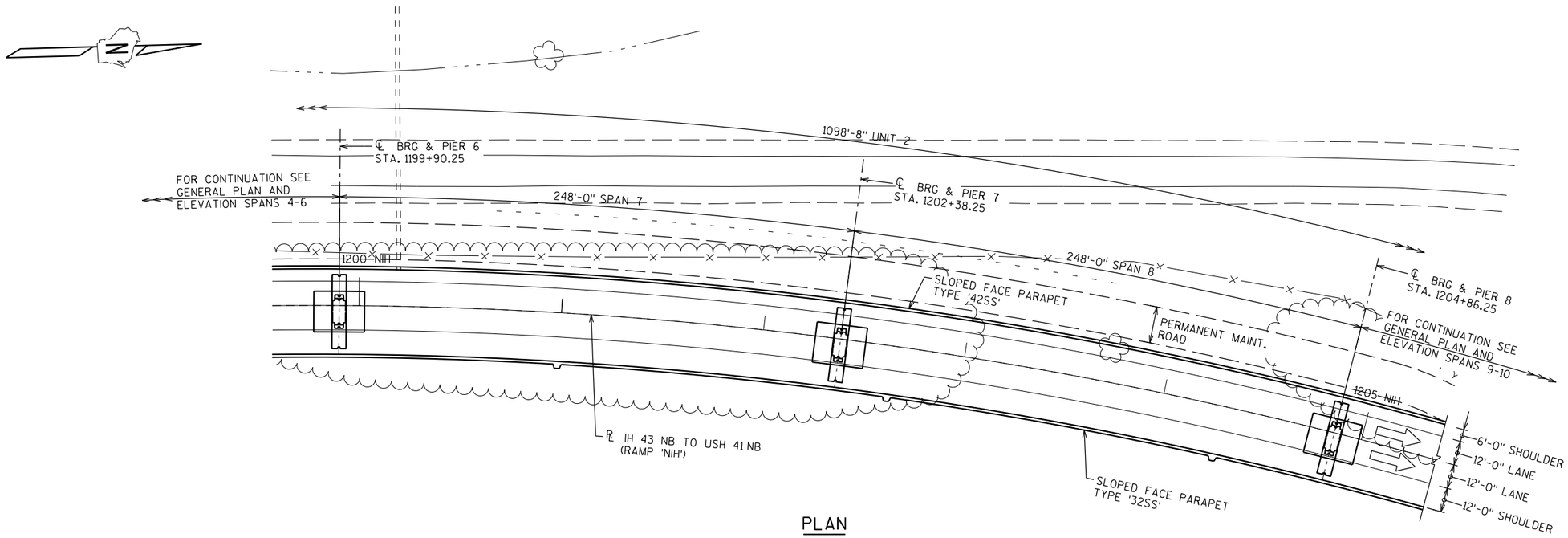
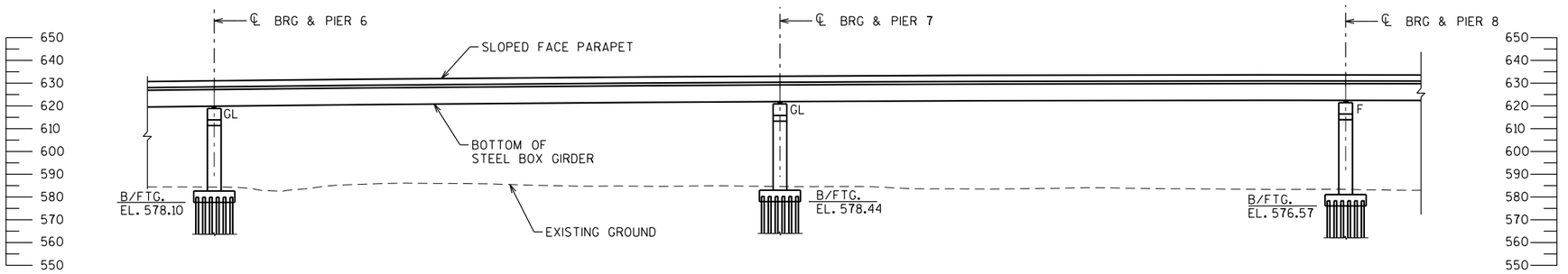



PLAN




ELEVATION

(ALONG ℄ LOOKING WEST)

## LEGEND

F- FIXED BEARING
GL - GUIDED LONGITUDINAL UNIDIRECTIONAL BEARING

## NOTES:

FOR NOTES, SEE SHEET TITLED
"GENERAL PLAN & ELEVATION SPANS 1-3"

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

GENERAL PLAN AND ELEVATION SPANS 7-8

SHEET 5 OF 91
894

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FILE NAME : P:\153 USH 41 1133-10-00 URS\Structures\B-5-679\005.gendlan.spans_7-8_v8_b-5-679.dgn

PLOT DATE : 5/30/2013

STATE PROJECT NUMBER

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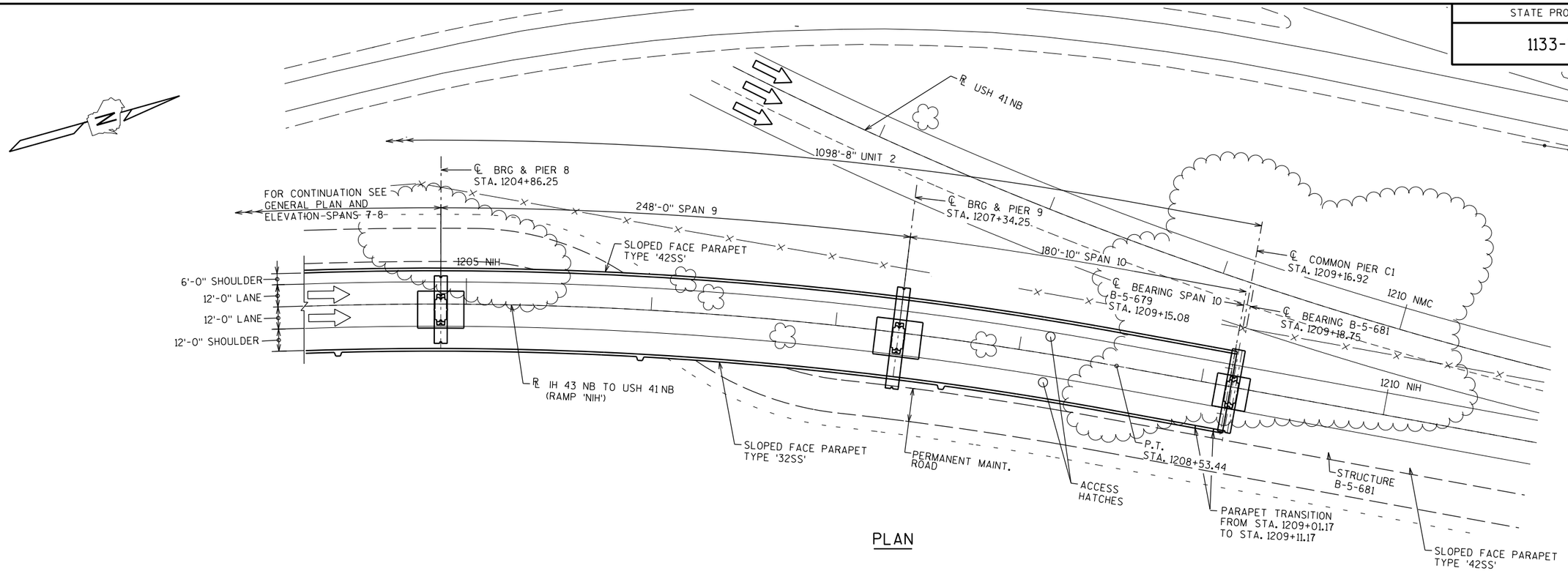
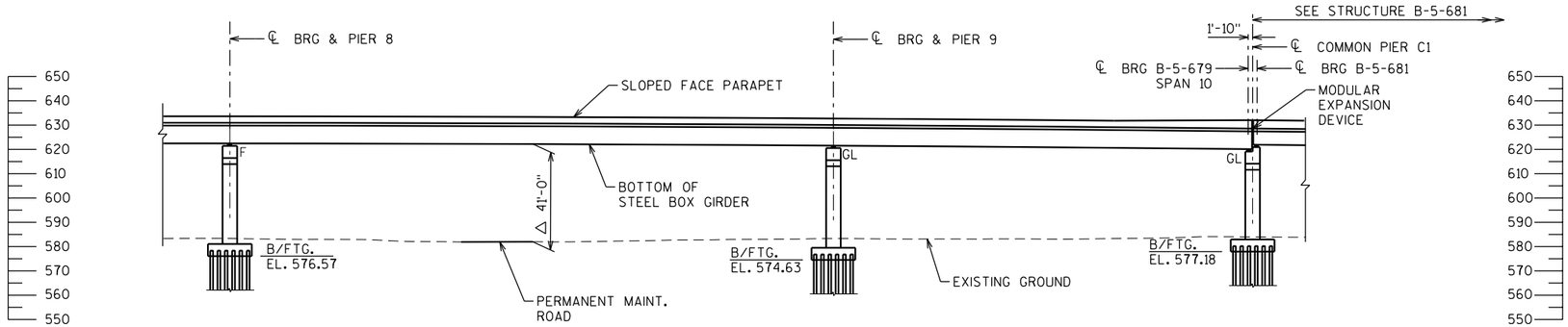



PLAN




ELEVATION

(ALONG ℄ LOOKING WEST)

## LEGEND

F- FIXED BEARING
GL - GUIDED LONGITUDINAL UNIDIRECTIONAL BEARING

## NOTES:

FOR NOTES, SEE SHEET TITLED "GENERAL PLAN & ELEVATION SPANS 1-3"

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

GENERAL PLAN AND ELEVATION SPANS 9-10

SHEET 6 OF 91

895

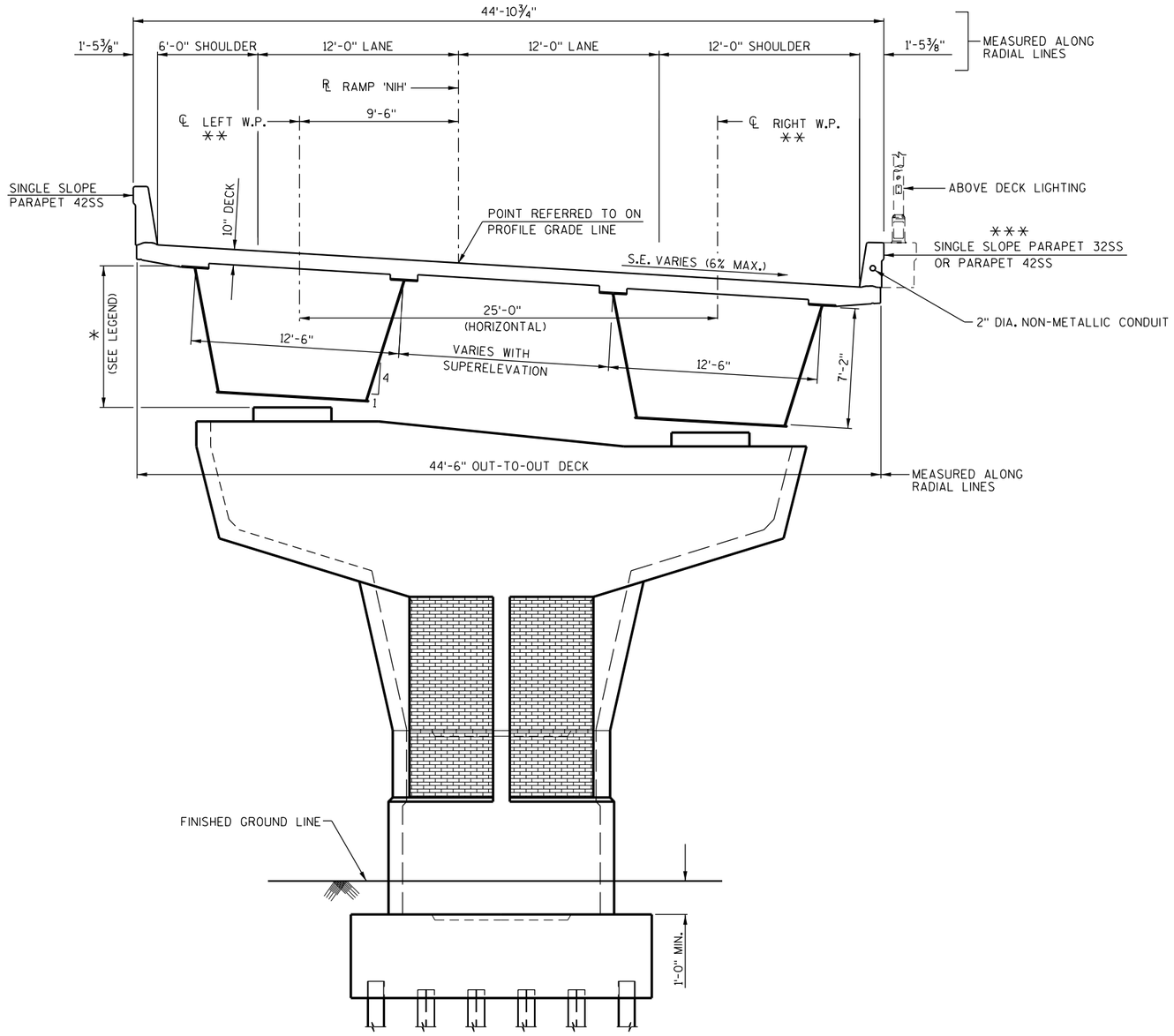
8

8

FILE NAME : P:\153 USH 41 1133-10-00 ldRS\Structures\B-5-679\006.genplan_spans_9-10_48_b-5-679.dgn

PLOT DATE : 5/30/2013

| STATE PROJECT NUMBER |
|---|
| 1133-11-74 |




TYPICAL CROSS SECTION
(LOOKING UPSTATION)

## LEGEND

* STRUCTURAL STEEL AND BEARINGS ARE PROVIDED UNDER A SEPARATE STRUCTURAL STEEL FABRICATION CONTRACT AND WILL BE INSTALLED UNDER THIS CONSTRUCTION CONTRACT.

** W.P. = WORK POINT. SEE SHEET "TYPICAL DECK SECTION" FOR DETAILS.

*** PARAPET TRANSITION FROM STA. 1209+01.17 TO STA. 1209+11.17. FOR DETAILS, SEE SHEET 51 "PARAPET TRANSITION DETAILS".

## NOTES

STAY-IN-PLACE METAL DECK FORMS PERMITTED INSIDE BOX GIRDERS ONLY. SEE "SUPERSTRUCTURE DETAILS" SHEET IN CONTRACT 1133-11-71 FOR HAUNCH.

GIRDER FLANGES ALWAYS PARALLEL TO DECK ABOVE.

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

CROSS SECTION

SHEET 7 OF 91
896

FILE NAME : P:\153 USH 41 1133-10-00 LRG\Structures\B-5-679\007.cross.section.v8.b-5-679.dgn
PLOT DATE : 4/22/2013

8

8

STATE PROJECT NUMBER

1133-11-74

## TOTAL ESTIMATED QUANTITIES

| | BID ITEM # | BID ITEM | UNIT | S. APPR. APRON | S. ABUT. | UNIT 1 SUPER. SPANS 1-5 | UNIT 1 PIERS 1-5 | UNIT 2 SUPER. SPANS 6-10 | UNIT 2 PIERS 6-C1 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|
| | 206.1000 | EXCAVATION FOR STRUCTURES BRIDGES B-5-679 | LS | ——— | ——— | ——— | ——— | ——— | ——— | 1 |
| | 210.0100 | BACKFILL STRUCTURE | CY | ——— | 330 | ——— | ——— | ——— | ——— | 330 |
| | 502.3110.S | EXPANSION DEVICE MODULAR B-5-679 | LS | ——— | ——— | ——— | ——— | ——— | ——— | 1 |
| | 502.3200 | PROTECTIVE SURFACE TREATMENT | SY | 112 | ——— | 6,057 | ——— | 6,127 | ——— | 12,296 |
| | 505.0405 | BAR STEEL REINFORCEMENT HS BRIDGES | LB | ——— | 5,910 | ——— | 30,850 | ——— | 30,850 | 67,610 |
| | 505.0605 | BAR STEEL REINFORCEMENT HS COATED BRIDGES | LB | 10,130 | 6,730 | 419,660 | 175,860 | 421,880 | 198,570 | 1,232,830 |
| * | 506.3025 | WELDED STUD SHEAR CONNECTORS 7/8 X 8-INCH | EACH | ——— | ——— | 14,916 | ——— | 15,030 | ——— | 29,946 |
| | 514.0445 | FLOOR DRAINS TYPE GC | EACH | ——— | ——— | 4 | ——— | 3 | ——— | 7 |
| | 516.0500 | RUBBERIZED MEMBRANE WATERPROOFING | SY | ——— | 12 | ——— | ——— | ——— | ——— | 12 |
| ** | 550.1140 | PILING STEEL HP 14-INCH X 73 LB | LF | ——— | 975 | ——— | 9,760 | ——— | 6,600 | 17,005 |
| | 604.0400 | SLOPE PAVING SELECT CRUSHED AGGREGATE | SY | ——— | 170 | ——— | ——— | ——— | ——— | 170 |
| | 606.0300 | RIPRAP HEAVY | CY | ——— | 3 | ——— | 12 | ——— | 9 | 24 |
| | 612.0406 | PIPE UNDERDRAIN WRAPPED 6-INCH | LF | 150 | 90 | ——— | ——— | ——— | ——— | 240 |
| | 614.0150 | ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD | EACH | 1 | ——— | ——— | ——— | ——— | ——— | 1 |
| | 645.0120 | GEOTEXTILE FABRIC TYPE HR | SY | ——— | 15 | ——— | 60 | ——— | 45 | 120 |
| | 652.0125 | CONDUIT RIGID METALLIC 2-INCH | LF | 25 | ——— | 10 | ——— | 10 | ——— | 45 |
| | 652.0135 | CONDUIT RIGID METALLIC 3-INCH | LF | ——— | ——— | 4,348 | ——— | 4,400 | ——— | 8,748 |
| | 652.0225 | CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH | LF | ——— | ——— | 1,080 | ——— | 1,090 | ——— | 2,170 |
| | 652.0240 | CONDUIT RIGID NONMETALLIC SCHEDULE 40 4-INCH | LF | ——— | ——— | ——— | 50 | ——— | 50 | 100 |
| | 653.0222 | JUNCTION BOXES 18x12x6-INCH | EACH | ——— | ——— | 7 | ——— | 6 | ——— | 13 |
| | 655.0620 | ELECTRICAL WIRE LIGHTING 8 AWG | LF | ——— | ——— | 25,515 | ——— | 23,745 | ——— | 49,260 |
| | 655.0635 | ELECTRICAL WIRE LIGHTING 2 AWG | LF | ——— | ——— | 6,400 | ——— | 6,400 | ——— | 12,800 |
| | 657.6005.S | ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES | EACH | ——— | ——— | 7 | ——— | 6 | ——— | 13 |
| | SPV.0035.700 | HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES | CY | 58 | 125 | 1,932 | 1,105 | 1,954 | 1,261 | 6,435 |
| | SPV.0060.350 | GROUND FAULT CIRCUIT INTERRUPTER (GFCI) RECEPTACLES | EACH | ——— | ——— | 24 | ——— | 24 | ——— | 48 |
| | SPV.0060.351 | VAPOR PROOF L.E.D. LIGHT FIXTURE | EACH | ——— | ——— | 52 | ——— | 52 | ——— | 104 |
| | SPV.0060.352 | JUNCTION BOXES STAINLESS STEEL 27x18x8-INCH | EACH | ——— | ——— | 52 | ——— | 52 | ——— | 104 |
| | SPV.0060.353 | JUNCTION BOXES STAINLESS STEEL 27x24x12-INCH | EACH | ——— | ——— | 4 | ——— | 4 | ——— | 8 |
| | SPV.0060.701 | PILE DYNAMIC ANALYZER (PDA) TESTING | EACH | ——— | 3 | ——— | 20 | ——— | 20 | 43 |
| | SPV.0060.702 | PILE DYNAMIC ANALYZER (PDA) RESTRIKES | EACH | ——— | 3 | ——— | 20 | ——— | 20 | 43 |
| | SPV.0060.703 | ANCHOR BOLT ASSEMBLY OVERHEAD SIGN SUPPORTS | EACH | ——— | ——— | ——— | 2 | ——— | 2 | 4 |
| | SPV.0085.700 | BAR STEEL REINFORCEMENT HS STAINLESS BRIDGES | LB | ——— | 720 | ——— | ——— | ——— | ——— | 720 |
| | SPV.0090.350 | CONDUIT RIGID METALLIC PVC COATED 4-INCH | LF | ——— | ——— | 25 | ——— | 25 | ——— | 50 |
| ** | SPV.0090.700 | DRIVING PILING STEEL STATE FURNISHED HP 14-INCH X 89 LB | LF | ——— | ——— | ——— | ——— | ——— | 3,650 | 3,650 |
| | SPV.0090.702 | DOWNSPOUT RTRP 6-INCH | LF | ——— | 20 | ——— | 137 | ——— | 168 | 325 |
| | SPV.0105.352 | ELECTRICAL SERVICE INSTALLATION B-5-679 | LS | ——— | ——— | ——— | ——— | ——— | ——— | 1 |
| | SPV.0105.702 | ERECTING STRUCTURAL STEEL B-5-679 | LS | ——— | ——— | ——— | ——— | ——— | ——— | 1 |
| | SPV.0105.706 | FIELD PAINTING STRUCTURAL STEEL B-5-679 | LS | ——— | ——— | ——— | ——— | ——— | ——— | 1 |
| | SPV.0165.700 | ARCHITECTURAL SURFACE TREATMENT | SF | ——— | 80 | ——— | 1,730 | ——— | 2,430 | 4,240 |
| | SPV.0165.701 | STAINING CONCRETE | SF | 140 | 800 | 14,340 | 9,890 | 14,480 | 11,020 | 50,670 |
| | SPV.0165.702 | STAINING CONCRETE BRICK | SF | ——— | 80 | ——— | 1,730 | ——— | 2,430 | 4,240 |
| | SPV.0180.700 | POLYMER OVERLAY | SY | 187 | ——— | 5,071 | ——— | 5,129 | ——— | 10,387 |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

## NOTES:

* SHEAR STUDS ARE FURNISHED AND INSTALLED UNDER THIS CONTRACT. SEE STEEL FABRICATION PLANS FOR LOCATIONS AND SPACING OF SHEAR STUDS. REMOVE THE PRIMER FROM THE TOP FLANGE AT SHEAR STUD LOCATIONS BEFORE INSTALLING STUDS. STUDS SHALL NOT BE ORDERED UNTIL DECK GRADES ARE SURVEYED AND HAUNCH HEIGHTS ARE DETERMINED. WHERE STUDS DO NOT PROVIDE A MINIMUM 2 OF EMBEDMENT ABOVE THE BOTTOM OF THE BOTTOM MAT OF DECK REINFORCING STEEL, LONGER STUDS SHALL BE PROVIDED. WHERE STUDS EXTEND ABOVE THE BOTTOM OF THE TOP MAT OF DECK REINFORCING STEEL, SHORTER STUDS SHALL BE PROVIDED. NO ADDITIONAL PAYMENT WILL BE MADE FOR THE COST OF LONGER OR SHORTER STUDS.

** STATE OWNED HP14X89 PILES SHALL BE USED FOR PIERS 6 & 7. CONTRACTOR SHALL PROVIDE HP14X73 PILES FOR REMAINDER OF SUBSTRUCTURE.

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| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

QUANTITIES

SHEET 8 OF 91
897

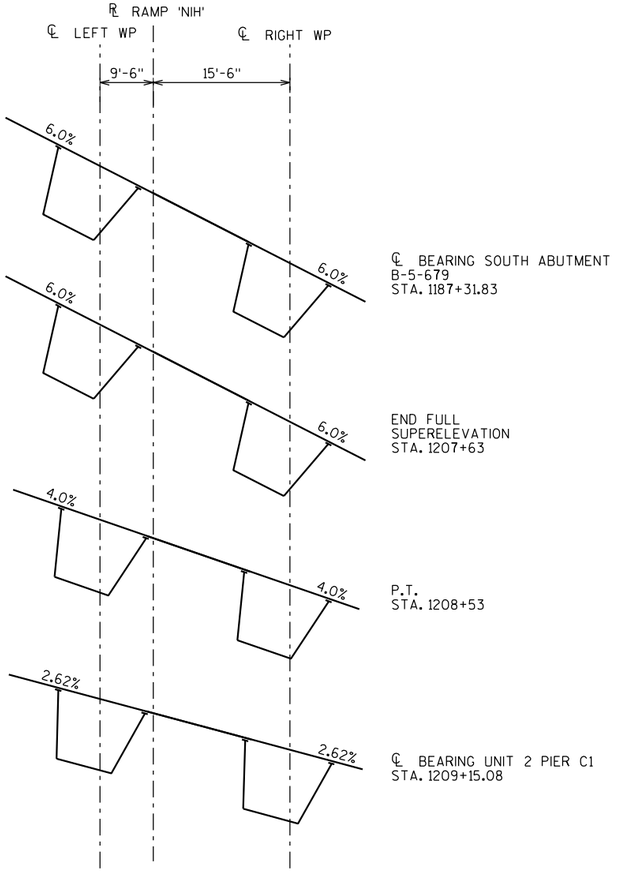
STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

FILE NAME : P:\153 USH 41 1133-10-00 LRGS\Structures\B-5-679\008_quants_v8_b-5-679.dgn

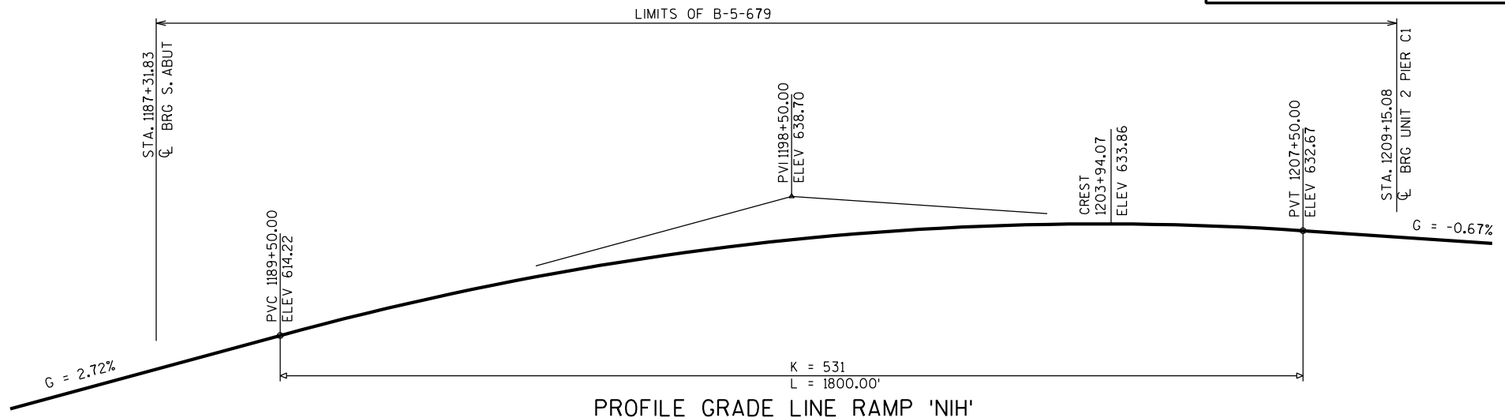
PLOT DATE : 5/30/2013

STATE PROJECT NUMBER

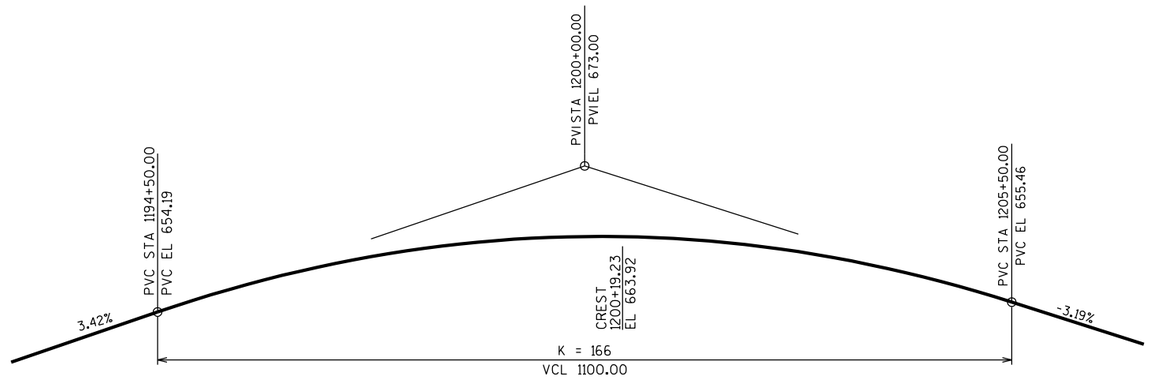
1133-11-74




DECK SLOPE TRANSITION




PROFILE GRADE LINE RAMP 'NIH'

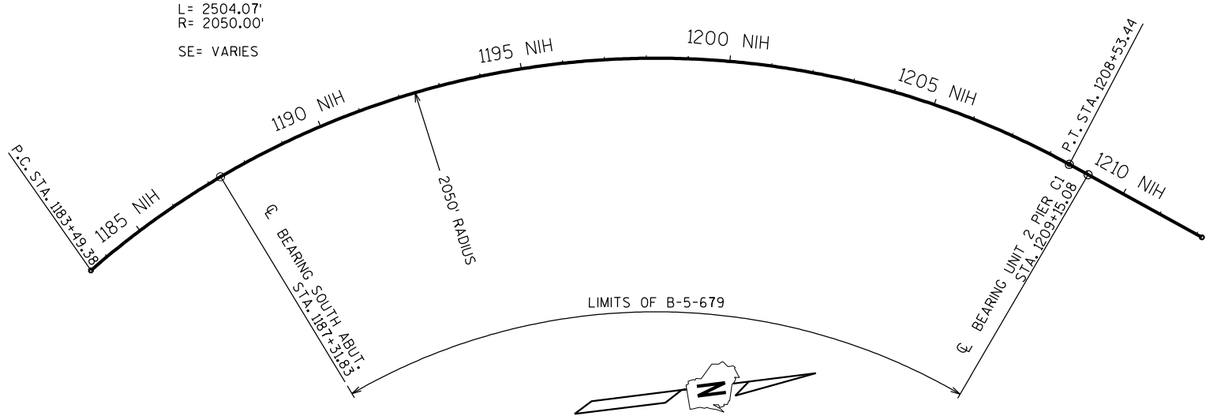



PROFILE GRADE LINE RAMP 'IHB'

IH 43 NB TO USH 41 NB
RAMP 'NIH'
HORIZONTAL CURVE DATA

P.I. STA.= 1197+84.44
N= 583666.47
E= 90111.04
P.C. STA.= 1183+49.38
P.T. STA.= 1208+53.44
Δ= 69°59'11"
D= 5°35'23"
T= 1435.07'
L= 2504.07'
R= 2050.00'

SE= VARIES




HORIZONTAL ALIGNMENT IH 43 NB TO USH 41 NB (RAMP 'NIH')

NOTES:

STEEL GIRDER FLANGES ALWAYS PARALLEL TO DECK ABOVE.

THEORETICAL HAUNCH HEIGHT IS CONSTANT AT 4"

| NO. | DATE | REVISION | BY |
|---|---|---|---|
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

ALIGNMENT AND SUPERELEVATION

SHEET 9 OF 91
898

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

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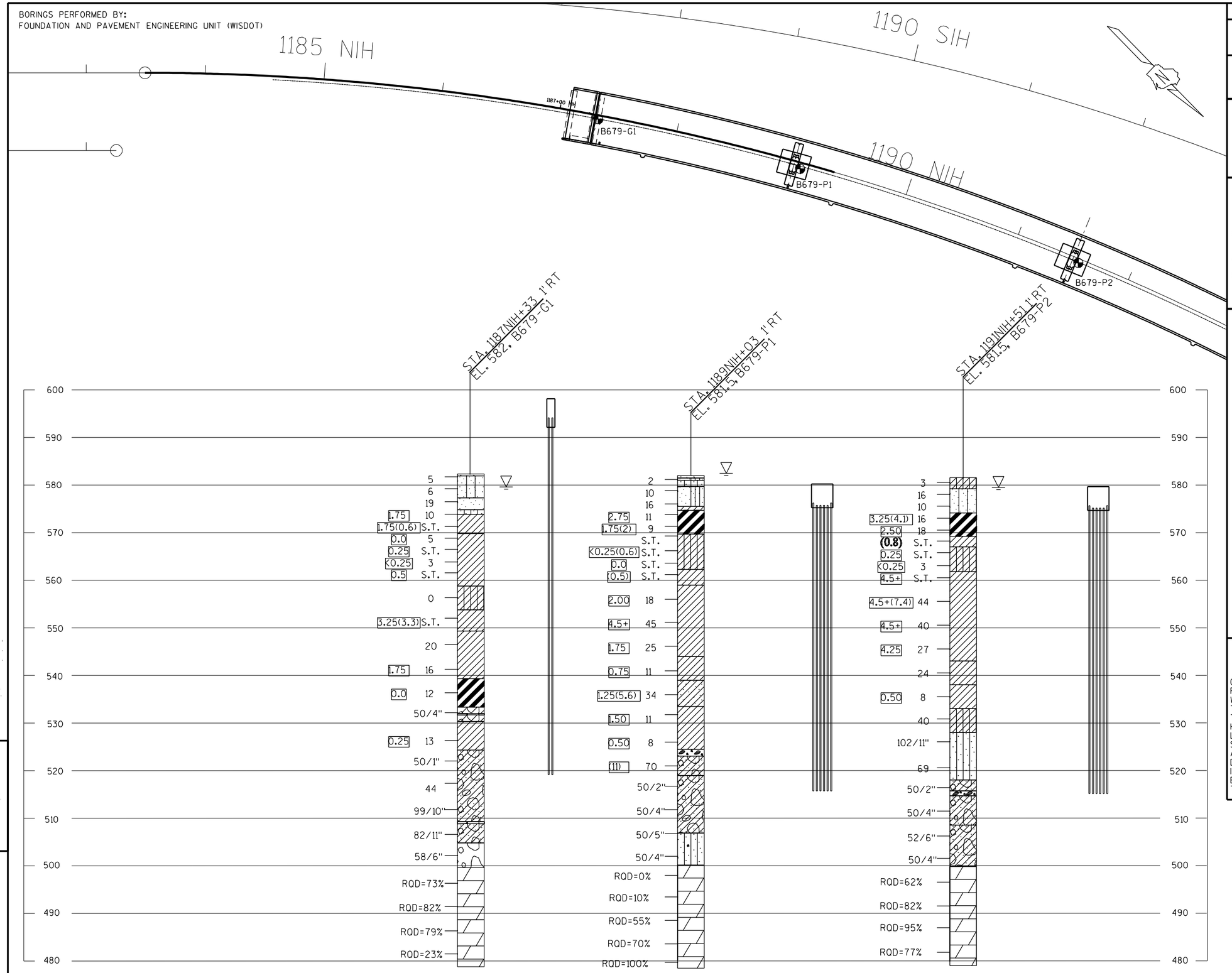
FILE NAME : P:\153 USH 41 1133-10-00 LRS\Structures\B-5-679\009.dgn_super_v8.b-5-679.dgn

PLOT DATE : 4/22/2013

BORINGS PERFORMED BY:
FOUNDATION AND PAVEMENT ENGINEERING UNIT (WISDOT)




Note: ▽ - Water level during drilling, ▽* - Water level assumed from sample condition

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

STATE PROJECT NUMBER

1133-11-74

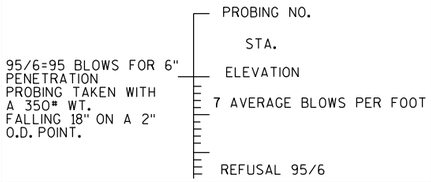
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

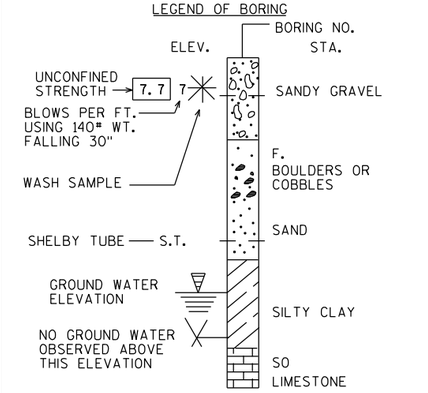
MATERIAL SYMBOLS

TOPSOIL, SILT, FAT CLAY, 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 SOUNDINGS 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 |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY RE | PLANS CK'D. DB

SUBSURFACE EXPLORATION

SHEET 10 OF 91
899

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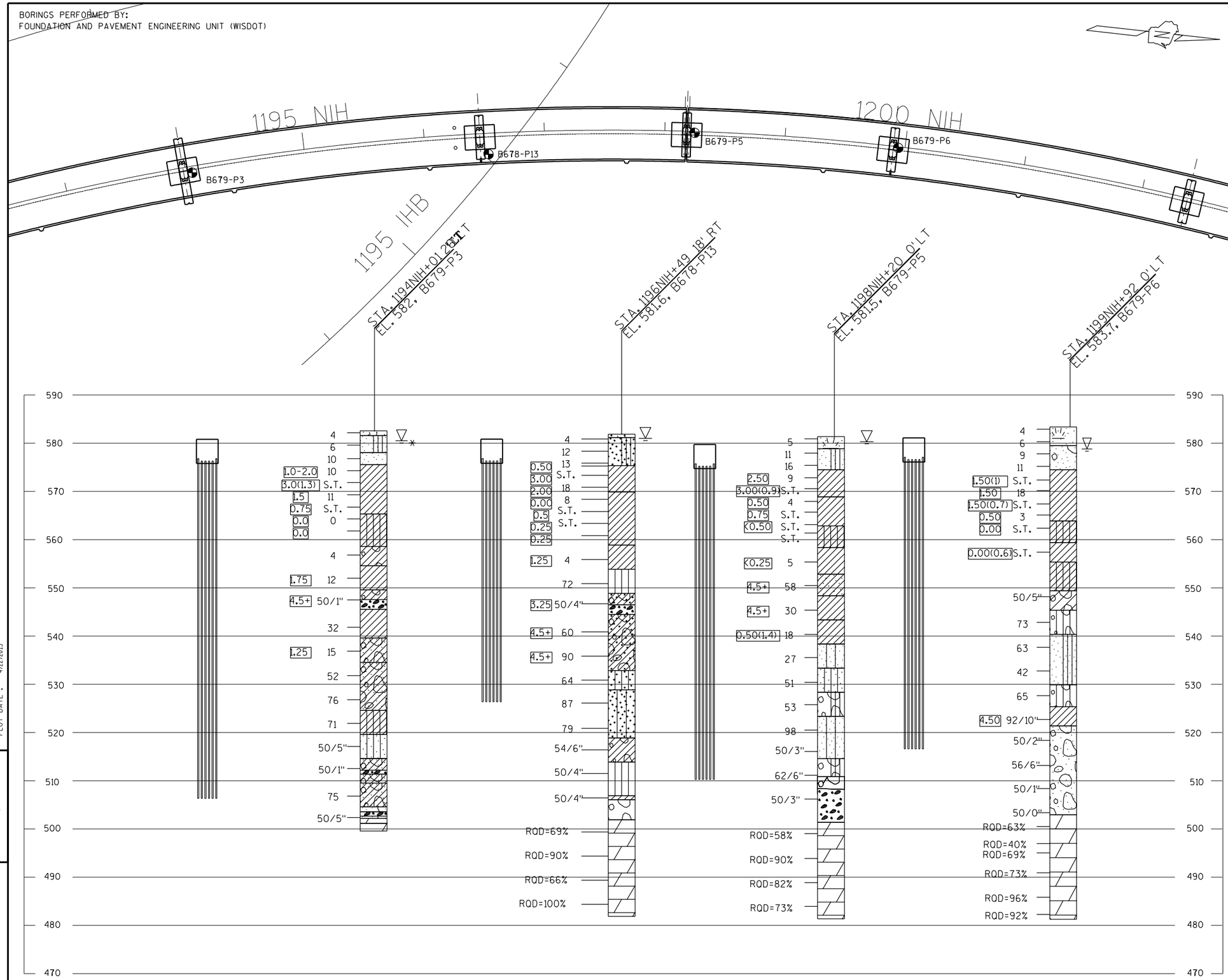
8

BORINGS PERFORMED BY:
FOUNDATION AND PAVEMENT ENGINEERING UNIT (WISDOT)




Note: ▽ - Water level during drilling, ▽* - Water level assumed from sample condition

STATE PROJECT NUMBER

1133-11-74

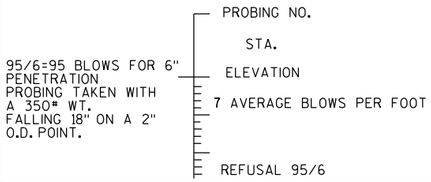
ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE
WS — WEATHERED SO — SOUND

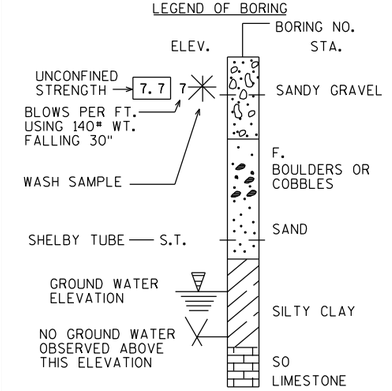
MATERIAL SYMBOLS

TOPSOIL SILT FAT CLAY
SAND PEAT LIMESTONE
GRAVEL CLAY IGNEOUS ROCK

LEGEND OF PROBING




LEGEND OF BORING

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SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY RE | PLANS CK'D. DB

SUBSURFACE EXPLORATION

SHEET 11 OF 91
900

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

FILE NAME : P:\153 USH 41 1133-10-00 DRGS\Structures\B-5-679\011_soils_v8.b-5-679.dgn
PLOT DATE : 4/22/2013

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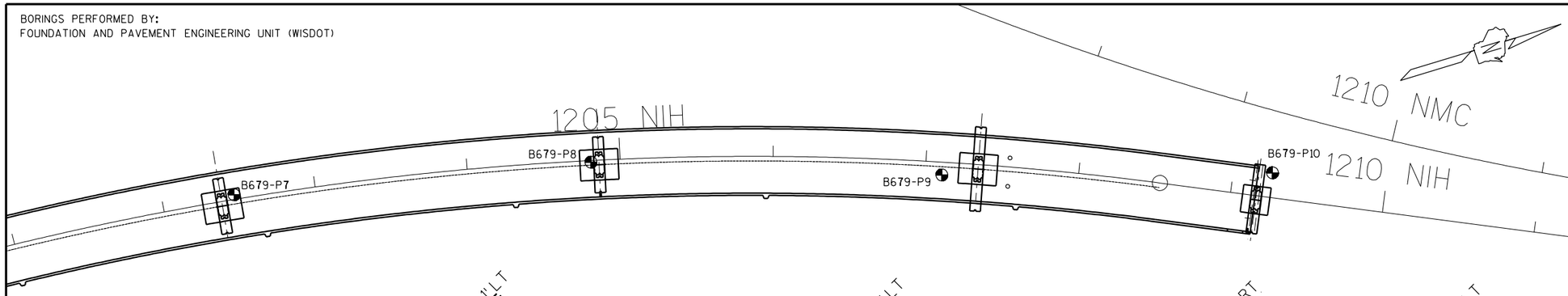
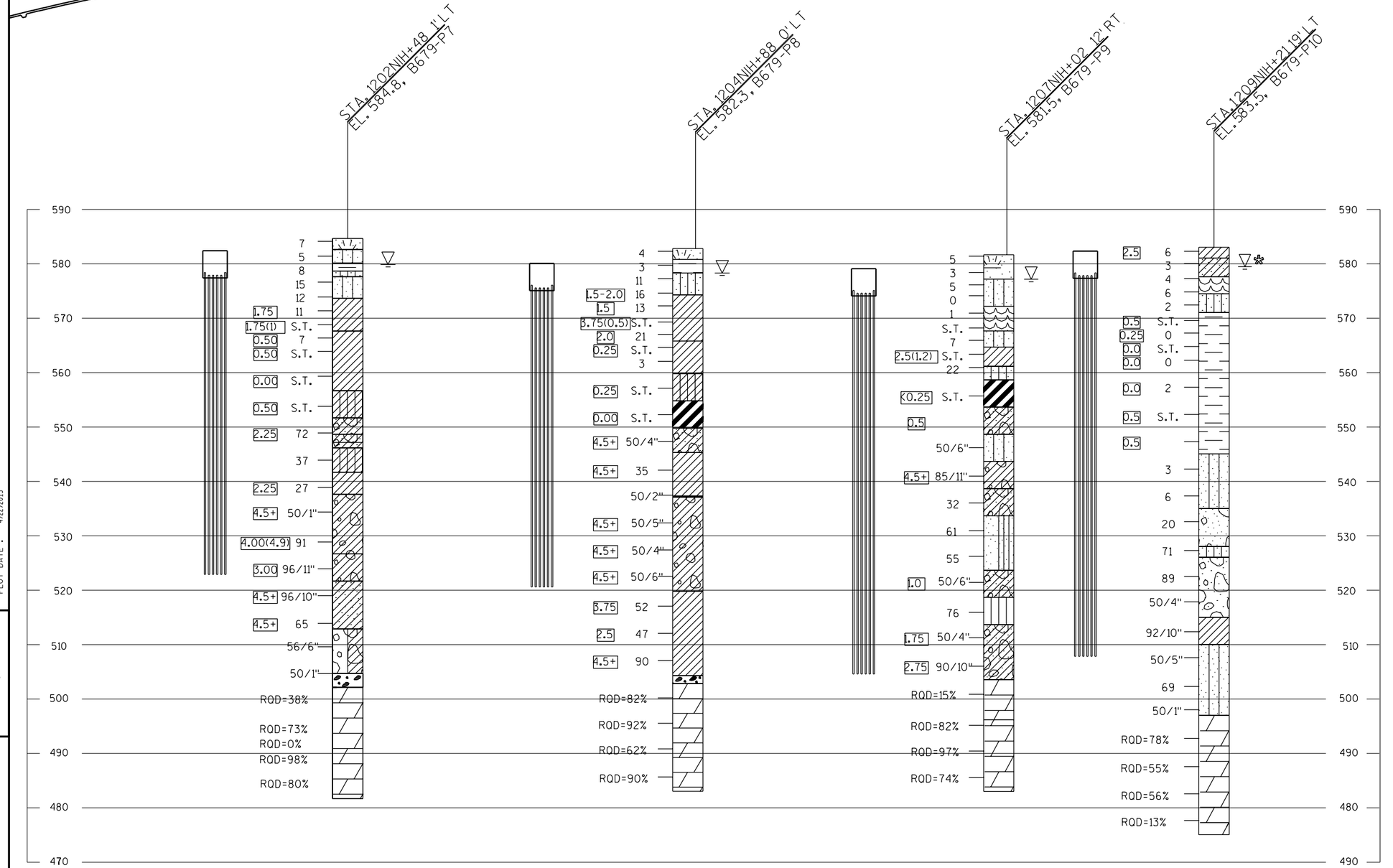
BORINGS PERFORMED BY:
FOUNDATION AND PAVEMENT ENGINEERING UNIT (WISDOT)




Note: ▽ - Water level during drilling, ▽* - Water level assumed from sample condition

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

STATE PROJECT NUMBER

1133-11-74

ABBREVIATIONS

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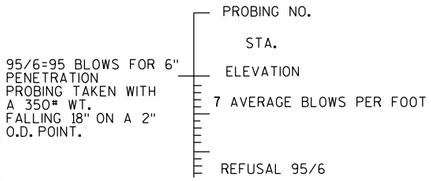
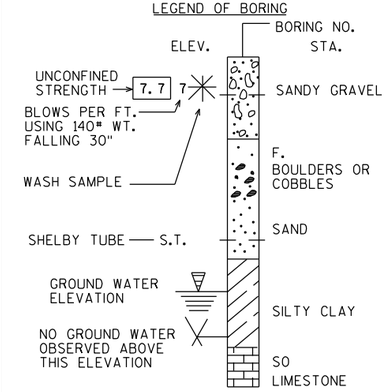



LEGEND OF BORING

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SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY RE | PLANS CK'D. DB

SUBSURFACE EXPLORATION

SHEET 12 OF 91
901

FILE NAME : P:\153\DSH 41 1133-10-00 DRS\Structures\B-5-679\012.soils.v8.b-5-679.dgn
PLOT DATE : 4/22/2013

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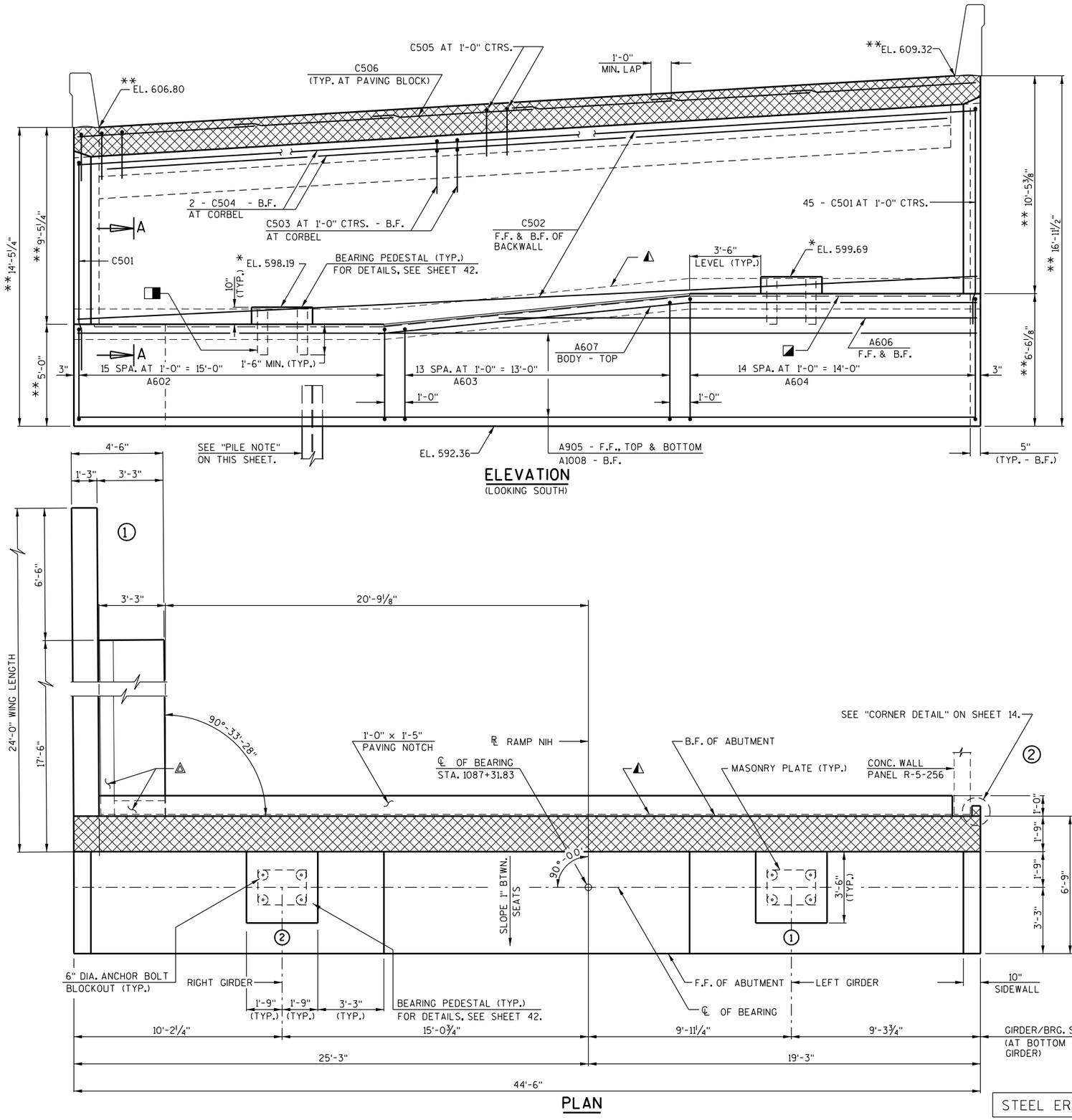



## ELEVATION
(LOOKING SOUTH)




## PLAN

NOTE: APPLY "BRIDGE SEAT PROTECTION" PER SECTION 502.3.12 TO THE TOP OF ABUTMENT (SEATS AND BETWEEN SEATS).

STATE PROJECT NUMBER

1133-11-74

## LEGEND

* ELEVATIONS ARE GIVEN AT THE TOP OF CONCRETE PEDESTAL AT THE ℄ OF BEARING.

** DIMENSIONS AND ELEVATIONS ARE GIVEN AT THE F.F. OF ABUTMENT BACKWALL AT TOP OF CONCRETE. FOR WING 1 DETAILS, SEE SHEET 16.

18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE ABOVE FOOTING.

PLACE BOTTOM HALF OF RUBBERIZED MEMBRANE WATERPROOFING HORIZONTAL IN THIS AREA. SEE SECTION A-A ON THIS SHEET.

KEYED CONST. JOINT FORMED BY BEVELED 2" x 6".

INDICATES CONCRETE AREA TO BE POURED AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE.

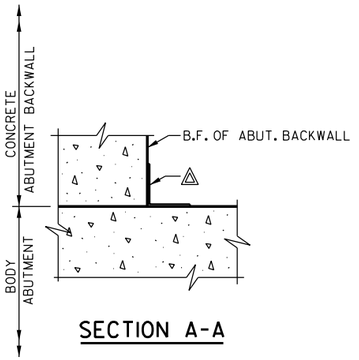
(X) INDICATES WING/CORNER NUMBER

6" DIA. ANCHOR BOLT BLOCKOUT. BLOCKOUTS SHALL BE FORMED USING CORRUGATED FORMS THAT WILL PROVIDE POSITIVE INTERLOCK BETWEEN ABUTMENT BODY AND THE GROUT SURROUNDING THE ANCHOR BOLTS. (DISPLACE BAR STEEL AS NECESSARY TO CLEAR BOXOUT)

## PILE NOTE

SOUTH ABUTMENT TO BE SUPPORTED ON PILING STEEL HP 14 x 73 WITH A REQUIRED DRIVING RESISTANCE OF 230 TONS PER PILE AS DETERMINED BY THE PILE DRIVING ANALYZER. ESTIMATED 75'LONG. FOR PILE LAYOUT DETAILS, SEE SHEET 14. FOR PILE SPLICE DETAILS, SEE SHEET 15.

NOTE: FOR "TYPICAL SECTION THRU BODY", SEE SHEET 15. SPACE A603, A604 & A605 BARS TO MISS PILES.




## SECTION A-A

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

SOUTH ABUTMENT

SHEET 13 OF 91
902

8

8

FILE NAME : P:\853 USH 41\1133-10-00 URS\STRUCTURES\B-5-679\013_SABUT1_V7.0_B-5-679.DGN

PLOT DATE : 4/22/2013

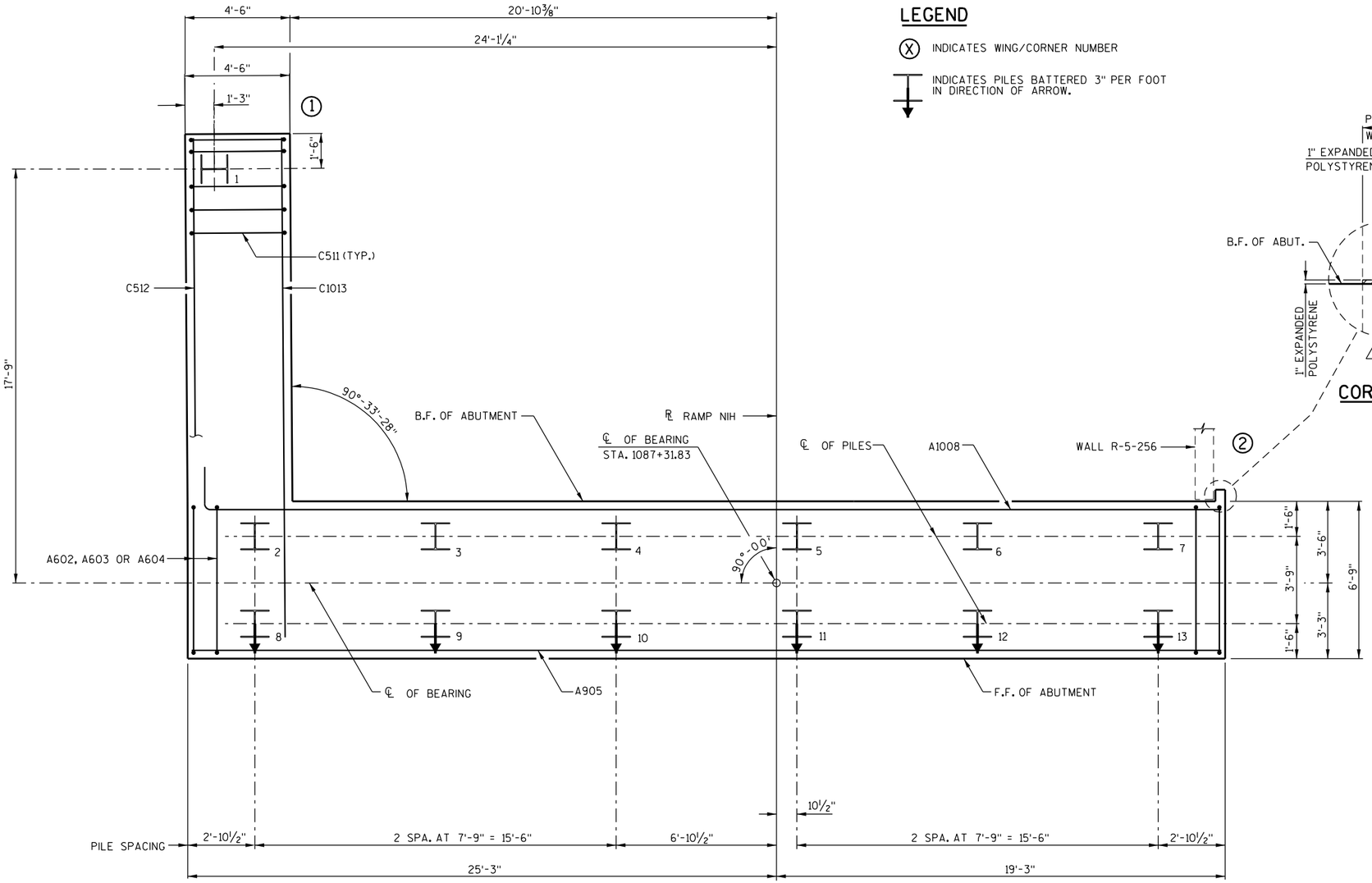
STATE PROJECT NUMBER

1133-11-74

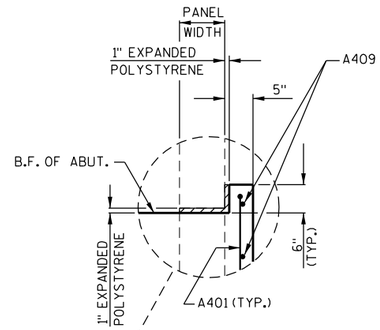
## LEGEND

(X) INDICATES WING/CORNER NUMBER

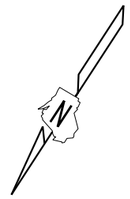
INDICATES PILES BATTERED 3" PER FOOT IN DIRECTION OF ARROW.




PILE PLAN




CORNER DETAIL




STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

SOUTH ABUTMENT

SHEET 14 OF 91
903

8

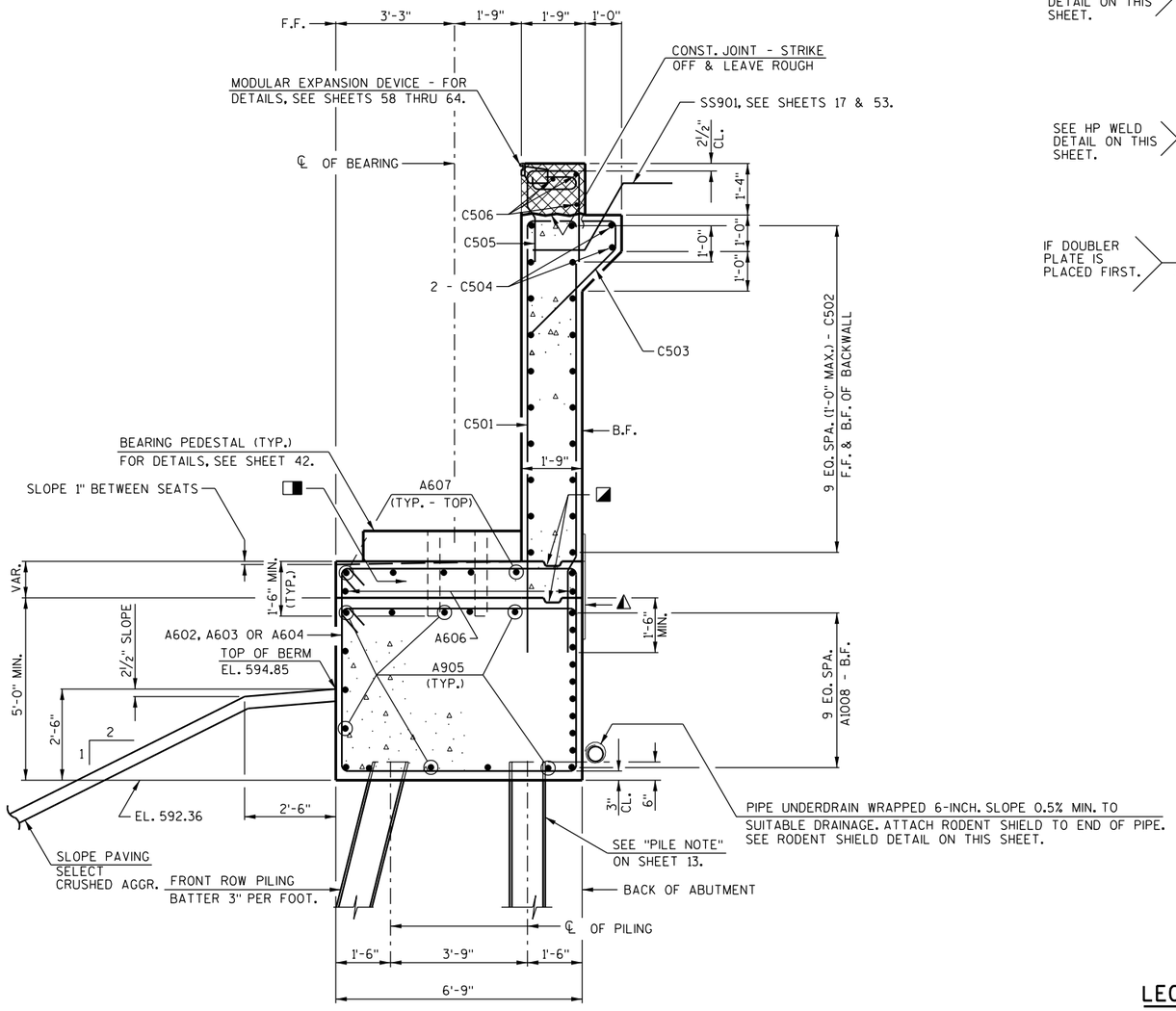
8

FILE NAME : P:\453 USH 41\1133-10-00 URGs\STRUCTURES\B-5-679\04.SABUT2.V7.B-5-679.DGN

PLOT DATE : 4/22/2013

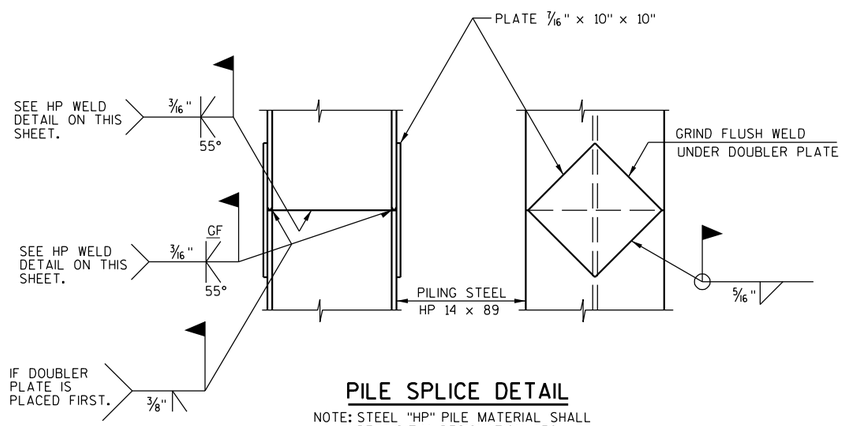
STATE PROJECT NUMBER

1133-11-74



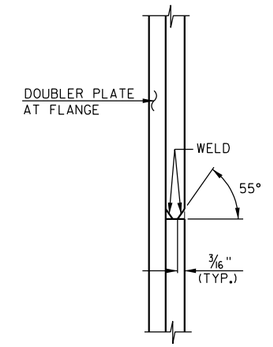

## TYPICAL SECTION THRU BODY

(LOOKING EAST)




## PILE SPLICE DETAIL

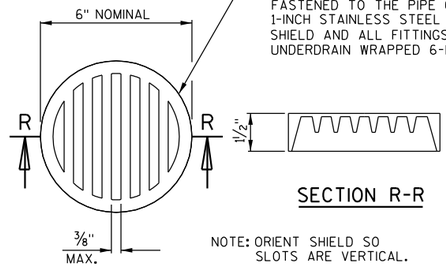
NOTE: STEEL "HP" PILE MATERIAL SHALL BE A.S.T.M. DESIGNATION A36.




## HP WELD DETAIL

(FLANGE SHOWN, WEB SIMILAR)

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS. COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".




## SECTION R-R

NOTE: ORIENT SHIELD SO SLOTS ARE VERTICAL.

## RODENT SHIELD

## LEGEND

◪ ◭ ◨ ▨ FOR SYMBOL DESCRIPTIONS, SEE SHEET 13.

NOTE: BACKWALL MAY BE PLACED AFTER THE END DIAPHRAGM IS BOLTED.

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

SOUTH ABUTMENT

SHEET 15 OF 91
904

8

8

FILE NAME : P:\853 USH 41\1133-10-00 URS\STRUCTURES\B-5-679\405_SABUT3.V7.B-5-679.DGN

PLOT DATE : 4/26/2013

STATE PROJECT NUMBER

1133-11-74

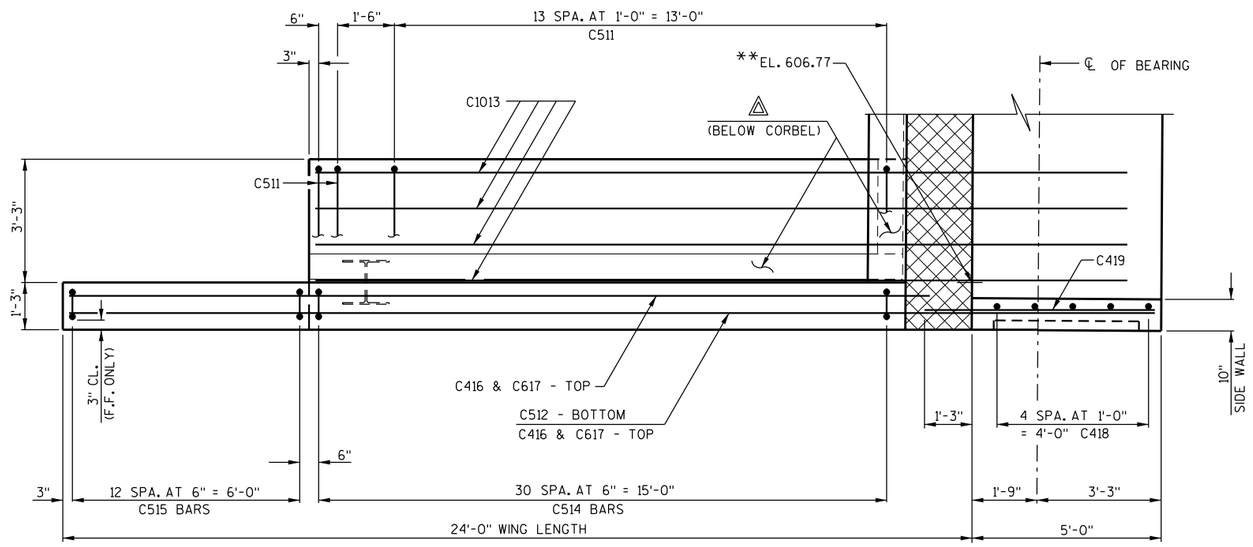
## LEGEND

** DIMENSIONS AND ELEVATIONS ARE GIVEN AT THE F.F. OF ABUTMENT BACKWALL.

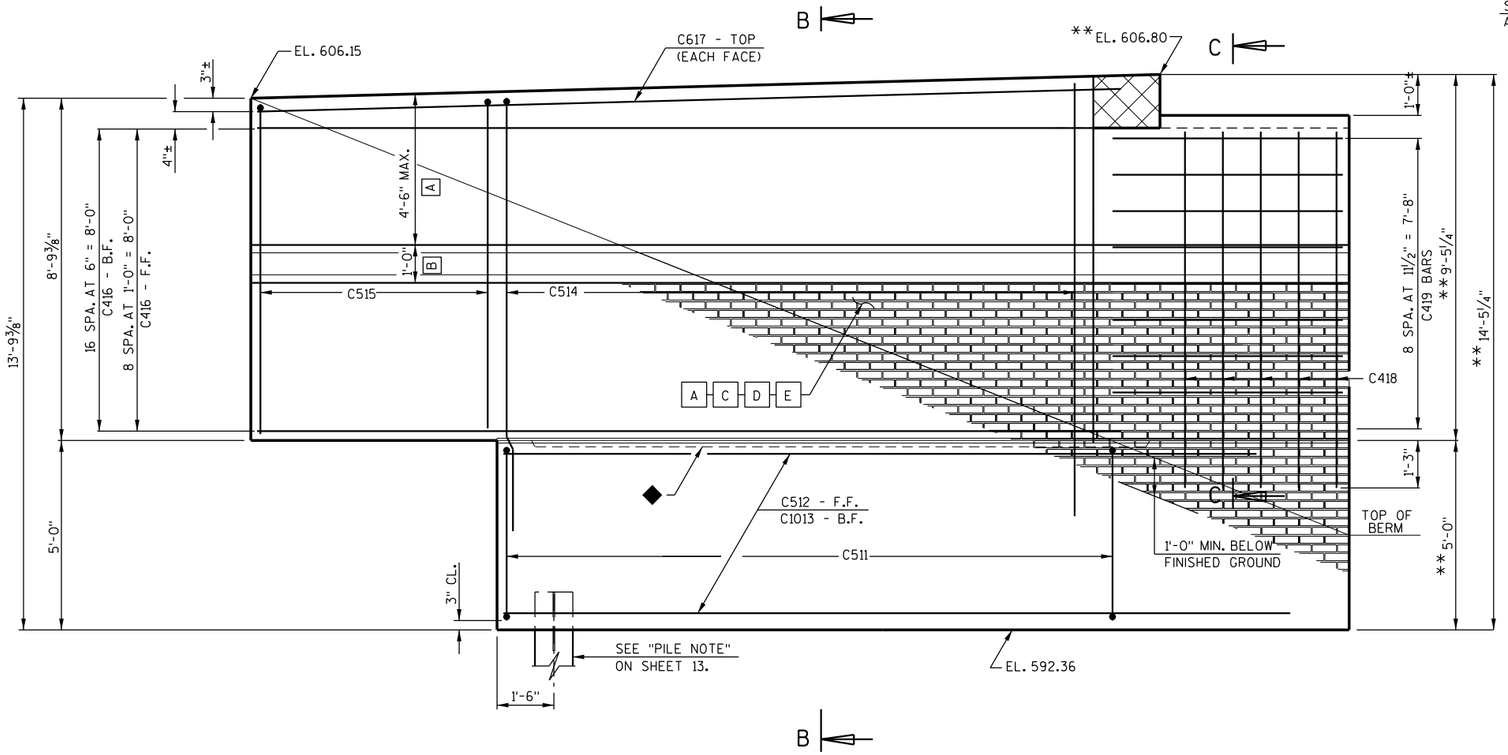
◆ OPTIONAL CONSTRUCTION JOINT FORMED BY A BEVELED 2" x 6" KEYWAY AND ¾" V-GROOVE ON FRONT FACE OF WINGWALL. OMIT V-GROOVE IF CONSTRUCTION JOINT IS NOT USED.

⊠ △ FOR SYMBOL DESCRIPTIONS, SEE SHEET 13.

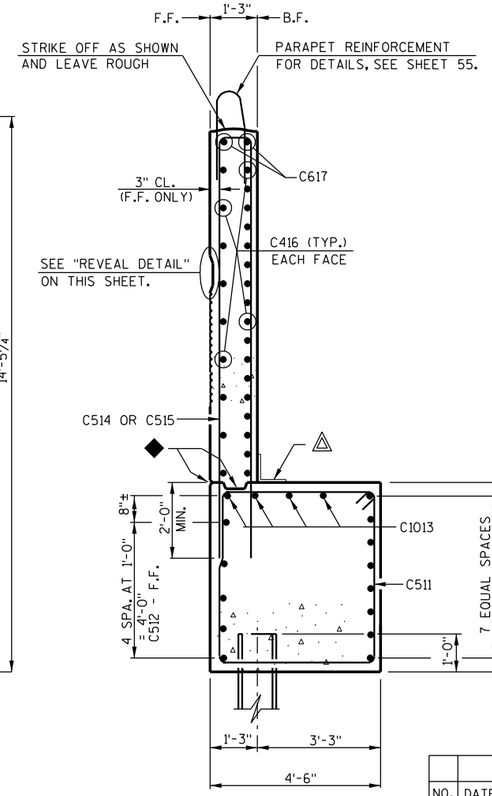
A C D E FOR SYMBOL DESCRIPTIONS, SEE SHEET 81.



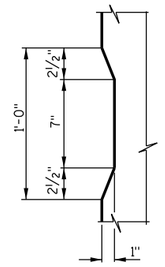

## PLAN - WING 1



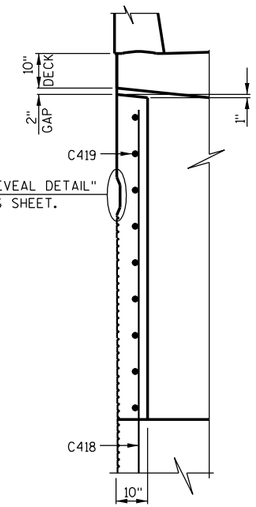

## ELEVATION - WING 1




## SECTION B-B




## REVEAL DETAIL




## SECTION C-C

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

WING 1

SHEET 16 OF 91
905

FILE NAME : P:\53 USH 41\1133-10-00 URGS\STRUCTURES\B-5-679\06_WING1_V7.B-5-679.DGN

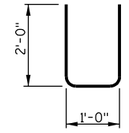
PLOT DATE : 4/22/2013

8

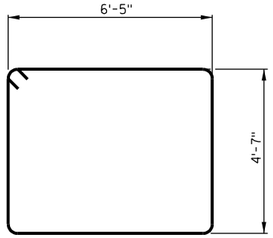
8

STATE PROJECT NUMBER

1133-11-74




A401

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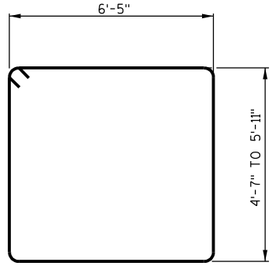
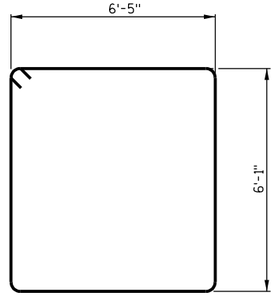



A603

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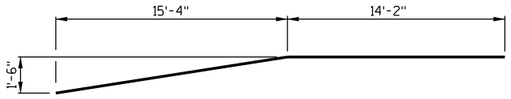
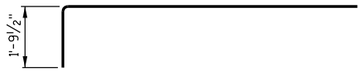
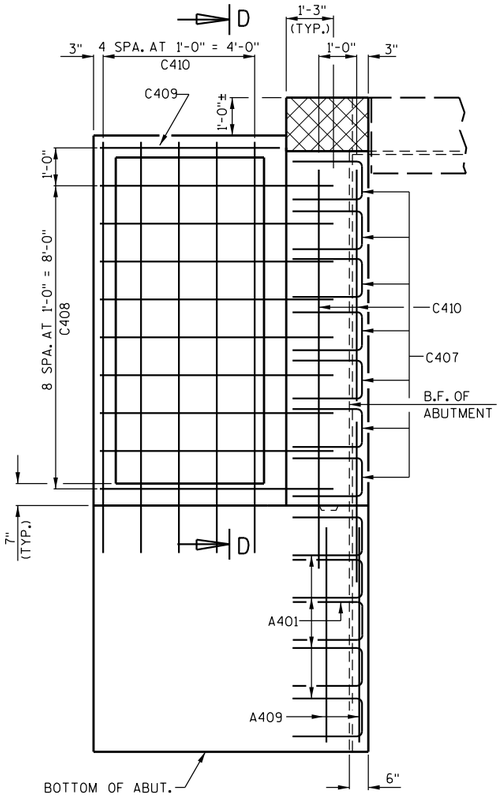



A607

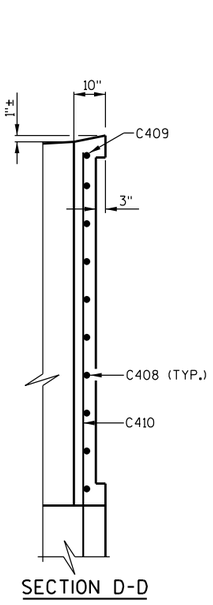



A1008

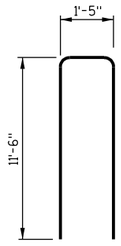



END VIEW - WEST END (CORNER 2)

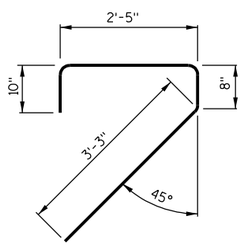
(SHOWING SIDEWALL & B.F. NOTCH REINFORCEMENT)




SECTION D-D




C501

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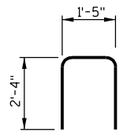


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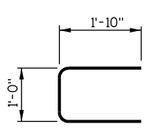


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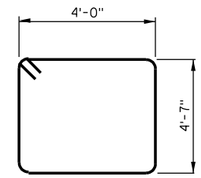
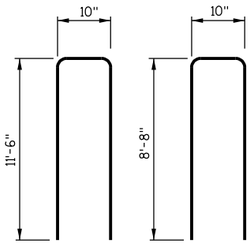



C511




C514 C515

## BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL BAR STEEL REINFORCEMENT SHOWN IN THIS BILL IS INCLUDED WITH UNIT 1 QUANTITIES.

| MARK | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION | |
|---|---|---|---|---|---|---|
| NON-COATED BARS | | | | | | TOTAL WEIGHT = 5,910 LBS. |
| A401 | 5 | 4-10 | X | | BODY - BOTTOM - WEST END | HORIZ. |
| A602 | 16 | 22-10 | X | | BODY -STIRRUPS | VERT. |
| A603 | 14 | 24-2 | X | ⚹ | BODY -STIRRUPS | VERT. |
| A604 | 15 | 25-10 | X | | BODY -STIRRUPS | VERT. |
| A905 | 13 | 44-2 | | | BODY - F.F., TOP, & BOTTOM | HORIZ. |
| A606 | 2 | 23-6 | | | BODY - F.F. & B.F. | HORIZ. |
| A607 | 6 | 29-6 | X | | BODY - TOP | HORIZ. |
| A1008 | 10 | 45-6 | X | | BODY - B.F. | HORIZ. |
| A409 | 2 | 6-1 | | | BODY - WEST END - CORNER 2 | VERT. |
| EPOXY COATED BARS | | | | | | TOTAL WEIGHT = 6,100 LBS. |
| C501 | 45 | 24-3 | X | | ABUTMENT BACKWALL | VERT. |
| C502 | 20 | 44-2 | | | ABUTMENT BACKWALL | HORIZ. |
| C503 | 43 | 6-10 | X | | ABUTMENT BACKWALL - CORBEL | VERT. |
| C504 | 2 | 42-8 | | | ABUTMENT BACKWALL - CORBEL | HORIZ. |
| C505 | 45 | 5-10 | X | | PAVING BLOCK | VERT. |
| C506 | 18 | 8-3 | | | PAVING BLOCK | HORIZ. |
| C407 | 7 | 4-6 | X | | SIDEWALL - WEST END - CORNER 2 | HORIZ. |
| C408 | 9 | 6-3 | | | SIDEWALL - WEST END - CORNER 2 | HORIZ. |
| C409 | 1 | 4-8 | | | SIDEWALL - WEST END - CORNER 2 | HORIZ. |
| C410 | 7 | 10-11 | | | SIDEWALL - WEST END - CORNER 2 | VERT. |
| C511 | 16 | 17-9 | X | | WING 1 - STIRRUPS | VERT. |
| C512 | 5 | 22-0 | | | WING 1 - F.F. - BOTTOM | HORIZ. |
| C1013 | 12 | 22-0 | | | WING 1 - B.F. - BOTTOM | HORIZ. |
| C514 | 31 | 23-7 | X | | WING 1 - F.F. & B.F. | VERT. |
| C515 | 13 | 17-11 | X | | WING 1 - F.F. & B.F. | VERT. |
| C416 | 26 | 23-7 | | | WING 1 - F.F. & B.F. | HORIZ. |
| C617 | 2 | 23-7 | | | WING 1 - F.F. & B.F. - TOP | HORIZ. |
| C418 | 5 | 9-9 | | | WING 1 - SIDEWALL | VERT. |
| C419 | 9 | 6-1 | | | WING 1 - SIDEWALL | HORIZ. |

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

## BAR SERIES TABLE

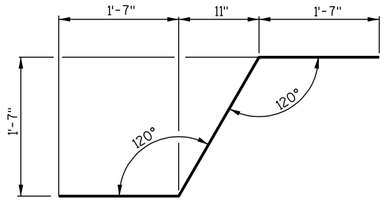
| MARK | NO. REQ'D. | LENGTH |
|---|---|---|
| A603 | 1 SERIES OF 14 | 22'-10" TO 25'-6" |
| | | |
| | | |

## STAINLESS STEEL BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL BAR STEEL REINFORCEMENT SHOWN IN THIS BILL IS INCLUDED WITH UNIT 1 QUANTITIES.

| MARK | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION | |
|---|---|---|---|---|---|---|
| SS901 | 42 | 5-0 | X | | S. APPROACH APRON AT BRIDGE PAVING NOTCH | LONGIT. |

TOTAL WEIGHT = 720 LBS.




SS901

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

SOUTH ABUTMENT DETAILS

SHEET 17 OF 91
906

8

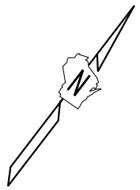
8

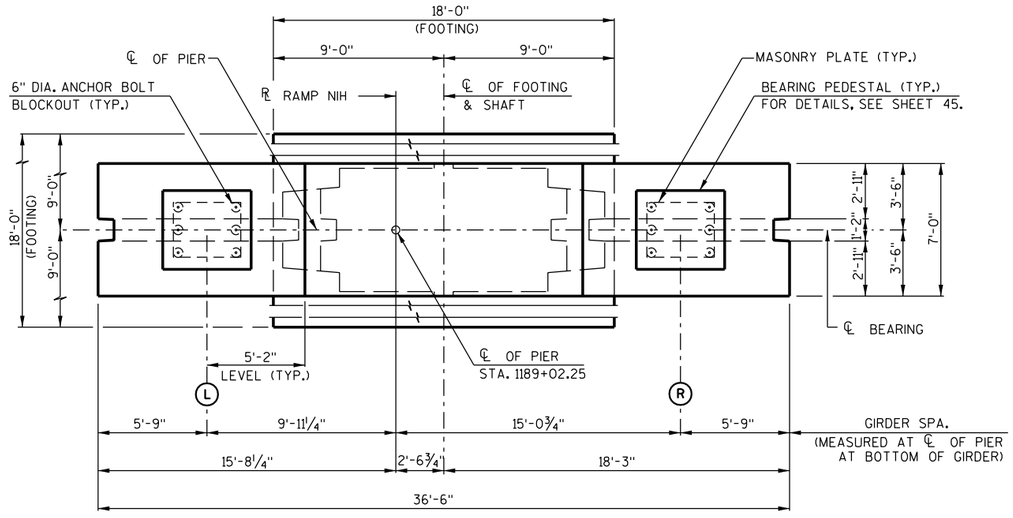
FILE NAME : P:\153 USH 41\1133-10-00 UPGRADE\STRUCTURES\B-5-679\d17.SABUTDET.V7.B-5-679.DGN

PLOT DATE : 4/22/2013

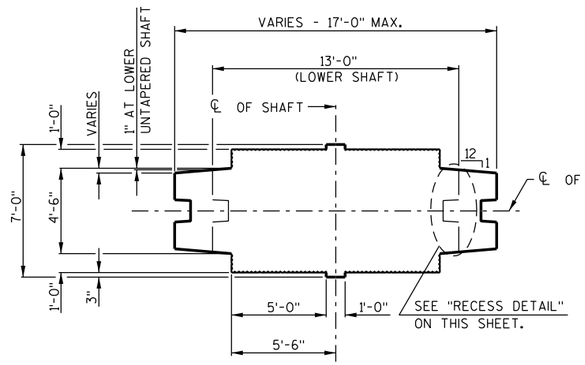
STATE PROJECT NUMBER

1133-11-74



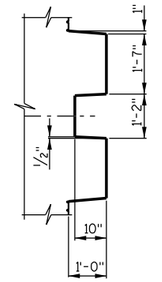



PLAN



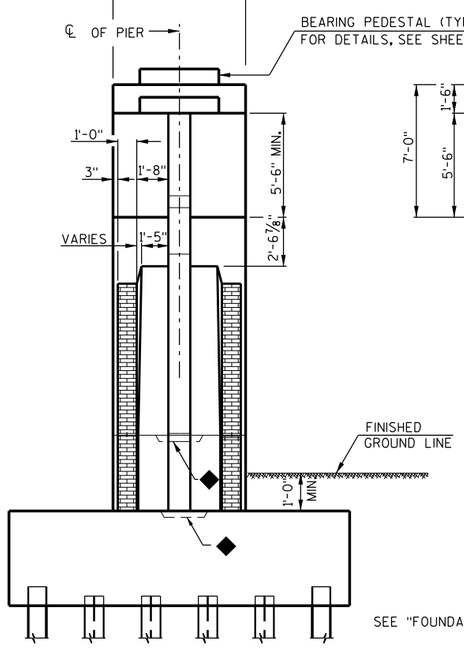

SECTION A-A

NOTE: ALL DIMENSIONS ARE SYMMETRICAL.



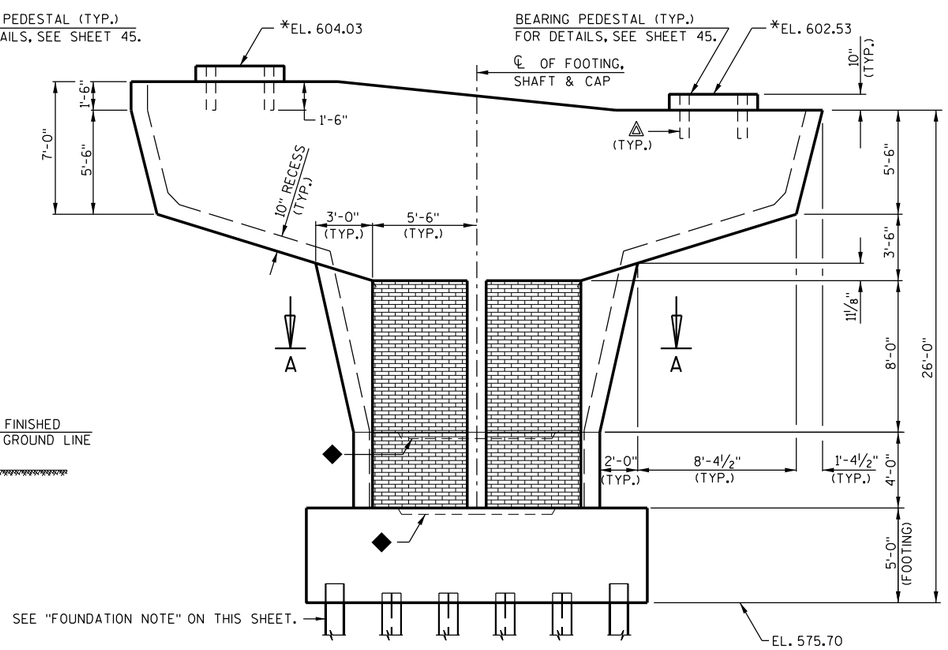

RECESS DETAIL

(LOWER SHAFT)




END VIEW

(LOW SIDE SHOWN, HIGH SIDE SIMILAR)




ELEVATION

(LOOKING UPSTATION)

## LEGEND

* ELEVATIONS ARE GIVEN AT THE TOP OF CONCRETE PEDESTAL AT THE ℄ OF BEARING.

◆ KEYED CONST. JOINT FORMED BY BEVELED 4" x 2'-0" X 8'-4".

△ 6" DIA. ANCHOR BOLT BLOCKOUT (TYP.) BLOCKOUTS SHALL BE FORMED USING CORRUGATED FORMS THAT WILL PROVIDE POSITIVE INTERLOCK BETWEEN PIER CAP AND THE GROUT SURROUNDING THE ANCHOR BOLTS. (DISPLACE BAR STEEL AS NECESSARY TO CLEAR BOXOUT).

NOTE: FOR PIER 1 BAR STEEL REINFORCEMENT DETAILS, SEE SHEETS 25, 26 & 34.

## FOUNDATION NOTE

PIER 1 TO BE SUPPORTED ON HP 14x73 STEEL PILES WITH A REQUIRED DRIVING RESISTANCE OF 250 TONS PER PILE AS DETERMINED BY THE PDA/CAPWAP METHOD. ESTIMATED 70' LONG. THE MINIMUM PILE TIP EL. FOR UPLIFT IS 520.00.

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

PIER 1
LAYOUT DETAILS

SHEET 18 OF 91
907

8

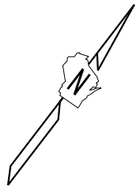
8

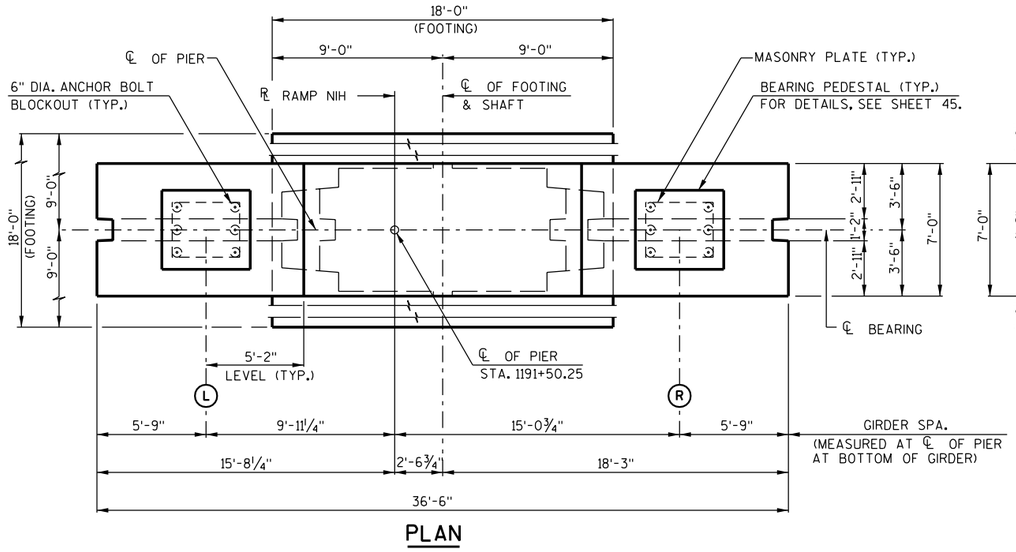
FILE NAME : P:\453 USH 41\1133-10-00 URGs\STRUCTURES\B-5-679\408_PIER1_VT_B-5-679.DGN

PLOT DATE : 4/22/2013

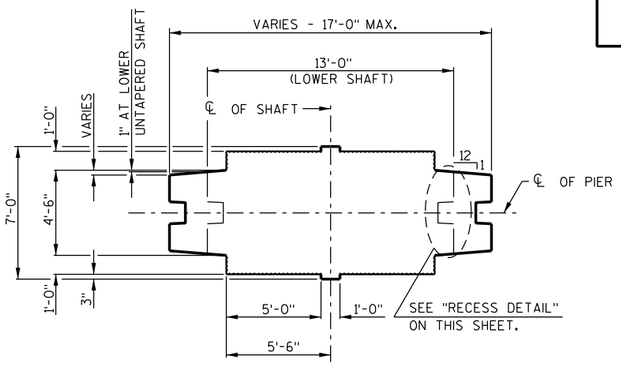
STATE PROJECT NUMBER

1133-11-74



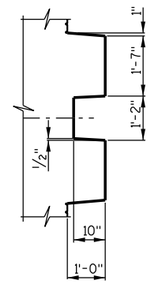



PLAN



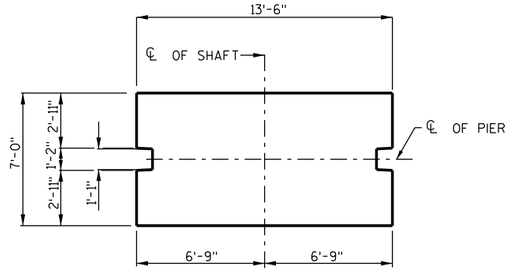

SECTION A-A

NOTE: ALL DIMENSIONS ARE SYMMETRICAL.




RECESS DETAIL

(LOWER SHAFT)




SECTION B-B

NOTE: ALL DIMENSIONS ARE SYMMETRICAL.




END VIEW

(LOW SIDE SHOWN, HIGH SIDE SIMILAR)




ELEVATION

(LOOKING UPSTATION)

## LEGEND

* ELEVATIONS ARE GIVEN AT THE TOP OF CONCRETE PEDESTAL AT THE ℄ OF BEARING.

◆ KEYED CONST. JOINT FORMED BY BEVELED 4" x 2'-0" X 8'-4".

△ 6" DIA. ANCHOR BOLT BLOCKOUT (TYP.) BLOCKOUTS SHALL BE FORMED USING CORRUGATED FORMS THAT WILL PROVIDE POSITIVE INTERLOCK BETWEEN PIER CAP AND THE GROUT SURROUNDING THE ANCHOR BOLTS. (DISPLACE BAR STEEL AS NECESSARY TO CLEAR BOXOUT).

NOTE: FOR PIER 2 BAR STEEL REINFORCEMENT DETAILS, SEE SHEETS 25, 26 & 35.

## FOUNDATION NOTE

PIER 2 TO BE SUPPORTED ON HP 14x73 STEEL PILES WITH A REQUIRED DRIVING RESISTANCE OF 250 TONS PER PILE AS DETERMINED BY THE PDA/CAPWAP METHOD. ESTIMATED 65'LONG. THE MINIMUM PILE TIP EL. FOR UPLIFT IS 523.00.

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

PIER 2
LAYOUT DETAILS

SHEET 19 OF 91
908

8

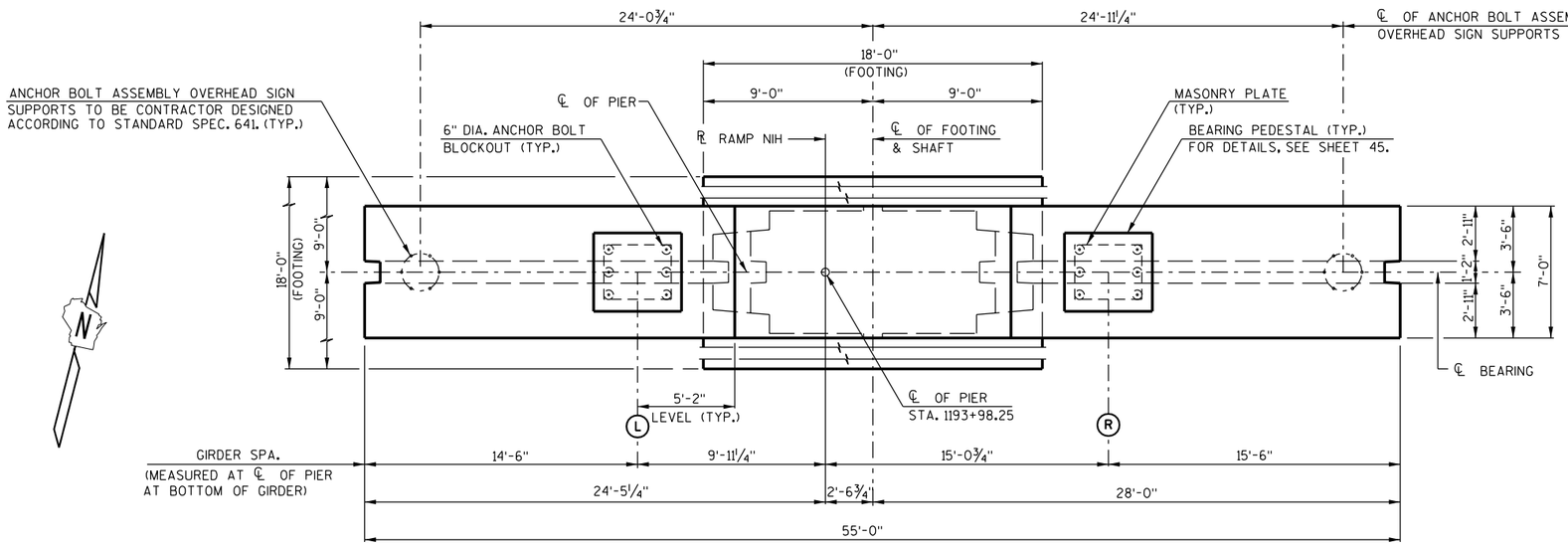
8

FILE NAME : P:\153 USH 41\1133-10-00 URS\STRUCTURES\B-5-679\d09_PIER2_V7_B-5-679.DGN

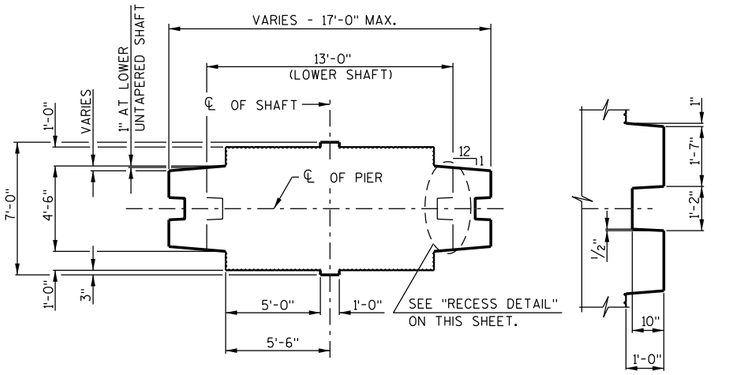
PLOT DATE : 4/22/2013

STATE PROJECT NUMBER

1133-11-74




PLAN

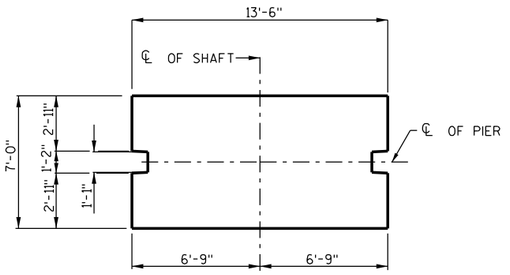



SECTION A-A

NOTE: ALL DIMENSIONS ARE SYMMETRICAL.

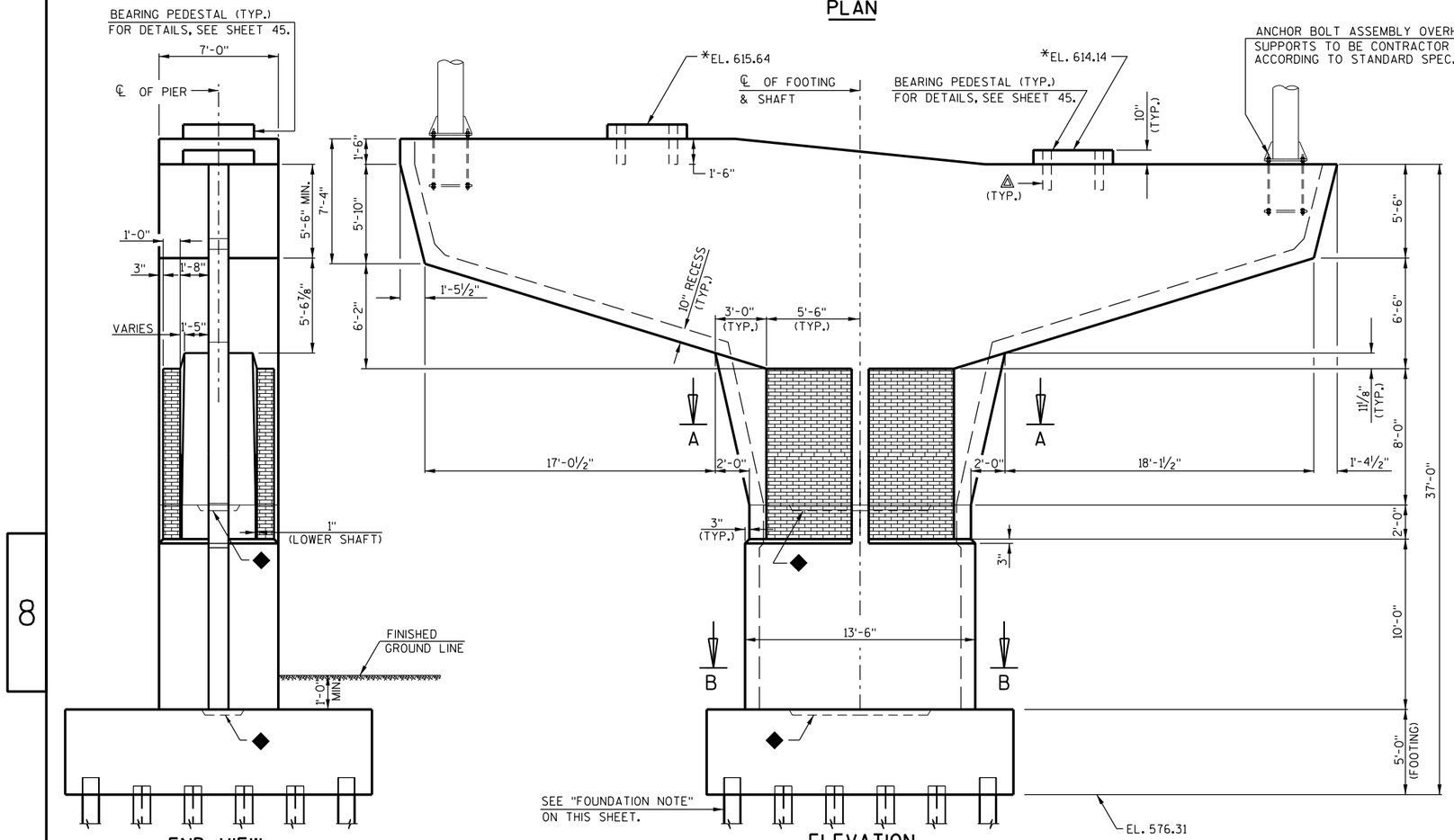
RECESS DETAIL

(LOWER SHAFT)




SECTION B-B

NOTE: ALL DIMENSIONS ARE SYMMETRICAL.




END VIEW

(LOW SIDE SHOWN, HIGH SIDE SIMILAR)

ELEVATION

(LOOKING UPSTATION)

## LEGEND

* ELEVATIONS ARE GIVEN AT THE TOP OF CONCRETE PEDESTAL AT THE ℄ OF BEARING.

◆ KEYED CONST. JOINT FORMED BY BEVELED 4" x 2'-0" X 8'-4".

△ 6" DIA. ANCHOR BOLT BLOCKOUT (TYP.) BLOCKOUTS SHALL BE FORMED USING CORRUGATED FORMS THAT WILL PROVIDE POSITIVE INTERLOCK BETWEEN PIER CAP AND THE GROUT SURROUNDING THE ANCHOR BOLTS. (DISPLACE BAR STEEL AS NECESSARY TO CLEAR BOXOUT).

NOTE: FOR PIER 3 BAR STEEL REINFORCEMENT DETAILS, SEE SHEETS 27, 28 & 36.

## FOUNDATION NOTE

PIER 3 TO BE SUPPORTED ON HP 14x73 STEEL PILES WITH A REQUIRED DRIVING RESISTANCE OF 250 TONS PER PILE AS DETERMINED BY THE PDA/CAPWAP METHOD. ESTIMATED 75'LONG. THE MINIMUM PILE TIP EL. FOR UPLIFT IS 528.00.

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

PIER 3
LAYOUT DETAILS

SHEET 20 OF 91
909

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

8

8

FILE NAME : P:\853 USH 41\1133-10-00 URGS\STRUCTURES\B-5-679\020.PIER3.V7.B-5-679.DGN

PLOT DATE : 4/26/2013

STATE PROJECT NUMBER

1133-11-74

## LEGEND

* ELEVATIONS ARE GIVEN AT THE TOP OF CONCRETE PEDESTAL AT THE ℄ OF BEARING.

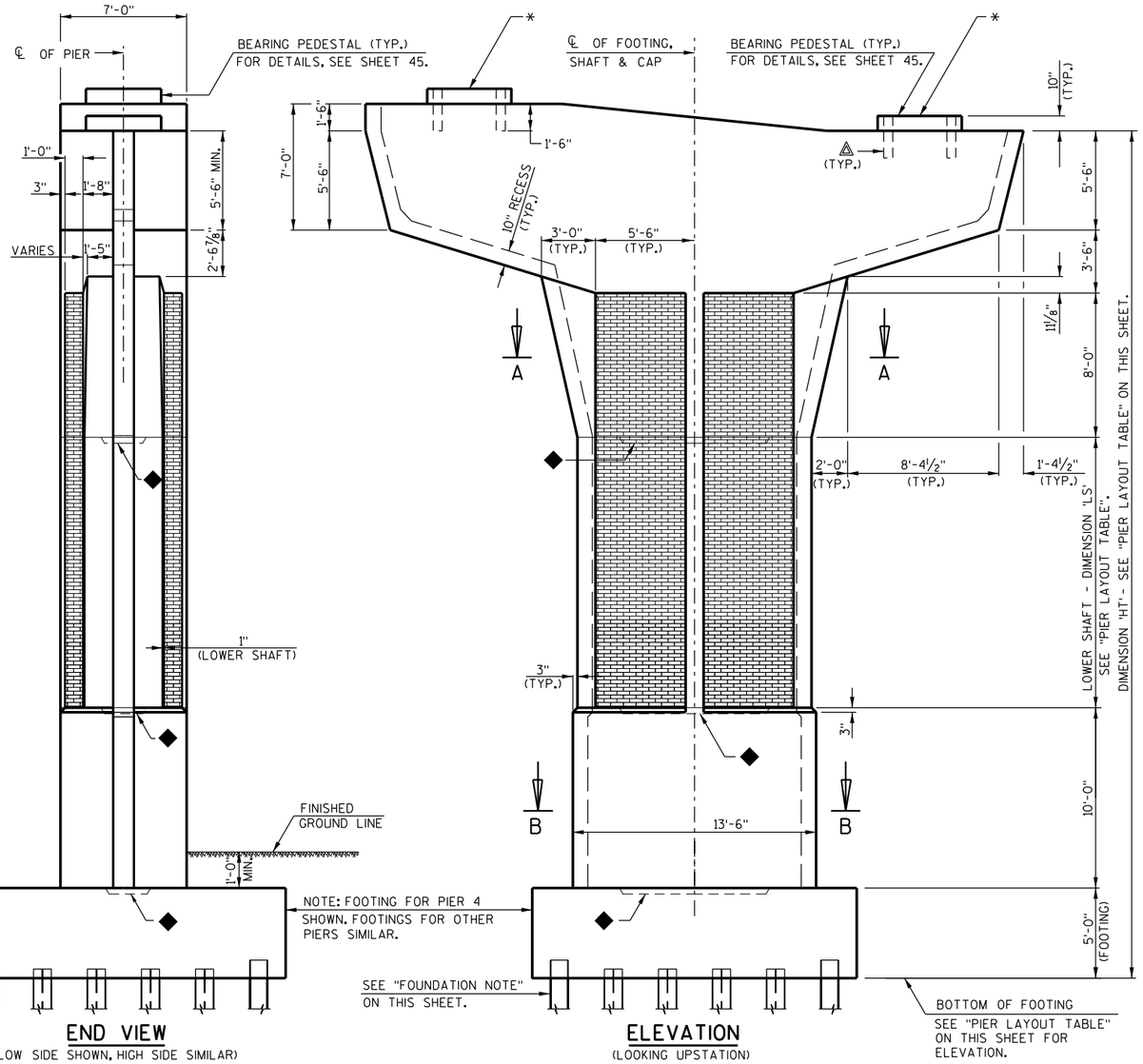
◆ KEYED CONST. JOINT FORMED BY BEVELED 4" x 2'-0" X 8'-4".

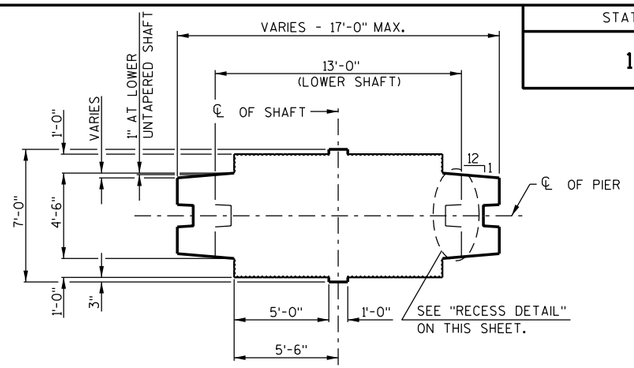
△ 6" DIA. ANCHOR BOLT BLOCKOUT (TYP.) BLOCKOUTS SHALL BE FORMED USING CORRUGATED FORMS THAT WILL PROVIDE POSITIVE INTERLOCK BETWEEN PIER CAP AND THE GROUT SURROUNDING THE ANCHOR BOLTS. (DISPLACE BAR STEEL AS NECESSARY TO CLEAR BOXOUT).

NOTE: FOR PIERS 4 & 6 THRU 8 BAR STEEL REINFORCEMENT DETAILS, SEE SHEETS 25, 26, & 37-40.

## PIER LAYOUT TABLE

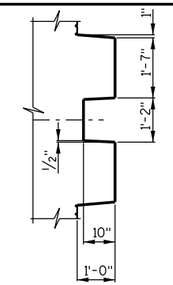
| | ℄ OF BRG. STATION | * ELEVATION LEFT PEDESTAL | * ELEVATION RIGHT PEDESTAL | SHAFT DIM. 'LS' | DIMENSION 'HT' | BOTTOM FTG. ELEVATION |
|---|---|---|---|---|---|---|
| PIER 4 | 1196+46.25 | 619.78 | 618.28 | 10'-0" | 42'-0" | 575.45 |
| PIER 6 | 1199+90.25 | 623.43 | 621.93 | 11'-0" | 43'-0" | 578.10 |
| PIER 7 | 1202+38.25 | 624.77 | 623.27 | 12'-0" | 44'-0" | 578.44 |
| PIER 8 | 1204+86.25 | 624.90 | 623.40 | 14'-0" | 46'-0" | 576.57 |



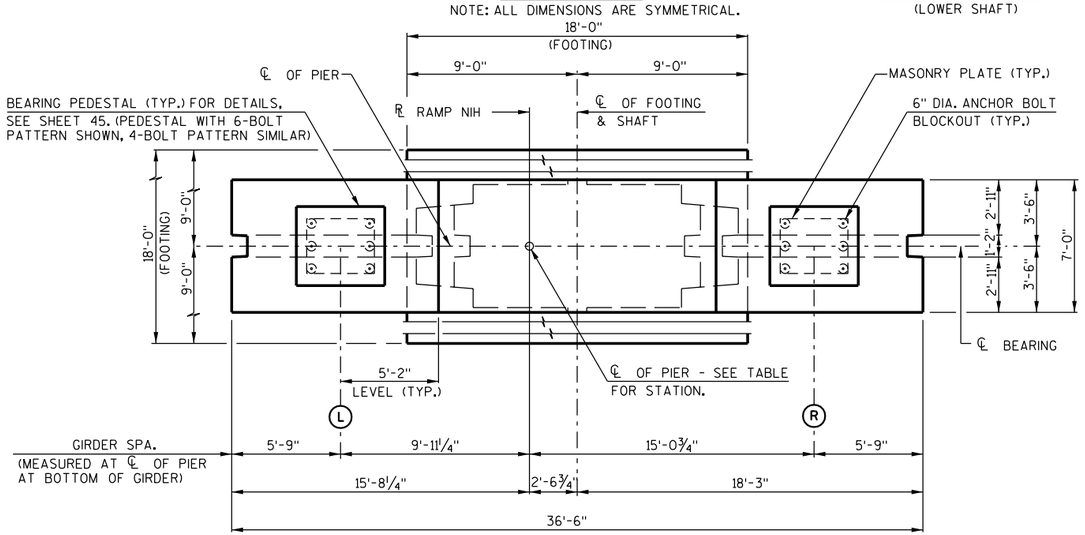

## SECTION A-A

NOTE: ALL DIMENSIONS ARE SYMMETRICAL.

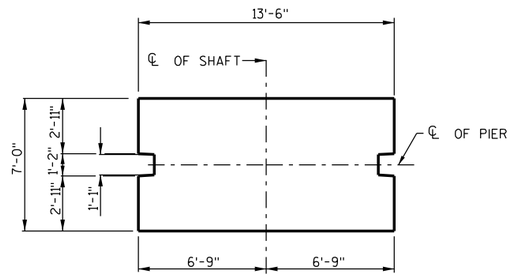



## RECESS DETAIL

(LOWER SHAFT)




## PLAN




## SECTION B-B

NOTE: ALL DIMENSIONS ARE SYMMETRICAL.

## FOUNDATION NOTE

PIERS 4 & 6 THRU 8 TO BE SUPPORTED ON HP 14x73 STEEL PILES WITH A REQUIRED DRIVING RESISTANCE OF 250 TONS PER PILE AS DETERMINED BY THE PILE DRIVING ANALYZER. ESTIMATED 70'LONG AT PIERS 4, 6 & 7, AND 75'AT PIER 8. THE MINIMUM PILE TIP EL. FOR UPLIFT IS 543.00 AT PIER 4, 548.00 AT PIER 6, 531.00 AT PIER 7, AND 533.00 AT PIER 8. STATE OWNED HP 14x89 PILES SHALL BE USED FOR PIERS 6 & 7. IF ADDITIONAL PILES ARE REQUIRED, PILING STEEL HP 14-INCH x 73 LB SHALL BE PROVIDED BY THE CONTRACTOR.

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

PIERS 4, 6, 7, & 8 LAYOUT DETAILS

SHEET 21 OF 91
910

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

8

8

FILE NAME : P:\153 USH 41\1133-10-00 URS\STRUCTURES\SD\5-679\021.PIER4678.V7.B-5-679.DGN
PLOT DATE : 4/26/2013

STATE PROJECT NUMBER

1133-11-74

## LEGEND

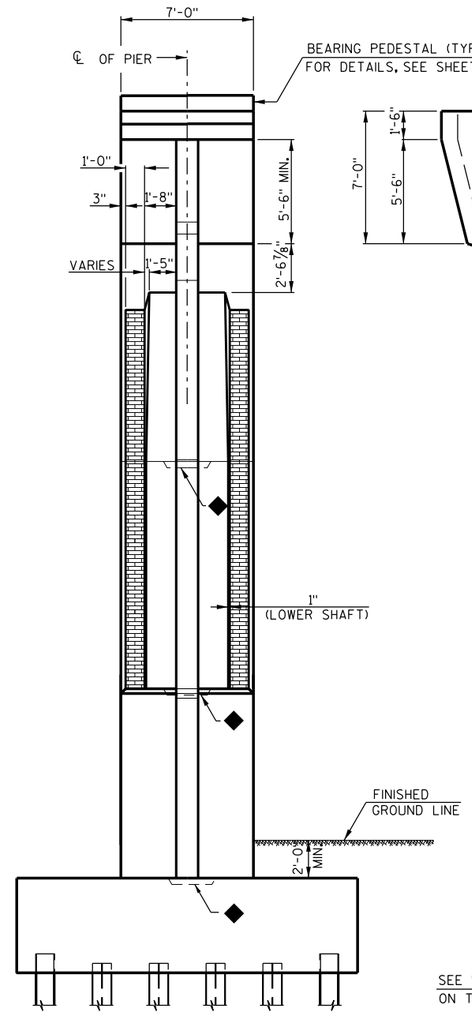
* ELEVATIONS ARE GIVEN AT THE TOP OF CONCRETE PEDESTAL AT THE ℄ OF BEARING.

** ℄ PIER AND ℄ BEARINGS ARE RADIAL. DIMENSION SHOWN IS AT THE REFERENCE LINE.

◆ KEYED CONST. JOINT FORMED BY BEVELED 4" x 2'-0" X 8'-4".

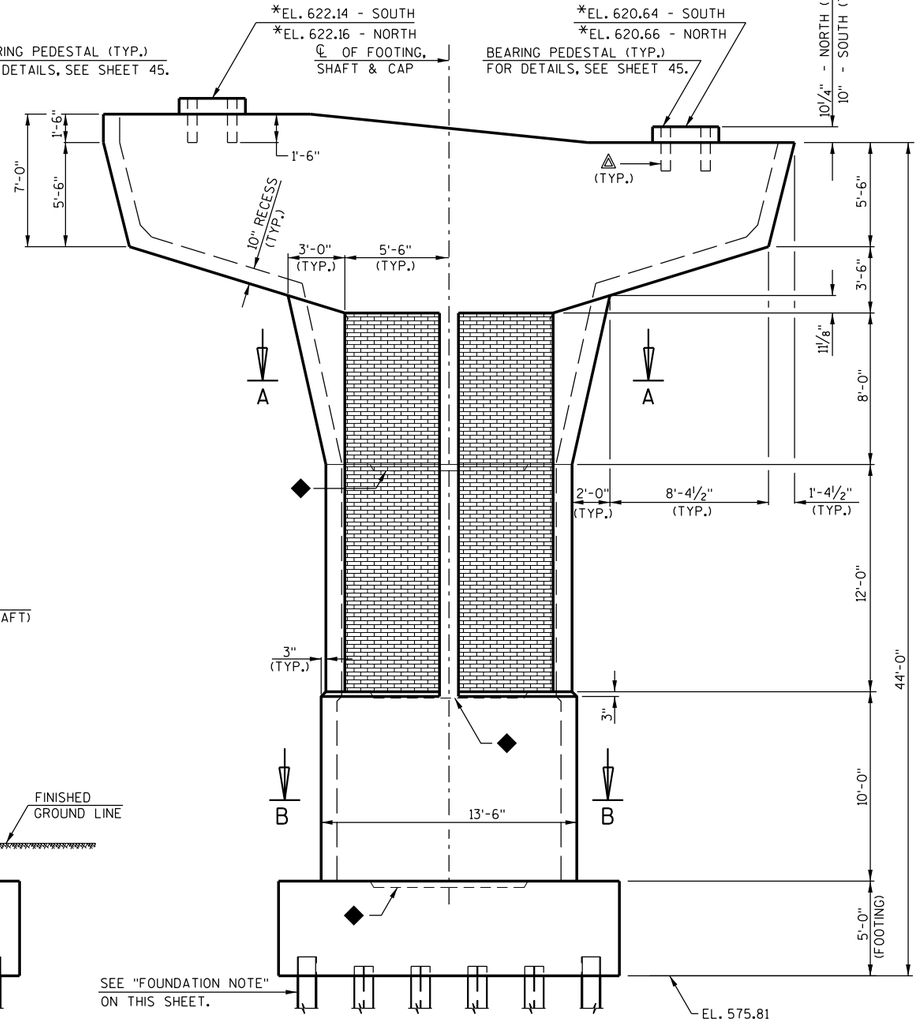
△ 6" DIA. ANCHOR BOLT BLOCKOUT (TYP.) BLOCKOUTS SHALL BE FORMED USING CORRUGATED FORMS THAT WILL PROVIDE POSITIVE INTERLOCK BETWEEN PIER CAP AND THE GROUT SURROUNDING THE ANCHOR BOLTS. (DISPLACE BAR STEEL AS NECESSARY TO CLEAR BOXOUT).

NOTE: FOR PIER 5 BAR STEEL REINFORCEMENT DETAILS, SEE SHEETS 29, 30 & 38.



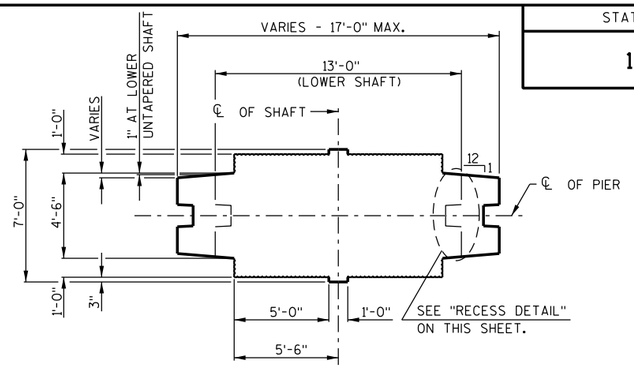

END VIEW

(LOW SIDE SHOWN, HIGH SIDE SIMILAR)



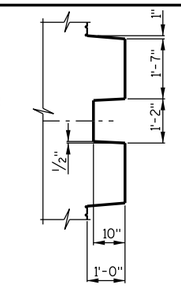

ELEVATION

(LOOKING UPSTATION)



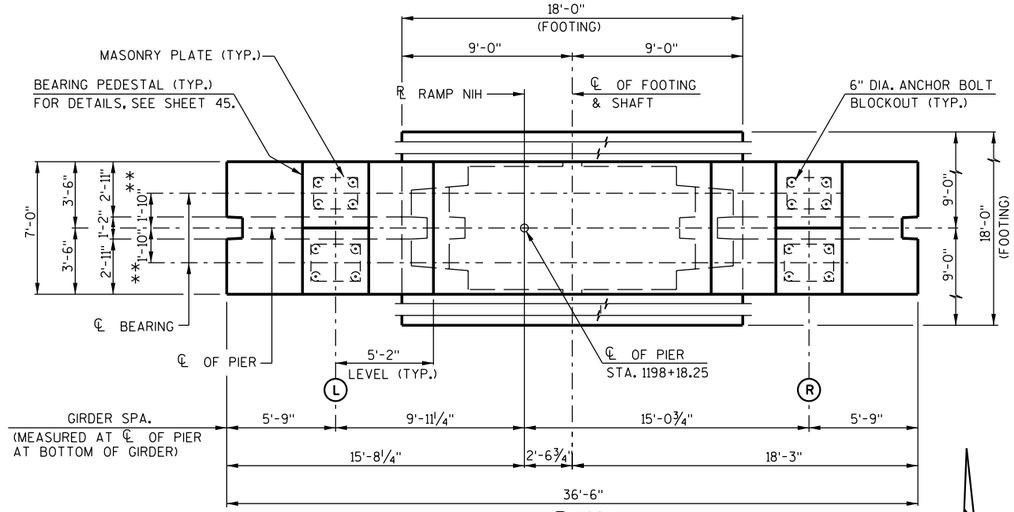

SECTION A-A

NOTE: ALL DIMENSIONS ARE SYMMETRICAL.

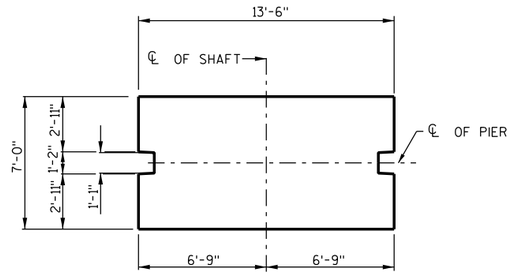



RECESS DETAIL

(LOWER SHAFT)




PLAN




SECTION B-B

NOTE: ALL DIMENSIONS ARE SYMMETRICAL.

## FOUNDATION NOTE

PIER 5 TO BE SUPPORTED ON HP 14x73 STEEL PILES WITH A REQUIRED DRIVING RESISTANCE OF 250 TONS PER PILE AS DETERMINED BY THE PDA/CAPWAP METHOD. ESTIMATED 75'LONG. THE MINIMUM PILE TIP EL. FOR UPLIFT IS 526.00.

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

PIER 5
LAYOUT DETAILS

SHEET 22 OF 91
911

8

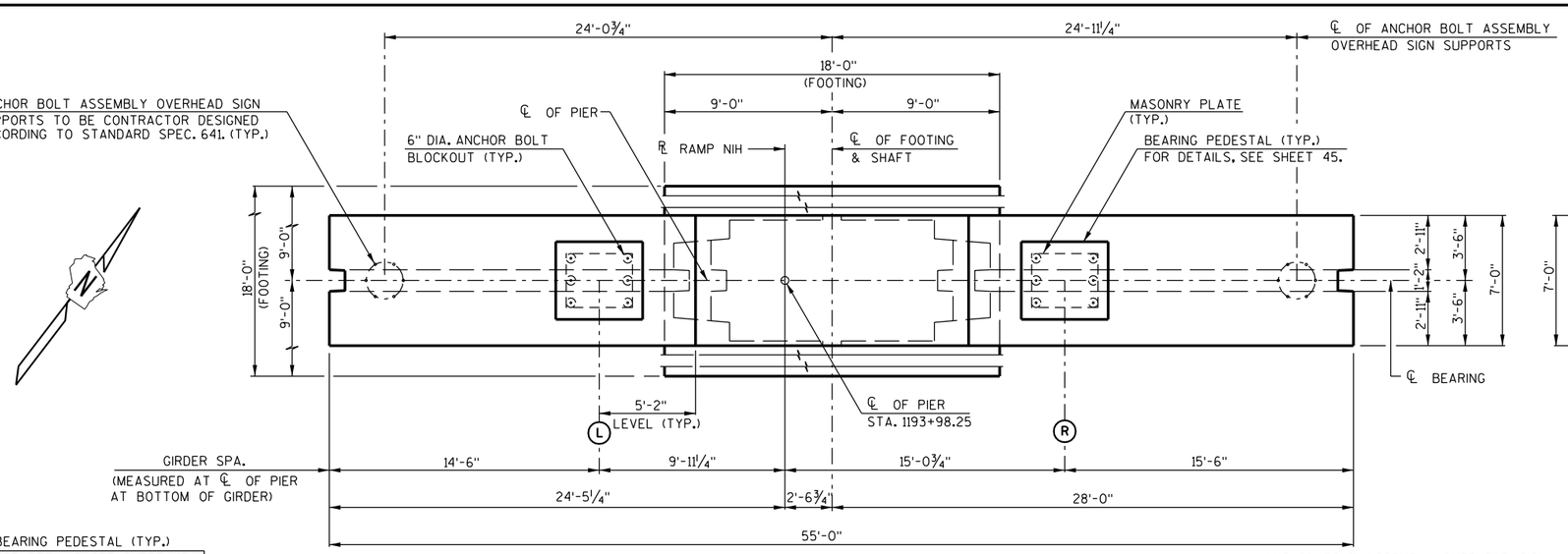
8

FILE NAME : P:\153 USH 41\1133-10-00 URS\STRUCTURES\B-5-679\02_PIER5_V7_B-5-679.DGN

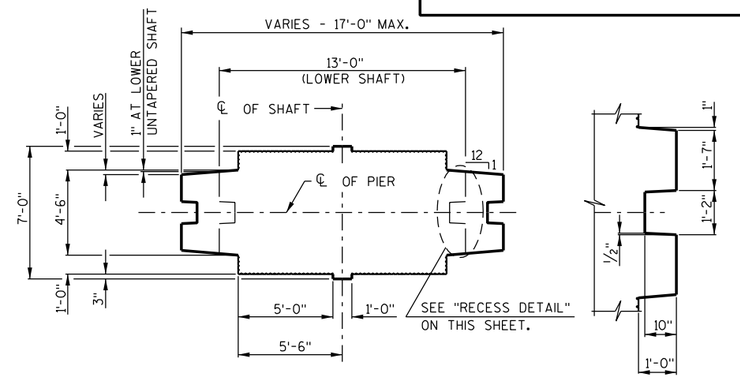
PLOT DATE : 4/24/2013

STATE PROJECT NUMBER

1133-11-74




## PLAN

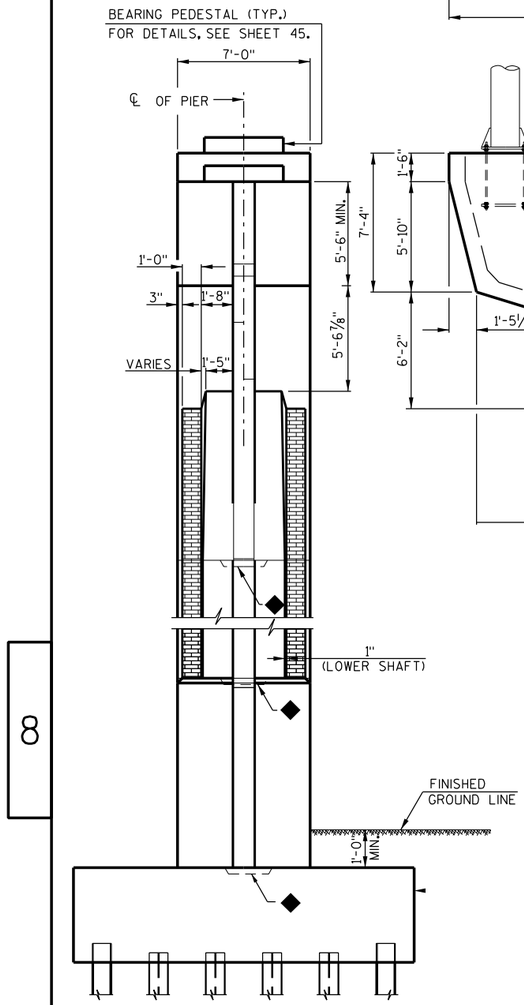



## SECTION A-A

NOTE: ALL DIMENSIONS ARE SYMMETRICAL.

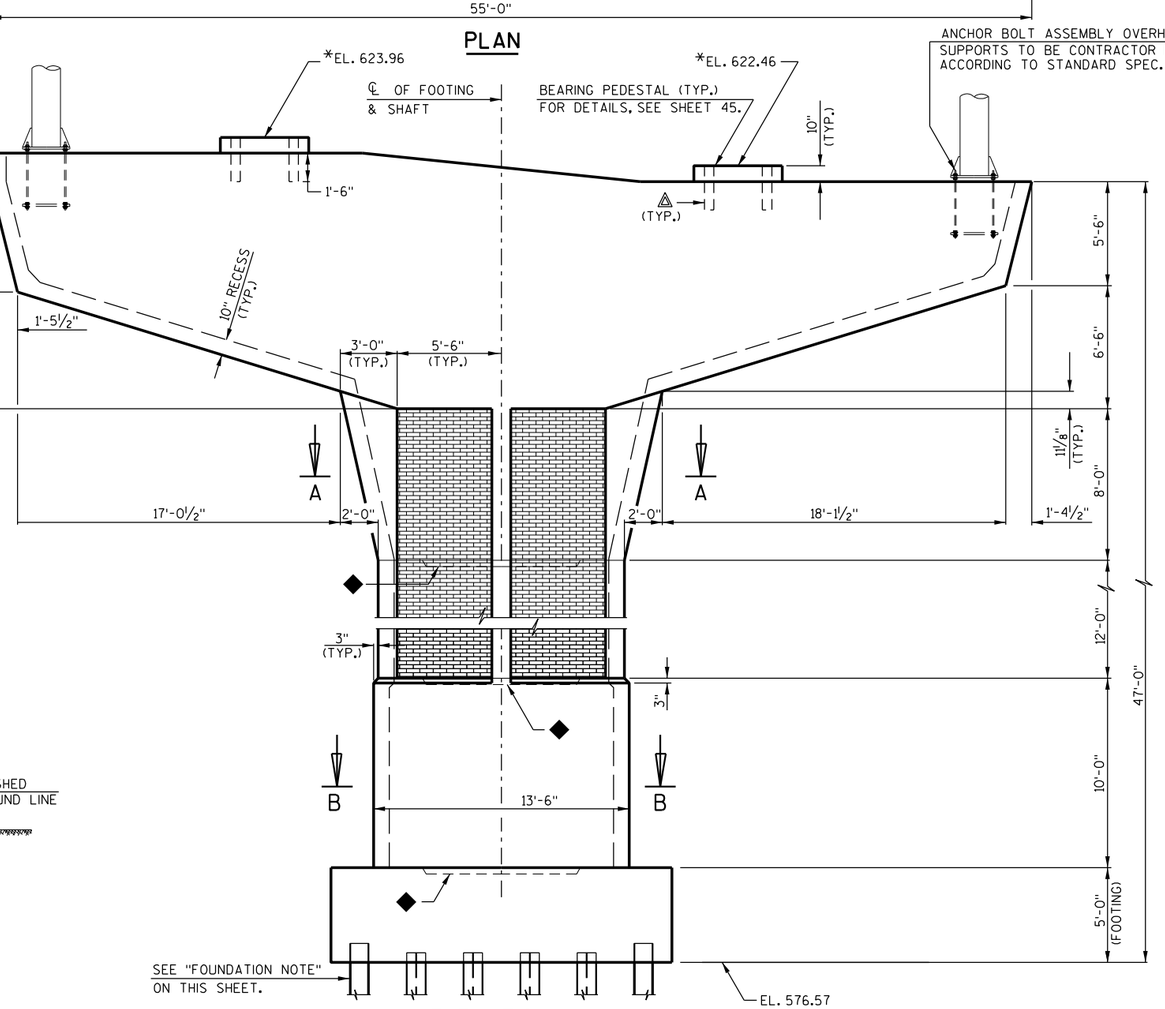
## RECESS DETAIL

(LOWER SHAFT)



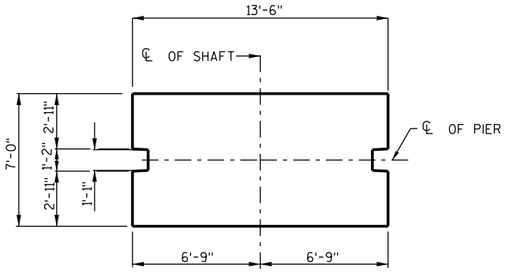

## END VIEW

(LOW SIDE SHOWN, HIGH SIDE SIMILAR)




## ELEVATION

(LOOKING UPSTATION)




## SECTION B-B

NOTE: ALL DIMENSIONS ARE SYMMETRICAL.

## LEGEND

* ELEVATIONS ARE GIVEN AT THE TOP OF CONCRETE PEDESTAL AT THE ℄ OF BEARING.

