GRE JUL 2016

PROJECT ID: 1517-07-77
WITH: N/A

COUNTY: WINNEBAGO

ORDER OF SHEETS


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


TOTAL SHEETS = 722



# STATE OF WISCONSIN
# DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

# USH 10 - USH 10/STH 441

COUNTY CB - ONEIDA STREET

## USH 10

## WINNEBAGO COUNTY

I-41 INTERCHANGE BRIDGES AND LLBDM BRIDGE B-70-61 REDECK

STATE PROJECT NUMBER
**1517-07-77**

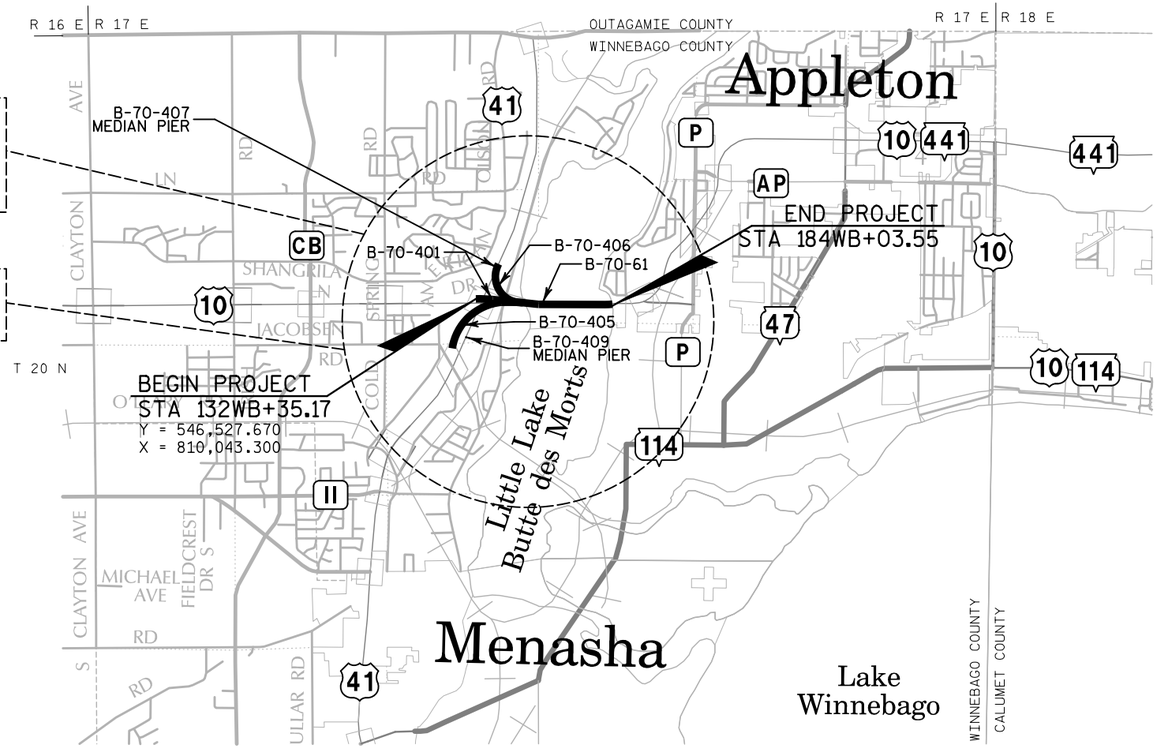
| STATE PROJECT | FEDERAL PROJECT | |
|---|---|---|
| | PROJECT | CONTRACT |
| 1517-07-77 | WISC 2016229 | 1 |
| | | |
| | | |
| | | |

DESIGN DESIGNATION USH 10/STH 441

| | | |
|---|---|---|
| A.A.D.T. 2020 | = | 69,200 |
| A.A.D.T. 2038 | = | 88,000 |
| D.H.V. | = | 4,370 (EB) |
| | = | 5,130 (WB) |
| D.D. | = | 46/56 |
| T. | = | 8.8% |
| DESIGN SPEED | = | 70 MPH |
| ESALS | = | 11,858,000 |

BRIDGES
B-70-61
B-70-401
B-70-405
B-70-406
B-70-407
B-70-409

SIGN STRUCTURES
S-70-206
S-70-209
S-70-254




LAYOUT
SCALE 0 ½ MI.

TOTAL NET LENGTH OF CENTERLINE = 0.979 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), WINNEBAGO COUNTY, NAD83 (1991).

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM (NGVD29).

CONVENTIONAL SYMBOLS

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

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

UTILITIES
- COMMUNICATION OVERHEAD — OH
- COMMUNICATION UNDERGROUND — C
- ELECTRIC OVERHEAD — OH
- ELECTRIC UNDERGROUND — E
- GAS — G
- SANITARY SEWER — SAN
- STORM SEWER — SS
- WATER — W
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

ORIGINAL PLANS PREPARED BY


AECOM
1555 N Rivercenter Drive, Suite 214
Milwaukee, WI 53212
(414) 944-6080


NICHOLAS J BECKER
E-40803
BROOKFIELD
WISCONSIN
PROFESSIONAL ENGINEER

1/15/2016 (Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

| | |
|---|---|
| Surveyor | WisDOT/ KAPUR |
| Designer | AECOM |
| Project Manager | SCOTT EBEL |
| Regional Examiner | |
| Regional Supervisor | CHAD DEGRAVE |

APPROVED FOR THE DEPARTMENT
DATE: 1/15/16 (Signature)

E

## GENERAL NOTES

THE CONTRACTOR SHALL CONTACT THE UTILITIES AND DIGGERS HOTLINE TO LOCATE AND FIELD VERIFY UTILITIES PRIOR TO THE START OF WORK. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. ANY LOCAL, MUNICIPAL OR OTHER UTILITY THAT IS NOT A MEMBER OF DIGGERS HOTLINE SHALL BE CONTACTED SEPERATELY.

NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

RIGHT OF WAY LINES SHOWN ON THE CROSS SECTIONS ARE APPROXIMATE.

ANY MESH MATERIAL THAT IS FOUND IN EXISTING PAVEMENT WILL BE INCIDENTAL TO THE REMOVAL OF THE PAVEMENT ITEM IN THAT SECTION.

A SAWED JOINT IS REQUIRED WHERE NEW HMA PAVEMENT MEETS EXISTING HMA PAVEMENT.

PRIOR TO ORDERING DRAINAGE PIPES AND STRUCTURES, THE CONTRACTOR SHALL VERIFY RELATED DRAINAGE INFORMATION IN THE PLAN AND PROVIDE DOCUMENTATION TO THE ENGINEER IN ACCORDANCE WITH THE SPECIFICATIONS. THIS ALSO INCLUDES VERIFICATION OF INVERT ELEVATIONS AT ALL PROPOSED STORM SEWER CONNECTION POINTS TO EXISTING SYSTEMS.

VERIFY PROPOSED BEAMGUARD AND THRIE BEAM POST SPACING PRIOR TO SIGN STRUCTURE AND DRAINAGE STRUCTURE PLACEMENT.

PROTECT INLETS WITH PROPER INLET PROTECTION AT LOCATIONS EXHIBITING RISK OF BEING IMPACTED BY CONSTRUCTION OPERATIONS AS SHOWN ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR RESHAPING AND SEEDING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY ANY OPERATION OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS AT THE CONTRACTOR'S EXPENSE.

PLACE SALVAGED TOPSOIL OR TOPSOIL IN ALL GRADED AREAS AS DESIGNATED BY THE ENGINEER IMMEDIATELY AFTER GRADING HAS BEEN COMPLETED. SEED, MULCH, AND FERTILIZE OR SOD ALL AREAS 5 DAYS AFTER PLACEMENT OF SALVAGED TOPSOIL.

EROSION BALES ARE TO ONLY BE USED FOR REINFORCEMENT OF PROPOSED SILT FENCE LOCATIONS ALONG WETLANDS. ANY OTHER USE OF EROSION BALES IS PROHIBITED.

TEMPORARY STORAGE OF ANY EXCAVATED MATERIAL WILL NOT BE PERMITTED IN WETLANDS, FLOODWAY OR FLOODPLAIN OF ANY WATERWAY.

CROSS SECTIONS SHOWN INCLUDE THE THICKNESS OF TOPSOIL WHERE REQUIRED. TOPSOIL SHALL BE REPLACED WITH SPECIFIED THICKNESS AS OUTLINED IN THE STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

FILL AND COMPACT ALL HOLES OR OPENINGS BELOW SUBGRADE RESULTING FROM ABANDONMENT OR REMOVAL OF EXISTING STRUCTURES WITH GRANULAR BACKFILL. BACKFILLING IS INCIDENTAL TO CORRESPONDING ABANDONMENT OR REMOVAL ITEM.

FERTILIZER SHALL NOT BE USED NEAR NAVIGABLE WATERWAYS OR WETLANDS.

BROKEN CONCRETE CONTAINING STEEL SHALL NOT BE USED AS RIPRAP OR HEAVY RIPRAP.

THE EROSION CONTROL FEATURES AS SHOWN ON THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATION WILL BE DETERMINED BY THE ENGINEER.

EROSION CONTROL DEVICES SHALL BE PLACED IN SEQUENCE WITH CONSTRUCTION OPERATIONS OR AS DETERMINED BY THE ENGINEER.

REMOVAL OF EROSION CONTROL DEVICES IS INCIDENTAL TO THE COST OF THE RESPECTIVE BID ITEMS.

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

SIGNS IN CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE COVERED AS DIRECTED BY THE ENGINEER AND PAID FOR UNDER THE ITEM "TRAFFIC CONTROL COVERING SIGNS TYPE I OR TYPE II."

STATIONING, DISTANCES AND OFFSETS FOR SIGNS SHOWN IN THE PLANS ARE APPROXIMATE AND THE FINAL LOCATION OF SIGNS ARE TO BE DETERMINED BY THE ENGINEER.

BENCHMARK LOCATIONS SHOWN ON PLAN ARE APPROXIMATE AND SHOULD BE VERIFIED.

ALL ITEMS ASSOCIATED WITH SIGNING REMOVALS ARE SHOWN ON SIGNING PLAN, EXCEPT FOR REMOVING OLD SIGN STRUCTURES.

EXCAVATION REQUIRED FOR ALL SIGN STRUCTURES, BRIDGES, AND RETAINING WALLS IS NOT INCLUDED IN THE COMPUTER EARTHWORK AND IS INCIDENTAL TO THE PERTINANENT STRUCTURE ITEMS. SEE STRUCTURE PLANS FOR ADDITIONAL GUIDANCE ON REQUIRED EXCAVATION LIMITS.

ADJUST TRAFFIC CONTROL DEVICES TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

ALIGNMENTS ARE LABELED WITH THE FOLLOWING IDENTIFIERS:

| ALIGNMENT IDENTIFIERS | |
|---|---|
| EB | USH 10 EB / STH 441 NB |
| FEN | USH 10 EB TO IH 41 NB |
| FES | USH 10 EB TO IH 41 SB |
| FNE | IH 41 NB TO USH 10 EB / STH 441 NB |
| FNW | IH 41 NB TO USH 10 WB |
| FSE | IH 41 SB TO USH 10 EB / STH 441 NB |
| FSW | IH 41 SB TO USH 10 WB |
| FWN | USH 10 WB / STH 441 SB TO IH 41 NB |
| FWS | USH 10 WB / STH 441 SB TO IH 41 SB |
| NB | IH 41 NB |

## ABBREVIATIONS

| | |
|---|---|
| AEW | APRON END WALL |
| AGG | AGGREGATE |
| BAD | BASE AGGREGATE DENSE |
| BM | BENCH MARK |
| C&G | CURB AND GUTTER |
| C/L | CENTER OR CONSTRUCTION LINE |
| CMCP | CULVERT PIPE CORRUGATED METAL |
| CONC | CONCRETE |
| CP | CULVERT PIPE |
| CPRC | CULVERT PIPE REINFORCED CONCRETE |
| CSD | CONCRETE SURFACE DRAIN |
| CY | CUBIC-YARD |
| D | DEGREE OF CURVE |
| | DELTA |
| DISCH | DISCHARGE |
| EAT | ENERGY ABSORBING TERMINAL |
| FE | FIELD ENTRANCE |
| HMA | HOT MIX ASPHALT |
| INV | INVERT |
| L | LENGTH OF CURVE |
| LHF | LEFT HAND FORWARD |
| LT | LEFT |
| MIN | MINIMUM |
| M/L | MATCHLINE |
| NB | NORTHBOUND |
| NC | NORMAL CROWN |
| NIC | NOT IN CONTRACT |
| PAVT | PAVEMENT |
| PC | POINT OF CURVE |
| PCC | POINT OF COMPOUND CURVE |
| PE | PRIVATE ENTRANCE |
| PI | POINT OF INTERSECTION |
| PLE | PERMANENT LIMITED EASMENT |
| PT | POINT OF TANGENT |
| R | RADIUS OF CURVE |
| R/L | REFERENCE LINE |
| R/W | RIGHT OF WAY |
| RC | REVERSE CROWN |
| RCAEW | APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE |
| REQD | REQUIRED |
| RHF | RIGHT HAND FORWARD |
| RO | RUN OFF LENGTH |
| RRSP | RAILROAD SPIKE |
| RT | RIGHT |
| SALV | SALVAGED |
| SAPBC | SALVAGED ASPHALTIC PAVEMENT BASE COARSE |
| SB | SOUTHBOUND |
| SDD | STANDARD DETAIL DRAWINGS |
| SE | SUPER ELEVATION |
| SF | SQUARE FOOT |
| SSPRC | STORM SEWER PIPE REINFORCED CONCRETE |
| STA | STATION |
| SY | SQUARE YARD |
| T | TANGENT LENGTH |
| TLE | TEMPORARY LIMITED EASEMENT |
| VCL | VERTICAL CURVE LENGTH |
| VPC | POINT OF VERTICAL CURVE |
| VPI | POINT OF VERTICAL INTERSECTION |
| VPT | POINT OF VERTICAL TANGENT |

2

## OTHER AGENCIES

### DNR AREA LIAISON

JAY SCHIEFELBEIN
DEPARTMENT OF NATURAL RESOURCES
2984 SHAWANO AVENUE
GREEN BAY, WI 54313
(920) 662-5407
JEREMIAH.SCHIEFELBEIN@WISCONSIN.GOV

### US ARMY CORP OF ENGINEERS

NICK DOMER
U.S. ARMY CORPS OF ENGINEERS
211 N. BROADWAY, STE 221
GREEN BAY, WI 54303
(920) 448-2824
NICHOLAS.T.DOMER@USACE.ARMY.MIL

### COUNTY SURVEYOR OR SURVEYS CONTACT PERSON

DIANE CULVER
WINNEBAGO COUNTY PLANNING AND ZONING DEPT
PO BOX 2808
OSHKOSH, WI 54903
920-232-3335
DCULVER@CO.WINNEBAGO.WI.US

### WINNEBAGO COUNTY HIGHWAY COMMISSIONER

ERNIE WINTERS
901 WEST COUNTY ROAD Y
P.O. BOX 2764
OSHKOSH, WI 54903
(920) 232-1700

### DESIGN CONTACTS

SCOTT EBEL
WISDOT - NE REGION
1940 WEST MASON STREET
GREEN BAY, WI 54303
920-492-2240
SCOTT.EBEL@DOT.WI.GOV

JUSTIN ARNDT
KAPUR & ASSOCIATES, INC.
7711 PORT WASHINGTON RD.
MILWAUKEE, WI 53217
414-751-7233
JARDNT@KAPUR-ASSOC.COM

NICHOLAS BECKER
AECOM TECHNOLOGY CORPORATION
342 N WATER ST, 7TH FLOOR
MILWAUKEE, WI 53202
(414) 831-4122
NICK.BECKER@AECOM.COM

## WISCONSIN CENTRAL LTD CONTACTS

**RAILROAD FLAGGING CONTACT**
MARY ELLEN CARMODY
2800 LIVERNOIS ROAD, SUITE 330
TROY, MI 48083
OFFICE: (248) 740-6227
FAX: (248) 740-6036
MARYELLEN.CARMODY@CN.CA

**MAIN RAILROAD CONTACT**
JACKIE MACEWICZ
MANAGER PUBLIC WORKS
1625 DEPOT STREET
STEVENS POINT, WI 54481
OFFICE: (715) 345-2503
FAX: (715) 345-2507
JACKIE.MACEWICZ@CN.CA

**24 HOUR EMERGENCY RAILROAD SIGNAL**
1-800-616-3432

**CALL BEFORE YOU DIG**
WISCONSIN CENTRAL LTD IS NOT PART OF DIGGERS HOTLINE.
CALL CHRISTINE GRZESIAK, (715) 345-2506, WHEN DIGGING
ON RAILROAD R/W

## ORDER OF SECTION 2 DETAIL SHEETS


GENERAL NOTES
UTILITY CONTACTS
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
REMOVAL PLAN
PLAN DETAIL
PAVING GRADES
WETLAND DETAILS
INVASIVE SPECIES
EROSION CONTROL
POND DETAILS
STORM SEWER PLAN
STAGE CONSTRUCTION
TRAFFIC CONTROL
ALIGNMENT PLAN


## UTILITY CONTACTS

**AT&T WISCONSIN**
MR. JOSEPH KASSAB
221 WEST WASHINGTON STREET, 4TH FLOOR
APPLETON, WI 54911
(920) 735-3206
JK572K@ATT.COM

**AT&T TCG**
MR. SHAWN BERNER
300 NORTH POINT PARKWAY 120A05
ALPHARETTA, GA 30005
(770) 855-4415
MOBILE: (414) 651-0036
SB4591@ATT.COM

**SPRINT**
MR. GERRY CRAIN
5600 N RIVER ROAD, SUITE 200
ROSEMONT, IL 60018
(847) 445-1869
GERRY.CRAIN@SPRINT.COM

**TOWN OF MENASHA - SANITARY SEWER**
MR. JEFF ROTH
UTILITY DISTRICT
2340 AMERICAN DRIVE
NEENAH, WI 54956
(920) 720-7175
JEFFR@TOWN-MENASHA.COM

**TOWN OF MENASHA - WATER**
MR. JEFF ROTH
UTILITY DISTRICT
2340 AMERICAN DRIVE
NEENAH, WI 54956
(920) 720-7175
JEFFR@TOWN-MENASHA.COM

**TDS METROCOM**
MR. STEVE JAKUBIEC
10 COLLEGE AVE STE 218A
APPLETON, WI 54911
(920) 882-4166
MOBILE: (920) 562-7221
STEVE.JAKUBIEC@TDSTELECOM.COM

**TIME WARNER CABLE**
MR. VINCE ALBIN
3520 DESTINATION DR
APPLETON, WI 54915
(920) 831-9249
MOBILE: (920) 378-0444
VINCE.ALBIN@TWCABLE.COM

**TRANSCANADA**
MR. ROBERT BIBELHAUSEN
ANR PIPELINE COMPANY
N 4956 OAKCREST DR
BONDUEL, WI 54107
(715) 758-3343
MOBILE: (715) 460-4001
ROBERT_BIBELHAUSEN@TRANSCANADA.COM

**WE ENERGIES - ELECTRIC**
MR. CHRIS SCHULZ
500 S 116TH STREET
WEST ALLIS, WI 53214
(414) 944-5553
CHRIS.SCHULZ@WE-ENERGIES.COM

**WE ENERGIES - GAS**
MR. CODY BECKMAN
800 SOUTH LYNNDALE DRIVE
P.O. BOX 1699
APPLETON, WI 54912
(920) 380-3422
(920) 482-1038
CODY.BECKMANN@WE-ENERGIES.COM

**WE ENERGIES - GAS & ELECTRIC**
MR. LATROY BRUMFIELD
333 W EVERETT STREET A299
MILWAUKEE, WI 53203
(414) 221-5617
(414) 975-9053 MOBILE
LATROY.BRUMFIELD@WE-ENERGIES.COM

TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN

WIS. STATUTE 182.0175 (1974) REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE.

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

2

2

TOWN OF MENASHA

CITY OF APPLETON

VALLEY RD.

ROELAND AVE.

USH 10/WIS 441

(CTH P)
RACINE RD.

(STH 47)
APPLETON RD.

(CTH AP) MIDWAY RD.

(USH 10)
ONEIDA ST.

USH 41

CTH CB

USH 10

B-70-406

B-70-401

B-70-61

B-70-403

B-70-405

B-70-421

B-70-411

SHEET 1

CITY OF MENASHA

(CTH II)
WINCHESTER RD.

LEGEND

TOWN OF MENASHA

CITY OF MENASHA

CITY OF APPLETON

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | PROJECT OVERVIEW | SHEET 4 | E |
|---|---|---|---|---|---|

FILE NAME : \\S1102K306\projects\Transportation\US 10 WIS 441\CADD\sheets\15170777\020200_po.dgn PLOT DATE : 4/1/2016 PLOT BY : nick_becker PLOT NAME : PLOT SCALE : 2000.0000 sf / in.

WISDOT/CADDS SHEET 42

2

END CONSTRUCTION 1517-07-77
STA 169FEN+75.00
Y = 548,576.448
X = 811,344.545

N

LITTLE LAKE BUTTE DES MORTS
(FOX RIVER)

END PROJECT 1517-07-77
STA 184WB+03.55
Y = 546,422.250
X = 815,205.886

BEGIN PROJECT 1517-07-77
STA 132WB+35.17
Y = 546,527.670
X = 810,043.300

USH 41 SB
USH 41 NB

USH 10 WB/STH 441 SB

USH 10 EB/STH 441 NB

B-70-407 BY OTHERS
SEE 1517-07-80

B-70-407
MEDIAN PIER

B-70-406

S-70-206

B-70-401

S-70-254

B-70-61

B-70-402

B-70-400

S-70-257

B-70-403

S-70-209

WORK BY OTHERS
PROJECT ID 1517-07-71

WORK BY OTHERS
PROJECT ID 1517-75-75

B-70-405

B-70-409 BY OTHERS
SEE 1517-07-80

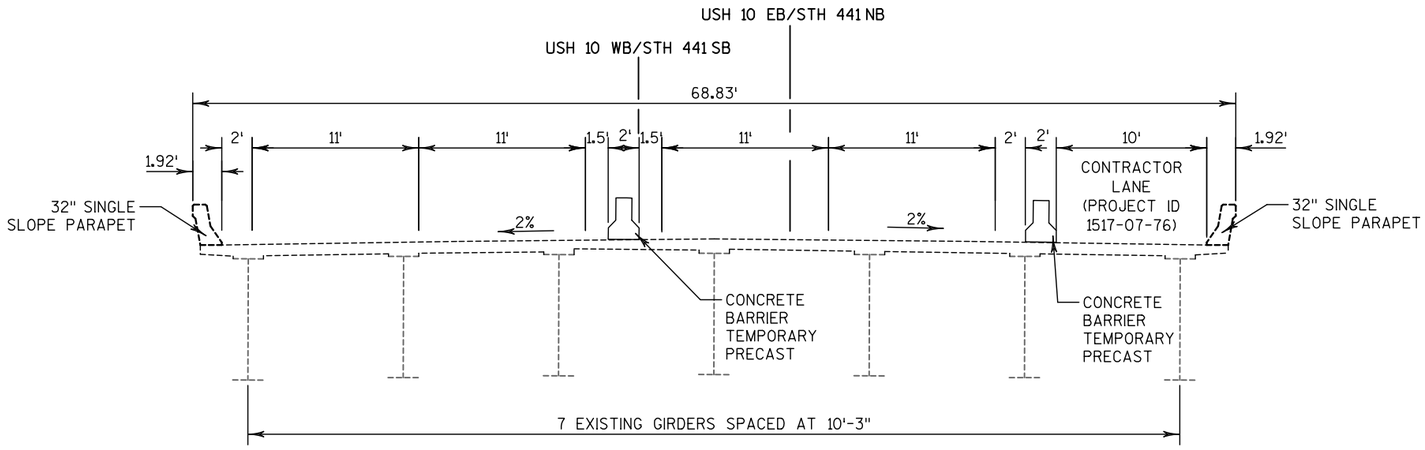
B-70-409
MEDIAN PIER

TOWN OF MENASHA
CITY OF MENASHA

END CONSTRUCTION 1517-07-77
STA 114FWS+50.00
Y = 544,632.960
X = 809,214.445

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | PROJECT OVERVIEW | SHEET 5 | E |
|---|---|---|---|---|---|

2



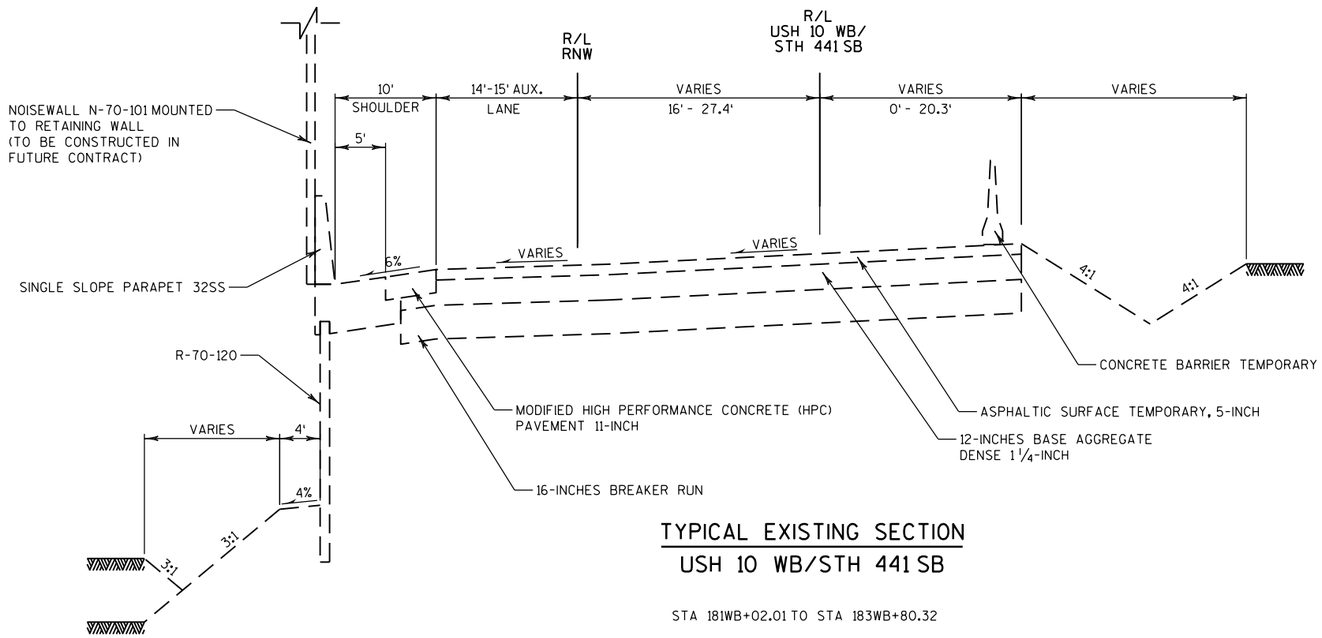

## B-70-61 EXISTING TYPICAL SECTION

USH 10 / STH 441
STATION 146WB+35 - 181WB+05

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | TYPICAL SECTION | SHEET 6 | E |
|---|---|---|---|---|---|

FILE NAME : \\S1102K306\projects\Transportation\US 10 WIS 441\CADD\sheets\15170777\020301_ts.dgn PLOT DATE : 4/1/2016 PLOT BY : nick_becker PLOT NAME : PLOT SCALE : 10:0.0002 ':" / in.

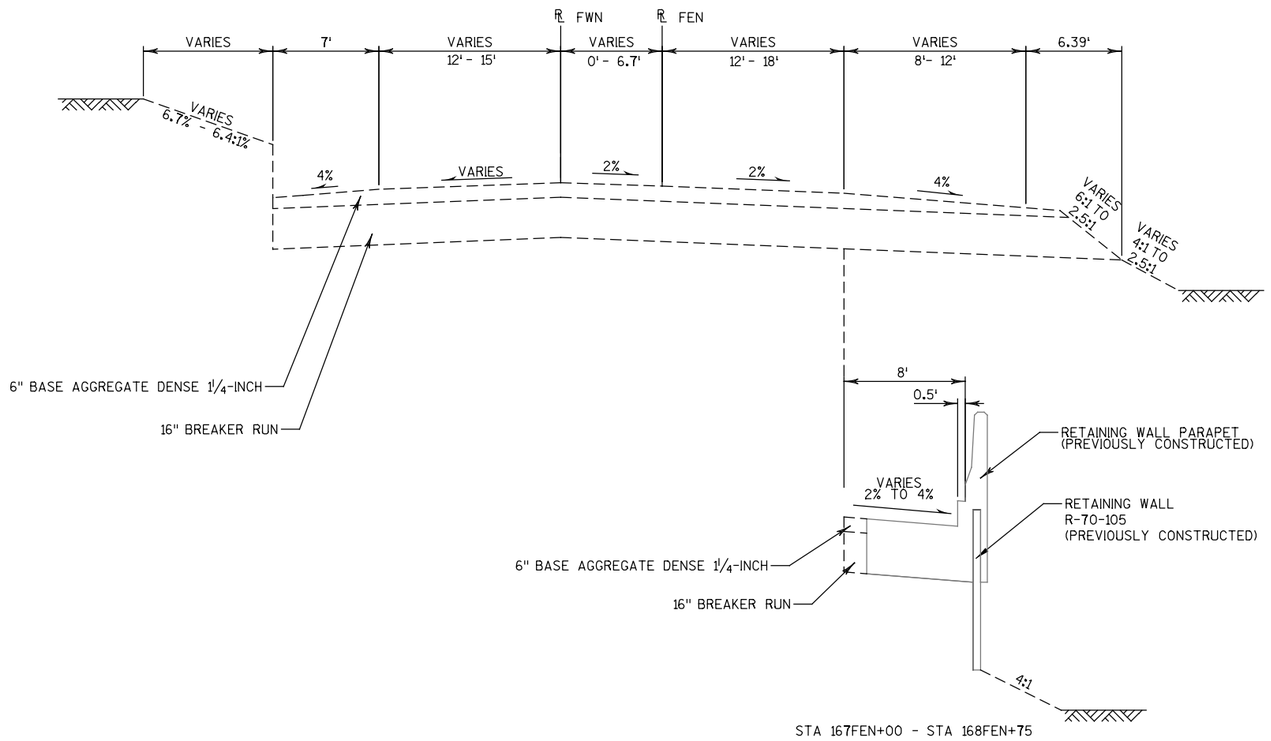
2




## TYPICAL EXISTING SECTION
## USH 10 WB/STH 441 SB

STA 181WB+02.01 TO STA 183WB+80.32

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | TYPICAL SECTIONS | SHEET 7 | E |
|---|---|---|---|---|---|

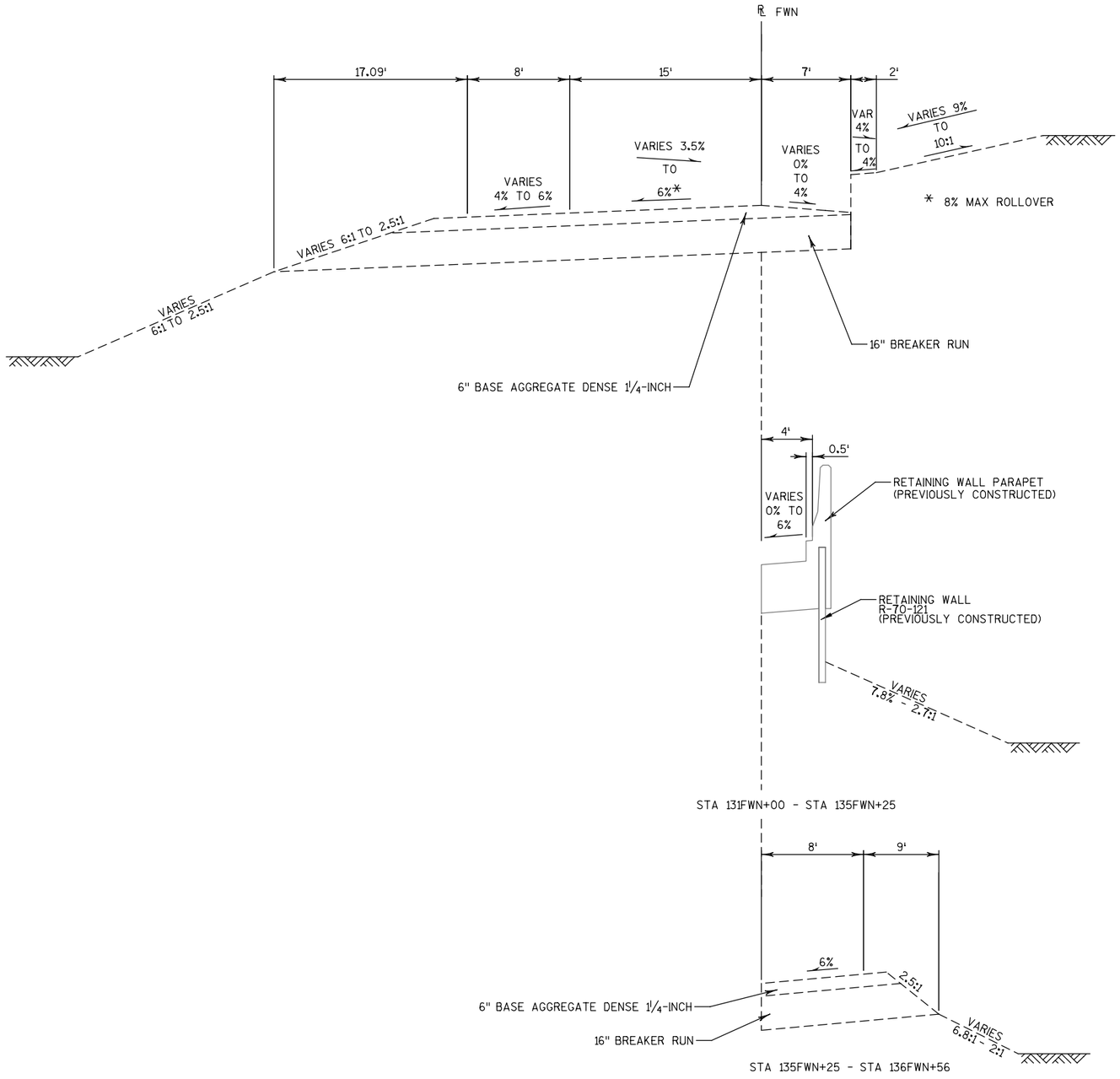



## TYPICAL EXISTING SECTION

### FEN RAMP

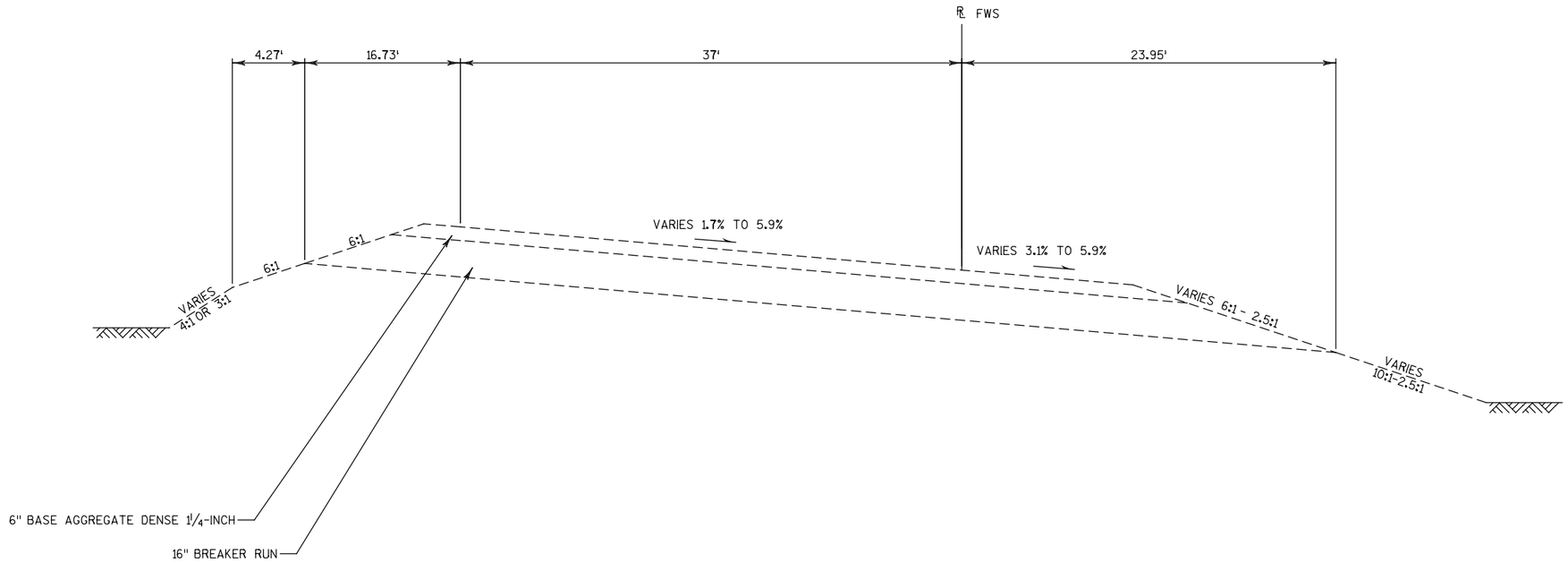
STA 161FEN+75 - STA 168FEN+75

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | TYPICAL SECTIONS | SHEET 8 | E |
|---|---|---|---|---|---|




## TYPICAL EXISTING SECTION
### FWN RAMP
STA 127FWN+09 - STA 136FWN+56

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | TYPICAL SECTIONS | SHEET 9 | E |
|---|---|---|---|---|---|

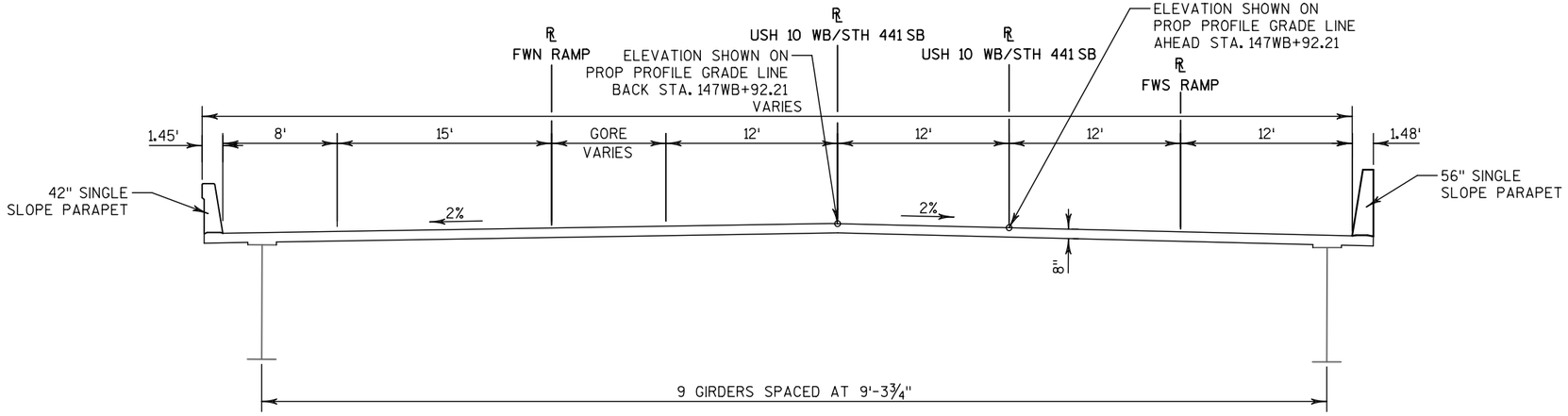



## TYPICAL EXISTING SECTION
### FWS RAMP
STA 114FWS+50 - STA 118FWS+78

2

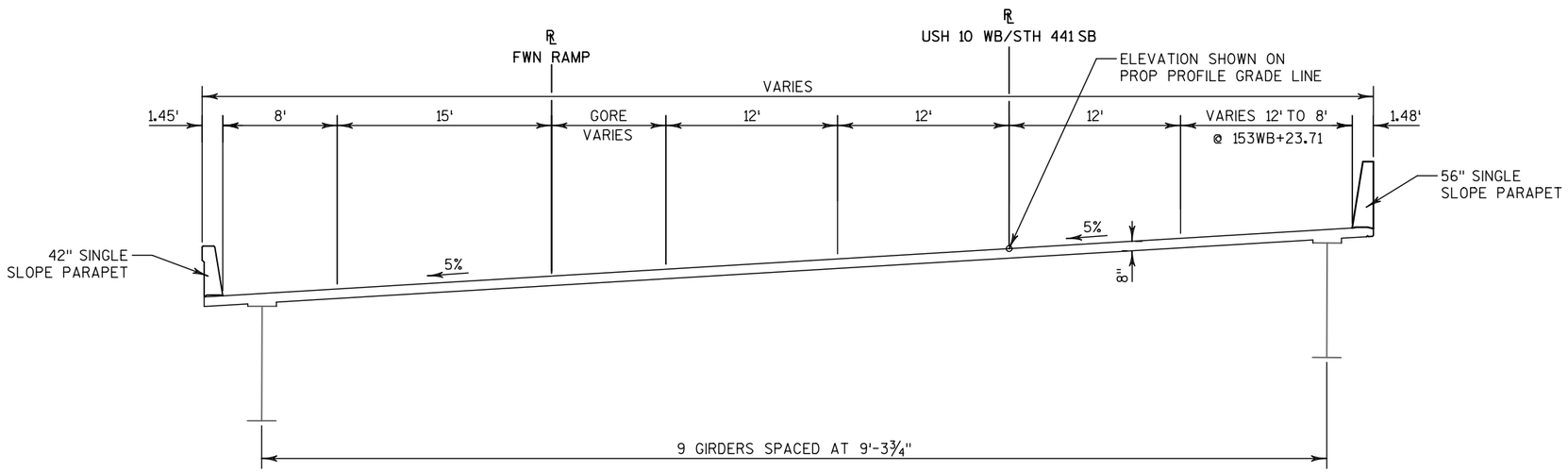
| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | TYPICAL SECTIONS | SHEET 10 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\020301_ts.dgn PLOT DATE : 1/18/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -
WISDOT/CADDS SHEET 42




B-70-61 TYPICAL FINISHED SECTION

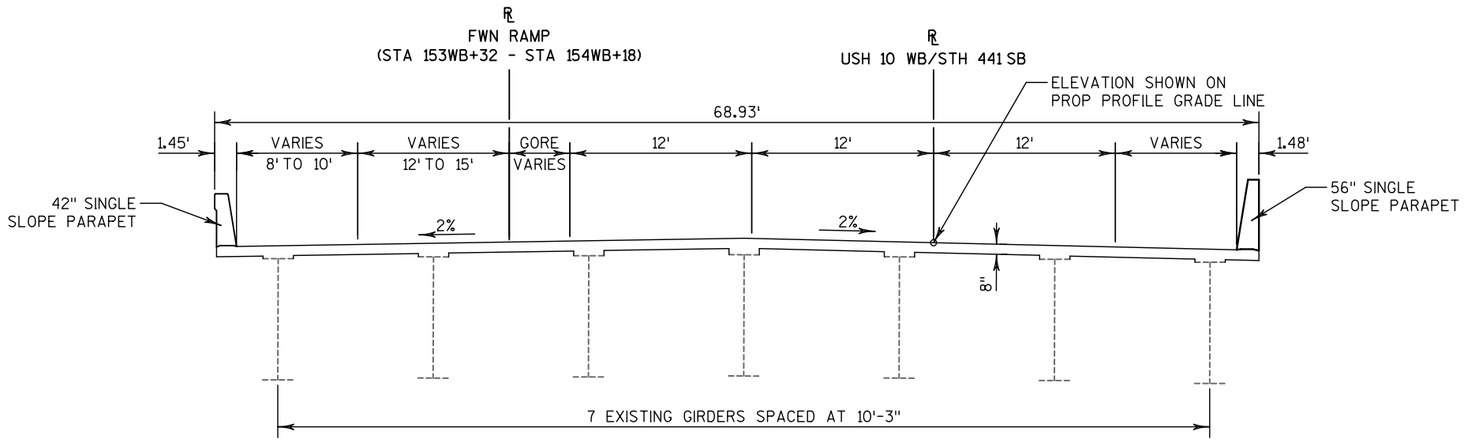
USH 10 / STH 441
STATION 146WB+35 - 148WB+41
STATION 148WB+41 - 151WB+56 (SUPERELEVATED TRANSITION SECTION)




B-70-61 PROPOSED TYPICAL SUPERELEVATED SECTION

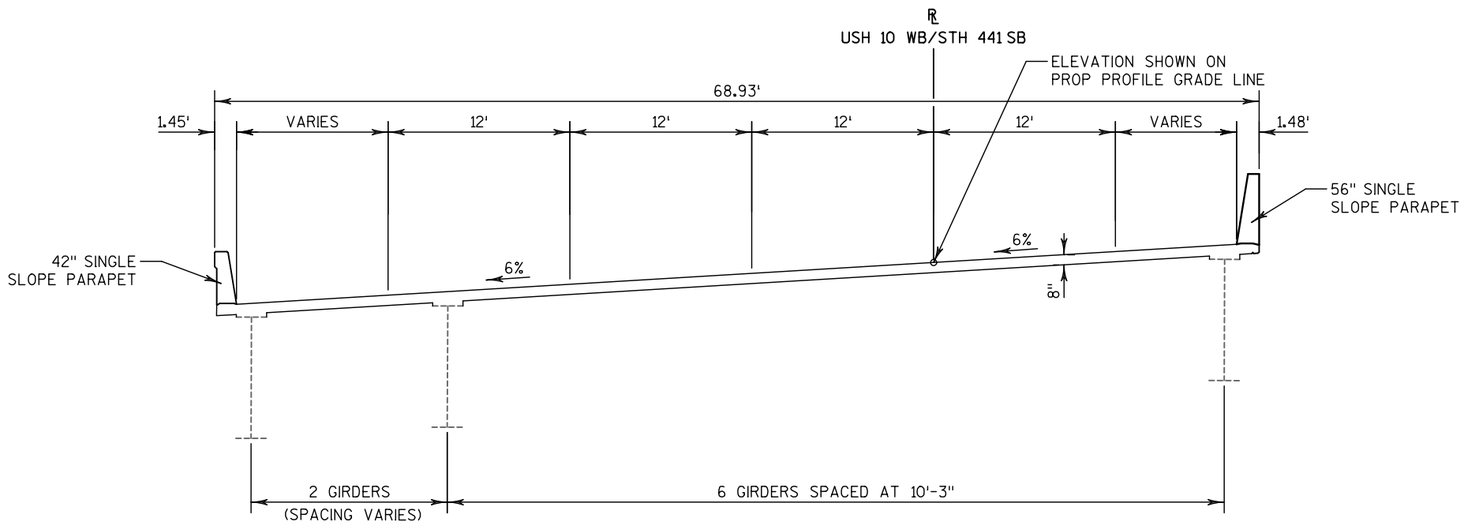
USH 10 / STH 441
STATION 151WB+56 - 153WB+32

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | TYPICAL SECTION | SHEET 11 | E |
|---|---|---|---|---|---|




## B-70-61 TYPICAL FINISHED SECTION

USH 10 / STH 441
STATION 153WB+32 - 178WB+93

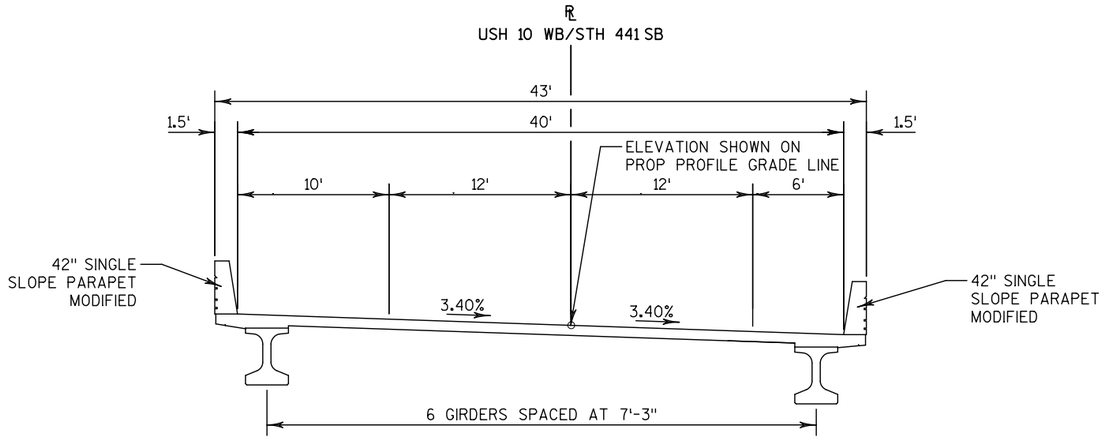



## B-70-61 PROPOSED TYPICAL SUPERELEVATED SECTION

USH 10 / STH 441
STATION 178WB+93 - 181WB+05

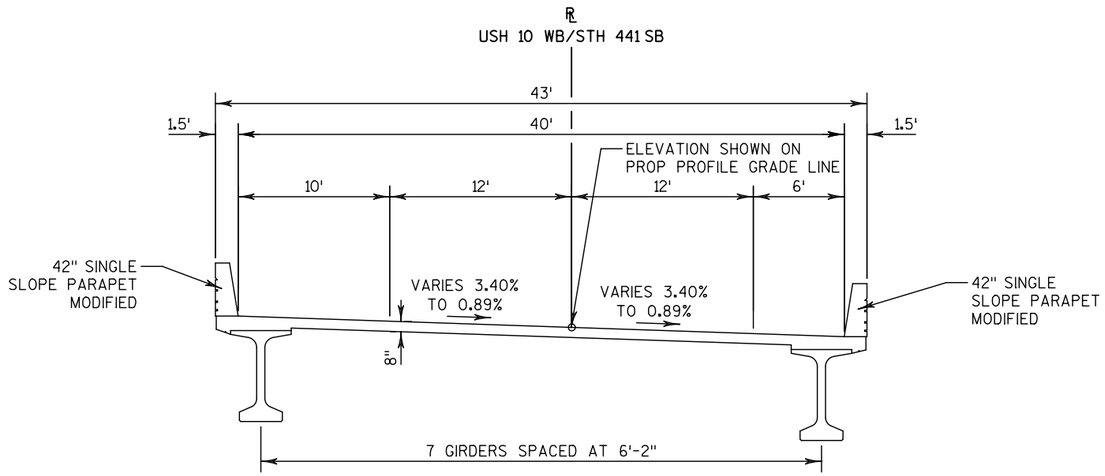
| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | TYPICAL SECTION | SHEET 12 | E |
|---|---|---|---|---|---|

2




B-70-401 PROPOSED TYPICAL SUPERELEVATED SECTION

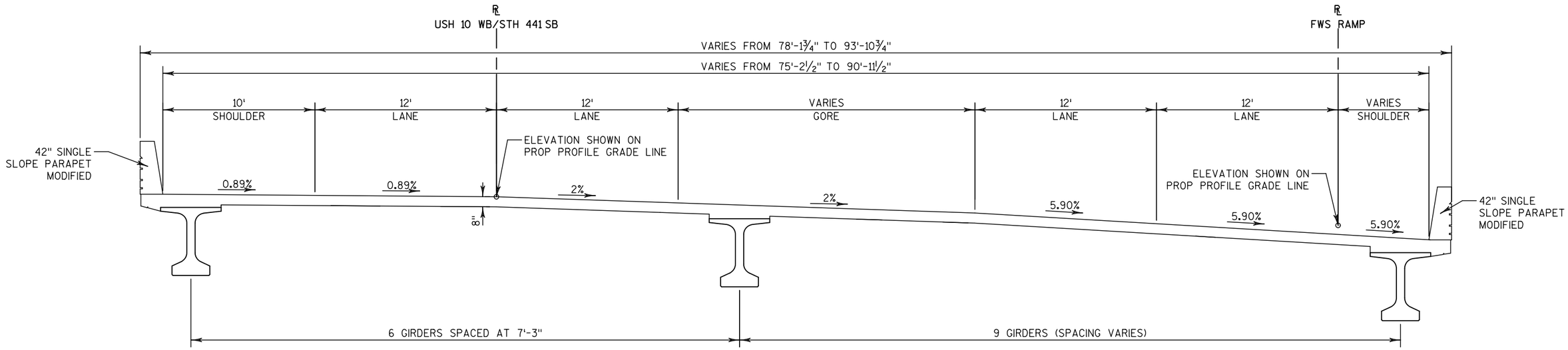
USH 10 / STH 441
STATION 132WB+35.17 - 137WB+23.71




B-70-401 PROPOSED TYPICAL SUPERELEVATED SECTION

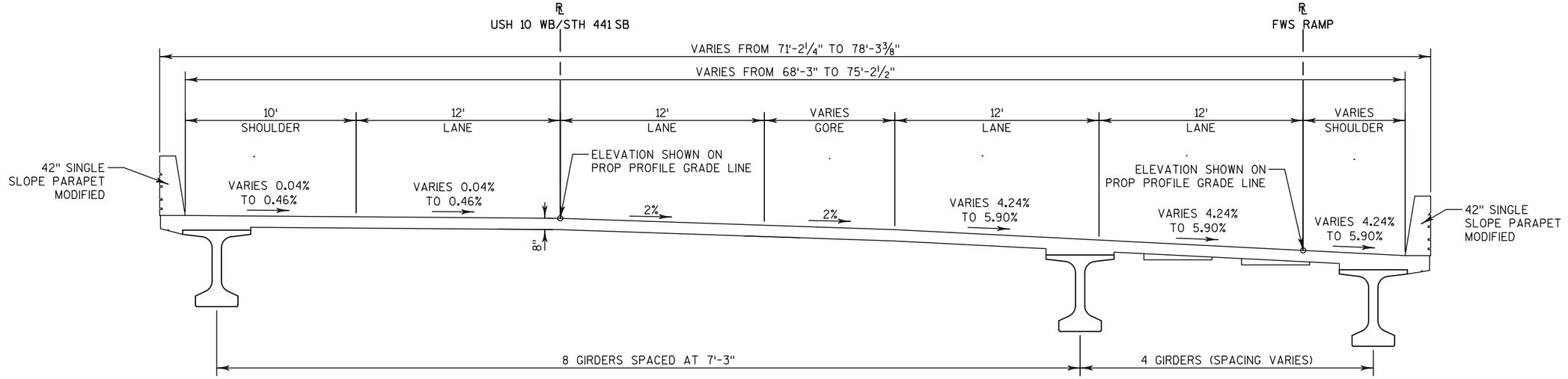
USH 10 / STH 441
STATION 137WB+23.71 - 141WB+59.70

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | TYPICAL SECTION | SHEET 13 | E |
|---|---|---|---|---|---|




B-70-401 PROPOSED TYPICAL SUPERELEVATED SECTION

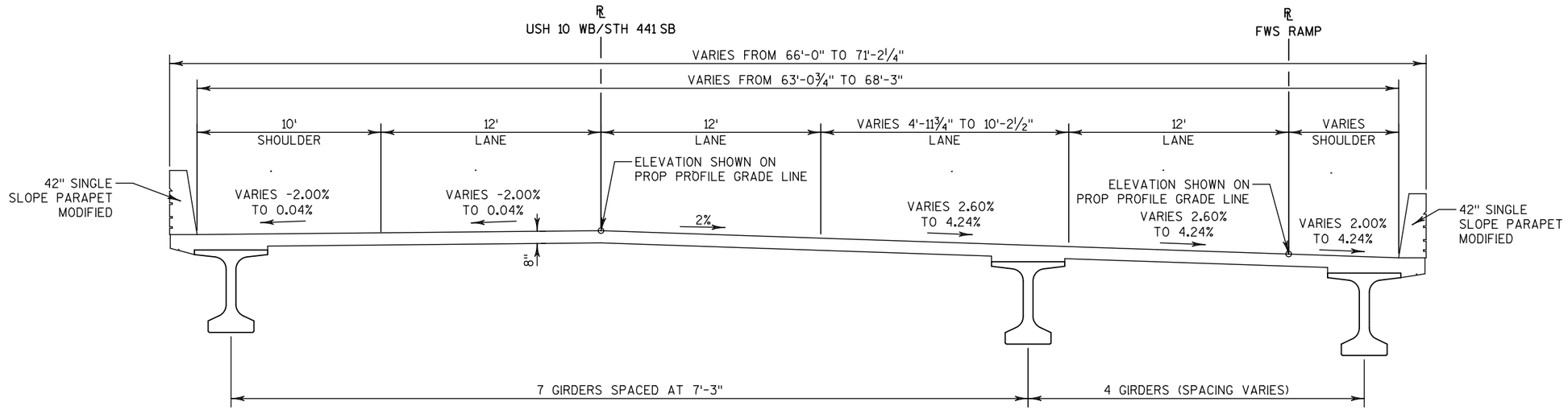
USH 10 / STH 441
STATION 141WB+59.70 - 142WB+78.45




B-70-401 PROPOSED TYPICAL SUPERELEVATED SECTION

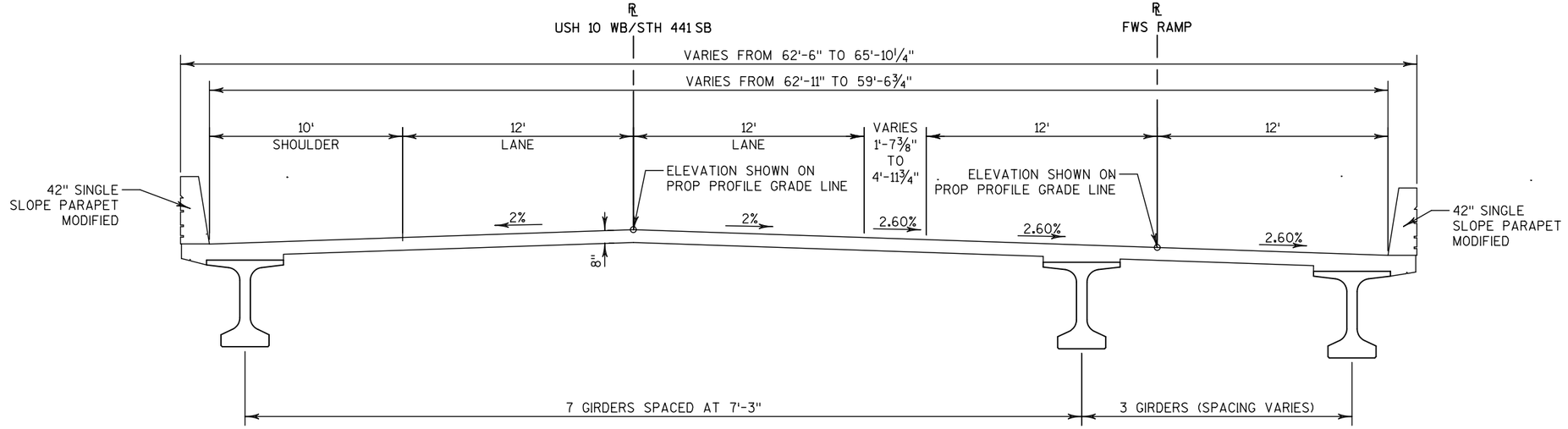
USH 10 / STH 441
STATION 142WB+78.45 - 143WB+97.20

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | TYPICAL SECTION | SHEET 14 | E |
|---|---|---|---|---|---|




## B-70-401 PROPOSED TYPICAL SUPERELEVATED SECTION

USH 10 / STH 441
STATION 143WB+97.20 - 144WB+15.95

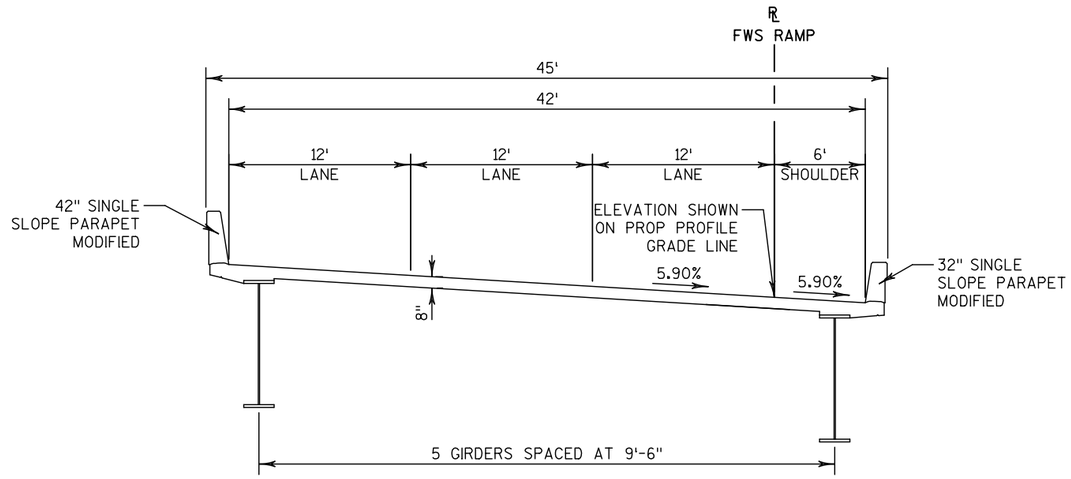



## B-70-401 PROPOSED TYPICAL SUPERELEVATED SECTION

USH 10 / STH 441
STATION 144WB+15.95 - 146WB+34.79

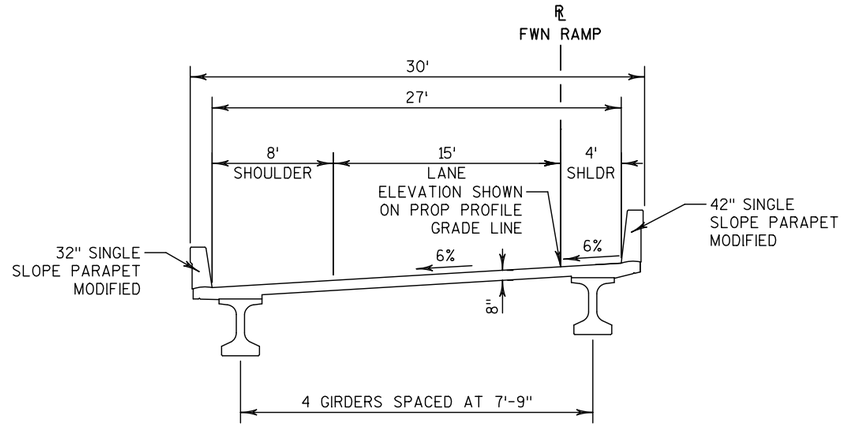
| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | TYPICAL SECTION | SHEET 15 | E |
|---|---|---|---|---|---|

2




## B-70-405 PROPOSED TYPICAL SUPERELEVATED SECTION

FWS RAMP
STATION 119FWS+99.34 - 141FWS+46.17

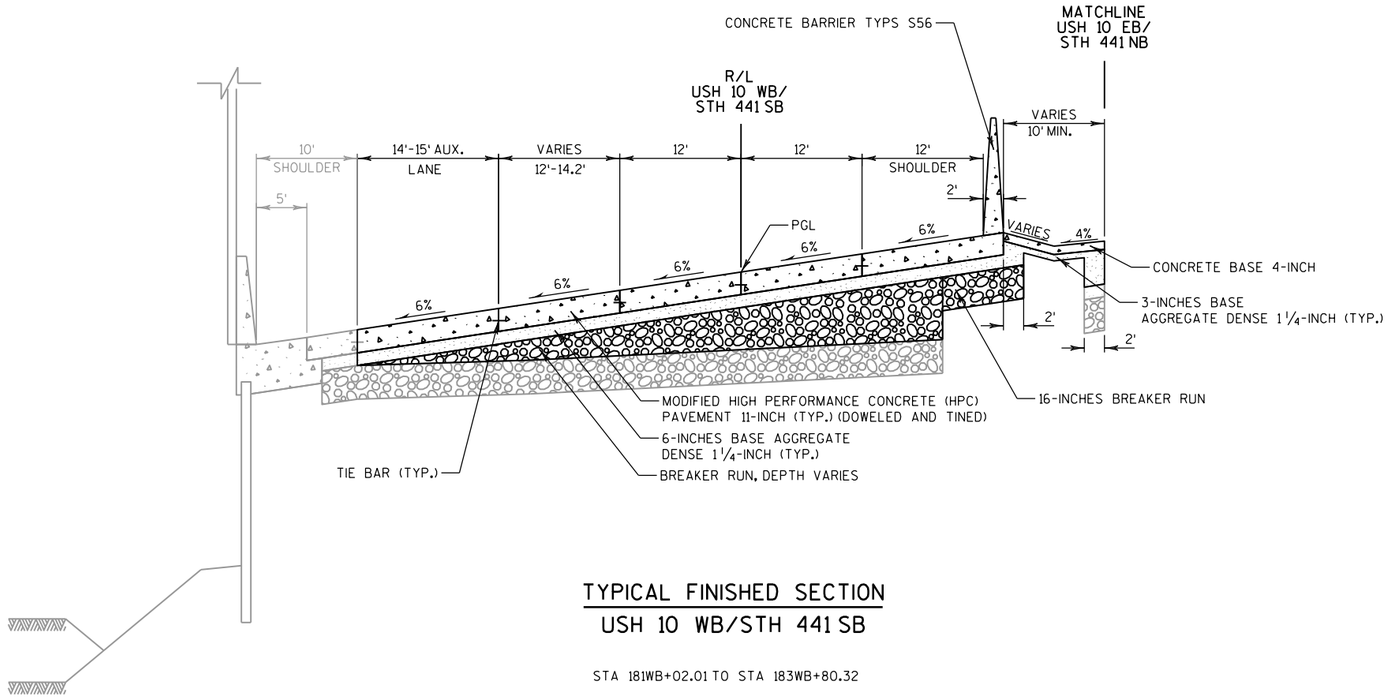



## B-70-406 PROPOSED TYPICAL SUPERELEVATED SECTION

FWN RAMP
STATION 136FWN+75.36- 143FWN+17.64

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | TYPICAL SECTION | SHEET 16 | E |
|---|---|---|---|---|---|

2

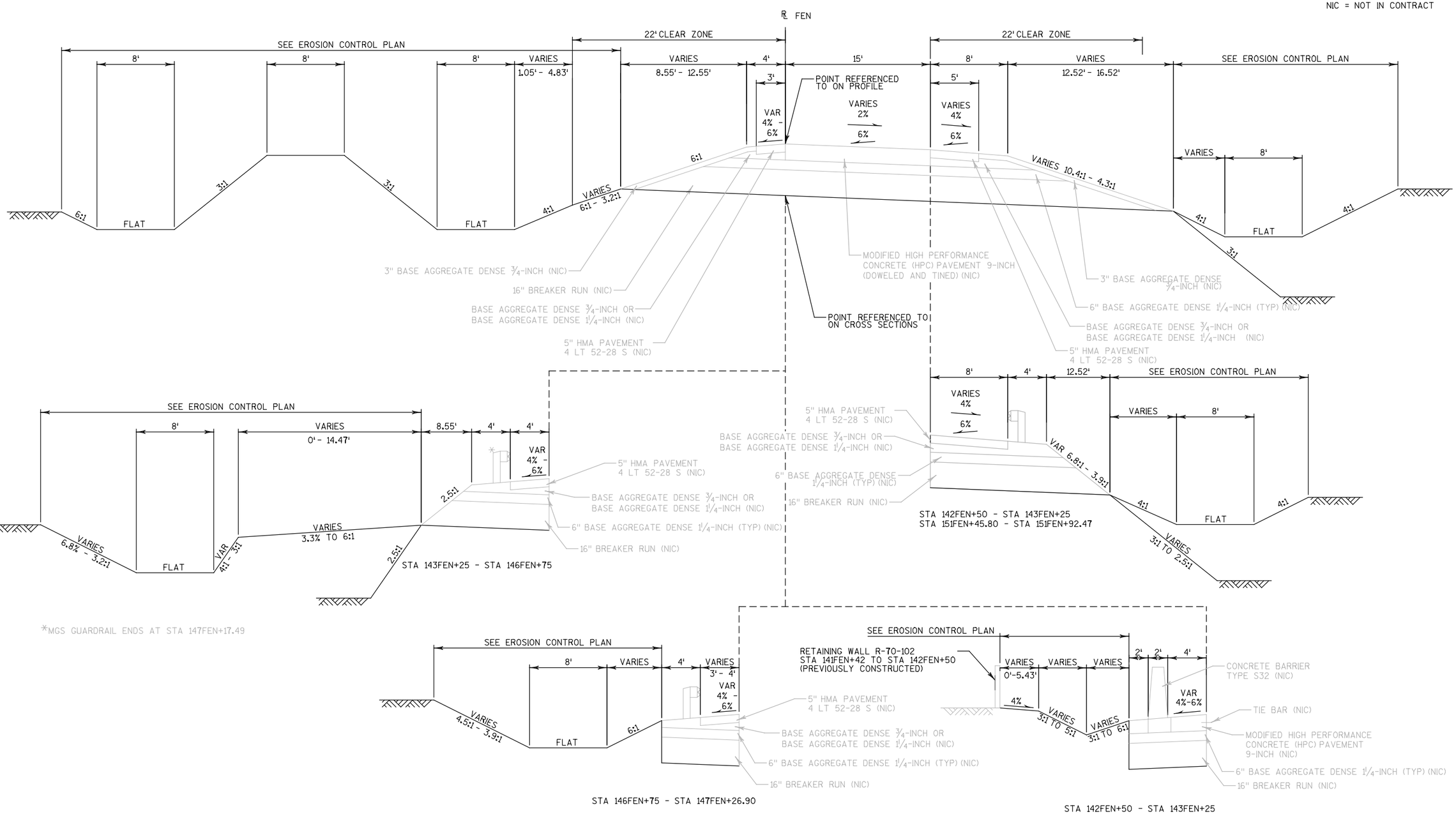



## TYPICAL FINISHED SECTION
## USH 10 WB/STH 441 SB

STA 181WB+02.01 TO STA 183WB+80.32

| PROJECT NO: 1517-75-75 | HWY: USH 10 | COUNTY: WINNEBAGO | TYPICAL SECTIONS | SHEET 17 | E |
|---|---|---|---|---|---|

NOTE:
NIC = NOT IN CONTRACT



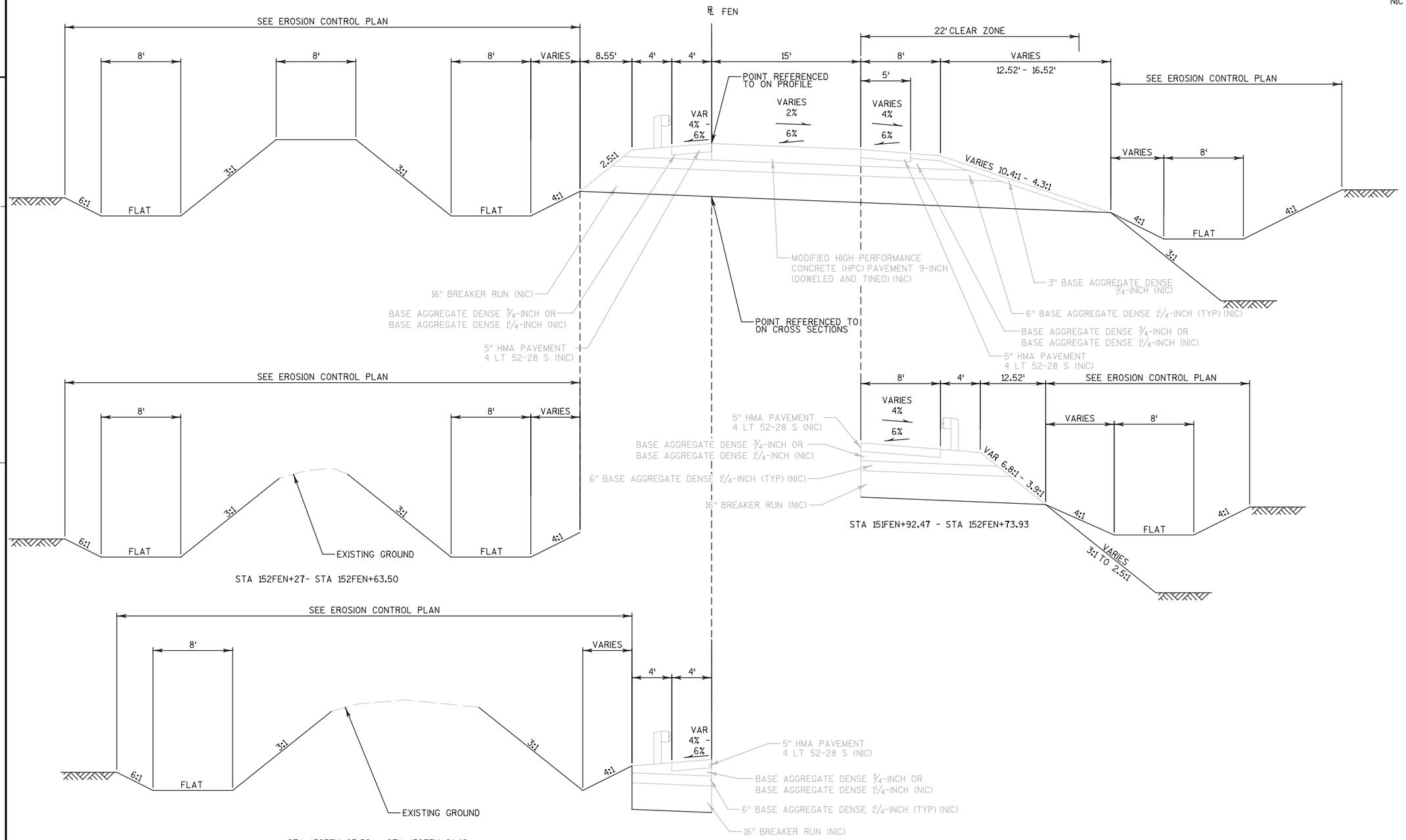

## TYPICAL FINISHED SECTION

## FEN RAMP

STA 142FEN+50 - STA 151FEN+92.47

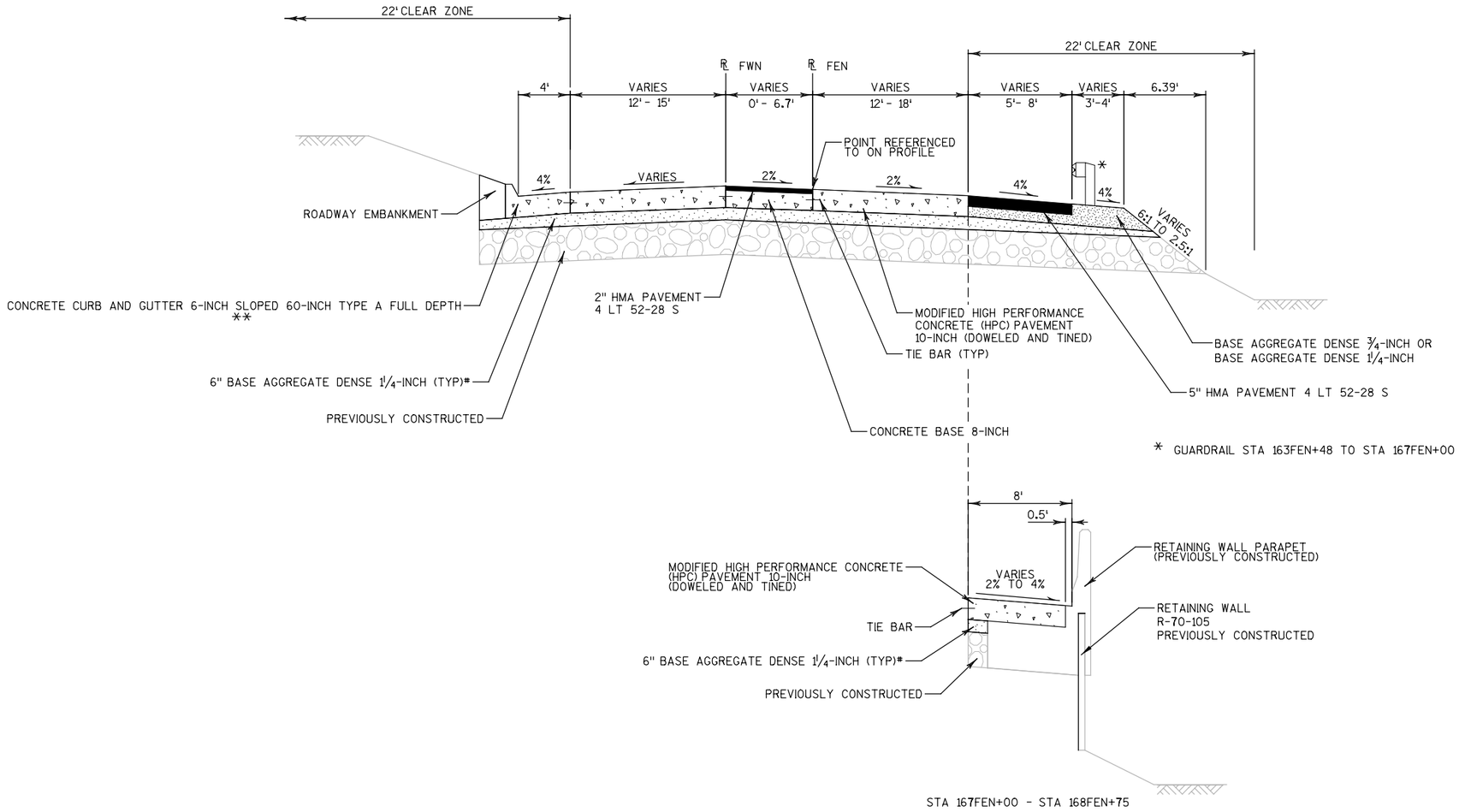
| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | TYPICAL SECTIONS | SHEET 18 | E |
|---|---|---|---|---|---|

NOTE:
NIC = NOT IN CONTRACT




## TYPICAL FINISHED SECTION
## FEN RAMP
STA 151FEN+92.47- STA 152FEN+91.49

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | TYPICAL SECTIONS | SHEET 19 | E |
|---|---|---|---|---|---|




**CONCRETE CURB AND GUTTER 6-INCH SLOPED 60-INCH TYPE A FULL DEPTH EXTENDS TO STA 168FEN+97.61

## TYPICAL FINISHED SECTION

FEN RAMP

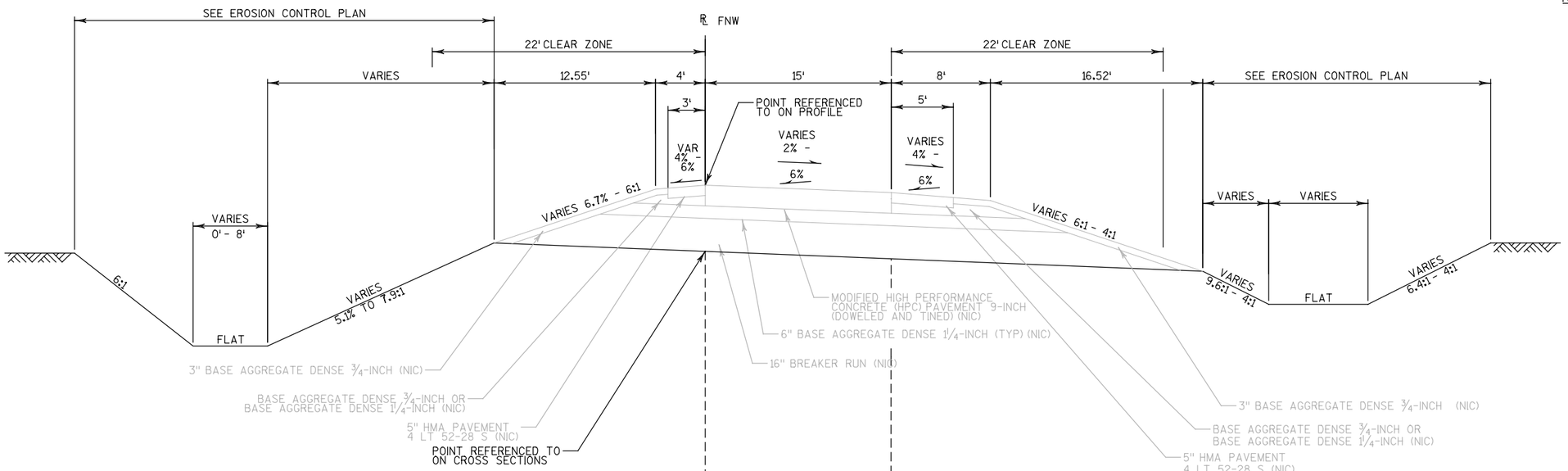
STA 161FEN+75 - STA 168FEN+75

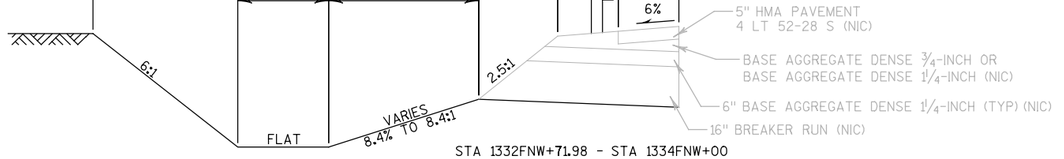
#6" BASE AGGREGATE DENSE 1 1/4-INCH PLACED UNDER PREVIOUS PROJECT. ADDITIONAL BASE AGGREGATE DENSE 1 1/4-INCH TO BE PLACED AS NEEDED. ADDITIONAL BASE AGGREGATE DENSE 1 1/4-INCH NEED IS ESTIMATED AT 1 1/2-INCHES.

| PAVEMENT TYPE | TOTAL LAYER PAVEMENT THICKNESS | LAYERS |
|---|---|---|
| 4 LT 52-28 S | 5" | 5" LAYER |
| 4 LT 52-28 S | 2" | 2" UPPER LAYER |

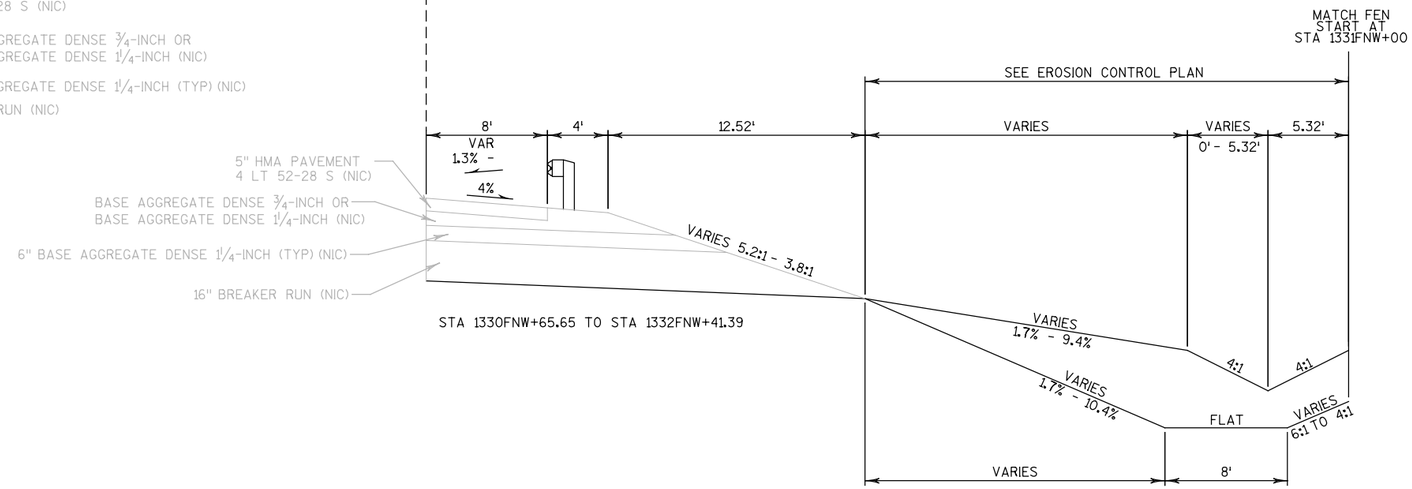
| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | TYPICAL SECTIONS | SHEET 20 | E |
|---|---|---|---|---|---|

NOTE:
NIC = NOT IN CONTRACT



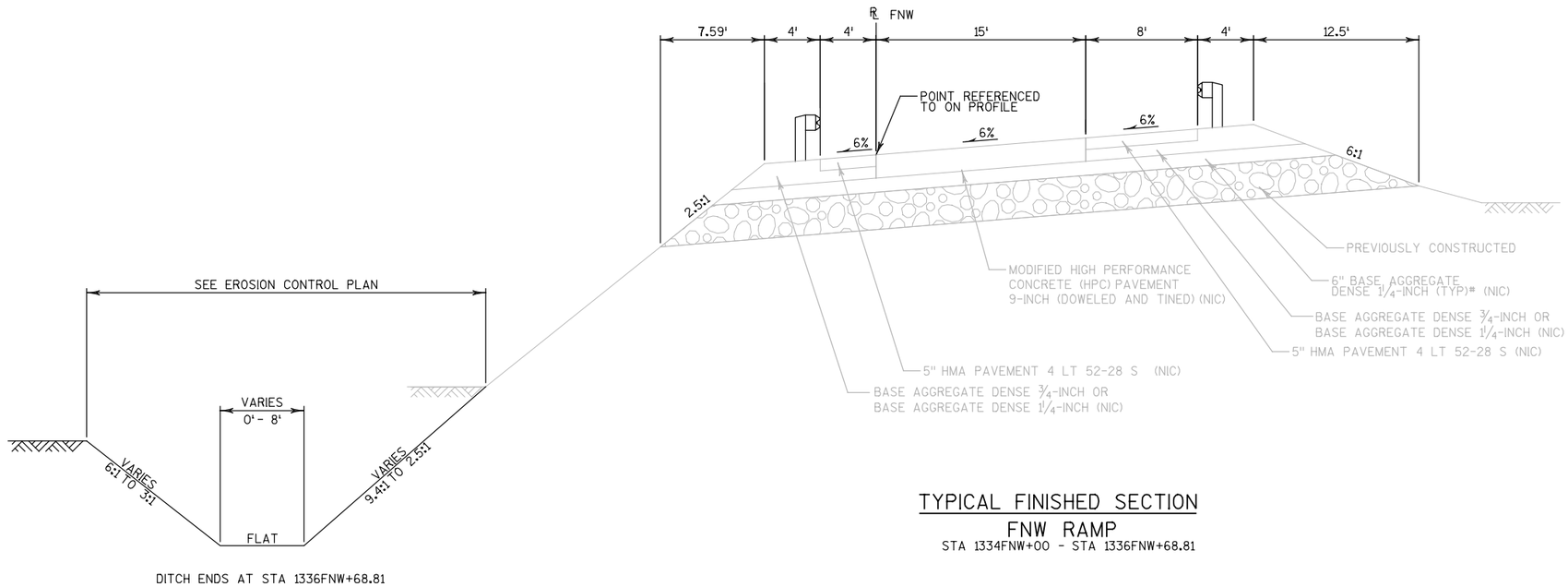

STA 1332FNW+71.98 - STA 1334FNW+00




STA 1330FNW+65.65 TO STA 1332FNW+41.39

## TYPICAL FINISHED SECTION
### FNW RAMP
STA 1324FNW+50 - STA 1334FNW+00

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | TYPICAL SECTIONS | SHEET 21 | E |
|---|---|---|---|---|---|



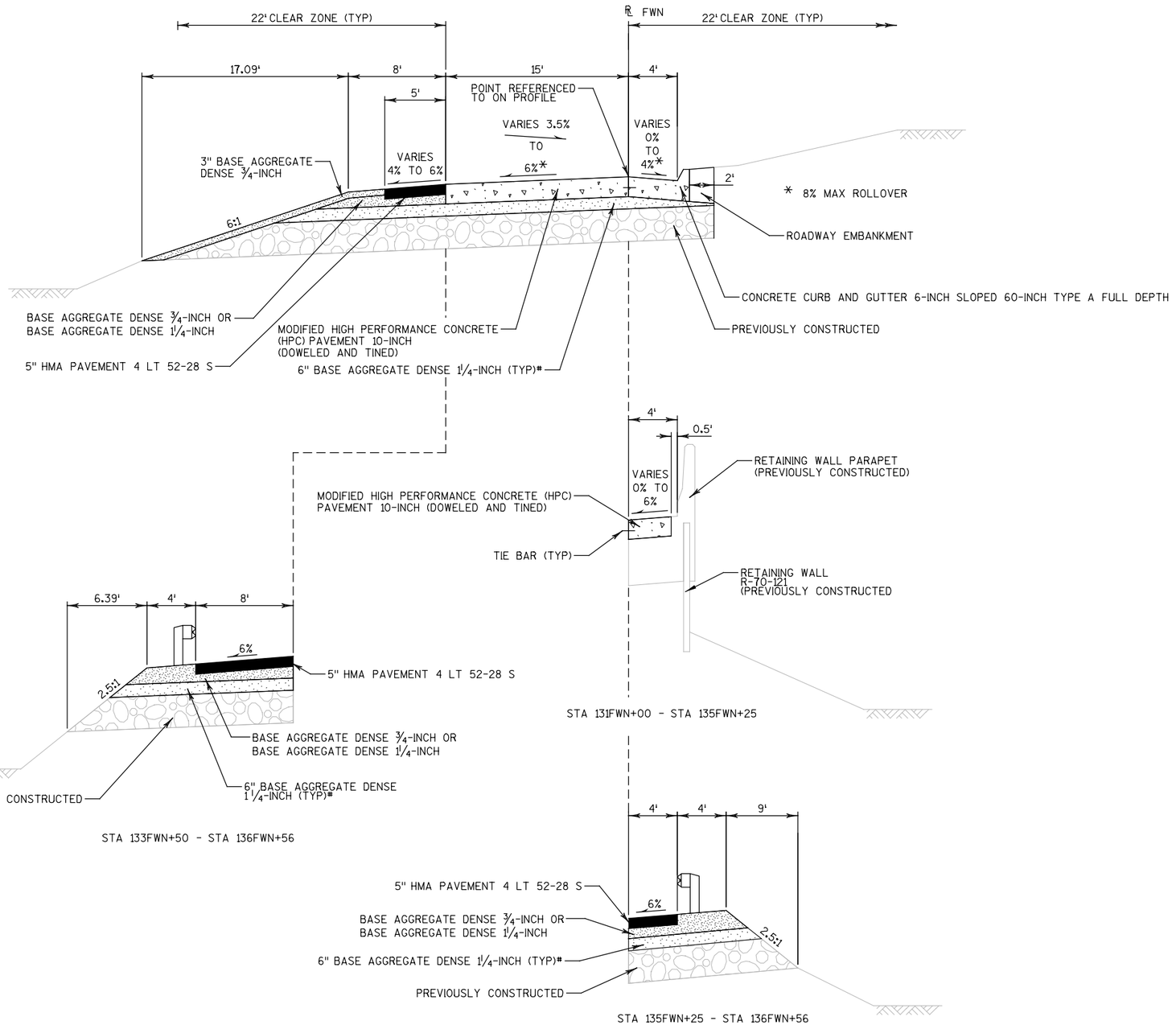

## TYPICAL FINISHED SECTION
### FNW RAMP
STA 1334FNW+00 - STA 1336FNW+68.81




DITCH ENDS AT STA 1336FNW+68.81

NOTE:
NIC = NOT IN CONTRACT

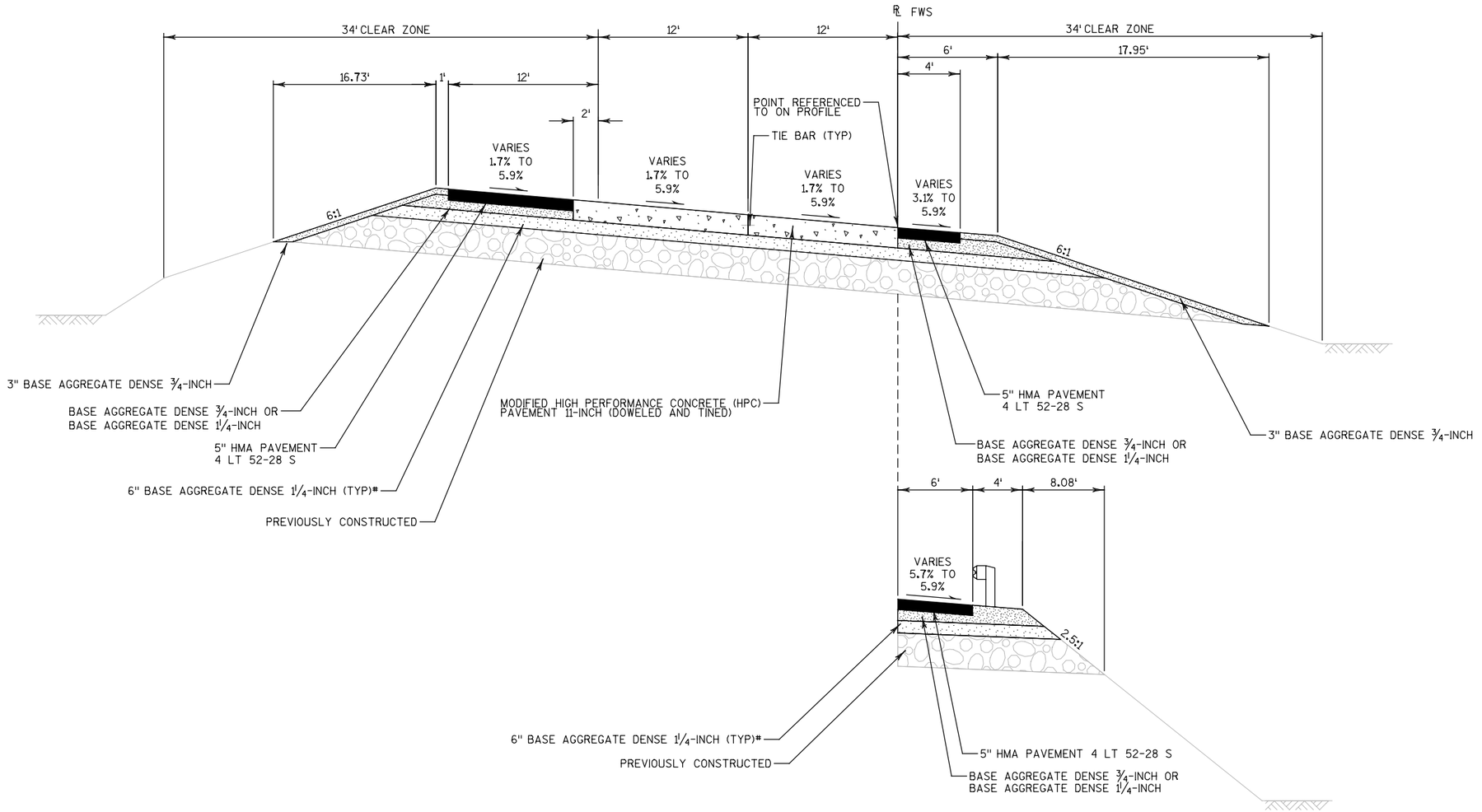
*6" BASE AGGREGATE DENSE 1¼-INCH PLACED UNDER PREVIOUS PROJECT. ADDITIONAL BASE AGGREGATE DENSE 1¼-INCH TO BE PLACED AS NEEDED. ADDITIONAL BASE AGGREGATE DENSE 1¼-INCH WILL BE PAID UNDER ITS RESPECTIVE BID ITEM. (NIC)




## TYPICAL FINISHED SECTION
### FWN RAMP
STA 127FWN+09 - STA 136FWN+56

*6" BASE AGGREGATE DENSE 1¼-INCH PLACED UNDER PREVIOUS PROJECT. ADDITIONAL BASE AGGREGATE DENSE 1¼-INCH TO BE PLACED AS NEEDED. ADDITIONAL BASE AGGREGATE DENSE 1¼-INCH NEED IS ESTIMATED AT 1½-INCHES.

| PAVEMENT TYPE | TOTAL LAYER PAVEMENT THICKNESS | LAYERS |
|---|---|---|
| 4 LT 52-28 S | 5" | 5" LAYER |



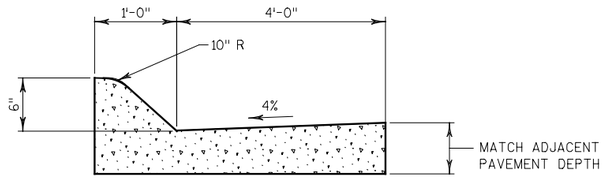

STA 116FWS+15 - STA 118FWS+78

*6" BASE AGGREGATE DENSE 1¼-INCH PLACED UNDER PREVIOUS PROJECT. ADDITIONAL BASE AGGREGATE DENSE 1¼-INCH TO BE PLACED AS NEEDED. ADDITIONAL BASE AGGREGATE DENSE 1¼-INCH NEED IS ESTIMATED AT 1½-INCHES.

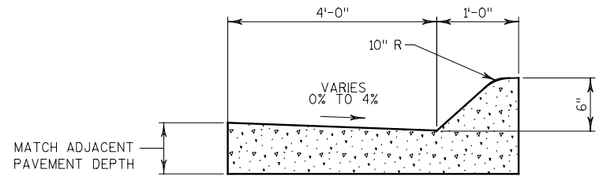
| PAVEMENT TYPE | TOTAL LAYER PAVEMENT THICKNESS | LAYERS |
|---|---|---|
| 4 LT 52-28 S | 5" | 5" LAYER |

## TYPICAL FINISHED SECTION
## FWS RAMP
STA 114FWS+50 - STA 118FWS+78

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | TYPICAL SECTIONS | SHEET 24 | E |
|---|---|---|---|---|---|



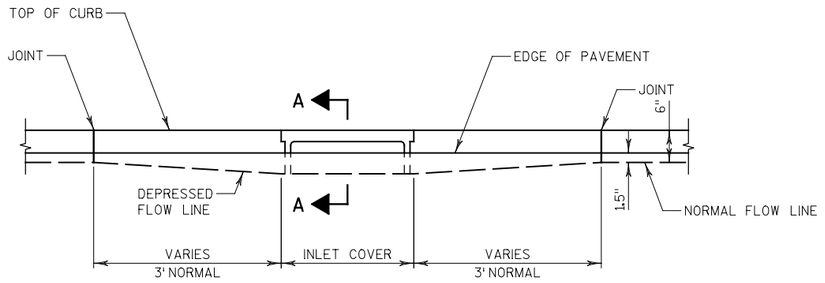

STA 161FEN+88.98 - STA 168FEN+97.61

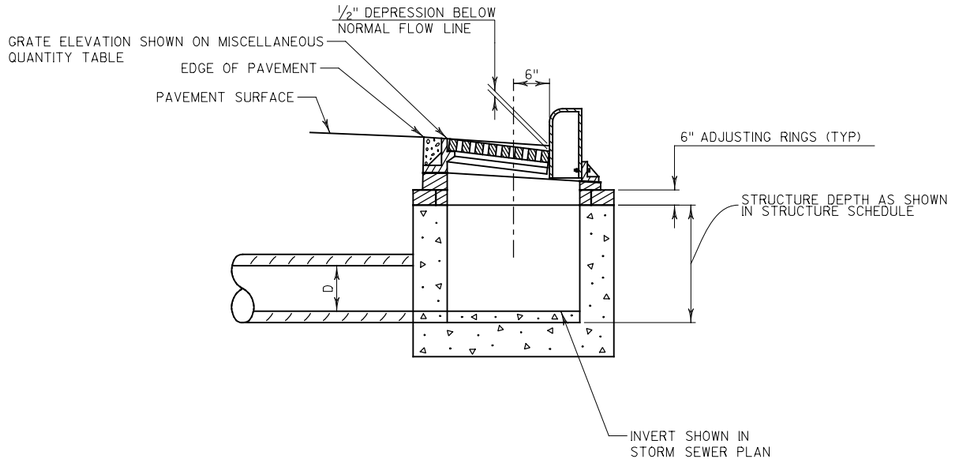



STA 128FWN+01.18 - STA 130FWN+50

| SLOPE TRANSITION | STATION | RATE |
|---|---|---|
| FULL SLOPE | 128+01.18 | -4.00% |
| END FULL SLOPE | 129+51.62 | -4.00% |
| END OF CURB | 130+50.00 | FLAT |

CONCRETE CURB AND GUTTER 6-INCH SLOPED 60-INCH TYPE A FULL DEPTH



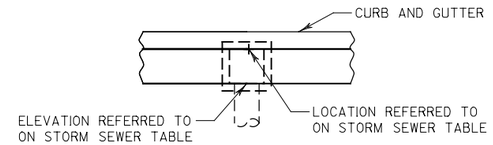




SECTION A-A

## DETAIL OF CURB AND GUTTER AT INLETS

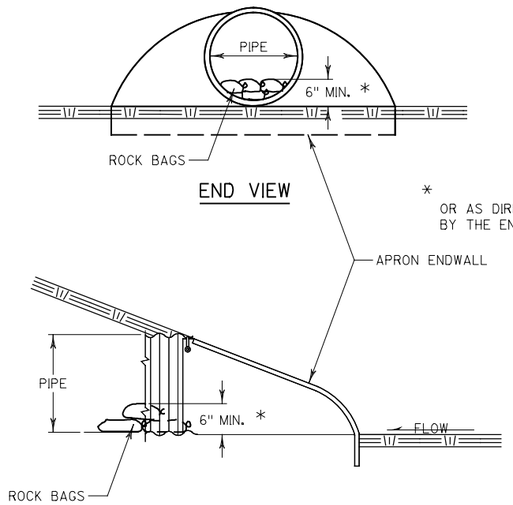
NOTE

1) LOCATION OF STRUCTURE MAY BE ADJUSTED TO FIT FIELD CONDITIONS.




INLET IN CURB AND GUTTER

## STRUCTURE LOCATION DETAIL




END VIEW

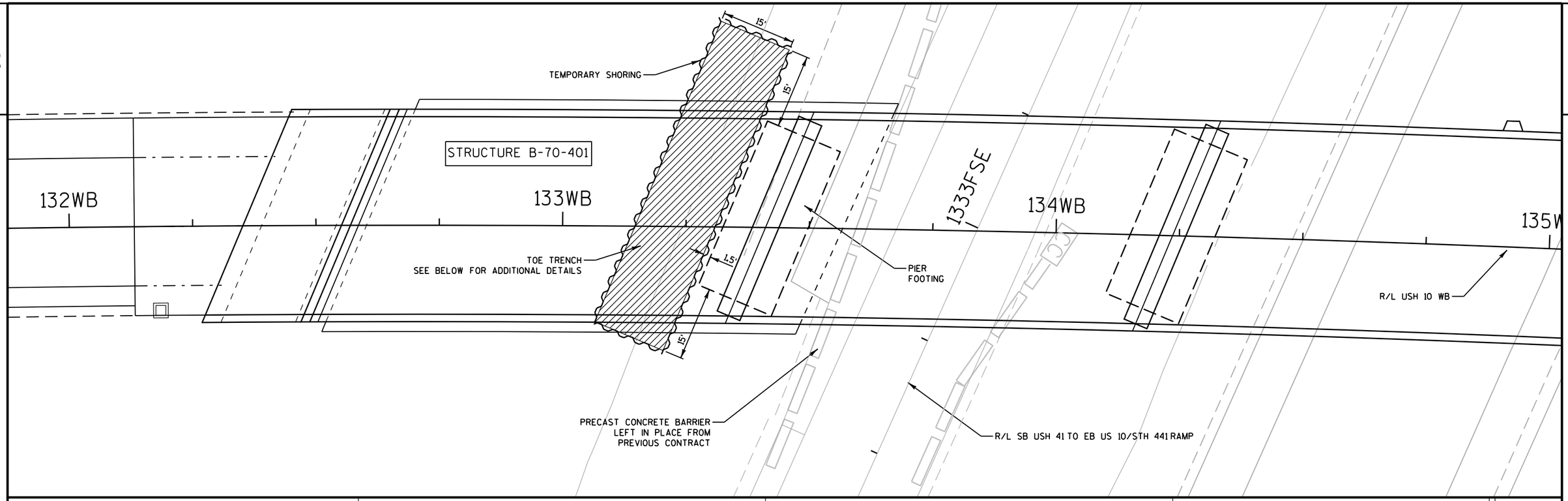
SIDE VIEW

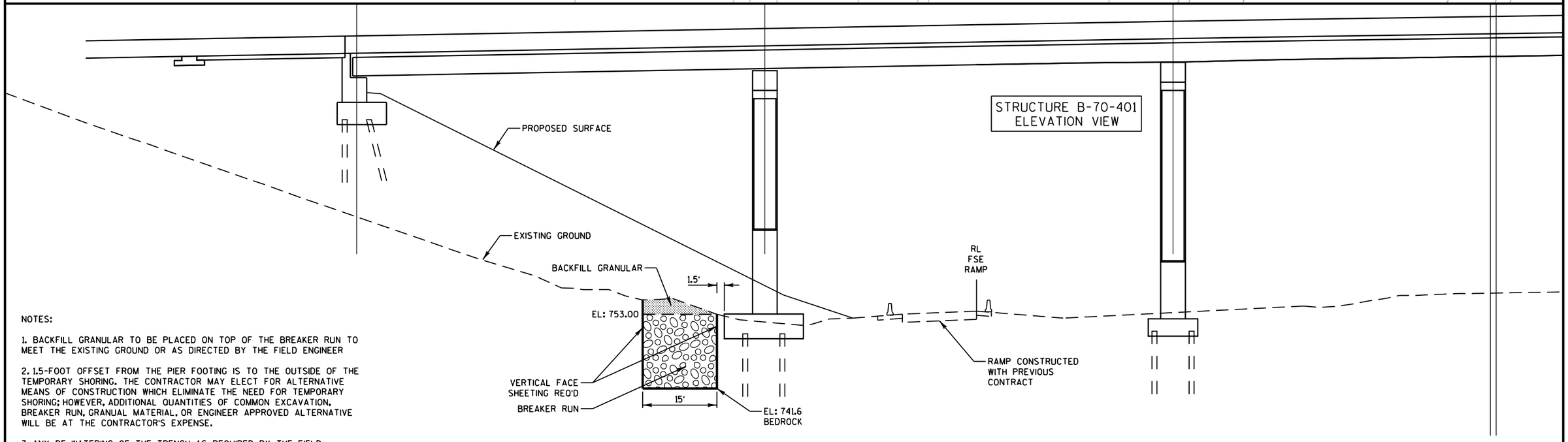
* OR AS DIRECTED BY THE ENGINEER

## CULVERT PIPE CHECKS

AT INLET LOCATIONS

2




NOTES:

1. BACKFILL GRANULAR TO BE PLACED ON TOP OF THE BREAKER RUN TO MEET THE EXISTING GROUND OR AS DIRECTED BY THE FIELD ENGINEER

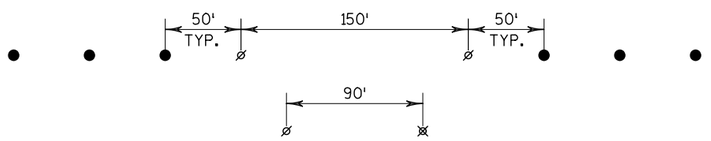
2. 1.5-FOOT OFFSET FROM THE PIER FOOTING IS TO THE OUTSIDE OF THE TEMPORARY SHORING. THE CONTRACTOR MAY ELECT FOR ALTERNATIVE MEANS OF CONSTRUCTION WHICH ELIMINATE THE NEED FOR TEMPORARY SHORING; HOWEVER, ADDITIONAL QUANTITIES OF COMMON EXCAVATION, BREAKER RUN, GRANUAL MATERIAL, OR ENGINEER APPROVED ALTERNATIVE WILL BE AT THE CONTRACTOR'S EXPENSE.

3. ANY DE-WATERING OF THE TRENCH AS REQUIRED BY THE FIELD ENGINEER IS AT THE CONTRACTOR'S EXPENSE

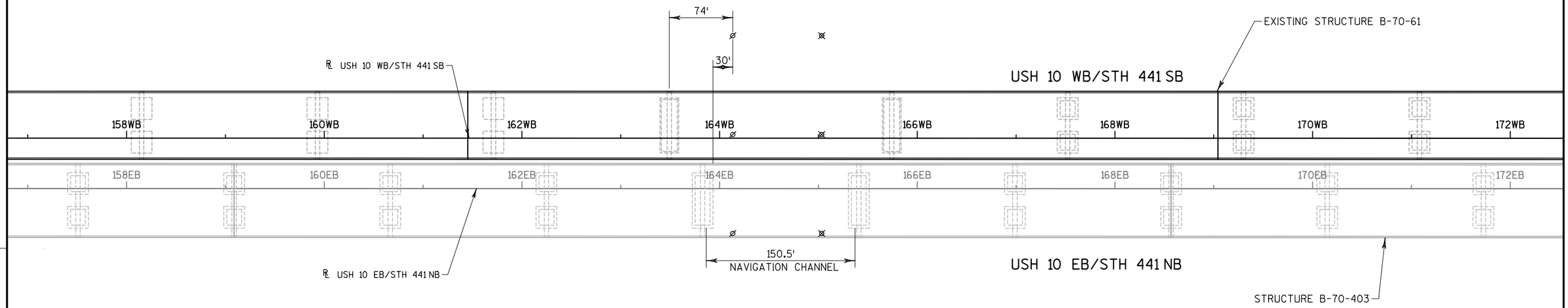
| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CONSTRUCTION DETAIL: TOE TRENCH | SHEET 28 | E |
|---|---|---|---|---|---|

2



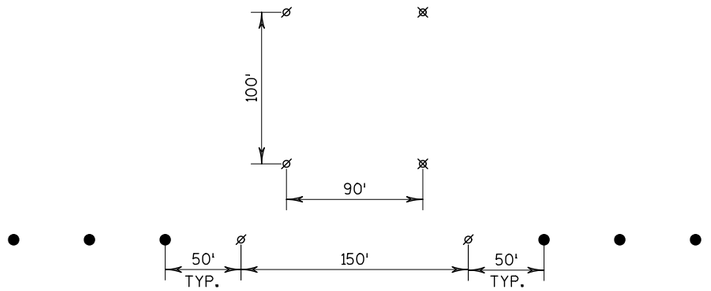




LITTLE LAKE BUTTE DES MORTS
(FOX RIVER)




NOTES:

1. PROVIDE ONE 90-FT WIDE NAVIGATION CHANNEL THROUGH THE LITTLE LAKE BUTTE DES MORTS MAIN CHANNEL AT ALL TIMES.
2. NAVIGATION CHANNEL MUST BE A STRAIGHT PATH THROUGH THE CONSTRUCTION ZONE.
3. NAVIGATION CHANNEL MAY MOVE LOCATION IN CONJUNCTION WITH THE CONSTRUCTION OPERATIONS.
4. CHANNEL LOCATIONS SHALL BE COORDINATED WITH THE NAVIGATION LIGHTS AND AIDS REQUIREMENTS NOTED IN THE SPECIAL PROVISIONS.
5. PLACE NAVIGATION CHANNEL BUOYS 30-FT FROM EDGE OF CONSTRUCTION ACTIVITY.
6. PLACE NAVIGATION CHANNEL BUOYS EVERY 100-FT ALONG CHANNEL BOUNDARY.
7. PLACE DANGER BUOYS EVERY 100-FT ACROSS THE NORTH AND SOUTH ENDS OF THE CHANNEL.
8. BUOYS SHALL HAVE REFLECTIVE TAPE.
9. A BUOY PLAN SHALL BE PRESENTED TO THE ENGINEER AND WDNR 2 WEEKS PRIOR TO THE START OF CONSTRUCTION FOR REVIEW.
10. BUOYS SHALL BE IN PLACE FROM MARCH 15 TO NOVEMBER 30 EACH YEAR OR AS DIRECTED BY THE ENGINEER BASED ON THE PARTICULAR CONSTRUCTION ACTIVITY.
11. PLACEMENT AND MAINTENANCE OF BUOYS IS INCIDENTAL TO STRUCTURE BID ITEMS FOR BRIDGE B-70-61.
12. PLACE LIGHTS AT THE CORNERS OF THE CAUSEWAYS (NOT SHOWN ON THIS PLAN).



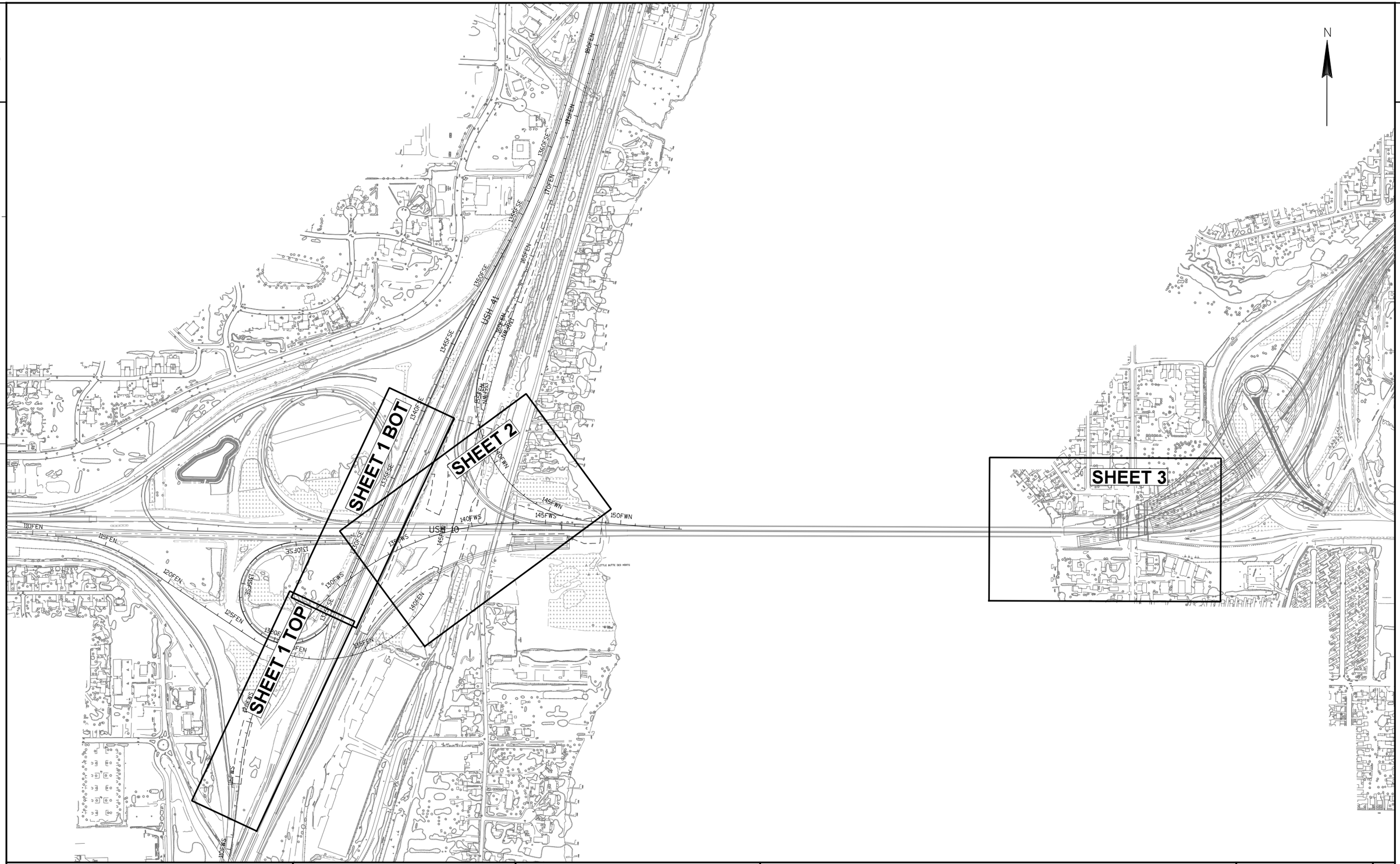

BOATING NAVIGATION DETAIL

## LEGEND

- ---------- ℄ PROPOSED PIER
- ⌀ RED BUOY (MARKS OUTSIDE OF CHANNEL)
- ⊗ GREEN BUOY (MARKS OUTSIDE OF CHANNEL)
- ● DANGER BUOY




| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CONSTRUCTION DETAIL - WATERWAY MARKERS | SHEET 29 | E |
|---|---|---|---|---|---|


N
SHEET 1 BOT
SHEET 1 TOP
SHEET 2
SHEET 3
USH 41
USH 10
135FSE
130FSE
135FSE
150FWS
145FSE
140FWS
145FWS
150FWN
140FWN
145FWN
140FWS
145FWS
140FEN
135FEN

LEGEND

- REMOVING PAVEMENT
- CLEARING AND GRUBBING
- REMOVING ASPHALTIC SURFACE (QUANTITY PAID UNDER "COMMON EXCAVATION")
- REMOVING FENCE
- REMOVING CONCRETE BARRIER
- REMOVING INLETS
- RM REMOVING STORM SEWER
- REMOVING GUARDRAIL
- XXXXX SAWCUT
- SLOPE INTERCEPT
- REMOVING SAND BARRELS

N

STA 119FWS+44.57 39.45' LT
STA 119FWS+44.57 9.61' RT
STA 120FWS+96.16 37.45' LT
STA 122FWS+39.11 37.93' LT
STA 123FWS+01.00 63.37' LT
STA 125FWS+01.31 46.41' LT
STA 124FWS+81.32 108.21' LT
STA 124FWS+82.89 84.94' LT
STA 125FWS+19.51 111.59' LT
STA 127FWS+59.44 113.50' LT
STA 127FWS+31.72 61.73' LT
STA 126FWS+93.95 111.27' LT

120FWS 122FWS 124FWS 126FWS 128FWS 118FWS 116FWS 114FWS

128FEN 1320FSE 130FEN 1322FSE 1324FSE

STA 123FWS+23.01 61.65' RT

REMOVING FENCE STA 118FWS+80 TO STA 122FWS+75

STA 118FWS+78.63 75.92' RT
STA 120FWS+38.35 95.08' RT
STA 120FWS+69.69 51.87' RT
STA 121FWS+13.25 54.06' RT
STA 121FWS+05.85 105.99' RT
STA 122FWS+98.03 113.17' RT
STA 123FWS+25.97 143.70' RT
STA 123FWS+50.35 131.33' RT
STA 125FWS+34.03 7.36' LT
STA 125FWS+93.45 32.20' LT
STA 126FWS+32.06 48.24' RT
STA 126FWS+78.17 4.86' RT
STA 127FWS+29.14 37.45' LT
STA 127FWS+27.38 7.45' RT
STA 127FWS+49.35 25.26' LT
STA 127FWS+86.94 7.69' RT
STA 128FWS+11.16 5.47' RT

SLOPE INTERCEPT (TYP)

R/L USH 10 WB/STH 441 SB RAMP TO USH 41 SB (FWS)

R/L USH 10 EB/STH 441 NB RAMP TO USH 41 NB (FEN)

R/L USH 41 SB TO USH 10 EB/STH 441 NB RAMP (FSE)

1310SB 1312SB 1314SB 1316SB 1318SB 1320SB 1322SB 1324SB

USH 41

USH 41 SB

R/L USH 41 SB

REMOVING CONCRETE BARRIER STA 1320SB+80 TO 1329SB+00

REMOVING CONCRETE BARRIER STA 1320NB+80 TO 1329NB+00

1314NB 1316NB 1318NB 1320NB 1322NB 1324NB

STA 127FWS+59.44 113.50' LT
STA 127FWS+88.21 113.12' LT

AREA CANNOT BE CLEARED UNTIL OCTOBER 1ST.

STA 128FWS+47.02 106.84' LT
STA 128FWS+60.15 95.25' LT
STA 128FWS+29.57 19.77' LT

R/L USH 10 WB/STH 441 SB RAMP TO USH 41 SB (FWS)

R/L USH 41 SB TO USH 10 EB/STH 441 NB RAMP (FSE)

REMOVING ASPHALTIC SURFACE (QUANTITY PAID UNDER EXCAVATION STRUCTURE B-70-405)

STA 128FWS+11.16 5.47' RT
STA 127FWS+86.94 7.69' RT

128FWS 130FWS 132FWS 134FWS

R/L USH 10 EB/STH 441 NB

130EB 130FSE 132EB 134EB

USH 10 WB USH 10 EB

R/L SH 10 WB/STH 441 SB

SLOPE INTERCEPT (TYP)

STA 132WB+33.95 207.60' LT
STA 132WB+28.00 129.20' LT
STA 132WB+87.09 179.60' LT
STA 133WB+06.19 159.95' LT
STA 133WB+33.86 116.19' LT
STA 132WB+99.33 47.58' LT

AREA TO BE GRUBBED ONLY

132NB 134WB

1342FNW

USH 41 SB TO USH 10 EB/STH 441 NB RAMP

1326FSE 1328FSE 1330FSE 1332FSE 1334FSE 1336FSE 1338FSE 1340FSE

R/L USH 41 SB

USH 41 SB

1326SB 1328SB 1330SB 1332SB 1334SB 1336SB 1338SB 1340SB

1340FNW

REMOVING CONCRETE BARRIER STA 1320SB+80 TO 1329SB+00

REMOVING CONCRETE BARRIER STA 1320NB+80 TO 1329NB+00

REMOVING CONCRETE BARRIER STA 1334SB+00 TO 1340SB+05

REMOVING CONCRETE BARRIER STA 1334NB+00 TO 1340NB+05

1326NB 1328NB 1330NB 1332NB 1334NB 1336NB 1338NB 1340NB

USH 41 NB

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | REMOVAL PLANS | SHEET 31 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\021201_rm.dgn PLOT DATE : 3/31/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -

2

2

USH 41 NB

USH 10 WB

USH 10 EB

USH 41NB TO USH 10 WB RAMP

BUTTE DES MORTS BEACH RD.

RAILROAD

REMOVING STORM SEWER PLUGS

R/L USH 10 EB/STH 441 NB RAMP TO USH 41 NB (FEN)

R/L USH 41 NB TO USH 10 WB RAMP (FNW)

R/L USH 10 WB/STH 441 SB

REMOVING EXISTING CONCRETE RUBBLE

REMOVING GUARDRAIL STA 136WB+34 TO STA 139WB+35

REMOVING STORM SEWER 12-INCH

REMOVING INLETS

AREA BY STATION

REMOVING CONCRETE BARRIER STA 142WB+89 TO STA 143WB+20

R/L USH 10 EB/STH 441 NB

R/L USH 10 WB/STH 441 SB RAMP TO USH 41 SB (FWS)

STA 137FWN+43.64
6.28' LT

STA 137FWN+63.62
31.16' LT

STA 137FWN+79.09
48.05' LT

STA 138FWN+00.87
32.02' RT

STA 137FWN+81.92
73.08' LT

STA 138FWN+18.15
9.17' RT

STA 139FWN+17.49
51.21' RT

STA 138FWN+54.98
73.16' LT

STA 139FWN+74.15
57.80' RT

STA 139FWN+02.07
72.24' LT

STA 139FWN+74.78
74.81' LT

STA 139FWN+93.10
44.08' RT

REMOVING FENCE STA 149FEN+11 TO STA 152FEN+92

STA 141FWN+24.29
187.47' RT

STA 141FWN+64.91
171.76' RT

AREAS BY STATION

R/L USH 10 WB/STH 441 SB TO USH 41 SB

SLOPE INTERCEPT (TYP)

REMOVING SAND BARRELS

REMOVING GUARDRAIL STA 142WB+95 TO STA 147WB+37

REMOVING INLETS

2304 TLE

2303 TLE

2302

LEGEND

- REMOVING PAVEMENT
- CLEARING AND GRUBBING
- REMOVING ASPHALTIC SURFACE (QUANTITY PAID UNDER "COMMON EXCAVATION")
- REMOVING FENCE
- REMOVING CONCRETE BARRIER
- REMOVING INLETS
- RM REMOVING STORM SEWER
- REMOVING GUARDRAIL
- X X X X X SAWCUT
- SLOPE INTERCEPT
- REMOVING SAND BARRELS

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | REMOVAL PLANS | SHEET 32 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\021202_rm.dgn PLOT DATE : 3/31/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -

WISDOT/CADDS SHEET 42

2

2

N

RACINE ROAD NW RAMP

USH 10 WB/STH 441 SB

USH 10 EB/STH 441 NB

RACINE ROAD SW RAMP

TAYCO STREET

R/L USH 10 WB/STH 441 SB

EXISTING R/W

PROPOSED R/W

REMOVING CONCRETE BARRIER

SLOPE INTERCEPTS (TYP.)

176WB

178WB

180WB

182WB

184WB

186WB

188WB

190WB

TLE

PIER

MH

WV

INL

W

GUY

CV

## REMOVAL LEGEND

- REMOVING PAVEMENT
- CLEARING AND GRUBBING
- REMOVING ASPHALTIC SURFACE (QUANTITY PAID UNDER "COMMON EXCAVATION")
- REMOVING FENCE
- REMOVING CONCRETE BARRIER
- REMOVING INLETS
- RM REMOVING STORM SEWER
- REMOVING GUARDRAIL
- XXXX SAWCUT
- SLOPE INTERCEPT

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | REMOVAL PLAN - STAGE 2 | SHEET 33 | E |
|---|---|---|---|---|---|

FILE NAME : \\milw00\ingrproj\56537\1517-07-77\t1\cds\021101_rm.dgn PLOT DATE : 11/18/2015 PLOT BY : grosemeyer PLOT NAME : $FILE$ PLOT SCALE : 100:1

PAVEMENT DETAIL LEGEND

- (CB05) CONCRETE BARRIER TYPE S32
- (CB07) CONCRETE BARRIER TYPE S56
- (CM13) CONCRETE BASE 4-INCH
- (CP13) MODIFIED HIGH PERFORMANCE CONCRETE (HPC) PAVEMENT 11-INCH, (DOWELED AND TINED)
- (PV01) CONCRETE PAVEMENT APPROACH SLAB
- (RS02) CONCRETE RUMBLE STRIPS SHOULDER

N

END CONSTRUCTION
183WB+80.32

WB+78.86
41.15' LT

R = 1315'

B-70-411

185WB

R/L USH 10 WB/STH 441 SB

WB+56.62 (PC)
38.00' LT

WB+27.86
39.73' LT

R = 1330'

WB+02.01
48.00' LT

WB+17.95
38.00' LT

BEGIN CONSTRUCTION
181WB+02.01

WB+56.62 (PC)
24.00' LT

184WB

USH 10 WB/STH 441 SB

183WB

182WB

END
(RS02)
183WB+81

WB+81.15
24.00' RT

EB+05.31
34.00' LT

B-70-61

180WB

181WB

WB+02.01
24.00' RT

CB07

EB+25.00
34.00' LT

CB05

CM13

R = 1926'

B-70-410

BEGIN
(RS02)
181WB+18

EB+11.81
24.00' LT

USH 10 EB/STH 441 NB

B-70-403

S-70-210

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | PLAN DETAILS | SHEET | E |
|---|---|---|---|---|---|



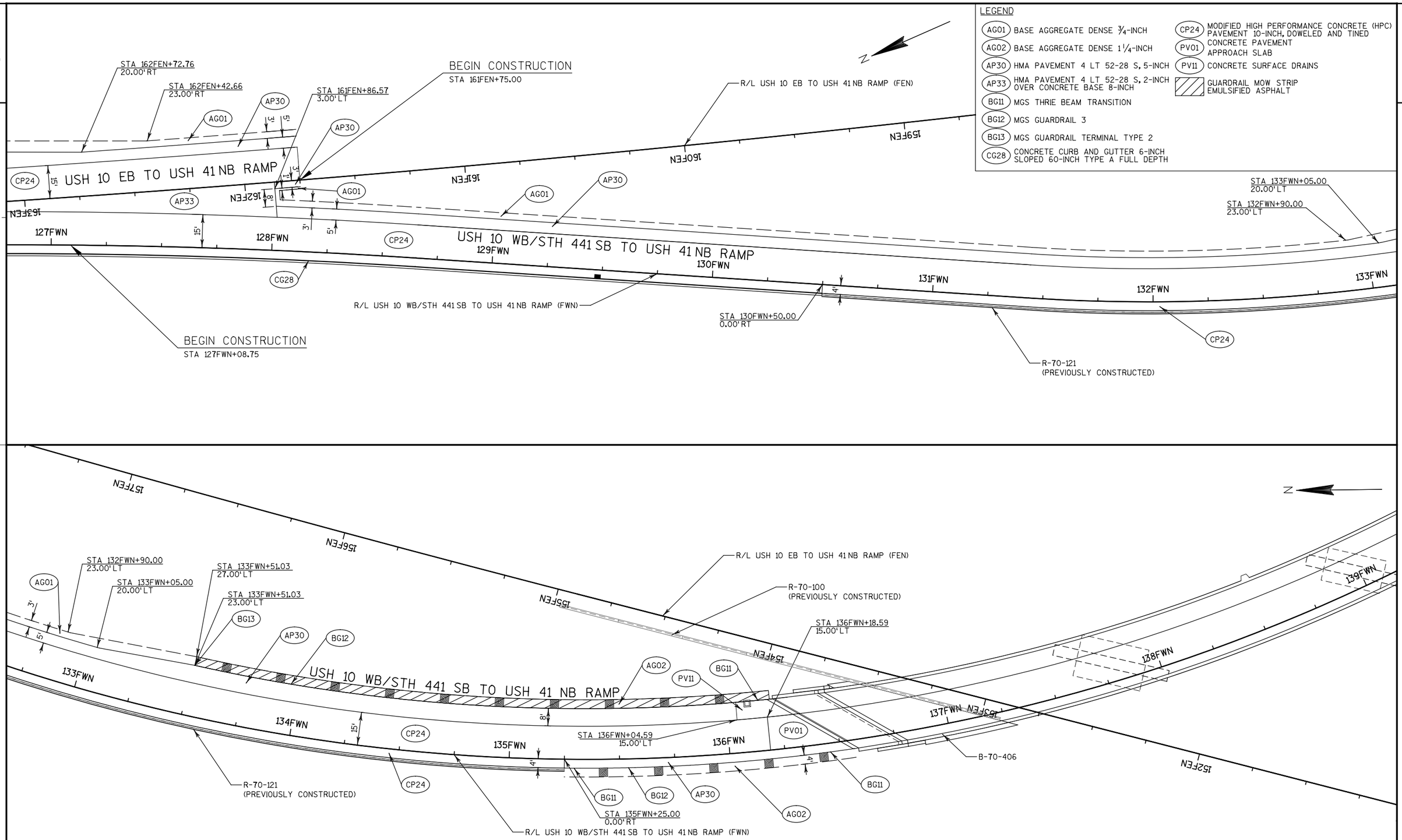
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WISDOT/CADDS SHEET 42

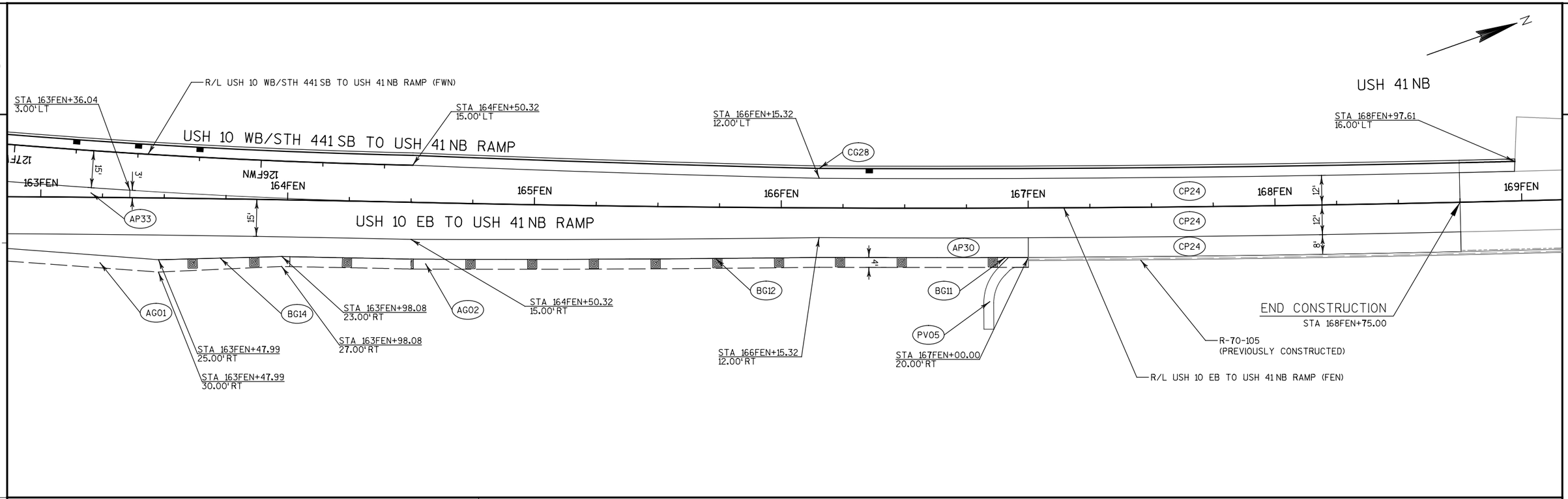
2

LEGEND

| | | | |
|---|---|---|---|
| AG01 | BASE AGGREGATE DENSE ¾-INCH | CP24 | MODIFIED HIGH PERFORMANCE CONCRETE (HPC) PAVEMENT 10-INCH, DOWELED AND TINED |
| AG02 | BASE AGGREGATE DENSE 1¼-INCH | PV01 | CONCRETE PAVEMENT APPROACH SLAB |
| AP30 | HMA PAVEMENT 4 LT 52-28 S, 5-INCH | PV11 | CONCRETE SURFACE DRAINS |
| AP33 | HMA PAVEMENT 4 LT 52-28 S, 2-INCH OVER CONCRETE BASE 8-INCH | | GUARDRAIL MOW STRIP EMULSIFIED ASPHALT |
| BG11 | MGS THRIE BEAM TRANSITION | | |
| BG12 | MGS GUARDRAIL 3 | | |
| BG13 | MGS GUARDRAIL TERMINAL TYPE 2 | | |
| CG28 | CONCRETE CURB AND GUTTER 6-INCH SLOPED 60-INCH TYPE A FULL DEPTH | | |



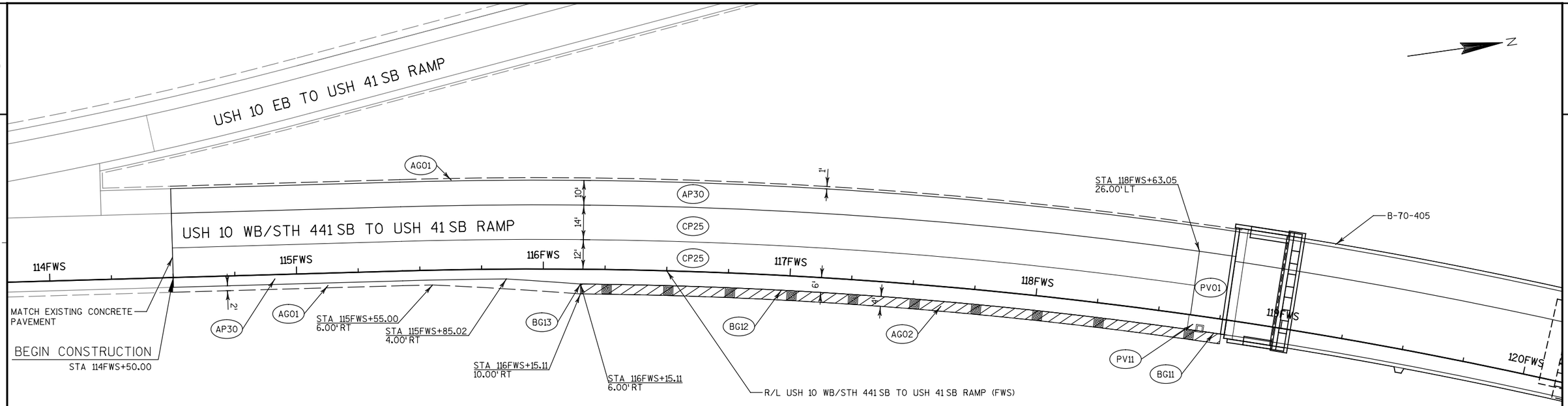

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | PLAN DETAILS - FEN, FWN | SHEET 35 | E |
|---|---|---|---|---|---|




LEGEND

| | | | |
|---|---|---|---|
| AG01 | BASE AGGREGATE DENSE 3/4-INCH | CP28 | CONCRETE CURB AND GUTTER 6-INCH SLOPED 60-INCH TYPE A FULL DEPTH |
| AG02 | BASE AGGREGATE DENSE 1 1/4-INCH | CP24 | MODIFIED HIGH PERFORMANCE CONCRETE (HPC) PAVEMENT 10-INCH, DOWELED AND TINED |
| AP30 | HMA PAVEMENT 4 LT 52-28 S, 5-INCH | PV05 | ASPHALTIC FLUME |
| AP33 | HMA PAVEMENT 4 LT 52-28 S, 2-INCH OVER CONCRETE BASE 8-INCH | | |
| BG11 | MGS THRIE BEAM TRANSITION | | |
| BG12 | MGS GUARDRAIL 3 | | |
| BG14 | MGS TERMINAL EAT | | |

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | PLAN DETAILS - FEN | SHEET 36 | E |
|---|---|---|---|---|---|




LEGEND

- AG01 BASE AGGREGATE DENSE 3/4-INCH
- AG02 BASE AGGREGATE DENSE 1 1/4-INCH
- AP30 HMA PAVEMENT 4 LT 52-28 S, 5-INCH
- BG11 MGS THRIE BEAM TRANSITION
- BG12 MGS GUARDRAIL 3
- BG13 MGS GUARDRAIL TERMINAL TYPE 2
- CP25 MODIFIED HIGH PERFORMANCE CONCRETE (HPC) PAVEMENT 11-INCH, DOWELED AND TINED
- PV01 CONCRETE APPROACH SLAB
- PV11 CONCRETE SURFACE DRAINS
- GUARDRAIL MOW STRIP EMULSIFIED ASPHALT

2

N

END CONSTRUCTION
183WB+80.32

BEGIN CONSTRUCTION
181WB+02.01

R/L USH 10 WB/STH 441 SB

USH 10 WB/STH 441 SB

B-70-411

B-70-61

B-70-410

B-70-403

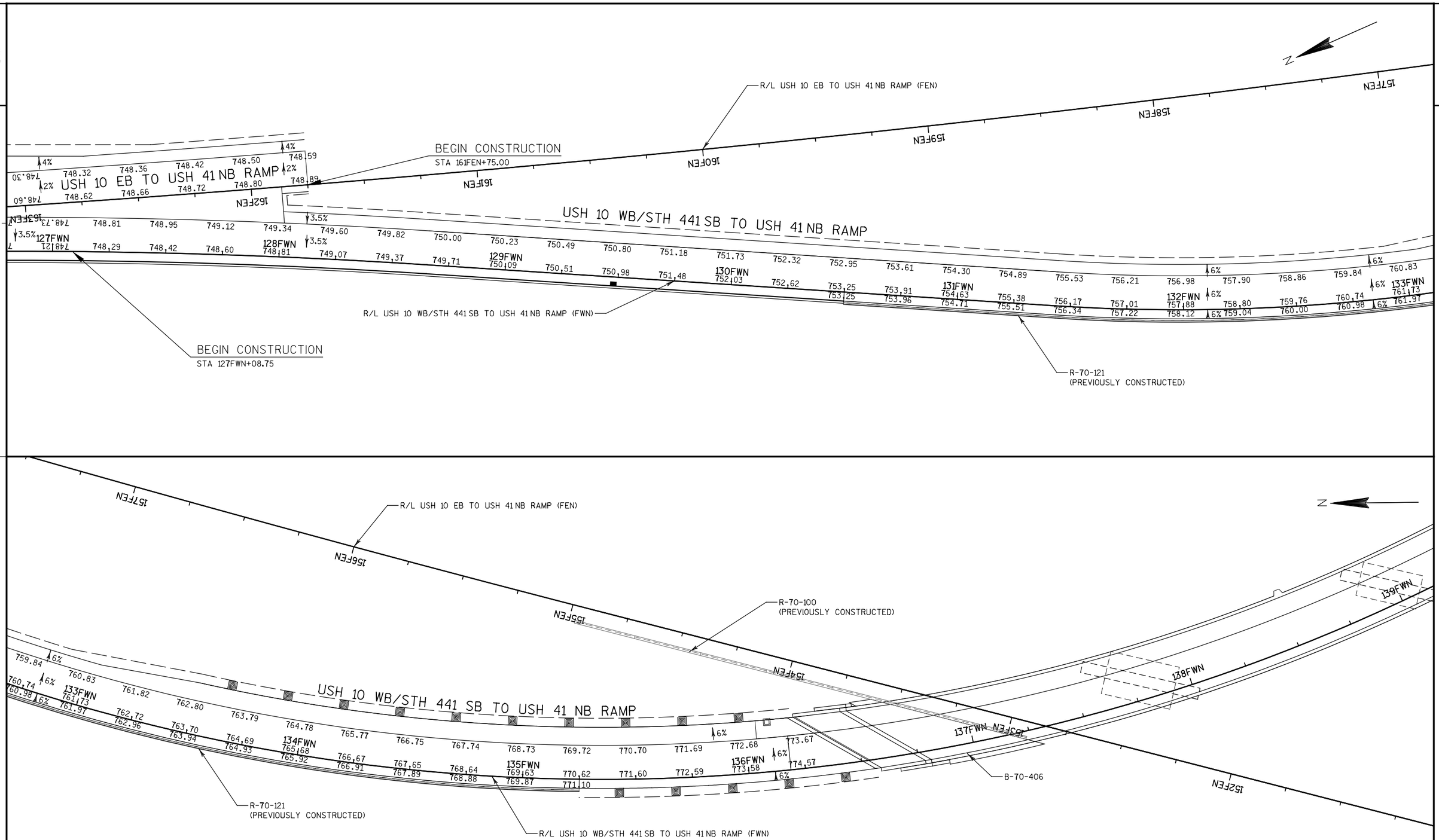
USH 10 EB/STH 441 NB

S-70-210

180WB 181WB 182WB 183WB 184WB 185WB

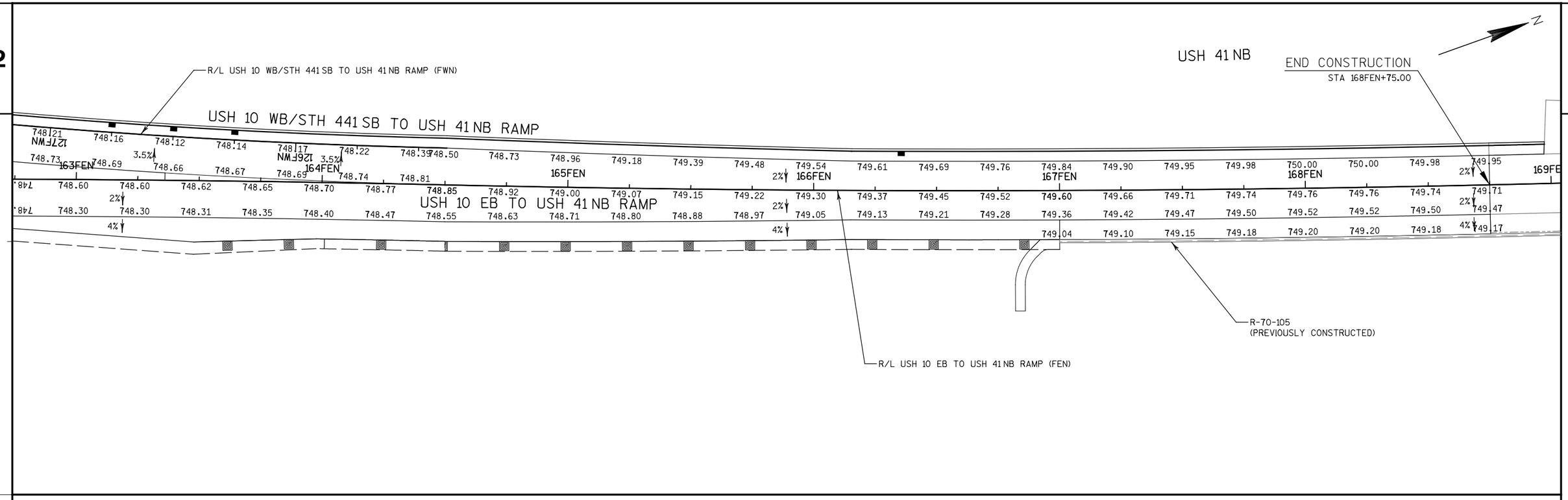
776.59 776.47 776.36 776.27 776.20 776.16 776.14 776.09 776.07 776.09 776.12 776.16
776.71 777.31 777.20 777.11 777.04 777.00 776.98 776.97 776.98 776.99 777.02 777.06
778.15 778.03 777.92 777.83 777.76 777.72 777.70 777.69 777.71 777.75 777.82 777.90
778.87 778.75 778.64 778.55 778.48 778.44 778.42 778.41 778.43 778.47 778.54 778.62
779.59 779.47 779.36 779.27 779.20 779.16 779.14 779.13 779.15 779.19 779.26 779.34
780.31 780.19 780.08 779.99 779.92 779.88 779.86 779.85 779.87 779.91 779.98 780.06

14' 12' 12' 12' 15' 14' 12' 12' 12'

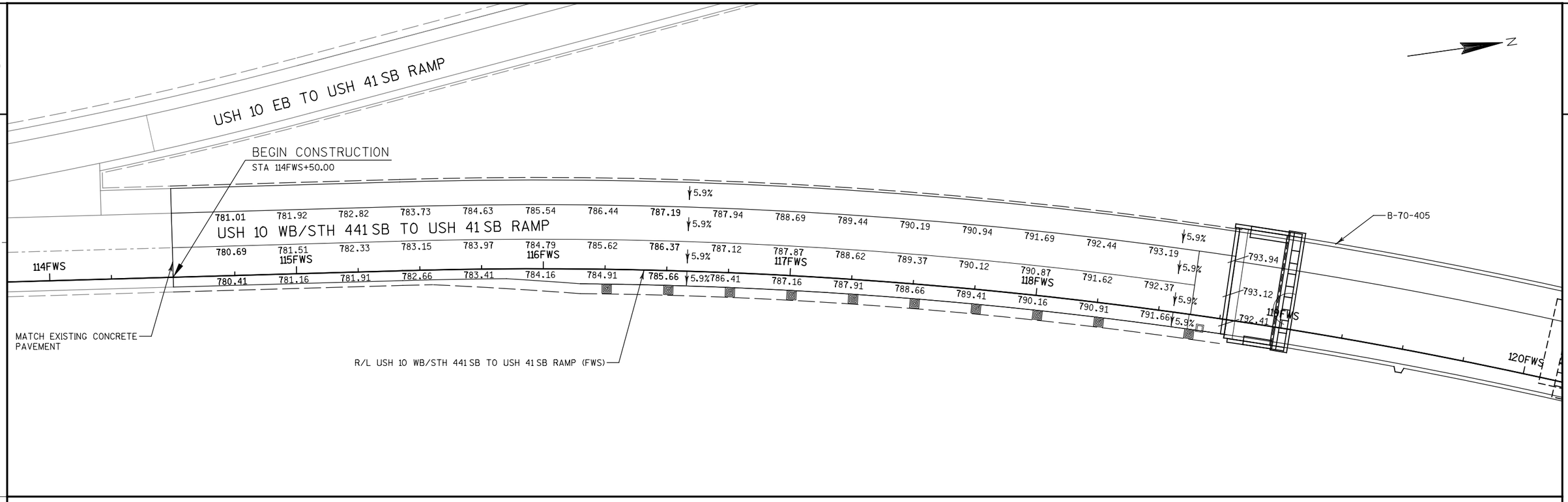



| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | PAVING GRADES - FEN, FWN | SHEET 39 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\021211_pg.dgn PLOT DATE : 1/18/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -




| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | PAVING GRADES - FEN | SHEET 40 | E |
|---|---|---|---|---|---|




| | | | | |
|---|---|---|---|---|
| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | PAVING GRADES - FWS | SHEET 41 E |

2

N

EXISTING WB 10/441 TO SB USH 41

LIMITS OF CONSTRUCTION

MATCH FILL LIMITS FROM PREVIOUS EARLY FILL CONTRACT

R/L WB USH 10

FURTHER DETAILS, SEE NEXT PAGE

FILL LIMITS EXTEND UNDER EXISTING STRUCTURE.
DO NOT DISTURB WB HWY 441 STRUCTURE.

EXISTING WB HWY 10/441

R/L SB USH 41 TO EB USH 10/441

R/L SB USH 41

SB USH 41 TO EB WIS 441

SB USH 41

NB USH 41

STRUCTURE B-70-401

R/L NB USH 41

R/L EB USH 10

EB HWY 10/441

1336FSE
C 1336SB
1336NB
1334FSE
C 1334SB
1334NB
1332FSE
C 1332SB
1332NB
1330FSE
C 1330SB
1330NB
1328FSE
C 1328SB
1328NB
1314FSE
1312FSE
1310FSE
1308FSE

126WB 128WB 130WB 132WB 134WB 136WB 138WB 140WB

126EB 128EB 130EB 132EB 134EB 136EB 138EB 140EB

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CONTOUR PLAN: STRUCTURE B-70-401 WEST ABUTMENT GRADING | SHEET 42 | E |
|---|---|---|---|---|---|

LIMITS OF CONSTRUCTION

132WB+36, 201' LT

MATCH SPECIAL DITCH WITH EXISTING DITCH SLOPE AT 0.50% TO THE WEST

MATCH FILL LIMITS FROM PREVIOUS EARLY FILL CONTRACT

3:1

2:1

A

A

131WB+81, 103' RT

FILL LIMITS EXTEND UNDER EXISTING STRUCTURE. DO NOT DISTURB WB HWY 441 STRUCTURE.

R/L WB USH 10

130WB

131WB

132WB

133WB

134WB

135WB

136WB

1335FSE

SB USH 41 TO EB WIS 441

1334FSE

R/L SB USH 41 TO EB USH 10/441

C 1335SB

R/L SB USH 41

SB USH 41 C 1334SB

NB USH 41

1334NB

R/L NB USH 41

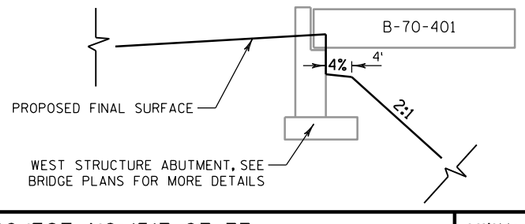
1333FSE

C 1333SB

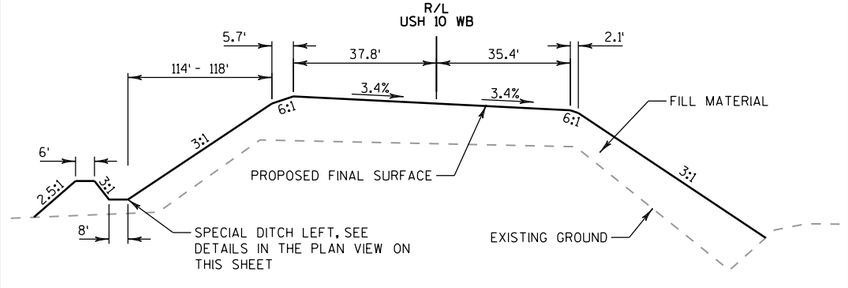
1332FSE

N

SECTION A-A AT THE BRIDGE ABUTMENT




SECTION AT STATION 132WB+00




| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CONTOUR PLAN: STRUCTURE B-70-401 WEST ABUTMENT GRADING | SHEET 43 | E |
|---|---|---|---|---|---|

2

SLOPE INTERCEPTS

TIE INTO GRADING LIMITS FROM 1517-75-75

LITTLE LAKE BUTTE DES MORTS

℄ USH 10 WB/STH 441 SB

TIE INTO ABUTMENT FOR B-70-61

USH 10 WB/STH 441 SB

178WB 179WB 180WB 181WB 182WB 183WB 184WB

184EB 183EB 182EB 181EB 180EB 179EB 178EB

USH 10 EB/STH 441 NB

℄ USH EB/STH 441 NB

TIE INTO ABUTMENT FOR B-70-403

TIE INTO GRADING LIMITS FROM 1517-75-75

GRADING LIMITS EXTEND UNDER EXISTING STRUCTURE B-70-403
DO NOT DISTRUB EXISTING B-70-403

GRADING BY PROJECT ID 1517-75-75
SEE 1517-75-75 PLANS

EXISTING CONTOURS

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CONTOUR MAPS: B-70-61 & B-70-403 EAST ABUTMENT GRADING | SHEET 44 | E |
|---|---|---|---|---|---|

FILE NAME : \\S1102K306\projects\Transportation\US 10 WIS 441\CADD\sheets\15170777\021601_cm.dgn PLOT DATE : 4/1/2016 PLOT BY : nick_becker PLOT NAME : _____ PLOT SCALE : 40.0000 sf / in.

2

2

LEGEND

WETLAND BOUNDARY

N

LITTLE LAKE
BUTTE DES MORTS
(FOX RIVER)

USH 10 WB

USH 10 EB

USH 41 NB

USH 41 SB

COLD SPRING ROAD

BUTTE DES MORTS BEACH ROAD

B-70-406

B-70-401

S-70-206

B-70-61

S-70-254

B-70-403

PROJECT ID 1517-07-72
(BY OTHERS)

B-70-402

S-70-257

B-70-405

PROJECT ID 1517-07-80
(BY OTHERS)

B-70-409

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | WETLAND LOCATIONS | SHEET 45 | E |
|---|---|---|---|---|---|

FILE NAME : \\S1102K306\projects\Transportation\US 10 WIS 441\CADD\sheets\15170777\022006_ecw.dgn PLOT DATE : 4/1/2016 PLOT BY : nick_becker PLOT NAME : PLOT SCALE : 400.0000 sf / in.

WISDOT/CADDS SHEET 42

2

2

LITTLE LAKE
BUTTE DES MORTS
(FOX RIVER)

N

LEGEND
WETLAND BOUNDARY

TAYCO STREET

USH 10 WB/STH 441 SB

USH 10 EB/STH 441 NB

B-70-61

S-70-209

B-70-411

B-70-410

B-70-403

170WB
170EB
175WB
175EB
180WB
180EB
185WB
185EB
190WB
190EB
195WB
195EB
200WB
200EB
205WB
205EB
210WB
210EB
215EB

SM
WM
WL
UPLAND

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | WETLAND LOCATIONS | SHEET 46 | E |
|---|---|---|---|---|---|

FILE NAME : \\S1102K306\projects\Transportation\US 10 WIS 441\CADD\sheets\15170777\022007_ecw.dgn PLOT DATE : 4/1/2016 PLOT BY : nick_becker PLOT NAME : PLOT SCALE : 400.0000 sf / in.

2

LEGEND

PHRAGMITES

TEASEL

PURPLE LOOSESTRIFE

N

USH 10 WB

USH 10 EB

COLD SPRING ROAD

USH 41 SB

USH 41 NB

BUTTE DES MORTS BEACH ROAD

LITTLE LAKE
BUTTE DES MORTS
(FOX RIVER)

B-70-406

B-70-401

B-70-61

B-70-403

PROJECT ID 1517-07-72
(BY OTHERS)

B-70-402

B-70-405

B-70-409

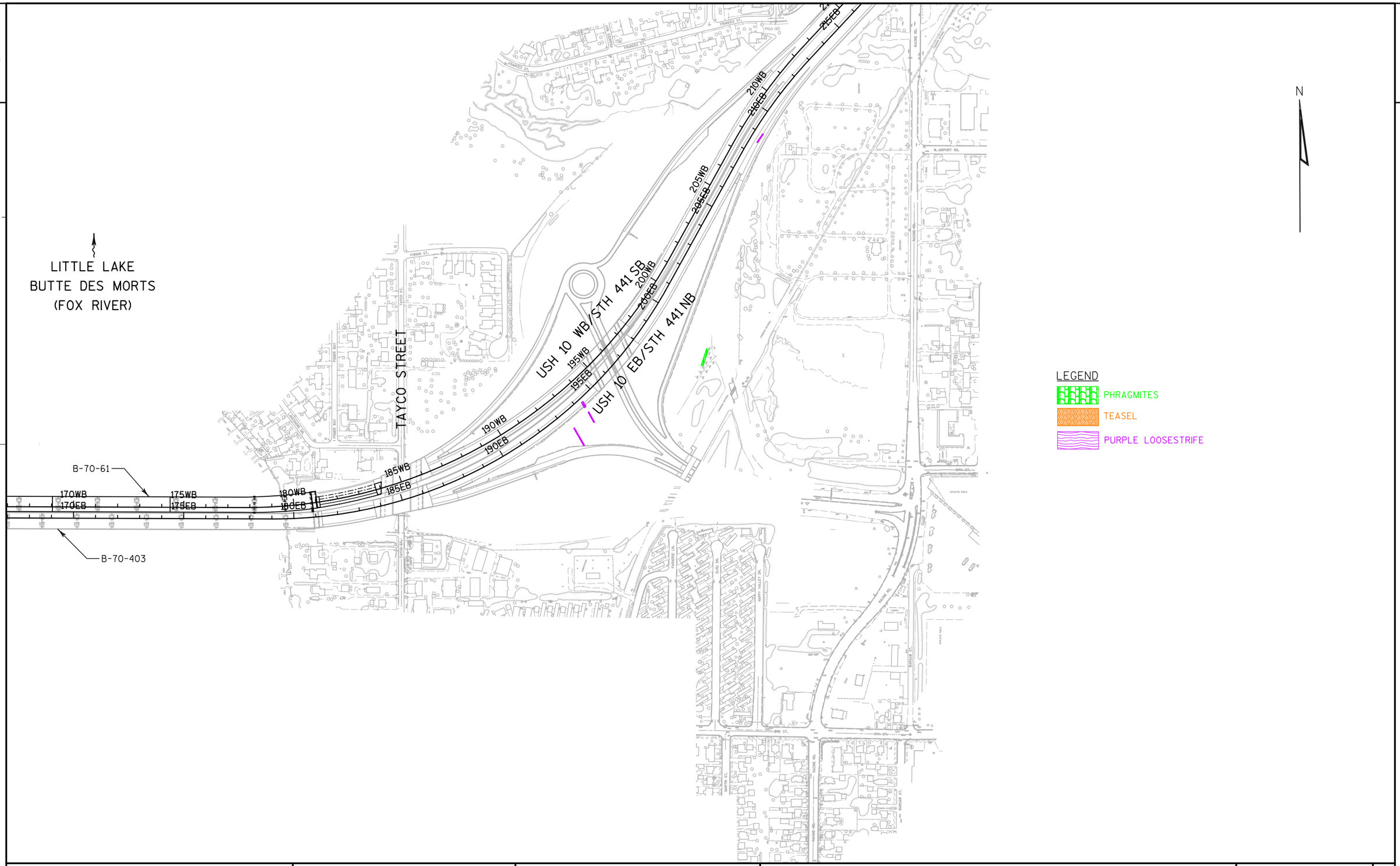
PROJECT ID 1517-07-80
(BY OTHERS)

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | INVASIVE SPECIES | SHEET 47 | E |
|---|---|---|---|---|---|

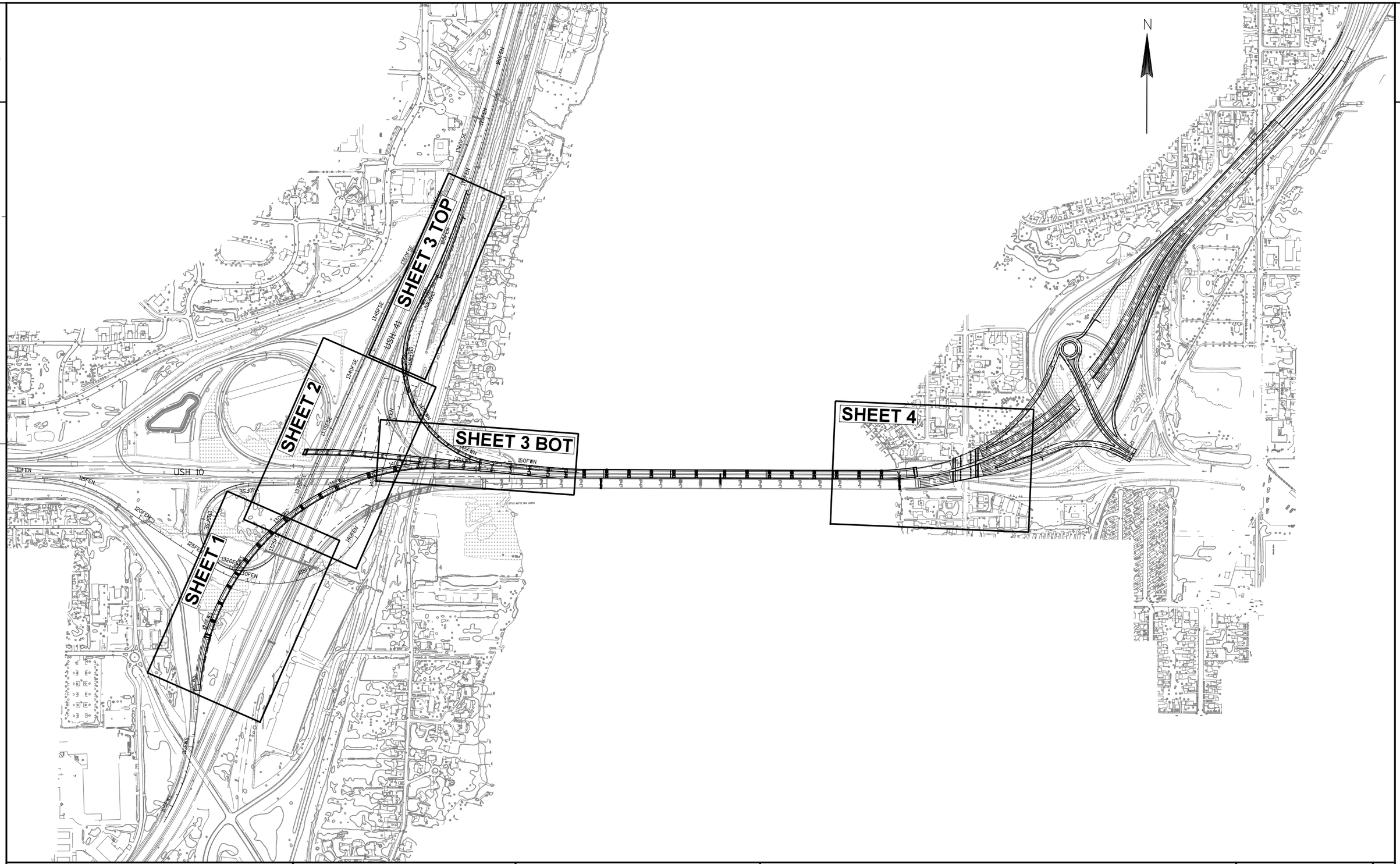
FILE NAME : \\S1102K306\projects\Transportation\US 10 WIS 441\CADD\sheets\15170777\022008_is.dgn PLOT DATE : 4/1/2016 PLOT BY : nick_becker PLOT NAME : PLOT SCALE : 400.0000 sf / in.

WISDOT/CADDS SHEET 42

2




| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | INVASIVE SPECIES | SHEET 48 | E |
|---|---|---|---|---|---|

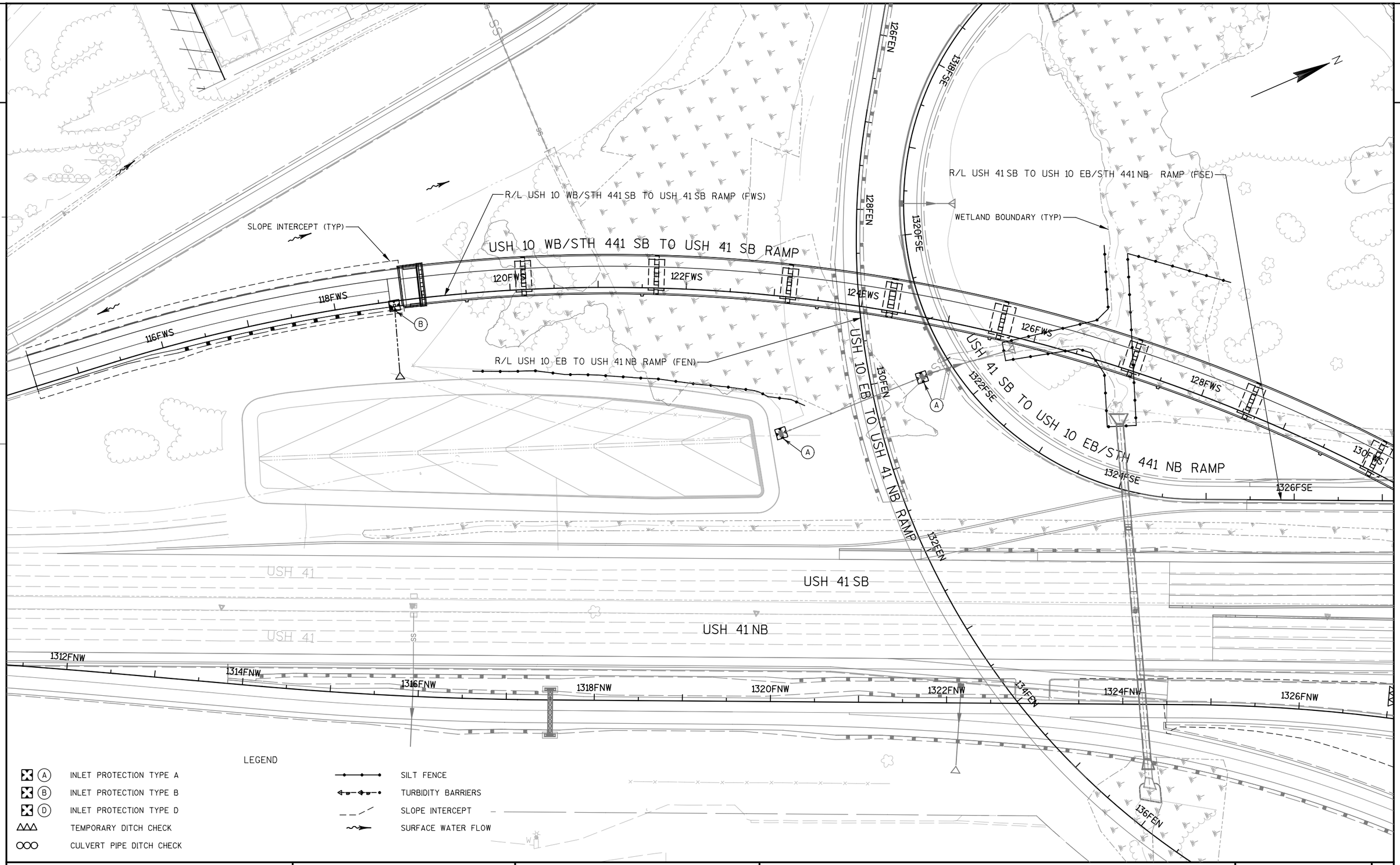



| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | EROSION CONTROL PLANS OVERVIEW - TEMPORARY | SHEET | E |
|---|---|---|---|---|---|



FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\022000_ec.dgn PLOT DATE : 3/30/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -

2




| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | EROSION CONTROL - TEMPORARY | SHEET 50 | E |
|---|---|---|---|---|---|

LEGEND

- (A) INLET PROTECTION TYPE A
- (B) INLET PROTECTION TYPE B
- (D) INLET PROTECTION TYPE D
- TEMPORARY DITCH CHECK
- CULVERT PIPE DITCH CHECK
- SILT FENCE
- TURBIDITY BARRIERS
- SLOPE INTERCEPT
- SURFACE WATER FLOW

SLOPE INTERCEPT (TYP)

R/L USH 41 SB TO USH 10 EB/STH 441 NB RAMP (FSE)

R/L USH 41 NB TO USH 10 WB RAMP (FNW)

WETLAND BOUNDARY (TYP)

TOE TRENCH

R/L USH 10 WB/STH 441 SB TO USH 41 SB RAMP (FWS)

R/L USH 10 EB TO USH 41 NB RAMP (FEN)

USH 10 EB

USH 41 SB TO USH 10 EB/STH 441 NB RAMP

USH 41 NB

USH 41 SB

USH 41

USH 41 NB TO USH 10 WB RAMP

USH 41 NB TO USH 10 EB/STH 441 NB RAMP

RAILROAD

1326FSE 1328FSE 1330FSE 1332FSE 1334FSE 1336FSE 1338FSE 1340FSE

1326FNW 1328FNW 1330FNW 1332FNW 1334FNW 1336FNW 1338FNW 1340FNW 1342FNW 1344FNW

1326FWS 1328FWS 1330FWS 1332FWS 1334FWS 1336FWS 1338FWS 1340FWS

132WB 134WB 136WB 138WB 140WB

138FEN 140FEN 142FEN 144FEN 146FEN 148FEN 150FEN 152FEN

NM-105 NM-105

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | EROSION CONTROL - TEMPORARY | SHEET 51 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\022002_ec.dgn PLOT DATE : 3/30/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -

WISDOT/CADDS SHEET 42

2

USH 41 SB

USH 41 NB

USH 10 WB/STH 441 SB TO USH 41 NB RAMP

USH 10 EB TO USH 41 NB RAMP

R/L USH 41 SB TO USH 10 EB/STH 441 NB RAMP (FSE)

R/L USH 10 WB/STH 441 SB TO USH 41 NB RAMP (FWN)

R/L USH 10 EB TO USH 41 NB RAMP (FEN)

SLOPE INTERCEPT (TYP)

WETLAND BOUNDARY (TYP)

1350FSE 1352FSE 1354FSE 1356FSE

154FEN 156FEN 158FEN 160FEN 162FEN 164FEN 166FEN 168FEN

LEGEND

- (A) INLET PROTECTION TYPE A
- (B) INLET PROTECTION TYPE B
- (D) INLET PROTECTION TYPE D
- TEMPORARY DITCH CHECK
- CULVERT PIPE DITCH CHECK
- SILT FENCE
- TURBIDITY BARRIERS
- SLOPE INTERCEPT
- SURFACE WATER FLOW

N

WETLAND BOUNDARY (TYP)

R/L USH 10 WB/STH 441 SB TO USH 41 NB RAMP (FWN)

SLOPE INTERCEPT (TYP)

USH 10 WB/STH 441 SB TO USH 41 NB RAMP

USH 10 WB/STH 441 SB TO USH 41 SB RAMP

USH 10 WB

USH 10 EB

R/L USH 10 WB/STH 441 SB TO USH 41 SB RAMP (FWS)

140FWS 142FWS 144FWS 146FWS 148FWN 150FWN 152FWN

140WB 142WB 144WB 146WB 148WB 150WB 152WB

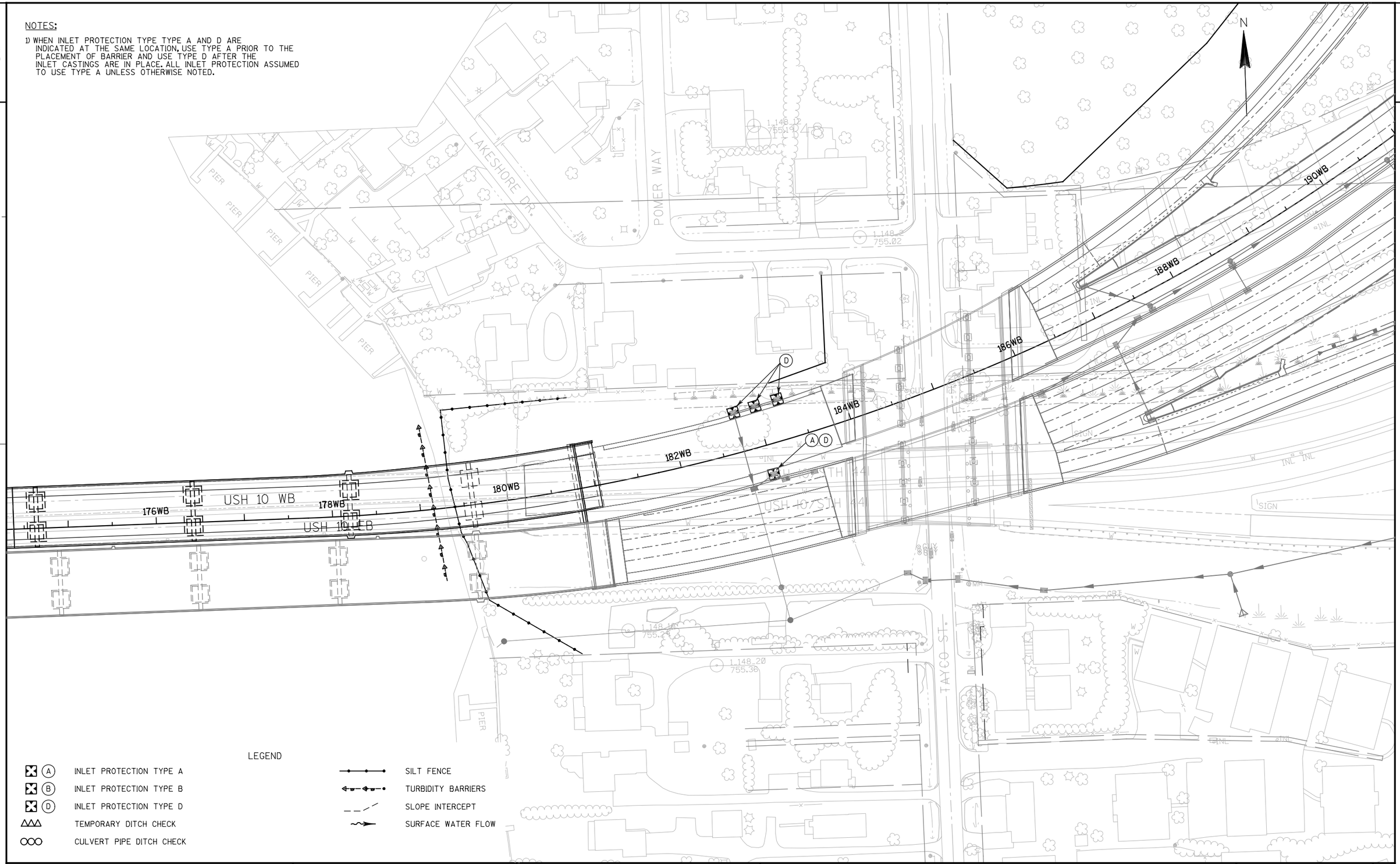
140FEN 142FEN 144FEN 146FEN 148FEN

RAILROAD

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | EROSION CONTROL - TEMPORARY | SHEET 52 | E |
|---|---|---|---|---|---|

NOTES:

1) WHEN INLET PROTECTION TYPE TYPE A AND D ARE INDICATED AT THE SAME LOCATION, USE TYPE A PRIOR TO THE PLACEMENT OF BARRIER AND USE TYPE D AFTER THE INLET CASTINGS ARE IN PLACE. ALL INLET PROTECTION ASSUMED TO USE TYPE A UNLESS OTHERWISE NOTED.

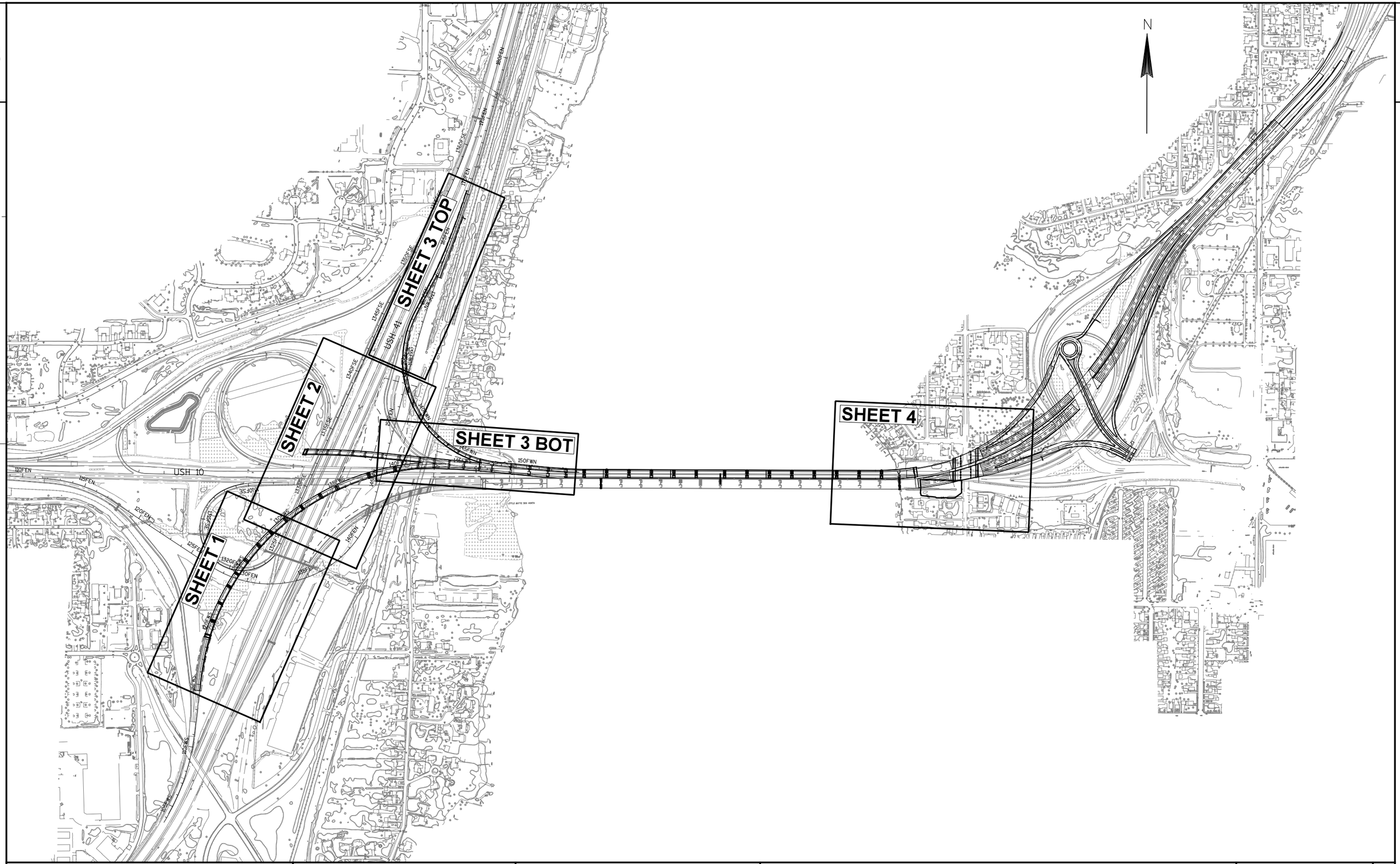



LEGEND

- (A) INLET PROTECTION TYPE A
- (B) INLET PROTECTION TYPE B
- (D) INLET PROTECTION TYPE D
- TEMPORARY DITCH CHECK
- CULVERT PIPE DITCH CHECK
- SILT FENCE
- TURBIDITY BARRIERS
- SLOPE INTERCEPT
- SURFACE WATER FLOW

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | EROSION CONTROL - TEMPORARY | SHEET 53 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\022004_ec.dgn PLOT DATE : 3/30/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -

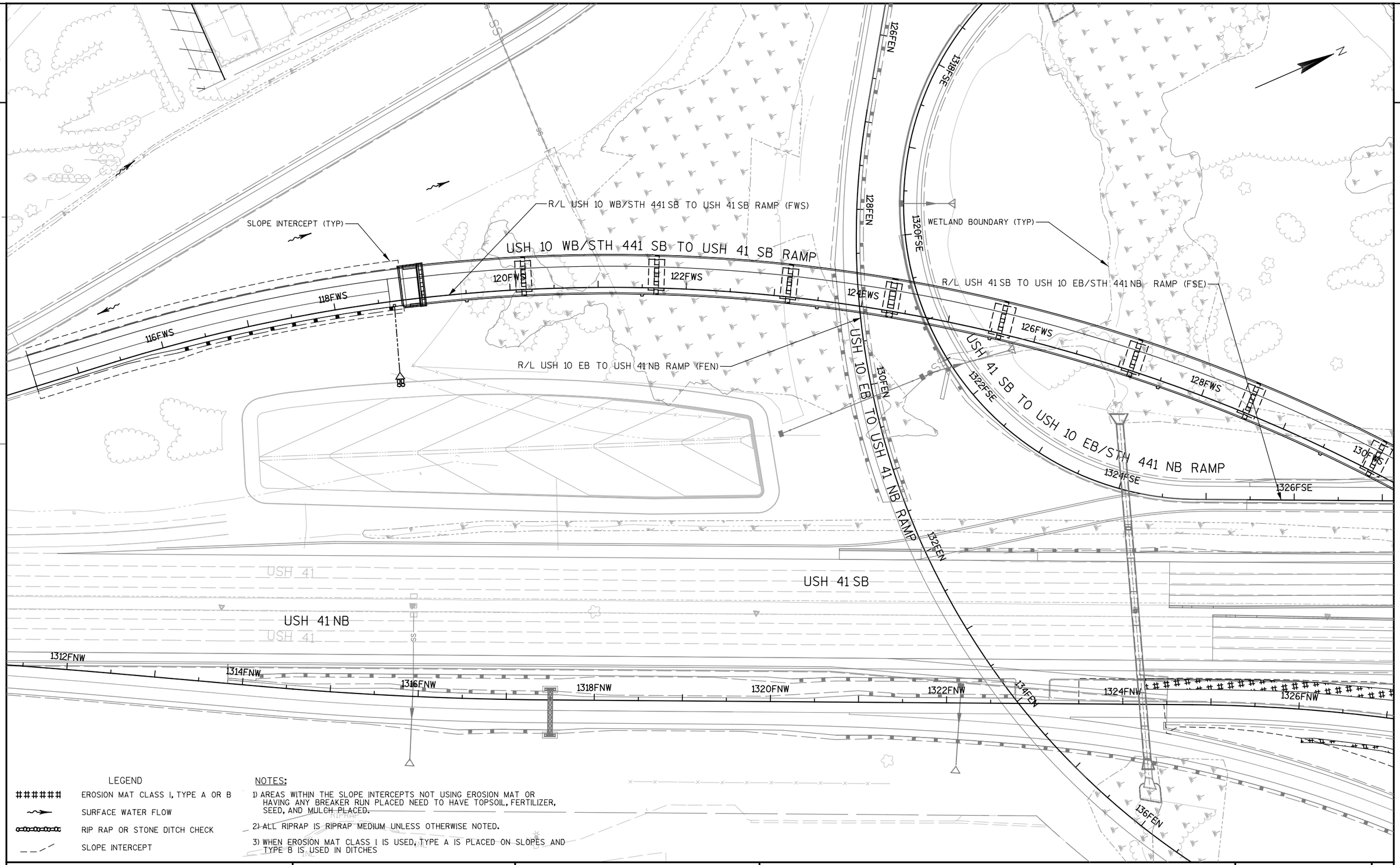



| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | EROSION CONTROL PLANS OVERVIEW - PERMANENT | SHEET | E |
|---|---|---|---|---|---|



FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\022010_ec.dgn PLOT DATE : 3/31/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -

2




LEGEND

| | |
|---|---|
| ###### | EROSION MAT CLASS I, TYPE A OR B |
| ~~~→ | SURFACE WATER FLOW |
| ⊂⊃⊂⊃⊂⊃ | RIP RAP OR STONE DITCH CHECK |
| _ _ _ / | SLOPE INTERCEPT |

NOTES:

1) AREAS WITHIN THE SLOPE INTERCEPTS NOT USING EROSION MAT OR HAVING ANY BREAKER RUN PLACED NEED TO HAVE TOPSOIL, FERTILIZER, SEED, AND MULCH PLACED.
2) ALL RIPRAP IS RIPRAP MEDIUM UNLESS OTHERWISE NOTED.
3) WHEN EROSION MAT CLASS I IS USED, TYPE A IS PLACED ON SLOPES AND TYPE B IS USED IN DITCHES

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | EROSION CONTROL - PERMANENT | SHEET 55 | E |
|---|---|---|---|---|---|

NOTES:

1) AREAS WITHIN THE SLOPE INTERCEPTS NOT USING EROSION MAT OR HAVING ANY BREAKER RUN PLACED NEED TO HAVE TOPSOIL, FERTILIZER, SEED, AND MULCH PLACED.

2) ALL RIPRAP IS RIPRAP MEDIUM UNLESS OTHERWISE NOTED.

3) WHEN EROSION MAT CLASS I IS USED, TYPE A IS PLACED ON SLOPES AND TYPE B IS USED IN DITCHES

SLOPE INTERCEPT (TYP)

R/L USH 41 SB TO USH 10 EB/STH 441 NB RAMP (FSE)

R/L USH 41 NB TO USH 10 WB RAMP (FNW)

WETLAND BOUNDARY (TYP)

TOE TRENCH

R/L USH 10 EB TO USH 41 NB RAMP (FEN)

USH 10 EB

USH 41 SB

USH 41 NB TO USH 10 WB RAMP

USH 41 NB TO USH 10 EB/STH 441 NB RAMP

RAILROAD

LEGEND

- EROSION MAT CLASS I, TYPE A OR B
- SURFACE WATER FLOW
- RIP RAP OR STONE DITCH CHECK
- SLOPE INTERCEPT

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | EROSION CONTROL - PERMANENT | SHEET 56 | E |
|---|---|---|---|---|---|

2

USH 41 SB

R/L USH 41 SB TO USH 10 EB/STH 441 NB RAMP (FSE)

1350FSE

1352FSE

1354FSE

1356FSE

USH 41 NB

R/L USH 10 WB/STH 441 SB TO USH 41 NB RAMP (FWN)

USH 10 WB/STH 441 SB TO USH 41 NB RAMP

USH 10 EB TO USH 41 NB RAMP

132FWN

134FWN

130FWN

160FEN

158FEN

156FEN

154FEN

164FEN

162FEN

166FEN

168FEN

WETLAND BOUNDARY (TYP)

R/L USH 10 EB TO USH 41 NB RAMP (FEN)

SLOPE INTERCEPT (TYP)

RAILROAD

NATIONAL

CANADIAN

BEACH RD.

NOTES:

1) AREAS WITHIN THE SLOPE INTERCEPTS NOT USING EROSION MAT OR HAVING ANY BREAKER RUN PLACED NEED TO HAVE TOPSOIL, FERTILIZER, SEED, AND MULCH PLACED.

2) ALL RIPRAP IS RIPRAP MEDIUM UNLESS OTHERWISE NOTED.

3) WHEN EROSION MAT CLASS I IS USED, TYPE A IS PLACED ON SLOPES AND TYPE B IS USED IN DITCHES.