◆ KEYED CONST. JOINT FORMED BY BEVELED 4" x 2'-0" X 8'-4".

△ 6" DIA. ANCHOR BOLT BLOCKOUT (TYP.) BLOCKOUTS SHALL BE FORMED USING CORRUGATED FORMS THAT WILL PROVIDE POSITIVE INTERLOCK BETWEEN PIER CAP AND THE GROUT SURROUNDING THE ANCHOR BOLTS. (DISPLACE BAR STEEL AS NECESSARY TO CLEAR BOXOUT).

NOTE: FOR PIER 9 BAR STEEL REINFORCEMENT DETAILS, SEE SHEETS 27, 28, & 41.

## FOUNDATION NOTE

PIER 9 TO BE SUPPORTED ON HP 14x73 STEEL PILES WITH A REQUIRED DRIVING RESISTANCE OF 250 TONS PER PILE AS DETERMINED BY THE PDA/CAPWAP METHOD. ESTIMATED 75'LONG. THE MINIMUM PILE TIP EL. FOR UPLIFT IS 541.00.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

PIER 9
LAYOUT DETAILS

SHEET 23 OF 91
912

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

8

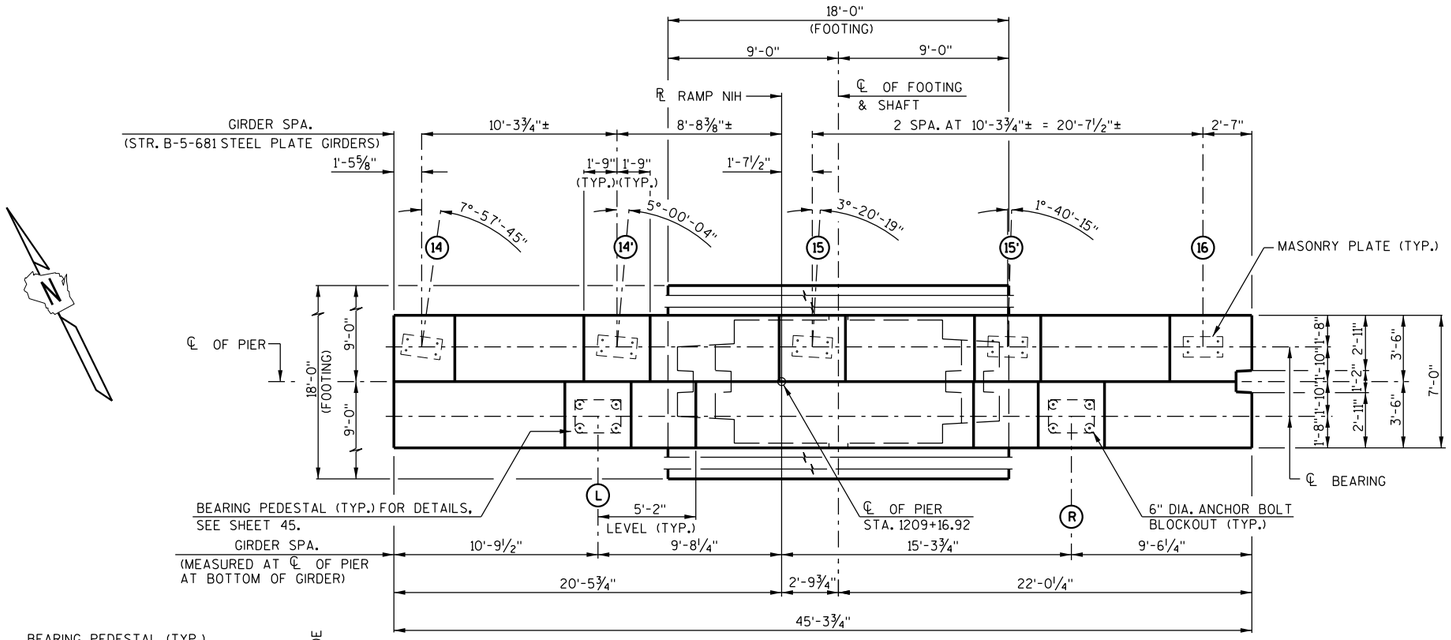
8

FILE NAME : P:\153 USH 41\1133-10-00 URS\STRUCTURES\B-5-679\d023_PIER9_V7.B-5-679.DGN

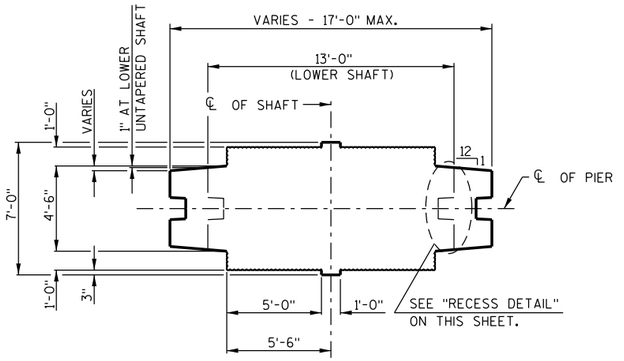
PLOT DATE : 4/26/2013

STATE PROJECT NUMBER

1133-11-74

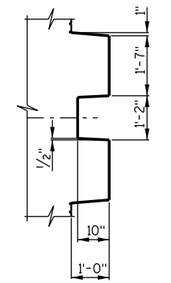



## PLAN



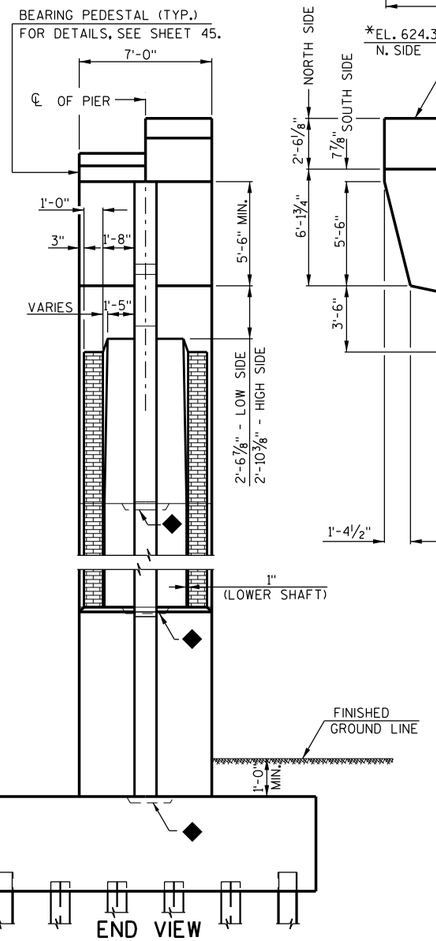

## SECTION A-A

NOTE: ALL DIMENSIONS ARE SYMMETRICAL.



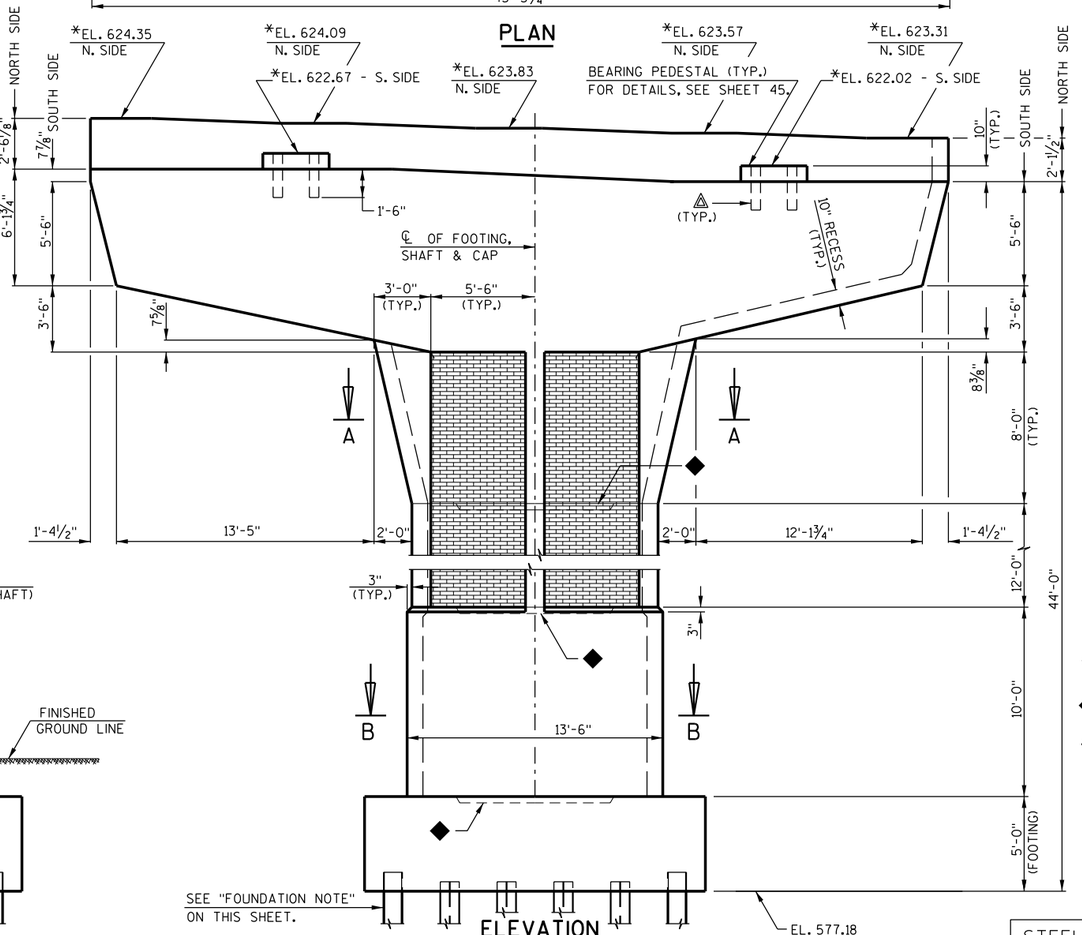

## RECESS DETAIL

(LOWER SHAFT)



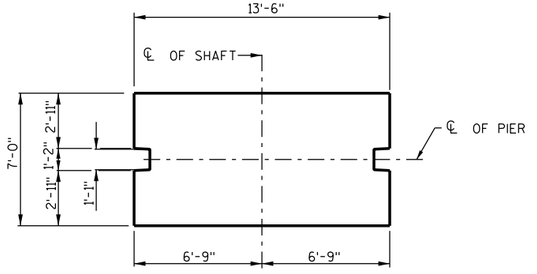

## END VIEW

(LOW SIDE SHOWN, HIGH SIDE SIMILAR EXCEPT OMIT NOTCH IN PIER CAP)




## ELEVATION

(LOOKING UPSTATION)




## SECTION B-B

NOTE: ALL DIMENSIONS ARE SYMMETRICAL.

## FOUNDATION NOTE

PIER C1 TO BE SUPPORTED ON HP 14x73 STEEL PILES WITH A REQUIRED DRIVING RESISTANCE OF 250 TONS PER PILE AS DETERMINED BY THE PDA/CAPWAP METHOD. ESTIMATED 70' LONG. THE MINIMUM PILE TIP EL. FOR UPLIFT IS 525.00.

## LEGEND

* ELEVATIONS ARE GIVEN AT THE TOP OF CONCRETE PEDESTAL AT THE ℄ OF BEARING.

◆ KEYED CONST. JOINT FORMED BY BEVELED 4" x 2'-0" X 8'-4".

△ 6" DIA. ANCHOR BOLT BLOCKOUT (TYP.) BLOCKOUTS SHALL BE FORMED USING CORRUGATED FORMS THAT WILL PROVIDE POSITIVE INTERLOCK BETWEEN PIER CAP AND THE GROUT SURROUNDING THE ANCHOR BOLTS. (DISPLACE BAR STEEL AS NECESSARY TO CLEAR BOXOUT).

NOTE: FOR PIER C1 BAR STEEL REINFORCEMENT DETAILS, SEE SHEETS 28, 29 & 38.

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

PIER C1
LAYOUT DETAILS

SHEET 24 OF 91
913

FILE NAME : P:\153 USH 41\1133-10-00 URGS\STRUCTURES\B-5-679\024_PIERC1_V7_B-5-679.DGN

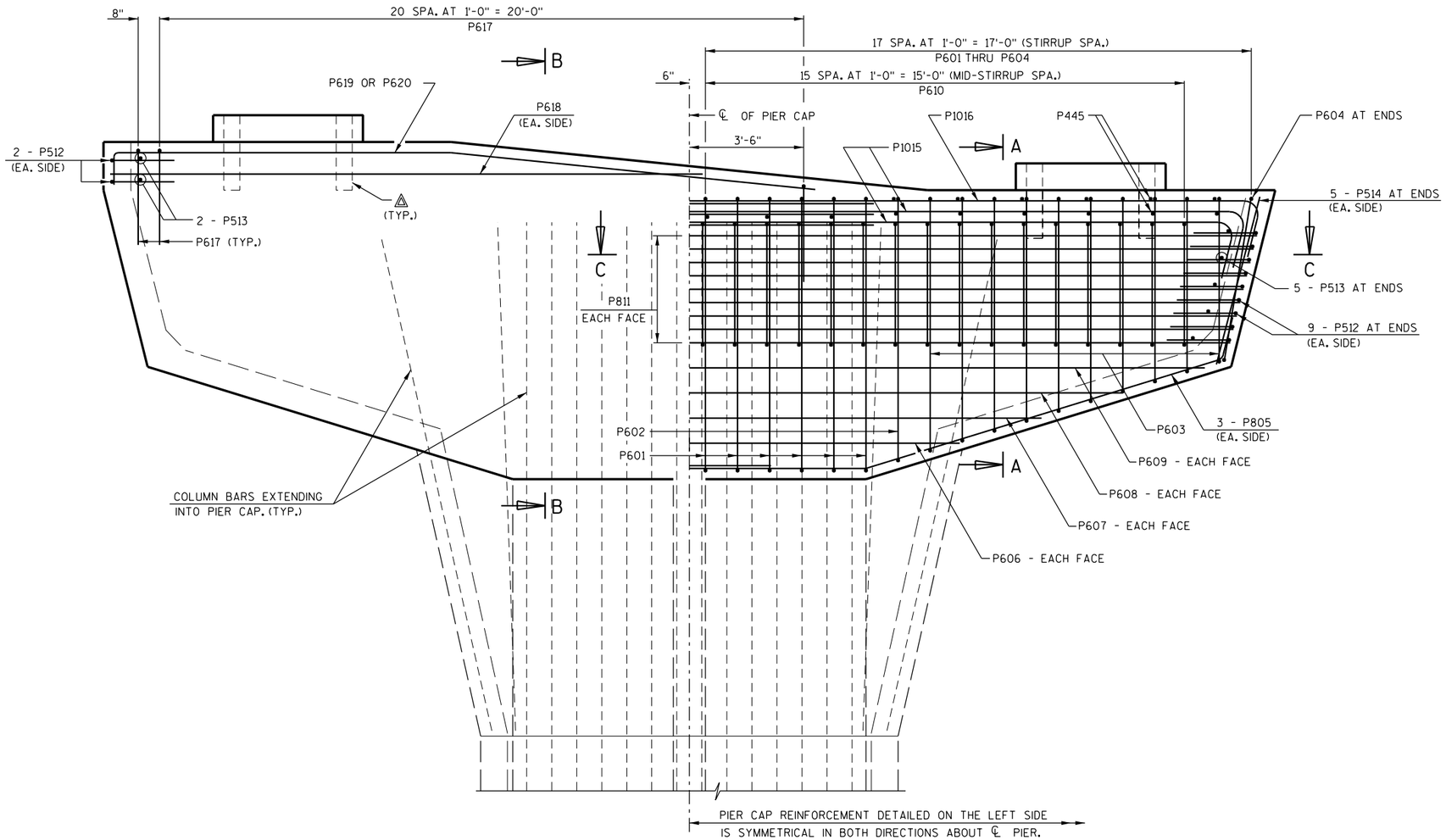
PLOT DATE : 4/26/2013

8

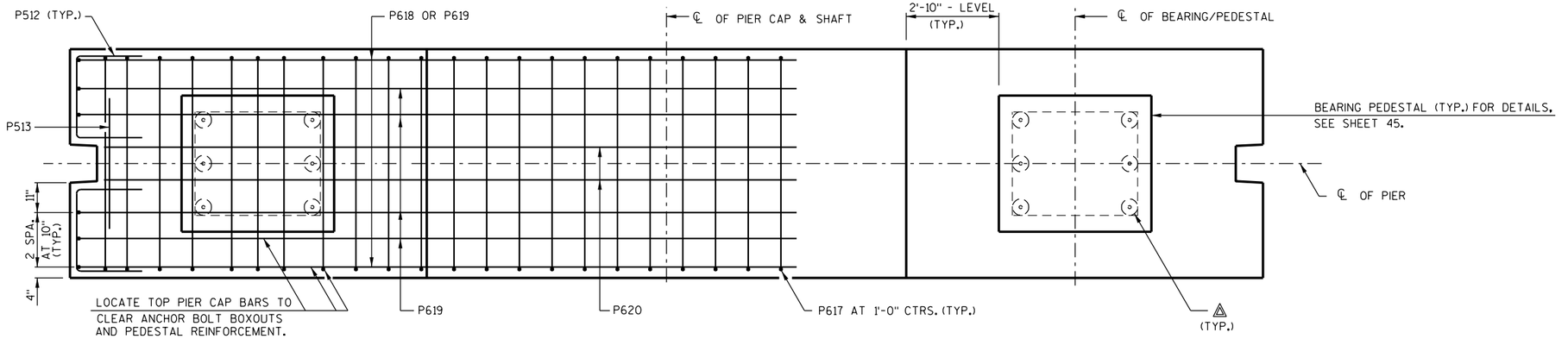
8

STATE PROJECT NUMBER

1133-11-74




## ELEVATION - PIER CAP




## PLAN - PIER CAP

(SHOWING BAR STEEL REINFORCEMENT AT TOP OF CAP)

## LEGEND

⚠ FOR SYMBOL DESCRIPTION, SEE SHEET 18.

## NOTES

1. LAP P805 BARS 5'-1" MIN.
2. LAP P1015 & P1016 BARS 11'-6" MIN.
3. SEE SHEET 26 FOR SECTIONS THRU PIER CAP.
4. SEE SHEETS 18, 19 & 21 FOR TYPICAL PIER GEOMETRY AND ELEVATIONS.
5. SEE SHEETS 34, 35, & 37-40 FOR PIER SHAFT BAR STEEL REINFORCEMENT DETAILS.
6. SEE SHEET 45 FOR TYPICAL PEDESTAL BAR STEEL REINFORCEMENT DETAILS.
7. SPACE P445 BARS AT 2'-0" SPACING AS NESSARY TO SUPPORT TOP TWO LAYERS OF P1015 & P1016 BARS.

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

PIER CAP DETAILS - PIERS 1, 2, 4 & 6 THRU 8

SHEET 25 OF 91

914

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

8

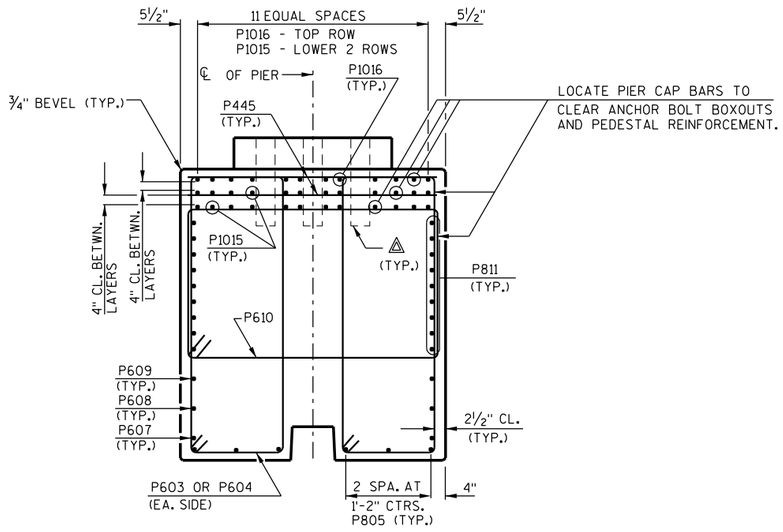
8

FILE NAME : P:\153 USH 41\1133-10-00 URGS\STRUCTURES\sb\B-5-679\s025_CAP_124_6-8A_V7.B-5-679.DGN

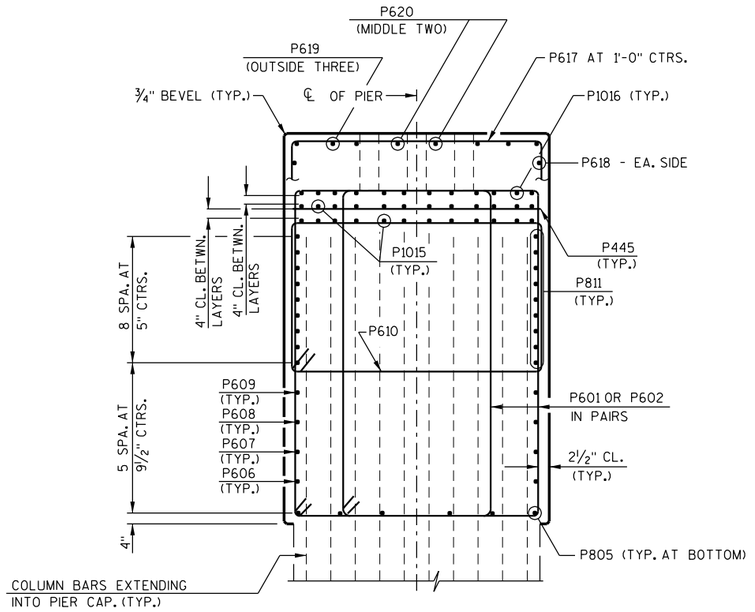
PLOT DATE : 4/22/2013

STATE PROJECT NUMBER

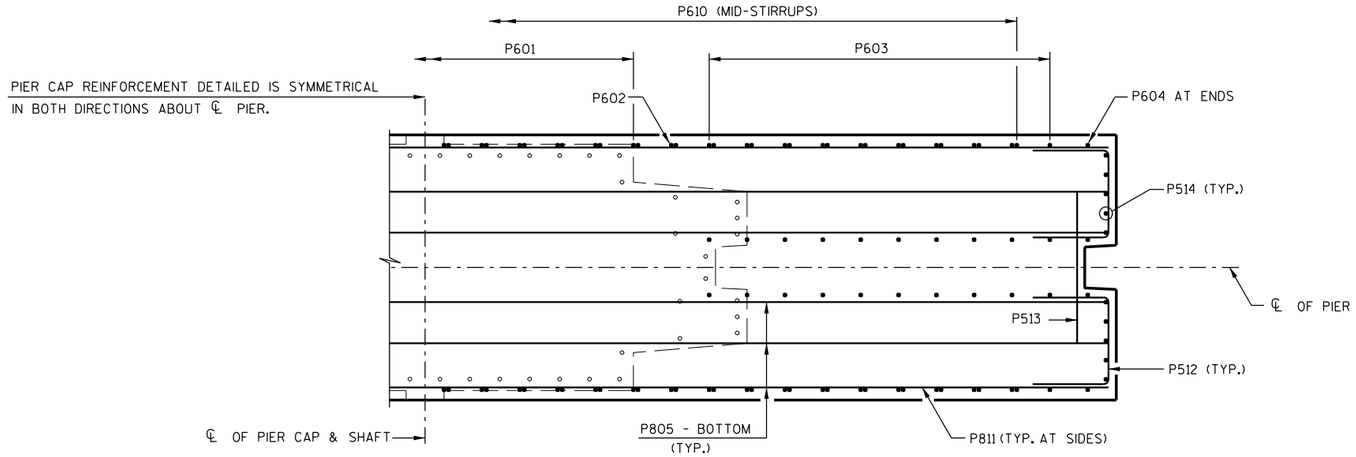
1133-11-74




## SECTION A-A




## SECTION B-B




## SECTION C-C

## LEGEND

△ FOR SYMBOL DESCRIPTION, SEE SHEET 18.

## NOTES

1. LAP P805 BARS 5'-1" MIN.
2. LAP P1015 & P1016 BARS 11'-6" MIN.
3. SEE SHEETS 18, 19 & 21 FOR TYPICAL PIER GEOMETRY AND ELEVATIONS.
4. SEE SHEETS 34, 35, 37-40 FOR PIER SHAFT BAR STEEL REINFORCEMENT DETAILS.
5. SEE SHEET 45 FOR TYPICAL PEDESTAL BAR STEEL REINFORCEMENT DETAILS.

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

PIER CAP DETAILS - PIERS 1, 2, 4 & 6 THRU 8

SHEET 26 OF 91

915

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

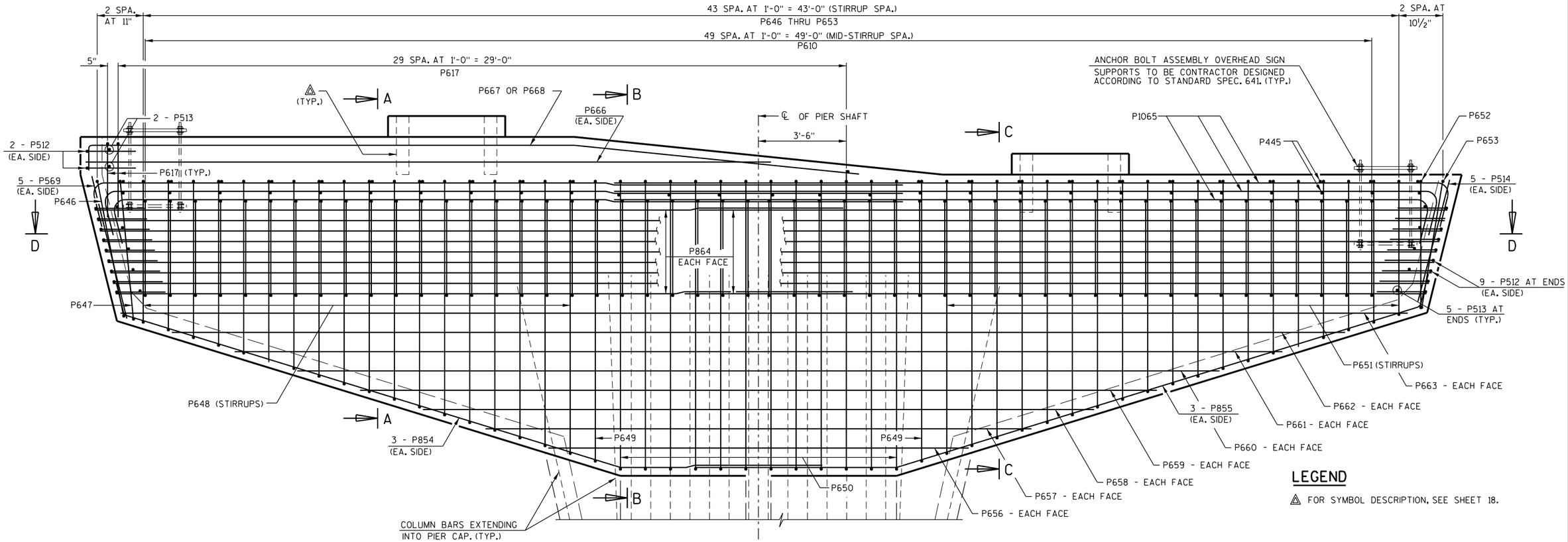
8

8

FILE NAME : P:\853 USH 41\1133-10-00 URGS\STRUCTURES\B-5-679\d026_CAP_124_6-BB_V7_B-5-679.DGN

PLOT DATE : 4/24/2013

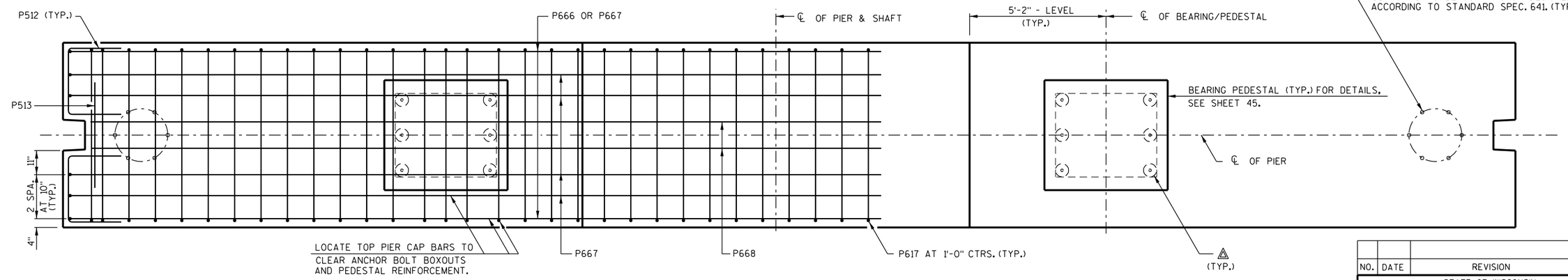
| STATE PROJECT NUMBER |
|---|
| 1133-11-74 |




## ELEVATION - PIER CAP

## LEGEND

⚠ FOR SYMBOL DESCRIPTION, SEE SHEET 18.




## PLAN - PIER CAP

(SHOWING BAR STEEL REINFORCEMENT AT TOP OF CAP)

## NOTES

1. LAP P854 & P855 BARS 5'-1" MIN.
2. LAP P1065 BARS 11'-6" MIN.
3. SEE SHEET 28 FOR SECTIONS THRU PIER CAP.
4. SEE SHEETS 20 & 23 FOR TYPICAL PIER GEOMETRY AND ELEVATIONS.
5. SEE SHEETS 36 & 41 FOR PIER SHAFT BAR STEEL REINFORCEMENT DETAILS.
6. SEE SHEET 45 FOR TYPICAL PEDESTAL BAR STEEL REINFORCEMENT DETAILS.
7. SPACE P445 BARS AT 2'-0" SPACING AS NESSARY TO SUPPORT TOP TWO LAYERS OF P1065 BARS.
8. LAP P864 BARS 5'-9" MIN.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

PIER CAP DETAILS - PIERS 3 & 9

SHEET 27 OF 91
916

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

8

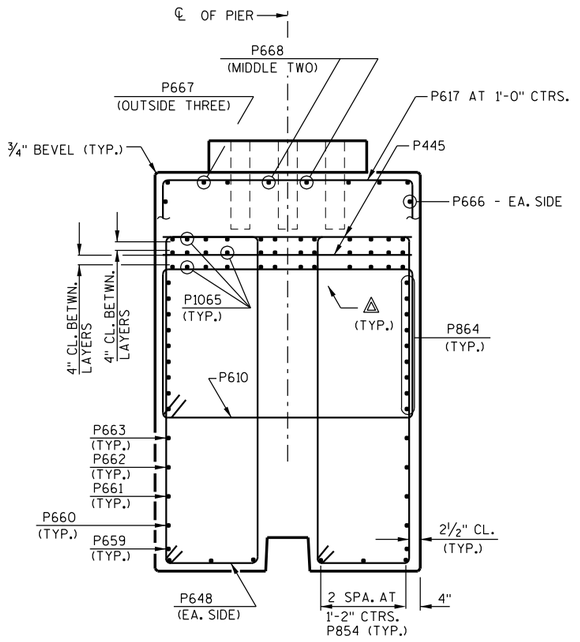
8

FILE NAME : P:\853 USH 41\1133-10-00 URGS\STRUCTURES\B-5-679\d027.CAP.39A.V7.B-5-679.DGN

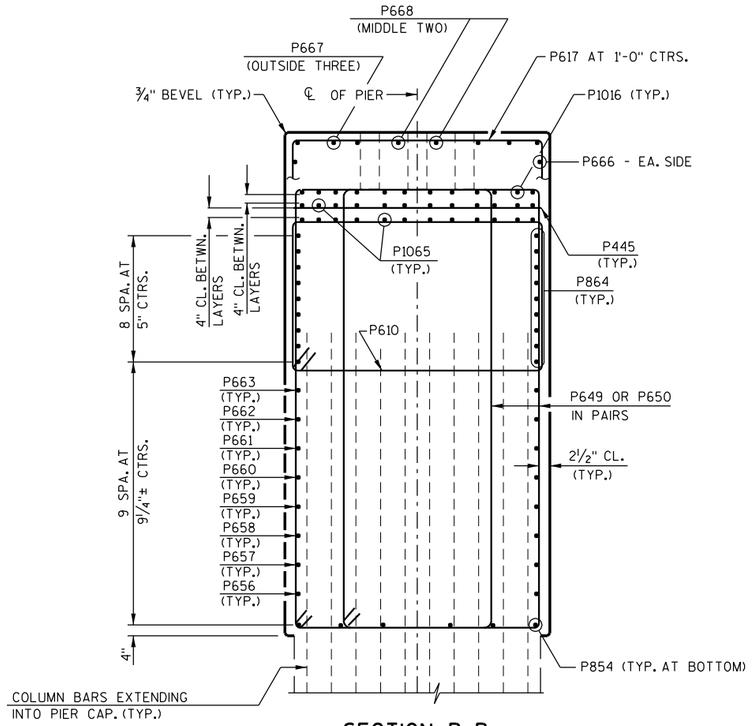
PLOT DATE : 4/26/2013

STATE PROJECT NUMBER

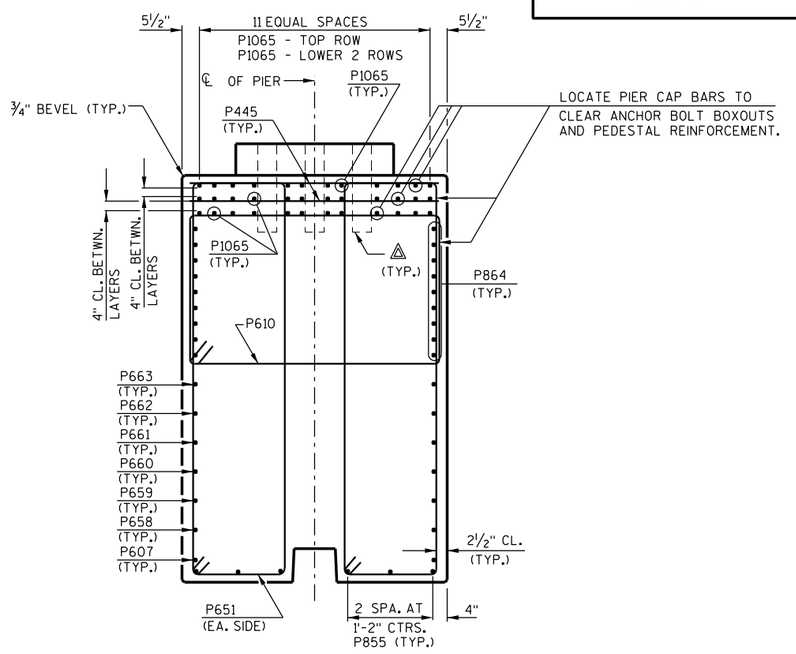
1133-11-74



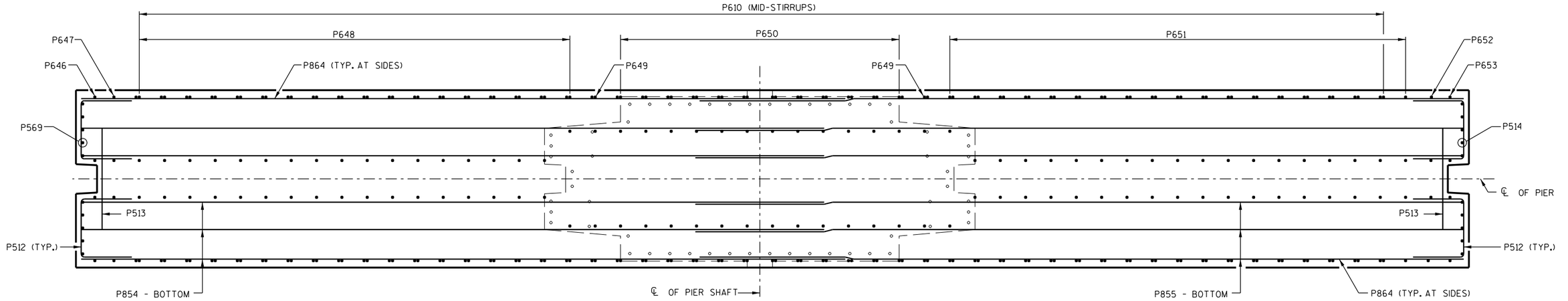

SECTION A-A




SECTION B-B




SECTION C-C




SECTION D-D

## NOTES

1. LAP P854 & P855 BARS 5'-1" MIN.
2. LAP P1065 BARS 11'-6" MIN.
3. SEE SHEETS 20 & 23 FOR TYPICAL PIER GEOMETRY AND ELEVATIONS.
4. SEE SHEETS 36 & 41 FOR PIER SHAFT BAR STEEL REINFORCEMENT DETAILS.
5. SEE SHEET 45 FOR TYPICAL PEDESTAL BAR STEEL REINFORCEMENT DETAILS.
6. LAP P864 BARS 5'-9" MIN.

## LEGEND

△ FOR SYMBOL DESCRIPTION, SEE SHEET 18.

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

PIER CAP DETAILS - PIERS 3 & 9

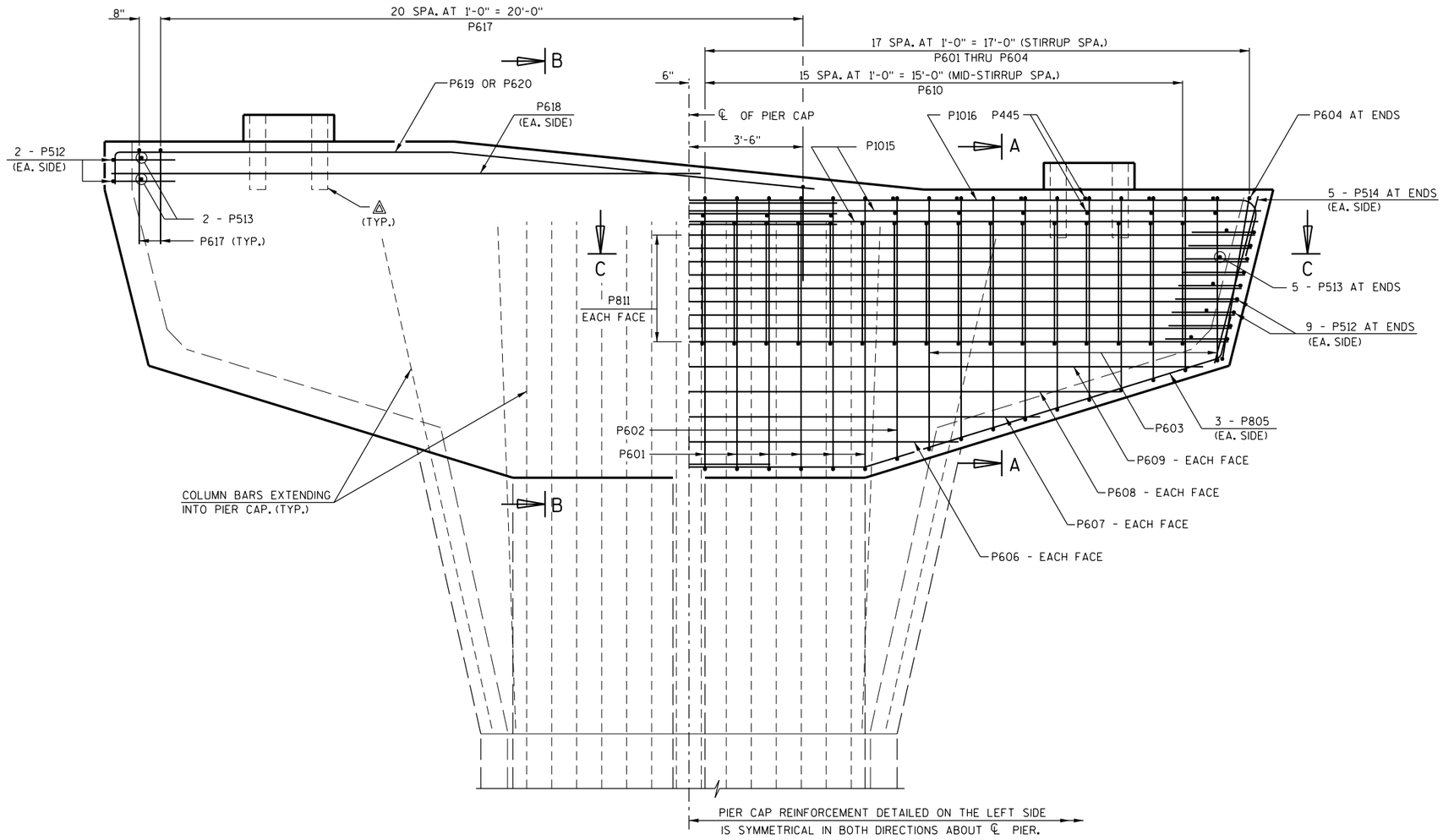
SHEET 28 OF 91
917

FILE NAME : P:\153 USH 41\1133-10-00 URGS\STRUCTURES\B-5-679\d028_CAP_398_V7.0-5-679.DGN

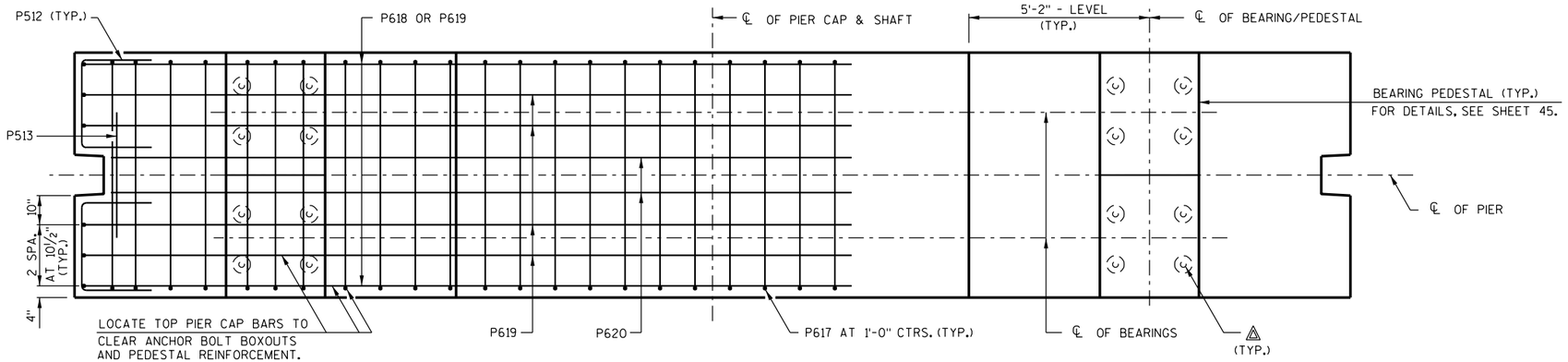
PLOT DATE : 4/26/2013

STATE PROJECT NUMBER

1133-11-74




## ELEVATION - PIER CAP




## PLAN - PIER CAP

(SHOWING BAR STEEL REINFORCEMENT AT TOP OF CAP)

## LEGEND

△ FOR SYMBOL DESCRIPTION, SEE SHEET 22.

## NOTES

1. LAP P805 BARS 5'-1" MIN.
2. LAP P1015 & P1016 BARS 11'-6" MIN.
3. SEE SHEET 30 FOR SECTIONS THRU PIER CAP.
4. SEE SHEET 22 FOR TYPICAL PIER GEOMETRY AND ELEVATIONS.
5. SEE SHEET 38 FOR PIER SHAFT BAR STEEL REINFORCEMENT DETAILS.
6. SEE SHEET 45 FOR TYPICAL PEDESTAL BAR STEEL REINFORCEMENT DETAILS.
7. SPACE P445 BARS AT 2'-0" SPACING AS NESSARY TO SUPPORT TOP TWO LAYERS OF P1015 & P1016 BARS.

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

PIER CAP DETAILS - PIER 5

SHEET 29 OF 91
918

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

FILE NAME : P:\153 USH 41\1133-10-00 URS\STRUCTURES\B-5-679\d029_CAP_5A_V7_B-5-679.DGN

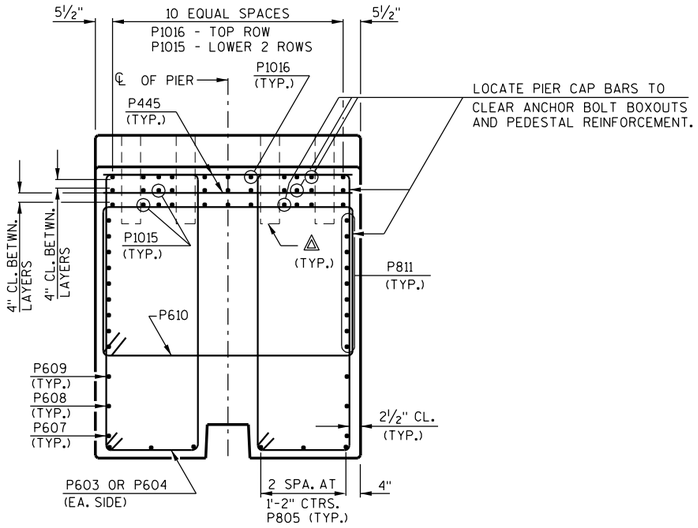
PLOT DATE : 4/26/2013

8

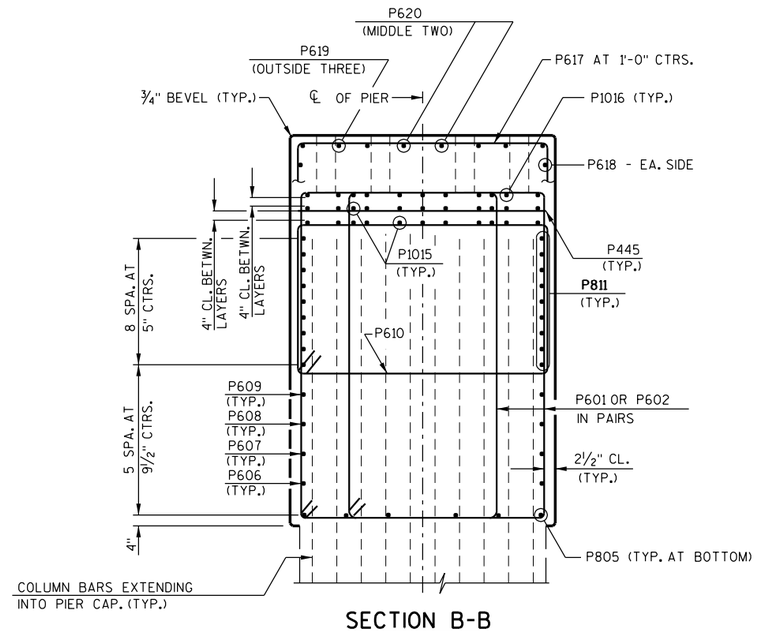
8

STATE PROJECT NUMBER

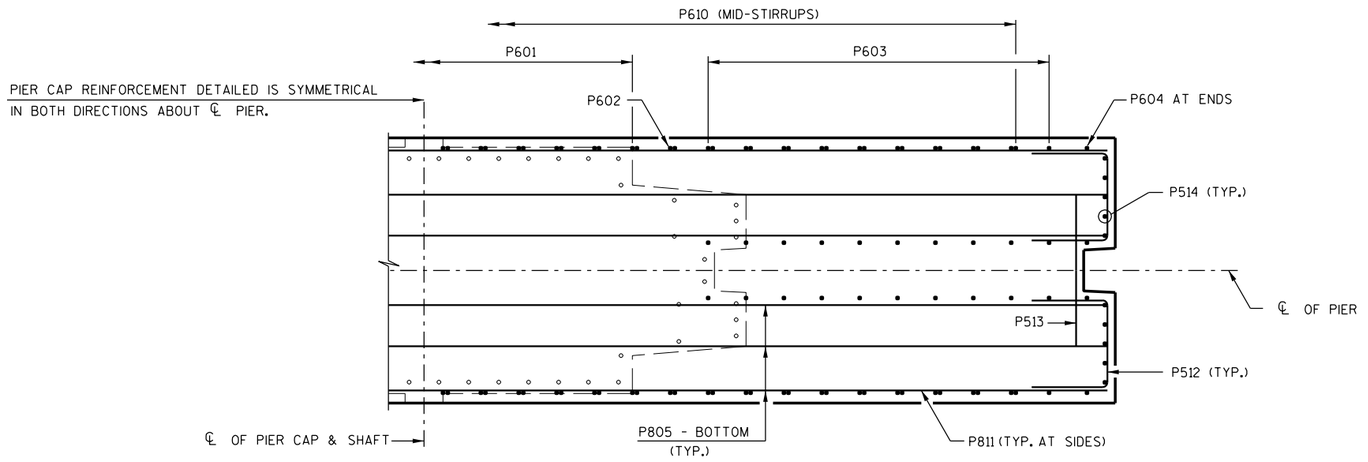
1133-11-74




SECTION A-A




SECTION B-B




SECTION C-C

## LEGEND

⚠ FOR SYMBOL DESCRIPTION, SEE SHEET 22.

## NOTES

1. LAP P805 BARS 5'-1" MIN.
2. LAP P1015 & P1016 BARS 11'-6" MIN.
3. SEE SHEET 22 FOR TYPICAL PIER GEOMETRY AND ELEVATIONS.
4. SEE SHEET 38 FOR PIER SHAFT BAR STEEL REINFORCEMENT DETAILS.
5. SEE SHEET 45 FOR TYPICAL PEDESTAL BAR STEEL REINFORCEMENT DETAILS.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

PIER CAP DETAILS - PIER 5

SHEET 30 OF 91
919

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

8

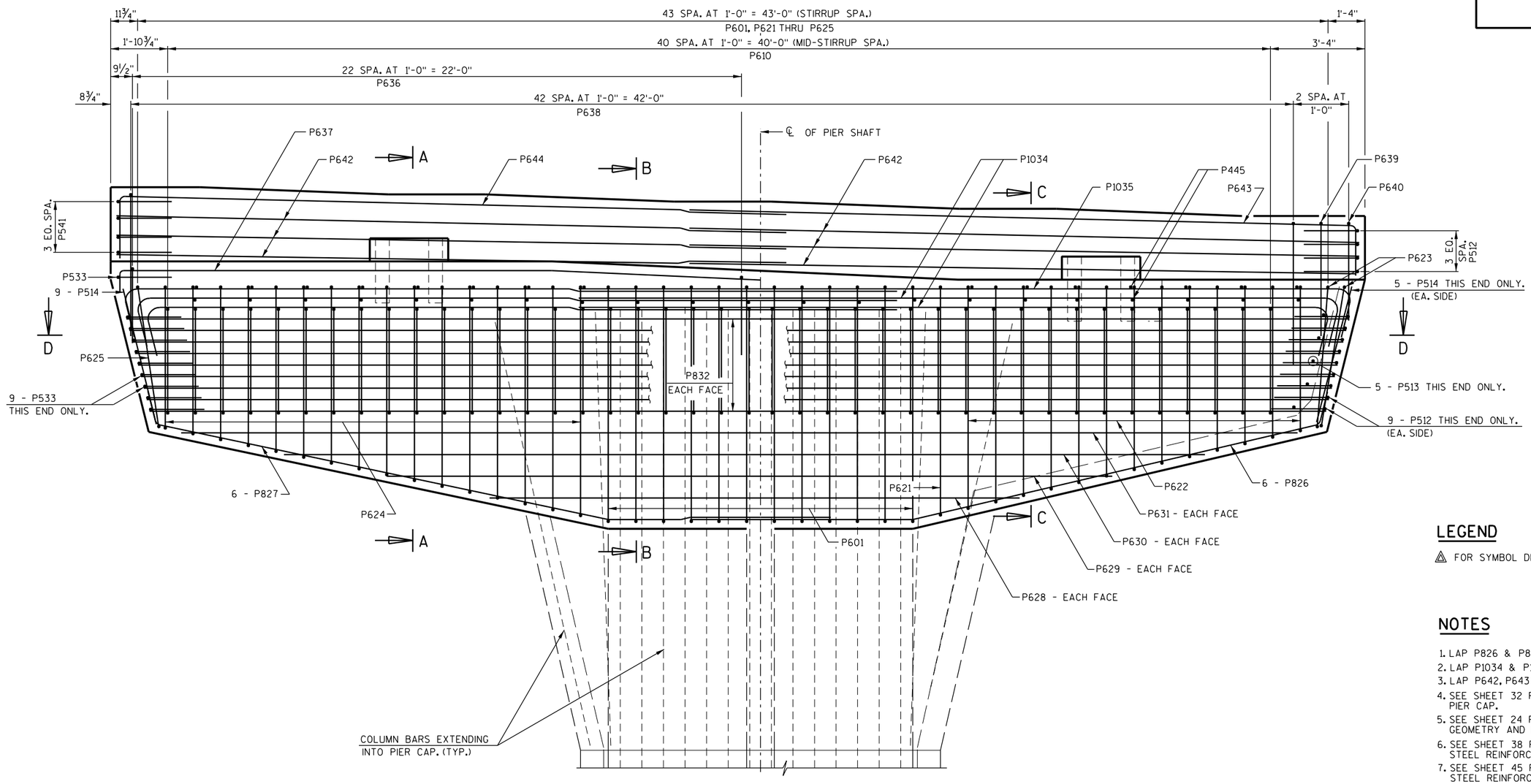
8

FILE NAME : P:\853 USH 41\1133-10-00 URGS\STRUCTURES\B-5-679\030_CAP_SB_V7_B-5-679.DGN

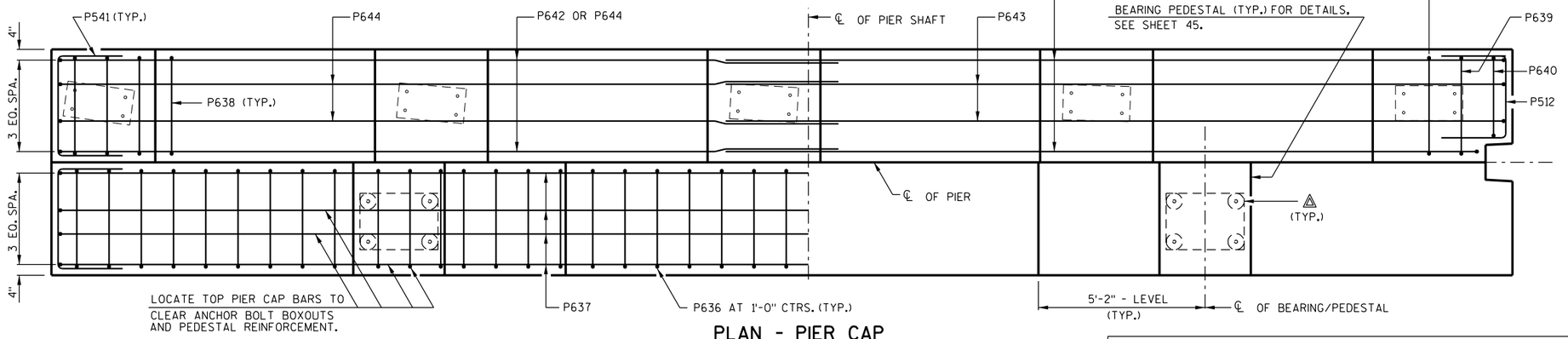
PLOT DATE : 4/24/2013

STATE PROJECT NUMBER

1133-11-74




## ELEVATION - PIER CAP




## PLAN - PIER CAP

(SHOWING BAR STEEL REINFORCEMENT AT TOP OF CAP)

## LEGEND

⚠ FOR SYMBOL DESCRIPTION, SEE SHEET 24.

## NOTES

1. LAP P826 & P827 BARS 5'-1" MIN.
2. LAP P1034 & P1035 BARS 11'-6" MIN.
3. LAP P642, P643 & P644 BARS 3'-6" MIN.
4. SEE SHEET 32 FOR SECTIONS THRU PIER CAP.
5. SEE SHEET 24 FOR TYPICAL PIER GEOMETRY AND ELEVATIONS.
6. SEE SHEET 38 FOR PIER SHAFT BAR STEEL REINFORCEMENT DETAILS.
7. SEE SHEET 45 FOR TYPICAL PEDESTAL BAR STEEL REINFORCEMENT DETAILS.
8. SPACE P445 BARS AT 2'-0" SPACING AS NESSARY TO SUPPORT TOP TWO LAYERS OF P1034 & P1035 BARS.

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

PIER CAP DETAILS - PIER C1

SHEET 31 OF 91
920

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

FILE NAME : P:\153 USH 41\1133-10-00 URGS\STRUCTURES\B-5-679\031.CAP.C1A.V7.B-5-679.DGN

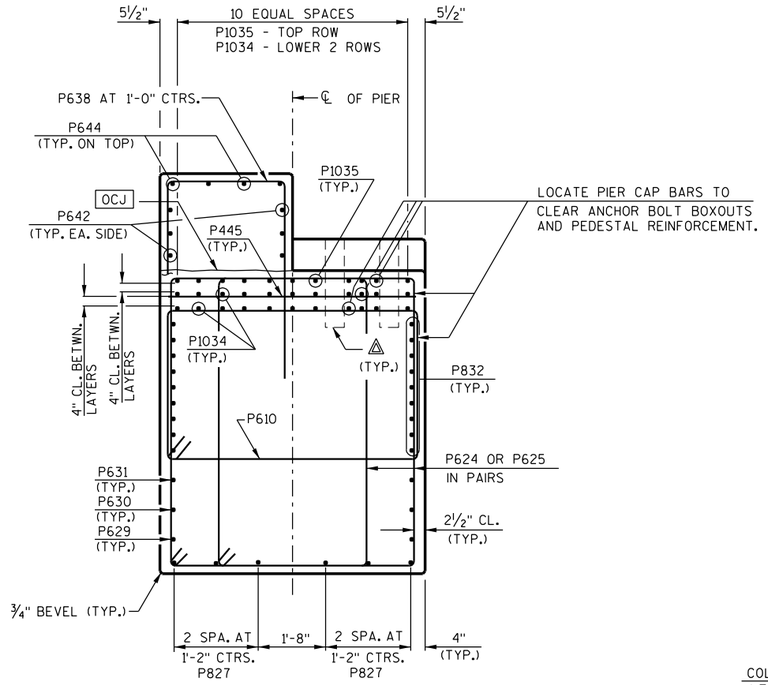
PLOT DATE : 4/26/2013

8

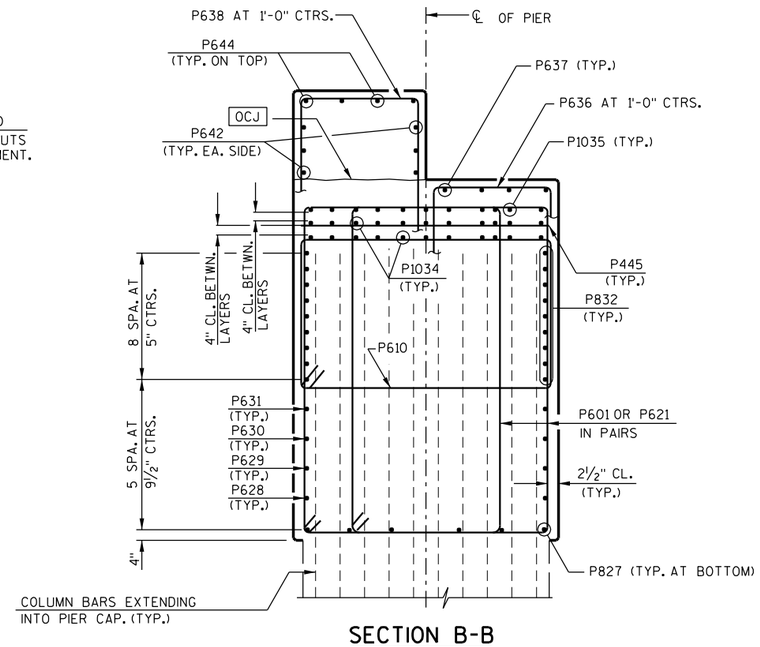
8

STATE PROJECT NUMBER

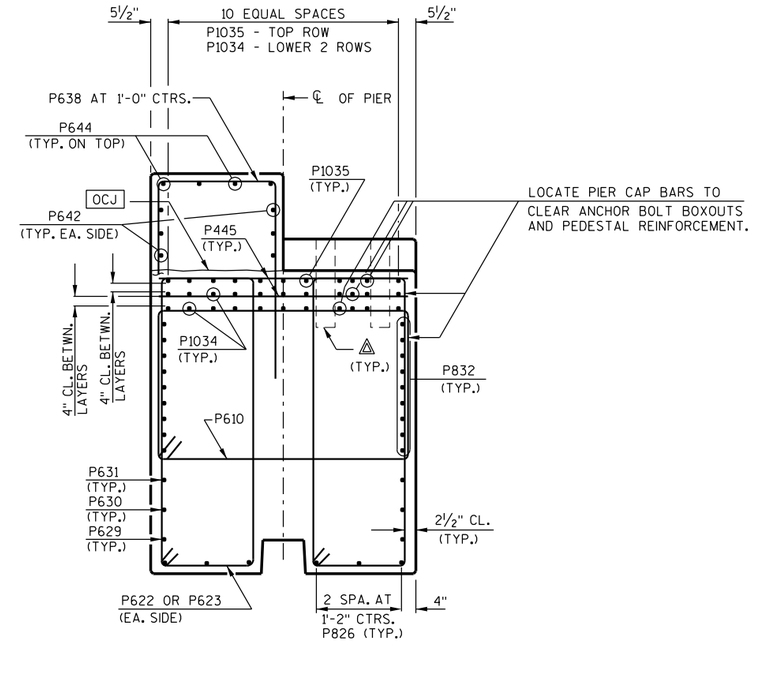
1133-11-74



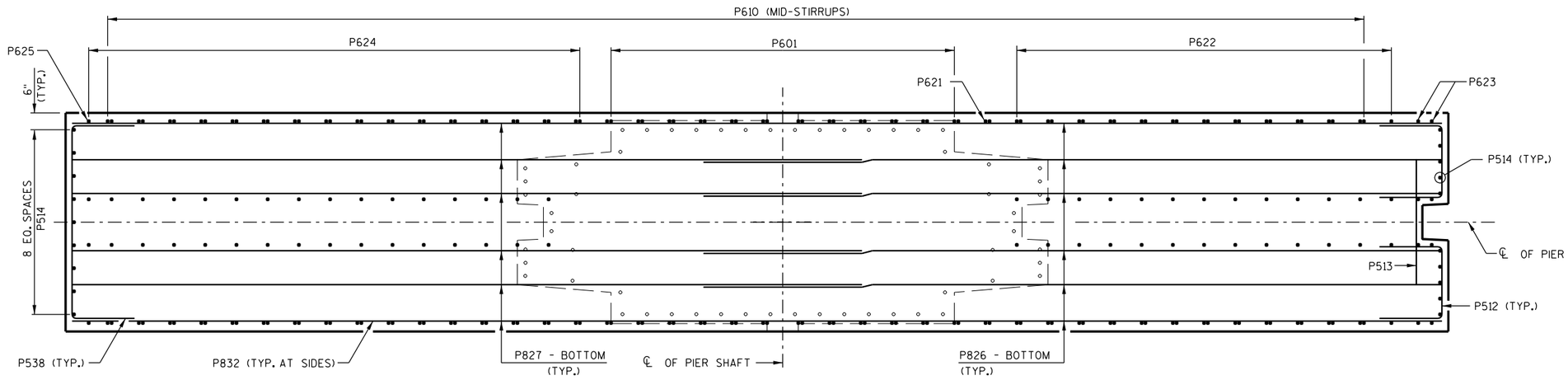

SECTION A-A




SECTION B-B




SECTION C-C




SECTION D-D

## LEGEND

⚠ FOR SYMBOL DESCRIPTION, SEE SHEET 24.

OCJ OPT. CONST. JOINT - STRIKE OFF AS SHOWN.

## NOTES

1. LAP P826 & P827 BARS 5'-1" MIN.
2. LAP P1034 & P1035 BARS 11'-6" MIN.
3. SEE SHEET 24 FOR TYPICAL PIER GEOMETRY AND ELEVATIONS.
4. SEE SHEET 38 FOR PIER SHAFT BAR STEEL REINFORCEMENT DETAILS.
5. SEE SHEET 45 FOR TYPICAL PEDESTAL BAR STEEL REINFORCEMENT DETAILS.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

PIER CAP DETAILS - PIER C1

SHEET 32 OF 91

921

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

8

8

FILE NAME : P:\153 USH 41\1133-10-00 URGS\STRUCTURES\B-5-679\032.CAP.CB.V7.B-5-679.DGN

PLOT DATE : 4/22/2013

# PIER CAP - BILL OF BARS

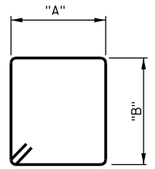
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL BAR STEEL REINFORCEMENT IN THIS BILL OF BARS SHALL BE EPOXY COATED.
(PIERS 1 THRU 5 = UNIT 1, PIERS 6 THRU C1 = UNIT 2)

| MARK | NO. REQ'D. UNIT 1 | NO. REQ'D. UNIT 2 | LENGTH | BENT | BAR SERIES | LOCATION TOTAL WEIGHT = 169,730 LBS. | |
|---|---|---|---|---|---|---|---|
| P601 | 96 | 96 | 28-8 | X | | PIERS 1, 2, 4 THRU 8 & C1 - STIRRUPS | VERT. |
| P602 | 16 | 12 | 28-0 | X | | PIERS 1, 2, 4 THRU 8 - STIRRUPS | VERT. |
| P603 | 160 | 120 | 18-11 | X | ⚹ | PIERS 1, 2, 4 THRU 8 - STIRRUPS | VERT. |
| P604 | 16 | 12 | 16-2 | X | | PIERS 1, 2, 4 THRU 8 - STIRRUPS | VERT. |
| P805 | 48 | 36 | 20-10 | X | | PIERS 1, 2, 4 THRU 8 - BOTTOM | HORIZ. |
| P606 | 8 | 6 | 16-10 | | | PIERS 1, 2, 4 THRU 8 - SIDES | HORIZ. |
| P607 | 8 | 6 | 21-11 | | | PIERS 1, 2, 4 THRU 8 - SIDES | HORIZ. |
| P608 | 8 | 6 | 27-0 | | | PIERS 1, 2, 4 THRU 8 - SIDES | HORIZ. |
| P609 | 8 | 6 | 32-1 | | | PIERS 1, 2, 4 THRU 8 - SIDES | HORIZ. |
| P610 | 178 | 187 | 21-10 | X | | PIERS 1 THRU C1 - MID-STIRRUPS | VERT. |
| P811 | 72 | 54 | 34-6 | | ⚹ | PIERS 1, 2, 4 THRU 8 - SIDES | HORIZ. |
| P512 | 200 | 182 | 6-3 | X | | PIERS 1 THRU C1 - ENDS | HORIZ. |
| P513 | 60 | 53 | 4-0 | | | PIERS 1 THRU C1 - ENDS | HORIZ. |
| P514 | 90 | 89 | 5-0 | | | PIERS 1 THRU C1 - ENDS | VERT. |
| P1015 | 188 | 140 | 24-7 | X | | PIERS 1, 2, 4 THRU 8 - TOP | HORIZ. |
| P1016 | 94 | 70 | 25-1 | X | | PIERS 1, 2, 4 THRU 8 - TOP | HORIZ. |
| P617 | 119 | 97 | 12-3 | X | | PIERS 1, 2, 4 THRU 8 - TOP | VERT. |
| P618 | 8 | 6 | 18-5 | | | PIERS 1, 2, 4 THRU 8 - TOP - SIDES | HORIZ. |
| P619 | 24 | 18 | 22-8 | X | | PIERS 1, 2, 4 THRU 8 - TOP | HORIZ. |
| P620 | 8 | 6 | 20-10 | X | | PIERS 1, 2, 4 THRU 8 - TOP | HORIZ. |
| P621 | --- | 2 | 28-2 | X | | PIER C1 - STIRRUPS | VERT. |
| P622 | --- | 26 | 19-2 | X | ⚹ | PIER C1 - STIRRUPS | VERT. |
| P623 | --- | 4 | 16-4 | X | | PIER C1 - STIRRUPS | VERT. |
| P624 | --- | 32 | 25-0 | X | ⚹ | PIER C1 - STIRRUPS | VERT. |
| P625 | --- | 2 | 22-0 | X | | PIER C1 - STIRRUPS | VERT. |
| P826 | --- | 6 | 24-7 | X | | PIER C1 - BOTTOM | HORIZ. |
| P827 | --- | 6 | 25-10 | X | | PIER C1 - BOTTOM | HORIZ. |
| P628 | --- | 2 | 19-1 | | | PIER C1- SIDES | HORIZ. |
| P629 | --- | 2 | 26-2 | | | PIER C1- SIDES | HORIZ. |
| P630 | --- | 2 | 33-3 | | | PIER C1- SIDES | HORIZ. |
| P631 | --- | 2 | 40-4 | | | PIER C1- SIDES | HORIZ. |
| P832 | --- | 18 | 43-4 | | ⚹ | PIER C1- SIDES | HORIZ. |
| P533 | --- | 10 | 10-2 | X | | PIER C1 - END | HORIZ. |
| P1034 | --- | 44 | 29-3 | X | | PIER C1 - TOP | HORIZ. |
| P1035 | --- | 22 | 29-9 | X | | PIER C1 - TOP | HORIZ. |
| P636 | --- | 23 | 7-5 | X | | PIER C1 - TOP - SOUTH SIDE | VERT. |
| P637 | --- | 4 | 23-10 | X | | PIER C1 - TOP - SOUTH SIDE | HORIZ. |
| P638 | --- | 43 | 13-1 | X | | PIER C1 - TOP - NORTH SIDE | VERT. |
| P639 | --- | 1 | 10-11 | X | | PIER C1 - TOP - NORTH SIDE | VERT. |
| P640 | --- | 1 | 9-11 | X | | PIER C1 - TOP - NORTH SIDE | VERT. |
| P541 | --- | 4 | 6-8 | X | | PIER C1 - TOP - NORTH SIDE | HORIZ. |
| P642 | --- | 12 | 24-3 | | | PIER C1 - TOP - NORTH SIDE | HORIZ. |
| P643 | --- | 4 | 25-11 | X | | PIER C1 - TOP - NORTH SIDE | HORIZ. |
| P644 | --- | 4 | 26-4 | X | | PIER C1 - TOP - NORTH SIDE | HORIZ. |
| P445 | 168 | 174 | 6-7 | X | | ALL PIERS | HORIZ. |
| P646 | 2 | 2 | 17-0 | X | | PIERS 3 & 9 - STIRRUPS | VERT. |
| P647 | 2 | 2 | 17-2 | X | | PIERS 3 & 9 - STIRRUPS | VERT. |
| P648 | 36 | 36 | 22-6 | X | ⚹ | PIERS 3 & 9 - STIRRUPS | VERT. |
| P649 | 4 | 4 | 34-0 | X | | PIERS 3 & 9 - STIRRUPS | VERT. |
| P650 | 24 | 24 | 34-8 | X | | PIERS 3 & 9 - STIRRUPS | VERT. |
| P651 | 38 | 38 | 22-2 | X | ⚹ | PIERS 3 & 9 - STIRRUPS | VERT. |
| P652 | 2 | 2 | 16-0 | X | | PIERS 3 & 9 - STIRRUPS | VERT. |
| P653 | 2 | 2 | 16-2 | X | | PIERS 3 & 9 - STIRRUPS | VERT. |
| P854 | 6 | 6 | 29-11 | X | | PIERS 3 & 9 - BOTTOM | HORIZ. |
| P855 | 6 | 6 | 30-11 | X | | PIERS 3 & 9 - BOTTOM | HORIZ. |
| P656 | 2 | 2 | 16-8 | | | PIERS 3 & 9 - SIDES | HORIZ. |
| P657 | 2 | 2 | 21-8 | | | PIERS 3 & 9 - SIDES | HORIZ. |
| P658 | 2 | 2 | 26-8 | | | PIERS 3 & 9 - SIDES | HORIZ. |
| P659 | 2 | 2 | 31-8 | | | PIERS 3 & 9 - SIDES | HORIZ. |
| P660 | 2 | 2 | 36-8 | | | PIERS 3 & 9 - SIDES | HORIZ. |
| P661 | 2 | 2 | 41-8 | | | PIERS 3 & 9 - SIDES | HORIZ. |
| P662 | 2 | 2 | 46-8 | | | PIERS 3 & 9 - SIDES | HORIZ. |
| P663 | 2 | 2 | 51-3 | | | PIERS 3 & 9 - SIDES | HORIZ. |
| P864 | 36 | 36 | 29-10 | | | PIERS 3 & 9 - SIDES | HORIZ. |
| P1065 | 72 | 72 | 34-7 | X | | PIERS 3 & 9 - TOP | HORIZ. |
| P666 | 2 | 2 | 27-3 | | | PIERS 3 & 9 - TOP | HORIZ. |
| P667 | 6 | 6 | 31-5 | X | | PIERS 3 & 9 - TOP | HORIZ. |
| P668 | 2 | 2 | 29-7 | X | | PIERS 3 & 9 - TOP | HORIZ. |
| P569 | 10 | 10 | 5-11 | | | PIERS 3 & 9 - END | VERT. |

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

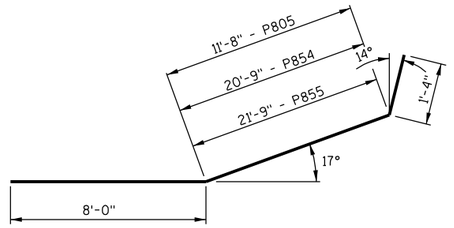
## BAR SERIES TABLE

| MARK | NO. REQ'D. | LENGTH |
|---|---|---|
| P603 | 36 SETS OF 10 | 16'-2" TO 21'-8" |
| P811 | 16 SETS OF 9 | 33'-8" TO 35'-4" |
| P622 | 2 SETS OF 13 | 16'-4" TO 22'-0" |
| P624 | 2 SETS OF 16 | 21'-10" TO 28'-2" |
| P832 | 2 SETS OF 9 | 42'-6" TO 44'-2" |
| P648 | 4 SETS OF 18 | 17'-4" TO 27'-8" |
| P651 | 4 SETS OF 19 | 16'-8" TO 27'-8" |

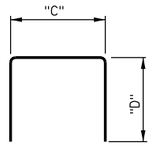



P601 THRU P604, P610, P621 THRU P625 & P646 THRU P653

| MARK | DIMENSION "A" | DIMENSION "B" |
|---|---|---|
| P601 | 5'-4" | 8'-7" |
| P602 | 5'-4" | 8'-3" |
| P603 | 2'-6" | 5'-2" TO 7'-11" |
| P604 | 2'-6" | 5'-2" |
| P610 | 6'-7" | 3'-11" |
| P621 | 5'-4" | 8'-4" |
| P622 | 2'-6" | 5'-3" TO 8'-1" |
| P623 | 2'-6" | 5'-3" |
| P624 | 5'-4" | 5'-3" TO 8'-4" |
| P625 | 5'-4" | 5'-3" |
| P646 | 2'-6" | 5'-7" |
| P647 | 2'-6" | 5'-8" |
| P648 | 2'-6" | 5'-9" TO 10'-11" |
| P649 | 5'-4" | 11'-3" |
| P650 | 5'-4" | 11'-7" |
| P651 | 2'-6" | 5'-5" TO 10'-11" |
| P652 | 2'-6" | 5'-1" |
| P653 | 2'-6" | 5'-2" |

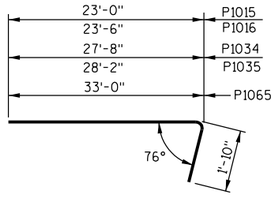



P805, P854 & P855




| MARK | DIMENSION "C" | DIMENSION "D" |
|---|---|---|
| P512 | 2'-6" | 2'-0" |
| P617 | 6'-7" | 3'-0" |
| P533 | 6'-5" | 2'-0" |
| P636 | 3'-1" | 2'-4" |
| P638 | 3'-1" | 5'-2" |
| P639 | 3'-1" | 4'-1" |
| P640 | 3'-1" | 3'-7" |
| P541 | 2'-11" | 2'-0" |

P512, P617, P533, P636 & P638 THRU P541



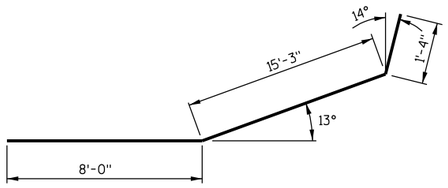

P1015, P1016, P1034, P1035 & P1065



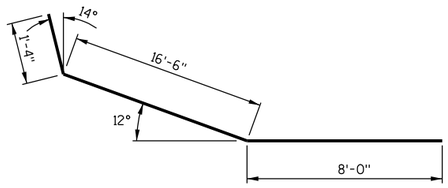

P619 & P667



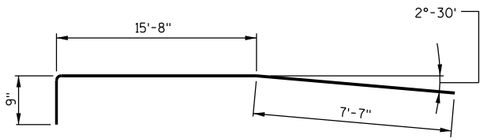

P620 & P668



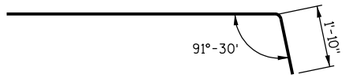

P826



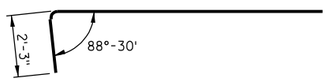

P827




P637




P643




P644

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

BILL OF BARS - PIER CAP

SHEET 33 OF 91
922

STATE PROJECT NUMBER
1133-11-74

FILE NAME : P:\153 USH 41\1133-10-00 URGS\STRUCTURES\B-5-679\033_PIER_CAP_BARS_V7.B-5-679.DGN
PLOT DATE : 4/26/2013

8

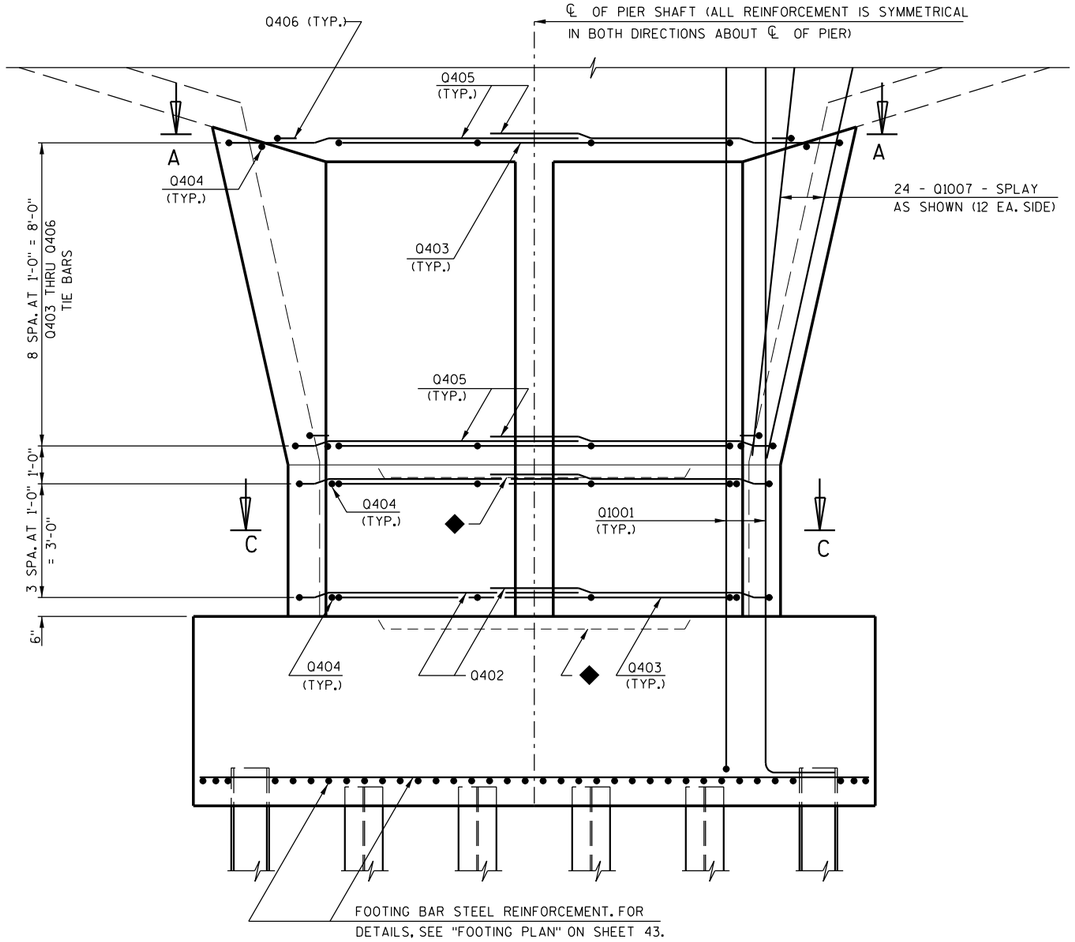
8

STATE PROJECT NUMBER

1133-11-74

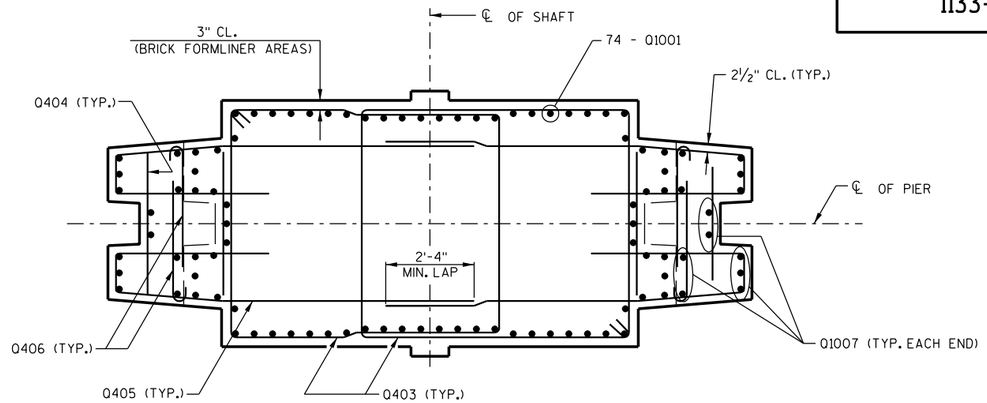
## LEGEND

◆ KEYED CONST. JOINT FORMED BY BEVELED 4" x 2'-0" X 8'-4".

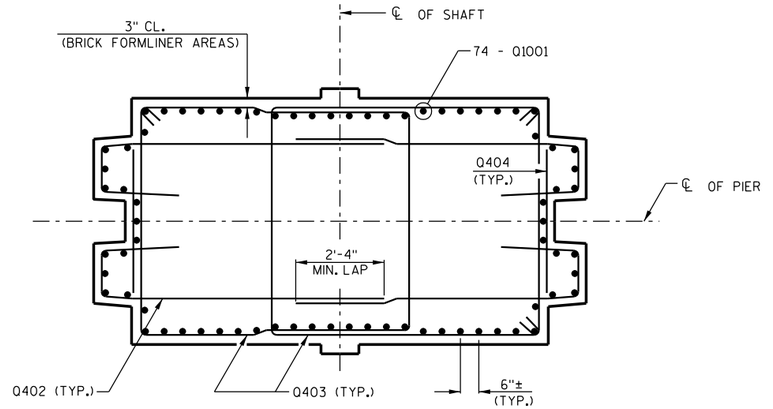



ELEVATION - PIER 1

(LOOKING UPSTATION)




SECTION A-A




SECTION B-B

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

SHAFT DETAILS - PIER 1

SHEET 34 OF 91

923

FILE NAME : P:\153 USH 41\1133-10-00 URGS\STRUCTURES\B-5-679\d034_PIER_SHAFT1_V7.B-5-679.DGN

PLOT DATE : 4/22/2013

8

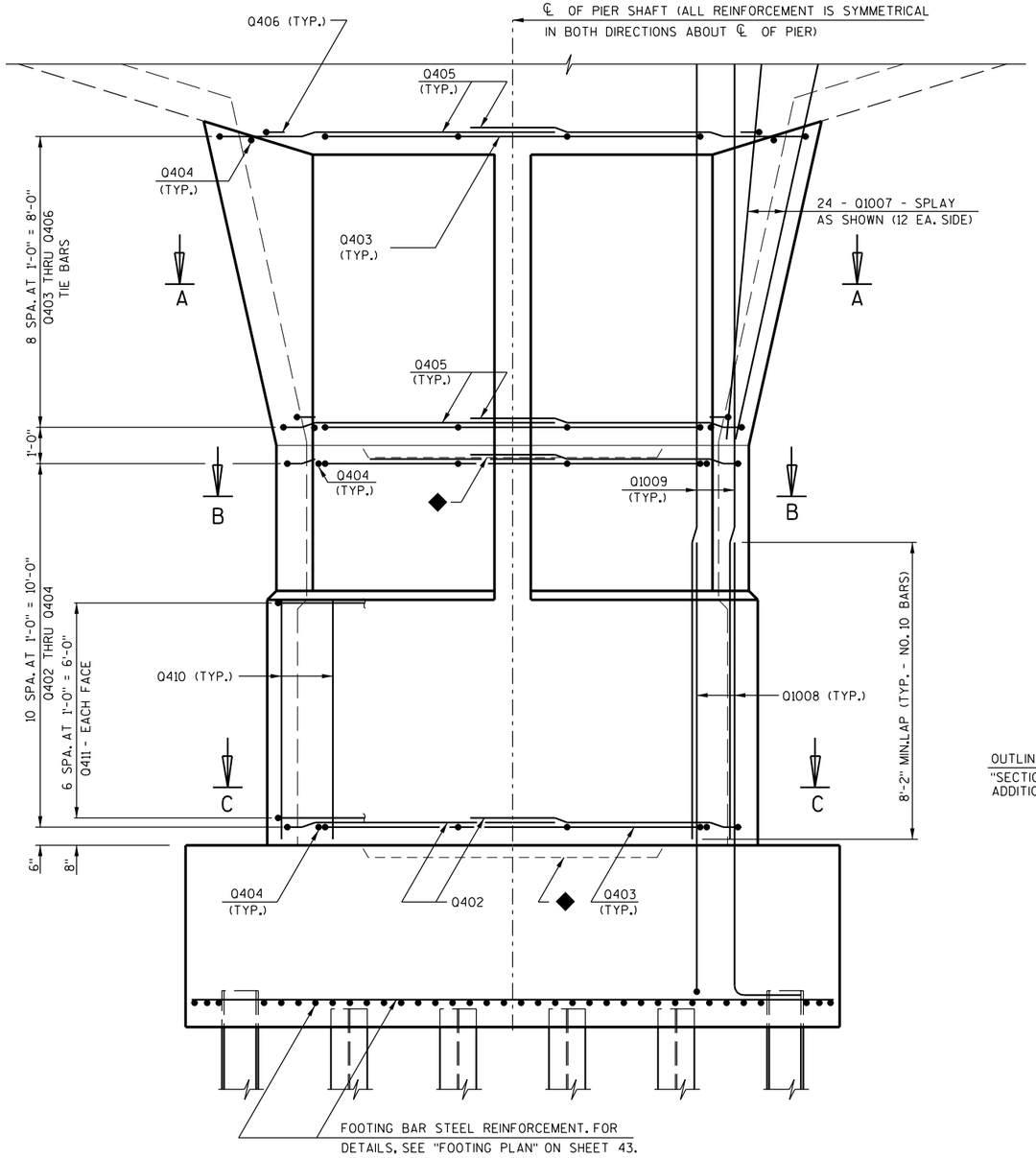
8

STATE PROJECT NUMBER

1133-11-74

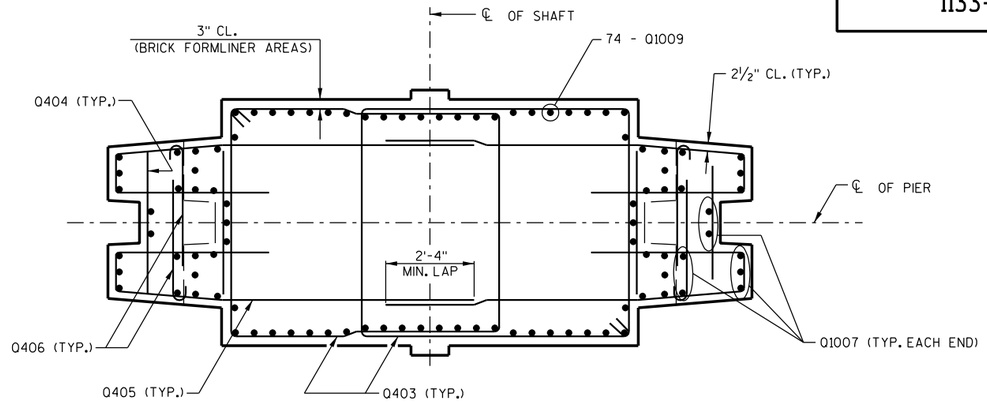
## LEGEND

◆ KEYED CONST. JOINT FORMED BY BEVELED 4" x 2'-0" X 8'-4".

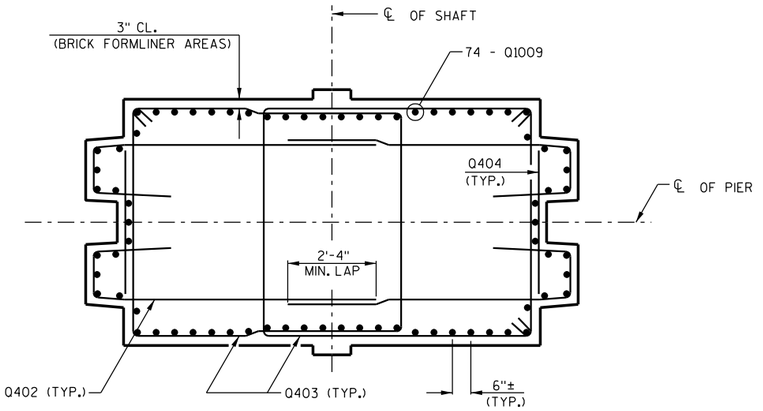



## ELEVATION - PIER 2

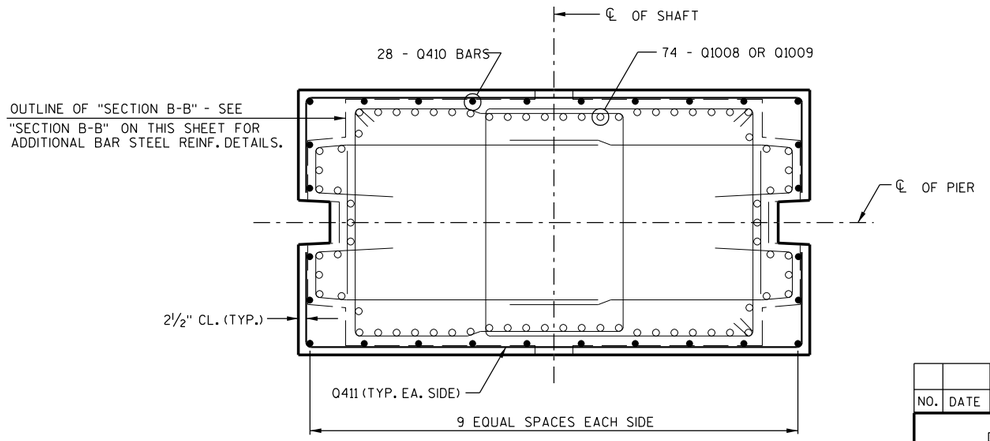
(LOOKING UPSTATION)




## SECTION A-A




## SECTION B-B




## SECTION C-C

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

SHAFT DETAILS - PIER 2

SHEET 35 OF 91
924

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

8

8

FILE NAME : P:\153 USH 41\1133-10-00 URG\STRUCTURES\B-5-679\035_PIER_SHAFT2_V7_B-5-679.DGN

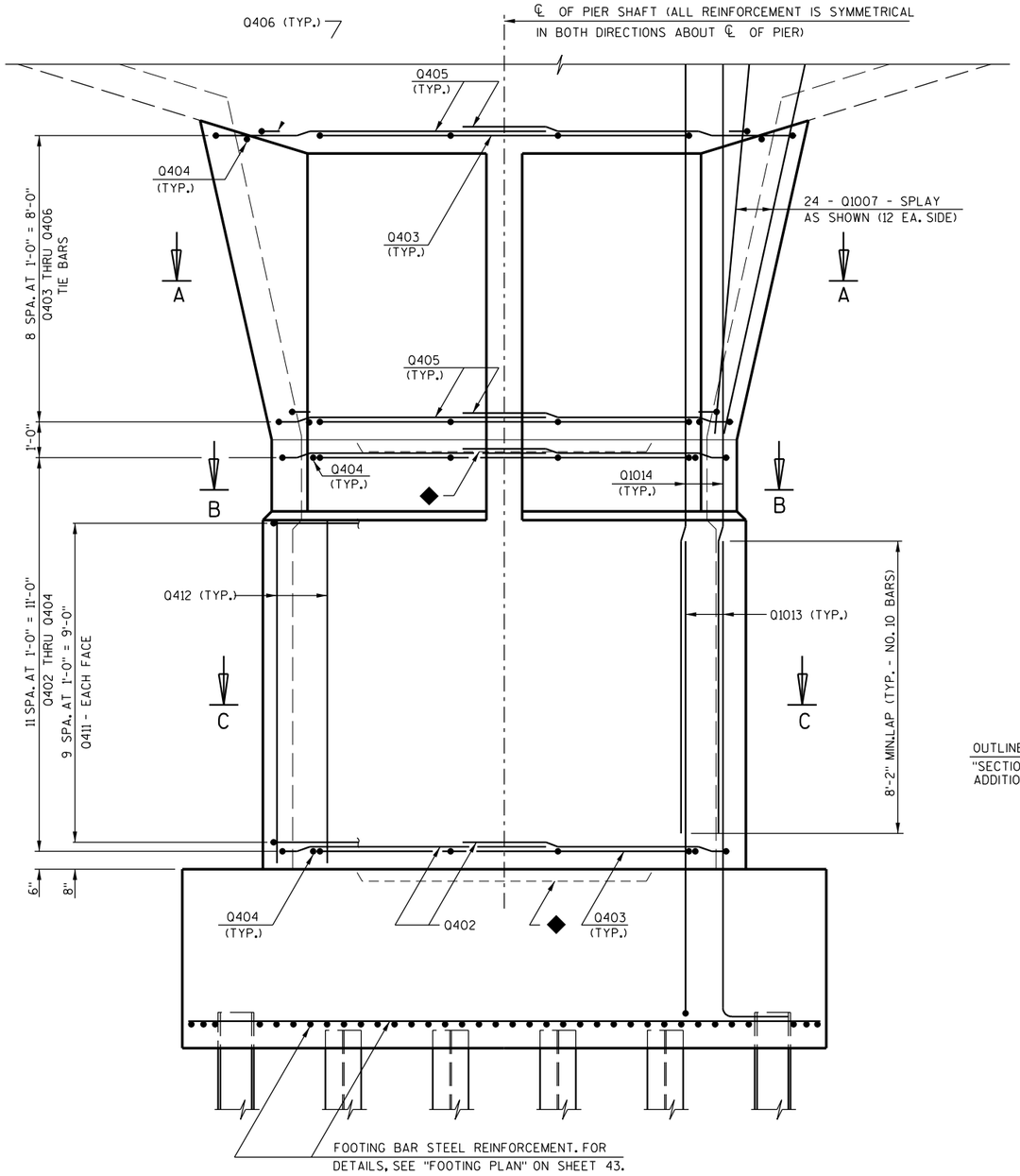
PLOT DATE : 4/22/2013

STATE PROJECT NUMBER

1133-11-74

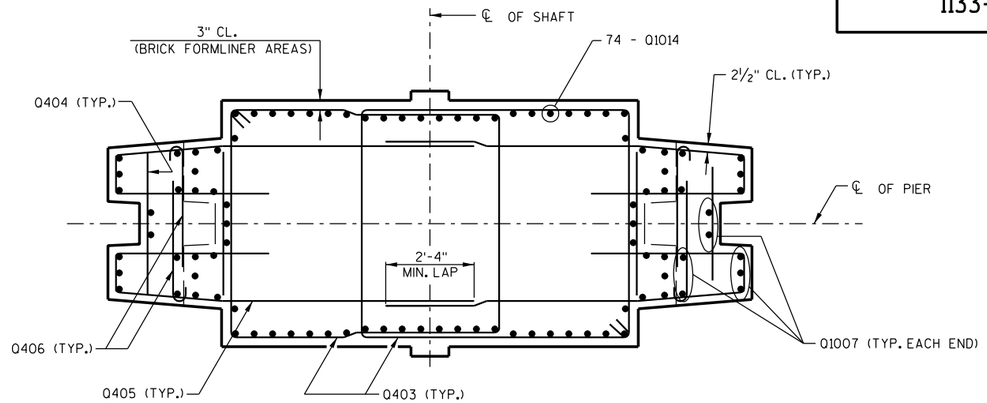
## LEGEND

◆ KEYED CONST. JOINT FORMED BY BEVELED 4" x 2'-0" X 8'-4".

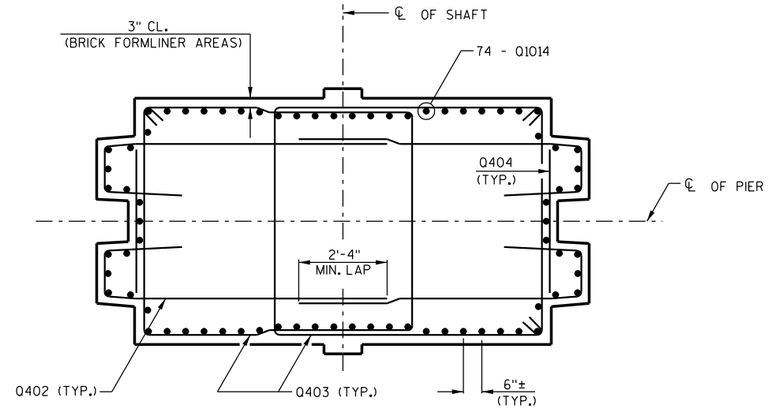



ELEVATION - PIER 3

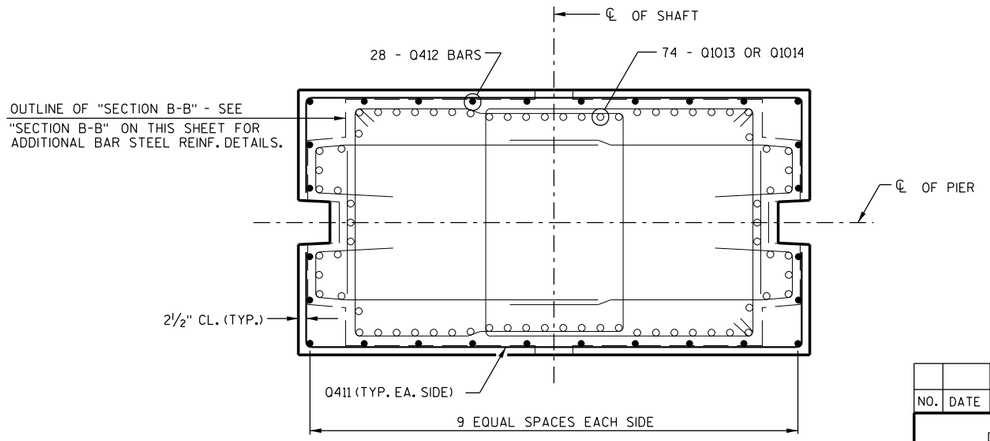
(LOOKING UPSTATION)




SECTION A-A




SECTION B-B




SECTION C-C

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

SHAFT DETAILS - PIER 3

SHEET 36 OF 91

925

FILE NAME : P:\153 USH 41\1133-10-00 LRS\STRUCTURES\B-5-679\d036_PIER_SHAFT3_V7_B-5-679.DGN

PLOT DATE : 4/22/2013

8

8

STATE PROJECT NUMBER

1133-11-74

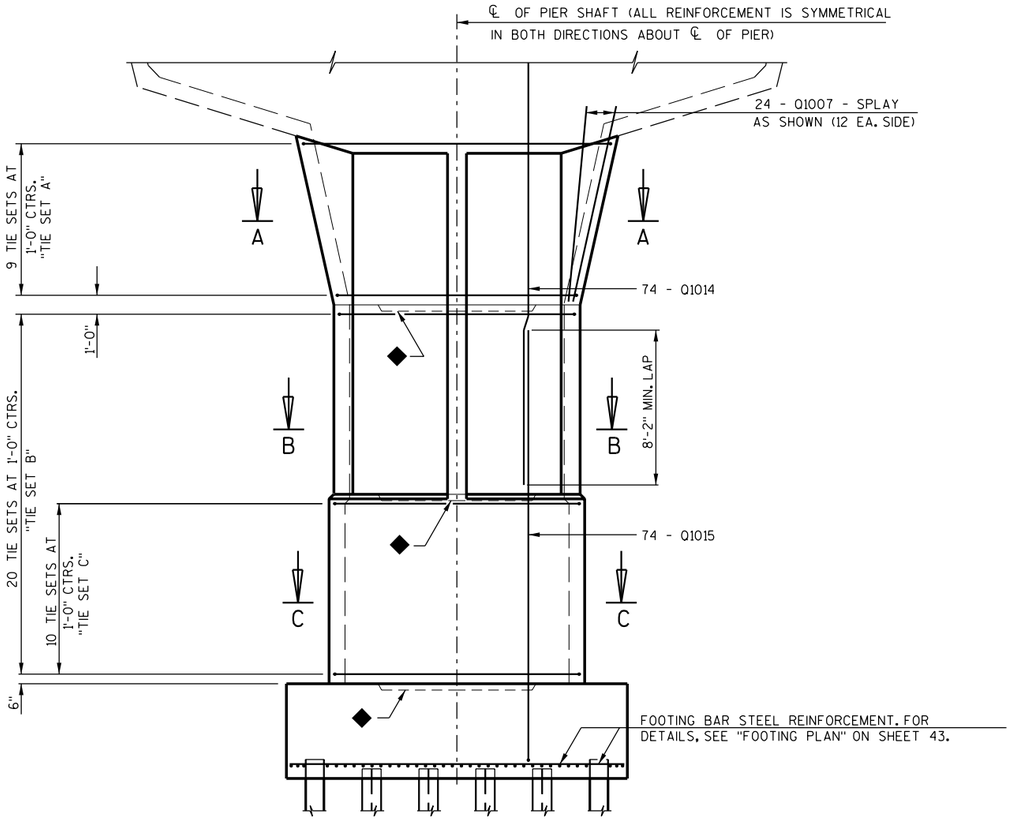
## LEGEND

◆ KEYED CONST. JOINT FORMED BY BEVELED 4" x 2'-0" X 8'-4".

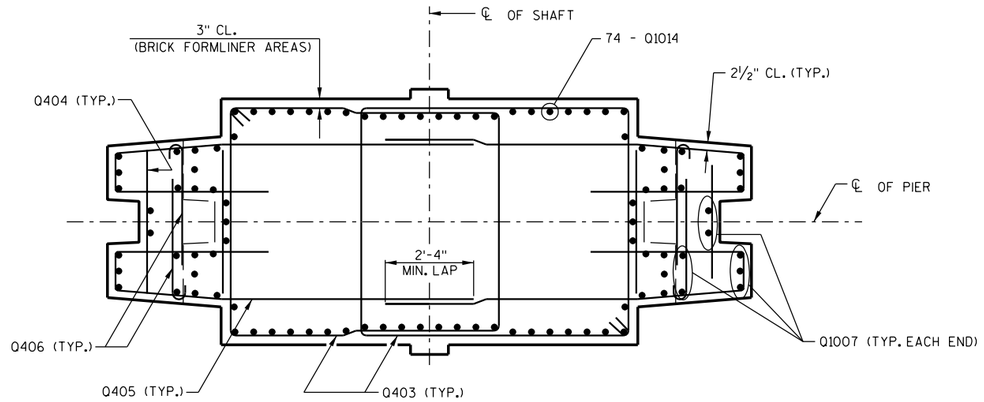
"TIE SET A" TIE BAR SET THAT CONSISTS OF THE FOLLOWING:
2 - Q403 BARS
2 - Q404 BARS
4 - Q405 BARS
4 - Q406 BARS

"TIE SET B" TIE BAR SET THAT CONSISTS OF THE FOLLOWING:
4 - Q402 BARS
2 - Q403 BARS
2 - Q404 BARS

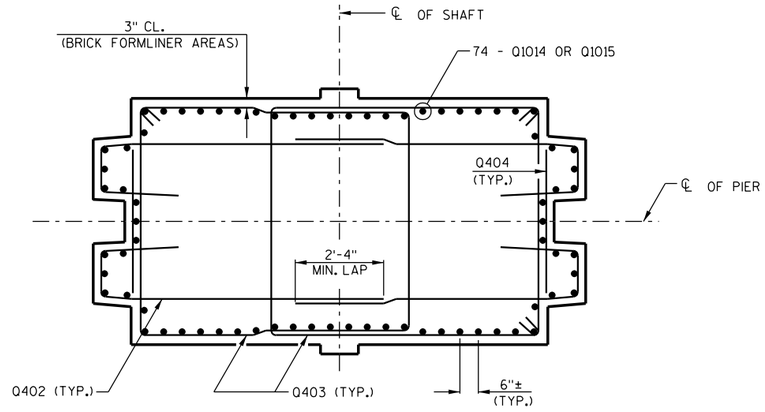
"TIE SET C" TIE BAR SET THAT CONSISTS OF THE FOLLOWING:
2 - Q411 BARS



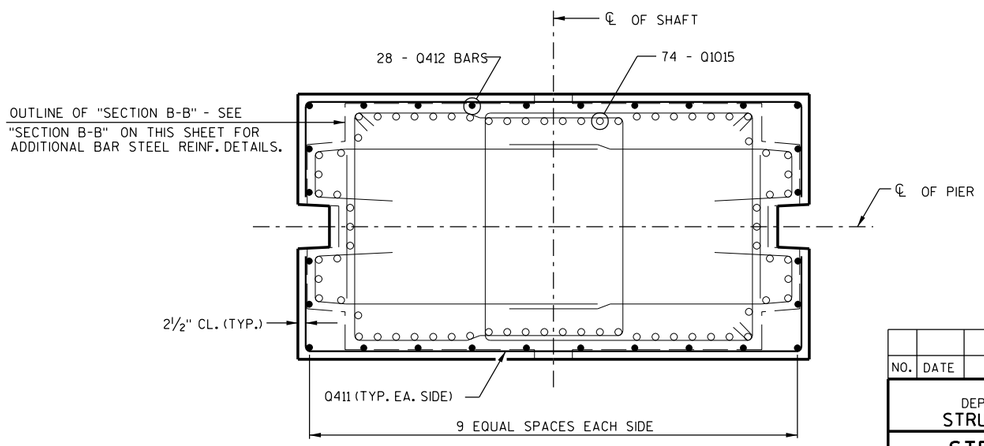

ELEVATION
(LOOKING UPSTATION)




SECTION A-A




SECTION B-B




SECTION C-C

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

SHAFT DETAILS - PIER 4

SHEET 37 OF 91
926

FILE NAME : P:\153 USH 41\1133-10-00 URS\STRUCTURES\B-5-679\037_PIER_SHAFT4_V7.B-5-679.DGN

PLOT DATE : 4/22/2013

8

8

STATE PROJECT NUMBER

1133-11-74

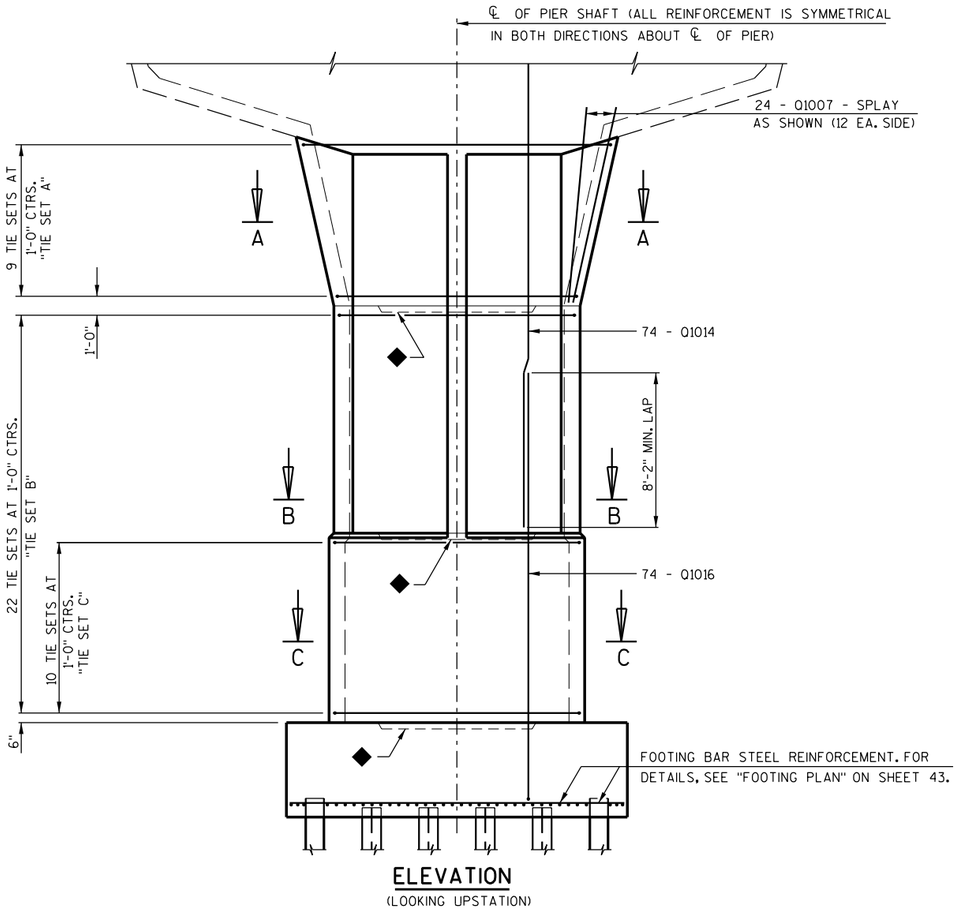
## LEGEND

◆ KEYED CONST. JOINT FORMED BY BEVELED 4" x 2'-0" X 8'-4".

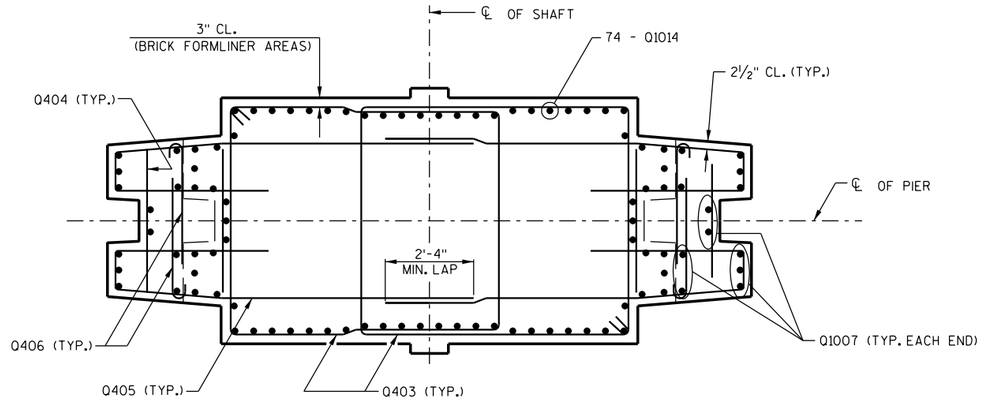
"TIE SET A" TIE BAR SET THAT CONSISTS OF THE FOLLOWING:
2 - Q403 BARS
2 - Q404 BARS
4 - Q405 BARS
4 - Q406 BARS

"TIE SET B" TIE BAR SET THAT CONSISTS OF THE FOLLOWING:
4 - Q402 BARS
2 - Q403 BARS
2 - Q404 BARS

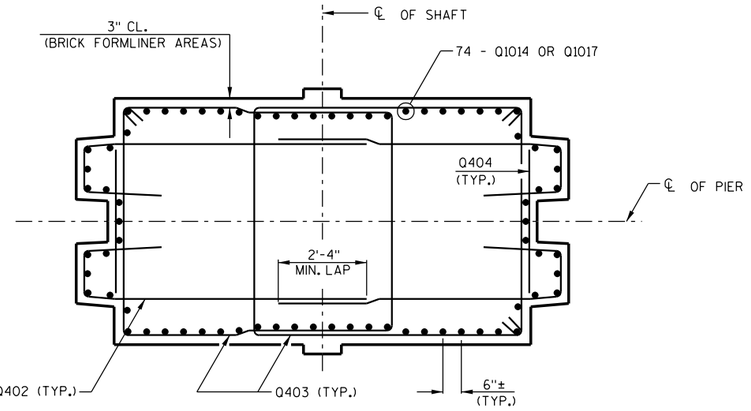
"TIE SET C" TIE BAR SET THAT CONSISTS OF THE FOLLOWING:
2 - Q411 BARS



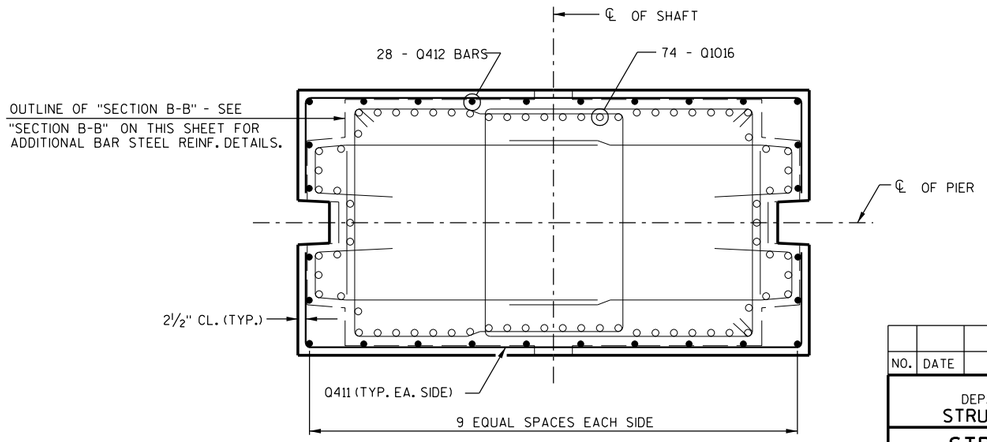

ELEVATION
(LOOKING UPSTATION)




SECTION A-A




SECTION B-B




SECTION C-C

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

SHAFT DETAILS - PIERS 5, 7, & C1

SHEET 38 OF 91
927

FILE NAME : P:\153 USH 41\1133-10-00 URS\STRUCTURES\B-5-679\038_PIER_SHAFT15C1_V7_B-5-679.DGN

PLOT DATE : 4/22/2013

8

8

STATE PROJECT NUMBER

1133-11-74

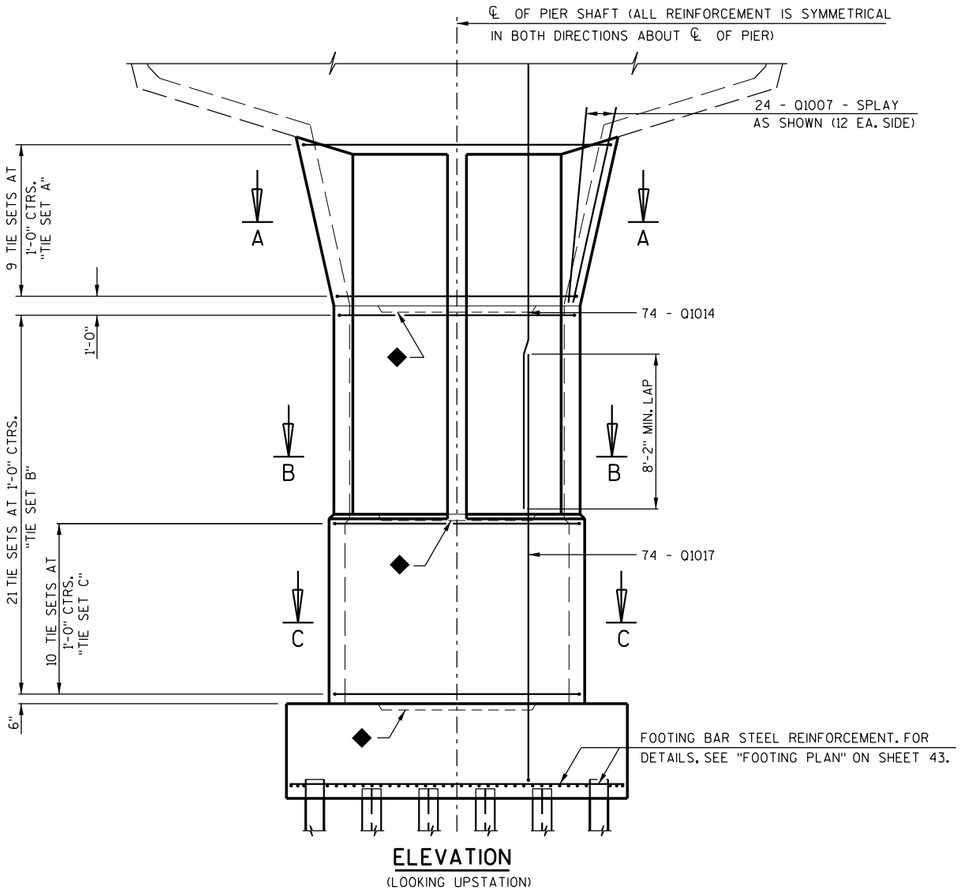
## LEGEND

◆ KEYED CONST. JOINT FORMED BY BEVELED 4" x 2'-0" X 8'-4".

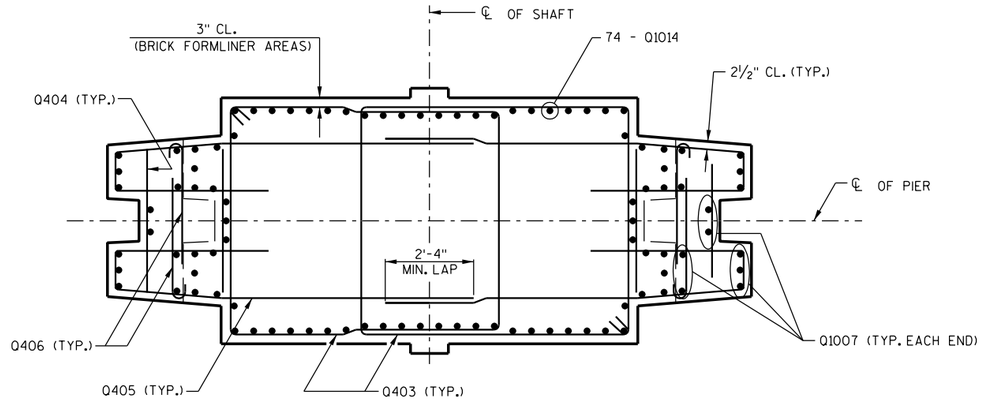
"TIE SET A" TIE BAR SET THAT CONSISTS OF THE FOLLOWING:
2 - Q403 BARS
2 - Q404 BARS
4 - Q405 BARS
4 - Q406 BARS

"TIE SET B" TIE BAR SET THAT CONSISTS OF THE FOLLOWING:
4 - Q402 BARS
2 - Q403 BARS
2 - Q404 BARS

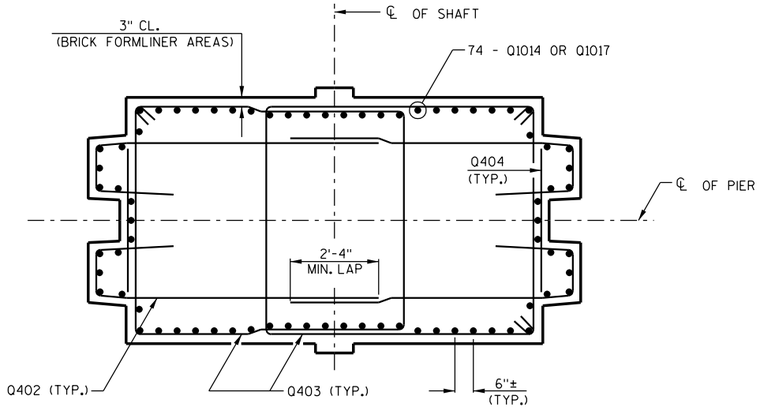
"TIE SET C" TIE BAR SET THAT CONSISTS OF THE FOLLOWING:
2 - Q411 BARS



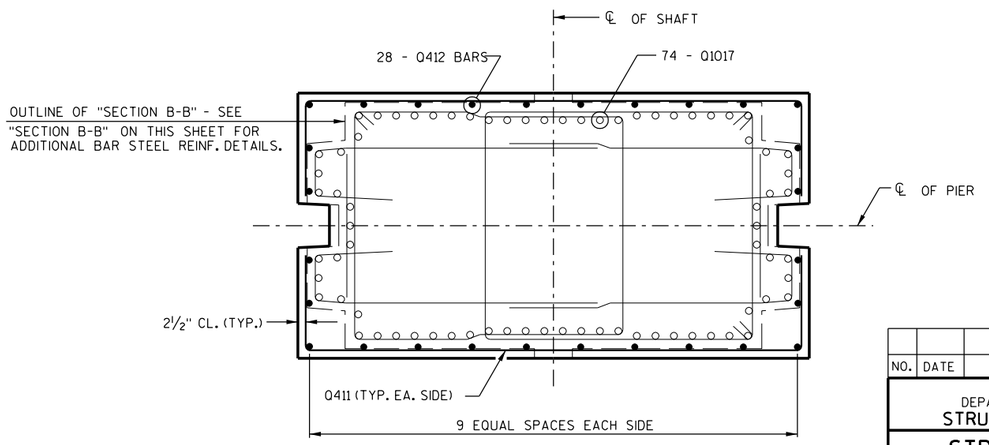

ELEVATION
(LOOKING UPSTATION)




SECTION A-A




SECTION B-B




SECTION C-C

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

SHAFT DETAILS - PIER 6

SHEET 39 OF 91
928

8

8

FILE NAME : P:\153 USH 41\133-10-00 URS\STRUCTURES\B-5-679\039_PIER_SHAFT6_V7_B-5-679.DGN

PLOT DATE : 4/22/2013

STATE PROJECT NUMBER

1133-11-74

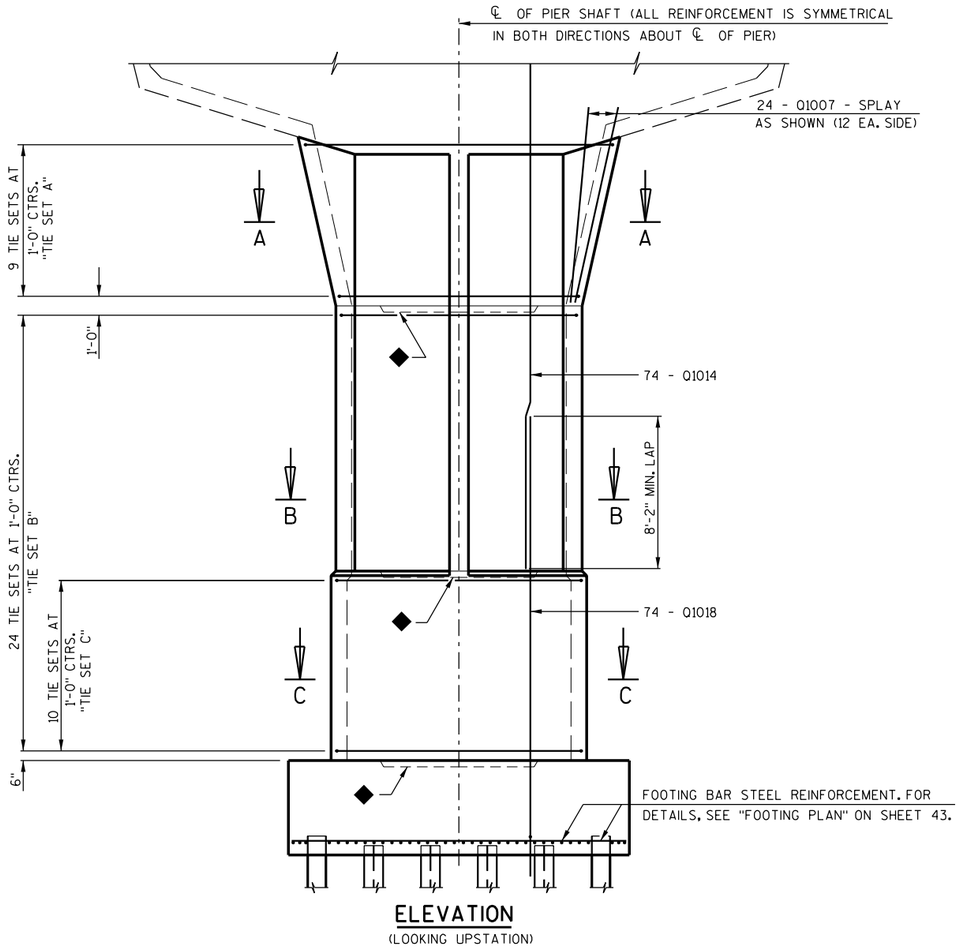
## LEGEND

◆ KEYED CONST. JOINT FORMED BY BEVELED 4" x 2'-0" X 8'-4".

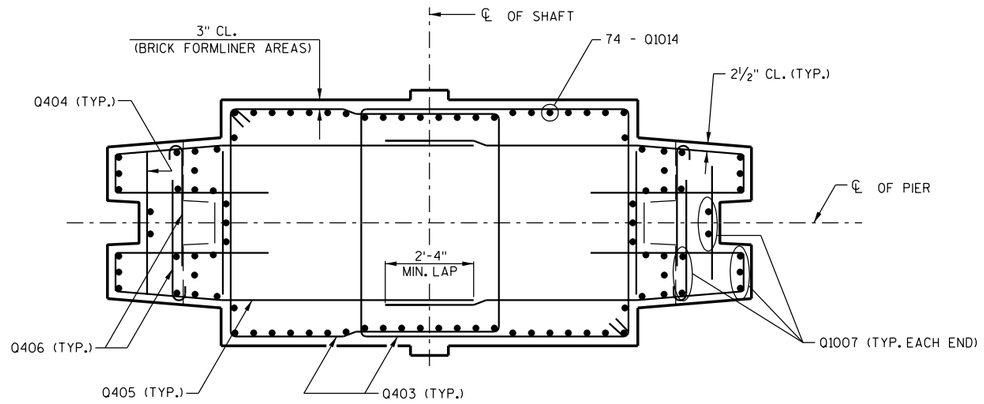
"TIE SET A" TIE BAR SET THAT CONSISTS OF THE FOLLOWING:
- 2 - Q403 BARS
- 2 - Q404 BARS
- 4 - Q405 BARS
- 4 - Q406 BARS

"TIE SET B" TIE BAR SET THAT CONSISTS OF THE FOLLOWING:
- 4 - Q402 BARS
- 2 - Q403 BARS
- 2 - Q404 BARS

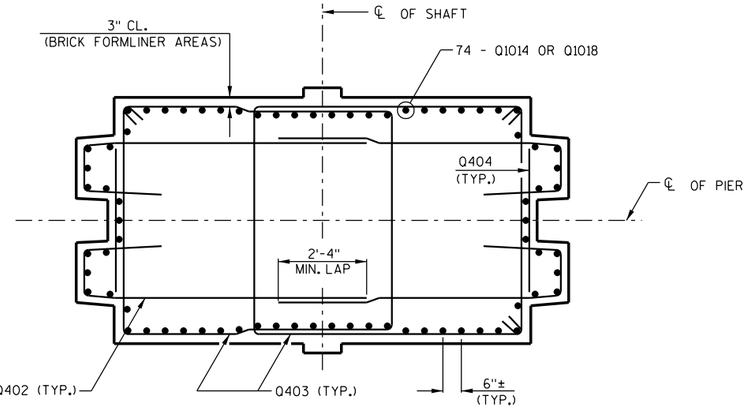
"TIE SET C" TIE BAR SET THAT CONSISTS OF THE FOLLOWING:
- 2 - Q411 BARS



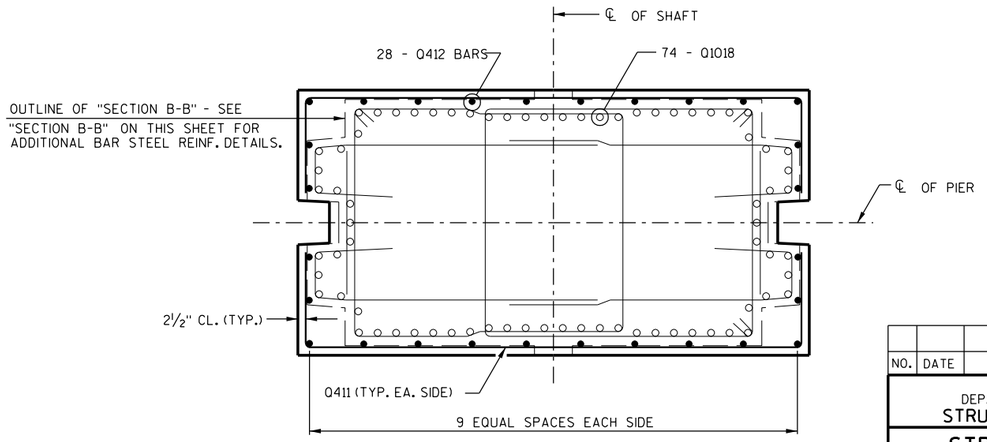

ELEVATION
(LOOKING UPSTATION)




SECTION A-A




SECTION B-B




SECTION C-C

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

SHAFT DETAILS - PIER 8

SHEET 40 OF 91
929

8

8

FILE NAME : P:\153 USH 41\1133-10-00 URS\STRUCTURES\B-5-679\040_PIER_SHAFT8_V7_B-5-679.DGN

PLOT DATE : 4/22/2013

STATE PROJECT NUMBER

1133-11-74

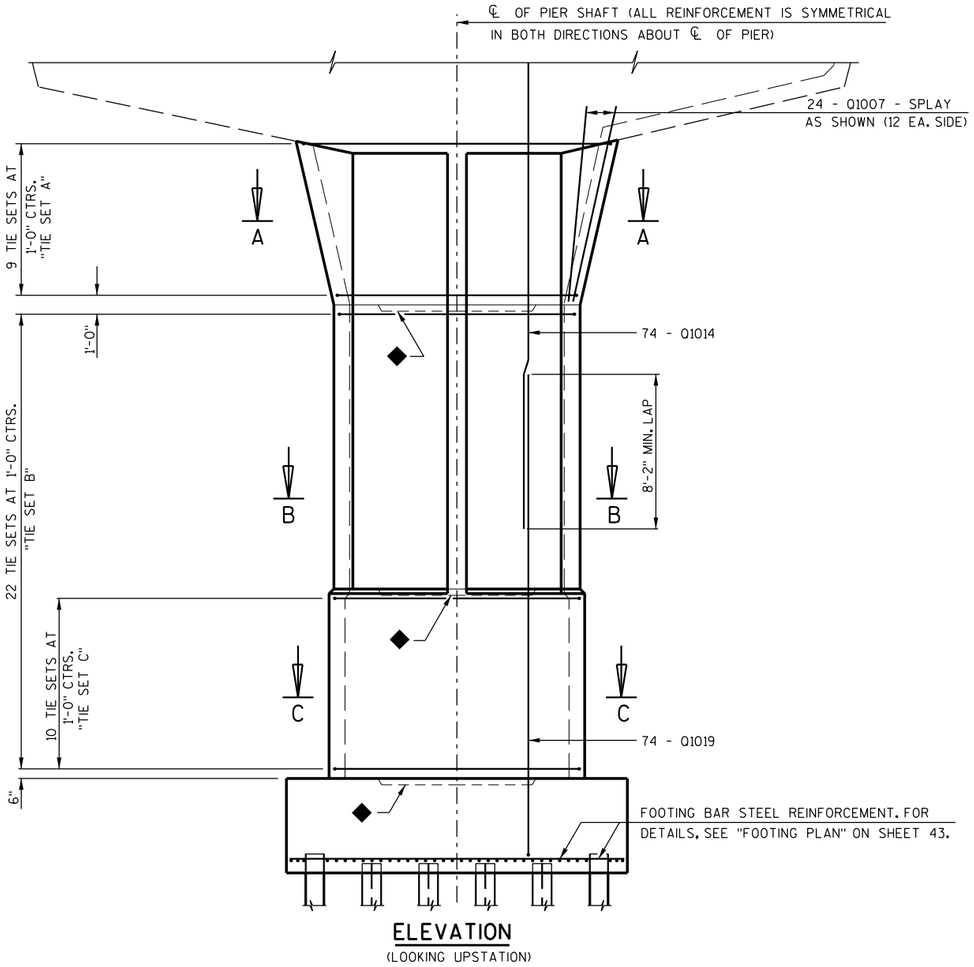
## LEGEND

◆ KEYED CONST. JOINT FORMED BY BEVELED 4" x 2'-0" X 8'-4".

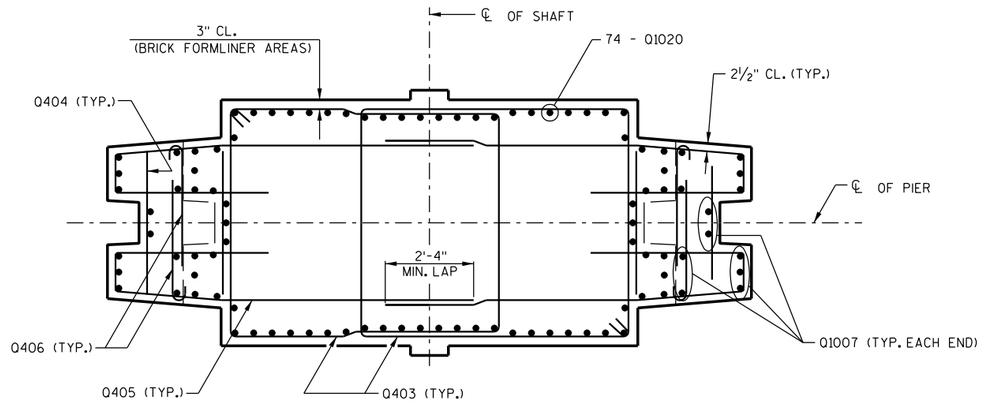
"TIE SET A" TIE BAR SET THAT CONSISTS OF THE FOLLOWING:
2 - 0403 BARS
2 - 0404 BARS
4 - 0405 BARS
4 - 0406 BARS

"TIE SET B" TIE BAR SET THAT CONSISTS OF THE FOLLOWING:
4 - 0402 BARS
2 - 0403 BARS
2 - 0404 BARS

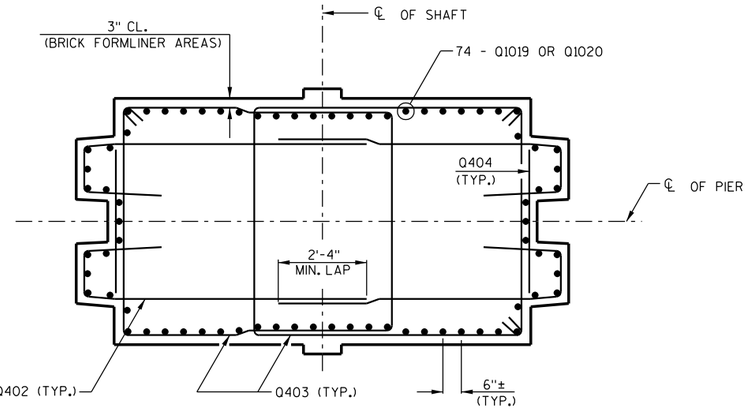
"TIE SET C" TIE BAR SET THAT CONSISTS OF THE FOLLOWING:
2 - 0411 BARS



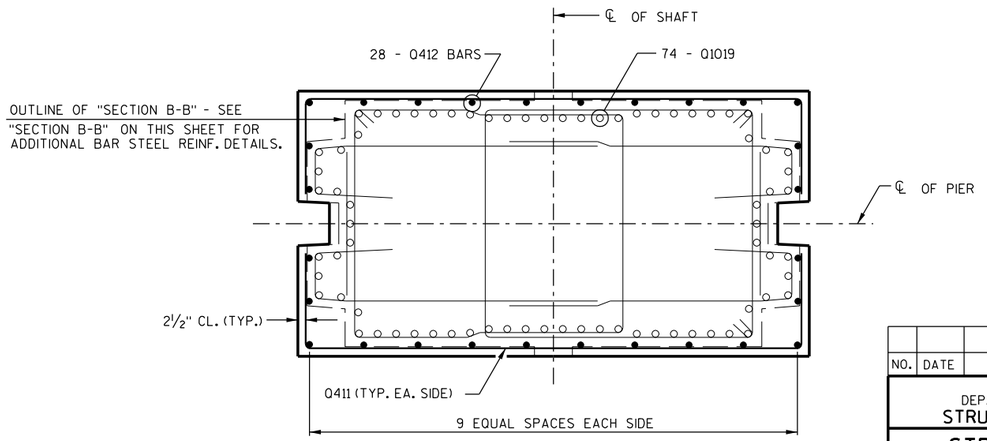

ELEVATION
(LOOKING UPSTATION)




SECTION A-A




SECTION B-B




SECTION C-C

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

SHAFT DETAILS - PIER 9

SHEET 41 OF 91
930

FILE NAME : P:\53 USH 41\1133-10-00 URGS\STRUCTURES\B-5-679\041_PIER_SHAFT9_V7.B-5-679.DGN
PLOT DATE : 4/22/2013

STATE PROJECT NUMBER

1133-11-74

# PIER SHAFT - BILL OF BARS

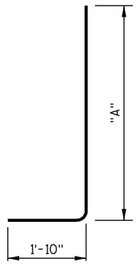
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL BAR STEEL REINFORCEMENT IN THIS BILL OF BARS SHALL BE EPOXY COATED.
(PIERS 1 THRU 5 = UNIT 1, PIERS 6 THRU C1 = UNIT 2)

| MARK | NO. REQ'D. UNIT 1 | NO. REQ'D. UNIT 2 | LENGTH | BENT | BAR SERIES | LOCATION TOTAL WEIGHT = 201,500 LBS. | |
|---|---|---|---|---|---|---|---|
| 01001 | 74 | --- | 25-9 | X | | SHAFT & FOOTING - PIER 1 | VERT. |
| 0402 | 276 | 442 | 10-7 | X | | SHAFT - TIES - ALL PIERS | HORIZ. |
| 0403 | 232 | 312 | 26-8 | X | | SHAFT - STIRRUPS - ALL PIERS | HORIZ. |
| 0404 | 232 | 312 | 3-9 | | | SHAFT - TIES AT ENDS - ALL PIERS | HORIZ. |
| 0405 | 180 | 180 | 12-7 | X | ⚹ | SHAFT - TIES - ALL PIERS | HORIZ. |
| 0406 | 180 | 180 | 3-9 | X | | SHAFT - ENDS - ALL PIERS | HORIZ. |
| 01007 | 120 | 120 | 15-0 | | | SHAFT & CAP - ENDS - ALL PIERS | VERT. |
| 01008 | 74 | --- | 14-2 | X | | SHAFT & FOOTING - PIER 2 | VERT. |
| 01009 | 74 | --- | 26-10 | | | SHAFT - PIER 2 | VERT. |
| 0410 | 28 | --- | 6-7 | | | LOWER SHAFT - PIER 2 | VERT. |
| 0411 | 74 | 100 | 17-11 | X | | LOWER SHAFT - PIERS 2 THRU C1 | HORIZ. |
| 0412 | 84 | 140 | 9-7 | | | LOWER SHAFT - PIERS 3 THRU C1 | VERT. |
| 01013 | 74 | --- | 13-5 | X | | SHAFT & FOOTING - PIER 3 | VERT. |
| 01014 | 222 | 370 | 30-0 | | | SHAFT - PIERS 3 THRU C1 | VERT. |
| 01015 | 74 | --- | 20-11 | X | | SHAFT & FOOTING - PIER 4 | VERT. |
| 01016 | 74 | 148 | 22-11 | X | | SHAFT & FOOTING - PIERS 5, 7, & C1 | VERT. |
| 01017 | --- | 74 | 21-11 | X | | SHAFT & FOOTING - PIER 6 | VERT. |
| 01018 | --- | 74 | 24-11 | X | | SHAFT & FOOTING - PIER 8 | VERT. |
| 01019 | --- | 74 | 25-11 | X | | SHAFT & FOOTING - PIER 9 | VERT. |

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

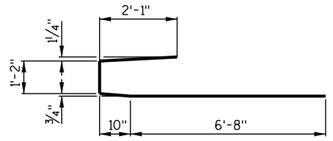
## BAR SERIES TABLE

| MARK | NO. REQ'D. | LENGTH |
|---|---|---|
| 0405 | 40 SERIES OF 9 | 10'-9" TO 14'-5" |
| | | |
| | | |
| | | |

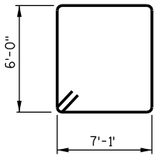



| MARK | DIMENSION "A" |
|---|---|
| 01001 | 24'-2" |
| 01008 | 12'-7" |
| 01013 | 13'-5" |
| 01015 | 19'-4" |
| 01016 | 21'-4" |
| 01017 | 20'-4" |
| 01018 | 23'-4" |
| 01019 | 24'-4" |

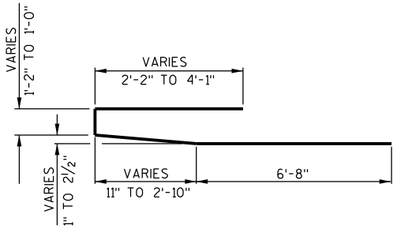
01001, 01008, 01013 & 01015 THRU 01019



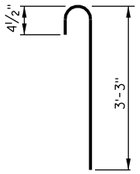

0402



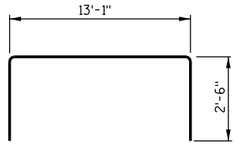

0403




0405




0406




0411

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

BILL OF BARS - SHAFT

SHEET 42 OF 91
931

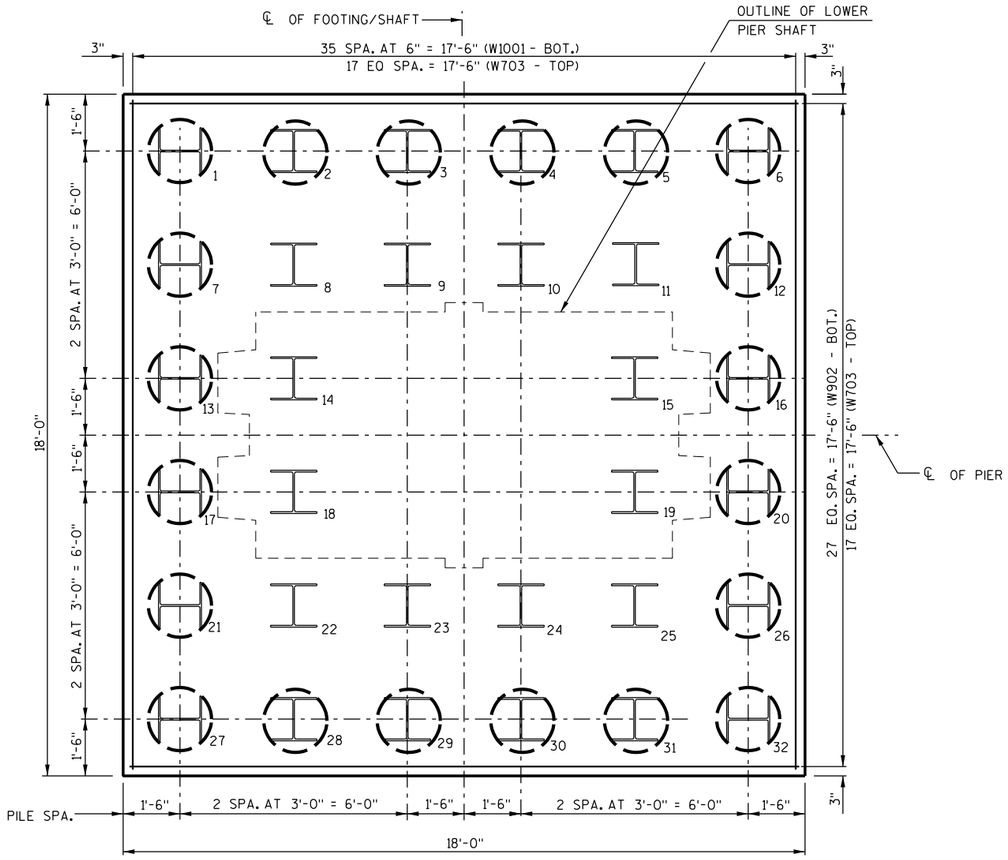
8

8

FILE NAME : P:\53 USH 41\1133-10-00 URGS\STRUCTURES\b5-679\502_PIER_SHAFT_BARS_V17.B5-679.DGN

PLOT DATE : 4/23/2013

| STATE PROJECT NUMBER |
|---|
| 1133-11-74 |




## FOOTING PLAN - ALL PIERS

NOTE: FOR FOOTING BILL OF BARS, SEE SHEET 44.

## LEGEND

INDICATES PILE LOCATION WHERE UPLIFT CONNECTION IS REQUIRED.

## PILE DYNAMIC ANALYZER (PDA) TESTING LOCATIONS

THE BID ITEMS FOR THIS WORK ARE "PILE DYNAMIC ANALYZER (PDA) TESTING, ITEM SPV. 0060.702 PILE DYNAMIC ANALYZER (PDA) RESTRIKES, ITEM SPV. 0060.703".

| | PILE NUMBERS |
|---|---|
| S. ABUT. | 2, 5, & 8 |
| PIER 1 | 1, 6, 27, & 32 |
| PIER 2 | 1, 6, 27, & 32 |
| PIER 3 | 1, 6, 27, & 32 |
| PIER 4 | 1, 6, 27, & 32 |
| PIER 5 | 1, 6, 27, & 32 |
| PIER 6 | 1, 6, 27, & 32 |
| PIER 7 | 1, 6, 27, & 32 |
| PIER 8 | 1, 6, 27, & 32 |
| PIER 9 | 1, 6, 27, & 32 |
| PIER C1 | 1, 6, 27, & 32 |

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

PIER FOOTING DETAILS

SHEET 43 OF 91
932

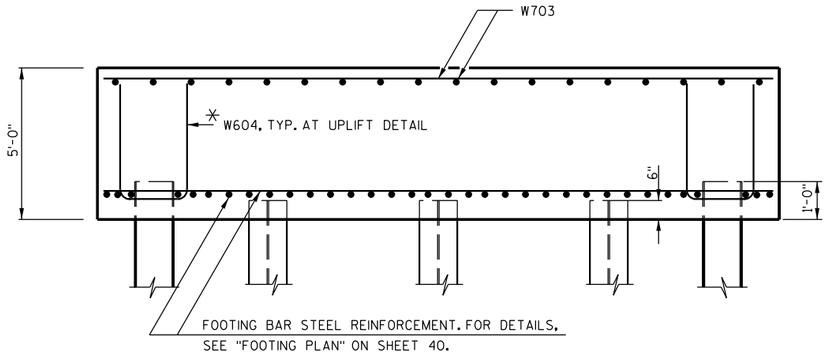
FILE NAME : P:\53 USH 41\1133-10-00 URGS\STRUCTURES\B-5-679\043_PIER_FOOTINGA_V7_B-5-679.DGN
PLOT DATE : 4/22/2013

8

8

STATE PROJECT NUMBER

1133-11-74




## TYPICAL UPLIFT CONNECTION DETAIL

## LEGEND

INDICATES PILE LOCATION WHERE UPLIFT CONNECTION IS REQUIRED.

FIELD BEND W604 BARS AFTER PLACING IN 1¼" HOLES BURNED INTO PILE. USE 2 BARS AT EACH UPLIFT PILE.

## BILL OF BARS - FOOTINGS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL BAR STEEL REINFORCEMENT IN THIS BILL OF BARS ARE UNCOATED BARS.
(PIERS 1 THRU 5 = UNIT 1, PIERS 6 THRU C1 = UNIT 2)

| MARK | NO. REQ'D. | | LENGTH | BENT | BAR SERIES | LOCATION | TOTAL WEIGHT = 61,700 LBS. |
|---|---|---|---|---|---|---|---|
| | UNIT 1 | UNIT 2 | | | | | |
| W1001 | 180 | 180 | 17-8 | | | FOOTING - ALL PIERS | HORIZ. |
| W902 | 140 | 140 | 17-8 | | | FOOTING - ALL PIERS | HORIZ. |
| W703 | 180 | 180 | 17-8 | | | FOOTING - ALL PIERS | HORIZ. |
| W604 | 200 | 200 | 7-6 | | | FOOTING - ALL PIERS | HORIZ. |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

PIER FOOTING DETAILS

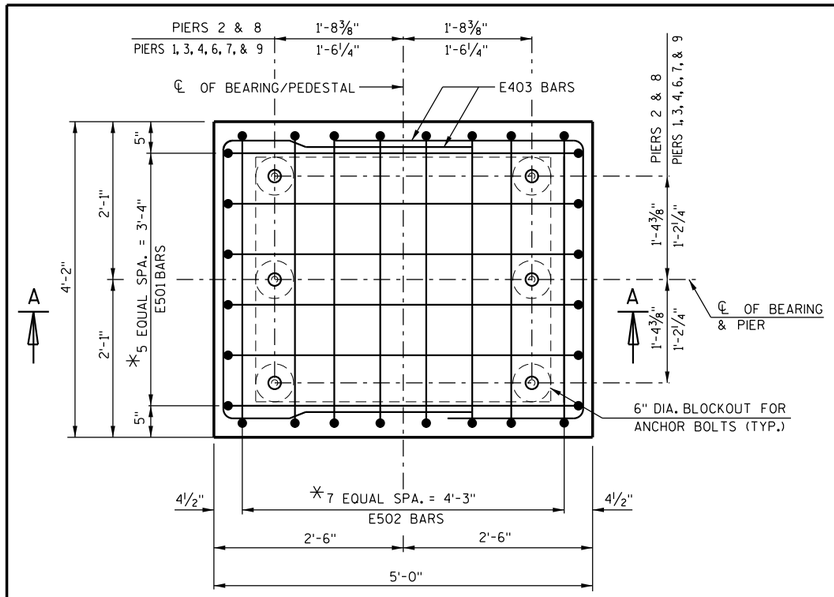
SHEET 44 OF 91
933

FILE NAME : P:\153 USH 41\1133-10-00 URGS\STRUCTURES\10-5-679\044_PIER_FOOTINGS_V7.10-5-679.DGN

PLOT DATE : 4/22/2013

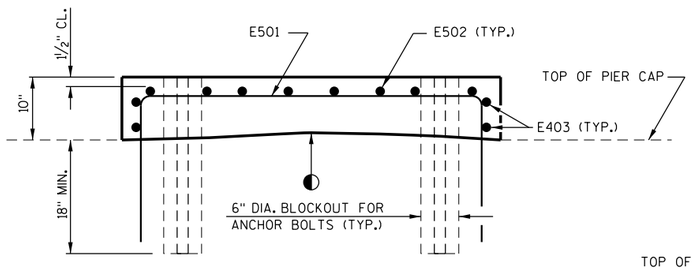
8

8

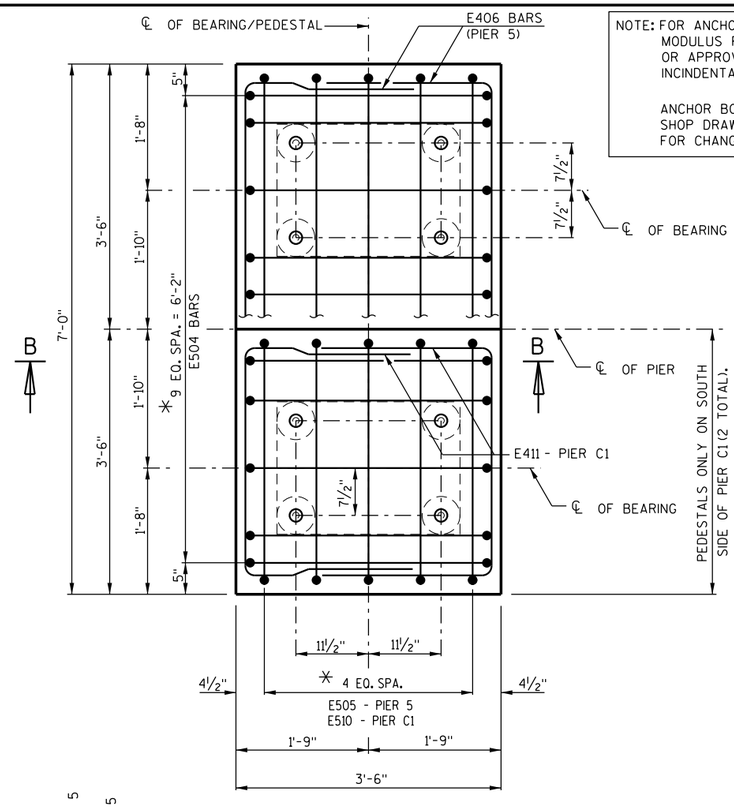



## PLAN

(PIER PEDESTAL - PIERS 1 THRU 4 & 6 THRU 9)
✳ ADJUST SPA. TO MISS ANCHOR BOLT BLOCKOUTS.

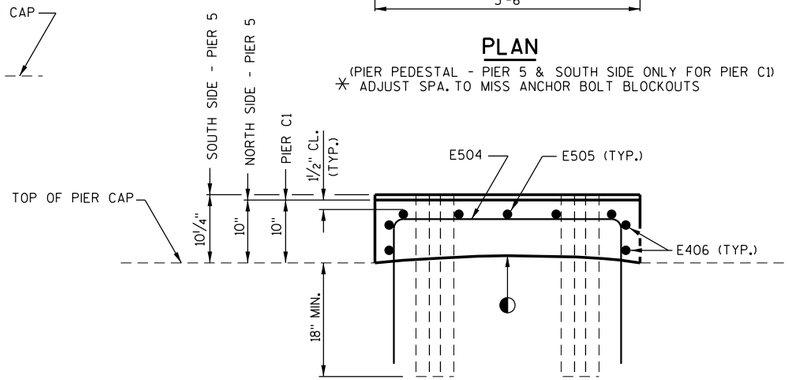



## SECTION A-A

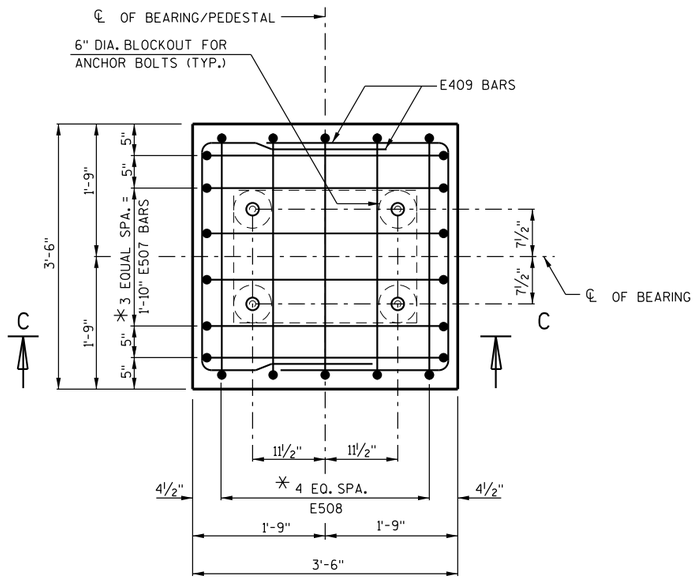



## PLAN

(PIER PEDESTAL - PIER 5 & SOUTH SIDE ONLY FOR PIER C1)
✳ ADJUST SPA. TO MISS ANCHOR BOLT BLOCKOUTS

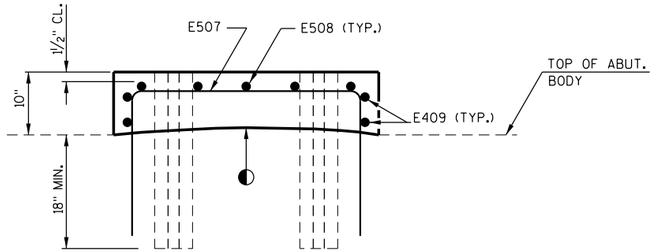



## SECTION B-B




## PLAN

(SOUTH ABUTMENT PEDESTAL)
✳ ADJUST SPA. TO MISS ANCHOR BOLT BLOCKOUTS




## SECTION C-C

NOTE: FOR ANCHOR GROUT SLEEVE AND BASEPLATE SEATING USE HIGH MODULUS FLOWABLE EPOXY RESIN GROUT, SIKADUR 42 GROUT-PAK OR APPROVED EQUAL. GROUT SLEEVE AND GROUT WILL BE CONSIDERED INCINDENTAL TO THE COST OF "HPC MASONRY STRUCTURES".

ANCHOR BOLT SPACING AND ELEVATIONS ARE BASED ON BEARING SHOP DRAWINGS LAST DATED 12/12/12. ADJUST AS NECESSARY FOR CHANGES FROM THOSE DRAWINGS.

STATE PROJECT NUMBER

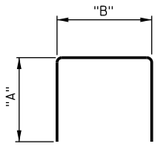
1133-11-74

◐ CONST. JT. - STRIKE OFF AS SHOWN.

## PIER CAP - BILL OF BARS

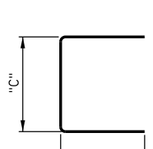
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL BAR STEEL REINFORCEMENT IN THIS BILL OF BARS SHALL BE EPOXY COATED.
(PIERS 1 THRU 5 = UNIT 1, PIERS 6 THRU C1 = UNIT 2)

| MARK | NO. REQ'D. UNIT 1 | NO. REQ'D. UNIT 2 | LENGTH | BENT | BAR SERIES | LOCATION | TOTAL WEIGHT = 3,200 LBS. |
|---|---|---|---|---|---|---|---|
| E501 | 48 | 48 | 9-1 | X | | PEDESTAL - AT PIERS 1-4 & 6-9 | VERT. |
| E502 | 64 | 64 | 8-6 | X | | PEDESTAL - AT PIERS 1-4 & 6-9 | VERT. |
| E403 | 32 | 32 | 10-6 | X | | PEDESTAL - AT PIERS 1-4 & 6-9 | HORIZ. |
| E504 | 16 | 8 | 7-7 | X | | PEDESTAL - AT PIERS 5 & C1 | VERT. |
| E505 | 10 | --- | 11-4 | X | | PEDESTAL - AT PIER 5 | VERT. |
| E406 | 8 | --- | 11-4 | X | | PEDESTAL - AT PIER 5 | HORIZ. |
| E507 | 12 | --- | 7-6 | X | | PEDESTAL - AT SOUTH ABUTMENT | VERT. |
| E508 | 8 | --- | 7-10 | X | | PEDESTAL - AT SOUTH ABUTMENT | VERT. |
| E409 | 8 | --- | 8-0 | X | | PEDESTAL - AT SOUTH ABUTMENT | HORIZ. |
| E510 | --- | 10 | 7-10 | X | | PEDESTAL - AT PIER C1 | VERT. |
| E411 | --- | 8 | 8-0 | X | | PEDESTAL - AT PIER C1 | HORIZ. |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |




| MARK | "A" | "B" |
|---|---|---|
| E501 | 2'-4" | 4'-8" |
| E502 | 2'-5" | 3'-11" |
| E504 | 2'-4" | 3'-2" |
| E505 | 2'-5" | 6'-9" |
| E507 | 2'-4" | 3'-1" |
| E508 | 2'-5" | 3'-3" |
| E510 | 2'-5" | 3'-3" |

E501, E502, E504, E505, E507, E508 & E510




| MARK | "C" | "D" |
|---|---|---|
| E403 | 3'-10" | 3'-5" |
| E406 | 6'-6" | 2'-6" |
| E409 | 3'-2" | 2'-6" |
| E411 | 3'-2" | 2'-6" |
| | | |
| | | |

E403, E406, E409 & E411

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

BEARING PEDESTAL DETAILS

SHEET 45 OF 91
934

FILE NAME : P:\153 USH 41\1133-10-00 URGS\STRUCTURES\B-5-679\045_BRG_PED_V7.B-5-679.DGN
PLOT DATE : 5/1/2013

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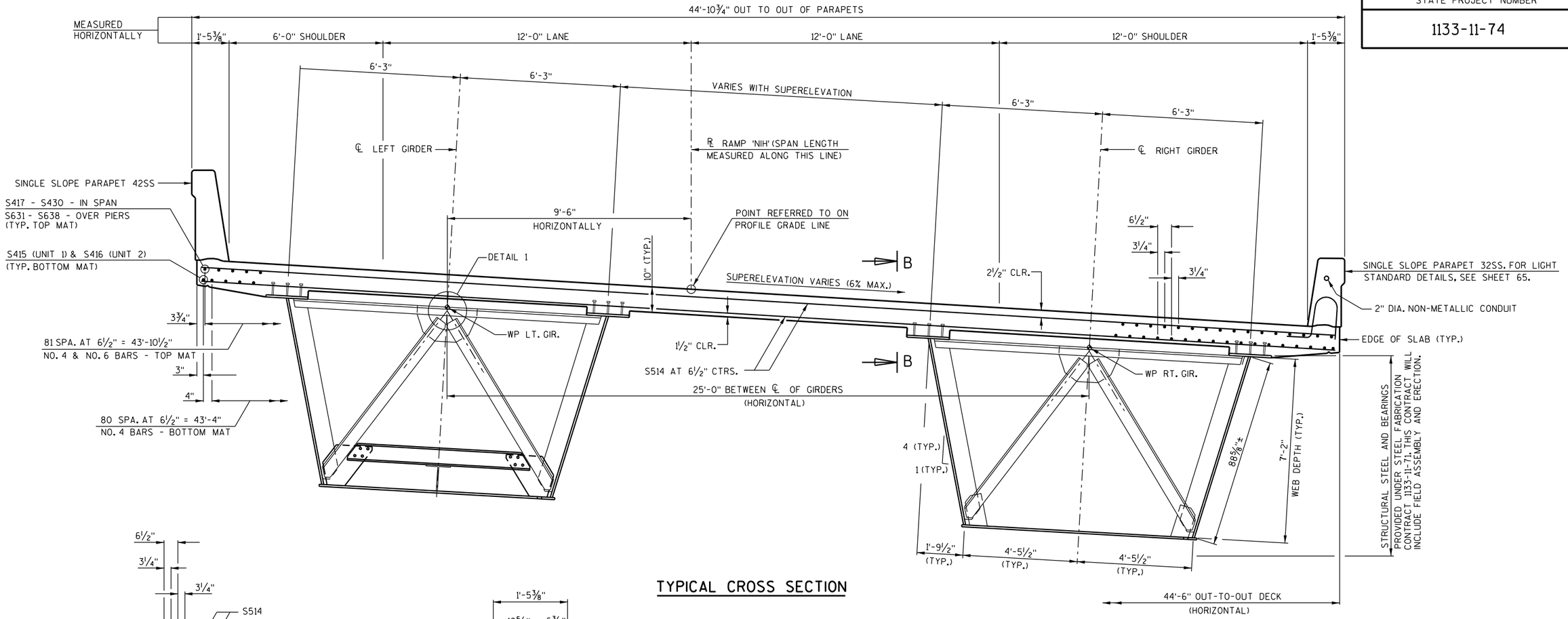
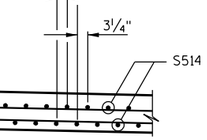
STATE PROJECT NUMBER

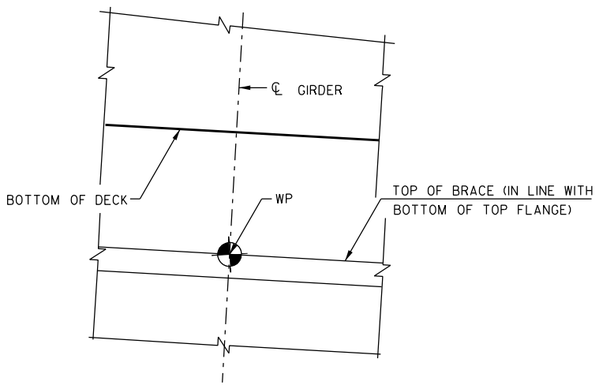
1133-11-74



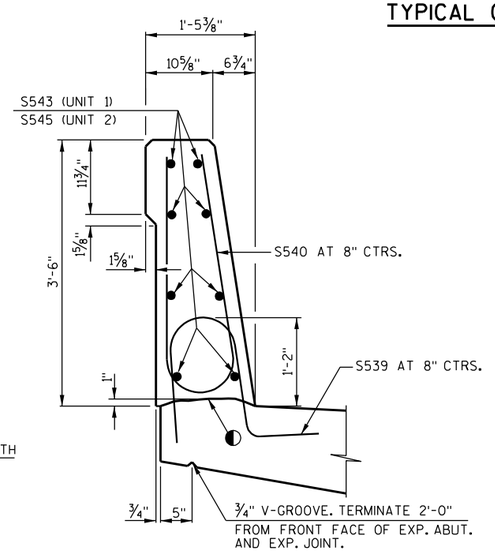

## TYPICAL CROSS SECTION



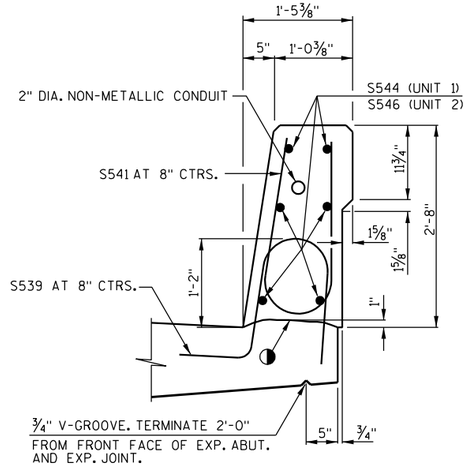

## SECTION B-B
(TRANSVERSE BAR STEEL STAGGER DETAIL)




## DETAIL 1




## SECTION THRU PARAPET ON BRIDGE
## SINGLE SLOPE PARAPET 42SS




## ✳✳✳ SECTION THRU PARAPET ON BRIDGE
## SINGLE SLOPE PARAPET 32SS
(REINFORCEMENT BARS SHOWN IN THIS DETAIL ARE BETWEEN STA. 1187+30.9± TO STA. 1209+01.17)

## NOTES:

WP = WORK POINT TO WHICH DIMENSIONS ARE MEASURED.

STAY-IN-PLACE METAL FORMS PERMITTED INSIDE BOX GIRDERS ONLY.

SEE CONTRACT 1133-11-71 "SUPERSTRUCTURE DETAILS" SHEET FOR HAUNCH DETAILS.

SHEAR STUDS ARE FURNISHED AND INSTALLED UNDER THIS CONTRACT. SEE STEEL FABRICATION PLANS FOR LOCATIONS AND SPACING OF SHEAR STUDS. REMOVE 3MM COAT OF PRIMER FROM THE TOP FLANGE AT SHEAR STUD LOCATIONS BEFORE INSTALLING STUDS.

LAP NO. 5 BARS 1'-9" MIN. IN PARAPETS.

LAP NO. 4 BARS 1'-8" MIN. IN DECK.

LAP NO. 6 BARS 3'-1" MIN. IN SLAB.

◑ CONSTRUCTION JOINT - STRIKE OFF AS SHOWN.

✳✳✳ STA. 1187+30.9± TO STA. 1209+01.17 (SINGLE SLOPE PARAPET 32SS)
STA. 1209+01.17 TO STA. 1209+11.17 TRANSITION PARAPET FROM 32SS TO 42SS
STA. 1209+11.17 TO STA. 1209+16.17± (SINGLE SLOPE PARAPET 42SS)
FOR DETAILS, SEE SHEET "PARAPET TRANSITION DETAILS".

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

TYPICAL DECK SECTION

SHEET 46 OF 91
935

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

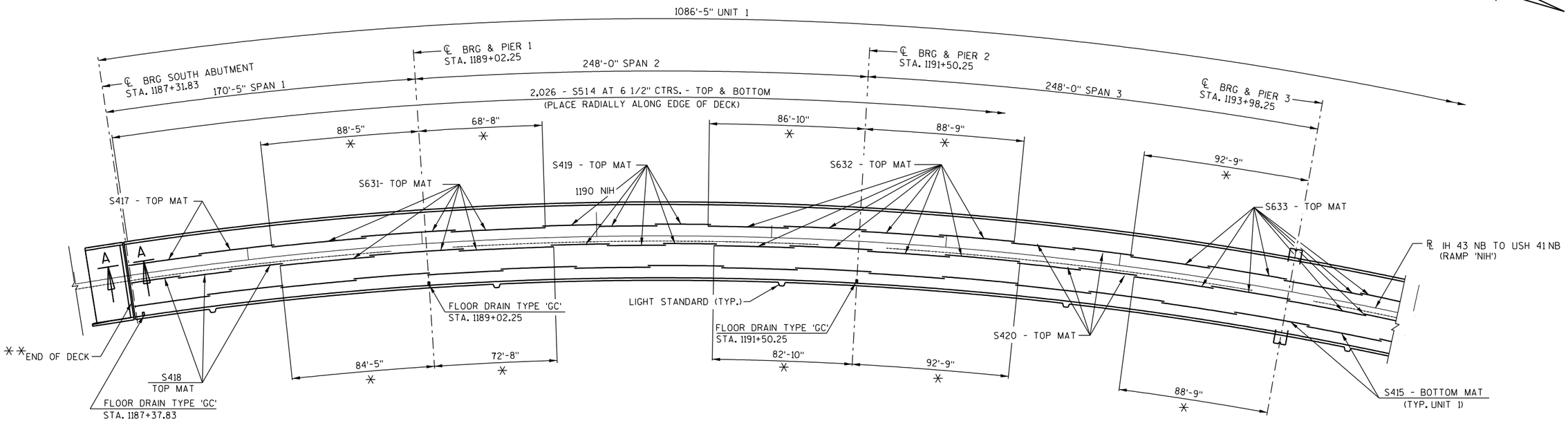
8

8

FILE NAME : P:\153 USH 41 1133-10-00 UBS\Structures\B-5-679\046_deck_section_v8_b-5-679.dgn

PLOT DATE : 4/23/2013

| STATE PROJECT NUMBER |
|---|
| 1133-11-74 |




## PLAN - SPANS 1 - 3

## LEGEND

✳ STAGGER OFFSET AS SHOWN FOR EACH ADJACENT BAR

✳✳ END OF DECK = END OF SLAB AT SOUTH ABUTMENT, PIER 5 OR PIER C1. SEE SHEET TITLED "REINFORCING AT EXPANSION JOINT" FOR FURTHER DETAILS.

## NOTES

(THESE NOTES APPLY TO ALL DECK REINFORCEMENT SHEETS)

1. THE BOTTOM TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINOUS BAR CHAIRS WITH A CENTER TO CENTER SPACING NOT TO EXCEED 4'-0". ONE LINE OF CONTINOUS BAR CHAIRS SHALL BE PLACED NEAR EDGE OF SLAB TO SUPPORT THE ENDS OF THE BOTTOM TRANSVERSE BAR STEEL.
2. THE TOP LONGITUDINAL BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINOUS BAR CHAIRS IN TRANSVERSE DIRECTION ON 4'-0" CTRS.
3. ALL TRANSVERSE BAR STEEL SHALL BE PLACED RADIALLY TO THE RAMP NIH REFERENCE LINE.
4. ALL LONGITUDINAL BAR STEEL SHALL BE PLACED CONCENTRIC TO THE RAMP NIH REFERENCE LINE.
5. LAP LONGITUDINAL NO. 6 BARS 3'-1" MIN. AND LAP LONGITUDINAL NO. 4 BARS 1'-8" MIN.
6. SEE SHEET "SUPERSTRUCTURE BILL OF BARS" FOR BAR BILL.
7. SEE SHEET "LIGHT STANDARD" FOR REINFORCEMENT DETAILS AT THE LIGHT STANDARDS.
8. SEE SHEET "REINFORCING AT EXPANSION JOINT" FOR SECTION A-A & B-B DETAILS.

8

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

**DECK REINFORCEMENT SPANS 1-3**

SHEET 47 OF 91
936

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

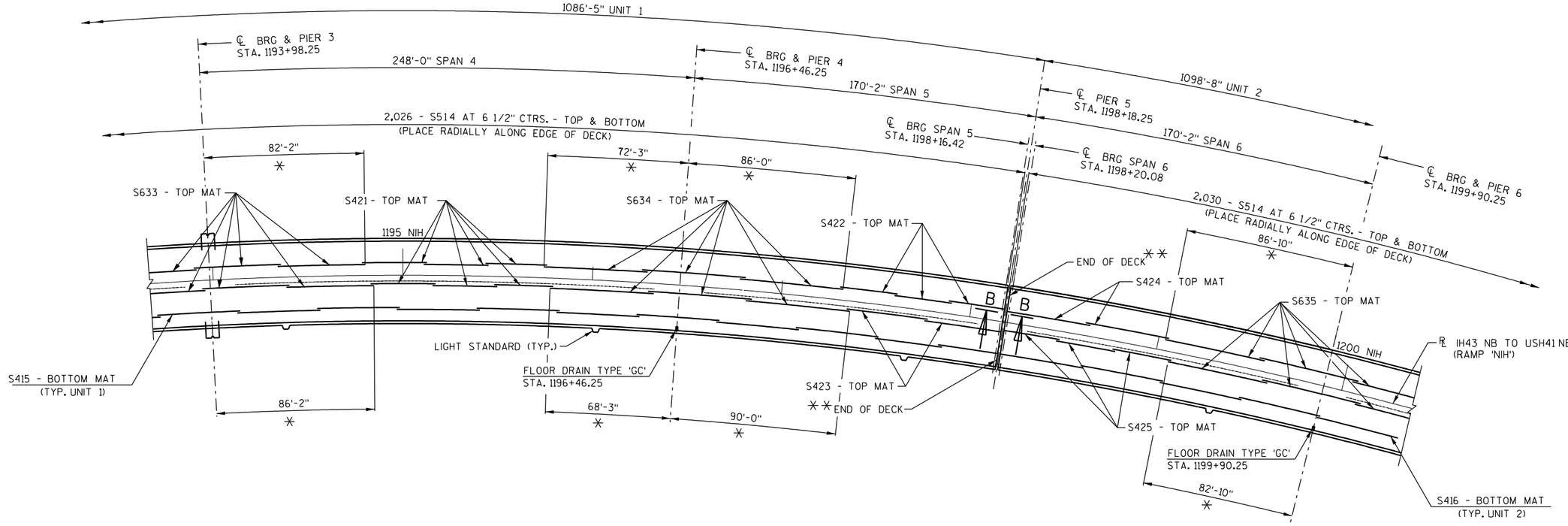
8

FILE NAME : P:\153 USH 41 1133-10-00 UDOS\Structures\B-5-679\04\deck_reinf_spans_1-3_v8_b-5-679.dgn

PLOT DATE : 4/23/2013

STATE PROJECT NUMBER

1133-11-74




## PLAN - SPANS 4 - 6

### LEGEND

* STAGGER OFFSET AS SHOWN FOR EACH ADJACENT BAR

** END OF DECK = END OF SLAB AT SOUTH ABUTMENT, PIER 5 OR PIER C1. SEE SHEET TITLED "REINFORCING AT EXPANSION JOINT" FOR FURTHER DETAILS.

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

DECK REINFORCEMENT SPANS 4-6

SHEET 48 OF 91
937

8

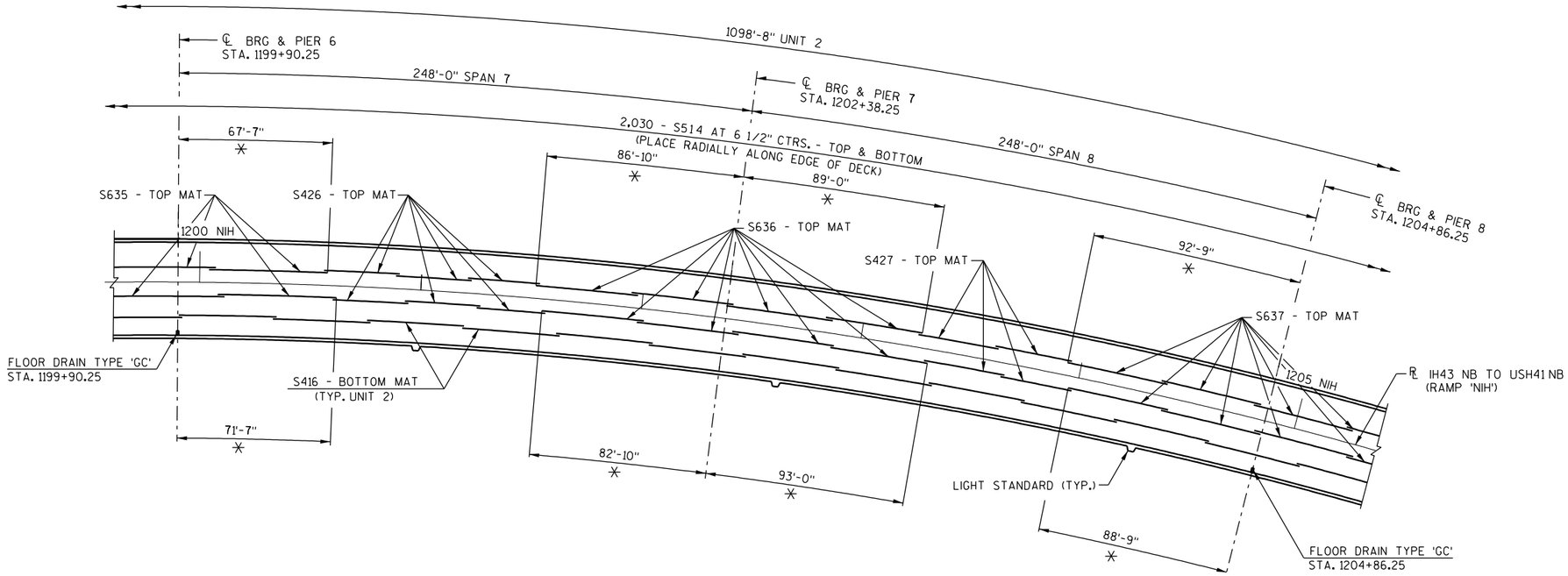
8

FILE NAME : P:\153 USH 41 1133-10-00 UPS\Structures\B-5-679\048_deck_reinf_spans_4-6_v8_b-5-679.dgn

PLOT DATE : 4/23/2013

STATE PROJECT NUMBER

1133-11-74




## PLAN - SPANS 7 & 8

## LEGEND

✳ STAGGER OFFSET AS SHOWN FOR EACH ADJACENT BAR

8

8

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

**DECK REINFORCEMENT SPANS 7-8**

SHEET 49 OF 91
938

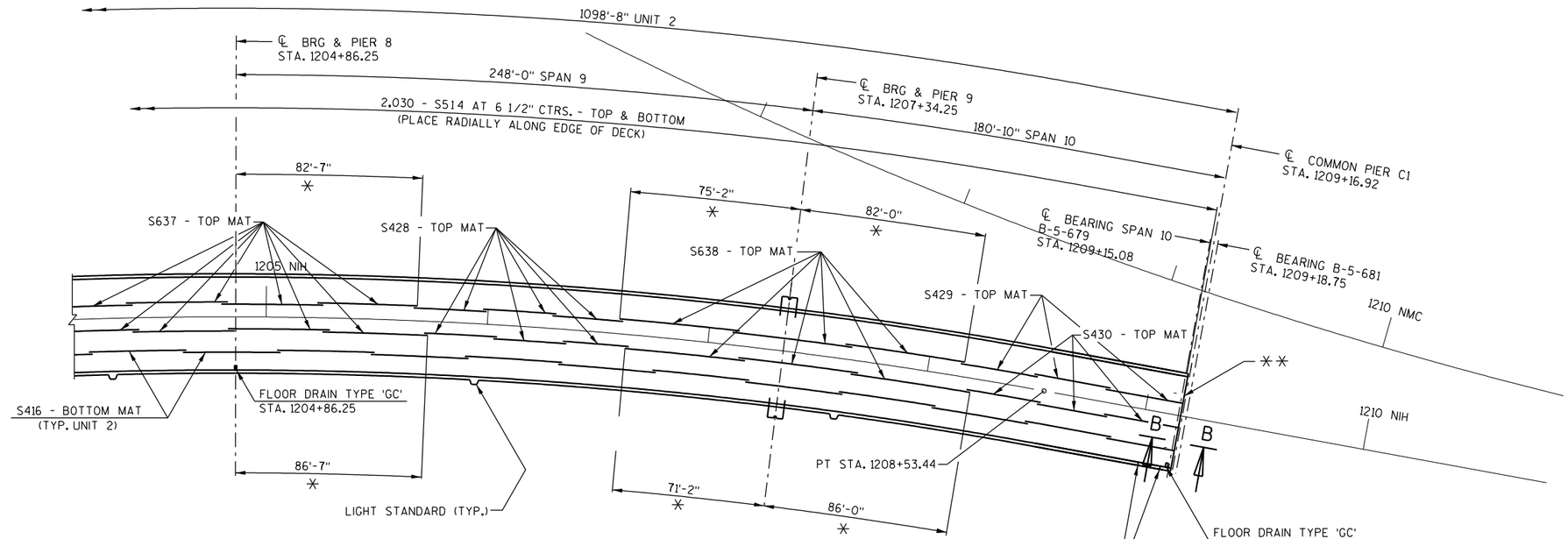
STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

FILE NAME : P:\153 USH 41 1133-10-00 LRGS\Structures\B-5-679\049_deck_reinf_spans_7-8_v8_b-5-679.dgn

PLOT DATE : 4/23/2013

STATE PROJECT NUMBER

1133-11-74




TRANSITION PARAPET FROM SINGLE SLOPE PARAPET 32SS TO SINGLE SLOPE PARAPET 42SS FROM STA. 1209+01.17 TO STA. 1209+11.17. USE SINGLE SLOPE PARAPET 42SS FROM STA. 1209+11.17 TO STA. 1209+16.17± (EXPANSION JOINT). FOR DETAILS, SEE SHEET "PARAPET TRANSITION DETAILS".

## PLAN - SPANS 9 & 10

## LEGEND

✳ STAGGER OFFSET AS SHOWN FOR EACH ADJACENT BAR

✳✳ END OF DECK = END OF SLAB AT SOUTH ABUTMENT, PIER 5 OR PIER C1. SEE SHEET TITLED "REINFORCING AT EXPANSION JOINT" FOR FURTHER DETAILS.

8

8

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

**DECK REINFORCEMENT SPANS 9-10**

SHEET 50 OF 91
939

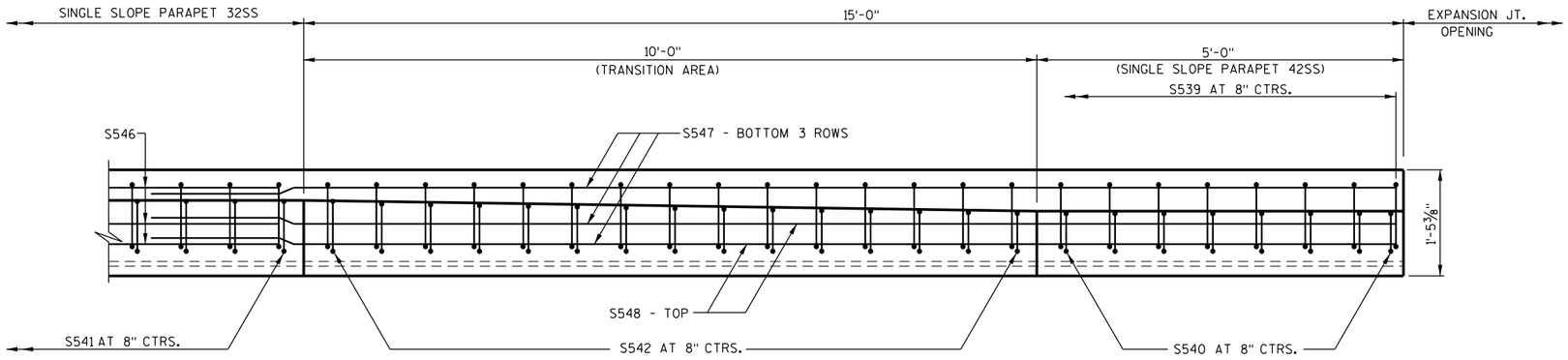
STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

FILE NAME : P:\153 USH 41 1133-10-00 UBS\Structures\B-5-679\050_deck_reinf_spans_9-10_v8_b-5-679.dgn

PLOT DATE : 4/23/2013

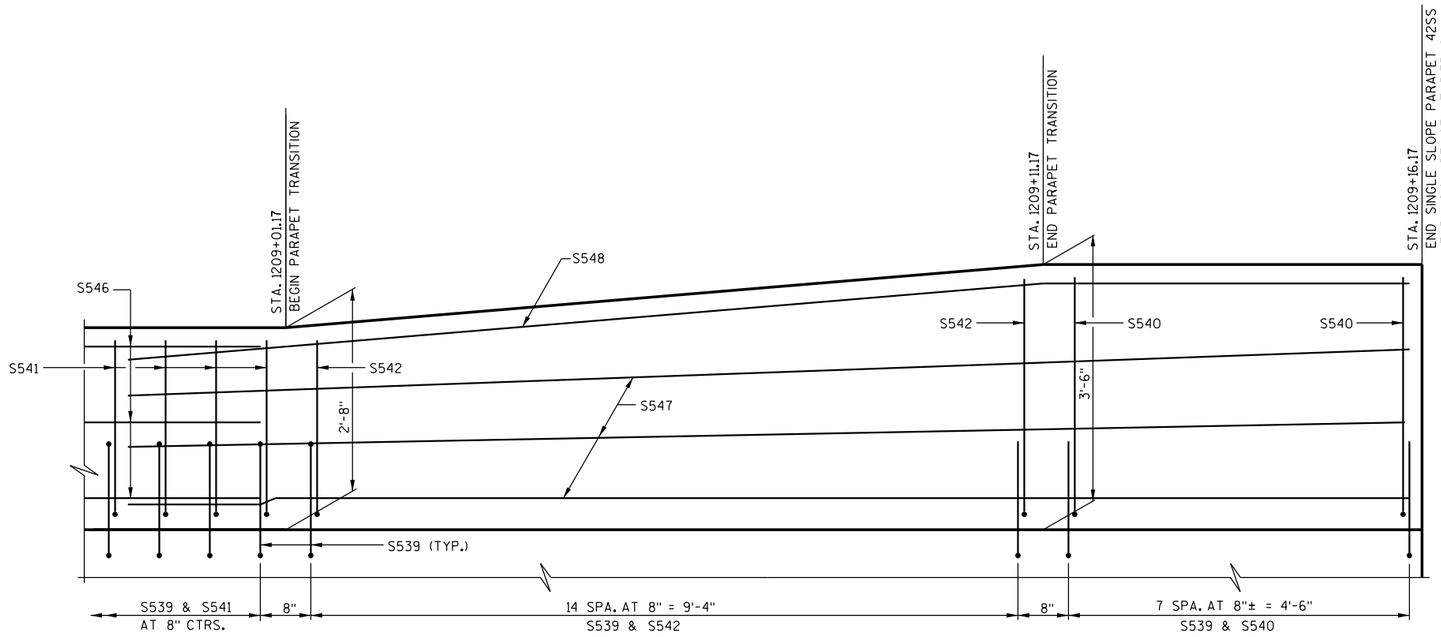
STATE PROJECT NUMBER

1133-11-74

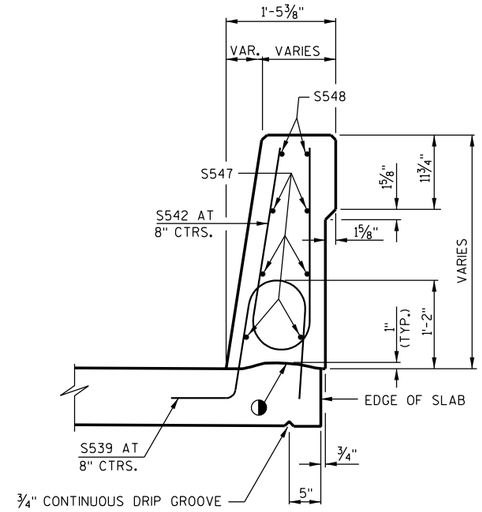



## PLAN - TRANSITION AREA

NOTE: SEE SHEET "TYPICAL DECK SECTION" FOR ADDITIONAL SINGLE SLOPE PARAPET DETAILS.




## ELEVATION - TRANSITION AREA




## SECTION THRU PARAPET AT TRANSITION AREA

NOTE: SEE SHEET "SUPERSTRUCTURE BILL OF BARS" FOR BAR STEEL REINFORCEMENT DETAILS AND BILL OF BARS FOR PARAPET ON BRIDGE.

◑ CONSTRUCTION JOINT STRIKE OFF AS SHOWN.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

PARAPET TRANSITION DETAILS

SHEET 51 OF 91

940

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

8

8

FILE NAME : P:\153 USH 41\1133-10-00 URS\STRUCTURES\B-5-679\05L.PARAPET.TRANSITION.V7.B-5-679.DGN

PLOT DATE : 4/23/2013

STATE PROJECT NUMBER

1133-11-74

# BILL OF BARS

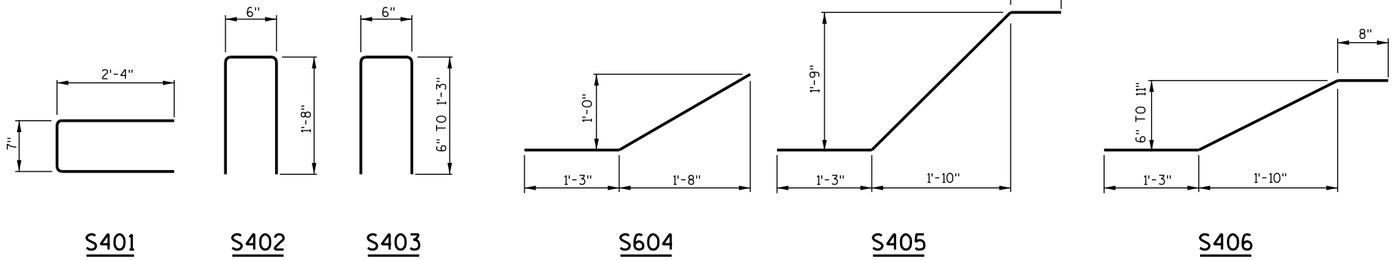
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL BAR STEEL REINFORCEMENT IN THIS BILL OF BARS SHALL BE EPOXY COATED.

| MARK | NO. REQ'D. UNIT 1 | NO. REQ'D. UNIT 2 | LENGTH | BENT | BAR SERIES | LOCATION | TOTAL WEIGHT = 836,900 LBS. |
|---|---|---|---|---|---|---|---|
| S401 | 268 | 268 | 5-1 | X | | EXPANSION JOINTS | LONGIT. |
| S402 | 244 | 244 | 3-8 | X | | EXPANSION JOINTS | VERT. |
| S403 | 24 | 24 | 2-1 | X | ⚹ | EXPANSION JOINTS | VERT. |
| S604 | 40 | 40 | 3-2 | X | | EXPANSION JOINTS | TRANS. |
| S405 | 104 | 104 | 4-5 | X | | EXPANSION JOINTS | LONGIT. |
| S406 | 12 | 12 | 3-11 | X | ⚹ | EXPANSION JOINTS | LONGIT. |
| S607 | 6 | 6 | 43-4 | | | EXPANSION JOINTS | TRANS. |
| S408 | 12 | 12 | 5-3 | X | ⚹ | EXPANSION JOINTS | LONGIT. |
| S509 | 84 | 84 | 8-0 | | | EXPANSION JOINTS | TRANS. |
| S610 | 20 | 20 | 40-4 | | | EXPANSION JOINTS | TRANS. |
| S411 | 122 | 122 | 6-0 | X | | EXPANSION JOINTS | LONGIT. |
| S612 | 8 | 8 | 13-7 | X | | EXPANSION JOINTS | TRANS. |
| S613 | 16 | 16 | 13-0 | X | | EXPANSION JOINTS | TRANS. |
| S514 | 4,052 | 4,060 | 44-2 | | | SLAB - TOP & BOTTOM | TRANS. |
| S415 | 2,158 | --- | 43-10 | | | SLAB - BOTTOM | LONGIT. |
| S416 | --- | 2,158 | 44-2 | | | SLAB - BOTTOM | LONGIT. |
| S417 | 82 | --- | 43-3 | | | SLAB - TOP - SPAN 1 | LONGIT. |
| S418 | 123 | --- | 30-9 | | | SLAB - TOP - SPAN 1 | LONGIT. |
| S419 | 246 | --- | 34-10 | | | SLAB - TOP - SPAN 2 | LONGIT. |
| S420 | 164 | --- | 36-11 | | | SLAB - TOP - SPAN 3 | LONGIT. |
| S421 | 246 | --- | 34-3 | | | SLAB - TOP - SPAN 4 | LONGIT. |
| S422 | 123 | --- | 30-9 | | | SLAB - TOP - SPAN 5 | LONGIT. |
| S423 | 82 | --- | 43-1 | | | SLAB - TOP - SPAN 5 | LONGIT. |
| S424 | --- | 82 | 44-8 | | | SLAB - TOP - SPAN 6 | LONGIT. |
| S425 | --- | 123 | 31-8 | | | SLAB - TOP - SPAN 6 | LONGIT. |
| S426 | --- | 246 | 34-3 | | | SLAB - TOP - SPAN 7 | LONGIT. |
| S427 | --- | 164 | 36-10 | | | SLAB - TOP - SPAN 8 | LONGIT. |
| S428 | --- | 246 | 33-1 | | | SLAB - TOP - SPAN 9 | LONGIT. |
| S429 | --- | 123 | 35-4 | | | SLAB - TOP - SPAN 10 | LONGIT. |
| S430 | --- | 123 | 34-0 | | | SLAB - TOP - SPAN 10 | LONGIT. |
| S631 | 246 | --- | 54-5 | | | SLAB - TOP - PIER 1 | LONGIT. |
| S632 | 328 | --- | 46-3 | | | SLAB - TOP - PIER 2 | LONGIT. |
| S633 | 328 | --- | 46-1 | | | SLAB - TOP - PIER 3 | LONGIT. |
| S634 | 246 | --- | 54-10 | | | SLAB - TOP - PIER 4 | LONGIT. |
| S635 | --- | 246 | 53-7 | | | SLAB - TOP - PIER 6 | LONGIT. |
| S636 | --- | 328 | 46-4 | | | SLAB - TOP - PIER 7 | LONGIT. |
| S637 | --- | 328 | 46-2 | | | SLAB - TOP - PIER 8 | LONGIT. |
| S638 | --- | 246 | 54-6 | | | SLAB - TOP - PIER 9 | LONGIT. |
| S539 | 3,257 | 3,290 | 4-5 | X | | PARAPET - EACH SIDE | VERT. |
| S540 | 1,646 | 1,669 | 6-8 | X | | PARAPET - 42SS - EACH SIDE | VERT. |
| S541 | 1,611 | 1,606 | 5-0 | X | | PARAPET - 32SS - EAST SIDE ONLY | VERT. |
| S542 | --- | 15 | 5-9 | X | ⚹ | PARAPET - TRANSITION AREA - EAST SIDE | VERT. |
| S543 | 240 | --- | 38-4 | | | PARAPET - 42SS - WEST SIDE | LONGIT. |
| S544 | 174 | --- | 34-6 | | | PARAPET - 32SS - EAST SIDE | LONGIT. |
| S545 | --- | 240 | 38-7 | | | PARAPET - 42SS - WEST SIDE | LONGIT. |
| S546 | --- | 168 | 39-11 | | | PARAPET - 32SS - EAST SIDE | LONGIT. |
| S547 | --- | 6 | 17-0 | | | PARAPET - TRANSITION AREA - EAST SIDE | LONGIT. |
| S548 | --- | 2 | 17-0 | X | | PARAPET - TRANSITION AREA - EAST SIDE | LONGIT. |
| S649 | 16 | 24 | 7-10 | X | | SLAB - AT DECK DRAINS | HORIZ. |

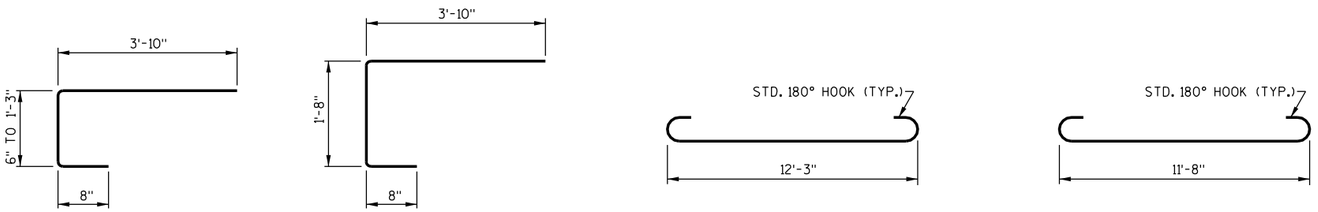
⚹ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATION. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

## BAR SERIES TABLE

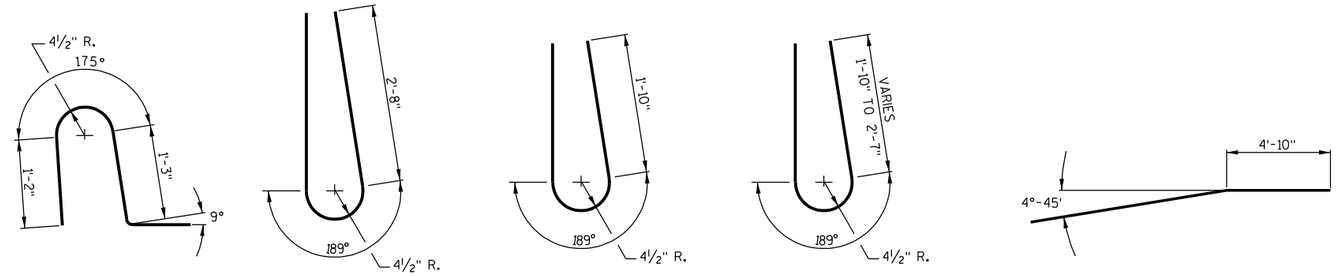
| MARK | NO. REQ'D. | LENGTH |
|---|---|---|
| S403 | 16 SERIES OF 3 | 1'-4" TO 2'-10" |
| S406 | 8 SERIES OF 3 | 3'-9" TO 4'-1" |
| S408 | 8 SERIES OF 3 | 4'-10" TO 5'-7" |
| S542 | 1 SERIES OF 15 | 5'-0" TO 6'-6" |



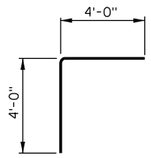

S401 S402 S403 S604 S405 S406




S408 S411 S612 S613




S539 S540 S541 S542 S548




S649

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

SUPERSTRUCTURE
BILL OF BARS

SHEET 52 OF 91
941

FILE NAME : P:\53 USH 41\1133-10-00 URGS\STRUCTURES\B-5-679+052_SUPER_BILL_BARS_V7_B-5-679.DGN

PLOT DATE : 4/23/2013

8

8

STATE PROJECT NUMBER

1133-11-74

## TOP OF DECK ELEVATIONS - UNIT 1

| | ℄ OF BRG. S. ABUT. | 1.1 PT. | 1.2 PT. | 1.3 PT. | 1.4 PT. | 1.5 PT. | 1.6 PT. | F.S. 1 | 1.7 PT. | 1.8 PT. | 1.9 PT. | ℄ OF PIER 1 | 2.1 PT. | 2.2 PT. | F.S. 2 | 2.3 PT. | 2.4 PT. | 2.5 PT. | 2.6 PT. | 2.7 PT. | F.S. 3 | 2.8 PT. | 2.9 PT. | ℄ OF PIER 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LEFT. EOD | 609.44 | 609.90 | 610.37 | 610.83 | 611.29 | 611.76 | 612.22 | 612.45 | 612.69 | 613.15 | 613.61 | 614.08 | 614.75 | 615.43 | 615.76 | 616.09 | 616.75 | 617.39 | 618.03 | 618.65 | 618.96 | 619.26 | 619.86 | 620.44 |
| LT. GIRDER/LT. WEB | 609.12 | 609.59 | 610.05 | 610.51 | 610.98 | 611.44 | 611.90 | 612.14 | 612.37 | 612.83 | 613.30 | 613.76 | 614.43 | 615.11 | 615.44 | 615.78 | 616.43 | 617.08 | 617.71 | 618.33 | 618.64 | 618.94 | 619.54 | 620.13 |
| LT. GIRDER/RT. WEB | 608.59 | 609.05 | 609.52 | 609.98 | 610.44 | 610.91 | 611.37 | 611.60 | 611.83 | 612.30 | 612.76 | 613.22 | 613.90 | 614.57 | 614.91 | 615.24 | 615.90 | 616.54 | 617.17 | 617.80 | 618.10 | 618.41 | 619.00 | 619.59 |
| RT. GIRDER/LT. WEB | 607.62 | 608.09 | 608.55 | 609.01 | 609.48 | 609.94 | 610.40 | 610.64 | 610.87 | 611.33 | 611.80 | 612.26 | 612.93 | 613.61 | 613.94 | 614.28 | 614.93 | 615.58 | 616.21 | 616.83 | 617.14 | 617.44 | 618.04 | 618.63 |
| RT. GIRDER/RT. WEB | 607.09 | 607.55 | 608.02 | 608.48 | 608.94 | 609.41 | 609.87 | 610.10 | 610.33 | 610.80 | 611.26 | 611.72 | 612.40 | 613.07 | 613.41 | 613.74 | 614.40 | 615.04 | 615.67 | 616.30 | 616.60 | 616.91 | 617.50 | 618.09 |
| RIGHT EOD | 606.77 | 607.23 | 607.70 | 608.16 | 608.62 | 609.09 | 609.55 | 609.78 | 610.02 | 610.48 | 610.94 | 611.41 | 612.08 | 612.76 | 613.09 | 613.42 | 614.08 | 614.72 | 615.36 | 615.98 | 616.29 | 616.59 | 617.19 | 617.77 |

| | 3.1 PT. | 3.2 PT. | F.S. 4 | 3.3 PT. | 3.4 PT. | 3.5 PT. | 3.6 PT. | 3.7 PT. | F.S. 5 | 3.8 PT. | 3.9 PT. | ℄ OF PIER 3 | 4.1 PT. | 4.2 PT. | F.S. 6 | 4.3 PT. | 4.4 PT. | 4.5 PT. | 4.6 PT. | 4.7 PT. | F.S. 7 | 4.8 PT. | 4.9 PT. | ℄ OF PIER 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LEFT. EOD | 614.75 | 615.43 | 615.76 | 616.09 | 616.75 | 617.39 | 618.03 | 618.65 | 618.96 | 619.26 | 619.86 | 625.68 | 626.13 | 626.58 | 626.80 | 627.02 | 627.44 | 627.86 | 628.26 | 628.65 | 628.84 | 629.03 | 629.39 | 629.75 |
| LT. GIRDER/LT. WEB | 614.43 | 615.11 | 615.44 | 615.78 | 616.43 | 617.08 | 617.71 | 618.33 | 618.64 | 618.94 | 619.54 | 625.36 | 625.82 | 626.26 | 626.48 | 626.70 | 627.13 | 627.54 | 627.94 | 628.33 | 628.52 | 628.71 | 629.08 | 629.43 |
| LT. GIRDER/RT. WEB | 613.90 | 614.57 | 614.91 | 615.24 | 615.90 | 616.54 | 617.17 | 617.80 | 618.10 | 618.41 | 619.00 | 624.82 | 625.28 | 625.73 | 625.95 | 626.17 | 626.59 | 627.00 | 627.41 | 627.80 | 627.99 | 628.17 | 628.54 | 628.90 |
| RT. GIRDER/LT. WEB | 612.93 | 613.61 | 613.94 | 614.28 | 614.93 | 615.58 | 616.21 | 616.83 | 617.14 | 617.44 | 618.04 | 623.86 | 624.32 | 624.76 | 624.98 | 625.20 | 625.63 | 626.04 | 626.44 | 626.83 | 627.02 | 627.21 | 627.58 | 627.93 |
| RT. GIRDER/RT. WEB | 612.40 | 613.07 | 613.41 | 613.74 | 614.40 | 615.04 | 615.67 | 616.30 | 616.60 | 616.91 | 617.50 | 623.32 | 623.78 | 624.23 | 624.45 | 624.67 | 625.09 | 625.50 | 625.91 | 626.30 | 626.49 | 626.67 | 627.04 | 627.40 |
| RIGHT EOD | 612.08 | 612.76 | 613.09 | 613.42 | 614.08 | 614.72 | 615.36 | 615.98 | 616.29 | 616.59 | 617.19 | 623.01 | 623.46 | 623.91 | 624.13 | 624.35 | 624.77 | 625.19 | 625.59 | 625.98 | 626.17 | 626.36 | 626.72 | 627.08 |

| | 5.1 PT. | 5.2 PT. | 5.3 PT. | F.S. 8 | 5.4 PT. | 5.5 PT. | 5.6 PT. | 5.7 PT. | 5.8 PT. | 5.9 PT. | ℄ BRG. PIER 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| LEFT. EOD | 629.99 | 630.22 | 630.44 | 630.55 | 630.66 | 630.88 | 631.09 | 631.29 | 631.49 | 631.68 | 631.87 |
| LT. GIRDER/LT. WEB | 629.67 | 629.90 | 630.13 | 630.24 | 630.35 | 630.56 | 630.77 | 630.98 | 631.17 | 631.37 | 631.56 |
| LT. GIRDER/RT. WEB | 629.13 | 629.36 | 629.59 | 629.70 | 629.81 | 630.03 | 630.24 | 630.44 | 630.64 | 630.83 | 631.02 |
| RT. GIRDER/LT. WEB | 628.17 | 628.40 | 628.63 | 628.74 | 628.85 | 629.06 | 629.27 | 629.48 | 629.67 | 629.87 | 630.06 |
| RT. GIRDER/RT. WEB | 627.63 | 627.86 | 628.09 | 628.20 | 628.31 | 628.53 | 628.74 | 628.94 | 629.14 | 629.33 | 629.52 |
| RIGHT EOD | 627.32 | 627.55 | 627.77 | 627.88 | 627.99 | 628.21 | 628.42 | 628.62 | 628.82 | 629.01 | 629.20 |

8

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

TOP OF DECK ELEVATIONS

SHEET 53 OF 91
942

8

FILE NAME : P:\153 USH 41 1133-10-00 LRPS\Structures\B-5-679\053_deck_elev_v8_b-5-679.dgn

PLOT DATE : 4/23/2013

STATE PROJECT NUMBER

1133-11-74

## TOP OF DECK ELEVATIONS - UNIT 2

| | ℄ OF BRG. PIER 5 | 6.1 PT. | 6.2 PT. | 6.3 PT. | 6.4 PT. | 6.5 PT. | 6.6 PT. | F.S. 9 | 6.7 PT. | 6.8 PT. | 6.9 PT. | ℄ OF PIER 6 | 7.1 PT. | 7.2 PT. | F.S. 10 | 7.3 PT. | 7.4 PT. | 7.5 PT. | 7.6 PT. | 7.7 PT. | F.S. 11 | 7.8 PT. | 7.9 PT. | ℄ OF PIER 7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LEFT. EOD | 631.91 | 632.09 | 632.27 | 632.44 | 632.60 | 632.76 | 632.92 | 632.99 | 633.07 | 633.21 | 633.35 | 633.48 | 633.66 | 633.83 | 633.92 | 633.99 | 634.14 | 634.28 | 634.40 | 634.52 | 634.57 | 634.62 | 634.71 | 634.79 |
| LT. GIRDER/LT. WEB | 631.59 | 631.78 | 631.95 | 632.12 | 632.29 | 632.45 | 632.60 | 632.68 | 632.75 | 632.89 | 633.03 | 633.16 | 633.35 | 633.52 | 633.60 | 633.68 | 633.82 | 633.96 | 634.09 | 634.20 | 634.25 | 634.30 | 634.39 | 634.47 |
| LT. GIRDER/RT. WEB | 631.06 | 631.24 | 631.42 | 631.59 | 631.75 | 631.91 | 632.07 | 632.14 | 632.21 | 632.36 | 632.50 | 632.63 | 632.81 | 632.98 | 633.06 | 633.14 | 633.29 | 633.43 | 633.55 | 633.66 | 633.72 | 633.77 | 633.86 | 633.94 |
| RT. GIRDER/LT. WEB | 630.09 | 630.28 | 630.45 | 630.62 | 630.79 | 630.95 | 631.10 | 631.18 | 631.25 | 631.39 | 631.53 | 631.66 | 631.85 | 632.02 | 632.10 | 632.18 | 632.32 | 632.46 | 632.59 | 632.70 | 632.75 | 632.80 | 632.89 | 632.97 |
| RT. GIRDER/RT. WEB | 629.56 | 629.74 | 629.92 | 630.09 | 630.25 | 630.41 | 630.57 | 630.64 | 630.71 | 630.86 | 631.00 | 631.13 | 631.31 | 631.48 | 631.56 | 631.64 | 631.79 | 631.93 | 632.05 | 632.16 | 632.22 | 632.27 | 632.36 | 632.44 |
| RIGHT EOD | 629.24 | 629.42 | 629.60 | 629.77 | 629.93 | 630.09 | 630.25 | 630.32 | 630.40 | 630.54 | 630.68 | 630.81 | 630.99 | 631.16 | 631.25 | 631.32 | 631.47 | 631.61 | 631.73 | 631.85 | 631.90 | 631.95 | 632.04 | 632.12 |

| | 8.1 PT. | 8.2 PT. | F.S. 12 | 8.3 PT. | 8.4 PT. | 8.5 PT. | 8.6 PT. | 8.7 PT. | F.S. 13 | 8.8 PT. | 8.9 PT. | ℄ OF PIER 8 | 9.1 PT. | 9.2 PT. | F.S. 14 | 9.3 PT. | 9.4 PT. | 9.5 PT. | 9.6 PT. | 9.7 PT. | F.S. 15 | 9.8 PT. | 9.9 PT. | ℄ OF PIER 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LEFT. EOD | 633.66 | 633.83 | 633.92 | 633.99 | 634.14 | 634.28 | 634.40 | 634.52 | 634.57 | 634.62 | 634.71 | 634.94 | 634.89 | 634.83 | 634.79 | 634.76 | 634.67 | 634.58 | 634.47 | 634.35 | 634.29 | 634.22 | 634.08 | 633.93 |
| LT. GIRDER/LT. WEB | 633.35 | 633.52 | 633.60 | 633.68 | 633.82 | 633.96 | 634.09 | 634.20 | 634.25 | 634.30 | 634.39 | 634.62 | 634.57 | 634.51 | 634.48 | 634.44 | 634.36 | 634.26 | 634.15 | 634.03 | 633.97 | 633.91 | 633.76 | 633.61 |
| LT. GIRDER/RT. WEB | 632.81 | 632.98 | 633.06 | 633.14 | 633.29 | 633.43 | 633.55 | 633.66 | 633.72 | 633.77 | 633.86 | 634.08 | 634.04 | 633.98 | 633.94 | 633.90 | 633.82 | 633.72 | 633.62 | 633.50 | 633.44 | 633.37 | 633.23 | 633.08 |
| RT. GIRDER/LT. WEB | 631.85 | 632.02 | 632.10 | 632.18 | 632.32 | 632.46 | 632.59 | 632.70 | 632.75 | 632.80 | 632.89 | 633.12 | 633.07 | 633.01 | 632.98 | 632.94 | 632.86 | 632.76 | 632.65 | 632.53 | 632.47 | 632.41 | 632.26 | 632.11 |
| RT. GIRDER/RT. WEB | 631.31 | 631.48 | 631.56 | 631.64 | 631.79 | 631.93 | 632.05 | 632.16 | 632.22 | 632.27 | 632.36 | 632.58 | 632.54 | 632.48 | 632.44 | 632.40 | 632.32 | 632.22 | 632.12 | 632.00 | 631.94 | 631.87 | 631.73 | 631.58 |
| RIGHT EOD | 630.99 | 631.16 | 631.25 | 631.32 | 631.47 | 631.61 | 631.73 | 631.85 | 631.90 | 631.95 | 632.04 | 632.27 | 632.22 | 632.16 | 632.12 | 632.09 | 632.00 | 631.91 | 631.80 | 631.68 | 631.62 | 631.55 | 631.41 | 631.26 |

| | 10.1 PT. | 10.2 PT. | 10.3 PT. | F.S. 16 | 10.4 PT. | 10.5 PT. | 10.6 PT. | 10.7 PT. | 10.8 PT. | 10.9 PT. | ℄ BRG. PIER C1 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| LEFT. EOD | 633.81 | 633.66 | 633.46 | 633.36 | 633.26 | 633.06 | 632.86 | 632.66 | 632.47 | 632.27 | 632.07 |
| LT. GIRDER/LT. WEB | 633.49 | 633.35 | 633.17 | 633.08 | 632.99 | 632.82 | 632.64 | 632.46 | 632.28 | 632.11 | 631.93 |
| LT. GIRDER/RT. WEB | 632.96 | 632.83 | 632.69 | 632.62 | 632.54 | 632.40 | 632.26 | 632.12 | 631.98 | 631.84 | 631.70 |
| RT. GIRDER/LT. WEB | 631.99 | 631.89 | 631.81 | 631.77 | 631.74 | 631.66 | 631.58 | 631.51 | 631.43 | 631.35 | 631.27 |
| RT. GIRDER/RT. WEB | 631.46 | 631.37 | 631.33 | 631.31 | 631.29 | 631.25 | 631.20 | 631.16 | 631.12 | 631.08 | 631.04 |
| RIGHT EOD | 631.14 | 631.06 | 631.04 | 631.03 | 631.02 | 631.00 | 630.98 | 630.96 | 630.94 | 630.92 | 630.90 |

8

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

TOP OF DECK ELEVATIONS

SHEET 54 OF 91
943

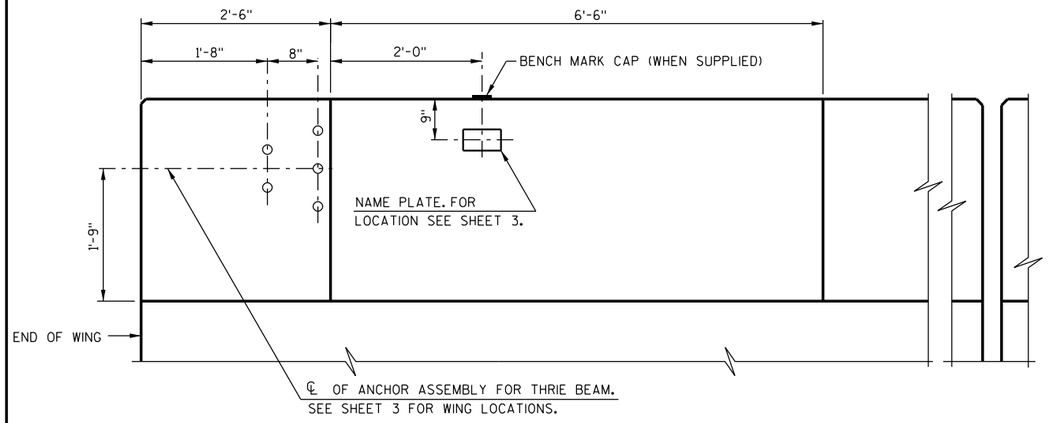
FILE NAME : P:\153 USH 41 1133-10-00 LRPS\Structures\B-5-679\054_deck_elev_v8_b-5-679.dgn

PLOT DATE : 4/23/2013

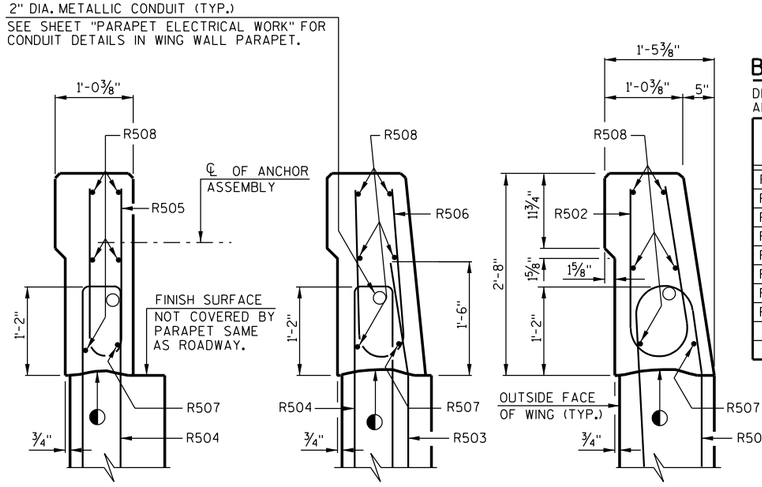
8

STATE PROJECT NUMBER

1133-11-74




## INSIDE ELEVATION - WING 1




SECTION A-A

SECTION B-B

SECTION C-C

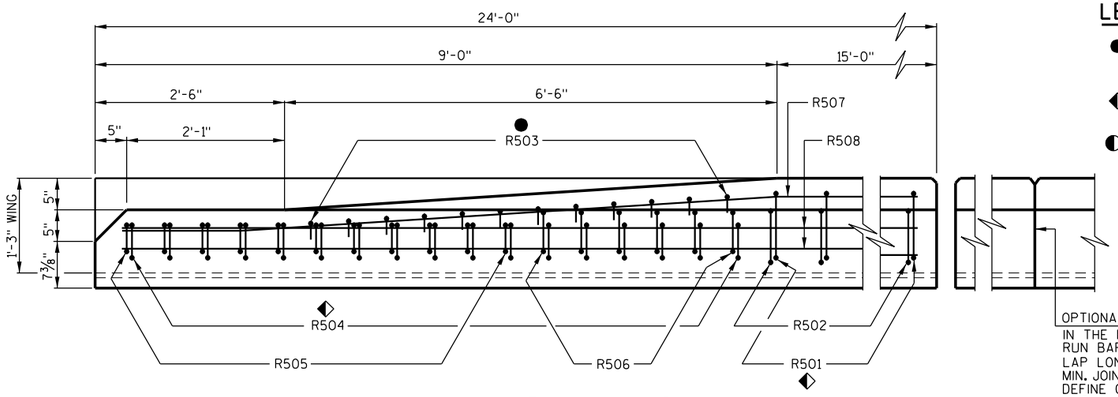
## BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL REINFORCEMENT BARS IN THIS BILL SHALL BE EPOXY COATED.

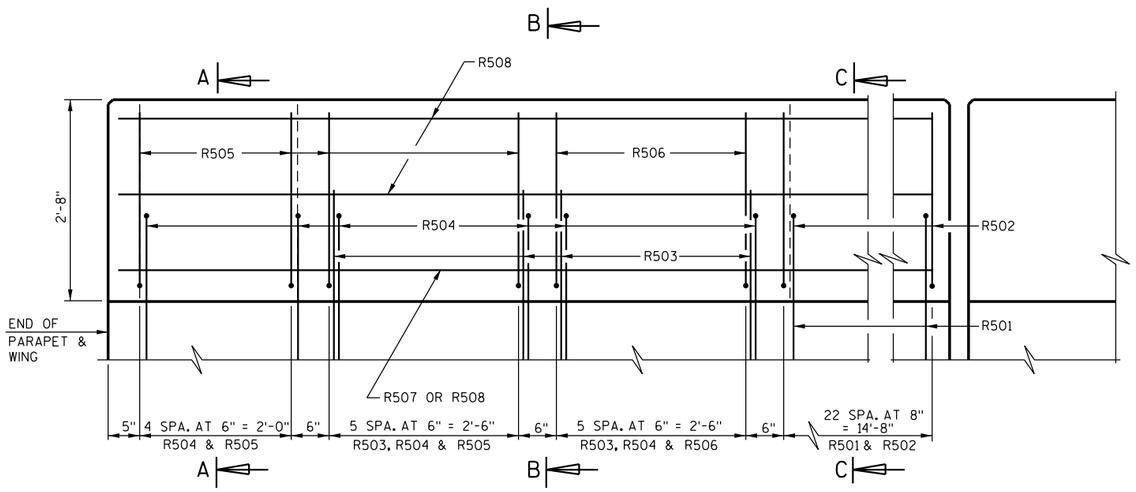
| MARK | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION | TOTAL WEIGHT = 630 LBS. |
|---|---|---|---|---|---|---|
| R501 | 23 | 5-10 | X | | PARAPET - WING 1 | VERT. |
| R502 | 23 | 5-0 | X | | PARAPET - WING 1 | VERT. |
| R503 | 12 | 3-0 | X | | PARAPET - WING 1 | VERT. |
| R504 | 17 | 5-7 | X | | PARAPET - WING 1 | VERT. |
| R505 | 11 | 4-9 | X | | PARAPET - WING 1 | VERT. |
| R506 | 6 | 4-10 | X | | PARAPET - WING 1 | VERT. |
| R507 | 1 | 23-6 | X | | PARAPET - WING 1 | HORIZ. |
| R508 | 5 | 23-6 | | | PARAPET - WING 1 | HORIZ. |

## LEGEND

- ● R503 BARS MAY BE PLACED AFTER CONCRETE IS POURED, BUT BEFORE INTIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 BARS CORRECTLY ALONG TANSITION OF PARAPET.
- ◆ R501 AND R504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.
- ◐ CONST. JT. - STRIKE OFF AS SHOWN.

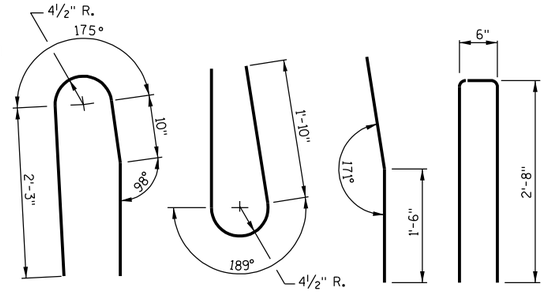



## PLAN - WING 1

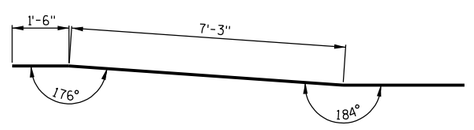



## OUTSIDE ELEVATION - WING 1

NOTE: QUANTITIES OF CONCRETE MASONRY AND BAR STEEL REINFORCEMENT ARE INCLUDED IN THE ABUTMENT QUANTITIES ON SHEET 8.



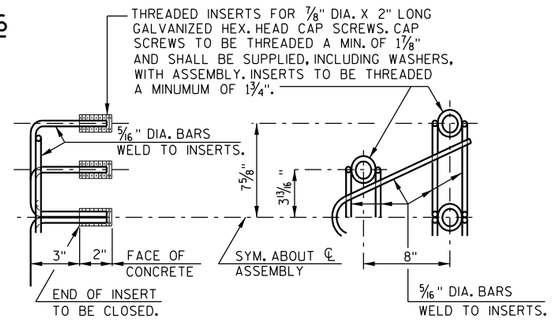

R501 R502 R503 R504




R507




R505 R506




## DETAIL OF ANCHOR ASSEMBLY

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

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

SINGLE SLOPE PARAPET 32SS

SHEET 55 OF 91
944

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

8

8

FILE NAME : P:\153 USH 41\1133-10-00 URGs\STRUCTURES\B-5-679\055_PARAPET_32SS_V7_B-5-679.DGN

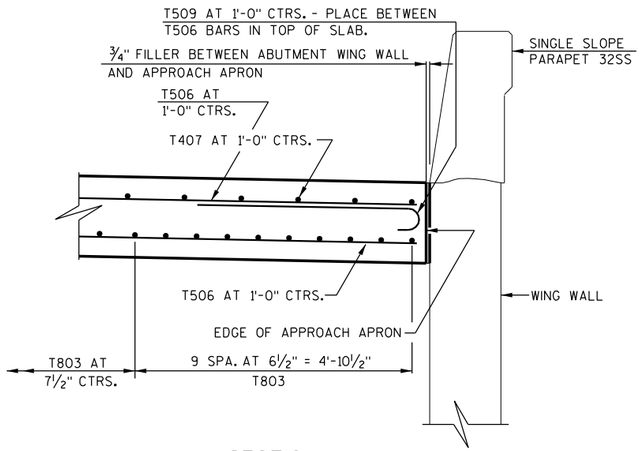
PLOT DATE : 4/23/2013

STATE PROJECT NUMBER

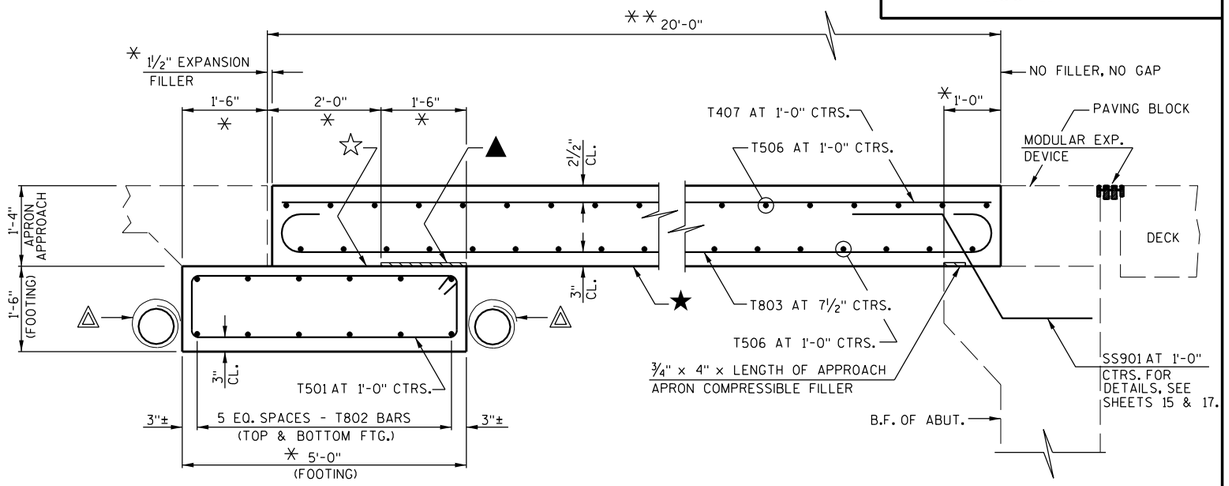
1133-11-74

## LEGEND

- ✳ DIMENSIONS ARE GIVEN NORMAL ℄ SUBSTRUCTURE.
- ✳✳ DIMENSIONS ARE MEASURED ALONG ℞ RAMP 'NIH'.
- ☆ STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE LENGTH OF FOOTING. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ★ PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETS OVER ENTIRE LENGTH OF SUBGRADE. TOTAL THICKNESS OF SHEETS SHALL BE AT LEAST 0.03".
- ▲ ¾" × 1'-6" × LENGTH OF FOOTING COMPRESSIBLE FILLER.
- △ PIPE UNDERDRAIN WRAPPED 6-INCH. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD TO END OF PIPE. SEE "RODENT SHIELD" DETAIL ON THIS SHEET.
- ● CONST. JT. - STRIKE OFF AS SHOWN.




## SECTION A-A

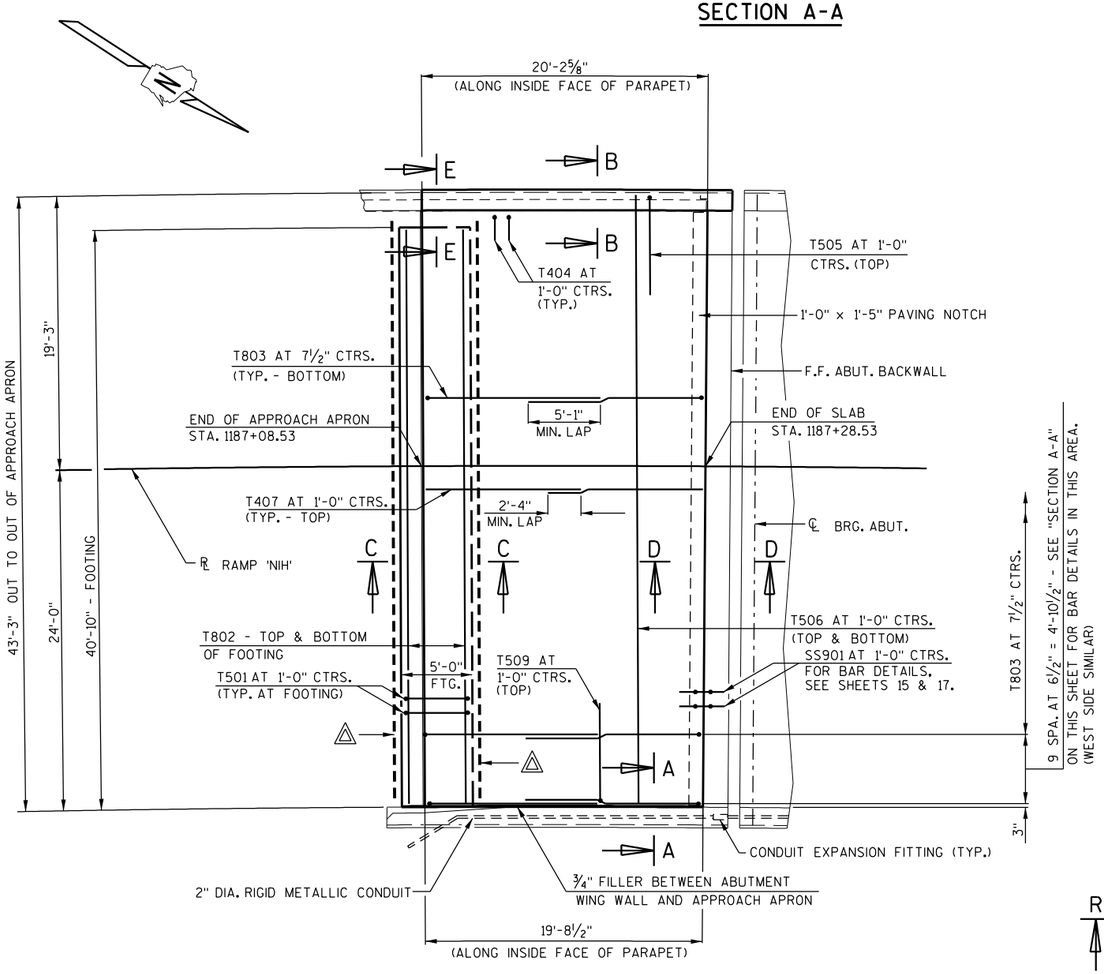



## SECTION C-C

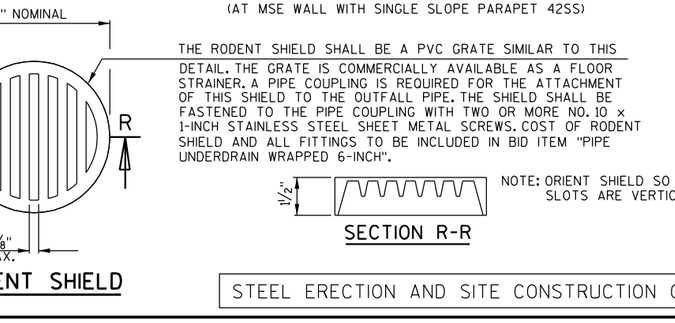
## SECTION D-D

## LONGITUDINAL SECTION AT S. APPROACH APRON

NOTE: BAR STEEL REINFORCEMENT FOR THE SOUTH APPROACH APRON AND THE PARAPETS LOCATED ON EACH SIDE OF THE SOUTH APPROACH APRON IS INCLUDED IN THE BILL OF BARS ON SHEET 57.

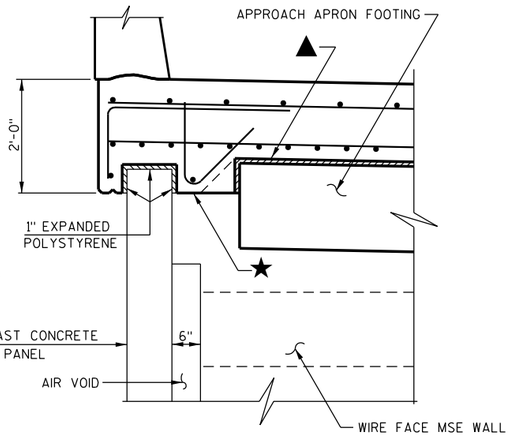



## SOUTH APPROACH APRON - PART PLAN



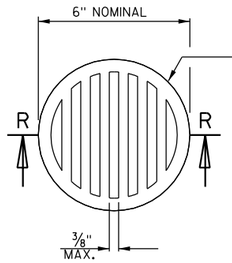

## SECTION B-B

(AT MSE WALL WITH SINGLE SLOPE PARAPET 42SS)




## SECTION E-E

(AT MSE WALL)




## RODENT SHIELD

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 × 1-INCH STAINLESS STEEL SHEET METAL SCREWS. COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".




NOTE: ORIENT SHIELD SO SLOTS ARE VERTICAL.

## SECTION R-R

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

SOUTH APPROACH APRON DETAILS

SHEET 56 OF 91
945

FILE NAME : P:\153 USH 41\1133-10-00 URGS\STRUCTURES\B-5-679\056_APPR_APRON_B-5-679.DGN

PLOT DATE : 4/23/2013

8

8

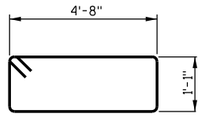
STATE PROJECT NUMBER

1133-11-74

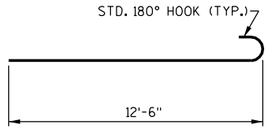
## BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL BAR STEEL REINFORCEMENT IN THIS BILL SHALL BE EPOXY COATED.

| MARK | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION | TOTAL WEIGHT = 10,130 LBS. |
|---|---|---|---|---|---|---|
| T501 | 41 | 12-1 | X | | S. APPROACH APRON - FOOTING | VERT. |
| T802 | 12 | 40-5 | | | S. APPROACH APRON - FOOTING | TRANS. |
| T803 | 144 | 13-2 | X | | S. APPROACH APRON - SLAB - BOTTOM | LONGIT. |
| T404 | 20 | 2-11 | X | | S. APPROACH APRON - SLAB - BOTTOM | TRANS. |
| T505 | 19 | 5-0 | X | | S. APPROACH APRON - SLAB - TOP - WEST SIDE | TRANS. |
| T506 | 40 | 42-11 | | | S. APPROACH APRON - SLAB - TOP & BOTTOM | TRANS. |
| T407 | 92 | 11-1 | | | S. APPROACH APRON - SLAB - TOP | LONGIT. |
| T508 | 33 | 4-5 | X | | S. APPROACH APRON - PARAPET - WEST SIDE | VERT. |
| T509 | 19 | 4-1 | X | | S. APPROACH APRON - SLAB - TOP - EAST SIDE | TRANS. |
| T510 | 33 | 6-8 | X | | S. APPROACH APRON - PARAPET - WEST SIDE | VERT. |
| T511 | 8 | 21-6 | | | S. APPROACH APRON - PARAPET - WEST SIDE | LONGIT. |




T501

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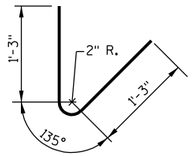


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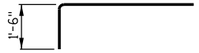


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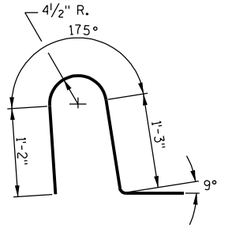


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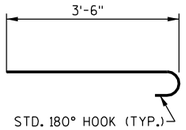


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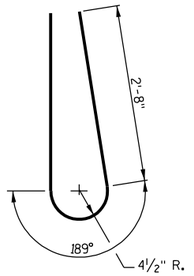


T510

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

SOUTH APPROACH APRON DETAILS

SHEET 57 OF 91
946

FILE NAME : P:\153 USH 41\1133-10-00 JPG\STRUCTURES\B-5-679\D57_APPR_APRON_BARS_B-5-679.DGN

PLOT DATE : 4/23/2013

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STATE PROJECT NUMBER

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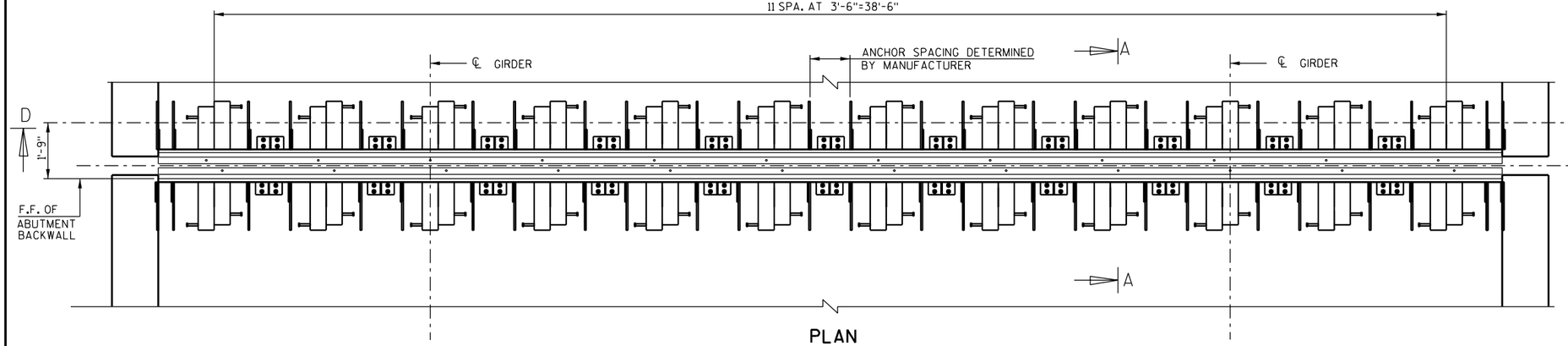
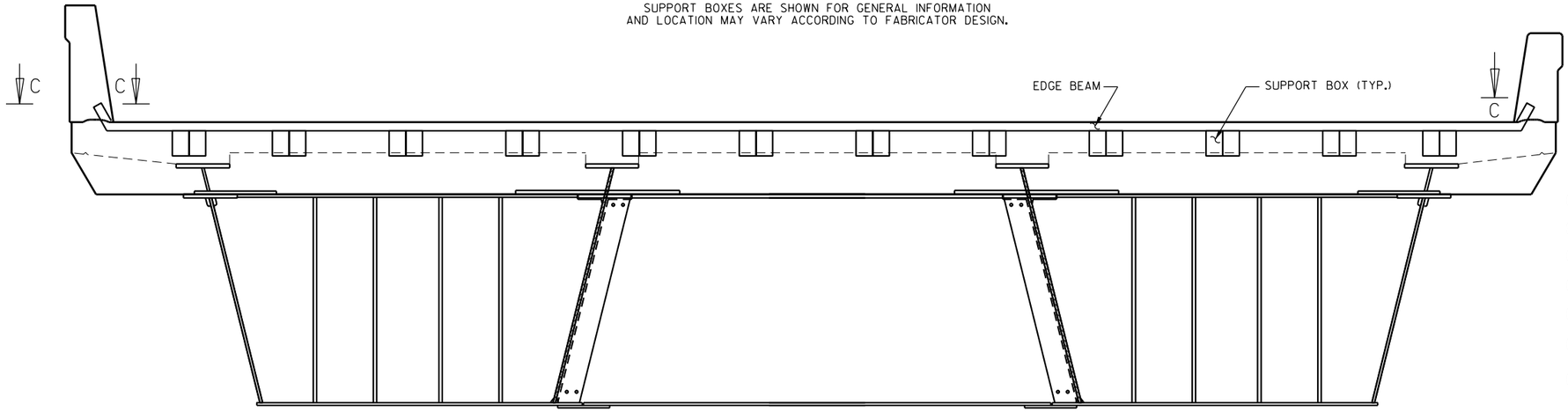


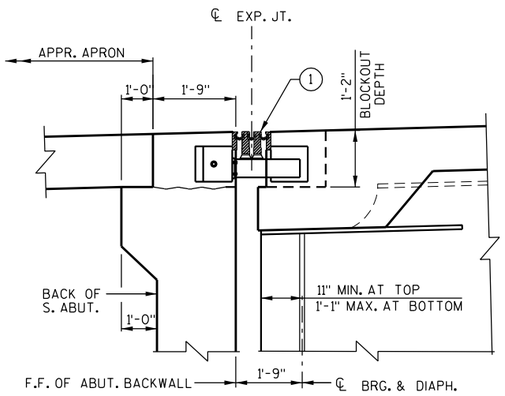

## PLAN

SUPPORT BOXES ARE SHOWN FOR GENERAL INFORMATION AND LOCATION MAY VARY ACCORDING TO FABRICATOR DESIGN.




## VIEW D-D

(LOOKING UPSTATION - NOT TO SCALE)




## SECTION A-A

(FOR FURTHER DETAIL, SEE SHEET 61.)

## NOTES

ALL DIMENSIONS SHOWN ARE AT MEDIAN TEMP OF 45° F.

FABRICATOR WILL DESIGN EACH JOINT DEPENDING ON THE CONDITIONS AND THE DESIGN CRITERIA USED BY THE SUPPLIER. FABRICATION DRAWINGS ARE SUBJECT TO THE APPROVAL OF THE BUREAU OF STRUCTURES.

ONE FIELD SPLICE PERMITTED IN STEEL EXTRUSIONS. DETAILS SHALL BE SUBMITTED FOR APPROVAL. NO SPLICING PERMITTED IN NEOPRENE GLAND.

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

NO EXPANSION JOINT PROTRUSIONS PERMITTED ABOVE ROADWAY SURFACE OR ON PARAPET ROADWAY FACE.

THE EXPANSION JOINT SEALS SHALL BE PLACED, BONDED, & SEALED AS RECOMMENDED BY THE MANUFACTURER. FORM WORK SHALL BE PLACED BETWEEN THE SUPPORT BOXES TO PREVENT CONCRETE INTRUSION INTO THE SUPPORT BOX. A TECHNICAL REPRESENTATIVE OF THE MANUFACTURER SHALL BE PRESENT DURING INSTALLATION. PRIOR TO SETTING THE JOINT ASSEMBLY INTO POSITION, THE PROJECT ENGINEER SHALL DETERMINE THE PROPER JOINT OPENING.

EXPANSION JOINT EXTRUSIONS SHALL BE FABRICATED TO CONFORM TO ROADWAY CROWN & GRADE. FABRICATOR SHALL PROVIDE MEANS OF KEEPING GALVANIZED EXTRUSIONS CLEAN & SMOOTH DURING SHIPMENT AND PRIOR TO APPLYING LUBRICANT ADHESIVE FOR NEOPRENE GLAND INSTALLATION.

SANDBLAST BARS, PLATES, WT-SECTION, ANCHORAGE LOOP, & EXTRUSIONS AFTER FABRICATION IN ACCORDANCE WITH SSPC SP. #6 "COMMERCIAL BLAST CLEANING". AFTER BLAST CLEANING, THIS ASSEMBLY SHALL BE HOT DIPPED GALVANIZED.

COST OF FURNISHING & PLACING OF THE EXPANSION JOINTS COMPLETE WITH PARAPET PLATES SHALL BE PAID FOR UNDER THE PRICE BID FOR "MODULAR EXPANSION DEVICE STRUCUTURE B-5-679".

BAR STEEL REINF. IN DECK AND CONC. DIAPHRAGM SHALL BE RESPACED AS NECESSARY TO ALLOW PLACEMENT OF JOINT ASSEMBLY.

## TEMP. TABLE

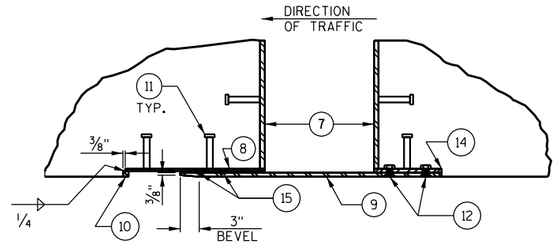
TEMPERATURE TABLE FOR SETTING JOINT OPENINGS TO BE DETERMINED BY JOINT MANUFACTURER WITH THE FOLLOWING DESIGN DATA:

1. 5/16" OF MOVEMENT PER 10° F
2. MEDIAN TEMPERATURE OF 45° F
3. TEMP. RANGE IN TABLE FROM (-30° F TO +120° F)

A TABLE OF JOINT OPENINGS BASED ON ABOVE DATA SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

## LEGEND

(1) MODULAR EXPANSION DEVICE.
(7) 3/4" BULKHEAD PLATE. WELD TO NO. 1, NO. 8, AND NO. 14.
(8) INSIDE PLATE. FABRICATE FROM 3/8" PLATE.
(9) OUTSIDE PLATE. FABRICATE FROM 5/8" PLATE.
(10) 7/8" SQUARE BAR. WELD TO NO. 8 AS SHOWN.
(11) 3/4" DIA. X 4" LONG STUDS. WELD TO NO. 8, NO. 7, AND NO. 14.
(12) 3/4" DIA. X 2" STAINLESS STEEL FLAT CTSK. SLOTTED HEAD CAP SCREWS W/ ANTI-SEIZE LUBRICANT. RECESS 1/16" BELOW PLATE SURFACE.
(14) INSIDE PLATE. FABRICATE FROM 5/8" PLATE.
(15) ADIPRENE BUTTON. SEE DETAIL ON SHEET 63. SET IN OUTSIDE PLATE.




## SECTION C-C

(NOT TO SCALE)

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

MODULAR EXPANSION JOINT SOUTH ABUTMENT

SHEET 58 OF 91
947

FILE NAME : P:\153 USH 41\1133-10-00 LRS\STRUCTURES\B-5-679\058_SOUTH_ABUT_EXP_JT_V7.0-5-679.DGN

PLOT DATE : 4/26/2013

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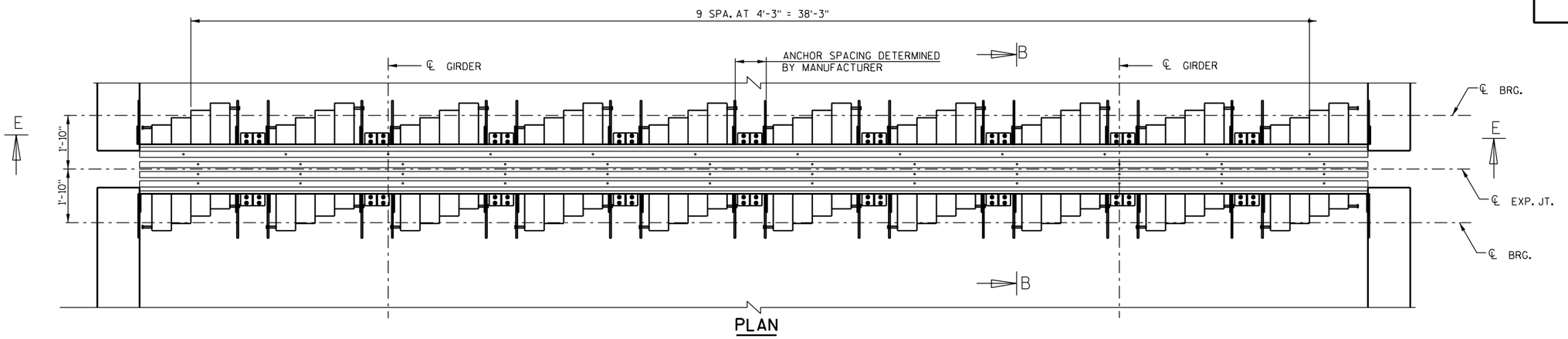
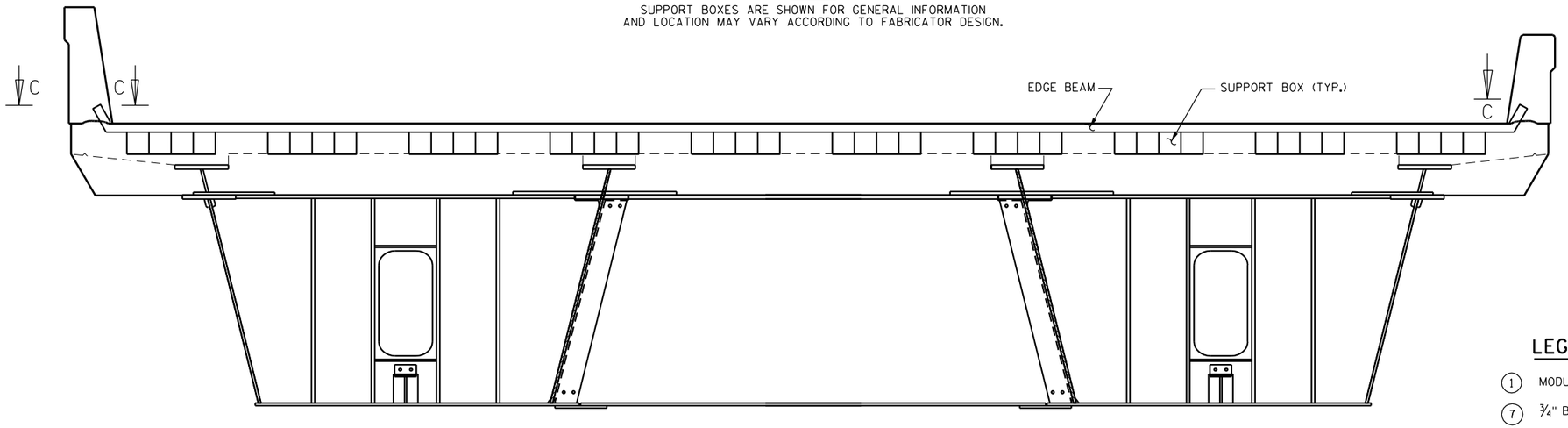
STATE PROJECT NUMBER

1133-11-74



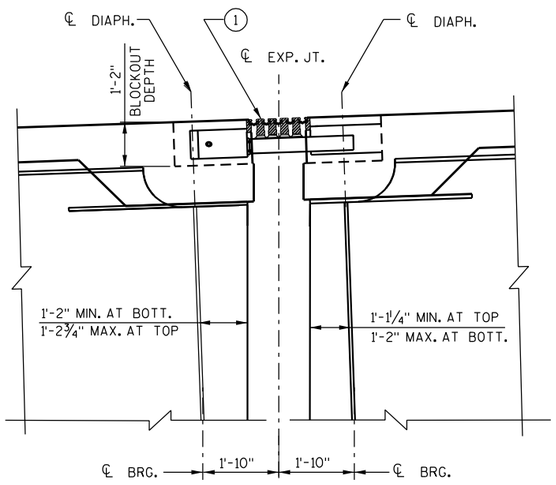

## PLAN

SUPPORT BOXES ARE SHOWN FOR GENERAL INFORMATION AND LOCATION MAY VARY ACCORDING TO FABRICATOR DESIGN.




## VIEW E-E

(LOOKING UPSTATION - NOT TO SCALE)

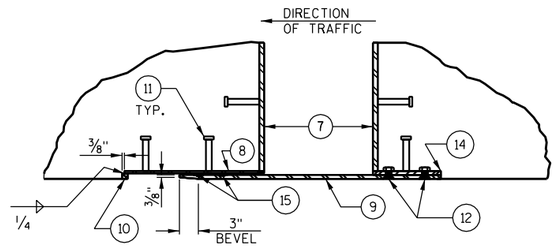



## SECTION B-B

(FOR FURTHER DETAIL, SEE SHEET 61.)

## NOTES

FOR NOTES, SEE SHEET "MODULAR EXPANSION JOINT SOUTH ABUTMENT".




## SECTION C-C

(NOT TO SCALE)

## TEMP. TABLE

TEMPERATURE TABLE FOR SETTING JOINT OPENINGS TO BE DETERMINED BY JOINT MANUFACTURER WITH THE FOLLOWING DESIGN DATA:

1. 15/16 " OF MOVEMENT PER 10° F
2. MEDIAN TEMPERATURE OF 45° F
3. TEMP. RANGE IN TABLE FROM (-30° F TO +120° F)

A TABLE OF JOINT OPENINGS BASED ON ABOVE DATA SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

## LEGEND

(1) MODULAR EXPANSION DEVICE.

(7) ¾" BULKHEAD PLATE. WELD TO NO. 1, NO. 8, AND NO. 14.

(8) INSIDE PLATE. FABRICATE FROM ⅜" PLATE.

(9) OUTSIDE PLATE. FABRICATE FROM ⅝" PLATE.

(10) ⅞" SQUARE BAR. WELD TO NO. 8 AS SHOWN.

(11) ¾" DIA. X 4" LONG STUDS. WELD TO NO. 8, NO. 7, AND NO. 14.

(12) ¾" DIA. X 2" STAINLESS STEEL FLAT CTSK. SLOTTED HEAD CAP SCREWS W/ ANTI-SEIZE LUBRICANT. RECESS 1/16" BELOW PLATE SURFACE.

(14) INSIDE PLATE. FABRICATE FROM ⅝" PLATE.

(15) ADIPRENE BUTTON. SEE DETAIL ON SHEET 63. SET IN OUTSIDE PLATE.

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

MODULAR EXPANSION JOINT AT PIER 5

SHEET 59 OF 91
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STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

FILE NAME : P:\153 USH 41\1133-10-00 URGS\STRUCTURES\B-5-679\059_PIERS_EXP_JT_V7_B-5-679.DGN

PLOT DATE : 4/23/2013

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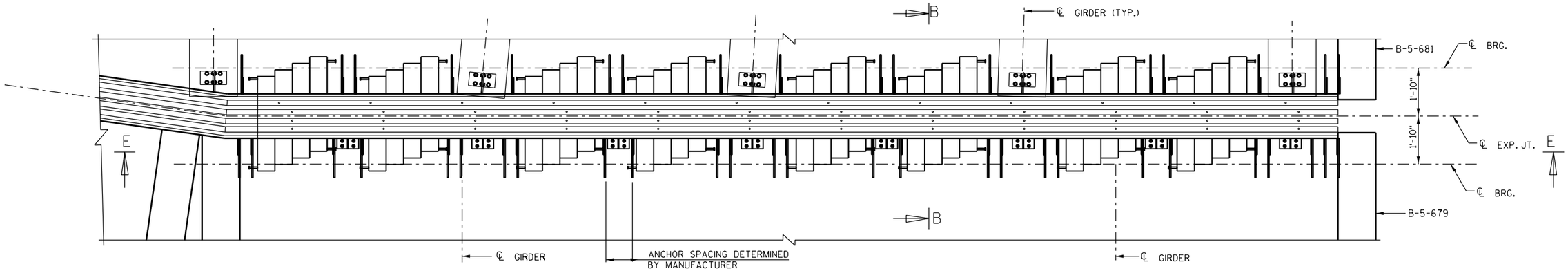
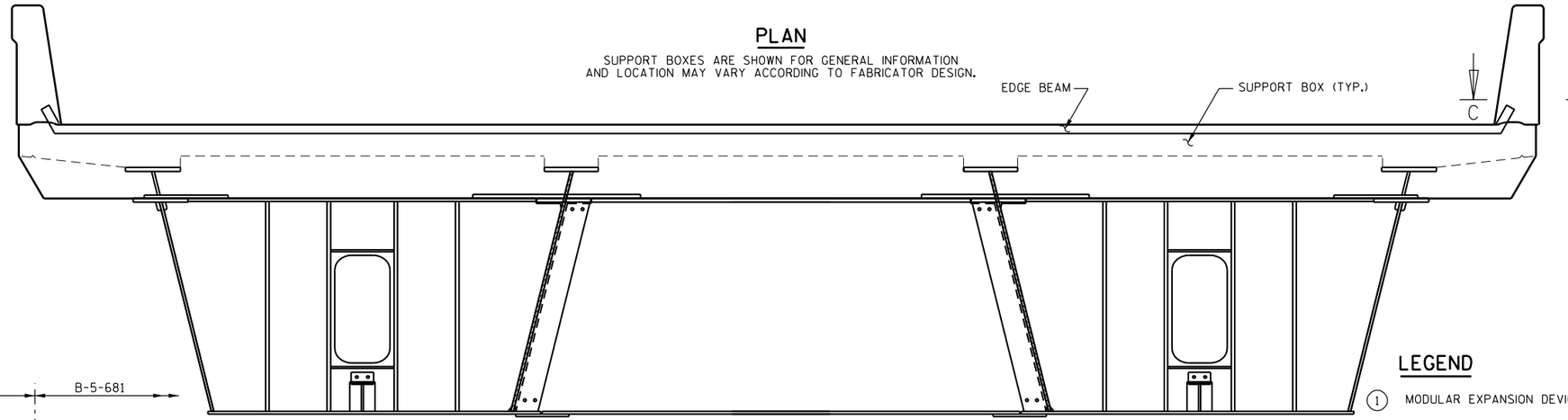
STATE PROJECT NUMBER

1133-11-74



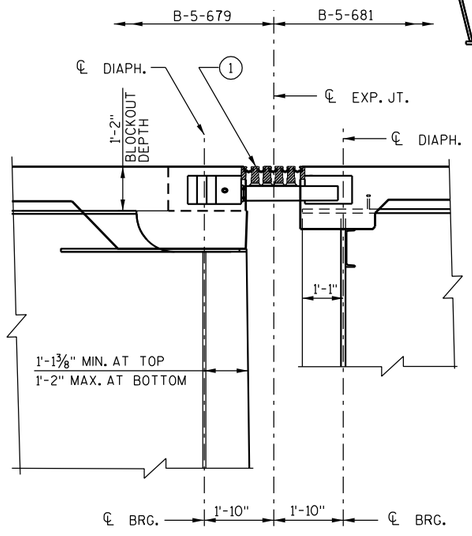

## PLAN

SUPPORT BOXES ARE SHOWN FOR GENERAL INFORMATION AND LOCATION MAY VARY ACCORDING TO FABRICATOR DESIGN.




## VIEW E-E

(LOOKING UPSTATION - NOT TO SCALE)




## SECTION B-B

(FOR FURTHER DETAIL, SEE SHEET 62.)

## NOTES

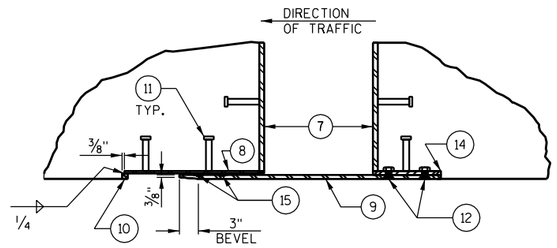
FOR NOTES, SEE SHEET "MODULAR EXPANSION JOINT SOUTH ABUTMENT".

## TEMP. TABLE

TEMPERATURE TABLE FOR SETTING JOINT OPENINGS TO BE DETERMINED BY JOINT MANUFACTURER WITH THE FOLLOWING DESIGN DATA:

1. 7/8" OF MOVEMENT PER 10° F
2. MEDIAN TEMPERATURE OF 45° F
3. TEMP. RANGE IN TABLE FROM (-30° F TO +120° F)

A TABLE OF JOINT OPENINGS BASED ON ABOVE DATA SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.




## SECTION C-C

(NOT TO SCALE)

## LEGEND

1. MODULAR EXPANSION DEVICE.
7. 3/4" BULKHEAD PLATE. WELD TO NO. 1, NO. 8, AND NO. 14.
8. INSIDE PLATE. FABRICATE FROM 3/8" PLATE.
9. OUTSIDE PLATE. FABRICATE FROM 5/8" PLATE.
10. 7/8" SQUARE BAR. WELD TO NO. 8 AS SHOWN.
11. 3/4" DIA. X 4" LONG STUDS. WELD TO NO. 8, NO. 7, AND NO. 14.
12. 3/4" DIA. X 2" STAINLESS STEEL FLAT CTSK. SLOTTED HEAD CAP SCREWS W/ ANTI-SEIZE LUBRICANT. RECESS 1/16" BELOW PLATE SURFACE.
14. INSIDE PLATE. FABRICATE FROM 5/8" PLATE.
15. ADIPRENE BUTTON. SEE DETAIL ON SHEET 63. SET IN OUTSIDE PLATE.

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

MODULAR EXPANSION JOINT AT PIER C1

SHEET 60 OF 91
949

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

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FILE NAME : P:\153 USH 41\1133-10-00 URS\STRUCTURES\SB-5-679\060_PIERC1_EXP_JT_V7_B-5-679.DGN

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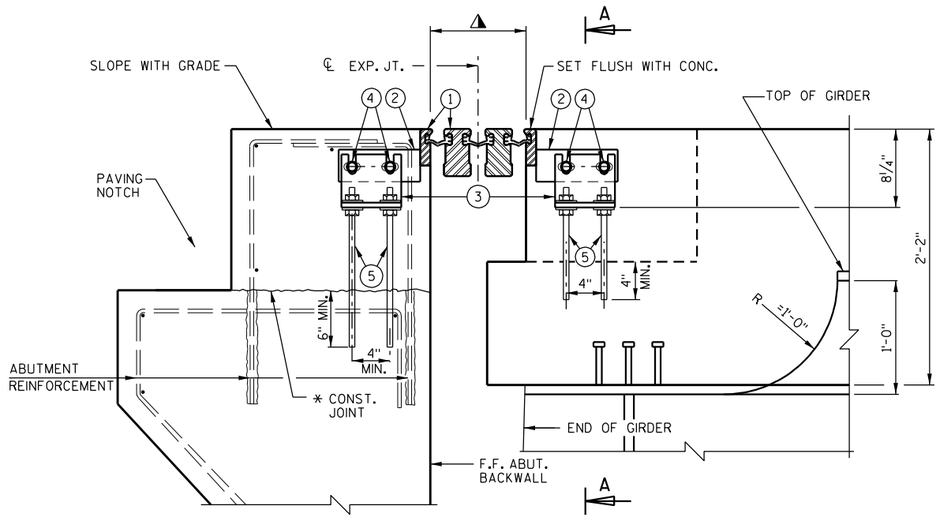
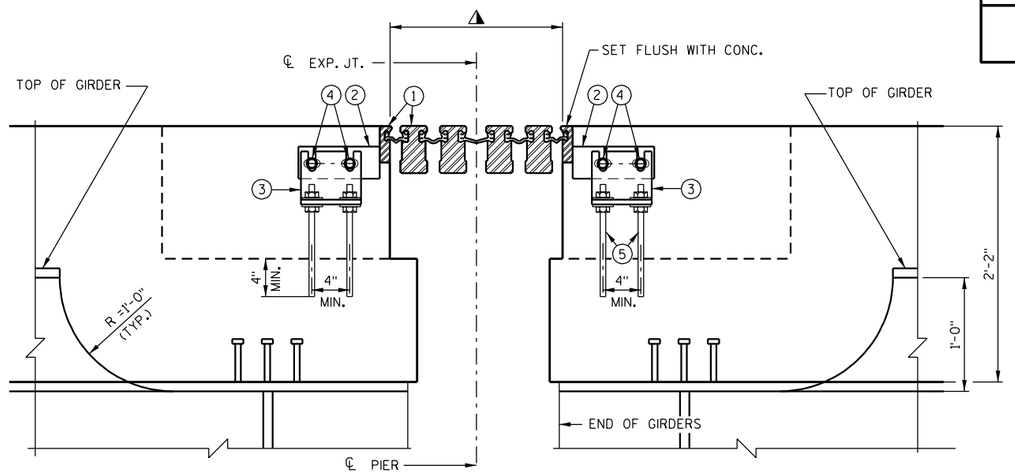
1133-11-74



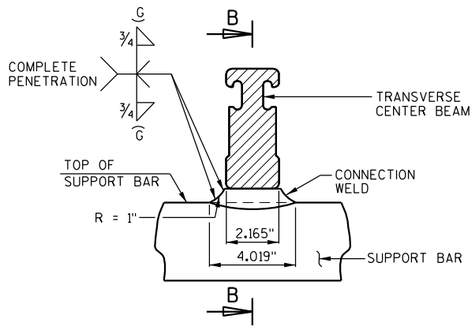

## SECTION THRU JOINT AT S. ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE

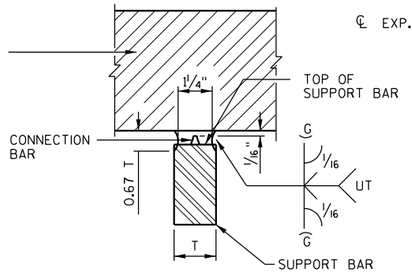



## SECTION THRU JOINT AT PIER 5

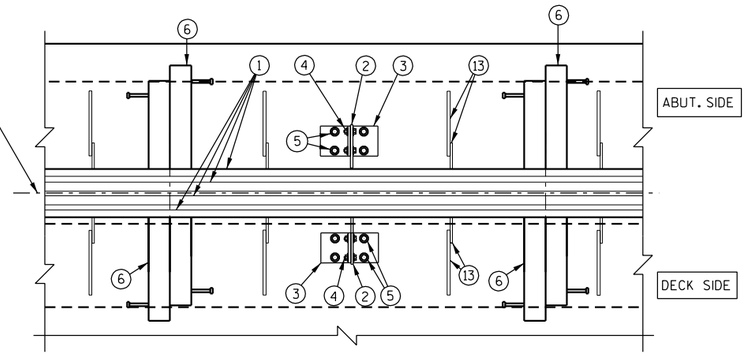
NORMAL TO ℄ SUBSTRUCTURE




## MODULAR EXPANSION JOINT CONNECTION DETAIL AND WELD SPECIFICATION

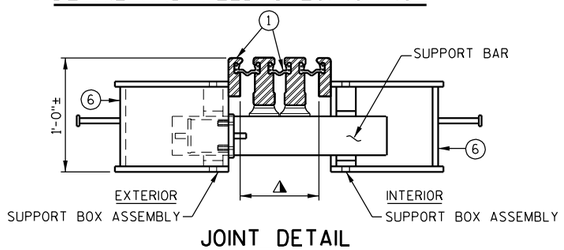



## SECTION B-B



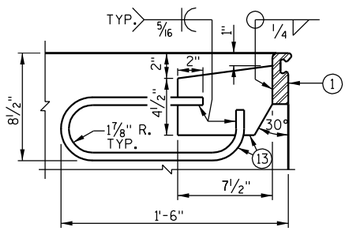

## PART PLAN

(AT SOUTH ABUTMENT)



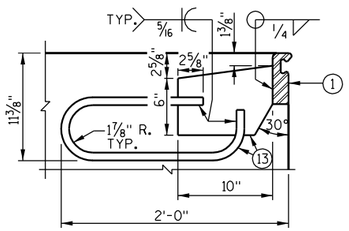

## JOINT DETAIL

AT SUPPORT BAR & SUPPORT BOX ASSEMBLY (SHOWN AT ABUT., PIER SIMILAR)




## ANCHORAGE DETAIL

PLACE ADJACENT TO SUPPORT BOXES IN PAVING BLOCK AT S. ABUT.




## ANCHORAGE DETAIL

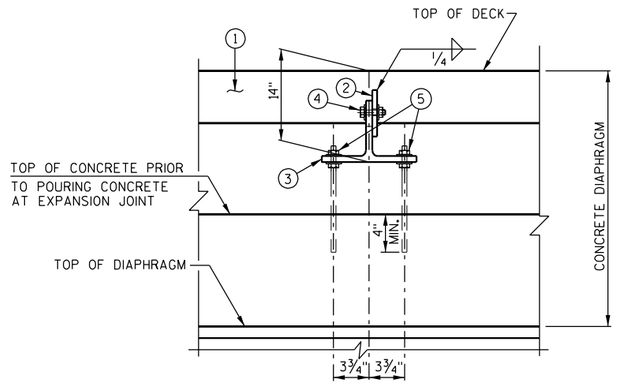
PLACE ADJACENT TO SUPPORT BOXES IN IN DECK AT CONC. DIAPH. AT PIERS 5 & C1

## LEGEND

1. MODULAR EXPANSION JOINT DEVICES, 3 CELLS (S. ABUT.) & 5 CELLS (PIER 5).
2. ½" PLATE, ONE PER WT NO. 3 MIN. PROVIDE 2 - 1" X 2" MIN. SLOTTED HOLES PLACED HORIZONTALLY FOR BOLTS NO. 4.
3. WT 6 X 29 (OR EQUIVALENT BUILT UP T-SECTION SPA. PER MANUFACTURER) PROVIDE 2 - 1" X 3" MIN. SLOTTED HOLES PLACED VERTICALLY IN WEB OF WT FOR BOLTS NO. 4.
4. ¾" DIA. HIGH STRENGTH BOLTS WITH NUTS & WASHERS. (A325 GALV.)
5. ¾" DIA. THREADED ROD WITH 2 NUTS & WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES. (GALV.)
6. SUPPORT BOX ASSEMBLY FOR SUPPORT BAR (SPA. PER MANUFACTURER). FABRICATE BOX FROM ½" PLATES.
13. ½" PLATE WITH ⅝" DIA. LOOP ANCHOR FABRICATED AS SHOWN. SPACED AT MANUFACTURER'S SPEC.

* POUR CONC. ABOVE THIS JOINT AFTER SUPERSTRUCTURE CONC. IS IN PLACE. STRIKE OFF & LEAVE ROUGH.

⚠ MANUFACTURER'S RECOMMENDED JOINT OPENING BASED ON THE TEMPERATURE ON THE DAY OF PLACEMENT PER TEMPERATURE TABLE. THE MODULAR EXPANSION DEVICE SHALL HAVE THE NUMBER OF CELLS AS INDICATED IN 1.




## SECTION A-A

## GENERAL NOTES

FOR NOTES, SEE SHEET "MODULAR EXPANSION JOINT SOUTH ABUTMENT".

MODULAR EXPANSION DEVICE DESIGN AND DETAILS ARE SPECIFIC TO THE MANUFACTURER SELECTED FROM THOSE LISTED IN THE SPECIAL PROVISIONS. FABRICATION DRAWING IS SUBJECT TO THE APPROVAL OF THE BUREAU OF STRUCTURES.

SUPPORT BOXES ARE SHOWN FOR GENERAL INFORMATION AND LOCATION MAY VARY ACCORDING TO FABRICATOR DESIGN. SPACE SUPPORT BOXES TO MISS GIRDER TOP FLANGES WHEN POSSIBLE, BUT NOT TO EXCEED MAXIMUM SPACING PER SPECIAL PROVISIONS.