LEGEND

EROSION MAT CLASS I, TYPE A OR B

SURFACE WATER FLOW

RIP RAP OR STONE DITCH CHECK

SLOPE INTERCEPT

N

R/L USH 10 WB/STH 441 SB TO USH 41 NB RAMP (FWN)

142FWN

144FWN

146FWN

148FWN

150FWN

152FWN

USH 10 WB/STH 441 SB TO USH 41 NB RAMP

USH 10 WB

USH 10 EB

USH 10 WB/STH 441 SB TO USH 41 SB RAMP

R/L USH 10 WB/STH 441 SB TO USH 41 SB RAMP (FWS)

140WB

142WB

144WB

146WB

148WB

150WB

152WB

142FWS

144FWS

146FWS

140FWS

148FEN

146FEN

RAILROAD

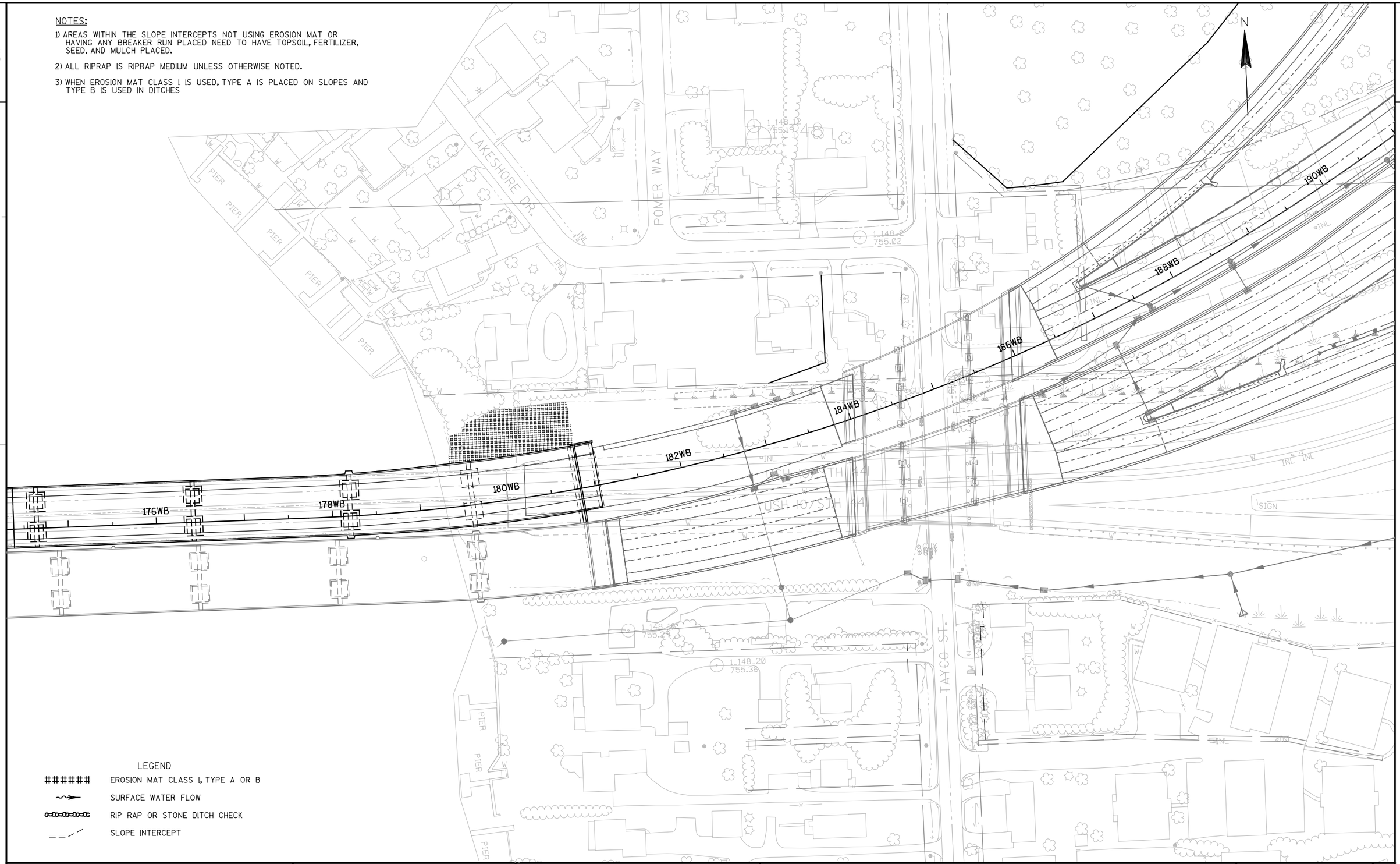
| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | EROSION CONTROL - PERMANENT | SHEET 57 | E |
|---|---|---|---|---|---|

NOTES:

1) AREAS WITHIN THE SLOPE INTERCEPTS NOT USING EROSION MAT OR HAVING ANY BREAKER RUN PLACED NEED TO HAVE TOPSOIL, FERTILIZER, SEED, AND MULCH PLACED.

2) ALL RIPRAP IS RIPRAP MEDIUM UNLESS OTHERWISE NOTED.

3) WHEN EROSION MAT CLASS I IS USED, TYPE A IS PLACED ON SLOPES AND TYPE B IS USED IN DITCHES




LEGEND

| | |
|---|---|
| ###### | EROSION MAT CLASS I, TYPE A OR B |
| ~~➤ | SURFACE WATER FLOW |
| ▭▭▭▭ | RIP RAP OR STONE DITCH CHECK |
| _ _ / | SLOPE INTERCEPT |

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | EROSION CONTROL - PERMANENT | SHEET 58 | E |
|---|---|---|---|---|---|

2

2

EXISTING DITCH

DRAINAGE BLANKET

EROSION MAT CLASS I, TYPE A
PLACED UNDER 1517-75-75

USH 10/STH 441

PROVIDED BY NE REGION

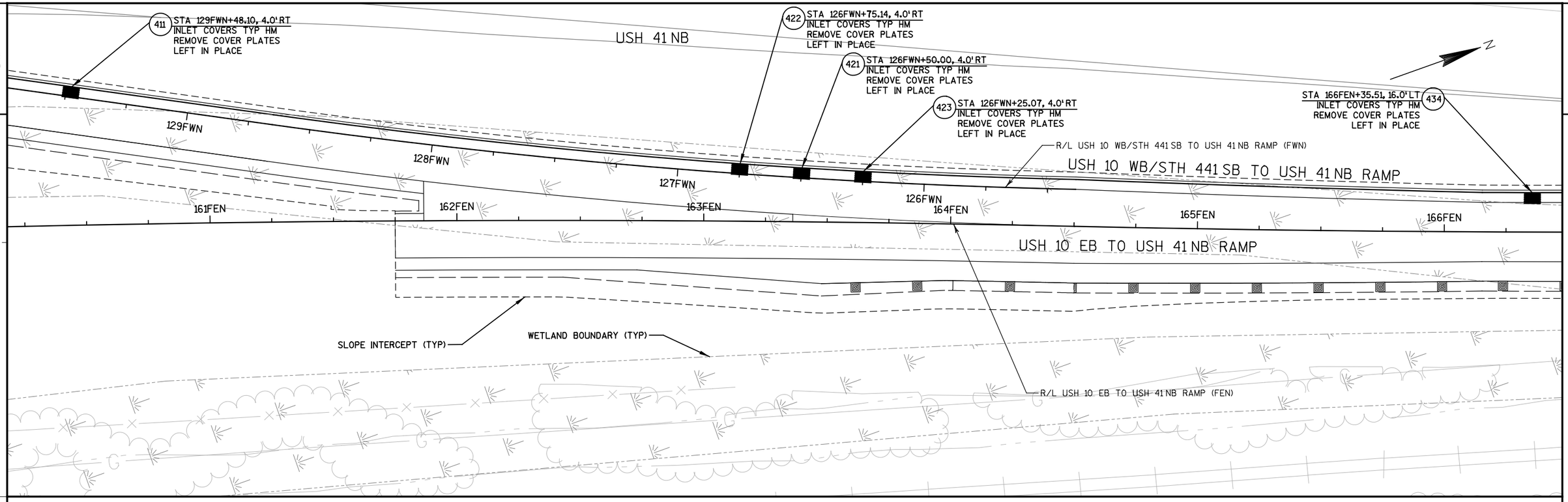
LEGEND

- EROSION MAT CLASS I, TYPE A
- TOP SOIL, SEED & MULCH
- SILT FENCE PLACED UNDER 1517-75-75
- DITCH CHECK (ROCK BAGS) PLACED UNDER 1517-75-75
- SURFACE WATER FLOW

| PROJECT NO: 1517-07-77 | HWY: STH 441/USH 10 | COUNTY: WINNEBAGO | EROSION CONTROL-MIDWAY ROAD EARLY FILL | SHEET 59 | E |
|---|---|---|---|---|---|

FILE NAME : S:\PDS\C3D\WIS441\15177570_72_77_85\SHEETSOTHER\2016-03-29 MIDWAY EARLY FILL\NE-15177572-EC-MEF.DWG
LAYOUT NAME - 022001-EC-MEF

PLOT DATE : 3/31/2016 1:49 PM PLOT BY : XIONG, NOU SOUA PLOT NAME : PLOT SCALE : 1 IN:100 FT




| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | STORM SEWER | SHEET 60 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\022501_ss.dgn PLOT DATE : 1/18/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -

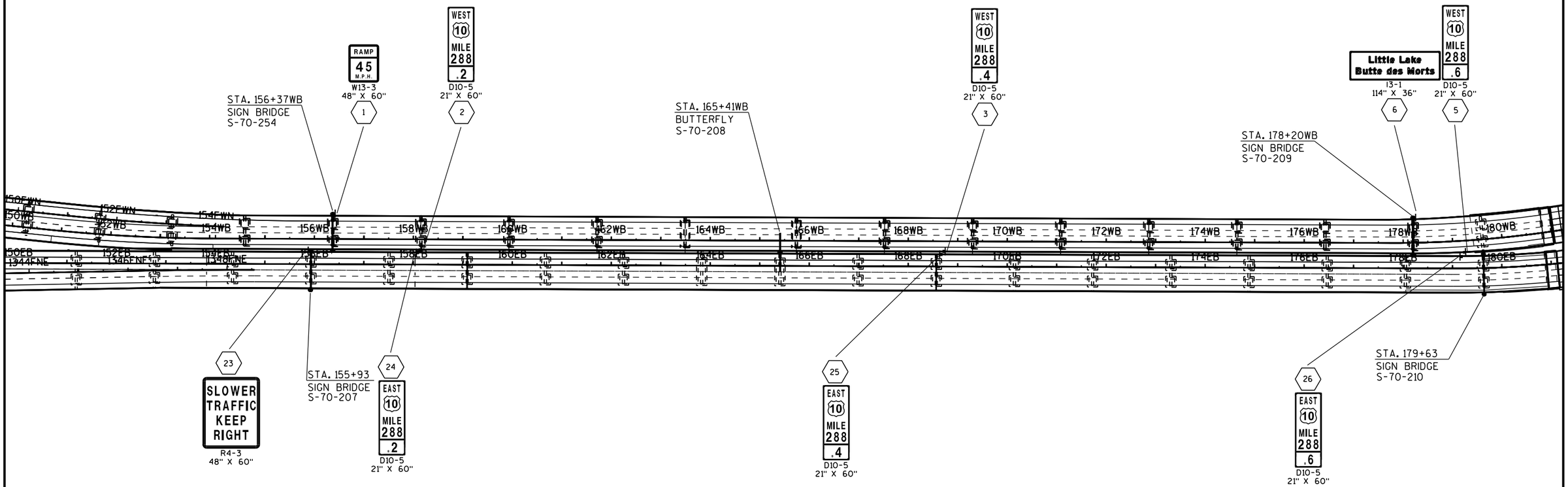
## SIGNING NOTES

TYPE II SIGNS AND SUPPORTS REMOVED UNDER THE CONTRACT SHALL BE DELIVERED TO THE REGIONAL TRAFFIC UNIT. SIGNS SHALL BE CAREFULLY REMOVED FROM THE SUPPORTS, SORTED BY BASE MATERIAL AND PALLETIZED BY MATERIAL TYPE. ONLY AND ALL ALUMINUM SIGNS NEED TO BE RETURNED TO REGION. THE REGIONAL TRAFFIC UNIT, 920-492-5653, SHALL BE NOTIFIED THREE WORKING DAYS PRIOR TO DELIVERY OF THE SIGNS.

WHEN AN EXISTING STOP SIGN AND SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT ERECTED THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERECTED, THE REMOVAL OF THE EXISTING SIGN/SUPPORT AND ERECTION OF THE NEW SIGN/SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE SHALL A NEW SIGN/SUPPORT BE DOWN FOR MORE THAN 24 HOURS AND THERE SHALL NOT BE MORE THAN ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

WOOD POSTS SIZES, FOR TYPE II SIGNING, ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

N




SIGN-PLACE NEW

SIGN-REMOVE EXISTING

LEGEND

- BUTTERFLY
- CANTILEVER
- SIGN BRIDGE
- SIGN POSTS
- STEEL POSTS

PLAN SHEET PRODUCED
BY WisDOT-NE REGION

| PROJECT NO:1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | PERMANENT SIGNING | SHEET 61 E |
|---|---|---|---|---|

2

## SIGNING NOTES

TYPE II SIGNS AND SUPPORTS REMOVED UNDER THE CONTRACT SHALL BE DELIVERED TO THE REGIONAL TRAFFIC UNIT. SIGNS SHALL BE CAREFULLY REMOVED FROM THE SUPPORTS, SORTED BY BASE MATERIAL AND PALLETIZED BY MATERIAL TYPE. ONLY AND ALL ALUMINUM SIGNS NEED TO BE RETURNED TO REGION. THE REGIONAL TRAFFIC UNIT, 920-492-5653, SHALL BE NOTIFIED THREE WORKING DAYS PRIOR TO DELIVERY OF THE SIGNS.

WHEN AN EXISTING STOP SIGN AND SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT ERECTED THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERECTED, THE REMOVAL OF THE EXISTING SIGN/SUPPORT AND ERECTION OF THE NEW SIGN/SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE SHALL A NEW SIGN/SUPPORT BE DOWN FOR MORE THAN 24 HOURS AND THERE SHALL NOT BE MORE THAN ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

WOOD POSTS SIZES, FOR TYPE II SIGNING, ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

N

STA. 118+00
SIGN BRIDGE
S-70-201

STA. 1317+50
SIGN BRIDGE
S-70-203

CANTILEVER
STA. 1329+50
S-70-257

STA. 145+70
GROUND MOUNT

STA. 145+50
SIGN BRIDGE
S-70-206

STA. 171+06 FEN
CANTILEVER
S-70-205

14 RAMP 10 MILE 287 .8 W-N
D10-5R
21" X 72"

15 W4-3L 48" X 48"

16 W4-3R 48" X 48"

17 W4-3R 48" X 48"

18 LANE ENDS 1/2 MILE
W9-63
72" X 90"

7 EAST 10 MILE 288 0
D10-5
21" X 60"

8 WEST 10 MILE 288 0
D10-5
21" X 60"

9 EXIT 288A
E5-1A
108" X 60"

SIGN-PLACE NEW

LEGEND
- BUTTERFLY
- CANTILEVER
- SIGN BRIDGE
- SIGN POSTS
- STEEL POSTS

PLAN SHEET PRODUCED BY WisDOT-NE REGION

| PROJECT NO: 1517-07-77 | HWY: USH 41 | COUNTY: WINNEBAGO | PERMANENT SIGNING | SHEET 62 | E |
|---|---|---|---|---|---|

2

N

USH 41

USH 10

LAKE ST.

BUTTE DES MORRIS BEACH RD.

NATIONAL RAILROAD

CANADIAN NATIONAL RAILROAD

GAS RD.

BERM

SIGN

INL

ANT.

MH

WEST 10 J2-1 31

SOUTH 41 USE RIGHT LANE J2-1 30

34 W1-6

35 W1-6

32 MILE 288 D10-3

33 RAMP 35 M.P.H. W13-3

27 EXIT 288A E5-1A

28 W1-2R

29 35 M.P.H. W13-1

SIGN-REMOVE AND REPLACE

SIGN-REMOVE EXISTING

SIGN-PLACE NEW

## SIGNING NOTES

DO NOT MOVE OR REMOVE ANY SPECIFIC INFORMATION SIGNS (BLUE GAS, FOOD, LODGING, CAMPING OR ATTRACTION SIGNS) OR THEIR ASSOCIATED POSTS. A SEPARATE CONTRACTOR, DERSE, INC., MAINTAINS THESE SIGNS. CONTACT MARK ROGNSVOOG OF THE DERSE COMPANY AT (800) 345-5772 A MINIMUM OF 14 CALENDAR DAYS IN ADVANCE TO COORDINATE MOVING, REMOVING OR RE-INSTALLATION OF THESE SIGNS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THESE SIGNS.

TYPE II SIGNS AND SUPPORTS REMOVED UNDER THE CONTRACT SHALL BE DELIVERED TO THE REGIONAL TRAFFIC UNIT. SIGNS SHALL BE CAREFULLY REMOVED FROM THE SUPPORTS, SORTED BY BASE MATERIAL AND PALLETIZED BY MATERIAL TYPE. SUPPORTS SHALL BE SORTED BY LENGTH AND TYPE. THE REGIONAL TRAFFIC UNIT 920-492-5653, SHALL BE NOTIFIED THREE WORKING DAYS PRIOR TO DELIVERY OF SIGNS AND SUPPORTS.

PLAN SHEET PRODUCED BY WisDOT-NE REGION

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | SIGN REMOVALS | SHEET 63 | E |
|---|---|---|---|---|---|

2

## SIGNING NOTES

DO NOT MOVE OR REMOVE ANY SPECIFIC INFORMATION SIGNS (BLUE GAS, FOOD, LODGING, CAMPING OR ATTRACTION SIGNS) OR THEIR ASSOCIATED POSTS. A SEPARATE CONTRACTOR, INTERSTATE LOGOS, MAINTAINS THESE SIGNS. CONTACT INTERSTATE LOGOS AT (844) 496-9163 A MINIMUM OF 14 CALENDAR DAYS IN ADVANCE TO COORDINATE MOVING, REMOVING OR RE-INSTALLATION OF THESE SIGNS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THESE SIGNS.

* FOR NUMBER OF ALUMINUM I-BEAMS (W5X3.7)FOR SIGN PANEL CONNECTION AND SUPPORT NEEDED / SPACING, PLEASE REFERENCE THE SIGN STRUCTURE DESIGN PLAN SHEETS FOR THE LISTED S-NUMBER WITHIN THIS PLAN SET.

N

101
E1-5BP
144" X 48"

LEFT
EXIT 288 B

SOUTH 41 Milwaukee 1/4 MILE

WEST 10 Stevens Point

NORTH 41 Green Bay

EXIT ONLY | EXIT ONLY

102
E1-5
144" X 30"
EXIT 288 A

COVER AS SHOWN

E7-4
636" X 192"
100 *

STA. 156+37WB
SIGN BRIDGE
S-70-254

P Racine St 1/4
AP Midway Rd 1 1/4
47 Appleton Rd 2

E8-1
252" X 108"
115

STA. 165+41
BUTTERFLY
S-70-208

104
E1-5BP
144" X 48"

LEFT
EXIT 288 B

SOUTH 41 Milwaukee 3/4 MILE

WEST 10 Stevens Point

NORTH 41 Green Bay 1/2 MILE

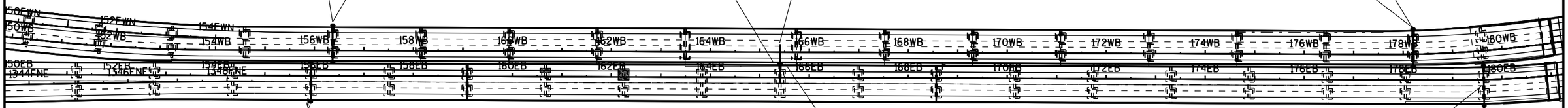
EXIT ONLY | EXIT ONLY

105
E1-5
144" X 30"
EXIT 288 A

COVER AS SHOWN

E7-4
636" X 192"
103 *

STA. 178+20
SIGN BRIDGE
S-70-209




STA. 155+93
SIGN BRIDGE
S-70-207

113
E1-5
EXIT 289 A

EAST 10 NORTH 441

P Racine St 1/2 MILE

EXIT ONLY

E7-4

LEAVE COVERS IN PLACE TO BE REMOVED AS PART OF 1517-07-80

116
41 NORTH 1/4
41 SOUTH LEFT 1/2
CB 1 1/2

E8-1
276" X 108"

STA. 179+63
SIGN BRIDGE
S-70-210

117
E1-5
EXIT 289 A

EAST 10 NORTH 441

P Racine St

EXIT ONLY

E7-4

LEAVE COVERS IN PLACE TO BE REMOVED AS PART OF 1517-07-80

SIGN-PLACE NEW

SIGN-REMOVE EXISTING

LEGEND

- BUTTERFLY
- CANTILEVER
- SIGN BRIDGE
- SIGN POSTS
- STEEL POSTS

PLAN SHEET PRODUCED BY WisDOT-NE REGION

| PROJECT NO:1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | PERMANENT SIGNING | SHEET 64 E |
|---|---|---|---|---|

2

2

N

SIS

STA. 118+00
SIGN BRIDGE
S-70-201

STA. 1317+50
SIGN BRIDGE
S-70-203

STA. 1329+50
CANTILEVER
S-70-257

STA. 1349+35
SIGN BRIDGE
S-70-204

STA. 171+06 FEN
CANTILEVER
S-70-205

STA. 145+70
GROUND MOUNT
Menasha
NEXT 4 EXITS
E9-1
144" X 54"
106

REMOVE EXISTING
E6-51 & E6-1 109
REMOVE EXISTING
GROUND MOUNT 110

STA. 145+50
SIGN BRIDGE
S-70-206
112
E1-5BP
144" X 48"

111
LEFT
EXIT 288 B
SOUTH
41
Oshkosh
WEST
10
Stevens Point
EXIT ONLY

COVER AS SHOWN
E7-3
408" X 156"

SIGNING NOTES

DO NOT MOVE OR REMOVE ANY SPECIFIC INFORMATION SIGNS (BLUE GAS, FOOD, LODGING, CAMPING OR ATTRACTION SIGNS) OR THEIR ASSOCIATED POSTS. A SEPARATE CONTRACTOR, INTERSTATE LOGOS, MAINTAINS THESE SIGNS. CONTACT INTERSTATE LOGOS AT (844) 496-9163 A MINIMUM OF 14 CALENDAR DAYS IN ADVANCE TO COORDINATE MOVING, REMOVING OR RE-INSTALLATION OF THESE SIGNS.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THESE SIGNS.

* FOR NUMBER OF ALUMINUM I-BEAMS (W5X3.7)FOR SIGN PANEL CONNECTION AND SUPPORT NEEDED / SPACING, PLEASE REFERENCE THE SIGN STRUCTURE DESIGN PLAN SHEETS FOR THE LISTED S-NUMBER WITHIN THIS PLAN SET.

SIGN-PLACE NEW

SIGN-REMOVE AND REPLACE

LEGEND
- BUTTERFLY
- CANTILEVER
- SIGN BRIDGE
- SIGN POSTS
- STEEL POSTS

PLAN SHEET PRODUCED BY WisDOT-NE REGION

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | PERMANENT SIGNING | SHEET 65 E |
|---|---|---|---|---|

## GENERAL NOTES

THESE PLANS AND THE ASSOCIATED SPECIAL PROVISIONS REFLECT CONDITIONS KNOWN DURING THE DEVELOPMENT OF THE PLANS AND TECHNICAL SPECIAL PROVISIONS. ALL SCALES, DIMENSIONS AND LOCATIONS SHOWN IN THESE PLANS ARE APPROXIMATE. ACTUAL PHYSICAL FIELD CONDITIONS SHALL PROVIDE THE BASIS FOR THE APPLICATION OF WORK SHOWN IN THE PLANS. THE CONTRACTOR IS FULLY RESPONSIBLE FOR THE APPLICATION OF ALL WORK SHOWN IN THE PLANS TO THE ACTUAL PHYSICAL FIELD CONDITIONS TO PROVIDE A COMPLETE AND ACCEPTED PRJOECT. IN THE EVENT THAT ACTUAL PHYSICAL FIELD CONDITIONS AFFECT OR PREVENT THE APPLICATION OR PROGRESSION OF ANY WORK SHOWN IN THE PLANS OR TECHNICAL SPECIAL PROVISIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY, AND PRIOR TO ANY FURTHER WORK ACTIVITY. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER OF ANY LOCATION CHANGES OTHER THAN MINOR ADJUSTMENTS.

BE AWARE THAT ALL EXISTING UNDERGROUND AND ABOVE GROUND STRUCTURES AND FACILITIES WITHIN THE SCOPE OF THIS PROJECT MAY NOT BE LOCATED IN THE PLANS. THE CONTRACTOR IS FULLY RESPONSIBLE FOR LOCATING AND AVOIDING ALL UNDERGROUND AND ABOVE GROUND STRUCTURES AND FACILITIES.

BE AWARE THAT NO TEST BORINGS WERE MADE WHERE CONDUITS, PULL BOXES, COMMUNICATIONS VAULTS, POLES, FOUNDATIONS, OR OTHER EQUIPMENT IS TO BE INSTALLED. THE CONTRACTOR IS FULLY RESPONSIBLE FOR EXAMINING THE JOB SITE CONDITIONS BEFORE SUBMITTING BID PROPOSALS.

NO TREES (AND/OR SHRUBS) ARE TO BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.

AREAS WITHIN RIGHT-OF-WAY DISTURBED SPECIFICALLY FOR ITS CONSTRUCTION ARE TO BE RESTORED TO THE ORIGINAL CONDITION WITH TOPSOIL, FERTILIZER, AND SEED AND MULCH. RESTORATION FOR AREAS DISTURBED FOR OTHER CONSTRUCTION OPERATIONS, BUT ALSO CONTAINING ITS CONSTRUCTION, WILL BE DONE ACCORDING TO REQUIREMENTS AND PAYMENT PROVISIONS FOR THE OTHER CONSTRUCTION OPERATIONS. NO PAYMENT WILL BE MADE FOR RESTORING AREAS DISTURBED FOR ITS CONSTRUCTION OPERATIONS.

THE LOCATION OF EXISTING AND PROPOSED UTILITY INSTALLATIONS SHOWN ON THE PLANS IS APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT THAT ARE NOT SHOWN.

BE ADVISED THAT DUE TO RAMP, LANE AND SHOULDER CLOSURE RESTRICTIONS AND WORK UNDER OTHER CONTRACTS, SOME WORK MAY BE REQUIRED TO BE PERFORMED AT NIGHT.

THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING RAMP, LANE, SHOULDER, AND ROADWAY CLOSURES WITH OTHER CONTRACTORS IN THE AREA.

NOTIFY THE REGIONAL TRAFFIC UNIT (920-492-7719) A MINIMUM OF TWO (2) WEEKS PRIOR TO THE NEED TO STAKE THE FOLLOWING ITEMS: CCTV CAMERA BASE, ITS FIELD CABINET BASE, MICROWAVE DETECTOR BASES, CONDUIT, PULL BOXES AND COMMUNICATIONS VAULTS.

NOTIFY THE REGIONAL TRAFFIC UNIT (920-492-5651), OR SECONDARY CONTACT AT (920-492-7719) A MINIMUM OF TWO (2) WEEKS PRIOR TO THE NEED TO STAKE THE FOLLOWING ITEMS: RAM CLOSURE GATE BASES AND RAMP CLOSURE GATE CONTROLLER CABINET BASES.

HAND DIG TRENCHES CROSSING EXISTING CONDUIT CONTAINING FIBER OPTIC CABLE.

VISUALLY VERIFY DEPTHS OF EXISTING CONDUITS CONTAINING FIBER OPTIC CABLE PRIOR TO CROSSING BY DIRECTIONAL BORE OR SPECIAL METHOD.

## LEGEND

- VIDEO SENSOR
- CCTV CAMERA
- CONTROL CABINET
- POLE MOUNTED CABINET
- COMMUNICATIONS PULL BOX 24X48
- 12" PULL BOX
- JUNCTION BOX
- TYPE 5 OR CAMERA POLE
- ELECTRICAL PULL BOX 24X48
- COMMUNICATIONS VAULT
- MANHOLE
- MICROWAVE DETECTOR
- ITS CONDUIT
- ITS CONDUIT DIRECTIONAL BORE
- ITS CONDUIT ON STRUCTURE
- DYNAMIC MESSAGE SIGN (OVERHEAD)
- DYNAMIC MESSAGE SIGN (GROUND MOUNT)
- ROAD WEATHER INFORMATION SYSTEM (RWIS)
- METER BREAKER PEDESTAL
- BREAKER DISCONNECT BOX
- BARRICADE RACK
- RAMP GATE
- SOLAR RAMP GATE CONTROLLER CABINET
- RADIO LINK (REMOTE DESTINATION)
- TEMPORARY WOOD POLE

## STANDARD ABBREVIATIONS

| | |
|---|---|
| CCTV | CLOSED CIRCUIT TELEVISION |
| RM | RAMP METER |
| DMS | DYNAMIC MESSAGE SIGN |
| SDS | SYSTEM DETECTOR STATION |
| S | OVERHEAD SIGNAL SUPPORT |
| CS | COUNT STATION |
| ATR | AUTOMATIC TRAFFIC RECORDER |
| AF(A) | ADVANCE FLASHER (ASSEMBLY) |
| CB | CONTROLLER CABINET |
| CP | CAMERA POLE |
| PF | POLE FOUNDATION |
| PB | PULL BOX |
| MH | MANHOLE |
| CV | COMMUNICATIONS VAULT |
| SB | SIGNAL BASE |
| AP | ANTENNA POLE |
| DS | DRAINAGE STRUCTURE (ON ITS PLANS ONLY) |
| TAR | TRAVELER ADVISORY RADIO |
| MD | MICROWAVE DETECTOR |
| DP | DETECTOR POLE |
| VDC | VIDEO DETECTION CAMERA |
| VDCS | VEHICLE DETECTION CLASSIFICATION SENSOR |
| FO | FIBER OPTIC |
| RWIS | ROAD WEATHER INFORMATION SYSTEM |
| WIM | WEIGH IN MOTION |
| CT | COUNT |

## CONTACTS

WIS. DEPT. OF TRANSPORTATION
NE REGION
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GREEN BAY, WI 54304
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WIS. DEPT. OF TRANSPORTATION
NE REGION
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944 VANDERPERREN WAY
GREEN BAY, WI 54304
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WIS. DEPT. OF TRANSPORTATION
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AECOM
MR. MATT LETOURNEAU
1555 N RIVERCENTER DRIVE, SUITE 214
MILWAUKEE, WI 53212
312-577-6489

INTELLIGENT TRANSPORTATION SYSTEM PLANS PREPARED BY:

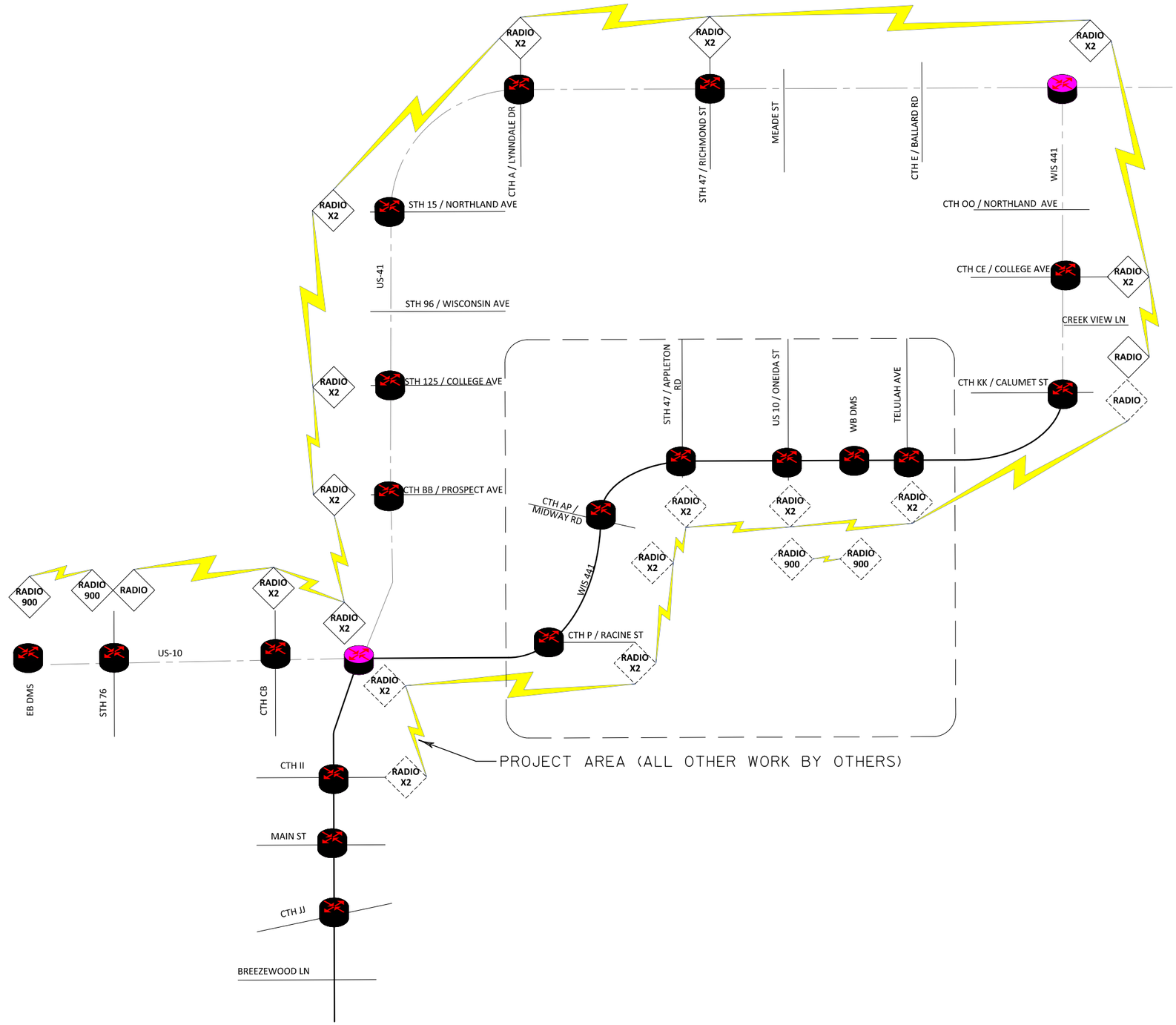
AECOM
1555 N Rivercenter Dr, Suite 214
Milwaukee, WI 53212
(414) 944-6080

WISCONSIN
MATTHEW J. LETOURNEAU
E-37209
CHICAGO
ILLINOIS
PROFESSIONAL ENGINEER

1/28/2016 (Date)

(Signature)

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | ITS GENERAL NOTES | SHEET 66 | E |
|---|---|---|---|---|---|




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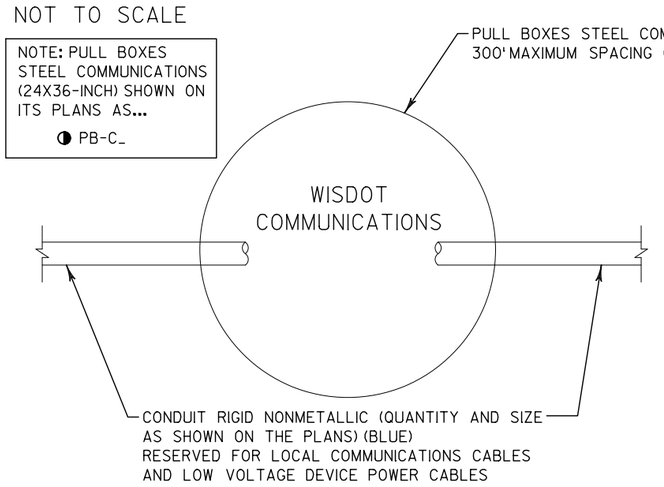
## LEGEND

| | |
|---|---|
| CCTV-70-XXXX | DEVICE IDENTIFIER |
| RADIO | PERMANENET 5.8GHz RADIO |
| RADIO | TEMPORARY 5.8 GHz RADIO |
| | ETHERNET SWITCH LAYER 2 |
| | 6 COUNT FIBER CABLE (BY OTHERS) |
| | 72 COUNT FIBER CABLE (BY OTHERS) |
| | FIBER OPTIC FUSION SPLICE CASE (BY OTHERS) |
| | POE INJECTERO/SURGE SUPRESSION |

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: VARIOUS | ITS COMMUNICATIONS SCHEMATIC | SHEET 67 | E |
|---|---|---|---|---|---|

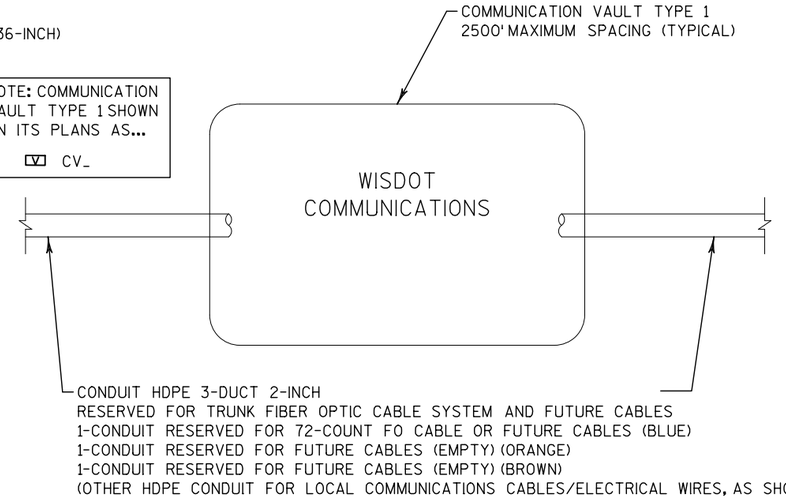
NOT TO SCALE

NOTE: PULL BOXES STEEL COMMUNICATIONS (24X36-INCH) SHOWN ON ITS PLANS AS...
◑ PB-C_



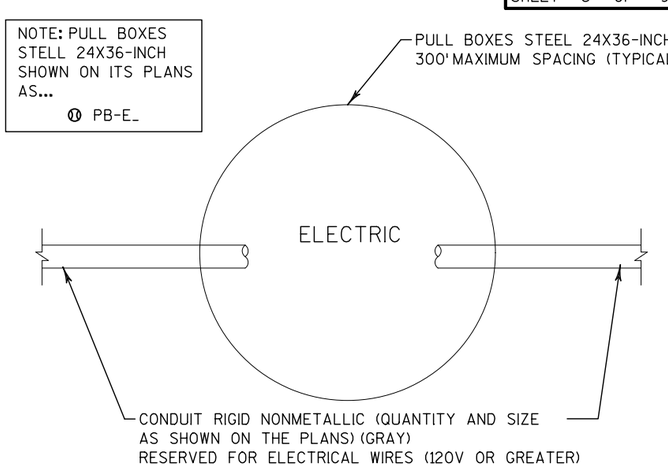

LOCAL COMMUNICATIONS SYSTEM CONDUIT ROUTING

NOTE: COMMUNICATION VAULT TYPE 1 SHOWN ON ITS PLANS AS...
CV_

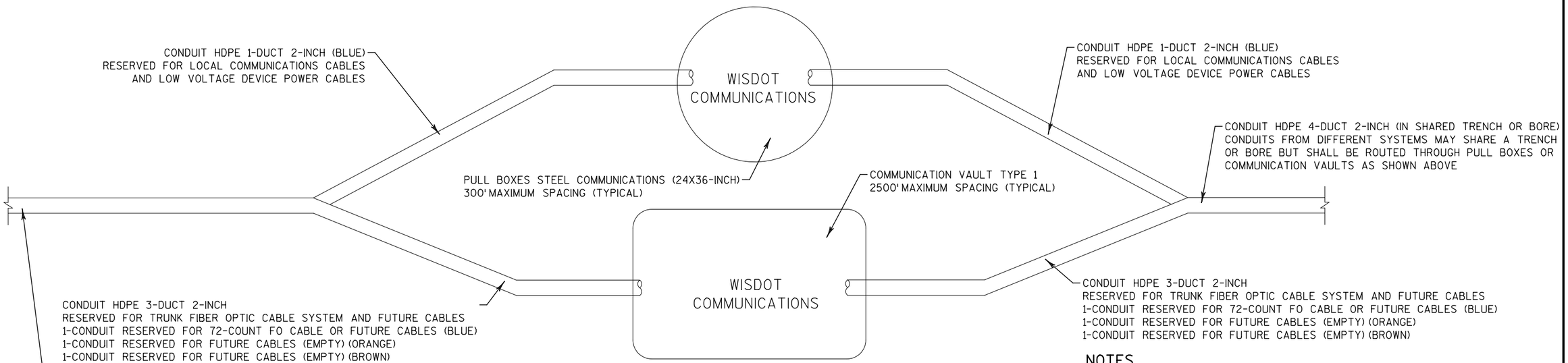



TRUNK COMMUNICATIONS SYSTEM CONDUIT ROUTING

NOTE: PULL BOXES STELL 24X36-INCH SHOWN ON ITS PLANS AS...
Ⓔ PB-E_




ELECTRICAL SYSTEM CONDUIT ROUTING




TYPICAL SHARED LOCAL & TRUNK
COMMUNICATIONS SYSTEM CONDUIT ROUTING

## NOTES

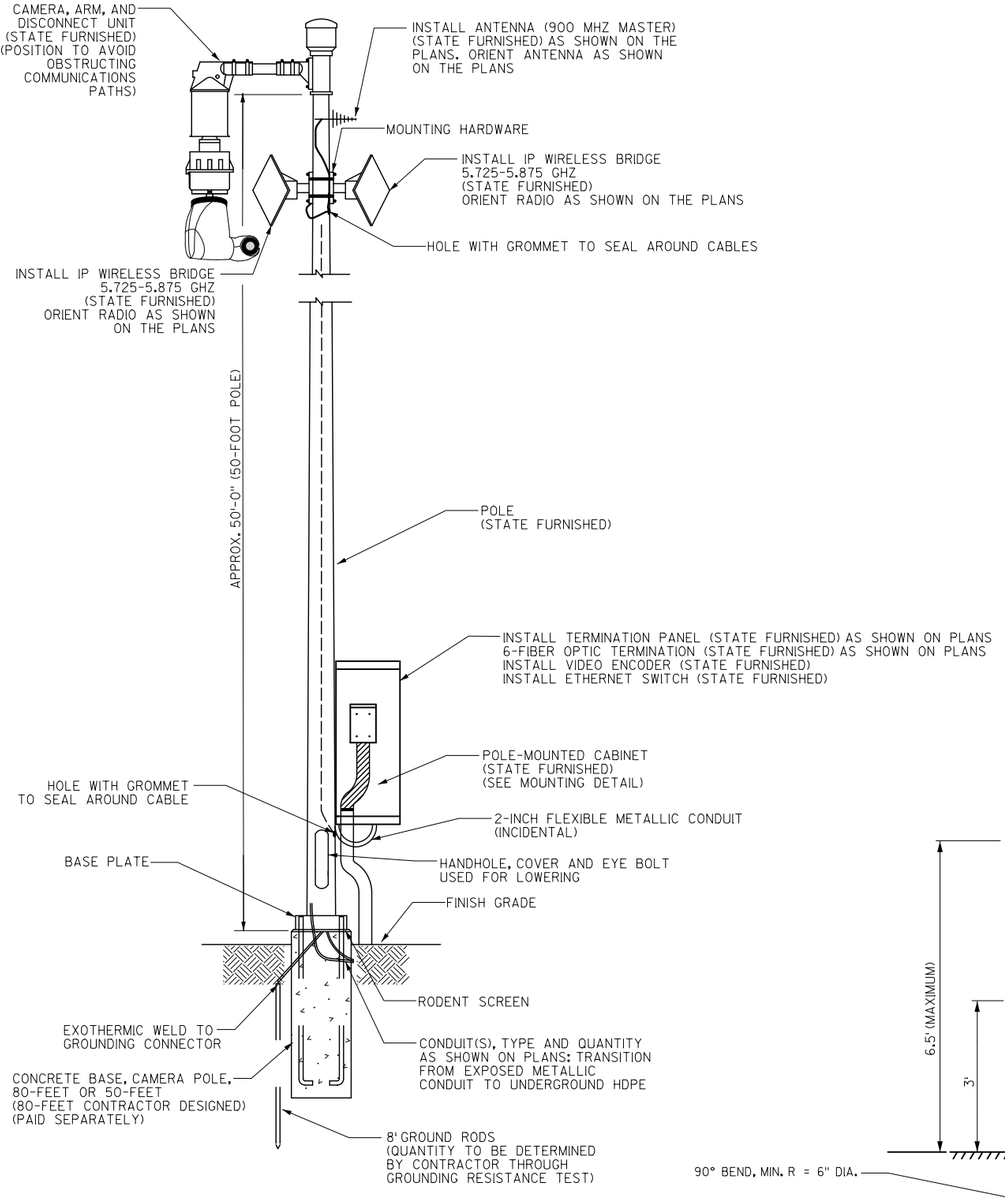
1) FIBER OPTIC CABLE MARKERS SHALL BE PLACED ALONG CONDUIT CONTAINING FIBER OPTIC CABLE, AS WELL AS CONDUIT SEGMENTS BETWEEN COMMUNICATIONS VAULTS THAT DO NOT CONTAIN FIBER OPTIC CABLE. CONDUIT RUNS OF GREATER THAN 100 FEET BETWEEN A COMMUNICATIONS VAULT AND A CONTROL CABINET SHALL ALSO WARRANT FIBER OPTIC CABLE MARKERS. FIBER OPTIC CABLE WARNING TAPE MAY BE SUBSTITUTEED FOR MARKERS WHEN CALLED OUT IN THE PLANS OR AS DIRECTED BY THE ENGINEER.

2) ELECTRIC SYSTEM CONDUIT MAY SHARE A TRENCH OR BORE WITH LOCAL AND/OR TRUNK COMMUNICATIONS SYSTEM CONDUIT. HOWEVER, ELECTRIC SYSTEM CONDUIT (GRAY) SHALL BE ROUTED THROUGH ELECTRIC PULL BOXES.

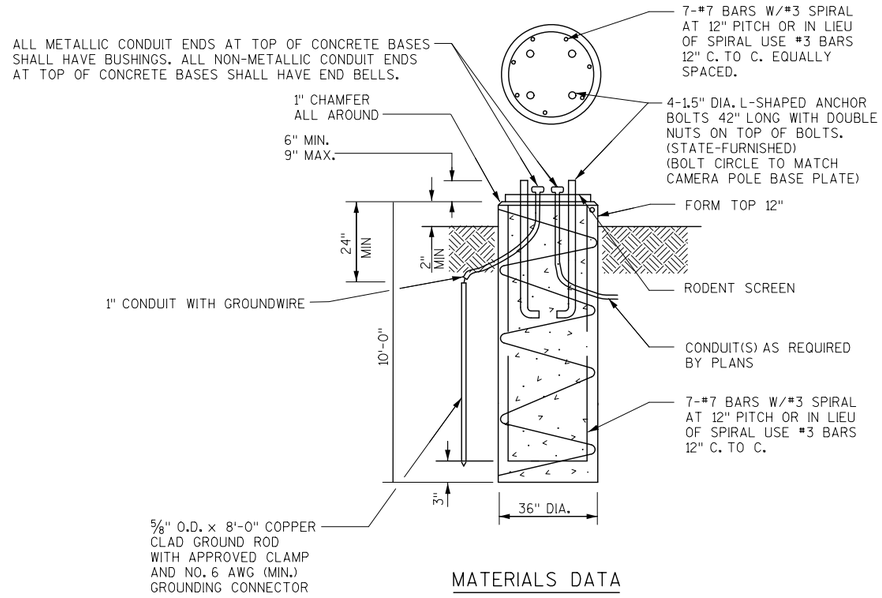
3) A COMMUNICATIONS MANHOLE SHALL BE PLACED IN LIEU OF A COMMUNICATIONS VAULT WHEN ACCESS TO TRUNK COMMUNICATIONS SYSTEM CONDUIT IS DESIRED WITHIN A PAVEMENT STRUCTURE.

NOTE: COMMUNICATION MANHOLE SHOWN ON ITS PLANS AS...
Ⓜ MH_

ITS TYPICAL CABLE/CONDUIT ROUTING



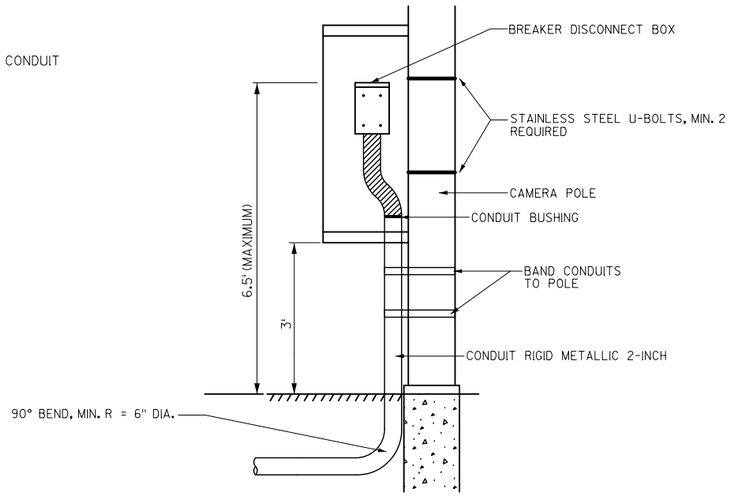

50' CAMERA POLE WITH CAMERA LOWERING HARDWARE



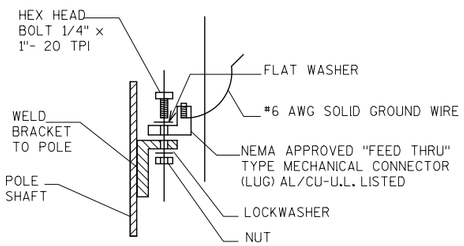

## MATERIALS DATA

| | |
|---|---|
| CONCRETE | f'c = 3,500 psi |
| HIGH STRENGTH BAR STEEL REINFORCEMENT | fy = 60,000 psi |

CONCRETE BASE, 50' CAMERA POLE



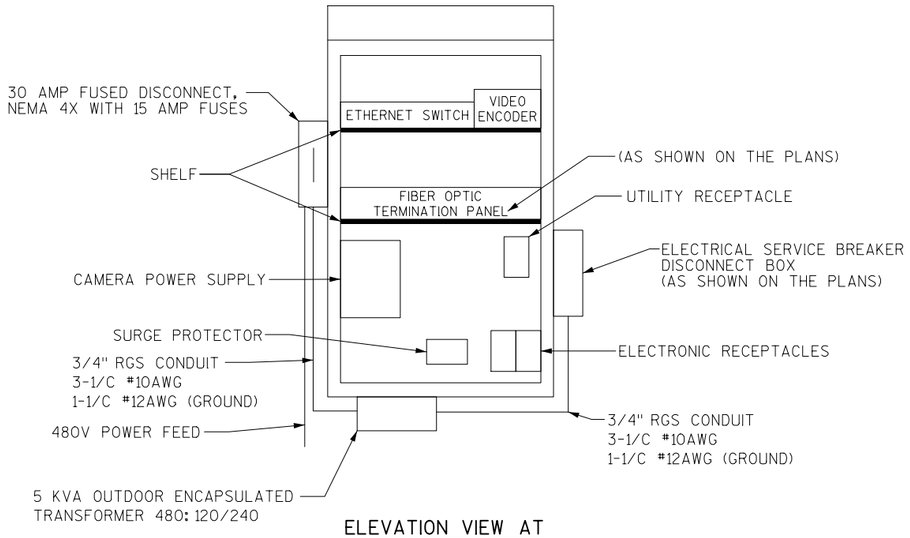

POLE-MOUNTED CABINET MOUNTING DETAIL



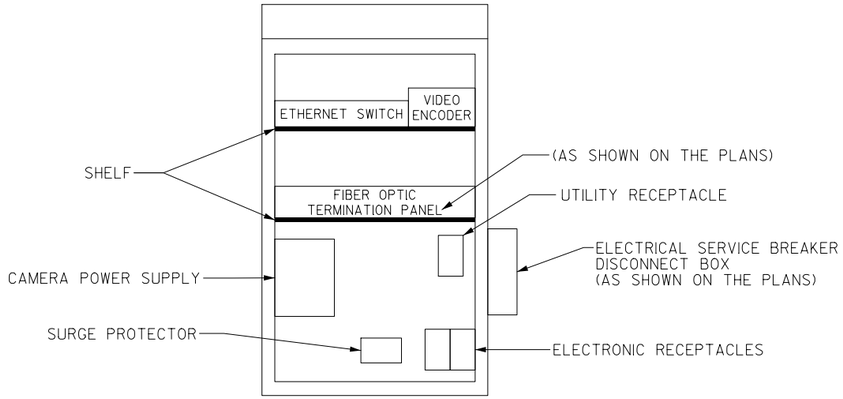

FIELD INSTALLED GROUNDING LUG

## NOTES

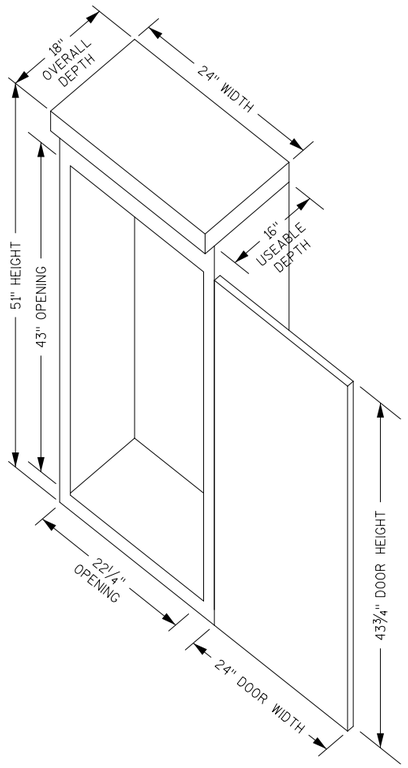
1) ALL HARDWARE AND FASTENERS SHALL BE STAINLESS STEEL
2) POLE DRAWINGS SHOWN FOR BIDDING INFORMATION PURPOSES ONLY. POLES WILL BE STATE FURNISHED. BASE TO BE CONTRACTOR DESIGNED.
3) CONTRACTOR SHALL CONFIRM BOLT PATTERN OF CAMERA POLE PRIOR TO CONSTRUCTION OF CONCRETE BASE.
4) CONTRACTOR SHALL INSTALL GROUNDING LUG AS SHOWN
5) POLE MOUNTING CABINET, CAMERA ASSEMBLY, AND IP WIRELESS RADIOS TO BE RELOCATED FROM TEMPORARY POLE AT THIS LOCATION AFTER PERMANENT POLE AND POWER SOURCE IS INSTALLED.



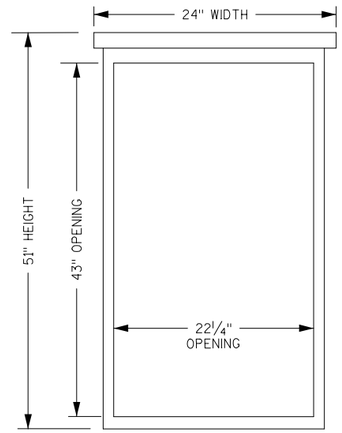

ELEVATION VIEW AT
NW WIS 441/USH 41 INTERCHANGE




ELEVATION VIEW




ISOMETRIC VIEW




ELEVATION VIEW

INSTALL POLE MOUNTED CABINET
CCTV CAMERA

## NOTES

1. ALL HARDWARE AND FASTENERS SHALL BE STAINLESS STEEL.
2. GROUND POLES AND CABINET PER NEC 250. PERFORM GROUND RESISTANCE TEST, ADD ADDITIONAL GROUND RODS AS NEEDED FOR RESISTANCE < 25 OHMS.

## SERVICE DISTRIBUTION

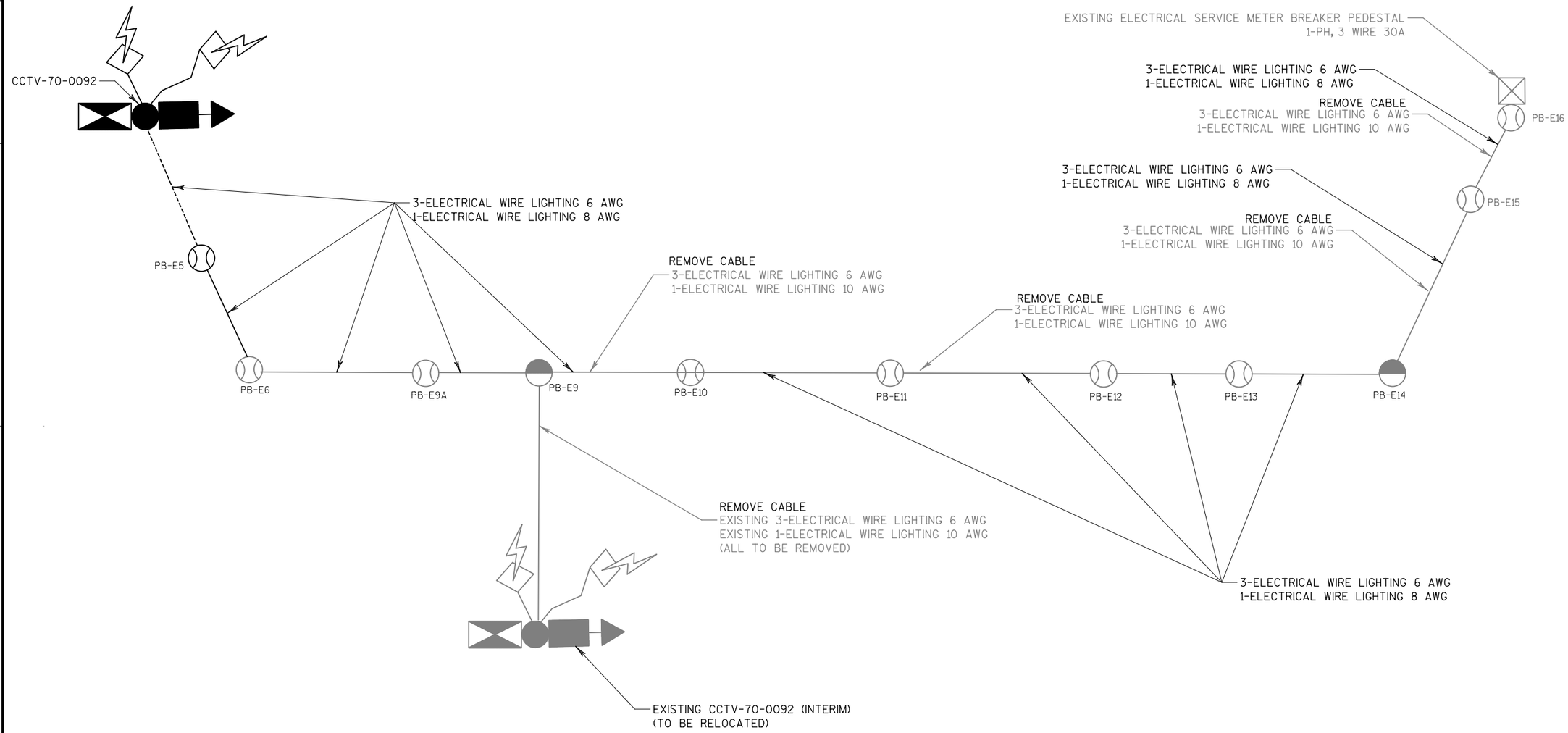
PANEL DESIGNATION: DP-1
LOCATION: LIGHTING CABINET SOUTH LOOP
VOLTS: 120/240
PHASE: 1
WIRE: 3
RATING: 125 AMPS
MAIN BREAKER: SPACES 1 & 2
A.S. RATING: 22,000

| EQUIPMENT DESCRIPTION | VA A | VA B | BRKR SIZE | | BRKR SIZE | VA A | VA B | |
|---|---|---|---|---|---|---|---|---|
| MAIN BREAKER | NA | | 25 | 1 | 25 | | NA | MAIN BREAKER |
| LIGHT & RECEPTACLE | 240 | | 20 | 3 | 15 | | 360 | ELECTRONIC EQUIPMENT |
| CAMERA POWER SUPPLY | 70 | | 15 | 5 | 15 | | | SPARE |
| | | | | TOTAL A: 310<br>TOTAL B: 360<br>TOTAL A,B: 670 | | | | |
| TOTAL | 310 | 0 | | | | 0 | 360 | TOTAL |

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CONSTRUCTION DETAIL - ITS | SHEET 70 | E |
|---|---|---|---|---|---|

# I-41 AND WIS 441 INTERCHANGE (SW)
# WIRING DIAGRAM

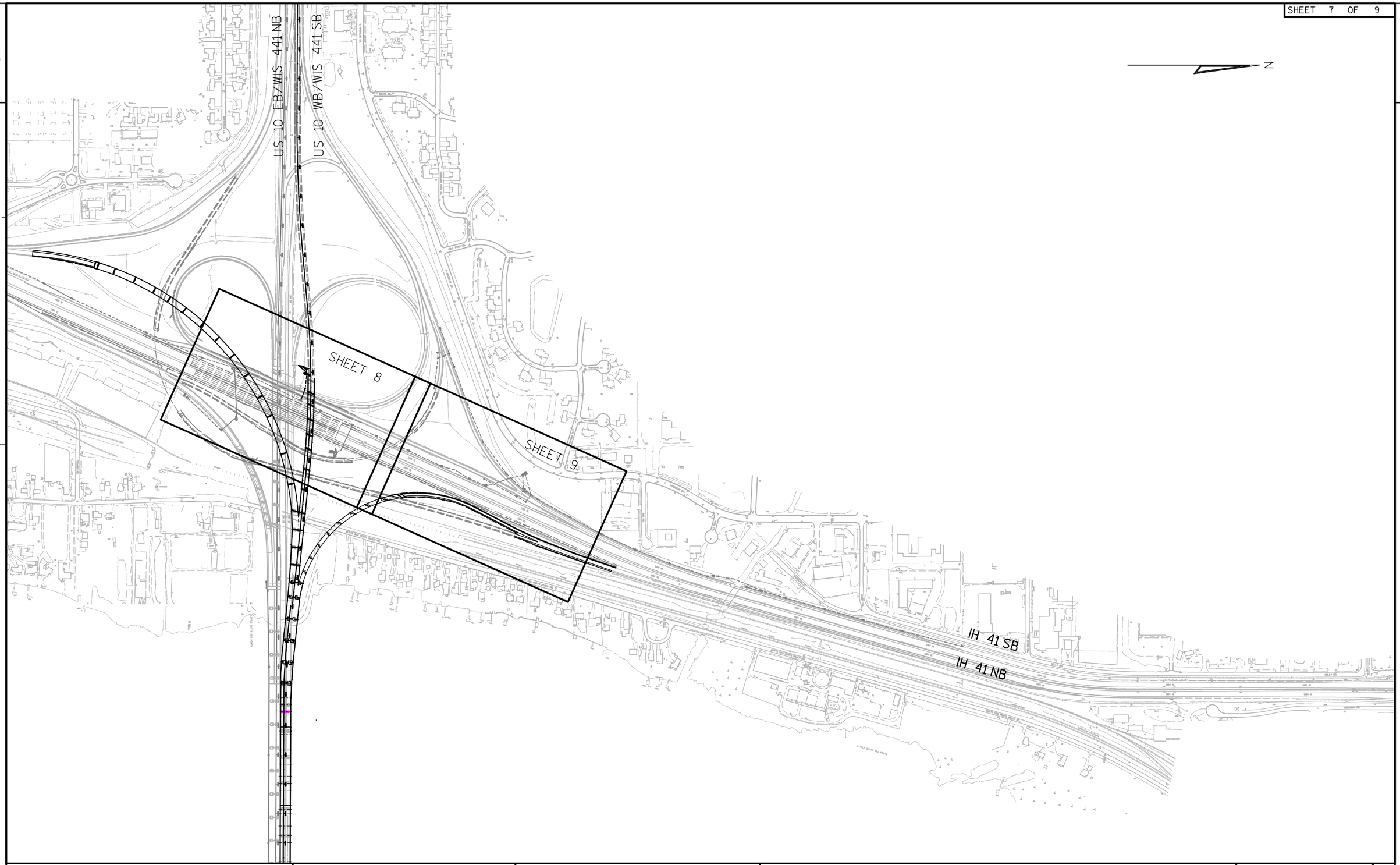
N




NOTE: CAMERA, AND RADIO CABLES INSTALLED FROM EACH DEVICE ON THE POLE TO THE POLE-MOUNTED CABINET.

2

2




| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | ITS PROJECT OVERVIEW | SHEET 72 | E |
|---|---|---|---|---|---|

2

CCTV-70-0092
RELOCATED FROM INTERIM CAMERA SITE:
ELECTRICAL SERVICE BREAKER DISCONNECT BOX
2- PLAQUES SEQUENCE IDENTIFICATION
CAMERA ASSEMBLY (STATE FURNISHED)
VIDEO ENCODER (STATE FURNISHED)
ETHERNET SWITCH (STATE FURNISHED)
RADIO LINK (TO CTH II)
RADIO LINK (TO CTH BB)
RADIO LINK (TO TAYCO ST.)
RADIO LINK (TO CTH CB)
INSTALL:
BASE CAMERA POLE 50-FT
CAMERA POLE (STATE FURNISHED)
METER BREAKER PEDESTAL

CONDUIT RIGID NONMETALLIC SCHEDULE 40 1-DUCT 2-INCH
3-ELECTRICAL WIRE LIGHTING 6 AWG
1-ELECTRICAL WIRE LIGHTING 8 AWG (GROUNDING)

CONDUIT HDPE DIRECTIONAL BORE 1-DUCT 2-INCH
3-ELECTRICAL WIRE LIGHTING 6 AWG
1-ELECTRICAL WIRE LIGHTING 8 AWG (GROUNDING)

3-ELECTRICAL WIRE LIGHTING 6 AWG
1-ELECTRICAL WIRE LIGHTING 8 AWG (GROUNDING)

EXISTING ITS BY OTHERS
SEE PROJECT ID 1517-07-76

EXISTING ITS BY OTHERS
SEE PROJECT ID 1517-07-76

3-ELECTRICAL WIRE LIGHTING 6 AWG
1-ELECTRICAL WIRE LIGHTING
8 AWG (GROUNDING)

REMOVE CABLE
EXISTING CONDUIT HDPE DIRECTIONAL BORE 2-DUCT 2-INCH
EXISTING 3-ELECTRICAL WIRE LIGHTING 6 AWG
EXISTING 1-ELECTRICAL WIRE LIGHTING 10 AWG (GROUNDING)

BY OTHERS
SEE PROJECT 1517-07-80

EXISTING RADIO LINK
(TO CTH II)

EXISTING RADIO LINK
(TO CTH BB)

EXISTING RADIO LINK
(TO TAYCO ST.)

EXISTING RADIO LINK
(TO CTH CB)

EXISTING CCTV-70-0092 (INTERIM)
EXISTING ELECTRICAL SERVICE BREAKER DISCONNECT BOX
EXISTING 2-PLAQUES SEQUENCE IDENTIFICATION
EXISTING 80' WOOD POLE
EXISTING CAMERA ASSEMBLY (STATE FURNISHED)
EXISTING VIDEO ENCODER (STATE FURNISHED)
EXISTING ETHERNET SWITCH (STATE FURNISHED)
EXISTING POLE MOUNTED CABINET (STATE FURNISHED)

TO BE RELOCATED TO PERMANENT CAMERA SITE CCTV-70-0092:
ELECTRICAL SERVICE BREAKER DISCONNECT BOX
2-PLAQUES SEQUENCE IDENTIFICATION
CAMERA ASSEMBLY (STATE FURNISHED)
VIDEO ENCODER (STATE FURNISHED)
ETHERNET SWITCH (STATE FURNISHED)
POLE MOUNTED CABINET (STATE FURNISHED)
RADIO LINK (TO CTH II)
RADIO LINK (TO CTH BB)
RADIO LINK (TO TAYCO ST.)
RADIO LINK (TO CTH CB)
REMOVE 80' WOOD POLE

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | ITS - USH 41 | SHEET 73 | E |
|---|---|---|---|---|---|

2

2

BY OTHERS
SEE PROJECT 1517-07-80

3-ELECTRICAL WIRE LIGHTING 6 AWG
1-ELECTRICAL WIRE LIGHTING 8 AWG (GROUNDING)

REMOVE CABLE
EXISTING CONDUIT HDPE 2-DUCT 2-INCH
EXISTING 3-ELECTRICAL WIRE LIGHTING 6 AWG
EXISTING 1-ELECTRICAL WIRE LIGHTING 10 AWG (GROUNDING)

EXISTING ITS BY OTHERS
SEE PROJECT ID 1517-07-76

EXISTING ITS BY OTHERS
SEE PROJECT ID 1517-07-76

3-ELECTRICAL WIRE LIGHTING 6 AWG
1-ELECTRICAL WIRE LIGHTING 8 AWG (GROUNDING)

1344FNW
1342FNW
1340FNW
1342FSW
1344FSW
1346FSW
1348FSW
1340FSE
1342FSE
1344FSE
1346FSE
1348FSE
1350FSE
1352FSE
1354FSE
PB-E11
PB-37
PB-E12
PB-38
PB-E13
PB-39
PB-E14
PB-40
CV-40
PB-E16
PB-E15
CV-41
PB-41
1340SB
1342SB
1344SB
1346SB
1348SB
1350SB
1352SB
1354SB
IH 41 SB
1340NB
1342NB
1344NB
1346NB
1348NB
1350NB
1352NB
1354NB
IH 41 NB
USH 41
N
INL
SIGN
MH
W
G
RAILROAD
NATIONAL
CANADIAN
BUTTE DES MORTS BEACH RD.

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | ITS - USH 41 | SHEET 74 | E |
|---|---|---|---|---|---|

## LIGHTING PLAN LEGEND

PROPOSED LIGHT POLE

EXISTING LIGHT POLE OR BASE INSTALLED UNDER A PREVIOUS CONTRACT

CONDUIT RIGID NONMETALLIC

EXISTING CONDUIT

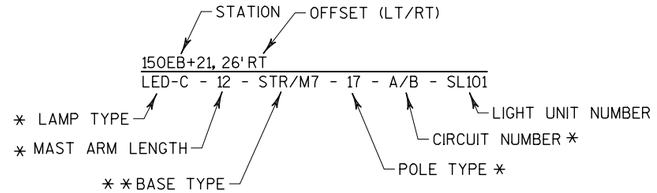
24"X42" NON-CONDUCTIVE PULL BOX

EXISTING 24"X42" LIGHTING PULL BOX (ELPBxx)

V, W / LJBXX — V = STATION, W= OFFSET
LJB= LIGHTING JUNCTION BOX, XX= JUNCTION BOX NUMBER

V, W / LPBXX — V = STATION, W= OFFSET
LPB= LIGHTING PULL BOX, XX= PULL BOX NUMBER

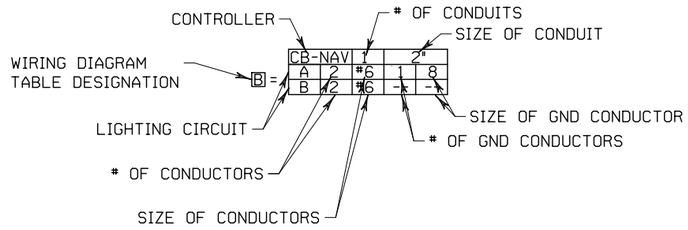
V, W / 7- SLBXX — V = STATION, W= OFFSET
7 = BASE TYPE, SLB= STREET LIGHT BASE, XX= BASE NUMBER
M7= MEDIAN TYPE 7 BASE




* THESE VALUES ARE NOT INCLUDED IN CALLOUT WHEN UNDERGROUND ONLY LIGHTING MATERIALS ARE PROPOSED

* * WHEN "STR" IS CALLED OUT, POLE BASE IS PART OF A STRUCTURE SUCH AS A BRIDGE PARAPET OR WALL

M7 - IS A MEDIAN TYPE 7 BASE




DIGGERS HOTLINE
Call 811 3 Work Days Before You Dig
or Toll Free (800) 242-8511
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

## LIGHTING GENERAL NOTES

1. VERIFY ALL OF THE INFORMATION SHOWN ON THE CONTRACT DRAWINGS WHICH WOULD AFFECT THE WORK UNDER THIS CONTRACT.
2. ALL NEW CONDUITS, CABLE DUCTS, DIRECT BURIAL CABLES, AND ACCESSORIES ARE INDICATED DIAGRAMMATICALLY ON THE DRAWINGS. THE ACTUAL LOCATIONS IN THE FIELD SHALL MEET WITH APPROVAL OF THE ENGINEER.
3. PERFORM THE ELECTRICAL WORK IN ACCORDANCE WITH WISDOT LATEST STANDARDS, THE SPECIAL PROVISIONS AND APPLICABLE SECTIONS OF THE WISDOT STANDARD SPECIFICATIONS (LATEST EDITION).
4. INSTALL ALL FOUNDATIONS IN ORDER FOR THE PROPOSED AND FUTURE LUMINAIRES TO BE ORIENTED WITH THE OPTICS PERPENDICULAR TO THE ROADWAY UNLESS OTHERWISE INDICATED OR DIRECTED BY THE ENGINEER.
5. INSTALL CONDUITS AT A MINIMUM 24" DEPTH BELOW GRADE AND POSITIONED IN THE FIELD TO AVOID CONFLICT WITH ROADWAY UNDERDRAINS AND OTHER EXISTING AND PROPOSED UTILITIES. INCREASE DEPTH OF DUCT AND CONDUIT AS REQUIRED AT NO ADDITIONAL COST. COORDINATE RACEWAY DEPTH WITH THE ELECTRICAL DETAILS AND THE ENGINEER.
6. ALL CONDUIT USED FOR BORED CABLE RUNS UNDER PAVEMENTS SHALL BE POLYVINYL CHLORIDE (PVC), SCHEDULE 40 IN CONFORMANCE WITH SECTION 652.2.3 OF THE WISDOT SPECIFICATIONS.
7. CAP CONDUIT ON BOTH ENDS UNTIL CABLING IS PLACED. FURNISH AND INSTALL A MANUFACTURER APPROVED CAP FOR ALL CONDUITS. DUCT TAPE AND OTHER TAPE IS NOT ACCEPTABLE MEANS OF CONDUIT CAP. EXTEND CONDUIT ONE FOOT BEYOND THE BACK OF CURB EDGE OR TWO FEET BEYOND SHOULDER IF NO CURB.
8. FURNISH AND INSTALL CABLE PULL STRINGS OR WIRES IN ALL CONDUITS. PULL WIRES MUST BE ACCESSIBLE AND ANCHORED AT EACH CONDUIT END FOR EASY FUTURE ACCESS.
9. ALL POLES ON BREAKAWAY BASES SHALL BE PLACED A MINIMUM OF 12-FEET FROM THE EDGE OF THE OUTSIDE TRAVEL LANE. ALL LIGHTS PLACED BEHIND GUARDRAIL SHALL BE PLACED A MINIMUM OF 4-FEET BEHIND THE FACE OF GUARDRAIL.
10. LIGHTING SYMBOLS ARE ENLARGED FOR CLARITY, USE CENTER OF SYMBOL TO LOCATE EQUIPMENT IN THE FIELD.
11. PITCH CONDUIT TOWARDS PULL BOXES FOR DRAINAGE. IF THE CONTRACTOR IS UNABLE TO PROVIDE A PITCH TO PULL BOXES FOR PVC CONDUIT, DRILL ONE 1/4-INCH-DIAMETER DRAIN HOLE IN THE CONDUIT AT EACH LOW POINT AND PLACE SUMPS UNDER THE DRAIN HOLES.
12. FURNISH AND INSTALL A CONDUIT EXPANSION/DEFLECTION FITTING AT ALL EXPANSION JOINT LOCATIONS IN THE PARAPET WALLS. SEE THE STRUCTURAL PLANS FOR THE LOCATIONS OF THE EXPANSION JOINTS.
13. FURNISH AND INSTALL RIGID STEEL CONDUIT EMBEDDED IN STRUCTURE BETWEEN THE CONDUIT EXPANSION FITTING AND THE NEAREST ADJACENT JUNCTION BOX AT EACH PARAPET EXPANSION JOINT. FURNISH AND INSTALL A GROUND LUG IN THE JUNCTION BOX. GROUND JUNCTION BOX TO THE SYSTEM GROUND WIRE. PROVIDE ALL NECESSARY LABOR AND MATERIALS FOR THE WORK TO GROUND THE CONDUIT EXPANSION FITTING PER NEC ARTICLE 250.86. THIS WORK IS INCLUDED IN, AND BE PAID FOR AS PART OF THE STRUCTURAL WORK.

LIGHTING PLANS PREPARED BY:

AECOM
342 N Water Street, 7th Floor
Milwaukee, WI 53202
(414) 831-4100

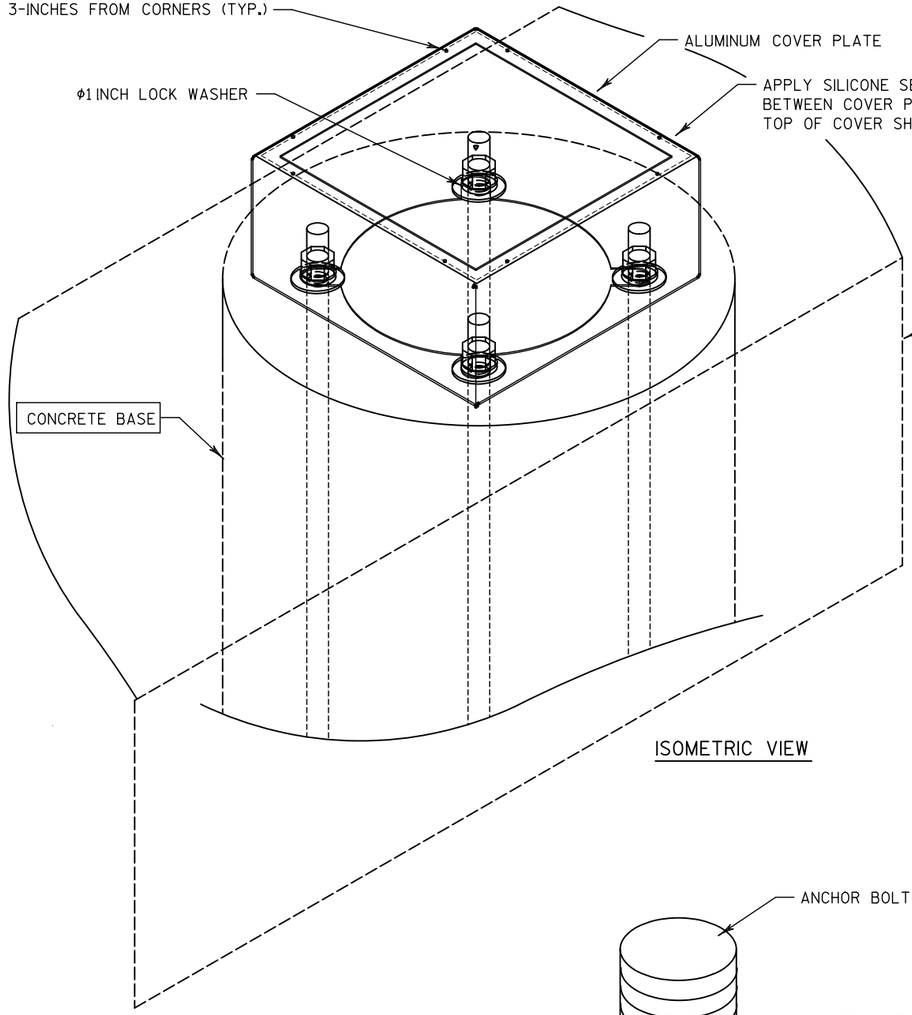
WISCONSIN
MOHAMMED A ELSHOLI
E-37874-6
ORLAND HILLS
ILLINOIS
PROFESSIONAL ENGINEER

1/29/2016 (Date)

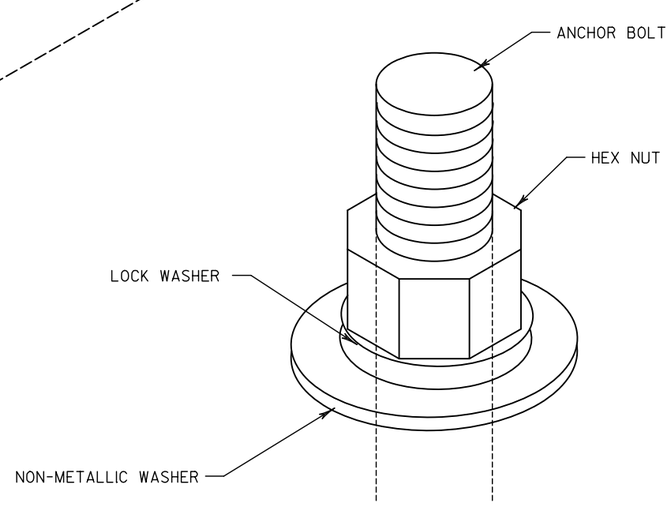
(Signature)

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | LIGHTING PLAN - TITLE SHEET | SHEET 75 | E |
|---|---|---|---|---|---|

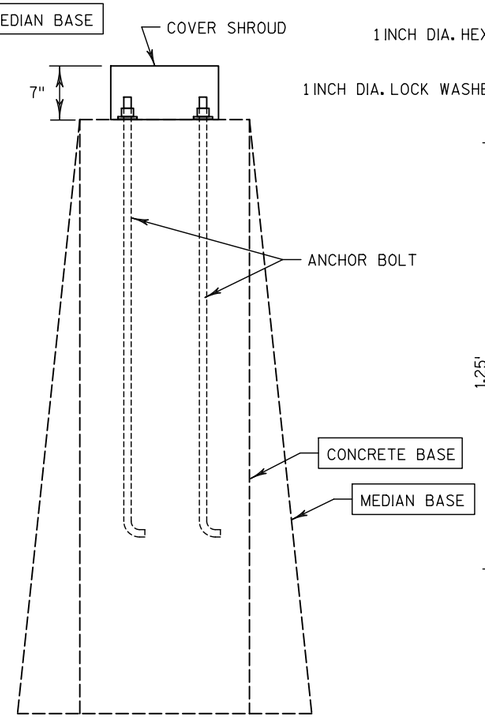
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ISOMETRIC VIEW



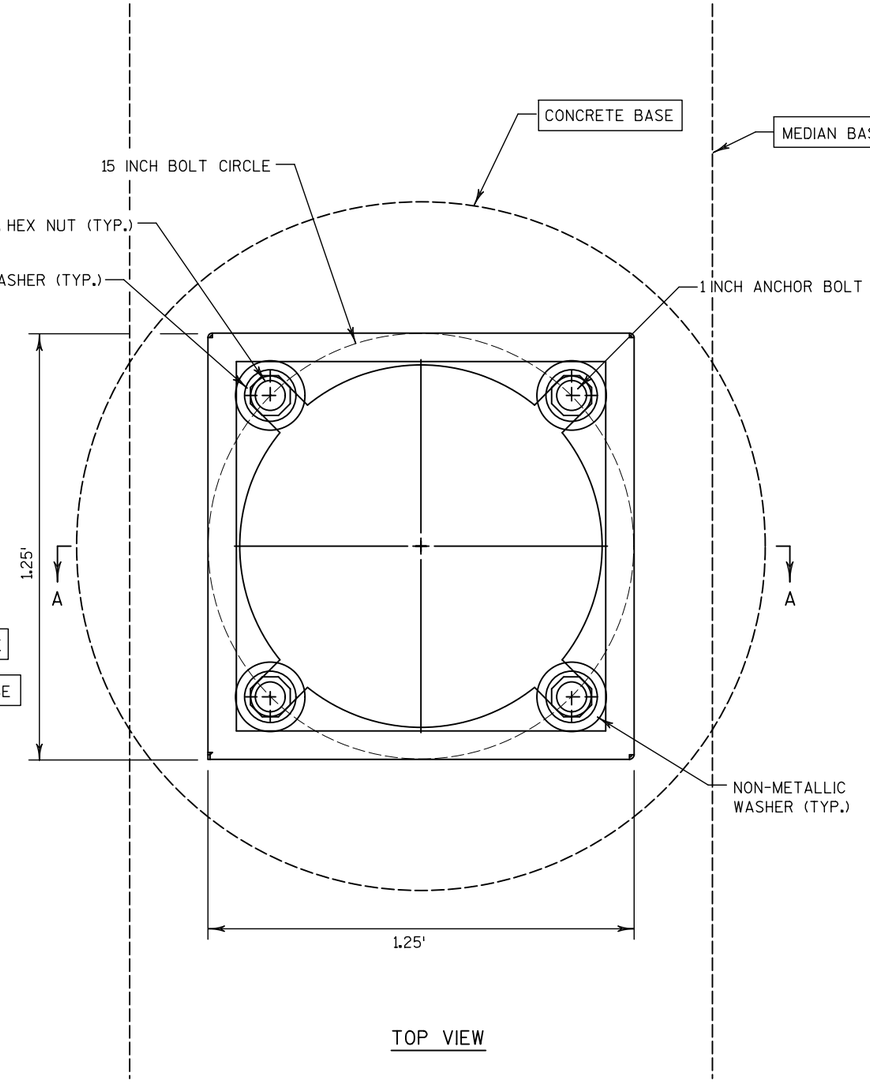

ANCHOR BOLT DETAIL




SECTION A-A

NOTE:

ANCHOR BOLTS/NUTS NOT INCLUDED WITH COVER SHROUD ITEM.




TOP VIEW

ANCHOR BOLT COVER SHROUD

NO SCALE

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | LIGHTING - CONSTRUCTION DETAILS | SHEET 76 | E |
|---|---|---|---|---|---|

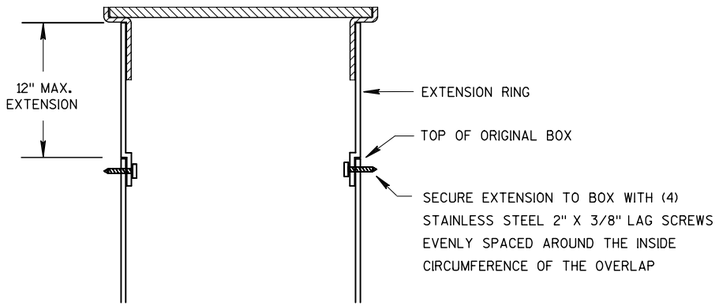
2

## TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

| NON-CONDUCTIVE PULL BOX | | DIMENSION IN INCHES | |
|---|---|---|---|
| BOX DIAMETER ** (INSIDE) | A | 24 | 24 |
| BOX DIAMETER ** (OUTSIDE) | B | 25 | 25 |
| BOX LENGTH | C | 36 | 42 |
| COVER | D | 25 1/2 | 25 1/2 |
| FRAME | E | 27 | 27 |
| FRAME | F | 25 3/4 | 25 3/4 |
| FRAME | G | 22 1/2 | 22 1/2 |
| WEIGHT IN POUNDS * | | | |
| COVER | | 50 | 50 |

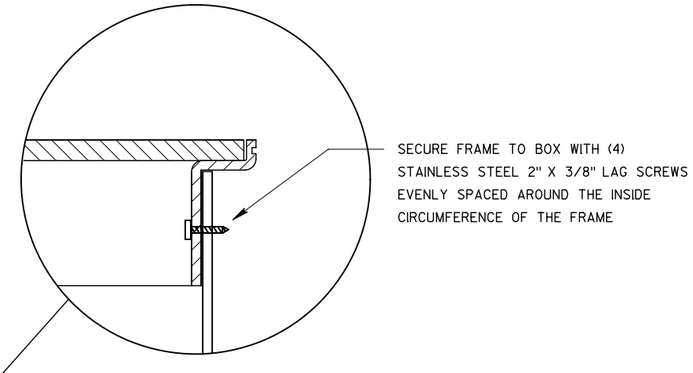
* THE ACTUAL WEIGHT OF THE COVER MAY VARY NOT TO EXCEED 100 LBS.

** DIAMETER VARIES FROM TOP TO BOTTOM WITH THE DIAMETER LARGER AT THE BOTTOM TO PREVENT FROST HEAVE

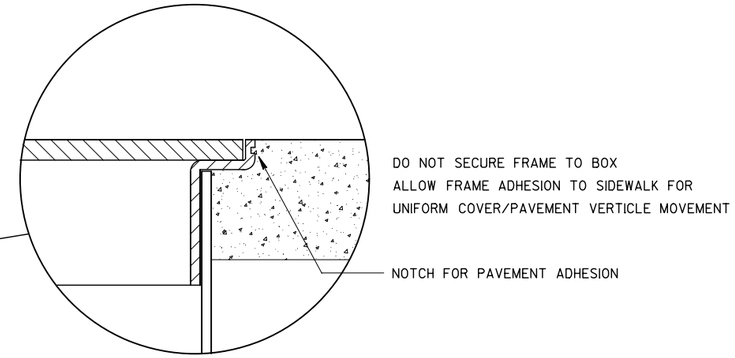


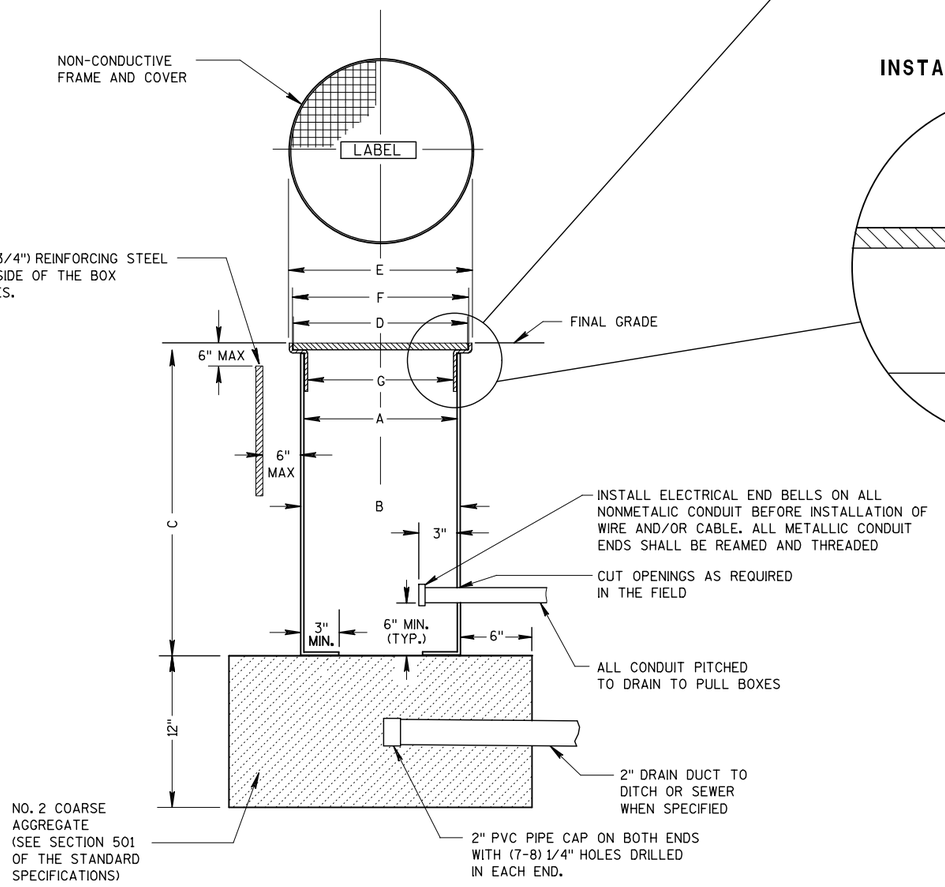

### BOX EXTENSION

### INSTALLED IN SOD OR CRUSHED AGGREGATE




### INSTALLED IN SIDEWALK




### NON-CONDUCTIVE PULL BOX

## GENERAL NOTES

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

ALL BOXES, FRAMES AND COVERS SHALL BE SUITABLE FOR TIER 15 LOADING AS SPECIFIED IN ANSI/SCTE 77.

PROVIDE AN OPENING FOR TOOL ASSISTED COVER REMOVAL NOT LARGE ENOUGH TO PERMIT PASSAGE OF A SPHERE MORE THAN 1/2" DIAMETER

ENSURE COVER SURFACE IS SKID RESISTANT WITH A COEFFICIENT OF FRICTION OF AT LEAST 0.5 AND VERTICAL SURFACE DICONTINUITIES LESS THAN 1/4".

BOXES AND EXTENSIONS ARE TRIMMABLE FOR CUSTOM LENGTHS. TRIMMED PIECES SHALL MAINTAIN A UNIFORM LENGTH.

ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

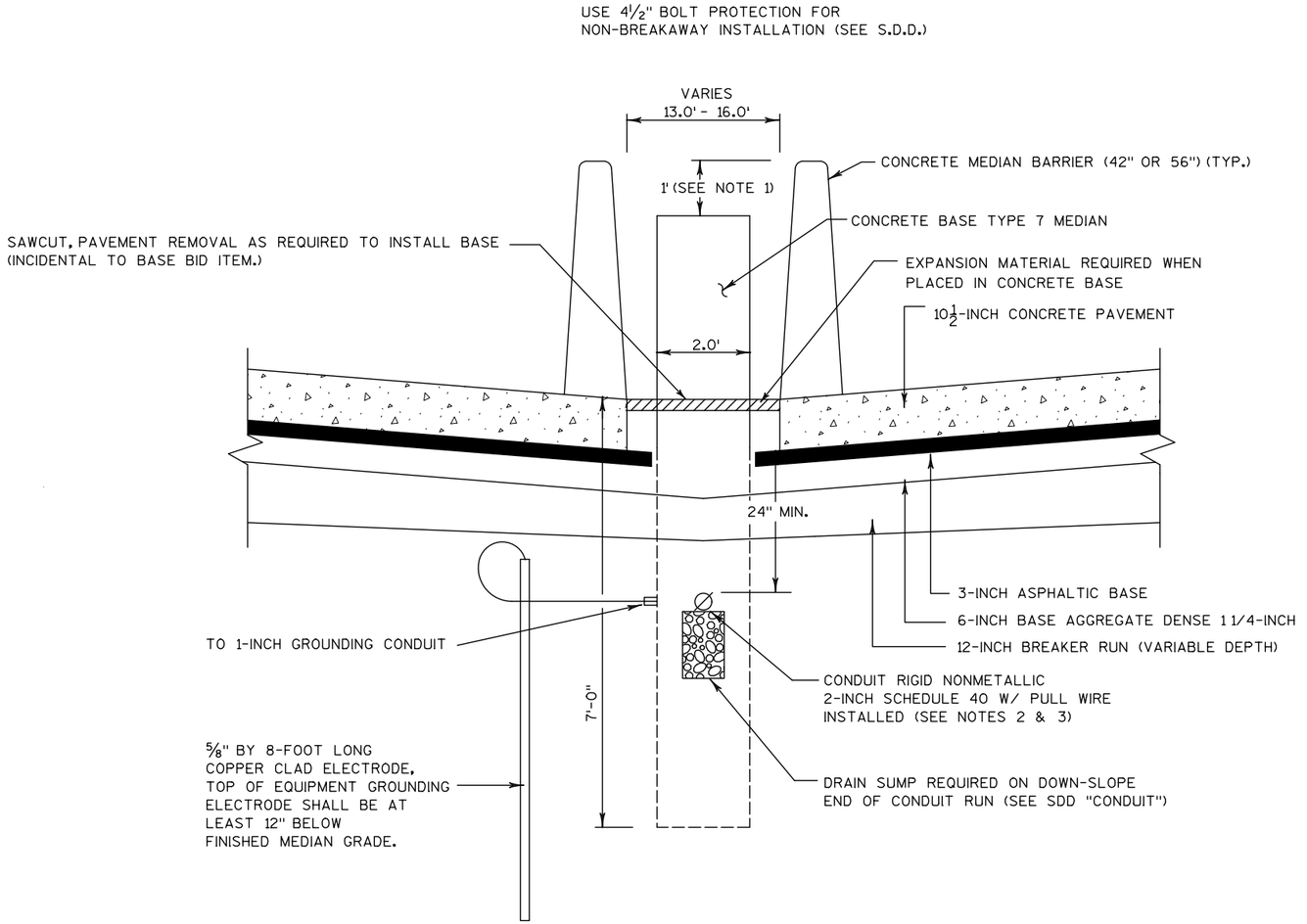
THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

ENTIRE BOX MUST BE CONSTRUCTED OF NON-CONDUCTIVE MATERIALS WITH THE EXCEPTION OF STAINLESS STEEL FASTENERS.

WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE

LABEL ON COVER SHALL READ "ELECTRIC" FOR SIGNAL OR LIGHTING SYSTEMS. "WISDOT COMMUNICATIONS" FOR COMMUNICATIONS SYSTEMS,




CONCRETE BASE TYPE 7 MEDIAN

NO SCALE

NOTES:

1) TOP OF CONCRETE BASE TO BE 1-FOOT BELOW THE TOP OF THE LOWEST BARRIER.

2) ROUTE CONDUIT ALONG SIDE MEDIAN INLETS, SIGN FOOTINGS & BRIDGE PIERS.

3) CONDUIT DEPTH TO BE 6" BELOW BOTTOM OF BREAKER RUN. DEPTH WILL VARY.

4) DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF SECTION 654 OF THE STANDARD SPECIFICATIONS.

5) THE BASES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD DETAIL DRAWING FOR CONCRETE BASE, TYPE 7, EXCEPT FOR THE DETAILS AND OTHER INFORMATION AS SPECIFICALLY SHOWN. PROVIDE REINFORCEMENT AS SHOWN IN THE SDD AND ACCOUNT FOR THE ADDITIONAL BASE HEIGHT.

6) ALL CONDUIT ENDS SHALL PROJECT 4" ABOVE THE CONCRETE BASE PRIOR TO INSTALLATION OF THE PVC CAPS AND SHALL BE LOCATED WITHIN A 6" DIA. CIRCLE ABOUT CENTER OF BASE.

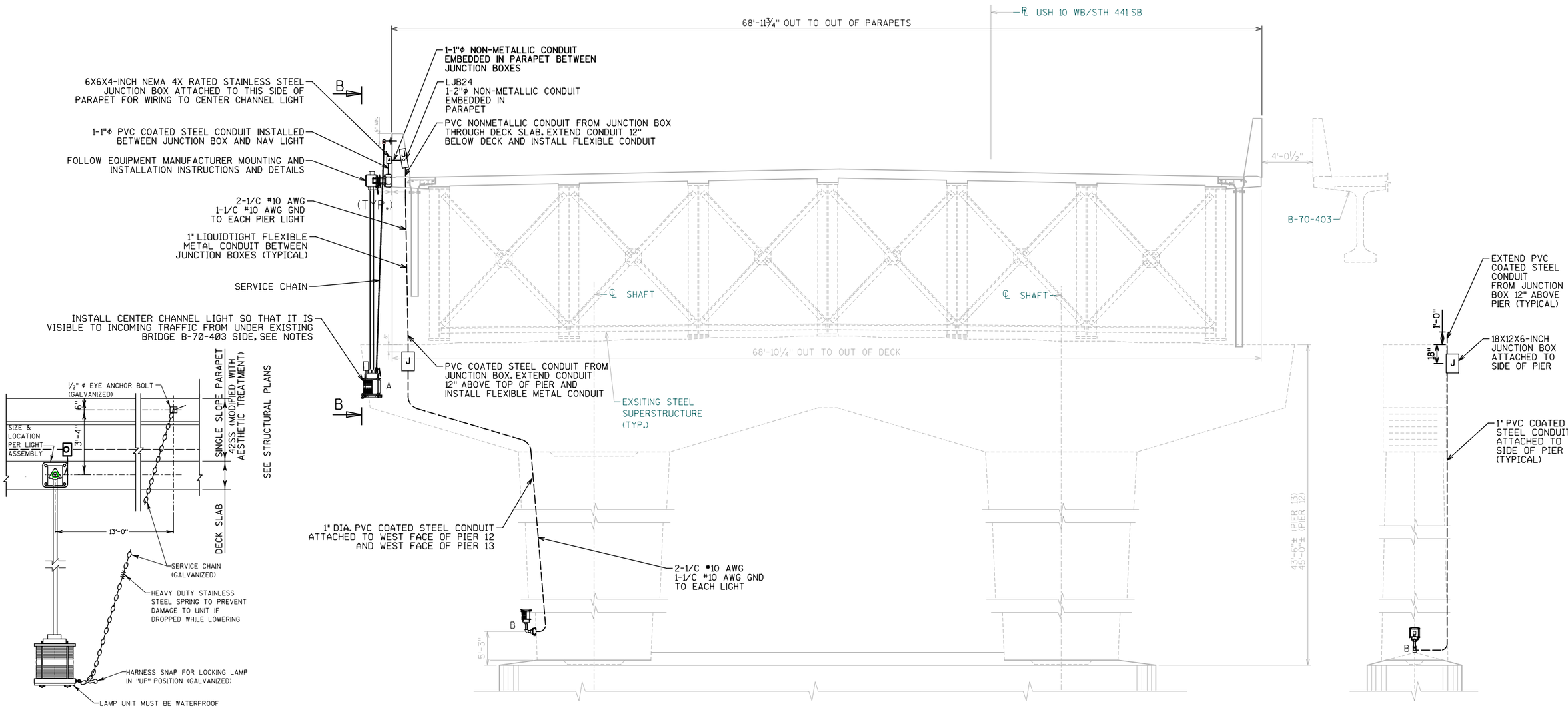
ESTIMATED QUANITIES PER BASE (APPROX.)

| | |
|---|---|
| APPROX. CUBIC YARDS OF CONCRETE | 1.24 |
| LBS. OF HOOP BAR STEEL | 44 |
| LBS. OF VERTICAL BAR STEEL | 92 |
| 1" DIA. X 7.5' ANCHOR RODS | 4 |

NOTES:

ALL QUANTITIES INCIDENTAL TO "CONCRETE BASES TYPE 7 MEDIAN" BID ITEM SPV.0060.351

QUANTITIES ARE APPROXIMATE AND MAY VARY IN SECTIONS WITH GRADE SEPARATION.







VIEW B-B
N.T.S.

ELEVATION
PIERS 12 & 13 (B-70-61)
(LOOKING UP STATION)

SIDE VIEW
(LOOKING SOUTH)

## NOTES

DRAWING NOT TO SCALE.

SEE STRUCTURAL PLANS FOR INFORMATION ON ALL STRUCTURAL RELATED ELEMENTS.

ALL NAVIGATION LIGHTING MATERIALS AND EQUIPMENT INCLUDING CONTROL CABINET WORK (IF ANY), PULL BOXES, JUNCTION BOXES, UNDERGROUND AND ATTACHED CONDUITS, ALL WIRES AND RELATED MATERIALS ARE PAID FOR UNDER ONE LUMP SUM ITEM NO. SPV.0105.350 - NAVIGATION LIGHTING B-70-61.

ALL EXPOSED CONDUITS AND ASSOCIATED FITTINGS SHALL BE PVC COATED STEEL. SURFACE MOUNTED JUNCTION BOXES SHALL BE NEMA 4X RATED STAINLESS STEEL.

ALL CONDUITS, JUNCTION BOXES. AND OTHER MATERIALS EMBEDDED IN STRUCTURES ARE PAID FOR AS PART OF THE STRUCTURE.

## NOTES CONTINUED

INSTALL CENTER CHANNEL LIGHT SO THAT IT CAN BE VISIBLE TO MARINE TRAFFIC APPROACHING FROM EXISTING BRIDGE B-70-403 SIDE. PROVIDE AND INSTALL LONGER ARM AND CHAIN, IF NECESSARY, TO ACCOMPLISH THIS TASK.

PROVIDE WIRING FOR TWO ELECTRICAL CIRCUITS FOR THE NAVIGATION LIGHTING. INCLUDE GROUND CONDUCTORS FOR NAVIGATION EQUIPMENT GROUNDING AND FOR EMBEDDED JUNCTION BOX GROUNDING.

SEPARATE NAVIGATION LIGHTING SYSTEM WIRING, CONDUITS, PULL AND JUNCTION BOXES, AND CABINETS FROM ROADWAY LIGHTING AND ITS EQUIPMENT. DON'T MIX WIRING FOR THESE SYSTEMS IN THE SAME CONDUITS OR BOXES.

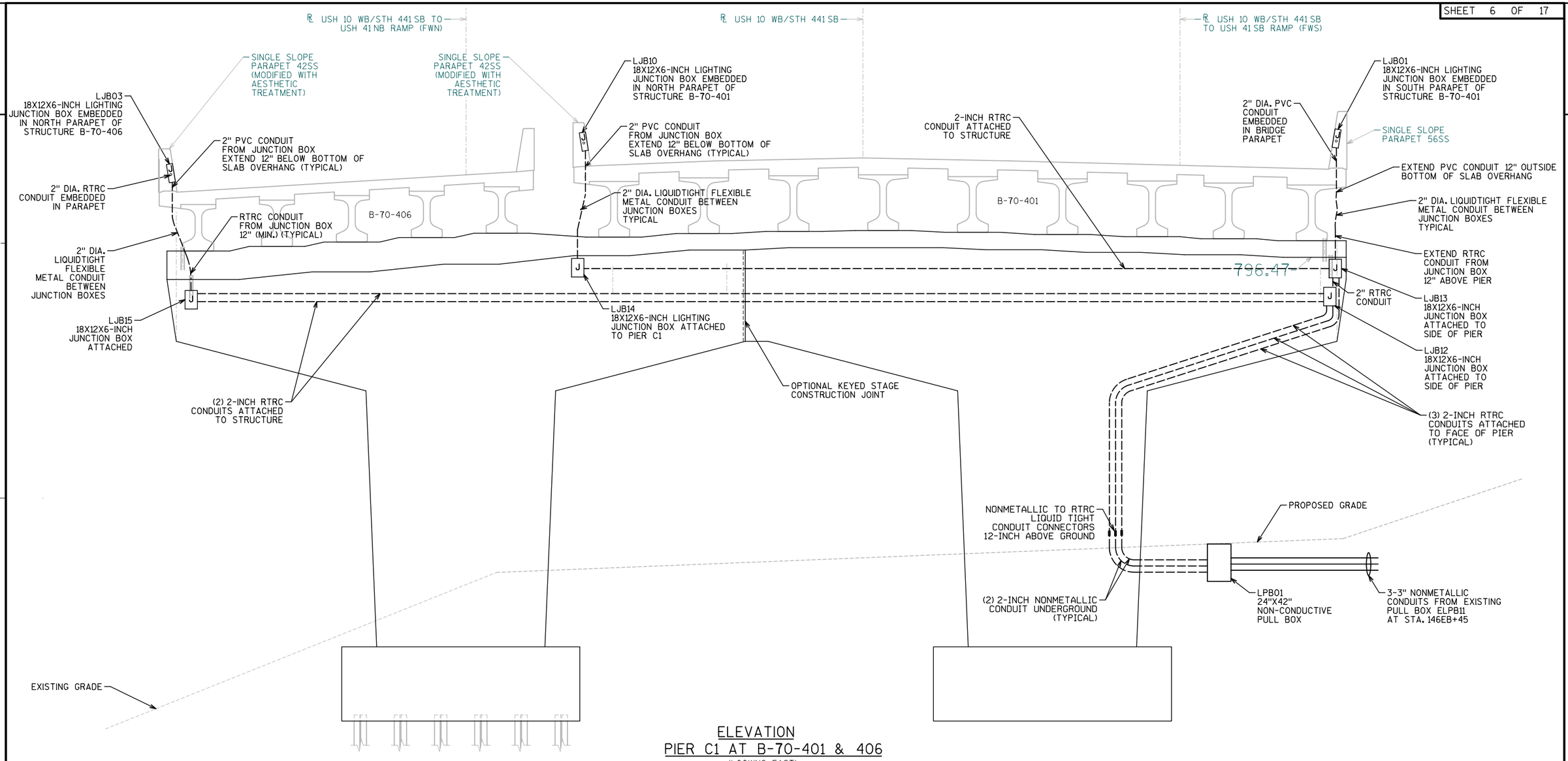
SEE NAVIGATION LIGHTS SPECIAL PROVISION FOR MORE INFORMATION.

## LEGEND

B — PIER LIGHT - RED
ON PIERS 12 AND 13 - 180 DEGREE RED

A — CENTER CHANNEL LIGHT - GREEN
ON SPAN - 360 DEGREE GREEN

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | LIGHTING - NAVIGATION LIGHTING DETAILS | SHEET 79 | E |
|---|---|---|---|---|---|




ELEVATION
PIER C1 AT B-70-401 & 406
(LOOKING EAST)

## NOTES

DRAWING NOT TO SCALE.

SEE STRUCTURAL PLANS FOR INFORMATION ON ALL STRUCTURAL RELATED ELEMENTS.

ALL CONDUITS AND JUNCTION BOXES EMBEDDED IN STRUCTURES ARE PAID FOR AS PART OF THE STRUCTURE.

SEE LIGHTING PLANS FOR LOCATIONS OF POLE BASES, CONDUITS, PULL BOXES, AND JUNCTION BOXES.

FURNISH ALL 304 STAINLESS STEEL HARDWARE FOR ATTACHMENT OF ALL EQUIPMENT SHOWN.

FURNISH AND INSTALL RTRC CONDUITS 12" (MIN.) FROM EACH JUNCTION BOX SHOWN, AND CONNECT THE BOXES USING CONTRACTOR FURNISHED AND INSTALLED LIQUIDTIGHT FLEXIBLE METALLIC CONDUITS OF THE SAME DIAMETER.

## NOTES (CONTINUED)

ENSURE THAT ALL CONDUIT TO CONDUIT AND CONDUIT TO BOX OR FIXTURE CONNECTIONS ARE SEALED TIGHT AND WATERPROOF IN ORDER TO PREVENT WATER, MOISTURE AND DEBRIS FROM ENTERING CONDUITS AND EQUIPMENT.

PROVIDE RTRC MANUFACTURER APPROVED CONDUIT FITTINGS AND JOINT COMPOUNDS IN ORDER TO HAVE RELIABLE WATERPROOF CONNECTIONS.

PROVIDE RTRC EXPANSION FITTINGS AS REQUIRED BY THE MANUFACTURER TO ALLOW FOR RTRC CONDUIT CONTRACTION/EXPANSION.

SUPPORT ALL CONDUITS AT INTERVALS AS REQUIRED BY THE NEC CODE. FOLLOW MANUFACTURER RECOMMENDATIONS AND INSTALLATION INSTRUCTIONS AND GUIDELINES.

GIRDERS AND DECK FOR BRIDGE B-70-61 ARE NOT SHOWN FOR CLARITY

# WISDOT SYSTEMS

■ 1

| |
|---|
| A - BLACK |
| B - RED |
| C - BROWN |
| D - BLUE |
| E - YELLOW |
| F - ORANGE |
| 480V PHASE-PHASE |

- L70-2007 / USH 41 & USH 10, (COPPERHEAD DR) / TOWN OF MENASHA / WINNEBAGO COUNTY
- CB 100 / NORTHWEST QUADRANT OF INTERCHANGE
- 240/480 VOLT / SINGLE PHASE / 200 AMP SERVICE
- MAIN LUGS ONLY METER PEDESTAL
- CIRCUIT DESCRIPTIONS:
  - CKT. A/B - NO LIGHTING LOAD IN THIS CONTRACT (EXISTING DOUBLE CONCRETE BASE)

■ 2

| |
|---|
| A - BLACK |
| B - RED |
| C - BLUE |
| D - BROWN |
| E - ORANGE |
| F - YELLOW |
| 480V PHASE-PHASE |

- L70-2008 / USH 41 & USH 10, (JACOBSEN ROAD) / TOWN OF MENASHA / WINNEBAGO COUNTY
- CB 200 / SYSTEM INTERCHANGE SOUTH
- 240/480 VOLT / SINGLE PHASE / 200 AMP SERVICE
- MAIN LUGS ONLY METER PEDESTAL
- CIRCUIT DESCRIPTIONS:
  - CKT. A/B - RAMPS FEN / FES - (EXISTING)
  - CKT. C/D - RAMPS FES / FWS - (EXISTING)
  - CKT. E/F - FUTURE

■ 3

| |
|---|
| A - BLACK |
| B - RED |
| C - BROWN |
| D - BLUE |
| E - YELLOW |
| F - ORANGE |
| 480V PHASE-PHASE |

- L70-2009 / USH 41 & USH 10, (WEST BUTTE DES MORTS RD) / CITY OF MENASHA / WINNEBAGO COUNTY
- CB 300 / SYSTEM INTERCHANGE (EAST) / ROLAND KAMPO BRIDGE
- 240/480 VOLT / SINGLE PHASE / 200 AMP SERVICE
- MAIN LUGS ONLY METER PEDESTAL
- CIRCUIT DESCRIPTIONS:
  - CKT. A/B - RAMP FNW / FNE / B-70-402 BRIDGE LIGHTS - (EXISTING)
  - CKT. C - RAMP FNE & BRIDGE B-70-403 SOUTH PARAPET LIGHTS - (EXISTING)
  - CKT. D -
  - CKT. E/F - .

■ 4

| |
|---|
| A - BLACK |
| B - RED |
| C - BLUE |
| D - BROWN |
| E - ORANGE |
| F - YELLOW |
| 480V PHASE-PHASE |

- L70-2010 / USH 10 Little Lake Butte Des Morts Bridge / CITY OF MENASHA / WINNEBAGO COUNTY
- CB-400 & CB-401 / Roland Kampo Bridge @ Tayco St
- 240/480 VOLT / SINGLE PHASE / 200 AMP SERVICE
- MAIN LUGS ONLY METER PEDESTAL
- CIRCUIT DESCRIPTIONS:

CB-400 (EXISTING)
- CKT. A/B - B-70-403 BRIDGE MEDIAN/PARAPET LIGHTS (EXISTING)
- CKT. C/D - SPARE (FUTURE)
- CKT. E/F - SPARE (FUTURE)

CB-401 (EXISTING)
- CKT. A/B - RAMPS SW AND SE LIGHTS - 10/441 @ RACINE RD INTERCHANGE (EXISTING)
- CKT. C/D - MAINLINE MEDIAN LIGHTS - 10/441 @ RACINE RD INTERCHANGE (EXISTING)
- CKT. E/F - RAMPS NW AND NE LIGHTS - 10/441 @ RACINE RD INTERCHANGE (EXISTING)

2

USH 41 & USH 10 (WEST BUTTE DES MORTS RD)
SYSTEM INTERCHANGE (EAST)
TOWN OF MENASHA
WINNEBAGO COUNTY

LIGHTING NO. L70-2009 / L70-2010
DESIGNER: AECOM
DATE: 2/1/2016 | SHEET 1 OF 10



2

N

2-INCH RIGID NONMETALLIC CONDUIT EMBEDDED IN BRIDGE PARAPET. SEE STRUCTURE B-70-401 PLANS

SEE LIGHTING PLAN SHEET 7 OF 10 FOR LIGHT BASES ON STRUCTURE B-70-406

B-70-406

140FWN

142FWN

FWN RAMP

144FWN

150FEN

148FEN

132WB+25, 27'LT
LPB03

132WB+75, 23'LT
STR - SLB29

134WB+75, 23'LT
STR - SLB28

136WB+75, 23'LT
STR - SLB27

138WB+75, 23'LT
STR - SLB26

140WB+75, 23'LT
STR - SLB25

142WB+40, 23'LT
STR - SLB24

143FWS+75, 23'LT
STR - LJB11

144WB+91, 23'LT
STR - SLB23

130WB 132WB 134WB 136WB 138WB 140WB 142WB 144WB

USH 10 WB/STH 441 SB

B-70-401

PROJECT ID 1517-07-76
(BY OTHERS)

PROJECT ID 1517-07-79
(BY OTHERS)

137FWS+50, 6'RT
STR - SLB13

139FWS+50, 6'RT
STR - SLB12

146FEN

140FWS

142FWS

144FWS

138FWS

141FWS+50, 8'RT
STR - SLB11

142FWS+70, 10'RT
STR - LJB09

143FWS+80, 13'RT
STR - SLB10

145FWS+00, 13'RT
STR - LJB08

USH 10 EB/STH 441 NB

130EB 132EB 134EB 136EB 138EB 140EB 142EB 144EB

MATCHLINE STA 145WB+00.00

136FWS

134FWS FWS RAMP

135FWS+50, 6'RT
STR - SLB14

B-70-405

133FWS+50, 6'RT
STR - SLB15

S-70-257

2-INCH RIGID NONMETALLIC CONDUIT EMBEDDED IN BRIDGE B-70-405 PARAPET SEE STRUCTURE PLANS

132FWS

USH 41 SB

USH 41 NB

131FWS+50, 6'RT
STR - SLB16

MATCHLINE STA 130FWS+00.00

144FEN

B-70-400

1338FNE

1336FNE

1334FNE

FNE RAMP

1332FNE

1330FNE

1328FNE

142FEN

B-70-402

ELPB09

INSTALL 3-INCH RIGID NONMETALLIC CONDUIT BETWEEN PULL BOXES

PROJECT ID 1517-07-76
(BY OTHERS)

ELPB08

CB-300 (SE SYSTEM)
EXISTING LIGHTING
CONTROL CABINET
1334FNE+80.95, 174'RT
L70-2009

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | LIGHTING PLAN - USH 10 WB / RAMP FWS | SHEET 82 | E |
|---|---|---|---|---|---|

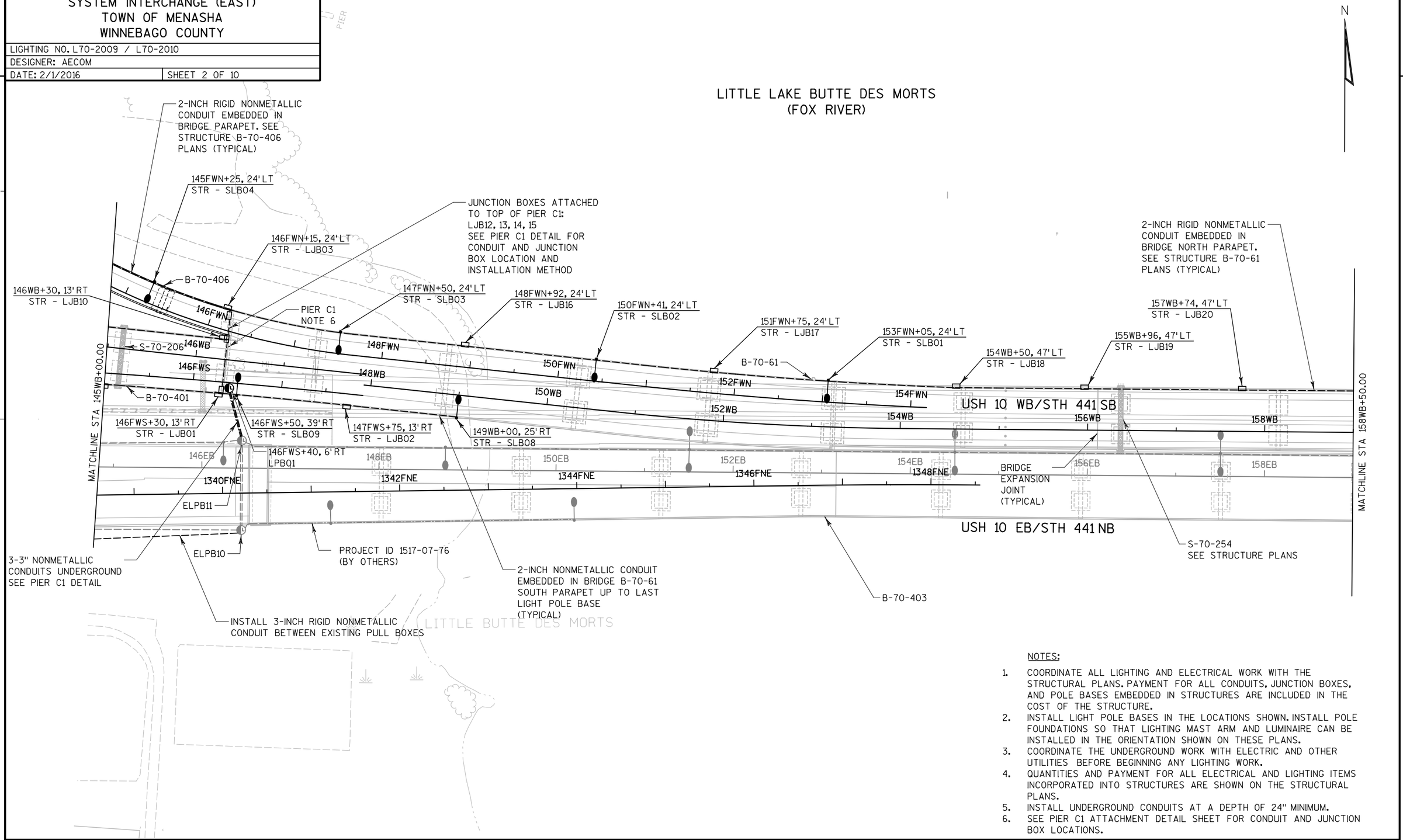
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USH 41 & USH 10, (WEST BUTTE DES MORTS RD)
SYSTEM INTERCHANGE (EAST)
TOWN OF MENASHA
WINNEBAGO COUNTY

LIGHTING NO. L70-2009 / L70-2010
DESIGNER: AECOM
DATE: 2/1/2016 | SHEET 2 OF 10



2




NOTES:

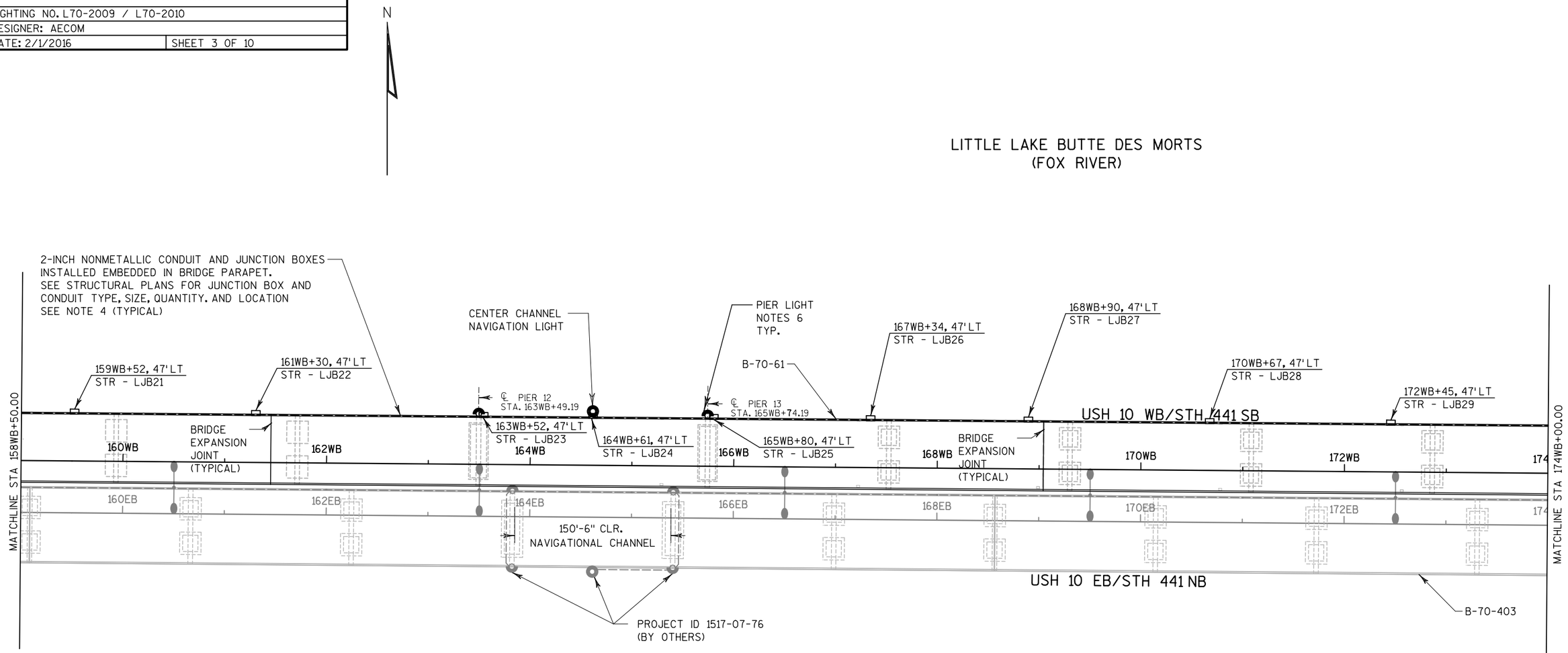
1. COORDINATE ALL LIGHTING AND ELECTRICAL WORK WITH THE STRUCTURAL PLANS. PAYMENT FOR ALL CONDUITS, JUNCTION BOXES, AND POLE BASES EMBEDDED IN STRUCTURES ARE INCLUDED IN THE COST OF THE STRUCTURE.
2. INSTALL LIGHT POLE BASES IN THE LOCATIONS SHOWN. INSTALL POLE FOUNDATIONS SO THAT LIGHTING MAST ARM AND LUMINAIRE CAN BE INSTALLED IN THE ORIENTATION SHOWN ON THESE PLANS.
3. COORDINATE THE UNDERGROUND WORK WITH ELECTRIC AND OTHER UTILITIES BEFORE BEGINNING ANY LIGHTING WORK.
4. QUANTITIES AND PAYMENT FOR ALL ELECTRICAL AND LIGHTING ITEMS INCORPORATED INTO STRUCTURES ARE SHOWN ON THE STRUCTURAL PLANS.
5. INSTALL UNDERGROUND CONDUITS AT A DEPTH OF 24" MINIMUM.
6. SEE PIER C1 ATTACHMENT DETAIL SHEET FOR CONDUIT AND JUNCTION BOX LOCATIONS.

USH 41 & USH 10, (WEST BUTTE DES MORTS RD)
SYSTEM INTERCHANGE (EAST)
TOWN OF MENASHA
WINNEBAGO COUNTY

LIGHTING NO. L70-2009 / L70-2010
DESIGNER: AECOM
DATE: 2/1/2016 | SHEET 3 OF 10



2




NAVIGATION LIGHT LEGEND

- CHANNEL LIGHT - ON SPAN - 360 DEGREE GREEN
- PIER LIGHT - ON PIERS 11 AND 12 - 180 DEGREE RED
- CONDUIT AND WIRING - AS SPECIFIED ON PLANS

SEE NAVIGATION LIGHTING PLAN AND ELEVATION SHEET FOR MORE DETAILS

NOTES:

1. COORDINATE ALL WORK WITH STRUCTURAL PLANS.
2. COORDINATE THE UNDERGROUND WORK WITH ALL UTILITIES BEFORE BEGINNING ANY LIGHTING WORK.
3. QUANTITIES AND PAYMENT FOR ALL ELECTRICAL AND LIGHTING CONDUITS, JUNCTION BOXES AND BASES INSTALLED IN STRUCTURES ARE SHOWN ON THE STRUCTURAL PLANS.
4. SEE STRUCTURAL PLANS AND DETAILS FOR LIGHT BASES, CONDUIT AND JUNCTION BOX LOCATIONS IN STRUCTURES.
5. SEE NAVIGATION LIGHTING DETAILS FOR ADDITIONAL INFORMATION ON EQUIPMENT TYPE, SIZE, INSTALLATION, AND LOCATION. ALSO SEE STRUCTURAL PLANS.
6. INCLUDE PAYMENT FOR ALL NAVIGATION LIGHTING MATERIALS, EQUIPMENT, AND LABOR IN THE NAVIGATION LIGHTING B-70-61 BID ITEM NO. SPV.0105.700. INCLUDE ALL WORK FROM THE NAVIGATION LIGHTING CONTROLLER TO THE LAST ITEM IN THE SYSTEM INCLUDING COORDINATION WITH THE US COAST GUARD (USCG). NO ADDITIONAL COMPENSATION WILL BE MADE FOR ANY NAVIGATION LIGHTING RELATED WORK OR MATERIALS EVEN IF NOT EXPLICITLY SPECIFIED ON THE PLANS OR IN THE SPECIAL PROVISIONS.
7. SEE NAVIGATION LIGHTING DETAIL SHEET FOR ELEVATION VIEW OF THE SYSTEM AND INSTALLATION DETAILS. SEE SHEET 10 OF 10 FOR A CLOSE=UP PLAN VIEW OF THE SYSTEM.

USH 41 & USH 10, (WEST BUTTE DES MORTS RD)
SYSTEM INTERCHANGE (EAST)
TOWN OF MENASHA
WINNEBAGO COUNTY

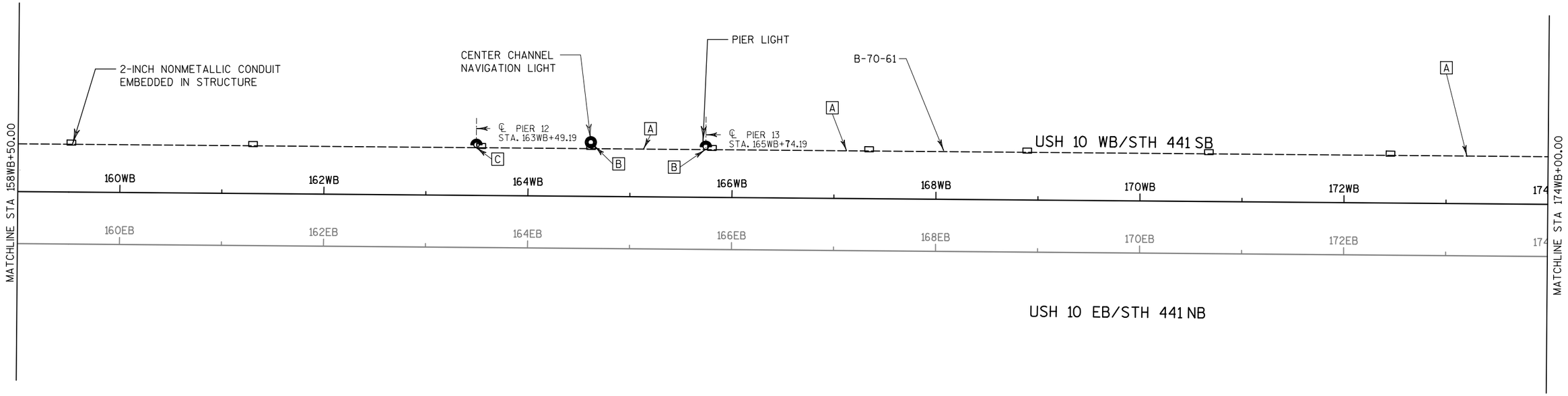
LIGHTING NO. L70-2009 / L70-2010
DESIGNER: AECOM
DATE: 2/1/2016 | SHEET 4 OF 10



2

N

LITTLE LAKE BUTTE DES MORTS
(FOX RIVER)




NAVIGATION LIGHT LEGEND

- CHANNEL LIGHT - ON SPAN - 360 DEGREE GREEN
- PIER LIGHT - ON PIERS 12 AND 13 - 180 DEGREE RED
- CONDUIT AND WIRING - AS SPECIFIED ON PLANS

A =

| CB-NAV | 1 | | 2" | |
|---|---|---|---|---|
| A | 1 | #10 | 1 | 10 |
| B | 1 | #10 | -- | -- |
| N | 2 | #10 | -- | -- |

120V

B =

| CB-NAV | 1 | | 1" | |
|---|---|---|---|---|
| A | 1 | #10 | 1 | 10 |
| N | 1 | #10 | -- | -- |

120V

C =

| CB-NAV | 1 | | 1" | |
|---|---|---|---|---|
| B | 1 | #10 | 1 | 10 |
| N | 1 | #10 | -- | -- |

120V

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | LIGHTING PLAN - B-70-61 NAVIGATION LIGHTING WIRING SCHEMATIC | SHEET 85 | E |
|---|---|---|---|---|---|

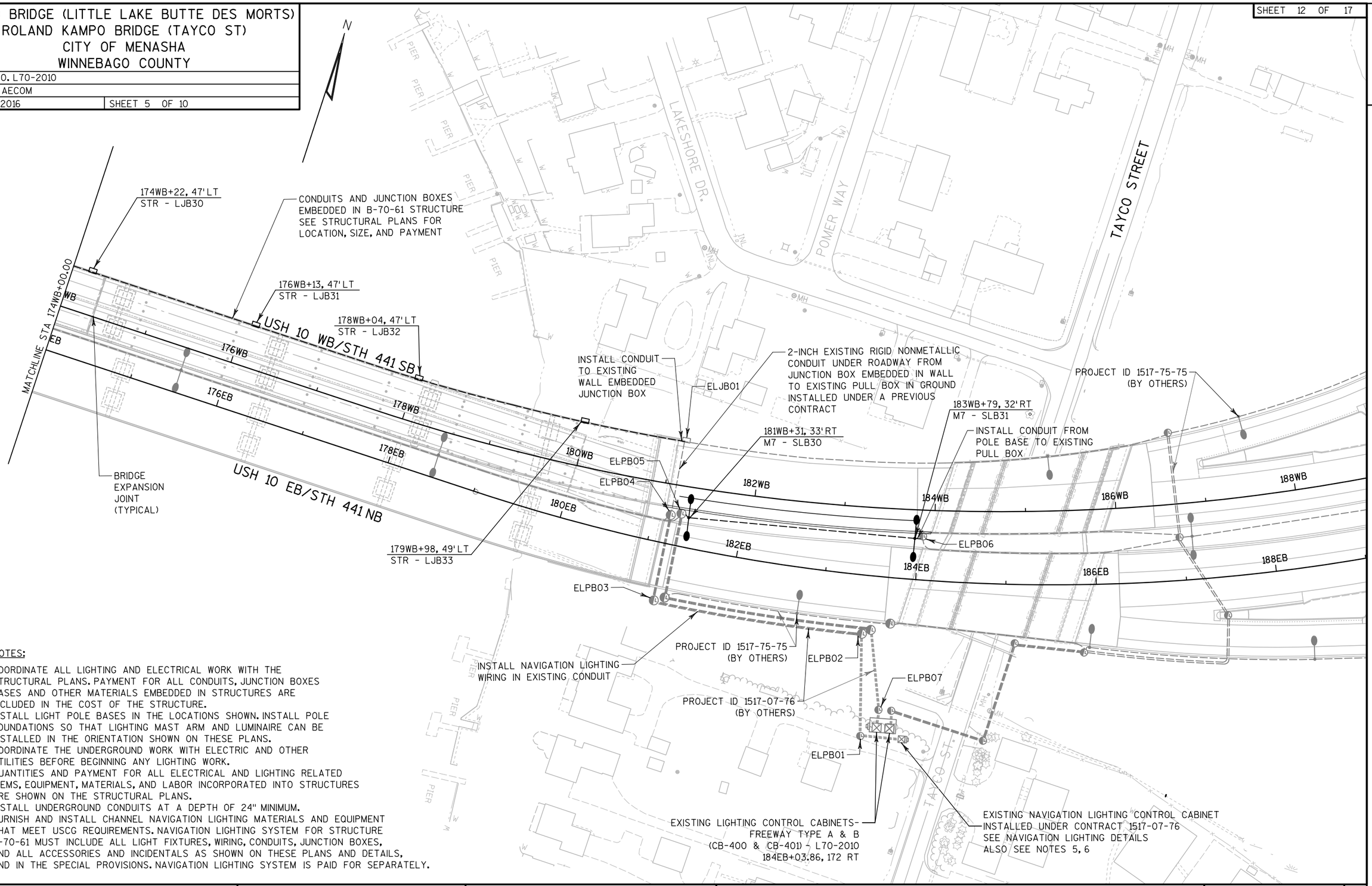
2

USH 10 BRIDGE (LITTLE LAKE BUTTE DES MORTS)
ROLAND KAMPO BRIDGE (TAYCO ST)
CITY OF MENASHA
WINNEBAGO COUNTY

LIGHTING NO. L70-2010
DESIGNER: AECOM
DATE: 2/1/2016 | SHEET 5 OF 10



2




NOTES:

1. COORDINATE ALL LIGHTING AND ELECTRICAL WORK WITH THE STRUCTURAL PLANS. PAYMENT FOR ALL CONDUITS, JUNCTION BOXES BASES AND OTHER MATERIALS EMBEDDED IN STRUCTURES ARE INCLUDED IN THE COST OF THE STRUCTURE.
2. INSTALL LIGHT POLE BASES IN THE LOCATIONS SHOWN. INSTALL POLE FOUNDATIONS SO THAT LIGHTING MAST ARM AND LUMINAIRE CAN BE INSTALLED IN THE ORIENTATION SHOWN ON THESE PLANS.
3. COORDINATE THE UNDERGROUND WORK WITH ELECTRIC AND OTHER UTILITIES BEFORE BEGINNING ANY LIGHTING WORK.
4. QUANTITIES AND PAYMENT FOR ALL ELECTRICAL AND LIGHTING RELATED ITEMS, EQUIPMENT, MATERIALS, AND LABOR INCORPORATED INTO STRUCTURES ARE SHOWN ON THE STRUCTURAL PLANS.
5. INSTALL UNDERGROUND CONDUITS AT A DEPTH OF 24" MINIMUM.
6. FURNISH AND INSTALL CHANNEL NAVIGATION LIGHTING MATERIALS AND EQUIPMENT THAT MEET USCG REQUIREMENTS. NAVIGATION LIGHTING SYSTEM FOR STRUCTURE B-70-61 MUST INCLUDE ALL LIGHT FIXTURES, WIRING, CONDUITS, JUNCTION BOXES, AND ALL ACCESSORIES AND INCIDENTALS AS SHOWN ON THESE PLANS AND DETAILS, AND IN THE SPECIAL PROVISIONS. NAVIGATION LIGHTING SYSTEM IS PAID FOR SEPARATELY.

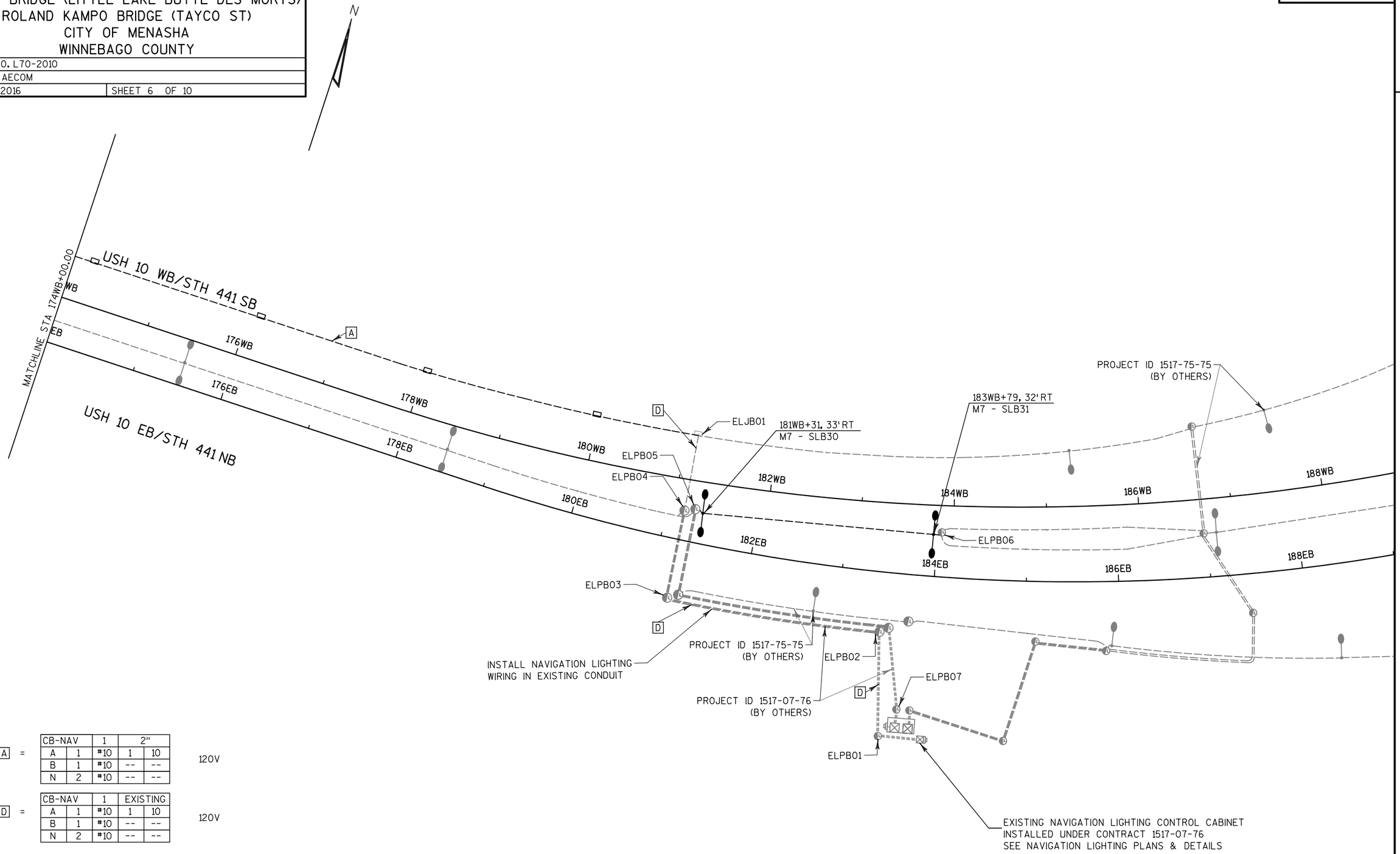
| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | LIGHTING PLAN - B-70-61 NAVIGATION LIGHTING | SHEET 86 | E |
|---|---|---|---|---|---|

USH 10 BRIDGE (LITTLE LAKE BUTTE DES MORTS)
ROLAND KAMPO BRIDGE (TAYCO ST)
CITY OF MENASHA
WINNEBAGO COUNTY

LIGHTING NO. L70-2010
DESIGNER: AECOM
DATE: 2/1/2016 | SHEET 6 OF 10



2




A =

| CB-NAV | | 1 | 2" | |
|---|---|---|---|---|
| A | 1 | #10 | 1 | 10 |
| B | 1 | #10 | -- | -- |
| N | 2 | #10 | -- | -- |

120V

D =

| CB-NAV | | 1 | EXISTING | |
|---|---|---|---|---|
| A | 1 | #10 | 1 | 10 |
| B | 1 | #10 | -- | -- |
| N | 2 | #10 | -- | -- |

120V

2

USH 41 & USH 10, (WEST BUTTE DES MORTS RD)
SYSTEM INTERCHANGE (EAST)/ROLAND KAMPO BRIDGE
TOWN OF MENASHA
WINNEBAGO COUNTY

LIGHTING NO. L70-2010
DESIGNER: AECOM
DATE: 2/1/2016 | SHEET 7 OF 10



2

MATCHLINE STA 158FEN+00.00

158FWN

156FEN

134FWN

136FWN+05, 31' LT
LPB02

136FWN+60, 24' LT
STR - LJB07

154FEN

136FWN

138FWN+50, 24' LT
STR - SLB07

139FWN+75, 24' LT
STR - LJB06

140FWN+75, 24' LT
STR - SLB06

141FWN+90, 24' LT
STR - LJB05

143FWN+00, 24' LT
STR - SLB05

144FWN+00, 24' LT
STR - LJB04

B-70-406

138FWN

140FWN

142FWN

144FWN

MATCHLINE STA 145WB+00.00

USH 41 SB

USH 41 NB

PROJECT ID 1517-07-76
(BY OTHERS)

152FEN

150FEN

148FEN

B-70-407

134FNW

136FNW

138FNW

USH 10 WB/
STH 441 SB

144WB

144FWS

B-70-401

142WB

142FWS

SEE LIGHTING PLAN SHEET
1 OF 10 FOR LIGHT BASES
ON STRUCTURE B-70-401

USH 10 EB/STH 441 NB

144EB

1338FNE

PROJECT ID 1517-07-79
(BY OTHERS)

PROJECT ID 1517-07-72
(BY OTHERS)

142EB

1336FNE

STRUCTURE B-70-400

B-70-402

140WB

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | LIGHTING PLAN - RAMP FWN | SHEET 88 | E |
|---|---|---|---|---|---|

2

# USH 41 & USH 10, (JACOBSEN RD) SYSTEM INTERCHANGE (SOUTH) TOWN OF MENASHA WINNEBAGO COUNTY

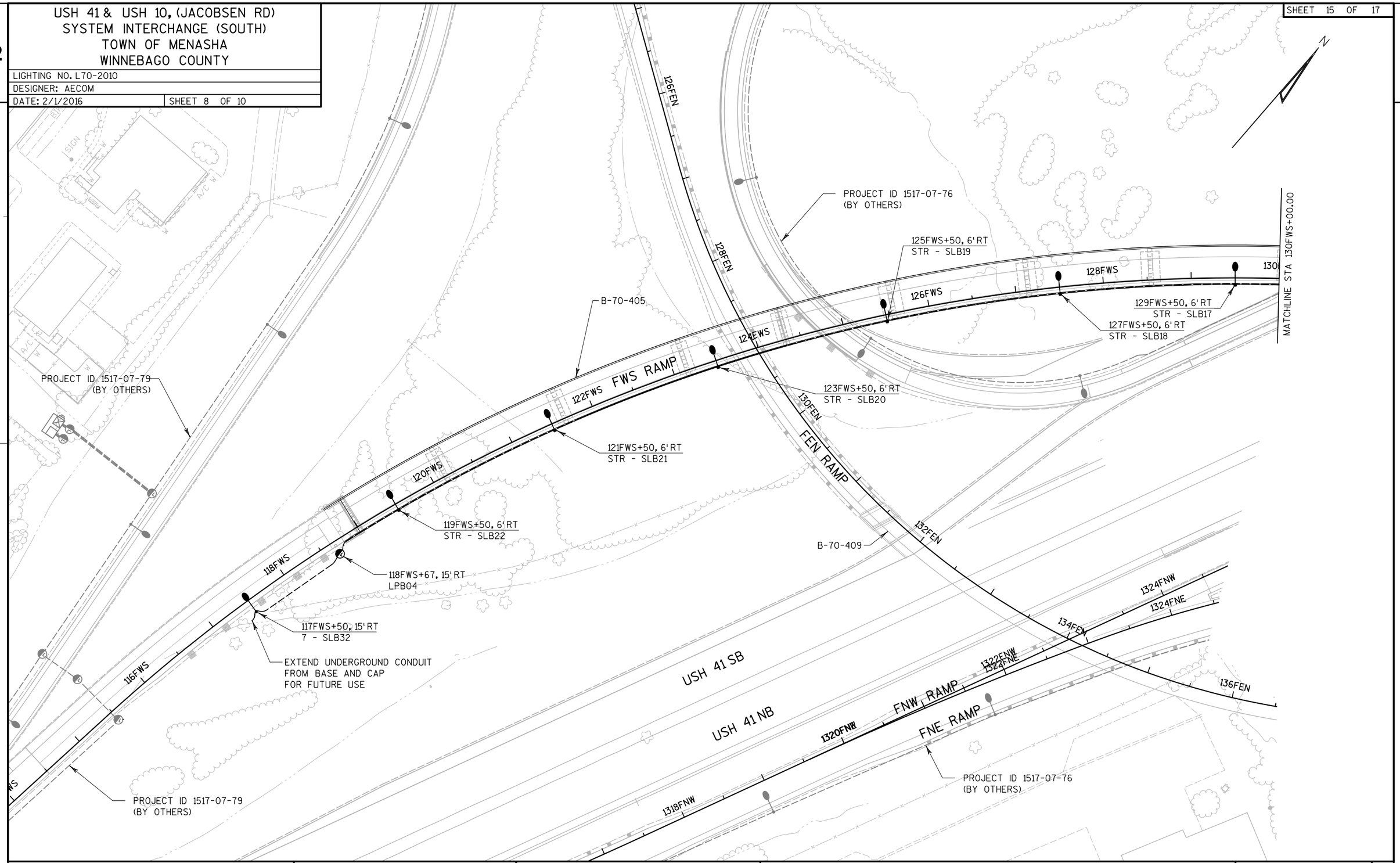
LIGHTING NO. L70-2010

DESIGNER: AECOM

DATE: 2/1/2016 | SHEET 8 OF 10



2



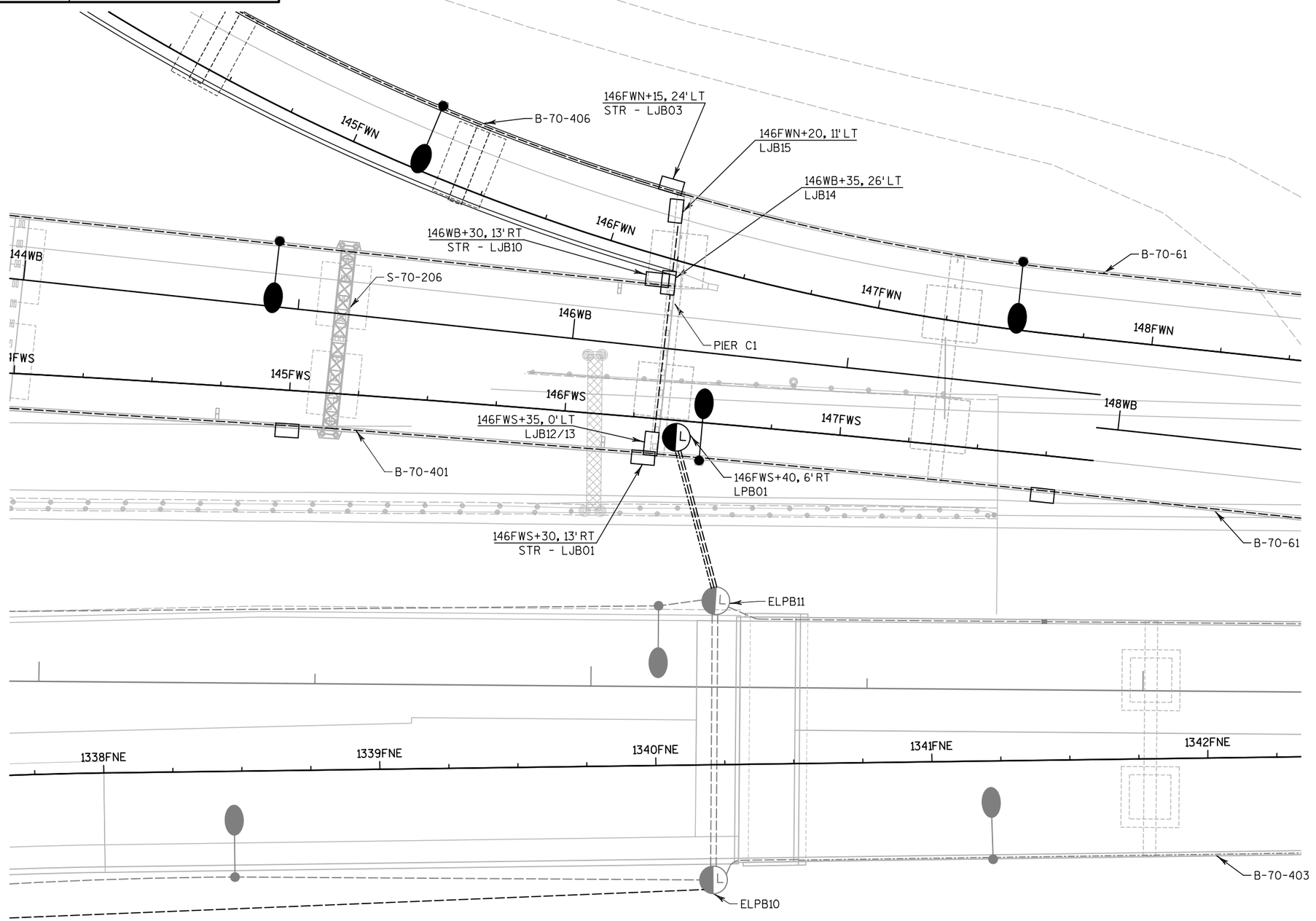

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | LIGHTING PLAN - RAMP FWS | SHEET 89 | E |
|---|---|---|---|---|---|

2

USH 41 & USH 10, (WEST BUTTE DES MORTS RD)
SYSTEM INTERCHANGE (EAST)
TOWN OF MENASHA
WINNEBAGO COUNTY

LIGHTING NO. L70-2009 / L70-2010
DESIGNER: AECOM
DATE: 2/1/2016 | SHEET 9 OF 10

SEE LIGHTING SHEET 2 OF 10 FOR NOTES AND ADDITIONAL INFORMATION
SEE PIER C1 ELEVATION SHEET FOR CONDUIT AND JUNCTION BOX DETAILS



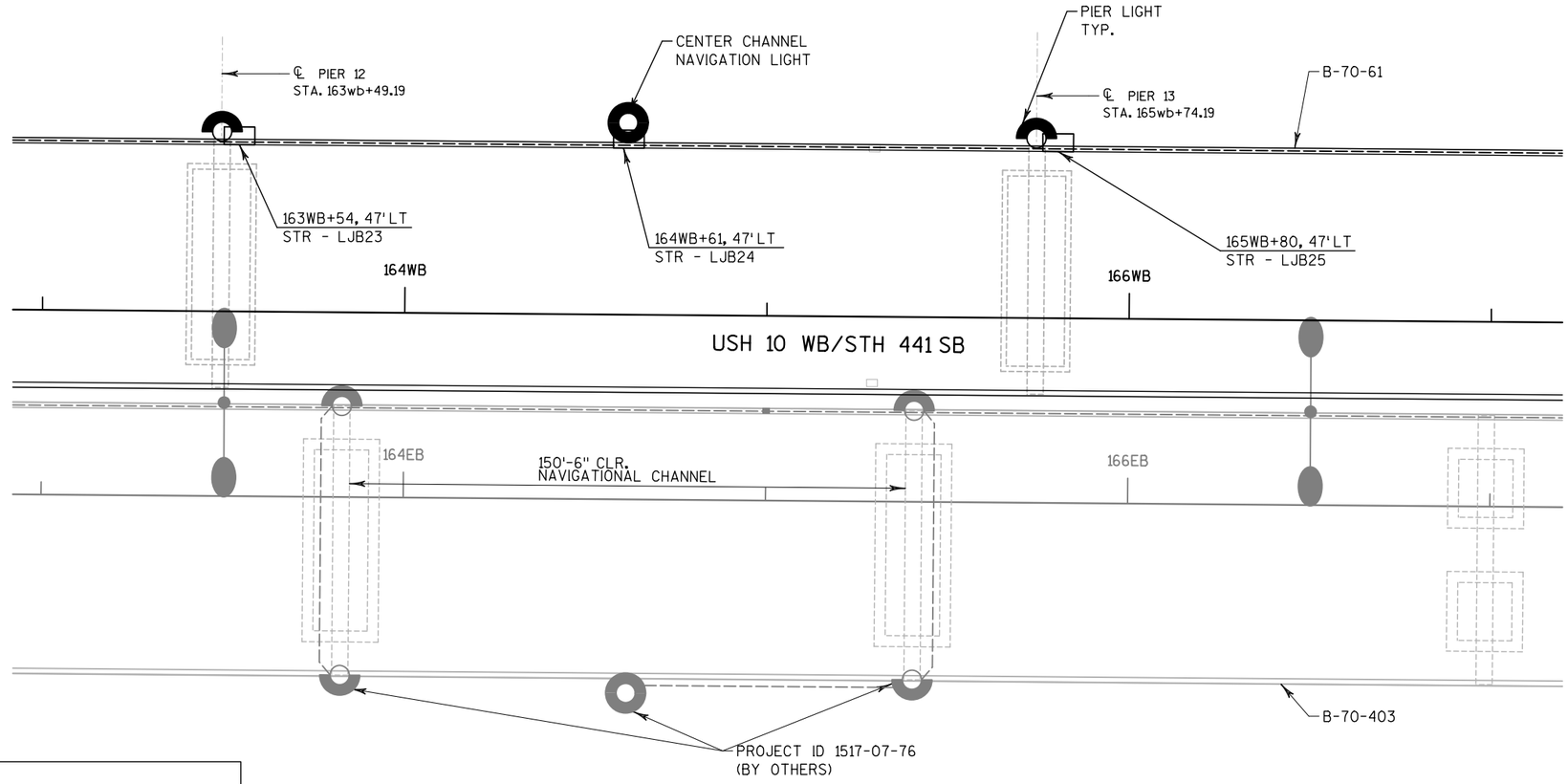

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | LIGHTING PLAN - PIER C1 OVERVIEW PLAN | SHEET 90 | E |
|---|---|---|---|---|---|

USH 41 & USH 10, (WEST BUTTE DES MORTS RD)
SYSTEM INTERCHANGE (EAST)
TOWN OF MENASHA
WINNEBAGO COUNTY

LIGHTING NO. L70-2009 / L70-2010
DESIGNER: AECOM
DATE: 2/1/2016 | SHEET 10 OF 10



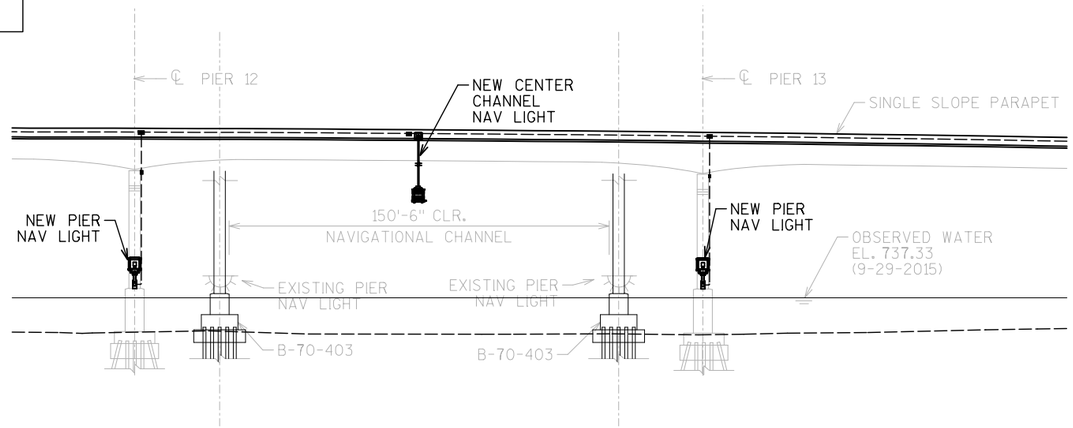
2




N

NAVIGATION LIGHTING PLAN VIEW
(NOT TO SCALE)

GENERAL LAYOUT SHOWN HERE
SEE NAVIGATION LIGHTING PLANS, SCHEMATICS AND DETAILS
FOR ADDITIONAL INFORMATION




STRUCTURE B-70-61
ELEVATION AT NAVIGATION CHANNEL PIERS 12/13
(LOOKING SOUTH)
(NOT TO SCALE)

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | LIGHTING PLAN - B-70-61 NAVIGATION LIGHTING PLAN & ELEVATION | SHEET 91 | E |
|---|---|---|---|---|---|

2

2

N

WORK ZONE THIS STAGE

CONSTRUCTION FROM PREVIOUS PROJECTS

CONSTRUCTION
- BEGIN OFF ALIGNMENT PIER CONSTRUCTION OF B-70-401, B-70-405, & B-70-406
- BEGIN B-70-401, B-70-405, B-70-407 & B-70-409 MEDIAN PIER CONSTRUCTION (COORDINATE WITH PROJECT 1517-07-79)
- PLACE TOE TRENCH AND FILL FOR WEST ABUTMENT OF B-70-401 (WB TO SB NIGHTLY RAMP CLOSURE)
- BEGIN CAUSEWAY AND HAUL ROAD RECONSTRUCTION (COORDINATE WITH PROJECT ID 1517-07-76)

TRAFFIC
- EXISTING TRAFFIC PATTERNS FROM PROJECT IDS 1517-07-76, 1517-07-79 AND 1517-75-75

USH 10 WB/STH 441 SB TO USH 41 NB (B-70-406)

B-70-61

USH 10 WB/STH 441 NB

USH 10 EB/STH 441 SB

B-70-403

B-70-400

B-70-405

B-70-402

USH 41 NB TO USH 10 EB/STH 441 NB

PROJECT ID 1517-07-75 (BY OTHERS)

PROJECT ID 1517-07-74 (BY OTHERS)

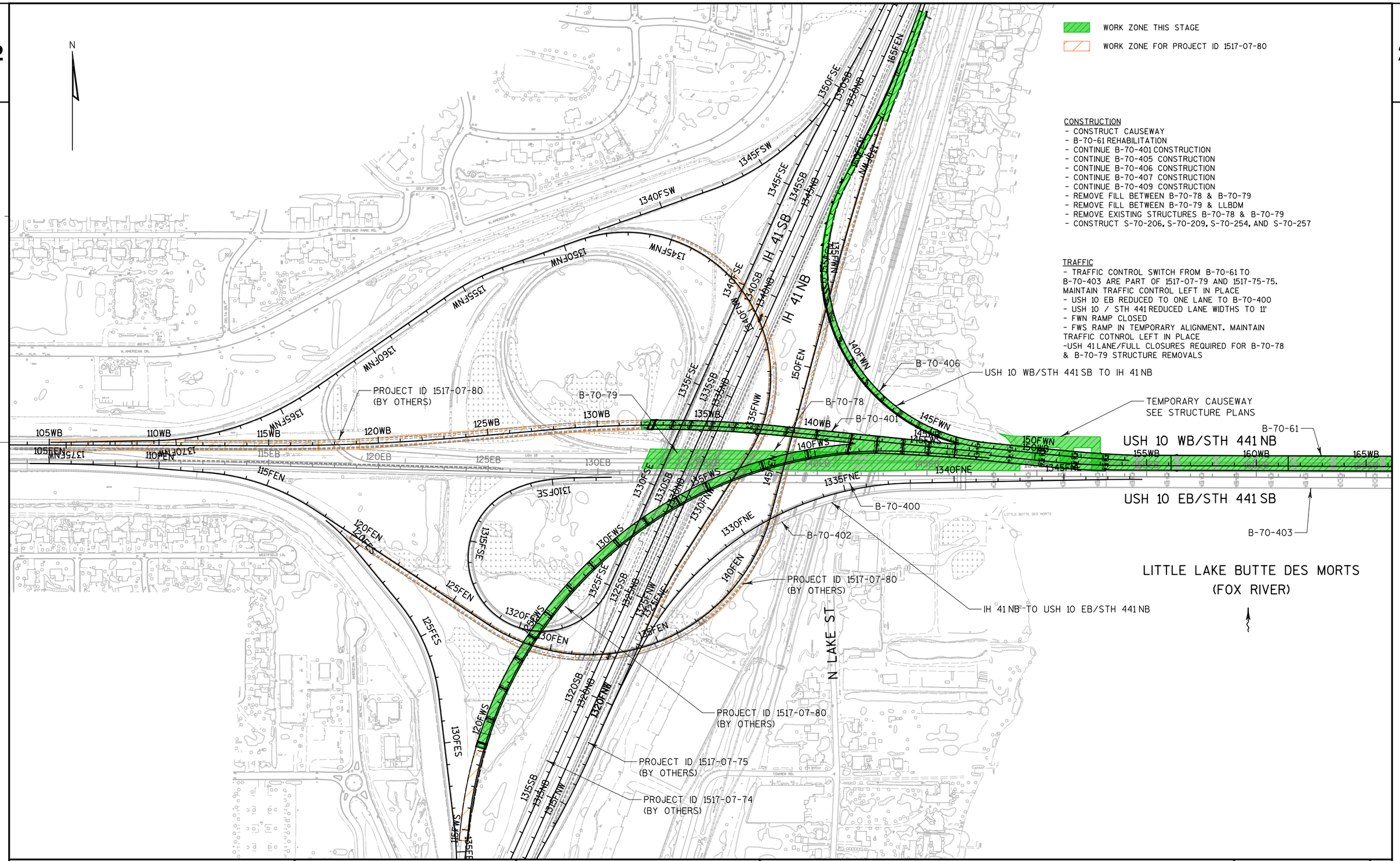
N LAKE ST

LITTLE LAKE BUTTE DES MORTS (FOX RIVER)

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | STAGE CONSTRUCTION PLAN: STAGE 1 | SHEET 92 | E |
|---|---|---|---|---|---|

FILE NAME : \\S1102K306\projects\Transportation\US 10 WIS 441\CADD\sheets\15170777\025001_cs1.dgn PLOT DATE : 4/1/2016 PLOT BY : nick_becker PLOT NAME : PLOT SCALE : 400.0000 sf / in.

WISDOT/CADDS SHEET 42


N
WORK ZONE THIS STAGE
WORK ZONE FOR PROJECT ID 1517-07-80
CONSTRUCTION
- CONSTRUCT CAUSEWAY
- B-70-61 REHABILITATION
- CONTINUE B-70-401 CONSTRUCTION
- CONTINUE B-70-405 CONSTRUCTION
- CONTINUE B-70-406 CONSTRUCTION
- CONTINUE B-70-407 CONSTRUCTION
- CONTINUE B-70-409 CONSTRUCTION
- REMOVE FILL BETWEEN B-70-78 & B-70-79
- REMOVE FILL BETWEEN B-70-79 & LLBDM
- REMOVE EXISTING STRUCTURES B-70-78 & B-70-79
- CONSTRUCT S-70-206, S-70-209, S-70-254, AND S-70-257
TRAFFIC
- TRAFFIC CONTROL SWITCH FROM B-70-61 TO B-70-403 ARE PART OF 1517-07-79 AND 1517-75-75. MAINTAIN TRAFFIC CONTROL LEFT IN PLACE
- USH 10 EB REDUCED TO ONE LANE TO B-70-400
- USH 10 / STH 441 REDUCED LANE WIDTHS TO 11'
- FWN RAMP CLOSED
- FWS RAMP IN TEMPORARY ALIGNMENT. MAINTAIN TRAFFIC COTNROL LEFT IN PLACE
-USH 41 LANE/FULL CLOSURES REQUIRED FOR B-70-78 & B-70-79 STRUCTURE REMOVALS
IH 41 SB
IH 41 NB
N LAKE ST
B-70-406
USH 10 WB/STH 441 SB TO IH 41 NB
TEMPORARY CAUSEWAY
SEE STRUCTURE PLANS
B-70-61
USH 10 WB/STH 441 NB
USH 10 EB/STH 441 SB
B-70-403
B-70-400
B-70-402
IH 41 NB TO USH 10 EB/STH 441 NB
LITTLE LAKE BUTTE DES MORTS
(FOX RIVER)
PROJECT ID 1517-07-80
(BY OTHERS)
B-70-79
B-70-78
B-70-401
PROJECT ID 1517-07-75
(BY OTHERS)
PROJECT ID 1517-07-74
(BY OTHERS)

2

2

N

WORK ZONE THIS STAGE

WORK ZONE FOR PROJECT ID 1517-07-80

WORK ZONE FOR PROJECT ID 1517-07-78

LITTLE LAKE BUTTE DES MORTS
(FOX RIVER)

B-70-61

USH 10 WB/STH 441 NB

170WB

175WB

180WB

185WB

185EB

190WB

190EB

195WB

195EB

200WB

205WB

210WB

215WB

220WB

B-70-411

B-70-421

B-70-420

B-70-410

USH 10 EB/STH 441 SB

B-70-403

TAYCO STREET

RACINE ROAD

RACINE ROAD CONNECTOR

PROJECT ID 1517-75-76
(BY OTHERS)

CONSTRUCTION
- CONSTRUCT CAUSEWAY
- B-70-61 REHABILITATION
- CONTINUE B-70-401 CONSTRUCTION
- CONTINUE B-70-405 CONSTRUCTION
- CONTINUE B-70-406 CONSTRUCTION
- CONTINUE B-70-407 CONSTRUCTION
- CONTINUE B-70-409 CONSTRUCTION
- REMOVE FILL BETWEEN B-70-78 & B-70-79
- REMOVE FILL BETWEEN B-70-79 & LLBDM
- REMOVE EXISTING STRUCTURES B-70-78 & B-70-79
- CONSTRUCT S-70-206, S-70-209, S-70-254, AND S-70-257

TRAFFIC
- TRAFFIC CONTROL SWITCH FROM B-70-61 TO B-70-403 ARE PART OF 1517-07-79 AND 1517-75-75. MAINTAIN TRAFFIC CONTROL LEFT IN PLACE
- USH 10 EB REDUCED TO ONE LANE TO B-70-400
- USH 10 / STH 441 REDUCED LANE WIDTHS TO 11'
- FWN RAMP CLOSED
- FWS RAMP IN TEMPORARY ALIGNMENT. MAINTAIN TRAFFIC COTNROL LEFT IN PLACE
-USH 41 LANE/FULL CLOSURES REQUIRED FOR B-70-78 & B-70-79 STRUCTURE REMOVALS

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | STAGE CONSTRUCTION PLAN: STAGE 2 (2 OF 2) | SHEET 94 | E |
|---|---|---|---|---|---|

2

## GENERAL TRAFFIC CONTROL NOTES

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

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

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

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1,500 FEET IN FRONT OF DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE FEWER THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS. SIGNS MUST BE PLACED AT THE HEIGHT SHOWN IN THE MUTCD.

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

NO EQUIPMENT OR MATERIAL SHALL BE STORED WITHIN THE WORK ZONE OTHER THAN BEHIND THE PRECAST CONCRETE BARRIER.

WHERE THE SHOULDER OR TERRACE HAS INSUFFICIENT SPACE TO LOCATE THE ARROWBOARD SHOWN, PLACE THE ARROWBOARD IN THE LANE CLOSURE TAPER AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE TAPER.

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

TRAFFIC CONTROL DRUMS IN TAPERS SHALL BE EQUIPPED WITH WARNING LIGHTS TYPE "C" ONE-WAY LIGHTS IN TAPERS ONLY UNLESS OTHERWISE SHOWN.

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

DO NOT CLOSE CONSECUTIVE RAMPS DURING CONSTRUCTION.

REMOVAL OF PAVEMENT MARKINGS AND PLACEMENT OF TEMPORARY PAVEMENT MARKINGS IS NOT REQUIRED FOR OVERNIGHT LANE CLOSURES.

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

## STAGING NOTES

TRAFFIC CONTROL ITEMS SHOWN IN EACH STAGE SHALL BE IN PLACE AT THE START OF THAT STAGE, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

ALL TRAFFIC CONTROL DEVICES SHALL REMAIN IN PLACE, AS SHOWN, THROUGH THE DURATION OF EACH STAGE, UNLESS OTHERWISE APPROVED BY THE ENGINEER.

TRAFFIC CONTROL NOTES FOR EACH SPECIFIC STAGE ARE PROVIDED IN THE CONSTRUCTION STAGING SHEETS.

SEE SPECIAL PROVISIONS FOR TRAFFIC STAGING REQUIREMENTS.

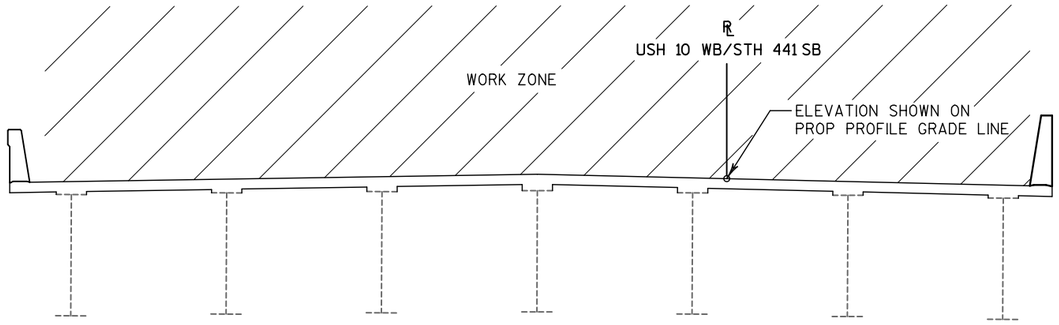
## LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- Ⓒ TYPE C WARNING LIGHT (STEADY BURN)
- CONCRETE BARRIER TEMPORARY PRECAST
- CURRENT WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

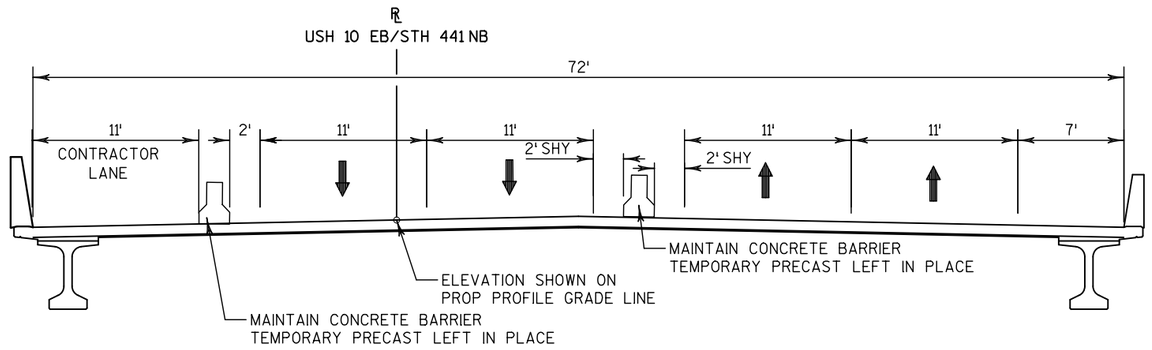
2

| PROJECT NO: 1517-07-74 | HWY: IH 41 | COUNTY: WINNEBAGO | TRAFFIC CONTROL GENERAL NOTES | SHEET 95 | E |
|---|---|---|---|---|---|

2




B-70-61
USH 10 WB / STH 441 SB

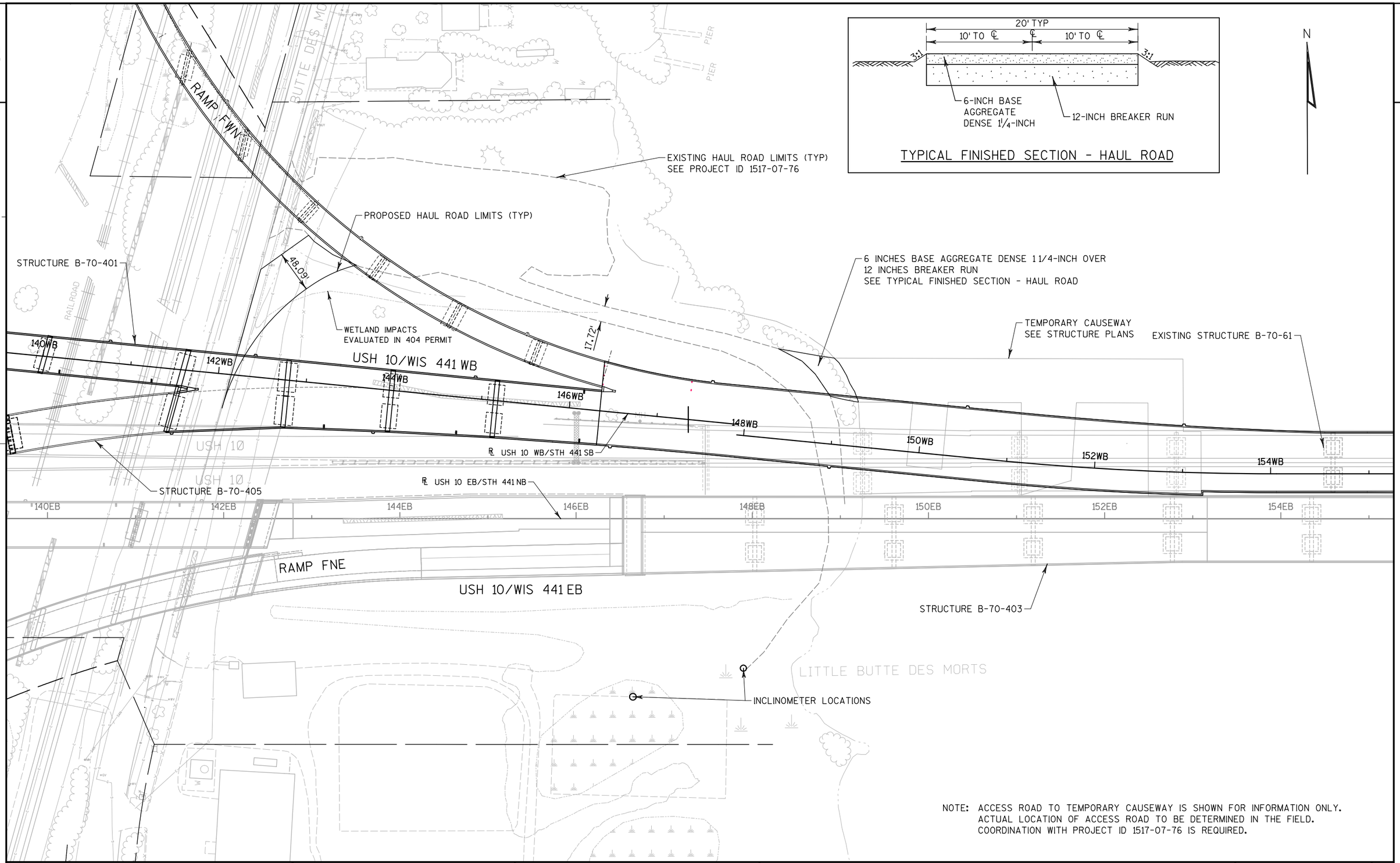



B-70-403
USH 10 EB / STH 441 NB

STAGE 2 TYPICAL SECTION

2

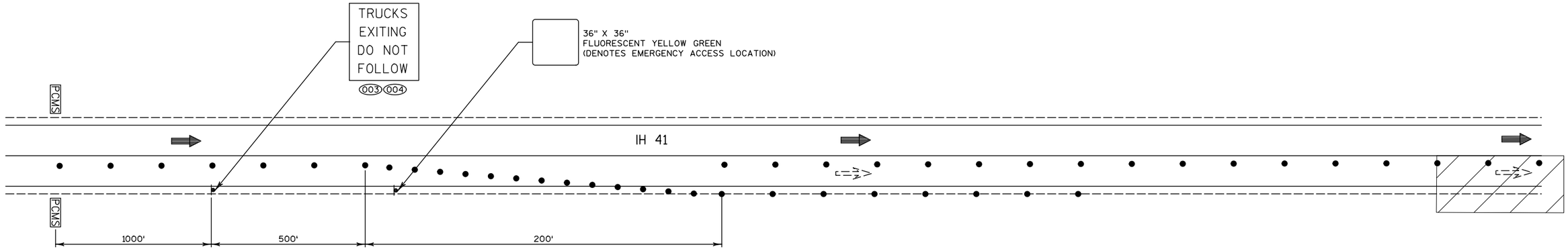
| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | TRAFFIC CONTROL - TYPICAL SECTION | SHEET 96 | E |
|---|---|---|---|---|---|



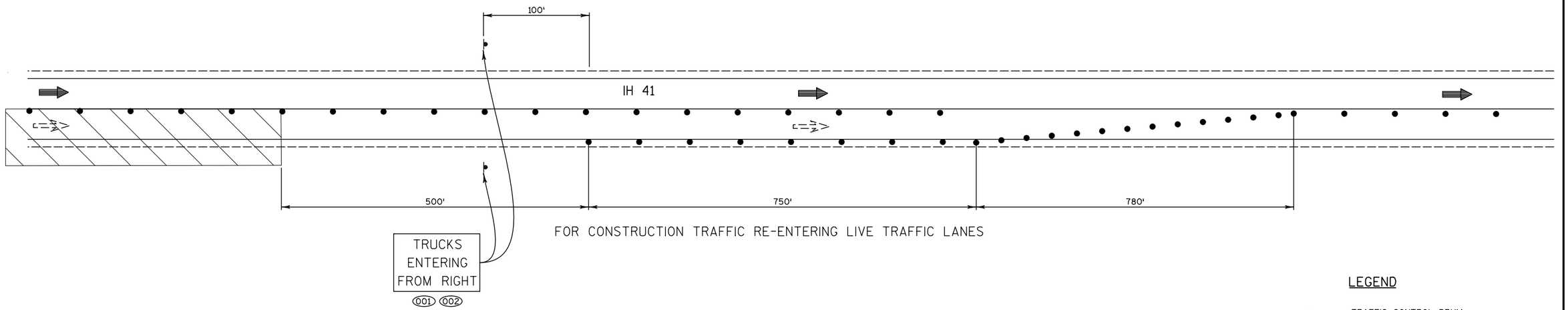

NOTE: ACCESS ROAD TO TEMPORARY CAUSEWAY IS SHOWN FOR INFORMATION ONLY.
ACTUAL LOCATION OF ACCESS ROAD TO BE DETERMINED IN THE FIELD.
COORDINATION WITH PROJECT ID 1517-07-76 IS REQUIRED.

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | TRAFFIC CONTROL - TEMORARY CAUSEWAY ACCESS | SHEET 97 | E |
|---|---|---|---|---|---|

2




FOR CONSTRUCTION TRAFFIC EXITING LIVE TRAFFIC LANES




FOR CONSTRUCTION TRAFFIC RE-ENTERING LIVE TRAFFIC LANES

NOTE:
SPACING AND LOCATIONS OF DEVICES IN THE FIELD SUBJECT TO REVIEW AND APPROVAL BY THE ENGINEER

SEE OTHER TRAFFIC CONTROL DETAILS AND STANDARD DETAIL DRAWINGS FOR LANE CLOSURE DETAILS

PORTABLE CHANGEABLE MESSAGE SIGN SHOULD READ:

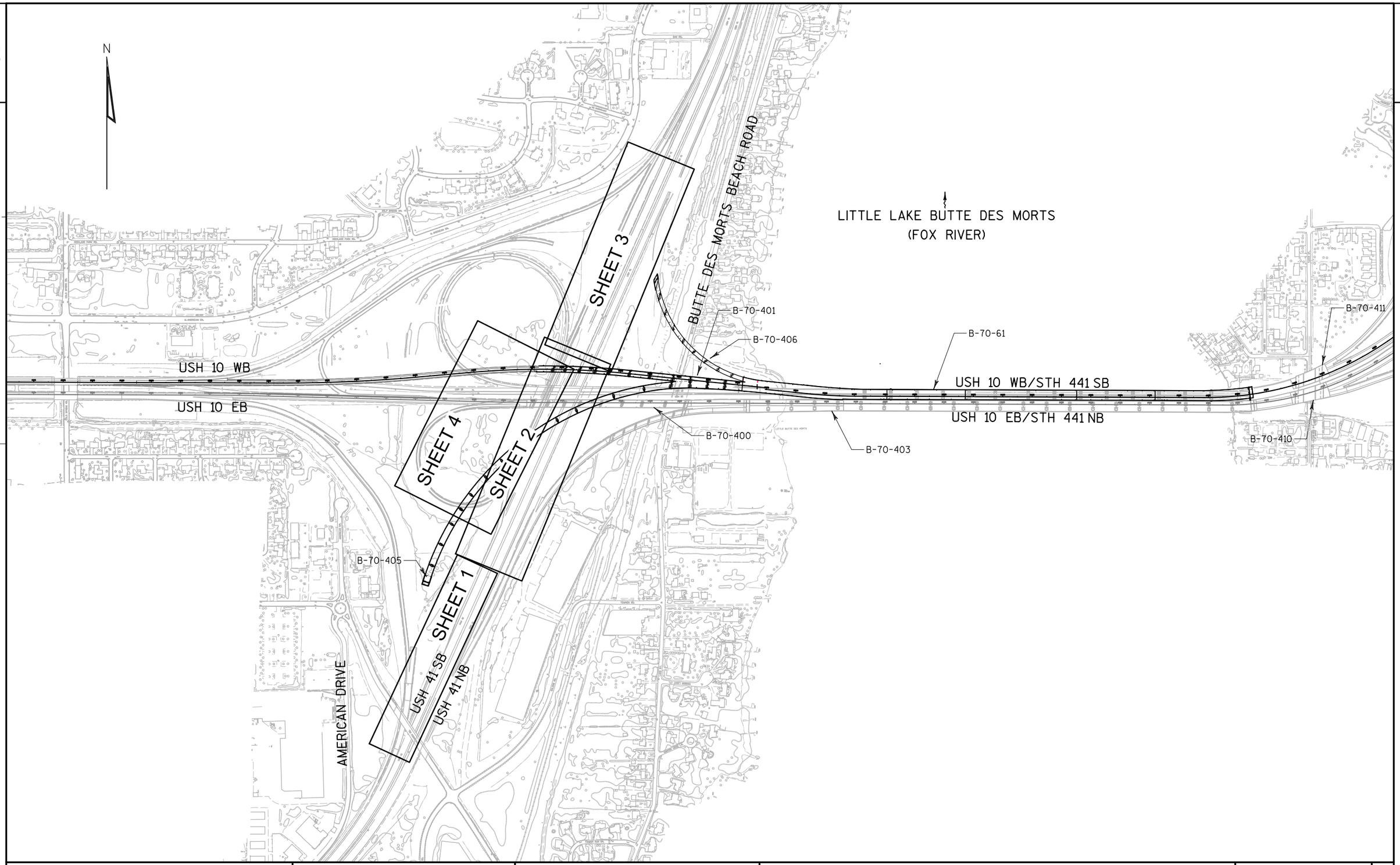
| FRAME 1 | FRAME 2 |
|---|---|
| TRUCKS EXITING RIGHT | TRAFFIC STAY LEFT |

## TRAFFIC CONTROL DETAIL FOR CONSTRUCTION ACCESS TO IH 41/USH 10/STH 441

LEGEND

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL SIGN
- IH 41 TRAFFIC
- CONSTRUCTION TRAFFIC
- WORK ZONE
- PCMS — PORTABLE CHANGEABLE MESSAGE SIGN

2




| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | TRAFFIC CONTROL OVERVIEW - STAGE 1 SHEET 1 | SHEET 99 | E |
|---|---|---|---|---|---|

FILE NAME : \\S1102K306\projects\Transportation\US 10 WIS 441\CADD\sheets\15170777\025100_tcs1.dgn PLOT DATE : 4/1/2016 PLOT BY : nick_becker PLOT NAME : PLOT SCALE : 600.0000 sf / in.

## LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- CC — CRASH CUSHIONS TEMPORARY
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- Ⓒ TYPE C WARNING LIGHT (STEADY BURN)

MAINTAIN TRAFFIC CONTROL LEFT IN PLACE FROM PROJECT ID 1517-07-79. FIELD MODIFICATIONS MAY HAVE BEEN MADE.

PROJECT ID 1517-07-74 (BY OTHERS)

USH 10 EB TO USH 41 SB RAMP

POND 6
PROJECT ID 1517-07-74
(BY OTHERS)

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

USH 41 SB

1304SB 1308SB 1310SB 1312SB 1314SB 1316SB NB+70 12.0' LT 1318SB

USH 41

1304NB 1306NB 1308NB 1310NB 1312NB 1314NB 1316NB 1318NB

1308FNW 1310FNW 1312FNW 1314FNW 1316FNW 1318FNW

USH 41 NB

NB+19
21.0' RT

100' 12' 12' 100' TYP 50' TYP 30:1 TAPER

MATCHLINE 1319NB+00

NOTE:
COORDINATE WITH
PROJECT 1517-07-74
SEE STAGE 2A

ADDITIONAL USH
41 NB AND FNE/FNW
RAMP STAGING DETAILS
SHOWN ELSEWHERE

USH 41 NB TO
USH 10 EB RAMP

W01-6
48" X 24"

TRUCKS ENTERING & LEAVING
W8-6A

REMOVE SIGNS IN STAGE 4

W01-4C

55 M.P.H.
W013-1
24" X 24"

RIPRAP

INL

WORKZONE

WORKZONE (1517-07-79)

TEMPORARY PAVEMENT MARKING LEGEND

1. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
2. PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3. PAVEMENT MARKING EPOXY 4-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SKIP)
5. PAVEMENT MARKING EPOXY 8-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)
6. PAVEMENT MARKING EPOXY 8-INCH (WHITE)

NOTES:

1. CONTRACTOR IS TO REMOVE ALL CONFLICTING PAVEMENT MARKINGS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE FIELD ENGINEER PRIOR TO OPENING TRAFFIC LANES
2. TRAFFIC CONTROL IN GREYSCALE REPRESENTS TRAFFIC CONTROL LEFT IN PLACE FROM 1517-07-79

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | TRAFFIC CONTROL PLAN: STAGE 1 SHEET 1 | SHEET 100 | E |
|---|---|---|---|---|---|

MAINTAIN TRAFFIC CONTROL LEFT IN PLACE FROM PROJECT ID 1517-07-79. FIELD MODIFICATIONS MAY HAVE BEEN MADE.