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

MODULAR EXPANSION JOINT DETAILS

SHEET 61 OF 91
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STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

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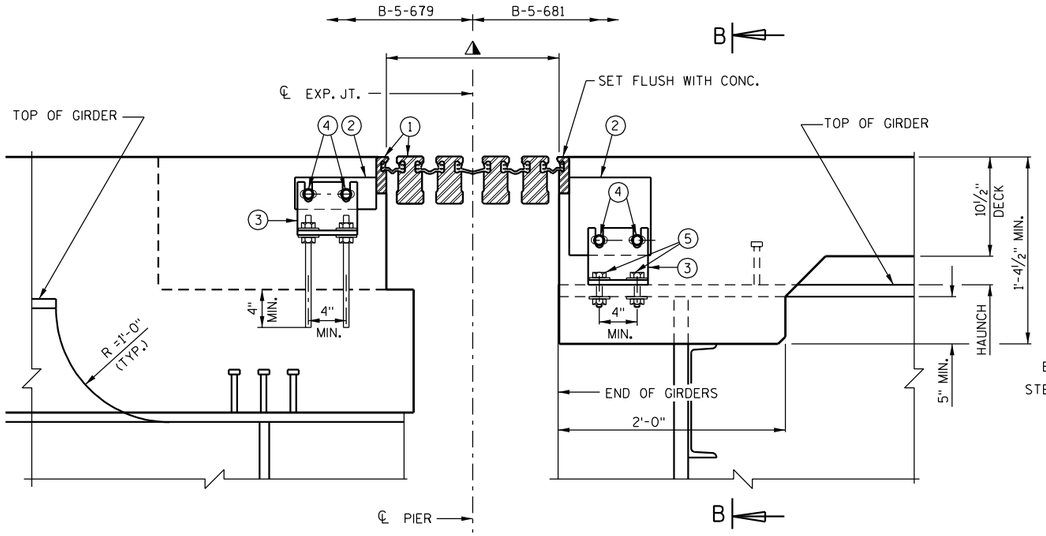
FILE NAME : P:\153 USH 41\1133-10-00 URGS\STRUCTURES\B-5-679\06L.MOD.EXP_JT01.V7.B-5-679.DGN

PLOT DATE : 4/23/2013

STATE PROJECT NUMBER

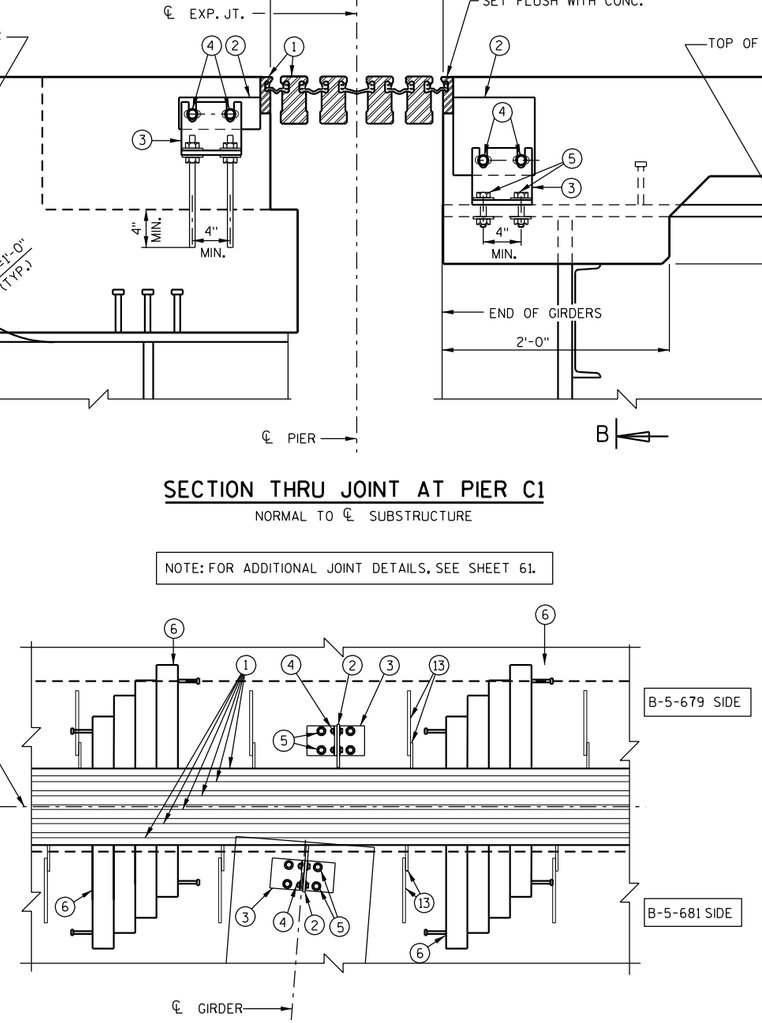
1133-11-74




## SECTION THRU JOINT AT PIER C1

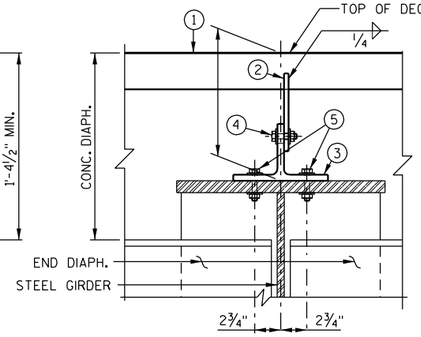
NORMAL TO ℄ SUBSTRUCTURE

NOTE: FOR ADDITIONAL JOINT DETAILS, SEE SHEET 61.




## PART PLAN

(AT PIER C1)




## SECTION B-B

## LEGEND

(1) MODULAR EXPANSION JOINT DEVICES, 5 CELLS. (PIER C1)

(2) ½" PLATE. ONE PER WT NO. 3 MIN. PROVIDE 2 - 1" X 2" MIN. SLOTTED HOLES PLACED HORIZONTALLY FOR BOLTS NO. 4.

(3) WT 6 X 29 (OR EQUIVALENT BUILT UP T-SECTION SPA. PER MANUFACTURER) PROVIDE 2 - 1" X 3" MIN. SLOTTED HOLES PLACED VERTICALLY IN WEB OF WT FOR BOLTS NO. 4.

(4) ¾" DIA. HIGH STRENGTH BOLTS WITH NUTS & WASHERS. (A325 GALV.)

(5) ¾" DIA. THREADED ROD WITH 2 NUTS & WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES. (GALV.)

(6) SUPPORT BOX ASSEMBLY FOR SUPPORT BAR (SPA. PER MANUFACTURER). FABRICATE BOX FROM ½" PLATES.

(13) ½" PLATE WITH ⅝" DIA. LOOP ANCHOR FABRICATED AS SHOWN. SPACED AT MANUFACTURER'S SPEC.

▲ MANUFACTURER'S RECOMMENDED JOINT OPENING BASED ON THE TEMPERATURE ON THE DAY OF PLACEMENT PER TEMPERATURE TABLE. THE MODULAR EXPANSION DEVICE SHALL HAVE THE NUMBER OF CELLS AS INDICATED IN 1.

## GENERAL NOTES

FOR NOTES SEE SHEET "MODULAR EXPANSION JOINT SOUTH ABUTMENT"

MODULAR EXPANSION DEVICE DESIGN AND DETAILS ARE SPECIFIC TO THE MANUFACTURER SELECTED FROM THOSE LISTED IN THE SPECIAL PROVISIONS. FABRICATION DRAWING IS SUBJECT TO THE APPROVAL OF THE BUREAU OF STRUCTURES.

SUPPORT BOXES ARE SHOWN FOR GENERAL INFORMATION AND LOCATION MAY VARY ACCORDING TO FABRICATOR DESIGN. SPACE SUPPORT BOXES TO MISS GIRDER TOP FLANGES WHEN POSSIBLE, BUT NOT TO EXCEED MAXIMUM SPACING PER SPECIAL PROVISIONS.

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| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

MODULAR EXPANSION JOINT DETAILS

SHEET 62 OF 91

951

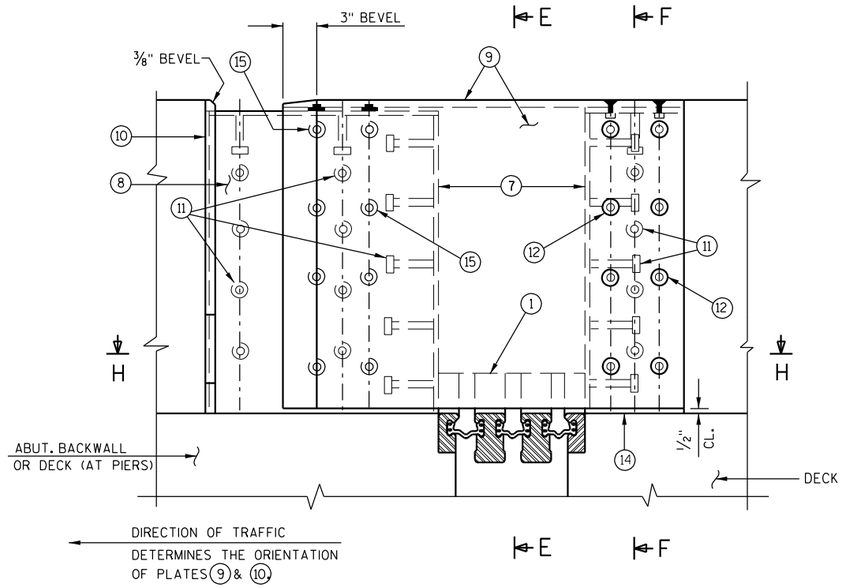
STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

FILE NAME : P:\153 USH 41\1133-10-00 URGS\STRUCTURES\B-5-679\062_MOD.EXP.JT02.VT.B-5-679.DGN

PLOT DATE : 4/23/2013

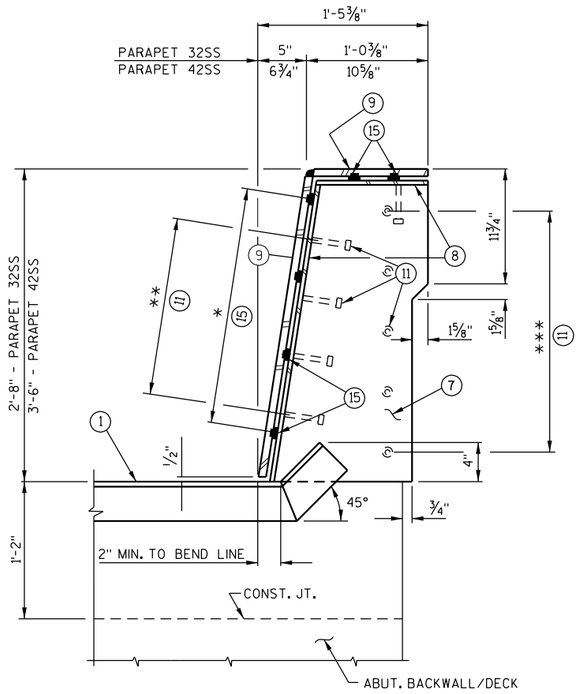
STATE PROJECT NUMBER

1133-11-74

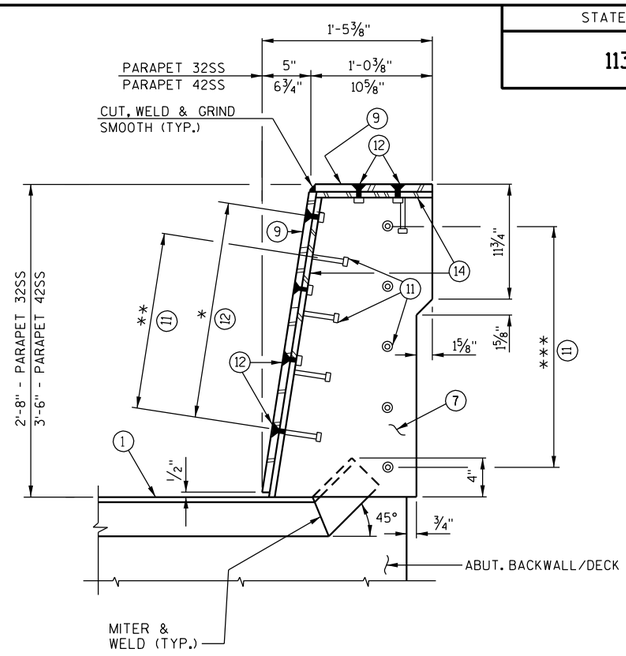



## ELEVATION OF SINGLE SLOPE PARAPET

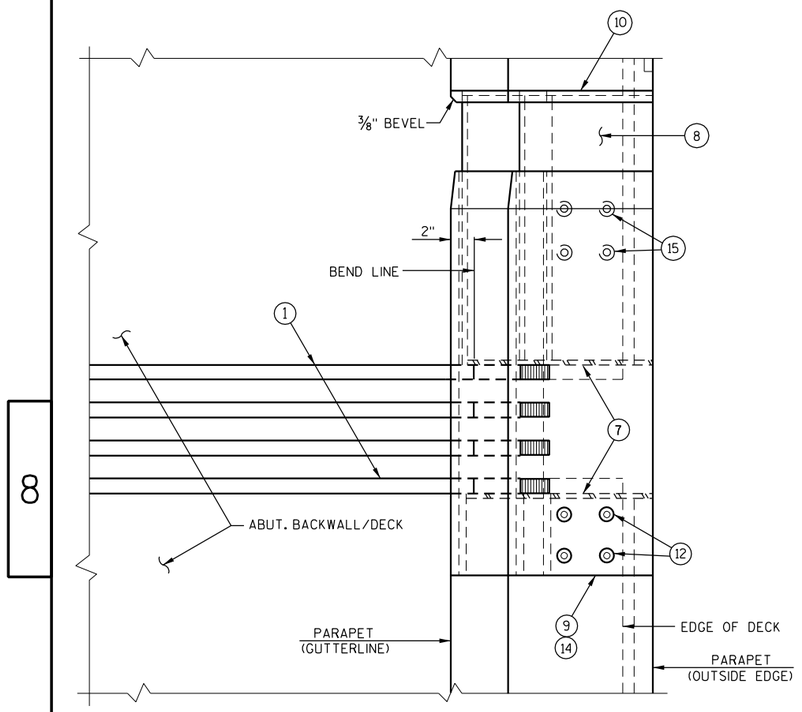
(SHOWN AT SOUTH ABUTMENT, PIER LOCATIONS SIMILAR)




## SECTION E-E

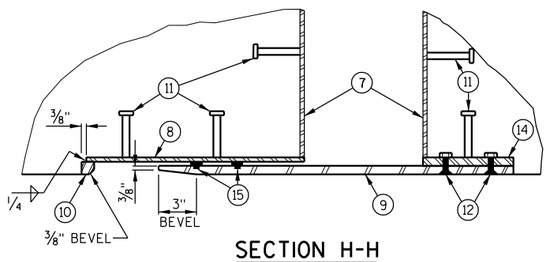



## SECTION F-F

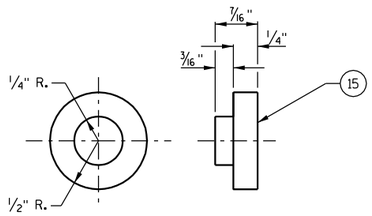



## PLAN OF SINGLE SLOPE PARAPET

(SHOWN AT SOUTH ABUTMENT, PIER LOCATIONS SIMILAR)




## SECTION H-H




## ADIPRENE BUTTON DETAIL

## LEGEND

* 3 EQ. SPA. (32SS)
5 EQ. SPA. (42SS)

** 3 SPA. (32SS)
5 SPA. (42SS)

*** 4 SPA. (32SS)
6 SPA. (42SS)

(1) MODULAR EXPANSION JOINT DEVICE.

(7) 3/4" BULKHEAD PLATE WELD TO NO. 1, NO. 8, AND NO. 14. WHEN CONDUIT IS PRESENT IN PARAPET, ACCOMODATE FOR BY PROVIDING OPENING IN NO. 7.

(8) INSIDE PLATE. FABRICATE FROM 3/8" PLATE.

(9) OUTSIDE PLATE. FABRICATE FROM 5/8" PLATE.

(10) 7/8" SQUARE BAR. WELD TO NO. 8 AS SHOWN.

(11) 3/4" DIA. X 4" LONG STUDS. WELD TO NO. 8, NO. 7, AND NO. 14.

(12) 3/4" DIA. X 2" STAINLESS STEEL FLAT CTSK. SLOTTED HEAD CAP SCREWS W/ ANTI-SEIZE LUBRICANT, RECESS 1/16" BELOW PLATE SURFACE.

(14) INSIDE PLATE. FABRICATE FROM 5/8" PLATE.

(15) ADIPRENE BUTTON. SEE DETAIL. SET IN OUTSIDE PLATE.

## NOTES

DRAWINGS ARE NOT TO SCALE.

SEE SHEET "TYPICAL DECK SECTION" FOR PARAPET DIMENSIONS.

COVER PLATES SHALL BE GALVANIZED.

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

MODULAR EXPANSION JOINT COVER PLATES

SHEET 63 OF 91
952

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

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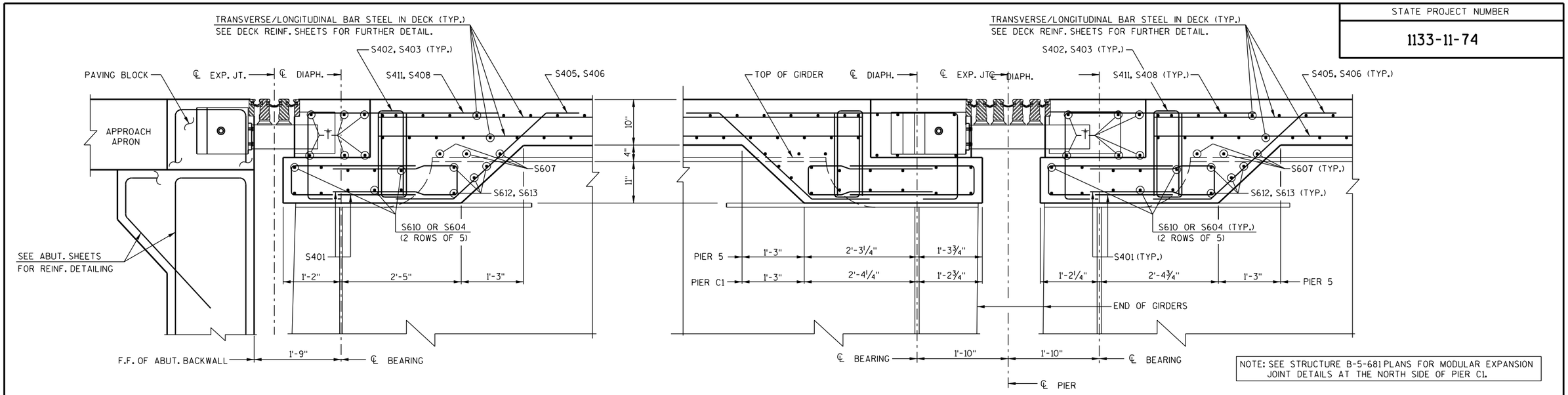
FILE NAME : P:\153 USH 41\1133-10-00 UBGS\STRUCTURES\B-5-679\063.MOD.EXP_JT03.V7.8-5-679.DGN

PLOT DATE : 4/23/2013

STATE PROJECT NUMBER

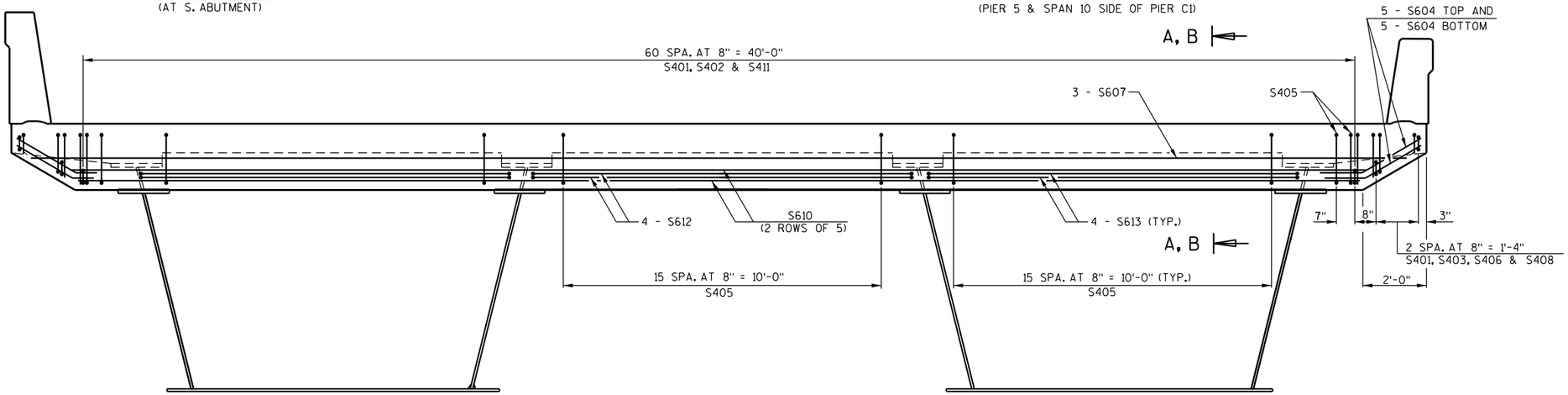
1133-11-74




NOTE: SEE STRUCTURE B-5-681 PLANS FOR MODULAR EXPANSION JOINT DETAILS AT THE NORTH SIDE OF PIER C1.

## SECTION A-A
(AT S. ABUTMENT)

## SECTION B-B
(PIER 5 & SPAN 10 SIDE OF PIER C1)



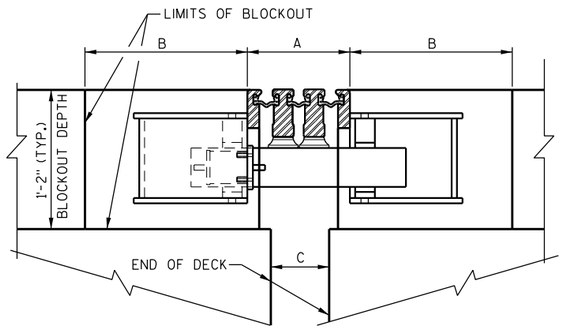

## SECTION THRU DECK AT END DIAPHRAGMS
(DECK REINFORCEMENT NOT SHOWN FOR CLARITY)
LOOKING UPSTATION AT S. ABUTMENT, PIER 5 & SOUTH SIDE OF PIER C1

## NOTES:

1. SEE STEEL FABRICATION PLANS FOR END DIAPHRAGM DETAILS.
2. SEE SHEETS TITLED "MODULAR EXPANSION JOINT" FOR PLAN LAYOUT OF EXPANSION DEVICE.
3. ALL SIZE, SPACING AND DETAIL INFORMATION SHALL BE TAKEN ONLY FROM THE APPROVED EXPANSION JOINT SHOP DRAWINGS.
4. SPACE REINFORCEMENT TO MISS LOOP ANCHORS AND SUPPORT BOX ASSEMBLIES.
5. SEE DECK REINFORCEMENT SHEETS FOR SECTION A-A & B-B LOCATIONS.
6. SEE SHEET "SUPERSTRUCTURE BILL OF BARS" FOR REINFORCEMENT DETAILS.

## LEGEND

† 42- S509 BARS, 8'-0" LONG WITH 1'-0" MIN. LAP. CUT IN FIELD TO CLEAR JOINT SUPPORT AS REQ'D.




## TYPICAL SECTION THRU SUPPORT BOX
(SHOWN AT S. ABUT., PIER JOINTS SIMILAR)

| | S. ABUT. | PIER 5 | PIER C1 |
|---|---|---|---|
| A | 1'-0¼" | 1'-8⅜" | 1'-8⅜" |
| B | 1'-5" | 1'-11" | 1'-11" |
| C | 7" | 1'-2" | 1'-3¼" |

DIMENSIONS SHOWN ARE BASED ON A MEDIAN TEMP. OF 45° F.

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

REINFORCING AT EXPANSION JOINT

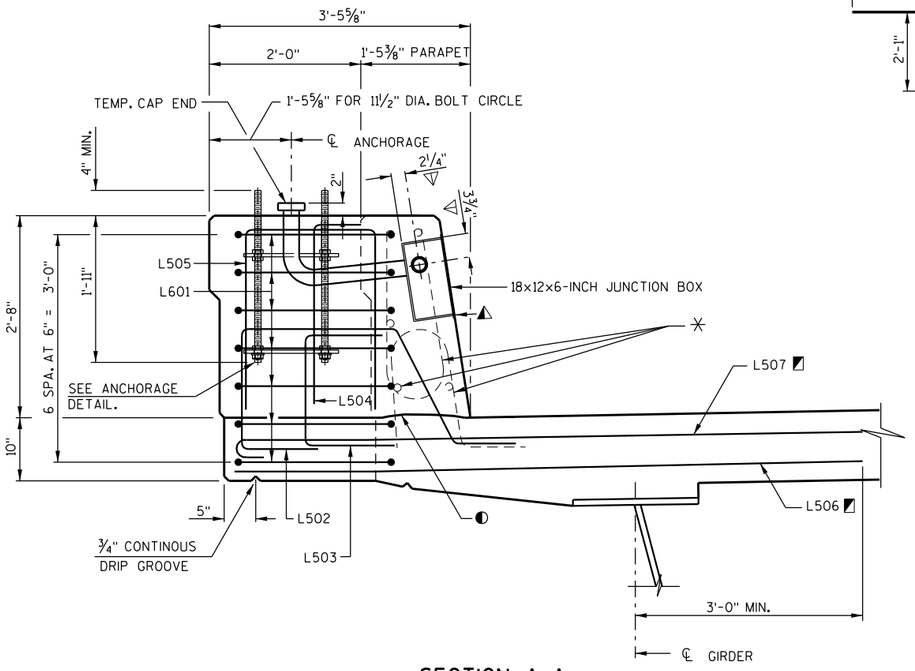
SHEET 64 OF 91
953

FILE NAME : P:\153 USH 41\1133-10-00 URGs\STRUCTURES\B-5-679\064.MOD.EXP.JT04.VT.B-5-679.DGN

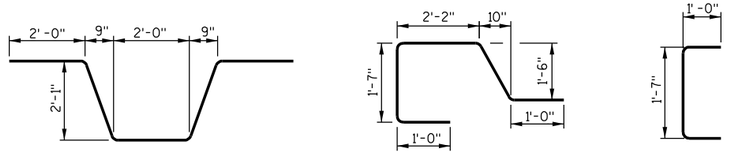
PLOT DATE : 4/23/2013

STATE PROJECT NUMBER

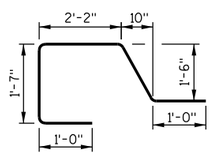
1133-11-74




SECTION A-A




L601

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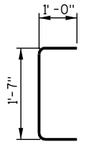


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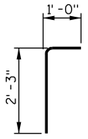
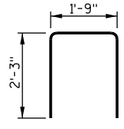
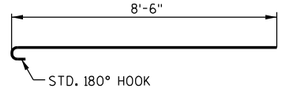


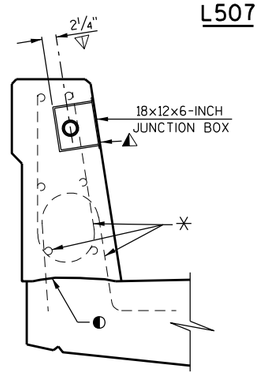

L504




L505




L507




SECTION THRU PARAPET

SHOWING 18x12x6-INCH JUNCTION BOX (SINGLE CONDUIT APPLICATION ONLY)

## BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL REINFORCEMENT BARS IN THIS BILL SHALL BE EPOXY COATED.

| MARK | NO. REQ'D. UNIT 1 | NO. REQ'D. UNIT 2 | LENGTH | BENT | BAR SERIES | LOCATION | TOTAL WEIGHT = 4,640 LBS. |
|---|---|---|---|---|---|---|---|
| L601 | 49 | 42 | 10-0 | X | | LIGHT STANDARD BASE | HORIZ. |
| L502 | 28 | 24 | 7-0 | X | | LIGHT STANDARD BASE | VERT. |
| L503 | 14 | 12 | 3-5 | X | | LIGHT STANDARD BASE | VERT. |
| L504 | 14 | 12 | 3-2 | X | | LIGHT STANDARD BASE | VERT. |
| L505 | 28 | 24 | 6-0 | X | | LIGHT STANDARD BASE | VERT. |
| L506 | 70 | 60 | 8-6 | | | LIGHT STANDARD BASE | TRANS. |
| L507 | 70 | 60 | 9-1 | X | | LIGHT STANDARD BASE | TRANS. |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

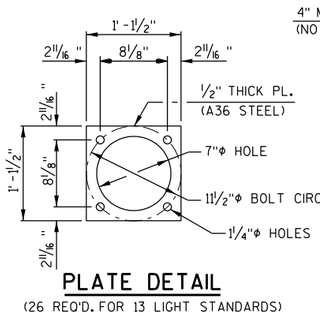
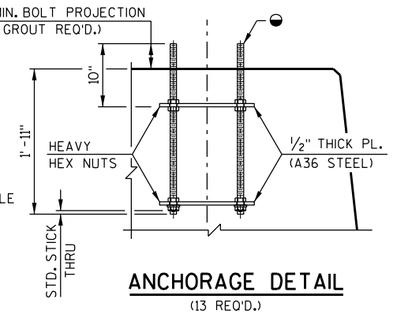


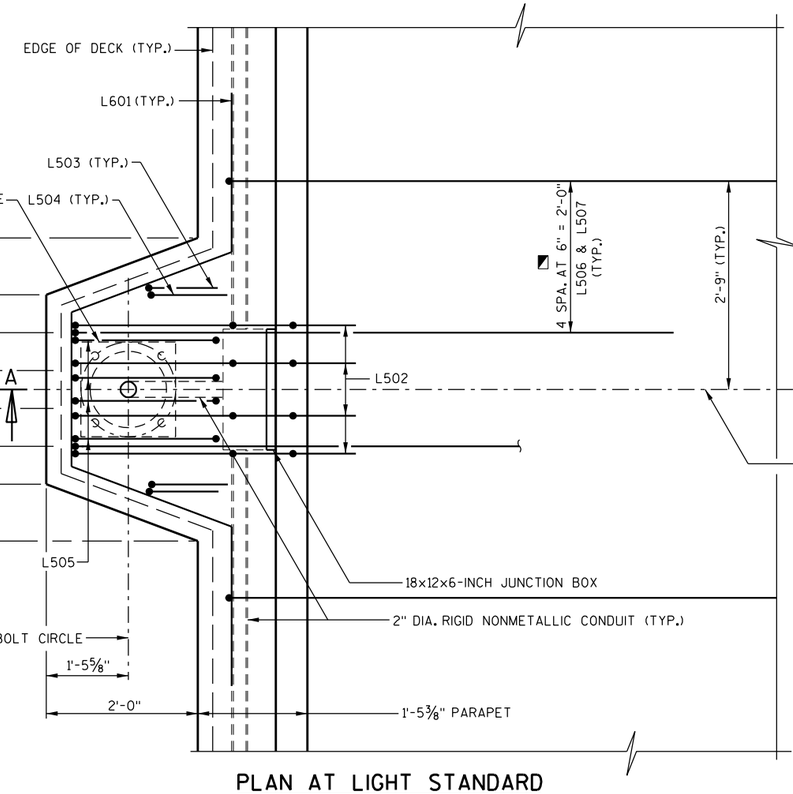

PLATE DETAIL

(26 REQ'D. FOR 13 LIGHT STANDARDS)




ANCHORAGE DETAIL

(13 REQ'D.)




PLAN AT LIGHT STANDARD

℄ OF LIGHT STANDARD & ℄ OF JUNCTION BOX AT:
STA. 1187+76 NIH, RIGHT
STA. 1189+41 NIH, RIGHT
STA. 1191+07 NIH, RIGHT
STA. 1192+72 NIH, RIGHT
STA. 1194+38 NIH, RIGHT
STA. 1196+03 NIH, RIGHT
STA. 1197+68 NIH, RIGHT
STA. 1199+34 NIH, RIGHT
STA. 1200+99 NIH, RIGHT
STA. 1202+65 NIH, RIGHT
STA. 1204+30 NIH, RIGHT
STA. 1205+95 NIH, RIGHT
STA. 1207+61 NIH, RIGHT

## LEGEND

◐ CONSTR. JT. STRIKE OFF AS SHOWN

◭ CUT OUT ± 1" OF GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE.

▽ LOCATION OF CONDUIT IS MEASURED FROM OUTSIDE EDGE OF JUNCTION BOX.

◒ 1"Φ THREADED ANCHOR BOLTS ASTM A449 OR AASHTO M 314-90 GR 55. HOT DIP ASTM A153, CLASS C, UPPER 8" OF BOLT INCLUDING NUTS & WASHERS. PROVIDE ENLARGED THREAD ON NUTS FOR PROPER FIT AFTER GALVANIZING. PROVIDE DOUBLE FLAT WASHERS & NUTS.

✳ TYPICAL BAR STEEL REINFORCEMENT IN SINGLE SLOPE PARAPET. FOR DETAILS, SEE DECK REINF. SHEETS. (ALL BAR STEEL REINFORCEMENT SHOWN FOR THE LIGHT STD. IS IN ADDITION TO THE BAR STEEL REINFORCEMENT REQUIRED FOR THE PARAPET & DECK. DISPLACE BAR STEEL AS NECESSARY TO CLEAR THE JUNCTION BOX BY 2" MIN.)

◩ THESE BARS ARE IN ADDITION TO STANDARD TRANSVERSE BARS IN BRIDGE DECK.

## NOTES

BID ITEMS SHALL BE:

"JUNCTION BOXES 18X12X6-INCH", EACH.
"ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES", EACH.
"CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH"
"CONDUIT RIGID METALLIC 2-INCH"

APPROVED MANUFACTURERS - JUNCTION BOXES:
SEE APPROVED MATERIAL LIST.
"CONDUIT RIGID METALLIC 2-INCH".
APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING:
O-Z/GEDNEY TYPE AX8DX-200/AXDX-200 AND BONDING JUMPER COMBINATION EXPANSION AND DEFLECTION FITTING (8" & 4" TOTAL VERT. & HORIZ. CONDUIT MOVEMENT).

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".

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

JUNCTION BOX REQUIREMENTS:

PLACE A 18"X12"X6" JUNCTION BOX AT EACH LIGHT STANDARAD (CENTERED ON LIGHT ℄)

USE A JUNCTION BOX TO KEEP A CONTINUOUS RUN OF CONDUIT (PULL LENGTH) TO A MAXIMUM OF 190 FT. CONTACT THE BUREAU OF HIGHWAY OPERATIONS, ELECTRICAL SECTION WHEN PULL LENGTH IS >190' BUT <200'.

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

LIGHT STANDARD

SHEET 65 OF 91
954

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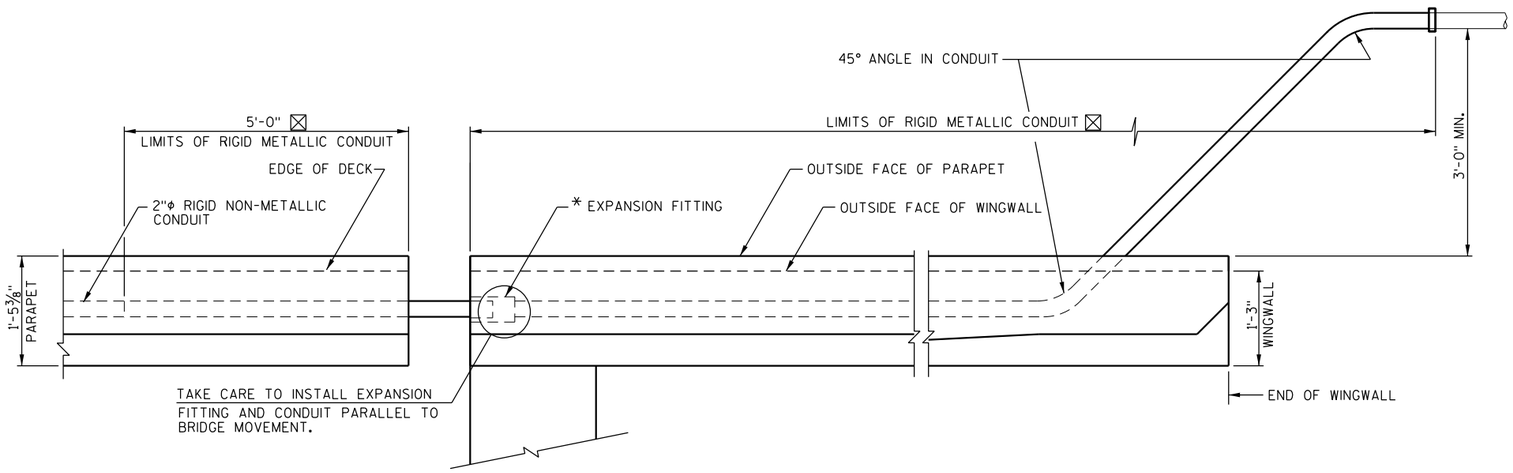
FILE NAME : P:\853 USH 41\1133-10-00 URS\STRUCTURES\B-5-679\065_LIGHT_STD_V7_B-5-679.DGN

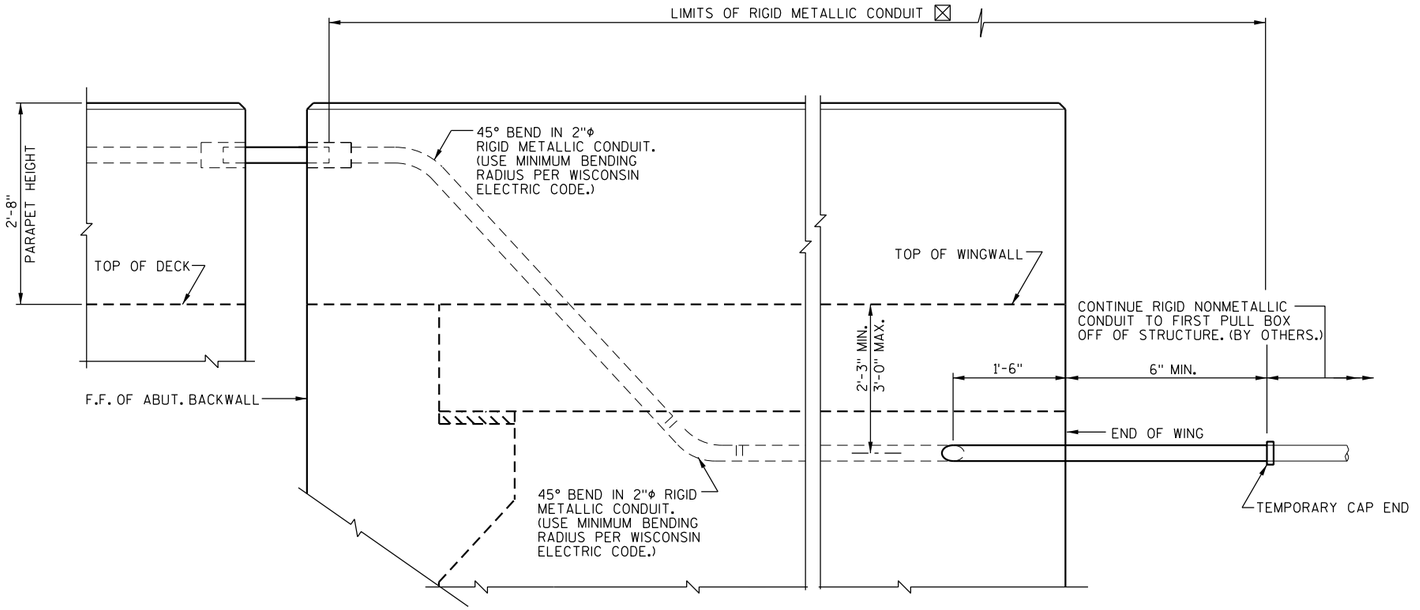
PLOT DATE : 5/30/2013

STATE PROJECT NUMBER

1133-11-74




PLAN OF SINGLE SLOPE PARAPET 32SS AT SOUTH ABUTMENT WING 1




OUTSIDE ELEVATION OF SINGLE SLOPE PARAPET 32SS AT SOUTH ABUTMENT WING 1

## NOTE

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS ARE INCIDENTAL TO "CONDUIT RIGID NON-METALLIC 2-INCH".

## LEGEND

☒ USE 2" DIA. RIGID NON-METALLIC CONDUIT EXCEPT AT EXPANSION FITTING. AT EXPANSION FITTING USE RIGID METALLIC CONDUIT 5'-0" INTO WALL SEGMENT OR PARAPET. FOR SHORTER DISTANCES BETWEEN EXPANSION FITTINGS <20' USE METALLIC CONDUIT BETWEEN EXPANSION FITTINGS. ON THE NORTH WINGWALL OF THE WEST ABUTMENT PROVIDE RIGID METALLIC CONDUIT TO A MINIMUM OF 6" BEYOND END OF WINGWALL (FOR GROUNDING PURPOSES). PROVIDE #10 AWG BONDING JUMPER BETWEEN METALLIC CONDUIT AND JUNCTION BOX. BONDING JUMPERS SHALL EITHER ENTER THE JUNCTION BOX AND BE TERMINATED TO THE GROUNDING LUG USING TERMINAL BLOCKS; OR CAN BE EXOTHERMICALLY WELDED TO A FIELD INSTALLED GROUNDING LUG ON THE BACK SIDE OF THE JUNCTION BOX. BONDING JUMPERS WILL BE PAID FOR UNDER BID ITEM 652.0125 "CONDUIT RIGID METALLIC 2-INCH"

* ALSO PROVIDE EXPANSION FITTING AT CONNECTION TO B-5-681.

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STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

PARAPET ELECTRICAL WORK

SHEET 66 OF 91
955

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

FILE NAME : P:\153 USH 41\133-10-00 URS\STRUCTURES\B-5-679\066_PARAPET_CONDUIT_B-5-679.DGN

PLOT DATE : 5/31/2013

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11

STATE PROJECT NUMBER

1133-11-74

℄ USH 41 NB TO IH 43 SB (RAMP 'IHA')

℄ WEITOR DRIVE

EXISTING IH 43 SB

EXISTING IH 43 NB

℄ USH 41 NB

EXISTING USH 41 SB

EXISTING USH 41 NB

℄ USH 41 SB

ELECTRICAL EQUIPMENT INSTALLED ON PIER 5 FACE SEE SHEET **77** FOR DETAILS NOTE 9

℄ USH 41 SB TO IH 43 SB (RAMP 'SIH')

℄ IH 43 NB TO USH 41 NB (RAMP 'NIH')

EXISTING IH 43 NB TO USH 41 NB

ELECTRICAL SUB-PANEL "D" INSIDE LEFT BOX GIRDER

ELECTRICAL SUB-PANEL "C" INSIDE LEFT BOX GIRDER

ACCESS HATCH LOCATION

EXISTING USH 41 NB TO IH 43 SB

PIER 1

PIER 2

PIER 3

PIER 4

PIER 5

PIER 6

PIER 7

PIER 8

PIER 9

1086'-5" UNIT 1

1098'-8" UNIT 2

S. ABUTMENT

MODULAR EXPANSION JOINT

ELECTRIC UTILITY WILL DETERMINE FINAL LOCATION OF SERVICE TRANSFORMER, SEE NOTE 10

ELECTRICAL SUB-PANEL "A" INSIDE RIGHT BOX GIRDER

ELECTRICAL SUB-PANEL "B" INSIDE RIGHT BOX GIRDER

COMMON PIER C1

STRUCTURE B-5-681

℄ IH 43 NB TO USH 41 SB (RAMP 'IHB')

R-5-256

MODULAR EXPANSION JOINT

## ELECTRICAL GENERAL NOTES:

1. VERIFY ALL OF THE INFORMATION SHOWN ON THE CONTRACT DRAWINGS, WHICH WOULD AFFECT THE WORK UNDER THIS CONTRACT.
2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ASCERTAIN EXISTING FIELD CONDITIONS BEFORE BIDDING ON THIS PROJECT.
3. ALL NEW CONDUITS, DIRECT BURIAL CABLES, JUNCTION BOXES, LUMINAIRES, AND INCIDENTALS ARE INDICATED DIAGRAMMATICALLY ON THE DRAWINGS. THE ACTUAL LOCATIONS IN THE FIELD SHALL MEET WITH APPROVAL OF WISDOT AND THE ENGINEER.
4. PERFORM ELECTRICAL WORK IN ACCORDANCE WITH THE LATEST WISDOT STANDARD SPECIFICATIONS AND LATEST EDITION OF THE NEC CODE.
5. FURNISH AND INSTALL LUMINAIRES, LAMPS, LED DRIVERS, SURGE PROTECTION, FUSES, AND OTHER SPECIFIED OPTIONS AND ACCESSORIES IN ACCORDANCE WITH THE SUPPLIER'S RECOMMENDATIONS AND IN ACCORDANCE WITH THE SPECIFICATIONS. INCLUDE THE COST OF THIS WORK AND MATERIAL IN THE APPLICABLE LUMINAIRE PAY ITEM. SEPARATE PAYMENT WILL NOT BE MADE.
6. PERFORM ALL WORK FROM METER PEDESTAL TO THE MAIN ELECTRICAL PANEL "EP". INCLUDE FURNISHING AND INSTALLING THE SAFETY DISCONNECT SWITCH (IF REQUIRED) AND ALL ELECTRICAL PANELS, INCLUDING REMOTE PANELS (SUB-PANELS), IN THE SERVICE INSTALLATION PAY ITEM, AS NOTED ON SHEET **77**.
7. DON'T WELD TO ANY STEEL ELEMENTS OF THE BOX GIRDER SYSTEMS FOR ATTACHMENT OR SUPPORT OF ELECTRICAL ITEMS.
8. REFER TO STRUCTURAL PLANS (FROM SEPARATE FABRICATION CONTRACT INCLUDED IN THIS CONTRACT SET OF PLANS) FOR PROVISIONS MADE DURING FABRICATION FOR ACCOMMODATION OF ELECTRICAL ITEMS.
9. INSTALL ELECTRICAL EQUIPMENT ON PIER FACE CLOSEST TO ELECTRICAL ACCESS HOLES IN BOX GIRDER. VERIFY WITH STRUCTURAL PLANS. ALSO SEE SHEET **77** FOR DETAILS.
10. LOCATION OF ELECTRIC SERVICE TRANSFORMER WILL BE DETERMINED BY THE ELECTRIC UTILITY, AND IS NOT KNOWN AT TIME OF CONTRACT LETTING. COORDINATE WITH ELECTRIC UTILITY TO PROVIDE A 1-PHASE, 3-WIRE, 120/240V ELECTRIC SERVICE. FURNISH AND INSTALL ALL ADDITIONAL EQUIPMENT AND MATERIALS NEEDED THAT IS NOT INSTALLED BY THE UTILITY TO COMPLETE THE INSTALLATION IN AN ACCEPTABLE MANNER.
11. FURNISH AND INSTALL GALVANIZED STEEL OR 304 STAINLESS STEEL SUPPORTS, HANGERS, HARDWARE, NUTS, BOLTS, AND WASHERS FOR CONDUITS, JUNCTIONS BOXES, AND RECEPTACLES. ALL THREADED HARDWARE SHALL BE STAINLESS STEEL.

## LEGEND

- EP — MAIN ELECTRICAL PANEL "EP"
- M — METER PEDESTAL
- UTILITY TRANSFORMER VERIFY LOCATION WITH UTILITY

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY MAE | PLANS CK'D. DAD

ELECTRICAL SITE PLAN B-5-679

SHEET 67 OF 91
956

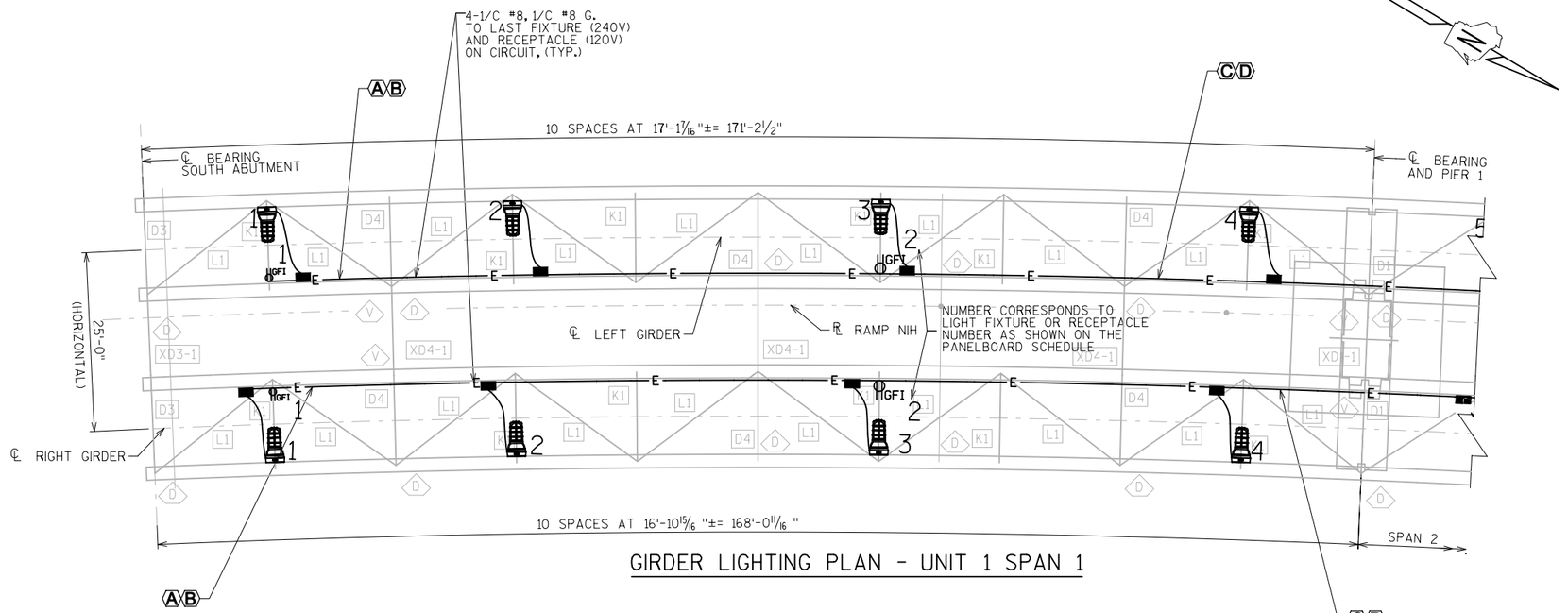
STEEL ERECTION AND SITE CONSTRUCTION CONTRACT

8

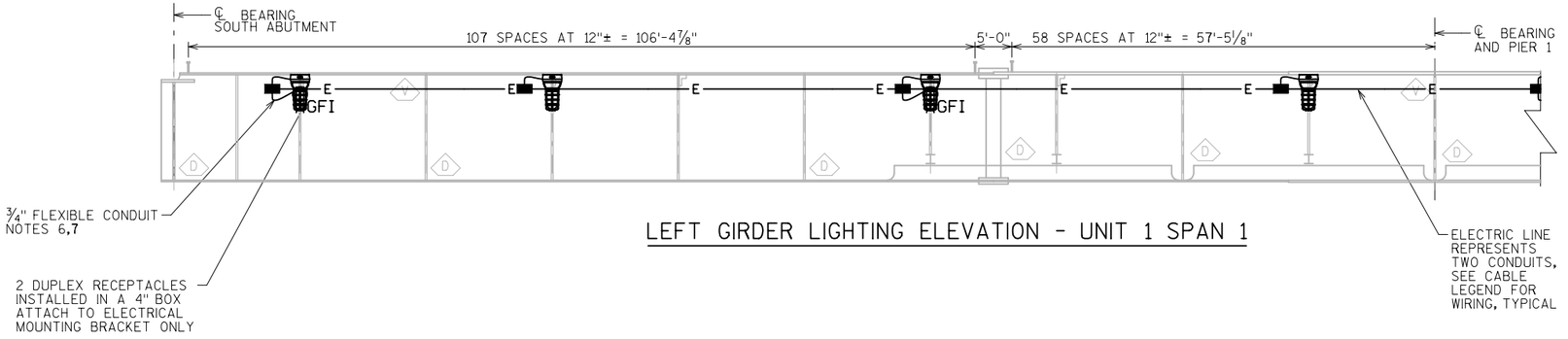
8

FILE= O:\WisDot_12345678_US41Bridges\LightingVPLANS\B-5-679\067 - B-05-679E_Electrical Site Plan.dgn

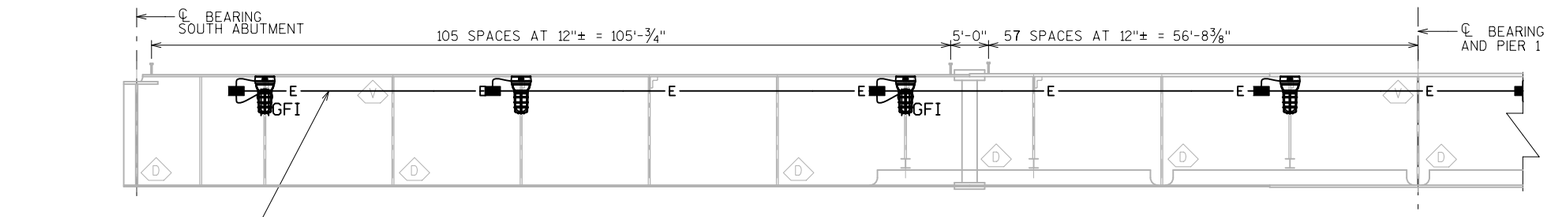
DATE: 5/1/2013
I.D.




## GIRDER LIGHTING PLAN - UNIT 1 SPAN 1




## LEFT GIRDER LIGHTING ELEVATION - UNIT 1 SPAN 1




## RIGHT GIRDER LIGHTING ELEVATION - UNIT 1 SPAN 1

STEEL ERECTION & SITE CONSTRUCTION CONTRACT

STATE PROJECT NUMBER

1133-11-74

## LEGEND

- VAPOR PROOF L.E.D. LIGHT FIXTURE 26 WATT, 240V, CEILING MOUNTED HEAVY DUTY, COMMERCIAL GRADE
- GFCI — GFCI RECEPTACLES, TWO DUPLEX RECEPTACLES IN A 4" BOX, 120V, MEASURED PER EACH COMPLETE UNIT WITH FLEX CONDUIT FOR PAYMENT
- JUNCTION BOX, STAINLESS STEEL, 27"X18"X8"
- —E— CONDUIT RIGID METALLIC 2-3" (GALVANIZED STEEL) WITH 7-1/C #8, 1/C #8 GROUND ELECTRICAL WIRE LIGHTING

## NOTES

1. FURNISH AND INSTALL VAPOR PROOF L.E.D. LUMINAIRES THAT ARE ENCLOSED, GASKETED, AND RATED FOR DAMP AND COLD WEATHER LOCATIONS.
2. INSTALL ELECTRICAL CONDUITS THROUGH DESIGNATED OPENINGS IN STEEL BOX GIRDER DIAPHRAGMS.
3. INSTALL CABLES FOR THE LIGHTING CIRCUITS AND RECEPTACLES IN SEPARATE CONDUITS. THE LIGHTING CIRCUITS ARE ON SEPARATE BREAKERS.
4. DO NOT PERFORM DRILLING IN ANY STRUCTURAL MEMBERS. DRILL ONLY ON ELECTRICAL BRACKETS. DO NOT DRILL INTO BOTTOM OF CONCRETE DECK.
5. INSTALL GFCI RECEPTACLES IN DESIGNATED LOCATIONS SPACED AT APPROXIMATELY 100'. PROVIDE TWO (2) DUPLEX RECEPTACLES IN ONE BOX AT EACH LOCATION WITH COVER PLATE.
6. PROVIDE AND INSTALL LIQUIDTIGHT FLEXIBLE METAL CONDUITS BETWEEN JUNCTION BOXES AND RECEPTACLES AND BETWEEN JUNCTION BOXES AND LUMINAIRES, AS NEEDED. COST OF SUCH CONDUITS SHALL BE INCLUDED IN THE COST OF THE RECEPTACLES OR LUMINAIRES. NO ADDITIONAL COMPENSATION WILL BE MADE FOR MATERIALS OR LABOR TO PERFORM THIS WORK.
7. INSTALL LUMINAIRES ON SIDE OF BOX GIRDER OPPOSITE JUNCTION BOXES AND RECEPTACLES AS SHOWN. FURNISH AND INSTALL FLEXIBLE CONDUIT OF ADEQUATE SIZE AND LENGTH FROM JUNCTION BOX TO LUMINAIRE.

## CABLE LEGEND

- (A) 2-1/C #8, 1/C #8 GROUND RECEPTACLE CIRCUIT, 120V
- (B) 2-1/C #8, 1/C #8 GROUND LIGHTING CIRCUIT, 240V
- (C) 3-1/C #8, 1/C #8 GROUND (2) RECEPTACLE CIRCUITS, ALTERNATING
- (D) 4-1/C #8, 1/C #8 GROUND (2) LIGHTING CIRCUITS, ALTERNATING

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY MAE | PLANS CK'D. DAD

GIRDER LIGHTING PLAN AND ELEV UNIT 1 SPAN 1

SHEET 68 OF 91

957

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DATE: 5/1/2013

I.D.

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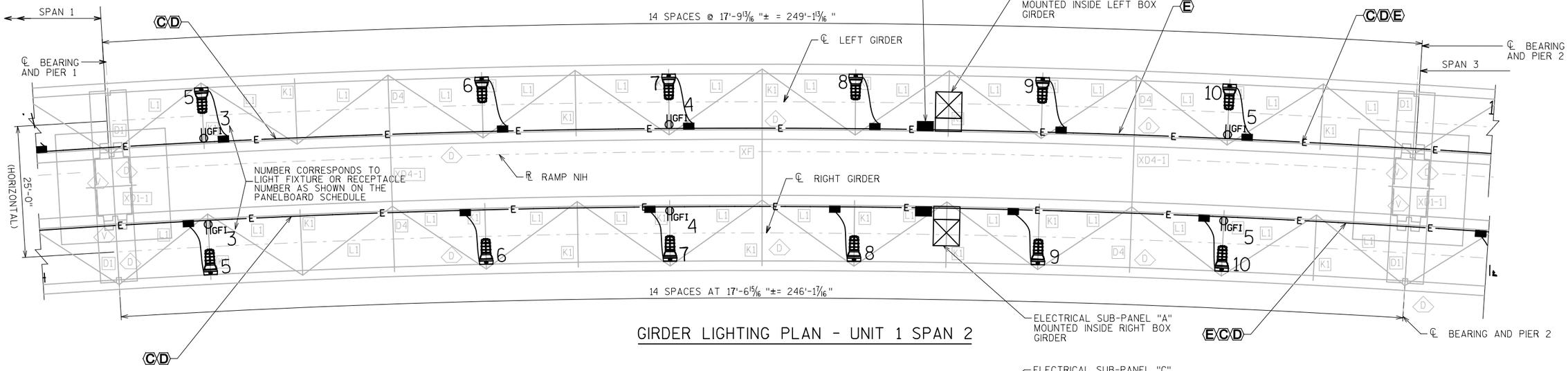
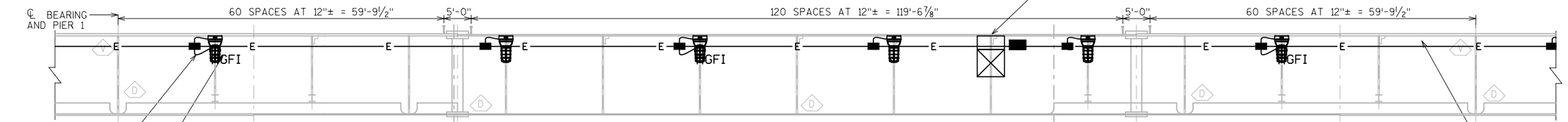
STATE PROJECT NUMBER

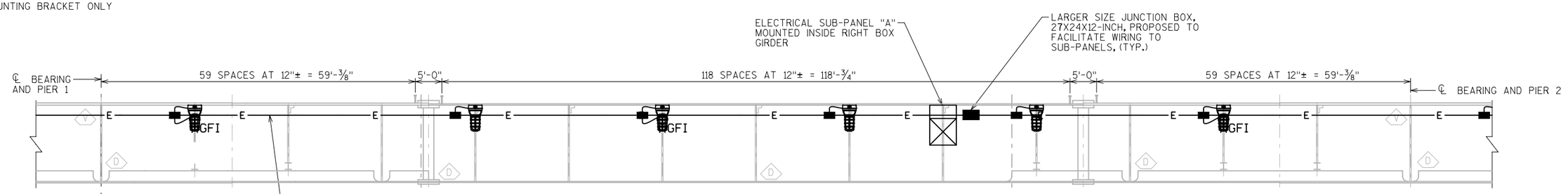
1133-11-74




## GIRDER LIGHTING PLAN - UNIT 1 SPAN 2




## LEFT GIRDER LIGHTING ELEVATION - UNIT 1 SPAN 2




## RIGHT GIRDER LIGHTING ELEVATION - UNIT 1 SPAN 2

### LEGEND

- VAPOR PROOF L.E.D. LIGHT FIXTURE 26 WATT, 240V, CEILING MOUNTED HEAVY DUTY, COMMERCIAL GRADE
- GFCI RECEPTACLES, TWO DUPLEX RECEPTACLES IN A 4" BOX, 120V, MEASURED PER EACH COMPLETE UNIT WITH FLEX CONDUIT FOR PAYMENT
- JUNCTION BOX, STAINLESS STEEL, 27"X18"X8"
- CONDUIT RIGID METALLIC 2-3" (GALVANIZED STEEL) WITH 7-1/C #8, 1/C #8 GROUND ELECTRICAL WIRE LIGHTING
- ELECTRICAL REMOTE PANEL (SUB-PANEL) TWO IN EACH BOX GIRDER 120/240V, 1-PHASE, 3-WIRE SEE PANELBOARD SCHEDULES

### CABLE LEGEND

- (A) 2-1/C #8, 1/C #8 GROUND RECEPTACLE CIRCUIT, 120V
- (B) 2-1/C #8, 1/C #8 GROUND LIGHTING CIRCUIT, 240V
- (C) 3-1/C #8, 1/C #8 GROUND (2) RECEPTACLE CIRCUITS, ALTERNATING
- (D) 4-1/C #8, 1/C #8 GROUND (2) LIGHTING CIRCUITS, ALTERNATING
- (E) 3-1/C #2, 1/C #2 GROUND SUB-PANEL FEEDER FROM MAIN PANEL "EP"

SEE OTHER GIRDER LIGHTING SHEETS FOR NOTES

STEEL ERECTION & SITE CONSTRUCTION CONTRACT

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY MAE | PLANS CK'D. DAD

GIRDER LIGHTING PLAN AND ELEV UNIT 1 SPAN 2

SHEET 69 OF 91

958

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DATE: 5/1/2013
I.D.

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| STATE PROJECT NUMBER |
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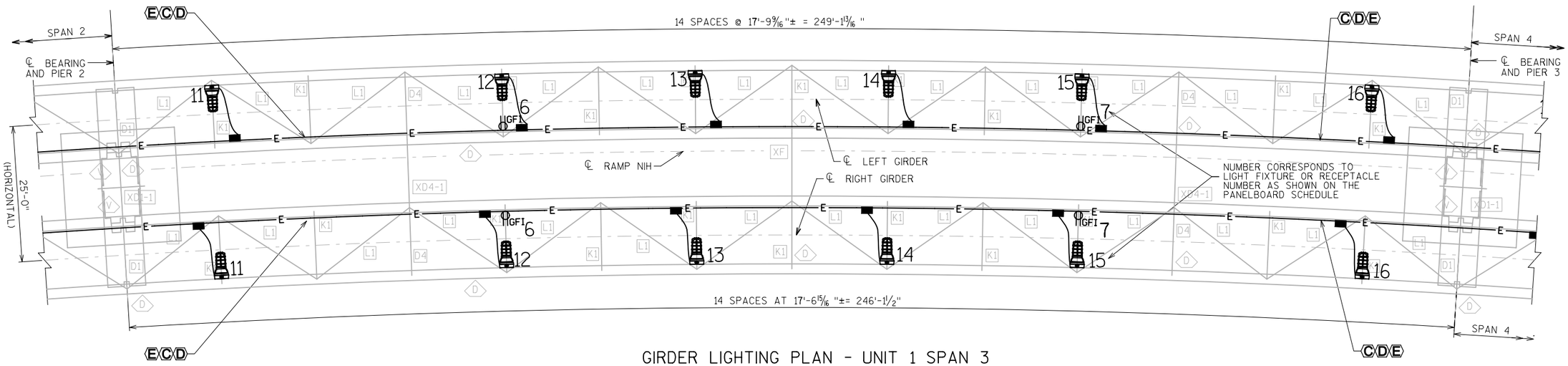
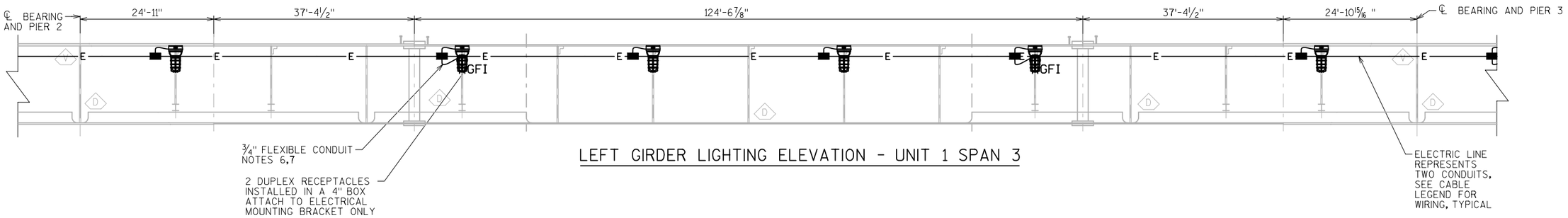
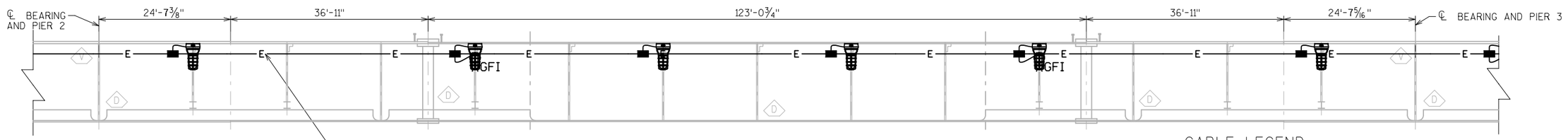
| 1133-11-74 |




GIRDER LIGHTING PLAN - UNIT 1 SPAN 3




LEFT GIRDER LIGHTING ELEVATION - UNIT 1 SPAN 3




RIGHT GIRDER LIGHTING ELEVATION - UNIT 1 SPAN 3

## LEGEND

- VAPOR PROOF L.E.D. LIGHT FIXTURE 26 WATT, 240V, CEILING MOUNTED HEAVY DUTY, COMMERCIAL GRADE
- GFCI RECEPTACLES, TWO DUPLEX RECEPTACLES IN A 4" BOX, 120V, MEASURED PER EACH COMPLETE UNIT WITH FLEX CONDUIT FOR PAYMENT
- JUNCTION BOX, STAINLESS STEEL, 27"X18"X8"
- —E— CONDUIT RIGID METALLIC 2-3" (GALVANIZED STEEL) WITH 7-1/C #8, 1/C #8 GROUND ELECTRICAL WIRE LIGHTING

SEE OTHER GIRDER LIGHTING SHEETS FOR NOTES

## CABLE LEGEND

- (A) 2-1/C #8, 1/C #8 GROUND RECEPTACLE CIRCUIT, 120V
- (B) 2-1/C #8, 1/C #8 GROUND LIGHTING CIRCUIT, 240V
- (C) 3-1/C #8, 1/C #8 GROUND (2) RECEPTACLE CIRCUITS, ALTERNATING
- (D) 4-1/C #8, 1/C #8 GROUND (2) LIGHTING CIRCUITS, ALTERNATING
- (E) 3-1/C #2, 1/C #2 GROUND SUB-PANEL FEEDER FROM MAIN PANEL "EP"

STEEL ERECTION & SITE CONSTRUCTION CONTRACT

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY MAE | PLANS CK'D. DAD

GIRDER LIGHTING PLAN AND ELEV UNIT 1 SPAN 3

SHEET 70 OF 91
959

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DATE= 5/1/2013
I.D.

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| STATE PROJECT NUMBER |
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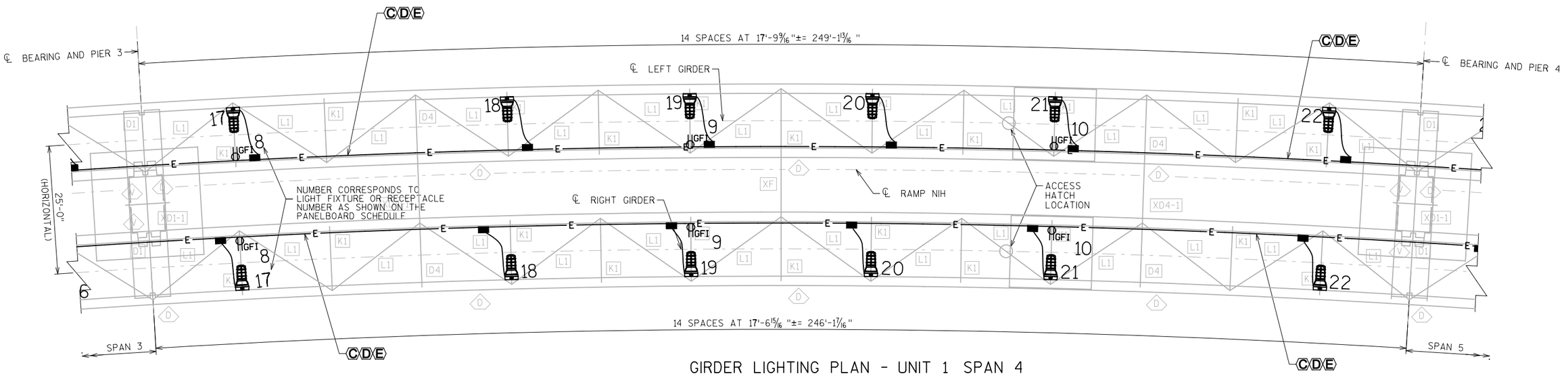
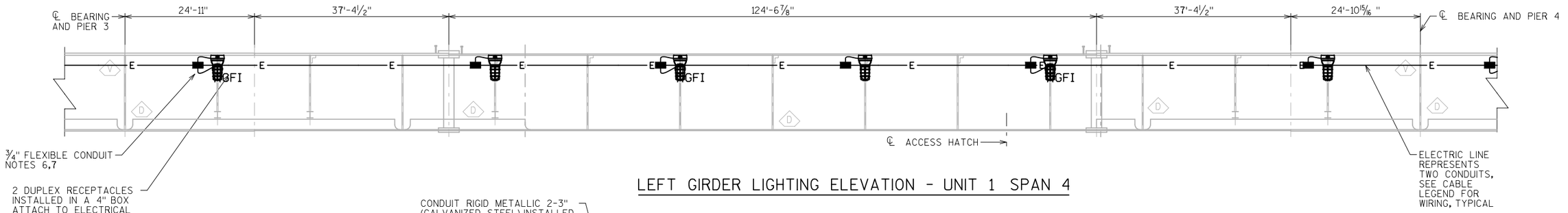
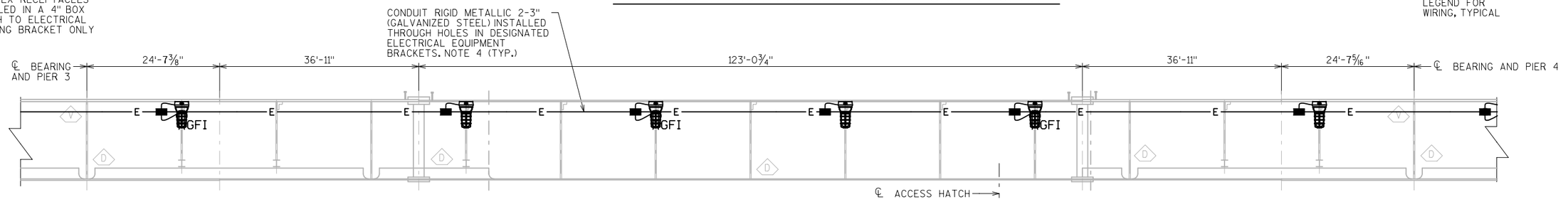
| 1133-11-74 |




## GIRDER LIGHTING PLAN - UNIT 1 SPAN 4




## LEFT GIRDER LIGHTING ELEVATION - UNIT 1 SPAN 4




## RIGHT GIRDER LIGHTING ELEVATION - UNIT 1 SPAN 4

### LEGEND

- VAPOR PROOF L.E.D. LIGHT FIXTURE 26 WATT, 240V, CEILING MOUNTED HEAVY DUTY, COMMERCIAL GRADE
- GFCI RECEPTACLES, TWO DUPLEX RECEPTACLES IN A 4" BOX, 120V, MEASURED PER EACH COMPLETE UNIT WITH FLEX CONDUIT FOR PAYMENT
- JUNCTION BOX, STAINLESS STEEL, 27"X18"X8"
- —E— CONDUIT RIGID METALLIC 2-3" (GALVANIZED STEEL) WITH 7-1/C #8, 1/C #8 GROUND ELECTRICAL WIRE LIGHTING

### CABLE LEGEND

- ⟨A⟩ 2-1/C #8, 1/C #8 GROUND RECEPTACLE CIRCUIT, 120V
- ⟨B⟩ 2-1/C #8, 1/C #8 GROUND LIGHTING CIRCUIT, 240V
- ⟨C⟩ 3-1/C #8, 1/C #8 GROUND (2) RECEPTACLE CIRCUITS, ALTERNATING
- ⟨D⟩ 4-1/C #8, 1/C #8 GROUND (2) LIGHTING CIRCUITS, ALTERNATING
- ⟨E⟩ 3-1/C #2, 1/C #2 GROUND SUB-PANEL FEEDER FROM MAIN PANEL "EP"

SEE OTHER GIRDER LIGHTING SHEETS FOR NOTES

STEEL ERECTION & SITE CONSTRUCTION CONTRACT

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY MAE | PLANS CK'D. DAD

GIRDER LIGHTING PLAN AND ELEV UNIT 1 SPAN 4

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960

DATE: 5/1/2013
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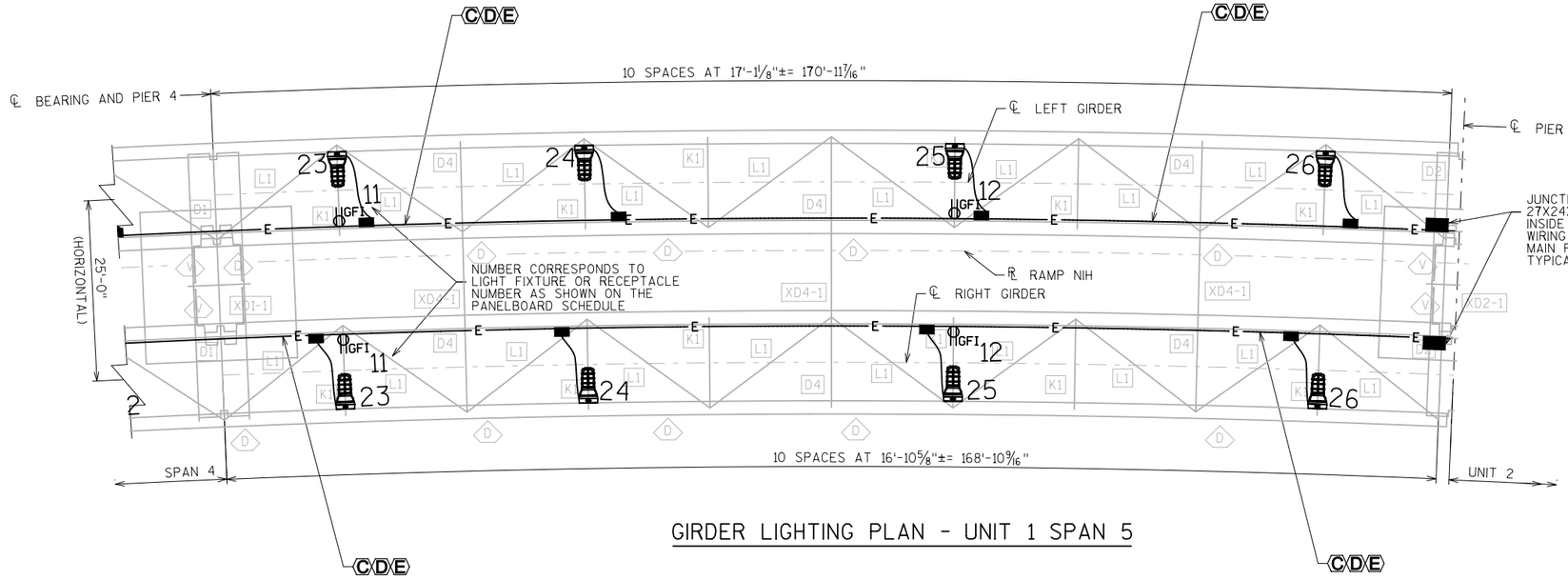
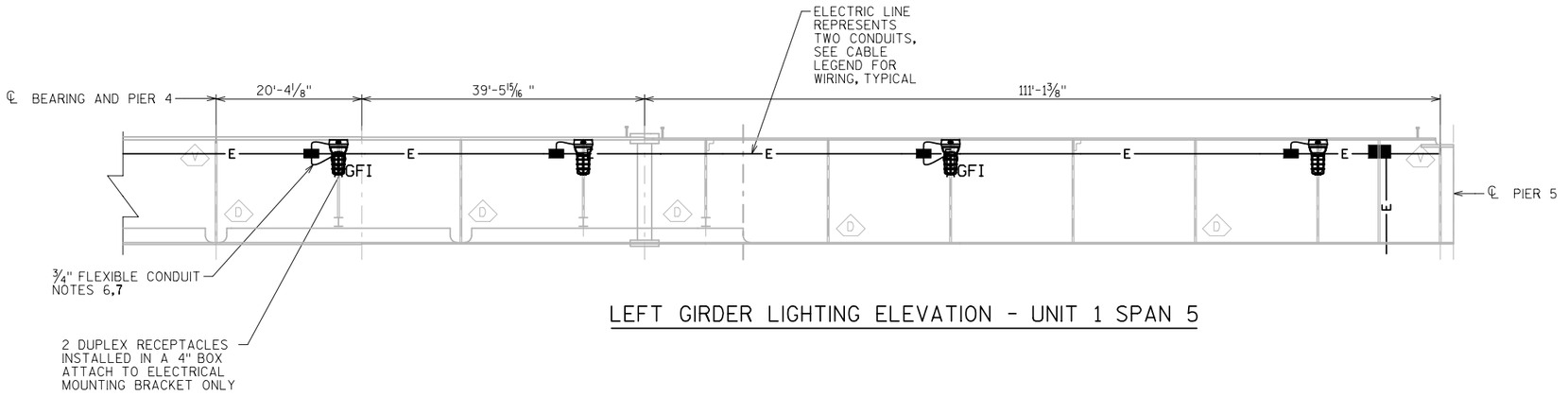
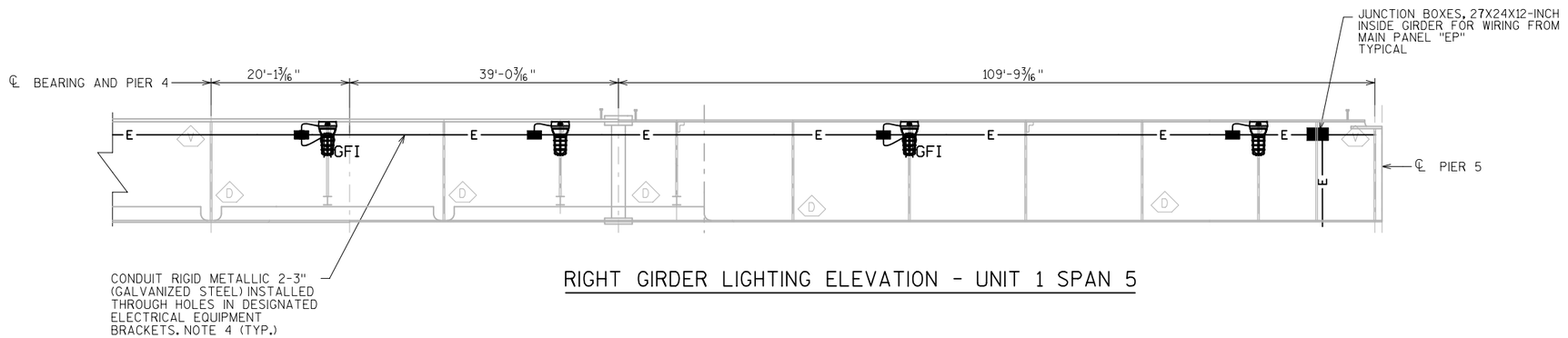



## GIRDER LIGHTING PLAN - UNIT 1 SPAN 5




## LEFT GIRDER LIGHTING ELEVATION - UNIT 1 SPAN 5




## RIGHT GIRDER LIGHTING ELEVATION - UNIT 1 SPAN 5

STEEL ERECTION & SITE CONSTRUCTION CONTRACT

STATE PROJECT NUMBER

1133-11-74

## LEGEND

- VAPOR PROOF L.E.D. LIGHT FIXTURE 26 WATT, 240V, CEILING MOUNTED HEAVY DUTY, COMMERCIAL GRADE
- ΦGFI — GFCI RECEPTACLES, TWO DUPLEX RECEPTACLES IN A 4" BOX, 120V, MEASURED PER EACH COMPLETE UNIT WITH FLEX CONDUIT FOR PAYMENT
- JUNCTION BOX, STAINLESS STEEL, 27"X18"X8"
- —E— CONDUIT RIGID METALLIC 2-3" (GALVANIZED STEEL) WITH 7-1/C #8, 1/C #8 GROUND ELECTRICAL WIRE LIGHTING

## NOTES

1. FURNISH AND INSTALL VAPOR PROOF L.E.D. LUMINAIRES THAT ARE ENCLOSED, GASKETED, AND RATED FOR DAMP AND COLD WEATHER LOCATIONS.
2. INSTALL ELECTRICAL CONDUITS THROUGH DESIGNATED OPENINGS IN STEEL BOX GIRDER DIAPHRAGMS.
3. INSTALL CABLES FOR THE LIGHTING CIRCUITS AND RECEPTACLES IN SEPARATE CONDUITS. THE LIGHTING CIRCUITS ARE ON SEPARATE BREAKERS.
4. DO NOT PERFORM DRILLING IN ANY STRUCTURAL MEMBERS. DRILL ONLY ON ELECTRICAL BRACKETS. DO NOT DRILL INTO BOTTOM OF CONCRETE DECK.
5. INSTALL GFCI RECEPTACLES IN DESIGNATED LOCATIONS SPACED AT APPROXIMATELY 100'. PROVIDE TWO (2) DUPLEX RECEPTACLES IN ONE BOX AT EACH LOCATION WITH COVER PLATE.
6. PROVIDE AND INSTALL LIQUIDTIGHT FLEXIBLE METAL CONDUITS BETWEEN JUNCTION BOXES AND RECEPTACLES AND BETWEEN JUNCTION BOXES AND LUMINAIRES, AS NEEDED. COST OF SUCH CONDUITS SHALL BE INCLUDED IN THE COST OF THE RECEPTACLES OR LUMINAIRES. NO ADDITIONAL COMPENSATION WILL BE MADE FOR MATERIALS OR LABOR TO PERFORM THIS WORK.
7. INSTALL LUMINAIRES ON SIDE OF BOX GIRDER OPPOSITE JUNCTION BOXES AND RECEPTACLES AS SHOWN. FURNISH AND INSTALL FLEXIBLE CONDUIT OF ADEQUATE SIZE AND LENGTH FROM JUNCTION BOX TO LUMINAIRE.

## CABLE LEGEND

- Ⓐ 2-1/C #8, 1/C #8 GROUND RECEPTACLE CIRCUIT, 120V
- Ⓑ 2-1/C #8, 1/C #8 GROUND LIGHTING CIRCUIT, 240V
- Ⓒ 3-1/C #8, 1/C #8 GROUND (2) RECEPTACLE CIRCUITS, ALTERNATING
- Ⓓ 4-1/C #8, 1/C #8 GROUND (2) LIGHTING CIRCUITS, ALTERNATING
- Ⓔ 3-1/C #2, 1/C #2 GROUND SUB-PANEL FEEDER FROM MAIN PANEL "EP"

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY MAE | PLANS CK'D. DAD

GIRDER LIGHTING PLAN AND ELEV UNIT 1 SPAN 5

SHEET 72 OF 91
961

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DATE: 5/1/2013
I.D.

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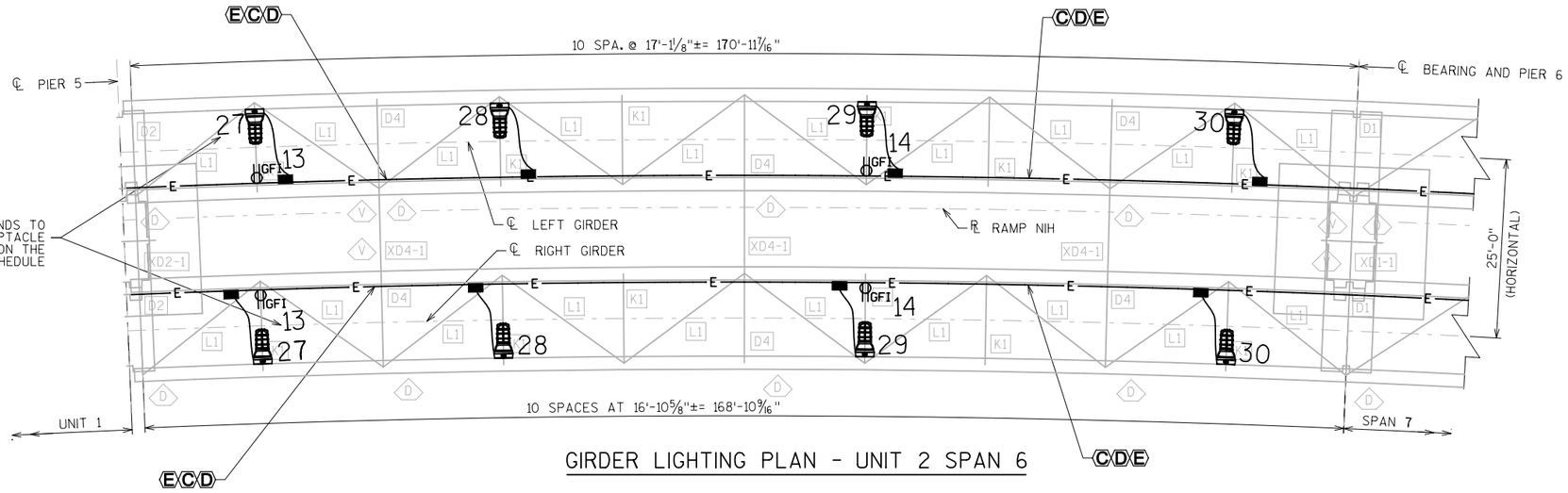
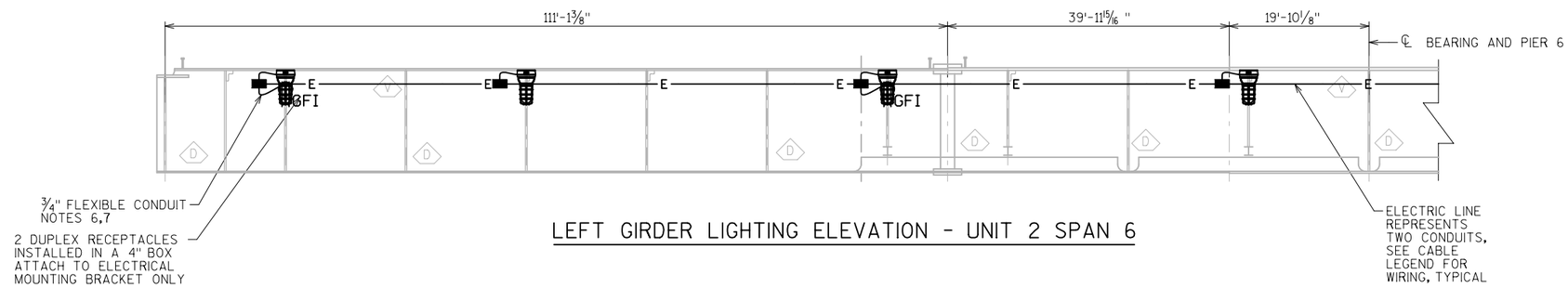
STATE PROJECT NUMBER

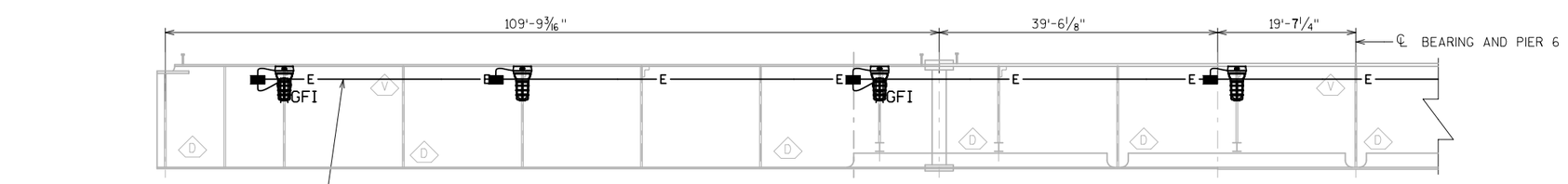
1133-11-74




GIRDER LIGHTING PLAN - UNIT 2 SPAN 6




LEFT GIRDER LIGHTING ELEVATION - UNIT 2 SPAN 6




RIGHT GIRDER LIGHTING ELEVATION - UNIT 2 SPAN 6

## LEGEND

- VAPOR PROOF L.E.D. LIGHT FIXTURE 26 WATT, 240V, CEILING MOUNTED HEAVY DUTY, COMMERCIAL GRADE
- GFCI RECEPTACLES, TWO DUPLEX RECEPTACLES IN A 4" BOX, 120V, MEASURED PER EACH COMPLETE UNIT WITH FLEX CONDUIT FOR PAYMENT
- JUNCTION BOX, STAINLESS STEEL, 27"X18"X8"
- E — CONDUIT RIGID METALLIC 2-3" (GALVANIZED STEEL) WITH 7-1/C #8, 1/C #8 GROUND ELECTRICAL WIRE LIGHTING

## LEGEND

1. FURNISH AND INSTALL VAPOR PROOF L.E.D. LUMINAIRES THAT ARE ENCLOSED, GASKETED, AND RATED FOR DAMP AND COLD WEATHER LOCATIONS.
2. INSTALL ELECTRICAL CONDUITS THROUGH DESIGNATED OPENINGS IN STEEL BOX GIRDER DIAPHRAGMS.
3. INSTALL CABLES FOR THE LIGHTING CIRCUITS AND RECEPTACLES IN SEPARATE CONDUITS. THE LIGHTING CIRCUITS ARE ON SEPARATE BREAKERS.
4. DO NOT PERFORM DRILLING IN ANY STRUCTURAL MEMBERS. DRILL ONLY ON ELECTRICAL BRACKETS. DO NOT DRILL INTO BOTTOM OF CONCRETE DECK.
5. INSTALL GFCI RECEPTACLES IN DESIGNATED LOCATIONS SPACED AT APPROXIMATELY 100'. PROVIDE TWO (2) DUPLEX RECEPTACLES IN ONE BOX AT EACH LOCATION WITH COVER PLATE.
6. PROVIDE AND INSTALL LIQUIDTIGHT FLEXIBLE METAL CONDUITS BETWEEN JUNCTION BOXES AND RECEPTACLES AND BETWEEN JUNCTION BOXES AND LUMINAIRES, AS NEEDED. COST OF SUCH CONDUITS SHALL BE INCLUDED IN THE COST OF THE RECEPTACLES OR LUMINAIRES. NO ADDITIONAL COMPENSATION WILL BE MADE FOR MATERIALS OR LABOR TO PERFORM THIS WORK.
7. INSTALL LUMINAIRES ON SIDE OF BOX GIRDER OPPOSITE JUNCTION BOXES AND RECEPTACLES AS SHOWN. FURNISH AND INSTALL FLEXIBLE CONDUIT OF ADEQUATE SIZE AND LENGTH FROM JUNCTION BOX TO LUMINAIRE.

## CABLE LEGEND

- (A) 2-1/C #8, 1/C #8 GROUND RECEPTACLE CIRCUIT, 120V
- (B) 2-1/C #8, 1/C #8 GROUND LIGHTING CIRCUIT, 240V
- (C) 3-1/C #8, 1/C #8 GROUND (2) RECEPTACLE CIRCUITS, ALTERNATING
- (D) 4-1/C #8, 1/C #8 GROUND (2) LIGHTING CIRCUITS, ALTERNATING
- (E) 3-1/C #2, 1/C #2 GROUND SUB-PANEL FEEDER FROM MAIN PANEL "EP"

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY MAE | PLANS CK'D. DAD

GIRDER LIGHTING PLAN AND ELEV UNIT 2 SPAN 6

SHEET 73 OF 91

962

STEEL ERECTION & SITE CONSTRUCTION CONTRACT

8

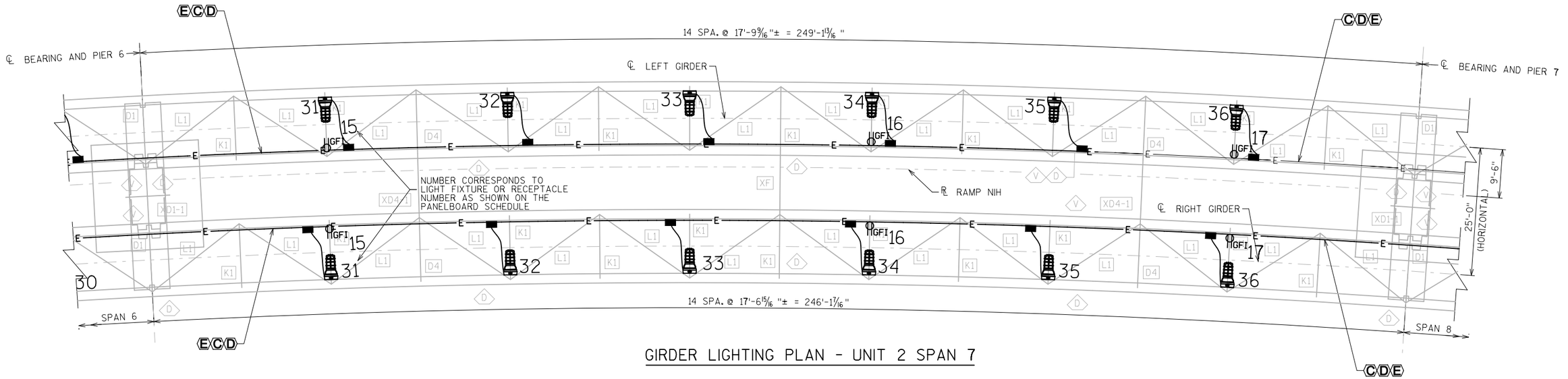
8

FILE= Q:\WisDot_12345678_US41Bridges\Lighting\PLANS\B-5-679\073 - B-5-679E - GIRDER LIGHTING PLAN AND ELEV UNIT 2 SPAN 6.dgn

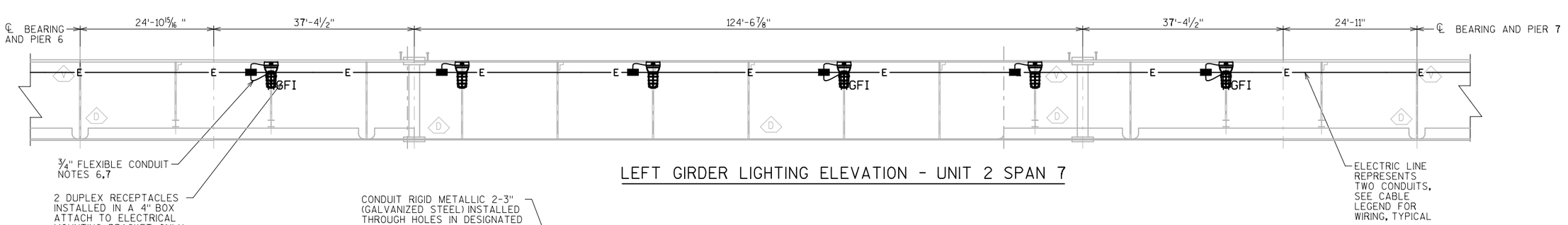
DATE: 5/1/2013

I.D.

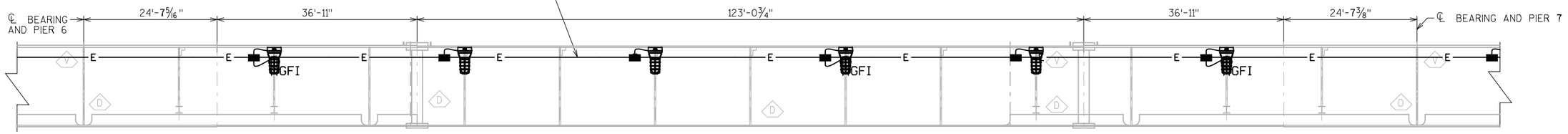
| STATE PROJECT NUMBER |
|---|
| 1133-11-74 |




## GIRDER LIGHTING PLAN - UNIT 2 SPAN 7




## LEFT GIRDER LIGHTING ELEVATION - UNIT 2 SPAN 7




## RIGHT GIRDER LIGHTING ELEVATION - UNIT 2 SPAN 7

### LEGEND

- VAPOR PROOF L.E.D. LIGHT FIXTURE 26 WATT, 240V, CEILING MOUNTED HEAVY DUTY, COMMERCIAL GRADE
- GFCI RECEPTACLES, TWO DUPLEX RECEPTACLES IN A 4" BOX, 120V, MEASURED PER EACH COMPLETE UNIT WITH FLEX CONDUIT FOR PAYMENT
- JUNCTION BOX, STAINLESS STEEL, 27"X18"X8"
- —E— CONDUIT RIGID METALLIC 2-3" (GALVANIZED STEEL) WITH 7-1/C #8, 1/C #8 GROUND ELECTRICAL WIRE LIGHTING

### CABLE LEGEND

- (A) 2-1/C #8, 1/C #8 GROUND RECEPTACLE CIRCUIT, 120V
- (B) 2-1/C #8, 1/C #8 GROUND LIGHTING CIRCUIT, 240V
- (C) 3-1/C #8, 1/C #8 GROUND (2) RECEPTACLE CIRCUITS, ALTERNATING
- (D) 4-1/C #8, 1/C #8 GROUND (2) LIGHTING CIRCUITS, ALTERNATING
- (E) 3-1/C #2, 1/C #2 GROUND SUB-PANEL FEEDER FROM MAIN PANEL "EP"

SEE OTHER GIRDER LIGHTING SHEETS FOR NOTES

STEEL ERECTION & SITE CONSTRUCTION CONTRACT

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY MAE | PLANS CK'D. DAD

GIRDER LIGHTING PLAN AND ELEV UNIT 2 SPAN 7

SHEET 74 OF 91
963

DATE: 5/1/2013
I.D.

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| STATE PROJECT NUMBER |
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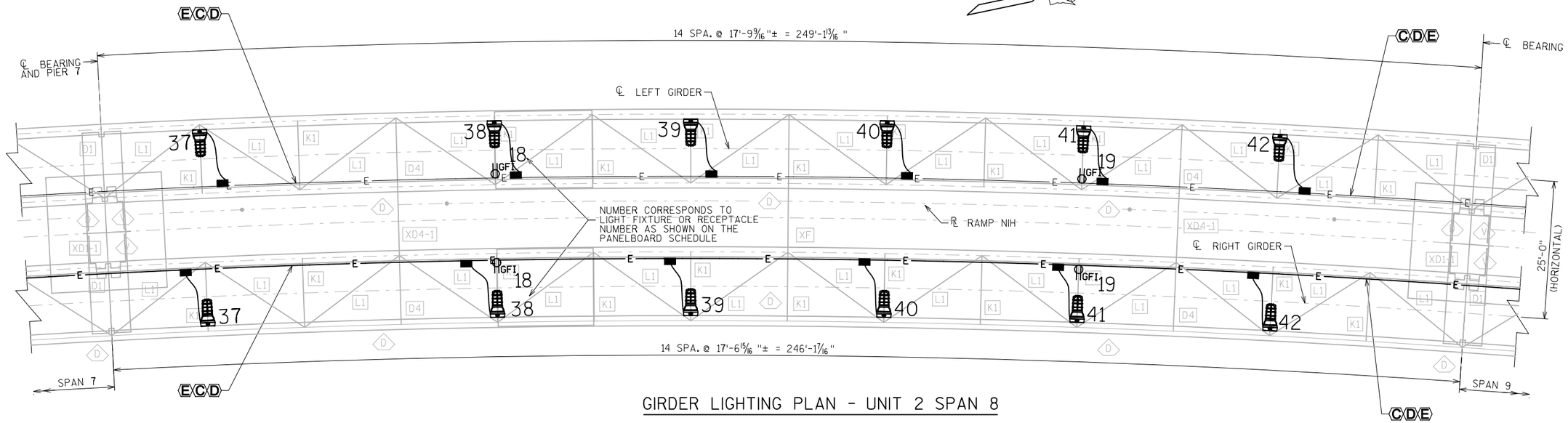
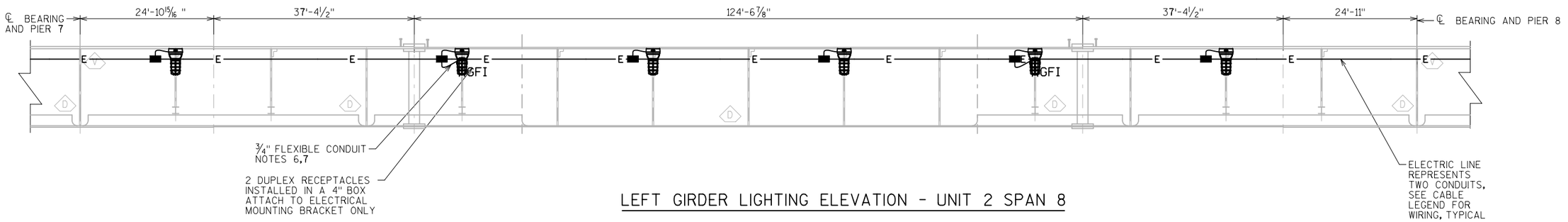
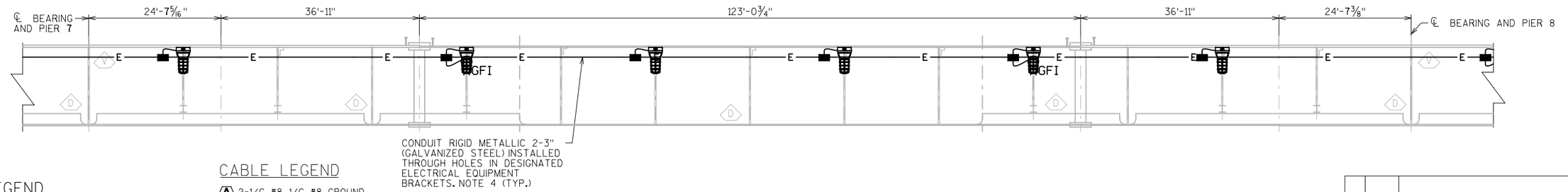
| 1133-11-74 |




## GIRDER LIGHTING PLAN - UNIT 2 SPAN 8




## LEFT GIRDER LIGHTING ELEVATION - UNIT 2 SPAN 8




## RIGHT GIRDER LIGHTING ELEVATION - UNIT 2 SPAN 8

### LEGEND

- VAPOR PROOF L.E.D. LIGHT FIXTURE 26 WATT, 240V. CEILING MOUNTED HEAVY DUTY, COMMERCIAL GRADE
- GFCI RECEPTACLES, TWO DUPLEX RECEPTACLES IN A 4" BOX, 120V, MEASURED PER EACH COMPLETE UNIT WITH FLEX CONDUIT FOR PAYMENT
- JUNCTION BOX, STAINLESS STEEL, 27"X18"X8"
- CONDUIT RIGID METALLIC 2-3" (GALVANIZED STEEL) WITH 7-1/C #8, 1/C #8 GROUND ELECTRICAL WIRE LIGHTING

### CABLE LEGEND

- (A) 2-1/C #8, 1/C #8 GROUND RECEPTACLE CIRCUIT, 120V
- (B) 2-1/C #8, 1/C #8 GROUND LIGHTING CIRCUIT, 240V
- (C) 3-1/C #8, 1/C #8 GROUND (2) RECEPTACLE CIRCUITS, ALTERNATING
- (D) 4-1/C #8, 1/C #8 GROUND (2) LIGHTING CIRCUITS, ALTERNATING
- (E) 3-1/C #2, 1/C #2 GROUND SUB-PANEL FEEDER FROM MAIN PANEL "EP"

SEE OTHER GIRDER LIGHTING SHEETS FOR NOTES

STEEL ERECTION & SITE CONSTRUCTION CONTRACT

| NO. | DATE | REVISION | BY |
|---|---|---|---|
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY MAE | PLANS CK'D. DAD

GIRDER LIGHTING PLAN AND ELEV UNIT 2 SPAN 8

SHEET 75 OF 91
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DATE: 5/1/2013
I.D.

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| STATE PROJECT NUMBER |
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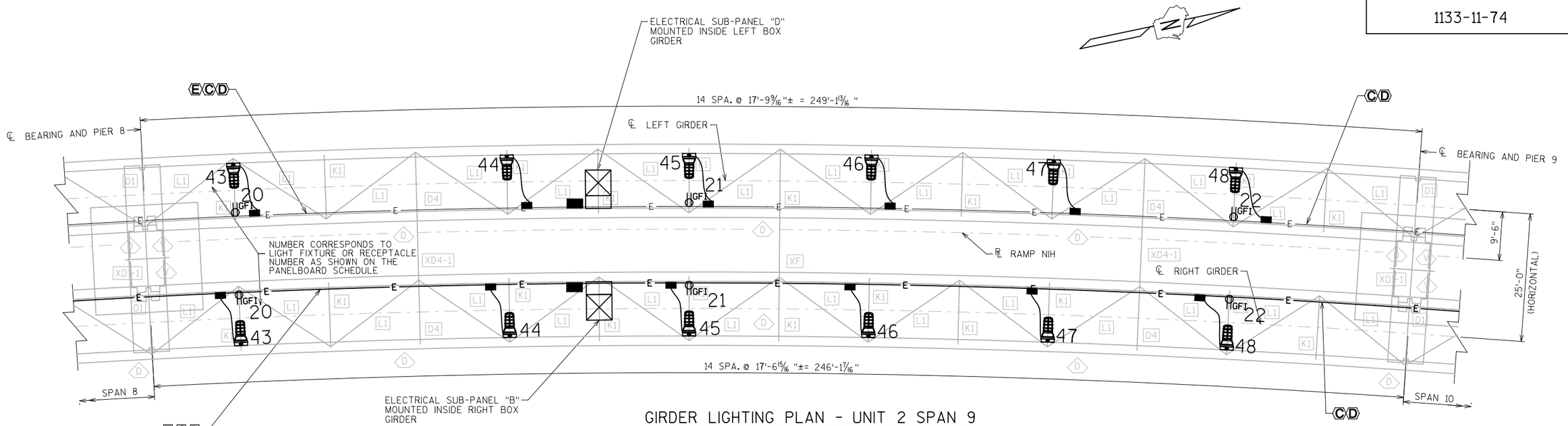
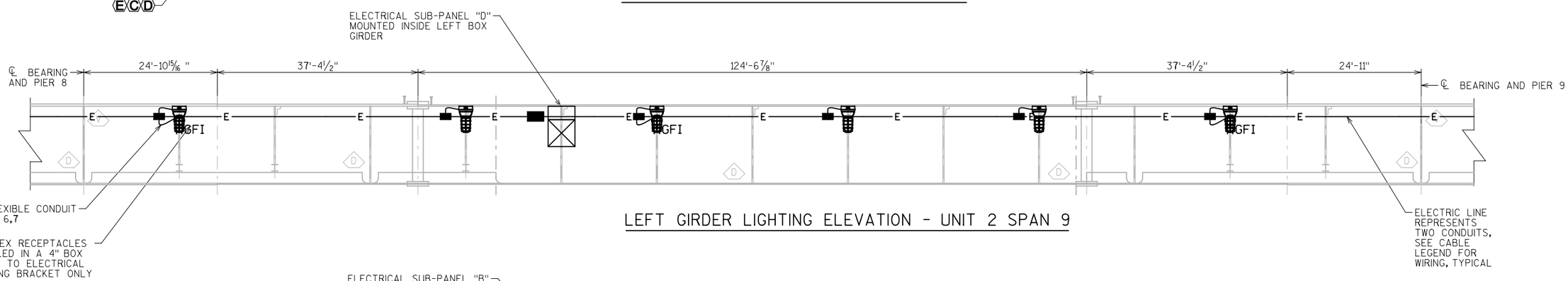
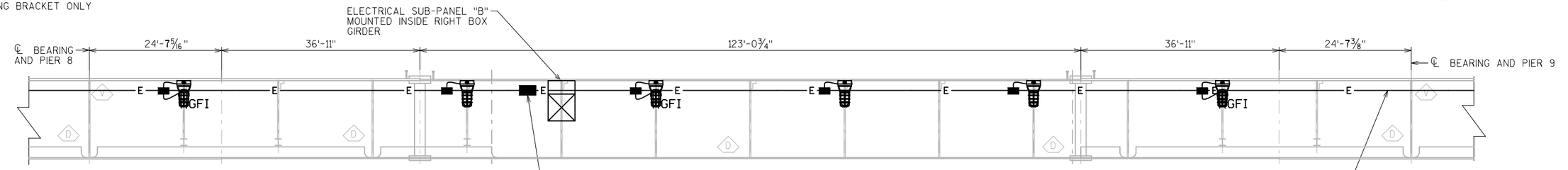
| 1133-11-74 |




## GIRDER LIGHTING PLAN - UNIT 2 SPAN 9




## LEFT GIRDER LIGHTING ELEVATION - UNIT 2 SPAN 9




## RIGHT GIRDER LIGHTING ELEVATION - UNIT 2 SPAN 9

### LEGEND

- VAPOR PROOF L.E.D. LIGHT FIXTURE 26 WATT, 240V, CEILING MOUNTED HEAVY DUTY, COMMERCIAL GRADE
- GFCI RECEPTACLES, TWO DUPLEX RECEPTACLES IN A 4" BOX, 120V, MEASURED PER EACH COMPLETE UNIT WITH FLEX CONDUIT FOR PAYMENT
- JUNCTION BOX, STAINLESS STEEL, 27"X18"X8"
- —E— CONDUIT RIGID METALLIC 2-3" (GALVANIZED STEEL) WITH 7-1/C #8, 1/C #8 GROUND ELECTRICAL WIRE LIGHTING
- ELECTRICAL REMOTE PANEL (SUB-PANEL) TWO IN EACH BOX GIRDER 120/240V, 1-PHASE, 3-WIRE SEE PANELBOARD SCHEDULES

### CABLE LEGEND

- (A) 2-1/C #8, 1/C #8 GROUND RECEPTACLE CIRCUIT, 120V
- (B) 2-1/C #8, 1/C #8 GROUND LIGHTING CIRCUIT, 240V
- (C) 3-1/C #8, 1/C #8 GROUND (2) RECEPTACLE CIRCUITS, ALTERNATING
- (D) 4-1/C #8, 1/C #8 GROUND (2) LIGHTING CIRCUITS, ALTERNATING
- (E) 3-1/C #2, 1/C #2 GROUND SUB-PANEL FEEDER FROM MAIN PANEL "EP"

SEE OTHER GIRDER LIGHTING SHEETS FOR NOTES

STEEL ERECTION & SITE CONSTRUCTION CONTRACT

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

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GIRDER LIGHTING PLAN AND ELEV UNIT 2 SPAN 9

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DATE: 5/1/2013
I.D.

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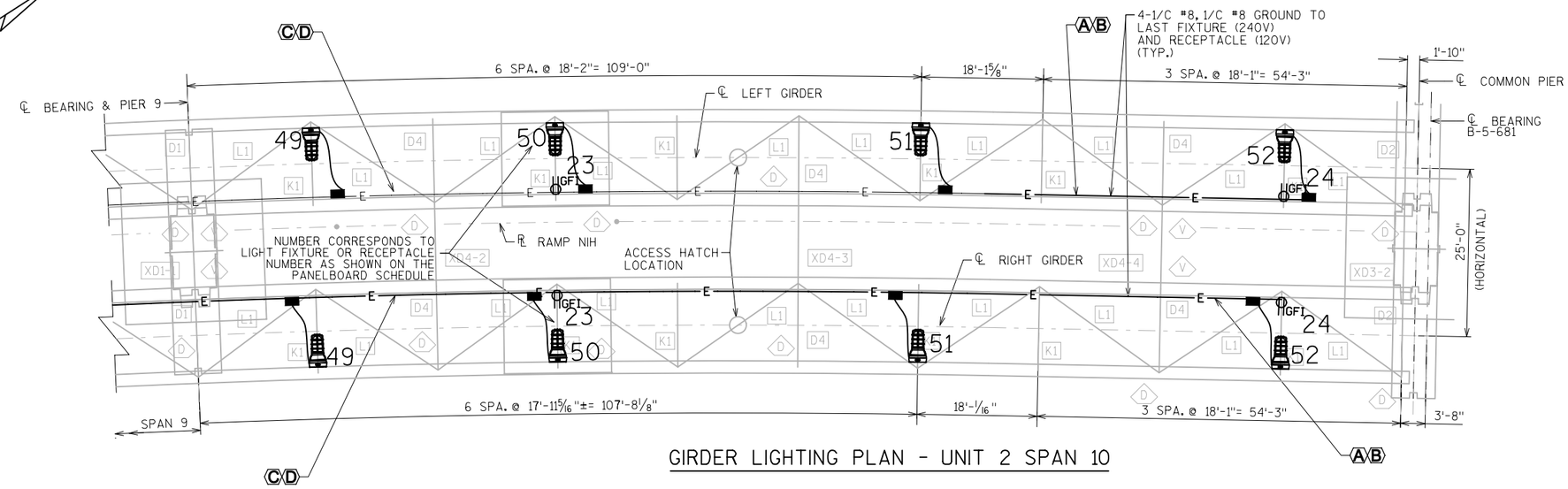
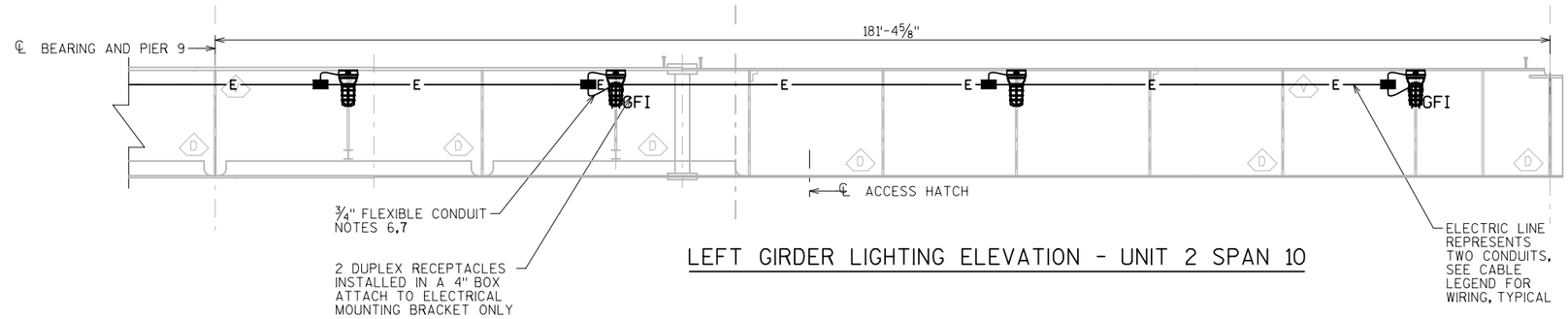
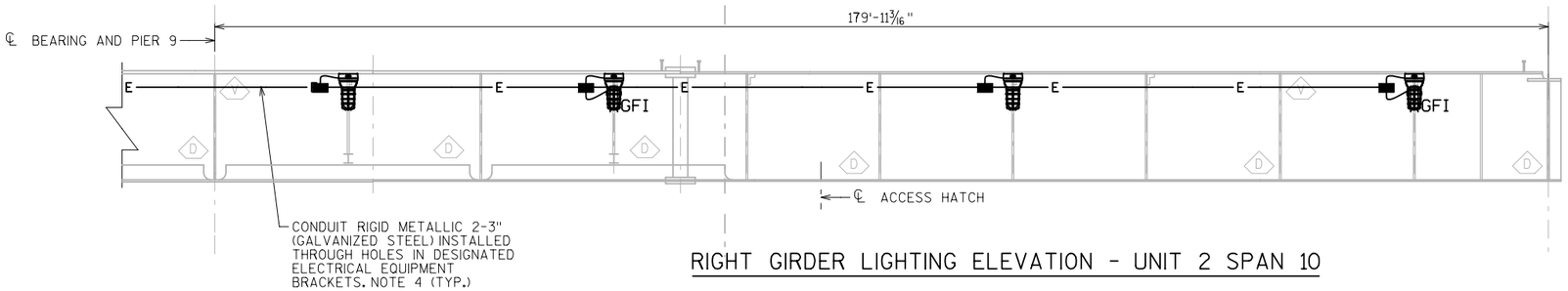



## GIRDER LIGHTING PLAN - UNIT 2 SPAN 10




## LEFT GIRDER LIGHTING ELEVATION - UNIT 2 SPAN 10




## RIGHT GIRDER LIGHTING ELEVATION - UNIT 2 SPAN 10

STATE PROJECT NUMBER

1133-11-74

## LEGEND

- VAPOR PROOF L.E.D. LIGHT FIXTURE 26 WATT, 240V, CEILING MOUNTED HEAVY DUTY, COMMERCIAL GRADE
- GFCI RECEPTACLES, TWO DUPLEX RECEPTACLES IN A 4" BOX, 120V, MEASURED PER EACH COMPLETE UNIT WITH FLEX CONDUIT FOR PAYMENT
- JUNCTION BOX, STAINLESS STEEL, 27"X18"X8"
- —E— CONDUIT RIGID METALLIC 2-3" (GALVANIZED STEEL) WITH 7-1/C #8, 1/C #8 GROUND ELECTRICAL WIRE LIGHTING

## NOTES

1. FURNISH AND INSTALL VAPOR PROOF L.E.D. LUMINAIRES THAT ARE ENCLOSED, GASKETED, AND RATED FOR DAMP AND COLD WEATHER LOCATIONS.
2. INSTALL ELECTRICAL CONDUITS THROUGH DESIGNATED OPENINGS IN STEEL BOX GIRDER DIAPHRAGMS.
3. INSTALL CABLES FOR THE LIGHTING CIRCUITS AND RECEPTACLES IN SEPARATE CONDUITS. THE LIGHTING CIRCUITS ARE ON SEPARATE BREAKERS.
4. DO NOT PERFORM DRILLING IN ANY STRUCTURAL MEMBERS. DRILL ONLY ON ELECTRICAL BRACKETS. DO NOT DRILL INTO BOTTOM OF CONCRETE DECK.
5. INSTALL GFCI RECEPTACLES IN DESIGNATED LOCATIONS SPACED AT APPROXIMATELY 100'. PROVIDE TWO (2) DUPLEX RECEPTACLES IN ONE BOX AT EACH LOCATION WITH COVER PLATE.
6. PROVIDE AND INSTALL LIQUIDTIGHT FLEXIBLE METAL CONDUITS BETWEEN JUNCTION BOXES AND RECEPTACLES AND BETWEEN JUNCTION BOXES AND LUMINAIRES, AS NEEDED. COST OF SUCH CONDUITS SHALL BE INCLUDED IN THE COST OF THE RECEPTACLES OR LUMINAIRES. NO ADDITIONAL COMPENSATION WILL BE MADE FOR MATERIALS OR LABOR TO PERFORM THIS WORK.
7. INSTALL LUMINAIRES ON SIDE OF BOX GIRDER OPPOSITE JUNCTION BOXES AND RECEPTACLES AS SHOWN. FURNISH AND INSTALL FLEXIBLE CONDUIT OF ADEQUATE SIZE AND LENGTH FROM JUNCTION BOX TO LUMINAIRE.

CABLE LEGEND

- (A) 2-1/C #8, RECEPTACLE CIRCUIT, 120V
- (B) 2-1/C #8, LIGHTING CIRCUIT, 240V
- (C) 3-1/C #8, (2) RECEPTACLE CIRCUITS, ALTERNATING
- (D) 4-1/C #8, (2) LIGHTING CIRCUITS, ALTERNATING

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

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GIRDER LIGHTING PLAN AND ELEV UNIT 2 SPAN 10

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STEEL ERECTION & SITE CONSTRUCTION CONTRACT

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DATE: 5/1/2013
I.D.

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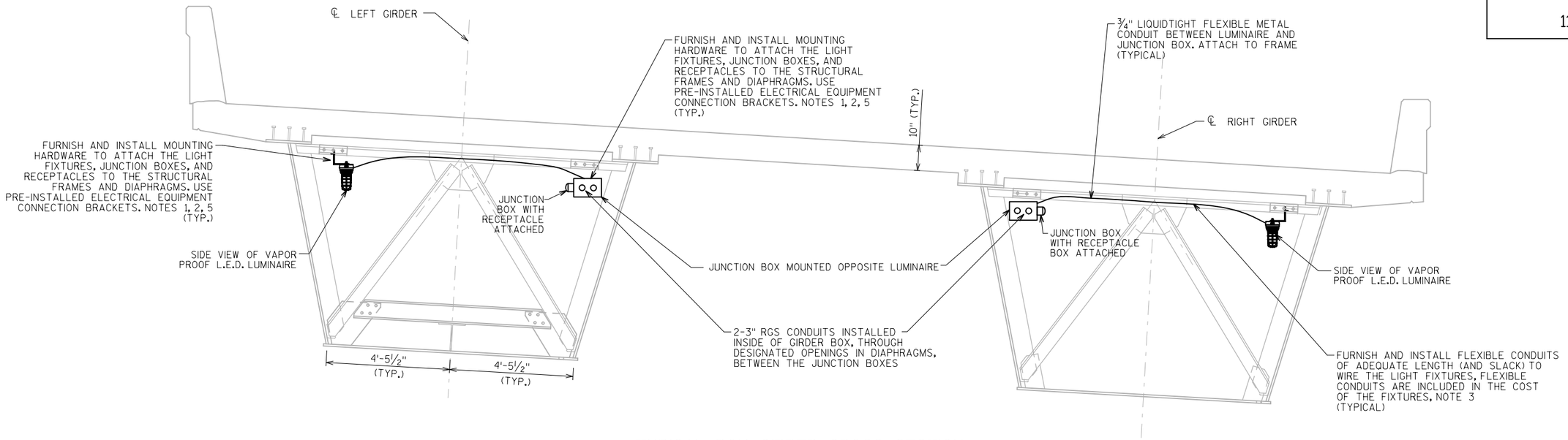
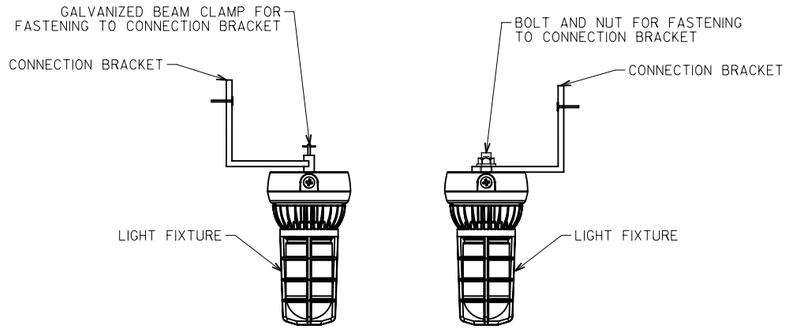
STATE PROJECT NUMBER

1133-11-74

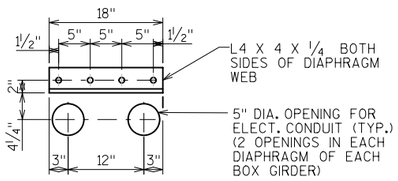



## TYPICAL BOX GIRDER CROSS SECTION

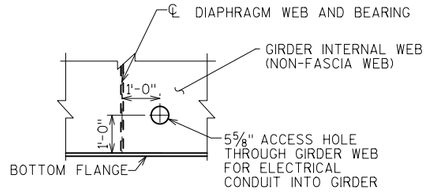
(LOOKING UPSTATION)




## VAPOR PROOF L.E.D. LIGHT FIXTURE INSTALLATION DETAILS




## OPENINGS AND CONNECTION BRACKET DETAILS FOR ELECTRICAL

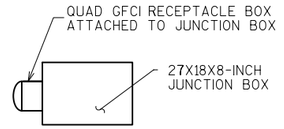



## EXTERNAL ELECTRICAL ACCESS DETAIL

TWO ACCESS LOCATIONS FOR INCOMING POWER TO INTERIOR OF GIRDER (LOC. TO BE DETERMINED DURING FABRICATION) (TYP. BOTH GIRDERS)

## NOTES:

1. CONNECTION BRACKETS AND ATTACHING BOLTS SHOWN ARE FURNISHED BY STEEL GIRDER FABRICATOR FOR USE BY THE ELECTRICAL CONTRACTOR TO ATTACH THE LIGHT FIXTURES, CONDUITS AND BOXES. MODIFY BRACKETS AS NECESSARY AND FURNISH AND INSTALL MOUNTING HARDWARE TO PROVIDE A PROPER INSTALLATION FOR THE ELECTRICAL AND LIGHTING EQUIPMENT.
2. DON'T SUPPORT ANY JUNCTION BOXES, LIGHT FIXTURES, RECEPTACLES, OR ELECTRICAL REMOTE PANELS (SUB-PANELS) BY ATTACHING DIRECTLY TO CONDUITS. INSTALL AND SUPPORT ALL EQUIPMENT BY FURNISHING MOUNTING CLAMPS, BRACKETS, AND OTHER HARDWARE APPROPRIATE FOR THE MOUNTING LOCATION TO PROVIDE A FIXED AND SECURE INSTALLATION.
3. FURNISH AND INSTALL LIQUIDTIGHT FLEXIBLE METAL CONDUITS OF ADEQUATE LENGTH BETWEEN JUNCTION BOXES AND LIGHT FIXTURES/RECEPTACLES AND ELECTRICAL REMOTE PANELS. PROVIDE ADDITIONAL SLACK IN ALL FLEXIBLE CONDUITS IN ORDER TO ALLOW FOR ADEQUATE MOVEMENT IN ALL DIRECTIONS. INCLUDE COST OF LIQUIDTIGHT FLEXIBLE METAL CONDUITS, ADAPTERS, FITTINGS, AND OTHER HARDWARE AND ACCESSORIES IN THE COST OF LIGHT FIXTURES AND RECEPTACLES. NO SEPARATE PAYMENT FOR THIS WORK WILL BE ALLOWED.
4. SEAL OPENINGS AROUND ALL CONDUITS ENTERING THE BOX GIRDERS TO PROVIDE A WEATHER-PROOF SEAL.
5. FURNISH AND INSTALL GALVANIZED STEEL OR 304 STAINLESS STEEL SUPPORTS, CLAMPS, BRACKETS, HANGER RODS, HARDWARE, NUTS, BOLTS, AND WASHERS FOR CONDUITS, JUNCTIONS BOXES, AND RECEPTACLES. ALL THREADED HARDWARE SHALL BE STAINLESS STEEL.
6. FURNISH AND INSTALL CONDUIT EXPANSION/DEFLECTION COUPLINGS AND FLEXIBLE BONDING JUMPERS BYPASSING THE COUPLINGS TO ENSURE GROUND CONTINUITY FOR CONDUITS CROSSING EXPANSION JOINTS. USE ONLY COMBINATION EXPANSION/DEFLECTION FITTINGS SIMILAR TO O-Z/GEDNEY MODEL NO. AX8DX. DON'T USE "EXPANSION ONLY" FITTINGS.
7. PROVIDE FLEXIBLE METALLIC CONDUITS BETWEEN RIGID CONDUITS ACROSS JOINTS WHERE THE CALCULATED CONDUIT MOVEMENT EXCEEDS THE MAXIMUM ALLOWABLE MOVEMENT OF THE COMBINATION EXPANSION/DEFLECTION FITTINGS. FLEXIBLE CONDUITS AND FITTINGS ARE INCLUDED IN THE COST OF THE CONDUITS.




## JUNCTION BOX

STEEL ERECTION & SITE CONSTRUCTION CONTRACT

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY MAE | PLANS CK'D. DAD

ELECTRICAL BOX GIRDER DETAILS

SHEET 78 OF 91
967

DATE: 5/1/2013
I.D.

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STATE PROJECT NUMBER

1133-11-74

## Electrical Panel: EP

Rating: 200A
Voltage: 120/240 Volts, 1 Phase 3 Wire
Feeder Conductors: 4/0 AWG
Main Brkr: 200 A

BRIDGE B-5-679

| Ckt | Brkr Amps | Brkr Poles 1 or 2 | Description | VA | | A | B | VA | | Description | Brkr Poles 1 or 2 | Brkr Amps | Ckt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 20 | 1 | RIGHT BOX GIRDER RECEPTACLES 10-12 EVEN | 720 | | X | | 75 | | RIGHT BOX GIRDER LIGHTS 18-28 (EVEN) | 2 | 20 | 2 |
| 3 | 20 | 1 | RIGHT BOX GIRDER RECEPTACLES 9-11 ODD | | 720 | | X | | 75 | | | | 4 |
| 5 | 20 | 1 | RIGHT BOX GIRDER RECEPTACLES 14-16 EVEN | 720 | | X | | 60 | | RIGHT BOX GIRDER LIGHTS 19-25 (ODD) | 2 | 20 | 6 |
| 7 | 20 | 1 | RIGHT BOX GIRDER RECEPTACLES 13-17 ODD | | 1080 | | X | | 60 | | | | 8 |
| 9 | 20 | 1 | LEFT BOX GIRDER RECEPTACLES 10-12 EVEN | 720 | | X | | 75 | | RIGHT BOX GIRDER LIGHTS 28-36 (EVEN) | 2 | 20 | 10 |
| 11 | 20 | 1 | LEFT BOX GIRDER RECEPTACLES 9-11 ODD | | 720 | | X | | 75 | | | | 12 |
| 13 | 20 | 1 | LEFT BOX GIRDER RECEPTACLES 14-16 EVEN | 720 | | X | | 75 | | RIGHT BOX GIRDER LIGHTS 27-35 (ODD) | 2 | 20 | 14 |
| 15 | 20 | 1 | LEFT BOX GIRDER RECEPTACLES 13-17 ODD | | 1080 | | X | | 75 | | | | 16 |
| 17 | 20 | 1 | SPARE | | | X | | 75 | | LEFT BOX GIRDER LIGHTS 18-28 (EVEN) | 2 | 20 | 18 |
| 19 | 20 | 1 | SPARE | | | | X | | 75 | | | | 20 |
| 21 | 20 | 1 | SPARE | | | X | | 60 | | LEFT BOX GIRDER LIGHTS 19-25 (ODD) | 2 | 20 | 22 |
| 23 | 20 | 1 | SPARE | | | | X | | 60 | | | | 24 |
| 25 | 20 | 2 | SPARE | | | X | | 75 | | LEFT BOX GIRDER LIGHTS 28-36 (EVEN) | 2 | 20 | 26 |
| 27 | | | | | | | X | | 75 | | | | 28 |
| 29 | 20 | 2 | SPARE | | | X | | 75 | | LEFT BOX GIRDER LIGHTS 27-35 (ODD) | 2 | 20 | 30 |
| 31 | | | | | | | X | | 75 | | | | 32 |
| 33 | 60 | 2 | ELECTRICAL SUB-PANEL"A" FEEDER (RIGHT GIRDER) | 1680 | | X | | 1695 | | ELECTRICAL SUB-PANEL "B" FEEDER (RIGHT GIRDER) | 2 | 60 | 34 |
| 35 | | | | | 1680 | | X | | 1335 | | | | 36 |
| 37 | 60 | 2 | ELECTRICAL SUB-PANEL"C" FEEDER (LEFT GIRDER) | 1680 | | X | | 1695 | | ELECTRICAL SUB-PANEL "D" FEEDER (LEFT GIRDER) | 2 | 60 | 38 |
| 39 | | | | | 1680 | | X | | 1335 | | | | 40 |
| 41 | 20 | 1 | SPARE | | | X | | | | SPARE | 1 | 20 | 42 |
| | | | TOTALS | 6240 | 6960 | | | 3980 | 3240 | TOTALS | | | |

BUS A: 10200
BUS B: 10200

LOAD: 20400

20.40 KVA DEMAND
85.0 LINE AMPS
108.3 TRIP MAIN AMPS

## Electrical Panel: SUB-PANEL "A"

Rating: 100A
Voltage: 120/240 Volts, 1 Phase 3 Wire
Feeder Conductors: 2 AWG
Main Brkr: 60 amps

BRIDGE B-5-679
RIGHT
BOX GIRDER

| Ckt | Brkr Amps | Brkr Poles 1 or 2 | Description | VA | | A | B | VA | | Description | Brkr Poles 1 or 2 | Brkr Amps | Ckt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 20 | 1 | RIGHT BOX GIRDER RECEPTACLES 2-4 EVEN | 720 | | X | | 60 | | RIGHT BOX GIRDER LIGHTS 2-8 (EVEN) | 2 | 20 | 2 |
| 3 | 20 | 1 | RIGHT BOX GIRDER RECEPTACLES 1-3 ODD | | 720 | | X | | 60 | | | | 4 |
| 5 | 20 | 1 | RIGHT BOX GIRDER RECEPTACLES 6-8 EVEN | 720 | | X | | 60 | | RIGHT BOX GIRDER LIGHTS 1-7 (ODD) | 2 | 20 | 6 |
| 7 | 20 | 1 | RIGHT BOX GIRDER RECEPTACLES 5-7 ODD | | 720 | | X | | 60 | | | | 8 |
| 9 | 20 | 1 | SPARE | | | X | | 60 | | RIGHT BOX GIRDER LIGHTS 10-16 (EVEN) | 2 | 20 | 10 |
| 11 | 20 | 1 | SPARE | | | | X | | 60 | | | | 12 |
| 13 | 20 | 1 | SPARE | | | X | | 60 | | RIGHT BOX GIRDER LIGHTS 9-17 (ODD) | 2 | 20 | 14 |
| 15 | 20 | 1 | SPARE | | | | X | | 60 | | | | 16 |
| 17 | 20 | 2 | SPARE | | | X | | | | SPARE | 2 | 20 | 18 |
| | | | TOTALS | 1440 | 1440 | | | 240 | 240 | TOTALS | | | |

BUS A: 1680
BUS B: 1680

LOAD: 3360

3.36 KVA DEMAND
14.0 LINE AMPS
17.5 TRIP MAIN AMPS

ELECTRICAL SUB-PANELS "A" & "C" IN BOTH RIGHT AND LEFT BOX GIRDERS HAVE THE SAME LOADS.

## Electrical Panel: SUB-PANEL "B"

Rating: 100A
Voltage: 120/240 Volts, 1 Phase 3 Wire
Feeder Conductors: 2 AWG
Main Brkr: 60 amps

BRIDGE B-5-679
RIGHT
BOX GIRDER

| Ckt | Brkr Amps | Brkr Poles 1 or 2 | Description | VA | | A | B | VA | | Description | Brkr Poles 1 or 2 | Brkr Amps | Ckt |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 20 | 1 | RIGHT BOX GIRDER RECEPTACLES 18-20 EVEN | 720 | | X | | 60 | | RIGHT BOX GIRDER LIGHTS 38-44 (EVEN) | 2 | 20 | 2 |
| 3 | 20 | 1 | RIGHT BOX GIRDER RECEPTACLES 19 ODD | | 360 | | X | | 60 | | | | 4 |
| 5 | 20 | 1 | RIGHT BOX GIRDER RECEPTACLES 22-24 EVEN | 720 | | X | | 60 | | RIGHT BOX GIRDER LIGHTS 37-43 (ODD) | 2 | 20 | 6 |
| 7 | 20 | 1 | RIGHT BOX GIRDER RECEPTACLES 21-23 ODD | | 720 | | X | | 60 | | | | 8 |
| 9 | 20 | 1 | SPARE | | | X | | 60 | | RIGHT BOX GIRDER LIGHTS 46-52 (EVEN) | 2 | 20 | 10 |
| 11 | 20 | 1 | SPARE | | | | X | | 60 | | | | 12 |
| 13 | 20 | 1 | SPARE | | | X | | 75 | | RIGHT BOX GIRDER LIGHTS 45-51 (ODD) | 2 | 20 | 14 |
| 15 | 20 | 1 | SPARE | | | | X | | 75 | | | | 16 |
| 17 | 20 | 2 | SPARE | | | X | | | | SPARE | 2 | 20 | 18 |
| | | | TOTALS | 1440 | 1080 | | | 255 | 255 | TOTALS | | | |

BUS A: 1695
BUS B: 1335

LOAD: 3030

3.03 KVA DEMAND
12.6 LINE AMPS
15.8 TRIP MAIN AMPS

ELECTRICAL SUB-PANELS "B" AND "D" IN BOTH RIGHT AND LEFT BOX GIRDERS HAVE THE SAME LOADS.

## NOTES:

1. CONTROL THE OPERATION OF THE BOX GIRDER LIGHTING FROM THE MAIN ELECTRICAL PANEL "EP", OR REMOTE PANELS (SUB-PANELS) "A" AND "B". LIGHT SWITCHES INSIDE THE BOX GIRDERS WILL NOT BE INSTALLED. USE MAIN BREAKER IN PANEL "EP" TO TURN ALL LIGHTS ON OR OFF. USE INDIVIDUAL BRANCH CIRCUIT BREAKERS TO TURN ON/OFF INDIVIDUAL CIRCUITS FOR LIGHTING OR RECEPTACLES, IF NECESSARY.
2. USE MULTIPLE CIRCUIT BREAKERS TO WIRE THE LIGHTING FIXTURES AND GFCI RECEPTACLES IN EACH BOX GIRDER, AS SHOWN.
3. FURNISH AND INSTALL FOUR (4) ELECTRICAL REMOTE PANELS (SUB-PANELS) IN ADDITION TO THE MAIN ELECTRICAL PANEL "EP". INSTALL TWO (2) REMOTE PANELS (SUB-PANELS) INSIDE EACH BOX GIRDER AS SHOWN ON THESE PLANS.
4. BRANCH CIRCUIT LOAD DISTRIBUTION AND TOTAL LOAD IS THE SAME FOR SUB-PANELS "A" AND "B" IN BOTH RIGHT AND LEFT BOX GIRDERS. LOCATION OF ALL ELECTRICAL AND LIGHTING EQUIPMENT IS ALSO THE SAME FOR BOTH RIGHT AND LEFT BOX GIRDERS AS SHOWN ON THE PLANS.
5. FURNISH AND INSTALL SPARE BREAKERS FOR ALL UNUSED CIRCUITS, NO EMPTY SPACES IN PANELS.
6. FURNISH COPPER FOR ALL WIRING AND BUS BARS.
7. FURNISH AND INSTALL HEAVY DUTY, COMMERCIAL QUALITY, OUTDOOR RATED EQUIPMENT, PANELS, JUNCTION BOXES, AND CABINETS. FURNISH AND INSTALL NEMA 4X RATED STAINLESS STEEL JUNCTION BOXES, RECEPTACLE BOXES AND ENCLOSURES FOR ALL OUTDOOR ELECTRICAL EQUIPMENT. SAFETY DISCONNECT SWITCH SHALL BE SERVICE ENTRANCE RATED.
8. FURNISH AND INSTALL ELECTRICAL PANELS WITH MAIN AND BRANCH CIRCUIT BREAKERS THAT WILL ACCOMMODATE THE WIRE SIZES PROPOSED ON THESE PLANS. VERIFY MANUFACTURER STANDARD WIRE TERMINAL SIZES ON MAIN AND BRANCH BREAKERS AND PROVIDE CUSTOM OR SPECIAL ORDER BREAKERS AND TERMINALS THAT ARE DESIGNED FOR THE CONDUCTORS SPECIFIED ON THESE PLANS. INCLUDE ALL MATERIALS AND LABOR NECESSARY TO DO THIS WORK IN THE COST OF THE ELECTRICAL PANELS.
9. REARRANGE BRANCH CIRCUIT DESIGNATIONS IN THE PANELBOARD SCHEDULES, AS NECESSARY, AND MAINTAIN BALANCED LOADS AND PHASES.

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

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ELECTRICAL BOX GIRDER DETAIL 2

SHEET 79 OF 91
968

STEEL ERECTION & SITE CONSTRUCTION CONTRACT

8

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FILE= Q:\WisDot_12345678_US41Bridges\Lighting\PLANS\B-5-679\079 - B-5-679E - Electrical Detail 2.dgn

DATE: 5/1/2013
I.D.

STATE PROJECT NUMBER

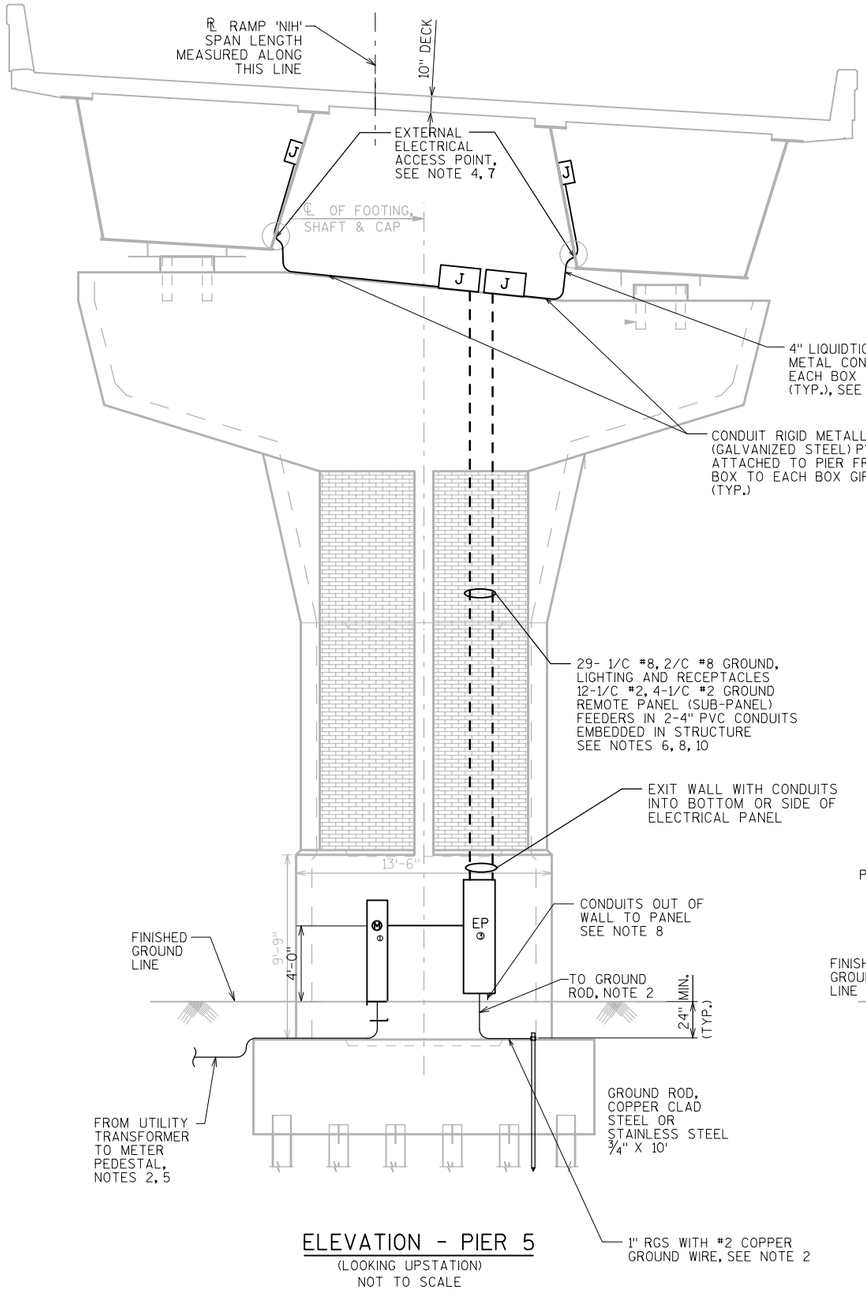
1133-11-74

## LEGEND:

① METER PEDESTAL, 200A, NEMA 3R, WITH MAIN BREAKER, NOTE 11

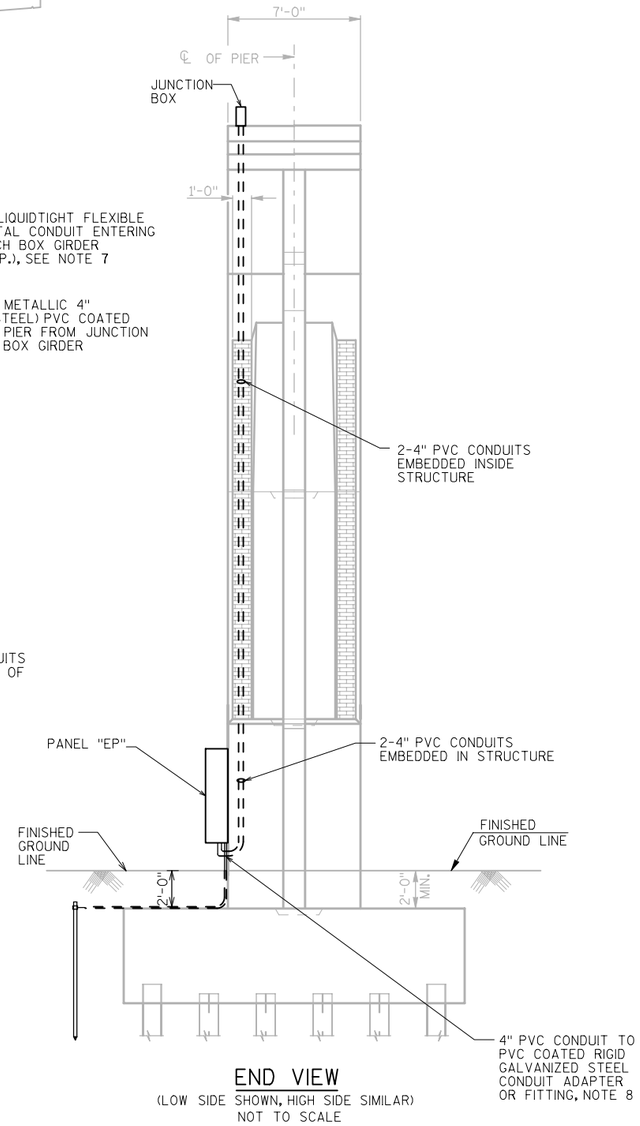
② SAFETY DISCONNECT SWITCH, 200A, NON-FUSIBLE, NOTE 11

③ MAIN ELECTRICAL PANEL, 200A, 240V/120, 1-PH, 3-W



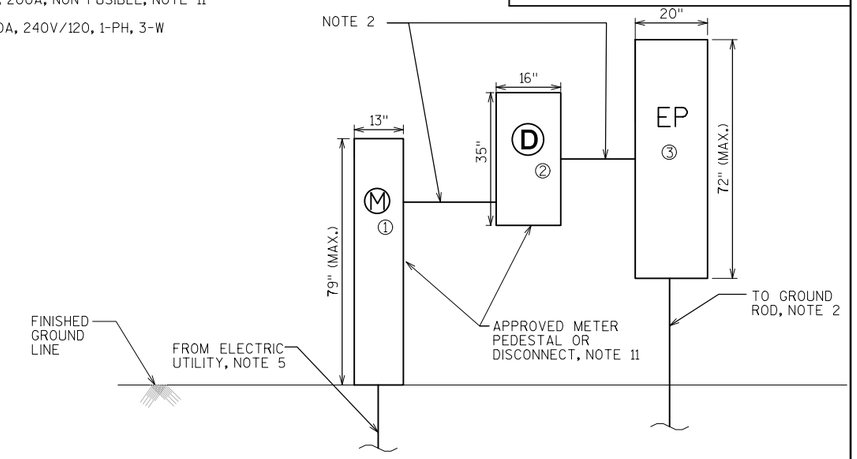

## ELEVATION - PIER 5

(LOOKING UPSTATION)
NOT TO SCALE




## END VIEW

(LOW SIDE SHOWN, HIGH SIDE SIMILAR)
NOT TO SCALE




## ELECTRICAL SERVICE EQUIPMENT DETAILS

* DIMENSIONS ARE APPROXIMATE AND VARY BY MANUFACTURER.
NOT TO SCALE

## NOTES:

1. FURNISH AND INSTALL NEMA 4X RATED STAINLESS STEEL OUTDOOR CABINETS AND ENCLOSURES, WHEN AVAILABLE. ALL CABINETS MUST HAVE PAD-LOCKING PROVISIONS.

2. FURNISH AND INSTALL ALL MATERIALS, EQUIPMENT, AND INCIDENTALS NEEDED TO CONNECT THE SERVICE FROM THE METER PEDESTAL TO THE MAIN ELECTRICAL PANEL "EP" AND TO REMOTE PANELS (SUB-PANELS) AS PART OF PAY ITEM FOR "ELECTRICAL SERVICE INSTALLATION B-5-679". THAT PAYMENT INCLUDES THE APPROVED METER PEDESTAL, ALL ELECTRICAL PANELS INCLUDING SUB-PANELS, SAFETY DISCONNECT SWITCH (WHEN REQUIRED), CABLES, CONDUITS, GROUNDING, AND TRENCHING FOR CONDUITS SHOWN ON THE PLANS. ALL CONNECTIONS, SPLICING, AND WIRING TO THE NEW ELECTRICAL PANELS AND METER PEDESTAL IS ALSO INCLUDED UNDER THE SAME PAY ITEM. FURNISH, INSTALL, AND PAY FOR ELECTRICAL EQUIPMENT GROUNDING MATERIALS, EQUIPMENT AND LABOR UNDER THIS PAY ITEM. CABLE AND CONDUIT FROM PANEL "EP" TO BOX GIRDERS AND JUNCTION BOXES SHOWN ARE PAID FOR SEPARATELY.

3. EXTEND THE SERVICE UP THE PIER TO THE DISTRIBUTION JUNCTION BOXES. FROM THERE, ROUTE THE BRANCH CIRCUIT WIRING AND REMOTE PANEL FEEDERS THROUGH ACCESS HOLES TO EACH BOX GIRDER.

4. SEE EXTERNAL ELECTRICAL ACCESS DETAIL ON SHEET 75. ALSO SEE INTERMEDIATE PIER DIAPHRAGMS XD1 AND D1 FOR EXACT LOCATION OF ELECTRICAL ACCESS HOLES.

5. COORDINATE WITH THE UTILITY TO PROVIDE ELECTRIC SERVICE TO PIER MOUNTED EQUIPMENT.

6. FURNISH AND INSTALL 2-4" CONDUIT RIGID NONMETALLIC SCHEDULE 40 (PVC) CAST INTO THE PIER (EMBEDDED) AS SHOWN. INSTALL CONDUITS ENTERING EACH BOX GIRDER THAT WILL HAVE THE CONDUCTORS FOR THE LIGHTING CIRCUITS, GFCI RECEPTACLE CIRCUITS, AND POWER FEEDS TO EACH OF THE ELECTRICAL REMOTE PANELS (SUB-PANELS).

7. FURNISH AND INSTALL 4" LIQUIDTIGHT FLEXIBLE METAL CONDUITS (LTFMC) WHEN ENTERING THE BOX GIRDERS THROUGH THE ELECTRICAL ACCESS HOLES. INSTALL THE LTFMC BETWEEN THE RIGID GALVANIZED STEEL CONDUITS. SEAL THE AREA AROUND THE FLEXIBLE CONDUITS ENTERING THE BOX GIRDERS AT THE ACCESS HOLE TO PROVIDE A TIGHT, WEATHER-PROOF SEAL. PAYMENT FOR ALL 4" AND LARGER FLEXIBLE METAL CONDUITS, ADAPTERS AND FITTINGS ARE INCLUDED IN THE "CONDUIT RIGID METALLIC PVC COATED" PAY ITEM, SEPARATE PAYMENT WILL NOT BE MADE.

8. STUB CONDUITS EMBEDDED IN STRUCTURE OUT OF WALL UNDER (OR SIDE OF) THE ELECTRICAL PANEL "EP". FURNISH AND INSTALL CONDUIT RIGID METALLIC 4" (GALVANIZED STEEL) PVC COATED FOR ALL EXPOSED LOCATIONS AND BETWEEN THE PVC CONDUIT EMBEDDED IN THE PIER AND THE ELECTRICAL PANEL "EP". FURNISH AND INSTALL ALL NECESSARY ELBOWS, FITTINGS, AND PVC TO RGS CONDUIT ADAPTERS TO COMPLETE THE INSTALLATION. INCLUDE COST FOR THE MATERIALS AND LABOR NEEDED, AND DESCRIBED HERE, IN THE COST OF THE ELECTRICAL PANEL.

9. FURNISH AND INSTALL GALVANIZED STEEL OR 304 STAINLESS STEEL SUPPORTS, HARDWARE, CLAMPS, BRACKETS, HANGER RODS, NUTS, BOLTS, AND WASHERS FOR CONDUITS, JUNCTIONS BOXES, AND RECEPTACLES. ALL THREADED HARDWARE SHALL BE STAINLESS STEEL.

10. FURNISH AND INSTALL GROUND CONDUCTORS IN ALL CONDUITS. GROUND CONDUCTORS SHALL BE BONDED TO METAL CONDUITS, BOXES, AND OTHER PARTS TO ENSURE SYSTEM GROUND CONTINUITY THROUGHOUT ELECTRICAL SYSTEM. GROUNDING AND BONDING SHALL BE ACCORDING TO NEC STANDARDS.

11. FURNISH AND INSTALL A NEMA 3R RATED, 200A METER PEDESTAL WITH A MAIN CIRCUIT BREAKER IN PLACE OF A DISCONNECT SWITCH. FURNISH PEDESTAL ENCLOSURE WITH PAD-LOCKING PROVISIONS. INCLUDE METER PEDESTAL EXTENSIONS IF REQUIRED BY UTILITY AT NO ADDITIONAL COST. FURNISH A 200A, MOLDED CASE, THERMAL MAGNETIC MAIN CIRCUIT BREAKER IN THE PEDESTAL RATED AT 25K AIC MINIMUM. FURNISH AND INSTALL A HEAVY DUTY, OUTDOOR RATED, NON-FUSIBLE DISCONNECT SWITCH IN A NEMA 4X RATED ENCLOSURE THAT IS PAD-LOCKABLE ONLY IF AN APPROVED METER PEDESTAL CANNOT BE PROVIDED.

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY MAE | PLANS CK'D. DAD

ELECTRICAL CROSS SECTION AT PIER

SHEET 80 OF 91
969

STEEL ERECTION & SITE CONSTRUCTION CONTRACT

8

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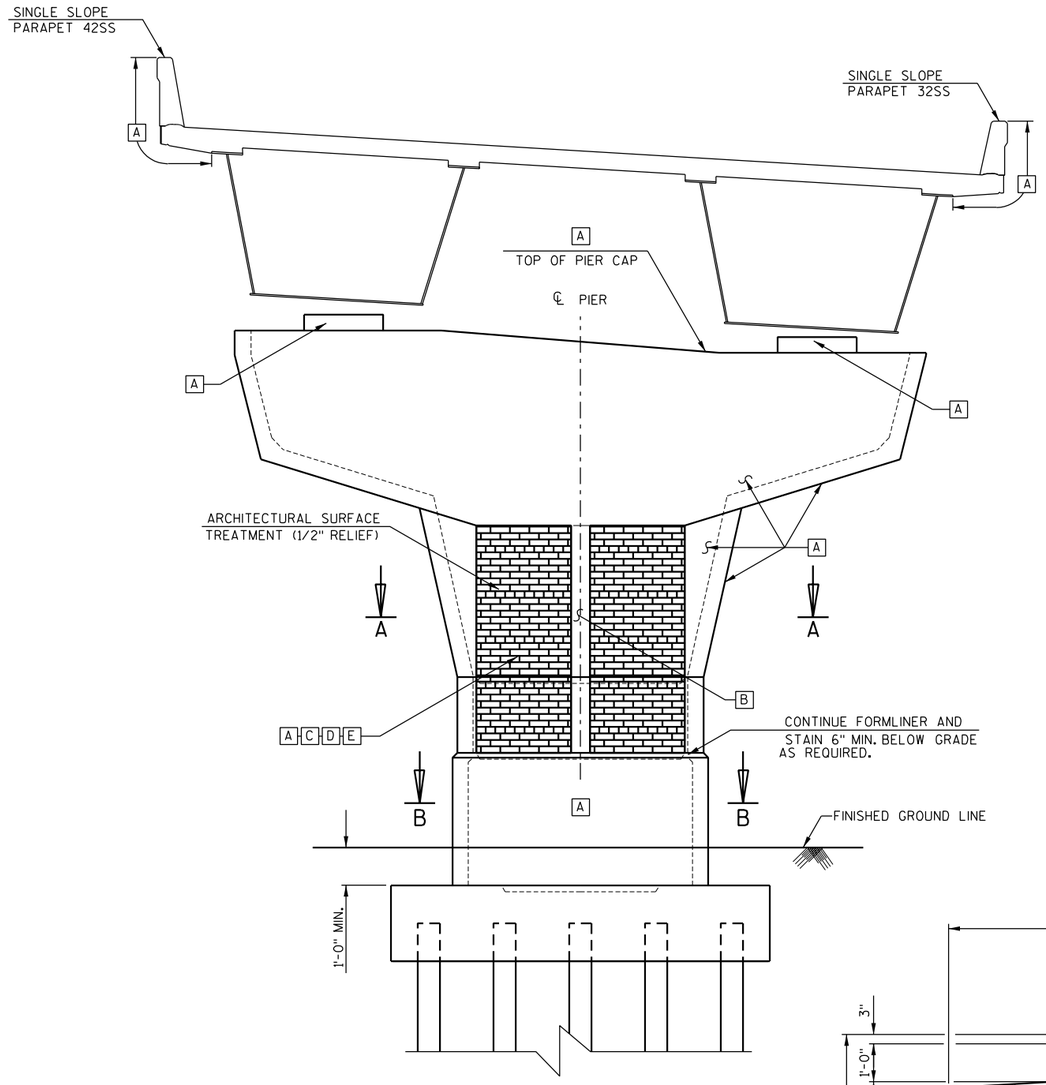
FILE= Q:\WisDot_12345678_US41Bridges\Lighting\PLANS\B-5-679\080 - B-5-679E - Electrical Detail 3 - Cross-Section At Pier.dgn

DATE: 5/1/2013
I.D.

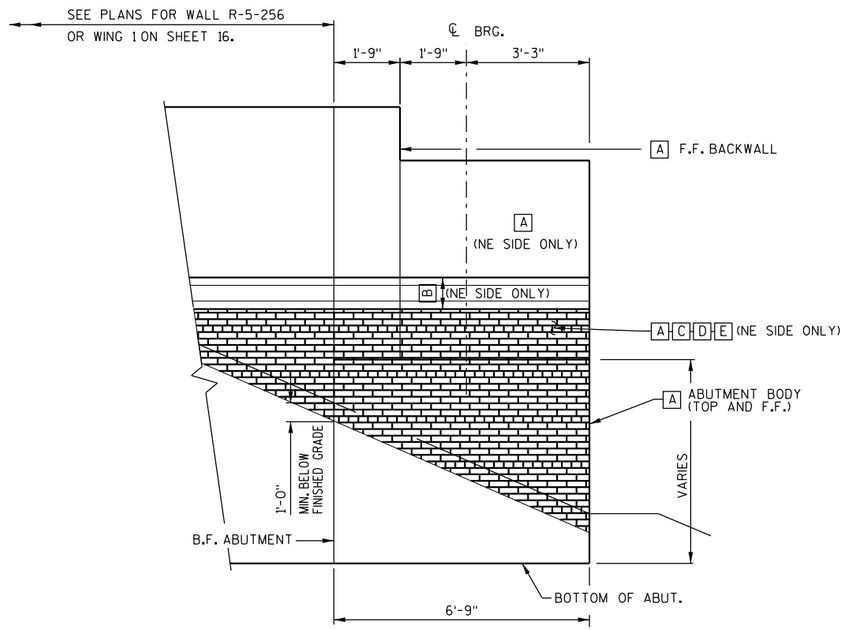
STATE PROJECT NUMBER

1133-11-74

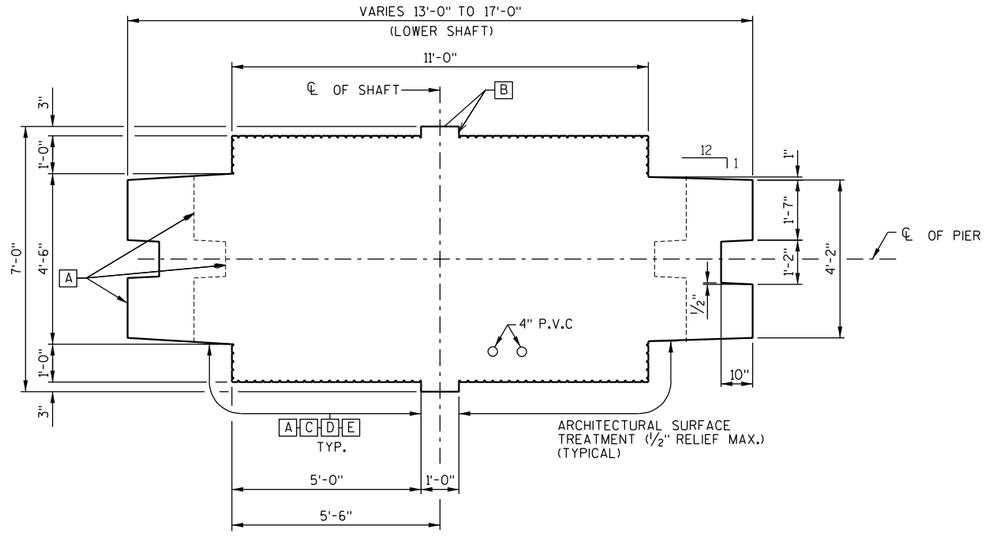



## TYPICAL CROSS SECTION

(LOOKING UPSTATION)




## SOUTH ABUTMENT ELEVATION




## SECTION A-A

NOTE: ALL DIMENSIONS ARE SYMMETRICAL.

## CONCRETE STAINING SCHEDULE

| MARK | COLOR | LOCATION |
|---|---|---|
| A | BASE COLOR | BRIDGES, PARAPETS, WALLS |
| B | ACCENT COLOR #1 | REVEALS, OUTSIDE OF CONC. GIRDER, STEEL BOX GIRDERS |
| C | ACCENT COLOR #3 | BRICK COLOR (70% OF BRICK) |
| D | ACCENT COLOR #4 | BRICK COLOR (15% OF BRICK) |
| E | ACCENT COLOR #5 | BRICK COLOR (15% OF BRICK) |

NOTE: 1. FINISH ON COLORS IS FLAT (LUSTERLESS)

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

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AESTHETIC DETAILS

SHEET 81 OF 91
970

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

8

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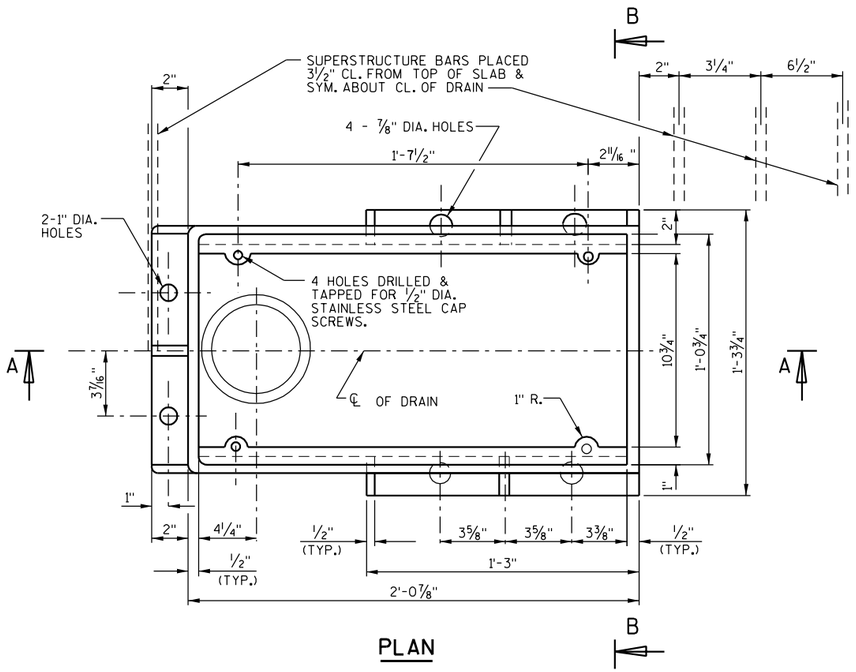
FILE NAME : P:\153 USH 41\1133-10-00 LRS\STRUCTURES\B-5-679\08LAESTHETICS_V17.B-5-679.DGN

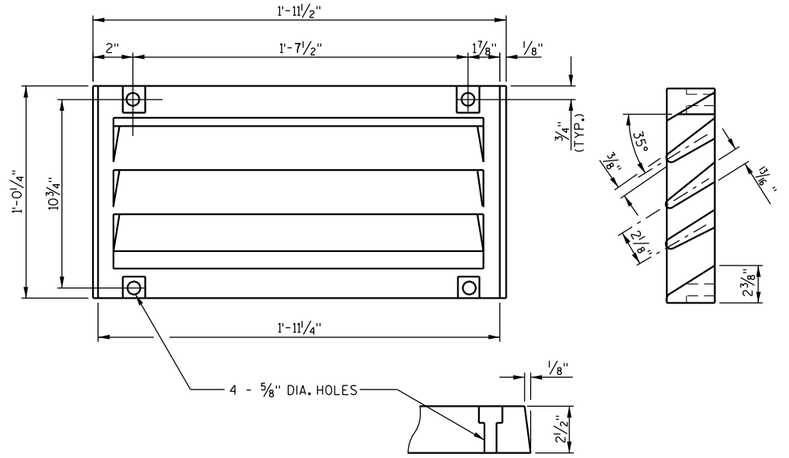
PLOT DATE : 4/23/2013

STATE PROJECT NUMBER

1133-11-74




PLAN




GRATE CASTING DETAIL

ATTACH GRATE TO FRAME FOR SHIPMENT




## NOTES

ALL MATERIAL FOR TYPE "GC" CASTINGS, EXCLUDING GRATE HOLD DOWN SCREWS, SHALL BE GRAY IRON CONFORMING TO A.S.T.M. A48, CLASS 30. (APPROX. WEIGHT= 225#)

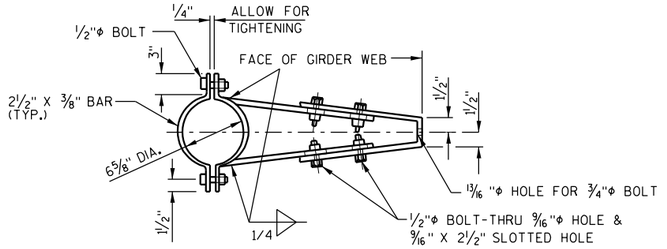
MATERIAL FOR BRACKETS SHALL CONFORM TO A.S.T.M. A36.

THE CONTRACTOR MAY PROPOSE AN ALTERNATE TYPE OF BRACKET. THE PROPOSED ALTERNATE DETAILS SHALL BE SUBMITTED AND SUBJECT TO THE APPROVAL OF THE ENGINEER.

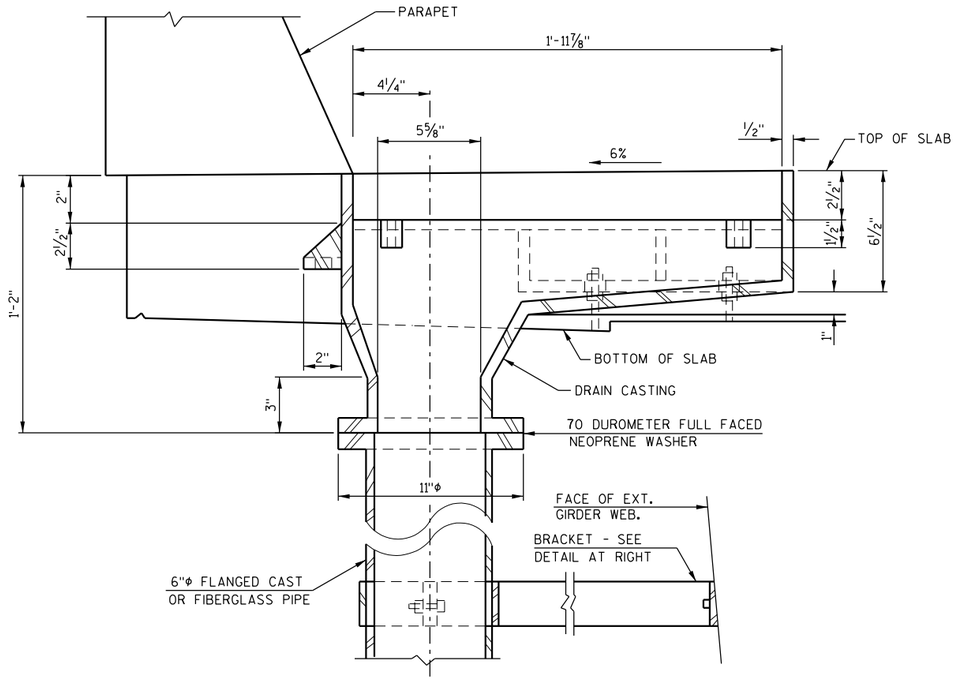
FLANGED 6" DIA. DOWNSPOUTS SHALL FIBERGLASS CONFORMING TO A.S.T.M. D2996, GRADE 1, CLASS A.

TRANSVERSE AND LONGITUDINAL SLAB BAR REINFORCEMENT TO BE CUT A MINIMUM 1" CLEAR FROM DRAIN. DISPLACE BARS WHERE POSSIBLE.

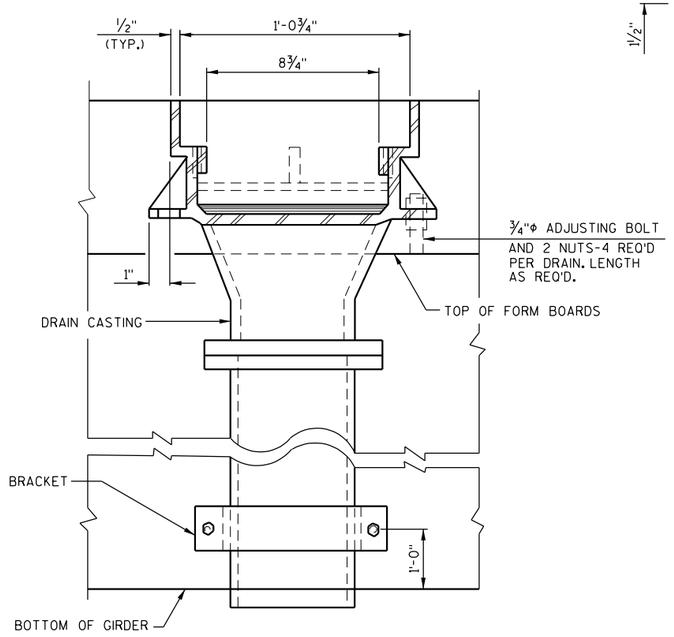
DO NOT PLACE SHEAR STUDS ON TOP FLANGE OF LEFT GIRDER WHERE THEY INTERFERE WITH THE FLOOR DRAIN.




BRACKET DETAIL




SECTION A-A




SECTION B-B

| NO. | DATE | REVISION | BY |
|---|---|---|---|
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

FLOOR DRAIN TYPE 'GC'

SHEET 82 OF 91
971

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

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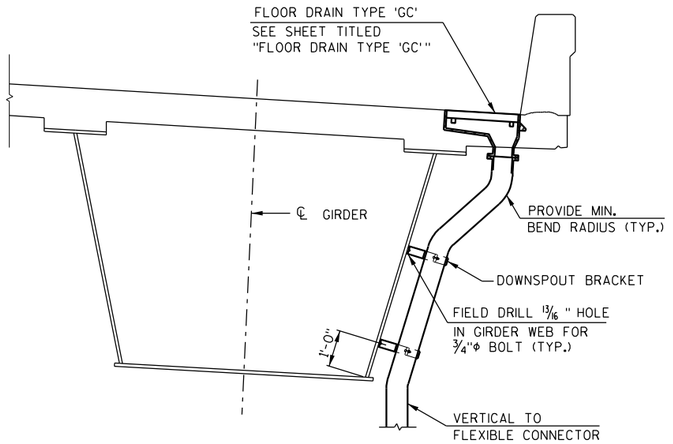
FILE NAME : P:\153 USH 41\1133-10-00 URS\STRUCTURES\B-5-679\d02_DRAIN_GC_V7.B-5-679.DGN

PLOT DATE : 4/23/2013

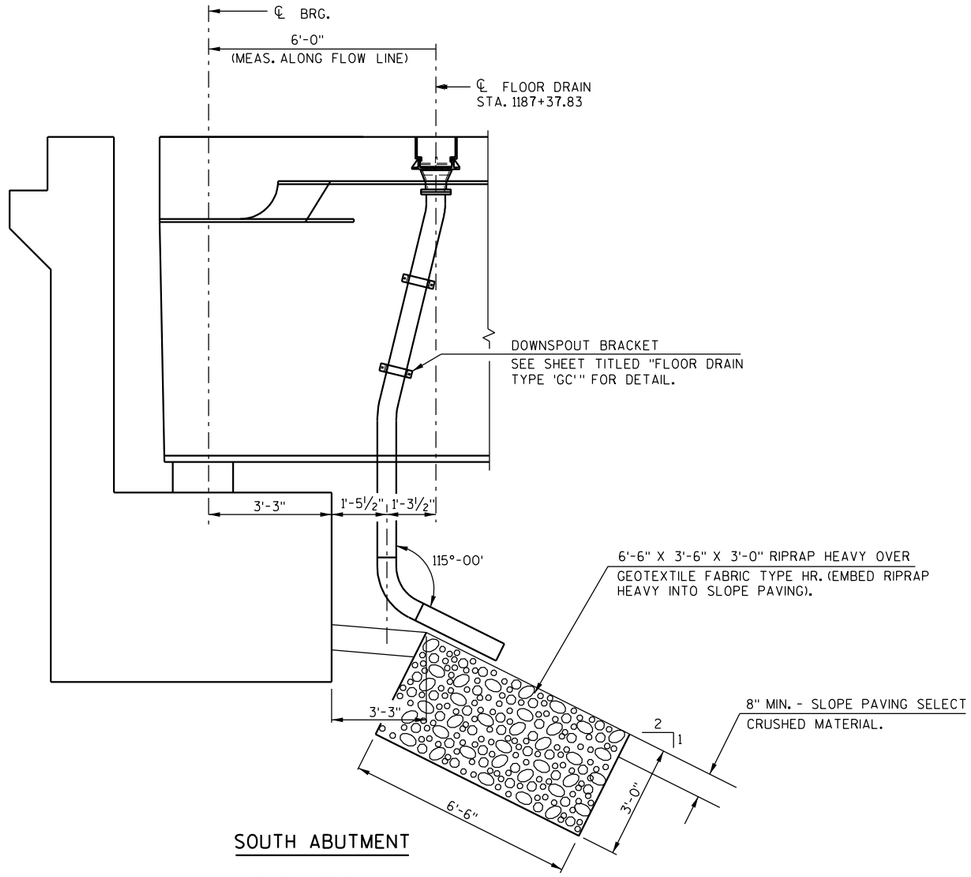
STATE PROJECT NUMBER

1133-11-74




## PART SECTION THRU BRIDGE

(LOOKING UPSTATION)




## SOUTH ABUTMENT

## ELEVATION

(LOOKING WEST)

## NOTES

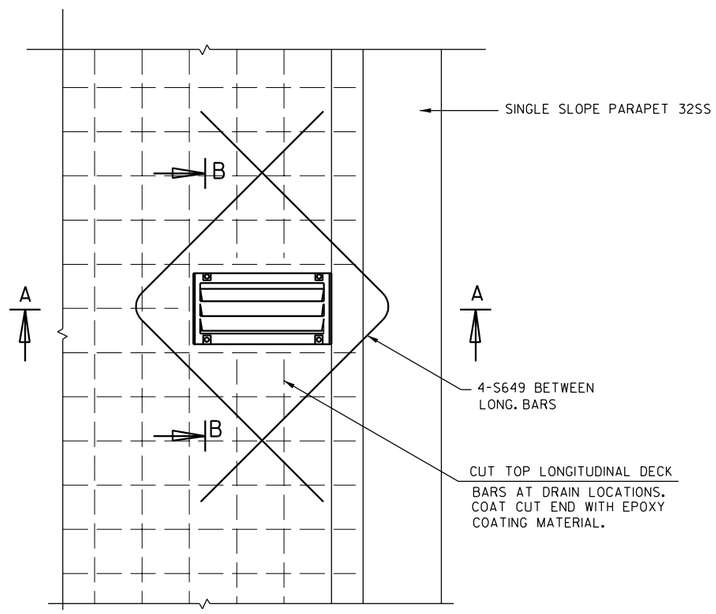
SEE SHEETS "DECK REINFORCEMENT SPANS X-X" FOR TYPICAL DECK SLAB REINFORCEMENT.

SEE SHEET "TYPICAL DECK SECTION" FOR PARAPET DETAILS AND REINFORCEMENT.

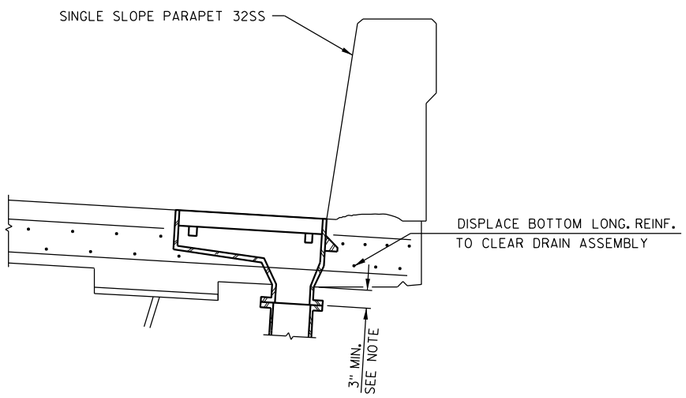
PARAPET REINFORCEMENT AND DOWELS NOT SHOWN FOR CLARITY - RESPACE LOCALLY AS REQUIRED TO CLEAR FLOOR DRAIN.

FORM DECK AROUND DRAIN PIPE CASTING TO ALLOW SUFFICIENT CLEARANCE TO TIGHTEN FLANGE BOLTS.

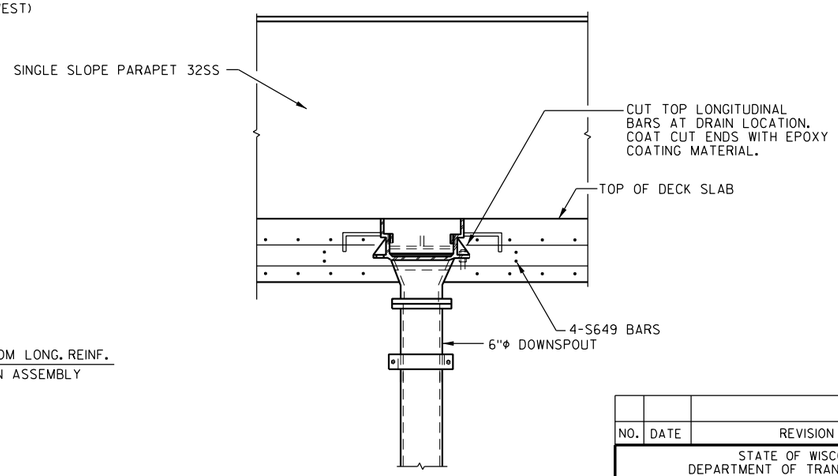
PAYMENT FOR 6"Φ DOWNSPOUT, FLEXIBLE CONNECTOR, DOWNSPOUT BRACKETS, AND ALL NECESSARY HARDWARE IS INCLUDED IN BID ITEM SPV.0090.705 "DOWNSPOUT RTRP 6-INCH."




## PLAN




## SECTION A-A




## SECTION B-B

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

FLOOR DRAIN DETAILS

SHEET 83 OF 91
972

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

8

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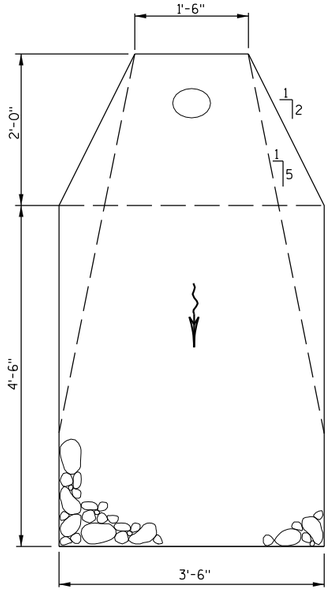
FILE NAME : P:\153 USH 41\1133-10-00 LRS\STRUCTURES\B-5-679\B5B-5-679x083_FLOOR_DRAIN01_V7.B-5-679.DGN

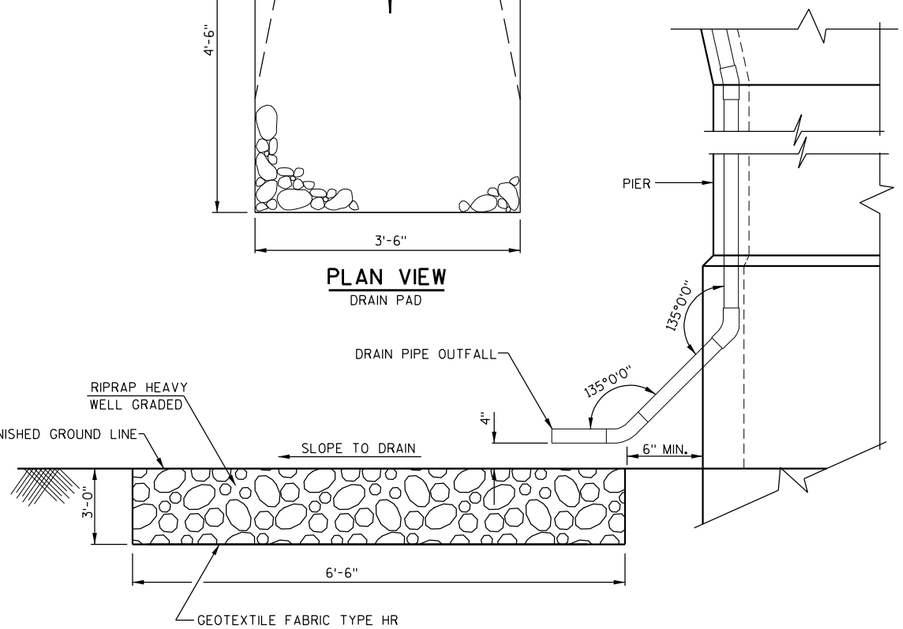
PLOT DATE : 4/23/2013

STATE PROJECT NUMBER

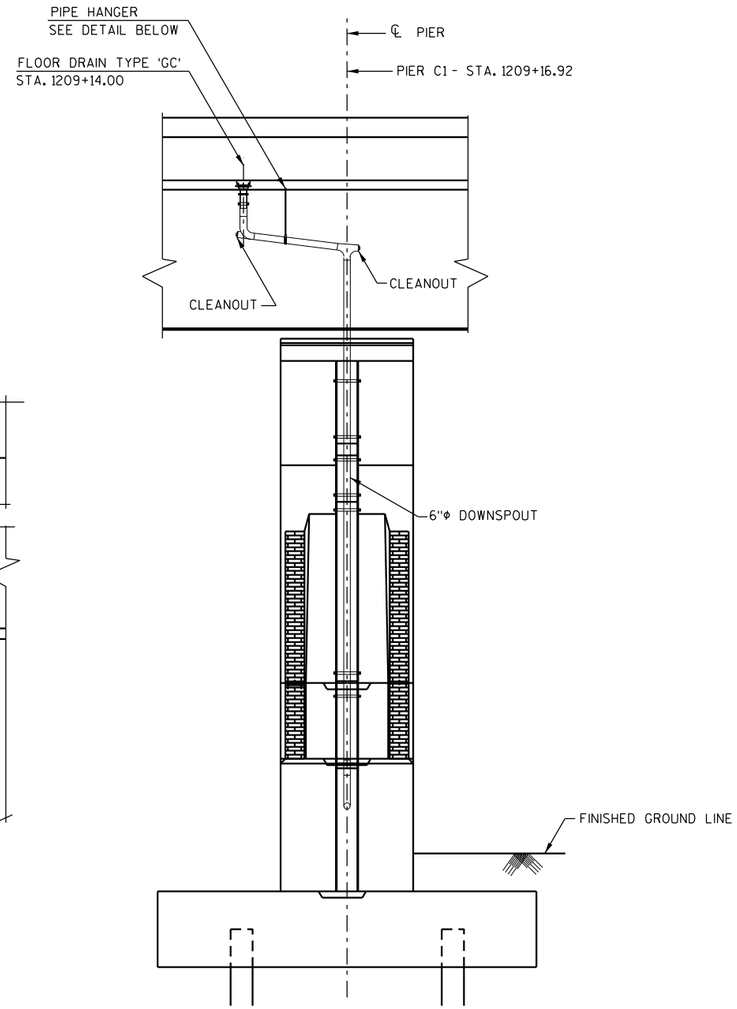
1133-11-74



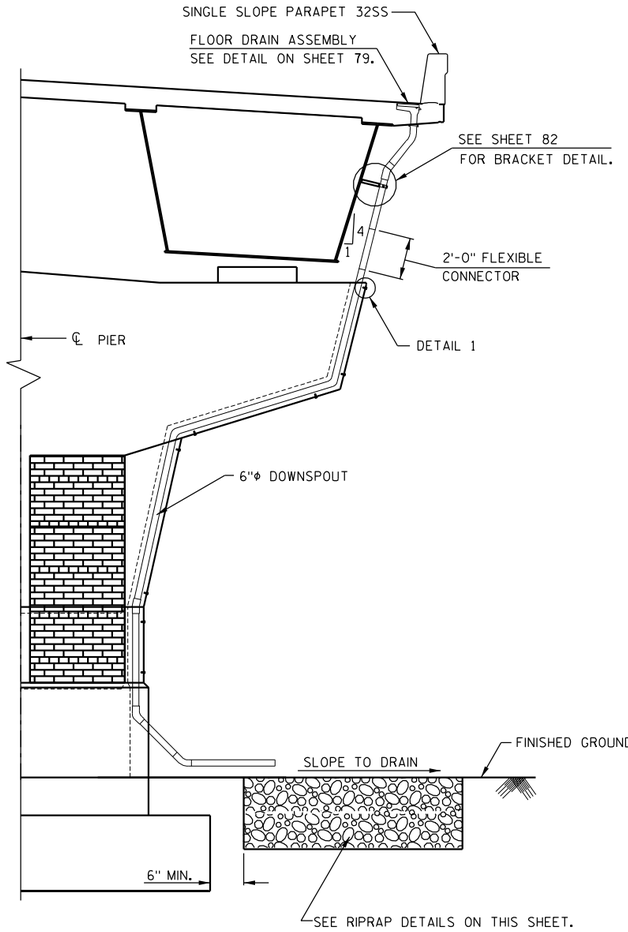

PLAN VIEW
DRAIN PAD



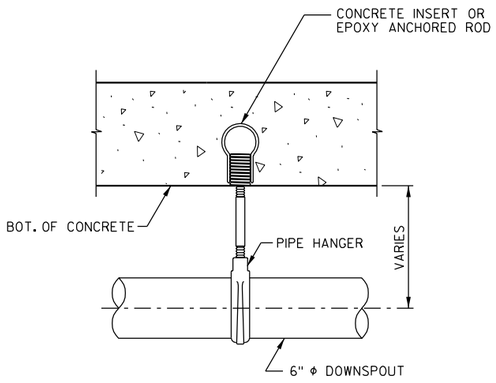

ELEVATION




ELEVATION AT EXPANSION DEVICE
(LOOKING WEST AT PIER C1)



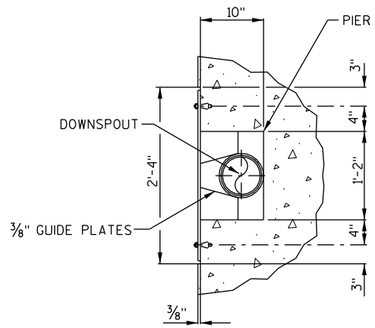

ELEVATION
(LOOKING UPSTATION)



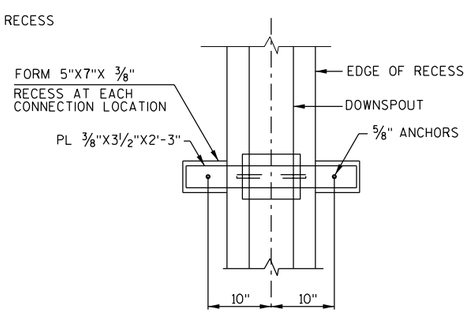

CONCRETE INSERT

## NOTES

1. SEE SHEET "FLOOR DRAIN DETAILS" FOR DRAIN PIPE SPECIFICATIONS.
2. EXCAVATION INCIDENTAL TO ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-05-679".
3. VERIFY ALL DIMENSIONS PRIOR TO FABRICATING DOWNSPOUT.
4. ALL FLEXIBLE CONNECTORS, FITTINGS, ELBOWS, CLEANOUTS, HANGERS AND ALL CONNECTION AND INSTALLATION HARDWARE ARE CONSIDERED INCIDENTAL TO ITEM "DOWNSPOUT RTRP 6-INCH".
5. THE HORIZONTAL AND VERTICAL ALIGNMENT OF THE DOWNSPOUT MAY BE ALTERED TO AVOID INTERFERENCE WITH THE GIRDER CROSS FRAME. MAINTAIN A 2% MINIMUM SLOPE AND TRANSITION TO STEEPER SLOPE AS SOON AS POSSIBLE.




PLAN




FRONT ELEVATION

DETAIL 1

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

FLOOR DRAIN DETAILS - 2

SHEET 84 OF 91
973

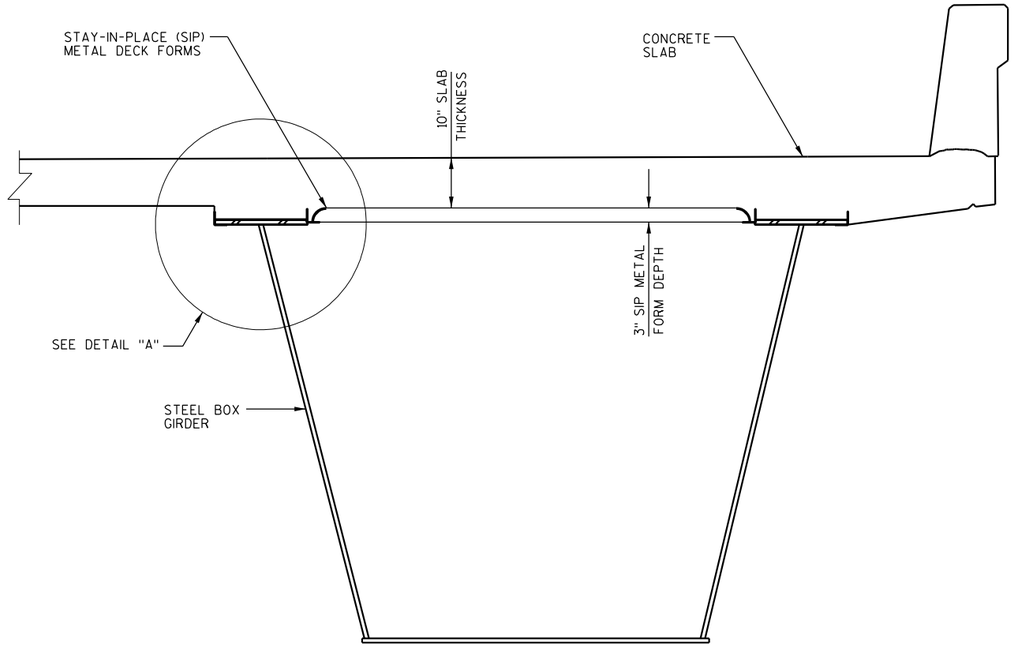
8

8

FILE NAME : P:\153 USH 41\1133-10-00 URGS\STRUCTURES\B-5-679\084-FLOOR_DRAIN02.V7.B-5-679.DGN

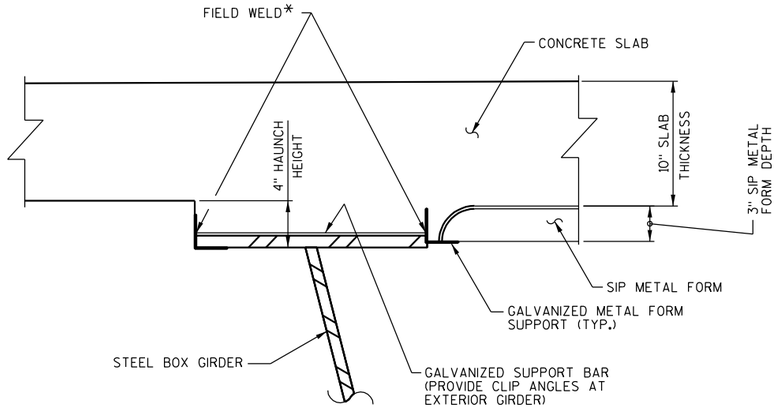
PLOT DATE : 4/26/2013

| STATE PROJECT NUMBER |
|---|
| 1133-11-74 |



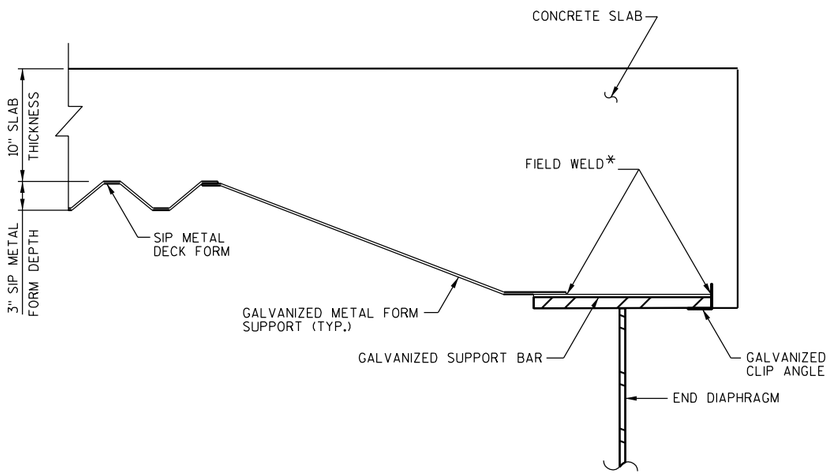

## PARTIAL SECTION THROUGH SUPERSTRUCTURE

(SHOWING TYPICAL DETAILS AND NOTES FOR SIP METAL FORMS)




## DETAIL "A"

* DO NOT WELD TO NOR PERMIT WELD SPATTER ON SUPPORTING STEEL GIRDER, DIAPHRAGMS, BRACING ETC. ELECTRICAL GROUNDING TO STRUCTURAL STEEL IS PROHIBITED. SEE SPECIFICATIONS FOR FIELD WELDING OF SIP FORMS IN PLACE AND PAINTING OF THE TOP FLANGE.




## PARTIAL SECTION THROUGH END OF SPAN

(INTERIOR OF BOXES ONLY)

## NOTES:

STAY-IN-PLACE (SIP) METAL DECK FORM DETAILS ARE SHOWN FOR REFERENCE ONLY. SIP FORMS ARE OPTIONAL. PAYMENT FOR SIP FORMS IS CONSIDERED INCLUDED IN THE CONTRACT UNIT BID PRICE FOR HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

DECK FORM DETAILS

SHEET 85 OF 91
974

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

8

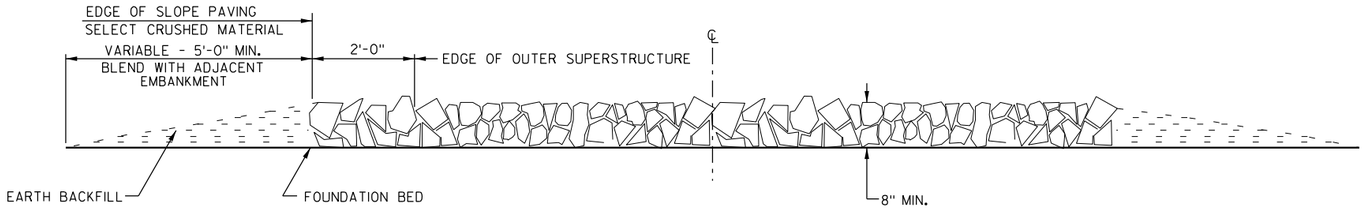
8

FILE NAME : P:\153 USH 41\1133-10-00 URGS\STRUCTURES\B-5-679\085_DECK_FORM_V17_B-5-679.DGN

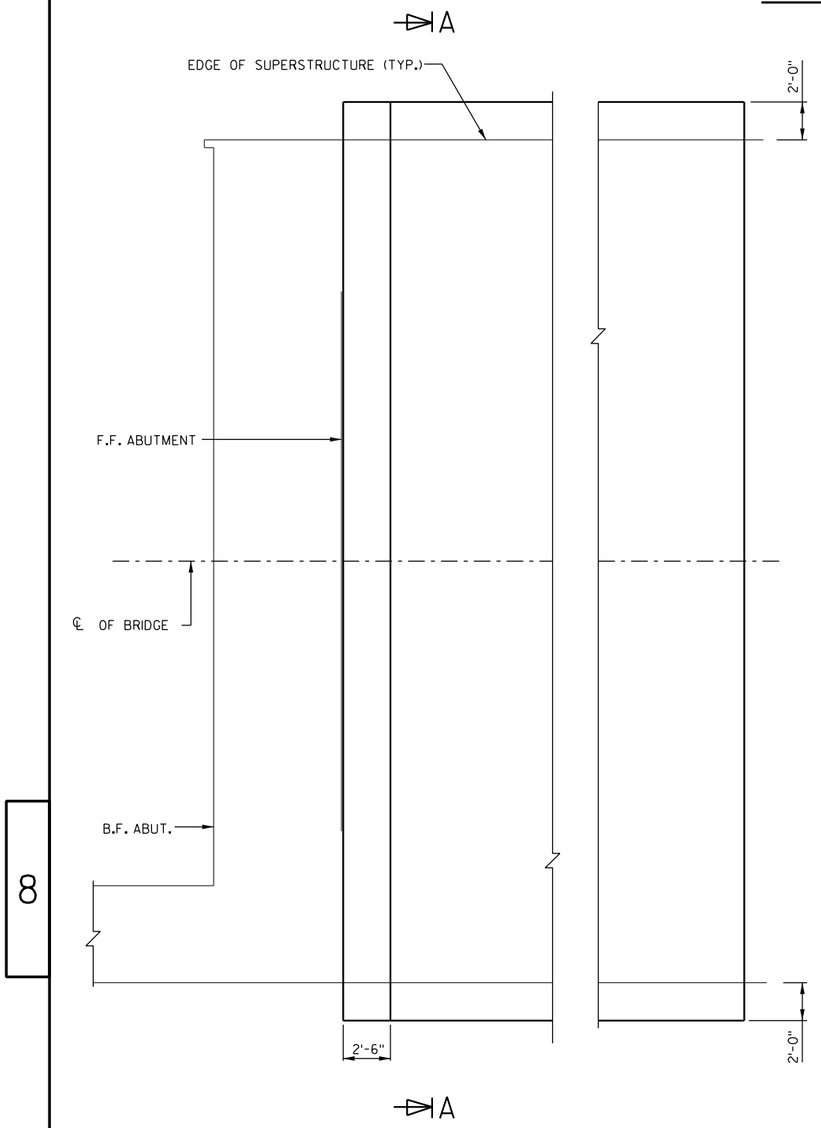
PLOT DATE : 4/23/2013

STATE PROJECT NUMBER

1133-11-74

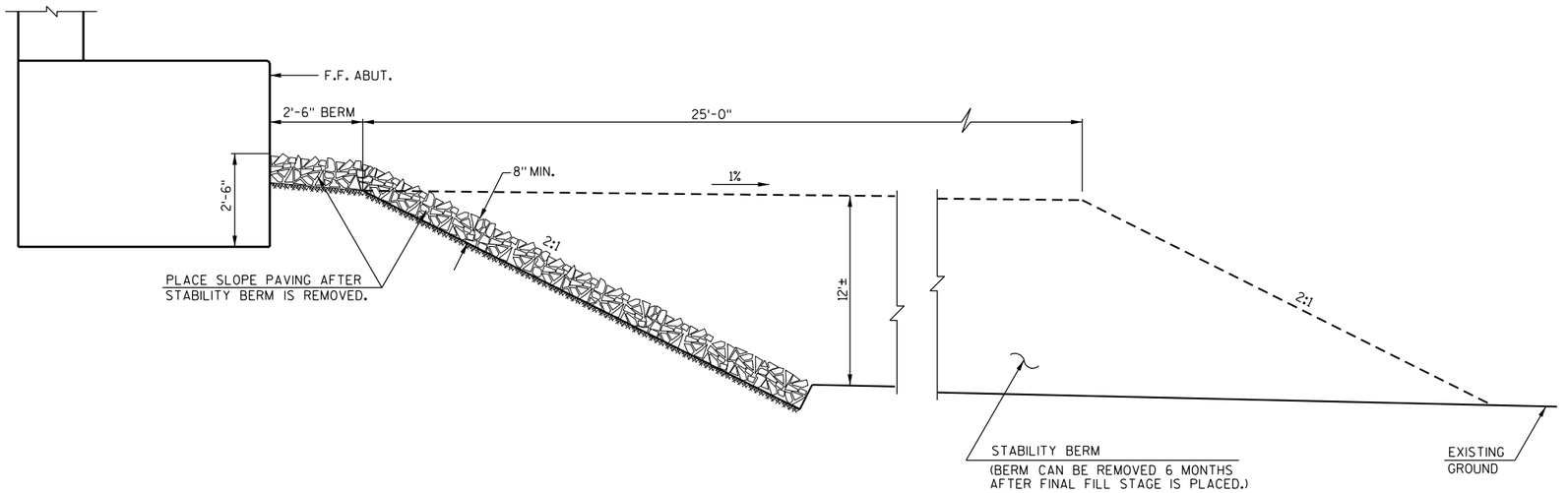



## SECTION A-A




## PLAN

(S. ABUTMENT - SHOWING LIMITS OF SLOPE PAVING)




## TYPICAL SECTION

(SOUTH ABUTMENT)

## GENERAL NOTES

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

WOOD FORMS MAY BE LEFT IN PLACE WHEN OF A QUALITY ACCEPTABLE TO THE ENGINEER.

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

SLOPE PAVING SELECT CRUSHED MATERIAL

SHEET 86 OF 91
975

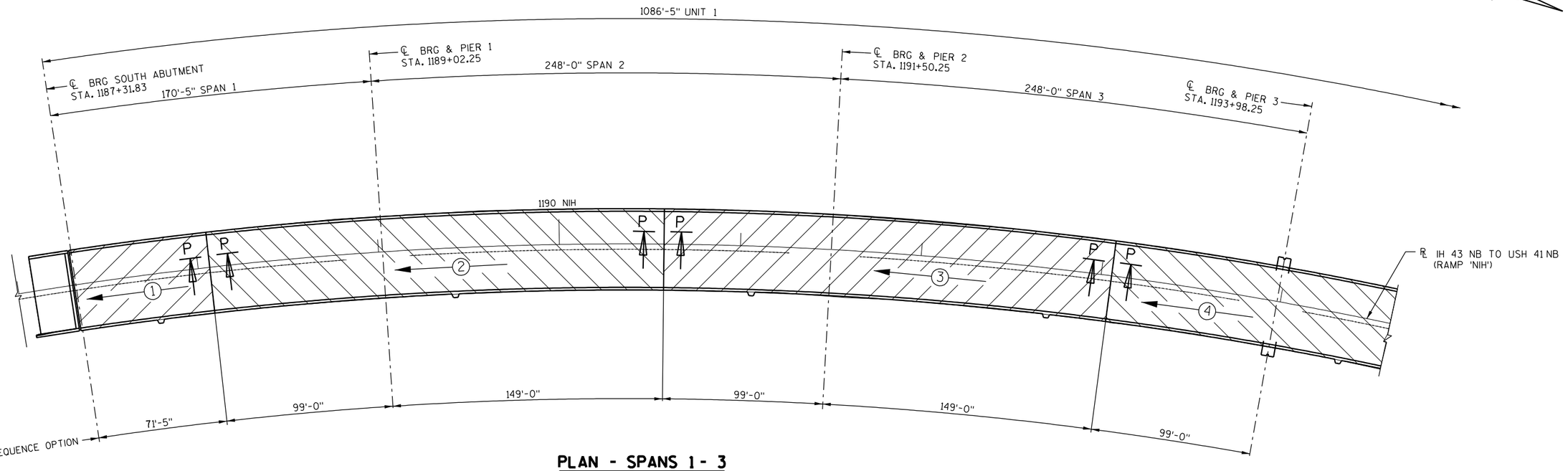
8

8

FILE NAME : P:\153 USH 41\1133-10-00 URGS\STRUCTURES\B-5-679\t086_SLOPE_PAVING_V7.B-5-679.DGN

PLOT DATE : 5/30/2013

| STATE PROJECT NUMBER |
|---|
| 1133-11-74 |

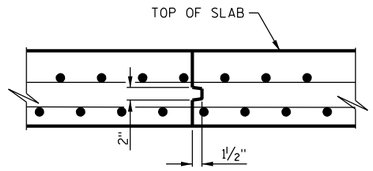



## PLAN - SPANS 1 - 3

## NOTES

(THESE NOTES APPLY TO ALL DECK POUR SEQUENCE SHEETS)

1. SEE SHEET 2 FOR GENERAL NOTES.
2. SEE SHEETS 58 THRU 63 FOR BLOCKOUTS AND OTHER DETAILS REQUIRED AT EXPANSION JOINT LOCATIONS.
3. DIMENSIONS ON THIS DRAWING ARE MEASURED ALONG THE ℄.
4. THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING AND COORDINATING DECK POURS TO BEST SUIT THE MEANS AND METHODS AVAILABLE, SUBJECT TO THE FOLLOWING RESTRICTIONS.
5. CONTRACTOR MAY PLACE THE DECK CONTINUOUSLY FROM EITHER END OF THE STRUCTURE. IF MORE THAN ONE POUR IS REQUIRED, BULKHEADS BETWEEN POURS SHALL BE POSITIONED AT THE LOCATIONS IDENTIFIED ON THIS PLAN - SEE LEGEND.
6. CONTROL POUR SEQUENCE AND PLACEMENT RATE TO ENSURE THAT BEFORE THE CONCRETE IN ANY "PIER" AREA REACHED THE INITIAL SET CONDITION, THE CONCRETE IN BOTH ADJACENT "SPAN" AREAS IS ALREADY IN PLACE.
7. PREVENT UPLIFT AT ALL BEARING LOCATIONS. NOTE THAT ANY POUR SEQUENCE THAT REQUIRES POURING THE FIRST INTERIOR SPAN BEFORE THE ADJACENT END SPAN (SUCH AS THE END-TO-END SEQUENCES REFERRED TO ABOVE) WILL RESULT IN UPLIFT FORCES AT THE EXPANSION END BEARINGS. THE CONTRACTOR SHALL ACCOUNT FOR THIS CONDITION.
8. SEE SHEET "LIGHT STANDARD" FOR REINFORCEMENT DETAILS AT THE LIGHT STANDARDS.
9. DEPOSIT FRESH CONCRETE FIRST IN THE AREA BETWEEN THE GIRDERS FOLLOWED BY THE OVERHANG AREA TO THE INSIDE OF THE CURVE AND THEN BY THE OVERHANG AREA TO THE OUTSIDE OF THE CURVE.
10. CONTROL THE CONCRETE PLACEMENT TO ENSURE THAT THE FARTHEST PROGRESS OF FRESH CONCRETE VARIES BY NO MORE THAN 10 FEET ACROSS THE WIDTH OF THE DECK.
11. PREVIOUSLY PLACED DECK CONCRETE MUST HAVE ATTAINED A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI BEFORE THE AREAS IMMEDIATELY ADJACENT MAY BE PLACED.
12. FOLLOW PROCEDURES OUTLINED IN THE SPECIAL PROVISIONS FOR PROMPTLY FOGGING, COVERING, AND CURING FRESHLY PLACED CONCRETE.
13. STAY-IN-PLACE METAL FORMS WILL ONLY BE PERMITTED INSIDE THE BOX GIRDERS - THE OVERHANGS AND THE ZONE BETWEEN THE GIRDERS SHALL USE CONVENTIONAL TEMPORARY FORMS.
14. THE USE OF STAY-IN-PLACE METAL FORMS IS OPTIONAL - CONVENTIONAL FORMWORK MAY BE USED INSIDE THE BOXES, BUT MUST BE COMPLETELY REMOVED.
15. DESIGN CONNECTION BETWEEN STAY-IN-PLACE METAL FORMS AND GIRDER FLANGES TO PROVIDE ADJUSTMENT OF VERTICAL POSITION BASED ON THE ACTUAL HAUNCH HEIGHT REQUIRED. WELDING TO THE GIRDER FLANGES WILL NOT BE ALLOWED.
16. ALL STEEL SHALL BE SECURED IN ITS PROPER PLACE AND ELEVATION PRIOR TO ANY CONCRETE PLACEMENT.
17. THE CONTRACTOR MAY SUBMIT ALTERNATE POUR SEQUENCE PLANS SUBJECT TO APPROVAL BY THE ENGINEER/BRIDGE OFFICE.




## SECTION P-P

## LEGEND

② IDENTIFIES POUR SEQUENCE NUMBER AND DIRECTION OF POUR.

✳ POUR SEQUENCE MAY BEGIN AT OPPOSITE END IN REVERSE DIRECTION.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

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**DECK POUR SEQUENCE UNIT 1 - SPANS 1-3**

SHEET 87 OF 91
976

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

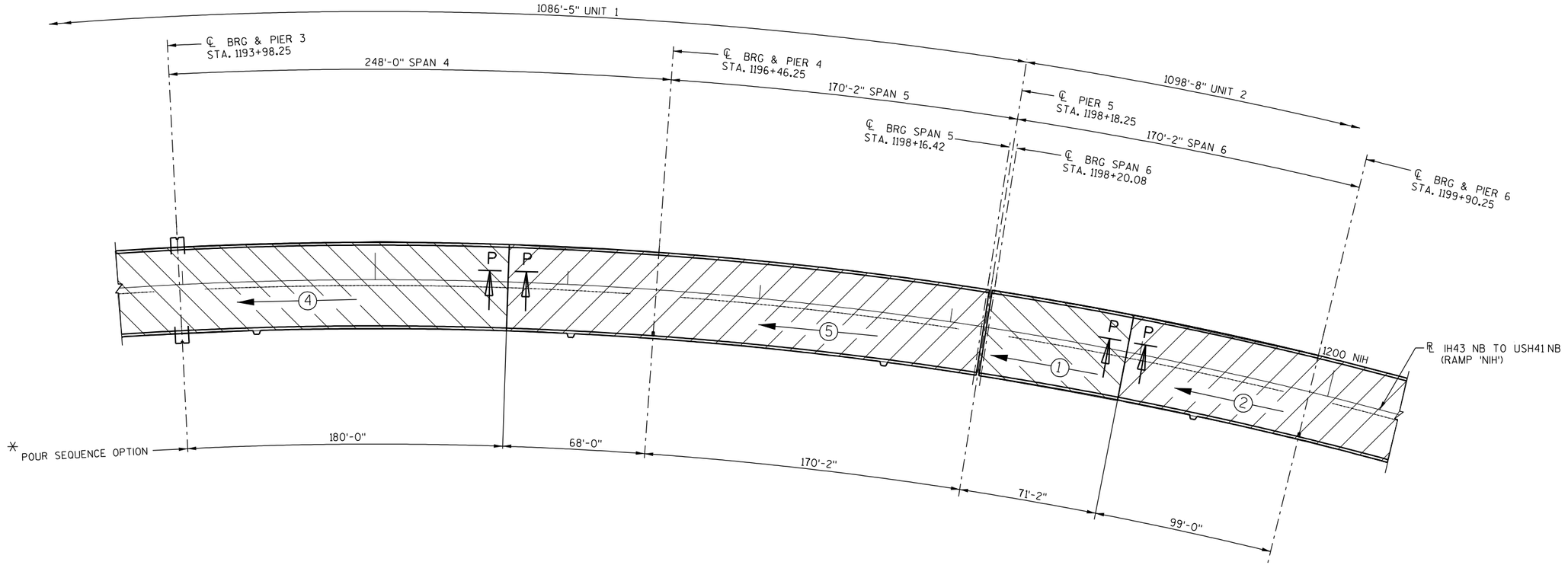
8

8

FILE NAME : P:\153 USH 41 1133-10-00 UPG\Structures\B-5-679\087_deck_pour_spans_1-3_v8_b-5-679.dgn

PLOT DATE : 4/23/2013

| STATE PROJECT NUMBER |
| --- |
| 1133-11-74 |




PLAN - SPANS 4 - 6

## NOTES

FOR "SECTION P-P" DETAIL, SEE SHEET 87.

## LEGEND

* FOR SYMBOL DESCRIPTION, SEE SHEET 87.

8

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| NO. | DATE | REVISION | BY |
| --- | --- | --- | --- |
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

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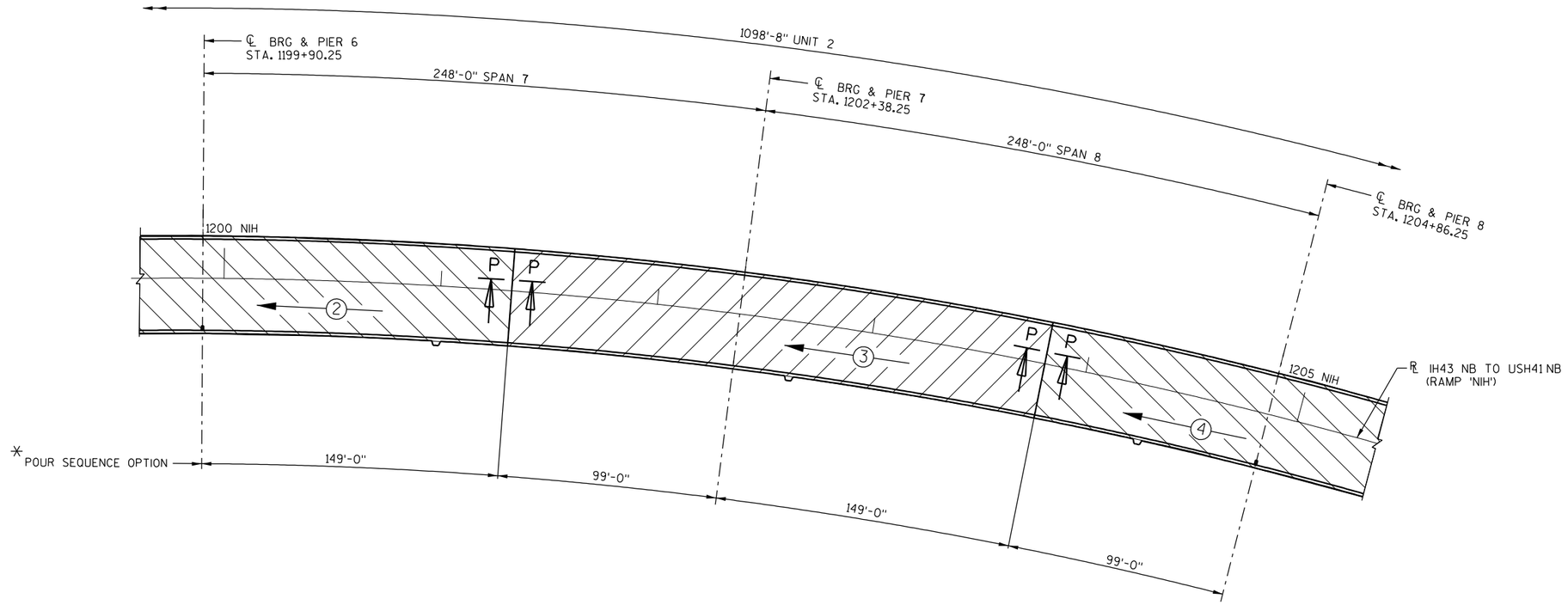
DECK POUR SEQUENCE UNITS 1 & 2 - SPANS 4-6

SHEET 88 OF 91
977

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| STATE PROJECT NUMBER |
|---|
| 1133-11-74 |




## PLAN - SPANS 7 & 8

### NOTES

FOR "SECTION P-P" DETAIL, SEE SHEET 87.

### LEGEND

* FOR SYMBOL DESCRIPTION, SEE SHEET 87.

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

**DECK POUR SEQUENCE UNIT 2 - SPANS 7-8**

SHEET 89 OF 91
978

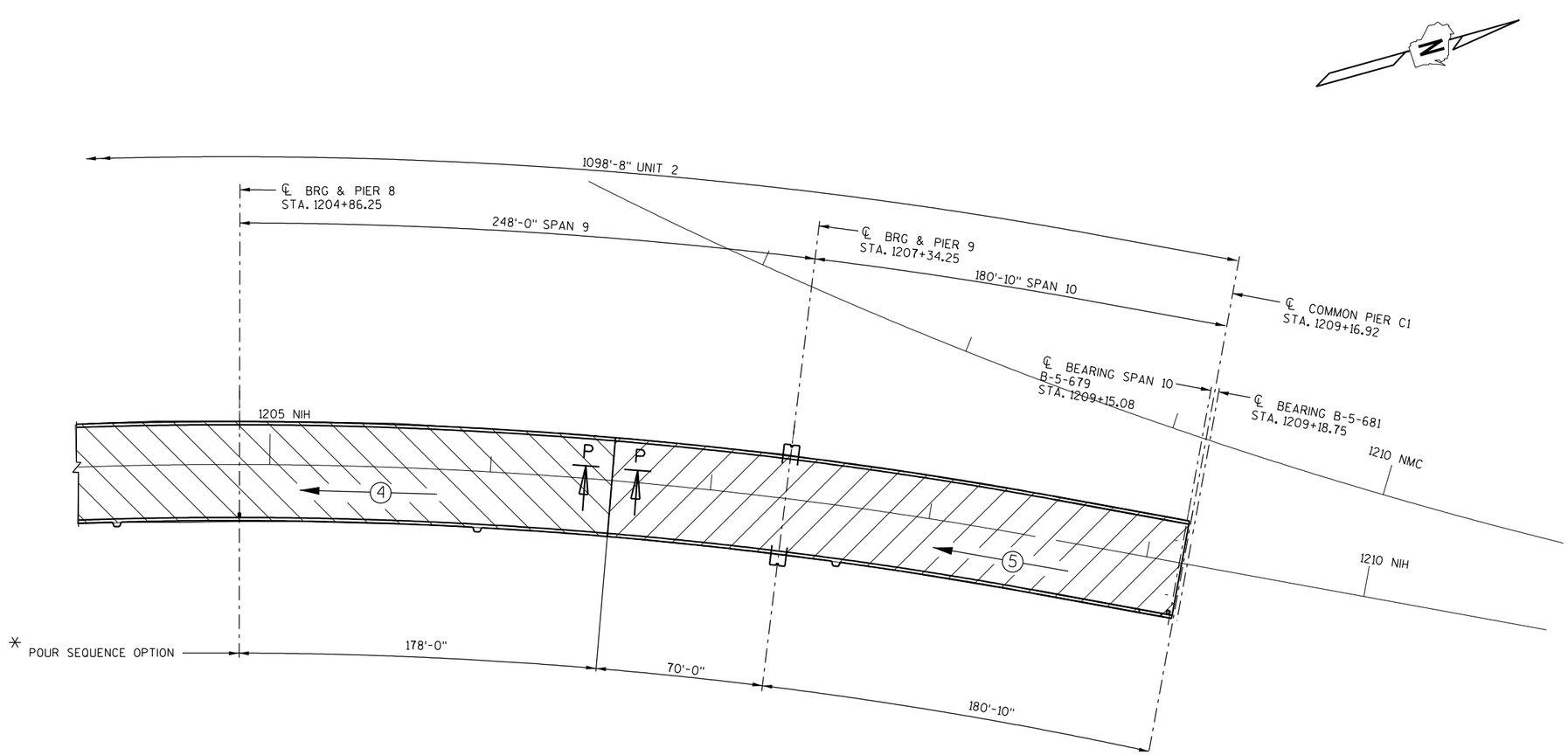
8

8

FILE NAME : P:\153 USH 41 1133-10-00 LRG\Structures\B-5-679\08_deck_pour_spans_7-8_v8_b-5-679.dgn

PLOT DATE : 4/23/2013

| STATE PROJECT NUMBER |
|---|
| 1133-11-74 |




## PLAN - SPANS 9 & 10

### NOTES

FOR "SECTION P-P" DETAIL, SEE SHEET 87.

### LEGEND

⚹ FOR SYMBOL DESCRIPTION, SEE SHEET 87.

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

| DRAWN BY | TAW | PLANS CK'D. | TR |
|---|---|---|---|

**DECK POUR SEQUENCE UNIT 2 - SPANS 9-10**

SHEET 90 OF 91
979

8

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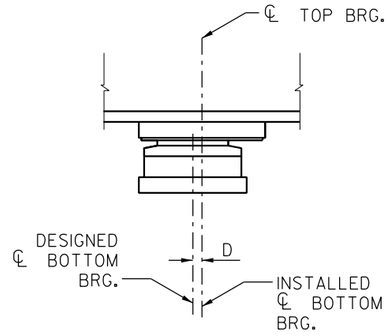
FILE NAME : P:\153 USH 41 1133-10-00 LRS\Structures\B-5-679\090_deck_pour_spans_9-10_v8_b-5-679.dgn

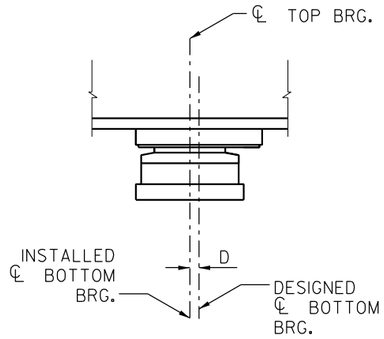
PLOT DATE : 4/23/2013

STATE PROJECT NUMBER

1133-11-74

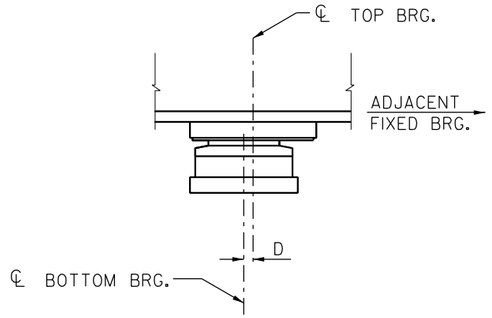



BELOW 60° F.
(MOVE ANCHOR BOLTS TOWARDS ADJACENT FIXED BRG.)

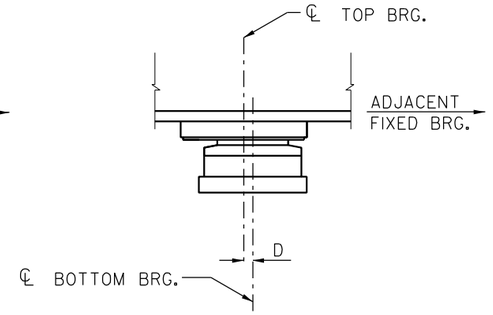



ABOVE 60° F.
(MOVE ANCHOR BOLTS AWAY FROM ADJACENT FIXED BRG.)

SETTING ANCHOR BOLTS AT FIXED BRG.




BELOW 60° F.
(MOVE BOTTOM BRG. AWAY FROM FIXED BRG.)




ABOVE 60° F.
(MOVE BOTTOM BRG. TOWARD FIXED BRG.)

SETTING ANCHOR BOLTS AT EXP. BRG.

| LOCATION | BRG. TYPE | EXPANSION LENGTH FEET | "D" DIMENSION FOR EVERY 10° F. CHANGE FROM 60° F. |
|---|---|---|---|
| S. ABUTMENT | E | 418.42 | 5/16" |
| PIER 1 | E | 248.00 | 3/16" |
| PIER 2 | F | --- | --- |
| PIER 3 | E | 248.00 | 3/16" |
| PIER 4 | E | 496.00 | 3/8" |
| PIER 5 UNIT 1 | E | 663.00 | 1/2" |
| PIER 5 UNIT 2 | E | 663.00 | 1/2" |
| PIER 6 | E | 496.00 | 3/8" |
| PIER 7 | E | 248.00 | 3/16" |
| PIER 8 | F | --- | --- |
| PIER 9 | E | 248.00 | 3/16" |
| PIER C1 | E | 428.83 | 5/16" |

E = EXPANSION BRG.
F = FIXED BRG.

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

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BEARING DETAILS

SHEET 91 OF 91
980

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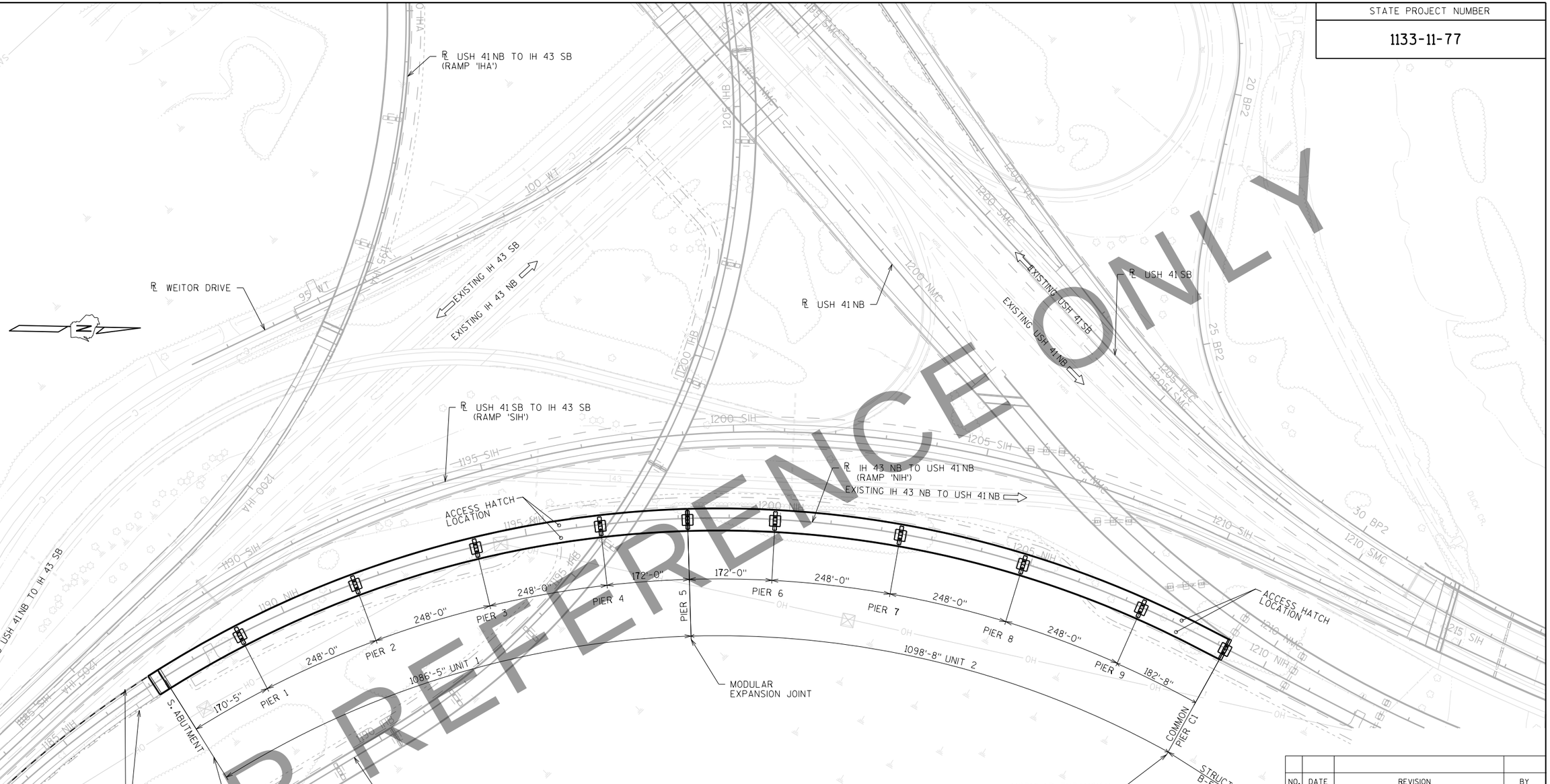
FILE NAME : P:\153 USH 41 1133-10-00 URS\Structures\B-5-679\091_bearing_detail_v8_b-6-679.dgn

PLOT DATE : 4/23/2013

STATE PROJECT NUMBER

1133-11-77




FOR REFERENCE ONLY

8

WISCONSIN
NARENDRA P. PATEL
38246-006
CHICAGO, IL
PROFESSIONAL ENGINEER

Narendra P. Patel
7-24-2012

NE REGION CONTACT - DANIELLE BLOCK (920) 492-2212
BUREAU OF STRUCTURES CONTACT - WILLIAM DREHER (608) 266-8489
CONSULTANT CONTACT - ROBERT FIELDBINDER (414) 831-4129

STEEL FABRICATION CONTRACT ONLY

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

URS
6737 West Washington Street
Suite 2265
Milwaukee, WI 53214
(414) 831-4100

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED _____ _____
CHIEF STRUCTURES DESIGN ENGINEER DATE

# STRUCTURE B-5-679

IH 43 NB TO USH 41 NB (RAMP 'NIH')

| COUNTY | ~~TOWN/CITY~~/VILLAGE |
|---|---|
| BROWN | HOWARD |

DESIGN SPEC.
AASHTO LRFD DESIGN SPEC. 5th EDITION

| DESIGNED BY | DESIGN CK'D. | DRAWN BY | PLANS CK'D. |
|---|---|---|---|
| JRS | NPP | ZMG | NPP |

SITE PLAN
B-5-679

SHEET 1 OF 51
981

8

FILE= O:\WisDot_12345678_US41Bridges_Plans\B-05-679E\001 - B-05-679E_Site Plan.dgn
DATE: 4/3/2013
I.D.

STATE PROJECT NUMBER

1133-11-77

## LIST OF DRAWINGS


1. SITE PLAN B-5-679
2. DRAWING LIST, GENERAL NOTES, AND QUANTITIES
3. GENERAL PLAN AND ELEVATION - SPANS 1-3
4. GENERAL PLAN AND ELEVATION - SPANS 4-6
5. GENERAL PLAN AND ELEVATION - SPANS 7-8
6. GENERAL PLAN AND ELEVATION - SPANS 9-10
7. CROSS SECTION AT PIER
8. TYPICAL BOX GIRDER CROSS SECTION
9. ALIGNMENT AND SUPERELEVATION
10. BEARING LAYOUT UNIT 1
11. BEARING LAYOUT UNIT 2
12. BEARING DETAILS
13. JACKING PROVISIONS
14. FRAMING PLAN UNIT 1 SPANS 1 TO 5
15. FRAMING PLAN UNIT 2 SPANS 6 TO 10
16. GIRDER PLAN AND ELEVATION UNIT 1 SPAN 1
17. GIRDER PLAN AND ELEVATION UNIT 1 SPAN 2
18. GIRDER PLAN AND ELEVATION UNIT 1 SPAN 3
19. GIRDER PLAN AND ELEVATION UNIT 1 SPAN 4
20. GIRDER PLAN AND ELEVATION UNIT 1 SPAN 5
21. GIRDER PLAN AND ELEVATION UNIT 2 SPAN 6
22. GIRDER PLAN AND ELEVATION UNIT 2 SPAN 7
23. GIRDER PLAN AND ELEVATION UNIT 2 SPAN 8
24. GIRDER PLAN AND ELEVATION UNIT 2 SPAN 9
25. GIRDER PLAN AND ELEVATION UNIT 2 SPAN 10
26. INTERMEDIATE PIER DIAPHRAGMS XD1 AND D1
27. UNIT END DIAPHRAGMS XD2, XD3, D2, AND D3
28. INTERMEDIATE DIAPHRAGMS XD4 AND D4
29. MISCELLANEOUS DIAPHRAGM DETAILS
30. EXTERIOR CROSS FRAME DETAILS
31. INTERIOR CROSS FRAME K1 DETAILS
32. FIELD SPLICE DETAILS
33. BRACING CONNECTION DETAILS SHEET 1
34. BRACING CONNECTION DETAILS SHEET 2
35. MISCELLANEOUS GIRDER DETAILS SHEET 1
36. MISCELLANEOUS GIRDER DETAILS SHEET 2
37. MISCELLANEOUS GIRDER DETAILS SHEET 3
38. ACCESS HATCH DETAILS
39. ACCESS DOOR DETAILS
40. SUPERSTRUCTURE DETAILS
41. CAMBER DIAGRAM UNIT 1
42. CAMBER DIAGRAM UNIT 2
43. CAMBER DATA FIELD SECTION 1 AND 2
44. CAMBER DATA FIELD SECTION 3 AND 4
45. CAMBER DATA FIELD SECTION 5 AND 6
46. CAMBER DATA FIELD SECTION 7 AND 8
47. CAMBER DATA FIELD SECTION 9 AND 10
48. CAMBER DATA FIELD SECTION 11 AND 12
49. CAMBER DATA FIELD SECTION 13 AND 14
50. CAMBER DATA FIELD SECTION 15 AND 16
51. CAMBER DATA FIELD SECTION 17 AND 18


## GENERAL NOTES

DO NOT SCALE THE DRAWINGS.

ALL DIMENSIONS ARE IN FEET AND INCHES. ALL STATIONS AND ELEVATIONS ARE IN FEET.

ELEVATIONS ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1988 (1991).

GIRDERS AND OTHER ELEMENTS OF THE STRUCTURE ARE REFERRED TO AS 'LEFT' AND 'RIGHT'. THESE ORIENTATIONS ARE WITH RESPECT TO THE REFERENCE LINE WHEN LOOKING IN THE DIRECTION OF INCREASING STATION.

TRANSVERSE DIMENSIONS ARE RADIAL TO THE REFERENCE LINE UNLESS NOTED OTHERWISE.

THIS CONTRACT INCLUDES FABRICATING, FURNISHING, STORING AND DELIVERING STRUCTURAL STEEL AND BEARINGS AS SHOWN IN THESE PLANS AND DESCRIBED IN THE SPECIAL PROVISIONS.

## STRUCTURAL STEEL

ALL STRUCTURAL STEEL PLATE FOR BOX GIRDER FLANGES AND WEBS, BOX GIRDER FLANGE AND WEB SPLICE PLATES, EXTERNAL AND INTERNAL DIAPHRAGMS FOR BOX GIRDERS, AND ALL OTHER STEEL PLATE COMPONENTS WELDED TO ANY OF THESE ELEMENTS SHALL BE HIGH STRENGTH ASTM A709 (AASHTO M270) GRADE HPS 50W (FY=50 KSI). 2-WAY BEVELED JACKING PADS SHALL BE A709-50W (FCM). ALL OTHER STEEL SHALL BE IN ACCORDANCE WITH ASTM A709 GRADE 50 (FY=50 KSI).

ALL STRUCTURAL STEEL PLATE FOR BOX GIRDER FLANGES AND WEBS IN TENSION ZONES AS SHOWN ON THE PLANS AND ALL ASSOCIATED SPLICE PLATES, ALL TRANSVERSE WEB STIFFENERS AND CONNECTION PLATES, AND ALL STEEL PLATE ELEMENTS OF EXTERNAL AND INTERNAL DIAPHRAGMS FOR BOX GIRDERS SHALL MEET THE FRACTURE CRITICAL TENSION COMPONENT IMPACT TEST REQUIREMENTS FOR HPS 50WF/HPS 345WF OF TABLE 10 OF ASTM A709/A709M-05 FOR ZONE 2.

ALL WELDING PERFORMED IN TENSION ZONES SHOWN ON THE PLANS FOR BOX GIRDER WEB AND FLANGE ELEMENTS, INCLUDING ATTACHING TRANSVERSE WEB STIFFENER AND CONNECTION PLATES, AND ALL WELDING PERFORMED FOR ALL ELEMENTS OF EXTERNAL AND INTERNAL STEEL PLATE DIAPHRAGMS FOR BOX GIRDERS SHALL BE PERFORMED, TESTED, AND INSPECTED IN ACCORDANCE WITH REQUIREMENTS FOR FABRICATION OF FRACTURE CRITICAL MEMBERS.

CHARPY V-NOTCH TOUGHNESS REQUIREMENTS FOR ALL STEEL SHALL CONFORM TO THE REQUIREMENTS FOR ZONE 2.

ALL WELDING SHALL BE IN ACCORDANCE WITH THE CURRENT AASHTO/AWS D1.5 BRIDGE WELDING CODE.

USE WELD MATERIAL WITH A TENSILE STRENGTH AT LEAST 20 KSI GREATER THAN THE YIELD STRENGTH OF THE STEEL BEING WELDED. NON-WEATHERING CONSUMABLES MAY BE USED FOR SINGLE-PASS FILLET WELDS.

FABRICATE BEARING ASSEMBLIES FROM ASTM A709 GRADE 50W MATERIAL (FY=50 KSI).

PROVIDE ANCHOR RODS, NUTS AND WASHERS CONFORMING TO ASTM F1554 (GRADE 105) AND HOT-DIP GALVANIZE IN ACCORDANCE WITH AASHTO M232.

ALL BOLTS SHALL BE ASTM A325 TYPE 1, BOLTS SHALL BE 7/8" DIAMETER UNLESS NOTED OTHERWISE. ALL HOLES SHALL BE STANDARD DIAMETER. NO OVERSIZE HOLES WILL BE PERMITTED WITHOUT PRIOR APPROVAL. ALL CONNECTIONS SHALL BE FABRICATED AND ASSEMBLED AS SLIP-CRITICAL CONNECTIONS. DESIGN ASSUMED SURFACE CLASS A.

PAINT ALL STRUCTURAL STEEL, INCLUDING SURFACES AND BRACING MEMBERS ON THE INSIDE OF THE BOX GIRDERS, IN ACCORDANCE WITH THE SPECIAL PROVISIONS.

THE COMPRESSIVE STRENGTH OF THE BEARING PEDESTAL AND PIER CONCRETE IS 4000 PSI.

MINIMUM FILLET WELD SIZE:

| THICKNESS OF THICKER PART JOINED | MINIMUM WELD SIZE |
|---|---|
| T <= 1/2" | 3/16" |
| 1/2" < T <= 3/4" | 1/4" |
| 3/4" < T <= 1 1/2" | 5/16" |
| 1 1/2" < T <= 2 1/4" | 3/8" |
| T > 2 1/4" | 1/2" |

MINIMUM WELD SIZES SHOWN SHALL BE USED WHEN A SIZE IS NOT OTHERWISE SPECIFIED OR SHOWN.

WELD SIZE SHALL NOT EXCEED THE THICKNESS OF THE THINNER PART BEING JOINED.

FOR ALL WELDS 5/16" OR LARGER THE MINIMUM PASS SIZE SHALL BE 5/16".

## DESIGN CRITERIA

DESIGN IS IN ACCORDANCE WITH AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) LRFD BRIDGE DESIGN SPECIFICATIONS, 5TH EDITION WITH 2010 INTERIM REVISIONS, AND THE WISDOT BRIDGE MANUAL.

ALL DETAILS, MATERIALS, AND FABRICATION SHALL CONFORM TO THE THE STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION. USE THE CURRENT EDITION OF THE STANDARD SPECIFICATIONS AT THE TIME OF CONSTRUCTION.

LIVE LOAD PLUS DYNAMIC LOAD DEFLECTION LIMIT = SPAN / 800 (HL93).

## DESIGN LIVE LOAD

DESIGN LOADING: HL-93

INVENTORY RATING FACTOR: RF = 1.28

OPERATING RATING FACTOR: RF = 1.66

WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 KIPS

## OTHER DESIGN LOADS

PROFILE GRADE LINE AND TOP OF DECK ELEVATIONS ARE TO THE TOP OF THE 10" DECK THICKNESS. THE 10" DECK THICKNESS INCLUDES A 1/2" INTEGRAL WEARING SURFACE, BUT DOES NOT INCLUDE AN ADDITIONAL EPOXY OVERLAY THAT WILL BE PROVIDED AFTER POURING OF THE DECK.
THE STRUCTURE IS DESIGNED FOR THE WEIGHT OF THE 10" THICKNESS OF CONCRETE PLUS 3/8" THICKNESS OF EPOXY OVERLAY.
UNIT WEIGHTS ASSUMED FOR DESIGN WERE 150 PCF FOR CONCRETE AND 3 PSF FOR 3/8" EPOXY OVERLAY.

TEMPERATURE CHANGE FOR DETERMINING THERMAL FORCES ON SUBSTRUCTURES = 90°F.

BEARING MOVEMENT RANGE IS BASED ON BEARING CENTERED AT 60°F AND ACCOMMODATING 90°F OF MOVEMENT IN EITHER DIRECTION.

DESIGN ASSUMED A WEIGHT PER GIRDER OF 10 PSF FOR STAY-IN-PLACE METAL FORMS INSIDE EACH GIRDER ONLY AND 13.5 PSF FOR CONCRETE WITHIN THE RIBS OF THESE FORMS.

DESIGN ASSUMED 7.5 PSF FOR TEMPORARY FORMWORK IN ADDITION TO STAY-IN-PLACE FORMS.

PARAPETS WERE ASSUMED TO WEIGH 563 PLF AND 464 PLF FOR "42SS" AND "32SS" SECTIONS RESPECTIVELY.

ALL OTHER LOADS IN ACCORDANCE WITH AASHTO.

## TOTAL ESTIMATED QUANTITIES

| BID ITEM # | BID ITEM | UNIT | UNIT 1 QUANTITY | UNIT 2 QUANTITY | TOTAL |
|---|---|---|---|---|---|
| SPV.0060.01 | BEARING HIGH-LOAD MULTI-ROTATIONAL FIXED B-5-679 | EACH | 2 | 2 | 4 |
| SPV.0060.02 | BEARING HIGH-LOAD MULTI-ROTATIONAL UNI-DIRECTIONAL B-5-679 | EACH | 10 | 10 | 20 |
| SPV.0085.01 | FABRICATED STRUCTURAL STEEL HPS 50W B-5-679 | LB | 2,775,100 | 2,796,600 | 5,571,700 |
| SPV.0085.02 | FABRICATED STRUCTURAL STEEL HS B-5-679 | LB | 228,100 | 228,600 | 456,700 |
| SPV.0105.01 | PAINTING POLYSILOXANE SYSTEM B-5-679 | LS | - | - | 1 |

1

FOR REFERENCE ONLY

WISCONSIN
NARENDRA P. PATEL
38246-006
CHICAGO, IL
PROFESSIONAL ENGINEER

Narendra P. Patel
7-24-2012

STEEL FABRICATION CONTRACT ONLY

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| 1 | | REVISED STEEL QUANTITIES | KZ |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY: KZ | PLANS CK'D.: NPP

DRAWING LIST, GENERAL NOTES, & QUANTITIES

SHEET 2 OF 51

982

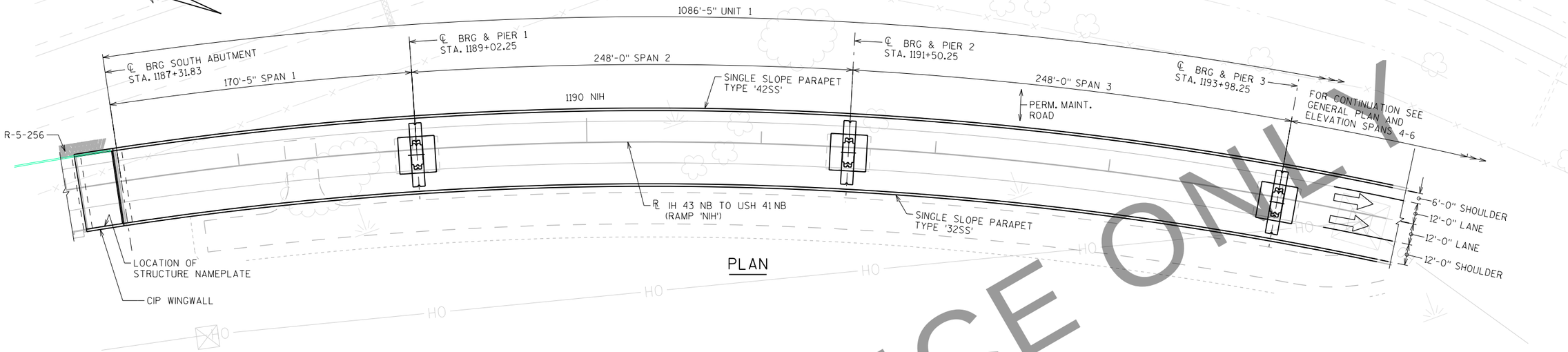
DATE: 4/3/2013
I.D.

FILE= Q:\WisDot_12345678_US41Bridges_Plans\B-05-679E\0

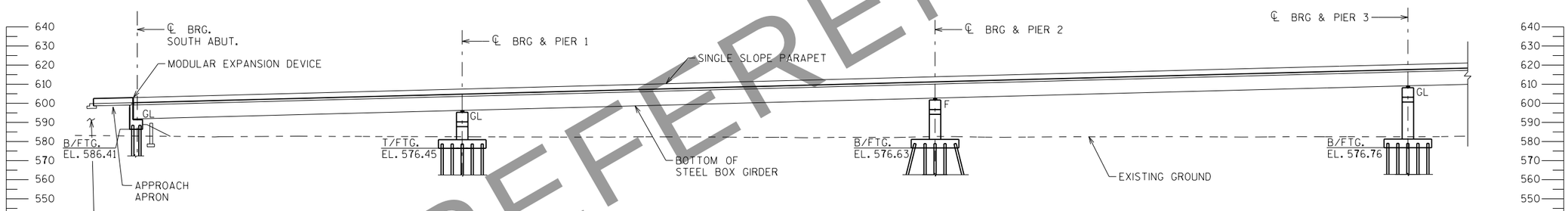
8

8

| STATE PROJECT NUMBER |
|---|
| 1133-11-77 |




PLAN




ELEVATION

(ALONG ℄ LOOKING SOUTHWEST)

## BENCH MARK

| NO. | DESCRIPTION | ELEVATION |
|---|---|---|
| BM 778 | RR SPIKE IN DECIDUOUS TREE | 586.61 |

## DESIGN DATA

ULTIMATE DESIGN STRESSES;

CONCRETE MASONRY, HIGH PERFORMANCE CONCRETE
SLAB---------- f'c = 4,000 P.S.I.
ALL OTHER---------- f'c = 4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60---------- fy = 60,000 P.S.I.
HIGH STRENGTH STRUCTURAL STEEL,---------- fy = 50,000 P.S.I.
(ASTM A709, GRADE 50, HPS50W)

## STRUCTURE TYPE

5-SPAN CONTINUOUS STEEL BOX GIRDER BRIDGE UNIT 1
5-SPAN CONTINUOUS STEEL BOX GIRDER BRIDGE UNIT 2

## FOUNDATION DATA

SOUTH ABUTMENT TO BE SUPPORTED ON HP14X73 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 250 TONS PER PILE AS DETERMINED BY THE PDA/CAPWAP METHODS. ESTIMATED XX FEET LONG.

PIERS 1 THROUGH PIER 10 TO BE SUPPORTED ON HP14X73 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 250 TONS PER PILE AS DETERMINED BY THE PDA/CAPWAP METHODS. ESTIMATED XX FEET LONG.

THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.8 USING THE PDA/CAPWAP METHODS AND THE PREVIOUSLY COMPLETED STATIC LOAD TEST TO DETERMINE THE REQUIRED DRIVING RESISTANCE.

## TRAFFIC VOLUME:

| RAMP NIH | RAMP IHB |
|---|---|
| ADT (2015) = 8,600 | ADT (2015) = 13,500 |
| ADT (2035) = 10,200 | ADT (2035) = 14,000 |
| R.D.S. = 70 M.P.H. | R.D.S. = 60-70 M.P.H. |

## LEGEND

F- FIXED BEARING
GL - GUIDED LONGITUDINAL UNIDIRECTIONAL BEARING

## NOTES:

ALL SUBSTRUCTURE UNITS ARE NORMAL TO ℄.

DIMENSIONS SHOWN ARE ALONG ℄.

SPAN LENGTHS SHOWN ARE MEASURED ALONG ℄.

FOR CURVE DATA SEE ALIGNMENT LAYOUT AND SUPERELEVATION SHEET.

△ VERTICAL CLEARANCE ESTIMATED BASED ON PRELIMINARY ROADWAY GEOMETRY.

FLOOR DRAIN AND LIGHT POLE LOCATIONS ARE NOT YET DETERMINED.

GUIDED LONGITUDINAL BEARINGS WILL BE ALIGNED PARALLEL WITH ℄.

EXISTING AND FUTURE UTILITIES ARE SHOWN FOR INFORMATION ONLY. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING ALL UTILITIES PRIOR TO EXCAVATION OR PILE DRIVING.

STEEL FABRICATION CONTRACT ONLY

FOR REFERENCE ONLY

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY ZMG | PLANS CK'D. NPP

GENERAL PLAN AND ELEVATION SPANS 1-3

SHEET 3 OF 51

983

8

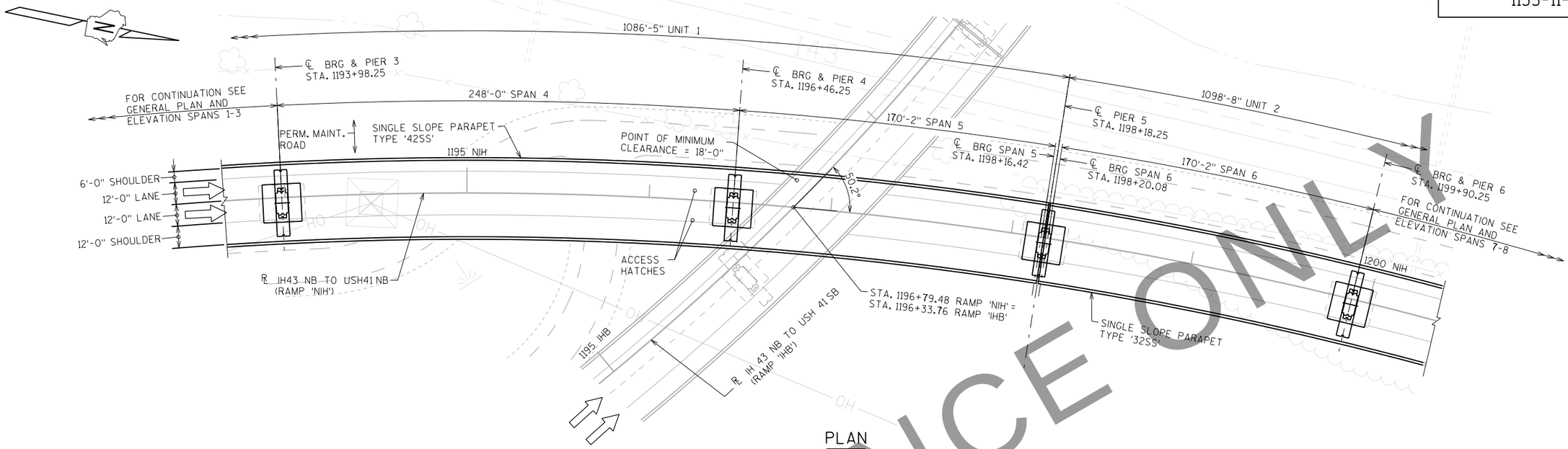
8

FILE= O:\WisDot_12345678_US41Bridges_Plans\B-05-679E\003 - B-05-679E_Plan and Elevation - Spans 1-3.dgn

DATE: 4/3/2013
I.D.

STATE PROJECT NUMBER

1133-11-77

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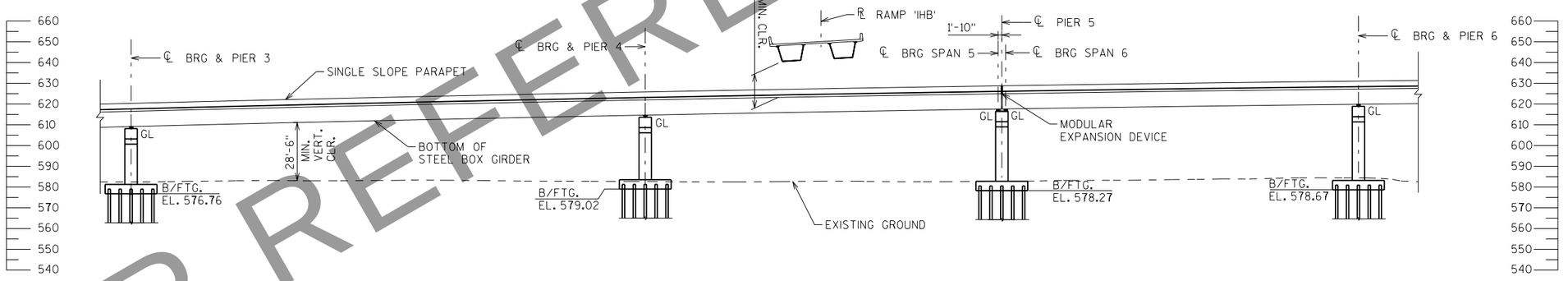


ELEVATION

(ALONG ℟ LOOKING SOUTHWEST)

FOR REFERENCE ONLY

LEGEND

F- FIXED BEARING
GL - GUIDED LONGITUDINAL UNIDIRECTIONAL BEARING

NOTES:

FOR NOTES, SEE SHEET TITLED "GENERAL PLAN & ELEVATION SPANS 1-3"

STEEL FABRICATION CONTRACT ONLY

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

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GENERAL PLAN AND ELEVATION SPANS 4-6

SHEET 4 OF 51

984

8

8

FILE= O:\WisDot_12345678_US41Bridges_Plans\B-05-679E\004 - B-05-679E_Plan and Elevation - Spans 4-6.dgn

DATE: 4/3/2013

I.D.

| STATE PROJECT NUMBER |
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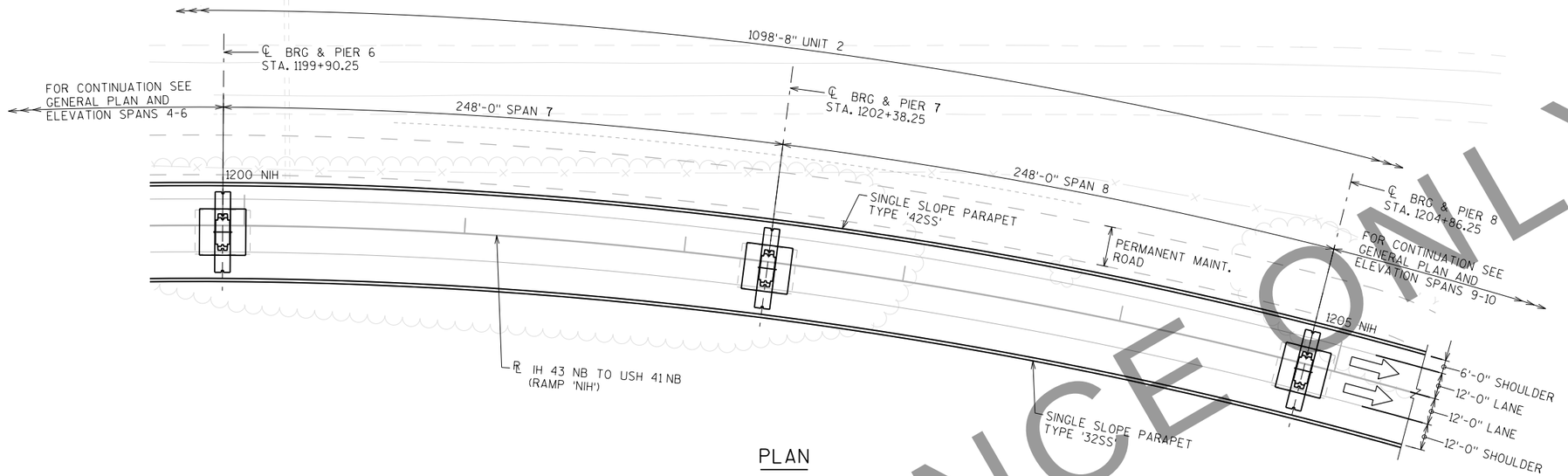
| 1133-11-77 |

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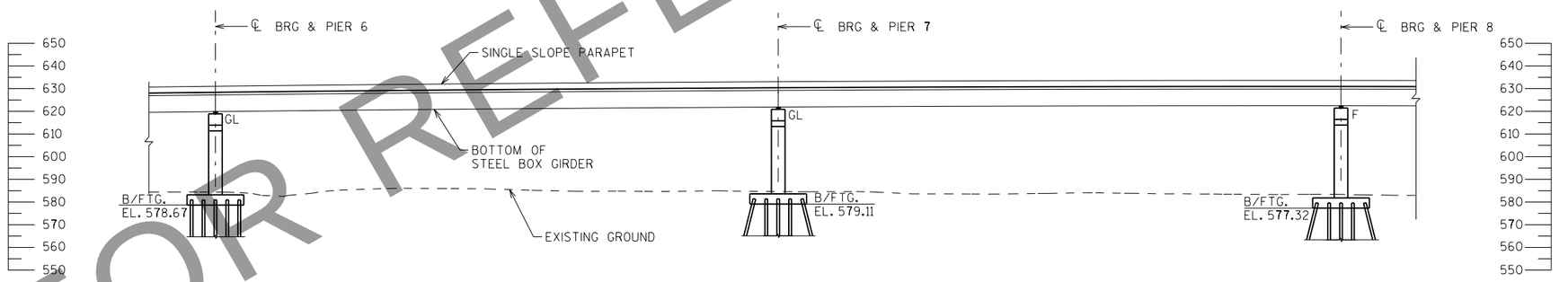


ELEVATION
(ALONG ℄ LOOKING WEST)

FOR REFERENCE ONLY

## NOTES:

FOR NOTES, SEE SHEET TITLED
"GENERAL PLAN & ELEVATION SPANS 1-3"

## LEGEND

F- FIXED BEARING
GL - GUIDED LONGITUDINAL UNIDIRECTIONAL BEARING

STEEL FABRICATION CONTRACT ONLY

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

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GENERAL PLAN AND ELEVATION SPANS 7-8

SHEET 5 OF 51

985

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FILE= O:\WisDot_12345678_US41Bridges_Plans\B-05-679E\005 - B-05-679E_Plan and Elevation - Spans 7-8.dgn

DATE: 4/3/2013
I.D.

| STATE PROJECT NUMBER |
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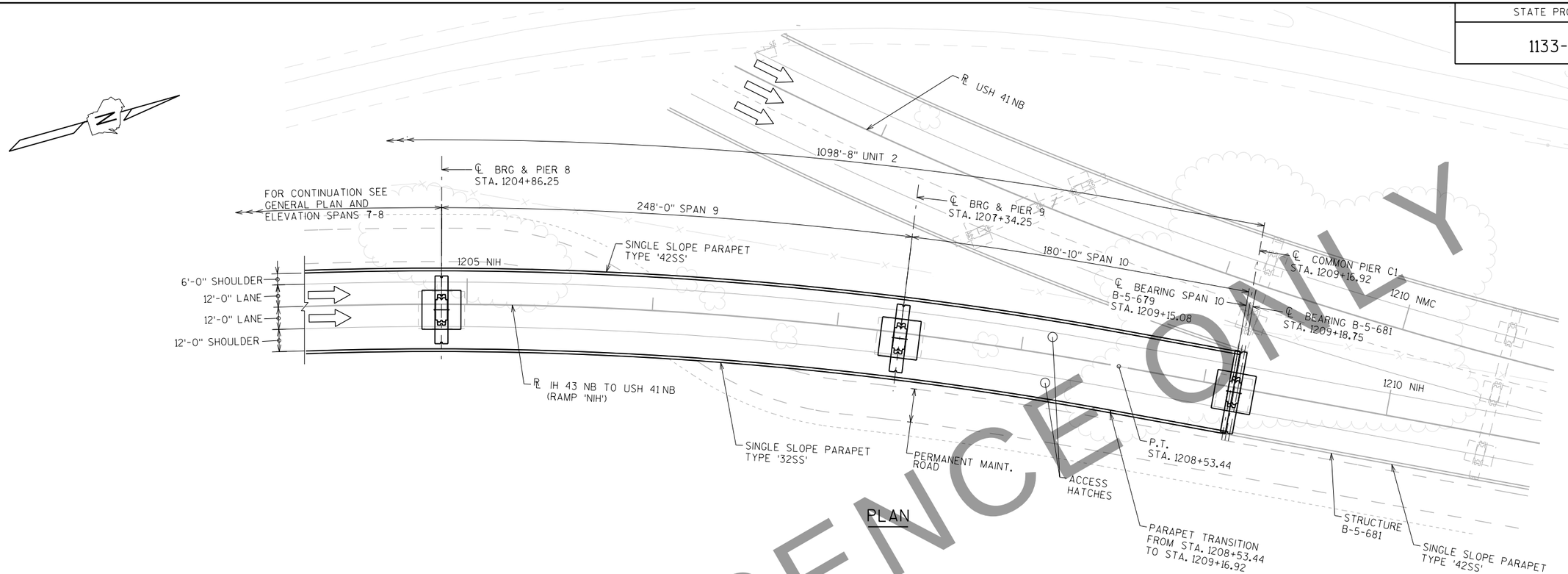
| 1133-11-77 |

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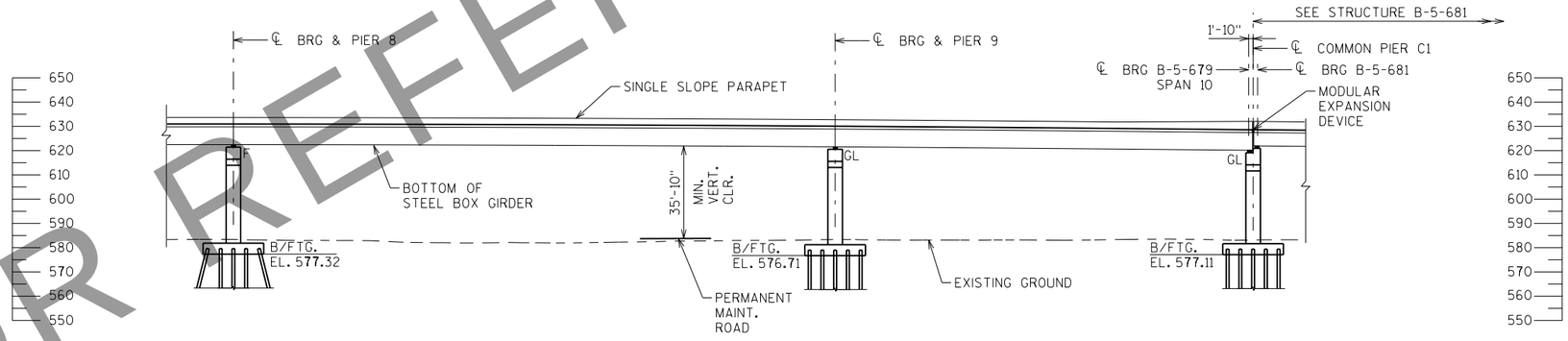


ELEVATION

(ALONG ℄ LOOKING WEST)

## NOTES:

FOR NOTES, SEE SHEET TITLED
"GENERAL PLAN & ELEVATION SPANS 1-3"

## LEGEND

F- FIXED BEARING
GL - GUIDED LONGITUDINAL UNIDIRECTIONAL BEARING

STEEL FABRICATION CONTRACT ONLY

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

| DRAWN BY | ZMG | PLANS CK'D. | NPP |
|---|---|---|---|

GENERAL PLAN AND ELEVATION SPANS 9-10

SHEET 6 OF 51

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FOR REFERENCE ONLY

8

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DATE: 4/3/2013

I.D.

| STATE PROJECT NUMBER |
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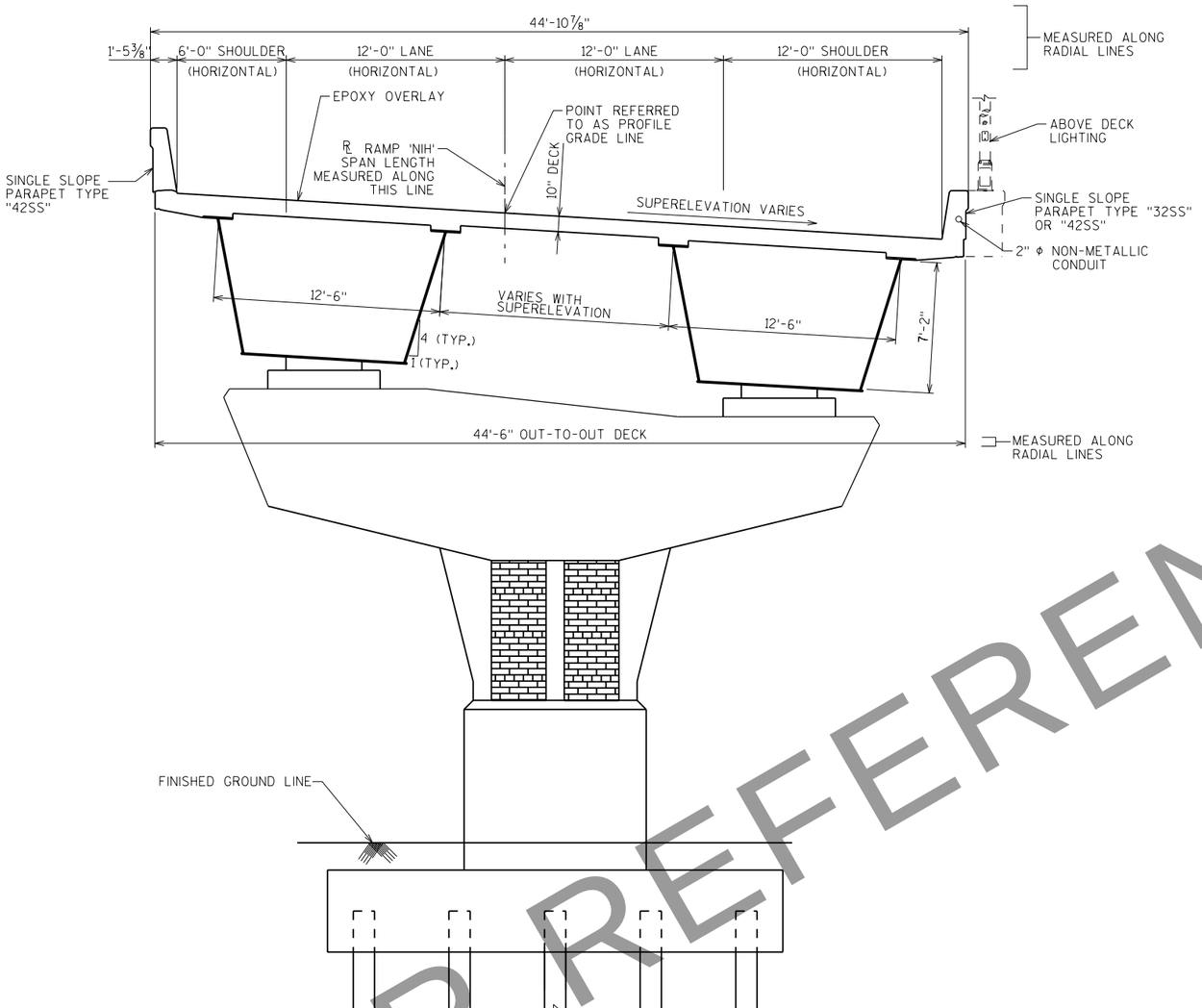
| 1133-11-77 |




TYPICAL CROSS SECTION

(LOOKING UPSTATION)

NOTES:

AESTHETIC DETAILS FOR PIERS, PARAPETS, WALLS, AND PAINTING SYSTEMS WILL FOLLOW THE CORRIDOR STANDARDS FOR FLYOVER STRUCTURES.

FOR REFERENCE ONLY

| NO. | DATE | REVISION | BY |
|---|---|---|---|
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

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CROSS SECTION AT PIER

SHEET 7 OF 51

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STEEL FABRICATION CONTRACT ONLY

8

8

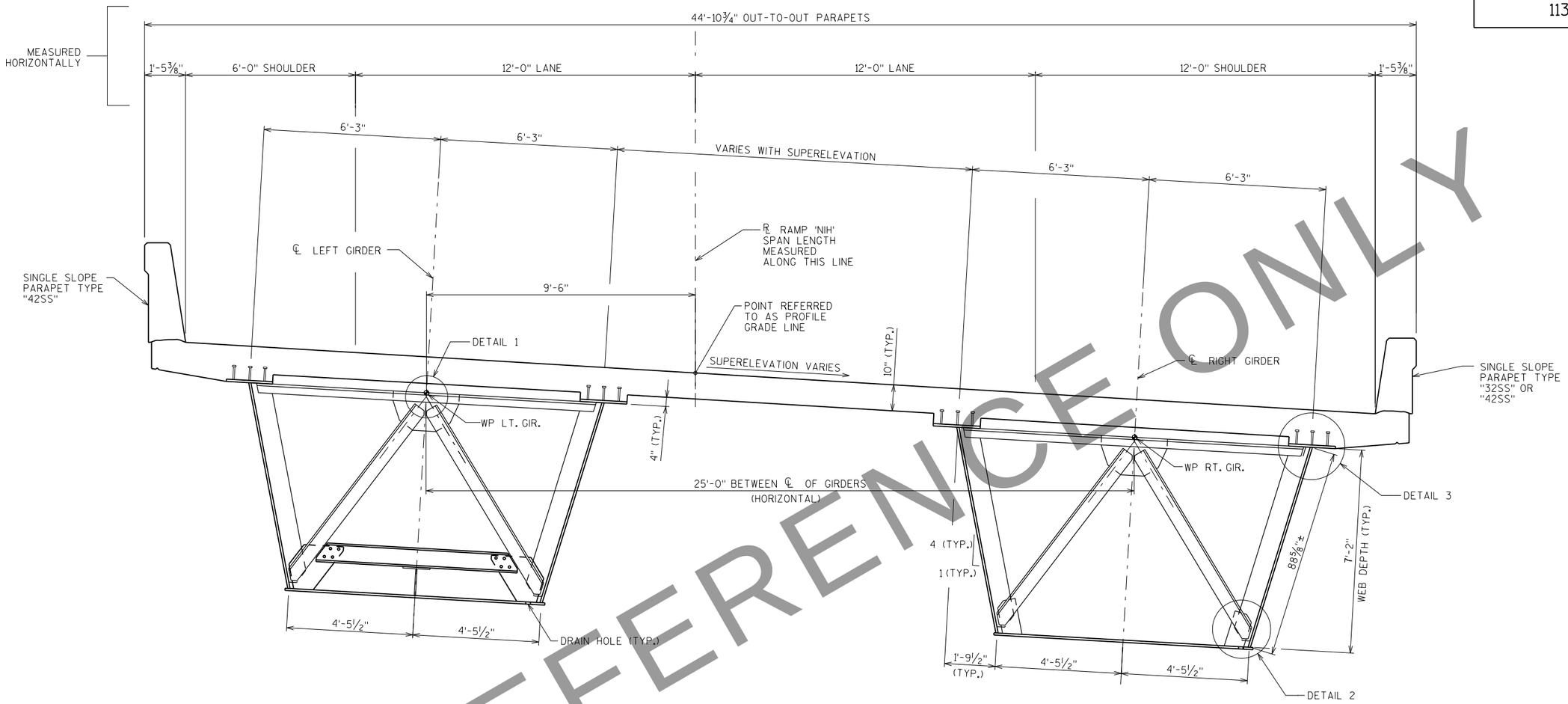
FILE= Q:\WisDot_12345678_US41Bridges_Plans\B-05-679E\007 - B-05-679E_Cross Section at Pier.dgn

DATE: 4/3/2013

I.D.