USH 10 WB

USH 10 EB

USH 41 SB TO USH 10 EB RAMP

USH 10 WB TO USH 41 SB RAMP

CONCRETE BARRIER TEMPORARY PRECAST

B-70-405

WORKZONE FOR STRUCTURE B-70-400 (BY OTHERS)

PIN TEMPORARY CONCRETE BARRIER AT PIER LOCATION

CONTRACTOR EGRESS

B-70-407 MEDIAN PIER

REMOVE 200' OF TRAFFIC CONTROL DRUMS AND REPLACE WITH 200' OF CONCRETE BARRIER TEMPORARY PRECAST

CONTRACTOR EGRESS

W01-4C

W5-52L 18" x 54"

USH 41 SB

1320SB 1322SB 1324SB 1326SB 1328SB 1330SB 1332SB

MATCHLINE 1319NB+00

MATCHLINE 1334NB+00

NB+00 1.0'LT

NB+00 1.0'LT

SB+95 12.0'RT

SB+00 1.0'RT

NB+55 10.0'LT

1320NB 1322NB 1324NB 1326NB 1328NB 1330NB 1332NB

USH 41 NB

CONCRETE BARRIER TEMPORARY PRECAST

1320FNW 1320FNE SEE STAGE 1 SHEET 7

1322FNW 1322FNE

CONTRACTOR INGRESS

1324FNW 1324FNE

USH 41 NB TO USH 10 EB RAMP

1326FNE

FNE RAMP STAGING SHOWN ELSEWHERE

1328FNE

1330FNE

NB+74 34.0'RT

W5-52L 18" x 54"

WORKZONE FOR STRUCTURE B-70-400 (BY OTHERS)

EB USH 10 STAGING SHOWN ELSEWHERE

W5-52L 12" X 36"

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHIONS TEMPORARY
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)

NOTES:

1. CONTRACTOR IS TO REMOVE ALL CONFLICTING PAVEMENT MARKINGS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE FIELD ENGINEER PRIOR TO OPENING TRAFFIC LANES
2. TRAFFIC CONTROL IN GREYSCALE REPRESENTS TRAFFIC CONTROL LEFT IN PLACE FROM 1517-07-79

- WORKZONE
- WORKZONE (1517-07-79)

TEMPORARY PAVEMENT MARKING LEGEND

1. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
2. PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3. PAVEMENT MARKING EPOXY 4-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SKIP)
5. PAVEMENT MARKING EPOXY 8-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)
6. PAVEMENT MARKING EPOXY 8-INCH (WHITE)

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | TRAFFIC CONTROL PLAN: STAGE 1 SHEET 2 | SHEET 101 | E |
|---|---|---|---|---|---|

MAINTAIN TRAFFIC CONTROL LEFT IN PLACE FROM PROJECT ID 1517-07-79. FIELD MODIFICATIONS MAY HAVE BEEN MADE.

SB USH 41 ADVANCED SIGNING

W01-4C

STA 1352SB+00
RIGHT AND LEFT SHOULDERS

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- CC — CRASH CUSHIONS TEMPORARY
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- Ⓒ TYPE C WARNING LIGHT (STEADY BURN)

CONTRACTOR INGRESS

USH 10 WB TO USH 41 SB RAMP

1327WS

1347WS

W5-52L
12" X 36"

USH 41 SB TO USH 10 EB RAMP

W01-6
48" X 24"

SB+20
34.0'LT

CONTRACTOR INGRESS

B-70-409
MEDIAN PIER

1334SB 1336SB 1338SB 1340SB 1342SB 1344SB 1346SB 1348SB

USH 41 SB

SB+20
6.30'RT

NB+40.00
1.0'LT

SB+00
1.0'RT

NB+70
12.0'LT

SB+05
12.0'RT

1334NB 1336NB 1338NB 1340NB 1342NB 1344NB 1346NB 1348NB

USH 41 NB

55:1 TAPER

30:1 TAPER

MATCHLINE 1334NB+00

CONCRETE BARRIER TEMPORARY PRECAST

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

TRUCKS ENTERING & LEAVING
W8-6A

W01-4C

CONTRACTOR EGRESS

USH 10 WB TO USH 41 NB RAMP

W04-1

CONTRACTOR INGRESS/EGRESS

138WB

RAILROAD

PLACE SIGNS STA 1355SB+00. REMOVE SIGNS IN STAGE 4

WORKZONE

WORKZONE (1517-07-79)

TEMPORARY PAVEMENT MARKING LEGEND

1. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
2. PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3. PAVEMENT MARKING EPOXY 4-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SKIP)
5. PAVEMENT MARKING EPOXY 8-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)
6. PAVEMENT MARKING EPOXY 8-INCH (WHITE)

NOTES:

1. CONTRACTOR IS TO REMOVE ALL CONFLICTING PAVEMENT MARKINGS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE FIELD ENGINEER PRIOR TO OPENING TRAFFIC LANES
2. TRAFFIC CONTROL IN GREYSCALE REPRESENTS TRAFFIC CONTROL LEFT IN PLACE FROM 1517-07-79

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | TRAFFIC CONTROL PLAN: STAGE 1 SHEET 3 | SHEET 102 | E |
|---|---|---|---|---|---|

2

USH 41 NB

USH 41 SB

MAINTAIN TRAFFIC CONTROL LEFT IN PLACE FROM PROJECT ID 1517-07-79. FIELD MODIFICATIONS MAY HAVE BEEN MADE.

8:1 TAPER 16' MIN

LEFT IN PLACE AFTER PROJECT

2' CLEAR

W5-52L 18" X 54"

W5-52R 18" X 54"

W4-2R 48" X 48"

CONCRETE BARRIER TEMPORARY PRECAST

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

SOUTH EAST NORTH 41 10 441 J3-3 M501

B-70-405

CONTRACTOR INGRESS/EGRESS

USH 10 WB

USH 10 EB

USH 10 WB/STH 441 SB TO USH 41 SB

N

LEGEND

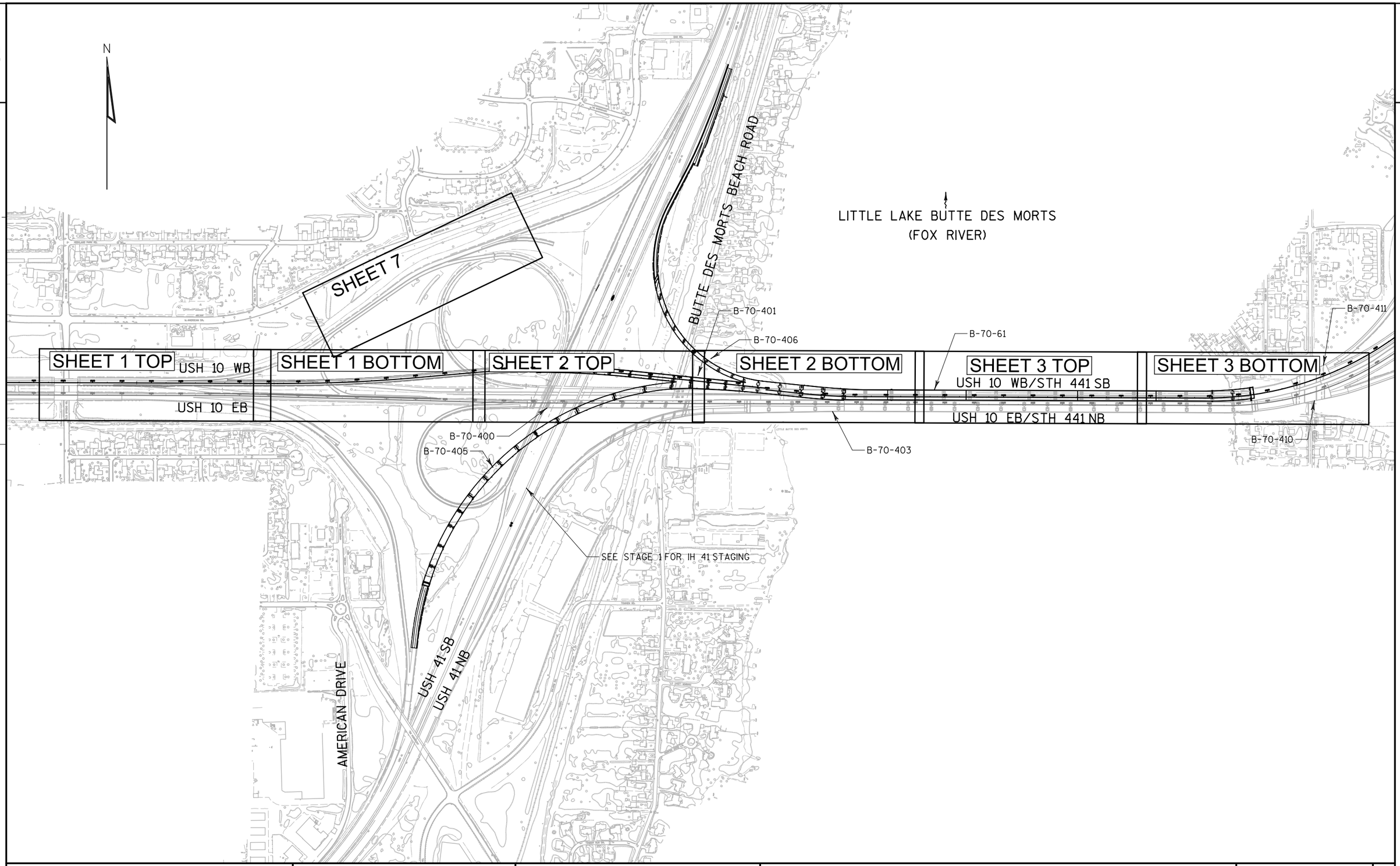
- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORKZONE
- WORKZONE (1517-07-79)
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHIONS TEMPORARY
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- Ⓒ TYPE C WARNING LIGHT (STEADY BURN)

NOTES:

1. TRAFFIC CONTROL IN GREYSCALE REPRESENTS TRAFFIC CONTROL LEFT IN PLACE FROM 1517-07-76

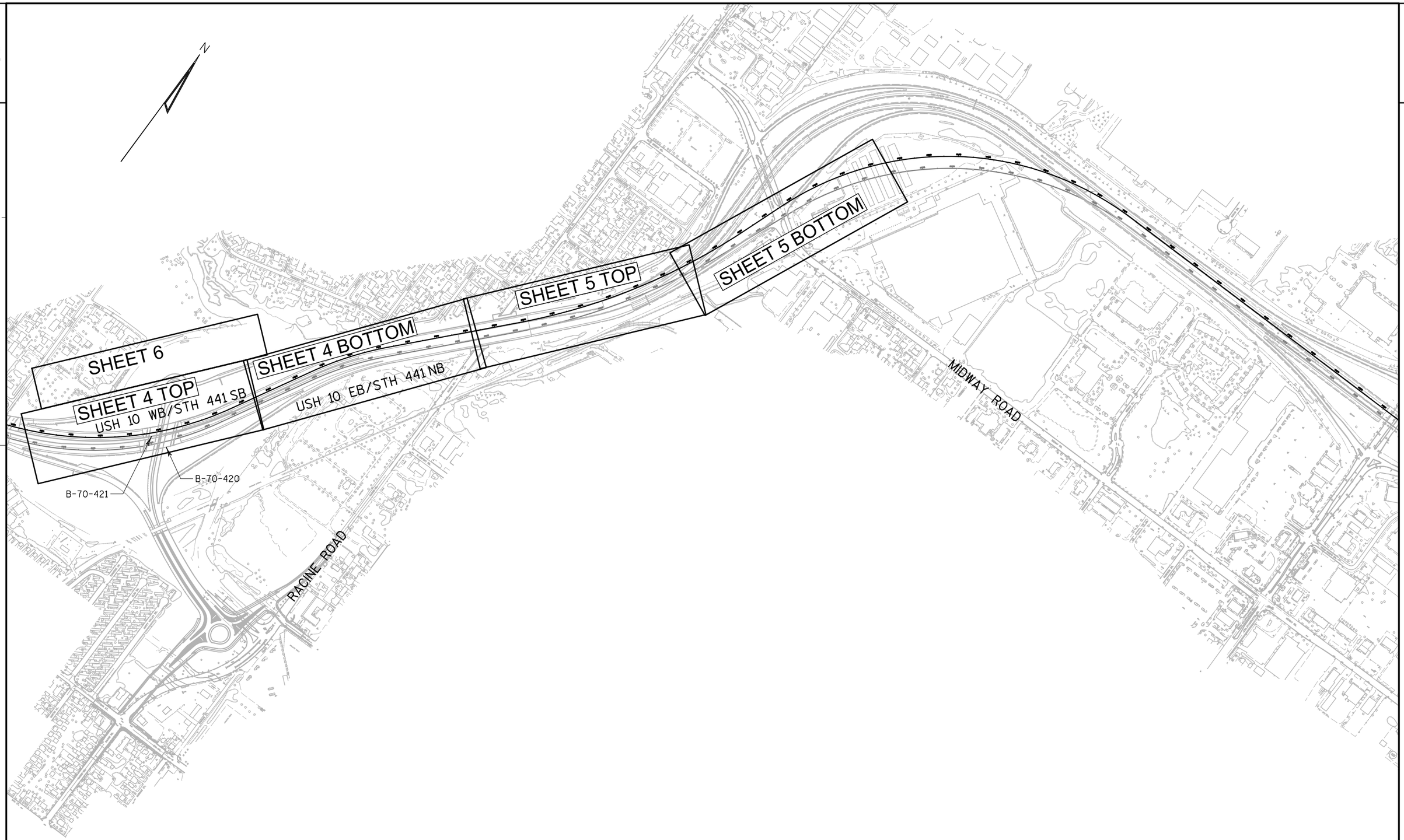
| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | TRAFFIC CONTROL PLAN: STAGE 1 SHEET 4 | SHEET 103 | E |
|---|---|---|---|---|---|

2




| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | TRAFFIC CONTROL OVERVIEW - STAGE 2 SHEET 1 | SHEET 104 | E |
|---|---|---|---|---|---|

2




| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | TRAFFIC CONTROL OVERVIEW - STAGE 2 SHEET 2 | SHEET 105 | E |
|---|---|---|---|---|---|

FILE NAME : \\S1102K306\projects\Transportation\US 10 WIS 441\CADD\sheets\15170777\025202_tcs2.dgn PLOT DATE : 4/1/2016 PLOT BY : nick_becker PLOT NAME : PLOT SCALE : 600.0000 sf / in.

STRUCTURE B-70-158

USH 10 WB

100WB 102WB 104WB 106WB 108WB 110WB 112WB

USH 10 EB

100EB 102EB 104EB 106EB 108EB 110EB 112EB

LANE CLOSED R11-2-L 48" X 30"

50'

10:1 TAPER

SEE SDD 15D3-2 FOR LEFT LANE CLOSURE

STRUCTURE B-70-157

COLD SPRING ROAD

BIKE PATH

W5-52L 18" x 54"

EXIT E5-1 60" X 48"

MAINTAIN TRAFFIC CONTROL LEFT IN PLACE FROM PROJECT ID 1517-07-79. FIELD MODIFICATIONS MAY HAVE BEEN MADE.

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHIONS TEMPORARY
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- Ⓒ TYPE C WARNING LIGHT (STEADY BURN)

SIGN

114WB 116WB 118WB 120WB 122WB 124WB

USH 10 WB

114EB 116EB 118EB 120EB 122EB 124EB 126EB 128EB

USH 10 EB

SEE SHEET 13 FOR RAMP TRAFFIC CONTROL

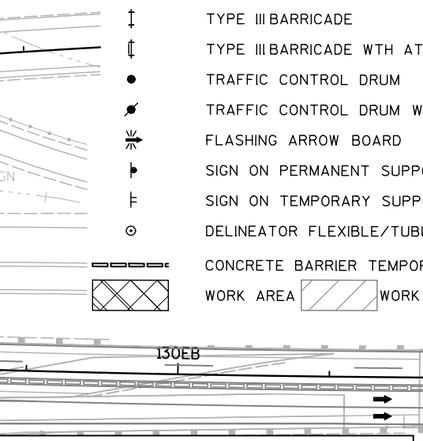
MAINTAIN TRAFFIC CONTROL LEFT IN PLACE FROM PROJECT ID 1517-07-79. FIELD MODIFICATIONS MAY HAVE BEEN MADE.

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | TRAFFIC CONTROL STAGE 2 SHEET 1 | SHEET 106 | E |
|---|---|---|---|---|---|

2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA / WORK AREA (1517-07-80)
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- CC — CRASH CUSHIONS TEMPORARY
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- Ⓒ TYPE C WARNING LIGHT (STEADY BURN)




B-70-400
STAGE 2
(LOOKING EAST)

MAINTAIN TRAFFIC CONTROL LEFT IN PLACE FROM PROJECT ID 1517-07-79. FIELD MODIFICATIONS MAY HAVE BEEN MADE.

MAINTAIN TRAFFIC CONTROL LEFT IN PLACE FROM PROJECT ID 1517-07-79. FIELD MODIFICATIONS MAY HAVE BEEN MADE.

TEMPORARY CAUSEWAY
SEE STRUCTURE PLANS

CONTRACTOR LANE

USH 10 WB/STH 441 SB

USH 10 EB/STH 441 NB

USH 41 SB

USH 41 NB

B-70-400

30:1 TAPER

50'

LANE CLOSED
R11-2-L
48" X 30"

W4-3R
48" X 48"

LITTLE BUTTE DES MORTS

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | TRAFFIC CONTROL STAGE 2 SHEET 2 | SHEET 107 | E |
|---|---|---|---|---|---|

2

2

N

LITTLE LAKE BUTTE DES MORTS
(FOX RIVER)

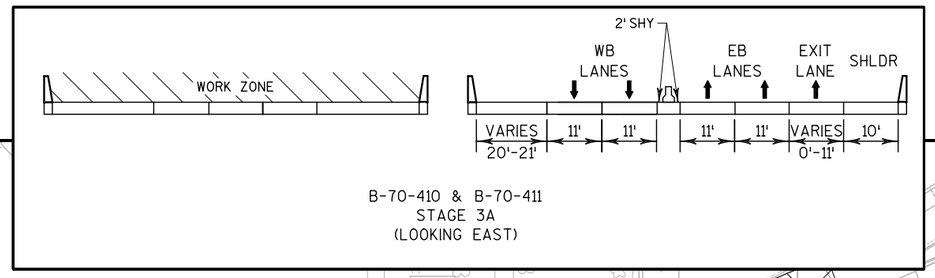
USH 10 WB/STH 441 SB

WB 160WB 162WB 164WB 166WB 168WB 170WB 172WB

EB 160EB 162EB 164EB 166EB 168EB 170EB 172EB

USH 10 EB/STH 441 NB

MAINTAIN TRAFFIC CONTROL LEFT IN PLACE FROM PROJECT ID 1517-07-79. FIELD MODIFICATIONS MAY HAVE BEEN MADE.




B-70-410 & B-70-411
STAGE 3A
(LOOKING EAST)

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- CC — CRASH CUSHIONS TEMPORARY
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- Ⓒ TYPE C WARNING LIGHT (STEADY BURN)

USH 10 WB/STH 441 SB

174WB 176WB 178WB 180WB 182WB 184WB 186WB 188WB

174EB 176EB 178EB 180EB 182EB 184EB 186EB 188EB

USH 10 EB/STH 441 NB

B-70-411

W5-52R
12" X 36"

LANE CLOSED
R11-2-L
48" X 30"

50' 25' 50'

EXIT
E5-1
60" X 48"

B-70-410

TAYCO STREET

MH

MAINTAIN TRAFFIC CONTROL LEFT IN PLACE FROM PROJECT ID 1517-07-79/1517-75-75. FIELD MODIFICATIONS MAY HAVE BEEN MADE.

TRAFFIC CONTROL LEFT IN PLACE - SEE PROJECT ID 1517-07-79

TRAFFIC CONTROL LEFT IN PLACE - SEE PROJECT ID 1517-75-75

LANE CLOSED
R11-2-L
48" X 30"

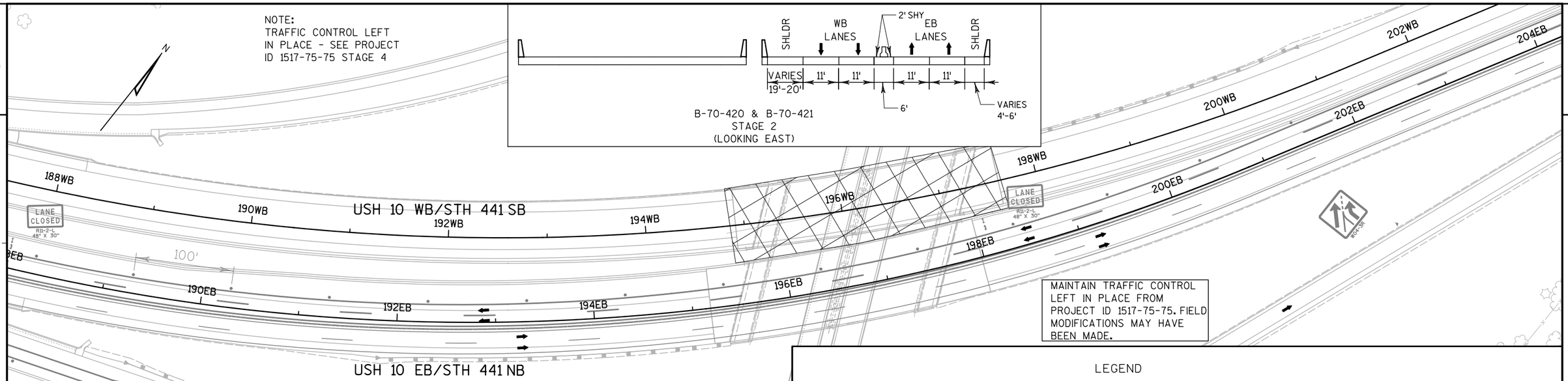
| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | TRAFFIC CONTROL STAGE 2 SHEET 3 | SHEET 108 | E |
|---|---|---|---|---|---|

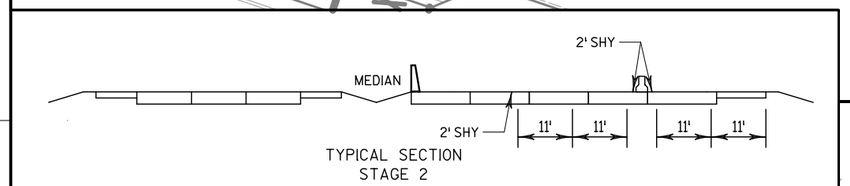
FILE NAME : \\S1102K306\projects\Transportation\US 10 WIS 441\CADD\sheets\15170777\025205_tcs2.dgn PLOT DATE : 4/1/2016 PLOT BY : nick_becker PLOT NAME : PLOT SCALE : 100.0000 sf / in.

NOTE:
TRAFFIC CONTROL LEFT
IN PLACE - SEE PROJECT
ID 1517-75-75 STAGE 4




B-70-420 & B-70-421
STAGE 2
(LOOKING EAST)

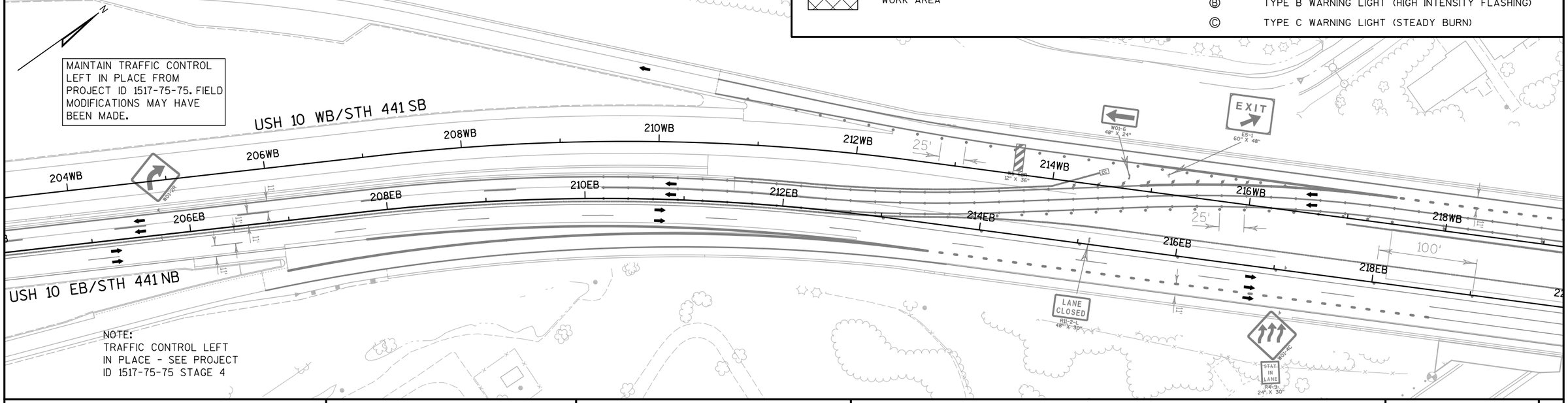



TYPICAL SECTION
STAGE 2

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB — PORTABLE CHANGEABLE MESSAGE BOARD
- CC — CRASH CUSHIONS TEMPORARY
- (A) — TYPE A WARNING LIGHT (FLASHING)
- (B) — TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) — TYPE C WARNING LIGHT (STEADY BURN)




NOTE:
TRAFFIC CONTROL LEFT
IN PLACE - SEE PROJECT
ID 1517-75-75 STAGE 4

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | TRAFFIC CONTROL STAGE 2 SHEET 4 | SHEET 109 | E |
|---|---|---|---|---|---|

2

GORDON ST.

RACINE ROAD

RICHARD DRIVE

W-001-48

STAY IN LANE R4-9 24" X 30"

RIGHT LANE EXIT ONLY AHEAD R9-7

USH 10 WB/STH 441 SB

220WB 222WB 224WB 226WB 228WB 230WB 232WB 234WB

LANE CLOSED RII-2-L 48" X 30"

222EB 224EB 226EB 228EB 230EB 232EB 234EB

100'

USH 10 EB/STH 441 NB

RIGHT LANE EXIT ONLY AHEAD R9-7

CANADIAN NATIONAL

MAINTAIN TRAFFIC CONTROL LEFT IN PLACE FROM PROJECT ID 1517-75-75. FIELD MODIFICATIONS MAY HAVE BEEN MADE.

MAINTAIN TRAFFIC CONTROL LEFT IN PLACE FROM PROJECT ID 1517-75-75. FIELD MODIFICATIONS MAY HAVE BEEN MADE.

USH 10 WB/STH 441 SB

100'

USH 10 EB/STH 441 NB

MIDWAY ROAD

W-001-48

DO NOT PASS R4-1 24" X 30"

236WB 238WB 240WB 242WB 244WB 246WB

238EB 240EB 242EB 244EB

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | TRAFFIC CONTROL STAGE 2 SHEET 5 | SHEET 110 | E |
|---|---|---|---|---|---|

FILE NAME : \\S1102K306\projects\Transportation\US 10 WIS 441\CADD\sheets\15170777\025207_tcs2.dgn PLOT DATE : 4/1/2016 PLOT BY : nick_becker PLOT NAME : PLOT SCALE : 100.0000 sf / in.

2

2

LANE CLOSED
R11-2-L
48" X 30"

MAINTAIN TRAFFIC CONTROL LEFT IN PLACE FROM PROJECT ID 1517-75-75. FIELD MODIFICATIONS MAY HAVE BEEN MADE.

190WB 192WB 194WB 196WB 198WB 200WB 202WB 204WB

190EB 192EB 194EB 196EB 198EB 200EB 202EB 204EB

USH 10 WB/STH 441 SB

USH 10 EB/STH 441 NB

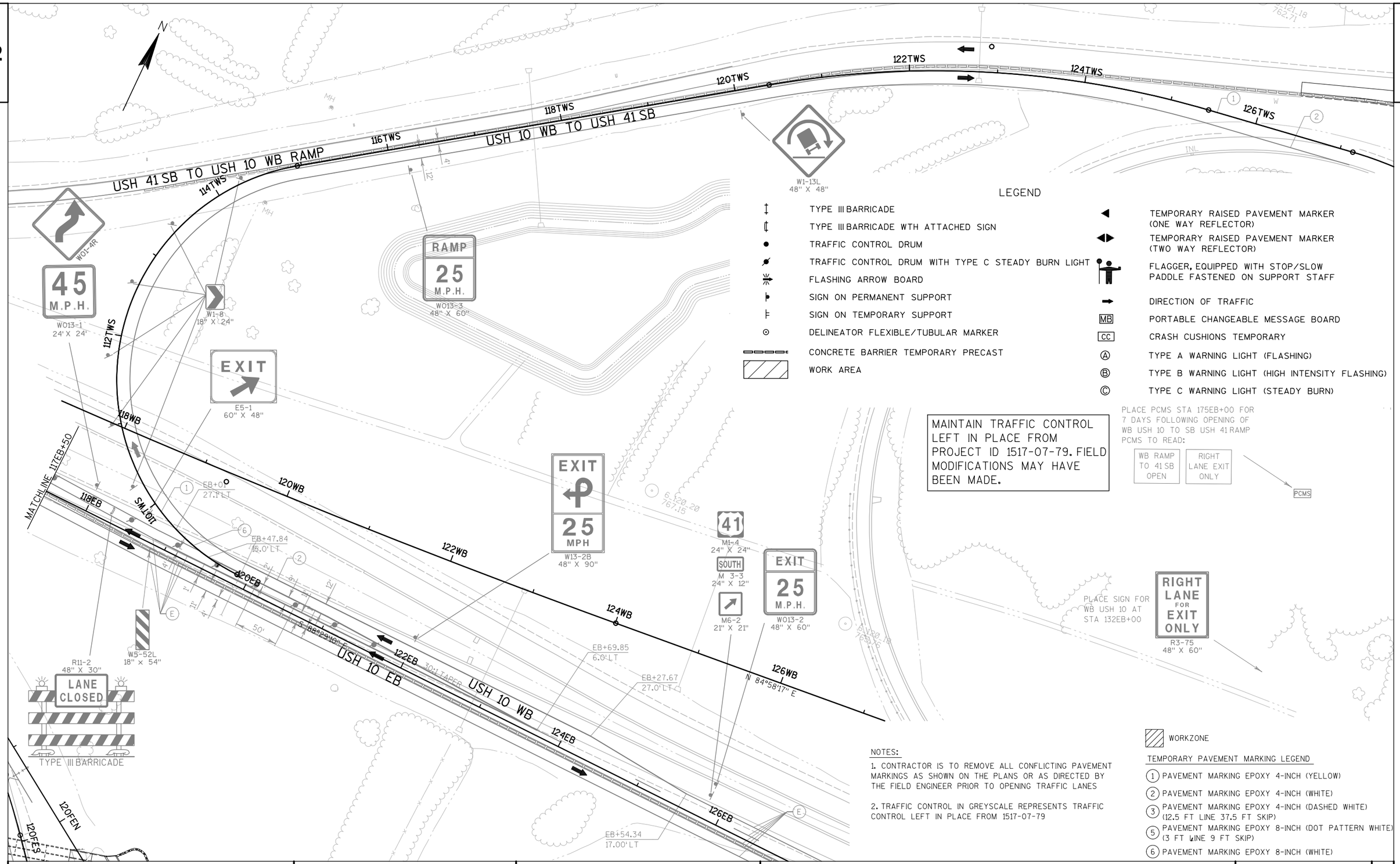
USH 441 STAGING SHOWN ELSEWHERE

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- (A) TYPE A WARNING LIGHT (FLASHING)
- (B) TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- (C) TYPE C WARNING LIGHT (STEADY BURN)

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | TRAFFIC CONTROL STAGE 2 SHEET 6 | SHEET 111 | E |
|---|---|---|---|---|---|

2




LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- CONCRETE BARRIER TEMPORARY PRECAST
- WORK AREA
- TEMPORARY RAISED PAVEMENT MARKER (ONE WAY REFLECTOR)
- TEMPORARY RAISED PAVEMENT MARKER (TWO WAY REFLECTOR)
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD
- CC CRASH CUSHIONS TEMPORARY
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- Ⓒ TYPE C WARNING LIGHT (STEADY BURN)

MAINTAIN TRAFFIC CONTROL LEFT IN PLACE FROM PROJECT ID 1517-07-79. FIELD MODIFICATIONS MAY HAVE BEEN MADE.

PLACE PCMS STA 175EB+00 FOR 7 DAYS FOLLOWING OPENING OF WB USH 10 TO SB USH 41 RAMP
PCMS TO READ:

WB RAMP TO 41 SB OPEN | RIGHT LANE EXIT ONLY → PCMS

PLACE SIGN FOR WB USH 10 AT STA 132EB+00

RIGHT LANE FOR EXIT ONLY
R3-75
48" X 60"

NOTES:

1. CONTRACTOR IS TO REMOVE ALL CONFLICTING PAVEMENT MARKINGS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE FIELD ENGINEER PRIOR TO OPENING TRAFFIC LANES

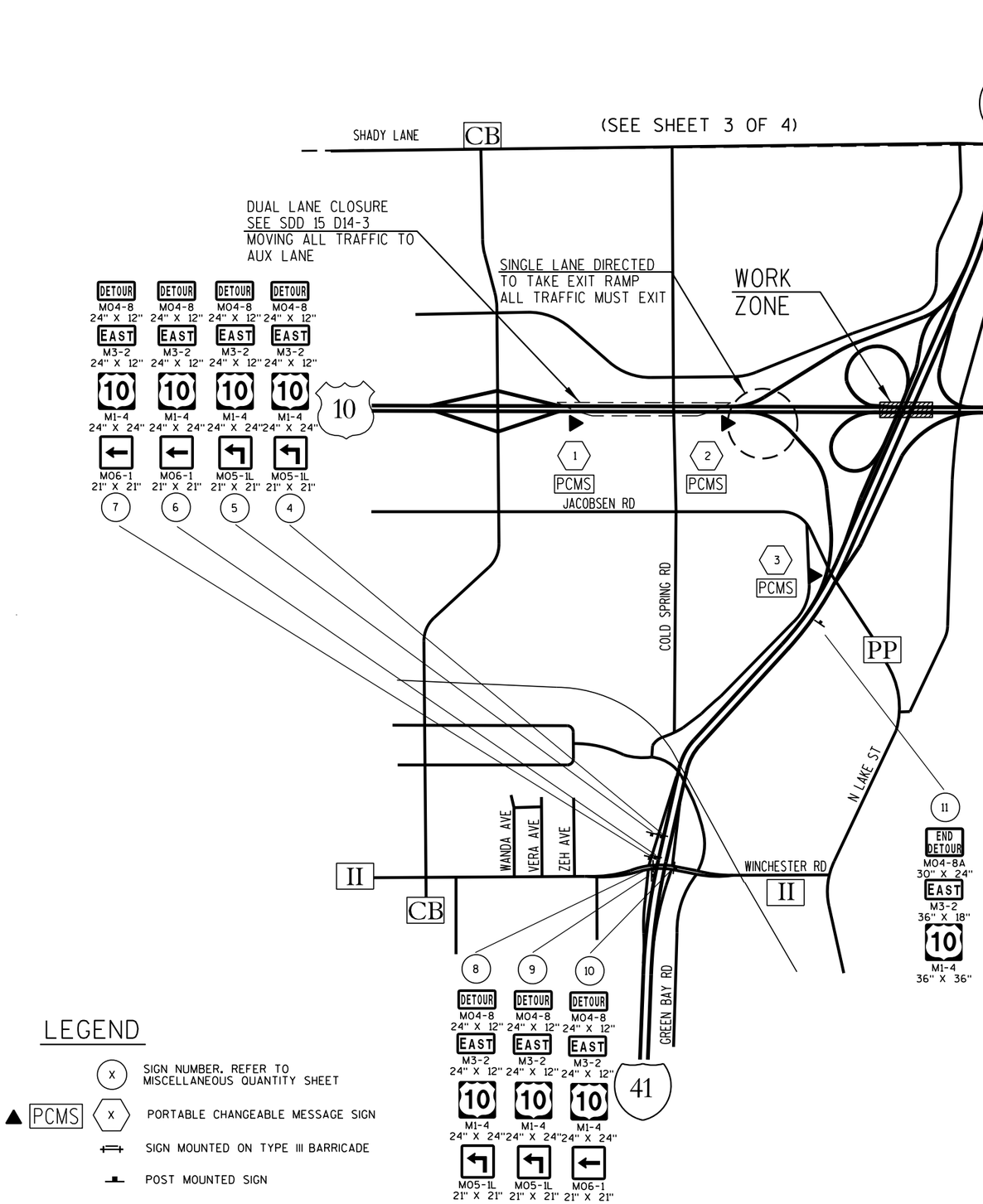
2. TRAFFIC CONTROL IN GREYSCALE REPRESENTS TRAFFIC CONTROL LEFT IN PLACE FROM 1517-07-79

WORKZONE

TEMPORARY PAVEMENT MARKING LEGEND

1. PAVEMENT MARKING EPOXY 4-INCH (YELLOW)
2. PAVEMENT MARKING EPOXY 4-INCH (WHITE)
3. PAVEMENT MARKING EPOXY 4-INCH (DASHED WHITE) (12.5 FT LINE 37.5 FT SKIP)
5. PAVEMENT MARKING EPOXY 8-INCH (DOT PATTERN WHITE) (3 FT LINE 9 FT SKIP)
6. PAVEMENT MARKING EPOXY 8-INCH (WHITE)

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | STAGE CONSTRUCTION PLAN: STAGE 2 SHEET 12 | SHEET 112 E |
|---|---|---|---|---|




SHEET 1 OF 4

PLAN SHEET PRODUCED
BY WisDOT-NE REGION

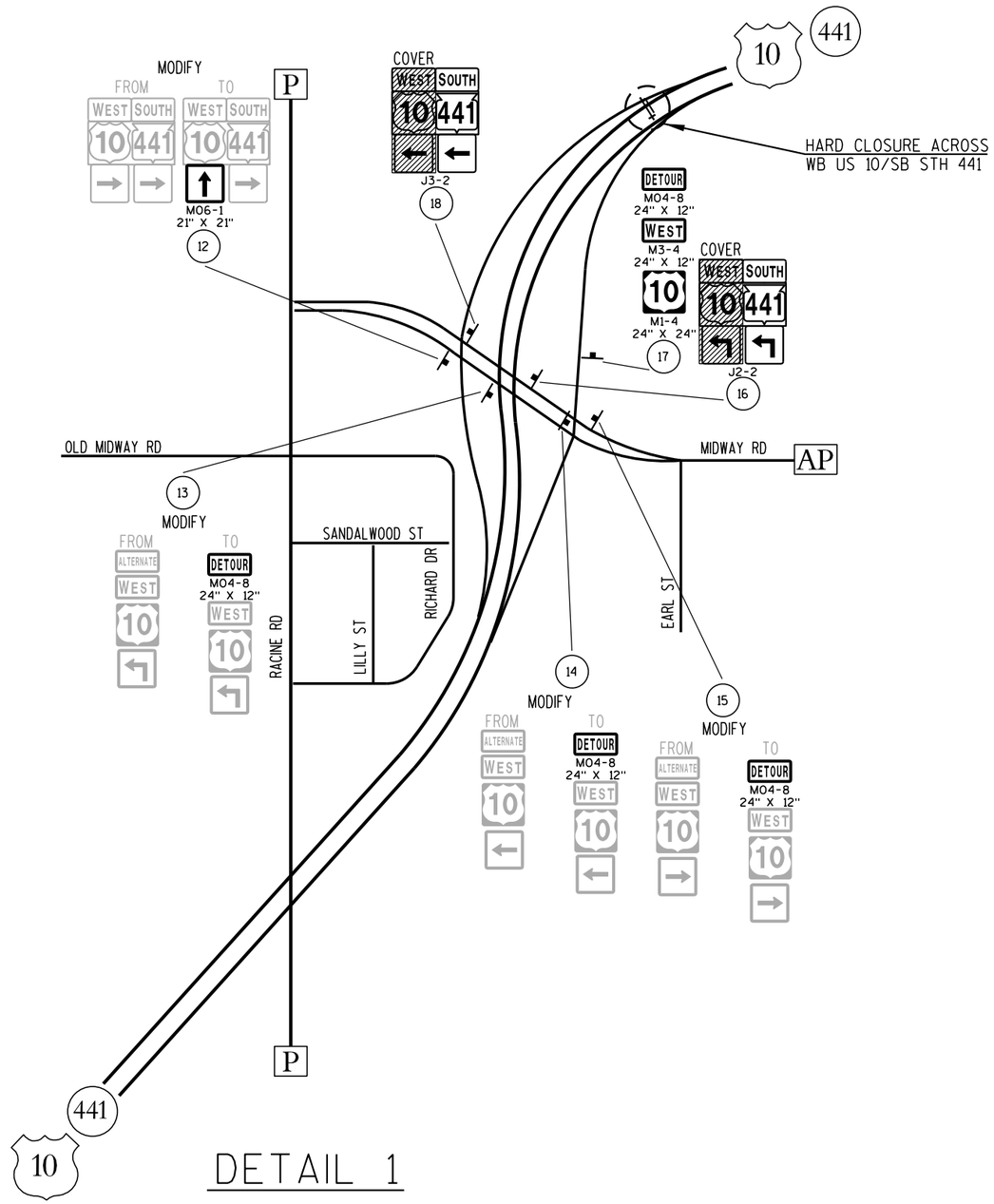
| PROJECT NO: 1517-07-77 | HWY: USH 10/STH 441 | COUNTY: WINNEBAGO | DETOUR SIGNING DETAIL - HWY 10 (EB & WB) - CLOSED | SHEET 113 | E |
|---|---|---|---|---|---|

FILE NAME : N:\spo\traffic\A Work Zone\Detours\Winnebago County\10-441 Major\CTY CB - US 10\1517-07-77\Alt Route-10\027004_dt.dgn PLOT DATE : 01-SEP-2015 09:22 PLOT BY : dotjlf PLOT NAME : PLOT SCALE : 2000:1

WISDOT/CADDS SHEET 42

2

N




DETAIL 1

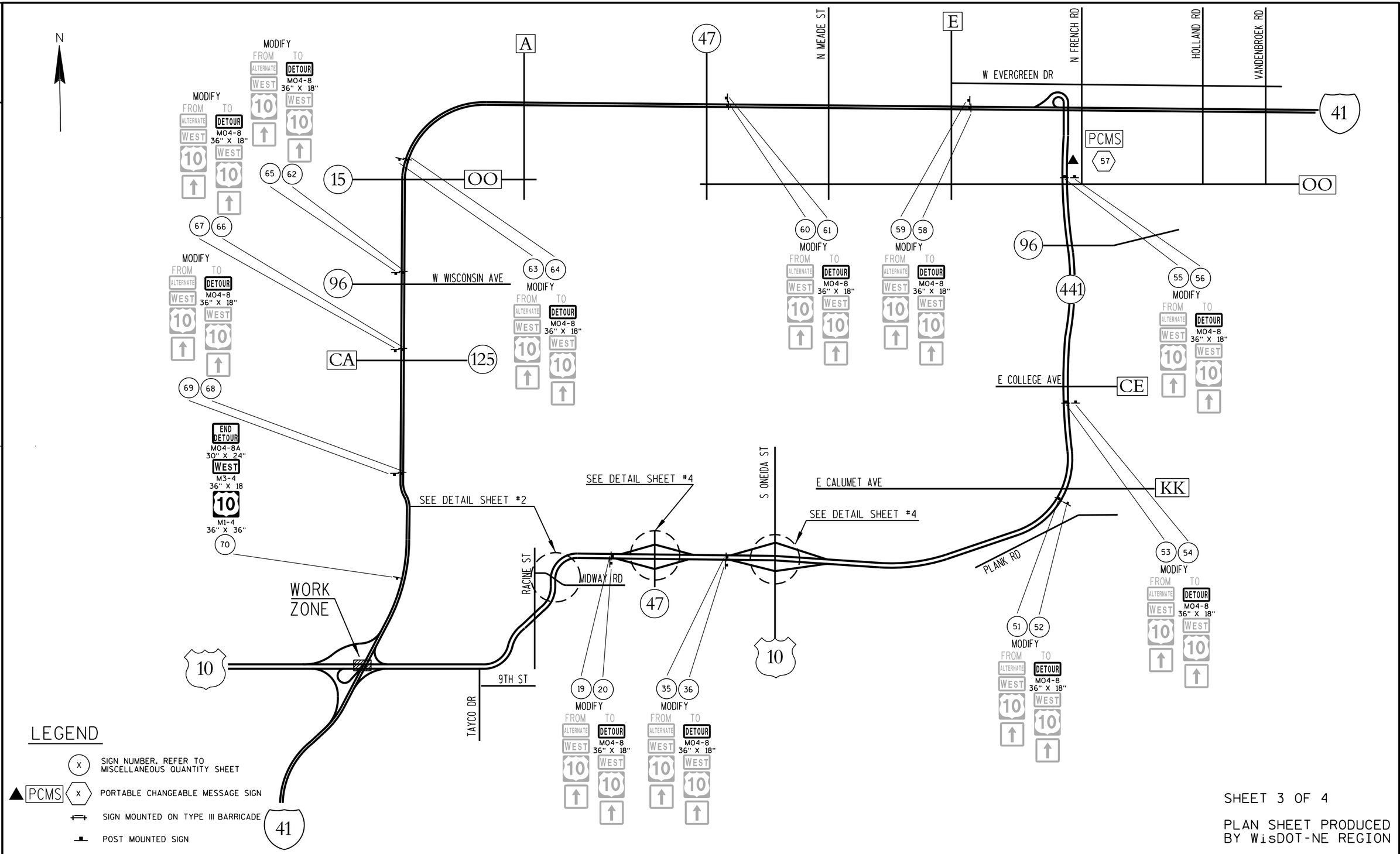
## LEGEND

- (X) SIGN NUMBER, REFER TO MISCELLANEOUS QUANTITY SHEET
- ▲ PCMS (X) PORTABLE CHANGEABLE MESSAGE SIGN
- SIGN MOUNTED ON TYPE III BARRICADE
- POST MOUNTED SIGN

SHEET 2 OF 4

PLAN SHEET PRODUCED BY WisDOT-NE REGION

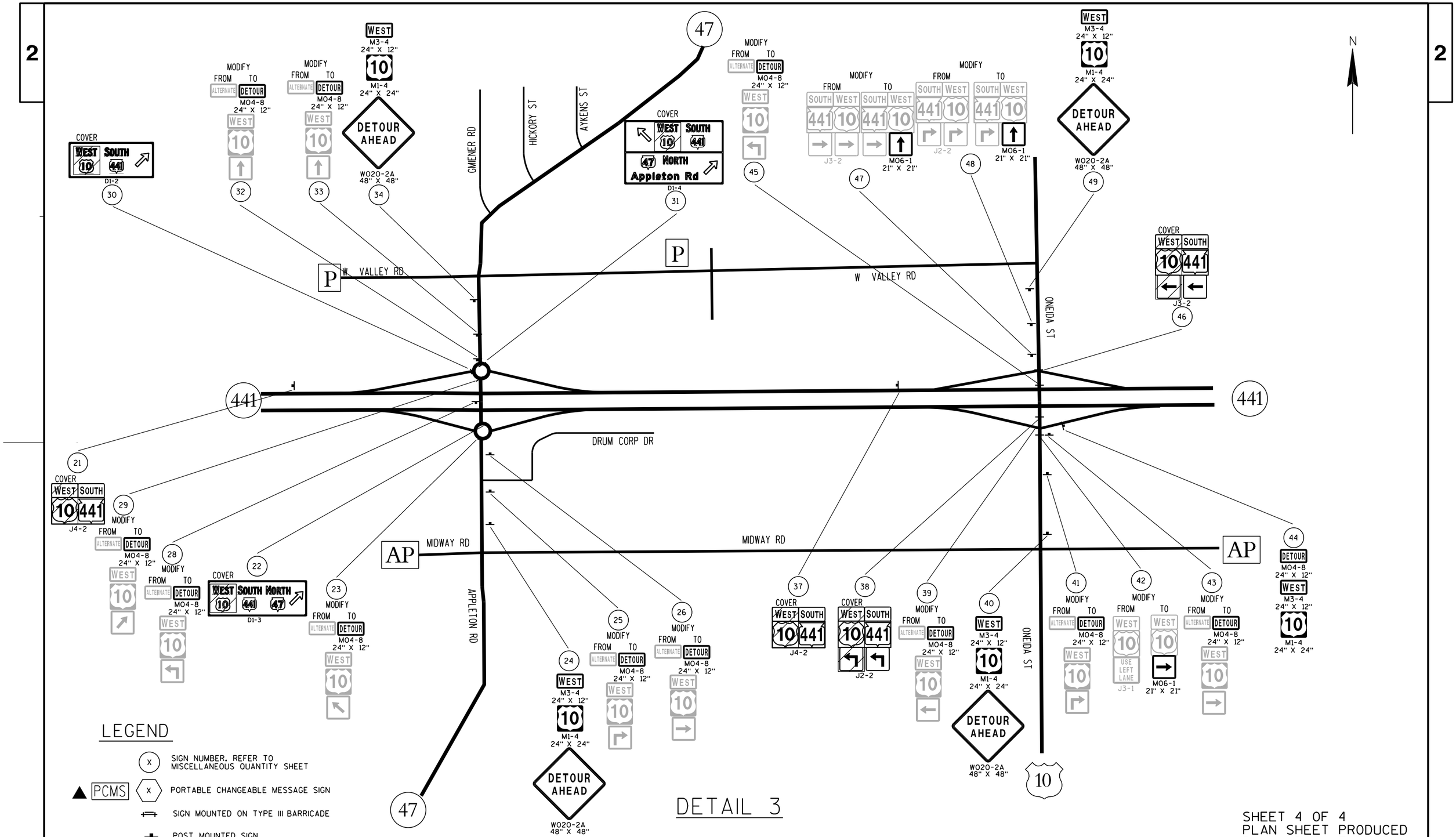
| PROJECT NO: 1517-07-77 | HWY: USH 10/STH 441 | COUNTY: WINNEBAGO | DETOUR SIGNING DETAIL - HWY 10 (EB & WB) - CLOSED | SHEET 114 | E |
|---|---|---|---|---|---|



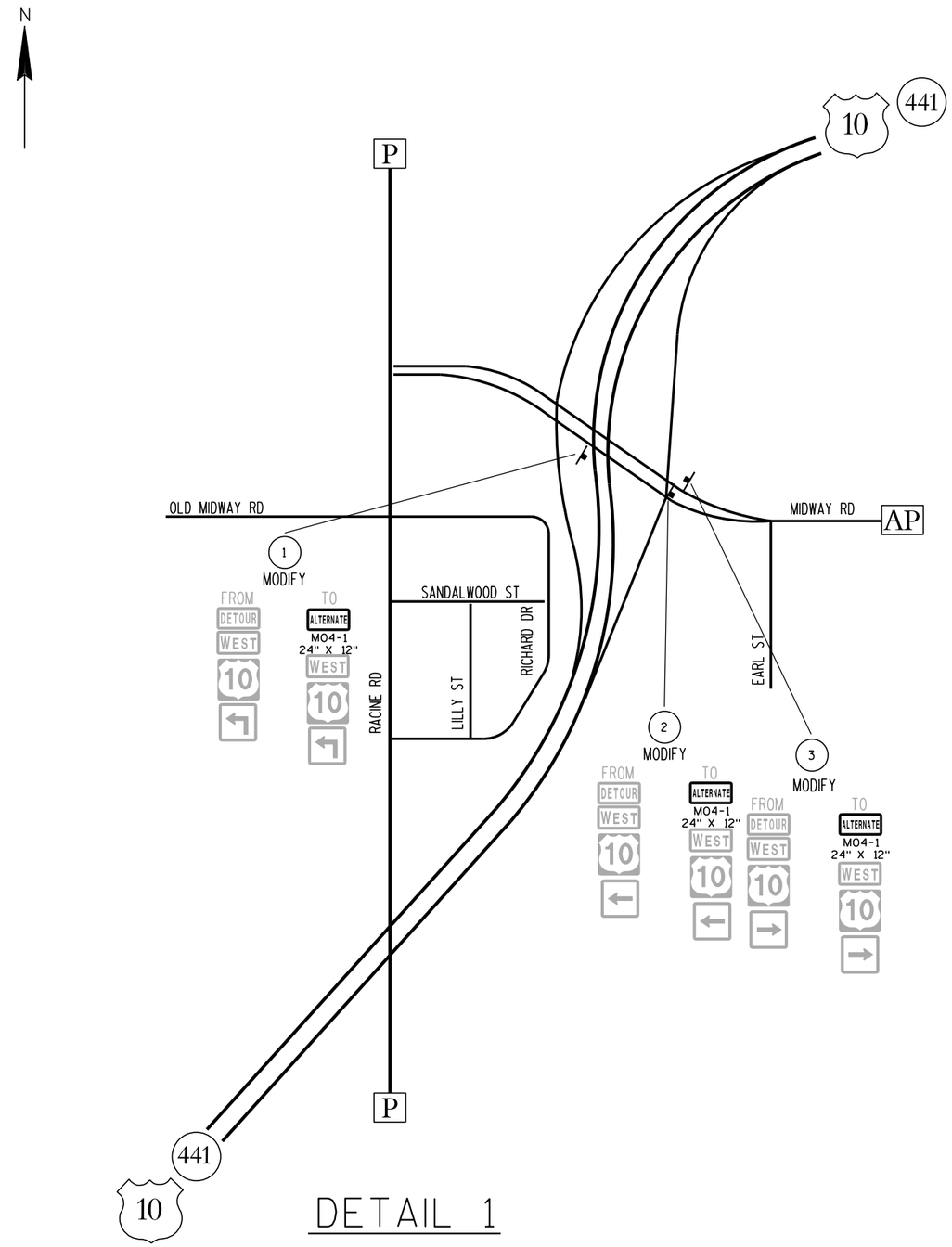

SHEET 3 OF 4

PLAN SHEET PRODUCED BY WisDOT-NE REGION

| PROJECT NO: 1517-07-77 | HWY: USH 10/STH 441 | COUNTY: WINNEBAGO | DETOUR SIGNING DETAIL - HWY 10 (EB & WB) - CLOSED | SHEET 115 | E |
|---|---|---|---|---|---|




| PROJECT NO: 1517-07-77 | HWY: USH 10/STH 441 | COUNTY: WINNEBAGO | DETOUR SIGNING DETAIL - HWY 10 (EB & WB) - CLOSED | SHEET 116 E |
|---|---|---|---|---|




DETAIL 1

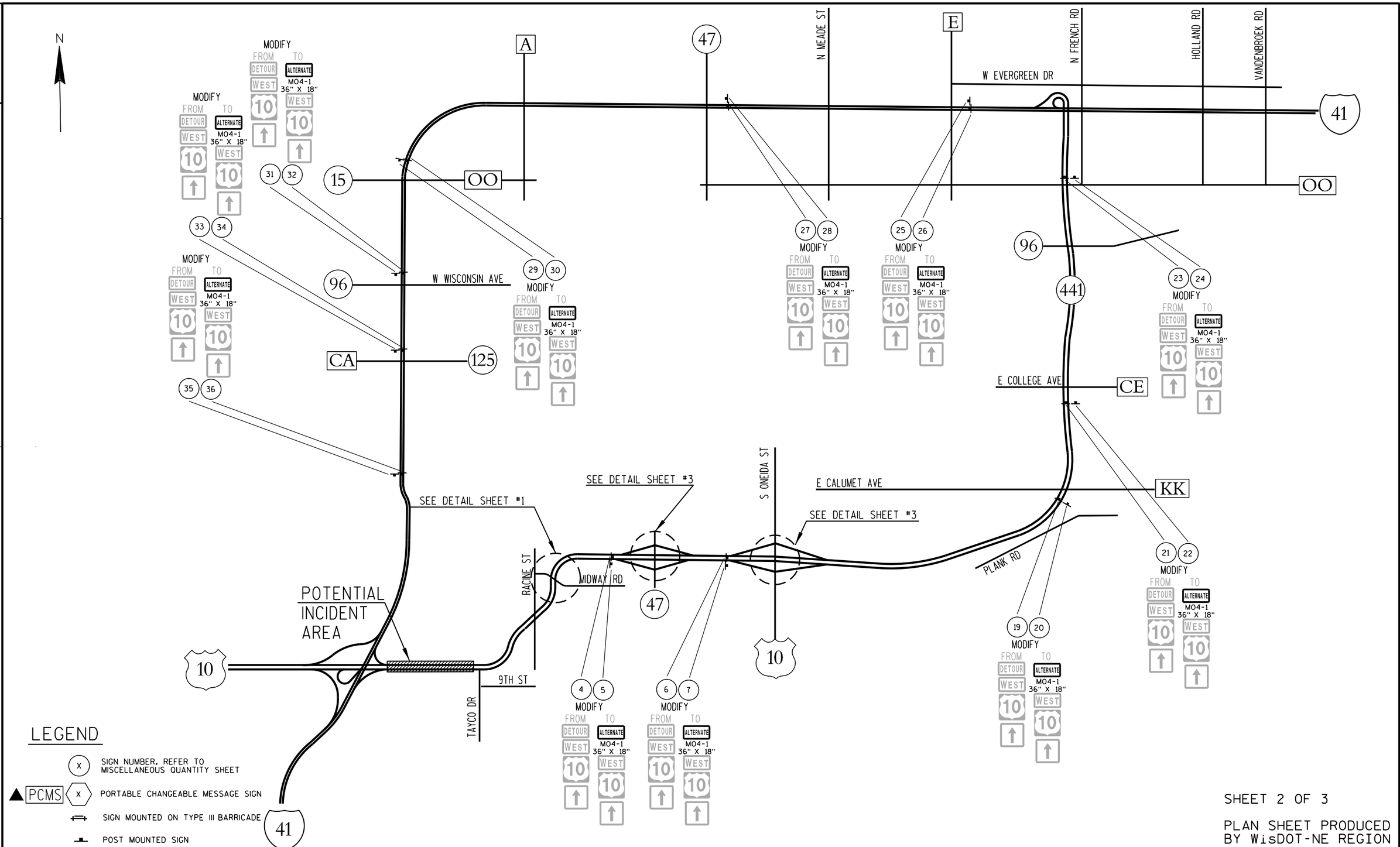
## LEGEND

- (X) SIGN NUMBER. REFER TO MISCELLANEOUS QUANTITY SHEET
- ▲ PCMS (X) PORTABLE CHANGEABLE MESSAGE SIGN
- SIGN MOUNTED ON TYPE III BARRICADE
- POST MOUNTED SIGN

SHEET 1 OF 3

PLAN SHEET PRODUCED BY WisDOT-NE REGION

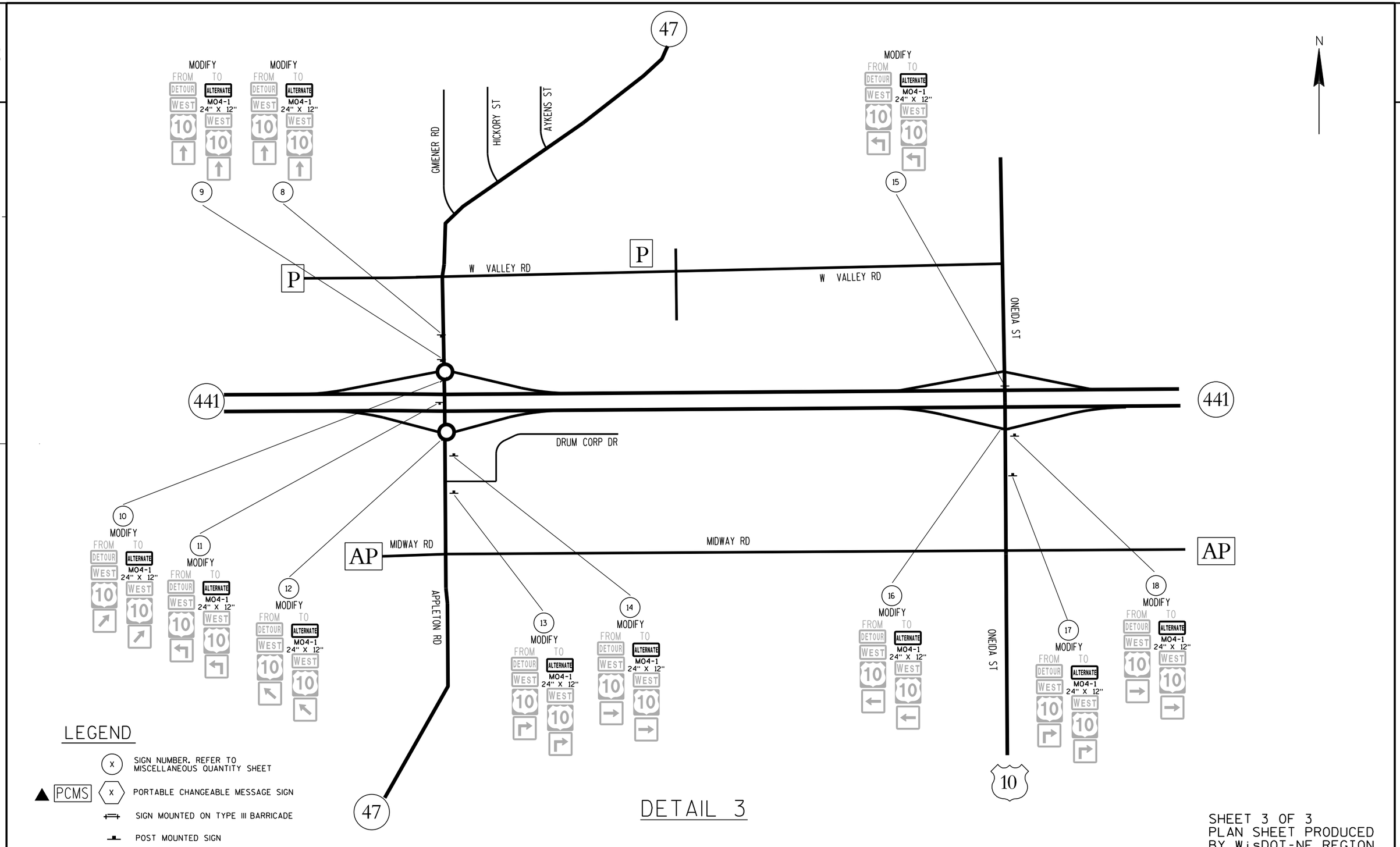
| PROJECT NO: 1517-07-77 | HWY: USH 10/STH 441 | COUNTY: WINNEBAGO | DETOUR SIGNING DETAIL-HWY 10 WEST POST-ALT | SHEET 117 | E |
|---|---|---|---|---|---|



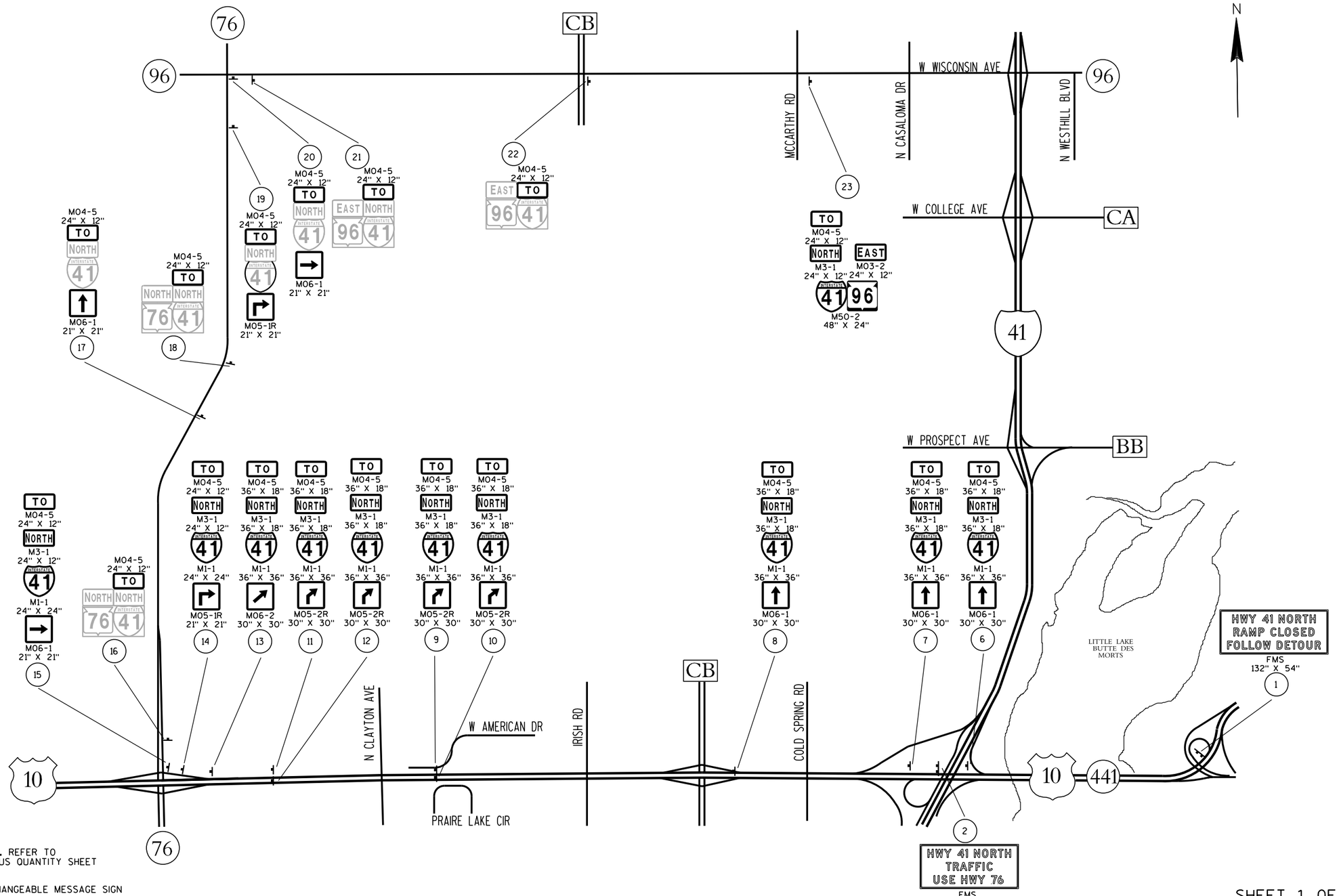

SHEET 2 OF 3

PLAN SHEET PRODUCED BY WisDOT-NE REGION

| PROJECT NO: 1517-07-77 | HWY: USH 10/STH 441 | COUNTY: WINNEBAGO | DETOUR SIGNING DETAIL - HWY 10 WEST POST-ALT | SHEET 118 | E |
|---|---|---|---|---|---|




| PROJECT NO: 1517-07-77 | HWY: USH 10/STH 441 | COUNTY: WINNEBAGO | DETOUR SIGNING DETAIL-HWY 10 WEST POST-ALT | SHEET 119 | E |
|---|---|---|---|---|---|




## LEGEND

- (X) SIGN NUMBER. REFER TO MISCELLANEOUS QUANTITY SHEET
- ▲ PCMS (X) PORTABLE CHANGEABLE MESSAGE SIGN
- SIGN MOUNTED ON TYPE III BARRICADE
- POST MOUNTED SIGN

SHEET 1 OF 1

PLAN SHEET PRODUCED BY WisDOT-NE REGION

| PROJECT NO: 1517-07-77 | HWY: USH 10/STH 441 | COUNTY: WINNEBAGO | DETOUR SIGNING DETAIL-HWY 10 WEST & 41 NORTH RAMP-CLOSED | SHEET 120 | E |
|---|---|---|---|---|---|

FILE NAME : N:\spo\traffic\A Work Zone\Detours\Winnebago County\10-441 Major\CTY CB - US 10\1517-07-77\FWN RAMP CLOSED\027008_dt.dgnPLOT DATE : 25-NOV-2015 16:22 PLOT BY : dotj1f PLOT NAME : PLOT SCALE : 200:1

N

| PCMS | SCREEN 1 | SCREEN 2 |
|---|---|---|
| 1 | I-41 NB TRAFFIC | MUST EXIT AT WIS 441 |
| 2 | I-41 NB TRAFFIC | FOLLOW STH 441 DETOUR |

E
47
N MEADE ST
E
N FRENCH RD
HOLLAND RD
VANDENBROEK RD
W EVERGREEN DR
41
15
OO
OO
96
W WISCONSIN AVE
125
CA
441
E COLLEGE AVE
CE
E CALUMET AVE
KK
PLANK RD
RACINE ST
MIDWAY RD
9TH ST
TAYCO DR
S ONEIDA ST
47
10
10
41

DETOUR M04-8 36" X 18"
NORTH M3-1 36" X 18"
INTERSTATE 41 M1-1 36" X 36"
M06-1 30" X 30"
M05-2L 30" X 30"
END DETOUR M04-8A 30" X 24"

3 5 7 9 4 6 8 10 11 12 13 14 15 16 17 18

SINGLE LANE DIRECTED TO TAKE EXIT RAMP ALL TRAFFIC MUST EXIT

TRIPLE LANE CLOSURE LEFT TO RIGHT MOVING ALL TRAFFIC TO AUX LANE

PCMS 2

PCMS 1

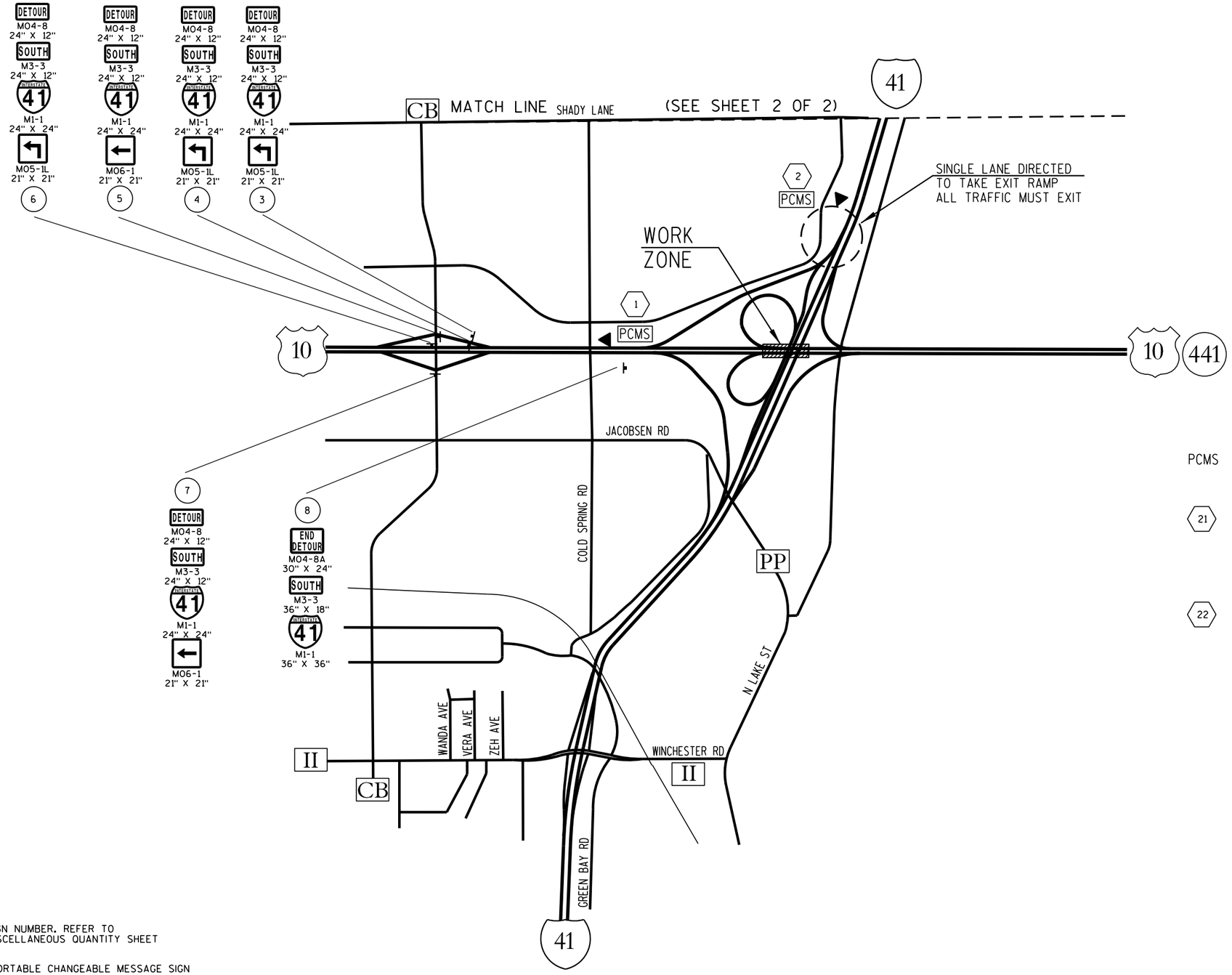
## LEGEND

- (X) SIGN NUMBER. REFER TO MISCELLANEOUS QUANTITY SHEET
- PCMS (X) PORTABLE CHANGEABLE MESSAGE SIGN
- SIGN MOUNTED ON TYPE III BARRICADE
- POST MOUNTED SIGN

SHEET 1 OF 1

PLAN SHEET PRODUCED BY WisDOT-NE REGION

| PROJECT NO: 1517-07-77 | HWY: USH 10/STH 441 | COUNTY: WINNEBAGO | DETOUR SIGNING DETAIL - HWY 41 NB CLOSED | SHEET 121 | E |
|---|---|---|---|---|---|




## LEGEND

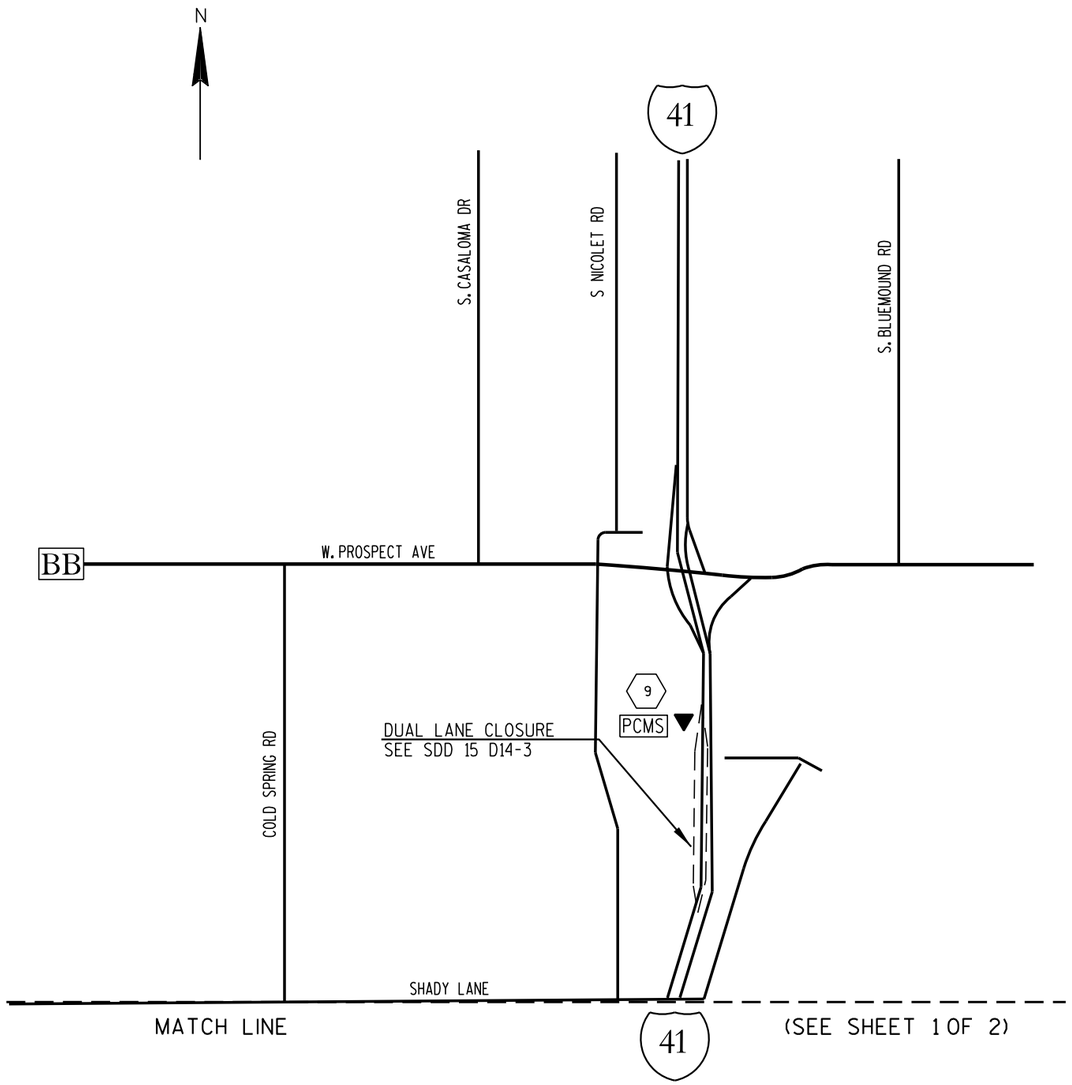
- (X) SIGN NUMBER. REFER TO MISCELLANEOUS QUANTITY SHEET
- ▲ PCMS (X) PORTABLE CHANGEABLE MESSAGE SIGN
- SIGN MOUNTED ON TYPE III BARRICADE
- POST MOUNTED SIGN

SHEET 1 OF 2

PLAN SHEET PRODUCED BY WisDOT-NE REGION

| PROJECT NO: 1517-07-77 | HWY: USH 10/STH 441 | COUNTY: WINNEBAGO | DETOUR SIGNING DETAIL-HWY 41 (SB)-CLOSED | SHEET 122 | E |
|---|---|---|---|---|---|

2




| PCMS | SCREEN 1 | SCREEN 2 |
|---|---|---|
| 9 | I-41 SB TRAFFIC | MUST EXIT US 10 WB |

## LEGEND

- (X) SIGN NUMBER, REFER TO MISCELLANEOUS QUANTITY SHEET
- ▲ PCMS (X) PORTABLE CHANGEABLE MESSAGE SIGN
- SIGN MOUNTED ON TYPE III BARRICADE
- POST MOUNTED SIGN

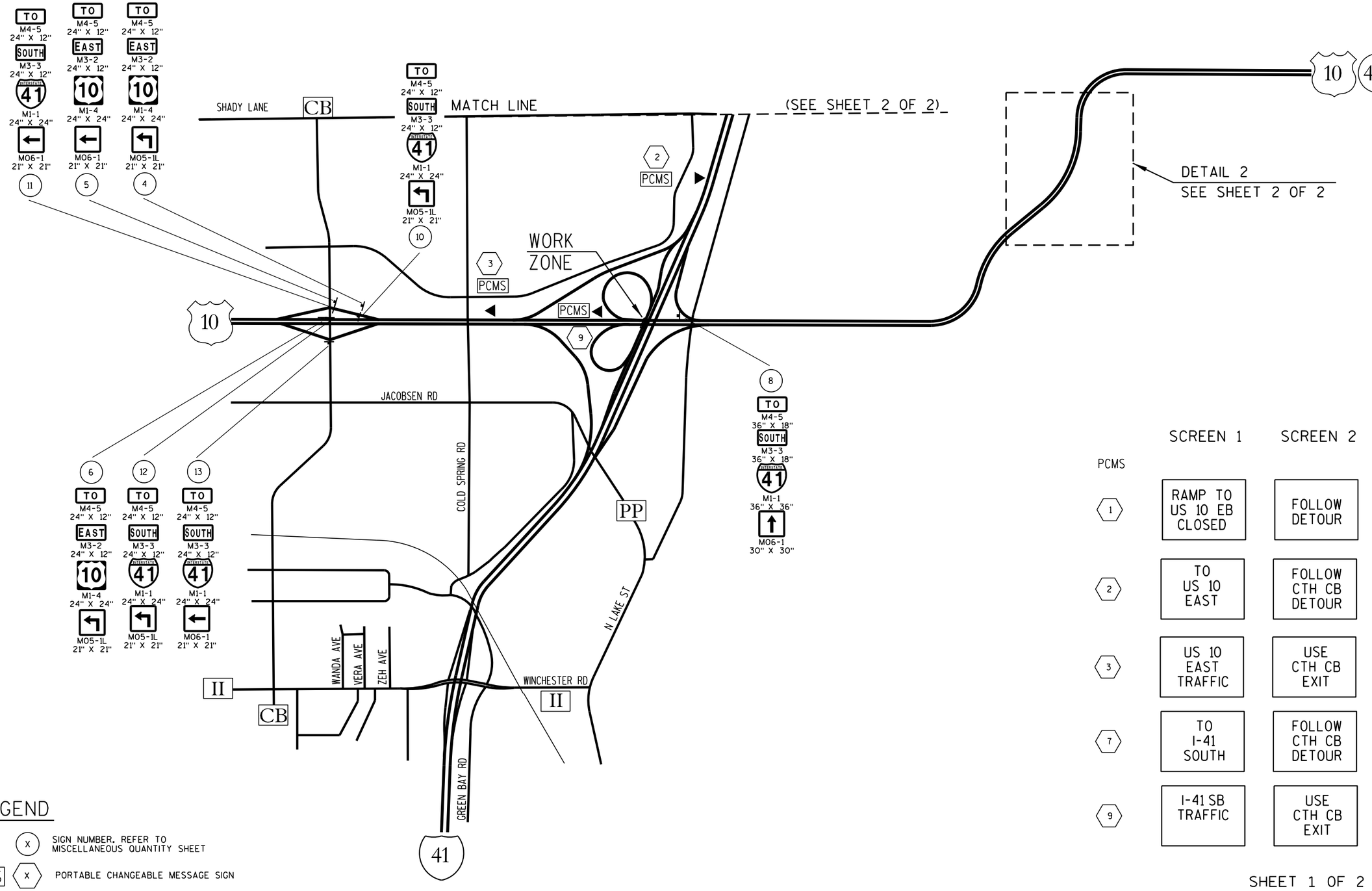
SHEET 2 OF 2

PLAN SHEET PRODUCED BY WisDOT-NE REGION

| PROJECT NO: 1517-07-77 | HWY: USH 10/STH 441 | COUNTY: WINNEBAGO | DETOUR SIGNING DETAIL-HWY 41 (SB)-CLOSED | SHEET 123 | E |
|---|---|---|---|---|---|

FILE NAME : N:\spo\traffic\A Work Zone\Detours\Winnebago County\10-441 Major\CTY CB - US 10\1517-07-77\41 SB CLOSED - GIRDERS\02700301.dgn PLOT DATE : 18-AUG-2015 07:25 PLOT BY : dotjlf PLOT NAME : PLOT SCALE : 2000:1

WISDOT/CADDS SHEET 42




| PCMS | SCREEN 1 | SCREEN 2 |
|---|---|---|
| 1 | RAMP TO US 10 EB CLOSED | FOLLOW DETOUR |
| 2 | TO US 10 EAST | FOLLOW CTH CB DETOUR |
| 3 | US 10 EAST TRAFFIC | USE CTH CB EXIT |
| 7 | TO I-41 SOUTH | FOLLOW CTH CB DETOUR |
| 9 | I-41 SB TRAFFIC | USE CTH CB EXIT |

## LEGEND

- (X) SIGN NUMBER. REFER TO MISCELLANEOUS QUANTITY SHEET
- ▲ PCMS (X) PORTABLE CHANGEABLE MESSAGE SIGN
- SIGN MOUNTED ON TYPE III BARRICADE
- POST MOUNTED SIGN

SHEET 1 OF 2

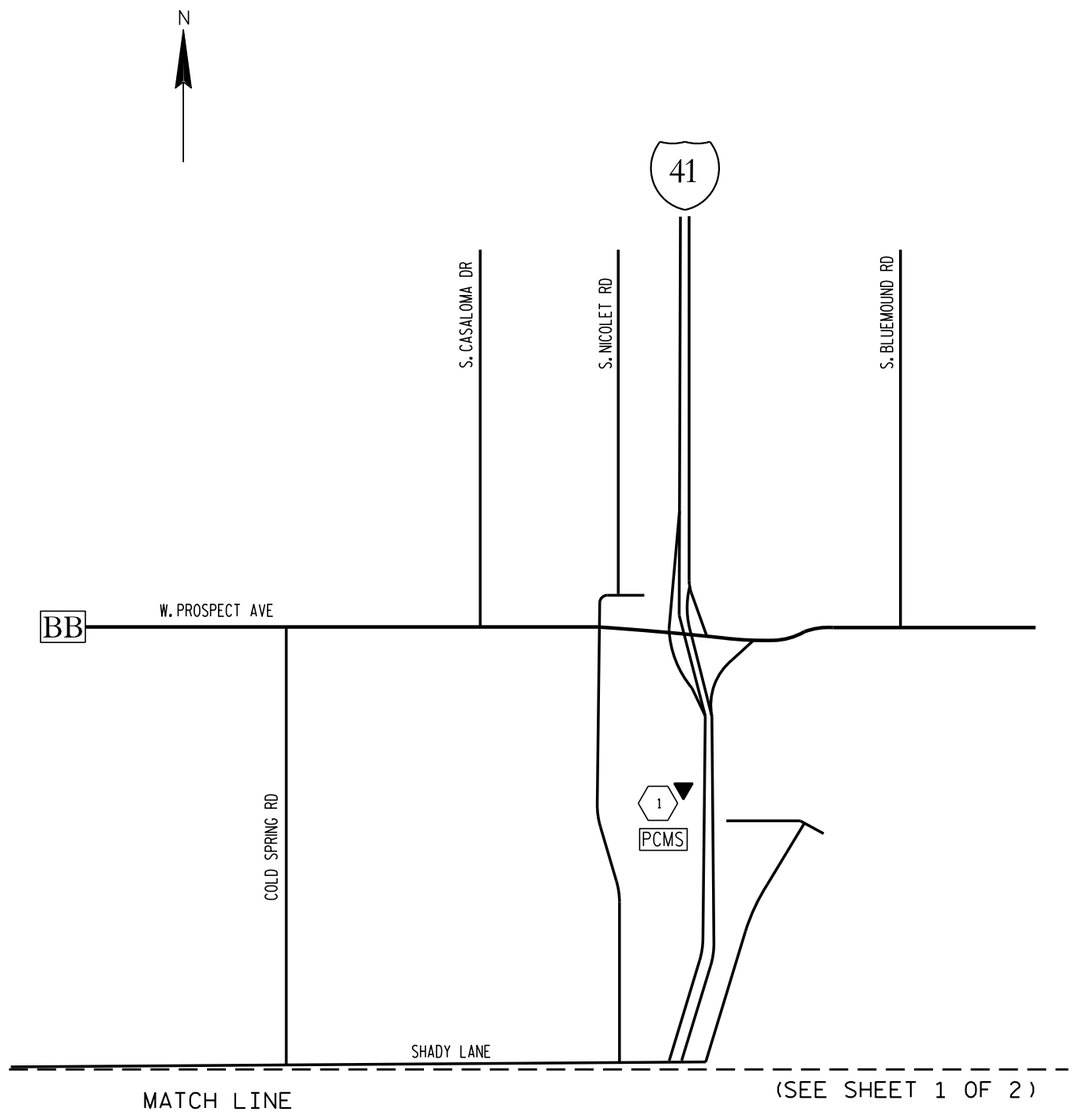
PLAN SHEET PRODUCED BY WisDOT-NE REGION

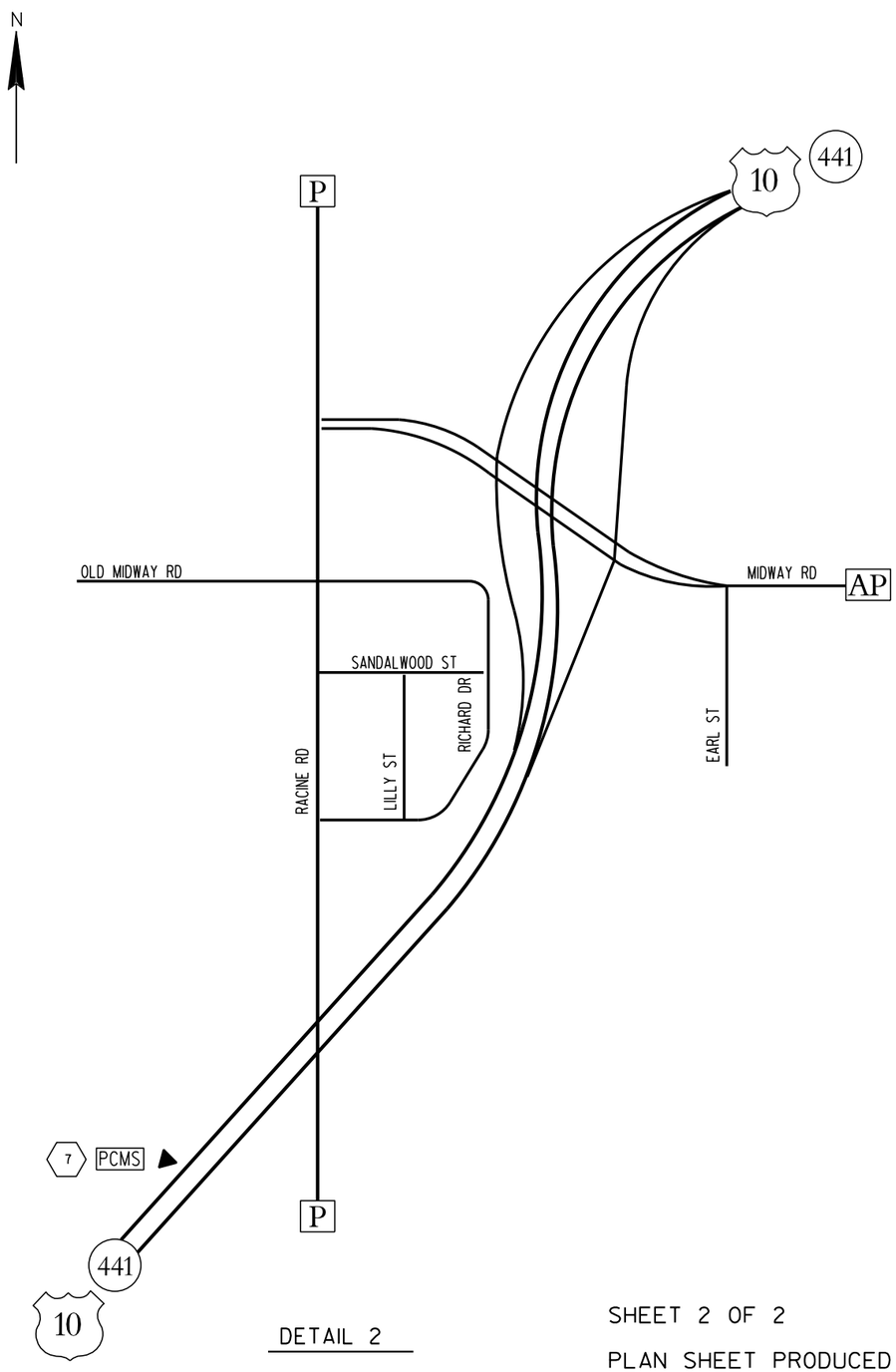
| PROJECT NO: 1517-07-77 | HWY: USH 10/STH 441 | COUNTY: WINNEBAGO | DETOUR SIGNING DETAIL-RAMP CLOSURES FOR S-E AND W-S | SHEET 124 E |
|---|---|---|---|---|

FILE NAME : N:\spo\traffic\A Work Zone\Detours\Winnebago County\10-441 Major\CTY CB - US 10\1517-07-77\FSE & FWS RAMPS - CLOSED\02700601.dgn PLOT DATE: 08-DEC-2015 17:11 PLOT BY : dotj1f PLOT NAME : PLOT SCALE : 2000:1

WISDOT/CADDS SHEET 42

2




DETAIL 2

## LEGEND

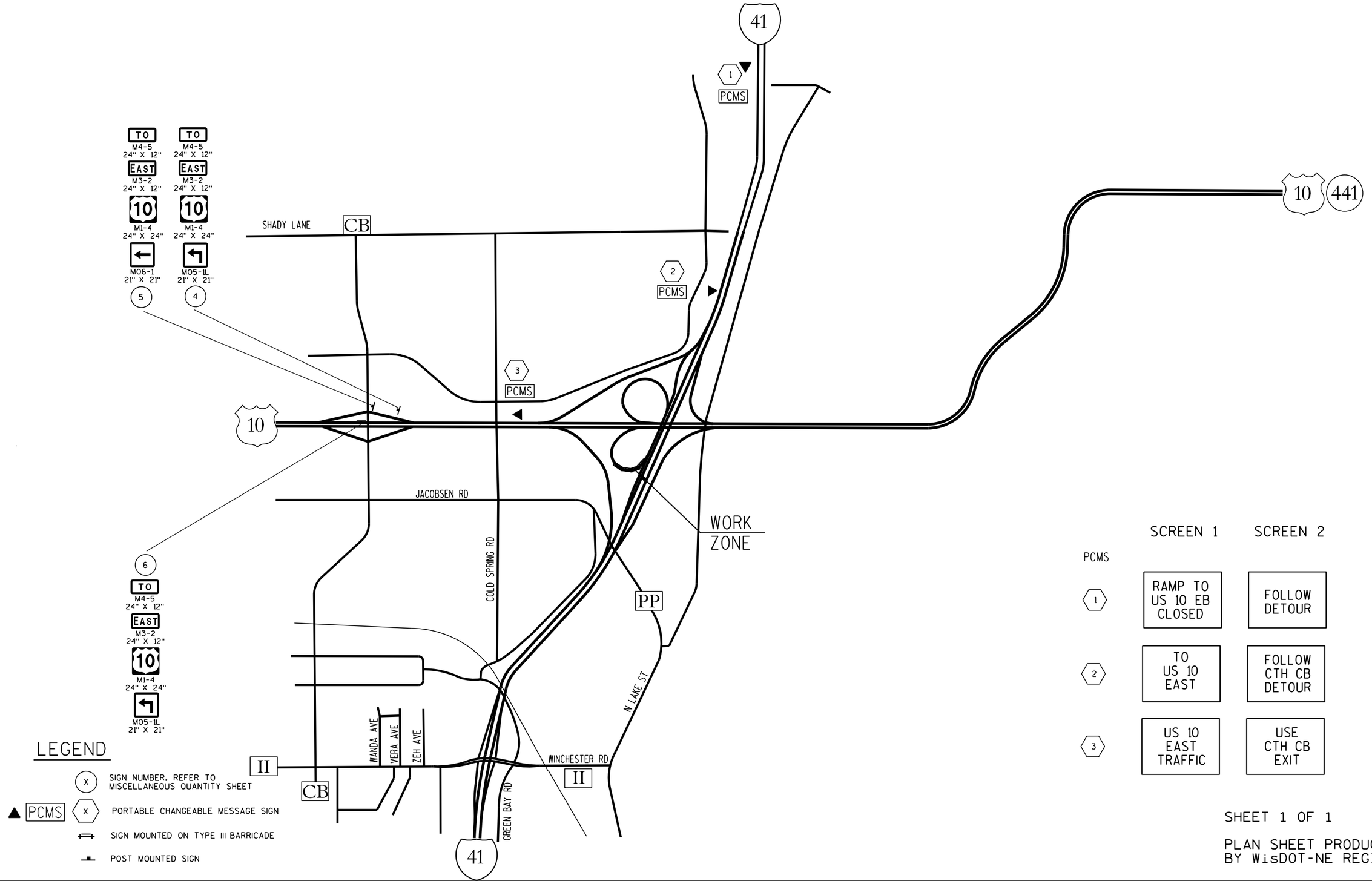
- (X) SIGN NUMBER, REFER TO MISCELLANEOUS QUANTITY SHEET
- ▲ PCMS (X) PORTABLE CHANGEABLE MESSAGE SIGN
- SIGN MOUNTED ON TYPE III BARRICADE
- POST MOUNTED SIGN

SHEET 2 OF 2

PLAN SHEET PRODUCED BY WisDOT-NE REGION

2

| PROJECT NO: 1517-07-77 | HWY: USH 10/STH 441 | COUNTY: WINNEBAGO | DETOUR SIGNING DETAIL-HWY 41 (SB) RAMP TO EAST HWY 10-CLOSED | SHEET 125 | E |
|---|---|---|---|---|---|




| PCMS | SCREEN 1 | SCREEN 2 |
|---|---|---|
| 1 | RAMP TO US 10 EB CLOSED | FOLLOW DETOUR |
| 2 | TO US 10 EAST | FOLLOW CTH CB DETOUR |
| 3 | US 10 EAST TRAFFIC | USE CTH CB EXIT |

SHEET 1 OF 1

PLAN SHEET PRODUCED BY WisDOT-NE REGION

| PROJECT NO: 1517-07-77 | HWY: USH 10/STH 441 | COUNTY: WINNEBAGO | DETOUR SIGNING DETAIL-RAMP CLOSURES FOR S-E LOOP | SHEET 126 | E |
|---|---|---|---|---|---|

BM AM4

CTR 2017-045
ALUM. DISK
Y 547572.829
X 809467.241

T 20 N
9
R 17 E

R/L USH 41 NB TO USH 10 WB RAMP (FNW)

BM AM3

1/4 LINE 2636.03' N00°03'52"E

| BENCHMARKS | | | |
|---|---|---|---|
| NUMBER | LOCATION | DESCRIPTION | ELEVATION |
| AM3 | STA 114WB+86.02, 584.6'LT | NW TAG BOLT ON FIRST FIRE HYDRANT ON THE NORTH SIDE OF AMERICAN DR EAST OF DELTA DR | 769.01 |
| AM4 | STA 120WB+12.70, 835.7'LT | NW TAG BOLT ON SECOND FIRE HYDRANT ON THE NORTH SIDE OF AMERICAN DR EAST OF DELTA DR | 766.67 |
| WB3 | STA 139WB+37.40, 82.0'RT | CHISLED SQUARE ON NW PARAPET WALL OF 10 WB BRIDGE B-70-78 OVER RR TRACKS | 788.33 |
| WB4 | STA 142WB+91.49, 9.1'LT | 3" DISC ON NW PARAPET WALL OF WEST TO NORTH RAMP BRIDGE B-70-76 OVER RR TRACKS | 788.15 |

1355FNW 1350FNW 1345FNW

R/L USH 10 WB

CURVE WB1

PC 115WB 120WB PT 125WB PC CURVE WB2 130WB PI 135WB PT 140WB

PI

USH 10 WB

115EB 120EB 125EB 130EB 135EB 140EB

USH 10 EB

R/L USH 10 EB

115FEN

SEE ALIGNMENT - SYSTEM INTERCHANGE RAMPS FOR ALIGNMENT INFORMATION

R/L USH 41 SB TO USH 10 EB/STH 441 NB RAMP (FSE)

120FEN 120FES

R/L USH 10 EB TO USH 41 SB RAMP (FES)

125FEN 125FES

1315FSE 1320FSE 1325FSE 1330FSE 1335FSE

125FWS 130FWS

130FEN

QTR 2017-058
ALUM. DISK
Y 544936.799
X 809464.280

T 20 N
9
16
R 17 E

BEGIN PROJECT
STA 132WB+35.17
X=810043.300
Y=546527.670

SEE ALIGNMENT - SYSTEM INTERCHANGE RAMPS FOR ALIGNMENT INFORMATION

R/L USH 10 WB TO USH 41 SB RAMP (FWS)

1325SB 1325NB 1325FNW 1325FNE

1330SB 1330NB 1330FNW 1330FNE

1335SB 1335NB 1335FNW 1335FNE

1340SB 1340NB 1340FNW 1340FNE

USH 41 SB USH 41 NB

1340FSE 1345FNW 1355FNW 1356FEN 1450FEN

N

SEE ALIGNMENT - SYSTEM INTERCHANGE RAMPS FOR ALIGNMENT INFORMATION

R/L USH 41 SB

R/L USH 41 NB

R/L USH 10 WB/STH 441 SB TO USH 41 NB RAMP (FWN)

BM WB4

BM WB3

140FWS

R/L USH 41 NB TO USH 10 EB/STH 441 NB RAMP (FNE)

R/L USH 10 EB TO USH 41 NB RAMP (FEN)

SEE ALIGNMENT - SYSTEM INTERCHANGE RAMPS FOR ALIGNMENT INFORMATION

| CURVE WB1 | CURVE WB2 |
|---|---|
| PC = 114WB+59.40 | PC = 127WB+80.49 |
| X = 808270.78 | X = 809589.24 |
| Y = 546433.42 | Y = 546506.30 |
| PI = 119WB+30.29 | PI = 133WB+10.45 |
| X = 808741.66 | X = 810117.17 |
| Y = 546431.72 | Y = 546552.76 |
| PT = 124WB+00.52 | PT = 138WB+37.25 |
| X = 809210.74 | X = 810644.40 |
| Y = 546473.00 | Y = 546498.99 |
| R = 10300.00 | R = 5580.00 |
| DELTA = 5°14'07" LT | DELTA = 10°51'03" RT |
| D= 0°33'23" | D= 1°01'37" |
| L = 941.12 | L = 1056.76 |
| T = 470.89 | T = 529.97 |
| BK = S 89°47'36" E | BK = N 84°58'17" E |
| AH = N 84°58'17" E | AH = S 84°10'39" E |

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | ALIGNMENT - USH 10 WB/STH 441 SB | SHEET 127 | E |
|---|---|---|---|---|---|

| BENCHMARKS | | | |
|---|---|---|---|
| NUMBER | LOCATION | DESCRIPTION | ELEVATION |
| WB4 | STA 142WB+91.49, 9.1'LT | 3" DISC ON NW PARAPET WALL OF WEST TO NORTH RAMP BRIDGE B-70-76 OVER RR TRACKS | 788.15 |
| RK1 | STA 147WB+48.97, 92.1'RT | 3" DISC ON SW PARAPET WALL OF THE ROLAND KAMPO BRIDGE B-70-61 OVER LITTLE LAKE BUTTE DES MORTS | 792.07 |
| RK10 | STA 180WB+15.61, 34.7'RT | CHISELED SQARE ON THE SE PARAPET OF THE ROLAND KAMP BRIDGE B-70-61 OVER LITTLE LAKE BUTTE DES MORTS | 779.79 |
| TA4 | STA 185WB+16.02, 130.9'LT | SW TAG BOLT ON FIRE HYDRANT AT THE SOUTHWEST QUADRANT OF TAYCO STREET AND LAKESHORE DRIVE | 756.81 |

CURVE WB3

PC = 150WB+80.89
X = 811880.41
Y = 546360.89
PI = 152WB+43.91
X = 812042.59
Y = 546344.36
PT = 154WB+06.67
X = 812205.61
Y = 546343.74
R = 3330.00
DELTA = 5°36'20" LT
D= 1°43'14"
L = 325.79
T = 163.02
BK = S 84°10'39" E
AH = S 89°46'59" E

N

SEE ALIGNMENT - SYSTEM INTERCHANGE RAMPS FOR ALIGNMENT INFORMATION

R/L USH 10 WB/STH 441 SB TO USH 41 NB RAMP (FWN)

R/L USH 10 WB/STH 441 SB TO USH 41 SB RAMP (FWS)

STATION EQUATION
PI 147WB+92.21, 12'RT AHEAD
PI 147WB+92.21 BACK
EQUATION

STATION EQUATION
153WB+94.97 AHEAD
154WB+06.67 BACK
EQUATION

BM WB4

145FWN
145WB
145FWS
150FWN
150WB
PC
CURVE WB3
PT
PI
155WB
160WB
165WB
170WB

BM RK1

145EB
1340FNE
150EB
1345FNE
155EB
160EB
165EB
170EB

USH 10 WB/STH 441 SB

USH 10 EB/STH 441 NB

R/L USH 10 WB/STH 441 SB

R/L USH 10 EB/STH 441 NB

R/L USH 41 NB TO USH 10 EB/STH 441 NB RAMP (FNE)

MATCHLINE STA 173EB+00

CTR 2017-----
ALUM. DISK
Y 547998.337
X 814983.928

T 20 N
10
R 17 E

END PROJECT
STA 183WB+80.32
X=815183.555
Y=546358.883

BM TA4

185WB
185EB

R/L USH 10 WB/STH 441 SB

CURVE WB4
PC
175WB
180WB

175EB USH 10 WB/STH 441 SB

180EB

BM RK10

USH 10 EB/STH 441 NB

R/L USH 10 EB/STH 441 NB

MATCHLINE STA 173EB+00

1/4 LINE 2639.64' N00°22'26"E

CURVE WB4

PC = 177WB+72.55
X = 814583.17
Y = 546334.74
PI = 190WB+75.25
X = 815885.86
Y = 546329.80
PT = 201WB+24.86
X = 816516.51
Y = 547469.67
R = 2200.00
DELTA = 61°15'45" LT
D= 2°36'16"
L = 2352.31
T = 1302.69
BK = S 89°46'59" E
AH = N 28°57'16" E

N

T 20 N
10
15
R 17 E

QTR 2017-060
ALUM. DISK
Y 545358.751
X 814966.708

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | ALIGNMENT - USH 10 WB/STH 441 SB | SHEET 128 | E |
|---|---|---|---|---|---|

| BENCHMARKS | | | |
|---|---|---|---|
| NUMBER | LOCATION | DESCRIPTION | ELEVATION |
| 41C | STA 107FWS+28.29, 152.6'RT | CHISLED SQUARE ON NW CORNER OF SIGN BRIDGE BASE JUST SOUTH OF JACOBSEN RD ON THE WEST SIDE OF USH 41 | 776.44 |
| FSE1 | STA 1316FSE+15.15, 93.22'RT | CHISLED SQUARE AT SW CORNER OF EXISTING BOX CULVERT C-70-200 | 761.11 |
| FNE1 | STA 135FEN+68.06, 44.4'LT | CHISLED SQUARE AT SE CORNER OF EXTENDED BOX CULVERT C-70-42 JUST WEST OF WAREHOUSE SPECIALIST PROPERTY | 754.08 |
| FNE3 | STA 144FEN+04.67, 54.7'RT | CHISELED SQUARE ON SW PARAPET WALL OF NORTH TO EAST RAMP | 786.00 |
| FEN5 | STA 120FEN+84.47, 23.7'LT | CHISELED SQUARE ON WEST SIDE OF FLAG POLE BASE AT THE WEST EDGE OF WAREHOUSE SPECIALISTS PROPERTY | 757.55 |

**CURVE FWS1**

PC = 103FWS+57.75
X = 808933.82
Y = 543588.94
PI = 107FWS+42.73
X = 809132.98
Y = 543918.40
PT = 111FWS+15.80
X = 809176.59
Y = 544300.91
R = 1762.00
DELTA = 24°39'00" LT
D= 3°15'06"
L = 758.05
T = 384.98
BK = N 31°09'14" E
AH = N 6°30'14" E

**CURVE FWS2**

PC = 115FWS+42.90
X = 809224.97
Y = 544725.27
PI = 133FWS+28.99
X = 809427.28
Y = 546499.86
PCC = 144FWS+10.02
X = 811210.98
Y = 546407.51
R = 1900.00
DELTA = 86°27'36" RT
D= 3°00'56"
L = 2867.12
T = 1786.09
BK = N 6°30'14" E
AH = S 87°02'11" E

**CURVE FEN3**

PC = 126FEN+86.41
X = 809305.86
Y = 545622.42
PI = 138FEN+68.34
X = 810291.73
Y = 544970.48
PT = 142FEN+98.28
X = 810597.96
Y = 546112.05
R = 851.50
DELTA = 108°27'34" LT
D= 6°43'44"
L = 1611.87
T = 1181.93
BK = S 56°31'26" E
AH = N 15°01'00" E

**CURVE FNW3**

PC = 1324FNW+78.85
X = 810072.55
Y = 545688.98
PI = 1326FNW+12.74
X = 810127.25
Y = 545811.18
PT = 1327FNW+46.16
X = 810198.88
Y = 545924.29
R = 1860.00
DELTA = 8°14'04" RT
D= 3°04'50"
L = 267.31
T = 133.89
BK = N 24°06'43" E
AH = N 32°20'47" E

SEC 2017-057
ALUM. DISK
Y 544929.224
X 806834.878

CTR 2017-045
ALUM. DISK
Y 547572.829
X 809467.241

QTR 2017-058
ALUM. DISK
Y 544936.799
X 809464.280

CTR 2017-071
BERNTSEN MON.
Y 542303.060
X 809486.204

BEGIN CONSTRUCTION
STA 114FWS+50.00
X=809214.445
Y=544632.960

BEGIN CONSTRUCTION
STA 1323FNW+50.00
X=810019.914
Y=545571.371

BEGIN CONSTRUCTION
STA 142FEN+50.00
X=810584.136
Y=546065.795

SEE ALIGNMENT - USH 10 WB/STH 441 SB FOR ALIGNMENT INFORMATION

R/L USH 10 EB TO USH 41 SB RAMP (FES)

R/L USH 10 WB/STH 441 SB TO USH 41 SB RAMP (FWS)

R/L USH 41 NB TO USH 10 WB RAMP (FNW)

R/L USH 41 NB TO USH 10 EB/STH 441 NB RAMP (FNE)

R/L USH 10 EB TO USH 41 NB RAMP (FEN)

R/L USH 41 SB TO USH 10 EB/STH 441 NB RAMP (FSE)

R/L USH 10 WB

R/L USH 10 EB

R/L USH 41 SB

R/L USH 41 NB

USH 41 SB

USH 41 NB

USH 10 EB

USH 10 WB

BM 41C

BM FEN5

BM FSE1

BM FNE1

BM FNE3

1/4 LINE 2633.83' N00°28'37"W

1/4 LINE 2636.03' N00°03'52"E

PC

PI

PT

105FWS 110FWS 115FWS 120FWS 125FWS 130FWS 135FES 120FES 125FES 130FES 135FEN 130FEN 125FEN 120FEN 135FSE 130FSE 125FSE 140FEN 135FNE 130FNE 125FNE 135FNW 130FNW 125FNW 1305NB 1310NB 1310FNW 1315NB 1315FNW 1310SB 1315SB 1320SB 1320NB 1320FNW 1325SB 1325NB 1325FSE 1330FSE 1330SB 1330NB 1330FNE 125WB 125EB 130WB 130EB 135EB 135FWS

T 20 N
9
R 17 E

CTR 2017-045
ALUM. DISK
Y 547572.829
X 809467.241

1/4 LINE 2636.03' N00°03'52"E

135OFNW

PT

R/L USH 41 NB TO
USH 10 WB RAMP (FNW)

1/4 LINE 1875.33' N89°36'07"E

1340FSW

1345FNW

CURVE FNW4

R/L USH 41 SB TO USH 10 WB RAMP (FSW)

1345FSW

SEE ALIGNMENT - USH 10 WB/STH 441 SB FOR
ALIGNMENT INFORMATION

R/L USH 10 WB

R/L USH 41 SB TO USH 10 EB/STH 441
NB RAMP (FSE)

1335FSE 1340FSE 1345FSE 1350FSE 1355FSE 1360FSE

1335SB 1340SB 1345SB 1350SB 1355SB 1360SB

1335NB 1340NB 1345NB 1350NB 1355NB 1360NB

1340FNW

R/L USH 41 SB

R/L USH 41 NB

USH 41 SB

USH 41 NB

135NB

135EB

R/L USH 10 EB/STH 441 NB

END CONSTRUCTION
STA 1336FNW+68.81
X=810598.366
Y=546741.301

PC

1335FNW

CURVE FWN2

155FNW

155FEN

PC

150FEN

PC

PT

CURVE FWN1

PI

165FEN

PRC

CURVE FEN5

PI

170FEN

PT

175FEN

END CONSTRUCTION
STA 168FEN+75.00
X=811344.545
Y=548576.448

PI

CURVE FEN4

160FEN

BEGIN CONSTRUCTION
STA 161FEN+75.00
X=811108.076
Y=547917.653

BEGIN CONSTRUCTION
STA 127FWN+08.75
X=811122.986
Y=548024.626

BM LA5

END CONSTRUCTION
STA 152FEN+91.49
X=810855.299
Y=547071.339

R/L USH 10 EB TO
USH 41 NB RAMP (FEN)

BM LA6

BM WB3

R/L USH 10 WB/STH 441 SB
TO USH 41 SB RAMP (FWS)

145FEN

140FWS

140WB

R/L USH 10 WB/STH 441 WB
TO USH 41 NB RAMP (FWN)

140FWN

R/L USH 41 NB TO
USH 10 EB/STH 441 NB RAMP (FNE)

BM FNE3

140EB

BM LA7

1335FNE

CURVE FWS2

BM AM11

MATCHLINE
STA 175FEN+00

1365SB

1365NB

180FEN

PI 180FEN+10.00

R/L USH 10 EB TO
USH 41 NB RAMP (FEN)

| BENCHMARKS | | | |
|---|---|---|---|
| NUMBER | LOCATION | DESCRIPTION | ELEVATION |
| FNE3 | STA 144FEN+04.67, 54.7'RT | CHISELED SQUARE ON SW PARAPET WALL OF NORTH TO EAST RAMP | 786.00 |
| WB3 | STA 139FWS+39.00, 34.2'LT | CHISELED SQUARE ON NW PARAPET WALL OF 10 WB BRIDGE B-70-78 OVER RR TRACKS | 788.33 |
| LA7 | STA 138FWN+84.63, 324.9'LT | NE TAG BOLT ON HYDRANT OF THE EAST SIDE OF NORTH LAKE ST INBETWEEN HOUSE #'S 1761 & 1749 | 746.14 |
| LA6 | STA 158FEN+06.76, 331.5'RT | NE TAG BOLT ON HYDRANT OF THE EAST SIDE OF NORTH LAKE ST INBETWEEN HOUSE #'S 1644 & 1637 | 747.78 |
| LA5 | STA 167FEN+88.47, 261.9'RT | NE TAG BOLT ON HYDRANT OF THE EAST SIDE OF NORTH LAKE ST JUST NORTH OF HOUSE # 1583 | 749.45 |
| AM11 | STA 1355FSE+43.98, 464.72'LT | NE TAG BOLT ON FIRE HYDRANT AT THE SE QUADRANT OF THE INTERSECTION OF GAS RD AND AMERICAN DR | 755.75 |

CURVE FEN4
PC = 154FEN+90.75
X = 810906.93
Y = 547263.79
PI = 159FEN+70.95
X = 811031.35
Y = 547727.60
PRC = 164FEN+50.32
X = 811202.33
Y = 548176.33
R = 9410.00
DELTA = 5°50'34" RT
D= 0°36'32"
L = 959.58
T = 480.20
BK = N 15°01'00" E
AH = N 20°51'33" E

CURVE FEN5
PC = 164FEN+50.32
X = 811202.33
Y = 548176.33
PI = 168FEN+74.22
X = 811353.27
Y = 548572.45
PT = 172FEN+97.55
X = 811467.98
Y = 548980.53
R = 9410.00
DELTA = 5°09'31" LT
D= 0°36'32"
L = 847.23
T = 423.90
BK = N 20°51'33" E
AH = N 15°42'02" E

CURVE FWN1
PC = 125FWN+38.63
X = 811188.32
Y = 548181.67
PI = 127FWN+02.17
X = 811130.09
Y = 548028.85
PT = 128FWN+65.34
X = 811054.58
Y = 547883.79
R = 2820.00
DELTA = 6°38'16" RT
D= 2°01'54"
L = 326.70
T = 163.53
BK = S 20°51'33" W
AH = S 27°29'49" W

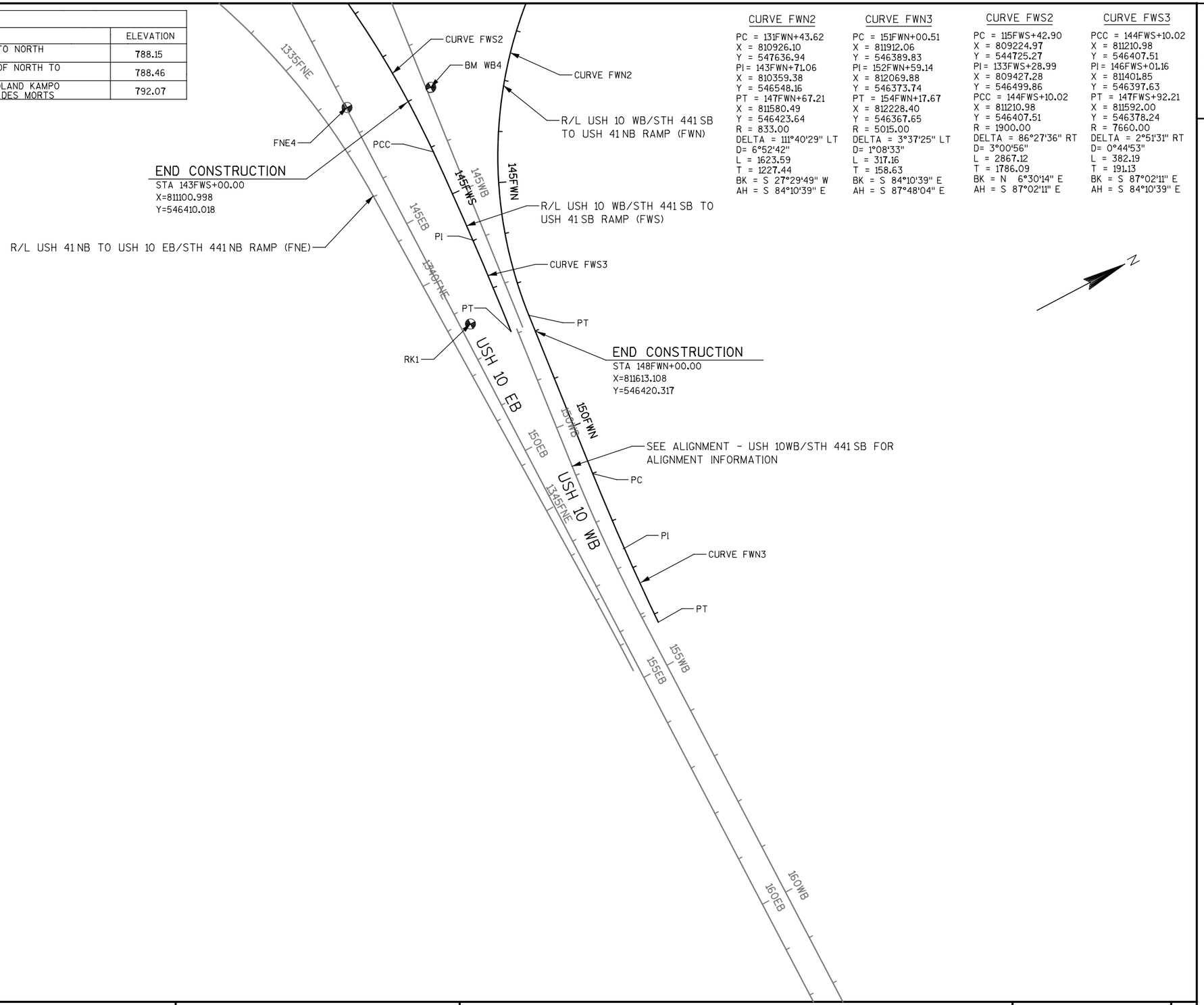
CURVE FWN2
PC = 131FWN+43.62
X = 810926.10
Y = 547636.94
PI = 143FWN+71.06
X = 810359.38
Y = 546548.16
PT = 147FWN+67.21
X = 811580.49
Y = 546423.64
R = 833.00
DELTA = 111°40'29" LT
D= 6°52'42"
L = 1623.59
T = 1227.44
BK = S 27°29'49" W
AH = S 84°10'39" E

CURVE FWS2
PC = 115FWS+42.90
X = 809224.97
Y = 544725.27
PI = 133FWS+28.99
X = 809427.28
Y = 546499.86
PCC = 144FWS+10.02
X = 811210.98
Y = 546407.51
R = 1900.00
DELTA = 86°27'36" RT
D= 3°00'56"
L = 2867.12
T = 1786.09
BK = N 6°30'14" E
AH = S 87°02'11" E

CURVE FNW4
PC = 1333FNW+01.44
X = 810495.97
Y = 546393.41
PI = 1352FNW+20.07
X = 811522.51
Y = 548014.33
PT = 1349FNW+37.56
X = 547367.95
Y = 809716.04
R = 660.00
DELTA = 142°02'03" LT
D= 8°40'52"
L = 1636.11
T = 1918.63
BK = N 32°20'47" E
AH = S 70°18'44" W

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | ALIGNMENT - SYSTEM INTERCHANGE RAMPS | SHEET 130 | E |
|---|---|---|---|---|---|

| BENCHMARKS | | | |
|---|---|---|---|
| NUMBER | LOCATION | DESCRIPTION | ELEVATION |
| WB4 | STA 142FWS+96.64, 52.0'LT | 3" DISC ON NW PARAPET WALL OF WEST TO NORTH RAMP BRIDGE B-70-76 OVER RR TRACKS | 788.15 |
| FNE4 | STA 142FWS+51.03, 110.2'RT | CHISELED SQUARE ON SE PARAPET WALL OF NORTH TO EAST RAMP OVER RR TRACKS | 788.46 |
| RK1 | STA 147FWS+48.58, 67.9'RT | 3" DISC ON SW PARAPET WALL OF THE ROLAND KAMPO BRIDGE B-70-61 OVER LITTLE LAKE BUTTE DES MORTS | 792.07 |




CURVE FWN2
PC = 131FWN+43.62
X = 810926.10
Y = 547636.94
PI = 143FWN+71.06
X = 810359.38
Y = 546548.16
PT = 147FWN+67.21
X = 811580.49
Y = 546423.64
R = 833.00
DELTA = 111°40'29" LT
D= 6°52'42"
L = 1623.59
T = 1227.44
BK = S 27°29'49" W
AH = S 84°10'39" E

CURVE FWN3
PC = 151FWN+00.51
X = 811912.06
Y = 546389.83
PI = 152FWN+59.14
X = 812069.88
Y = 546373.74
PT = 154FWN+17.67
X = 812228.40
Y = 546367.65
R = 5015.00
DELTA = 3°37'25" LT
D= 1°08'33"
L = 317.16
T = 158.63
BK = S 84°10'39" E
AH = S 87°48'04" E

CURVE FWS2
PC = 115FWS+42.90
X = 809224.97
Y = 544725.27
PI = 133FWS+28.99
X = 809427.28
Y = 546499.86
PCC = 144FWS+10.02
X = 811210.98
Y = 546407.51
R = 1900.00
DELTA = 86°27'36" RT
D= 3°00'56"
L = 2867.12
T = 1786.09
BK = N 6°30'14" E
AH = S 87°02'11" E

CURVE FWS3
PCC = 144FWS+10.02
X = 811210.98
Y = 546407.51
PI = 146FWS+01.16
X = 811401.85
Y = 546397.63
PT = 147FWS+92.21
X = 811592.00
Y = 546378.24
R = 7660.00
DELTA = 2°51'31" RT
D= 0°44'53"
L = 382.19
T = 191.13
BK = S 87°02'11" E
AH = S 84°10'39" E

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | ALIGNMENT - SYSTEM INTERCHANGE RAMPS | SHEET 131 | E |
|---|---|---|---|---|---|

| SUPERELEVATION DATA CURVE FEN3 | STATION | RATE | |
|---|---|---|---|
| | | LEFT | RIGHT |
| END NORMAL CROWN | 125+42.41 | N/A | -2.00% |
| REVERSE CROWN | 126+38.41 | N/A | 2.00% |
| BEGIN FULL SUPER CURVE 3 | 127+34.41 | N/A | 6.00% |
| END FULL SUPER CURVE 3 | 142+50.28 | N/A | 6.00% |
| REVERSE CROWN | 143+46.28 | N/A | 2.00% |
| BEGIN NORMAL CROWN | 144+42.28 | N/A | -2.00% |

| SUPERELEVATION DATA FEN Completing FWN Super | STATION | RATE | |
|---|---|---|---|
| | | LEFT | RIGHT |
| MATCH CURVE FWN1 | 164+50.32 | -2.33% | -2.00% |
| NORMAL CROWN | 164+58.32 | -2.00% | -2.00% |
| REVERSE CROWN | 165+54.32 | 2.00% | -2.00% |

| SUPERELEVATION DATA CURVE FWN1 | STATION | RATE | |
|---|---|---|---|
| | | LEFT | RIGHT |
| Match FEN | 125+38.63 | 2.33% | N/A |
| BEGIN FULL SUPER CURVE 1 | 125+66.63 | 3.50% | N/A |
| END FULL SUPER CURVE 1 | 128+37.34 | 3.50% | N/A |
| REVERSE CROWN | 128+73.34 | 2.00% | N/A |
| BEGIN NORMAL CROWN | 129+69.34 | -2.00% | N/A |

| SUPERELEVATION DATA CURVE FWN2 | STATION | RATE | |
|---|---|---|---|
| | | LEFT | RIGHT |
| REVERSE CROWN | 130+95.62 | -2.00% | N/A |
| BEGIN FULL SUPER CURVE 2 | 131+91.62 | -6.00% | N/A |
| END FULL SUPER CURVE 2 | 147+19.21 | -6.00% | N/A |
| REVERSE CROWN | 148+15.21 | -2.00% | N/A |

| SUPERELEVATION DATA CURVE WB2 | STATION | RATE | RATE |
|---|---|---|---|
| | | LEFT | RIGHT |
| END NORMAL CROWN | 125+88.49 | -2.00% | -2.00% |
| REMOVE CROWN | 126+78.49 | FLAT | -2.00% |
| REVERSE CROWN | 127+68.49 | 2.00% | -2.00% |
| BEGIN FULL SUPER CURVE 2 | 128+31.49 | 3.40% | -3.40% |
| END FULL SUPER CURVE 2 | 137+86.25 | 3.40% | -3.40% |
| REVERSE CROWN | 138+49.25 | 2.00% | -2.00% |
| REMOVE CROWN | 144+07.53 | FLAT | -2.00% |
| BEGIN NORMAL CROWN | 144+97.53 | -2.00% | -2.00% |

| SUPERELEVATION DATA CURVE WB3 (LANES 1 & 2) | STATION | RATE |
|---|---|---|
| | | RIGHT |
| END NORMAL CROWN | 148+40.89 | -2.00% |
| REMOVE CROWN | 149+30.89 | FLAT |
| REVERSE CROWN | 150+20.89 | 2.00% |
| BEGIN FULL SUPER CURVE 3 | 151+55.89 | 5.00% |
| END FULL SUPER CURVE 3 | 153+31.67 | 5.00% |
| REVERSE CROWN | 154+54.97 | 2.00% |
| REMOVE CROWN | 155+44.97 | FLAT |
| BEGIN NORMAL CROWN | 156+34.97 | -2.00% |

| SUPERELEVATION DATA CURVE FNW3 | STATION | RATE | |
|---|---|---|---|
| | | LEFT | RIGHT |
| REVERSE CROWN | 1324+64.02 | N/A | -2.00% |
| BEGIN FULL SUPER CURVE 3 | 1325+08.52 | N/A | -4.00% |
| END FULL SUPER CURVE 3 | 1327+16.49 | N/A | -4.00% |
| REVERSE CROWN | 1327+60.99 | N/A | -2.00% |

| SUPERELEVATION DATA CURVE FWN3 | STATION | RATE | |
|---|---|---|---|
| | | LEFT | RIGHT |
| REVERSE CROWN | 151+00.51 | -2.00% | N/A |
| BEGIN FULL SUPER CURVE 3 | 151+27.18 | -3.00% | N/A |
| END FULL SUPER CURVE 3 | 154+14.20 | -3.00% | N/A |
| MATCH CURVE WB3 | 154+17.67 | -2.87% | N/A |

| SUPERELEVATION DATA CURVE WB3 (LANE 3 & 4) | STATION | RATE | |
|---|---|---|---|
| | | LANE 3 | LANE 4 |
| REVERSE CROWN | 150+20.89 | -2.00% | N/A |
| BEGIN FULL SUPER CURVE 3 | 151+55.89 | -5.00% | N/A |
| END FULL SUPER CURVE 3 | 153+31.67 | -5.00% | N/A |
| MATCH CURVE FWN3 | 154+17.67 | -2.87% | -2.87% |
| REVERSE CROWN | 154+54.97 | -2.00% | -2.00% |

| SUPERELEVATION DATA CURVE FNW4 | STATION | RATE | |
|---|---|---|---|
| | | LEFT | RIGHT |
| END NORMAL CROWN | 1331+68.44 | N/A | -2.00% |
| REVERSE CROWN | 1332+57.11 | N/A | 2.00% |
| BEGIN FULL SUPER CURVE 4 | 1333+45.77 | N/A | 6.00% |
| END FULL SUPER CURVE 4 | 1348+52.27 | N/A | 6.00% |

| SUPERELEVATION DATA CURVES FWS2 & FWS3 | STATION | RATE | |
|---|---|---|---|
| | | LEFT | RIGHT |
| END NORMAL CROWN | 112+94.50 | -2.00% | N/A |
| REVERSE CROWN | 114+61.96 | 2.00% | N/A |
| BEGIN FULL SUPER CURVE 2 | 116+25.23 | 5.90% | N/A |
| END FULL SUPER CURVE 2 | 143+27.69 | 5.90% | N/A |
| BEGIN FULL SUPER CURVE 3 | 144+65.84 | 2.60% | N/A |
| END FULL SUPER CURVE 3 | 147+53.21 | 2.60% | 2.60% |
| REVERSE CROWN | 147+80.21 | 2.00% | 2.00% |

| SUPERELEVATION DATA WB CURVE 4 | STATION | RATE | |
|---|---|---|---|
| | | LEFT | RIGHT |
| END NORMAL CROWN | 174+13 | -2.00% | -2.00% |
| REMOVE CROWN | 175+33 | -2.00% | 0.00% |
| REVERSE CROWN | 176+53 | -2.00% | 2.00% |
| TRANSITION | 177+73 | -4.00% | 4.00% |
| BEGIN FULL SUPER | 178+93 | -6.00% | 6.00% |
| END FULL SUPER | 200+35 | -6.00% | 6.00% |
| TRANSITION | 201+25 | -4.00% | 4.00% |
| REVERSE CROWN | 202+15 | -2.00% | 2.00% |
| REMOVE CROWN | 203+05 | -2.00% | 0.00% |
| BEGIN NORMAL CROWN | 203+95 | -2.00% | -2.00% |

DATE 20APR16 E S T I M A T E O F Q U A N T I T I E S

| LINE NUMBER | ITEM | ITEM DESCRIPTION | UNIT | TOTAL | 1517-07-77 QUANTITY |
|---|---|---|---|---|---|
| 0010 | 201.0105 | Clearing **P** | STA | 5.000 | 5.000 |
| 0020 | 201.0115 | Clearing | ACRE | 2.820 | 2.820 |
| 0030 | 201.0205 | Grubbing **P** | STA | 5.000 | 5.000 |
| 0040 | 201.0215 | Grubbing | ACRE | 3.040 | 3.040 |
| 0050 | 203.0200 | Removing Old Structure (station) 701. STA. 142WB+83 | LS | 1.000 | 1.000 |
| 0060 | 203.0200 | Removing Old Structure (station) 702. STA. 142EB+35 | LS | 1.000 | 1.000 |
| 0070 | 203.0200 | Removing Old Structure (station) 703. STA. 131EB+93 | LS | 1.000 | 1.000 |
| 0080 | 203.0225.S | Debris Containment (structure) 700. B-70-76 | LS | 1.000 | 1.000 |
| 0090 | 203.0225.S | Debris Containment (structure) 701. B-70-78 | LS | 1.000 | 1.000 |
| 0100 | 203.0225.S | Debris Containment (structure) 702. B-70-79 | LS | 1.000 | 1.000 |
| 0110 | 203.0600.S | Removing Old Structure Over Waterway With Minimal Debris (station) 700. STA. 147WB+54.OO | LS | 1.000 | 1.000 |
| 0120 | 204.0100 | Removing Pavement **P** | SY | 5,844.000 | 5,844.000 |
| 0130 | 204.0157 | Removing Concrete Barrier **P** | LF | 3,019.000 | 3,019.000 |
| 0140 | 204.0165 | Removing Guardrail **P** | LF | 742.000 | 742.000 |
| 0150 | 204.0170 | Removing Fence **P** | LF | 762.000 | 762.000 |
| 0160 | 204.0220 | Removing Inlets | EACH | 4.000 | 4.000 |
| 0170 | 204.0245 | Removing Storm Sewer (size) 001. 12-Inch - 18-Inch **P** | LF | 63.000 | 63.000 |
| 0180 | 204.9060.S | Removing (item description) 001. Storm Sewer Plugs | EACH | 2.000 | 2.000 |
| 0190 | 204.9105.S | Removing (item description) 001. Sand Barrels | LS | 1.000 | 1.000 |
| 0200 | 204.9165.S | Removing (item description) 700. Removing Temporary Shoring Left in Place | SF | 873.000 | 873.000 |
| 0210 | 205.0100 | Excavation Common **P** | CY | 232,472.000 | 232,472.000 |
| 0220 | 206.1000 | Excavation for Structures Bridges (structure) 700. B-70-61 | LS | 1.000 | 1.000 |
| 0230 | 206.1000 | Excavation for Structures Bridges (structure) 701. B-70-401 | LS | 1.000 | 1.000 |
| 0240 | 206.1000 | Excavation for Structures Bridges (structure) 702. B-70-406 | LS | 1.000 | 1.000 |
| 0250 | 206.1000 | Excavation for Structures Bridges (structure) 703. B-70-405 | LS | 1.000 | 1.000 |
| 0260 | 206.1000 | Excavation for Structures Bridges (structure) 704. B-70-407 | LS | 1.000 | 1.000 |
| 0270 | 206.1000 | Excavation for Structures Bridges (structure) 705. B-70-409 | LS | 1.000 | 1.000 |
| 0280 | 206.5000 | Cofferdams (structure) 700. B-70-61 | LS | 1.000 | 1.000 |
| 0290 | 206.5000 | Cofferdams (structure) 701. B-70-405 | LS | 1.000 | 1.000 |
| 0300 | 209.0100 | Backfill Granular | CY | 175.000 | 175.000 |
| 0310 | 210.0100 | Backfill Structure **P** | CY | 973.000 | 973.000 |
| 0320 | 213.0100 | Finishing Roadway (project) 001. 1517-07-77 | EACH | 1.000 | 1.000 |
| 0330 | 305.0110 | Base Aggregate Dense 3/4-Inch | TON | 2,305.000 | 2,305.000 |
| 0340 | 305.0120 | Base Aggregate Dense 1 1/4-Inch | TON | 2,273.000 | 2,273.000 |
| 0350 | 311.0110 | Breaker Run | TON | 1,510.000 | 1,510.000 |
| 0360 | 320.0105 | Concrete Base 4-Inch **P** | SY | 446.000 | 446.000 |
| 0370 | 320.0145 | Concrete Base 8-Inch **P** | SY | 144.000 | 144.000 |
| 0380 | 415.0410 | Concrete Pavement Approach Slab **P** | SY | 210.000 | 210.000 |

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DATE 20APR16 E S T I M A T E O F Q U A N T I T I E S

1517-07-77

| LINE NUMBER | ITEM | ITEM DESCRIPTION | UNIT | TOTAL | QUANTITY |
|---|---|---|---|---|---|
| 0390 | 416.0620 | Drilled Dowel Bars | EACH | 46.000 | 46.000 |
| 0400 | 416.1010 | Concrete Surface Drains | CY | 6.000 | 6.000 |
| 0410 | 416.1110 | Concrete Shoulder Rumble Strips | LF | 1,879.000 | 1,879.000 |
| 0420 | 440.5020 | Incentive IRI Ride Bridge | DOL | 1.000 | 1.000 |
| 0430 | 455.0605 | Tack Coat | GAL | 4.000 | 4.000 |
| 0440 | 460.2000 | Incentive Density HMA Pavement | DOL | 350.000 | 350.000 |
| 0450 | 460.5224 | HMA Pavement 4 LT 58-28 S | TON | 546.000 | 546.000 |
| 0460 | 465.0315 | Asphaltic Flumes | SY | 17.000 | 17.000 |
| 0470 | 465.0400 | Asphaltic Shoulder Rumble Strips **P** | LF | 2,521.000 | 2,521.000 |
| 0480 | 501.1000.S | Ice Hot Weather Concreting | LB | 354,298.000 | 354,298.000 |
| 0490 | 502.1100 | Concrete Masonry Seal **P** | CY | 739.000 | 739.000 |
| 0500 | 502.3100 | Expansion Device (structure) 700. B-70-406 | LS | 1.000 | 1.000 |
| 0510 | 502.3100 | Expansion Device (structure) 701. B-70-401 | LS | 1.000 | 1.000 |
| 0520 | 502.3110.S | Expansion Device Modular (structure) 700. B-70-61 | LS | 1.000 | 1.000 |
| 0530 | 502.3110.S | Expansion Device Modular (structure) 701. B-70-401 | LS | 1.000 | 1.000 |
| 0540 | 502.3110.S | Expansion Device Modular (structure) 702. B-70-405 | LS | 1.000 | 1.000 |
| 0550 | 502.3200 | Protective Surface Treatment **P** | SY | 48,639.000 | 48,639.000 |
| 0560 | 502.3210 | Pigmented Surface Sealer | SY | 10,110.000 | 10,110.000 |
| 0570 | 502.5005 | Masonry Anchors Type L No. 5 Bars **P** | EACH | 240.000 | 240.000 |
| 0580 | 503.0146 | Prestressed Girder Type I 45W-Inch **P** | LF | 7,495.000 | 7,495.000 |
| 0590 | 503.0155 | Prestressed Girder Type I 54W-Inch **P** | LF | 5,278.000 | 5,278.000 |
| 0600 | 503.0172 | Prestressed Girder Type I 72W-Inch **P** | LF | 9,998.000 | 9,998.000 |
| 0610 | 505.0400 | Bar Steel Reinforcement HS Structures | LB | 920,807.000 | 920,807.000 |
| 0620 | 505.0600 | Bar Steel Reinforcement HS Coated Structures | LB | 5,708,596.000 | 5,708,596.000 |
| 0630 | 505.0800.S | Bar Steel Reinforcement HS Stainless Structures | LB | 3,380.000 | 3,380.000 |
| 0640 | 506.0605 | Structural Steel HS | LB | 8,133,557.000 | 8,133,557.000 |
| 0650 | 506.2605 | Bearing Pads Elastomeric Non-Laminated **P** | EACH | 143.000 | 143.000 |
| 0660 | 506.2610 | Bearing Pads Elastomeric Laminated **P** | EACH | 117.000 | 117.000 |
| 0670 | 506.3020 | Welded Stud Shear Connectors 7/8x7-Inch **P** | EACH | 29,082.000 | 29,082.000 |
| 0680 | 506.3025 | Welded Stud Shear Connectors 7/8x8-Inch **P** | EACH | 19,329.000 | 19,329.000 |
| 0690 | 506.4000 | Steel Diaphragms (structure) 700. B-70-61 **P** | EACH | 92.000 | 92.000 |
| 0700 | 506.4000 | Steel Diaphragms (structure) 701. B-70-401 **P** | EACH | 175.000 | 175.000 |
| 0710 | 506.4000 | Steel Diaphragms (structure) 702. B-70-406 **P** | EACH | 72.000 | 72.000 |
| 0720 | 506.5000 | Bearing Assemblies Fixed (structure) 700. B-70-61 **P** | EACH | 15.000 | 15.000 |
| 0730 | 506.6000 | Bearing Assemblies Expansion (structure) 700. B-70-61 **P** | EACH | 94.000 | 94.000 |
| 0740 | 506.6000 | Bearing Assemblies Expansion (structure) 701. B-70-406 **P** | EACH | 60.000 | 60.000 |
| 0750 | 511.1200 | Temporary Shoring (structure) 700. B-70-401 | SF | 2,646.000 | 2,646.000 |
| 0760 | 511.1200 | Temporary Shoring (structure) 701. B-70-406 | SF | 1,640.000 | 1,640.000 |

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DATE 20APR16 E S T I M A T E O F Q U A N T I T I E S

| LINE NUMBER | ITEM | ITEM DESCRIPTION | UNIT | TOTAL | 1517-07-77 QUANTITY |
|---|---|---|---|---|---|
| 0770 | 511.1200 | Temporary Shoring (structure) 702. B-70-405 | SF | 1,466.000 | 1,466.000 |
| 0780 | 511.1200 | Temporary Shoring (structure) 704. B-70-407 | SF | 525.000 | 525.000 |
| 0790 | 511.1200 | Temporary Shoring (structure) 705. B-70-409 | SF | 600.000 | 600.000 |
| 0800 | 511.1300 | Temporary Shoring (location) 001. Toe Trench | SF | 2,916.000 | 2,916.000 |
| 0810 | 514.0445 | Floor Drains Type GC | EACH | 46.000 | 46.000 |
| 0820 | 514.0450 | Floor Drains Type WF | EACH | 20.000 | 20.000 |
| 0830 | 514.2608 | Downspout 8-Inch **P** | LF | 553.000 | 553.000 |
| 0840 | 514.2625 | Downspout 6-Inch **P** | LF | 859.000 | 859.000 |
| 0850 | 516.0500 | Rubberized Membrane Waterproofing **P** | SY | 78.000 | 78.000 |
| 0860 | 517.0600 | Painting Epoxy System (structure) 700. B-70-61 | LS | 1.000 | 1.000 |
| 0870 | 517.0600 | Painting Epoxy System (structure) 701. B-70-405 | LS | 1.000 | 1.000 |
| 0880 | 517.0900.S | Preparation and Coating of Top Flanges (structure) 700. B-70-61 | LS | 1.000 | 1.000 |
| 0890 | 517.1010.S | Concrete Staining (structure) 700. B-70-61 **P** | SF | 40,170.000 | 40,170.000 |
| 0900 | 517.1010.S | Concrete Staining (structure) 701. B-70-401 **P** | SF | 76,175.000 | 76,175.000 |
| 0910 | 517.1010.S | Concrete Staining (structure) 702. B-70-406 **P** | SF | 41,385.000 | 41,385.000 |
| 0920 | 517.1010.S | Concrete Staining (structure) 703. B-70-405 **P** | SF | 62,655.000 | 62,655.000 |
| 0930 | 517.1050.S | Architectural Surface Treatment (structure) 700. B-70-61 **P** | SF | 8,940.000 | 8,940.000 |
| 0940 | 517.1050.S | Architectural Surface Treatment (structure) 701. B-70-401 **P** | SF | 7,370.000 | 7,370.000 |
| 0950 | 517.1050.S | Architectural Surface Treatment (structure) 702. B-70-406 **P** | SF | 4,280.000 | 4,280.000 |
| 0960 | 517.1050.S | Architectural Surface Treatment (structure) 703. B-70-405 **P** | SF | 9,870.000 | 9,870.000 |
| 0970 | 517.1800.S | Structure Repainting Recycled Abrasive (structure) 700. B-70-61 | LS | 1.000 | 1.000 |
| 0980 | 517.4500.S | Negative Pressure Containment and Collection of Waste Materials (structure) 700. B-70-61 | LS | 1.000 | 1.000 |
| 0990 | 517.6001.S | Portable Decontamination Facility | EACH | 1.000 | 1.000 |
| 1000 | 520.8000 | Concrete Collars for Pipe | EACH | 1.000 | 1.000 |
| 1010 | 521.1012 | Apron Endwalls for Culvert Pipe Steel 12-Inch | EACH | 2.000 | 2.000 |
| 1020 | 522.0324 | Culvert Pipe Reinforced Concrete Class IV 24-Inch | LF | 46.000 | 46.000 |
| 1030 | 522.0330 | Culvert Pipe Reinforced Concrete Class IV 30-Inch | LF | 66.000 | 66.000 |
| 1040 | 522.0530 | Culvert Pipe Reinforced Concrete Class V 30-Inch | LF | 70.000 | 70.000 |
| 1050 | 522.1024 | Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch | EACH | 2.000 | 2.000 |
| 1060 | 522.1030 | Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch | EACH | 3.000 | 3.000 |
| 1070 | 523.0424 | Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 24x38-Inch | LF | 55.000 | 55.000 |

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| LINE NUMBER | ITEM | ITEM DESCRIPTION | UNIT | TOTAL | 1517-07-77 QUANTITY |
|---|---|---|---|---|---|
| 1080 | 523.0524 | Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 24x38-Inch | EACH | 2.000 | 2.000 |
| 1090 | 550.0020 | Pre-Boring Rock or Consolidated Materials | LF | 10,024.000 | 10,024.000 |
| 1100 | 550.0500 | Pile Points | EACH | 1,206.000 | 1,206.000 |
| 1110 | 550.1120 | Piling Steel HP 12-Inch X 53 Lb | LF | 5,556.000 | 5,556.000 |
| 1120 | 550.1140 | Piling Steel HP 14-Inch X 73 Lb | LF | 41,734.000 | 41,734.000 |
| 1130 | 603.1156 | Concrete Barrier Type S56 **P** | LF | 298.000 | 298.000 |
| 1140 | 604.0600 | Slope Paving Select Crushed Material **P** | SY | 4,634.000 | 4,634.000 |
| 1150 | 606.0200 | Riprap Medium | CY | 75.000 | 75.000 |
| 1160 | 606.0300 | Riprap Heavy | CY | 1,372.000 | 1,372.000 |
| 1170 | 611.0627 | Inlet Covers Type HM | EACH | 5.000 | 5.000 |
| 1180 | 611.0654 | Inlet Covers Type V | EACH | 2.000 | 2.000 |
| 1190 | 611.3220 | Inlets 2x2-FT | EACH | 2.000 | 2.000 |
| 1200 | 612.0212 | Pipe Underdrain Unperforated 12-Inch | LF | 173.000 | 173.000 |
| 1210 | 612.0406 | Pipe Underdrain Wrapped 6-Inch | LF | 382.000 | 382.000 |
| 1220 | 614.0150 | Anchor Assemblies for Steel Plate Beam Guard | EACH | 3.000 | 3.000 |
| 1230 | 614.0397 | Guardrail Mow Strip Emulsified Asphalt | SY | 232.000 | 232.000 |
| 1240 | 614.2300 | MGS Guardrail 3 | LF | 767.000 | 767.000 |
| 1250 | 614.2500 | MGS Thrie Beam Transition | LF | 195.000 | 195.000 |
| 1260 | 614.2610 | MGS Guardrail Terminal EAT | EACH | 1.000 | 1.000 |
| 1270 | 614.2620 | MGS Guardrail Terminal Type 2 | EACH | 2.000 | 2.000 |
| 1280 | 616.0700.S | Fence Safety | LF | 2,000.000 | 2,000.000 |
| 1290 | 618.0100 | Maintenance And Repair of Haul Roads (project) 001. 1517-07-77 | EACH | 1.000 | 1.000 |
| 1300 | 619.1000 | Mobilization | EACH | 1.000 | 1.000 |
| 1310 | 624.0100 | Water | MGAL | 762.000 | 762.000 |
| 1320 | 625.0100 | Topsoil | SY | 37,443.000 | 37,443.000 |
| 1330 | 625.0500 | Salvaged Topsoil | SY | 62,798.000 | 62,798.000 |
| 1340 | 627.0200 | Mulching | SY | 69,196.000 | 69,196.000 |
| 1350 | 628.1504 | Silt Fence | LF | 4,208.000 | 4,208.000 |
| 1360 | 628.1520 | Silt Fence Maintenance | LF | 4,208.000 | 4,208.000 |
| 1370 | 628.1905 | Mobilizations Erosion Control | EACH | 18.000 | 18.000 |
| 1380 | 628.1910 | Mobilizations Emergency Erosion Control | EACH | 11.000 | 11.000 |
| 1390 | 628.2002 | Erosion Mat Class I Type A | SY | 25,455.000 | 25,455.000 |
| 1400 | 628.2004 | Erosion Mat Class I Type B | SY | 10,448.000 | 10,448.000 |
| 1410 | 628.6005 | Turbidity Barriers | SY | 440.000 | 440.000 |
| 1420 | 628.7005 | Inlet Protection Type A | EACH | 4.000 | 4.000 |
| 1430 | 628.7010 | Inlet Protection Type B | EACH | 5.000 | 5.000 |
| 1440 | 628.7020 | Inlet Protection Type D | EACH | 9.000 | 9.000 |
| 1450 | 628.7504 | Temporary Ditch Checks | LF | 545.000 | 545.000 |
| 1460 | 628.7555 | Culvert Pipe Checks | EACH | 98.000 | 98.000 |
| 1470 | 629.0210 | Fertilizer Type B | CWT | 38.900 | 38.900 |
| 1480 | 630.0120 | Seeding Mixture No. 20 | LB | 2,707.000 | 2,707.000 |
| 1490 | 630.0200 | Seeding Temporary | LB | 2,554.000 | 2,554.000 |
| 1500 | 631.1100 | Sod Erosion Control | SY | 40.000 | 40.000 |
| 1510 | 633.0500 | Delineator Reflectors | EACH | 3.000 | 3.000 |
| 1520 | 633.1000 | Delineator Brackets | EACH | 3.000 | 3.000 |
| 1530 | 633.5200 | Markers Culvert End | EACH | 5.000 | 5.000 |
| 1540 | 634.0618 | Posts Wood 4x6-Inch X 18-FT | EACH | 8.000 | 8.000 |
| 1550 | 634.0808 | Posts Tubular Steel 2x2-Inch X 8-FT | EACH | 9.000 | 9.000 |

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DATE 20APR16 E S T I M A T E O F Q U A N T I T I E S

| LINE NUMBER | ITEM | ITEM DESCRIPTION | UNIT | TOTAL | 1517-07-77 QUANTITY |
|---|---|---|---|---|---|
| 1560 | 635.0200 | Sign Supports Structural Steel HS | LB | 534.000 | 534.000 |
| 1570 | 636.0100 | Sign Supports Concrete Masonry | CY | 1.200 | 1.200 |
| 1580 | 636.0500 | Sign Supports Steel Reinforcement | LB | 68.000 | 68.000 |
| 1590 | 637.1220 | Signs Type I Reflective SH | SF | 2,792.000 | 2,792.000 |
| 1600 | 637.2210 | Signs Type II Reflective H | SF | 174.000 | 174.000 |
| 1610 | 637.2230 | Signs Type II Reflective F | SF | 113.000 | 113.000 |
| 1620 | 638.2601 | Removing Signs Type I | EACH | 1.000 | 1.000 |
| 1630 | 638.2602 | Removing Signs Type II | EACH | 8.000 | 8.000 |
| 1640 | 638.3000 | Removing Small Sign Supports | EACH | 9.000 | 9.000 |
| 1650 | 638.3100 | Removing Structural Steel Sign Supports | EACH | 2.000 | 2.000 |
| 1660 | 641.5100 | Sign Bridge Structure Mounted (structure) 700. S-70-206 | LS | 1.000 | 1.000 |
| 1670 | 641.5100 | Sign Bridge Structure Mounted (structure) 701. S-70-209 | LS | 1.000 | 1.000 |
| 1680 | 641.5100 | Sign Bridge Structure Mounted (structure) 702. S-70-254 | LS | 1.000 | 1.000 |
| 1690 | 642.5401 | Field Office Type D | EACH | 1.000 | 1.000 |
| 1700 | 643.0200 | Traffic Control Surveillance and Maintenance (project) 001. 1517-07-77 | DAY | 719.000 | 719.000 |
| 1710 | 643.0300 | Traffic Control Drums | DAY | 34,400.000 | 34,400.000 |
| 1720 | 643.0420 | Traffic Control Barricades Type III | DAY | 2,720.000 | 2,720.000 |
| 1730 | 643.0705 | Traffic Control Warning Lights Type A | DAY | 5,400.000 | 5,400.000 |
| 1740 | 643.0715 | Traffic Control Warning Lights Type C | DAY | 952.000 | 952.000 |
| 1750 | 643.0800 | Traffic Control Arrow Boards | DAY | 104.000 | 104.000 |
| 1760 | 643.0900 | Traffic Control Signs | DAY | 10,150.000 | 10,150.000 |
| 1770 | 643.0910 | Traffic Control Covering Signs Type I | EACH | 5.000 | 5.000 |
| 1780 | 643.0920 | Traffic Control Covering Signs Type II | EACH | 9.000 | 9.000 |
| 1790 | 643.1000 | Traffic Control Signs Fixed Message | SF | 95.000 | 95.000 |
| 1800 | 643.1050 | Traffic Control Signs PCMS | DAY | 1,539.000 | 1,539.000 |
| 1810 | 643.2000 | Traffic Control Detour (project) 001. 1517-07-77 | EACH | 1.000 | 1.000 |
| 1820 | 643.3000 | Traffic Control Detour Signs | DAY | 23,172.000 | 23,172.000 |
| 1830 | 645.0120 | Geotextile Fabric Type HR **P** | SY | 2,428.000 | 2,428.000 |
| 1840 | 649.0403 | Temporary Pavement Marking Epoxy 4-Inch | LF | 153,893.000 | 153,893.000 |
| 1850 | 649.0803 | Temporary Pavement Marking Epoxy 8-Inch | LF | 14,647.000 | 14,647.000 |
| 1860 | 649.2100 | Temporary Raised Pavement Markers | EACH | 294.000 | 294.000 |
| 1870 | 652.0125 | Conduit Rigid Metallic 2-Inch **P** | LF | 500.000 | 500.000 |
| 1880 | 652.0225 | Conduit Rigid Nonmetallic Schedule 40 2-Inch **P** | LF | 8,949.000 | 8,949.000 |
| 1890 | 652.0235 | Conduit Rigid Nonmetallic Schedule 40 3-Inch **P** | LF | 585.000 | 585.000 |
| 1900 | 652.0405 | Conduit Reinforced Thermosetting Resin 2-Inch **P** | LF | 408.000 | 408.000 |
| 1910 | 653.0145 | Pull Boxes Steel 24x48-Inch | EACH | 1.000 | 1.000 |
| 1920 | 653.0220 | Junction Boxes 18x6x6-Inch | EACH | 32.000 | 32.000 |
| 1930 | 653.0222 | Junction Boxes 18x12x6-Inch | EACH | 36.000 | 36.000 |
| 1940 | 654.0107 | Concrete Bases Type 7 | EACH | 1.000 | 1.000 |
| 1950 | 655.0620 | Electrical Wire Lighting 8 AWG **P** | LF | 1,975.000 | 1,975.000 |
| 1960 | 655.0625 | Electrical Wire Lighting 6 AWG **P** | LF | 5,925.000 | 5,925.000 |
| 1970 | 657.6005.S | Anchor Assemblies Light Poles on Structures | EACH | 29.000 | 29.000 |
| 1980 | 672.0250 | Base Camera Pole 50-FT | EACH | 1.000 | 1.000 |
| 1990 | 674.0300 | Remove Cable | LF | 7,900.000 | 7,900.000 |
| 2000 | 677.0100 | Install Camera Pole | EACH | 1.000 | 1.000 |
| 2010 | 690.0150 | Sawing Asphalt | LF | 90.000 | 90.000 |

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DATE 20APR16 E S T I M A T E O F Q U A N T I T I E S

| LINE NUMBER | ITEM | ITEM DESCRIPTION | UNIT | TOTAL | 1517-07-77 QUANTITY |
|---|---|---|---|---|---|
| 2020 | 690.0250 | Sawing Concrete | LF | 3,482.000 | 3,482.000 |
| 2030 | 715.0415 | Incentive Strength Concrete Pavement | DOL | 500.000 | 500.000 |
| 2040 | 715.0502 | Incentive Strength Concrete Structures | DOL | 500.000 | 500.000 |
| 2050 | 801.0117 | Railroad Flagging Reimbursment | DOL | 227,200.000 | 227,200.000 |
| 2060 | ASP.1T0A | On-the-Job Training Apprentice at $5. 00/HR | HRS | 2,100.000 | 2,100.000 |
| 2070 | ASP.1T0G | On-the-Job Training Graduate at $5.00/HR | HRS | 5,760.000 | 5,760.000 |
| 2080 | SPV.0035 | Special 001. Roadway Embankment | CY | 126,206.000 | 126,206.000 |
| 2090 | SPV.0035 | Special 002. Removing Existing Concrete Rubble | CY | 4,684.000 | 4,684.000 |
| 2100 | SPV.0035 | Special 700. Modified High Performance Concrete (HPC) Masonry Bridges | CY | 32,720.100 | 32,720.100 |
| 2110 | SPV.0035 | Special 701. Excavation, Hauling and Disposing of Contaminated Sediment | CY | 291.000 | 291.000 |
| 2120 | SPV.0045 | Special 001. PCMS Remote Communications | DAY | 602.000 | 602.000 |
| 2130 | SPV.0045 | Special 200. Maintain Traffic Control Warning Lights Type C Left In Place | DAY | 35,594.000 | 35,594.000 |
| 2140 | SPV.0045 | Special 201. Maintain Traffic Control Signs Left In Place | DAY | 27,913.000 | 27,913.000 |
| 2150 | SPV.0045 | Special 202. Maintain Traffic Control Drums Left In Place | DAY | 149,678.000 | 149,678.000 |
| 2160 | SPV.0045 | Special 203. Maintain Traffic Control Barricades Type III Left In Place | DAY | 8,314.000 | 8,314.000 |
| 2170 | SPV.0045 | Special 204. Maintain Traffic Control Warning Lights Type A Left In Place | DAY | 9,208.000 | 9,208.000 |
| 2180 | SPV.0060 | Special 001. CPM Baseline Schedule | EACH | 1.000 | 1.000 |
| 2190 | SPV.0060 | Special 002. CPM Schedule Monthly Updates | EACH | 22.000 | 22.000 |
| 2200 | SPV.0060 | Special 200. Maintain Crash Cushion Temporary Left In Place | EACH | 19.000 | 19.000 |
| 2210 | SPV.0060 | Special 350. Anchor Bolt Cover Shroud | EACH | 32.000 | 32.000 |
| 2220 | SPV.0060 | Special 351. Concrete Bases Type 7 Median | EACH | 2.000 | 2.000 |
| 2230 | SPV.0060 | Special 352. Pull Box Non-Conductive 24X42-Inch | EACH | 4.000 | 4.000 |
| 2240 | SPV.0060 | Special 400. Remove and Relocate Camera Assembly | EACH | 1.000 | 1.000 |
| 2250 | SPV.0060 | Special 401. Remove and Relocate Ethernet Switch | EACH | 1.000 | 1.000 |
| 2260 | SPV.0060 | Special 402. Remove and Relocate Video Encoder | EACH | 1.000 | 1.000 |
| 2270 | SPV.0060 | Special 403. Remove and Relocate Radio Link | EACH | 4.000 | 4.000 |
| 2280 | SPV.0060 | Special 404. Remove Wood Pole | EACH | 1.000 | 1.000 |
| 2290 | SPV.0060 | Special 405. Remove and Relocate Pole Mounted Cabinet | EACH | 1.000 | 1.000 |
| 2300 | SPV.0060 | Special 700. Anchor Assemblies Sign Bridge On Structures | EACH | 12.000 | 12.000 |
| 2310 | SPV.0060 | Special 701. Structural Steel Repair at Cross Frames B-70-61 | EACH | 42.000 | 42.000 |
| 2320 | SPV.0060 | Special 702. Structural Steel Repair at Shelf Plate B-70-61 | EACH | 24.000 | 24.000 |
| 2330 | SPV.0060 | Special 703. Existing Structure Shoring | EACH | 1.000 | 1.000 |
| 2340 | SPV.0060 | Special 704. Cleaning and Painting Bearings | EACH | 77.000 | 77.000 |
| 2350 | SPV.0060 | Special 705. Hanger Assembly | EACH | 7.000 | 7.000 |

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DATE 20APR16 E S T I M A T E O F Q U A N T I T I E S

| LINE NUMBER | ITEM | ITEM DESCRIPTION | UNIT | TOTAL | 1517-07-77 QUANTITY |
|---|---|---|---|---|---|
| 2360 | SPV.0060 | Special 706. Bearings High-Load Multi-Rotational Guided | EACH | 50.000 | 50.000 |
| 2370 | SPV.0060 | Special 707. Bearings High-Load Multi-Rotational Fixed | EACH | 25.000 | 25.000 |
| 2380 | SPV.0060 | Special 708. Stand Pipe System | EACH | 2.000 | 2.000 |
| 2390 | SPV.0075 | Special 001. Street Sweeping | HRS | 24.000 | 24.000 |
| 2400 | SPV.0090 | Special 001. Concrete Curb and Gutter 6-Inch Sloped 60-Inch Type A Full Depth **P** | LF | 958.000 | 958.000 |
| 2410 | SPV.0090 | Special 200. Manitain Concrete Barrier Temporary Precast Left In Place | LF | 27,310.000 | 27,310.000 |
| 2420 | SPV.0090 | Special 201. Concrete Barrier Temporary Precast Left In Place | LF | 27,310.000 | 27,310.000 |
| 2430 | SPV.0090 | Special 400. Conduit HDPE Directional Bore 1-Duct 2-Inch **P** | LF | 80.000 | 80.000 |
| 2440 | SPV.0105 | Special 001. Survey Project ID 1517-07-77 | LS | 1.000 | 1.000 |
| 2450 | SPV.0105 | Special 002. Temporary Haul Road Access For Structure Construction | LS | 1.000 | 1.000 |
| 2460 | SPV.0105 | Special 350. Navigation Lighting B-70-61 | LS | 1.000 | 1.000 |
| 2470 | SPV.0105 | Special 700. Temporary Causeway | LS | 1.000 | 1.000 |
| 2480 | SPV.0120 | Special 150. Water For Seeded Areas | MGAL | 1,836.000 | 1,836.000 |
| 2490 | SPV.0165 | Special 700. Abutment Backwall Soil Reinforcement **P** | SF | 465.000 | 465.000 |
| 2500 | SPV.0180 | Special 001. Modified High Performance Concrete (HPC) Pavement 10-Inch | SY | 3,820.000 | 3,820.000 |
| 2510 | SPV.0180 | Special 002. Modified High Performance Concrete (HPC) Pavement 11-Inch | SY | 3,089.000 | 3,089.000 |

## CLEARING & GRUBBING

| STATION | - | STATION | OFFSET | LOCATION | 201.0105 CLEARING STA | 201.0115 CLEARING ACRE | 201.0205 GRUBBING STA | 201.0215 GRUBBING ACRE |
|---|---|---|---|---|---|---|---|---|
| STAGE 1 | | | | | | | | |
| 132WB+28 | - | 133WB+34 | LT | USH 10 WB | -- | -- | -- | 0.22 |
| 118FWS+79 | - | 123FWS+50 | LT/RT | FWS RAMP | -- | 1.23 | -- | 1.23 |
| 124FWS+81 | - | 127FWS+29 | LT/RT | FWS RAMP | -- | 0.65 | -- | 0.65 |
| 127FWS+32 | - | 128FWS+60 | LT/RT | FWS RAMP | -- | 0.25 | -- | 0.25 |
| 1329FNW+00 | - | 1332FNW+00 | LT/RT | FNW RAMP | 3 | -- | 3 | -- |
| STAGE 1 SUBTOTAL | | | | | 3 | 2.13 | 3 | 2.35 |
| STAGE 2 | | | | | | | | |
| 139WB+00 | - | 141WB+00 | LT/RT | USH 10 WB | 2 | -- | 2 | -- |
| 137FWN+44 | - | 138FWN+18 | LT/RT | FWN RAMP | -- | 0.05 | -- | 0.05 |
| 137FWN+79 | - | 139FWN+93 | LT/RT | FWN RAMP | -- | 0.27 | -- | 0.27 |
| 139FWN+02 | - | 141FWN+65 | LT/RT | FWN RAMP | -- | 0.37 | -- | 0.37 |
| STAGE 2 SUBTOTAL | | | | | 2 | 0.69 | 2 | 0.69 |
| PROJECT 1517-07-77 TOTAL | | | | | 5 | 2.82 | 5 | 3.04 |

## REMOVING CONCRETE BARRIER

| STATION | | STATION | OFFSET | LOCATION | 204.0157 REMOVING CONCRETE BARRIER LF | REMARKS |
|---|---|---|---|---|---|---|
| STAGE 1 | | | | | | |
| 1320NB+80 | - | 1329NB+00 | LT | USH 41 NB | 820 | FOR B-70-409 & 405 STRUCTURE |
| 1334NB+00 | - | 1340NB+05 | LT | USH 41 NB | 605 | FOR B-70-401 & 407 STRUCTURE |
| 1320SB+80 | - | 1329SB+00 | RT | USH 41 SB | 820 | FOR B-70-409 & 405 STRUCTURE |
| 1334SB+00 | - | 1340SB+05 | RT | USH 41 SB | 605 | FOR B-70-401 & 407 STRUCTURE |
| STAGE 1 SUBTOTAL | | | | | 2,850 | |
| STAGE 2 | | | | | | |
| 142WB+89 | - | 143WB+20 | RT | USH 10 WB | 68 | BOTH SIDES OF GORE |
| 180WB+03 | - | 181WB+06 | | USH 10 WB | 101 | |
| STAGE 2 SUBTOTAL | | | | | 169 | |
| PROJECT 1517-07-77 TOTAL | | | | | 3,019 | |

## REMOVING GUARDRAIL

| STATION | | STATION | OFFSET | LOCATION | 204.0165 REMOVING GUARDRAIL LF |
|---|---|---|---|---|---|
| STAGE 2 | | | | | |
| 136WB+34 | - | 139WB+35 | RT | USH 10 WB | 298 |
| 142WB+95 | - | 147WB+37 | RT | USH 10 WB | 444 |
| STAGE 2 SUBTOTAL | | | | | 742 |
| PROJECT 1517-07-77 TOTAL | | | | | 742 |

## REMOVING PAVEMENT

| FROM STATION | OFFSET | TO STATION | OFFSET | LOCATION | 204.0100 REMOVING PAVEMENT SY |
|---|---|---|---|---|---|
| STAGE 1 | | | | | |
| 1321NB+75 | LT | 1322NB+16 | LT | USH 41 NB | 46 |
| 1329NB+44 | LT | 1329NB+82 | LT | USH 41 NB | 40 |
| 1333NB+25 | LT | 1333NB+65 | LT | USH 41 NB | 24 |
| 1338NB+62 | LT | 1339NB+05 | LT | USH 41 NB | 51 |
| 1321SB+75 | RT | 1322SB+16 | RT | USH 41 SB | 46 |
| 1329SB+55 | RT | 1329SB+92 | RT | USH 41 SB | 41 |
| 1333SB+24 | RT | 1333SB+64 | RT | USH 41 SB | 21 |
| 1338SB+62 | RT | 1339SB+05 | RT | USH 41 SB | 51 |
| STAGE 1 SUBTOTAL | | | | | 320 |
| STAGE 2 | | | | | |
| 135EB+74 | LT | 139EB+11 | LT | USH 10 EB | 1,028 |
| 136WB+16 | RT | 139WB+43 | RT | USH 10 WB | 945 |
| 142WB+74 | RT | 147WB+56 | RT | USH 10 WB | 2,196 |
| 180WB+00 | RT/LT | 183WB+32 | RT | USH 10 WB | 1,355 |
| STAGE 2 SUBTOTAL | | | | | 5,524 |
| PROJECT 1517-07-77 TOTAL | | | | | 5,844 |

## REMOVING FENCE

| STATION | OFFSET | LOCATION | 204.0170 REMOVING FENCE LF |
|---|---|---|---|
| STAGE 1 | | | |
| 118FWS+80 - 122FWS+75 | RT | FWS RAMP | 380 |
| STAGE 1 SUBTOTAL | | | 380 |
| STAGE 2 | | | |
| 149FEN+11 - 152FEN+92 | RT | FEN RAMP | 382 |
| STAGE 2 SUBTOTAL | | | 382 |
| PROJECT 1517-07-77 TOTAL | | | 762 |

## REMOVING DRAINAGE ITEMS

| STATION | OFFSET | LOCATION | 204.0220 REMOVING INLETS EACH | 204.9060.S.001 REMOVING STORM SEWER PLUGS EACH |
|---|---|---|---|---|
| STAGE 2 | | | | |
| 138WB+06 | 131' RT | USH 10 WB | 1 | -- |
| 139WB+25 | 86' RT | USH 10 WB | 1 | -- |
| 139WB+34 | 85' RT | USH 10 WB | 1 | -- |
| 147WB+33 | 6' RT | USH 10 WB | 1 | -- |
| 1336FNW+69 | 65.4' LT | FNW RAMP | -- | 1 |
| 1338FNW+00 | 57.6' RT | FNW RAMP | -- | 1 |
| STAGE 2 SUBTOTAL | | | 4 | 2 |
| PROJECT 1517-07-77 TOTAL | | | 4 | 2 |

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

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## REMOVING STORM SEWER

| STATION | OFFSET | - | STATION | OFFSET | LOCATION | PIPE SIZE INCH | 204.0245.001 REMOVING STORM SEWER 12-INCH-18-INCH LF |
|---|---|---|---|---|---|---|---|
| STAGE 2 | | | | | | | |
| 138WB+06 | 131.4' RT | - | 138WB+27 | 71.4' RT | JSH 10 WE | 12 | 63 |
| STAGE 2 SUBTOTAL | | | | | | | 63 |
| PROJECT 1517-07-77 TOTAL | | | | | | | 63 |

## REMOVING SAND BARRELS

| STATION | OFFSET | LOCATION | 204.9105.S.001 REMOVING SAND BARRELS LS | REMARKS |
|---|---|---|---|---|
| STAGE 2 | | | | |
| 143WB+20 | RT | USH 10 WB | 1 | ARRAY IN GORE |
| STAGE 2 SUBTOTAL | | | 1 | |
| PROJECT 1517-07-77 TOTAL | | | 1 | |

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## EARTHWORK

| Stage | From/To Station | Location | Excavation Common (CY) (1) 205.0100 Cut (CY) (2) | EBS (CY) (3) | Fill (CY) | Structure Fill (CY) (6) | Roadway Embankment (CY) (4) SPV.0035.001 | Mass Ordinate +/- (5) |
|---|---|---|---|---|---|---|---|---|
| 1 | 131WB+50.00 to 133WB+49.68 | WEST ABUTMENTS OF 401 | 55 | 0 | 22,542 | 0 | 22,542 | -22,487 |
| | | B-70-401 TOE TRENCH | 590 | 0 | 0 | 0 | 0 | 590 |
| | | | 645 | 0 | 22,542 | 0 | 22,542 | -21,897 |
| **Stage 1 Subtotal** | | | 645 | | | | 22,542 | |
| 2 | 142WB+80.98 to 146WB+34.79 | USH 10 WB FILL PLUG | 36,978 | 0 | 0 | 0 | 0 | 36,978 |
| | 179WB+42.00 to 180WB+80.76 | EAST ABUTMENTS OF B-70-61 AND B-70-403 | 8,890 | 0 | 0 | 0 | 0 | 8,890 |
| | 161FEN+87 to 168FEN+75 / 128FWN+04 to 130FWN+50 | BEHIND CURB & GUTTER | 0 | 0 | 327 | 0 | 327 | -327 |
| | 142FEN+50.01 to 152FEN+91.49 | FEN RAMP | 136,890 | 0 | 10 | 0 | 10 | 136,880 |
| | 1323FNW+50.00 to 1336FNW+68.81 | FNW RAMP | 49,068 | 0 | 321 | 0 | 321 | 48,747 |
| | 243+50EB to 256+00EB | MIDWAY EARLY FILL | 0 | 0 | 103,006 | 0 | 103,006 | -103,006 |
| | | | 231,827 | 0 | 103,664 | 0 | 103,664 | 128,163 |
| **Stage 2 Subtotal** | | | 231,827 | | | | 103,664 | |
| **Project 1517-07-77 Total** | | | 232,472 | | | | 126,206 | |

1) Excavation Common = Cut + EBS Excavation.

2) Cut volume includes concrete and asphaltic surface material.

3) EBS Excavation to be backfilled with roadway embankment unless otherwise noted in plans.

4) Roadway Embankment = Fill

5) The Mass Ordinate: A positive quantity indicates an excess of material and a negative quantity indicates a shortage of material.
Mass Ordinate = Cut - Fill. The Mass Ordinate is for information purposes only as Common Excavation and Roadway Embankment are not balanced for quantity purposes and does not guarantee the quality of Common Excavation, and if it can be reused onsite. All EBS material is assumed to be wasted offsite. Structure Excavation is not included in this calculation.

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

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## B-70-401 TOE TRENCH CONSTRUCTION

| LOCATION | 209.0100 BACKFILL GRANULAR CY | 311.0110* BREAKER RUN TONS | 511.1300 TEMPORARY SHORING (TOE TRENCH) SF |
|---|---|---|---|
| STAGE 1 | | | |
| B-70-401 TOE TRENCH CONSTRUCTION | 175 | 752 | 2,916 |
| STAGE 1 SUBTOTAL | 175 | 752 | 2,916 |
| PROJECT 1517-07-77 TOTAL | 175 | 752 | 2,916 |

NOTE:
SEE CONSTRUCTION DETAILS FOR TOE TRENCH CONSTRUCTION

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PROJECT 1517-07-77

## FINISHING ROADWAY

| LOCATION | 213.0100 FINISHING ROADWAY PROJECT ID 1517-07-77 EACH |
|---|---|
| PROJECT 1517-07-77 | 1 |
| PROJECT 1517-07-77 TOTAL | 1 |

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## AGGREGATE ITEMS

| STATION | | | OFFSET | LOCATION | 305.0110 BASE AGGREGATE DENSE 3/4-INCH TON | 305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON | 311.0110* BREAKER RUN TON |
|---|---|---|---|---|---|---|---|
| STAGE 2 | | | | | | | |
| 161FEN+75 | - | 168FEN+75 | RL | FEN RAMP | 445 | 332 | -- |
| 128FWN+01 | - | 136FWN+54 | RL | FWN RAMP | 785 | 274 | -- |
| 114FWS+50 | - | 118FWS+63 | RL | FWS RAMP | 865 | 230 | -- |
| 181WB+02 | - | 183WB+81 | RL | USH 10 WB | 0 | 598 | 689 |
| UNDISTRIBUTED | | | | | 210 | 143 | 69 |
| STAGE 2 SUBTOTAL | | | | | 2,305 | 1,577 | 758 |
| PROJECT 1517-07-77 TOTAL | | | | | 2,305 | 1,577 | 758 |

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PROJECT 1517-07-77

## PAVEMENT ITEMS

| STATION | | | OFFSET | LOCATION | 320.0105 CONCRETE BASE 4-INCH SY | 320.0145 CONCRETE BASE 8-INCH SY | SPV.0180.001 MODIFIED HIGH PERFORMANCE CONCRETE (HPC) PAVEMENT 10-INCH SY | SPV.0180.002 PERFORMANCE PAVEMENT 11-INCH SY | 415.0410 CONCRETE PAVEMENT APPROACH SLAB SY | 455.0605 TACK COAT GAL | 460.5224 HMA PAVEMENT 4 LT 52-28 S TON |
|---|---|---|---|---|---|---|---|---|---|---|---|
| STAGE 2 | | | | | | | | | | | |
| 161FEN+75 | - | 168FEN+75 | RL | FEN RAMP | -- | 144 | 2,253 | -- | -- | 4 | 149 |
| 128FWN+01 | - | 136FWN+54 | RL | FWN RAMP | -- | -- | 1,567 | -- | 42 | -- | 179 |
| 114FWS+50 | - | 118FWS+63 | RL | FWS RAMP | -- | -- | -- | 1,200 | 43 | -- | 218 |
| 181WB+02 | - | 181WB+18 | RL | USH 10 WB | -- | -- | -- | -- | 125 | -- | -- |
| 181WB+02 | - | 183WB+96 | RL | USH 10 WB | 446 | -- | -- | -- | -- | -- | -- |
| 181WB+18 | - | 183WB+80 | RL | USH 10 WB | -- | -- | -- | 1,889 | -- | -- | -- |
| STAGE 2 SUBTOTAL | | | | | 446 | 144 | 3,820 | 3,089 | 210 | 4 | 546 |
| PROJECT 1517-07-77 TOTAL | | | | | 446 | 144 | 3,820 | 3,089 | 210 | 4 | 546 |

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

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## PAVEMENT BAR ITEMS

| FROM STATION | OFFSET | TO STATION | OFFSET | LOCATION | 416.0620 DRILLED DOWEL BARS EACH |
|---|---|---|---|---|---|
| STAGE 2 | | | | | |
| 168FEN+75 | LT | 168FEN+75 | RT | FEN RAMP | 22 |
| 114FWS+50 | LT | 114FWS+50 | LT | FWS RAMP | 24 |
| STAGE 2 SUBTOTAL | | | | | 46 |
| PROJECT 1517-07-77 TOTAL | | | | | 46 |

## RUMBLE STRIPS

| STATION | OFFSET | LOCATION | 416.1110 CONCRETE RUMBLE STRIPS SHOULDER LF | 465.0400 ASPHALTIC SHOULDER RUMBLE STRIP LF |
|---|---|---|---|---|
| STAGE 2 | | | | |
| 181WB+18 - 183WB+81 | RT | USH 10 WB | 265 | -- |
| 161FEN+75 - 168FEN+75 | LT/RT | FEN RAMP | 861 | 525 |
| 128FWN+01 - 136FWN+19 | LT/RT | FWN RAMP | 724 | 888 |
| 112FWS+00 - 118FWS+62 | LT/RT | FWS RAMP | 29 | 1,108 |
| STAGE 2 SUBTOTAL | | | 1,879 | 2,521 |
| PROJECT 1517-07-77 TOTAL | | | 1,879 | 2,521 |

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## SURFACE DRAINS

| STATION | OFFSET | LOCATION | 416.1010 CONCRETE SURFACE DRAINS CY | 465.0315 ASPHALTIC FLUMES SY |
|---|---|---|---|---|
| STAGE 2 | | | | |
| 167FEN+00 | RT | FEN RAMP | -- | 17 |
| 136FWN+05 | LT | FWN RAMP | 4 | -- |
| 118FWS+67 | RT | FWS RAMP | 2 | -- |
| STAGE 2 SUBTOTAL | | | 6 | 17 |
| PROJECT 1517-07-77 TOTAL | | | 6 | 17 |

## BARRIER ITEMS

| FROM STATION | OFFSET | TO STATION | OFFSET | ROADWAY | 603.1156 CONCRETE BARRIER TYPE S56 LF |
|---|---|---|---|---|---|
| 181WB+02 | 25.0' RT | 183WB+96 | 25.0' RT | USH 10 WB/STH 441 SB | 298 |
| PROJET 1517-07-77 TOTAL | | | | | 298 |

## INLET COVERS AND DRAINAGE ITEMS FOR CONCRETE SURFACE DRAINS

| LOCATION | STR NO. | STATION | OFFSET | LOCATION | RIM, FLANGE, OR FLOWLINE ELEV | STR TYP | COVER | STR[1] DEPTH FT | 521.1012 APRON ENDWALLS FOR CULVERT PIPE STEEL 12-INCH EACH | 611.0627 INLET COVERS TYPE HM EACH | 611.0654 INLET COVERS TYPE V EACH | 611.3220 INLETS 2X2-FT EACH | 612.0212 PIPE UNDERDRAIN UNPERFORATED 12-INCH LF | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| FWN RAMP | 411 | 129FWN+48.10 | 4.0 | RT | 750.78 | N/A | HM | N/A | -- | 1 | -- | -- | -- | A,B |
| FWN RAMP | 421 | 126FWN+50.00 | 4.0 | RT | 747.98 | N/A | HM | N/A | -- | 1 | -- | -- | -- | A,B |
| FWN RAMP | 422 | 126FWN+75.14 | 4.0 | RT | 748.00 | N/A | HM | N/A | -- | 1 | -- | -- | -- | A,B |
| FWN RAMP | 423 | 126FWN+25.07 | 4.0 | RT | 747.98 | N/A | HM | N/A | -- | 1 | -- | -- | -- | A,B |
| FEN RAMP | 434 | 166FEN+35.51 | 16.0 | LT | 749.48 | N/A | HM | N/A | -- | 1 | -- | -- | -- | A,B |
| FWS RAMP | CSD1000 | 118FWS+67.48 | 6.0 | RT | 791.83 | IN 2X2-FT | V | 3.50 | -- | -- | 1 | 1 | -- | -- |
| FWS RAMP | N/A | 118FWS+64 | 81 | RT | N/A | N/A | N/A | N/A | 1 | -- | -- | -- | 76 | -- |
| FWN RAMP | CSD1010 | 136FWN+09.72 | 23.0 | LT | 772.59 | IN 2X2-FT | V | 3.42 | -- | -- | 1 | 1 | -- | -- |
| FWN RAMP | N/A | 135FWN+18 | 68 | LT | N/A | N/A | N/A | N/A | 1 | -- | -- | -- | 97 | -- |
| PROJECT 1517-07-77 TOTAL | | | | | | | | | 2 | 5 | 2 | 2 | 173 | |

1) STRUCTURE DEPTH = RIM ELEVATION - CASTING DEPTH - 6" FOR ADJUSTMENT RINGS - INVERT ELEVATION

A) STRUCTURES PLACED IN PREVIOUS PROJECT. REMOVE COVER PLATE LEFT IN PLACE.

B) STATION/OFFSET OF INLETS ARE GIVEN FROM FACE OF CURB AND GUTTER. RIM ELEVATIONS ARE GIVEN AT THE FLANGE LINE. SEE CONSTRUCTION DETAIL

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

## CULVERT PIPES

| INLET END STATION | INLET END OFFSET | INLET END LOCATION | INLET END ELEVATION | DISCHARGE END STATION | DISCHARGE END OFFSET | DISCHARGE END LOCATION | DISCHARGE END ELEVATION | SLOPE (%)[1] | PIPE[2] LENGTH | 520.8000 CONCRETE COLLARS FOR PIPE EACH | 522.1024 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH EACH | 522.1030 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 30-INCH EACH | 522.0324 CULVERT PIPE REINFORCED CONCRETE CLASS IV 24-INCH LF | 522.0330 CULVERT PIPE REINFORCED CONCRETE CLASS IV 30-INCH LF | 522.0530 CULVERT PIPE REINFORCED CONCRETE CLASS V 30-INCH LF | 523.0424 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 24X38 INCH LF | 523.0524 APRON ENDWALLS FOR PIPE REINFORCED HORIZONTAL ELLIPTICAL 24X38 INCH EACH | 633.5200 MARKERS CULVERT END EACH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 146FEN+25.00 | 19.3' LT | FEN | 748.00 | 146FEN+25.00 | 39.3' RT | FEN | 747.50 | 0.85% | 58.58 | -- | 2 | -- | 46 | -- | -- | -- | -- | 2 |
| 148FEN+00.00 | 21.2' LT | FEN | 748.50 | 148FEN+00.00 | 46.1' RT | FEN | 748.00 | 0.74% | 67.21 | -- | -- | -- | -- | -- | -- | 55 | 2 | 2 |
| 1329FNE+33.36 | 98.7' LT | FNE | 753.29 | 1329FNE+38.16 | 22.8' LT | FNE | 752.56 | 0.95% | 76.4 | 1 | -- | 1 | -- | -- | 70 | -- | -- | 1 |
| 1329FNW+89.12 | 33.7' LT | FNW | 754.40 | 1329FNW+68.03 | 41.3' RT | FNW | 754.00 | 0.51% | 77.88 | -- | -- | 2 | -- | 66 | -- | -- | -- | -- |
| PROJECT 1517-07-80 TOTAL | | | | | | | | | | 1 | 2 | 3 | 46 | 66 | 70 | 55 | 2 | 5 |

1) SLOPE CALCULATED BASED ON "PIPE LENGTH"

2) "PIPE LENGTH" COLUMN SHOWN FOR SLOPE CALCULATION ONLY. "PIPE LENGTH" IS CALCULATED FROM FLOWLINE END OF ENDWALL TO FLOWLINE END OF ENDWALL. NOT INTENDED FOR PAY QUANTITY

## GUARDRAIL ITEMS

| FROM STATION | FROM OFFSET | TO STATION | TO OFFSET | ROADWAY | 614.0397 GUARDRAIL MOW STRIP EMULSIFIED ASPHALT SY | 614.2300 MGS GUARDRAIL 3 LF | 614.2500 MGS THRIE BEAM TRANSITION LF | 614.2610 MGS GUARDRAIL TERMINAL EAT EACH | 614.2620 MGS GUARDRAIL TERMINAL TYPE 2 EACH |
|---|---|---|---|---|---|---|---|---|---|
| STAGE 2 | | | | | | | | | |
| 163FEN+48.0 | 25.0' RT | 167FEN+00.0 | 20.0' RT | FEN RAMP | -- | 263 | 39 | 1 | -- |
| 133FWN+51.2 | 23.0' LT | 136FWN+20.4 | 23.0' LT | FWN RAMP | -- | 225 | 39 | -- | 1 |
| 135FWN+25.0 | 4.0' RT | 136FWN+54.5 | 4.0' RT | FWN RAMP | 116 | 54 | 78 | -- | -- |
| 116FWS+15.1 | 6.0' RT | 118FWS+80.4 | 6.0' RT | FWS RAMP | 116 | 225 | 39 | -- | 1 |
| STAGE 2 SUBTOTAL | | | | | 232 | 767 | 195 | 1 | 2 |
| PROJECT 1517-07-77 TOTAL | | | | | 232 | 767 | 195 | 1 | 2 |

## FENCE SAFETY

| LOCATION | 616.0700.S FENCE SAFETY LF |
|---|---|
| UNDISTRIBUTED | 2,000 |
| PROJECT 1517-07-77 TOTAL | 2,000 |

## MAINTENANCE AND REPAIR OF HAUL ROADS

| LOCATION | 618.0100 MAINTENANCE AND REPAIR OF HAUL ROADS PROJECT I.D. 1517-07-77 EACH |
|---|---|
| PROJECT 1517-07-77 | 1 |
| PROJECT 1517-07-77 TOTAL | 1 |

## MOBILIZATION

| LOCATION | 619.1000 MOBILIZATION EACH |
|---|---|
| PROJECT 1517-07-77 | 1 |
| PROJECT 1517-07-77 TOTAL | 1 |

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

3

## WATER

| LOCATION | 624.0100 WATER MGAL | SPV.0120.150 WATER FOR SEEDED AREAS MGAL |
|---|---|---|
| AGGREGATE COMPACTION | 7 | -- |
| EARTHWORK COMPACTION | 505 | -- |
| DUST CONTROL | 250 | -- |
| SEEDED AREAS | -- | 1,836 |
| PROJECT 1517-07-77 TOTAL | 762 | 1,836 |

## DELINEATORS

| STATION | OFFSET | ROADWAY | 633.0500 DELINEATORS REFLECTORS (YELLOW) EACH | 633.1000 DELINEATORS BRACKETS EACH |
|---|---|---|---|---|
| 181WB+18 - 183WB+18 | 25' RT | USH 10 WB/STH 441 S | 3 | 3 |
| PROJECT 1517-07-77 TOTAL | | | 3 | 3 |

## RIPRAP, SOD & GEOTEXTILE FABRIC

| STATION | OFFSET | LOCATION | 606.0200 RIPRAP MEDIUM CY | 631.1100 SOD EROSION CONTROL SY | 645.0120 GEOTEXTILE FABRIC TYPE HR SY | NOTE |
|---|---|---|---|---|---|---|
| 132WB+15 - 132WB+62 | RT | USH 10 WB | 20 | -- | 40 | |
| 146FEN+25 | LT | FEN RAMP | 5 | 6 | 9 | |
| 148FEN+00 | LT | FEN RAMP | 7 | 7 | 13 | |
| 166FEN+84 | RT | FEN RAMP | 5 | -- | 9 | |
| 1329FNW+38 | RT | FNW RAMP | 7 | 7 | 13 | |
| 1329FNW+94 | RT | FNW RAMP | 7 | 6 | 13 | |
| 1338FNW+05 | RT | FNW RAMP | 5 | 6 | 9 | |
| 135FWN+18 | LT | FWN RAMP | 2 | -- | 3 | A |
| 118FWS+67 | RT | FWS RAMP | 2 | -- | 3 | A |
| UNDISTRIBUTED | | | 15 | 8 | 28 | |
| PROJECT 1517-07-77 TOTAL | | | 75 | 40 | 140 | |

.

NOTE

A - PLACE AT CONCRETE SURFACE DRAIN OUTFALL

3

## RESTORATION

| STATION | OFFSET | LOCATION | 625.0100 TOPSOIL SY | 625.0500 SALVAGED TOPSOIL SY | 627.0200 MULCHING SY | 629.0210 FERTILIZER TYPE B CWT | 630.0120 SEEDING MIXTURE NO. 20 LB | 630.0200 SEEDING TEMPORARY LB | REMARKS |
|---|---|---|---|---|---|---|---|---|---|
| 131WB+58 - 133WB+50 | LT | USH 10 WB | -- | 3,359 | -- | 2.1 | 90 | -- | |
| 131WB+79 - 133WB+30 | RT | USH 10 WB | -- | 1,537 | -- | 1.0 | 42 | -- | |
| 131WB+50 - 132WB+46 | LT/RT | USH 10 WB | -- | 777 | 777 | 0.4 | 21 | -- | |
| 142WB+81 - 146WB+69 | RL | USH 10 WB | -- | 8,081 | 1,168 | 5.1 | 218 | 218 | |
| 142FEN+50 - 152FEN+92 | LT/RT | FEN RAMP | -- | 29,652 | 20,736 | 18.2 | 801 | 801 | |
| 1323FNW+50 - 1336FNW+69 | LT/RT | FNW RAMP | -- | 19,128 | 15,149 | 11.9 | 517 | 517 | |
| 243EB+00 - 256EB+00 | RL | MIDWAY EARLY FILL | 31,102 | -- | 31,102 | -- | 840 | 840 | TOP OF FILL |
| 243EB+00 - 256EB+00 | RL | MIDWAY EARLY FILL | 6,341 | -- | -- | -- | 171 | 171 | SLOPES |
| PAVED AREAS | | | -- | 264 | 264 | 0.2 | 7 | 7 | |
| PROJECT 1517-07-77 TOTAL | | | 37,443 | 62,798 | 69,196 | 38.9 | 2,707 | 2,554 | |

NOTE

PAVED AREAS - THE FEN, FWN, AND FWS RAMPS WERE CONSTRUCTED UP TO THE TOP OF THE 1 1/4-INCH BASE AGGREGATE DENSE IN PREVIOUS PROJECTS. RESTORATION TOOK PLACE IN THOSE PROJECTS. IT IS ASSUMED RESTORATION WILL BE NEEDED DUE TO CONSTRUCTION ACTIVITIES. AREAS ARE ASSUMED TO BE 5 FEET WIDE PER LENGTH OF PAVEMENT.