STATE PROJECT NUMBER

1133-11-77

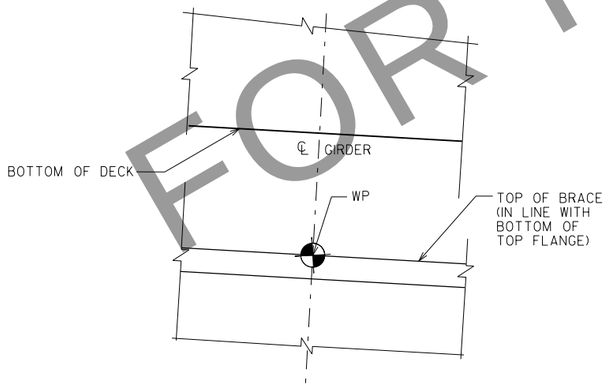



(SHOWING CROSS FRAMES AT LOCATIONS WITH LONGITUDINAL STIFFENER)

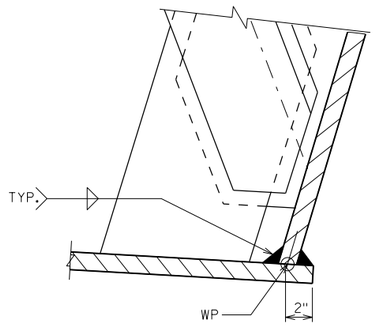
(SHOWING CROSS FRAMES AT LOCATIONS WITHOUT LONGITUDINAL STIFFENER)

## TYPICAL BOX GIRDER CROSS SECTION

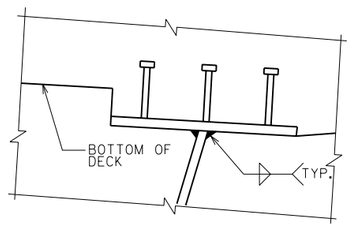
(LOOKING UPSTATION)




DETAIL 1




DETAIL 2




DETAIL 3

(LATERAL BRACING NOT SHOWN FOR CLARITY)

## NOTES:

WP = WORK POINT TO WHICH DIMENSIONS ARE MEASURED.

STAY-IN-PLACE METAL FORMS PERMITTED INSIDE BOX GIRDERS ONLY.

AESTHETIC DETAILS FOR PIERS, PARAPETS, WALLS, AND PAINTING SYSTEMS WILL FOLLOW THE CORRIDOR STANDARDS FOR FLYOVER STRUCTURES.

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY ZMG | PLANS CK'D. NPP

TYPICAL BOX GIRDER CROSS SECTION

SHEET 8 OF 51

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STEEL FABRICATION CONTRACT ONLY

FOR REFERENCE ONLY

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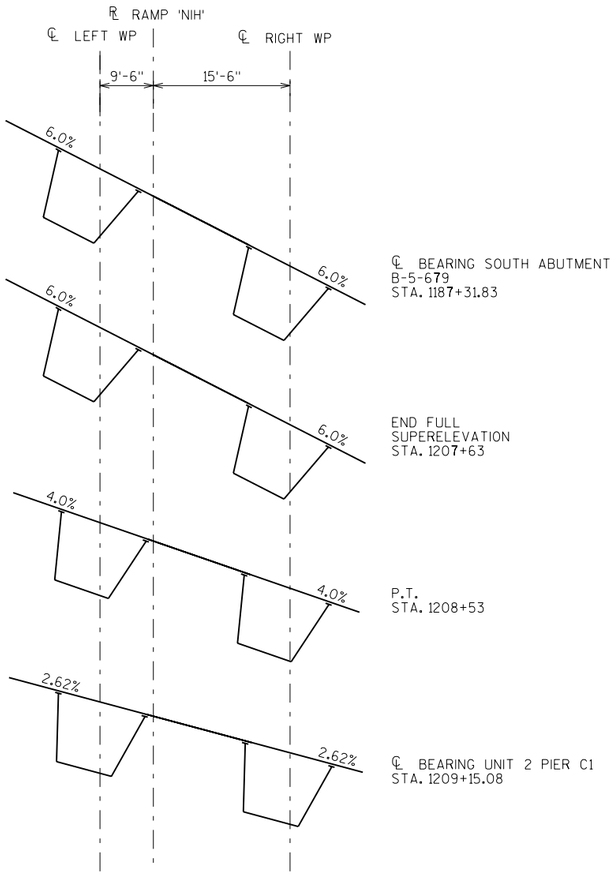
DATE: 4/3/2013

I.D.

| STATE PROJECT NUMBER |
|---|
| 1133-11-77 |



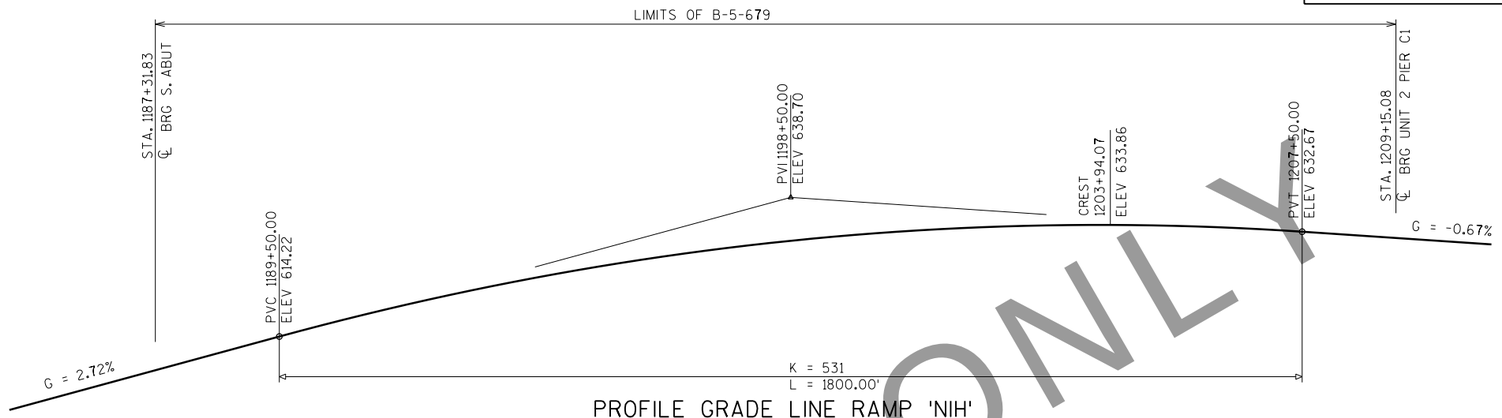

℄ BEARING SOUTH ABUTMENT
B-5-679
STA. 1187+31.83

END FULL
SUPERELEVATION
STA. 1207+63

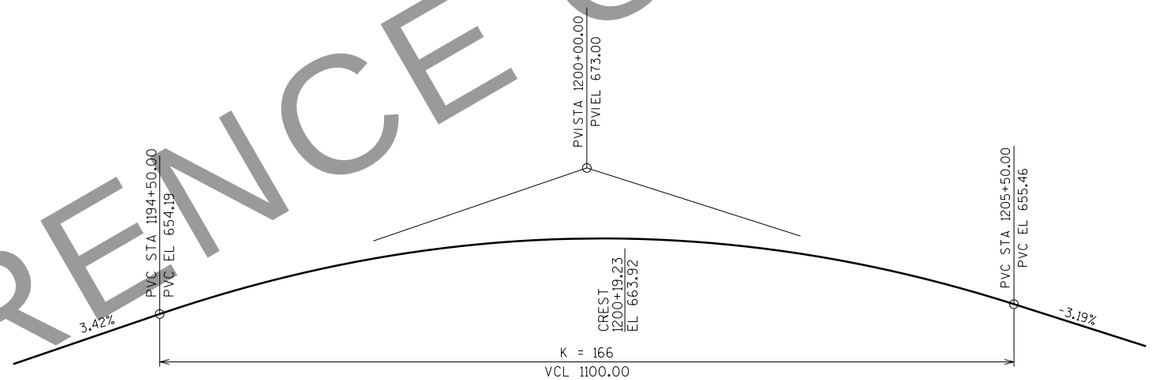
P.T.
STA. 1208+53

℄ BEARING UNIT 2 PIER C1
STA. 1209+15.08

## DECK SLOPE TRANSITION




## PROFILE GRADE LINE RAMP 'NIH'

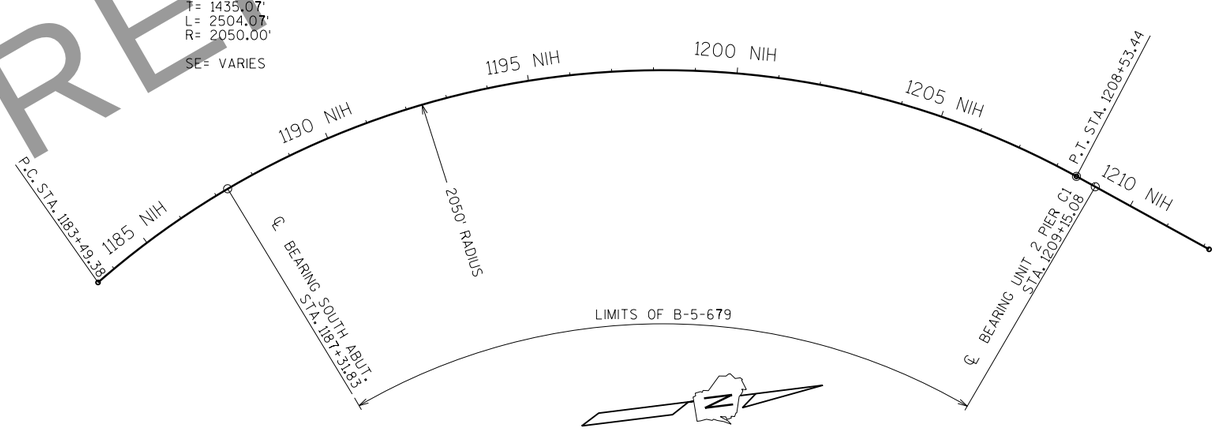



## PROFILE GRADE LINE RAMP 'IHB'

## IH 43 NB TO USH 41 NB
## RAMP 'NIH'
## HORIZONTAL CURVE DATA

P.I. STA.= 1197+84.44
N= 583666.47
E= 901111.04
P.C. STA.= 1183+49.38
P.T. STA.= 1208+53.44
△= 69°59'11"
D= 2°47'42"
T= 1435.07'
L= 2504.07'
R= 2050.00'

SE= VARIES




## HORIZONTAL ALIGNMENT IH 43 NB TO USH 41 NB (RAMP 'NIH')

## NOTES:

STEEL GIRDER FLANGES ALWAYS PARALLEL TO DECK ABOVE.

THEORETICAL HAUNCH HEIGHT IS CONSTANT AT 4"

FOR REFERENCE ONLY

STEEL FABRICATION CONTRACT ONLY

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

| DRAWN BY | ZMG | PLANS CK'D. | NPP |
|---|---|---|---|

ALIGNMENT AND SUPERELEVATION

SHEET 9 OF 51

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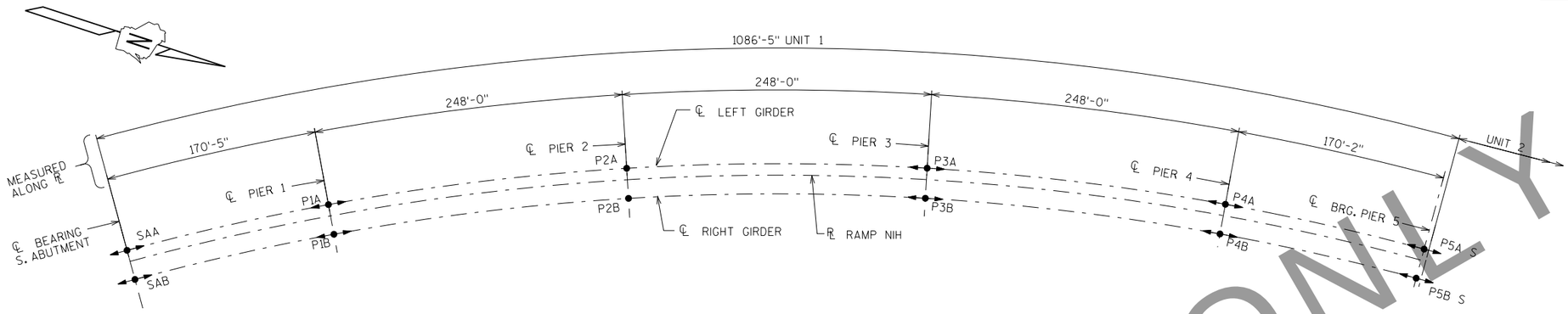
FILE= O:\WisDot_12345678_US41Bridges_Plans\B-05-679E\D05-679EX009 - B-05-679E_Alignment & Superelevation.dgn

DATE: 4/3/2013
I.D.

| STATE PROJECT NUMBER |
|---|
| 1133-11-77 |




## BEARING LAYOUT
LENGTH NOT TO SCALE

## BEARING LEGEND

- ● MULTIROTATIONAL FIXED
- ◄●► MULTIROTATIONAL UNI-DIRECTIONAL (GUIDED) ARROWHEADS DENOTE MOVEMENT DIRECTIONS.
- DC DEAD LOAD OF STRUCTURAL COMPONENTS AND NONSTRUCTURAL ATTACHMENTS
- LL+I VEHICULAR LIVE LOAD AND IMPACT
- WS WIND ON STRUCTURE
- WL WIND ON LIVE LOAD
- TU FORCE EFFECT DUE TO UNIFORM TEMPERATURE
- CE VEHICULAR CENTRIFUGAL FORCE
- BR VEHICULAR BRAKING FORCE

| BEARING MARK | TYPE | VERTICAL | | TRANSVERSE | | | | LONGITUDINAL | | | | ROTATIONS | | MOVEMENT RANGE (FOR 180 DEG.) | TAPERED SOLE PLATE THICKNESS | | | | | NOMINAL BEARING DIMENSIONS | | | | | | MIN. ANCHOR BOLTS | MIN. TOP BOLTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | DC (KIPS) | LL+I (KIPS) | WS (KIPS) | WL (KIPS) | TU (KIPS) | CE (KIPS) | WS (KIPS) | WL (KIPS) | TU (KIPS) | BR (KIPS) | X-AXIS TORSION (RAD) | Y-AXIS FLEXURE (RAD) | LONGIT. (IN) | LL (IN) | RL (IN) | LH (IN) | RH (IN) | CC (IN) | A (IN) | B (IN) | C (IN) | D (IN) | E (IN) | H (IN) | | |
| SAA | GUIDED | 296 | 267 | 26 | 5 | 3 | 28 | 7 | 2 | 30 | 32 | 0.0024 | 0.0042 | 5.90 | 3.03 | 1.00 | 3.71 | 1.69 | 2.36 | 33.75 | 22 | 29 | 21 | 1.75 | 8.5 | 4-1" DIA. | 4-1" DIA. |
| SAB | GUIDED | 296 | 267 | 26 | 5 | 3 | 28 | 7 | 2 | 30 | 32 | 0.0024 | 0.0042 | 5.90 | 3.03 | 1.00 | 3.71 | 1.69 | 2.36 | 33.75 | 22 | 29 | 21 | 1.75 | 8.5 | 4-1" DIA. | 4-1" DIA. |
| P1A | GUIDED | 1,218 | 560 | 64 | 11 | 6 | 29 | 16 | 5 | 122 | 34 | 0.0007 | 0.0019 | 3.50 | 4.00 | 1.00 | 4.98 | 1.98 | 2.99 | 50 | 35 | 40.875 | 32.875 | 1.75 | 13.25 | 6-1 1/2" DIA. | 10-1" DIA. |
| P1B | GUIDED | 1,218 | 560 | 64 | 11 | 6 | 29 | 16 | 5 | 122 | 34 | 0.0007 | 0.0019 | 3.50 | 4.00 | 1.00 | 4.98 | 1.98 | 2.99 | 50 | 35 | 40.875 | 32.875 | 1.75 | 13.25 | 6-1 1/2" DIA. | 10-1" DIA. |
| P2A | FIXED | 1,309 | 590 | 76 | 13 | 0 | 29 | 19 | 5 | 238 | 34 | 0.0002 | 0.0024 | N/A | 3.52 | 1.00 | 4.32 | 1.80 | 2.66 | 42 | 34 | 46 | 38 | 1.75 | 13.125 | 6-1 1/2" DIA. | 12-1" DIA. |
| P2B | FIXED | 1,309 | 590 | 76 | 13 | 0 | 29 | 19 | 5 | 238 | 34 | 0.0002 | 0.0024 | N/A | 3.52 | 1.00 | 4.32 | 1.80 | 2.66 | 42 | 34 | 46 | 38 | 1.75 | 13.125 | 6-1 1/2" DIA. | 12-1" DIA. |
| P3A | GUIDED | 1,307 | 589 | 76 | 13 | 6 | 29 | 19 | 5 | 131 | 34 | 0.0002 | 0.0024 | 3.50 | 4.09 | 1.00 | 4.77 | 1.68 | 2.88 | 51.5 | 36 | 42 | 34 | 1.75 | 13.625 | 6-1 1/2" DIA. | 12-1" DIA. |
| P3B | GUIDED | 1,307 | 589 | 76 | 13 | 6 | 29 | 19 | 5 | 131 | 34 | 0.0002 | 0.0024 | 3.50 | 4.09 | 1.00 | 4.77 | 1.68 | 2.88 | 51.5 | 36 | 42 | 34 | 1.75 | 13.625 | 6-1 1/2" DIA. | 12-1" DIA. |
| P4A | GUIDED | 1,225 | 560 | 64 | 11 | 6 | 29 | 16 | 5 | 123 | 34 | 0.0009 | 0.0024 | 7.00 | 4.00 | 1.00 | 4.49 | 1.49 | 2.75 | 50 | 35 | 40.875 | 32.875 | 1.75 | 13.25 | 6-1 1/2" DIA. | 10-1" DIA. |
| P4B | GUIDED | 1,225 | 560 | 64 | 11 | 6 | 29 | 16 | 5 | 123 | 34 | 0.0009 | 0.0024 | 7.00 | 4.00 | 1.00 | 4.49 | 1.49 | 2.75 | 50 | 35 | 40.875 | 32.875 | 1.75 | 13.25 | 6-1 1/2" DIA. | 10-1" DIA. |
| P5A S | GUIDED | 296 | 266 | 26 | 5 | 3 | 27 | 7 | 2 | 30 | 32 | 0.0024 | 0.0040 | 9.40 | 3.03 | 1.00 | 3.26 | 1.24 | 2.13 | 33.75 | 22 | 29 | 21 | 1.75 | 8.5 | 4-1" DIA. | 4-1" DIA. |
| P5B S | GUIDED | 296 | 266 | 26 | 5 | 3 | 27 | 7 | 2 | 30 | 32 | 0.0024 | 0.0040 | 9.40 | 3.03 | 1.00 | 3.26 | 1.24 | 2.13 | 33.75 | 22 | 29 | 21 | 1.75 | 8.5 | 4-1" DIA. | 4-1" DIA. |

BEARING FORCES SHOWN ARE UNFACTORED.

1

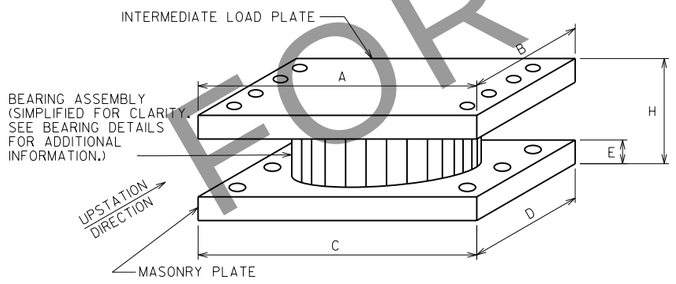
## NOTES:

SEE BEARING DETAILS SHEET FOR TYPICAL BEARING DETAILS

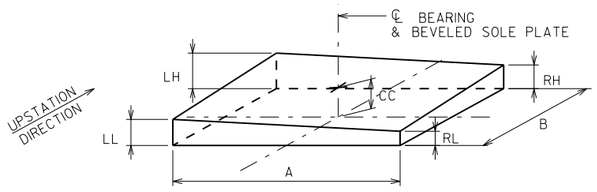
BEARING DIMENSIONS SHOWN ARE NOMINAL VALUES ONLY AND MAY VARY WITH THE SELECTED MANUFACTURER. IF BEARING DIMENSIONS VARY FROM THOSE SHOWN HERE, THE BEARING MANUFACTURER SHALL COORDINATE WITH THE STEEL GIRDER FABRICATOR TO ASSURE THERE ARE NO CONFLICTS WITH JACKING PADS OR ANY OTHER STEEL ELEMENTS. THE STEEL GIRDER FABRICATOR IS RESPONSIBLE TO DETERMINE WHAT ELEMENTS REQUIRE RE-DESIGN AND TO RE-DESIGN THEM, SUBJECT TO APPROVAL BY THE ENGINEER.

HORIZONTAL FORCES SPECIFIED IN THE TABLE ARE THE EXPECTED APPLIED FORCES. DESIGN BEARINGS AND CONNECTIONS FOR THESE VALUES OR 15 PERCENT OF THE VERTICAL DEAD LOAD, WHICHEVER IS LARGER.

ROTATIONS SPECIFIED IN THE TABLE ARE THE EXPECTED APPLIED ROTATIONS FROM APPLICABLE STRENGTH LOAD COMBINATIONS. DESIGN BEARINGS FOR AN ADDITIONAL 0.005 RADIANS FOR FABRICATION AND INSTALLATION TOLERANCES, AND 0.005 RADIANS FOR UNCERTAINTIES. DESIGN ALL BEARINGS FOR A MINIMUM 0.020 RADIANS OF TOTAL ROTATION.




BEARING DIMENSION KEY




BEVELED SOLE PLATE DIMENSION KEY
(HOLES MATCHING INTERMEDIATE LOAD PLATE NOT SHOWN FOR CLARITY)

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| 1 | 11/09/12 | SOLE PLATE THICKNESS | KZ |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY ZMG | PLANS CK'D. NPP

BEARING LAYOUT UNIT 1

SHEET 10 OF 51

990

STEEL FABRICATION CONTRACT ONLY

FOR REFERENCE ONLY

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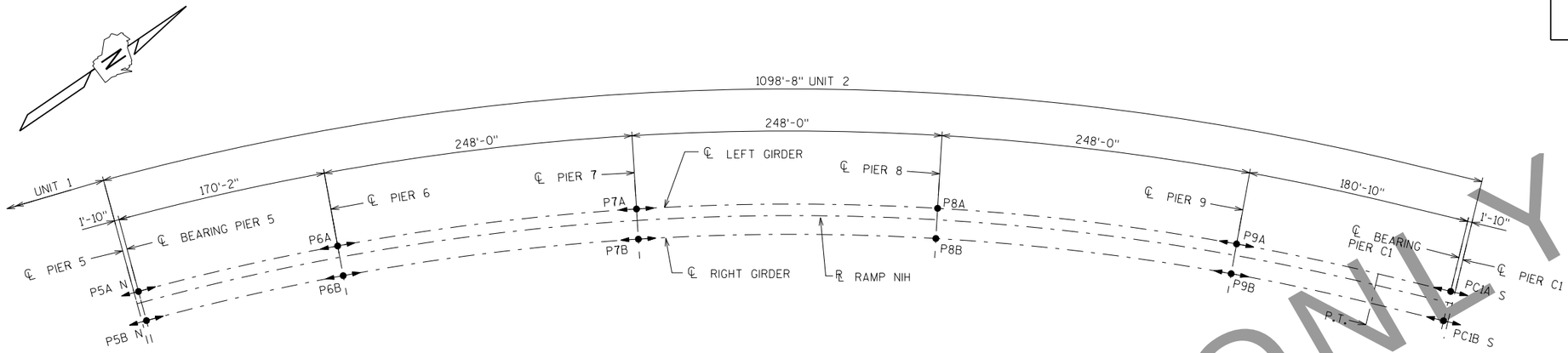
FILE= O:\WisDot_12345678_US41Bridges_Plans\B-05-679-BEARING LAYOUT UNIT 1.dgn

DATE: 4/3/2013

I.D.

STATE PROJECT NUMBER

1133-11-77




## BEARING LAYOUT

LENGTH NOT TO SCALE

| BEARING MARK | TYPE | VERTICAL | | TRANSVERSE | | | | LONGITUDINAL | | | | ROTATIONS | | MOVEMENT RANGE (FOR 180 DEG.) | TAPERED SOLE PLATE THICKNESS | | | | | NOMINAL BEARING DIMENSIONS | | | | | | MIN. ANCHOR BOLTS | MIN. TOP BOLTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | DC (KIPS) | LL+I (KIPS) | WS (KIPS) | WL (KIPS) | TU (KIPS) | CE (KIPS) | WS (KIPS) | WL (KIPS) | TU (KIPS) | BR (KIPS) | X-AXIS TORSION (RAD) | Y-AXIS FLEXURE (RAD) | LONGIT. (IN) | LL (IN) | RL (IN) | LH (IN) | RH (IN) | CC (IN) | A (IN) | B (IN) | C (IN) | D (IN) | E (IN) | H (IN) | | |
| P5A N | GUIDED | 306 | 258 | 26 | 5 | 3 | 26 | 7 | 2 | 31 | 31 | 0.0024 | 0.0044 | 9.40 | 3.03 | 1.00 | 3.26 | 1.24 | 2.13 | 33.75 | 22 | 29 | 21 | 1.75 | 8.5 | 4-1" DIA. | 4-1" DIA. |
| P5B N | GUIDED | 306 | 258 | 26 | 5 | 3 | 26 | 7 | 2 | 31 | 31 | 0.0024 | 0.0044 | 9.40 | 3.03 | 1.00 | 3.26 | 1.24 | 2.13 | 33.75 | 22 | 29 | 21 | 1.75 | 8.5 | 4-1" DIA. | 4-1" DIA. |
| P6A | GUIDED | 1,242 | 543 | 64 | 11 | 6 | 28 | 16 | 5 | 125 | 33 | 0.0007 | 0.0023 | 7.00 | 4.00 | 1.00 | 4.27 | 1.27 | 2.63 | 50 | 35 | 40.875 | 32.875 | 1.75 | 13.25 | 6-1 1/2" DIA. | 10-1" DIA. |
| P6B | GUIDED | 1,242 | 543 | 64 | 11 | 6 | 28 | 16 | 5 | 125 | 33 | 0.0007 | 0.0023 | 7.00 | 4.00 | 1.00 | 4.27 | 1.27 | 2.63 | 50 | 35 | 40.875 | 32.875 | 1.75 | 13.25 | 6-1 1/2" DIA. | 10-1" DIA. |
| P7A | GUIDED | 1,342 | 574 | 76 | 13 | 6 | 28 | 19 | 5 | 135 | 33 | 0.0002 | 0.0023 | 3.50 | 4.14 | 1.00 | 4.24 | 1.11 | 2.62 | 52.25 | 36.5 | 42.5 | 34.5 | 1.75 | 13.75 | 6-1 1/2" DIA. | 12-1" DIA. |
| P7B | GUIDED | 1,342 | 574 | 76 | 13 | 6 | 28 | 19 | 5 | 135 | 33 | 0.0002 | 0.0023 | 3.50 | 4.14 | 1.00 | 4.24 | 1.11 | 2.62 | 52.25 | 36.5 | 42.5 | 34.5 | 1.75 | 13.75 | 6-1 1/2" DIA. | 12-1" DIA. |
| P8A | FIXED | 1,333 | 574 | 76 | 13 | 0 | 28 | 19 | 5 | 241 | 33 | 0.0003 | 0.0023 | N/A | 3.63 | 1.06 | 3.57 | 1.00 | 2.31 | 42.75 | 34.75 | 46.75 | 38.75 | 1.75 | 13 | 6-1 1/2" DIA. | 12-1" DIA. |
| P8B | FIXED | 1,333 | 574 | 76 | 13 | 0 | 28 | 19 | 5 | 241 | 33 | 0.0003 | 0.0023 | N/A | 3.63 | 1.06 | 3.57 | 1.00 | 2.31 | 42.75 | 34.75 | 46.75 | 38.75 | 1.75 | 13 | 6-1 1/2" DIA. | 12-1" DIA. |
| P9A | GUIDED | 1,280 | 548 | 66 | 11 | 6 | 28 | 16 | 5 | 128 | 33 | 0.0007 | 0.0019 | 3.50 | 4.32 | 1.23 | 4.09 | 1.00 | 2.66 | 51.5 | 36 | 42 | 34 | 1.75 | 13.625 | 6-1 1/2" DIA. | 12-1" DIA. |
| P9B | GUIDED | 1,280 | 548 | 66 | 11 | 6 | 28 | 16 | 5 | 128 | 33 | 0.0007 | 0.0019 | 3.50 | 4.32 | 1.23 | 4.09 | 1.00 | 2.66 | 51.5 | 36 | 42 | 34 | 1.75 | 13.625 | 6-1 1/2" DIA. | 12-1" DIA. |
| PC1A S | GUIDED | 325 | 260 | 28 | 5 | 3 | 26 | 7 | 2 | 33 | 30 | 0.0031 | 0.0056 | 6.04 | 2.10 | 1.22 | 1.88 | 1.00 | 1.55 | 33.75 | 22 | 29 | 21 | 1.75 | 8.5 | 4-1" DIA. | 4-1" DIA. |
| PC1B S | GUIDED | 325 | 260 | 28 | 5 | 3 | 26 | 7 | 2 | 33 | 30 | 0.0031 | 0.0056 | 6.04 | 2.10 | 1.22 | 1.88 | 1.00 | 1.55 | 33.75 | 22 | 29 | 21 | 1.75 | 8.5 | 4-1" DIA. | 4-1" DIA. |

BEARING FORCES SHOWN ARE UNFACTORED.

1

## BEARING LEGEND

- ● MULTIROTATIONAL FIXED
- ◄●► MULTIROTATIONAL UNI-DIRECTIONAL (GUIDED) ARROWHEADS DENOTE MOVEMENT DIRECTIONS.
- DC DEAD LOAD OF STRUCTURAL COMPONENTS AND NONSTRUCTURAL ATTACHMENTS
- LL+I VEHICULAR LIVE LOAD AND IMPACT
- WS WIND ON STRUCTURE
- WL WIND ON LIVE LOAD
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- CE VEHICULAR CENTRIFUGAL FORCE
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## NOTES:

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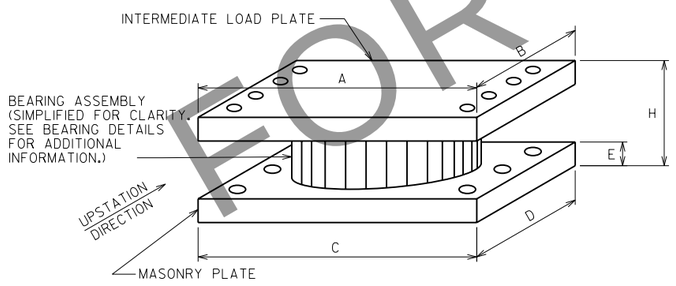
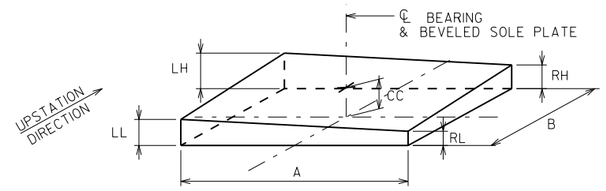



BEARING DIMENSION KEY




BEVELED SOLE PLATE DIMENSION KEY

(HOLES MATCHING INTERMEDIATE LOAD PLATE NOT SHOWN FOR CLARITY)

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| 1 | 11/06/12 | SOLE PLATE THICKNESS | KZ |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY ZMG | PLANS CK'D. NPP

BEARING LAYOUT UNIT 2

SHEET 11 OF 51

991

STEEL FABRICATION CONTRACT ONLY

FOR REFERENCE ONLY

FILE= Q:\WisDot_12345678_US41Bridges_Plans\B-05-679EN011 - B-05-679-BEARING LAYOUT UNIT 2.dgn

DATE: 4/3/2013

I.D.

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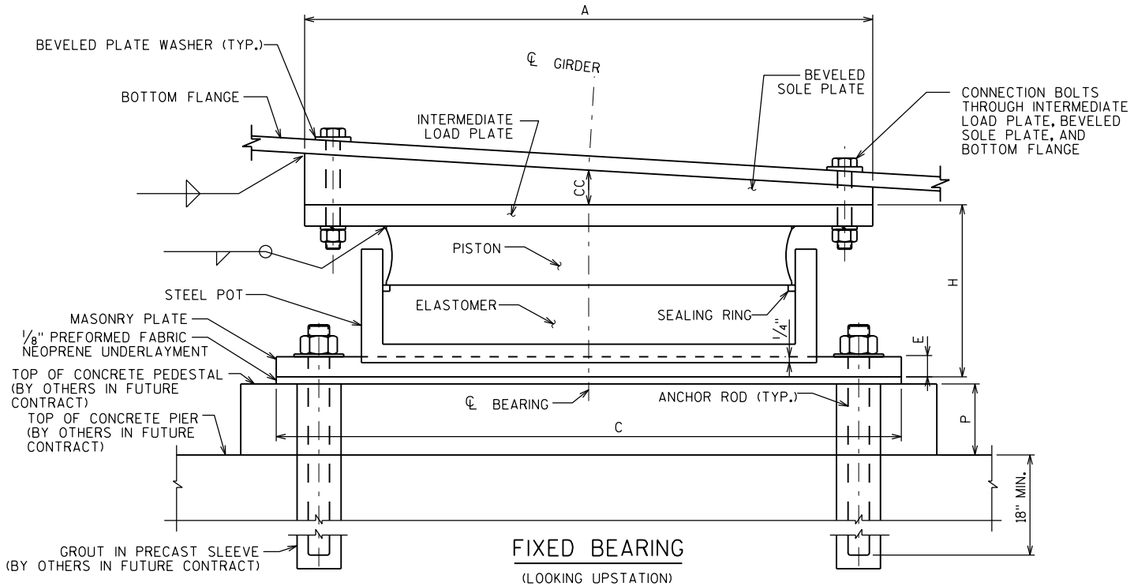
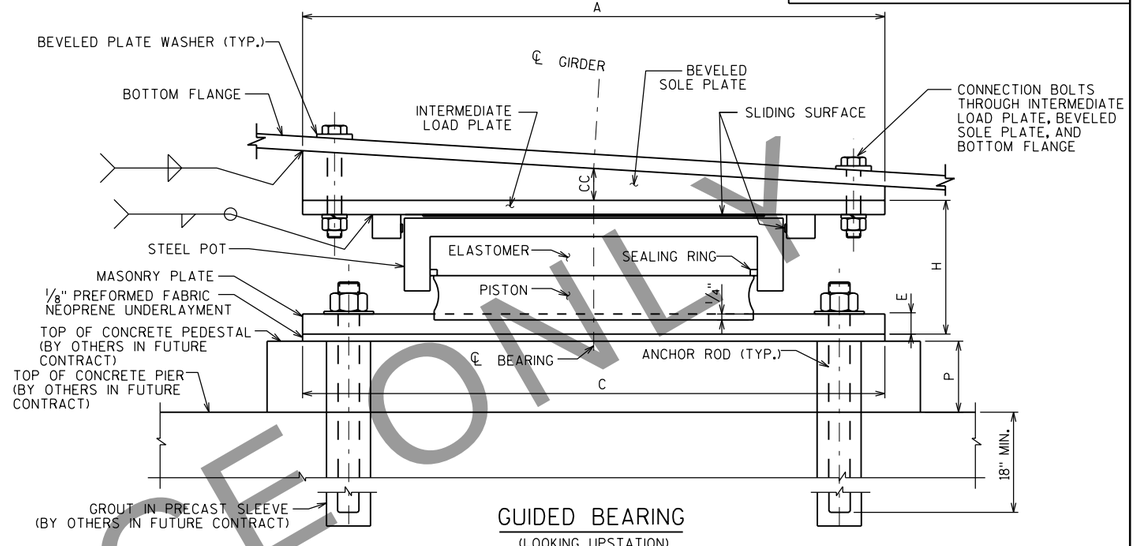
STATE PROJECT NUMBER

1133-11-77



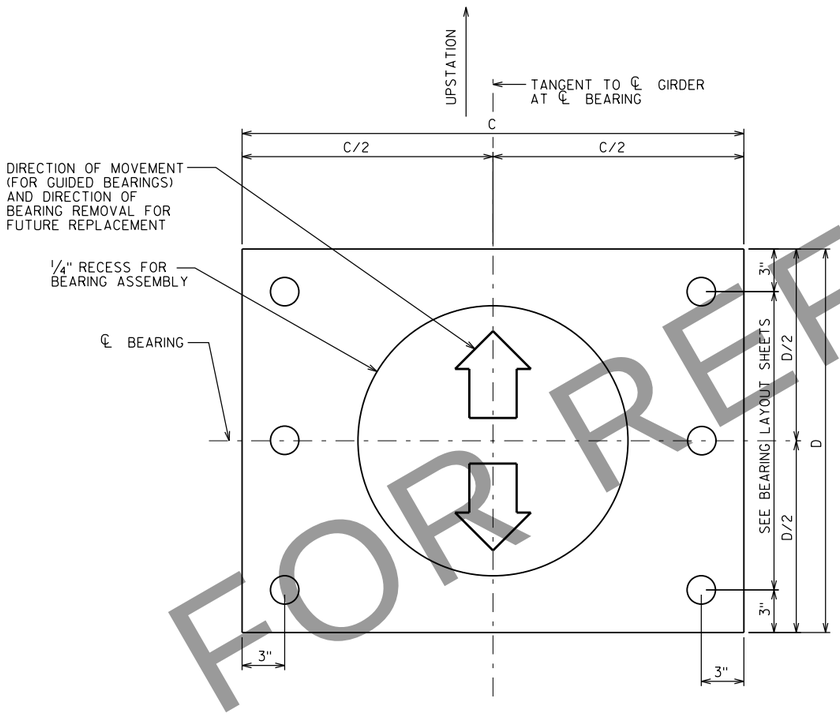

FIXED BEARING

(LOOKING UPSTATION)



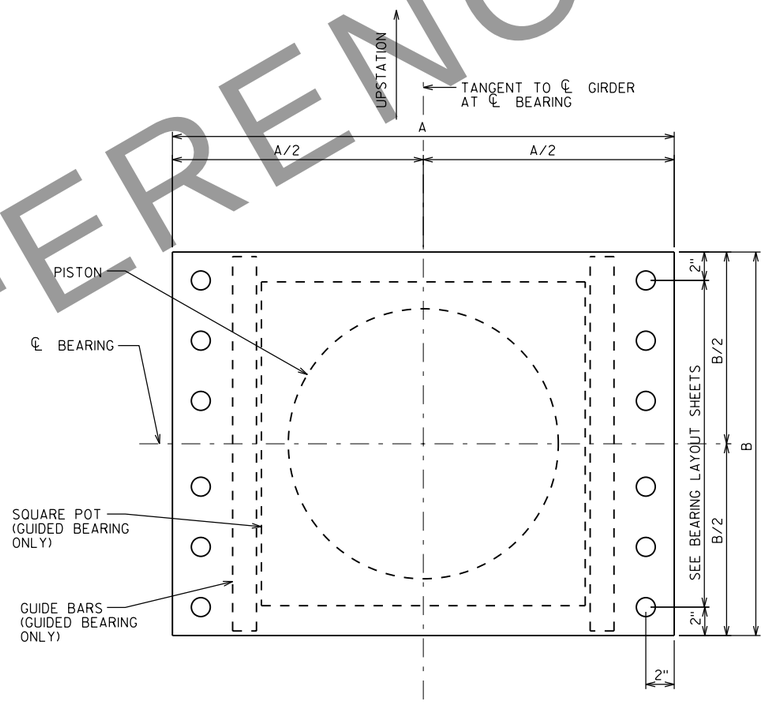

GUIDED BEARING

(LOOKING UPSTATION)




PLAN - MASONRY PLATE

SEE BEARING LAYOUT SHEETS FOR REQUIRED NUMBER OF ANCHOR RODS PER RESPECTIVE BEARING




PLAN - INTERMEDIATE LOAD PLATE

(BEVELED SOLE PLATE SIMILAR)

## NOTES:

SEE BEARING LAYOUT SHEETS FOR LOCATION-SPECIFIC DIMENSIONS.

SEE JACKING PROVISIONS SHEET FOR LOCATION AND SIZE OF BEARING REPLACEMENT JACKING PADS ATTACHED TO BOTTOM OF GIRDER FLANGE.

DESIGN BOLTED CONNECTION BETWEEN BEVELED SOLE PLATE AND INTERMEDIATE LOAD PLATE FOR THE COMBINED SPECIFIED HORIZONTAL LOADS SHOWN ON THE BEARING LAYOUT SHEETS PER AASHTO LRFD AND THE WISDOT BRIDGE MANUAL. FOR FUTURE BEARING REPLACEMENT, ARRANGE THE CONNECTION TO ENSURE ALL BOLTS CAN BE REMOVED WITHOUT INTERFERENCE FROM ANCHOR BOLTS OR OTHER OBSTRUCTIONS AFTER BEARING IS INSTALLED.

HOLES IN TOP PLATE MAY BE SLOTTED OR OVERSIZED AS REQUIRED TO FACILITATE STEEL ERECTION. IF OVERSIZED OR SLOTTED HOLES ARE USED, DESIGN CONNECTION AS SLIP-RESISTANT PER AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

HOLES IN MASONRY PLATE SHALL BE A MAXIMUM OF 1/8" LARGER THAN THE SPECIFIED ANCHOR BOLT DIAMETER.

BEVELED SOLE PLATE, INTERMEDIATE LOAD PLATE AND MASONRY PLATES ARE ALIGNED WITH THE GIRDER AND THE SUBSTRUCTURE BELOW.

BEVELED SOLE PLATE AND INTERMEDIATE LOAD PLATE THICKNESSES TO BE SELECTED BY THE BEARING DESIGNER. MINIMUM 1".

MASONRY PLATE THICKNESS TO BE CONFIRMED BY THE BEARING DESIGNER AND INCREASED IF REQUIRED, BUT NOT DECREASED FROM 1.75".

PROVIDE ANCHOR BOLTS IN ACCORDANCE WITH ASTM F1554 (GRADE 105) AND HOT-DIP GALVANIZED IN ACCORDANCE WITH AASHTO M232.

DESIGN BEARINGS TO PERMIT REPLACEMENT BY JACKING THE BRIDGE A MAXIMUM OF 1/2".

FINAL DISTANCE BETWEEN BOTTOM OF STEEL GIRDER AND TOP OF PIER IS THE SUMMATION OF "CC", THE ACTUAL "H" OF THE BEARING, 1/8" UNDERLAYMENT AND THE ACTUAL PEDESTAL HEIGHT "P". HEIGHT "P" IS ASSUMED TO BE 10" FOR ALL LOCATIONS.

ALL ELEMENTS SHOWN ARE PROVIDED BY THE BEARING MANUFACTURER (UNLESS OTHERWISE NOTED) AND COORDINATED WITH THE STEEL FABRICATOR.

THE CONTRACTOR IS RESPONSIBLE DURING STORAGE AND FUTURE ERECTION OF THE BEARING TO PREVENT OVER-ROTATION OR SLIDING OF THE BEARING. CONSTRUCTION ROTATIONS MUST NOT EXCEED THE ALLOWABLE ROTATIONS SHOWN.

DO NOT DISASSEMBLE ANY BEARING WITHOUT THE PRESENCE OF THE TECHNICAL REPRESENTATIVE OF THE BEARING MANUFACTURER.

INSTALL BEARINGS IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS, AS APPROVED BY THE ENGINEER. THE MANUFACTURER SHALL HAVE ITS TECHNICAL REPRESENTATIVE PRESENT FOR THE PLACEMENT OF THE FIRST BEARING. AT THE OPTION OF THE ENGINEER, CONTRACTOR OR MANUFACTURER, THE TECHNICAL REPRESENTATIVE MAY BE REQUIRED TO BE PRESENT FOR THE PLACEMENT OF ANY NUMBER OF ADDITIONAL BEARINGS.

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY JRS | PLANS CK'D. NPP

SHEET 12 OF 51

BEARING DETAILS 992

STEEL FABRICATION CONTRACT ONLY

FOR REFERENCE ONLY

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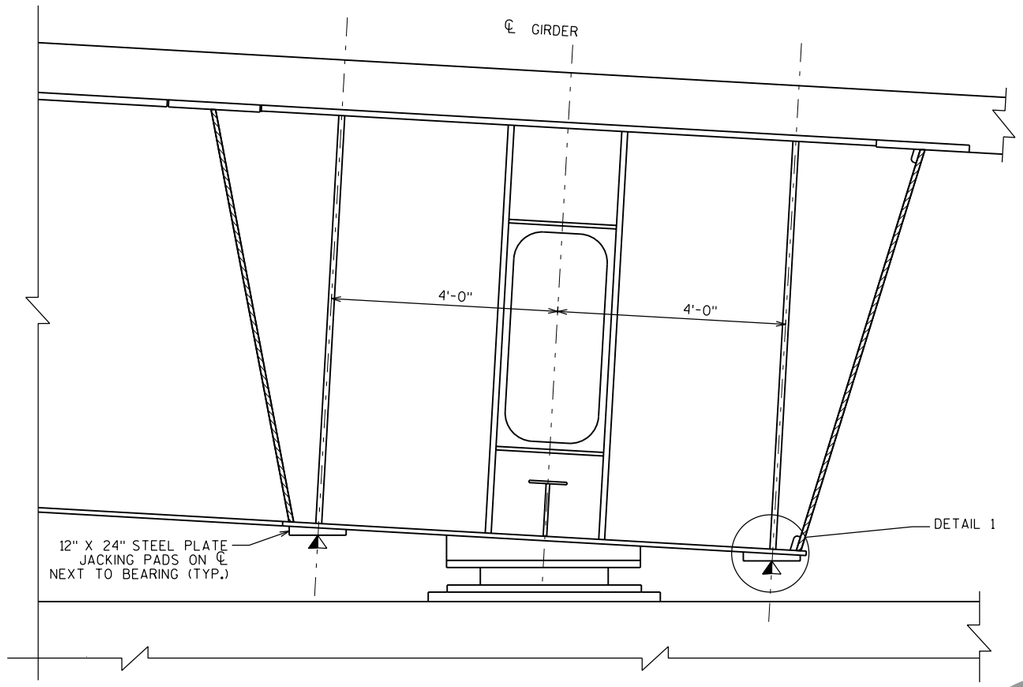
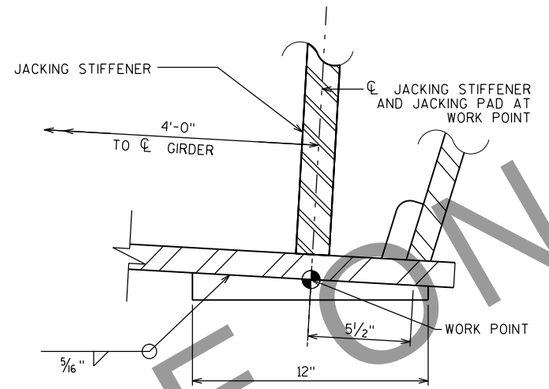
FILE= O:\WisDot_12345678_US41Bridges_Plans\B-05-679E\012 - B-5-679E - BEARING DETAILS.dgn

DATE: 4/3/2013
I.D.




TYPICAL ELEVATION
(LOOKING UPSTATION)




DETAIL 1
NOT TO SCALE

LEGEND:

△ SUGGESTED JACKING LOCATIONS FOR FUTURE BEARING REPLACEMENT.

NOTES:

THIS DRAWING SHOWS DETAILS AND LOCATION OF JACKING PADS AND ADDITIONAL JACKING STIFFENERS REQUIRED FOR FUTURE BEARING REPLACEMENT.

JACKING PAD DIMENSIONS AND LOCATIONS ARE BASED ON THE MINIMUM CLEARANCES SHOWN AND THE NOMINAL BEARING DIMENSIONS GIVEN ON BEARING LAYOUT SHEETS. MAKE ADJUSTMENTS AS REQUIRED TO ACCOMMODATE ACTUAL BEARINGS SUPPLIED.

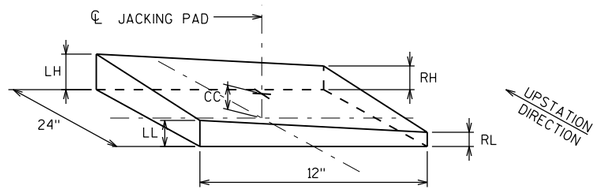
JACKING PADS ARE PROVIDED TO GIVE A JACKING SURFACE THAT IS APPROXIMATELY LEVEL AND TO ENSURE THAT JACKING LOADS ARE APPLIED TO THE CORRECT LOCATION.

ADDITIONAL MEASURES SHALL BE TAKEN TO CORRECT FOR ANY UNINTENDED SLOPE AND TO ENSURE THAT JACKS ARE POSITIVELY HELD IN POSITION ON THE JACKING PADS.

ESTIMATED JACKING FORCES ARE GIVEN AT EACH PAD AND ARE BASED ON DEAD LOAD AND LIVE LOAD REACTIONS ONLY AND NO ADDITIONAL ALLOWANCES HAVE BEEN MADE. THESE FORCES MUST BE INCREASED TO ALLOW FOR JACK FRICTION AND OTHER FACTORS. RECOMMENDED MINIMUM JACK CAPACITY IS 2 TIMES THE TABULATED JACK FORCE.

FORCES AND RECOMMENDATIONS ARE PROVIDED FOR INFORMATION ONLY AND MUST BE VERIFIED BY THE ENGINEER RESPONSIBLE FOR JACKING OPERATIONS.

CONTROL JACKS TO ENSURE THAT FORCES APPLIED TO ALL JACKING PADS AT A SINGLE BEARING LOCATION ARE APPROXIMATELY EQUAL. IF THIS REQUIREMENT IS NOT MET, A COMPLETE ANALYSIS OF THE PIER DIAPHRAGM SYSTEM WILL BE REQUIRED IN ORDER TO ACCOUNT FOR THE REDISTRIBUTION OF FORCES WITHIN THE SYSTEM.




JACKING PAD DIMENSION KEY

△1

| LOCATION | NUMBER OF PADS PER BOX | LEFT BOX JACKING PAD DIMENSIONS LL (IN) | RL (IN) | LH (IN) | RH (IN) | CC (IN) | RIGHT BOX JACKING PAD DIMENSIONS LL (IN) | RL (IN) | LH (IN) | RH (IN) | CC (IN) | MIN. JACK FORCE (KIP) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S. ABUT. | 2 | 1.72 | 1.00 | 2.47 | 1.75 | 1.74 | 1.72 | 1.00 | 2.47 | 1.75 | 1.74 | 290 |
| PIER 1 | 2 | 1.72 | 1.00 | 2.39 | 1.67 | 1.70 | 1.72 | 1.00 | 2.39 | 1.67 | 1.70 | 890 |
| PIER 2 | 2 | 1.72 | 1.00 | 2.28 | 1.56 | 1.64 | 1.72 | 1.00 | 2.28 | 1.56 | 1.64 | 950 |
| PIER 3 | 2 | 1.72 | 1.00 | 2.17 | 1.45 | 1.59 | 1.72 | 1.00 | 2.17 | 1.45 | 1.59 | 950 |
| PIER 4 | 2 | 1.72 | 1.00 | 2.06 | 1.34 | 1.53 | 1.72 | 1.00 | 2.06 | 1.34 | 1.53 | 900 |
| PIER 5 S | 2 | 1.72 | 1.00 | 1.98 | 1.26 | 1.49 | 1.72 | 1.00 | 1.98 | 1.26 | 1.49 | 290 |
| | | | | | | | | | | | | |
| PIER 5 N | 2 | 1.72 | 1.00 | 1.98 | 1.26 | 1.49 | 1.72 | 1.00 | 1.98 | 1.26 | 1.49 | 290 |
| PIER 6 | 2 | 1.72 | 1.00 | 1.90 | 1.18 | 1.45 | 1.72 | 1.00 | 1.90 | 1.18 | 1.45 | 900 |
| PIER 7 | 2 | 1.72 | 1.00 | 1.79 | 1.07 | 1.40 | 1.72 | 1.00 | 1.79 | 1.07 | 1.40 | 960 |
| PIER 8 | 2 | 1.76 | 1.04 | 1.72 | 1.00 | 1.38 | 1.76 | 1.04 | 1.72 | 1.00 | 1.38 | 960 |
| PIER 9 | 2 | 1.87 | 1.15 | 1.72 | 1.00 | 1.44 | 1.87 | 1.15 | 1.72 | 1.00 | 1.44 | 920 |
| PIER C1 | 2 | 1.55 | 1.24 | 1.31 | 1.00 | 1.27 | 1.55 | 1.24 | 1.31 | 1.00 | 1.27 | 300 |

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STEEL FABRICATION CONTRACT ONLY

| NO. | DATE | REVISION | BY |
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| 1 | 11/06/12 | JACKING PAD DIMENSION | KZ |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

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JACKING PROVISIONS

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FILE= O:\WisDot_12345678_US41Bridges_Plans\B-05-679E\013 - B-5-679E - JACKING PROVISIONS.dgn
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| STATE PROJECT NUMBER |
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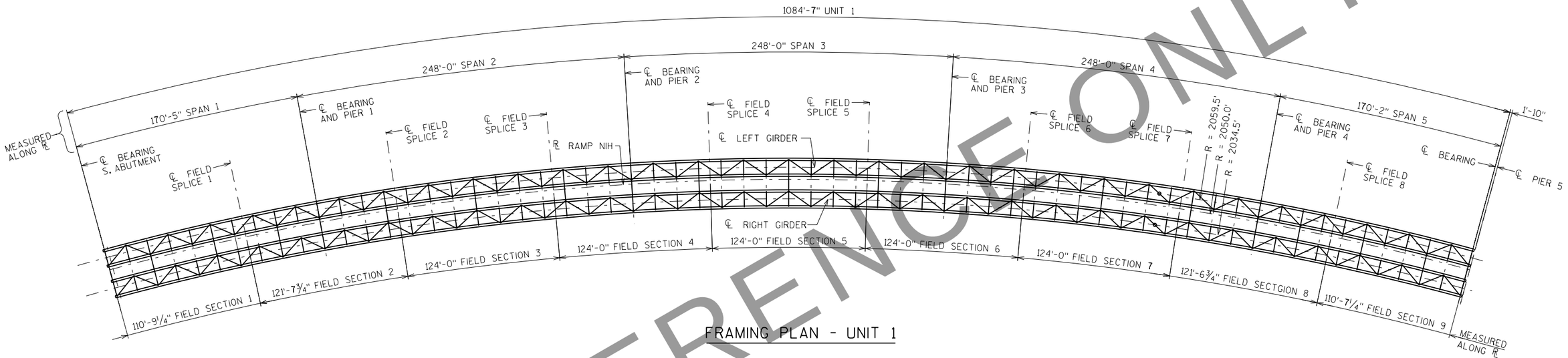
| 1133-11-77 |




## FRAMING PLAN - UNIT 1

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| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

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FRAMING PLAN
UNIT 1
SPANS 1 TO 5

SHEET 14 OF 51
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DATE: 4/3/2013
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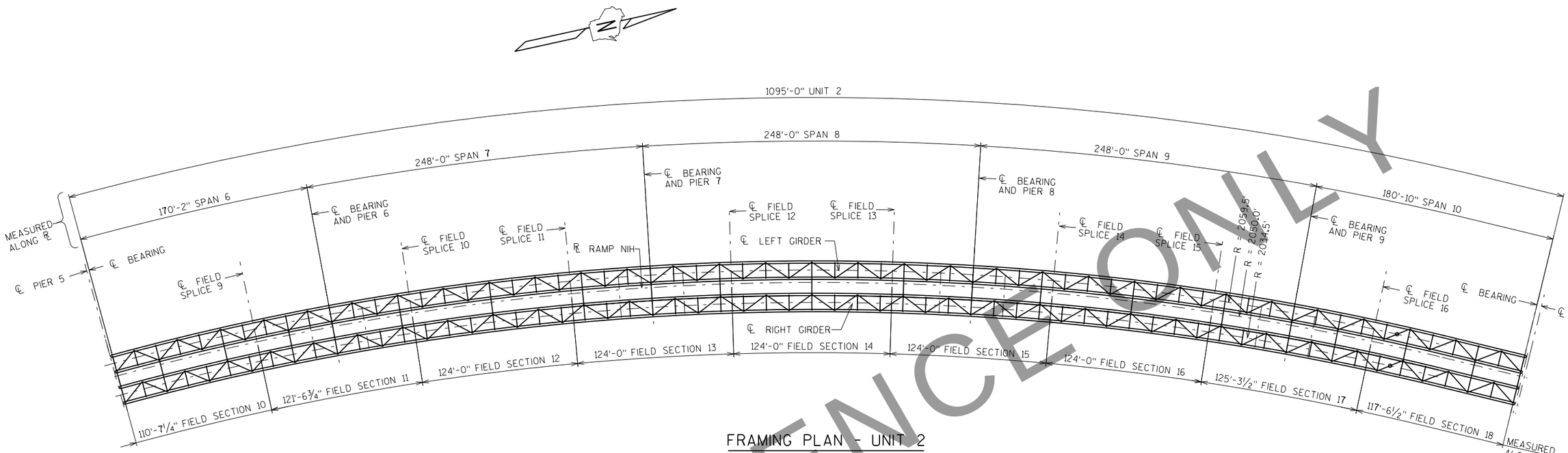


## FRAMING PLAN - UNIT 2

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

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FRAMING PLAN
UNIT 2
SPANS 6 TO 10

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DATE: 4/3/2013

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STATE PROJECT NUMBER

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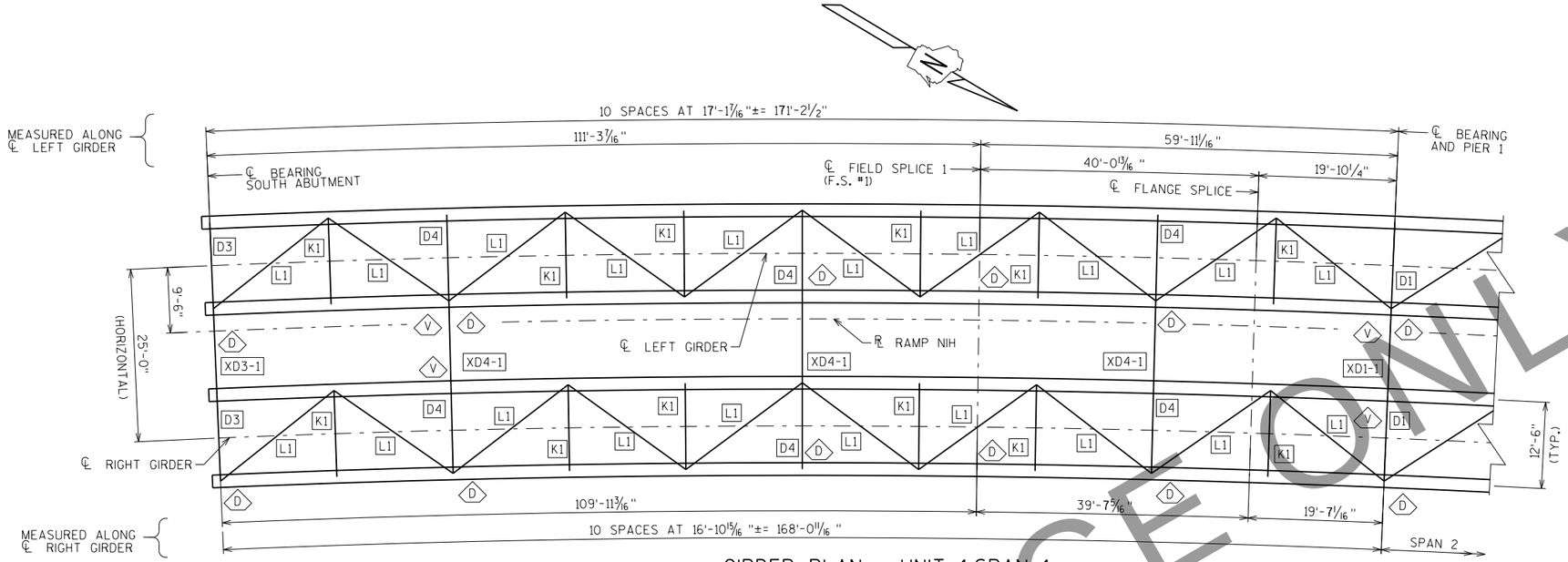
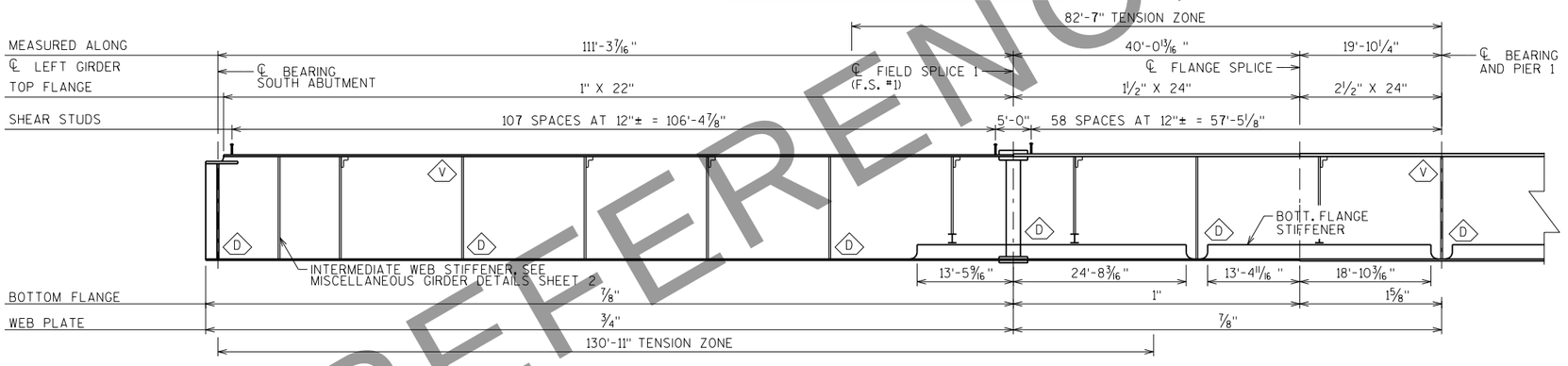
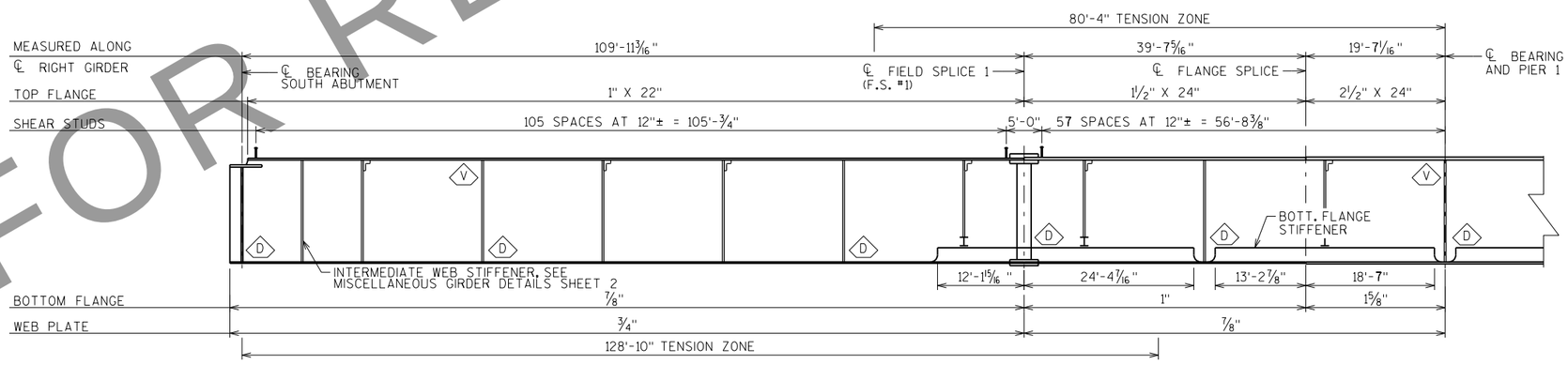



GIRDER PLAN - UNIT 1 SPAN 1




LEFT GIRDER ELEVATION - UNIT 1 SPAN 1




RIGHT GIRDER ELEVATION - UNIT 1 SPAN 1

## LEGEND

- D1 — INTERIOR DIAPHRAGM OVER PIER FOR CONTINUOUS SPAN
- D2 — INTERIOR DIAPHRAGM OVER PIER AT UNIT BREAK
- D3 — INTERIOR DIAPHRAGM AT ABUTMENT
- D4 — INTERIOR INTERMEDIATE DIAPHRAGM
- XDA-B — EXTERIOR DIAPHRAGM (WHERE 'A' INDICATES CORRESPONDING INTERIOR DIAPHRAGM NUMBER AND 'B' INDICATES SEQUENTIAL NUMBER WHICH VARIES DUE TO CHANGE IN CROSS SLOPE)
- K1 — INTERIOR K FRAME
- XF — EXTERIOR INTERMEDIATE CROSS FRAME
- L1 — TOP FLANGE LATERAL BRACING MARK NUMBER
- V — VENT HOLE LOCATION
- D — DRAIN HOLE LOCATION

## NOTES:

SHEAR STUDS FURNISHED AND INSTALLED BY OTHERS DURING FUTURE ERECTION CONTRACT.

ALL LONGITUDINAL DIMENSIONS SHOWN ARE MEASURED HORIZONTALLY ALONG CENTERLINE OF EACH GIRDER. CONTRACTOR SHALL MAKE ADJUSTMENTS FOR CAMBER AND GRADE.

FOR SHOP WELDED BUTT SPLICES OF FLANGES, FABRICATOR MAY CHOOSE TO ELIMINATE SPLICE AND CONTINUE THICKER PLATE TO END OF SECTION AT FIELD SPLICE AT NO ADDITIONAL COST TO THE OWNER. ADJUST CAMBER IF PLATE SIZES ARE CHANGED.

TENSION ZONES SHOWN ABOVE THE GIRDER ELEVATION INDICATE TENSION ZONES FOR TOP FLANGE AND UPPER PORTION OF WEB.

TENSION ZONES SHOWN BELOW THE GIRDER ELEVATION INDICATE TENSION ZONES FOR BOTTOM FLANGE AND LOWER PORTION OF WEB.

FOR OPTIONAL SHOP SPLICE DETAIL AS REQUIRED DUE TO MAXIMUM PLATE LENGTHS AVAILABLE FROM MILL, SEE MISCELLANEOUS GIRDER DETAILS SHEET.

FOR LONGITUDINAL STIFFENER TERMINATION DETAILS SEE SHEETS MISCELLANEOUS GIRDER DETAILS 1 AND MISCELLANEOUS GIRDER DETAILS 2.

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

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GIRDER PLAN AND ELEVATION UNIT 1 SPAN 1

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STEEL FABRICATION CONTRACT ONLY

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| STATE PROJECT NUMBER |
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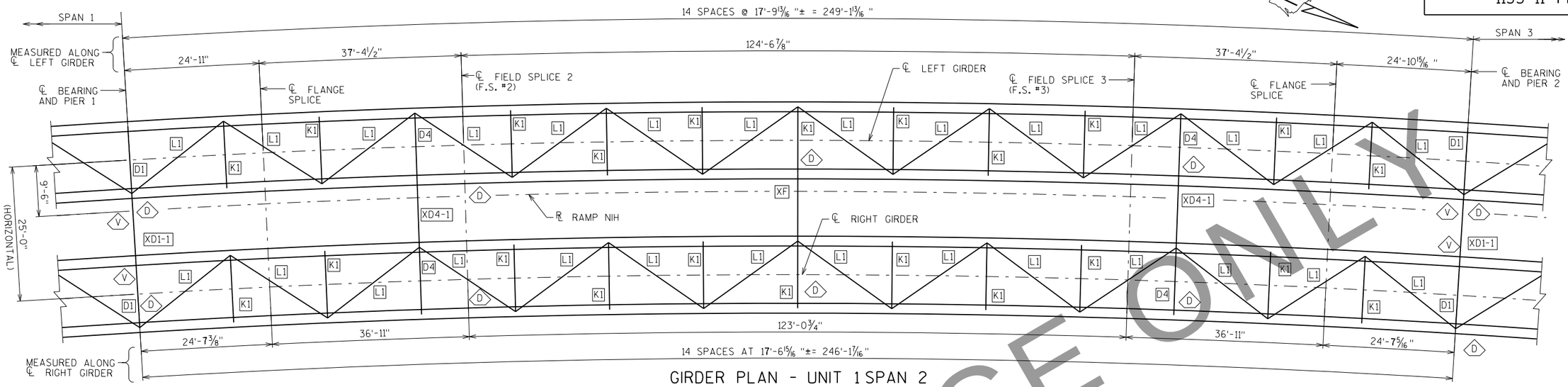
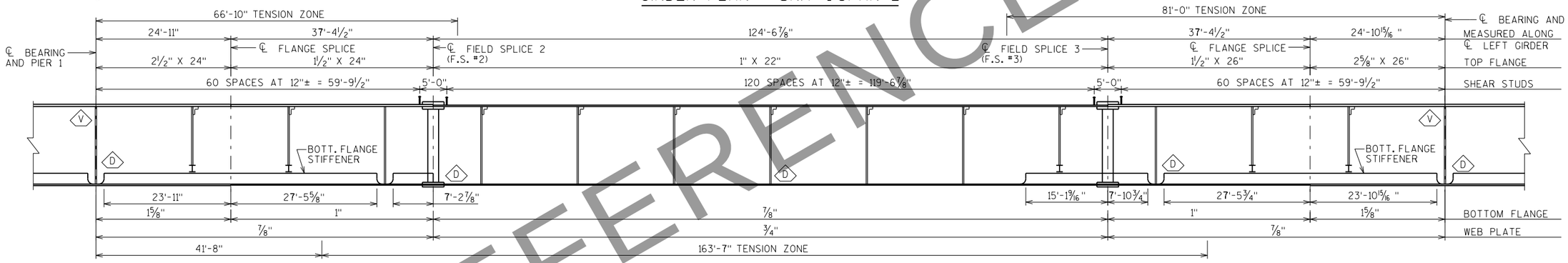



## GIRDER PLAN - UNIT 1 SPAN 2

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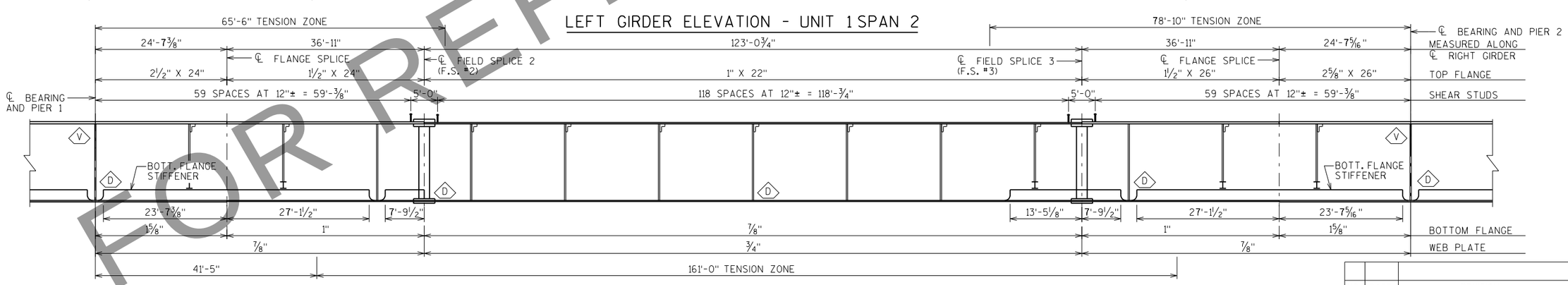


## RIGHT GIRDER ELEVATION - UNIT 1 SPAN 2

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

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GIRDER PLAN AND ELEVATION UNIT 1 SPAN 2

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STEEL FABRICATION CONTRACT ONLY

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| STATE PROJECT NUMBER |
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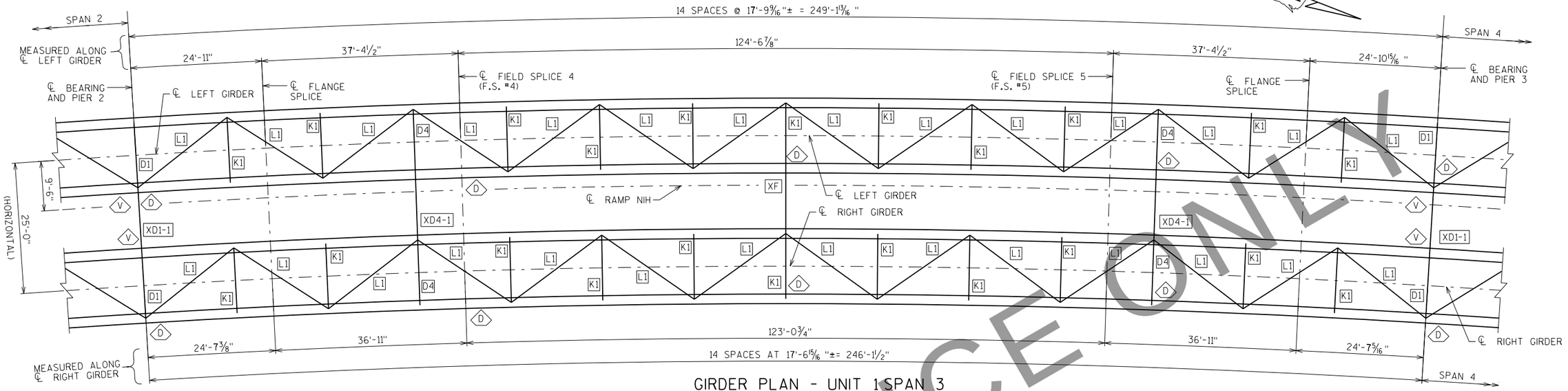
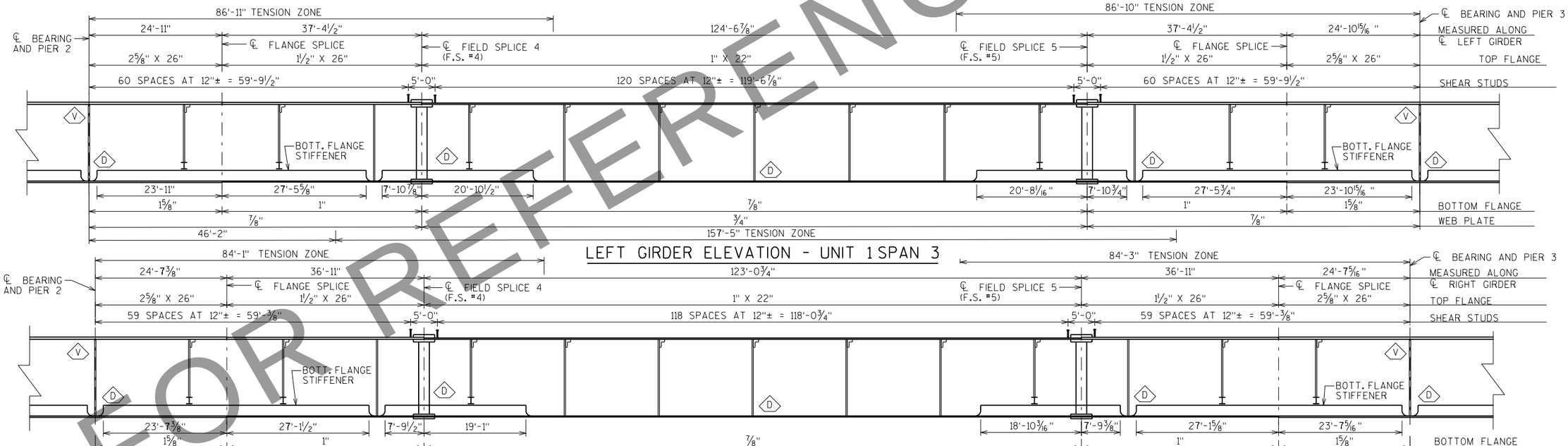



GIRDER PLAN - UNIT 1 SPAN 3




LEFT GIRDER ELEVATION - UNIT 1 SPAN 3




RIGHT GIRDER ELEVATION - UNIT 1 SPAN 3

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

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GIRDER PLAN AND ELEVATION UNIT 1 SPAN 3

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STEEL FABRICATION CONTRACT ONLY

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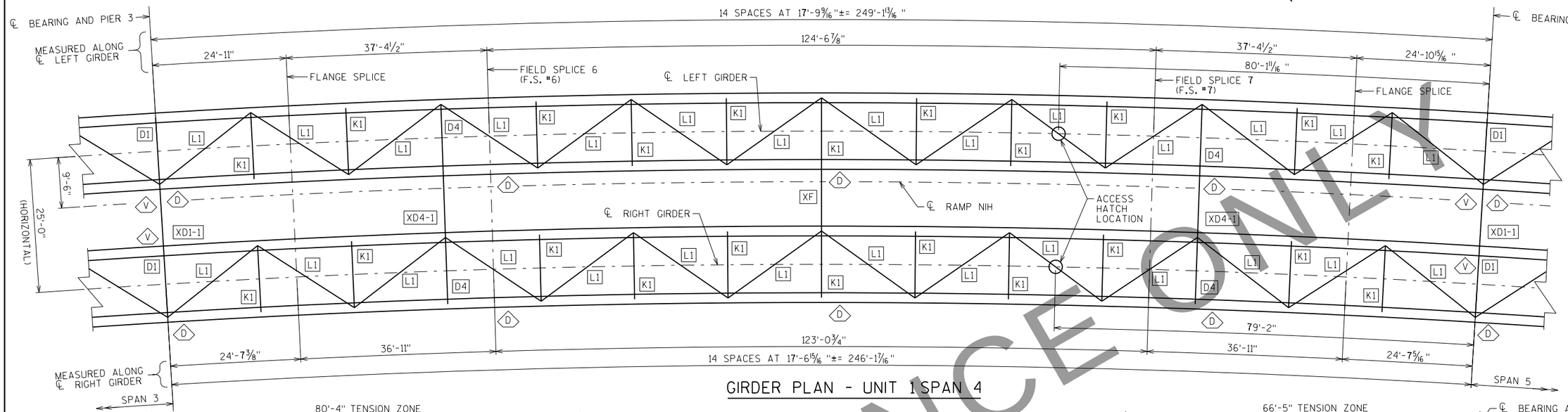
STATE PROJECT NUMBER

1133-11-77

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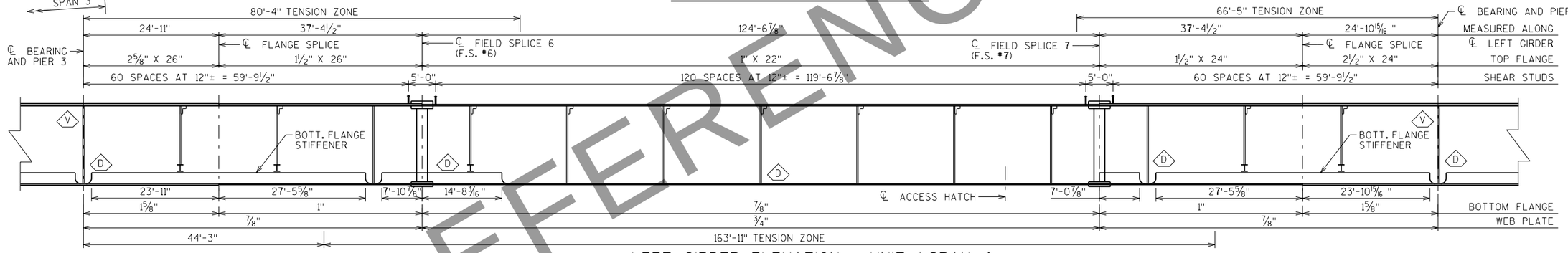
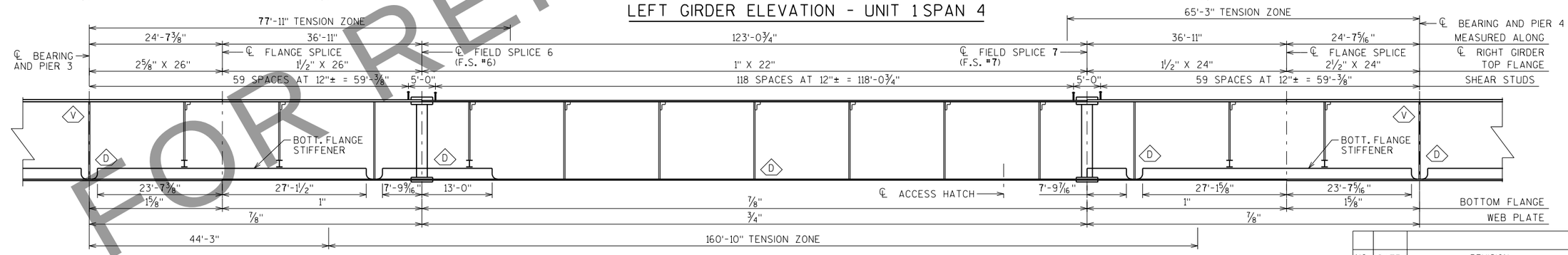



## LEFT GIRDER ELEVATION - UNIT 1 SPAN 4




## RIGHT GIRDER ELEVATION - UNIT 1 SPAN 4

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STEEL FABRICATION CONTRACT ONLY

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

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GIRDER PLAN AND ELEVATION UNIT 1 SPAN 4

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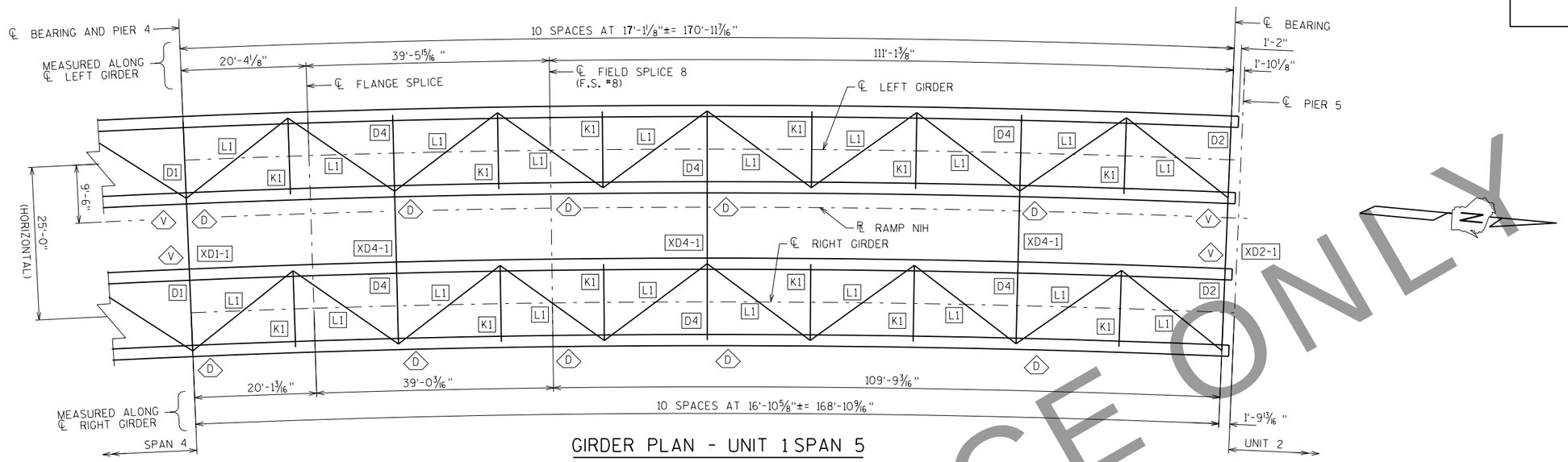
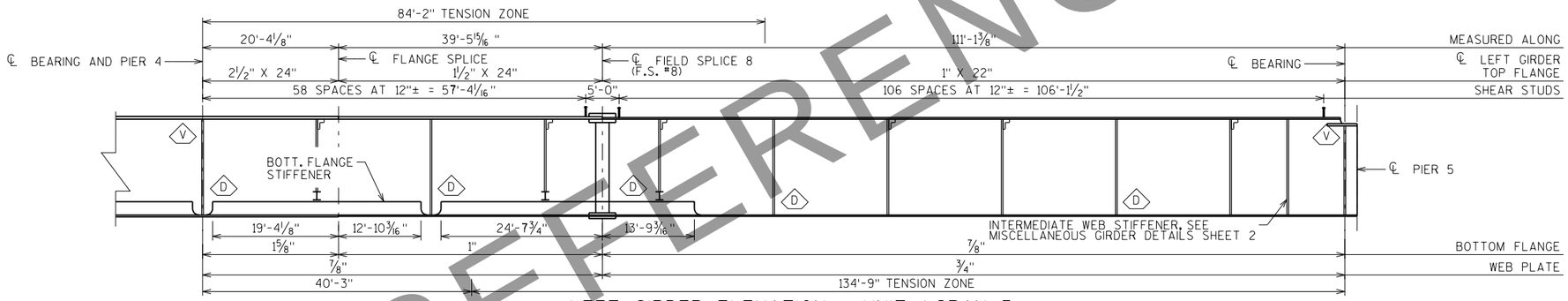
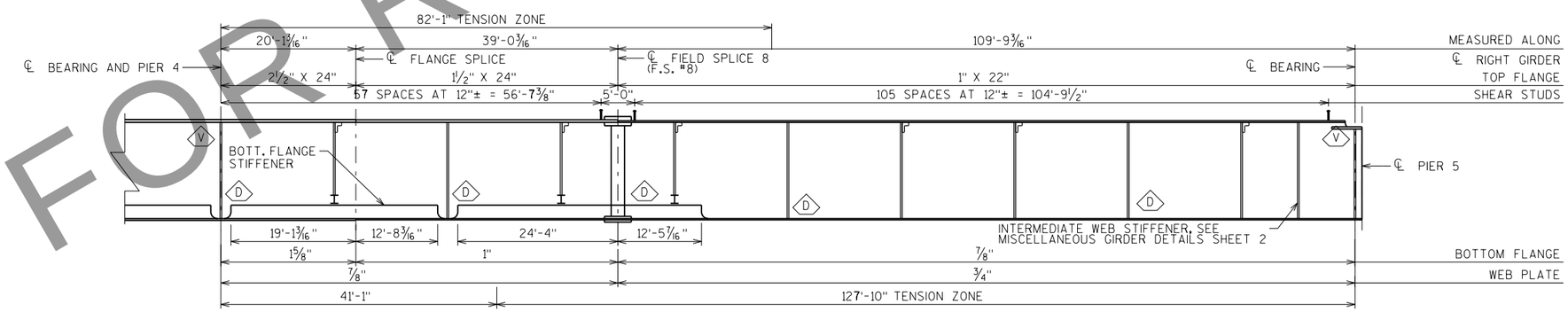



GIRDER PLAN - UNIT 1 SPAN 5




LEFT GIRDER ELEVATION - UNIT 1 SPAN 5




RIGHT GIRDER ELEVATION - UNIT 1 SPAN 5

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STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

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GIRDER PLAN AND ELEVATION UNIT 1 SPAN 5

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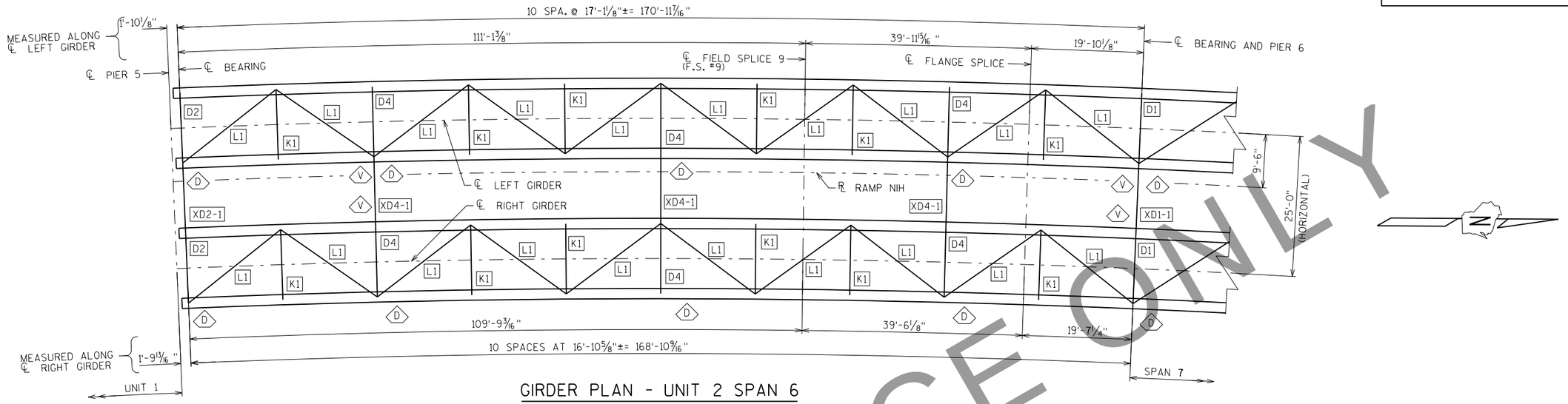


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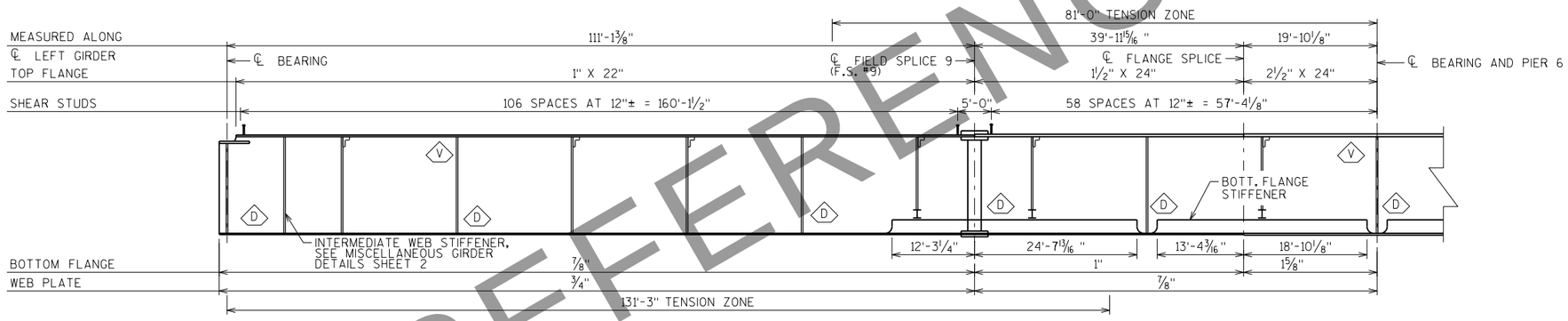
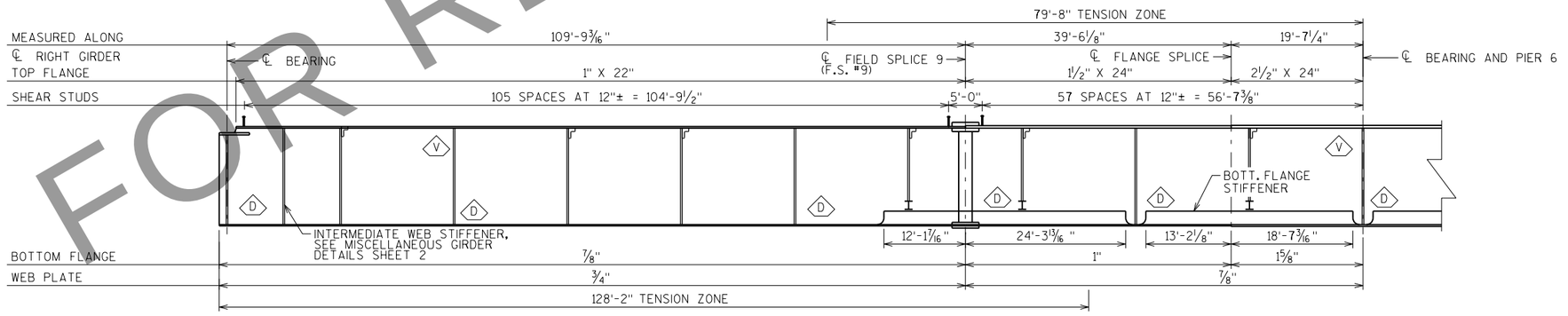



LEFT GIRDER ELEVATION - UNIT 2 SPAN 6




RIGHT GIRDER ELEVATION - UNIT 2 SPAN 6

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STEEL FABRICATION CONTRACT ONLY

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

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GIRDER PLAN AND ELEVATION UNIT 2 SPAN 6

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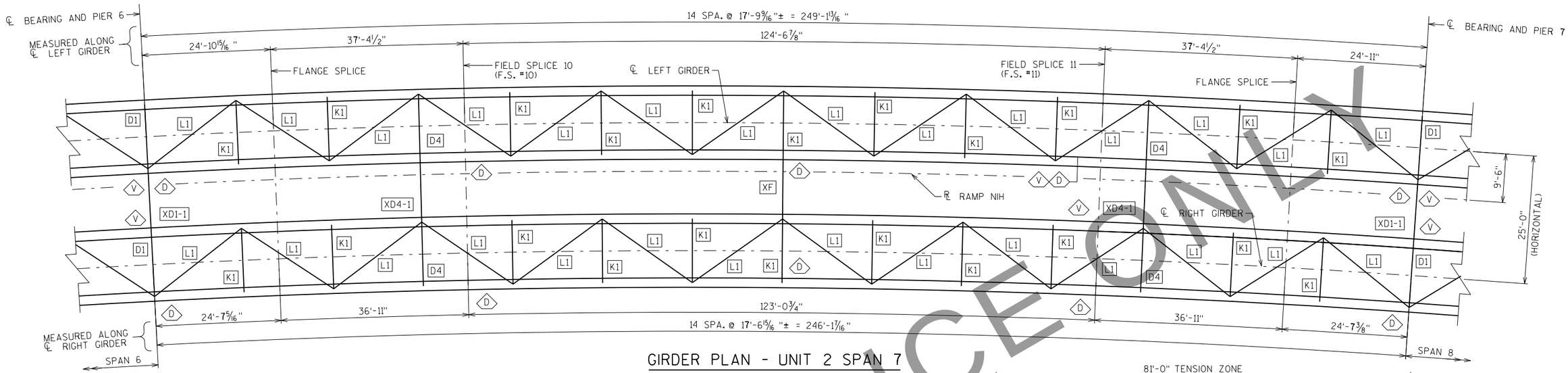


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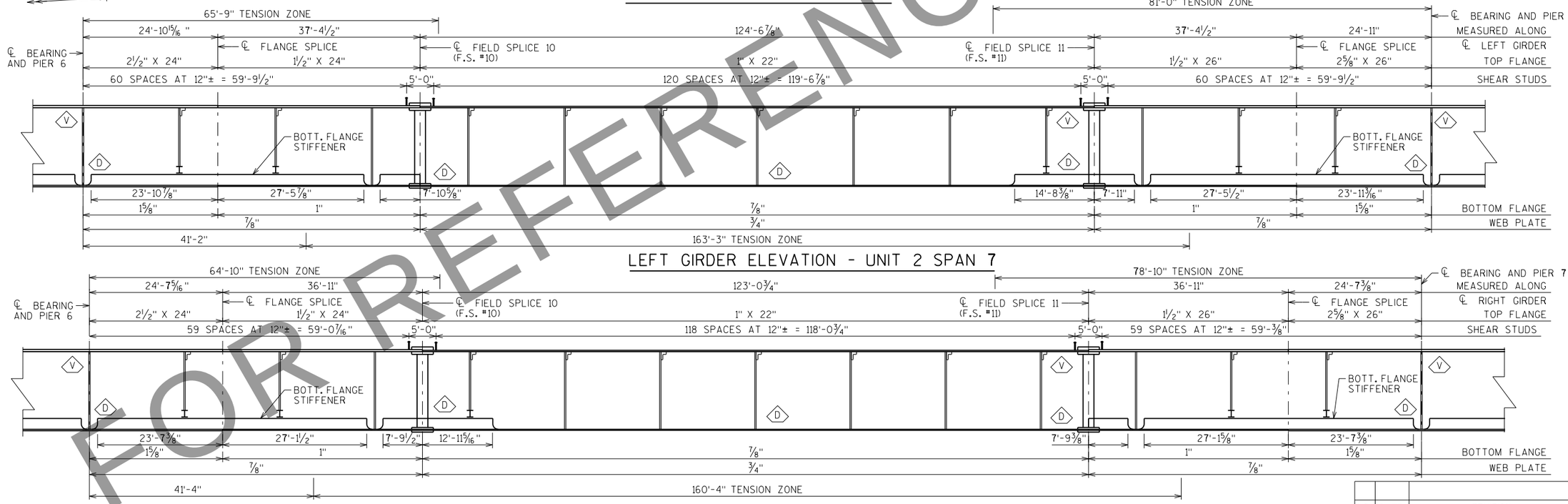


## LEFT GIRDER ELEVATION - UNIT 2 SPAN 7




## RIGHT GIRDER ELEVATION - UNIT 2 SPAN 7

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STEEL FABRICATION CONTRACT ONLY

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STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

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GIRDER PLAN AND ELEVATION UNIT 2 SPAN 7

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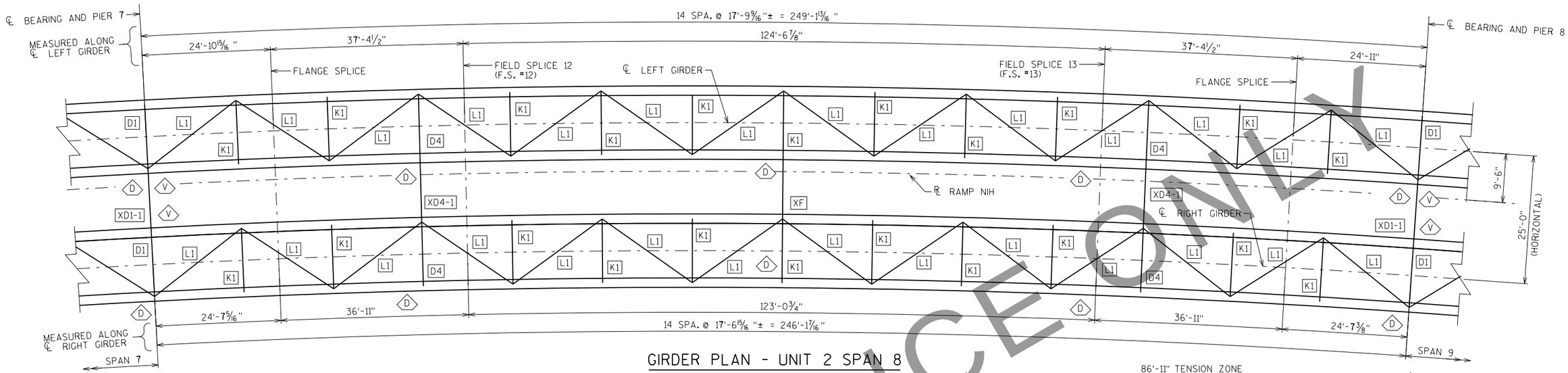


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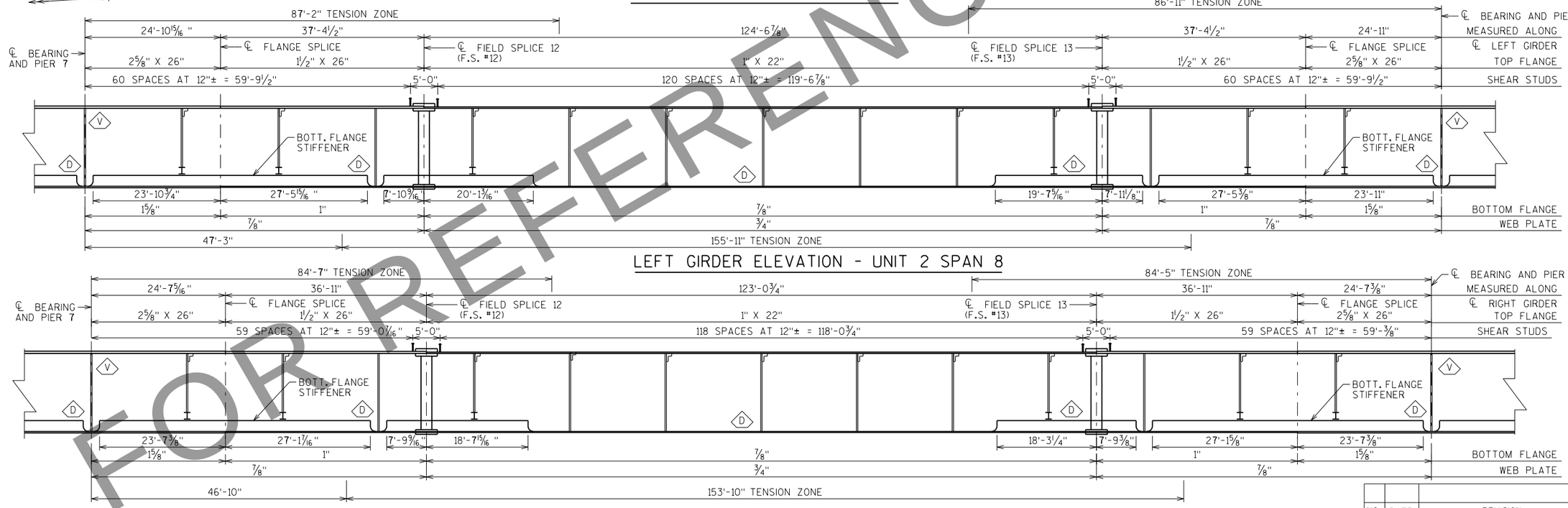


## LEFT GIRDER ELEVATION - UNIT 2 SPAN 8




## RIGHT GIRDER ELEVATION - UNIT 2 SPAN 8

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STATE OF WISCONSIN
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STRUCTURE B-5-679

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GIRDER PLAN AND ELEVATION UNIT 2 SPAN 8

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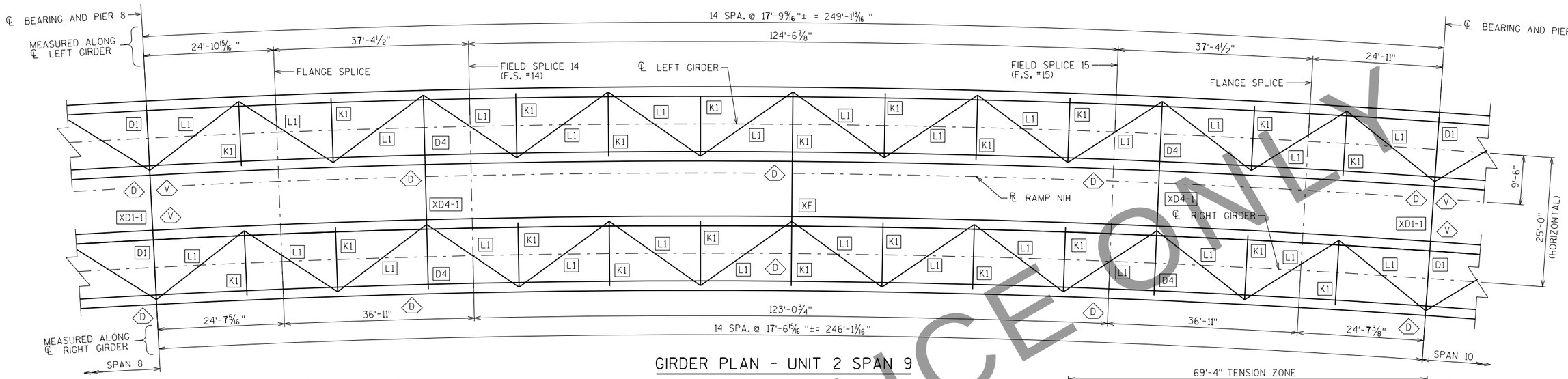
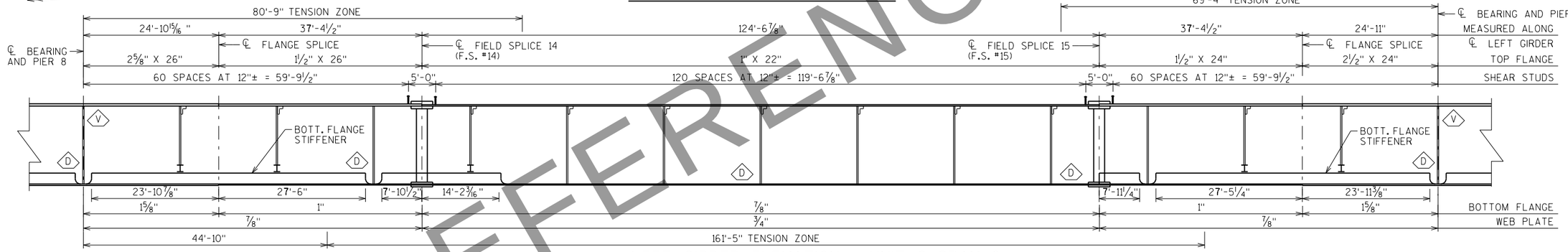
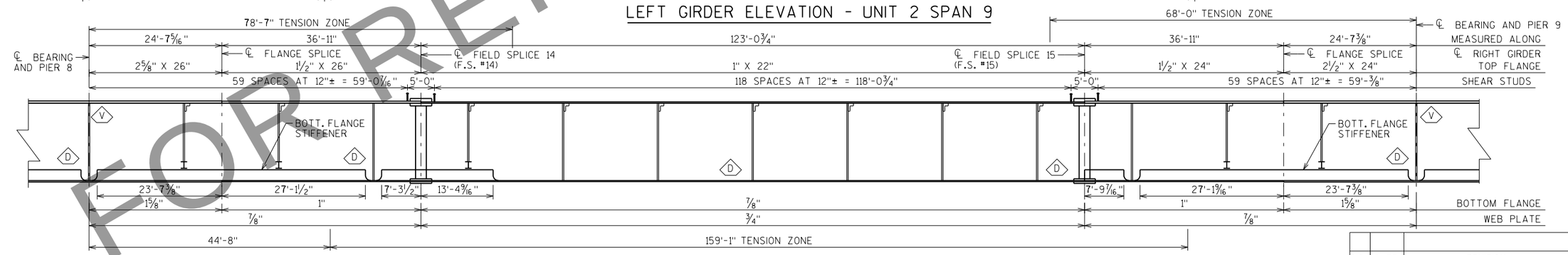



## GIRDER PLAN - UNIT 2 SPAN 9




## LEFT GIRDER ELEVATION - UNIT 2 SPAN 9




## RIGHT GIRDER ELEVATION - UNIT 2 SPAN 9

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STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

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GIRDER PLAN AND ELEVATION UNIT 2 SPAN 9

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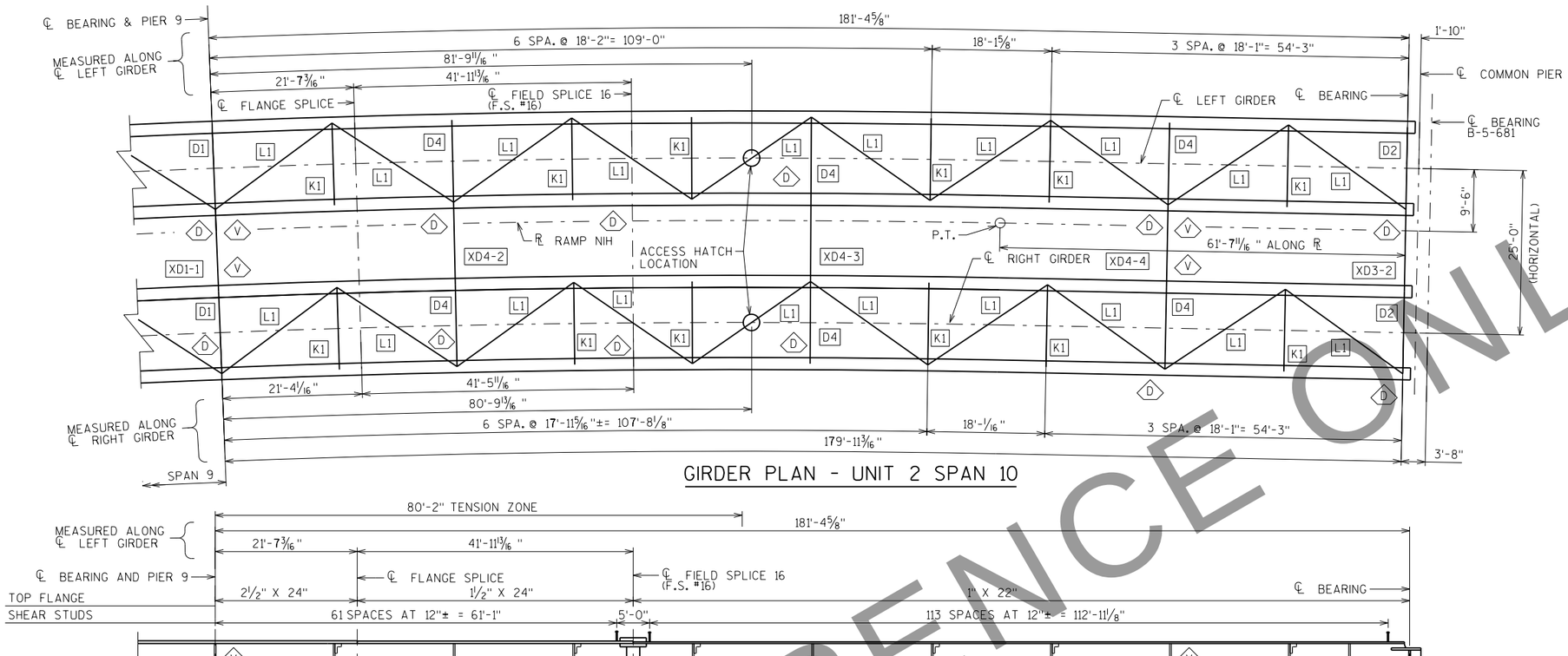
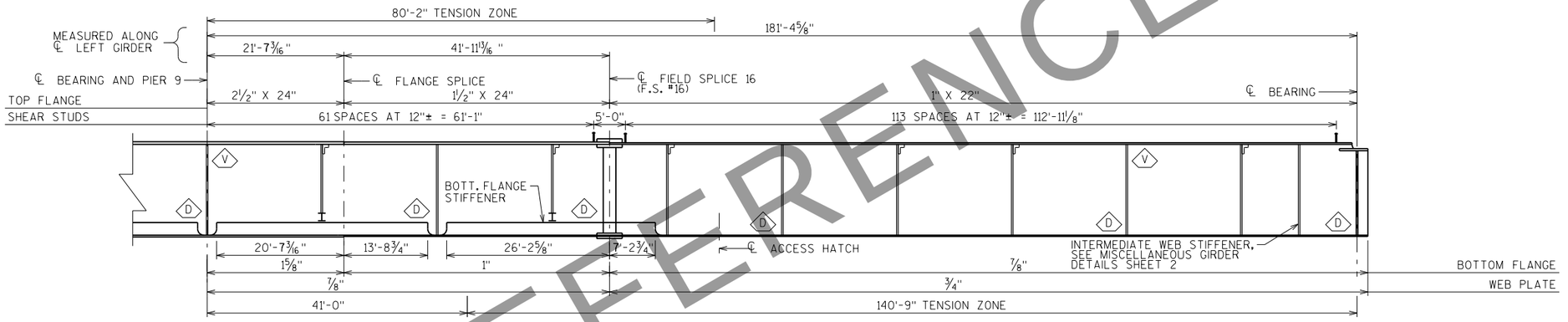
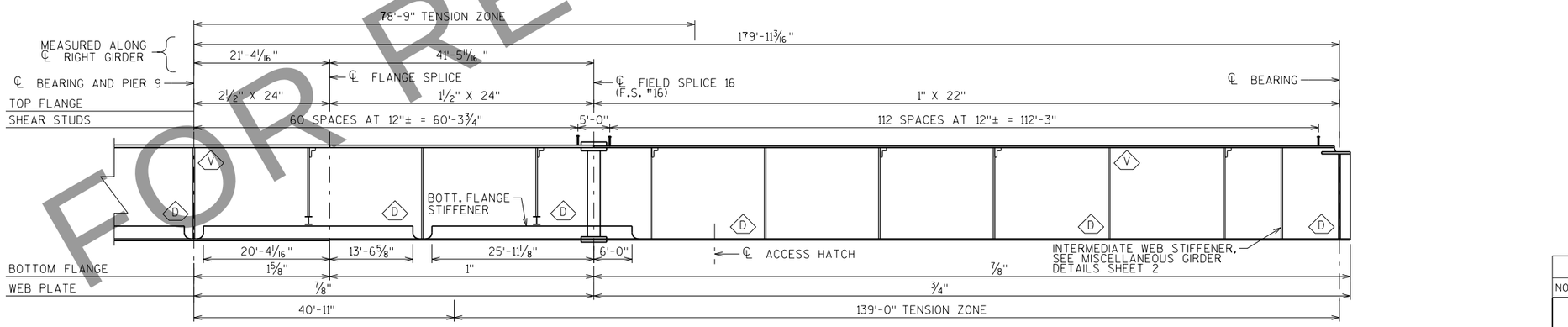



## GIRDER PLAN - UNIT 2 SPAN 10




## LEFT GIRDER ELEVATION - UNIT 2 SPAN 10




## RIGHT GIRDER ELEVATION - UNIT 2 SPAN 10

FOR REFERENCE ONLY

STEEL FABRICATION CONTRACT ONLY

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY ZMG | PLANS CK'D. NPP

GIRDER PLAN AND ELEVATION UNIT 2 SPAN 10

SHEET 25 OF 51

1005

DATE: 4/3/2013

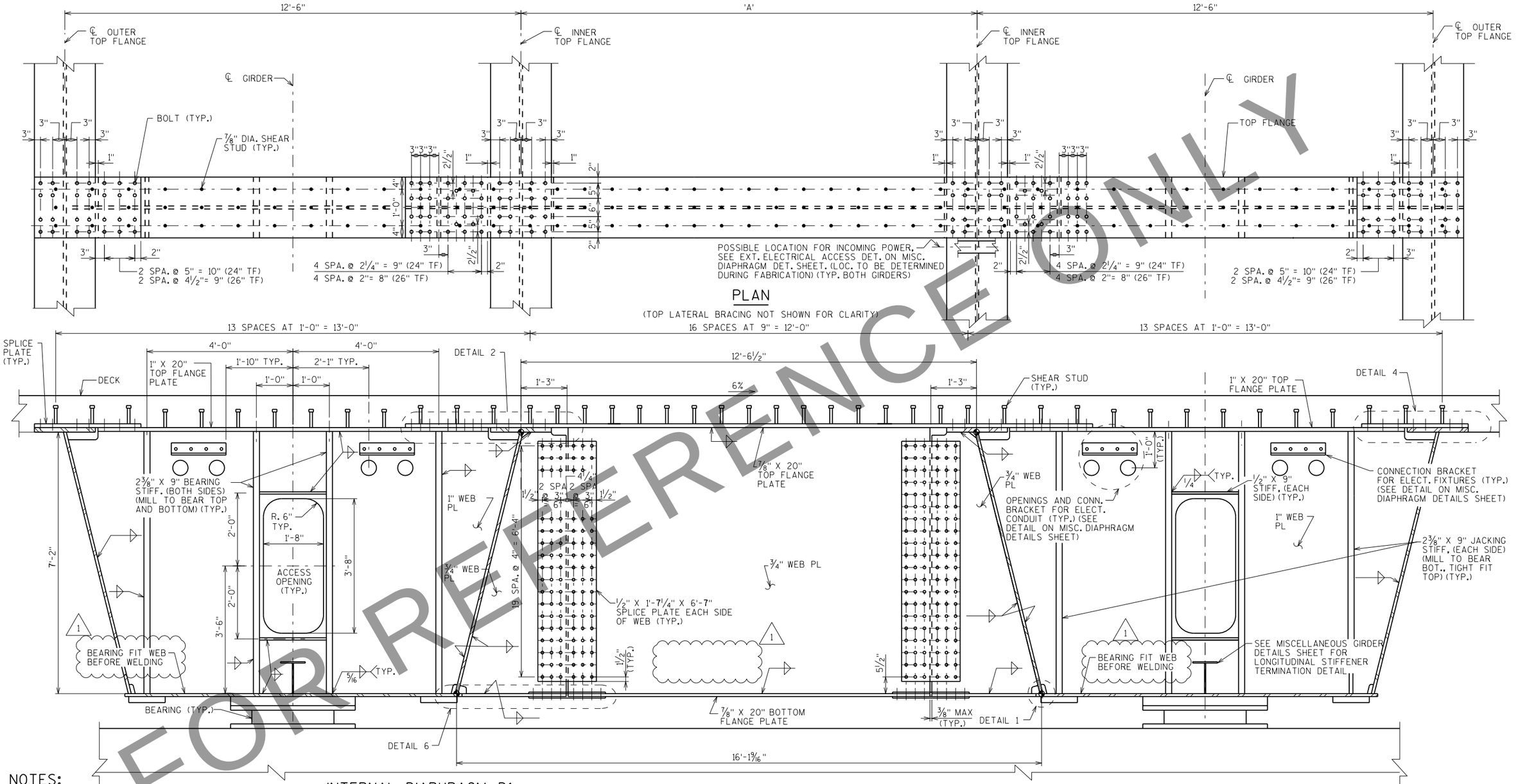
I.D.

FILE= Q:\WisDot_12345678_US41Bridges_Plans\B-05-679E\025 - B-5-679E - GIRDER PLAN AND ELEV UNIT 2 SPAN 10.dgn

8

8

| STATE PROJECT NUMBER |
|---|
| 1133-11-77 |




INTERNAL DIAPHRAGM D1 — EXTERNAL DIAPHRAGM 'XD1' — INTERNAL DIAPHRAGM D1

ELEVATION

(SUPERELEVATION NOT SHOWN)

DIMENSIONS ARE MEASURED ALONG SUPERELEVATION.

STEEL FABRICATION CONTRACT ONLY

NOTES:

SHEAR STUDS FURNISHED AND INSTALLED BY OTHERS DURING ERECTION.

ALL BOLTS SHOWN SHALL BE ⅞" DIAMETER.

TOP OF DIAPHRAGM TOP FLANGE PLATE TO BE PROVIDED WITH 3 MIL OF ORGANIC ZINC RICH PRIMER.

SEE MISCELLANEOUS DIAPHRAGM DETAILS SHEET FOR DETAILS 1, 2, 4 AND 6 AND SECTIONS.

UNLESS OTHERWISE NOTED, ALL DIMENSIONS GIVEN ARE PARALLEL OR PERPENDICULAR TO SUPERELEVATION.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| 1 | 11/16/12 | BEARING NOTE | KZ |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY JRS | PLANS CK'D. NPP

INTERMEDIATE PIER DIAPHRAGMS XD1 AND D1 1006

SHEET 26 OF 51

DATE: 4.3.2013
I.D.

FILE= O:\Wisdot_12345678_US41Bridges_Plans\B-05-679E\02_B-05-679EX026-B-05-679E_INTERMEDIATE PIER DIAPHRAGMS XD1 D1.dgn

FOR REFERENCE ONLY

8

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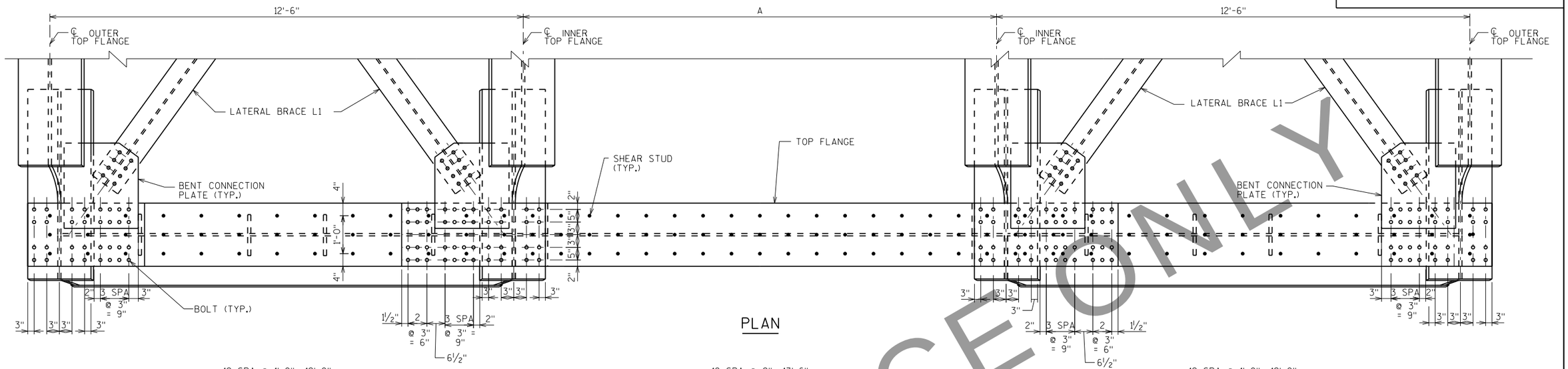
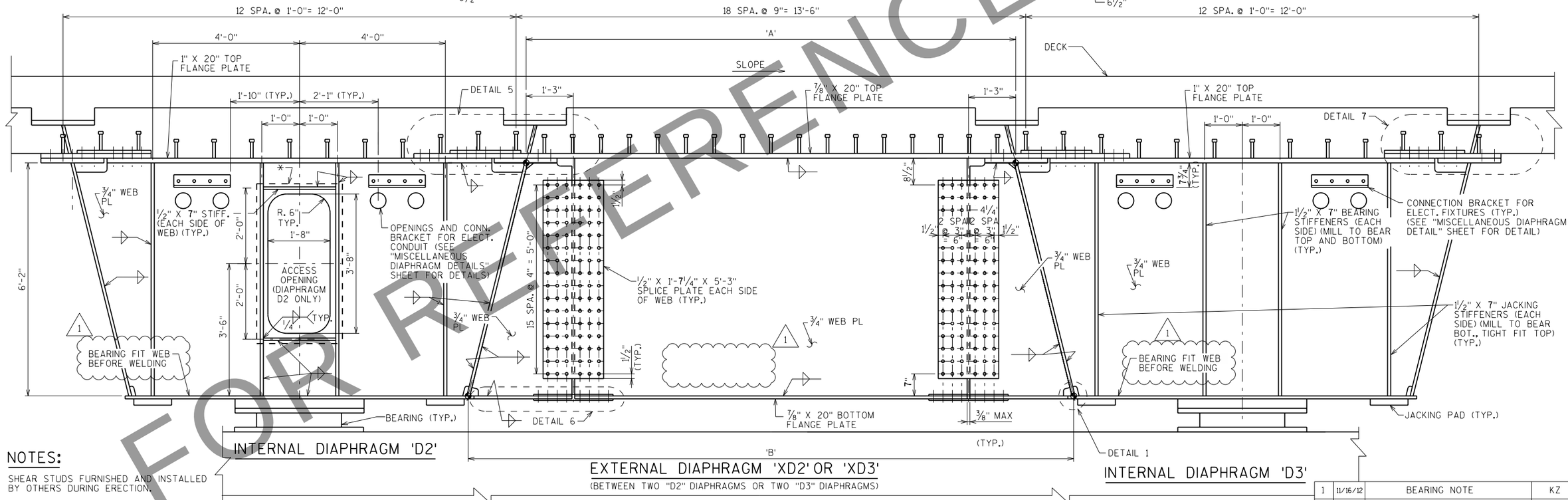
| STATE PROJECT NUMBER |
|---|
| 1133-11-77 |




PLAN




ELEVATION

(SUPERELEVATION NOT SHOWN)

- SLOPE

## NOTES:

SHEAR STUDS FURNISHED AND INSTALLED BY OTHERS DURING ERECTION.

ALL BOLTS SHOWN SHALL BE 7/8" DIAMETER.

TOP OF DIAPHRAGM TOP FLANGE PLATE TO BE PROVIDED WITH 3 MIL OF AN ORGANIC ZINC RICH PRIMER.

SEE MISCELLANEOUS DIAPHRAGM DETAILS SHEET FOR DETAILS 1, 5, 6 AND 7 AND SECTIONS.

UNLESS OTHERWISE NOTED, ALL DIMENSIONS GIVEN ARE PARALLEL OR PERPENDICULAR TO SUPERELEVATION.

* ACCESS DOOR REQUIRED AT INTERNAL DIAPHRAGM D2, SEE ACCESS DOOR DETAILS SHEET.

DIMENSIONS ARE MEASURED ALONG SUPERELEVATION.

## TABLE OF VARIABLES

| | A | B | SLOPE |
|---|---|---|---|
| XD2-1 | 13'-0 9/16" | 16'-1 9/16" | -6.00% |
| XD3-1 | 13'-0 9/16" | 16'-1 9/16" | -6.00% |
| XD3-2 | 13'-0 1/8" | 16'-1 1/8" | -2.62% |

STEEL FABRICATION CONTRACT ONLY

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| 1 | 11/16/12 | BEARING NOTE | KZ |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY JRS | PLANS CK'D. NPP

UNIT END DIAPHRAGMS XD2, XD3, D2, AND D3

SHEET 27 OF 51

DATE: 4/3/2013

FILE= O:\WisDot_12345678_US41Bridges_Plans\B-05-679\E_UNIT END DIAPHRAGMS XD2 XD3 D2 D3.dgn

I.D.

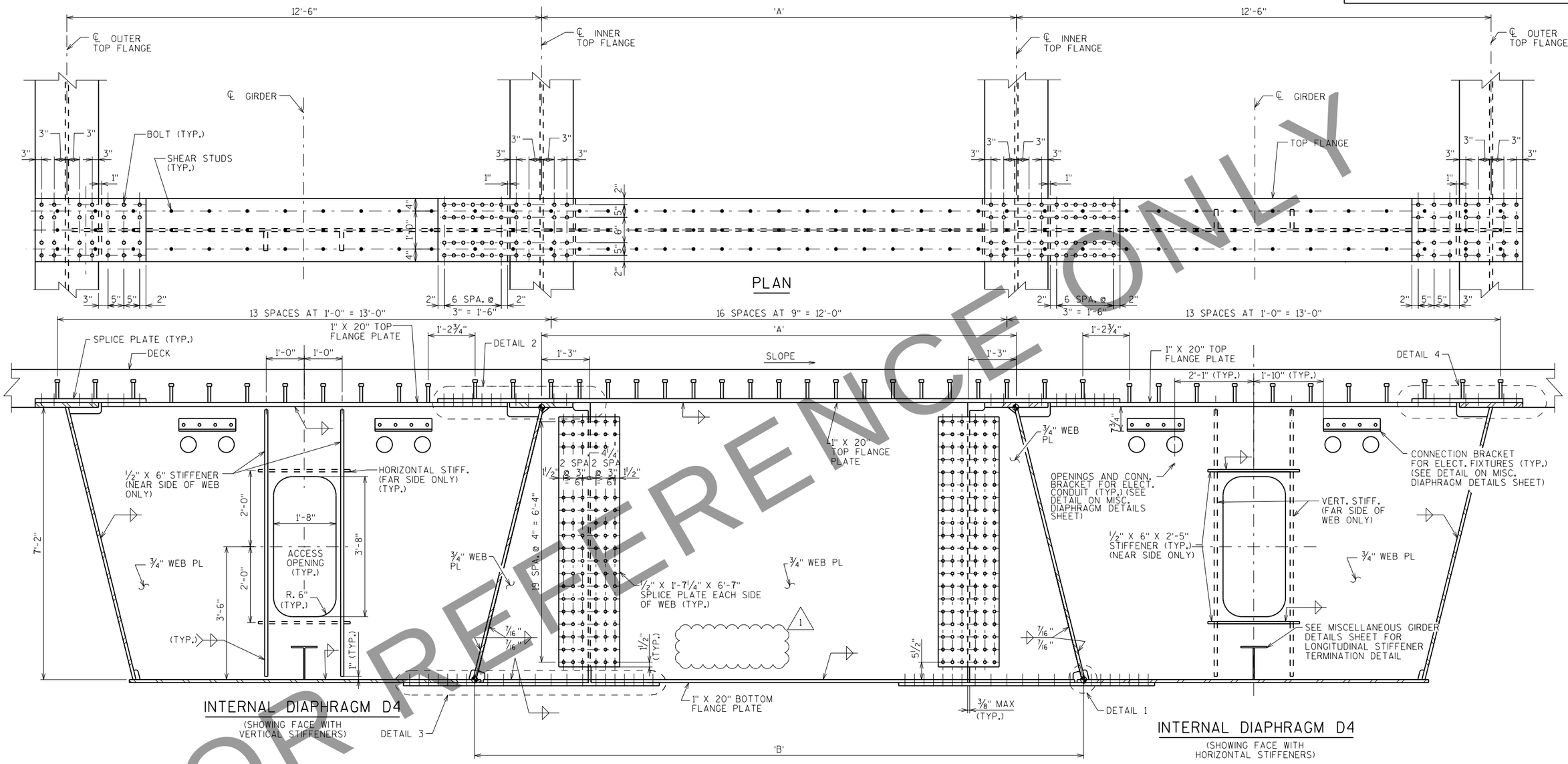
FOR REFERENCE ONLY

8

8

STATE PROJECT NUMBER

1133-11-77




INTERNAL DIAPHRAGM D4

(SHOWING FACE WITH VERTICAL STIFFENERS)

INTERNAL DIAPHRAGM D4

(SHOWING FACE WITH HORIZONTAL STIFFENERS)

EXTERNAL DIAPHRAGM 'XD4'

ELEVATION

(SUPERELEVATION NOT SHOWN)

- SLOPE

## NOTES:

SHEAR STUDS FURNISHED AND INSTALLED BY OTHERS DURING ERECTION.

ALL BOLTS SHOWN SHALL BE ⅞" DIAMETER.

TOP OF DIAPHRAGM TOP FLANGE PLATE TO BE PROVIDED WITH 3 MIL OF ORGANIC ZINC RICH PRIMER.

SEE MISCELLANEOUS DIAPHRAGM DETAILS SHEET FOR DETAILS 1, 2, 3 AND 4 AND SECTIONS.

UNLESS OTHERWISE NOTED, ALL DIMENSIONS GIVEN ARE PARALLEL OR PERPENDICULAR TO SUPERELEVATION.

## TABLE OF VARIABLES

| | A | B | SLOPE |
|---|---|---|---|
| XD4-1 | 12'-6½" | 16'-1⁹⁄₁₆" | -6.00% |
| XD4-2 | 12'-6½" | 16'-1½" | -5.84% |
| XD4-3 | 12'-6⁵⁄₁₆" | 16'-1⁵⁄₁₆" | -4.63% |
| XD4-4 | 12'-6³⁄₁₆" | 16'-1³⁄₁₆" | -3.42% |

FOR REFERENCE ONLY

STEEL FABRICATION CONTRACT ONLY

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| 1 | 11/16/12 | BEARING NOTE DELETED | KZ |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY JRS | PLANS CK'D. NPP

INTERMEDIATE DIAPHRAGMS XD4 AND D4 1008

SHEET 28 OF 51

DATE: 4/3/2013

FILE= O:\WisDot_12345678_US41Bridges_Plans\B-05-679E\XD04_INTERMEDIATE DIAPHRAGMS XD4 D4.dgn

I.D.