## MOBILIZATIONS EROSION CONTROL

| LOCATION | 628.1905 MOBILIZATIONS EROSION CONTROL EACH | 628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH |
|---|---|---|
| UNDISTRIBUTED | 18 | 11 |
| PROJECT 1517-07-77 TOTAL | 18 | 11 |

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

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## SILT FENCE

| STATION | OFFSET | LOCATION | 628.1504 SILT FENCE LF | 628.1520 SILT FENCE MAINTENANCE LF |
|---|---|---|---|---|
| 131WB+58 - 133WB+45 | LT | USH 10 WB | 254 | 254 |
| 141WB+94 - 148WB+90 | LT | USH 10 WB | 720 | 720 |
| 142WB+76 - 142WB+76 | LT | USH 10 WB | 63 | 63 |
| 142WB+76 - 148WB+97 | LT | USH 10 WB | 702 | 702 |
| 179WB+35 - 180WB+86 | LT | USH 10 WB | 143 | 143 |
| 179WB+35 - 180WB+54 | LT/RT | USH 10 WB | 345 | 345 |
| 119FWS+50 - 123FWS+50 | RT | FWS RAMP | 381 | 381 |
| 125FWS+65 - 127FWS+86 | LT/RT | FWS RAMP | 758 | 758 |
| UNDISTRIBUTED | | | 842 | 842 |
| PROJECT 1517-07-77 TOTAL | | | 4,208 | 4,208 |

## TURBIDITY BARRIERS

| STATION | OFFSET | LOCATION | 628.6005 TURBIDITY BARRIERS SY |
|---|---|---|---|
| 147WB+88 - 149WB+33 | LT/RT | USH 10 WB | 320 |
| 179WB+22 - 179WB+07 | LT/RT | USH 10 WB | 120 |
| PROJECT 1517-07-77 TOTAL | | | 440 |

## INLET PROTECTION

| STRUCTURE NUMBER | LOCATION | 628.7005 INLET PROTIECTION TYPE A EACH | 628.7010 INLET PROTIECTION TYPE B EACH | 628.7020 INLET PROTIECTION TYPE D EACH | REMARKS |
|---|---|---|---|---|---|
| 411 | FWN RAMP | -- | 1 | -- | |
| 421 | FEN RAMP | -- | -- | 1 | |
| 422 | FEN RAMP | -- | -- | 1 | |
| 423 | FEN RAMP | -- | -- | 1 | |
| 434 | FEN RAMP | -- | 1 | -- | |
| CSD 1010 | FWN RAMP | -- | 1 | -- | 136FWN+10.00, 22.0' LT |
| CSD 1000 | FWS RAMP | -- | 1 | -- | 118FWS+67.48, 3.5' RT |
| EX | USH 10 WB | -- | -- | 1 | 182WB+74, 45.5' LT |
| EX | USH 10 WB | 1 | -- | 1 | 182WB+99, 33.9' RT |
| EX | USH 10 WB | -- | -- | 1 | 182WB+99, 46.1' LT |
| EX | USH 10 WB | -- | -- | 1 | 183WB+46, 46.5' LT |
| EX | FEN RAMP | 1 | -- | -- | 130FEN+02, 58.4' LT |
| EX | FEN RAMP | 1 | -- | -- | 130FEN+30, 111.4' RT |
| UNDISTRIBUTED | | 1 | 1 | 2 | |
| PROJECT 1517-07-77 TOTAL | | 4 | 5 | 9 | |

## EROSION MAT

| STATION | OFFSET | LOCATION | 628.2002 EROSION CLASS I TYPE A SY | 628.2004 EROSION CLASS I TYPE B SY | REMARKS |
|---|---|---|---|---|---|
| 131WB+58 - 133WB+50 | LT | USH 10 WB | 3,054 | -- | |
| 131WB+79 - 133WB+30 | RT | USH 10 WB | 1,370 | -- | |
| 142WB+81 - 148WB+83 | RT/LT | USH 10 WB | 6,285 | -- | |
| 179WB+38 - 180WB+83 | LT | USH 10 WB | 1,158 | -- | |
| 142FEN+50 - 152FEN+92 | LT | FEN RAMP | 3,364 | 2,882 | |
| 142FEN+50 - 152FEN+92 | RT | FEN RAMP | -- | 1,859 | |
| 1324FNW+25 - 1336FNW+69 | LT | FNW RAMP | -- | 2,469 | |
| 1326FNW+15 - 1333FNW+50 | RT | FNW RAMP | -- | 1,148 | |
| 243EB+00 - 256EB+00 | RL | MIDWAY EARLY FILL | 6,341 | -- | |
| UNDISTRIBUTED | | MIDWAY EARLY FILL | 75 | -- | RESTORATION OF ACCESS HAUL ROAD |
| UNDISTRIBUTED | | | 3,808 | 2,090 | |
| PROJECT 1517-07-77 TOTAL | | | 25,455 | 10,448 | |

## TEMPORARY DITCH CHECKS

| STATION | OFFSET | LOCATION | 628.7504 TEMPORARY DITCH CHECKS LF |
|---|---|---|---|
| 132WB+09 | RT | USH 10 WB | 20 |
| 132WB+42 | RT | USH 10 WB | 20 |
| 132WB+54 | RT | USH 10 WB | 20 |
| 133WB+54 | LT | USH 10 WB | 20 |
| 133WB+66 | LT | USH 10 WB | 20 |
| 142FEN+87 | LT | FEN RAMP | 10 |
| 143FEN+00 | LT | FEN RAMP | 12 |
| 143FEN+25 | LT | FEN RAMP | 22 |
| 143FEN+75 | RT | FEN RAMP | 24 |
| 144FEN+75 | LT | FEN RAMP | 24 |
| 145FEN+50 | RT | FEN RAMP | 24 |
| 151FEN+80 | LT | FEN RAMP | 22 |
| 1327FNW+00 | LT | FNW RAMP | 24 |
| 1328FNW+00 | LT | FNW RAMP | 21 |
| 1329FNW+50 | RT | FNW RAMP | 24 |
| 1331FNW+50 | RT | FNW RAMP | 41 |
| 1332FNW+25 | RT | FNW RAMP | 10 |
| 1332FNW+60 | RT | FNW RAMP | 18 |
| 1333FNW+00 | RT | FNW RAMP | 14 |
| 1333FNW+30 | RT | FNW RAMP | 10 |
| 1333FNW+50 | LT | FNW RAMP | 36 |
| UNDISTRIBUTED | | | 109 |
| PROJECT 1517-07-77 TOTAL | | | 545 |

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

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## CULVERT PIPE CHECKS

| STATION | OFFSET | LOCATION | 628.7555 CULVERT PIPE CHECKS EACH |
|---|---|---|---|
| 146FEN+25 | LT | FEN RAMP | 8 |
| 148FEN+00 | LT | FEN RAMP | 10 |
| 157FEN+86 | LT | FEN RAMP | 10 |
| 157FEN+94 | LT | FEN RAMP | 10 |
| 1329FNE+33 | LT | FNE RAMP | 10 |
| 1329FNW+94 | LT | FNW RAMP | 10 |
| 1336FNW+62 | LT | FNW RAMP | 8 |
| 1341FNW+22 | LT | FNW RAMP | 12 |
| UNDISTRIBUTED | | | 20 |
| PROJECT 1517-07-77 TOTAL | | | 98 |

## FIELD OFFICE TYPE D

| LOCATION | 642.5401 FIELD OFFICE TYPE D EACH |
|---|---|
| PROJECT 1517-07-77 | 1 |
| PROJECT 1517-07-77 TOTAL | 1 |

## REMOVING EXISTING CONCRETE RUBBLE

| STATION | OFFSET | LOCATION | SPV.0035.002 REMOVING EXISTING CONCRETE RUBBLE CY |
|---|---|---|---|
| 146FEN+45 - 149FEN+07 | LT/RT | FEN RAMP | 4684 |
| PROJECT 1517-07-77 TOTAL | | | 4,684 |

NOTE:
RUBBLE VOLUME ESTIMATED TO AVERAGE 8' DEPTH.

## STREET SWEEPING

| STATION | SPV.0075.001 STREET SWEEPING HRS |
|---|---|
| UNDISTRIBUTED | 24 |
| PROJECT 1517-07-77 TOTAL | 24 |

## SAWCUTS

| STATION | OFFSET | LOCATION | 690.0150 SAWING ASPHALT LF | 690.0250 SAWING CONCRETE LF | REMARKS |
|---|---|---|---|---|---|
| STAGE 1 | | | | | |
| 1320NB+80 - 1329NB+00 | LT | USH 41 NB | -- | 836 | |
| 1329NB+44 - 1329NB+82 | LT | USH 41 NB | -- | 54 | |
| 1333NB+25 - 1333NB+65 | LT | USH 41 NB | -- | 50 | |
| 1334NB+00 - 1340NB+05 | LT | USH 41 NB | -- | 623 | |
| 1320SB+80 - 1329SB+00 | RT | USH 41 SB | -- | 837 | |
| 1329SB+55 - 1329SB+92 | RT | USH 41 SB | -- | 150 | |
| 1333SB+24 - 1333SB+64 | RT | USH 41 SB | -- | 54 | |
| 1334SB+00 - 1340SB+05 | RT | USH 41 SB | -- | 626 | |
| 1333FWS+25 - 1333FWS+65 | LT | FWS RAMP | 14 | 50 | ON FSE FOR B-70-405 WORK |
| STAGE 1 SUBTOTAL | | | 14 | 3,280 | |
| STAGE 2 | | | | | |
| 135EB+68 - 135EB+86 | LT | USH 10 EB | 12 | 32 | |
| 139EB+08 - 139EB+19 | LT | USH 10 EB | 12 | 32 | |
| 136WB+05 - 136WB+21 | RT | USH 10 WB | 12 | 29 | |
| 139WB+39 - 139WB+45 | RT | USH 10 WB | 12 | 27 | |
| 142WB+70 - 142WB+76 | RT | USH 10 WB | 12 | 27 | |
| 142WB+80 - 142WB+85 | RT | USH 10 WB | 16 | 15 | |
| 147WB+56 - 147WB+59 | RT | USH 10 WB | -- | 40 | |
| STAGE 2 SUBTOTAL | | | 76 | 202 | |
| PROJECT 1517-07-77 TOTAL | | | 90 | 3,482 | |

## CONCRETE CURB & GUTTER

| STATION | OFFSET | LOCATION | SPV.0090.001 CONCRETE CURB & GUTTER 6-INCH SLOPED 60-INCH TYPE A FULL DEPTH LF |
|---|---|---|---|
| STAGE 2 | | | |
| 161FEN+90 - 168FEN+98 | LT | FEN RAMP | 709 |
| 128FWN+01 - 130FWN+50 | RT | FWN RAMP | 249 |
| STAGE 2 SUBTOTAL | | | 958 |
| PROJECT 1517-07-77 TOTAL | | | 958 |

## SURVEY PROJECT

| LOCATION | SPV.0105.001 SURVEY PROJECT ID 1517-07-77 LS |
|---|---|
| PROJECT 1517-07-77 | 1 |
| PROJECT 1517-07-77 TOTAL | 1 |

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

## TRAFFIC CONTROL

| | | 643.0300 | | 643.0420 | | 643.0705 | | 643.0715 | | 643.0800 | | 643.0900 | | 643.1050 | | SPV.0045.001 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DURATION | TRAFFIC CONTROL DRUMS | | TRAFFIC CONTROL BARRICADES TYPE III | | TRAFFIC CONTROL WARNING LIGHTS TYPE A | | TYPE C | | TRAFFIC CONTROL ARROW BOARDS | | TRAFFIC CONTROL SIGNS | | TRAFFIC CONTROL SIGNS PCMS | | PCMS REMOTE COMMUNICATIONS | | |
| | DAYS | EACH | DAYS | EACH | DAYS | EACH | DAYS | EACH | DAYS | EACH | DAYS | EACH | DAYS | EACH | DAYS | EACH | DAYS | COMMENTS |
| LOCATION | | | | | | | | | | | | | | | | | | |
| PROJECT | 602 | - | - | - | - | - | - | - | - | - | - | 2 | 1,204 | 2 | 1,204 | 1 | 602 | |
| USH 41 NB | 8 | 125 | 1,000 | 6 | 48 | 12 | 96 | 42 | 336 | 4 | 32 | 20 | 160 | 4 | 28 | - | - | NB USH 41 FULL CLOSURE |
| USH 41 SB | 8 | 125 | 1,000 | 6 | 48 | 12 | 96 | 42 | 336 | 4 | 32 | 20 | 160 | 4 | 28 | - | - | SB USH 41 FULL CLOSURE |
| FWN | 602 | 50 | 30,100 | 4 | 2,408 | 8 | 4,816 | 0 | 0 | 0 | 0 | 13 | 7,826 | 1 | 7 | - | - | WB USH 10 TO NB USH 41 FULL CLOSURE |
| FSE | 14 | 50 | 700 | 4 | 56 | 8 | 112 | 0 | 0 | 0 | 0 | 13 | 182 | 7 | 49 | - | - | SB USH 41 TO EB USH 10 FULL CLOSURE |
| FWS DETOUR PLANS PENDING | 14 | 50 | 700 | 4 | 56 | 8 | 112 | 0 | 0 | 0 | 0 | 13 | 182 | 7 | 49 | - | - | WB USH 10 TO SB USH 41 FULL CLOSURE |
| LAKE STREET | 16 | 10 | 160 | 4 | 64 | 8 | 128 | 0 | 0 | 0 | 0 | 6 | 96 | 8 | 56 | - | - | LAKE STREET FULL ROAD CLOSURE |
| USH 41 LANE CLOSURE (B-70-401) | 20 | 37 | 740 | 2 | 40 | 2 | 40 | 14 | 280 | 2 | 40 | 17 | 340 | - | - | - | - | |
| TOTALS | | | 34,400 | | 2,720 | | 5,400 | | 952 | | 104 | | 10,150 | | 1,421 | | 602 | |

## TRAFFIC CONTROL PROJECT

| | 643.0200 TRAFFIC CONTROL SURVEILLANCE AND MAINTENANCE DAY |
|---|---|
| PROJECT | |
| PROJECT ID 1517-07-77 | 719 |
| TOTAL | 719 |

## TRAFFIC CONTROL LEFT IN PLACE

| | SPV.0045.202 MAINTAIN TRAFFIC CONTROL DRUMS LEFT IN PLACE | | SPV.0045.203 MAINTAIN TRAFFIC CONTROL BARRICADES TYPE III LEFT IN PLACE | | SPV.0045.204 MAINTAIN TRAFFIC CONTROL WARNING LIGHTS TYPE A LEFT IN PLACE | | SPV.0045.200 MAINTAIN TRAFFIC CONTROL WARNING LIGHTS TYPE C LEFT IN PLACE | | SPV.0045.201 MAINTAIN TRAFFIC CONTROL SIGNS LEFT IN PLACE | | SPV.0060.200 MAINTAIN CRASH CUSHION TEMPORARY | SPV.0090.200 MAINTAIN CONCRETE BARRIER TEMPORARY PRECAST LEFT IN PLACE | SPV.0090.201 CONCRETE BARRIER TEMPORARY PRECAST LEFT IN PLACE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | EACH | DAYS | EACH | DAYS | EACH | DAYS | EACH | DAYS | EACH | DAYS | EACH | LF | LF |
| STAGE | | | | | | | | | | | | | |
| 1 | 148 | 9,916 | 4 | 268 | 4 | 268 | 42 | 2,814 | 43 | 2,881 | 9 | 6,540 | |
| 2 | 469 | 139,762 | 27 | 8,046 | 30 | 8,940 | 110 | 32,780 | 84 | 25,032 | 10 | 20,770 | 27,310 |
| TOTALS | 617 | 149,678 | 31 | 8,314 | 34 | 9,208 | 152 | 35,594 | 127 | 27,913 | 19 | 27,310 | 27,310 |

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

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## TRAFFIC CONTROL DETOUR

| LOCATION | 643.2000 TRAFFIC CONTROL DETOUR 1517-07-77 EACH |
|---|---|
| PROJECT | 1 |
| TOTAL | 1 |

## TEMPORARY PAVEMENT MARKING

| LOCATION | STA | - | STA | 649.0403 TEMPORARY PAVEMENT MARKING EPOXY 4-INCH YELLOW LF | 649.0403 TEMPORARY PAVEMENT MARKING EPOXY 4-INCH WHITE LF | 649.0403 TEMPORARY PAVEMENT MARKING EPOXY 4-INCH DASH WHITE LF | 649.0803 TEMPORARY PAVEMENT MARKING EPOXY 8-INCH SOLID LF | 649.0803 TEMPORARY PAVEMENT MARKING EPOXY 8-INCH DASHED LF | 649.2100 TEMPORARY RAISED PAVEMENT MARKERS (WHITE) EACH | 649.2100 TEMPORARY RAISED PAVEMENT MARKERS (YELLOW) EACH |
|---|---|---|---|---|---|---|---|---|---|---|
| STAGE 1 | **ALL LEFT IN PLACE FROM 7575 & 0779** | | | 11122 | 23918 | 2881.75 | 1415 | 357.75 | 100 | 80 |
| STAGE 2 | | | | | | | | | | |
| | **ALL LEFT IN PLACE FROM 7575 & 0779** | | | 110725 | | 5246.25 | 12370 | 504.5 | 76 | 38 |
| SUBTOTAL | | | | 153,893 | | | 14,647 | | 176 | 118 |
| TOTAL | | | | | | | | | 294 | |

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## TEMPORARY HAUL ROAD ACCESS FOR STRUCTURE CONSTRUCTION

| LOCATION | SPV.0105.002 TEMPORARY HAUL ROAD ACCESS FOR STRUCTURE CONSTRUCTION LS |
|---|---|
| TEMPORARY CAUSEWAY HAUL ROAD ACCESS | 1 |
| PROJECT 1517-07-77 TOTAL | 1 |

## FOR INFORMATION ONLY

| STATION | LOCATION | EXCAVATION COMMON CY | BASE AGGREGATE DENSE 1 1/4-INCH TON | BREAKER RUN TON | SALVAGED TOPSOIL SY | MULCHING SY | FERTILIZER TYPE B CWT | SEEDING MIXTURE NO. 30 LB | MOBILIZATIONS EROSION CONTROL EACH | MOBILIZATIONS EMERGENCY EROSION CONTROL EACH | EROSION BALES EACH | SILT FENCE LF | SILT FENCE MAINTENANCE LF | TRACKING PADS EACH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 142WB+00 - 149WB+00 | TEMP CAUSEWAY ACCESS ROAD WEST ABUTMENT | 344 | 115 | 230 | 689 | 689 | 1 | 12 | 1 | 1 | 5 | 500 | 500 | 1 |
| | | 344 | 115 | 230 | 689 | 689 | 1 | 12 | 1 | 1 | 5 | 500 | 500 | 1 |

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

## BASES, COVERS & JUNCTION BOXES

WIS 441 LIGHTING - CONTRACT 1517-07-77

| CATEGORY | SYSTEM | LOCATION | STATION | INSTALLATION | 653.0222 JUNCTION BOXES 18X12X6-Inch | 654.0107 CONCRETE BASES TYPE 7 | SPV.0060.350 ANCHOR BOLT COVER SHROUD | SPV.0060.351 CONCRETE BASES TYPE 7 MEDIAN |
|---|---|---|---|---|---|---|---|---|
| | | | | | EACH | EACH | EACH | EACH |
| 1100 | RAMP FWN | SLB01 | STA 153+05 | STR | - | - | 1 | - |
| | | SLB02 | STA 150+41 | STR | - | - | 1 | - |
| | | SLB03 | STA 147+50 | STR | - | - | 1 | - |
| | | SLB04 | STA 145+25 | STR | - | - | 1 | - |
| | | SLB05 | STA 143+00 | STR | - | - | 1 | - |
| | | SLB06 | STA 140+75 | STR | - | - | 1 | - |
| | | SLB07 | STA 138+50 | STR | - | - | 1 | - |
| | B-70-61 | SLB08 | STA 149+00 | STR | - | - | 1 | - |
| | | SLB09 | STA 146+50 | STR | - | - | 1 | - |
| | RAMP FWS | SLB10 | STA 143+80 | STR | - | - | 1 | - |
| | B-70-405 | SLB11 | STA 141+50 | STR | - | - | 1 | - |
| | | SLB12 | STA 139+50 | STR | - | - | 1 | - |
| | | SLB13 | STA 137+50 | STR | - | - | 1 | - |
| | | SLB14 | STA 135+50 | STR | - | - | 1 | - |
| | | SLB15 | STA 133+50 | STR | - | - | 1 | - |
| | | SLB16 | STA 131+50 | STR | - | - | 1 | - |
| | | SLB17 | STA 129+50 | STR | - | - | 1 | - |
| | | SLB18 | STA 127+50 | STR | - | - | 1 | - |
| | | SLB19 | STA 125+50 | STR | - | - | 1 | - |
| | | SLB20 | STA 123+50 | STR | - | - | 1 | - |
| | | SLB21 | STA 121+50 | STR | - | - | 1 | - |
| | | SLB22 | STA 119+50 | STR | - | - | 1 | - |
| | | SLB32 | STA 117+50 | STR | - | 1 | 1 | |
| | 10/441 WB | SLB23 | STA 144+91 | STR | - | - | 1 | - |
| | B-70-401 | SLB24 | STA 142+40 | STR | - | - | 1 | - |
| | | SLB25 | STA 140+75 | STR | - | - | 1 | - |
| | | SLB26 | STA 138+75 | STR | - | - | 1 | - |
| | | SLB27 | STA 136+75 | STR | - | - | 1 | - |
| | | SLB28 | STA 134+75 | STR | - | - | 1 | - |
| | | SLB29 | STA 132+75 | STR | - | - | 1 | - |
| | MEDIAN | SLB30 | STA 181+31 | MEDIAN | - | - | 1 | 1 |
| | B-70-61 TO TAYCO | SLB31 | STA 183+79 | MEDIAN | - | - | 1 | 1 |
| **SUBTOTAL** | | | | | 0 | 1 | 32 | 2 |

## BASES, COVERS & JUNCTION BOXES - CONTINUED

WIS 441 LIGHTING - CONTRACT 1517-07-77

| CATEGORY | SYSTEM | LOCATION | STATION | INSTALLATION | 653.0222 JUNCTION BOXES 18X12X6-Inch | 654.0107 CONCRETE BASES TYPE 7 | SPV.0060.350 ANCHOR BOLT COVER SHROUD | SPV.0060.351 CONCRETE BASES TYPE 7 MEDIAN |
|---|---|---|---|---|---|---|---|---|
| | | | | | EACH | EACH | EACH | EACH |
| JUNCTION BOXES | B-70-61 | LJB01 | STA 146+30 | EMBEDDED | STR | - | - | - |
| | SW PARAPET | LJB02 | STA 147+75 | EMBEDDED | STR | - | - | - |
| | | LJB03 | STA 146+15 | EMBEDDED | STR | - | - | - |
| | RAMP FWN | LJB04 | STA 144+00 | EMBEDDED | STR | - | - | - |
| | | LJB05 | STA 141+90 | EMBEDDED | STR | - | - | - |
| | | LJB06 | STA 139+75 | EMBEDDED | STR | - | - | - |
| | | LJB07 | STA 136+60 | EMBEDDED | STR | - | - | - |
| | RAMP FWS | LJB08 | STA 145+00 | EMBEDDED | STR | - | - | - |
| | | LJB09 | STA 142+70 | EMBEDDED | STR | - | - | - |
| | 441 WB | LJB10 | STA 146+30 | EMBEDDED | STR | - | - | - |
| | | LJB11 | STA 143+75 | EMBEDDED | STR | - | - | - |
| | PIER C1 | LJB12 | STA 146+35 | ATTACHED | 1 | - | - | - |
| | | LJB13 | STA 146+35 | ATTACHED | 1 | - | - | - |
| | | LJB14 | STA 146+35 | ATTACHED | 1 | - | - | - |
| | | LJB15 | STA 146+20 | ATTACHED | 1 | - | - | - |
| | B-70-61 | LJB16 | STA 148+92 | EMBEDDED | STR | - | - | - |
| | NORTH PARAPET | LJB17 | STA 151+75 | EMBEDDED | STR | - | - | - |
| | | LJB18 | STA 154+50 | EMBEDDED | STR | - | - | - |
| | | LJB19 | STA 155+96 | EMBEDDED | STR | - | - | - |
| | | LJB20 | STA 157+74 | EMBEDDED | STR | - | - | - |
| | | LJB21 | STA 159+52 | EMBEDDED | STR | - | - | - |
| | | LJB22 | STA 161+30 | EMBEDDED | STR | - | - | - |
| | | LJB23 | STA 163+52 | EMBEDDED | STR | - | - | - |
| | | LJB24 | STA 164+61 | EMBEDDED | STR | - | - | - |
| | | LJB25 | STA 165+80 | EMBEDDED | STR | - | - | - |
| | | LJB26 | STA 167+34 | EMBEDDED | STR | - | - | - |
| | | LJB27 | STA 168+90 | EMBEDDED | STR | - | - | - |
| | | LJB28 | STA 170+67 | EMBEDDED | STR | - | - | - |
| | | LJB29 | STA 172+45 | EMBEDDED | STR | - | - | - |
| | | LJB30 | STA 174+22 | EMBEDDED | STR | - | - | - |
| | | LJB31 | STA 176+13 | EMBEDDED | STR | - | - | - |
| | | LJB32 | STA 178+04 | EMBEDDED | STR | - | - | - |
| | | LJB33 | STA 179+98 | EMBEDDED | STR | - | - | - |
| **SUBTOTAL** | | | | | 4 | 0 | 0 | 0 |
| **PROJECT TOTAL** | | | | | **4** | **1** | **32** | **2** |

## PULL BOXES

WIS 441 LIGHTING - CONTRACT 1517-07-77

| CATEGORY | DESCRIPTION | STATION | OFFSET | | SPV.0060.352 PULL BOX NON-CONDUCTIVE 24X42-INCH |
|---|---|---|---|---|---|
| | | | | | EACH |
| 1100 | | | | | |
| | LPB01 | STA 146+40 | 6.00 | RT | 1 |
| | LPB02 | STA 136+05 | 31.00 | LT | 1 |
| | LPB03 | STA 132+25 | 27.00 | LT | 1 |
| | LPB04 | STA 118+67 | 15.00 | RT | 1 |
| **PROJECT TOTAL** | | | | | **4** |

## NAVIGATION LIGHTING

WIS 441 LIGHTING - CONTRACT 1517-07-77 CATEGORY 2010

| SYSTEM | DESCRIPTION | STATION | | | SPV.0105.350 NAVIGATION LIGHTING B-70-61 |
|---|---|---|---|---|---|
| | | | | | LS |
| B-70-61 | CHANNEL NAVIGATION LIGHTING | STA 163+00 | to | STA 184+00 | 1 |
| | | | | **TOTAL** | **1** |

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

## CONDUIT

WIS 441 LIGHTING - CONTRACT 1517-07-77

| CATEGORY | SYSTEM | POLE | FROM | POLE | TO | # OF CONDUITS | 652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF | 652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF | 652.0405 CONDUIT REINFORCED THERMOSETTING RESIN 2-INCH LF |
|---|---|---|---|---|---|---|---|---|---|
| 1100 | | | | | | | | | |
| | B-70-61 | ELPB09 | STA 1336+10 | ELPB10 | STA 1340+20 | 1 | - | 405 | - |
| | North Parapet | ELPB10 | STA 1340+20 | ELPB11 | STA 146+45 | 1 | - | EXISTING | - |
| | | ELPB11 | STA 146+45 | LPB01 | STA 146+40 | 1 | - | 60 | - |
| | | LPB01 | STA 146+40 | LJB12 | STA 146+35 | 1 | 10 | - | 32 |
| | | LJB12 | STA 146+35 | LJB15 | STA 146+20 | 1 | - | - | 95 |
| | | LJB15 | STA 146+20 | LJB03 | STA 146+15 | 1 | - | - | 13 |
| | | LJB03 | STA 146+15 | SLB03 | STA 147+50 | 1 | STR | - | - |
| | | SLB03 | STA 147+50 | LJB16 | STA 148+92 | 1 | STR | - | - |
| | | LJB16 | STA 148+92 | SLB02 | STA 150+41 | 1 | STR | - | - |
| | | SLB02 | STA 150+41 | LJB17 | STA 151+75 | 1 | STR | - | - |
| | | LJB17 | STA 151+75 | SLB01 | STA 153+05 | 1 | STR | - | - |
| | | SLB01 | STA 153+05 | ELJB01 | STA 181+25 | 1 | STR | - | - |
| | MEDIAN | ELPB05 | STA 181+22 | SLB30 | STA 181+31 | 1 | 10 | - | - |
| | B-70-61 to Tayco | SLB30 | STA 181+31 | SLB31 | STA 183+79 | 1 | 251 | - | - |
| | | SLB31 | STA 183+79 | ELPB06 | STA 183+85 | 1 | 10 | - | - |
| | | LPB01 | STA 146+40 | LJB12 | STA 146+35 | 1 | 10 | - | 32 |
| | B-70-406 | LJB12 | STA 146+35 | LJB15 | STA 146+20 | 1 | - | - | 95 |
| | | LJB15 | STA 146+20 | LJB03 | STA 146+15 | 1 | - | - | 13 |
| | | LJB03 | STA 146+15 | SLB04 | STA 145+25 | 1 | STR | - | - |
| | | SLB04 | STA 145+25 | LJB04 | STA 144+00 | 1 | STR | - | - |
| | | LJB04 | STA 144+00 | SLB05 | STA 143+00 | 1 | STR | - | - |
| | | SLB05 | STA 143+00 | LJB05 | STA 141+90 | 1 | STR | - | - |
| | | LJB05 | STA 141+90 | SLB06 | STA 140+75 | 1 | STR | - | - |
| | | SLB06 | STA 140+75 | LJB06 | STA 139+75 | 1 | STR | - | - |
| | | LJB06 | STA 139+75 | SLB07 | STA 138+50 | 1 | STR | - | - |
| | | SLB07 | STA 138+50 | LJB07 | STA 136+60 | 1 | STR | - | - |
| | | LJB07 | STA 136+60 | LPB02 | STA 136+05 | 1 | STR | - | - |
| | USH 10 WB | ELPB11 | STA 146+45 | LPB01 | STA 146+40 | 1 | - | 60 | - |
| | B-70-401 | LPB01 | STA 146+40 | LJB12 | STA 146+35 | 1 | - | - | - |
| | | LJB12 | STA 146+35 | LJB13 | STA 146+35 | 1 | | - | 5 |
| | | LJB13 | STA 146+35 | LJB14 | STA 146+35 | 1 | - | - | 62 |
| | | LJB14 | STA 146+35 | LJB10 | STA 146+30 | 1 | - | - | 13 |
| | | LJB10 | STA 146+30 | SLB23 | STA 144+91 | 1 | STR | - | - |
| | | SLB23 | STA 144+91 | LJB11 | STA 143+75 | 1 | STR | - | - |
| | | LJB11 | STA 143+75 | SLB24 | STA 142+40 | 1 | STR | - | - |
| | | SLB24 | STA 142+40 | SLB25 | STA 140+75 | 1 | STR | - | - |
| | | SLB25 | STA 140+75 | SLB26 | STA 138+75 | 1 | STR | - | - |
| | | SLB26 | STA 138+75 | SLB27 | STA 136+75 | 1 | STR | - | - |
| | | SLB27 | STA 136+75 | SLB28 | STA 134+75 | 1 | STR | - | - |
| | | SLB28 | STA 134+75 | SLB29 | STA 132+75 | 1 | STR | - | - |
| | | SLB29 | STA 132+75 | LPB03 | STA 132+25 | 1 | STR | - | - |
| **SUBTOTAL** | | | | | | | 291 | 525 | 360 |

## CONDUIT - CONTINUED

WIS 441 LIGHTING - CONTRACT 1517-07-77

| CATEGORY | SYSTEM | POLE | FROM | POLE | TO | # OF CONDUITS | 652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF | 652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH LF | 652.0405 CONDUIT REINFORCED THERMOSETTING RESIN 2-INCH LF |
|---|---|---|---|---|---|---|---|---|---|
| | B-70-61 | ELPB11 | STA 146+45 | LPB01 | STA 146+40 | 1 | - | 60 | - |
| | SOUTH PARAPET | LPB01 | STA 146+40 | LJB13 | STA 146+35 | 1 | 10 | - | 35 |
| | | LJB13 | STA 146+35 | LJB01 | STA 146+30 | 1 | - | - | 13 |
| | | LJB01 | STA 146+30 | SLB09 | STA 146+50 | 1 | STR | - | - |
| | | SLB09 | STA 146+50 | LJB02 | STA 147+75 | 1 | STR | - | - |
| | | LJB02 | STA 147+75 | SLB08 | STA 149+00 | 1 | STR | - | - |
| | RAMP FWS | LPB01 | STA 146+40 | LJB13 | STA 146+35 | 1 | NCLUDED ABOV | - | - |
| | B-70-405 | LJB13 | STA 146+35 | LJB01 | STA 146+30 | 1 | NCLUDED ABOV | - | - |
| | | LJB01 | STA 146+30 | LJB08 | STA 145+00 | 1 | STR | - | - |
| | | LJB08 | STA 145+00 | SLB10 | STA 143+80 | 1 | STR | - | - |
| | | SLB10 | STA 143+80 | LJB09 | STA 142+70 | 1 | STR | - | - |
| | | LJB09 | STA 142+70 | SLB11 | STA 141+50 | 1 | STR | - | - |
| | | SLB11 | STA 141+50 | SLB12 | STA 139+50 | 1 | STR | - | - |
| | | SLB12 | STA 139+50 | SLB13 | STA 137+50 | 1 | STR | - | - |
| | | SLB13 | STA 137+50 | SLB14 | STA 135+50 | 1 | STR | - | - |
| | | SLB14 | STA 135+50 | SLB15 | STA 133+50 | 1 | STR | - | - |
| | | SLB15 | STA 133+50 | SLB16 | STA 131+50 | 1 | STR | - | - |
| | | SLB16 | STA 131+50 | SLB17 | STA 129+50 | 1 | STR | - | - |
| | | SLB17 | STA 129+50 | SLB18 | STA 127+50 | 1 | STR | - | - |
| | | SLB18 | STA 127+50 | SLB19 | STA 125+50 | 1 | STR | - | - |
| | | SLB19 | STA 125+50 | SLB20 | STA 123+50 | 1 | STR | - | - |
| | | SLB20 | STA 123+50 | SLB21 | STA 121+50 | 1 | STR | - | - |
| | | SLB21 | STA 121+50 | SLB22 | STA 119+50 | 1 | STR | - | - |
| | | SLB22 | STA 119+50 | LPB04 | STA 118+67 | 1 | STR | - | - |
| | | LPB04 | STA 118+67 | SLB32 | STA 117+50 | 1 | 118 | - | - |
| | SUBTOTAL | | | | | | 128 | 60 | 48 |
| | **PROJECT TOTAL** | | | | | | **419** | **585** | **408** |

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

## ITS CCTV ITEMS

| STATION | ITEM ID | 672.0250 BASE CAMERA POLE 50 FT EACH | 677.0100 INSTALL CAMERA POLE EACH | SPV.0060.400 REMOVE AND RELOCATE CAMERA ASSEMBLY EACH | SPV.0060.401 REMOVE AND RELOCATE ETHERNET SWITCH EACH | SPV.0060.402 REMOVE AND RELOCATE VIDEO ENCODER EACH | SPV.0060.403 REMOVE AND RELOCATE RADIO LINK EACH | SPV.0060.405 REMOVE AND RELOCATE POLE MOUNTED CABINET EACH |
|---|---|---|---|---|---|---|---|---|
| CATEGORY 1200 | | | | | | | | |
| | | 1 | 1 | 1 | 1 | 1 | 4 | 1 |
| TOTALS | | 1 | 1 | 1 | 1 | 1 | 4 | 1 |

## ITS PULL BOX AND WOOD POLE

| STATION | LOCATION | ITEM ID | 653.0145 PULL BOXES STEEL 24X48-INCH EACH | SPV.0060.404 REMOVE WOOD POLE EACH |
|---|---|---|---|---|
| CATEGORY 1200 | | | | |
| 1332FSE+34 | LT | PB-E5 | 1 | |
| 1336FNW+00 | LT | | | 1 |
| TOTAL | | | 1 | 1 |

## ITS CONDUIT ITEMS

| FROM | TO | LINEAR DISTANCE | NO. OF CONDUIT | 652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH LF | SPV.0090.400 CONDUIT HDPE DIRECTIONAL BORE 1-DUCT 2-INCH LF |
|---|---|---|---|---|---|
| CATEGORY 1200 | | | | | |
| CCTV -70-0092 | PB-E5 | 115 | 1 | 115 | - |
| PB-E5 | PB-E6 | 80 | 1 | - | 80 |
| TOTALS | | | | 115 | 80 |

## ITS CABLE ITEMS

| FROM | TO | LINEAR DIST. | VERT DIST | NUMBER OF ELECTRICAL WIRES LIGHTING 8 AWG | NUMBER OF ELECTRICAL WIRES LIGHTING 6 AWG | CABLE SLACK ELECTRICAL LF | 655.0620 ELECTRICAL WIRE LIGHTING 8 AWG LF | 655.0625 ELECTRICAL WIRE LIGHTING 6 AWG LF | 674.0300 REMOVE CABLE LF |
|---|---|---|---|---|---|---|---|---|---|
| CATEGORY 1200 | | | | | | | | | |
| ELECTRICAL SERVICE | PB-E16 | 5 | | 1 | 3 | 30 | 35 | 105 | 140 |
| PB-E16 | PB-E15 | 20 | | 1 | 3 | 6 | 26 | 78 | 104 |
| PB-E15 | PB-E14 | 225 | | 1 | 3 | 6 | 231 | 693 | 924 |
| PB-E14 | PB-E13 | 125 | | 1 | 3 | 6 | 131 | 393 | 524 |
| PB-E13 | PB-E12 | 210 | | 1 | 3 | 6 | 216 | 648 | 864 |
| PB-E12 | PB-E11 | 250 | | 1 | 3 | 6 | 256 | 768 | 1024 |
| PB-E11 | PB-E10 | 240 | | 1 | 3 | 6 | 246 | 738 | 984 |
| PB-E10 | PB-E9 | 184 | | 1 | 3 | 6 | 190 | 570 | 760 |
| PB-E9 | PB-E9A | 235 | | 1 | 3 | 6 | 241 | 723 | 964 |
| PB-E9A | PB-E6 | 150 | | 1 | 3 | 6 | 156 | 468 | 624 |
| PB-E6 | PB-E5 | 115 | | 1 | 3 | 6 | 121 | 363 | 484 |
| PB-E5 | CCTV -70-0092 | 80 | 16 | 1 | 3 | 30 | 126 | 378 | 504 |
| TOTAL | | | | | | | 1,975 | 5,925 | 7,900 |

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

3

## TRAFFIC CONTROL DETOUR SIGN SUMMARY

| SIGN NO. | LOCATION | SIGN CODE | SIZE W X H | NUMBER IN SERVICE | APPROX. SERVICE PERIOD 3 DAYS | 643.3000 DETOUR SIGNS DAYS | 643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS | NO OF CYCLES | 643.0920 COVERING SIGNS TYPE II EACH | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| | **HWY 10 EB - CLOSED** | | | | | | | | | |
| 1 | FIELD DETERMINED - US 10 (EB) IMMEDIATELY AFTER CTH CB ON-RAMP | PCMS | | 1 | | | 3 | | | |
| 2 | FIELD DETERMINED - US 10 (EB) AFTER COLD SPRING RD STRUCTURE | PCMS | | 1 | | | 3 | | | |
| 3 | FIELD DETERMINED - I-41 (SB) IMMEDIATELY AFTER JACOBSEN RD OVERPASS | PCMS | | 1 | | | 3 | | | |
| 4 | BACKSIDE OF R5-1-A (WRONG WAY) ON HWY 41 (SB) EXIT RAMP TO CTH II | MO 4-8 | 24"x12" | 1 | 3 | 3 | | | | |
| | " | M 3-2 | 24"x12" | 1 | 3 | 3 | | | | |
| | " | M 1-4 | 24"x24" | 1 | 3 | 3 | | | | 10 |
| | " | MO 5-1L | 21"x21" | 1 | 3 | 3 | | | | |
| 5 | RIGHT SIDE OF ROADWAY, OPPOSITE SIGN #4 ON I-41 (SB) EXIT RAMP TO CTH II | MO 4-8 | 24"x12" | 1 | 3 | 3 | | | | |
| | " | M 3-2 | 24"x12" | 1 | 3 | 3 | | | | |
| | " | M 1-4 | 24"x24" | 1 | 3 | 3 | | | | 10 |
| | " | MO 5-1L | 21"x21" | 1 | 3 | 3 | | | | |
| 6 | PLACE 125' FROM RAMP INTERSECTION ON I-41 (SB) EXIT RAMP TO CTH II | MO 4-8 | 24"x12" | 1 | 3 | 3 | | | | |
| | " | M 3-2 | 24"x12" | 1 | 3 | 3 | | | | |
| | " | M 1-4 | 24"x24" | 1 | 3 | 3 | | | | 10 |
| | " | MO 6-1 | 21"x21" | 1 | 3 | 3 | | | | LEFT |
| 7 | PLACE TO LEFT OF J13-1 SIGN ON I-41 (SB) EXIT RAMP TO CTH II | MO 4-8 | 24"x12" | 1 | 3 | 3 | | | | |
| | " | M 3-2 | 24"x12" | 1 | 3 | 3 | | | | |
| | " | M 1-4 | 24"x24" | 1 | 3 | 3 | | | | 10 |
| | " | MO 6-1 | 21"x21" | 1 | 3 | 3 | | | | LEFT |
| 8 | ABOVE D1-1 (LT-GREEN BAY) ON CTH II (EB-MEDIAN SIDE) | MO 4-8 | 24"x12" | 1 | 3 | 3 | | | | |
| | " | M 3-2 | 24"x12" | 1 | 3 | 3 | | | | |
| | " | M 1-4 | 24"x24" | 1 | 3 | 3 | | | | 10 |
| | " | MO 5-1L | 21"x21" | 1 | 3 | 3 | | | | |
| 9 | ABOVE D1-1 (LT-GREEN BAY) ON CTH II (EB-RIGHT SIDE) | MO 4-8 | 24"x12" | 1 | 3 | 3 | | | | |
| | " | M 3-2 | 24"x12" | 1 | 3 | 3 | | | | |
| | " | M 1-4 | 24"x24" | 1 | 3 | 3 | | | | 10 |
| | " | MO 5-1L | 21"x21" | 1 | 3 | 3 | | | | |
| 10 | LT OF J3-1 (N-41-LT) ON CTH II (EB-MEDIAN SIDE) | MO 4-8 | 24"x12" | 1 | 3 | 3 | | | | |
| | " | M 3-2 | 24"x12" | 1 | 3 | 3 | | | | |
| | " | M 1-4 | 24"x24" | 1 | 3 | 3 | | | | 10 |
| | " | MO 6-1 | 21"x21" | 1 | 3 | 3 | | | | LEFT |
| 11 | LT OF FOOTING FOR SIGN STRUCTURE S-70-142 ON HWY 41 (NB) | MO 4-8A | 30"x24" | 1 | 3 | 3 | | | | |
| | " | M 3-2 | 36"x18" | 1 | 3 | 3 | | | | |
| | " | M 1-4 | 36"x36" | 1 | 3 | 3 | | | | 10 |
| | **PAGE SUBTOTALS** | | | **34** | | **93** | **9** | | **0** | |

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

## TRAFFIC CONTROL DETOUR SIGN SUMMARY

| SIGN NO. | LOCATION | SIGN CODE | SIZE W X H | NUMBER IN SERVICE | APPROX. SERVICE PERIOD 3 DAYS | 643.3000 DETOUR SIGNS DAYS | 643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS | NO OF CYCLES | 643.0920 COVERING SIGNS TYPE II EACH | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| | **HWY 10 WB - CLOSED** | | | | | | | | | |
| 12 | MODIFY J3-1 SIGN AS SHOWN, FROM (W 10 RT, S 441 RT); TO (W 10 AH, S 441 RT) | MO 6-1 | 21"x21" | 1 | 3 | 3 | | | | AHEAD |
| 13 | CTH AP, MODIFY EXISTING ALTERNATE ASSEMBLY IN PLACE | MO 4-8 | 24"x12" | 1 | 3 | 3 | | | | |
| 14 | CTH AP, MODIFY EXISTING ALTERNATE ASSEMBLY IN PLACE | MO 4-8 | 24"x12" | 1 | 3 | 3 | | | | |
| 15 | CTH AP, MODIFY EXISTING ALTERNATE ASSEMBLY IN PLACE | MO 4-8 | 24"x12" | 1 | 3 | 3 | | | | |
| 16 | CTH AP, COVER PORTION OF J2-2 AS SHOWN ON PLAN SHEET | | | | | | | 1 | 1 | |
| 17 | PLACE 150' AFTER INTERSECTION ON RAMP TO STH 441/US 10 EB FROM CTH AP | MO 4-8 | 24"x12" | 1 | 3 | 3 | | | | |
| | " | M 3-4 | 24"x12" | 1 | 3 | 3 | | | | |
| | " | M 1-4 | 24"x24" | 1 | 3 | 3 | | | | 10 |
| 18 | CTH AP, COVER PORTION OF J3-2 AS SHOWN ON PLAN SHEET | | | | | | | 1 | 1 | |
| 19 | STH 441 NB/US 10 EB, MODIFY EXISTING ALTERNATE ASSEMBLY (MEDIAN) | MO 4-8 | 24"x12" | 1 | 3 | 3 | | | | |
| 20 | STH 441 NB/US 10 EB, MODIFY EXISTING ALTERNATE ASSEMBLY (RT SHLDR) | MO 4-8 | 24"x12" | 1 | 3 | 3 | | | | |
| 21 | STH 441 SB/US 10 WB, COVER "WEST US 10" PORTION OF J4-2 | | | | | | | 1 | 1 | |
| 22 | STH 47 RAB, COVER "WEST US 10" PORTION OF D1-3 SPLITTER ISLAND SIGN | | | | | | | 1 | 1 | |
| 23 | STH 47 RAB, MODIFY EXISTING ALTERNATE ASSEMBLY IN PLACE | MO 4-8 | 24"x12" | 1 | 3 | 3 | | | | |
| 24 | STH 47 NB, PLACE 100' N. OF CTH AP INTERSECTION | M 3-4 | 24"x12" | 1 | 3 | 3 | | | | |
| | " | M 1-4 | 24"x24" | 1 | 3 | 3 | | | | 10 |
| | " | WO 20-2A | 48"x48" | 1 | 3 | 3 | | | | |
| 25 | STH 47 NB, MODIFY EXISTING ALTERNATE ASSEMBLY IN PLACE | MO 4-8 | 24"x12" | 1 | 3 | 3 | | | | |
| 26 | STH 47 NB, MODIFY EXISTING ALTERNATE ASSEMBLY IN PLACE | MO 4-8 | 24"x12" | 1 | 3 | 3 | | | | |
| 27 | VACANT | | | 1 | 3 | 3 | | | | |
| 28 | STH 47 SB, MODIFY EXISTING ALTERNATE ASSEMBLY IN PLACE | MO 4-8 | 24"x12" | 1 | 3 | 3 | | | | |
| 29 | STH 47 SB, MOUNT EXISTING ALTERNATE ASSEMBLY IN PLACE | MO 4-8 | 24"x12" | 1 | 3 | 3 | | | | |
| 30 | STH 47 RAB, COVER "WEST US 10" PORTION OF D1-2 SPLITTER ISLAND SIGN | | | | | | | 1 | 1 | |
| 31 | STH 47 RAB, COVER "WEST US 10" PORTION OF D1-4 SPLITTER ISLAND SIGN | | | | | | | 1 | 1 | |
| 32 | STH 47 SB, MODIFY EXISTING ALTERNATE ASSEMBLY IN PLACE | MO 4-8 | 24"x12" | 1 | 3 | 3 | | | | |
| 33 | STH 47 SB, MODIFY EXISTING ALTERNATE ASSEMBLY IN PLACE | MO 4-8 | 24"x12" | 1 | 3 | 3 | | | | |
| 34 | STH 47 SB, PLACE 100' S. OF VALLEY RD | M 3-4 | 24"x12" | 1 | 3 | 3 | | | | |
| | " | M 1-4 | 24"x24" | 1 | 3 | 3 | | | | 10 |
| | " | WO 20-2A | 48"x48" | 1 | 3 | 3 | | | | |
| 35 | STH 441 NB/US 10 EB, MODIFY EXISTING ALTERNATE ASSEMBLY IN PLACE (MEDIAN) | MO 4-8 | 36"x18" | 1 | 3 | 3 | | | | |
| 36 | STH 441 NB/US 10 EB, MODIFY EXISTING ALTERNATE ASSEMBLY IN PLACE (RT SHLDR) | MO 4-8 | 36"x18" | 1 | 3 | 3 | | | | |
| 37 | STH 441 SB/US 10 WB, COVER "WEST US 10" PORTION OF J4-2 | | | | | | | 1 | 1 | |
| 38 | US 10, COVER "WEST US 10 LT TURN" PORTION ON J2-2 | | | | | | | 1 | 1 | |
| 39 | US 10, MODIFY EXISTING ALTERNATE ASSEMBLY IN PLACE | MO 4-8 | 24"x12" | 1 | 3 | 3 | | | | |
| | **PAGE SUBTOTALS** | | | **26** | | **78** | **0** | | **8** | |

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

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## TRAFFIC CONTROL DETOUR SIGN SUMMARY

| SIGN NO. | LOCATION | SIGN CODE | SIZE W X H | NUMBER IN SERVICE | APPROX. SERVICE PERIOD 3 DAYS | 643.3000 DETOUR SIGNS DAYS | 643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS | NO OF CYCLES | 643.0920 COVERING SIGNS TYPE II EACH | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| 40 | US 10, PLACE 100' N. OF CTH AP INTERSECTION | M 3-4 | 24"x12" | 1 | 3 | 3 | | | | |
| | " | M 1-4 | 24"x24" | 1 | 3 | 3 | | | | 10 |
| | " | WO 20-2A | 48"x48" | 1 | 3 | 3 | | | | |
| 41 | US 10, MODIFY EXISTING ALTERNATE ASSEMBLY IN PLACE | MO 4-8 | 24"x12" | 1 | 3 | 3 | | | | |
| 42 | US 10, MODIFY EXISTING J3-1 SIGN FROM (WEST 10 USE LEFT LANE); TO (WEST 10 RT) | MO 6-1 | 21"x21" | 1 | 3 | 3 | | | | RIGHT |
| 43 | US 10, MODIFY EXISTING ALTERNATE ASSEMBLY IN PLACE | MO 4-8 | 24"x12" | 1 | 3 | 3 | | | | |
| 44 | PLACE 200' PAST RAMP INTERSECTION ON RAMP FROM US 10 TO STH 441 NB | MO 4-8 | 24"x12" | 1 | 3 | 3 | | | | |
| | " | M 3-4 | 24"x12" | 1 | 3 | 3 | | | | |
| | " | M 1-4 | 24"x24" | 1 | 3 | 3 | | | | 10 |
| 45 | US 10, MODIFY EXISTING ALTERNATE ASSEMBLY IN PLACE | MO 4-8 | 24"x12" | 1 | 3 | 3 | | | | |
| 46 | US 10, COVER EXISTING J3-2 SIGN "WEST 10 LT" PORTION | | | | | | | 1 | 1 | |
| 47 | ONEIDA ST, MODIFY EXISTING J3-2 FROM (WEST 10 RT); TO (WEST 10 AH) | MO 6-1 | 21"x21" | 1 | 3 | 3 | | | | AHEAD |
| 48 | ONEIDA ST, MODIFY EXISTING J2-2 FROM (WEST 10 ADV RT); TO (WEST 10 AH) | MO 6-1 | 21"x21" | 1 | 3 | 3 | | | | AHEAD |
| 49 | ONEIDA ST, PLACE 225' S. OF VALLEY RD INTERSECTION | M 3-4 | 24"x12" | 1 | 3 | 3 | | | | |
| | " | M 1-4 | 24"x24" | 1 | 3 | 3 | | | | 10 |
| | " | WO 20-2A | 48"x48" | 1 | 3 | 3 | | | | |
| 50 | FIELD DETERMINED - STH 441 (NB) IMMEDIATELY AFTER USH 10 ON-RAMP | PCMS | | 1 | | | 3 | | | |
| 51 | STH 441 NB, MODIFY EXISTING ALTERNATE ASSEMBLY IN PLACE (MEDIAN) | MO 4-8 | 36"x18" | 1 | 3 | 3 | | | | |
| 52 | STH 441 NB, MODIFY EXISTING ALTERNATE ASSEMBLY IN PLACE (RT SHLDR) | MO 4-8 | 36"x18" | 1 | 3 | 3 | | | | |
| 53 | STH 441 NB, MODIFY EXISTING ALTERNATE ASSEMBLY IN PLACE (MEDIAN) | MO 4-8 | 36"x18" | 1 | 3 | 3 | | | | |
| 54 | STH 441 NB, MODIFY EXISTING ALTERNATE ASSEMBLY IN PLACE (RT SHLDR) | MO 4-8 | 36"x18" | 1 | 3 | 3 | | | | |
| 55 | STH 441 NB, MODIFY EXISTING ALTERNATE ASSEMBLY (MEDIAN) | MO 4-8 | 36"x18" | 1 | 3 | 3 | | | | |
| 56 | STH 441 NB, MODIFY EXISTING ALTERNATE ASSEMBLY (RT SHLDR) | MO 4-8 | 36"x18" | 1 | 3 | 3 | | | | |
| 57 | FIELD DETERMINED - STH 441 (NB) BETWEEN CTH 00 AND I-41 | PCMS | | 1 | | | 3 | | | |
| 58 | I-41 SB, MODIFY EXISTING ALTERNATE ASSEMBLY IN PLACE (MEDIAN) | MO 4-8 | 36"x18" | 1 | 3 | 3 | | | | |
| 59 | I-41 SB, MODIFY EXISTING ALTERNATE ASSEMBLY IN PLACE (RT SHLDR) | MO 4-8 | 36"x18" | 1 | 3 | 3 | | | | |
| 60 | I-41 SB, MODIFY EXISTING ALTERNATE ASSEMBLY IN PLACE (MEDIAN) | MO 4-8 | 36"x18" | 1 | 3 | 3 | | | | |
| 61 | I-41 SB, MODIFY EXISTING ALTERNATE ASSEMBLY IN PLACE (RT SHLDR) | MO 4-8 | 36"x18" | 1 | 3 | 3 | | | | |
| 62 | I-41 SB, MODIFY EXISTING ALTERNATE ASSEMBLY IN PLACE (MEDIAN) | MO 4-8 | 36"x18" | 1 | 5 | 5 | | | | |
| 63 | I-41 SB, MODIFY EXISTING ALTERNATE ASSEMBLY IN PLACE (RT SHLDR) | MO 4-8 | 36"x18" | 1 | 3 | 3 | | | | |
| 64 | I-41 SB, MODIFY EXISTING ALTERNATE ASSEMBLY IN PLACE (MEDIAN) | MO 4-8 | 36"x18" | 1 | 3 | 3 | | | | |
| 65 | I-41 SB, MODIFY EXISTING ALTERNATE ASSEMBLY IN PLACE (RT SHLDR) | MO 4-8 | 36"x18" | 1 | 3 | 3 | | | | |
| 66 | I-41 SB, MODIFY EXISTING ALTERNATE ASSEMBLY IN PLACE (MEDIAN) | MO 4-8 | 36"x18" | 1 | 3 | 3 | | | | |
| 67 | I-41 SB, MODIFY EXISTING ALTERNATE ASSEMBLY IN PLACE (RT SHLDR) | MO 4-8 | 36"x18" | 1 | 3 | 3 | | | | |
| 68 | I-41 SB, MODIFY EXISTING ALTERNATE ASSEMBLY IN PLACE (MEDIAN) | MO 4-8 | 36"x18" | 1 | 5 | 5 | | | | |
| 69 | I-41 SB, MODIFY EXISTING ALTERNATE ASSEMBLY IN PLACE (RT SHLDR) | MO 4-8 | 36"x18" | 1 | 3 | 3 | | | | |
| 70 | I-41 SB, PLACE 2200' PAST CTH BB OVERPASS STRUCTURE | M0 4-8A | 30"x24" | 1 | 3 | 3 | | | | |
| | " | M3-4 | 36"x18" | 1 | 3 | 3 | | | | |
| | " | M1-4 | 36"x36" | 1 | 3 | 3 | | | | 10 |
| | **PAGE SUBTOTALS** | | | **38** | | **112** | **6** | | **1** | |
| | **ROUTE CLOSURE SUBTOTALS** | | | **98** | | **283** | **15** | | **9** | |

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

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## TRAFFIC CONTROL DETOUR SIGN SUMMARY

| SIGN NO. | LOCATION | SIGN CODE | SIZE W X H | NUMBER IN SERVICE | APPROX. SERVICE PERIOD 6 DAYS | 643.3000 DETOUR SIGNS DAYS | 643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS | REMARKS |
|---|---|---|---|---|---|---|---|---|
| | **HWY 41 (NB) - CLOSED** | | | | | | | |
| 1 | FIELD DETERMINED HWY 41 NB | PCMS | | 1 | | | 6 | NIGHT OF CLOSURE |
| 2 | FIELD DETERMINED HWY 41 NB (@ RAMP DIVERT) | PCMS | | 1 | | | 6 | NIGHT OF CLOSURE |
| 3 | RT LEG OF SIGN STRUCTURE (S-70-0012) ON HWY 10/441 (EB) | MO 4-8 | 36"x18" | 1 | 6 | 6 | | |
| | " | M 3-1 | 36"x18" | 1 | 6 | 6 | | |
| | " | M 1-1 | 36"x36" | 1 | 6 | 6 | | 41 |
| | " | MO 5-2L | 30"x30" | 1 | 6 | 6 | | |
| 4 | LT LEG OF SIGN STRUCTURE (S-70-0012) ON HWY 10/441 (EB) | MO 4-8 | 36"x18" | 1 | 6 | 6 | | |
| | " | M 3-1 | 36"x18" | 1 | 6 | 6 | | |
| | " | M 1-1 | 36"x36" | 1 | 6 | 6 | | 41 |
| | " | MO 5-2L | 30"x30" | 1 | 6 | 6 | | |
| 5 | 200' N OF E5-1B (EXIT 289B TILT RT) ON HWY 10/441 (EB) | MO 4-8 | 36"x18" | 1 | 6 | 6 | | |
| | " | M 3-1 | 36"x18" | 1 | 6 | 6 | | |
| | " | M 1-1 | 36"x36" | 1 | 6 | 6 | | 41 |
| | " | MO 6-1 | 30"x30" | 1 | 6 | 6 | | AHEAD |
| 6 | ACROSS FROM SIGN # 5 (MEDIAN SIDE) | MO 4-8 | 36"x18" | 1 | 6 | 6 | | |
| | " | M 3-1 | 36"x18" | 1 | 6 | 6 | | |
| | " | M 1-1 | 36"x36" | 1 | 6 | 6 | | 41 |
| | " | MO 6-1 | 30"x30" | 1 | 6 | 6 | | AHEAD |
| 7 | LT OF TYPE 1 (47-APPLETON RD-TILT RT- EXIT 290) ON HWY 10/441 (EB) | MO 4-8 | 36"x18" | 1 | 6 | 6 | | |
| | " | M 3-1 | 36"x18" | 1 | 6 | 6 | | |
| | " | M 1-1 | 36"x36" | 1 | 6 | 6 | | 41 |
| | " | MO 6-1 | 30"x30" | 1 | 6 | 6 | | AHEAD |
| 8 | ACROSS FROM SIGN # 7 (MEDIAN SIDE) | MO 4-8 | 36"x18" | 1 | 6 | 6 | | |
| | " | M 3-1 | 36"x18" | 1 | 6 | 6 | | |
| | " | M 1-1 | 36"x36" | 1 | 6 | 6 | | 41 |
| | " | MO 6-1 | 30"x30" | 1 | 6 | 6 | | AHEAD |
| 9 | LT OF TYPE 1 (10 EAST-ONEIDA ST-TILT RT- EXIT 291) ON HWY 10/441 (EB) | MO 4-8 | 36"x18" | 1 | 6 | 6 | | |
| | " | M 3-1 | 36"x18" | 1 | 6 | 6 | | |
| | " | M 1-1 | 36"x36" | 1 | 6 | 6 | | 41 |
| | " | MO 6-1 | 30"x30" | 1 | 6 | 6 | | AHEAD |
| | **PAGE SUBTOTALS** | | | **30** | | **168** | **12** | |

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

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## TRAFFIC CONTROL DETOUR SIGN SUMMARY

| SIGN NO. | LOCATION | SIGN CODE | SIZE W X H | NUMBER IN SERVICE | APPROX. SERVICE PERIOD 6 DAYS | 643.3000 DETOUR SIGNS DAYS | 643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS | REMARKS |
|---|---|---|---|---|---|---|---|---|
| 10 | ACROSS FROM SIGN # 9 (MEDIAN SIDE) | MO 4-8 | 36"x18" | 1 | 6 | 6 | | |
| | " | M 3-1 | 36"x18" | 1 | 6 | 6 | | |
| | " | M 1-1 | 36"x36" | 1 | 6 | 6 | | 41 |
| | " | MO 6-1 | 30"x30" | 1 | 6 | 6 | | AHEAD |
| 11 | 200' N OF E5-1 (EXIT TILT RT) ON HWY 441 (NB) @ CTY KK | MO 4-8 | 36"x18" | 1 | 6 | 6 | | |
| | " | M 3-1 | 36"x18" | 1 | 6 | 6 | | |
| | " | M 1-1 | 36"x36" | 1 | 6 | 6 | | 41 |
| | " | MO 6-1 | 30"x30" | 1 | 6 | 6 | | AHEAD |
| 12 | ACROSS FROM SIGN # 11 (MEDIAN SIDE) | MO 4-8 | 36"x18" | 1 | 6 | 6 | | |
| | " | M 3-1 | 36"x18" | 1 | 6 | 6 | | |
| | " | M 1-1 | 36"x36" | 1 | 6 | 6 | | 41 |
| | " | MO 6-1 | 30"x30" | 1 | 6 | 6 | | AHEAD |
| 13 | LT OF TYPE 1 (10-COLLEGE AVE-TILT RT) ON HWY 441 (NB) | MO 4-8 | 36"x18" | 1 | 6 | 6 | | |
| | " | M 3-1 | 36"x18" | 1 | 6 | 6 | | |
| | " | M 1-1 | 36"x36" | 1 | 6 | 6 | | 41 |
| | " | MO 6-1 | 30"x30" | 1 | 6 | 6 | | AHEAD |
| 14 | ACROSS FROM SIGN # 13 (MEDIAN SIDE) | MO 4-8 | 36"x18" | 1 | 6 | 6 | | |
| | " | M 3-1 | 36"x18" | 1 | 6 | 6 | | |
| | " | M 1-1 | 36"x36" | 1 | 6 | 6 | | 41 |
| | " | MO 6-1 | 30"x30" | 1 | 6 | 6 | | AHEAD |
| 15 | LT OF TYPE 1 (OO-NORTHLAND AVE-TILT RT) ON HWY 441 (NB) | MO 4-8 | 36"x18" | 1 | 6 | 6 | | |
| | " | M 3-1 | 36"x18" | 1 | 6 | 6 | | |
| | " | M 1-1 | 36"x36" | 1 | 6 | 6 | | 41 |
| | " | MO 6-1 | 30"x30" | 1 | 6 | 6 | | AHEAD |
| 16 | ACROSS FROM SIGN # 15 (MEDIAN SIDE) | MO 4-8 | 36"x18" | 1 | 6 | 6 | | |
| | " | M 3-1 | 36"x18" | 1 | 6 | 6 | | |
| | " | M 1-1 | 36"x36" | 1 | 6 | 6 | | 41 |
| | " | MO 6-1 | 30"x30" | 1 | 6 | 6 | | AHEAD |
| 17 | 200' N OF E5-1 (EXIT TILT RT) ON HWY 441 (NB) @ CTY OO | MO 4-8A | 30"x24" | 1 | 6 | 6 | | |
| | " | M 1-1 | 36"x36" | 1 | 6 | 6 | | 41 |
| 18 | ACROSS FROM SIGN # 17 (MEDIAN SIDE) | MO 4-A | 30"x24" | 1 | 6 | 6 | | |
| | " | M 1-1 | 36"x36" | 1 | 6 | 6 | | 41 |
| | **PAGE SUBTOTALS** | | | **32** | | **192** | **0** | |
| | **ROUTE CLOSURE SUBTOTALS** | | | **62** | | **360** | **12** | |

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

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## TRAFFIC CONTROL DETOUR SIGN SUMMARY

| SIGN NO. | LOCATION | SIGN CODE | SIZE W X H | NUMBER IN SERVICE | APPROX. SERVICE PERIOD 6 DAYS | 643.3000 DETOUR SIGNS DAYS | 643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS | REMARKS |
|---|---|---|---|---|---|---|---|---|
| | **HWY 41 (SB) -CLOSED** | | | | | | | |
| 1 | FIELD DETERMINED - HWY 10 (WB) BETWEEN HWY 41 ON-RAMP & COLD SPRINGS | PCMS | | 1 | | | 6 | |
| 2 | FIELD DETERMINED HWY 41 (SB) IMMEDIATELY PRIOR TO HWY 10 EXIT | PCMS | | 1 | | | 6 | |
| 3 | PLACE 600' PRIOR TO RAMP INTERSECTION ON HWY 10 (WB) EXIT RAMP TO CTH CB | MO 4-8 | 24"x12" | 1 | 6 | 6 | | |
| | " | M 3-3 | 24"x12" | 1 | 6 | 6 | | |
| | " | M 1-1 | 24"x24" | 1 | 6 | 6 | | 41 |
| | " | MO 5-1-L | 21"x21" | 1 | 6 | 6 | | |
| 4 | RT OF SIS (FOOD) ON HWY 10 (WB) EXIT RAMP TO CTH CB | MO 4-8 | 24"x12" | 1 | 6 | 6 | | |
| | " | M 3-3 | 24"x12" | 1 | 6 | 6 | | |
| | " | M 1-1 | 24"x24" | 1 | 6 | 6 | | 41 |
| | " | MO 5-1-L | 21"x21" | 1 | 6 | 6 | | |
| 5 | BACKSIDE OF R1-1 (DO NOT ENTER) SIGN ON HWY 10 (WB) EXIT RAMP TO CTY CB | MO 4-8 | 24"x12" | 1 | 6 | 6 | | |
| | " | M 3-3 | 24"x12" | 1 | 6 | 6 | | |
| | " | M 1-1 | 24"x24" | 1 | 6 | 6 | | 41 |
| | " | MO 6-1 | 21"x21" | 1 | 6 | 6 | | LEFT |
| 6 | ACROSS FROM D1-2 (LT-MENASHA/MANITOWOC) ON CTY CB (SB - MEDIAN SIDE) | MO 4-8 | 24"x12" | 1 | 6 | 6 | | |
| | " | M 3-3 | 24"x12" | 1 | 6 | 6 | | |
| | " | M 1-1 | 24"x24" | 1 | 6 | 6 | | 41 |
| | " | MO 5-1-L | 21"x21" | 1 | 6 | 6 | | LEFT |
| 7 | LT OF J3-1 (EB-10-LT) ON CTY CB (SB-MEDIAN SIDE) | MO 4-8 | 24"x12" | 1 | 6 | 6 | | |
| | " | M 3-3 | 24"x12" | 1 | 6 | 6 | | |
| | " | M 1-1 | 24"x24" | 1 | 6 | 6 | | 41 |
| | " | MO 6-1 | 21"x21" | 1 | 6 | 6 | | LEFT |
| 8 | LT OF J4-1 (E-10) ON HWY 10 (EB) @ ENTRANCE RAMP FRON CTY CB | MO 4-8-A | 30"x24" | 1 | 6 | 6 | | |
| | " | M 3-3 | 36"X18" | 1 | 6 | 6 | | |
| | " | M 1-1 | 36"x36" | 1 | 6 | 6 | | 41 |
| 9 | FIELD DETERMINED-HWY 41 (SB) NEAR TYPE 1 (HWY 10/441-3/4 MILE) | PCMS | | 1 | | | 4 | |
| | **ROUTE CLOSURE SUBTOTALS** | | | **26** | | **138** | **16** | |

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

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## TRAFFIC CONTROL DETOUR SIGN SUMMARY

| SIGN NO. | LOCATION | SIGN CODE | SIZE W X H | NUMBER IN SERVICE | APPROX. SERVICE PERIOD 12 DAYS | 643.3000 DETOUR SIGNS DAYS | 643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS | REMARKS |
|---|---|---|---|---|---|---|---|---|
| | **HWY 41 (SB) TO HWY 10 (EB) RAMP -CLOSED** | | | | | | | |
| 1 | FIELD DETERMINED-NEAR TYPE 1 (HWY 10/441-3/4 MILE) ON HWY 41 (SB) | PCMS | | 1 | | | 12 | |
| 2 | FIELD DETERMINED - ALONG HWY 41 (SB) EXIT RAMP TO HWY 10 WEST | PCMS | | 1 | | | 12 | |
| 3 | FIELD DETERMINED -HWY 10 (WB) BETWEEN HWY 41 (SB) EXIT RAMP & COLD SPRINGS RD | PCMS | | 1 | | | 12 | |
| 4 | RT OF SIS (FOOD) ON HWY 10 (WB) EXIT RAMP TO CTY CB | M 4-5 | 24"x12" | 1 | 12 | 12 | | |
| | " | M 3-2 | 24"x12" | 1 | 12 | 12 | | |
| | " | M 1-4 | 24"x24" | 1 | 12 | 12 | | 10 |
| | " | MO 5-1L | 21"x21" | 1 | 12 | 12 | | |
| 5 | BACKSIDE OF R1-1 (DO NOT ENTER) SIGN ON HWY 10 (WB) EXIT RAMP TO CTY CB | MO 4-5 | 24"x12" | 1 | 12 | 12 | | |
| | " | M 3-2 | 24"x12" | 1 | 12 | 12 | | |
| | " | M 1-4 | 24"x24" | 1 | 12 | 12 | | 10 |
| | " | MO 6-1 | 21"x21" | 1 | 12 | 12 | | LEFT |
| 6 | ACROSS FROM D1-2 (LT-MENASHA/MANITOWOC) ON CTY CB (SB - MEDIAN SIDE) | M 4-5 | 24"x12" | 1 | 12 | 12 | | |
| | " | M 3-2 | 24"x12" | 1 | 12 | 12 | | |
| | " | M 1-4 | 24"x24" | 1 | 12 | 12 | | 10 |
| | " | MO 5-1L | 21"x21" | 1 | 12 | 12 | | |
| | **HWY 10 (WB) TO HWY 41 (SB) RAMP -CLOSED** | | | | | | | |
| 7 | FIELD DETERMINED-WEST OF ENTRANCE RAMP FROM CTY P ON HWY 10 (WB) | PCMS | | 1 | | | 12 | |
| 8 | LT OF E5-1-B (EXIT 287B-TILT RT) ON HWY 10 (WB) | M 4-5 | 36"x18" | 1 | 12 | 12 | | |
| | " | M 3-3 | 36"x18" | 1 | 12 | 12 | | |
| | " | M 1-4 | 36"x36" | 1 | 12 | 12 | | 41 |
| | " | MO 6-1 | 30"x30" | 1 | 12 | 12 | | AHEAD |
| 9 | FIELD DETERMINED-EAST OF ENTRANCE RAMP FROM HWY 41 (SB) ON HWY 10 (WB) | PCMS | | 1 | | | 12 | |
| 10 | RT OF SIS (FOOD) ON HWY 10 (WB) EXIT RAMP TO CTY CB | M 4-5 | 24"x12" | 1 | 12 | 12 | | |
| | " | M 3-3 | 24"x12" | 1 | 12 | 12 | | |
| | " | M 1-4 | 24"x24" | 1 | 12 | 12 | | 41 |
| | " | MO 5-1L | 21"x21" | 1 | 12 | 12 | | |
| 11 | BACKSIDE OF R1-1 (DO NOT ENTER) SIGN ON HWY 10 (WB) EXIT RAMP TO CTY CB | M 4-5 | 24"x12" | 1 | 12 | 12 | | |
| | " | M 3-3 | 24"x12" | 1 | 12 | 12 | | |
| | " | M 1-4 | 24"x24" | 1 | 12 | 12 | | 41 |
| | " | MO 6-1 | 21"x21" | 1 | 12 | 12 | | LEFT |
| 12 | ACROSS FROM D1-2 (LT-MENASHA/MANITOWOC) ON CTY CB (SB - MEDIAN SIDE) | M 4-5 | 24"x12" | 1 | 12 | 12 | | |
| | " | M 3-3 | 24"x12" | 1 | 12 | 12 | | |
| | " | M 1-4 | 24"x24" | 1 | 12 | 12 | | 41 |
| | " | MO 5-1L | 21"x21" | 1 | 12 | 12 | | |
| 13 | LT OF J3-1 (E-10-LT) ON CTY CB (SB-MEDIAN) | M 4-5 | 24"x12" | 1 | 12 | 12 | | |
| | " | M 3-3 | 24"x12" | 1 | 12 | 12 | | |
| | " | M 1-4 | 24"x24" | 1 | 12 | 12 | | 41 |
| | " | MO 6-1 | 21"x21" | 1 | 12 | 12 | | LEFT |
| | **ROUTE CLOSURE SUBTOTALS** | | | **37** | | **384** | **60** | |

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

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## TRAFFIC CONTROL DETOUR SIGN SUMMARY

| SIGN NO. | LOCATION | SIGN CODE | SIZE W X H | NUMBER IN SERVICE | APPROX. SERVICE PERIOD 5 DAYS | 643.3000 DETOUR SIGNS DAYS | 643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS | REMARKS |
|---|---|---|---|---|---|---|---|---|
| | **HWY 41 (SB) TO HWY 10 (EB) RAMP -CLOSED** | | | | | | | |
| 1 | FIELD DETERMINED-NEAR TYPE 1 (HWY 10/441-3/4 MILE) ON HWY 41 (SB) | PCMS | | 1 | | | 5 | |
| 2 | FIELD DETERMINED - ALONG HWY 41 (SB) EXIT RAMP TO HWY 10 WEST | PCMS | | 1 | | | 5 | |
| 3 | FIELD DETERMINED - HWY 10 (WB) BETWEEN HWY 41 (SB) EXIT RAMP & COLD SPRINGS RD | PCMS | | 1 | | | 5 | |
| 4 | RT OF SIS (FOOD) ON HWY 10 (WB) EXIT RAMP TO CTY CB | M 4-5 | 24"x12" | 1 | 5 | 5 | | |
| | " | M 3-2 | 24"x12" | 1 | 5 | 5 | | |
| | " | M 1-4 | 24"x24" | 1 | 5 | 5 | | 10 |
| | " | MO 5-1L | 21"x21" | 1 | 5 | 5 | | |
| 5 | BACKSIDE OF R1-1 (DO NOT ENTER) SIGN ON HWY 10 (WB) EXIT RAMP TO CTY CB | MO 4-5 | 24"x12" | 1 | 5 | 5 | | |
| | " | M 3-2 | 24"x12" | 1 | 5 | 5 | | |
| | " | M 1-4 | 24"x24" | 1 | 5 | 5 | | 10 |
| | " | MO 6-1 | 21"x21" | 1 | 5 | 5 | | LEFT |
| 6 | ACROSS FROM D1-2 (LT-MENASHA/MANITOWOC) ON CTY CB (SB - MEDIAN SIDE) | M 4-5 | 24"x12" | 1 | 5 | 5 | | |
| | " | M 3-2 | 24"x12" | 1 | 5 | 5 | | |
| | " | M 1-4 | 24"x24" | 1 | 5 | 5 | | 10 |
| | " | MO 5-1L | 21"x21" | 1 | 5 | 5 | | |
| | **ROUTE CLOSURE SUBTOTALS** | | | **15** | | **60** | **15** | |

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

## TRAFFIC CONTROL DETOUR SIGN SUMMARY

| SIGN NO. | LOCATION | SIGN CODE | SIZE W X H | NUMBER IN SERVICE | APPROX. SERVICE PERIOD 602 DAYS | 643.3000 DETOUR SIGNS DAYS | REMARKS |
|---|---|---|---|---|---|---|---|
| | **HWY 10 (WB) - ALTERNATE** | | | | | | |
| 1 | CTH AP, MODIFY EXISTING DETOUR ASSEMBLY AS SHOWN | MO 4-1 | 24"x12" | 1 | 602 | 602 | |
| 2 | CTH AP, MODIFY EXISTING DETOUR ASSEMBLY AS SHOWN | MO 4-1 | 24"x12" | 1 | 602 | 602 | |
| 3 | CTH AP, MODIFY EXISTING DETOUR ASSEMBLY AS SHOWN | MO 4-1 | 24"x12" | 1 | 602 | 602 | |
| 4 | US 10 EB/STH 441 NB, MODIFY EXISTING DETOUR ASSEMBLY AS SHOWN (MEDIAN) | MO 4-1 | 36"x18" | 1 | 602 | 602 | |
| 5 | US 10 EB/STH 441 NB, MODIFY EXISTING DETOUR ASSEMBLY AS SHOWN (RT SHLDR) | MO 4-1 | 36"x18" | 1 | 602 | 602 | |
| 6 | US 10 EB/STH 441 NB, MODIFY EXISTING DETOUR ASSEMBLY AS SHOWN (MEDIAN) | MO 4-1 | 36"x18" | 1 | 602 | 602 | |
| 7 | US 10 EB/STH 441 NB, MODIFY EXISTING DETOUR ASSEMBLY AS SHOWN (RT SHLDR) | MO 4-1 | 36"x18" | 1 | 602 | 602 | |
| 8 | STH 47, MODIFY EXISTING DETOUR ASSEMBLY AS SHOWN | MO 4-1 | 24"x12" | 1 | 602 | 602 | |
| 9 | STH 47, MODIFY EXISTING DETOUR ASSEMBLY AS SHOWN | MO 4-1 | 24"x12" | 1 | 602 | 602 | |
| 10 | STH 47, MODIFY EXISTING DETOUR ASSEMBLY AS SHOWN | MO 4-1 | 24"x12" | 1 | 602 | 602 | |
| 11 | STH 47, MODIFY EXISTING DETOUR ASSEMBLY AS SHOWN | MO 4-1 | 24"x12" | 1 | 602 | 602 | |
| 12 | STH 47, MODIFY EXISTING DETOUR ASSEMBLY AS SHOWN | MO 4-1 | 24"x12" | 1 | 602 | 602 | |
| 13 | STH 47, MODIFY EXISTING DETOUR ASSEMBLY AS SHOWN | MO 4-1 | 24"x12" | 1 | 602 | 602 | |
| 14 | STH 47, MODIFY EXISTING DETOUR ASSEMBLY AS SHOWN | MO 4-1 | 24"x12" | 1 | 602 | 602 | |
| 15 | US 10, MODIFY EXISTING DETOUR ASSEMBLY AS SHOWN | MO 4-1 | 24"x12" | 1 | 602 | 602 | |
| 16 | US 10, MODIFY EXISTING DETOUR ASSEMBLY AS SHOWN | MO 4-1 | 24"x12" | 1 | 602 | 602 | |
| 17 | US 10, MODIFY EXISTING DETOUR ASSEMBLY AS SHOWN | MO 4-1 | 24"x12" | 1 | 602 | 602 | |
| 18 | US 10, MODIFY EXISTING DETOUR ASSEMBLY AS SHOWN | MO 4-1 | 24"x12" | 1 | 602 | 602 | |
| 19 | STH 441 NB, MODIFY EXISTING DETOUR ASSEMBLY AS SHOWN (MEDIAN) | MO 4-1 | 36"x18" | 1 | 602 | 602 | |
| 20 | STH 441 NB, MODIFY EXISTING DETOUR ASSEMBLY AS SHOWN (RT SHLDR) | MO 4-1 | 36"x18" | 1 | 602 | 602 | |
| 21 | STH 441 NB, MODIFY DETOUR ASSEMBLY AS SHOWN (MEDIAN) | MO 4-1 | 36"x18" | 1 | 602 | 602 | |
| 22 | STH 441 NB, MODIFY DETOUR ASSEMBLY AS SHOWN (RT SHLDR) | MO 4-1 | 36"x18" | 1 | 602 | 602 | |
| 23 | STH 441 NB, MODIFY DETOUR ASSEMBLY AS SHOWN (MEDIAN) | MO 4-1 | 36"x18" | 1 | 602 | 602 | |
| 24 | STH 441 NB, MODIFY DETOUR ASSEMBLY AS SHOWN (RT SHLDR) | MO 4-1 | 36"x18" | 1 | 602 | 602 | |
| 25 | I-41 SB, MODIFY DETOUR ASSEMBLY AS SHOWN (RT SHLDR) | MO 4-1 | 36"x18" | 1 | 602 | 602 | |
| 26 | I-41 SB, MODIFY DETOUR ASSEMBLY AS SHOWN (MEDIAN) | MO 4-1 | 36"x18" | 1 | 602 | 602 | |
| 27 | I-41 SB, MODIFY DETOUR ASSEMBLY AS SHOWN (MEDIAN) | MO 4-1 | 36"x18" | 1 | 602 | 602 | |
| 28 | I-41 SB, MODIFY DETOUR ASSEMBLY AS SHOWN (RT SHLDR) | MO 4-1 | 36"x18" | 1 | 602 | 602 | |
| 29 | I-41 SB, MODIFY DETOUR ASSEMBLY AS SHOWN (RT SHLDR) | MO 4-1 | 36"x18" | 1 | 602 | 602 | |
| 30 | I-41 SB, MODIFY DETOUR ASSEMBLY AS SHOWN (MEDIAN) | MO 4-1 | 36"x18" | 1 | 602 | 602 | |
| 31 | I-41 SB, MODIFY DETOUR ASSEMBLY AS SHOWN (RT SHLDR) | MO 4-1 | 36"x18" | 1 | 602 | 602 | |
| 32 | I-41 SB, MODIFY DETOUR ASSEMBLY AS SHOWN (MEDIAN) | MO 4-1 | 36"x18" | 1 | 602 | 602 | |
| 33 | I-41 SB, MODIFY DETOUR ASSEMBLY AS SHOWN (RT SHLDR) | MO 4-1 | 36"x18" | 1 | 602 | 602 | |
| 34 | I-41 SB, MODIFY DETOUR ASSEMBLY AS SHOWN (MEDIAN) | MO 4-1 | 36"x18" | 1 | 602 | 602 | |
| 35 | I-41 SB, MODIFY DETOUR ASSEMBLY AS SHOWN (RT SHLDR) | MO 4-1 | 36"x18" | 1 | 602 | 602 | |
| 36 | I-41 SB, MODIFY DETOUR ASSEMBLY AS SHOWN (MEDIAN) | MO 4-1 | 36"x18" | 1 | 602 | 602 | |

**ROUTE ALTERNATE SUBTOTALS** **36** **21,672**

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

3

## TRAFFIC CONTROL DETOUR SIGN SUMMARY

| SIGN NO. | LOCATION | SIGN CODE | SIZE W X H | NUMBER IN SERVICE | APPROX. SERVICE PERIOD 5 DAYS | 643.3000 DETOUR SIGNS DAYS | 643.1000 SIGNS FIXED MESSAGE SF | 643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS | NO OF CYCLES | 643.0910 COVERING SIGNS TYPE I EACH | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **HWY 10 (WB) TO HWY 41 (NB) RAMP - CLOSED** | | | | | | | | | | | |
| 1 | W. OF CTY P ENTRANCE RAMP ON HWY 10 (WB) | FMS | | 1 | | | 49.5 | | | | SEE FIXED MESSAGE SIGN DETAIL |
| 2 | W. OF I-41 ON HWY 10 (WB) | FMS | | 1 | | | 45.0 | | | | SEE FIXED MESSAGE SIGN DETAIL |
| 3 | COVER TYPE 1 (41; GREEN BAY/MILWAUKEE; EXIT 1 MILE) | | | | | | | | 1 | 1 | COVER "GREEN BAY" |
| 4 | TYPE 1 (41 NORTH; GREEN BAY; TILT RT - EXIT 287B) | G 20-60 | 108"x24" | 1 | 5 | 5 | | | | | PLACE BTWEEN "NORTH" & "GREEN BAY" |
| 5 | TYPE 1 (41 NORTH; GREEN BAY; TILT RT - EXIT 287B) | | | | | | | | 1 | 1 | COVER "TILT RIGHT ARROW" |
| 6 | LT OF E5-1-B (EXIT 287B TILT RT) ON HWY 10 (WB) | M 4-5 | 36"x18" | 1 | 5 | 5 | | | | | |
| | " | M 3-1 | 36"x18" | 1 | 5 | 5 | | | | | |
| | " | M 1-1 | 36"x36" | 1 | 5 | 5 | | | | | 41 |
| | " | MO 6-1 | 30"x30" | 1 | 5 | 5 | | | | | AHEAD |
| 7 | LT OF E5-1-B (EXIT 287A TILT RT) ON HWY 10 (WB) | M 4-5 | 36"x18" | 1 | 5 | 5 | | | | | |
| | " | M 3-1 | 36"x18" | 1 | 5 | 5 | | | | | |
| | " | M 1-1 | 36"x36" | 1 | 5 | 5 | | | | | 41 |
| | " | MO 6-1 | 30"x30" | 1 | 5 | 5 | | | | | AHEAD |
| 8 | LT OF E5-1-B (EXIT 286 TILT RT) ON HWY 10 (WB) | M 4-5 | 36"x18" | 1 | 5 | 5 | | | | | |
| | " | M 3-1 | 36"x18" | 1 | 5 | 5 | | | | | |
| | " | M 1-1 | 36"x36" | 1 | 5 | 5 | | | | | 41 |
| | " | MO 6-1 | 30"x30" | 1 | 5 | 5 | | | | | AHEAD |
| 9 | 1500' W OF TYPE 1 (76; OSHKOSH/SHIOCTON; EXIT 1 MILE) ON HWY 10 (WB) | M 4-5 | 36"x18" | 1 | 5 | 5 | | | | | |
| | " | M 3-1 | 36"x18" | 1 | 5 | 5 | | | | | |
| | " | M 1-1 | 36"x36" | 1 | 5 | 5 | | | | | 41 |
| | " | MO 5-2R | 30"x30" | 1 | 5 | 5 | | | | | |
| 10 | ACROSS FROM SIGN # 77 (MEDIAN SIDE) | M 4-5 | 36"x18" | 1 | 5 | 5 | | | | | |
| | " | M 3-1 | 36"x18" | 1 | 5 | 5 | | | | | |
| | " | M 1-1 | 36"x36" | 1 | 5 | 5 | | | | | 41 |
| | " | MO 5-2R | 30"x30" | 1 | 5 | 5 | | | | | |
| 11 | 1500' W OF SIGN # 77 ON HWY 10 (WB) | M 4-5 | 36"x18" | 1 | 5 | 5 | | | | | |
| | " | M 3-1 | 36"x18" | 1 | 5 | 5 | | | | | |
| | " | M 1-1 | 36"x36" | 1 | 5 | 5 | | | | | 41 |
| | " | MO 5-2R | 30"x30" | 1 | 5 | 5 | | | | | |
| 12 | ACROSS FROM SIGN # 79 (MEDIAN SIDE) | M 4-5 | 36"x18" | 1 | 5 | 5 | | | | | |
| | " | M 3-1 | 36"x18" | 1 | 5 | 5 | | | | | |
| | " | M 1-1 | 36"x36" | 1 | 5 | 5 | | | | | 41 |
| | " | MO 5-2R | 30"x30" | 1 | 5 | 5 | | | | | |
| **PAGE SUBTOTALS** | | | | **31** | | **145** | **95** | **0** | | **2** | |

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

## TRAFFIC CONTROL DETOUR SIGN SUMMARY

| SIGN NO. | LOCATION | SIGN CODE | SIZE W X H | NUMBER IN SERVICE | APPROX. SERVICE PERIOD 5 DAYS | 643.3000 DETOUR SIGNS DAYS | 643.1000 SIGNS FIXED MESSAGE SF | 643.1050 SIGNS PORTABLE CHANGEABLE MESSAGE DAYS | NO OF CYCLES | 643.0910 COVERING SIGNS TYPE I EACH | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 13 | LT OF TYPE 1 (76; OSHKOSH/SHIOCTON; TILT RT) ON HWY 10 (WB) | M 4-5 | 36"x18" | 1 | 5 | 5 | | | | | |
| | " | M 3-1 | 36"x18" | 1 | 5 | 5 | | | | | |
| | " | M 1-1 | 36"x36" | 1 | 5 | 5 | | | | | 41 |
| | " | MO 6-2 | 30"x30" | 1 | 5 | 5 | | | | | RIGHT |
| 14 | 150' W OF W3-3 (SIGNAL AHEAD SIGN) ON HWY 10 (WB) EXIT RAMP TO HWY 76 | M 4-5 | 24"x12" | 1 | 5 | 5 | | | | | |
| | " | M 3-1 | 24"x12" | 1 | 5 | 5 | | | | | |
| | " | M 1-1 | 24"x24" | 1 | 5 | 5 | | | | | 41 |
| | " | MO 5-2R | 21"x21" | 1 | 5 | 5 | | | | | |
| 15 | RT OF J3-2 (S-76-LT; N-76-RT) ON HWY 10 (WB) EXIT RAMP TO HWY 76 | M 4-5 | 24"x12" | 1 | 5 | 5 | | | | | |
| | " | M 3-1 | 24"x12" | 1 | 5 | 5 | | | | | |
| | " | M 1-1 | 24"x24" | 1 | 5 | 5 | | | | | 41 |
| | " | MO 6-1 | 21"x21" | 1 | 5 | 5 | | | | | RIGHT |
| 16 | MOUNT ABOVE EXISTING J4-2 ASSEMBLY AS SHOWN | M 4-5 | 24"x12" | 1 | 5 | 5 | | | | | |
| 17 | MOUNT ON EXISTING J23-1 ASSEMBLY AS SHOWN | M 4-5 | 24"x12" | 1 | 5 | 5 | | | | | |
| | " | MO 6-1 | 21"x21" | 1 | 5 | 5 | | | | | AHEAD |
| 18 | MOUNT ABOVE EXISTING J4-2 ASSEMBLY AS SHOWN | M 4-5 | 24"x12" | 1 | 5 | 5 | | | | | |
| 19 | MOUNT ON EXISTING J23-1 ASSEMBLY AS SHOWN | M 4-5 | 24"x12" | 1 | 5 | 5 | | | | | |
| | " | MO 5-1R | 21"x21" | 1 | 5 | 5 | | | | | |
| 20 | MOUNT ON EXISTING J33-1 ASSEMBLY AS SHOWN | M 4-5 | 24"x12" | 1 | 5 | 5 | | | | | |
| | " | MO 6-1 | 21"x21" | 1 | 5 | 5 | | | | | RIGHT |
| 21 | MOUNT ABOVE EXISTING J4-2 ASSEMBLY AS SHOWN | M 4-5 | 24"x12" | 1 | 5 | 5 | | | | | |
| 22 | MOUNT ABOVE EXISTING J4-2 ASSEMBLY AS SHOWN | M 4-5 | 24"x12" | 1 | 5 | 5 | | | | | |
| 23 | 250' E OF MCCARTHY RD INTERSECTION ON HWY 96 (EB) | M 4-5 | 24"x12" | 1 | 5 | 5 | | | | | |
| | | M 3-1 | 24"x12" | 1 | 5 | 5 | | | | | |
| | " | M 3-2 | 24"x12" | 1 | 5 | 5 | | | | | |
| | " | M 50-2 | 48"x24" | 1 | 5 | 5 | | | | | 41-96 |
| | **PAGE SUBTOTALS** | | | **26** | | **130** | **0** | **0** | | **0** | |
| | **ROUTE CLOSURE SUBTOTALS** | | | **57** | | **275** | **95** | **0** | | **2** | |

ALL ITEMS ARE CATEGORY **1000** UNLESS OTHERWISE SPECIFIED.

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## ERECTION OF TYPE II SIGNS AND SUPPORTS

| SIGN NO. | LOCATION | SIGN CODE | W X H | 637.2210 SIGNS TYPE II REFLECTIVE H S.F. | 637.2230 SIGNS TYPE II REFLECTIVE F S.F. | 634.0618 POSTS WOOD 4X6X18 EACH | 634.0808 POSTS TUBULAR STEEL 2X2X8 EACH | 638.2602 REMOVING SIGNS TYPE II EACH | 638.3000 REMOVING SMALL SIGN SUPPORTS EACH | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | USH 10 WB/STH 441 SB ON LLBDM STRUCTURE | W13-3 | 48" X 60" | --- | 20.00 | --- | --- | --- | --- | 45 MPH, MOUNT TO S-70-254 ON RIGHT COLUMN |
| 2 | " | D10-5 | 21" X 60" | 8.75 | --- | --- | 1 | --- | --- | WEST USH 10 MILE 288.2, MOUNT TO TOP OF PARAPET ACCORDING TO PLATE A4-10 |
| 3 | " | D10-5 | 21" X 60" | 8.75 | --- | --- | 1 | --- | --- | WEST USH 10 MILE 288.4, MOUNT TO TOP OF PARAPET ACCORDING TO PLATE A4-10 |
| 4 | VACANT | --- | --- | --- | --- | --- | --- | --- | --- | |
| 5 | USH 10 WB/STH 441 SB ON LLBDM STRUCTURE | D10-5 | 21" X 60" | 8.75 | --- | --- | 1 | --- | --- | WEST USH 10 MILE 288.6, MOUNT TO TOP OF PARAPET ACCORDING TO PLATE A4-10 |
| 6 | USH 10 WB/STH 441 SB, E. OF LLBDM STRUCTURE | I3-1 | 114" X 36" | 28.50 | --- | --- | --- | --- | --- | LITTLE LAKE BUTTE DES MORTS, MOUNT VIA BANDING TO COLUMN/TRUSS CONNECTION POINT, SEE SIGN DETAIL SHEET |
| 7 | USH 10 EB/STH 441 NB ON LLBDM STRUCTURE | D10-5 | 21" X 60" | 8.75 | --- | --- | 1 | --- | --- | EAST USH 10 MILE 288.0, MOUNT TO TOP OF PARAPET ACCORDING TO PLATE A4-10 |
| 8 | USH 10 WB/STH 441 SB ON LLBDM STRUCTURE | D10-5 | 21" X 60" | 8.75 | --- | --- | 1 | --- | --- | WEST USH 10 MILE 288.0, MOUNT TO TOP OF PARAPET ACCORDING TO PLATE A4-10 |
| 9 | USH 10 WB/STH 441 SB, W. OF LLBDM STRUCTURE | E5-1A | 108" X 60" | 45.00 | --- | 2 | --- | --- | --- | EXIT 288A |
| 10 TO 13 | VACANT | --- | --- | --- | --- | --- | --- | --- | --- | |
| 14 | USH 10 WB TO I-41 NB RAMP | D10-5R | 21" X 72" | 10.50 | --- | --- | 1 | --- | --- | RAMP USH 10 MILE 287.8 W-N, MOUNT TO TOP OF PARAPET ACCORDING TO PLATE A4-10 |
| 15 | USH 10 EB TO I-41 NB RAMP | W4-3L | 48" X 48" | --- | 16.00 | 2 | --- | --- | --- | |
| 16 | USH 10 WB TO I-41 NB RAMP | W4-3R | 48" X 48" | --- | 16.00 | 2 | --- | --- | --- | |
| 17 | I-41 NB - USH 10 RAMP MERGE | W4-3R | 48" X 48" | --- | 16.00 | 2 | --- | --- | --- | |
| 18 | " | W9-63 | 72" X 90" | --- | 45.00 | --- | --- | --- | --- | LANE ENDS 1/2 MILE, MOUNT TO S-70-205 SIGN CANTILEVER |
| 19 TO 22 | VACANT | --- | --- | --- | --- | --- | --- | --- | --- | |
| 23 | USH 10 EB/STH 441 NB ON LLBDM STRUCTURE | R4-3 | 48" X 60" | 20.00 | --- | --- | --- | --- | --- | MOUNT TO MEDIAN COLUMN OF S-70-207 |
| 24 | " | D10-5 | 21" X 60" | 8.75 | --- | --- | 1 | --- | --- | EAST USH 10 MILE 288.2, MOUNT TO TOP OF PARAPET ACCORDING TO PLATE A4-10 |
| 25 | " | D10-5 | 21" X 60" | 8.75 | --- | --- | 1 | --- | --- | EAST USH 10 MILE 288.4, MOUNT TO TOP OF PARAPET ACCORDING TO PLATE A4-10 |
| 26 | " | D10-5 | 21" X 60" | 8.75 | --- | --- | 1 | --- | --- | EAST USH 10 MILE 288.6, MOUNT TO TOP OF PARAPET ACCORDING TO PLATE A4-10 |
| 27 | USH 10 WB, W. OF LLBDM STRUCTURE | E5-1A | --- | --- | --- | --- | --- | 1 | 2 | EXIT 288A |
| 28 | " | W1-2R | --- | --- | --- | --- | --- | 1 | 1 | |
| 29 | " | W13-1 | --- | --- | --- | --- | --- | --- | --- | PART OF REMOVAL FOR SIGN #28 |
| 30 | " | J2-1 | --- | --- | --- | --- | --- | 1 | 1 | |
| 31 | " | J2-1 | --- | --- | --- | --- | --- | 1 | 1 | |
| 32 | " | D10-3 | --- | --- | --- | --- | --- | 1 | 1 | |
| 33 | " | W13-3 | --- | --- | --- | --- | --- | 1 | 1 | |
| 34 | USH 10 WB TO I-41 NB RAMP | W1-6 | --- | --- | --- | --- | --- | 1 | 1 | |
| 35 | " | W1-6 | --- | --- | --- | --- | --- | 1 | 1 | |
| | **PROJECT TOTALS** | | | **174.00** | **113.00** | **8** | **9** | **8** | **9** | |

PLAN SHEET PRODUCED
BY WisDOT - NE REGION

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## ERECTION AND REMOVAL OF PERMANENT SIGNING, TYPE I
## ERECTING AND REMOVING OF STRUCTURAL STEEL SIGN SUPPORTS

| SIGN NO. | LOCATION | SIGN CODE | 637.1220 SIGNS TYPE I REFLECTIVE SH W X H | S.F. | 635.0200 SIGN SUPPORTS STRUCT. STEEL HIGH STRENGTH LB | 636.0100 SIGN SUPPORTS CONCRETE MASONRY CY | 636.0500 SIGN SUPPORTS STEEL REINFORCEMENT LB | 638.2601 REMOVING SIGNS TYPE I EACH | 638.3100 REMOVING STRUCT. STEEL SIGN SUPPORTS EACH | 643.0910 TRAFFIC CONTROL COVERING SIGNS TYPE I EACH * | TYPE/SIZE OF STEEL | FOR INFORMATION USE ONLY: SIGN SUPPORTS CONCRETE MASONRY CY | STEEL SUPPORTS STEEL REINFORCEMENT HS LB | SINGLE POLE SIGN SUPPORT LS | SIGN BRIDGE LS | INFO ONLY - LENGTHS TO BE VERIFIED BY CONTRACTOR: POST NO. 1 LENGTH FT | POST NO. 2 LENGTH FT | OFFSET DISTANCE FT | DISTANCE BETWEEN POSTS (S) FT | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100 | USH 10 WB/STH 441 SB ON EXISTING LLBDM STRUCTURE | E7-4 | 636" X 192" | 848.00 | --- | --- | --- | --- | --- | 1 | --- | 16.0 | 1960 | --- | 1 | --- | --- | --- | --- | MOUNT TO SIGN BRIDGE S-70-209, SEE SIGN DETAIL SHEET |
| 101 | " | E1-5BP | 144" X 48" | 48.00 | --- | --- | --- | --- | --- | | --- | --- | --- | --- | --- | --- | --- | --- | --- | LEFT EXIT 288B, MOUNT TO UPPER LEFT CORNER OF SIGN #100 |
| 102 | " | E1-5 | 144" X 30" | 30.00 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | EXIT 288A, MOUNT TO UPPER RIGHT CORNER OF SIGN #100 |
| 103 | " | E7-4 | 636" X 192" | 848.00 | --- | --- | --- | --- | --- | 1 | --- | 16.0 | 1960 | --- | 1 | --- | --- | --- | --- | MOUNT TO SIGN BRIDGE S-70-254, SEE SIGN DETAIL SHEET |
| 104 | " | E1-5BP | 144" X 48" | 48.00 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | LEFT EXIT 288B, MOUNT TO UPPER LEFT CORNER OF SIGN #103 |
| 105 | " | E1-5 | 144" X 30" | 30.00 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | EXIT 288A, MOUNT TO UPPER RIGHT CORNER OF SIGN #103 |
| 106 | USH 10 EB/STH 441 NB, W. OF EXISTING LLBDM STRUCTURE | E9-1 | 144" X 54" | 54.00 | 534 | 1.2 | 68 | --- | --- | --- | 2-TYPE A | --- | --- | --- | --- | 15.0 | 16.8 | 17.5 | 9.0 | MENASHA NEXT 4 EXITS, SEE SIGN DETAIL SHEET |
| 107 | VACANT | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| 108 | VACANT | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| 109 | USH 10 WB/STH 441 SB ON EXISTING LLBDM STRUCTURE | E6-51 | --- | --- | --- | --- | --- | 1 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | ALSO REMOVE E6-1 |
| 110 | " | --- | --- | --- | --- | --- | --- | --- | 2 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| 111 | USH 10 WB/STH 441 SB IMMEDIATELY PAST I-41 NB OFF-RAMP | E7-3 | 408" X 156" | 442.00 | --- | --- | --- | --- | --- | 1 | --- | 16.0 | 1960 | --- | 1 | --- | --- | --- | --- | SEE SIGN DETAIL SHEET, MOUNT TO S-70-206 |
| 112 | " | E1-5BP | 144" X 48" | 48.00 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | LEFT EXIT 288B, MOUNT TO UPPER LEFT CORNER OF SIGN #111 |
| 113 | USH 10 EB/STH 441 NB ON EXISTING LLBDM STRUCTURE | E7-4 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | LEAVE COVERS IN PLACE |
| 114 | VACANT | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |
| 115 | USH 10 EB/STH 441 NB ON EXISTING LLBDM STRUCTURE | E8-1 | 252" X 108" | 189.00 | --- | --- | --- | --- | --- | --- | --- | 8.0 | 980 | 1 | --- | --- | --- | --- | --- | SEE SIGN DETAIL SHEET, MOUNT ON SINGLE POLE STRUCTURE S-70-208 |
| 116 | " | E8-1 | 276" X 108" | 207.00 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | SEE SIGN DETAIL SHEET, MOUNT ON BACK OF SIGN #115 |
| 117 | " | E7-4 | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | LEAVE COVERS IN PLACE |
| 118 | VACANT | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | EXIT 289A, SEE SIGN DETAIL, MOUNT TOP RIGHT OF SIGN #117 |
| | **PROJECT TOTALS** | | | **2792.00** | **534** | **1.2** | **68** | **1** | **2** | **3** | | | | | | | | | | |

* ALL SIGN COVERINGS ARE 1 CYCLE

PLAN SHEET PRODUCED
BY WisDOT - NE REGION

# TRANSPORTATION PROJECT PLAT NO: 1517-07-21 - 4.06

## USH 10 / STH 441, CTH CB - S. ONEIDA ST.

PART OF SW 1/4 OF THE SE 1/4, GOVERNMENT LOT 2 AND GOVERNMENT LOT 3 OF SECTION 9, TOWNSHIP 20 NORTH, RANGE 17 EAST, TOWN OF MENASHA, WINNEBAGO COUNTY, WISCONSIN.

### RELOCATION ORDER USH 10/STH 441 WINNEBAGO COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE NAMED PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SUBSECTIONS 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:

1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE NAMED PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SUBSECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

### CONVENTIONAL ABBREVIATIONS

| | | | |
|---|---|---|---|
| ACCESS POINT/ DRIVEWAY CONNECTION | AP | REFERENCE LINE | R/L |
| ACCESS RIGHTS | AR | RELEASE OF RIGHTS | ROR |
| ACRES | AC. | REMAINING | REM. |
| AND OTHERS | ET.AL. | RIGHT-OF-WAY | R/W |
| CENTERLINE | C/L | SECTION | SEC. |
| CERTIFIED SURVEY MAP | CSM | STATION | STA. |
| CORNER | COR. | TEMPORARY LIMITED EASEMENT | TLE |
| DOCUMENT | DOC. | VOLUME | VOL |
| EASEMENT | EASE. | **CURVE DATA** | |
| HIGHWAY EASEMENT | H.E. | LONG CHORD | LCH |
| LAND CONTRACT | LC | LONG CHORD BEARING | LCB |
| MONUMENT | MON. | RADIUS | R |
| PAGE | PG | DEGREE OF CURVE | D |
| PERMANENT LIMITED EASEMENT | PLE | CENTRAL ANGLE OR DELTA | DELTA |
| PROPERTY LINE | PL | LENGTH OF CURVE | L |
| RECORDED AS | (100') | TANGENT | TAN |

### CONVENTIONAL SYMBOLS

| | | | |
|---|---|---|---|
| FOUND IRON PIPE/PIN | ○ (3/4" IRON REBAR UNLESS NOTED) | PROPOSED R/W LINE | |
| R/W MONUMENT | ● (SET) | EXISTING H.E. LINE | |
| R/W STANDARD | ▲ (SET) | PROPERTY LINE | |
| SIGN | ISIGN | LOT & TIE LINES | |
| SECTION CORNER MONUMENT | ● | SLOPE INTERCEPTS | |
| SECTION CORNER SYMBOL | (SEE DETAIL) | CORPORATE LIMITS | |
| FEE (HATCH VARIES) | | ACCESS RESTRICTED (BY PREVIOUS ACQUISITION/CONTROL) | |
| TEMPORARY LIMITED EASEMENT | | ACCESS RESTRICTED (BY ACQUISITION) | |
| PERMANENT LIMITED EASEMENT | | NO ACCESS (BY STATUTORY AUTHORITY) | |
| R/W BOUNDARY POINT | PRNOOO1 | SECTION LINE | |
| PARCEL NUMBER | 102 | QUARTER LINE | |
| UTILITY NUMBER | 92 | SIXTEENTH LINE | |
| SIGN NUMBER (OFF PREMISE) | 21 | EXISTING CENTERLINE | |
| BUILDING | | PROPOSED REFERENCE LINE | |
| | | PARALLEL OFFSET | |

### CONVENTIONAL UTILITY SYMBOLS

| | NON COMPENSABLE | COMPENSABLE |
|---|---|---|
| WATER | W | |
| GAS | G | |
| COMMUNICATION | C | |
| ELECTRIC OVERHEAD | OH | |
| ELECTRIC UNDERGROUND | E | |
| FIBER OPTIC | FO | |
| SANITARY SEWER | SAN | |
| STORM SEWER | SS | |
| POWER POLE | | |
| TELEPHONE POLE | | |
| TELEPHONE PEDESTAL | | |
| ELECTRIC TOWER | | |

CTR 2017-045
ALUM. DISK
Y 547572.829
X 809467.241

2636.03

1/4 LINE

N00°03'52"E

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, WINNEBAGO COUNTY, NAD 83 (91) IN U.S. SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES. GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS AND ARE REFERENCED TO THE US PUBLIC LAND SURVEY OR OTHER SURVEYS OF PUBLIC RECORD.

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO NEW REFERENCE LINES.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

A HIGHWAY EASEMENT (HE) IS AN EASEMENT FOR HIGHWAY PURPOSES, AS LONG AS SO USED, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE.

RIGHT OF WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY 1" X 24" IRON PIPE) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

EXISTING RIGHT OF WAY WAS REESTABLISHED UNDER PROJECT: TRANSPORTATION PROJECT PLAT NO. 1517-07-00-4.02, DOCUMENT NO. 1590507, FILED IN FILE 1, TPP P 192.

EXISTING ACCESS CONTROL WAS ACQUIRED UNDER PROJECT: 1122-1-21 AND T03-2(20).
USH 41 IN WINNEBAGO COUNTY WAS DESIGNATED AS A FREEWAY UNDER SECTION 84.295 OF WISCONSIN STATE STATUTES BY THE HIGHWAY COMMISSION ON JUNE 08, 1972.

THE REFERENCE LINE SHOWN ON THIS PLAT MAY NOT BE THE SAME AS THE REFERENCE LINE SHOWN ON THE CONSTRUCTION PLAN.

### SCHEDULE OF UTILITIES & INTERESTS REQUIRED

| UTILITY NUMBER | *OWNER | INTEREST REQUIRED |
|---|---|---|
| 501 | WE ENERGIES - GAS | RELEASE OF RIGHTS |
| 507 | SPRINT | RELEASE OF RIGHTS |
| 508 | AT&T LEGACY | RELEASE OF RIGHTS |
| 605 | TOWN OF MENASHA - SANITARY SEWER | UTILITY AGREEMENT |
| 622 | TOWN OF MENASHA - WATER | UTILITY AGREEMENT |

OTR 2017-058
ALUM. DISK
Y 544936.799
X 809464.280

### COURSE TABLE
### USH 10/STH 441 REFERENCE LINE

| POINT | TO POINT | BEARING | DISTANCE |
|---|---|---|---|
| 2017058 | DB906 | N00°03'52"E | 1374.69 |
| DB906 | DB907 | S88°29'10"E | 210.72 |
| DB907 | DB908 | CURVE C1 | |
| DB908 | DB909 | S89°46'59"E | 1614.89 |
| DB909 | 2017058 | S57°40'21"W | 2539.83 |

### COURSE TABLE
### USH 41 REFERENCE LINE

| POINT | TO POINT | BEARING | DISTANCE |
|---|---|---|---|
| 2017058 | DB902 | N00°03'52"E | 1318.02 |
| DB902 | DB901 | N89°46'27"E | 778.11 |
| DB901 | DB905 | N24°06'43"E | 1451.07 |
| DB905 | 2017045 | S89°36'07"W | 1369.45 |

### STATION OFFSET TABLE USH 41

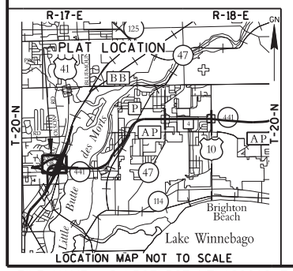
| POINT | STATION | OFFSET | X | Y |
|---|---|---|---|---|
| DB901 | 1330+66.53 | 0.00 | 810243.861 | 546257.880 |
| DB902 | 1327+45.87 | 708.96 L | 809465.761 | 546254.814 |
| DB905 | 1345+17.61 | 0.00 | 810836.655 | 547582.344 |
| DB906 | 1327+97.63 | 732.05 L | 809465.824 | 546311.493 |
| DB907 | 1328+78.60 | 537.52 L | 809676.468 | 546305.926 |
| DB908 | 1330+04.56 | 244.29 L | 809995.569 | 546301.106 |
| DB910 | 1346+32.11 | 251.13 R | 811112.651 | 547584.262 |
| HE1000 | 1340+16.99 | 341.92 R | 810944.229 | 546985.724 |
| HE7046 | 1339+49.49 | 1246.04 L | 809467.241 | 547572.829 |
| 2017045 | 1330+62.90 | 171.87 L | 810683.203 | 546057.259 |
| 2017058 | 1315+42.24 | | 809464.280 | 544936.799 |

### STATION OFFSET TABLE USH 10/STH 441

| POINT | STATION | OFFSET | X | Y |
|---|---|---|---|---|
| DB909 | 148+00.00 | 0.00 | 811610.449 | 546294.992 |
| HE1940 | 142+47.03 | 443.59 L | 811059.162 | 546740.668 |
| ERW7041 | 142+55.17 | 472.96 L | 811067.417 | 546770.011 |
| ERW7042 | 146+38.64 | 476.07 L | 811450.893 | 546771.665 |
| ERW7044 | 141+21.24 | 256.35 R | 810930.725 | 546041.213 |
| HE7045 | 140+79.50 | 161.30 R | 810889.348 | 546136.424 |

### CURVE TABLE

| CURVE | CH DISTANCE | CH BEARING | RADIUS | ARC LENGTH | PI COORDINATES |
|---|---|---|---|---|---|
| C1 | 319.14' | S89°08'05"E | 14100.00' | 319.14' | X 809835.991 Y 546301.710 |
| C2 | 220.82' | S68°59'31"W | 1201.81' | 221.13' | X 810683.203 Y 546057.259 |




GN

0 100 200

GRAPHIC SCALE, FEET

SEE PLAT NO. 1517-07-21-4.07

QTR 2017-046
ALUM. DISK
Y 547585.859
X 811342.521

CTR 2017-045
ALUM. DISK
Y 547572.829
X 809467.241

DB905 N89°36'07"E 1875.33 DB910

1/4 LINE

STA. 1345NB+17.61

USH 41

VARIES

WISCONSIN CENTRAL LTD.

BUTTE DES MORTS BEACH ROAD

PLAT OF BUTTE DES MORTS WEST

LITTLE LAKE BUTTE DES MORTS

TOWN

NW-SE

1/16TH LINE

R/L USH 41 N24°06'43"E

1340NB

1335NB

93'

66'

77'

100'

VARIES

11

507 UTILITY EASEMENT DOC 761858

HE1000

I.R.

HIGHWAY EASEMENT

GOV'T LOT 2

LOT 1 CSM 509 VOL 1 PG 509

ERW7042

ERW7041

HE1940

508

507

622

605

MENASHA

OF

VARIES

140EB

145EB

USH 10 / STH 441

DB909

DB906 S88°29'10"E DB907 130EB C1 DB908

STA. 133INB+12.78
STA. 134EB+52.30

135EB

S89°46'59"E

DB902

1/16TH LINE

DB901

SEE PLAT NO. 1517-07-21-4.03
SHEETS 4.04 & 4.05 ELIMINATED

SW-SE

HIGHWAY EASEMENT

HE7045

507

508

501

HE7046

ERW7044

GOV'T LOT 3

### COURSE TABLE
### NEW RIGHT OF WAY

| POINT | TO POINT | BEARING | DISTANCE |
|---|---|---|---|
| 2017058 | DB902 | N0°03'52"E | 1318.02 |
| DB902 | DB901 | N89°46'27"E | 778.11 |
| DB901 | DB905 | N24°06'43"E | 1451.07 |
| DB905 | DB910 | N89°36'07"E | 275.96 |
| DB910 | HE1000 | S15°42'43"W | 662.29 |
| HE1000 | HE1940 | S31°25'35"E | 241.47 |
| HE1940 | ERW7041 | N15°42'43"E | 30.48 |
| ERW7041 | ERW7042 | N89°45'10"E | 383.48 |
| ERW7042 | ERW7044 | S35°27'19"W | 896.74 |
| ERW7044 | HE7045 | N23°29'21"W | 103.81 |
| HE7045 | HE7046 | CURVE C2 | |
| HE7046 | DB901 | N65°27'24"W | 482.98 |

### SCHEDULE OF LANDS & INTERESTS REQUIRED

| PARCEL NUMBER | *OWNER | INTEREST REQUIRED | NEW R/W ACRES | P.L.E. ACRES | T.L.E. ACRES | H.E. ACRES |
|---|---|---|---|---|---|---|
| 11 | WISCONSIN CENTRAL LTD. | HE | - | - | - | 0.930 |

*OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTERESTS TO THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

KAPUR & ASSOCIATES, INC.
CONSULTING ENGINEERS
MILWAUKEE, WISCONSIN
414.351.6668

I, GARY R. SPLINTER, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTIONS OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED TRANSPORTATION PROJECT PLAT 1517-07-21-4.06 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

WISCONSIN GARY R. SPLINTER S-2239 OAK CREEK, WI LAND SURVEYOR

SIGNATURE _____ DATE 01/27/14
GARY R. SPLINTER, R.L.S. S-2239

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

SIGNATURE _____ DATE 02/05/14
PRINT CURT VAN EREM

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1517-07-21-4.06
AMENDMENT NO:

ACCEPTED FOR RECORDING AND FILING IN THE OFFICE OF THE REGISTER OF DEEDS IN WINNEBAGO COUNTY, WISCONSIN AT 2:18pm ON 2/10/2014 AS DOCUMENT # 1657781 AND FILED IN FILE 1 of TPP 228

Judi Gagel
SIGNATURE OF REGISTER OF DEEDS

1657781

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\Plat\Plats\040406_RP.dgn
APPRAISAL PLAT DATE :
PLOT DATE : 2/5/2014
PLOT BY : g_splinter
PLOT NAME :
PLOT SCALE : 1:100

# TRANSPORTATION PROJECT PLAT NO: 1517-07-21 - 4.07

## USH 10 / STH 441, CTH CB - S. ONEIDA ST.

PART OF GOVERNMENT LOT 1 OF SECTION 9, TOWNSHIP 20 NORTH, RANGE 17 EAST, TOWN OF MENASHA, WINNEBAGO COUNTY, WISCONSIN.

### RELOCATION ORDER USH 10/STH 441 WINNEBAGO COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE NAMED PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SUBSECTIONS 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:

1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE NAMED PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SUBSECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

### SCHEDULE OF LANDS & INTERESTS REQUIRED

| PARCEL NUMBER | *OWNER | INTEREST REQUIRED | NEW R/W ACRES | P.L.E. ACRES | T.L.E. ACRES |
|---|---|---|---|---|---|
| 12 | WISCONSIN CENTRAL LTD. | TLE | - | - | 0.179 |
| 13 | RIESTERER PROPERTIES, LLC | FEE | 0.098 | - | - |
| 14 | WI NATURAL GAS | FEE | 0.017 | - | - |

*OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTERESTS TO THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

### CURVE TABLE

| CURVE | CH DISTANCE | CH BEARING | RADIUS | ARC LENGTH | PI COORDINATES |
|---|---|---|---|---|---|
| C1 | 515.94' | N21°31'53"E | 5729.58' | 516.12' | X 811310.176 Y 548640.322 |
| C2 | 134.76' | N20°19'46"E | 7539.43' | 134.76' | X 811230.911 Y 548821.536 |

### SCHEDULE OF UTILITIES & INTERESTS REQUIRED

| UTILITY NUMBER | *OWNER | INTEREST REQUIRED |
|---|---|---|
| 501 | WE ENERGIES - GAS | RELEASE OF RIGHTS |
| 507 | SPRINT | RELEASE OF RIGHTS |

### STATION OFFSET TABLE

| POINT | STATION | OFFSET | | X | Y |
|---|---|---|---|---|---|
| DB905 | 1345+17.61 | 0.00 | | 810836.655 | 547582.344 |
| DB910 | 1346+32.11 | 251.13 | R | 811112.651 | 547584.262 |
| DB911 | 1354+18.48 | 0.00 | | 811204.682 | 548404.619 |
| DB912 | 1359+34.60 | 0.00 | | 811394.039 | 548884.560 |
| DB953 | 1358+88.32 | 132.62 | L | 811253.755 | 548884.929 |
| PRW1168 | 1354+57.57 | 157.10 | L | 811076.704 | 548503.547 |
| PRW1169 | 1357+46.68 | 142.45 | L | 811196.967 | 548758.513 |
| PRW1173 | 1357+50.36 | 133.15 | L | 811206.937 | 548758.562 |
| TLE1202 | 1359+61.39 | 79.86 | R | 811478.333 | 548884.338 |
| TLE1203 | 1359+64.64 | 89.70 | R | 811488.713 | 548884.310 |
| TLE1204 | 1352+00.00 | 177.34 | R | 811277.290 | 548132.753 |
| TLE1205 | 1352+00.00 | 167.23 | R | 811268.064 | 548136.882 |

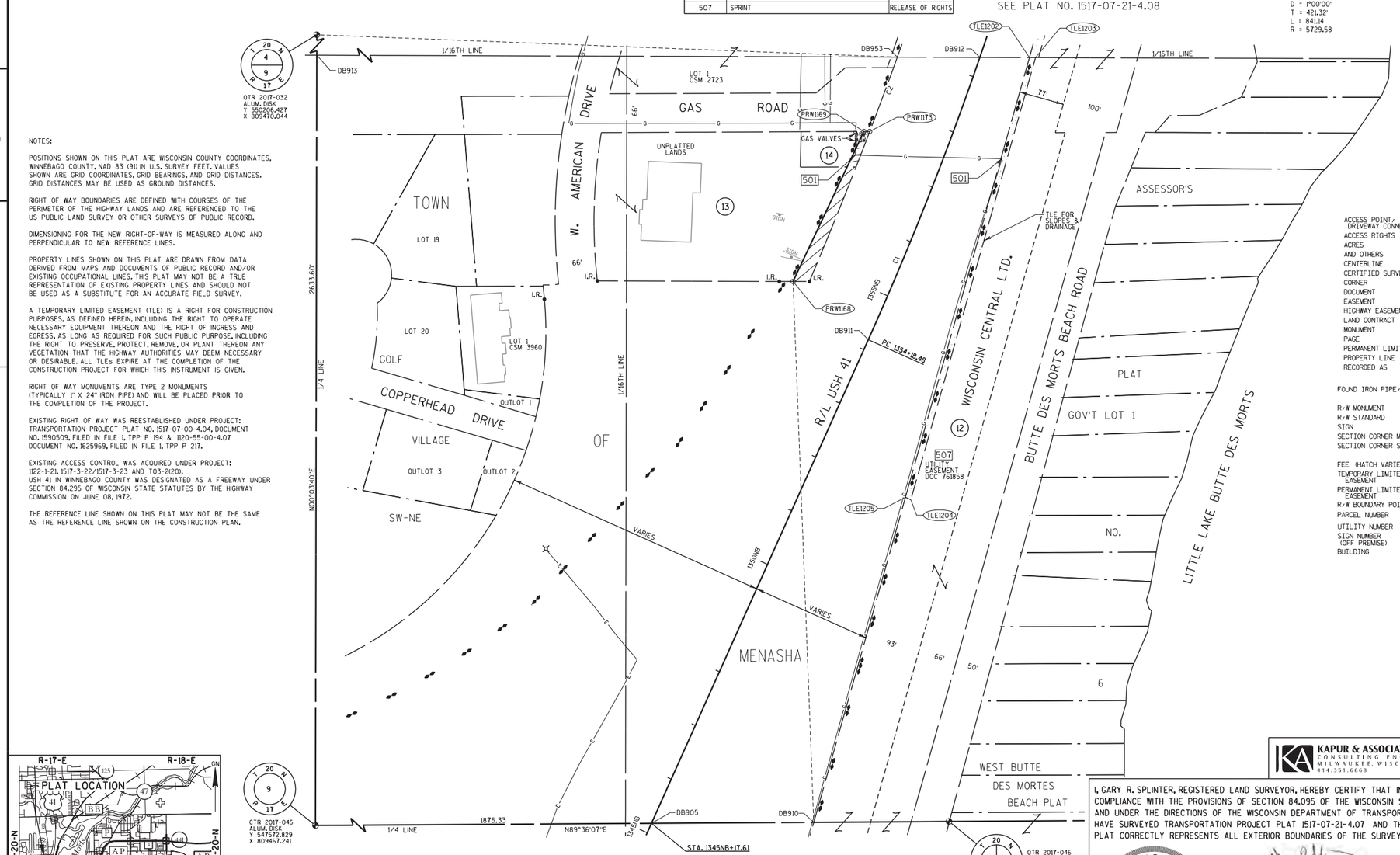
RL USH-41
PI STA. 1358+39.81
Y : 548789.183
X : 811376.802
DELTA = 8°24'41"
D = 1°00'00"
T = 421.32'
L = 841.14
R = 5729.58

### COURSE TABLE
### USH 41 REFERENCE LINE

| POINT TO POINT | | BEARING | DISTANCE |
|---|---|---|---|
| 2017045 | DB905 | N89°36'07"E | 1369.45 |
| DB905 | DB911 | N24°06'43"E | 900.88 |
| DB911 | DB912 | CURVE C1 | |
| DB912 | DB913 | N89°50'57"W | 1925.40 |
| DB913 | 2017032 | N00°03'40"E | 1316.80 |

### COURSE TABLE
### NEW RIGHT OF WAY

| POINT TO POINT | | BEARING | DISTANCE |
|---|---|---|---|
| 2017032 | DB953 | S53°27'59"E | 2219.91 |
| DB953 | TLE1202 | S89°50'57"E | 224.58 |
| TLE1202 | DB910 | S15°42'43"W | 1350.54 |
| DB910 | PRW1168 | N02°14'11"W | 919.99 |
| PRW1168 | PRW1169 | N25°15'08"E | 281.91 |
| PRW1169 | PRW1173 | N89°43'06"E | 9.97 |
| PRW1173 | DB953 | CURVE C2 | |




NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, WINNEBAGO COUNTY, NAD 83 (91) IN U.S. SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS AND ARE REFERENCED TO THE US PUBLIC LAND SURVEY OR OTHER SURVEYS OF PUBLIC RECORD.

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO NEW REFERENCE LINES.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE. ALL TLEs EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

RIGHT OF WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY 1" X 24" IRON PIPE) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

EXISTING RIGHT OF WAY WAS REESTABLISHED UNDER PROJECT: TRANSPORTATION PROJECT PLAT NO. 1517-07-00-4.04, DOCUMENT NO. 1590509, FILED IN FILE 1, TPP P 194 & 1120-55-00-4.07 DOCUMENT NO. 1625969, FILED IN FILE 1, TPP P 217.

EXISTING ACCESS CONTROL WAS ACQUIRED UNDER PROJECT: 1122-1-21, 1517-3-22/1517-3-23 AND T03-2(20). USH 41 IN WINNEBAGO COUNTY WAS DESIGNATED AS A FREEWAY UNDER SECTION 84.295 OF WISCONSIN STATE STATUTES BY THE HIGHWAY COMMISSION ON JUNE 08, 1972.

THE REFERENCE LINE SHOWN ON THIS PLAT MAY NOT BE THE SAME AS THE REFERENCE LINE SHOWN ON THE CONSTRUCTION PLAN.

### CONVENTIONAL ABBREVIATIONS

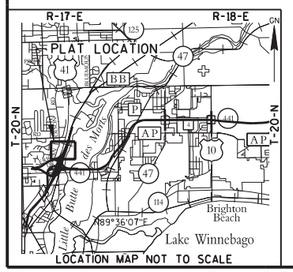
| | | | |
|---|---|---|---|
| ACCESS POINT, DRIVEWAY CONNECTION | AP | REFERENCE LINE | R/L |
| ACCESS RIGHTS | AR | RELEASE OF RIGHTS | ROR |
| ACRES | AC. | REMAINING | REM. |
| AND OTHERS | ET.AL. | RIGHT-OF-WAY | R/W |
| CENTERLINE | C/L | SECTION | SEC. |
| CERTIFIED SURVEY MAP | CSM | STATION | STA. |
| CORNER | COR. | TEMPORARY LIMITED EASEMENT | TLE |
| DOCUMENT | DOC. | VOLUME | VOL |
| EASEMENT | EASE. | **CURVE DATA** | |
| HIGHWAY EASEMENT | H.E. | LONG CHORD | LCH |
| LAND CONTRACT | LC | LONG CHORD BEARING | LCB |
| MONUMENT | MON. | RADIUS | R |
| PAGE | PG | DEGREE OF CURVE | D |
| PERMANENT LIMITED EASEMENT | PLE | CENTRAL ANGLE OR DELTA | DELTA |
| PROPERTY LINE | PL | LENGTH OF CURVE | L |
| RECORDED AS | (100') | TANGENT | TAN |

### CONVENTIONAL SYMBOLS

| | | | |
|---|---|---|---|
| FOUND IRON PIPE/PIN | ⌀ (3/4" IRON REBAR UNLESS NOTED) | PROPOSED R/W LINE | |
| | ⌀ ●(SET) | EXISTING H.E. LINE | |
| R/W MONUMENT | ▲ ▲(SET) | PROPERTY LINE | |
| R/W STANDARD | ISIGN | LOT & TIE LINES | |
| SIGN | | SLOPE INTERCEPTS | |
| SECTION CORNER MONUMENT | ● | CORPORATE LIMITS | |
| SECTION CORNER SYMBOL | (DNR) (DOT) | ACCESS RESTRICTED (BY PREVIOUS ACQUISITION/CONTROL) | |
| FEE (HATCH VARIES) | | ACCESS RESTRICTED (BY ACQUISITION) | |
| TEMPORARY LIMITED EASEMENT | | NO ACCESS (BY STATUTORY AUTHORITY) | |
| PERMANENT LIMITED EASEMENT | | SECTION LINE | |
| R/W BOUNDARY POINT | PRW000 | QUARTER LINE | |
| PARCEL NUMBER | 102 | SIXTEENTH LINE | |
| UTILITY NUMBER | 92 | EXISTING CENTERLINE | |
| SIGN NUMBER (OFF PREMISE) | 21 | PROPOSED REFERENCE LINE | |
| BUILDING | | PARALLEL OFFSET | |

### CONVENTIONAL UTILITY SYMBOLS

| | NON COMPENSABLE | COMPENSABLE |
|---|---|---|
| WATER | W | |
| GAS | G | |
| COMMUNICATION | C | |
| ELECTRIC OVERHEAD | OH | |
| ELECTRIC UNDERGROUND | E | |
| FIBER OPTIC | FO | |
| SANITARY SEWER | SAN | |
| STORM SEWER | SS | |
| POWER POLE | ⌀ | ⌀ |
| TELEPHONE POLE | ⌀ | ⌀ |
| TELEPHONE PEDESTAL | ⌧ | ⌧ |
| ELECTRIC TOWER | ⊠ | |




KAPUR & ASSOCIATES, INC.
CONSULTING ENGINEERS
MILWAUKEE, WISCONSIN
414.351.6668

I, GARY R. SPLINTER, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTIONS OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED TRANSPORTATION PROJECT PLAT 1517-07-21-4.07 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

WISCONSIN GARY R. SPLINTER S-2239 OAK CREEK, WI LAND SURVEYOR

SIGNATURE _____ DATE 01/27/14
GARY R. SPLINTER, R.L.S. S-2239

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

SIGNATURE _____ DATE 02/05/14
PRINT CURT VAN EREM

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1517-07-21-4.07
AMENDMENT NO:

ACCEPTED FOR RECORDING AND FILING IN THE OFFICE OF THE REGISTER OF DEEDS IN WINNEBAGO COUNTY, WISCONSIN AT 1:15PM ON 2/10/2014 AS DOCUMENT # 1657782 AND FILED IN FILE 108229

SIGNATURE OF REGISTER OF DEEDS

1657782

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\Plat\Plats\040407_RP.dgn
PLOT DATE : 2/5/2014
PLOT BY : g_splinter
PLOT NAME :
PLOT SCALE : 1:100
APPRAISAL PLAT DATE :

# TRANSPORTATION PROJECT PLAT NO: 1517-07-21 - 4.08

## USH 10 / STH 441, CTH CB - S. ONEIDA ST.

PART OF LOTS 2 AND 3 OF CSM 3619, LOT 1 OF CSM 2723 AND LANDS IN THE NE 1/4 OF THE NE 1/4 OF SECTION 9, TOWNSHIP 20 NORTH, RANGE 17 EAST, TOWN OF MENASHA, WINNEBAGO COUNTY, WISCONSIN.

### RELOCATION ORDER USH 10/STH 441 WINNEBAGO COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE NAMED PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SUBSECTIONS 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:

1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE NAMED PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SUBSECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

### STATION OFFSET TABLE

| POINT | STATION | OFFSET | | X | Y |
|---|---|---|---|---|---|
| DB912 | 1359+34.60 | 0.00 | | 811394.039 | 548884.560 |
| DB914 | 1362+59.62 | 0.00 | | 811490.817 | 549194.788 |
| DB915 | 1373+04.17 | 0.00 | | 811773.483 | 550200.364 |
| DB950 | 1372+69.46 | 124.75 | L | 811643.996 | 550200.705 |
| TLE1202 | 1359+61.39 | 79.86 | R | 811478.333 | 548884.338 |
| TLE1206 | 1358+65.24 | 142.71 | L | 811236.712 | 548867.067 |
| TLE1207 | 1360+99.81 | 140.23 | L | 811311.542 | 549083.261 |
| PLE1208 | 1363+40.05 | 139.98 | L | 811377.822 | 549310.097 |
| TLE1209 | 1369+91.97 | 139.51 | L | 811554.699 | 549937.567 |
| TLE1210 | 1373+28.45 | 87.26 | R | 811864.062 | 550200.125 |
| TLE1211 | 1359+66.26 | 94.63 | R | 811493.903 | 548884.297 |
| TLE1212 | 1358+68.94 | 132.74 | L | 811247.312 | 548867.121 |
| PLE1215 | 1365+04.51 | 124.91 | L | 811436.841 | 549464.345 |
| TLE1216 | 1370+22.34 | 124.80 | L | 811577.076 | 549962.817 |
| TLE1217 | 1373+24.28 | 72.26 | R | 811848.491 | 550200.166 |
| TLE1220 | 1365+10.38 | 139.86 | L | 811424.036 | 549474.041 |
| PLE1961 | 1364+57.25 | 183.14 | L | 811367.987 | 549434.605 |
| PLE1962 | 1365+27.50 | 72.11 | R | 811632.723 | 549433.161 |
| PLE1963 | 1365+27.50 | 87.11 | R | 811647.163 | 549429.099 |
| PLE1964 | 1365+72.50 | 87.11 | R | 811659.349 | 549472.417 |
| PLE1965 | 1365+72.50 | 72.11 | R | 811644.909 | 549476.479 |
| PLE1966 | 1367+25.30 | 72.32 | R | 811686.456 | 549623.522 |
| PLE1967 | 1367+25.30 | 87.14 | R | 811700.727 | 549619.507 |
| PLE1968 | 1367+70.30 | 87.15 | R | 811712.913 | 549662.826 |
| PLE1969 | 1367+70.30 | 72.15 | R | 811698.473 | 549666.888 |
| ERW7034 | 1364+36.94 | 124.91 | L | 811418.550 | 549399.294 |
| 2017033 | 1373+97.20 | 334.33 | R | 812120.510 | 550199.450 |

### SCHEDULE OF LANDS & INTERESTS REQUIRED

| PARCEL NUMBER | *OWNER | INTEREST REQUIRED | NEW R/W ACRES | P.L.E. ACRES | T.L.E. ACRES |
|---|---|---|---|---|---|
| 12 | WISCONSIN CENTRAL LTD. | PLE,TLE | - | 0.030 | 0.441 |
| 15 | WI NATURAL GAS | TLE | - | - | 0.056 |
| 16 | ALTENHOFEN, ET AL. | PLE | - | 0.130 | - |
| 17 | AMERICAN COURT OFFICES | TLE | - | - | 0.170 |
| 30 | TROJEN LLC | TLE | - | - | 0.037 |
| 35 | FLAHERTY VENDOR<br>TROJEN LLC PURCHASER | TLE | - | - | 0.031 |

*OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTERESTS TO THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

### CURVE TABLE

| CURVE | CH DISTANCE | CH BEARING | RADIUS | ARC LENGTH | PI COORDINATES |
|---|---|---|---|---|---|
| C1 | 324.97' | N17°19'32"E | 5729.58' | 325.02' | X 811446.829 Y 549038.301 |
| C2 | 559.04' | N17°50'12"E | 7539.43' | 559.17' | X 811342.803 Y 549130.031 |

RL USH-41
PI STA. 1358+39.81
Y : 548789.183
X : 811376.802
DELTA = 8°24'41"
D = 1°00'00"
T = 421.32'
L = 841.14
R = 5729.58

### COURSE TABLE NEW RIGHT OF WAY

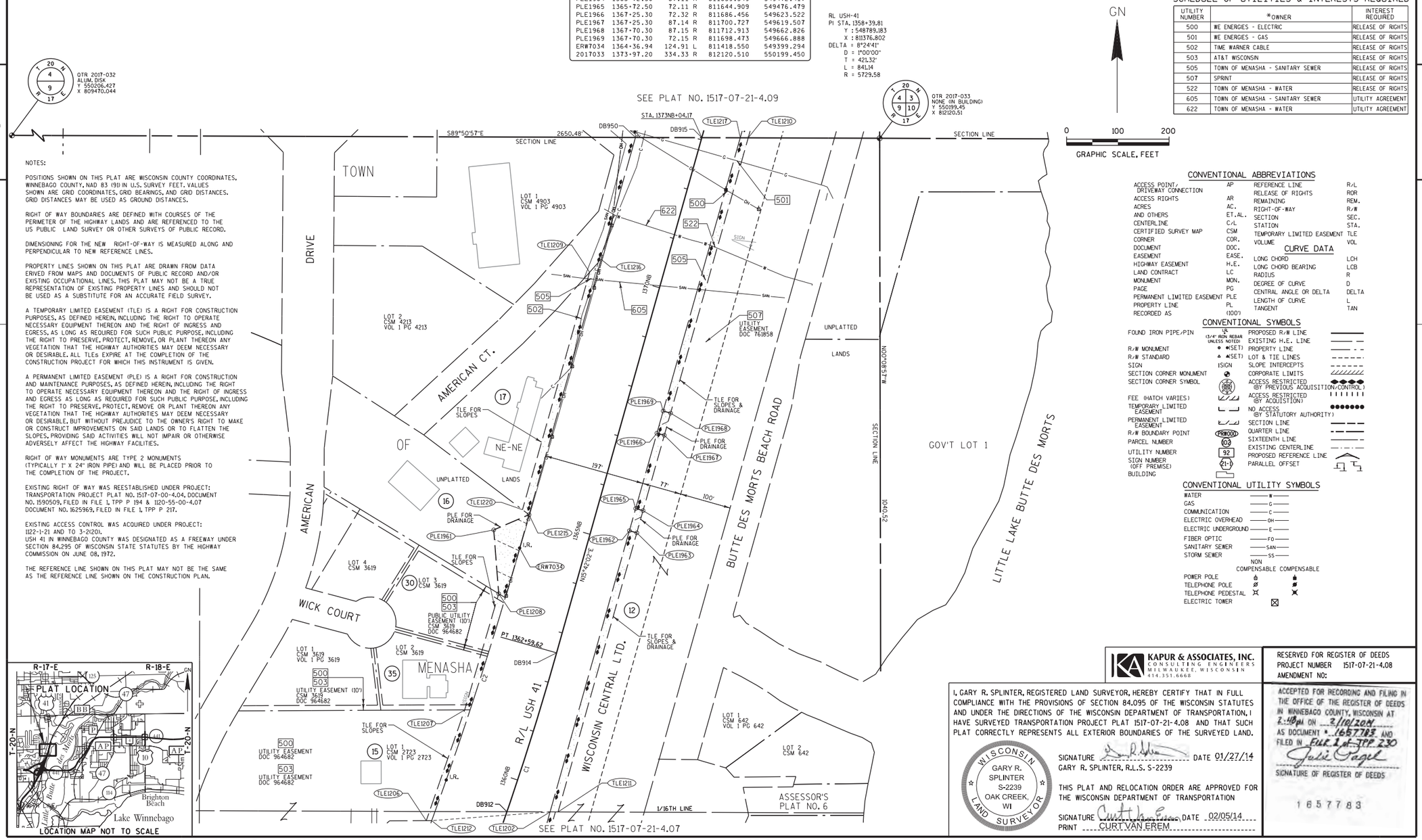
| POINT TO POINT | | BEARING | DISTANCE |
|---|---|---|---|
| 2017032 | DB950 | S89°50'57"E | 2173.96' |
| DB950 | TLE1217 | S89°50'57"E | 204.50' |
| TLE1217 | TLE1202 | S15°42'43"W | 1366.90' |
| TLE1202 | TLE1212 | S85°44'16"W | 231.66' |
| TLE1212 | ERW7034 | CURVE C2 | |
| ERW7034 | DB950 | N15°42'43"E | 832.52' |

### COURSE TABLE USH 41 REFERENCE LINE

| POINT TO POINT | | BEARING | DISTANCE |
|---|---|---|---|
| 2017032 | DB912 | S55°30'33"E | 2334.33' |
| DB912 | DB914 | CURVE C1 | |
| DB914 | DB915 | N15°42'02"E | 1044.55' |
| DB915 | 2017033 | S89°50'57"E | 347.03' |

### SCHEDULE OF UTILITIES & INTERESTS REQUIRED

| UTILITY NUMBER | *OWNER | INTEREST REQUIRED |
|---|---|---|
| 500 | WE ENERGIES - ELECTRIC | RELEASE OF RIGHTS |
| 501 | WE ENERGIES - GAS | RELEASE OF RIGHTS |
| 502 | TIME WARNER CABLE | RELEASE OF RIGHTS |
| 503 | AT&T WISCONSIN | RELEASE OF RIGHTS |
| 505 | TOWN OF MENASHA - SANITARY SEWER | RELEASE OF RIGHTS |
| 507 | SPRINT | RELEASE OF RIGHTS |
| 522 | TOWN OF MENASHA - WATER | RELEASE OF RIGHTS |
| 605 | TOWN OF MENASHA - SANITARY SEWER | UTILITY AGREEMENT |
| 622 | TOWN OF MENASHA - WATER | UTILITY AGREEMENT |




NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, WINNEBAGO COUNTY, NAD 83 (91) IN U.S. SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS AND ARE REFERENCED TO THE US PUBLIC LAND SURVEY OR OTHER SURVEYS OF PUBLIC RECORD.

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO NEW REFERENCE LINES.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA ERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE. ALL TLES EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

A PERMANENT LIMITED EASEMENT (PLE) IS A RIGHT FOR CONSTRUCTION AND MAINTENANCE PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE, BUT WITHOUT PREJUDICE TO THE OWNER'S RIGHT TO MAKE OR CONSTRUCT IMPROVEMENTS ON SAID LANDS OR TO FLATTEN THE SLOPES, PROVIDING SAID ACTIVITIES WILL NOT IMPAIR OR OTHERWISE ADVERSELY AFFECT THE HIGHWAY FACILITIES.

RIGHT OF WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY 1" X 24" IRON PIPE) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

EXISTING RIGHT OF WAY WAS REESTABLISHED UNDER PROJECT: TRANSPORTATION PROJECT PLAT NO. 1517-07-00-4.04, DOCUMENT NO. 1590509, FILED IN FILE 1, TPP P 194 & 1120-55-00-4.07 DOCUMENT NO. 1625969, FILED IN FILE 1, TPP P 217.

EXISTING ACCESS CONTROL WAS ACQUIRED UNDER PROJECT: 1122-1-21 AND TO 3-2(20). USH 41 IN WINNEBAGO COUNTY WAS DESIGNATED AS A FREEWAY UNDER SECTION 84.295 OF WISCONSIN STATE STATUTES BY THE HIGHWAY COMMISSION ON JUNE 08, 1972.

THE REFERENCE LINE SHOWN ON THIS PLAT MAY NOT BE THE SAME AS THE REFERENCE LINE SHOWN ON THE CONSTRUCTION PLAN.

### CONVENTIONAL ABBREVIATIONS

| | | | |
|---|---|---|---|
| ACCESS POINT/ DRIVEWAY CONNECTION | AP | REFERENCE LINE | R/L |
| ACCESS RIGHTS | AR | RELEASE OF RIGHTS | ROR |
| ACRES | AC. | REMAINING | REM. |
| AND OTHERS | ET.AL. | RIGHT-OF-WAY | R/W |
| CENTERLINE | C/L | SECTION | SEC. |
| CERTIFIED SURVEY MAP | CSM | STATION | STA. |
| CORNER | COR. | TEMPORARY LIMITED EASEMENT | TLE |
| DOCUMENT | DOC. | VOLUME | VOL |
| EASEMENT | EASE. | **CURVE DATA** | |
| HIGHWAY EASEMENT | H.E. | LONG CHORD | LCH |
| LAND CONTRACT | LC | LONG CHORD BEARING | LCB |
| MONUMENT | MON. | RADIUS | R |
| PAGE | PG | DEGREE OF CURVE | D |
| PERMANENT LIMITED EASEMENT | PLE | CENTRAL ANGLE OR DELTA | DELTA |
| PROPERTY LINE | PL | LENGTH OF CURVE | L |
| RECORDED AS | (100') | TANGENT | TAN |

### CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN — LS (3/4" IRON REBAR UNLESS NOTED)
R/W MONUMENT — ●(SET)
R/W STANDARD — ▲(SET)
SIGN — (SIGN)
SECTION CORNER MONUMENT
SECTION CORNER SYMBOL — (MON)
FEE (HATCH VARIES)
TEMPORARY LIMITED EASEMENT
PERMANENT LIMITED EASEMENT
R/W BOUNDARY POINT — PKNAIL
PARCEL NUMBER — 403
UTILITY NUMBER — 92
SIGN NUMBER (OFF PREMISE) — 21
BUILDING

PROPOSED R/W LINE
EXISTING H.E. LINE
PROPERTY LINE
LOT & TIE LINES
SLOPE INTERCEPTS
CORPORATE LIMITS
ACCESS RESTRICTED (BY PREVIOUS ACQUISITION/CONTROL)
ACCESS RESTRICTED (BY ACQUISITION)
NO ACCESS (BY STATUTORY AUTHORITY)
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
EXISTING CENTERLINE
PROPOSED REFERENCE LINE
PARALLEL OFFSET

### CONVENTIONAL UTILITY SYMBOLS

| | NON COMPENSABLE | COMPENSABLE |
|---|---|---|
| WATER | W | |
| GAS | G | |
| COMMUNICATION | C | |
| ELECTRIC OVERHEAD | OH | |
| ELECTRIC UNDERGROUND | E | |
| FIBER OPTIC | FO | |
| SANITARY SEWER | SAN | |
| STORM SEWER | SS | |
| POWER POLE | | |
| TELEPHONE POLE | | |
| TELEPHONE PEDESTAL | | |
| ELECTRIC TOWER | | |

KAPUR & ASSOCIATES, INC.
CONSULTING ENGINEERS
MILWAUKEE, WISCONSIN
414.351.6668

I, GARY R. SPLINTER, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTIONS OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED TRANSPORTATION PROJECT PLAT 1517-07-21-4.08 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

WISCONSIN GARY R. SPLINTER S-2239 OAK CREEK, WI LAND SURVEYOR

SIGNATURE _____ DATE 01/27/14
GARY R. SPLINTER, R.L.S. S-2239

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

SIGNATURE _____ DATE 02/05/14
PRINT CURT VAN EREM

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1517-07-21-4.08
AMENDMENT NO:

ACCEPTED FOR RECORDING AND FILING IN THE OFFICE OF THE REGISTER OF DEEDS IN WINNEBAGO COUNTY, WISCONSIN AT 2:48pm ON 2/10/2014 AS DOCUMENT # 1657783 AND FILED IN FILE 1 of TPP 230

Julie Gagel
SIGNATURE OF REGISTER OF DEEDS

1657783

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\Plat\Plats\040408_RP.dgn
PLOT DATE : 2/5/2014
PLOT BY : g_splinter
PLOT NAME :
PLOT SCALE : 1:100
APPRAISAL PLAT DATE :

# TRANSPORTATION PROJECT PLAT NO: 1517-07-21 - 4.09

## USH 10 / STH 441, CTH CB - S. ONEIDA ST.

PART OF GOVERNMENT LOT 7 OF SECTION 3 AND THE SE 1/4 OF THE SE 1/4 OF SECTION 4, TOWNSHIP 20 NORTH, RANGE 17 EAST, TOWN OF MENASHA, WINNEBAGO COUNTY, WISCONSIN.

### RELOCATION ORDER USH 10/STH 441 WINNEBAGO COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE NAMED PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SUBSECTIONS 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:

1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE NAMED PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SUBSECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

### SCHEDULE OF LANDS & INTERESTS REQUIRED

| PARCEL NUMBER | *OWNER | INTEREST REQUIRED | NEW R/W ACRES | P.L.E. ACRES | T.L.E. ACRES |
|---|---|---|---|---|---|
| 12 | WISCONSIN CENTRAL LTD. | TLE | - | - | 0.478 |

*OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTERESTS TO THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

GN

0 100 200

GRAPHIC SCALE, FEET

### STATION OFFSET TABLE

| POINT | STATION | OFFSET | | X | Y |
|---|---|---|---|---|---|
| DB915 | 1373+04.17 | 0.00 | | 811773.483 | 550200.364 |
| DB945 | 1384+42.57 | 0.00 | | 812081.548 | 551296.294 |
| DB946 | 1386+86.87 | 0.00 | | 812137.555 | 551534.007 |
| DB950 | 1372+69.46 | 124.75 | L | 811643.996 | 550200.705 |
| DB951 | 1386+61.85 | 124.58 | L | 812010.596 | 551533.896 |
| TLE1210 | 1373+28.45 | 87.26 | R | 811864.062 | 550200.125 |
| TLE1217 | 1373+24.28 | 72.26 | R | 811848.491 | 550200.166 |
| ERW1221 | 1384+89.30 | 73.03 | R | 812164.440 | 551322.760 |
| TLE1223 | 1384+89.06 | 88.03 | R | 812178.881 | 551318.703 |
| TLE1225 | 1387+06.56 | 106.50 | R | 812245.923 | 551534.102 |
| TLE1226 | 1387+03.77 | 90.91 | R | 812230.068 | 551534.088 |
| ERW7035 | 1384+40.25 | 124.52 | L | 811961.048 | 551327.751 |
| 2017033 | 1373+97.20 | 334.33 | R | 812120.510 | 550199.450 |

### COURSE TABLE NEW RIGHT OF WAY

| POINT TO | POINT | BEARING | DISTANCE |
|---|---|---|---|
| 2017032 | DB950 | S89°50'57"E | 2173.96 |
| DB950 | ERW7035 | N15°42'43"E | 1170.79 |
| ERW7035 | DB951 | CURVE C3 | |
| DB951 | TLE1226 | N89°57'00"E | 219.47 |
| TLE1226 | ERW1221 | CURVE C2 | |
| ERW1221 | TLE1217 | S15°43'09"W | 1166.21 |
| TLE1217 | DB950 | N89°50'57"W | 204.50 |

### COURSE TABLE USH 41 REFERENCE LINE

| POINT TO | POINT | BEARING | DISTANCE |
|---|---|---|---|
| 2017032 | DB915 | S89°50'57"E | 2303.45 |
| DB915 | DB945 | N15°42'02"E | 1138.41 |
| DB945 | DB946 | CURVE C1 | |
| DB946 | 2017033 | S63°32'28"W | 2979.61 |

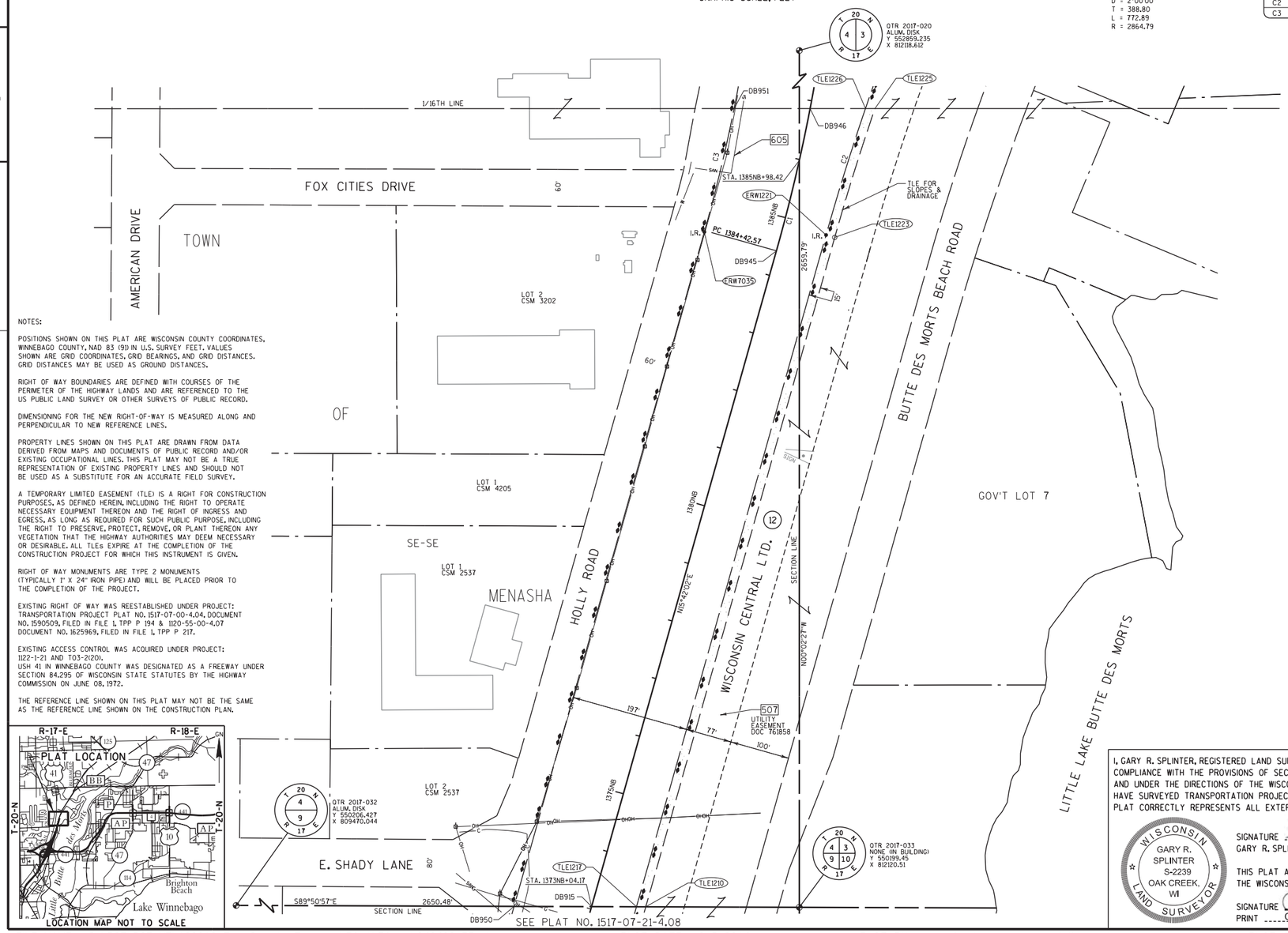
RL USH-41
PI STA. 1388+31.38
Y : 551670.591
X : 812186.762
DELTA = 15°27'28"
D = 2°00'00"
T = 388.80
L = 772.89
R = 2864.79

### CURVE TABLE

| CURVE | CH DISTANCE | CH BEARING | RADIUS | ARC LENGTH | PI COORDINATES | |
|---|---|---|---|---|---|---|
| C1 | 244.22' | N13°15'28"E | 2864.79' | 244.30' | X 812114.622 | Y 551413.956 |
| C2 | 221.28' | S17°15'08"W | 4067.04' | 221.31' | X 812194.379 | Y 551429.317 |
| C3 | 212.02' | N13°30'54"E | 2764.79' | 212.07' | X 811989.777 | Y 551429.873 |

### SCHEDULE OF UTILITIES & INTERESTS REQUIRED

| UTILITY NUMBER | *OWNER | INTEREST REQUIRED |
|---|---|---|
| 507 | SPRINT | RELEASE OF RIGHTS |
| 605 | TOWN OF MENASHA - SANITARY SEWER | UTILITY AGREEMENT |




NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, WINNEBAGO COUNTY, NAD 83 (91) IN U.S. SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS AND ARE REFERENCED TO THE US PUBLIC LAND SURVEY OR OTHER SURVEYS OF PUBLIC RECORD.

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO NEW REFERENCE LINES.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE. ALL TLEs EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

RIGHT OF WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY 1" X 24" IRON PIPE) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

EXISTING RIGHT OF WAY WAS REESTABLISHED UNDER PROJECT: TRANSPORTATION PROJECT PLAT NO. 1517-07-00-4.04, DOCUMENT NO. 1590509, FILED IN FILE 1, TPP P 194 & 1120-55-00-4.07 DOCUMENT NO. 1625969, FILED IN FILE 1, TPP P 217.

EXISTING ACCESS CONTROL WAS ACQUIRED UNDER PROJECT: 1122-1-21 AND T03-2120).
USH 41 IN WINNEBAGO COUNTY WAS DESIGNATED AS A FREEWAY UNDER SECTION 84.295 OF WISCONSIN STATE STATUTES BY THE HIGHWAY COMMISSION ON JUNE 08, 1972.

THE REFERENCE LINE SHOWN ON THIS PLAT MAY NOT BE THE SAME AS THE REFERENCE LINE SHOWN ON THE CONSTRUCTION PLAN.




### CONVENTIONAL ABBREVIATIONS

| | | | |
|---|---|---|---|
| ACCESS POINT, DRIVEWAY CONNECTION | AP | REFERENCE LINE | R/L |
| ACCESS RIGHTS | AR | RELEASE OF RIGHTS | ROR |
| ACRES | AC. | REMAINING | REM. |
| AND OTHERS | ET.AL. | RIGHT-OF-WAY | R/W |
| CENTERLINE | C/L | SECTION | SEC. |
| CERTIFIED SURVEY MAP | CSM | STATION | STA. |
| CORNER | COR. | TEMPORARY LIMITED EASEMENT | TLE |
| DOCUMENT | DOC. | VOLUME | VOL |
| EASEMENT | EASE. | **CURVE DATA** | |
| HIGHWAY EASEMENT | H.E. | LONG CHORD | LCH |
| LAND CONTRACT | LC | LONG CHORD BEARING | LCB |
| MONUMENT | MON. | RADIUS | R |
| PAGE | PG | DEGREE OF CURVE | D |
| PERMANENT LIMITED EASEMENT | PLE | CENTRAL ANGLE OR DELTA | DELTA |
| PROPERTY LINE | PL | LENGTH OF CURVE | L |
| RECORDED AS | (100') | TANGENT | TAN |

### CONVENTIONAL SYMBOLS

| | | | |
|---|---|---|---|
| FOUND IRON PIPE/PIN | LC (3/4" IRON REBAR UNLESS NOTED) | PROPOSED R/W LINE | |
| | | EXISTING H.E. LINE | |
| R/W MONUMENT | ●(SET) | PROPERTY LINE | |
| R/W STANDARD | ▲(SET) | LOT & TIE LINES | |
| SIGN | ISIGN | SLOPE INTERCEPTS | |
| SECTION CORNER MONUMENT | ● | CORPORATE LIMITS | |
| SECTION CORNER SYMBOL | (SECTION 3 / SECTION 4) | ACCESS RESTRICTED (BY PREVIOUS ACQUISITION/CONTROL) | |
| FEE (HATCH VARIES) | | ACCESS RESTRICTED (BY ACQUISITION) | |
| TEMPORARY LIMITED EASEMENT | | NO ACCESS (BY STATUTORY AUTHORITY) | |
| PERMANENT LIMITED EASEMENT | | SECTION LINE | |
| R/W BOUNDARY POINT | PKNAIL | QUARTER LINE | |
| PARCEL NUMBER | 03 | SIXTEENTH LINE | |
| UTILITY NUMBER | 92 | EXISTING CENTERLINE | |
| SIGN NUMBER (OFF PREMISE) | 21-1 | PROPOSED REFERENCE LINE | |
| BUILDING | | PARALLEL OFFSET | |

### CONVENTIONAL UTILITY SYMBOLS

| | NON COMPENSABLE | COMPENSABLE |
|---|---|---|
| WATER | W | |
| GAS | G | |
| COMMUNICATION | C | |
| ELECTRIC OVERHEAD | OH | |
| ELECTRIC UNDERGROUND | E | |
| FIBER OPTIC | FO | |
| SANITARY SEWER | SAN | |
| STORM SEWER | SS | |
| POWER POLE | | |
| TELEPHONE POLE | | |
| TELEPHONE PEDESTAL | | |
| ELECTRIC TOWER | | |

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MILWAUKEE, WISCONSIN
414.351.6668

I, GARY R. SPLINTER, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTIONS OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED TRANSPORTATION PROJECT PLAT 1517-07-21-4.09 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

WISCONSIN GARY R. SPLINTER S-2239 OAK CREEK, WI LAND SURVEYOR

SIGNATURE _____ DATE 01/27/14
GARY R. SPLINTER, R.L.S. S-2239

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

SIGNATURE _____ DATE 02/05/14
PRINT CURT VAN EREM

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1517-07-21-4.09
AMENDMENT NO:

ACCEPTED FOR RECORDING AND FILING IN THE OFFICE OF THE REGISTER OF DEEDS IN WINNEBAGO COUNTY, WISCONSIN AT 2:38 PM ON 2/10/2014 AS DOCUMENT # 1657784 AND FILED IN FILE 1 of TPP 231

Judi Gagel
SIGNATURE OF REGISTER OF DEEDS

1657784

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\Plat\Plats\040409_RP.dgn PLOT DATE : 2/5/2014 PLOT BY : g_splinter PLOT NAME : PLOT SCALE : 1:100
APPRAISAL PLAT DATE :

4.09

# TRANSPORTATION PROJECT PLAT NO: 1517-07-21- 4.10

## USH 10 / STH 441, CTH CB - S. ONEIDA ST.

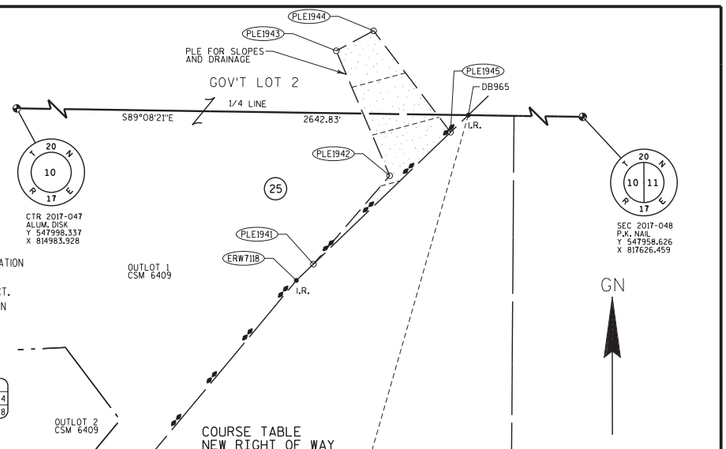
PART OF LOTS 20 AND 21 OF THE TOWN OF MENASHA ASSESSORS PLAT NO. 7, AND LOT 3 OF CSM 1246 ALL IN GOVERNMENT LOT 4. OUTLOT 1 OF CSM 6409 IN GOVERNMENT LOT 2 AND GOVERNMENT LOT 3, AND LANDS IN GOVERNMENT LOT 3, ALL IN SECTION 10, TOWNSHIP 20 NORTH, RANGE 17 EAST IN THE TOWN OF MENASHA, AND PART OF LOTS 1, 2 AND 3 OF CSM 3354 IN GOVERNMENT LOT 3 AND GOVERNMENT LOT 4, AND LOTS 1 AND 2 OF CSM 1336 IN GOVERNMENT LOT 4, ALL IN SECTION 10, TOWNSHIP 20 NORTH, RANGE 17 EAST IN THE CITY OF MENASHA, ALL IN WINNEBAGO COUNTY, WISCONSIN.

### RELOCATION ORDER USH 10/STH 441 WINNEBAGO COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE NAMED PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SUBSECTIONS 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:

1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE NAMED PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SUBSECTION 84.09 (1) OR (2), WISCONSIN STATUTES.




### CURVE TABLE

| CURVE | CH DISTANCE | CH BEARING | RADIUS | ARC LENGTH | PI COORDINATES |
|---|---|---|---|---|---|
| C1 | 1664.36' | N63°23'28"W | 2040.00' | 1714.37' | X 815720.975 Y 546325.524 |
| C2 | 63.83' | N85°53'12"E | 1085.92' | 63.84' | X 815422.259 Y 546677.048 |

### CONVENTIONAL ABBREVIATIONS

| | | | |
|---|---|---|---|
| ACCESS POINT/ DRIVEWAY CONNECTION | AP | REFERENCE LINE | R/L |
| ACCESS RIGHTS | AR | RELEASE OF RIGHTS | ROR |
| ACRES | AC. | REMAINING | REM. |
| AND OTHERS | ET.AL. | RIGHT-OF-WAY | R/W |
| CENTERLINE | C/L | SECTION | SEC. |
| CERTIFIED SURVEY MAP | CSM | STATION | STA. |
| CORNER | COR. | TEMPORARY LIMITED EASEMENT | TLE |
| DOCUMENT | DOC. | VOLUME | VOL |
| EASEMENT | EASE. | **CURVE DATA** | |
| HIGHWAY EASEMENT | H.E. | LONG CHORD | LCH |
| LAND CONTRACT | LC | LONG CHORD BEARING | LCB |
| MONUMENT | MON. | RADIUS | R |
| PAGE | PG | DEGREE OF CURVE | D |
| PERMANENT LIMITED EASEMENT | PLE | CENTRAL ANGLE OR DELTA | DELTA |
| PROPERTY LINE | PL | LENGTH OF CURVE | L |
| RECORDED AS | (100') | TANGENT | TAN |

RL USH-10/STH-441
PI STA. 191+30.01
Y :546278.673
X : 815920.425
DELTA = 61°15'45"
D = 2°48'31"
T = 1207.95
L = 2181.23
R = 2040.00

### CONVENTIONAL SYMBOLS

| | | | |
|---|---|---|---|
| FOUND IRON PIPE/PIN | (3/4" IRON REBAR UNLESS NOTED) | PROPOSED R/W LINE | |
| R/W MONUMENT | ● =(SET) | EXISTING H.E. LINE | |
| R/W STANDARD | ▲ =(SET) | PROPERTY LINE | |
| SIGN | ISIGN | LOT & TIE LINES | |
| SECTION CORNER MONUMENT | | SLOPE INTERCEPTS | |
| SECTION CORNER SYMBOL | | CORPORATE LIMITS | |
| | | ACCESS RESTRICTED (BY PREVIOUS ACQUISITION/CONTROL) | |
| FEE (HATCH VARIES) | | ACCESS RESTRICTED (BY ACQUISITION) | |
| TEMPORARY LIMITED EASEMENT | | NO ACCESS (BY STATUTORY AUTHORITY) | |
| PERMANENT LIMITED EASEMENT | | SECTION LINE | |
| R/W BOUNDARY POINT | PRW000 | QUARTER LINE | |
| PARCEL NUMBER | 03 | SIXTEENTH LINE | |
| UTILITY NUMBER | 92 | EXISTING CENTERLINE | |
| SIGN NUMBER (OFF PREMISE) | 21 | PROPOSED REFERENCE LINE | |
| BUILDING | | PARALLEL OFFSET | |

### CONVENTIONAL UTILITY SYMBOLS

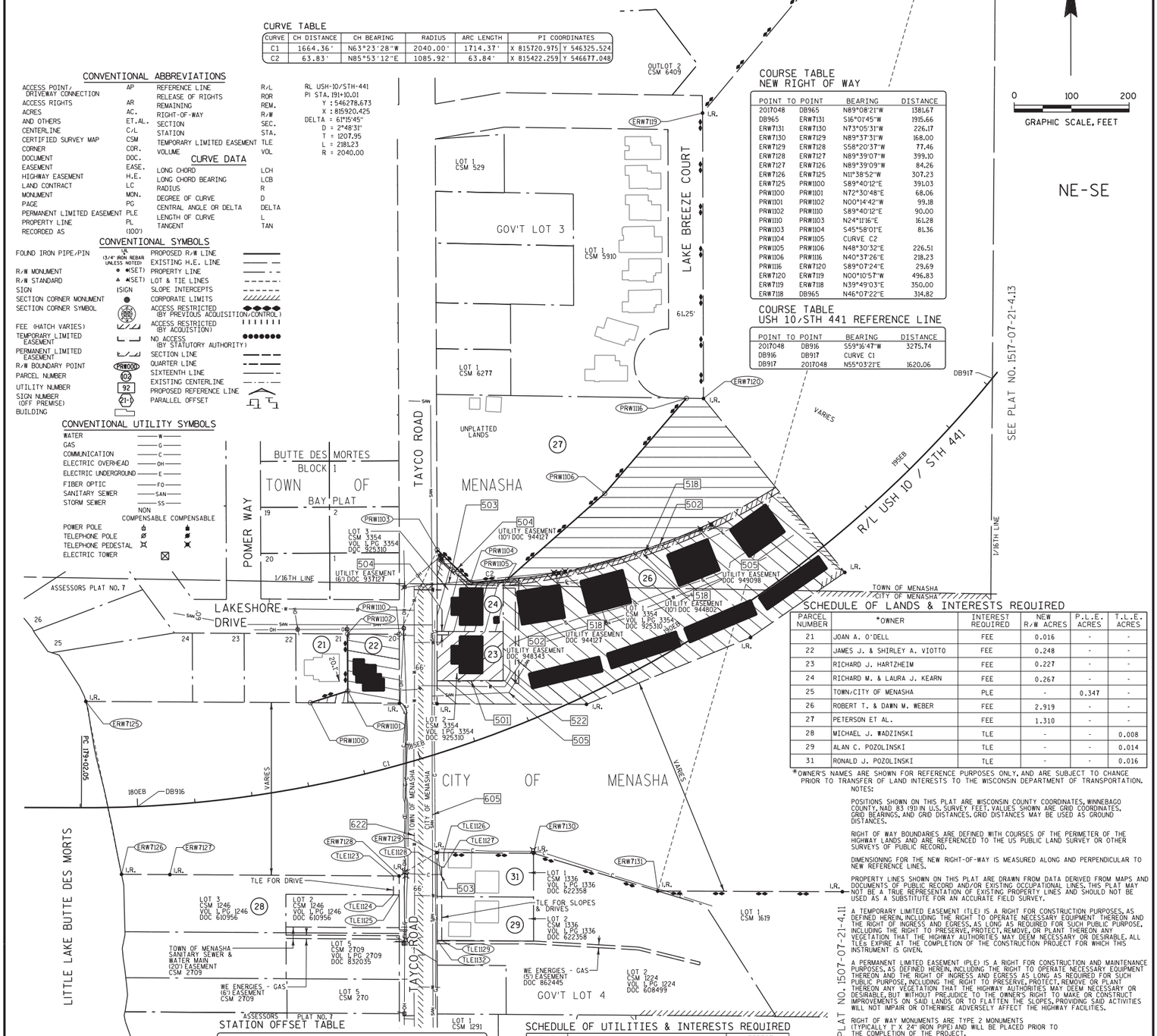
| | | |
|---|---|---|
| WATER | W | |
| GAS | G | |
| COMMUNICATION | C | |
| ELECTRIC OVERHEAD | OH | |
| ELECTRIC UNDERGROUND | E | |
| FIBER OPTIC | FO | |
| SANITARY SEWER | SAN | |
| STORM SEWER | SS | |
| | NON COMPENSABLE | COMPENSABLE |
| POWER POLE | | |
| TELEPHONE POLE | | |
| TELEPHONE PEDESTAL | | |
| ELECTRIC TOWER | | |

### COURSE TABLE NEW RIGHT OF WAY

| POINT TO POINT | | BEARING | DISTANCE |
|---|---|---|---|
| 2017048 | DB965 | N89°08'21"W | 138.67 |
| DB965 | ERW7131 | S16°01'45"W | 1915.66 |
| ERW7131 | ERW7130 | N73°05'31"W | 226.17 |
| ERW7130 | ERW7129 | N89°37'31"W | 168.00 |
| ERW7129 | ERW7128 | S58°20'37"W | 77.46 |
| ERW7128 | ERW7127 | N89°39'07"W | 399.10 |
| ERW7127 | ERW7126 | N89°39'09"W | 84.26 |
| ERW7126 | ERW7125 | N11°38'52"W | 307.23 |
| ERW7125 | PRW1100 | S89°40'12"E | 391.03 |
| PRW1100 | PRW1101 | N72°30'48"E | 68.06 |
| PRW1101 | PRW1102 | N00°14'42"W | 99.18 |
| PRW1102 | PRW1103 | S89°40'12"E | 90.00 |
| PRW1103 | PRW1104 | N24°11'16"E | 161.28 |
| PRW1103 | PRW1104 | S45°58'01"E | 81.36 |
| PRW1104 | PRW1105 | CURVE C2 | |
| PRW1105 | PRW1106 | N48°30'32"E | 226.51 |
| PRW1106 | PRW1116 | N40°37'26"E | 218.23 |
| PRW1116 | ERW7120 | S89°07'24"E | 29.69 |
| ERW7120 | ERW7119 | N00°10'57"W | 496.83 |
| ERW7119 | ERW7118 | N39°49'03"E | 350.00 |
| ERW7118 | DB965 | N46°07'22"E | 314.82 |

### COURSE TABLE USH 10/STH 441 REFERENCE LINE

| POINT TO POINT | | BEARING | DISTANCE |
|---|---|---|---|
| 2017048 | DB916 | S59°16'47"W | 3275.74 |
| DB916 | DB917 | CURVE C1 | |
| DB917 | 2017048 | N55°03'21"E | 1620.06 |




### SCHEDULE OF LANDS & INTERESTS REQUIRED

| PARCEL NUMBER | *OWNER | INTEREST REQUIRED | NEW R/W ACRES | P.L.E. ACRES | T.L.E. ACRES |
|---|---|---|---|---|---|
| 21 | JOAN A. O'DELL | FEE | 0.016 | - | - |
| 22 | JAMES J. & SHIRLEY A. VIOTTO | FEE | 0.248 | - | - |
| 23 | RICHARD J. HARTZHEIM | FEE | 0.227 | - | - |
| 24 | RICHARD M. & LAURA J. KEARN | FEE | 0.267 | - | - |
| 25 | TOWN/CITY OF MENASHA | PLE | - | 0.347 | - |
| 26 | ROBERT T. & DAWN M. WEBER | FEE | 2.919 | - | - |
| 27 | PETERSON ET AL. | FEE | 1.310 | - | - |
| 28 | MICHAEL J. WADZINSKI | TLE | - | - | 0.008 |
| 29 | ALAN C. POZOLINSKI | TLE | - | - | 0.014 |
| 31 | RONALD J. POZOLINSKI | TLE | - | - | 0.016 |

*OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTERESTS TO THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, WINNEBAGO COUNTY, NAD 83 (91) IN U.S. SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS AND ARE REFERENCED TO THE US PUBLIC LAND SURVEY OR OTHER SURVEYS OF PUBLIC RECORD.

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO NEW REFERENCE LINES.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE. ALL TLES EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

A PERMANENT LIMITED EASEMENT (PLE) IS A RIGHT FOR CONSTRUCTION AND MAINTENANCE PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE, BUT WITHOUT PREJUDICE TO THE OWNER'S RIGHT TO MAKE OR CONSTRUCT IMPROVEMENTS ON SAID LANDS OR TO FLATTEN THE SLOPES, PROVIDING SAID ACTIVITIES WILL NOT IMPAIR OR OTHERWISE ADVERSELY AFFECT THE HIGHWAY FACILITIES.

RIGHT OF WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY 1" X 24" IRON PIPE) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

EXISTING RIGHT OF WAY WAS REESTABLISHED UNDER PROJECT: TRANSPORTATION PROJECT PLAT NO. 1517-07-00-4.05, DOCUMENT NO. 1590510, FILED IN FILE 1, TPP PG 195.

EXISTING ACCESS CONTROL WAS ACQUIRED UNDER PROJECT: 4685-04-00, NOTICE OF NON-ACCESS DOC. 430395, 430398 & 4686-01-00. STH 441 IN WINNEBAGO COUNTY WAS DESIGNATED AS A FREEWAY UNDER SECTION 84.295 OF THE WISCONSIN STATE STATUTES BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION ON JUNE 26, 1986.

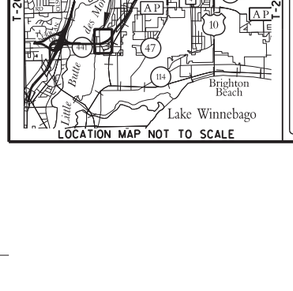
THE REFERENCE LINE SHOWN ON THIS PLAT MAY NOT BE THE SAME AS THE REFERENCE LINE SHOWN ON THE CONSTRUCTION PLAN.

### STATION OFFSET TABLE

| POINT | STATION | OFFSET | | X | Y |
|---|---|---|---|---|---|
| DB916 | 180+00.00 | 0 | | 814810.397 | 546285.227 |
| DB917 | 197+14.37 | 0 | | 816298.479 | 547030.694 |
| DB965 | 205+20.57 | 539.39 | L | 816244.942 | 547979.387 |
| PRW1100 | 184+33.17 | 142.05 | L | 815111.294 | 546466.014 |
| PRW1101 | 184+06.20 | 147.47 | L | 815176.210 | 546486.465 |
| PRW1102 | 184+32.87 | 243.68 | L | 815175.786 | 546585.642 |
| PRW1103 | 186+58.53 | 335.49 | L | 815331.866 | 546732.246 |
| PRW1104 | 186+97.87 | 261.38 | L | 815390.359 | 546675.695 |
| PRW1105 | 187+66.70 | 240.61 | L | 815454.023 | 546680.274 |
| PRW1106 | 190+20.00 | 295.00 | L | 815623.690 | 546830.335 |
| PRW1110 | 185+30.25 | 218.28 | L | 815265.784 | 546585.124 |
| PRW1116 | 192+70.95 | 350.37 | L | 815765.780 | 546995.974 |
| TLE1123 | 184+05.76 | 184.16 | R | 815255.648 | 546164.490 |
| TLE1124 | 183+98.62 | 216.21 | R | 815255.701 | 546131.490 |
| TLE1125 | 184+07.38 | 218.66 | R | 815265.701 | 546131.429 |
| TLE1126 | 184+93.65 | 168.05 | R | 815343.583 | 546205.004 |
| TLE1127 | 184+87.24 | 192.06 | R | 815343.623 | 546180.003 |
| TLE1128 | 184+83.73 | 190.92 | R | 815339.623 | 546180.029 |
| TLE1129 | 184+53.14 | 314.04 | R | 815339.828 | 546052.200 |
| TLE1132 | 184+46.46 | 311.90 | R | 815331.828 | 546052.252 |
| PLE1941 | 202+49.58 | 623.11 | L | 816040.494 | 547782.800 |
| PLE1942 | 204+00.33 | 591.54 | L | 816141.103 | 547899.425 |
| PLE1943 | 205+10.42 | 733.08 | L | 816070.552 | 548064.275 |
| PLE1944 | 205+57.45 | 702.75 | L | 816119.852 | 548090.747 |
| PLE1945 | 204+89.48 | 549.00 | L | 816221.484 | 547956.832 |
| ERW7118 | 202+19.77 | 632.32 | L | 816018.008 | 547761.178 |
| ERW7119 | 197+70.66 | 682.37 | L | 815793.888 | 547492.347 |
| ERW7120 | 192+98.46 | 331.49 | L | 815795.471 | 546995.520 |
| ERW7125 | 179+09.85 | 185.03 | L | 814720.271 | 546468.266 |
| ERW7126 | 179+68.52 | 116.76 | R | 814782.298 | 546167.364 |
| ERW7127 | 180+48.02 | 121.34 | R | 814866.555 | 546166.853 |
| ERW7128 | 184+14.64 | 186.64 | R | 815265.648 | 546164.429 |
| ERW7129 | 184+83.02 | 164.62 | R | 815331.583 | 546205.082 |
| ERW7130 | 186+28.69 | 218.02 | R | 815499.580 | 546203.983 |
| ERW7131 | 187+82.09 | 361.23 | R | 815715.973 | 546138.205 |

### SCHEDULE OF UTILITIES & INTERESTS REQUIRED

| UTILITY NUMBER | *OWNER | INTEREST REQUIRED |
|---|---|---|
| 501 | WE ENERGIES - GAS | RELEASE OF RIGHTS |
| 502 | TIME WARNER | RELEASE OF RIGHTS |
| 503 | AT&T WISCONSIN | RELEASE OF RIGHTS |
| 504 | CITY OF MENASHA - UTILITY | RELEASE OF RIGHTS |
| 505 | TOWN OF MENASHA - SANITARY SEWER | RELEASE OF RIGHTS |
| 518 | MENASHA UTILITIES - ELECTRIC | RELEASE OF RIGHTS |
| 522 | TOWN OF MENASHA - WATER | RELEASE OF RIGHTS |
| 605 | TOWN OF MENASHA - SANITARY SEWER | UTILITY AGREEMENT |
| 622 | TOWN OF MENASHA - WATER | UTILITY AGREEMENT |




KAPUR & ASSOCIATES, INC.
CONSULTING ENGINEERS
MILWAUKEE, WISCONSIN
414.351.6668

I, GARY R. SPLINTER, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTIONS OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED TRANSPORTATION PROJECT PLAT 1517-07-21-4.10 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

WISCONSIN GARY R. SPLINTER S-2239 OAK CREEK, WI LAND SURVEYOR

SIGNATURE _____ DATE 01/27/14
GARY R. SPLINTER, R.L.S. S-2239

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

SIGNATURE _____ DATE 02/05/14
PRINT CURT VAN EREM

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1517-07-21-4.10
AMENDMENT NO:

ACCEPTED FOR RECORDING AND FILING IN THE OFFICE OF THE REGISTER OF DEEDS IN WINNEBAGO COUNTY, WISCONSIN AT 2:18PM ON 2/10/2014 AS DOCUMENT # 1657785 AND FILED IN FILE 1657785 132

SIGNATURE OF REGISTER OF DEEDS

1657785



170
4.10
PLOT SCALE : 1:100
PLOT NAME :
PLOT BY : g_splinter
PLOT DATE : 2/5/2014
FILE NAME : S:\DOT\DOT_NE\120012-Trl County Freeway\Plat\Plots\040410_RP.dgn
APPRAISAL PLAT DATE :

# TRANSPORTATION PROJECT PLAT NO: 1517-07-21 - 4.17

## USH 10 / STH 441, CTH CB - S. ONEIDA ST.

PART OF THE SE 1/4 OF THE SW 1/4 AND THE SW 1/4 OF THE SW 1/4 OF SECTION 2, TOWNSHIP 20 NORTH, RANGE 17 EAST, CITY OF MENASHA, WINNEBAGO COUNTY, WISCONSIN.

### RELOCATION ORDER USH 10/STH 441 WINNEBAGO COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE NAMED PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SUBSECTIONS 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:

1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE NAMED PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SUBSECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, WINNEBAGO COUNTY, NAD 83 (91) IN U.S. SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS AND ARE REFERENCED TO THE US PUBLIC LAND SURVEY OR OTHER SURVEYS OF PUBLIC RECORD.

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A HIGHWAY EASEMENT (HE) IS AN EASEMENT FOR HIGHWAY PURPOSES, AS LONG AS SO USED, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE.

RIGHT OF WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY 1" X 24" IRON PIPE) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

EXISTING RIGHT OF WAY WAS REESTABLISHED UNDER PROJECT: TRANSPORTATION PROJECT PLAT NO. 1517-07-00-4.11, DOCUMENT NO. 1590516, FILED IN FILE 1, TPP PG 201.

EXISTING ACCESS CONTROL WAS ACQUIRED UNDER PROJECT: 4685-04-00. STH 441 IN WINNEBAGO COUNTY WAS DESIGNATED AS A FREEWAY UNDER SECTION 84.295 OF THE WISCONSIN STATE STATUTES BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION ON JUNE 26, 1986.

THE REFERENCE LINE SHOWN ON THIS PLAT MAY NOT BE THE SAME AS THE REFERENCE LINE SHOWN ON THE CONSTRUCTION PLAN.