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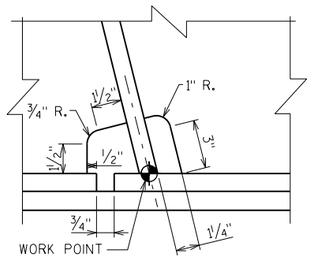
8

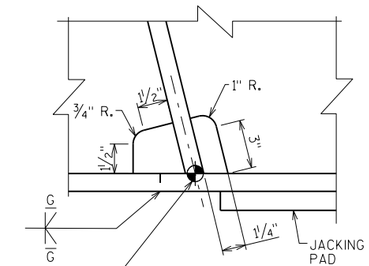
STATE PROJECT NUMBER

1133-11-77



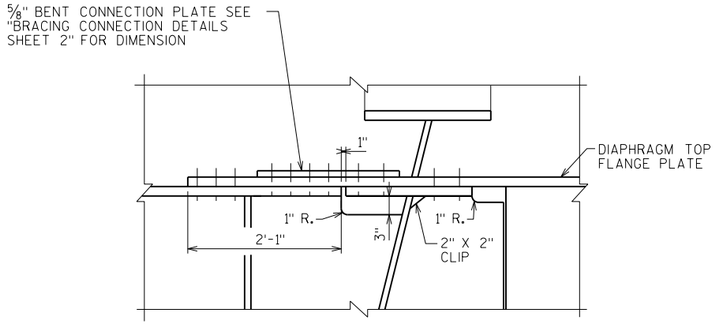

DETAIL 1

DIAPHRAGM XD4/D4



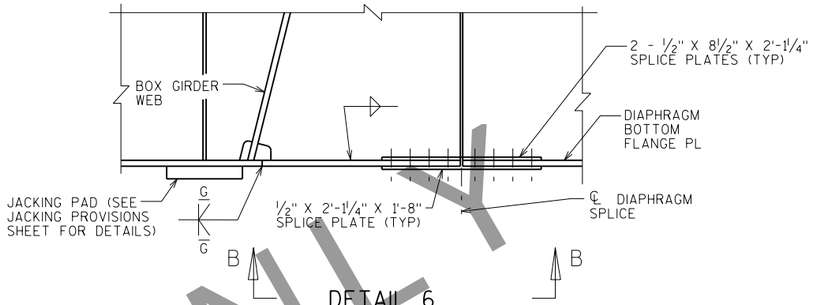

DETAIL 1

DIAPHRAGMS XD1/D1 AND XD2/D2/XD3/D3



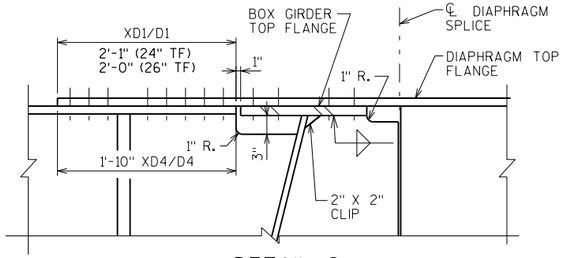

DETAIL 5

DIAPHRAGMS XD2/D2/XD3/D3



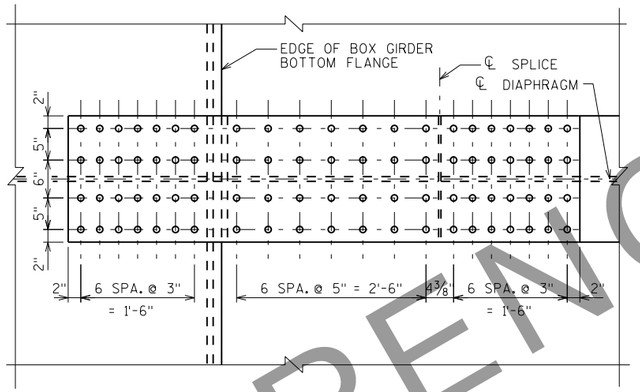

DETAIL 6

DIAPHRAGMS XD1/D1, XD2/D2 AND XD3/D3



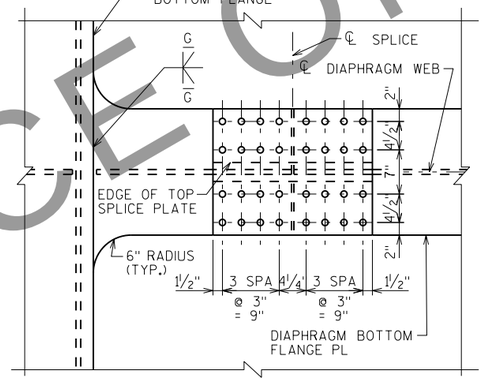

DETAIL 2

SHEET XD1/D1 AND XD4/D4



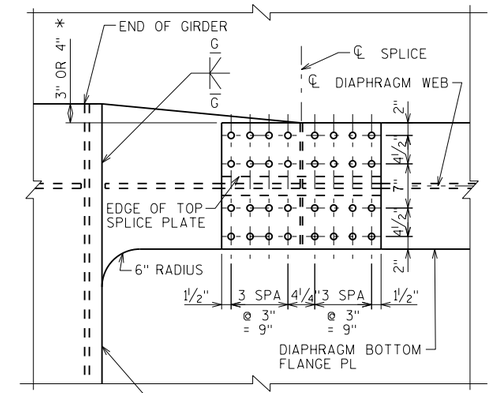

SECTION A-A

THIS SHEET




SECTION B-B

THIS SHEET
(DIAPHRAGM XD1/D1)




SECTION B-B

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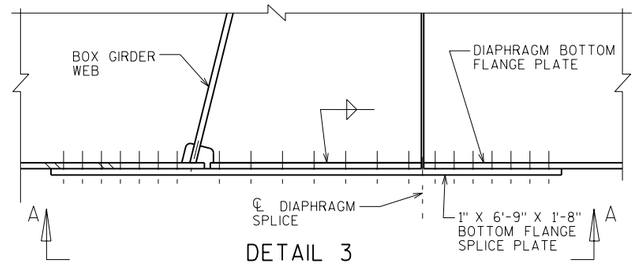
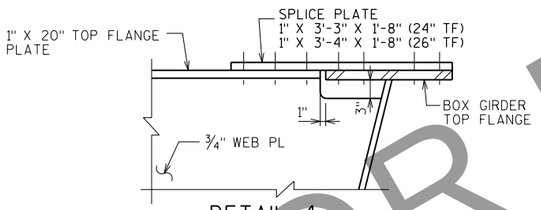
(DIAPHRAGM XD2/D2 AND XD3/D3)



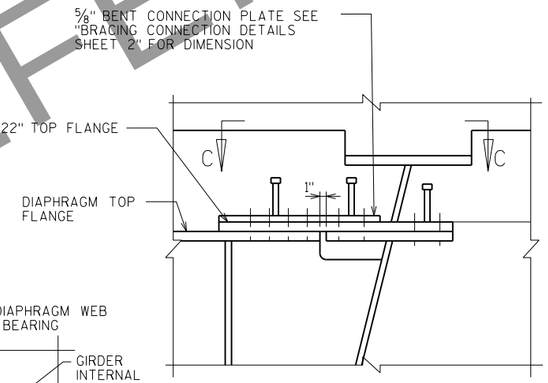

DETAIL 3

DIAPHRAGM XD4/D4



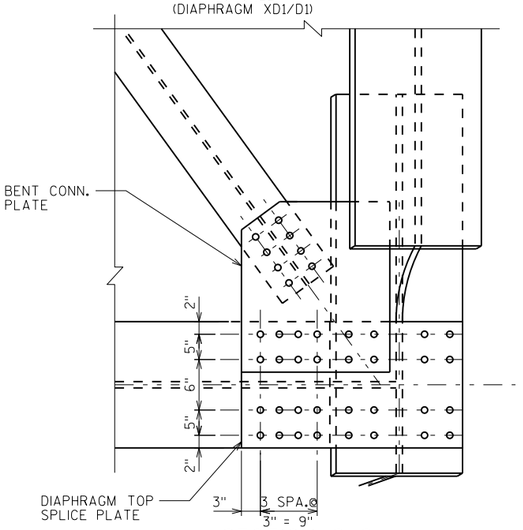

DETAIL 4

DIAPHRAGMS XD1/D1 AND XD4/D4



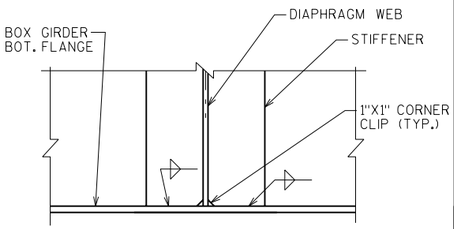

DETAIL 7

DIAPHRAGMS XD2/D2/XD3/D3




SECTION C-C

THIS SHEET
(SHEAR STUDS NOT SHOWN FOR CLARITY)

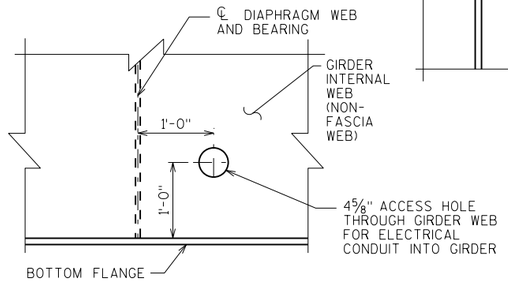



STIFFENER TO FLANGE DETAIL

ALL DIAPHRAGMS AND ALL STIFFENERS
NO WELD AT TOP OF STIFFENERS




OPENINGS AND CONNECTION BRACKET DETAILS FOR ELECTRICAL




EXTERNAL ELECTRICAL ACCESS DETAIL

TWO ACCESS LOCATIONS FOR INCOMING POWER TO INTERIOR OF GIRDER (LOC. TO BE DETERMINED DURING FABRICATION) (TYP. BOTH GIRDERS)

STEEL FABRICATION CONTRACT ONLY

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY JRS | PLANS CK'D. NPP

MISCELLANEOUS DIAPHRAGM DETAILS

SHEET 29 OF 51

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DATE: 4/3/2013

I.D.

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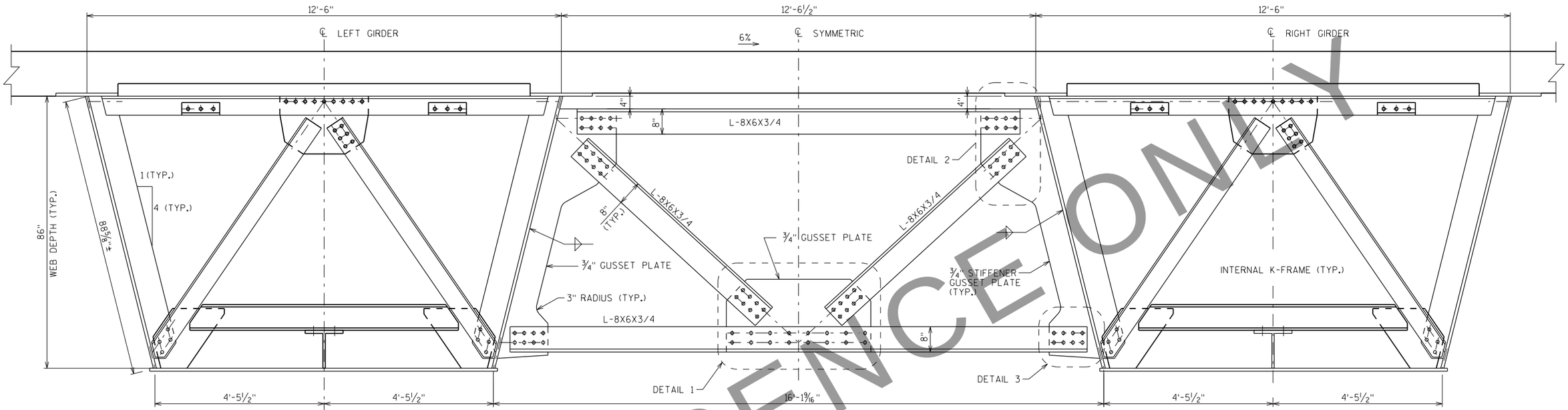
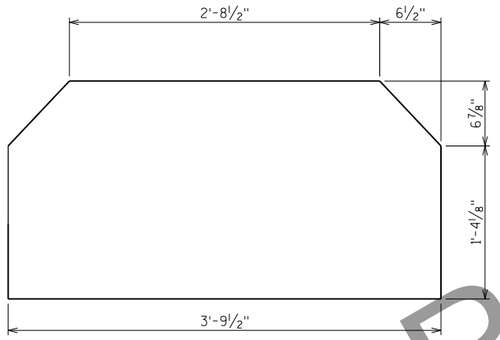
| STATE PROJECT NUMBER |
|---|
| 1133-11-77 |

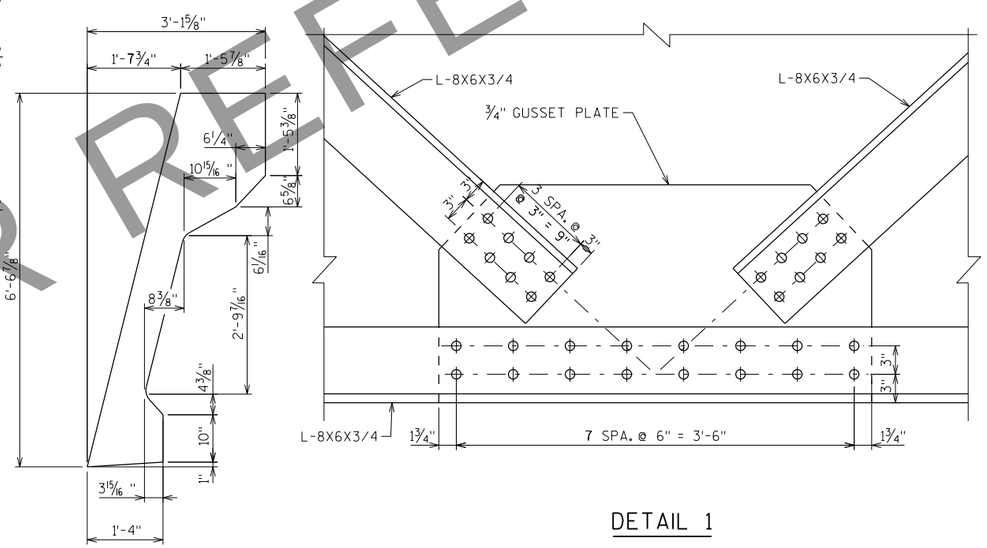



## ELEVATION EXTERIOR CROSS FRAME XF

(SUPERELEVATION NOT SHOWN)
(LOOKING UPSTATION)



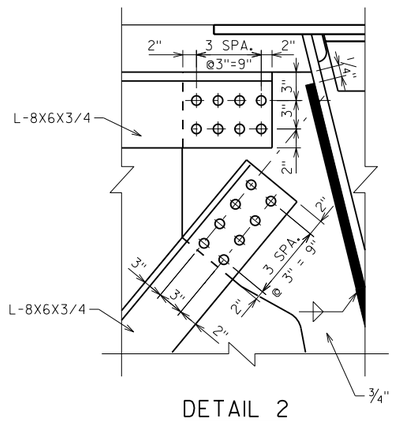

GUSSET PLATE DETAILS



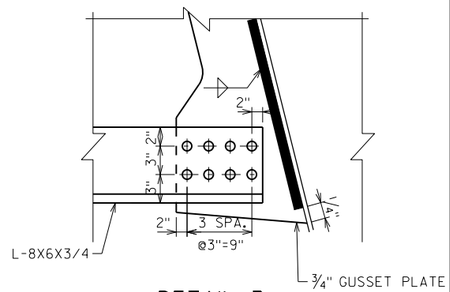

STIFFENER GUSSET PLATE DETAILS




DETAIL 1




DETAIL 2




DETAIL 3

## NOTES:

1. ALL HOLES SHALL BE STANDARD DIAMETER - NO OVERSIZE HOLES.
2. ALL CONNECTIONS SHALL BE FABRICATED AND ASSEMBLED AS SLIP-CRITICAL CONNECTIONS
3. CROSS FRAMES ARE ALIGNED NORMAL TO THE GIRDERS.
4. EXTERIOR CONNECTION PLATES SHALL BE LOCATED DIRECTLY IN LINE WITH THE CORRESPONDING WEB STIFFENER LOCATED INSIDE THE BOX.
5. FOR SUPERELEVATED ROAD SECTION, THE EXTERIOR FRAMES VARY IN LENGTH

FOR REFERENCE ONLY

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

| DRAWN BY | SOI | PLANS CK'D. | NPP |
|---|---|---|---|

EXTERIOR CROSS FRAME DETAILS

SHEET 30 OF 51
1010

STEEL FABRICATION CONTRACT ONLY

DATE: 4/3/2013
I.D.

FILE= Q:\WisDot_12345678_US41Bridges_Plans\B-05-679E\030-B-05-679E_CROSS FRAM EXT.dgn

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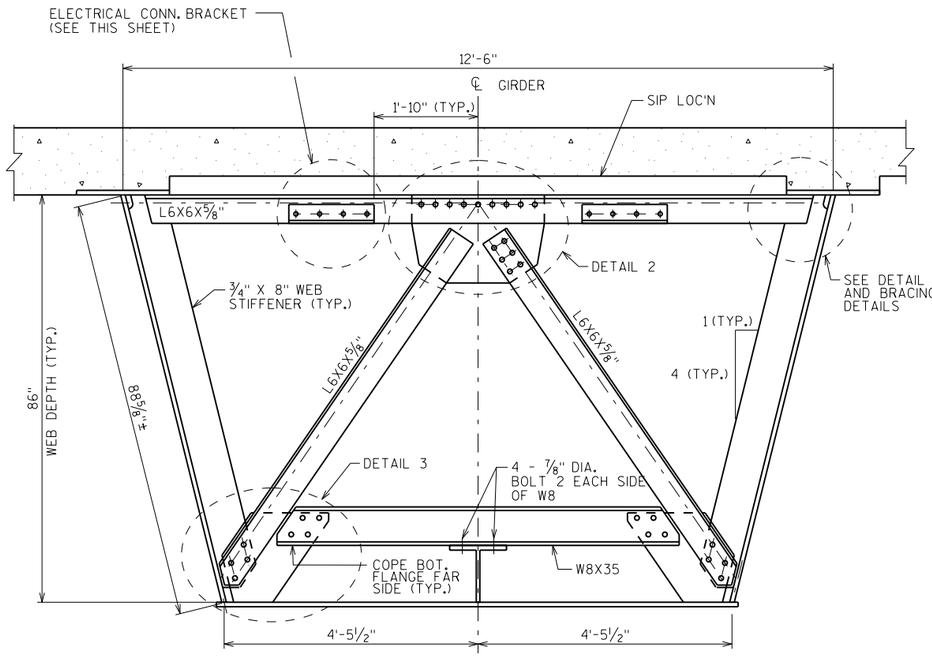
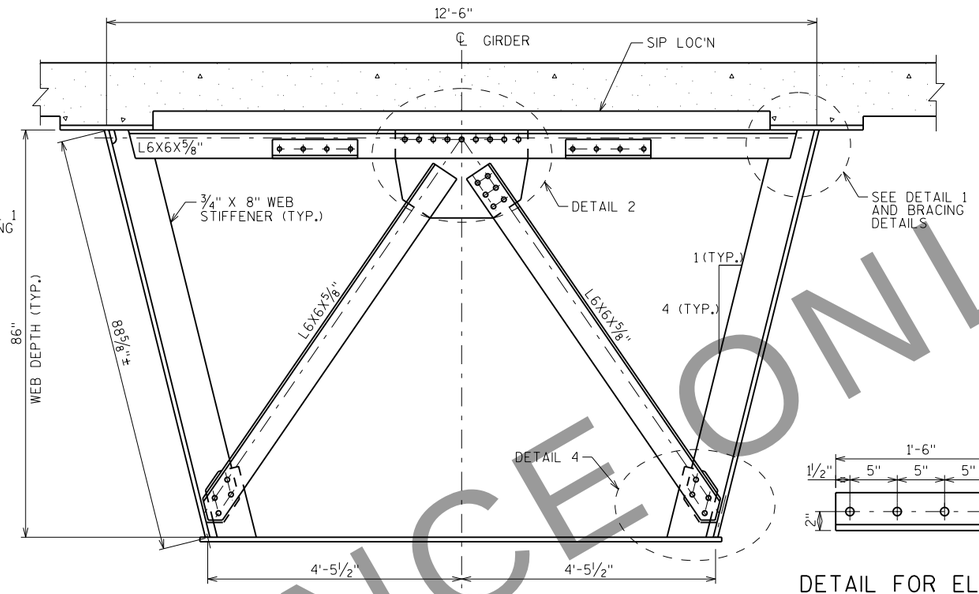
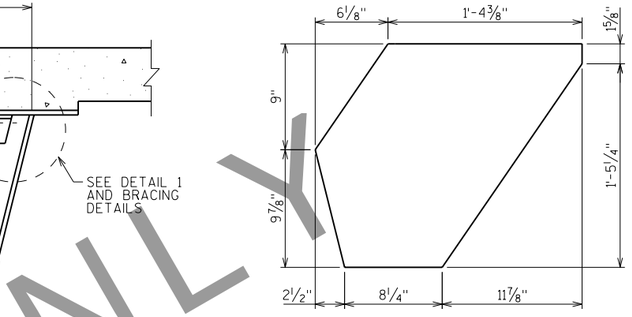
| STATE PROJECT NUMBER |
|---|
| 1133-11-77 |



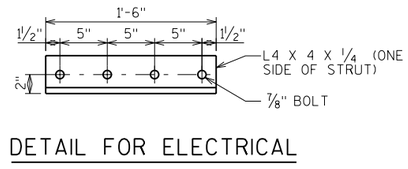

## TYPICAL SECTION AT K-FRAME K1
(DETAIL WITH LONGITUDINAL STIFFENER)



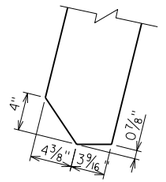

## TYPICAL SECTION AT K-FRAME K1
(DETAIL WITHOUT LONGITUDINAL STIFFENER)



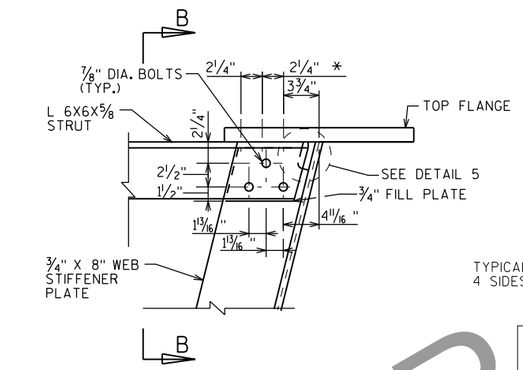

## PL 3/4" DETAIL



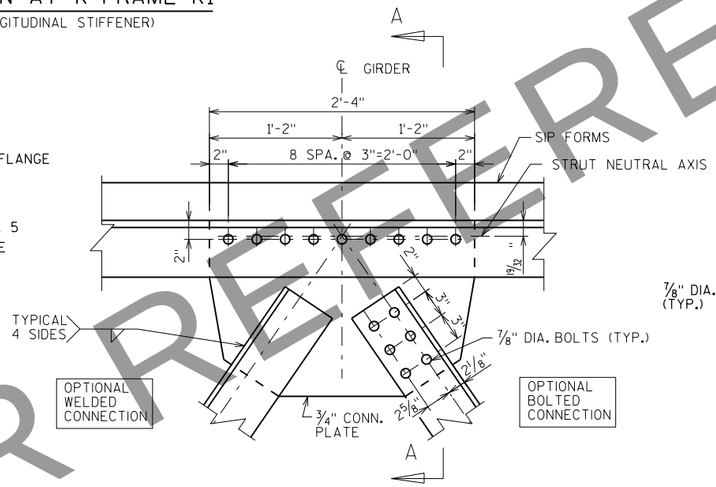

## DETAIL FOR ELECTRICAL CONNECTION BRACKET



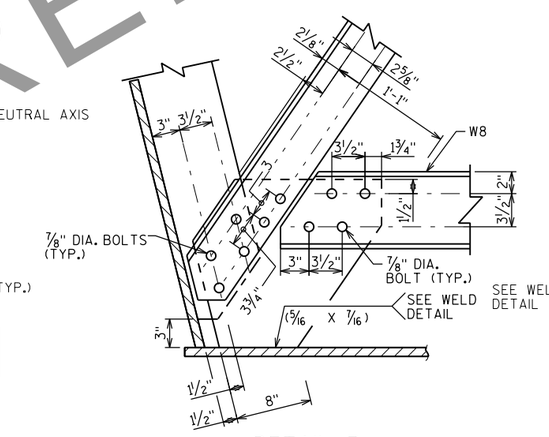

## WEB STIFFENER DETAIL



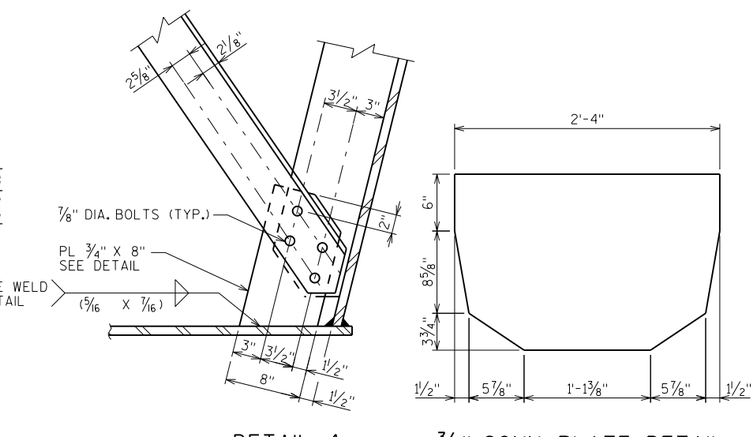

## DETAIL 1




## DETAIL 2



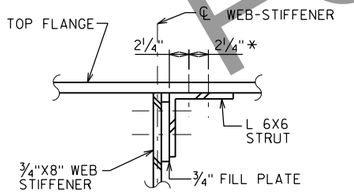

## DETAIL 3



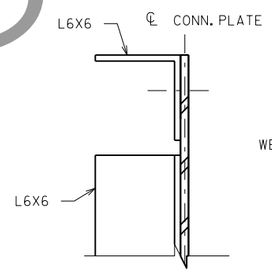

## DETAIL 4
(DETAIL FOR CROSS FRAMES WITHOUT BOTTOM CHORD)

## 3/4" CONN. PLATE DETAIL

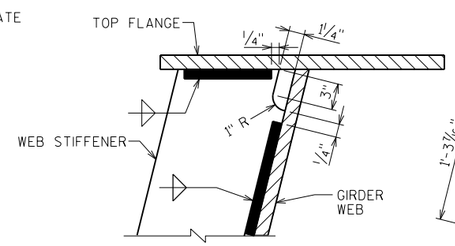
* BOLT SPACING FOR STRUT TO TOP FLANGE CONNECTION. SEE BRACING DETAILS SHEET FOR PLAN VIEW.



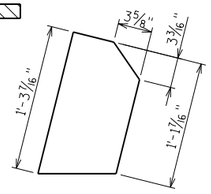

## SECTION B-B



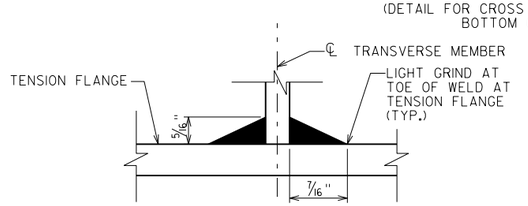

## SECTION A-A




## DETAIL 5




## PL 3/4"X8" DETAIL




## TRANSVERSE WELD TO TENSION FLANGE DETAIL
TYP. FOR ANY TENSION FLANGE (BOTTOM FLANGE SHOWN)

STEEL FABRICATION CONTRACT ONLY

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

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INTERIOR CROSS FRAME K1 DETAILS 1011

SHEET 31 OF 51

DATE: 4.3.2013
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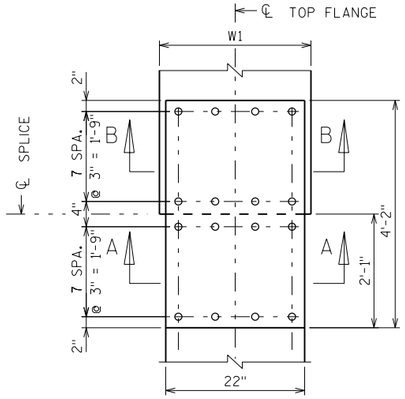
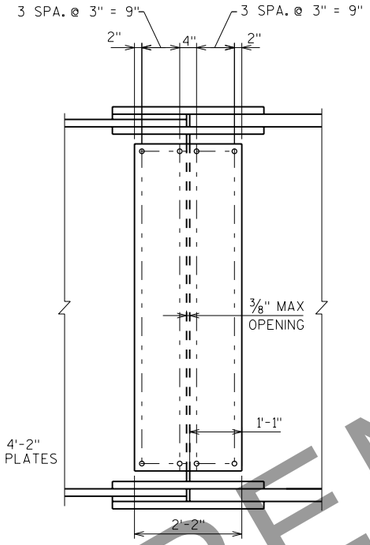
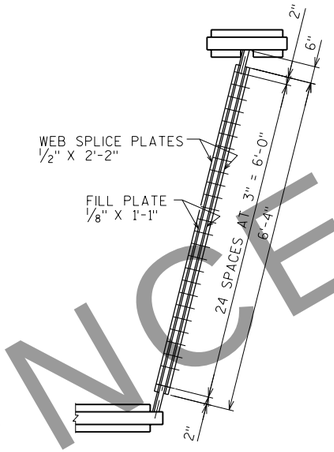


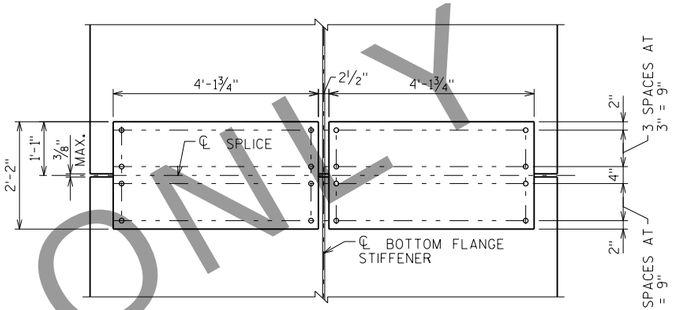

PLAN



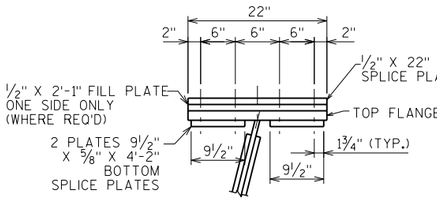

ELEVATION



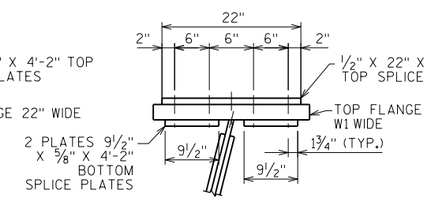

SECTION



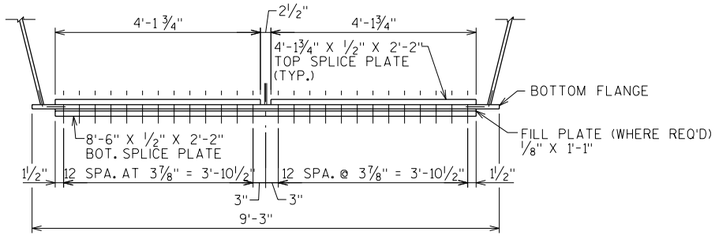

PLAN




SECTION A-A




SECTION B-B




SECTION

TYPICAL TOP FLANGE CONNECTION

TYPICAL WEB CONNECTION

TYPICAL BOTTOM FLANGE CONNECTION

| FIELD SPLICE NO. | VARIABLE DIMENSIONS |
|---|---|
| | W1 (IN) |
| 1 | 24 |
| 2 | 24 |
| 3 | 26 |
| 4 | 26 |
| 5 | 26 |
| 6 | 26 |
| 7 | 24 |
| 8 | 24 |
| 9 | 24 |
| 10 | 24 |
| 11 | 26 |
| 12 | 26 |
| 13 | 26 |
| 14 | 26 |
| 15 | 24 |
| 16 | 24 |

## NOTES:

ALL BOLTS SHOWN ARE 7/8" DIAMETER ASTM A325 TYPE 1.

ALL HOLES SHALL BE STANDARD DIAMETER NO OVERSIZE HOLES.

ALL CONNECTIONS SHALL BE FABRICATED AND ASSEMBLED AS SLIP-CRITICAL CLASS A CONNECTIONS

ALL SPLICE PLATES SHALL BE ASTM A709 GRADE HPS 50W.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
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STRUCTURE B-5-679

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FIELD SPLICE DETAILS

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1012

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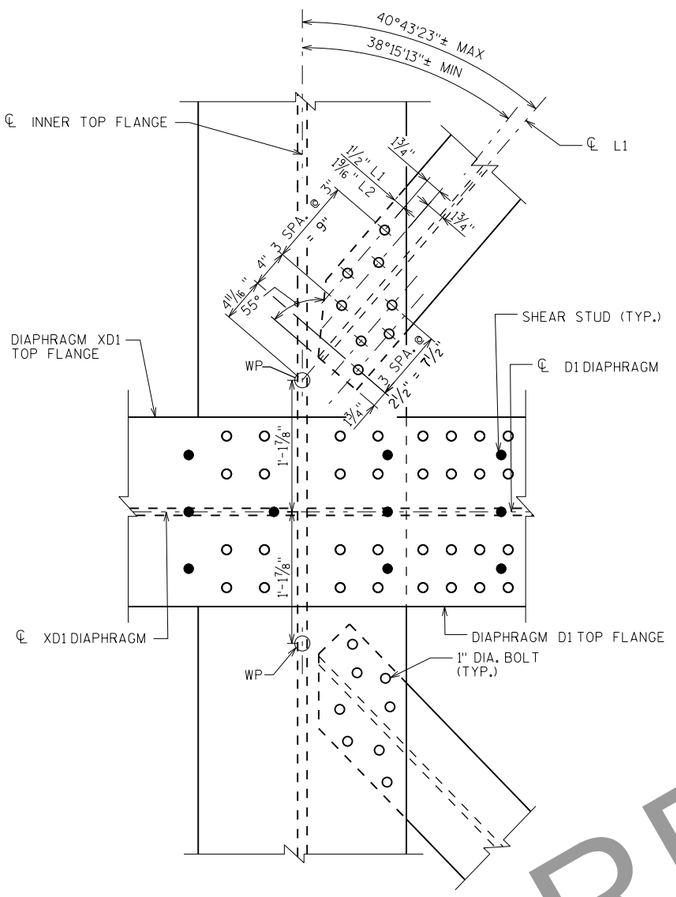
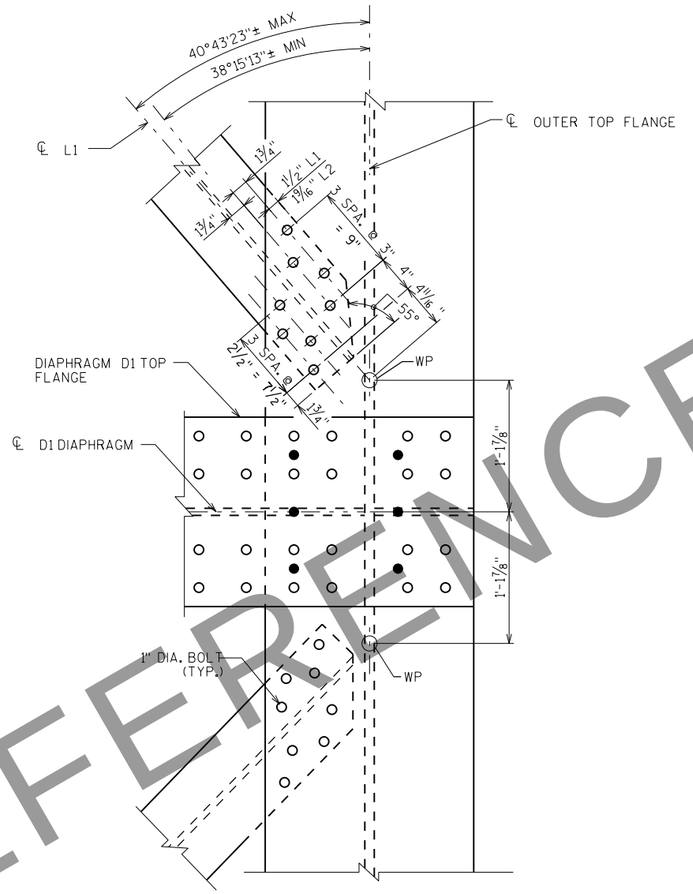
| STATE PROJECT NUMBER |
|---|
| 1133-11-77 |



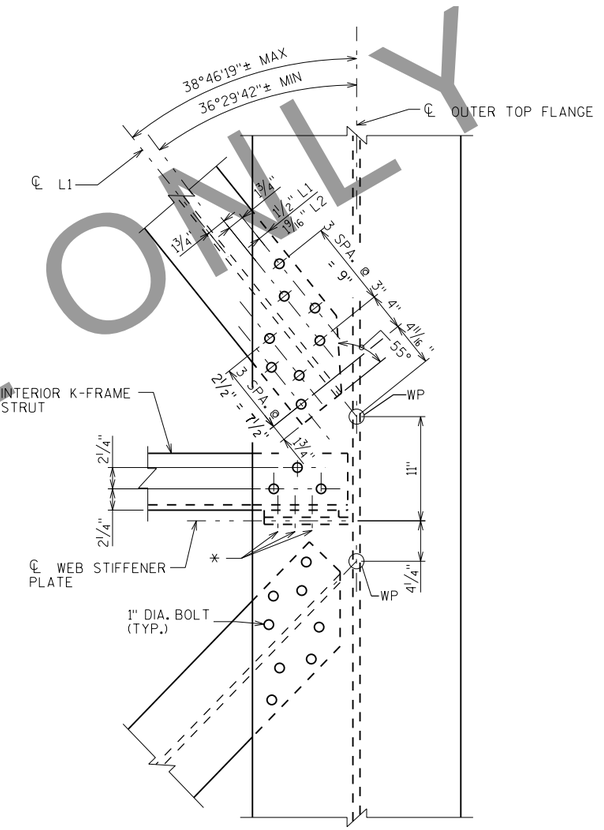

PLAN VIEW AT DIAPHRAGM XD1/D1

(SHOWING INNER TOP FLANGE)
(XD4/D4 SIMILAR)




PLAN VIEW AT DIAPHRAGM XD1/D1

(SHOWING OUTER TOP FLANGE)
(XD4/D4 SIMILAR)




PLAN VIEW AT K-FRAME

(SHOWING OUTER TOP FLANGE)
(INNER TOP FLANGE SIMILAR)

NOTES:

LATERAL BRACE L1 SHALL BE CONNECTED TO THE DIAPHRAGM TOP FLANGE AND GIRDER TOP FLANGE WITH 8-1" DIAMETER BOLTS.

NOTES:

SEE GIRDER PLAN AND ELEVATION SHEETS FOR LOCATIONS OF DETAILS.

LATERAL BRACE MEMBERS:

L1: WT7X34

* SEE INTERIOR CROSS FRAME K-1 DETAILS SHEET FOR ADDITIONAL DETAILS FOR BOLTED CONNECTION THROUGH STRUT ANGLE LEG TO WEB STIFFENER.

FOR REFERENCE ONLY

STEEL FABRICATION CONTRACT ONLY

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

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BRACING CONNECTION DETAILS SHEET 1

SHEET 33 OF 51
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| STATE PROJECT NUMBER |
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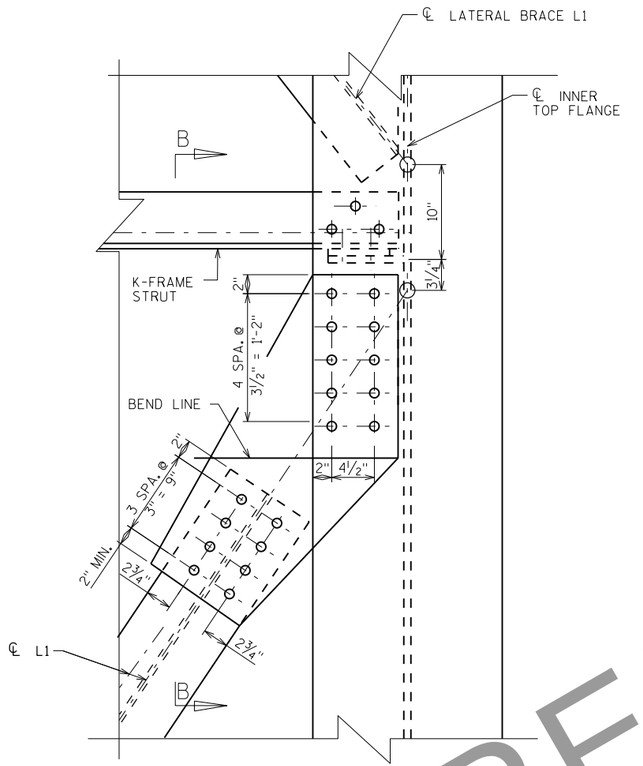
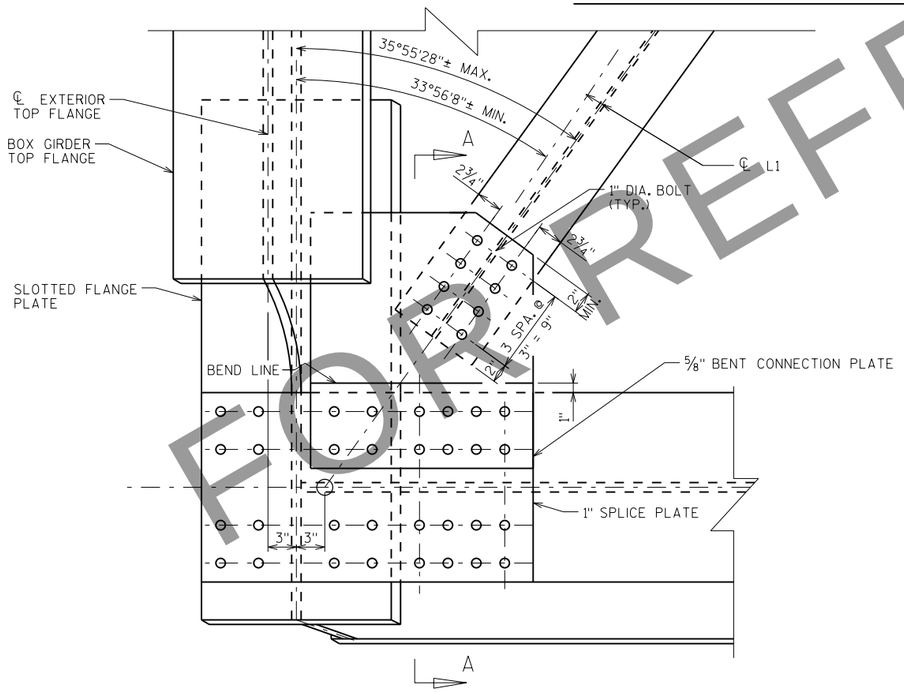
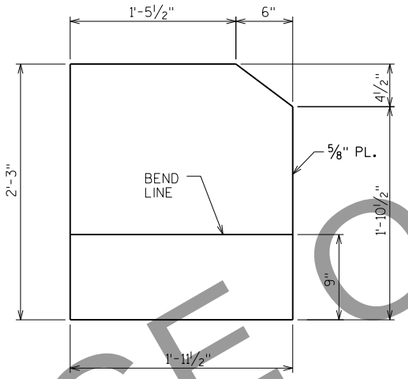



PLAN VIEW AT K-FRAME ADJACENT TO UNIT END

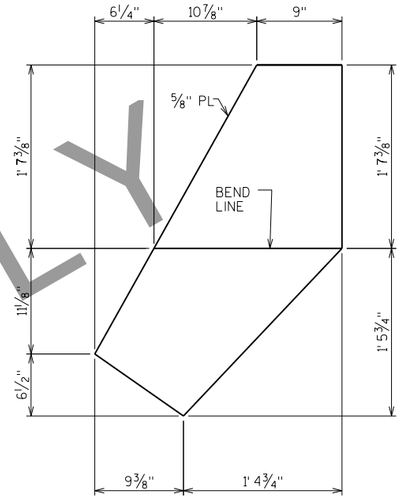



PLAN VIEW AT UNIT END DIAPHRAGM

(EXTERIOR GIRDER SHOWN, INTERIOR GIRDER SIMILAR)




BENT CONNECTION PLATE DETAIL

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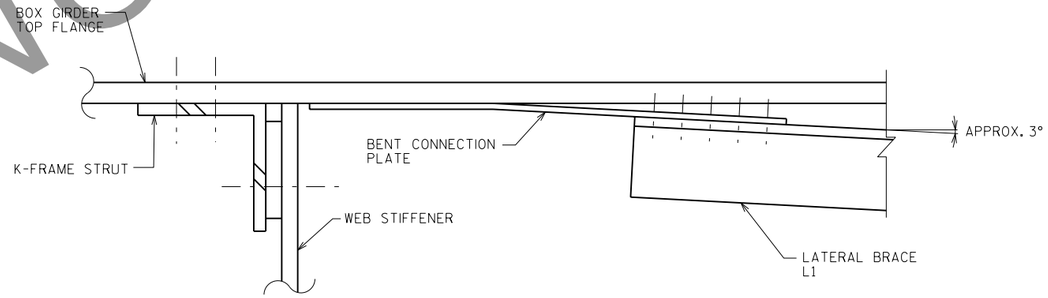
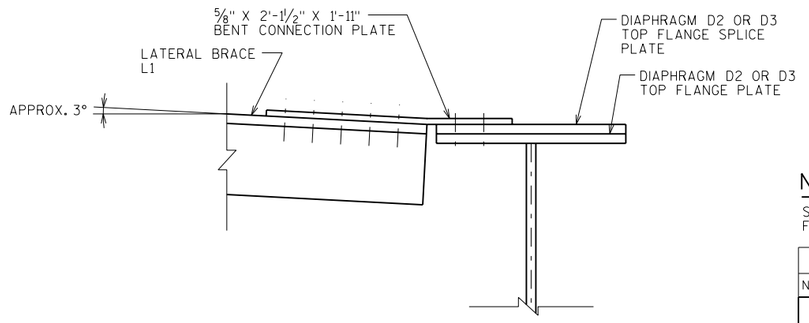



SECTION B-B

THIS SHEET




SECTION A-A

THIS SHEET

NOTES:

SEE GIRDER PLAN AND ELEVATION SHEETS FOR LOCATIONS OF DETAILS

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

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BRACING CONNECTION DETAILS SHEET 2

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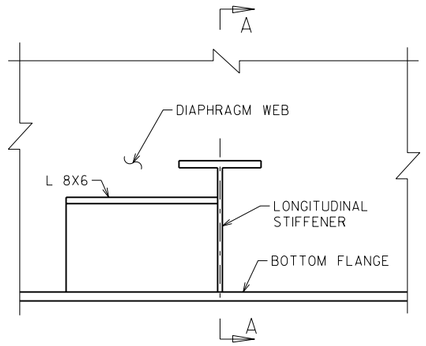
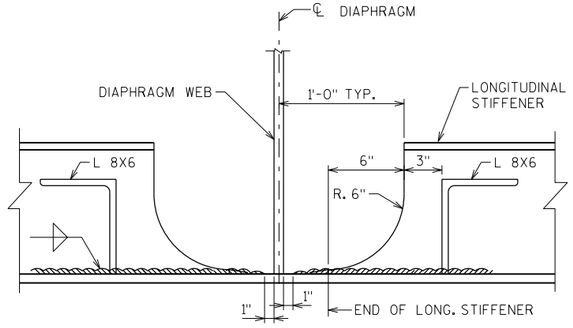
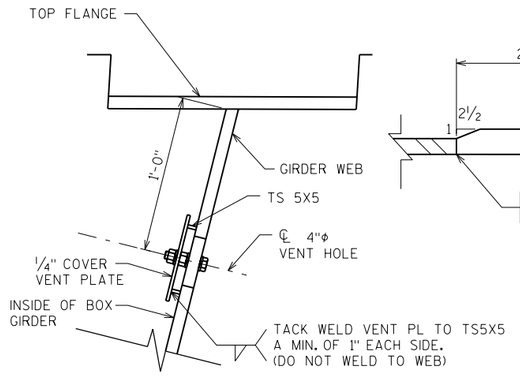



## STIFFENER TERMINATION AT INTERIOR DIAPHRAGM

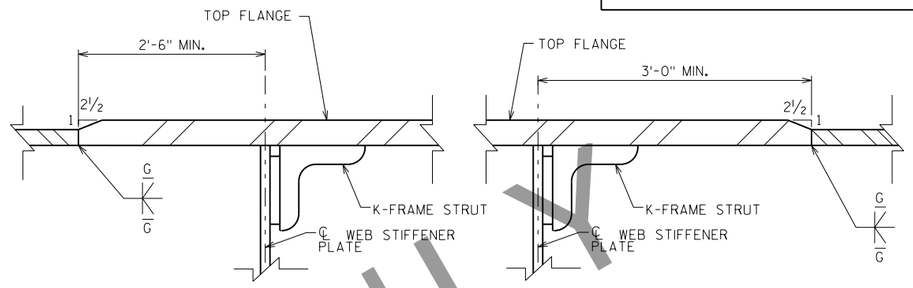



## SECTION A-A

FOR MORE INFORMATION AND DETAILS SEE MISCELLANEOUS GIRDER DETAILS SHEET 2

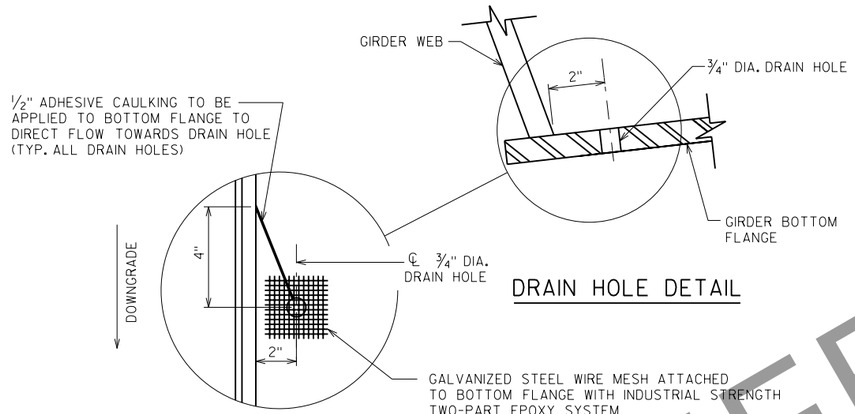



## VENT HOLE LOCATION



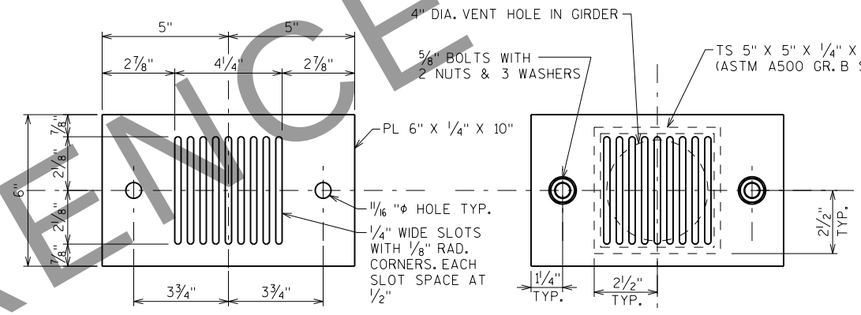

## FLANGE THICKNESS TRANSITION DETAIL

NOT TO SCALE




## DRAIN HOLE DETAIL

## PLAN OF DRAIN HOLES




COVER VENT PLATE — INSIDE FACE

## VENT HOLE COVER ASSEMBLY

NOT TO SCALE

## NOTES:

SEE GIRDER PLAN AND ELEVATION SHEETS FOR DRAIN AND VENT HOLE LOCATIONS.

LOCATE ALL VENT HOLES ON THE INTERIOR WEBS - I.E. THE RIGHT WEB OF THE LEFT GIRDER AND THE LEFT WEB OF THE RIGHT GIRDER.

VENT HOLE COVER ASSEMBLIES SHALL BE HOT- DIP GALVANIZED AFTER FABRICATION AND INSTALLED AFTER GIRDERS ARE PAINTED.

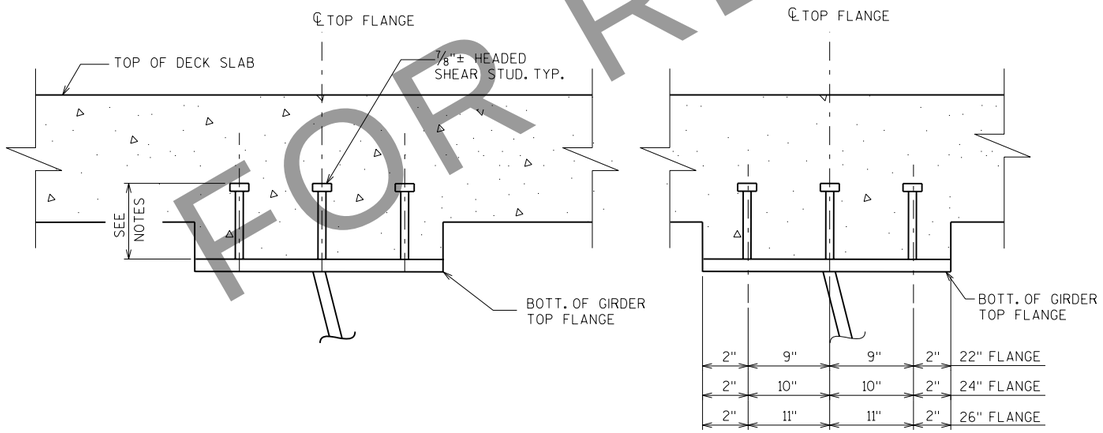
LOCATE ALL DRAIN HOLES ON THE LOW SIDE OF THE GIRDER AS SHOWN.

COST OF ADHESIVE CAULKING, WIRE MESH AND ATTACHMENT IS INCLUDED IN THE COST OF "FABRICATED STRUCTURAL STEEL HPS 50W B-5-679".

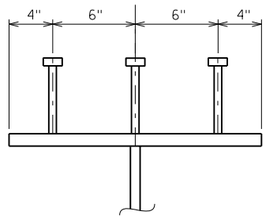
SHEAR STUD CONNECTORS ARE SHOWN FOR REFERENCE ONLY AND ARE NOT FURNISHED OR INSTALLED AS PART OF THIS CONTRACT.

SHEAR CONNECTORS PROVIDED IN FUTURE CONTRACT WILL PENETRATE INTO DECK 2" ABOVE BOTTOM MAT OF REINFORCING STEEL.

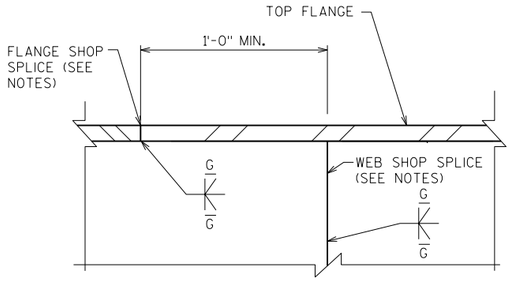
FOR WEB PLATES WITH LENGTHS MORE THAN 90'-0", ONE OPTIONAL WELDED SHOP SPLICE IS ALLOWED PER FIELD SECTION. FOR ALL FLANGE PLATES, A MAXIMUM OF TWO OPTIONAL WELDED SHOP SPLICES IS ALLOWED PER FIELD SECTION. NO ADDITIONAL PAYMENT WILL BE MADE FOR OPTIONAL WELDED SHOP SPLICES OR FOR SHOP SPLICES AS REQUIRED DUE TO MAXIMUM PLATE LENGTH AVAILABILITY FROM THE MILL.




## SHEAR STUD DETAIL




## SHEAR STUD DETAIL AT DIAPHRAGM




## OPTIONAL SHOP SPLICE DETAIL

NOT TO SCALE
(SEE FLANGE THICKNESS TRANSITION DETAIL FOR MINIMUM SPACING OF SHOP SPLICES TO STIFFENERS AND K-FRAMES)

STEEL FABRICATION CONTRACT ONLY

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

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MISCELLANEOUS GIRDER DETAILS SHEET 1

SHEET 35 OF 51

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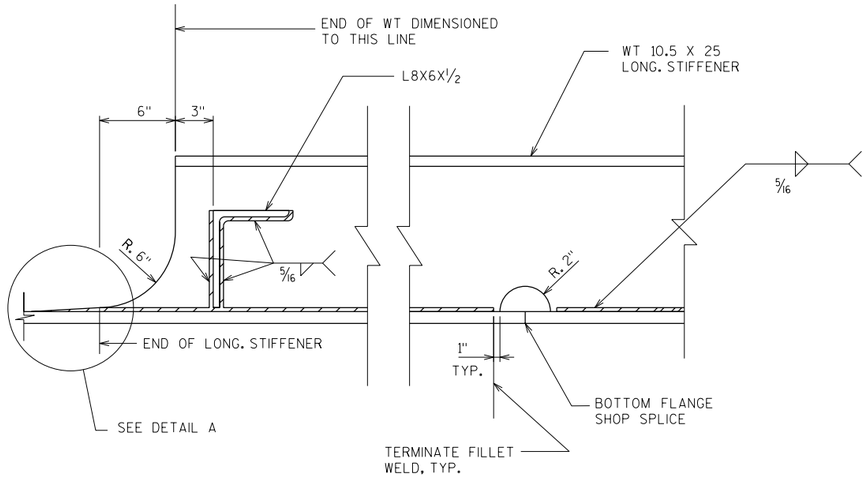
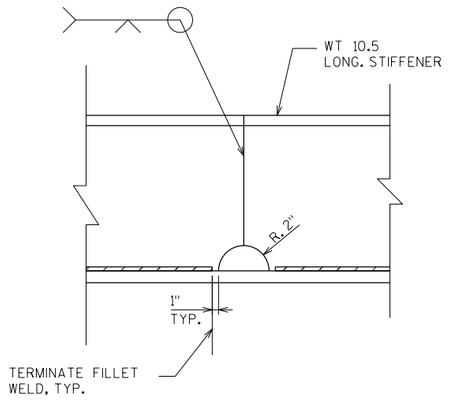
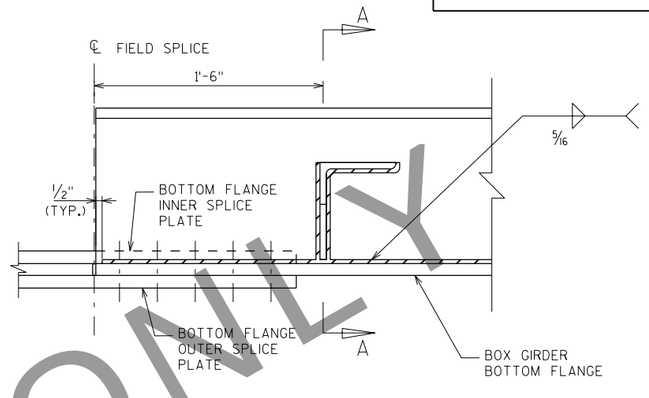


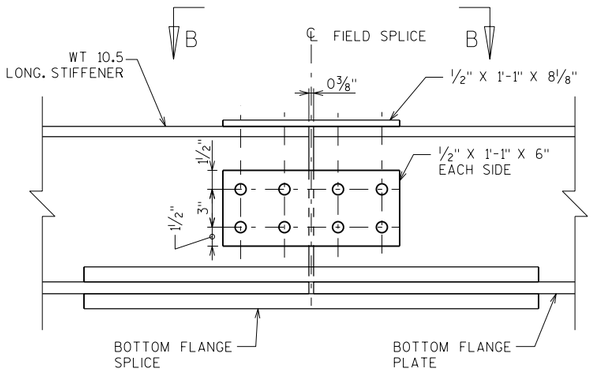

## BOTTOM FLANGE LONGITUDINAL STIFFENER TYPICAL TERMINATION DETAIL



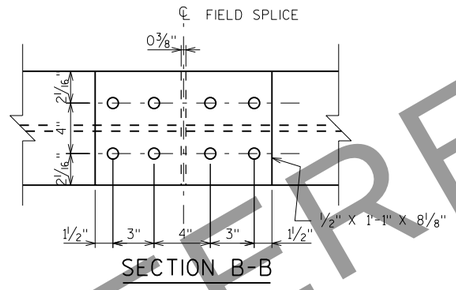

## BOTTOM FLANGE LONGITUDINAL STIFFENER SPLICE



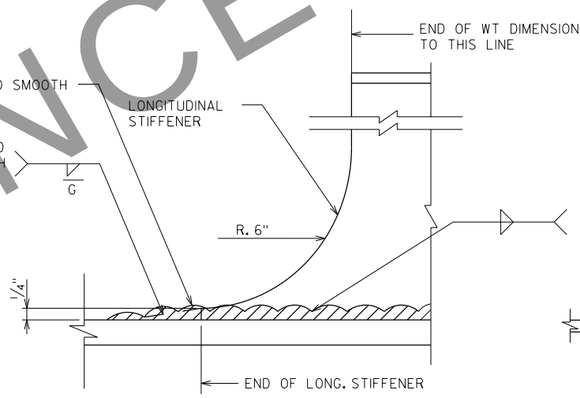

## BOTTOM FLANGE LONGITUDINAL STIFFENER TERMINATION DETAIL AT GIRDER FIELD SPLICE



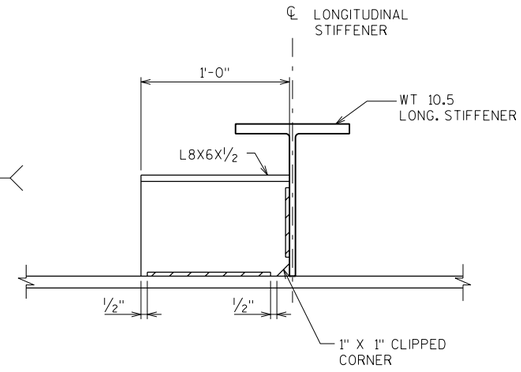

## BOTTOM FLANGE LONGITUDINAL STIFFENER FIELD SPLICE DETAIL



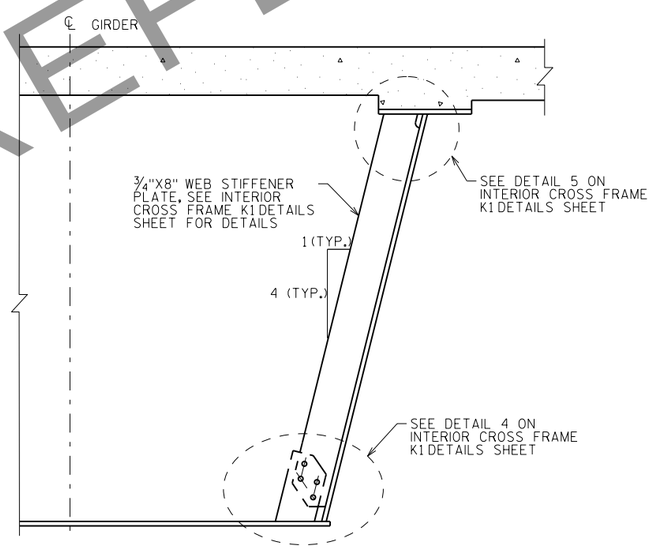

## SECTION B-B




## DETAIL A




## SECTION A-A




## TYPICAL SECTION AT INTERMEDIATE WEB STIFFENER

(HALF-SECTION SHOWN)

## BOTTOM FLANGE LONGITUDINAL STIFFENER TERMINATION DETAIL

NOTES:

FOR NOTES SEE MISCELLANEOUS GIRDER DETAILS SHEET.

STEEL FABRICATION CONTRACT ONLY

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
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STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

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MISCELLANEOUS GIRDER DETAILS SHEET 2 1016

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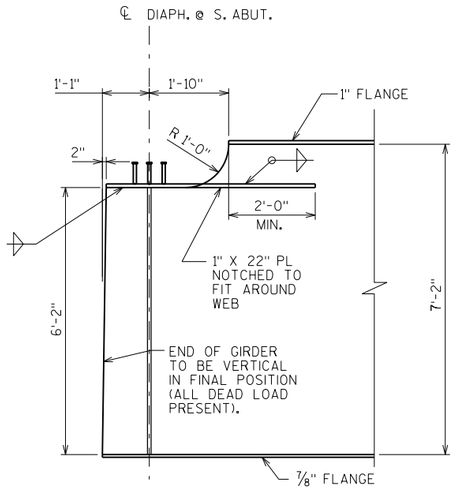
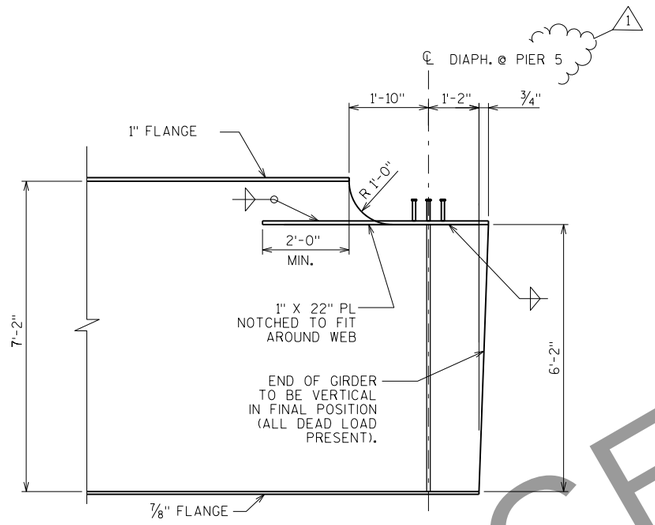
1133-11-77

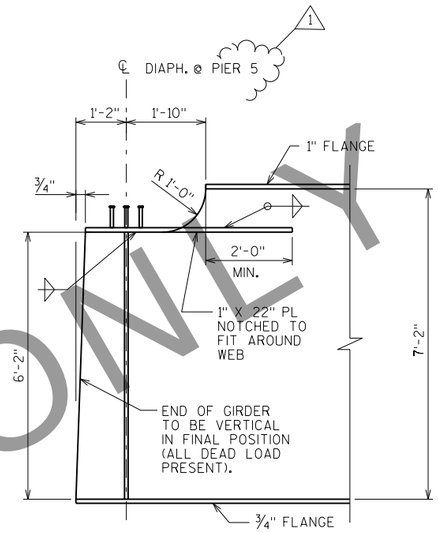



UNIT 1 SPAN 1

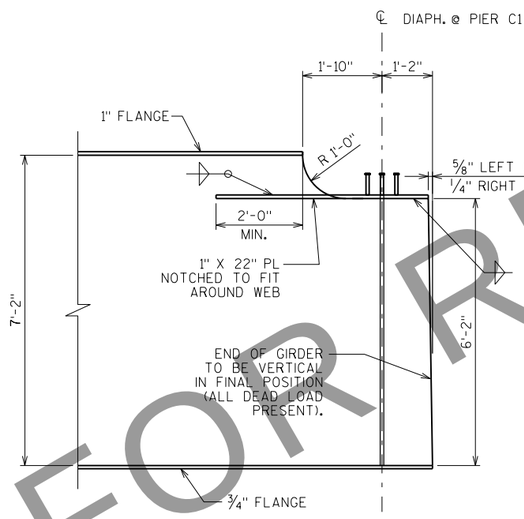
(GIRDER IS PARALLEL TO VERTICAL CURVE)




UNIT 1 SPAN 5




UNIT 2 SPAN 6




UNIT 2 SPAN 10

FOR REFERENCE ONLY

NOTE:

GIRDER FLANGES ARE NOT HORIZONTAL, BUT PARALLEL TO VERTICAL CURVE. DIAPHRAGMS ARE PERPENDICULAR TO GIRDERS FLANGES. ONLY ENDS OF GIRDER WEBS ARE VERTICAL.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| 1 | | REVISED CALL OUTS FOR PIER 5 | PMV |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY KJZ | PLANS CK'D. NPP

MISCELLANEOUS GIRDER DETAILS SHEET 3

SHEET 37 OF 51

1017

STEEL FABRICATION CONTRACT ONLY

8

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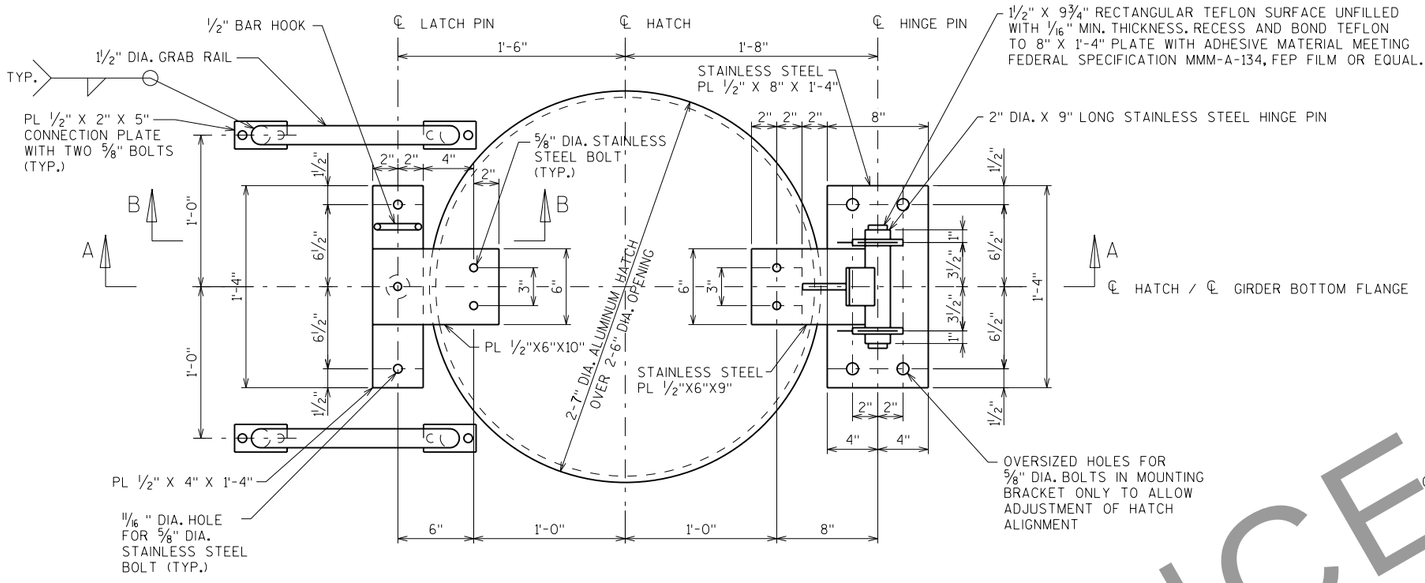
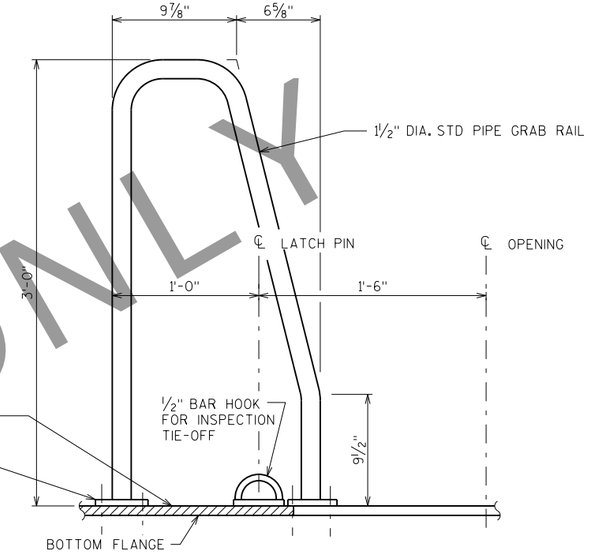
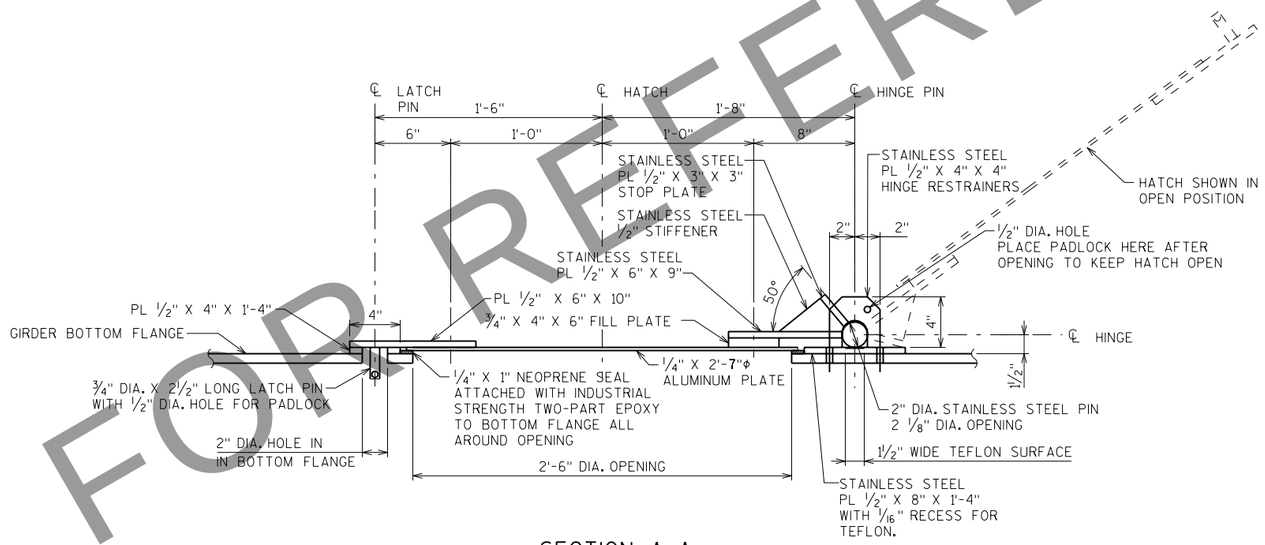
|---|
| 1133-11-77 |




PLAN




SECTION B-B




SECTION A-A

## NOTES:

ALL BOLTS SHOWN ARE ⅝" DIAMETER STAINLESS STEEL.

FOUR ACCESS HATCHES REQUIRED. SEE GIRDER PLAN AND ELEVATION SHEETS FOR HATCH LOCATIONS IN SPANS 4 AND 10.

STEEL FOR HATCH IS A709 GRADE 50 UNLESS OTHERWISE NOTED.

ALL MATERIALS SHOWN WILL BE PAID FOR AT THE UNIT PRICE BID FOR "FABRICATED STRUCTURAL STEEL HS B-5-679".

FOR REFERENCE ONLY

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

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ACCESS HATCH DETAILS

SHEET 38 OF 51

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STEEL FABRICATION CONTRACT ONLY

8

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FILE= O:\WisDot_12345678_US41Bridges_Plans\B-05-679E\B-05-679E\Access Hatch Details.dgn

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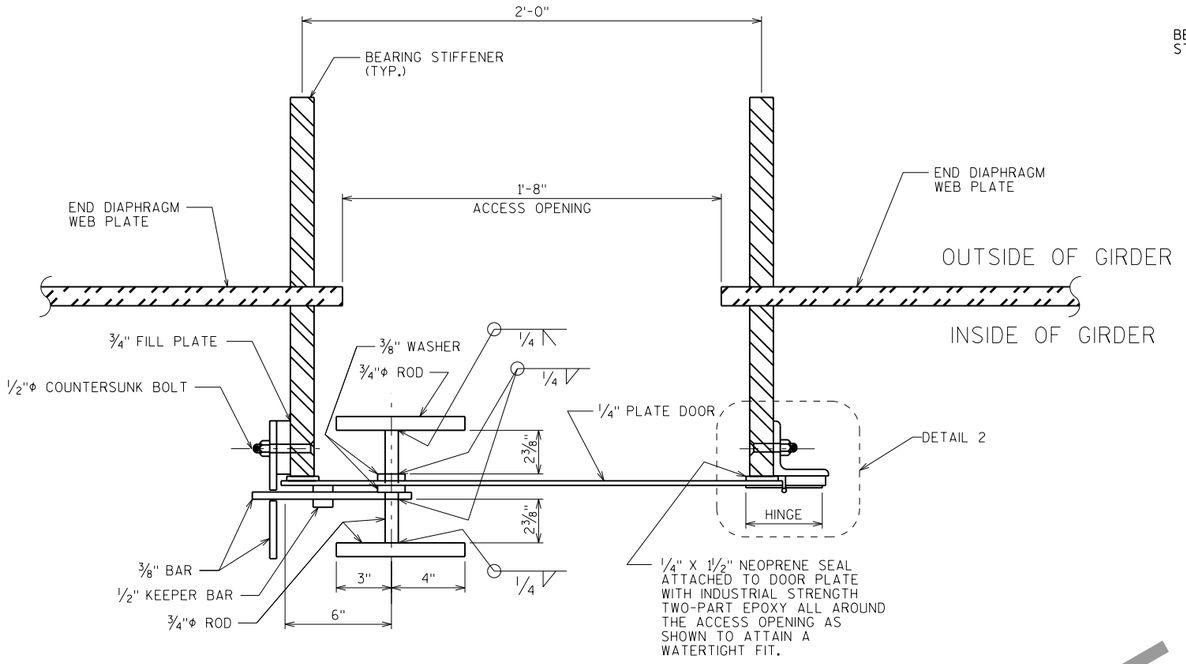
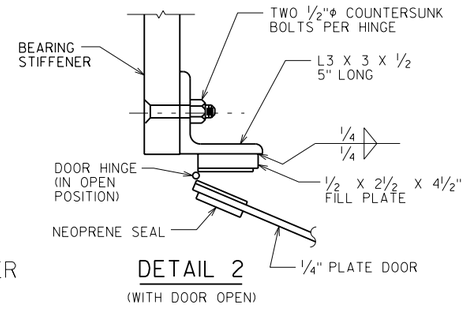
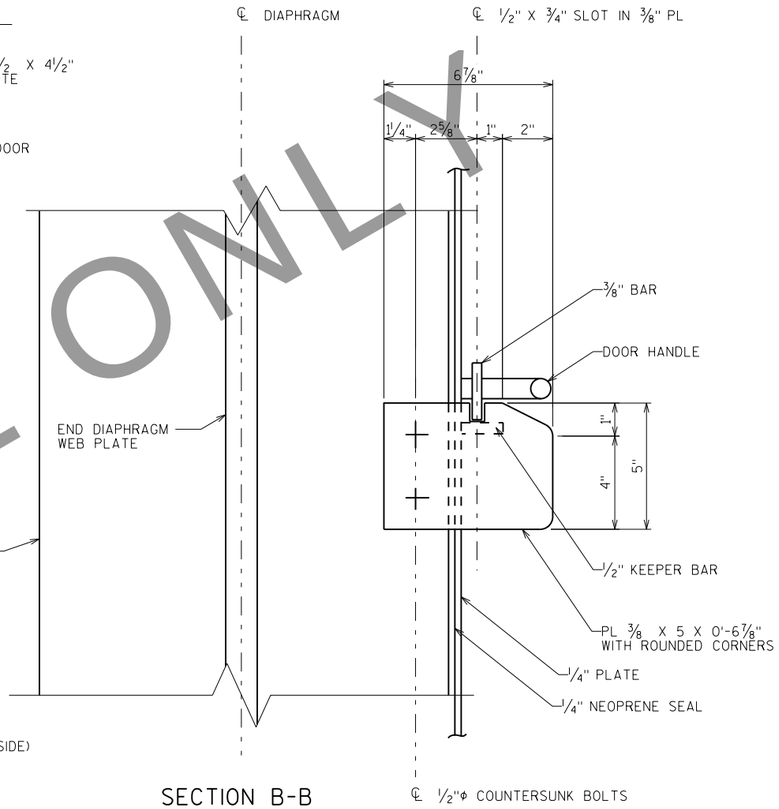



SECTION A-A

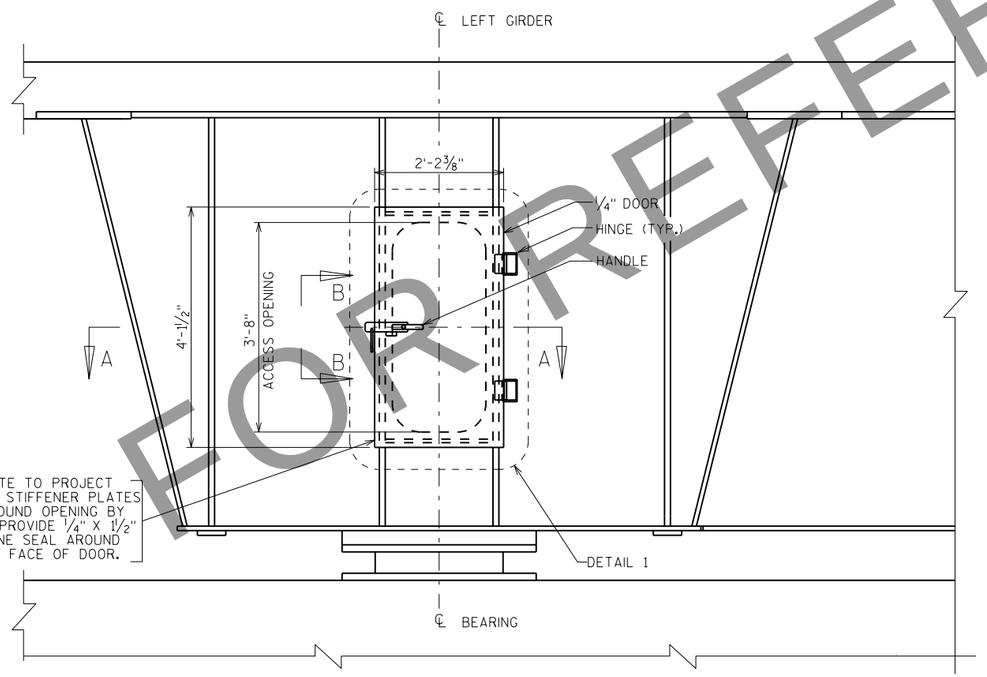



DETAIL 2

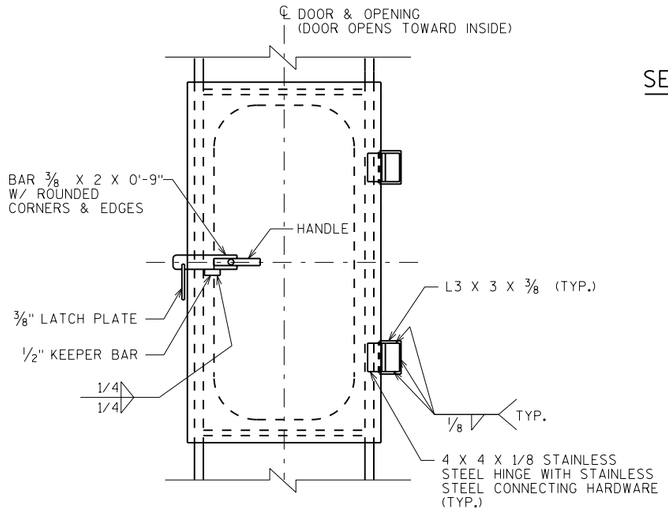
(WITH DOOR OPEN)




SECTION B-B




ELEVATION




DETAIL 1

## NOTES:

8 DOORS TOTAL REQUIRED:
4 AT PIER 3
4 AT PIER 8

DOORS OPEN TOWARDS THE INSIDE OF THE BOX GIRDERS.

THE COST OF ACCESS DOOR AND ITS ATTACHMENT IS INCLUDED IN THE COST OF "FABRICATED STRUCTURAL STEEL HS B-5-679".

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY ZMG | PLANS CK'D. NPP

ACCESS DOOR DETAILS

SHEET 39 OF 51

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STEEL FABRICATION CONTRACT ONLY

8

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FOR REFERENCE ONLY

FILE= O:\WisDot_12345678_US41Bridges_Plans\B-05-679E\039-B-05-679E_Access Door Details.dgn

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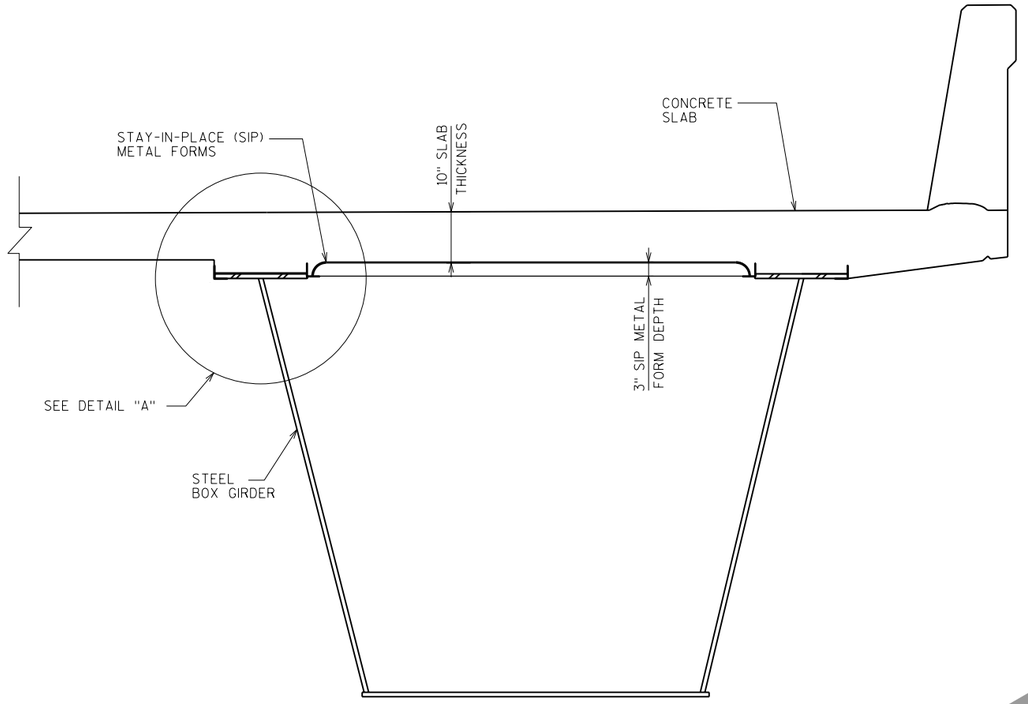
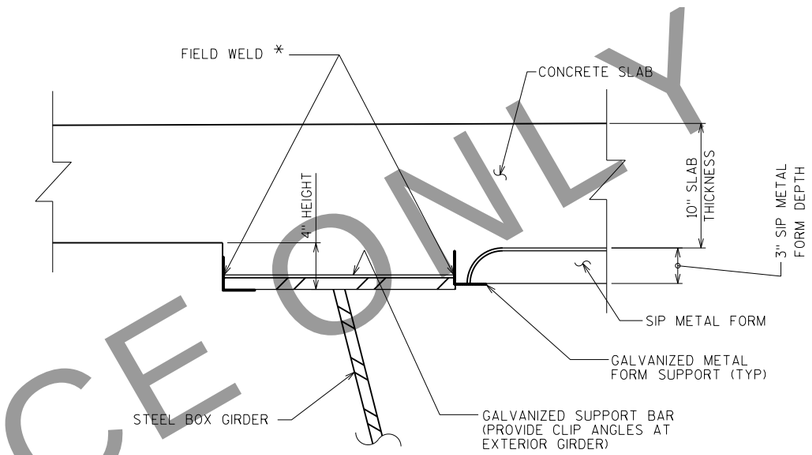


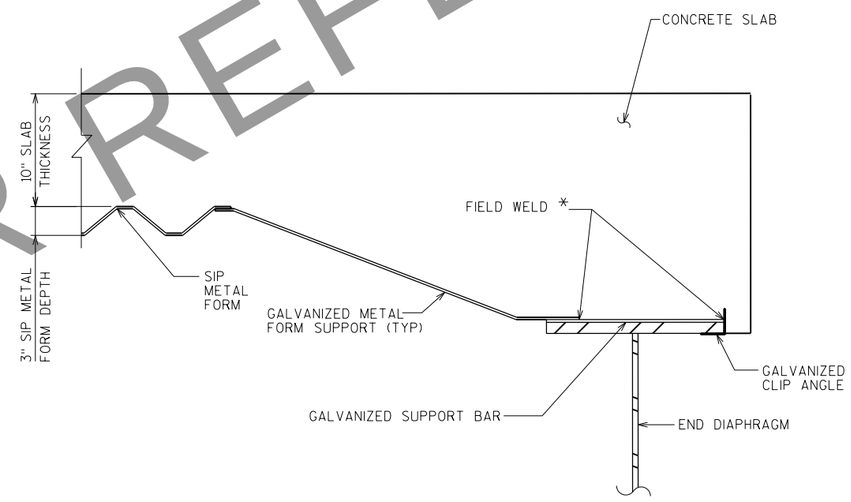

PARTIAL SECTION THROUGH SUPERSTRUCTURE

(SHOWING TYPICAL DETAILS AND NOTES FOR SIP METAL FORMS)




DETAIL "A"

* DO NOT WELD TO NOR PERMIT WELD SPATTER ON SUPPORTING STEEL GIRDER, DIAPHRAGMS, BRACING ETC. ELECTRICAL GROUNDING TO STRUCTURAL STEEL IS PROHIBITED. SEE SPECIFICATIONS FOR FIELD WELDING OF SIP FORMS IN PLACE AND PAINTING OF THE TOP FLANGE.




PARTIAL SECTION THROUGH END OF SPAN

(INTERIOR OF BOXES ONLY)

NOTES:

STAY-IN-PLACE (SIP) FORM DETAILS ARE SHOWN FOR REFERENCE ONLY. SIP FORMS, GALVANIZED SUPPORT BARS, FORM SUPPORTS, AND CLIP ANGLES ARE NOT FURNISHED AS PART OF THIS CONTRACT.

FOR REFERENCE ONLY

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY ZMG | PLANS CK'D. NPP

SUPERSTRUCTURE DETAILS

SHEET 40 OF 51

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STEEL FABRICATION CONTRACT ONLY

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| 1133-11-77 |

## TABULATED ELEVATIONS

FTW FINISHED ELEVATION AT TOP OF WEB.

FG FINISHED ELEVATION AT TOP OF DECK SLAB.

TES TOP OF ERECTED STEEL ELEVATION. = ZW + PL - SW

ZW TOP OF ERECTED WEB ELEVATION NEGLECTING ALL DEFLECTIONS = FG + SW + DL1 + DL2 - DK

CW ELEVATION OF CHORD LINES JOINING TOP OF WEB ELEVATION 'ZW' AT FIELD SPLICES AND END SUPPORTS.

BLK BLOCKING HEIGHT CORRESPONDING TO THE ERECTED STEEL CONDITION NEGLECTING ALL DEFLECTIONS.

## TABULATED DEFLECTIONS

SW SELF -WEIGHT OF STEEL GIRDERS, INCLUDING ALL DIAPHRAGMS, STIFFENERS, BRACING, AND PERMANENT METAL FORMS.

DL1 CONCRETE DECK SLAB AND HAUNCHES APPLIED TO BARE STEEL SECTION.

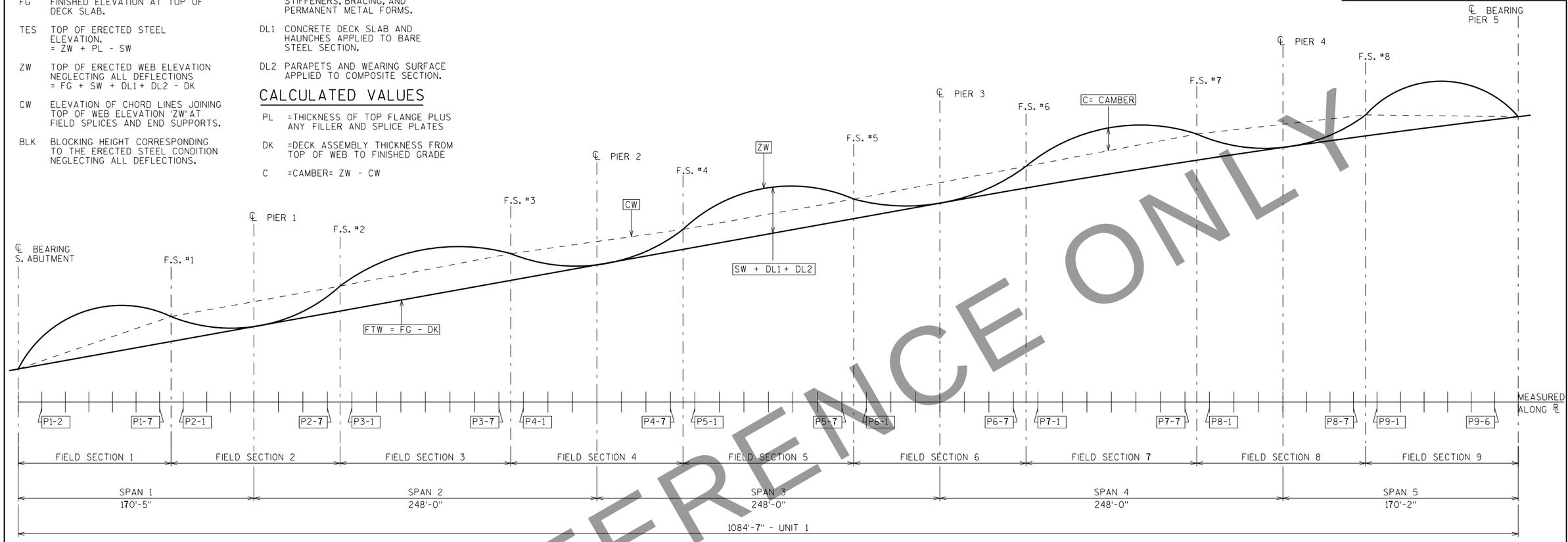
DL2 PARAPETS AND WEARING SURFACE APPLIED TO COMPOSITE SECTION.

## CALCULATED VALUES

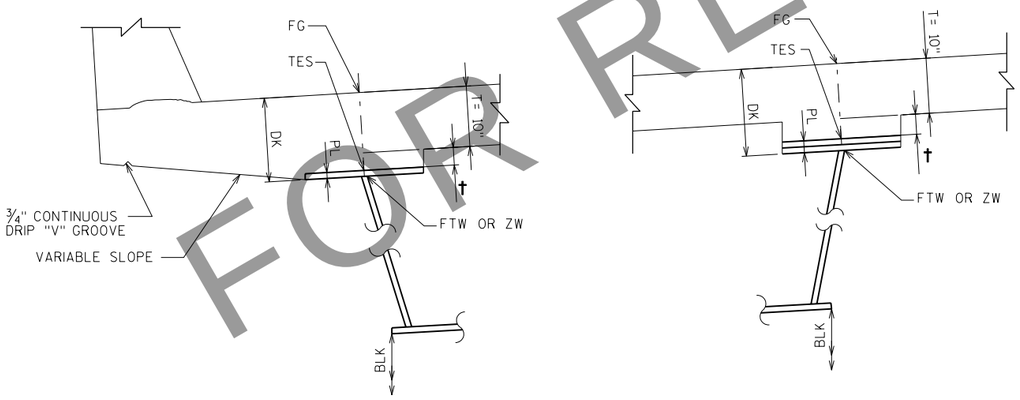
PL =THICKNESS OF TOP FLANGE PLUS ANY FILLER AND SPLICE PLATES

DK =DECK ASSEMBLY THICKNESS FROM TOP OF WEB TO FINISHED GRADE

C =CAMBER= ZW - CW




## CAMBER & BLOCKING DIAGRAM




## NOTES:

POSITIVE DEFLECTIONS ARE DOWNWARD.

POSITIVE CAMBER IS UPWARD RELATIVE TO A CHORD LINE JOINING THE FIELD SECTION ENDPOINTS.

TES ELEVATIONS ARE TO TOP OF STEEL (SPLICE AND COVER PLATE THICKNESS, IF APPLICABLE, ARE ACCOUNTED FOR) AND THEY ARE FOR THE MATERIAL AS ERECTED. THE ELEVATION OF THE TOP STEEL AT THE FIELD SPLICE POINTS SHALL BE CHECKED, AND CORRECTED, IF POSSIBLE, AFTER ERECTION AND BEFORE PERMANENTLY BOLTING THE DIAPHRAGMS IN PLACE.

BECAUSE VERTICAL PROFILE AND DEFLECTIONS ARE EXAGGERATED TO DIFFERENT DEGREES, THE CAMBERS SHOWN ON THIS DIAGRAM ARE SCHEMATIC ONLY.

SPECIFICALLY COMPARING RELATIVE CAMBER MAGNITUDES BETWEEN FIELD SECTIONS MAY BE MISLEADING.

CAMBERS ACCOUNT FOR PERMANENT FORMWORK WEIGHT OF 10.0 PSF INSIDE EACH GIRDER PLUS 13.5 PSF FOR ADDITIONAL CONCRETE IN RIBS OF PERMANENT FORMWORK. THE CONTRACTOR MAY NEED TO REVISE THE CAMBERS IF THE PERMANENT FORMWORK IS USED DIFFERS FROM THAT SHOWN ON THE PLANS.

ALL TABULATED VALUES ARE IN DECIMALS OF A FOOT.

TOP OF ERECTED STEEL ELEVATIONS AT SUPPORTS AND FIELD SPLICES SHALL BE AFTER ERECTION IS COMPLETE AND BEFORE BOLTED CONNECTIONS ARE FINALLY TORQUED.

IF SURVEYED ELEVATIONS DIFFER FROM THOSE EXPECTED BY MORE THAN 0.02 FT (1/4") AT SUPPORTS OR 0.083 FT (1") AT FIELD SPLICES, CORRECTIVE MEASURES SHALL BE TAKEN BEFORE FURTHER CONSTRUCTION OPERATIONS MAY PROCEED.

CAMBER DIAGRAMS HAVE BEEN DEVELOPED ASSUMING A CONSTANT 4" DIMENSION. MEASURED FROM THE UNDERSIDE OF THE TOP FLANGE (TOP OF WEB) TO THE UNDERSIDE OF THE DECK (TOP OF STAY-IN-PLACE METAL FORMS).

## HAUNCH NOTE:

† = HAUNCH HEIGHT AT CENTERLINE OF WEB.

TO DETERMINE "†" AFTER ALL STRUCTURAL STEEL HAS BEEN ERECTED, ELEVATIONS OF THE TOP FLANGES, TOP OF SPLICE PLATES, OR TOP OF COVER PLATES, WHICHEVER APPLIES, SHALL BE TAKEN.

TOP OF DECK ELEV. AT FINAL GRADE

\- TOP OF STEEL ELEV. AFTER PLACEMENT

\+ CONC. ONLY DEFLECTIONS (DOWNWARD DEFLECTION IS POSITIVE, UPWARD DEFLECTION IS NEGATIVE.)

\- SLAB THICKNESS (10")

= "†" VALUE FOR SETTING HAUNCH

## LEGEND:

P1-2 INTERMEDIATE ELEVATION POINT AT PANEL POINTS.

IN THIS EXAMPLE, '1' IS THE FIELD SECTION NUMBER AND '2' IS THE PANEL NUMBER WITHIN THIS FIELD SECTION.

STEEL FABRICATION CONTRACT ONLY

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY SOI | PLANS CK'D. NPP

CAMBER DIAGRAM UNIT 1

SHEET 41 OF 51

1021

FOR REFERENCE ONLY

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FILE= Q:\WisDot_12345678_US41Bridges_Plans\B-05-679E\05-679EV041-B-05-679E_CAMBER DIAGRAM UNIT 1.dgn

DATE: 4/3/2013

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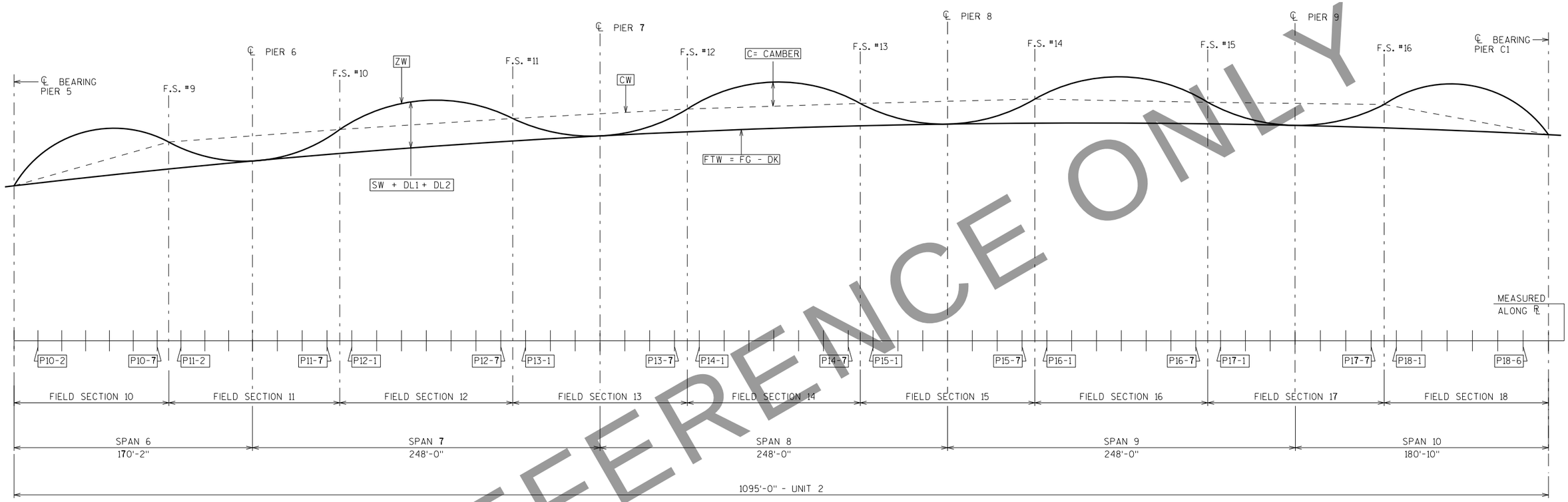


CAMBER & BLOCKING DIAGRAM

FOR REFERENCE ONLY

8

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## LEGEND:

FOR LEGEND SEE CAMBER DIAGRAM UNIT 1 SHEET.

## NOTES:

FOR NOTES SEE CAMBER DIAGRAM UNIT 1 SHEET

## HAUNCH NOTES:

FOR HAUNCH NOTES SEE CAMBER DIAGRAM UNIT 1 SHEET.

STEEL FABRICATION CONTRACT ONLY

| NO. | DATE | REVISION | BY |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
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STRUCTURE B-5-679

DRAWN BY SOI | PLANS CK'D. NPP

CAMBER DIAGRAM UNIT 2

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FILE= Q:\WisDot_12345678_US41Bridges_Plans\B-05-679E_CAMBER DIAGRAM UNIT 2.dgn

DATE: 4/3/2013

I.D.

STATE PROJECT NUMBER

1133-11-77

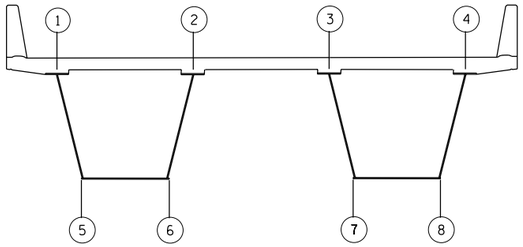
## FIELD SECTION 1

| HORIZ. LOC. | VALUE | POSITION AND STATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | S. ABUT. 1187+31.83 | P1-2 1187+48.88 | P1-3 1187+65.92 | P1-4 1187+82.96 | P1-5 1188+00.00 | P1-6 1188+17.04 | P1-7 1188+34.08 | FS #1 1188+42.60 |
| CAMBER DATA | | | | | | | | | |
| 1 | FG | 609.23 | 609.69 | 610.16 | 610.62 | 611.09 | 611.55 | 612.01 | 612.24 |
| LEFT GIRDER | TES | 608.15 | 608.67 | 609.18 | 609.67 | 610.14 | 610.58 | 611.01 | 611.31 |
| | ZW | 608.06 | 608.61 | 609.13 | 609.63 | 610.10 | 610.54 | 610.96 | 611.17 |
| | CW | 608.06 | 608.54 | 609.02 | 609.50 | 609.97 | 610.45 | 610.93 | 611.17 |
| LEFT WEB | SW | 0.00 | 0.02 | 0.04 | 0.05 | 0.05 | 0.04 | 0.03 | 0.02 |
| | DL1 | 0.00 | 0.05 | 0.10 | 0.12 | 0.12 | 0.11 | 0.08 | 0.06 |
| | DL2 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| | C | 0.00 | 0.06 | 0.12 | 0.14 | 0.13 | 0.09 | 0.03 | 0.00 |
| 2 | FG | 608.48 | 608.94 | 609.41 | 609.87 | 610.34 | 610.80 | 611.26 | 611.49 |
| LEFT GIRDER | TES | 607.40 | 607.92 | 608.43 | 608.92 | 609.38 | 609.83 | 610.26 | 610.56 |
| | ZW | 607.31 | 607.85 | 608.38 | 608.88 | 609.35 | 609.79 | 610.21 | 610.41 |
| | CW | 607.31 | 607.79 | 608.27 | 608.74 | 609.22 | 609.70 | 610.18 | 610.41 |
| RIGHT WEB | SW | 0.00 | 0.02 | 0.04 | 0.04 | 0.05 | 0.04 | 0.03 | 0.02 |
| | DL1 | 0.00 | 0.05 | 0.09 | 0.12 | 0.12 | 0.11 | 0.07 | 0.06 |
| | DL2 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| | C | 0.00 | 0.06 | 0.11 | 0.13 | 0.13 | 0.09 | 0.03 | 0.00 |
| 3 | FG | 607.73 | 608.19 | 608.66 | 609.12 | 609.59 | 610.05 | 610.51 | 610.74 |
| RIGHT GIRDER | TES | 606.65 | 607.17 | 607.68 | 608.16 | 608.63 | 609.08 | 609.51 | 609.81 |
| | ZW | 606.56 | 607.10 | 607.63 | 608.12 | 608.59 | 609.04 | 609.46 | 609.66 |
| | CW | 606.56 | 607.04 | 607.52 | 607.99 | 608.47 | 608.95 | 609.42 | 609.66 |
| LEFT WEB | SW | 0.00 | 0.02 | 0.03 | 0.04 | 0.05 | 0.04 | 0.03 | 0.02 |
| | DL1 | 0.00 | 0.05 | 0.09 | 0.11 | 0.12 | 0.10 | 0.07 | 0.06 |
| | DL2 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| | C | 0.00 | 0.06 | 0.11 | 0.13 | 0.12 | 0.09 | 0.03 | 0.00 |
| 4 | FG | 606.98 | 607.44 | 607.91 | 608.37 | 608.84 | 609.30 | 609.76 | 609.99 |
| RIGHT GIRDER | TES | 605.90 | 606.41 | 606.92 | 607.41 | 607.88 | 608.33 | 608.76 | 609.05 |
| | ZW | 605.81 | 606.35 | 606.87 | 607.37 | 607.84 | 608.28 | 608.70 | 608.91 |
| | CW | 605.81 | 606.29 | 606.77 | 607.24 | 607.72 | 608.20 | 608.67 | 608.91 |
| RIGHT WEB | SW | 0.00 | 0.02 | 0.03 | 0.04 | 0.04 | 0.04 | 0.03 | 0.02 |
| | DL1 | 0.00 | 0.05 | 0.09 | 0.11 | 0.11 | 0.10 | 0.07 | 0.05 |
| | DL2 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| | C | 0.00 | 0.06 | 0.11 | 0.13 | 0.12 | 0.09 | 0.03 | 0.00 |
| BLOCKING HEIGHTS | | | | | | | | | |
| 5 | BLK | 2.04 | | | | | | | 5.14 |
| 6 | | 1.50 | | | | | | | 4.60 |
| 7 | | 0.54 | | | | | | | 3.63 |
| 8 | | 0.00 | | | | | | | 3.10 |

## FIELD SECTION 2

| HORIZ. LOC. | VALUE | POSITION AND STATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | FS #1 1188+42.60 | P2-1 1188+51.13 | P2-2 1188+68.17 | P2-3 1188+85.21 | PIER 1 1189+02.25 | P2-5 1189+19.96 | P2-6 1189+37.68 | P2-7 1189+55.39 | FS #2 1189+64.25 |
| CAMBER DATA | | | | | | | | | | |
| 1 | FG | 612.24 | 612.48 | 612.94 | 613.40 | 613.87 | 614.35 | 614.83 | 615.31 | 615.55 |
| LEFT GIRDER | TES | 611.31 | 611.48 | 611.90 | 612.44 | 612.91 | 613.44 | 613.91 | 614.49 | 614.82 |
| | ZW | 611.17 | 611.37 | 611.78 | 612.23 | 612.70 | 613.24 | 613.83 | 614.44 | 614.74 |
| | CW | 611.17 | 611.42 | 611.92 | 612.42 | 612.92 | 613.44 | 613.96 | 614.48 | 614.74 |
| LEFT WEB | SW | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | 0.01 | 0.04 | 0.07 | 0.09 |
| | DL1 | 0.06 | 0.04 | 0.01 | -0.01 | 0.00 | 0.04 | 0.11 | 0.20 | 0.24 |
| | DL2 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 | 0.03 |
| | C | 0.00 | -0.05 | -0.13 | -0.19 | -0.22 | -0.20 | -0.13 | -0.04 | 0.00 |
| 2 | FG | 611.49 | 611.73 | 612.19 | 612.65 | 613.12 | 613.60 | 614.08 | 614.56 | 614.80 |
| LEFT GIRDER | TES | 610.56 | 610.73 | 611.15 | 611.69 | 612.16 | 612.69 | 613.16 | 613.74 | 614.06 |
| | ZW | 610.41 | 610.62 | 611.03 | 611.48 | 611.95 | 612.49 | 613.08 | 613.68 | 613.98 |
| | CW | 610.41 | 610.66 | 611.16 | 611.66 | 612.16 | 612.68 | 613.20 | 613.72 | 613.98 |
| RIGHT WEB | SW | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | 0.01 | 0.04 | 0.07 | 0.08 |
| | DL1 | 0.06 | 0.04 | 0.01 | -0.01 | 0.00 | 0.04 | 0.11 | 0.19 | 0.24 |
| | DL2 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 | 0.03 |
| | C | 0.00 | -0.04 | -0.13 | -0.19 | -0.21 | -0.19 | -0.13 | -0.04 | 0.00 |
| 3 | FG | 610.74 | 610.98 | 611.44 | 611.90 | 612.37 | 612.85 | 613.33 | 613.81 | 614.05 |
| RIGHT GIRDER | TES | 609.81 | 609.98 | 610.40 | 610.94 | 611.41 | 611.93 | 612.41 | 612.98 | 613.31 |
| | ZW | 609.66 | 609.87 | 610.28 | 610.73 | 611.20 | 611.74 | 612.32 | 612.92 | 613.23 |
| | CW | 609.66 | 609.91 | 610.41 | 610.91 | 611.41 | 611.93 | 612.45 | 612.97 | 613.23 |
| LEFT WEB | SW | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | 0.01 | 0.04 | 0.07 | 0.08 |
| | DL1 | 0.06 | 0.04 | 0.01 | -0.01 | 0.00 | 0.04 | 0.11 | 0.19 | 0.23 |
| | DL2 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.03 |
| | C | 0.00 | -0.04 | -0.13 | -0.18 | -0.21 | -0.19 | -0.12 | -0.04 | 0.00 |
| 4 | FG | 609.99 | 610.23 | 610.69 | 611.15 | 611.62 | 612.10 | 612.58 | 613.06 | 613.30 |
| RIGHT GIRDER | TES | 609.05 | 609.23 | 609.65 | 610.19 | 610.66 | 611.18 | 611.66 | 612.23 | 612.55 |
| | ZW | 608.91 | 609.12 | 609.53 | 609.98 | 610.45 | 610.99 | 611.57 | 612.17 | 612.47 |
| | CW | 608.91 | 609.16 | 609.66 | 610.16 | 610.65 | 611.17 | 611.69 | 612.21 | 612.47 |
| RIGHT WEB | SW | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | 0.01 | 0.04 | 0.07 | 0.08 |
| | DL1 | 0.05 | 0.04 | 0.01 | -0.01 | 0.00 | 0.04 | 0.11 | 0.19 | 0.23 |
| | DL2 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.03 |
| | C | 0.00 | -0.04 | -0.12 | -0.18 | -0.20 | -0.18 | -0.12 | -0.04 | 0.00 |
| BLOCKING HEIGHTS | | | | | | | | | | |
| 5 | BLK | 5.14 | | | | 6.67 | | | | 8.71 |
| 6 | | 4.60 | | | | 6.14 | | | | 8.17 |
| 7 | | 3.63 | | | | 5.17 | | | | 7.20 |
| 8 | | 3.10 | | | | 4.64 | | | | 6.65 |

FOR REFERENCE ONLY




HORIZONTAL LOCATION KEY

LOOKING UPSTATION

LEGEND:

FOR LEGEND SEE CAMBER DIAGRAM UNIT 1

NOTES:

FOR NOTES SEE CAMBER DIAGRAM UNIT 1

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY STB | PLANS CK'D. NPP

CAMBER DATA: FIELD SECTIONS 1 AND 2

SHEET 43 OF 51

1023

STEEL FABRICATION CONTRACT ONLY

DATE: 4/3/2013

I.D.

FILE= Q:\WisDot_12345678_US41Bridges_Plans\B-05-679E\043 B-05-679E-CAMBER DATA FS 1 AND 2.dgn

8

8

STATE PROJECT NUMBER

1133-11-77

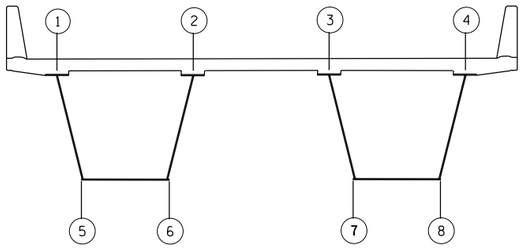
## FIELD SECTION 3

| HORIZ. LOC. | VALUE | POSITION AND STATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | FS #2 1189+64.25 | P3-1 1189+73.11 | P3-2 1189+90.82 | P3-3 1190+08.54 | P3-4 1190+26.25 | P3-5 1190+43.96 | P3-6 1190+61.68 | P3-7 1190+79.39 | FS #3 1190+88.25 |
| CAMBER DATA | | | | | | | | | | |
| 1 | FG | 615.55 | 615.79 | 616.26 | 616.72 | 617.18 | 617.64 | 618.09 | 618.53 | 618.75 |
| LEFT GIRDER | TES | 614.82 | 615.02 | 615.57 | 616.08 | 616.56 | 616.98 | 617.37 | 617.73 | 617.99 |
| | ZW | 614.74 | 615.04 | 615.61 | 616.14 | 616.62 | 617.04 | 617.41 | 617.75 | 617.90 |
| | CW | 614.74 | 614.97 | 615.42 | 615.87 | 616.32 | 616.77 | 617.23 | 617.68 | 617.90 |
| LEFT WEB | SW | 0.09 | 0.10 | 0.13 | 0.14 | 0.15 | 0.14 | 0.12 | 0.10 | 0.08 |
| | DL1 | 0.24 | 0.28 | 0.35 | 0.39 | 0.41 | 0.38 | 0.33 | 0.26 | 0.22 |
| | DL2 | 0.03 | 0.03 | 0.04 | 0.05 | 0.05 | 0.04 | 0.04 | 0.03 | 0.03 |
| | C | 0.00 | 0.07 | 0.20 | 0.27 | 0.30 | 0.27 | 0.19 | 0.07 | 0.00 |
| 2 | FG | 614.80 | 615.04 | 615.51 | 615.97 | 616.43 | 616.89 | 617.34 | 617.78 | 618.00 |
| LEFT GIRDER | TES | 614.06 | 614.26 | 614.81 | 615.32 | 615.80 | 616.22 | 616.62 | 616.98 | 617.23 |
| | ZW | 613.98 | 614.28 | 614.85 | 615.38 | 615.86 | 616.28 | 616.65 | 616.99 | 617.15 |
| | CW | 613.98 | 614.21 | 614.66 | 615.11 | 615.56 | 616.02 | 616.47 | 616.92 | 617.15 |
| RIGHT WEB | SW | 0.08 | 0.10 | 0.12 | 0.14 | 0.15 | 0.14 | 0.12 | 0.10 | 0.08 |
| | DL1 | 0.24 | 0.28 | 0.34 | 0.39 | 0.40 | 0.38 | 0.33 | 0.26 | 0.21 |
| | DL2 | 0.03 | 0.03 | 0.04 | 0.04 | 0.05 | 0.04 | 0.04 | 0.03 | 0.02 |
| | C | 0.00 | 0.07 | 0.19 | 0.27 | 0.30 | 0.26 | 0.18 | 0.07 | 0.00 |
| 3 | FG | 614.05 | 614.29 | 614.76 | 615.22 | 615.68 | 616.14 | 616.59 | 617.03 | 617.25 |
| RIGHT GIRDER | TES | 613.31 | 613.51 | 614.05 | 614.56 | 615.04 | 615.47 | 615.86 | 616.22 | 616.48 |
| | ZW | 613.23 | 613.52 | 614.09 | 614.62 | 615.10 | 615.52 | 615.89 | 616.23 | 616.39 |
| | CW | 613.23 | 613.45 | 613.90 | 614.36 | 614.81 | 615.26 | 615.71 | 616.17 | 616.39 |
| LEFT WEB | SW | 0.08 | 0.10 | 0.12 | 0.14 | 0.14 | 0.14 | 0.12 | 0.09 | 0.08 |
| | DL1 | 0.23 | 0.27 | 0.34 | 0.38 | 0.39 | 0.37 | 0.32 | 0.25 | 0.21 |
| | DL2 | 0.03 | 0.03 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.03 | 0.02 |
| | C | 0.00 | 0.07 | 0.19 | 0.26 | 0.29 | 0.26 | 0.18 | 0.07 | 0.00 |
| 4 | FG | 613.30 | 613.54 | 614.01 | 614.47 | 614.93 | 615.39 | 615.84 | 616.28 | 616.50 |
| RIGHT GIRDER | TES | 612.55 | 612.75 | 613.30 | 613.81 | 614.28 | 614.71 | 615.10 | 615.47 | 615.73 |
| | ZW | 612.47 | 612.76 | 613.33 | 613.86 | 614.34 | 614.76 | 615.14 | 615.48 | 615.64 |
| | CW | 612.47 | 612.69 | 613.15 | 613.60 | 614.05 | 614.50 | 614.96 | 615.41 | 615.64 |
| RIGHT WEB | SW | 0.08 | 0.10 | 0.12 | 0.14 | 0.14 | 0.13 | 0.12 | 0.09 | 0.08 |
| | DL1 | 0.23 | 0.26 | 0.33 | 0.37 | 0.39 | 0.36 | 0.31 | 0.25 | 0.21 |
| | DL2 | 0.03 | 0.03 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.03 | 0.02 |
| | C | 0.00 | 0.07 | 0.19 | 0.26 | 0.28 | 0.25 | 0.18 | 0.07 | 0.00 |
| BLOCKING HEIGHTS | | | | | | | | | | |
| 5 | BLK | 8.71 | | | | | | | | 11.87 |
| 6 | | 8.17 | | | | | | | | 11.33 |
| 7 | | 7.20 | | | | | | | | 10.36 |
| 8 | | 6.65 | | | | | | | | 9.82 |

## FIELD SECTION 4

| HORIZ. LOC. | VALUE | POSITION AND STATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | FS #3 1190+88.25 | P4-1 1190+97.11 | P4-2 1191+14.82 | P4-3 1191+32.54 | PIER 2 1191+50.25 | P4-5 1191+67.96 | P4-6 1191+85.68 | P4-7 1192+03.39 | FS #4 1192+12.25 |
| CAMBER DATA | | | | | | | | | | |
| 1 | FG | 618.75 | 618.96 | 619.39 | 619.82 | 620.23 | 620.65 | 621.05 | 621.45 | 621.65 |
| LEFT GIRDER | TES | 617.99 | 618.12 | 618.46 | 618.91 | 619.29 | 619.70 | 620.06 | 620.52 | 620.80 |
| | ZW | 617.90 | 618.06 | 618.37 | 618.70 | 619.07 | 619.48 | 619.95 | 620.43 | 620.68 |
| | CW | 617.90 | 618.10 | 618.50 | 618.89 | 619.29 | 619.69 | 620.08 | 620.48 | 620.68 |
| LEFT WEB | SW | 0.08 | 0.07 | 0.04 | 0.01 | 0.00 | 0.00 | 0.01 | 0.04 | 0.05 |
| | DL1 | 0.22 | 0.18 | 0.10 | 0.04 | 0.00 | 0.00 | 0.04 | 0.10 | 0.13 |
| | DL2 | 0.03 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 |
| | C | 0.00 | -0.04 | -0.13 | -0.19 | -0.22 | -0.20 | -0.14 | -0.05 | 0.00 |
| 2 | FG | 618.00 | 618.21 | 618.64 | 619.07 | 619.48 | 619.90 | 620.30 | 620.70 | 620.90 |
| LEFT GIRDER | TES | 617.23 | 617.36 | 617.71 | 618.16 | 618.54 | 618.95 | 619.31 | 619.77 | 620.04 |
| | ZW | 617.15 | 617.30 | 617.62 | 617.95 | 618.32 | 618.73 | 619.19 | 619.68 | 619.92 |
| | CW | 617.15 | 617.35 | 617.74 | 618.14 | 618.54 | 618.93 | 619.33 | 619.73 | 619.92 |
| RIGHT WEB | SW | 0.08 | 0.07 | 0.04 | 0.01 | 0.00 | 0.00 | 0.01 | 0.03 | 0.05 |
| | DL1 | 0.21 | 0.17 | 0.10 | 0.04 | 0.00 | 0.00 | 0.04 | 0.10 | 0.13 |
| | DL2 | 0.02 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 |
| | C | 0.00 | -0.04 | -0.12 | -0.19 | -0.22 | -0.20 | -0.14 | -0.05 | 0.00 |
| 3 | FG | 617.25 | 617.46 | 617.89 | 618.32 | 618.73 | 619.15 | 619.55 | 619.95 | 620.15 |
| RIGHT GIRDER | TES | 616.48 | 616.61 | 616.96 | 617.41 | 617.79 | 618.20 | 618.55 | 619.02 | 619.29 |
| | ZW | 616.39 | 616.55 | 616.87 | 617.20 | 617.57 | 617.98 | 618.44 | 618.93 | 619.17 |
| | CW | 616.39 | 616.59 | 616.99 | 617.38 | 617.78 | 618.18 | 618.58 | 618.97 | 619.17 |
| LEFT WEB | SW | 0.08 | 0.06 | 0.04 | 0.01 | 0.00 | 0.00 | 0.01 | 0.03 | 0.05 |
| | DL1 | 0.21 | 0.17 | 0.10 | 0.04 | 0.00 | 0.00 | 0.04 | 0.09 | 0.13 |
| | DL2 | 0.02 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 |
| | C | 0.00 | -0.04 | -0.12 | -0.18 | -0.21 | -0.19 | -0.13 | -0.05 | 0.00 |
| 4 | FG | 616.50 | 616.71 | 617.14 | 617.57 | 617.98 | 618.40 | 618.80 | 619.20 | 619.40 |
| RIGHT GIRDER | TES | 615.73 | 615.86 | 616.21 | 616.66 | 617.04 | 617.45 | 617.80 | 618.26 | 618.54 |
| | ZW | 615.64 | 615.79 | 616.12 | 616.45 | 616.82 | 617.23 | 617.69 | 618.17 | 618.42 |
| | CW | 615.64 | 615.83 | 616.23 | 616.63 | 617.03 | 617.42 | 617.82 | 618.22 | 618.42 |
| RIGHT WEB | SW | 0.08 | 0.06 | 0.04 | 0.01 | 0.00 | 0.00 | 0.01 | 0.03 | 0.05 |
| | DL1 | 0.21 | 0.17 | 0.09 | 0.04 | 0.00 | 0.00 | 0.04 | 0.09 | 0.12 |
| | DL2 | 0.02 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 |
| | C | 0.00 | -0.04 | -0.12 | -0.18 | -0.21 | -0.19 | -0.13 | -0.05 | 0.00 |
| BLOCKING HEIGHTS | | | | | | | | | | |
| 5 | BLK | 11.87 | | | | 13.04 | | | | 14.65 |
| 6 | | 11.33 | | | | 12.50 | | | | 14.11 |
| 7 | | 10.36 | | | | 11.54 | | | | 13.14 |
| 8 | | 9.82 | | | | 11.00 | | | | 12.60 |

FOR REFERENCE ONLY




HORIZONTAL LOCATION KEY

LOOKING UPSTATION

LEGEND:

FOR LEGEND SEE CAMBER DIAGRAM UNIT 1

NOTES:

FOR NOTES SEE CAMBER DIAGRAM UNIT 1

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY STB | PLANS CK'D. NPP

CAMBER DATA: FIELD SECTIONS 3 AND 4

SHEET 44 OF 51

1024

STEEL FABRICATION CONTRACT ONLY

DATE: 4/3/2013

I.D.

FILE= Q:\WisDot_12345678_US41Bridges\Plans\B-05-679E\044 B-05-679E-CAMBER DATA FS 3 AND 4.dgn

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8

STATE PROJECT NUMBER

1133-11-77

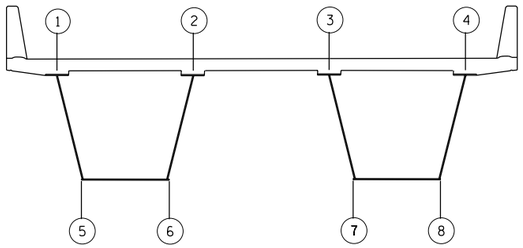
## FIELD SECTION 5

| HORIZ. LOC. | VALUE | POSITION AND STATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | FS #4 | P5-1 | P5-2 | P5-3 | P5-4 | P5-5 | P5-6 | P5-7 | FS #5 |
| | | 1192+12.25 | 1192+21.11 | 1192+38.82 | 1192+56.54 | 1192+74.25 | 1192+91.96 | 1193+09.68 | 1193+27.39 | 1193+36.25 |
| CAMBER DATA | | | | | | | | | | |
| 1 | FG | 621.65 | 621.85 | 622.24 | 622.62 | 622.99 | 623.37 | 623.73 | 624.09 | 624.27 |
| LEFT GIRDER | TES | 620.80 | 620.95 | 621.40 | 621.83 | 622.22 | 622.58 | 622.90 | 623.20 | 623.42 |
| | ZW | 620.68 | 620.92 | 621.40 | 621.84 | 622.24 | 622.59 | 622.91 | 623.18 | 623.31 |
| | CW | 620.68 | 620.87 | 621.24 | 621.62 | 621.99 | 622.37 | 622.75 | 623.12 | 623.31 |
| LEFT WEB | SW | 0.05 | 0.06 | 0.08 | 0.10 | 0.10 | 0.10 | 0.09 | 0.07 | 0.05 |
| | DL1 | 0.13 | 0.16 | 0.22 | 0.26 | 0.28 | 0.26 | 0.23 | 0.17 | 0.14 |
| | DL2 | 0.02 | 0.02 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.02 | 0.02 |
| | C | 0.00 | 0.06 | 0.16 | 0.22 | 0.25 | 0.22 | 0.16 | 0.06 | 0.00 |
| 2 | FG | 620.90 | 621.10 | 621.49 | 621.87 | 622.24 | 622.62 | 622.98 | 623.34 | 623.52 |
| LEFT GIRDER | TES | 620.04 | 620.19 | 620.65 | 621.07 | 621.47 | 621.82 | 622.15 | 622.44 | 622.67 |
| | ZW | 619.92 | 620.17 | 620.64 | 621.08 | 621.49 | 621.84 | 622.15 | 622.43 | 622.56 |
| | CW | 619.92 | 620.11 | 620.49 | 620.86 | 621.24 | 621.62 | 621.99 | 622.37 | 622.56 |
| RIGHT WEB | SW | 0.05 | 0.06 | 0.08 | 0.10 | 0.10 | 0.10 | 0.08 | 0.06 | 0.05 |
| | DL1 | 0.13 | 0.16 | 0.22 | 0.26 | 0.27 | 0.26 | 0.22 | 0.17 | 0.14 |
| | DL2 | 0.02 | 0.02 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.02 | 0.02 |
| | C | 0.00 | 0.06 | 0.16 | 0.22 | 0.25 | 0.22 | 0.16 | 0.06 | 0.00 |
| 3 | FG | 620.15 | 620.35 | 620.74 | 621.12 | 621.49 | 621.87 | 622.23 | 622.59 | 622.77 |
| RIGHT GIRDER | TES | 619.29 | 619.44 | 619.89 | 620.32 | 620.71 | 621.07 | 621.39 | 621.69 | 621.92 |
| | ZW | 619.17 | 619.41 | 619.89 | 620.33 | 620.73 | 621.08 | 621.39 | 621.67 | 621.80 |
| | CW | 619.17 | 619.36 | 619.74 | 620.11 | 620.49 | 620.86 | 621.24 | 621.62 | 621.80 |
| LEFT WEB | SW | 0.05 | 0.06 | 0.08 | 0.09 | 0.10 | 0.09 | 0.08 | 0.06 | 0.05 |
| | DL1 | 0.13 | 0.16 | 0.21 | 0.25 | 0.27 | 0.25 | 0.22 | 0.16 | 0.13 |
| | DL2 | 0.02 | 0.02 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.02 | 0.02 |
| | C | 0.00 | 0.06 | 0.15 | 0.22 | 0.24 | 0.22 | 0.15 | 0.06 | 0.00 |
| 4 | FG | 619.40 | 619.60 | 619.99 | 620.37 | 620.74 | 621.12 | 621.48 | 621.84 | 622.02 |
| RIGHT GIRDER | TES | 618.54 | 618.69 | 619.14 | 619.56 | 619.96 | 620.31 | 620.64 | 620.94 | 621.17 |
| | ZW | 618.42 | 618.66 | 619.13 | 619.57 | 619.97 | 620.32 | 620.64 | 620.92 | 621.05 |
| | CW | 618.42 | 618.61 | 618.98 | 619.36 | 619.73 | 620.11 | 620.49 | 620.86 | 621.05 |
| RIGHT WEB | SW | 0.05 | 0.06 | 0.08 | 0.09 | 0.10 | 0.09 | 0.08 | 0.06 | 0.05 |
| | DL1 | 0.12 | 0.15 | 0.21 | 0.25 | 0.26 | 0.25 | 0.22 | 0.16 | 0.13 |
| | DL2 | 0.02 | 0.02 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.02 | 0.02 |
| | C | 0.00 | 0.05 | 0.15 | 0.21 | 0.24 | 0.21 | 0.15 | 0.06 | 0.00 |
| BLOCKING HEIGHTS | | | | | | | | | | |
| 5 | BLK | 14.65 | | | | | | | | 17.28 |
| 6 | | 14.11 | | | | | | | | 16.74 |
| 7 | | 13.14 | | | | | | | | 15.77 |
| 8 | | 12.60 | | | | | | | | 15.24 |

## FIELD SECTION 6

| HORIZ. LOC. | VALUE | POSITION AND STATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | FS #5 | P6-1 | P6-2 | P6-3 | PIER 3 | P6-5 | P6-6 | P6-7 | FS #6 |
| | | 1193+36.25 | 1193+45.11 | 1193+62.82 | 1193+80.54 | 1193+98.25 | 1194+15.96 | 1194+33.68 | 1194+51.39 | 1194+60.25 |
| CAMBER DATA | | | | | | | | | | |
| 1 | FG | 624.27 | 624.44 | 624.79 | 625.13 | 625.47 | 625.79 | 626.12 | 626.44 | 626.59 |
| LEFT GIRDER | TES | 623.42 | 623.52 | 623.81 | 624.20 | 624.52 | 624.88 | 625.17 | 625.58 | 625.83 |
| | ZW | 623.31 | 623.44 | 623.70 | 623.98 | 624.30 | 624.67 | 625.08 | 625.52 | 625.74 |
| | CW | 623.31 | 623.48 | 623.83 | 624.18 | 624.52 | 624.87 | 625.22 | 625.56 | 625.74 |
| LEFT WEB | SW | 0.05 | 0.04 | 0.02 | 0.01 | 0.00 | 0.01 | 0.03 | 0.06 | 0.08 |
| | DL1 | 0.14 | 0.11 | 0.05 | 0.01 | 0.00 | 0.03 | 0.09 | 0.17 | 0.21 |
| | DL2 | 0.02 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.02 |
| | C | 0.00 | -0.04 | -0.13 | -0.19 | -0.23 | -0.20 | -0.14 | -0.05 | 0.00 |
| 2 | FG | 623.52 | 623.69 | 624.04 | 624.38 | 624.72 | 625.04 | 625.37 | 625.69 | 625.84 |
| LEFT GIRDER | TES | 622.67 | 622.77 | 623.06 | 623.45 | 623.77 | 624.13 | 624.42 | 624.83 | 625.07 |
| | ZW | 622.56 | 622.69 | 622.95 | 623.23 | 623.55 | 623.92 | 624.33 | 624.76 | 624.98 |
| | CW | 622.56 | 622.73 | 623.08 | 623.42 | 623.77 | 624.12 | 624.46 | 624.81 | 624.98 |
| RIGHT WEB | SW | 0.05 | 0.04 | 0.02 | 0.01 | 0.00 | 0.01 | 0.03 | 0.06 | 0.07 |
| | DL1 | 0.14 | 0.11 | 0.05 | 0.01 | 0.00 | 0.03 | 0.09 | 0.16 | 0.21 |
| | DL2 | 0.02 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.02 |
| | C | 0.00 | -0.04 | -0.12 | -0.19 | -0.22 | -0.20 | -0.13 | -0.05 | 0.00 |
| 3 | FG | 622.77 | 622.94 | 623.29 | 623.63 | 623.97 | 624.29 | 624.62 | 624.94 | 625.09 |
| RIGHT GIRDER | TES | 621.92 | 622.02 | 622.30 | 622.70 | 623.02 | 623.38 | 623.67 | 624.07 | 624.32 |
| | ZW | 621.80 | 621.93 | 622.20 | 622.48 | 622.80 | 623.17 | 623.57 | 624.01 | 624.22 |
| | CW | 621.80 | 621.98 | 622.32 | 622.67 | 623.01 | 623.36 | 623.71 | 624.05 | 624.22 |
| LEFT WEB | SW | 0.05 | 0.04 | 0.02 | 0.01 | 0.00 | 0.01 | 0.03 | 0.06 | 0.07 |
| | DL1 | 0.13 | 0.10 | 0.05 | 0.01 | 0.00 | 0.03 | 0.08 | 0.16 | 0.20 |
| | DL2 | 0.02 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.02 |
| | C | 0.00 | -0.04 | -0.12 | -0.18 | -0.22 | -0.19 | -0.13 | -0.05 | 0.00 |
| 4 | FG | 622.02 | 622.19 | 622.54 | 622.88 | 623.22 | 623.54 | 623.87 | 624.19 | 624.34 |
| RIGHT GIRDER | TES | 621.17 | 621.27 | 621.55 | 621.95 | 622.27 | 622.63 | 622.92 | 623.32 | 623.56 |
| | ZW | 621.05 | 621.18 | 621.45 | 621.73 | 622.05 | 622.42 | 622.82 | 623.25 | 623.47 |
| | CW | 621.05 | 621.22 | 621.57 | 621.91 | 622.26 | 622.60 | 622.95 | 623.30 | 623.47 |
| RIGHT WEB | SW | 0.05 | 0.04 | 0.02 | 0.01 | 0.00 | 0.01 | 0.03 | 0.06 | 0.07 |
| | DL1 | 0.13 | 0.10 | 0.05 | 0.01 | 0.00 | 0.03 | 0.08 | 0.16 | 0.20 |
| | DL2 | 0.02 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.02 |
| | C | 0.00 | -0.04 | -0.12 | -0.18 | -0.21 | -0.19 | -0.13 | -0.04 | 0.00 |
| BLOCKING HEIGHTS | | | | | | | | | | |
| 5 | BLK | 17.28 | | | | 18.27 | | | | 19.71 |
| 6 | | 16.74 | | | | 17.73 | | | | 19.17 |
| 7 | | 15.77 | | | | 16.77 | | | | 18.20 |
| 8 | | 15.24 | | | | 16.23 | | | | 17.65 |

FOR REFERENCE ONLY




HORIZONTAL LOCATION KEY

LOOKING UPSTATION

LEGEND:

FOR LEGEND SEE CAMBER DIAGRAM UNIT 1

NOTES:

FOR NOTES SEE CAMBER DIAGRAM UNIT 1

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY STB | PLANS CK'D. NPP

CAMBER DATA:
FIELD SECTIONS
5 AND 6

SHEET 45 OF 51

1025

STEEL FABRICATION CONTRACT ONLY

8

8

FILE= O:\WisDot_12345678_US41Bridges_Plans\B-05-679E\045 B-05-679E-CAMBER DATA FS 5 AND 6.dgn

DATE: 4/3/2013

I.D.