### SCHEDULE OF LANDS & INTERESTS REQUIRED

| PARCEL NUMBER | *OWNER | INTEREST REQUIRED | NEW R/W ACRES | P.L.E. ACRES | T.L.E. ACRES | H.E. ACRES |
|---|---|---|---|---|---|---|
| 111 | ESTATE HOLDINGS, INC. VENDOR; AMERICAN MINI LLC PURCHASER | FEE | 9.780 | - | - | - |
| 112 | GEORGE BANTA PUBLISHING, INC. | FEE,HE,TLE | 1.195 | - | 0.758 | 0.037 |

*OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTERESTS TO THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

### SCHEDULE OF UTILITIES & INTERESTS REQUIRED

| UTILITY NUMBER | *OWNER | INTEREST REQUIRED |
|---|---|---|
| 500 | WE ENERGIES - ELECTRIC | RELEASE OF RIGHTS |
| 502 | TIME WARNER | RELEASE OF RIGHTS |
| 503 | AT&T WISCONSIN | RELEASE OF RIGHTS |
| 505 | TOWN OF MENASHA - SANITARY SEWER | RELEASE OF RIGHTS |
| 509 | AMERICAN TRANSMISSION COMPANY | RELEASE OF RIGHTS |
| 518 | TOWN OF MENASHA - ELECTRIC | RELEASE OF RIGHTS |
| 520 | TDS METROCOM | RELEASE OF RIGHTS |
| 522 | MENASHA UTILITIES - WATER | RELEASE OF RIGHTS |
| 605 | TOWN OF MENASHA - SANITARY SEWER | UTILITY AGREEMENT |
| 622 | TOWN OF MENASHA - WATER | UTILITY AGREEMENT |

### CONVENTIONAL ABBREVIATIONS

| | | | |
|---|---|---|---|
| ACCESS POINT, DRIVEWAY CONNECTION | AP | REFERENCE LINE | R/L |
| ACCESS RIGHTS | AR | RELEASE OF RIGHTS | ROR |
| ACRES | AC. | REMAINING | REM. |
| AND OTHERS | ET.AL. | RIGHT-OF-WAY | R/W |
| CENTERLINE | C/L | SECTION | SEC. |
| CERTIFIED SURVEY MAP | CSM | STATION | STA. |
| CORNER | COR. | TEMPORARY LIMITED EASEMENT | TLE |
| DOCUMENT | DOC. | VOLUME | VOL |
| EASEMENT | EASE. | **CURVE DATA** | |
| HIGHWAY EASEMENT | H.E. | LONG CHORD | LCH |
| LAND CONTRACT | LC | LONG CHORD BEARING | LCB |
| MONUMENT | MON. | RADIUS | R |
| PAGE | PG | DEGREE OF CURVE | D |
| PERMANENT LIMITED EASEMENT | PLE | CENTRAL ANGLE OR DELTA | DELTA |
| PROPERTY LINE | PL | LENGTH OF CURVE | L |
| RECORDED AS | (100') | TANGENT | TAN |

### CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN — 1/2" (3/4" IRON REBAR UNLESS NOTED)
R/W MONUMENT — ●(SET)
R/W STANDARD — ▲(SET)
SIGN — ISIGN
SECTION CORNER MONUMENT — ●
SECTION CORNER SYMBOL — (1/4)
FEE (HATCH VARIES)
TEMPORARY LIMITED EASEMENT
PERMANENT LIMITED EASEMENT
R/W BOUNDARY POINT — PRW000
PARCEL NUMBER — 103
UTILITY NUMBER — 92
SIGN NUMBER (OFF PREMISE) — 21-Y
BUILDING

PROPOSED R/W LINE
EXISTING H.E. LINE
PROPERTY LINE
LOT & TIE LINES
SLOPE INTERCEPTS
CORPORATE LIMITS
ACCESS RESTRICTED (BY PREVIOUS ACQUISITION/CONTROL)
ACCESS RESTRICTED (BY ACQUISITION)
NO ACCESS (BY STATUTORY AUTHORITY)
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
EXISTING CENTERLINE
PROPOSED REFERENCE LINE
PARALLEL OFFSET

### CONVENTIONAL UTILITY SYMBOLS

WATER — W
GAS — G
COMMUNICATION — C
ELECTRIC OVERHEAD — OH
ELECTRIC UNDERGROUND — E
FIBER OPTIC — FO
SANITARY SEWER — SAN
STORM SEWER — SS

NON COMPENSABLE COMPENSABLE

POWER POLE
TELEPHONE POLE
TELEPHONE PEDESTAL
ELECTRIC TOWER

| RL USH-10/STH-441 | RL MIDWAY ROAD | RL MIDWAY ROAD |
|---|---|---|
| PI STA. 256+56.08 | PI STA. 24+15.03 | PI STA. 28+57.37 |
| Y : 552084.530 | Y : 550582.540 | Y : 550598.789 |
| X : 819316.813 | X : 818878.528 | X : 819334.913 |
| DELTA = 68°21'56" | DELTA = 38°18'27" | DELTA = 2°15'10" |
| D = 2°45'45" | D = 10°25'03" | D = 2°51'53" |
| T = 1408.58 | T = 191.03 | T = 39.32 |
| L = 2474.71 | L = 367.72 | L = 78.64 |
| R = 2074.00 | R = 550.00 | R = 2000.00 |

### CURVE TABLE

| CURVE | CH DISTANCE | CH BEARING | RADIUS | ARC LENGTH | PI COORDINATES |
|---|---|---|---|---|---|
| C1 | 1946.40' | N50°18'52"E | 2074.00' | 2026.00' | X 819200.359 Y 551801.001 |
| C2 | 409.03' | S51°54'12"W | 1336.25' | 410.65' | X 819607.778 Y 551693.333 |
| C3 | 568.93' | S47°27'57"W | 1306.25' | 573.53' | X 819537.282 Y 551615.417 |
| C4 | 360.91' | S72°53'07"E | 550.00' | 367.72' | X 818878.528 Y 550582.540 |
| C5 | 78.63' | N89°05'15"E | 2000.00' | 78.64' | X 819334.913 Y 550598.789 |

### COURSE TABLE USH 10/STH 441 REFERENCE LINE

| POINT | TO POINT | BEARING | DISTANCE |
|---|---|---|---|
| 2017036 | 930 | N89°47'10"W | 1575.71 |
| DB930 | DB954 | N22°19'46"E | 195.07 |
| DB954 | DB955 | CURVE C1 | |
| DB955 | 2017036 | S00°08'55"E | 1429.26 |

### COURSE TABLE MIDWAY ROAD REFERENCE LINE

| POINT | TO POINT | BEARING | DISTANCE |
|---|---|---|---|
| DB961 | DB994 | CURVE C4 | |
| DB994 | DB995 | N87°57'40"E | 226.32 |
| DB995 | DB996 | CURVE C5 | |
| DB996 | DB997 | S89°47'10"E | 203.32 |

### COURSE TABLE NEW RIGHT OF WAY

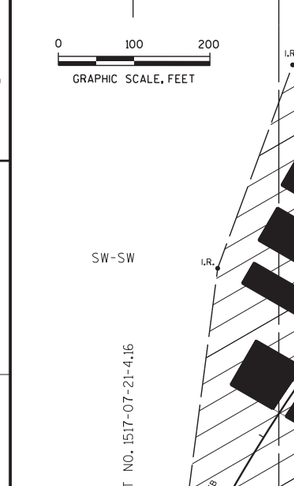
| POINT | TO POINT | BEARING | DISTANCE |
|---|---|---|---|
| 2017036 | DB956 | N89°47'10"W | 815.69 |
| DB956 | DB930 | N89°47'10"W | 760.02 |
| DB930 | DB954 | N22°19'46"E | 195.07 |
| DB954 | DB955 | CURVE C1 | |
| DB955 | PRW1137 | S58°57'15"W | 214.76 |
| PRW1137 | PRW1136 | S68°48'13"W | 329.55 |
| PRW1136 | PRW1135 | CURVE C2 | |
| PRW1135 | PRW1134 | S30°00'24"W | 929.72 |
| PRW1134 | HE1232 | S27°29'40"E | 100.83 |
| HE1232 | PRW1233 | S86°03'06"E | 89.27 |
| PRW1233 | PRW1234 | S89°47'10"E | 330.69 |
| PRW1234 | DB956 | S 0°12'50" W | 42.00 |

### STATION OFFSET TABLE

| POINT | STATION | OFFSET | | X | Y |
|---|---|---|---|---|---|
| DB930 | 240+52.43 | 0 | | 818707.537 | 550601.130 |
| DB954 | 242+47.50 | 0 | | 818781.651 | 550781.575 |
| DB955 | 262+73.50 | 0 | | 820279.524 | 552024.500 |
| PRW1134 | 242+94.89 | 219.70 | R | 819001.419 | 550737.114 |
| PRW1135 | 253+01.84 | 94.00 | R | 819466.372 | 551542.220 |
| PRW1136 | 257+25.00 | 55.32 | R | 819788.271 | 551794.590 |
| PRW1137 | 260+64.38 | 60.92 | R | 820095.525 | 551913.743 |
| TLE1251 | 262+49.89 | 109.28 | R | 820279.814 | 551912.833 |
| TLE1252 | 262+46.52 | 123.94 | R | 820279.852 | 551897.833 |
| TLE1253 | 260+62.44 | 76.07 | R | 820098.295 | 551898.729 |
| TLE1254 | 257+10.58 | 85.98 | R | 819789.807 | 551760.953 |
| TLE1255 | 251+08.79 | 155.75 | R | 819370.575 | 551376.339 |

### STATION OFFSET TABLE MIDWAY ROAD

| POINT | STATION | OFFSET | | X | Y |
|---|---|---|---|---|---|
| DB956 | 29+90.00 | 0 | | 819467.553 | 550598.294 |
| DB961 | 22+24.00 | 0 | | 818724.508 | 550695.549 |
| DB994 | 25+91.73 | 0 | | 819069.439 | 550589.337 |
| DB995 | 28+18.05 | 0 | | 819295.614 | 550597.390 |
| DB996 | 28+96.68 | 0 | | 819374.237 | 550598.642 |
| DB997 | 31+00.00 | 0 | | 819577.552 | 550597.883 |
| HE1232 | 25+70.02 | 58.68 | L | 819047.968 | 550647.674 |
| PRW1233 | 26+61.13 | 49.75 | L | 819137.024 | 550641.528 |
| PRW1234 | 29+90.00 | 42.00 | L | 819467.710 | 550640.294 |
| PRW1235 | 29+90.00 | 33.00 | L | 819467.676 | 550631.294 |
| TLE1249 | 25+61.43 | 72.81 | L | 819040.570 | 550661.888 |
| TLE1250 | 29+90.00 | 62.00 | L | 819467.784 | 550660.293 |
| PRW2046 | 25+12.25 | 73.53 | L | 818998.077 | 550665.341 |
| PRW2047 | 25+45.13 | 97.22 | L | 819027.630 | 550686.752 |
| PRW2048 | 25+97.82 | 56.39 | L | 819073.525 | 550645.910 |
| PRW2049 | 25+85.27 | 48.31 | L | 819061.834 | 550637.441 |




I, GARY R. SPLINTER, REGISTERED LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTIONS OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION, I HAVE SURVEYED TRANSPORTATION PROJECT PLAT 1517-07-21- 4.17 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

WISCONSIN GARY R. SPLINTER S-2239 OAK CREEK, WI LAND SURVEYOR

SIGNATURE _____ DATE 01/27/14
GARY R. SPLINTER, R.L.S. S-2239

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

SIGNATURE _____ DATE 02/06/14
PRINT CURT VAN EREM

KAPUR & ASSOCIATES, INC. CONSULTING ENGINEERS MILWAUKEE, WISCONSIN 414.351.6668

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1517-07-21-4.17
AMENDMENT NO:

ACCEPTED FOR RECORDING AND FILING IN THE OFFICE OF THE REGISTER OF DEEDS IN WINNEBAGO COUNTY, WISCONSIN AT 10:26 AM ON 2/25/2014 AS DOCUMENT # 1658573 AND FILED IN File 1 of TPP 239

SIGNATURE OF REGISTER OF DEEDS

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\Plat\Plats\040417_RP.dgn
PLOT DATE : 2/18/2014
PLOT BY : g_splinter
PLOT NAME :
PLOT SCALE : 1:100
APPRAISAL PLAT DATE :

PROJECT ID 1517-07-80
(BY OTHERS)

℄ USH 10 WB/STH 441 SB

130WB USH 10 WB 132WB 134WB 136WB 138WB 140WB 142WB 144WB

USH 10 WB/STH 441 SB

N

PROJECT ID 1517-07-80
(BY OTHERS)

BEGIN PROJECT 1517-07-77
STA 132WB+35.17
Y = 546,527.670
X = 810,043.300

USH 41 SB

USH 41 NB

PROJECT ID 1517-07-80
(BY OTHERS)

B-70-401

℄ USH 10 WB/STH 441 SB TO USH 41 NB

B-70-406

FWN RAMP 144FWN

MATCHLINE STA 145WB+00

B-70-405

142FWS 144FWS

140FWS

138FWS

℄ USH 10 WB/STH 441 SB TO USH 41 SB

USH 10

USH 10

B-70-400

130EB 132EB 134EB 136EB 138EB 140EB 142EB 144EB

USH 10 EB/STH 441 NB

USH 10 EB

136FWS

FWS RAMP 134FWS

℄ USH 10 EB/STH 441 NB

B-70-402

INVASIVE SPECIES
TEASEL (TYP)

S-70-257

VPI STA 138WB+62.90
VPI EL 818.58

VPT STA 143WB+62.90
VPT EL 809.58

BEGIN PROJECT 1517-07-77
STA 132WB+35.17

FINISHED PROFILE AT ℄ USH 10 WB/STH 441 SB

VPC STA 133WB+62.90
VPC EL 809.18

STRUCTURE B-70-401
SEE STRUCTURE PLANS

VCL = 1000'
K = 278

STRUCTURE B-70-401
SEE STRUCTURE PLANS

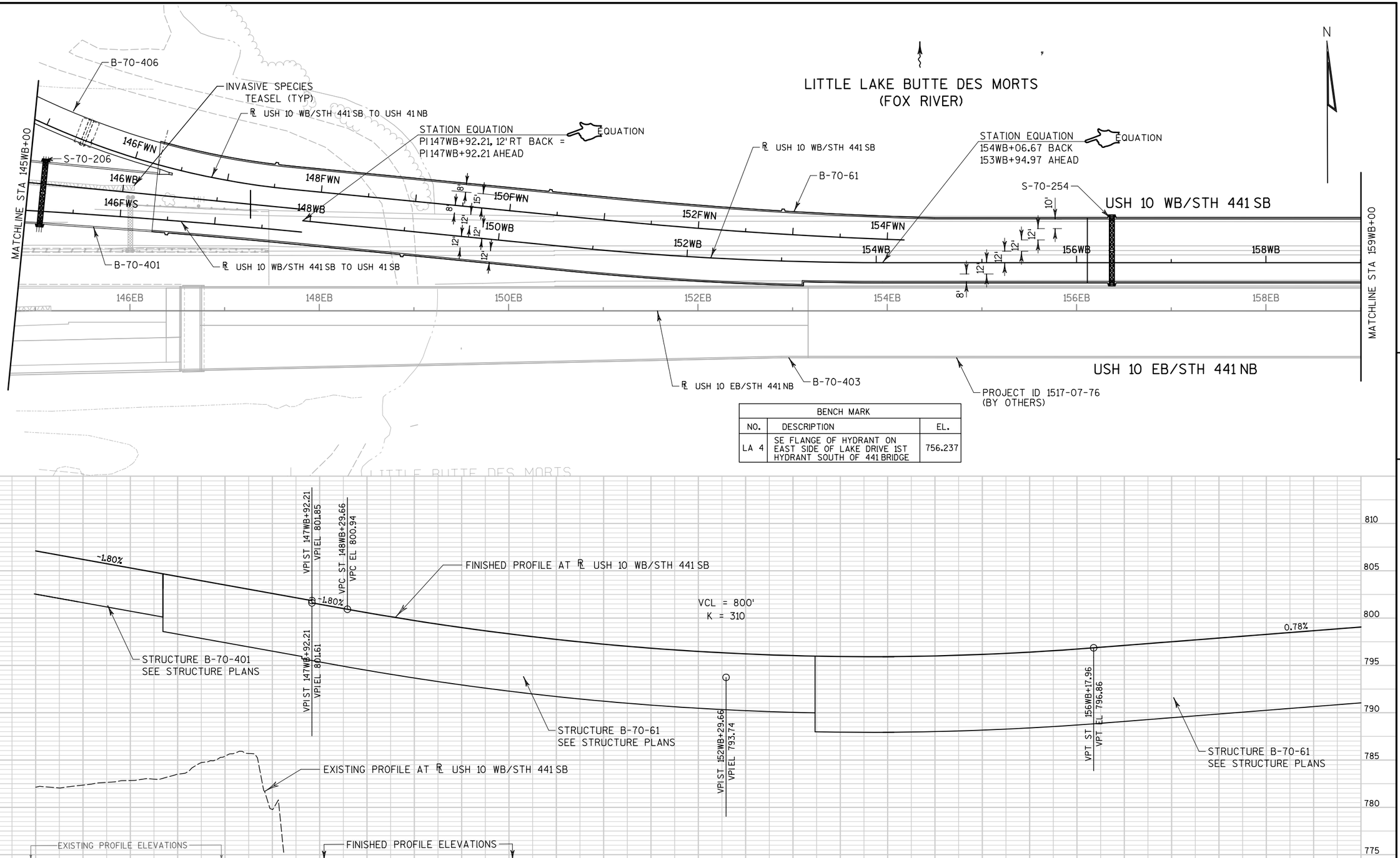
STRUCTURE B-70-401
SEE STRUCTURE PLANS

825 820 815 810 805 800 795 790

FINISHED PROFILE ELEVATIONS

EXISTING PROFILE ELEVATIONS

| | | |



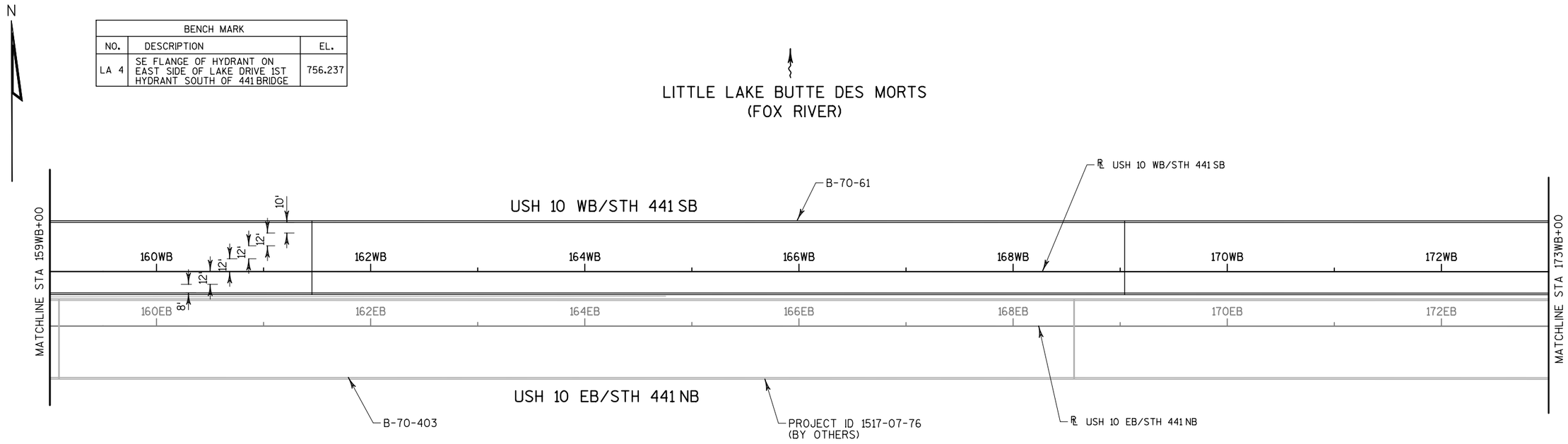

| BENCH MARK | | |
|---|---|---|
| NO. | DESCRIPTION | EL. |
| LA 4 | SE FLANGE OF HYDRANT ON EAST SIDE OF LAKE DRIVE 1ST HYDRANT SOUTH OF 441 BRIDGE | 756.237 |

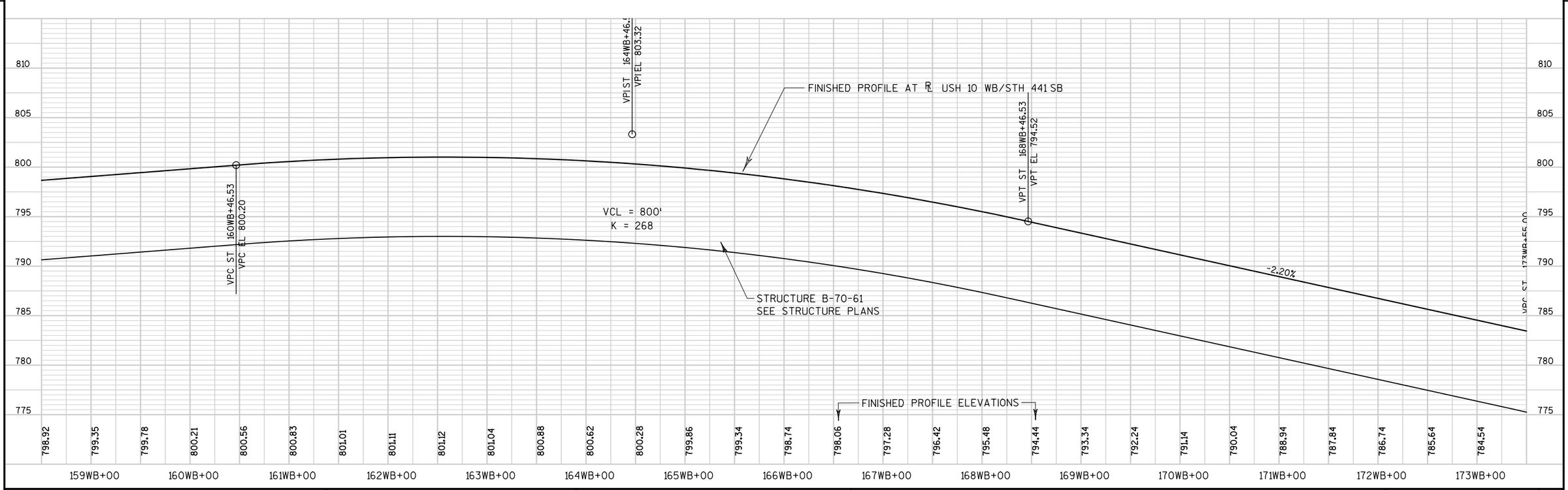
5

5

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | PLAN & PROFILE: USH 10 WB/STH 441 SB | SHEET 173 | E |
|---|---|---|---|---|---|

| BENCH MARK | | |
|---|---|---|
| NO. | DESCRIPTION | EL. |
| LA 4 | SE FLANGE OF HYDRANT ON EAST SIDE OF LAKE DRIVE 1ST HYDRANT SOUTH OF 441 BRIDGE | 756.237 |




| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | PLAN & PROFILE: USH 10 WB/STH 441 SB | SHEET 174 | E |
|---|---|---|---|---|---|


FILE NAME : \\S1102K306\projects\Transportation\US 10 WIS 441\CADD\sheets\15170777\050103_pp.dgn PLOT DATE : 4/1/2016 PLOT BY : nick_becker PLOT NAME : PLOT SCALE : 100.0000 sf / in.
WISDOT/CADDS SHEET 40

N

LITTLE LAKE BUTTE DES MORTS
(FOX RIVER)

END PROJECT 1517-07-77
STA 183WB+80.32
Y = 546,415.883
X = 815,183.555

FRANZOI
KEBERLEIN
KEBERLEIN
ODELL
PROP R/W
VIOTTO
HARTZHEIM
WETLAND BOUNDARY (TYP)
EX R/W
B-70-411
B-70-410
B-70-61
B-70-403
℄ USH 10 WB/STH 441 SB
℄ USH 10 EB/STH 441 NB
USH 10 WB/STH 441 SB
USH 10 EB/STH 441 NB
MATCHLINE STA 173WB+00
174WB
176WB
178WB
180WB
182WB
184WB
186WB
188WB
174EB
176EB
178EB
180EB
182EB
184EB
186EB
188EB
10'
12'
8'
S-70-209
PROJECT ID 1517-75-75
(BY OTHERS)
PROJECT ID 1517-07-76
(BY OTHERS)
WISCONSIN DEPARTMENT
OF TRANSPORTATION
WADZINSKI
TAYCO STREET
TLE

| BENCH MARK | | |
|---|---|---|
| NO. | DESCRIPTION | EL. |
| LA 4 | SE FLANGE OF HYDRANT ON EAST SIDE OF LAKE DRIVE 1ST HYDRANT SOUTH OF 441 BRIDGE | 756.237 |

FINISHED PROFILE AT ℄ USH 10 WB/STH 441 SB
EXISTING PROFILE AT ℄ USH 10 WB/STH 441 SB
FINISHED PROFILE ELEVATIONS
EXISTING PROFILE ELEVATIONS

VPC ST 173WB+55.00 VPC EL 783.33
VPRC ST 178WB+65.00 VPRC EL 779.00
VPI ST 179WB+70.00 VPI EL 779.52
VPT ST 180WB+75.00 VPT EL 779.00
VPC ST 181WB+20.00 VPC EL 778.77
VPI ST 176WB+10.00 VPI EL 777.72
VPI ST 183WB+40.00 VPI EL 777.67
VPT ST 185WB+60.00 VPT EL 779.91
VPC ST 185WB+95.00 VPC EL 780.27

VCL = 510'
K = 189
VCL = 210'
K = 210
VCL = 440'
K = 290
-0.50%
1.02%

STRUCTURE B-70-61
SEE STRUCTURE PLANS

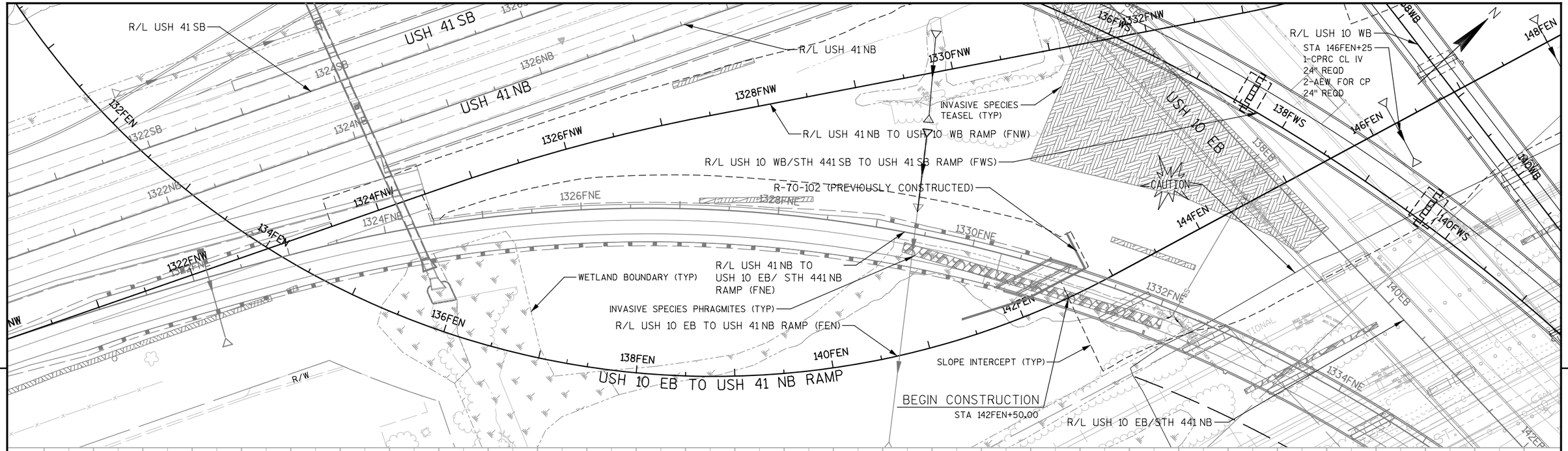
784.54 783.44 782.40 781.48 780.70 780.05 779.53 779.15 778.89 778.77 778.79 778.93 779.14 779.25 779.24 779.11 778.87 778.64 778.48 778.42 778.43 778.54 778.73 779.00 779.36 779.81 780.32 780.80 781.24 781.63 781.98

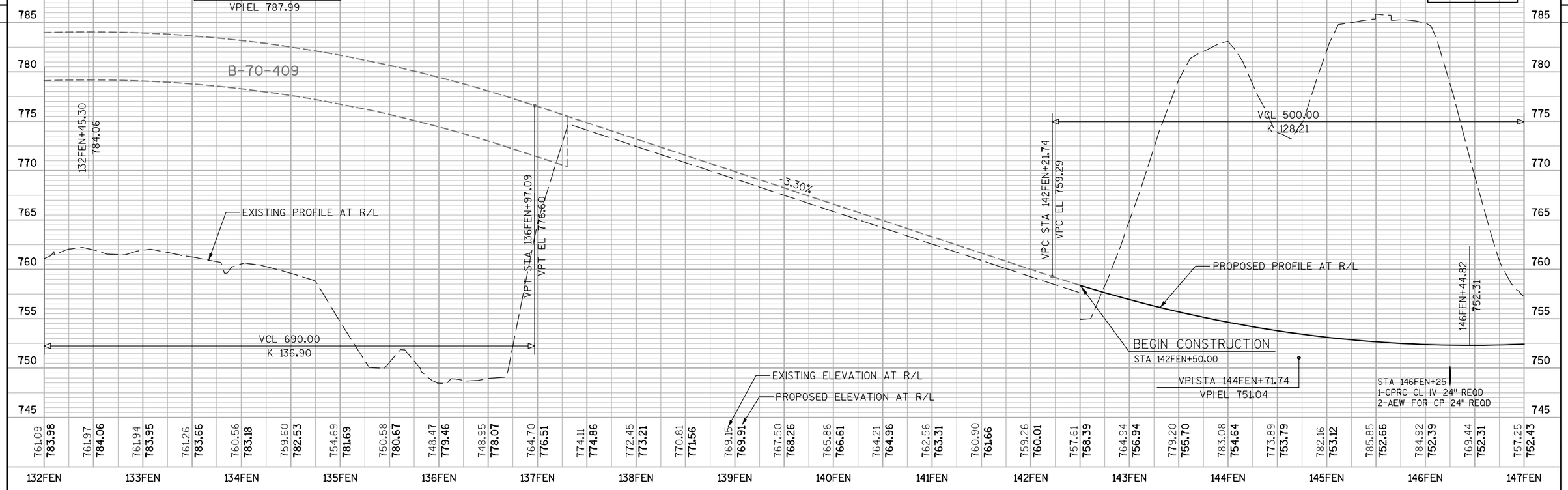
173WB+00 174WB+00 175WB+00 176WB+00 177WB+00 178WB+00 179WB+00 180WB+00 181WB+00 182WB+00 183WB+00 184WB+00 185WB+00 186WB+00 187WB+00 188WB+00

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | PLAN & PROFILE: USH 10 WB/STH 441 SB | SHEET 175 | E |
|---|---|---|---|---|---|

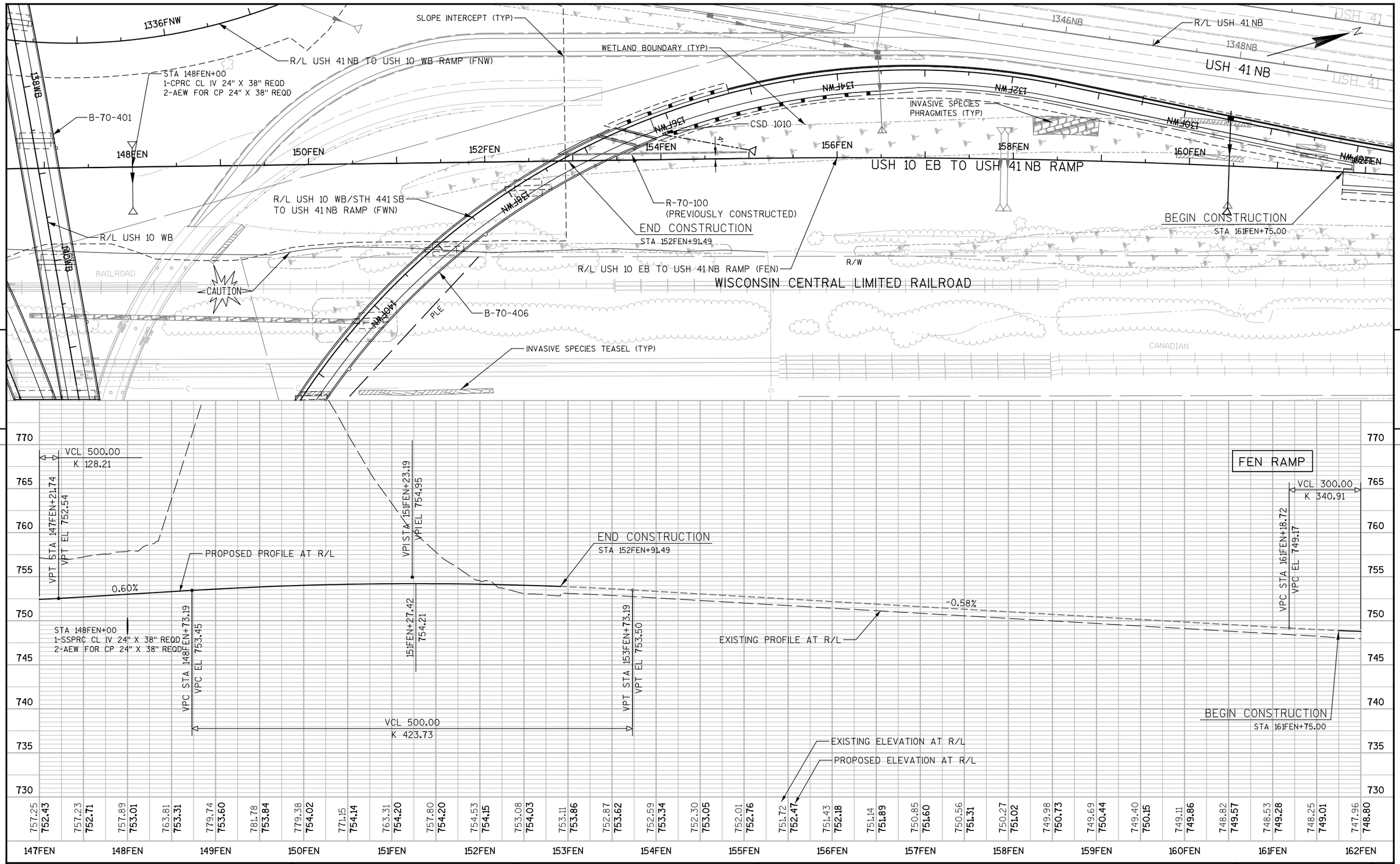
FILE NAME : \\S1102K306\projects\Transportation\US 10 WIS 441\CADD\sheets\15170777\050104_pp.dgn
PLOT DATE : 4/1/2016
PLOT BY : nick_becker
PLOT NAME :
PLOT SCALE : 100.0000 sf / in.

WISDOT/CADDS SHEET 40



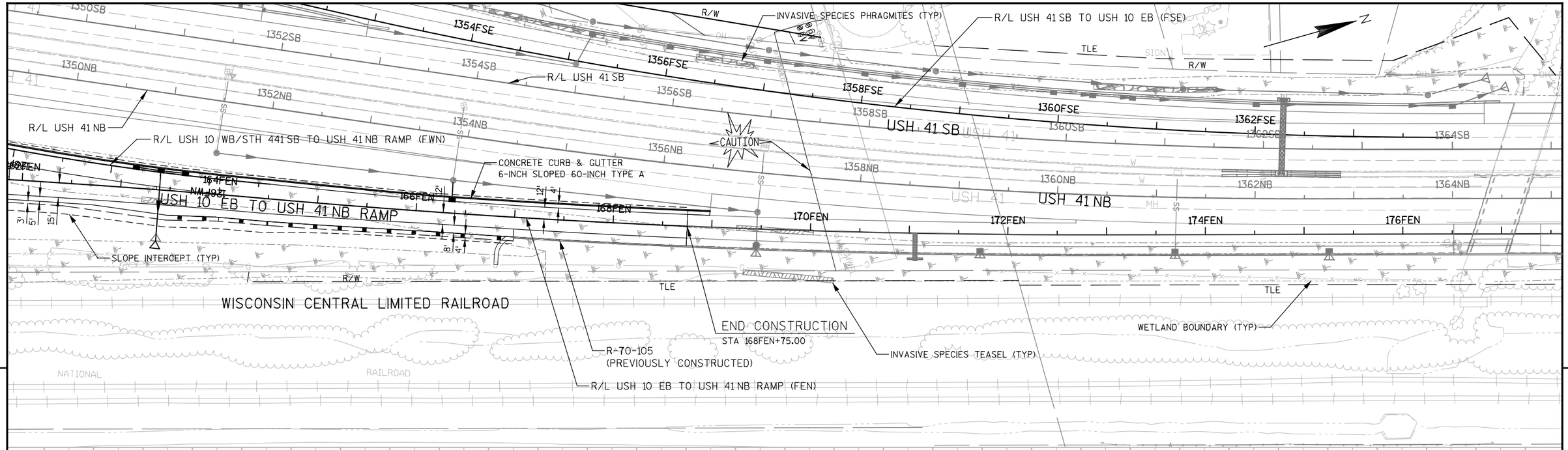

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | PLAN & PROFILE: FEN RAMP | SHEET 176 E |
|---|---|---|---|---|

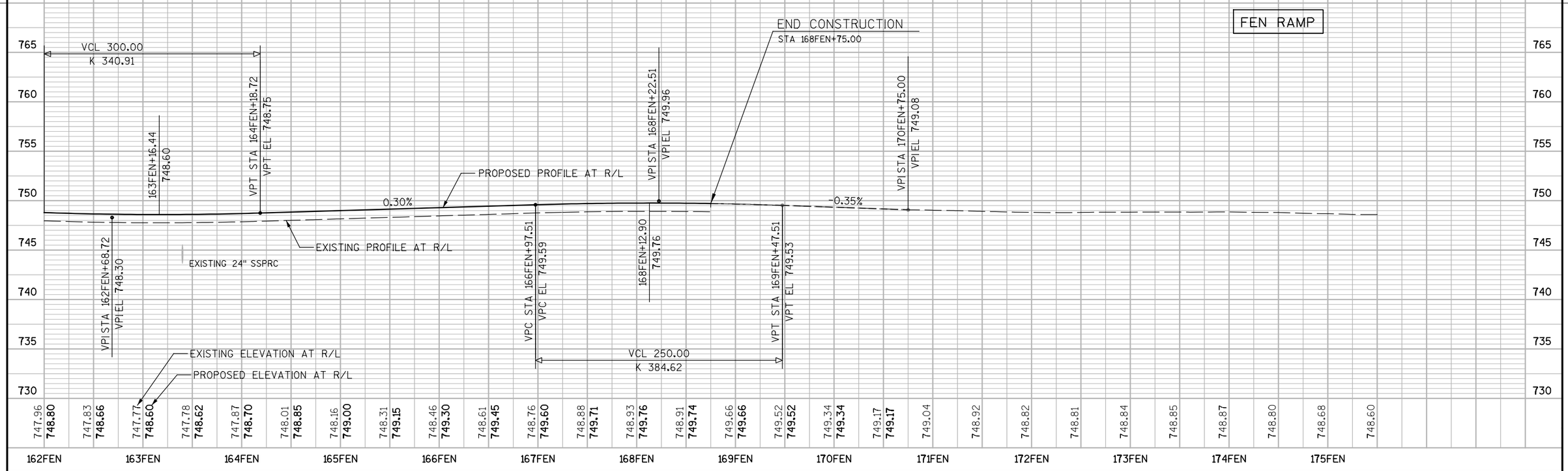



| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | PLAN & PROFILE: FEN RAMP | SHEET 177 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\050144_pp.dgn PLOT DATE : 3/30/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -

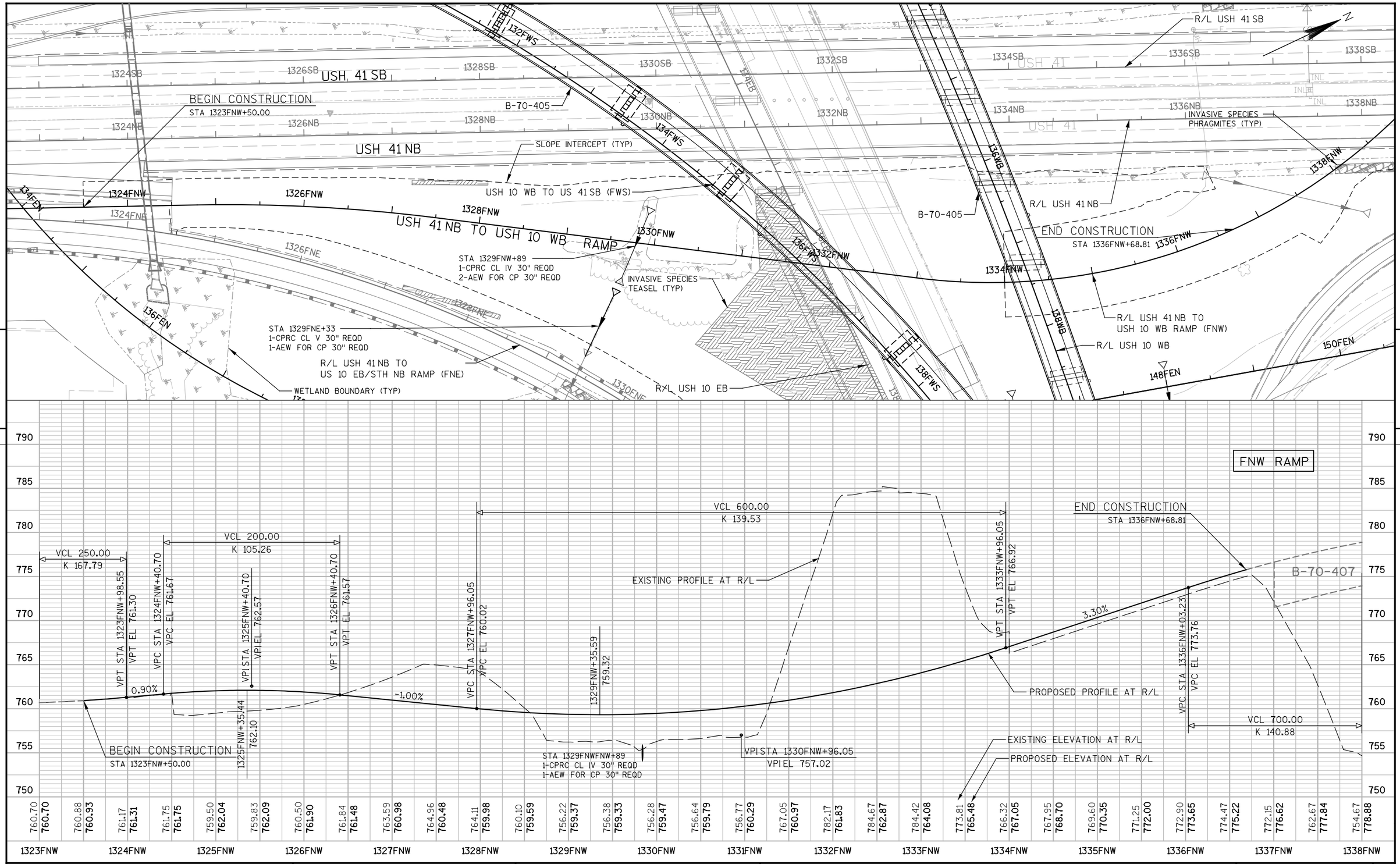
WISDOT/CADDS SHEET 45



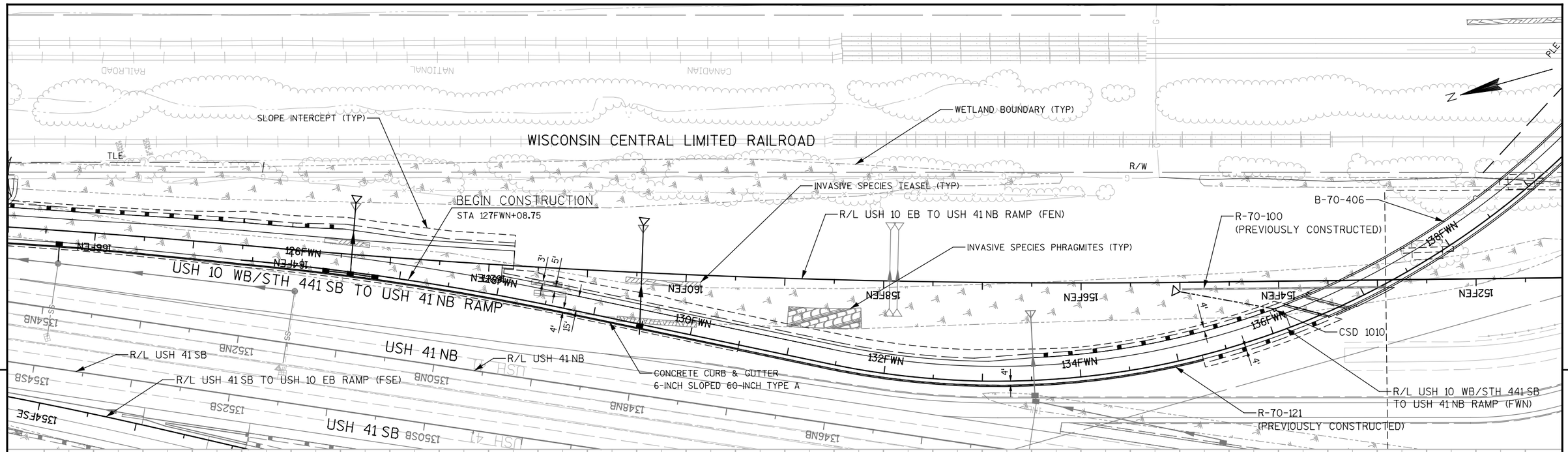




| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | PLAN & PROFILE: FEN RAMP | SHEET 178 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\050145_pp.dgn PLOT DATE : 3/30/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -



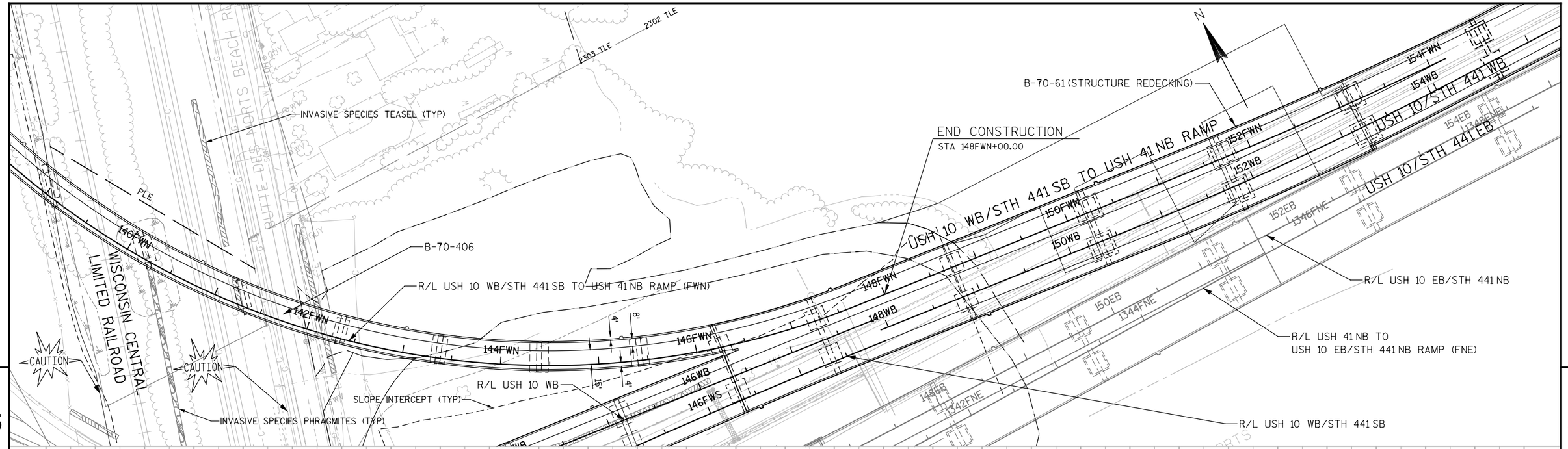

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | PLAN & PROFILE: FNW RAMP | SHEET 179 | E |
|---|---|---|---|---|---|




| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | PLAN & PROFILE: FWN RAMP | SHEET 180 | E |
|---|---|---|---|---|---|

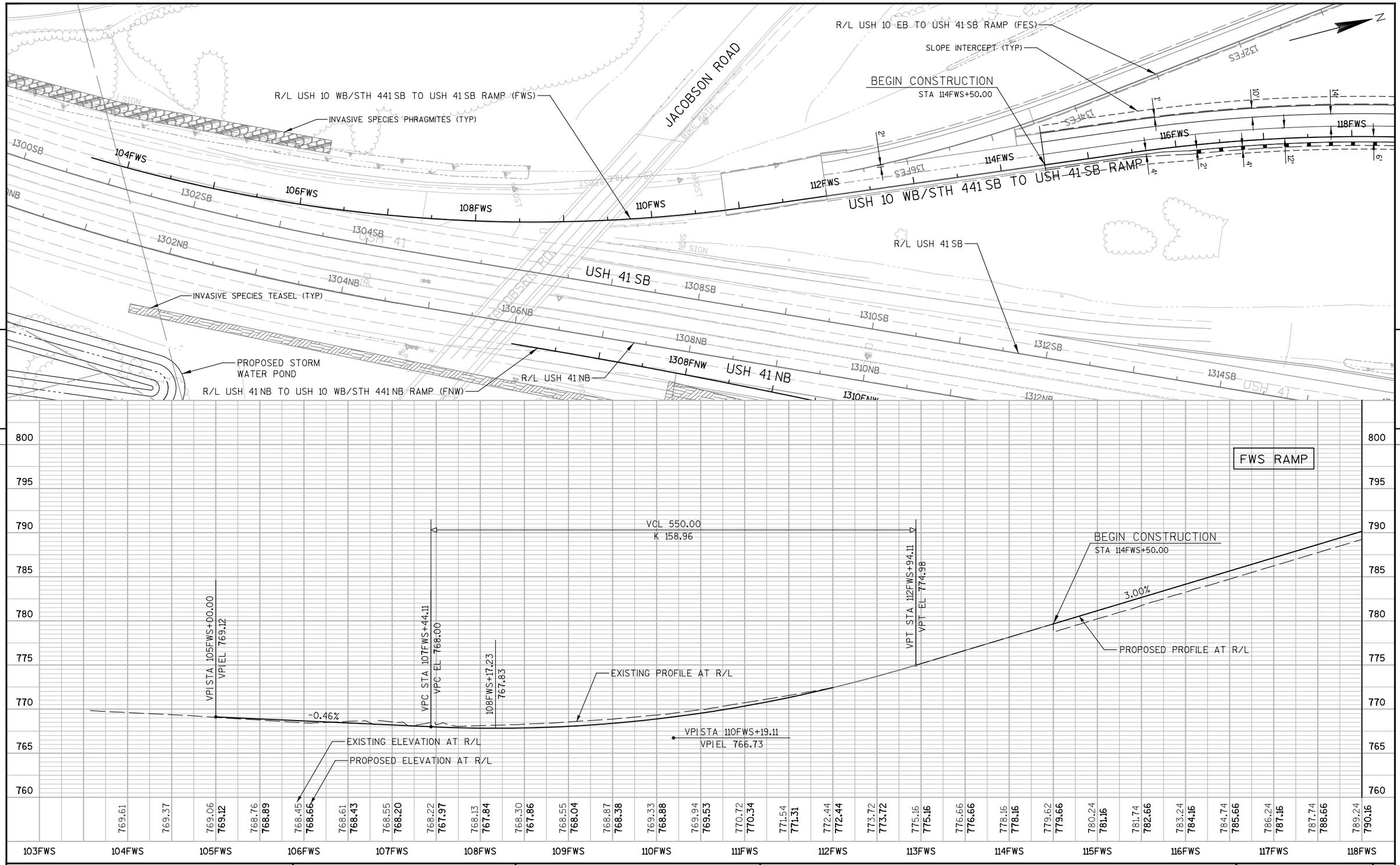
FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\050181_pp.dgn PLOT DATE : 3/30/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -

WISDOT/CADDS SHEET 45






| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | PLAN & PROFILE: FWN RAMP | SHEET 181 | E |
|---|---|---|---|---|---|




| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | PLAN & PROFILE: FWS RAMP | SHEET 182 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\050191_pp.dgn PLOT DATE : 3/30/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -

WISDOT/CADDS SHEET 45

WETLAND BOUNDARY (TYP)

R/L USH 10 EB TO USH 41 NB RAMP (FEN)

R/L USH 41 SB TO USH 10 EB/STH 441 NB RAMP (FSE)

B-70-405

R/L USH 10 WB/STH 441 SB TO USH 41 SB RAMP (FWS)

INVASIVE SPECIES TEASEL (TYP)

R/L USH 10 EB TO USH 41 SB RAMP (FES)

WETLAND BOUNDARY (TYP)

USH 10 WB/STH 441 WB TO USH 41 SB RAMP

CSD 1000

USH 41 SB

USH 41 NB

SLOPE INTERCEPT (TYP)

VPI STA 129FWS+08.89
VPI EL 823.43

FWS RAMP

B-70-405

PROPOSED PROFILE AT R/L

EXISTING PROFILE AT R/L

3.00%

VPC STA 120FWS+08.89
VPC EL 796.43

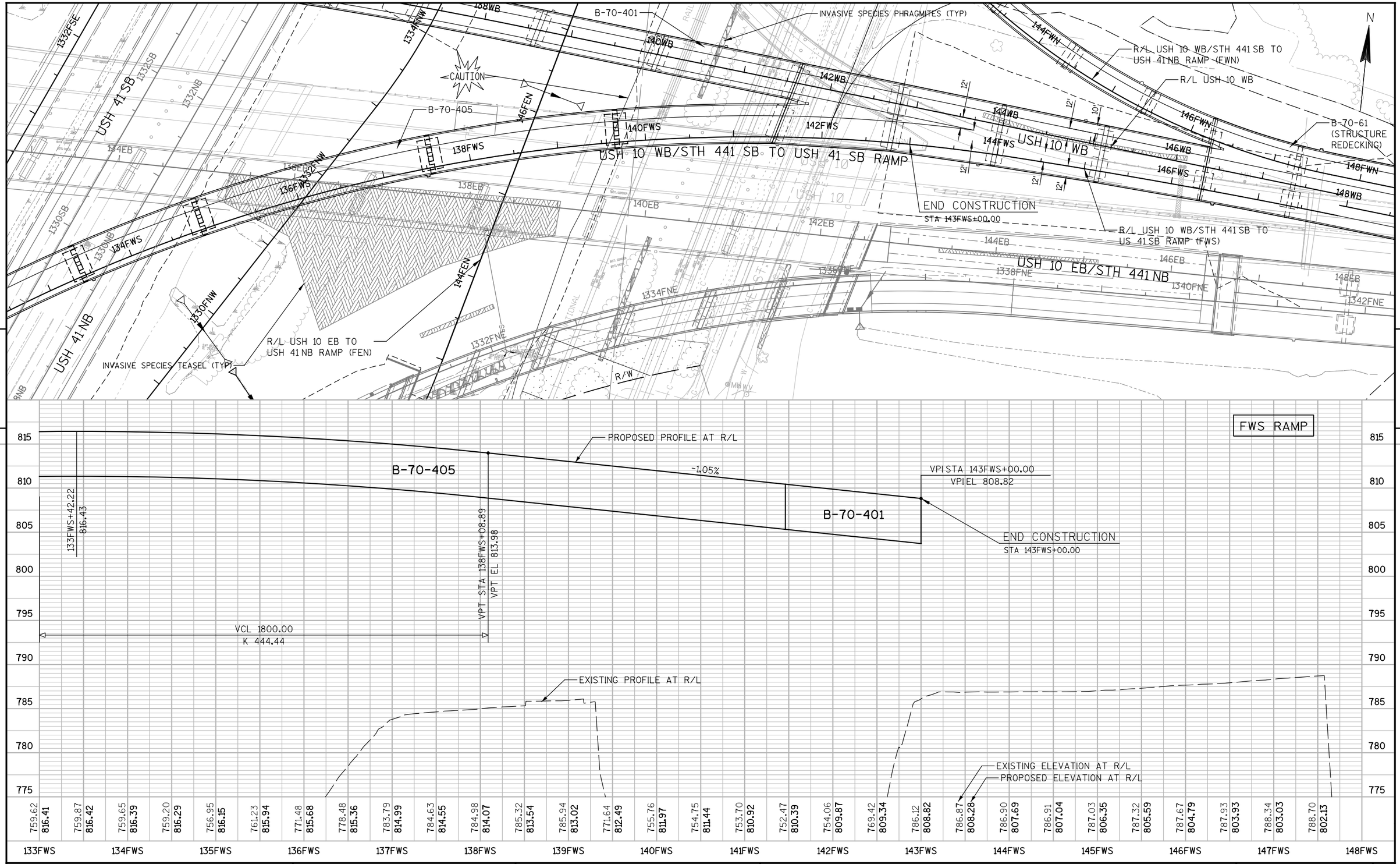
VCL 1800.00
K 444.44

EXISTING ELEVATION AT R/L

PROPOSED ELEVATION AT R/L

| 118FWS | 119FWS | 120FWS | 121FWS | 122FWS | 123FWS | 124FWS | 125FWS | 126FWS | 127FWS | 128FWS | 129FWS | 130FWS | 131FWS | 132FWS | 133FWS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 765.94 | 764.20 | 762.87 | 761.73 | 760.59 | 759.46 | 759.26 | 759.47 | 759.05 | 758.83 | 758.36 | 758.01 | 761.67 | 756.33 | 756.51 | 755.42 | 751.57 | 753.09 | 750.26 | 753.55 | 754.86 | 755.72 | 755.62 | 757.59 | 759.87 | 760.34 | 759.51 | 758.58 | 758.87 | 760.04 | 759.62 |
| **790.16** | **791.66** | **793.16** | **794.66** | **796.16** | **797.64** | **799.07** | **800.43** | **801.75** | **803.00** | **804.21** | **805.35** | **806.44** | **807.47** | **808.45** | **809.36** | **810.23** | **811.03** | **811.79** | **812.48** | **813.12** | **813.70** | **814.23** | **814.69** | **815.11** | **815.46** | **815.77** | **816.01** | **816.20** | **816.33** | **816.41** |

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | PLAN & PROFILE: FWS RAMP | SHEET 183 | E |
|---|---|---|---|---|---|




| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | PLAN & PROFILE: FWS RAMP | SHEET 184 | E |
|---|---|---|---|---|---|

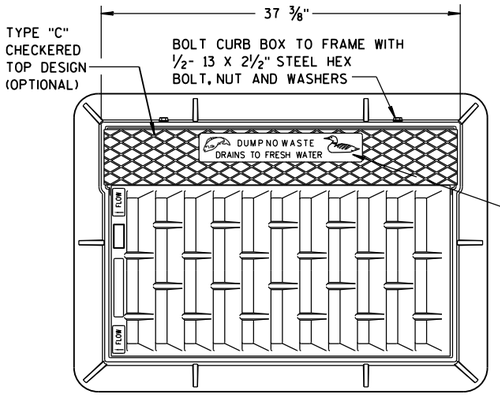
# Standard Detail Drawing List

| | |
|---|---|
| 08A05-19A | INLET COVERS TYPE A, H, A-S, H-S & Z |
| 08C07-01 | INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT |
| 08D04-05 | CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES |
| 08E08-03 | TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS |
| 08E09-06 | SILT FENCE |
| 08E10-02 | INLET PROTECTION TYPE A, B, C AND D |
| 08E11-02 | TURBIDITY BARRIER |
| 08F01-11 | APRON ENDWALLS FOR CULVERT PIPE |
| 08F02-01 | APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE |
| 08F04-07 | JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL |
| 09B02-09 | CONDUIT |
| 09B04-11 | PULL BOX |
| 09C08-05 | CONCRETE BASE, TYPE 7 |
| 09H11-01 | IDENTIFICATION PLAQUE REQUIREMENTS AND PLACEMENTS |
| 11A01-05 | MAINTENANCE CROSSOVER FOR FREEWAYS |
| 12A03-10 | NAME PLATE (STRUCTURES) |
| 12A04-03 | STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES & OVERHEAD SIGN SUPPORTS & TRAFFIC SIGNALS |
| 13A03-06 | CONCRETE PAVEMENT SHOULDERS |
| 13A05-05A | SHOULDER RUMBLE STRIP, MILLING |
| 13A05-05B | SHOULDER RUMBLE STRIP, MILLING |
| 13B02-08A | CONCRETE PAVEMENT APPROACH SLAB |
| 13B02-08B | STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB |
| 13C01-18 | CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES |
| 13C11-11A | RURAL DOWELED CONCRETE PAVEMENT |
| 13C11-11B | RURAL DOWELED CONCRETE PAVEMENT |
| 13C15-06A | CONCRETE BASE |
| 13C15-06B | CONCRETE BASE |
| 13C17-01A | CONCRETE JOINT DETAIL FOR EXIT RAMP TERMINI |
| 13C17-01B | CONCRETE JOINT DETAIL FOR ENTRANCE RAMP TERMINI |
| 13C18-03A | CONCRETE PAVEMENT JOINTING |
| 13C18-03B | CONCRETE PAVEMENT STEEL REINFORCEMENT |
| 13C18-03C | CONCRETE PAVEMENT JOINT TIES |
| 14B07-14A | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-14B | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-14C | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-14D | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-14E | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-14F | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-14G | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B07-14H | CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" |
| 14B08-02A | CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS |
| 14B08-02B | CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS |
| 14B08-02C | CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS |
| 14B08-02D | CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS |
| 14B08-02E | CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS |
| 14B32-03A | CONCRETE BARRIER SINGLE SLOPE (CBSS) |
| 14B32-03B | CONCRETE BARRIER SINGLE SLOPE (CBSS) |
| 14B32-03C | CONCRETE BARRIER SINGLE SLOPE (CBSS) |
| 14B32-03D | CONCRETE BARRIER SINGLE SLOPE (CBSS) |
| 14B32-03E | CONCRETE BARRIER SINGLE SLOPE (CBSS) |
| 14B42-03A | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL |
| 14B42-03B | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL |
| 14B42-03C | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL |
| 14B43-03A | MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) |
| 14B43-03B | MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) |
| 14B43-03C | MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) |
| 14B44-02A | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS) |
| 14B44-02B | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS) |
| 14B44-02C | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS) |
| 14B45-04A | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-04B | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-04C | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-04I | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-04J | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B47-02A | MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL |
| 14B47-02B | MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL |
| 14B47-02C | MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL |

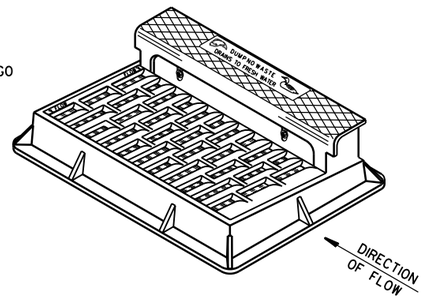
6

# Standard Detail Drawing List

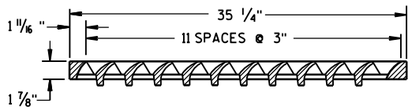
| | |
|---|---|
| 15A02-08 | DELINEATOR POST, DELINEATOR, AND DELINEATOR  BRACKET WITH REFLECTIVE SHEETING |
| 15A03-02A | FLEXIBLE MARKER POST FOR CULVERT END |
| 15A03-02B | FLEXIBLE MARKER POST FOR CULVERT END |
| 15A06-02 | DELINEATOR LAYOUT |
| 15C02-06A | BARRICADES AND SIGNS FOR MAINLINE CLOSURES |
| 15C02-06B | BARRICADES AND SIGNS FOR MAINLINE CLOSURES |
| 15C31-01A | PAVEMENT MARKING (RAMPS AND GORES) |
| 15C31-01B | LANE DROP PAVEMENT MARKING |
| 15D13-02 | TEMPORARY EMERGENCY PULLOUTS |
| 15D29-03 | TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD |
| 16A01-06 | LANDMARK REFERENCE MONUMENTS AND COVERS |

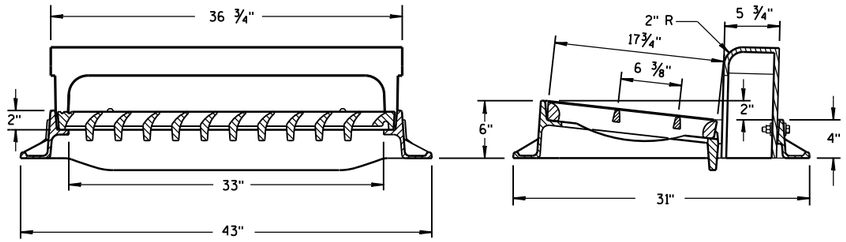


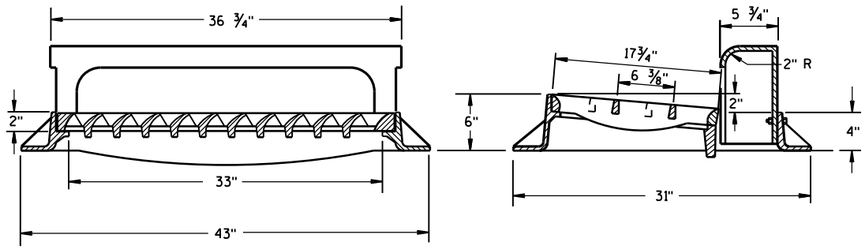

**NOTE:**
**GRATE IS REVERSIBLE.**




NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

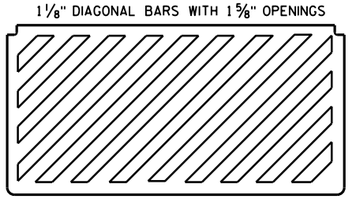



## TYPE "H"

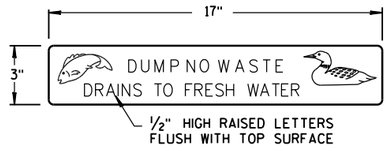
**NOTE: EITHER CASTING IS ACCEPTABLE**



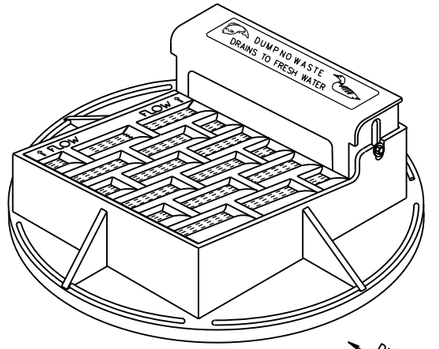

**SPECIAL GRATE FOR TYPE "H" COVER**

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

(NOTED AS TYPE H-S ON DRAINAGE TABLE)




**LOGO DETAIL**




NOTE: CURB BOX ADJUSTABLE 4" TO 9"

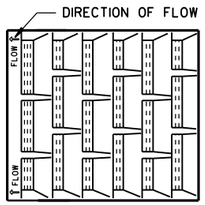
**NOTE:**
**GRATE IS REVERSIBLE.**

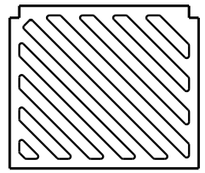
## GENERAL NOTES

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

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

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

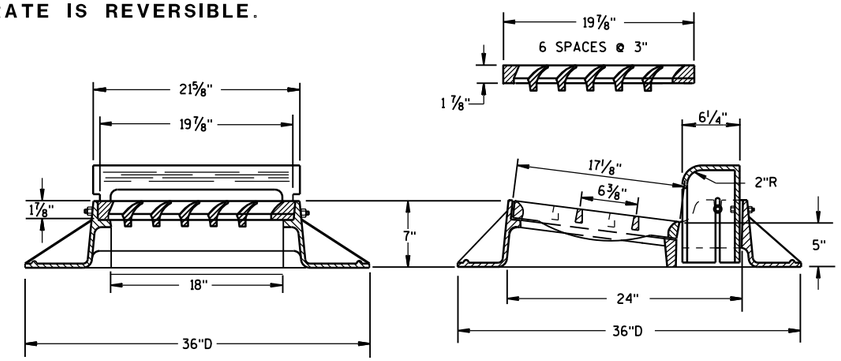


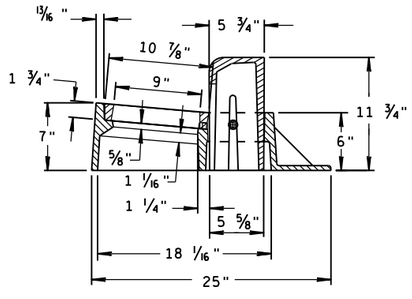

**SPECIAL GRATE FOR TYPE "A" COVER**

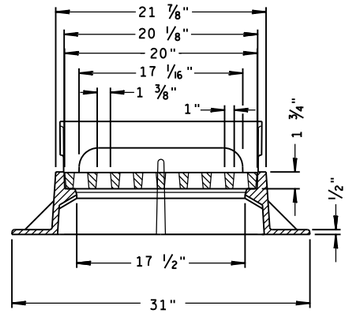
(MEASURES 19 3/4" X 17" X 1 7/8")

(NOTED AS TYPE A-S ON DRAINAGE TABLE)

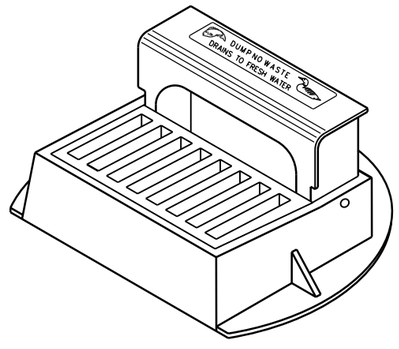



## TYPE "A"




## TYPE "Z"




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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

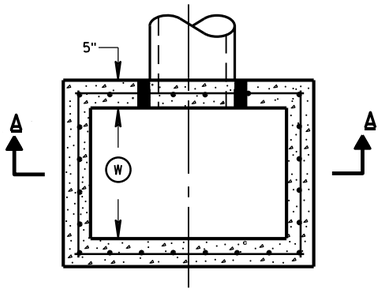
APPROVED
11-27-13 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA



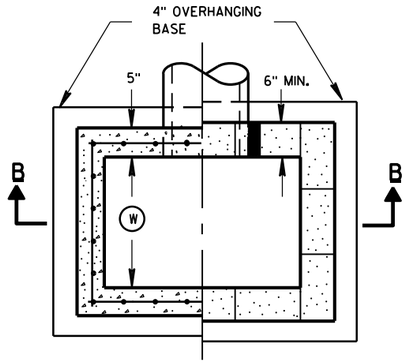
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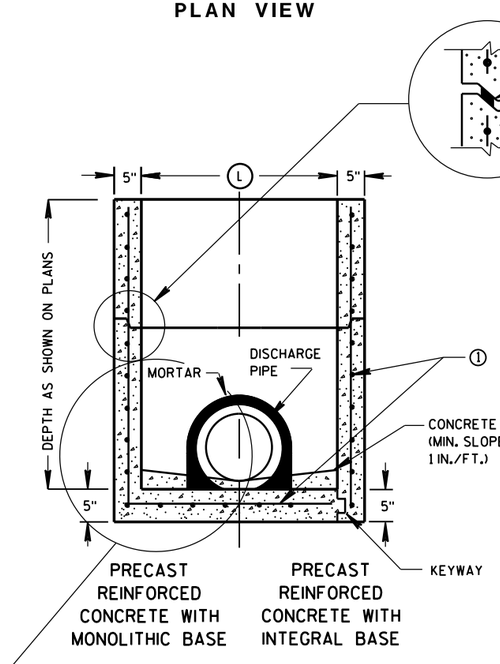
S.D.D. 8 A 5-19a



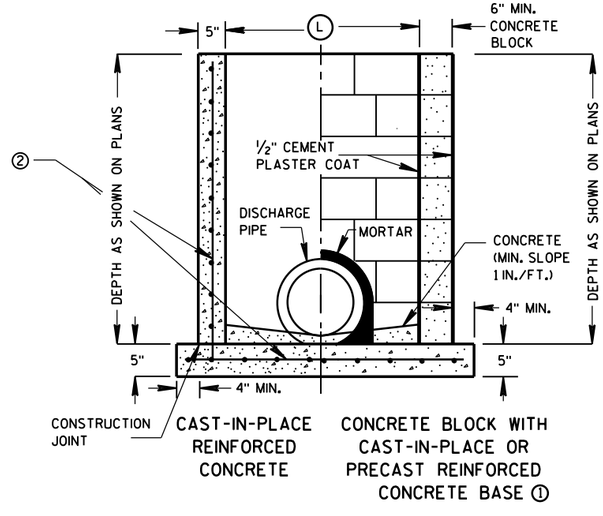

PLAN VIEW



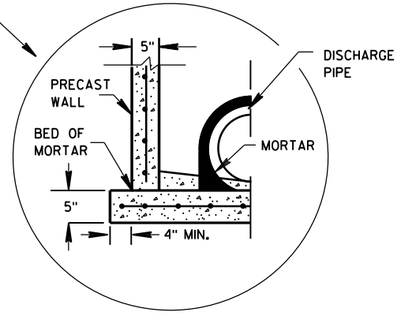

PLAN VIEW




SECTION A-A




SECTION B-B




SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

## GENERAL NOTES

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

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS.
4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED.
OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

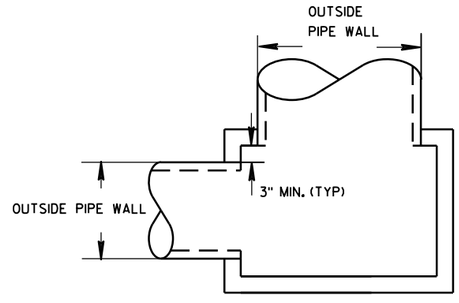
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

## INLET COVER MATRIX

| INLET SIZE | | INLET COVER TYPE | ALL A'S | ALL B'S | BW | F | ALL H'S | S | T | V | WM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | WIDTH (W) (FT) | LENGTH (L) (FT) | | | | | | | | | |
| 2X2-FT | 2 | 2 | X | X | | | | X | | X | |
| 2X2.5-FT | 2 | 2.5 | | | X | | | X | X | X | X |
| 2X3-FT | 2 | 3 | | | | | X | | | | |
| 2.5X3-FT | 2.5 | 3 | | | | X | | | | | |

## PIPE MATRIX

| INLET SIZE | MAXIMUM INSIDE PIPE DIAMETER | |
|---|---|---|
| | WIDTH (IN) | LENGTH (IN) |
| 2X2-FT | 12 | 12 |
| 2X2.5-FT | 12 | 18 |
| 2X3-FT | 12 | 24 |
| 2.5X3-FT | 18 | 24 |




DETAIL "A"

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DE ENGINEER

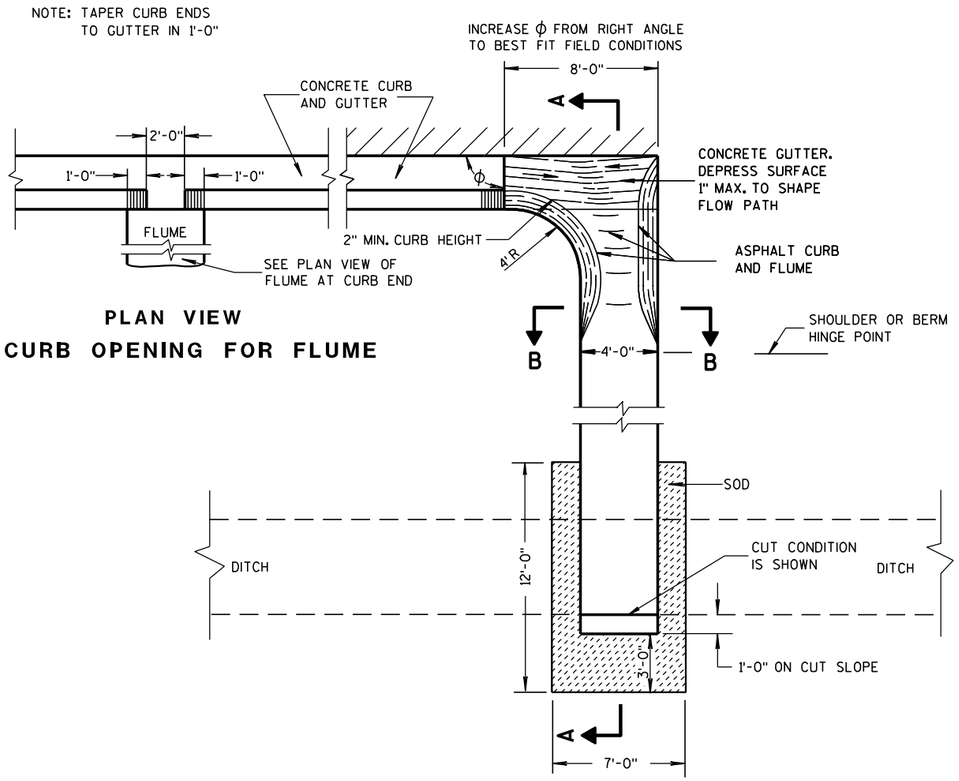






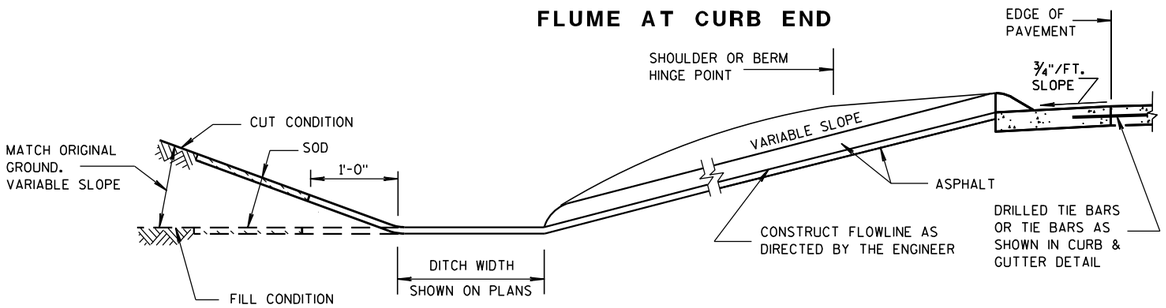
6
S.D.D. 8 C 7-1

## ASPHALTIC FLUME

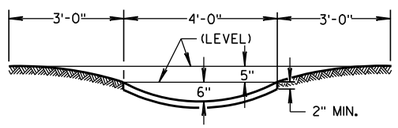



PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END




SECTION A-A




SECTION B-B

## GENERAL NOTES

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

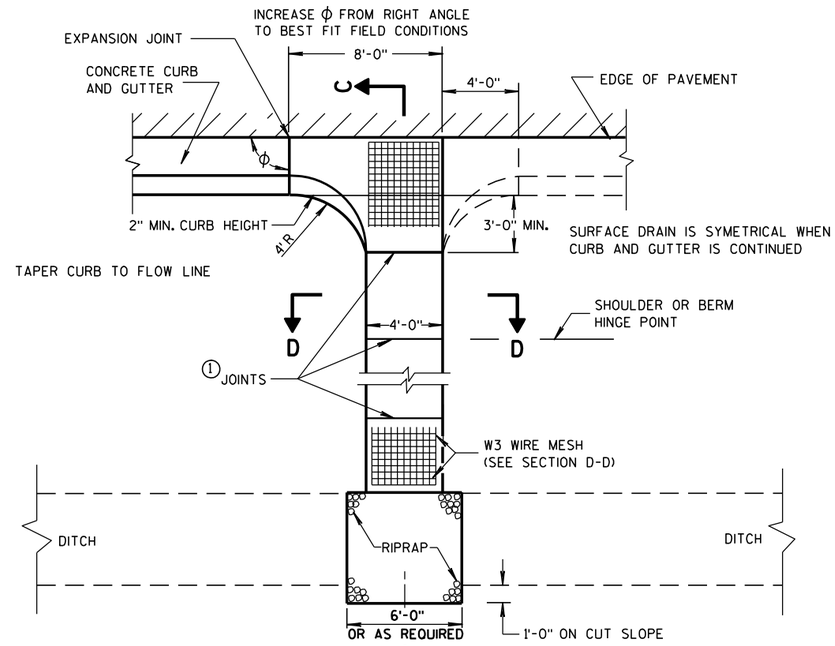
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

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

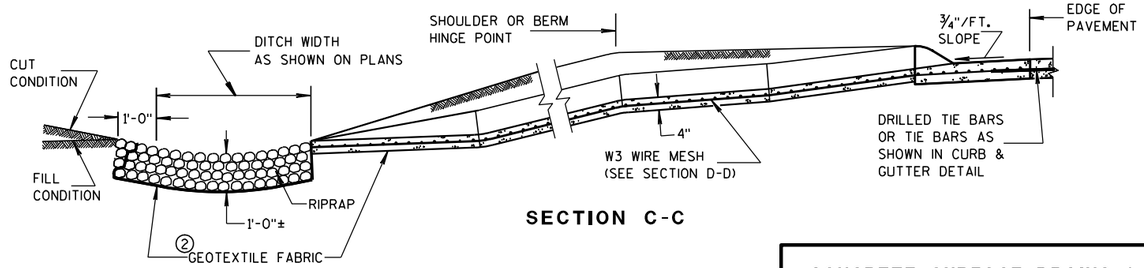
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

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

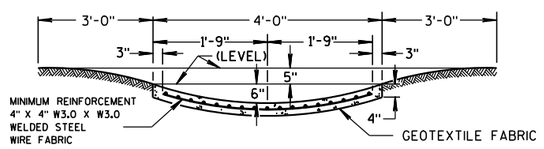
## ③ CONCRETE SURFACE DRAIN




PLAN VIEW




SECTION C-C




SECTION D-D

## CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

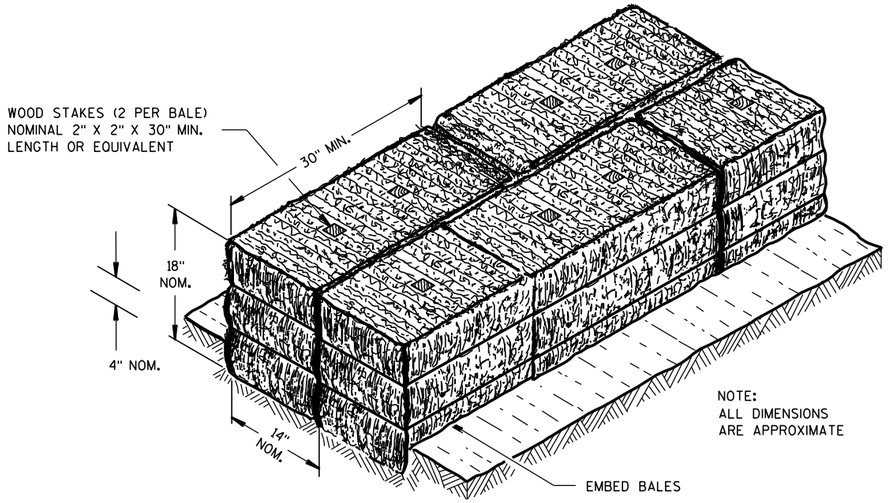


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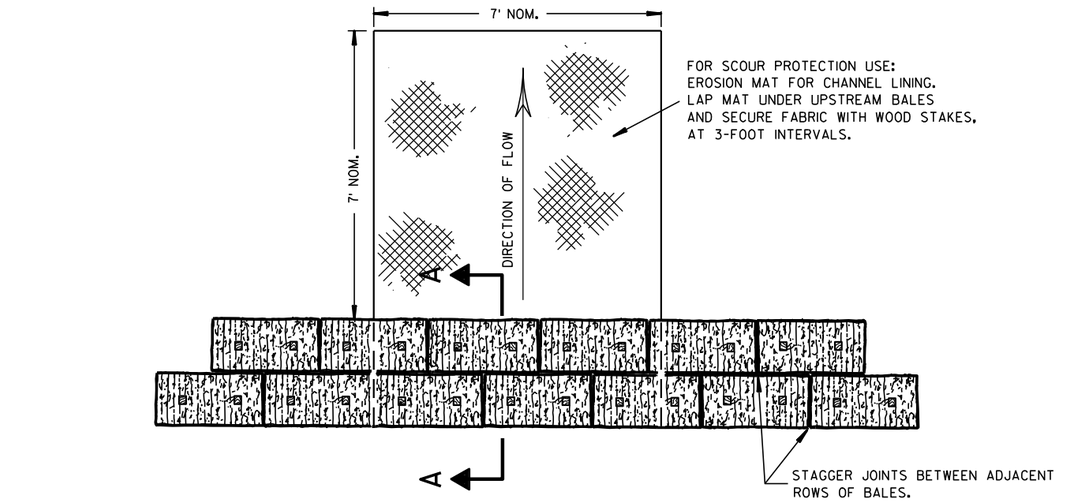
S.D.D. 8 D 4-5

6

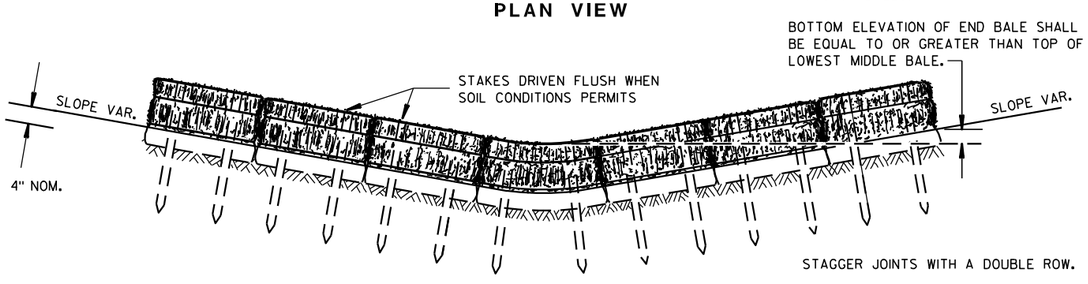
S.D.D. 8 D 4-5




**SECTION A-A**




**PLAN VIEW**



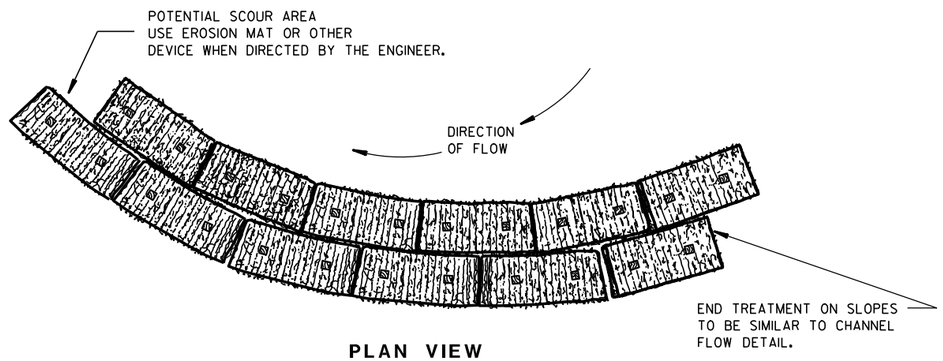

**FRONT ELEVATION**

## TEMPORARY DITCH CHECK USING EROSION BALES ①

## GENERAL NOTES

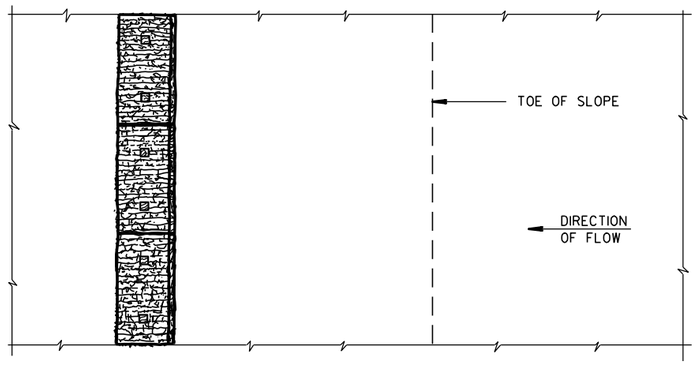
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

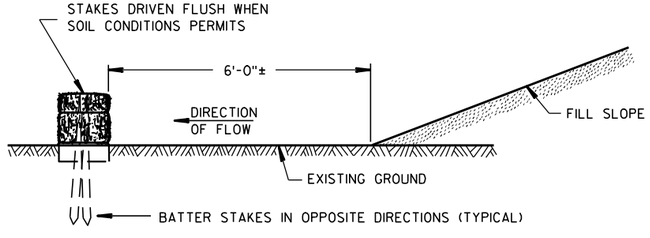



**PLAN VIEW**

WHEN ALTERING THE DIRECTION OF FLOW




**PLAN VIEW**




**FRONT ELEVATION**

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

## EROSION BALES FOR SHEET FLOW

**TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

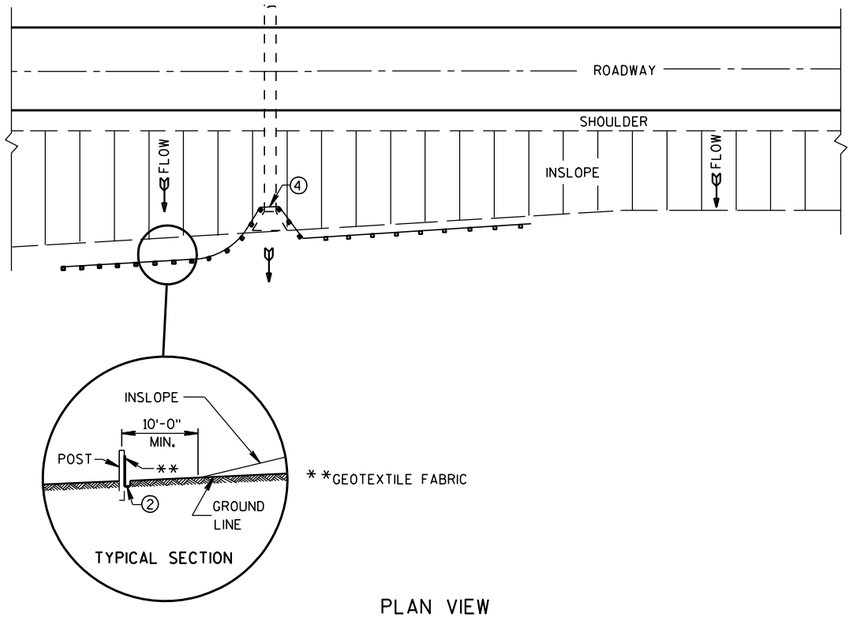


6

S.D.D. 8 E 8-3

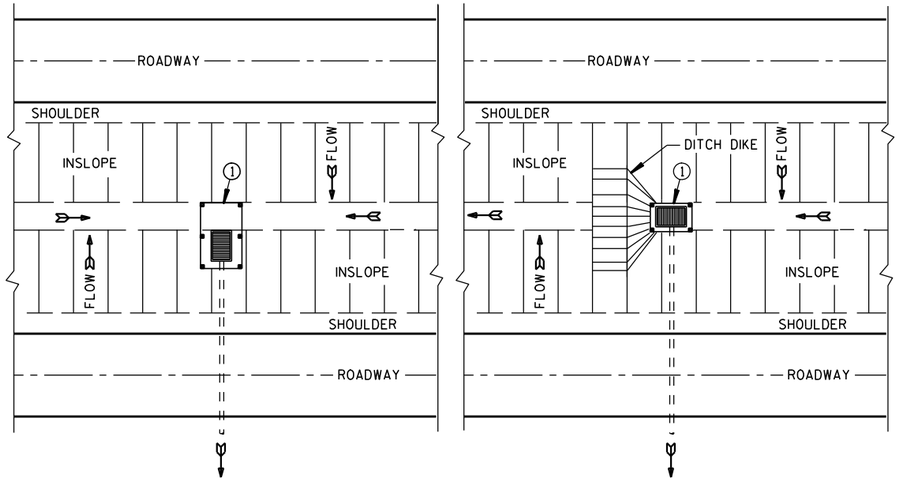
6

S.D.D. 8 E 8-3




PLAN VIEW

## TYPICAL APPLICATION OF SILT FENCE




PLAN VIEW

## SILT FENCE AT MEDIAN SURFACE DRAINS

## GENERAL NOTES

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

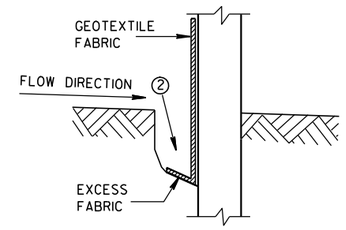
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

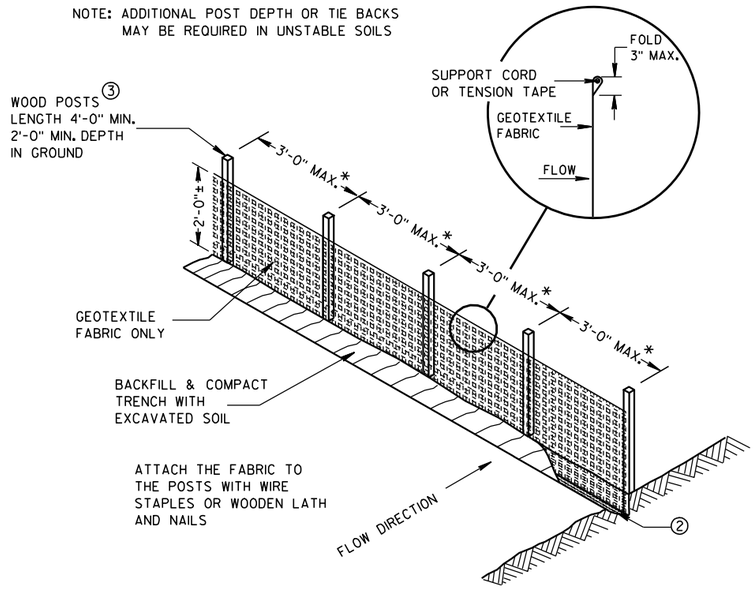
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

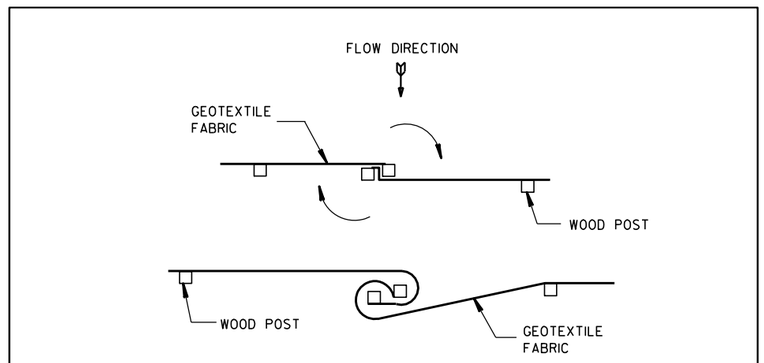
⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



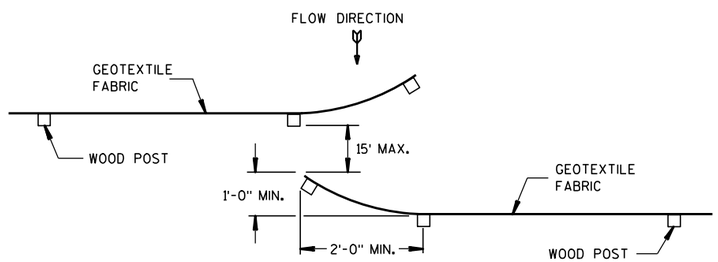

## TRENCH DETAIL




## SILT FENCE

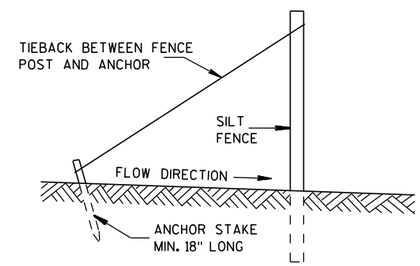



TWIST METHOD




HOOK METHOD

## JOINING TWO LENGTHS OF SILT FENCE ⑤




## SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

**SILT FENCE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

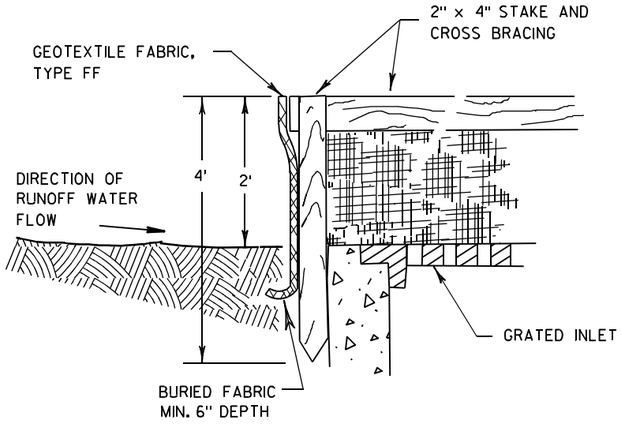


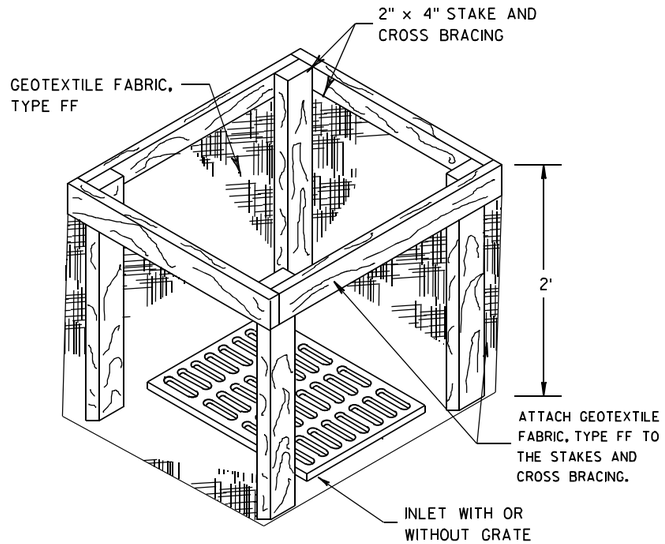
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S.D.D. 8 E 9-6

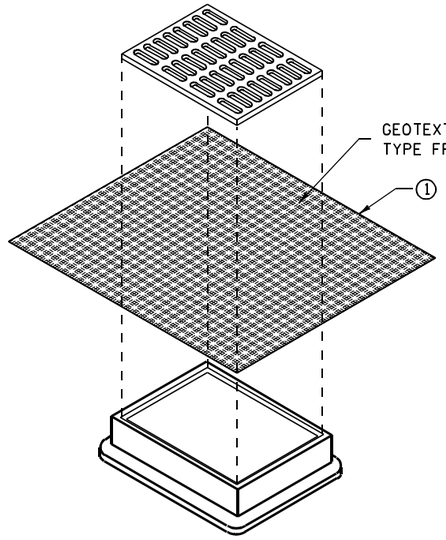
6

S.D.D. 8 E 9-6



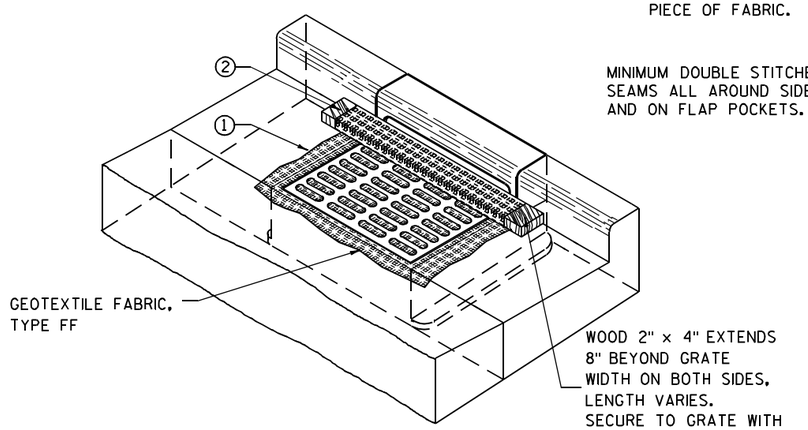




## INLET PROTECTION, TYPE A

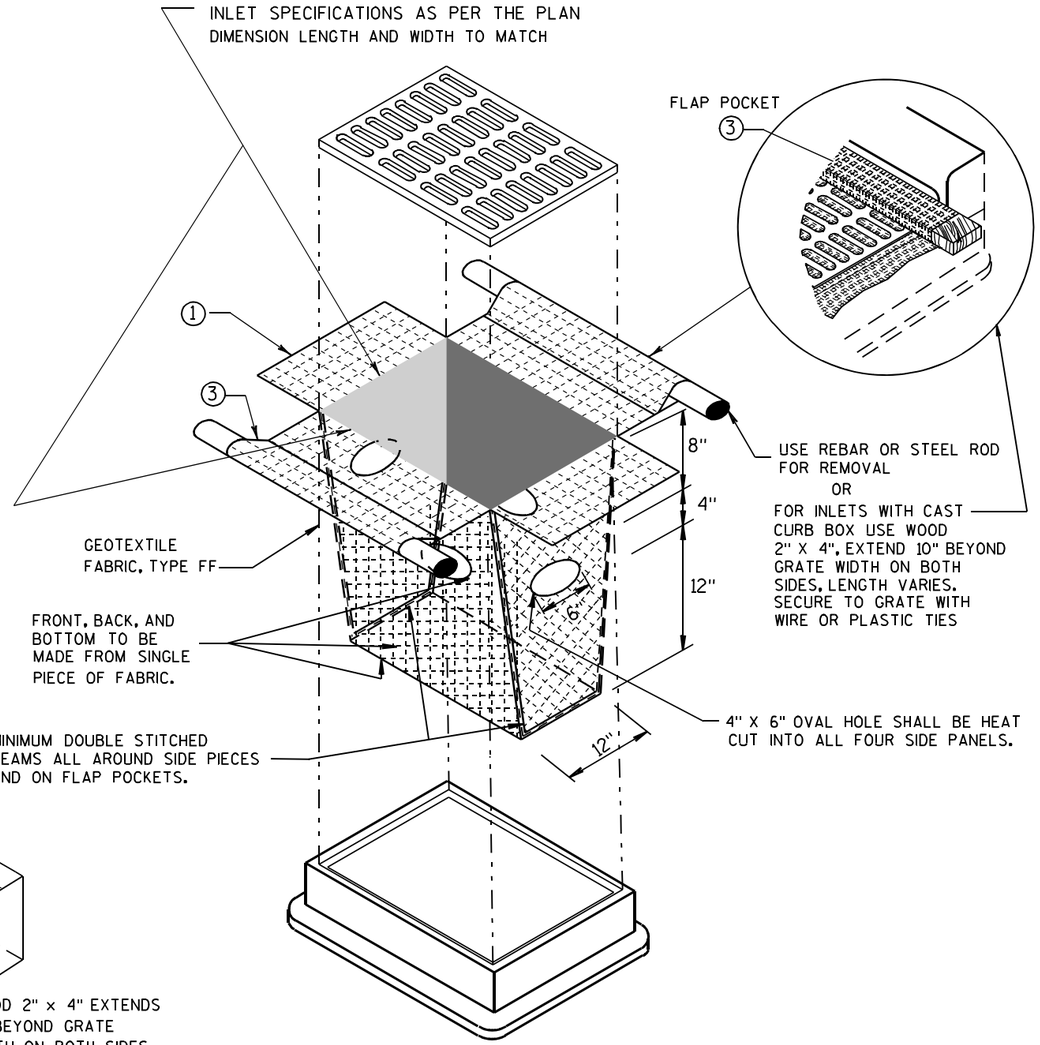



## INLET PROTECTION, TYPE B
## (WITHOUT CURB BOX)

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




## INLET PROTECTION, TYPE C (WITH CURB BOX)




## INLET PROTECTION, TYPE D

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

## GENERAL NOTES

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

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

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

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

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

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

## INSTALLATION NOTES

### TYPE B & C

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

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

### TYPE D

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

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

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

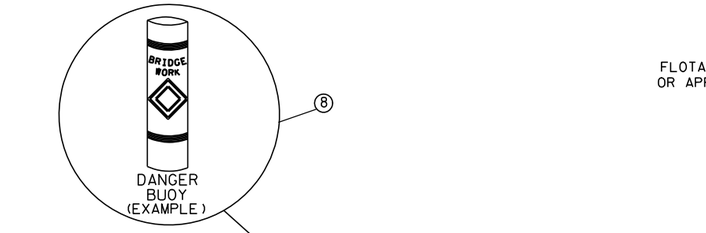
**INLET PROTECTION**
**TYPE A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

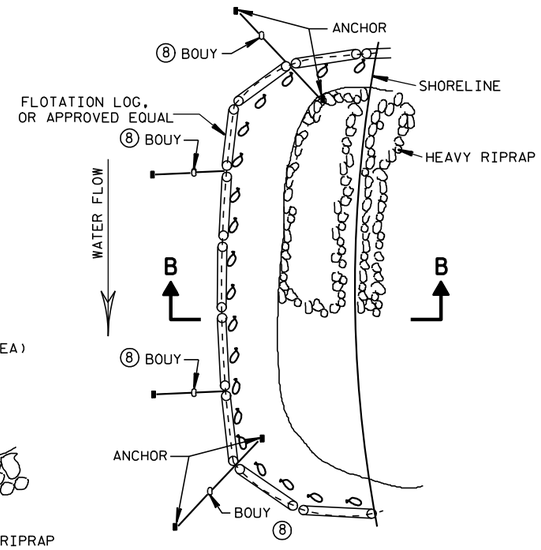
APPROVED
10/16/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

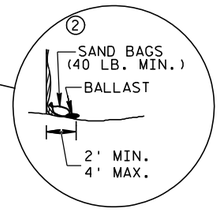



6
S.D.D. 8 E 10-2

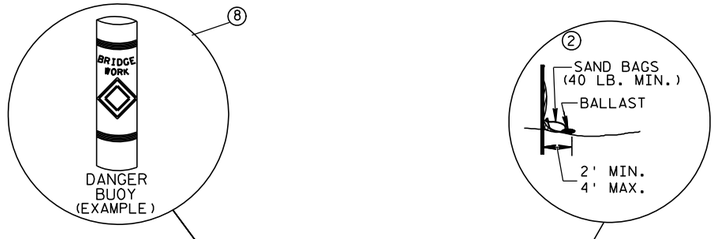



**SECTION B-B**



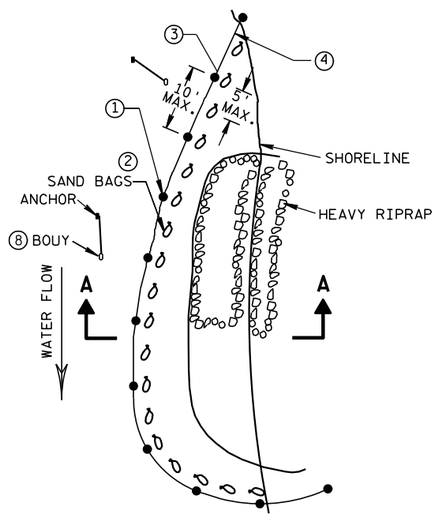




**TURBIDITY BARRIER FLOAT ALTERNATIVE**
**CAUTION - SEE NOTE 6**




**SECTION A-A**




**PLAN VIEW**

**TURBIDITY BARRIER STANDARD POST INSTALLATION**

**TURBIDITY BARRIER PLACEMENT DETAILS**

## GENERAL NOTES

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

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.

② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.

③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.

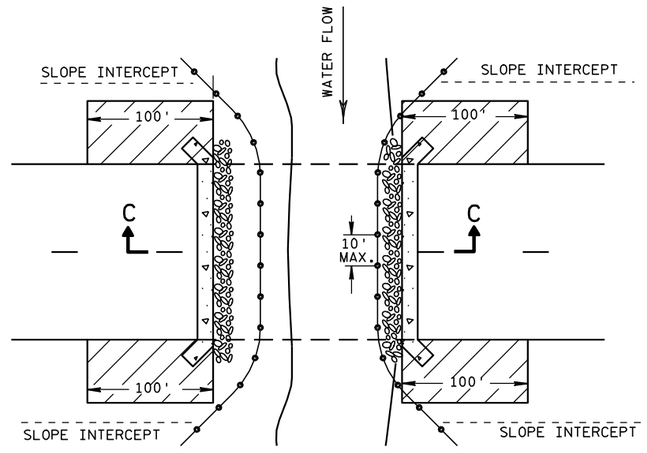
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MIMIMUM BARRIER HEIGHT SHALL BE 2'GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WICHEVER IS GREATER.

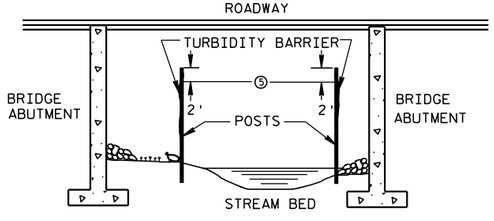
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.

⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.




**PLAN VIEW**




**SECTION C-C**

**TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES**

**TURBIDITY BARRIER**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



6

S.D.D. 8 E 11-2

6

S.D.D. 8 E 11-2

## METAL APRON ENDWALLS

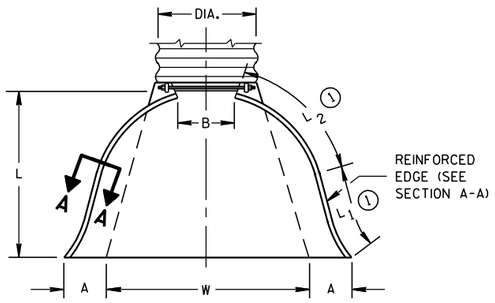
| PIPE DIA. (IN.) | MIN. THICK. (Inches) STEEL | MIN. THICK. (Inches) ALUM. | DIMENSIONS (Inches) A (±1") | B (MAX.) | H (±1") | L (±1 1/2") | L1 ① | L2 ① | W (±2") | APPROX. SLOPE | BODY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | .064 | .060 | 6 | 6 | 6 | 21 | 12 | 17 1/2 | 24 | 2 1/2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

× EXCEPT CENTER PANEL SEE GENERAL NOTES

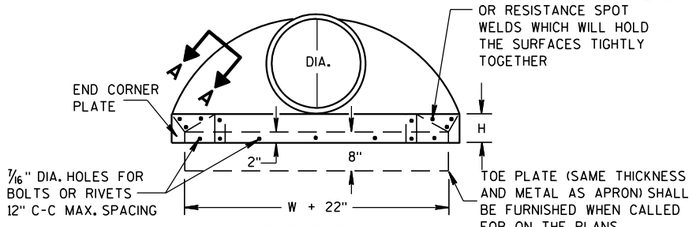
## REINFORCED CONCRETE APRON ENDWALLS

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

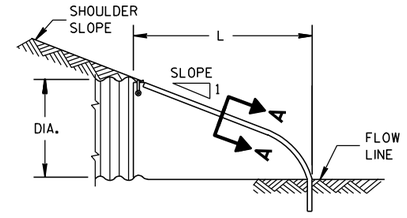
*MINIMUM
**MAXIMUM




PLAN VIEW

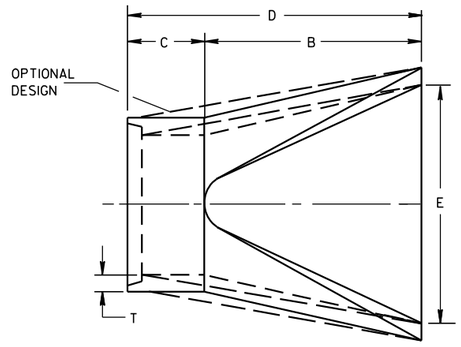



END VIEW

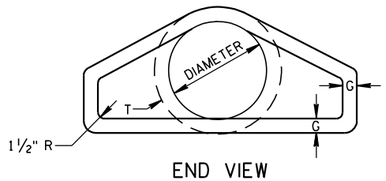



SIDE ELEVATION

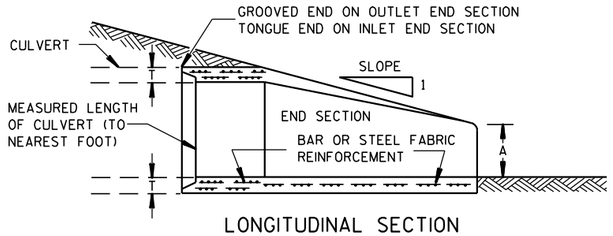
## METAL ENDWALLS




PLAN

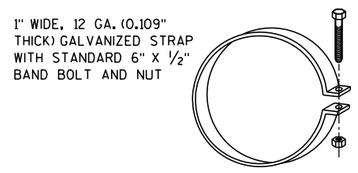



END VIEW



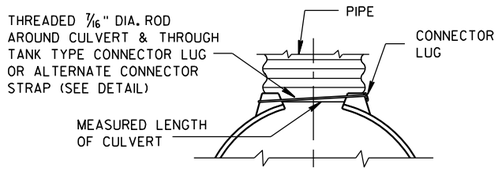

LONGITUDINAL SECTION

## CONCRETE ENDWALLS

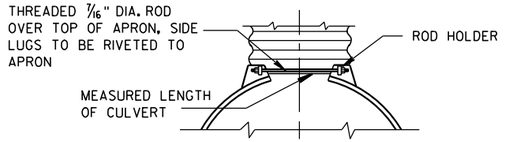



ALTERNATE FOR TYPE 1 CONNECTION

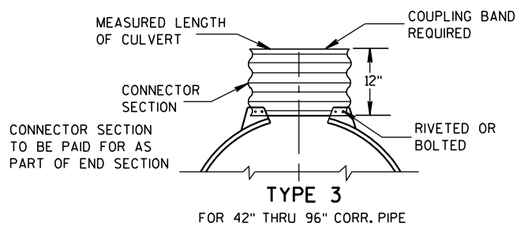
## END SECTION CONNECTOR STRAP



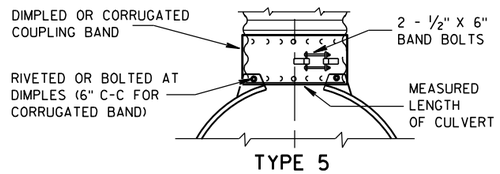

TYPE 1
FOR 12" THRU 24" CORR. PIPE




TYPE 2
FOR 30" THRU 96" CORR. PIPE




TYPE 3
FOR 42" THRU 96" CORR. PIPE




TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

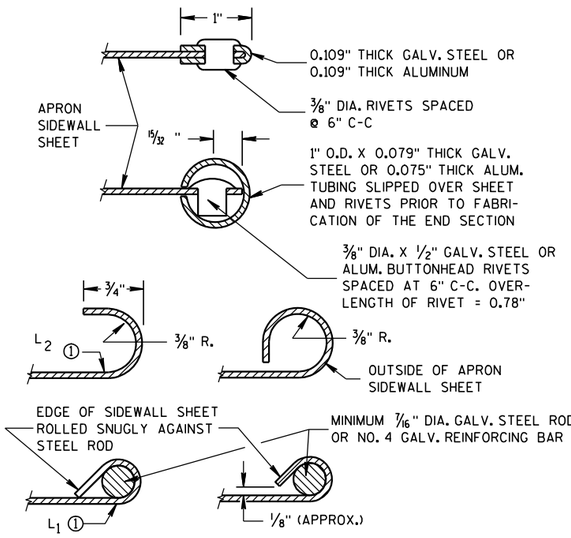
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

## CONNECTION DETAILS




## SECTION A-A

## GENERAL NOTES

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

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

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

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

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

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

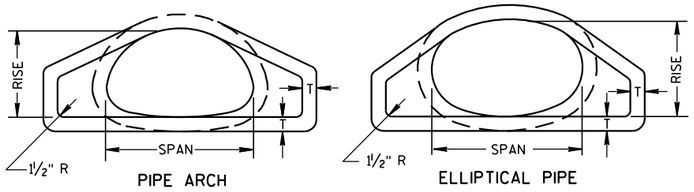
# APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

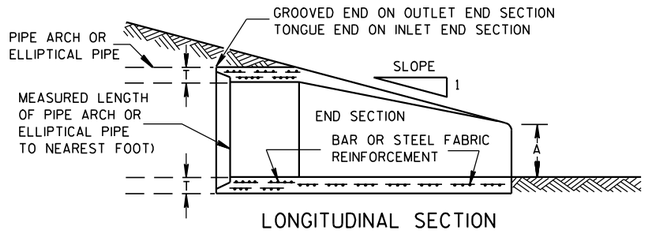
APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOP NEER
FHWA



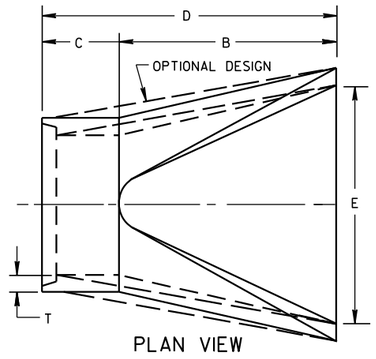

6
S.D.D. 8 F 1-11




END VIEW

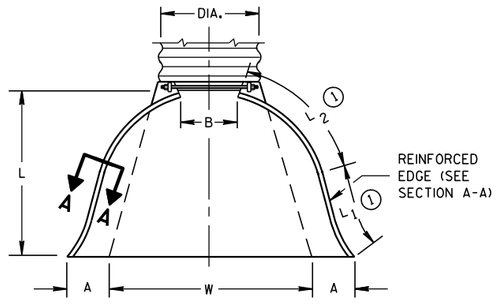



LONGITUDINAL SECTION

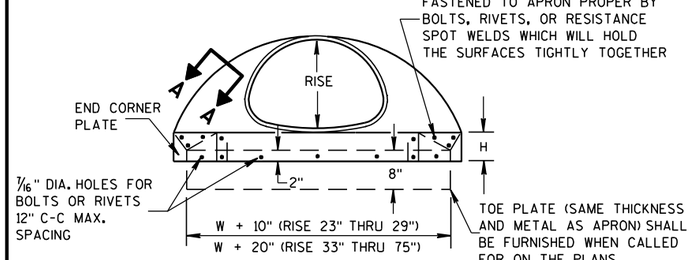



PLAN VIEW

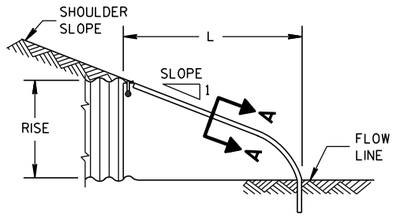
# CONCRETE ENDWALLS




PLAN VIEW

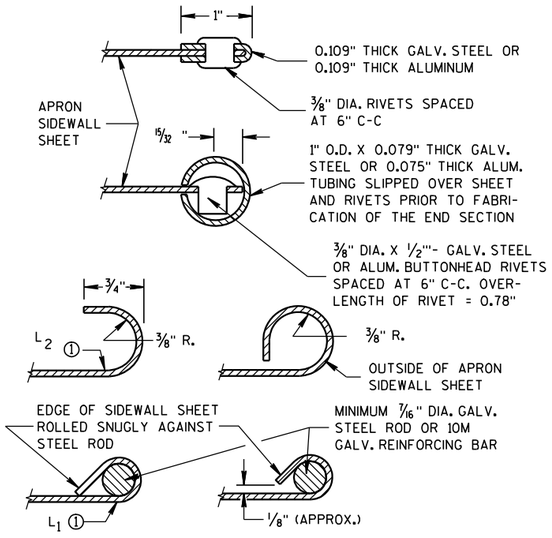



END VIEW




SIDE ELEVATION

# METAL ENDWALLS




SECTION A-A

## 2- 2/3" X 1/2" CORRUGATIONS

| EQUIV. DIA. (Inches) | (Inches) SPAN | (Inches) RISE | MIN. THICK. (Inches) STEEL | MIN. THICK. (Inches) ALUM. | DIMENSIONS (Inches) A (±1") | B (MAX.) | H (±1") | L (±1 1/2") | L1 ① | L2 ① | W (±2") | APPROX. SLOPE | BODY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 | 17 | 13 | .064 | .060 | 7 | 9 | 6 | 19 | 14 | 16 | 30 | 2½ to 1 | 1 Pc. |
| 18 | 21 | 15 | .064 | .060 | 7 | 10 | 6 | 23 | 14 | 19⅜ | 36 | 2½ to 1 | 1 Pc. |
| 21 | 24 | 18 | .064 | .060 | 8 | 12 | 6 | 28 | 18 | 21¾ | 42 | 2½ to 1 | 1 Pc. |
| 24 | 28 | 20 | .064 | .060 | 9 | 14 | 6 | 32 | 18 | 27½ | 48 | 2½ to 1 | 1 Pc. |
| 30 | 35 | 24 | .079 | .075 | 10 | 16 | 6 | 39 | 18 | 37⅝ | 60 | 2½ to 1 | 1 Pc. |
| 36 | 42 | 29 | .079 | .075 | 12 | 18 | 8 | 46 | 24 | 45⅜ | 75 | 2½ to 1 | 1 Pc. |
| 42 | 49 | 33 | .109 | .105 | 13 | 21 | 9 | 53 | 24 | 54¾ | 85 | 2½ to 1 | 2 Pc. |
| 48 | 57 | 38 | .109 | .105 | 18 | 26 | 12 | 63 | 24 | 68 | 90 | 2½ to 1 | 3 Pc. |
| 54 | 64 | 43 | .109 | .105 | 18 | 30 | 12 | 70 | 24 | 72¾ | 102 | 2¼ to 1 | 3 Pc. |
| 60 | 71 | 47 | .109* | .105* | 18 | 33 | 12 | 77 | 30 | 82¼ | 114 | 2¼ to 1 | 3 Pc. |
| 66 | 77 | 52 | .109* | .105* | 18 | 36 | 12 | 77 | — | — | 126 | 2 to 1 | 3 Pc. |
| 72 | 83 | 57 | .109* | .105* | 18 | 39 | 12 | 77 | — | — | 138 | 2 to 1 | 3 Pc. |

## 3" X 1" CORRUGATIONS

| EQUIV. DIA. (Inches) | (Inches) SPAN | (Inches) RISE | MIN. THICK. (Inches) STEEL | MIN. THICK. (Inches) ALUM. | DIMENSIONS (Inches) A (±1") | B (MAX.) | H (±1") | L (±1 1/2") | L1 ① | L2 ① | W (±2") | APPROX. SLOPE | BODY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 48 | 53 | 41 | .109 | .105 | 18 | 26 | 12 | 63 | 24 | 72¾ | 90 | 2½ to 1 | 2 Pc. |
| 54 | 60 | 46 | .109 | .105 | 18 | 30 | 12 | 70 | 30 | 82¼ | 102 | 2 to 1 | 2 Pc. |
| 60 | 66 | 51 | .109* | .105* | 18 | 33 | 12 | 77 | — | — | 114 | 1½ to 1 | 3 Pc. |
| 66 | 73 | 55 | .109* | .105* | 18 | 36 | 12 | 77 | — | — | 126 | 1½ to 1 | 3 Pc. |
| 72 | 81 | 59 | .109* | .105* | 18 | 39 | 12 | 77 | — | — | 138 | 2 to 1 | 3 Pc. |
| 78 | 87 | 63 | .109* | .105* | 22 | 38 | 12 | 77 | — | — | 148 | 1½ to 1 | 3 Pc. |
| 84 | 95 | 67 | .109* | .105* | 22 | 34 | 12 | 77 | — | — | 162 | 1½ to 1 | 3 Pc. |
| 90 | 103 | 71 | .109* | .105* | 22 | 38 | 12 | 77 | — | — | 174 | 1½ to 1 | 3 Pc. |
| 96 | 112 | 75 | .109* | .105* | 24 | 40 | 12 | 77 | — | — | 174 | 1½ to 1 | 3 Pc. |

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED.

* EXCEPT CENTER PANEL SEE GENERAL NOTES

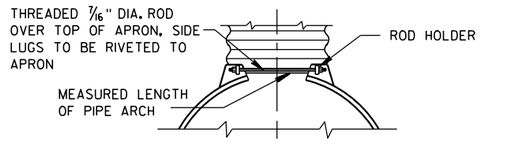
## REINFORCED CONCRETE PIPE ARCH

| EQUIV. DIA. (Inches) | DIMENSIONS (Inches) ** SPAN | ** RISE | T | A | B | C | D | E | APPROX. SLOPE |
|---|---|---|---|---|---|---|---|---|---|
| 24 | 29 | 18 | 3 | 8½ | 39 | 33 | 72 | 48 | 3 to 1 |
| 30 | 36 | 22 | 3½ | 9½ | 50 | 46 | 96 | 60 | 3 to 1 |
| 36 | 44 | 27 | 4 | 11⅛ | 60 | 36 | 96 | 72 | 3 to 1 |
| 42 | 51 | 31 | 4½ | 15 13/16 | 60 | 36 | 96 | 78 | 3 to 1 |
| 48 | 58 | 36 | 5 | 21 | 60 | 36 | 96 | 84 | 3 to 1 |
| 54 | 65 | 40 | 5½ | 25½ | 60 | 36 | 96 | 90 | 3 to 1 |
| 60 | 73 | 45 | 6 | 31 | 60 | 36 | 96 | 96 | 3 to 1 |
| 72 | 88 | 54 | 7 | 31 | 60 | 39 | 99 | 120 | 2 to 1 |
| 84 | 102 | 62 | 8 | 28½ | 83 | 19 | 102 | 144 | 2 to 1 |

## REINFORCED CONCRETE ELLIPTICAL PIPE

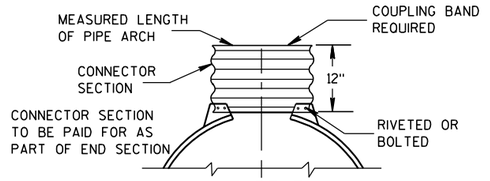
| EQUIV. DIA. (Inches) | DIMENSIONS (Inches) ** SPAN | ** RISE | T | A | B | C | D | E | APPROX. SLOPE |
|---|---|---|---|---|---|---|---|---|---|
| 24 | 30 | 19 | 3¼ | 8½ | 39 | 33 | 72 | 48 | 3 to 1 |
| 30 | 38 | 24 | 3¾ | 9½ | 54 | 18 | 72 | 60 | 3 to 1 |
| 36 | 45 | 29 | 4½ | 11⅛ | 60 | 24 | 84 | 72 | 2½ to 1 |
| 42 | 53 | 34 | 5 | 15¾ | 60 | 36 | 96 | 78 | 2½ to 1 |
| 48 | 60 | 38 | 5½ | 21 | 60 | 36 | 96 | 84 | 2½ to 1 |
| 54 | 68 | 43 | 6 | 25½ | 60 | 36 | 96 | 90 | 2½ to 1 |
| 60 | 76 | 48 | 6½ | 30 | 60 | 36 | 96 | 96 | 2½ to 1 |

**NOMINAL SIZE



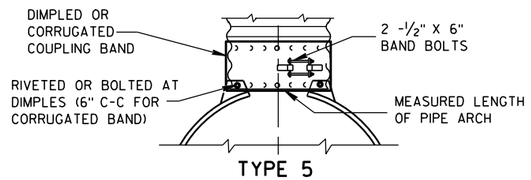

TYPE 2

FOR 17" X 13" THRU 112" X 75" PIPE ARCH




TYPE 3

FOR 64" X 43" THRU 112" X 75" PIPE ARCH




TYPE 5

ALTERNATE FOR:

ALL SIZES CORRUGATED PIPE ARCHES

NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL.

# CONNECTION DETAILS

# GENERAL NOTES

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

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

ALL THREE PIECE STEEL APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE ARCH PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 77" X 52" THROUGH 112" X 75" APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

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

① FOR PIPE ARCH SIZES UP TO 73" X 55" A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

**APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/94 — DATE

/S/ Rory L. Rhinesmith — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

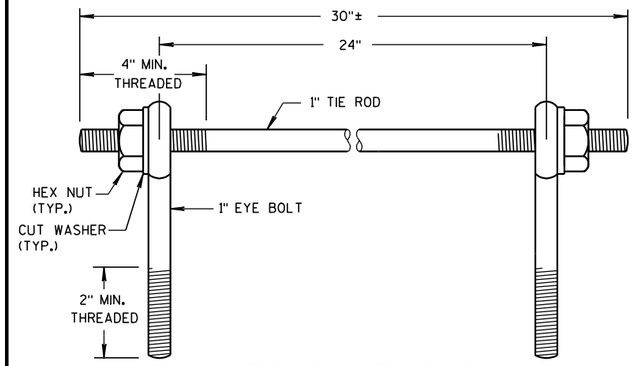


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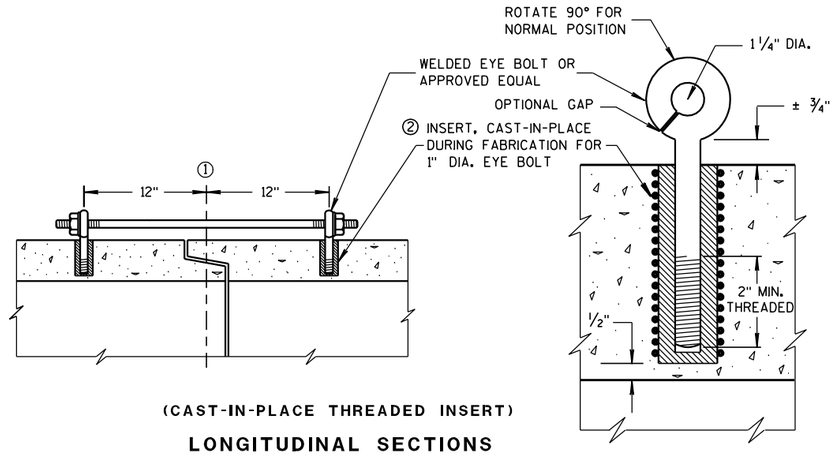
S.D.D. 8 F 2-1

6

S.D.D. 8 F 2-1




EYE BOLTS AND TIE ROD




(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

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

## GENERAL NOTES

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

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

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

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

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

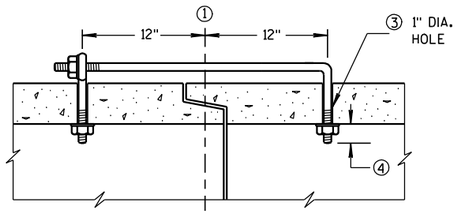
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

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

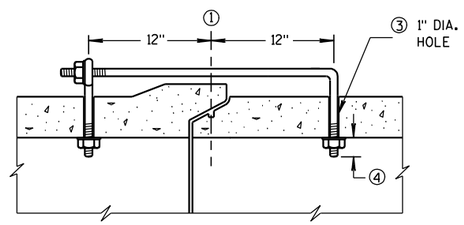
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

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




(TONGUE & GROOVE PIPE)

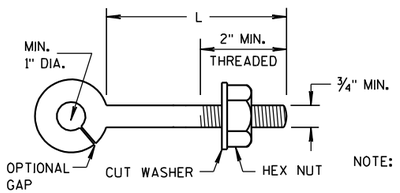



(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

**EYE BOLT DIMENSION TABLE**

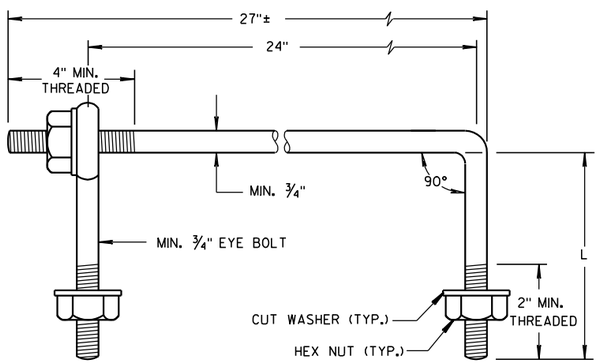
| PIPE SIZE | L = LENGTH | |
|---|---|---|
| | TONGUE & GROOVE PIPE | MODIFIED BELL PIPE |
| 18" TO 24" | 4 1/2" | 6 1/4" |
| 30" | 5" | 7" |
| 36" | 5 1/2" | 7" |
| 42" | 6" | |
| 48" | 6 1/2" | |
| 60" | 7 1/2" | |
| 66" | 8" | |




NOTE:

EYE BOLT

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




EYE BOLT AND TIE ROD

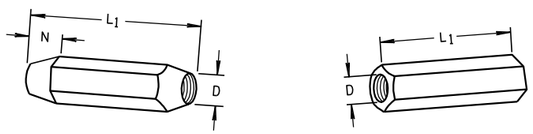
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

**ADJUSTABLE TIE ROD TABLE**

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

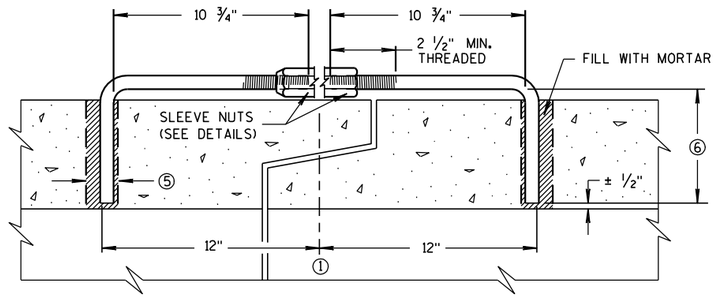
DIMENSIONS SHOWN ARE IN INCHES




TAPERED PLAIN

RIGHT AND LEFT THREADS

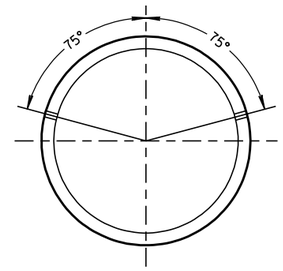
SLEEVE NUTS




LONGITUDINAL SECTION

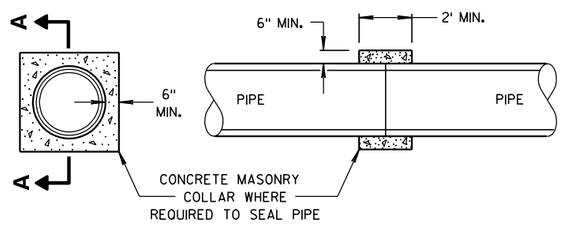
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

# ADJUSTABLE TIE ROD (ALTERNATE NO. 3)




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

TRANSVERSE SECTION




SECTION A-A

# CONCRETE COLLAR DETAIL

**JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

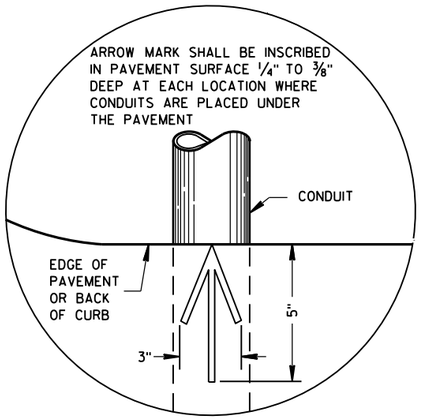
APPROVED
6/5/2012 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
196
FHWA

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S.D.D. 8 F 4-7

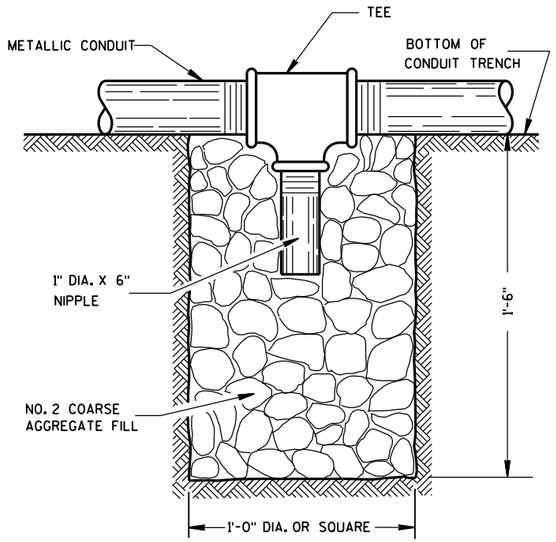
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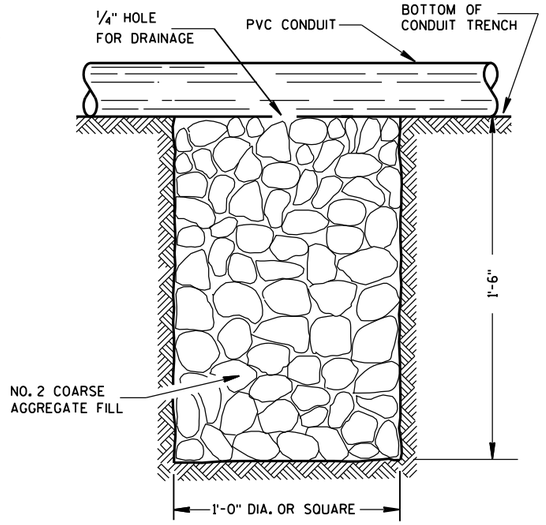

PLAN VIEW

**ARROW MARK**




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

**DRAIN SUMP FOR METALLIC CONDUIT**




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

**DRAIN SUMP FOR PVC CONDUIT**

## GENERAL NOTES

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

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

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

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

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

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

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

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

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

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

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

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

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

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

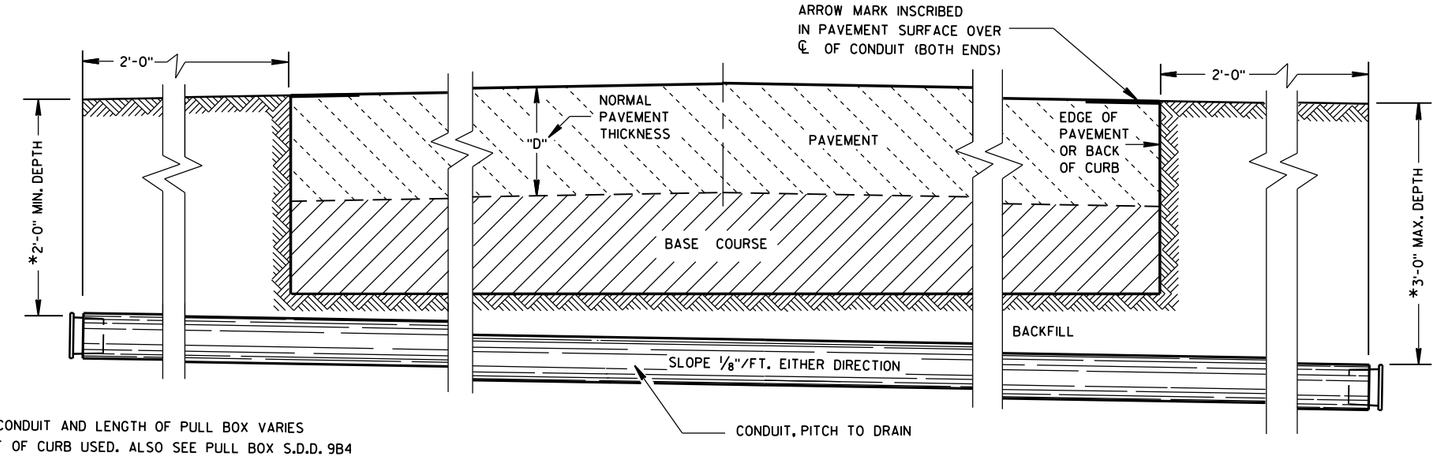
PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

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

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

TRACER WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

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




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

SIDE ELEVATION

**DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS**

**CONDUIT**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA




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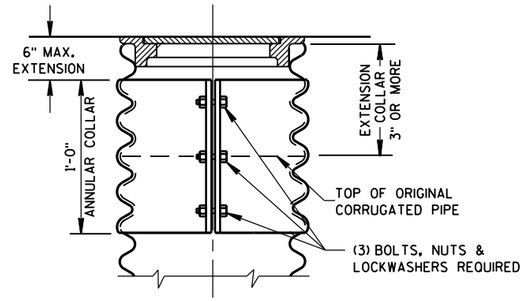
S.D.D. 9 B 2-9

## TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

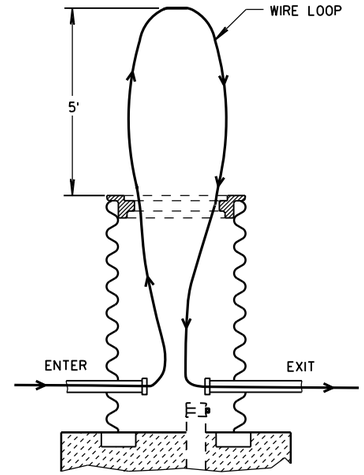
| DIMENSION IN INCHES | | CORRUGATED STEEL PIPE | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| PIPE DIAMETER (INSIDE) | A | 12 | 12 | 12 | 18 | 18 | 18 | 24 | 24 | 24 |
| PIPE LENGTH ** | B | 24 | 30 | 36 | 24 | 30 | 36 | 36 | 42 | 48 |
| WALL THICKNESS | C | 0.064 | 0.064 | 0.064 | 0.064 | 0.064 | 0.064 | 0.064 | 0.064 | 0.064 |
| COVER | D | 10 1/4 | 10 1/4 | 10 1/4 | 16 1/4 | 16 1/4 | 16 1/4 | 22 1/4 | 22 1/4 | 22 1/4 |
| FRAME | E | 14 1/2 | 14 1/2 | 14 1/2 | 20 1/2 | 20 1/2 | 20 1/2 | 26 1/2 | 26 1/2 | 26 1/2 |
| FRAME | F | 8 1/2 | 8 1/2 | 8 1/2 | 14 1/2 | 14 1/2 | 14 1/2 | 20 1/2 | 20 1/2 | 20 1/2 |
| FRAME | G | 11 1/2 | 11 1/2 | 11 1/2 | 17 1/2 | 17 1/2 | 17 1/2 | 23 1/2 | 23 1/2 | 23 1/2 |
| WEIGHT IN POUNDS * | | | | | | | | | | |
| FRAME AND COVER | | 60 | 60 | 60 | 110 | 110 | 110 | 155 | 155 | 155 |

* THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

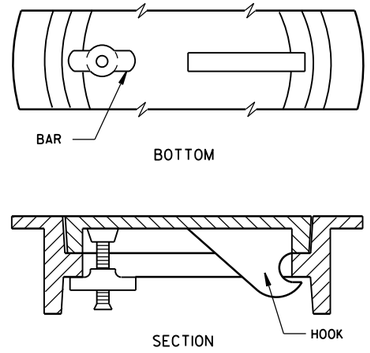
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.




CORRUGATED PIPE EXTENDER

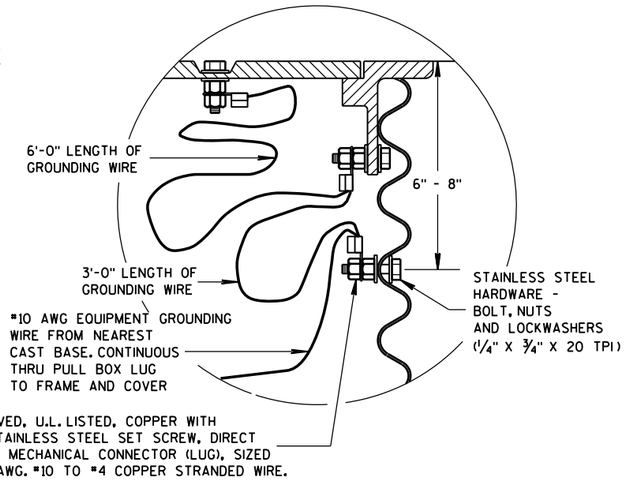



MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX

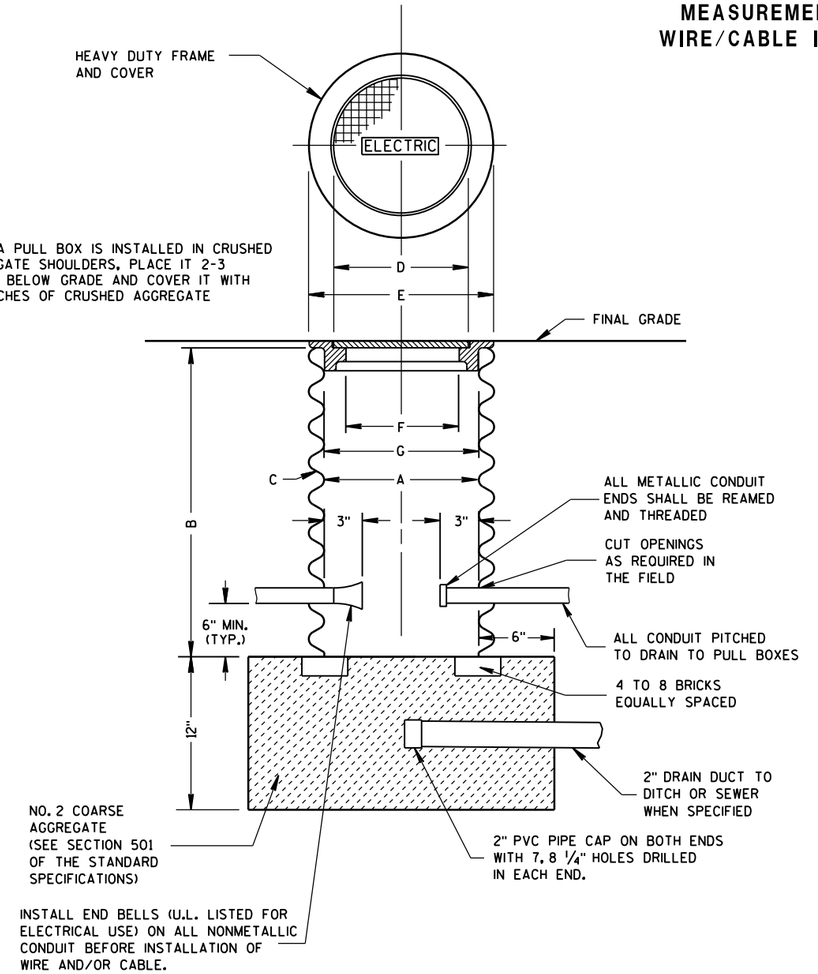



ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE




EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES




PULL BOX

## GENERAL NOTES

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

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

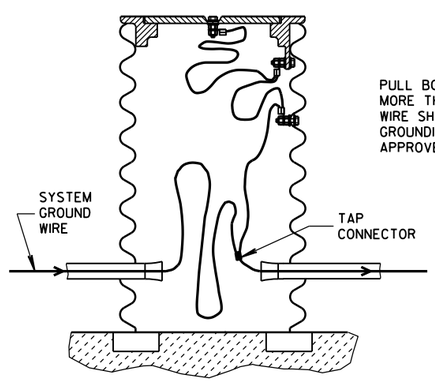
ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.




PULL BOX TO NEAREST BASE DISTANCE MORE THAN 20 FEET. PULL BOX GROUND WIRE SHALL CONNECT AT SYSTEM GROUNDING WIRE. USE DEPARTMENT APPROVED TAP CONNECTOR.

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

PULL BOX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014
DATE
/S/ Ahmet Demirbilek
STATE ELECTRICAL
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FHWA

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S.D.D. 9 B 4-11

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S.D.D. 9 B 4-11

# GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

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

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

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

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

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

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

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

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

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

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

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD).

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

ANCHOR RODS SHALL BE 1" X 60".

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

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

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

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

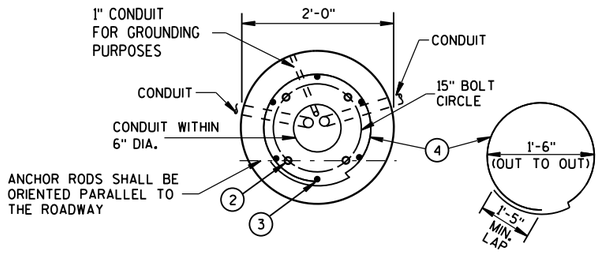
BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

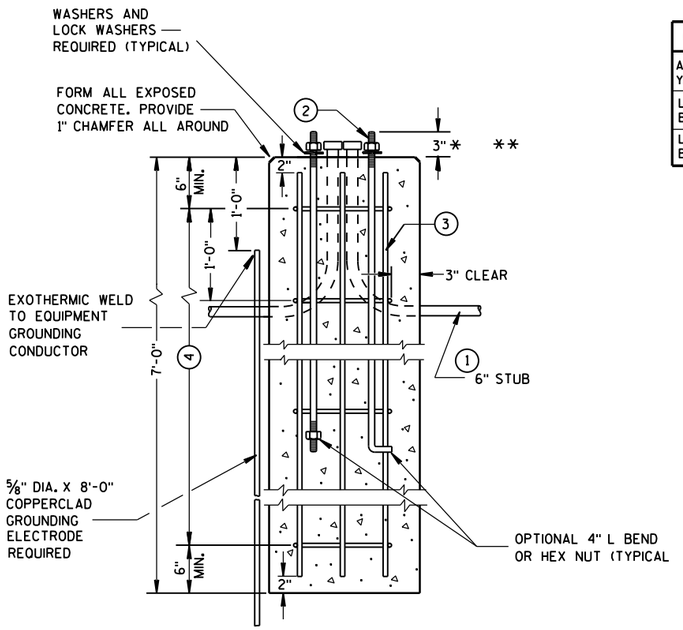
(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN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

(2) (4) 1" DIA. X 5'-0" ANCHOR RODS.

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

(4) (7) NO. 4 X 6'-2" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

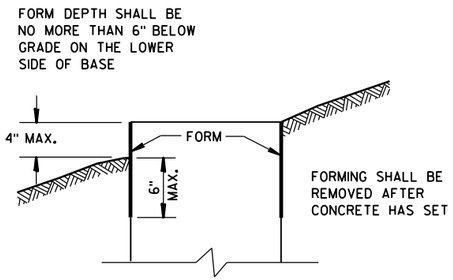



## CONCRETE BASE, TYPE 7 (FOR 40' LIGHT POLES)

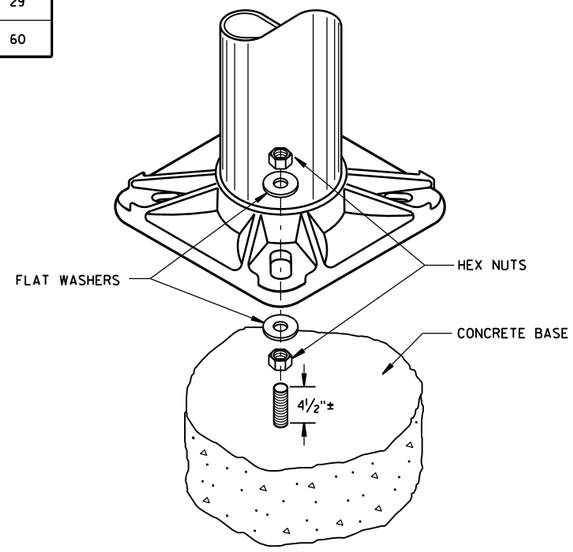
* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

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




## FORMING DETAIL

| QUANTITY REQUIREMENTS | |
|---|---|
| APPROX. CUBIC YARDS OF CONCRETE | 0.8 |
| LBS. OF HOOP BAR STEEL | 29 |
| LBS. OF VERTICAL BAR STEEL | 60 |




## NON-BREAKAWAY INSTALLATION (LEVELING NUT)

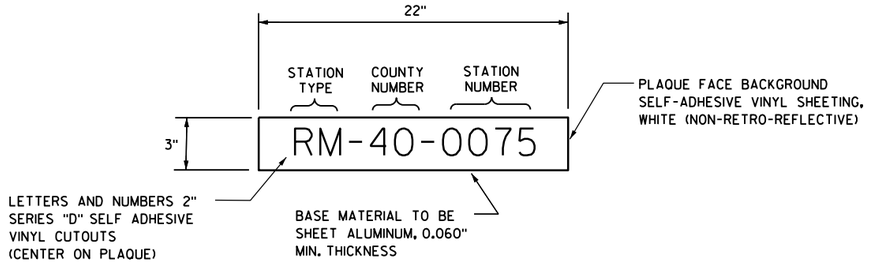
CONCRETE BASE, TYPE 7

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

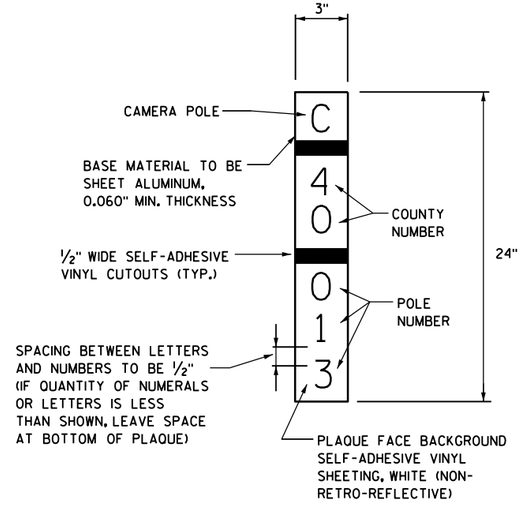
APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
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S.D.D. 9 C 8-5



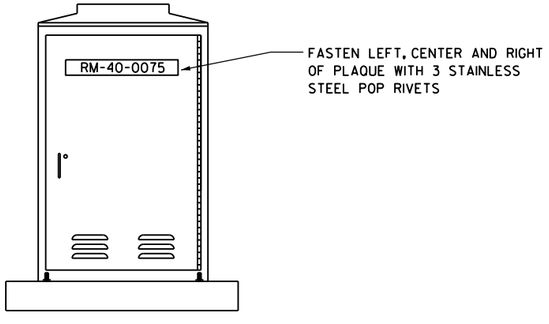

## CONTROL CABINET IDENTIFICATION PLAQUE DETAIL




## POLE IDENTIFICATION PLAQUE DETAIL

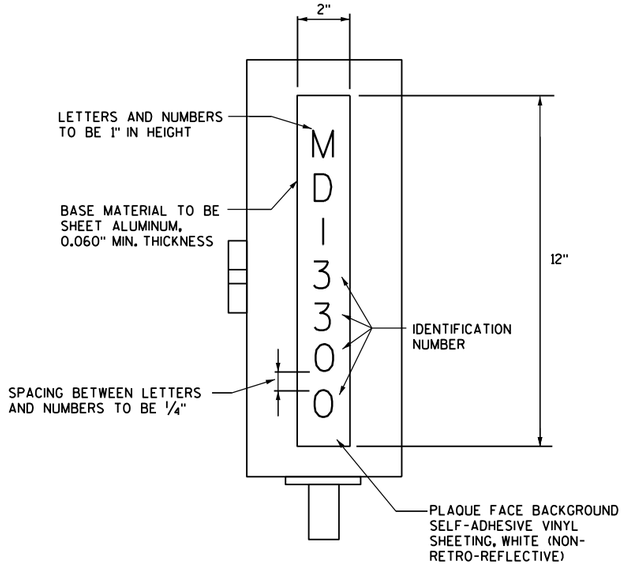
## GENERAL NOTES

1. TWO PLAQUES PER CABINET REQUIRED ON CONTROL CABINET.
2. FASTEN ONE PLAQUE ON FRONT DOOR, UPPER HALF.
3. FASTEN ONE PLAQUE ON SIDE FACING LOCAL STREET. IF NO LOCAL STREET NEARBY, OR IF SUCH LOCATION COINCIDES WITH LOCATION OF PLAQUE IN NOTE (2), FASTEN PLAQUE ON REAR OF CABINET, UPPER HALF.
4. COUNTY NUMBER NOT REQUIRED ON RAMP METER CABINETS.




## CONTROL CABINET IDENTIFICATION PLAQUE REQUIREMENTS AND PLACEMENTS

(TYPICAL ALL CONTROL CABINETS)




## MICROWAVE DETECTOR FIELD CABINET IDENTIFICATION PLAQUE DETAIL

### LEGEND STATION TYPE

RM - RAMP METER
CCTV - CLOSED CIRCUIT TELEVISION
ATR - AUTOMATIC TRAFFIC RECORDER
SDS - SYSTEM DETECTOR STATION
MD - MICROWAVE DETECTOR

**IDENTIFICATION PLAQUE REQUIREMENTS AND PLACEMENTS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demribilek — STATE ELECTRICAL
FHWA

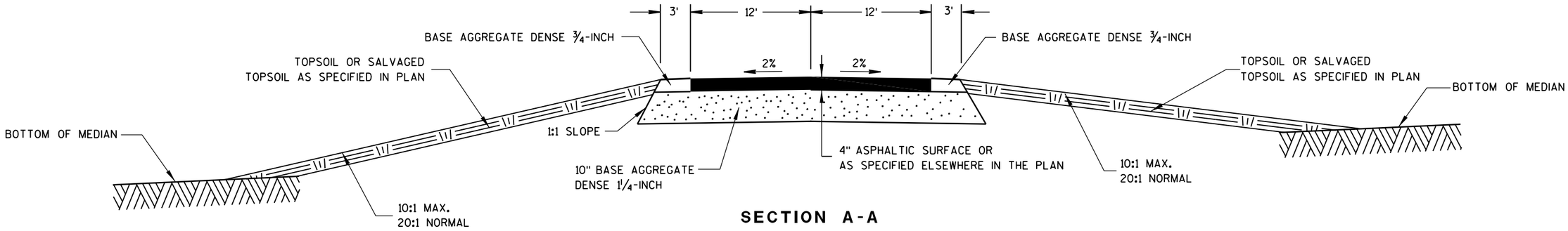


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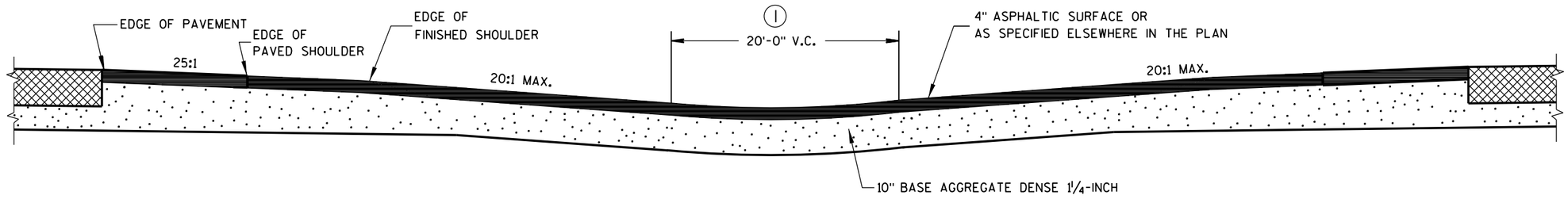
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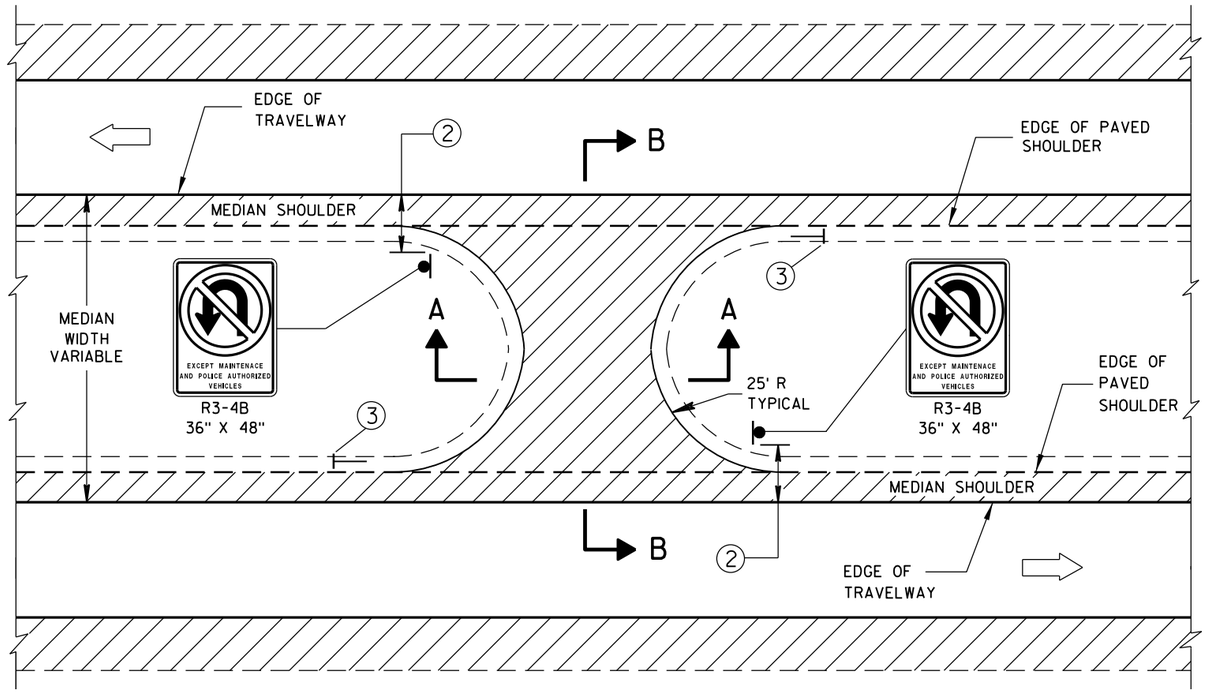
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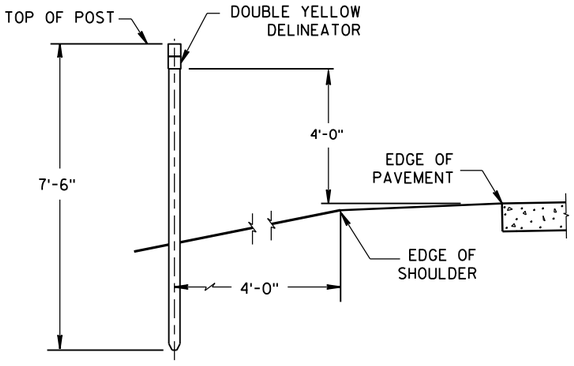

**SECTION A-A**




**SECTION B-B**




**PLAN VIEW**




**DOUBLE YELLOW DELINEATOR INSTALLATION**

## GENERAL NOTES

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

(1) ADJUST VERTICAL CURVE LOCATION LATERALLY TO MAINTAIN 20:1 MAX.

(2) SIGNING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

(3) INSTALL DOUBLE YELLOW DELINEATOR. SEE STANDARD DETAIL DRAWING 15A2.

**MAINTENANCE CROSSOVER FOR FREEWAYS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

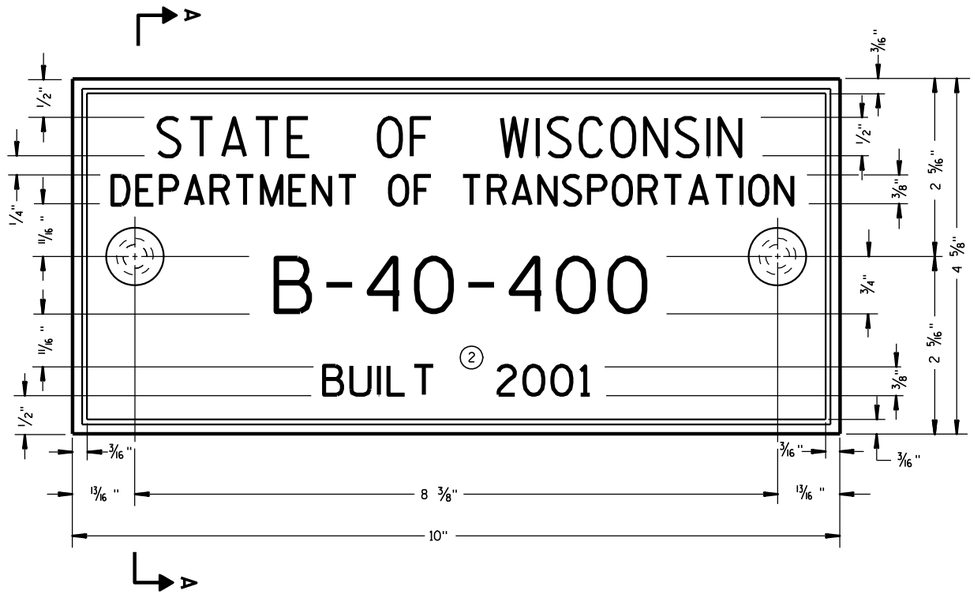


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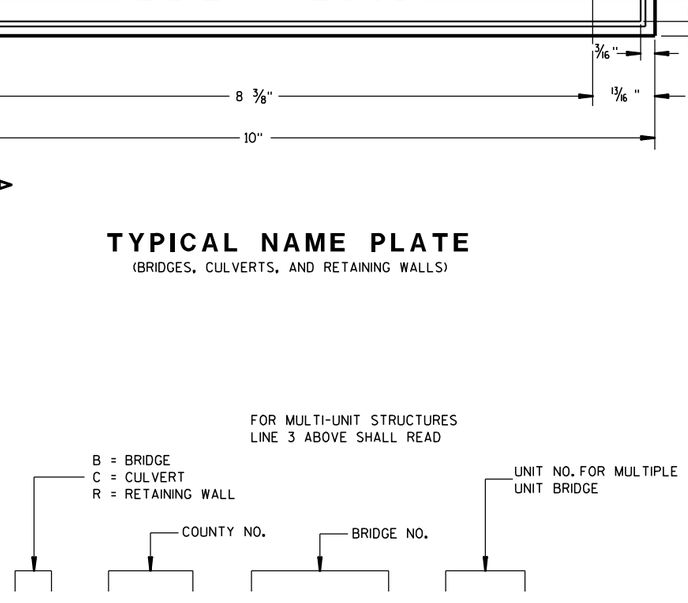
S.D.D. 11 A 1-5

6

S.D.D. 11 A 1-5




**TYPICAL NAME PLATE**
(BRIDGES, CULVERTS, AND RETAINING WALLS)




**NUMBERING DESIGNATION**
**MULTI-UNIT STRUCTURES**

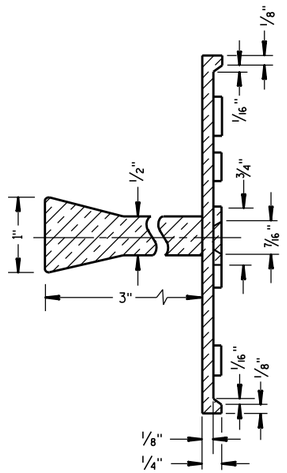
## GENERAL NOTES

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

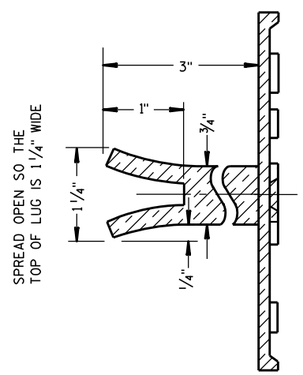
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

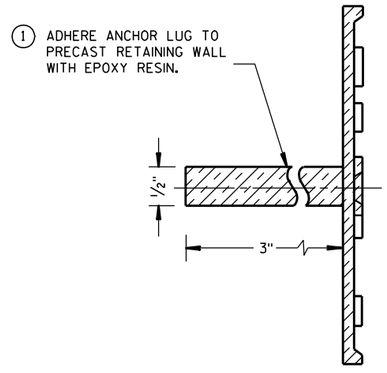
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.




**SECTION A-A**




**ALTERNATE LUG**




**ALTERNATE LUG**
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE (STRUCTURES)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

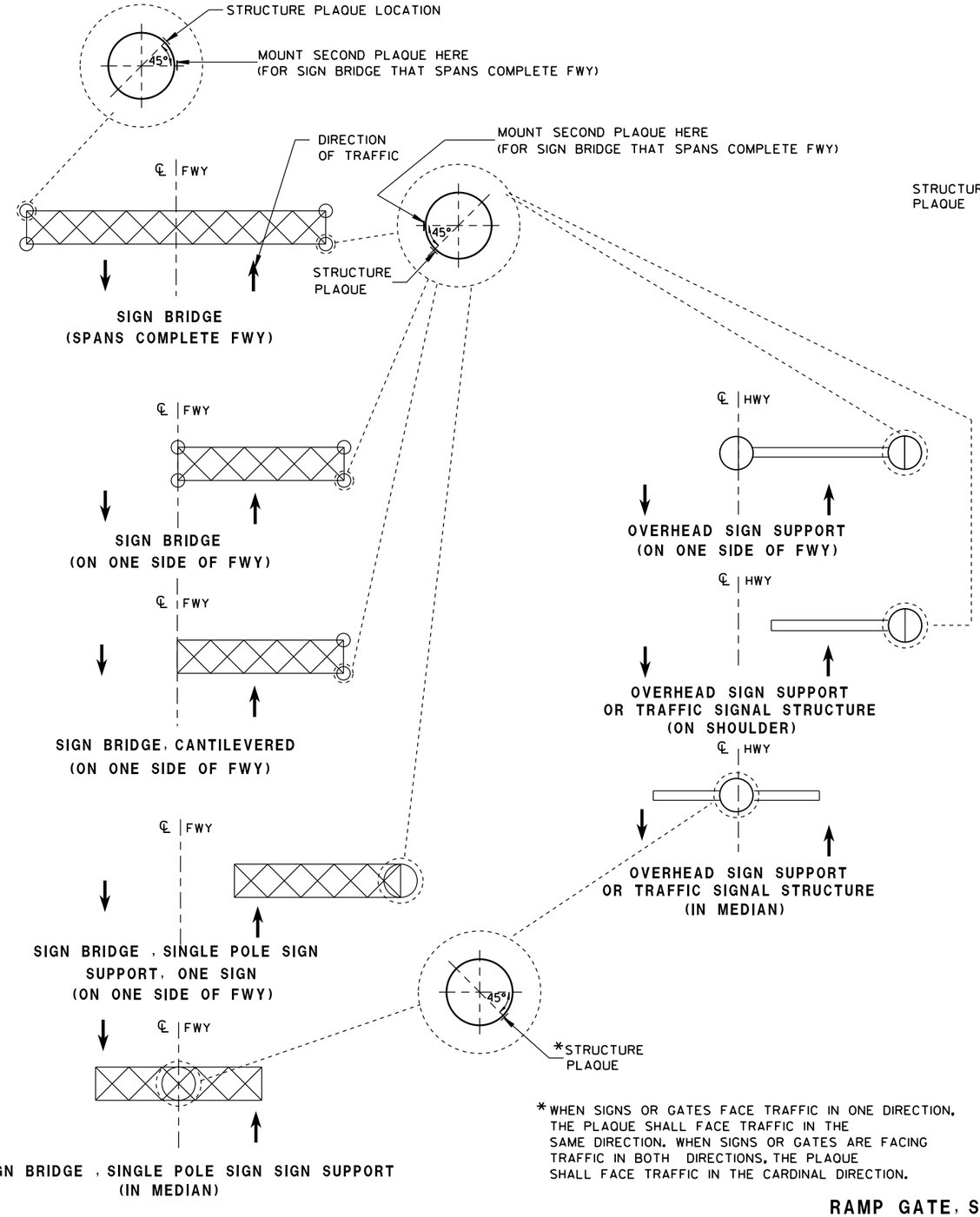
3/26/10 DATE — /S/ Scot Beck — CHIEF STRUCTURAL DEVELOPMENT ENGINEER

FHWA



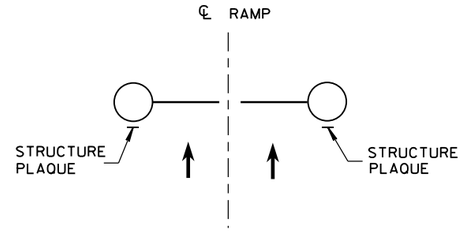
6

S.D.D. 12 A 3-10

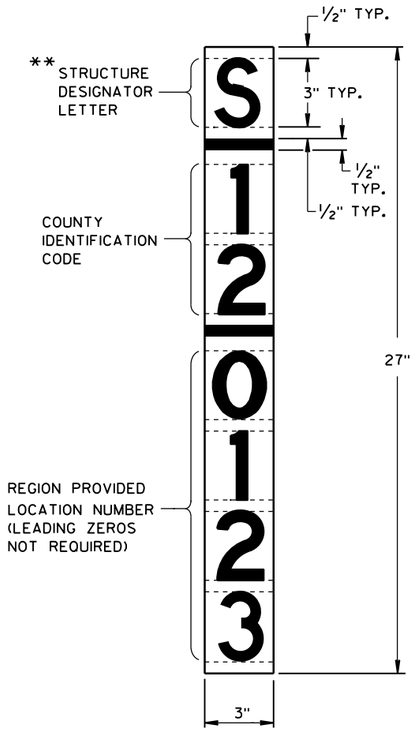



*WHEN SIGNS OR GATES FACE TRAFFIC IN ONE DIRECTION, THE PLAQUE SHALL FACE TRAFFIC IN THE SAME DIRECTION. WHEN SIGNS OR GATES ARE FACING TRAFFIC IN BOTH DIRECTIONS, THE PLAQUE SHALL FACE TRAFFIC IN THE CARDINAL DIRECTION.

## LOCATION OF RAMP GATE, SIGN BRIDGE, OVERHEAD SIGN SUPPORT & TRAFFIC SIGNAL STRUCTURE PLAQUES




## RAMP GATE (ACROSS FWY ON-RAMP)




## RAMP GATE, SIGN BRIDGE, OVERHEAD SIGN SUPPORT AND TRAFFIC SIGNAL STRUCTURE PLAQUE FOR SIGN BRIDGES AND OVERHEAD SIGN SUPPORT WHICH ARE NOT STRUCTURE MOUNTED

** LETTER "G" UTILIZED FOR RAMP GATES. LETTER "S" UTILIZED FOR SIGN BRIDGES, OVERHEAD SIGN SUPPORTS, AND TRAFFIC SIGNALS.

## GENERAL NOTES

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

PLAQUES SHALL BE INCIDENTAL TO ALL NEW INSTALLATIONS.

IF THE PROPOSED SIGN BRIDGE OR OVERHEAD SIGN SUPPORT IS REPLACING AN EXISTING SIGN BRIDGE OR OVERHEAD SIGN SUPPORT, A NEW IDENTIFICATION PLAQUE WILL BE REQUIRED.

FASTEN TOP, CENTER AND BOTTOM OF PLAQUE TO POLE OR OTHER LOCATION AS FOLLOWS:

GALVANIZED STEEL SHAFT - 3 STAINLESS STEEL POP RIVETS

A588 STEEL SHAFT - SHIM FOR DRAINAGE WITH STAINLESS WASHERS; FASTEN WITH STAINLESS SELF-TAPPING SCREWS

ALUMINUM SHAFTS - 3 ALUMINUM POP RIVETS

MOUNTING HEIGHT SHALL BE APPROXIMATELY 5.0' ABOVE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL OBSTRUCT.

PLAQUE MATERIALS:

BASE - SHEET ALUMINUM, 0.060" THICK.

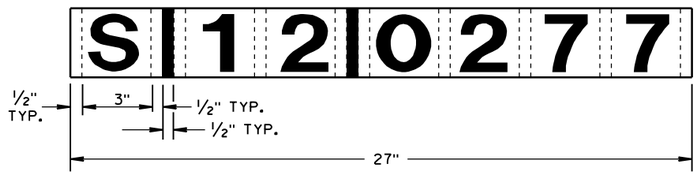
FACE - WHITE, SELF-ADHESIVE VINYL SHEETING, NON-RETROREFLECTIVE

LINES - BLACK, ½" WIDE, SELF-ADHESIVE

CHARACTERS:- BLACK, SELF ADHESIVE, SERIES "D", SIZE AS SHOWN.

FOR SIGN BRIDGES, STRUCTURE MOUNTED, THE STRUCTURE PLAQUE SHALL BE MOUNTED HORIZONTALLY AS SHOWN ON THE DRAWING. THE STRUCTURE PLAQUE SHALL BE MOUNTED HORIZONTALLY TO THE BACK OF THE SIGN, BETWEEN THE ALUMINUM EXTRUSIONS, NEAR THE TOP LEFT HAND CORNER OF THE SIGN. THE BASE MATERIAL SHALL BE OMITTED AND THE FACE ADHERED DIRECTLY TO THE ALUMINUM SURFACE. PRIOR TO ADHERING THE MATERIAL, THE ALUMINUM SURFACE SHALL BE SMOOTH, CLEAN AND DRY.

WHERE SIGN BRIDGE ILLUMINATION IS PROVIDED, THE STRUCTURE MUST ALSO HAVE A SIGN BRIDGE CIRCUIT PLAQUE AS SHOWN IN THE ELECTRICAL DETAILS.




## IDENTIFICATION PLAQUE FOR SIGN BRIDGE, STRUCTURE MOUNTED

**STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES, OVERHEAD SIGN SUPPORTS, & TRAFFIC SIGNALS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/4/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

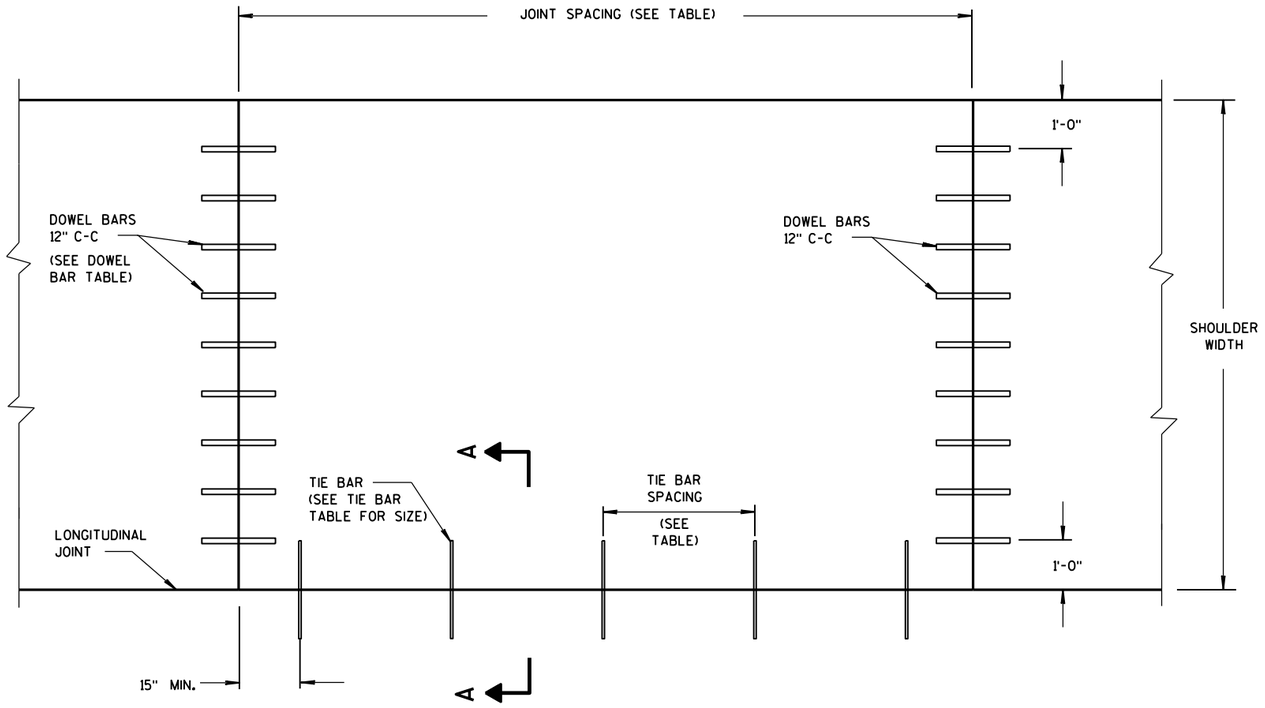


6

S.D.D. 12 A 4-3

6

S.D.D. 12 A 4-3




PLAN VIEW

## CONCRETE PAVEMENT SHOULDER

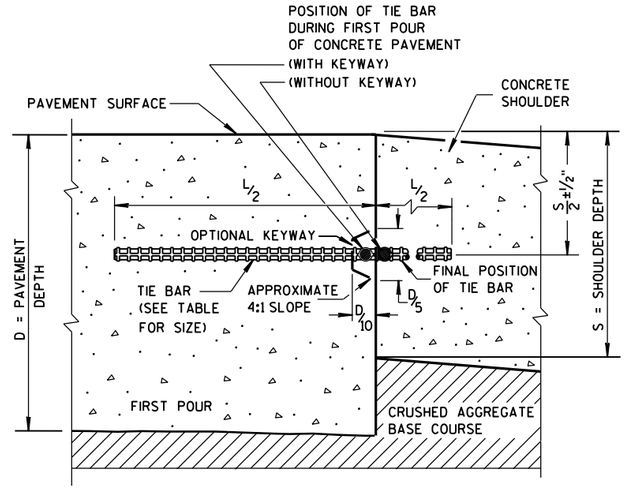
## GENERAL NOTES

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

TRANSVERSE JOINT DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

FINISH THE SHOULDER PAVEMENT CONFORMING TO SUBSECTION 415.3.8 OF THE STANDARD SPECIFICATIONS.

TIE BARS SHALL CONFORM TO SUBSECTION 505.2.4 OF THE STANDARD SPECIFICATIONS.




SECTION A-A

## LONGITUDINAL CONSTRUCTION JOINT

### TIE BAR TABLE

| PAVEMENT DEPTH (D) | TIE BAR SIZE | TIE BAR LENGTH (L) | MAX. TIE BAR SPACING |
|---|---|---|---|
| < 10 ½" | NO. 4 | 30" | 36" |
| ≥ 10 ½" | NO. 5 | 36" | 36" |
| | NO. 4* | 30" | 24"** |

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

### PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

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

*** FOR DOWELED CONCRETE SHOULDERS WITH TRAPEZOIDAL CROSS SECTIONS, CHOSE THE APPROPRIATE DOWEL BAR DIAMETER BASED ON THE SMALLER PAVEMENT DEPTH (LIKELY THE OUTSIDE EDGE OF THE SHOULDER). IF USING BASKETS, USE BASKETS FOR THE AVERAGE THICKNESS OF THE CROSS SECTION.

CONCRETE PAVEMENT SHOULDERS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPER
FHWA

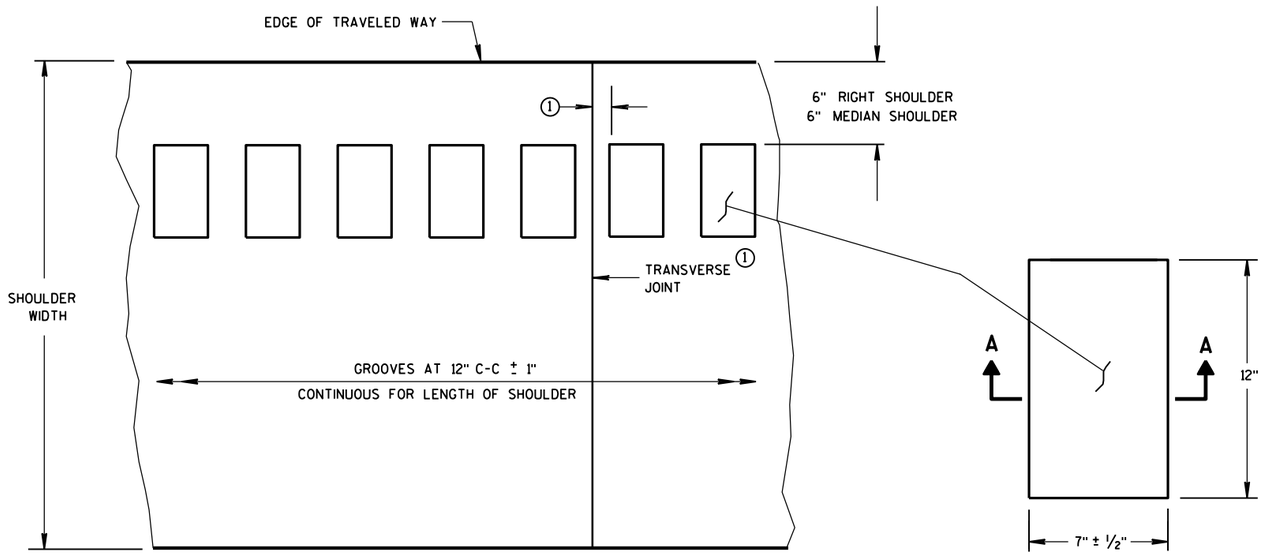


6

S.D.D. 13 A 3-6

6

S.D.D. 13 A 3-6




PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

## PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

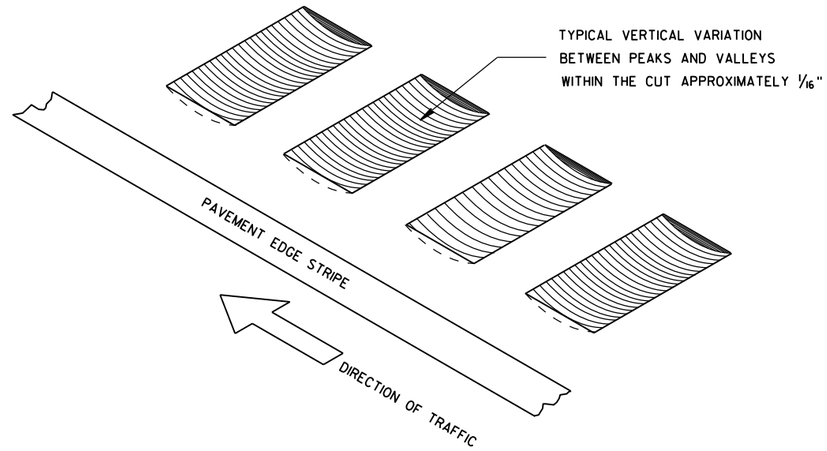
## GENERAL NOTES

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

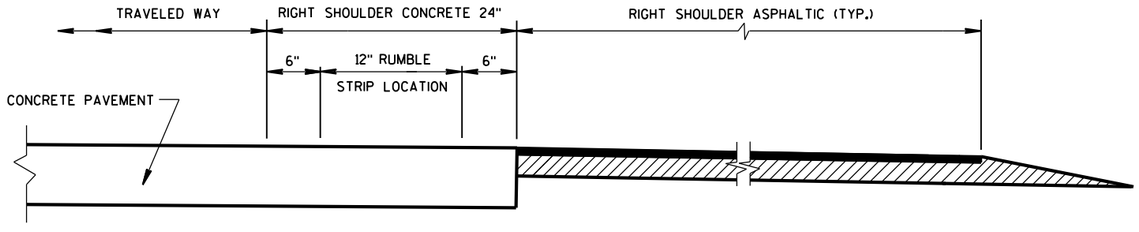
RUMBLE STRIPS ON EXPRESSWAYS

DO NOT INSTALL RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL DRIVEWAYS, PRIVATE DRIVEWAYS OR ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, BRIDGE DECKS, BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSING. THE ATTACHED STANDARD DETAIL DRAWING SHOWS THE LOCATION OF THE RUMBLE STRIPS AT INTERCHANGE AREAS.

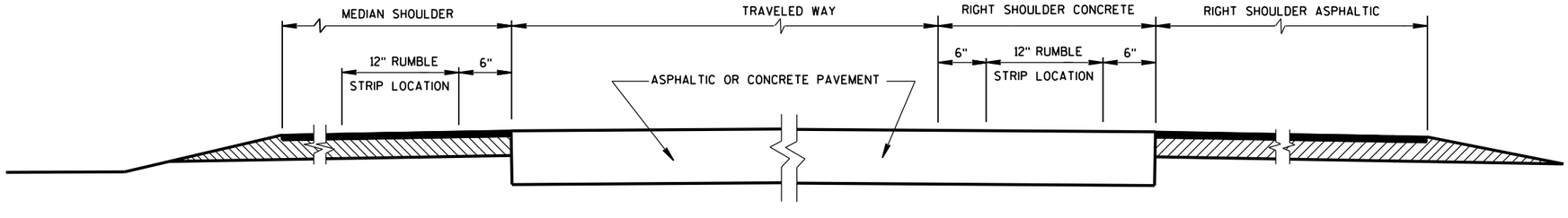
(1) CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.




ISOMETRIC



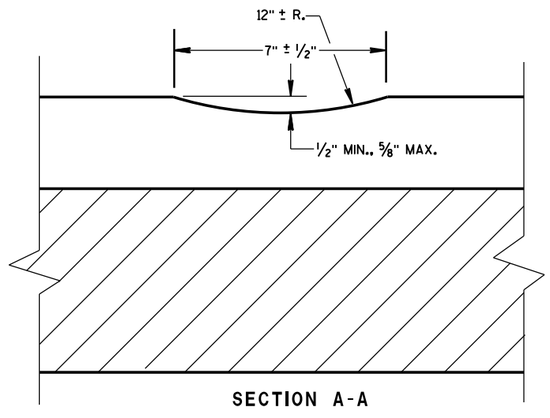

SECTION VIEW
CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)




SECTION VIEW

## TYPICAL LOCATIONS OF SHOULDER RUMBLE STRIPS IN RURAL DIVIDED HIGHWAYS

(ONE ROADWAY IS SHOWN)




SECTION A-A

SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

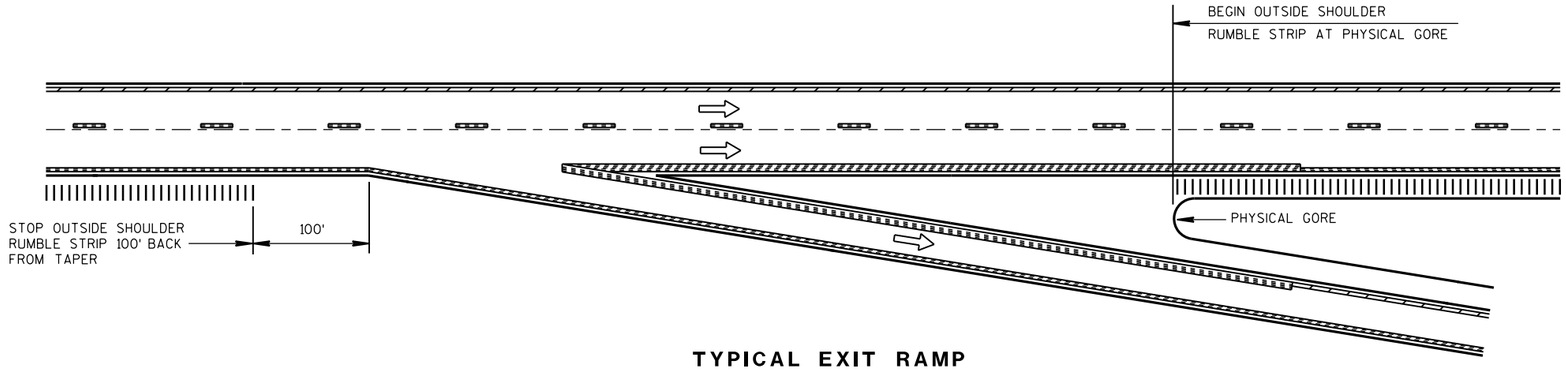


6

S.D.D. 13 A 5-5a

6

S.D.D. 13 A 5-5a



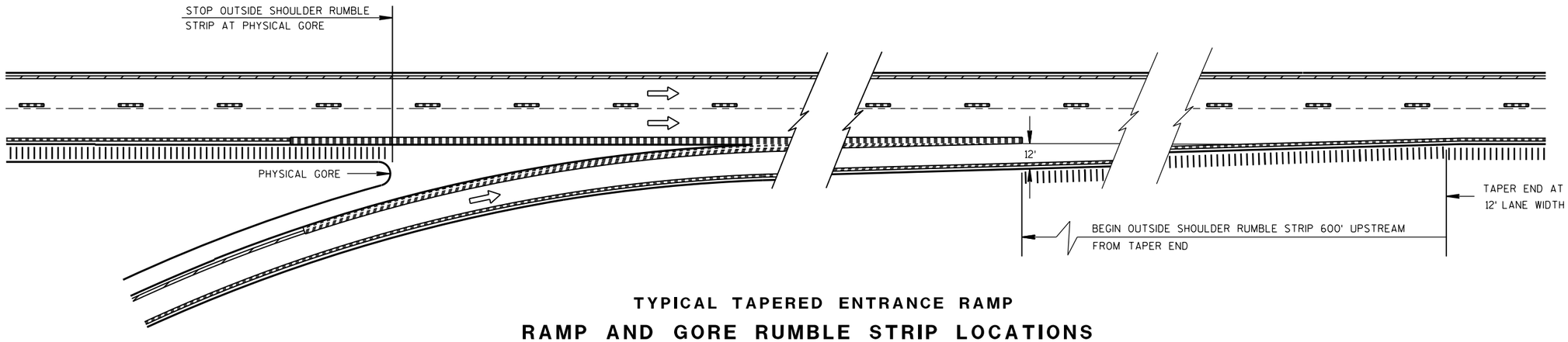

**TYPICAL EXIT RAMP**

## NOTES:

NO RUMBLE STRIP ON EXIT, DIRECTIONAL, OR ENTRANCE RAMPS, EXCEPT NEAR THE ENTRANCE TAPER END AND ALONG THE PARALLEL RAMP AREA AS SHOWN.

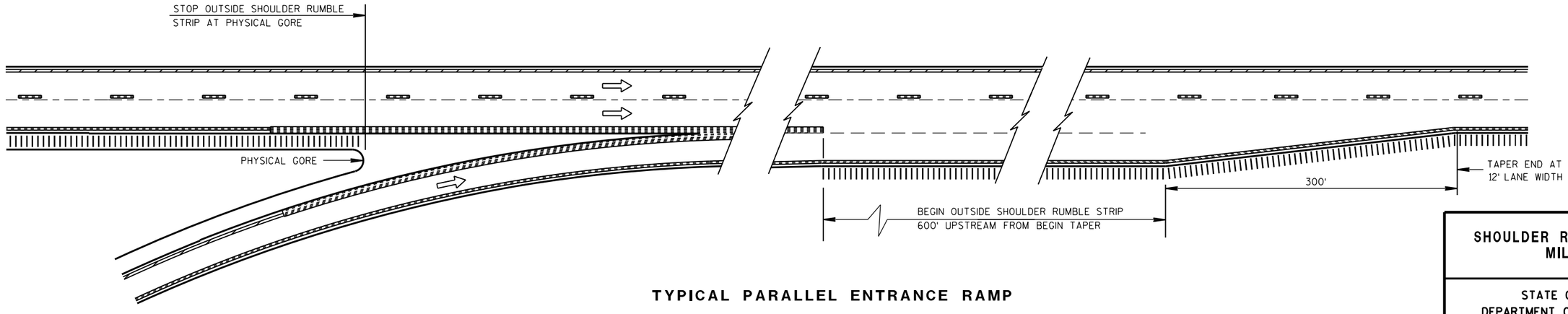
PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

NOTE:
ARROW SYMBOL ( ⇨ )
SHOWS DIRECTION OF TRAVEL




**TYPICAL TAPERED ENTRANCE RAMP**

## RAMP AND GORE RUMBLE STRIP LOCATIONS




**TYPICAL PARALLEL ENTRANCE RAMP**

## RAMP AND GORE RUMBLE STRIP LOCATIONS

**SHOULDER RUMBLE STRIP, MILLING**

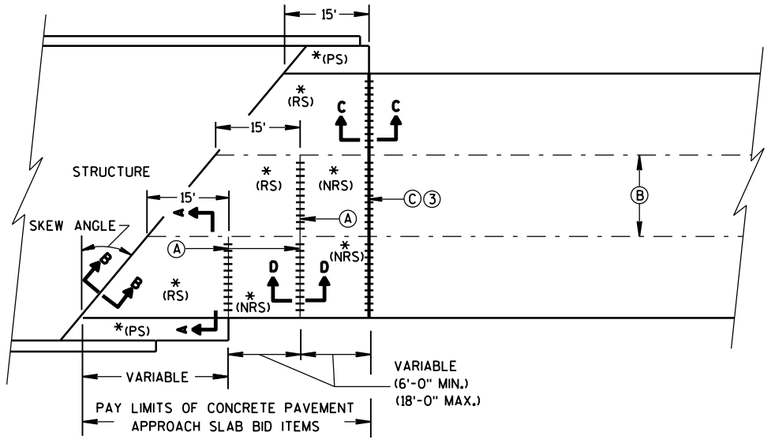
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/17/2012 — DATE
/S/ Jerry H. Zoga — ROADWAY STANDARDS ENGINEER
FHWA

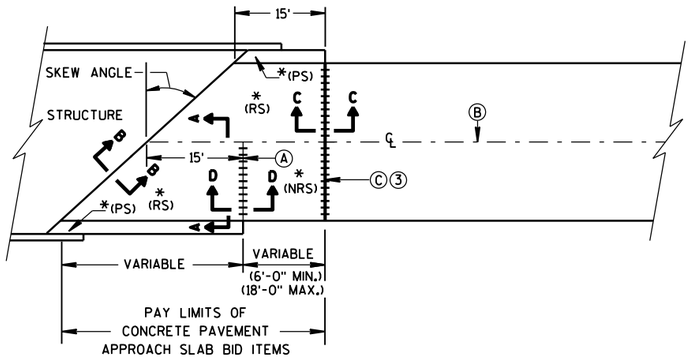


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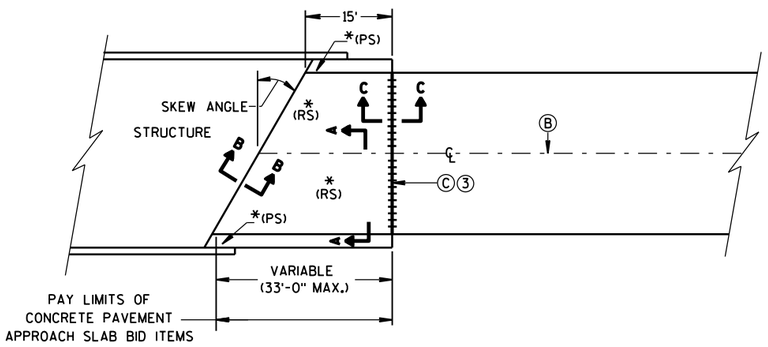
S.D.D. 13 A 5-5b




**SKEWED APPROACH**
**(PAVEMENT MORE THAN 2 LANES)**




**SKEWS >20°**
**(PAVEMENT WIDTH ≤30')**



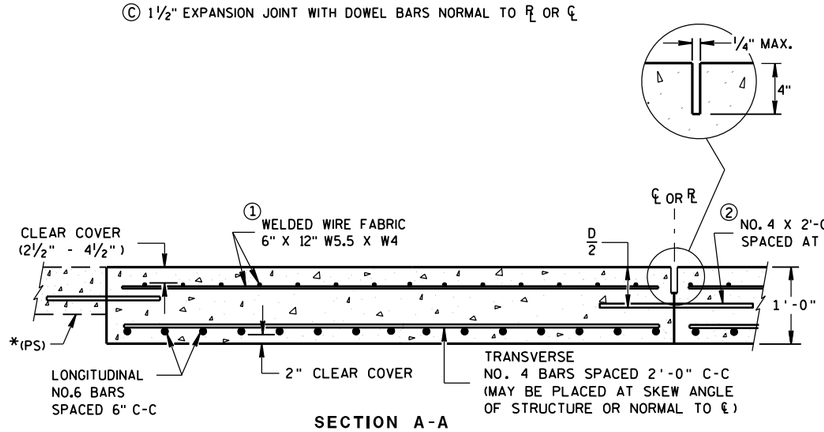

**SKEWS ≤20°**
**(PAVEMENT WIDTH ≤30')**

**APPROACH SLAB AND ADJACENT PAVEMENT**

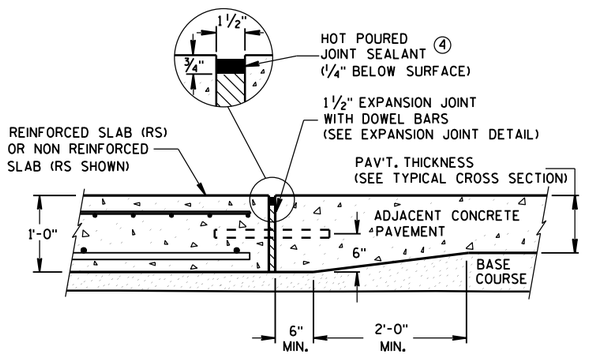
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

***STANDARD DOWEL BAR DIAMETER
(SEE SDD 13C11, & SDD 13C13)

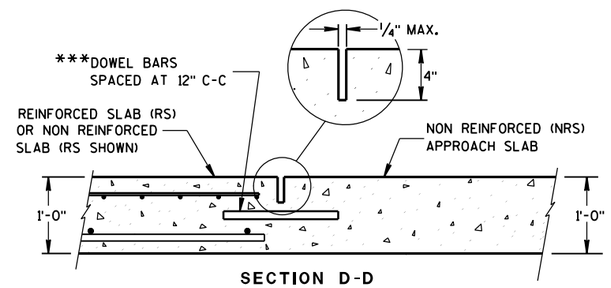
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄
Ⓑ STANDARD LONGITUDINAL JOINT WITH TIE BARS.
Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄




**SECTION A-A**
**REINFORCEMENT POSITIONING DETAIL**




**SECTION C-C**
**TRANSITION DETAIL**
**APPROACH SLAB TO ADJACENT PAVEMENT**




**SECTION D-D**
**CONTRACTION JOINT**

## GENERAL NOTES

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

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

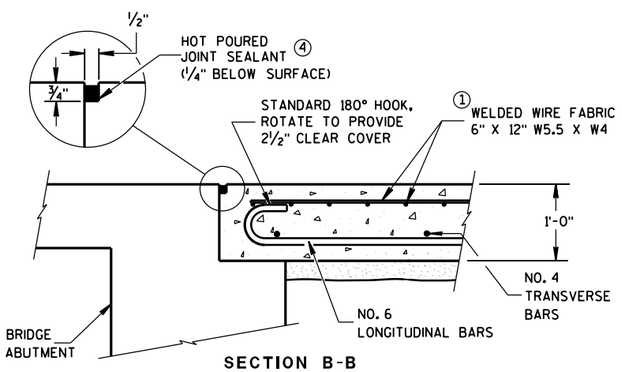
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

② THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.

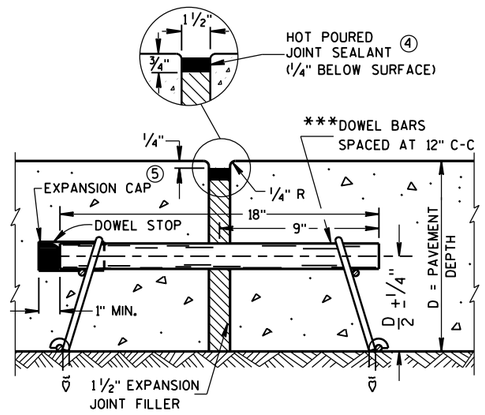
③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

④ USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.

⑤ PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.




**SECTION B-B**
**BEND DETAIL**
**BOTTOM REINFORCEMENT**




**EXPANSION JOINT DETAIL**

**CONCRETE PAVEMENT APPROACH SLAB**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE
/S/ Peter Kemp, P.E.
PAVEMENT SUPER
FHWA



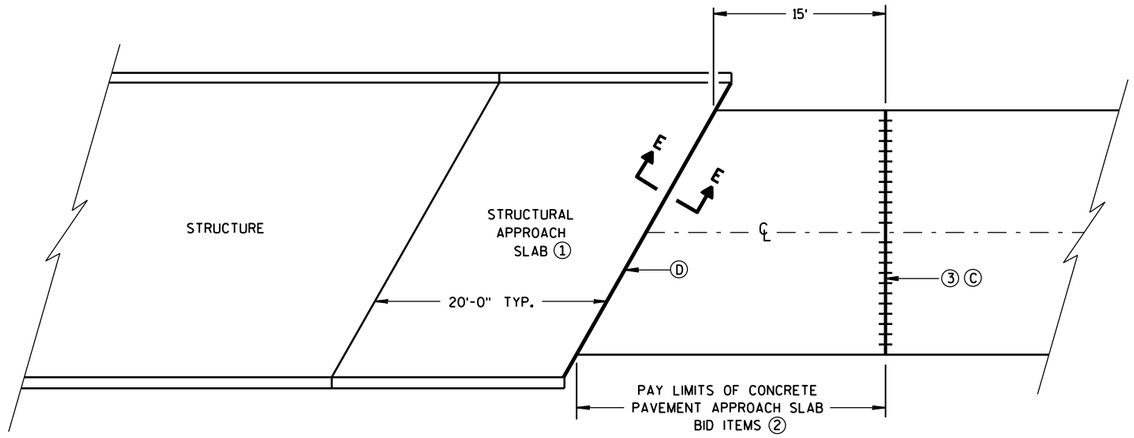
6

S.D.D. 13 B 2-8a

6

S.D.D. 13 B 2-8a

## BRIDGE APPROACHES




## GENERAL NOTES

ALL PROJECTS THAT INVOLVE A STRUCTURAL APPROACH SLAB WILL ALSO HAVE A CONCRETE PAVEMENT APPROACH SLAB.

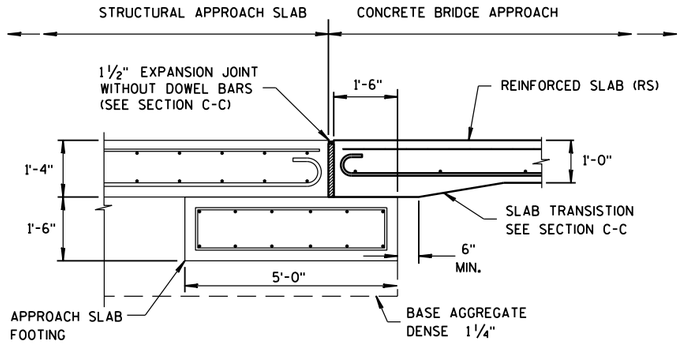
① SEE BRIDGE PLAN.

② CONFORM TO SHEET 13 B 2(A) FOR CONCRETE PAVEMENT APPROACH SLAB DETAILS.

③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.

Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄

Ⓓ 1½" EXPANSION JOINT (NO DOWELS)




SECTION E-E

## FOOTING DETAIL

STRUCTURAL APPROACH SLAB TO CONCRETE BRIDGE APPROACH

**STRUCTURAL APPROACH SLAB AND CONCRETE PAVEMENT APPROACH SLAB**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

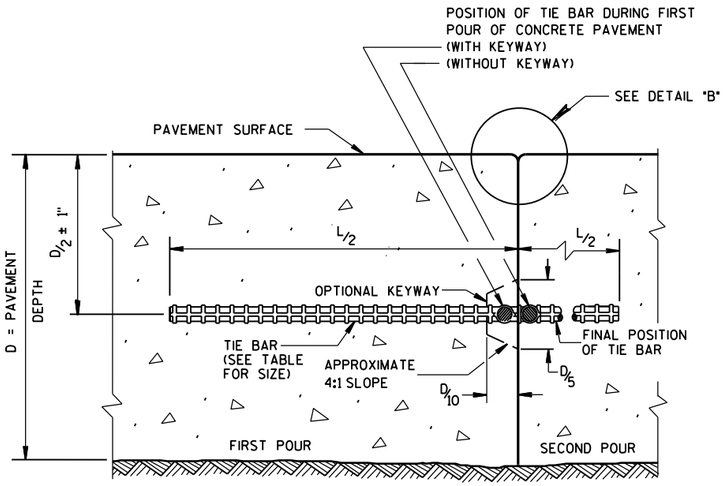
APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPEF
FHWA



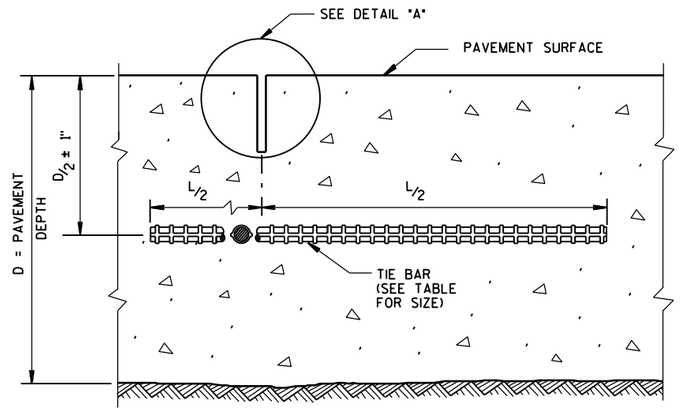


6

S.D.D. 13 B 2-8b




## CONSTRUCTION JOINT




## SAWED JOINT

## GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

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

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

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

(2) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.




PLAN VIEW




SECTION A-A

## LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT




DETAIL "A"




DETAIL "B"



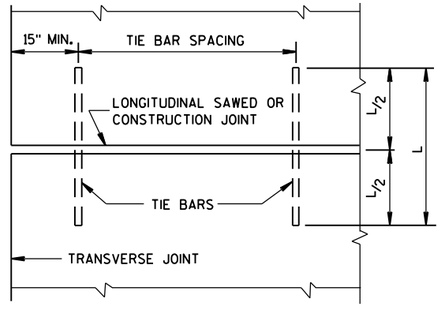

DETAIL "C"

### TIE BAR TABLE

| PAVEMENT DEPTH (D) | TIE BAR SIZE | TIE BAR LENGTH (L) | MAX. TIE BAR SPACING |
|---|---|---|---|
| < 10 1/2" | NO. 4 | 30" | 36" |
| ≥ 10 1/2" | NO. 5 | 36" | 36" |
| | NO. 4 * | 30" | 24"** |

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.




PLAN VIEW
SHOWING LOCATION OF TIE BARS

## CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

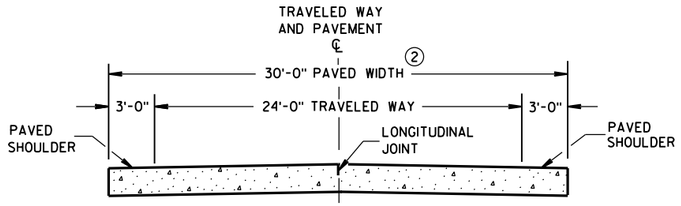
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE
/S/ Peter Kemp, P.E.
PAVEMENT SUPER
FHWA



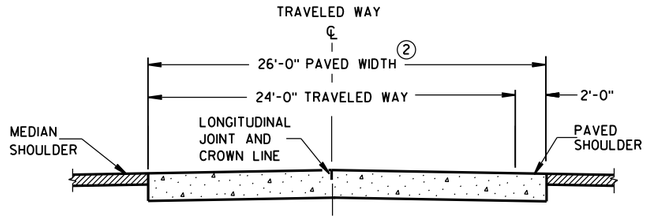

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S.D.D. 13 C 1-18

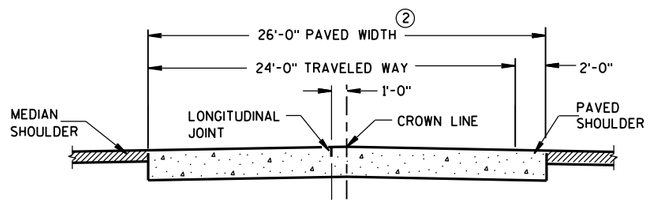



SECTION A-A ①

TWO-LANE TWO-WAY HIGHWAY




SECTION B-B




ALTERNATIVE SECTION B-B ①

DIVIDED HIGHWAY

## GENERAL NOTES

CONTRACTION JOINTS

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

DO NOT SEAL OR FILL CONTRACTION JOINTS.

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

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

CONSTRUCTION JOINTS

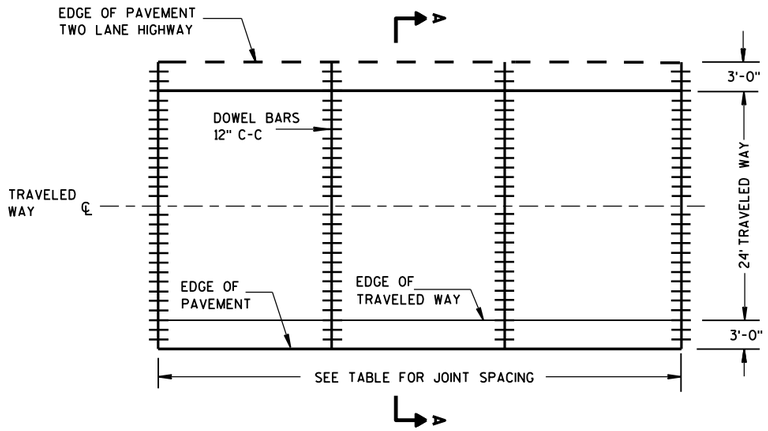
LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

① REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.

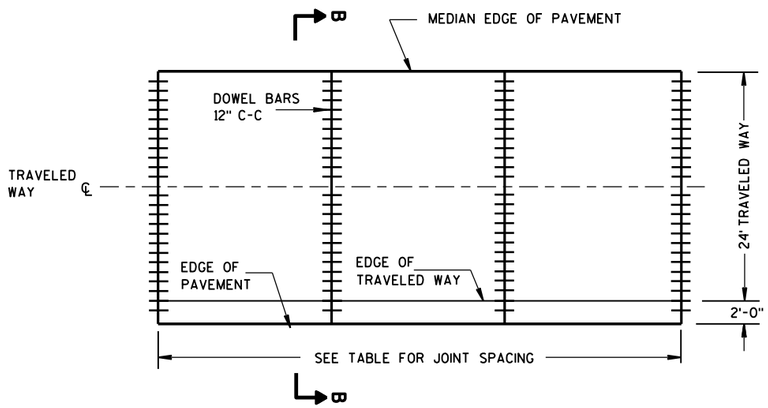
② MEASURE THE ENTIRE PAVED WIDTH INCLUDING THE PORTION(S) LABELED PAVED SHOULDER AS CONCRETE PAVEMENT.

### PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

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




CONTRACTION JOINT LAYOUT
FOR TWO-LANE TWO-WAY HIGHWAY




CONTRACTION JOINT LAYOUT
FOR DIVIDED HIGHWAY

RURAL DOWELED
CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

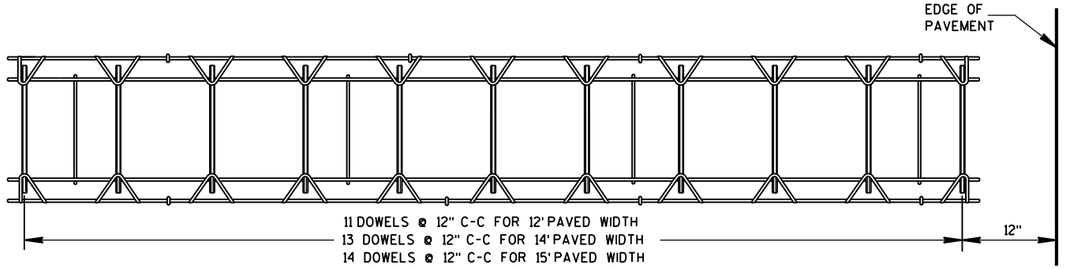




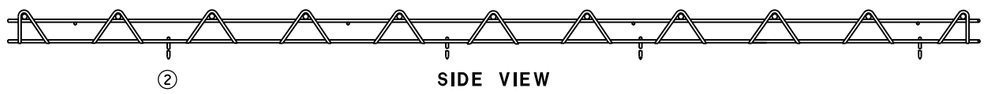


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S.D.D. 13 C 11-11a



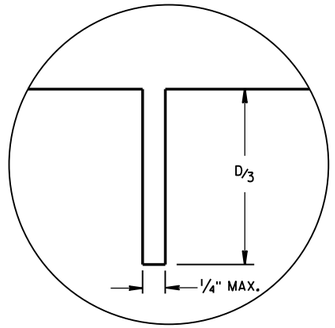

PLAN VIEW




SIDE VIEW

(NORMAL TO CENTERLINE)

## CONTRACTION JOINT DOWEL ASSEMBLY ①




JOINT DETAIL

## GENERAL NOTES

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

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

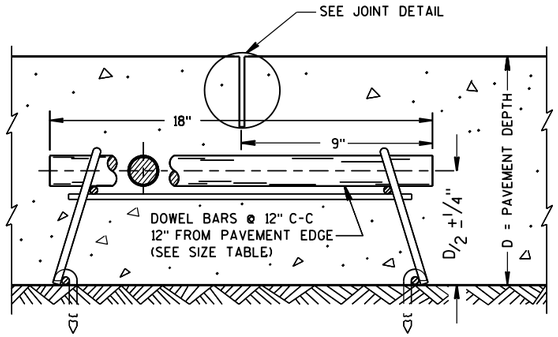
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A 1/4-INCH RADIUS AT FORMED JOINTS.

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

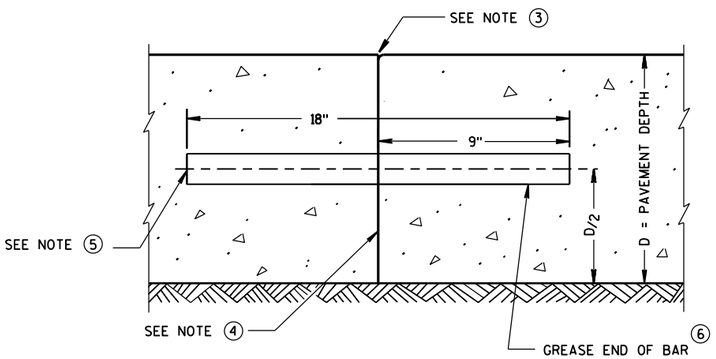
⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL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

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

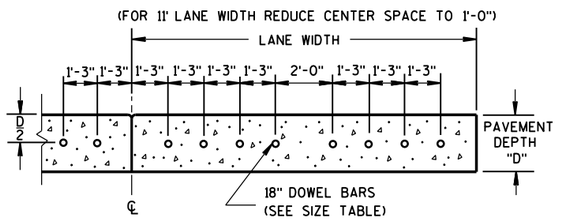
⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS 1/8-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.




DOWELED CONTRACTION JOINT




TRANSVERSE CONSTRUCTION JOINT




DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦

RURAL DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

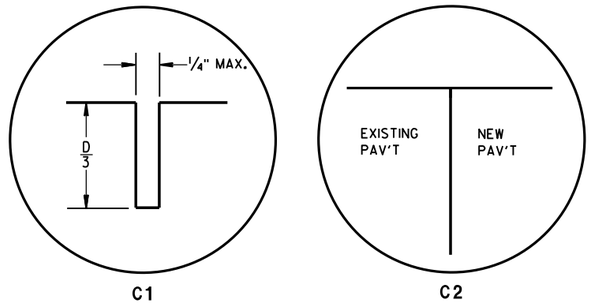


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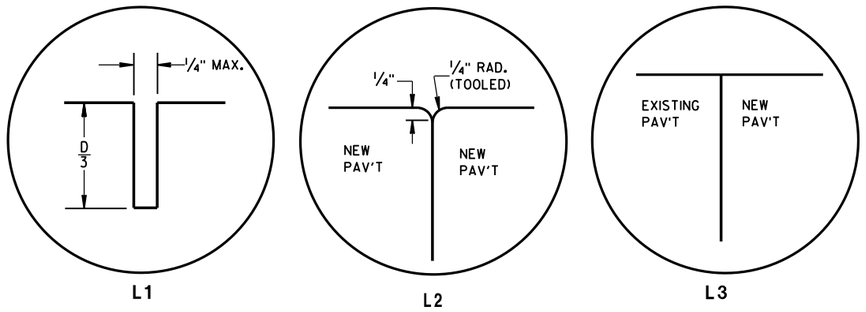
S.D.D. 13 C 11-11b

6

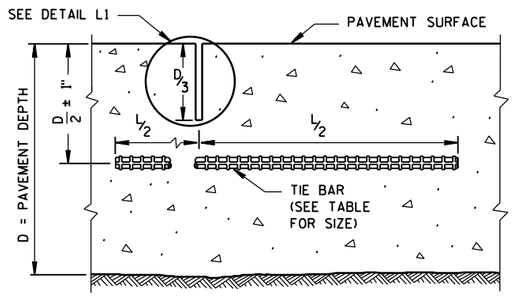
S.D.D. 13 C 11-11b




## TRANSVERSE JOINTS

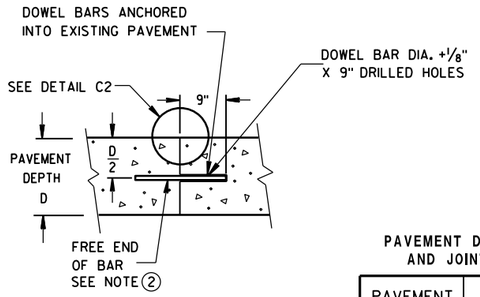



## LONGITUDINAL JOINTS




SECTION C-C

## SAWED JOINT




SECTION D-D

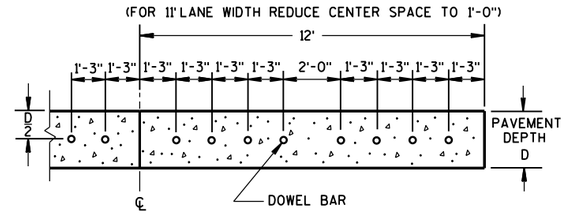
## GENERAL NOTES

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

PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

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

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




SECTION E-E

## SPACING OF DOWEL BARS ANCHORED INTO EXISTING PAVEMENT

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

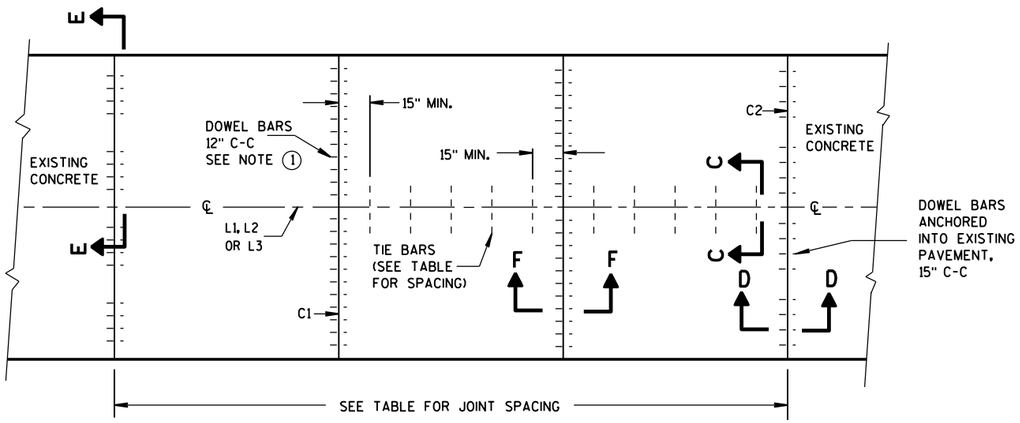
| PAVEMENT DEPTH (D) | DOWEL BAR DIAMETER | CONTRACTION JOINT SPACING |
|---|---|---|
| 5½", 6, 6 ½" | NONE | 12' |
| 7, 7 ½" | 1" | 14' |
| 8, 8 ½" | 1 ¼" | 15' |
| 9, 9 ½" | 1 ¼" | 15' |
| 10" & ABOVE | 1 ½" | 15' |

## TIE BAR TABLE

| PAVEMENT DEPTH (D) | TIE BAR SIZE | TIE BAR LENGTH (L) | MAX. TIE BAR SPACING |
|---|---|---|---|
| < 10 ½" | NO. 4 | 30" | 36" |
| ≥ 10 ½" | NO. 5 | 36" | 36" |
| | NO. 4 * | 30" | 24" ** |

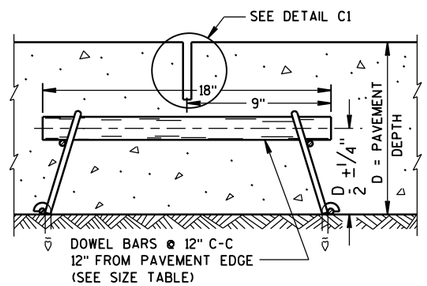
* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.




PLAN VIEW

## CONCRETE BASE CONTRACTION JOINT LOCATIONS




SECTION F-F

## CONTRACTION JOINT

CONCRETE BASE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO



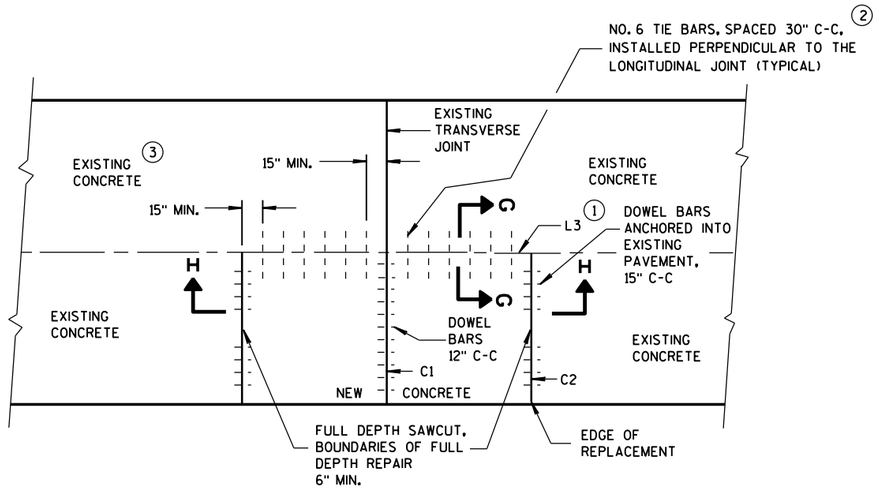

6
S.D.D. 13 C 15-6a

## GENERAL NOTES

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

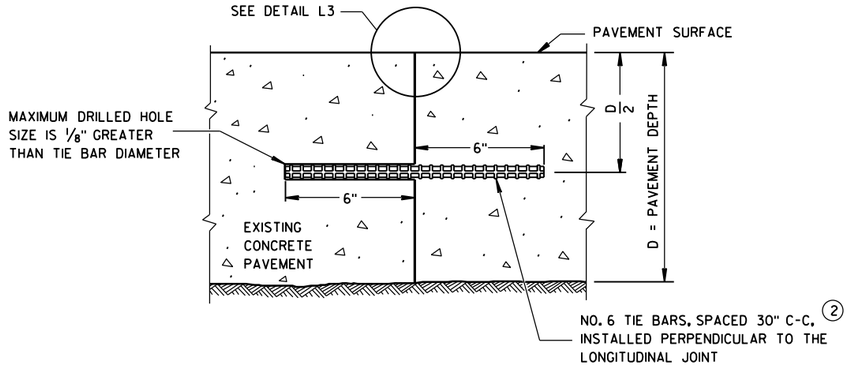
(2) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

(3) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.



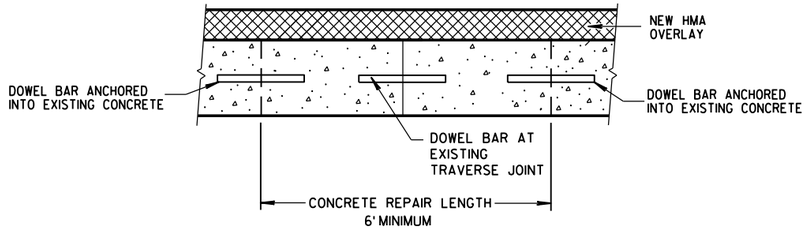

PLAN VIEW

### SINGLE LANE CONCRETE BASE REPAIR




SECTION G-G

### TIE BARS ANCHORED INTO EXISTING PAVEMENT




SECTION H-H

CONCRETE BASE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPEI
FHWA

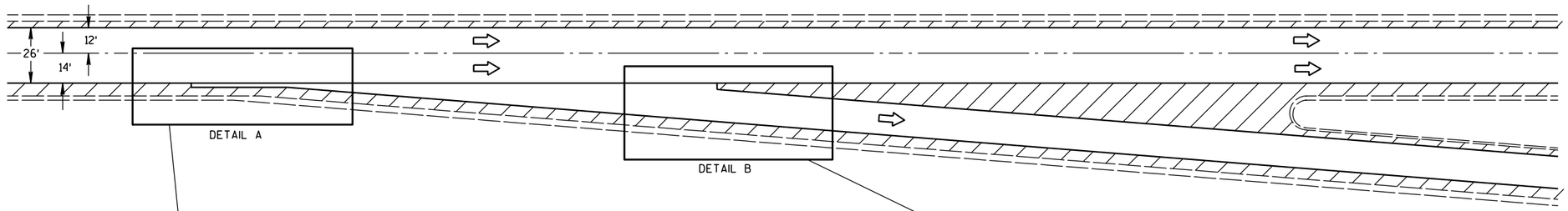


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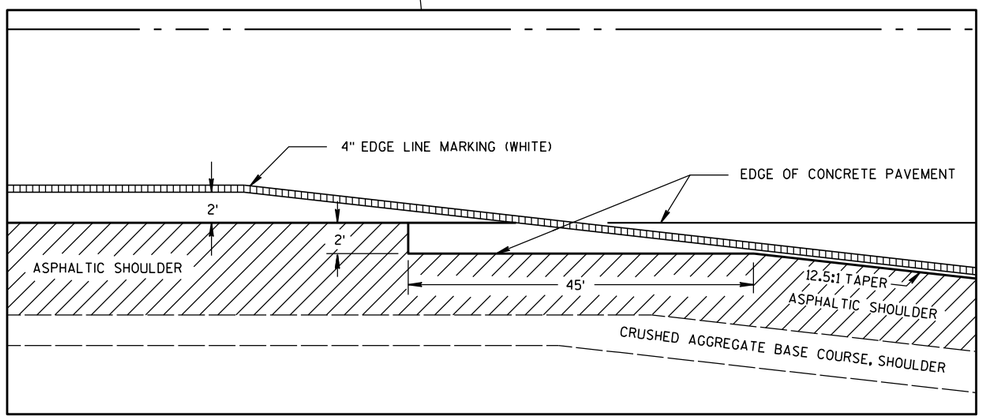
S.D.D. 13 C 15-6b

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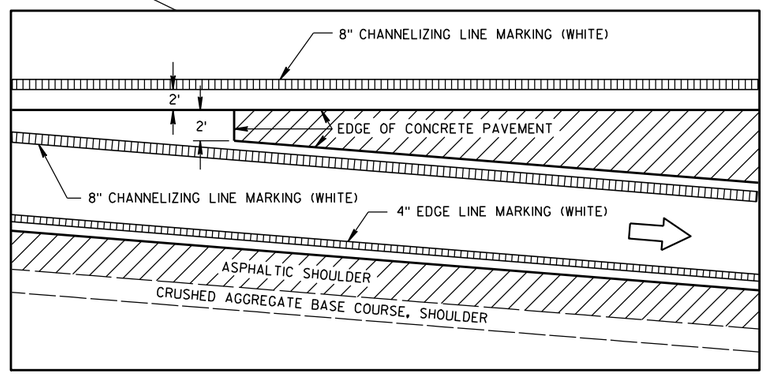
S.D.D. 13 C 15-6b




EXIT RAMP DETAIL




DETAIL A




DETAIL B

## CONCRETE JOINT PAVING DETAILS

### GENERAL NOTES

PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

SEE SDD 13 A 4-4c OR SDD 13 A 5-1b FOR RAMP AND GORE RUMBLE STRIP LOCATION.

**CONCRETE JOINT DETAIL FOR EXIT RAMP TERMINI**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

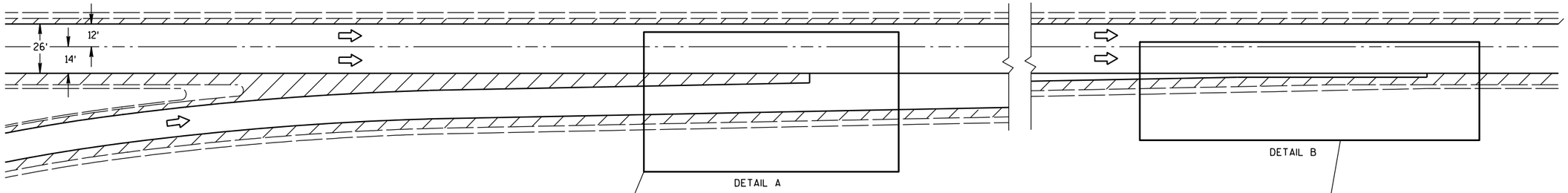


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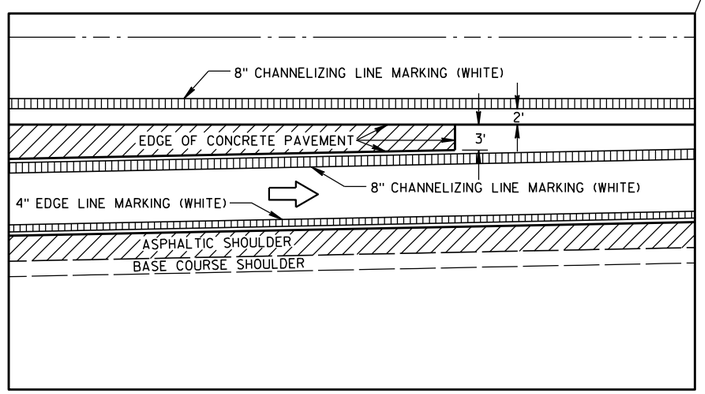
S.D.D. 13 C 17-1a

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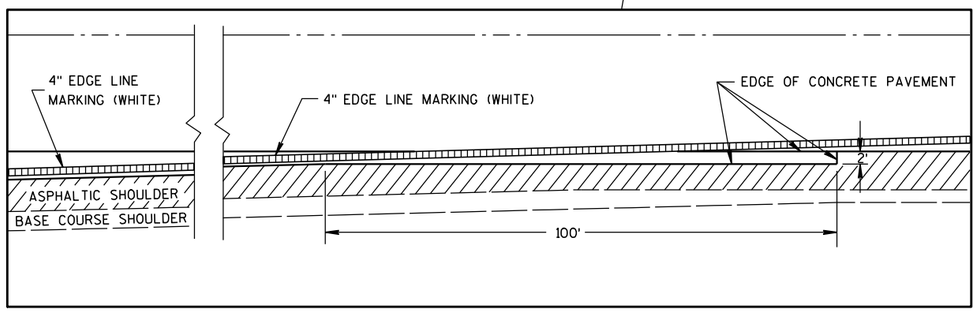
S.D.D. 13 C 17-1a




ENTRANCE RAMP DETAIL




DETAIL A




DETAIL B

## CONCRETE JOINT PAVING DETAILS

## GENERAL NOTES

PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

SEE SDD 13 A 4-4c OR SDD 13 A 5-1b FOR RAMP AND GORE RUMBLE STRIP LOCATION.

**CONCRETE JOINT DETAIL FOR ENTRANCE RAMP TERMINI**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/27/98
DATE

/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

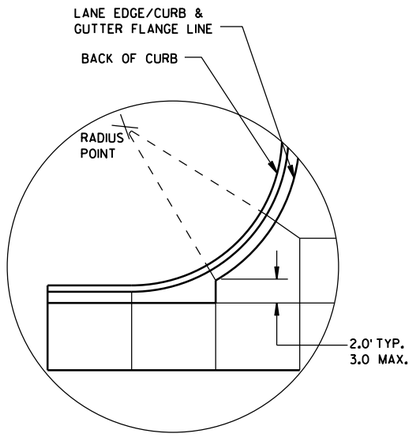


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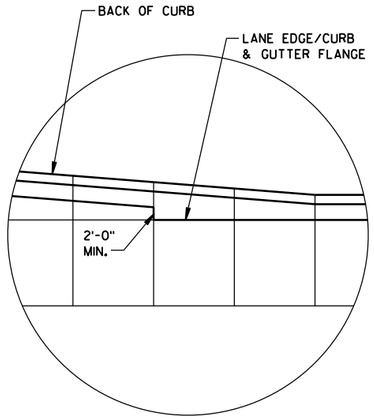
S.D.D. 13 C 17-1b

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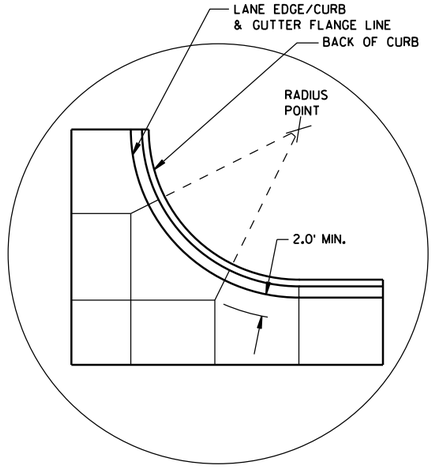
S.D.D. 13 C 17-1b



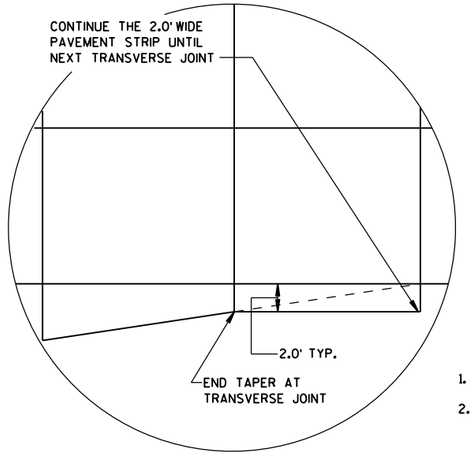

DETAIL "A"




DETAIL "B"




DETAIL "C"




DETAIL "D"

## GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

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

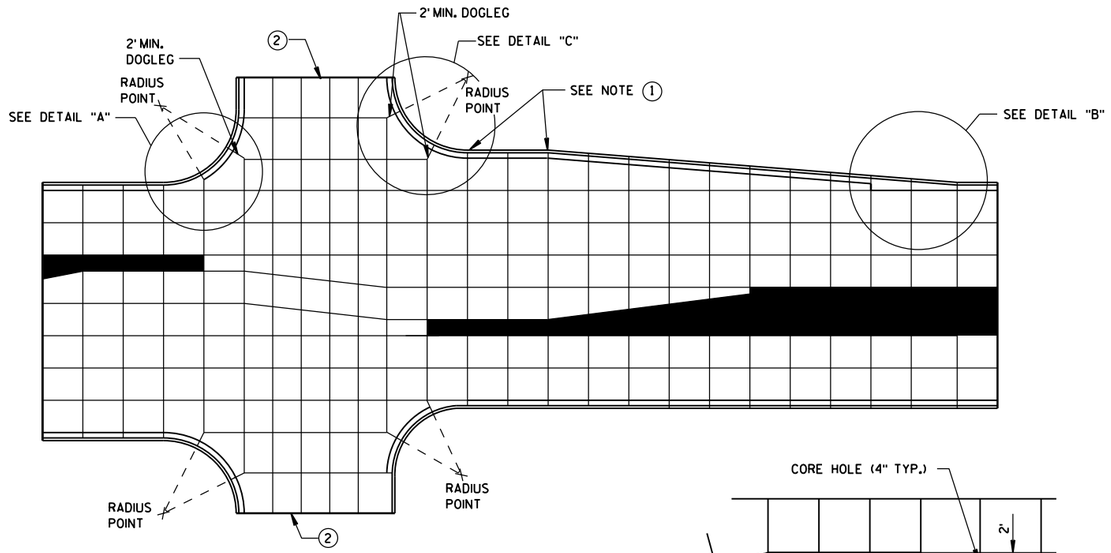
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

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

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

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

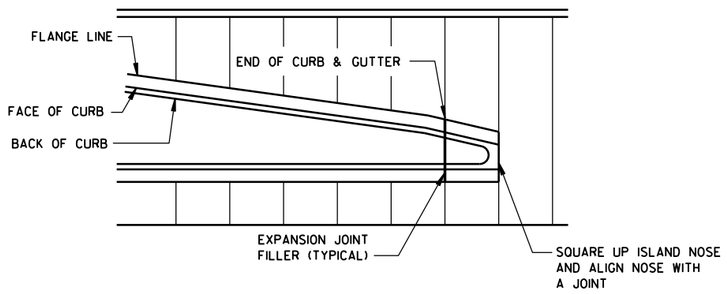
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM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



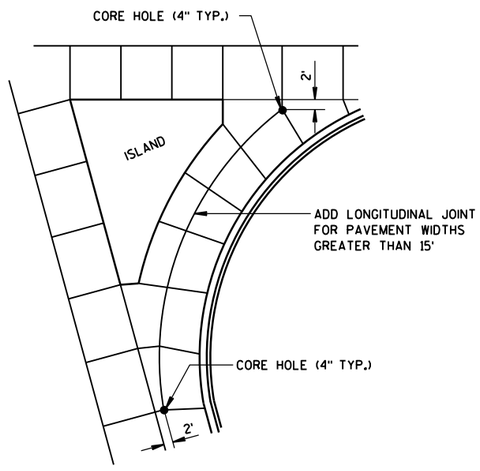

STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

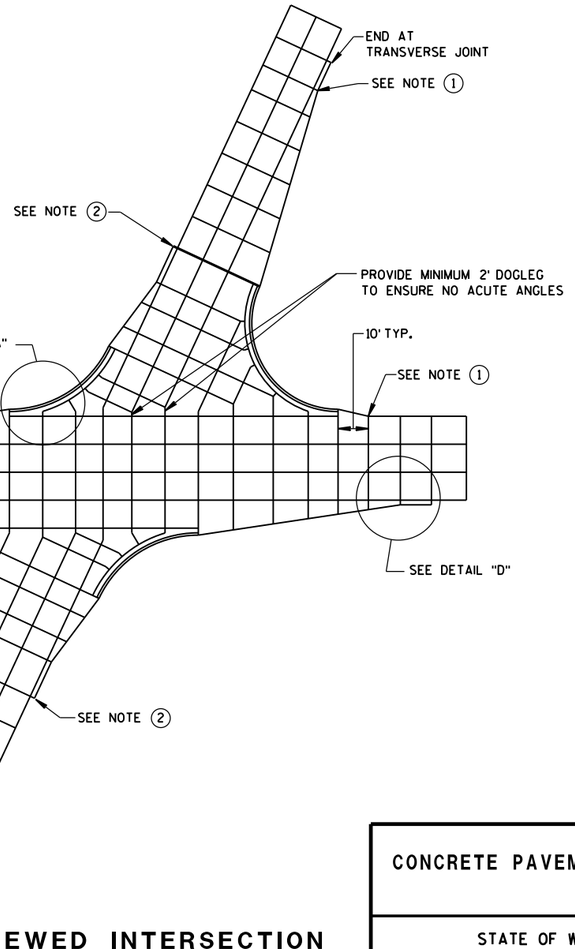
| PAVEMENT DEPTH (D) | CONTRACTION JOINT SPACING |
|---|---|
| 6", 6½" | 12' |
| 7", 7½" | 14' |
| 8" & ABOVE | 15' |




APPROACH TO MEDIAN




LARGE RIGHT TURN




SKEWED INTERSECTION

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR





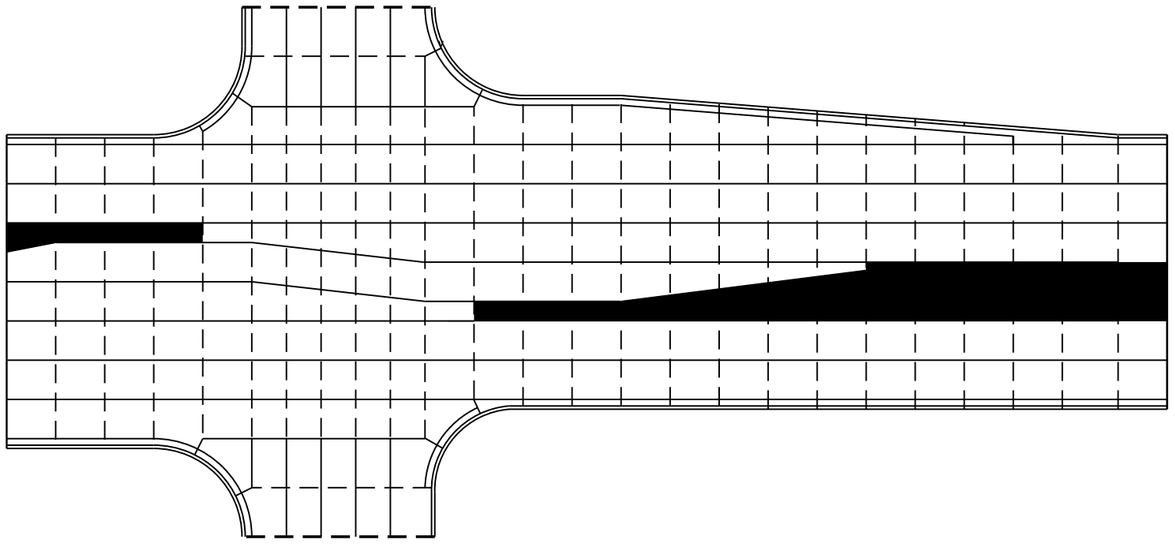
6
S.D.D. 13 C 18-3a

## LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

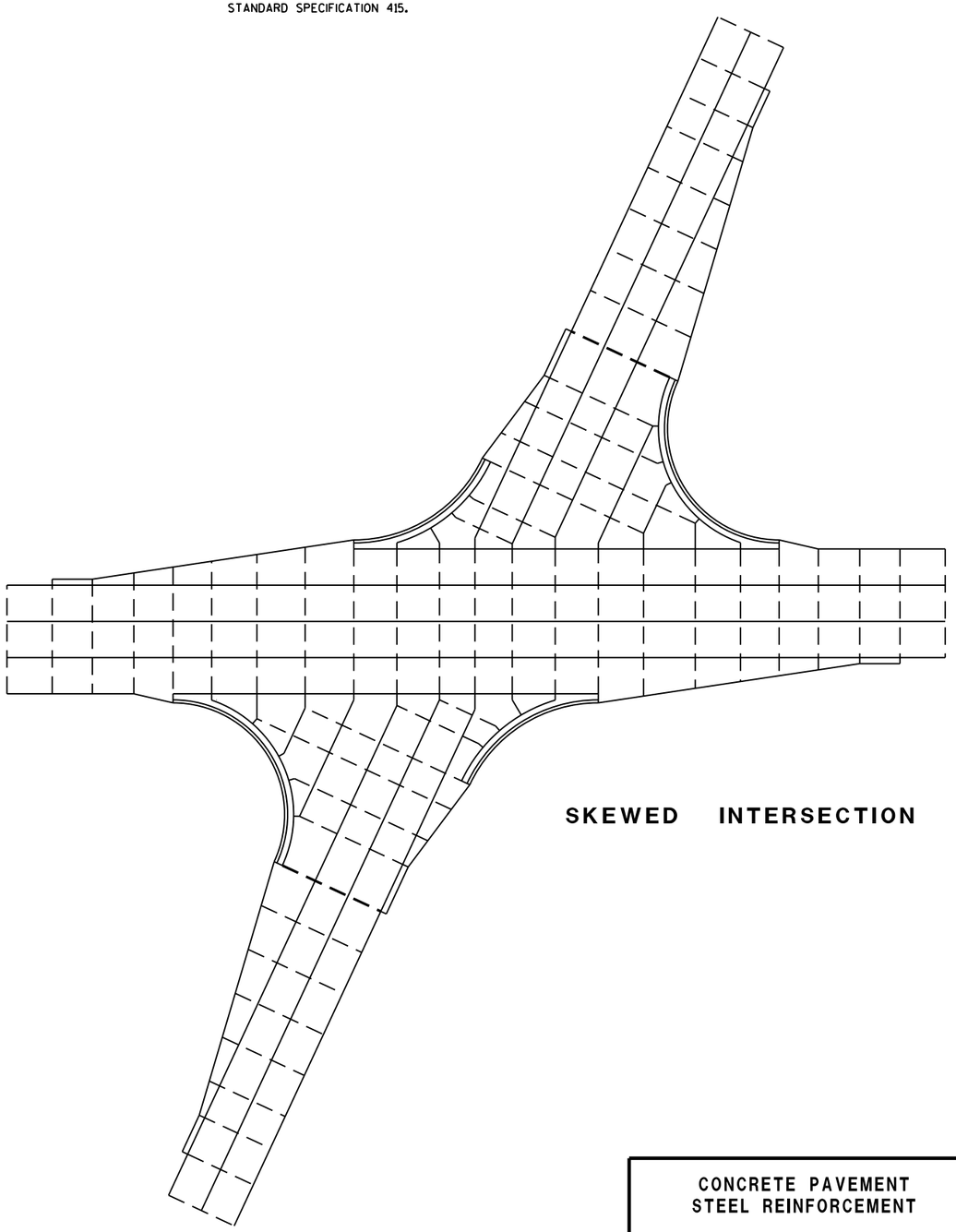
TIED JOINT



STANDARD INTERSECTION

## GENERAL NOTES

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



SKEWED INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

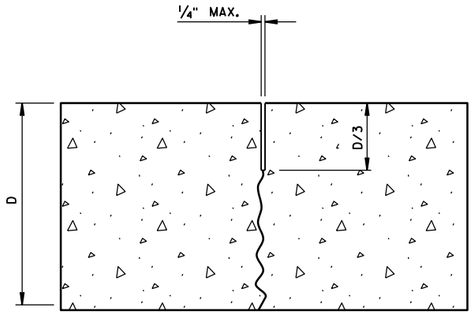


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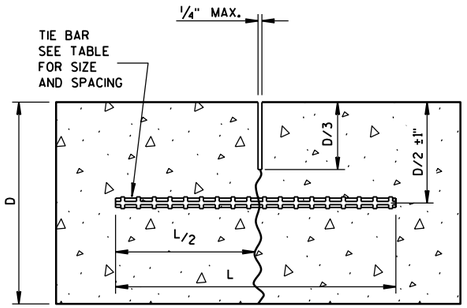
S.D.D. 13 C 18-3b

6

S.D.D. 13 C 18-3b




UNDOWELED-TRANSVERSE




TIED LONGITUDINAL

## TIE BAR TABLE

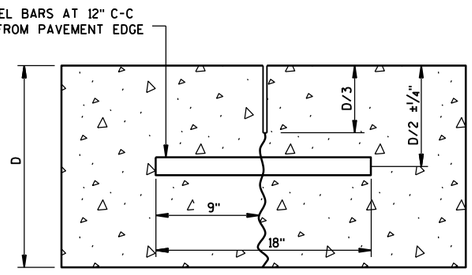
| PAVEMENT DEPTH (D) | TIE BAR SIZE | TIE BAR LENGTH (L) | MAX. TIE BAR SPACING |
|---|---|---|---|
| < 10 1/2" | NO. 4 | 30" | 36" |
| ≥ 10 1/2" | NO. 5 | 36" | 36" |
| | NO. 4* | 30" | 24"** |

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

## GENERAL NOTES

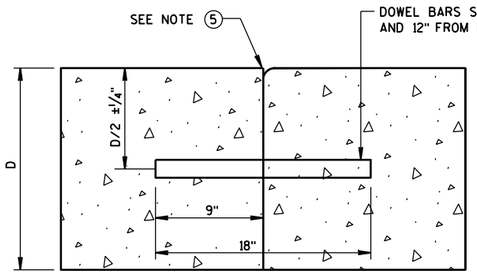
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF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



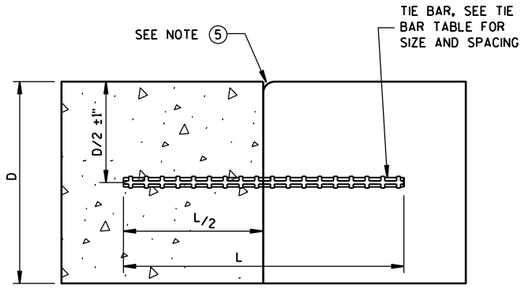

DOWELED-TRANSVERSE

## CONTRACTION JOINTS

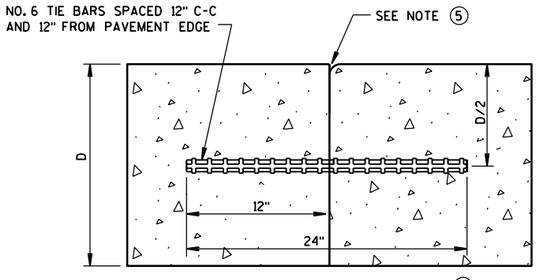
SEE NOTE (2)




DOWELED TRANSVERSE (3)

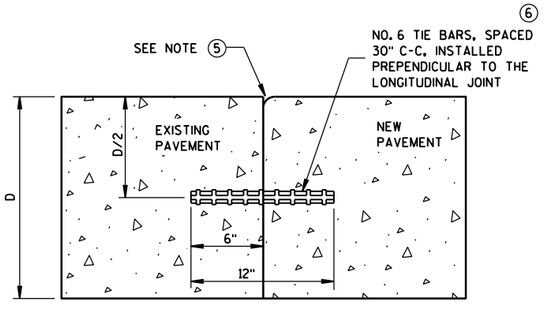



TIED LONGITUDINAL




TIED TRANSVERSE (3)

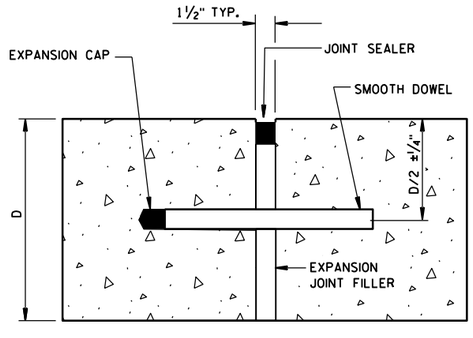
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)




TIED LONGITUDINAL TO EXISTING

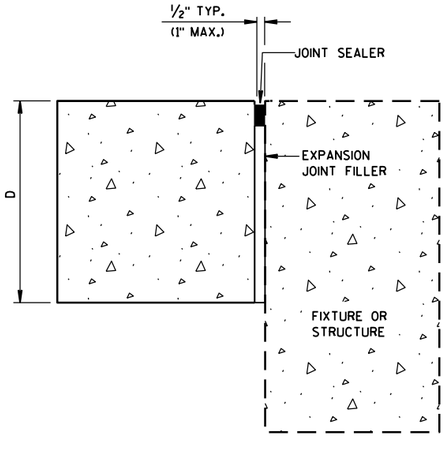
## CONSTRUCTION JOINTS

SEE NOTE (4)




DOWELED-TRANSVERSE

SEE NOTE (1)




UNTIED-LONGITUDINAL

## EXPANSION JOINTS

6

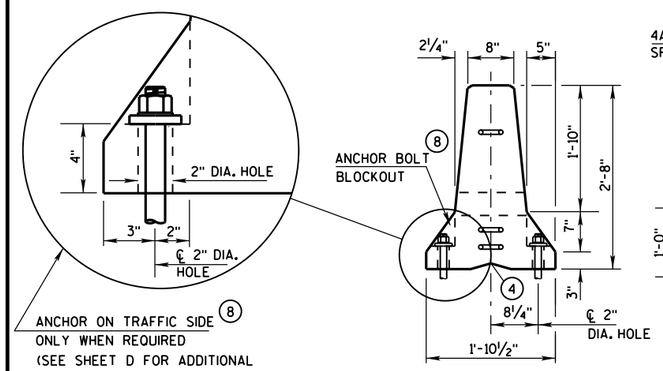
6

S.D.D. 13 C 18-3c

S.D.D. 13 C 18-3c

CONCRETE PAVEMENT
JOINT TYPES

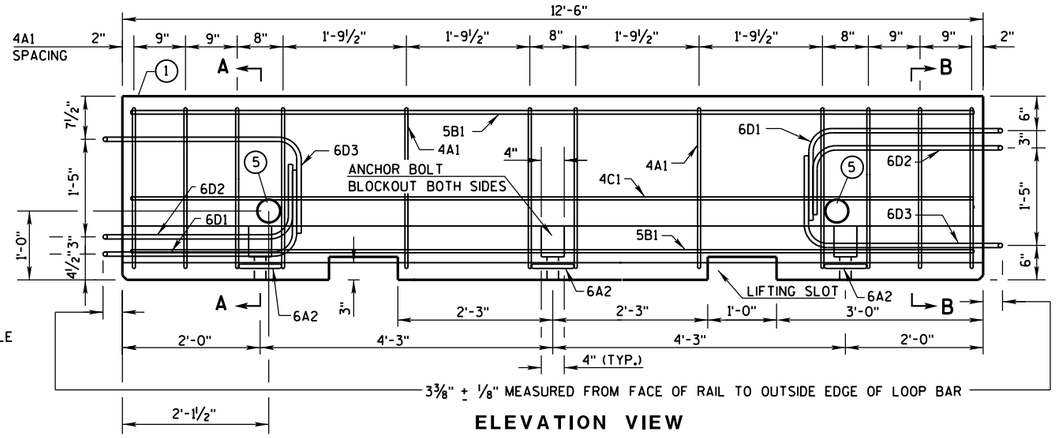
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI



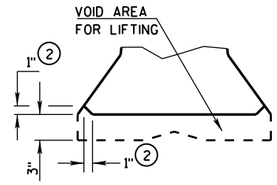




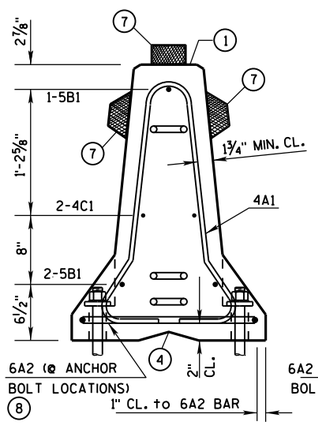
END VIEW



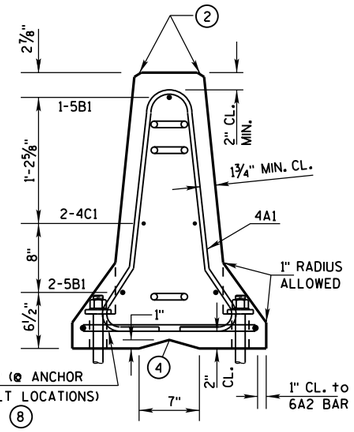

ELEVATION VIEW



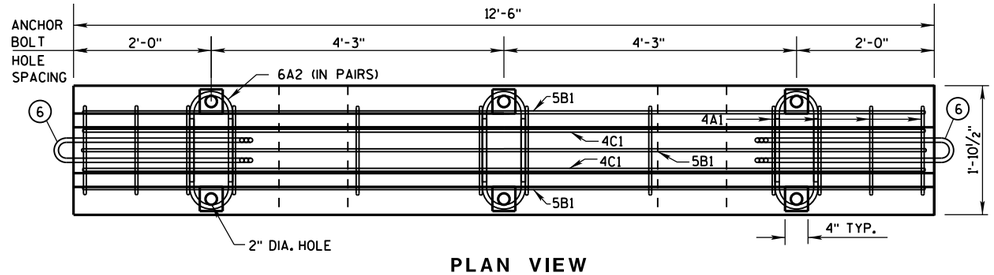

DETAIL "B"
LIFTING SLOT DETAIL




SECTION A-A
(STIRRUP PLACEMENT)

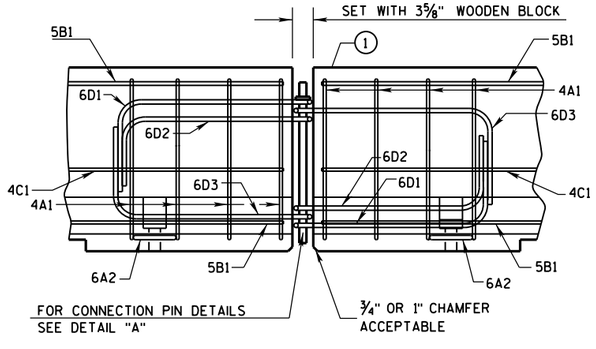



SECTION B-B
(STIRRUP PLACEMENT)

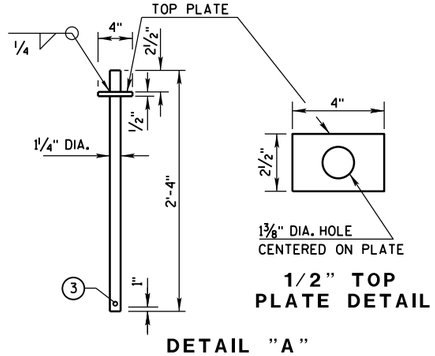



PLAN VIEW

DETAILS OF BARRIER SECTION

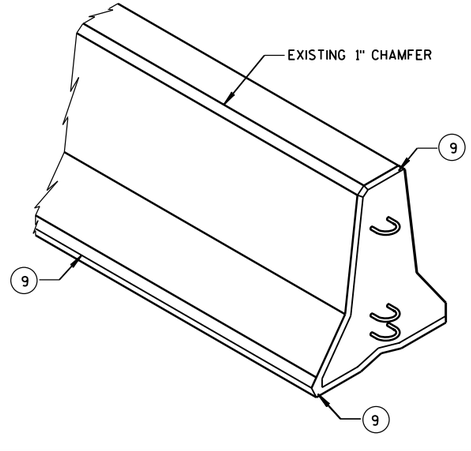



DETAILS OF BARRIER CONNECTION




1/2" TOP
PLATE DETAIL

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




## GENERAL NOTES

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

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

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

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

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

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

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

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

(2) 1" CHAMFER TO PREVENT SPALLING.

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

(4) "V" NOTCH IS OPTIONAL.

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

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

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

(8) SEE SHEET D FOR ANCHORING CRITERIA.

(9) 1" CHAMFER OPTIONAL.

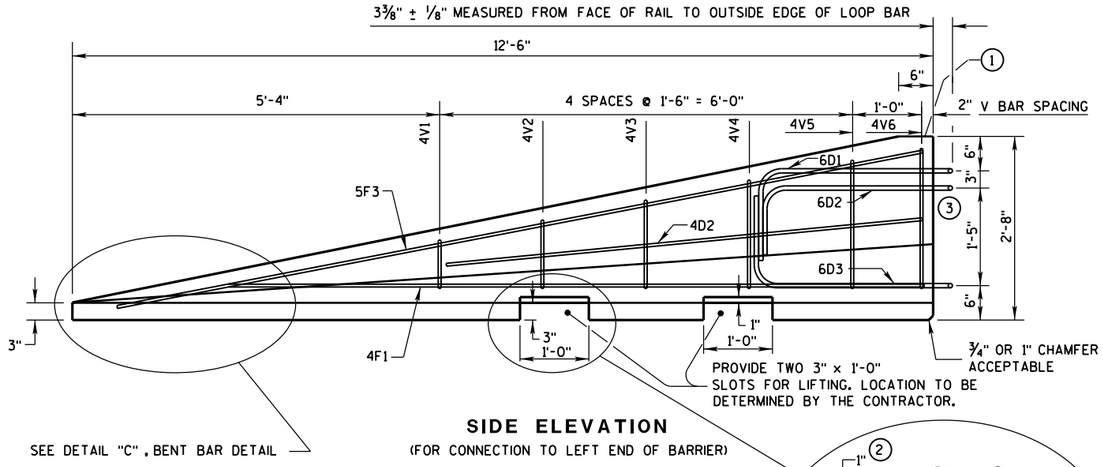
**CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

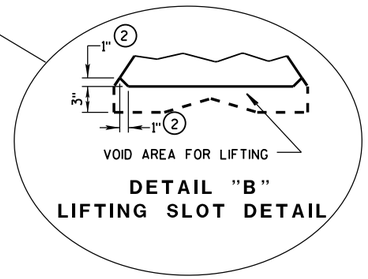



6

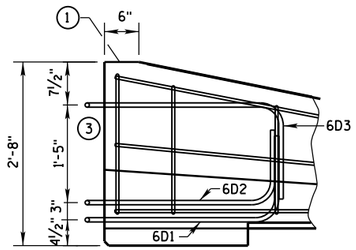
S.D.D. 14 B 7-14a




**SIDE ELEVATION**
(FOR CONNECTION TO LEFT END OF BARRIER)



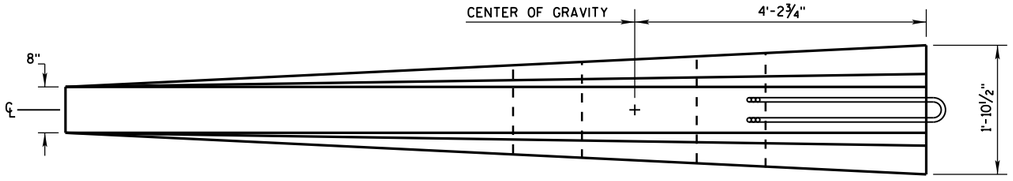

**DETAIL "B"**
**LIFTING SLOT DETAIL**



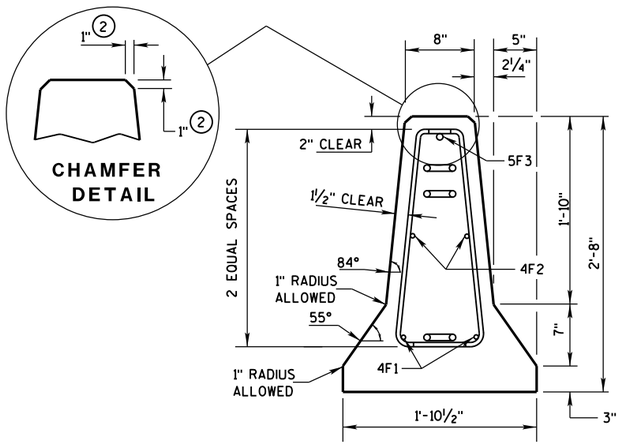

**SIDE ELEVATION**
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

## GENERAL NOTES

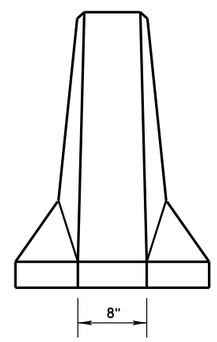
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



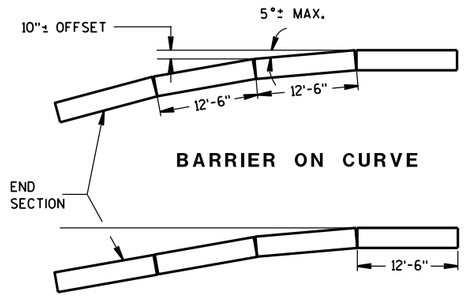

**PLAN VIEW**




**END SECTION**




**FRONT ELEVATION**




**BARRIER ON CURVE**

**FLARE AT BARRIER END**

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

## DETAILS OF BARRIER TAPER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

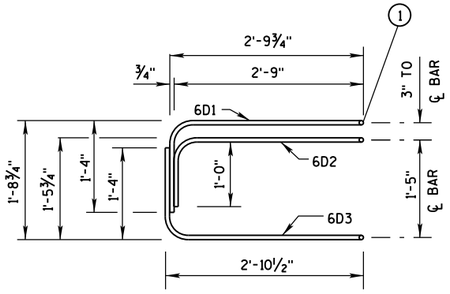



6
S.D.D. 14 B 7-14b

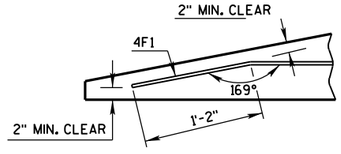
## BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

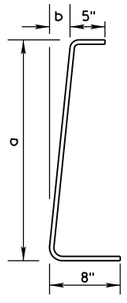
| BAR | BAR SIZE | NO. OF BARS | LENGTH FT. |
|---|---|---|---|
| 4V1 | 4 | 2 | 1'-11" |
| 4V2 | 4 | 2 | 2'-2" |
| 4V3 | 4 | 2 | 2'-6" |
| 4V4 | 4 | 2 | 2'-9" |
| 4V5 | 4 | 2 | 3'-2" |
| 4V6 | 4 | 2 | 3'-4" |
| 4F1 | 4 | 2 | 12'-0" |
| 4F2 | 4 | 2 | 7'-6" |
| 5F3 | 5 | 1 | 11'-9" |
| **LOOP ASSEMBLY**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




ELEVATION
LOOP BAR ASSEMBLY




DETAIL "C"
BENT BAR DETAIL




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

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

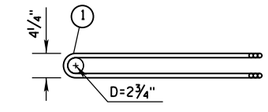
## GENERAL NOTES

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

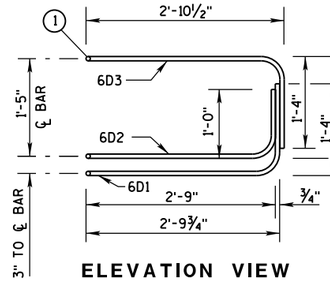
## BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

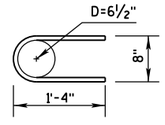
| BAR | BAR SIZE | NO. OF BARS | LENGTH FT. |
|---|---|---|---|
| 4A1 | 4 | 12 | 6'-0" |
| 6A2 | 6 | 6 | 2'-11" |
| 5B1 | 5 | 3 | 12'-2" |
| 4C1 | 4 | 2 | 12'-2" |
| **LOOP ASSEMBLY** | | | |
| 6D1 | 6 | 2 | 8'-5" |
| 6D2 | 6 | 2 | 7'-7" |
| 6D3 | 6 | 2 | 8'-6" |



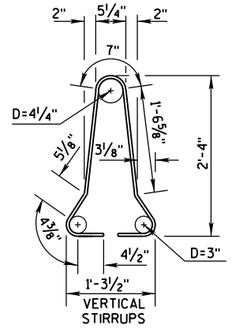

PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)




ELEVATION VIEW




6A2




4A1

BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

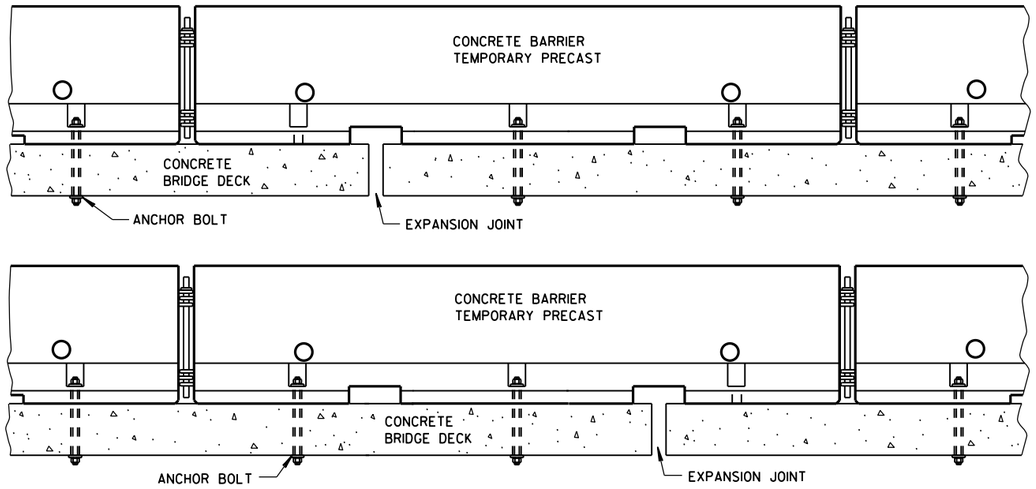






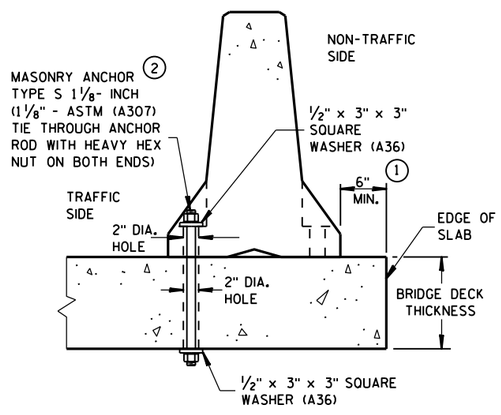
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S.D.D. 14 B 7-14c



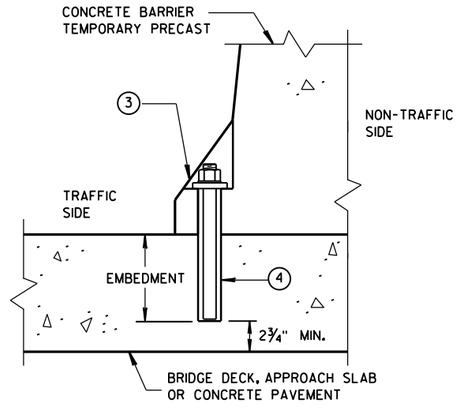

## TREATMENT AT BRIDGE DECK EXPANSION JOINTS

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




## THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)




## REMOVABLE ADHESIVE BONDED ANCHOR ② INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

## GENERAL NOTES

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

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

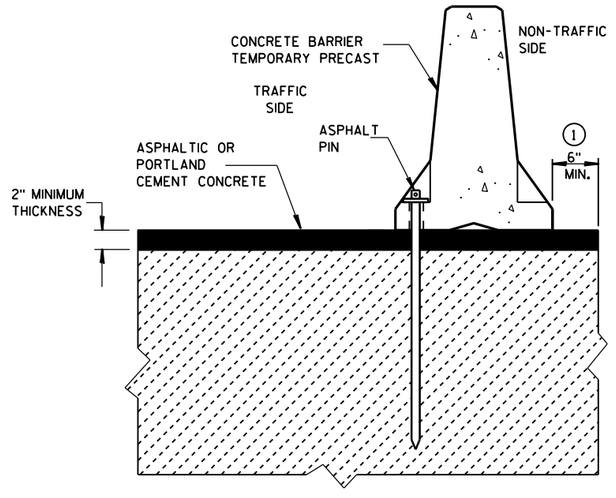
② ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

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

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

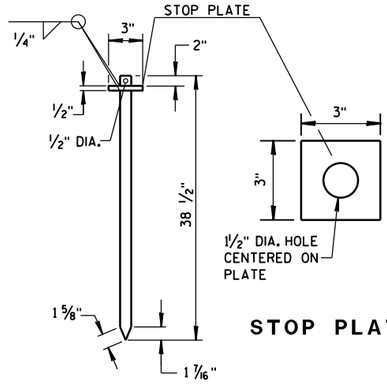
③ 1⅛" DIAMENTER A307 THREADED ROD, ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.

④ ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.




## STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

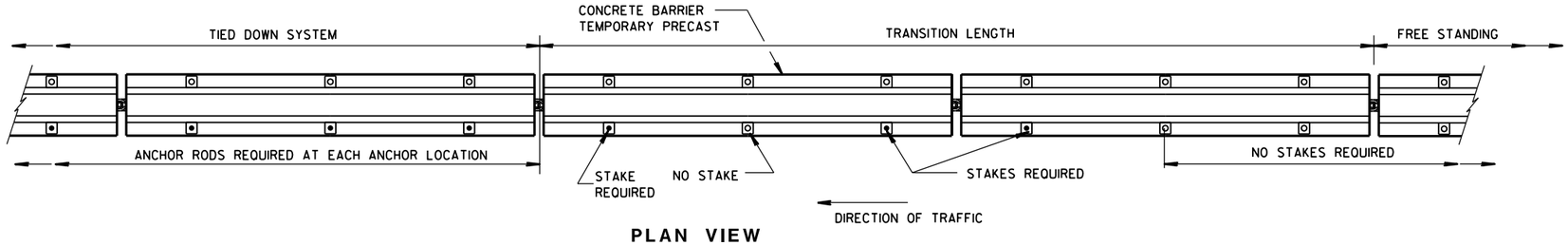
(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)




### STOP PLATE

### ASPHALT PIN

(ASTM A36 STEEL)




PLAN VIEW

## FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

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

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

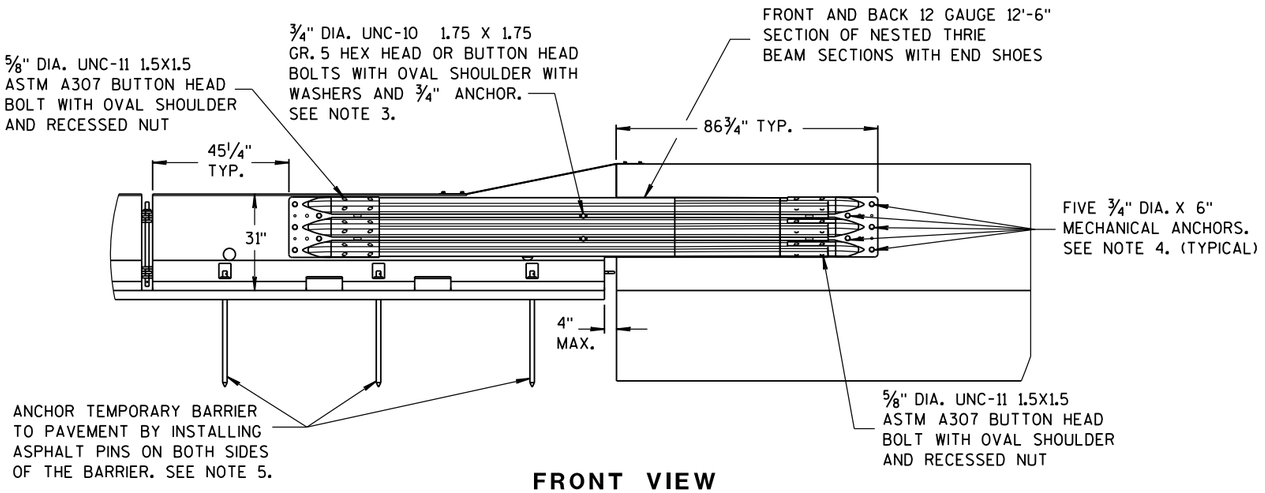




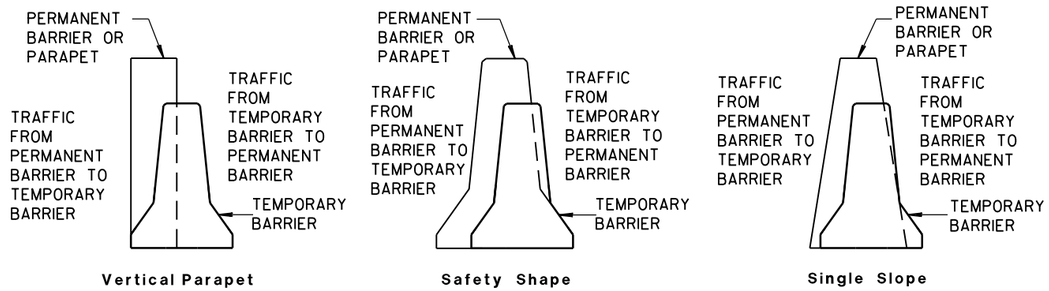
6



S.D.D. 14 B 7-14d




**FRONT VIEW**




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

## NOTES

NESTED THRIE BEAM IS REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS.

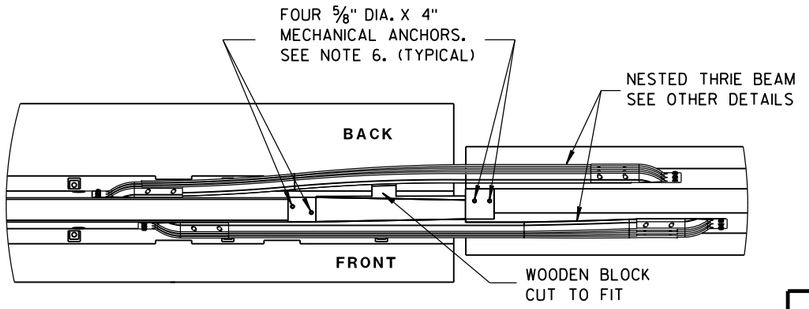
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD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




**BACK VIEW**




**FRONT VIEW**




**PLAN VIEW**

**BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM**

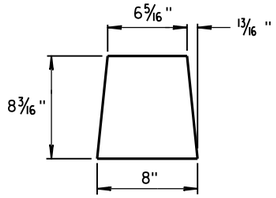
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

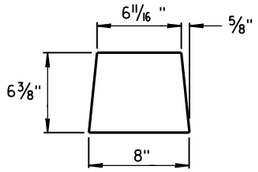




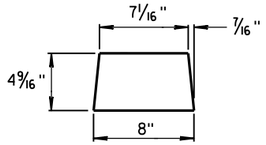
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S.D.D. 14 B 7-14e



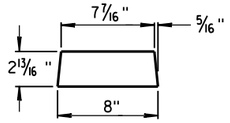

GUSSET 1




GUSSET 2

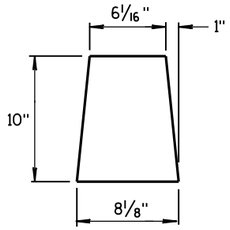



GUSSET 3

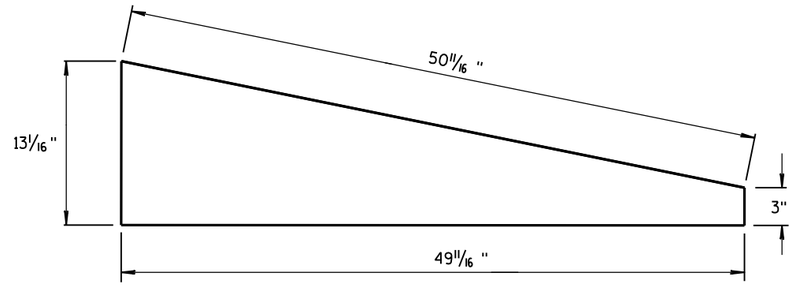



GUSSET 4

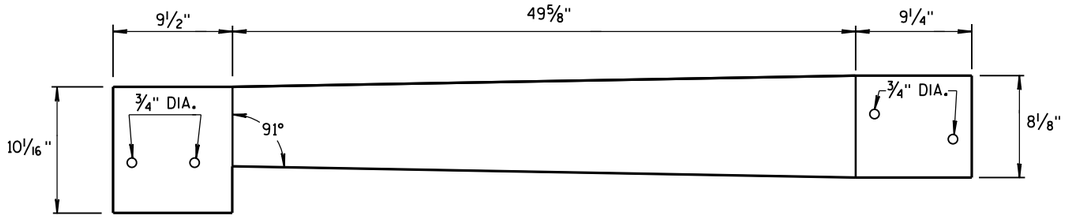
GUSSETS

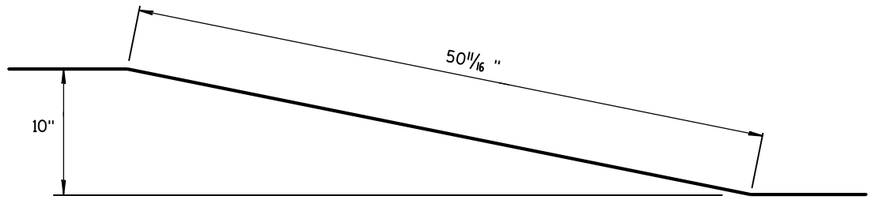



END PLATE




SIDE PLATE

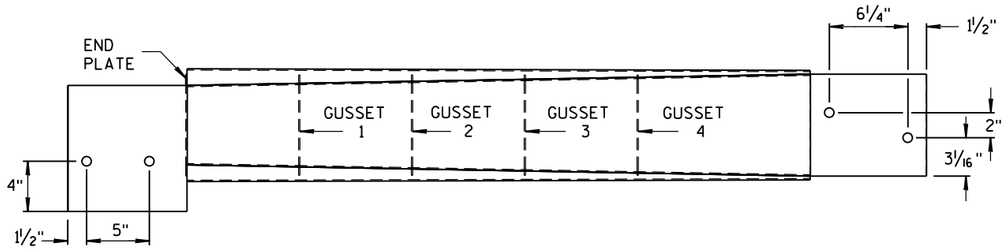


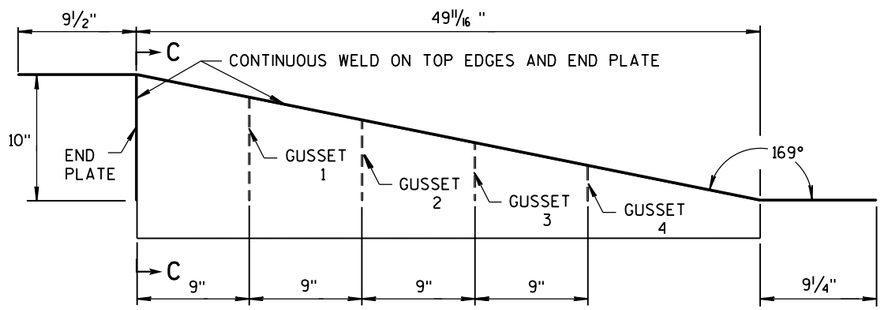



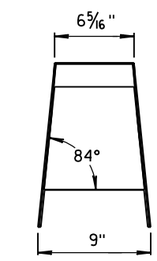

TOP PLATE

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

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




SECTION C-C

NOTES

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

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

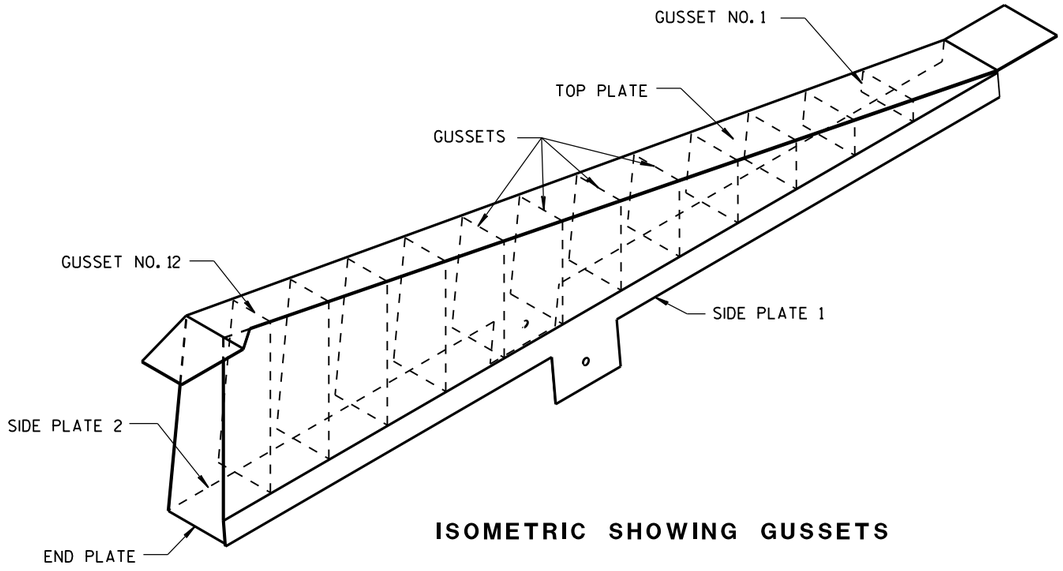
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

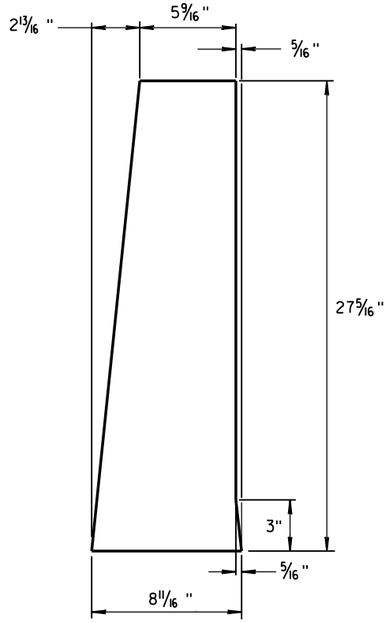



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S.D.D. 14 B 7-14f

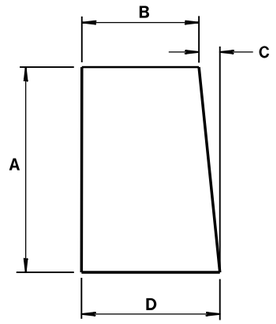



**ISOMETRIC SHOWING GUSSETS**




**END PLATE**

1/8" STEEL PLATE



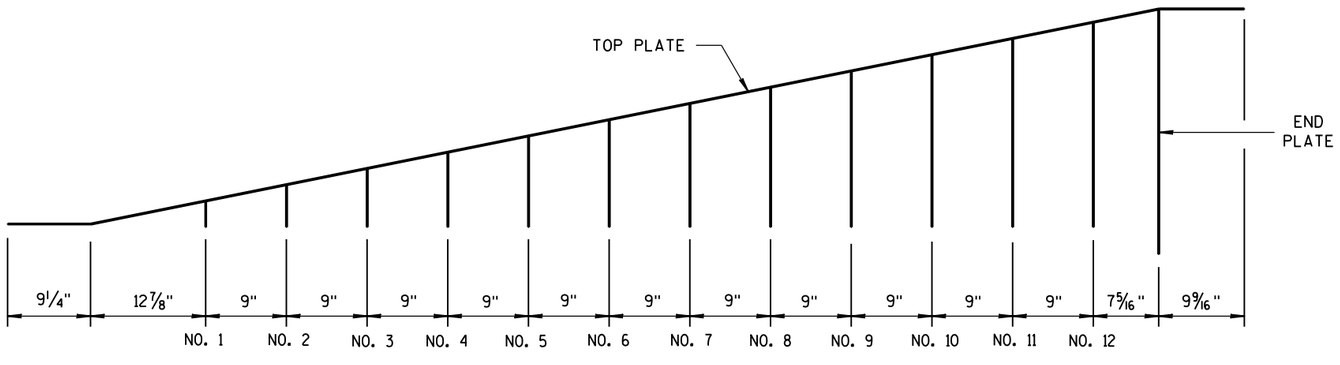

**GUSSETS 1 - 12**

ALL GUSSETS 1/8" STEEL PLATE

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

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

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




**GUSSET LOCATION**

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

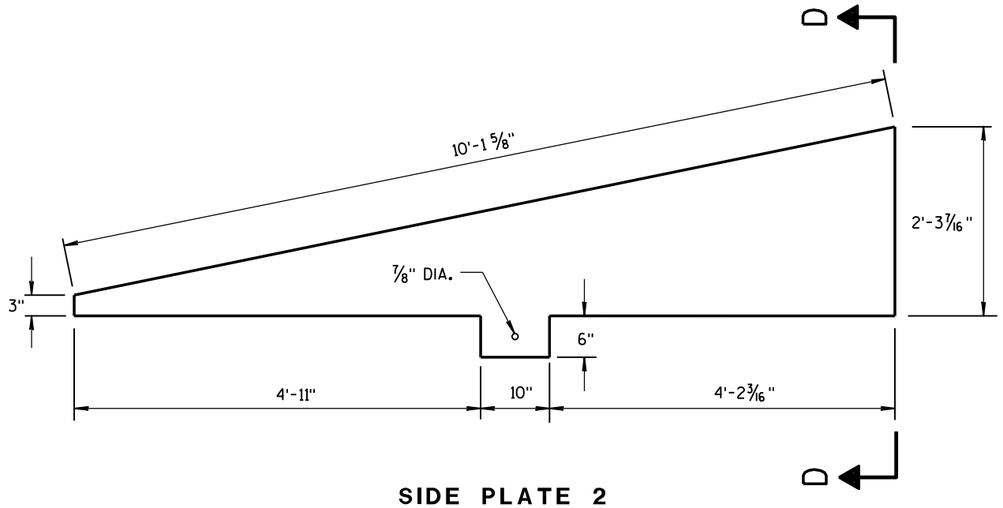
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

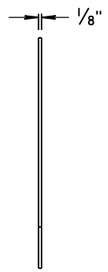



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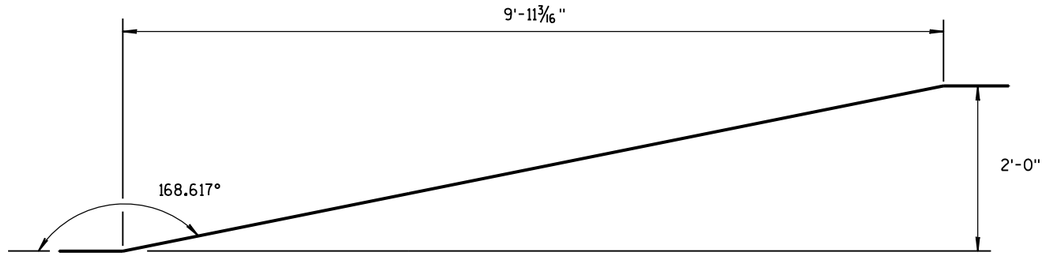

S.D.D. 14 B 7-14g




SIDE PLATE 2

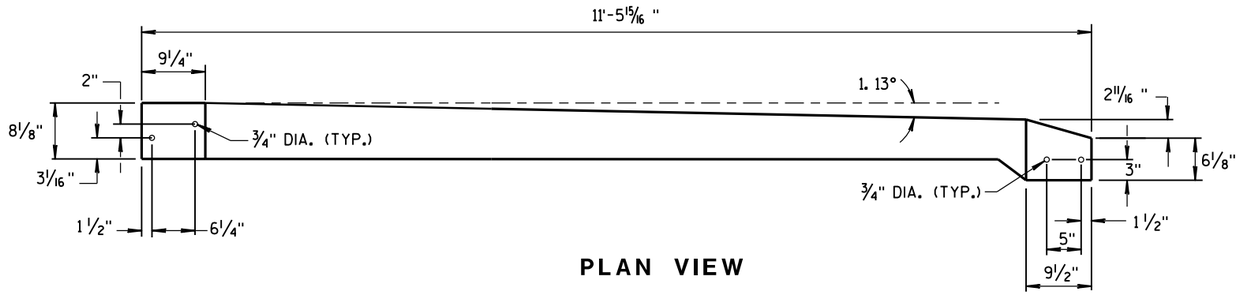



END VIEW



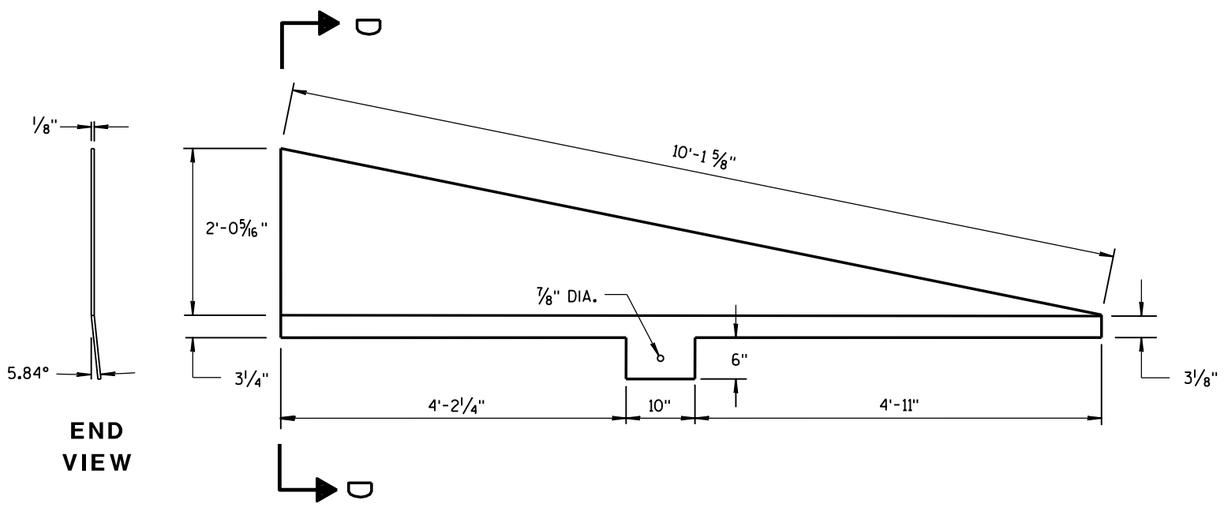

SIDE VIEW

TOP PLATE



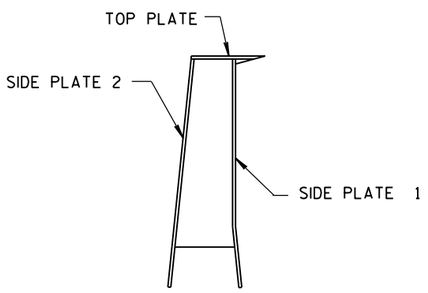

PLAN VIEW

TOP PLATE




END VIEW

SIDE PLATE 1




SECTION D-D

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

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zoaa — ROADWAY STANDARD DEVELOPMENT ENGINEER
FHWA

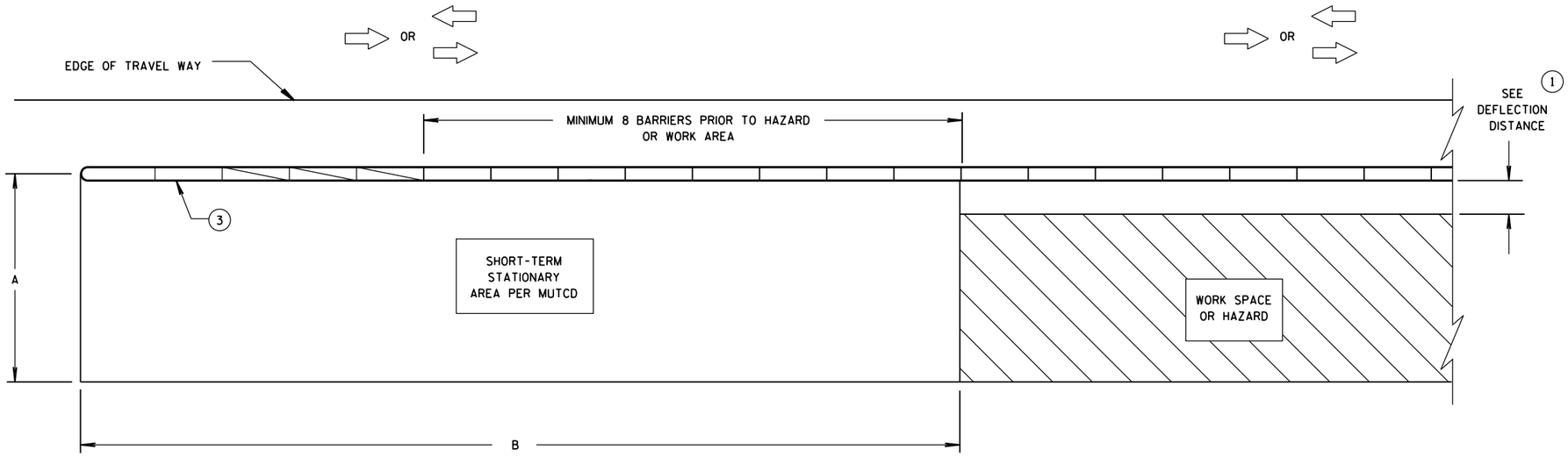
226

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

6

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



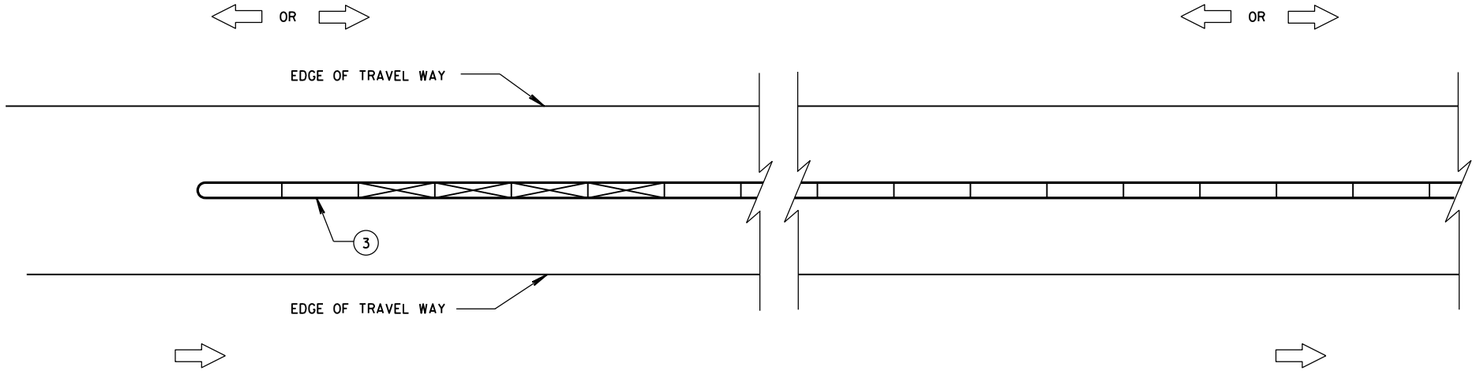

## CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

### DIMENSION A TABLE (2)

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

### DIMENSION B TABLE (2)

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




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

### LEGEND

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

### GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

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

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

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

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

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

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

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

(3) ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

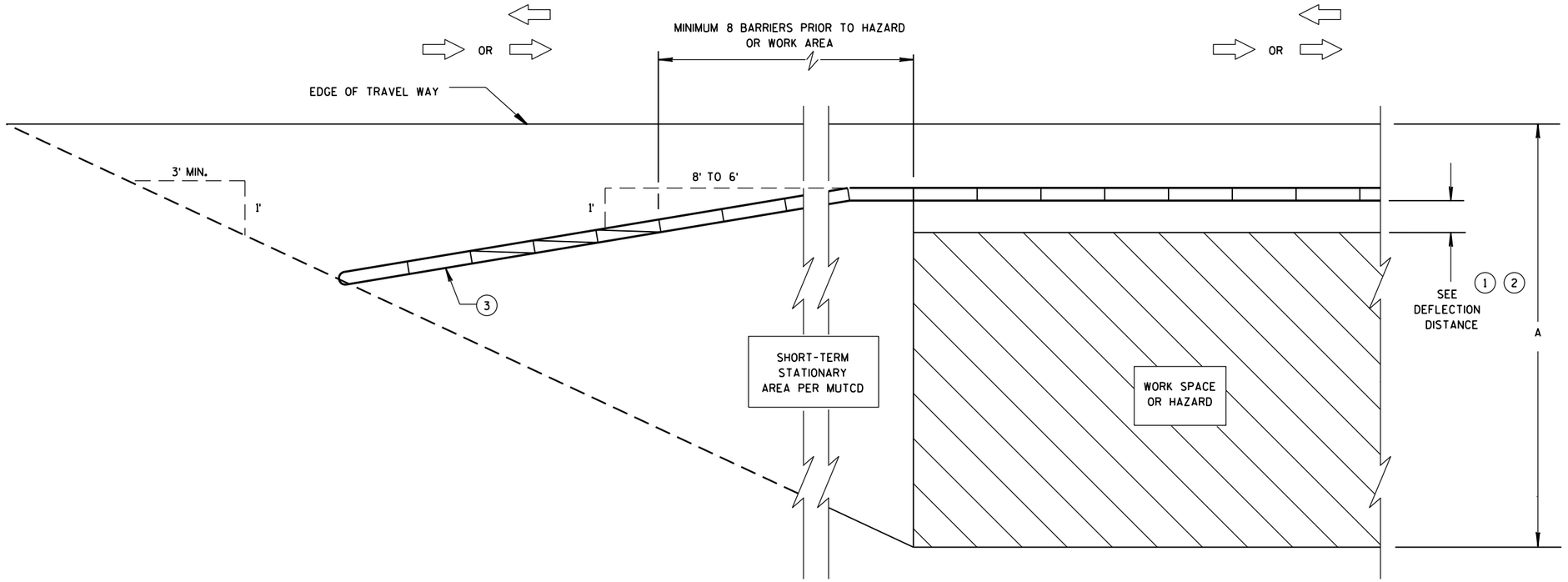
**CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

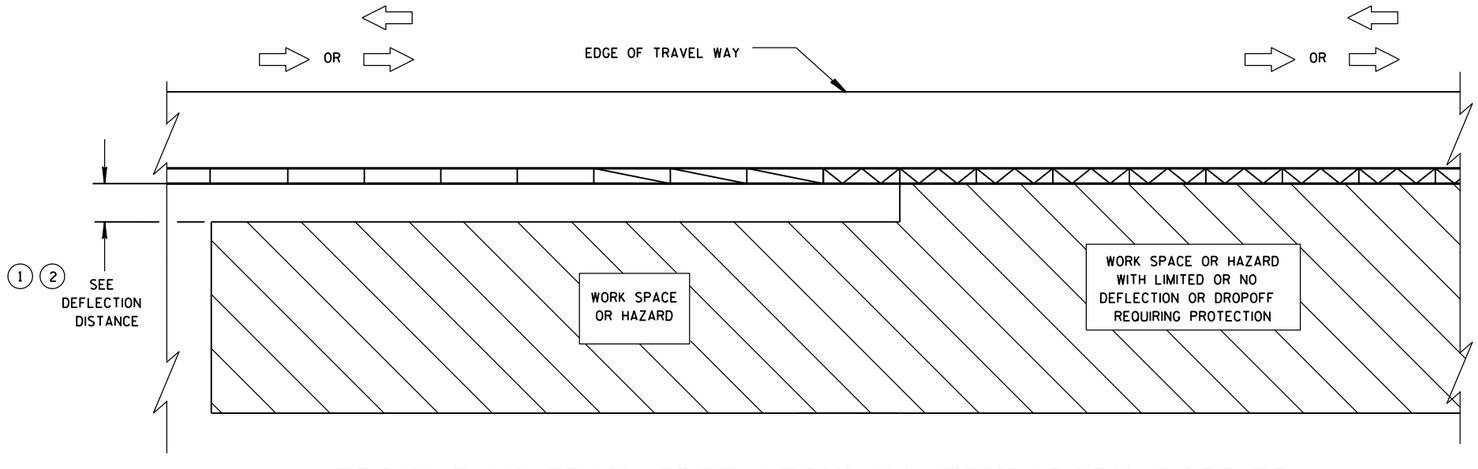



6

S.D.D. 14 B 8-2a
S.D.D. 14 B 8-2a




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




## TRANSITION FROM FREE STANDING TEMPORARY BARRIER TO ANCHORED BARRIER

**LEGEND**

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

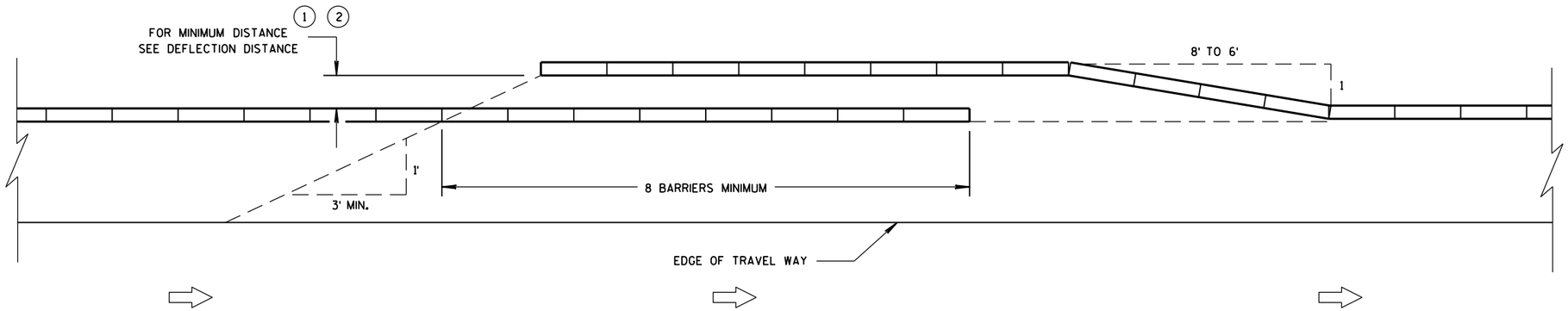


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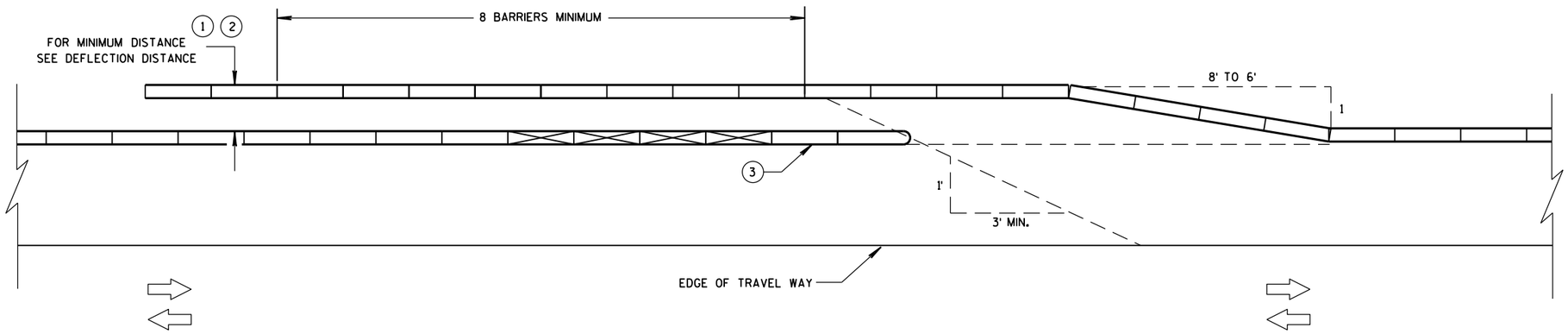
S.D.D. 14 B 8-2b

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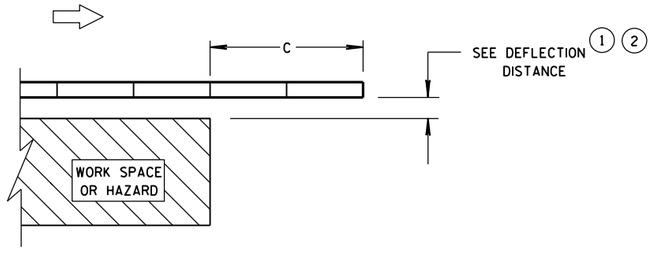
S.D.D. 14 B 8-2b



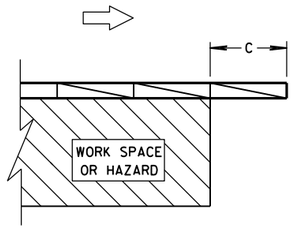

## TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC




## TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC




## ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED




## ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED

### LEGEND

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

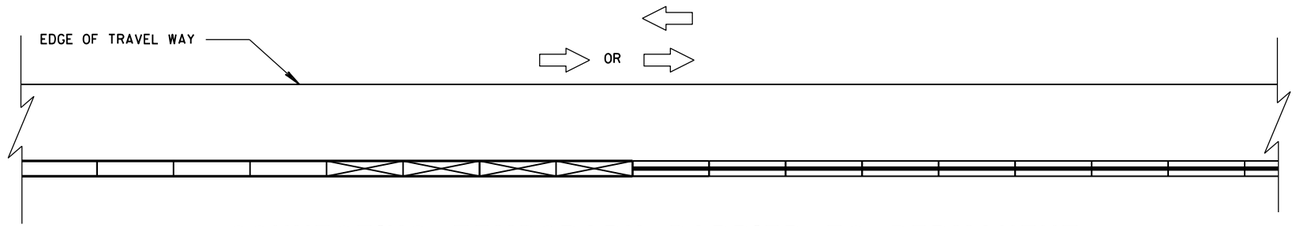
**CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

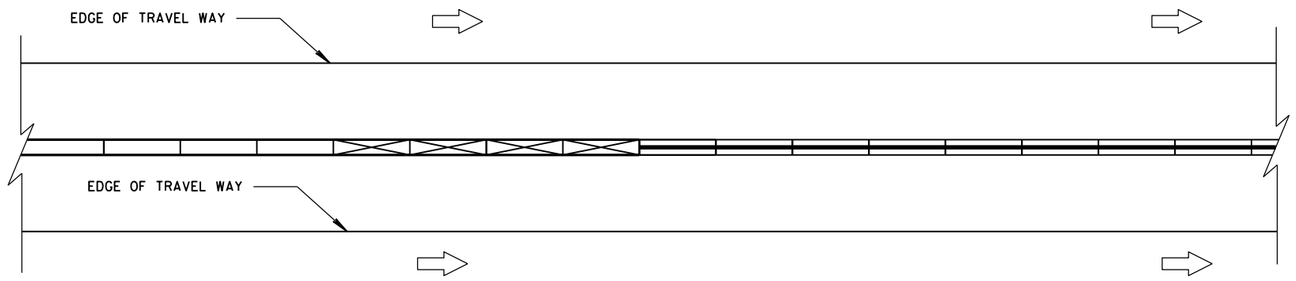



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S.D.D. 14 B 8-2c




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




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

## LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR
SAND BARREL ARRAY

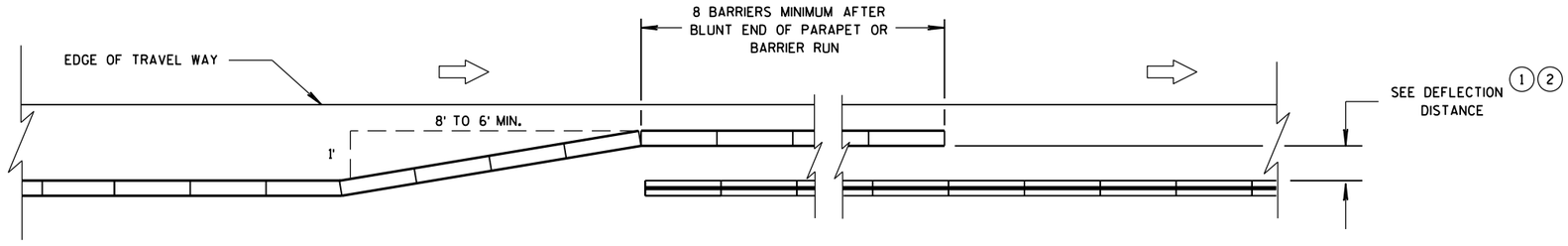
SEE FREE STANDING TRANSITION
TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION
TO TIED-DOWN SYSTEM DETAILS

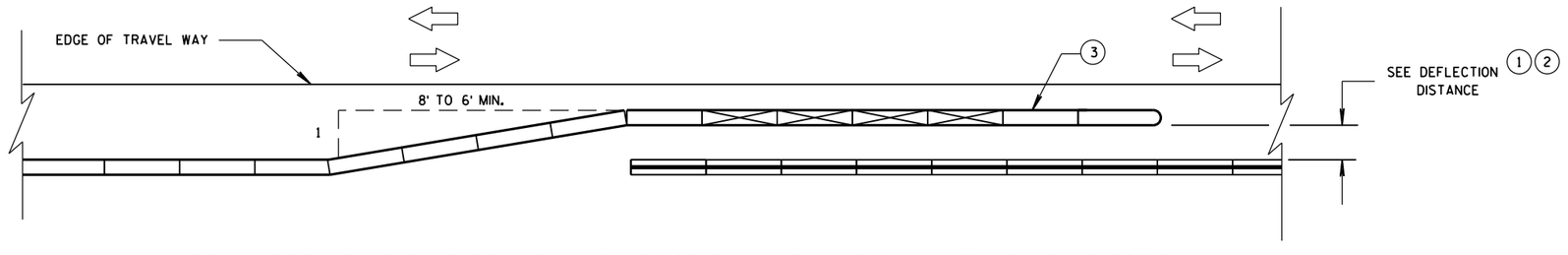
3 PINS PLACED ON
TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER
OR CONCRETE PARAPET

FREE STANDING TEMPORARY
BARRIER




OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
ONE WAY TRAFFIC




OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI




6

S.D.D. 14 B 8-2d

## LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

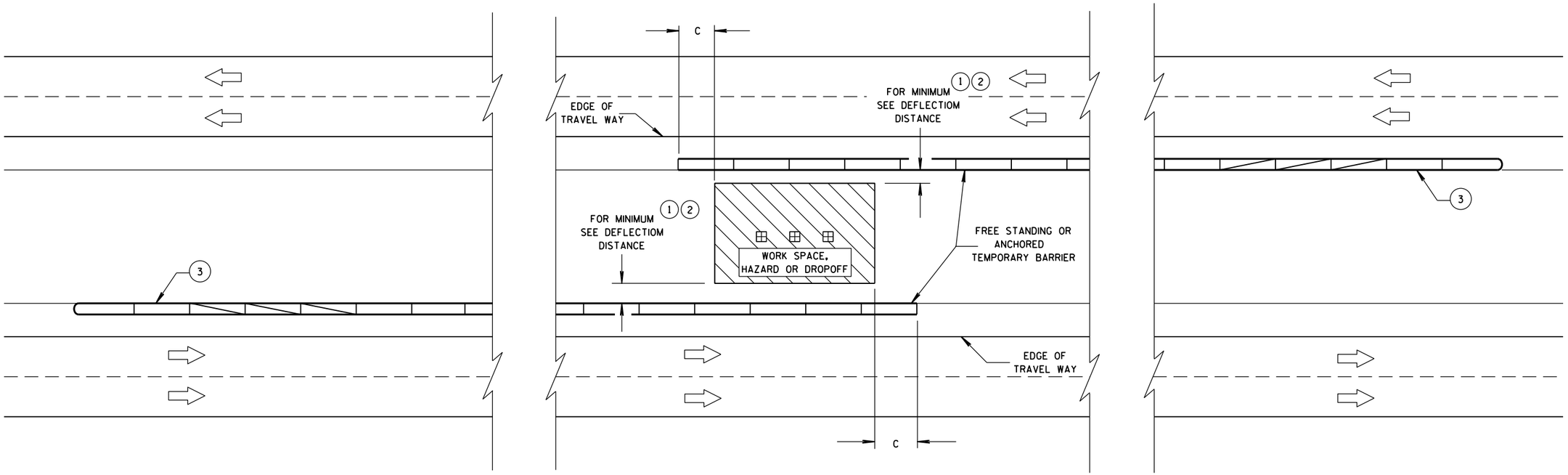
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

## DIMENSION C TABLE (2)

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




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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

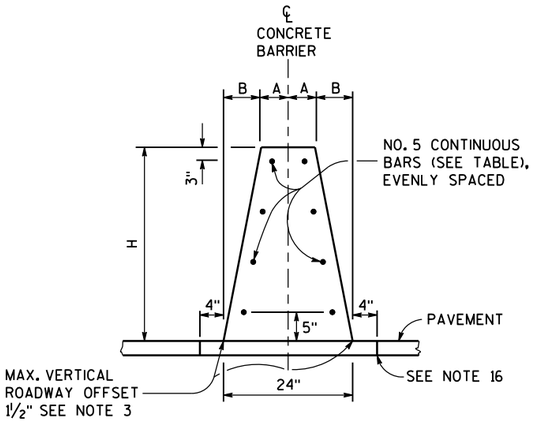
APPROVED
June, 2015
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINNER
231
FHWA

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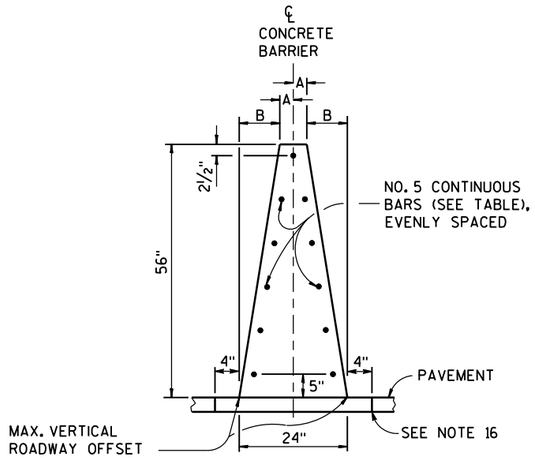
S.D.D. 14 B 8-2e

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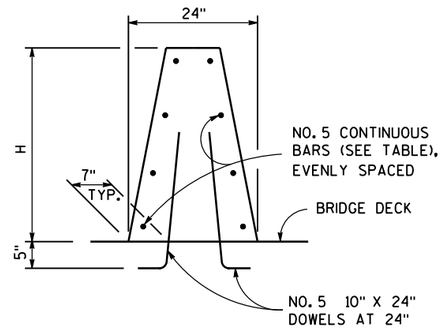
S.D.D. 14 B 8-2e




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




## 56-INCH SINGLE SLOPE CONCRETE BARRIER (TYPE S56)



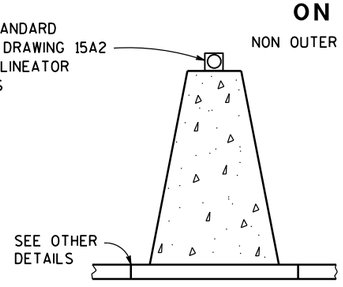

## SINGLE SLOPE CONCRETE BARRIER ON BRIDGE

NON OUTER PARAPET APPLICATION

## GENERAL NOTES

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

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



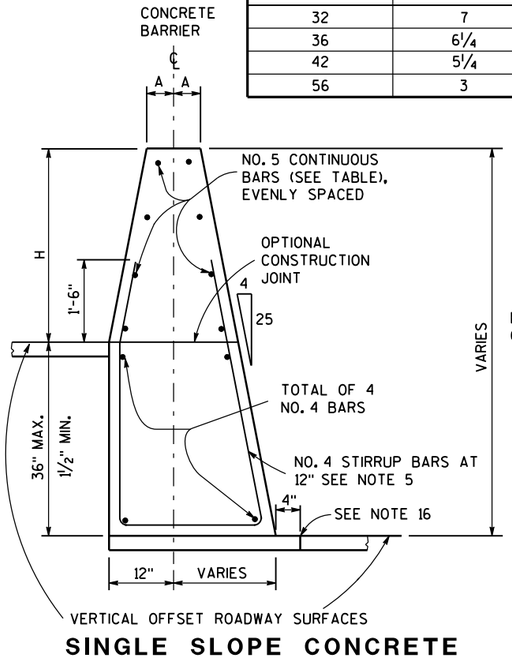

## DELINEATION

## DELINEATOR SPACING ON HORIZONTAL CURVES

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

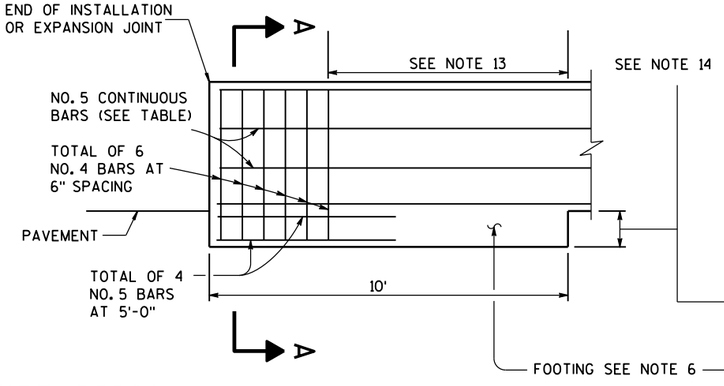
## DELINEATOR SPACING ON RADIUS GREATER THAN 1000 FEET OR TANGENT SECTIONS

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



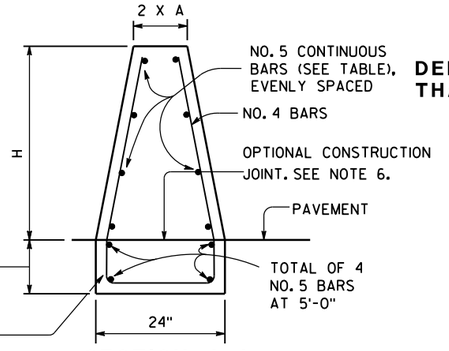

## SINGLE SLOPE CONCRETE BARRIER AND RETAINING WALL (TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)

(BETWEEN ADJACENT ROADWAYS)




## END ANCHOR SINGLE SLOPE CONCRETE BARRIER

AT CONSTRUCTION JOINT




## SECTION A-A

CONCRETE BARRIER SINGLE SLOPE (CBSS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

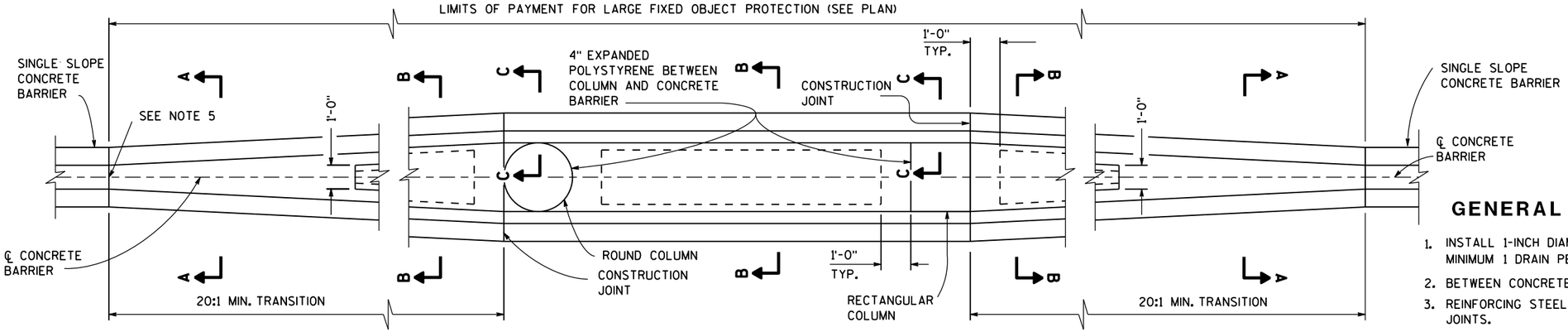




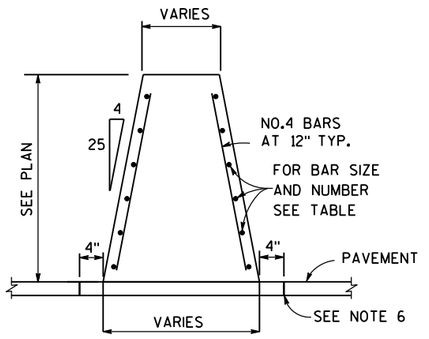
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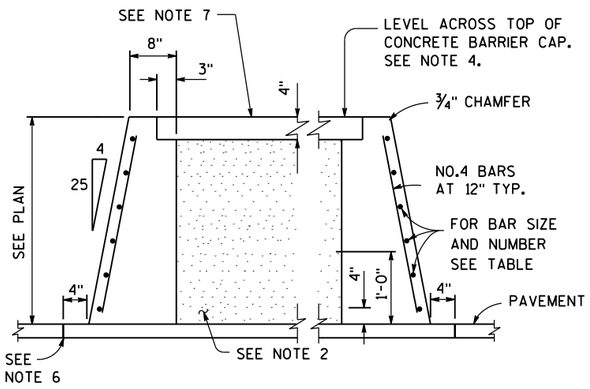
S.D.D. 14 B 32-3a



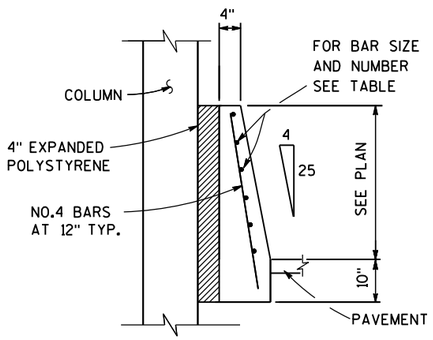

## LARGE FIXED OBJECTS PROTECTION
### TYPE S32, TYPE S36, TYPE S42, TYPE S56



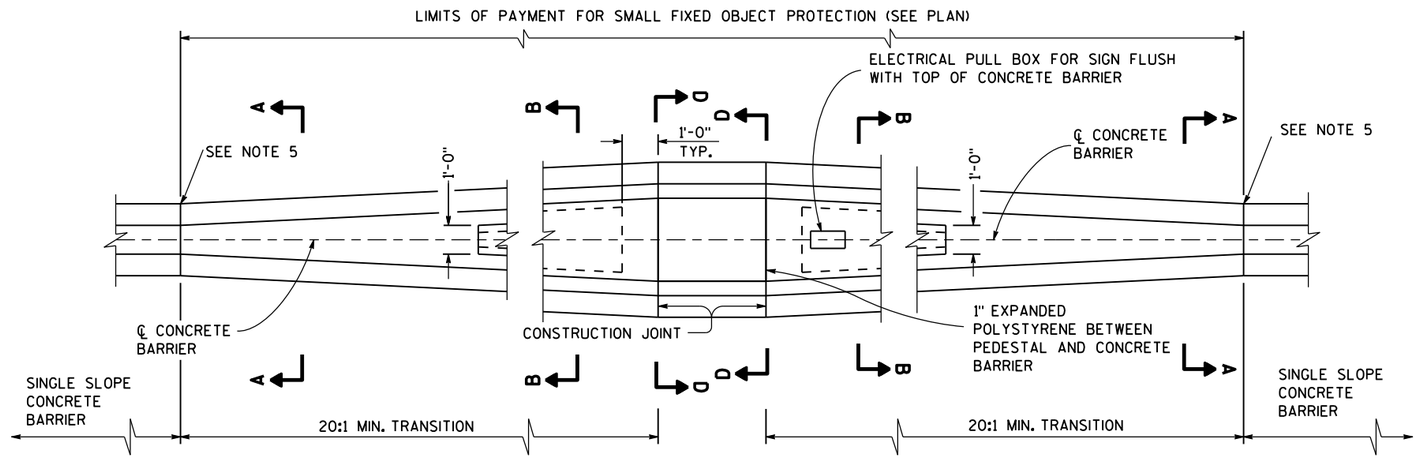

SECTION A-A




SECTION B-B



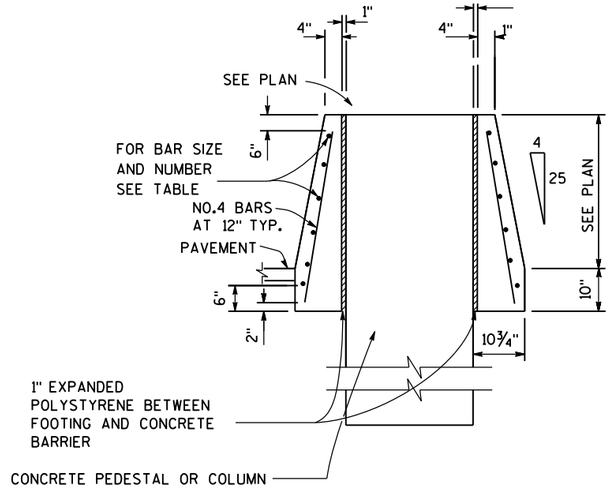

SECTION C-C




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

## GENERAL NOTES

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




SECTION D-D

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

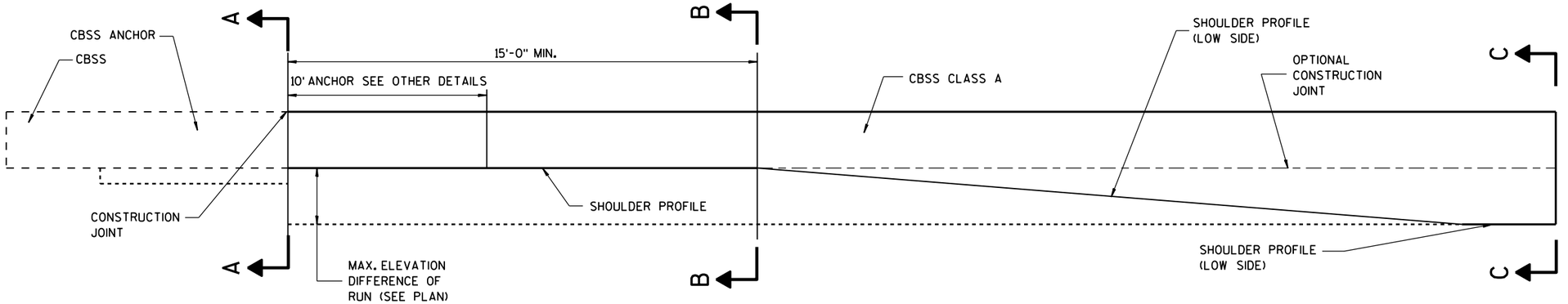
**CONCRETE BARRIER SINGLE SLOPE (CBSS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

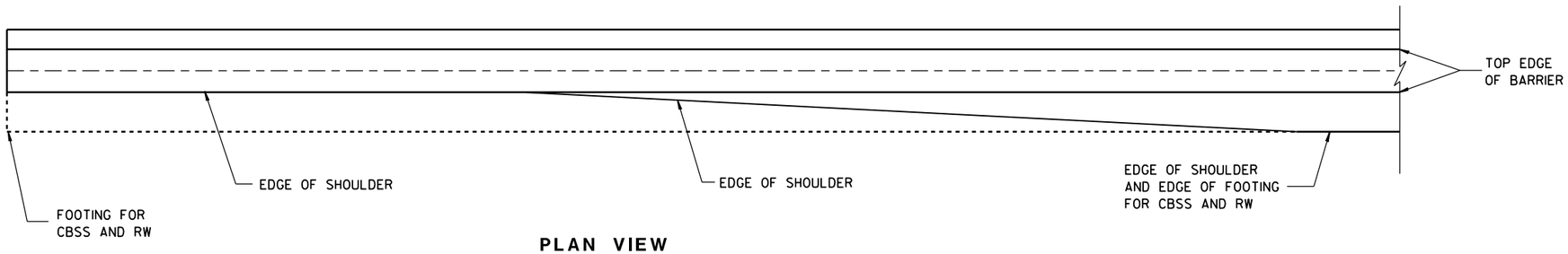



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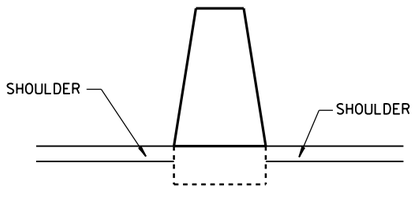
S.D.D. 14 B 32-3b



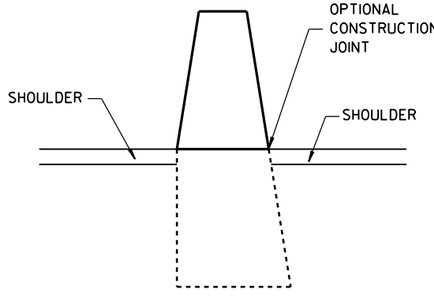

**ELEVATION VIEW**
**TRANSITION TO CBSS CLASS A**
**(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)**



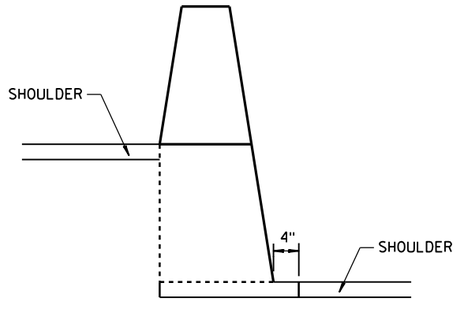

**PLAN VIEW**
**TRANSITION TO CBSS CLASS A**
**(TYPE S32A, TYPE S36A, TYPE S42A, TYPE S56A)**



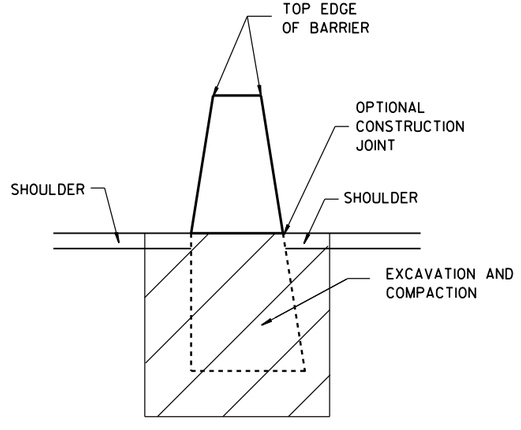

**SECTION A-A**




**SECTION B-B**




**SECTION C-C**

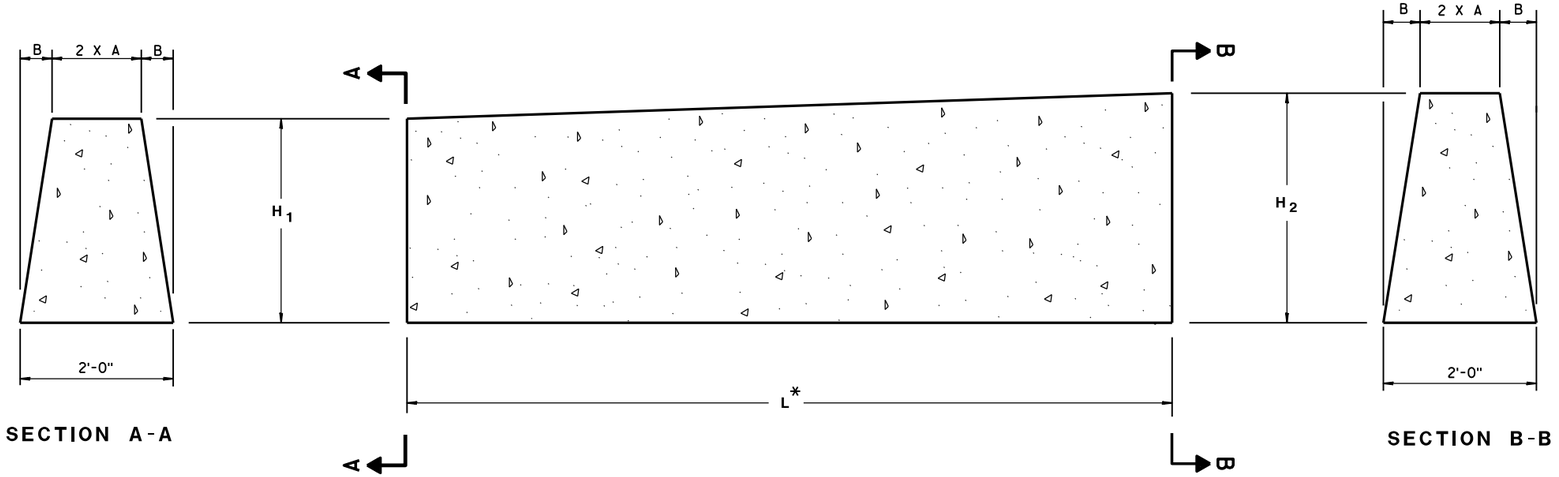



**CONCRETE BARRIER SINGLE SLOPE (CBSS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI




6
S.D.D. 14 B 32-3c




SECTION A-A

SECTION B-B

## DOUBLE COLD JOINT HEIGHT TRANSITION

### BARRIER DIMENSIONS

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

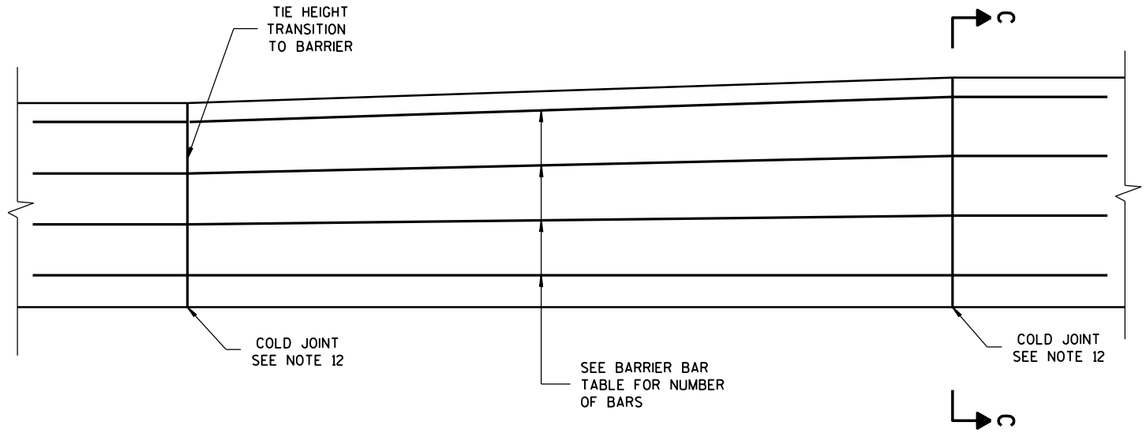
MULTIPLE HEIGHT TRANSITIONS MAY BE USED IN SEQUENCE TO GET TO APPROPRIATE HEIGHT.

USE COLD JOINT TO CONNECT MULTIPLE HEIGHT TRANSITIONS.

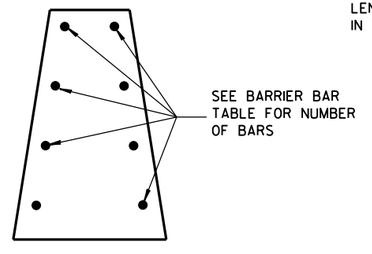
### BARRIER BARS

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

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




STEEL REINFORCEMENT DETAIL




SECTION C-C

**CONCRETE BARRIER SINGLE SLOPE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2014 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

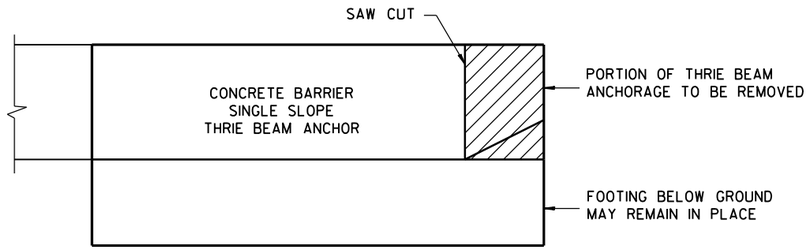


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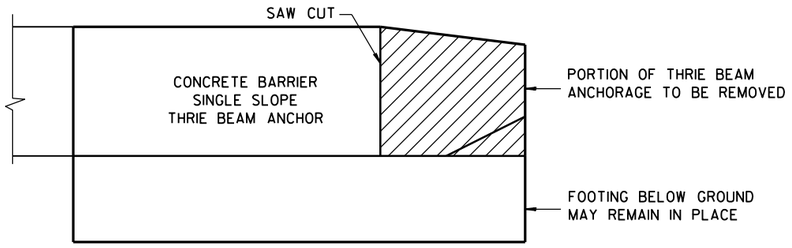
S.D.D. 14 B 32-3d

6

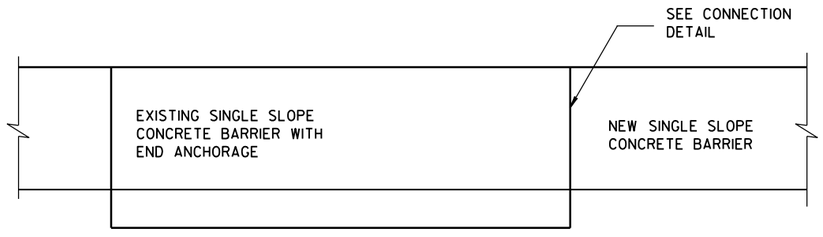
S.D.D. 14 B 32-3d



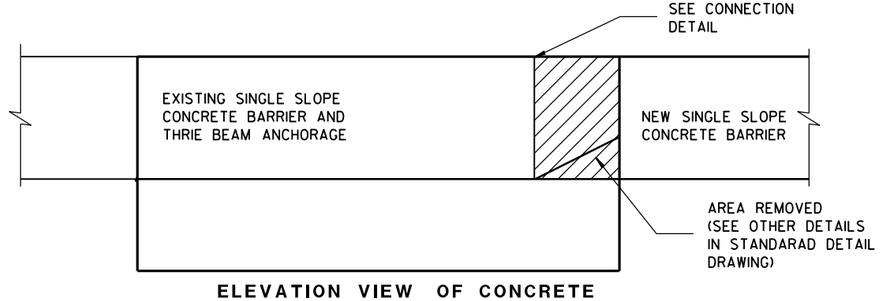

**REMOVAL AREA OF**
**32" CONCRETE THRIE BEAM ANCHORAGE**



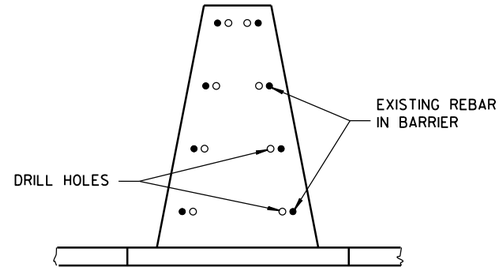

**REMOVAL AREA OF CONCRETE THRIE BEAM**
**ANCHORAGE WITH HEIGHT GREATER THAN 32"**




**ELEVATION VIEW OF CONCRETE**
**BARRIER EXTENSION NEAR END ANCHORAGE**



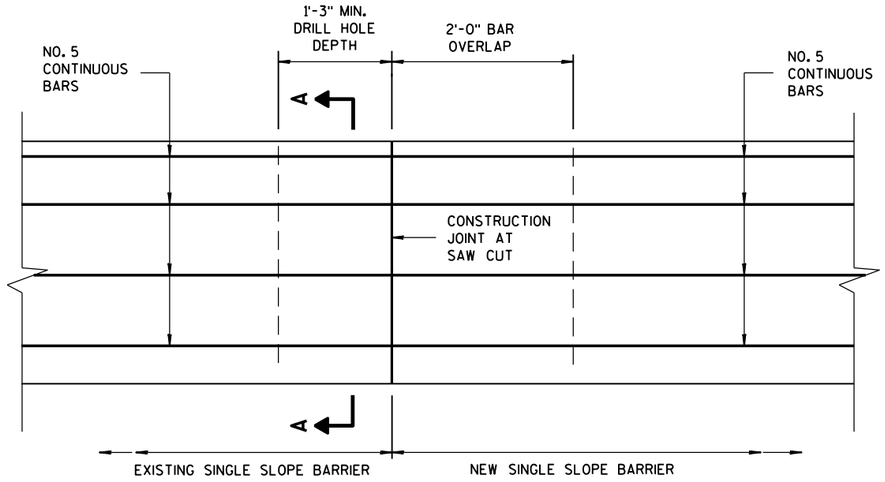

**ELEVATION VIEW OF CONCRETE**
**BARRIER EXTENSION NEAR THRIE BEAM TERMINAL**



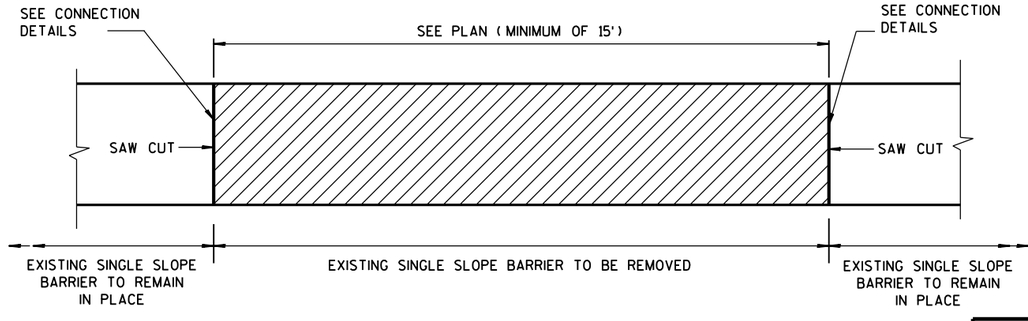

**SECTION A-A**

## GENERAL NOTES

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




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




**ELEVATION FILE**
**BARRIER REMOVAL AND REPLACEMENT**

**CONCRETE BARRIER**
**SINGLE SLOPE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

# RETROFIT OR REPAIR SINGLE SLOPE CONCRETE BARRIER



6

S.D.D. 14 B 32-3e

6

S.D.D. 14 B 32-3e

## GENERAL NOTES

(1) WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

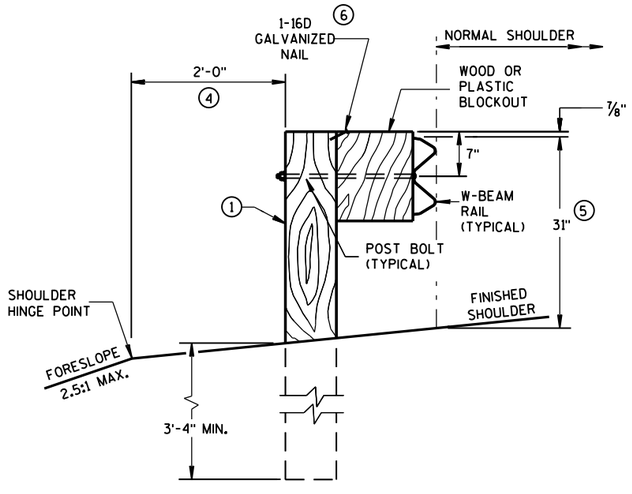
(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½ INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

(4) WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

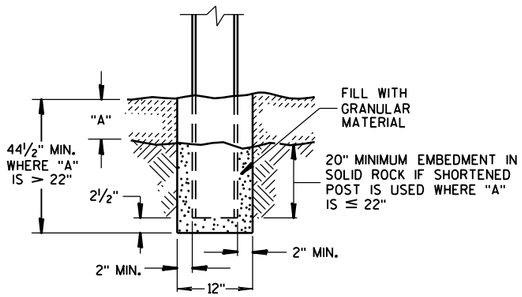
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

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



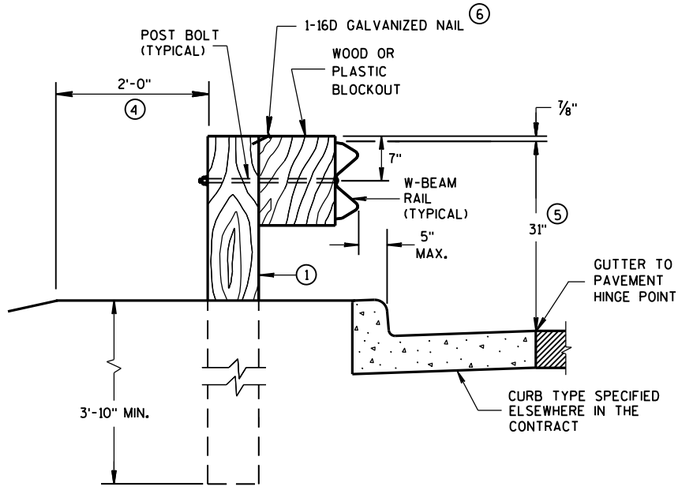

END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



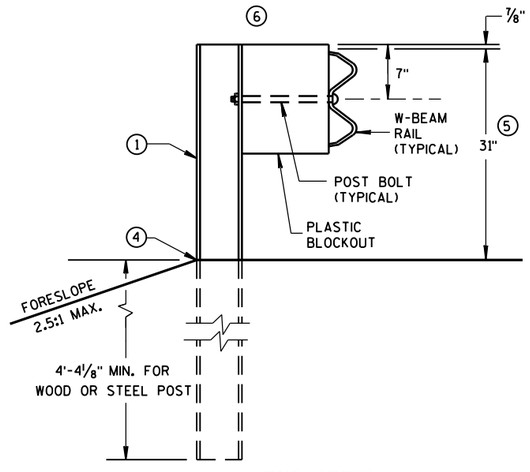

END VIEW

SETTING STEEL OR WOOD POST IN ROCK (3)



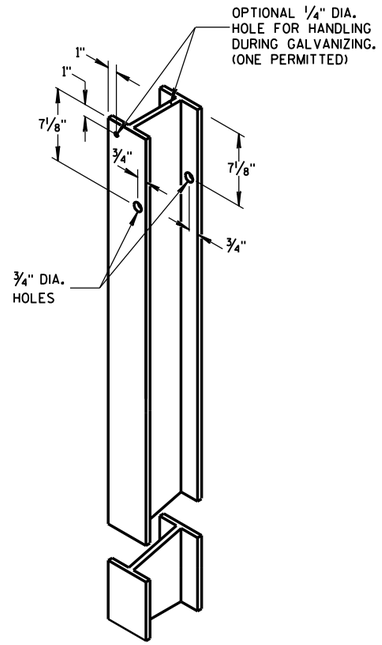

END VIEW

LOCATED ALONG A CURBED ROADWAY

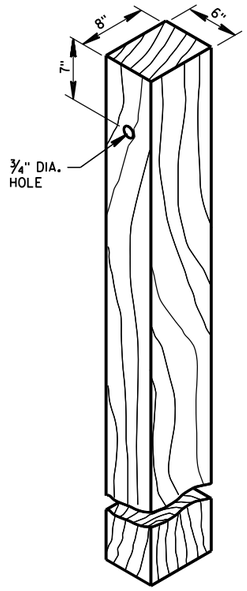



END VIEW

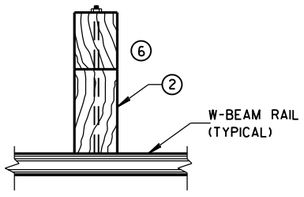
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



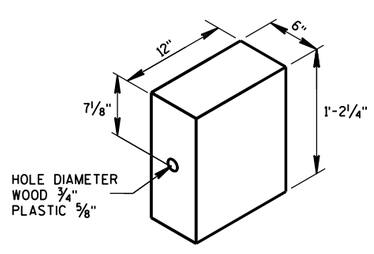

STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) (1)



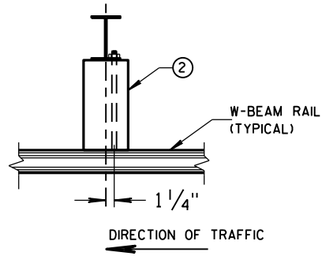

WOOD POST
(6" X 8") NOMINAL (1)




PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM




WOOD OR
PLASTIC BLOCKOUT (2)




PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

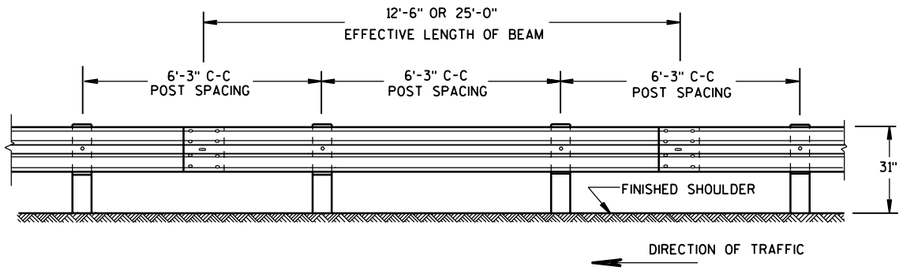
MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI



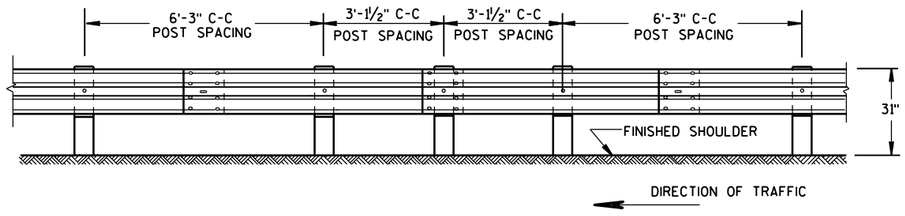


6
S.D.D. 14 B 42-3a



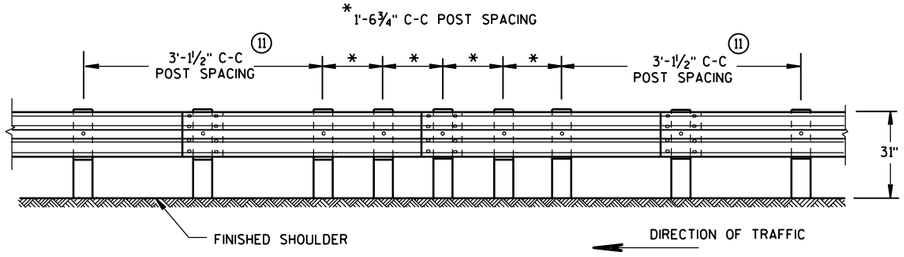

FRONT VIEW

## POST SPACING STANDARD INSTALLATION



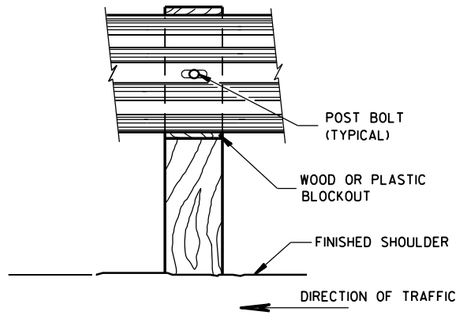

FRONT VIEW

## HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)

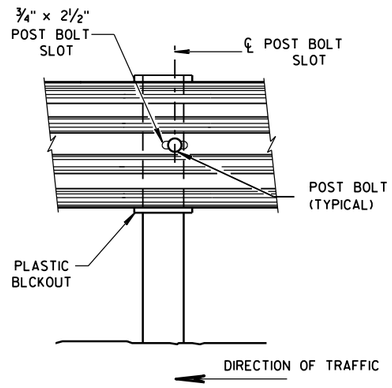



FRONT VIEW

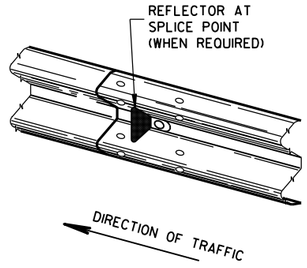
## QUARTER POST SPACING (QS)

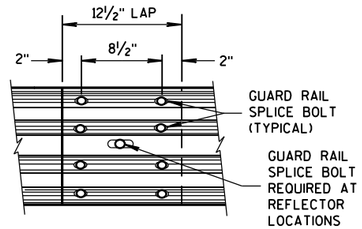



FRONT VIEW AT WOOD POST



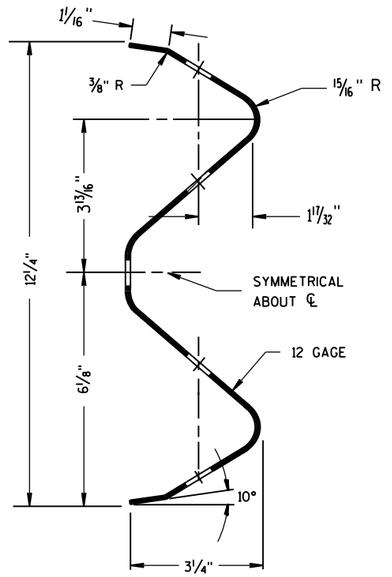

FRONT VIEW AT STEEL POST



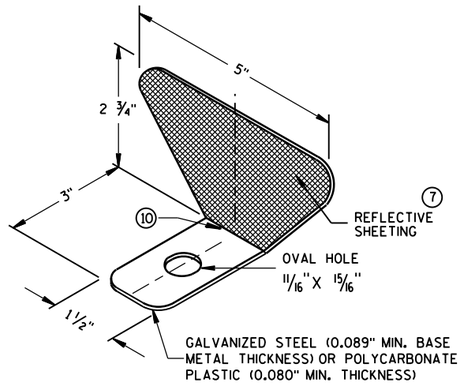




FRONT VIEW

MID-SPAN BEAM SPLICE




SECTION THRU W-BEAM RAIL




## GENERAL NOTES

⑦ PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.

⑨ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

⑩ PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

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

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

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

### REFLECTOR SPACING ⑧

| | BEAM GUARD LENGTH | REFLECTOR SPACING | NO. SURFACES REFLECTORIZED | MIN. NO. REFLECTORS |
|---|---|---|---|---|
| ONE WAY TRAFFIC | < 200' | 50' C-C | 1 | 3 |
| | > 200' | 100' C-C | 1 | |
| TWO WAY TRAFFIC | < 200' | 25' C-C | 1 ⑨ | 6 |
| | > 200' | 50' C-C | 1 | |
| TWO WAY TRAFFIC | < 200' | 50' C-C | 2 | 3 |
| | > 200' | 100' C-C | 2 ⑩ | |

## ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION ⑦

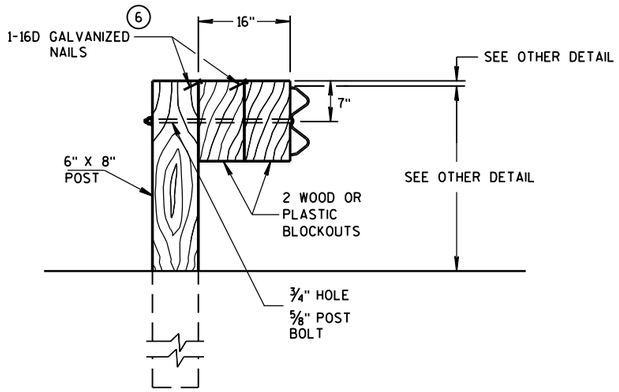
MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO



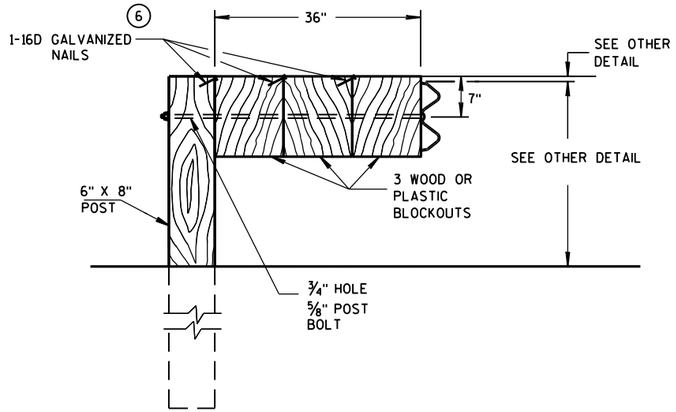

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S.D.D. 14 B 42-3b




## DETAIL FOR 16" BLOCKOUT DEPTH

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

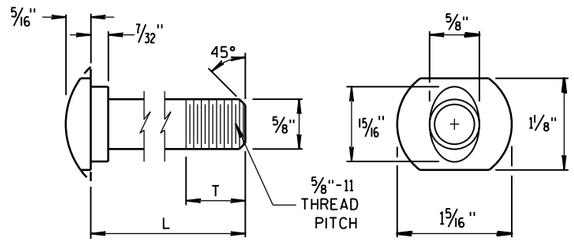



## DETAIL FOR 36" BLOCKOUT DEPTH

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

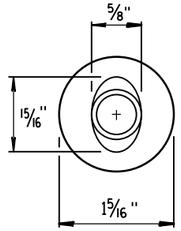
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

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

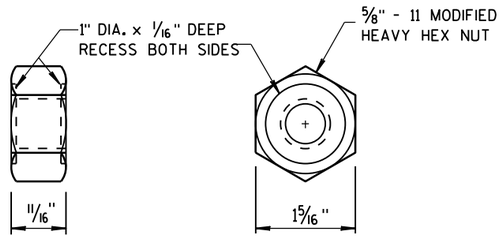



### POST BOLT TABLE

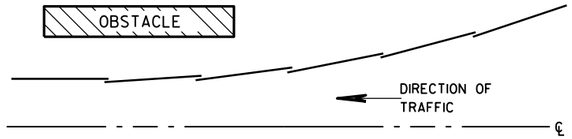
| L | T (MIN.) |
|---|---|
| 1¼" | 1⅛" |
| 2" | 1¾" |
| 10" | 4" |
| 14" | 4 1/16" |
| 18" | 4" |
| 21" | 4 1/16" |
| 25" | 4" |




ALTERNATE BOLT HEAD

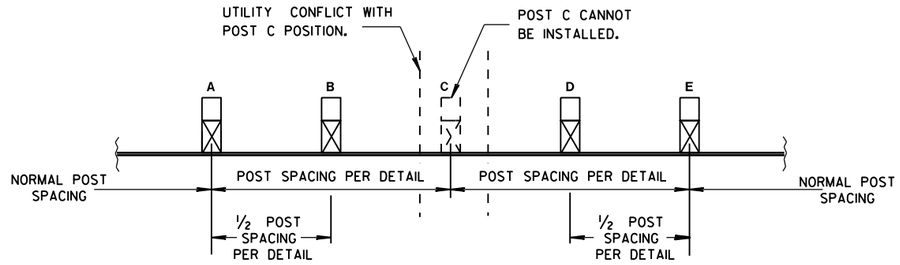



## POST BOLT AND RECESS NUT

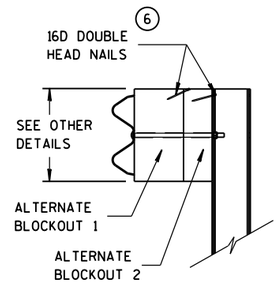



PLAN VIEW

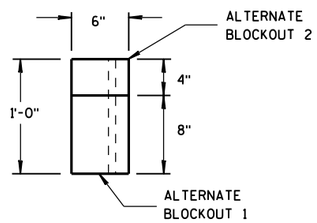
## BEAM LAPPING DETAIL




## POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION




SIDE VIEW




TOP VIEW

## ALTERNATE WOOD BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA




6

S.D.D. 14 B 42-3c

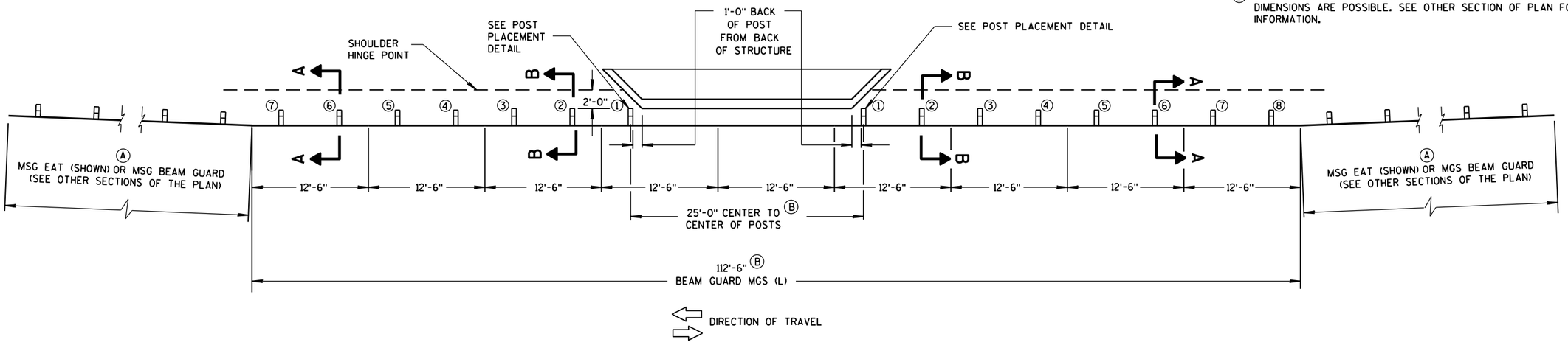
## GENERAL NOTES

POSTS 1 THROUGH 3 ARE CRT POSTS.
ALL OTHER POSTS SHALL BE WOOD OR STEEL.

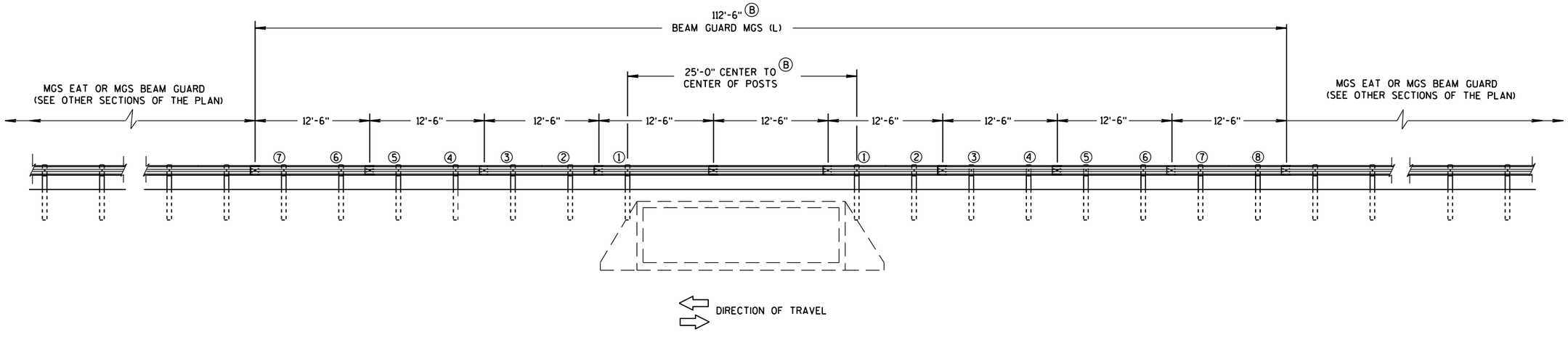
SEE SDD 14 B 42 FOR MORE DETAILS.

(A) FLARE FOR MGS EAT SHOWN. IF INSTALLING MGS NO FLARE NEEDED.

(B) VALUES SHOWN ON DRAWING REPRESENT THE MAXIMUM LENGTH. SHORTER DIMENSIONS ARE POSSIBLE. SEE OTHER SECTION OF PLAN FOR MORE INFORMATION.




PLAN VIEW




ELEVATION VIEW

# MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) TWO-WAY TRAFFIC

| |
|---|
| MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPOI |




6

S.D.D. 14 B 43-3a

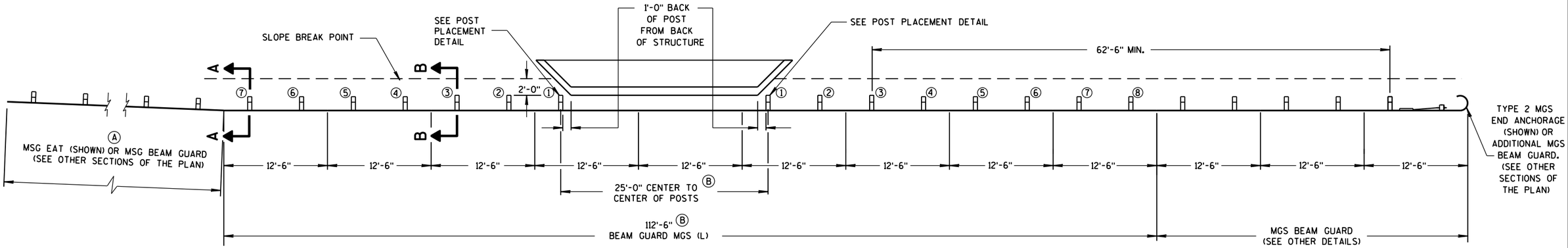
## GENERAL NOTES

POSTS 1 THROUGH 3 ARE CRT POSTS.
ALL OTHER POSTS SHALL BE WOOD OR STEEL.

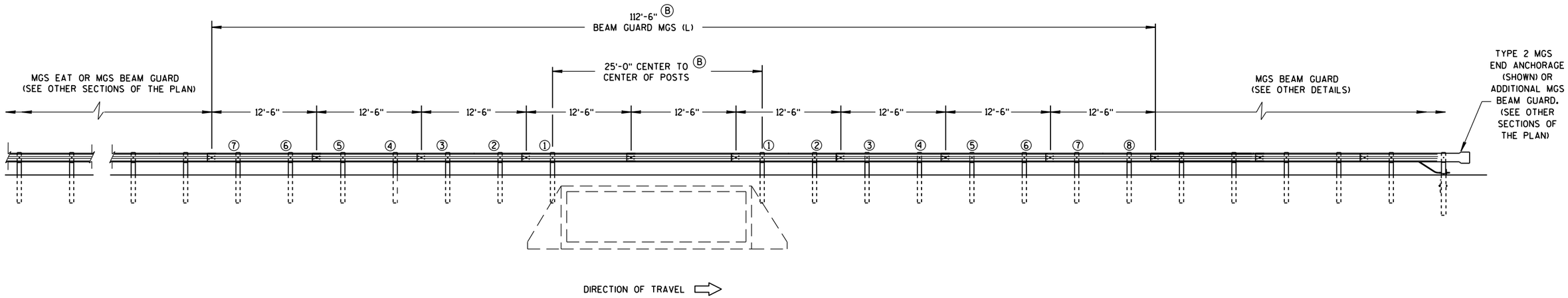
SEE SDD 14 B 42 FOR MORE DETAILS.

(A) FLARE FOR MGS EAT SHOWN. IF INSTALLING MGS NO FLARE NEEDED.

(B) VALUES SHOWN ON DRAWING REPRESENT THE MAXIMUM LENGTH. SHORTER DIMENSIONS ARE POSSIBLE. SEE OTHER SECTION OF PLAN FOR MORE INFORMATION.




PLAN VIEW




ELEVATION VIEW

# MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) ONE-WAY TRAFFIC

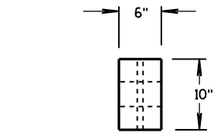
MIDWEST GUARDRAIL SYSTEM
LONG SPAN MGS (L)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

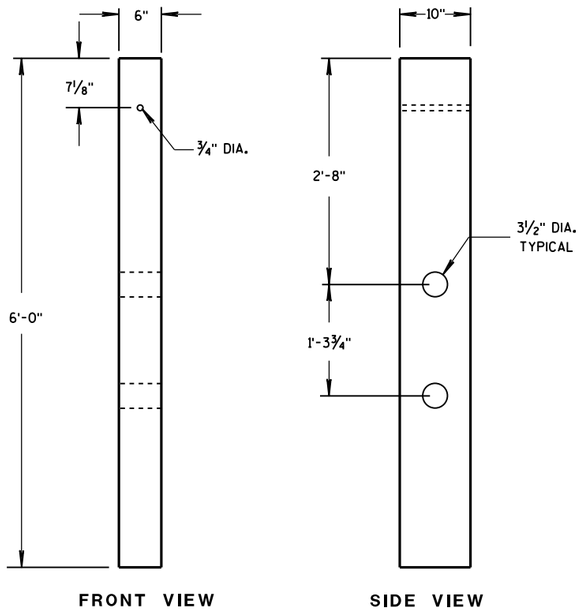



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S.D.D. 14 B 43-3b

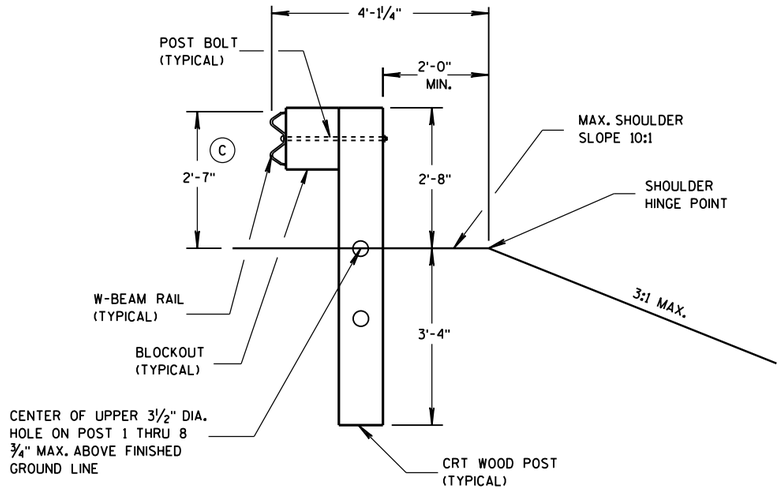



PLAN VIEW




FRONT VIEW SIDE VIEW

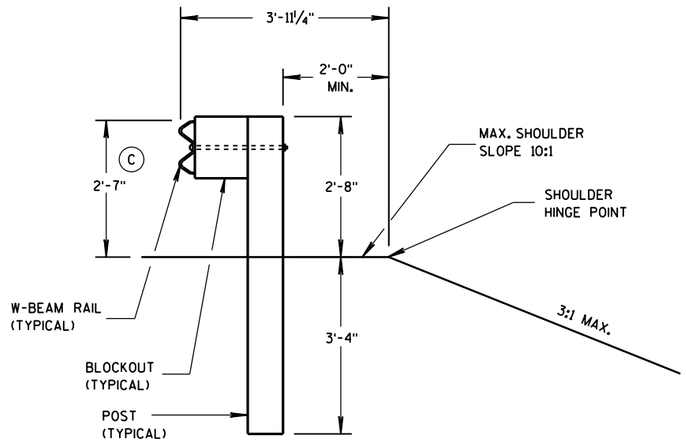
CRT WOOD POST




SECTION B-B

**POSTS NO. 1-3**

SEE OTHER DETAILS



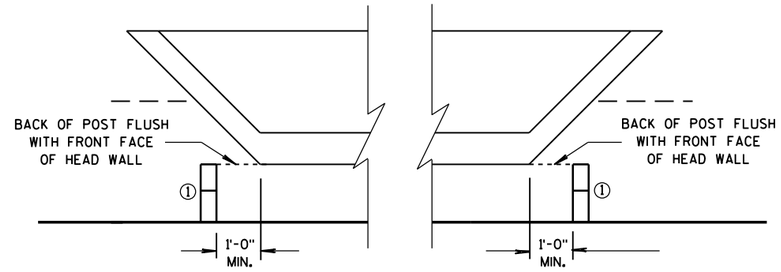

SECTION A-A

**POSTS NO. 4-8**

SEE OTHER DETAILS

## GENERAL NOTES

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




POST PLACEMENT DETAIL

**MIDWEST GUARDRAIL SYSTEM**
**LONG SPAN MGS (L)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/10/2013
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA



6

S.D.D. 14 B 43-3c

6

S.D.D. 14 B 43-3c

## GENERAL NOTES

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

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

(C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.

(D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

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

(G) ½" DIAMETER X 3" LONG LAG BOLT AND WASHER.

(H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.

(I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

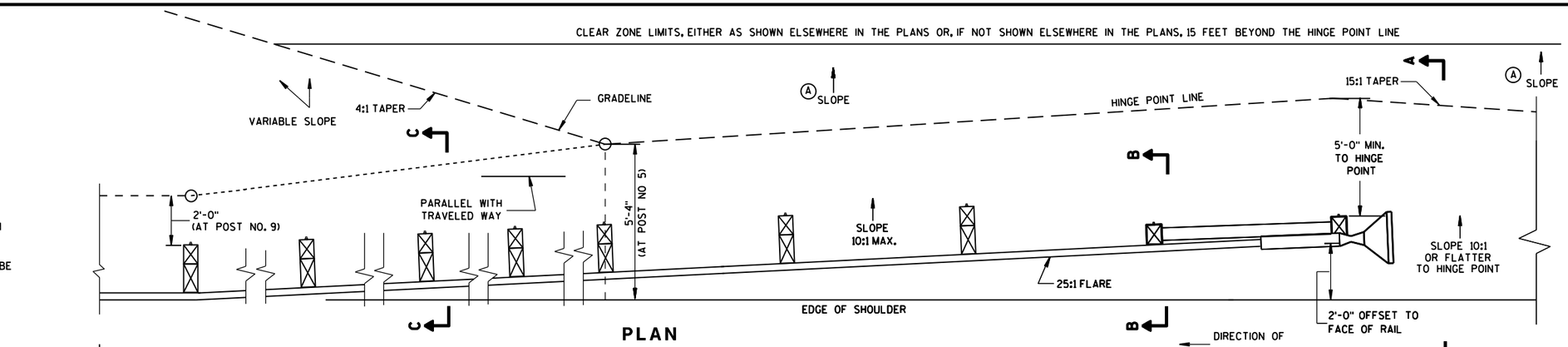
SEE SDD 14B42 FOR MORE INFORMATION.

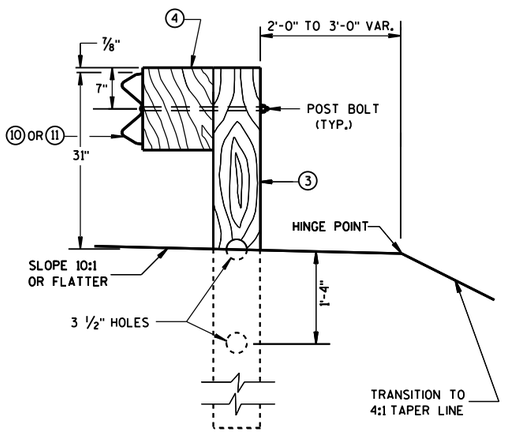
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

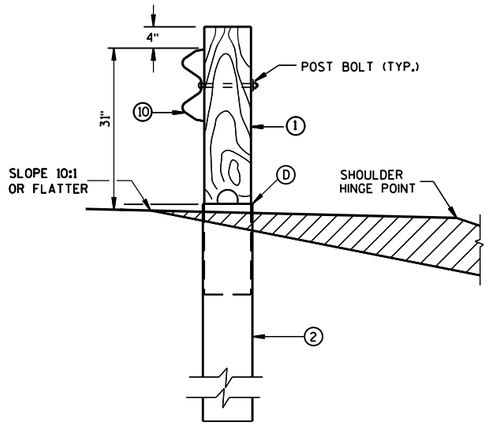
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE.