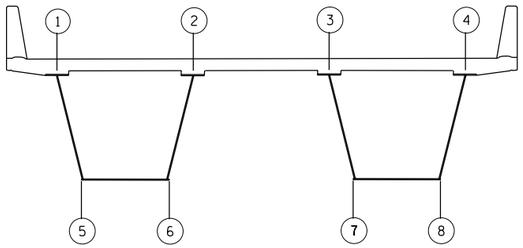
| STATE PROJECT NUMBER |
|---|
| 1133-11-77 |

## FIELD SECTION 7

| HORIZ. LOC. | VALUE | POSITION AND STATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | FS #6<br>1194+60.25 | P7-1<br>1194+69.11 | P7-2<br>1194+86.82 | P7-3<br>1195+04.54 | P7-4<br>1195+22.25 | P7-5<br>1195+39.96 | P7-6<br>1195+57.68 | P7-7<br>1195+75.39 | FS #7<br>1195+84.25 |
| CAMBER DATA | | | | | | | | | | |
| 1 | FG | 626.59 | 626.75 | 627.05 | 627.35 | 627.65 | 627.93 | 628.22 | 628.49 | 628.63 |
| LEFT GIRDER | TES | 625.83 | 625.95 | 626.34 | 626.70 | 627.02 | 627.30 | 627.53 | 627.73 | 627.90 |
| | ZW | 625.74 | 625.96 | 626.38 | 626.75 | 627.09 | 627.36 | 627.58 | 627.75 | 627.83 |
| | CW | 625.74 | 625.89 | 626.19 | 626.48 | 626.78 | 627.08 | 627.38 | 627.68 | 627.83 |
| LEFT WEB | SW | 0.08 | 0.09 | 0.12 | 0.14 | 0.15 | 0.15 | 0.13 | 0.11 | 0.09 |
| | DL1 | 0.21 | 0.25 | 0.33 | 0.38 | 0.41 | 0.40 | 0.36 | 0.29 | 0.25 |
| | DL2 | 0.02 | 0.03 | 0.04 | 0.04 | 0.05 | 0.05 | 0.04 | 0.03 | 0.03 |
| | C | 0.00 | 0.07 | 0.19 | 0.27 | 0.30 | 0.28 | 0.20 | 0.07 | 0.00 |
| 2 | FG | 625.84 | 626.00 | 626.30 | 626.60 | 626.90 | 627.18 | 627.47 | 627.74 | 627.88 |
| LEFT GIRDER | TES | 625.07 | 625.19 | 625.58 | 625.94 | 626.26 | 626.54 | 626.77 | 626.97 | 627.15 |
| | ZW | 624.98 | 625.20 | 625.61 | 625.99 | 626.32 | 626.60 | 626.82 | 626.99 | 627.07 |
| | CW | 624.98 | 625.13 | 625.43 | 625.73 | 626.03 | 626.33 | 626.62 | 626.92 | 627.07 |
| RIGHT WEB | SW | 0.07 | 0.09 | 0.12 | 0.14 | 0.15 | 0.14 | 0.13 | 0.10 | 0.09 |
| | DL1 | 0.21 | 0.25 | 0.32 | 0.38 | 0.40 | 0.39 | 0.35 | 0.28 | 0.24 |
| | DL2 | 0.02 | 0.03 | 0.04 | 0.04 | 0.05 | 0.04 | 0.04 | 0.03 | 0.03 |
| | C | 0.00 | 0.07 | 0.19 | 0.26 | 0.30 | 0.27 | 0.19 | 0.07 | 0.00 |
| 3 | FG | 625.09 | 625.25 | 625.55 | 625.85 | 626.15 | 626.43 | 626.72 | 626.99 | 627.13 |
| RIGHT GIRDER | TES | 624.32 | 624.44 | 624.82 | 625.18 | 625.50 | 625.78 | 626.01 | 626.22 | 626.39 |
| | ZW | 624.22 | 624.44 | 624.85 | 625.23 | 625.56 | 625.83 | 626.06 | 626.23 | 626.31 |
| | CW | 624.22 | 624.37 | 624.67 | 624.97 | 625.27 | 625.57 | 625.87 | 626.16 | 626.31 |
| LEFT WEB | SW | 0.07 | 0.09 | 0.11 | 0.13 | 0.14 | 0.14 | 0.13 | 0.10 | 0.09 |
| | DL1 | 0.20 | 0.24 | 0.32 | 0.37 | 0.39 | 0.38 | 0.34 | 0.27 | 0.24 |
| | DL2 | 0.02 | 0.03 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.03 | 0.03 |
| | C | 0.00 | 0.07 | 0.18 | 0.26 | 0.29 | 0.27 | 0.19 | 0.07 | 0.00 |
| 4 | FG | 624.34 | 624.50 | 624.80 | 625.10 | 625.40 | 625.68 | 625.97 | 626.24 | 626.38 |
| RIGHT GIRDER | TES | 623.56 | 623.68 | 624.07 | 624.42 | 624.74 | 625.02 | 625.26 | 625.46 | 625.64 |
| | ZW | 623.47 | 623.68 | 624.09 | 624.47 | 624.80 | 625.07 | 625.29 | 625.48 | 625.56 |
| | CW | 623.47 | 623.62 | 623.92 | 624.21 | 624.51 | 624.81 | 625.11 | 625.41 | 625.56 |
| RIGHT WEB | SW | 0.07 | 0.09 | 0.11 | 0.13 | 0.14 | 0.14 | 0.12 | 0.10 | 0.09 |
| | DL1 | 0.20 | 0.24 | 0.31 | 0.36 | 0.38 | 0.37 | 0.33 | 0.27 | 0.23 |
| | DL2 | 0.02 | 0.03 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.03 | 0.03 |
| | C | 0.00 | 0.07 | 0.18 | 0.25 | 0.29 | 0.26 | 0.19 | 0.07 | 0.00 |
| BLOCKING HEIGHTS | | | | | | | | | | |
| 5 | BLK | 19.71 | | | | | | | | 21.80 |
| 6 | | 19.17 | | | | | | | | 21.26 |
| 7 | | 18.20 | | | | | | | | 20.28 |
| 8 | | 17.65 | | | | | | | | 19.74 |

## FIELD SECTION 8

| HORIZ. LOC. | VALUE | POSITION AND STATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | FS #7<br>1195+84.25 | P8-1<br>1195+93.11 | P8-2<br>1196+10.82 | P8-3<br>1196+28.54 | PIER 4<br>1196+46.25 | P8-5<br>1196+63.27 | P8-6<br>1196+80.28 | P8-7<br>1196+97.30 | FS #8<br>1197+05.81 |
| CAMBER DATA | | | | | | | | | | |
| 1 | FG | 628.63 | 628.76 | 629.03 | 629.29 | 629.54 | 629.78 | 630.01 | 630.23 | 630.34 |
| LEFT GIRDER | TES | 627.90 | 627.95 | 628.12 | 628.39 | 628.59 | 628.81 | 628.97 | 629.23 | 629.40 |
| | ZW | 627.83 | 627.90 | 628.04 | 628.19 | 628.37 | 628.59 | 628.84 | 629.12 | 629.26 |
| | CW | 627.83 | 627.93 | 628.14 | 628.35 | 628.56 | 628.76 | 628.96 | 629.16 | 629.26 |
| LEFT WEB | SW | 0.09 | 0.08 | 0.05 | 0.02 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 |
| | DL1 | 0.25 | 0.20 | 0.12 | 0.05 | 0.00 | -0.01 | 0.00 | 0.03 | 0.05 |
| | DL2 | 0.03 | 0.02 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| | C | 0.00 | -0.03 | -0.10 | -0.16 | -0.19 | -0.17 | -0.12 | -0.04 | 0.00 |
| 2 | FG | 627.88 | 628.01 | 628.28 | 628.54 | 628.79 | 629.03 | 629.26 | 629.48 | 629.59 |
| LEFT GIRDER | TES | 627.15 | 627.19 | 627.37 | 627.64 | 627.84 | 628.06 | 628.22 | 628.48 | 628.65 |
| | ZW | 627.07 | 627.14 | 627.29 | 627.44 | 627.62 | 627.84 | 628.09 | 628.37 | 628.50 |
| | CW | 627.07 | 627.18 | 627.38 | 627.59 | 627.80 | 628.00 | 628.20 | 628.40 | 628.50 |
| RIGHT WEB | SW | 0.09 | 0.07 | 0.04 | 0.02 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 |
| | DL1 | 0.24 | 0.20 | 0.12 | 0.05 | 0.00 | -0.01 | 0.00 | 0.03 | 0.05 |
| | DL2 | 0.03 | 0.02 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| | C | 0.00 | -0.03 | -0.10 | -0.15 | -0.18 | -0.16 | -0.11 | -0.04 | 0.00 |
| 3 | FG | 627.13 | 627.26 | 627.53 | 627.79 | 628.04 | 628.28 | 628.51 | 628.73 | 628.84 |
| RIGHT GIRDER | TES | 626.39 | 626.44 | 626.61 | 626.89 | 627.09 | 627.32 | 627.47 | 627.73 | 627.90 |
| | ZW | 626.31 | 626.39 | 626.53 | 626.69 | 626.87 | 627.09 | 627.34 | 627.61 | 627.75 |
| | CW | 626.31 | 626.42 | 626.63 | 626.84 | 627.05 | 627.25 | 627.45 | 627.65 | 627.75 |
| LEFT WEB | SW | 0.09 | 0.07 | 0.04 | 0.02 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 |
| | DL1 | 0.24 | 0.19 | 0.11 | 0.05 | 0.00 | -0.01 | 0.00 | 0.03 | 0.05 |
| | DL2 | 0.03 | 0.02 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| | C | 0.00 | -0.03 | -0.10 | -0.15 | -0.18 | -0.16 | -0.11 | -0.04 | 0.00 |
| 4 | FG | 626.38 | 626.51 | 626.78 | 627.04 | 627.29 | 627.53 | 627.76 | 627.98 | 628.09 |
| RIGHT GIRDER | TES | 625.64 | 625.68 | 625.86 | 626.14 | 626.34 | 626.57 | 626.72 | 626.98 | 627.15 |
| | ZW | 625.56 | 625.63 | 625.78 | 625.94 | 626.12 | 626.34 | 626.59 | 626.86 | 627.00 |
| | CW | 625.56 | 625.66 | 625.87 | 626.08 | 626.29 | 626.49 | 626.70 | 626.90 | 627.00 |
| RIGHT WEB | SW | 0.09 | 0.07 | 0.04 | 0.02 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 |
| | DL1 | 0.23 | 0.19 | 0.11 | 0.04 | 0.00 | -0.01 | 0.00 | 0.03 | 0.05 |
| | DL2 | 0.03 | 0.02 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 |
| | C | 0.00 | -0.03 | -0.09 | -0.15 | -0.17 | -0.15 | -0.10 | -0.03 | 0.00 |
| BLOCKING HEIGHTS | | | | | | | | | | |
| 5 | BLK | 21.80 | | | | 22.34 | | | | 23.23 |
| 6 | | 21.26 | | | | 21.81 | | | | 22.69 |
| 7 | | 20.28 | | | | 20.84 | | | | 21.72 |
| 8 | | 19.74 | | | | 20.31 | | | | 21.18 |




HORIZONTAL LOCATION KEY

LOOKING UPSTATION

FOR REFERENCE ONLY

LEGEND:

FOR LEGEND SEE CAMBER DIAGRAM UNIT 1

NOTES:

FOR NOTES SEE CAMBER DIAGRAM UNIT 1

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY: STB | PLANS CK'D.: NPP

CAMBER DATA:
FIELD SECTIONS 7 AND 8

SHEET 46 OF 51
1026

STEEL FABRICATION CONTRACT ONLY

FILE= Q:\WisDot_12345678_US41Bridges_Plans\B-05-679E\046 B-05-679E-CAMBER DATA FS 7 AND 8.dgn

DATE: 4/3/2013
I.D.

8

8

STATE PROJECT NUMBER

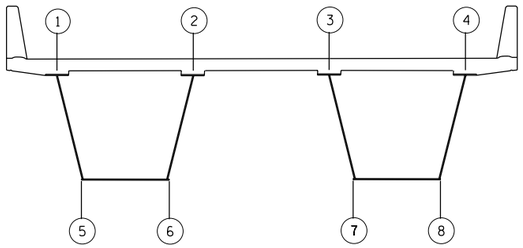
1133-11-77

## FIELD SECTION 9

| HORIZ. LOC. | VALUE | POSITION AND STATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | FS *8 1197+05.81 | P9-1 1197+14.32 | P9-2 1197+31.33 | P9-3 1197+48.35 | P9-4 1197+65.37 | P9-5 1197+82.38 | P9-6 1197+99.40 | PIER 5 1198+16.42 |
| CAMBER DATA | | | | | | | | | |
| 1 LEFT GIRDER | FG | 630.34 | 630.45 | 630.67 | 630.88 | 631.08 | 631.28 | 631.47 | 631.66 |
| | TES | 629.40 | 629.45 | 629.70 | 629.93 | 630.13 | 630.30 | 630.45 | 630.58 |
| | ZW | 629.26 | 629.39 | 629.66 | 629.89 | 630.09 | 630.25 | 630.38 | 630.50 |
| | CW | 629.26 | 629.35 | 629.54 | 629.73 | 629.92 | 630.11 | 630.31 | 630.50 |
| LEFT WEB | SW | 0.02 | 0.03 | 0.04 | 0.04 | 0.04 | 0.03 | 0.02 | 0.00 |
| | DL1 | 0.05 | 0.07 | 0.10 | 0.12 | 0.12 | 0.09 | 0.05 | 0.00 |
| | DL2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 |
| | C | 0.00 | 0.04 | 0.11 | 0.16 | 0.16 | 0.14 | 0.08 | 0.00 |
| 2 LEFT GIRDER | FG | 629.59 | 629.70 | 629.92 | 630.13 | 630.33 | 630.53 | 630.72 | 630.91 |
| | TES | 628.65 | 628.70 | 628.95 | 629.17 | 629.37 | 629.55 | 629.70 | 629.83 |
| | ZW | 628.50 | 628.64 | 628.90 | 629.13 | 629.33 | 629.50 | 629.63 | 629.75 |
| | CW | 628.50 | 628.60 | 628.79 | 628.98 | 629.17 | 629.36 | 629.55 | 629.75 |
| RIGHT WEB | SW | 0.02 | 0.03 | 0.04 | 0.04 | 0.04 | 0.03 | 0.02 | 0.00 |
| | DL1 | 0.05 | 0.07 | 0.10 | 0.12 | 0.11 | 0.09 | 0.05 | 0.00 |
| | DL2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 |
| | C | 0.00 | 0.04 | 0.11 | 0.15 | 0.16 | 0.14 | 0.08 | 0.00 |
| 3 RIGHT GIRDER | FG | 628.84 | 628.95 | 629.17 | 629.38 | 629.58 | 629.78 | 629.97 | 630.16 |
| | TES | 627.90 | 627.95 | 628.19 | 628.42 | 628.62 | 628.80 | 628.95 | 629.08 |
| | ZW | 627.75 | 627.89 | 628.15 | 628.38 | 628.58 | 628.75 | 628.88 | 629.00 |
| | CW | 627.75 | 627.85 | 628.04 | 628.23 | 628.42 | 628.61 | 628.80 | 629.00 |
| LEFT WEB | SW | 0.02 | 0.02 | 0.04 | 0.04 | 0.04 | 0.03 | 0.02 | 0.00 |
| | DL1 | 0.05 | 0.07 | 0.10 | 0.11 | 0.11 | 0.09 | 0.05 | 0.00 |
| | DL2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 |
| | C | 0.00 | 0.04 | 0.11 | 0.15 | 0.16 | 0.13 | 0.08 | 0.00 |
| 4 RIGHT GIRDER | FG | 628.09 | 628.20 | 628.42 | 628.63 | 628.83 | 629.03 | 629.22 | 629.41 |
| | TES | 627.15 | 627.19 | 627.44 | 627.67 | 627.87 | 628.04 | 628.19 | 628.33 |
| | ZW | 627.00 | 627.13 | 627.39 | 627.62 | 627.82 | 627.99 | 628.13 | 628.25 |
| | CW | 627.00 | 627.09 | 627.29 | 627.48 | 627.67 | 627.86 | 628.05 | 628.25 |
| RIGHT WEB | SW | 0.02 | 0.02 | 0.03 | 0.04 | 0.04 | 0.03 | 0.02 | 0.00 |
| | DL1 | 0.05 | 0.07 | 0.10 | 0.11 | 0.11 | 0.09 | 0.05 | 0.00 |
| | DL2 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.00 |
| | C | 0.00 | 0.04 | 0.11 | 0.15 | 0.15 | 0.13 | 0.07 | 0.00 |
| BLOCKING HEIGHTS | | | | | | | | | |
| 5 | BLK | 23.23 | | | | | | | 24.47 |
| 6 | | 22.69 | | | | | | | 23.93 |
| 7 | | 21.72 | | | | | | | 22.97 |
| 8 | | 21.18 | | | | | | | 22.43 |

## FIELD SECTION 10

| HORIZ. LOC. | VALUE | POSITION AND STATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | PIER 5 1198+20.08 | P10-2 1198+37.10 | P10-3 1198+54.12 | P10-4 1198+71.13 | P10-5 1198+88.15 | P10-6 1199+05.17 | P10-7 1199+22.18 | FS *9 1199+30.69 |
| CAMBER DATA | | | | | | | | | |
| 1 LEFT GIRDER | FG | 631.70 | 631.88 | 632.06 | 632.23 | 632.39 | 632.55 | 632.71 | 632.78 |
| | TES | 630.62 | 630.86 | 631.09 | 631.28 | 631.45 | 631.60 | 631.71 | 631.86 |
| | ZW | 630.54 | 630.80 | 631.04 | 631.25 | 631.42 | 631.56 | 631.66 | 631.71 |
| | CW | 630.54 | 630.72 | 630.90 | 631.08 | 631.26 | 631.44 | 631.62 | 631.71 |
| LEFT WEB | SW | 0.00 | 0.02 | 0.04 | 0.04 | 0.05 | 0.04 | 0.03 | 0.02 |
| | DL1 | 0.00 | 0.05 | 0.10 | 0.12 | 0.13 | 0.11 | 0.08 | 0.06 |
| | DL2 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| | C | 0.00 | 0.08 | 0.14 | 0.17 | 0.16 | 0.12 | 0.04 | 0.00 |
| 2 LEFT GIRDER | FG | 630.95 | 631.13 | 631.31 | 631.48 | 631.64 | 631.80 | 631.96 | 632.03 |
| | TES | 629.87 | 630.11 | 630.33 | 630.53 | 630.70 | 630.84 | 630.96 | 631.11 |
| | ZW | 629.79 | 630.04 | 630.29 | 630.49 | 630.66 | 630.80 | 630.91 | 630.95 |
| | CW | 629.79 | 629.97 | 630.15 | 630.33 | 630.51 | 630.69 | 630.86 | 630.95 |
| RIGHT WEB | SW | 0.00 | 0.02 | 0.04 | 0.04 | 0.05 | 0.04 | 0.03 | 0.02 |
| | DL1 | 0.00 | 0.05 | 0.10 | 0.12 | 0.12 | 0.11 | 0.08 | 0.06 |
| | DL2 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| | C | 0.00 | 0.08 | 0.14 | 0.17 | 0.16 | 0.12 | 0.04 | 0.00 |
| 3 RIGHT GIRDER | FG | 630.20 | 630.38 | 630.56 | 630.73 | 630.89 | 631.05 | 631.21 | 631.28 |
| | TES | 629.12 | 629.36 | 629.58 | 629.78 | 629.95 | 630.09 | 630.21 | 630.36 |
| | ZW | 629.04 | 629.29 | 629.53 | 629.74 | 629.91 | 630.04 | 630.15 | 630.20 |
| | CW | 629.04 | 629.21 | 629.39 | 629.57 | 629.75 | 629.93 | 630.11 | 630.20 |
| LEFT WEB | SW | 0.00 | 0.02 | 0.03 | 0.04 | 0.04 | 0.04 | 0.03 | 0.02 |
| | DL1 | 0.00 | 0.05 | 0.09 | 0.12 | 0.12 | 0.11 | 0.07 | 0.06 |
| | DL2 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| | C | 0.00 | 0.08 | 0.14 | 0.16 | 0.15 | 0.11 | 0.04 | 0.00 |
| 4 RIGHT GIRDER | FG | 629.45 | 629.63 | 629.81 | 629.98 | 630.14 | 630.30 | 630.46 | 630.53 |
| | TES | 628.37 | 628.61 | 628.83 | 629.02 | 629.19 | 629.34 | 629.46 | 629.60 |
| | ZW | 628.29 | 628.54 | 628.78 | 628.98 | 629.15 | 629.29 | 629.40 | 629.45 |
| | CW | 628.29 | 628.46 | 628.64 | 628.82 | 629.00 | 629.18 | 629.36 | 629.45 |
| RIGHT WEB | SW | 0.00 | 0.02 | 0.03 | 0.04 | 0.04 | 0.04 | 0.03 | 0.02 |
| | DL1 | 0.00 | 0.05 | 0.09 | 0.11 | 0.12 | 0.10 | 0.07 | 0.05 |
| | DL2 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |
| | C | 0.00 | 0.08 | 0.13 | 0.16 | 0.15 | 0.11 | 0.04 | 0.00 |
| BLOCKING HEIGHTS | | | | | | | | | |
| 5 | BLK | 2.04 | | | | | | | 3.21 |
| 6 | | 1.50 | | | | | | | 2.67 |
| 7 | | 0.54 | | | | | | | 1.70 |
| 8 | | 0.00 | | | | | | | 1.16 |




HORIZONTAL LOCATION KEY

LOOKING UPSTATION

LEGEND:

FOR LEGEND SEE CAMBER DIAGRAM UNIT 1

NOTES:

FOR NOTES SEE CAMBER DIAGRAM UNIT 1

FOR REFERENCE ONLY

STEEL FABRICATION CONTRACT ONLY

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY STB | PLANS CK'D. NPP

CAMBER DATA: FIELD SECTIONS 9 AND 10

SHEET 47 OF 51

1027

DATE: 4/3/2013

I.D.

FILE= Q:\WisDot_12345678_US41Bridges_Plans\B-05-679E-CAMBER DATA FS 9 AND 10.dgn

8

8

STATE PROJECT NUMBER

1133-11-77

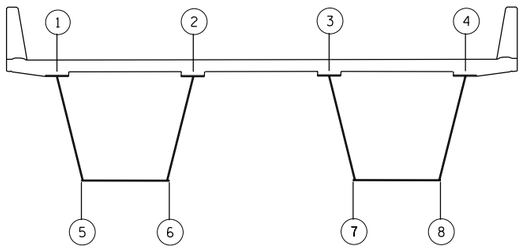
## FIELD SECTION 11

| HORIZ. LOC. | VALUE | POSITION AND STATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | FS #9 | P11-1 | P11-2 | P11-3 | PIER 6 | P11-5 | P11-6 | P11-7 | FS #10 |
| | | 1199+30.69 | 1199+39.20 | 1199+56.22 | 1199+73.23 | 1199+90.25 | 1200+07.96 | 1200+25.68 | 1200+43.39 | 1200+52.25 |
| CAMBER DATA | | | | | | | | | | |
| 1 | FG | 632.78 | 632.86 | 633.00 | 633.14 | 633.27 | 633.40 | 633.53 | 633.65 | 633.71 |
| LEFT GIRDER | TES | 631.86 | 631.86 | 631.96 | 632.17 | 632.31 | 632.50 | 632.62 | 632.84 | 633.00 |
| | ZW | 631.71 | 631.75 | 631.84 | 631.96 | 632.10 | 632.31 | 632.54 | 632.79 | 632.91 |
| | CW | 631.71 | 631.79 | 631.96 | 632.13 | 632.30 | 632.47 | 632.65 | 632.83 | 632.91 |
| LEFT WEB | SW | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | 0.02 | 0.04 | 0.07 | 0.09 |
| | DL1 | 0.06 | 0.04 | 0.01 | -0.01 | 0.00 | 0.05 | 0.12 | 0.21 | 0.25 |
| | DL2 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 | 0.03 |
| | C | 0.00 | -0.04 | -0.12 | -0.17 | -0.20 | -0.17 | -0.11 | -0.04 | 0.00 |
| 2 | FG | 632.03 | 632.11 | 632.25 | 632.39 | 632.52 | 632.65 | 632.78 | 632.90 | 632.96 |
| LEFT GIRDER | TES | 631.11 | 631.11 | 631.21 | 631.42 | 631.56 | 631.75 | 631.87 | 632.08 | 632.24 |
| | ZW | 630.95 | 631.00 | 631.09 | 631.21 | 631.35 | 631.55 | 631.78 | 632.03 | 632.15 |
| | CW | 630.95 | 631.04 | 631.21 | 631.37 | 631.54 | 631.72 | 631.89 | 632.07 | 632.15 |
| RIGHT WEB | SW | 0.02 | 0.02 | 0.00 | 0.00 | 0.00 | 0.02 | 0.04 | 0.07 | 0.09 |
| | DL1 | 0.06 | 0.04 | 0.01 | -0.01 | 0.00 | 0.05 | 0.12 | 0.20 | 0.25 |
| | DL2 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 | 0.03 |
| | C | 0.00 | -0.04 | -0.11 | -0.17 | -0.19 | -0.16 | -0.11 | -0.03 | 0.00 |
| 3 | FG | 631.28 | 631.36 | 631.50 | 631.64 | 631.77 | 631.90 | 632.03 | 632.15 | 632.21 |
| RIGHT GIRDER | TES | 630.36 | 630.36 | 630.46 | 630.67 | 630.81 | 630.99 | 631.11 | 631.33 | 631.48 |
| | ZW | 630.20 | 630.25 | 630.34 | 630.46 | 630.60 | 630.80 | 631.03 | 631.27 | 631.39 |
| | CW | 630.20 | 630.28 | 630.45 | 630.62 | 630.78 | 630.96 | 631.13 | 631.31 | 631.39 |
| LEFT WEB | SW | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.02 | 0.04 | 0.07 | 0.09 |
| | DL1 | 0.06 | 0.04 | 0.01 | -0.01 | 0.00 | 0.04 | 0.11 | 0.20 | 0.24 |
| | DL2 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 | 0.03 |
| | C | 0.00 | -0.04 | -0.11 | -0.16 | -0.18 | -0.16 | -0.11 | -0.03 | 0.00 |
| 4 | FG | 630.53 | 630.61 | 630.75 | 630.89 | 631.02 | 631.15 | 631.28 | 631.40 | 631.46 |
| RIGHT GIRDER | TES | 629.60 | 629.61 | 629.71 | 629.92 | 630.06 | 630.24 | 630.36 | 630.57 | 630.73 |
| | ZW | 629.45 | 629.50 | 629.59 | 629.71 | 629.85 | 630.05 | 630.27 | 630.51 | 630.63 |
| | CW | 629.45 | 629.53 | 629.70 | 629.86 | 630.03 | 630.20 | 630.37 | 630.55 | 630.63 |
| RIGHT WEB | SW | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.02 | 0.04 | 0.07 | 0.08 |
| | DL1 | 0.05 | 0.04 | 0.00 | -0.01 | 0.00 | 0.04 | 0.11 | 0.19 | 0.24 |
| | DL2 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 | 0.03 |
| | C | 0.00 | -0.04 | -0.11 | -0.15 | -0.18 | -0.15 | -0.10 | -0.03 | 0.00 |
| BLOCKING HEIGHTS | | | | | | | | | | |
| 5 | BLK | 3.21 | | | | 3.60 | | | | 4.41 |
| 6 | | 2.67 | | | | 3.07 | | | | 3.87 |
| 7 | | 1.70 | | | | 2.10 | | | | 2.89 |
| 8 | | 1.16 | | | | 1.57 | | | | 2.35 |

## FIELD SECTION 12

| HORIZ. LOC. | VALUE | POSITION AND STATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | FS #10 | P12-1 | P12-2 | P12-3 | P12-4 | P12-5 | P12-6 | P12-7 | FS #11 |
| | | 1200+52.25 | 1200+61.11 | 1200+78.82 | 1200+96.54 | 1201+14.25 | 1201+31.96 | 1201+49.68 | 1201+67.39 | 1201+76.25 |
| CAMBER DATA | | | | | | | | | | |
| 1 | FG | 633.71 | 633.76 | 633.87 | 633.97 | 634.07 | 634.16 | 634.24 | 634.32 | 634.36 |
| LEFT GIRDER | TES | 633.00 | 633.01 | 633.20 | 633.35 | 633.46 | 633.52 | 633.54 | 633.54 | 633.62 |
| | ZW | 632.91 | 633.03 | 633.24 | 633.41 | 633.53 | 633.58 | 633.59 | 633.55 | 633.53 |
| | CW | 632.91 | 632.96 | 633.04 | 633.13 | 633.22 | 633.31 | 633.40 | 633.48 | 633.53 |
| LEFT WEB | SW | 0.09 | 0.11 | 0.13 | 0.15 | 0.15 | 0.14 | 0.13 | 0.10 | 0.08 |
| | DL1 | 0.25 | 0.30 | 0.37 | 0.41 | 0.42 | 0.40 | 0.34 | 0.27 | 0.23 |
| | DL2 | 0.03 | 0.03 | 0.04 | 0.05 | 0.05 | 0.04 | 0.04 | 0.03 | 0.03 |
| | C | 0.00 | 0.07 | 0.20 | 0.28 | 0.31 | 0.27 | 0.19 | 0.07 | 0.00 |
| 2 | FG | 632.96 | 633.01 | 633.12 | 633.22 | 633.32 | 633.41 | 633.49 | 633.57 | 633.61 |
| LEFT GIRDER | TES | 632.24 | 632.25 | 632.44 | 632.59 | 632.70 | 632.76 | 632.79 | 632.78 | 632.87 |
| | ZW | 632.15 | 632.27 | 632.48 | 632.65 | 632.76 | 632.82 | 632.82 | 632.79 | 632.77 |
| | CW | 632.15 | 632.20 | 632.29 | 632.37 | 632.46 | 632.55 | 632.64 | 632.73 | 632.77 |
| RIGHT WEB | SW | 0.09 | 0.10 | 0.13 | 0.14 | 0.15 | 0.14 | 0.12 | 0.10 | 0.08 |
| | DL1 | 0.25 | 0.29 | 0.36 | 0.40 | 0.42 | 0.39 | 0.34 | 0.26 | 0.22 |
| | DL2 | 0.03 | 0.03 | 0.04 | 0.04 | 0.05 | 0.04 | 0.04 | 0.03 | 0.03 |
| | C | 0.00 | 0.07 | 0.19 | 0.28 | 0.30 | 0.27 | 0.19 | 0.07 | 0.00 |
| 3 | FG | 632.21 | 632.26 | 632.37 | 632.47 | 632.57 | 632.66 | 632.74 | 632.82 | 632.86 |
| RIGHT GIRDER | TES | 631.48 | 631.49 | 631.68 | 631.83 | 631.94 | 632.00 | 632.03 | 632.03 | 632.11 |
| | ZW | 631.39 | 631.51 | 631.72 | 631.88 | 632.00 | 632.05 | 632.06 | 632.04 | 632.01 |
| | CW | 631.39 | 631.44 | 631.53 | 631.62 | 631.70 | 631.79 | 631.88 | 631.97 | 632.01 |
| LEFT WEB | SW | 0.09 | 0.10 | 0.13 | 0.14 | 0.15 | 0.14 | 0.12 | 0.09 | 0.08 |
| | DL1 | 0.24 | 0.28 | 0.35 | 0.39 | 0.41 | 0.38 | 0.33 | 0.26 | 0.22 |
| | DL2 | 0.03 | 0.03 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.03 | 0.02 |
| | C | 0.00 | 0.07 | 0.19 | 0.27 | 0.30 | 0.26 | 0.18 | 0.07 | 0.00 |
| 4 | FG | 631.46 | 631.51 | 631.62 | 631.72 | 631.82 | 631.91 | 631.99 | 632.07 | 632.11 |
| RIGHT GIRDER | TES | 630.73 | 630.73 | 630.92 | 631.07 | 631.18 | 631.24 | 631.27 | 631.27 | 631.36 |
| | ZW | 630.63 | 630.75 | 630.96 | 631.12 | 631.24 | 631.29 | 631.30 | 631.28 | 631.26 |
| | CW | 630.63 | 630.68 | 630.77 | 630.86 | 630.95 | 631.03 | 631.12 | 631.21 | 631.26 |
| RIGHT WEB | SW | 0.08 | 0.10 | 0.12 | 0.14 | 0.14 | 0.13 | 0.12 | 0.09 | 0.08 |
| | DL1 | 0.24 | 0.27 | 0.34 | 0.39 | 0.40 | 0.37 | 0.32 | 0.25 | 0.21 |
| | DL2 | 0.03 | 0.03 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.03 | 0.02 |
| | C | 0.00 | 0.07 | 0.19 | 0.26 | 0.29 | 0.26 | 0.18 | 0.07 | 0.00 |
| BLOCKING HEIGHTS | | | | | | | | | | |
| 5 | BLK | 4.41 | | | | | | | | 5.03 |
| 6 | | 3.87 | | | | | | | | 4.49 |
| 7 | | 2.89 | | | | | | | | 3.51 |
| 8 | | 2.35 | | | | | | | | 2.97 |

FOR REFERENCE ONLY




HORIZONTAL LOCATION KEY

LOOKING UPSTATION

LEGEND:

FOR LEGEND SEE CAMBER DIAGRAM UNIT 1

NOTES:

FOR NOTES SEE CAMBER DIAGRAM UNIT 1

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY STB | PLANS CK'D. NPP

CAMBER DATA: FIELD SECTIONS 11 AND 12

SHEET 48 OF 51

1028

STEEL FABRICATION CONTRACT ONLY

8

8

FILE= Q:\WisDot_12345678_US41Bridges_Plans\B-05-679E-CAMBER DATA FS 11 AND 12.dgn

DATE: 4/3/2013

I.D.

| STATE PROJECT NUMBER |
|---|
| 1133-11-77 |

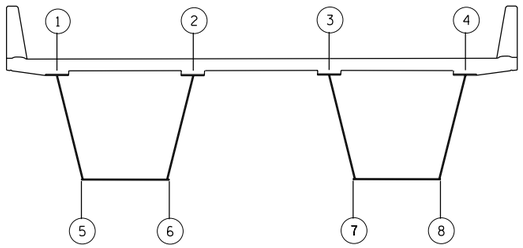
## FIELD SECTION 13

| HORIZ. LOC. | VALUE | POSITION AND STATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | FS #11 1201+76.25 | P13-1 1201+85.11 | P13-2 1202+02.82 | P13-3 1202+20.54 | PIER 7 1202+38.25 | P13-5 1202+55.96 | P13-6 1202+73.68 | P13-7 1202+91.39 | FS #12 1203+00.25 |
| CAMBER DATA | | | | | | | | | | |
| 1 | FG | 634.36 | 634.39 | 634.46 | 634.52 | 634.58 | 634.63 | 634.67 | 634.71 | 634.72 |
| LEFT GIRDER | TES | 633.62 | 633.56 | 633.53 | 633.62 | 633.63 | 633.68 | 633.67 | 633.77 | 633.88 |
| | ZW | 633.53 | 633.50 | 633.45 | 633.41 | 633.41 | 633.47 | 633.56 | 633.68 | 633.75 |
| | CW | 633.53 | 633.54 | 633.57 | 633.61 | 633.64 | 633.67 | 633.70 | 633.73 | 633.75 |
| LEFT WEB | SW | 0.08 | 0.07 | 0.04 | 0.01 | 0.00 | 0.00 | 0.01 | 0.03 | 0.05 |
| | DL1 | 0.23 | 0.18 | 0.10 | 0.04 | 0.00 | 0.00 | 0.04 | 0.10 | 0.13 |
| | DL2 | 0.03 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 |
| | C | 0.00 | -0.04 | -0.13 | -0.19 | -0.23 | -0.20 | -0.14 | -0.05 | 0.00 |
| 2 | FG | 633.61 | 633.64 | 633.71 | 633.77 | 633.83 | 633.88 | 633.92 | 633.96 | 633.97 |
| LEFT GIRDER | TES | 632.87 | 632.80 | 632.78 | 632.87 | 632.88 | 632.93 | 632.92 | 633.02 | 633.13 |
| | ZW | 632.77 | 632.74 | 632.69 | 632.66 | 632.66 | 632.72 | 632.81 | 632.93 | 633.00 |
| | CW | 632.77 | 632.79 | 632.82 | 632.85 | 632.88 | 632.92 | 632.95 | 632.98 | 633.00 |
| RIGHT WEB | SW | 0.08 | 0.07 | 0.04 | 0.01 | 0.00 | 0.00 | 0.01 | 0.03 | 0.04 |
| | DL1 | 0.22 | 0.18 | 0.10 | 0.04 | 0.00 | 0.00 | 0.04 | 0.09 | 0.13 |
| | DL2 | 0.03 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 |
| | C | 0.00 | -0.04 | -0.12 | -0.19 | -0.22 | -0.20 | -0.14 | -0.05 | 0.00 |
| 3 | FG | 632.86 | 632.89 | 632.96 | 633.02 | 633.08 | 633.13 | 633.17 | 633.21 | 633.22 |
| RIGHT GIRDER | TES | 632.11 | 632.05 | 632.03 | 632.12 | 632.13 | 632.18 | 632.17 | 632.27 | 632.38 |
| | ZW | 632.01 | 631.99 | 631.94 | 631.91 | 631.91 | 631.97 | 632.06 | 632.18 | 632.24 |
| | CW | 632.01 | 632.03 | 632.06 | 632.10 | 632.13 | 632.16 | 632.19 | 632.23 | 632.24 |
| LEFT WEB | SW | 0.08 | 0.07 | 0.04 | 0.01 | 0.00 | 0.00 | 0.01 | 0.03 | 0.04 |
| | DL1 | 0.22 | 0.18 | 0.10 | 0.04 | 0.00 | 0.00 | 0.04 | 0.09 | 0.13 |
| | DL2 | 0.02 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 |
| | C | 0.00 | -0.04 | -0.12 | -0.18 | -0.22 | -0.19 | -0.14 | -0.05 | 0.00 |
| 4 | FG | 632.11 | 632.14 | 632.21 | 632.27 | 632.33 | 632.38 | 632.42 | 632.46 | 632.47 |
| RIGHT GIRDER | TES | 631.36 | 631.29 | 631.28 | 631.37 | 631.38 | 631.43 | 631.42 | 631.52 | 631.62 |
| | ZW | 631.26 | 631.23 | 631.19 | 631.16 | 631.16 | 631.22 | 631.31 | 631.43 | 631.49 |
| | CW | 631.26 | 631.27 | 631.31 | 631.34 | 631.37 | 631.41 | 631.44 | 631.47 | 631.49 |
| RIGHT WEB | SW | 0.08 | 0.06 | 0.04 | 0.01 | 0.00 | 0.00 | 0.01 | 0.03 | 0.04 |
| | DL1 | 0.21 | 0.17 | 0.10 | 0.04 | 0.00 | 0.00 | 0.04 | 0.09 | 0.12 |
| | DL2 | 0.02 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 | 0.02 |
| | C | 0.00 | -0.04 | -0.12 | -0.18 | -0.21 | -0.19 | -0.13 | -0.05 | 0.00 |
| BLOCKING HEIGHTS | | | | | | | | | | |
| 5 | BLK | 5.03 | | | | 4.91 | | | | 5.25 |
| 6 | | 4.49 | | | | 4.38 | | | | 4.71 |
| 7 | | 3.51 | | | | 3.41 | | | | 3.74 |
| 8 | | 2.97 | | | | 2.88 | | | | 3.20 |

## FIELD SECTION 14

| HORIZ. LOC. | VALUE | POSITION AND STATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | FS #12 1203+00.25 | P14-1 1203+09.11 | P14-2 1203+26.82 | P14-3 1203+44.54 | P14-4 1203+62.25 | P14-5 1203+79.96 | P14-6 1203+97.68 | P14-7 1204+15.39 | FS #13 1204+24.25 |
| CAMBER DATA | | | | | | | | | | |
| 1 | FG | 634.72 | 634.74 | 634.76 | 634.78 | 634.80 | 634.80 | 634.81 | 634.80 | 634.80 |
| LEFT GIRDER | TES | 633.88 | 633.84 | 633.93 | 634.00 | 634.03 | 634.02 | 633.98 | 633.91 | 633.97 |
| | ZW | 633.75 | 633.81 | 633.93 | 634.01 | 634.05 | 634.03 | 633.98 | 633.89 | 633.84 |
| | CW | 633.75 | 633.76 | 633.77 | 633.78 | 633.80 | 633.81 | 633.82 | 633.84 | 633.84 |
| LEFT WEB | SW | 0.05 | 0.06 | 0.08 | 0.09 | 0.10 | 0.10 | 0.08 | 0.06 | 0.05 |
| | DL1 | 0.13 | 0.16 | 0.22 | 0.27 | 0.28 | 0.27 | 0.23 | 0.17 | 0.14 |
| | DL2 | 0.02 | 0.02 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.02 | 0.02 |
| | C | 0.00 | 0.06 | 0.16 | 0.23 | 0.25 | 0.22 | 0.16 | 0.06 | 0.00 |
| 2 | FG | 633.97 | 633.99 | 634.01 | 634.03 | 634.05 | 634.05 | 634.06 | 634.05 | 634.05 |
| LEFT GIRDER | TES | 633.13 | 633.09 | 633.18 | 633.24 | 633.27 | 633.27 | 633.23 | 633.16 | 633.22 |
| | ZW | 633.00 | 633.06 | 633.17 | 633.25 | 633.29 | 633.28 | 633.22 | 633.14 | 633.09 |
| | CW | 633.00 | 633.00 | 633.02 | 633.03 | 633.04 | 633.06 | 633.07 | 633.08 | 633.09 |
| RIGHT WEB | SW | 0.04 | 0.06 | 0.08 | 0.09 | 0.10 | 0.09 | 0.08 | 0.06 | 0.05 |
| | DL1 | 0.13 | 0.16 | 0.22 | 0.26 | 0.28 | 0.26 | 0.23 | 0.17 | 0.14 |
| | DL2 | 0.02 | 0.02 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.02 | 0.02 |
| | C | 0.00 | 0.06 | 0.15 | 0.22 | 0.25 | 0.22 | 0.15 | 0.06 | 0.00 |
| 3 | FG | 633.22 | 633.24 | 633.26 | 633.28 | 633.30 | 633.30 | 633.31 | 633.30 | 633.30 |
| RIGHT GIRDER | TES | 632.38 | 632.33 | 632.42 | 632.49 | 632.52 | 632.51 | 632.47 | 632.41 | 632.46 |
| | ZW | 632.24 | 632.30 | 632.41 | 632.49 | 632.53 | 632.52 | 632.47 | 632.39 | 632.34 |
| | CW | 632.24 | 632.25 | 632.26 | 632.28 | 632.29 | 632.30 | 632.32 | 632.33 | 632.34 |
| LEFT WEB | SW | 0.04 | 0.06 | 0.08 | 0.09 | 0.10 | 0.09 | 0.08 | 0.06 | 0.05 |
| | DL1 | 0.13 | 0.16 | 0.21 | 0.26 | 0.27 | 0.26 | 0.22 | 0.17 | 0.14 |
| | DL2 | 0.02 | 0.02 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.02 | 0.02 |
| | C | 0.00 | 0.05 | 0.15 | 0.22 | 0.24 | 0.22 | 0.15 | 0.06 | 0.00 |
| 4 | FG | 632.47 | 632.49 | 632.51 | 632.53 | 632.55 | 632.55 | 632.56 | 632.55 | 632.55 |
| RIGHT GIRDER | TES | 631.62 | 631.58 | 631.67 | 631.73 | 631.76 | 631.75 | 631.72 | 631.65 | 631.71 |
| | ZW | 631.49 | 631.55 | 631.66 | 631.74 | 631.77 | 631.76 | 631.71 | 631.63 | 631.58 |
| | CW | 631.49 | 631.50 | 631.51 | 631.52 | 631.54 | 631.55 | 631.56 | 631.58 | 631.58 |
| RIGHT WEB | SW | 0.04 | 0.05 | 0.07 | 0.09 | 0.10 | 0.09 | 0.08 | 0.06 | 0.05 |
| | DL1 | 0.12 | 0.15 | 0.21 | 0.25 | 0.27 | 0.25 | 0.22 | 0.16 | 0.13 |
| | DL2 | 0.02 | 0.02 | 0.03 | 0.03 | 0.03 | 0.03 | 0.03 | 0.02 | 0.02 |
| | C | 0.00 | 0.05 | 0.15 | 0.21 | 0.24 | 0.21 | 0.15 | 0.05 | 0.00 |
| BLOCKING HEIGHTS | | | | | | | | | | |
| 5 | BLK | 5.25 | | | | | | | | 5.34 |
| 6 | | 4.71 | | | | | | | | 4.80 |
| 7 | | 3.74 | | | | | | | | 3.84 |
| 8 | | 3.20 | | | | | | | | 3.30 |

FOR REFERENCE ONLY




HORIZONTAL LOCATION KEY

LOOKING UPSTATION

LEGEND:

FOR LEGEND SEE CAMBER DIAGRAM UNIT 1

NOTES:

FOR NOTES SEE CAMBER DIAGRAM UNIT 1

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY STB | PLANS CK'D. NPP

CAMBER DATA: FIELD SECTIONS 13 AND 14

SHEET 49 OF 51

1029

STEEL FABRICATION CONTRACT ONLY

8

8

FILE= Q:\WisDot_12345678_US41Bridges_Plans\B-05-679E-CAMBER DATA FS 13 AND 14.dgn

DATE: 4/3/2013
I.D.

STATE PROJECT NUMBER

1133-11-77

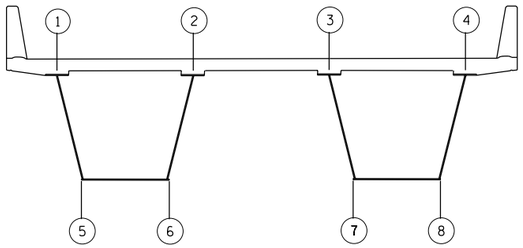
## FIELD SECTION 15

| HORIZ. LOC. | VALUE | POSITION AND STATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | FS #13 1204+24.25 | P15-1 1204+33.11 | P15-2 1204+50.82 | P15-3 1204+68.54 | PIER 8 1204+86.25 | P15-5 1205+03.96 | P15-6 1205+21.68 | P15-7 1205+39.39 | FS #14 1205+48.25 |
| CAMBER DATA | | | | | | | | | | |
| 1 | FG | 634.80 | 634.79 | 634.78 | 634.75 | 634.73 | 634.69 | 634.65 | 634.61 | 634.58 |
| LEFT GIRDER | TES | 633.97 | 633.87 | 633.80 | 633.82 | 633.78 | 633.78 | 633.70 | 633.75 | 633.82 |
| | ZW | 633.84 | 633.79 | 633.69 | 633.61 | 633.56 | 633.57 | 633.61 | 633.68 | 633.72 |
| | CW | 633.84 | 633.83 | 633.82 | 633.80 | 633.78 | 633.76 | 633.74 | 633.73 | 633.72 |
| LEFT WEB | SW | 0.05 | 0.04 | 0.02 | 0.01 | 0.00 | 0.01 | 0.03 | 0.06 | 0.07 |
| | DL1 | 0.14 | 0.11 | 0.05 | 0.01 | 0.00 | 0.03 | 0.08 | 0.16 | 0.20 |
| | DL2 | 0.02 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.02 |
| | C | 0.00 | -0.04 | -0.13 | -0.19 | -0.22 | -0.20 | -0.14 | -0.05 | 0.00 |
| 2 | FG | 634.05 | 634.04 | 634.03 | 634.00 | 633.98 | 633.94 | 633.90 | 633.86 | 633.83 |
| LEFT GIRDER | TES | 633.22 | 633.12 | 633.04 | 633.07 | 633.03 | 633.03 | 632.95 | 632.99 | 633.07 |
| | ZW | 633.09 | 633.04 | 632.94 | 632.86 | 632.81 | 632.82 | 632.86 | 632.92 | 632.96 |
| | CW | 633.09 | 633.08 | 633.06 | 633.04 | 633.03 | 633.01 | 632.99 | 632.97 | 632.96 |
| RIGHT WEB | SW | 0.05 | 0.04 | 0.02 | 0.01 | 0.00 | 0.01 | 0.03 | 0.06 | 0.07 |
| | DL1 | 0.14 | 0.11 | 0.05 | 0.01 | 0.00 | 0.03 | 0.08 | 0.16 | 0.20 |
| | DL2 | 0.02 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.02 |
| | C | 0.00 | -0.04 | -0.12 | -0.18 | -0.22 | -0.19 | -0.13 | -0.05 | 0.00 |
| 3 | FG | 633.30 | 633.29 | 633.28 | 633.25 | 633.23 | 633.19 | 633.15 | 633.11 | 633.08 |
| RIGHT GIRDER | TES | 632.46 | 632.37 | 632.29 | 632.32 | 632.28 | 632.27 | 632.20 | 632.24 | 632.31 |
| | ZW | 632.34 | 632.29 | 632.19 | 632.11 | 632.06 | 632.07 | 632.10 | 632.17 | 632.21 |
| | CW | 632.34 | 632.33 | 632.31 | 632.29 | 632.27 | 632.25 | 632.23 | 632.21 | 632.21 |
| LEFT WEB | SW | 0.05 | 0.04 | 0.02 | 0.01 | 0.00 | 0.01 | 0.03 | 0.05 | 0.07 |
| | DL1 | 0.14 | 0.11 | 0.05 | 0.01 | 0.00 | 0.03 | 0.08 | 0.16 | 0.20 |
| | DL2 | 0.02 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.02 |
| | C | 0.00 | -0.04 | -0.12 | -0.18 | -0.21 | -0.19 | -0.13 | -0.04 | 0.00 |
| 4 | FG | 632.55 | 632.54 | 632.53 | 632.50 | 632.48 | 632.44 | 632.40 | 632.36 | 632.33 |
| RIGHT GIRDER | TES | 631.71 | 631.62 | 631.54 | 631.57 | 631.53 | 631.53 | 631.45 | 631.49 | 631.56 |
| | ZW | 631.58 | 631.53 | 631.44 | 631.36 | 631.31 | 631.32 | 631.35 | 631.42 | 631.45 |
| | CW | 631.58 | 631.57 | 631.55 | 631.54 | 631.52 | 631.50 | 631.48 | 631.46 | 631.45 |
| RIGHT WEB | SW | 0.05 | 0.04 | 0.02 | 0.01 | 0.00 | 0.01 | 0.03 | 0.05 | 0.07 |
| | DL1 | 0.13 | 0.10 | 0.05 | 0.01 | 0.00 | 0.03 | 0.08 | 0.15 | 0.19 |
| | DL2 | 0.02 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.02 | 0.02 |
| | C | 0.00 | -0.04 | -0.12 | -0.18 | -0.21 | -0.18 | -0.13 | -0.04 | 0.00 |
| BLOCKING HEIGHTS | | | | | | | | | | |
| 5 | BLK | 5.34 | | | | 5.06 | | | | 5.22 |
| 6 | | 4.80 | | | | 4.52 | | | | 4.68 |
| 7 | | 3.84 | | | | 3.56 | | | | 3.70 |
| 8 | | 3.30 | | | | 3.02 | | | | 3.16 |

## FIELD SECTION 16

| HORIZ. LOC. | VALUE | POSITION AND STATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | FS #14 1205+48.25 | P16-1 1205+57.11 | P16-2 1205+74.82 | P16-3 1205+92.54 | P16-4 1206+10.25 | P16-5 1206+27.96 | P16-6 1206+45.68 | P16-7 1206+63.39 | FS #15 1206+72.25 |
| CAMBER DATA | | | | | | | | | | |
| 1 | FG | 634.58 | 634.56 | 634.50 | 634.44 | 634.37 | 634.29 | 634.21 | 634.12 | 634.08 |
| LEFT GIRDER | TES | 633.82 | 633.75 | 633.77 | 633.77 | 633.72 | 633.63 | 633.50 | 633.34 | 633.35 |
| | ZW | 633.72 | 633.75 | 633.80 | 633.82 | 633.78 | 633.69 | 633.54 | 633.36 | 633.25 |
| | CW | 633.72 | 633.68 | 633.62 | 633.55 | 633.48 | 633.42 | 633.35 | 633.29 | 633.25 |
| LEFT WEB | SW | 0.07 | 0.09 | 0.11 | 0.13 | 0.14 | 0.14 | 0.12 | 0.10 | 0.08 |
| | DL1 | 0.20 | 0.25 | 0.32 | 0.37 | 0.39 | 0.38 | 0.34 | 0.27 | 0.23 |
| | DL2 | 0.02 | 0.03 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.03 | 0.03 |
| | C | 0.00 | 0.07 | 0.19 | 0.27 | 0.30 | 0.27 | 0.19 | 0.07 | 0.00 |
| 2 | FG | 633.83 | 633.81 | 633.75 | 633.69 | 633.62 | 633.54 | 633.46 | 633.37 | 633.33 |
| LEFT GIRDER | TES | 633.07 | 632.99 | 633.02 | 633.01 | 632.97 | 632.87 | 632.75 | 632.59 | 632.59 |
| | ZW | 632.96 | 632.99 | 633.04 | 633.06 | 633.02 | 632.93 | 632.78 | 632.60 | 632.50 |
| | CW | 632.96 | 632.93 | 632.86 | 632.80 | 632.73 | 632.66 | 632.60 | 632.53 | 632.50 |
| RIGHT WEB | SW | 0.07 | 0.09 | 0.11 | 0.13 | 0.14 | 0.13 | 0.12 | 0.10 | 0.08 |
| | DL1 | 0.20 | 0.24 | 0.31 | 0.37 | 0.39 | 0.37 | 0.33 | 0.26 | 0.23 |
| | DL2 | 0.02 | 0.03 | 0.04 | 0.04 | 0.04 | 0.04 | 0.04 | 0.03 | 0.03 |
| | C | 0.00 | 0.07 | 0.18 | 0.26 | 0.29 | 0.26 | 0.19 | 0.07 | 0.00 |
| 3 | FG | 633.08 | 633.06 | 633.00 | 632.94 | 632.87 | 632.79 | 632.71 | 632.62 | 632.58 |
| RIGHT GIRDER | TES | 632.31 | 632.24 | 632.26 | 632.25 | 632.21 | 632.12 | 631.99 | 631.83 | 631.84 |
| | ZW | 632.21 | 632.24 | 632.28 | 632.30 | 632.26 | 632.16 | 632.02 | 631.84 | 631.74 |
| | CW | 632.21 | 632.17 | 632.11 | 632.04 | 631.97 | 631.91 | 631.84 | 631.77 | 631.74 |
| LEFT WEB | SW | 0.07 | 0.08 | 0.11 | 0.13 | 0.14 | 0.13 | 0.12 | 0.09 | 0.08 |
| | DL1 | 0.20 | 0.24 | 0.31 | 0.36 | 0.38 | 0.37 | 0.32 | 0.26 | 0.22 |
| | DL2 | 0.02 | 0.03 | 0.03 | 0.04 | 0.04 | 0.04 | 0.04 | 0.03 | 0.03 |
| | C | 0.00 | 0.06 | 0.18 | 0.26 | 0.29 | 0.26 | 0.18 | 0.07 | 0.00 |
| 4 | FG | 632.33 | 632.31 | 632.25 | 632.19 | 632.12 | 632.04 | 631.96 | 631.87 | 631.83 |
| RIGHT GIRDER | TES | 631.56 | 631.48 | 631.50 | 631.49 | 631.45 | 631.36 | 631.23 | 631.07 | 631.08 |
| | ZW | 631.45 | 631.48 | 631.53 | 631.53 | 631.50 | 631.40 | 631.26 | 631.08 | 630.98 |
| | CW | 631.45 | 631.42 | 631.35 | 631.28 | 631.22 | 631.15 | 631.08 | 631.02 | 630.98 |
| RIGHT WEB | SW | 0.07 | 0.08 | 0.11 | 0.12 | 0.13 | 0.13 | 0.11 | 0.09 | 0.08 |
| | DL1 | 0.19 | 0.23 | 0.30 | 0.35 | 0.37 | 0.36 | 0.32 | 0.25 | 0.22 |
| | DL2 | 0.02 | 0.03 | 0.03 | 0.04 | 0.04 | 0.04 | 0.04 | 0.03 | 0.02 |
| | C | 0.00 | 0.06 | 0.18 | 0.25 | 0.28 | 0.25 | 0.18 | 0.07 | 0.00 |
| BLOCKING HEIGHTS | | | | | | | | | | |
| 5 | BLK | 5.22 | | | | | | | | 4.75 |
| 6 | | 4.68 | | | | | | | | 4.21 |
| 7 | | 3.70 | | | | | | | | 3.24 |
| 8 | | 3.16 | | | | | | | | 2.70 |

FOR REFERENCE ONLY




HORIZONTAL LOCATION KEY

LOOKING UPSTATION

LEGEND:

FOR LEGEND SEE CAMBER DIAGRAM UNIT 1

NOTES:

FOR NOTES SEE CAMBER DIAGRAM UNIT 1

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY STB | PLANS CK'D. NPP

CAMBER DATA: FIELD SECTIONS 15 AND 16

SHEET 50 OF 51

1030

STEEL FABRICATION CONTRACT ONLY

8

8

FILE= Q:\WisDot_12345678_US41Bridges_Plans\B-05-679E-CAMBER DATA FS 15 AND 16.dgn

DATE: 4/3/2013

I.D.

| STATE PROJECT NUMBER |
|---|
| 1133-11-77 |

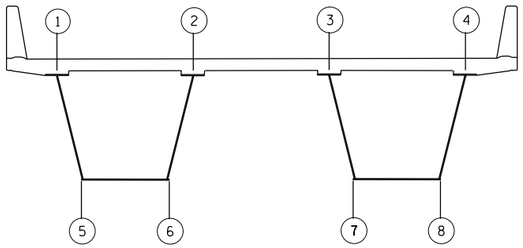
## FIELD SECTION 17

| HORIZ. LOC. | VALUE | POSITION AND STATION | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | FS #15 1206+72.25 | P17-1 1206+81.11 | P17-2 1206+98.82 | P17-3 1207+16.54 | PIER 9 1207+34.25 | P17-5 1207+52.33 | P17-6 1207+70.42 | P17-7 1207+88.50 | FS #16 1207+97.54 |
| CAMBER DATA | | | | | | | | | | |
| 1 | FG | 634.08 | 634.03 | 633.93 | 633.83 | 633.72 | 633.60 | 633.45 | 633.27 | 633.18 |
| LEFT GIRDER | TES | 633.35 | 633.20 | 633.01 | 632.93 | 632.77 | 632.65 | 632.44 | 632.31 | 632.30 |
| | ZW | 633.25 | 633.15 | 632.93 | 632.73 | 632.55 | 632.43 | 632.33 | 632.22 | 632.16 |
| | CW | 633.25 | 633.18 | 633.02 | 632.87 | 632.71 | 632.56 | 632.40 | 632.24 | 632.16 |
| LEFT WEB | SW | 0.08 | 0.07 | 0.04 | 0.02 | 0.00 | 0.00 | 0.01 | 0.03 | 0.04 |
| | DL1 | 0.23 | 0.19 | 0.11 | 0.04 | 0.00 | 0.00 | 0.03 | 0.08 | 0.11 |
| | DL2 | 0.03 | 0.02 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 |
| | C | 0.00 | -0.03 | -0.09 | -0.14 | -0.16 | -0.13 | -0.07 | -0.03 | 0.00 |
| 2 | FG | 633.33 | 633.28 | 633.18 | 633.08 | 632.97 | 632.85 | 632.72 | 632.59 | 632.52 |
| LEFT GIRDER | TES | 632.59 | 632.45 | 632.26 | 632.18 | 632.02 | 631.90 | 631.71 | 631.64 | 631.65 |
| | ZW | 632.50 | 632.39 | 632.18 | 631.98 | 631.80 | 631.68 | 631.60 | 631.54 | 631.51 |
| | CW | 632.50 | 632.43 | 632.29 | 632.15 | 632.01 | 631.87 | 631.72 | 631.58 | 631.51 |
| RIGHT WEB | SW | 0.08 | 0.07 | 0.04 | 0.02 | 0.00 | 0.00 | 0.01 | 0.03 | 0.04 |
| | DL1 | 0.23 | 0.18 | 0.11 | 0.04 | 0.00 | 0.00 | 0.03 | 0.08 | 0.11 |
| | DL2 | 0.03 | 0.02 | 0.01 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 |
| | C | 0.00 | -0.04 | -0.11 | -0.17 | -0.21 | -0.18 | -0.12 | -0.04 | 0.00 |
| 3 | FG | 632.58 | 632.53 | 632.43 | 632.33 | 632.22 | 632.10 | 631.99 | 631.91 | 631.87 |
| RIGHT GIRDER | TES | 631.84 | 631.69 | 631.51 | 631.43 | 631.27 | 631.15 | 630.98 | 630.96 | 630.99 |
| | ZW | 631.74 | 631.63 | 631.42 | 631.22 | 631.05 | 630.93 | 630.87 | 630.86 | 630.85 |
| | CW | 631.74 | 631.68 | 631.55 | 631.43 | 631.30 | 631.17 | 631.05 | 630.92 | 630.85 |
| LEFT WEB | SW | 0.08 | 0.07 | 0.04 | 0.02 | 0.00 | 0.00 | 0.01 | 0.03 | 0.04 |
| | DL1 | 0.22 | 0.18 | 0.10 | 0.04 | 0.00 | 0.00 | 0.03 | 0.08 | 0.11 |
| | DL2 | 0.03 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 |
| | C | 0.00 | -0.04 | -0.13 | -0.20 | -0.25 | -0.24 | -0.18 | -0.06 | 0.00 |
| 4 | FG | 631.83 | 631.78 | 631.68 | 631.58 | 631.47 | 631.35 | 631.26 | 631.23 | 631.21 |
| RIGHT GIRDER | TES | 631.08 | 630.94 | 630.76 | 630.68 | 630.52 | 630.40 | 630.25 | 630.28 | 630.34 |
| | ZW | 630.98 | 630.88 | 630.67 | 630.47 | 630.30 | 630.18 | 630.14 | 630.18 | 630.20 |
| | CW | 630.98 | 630.93 | 630.82 | 630.71 | 630.60 | 630.48 | 630.37 | 630.26 | 630.20 |
| RIGHT WEB | SW | 0.08 | 0.07 | 0.04 | 0.02 | 0.00 | 0.00 | 0.01 | 0.03 | 0.04 |
| | DL1 | 0.22 | 0.18 | 0.10 | 0.04 | 0.00 | 0.00 | 0.03 | 0.08 | 0.10 |
| | DL2 | 0.02 | 0.02 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 |
| | C | 0.00 | -0.05 | -0.15 | -0.23 | -0.29 | -0.30 | -0.23 | -0.08 | 0.00 |
| BLOCKING HEIGHTS | | | | | | | | | | |
| 5 | BLK | 4.75 | | | | 4.05 | | | | 3.66 |
| 6 | | 4.21 | | | | 3.52 | | | | 3.22 |
| 7 | | 3.24 | | | | 2.55 | | | | 2.35 |
| 8 | | 2.70 | | | | 2.02 | | | | 1.91 |

## FIELD SECTION 18

| HORIZ. LOC. | VALUE | POSITION AND STATION | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | FS #16 1207+97.54 | P18-1 1208+06.58 | P18-2 1208+24.67 | P18-3 1208+42.75 | P18-4 1208+60.83 | P18-5 1208+78.92 | P18-6 1208+97.00 | PIER C1 1209+15.08 |
| CAMBER DATA | | | | | | | | | |
| 1 | FG | 633.18 | 633.08 | 632.90 | 632.71 | 632.53 | 632.35 | 632.16 | 631.98 |
| LEFT GIRDER | TES | 632.30 | 632.15 | 632.01 | 631.84 | 631.65 | 631.42 | 631.16 | 630.89 |
| | ZW | 632.16 | 632.11 | 631.99 | 631.83 | 631.62 | 631.38 | 631.11 | 630.81 |
| | CW | 632.16 | 632.06 | 631.85 | 631.64 | 631.44 | 631.23 | 631.02 | 630.81 |
| LEFT WEB | SW | 0.04 | 0.05 | 0.06 | 0.07 | 0.06 | 0.05 | 0.03 | 0.00 |
| | DL1 | 0.11 | 0.13 | 0.17 | 0.19 | 0.18 | 0.14 | 0.08 | 0.00 |
| | DL2 | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | 0.00 |
| | C | 0.00 | 0.05 | 0.13 | 0.18 | 0.19 | 0.16 | 0.09 | 0.00 |
| 2 | FG | 632.52 | 632.45 | 632.32 | 632.19 | 632.05 | 631.92 | 631.78 | 631.65 |
| LEFT GIRDER | TES | 631.65 | 631.52 | 631.43 | 631.31 | 631.16 | 630.99 | 630.78 | 630.57 |
| | ZW | 631.51 | 631.48 | 631.40 | 631.30 | 631.14 | 630.95 | 630.73 | 630.48 |
| | CW | 631.51 | 631.43 | 631.27 | 631.11 | 630.96 | 630.80 | 630.64 | 630.48 |
| RIGHT WEB | SW | 0.04 | 0.05 | 0.06 | 0.07 | 0.06 | 0.05 | 0.03 | 0.00 |
| | DL1 | 0.11 | 0.13 | 0.17 | 0.19 | 0.18 | 0.14 | 0.08 | 0.00 |
| | DL2 | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | 0.00 |
| | C | 0.00 | 0.05 | 0.13 | 0.18 | 0.19 | 0.16 | 0.09 | 0.00 |
| 3 | FG | 631.87 | 631.83 | 631.74 | 631.66 | 631.57 | 631.49 | 631.40 | 631.32 |
| RIGHT GIRDER | TES | 630.99 | 630.89 | 630.85 | 630.78 | 630.68 | 630.56 | 630.41 | 630.24 |
| | ZW | 630.85 | 630.85 | 630.82 | 630.76 | 630.66 | 630.53 | 630.35 | 630.16 |
| | CW | 630.85 | 630.80 | 630.69 | 630.59 | 630.48 | 630.37 | 630.26 | 630.16 |
| LEFT WEB | SW | 0.04 | 0.04 | 0.06 | 0.07 | 0.06 | 0.05 | 0.03 | 0.00 |
| | DL1 | 0.11 | 0.13 | 0.17 | 0.19 | 0.18 | 0.14 | 0.08 | 0.00 |
| | DL2 | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | 0.00 |
| | C | 0.00 | 0.05 | 0.13 | 0.18 | 0.18 | 0.15 | 0.09 | 0.00 |
| 4 | FG | 631.21 | 631.20 | 631.16 | 631.13 | 631.10 | 631.06 | 631.03 | 630.99 |
| RIGHT GIRDER | TES | 630.34 | 630.26 | 630.27 | 630.25 | 630.20 | 630.13 | 630.03 | 629.91 |
| | ZW | 630.20 | 630.22 | 630.24 | 630.23 | 630.18 | 630.10 | 629.97 | 629.83 |
| | CW | 630.20 | 630.17 | 630.11 | 630.06 | 630.00 | 629.94 | 629.89 | 629.83 |
| RIGHT WEB | SW | 0.04 | 0.04 | 0.06 | 0.06 | 0.06 | 0.05 | 0.03 | 0.00 |
| | DL1 | 0.10 | 0.13 | 0.17 | 0.19 | 0.17 | 0.14 | 0.08 | 0.00 |
| | DL2 | 0.01 | 0.01 | 0.02 | 0.02 | 0.02 | 0.01 | 0.01 | 0.00 |
| | C | 0.00 | 0.05 | 0.13 | 0.18 | 0.18 | 0.15 | 0.09 | 0.00 |
| BLOCKING HEIGHTS | | | | | | | | | |
| 5 | BLK | 3.66 | | | | | | | 2.31 |
| 6 | | 3.22 | | | | | | | 2.20 |
| 7 | | 2.35 | | | | | | | 1.66 |
| 8 | | 1.91 | | | | | | | 1.54 |

FOR REFERENCE ONLY




HORIZONTAL LOCATION KEY

LOOKING UPSTATION

LEGEND:

FOR LEGEND SEE CAMBER DIAGRAM UNIT 1

NOTES:

FOR NOTES SEE CAMBER DIAGRAM UNIT 1

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY STB | PLANS CK'D. NPP

CAMBER DATA: FIELD SECTIONS 17 AND 18

SHEET 51 OF 51 1031

STEEL FABRICATION CONTRACT ONLY

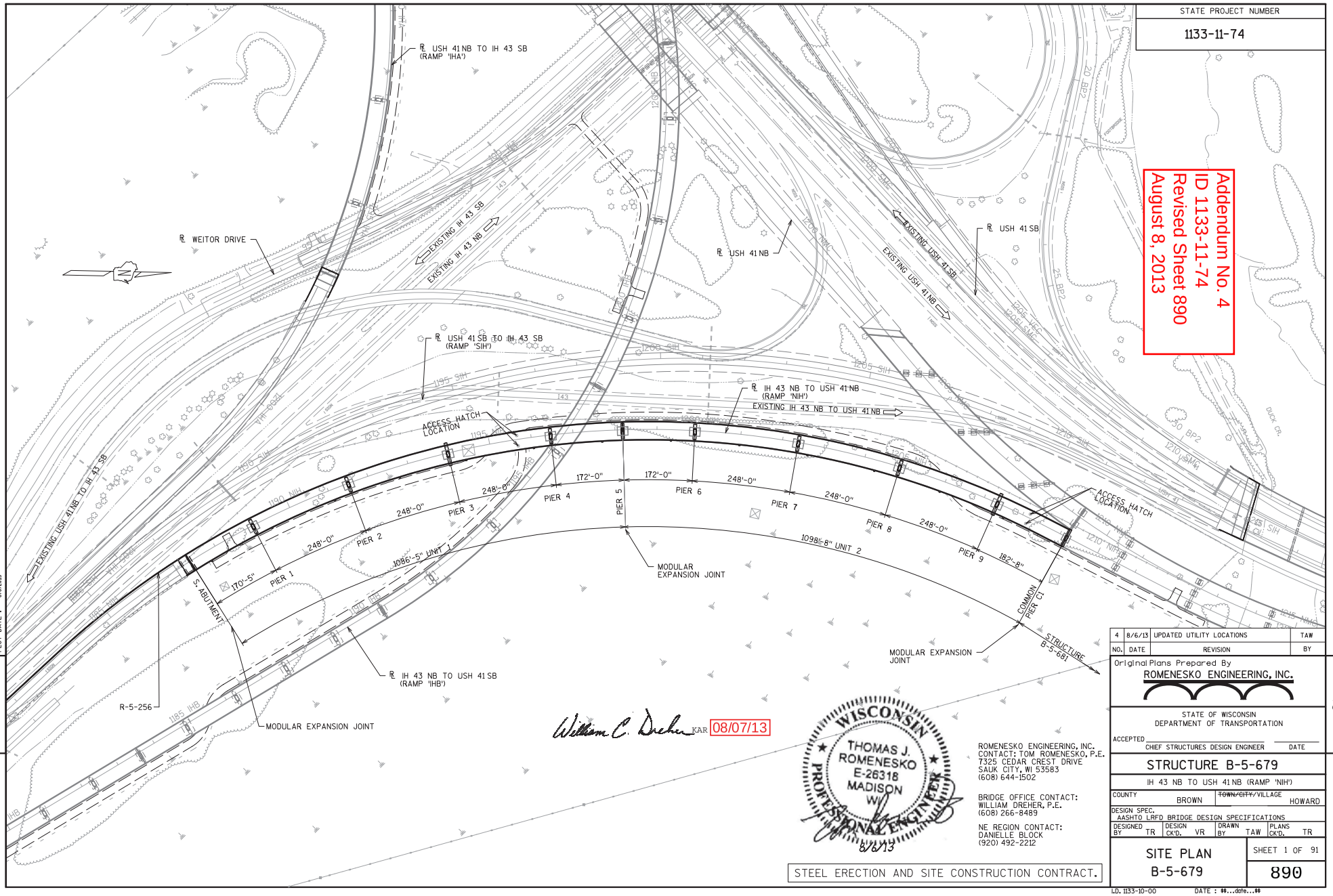
8

8

FILE= Q:\WisDot_12345678_US41Bridges_Plans\B-05-679E-CAMBER DATA FS 17 AND18.dgn

DATE: 4/3/2013

I.D.




Addendum No. 4
ID 1133-11-74
Revised Sheet 890
August 8, 2013

| STATE PROJECT NUMBER |
|---|
| 1133-11-74 |

FILE NAME : P:\153 USH 41 1133-10-00 LRDS\Structures\B-5-679\001_site_plan_v8.b-5-679.dgn
PLOT DATE : 8/6/2013

8

William C. Dreher KAR 08/07/13

WISCONSIN
THOMAS J. ROMENESKO
E-26318
MADISON
WI
PROFESSIONAL ENGINEER
8/8/13

ROMENESKO ENGINEERING, INC.
CONTACT: TOM ROMENESKO, P.E.
7325 CEDAR CREST DRIVE
SAUK CITY, WI 53583
(608) 644-1502

BRIDGE OFFICE CONTACT:
WILLIAM DREHER, P.E.
(608) 266-8489

NE REGION CONTACT:
DANIELLE BLOCK
(920) 492-2212

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| 4 | 8/6/13 | UPDATED UTILITY LOCATIONS | TAW |

Original Plans Prepared By
ROMENESKO ENGINEERING, INC.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED _____ _____
CHIEF STRUCTURES DESIGN ENGINEER DATE

# STRUCTURE B-5-679

IH 43 NB TO USH 41 NB (RAMP 'NIH')

| COUNTY | ~~TOWN/CITY/~~VILLAGE |
|---|---|
| BROWN | HOWARD |

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

| DESIGNED BY | DESIGN CK'D. | DRAWN BY | PLANS CK'D. |
|---|---|---|---|
| TR | VR | TAW | TR |

SITE PLAN
B-5-679

SHEET 1 OF 91

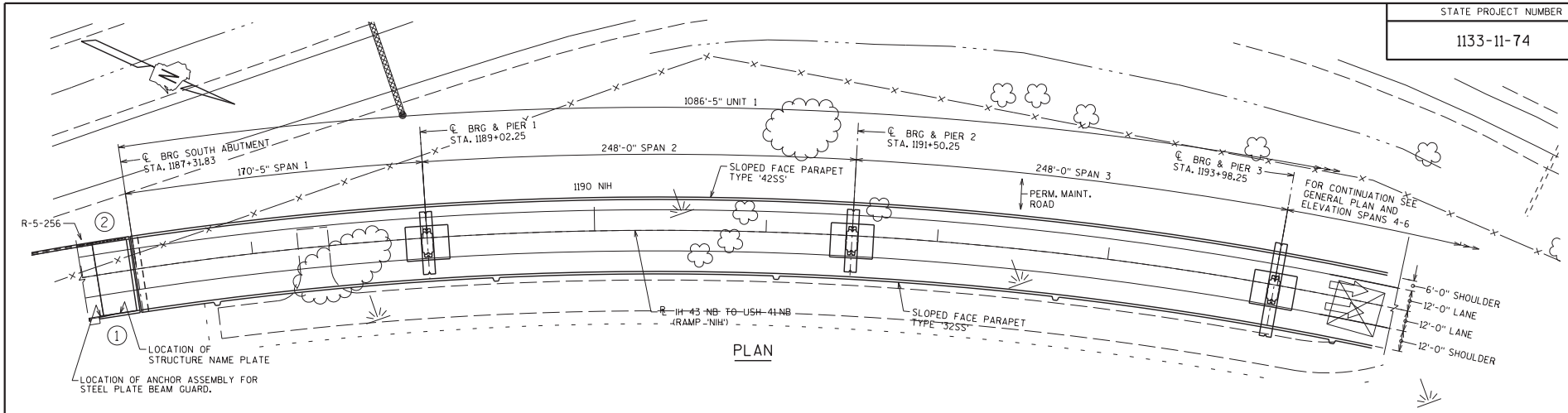
890

I.D. 1133-10-00 DATE : ##...date...##

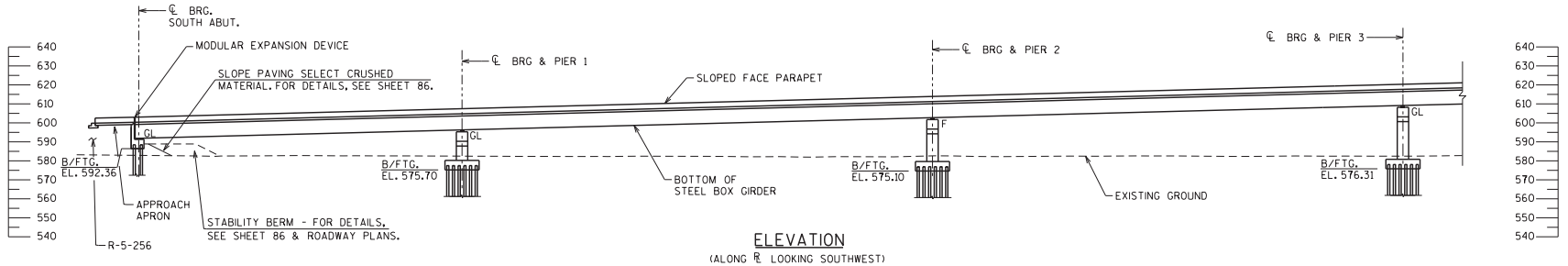
8

STATE PROJECT NUMBER

1133-11-74




PLAN




ELEVATION

(ALONG ℄ LOOKING SOUTHWEST)

Addendum No. 4
ID 1133-11-74
Revised Sheet 892
August 8, 2013

## BENCH MARK

| NO. | DESCRIPTION | ELEVATION |
|---|---|---|
| BM 778 | RR SPIKE IN DECIDUOUS TREE | 586.61 |

## FOUNDATION DATA

SOUTH ABUTMENT TO BE SUPPORTED ON HP14X73 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 250 TONS PER PILE AS DETERMINED BY THE PDA/CAPWAP METHODS. ESTIMATED 75 FEET LONG.

PIERS 1 THROUGH PIER C1 TO BE SUPPORTED ON HP14X73 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 250 TONS PER PILE AS DETERMINED BY THE PDA/CAPWAP METHODS. SEE PIER SHEETS FOR ESTIMATED LENGTHS.

THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.8 USING THE PDA/CAPWAP METHODS AND THE PREVIOUSLY COMPLETED STATIC LOAD TEST TO DETERMINE THE REQUIRED DRIVING RESISTANCE.

HARD DRIVING MATERIAL SHOULD BE ANTICIPATED IN LAYERS SIGNIFICANTLY ABOVE MINIMUM TIP ELEVATION AT SOME LOCATIONS. IT IS RECOMMENDED THAT THE CONTRACTOR VERIFY THAT THE PILE DRIVING SYSTEM CAN ADVANCE PILES TO DEVELOP THE REQUIRED DRIVING RESISTANCE AND MINIMUM TIP ELEVATION WITHOUT DAMAGE TO THE PILE. DETAILED DRIVEABILITY ANALYSIS SHOULD BE PART OF CONTRACTOR VERIFICATION. IF MINIMUM TIP ELEVATION CANNOT BE ACHIEVED SEE ENGINEER.

## STRUCTURE TYPE

5-SPAN CONTINUOUS STEEL BOX GIRDER BRIDGE UNIT 1
5-SPAN CONTINUOUS STEEL BOX GIRDER BRIDGE UNIT 2

## NOTES:

ALL SUBSTRUCTURE UNITS ARE NORMAL TO ℄.

DIMENSIONS SHOWN ARE ALONG ℄.

SPAN LENGTHS SHOWN ARE MEASURED ALONG ℄.

FOR CURVE DATA SEE ALIGNMENT LAYOUT AND SUPERELEVATION SHEET.

LIGHT POLE LOCATIONS ARE NOT YET DETERMINED.

GUIDED LONGITUDINAL BEARINGS WILL BE ALIGNED PARALLEL WITH ℄.

EXISTING AND FUTURE UTILITIES ARE SHOWN FOR INFORMATION ONLY. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING ALL UTILITIES PRIOR TO EXCAVATION OR PILE DRIVING.

William C. Dreher KAR 08/07/13

## LEGEND

F- FIXED BEARING
GL - GUIDED LONGITUDINAL UNIDIRECTIONAL BEARING
(X) INDICATES WING/CORNER NUMBER

## DESIGN DATA

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY, HIGH PERFORMANCE CONCRETE
SLAB---------- f'c = 4,000 P.S.I.
ALL OTHER---------- f'c = 4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60---------- fy = 60,000 P.S.I.
HIGH STRENGTH STRUCTURAL STEEL,---------- fy = 50,000 P.S.I.
(ASTM A709, GRADE 50, HPS50W)

## TRAFFIC VOLUME:

RAMP NIH
ADT (2035) = 10,200
R.D.S. = 70 M.P.H.

RAMP IHB
ADT (2035) = 17,600
R.D.S. = 60-70 M.P.H.

WISCONSIN
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MADISON
WI
PROFESSIONAL ENGINEER
8/6/13

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| 4 | 8/6/13 | UPDATED UTILITY LOCATIONS | TAW |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

GENERAL PLAN AND ELEVATION SPANS 1-3

SHEET 3 OF 91

892

PLOT DATE : 8/6/2013

FILE NAME : P:\153 ISH 41 1133-10-00 UDOS\Structures\B-5-679\003.gpnelvn.spans.1-3.sht.b-5-679.dgn

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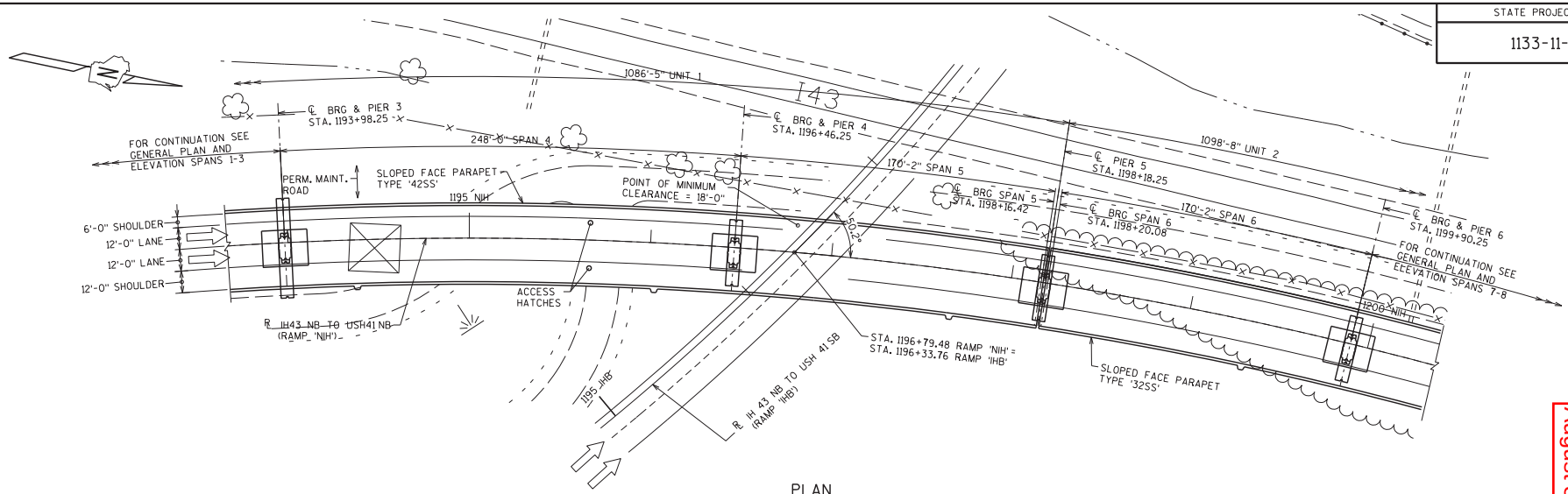
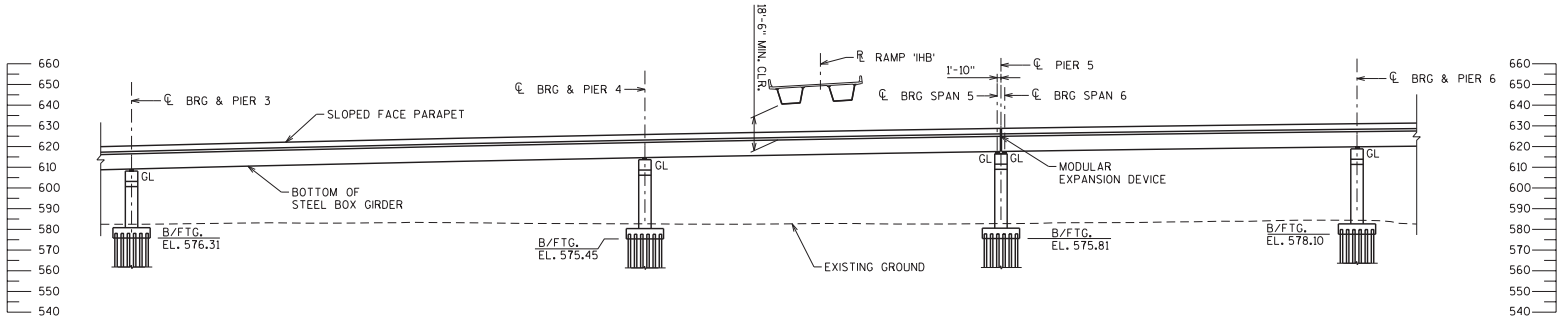
| STATE PROJECT NUMBER |
|---|
| 1133-11-74 |




PLAN




ELEVATION

(ALONG ℄ LOOKING SOUTHWEST)

Addendum No. 4
ID 1133-11-74
Revised Sheet 893
August 8, 2013

8

8

## LEGEND

F- FIXED BEARING
GL - GUIDED LONGITUDINAL UNIDIRECTIONAL BEARING

## NOTES:

FOR NOTES, SEE SHEET TITLED "GENERAL PLAN & ELEVATION SPANS 1-3"

William C. Dreher KAR 08/07/13

WISCONSIN
THOMAS J. ROMENESKO
E-26318
MADISON
WI
PROFESSIONAL ENGINEER
8/6/13

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| 4 | 8/6/13 | UPDATED UTILITY LOCATIONS | TAW |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

GENERAL PLAN AND ELEVATION SPANS 4-6

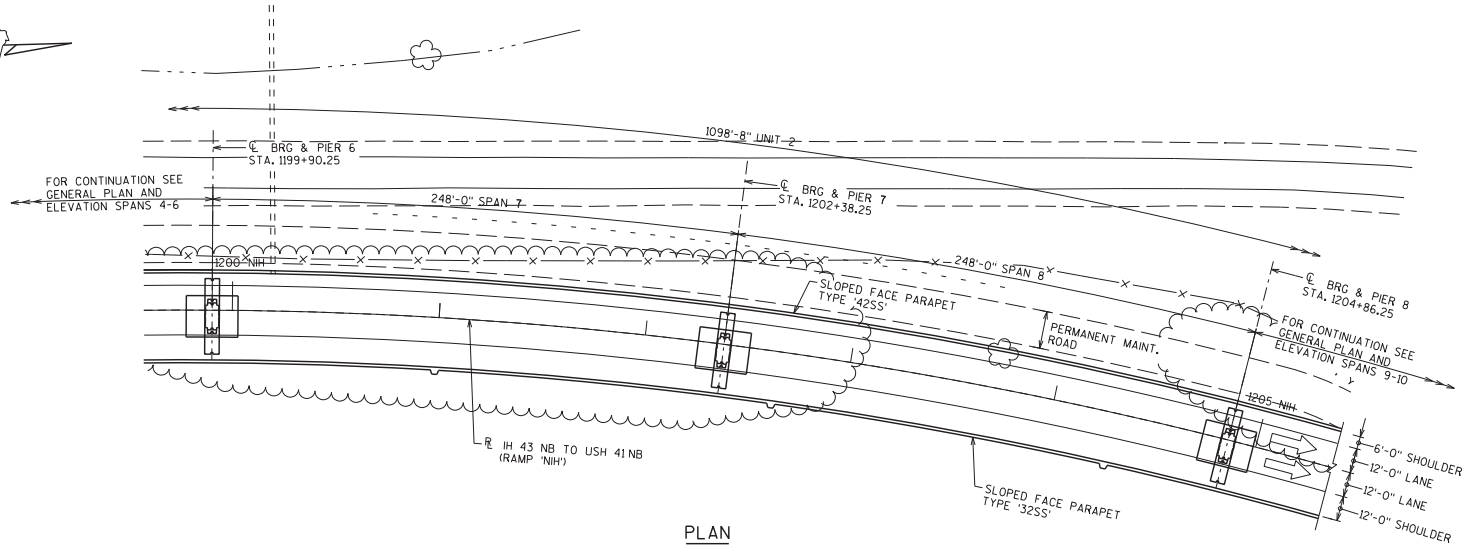
SHEET 4 OF 91

893

FILE NAME : P:\153 USH 41 1133-10-00 UBS\Structures\B-5-679\004_genplan_spans_4-6_IHB-5-679.dgn

PLOT DATE : 8/6/2013

| STATE PROJECT NUMBER |
|---|
| 1133-11-74 |

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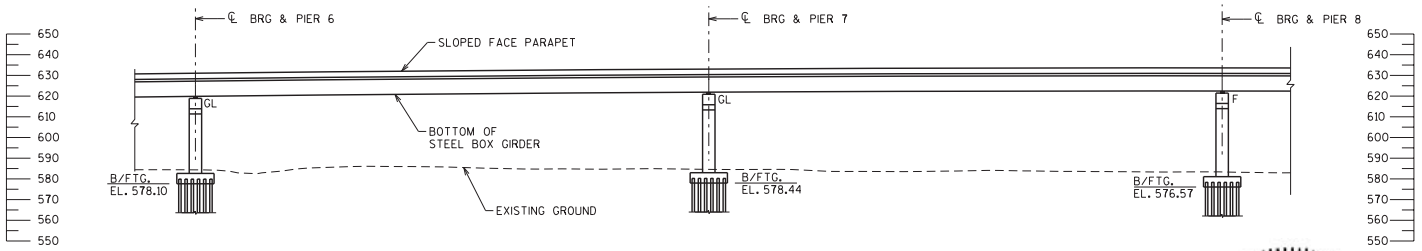


ELEVATION

(ALONG ℄ LOOKING WEST)

Addendum No. 4
ID 1133-11-74
Revised Sheet 894
August 8, 2013

## LEGEND

F- FIXED BEARING
GL - GUIDED LONGITUDINAL UNIDIRECTIONAL BEARING

## NOTES:

FOR NOTES, SEE SHEET TITLED
"GENERAL PLAN & ELEVATION SPANS 1-3"

William C. Dreher KAR 08/07/13

WISCONSIN
THOMAS J.
ROMENESKO
E-26318
MADISON
WI
PROFESSIONAL ENGINEER
8/6/13

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| 4 | 8/6/13 | UPDATED UTILITY LOCATIONS | TAW |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

GENERAL PLAN AND ELEVATION SPANS 7-8

SHEET 5 OF 91

894

PLOT DATE : 8/6/2013

FILE NAME : P:\153 (GH 41 1133-10-00 (DOS\Structures\B-5-679\005.generalplan_spans_7-8_4LD-5-679.dgn

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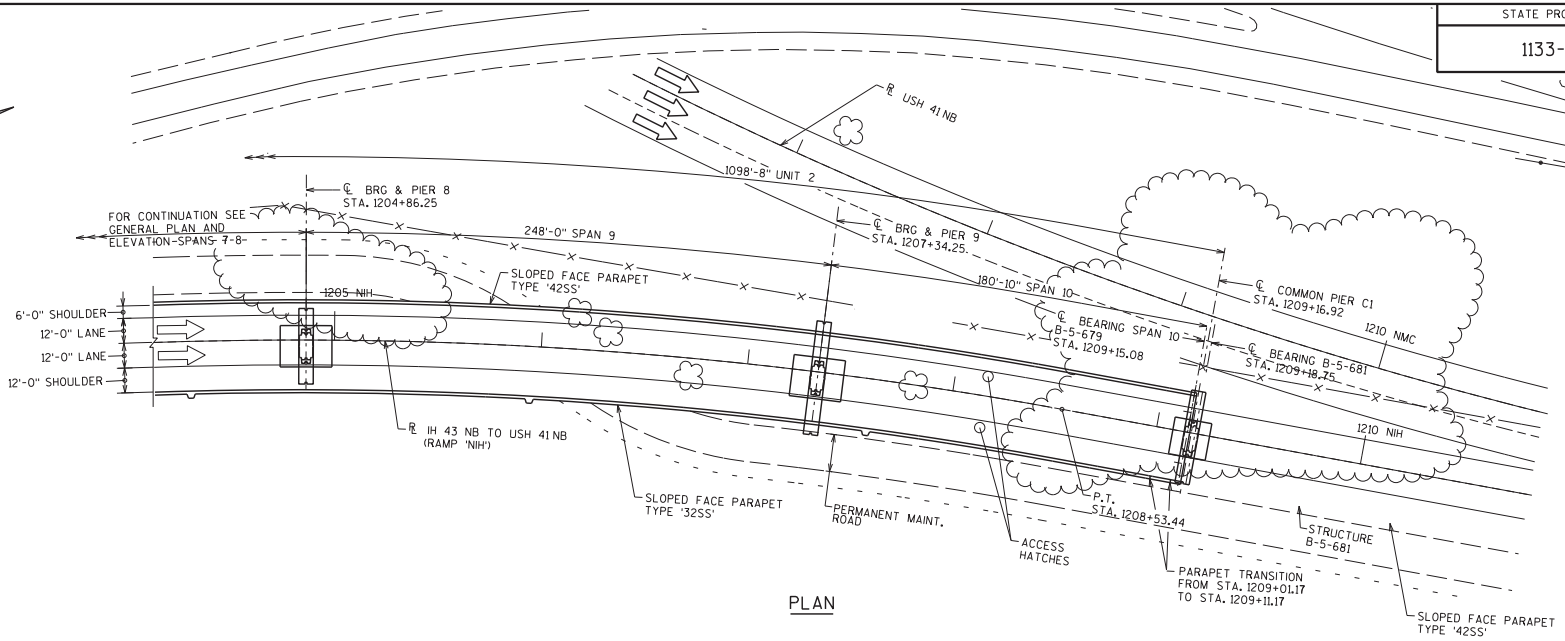
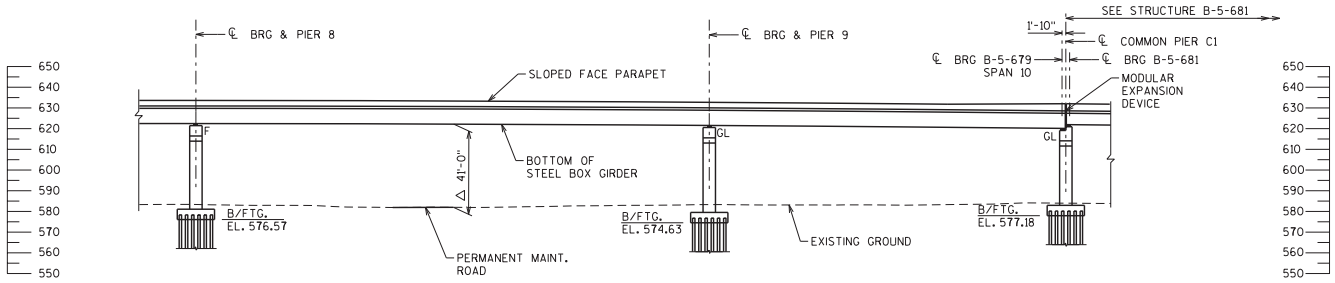
| STATE PROJECT NUMBER |
|---|
| 1133-11-74 |




PLAN




ELEVATION

(ALONG ℄ LOOKING WEST)

Addendum No. 4
ID 1133-11-74
Revised Sheet 895
August 8, 2013

NOTES:

FOR NOTES, SEE SHEET TITLED
"GENERAL PLAN & ELEVATION SPANS 1-3"

LEGEND

F- FIXED BEARING
GL - GUIDED LONGITUDINAL UNIDIRECTIONAL BEARING

William C. Drecher KAR 08/07/13

WISCONSIN
THOMAS J.
ROMENESKO
E-26318
MADISON
WI
PROFESSIONAL ENGINEER
8/6/13

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| 4 | 8/6/13 | UPDATED UTILITY LOCATIONS | TAW |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

GENERAL PLAN AND ELEVATION SPANS 9-10

SHEET 6 OF 91

895

PLOT DATE : 8/6/2013

FILE NAME : P:\151 USH 41 1133-10-00 UBS\Structures\B-5-679\006.generon_spans_9-10_sh_b-5-679.dgn

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| STATE PROJECT NUMBER |
|---|
| 1133-11-74 |

## TOTAL ESTIMATED QUANTITIES

| | BID ITEM # | BID ITEM | UNIT | S. APPR. APRON | S. ABUT. | UNIT 1 SUPER. SPANS 1-5 | UNIT 1 PIERS 1-5 | UNIT 2 SUPER. SPANS 6-10 | UNIT 2 PIERS 6-C1 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|
| | 206.1000 | EXCAVATION FOR STRUCTURES BRIDGES B-5-679 | LS | | | | | | | 1 |
| | 210.0100 | BACKFILL STRUCTURE | CY | | 330 | | | | | 330 |
| | 502.3110.S | EXPANSION DEVICE MODULAR B-5-679 | LS | | | | | | | 1 |
| | 502.3200 | PROTECTIVE SURFACE TREATMENT | SY | 112 | | 6,057 | | 6,127 | | 12,296 |
| | 505.0405 | BAR STEEL REINFORCEMENT HS BRIDGES | LB | | 5,910 | | 30,850 | | 30,850 | 67,610 |
| | 505.0605 | BAR STEEL REINFORCEMENT HS COATED BRIDGES | LB | 10,130 | 6,730 | 419,660 | 175,860 | 421,880 | 198,570 | 1,232,830 |
| * | 506.3025 | WELDED STUD SHEAR CONNECTORS 7/8 X 8-INCH | EACH | | | 14,916 | | 15,030 | | 29,946 |
| | 514.0445 | FLOOR DRAINS TYPE GC | EACH | | | 4 | | 3 | | 7 |
| | 516.0500 | RUBBERIZED MEMBRANE WATERPROOFING | SY | | 12 | | | | | 12 |
| ** | 550.1140 | PILING STEEL HP 14-INCH X 73 LB | LF | | 975 | | 9,760 | | 6,600 | 17,005 |
| | 604.0400 | SLOPE PAVING SELECT CRUSHED AGGREGATE | SY | | 170 | | | | | 170 |
| | 606.0300 | RIPRAP HEAVY | CY | | 3 | | 12 | | 9 | 24 |
| | 612.0406 | PIPE UNDERDRAIN WRAPPED 6-INCH | LF | 150 | 90 | | | | | 240 |
| | 614.0150 | ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD | EACH | 1 | | | | | | 1 |
| | 645.0120 | GEOTEXTILE FABRIC TYPE HR | SY | | 15 | | 60 | | 45 | 120 |
| | 652.0125 | CONDUIT RIGID METALLIC 2-INCH | LF | 25 | | 10 | | 10 | | 45 |
| | 652.0135 | CONDUIT RIGID METALLIC 3-INCH | LF | | | 4,348 | | 4,400 | | 8,748 |
| | 652.0225 | CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH | LF | | | 1,080 | | 1,090 | | 2,170 |
| | 652.0240 | CONDUIT RIGID NONMETALLIC SCHEDULE 40 4-INCH | LF | | | | 50 | | 50 | 100 |
| | 653.0222 | JUNCTION BOXES 18x12x6-INCH | EACH | | | 7 | | 6 | | 13 |
| | 655.0620 | ELECTRICAL WIRE LIGHTING 8 AWG | LF | | | 25,515 | | 23,745 | | 49,260 |
| | 655.0635 | ELECTRICAL WIRE LIGHTING 2 AWG | LF | | | 6,400 | | 6,400 | | 12,800 |
| | 657.6005.S | ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES | EACH | | | 7 | | 6 | | 13 |
| | SPV.0035.700 | HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES | CY | 58 | 125 | 1,932 | 1,105 | 1,954 | 1,261 | 6,435 |
| | SPV.0060.350 | GROUND FAULT CIRCUIT INTERRUPTER (GFCI) RECEPTACLES | EACH | | | 24 | | 24 | | 48 |
| | SPV.0060.351 | VAPOR PROOF L.E.D. LIGHT FIXTURE | EACH | | | 52 | | 52 | | 104 |
| | SPV.0060.352 | JUNCTION BOXES STAINLESS STEEL 27x18x8-INCH | EACH | | | 52 | | 52 | | 104 |
| | SPV.0060.353 | JUNCTION BOXES STAINLESS STEEL 27x24x12-INCH | EACH | | | 4 | | 4 | | 8 |
| | SPV.0060.701 | PILE DYNAMIC ANALYZER (PDA) TESTING | EACH | | 3 | | 20 | | 20 | 43 |
| | SPV.0060.702 | PILE DYNAMIC ANALYZER (PDA) RESTRIKES | EACH | | 3 | | 20 | | 20 | 43 |
| | SPV.0060.703 | ANCHOR BOLT ASSEMBLY OVERHEAD SIGN SUPPORTS | EACH | | | | 2 | | 2 | 4 |
| | SPV.0085.700 | BAR STEEL REINFORCEMENT HS STAINLESS BRIDGES | LB | | 720 | | | | | 720 |
| | SPV.0090.350 | CONDUIT RIGID METALLIC PVC COATED 4-INCH | LF | | | 25 | | 25 | | 50 |
| ** | SPV.0090.700 | DRIVING PILING STEEL STATE FURNISHED HP 14-INCH X 89 LB | LF | | | | | | 3,650 | 3,650 |
| | SPV.0090.702 | DOWNSPOUT RTRP 6-INCH | LF | | 20 | | 137 | | 168 | 325 |
| | SPV.0090.703 | SERVICE BONDING JUMPER, #4 AWG | LF | | | | 75 | | | 75 |
| | SPV.0105.352 | ELECTRICAL SERVICE INSTALLATION B-5-679 | LS | | | | | | | 1 |
| | SPV.0105.702 | ERECTING STRUCTURAL STEEL B-5-679 | LS | | | | | | | 1 |
| | SPV.0105.706 | FIELD PAINTING STRUCTURAL STEEL B-5-679 | LS | | | | | | | 1 |
| | SPV.0165.700 | ARCHITECTURAL SURFACE TREATMENT | SF | | 80 | | 1,730 | | 2,430 | 4,240 |
| | SPV.0165.701 | STAINING CONCRETE | SF | 140 | 800 | 14,340 | 9,890 | 14,480 | 11,020 | 50,670 |
| | SPV.0165.702 | STAINING CONCRETE BRICK | SF | | 80 | | 1,730 | | 2,430 | 4,240 |
| | SPV.0180.700 | POLYMER OVERLAY | SY | 187 | | 5,071 | | 5,129 | | 10,387 |
| | | | | | | | | | | |
| | | | | | | | | | | |

Addendum No. 4
ID 1133-11-74
Revised Sheet 897
August 8, 2013

### NOTES:

* SHEAR STUDS ARE FURNISHED AND INSTALLED UNDER THIS CONTRACT. SEE STEEL FABRICATION PLANS FOR LOCATIONS AND SPACING OF SHEAR STUDS. REMOVE THE PRIMER FROM THE TOP FLANGE AT SHEAR STUD LOCATIONS BEFORE INSTALLING STUDS. STUDS SHALL NOT BE ORDERED UNTIL DECK GRADES ARE SURVEYED AND HAUNCH HEIGHTS ARE DETERMINED. WHERE STUDS DO NOT PROVIDE A MINIMUM 2 OF EMBEDMENT ABOVE THE BOTTOM OF THE BOTTOM MAT OF DECK REINFORCING STEEL, LONGER STUDS SHALL BE PROVIDED. WHERE STUDS EXTEND ABOVE THE BOTTOM OF THE TOP MAT OF DECK REINFORCING STEEL, SHORTER STUDS SHALL BE PROVIDED. NO ADDITIONAL PAYMENT WILL BE MADE FOR THE COST OF LONGER OR SHORTER STUDS.

** STATE OWNED HP14X89 PILES SHALL BE USED FOR PIERS 6 & 7. CONTRACTOR SHALL PROVIDE HP14X73 PILES FOR REMAINDER OF SUBSTRUCTURE.

WISCONSIN
THOMAS J. ROMENESKO
E-26318
MADISON
WI
PROFESSIONAL ENGINEER
8/6/13

William C. Drehen KAR 08/07/13

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| 4 | 8/6/13 | UPDATED ELECTRICAL QUANTITIES | TAW |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

QUANTITIES

SHEET 8 OF 91

897

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

8

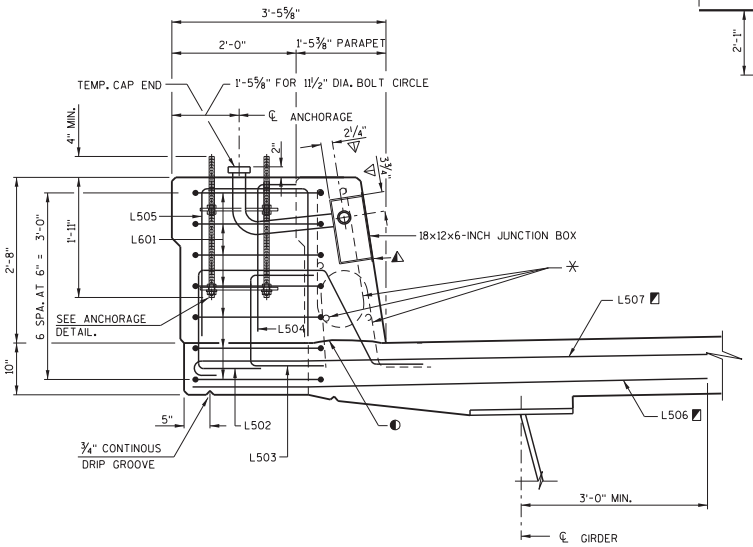
8

FILE NAME : P:\151 (64 1) 1133-10-00 (BOS)\Structures\B-5-679\008_quants_v8_b-5-679.dgn

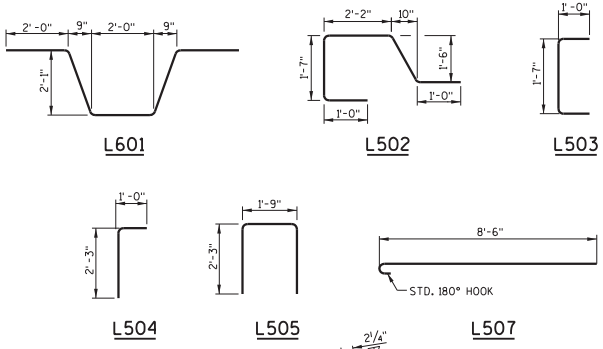
PLOT DATE : 8/6/2013

STATE PROJECT NUMBER

1133-11-74



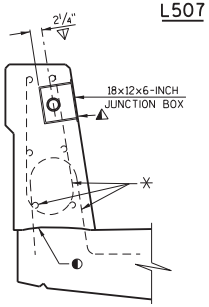

SECTION A-A




## BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
ALL REINFORCEMENT BARS IN THIS BILL SHALL BE EPOXY COATED.

| MARK | NO. REQ'D. UNIT 1 | NO. REQ'D. UNIT 2 | LENGTH | BENT | BAR SERIES | LOCATION | TOTAL WEIGHT = 4,640 LBS. |
|---|---|---|---|---|---|---|---|
| L601 | 49 | 42 | 10-0 | X | | LIGHT STANDARD BASE | HORIZ. |
| L502 | 28 | 24 | 7-0 | X | | LIGHT STANDARD BASE | VERT. |
| L503 | 14 | 12 | 3-5 | X | | LIGHT STANDARD BASE | VERT. |
| L504 | 14 | 12 | 3-2 | X | | LIGHT STANDARD BASE | VERT. |
| L505 | 28 | 24 | 6-0 | X | | LIGHT STANDARD BASE | VERT. |
| L506 | 70 | 60 | 8-6 | | | LIGHT STANDARD BASE | TRANS. |
| L507 | 70 | 60 | 9-1 | X | | LIGHT STANDARD BASE | TRANS. |




SECTION THRU PARAPET

SHOWING 18x12x6-INCH JUNCTION BOX (SINGLE CONDUIT APPLICATION ONLY)

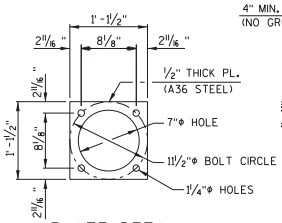
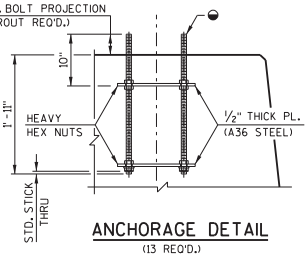


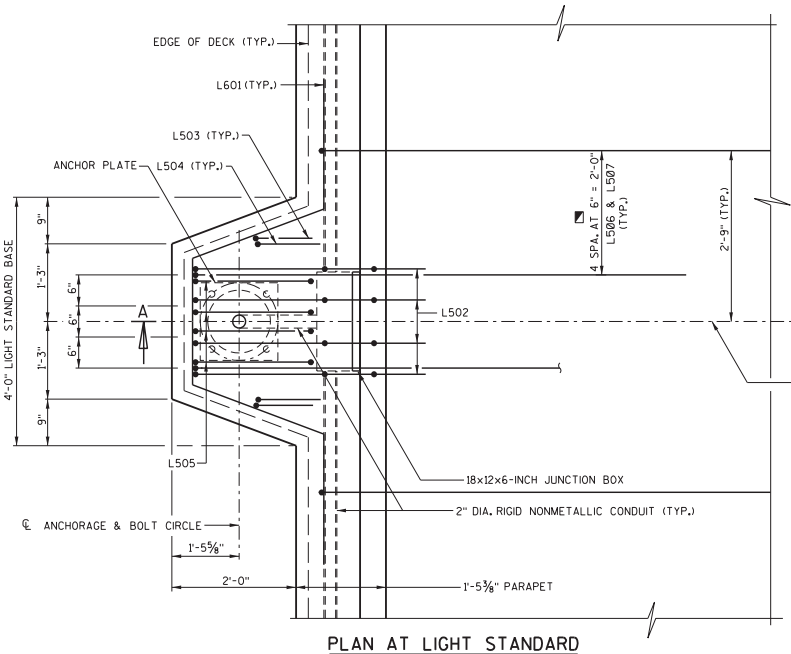

PLATE DETAIL

(26 REQ'D. FOR 13 LIGHT STANDARDS)




ANCHORAGE DETAIL

(13 REQ'D.)




PLAN AT LIGHT STANDARD

Addendum No. 4
ID 1133-11-74
Revised Sheet 954
August 8, 2013

## LEGEND

- ◐ CONSTR. JT. STRIKE OFF AS SHOWN
- ◭ CUT OUT ± 1" OF GASKET AT BOTTOM OF JUNCTION BOX COVER TO ALLOW FOR DRAINAGE.
- ▽ LOCATION OF CONDUIT IS MEASURED FROM OUTSIDE EDGE OF JUNCTION BOX.
- ◒ 1"Φ THREADED ANCHOR BOLTS ASTM A449 OR AASHTO M 314-90 GR 55. HOT DIP ASTM A153, CLASS C, UPPER 8" OF BOLT INCLUDING NUTS & WASHERS. PROVIDE ENLARGED THREAD ON NUTS FOR PROPER FIT AFTER GALVANIZING. PROVIDE DOUBLE FLAT WASHERS & NUTS.
- ✳ TYPICAL BAR STEEL REINFORCEMENT IN SINGLE SLOPE PARAPET, FOR DETAILS, SEE DECK REINF. SHEETS. (ALL BAR STEEL REINFORCEMENT SHOWN FOR THE LIGHT STD. IS IN ADDITION TO THE BAR STEEL REINFORCEMENT REQUIRED FOR THE PARAPET & DECK. DISPLACE BAR STEEL AS NECESSARY TO CLEAR THE JUNCTION BOX BY 2" MIN.)
- ◩ THESE BARS ARE IN ADDITION TO STANDARD TRANSVERSE BARS IN BRIDGE DECK.

## NOTES

BID ITEMS SHALL BE:
"JUNCTION BOXES 18X12X6-INCH", EACH.
"ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES", EACH.
"CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH"
"CONDUIT RIGID METALLIC 2-INCH"

APPROVED MANUFACTURERS - JUNCTION BOXES:
SEE APPROVED MATERIAL LIST.
"CONDUIT RIGID METALLIC 2-INCH".
AT SOUTH ABUT. USE O-Z/GEDNEY TYPE AX8DX-200 FITTINGS AND BONDING JUMPER (8" TOTAL CONDUIT MOVEMENT). PIERS 5 AND C1 USE FLEXIBLE CONDUIT LOOP WITH APPROXIMATELY 10" RADIUS BEND.
EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCIDENTAL TO "CONDUIT RIGID METALLIC 2-INCH".

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

JUNCTION BOX REQUIREMENTS:
PLACE A 18"X12"X6" JUNCTION BOX AT EACH LIGHT STANDARAD (CENTERED ON LIGHT ℄)
USE A JUNCTION BOX TO KEEP A CONTINUOUS RUN OF CONDUIT (PULL LENGTH) TO A MAXIMUM OF 190 FT. CONTACT THE BUREAU OF HIGHWAY OPERATIONS, ELECTRICAL SECTION WHEN PULL LENGTH IS >190' BUT <200'.

WISCONSIN
THOMAS J. ROMENESKO
E-26318
MADISON
WI
PROFESSIONAL ENGINEER
8/5/13

William C. Dreher KAR 08/07/13

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
| 4 | 8/5/13 | REVISED EXP. FITTINGS | TAW |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

DRAWN BY TAW | PLANS CK'D. TR

LIGHT STANDARD

SHEET 65 OF 91

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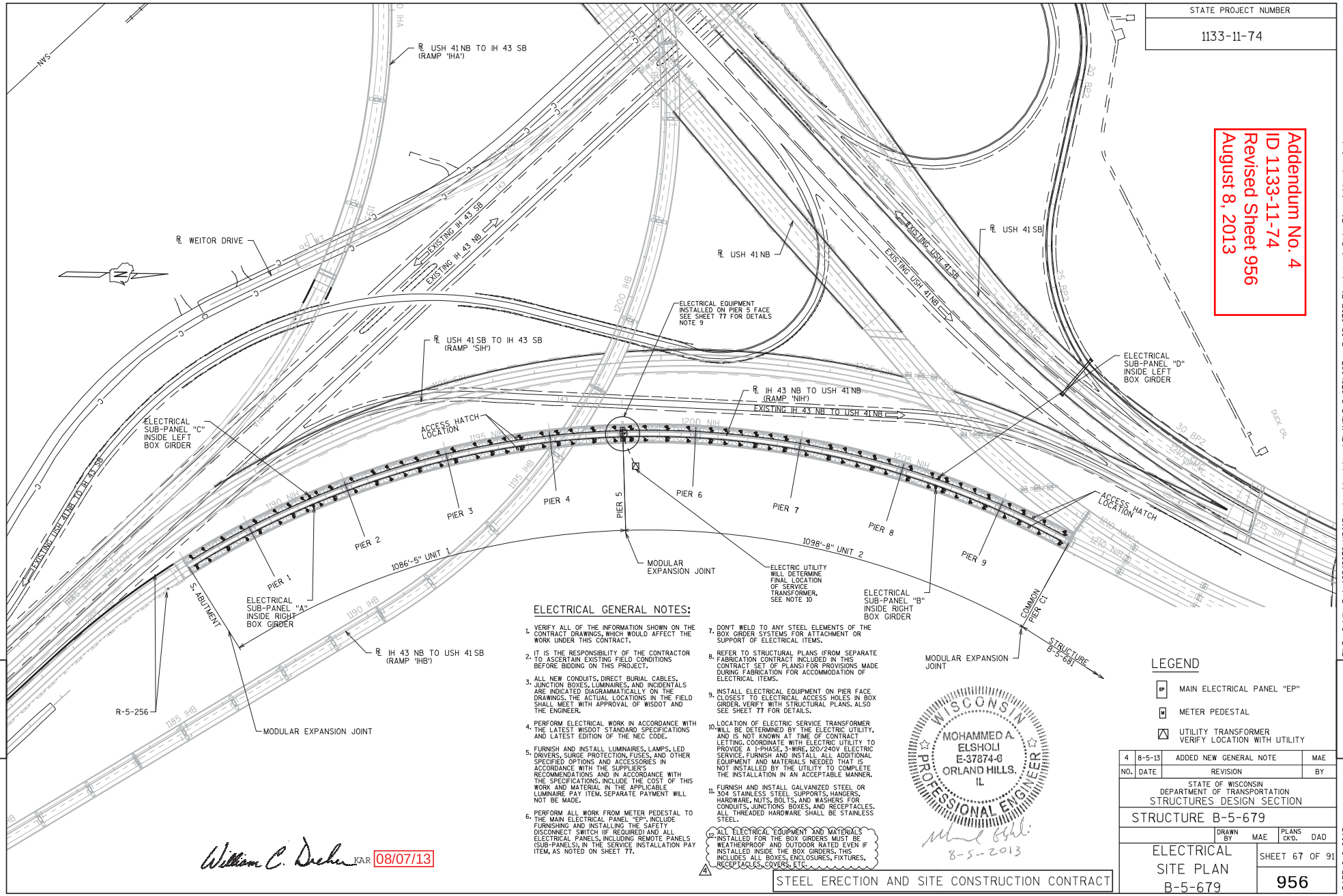
FILE NAME : P:\853 USH 41\813-10-00 URD\STRUCTURES\B-5-679\M06_LIGHT_STD_V7_B-5-679.DGN

PLOT DATE : 8/5/2013




## ELECTRICAL GENERAL NOTES:

1. VERIFY ALL OF THE INFORMATION SHOWN ON THE CONTRACT DRAWINGS, WHICH WOULD AFFECT THE WORK UNDER THIS CONTRACT.
2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ASCERTAIN EXISTING FIELD CONDITIONS BEFORE BIDDING ON THIS PROJECT.
3. ALL NEW CONDUITS, DIRECT BURIAL CABLES, JUNCTION BOXES, LUMINAIRES, AND INCIDENTALS ARE INDICATED DIAGRAMMATICALLY ON THE DRAWINGS. THE ACTUAL LOCATIONS IN THE FIELD SHALL MEET WITH APPROVAL OF WISDOT AND THE ENGINEER.
4. PERFORM ELECTRICAL WORK IN ACCORDANCE WITH THE LATEST WISDOT STANDARD SPECIFICATIONS AND LATEST EDITION OF THE NEC CODE.
5. FURNISH AND INSTALL LUMINAIRES, LAMPS, LED DRIVERS, SURGE PROTECTION, FUSES, AND OTHER SPECIFIED OPTIONS AND ACCESSORIES IN ACCORDANCE WITH THE SUPPLIER'S RECOMMENDATIONS AND IN ACCORDANCE WITH THE SPECIFICATIONS. INCLUDE THE COST OF THIS WORK AND MATERIAL IN THE APPLICABLE LUMINAIRE PAY ITEM. SEPARATE PAYMENT WILL NOT BE MADE.
6. PERFORM ALL WORK FROM METER PEDESTAL TO THE MAIN ELECTRICAL PANEL "EP", INCLUDE FURNISHING AND INSTALLING THE SAFETY DISCONNECT SWITCH (IF REQUIRED) AND ALL ELECTRICAL PANELS, INCLUDING REMOTE PANELS (SUB-PANELS), IN THE SERVICE INSTALLATION PAY ITEM, AS NOTED ON SHEET 77.
7. DON'T WELD TO ANY STEEL ELEMENTS OF THE BOX GIRDER SYSTEMS FOR ATTACHMENT OR SUPPORT OF ELECTRICAL ITEMS.
8. REFER TO STRUCTURAL PLANS (FROM SEPARATE FABRICATION CONTRACT INCLUDED IN THIS CONTRACT SET OF PLANS) FOR PROVISIONS MADE DURING FABRICATION FOR ACCOMMODATION OF ELECTRICAL ITEMS.
9. INSTALL ELECTRICAL EQUIPMENT ON PIER FACE CLOSEST TO ELECTRICAL ACCESS HOLES IN BOX GIRDER. VERIFY WITH STRUCTURAL PLANS. ALSO SEE SHEET 77 FOR DETAILS.
10. LOCATION OF ELECTRIC SERVICE TRANSFORMER WILL BE DETERMINED BY THE ELECTRIC UTILITY, AND IS NOT KNOWN AT TIME OF CONTRACT LETTING. COORDINATE WITH ELECTRIC UTILITY TO PROVIDE A 1-PHASE, 3-WIRE, 120/240V ELECTRIC SERVICE. FURNISH AND INSTALL ALL ADDITIONAL EQUIPMENT AND MATERIALS NEEDED THAT IS NOT INSTALLED BY THE UTILITY TO COMPLETE THE INSTALLATION IN AN ACCEPTABLE MANNER.
11. FURNISH AND INSTALL GALVANIZED STEEL OR 304 STAINLESS STEEL SUPPORTS, HANGERS, HARDWARE, NUTS, BOLTS, AND WASHERS FOR CONDUITS, JUNCTIONS BOXES, AND RECEPTACLES. ALL THREADED HARDWARE SHALL BE STAINLESS STEEL.
12. ALL ELECTRICAL EQUIPMENT AND MATERIALS INSTALLED FOR THE BOX GIRDERS MUST BE WEATHERPROOF AND OUTDOOR RATED EVEN IF INSTALLED INSIDE THE BOX GIRDERS. THIS INCLUDES ALL BOXES, ENCLOSURES, FIXTURES, RECEPTACLES, COVERS, ETC.

## LEGEND

- EP — MAIN ELECTRICAL PANEL "EP"
- METER PEDESTAL
- UTILITY TRANSFORMER VERIFY LOCATION WITH UTILITY

WISCONSIN PROFESSIONAL ENGINEER
MOHAMMED A. ELSHOLI
E-37874-6
ORLAND HILLS, IL
8-5-2013

William C. Drechsler KAR 08/07/13

STEEL ERECTION AND SITE CONSTRUCTION CONTRACT

| NO. | DATE | REVISION | BY |
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| 4 | 8-5-13 | ADDED NEW GENERAL NOTE | MAE |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-5-679

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ELECTRICAL SITE PLAN B-5-679

SHEET 67 OF 91

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Addendum No. 4
ID 1133-11-74
Revised Sheet 956
August 8, 2013

STATE PROJECT NUMBER
1133-11-74

FILE: Q:\WisDot_12345678_US41Bridges\Lighting\PLANS\B-5-679\067 - B-05-679E_Electrical Site Plan-Addendum 4.dgn

DATE: 8/6/2013
I.D.

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William C. Dreher KAR 08/07/13

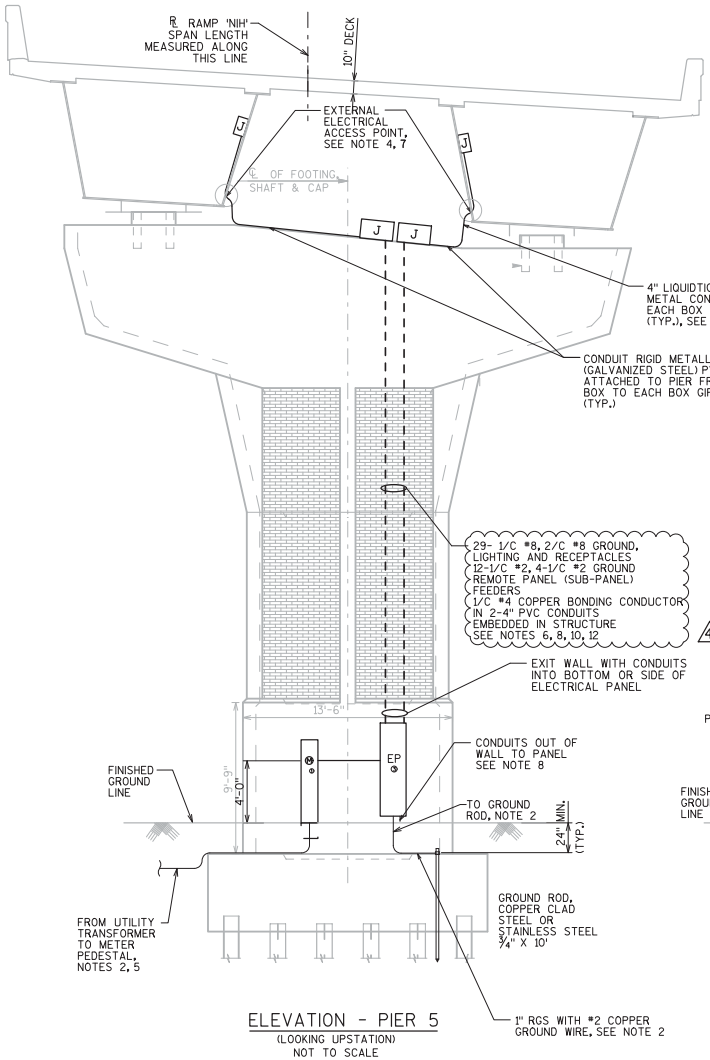
| STATE PROJECT NUMBER |
|---|
| 1133-11-74 |

## LEGEND:

① METER PEDESTAL, 200A, NEMA 3R, WITH MAIN BREAKER, NOTE 11

② SAFETY DISCONNECT SWITCH, 200A, NON-FUSIBLE, NOTE 11

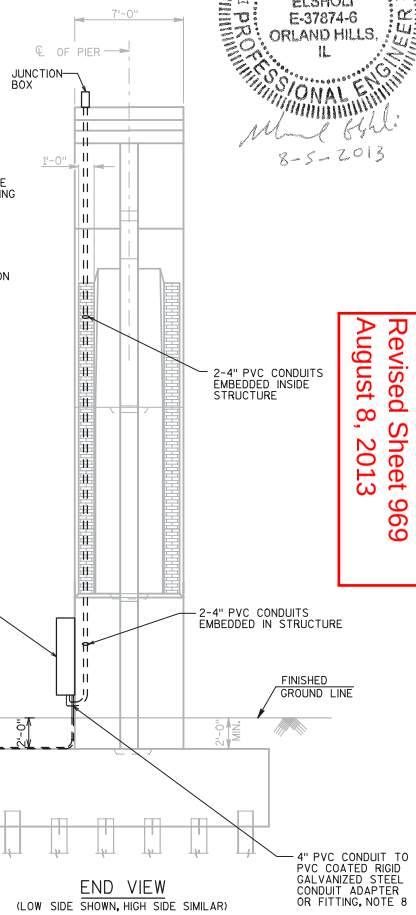
③ MAIN ELECTRICAL PANEL, 200A, 240V/120, 1-PH, 3-W




ELEVATION - PIER 5

(LOOKING UPSTATION)

NOT TO SCALE

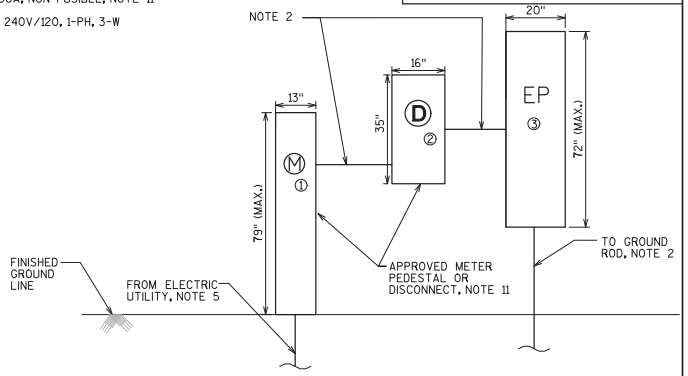



END VIEW

(LOW SIDE SHOWN, HIGH SIDE SIMILAR)

NOT TO SCALE

WISCONSIN
MOHAMMED A. ELSHOLI
E-37874-6
ORLAND HILLS, IL
PROFESSIONAL ENGINEER
8-5-2013




## ELECTRICAL SERVICE EQUIPMENT DETAILS

* DIMENSIONS ARE APPROXIMATE AND VARY BY MANUFACTURER.

NOT TO SCALE

Addendum No. 4
ID 1133-11-74
Revised Sheet 969
August 8, 2013

## NOTES:

1. FURNISH AND INSTALL NEMA 4X RATED STAINLESS STEEL OUTDOOR CABINETS AND ENCLOSURES, WHEN AVAILABLE. ALL CABINETS MUST HAVE PAD-LOCKING PROVISIONS.
2. FURNISH AND INSTALL ALL MATERIALS, EQUIPMENT, AND INCIDENTALS NEEDED TO CONNECT THE SERVICE FROM THE METER PEDESTAL TO THE MAIN ELECTRICAL PANEL "EP" AND TO REMOTE PANELS (SUB-PANELS) AS PART OF PAY ITEM FOR "ELECTRICAL SERVICE INSTALLATION B-5-679". THAT PAYMENT INCLUDES THE APPROVED METER PEDESTAL, ALL ELECTRICAL PANELS INCLUDING SUB-PANELS, SAFETY DISCONNECT SWITCH (WHEN REQUIRED), CABLES, CONDUITS, GROUNDING, AND TRENCHING FOR CONDUITS SHOWN ON THE PLANS. ALL CONNECTIONS, SPLICING, AND WIRING TO THE NEW ELECTRICAL PANELS AND METER PEDESTAL IS ALSO INCLUDED UNDER THE SAME PAY ITEM. FURNISH, INSTALL, AND PAY FOR ELECTRICAL EQUIPMENT GROUNDING MATERIALS, EQUIPMENT AND LABOR UNDER THIS PAY ITEM. CABLE AND CONDUIT FROM PANEL "EP" TO BOX GIRDERS AND JUNCTION BOXES SHOWN ARE PAID FOR SEPARATELY.
3. EXTEND THE SERVICE UP THE PIER TO THE DISTRIBUTION JUNCTION BOXES. FROM THERE, ROUTE THE BRANCH CIRCUIT WIRING AND REMOTE PANEL FEEDERS THROUGH ACCESS HOLES TO EACH BOX GIRDER.
4. SEE EXTERNAL ELECTRICAL ACCESS DETAIL ON SHEET 75. ALSO SEE INTERMEDIATE PIER DIAPHRAGMS XD1 AND D1 FOR EXACT LOCATION OF ELECTRICAL ACCESS HOLES.
5. COORDINATE WITH THE UTILITY TO PROVIDE ELECTRIC SERVICE TO PIER MOUNTED EQUIPMENT.
6. FURNISH AND INSTALL 2-4" CONDUIT RIGID NONMETALLIC SCHEDULE 40 (PVC) CAST INTO THE PIER (EMBEDDED) AS SHOWN. INSTALL CONDUITS ENTERING EACH BOX GIRDER THAT WILL HAVE THE CONDUCTORS FOR THE LIGHTING CIRCUITS, GFCI RECEPTACLE CIRCUITS, AND POWER FEEDS TO EACH OF THE ELECTRICAL REMOTE PANELS (SUB-PANELS).
7. FURNISH AND INSTALL 4" LIQUIDTIGHT FLEXIBLE METAL CONDUITS (LTFMC) WHEN ENTERING THE BOX GIRDERS THROUGH THE ELECTRICAL ACCESS HOLES. INSTALL THE LTFMC BETWEEN THE RIGID GALVANIZED STEEL CONDUITS. SEAL THE AREA AROUND THE FLEXIBLE CONDUITS ENTERING THE BOX GIRDERS AT THE ACCESS HOLE TO PROVIDE A TIGHT, WEATHER-PROOF SEAL. PAYMENT FOR ALL 4" AND LARGER FLEXIBLE METAL CONDUITS, ADAPTERS AND FITTINGS ARE INCLUDED IN THE "CONDUIT RIGID METALLIC PVC COATED" PAY ITEM, SEPARATE PAYMENT WILL NOT BE MADE.
8. STUB CONDUITS EMBEDDED IN STRUCTURE OUT OF WALL UNDER (OR SIDE OF) THE ELECTRICAL PANEL "EP". FURNISH AND INSTALL CONDUIT RIGID METALLIC 4" (GALVANIZED STEEL) PVC COATED FOR ALL EXPOSED LOCATIONS AND BETWEEN THE PVC CONDUIT EMBEDDED IN THE PIER AND THE ELECTRICAL PANEL "EP". FURNISH AND INSTALL ALL NECESSARY ELBOWS, FITTINGS, AND PVC TO RGS CONDUIT ADAPTERS TO COMPLETE THE INSTALLATION. INCLUDE COST FOR THE MATERIALS AND LABOR NEEDED, AND DESCRIBED HERE, IN THE COST OF THE ELECTRICAL PANEL.
9. FURNISH AND INSTALL GALVANIZED STEEL OR 304 STAINLESS STEEL SUPPORTS, HARDWARE, CLAMPS, BRACKETS, HANGER RODS, NUTS, BOLTS, AND WASHERS FOR CONDUITS, JUNCTIONS BOXES, AND RECEPTACLES. ALL THREADED HARDWARE SHALL BE STAINLESS STEEL.
10. FURNISH AND INSTALL GROUND CONDUCTORS IN ALL CONDUITS. GROUND CONDUCTORS SHALL BE BONDED TO METAL CONDUITS, BOXES, AND OTHER PARTS TO ENSURE SYSTEM GROUND CONTINUITY THROUGHOUT ELECTRICAL SYSTEM. GROUNDING AND BONDING SHALL BE ACCORDING TO NEC STANDARDS.
11. FURNISH AND INSTALL A NEMA 3R RATED, 200A METER PEDESTAL WITH A MAIN CIRCUIT BREAKER IN PLACE OF A DISCONNECT SWITCH. FURNISH PEDESTAL ENCLOSURE WITH PAD-LOCKING PROVISIONS. INCLUDE METER PEDESTAL EXTENSIONS IF REQUIRED BY UTILITY AT NO ADDITIONAL COST. FURNISH A 200A, MOLDED CASE, THERMAL MAGNETIC MAIN CIRCUIT BREAKER IN THE PEDESTAL RATED AT 25K AIC MINIMUM. FURNISH AND INSTALL A HEAVY DUTY, OUTDOOR RATED, NON-FUSIBLE DISCONNECT SWITCH IN A NEMA 4X RATED ENCLOSURE THAT IS PAD-LOCKABLE ONLY IF AN APPROVED METER PEDESTAL CANNOT BE PROVIDED.
12. FURNISH AND INSTALL A #4 AWG COPPER CONDUCTOR TO BE USED AS A SERVICE BONDING JUMPER. INSTALL COPPER BONDING JUMPER FROM THE MAIN SERVICE ELECTRICAL PANEL OR DISCONNECT TO THE FIRST AVAILABLE CONNECTION BRACKET INSIDE THE RIGHT TUB GIRDER. CONNECT THE BONDING JUMPER TO THE BRACKET BY MEANS OF A COPPER LUG. A COPPER BONDING JUMPER SHALL ALSO BE INSTALLED ACROSS ALL THE EXPANSION JOINTS BETWEEN EACH UNIT IN THE RIGHT TUB GIRDER, ELECTRICALLY TYING TOGETHER ALL OF THE STEEL. CONNECT THE BONDING JUMPER TO THE CLOSEST ELECTRICAL CONNECTION BRACKET ON BOTH SIDES OF EVERY UNIT JOINT BY MEANS OF A COPPER LUG.

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| 4 | 8-5-13 | ADDED NEW GENERAL NOTE | MAE |

STATE OF WISCONSIN
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STRUCTURE B-5-679

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ELECTRICAL CROSS SECTION AT PIER

SHEET 80 OF 91

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STEEL ERECTION & SITE CONSTRUCTION CONTRACT

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DATE: 8/6/2013
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