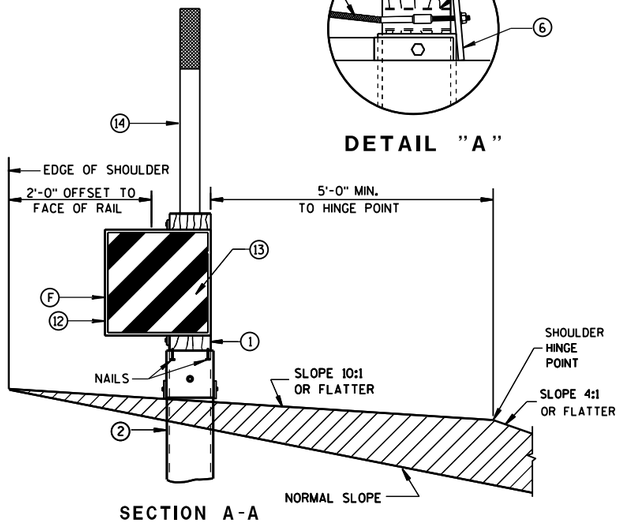


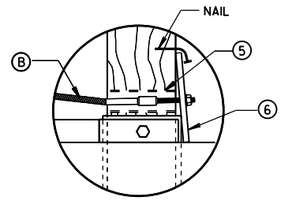

SECTION C-C
TYPICAL AT POST NOS. 3-9



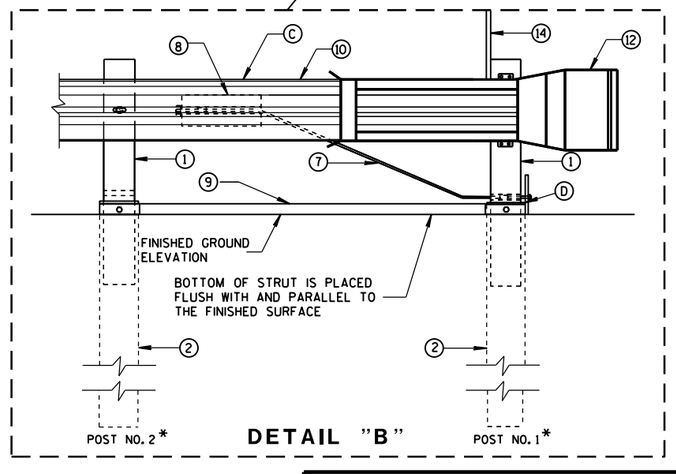

SECTION B-B
TYPICAL AT POST NO. 2*




SECTION A-A
TYPICAL AT POST NO. 1*




DETAIL "A"




DETAIL "B"

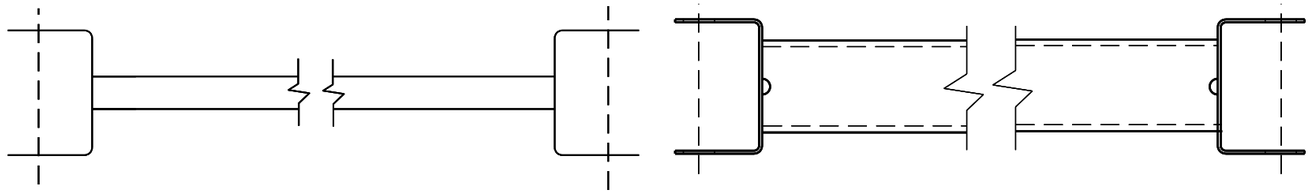
MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO



S.D.D. 14 B 44-2a

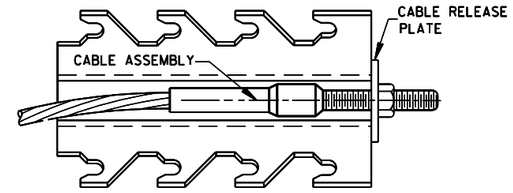
S.D.D. 14 B 44-2a



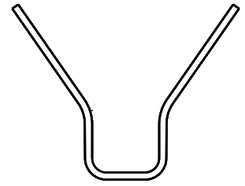
GENERIC GROUND STRUT (9) (H)

## BILL OF MATERIALS

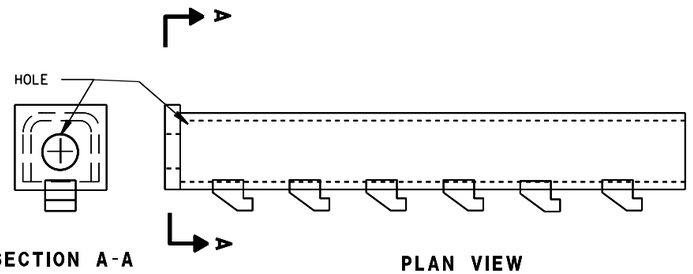
| PART NO. | DESCRIPTION<br>MATERIALS PROVIDED BY MGS EAT MANUFACTURER.<br>SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION. |
|---|---|
| (1) | WOOD BREAKAWAY POST |
| (2) | 6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE<br>AT POSTS 1 AND 2 |
| (3) | WOOD CRT |
| (4) | WOOD BLOCKOUT |
| (5) | PIPE SLEEVE |
| (6) | BEARING PLATE |
| (7) | BCT CABLE ASSEMBLY |
| (8) | ANCHOR CABLE BOX |
| (9) | GROUND STRUT |
| (10) | PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG. |
| (11) | STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED.<br>SECTIONS VARY IN LENGTH. |
| (12) | END SECTION EAT |
| (13) | 0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING<br>TYPE F PER SECTION 637 OF THE STANDARD<br>SPECIFICATIONS |
| (14) | EAT MARKER POST - YELLOW<br>(SEE APPROVED PRODUCTS LIST) |




FRONT VIEW



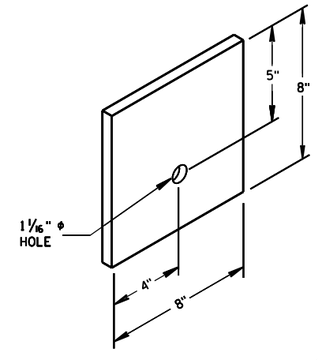
SECTION B-B




SECTION A-A

PLAN VIEW

GENERIC ANCHOR CABLE BOX (8) (H)




BEARING PLATE (6)

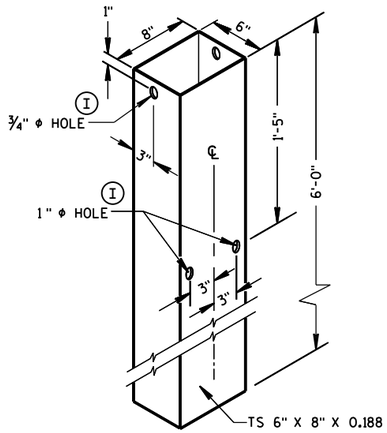
MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

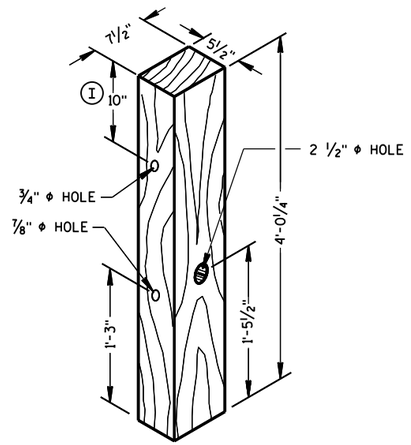



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S.D.D. 14 B 44-2b

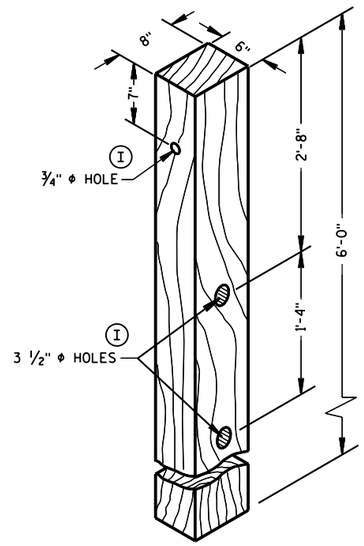



FOUNDATION TUBE (2)



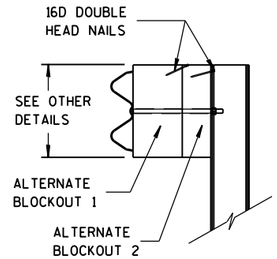

POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

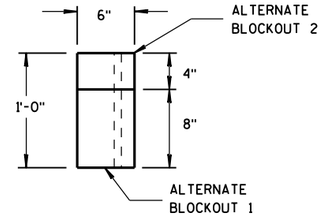



POSTS NUMBER 3-9

WOOD CRT POST (3)

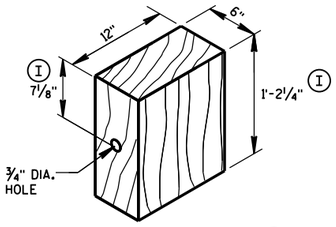



SIDE VIEW



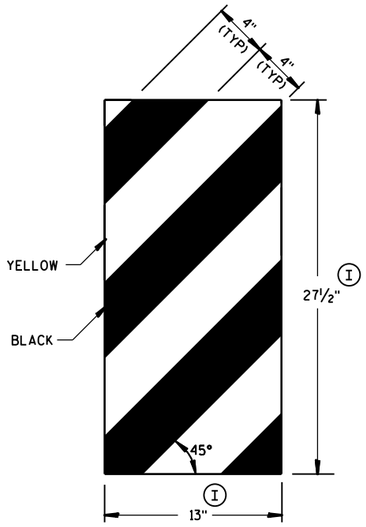

TOP VIEW

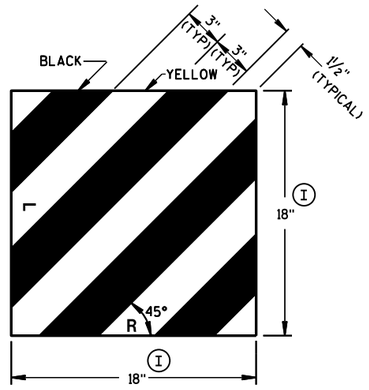
ALTERNATE WOOD BLOCKOUT DETAIL



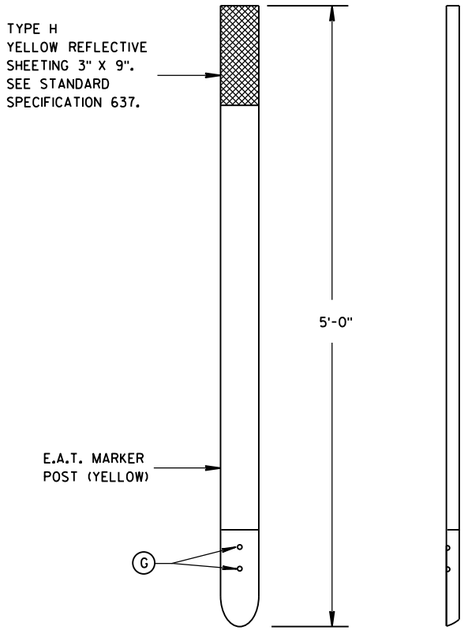

WOOD BLOCKOUT (4)

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



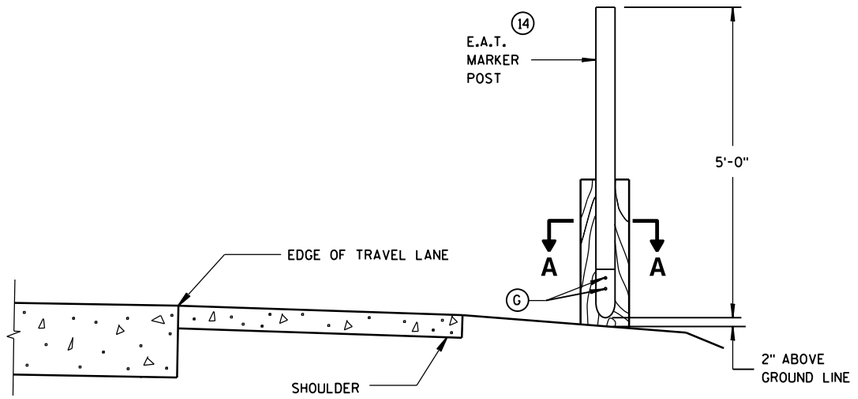

GENERIC REFLECTIVE SHEETING (13) (H)




FRONT VIEW

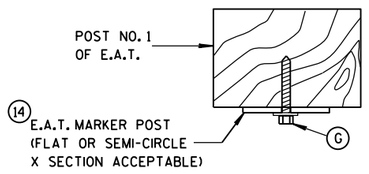
SIDE VIEW

E.A.T. MARKER POST (14)




TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1

(E.A.T. AND RAIL REMOVED FOR CLARITY)




SECTION A-A

MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA

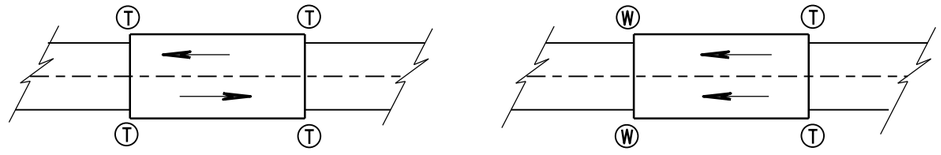






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S.D.D. 14 B 44-2c




TWO WAY TRAFFIC

ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

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

## GENERAL NOTES

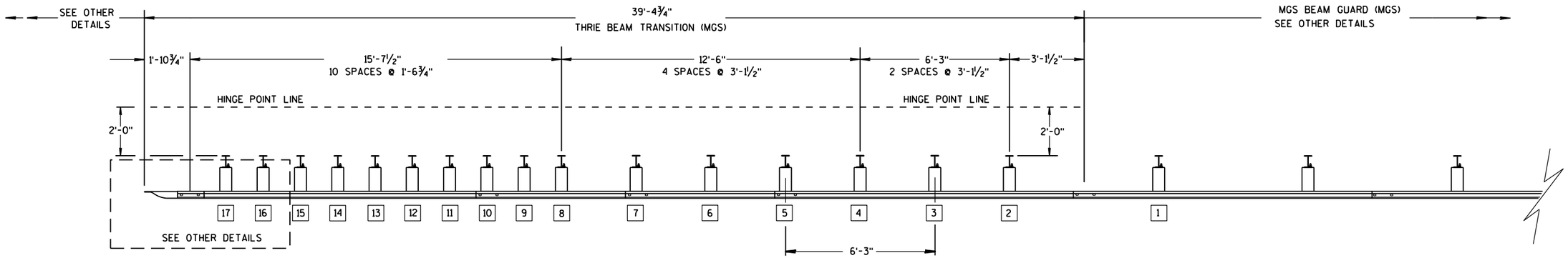
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

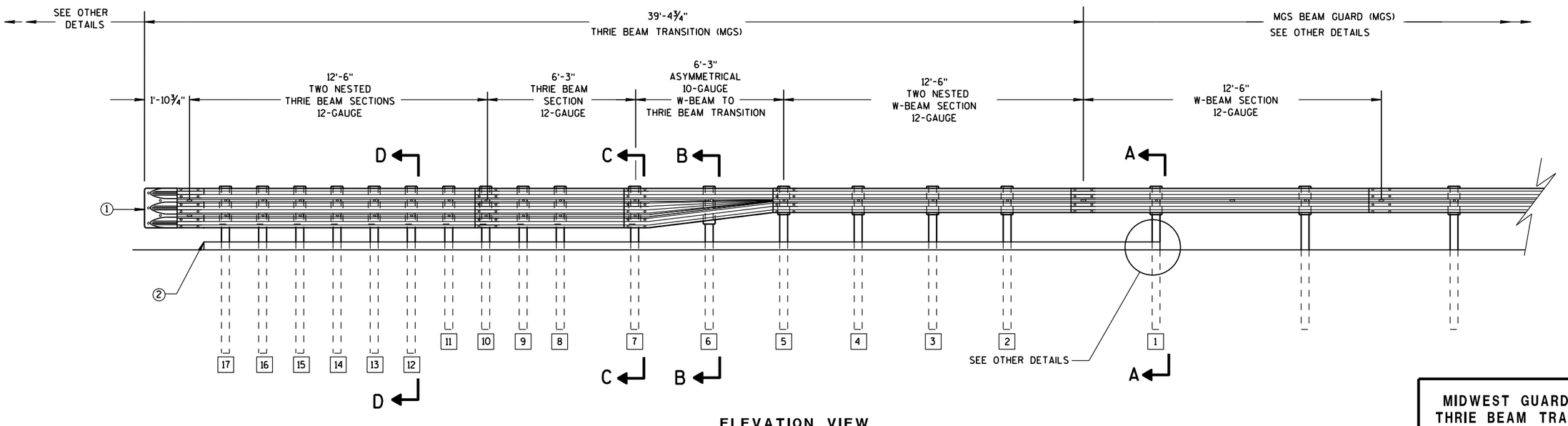
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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

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




PLAN VIEW




ELEVATION VIEW

## MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI



6

S.D.D. 14 B 45-4a

6

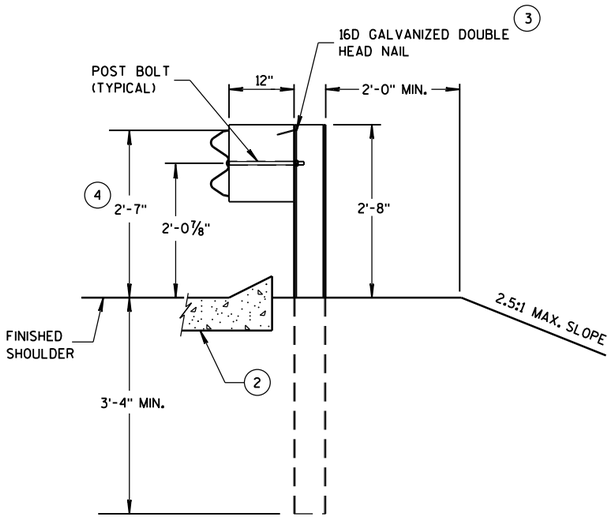
S.D.D. 14 B 45-4a

## GENERAL NOTES

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

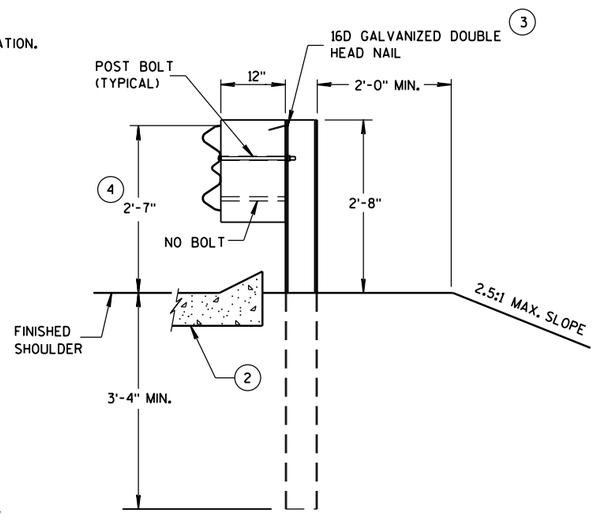
(3) WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

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



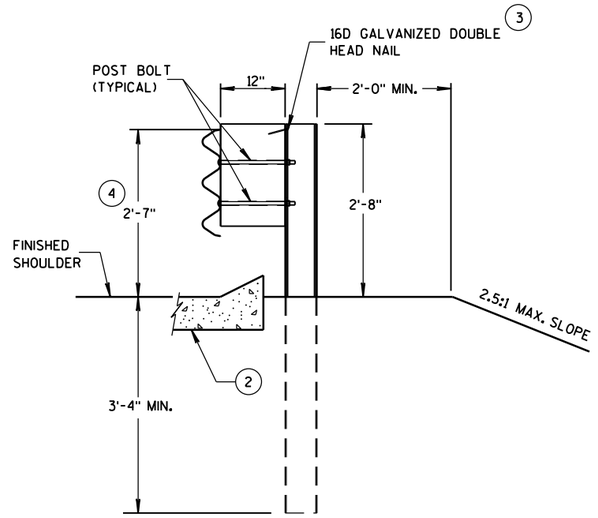

SECTION A-A

**POSTS 1-5**



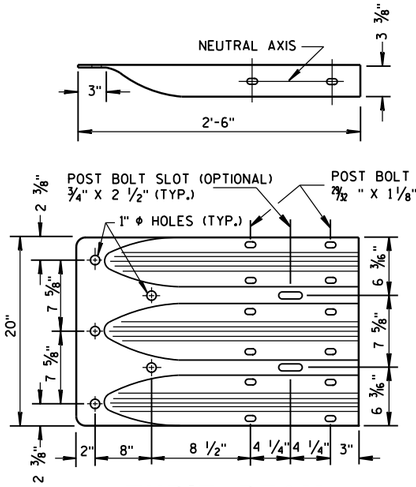

SECTION B-B

**POST 6**




SECTION C-C

**POSTS 7-11**




**THRIE BEAM TERMINAL CONNECTOR**

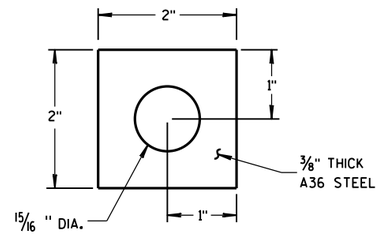
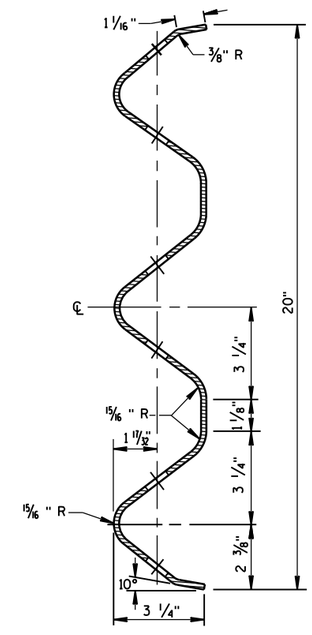
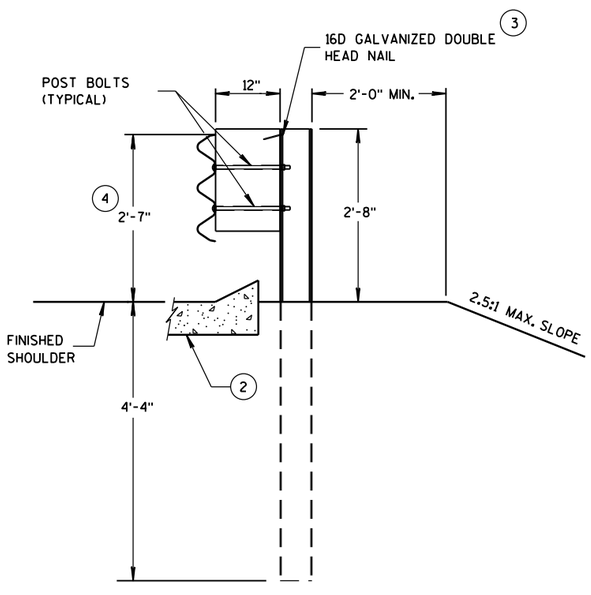



**PLATE WASHER DETAIL**

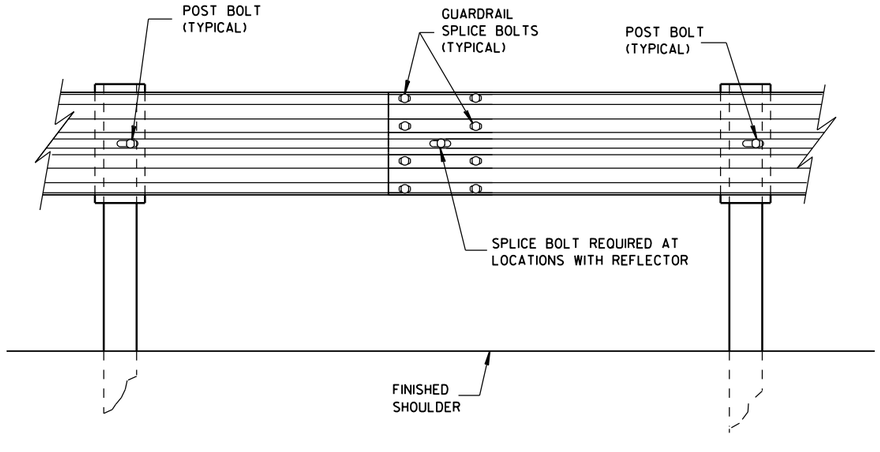



**SECTION THRU THRIE BEAM RAIL ELEMENT**




SECTION D-D

**POSTS 12-17**




**SPLICE DETAIL**

**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

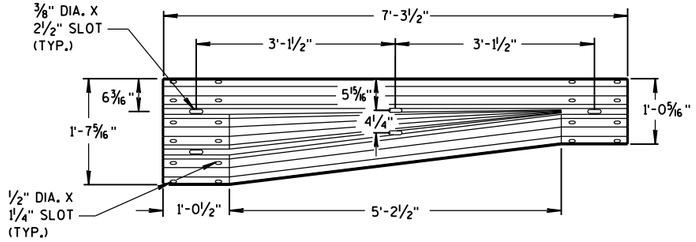




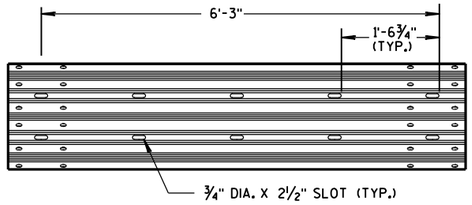
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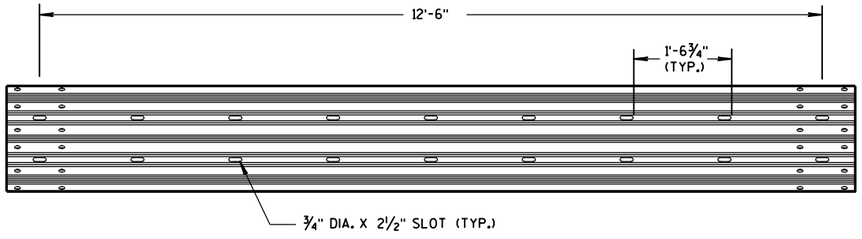
S.D.D. 14 B 45-4b



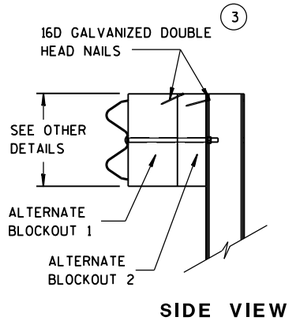

## W-BEAM TO THRIE BEAM TRANSITION SECTION



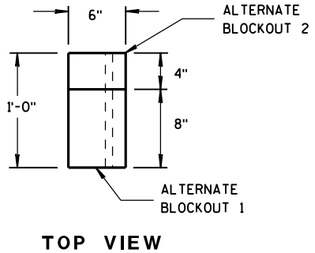

## 6'-3" THRIE BEAM SECTION




## 12'-6" THRIE BEAM SECTION

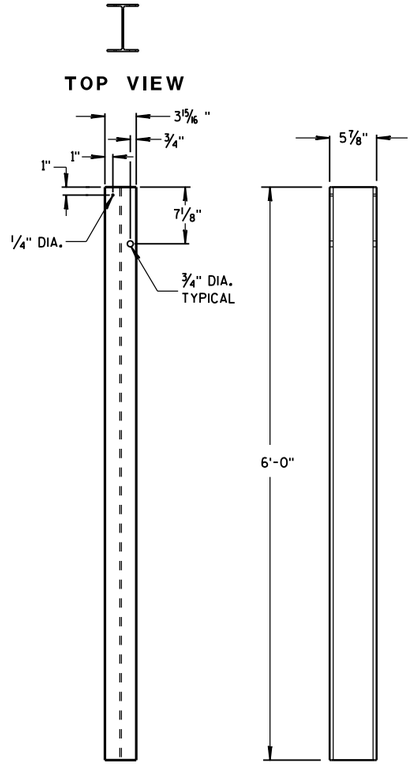



SIDE VIEW



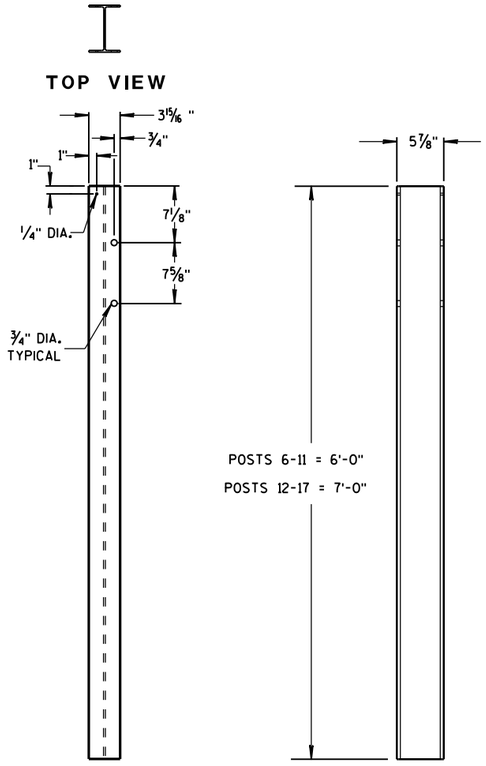

TOP VIEW

## ALTERNATE WOOD BLOCKOUT DETAIL



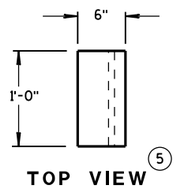

FRONT VIEW SIDE VIEW

## STEEL POSTS 1-5

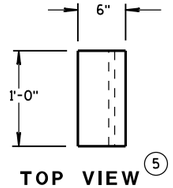



FRONT VIEW SIDE VIEW

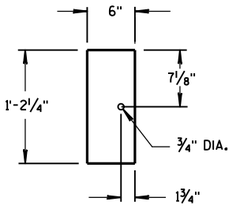
## STEEL POSTS 6-17




TOP VIEW

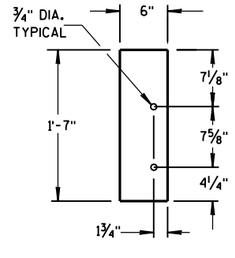



TOP VIEW




FRONT VIEW

## BLOCKOUT POSTS 1-5




FRONT VIEW

## BLOCKOUT POSTS 6-17

## GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

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

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

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

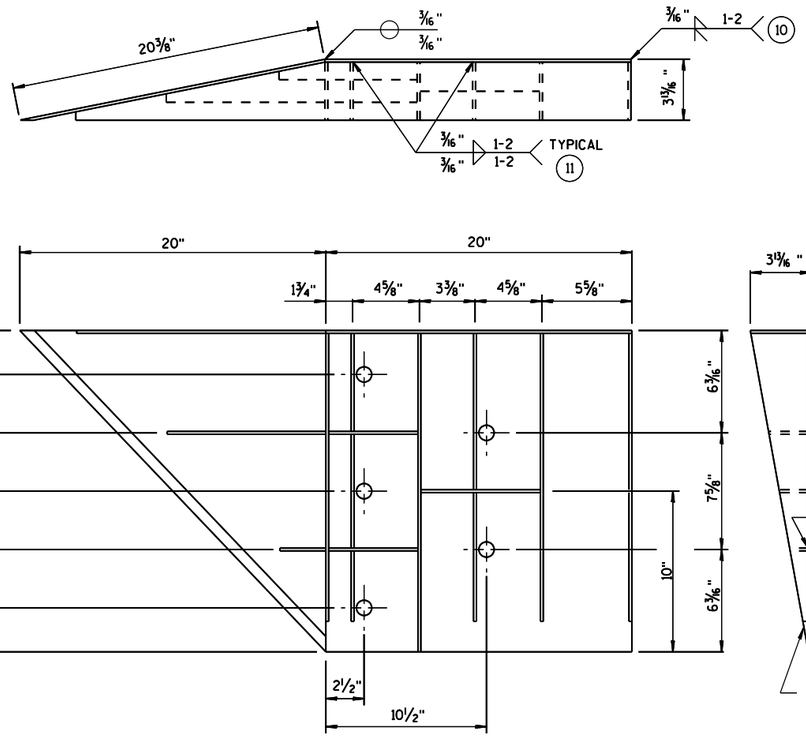
MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

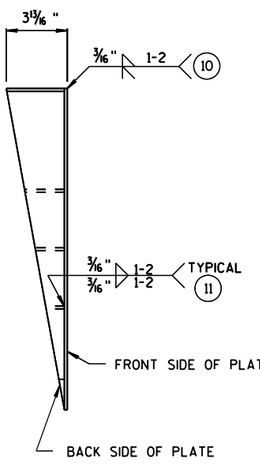
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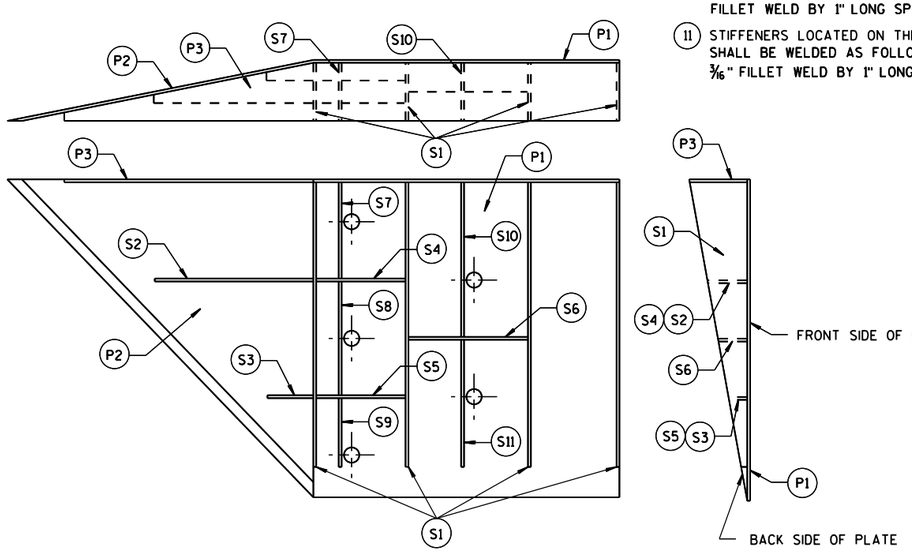
S.D.D. 14 B 45-4c




## WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)




## PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

## GENERAL NOTES

COVER PLATE PANELS ARE ⅜" THICK.

ALL STIFFENERS ARE ¼" THICK.

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

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

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(10) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND ⅜" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(11) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
⅜" FILLET WELD BY 1" LONG SPACED AT 2".

**CONNECTOR PLATE DIMENSION (PER ASSEMBLY)**

| PLATE | QUANTITY | SHAPE | SIZE (A x B x C x D) | THICKNESS |
|---|---|---|---|---|
| P1 | 1 | | 20" x 20" | ⅜" |
| P2 | 1 | | 20" x 20" x 28⁹⁄₁₆" | ⅜" |
| P3 | 1 | | 39" x 3⅝" x 20" x 19⁵⁄₁₆" | ⅜" |
| S1 | 4 | | 18⁷⁄₁₆" x 3⅜" x 18¾" | ¼" |
| S2 | 1 | | 10¼" x 2⁷⁄₁₆" x 10⅜" x ½" | ¼" |
| S3 | 1 | | 3" x 1¹⁄₁₆" x 3⅛" x ½" | ¼" |
| S4 | 1 | | 6⅛" x 2⁷⁄₁₆" | ¼" |
| S5 | 1 | | 6⅛" x 1¹⁄₁₆" | ¼" |
| S6 | 1 | | 7¾" x 1¾" | ¼" |
| S7 | 1 | | 2⁹⁄₁₆" x 6" x 3⅝" x 5⅞" | ¼" |
| S8 | 1 | | 1⁵⁄₃₂" x 7½" x 2½" x 7⅜" | ¼" |
| S9 | 1 | | 6¹⁄₁₆" x 6³⁄₁₆" x 1³⁄₃₂" | ¼" |
| S10 | 1 | | 1⅛" x 9⅞" x 3⅝" x 9¹¹⁄₁₆" | ¼" |
| S11 | 1 | | 8½" x 8¾" x 1¹³⁄₁₆" | ¼" |

## SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

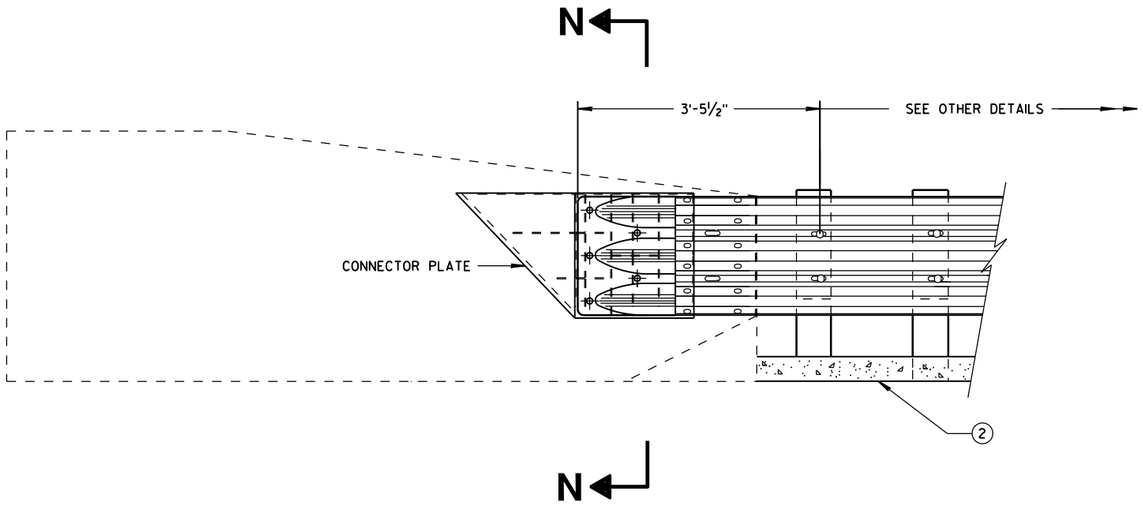
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APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

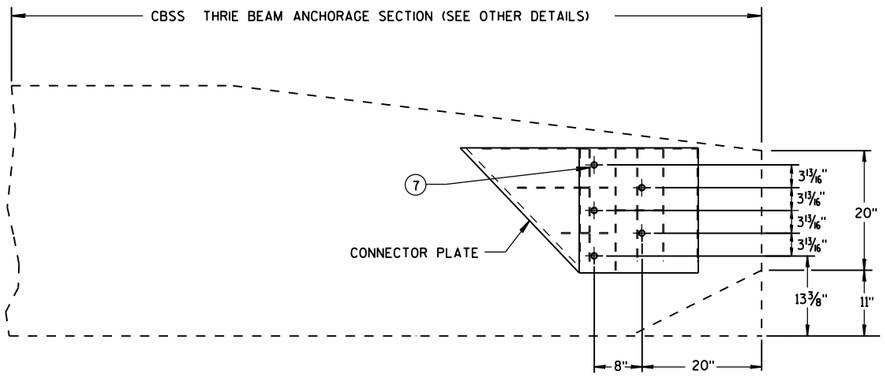



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S.D.D. 14 B 45-4i




## THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



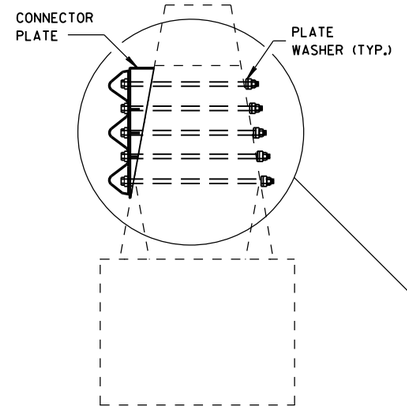

## SINGLE SLOPE CONNECTION PLATE PLACEMENT

## GENERAL NOTES

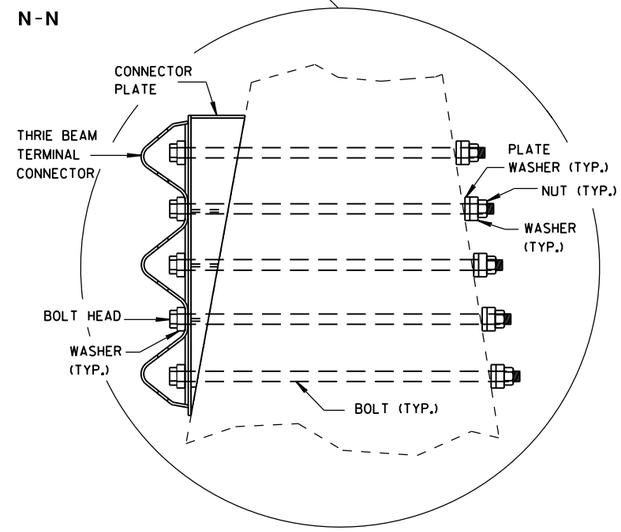
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

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




SECTION N-N




**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
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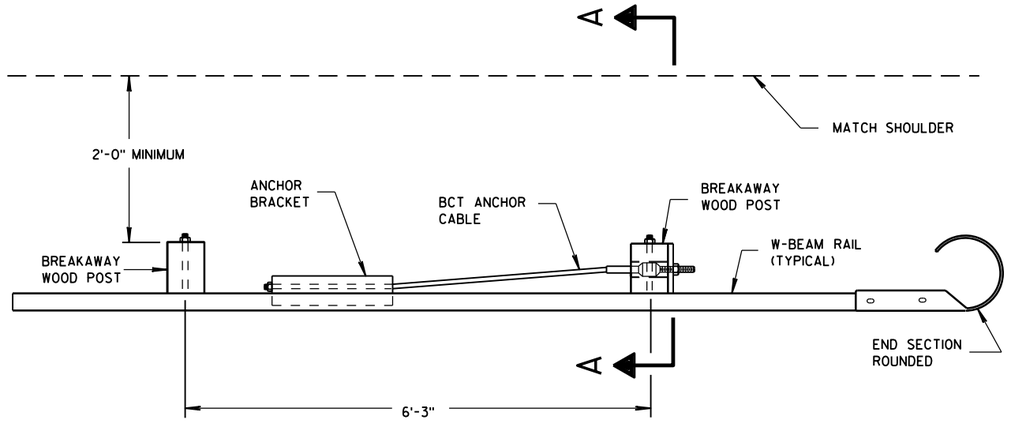


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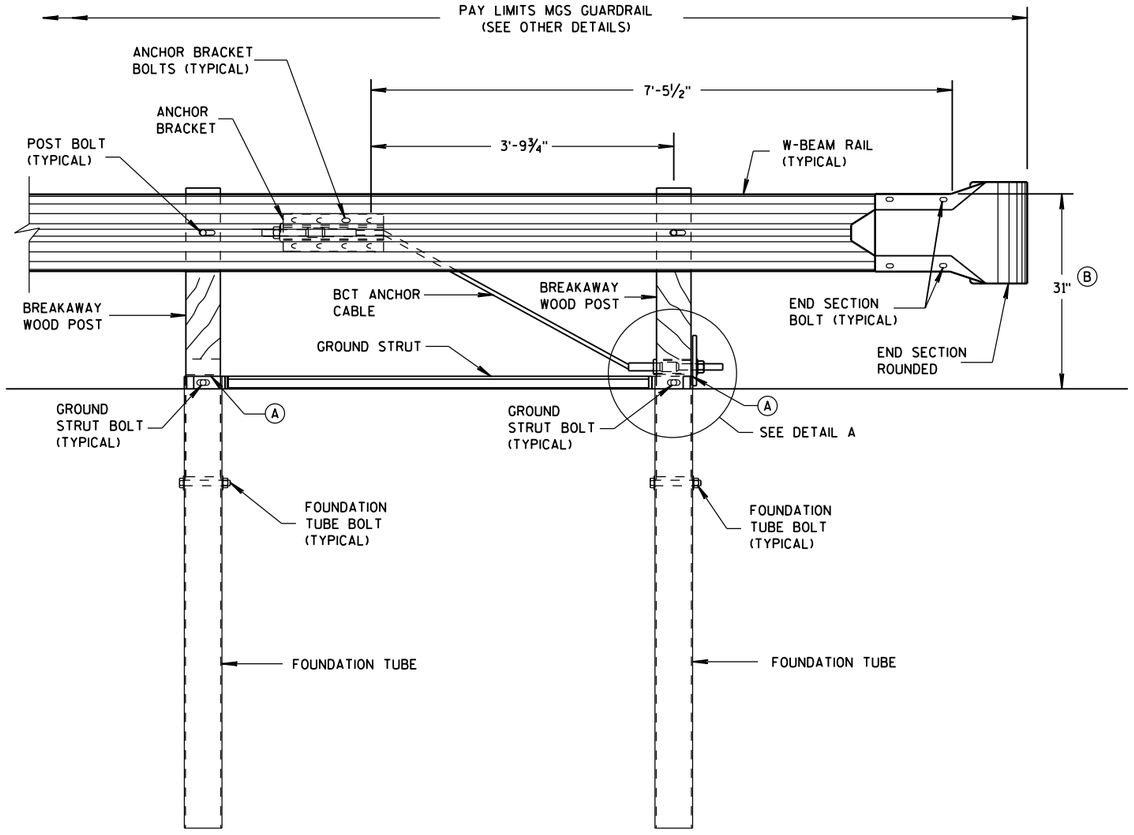
S.D.D. 14 B 45-4j

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S.D.D. 14 B 45-4j

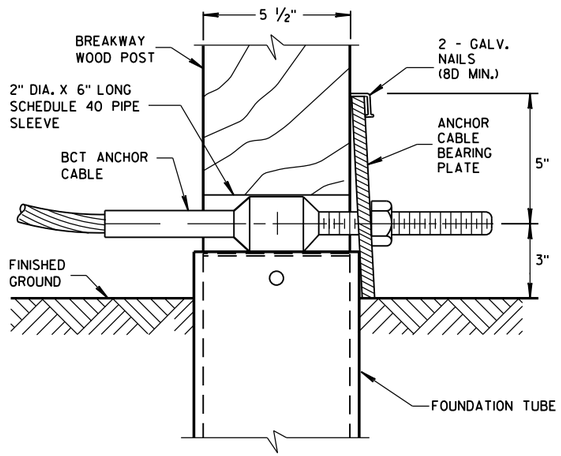



PLAN VIEW



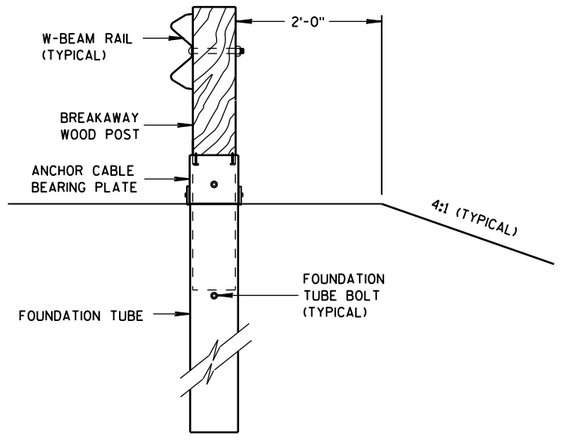

FRONT VIEW

## END RAIL DETAIL




## DETAIL A

POST NO. 1
GROUNG STRUT NOT SHOWN FOR CLARITY.




SECTION A-A

## GENERAL NOTES

SEE SDD 14 B 42 FOR MORE INFORMATION.

END SECTION BOLTS AND NUTS HAVE THE SAME MATERIAL REQUIREMENTS AS SPLICE BOLTS.

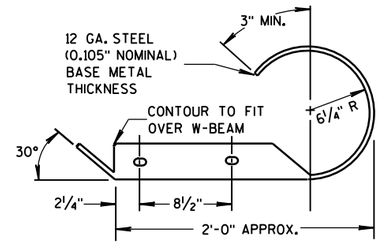
FOUNDATION TUBE BOLTS ARE ⅞" DIAMETER ASTM A307 HEX HEAD BOLT. FOUNDATION TUBE BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 ⅞" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

ANCHOR BRACKET AND GROUND STRUT BOLTS ARE A ⅝" DIAMETER ASTM A307 HEX HEAD BOLT. ANCHOR BRACKET BOLTS REQUIRE ASTM A563 A NUT AND TWO ASTM F844 ⅝" DIAMETER FLAT WASHERS. INSTALL ONE WASHER UNDER BOLT HEAD AND ONE WASHER UNDER NUT.

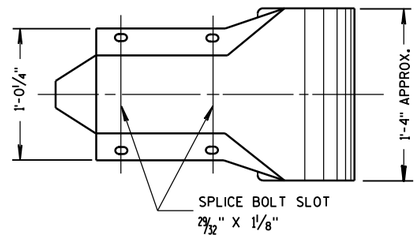
W-BEAM END SECTION ROUNDED HAS THE SAME MATERIAL PROPERTIES AS STANDARD STEEL RAIL.

(A) TOP OF FOUNDATION TUBE SHALL BE NO MORE THAN 3" ABOVE FINISHED GROUND.

(B) FOR NEW CONSTRUCTION TOP OF RAIL IS 31" ± 1".
FOR EXISTING INSTALLATIONS TOP OF RAIL IS BETWEEN 27¾" TO 32" ± 1".




PLAN VIEW




FRONT VIEW

## W BEAM END SECTION ROUNDED

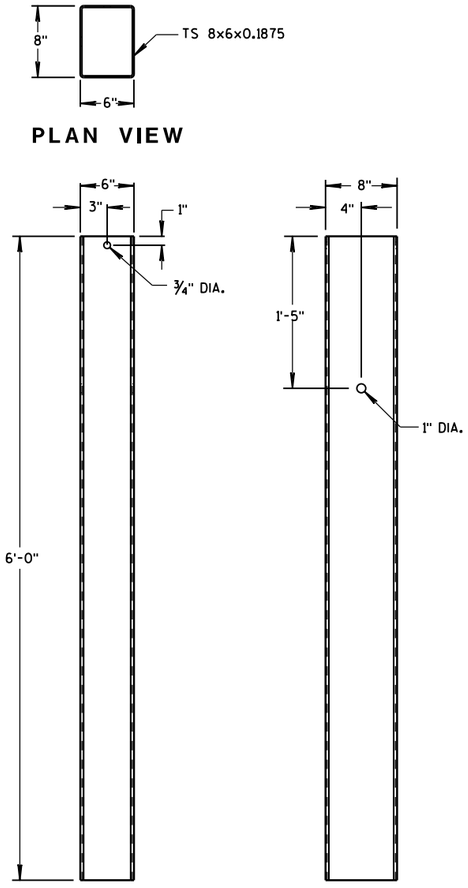
MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO





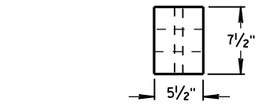
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S.D.D. 14 B 47-2a



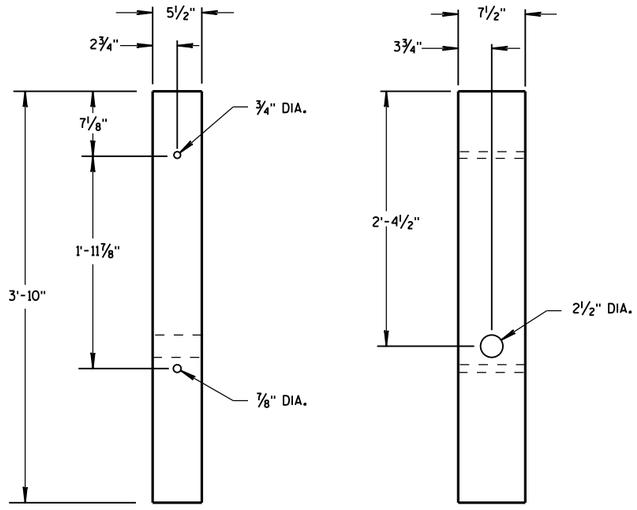

PLAN VIEW

FRONT VIEW SIDE VIEW

FOUNDATION TUBE




PLAN VIEW




FRONT VIEW SIDE VIEW

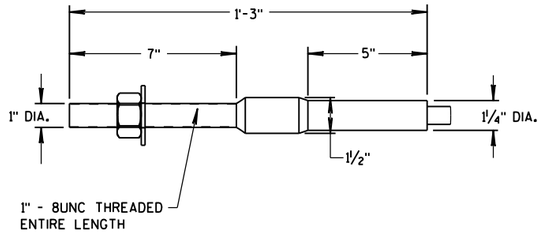
BREAKAWAY WOOD POST

## GENERAL NOTES

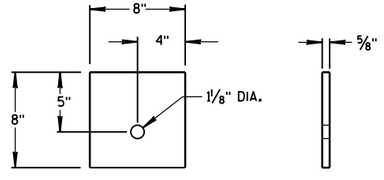
BCT ANCHOR CABLE IS A ¾" DIAMETER 6X19 IWRC IPS GALVANIZED WIRE ROPE. THE SWAGED FITTINGS AND STUD ARE REQUIRED. END FITTING SHALL BE MACHINED FROM HOT-ROLLED CARBON STEEL CONFORMING TO ASTM A576 GRADE 1035 AND GALVANIZED ACCORDING TO ASTM A123. TREADED STUD SHALL CONFORM TO ASTM A325 OR SAE GRADE 5. MINIMUM BREAKING STRENGTH OF WIRE ROPE IS 43,000 LB. WIRE ROPE IS TO BE TAUT.




BCT ANCHOR CABLE




DETAIL B




SIDE VIEW FRONT VIEW

ANCHOR CABLE
BEARING PLATE

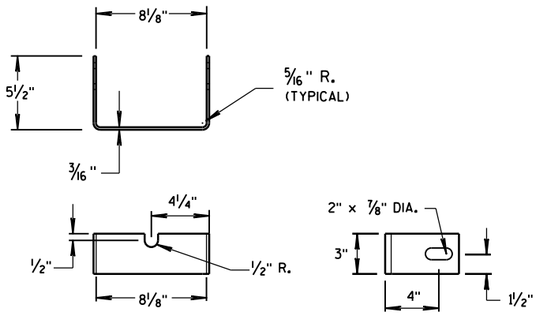
MIDWEST GUARDRAIL
SYSTEM (MGS) TYPE 2 TERMINAL

STATE OF WISCONSIN
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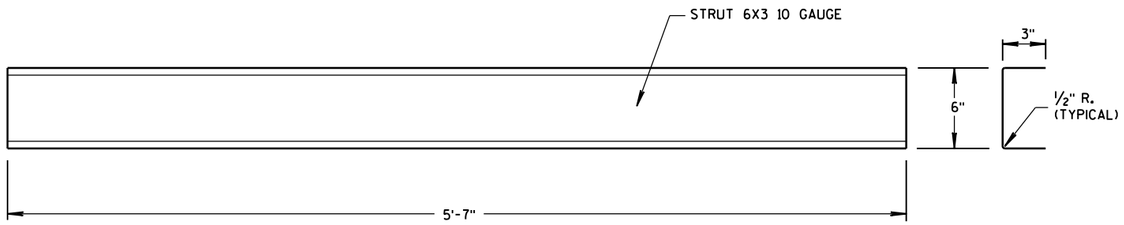



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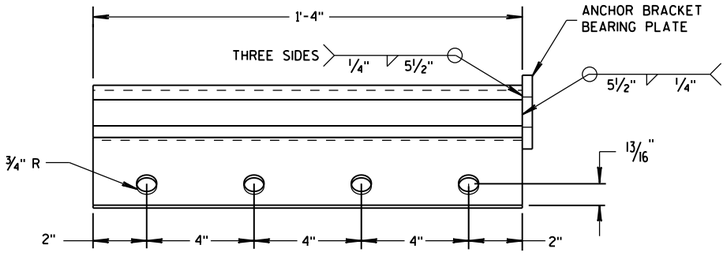

S.D.D. 14 B 47-2b

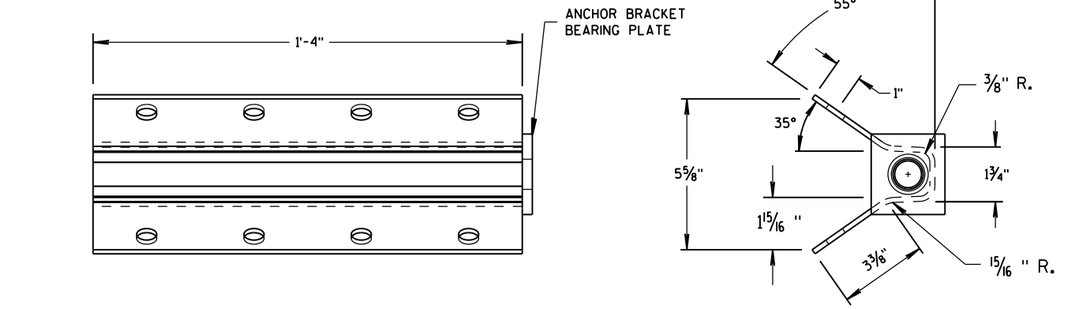



## YOKE DETAIL

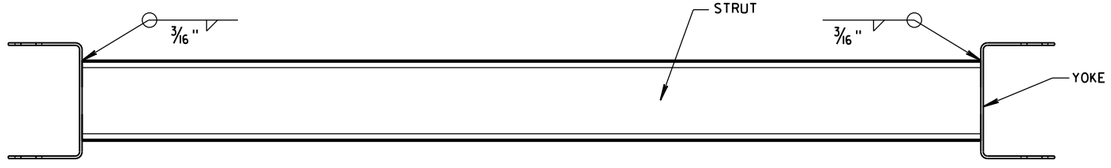



## STRUT DETAIL

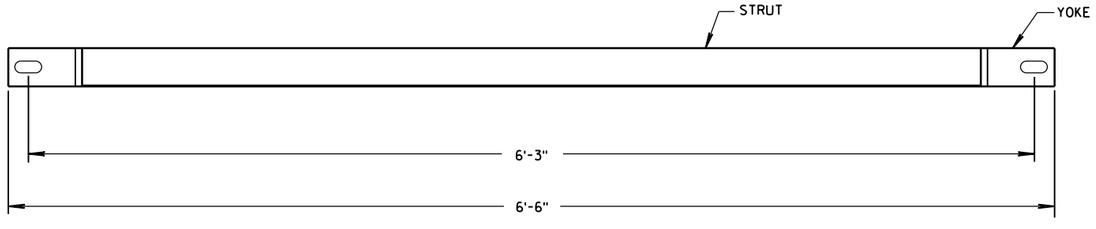



## ANCHOR BRACKET

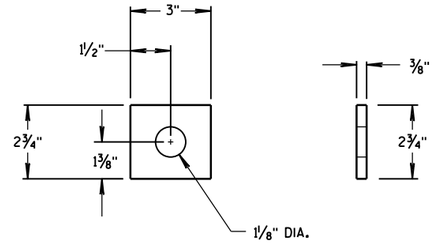



## PLAN VIEW




## FRONT VIEW

## GROUND STRUT DETAIL




## ANCHOR BRACKET BEARING PLATE

MIDWEST GUARDRAIL SYSTEM (MGS) TYPE 2 TERMINAL

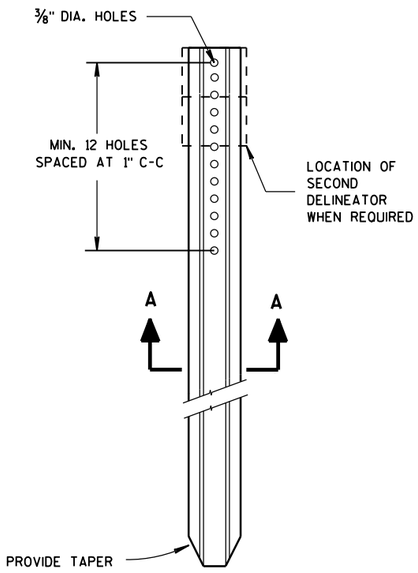
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA

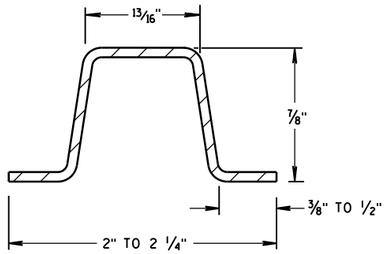



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S.D.D. 14 B 47-2c

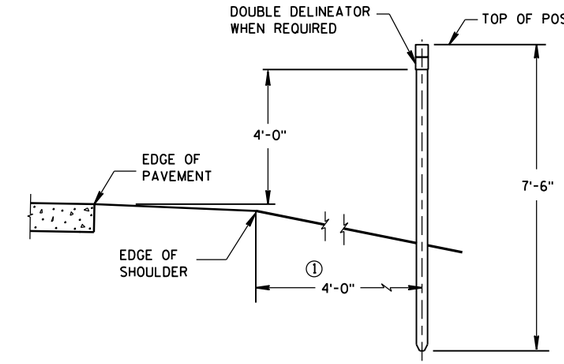


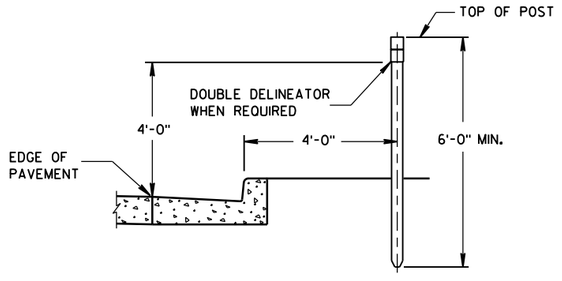

## DELINEATOR POST




## SECTION A-A

WEIGHT 1.12 LBS PER FT. ± 0.1 LB.



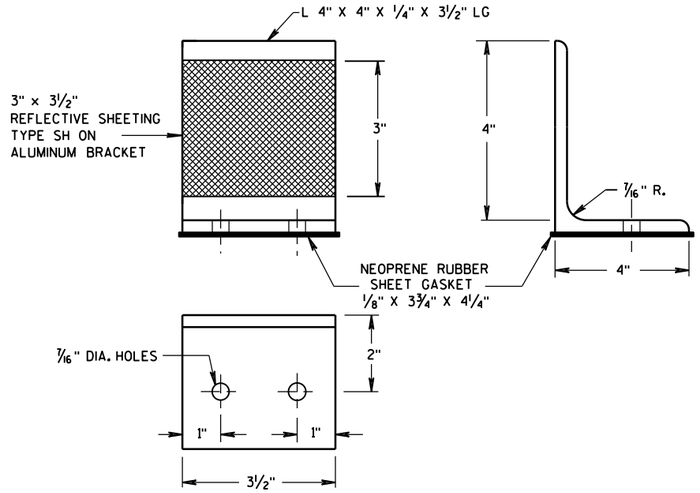




## TYPICAL INSTALLATIONS OF DELINEATOR POSTS

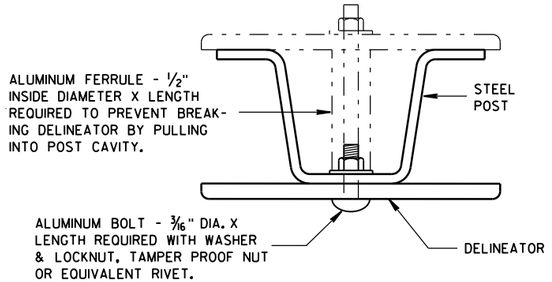
## GENERAL NOTES

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

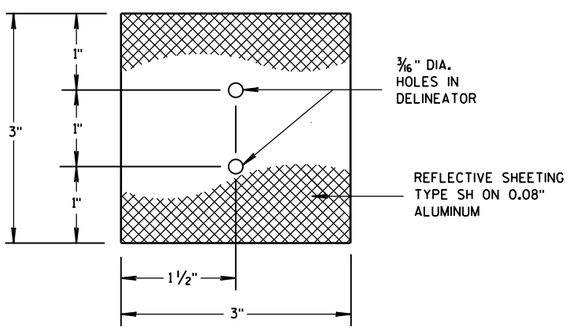
① DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.



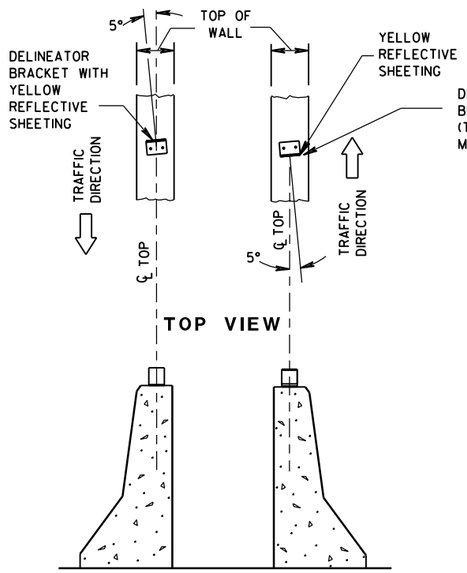

## DELINEATOR BRACKET



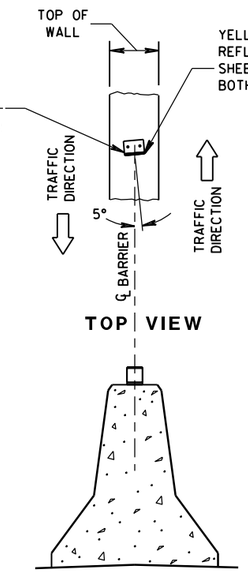

## MOUNTING DETAIL FOR DELINEATOR



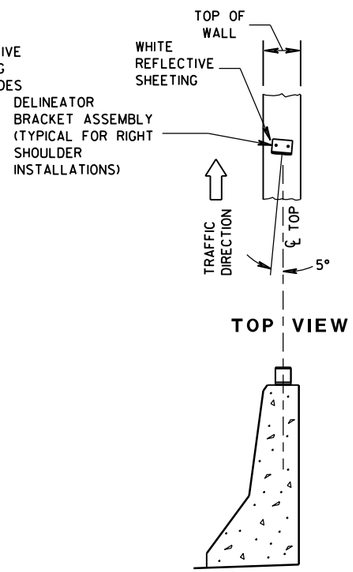

## 3"x 3" DELINEATOR




## DOUBLE BARRIERS IN MEDIAN

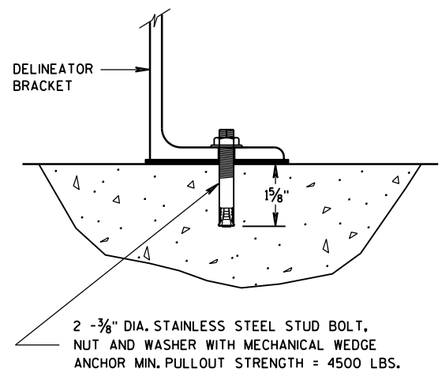



## MEDIAN BARRIER




## BARRIER LOCATED TO RT. OF TRAFFIC FLOW

## LOCATION AND AIMING DETAILS FOR DELINEATOR BRACKETS MOUNTED ON CONCRETE BARRIERS




## DELINEATOR BRACKET MOUNTING DETAIL

**DELINEATOR POST, DELINEATOR, AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

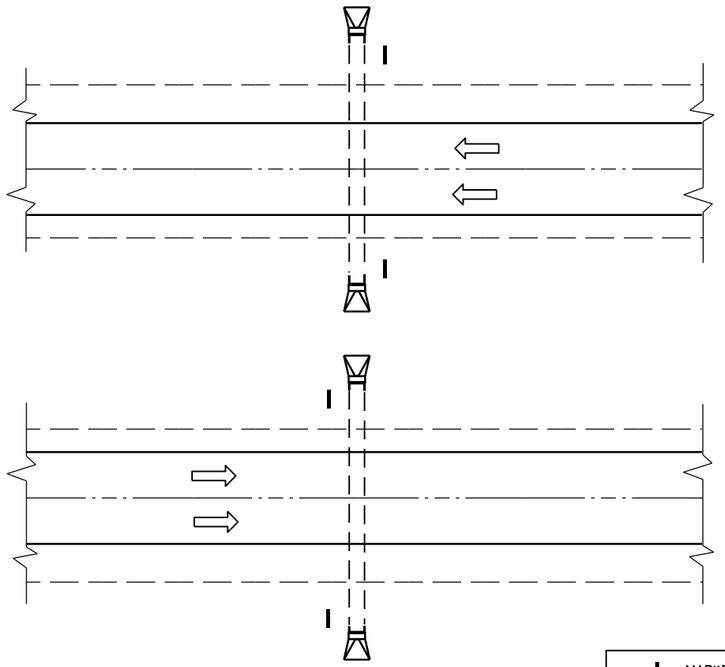
APPROVED
7/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC E
254
FHWA

6

S.D.D. 15 A 2-8

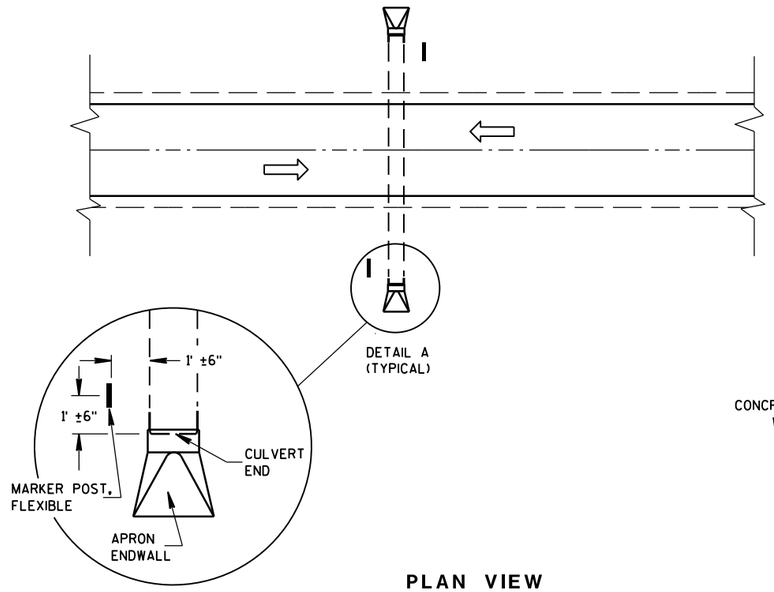
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S.D.D. 15 A 2-8



PLAN VIEW

## DIVIDED HIGHWAY




DETAIL A
(TYPICAL)

PLAN VIEW

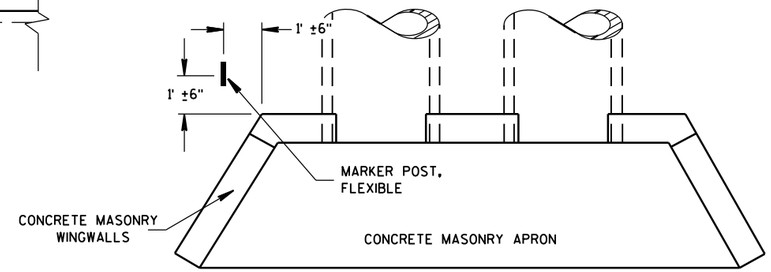
## UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

## GENERAL NOTES

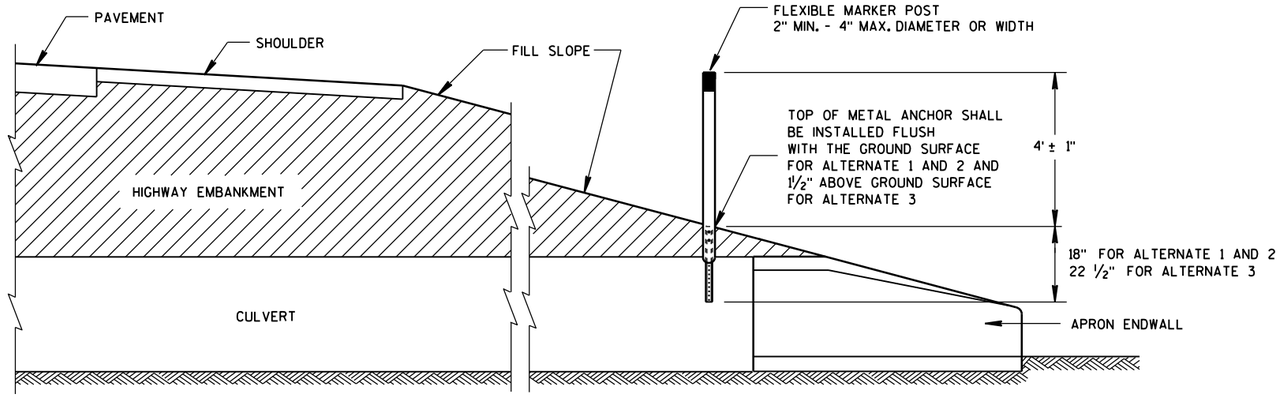
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.




PLAN VIEW

## CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

## FLEXIBLE MARKER POST LOCATION




CROSS SECTION

## FLEXIBLE MARKER POST

FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

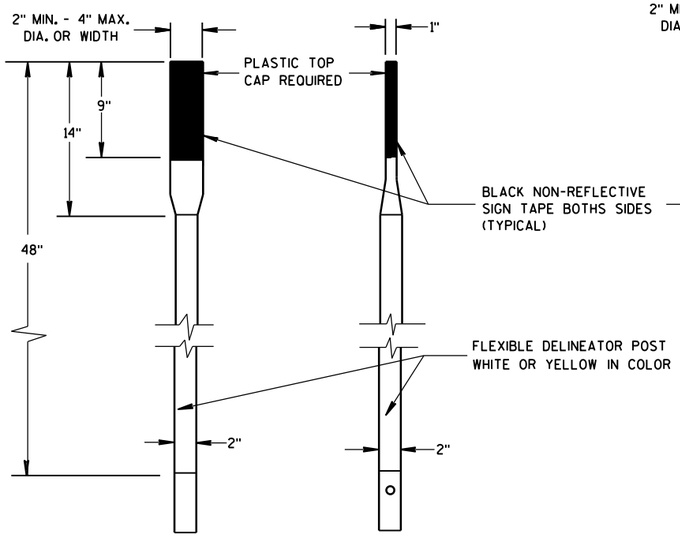


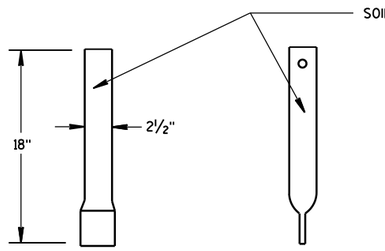
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S.D.D. 15 A 3-2a

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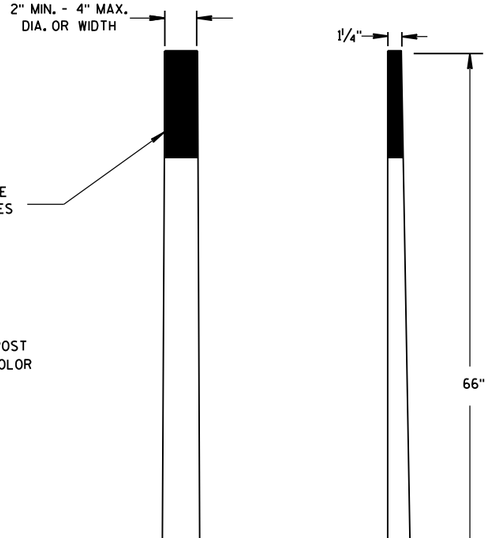
S.D.D. 15 A 3-2a



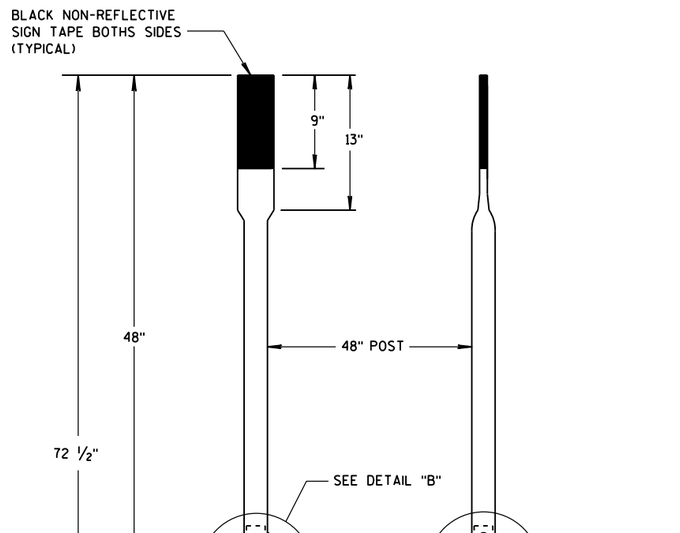

FRONT VIEW SIDE VIEW

ALTERNATE 1




FRONT VIEW SIDE VIEW

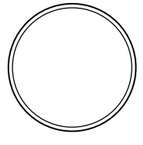
ALTERNATE 2



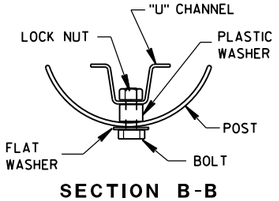

FRONT VIEW SIDE VIEW

ALTERNATE 3

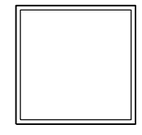
## FLEXIBLE MARKER POSTS



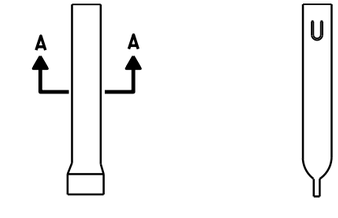
SECTION A-A




SECTION B-B

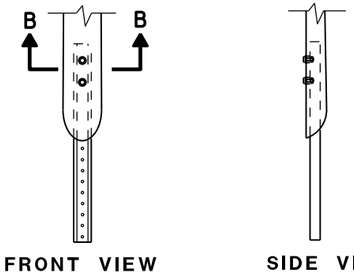


SECTION C-C



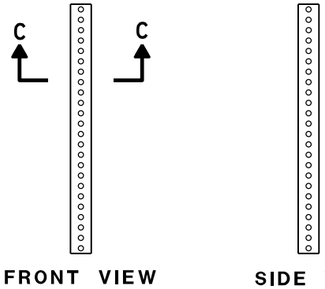

FRONT VIEW SIDE VIEW

ALTERNATE 1




FRONT VIEW SIDE VIEW

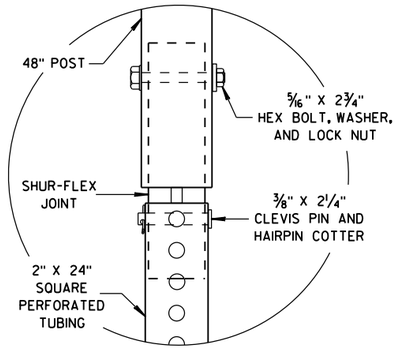
ALTERNATE 2



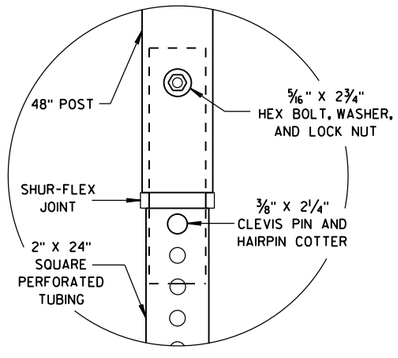

FRONT VIEW SIDE VIEW

ALTERNATE 3

## FLEXIBLE MARKER POST ANCHORS




DETAIL B




DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



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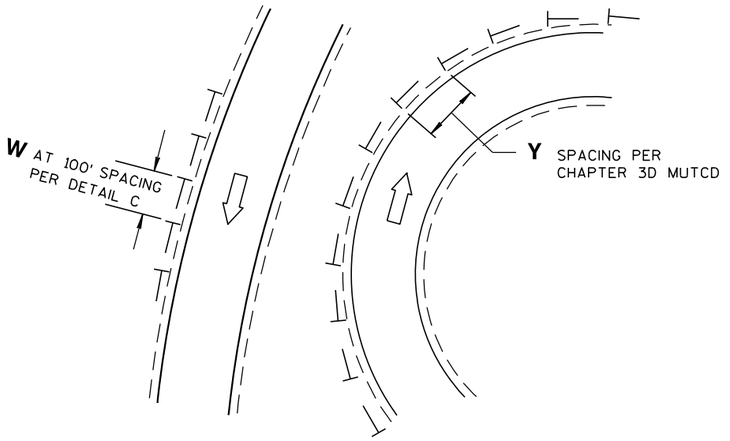
S.D.D. 15 A 3-2b

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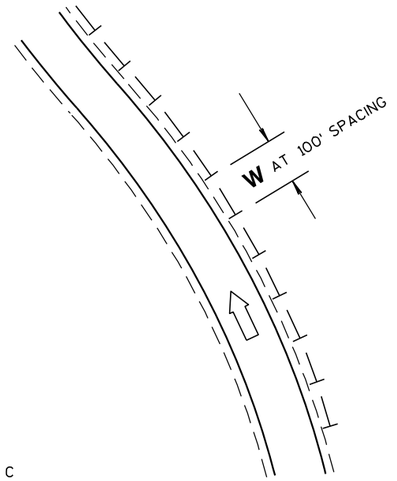
S.D.D. 15 A 3-2b

## GENERAL NOTES

* USE DOUBLE DELINEATOR ALONG ACCELERATION-DECELERATION LANES AND TAPERS. USE SINGLE DELINEATOR WHEN RAMP PAVEMENT IS FULL WIDTH.



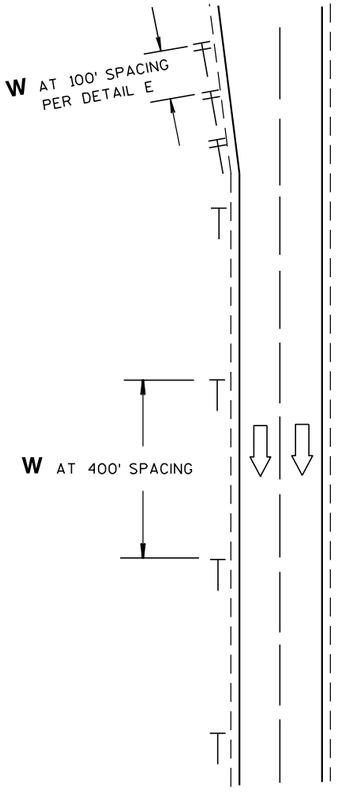

**DETAIL A**
**DELINEATOR LAYOUT AT CURVED RAMP**



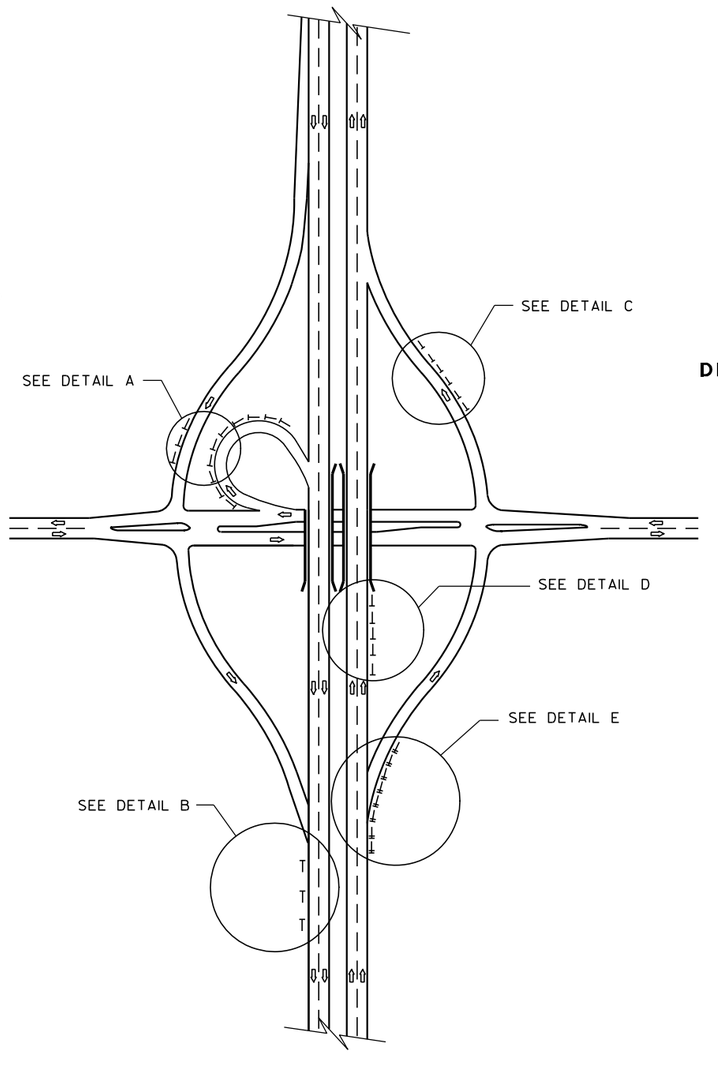

**DETAIL C**
**DELINEATOR LAYOUT ALONG RAMP**

**LEGEND**

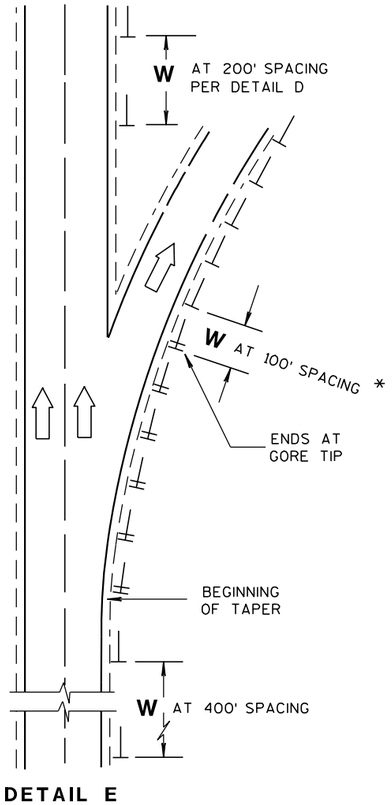
- DIRECTION OF TRAFFIC FLOW
- SINGLE DELINEATOR
- DOUBLE DELINEATOR
- W — WHITE
- Y — YELLOW



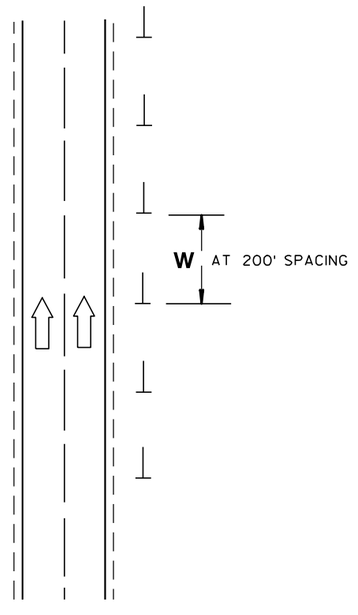

**DETAIL B**
**DELINEATOR LAYOUT ALONG MAINLINE**




**DELINEATOR LAYOUT**




**DETAIL E**
**DELINEATOR LAYOUT FOR ACCELERATION - DECELERATION LANES AND TAPERS AT RAMPS**




**DETAIL D**
**DELINEATOR LAYOUT BETWEEN INTERCHANGE RAMPS**

**DELINEATOR LAYOUT**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/5/09 DATE
/S/ Thomas N. Nothdurft STATE TRAFFIC ENGINEER
FHWA

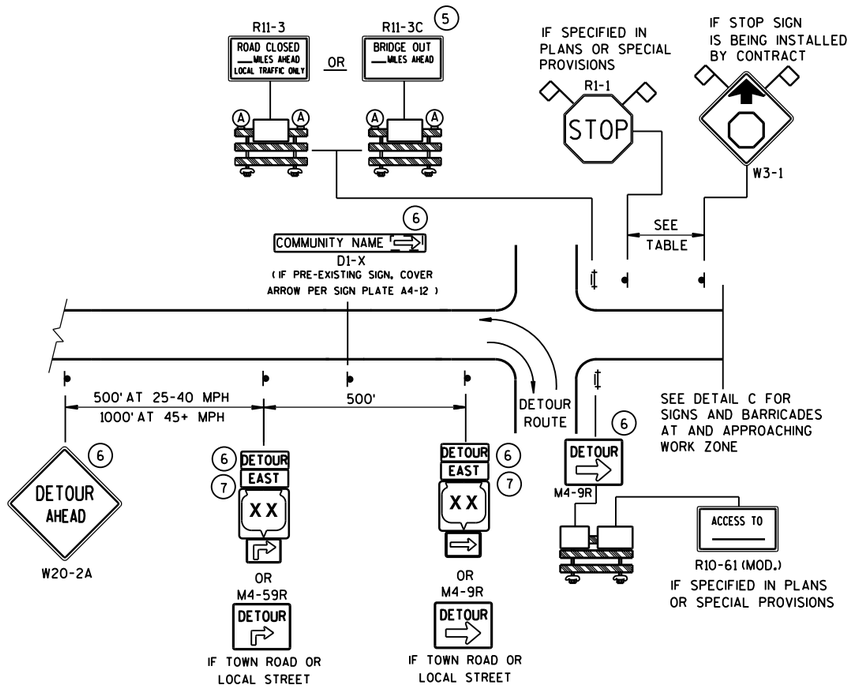


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S.D.D. 15 A 6-2

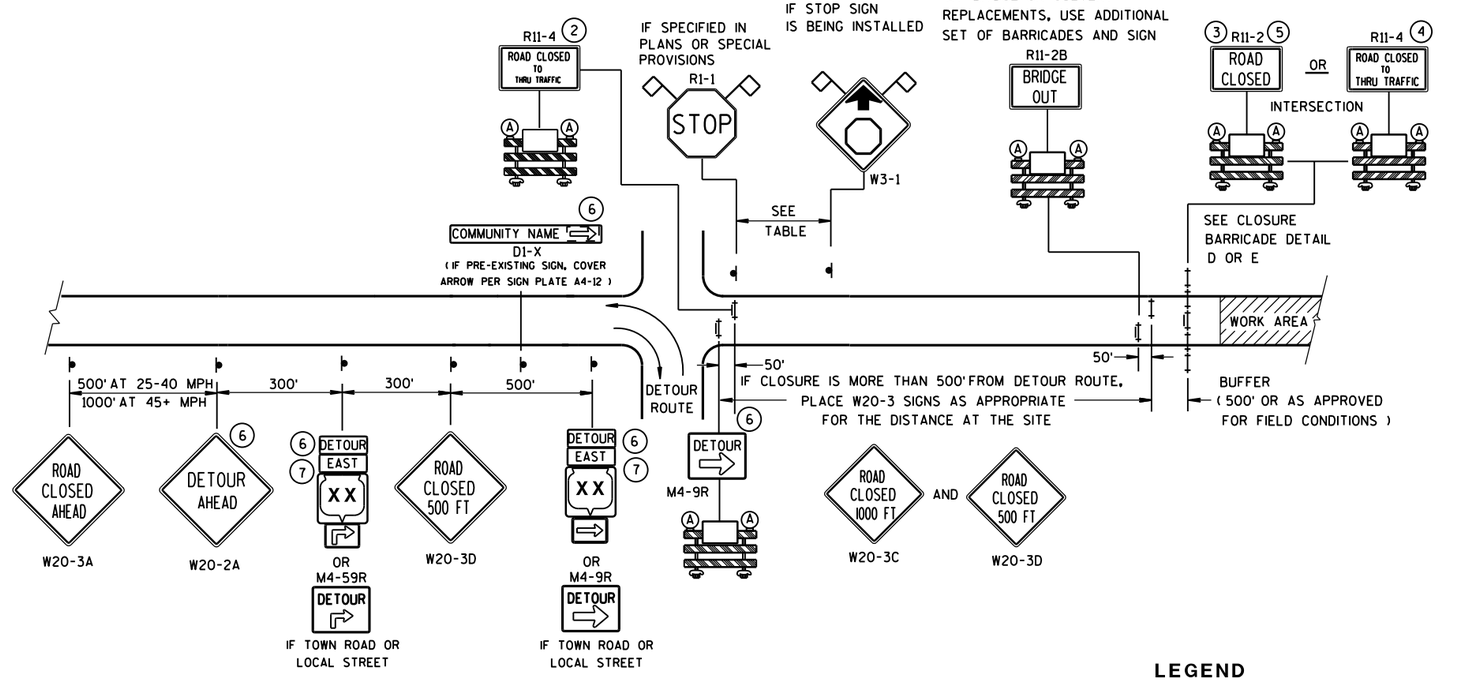
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S.D.D. 15 A 6-2



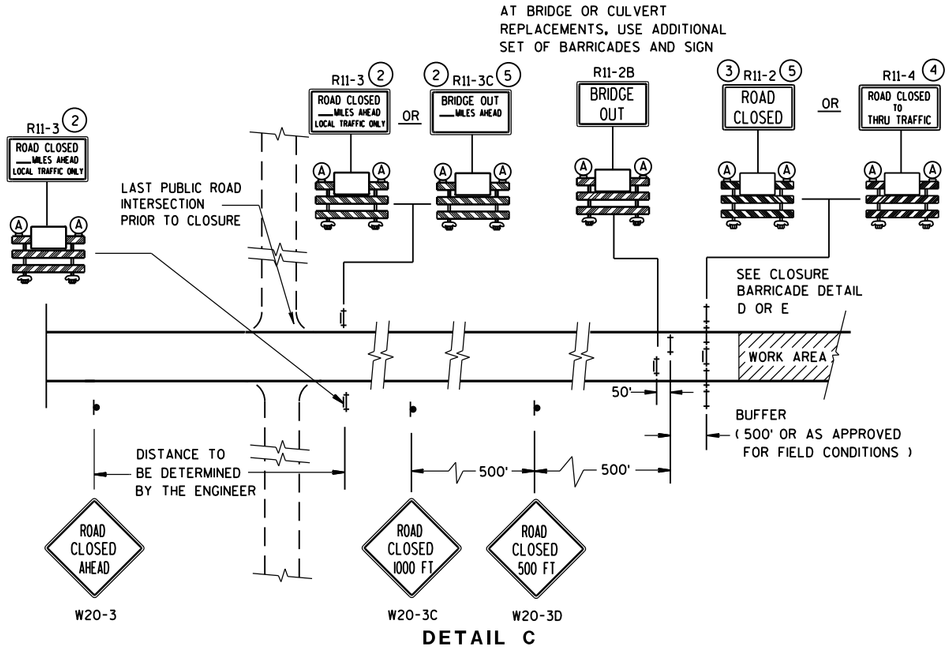

## DETAIL A
## MAINLINE CLOSURE WITH POSTED DETOUR

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




## DETAIL B
## MAINLINE CLOSURE WITH POSTED DETOUR

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




## DETAIL C
## MAINLINE CLOSURE, NO POSTED DETOUR

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

### LEGEND

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

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

**BARRICADES AND SIGNS FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA

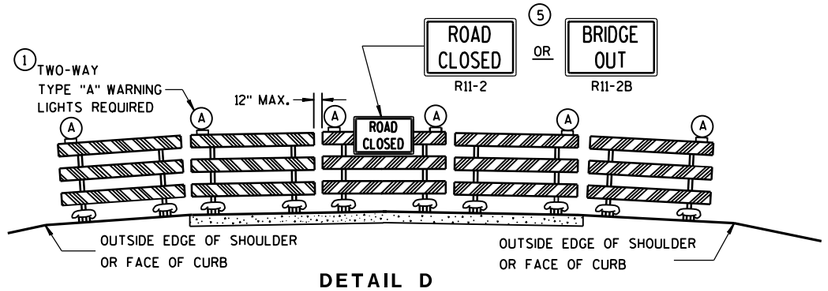


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S.D.D. 15 C 2-6a

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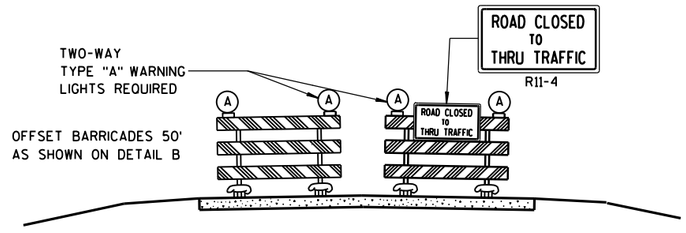
S.D.D. 15 C 2-6a




**DETAIL D**

## ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW




**DETAIL E**

## LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

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

## GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**BARRICADES AND SIGNS FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO SAFETY ENGI

FHWA

FIC

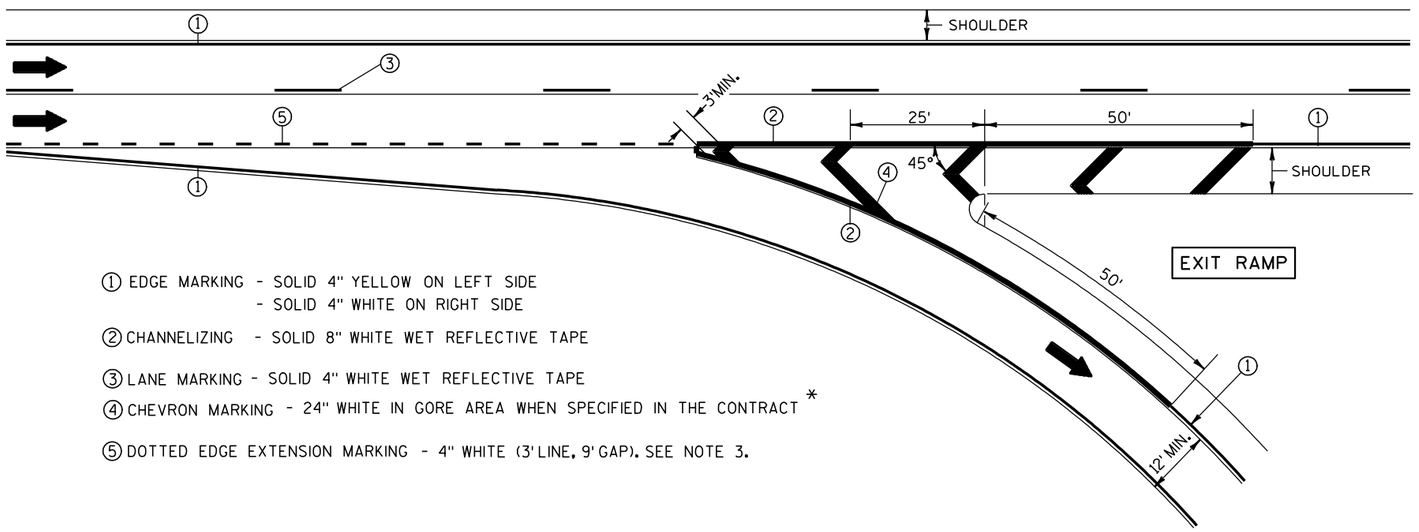






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S.D.D. 15 C 2-6b




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

② CHANNELIZING - SOLID 8" WHITE WET REFLECTIVE TAPE

③ LANE MARKING - SOLID 4" WHITE WET REFLECTIVE TAPE

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

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

NOTES:

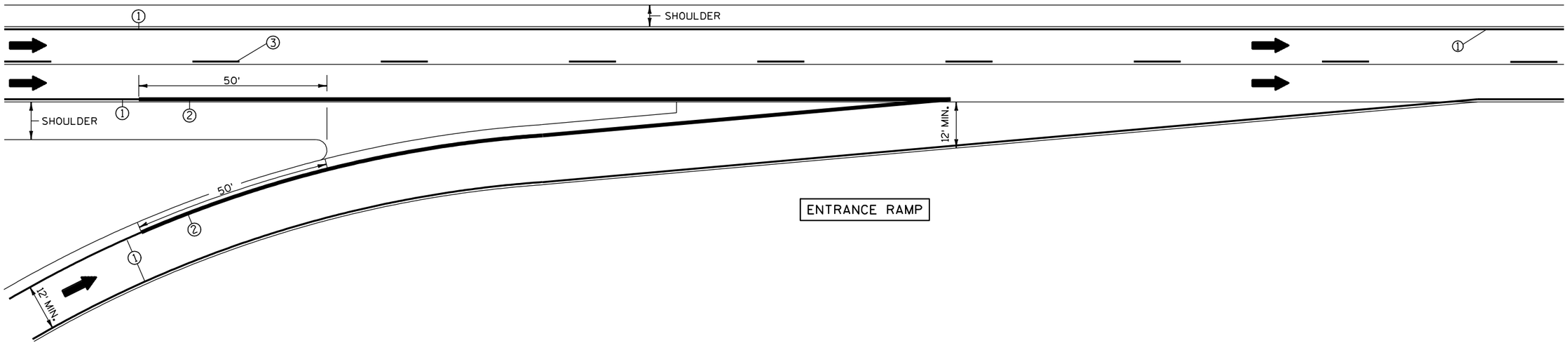
1. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.

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

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

4. RETRACE EXISTING DIAGONAL MARKINGS.

* REFER TO DESIGN NOTES.




6

6

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

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

**PAVEMENT MARKING**
**(RAMPS AND GORES)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

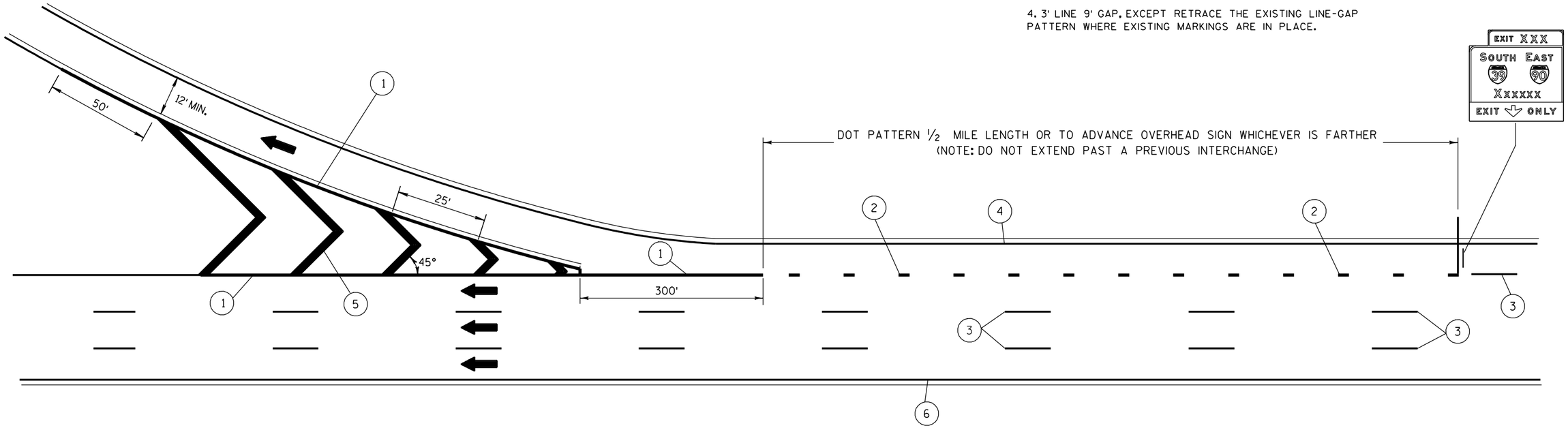
NOTES:

1. SEE STANDARD DETAIL DRAWING 15 C 10 FOR SPRAYED OR NON WET REFLECTIVE LINE SEGMENTS.

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

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

4. 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE-GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.




1. CHANNELIZING - SOLID 8" WHITE WET RELECTIVE TAPE
2. 3' LINE, 9' GAP SOLID 8" WHITE WET REFLECTIVE TAPE. SEE NOTE 4.
3. SOLID 4" WHITE WET REFLECTIVE TAPE
4. 4" WHITE EDGELINE
5. CHEVRON MARKING - 24" WHITE WHEN SPECIFIED IN THE CONTRACT
6. 4" YELLOW EDGELINE

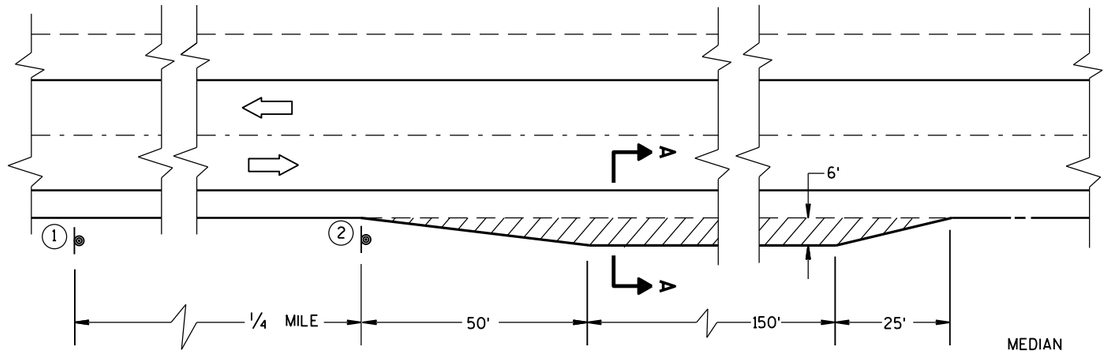
**LANE DROP**
**PAVEMENT MARKING**

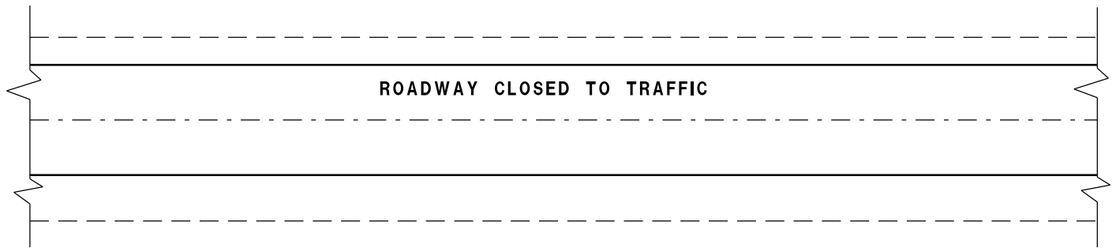
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION




6

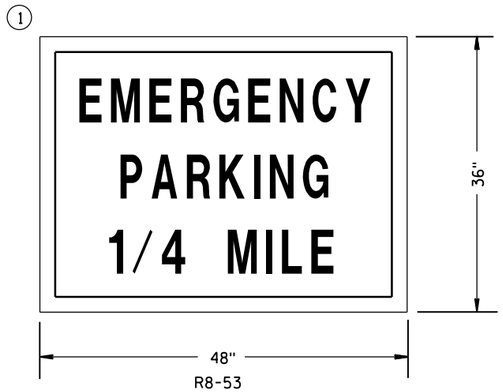
S.D.D. 15 C 31-1b
S.D.D. 15 C 31-1b




PLAN VIEW

## TEMPORARY EMERGENCY PULLOUTS FOR DIVIDED HIGHWAYS




SIGNS TO BE BLACK LETTERS ON WHITE REFLECTIVE BACKGROUND

## SIGNS FOR TEMPORARY EMERGENCY PULLOUTS

## GENERAL NOTES

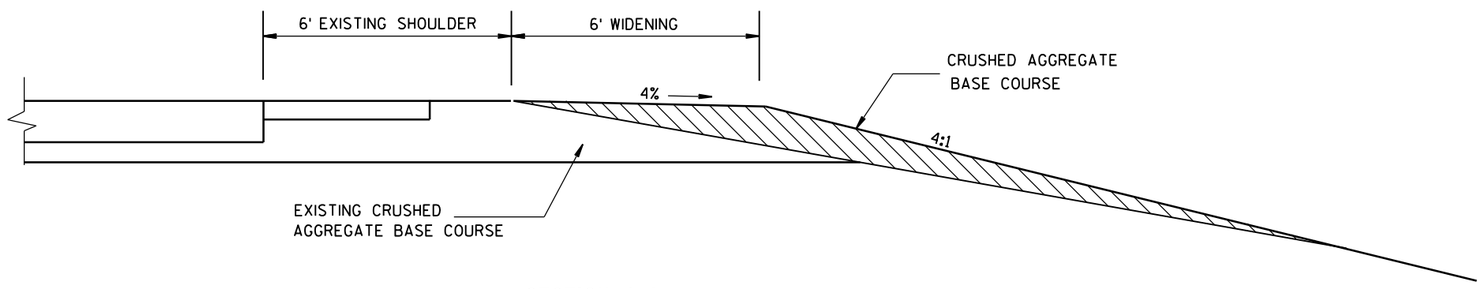
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, APPLICABLE SPECIAL PROVISIONS AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

TEMPORARY EMERGENCY PULLOUTS AND SIGNS SHALL BE REMOVED AND THE ROADWAY RESTORED TO ITS ORIGINAL CROSS SECTION AND CONDITION PRIOR TO REOPENING THE ROADWAY TO ONE WAY TRAFFIC.

### LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC




SECTION A-A

**TEMPORARY EMERGENCY PULLOUTS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

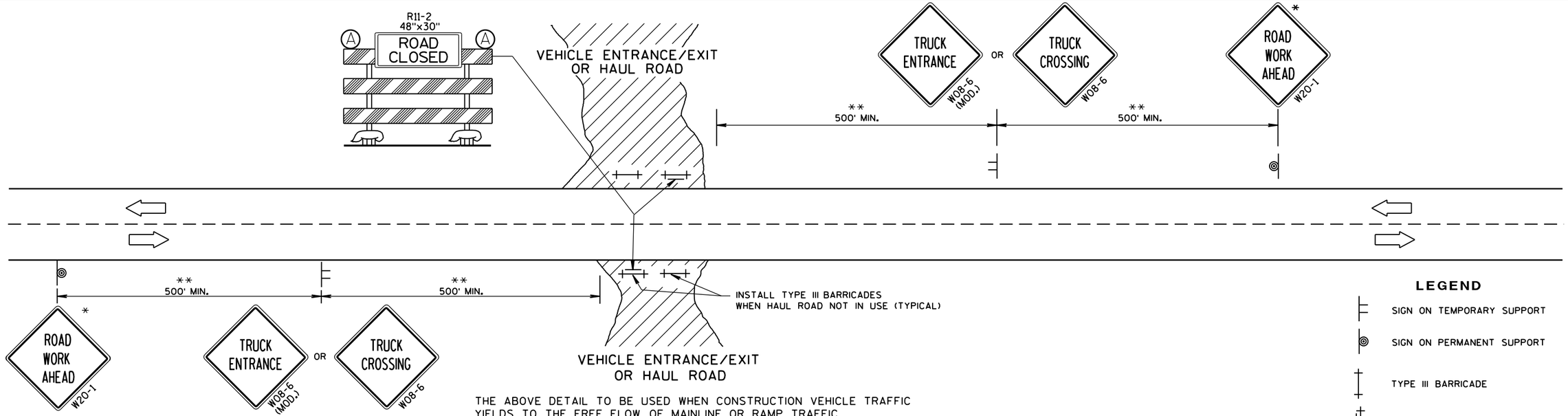


6

S.D.D. 15 D 13-2

6

S.D.D. 15 D 13-2




THE ABOVE DETAIL TO BE USED WHEN CONSTRUCTION VEHICLE TRAFFIC YIELDS TO THE FREE FLOW OF MAINLINE OR RAMP TRAFFIC

## LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC

## GENERAL NOTES

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

WHEN ACTIVITY REFLECTED BY THE SIGN IS NOT CURRENTLY TAKING PLACE, THE HIGHWAY SHALL BE RESTORED TO NORMAL CONDITION AND THE SIGNS SHALL BE REMOVED, COVERED OR TURNED AWAY FROM TRAFFIC.

WHEN A SIDE ROAD OR RAMP INTERSECTS WITHIN THE ADVANCE SIGNING AREA, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

* THESE SIGNS ARE TO BE USED ONLY WHEN VEHICLE ENTRANCE/EXIT CONDITIONS ARE SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA OR SIGNING OR AS DIRECTED BY THE ENGINEER.

** 500 FEET SHOWN IS FOR ROADWAYS WITH A NON-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350 FEET. FOR 25-30 MPH, USE 200 FEET. USE 1000 FEET/1500 FEET FOR EXPRESSWAY/FREEWAY.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

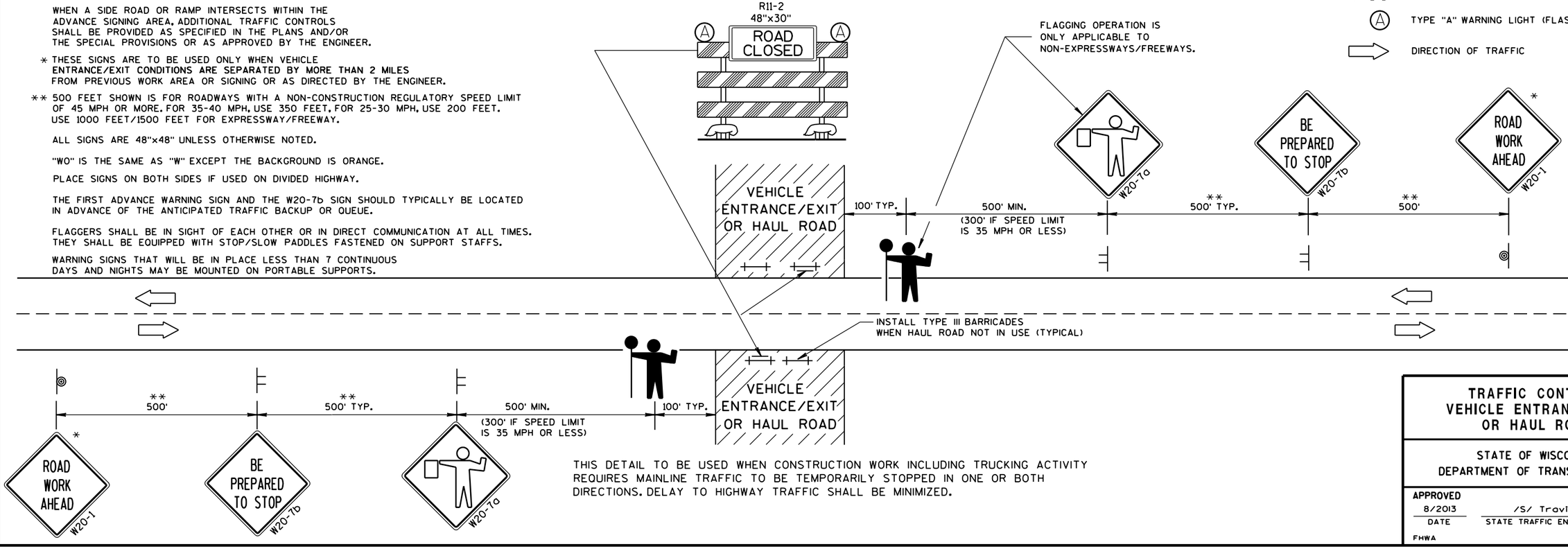
"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

PLACE SIGNS ON BOTH SIDES IF USED ON DIVIDED HIGHWAY.

THE FIRST ADVANCE WARNING SIGN AND THE W20-7b SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS.

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




THIS DETAIL TO BE USED WHEN CONSTRUCTION WORK INCLUDING TRUCKING ACTIVITY REQUIRES MAINLINE TRAFFIC TO BE TEMPORARILY STOPPED IN ONE OR BOTH DIRECTIONS. DELAY TO HIGHWAY TRAFFIC SHALL BE MINIMIZED.

# TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

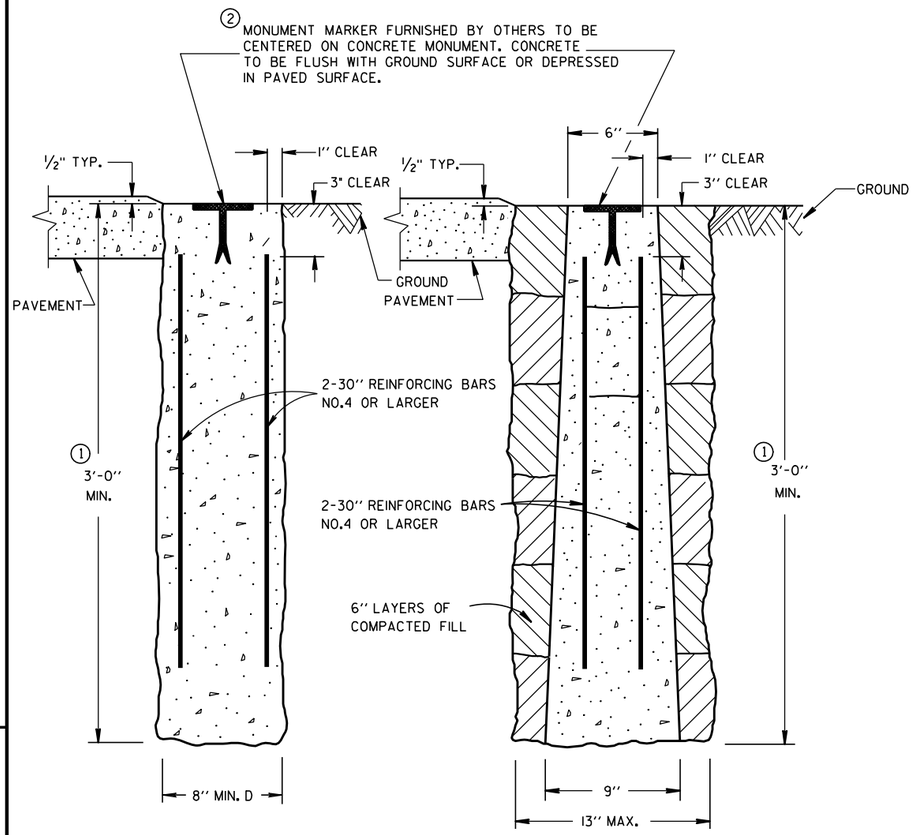
| 8/2013 | /S/ Travis Feltes | |
|---|---|---|
| DATE | STATE TRAFFIC ENGINEER | IGN |

FHWA




6

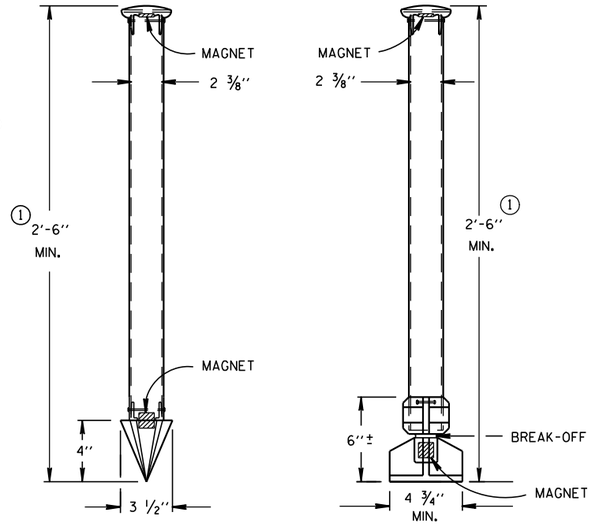

S.D.D. 15 D 29-3




CAST-IN-PLACE PRECAST

CONCRETE MONUMENTS

TYPE A




TYPE C DRIVE-IN MONUMENT

TYPE D BREAK-OFF MONUMENT

ALUMINUM MONUMENTS

(INCLUDES MARKER)

## GENERAL NOTES

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

DETAILED DRAWINGS OF PROPOSED ALTERNATE DESIGNS FOR METAL MONUMENTS OR MONUMENT COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

INSTALLED METAL MONUMENTS MUST BE EASILY DETECTED WITH A DIP NEEDLE. INSERT PERMANENT MAGNETS SHALL BE ATTACHED NEAR THE TOP AND BOTTOM OF THOSE MONUMENTS CONSTRUCTED OF A METAL ALLOY WHICH IS NOT ATTRACTIVE TO A DIP NEEDLE.

THE CAST IRON MONUMENT COVER SHALL BE A "NON-ROCKING" TYPE. ADJUSTMENT OF THE COVER TO GRADE MAY BE ACCOMPLISHED BY THE USE OF MORTAR AND BRICK, OR BY EITHER PRECAST OR CAST-IN-PLACE REINFORCED CONCRETE GRADE RINGS.

MONUMENTS SHALL BE LOCATED AND PLACED AT THE DIRECTION OF THE ENGINEER.

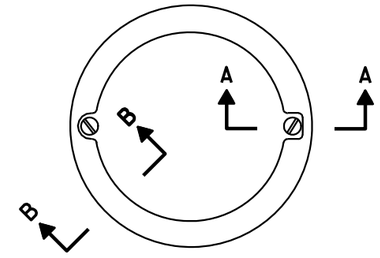
ALUMINUM MONUMENTS AND MONUMENT COVERS SHALL BE MADE FROM AN ALUMINUM AND MAGNESIUM ALLOY AS DETERMINED BY THE MANUFACTURER.

THE MONUMENT COVERS DETAILED ON THIS DRAWING ARE NOT EQUAL ALTERNATES. MONUMENT COVERS SHALL BE CAST IRON UNLESS ALUMINUM IS SPECIFIED ELSEWHERE IN THE CONTRACT.

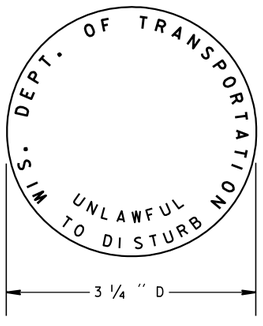
MONUMENT SHALL BE CAST-IN-PLACE CONCRETE UNLESS PRECAST CONCRETE OR ALUMINUM MONUMENTS ARE SPECIFIED IN THE CONTRACT OR PERMITTED BY THE ENGINEER.

① MINIMUM LENGTH SHALL BE 4'-0" FOR MONUMENTS INSTALLED IN PAVED AREAS.

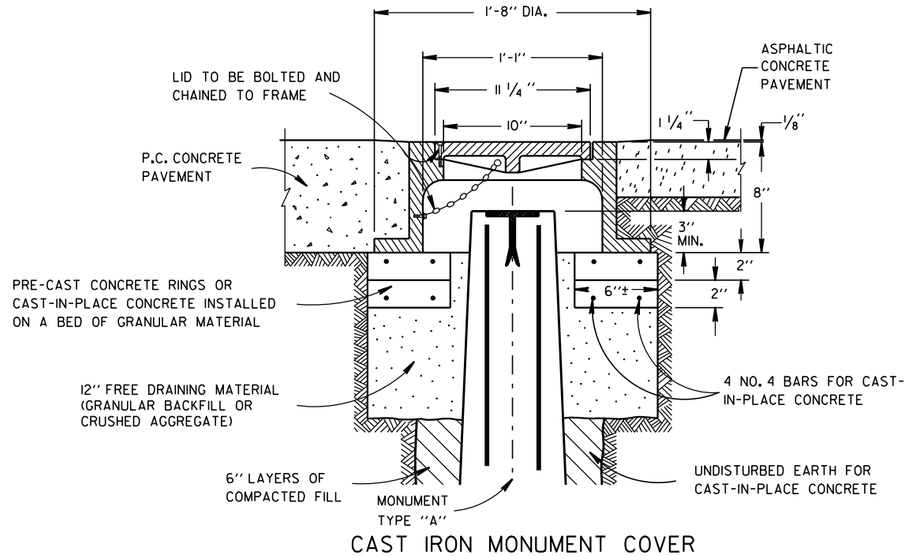
② AN OFFICIAL COUNTY MONUMENT MARKER SUPPLIED BY A COUNTY MAY BE REQUIRED FOR SOME SECTION CORNERS AND WITNESS MONUMENTS INSTEAD OF THIS WIS DOT MARKER.




TOP VIEW

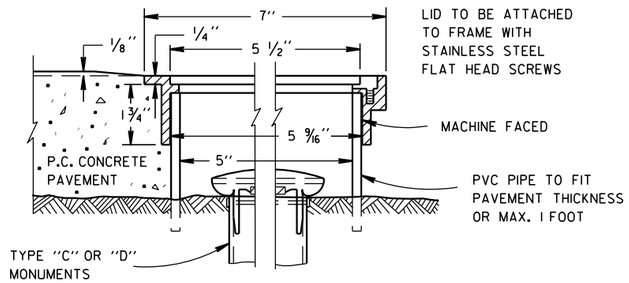



② WIS DOT MONUMENT MARKER LOGO FOR TYPES "A", "C" & "D"




CAST IRON MONUMENT COVER

(APPROXIMATE WEIGHT - 95 LBS.)




SECTION B-B SECTION A-A

ALUMINUM MONUMENT COVER

(APPROXIMATE WEIGHT 2 LBS)

(FOR CONCRETE PAVEMENT ONLY)

**LANDMARK REFERENCE MOUNMENTS AND COVERS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9/22/1999 DATE

/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER

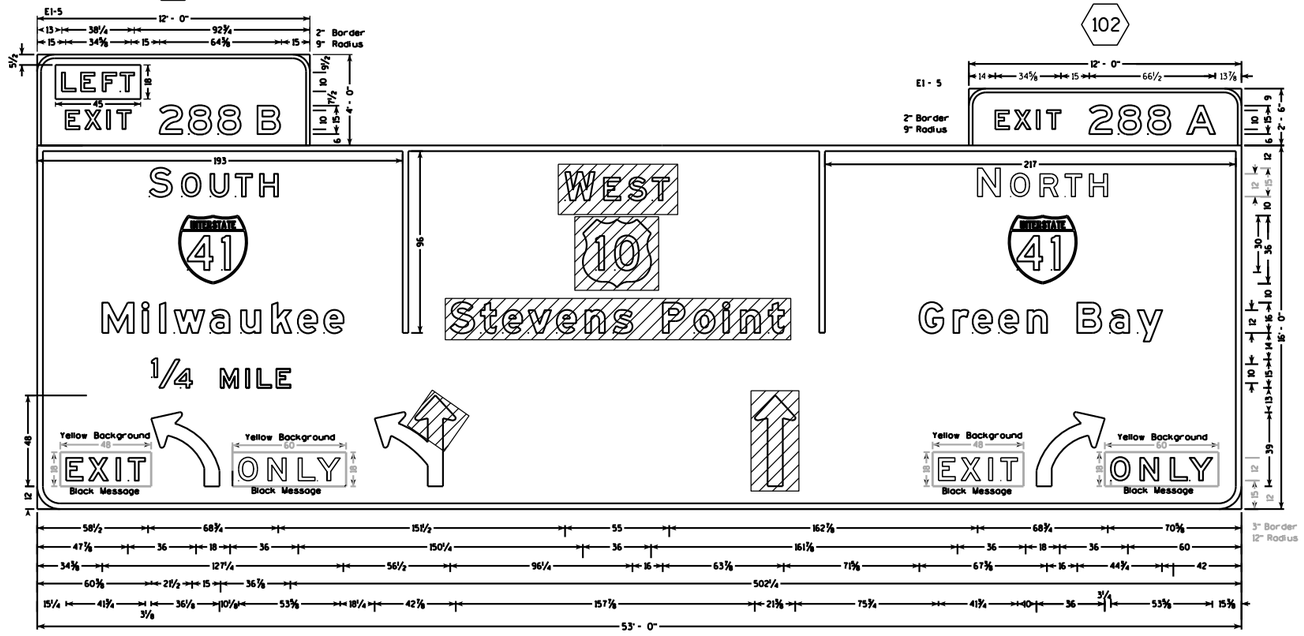
FHWA




6


S.D.D. 16 A 1-6

101



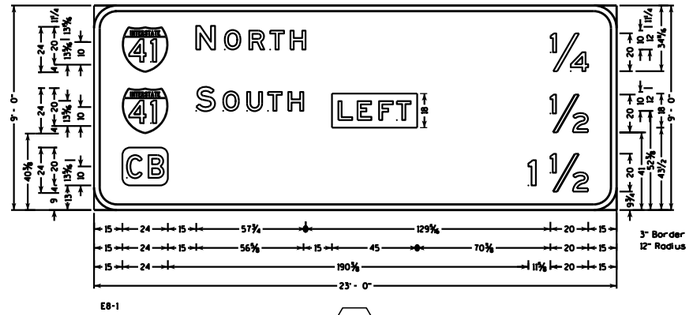

100

102

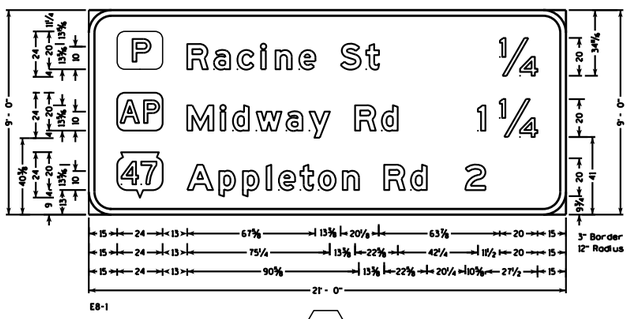



## NOTES

1. All Signs are Type I - Type SH Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all cap WORDS are Series E

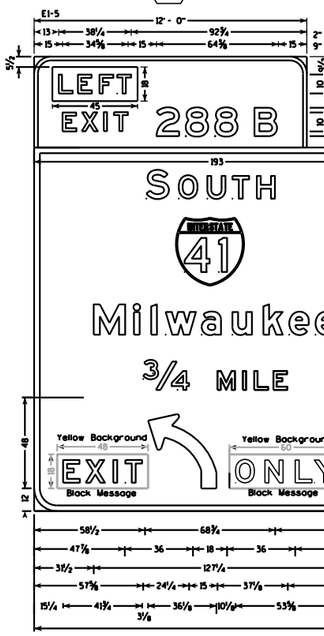



116



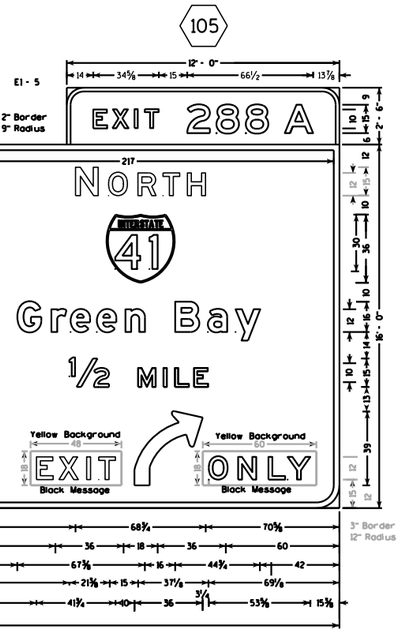

115

104




103

105



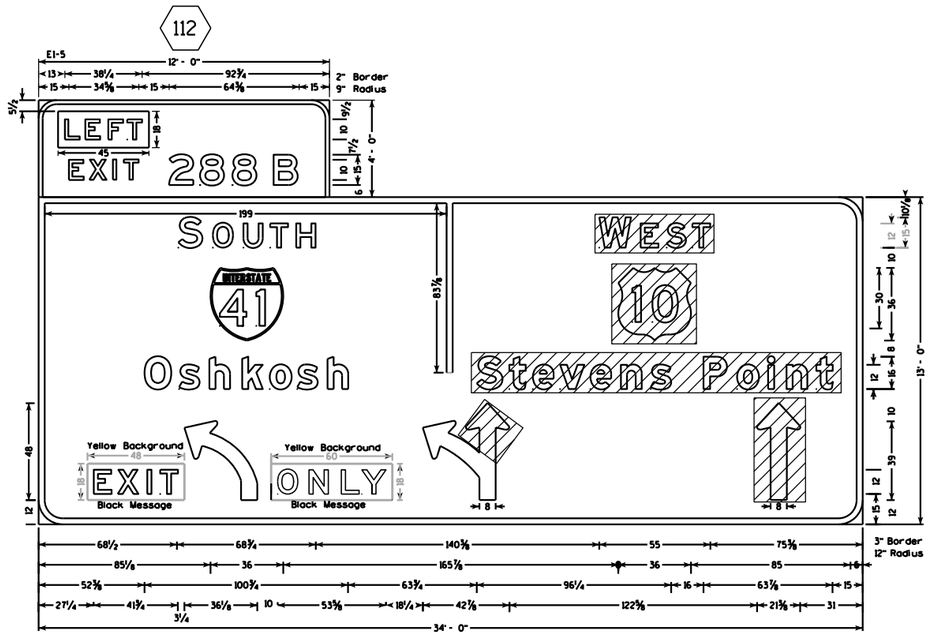

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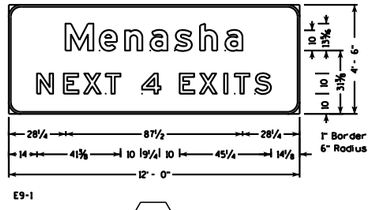
7

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | SIGN DETAILS | SHEET NO: E |
|---|---|---|---|---|

NOTES

1. All Signs are Type I - Type SH Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all cap WORDS are Series E




7

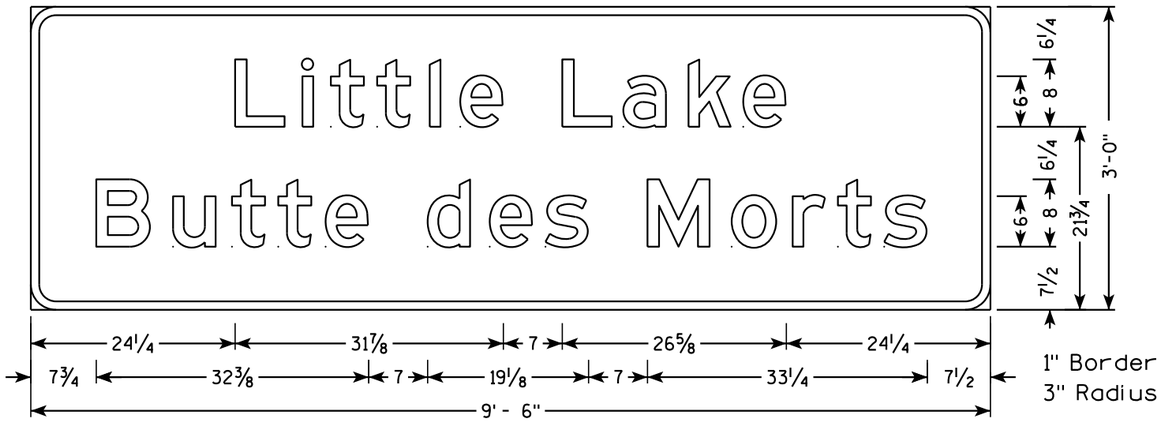
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| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | SIGN DETAILS | SHEET NO: 266 | E |
|---|---|---|---|---|---|

FILE NAME : N:\spo\traffic\SIGNING\Projects\1517-07-77 STH 441-USH 10 Winnebago Cty\070103_sd.dgn PLOT DATE : 31-MAR-2016 12:10 PLOT BY : dotets PLOT NAME : PLOT SCALE : 75:1

NOTES

1. All Sign Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - GREEN
   Message - WHITE
3. Message Series - E

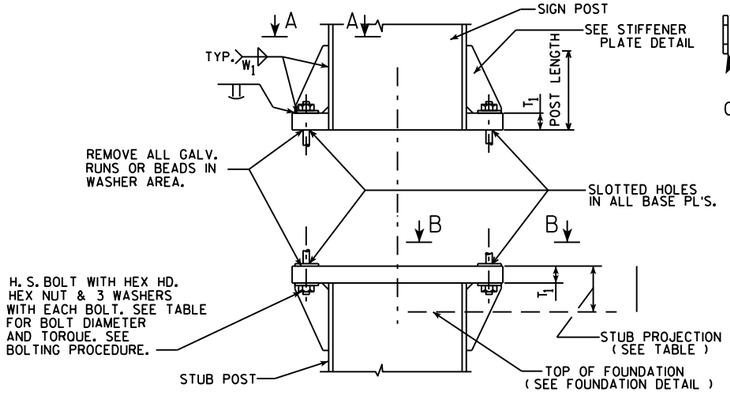



I3-1

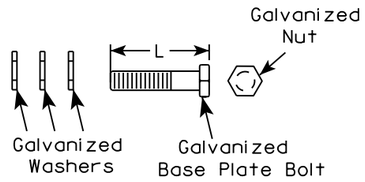
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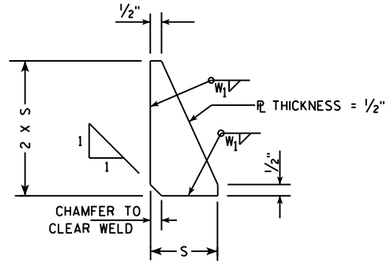
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| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | PERMANENT SIGNING | SHEET NO: 267 | E |
|---|---|---|---|---|---|



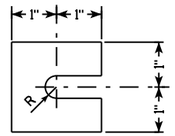

SIGN POST AND STUB POST ELEVATION



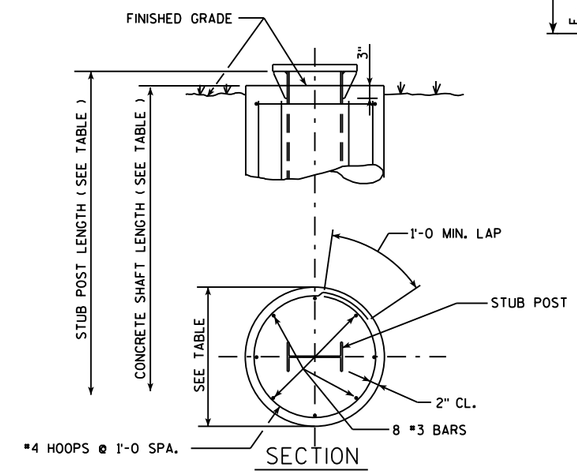

STIFFENER PLATE DETAIL

( SEE TABLE FOR DIMENSIONS )

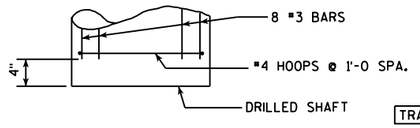



FURNISH 2 @ .012" ± THICK AND 2 @ .032" ± THICK SHIMS PER POST. SHIMS SHALL BE FABRICATED FROM BRASS SHIM STOCK OR STRIP CONFORMING TO A.S.T.M.- B36.

SHIM DETAIL




SECTION



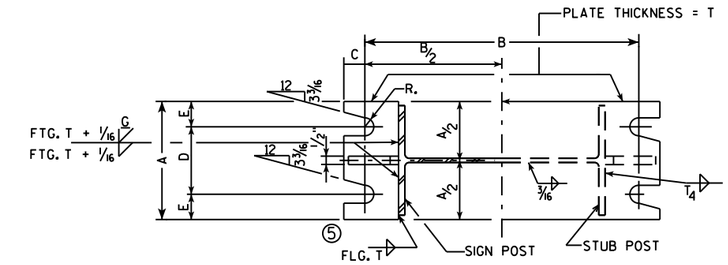

FOUNDATION DETAIL

| QUANTITIES FOR 1 FOOTING | | |
|---|---|---|
| | CONC. MASONRY C.Y. | REINF. STEEL LBS. |
| A | 0.6 | 34 |
| B | 0.8 | 49 |
| C | 0.9 | 50 |
| D | 0.9 | 56 |
| E | 1.0 | 62 |
| | | |

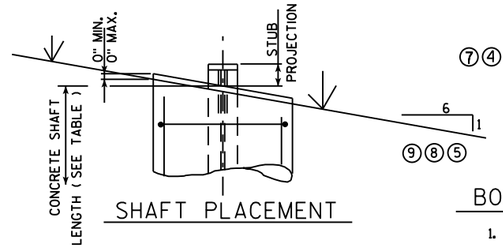
⑦

| REINF. | TYPE | #3 | #4 |
|---|---|---|---|
| | A | 8 @ 4'-5 | 5 @ 6'-3 |
| | B | 8 @ 6'-5 | 7 @ 6'-3 |
| | C | 8 @ 6'-11 | 7 @ 6'-3 |
| | D | 8 @ 7'-5 | 8 @ 6'-3 |
| | E | 8 @ 7'-11 | 9 @ 6'-3 |

⑦




SECTION A-A SECTION B-B




⑦④

SHAFT PLACEMENT

## DESIGN DATA

WIND PRESSURE = 75 M.P.H.
WIND COMPONENTS - NORMAL = 1.0 TRANSVERSE = 0.0
ICE LOAD = 3 P.S.F.

| GROUP LOADS | PERCENT OF ALLOWABLE STRESS |
|---|---|
| 1. DEAD | 100 |
| 2. DEAD & WIND | 140 |
| 3. DEAD, ICE & ½ WIND[4] | 140 [4]25 P.S.F. MIN. |

ALLOWABLE SOIL PRESSURE = 1½T / SQ. FT.
WIND LOAD WAS APPLIED TO THE AREA OF THE SIGN AND TO THE SUPPORTING MEMBERS.
ICE LOAD WAS APPLIED TO ONE FACE OF THE SIGN AND AROUND THE SURFACE OF THE SUPPORTING MEMBERS.

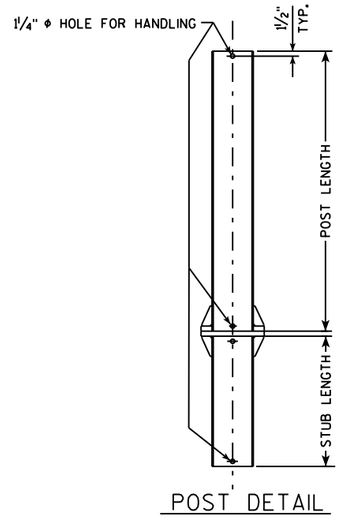
## GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
DESIGN CONFORMS WITH A.A.S.H.T.O. SPECIFICATIONS 1985.
⑨ ALL POSTS, POST STUBS & ATTACHMENTS SHALL BE A.S.T.M. A709 GRADE 50, GALVANIZED IN ACCORDANCE WITH ASTM A123.
THE POST, BASE PLATES, UPPER SIX INCHES OF STUB POST FLANGE SPLICE PLATE AND FUSE PLATE SHALL BE GALVANIZED AFTER FABRICATION.
FURNISH STEEL BOLTS, NUTS, AND WASHERS IN ACCORDANCE WITH SECTION 635 OF THE STANDARD SPECIFICATIONS.

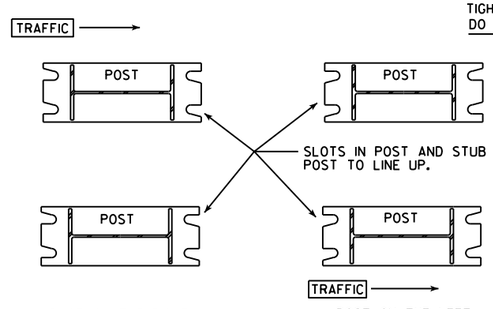
## BOLTING PROCEDURE - BASE CONNECTION

1. ASSEMBLE SIGN POST TO STUB POST WITH BOLTS AND ONE OF THE FLAT WASHERS ON EACH BOLT BETW. PLATES.
2. SHIM AS REQ'D. TO PLUMB POST.
3. PRIOR TO BOLT TIGHTENING LUBRICATE BASE CONNECTION BOLTS WITH BEESWAX OR OTHER HIGH-WAX LUBRICANT.
4. TIGHTEN ALL BOLTS THE MAXIMUM POSSIBLE WITH 12" OR 15" WRENCH TO BED WASHERS & SHIMS AND TO CLEAN BOLT THREADS, THEN LOOSEN EACH BOLT IN TURN AND RETIGHTEN IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE. ( SEE TABLE )
5. BURR THREADS AT JUNCTION WITH NUT USING A CENTER PUNCH TO PREVENT NUT LOOSENING.

NOTE:
TIGHTEN THE HIGH STRENGTH BOLTS TO THE TORQUE SHOWN. DO NOT OVERTIGHTEN.




POST DETAIL




POST SLOT ORIENTATION ⑦

| BASE CONNECTION DATA TABLE | | | | | | | | | | | | | | FOUNDATION DATA | | | | ② |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | X | TYPE | DIMENSION / POST SIZE | BOLT SIZE & TORQUE | A | B | C | D | E | $T_1$ | $T_4$ | $W_1$ | R | S | STUB LENGTH | STUB PROJECTION | SHAFT DIAMETER | SHAFT LENGTH | K |
| 3 ¾ | ④ | A | W10"X12.0 #/FT. | ¾" ϕ @ 75#-FT. | 5¼" | 1'-0⅜ | ⅞" | 3½" | ⅞' | 1" | 3/16" | 5/16" | 13/32" | 2⅛" | 3'-6 | 3" | 2'-0 ϕ | 5'-0 | 76.0# ④ |
| 4 ¾ | ④ | B | W12"X16.0 #/FT. | ⅞" ϕ @ 85#-FT. | 5½" | 1'-4¼ | 1" | 3½" | 1" | 1¼" | ¼" | 5/16" | 13/32" | 3" | 5'-6 | 3" | 2'-0 ϕ | 7'-0 | 146.5# ④ |
| 5 | | C | W12"X19.0 #/FT. | ⅞" ϕ @ 85#-FT. | 5½" | 1'-4¼ | 1" | 3½" | 1" | 1½" | 5/16" | 5/16" | 13/32" | 3" | 6'-0 | 3" | 2'-0 ϕ | 7'-6 | 182.1# |
| 5 | | D | W12"X22.0 #/FT. | ⅞" ϕ @ 85#-FT. | 5½" | 1'-4¼ | 1" | 3½" | 1" | 1½" | ⅜" | 5/16" | 13/32" | 3" | 6'-6 | 3" | 2'-0 ϕ | 8'-0 | 210.5# |
| 5 | ③ | E | W12"X26.0 #/FT. | 1" ϕ @ 90#-FT. | 7" | 1'-4¼ | 1¼" | 4" | 1½" | 1½" | ⅜" | 5/16" | 11/32" | 3" | 7'-0 | 3" | 2'-0 ϕ | 8'-6 | 293.0# ③ |
| | | | | | | | | | | | | | | | | | | | |

① ⑥ ①

STRUCTURAL CARBON STEEL PAY WTS. ( 1 POST ) = K+ ( POST LENGTH X POST WT. )
" K " INCLUDES STUB, BASE PLATES, STIFFS., BOLTS, AND WASHERS.

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 11/12/15 PLATE NO. A3-1.16

| NO. | DATE | REVISION |
|---|---|---|
| ⑩ | 1-21-14 | LUBRICATION OF BASE BOLTS |
| ⑨ | 4-26-11 | REMOVE NON-GALVANIZED |
| ⑧ | 10-30-96 | NOT GALVANIZED/GALVANIZED |
| ⑦ | 10-30-92 | QUANT., A588 EXCEPT., ADD SLOT VIEW |
| ⑥ | 8-24-87 | BASE CONN. WELD |
| ⑤ | 10-13-81 | BASE CONN. WELD & FUSE PL WASHERS |
| ④ | 10-19-79 | POST A & B, A572 GR. 50, & K |
| ② | 11-28-78 | "K" ③ 4-23-79 TYPE "E" |
| ① | 5-4-78 | $T_1$ , $T_2$ & $W_1$ |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

TYPE A, B, C, D, & E

| CONST. SPEC. | DRAWN BY | PLANS CK'D. |
|---|---|---|
| 2011 | JPH | |

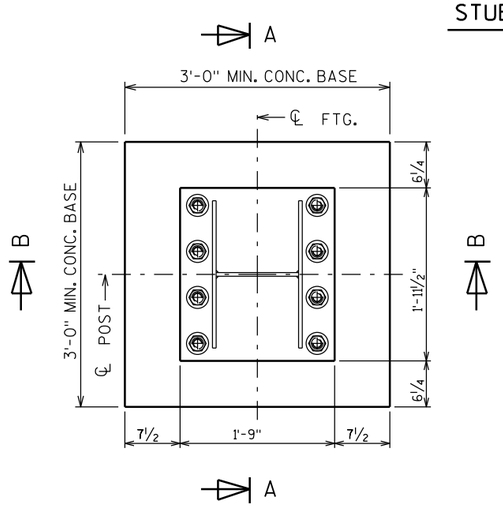
FTG. & SIGN SUPPORT DETAILS GROUND MOUNT BREAK-AWAY SIGNS

SHEET 268

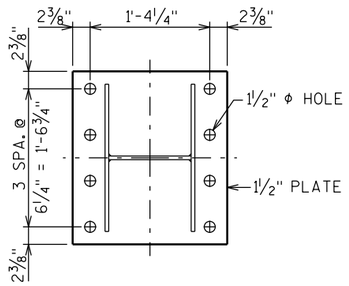
PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

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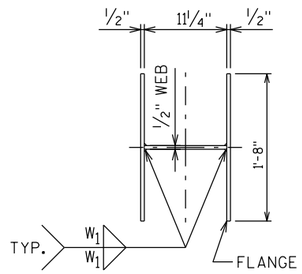
## STUB AND MASONRY ANCHOR DETAILS




STUB SECTION



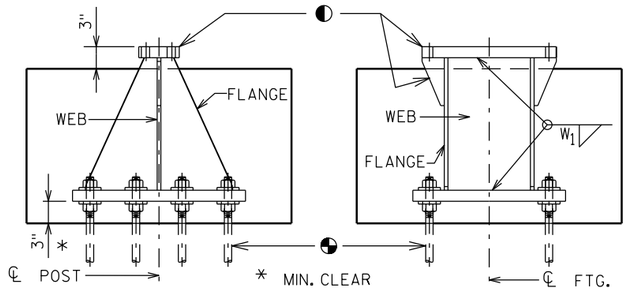

BASE PLATE



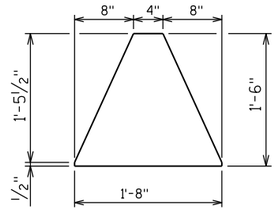

STUB

◐ SEE PLATE NO. A3-1 FOR DETAILS

◒ MASONRY ANCHORS TYPE S 1¼-INCHES (ADHESIVE). ALLOWABLE PULL OUT CAPACITY 14,995 KIPS. EMBED 1'-3" IN ROCK.




SECTION A SECTION B



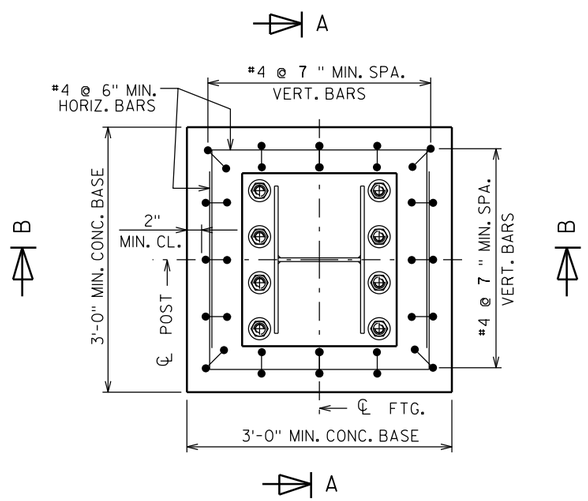

FLANGE

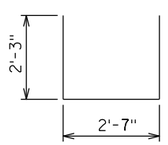
### GENERAL NOTES

1. Quantities per Base:
   - REINFORCING BAR STEEL = 62 LBS
   - CONCRETE = 0.6 C.Y.
   - STEEL WEIGHT = 335 LBS
2. All materials, except anchor rod, nuts and washers, are to be A.S.T.M. A709 grade 50. All materials to be galvanized after fabrication.
3. If the contractor encounters rock before reaching the footing depth, per the A3-1 Sign Detail, determine the pull-out capacity of a test adhesive anchor installed in the rock. If the test result equals or exceeds the pull-out capacity of 14,995 KIPS, the contractor may install the breakaway stub for rock, according to this detail.

## CONCRETE BASE AND REINFORCING STEEL DETAILS

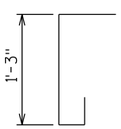
### CONCRETE BASE SECTION



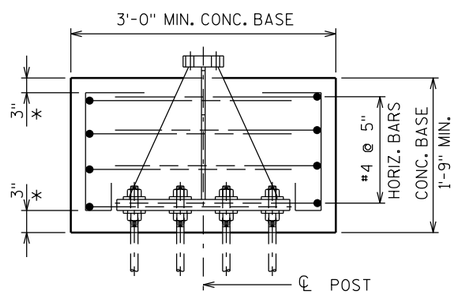

HORIZONTAL BAR

8 BARS @ 6'-11" LENGTH



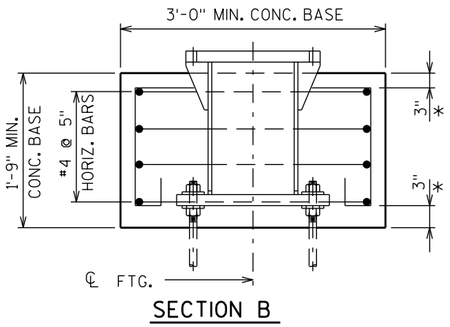

VERTICAL BARS

16 BARS @ 2'-4" LENGTH
MAY BE PLACED IN SKEW
FOR CLEARANCE NEED




SECTION A

* MIN. CLEAR




SECTION B

ALTERNATE BREAK-AWAY BASE ON ROCK
A3-1M

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

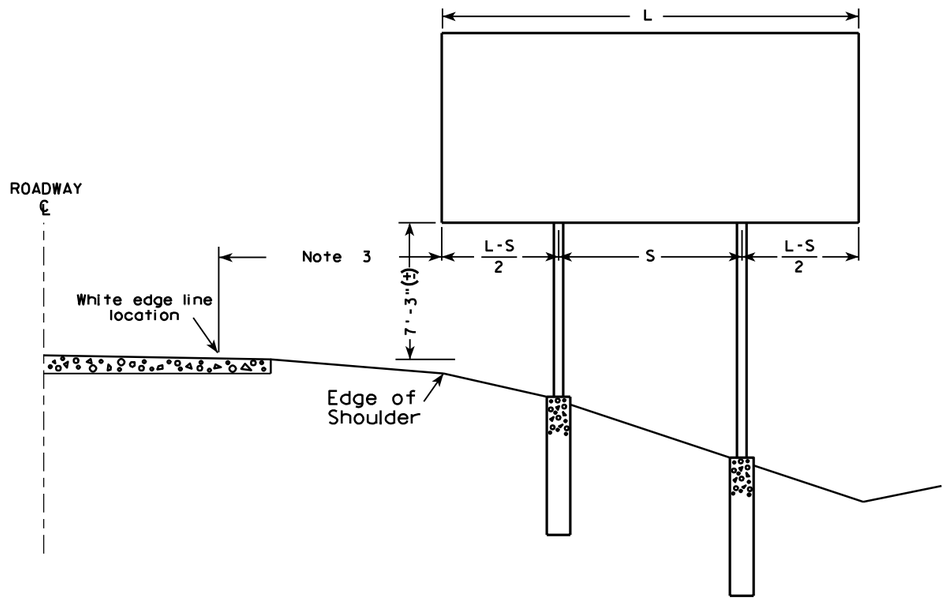
DATE 2/06/2014 PLATE A3-1M.1

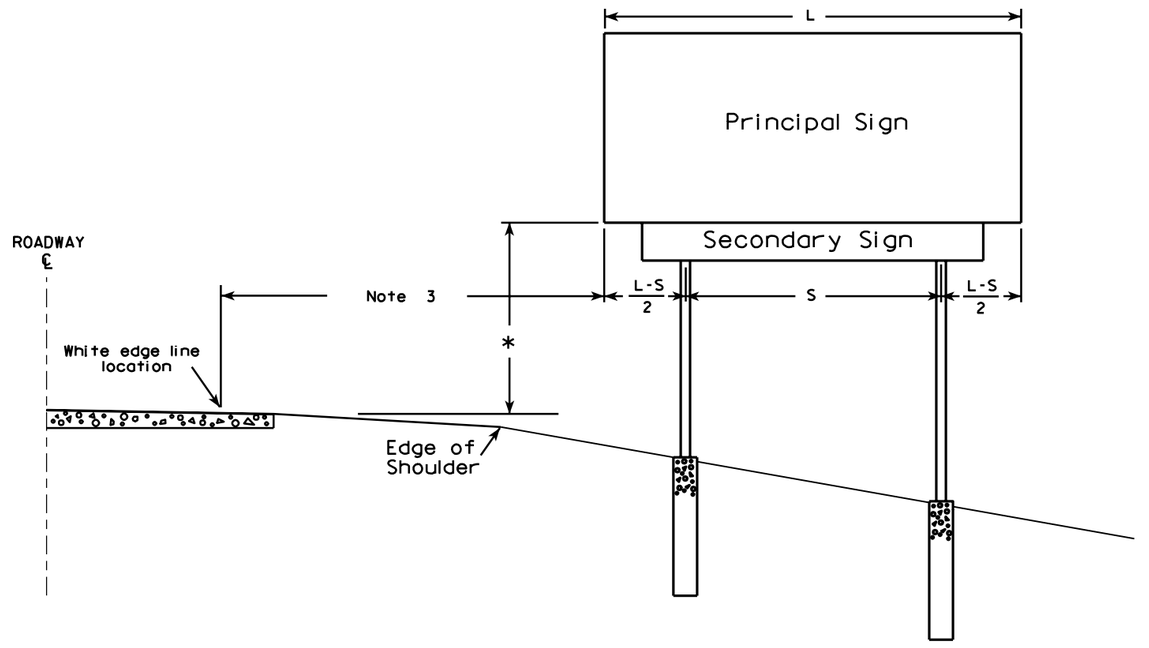


| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A31M.DGN PLOT DATE : 10-MAR-2014 15:16 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 1.556674:1.000000

WISDOT/CADDS SHEET 42




## GENERAL NOTES

1. For a 2 post installation, S equals 3L/5, but shall not be less than 9 ft.
2. For a 3 post installation, S equals 5L/7, but shall not be less than 18 ft., and the space between any two posts shall not be less than 9 ft.
3. Unless noted in the plan, the sign offset distance shall be a minimum of 17'-6", desirable 30'-0".
4. The (±) tolerance shown on this sheet is 3 in.
5. The vertical sign height clearance detailed is measured from the bottom of the sign to the near edge of pavement.
6. Post lengths shown in the miscellaneous quantities are estimated lengths. The contractor shall verify post lengths at the time of final grading.
7. Refer to the Traffic Guidelines Manual for further guidance on minimum vertical clearance requirements.

* Clearance is 8'-3"(±) when the secondary sign is 3 ft. or less in height. For secondary signs larger than 3 ft., the clearance to the bottom of the secondary sign shall be 5'-3"(±).

7

7

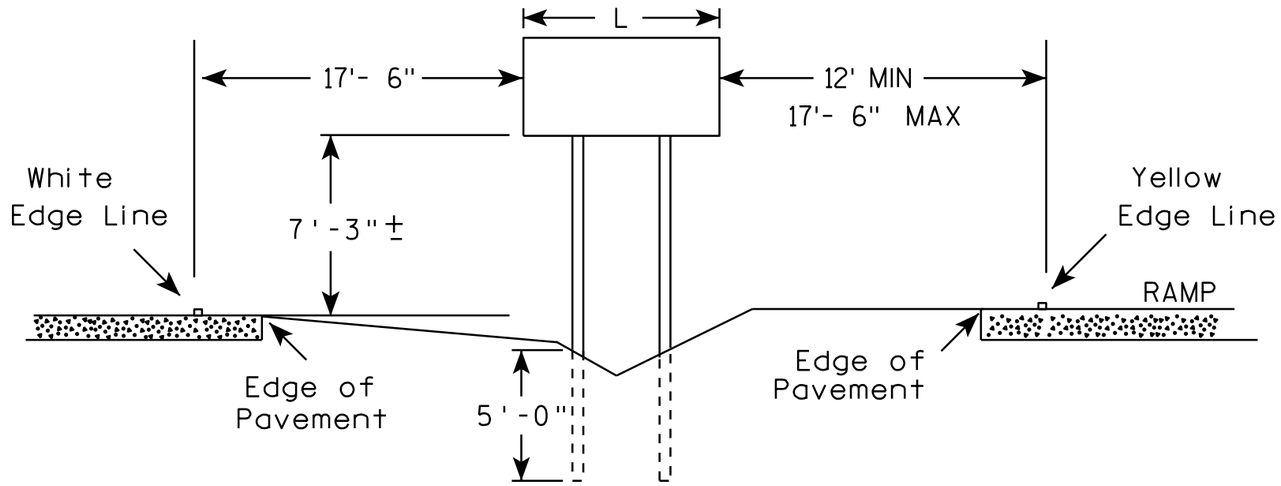
TYPICAL INSTALLATION
OF TYPE I SIGNS

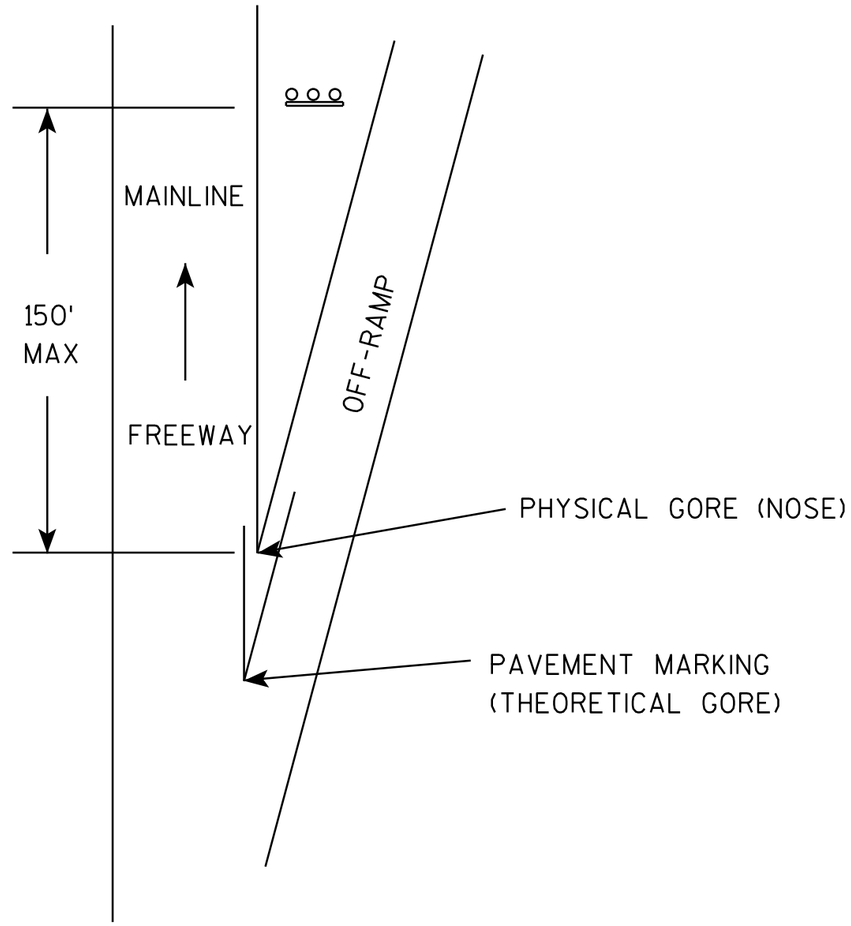
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/02/08 PLATE NO. A4-1.9

| PROJECT NO: | | | | SHEET NO: 270 | E |
|---|---|---|---|---|---|




GENERAL NOTES

1. The 150 foot distance from the physical gore (where pavement ends) will normally provide the offsets as shown.
2. If roadway geometrics permit, the sign may be closer than the 150 foot distance as long as the offsets are maintained.
3. At no time shall the location be greater than 150 feet. If the normal offsets cannot be maintained, they can be reduced to 6 feet from the edge of the paved shoulder (both freeway and ramp).
4. The offset from edge of sign to the yellow edge line on the ramp is shown as a minimum of 12 feet and a maximum of 17 feet, 6 inches. Preference is adhering to the maximum rather than the minimum dimension.
5. When L is equal to or exceeds 10 feet, use 3 posts as per A4-4.
6. The (∓) tolerance for the mounting height is 3 inches.

7

7

TYPICAL INSTALLATION
OF TYPE II SIGNS ON
WOOD POSTS IN GORE

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/06/14 PLA... A4-2.3

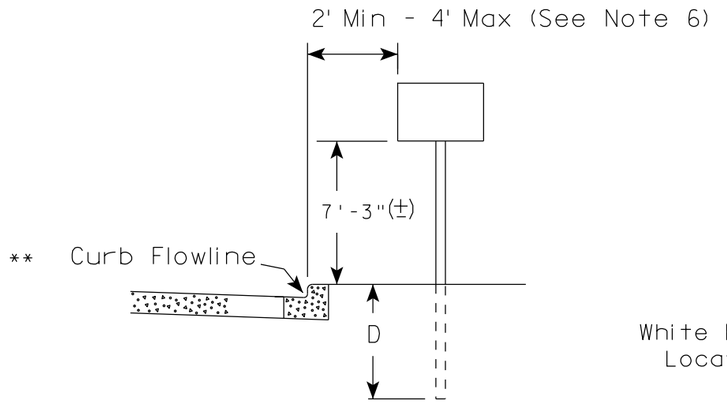


PROJECT NO: | SHEET NO: E

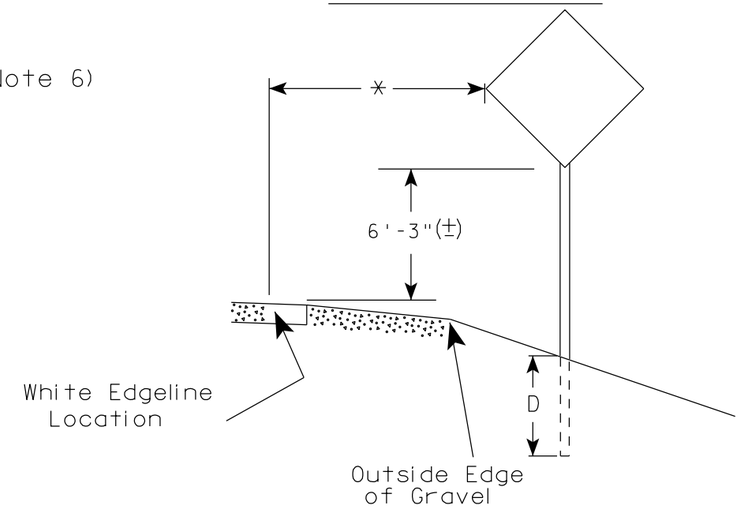
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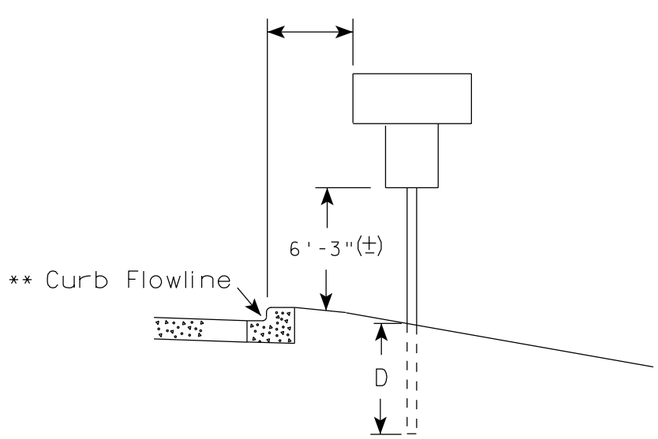
WISDOT/CADDS SHEET 42

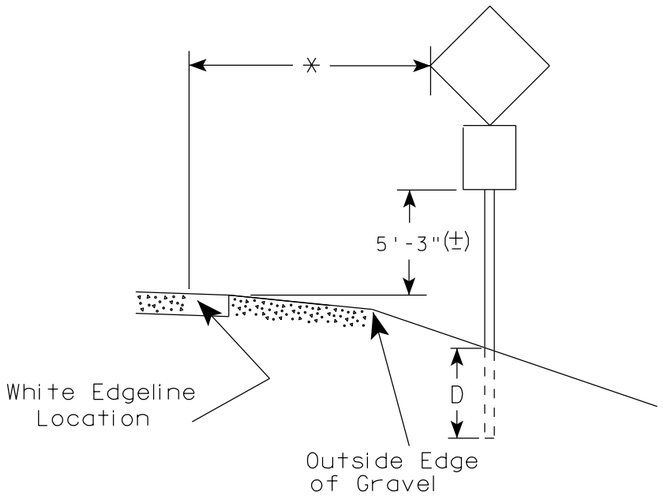
## URBAN AREA




## RURAL AREA (See Note 2)




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

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

POST EMBEDMENT DEPTH

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

## GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

# TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

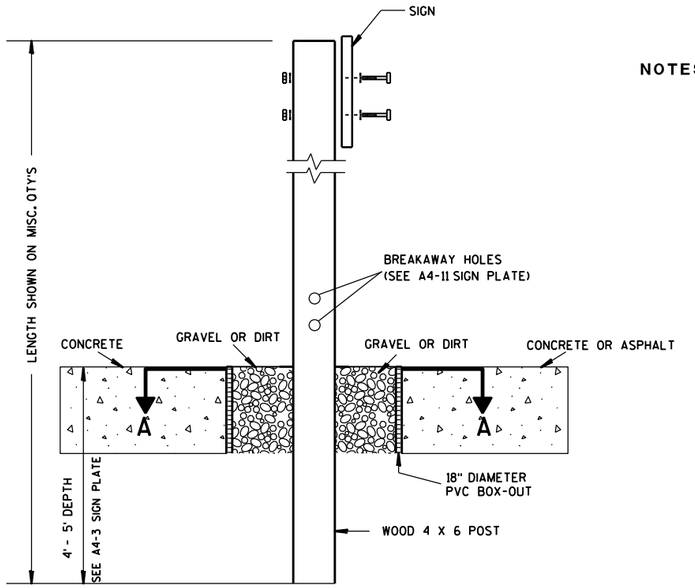
*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-3.20



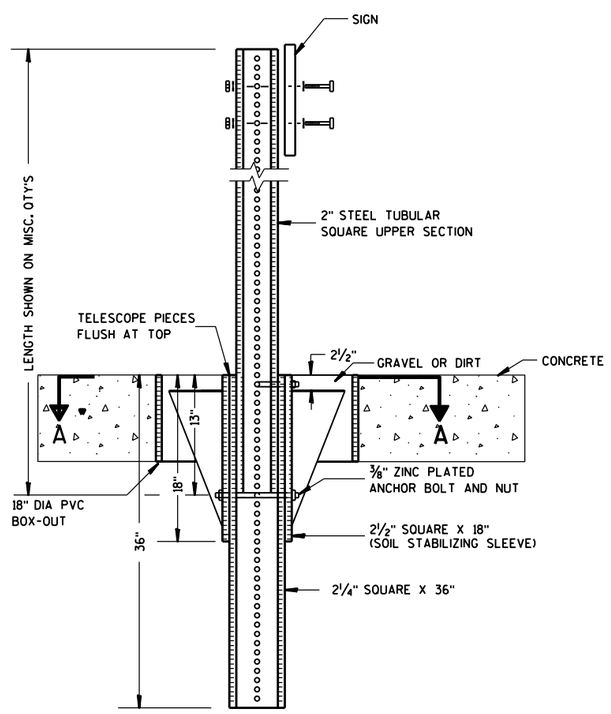
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|




**ELEVATION VIEW**

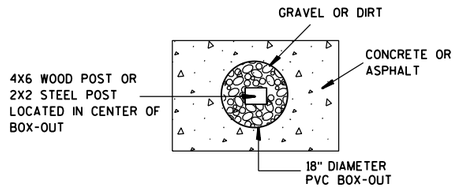
**DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT**

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




**ELEVATION VIEW**

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




**PLAN VIEW**

**FOR NEW CONCRETE/ASPHALT INSTALLATIONS**

# SIGN POST BOX-OUTS A4-3B

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

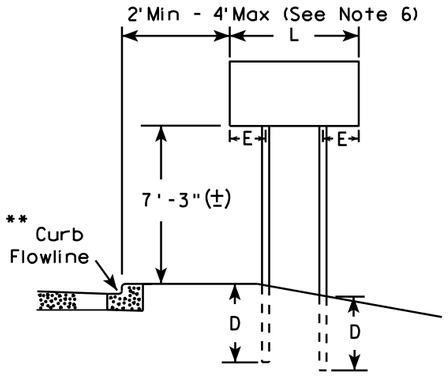
DATE 1/27/14 PLATE NO. A4-3B.1

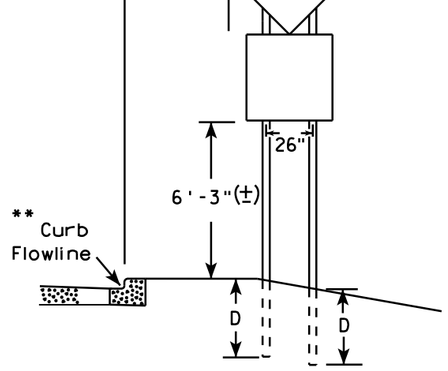
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|---|---|---|---|---|---|



FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

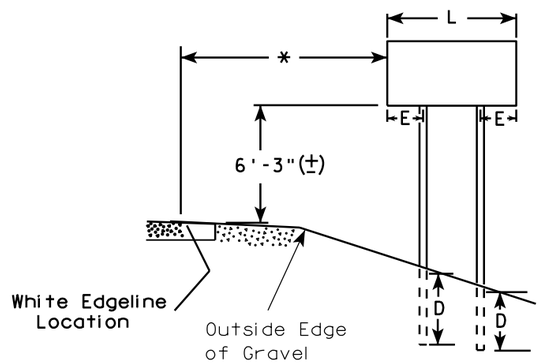
## URBAN AREA

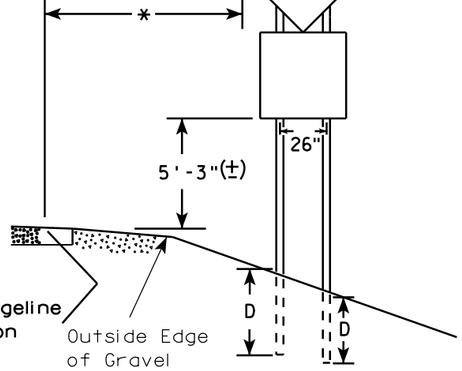


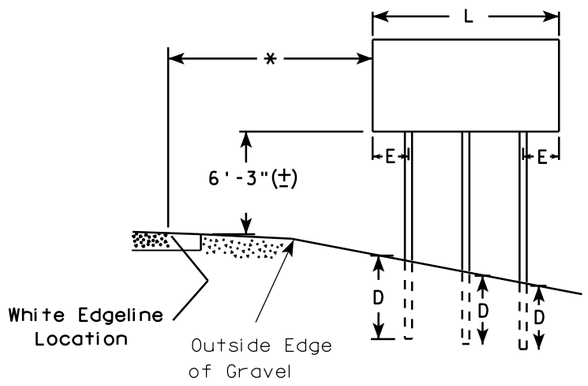

48" DIAMOND WARNING SIGN

## RURAL AREA (See Note 3)




48" DIAMOND WARNING SIGN




### GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±).

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

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

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

| SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED) | |
|---|---|
| L | E |
| Greater than 48" Less than 60" | 12" |
| 60" to 120" | L/5 |

***

| SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED) | |
|---|---|
| L | E |
| Greater than 120" less than 168" | 12" |

| SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED) | |
|---|---|
| L | E |
| 168" and greater | 12" |

### POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

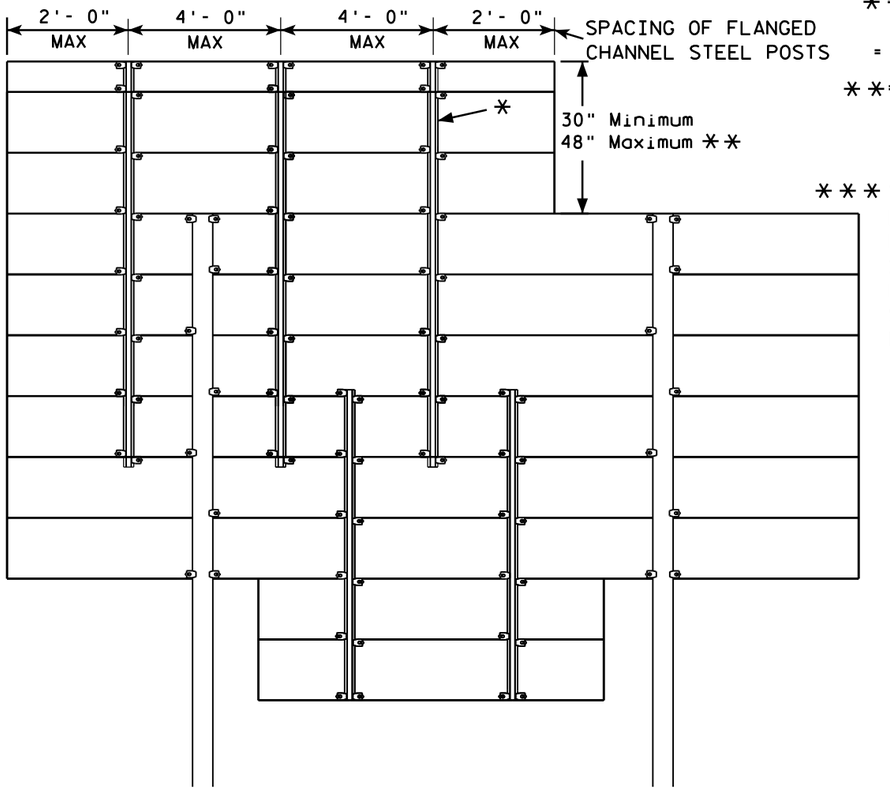
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. AA-A 14-274

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

## GROUND MOUNTED SIGN

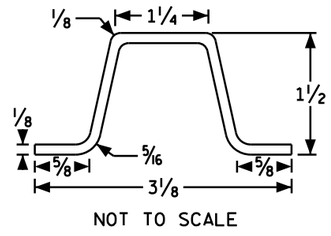



* =2.00 lb/ft FLANGED CHANNEL, MIN. YIELD STRENGTH = 60,000 PSI (GRADE 60) GALVANIZED

** =FOR 48" HEIGHT PANELS ON OVERHEAD STRUCTURES, ENTIRE SIGN SHALL BE CENTERED VERTICALLY ABOUT THE DEPTH OF THE TRUSS.

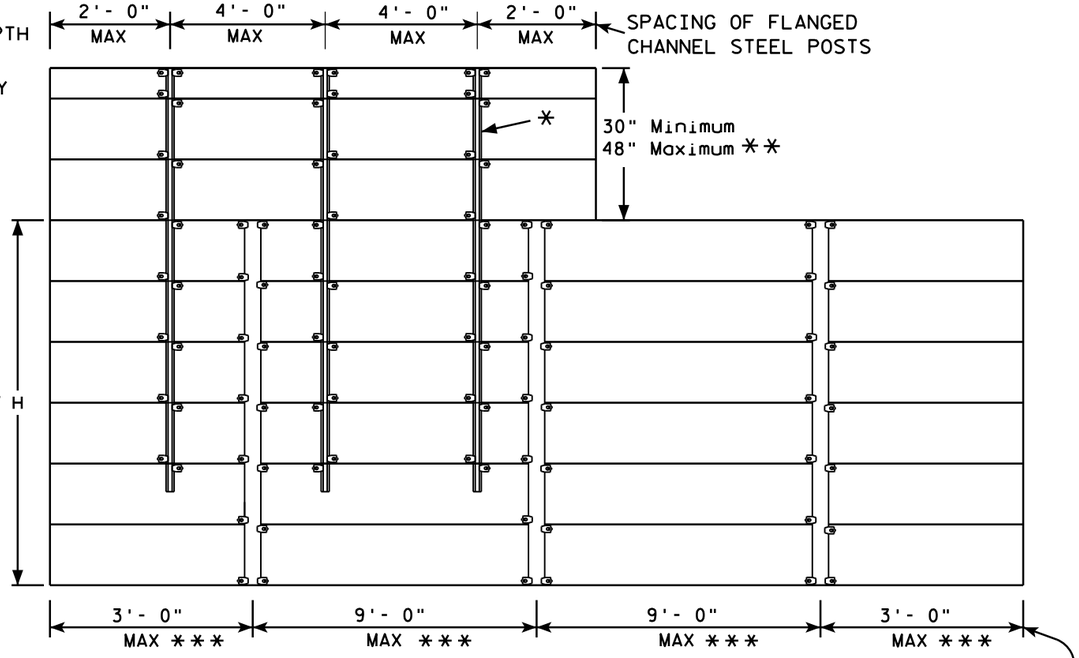
*** THESE SPACING DISTANCES SHALL ONLY BE USED WHEN THE MAIN SIGN HAS A MAXIMUM HEIGHT (DIMENSION H) OF 16 FT OR LESS. FOR SIGNS WITH A HEIGHT OF GREATER THAN 16 FT, STRUCTURAL CALCULATIONS SHALL BE PERFORMED.

### FLANGE CHANNEL DETAIL




NOT TO SCALE

## SIGN BRIDGE MOUNTED SIGN




### GENERAL NOTES

1. Flanged channel steel posts shall conform to size and material above, and shall be considered as incidental to other items in the contract.
2. Number of Flanged channel steel supports varies with length of panel and shall be spaced as shown:

   PANEL LENGTH 8'-0" OR LESS = 2 CHANNELS
   PANEL LENGTH 9'- 0" - 12'- 0" = 3 CHANNELS
   PANEL LENGTH 13'- 0" OR MORE = 4 CHANNELS

   If the flanged channel steel posts can not be horizontally spaced as shown, they can be moved so as to securely hold the sign.
3. The EXIT NUMBER PANEL shall normally be positioned above the guide sign aligned with the right edge of the guide sign. If the guide sign indicates a left exit, the EXIT NUMBER PANEL shall be aligned with the left edge of the guide sign.
4. If the bolt holes in the top panel (EXIT NUMBER), or sub panel (NEXT EXIT) line up with holes in main sign panel, stitch bolts shall be used in addition to the channels.
5. Provide post clips for each sign as shown. (Please note the differences between a ground mounted versus Sign bridge mounted sign as far as number of clips required on the main supports or beams)
6. Structural steel sign supports shall extend to the top of the main signs, as shown on the above details.

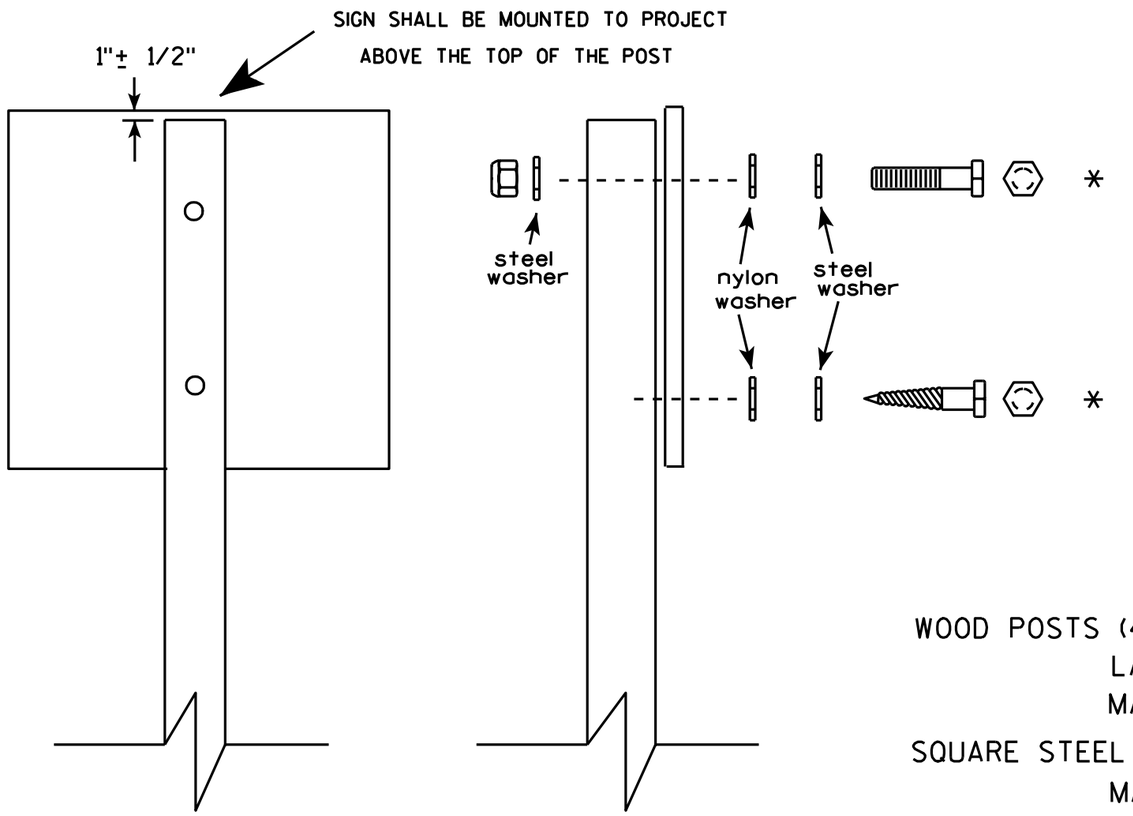
## ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/05/13 PLAT 275 A4-6.12

PROJECT NO: | SHEET NO: E




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

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

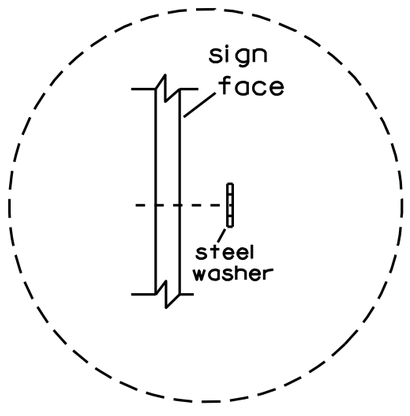
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

WOOD POSTS (4" x 4" or 4" x 6")
LAG SCREWS - 3/8" X 3"
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts

SQUARE STEEL POSTS (2" x 2")
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts
RIVETS - 9/32 " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.




Washer Placement when Sign Has Other Than Type H or Type F Face

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

# ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/23/10 PLATE NO. A4-8.7

7

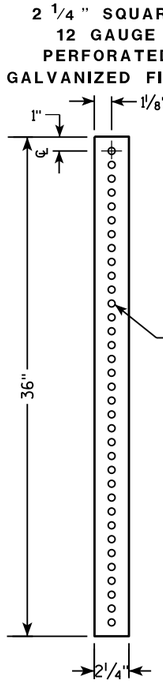
7

PROJECT NO:

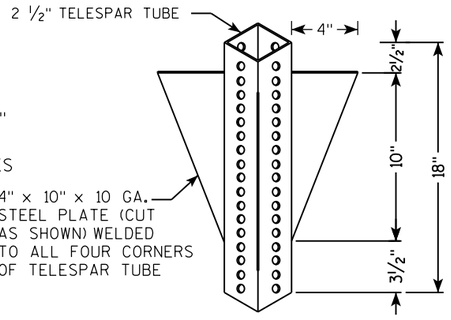
SHEET NO: 276 E

## TELESCOPIC TUBING ANCHORS
## TWO PIECE SYSTEM

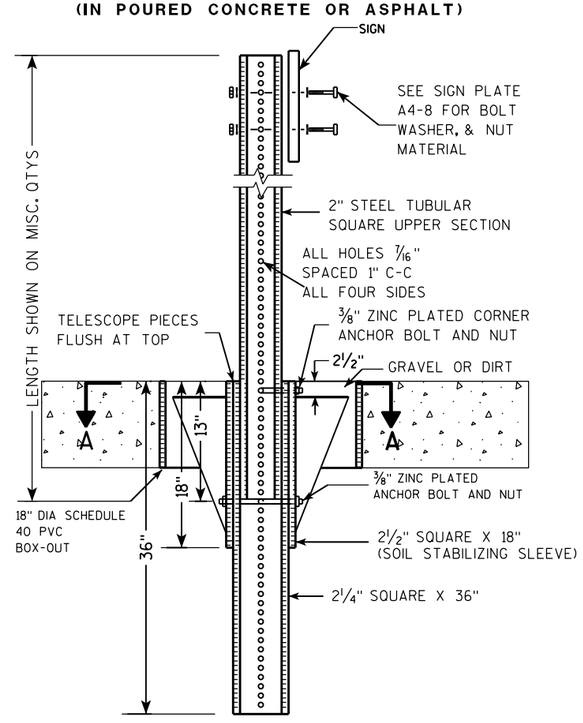
**2 ¼ " SQUARE**
**12 GAUGE**
**PERFORATED**
**GALVANIZED FINISH**



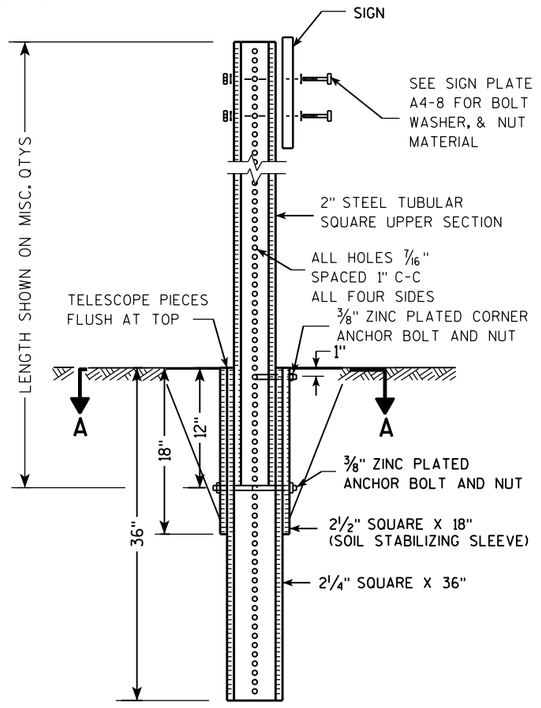

**2 ½ " SQUARE**
**12 GAUGE**
**OMNI-DIRECTIONAL**
**PERFORATED**
**SOIL STABILIZING SLEEVE**
**GALVANIZED FINISH**

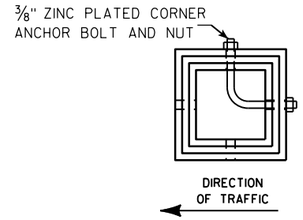



## DETAIL OF TUBULAR STEEL SIGN POST
**(IN POURED CONCRETE OR ASPHALT)**




## DETAIL OF TUBULAR STEEL SIGN POST
**(IN LOCATIONS OTHER THAN POURED CONCRETE OR ASPHALT)**




**SECTION A-A**

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

**Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).**

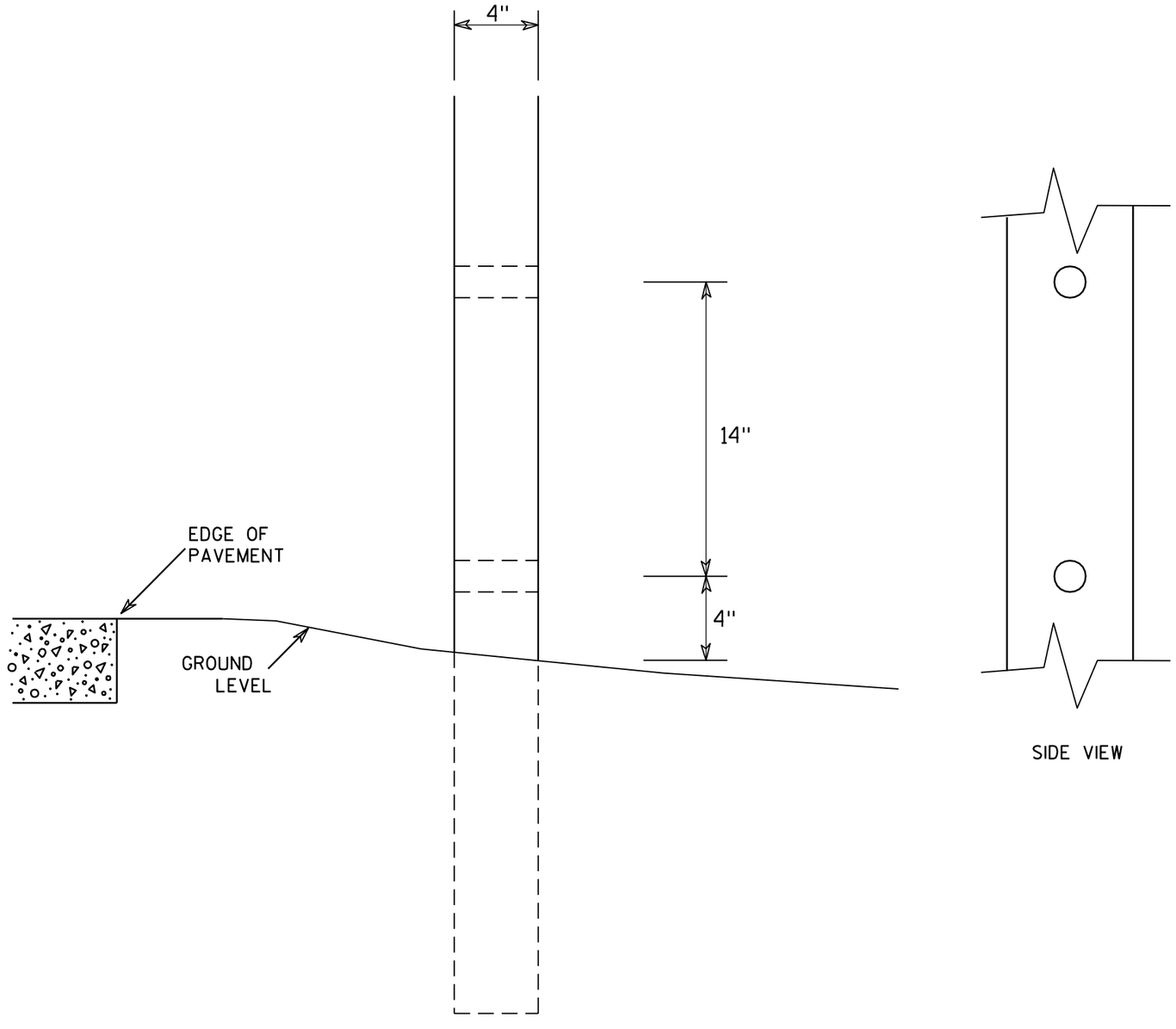
TUBULAR STEEL
SIGN POST
A4-9

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
*for* State Traffic Engineer

DATE 2/05/15 PLATE 277 A4-9.9

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






SIDE VIEW

GENERAL NOTES

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

7

7

# 4 X 6 WOOD POST MODIFICATIONS

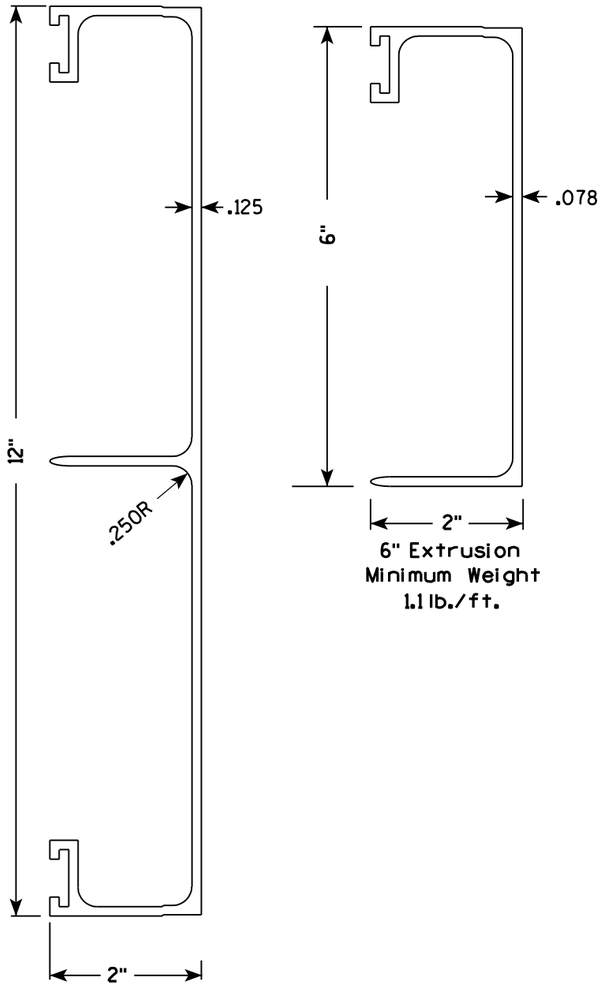
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang
for State Traffic Engineer

DATE 3/27/97 PLATE NO. A4-11.2

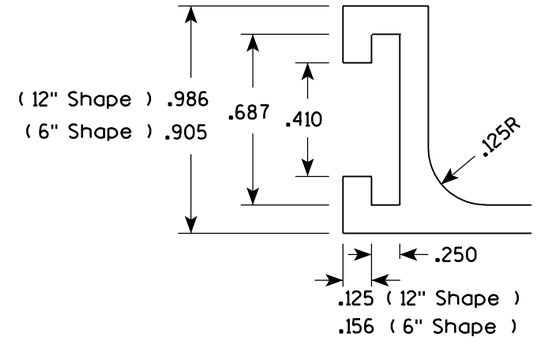
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 278 | E |
|---|---|---|---|---|---|

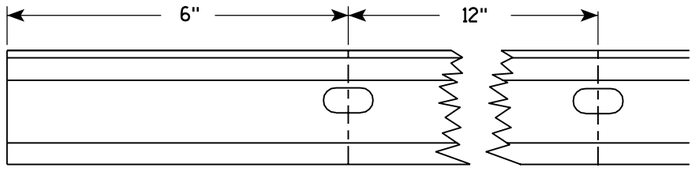
## Extruded Shape



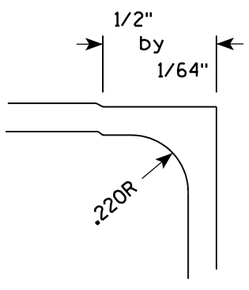







Punch 7/16" x 7/8" oval holes beginning 6" in from end of extrusion 12" CC on both edges of 6" and 12" panels.

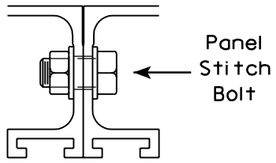



## Hardware

### STITCH BOLT, WASHER & NUT

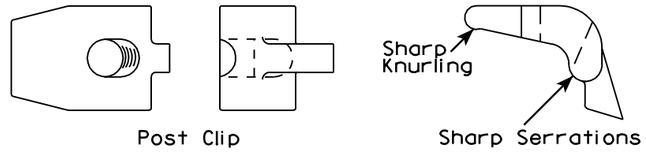
The hardware includes:

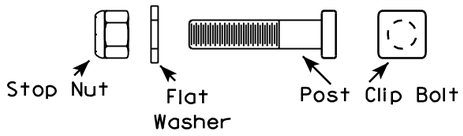
3/8 " - 16 X 3/4 " Economy Bolt 2024-T4 alloy
3/8 " - Stainless steel stop nut
3/8" X .064 Flat Washers, Alclad 2024-T4 alloy




### POST CLIP, POST CLIP BOLT, WASHER & NUT

Post Clip shall be Alum. Alloy 356-T6
Post Clip Bolt shall be Stainless Steel.
Flat washer shall be 3/8" X .091, Stainless Steel.
Stop nut shall be stainless steel.




### NOTES

1. The contractor may select any brand of extrusion that conforms to the illustrations or meets with the approval of the engineer, but all extrusions used on this contract shall be of the same brand.
2. Panel Stitch Bolts shall be used to assemble adjacent panels. Maximum stitch bolt spacing shall be 24" C-C, and a minimum of 4 bolts shall be used to connect any two extrusions.
3. Post Clips shall be used to attach the sign panel to the sign support.

# ALUMINUM EXTRUSIONS FOR TYPE I SIGNS

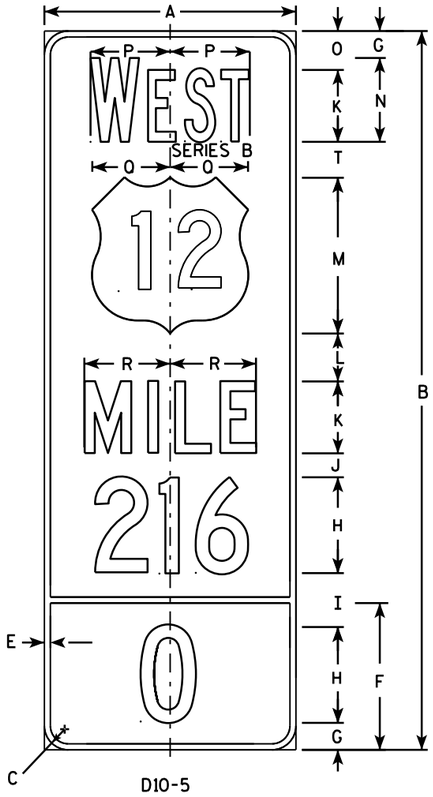
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang
for State Traffic Engineer

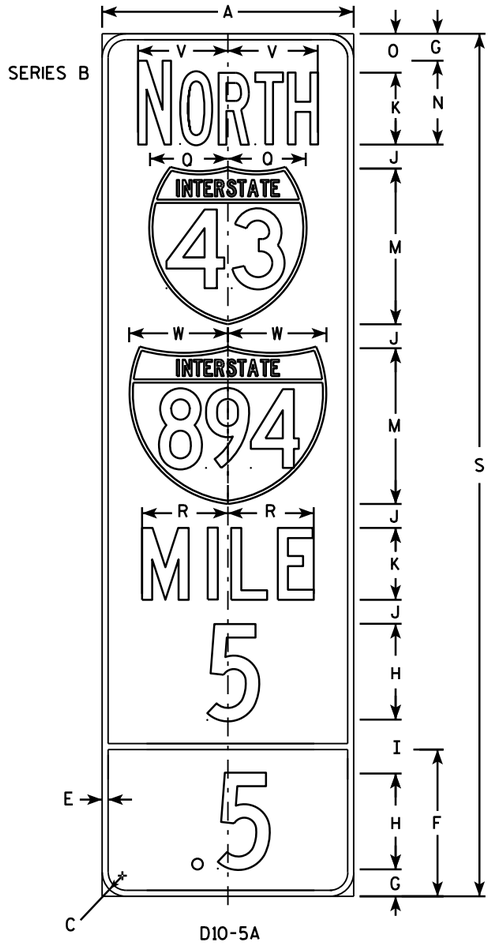
DATE 11/18/99 PLATE NO. A5-2.9

PROJECT NO:

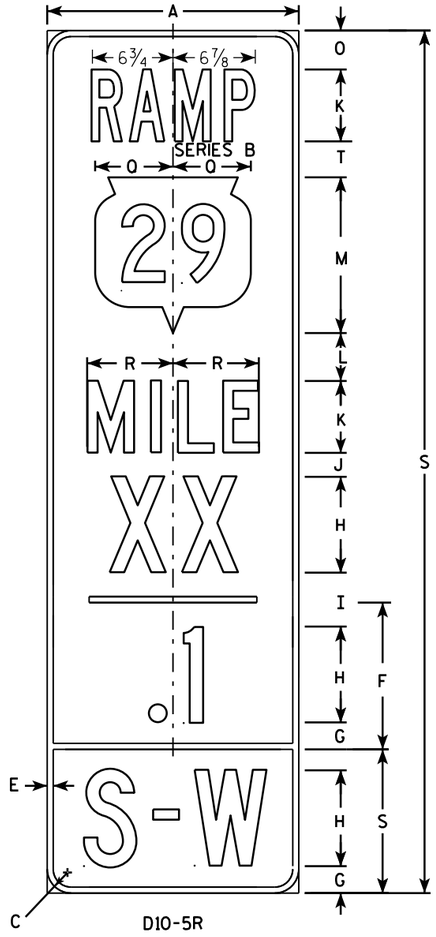
SHEET NO: 279 E




D10-5




D10-5A




D10-5R

## NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - BLUE
   Message - WHITE
3. Interstate Shield Color
   Background - Top Red
   - Bottom Blue
   Message - White
4. Message Series - C or as noted on the Sign.
5. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
6. The decimal point is required for all digits except "0".
7. Optically adjust mileage numbers about the centerline of the sign to achieve proper balance.
8. Optically adjust Ramp direction letters about the centerline of the sign to achieve proper balance.




SERIES B




SERIES B

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | O | R | S | T | U | V | W | X | Y | Z | D10-5 Area sq. ft. | D10-5A Area sq. ft. | D10-5R Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 21 | 60 | 1 ½ | | ½ | 12 ¼ | 2 ¼ | 8 | 4 ½ | 2 | 6 | 4 | 13 | 7 | 3 ¼ | 6 ⅝ | 6 ½ | 7 ⅛ | 72 | 3 | | 7 ½ | 8 ¼ | | | | 8.75 | 10.5 | 10.5 |
| 5 | 21 | 60 | 1 ½ | | ½ | 12 ¼ | 2 ¼ | 8 | 4 ½ | 2 | 6 | 4 | 13 | 7 | 3 ¼ | 6 ⅝ | 6 ½ | 7 ⅛ | 72 | 3 | | 7 ½ | 8 ¼ | | | | 8.75 | 10.5 | 10.5 |

STANDARD SIGN
D10-5

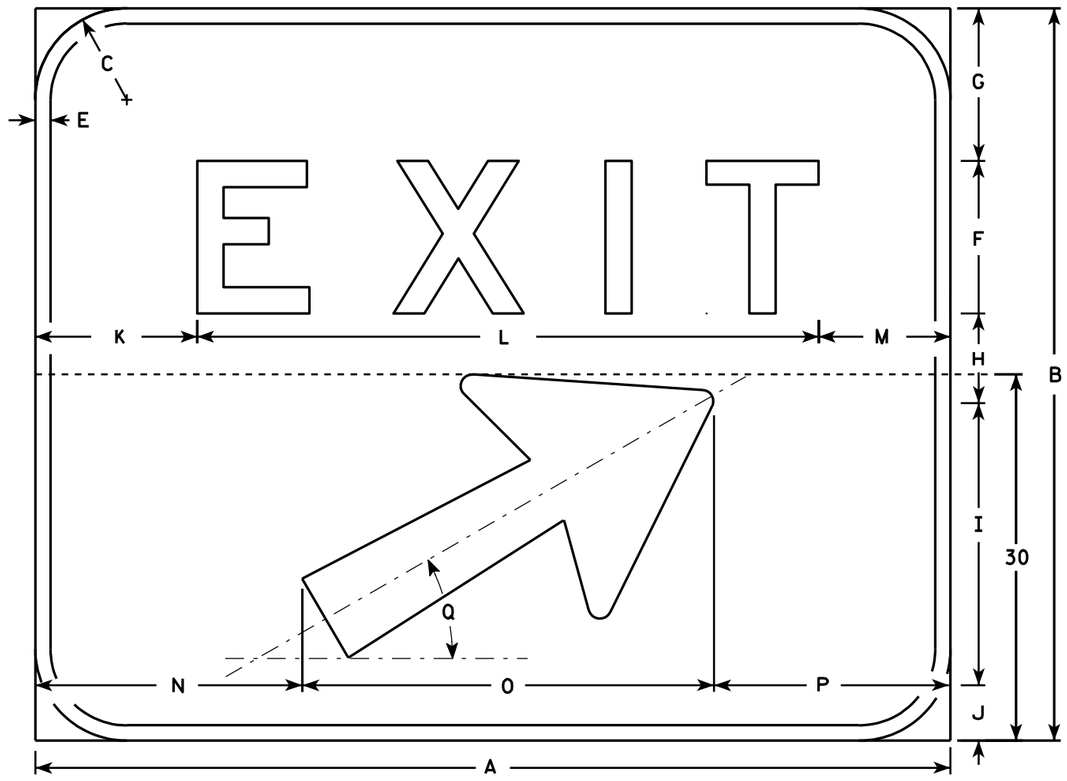
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/26/14 PL 280 D10-5.2

PROJECT NO:

SHEET NO: E




E5-1

NOTES

1. Sign is Type II - Type H reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green
   Message - White (Type H reflective)
3. Message Series - E
4. Corners may be square or rounded but borders shall be rounded as shown.
5. Base material for this sign shall be plywood and shall be split into two seperate pieces for the 72 x 60 size as shown on the detail by the dashed line (----------).
6. Arrow is Type "A" from sign plate A1-1.
7. As per the Standard Spec's, this sign shall not have a vertical joint.

Metric equivalent for this sign is:

| SIZE | |
|---|---|
| 1 | |
| 2 | |
| 3 | |
| 4 | 1500 mm X 1200 mm |
| 5 | 1800 mm X 1500 mm |

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. | Area m2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 60 | 48 | 6 | | 1 | 10 | 10 | 5 7/8 | 18 1/2 | 3 5/8 | 10 5/8 | 40 3/4 | 8 5/8 | 17 1/2 | 27 | 15 1/2 | 30° | | | | | | | | | | 20.0 | 1.80 |
| 5 | 72 | 60 | 6 | | 1 | 12 | 12 | 10 | 18 1/2 | 7 1/2 | 13 1/4 | 48 1/2 | 10 1/4 | 23 1/2 | 27 | 21 1/2 | 30° | | | | | | | | | | 30.0 | 2.70 |

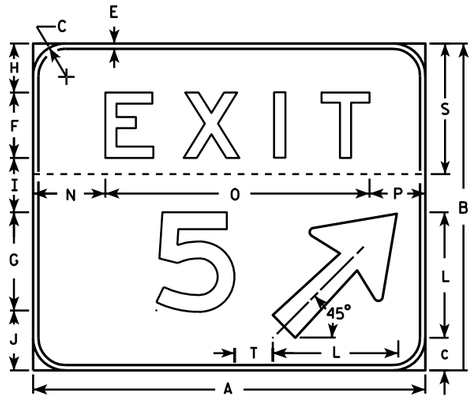
STANDARD SIGN
E5 - 1

WISCONSIN DEPT OF TRANSPORTATION

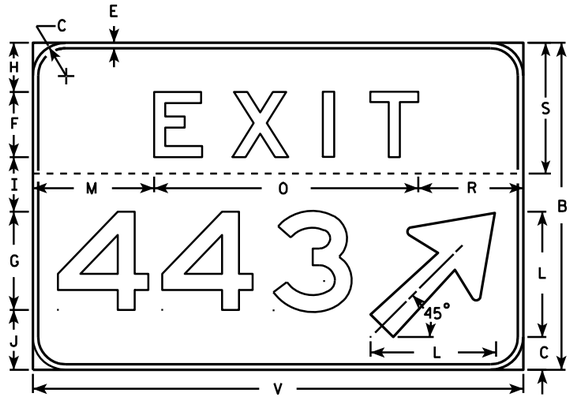
APPROVED Chester J Spang for State Traffic Engineer

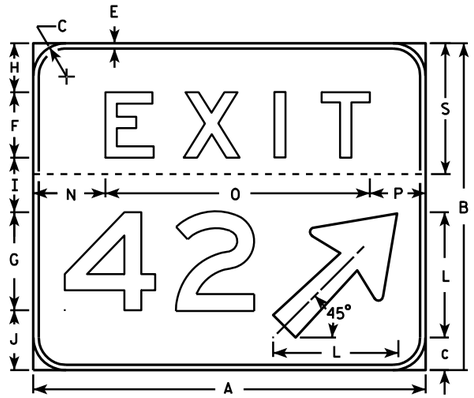
DATE 6/22/00 PLATE NO. E5-1.8

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 281 | E |
|---|---|---|---|---|---|




NOTE: T diminision shall be measured from the back of the number to the front of the arrow

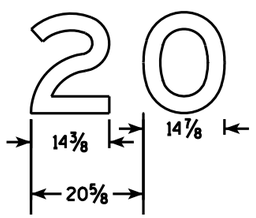



## NOTES

1. Sign is Type II - Type H reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Green
   Message - White (Type H reflective)
3. Message Series - E
4. Corners may be square or rounded but the border shall be rounded as shown.
5. Base material for this sign shall be plywood and shall be split into two seperate pieces as shown on each detail by the dashed line (----------).
6. Arrow is Type "A" from sign plate A1-1.
7. Substitute appropriate message, space per the table and adjust placement on sign to achieve proper balance.
8. As per the Standard Spec's, these signs shall not have a vertical joint.

EXAMPLE FOR USING SPACING CHART




SPACING CHART FOR 18" NUMERALS

| NUMBERS | WIDTH | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | A | B | C |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 14 7/8 | 21 5/8 | 21 5/8 | 21 1/4 | 20 3/8 | 21 1/4 | 21 1/4 | 21 5/8 | 19 7/8 | 22 1/8 | 21 5/8 | | | |
| 1 | 5 7/8 | 14 | 14 | 14 | 13 1/8 | 12 1/8 | 14 | 14 | 12 1/4 | 14 | 14 | | | |
| 2 | 14 3/8 | 20 5/8 | 21 1/8 | 20 5/8 | 19 3/4 | 20 1/4 | 20 5/8 | 20 5/8 | 18 7/8 | 21 1/8 | 20 5/8 | | | |
| 3 | 14 3/8 | 20 3/4 | 21 1/8 | 20 3/4 | 20 1/4 | 19 3/4 | 20 3/4 | 20 3/4 | 19 3/8 | 21 1/8 | 20 3/4 | | | |
| 4 | 16 5/8 | 22 7/8 | 22 | 22 1/2 | 21 5/8 | 21 5/8 | 22 7/8 | 22 7/8 | 20 5/8 | 23 3/8 | 22 7/8 | | | |
| 5 | 14 1/4 | 20 5/8 | 20 5/8 | 20 1/8 | 18 3/4 | 18 3/4 | 20 5/8 | 20 5/8 | 18 3/8 | 20 5/8 | 20 5/8 | | | |
| 6 | 14 1/2 | 21 1/4 | 20 3/4 | 20 3/4 | 19 7/8 | 19 1/2 | 20 3/8 | 20 3/4 | 19 | 20 3/4 | 20 3/8 | | | |
| 7 | 14 3/8 | 19 3/4 | 19 3/4 | 20 1/4 | 19 3/4 | 17 | 19 3/4 | 20 5/8 | 18 7/8 | 20 5/8 | 19 3/4 | | | |
| 8 | 14 1/4 | 21 1/2 | 21 1/2 | 20 5/8 | 19 1/4 | 19 3/4 | 20 5/8 | 21 1/2 | 19 5/8 | 21 1/2 | 20 5/8 | | | |
| 9 | 14 1/2 | 21 1/4 | 21 1/4 | 20 7/8 | 20 | 20 7/8 | 20 7/8 | 21 1/4 | 19 1/2 | 21 3/4 | 21 1/4 | | | |
| A | 18 | 19 3/4 | 19 3/4 | 20 1/4 | 19 3/4 | 17 | 19 3/4 | 20 5/8 | 18 7/8 | 20 5/8 | 19 3/4 | 21 5/8 | 23 7/8 | 23 |
| B | 14 1/4 | 21 1/2 | 21 1/2 | 20 5/8 | 19 1/4 | 19 3/4 | 20 5/8 | 21 1/2 | 19 5/8 | 21 1/2 | 20 5/8 | 19 1/2 | 22 3/8 | 21 1/2 |
| C | 14 1/4 | 21 1/4 | 21 1/4 | 20 7/8 | 20 | 20 7/8 | 20 7/8 | 21 1/4 | 19 1/2 | 21 3/4 | 21 1/4 | 18 3/8 | 21 | 19 3/4 |

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 72 | 60 | 6 | | 1 | 12 | 18 | 9 | 10 | 11 | 8 7/8 | 23 | 22 1/4 | 13 1/4 | 48 1/2 | 10 1/4 | | 19 1/4 | 24 | 7 | | 90 | | 96 | 7 1/2 | |

| 1-2 Digit Bid Area | 3 Digit Bid Area |
|---|---|
| Sq. Ft. | |
| 30 | 37.5 |

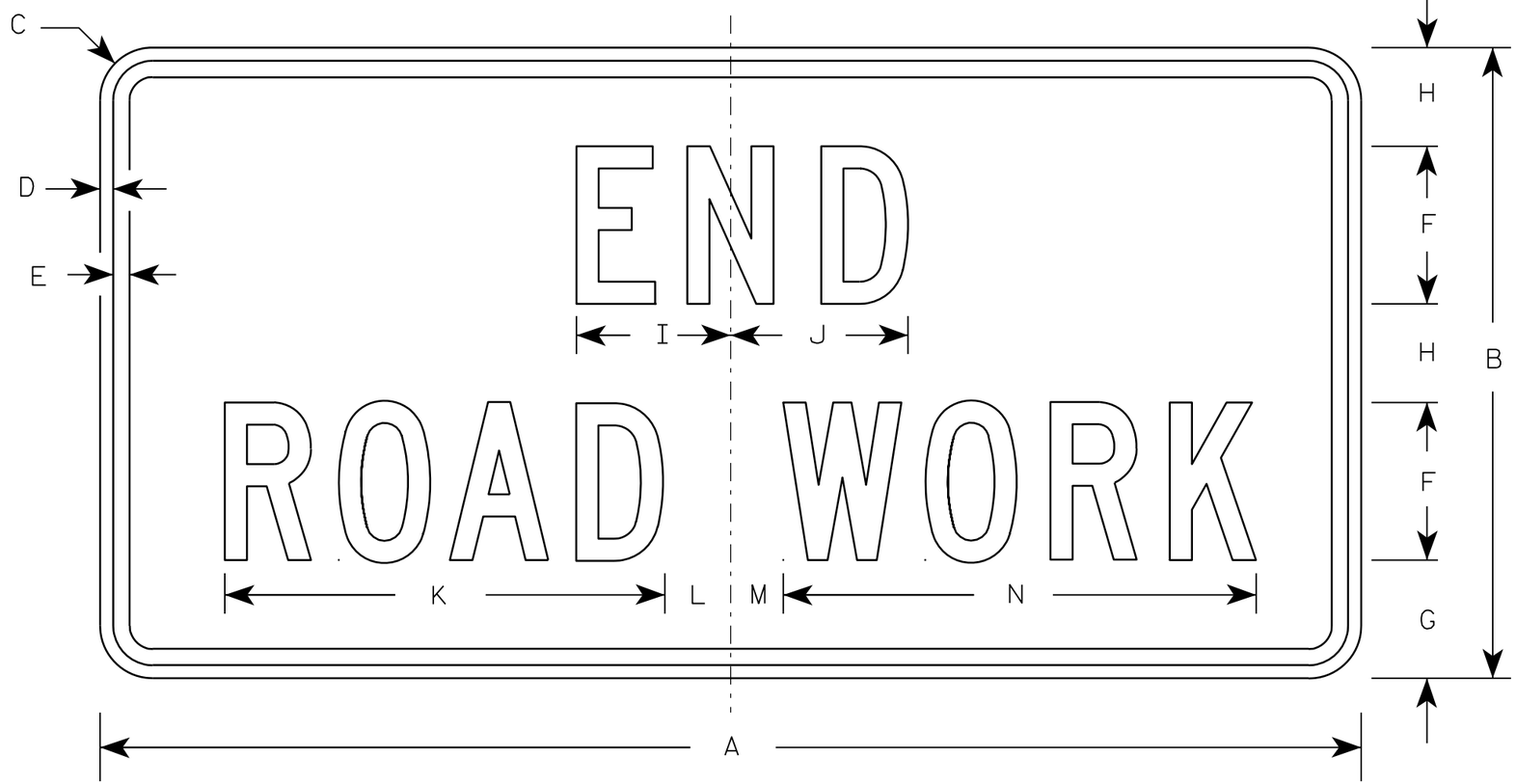
STANDARD SIGN
E5-1A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 5/11/10 PLATE NO. E5-1A.12

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 282 | E




G20-2A

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

Metric equivalent for this sign is:

| SIZE | |
|---|---|
| 1 | 900 mm X 450 mm |
| 2 | 1200 mm X 600 mm |
| 3 | 1200 mm X 600 mm |
| 4 | 1200 mm X 600 mm |
| 5 | 1200 mm X 600 mm |

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. | Area m2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 36 | 18 | 1 1/8 | 3/8 | 1/2 | 4 | 3 3/4 | 2 1/2 | 4 1/8 | 4 1/8 | 11 1/8 | 2 | 1 | 12 1/8 | | | | | | | | | | | | | 4.5 | 0.41 |
| 2 | 48 | 24 | 1 1/2 | 1/2 | 5/8 | 6 | 4 1/2 | 3 3/4 | 5 7/8 | 6 3/4 | 16 3/4 | 2 1/2 | 1 3/4 | 18 1/2 | | | | | | | | | | | | | 8.0 | 0.72 |
| 3 | 48 | 24 | 1 1/2 | 1/2 | 5/8 | 6 | 4 1/2 | 3 3/4 | 5 7/8 | 6 3/4 | 16 3/4 | 2 1/2 | 1 3/4 | 18 1/2 | | | | | | | | | | | | | 8.0 | 0.72 |
| 4 | 48 | 24 | 1 1/2 | 1/2 | 5/8 | 6 | 4 1/2 | 3 3/4 | 5 7/8 | 6 3/4 | 16 3/4 | 2 1/2 | 1 3/4 | 18 1/2 | | | | | | | | | | | | | 8.0 | 0.72 |
| 5 | 48 | 24 | 1 1/2 | 1/2 | 5/8 | 6 | 4 1/2 | 3 3/4 | 5 7/8 | 6 3/4 | 16 3/4 | 2 1/2 | 1 3/4 | 18 1/2 | | | | | | | | | | | | | 8.0 | 0.72 |

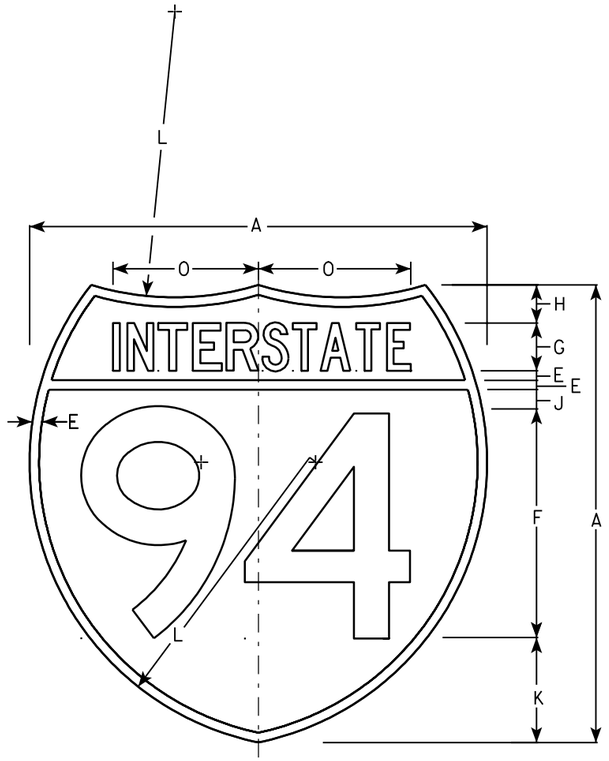
STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

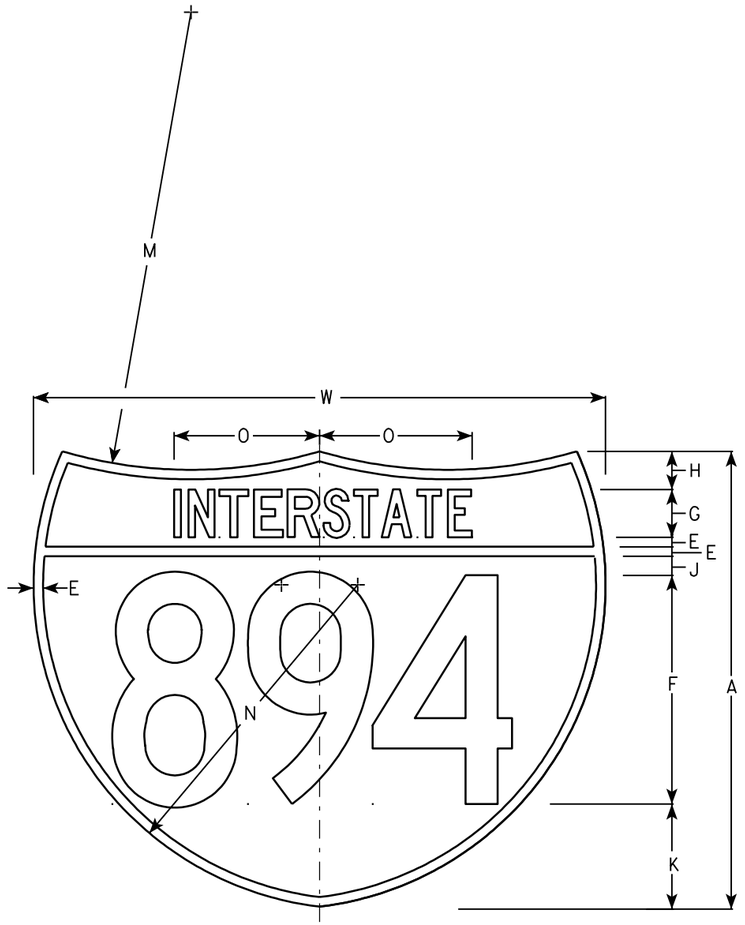
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 283 | E |
|---|---|---|---|---|---|




M1-1




M1-1A

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Top Red - Bottom Blue (See Note 6)
   Message - White - See Note 6
3. Message Series - See note 5
4. Substitute appropriate numerals & ajust spacing as per plate A10-1.
5. M1-1 - Numerals - D
   Interstate - C
   M1-1A - All copy - C
6. Permanent Signs
   Message - Type H Reflective
   Detour or other temporary signs
   Background - Reflective
   Message - Reflective

7

7

Metric equivalent for these signs are:

| SIZE | M1-1 | SIZE | M1-1A |
|---|---|---|---|
| 1 | | | |
| 2 | 600 mm X 600 mm | 2 | 600 mm X 750 mm |
| 3 | 900 mm X 900 mm | 3 | 900 mm X 1125 mm |
| 4 | 900 mm X 900 mm | 4 | 900 mm X 1125 mm |
| 5 | 900 mm X 900 mm | 5 | 900 mm X 1125 mm |

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | M1-1 Area sq. ft. | M1-1A Area sq. ft. | M1-1 Area m2 | M1-1A Area m2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 24 | | | | 1/2 | 12 | 2 1/2 | 2 | | 1 | 5 1/2 | 15 | 24 | 17 | 7 7/8 | | | | | | | | 30 | | | 3.13 | 3.91 | .36 | .46 |
| 3 | 36 | | | | 3/4 | 18 | 3 3/4 | 3 | | 1 1/2 | 8 1/4 | 22 1/2 | 36 | 25 1/2 | 11 3/4 | | | | | | | | 45 | | | 7.03 | 8.79 | .81 | 1.05 |
| 4 | 36 | | | | 3/4 | 18 | 3 3/4 | 3 | | 1 1/2 | 8 1/4 | 22 1/2 | 36 | 25 1/2 | 11 3/4 | | | | | | | | 45 | | | 7.03 | 8.79 | .81 | 1.05 |
| 5 | 36 | | | | 3/4 | 18 | 3 3/4 | 3 | | 1 1/2 | 8 1/4 | 22 1/2 | 36 | 25 1/2 | 11 3/4 | | | | | | | | 45 | | | 7.03 | 8.79 | .81 | 1.05 |

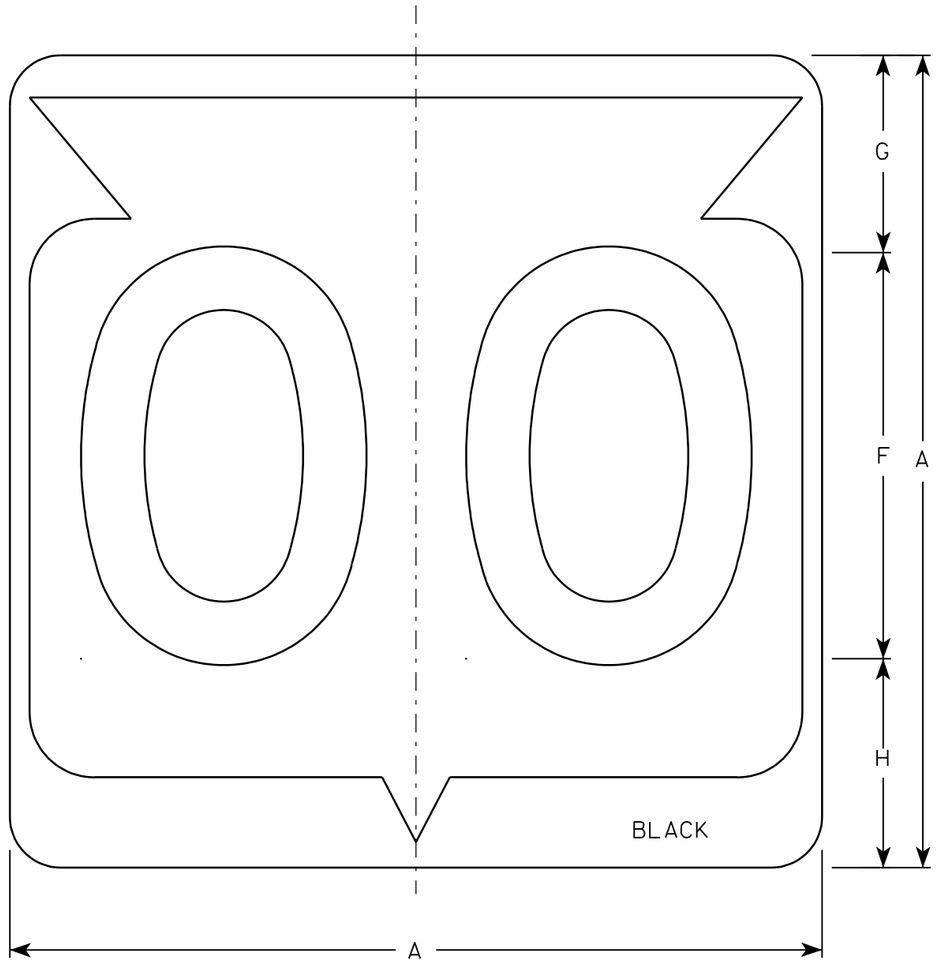
INTERSTATE ROUTE MARKER
M1-1 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 08/23/05 PLATE NO. M1-1.8

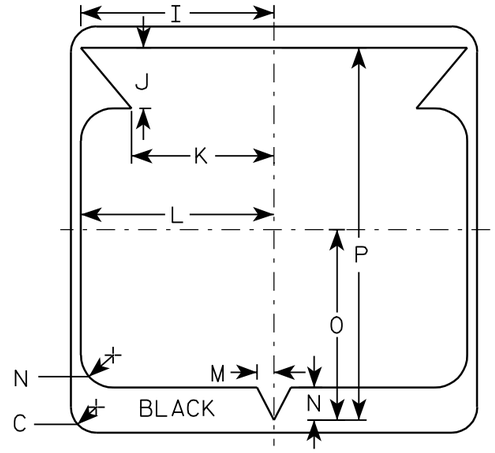
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 284 | E |
|---|---|---|---|---|---|




M1-6

## NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 6
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate Series numerals and adjust spacing as per plate A10-1.
6. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective




Metric equivalent for this sign is:

| SIZE | |
|---|---|
| 1 | |
| 2 | 600 mm X 600 mm |
| 3 | 900 mm X 900 mm |
| 4 | 900 mm X 900 mm |
| 5 | 900 mm X 900 mm |

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. | Area m2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 24 | | 1 1/2 | | | 12 | 5 1/2 | 6 1/2 | 10 1/4 | 2 1/2 | 8 7/8 | 11 1/2 | 1 | 1 7/8 | 11 1/4 | 21 7/8 | | | | | | | | | | | 4.0 | .36 |
| 3 | 36 | | 2 1/4 | | | 18 | 8 3/4 | 9 1/4 | 15 3/8 | 5 3/8 | 12 5/8 | 17 1/8 | 1 1/2 | 2 7/8 | 16 7/8 | 33 | | | | | | | | | | | 9.0 | .81 |
| 4 | 36 | | 2 1/4 | | | 18 | 8 3/4 | 9 1/4 | 15 3/8 | 5 3/8 | 12 5/8 | 17 1/8 | 1 1/2 | 2 7/8 | 16 7/8 | 33 | | | | | | | | | | | 9.0 | .81 |
| 5 | 36 | | 2 1/4 | | | 18 | 8 3/4 | 9 1/4 | 15 3/8 | 5 3/8 | 12 5/8 | 17 1/8 | 1 1/2 | 2 7/8 | 16 7/8 | 33 | | | | | | | | | | | 9.0 | .81 |

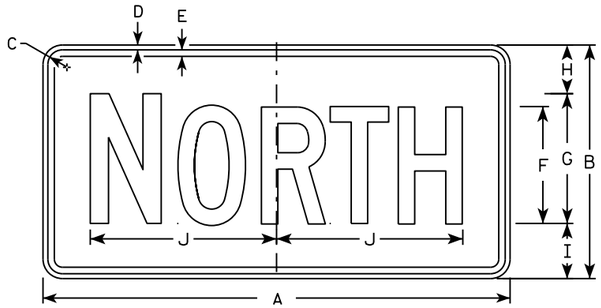
# STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

*WISCONSIN DEPT OF TRANSPORTATION*

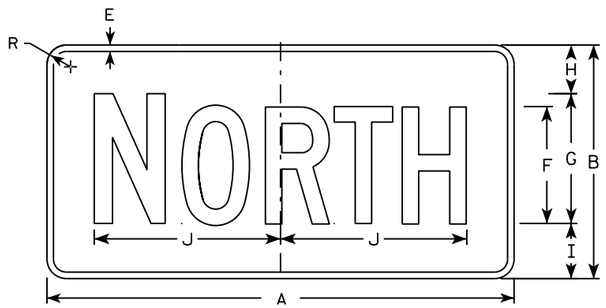
APPROVED Chester J Spang for State Traffic Engineer

DATE 3/20/02 PLATE NO. M1-6.9

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 285 | E |
|---|---|---|---|---|---|




M3-1
MM3-1
MP3-1



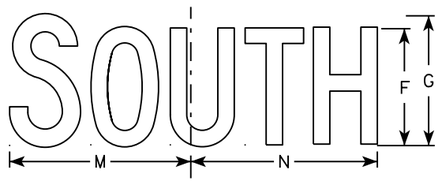

MB3-1
MK3-1
MN3-1



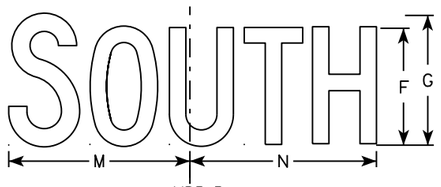

M3-2
MM3-2
MP3-2



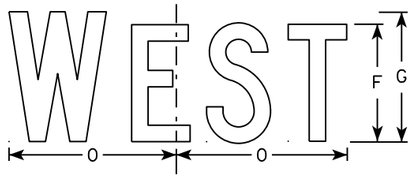

MB3-2
MK3-2
MN3-2



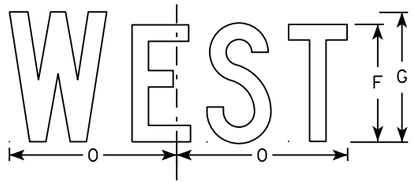

M3-3
MM3-3
MP3-3




MB3-3
MK3-3
MN3-3




M3-4
MM3-4
MP3-4




MB3-4
MK3-4
MN3-4

NOTES

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

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

STANDARD SIGNS
M3-1 thur M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

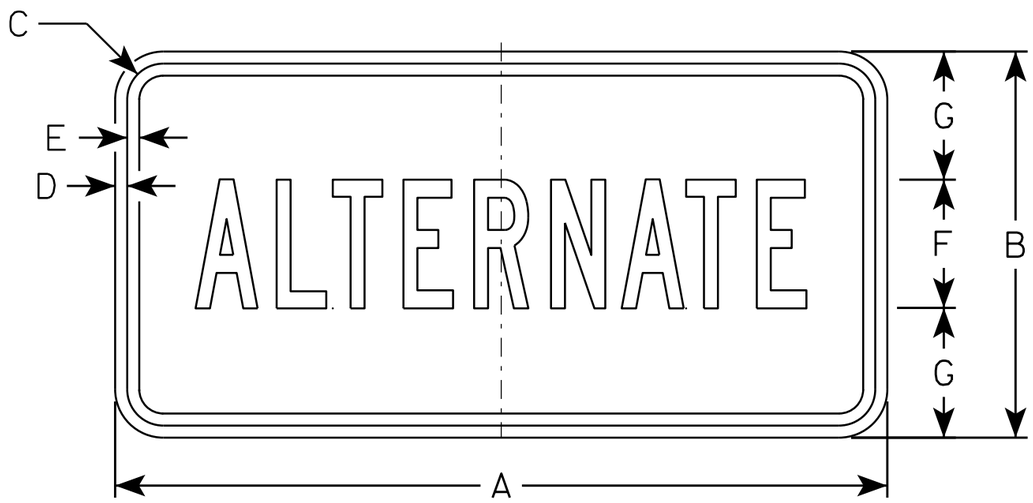
APPROVED Matthew P Rauch for State Traffic Engineer

DATE 10/15/15 PLATE NO M3-1.14

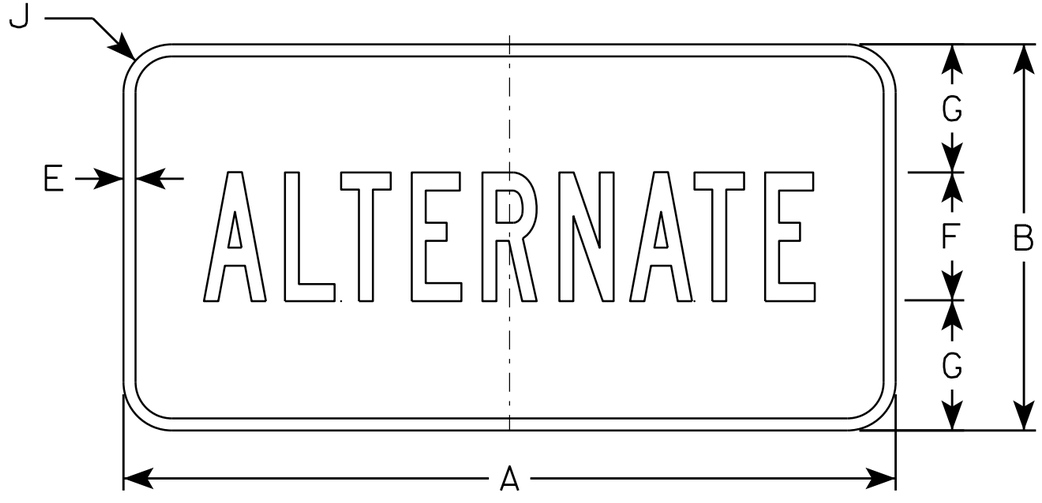


PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M31.DGN PLOT DATE : 01-DEC-2015 17:54 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000




M4-1
MO4-1




MB4-1

NOTES

1. Sign is Type II - Type H except as Shown
2. Color:
   Background - See Note 5
   Message - See note 5
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-1 Background - White
   Message - Black

   MB4-1 Background - Blue
   Message - White

   MO4-1 Background - Orange - Type F
   Message - Black

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 24 | 12 | 1 1/8 | 3/8 | 3/8 | 4 | 4 | 9 3/4 | 9 1/2 | 1 1/2 | | | | | | | | | | | | | | | | | 2.00 |
| 3 | 36 | 18 | 1 1/8 | 3/8 | 1/2 | 7 | 5 1/2 | 16 3/8 | 16 1/2 | 1 1/2 | | | | | | | | | | | | | | | | | 4.5 |
| 4 | 36 | 18 | 1 1/8 | 3/8 | 1/2 | 7 | 5 1/2 | 16 3/8 | 16 1/2 | 1 1/2 | | | | | | | | | | | | | | | | | 4.5 |
| 5 | 36 | 18 | 1 1/8 | 3/8 | 1/2 | 7 | 5 1/2 | 16 3/8 | 16 1/2 | 1 1/2 | | | | | | | | | | | | | | | | | 4.5 |

STANDARD SIGN
M4-1

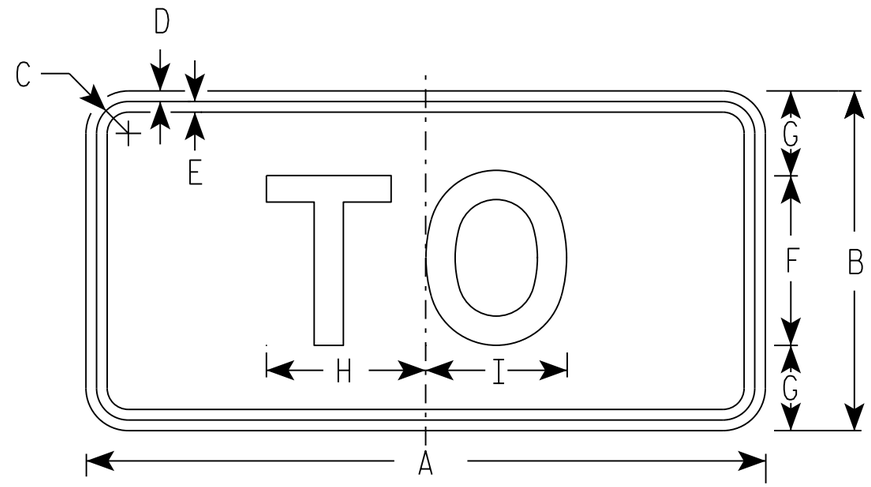
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

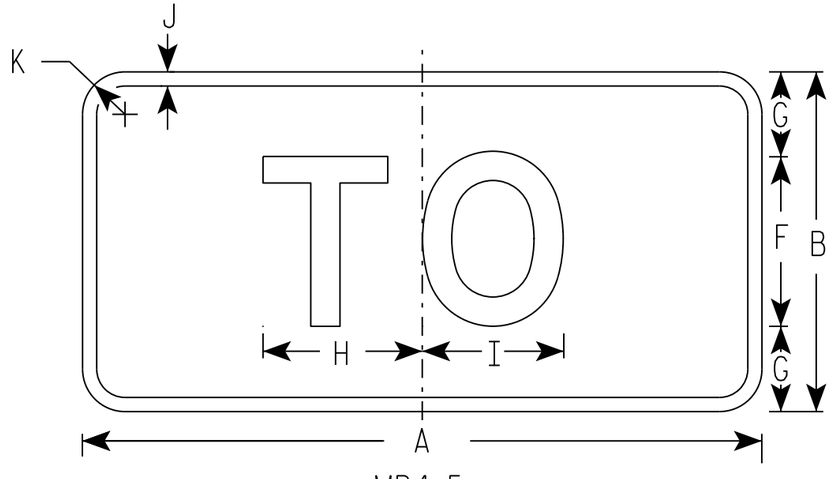
DATE 6/30/14 PLATE 14-1.8



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




M4-5
MM4-5
MP4-5




MB4-5
MK4-5
MN4-5

NOTES

1. Sign is Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-5 Background - White
   Message - Black

   MB4-5 Background - Blue
   Message - White

   MK4-5 Background - Green
   Message - White

   MM4-5 Background - White
   Message - Green

   MN4-5 Background - Brown
   Message - White

   MP4-5 Background - White
   Message - Blue

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

STANDARD SIGN
M4-5

WISCONSIN DEPT OF TRANSPORTATION

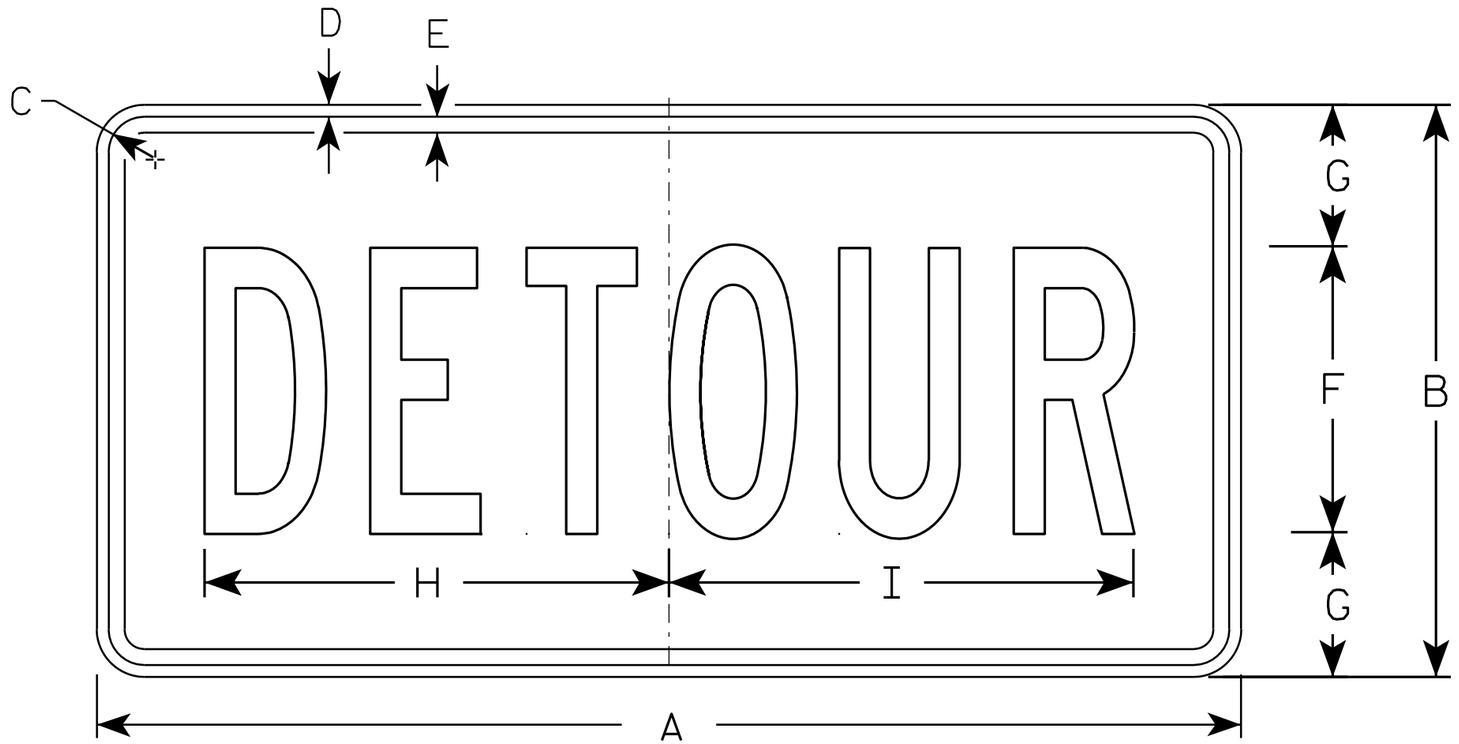
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 288 M4-5.8

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



FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M45.DGN PLOT DATE : 01-DEC-2015 17:55 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 5.351066:1.000000




M4-8

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

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

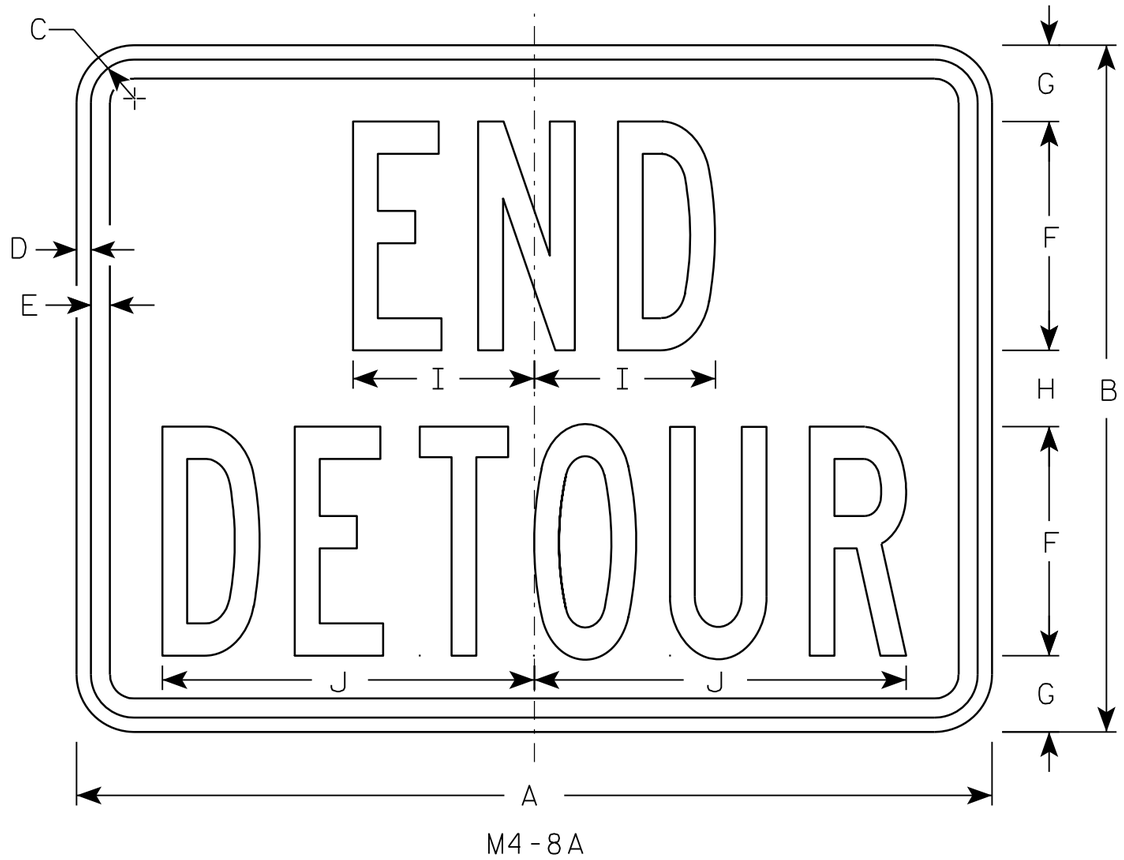
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 289 | E |
|---|---|---|---|---|---|




M4-8A

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

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

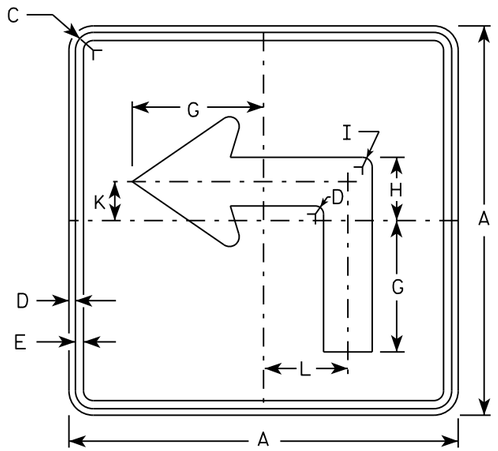
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

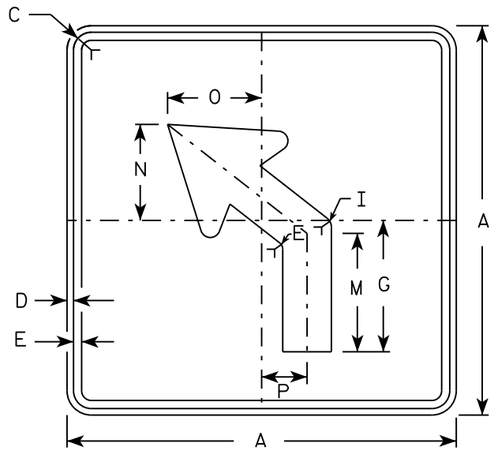
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-8A.2

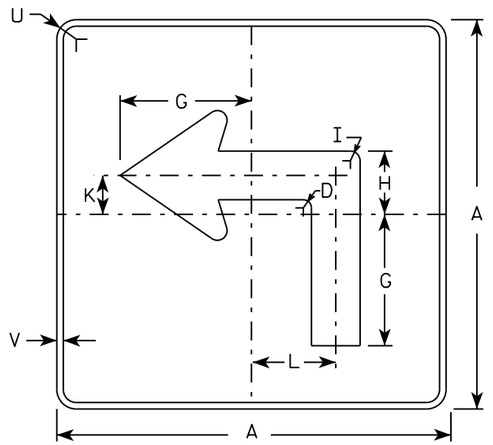
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 290 | E |
|---|---|---|---|---|---|



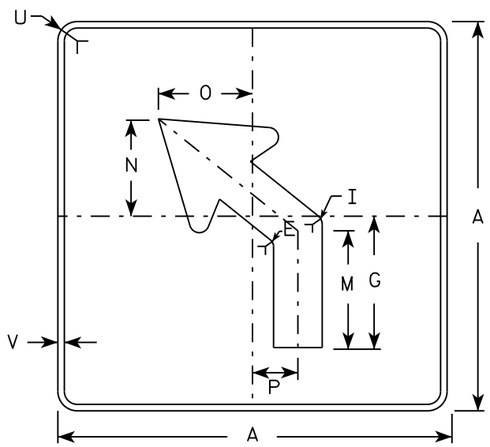

M5-1L
MM5-1L
MO5-1L
MP5-1L



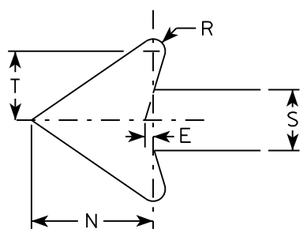

M5-2L
MM5-2L
MO5-2L
MP5-2L




MB5-1L
MK5-1L
MN5-1L
MR5-1L




MB5-2L
MK5-2L
MN5-2L
MR5-2L




NOTES

1. Signs are Type II - Type H reflective except as shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M5-1 and M5-2 Background - White
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White
   MK5-1 and MK5-2 Background - Green
   Message - White
   MM5-1 and MM5-2 Background - White
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White - Type H Reflective
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

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

STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

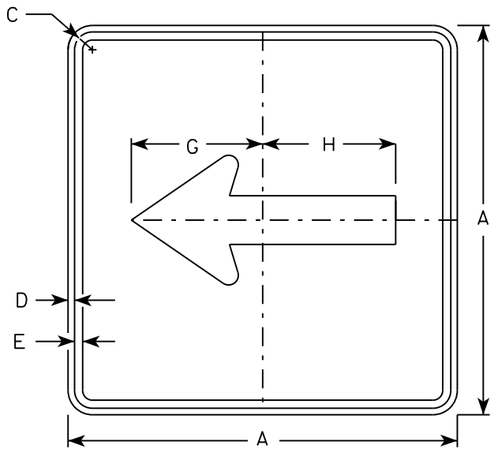
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M5-1.13

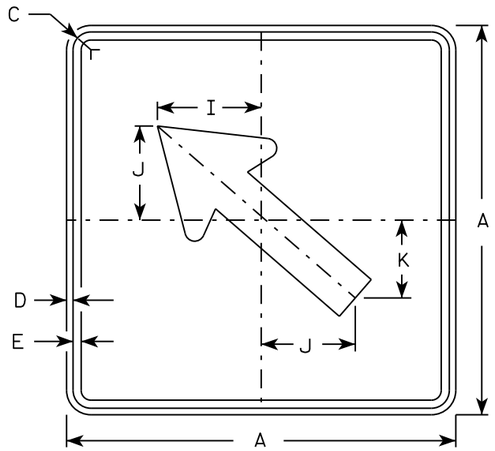


PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M51.DGN PLOT DATE : 01-DEC-2015 18:07 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



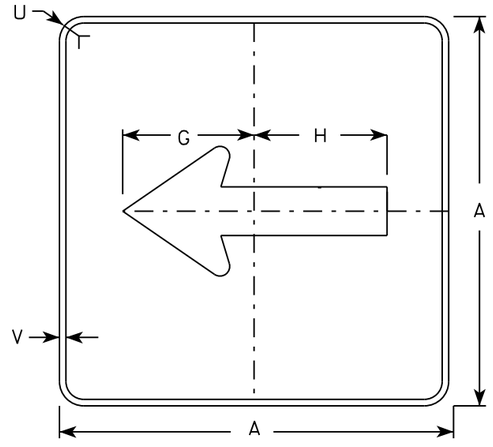

M6-1
MM6-1
MO6-1
MP6-1




M6-2
MM6-2
MO6-2
MP6-2

NOTES

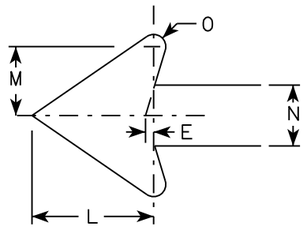
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow




MB6-1
MK6-1
MN6-1
MR6-1




MB6-2
MK6-2
MN6-2
MR6-2




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

# STANDARD SIGN M6-1 & M6-2 SERIES

*WISCONSIN DEPT OF TRANSPORTATION*

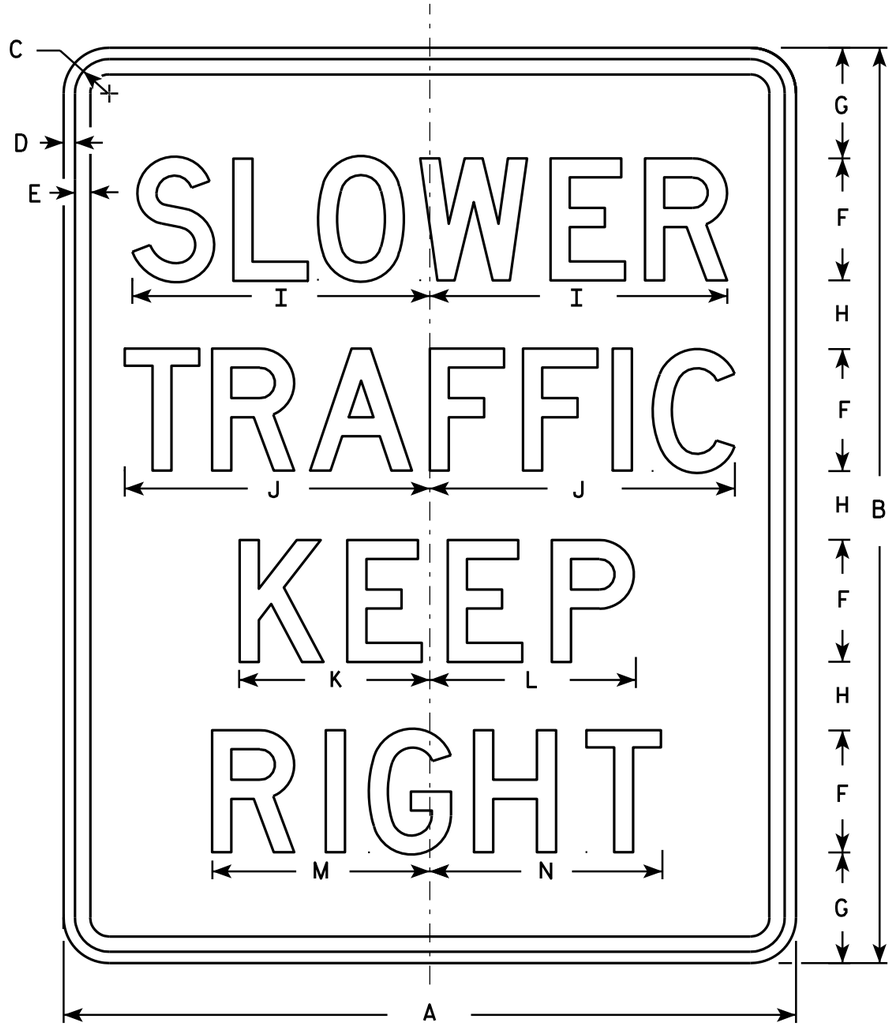
APPROVED Matthew R Rauch
*for* State Traffic Engineer

DATE 10/15/15 PLATE 292 M6-1.15

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



FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M61.DGN PLOT DATE : 01-DEC-2015 17:57 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000




R4-3

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

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

STANDARD SIGN
R4-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-3.8

PROJECT NO:

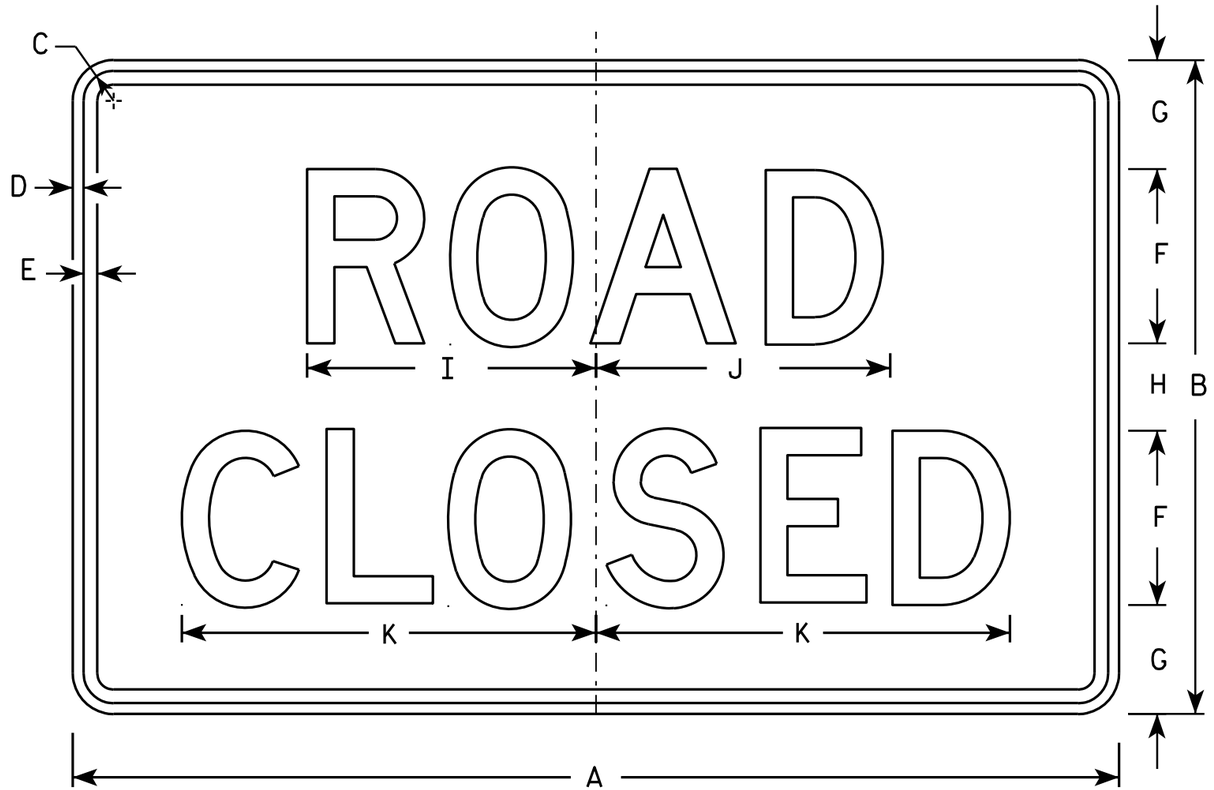
SHEET NO: 293 E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R43.DGN PLOT DATE : 25-MAR-2011 13:40 PLOT BY : mscsja

WISDOT/CADDS SHEET 42

7

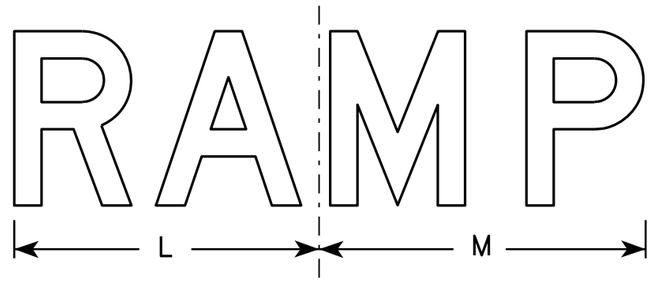
7



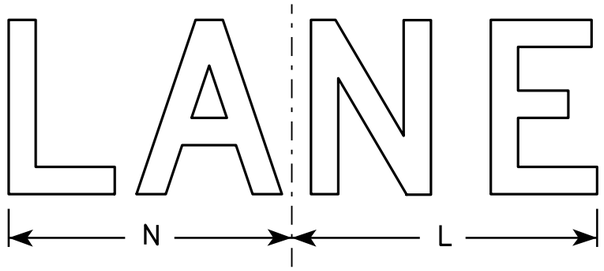

R11-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the message as required.




R11-2R




R11-2L

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

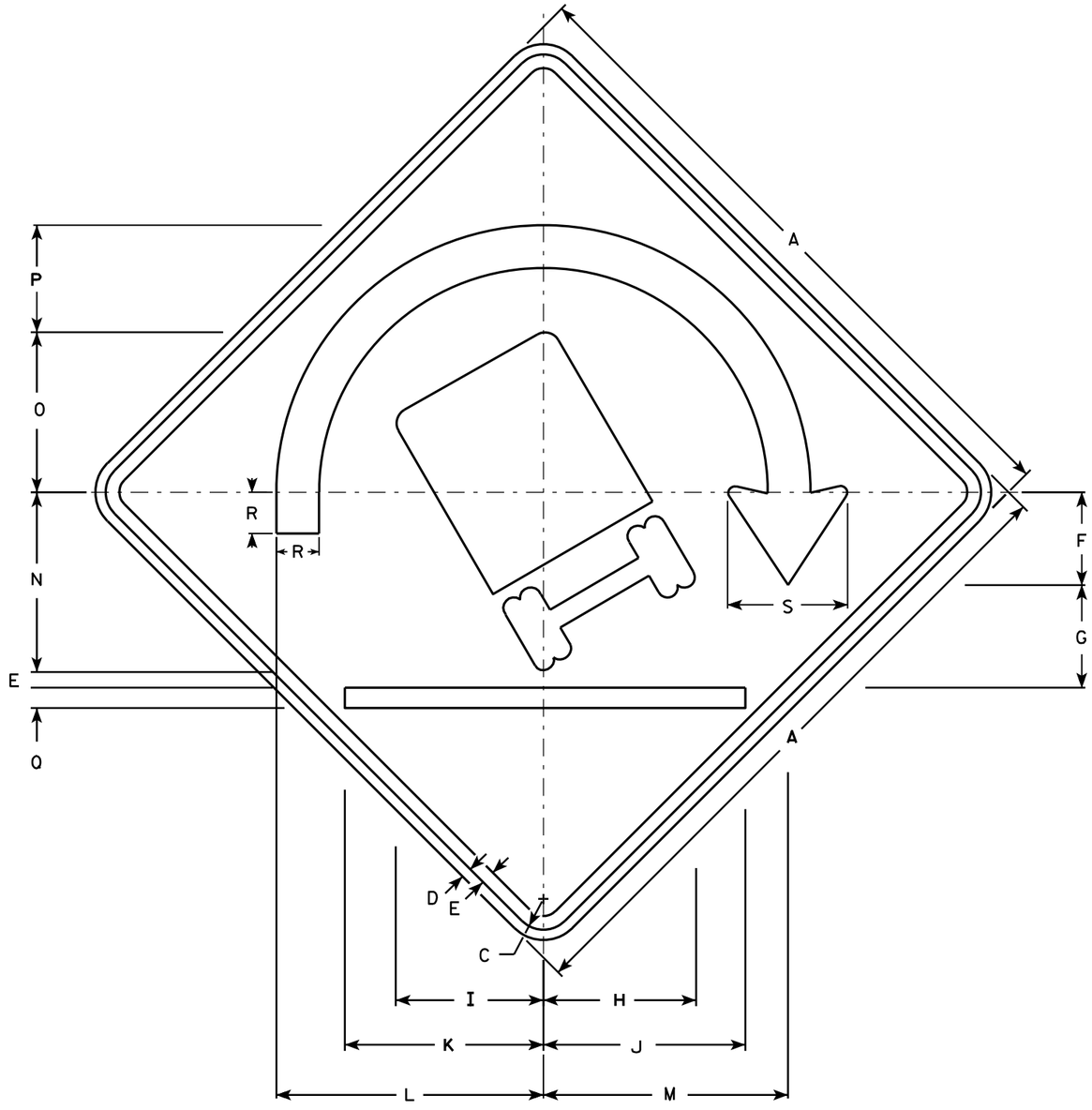
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 294 | E |
|---|---|---|---|---|---|




W1-13R

## NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W1-13L is the same as W1-13R except the arrow points to the left and the trucks tips to the right.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2M | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 48 | | 2 1/4 | 3/4 | 1 | 6 3/4 | 7 1/2 | 11 1/8 | 10 3/4 | 14 3/4 | 14 1/2 | 19 1/2 | 22 1/4 | 13 1/8 | 11 3/4 | 7 3/4 | 1 1/2 | 3 | 8 3/4 | | | | | | | | 16.00 |
| 5 | 48 | | 2 1/4 | 3/4 | 1 | 6 3/4 | 7 1/2 | 11 1/8 | 10 3/4 | 14 3/4 | 14 1/2 | 19 1/2 | 22 1/4 | 13 1/8 | 11 3/4 | 7 3/4 | 1 1/2 | 3 | 8 3/4 | | | | | | | | 16.00 |

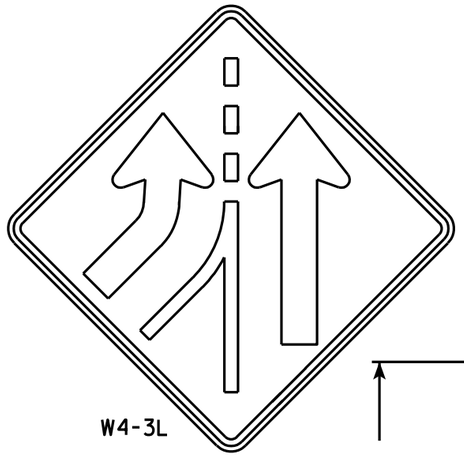
# STANDARD SIGN
# W1-13

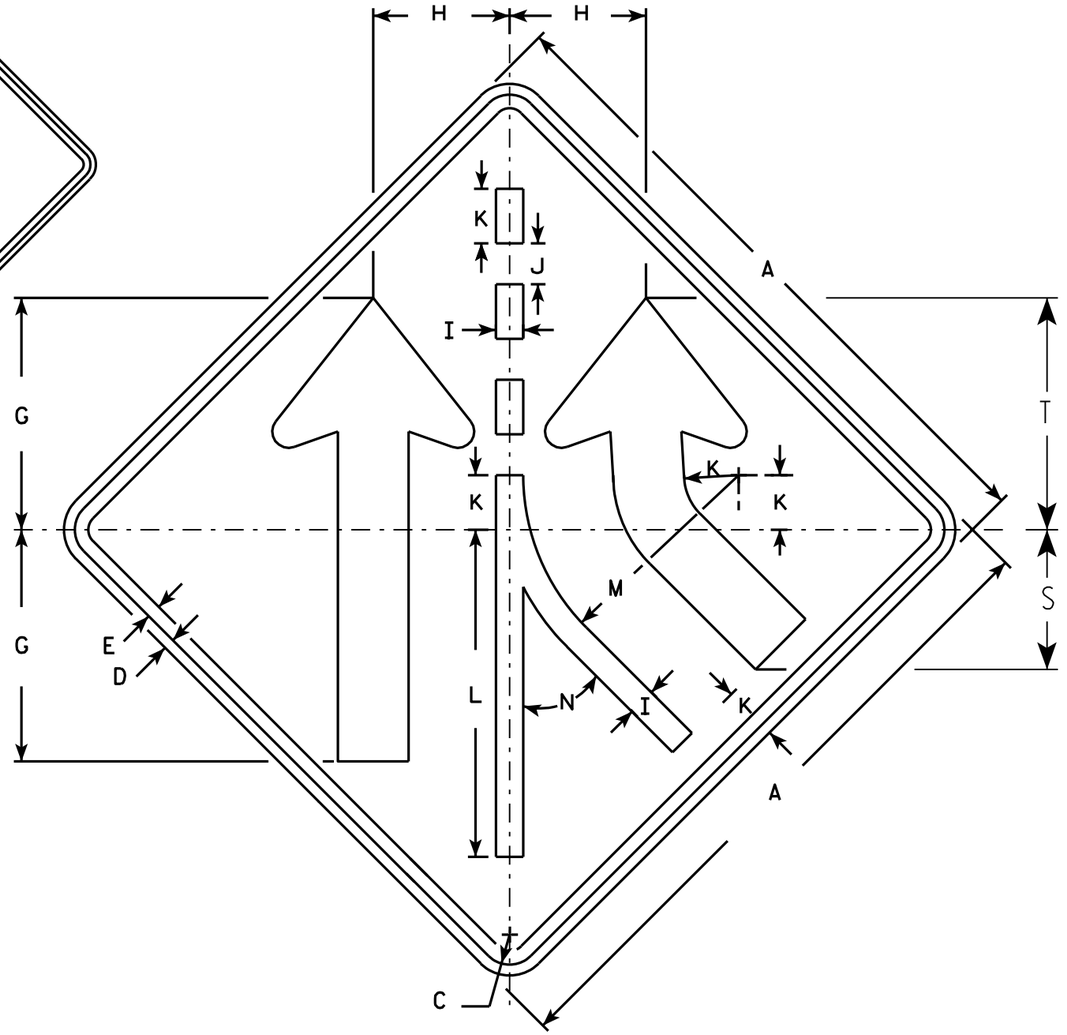
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/18/12 PLATE NO. W1-13RL.3

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 295 | E |
|---|---|---|---|---|---|

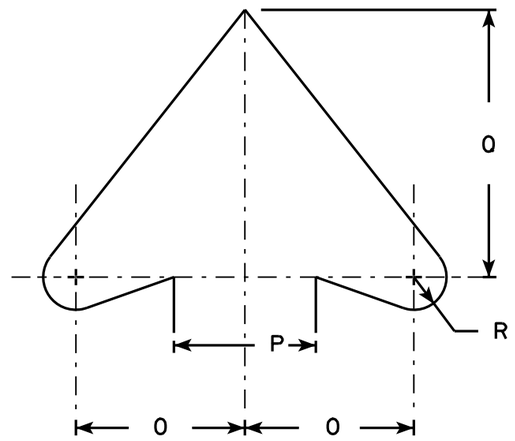



W4-3R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W4-3 L is the same as W4-3 R except the arrow is reversed along the vertical centerline.




ARROW DETAIL

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | O | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 30 | | 1 3/8 | 1/2 | 5/8 | | 10 5/8 | 6 1/4 | 1 1/4 | 1 7/8 | 2 1/2 | 15 | 9 7/8 | 45° | 3 7/8 | 3 1/4 | 6 1/8 | 3/4 | 6 3/8 | 10 5/8 | | | | | | | 6.25 |
| 2S | 36 | | 1 5/8 | 5/8 | 3/4 | | 12 3/4 | 7 1/2 | 1 1/2 | 2 1/4 | 3 | 18 | 11 7/8 | 45° | 4 5/8 | 4 | 7 3/8 | 7/8 | 7 3/4 | 12 3/4 | | | | | | | 9.0 |
| 2M | 36 | | 1 5/8 | 5/8 | 3/4 | | 12 3/4 | 7 1/2 | 1 1/2 | 2 1/4 | 3 | 18 | 11 7/8 | 45° | 4 5/8 | 4 | 7 3/8 | 7/8 | 7 3/4 | 12 3/4 | | | | | | | 9.0 |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 48 | | 2 1/4 | 3/4 | 1 | | 17 | 10 | 2 | 3 | 4 | 24 | 15 3/4 | 45° | 6 1/4 | 5 1/2 | 9 7/8 | 1 1/4 | 10 1/4 | 17 | | | | | | | 16.0 |
| 5 | 48 | | 2 1/4 | 3/4 | 1 | | 17 | 10 | 2 | 3 | 4 | 24 | 15 3/4 | 45° | 6 1/4 | 5 1/2 | 9 7/8 | 1 1/4 | 10 1/4 | 17 | | | | | | | 16.0 |

# STANDARD SIGN
# W4-3

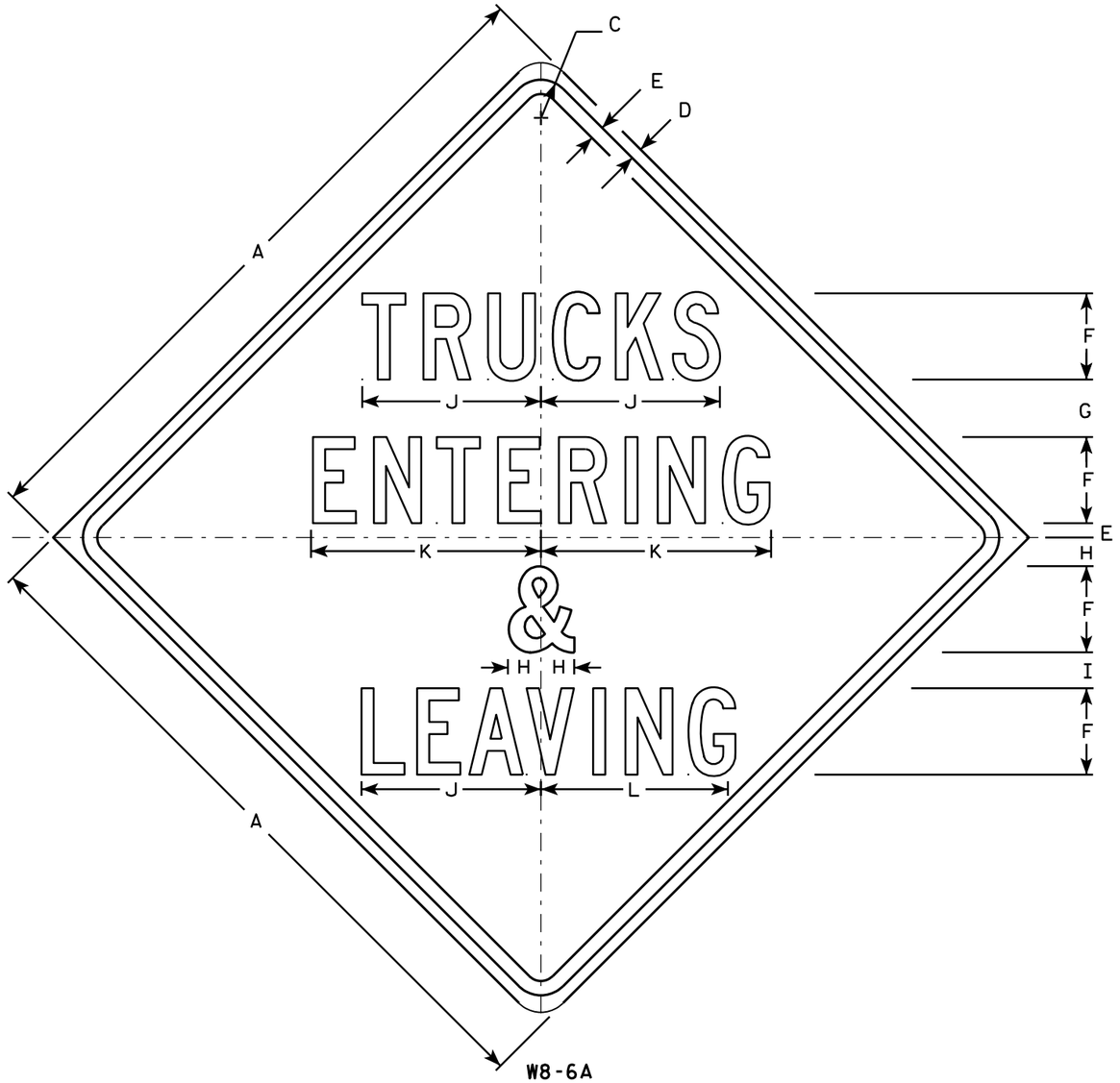
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/12/13 PLATE NO. W4-3.8

PROJECT NO:

SHEET NO: 296 E




W8-6A

## NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

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

STANDARD SIGN
W8-6A

WISCONSIN DEPT OF TRANSPORTATION

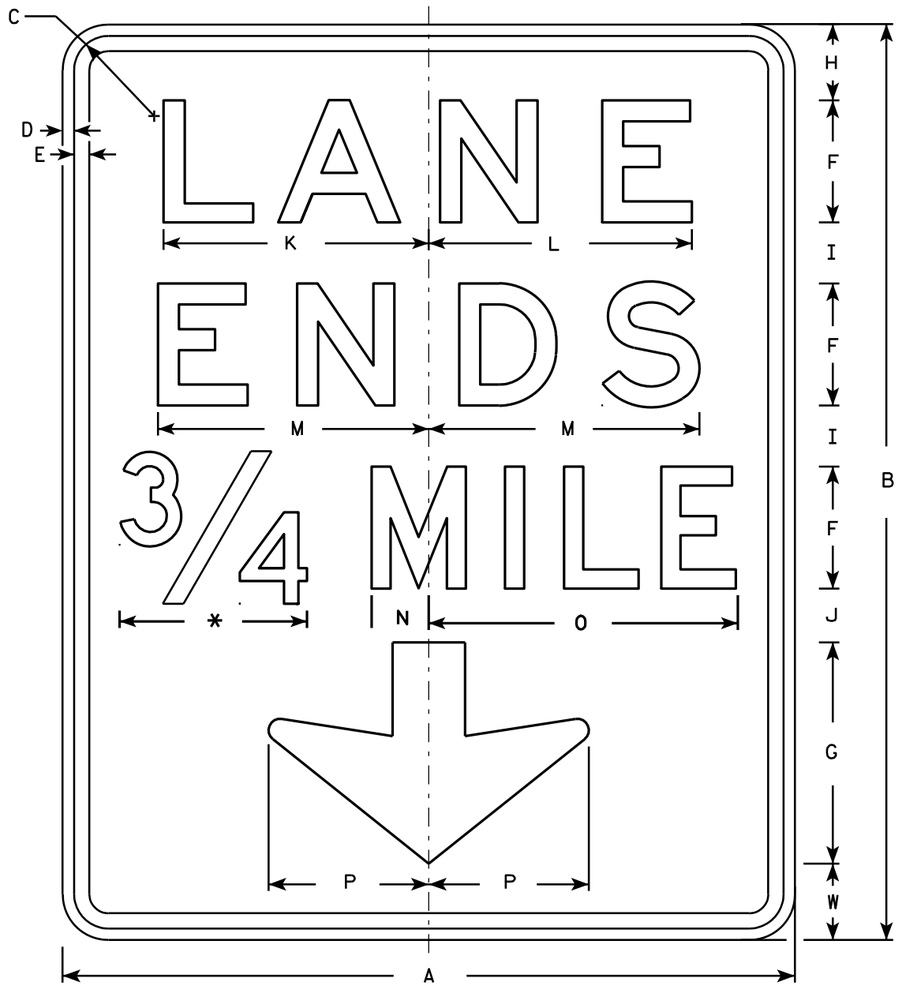
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/23/11 PLATE NO. W8-6A.2

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 297 | E


7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W86A.DGN PLOT DATE : 23-MAR-2011 10:02 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 10.136330:1.000000 WISDOT/CADDS SHEET 42

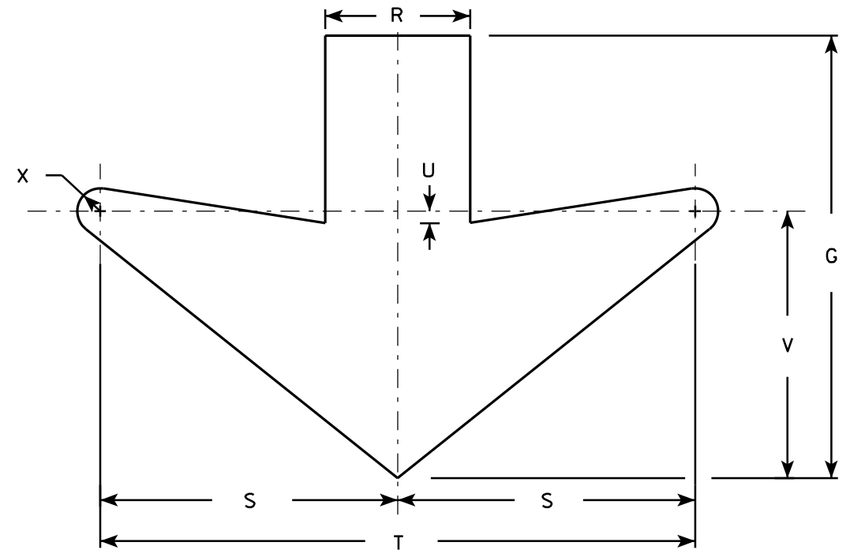



W9-63

* See Note 6

## NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background -Yellow
   Message - Black non-reflective
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series E, Line 3 is Series D.
6. Substitute appropriate numerals and optically adjust spacing to give proper balance.




ARROW DETAIL

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 48 | 60 | 2 1/4 | 3/4 | 1 | 8 | 14 1/2 | 5 | 4 | 3 1/2 | 17 3/8 | 17 1/4 | 17 3/4 | 3 3/4 | 20 1/4 | 10 1/2 | | 4 3/4 | 9 3/4 | 19 1/2 | 3/4 | 8 3/4 | 5 | 3/4 | | | 20.0 |
| 2S | 48 | 60 | 2 1/4 | 3/4 | 1 | 8 | 14 1/2 | 5 | 4 | 3 1/2 | 17 3/8 | 17 1/4 | 17 3/4 | 3 3/4 | 20 1/4 | 10 1/2 | | 4 3/4 | 9 3/4 | 19 1/2 | 3/4 | 8 3/4 | 5 | 3/4 | | | 20.0 |
| 2M | 48 | 60 | 2 1/4 | 3/4 | 1 | 8 | 14 1/2 | 5 | 4 | 3 1/2 | 17 3/8 | 17 1/4 | 17 3/4 | 3 3/4 | 20 1/4 | 10 1/2 | | 4 3/4 | 9 3/4 | 19 1/2 | 3/4 | 8 3/4 | 5 | 3/4 | | | 20.0 |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 72 | 90 | 6 | 1 | 1 1/2 | 12 | 22 | 8 | 6 | 5 | 26 1/8 | 26 1/8 | 26 5/8 | 5 5/8 | 30 3/8 | 16 | | 6 1/2 | 15 | 30 | 2 | 15 | 7 | 1 | | | 45.0 |
| 5 | 72 | 90 | 6 | 1 | 1 1/2 | 12 | 22 | 8 | 6 | 5 | 26 1/8 | 26 1/8 | 26 5/8 | 5 5/8 | 30 3/8 | 16 | | 6 1/2 | 15 | 30 | 2 | 15 | 7 | 1 | | | 45.0 |

STANDARD SIGN
W9-63

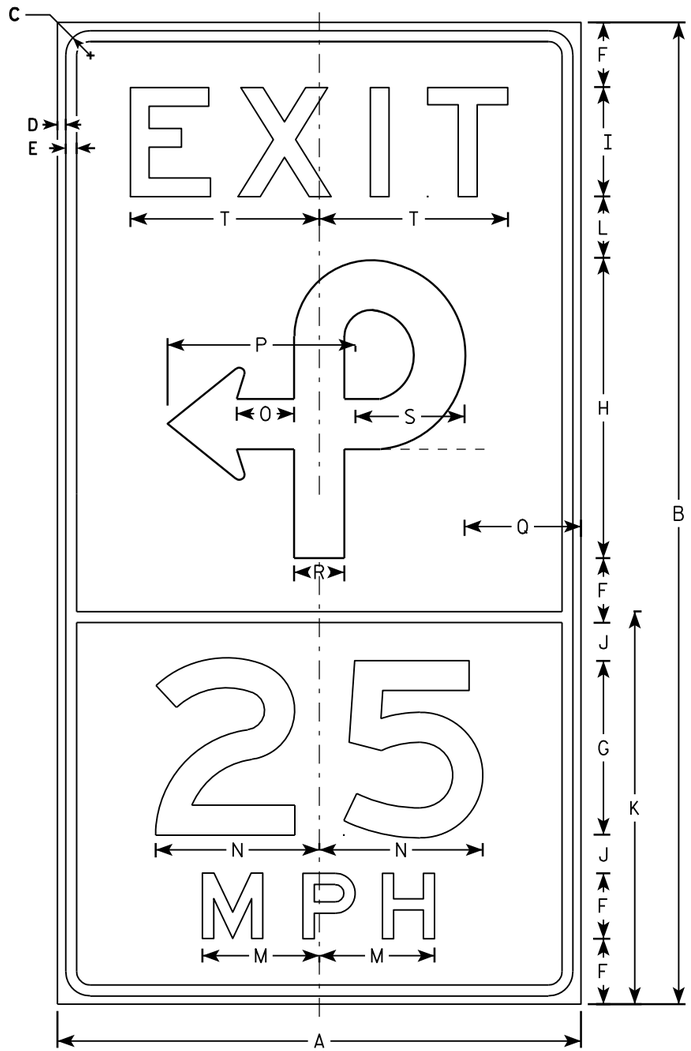
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W9-63.4

PROJECT NO:

SHEET NO: 298 E




W13-2B

## NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | O | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 48 | 90 | 2 1/4 | 3/4 | 1 | 6 | 16 | 27 1/2 | 10 | 3 1/2 | 36 | 5 1/2 | 10 3/4 | 15 | 5 1/4 | 17 1/4 | 10 3/4 | 4 5/8 | 10 | 17 3/8 | | | | | | | 30 |
| 2M | 48 | 90 | 2 1/4 | 3/4 | 1 | 6 | 16 | 27 1/2 | 10 | 3 1/2 | 36 | 5 1/2 | 10 3/4 | 15 | 5 1/4 | 17 1/4 | 10 3/4 | 4 5/8 | 10 | 17 3/8 | | | | | | | 30 |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

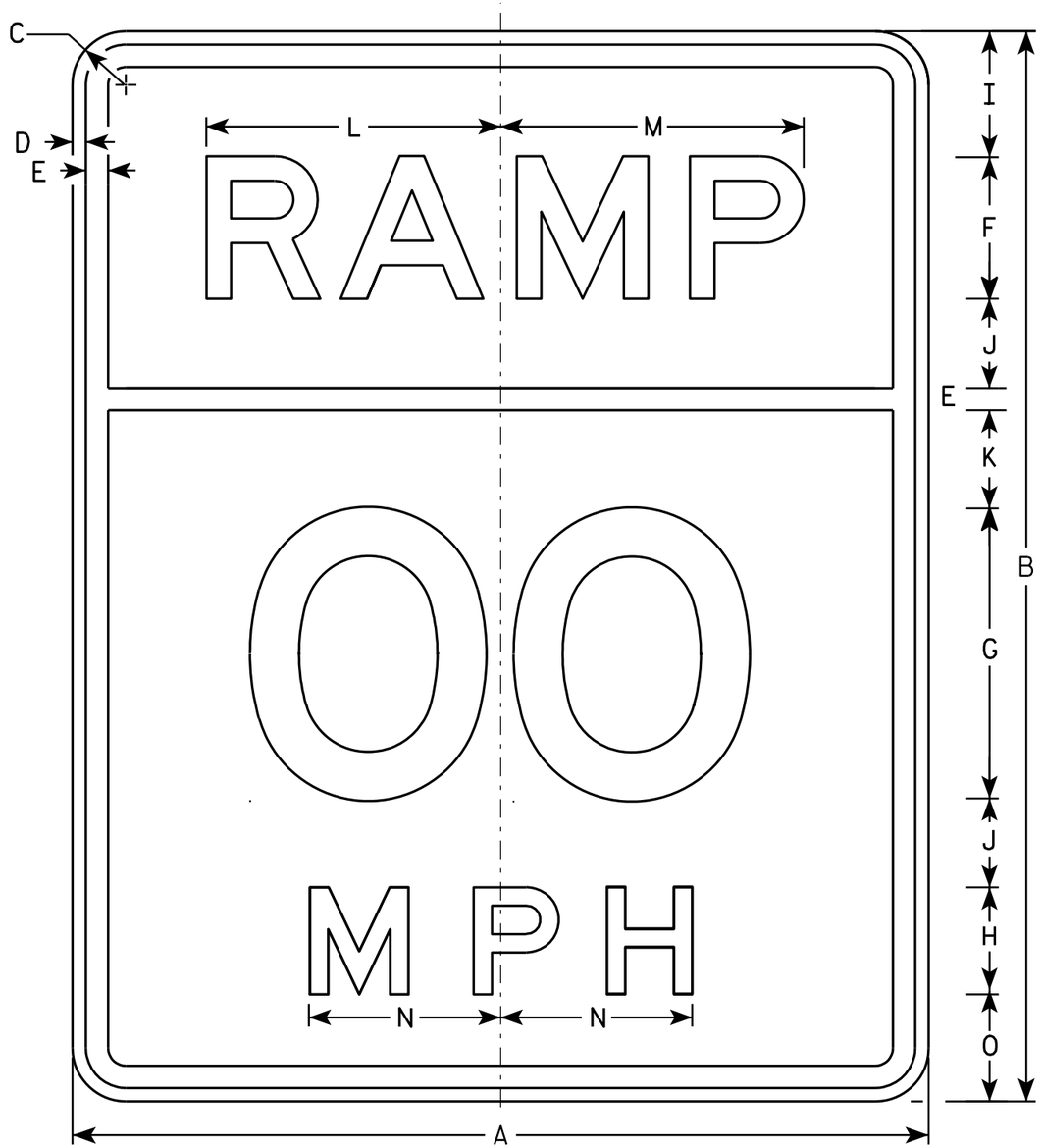
STANDARD SIGN
W13-2B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/31/12 PLATE NO. W13-2B.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 299 | E




W13-3

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically space about centerline to achieve proper balance.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 24 | 30 | 1 1/8 | 3/8 | 5/8 | 4 | 8 | 3 | 3 1/2 | 2 1/2 | 2 7/8 | 8 1/4 | 8 1/2 | 5 3/8 | 3 | | | | | | | | | | | | 5.0 |
| 2S | 24 | 30 | 1 1/8 | 3/8 | 5/8 | 4 | 8 | 3 | 3 1/2 | 2 1/2 | 2 7/8 | 8 1/4 | 8 1/2 | 5 3/8 | 3 | | | | | | | | | | | | 5.0 |
| 2M | 24 | 30 | 1 1/8 | 3/8 | 5/8 | 4 | 8 | 3 | 3 1/2 | 2 1/2 | 2 7/8 | 8 1/4 | 8 1/2 | 5 3/8 | 3 | | | | | | | | | | | | 5.0 |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 36 | 48 | 1 5/8 | 5/8 | 7/8 | 6 | 12 | 4 | 6 | 4 1/8 | 5 1/8 | 13 1/2 | 13 5/8 | 7 1/8 | 6 | | | | | | | | | | | | 12.0 |
| 5 | 48 | 60 | 2 1/4 | 3/4 | 1 1/4 | 8 | 16 | 6 | 7 | 5 | 5 3/4 | 16 1/2 | 17 | 10 5/8 | 6 | | | | | | | | | | | | 20.0 |

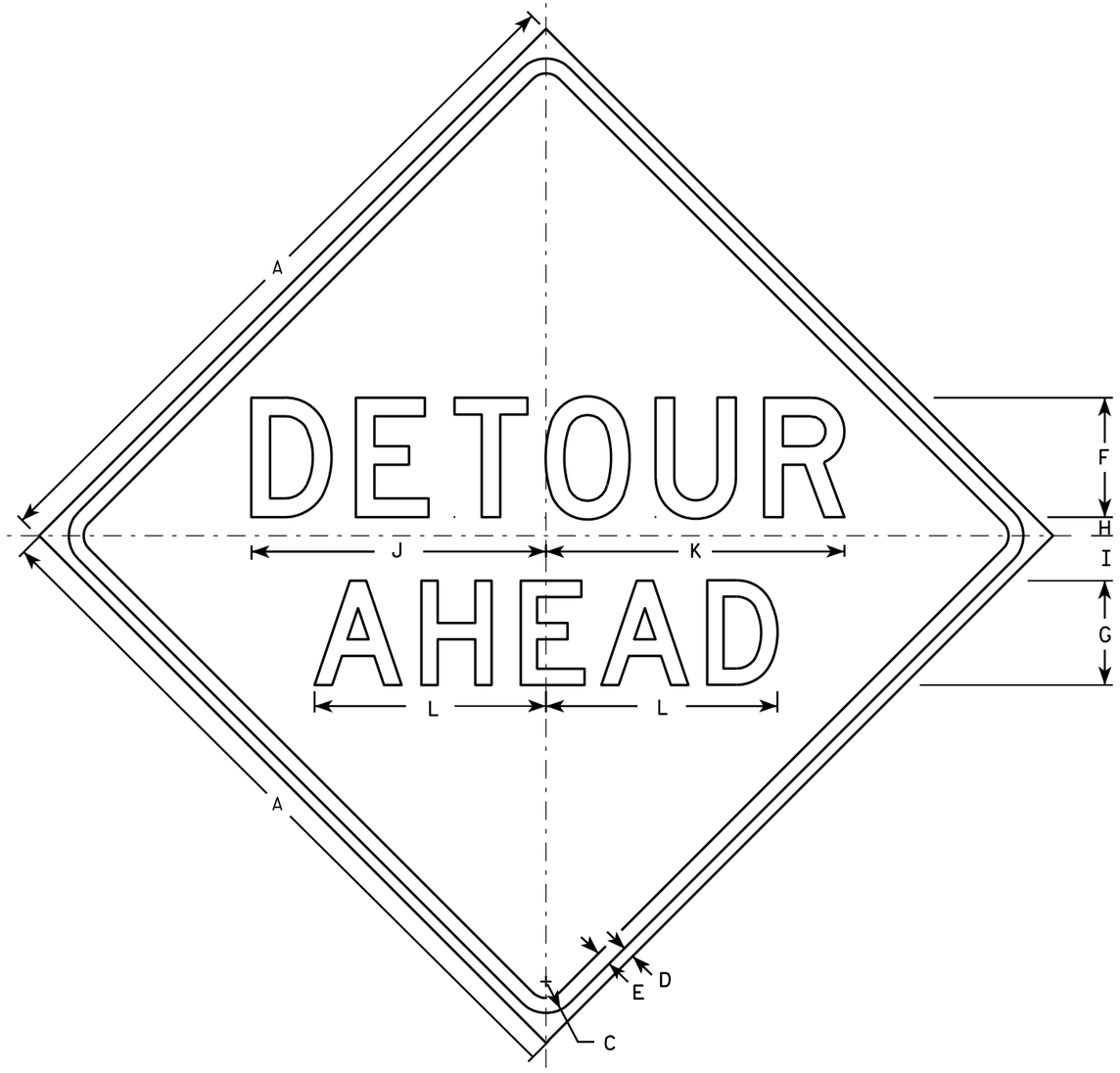
STANDARD SIGN
W13-3

WISCONSIN DEPT OF TRANSPORTATION

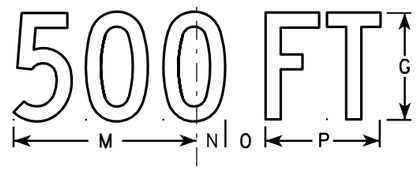
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/13/13 PLATE NO. W13-3.9

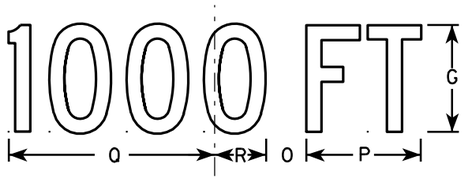
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 300 | E



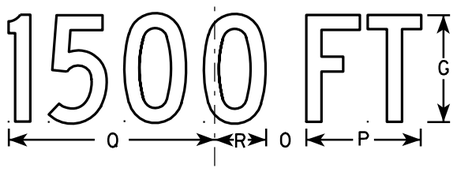

W20-2A



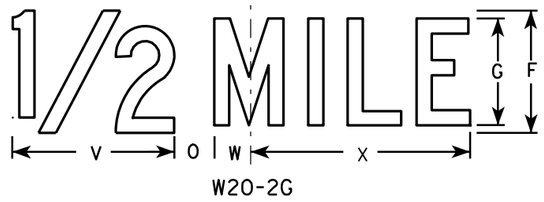

W20-2D




W20-2C




W20-2B




W20-2G




W20-2F

NOTES

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

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

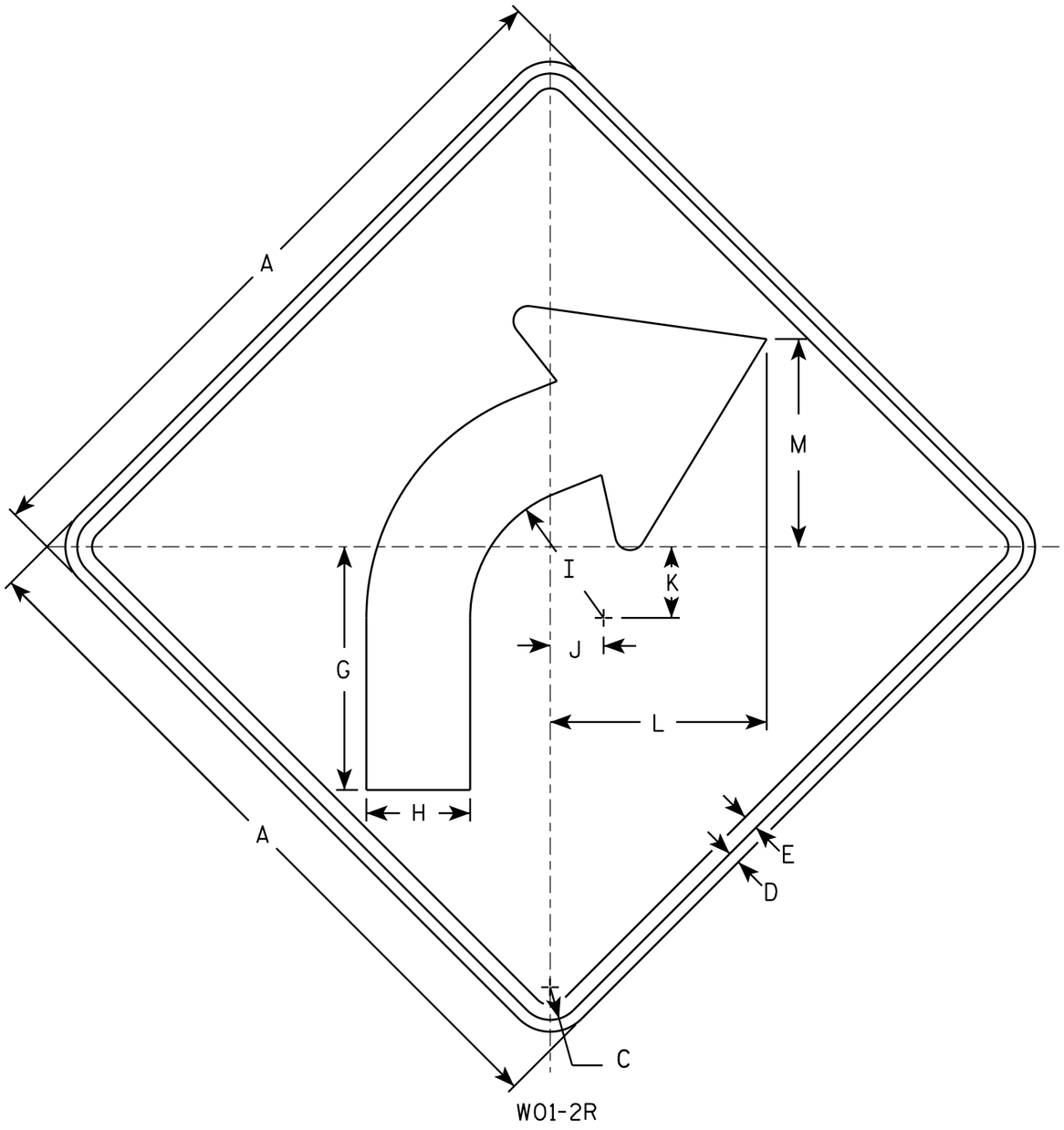
STANDARD SIGN
W20-2A,B,C,D,F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-2.6

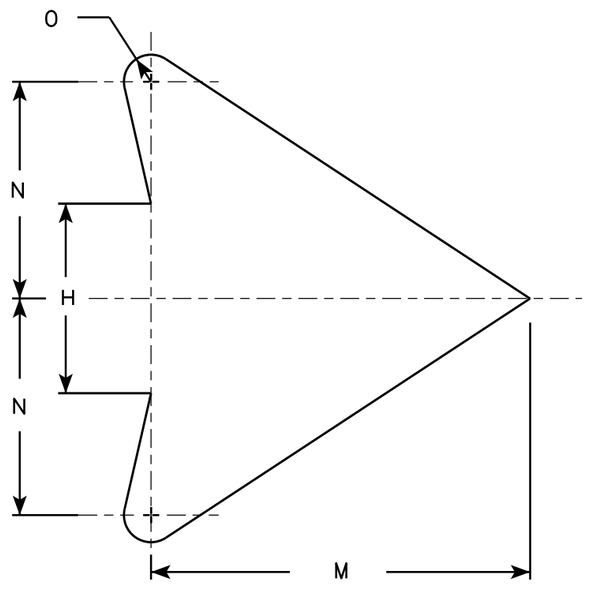
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 301 | E




W01-2R

## NOTES

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




ARROW DETAIL

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 36 | | 1 5/8 | 5/8 | 3/4 | | 12 3/8 | 5 1/4 | 6 3/4 | 2 5/8 | 3 1/2 | 10 7/8 | 10 1/2 | 6 | 3/4 | | | | | | | | | | | | 4.0 |
| 2S | 48 | | 2 1/4 | 3/4 | 1 | | 16 1/2 | 7 | 9 | 3 1/2 | 4 5/8 | 14 1/2 | 14 | 8 | 1 | | | | | | | | | | | | 16.0 |
| 2M | 48 | | 2 1/4 | 3/4 | 1 | | 16 1/2 | 7 | 9 | 3 1/2 | 4 5/8 | 14 1/2 | 14 | 8 | 1 | | | | | | | | | | | | 16.0 |
| 3 | 48 | | 2 1/4 | 3/4 | 1 | | 16 1/2 | 7 | 9 | 3 1/2 | 4 5/8 | 14 1/2 | 14 | 8 | 1 | | | | | | | | | | | | 16.0 |
| 4 | 48 | | 2 1/4 | 3/4 | 1 | | 16 1/2 | 7 | 9 | 3 1/2 | 4 5/8 | 14 1/2 | 14 | 8 | 1 | | | | | | | | | | | | 16.0 |
| 5 | 48 | | 2 1/4 | 3/4 | 1 | | 16 1/2 | 7 | 9 | 3 1/2 | 4 5/8 | 14 1/2 | 14 | 8 | 1 | | | | | | | | | | | | 16.0 |

# STANDARD SIGN
# W01-2

WISCONSIN DEPT OF TRANSPORTATION

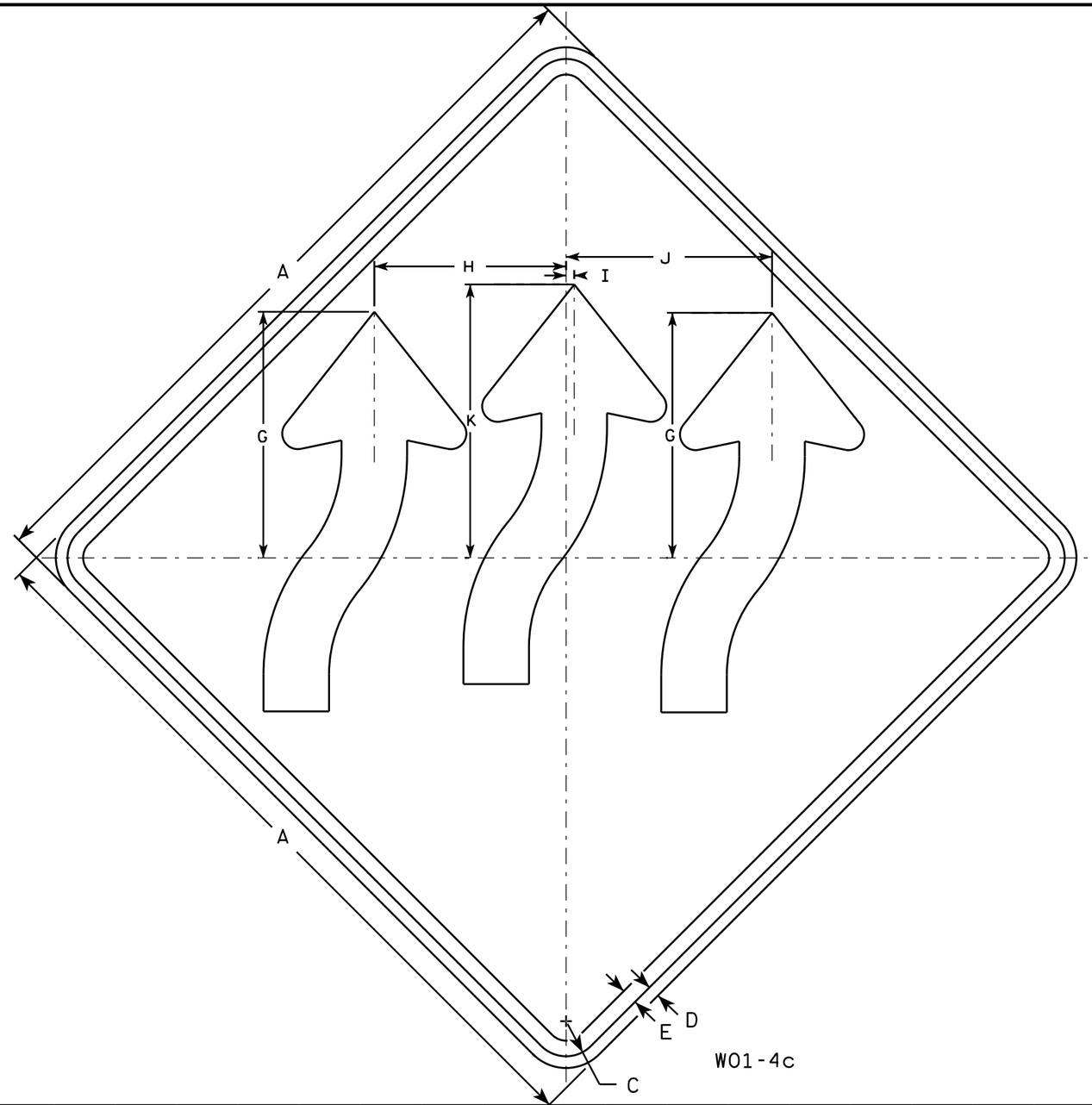
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE NO W01-1.1

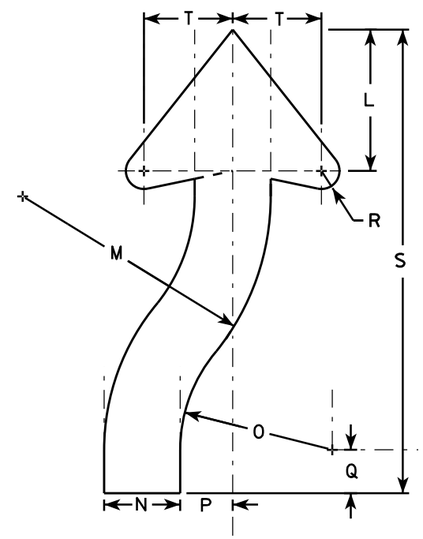


PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W012.DGN PLOT DATE : 28-FEB-2014 11:34 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 6.992871:1.000000 WISDOT/CADDS SHEET 42




W01-4c




NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 36 | | 1 5/8 | 5/8 | 3/4 | | 11 3/4 | 9 1/4 | 3/8 | 9 7/8 | 13 1/8 | 5 7/8 | 10 1/4 | 3 1/8 | 6 1/4 | 2 1/4 | 1 7/8 | 3/4 | 19 1/4 | 3 3/4 | | | | | | | 9.0 |
| 2S | 48 | | 2 1/4 | 3/4 | 1 | | 15 3/4 | 12 1/4 | 1/2 | 13 1/4 | 17 1/2 | 7 3/4 | 13 3/4 | 4 1/4 | 8 1/2 | 2 7/8 | 2 3/8 | 1 | 25 5/8 | 4 7/8 | | | | | | | 16.0 |
| 2M | 48 | | 2 1/4 | 3/4 | 1 | | 15 3/4 | 12 1/4 | 1/2 | 13 1/4 | 17 1/2 | 7 3/4 | 13 3/4 | 4 1/4 | 8 1/2 | 2 7/8 | 2 3/8 | 1 | 25 5/8 | 4 7/8 | | | | | | | 16.0 |
| 3 | 48 | | 2 1/4 | 3/4 | 1 | | 15 3/4 | 12 1/4 | 1/2 | 13 1/4 | 17 1/2 | 7 3/4 | 13 3/4 | 4 1/4 | 8 1/2 | 2 7/8 | 2 3/8 | 1 | 25 5/8 | 4 7/8 | | | | | | | 16.0 |
| 4 | 48 | | 2 1/4 | 3/4 | 1 | | 15 3/4 | 12 1/4 | 1/2 | 13 1/4 | 17 1/2 | 7 3/4 | 13 3/4 | 4 1/4 | 8 1/2 | 2 7/8 | 2 3/8 | 1 | 25 5/8 | 4 7/8 | | | | | | | 16.0 |
| 5 | 48 | | 2 1/4 | 3/4 | 1 | | 15 3/4 | 12 1/4 | 1/2 | 13 1/4 | 17 1/2 | 7 3/4 | 13 3/4 | 4 1/4 | 8 1/2 | 2 7/8 | 2 3/8 | 1 | 25 5/8 | 4 7/8 | | | | | | | 16.0 |

# STANDARD SIGN
## W01-4c

WISCONSIN DEPT OF TRANSPORTATION

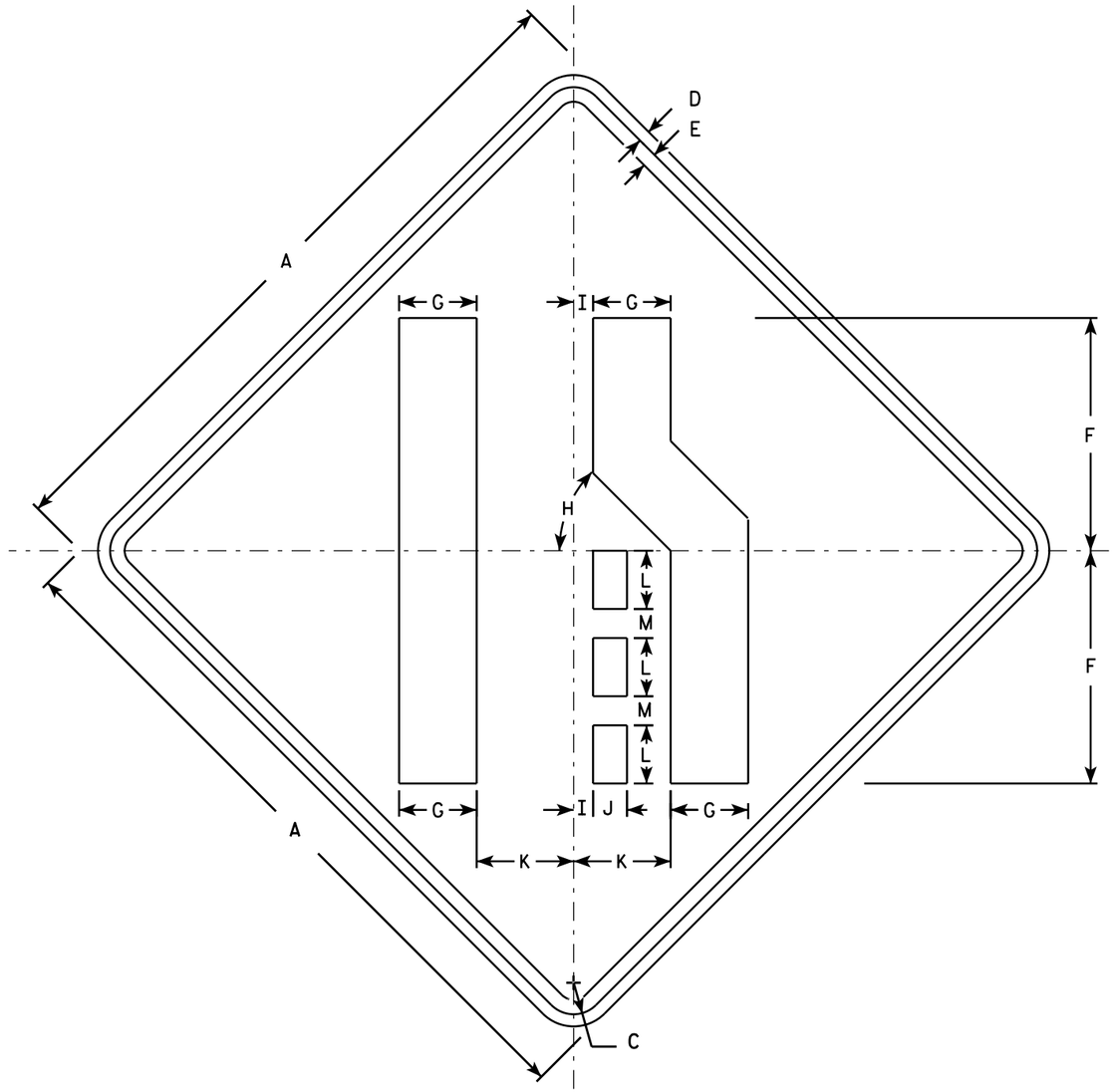
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE W01-4c.1



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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W014C.DGN PLOT DATE : 28-FEB-2014 11:36 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 8.367121:1.000000




W04-2R

## NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W04-2L is the same as W04-2R except the symbol is reversed along the vertical centerline.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 36 | | 1 5/8 | 5/8 | 3/4 | 12 | 4 | 45° | 1 | 1 3/4 | 5 | 3 | 1 1/2 | | | | | | | | | | | | | | 9.0 |
| 2S | 48 | | 2 1/4 | 3/4 | 1 | 16 | 5 3/8 | 45° | 1 1/4 | 2 3/8 | 6 3/4 | 4 | 2 | | | | | | | | | | | | | | 16.0 |
| 2M | 48 | | 2 1/4 | 3/4 | 1 | 16 | 5 3/8 | 45° | 1 1/4 | 2 3/8 | 6 3/4 | 4 | 2 | | | | | | | | | | | | | | 16.0 |
| 3 | 48 | | 2 1/4 | 3/4 | 1 | 16 | 5 3/8 | 45° | 1 1/4 | 2 3/8 | 6 3/4 | 4 | 2 | | | | | | | | | | | | | | 16.0 |
| 4 | 48 | | 2 1/4 | 3/4 | 1 | 16 | 5 3/8 | 45° | 1 1/4 | 2 3/8 | 6 3/4 | 4 | 2 | | | | | | | | | | | | | | 16.0 |
| 5 | 48 | | 2 1/4 | 3/4 | 1 | 16 | 5 3/8 | 45° | 1 1/4 | 2 3/8 | 6 3/4 | 4 | 2 | | | | | | | | | | | | | | 16.0 |

STANDARD SIGN
W04-2

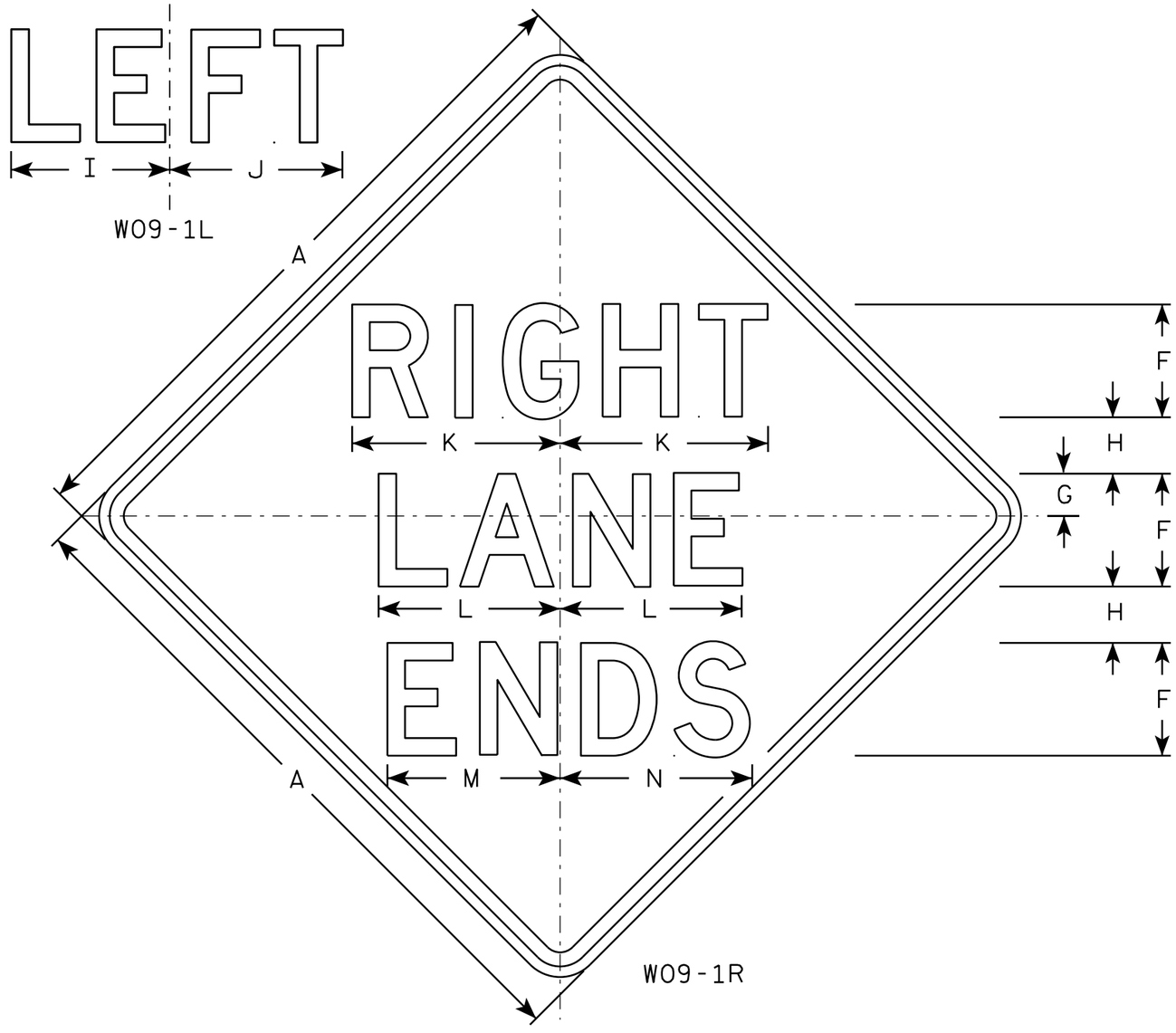
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE 304 W04-2.1

PROJECT NO:

SHEET NO: E




NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

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

STANDARD SIGN
W09-1

WISCONSIN DEPT OF TRANSPORTATION

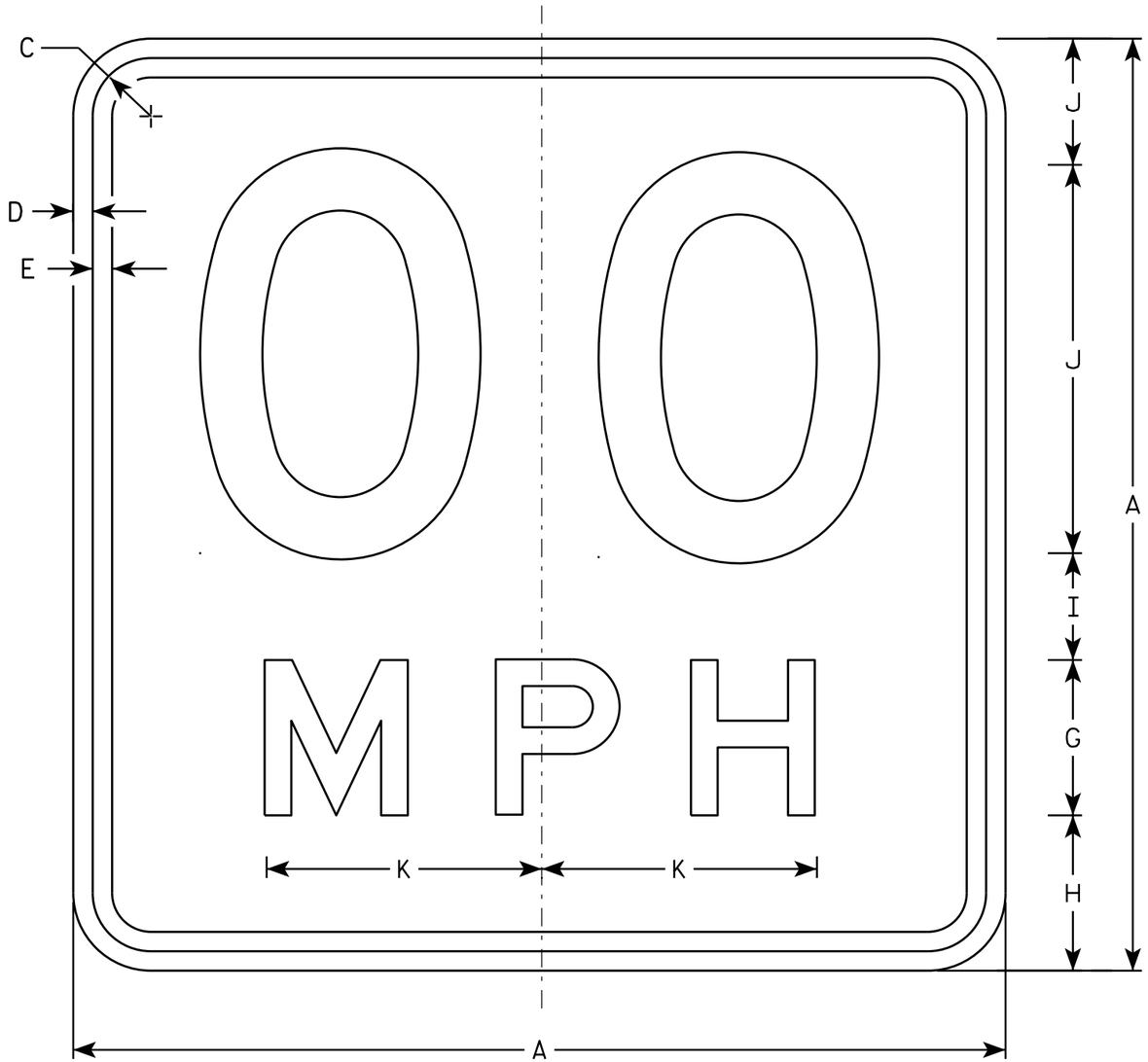
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE W09-1.1

PROJECT NO: | SHEET NO: E



FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W091.DGN PLOT DATE : 20-NOV-2013 14:18 PLOT BY : mscsja
WISDOT/CADDS SHEET 42




W013-1

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See Note 6
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically space about centerline to achieve proper balance.
6. Line 1 is Series D
   Line 2 is Series E

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 24 | | 1 1/8 | 3/8 | 1/2 | 10 | 4 | 4 | 2 3/4 | 3 1/4 | 7 1/8 | | | | | | | | | | | | | | | | 4.00 |
| 2S | 36 | | 1 5/8 | 5/8 | 3/4 | 16 | 6 | 5 1/2 | 4 | 4 1/2 | 10 5/8 | | | | | | | | | | | | | | | | 9.00 |
| 2M | 36 | | 1 5/8 | 5/8 | 3/4 | 16 | 6 | 5 1/2 | 4 | 4 1/2 | 10 5/8 | | | | | | | | | | | | | | | | 9.00 |
| 3 | 36 | | 1 5/8 | 5/8 | 3/4 | 16 | 6 | 5 1/2 | 4 | 4 1/2 | 10 5/8 | | | | | | | | | | | | | | | | 9.00 |
| 4 | 36 | | 1 5/8 | 5/8 | 3/4 | 16 | 6 | 5 1/2 | 4 | 4 1/2 | 10 5/8 | | | | | | | | | | | | | | | | 9.00 |
| 5 | 36 | | 1 5/8 | 5/8 | 3/4 | 16 | 6 | 5 1/2 | 4 | 4 1/2 | 10 5/8 | | | | | | | | | | | | | | | | 9.00 |

STANDARD SIGN
W013-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/21/13 PLATE 306 W013-1.1

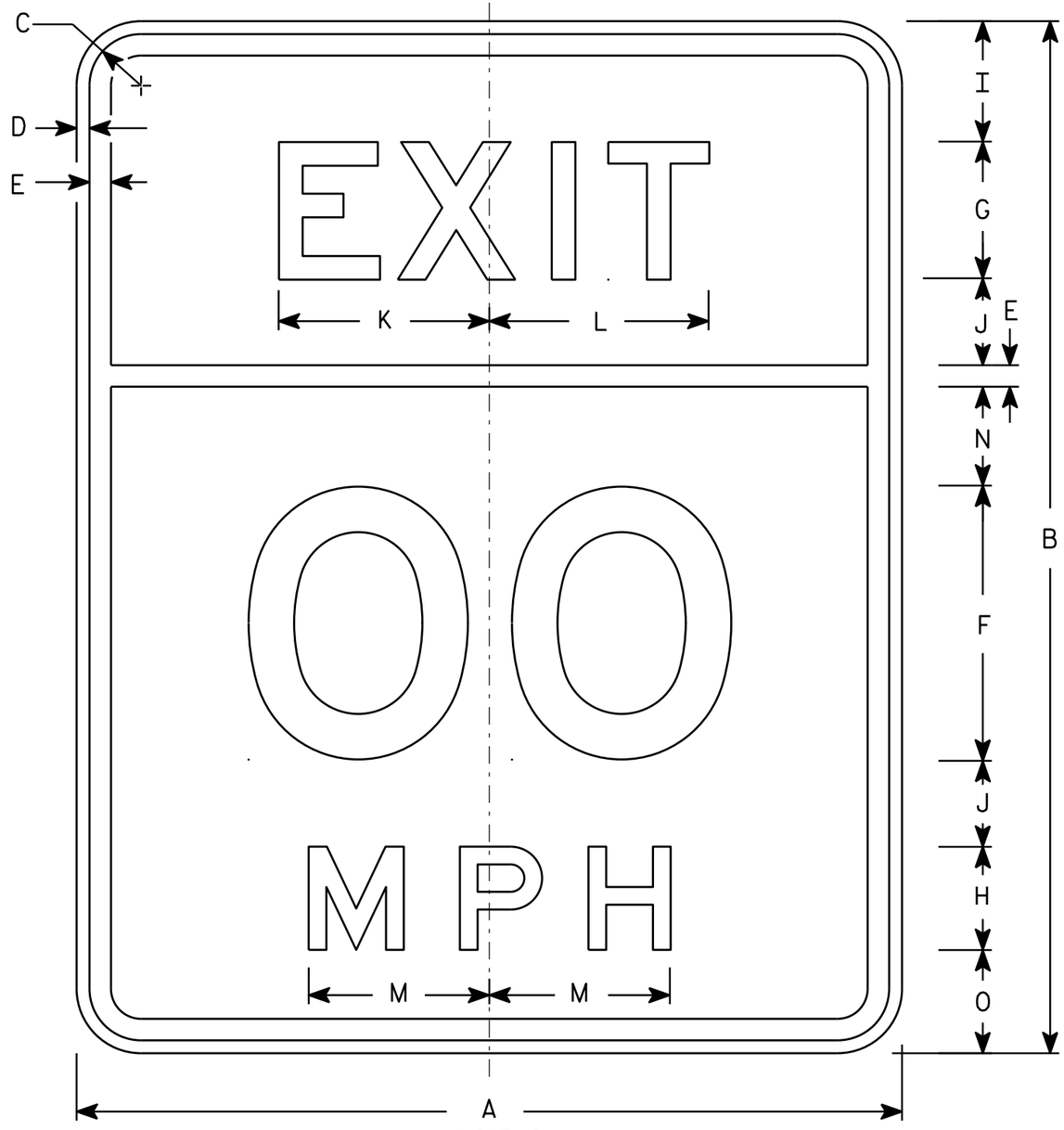
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W0131.DGN PLOT DATE : 02-DEC-2013 13:55 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 3.794391:1.000000

WISDOT/CADDS SHEET 42

7

7




W013-2

## NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically space about centerline to achieve proper balance.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 24 | 30 | 1 1/2 | 3/8 | 5/8 | 8 | 4 | 3 | 3 1/2 | 2 1/2 | 6 1/8 | 6 3/8 | 5 1/4 | 2 7/8 | 3 | | | | | | | | | | | | 5.0 |
| 2M | 24 | 30 | 1 1/2 | 3/8 | 5/8 | 8 | 4 | 3 | 3 1/2 | 2 1/2 | 6 1/8 | 6 3/8 | 5 1/4 | 2 7/8 | 3 | | | | | | | | | | | | 5.0 |
| 3 | 36 | 48 | 2 1/4 | 5/8 | 7/8 | 12 | 6 | 4 | 6 | 4 | 9 1/4 | 9 1/2 | 7 1/8 | 5 1/8 | 6 | | | | | | | | | | | | 12.0 |
| 4 | 36 | 48 | 2 1/4 | 5/8 | 7/8 | 12 | 6 | 4 | 6 | 4 | 9 1/4 | 9 1/2 | 7 1/8 | 5 1/8 | 6 | | | | | | | | | | | | 12.0 |
| 5 | 48 | 60 | 2 1/4 | 3/4 | 1 | 16 | 8 | 6 | 7 | 5 | 12 1/4 | 12 3/4 | 10 5/8 | 5 3/4 | 6 | | | | | | | | | | | | 20.0 |

# STANDARD SIGN
# W013-2

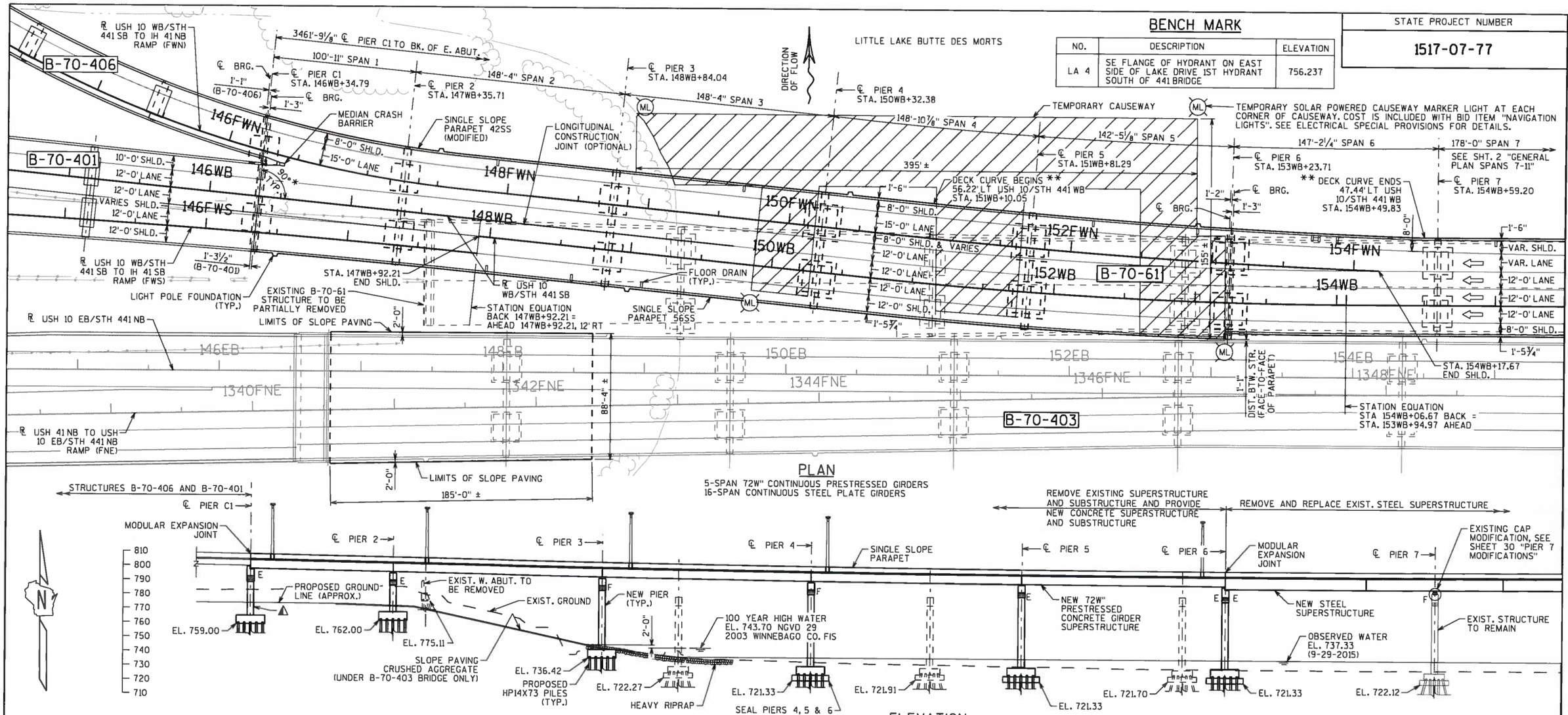
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/10/14 PLATE W013-2.1



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




## BENCH MARK

| NO. | DESCRIPTION | ELEVATION |
|---|---|---|
| LA 4 | SE FLANGE OF HYDRANT ON EAST SIDE OF LAKE DRIVE 1ST HYDRANT SOUTH OF 441 BRIDGE | 756.237 |

STATE PROJECT NUMBER

**1517-07-77**

## DESIGN DATA:

DESIGN LIVE LOAD: NEW STRUCTURE (SPANS 1 TO SPAN 7 & SPANS 18 TO 21)

NEW PRESTRESSED CONCRETE GIRDERS (SPANS 1 TO 5)
DESIGN LIVE LOADING: HL-93
INVENTORY RATING FACTOR: RF = 1.14
OPERATING RATING FACTOR: RF = 1.48
WISCONSIN STD. PERMIT VECHICLE (WIS-SPV): 250 KIPS

NEW STEEL GIRDERS (SPANS 6, 7 & 18 TO 21)
DESIGN LIVE LOADING: HL-93
INVENTORY RATING FACTOR: RF = 1.26
OPERATING RATING FACTOR: RF = 2.21
WISCONSIN STD. PERMIT VECHICLE (WIS-SPV): 250 KIPS

DESIGN LIVE LOAD: EXISTING STRUCTURE (SPANS 8 TO 17)
DESIGN LIVE LOADING: HS-20
INVENTORY----------HS24
OPERATING----------HS40
WISCONSIN STANDARD PERMIT VECHICLE (WIS-SPV): 250 KIPS

THE STRUCTURE IS DESIGNED FOR THE DECK THICKNESS SHOWN, 5 PSF DESIGN LOAD CONSIDERED FOR POLYMER OVERLAY AND AN ADDITIONAL LOAD OF 20 PSF FOR A FUTURE WEARING SURFACE.

STRUCTURE IS RATED FOR A POLYMER OVERLAY THAT WILL BE APPLIED TO THE BRIDGE DECK IN A LATER CONTRACT.

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---------- (ASTM A709, GRADE 50) | fy = 50,000 p.s.i. |
| STAINLESS STEEL REINFORCEMENT---------- (ASTM A955, GRADE 60) | fy = 60,000 p.s.i. |
| 72W-INCH PRESTRESSED GIRDERS, CONCRETE MASONRY ---------- | f'c = 8,000 p.s.i. |
| ---------- | f'ci = 6,800 p.s.i. |
| 0.6" DIA. PRESTRESSING STRANDS---------- | fpu = 270,000 p.s.i. |

## TRAFFIC VOLUME:

USH 10 WB/STH 441 SB
ADT (2038) = 88,000
R.D.S. = 70 M.P.H.

RAMP 'FWN'
ADT (2038) = 12,000
R.D.S. = 50 M.P.H.

RAMP 'FWS'
ADT (2038) = 19,000
R.D.S. = 65 M.P.H.

## NOTES:

SPAN LENGTHS SHOWN ARE MEASURED ALONG ℄ USH 10 WB/STH 441 SB.

FOR LIST OF DRAWINGS SEE SHEET 2 "GENERAL PLAN SPANS 7-11".

FOR FOUNDATION DATA AND TABLE OF ESTIMATED PILE LENGTHS SEE SHEET 4 "GENERAL PLAN SPANS 17-21".

FOR TEMPORARY CAUSEWAY DETAILS SEE SHEET 4 "GENERAL PLAN SPANS 17-21".

FOR GENERAL NOTES SEE SHEET 5 "GENERAL NOTES".

FOR CURVE DATA SEE SHEETS 11 "ALIGNMENT & SUPERELEVATION - 1 OF 2" AND 12 "ALIGNMENT & SUPERELEVATION - 2 OF 2".

FOR LIGHT POLE AND JUNCTION BOX LOCATIONS SEE SHEETS 106 "LIGHT STD. & JUNCTION BOX FOR "42SS" PARAPET" AND 107 "LIGHT STD. & JUNCTION BOX FOR "56SS" PARAPET".

FOR FLOOR DRAIN LOCATIONS SEE SHEETS 97 "FLOOR DRAIN TYPE 'GC'" AND 98 "FLOOR DRAIN TYPE 'WF'".

SEE ELECTRICAL PLANS FOR BRIDGE AND NAVIGATION LIGHT DETAILS.

FOUNDATION ELEVATIONS SHOWN FOR THE EXISTING B-70-61 BRIDGE ARE BASED ON THE EXISTING PLANS, WITH A DATUM CORRECTION OF +0.62'. ACTUAL ELEVATIONS MAY VARY.

## LEGEND:

F FIXED BEARING

E EXPANSION BEARING

* ANGLE MEASURED BETWEEN ℄ PIER AND LINE TANGENT TO ℄

** DECK CURVE STATIONS AND OFFSETS ARE MEASURED TO EDGE OF DECK

⚠ CONDUIT MOUNTED TO PIER, FOR DETAILS SEE ELECTRICAL PLANS

WISCONSIN
DANIEL E. MACHAMER
38738
LAKE ZURICH, IL
PROFESSIONAL ENGINEER

Daniel E Machamer 4-12-2016

NE REGION CONTACT: SCOTT EBEL (920) 492-2240
BUREAU OF STRUCTURES CONTACT: WILLIAM DREHER (608) 266-8489
CONSULTANT CONTACT: MICHAEL ARNOLD (414) 944-6142

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

AECOM
1555 N RIVERCENTER DRIVE
SUITE 214
Milwaukee, WI 53212
(414) 944-6080

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 04/12/16
CHIEF STRUCTURES DESIGN ENGINEER — DATE

# STRUCTURE B-70-61

USH 10 WB/STH 441 SB OVER LLBDM

| COUNTY | TOWN/~~CITY/VILLAGE~~ |
|---|---|
| WINNEBAGO | MENASHA |

DESIGN SPEC. REHABILITATION

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

GENERAL PLAN SPANS 1-6

SHEET 308 09

DATE: 4/8/2016
I.D.

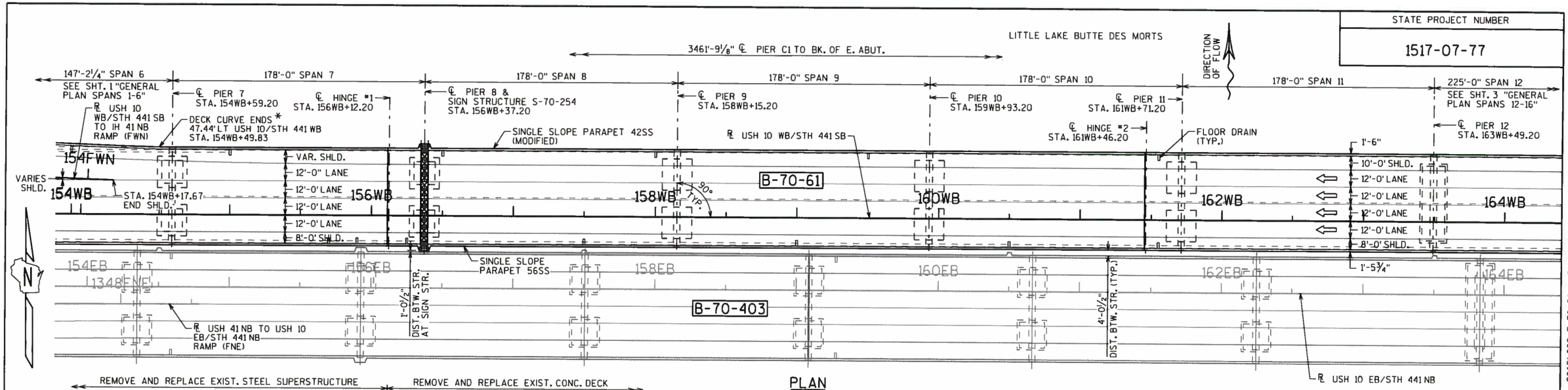
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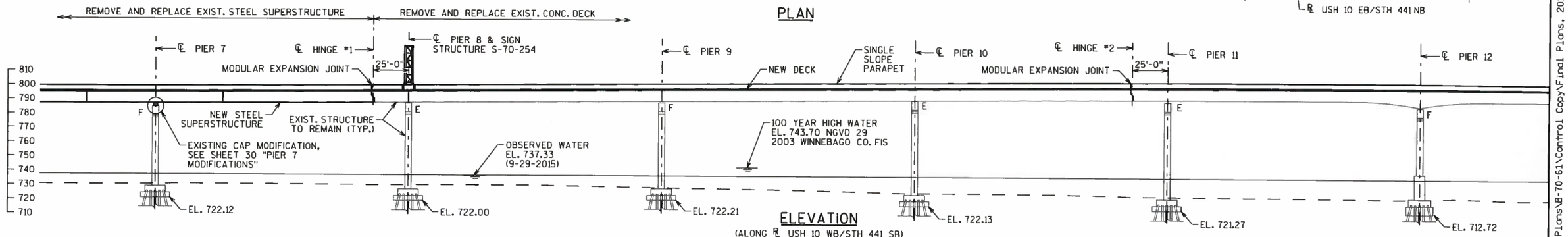
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STATE PROJECT NUMBER

1517-07-77




PLAN




ELEVATION

(ALONG ℄ USH 10 WB/STH 441 SB) LOOKING NORTH

## LIST OF DRAWINGS


1 GENERAL PLAN SPANS 1-6
2 GENERAL PLAN SPANS 7-11
3 GENERAL PLAN SPANS 12-16
4 GENERAL PLAN SPANS 17-21
5 GENERAL NOTES
6 ESTIMATED QUANTITIES
7 CROSS SECTIONS AT PIERS C1 AND 2
8 CROSS SECTIONS AT PIERS 3-6
9 CROSS SECTIONS AT SPANS 6 & 7 AND AT FIELD SPLICES
10 CROSS SECTIONS AT F.S. 24 TO 27 SPANS 17 & 18
11 ALIGNMENT & SUPERELEVATION - 1 OF 2
12 ALIGNMENT & SUPERELEVATION - 2 OF 2
13 SUBSURFACE EXPLORATION
14 SUBSURFACE EXPLORATION
15 STRUCTURE REMOVAL PLAN & ELEVATION - SPANS 1-6
16 STRUCTURE REMOVAL PLAN & ELEVATION - SPANS 7-12
17 STRUCTURE REMOVAL PLAN & ELEVATION - SPANS 13-18
18 EAST ABUTMENT PLAN & ELEVATION
19 EAST ABUTMENT LAYOUT
20 EAST ABUTMENT SECTIONS
21 EAST ABUTMENT WINGWALL
22 EAST ABUTMENT DETAILS
23 PIER C1 GEOMETRY
24 PIER 2 GEOMETRY
25 PIER 3 GEOMETRY
26 PIER 4 GEOMETRY
27 PIER 5 GEOMETRY
28 PIER 6 GEOMETRY
29 PIER 21 GEOMETRY
30 PIER 7 MODIFICATIONS
31 PIER 19 MODIFICATIONS
32 PIER 20 MODIFICATIONS
33 PIER 20 DETAILS
34 PIER 20 BILL OF BARS
35 PIER FOOTINGS
36 SHAFT REINFORCING - PIER C1
37 SHAFT REINFORCING - PIER 2
38 SHAFT REINFORCING - PIERS 3-5
39 SHAFT REINFORCING - PIER 6
40 SHAFT REINFORCING - PIER 21
41 CAP REINFORCING - PIER C1
42 CAP REINFORCING - PIER 2
43 CAP REINFORCING - PIER 3
44 CAP REINFORCING - PIER 4
45 CAP REINFORCING - PIER 5
46 CAP REINFORCING - PIER 6
47 CAP REINFORCING - PIER 21
48 CAP REINFORCING BILL OF BARS
49 STEEL BEARINGS FOR PRESTRESSED GIRDERS
50 EXPANSION AND FIXED BEARINGS FOR STEEL GIRDERS
51 72W" PRESTRESSED GIRDER DETAILS - 1 OF 2
52 72W" PRESTRESSED GIRDER DETAILS - 2 OF 2
53 72W" PRESTRESSED GIRDER DIAPHRAGM DETAILS - 1 OF 2
54 72W" PRESTRESSED GIRDER DIAPHRAGM DETAILS - 2 OF 2
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57 LAYOUT LINE OFFSETS - SPANS 21-22
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59 FRAMING PLAN - SPANS 6 AND 7
60 FRAMING PLAN - SPANS 18 AND 19
61 FRAMING PLAN - SPANS 20 AND 21
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63 STEEL GIRDER CROSS FRAME DETAILS 1 OF 2
64 STEEL GIRDER CROSS FRAME DETAILS 2 OF 2
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66 FIELD SPLICE DETAILS
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79 DECK REINFORCING PLAN - SPANS 18-21
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84 DECK POUR SEQUENCE - SPANS 1-9
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88 TOP OF DECK ELEVATIONS - SPANS 6 TO 10
89 TOP OF DECK ELEVATIONS - SPANS 11 TO 16
90 TOP OF DECK ELEVATIONS - SPANS 17 TO 21
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94 MODULAR EXPANSION JOINT DATA
95 COVER PLATES FOR PAPAPET 42SS
96 COVER PLATES FOR PARAPET 56SS
97 FLOOR DRAIN TYPE 'GC'
98 FLOOR DRAIN TYPE 'WF'
99 SINGLE SLOPE PARAPET '42SS' AT E. ABUT.
100 SINGLE SLOPE PARAPET '56SS' AT E. ABUT.
101 MEDIAN CRASH BARRIER DETAILS
102 EXPANSION FITTINGS FOR 'SS' PARAPETS
103 SIGN STRUCTURE ANCHORAGE REINF. AT PIERS 8 & 20
104 SIGN STRUCTURE ANCHORAGE BRACKET DETAILS AT PIERS 8 & 20
105 SIGN STRUCTURE ANCHORAGE BILL OF BARS
106 LIGHT STD. & JUNCTION BOX FOR '42SS' PARAPET
107 LIGHT STD. & JUNCTION BOX FOR '56SS' PARAPET
108 AESTHETIC DETAILS
109 ALTERNATE CONSTRUCTION JOINT


WISCONSIN
DANIEL E. MACHAMER
36738
LAKE ZURICH, IL
PROFESSIONAL ENGINEER

Daniel E Machamer 4-12-2016

## NOTES:

FOR DESIGN DATA AND NOTES SEE SHEET 1 "GENERAL PLAN SPANS 1-6".

* DECK CURVE STATIONS AND OFFSETS ARE MEASURED TO THE EDGE OF DECK.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

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

GENERAL PLAN SPANS 7-11

SHEET 309

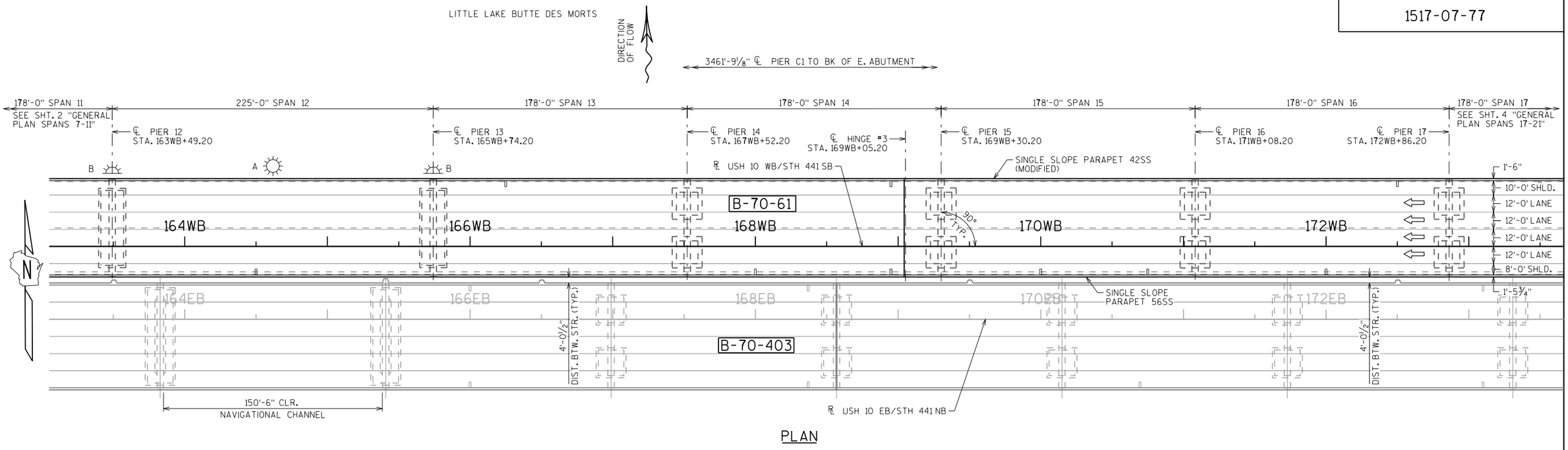
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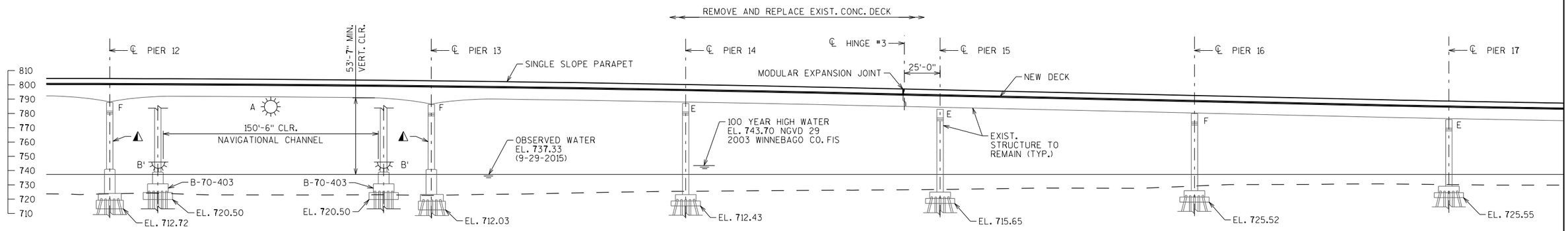
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DATE: 4/12/2016
I.D.

| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |




PLAN




ELEVATION

(ALONG ℄ USH 10 WB/STH 441 SB)
LOOKING NORTH

## LEGEND FOR NAVIGATION LIGHTS

A — NEW NORTH NAVIGATION LIGHT ON NAVIGATION CHANNEL SPAN (SPAN 12) OF B-70-61
360 DEGREE - GREEN

B — NEW NAVIGATION LIGHT ON NORTH FACE OF PIERS 12 AND 13 OF B-70-61 - 180 DEGREE RED

B' — EXIST. NAVIGATION LIGHT ON PIERS 11 AND 12 OF B-70-403 - 180 DEGREE RED

CONDUIT MOUNTED TO PIER. FOR DETAILS SEE ELECTRICAL PLANS

REMOVE EXISTING PIER LIGHTS ON THE NORTH SIDE OF EXISTING NAVIGATION PIERS OF B-70-61. THE EXISTING PIER LIGHTS ON SOUTH SIDE WERE REMOVED AS PART OF B-70-403 WORK.

## NOTE:

FOR DESIGN DATA AND NOTES SEE SHEET 1 "GENERAL PLAN SPANS 1-6".

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY PSK | PLANS CK'D. NPP

GENERAL PLAN SPANS 12-16

SHEET 3 OF 109
310

DATE: 3/15/2016
I.D.

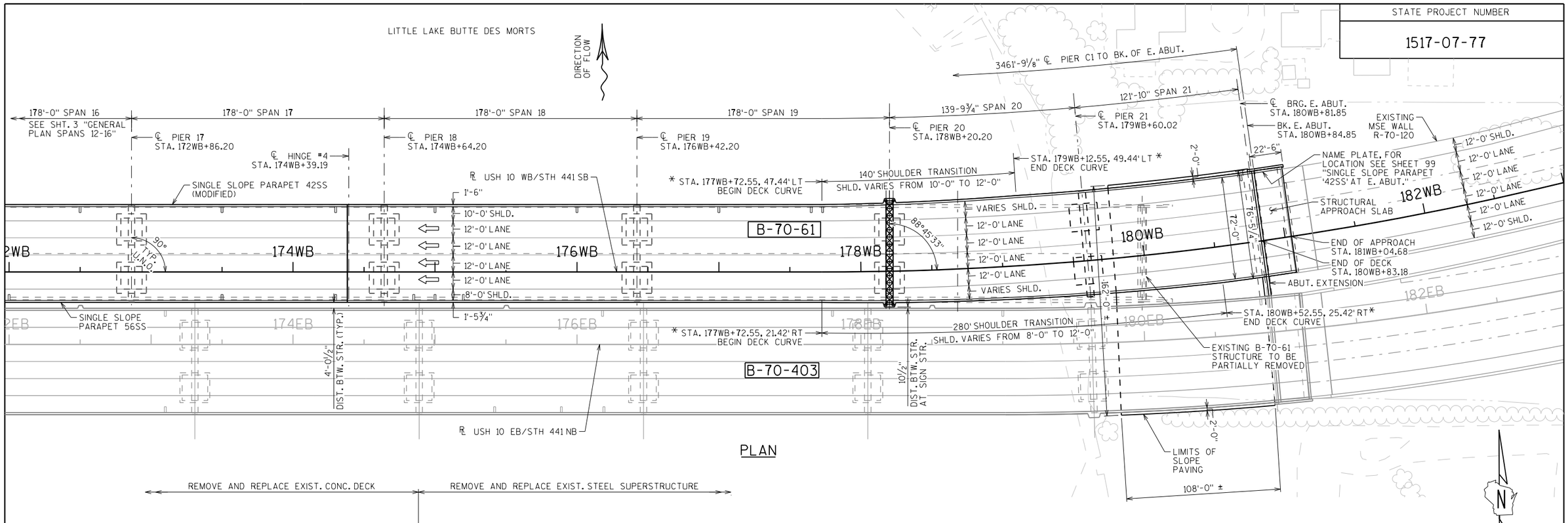
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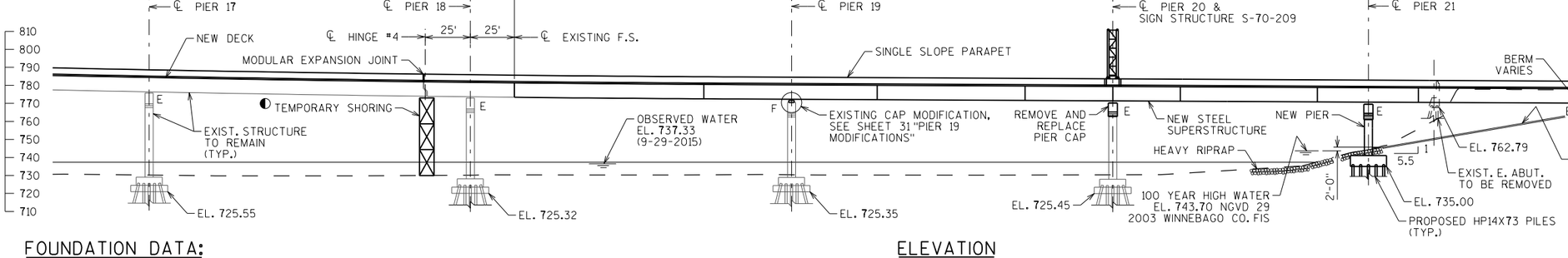
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STATE PROJECT NUMBER

1517-07-77




## PLAN




## ELEVATION

(ALONG ℞ USH 10 WB/STH 441 SB) LOOKING NORTH

## FOUNDATION DATA:

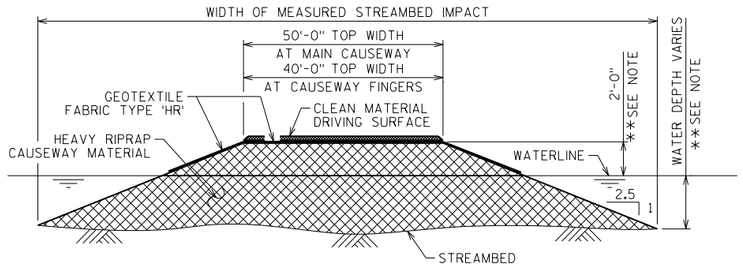
EAST ABUTMENT TO BE SUPPORTED ON HP14X73 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 205 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. SEE TABLE ON THIS SHEET FOR ESTIMATED LENGTHS.

PIERS 2 THROUGH 6 AND 21 TO BE SUPPORTED ON HP14X73 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 245 TONS PER PILE FOR EXTERIOR ROW PILES AND 225 TONS PER PILE FOR INTERIOR ROW PILES, AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. FOR EXTERIOR AND INTERIOR ROW PILE DESIGNATIONS SEE SHEET 35 "PIER FOOTINGS". SEE TABLE ON THIS SHEET 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 0.5 USING THE MODIFIED GATES TO DETERMINE PILE CAPACITY.

## PILE DRIVING TABLE

| LOCATION | PIER C1 | PIER 2 | PIER 3 | PIER 4 | PIER 5 | PIER 6 | PIER 21 | E. ABUT. |
|---|---|---|---|---|---|---|---|---|
| ESTIMATED PILE TIP ELEV. | 710.0 | 695.0 | 681.0 | 668.0 | 668.0 | 659.0 | 691.0 | 698.0 |
| ESTIMATED PILE LENGTH | 50 | 68 | 56 | 58 | 58 | 67 | 45 | 62 |
| △ MIN. ELEV. | 737.0 | 737.0 | 712.0 | 689.0 | 689.0 | 689.0 | 712.0 | 731.0 |




## SECTION THRU TEMPORARY CAUSEWAY

NOT TO SCALE

## NOTE

FOR DESIGN DATA AND NOTES, SEE SHEET 1 "GENERAL PLAN SPANS 1-6".

## LEGEND

* DECK CURVE STATIONS AND OFFSETS ARE MEASURED TO EDGE OF DECK.

** MAXIMUM ASSUMED WATER DEPTH AT LOCATIONS OF TEMPORARY CAUSEWAY IS 6'-6". ASSUMED HEIGHT OF TEMPORARY CAUSEWAY ABOVE WATER LINE IS 2'-0".

△ MINIMUM REQUIRED PILE TIP ELEVATION FOR EITHER LATERAL OR UPLIFT CAPACITY.

◐ SHORING TOWER TO BE REMOVED PRIOR TO POURING DECK CONCRETE.

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STATE OF WISCONSIN
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STRUCTURE B-70-61

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GENERAL PLAN SPANS 17-21

SHEET 4 OF 109
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STATE PROJECT NUMBER

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## GENERAL NOTES:

DO NOT SCALE THE DRAWINGS.

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

ELEVATIONS ON THIS PLAN ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 29).

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

THE EXISTING GROUND OR STREAM BED LINE IS THE UPPER LIMIT OF EXCAVATION FOR STRUCTURES.

AT ABUTMENT, BACKFILL ALL EXCAVATED VOLUME NOT OCCUPIED BY NEW STRUCTURE WITH BACKFILL STRUCTURE.

DESIGN CONSIDERED POLYMER OVERLAY DEAD LOAD, HOWEVER POLYMER OVERLAY WILL BE APPLIED LATER UNDER A SEPARATE CONTRACT.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE SLOPE OF THE FILL IN FRONT OF THE EAST ABUTMENT AND WEST SHORE LINE SHALL BE COVERED WITH SLOPE PAVING AND HEAVY RIPRAP MATERIAL TO THE EXTENT SHOWN ON SHEETS 1 "GENERAL PLAN SPANS 1-6" AND 4 "GENERAL PLAN SPANS 17-21".

DIMENSIONS FOR EXISTING STRUCTURE ARE BASED ON THE ORIGINAL PLANS.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1 INCH DEEP SAW CUT.

THE EXISTING STRUCTURE TO BE PARTIALLY REMOVED IS A 18-SPAN STEEL GIRDER BRIDGE WITH AN OVERALL WIDTH VARYING FROM 68'-10" TO 87'-3"± AND AN OVERALL LENGTH OF 3252'-8". REMOVE EXISTING DECK AND GIRDERS AS SHOWN, PROVIDE NEW DECK, PARAPETS, PIERS, GIRDERS AND ABUTMENT AS SHOWN.

VARIATIONS TO THE NEW GRADE LINE OVER 1/4" MUST BE SUBMITTED BY THE FIELD ENGINEER TO THE STRUCTURAL ENGINEER FOR REVIEW.

MAKE ALL FIELD CONNECTIONS WITH 7/8" DIAMETER FRICTION TYPE A325 HIGH-TENSILE STRENGTH BOLTS UNLESS SHOWN OR NOTED OTHERWISE.

MONITOR SAW CUTTING OF EXISTING BRIDGE DECK AND BLADE DEPTH SO THAT EXISTING UNDERLYING STEEL IS NOT DAMAGED, EXERCISE CARE NOT TO GOUGE THE TOP FLANGES WITH JACKHAMMER OR OTHER TOOLS.

BEFORE SAW CUTTING THE CONCRETE DECK, ACCURATELY MARK ALL STEEL FRAMING ON THE TOP OF THE DECK BY DRILLING HOLES FROM BELOW OR USING AN EQUIVALENTLY ACCURATE LOCATING METHOD TO ENSURE THAT THE EXISTING STEEL TO REMAIN WILL NOT BE DAMAGED DURING SAW CUTTING.

THE EXISTING STRUCTURE PLANS ARE AVAILABLE FOR CONTRACTOR'S REVIEW AT THE WISDOT EXTRANET WEB SITE FOR HIGHWAY STRUCTURES INFORMATION SYSTEM.

REPLACE ANY STEEL COMPONENTS DAMAGED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE DEPARTMENT.

EXPANSION JOINT ASSEMBLIES INCLUDING ANCHOR STUDS AND HARDWARE SHALL BE PAID IN THE LUMP SUM PRICE BID AS "EXPANSION DEVICE MODULAR B-70-61".

THE QUANTITY FOR BACKFILL STRUCTURE, BID ITEM 210.0100, IS CALCULATED BASED ON THE APPLICABLE FIGURES 12.6-1 AND 12.6-2 IN THE WISCONSIN DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL.

AT PIERS 4, 5 AND 6 OVEREXCAVATION OF 3'-0" BELOW THE BOTTOM OF CONCRETE SEAL ELEVATION IS REQUIRED. FILL 3'-0" BELOW THE BOTTOM OF SEAL ELEVATION WITH STONE. THE COST OF THE STONE FILL IS INCLUDED IN THE BID PRICE OF "CONCRETE MASONRY SEAL".

FURNISH AND INSTALL NEW NAME PLATE PER SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

AN OPTIONAL LONGITUDINAL CONSTRUCTION JOINT IS PROVIDED IN THE CONCRETE DECK. SEE SHEET 84 "DECK POUR SEQUENCE SPANS 1-9" FOR DETAILS.

## 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. AT THE ABUTMENT AND APPROACH APRON CONNECTION PROVIDE STAINLESS STEEL REINFORCEMENT CONFORMING TO ASTM A955, GRADE 60 REQUIREMENTS.

USE UNCOATED REINFORCING STEEL IN PIERS AND ABUTMENT FOOTING EXCEPT AT THE EXPANSION JOINTS. AT THE EXPANSION JOINTS, USE EPOXY COATED REINFORCING DOWN TO THE TOP OF FOOTING. USE EPOXY COATED AT ABUTMENT ABOVE THE FOOTING AND SUPERSTRUCTURES.

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

PLACE REINFORCEMENT IN FOOTINGS AND PILE CAPS 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 2 1/2" CLEAR COVER TO TOP OF SLAB.

PLACE BOTTOM LAYER OF REINFORCING STEEL IN THE DECK WITH 1 1/2" 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.

BAR CHAIRS FOR REINFORCING WITH OPENINGS LESS THAN 2" IN WIDTH ARE NOT ACCEPTABLE AND ARE NOT ALLOWED IN ANY APPLICATIONS, EXCEPT FOR THE DECK BOTTOM REINFORCING MAT. IN ADDITION, BAR CHAIRS MUST BE STRONG ENOUGH TO SUPPORT THE WEIGHT OF WORKERS WALKING ON THEM WITHOUT INDUCING PERMANENT DEFORMATIONS OR BREAKING.

THE BAR SPLICES AT THE OPTIONAL KEYED CONSTRUCTION JOINTS MAY BE ELIMINATED WHETHER OR NOT THE JOINT IS UTILIZED. PAYMENT WILL BE FOR THE ACTUAL BARS INSTALLED.

## STRUCTURAL STEEL

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

PROVIDE HIGH STRENGTH STRUCTURAL STEEL CONFORMING TO THE REQUIREMENTS OF A.S.T.M. A709 GRADE 50 FOR ALL GIRDER WEB, FLANGES, STIFFENERS AND SPLICE PLATES. PROVIDE ALL OTHER STRUCTURAL STEEL CONFORMING TO THE REQUIREMENTS OF A.S.T.M. A709 GRADE 36.

## CONCRETE

CONCRETE QUANTITY IN THE HAUNCHES IS CALCULATED BASED ON AN ASSUMED AVERAGE DEPTH OF 4" FOR NEW PRESTRESSED GIRDERS (SPANS 1-5), 3 1/2" FOR NEW STEEL GIRDERS (SPANS 6, 7 AND 18 THROUGH 21), AND 5" FOR EXISTING STEEL GIRDERS (SPANS 8 THROUGH 17), MEASURED FROM TOP OF FLANGE TO UNDERSIDE OF SLAB. THIS IS THE MAXIMUM HAUNCH QUANTITY FOR WHICH PAYMENT WILL BE MADE.

CHAMFER ALL EXPOSED OUTSIDE CORNERS 3/4" UNLESS NOTED OTHERWISE.

APPLY PIGMENTED PROTECTIVE SURFACE TREATMENT TO INSIDE OF ALL PARAPETS, TOP OF ALL PARAPETS, AND OUTSIDE OF 56SS PARAPET.

CONCRETE FOR PIERS C1 AND 6 DIAPHRAGMS SHALL BE PLACED WITH THE DECK CONCRETE. NO OPTIONAL CONSTRUCTION JOINT WILL BE PERMITTED AT PIERS C1 AND 6 DIAPHRAGMS.

OPTIONAL CONSTRUCTION JOINT IS PERMITTED AT THE PIERS 2 THROUGH 5 DIAPHRAGMS. IF CONSTRUCTION JOINT IS USED, THE DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE PIER DIAPHRAGM POUR.

## OTHER DESIGN LOADS

TEMPERATURE CHANGE FOR DETERMINING THERMAL FORCES ON SUBSTRUCTURES = 45°F. (FOR CONCRETE SUPERSTRUCTURE)
=90°F. (FOR STEEL SUPERSTRUCTURE)

DESIGN ASSUMED 7.5 PSF FOR TEMPORARY FORMWORK.

PARAPETS WERE ASSUMED TO WEIGH 774 PLF AND 638 PLF FOR 56SS AND 42SS (MODIFIED) SECTIONS RESPECTIVELY.

ALL OTHER LOADS IN ACCORDANCE WITH AASHTO.

## DESIGN CRITERIA

DESIGN FOR THE NEW STRUCTURE IS IN ACCORDANCE WITH AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) LRFD BRIDGE DESIGN SPECIFICATIONS AND THE WISDOT BRIDGE MANUAL. DESIGN FOR THE EXISTING STRUCTURE IS IN ACCORDANCE WITH ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO), 17TH EDITION LFD 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).

## TABLE OF FILLET WELD SIZES

| MATERIAL THICKNESS OF THE THICKER PART JOINED | MINIMUM SIZE OF FILLET WELD |
|---|---|
| TO 1/2" INCLUSIVE | 3/16" |
| OVER 1/2" TO 3/4" | 1/4" |
| OVER 3/4" TO 1 1/2" | △ 5/16" |
| OVER 1 1/2" TO 2 1/4" | △ 3/8" |
| OVER 2 1/4" | △ 1/2" |

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

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

△ MIN. PASS SIZE IS 5/16"

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

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GENERAL NOTES

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| STATE PROJECT NUMBER |
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| 1517-07-77 |

# TOTAL ESTIMATED QUANTITIES

| BID ITEM NO. | BID ITEMS | UNIT | SUPER SPANS 1-21 | PIER C1 | PIER 2 | PIER 3 | PIER 4 | PIER 5 | PIER 6 | PIER 7 | PIER 19 | PIER 20 | PIER 21 | E. ABUT. | E. APPR. SLAB | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 203.0600.S.700 | REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 147WB+54.00 | LS | | | | | | | | | | | | | | 1 |
| 204.9165.S.700 | REMOVING TEMPORARY SHORING LEFT IN PLACE | SF | | | | | | | | | | | | 440 | | 440 |
| 206.1000.700 | EXCAVATION FOR STRUCTURES BRIDGES B-70-61 | LS | | | | | | | | | | | | | | 1 |
| 206.5000.700 | COFFERDAMS B-70-61 | LS | | | | | | | | | | | | | | 1 |
| 210.0100 | BACKFILL STRUCTURE | CY | | | | | | | | | | | | 614 | | 614 |
| 305.0120 | BASE AGGREGATE DENSE 1 1/4-INCH | TON | | | | | | | | | | | | | 236 | 236 |
| 501.1000.S | ICE HOT WEATHER CONCRETING | LB | 97,825 | | | | | | | | | | | | | 97,825 |
| 502.1100 | CONCRETE MASONRY SEAL | CY | | | | | 210.0 | 210.0 | 210.0 | | | | | | | 630.0 |
| 502.3110.S.700 | EXPANSION DEVICE MODULAR B-70-61 | LS | 1 | | | | | | | | | | | | | 1 |
| 502.3200 | PROTECTIVE SURFACE TREATMENT | SY | 26,530 | | | | | | | | | | | | 159 | 26,689 |
| 502.3210 | PIGMENTED SURFACE SEALER | SY | 5,660 | | | | | | | | | | | | | 5,660 |
| 502.5005 | MASONRY ANCHORS TYPE L NO. 5 BARS | EACH | | | | | | | | 128 | 112 | | | | | 240 |
| 503.0172 | PRESTRESSED GIRDER TYPE I 72W-INCH | LF | 6,959 | | | | | | | | | | | | | 6,959 |
| 505.0400 | BAR STEEL REINFORCEMENT HS STRUCTURES | LB | | 12,000 | 54,880 | 73,650 | 79,420 | 77,960 | 12,000 | | | 17,840 | 51,810 | 2,580 | | 382,140 |
| 505.0600 | BAR STEEL REINFORCEMENT HS COATED STRUCTURES | LB | 2,245,650 | 56,940 | | | | | 67,690 | 720 | 620 | | | 15,130 | 16,910 | 2,403,660 |
| 505.0800.S | BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES | LB | | | | | | | | | | | | 1,310 | | 1,310 |
| 506.0605 | STRUCTURAL STEEL HS | LB | 2,723,600 | | | | | | | | | | | | | 2,723,600 |
| 506.2605 | BEARING PADS ELASTOMERIC NON-LAMINATED | EACH | | | | 20 | 20 | | | | | | | | | 40 |
| 506.3025 | WELDED STUD SHEAR CONNECTORS 7/8X8-INCH | EACH | 19,329 | | | | | | | | | | | | | 19,329 |
| 506.4000 | STEEL DIAPHRAGMS B-70-61 | EACH | 92 | | | | | | | | | | | | | 92 |
| 506.5000 | BEARING ASSEMBLIES FIXED B-70-61 | EACH | | | | | | | | 8 | 7 | | | | | 15 |
| 506.6000 | BEARING ASSEMBLIES EXPANSION B-70-61 | EACH | | 11 | 21 | | | 20 | 18 | | | 8 | 8 | 8 | | 94 |
| 514.0445 | FLOOR DRAINS TYPE GC | EACH | 37 | | | | | | | | | | | | | 37 |
| 514.0450 | FLOOR DRAINS TYPE WF | EACH | 7 | | | | | | | | | | | | | 7 |
| 514.2608 | DOWNSPOUT 8-INCH | LF | 55 | | | | | | | | | | | | | 55 |
| 514.2625 | DOWNSPOUT 6-INCH | LF | 370 | | | | | | | | | | | | | 370 |
| 516.0500 | RUBBERIZED MEMBRANE WATERPROOFING | SY | | | | | | | | | | | | 30 | | 30 |
| 517.0600 | PAINTING EPOXY SYSTEM B-70-61 | LS | 1 | | | | | | | | | | | | | 1 |
| 517.0900.S.700 | PREPARATION AND COATING OF TOP FLANGES B-70-61 | LS | 1 | | | | | | | | | | | | | 1 |
| 517.1010.S.700 | CONCRETE STAINING B-70-61 | SF | 39,480 | | | | | | | | | | | 690 | | 40,170 |
| 517.1050.S.700 | ARCHITECTURAL SURFACE TREATMENT B-70-61 | SF | 8,390 | | | | | | | | | | | 550 | | 8,940 |
| 517.1800.S.700 | STRUCTURE REPAINTING RECYCLED ABRASIVE STRUCTURE B-70-61 | LS | 1 | | | | | | | | | | | | | 1 |
| 517.4500.S.700 | NEGATIVE PRESSURE CONTAINMENT AND COLLECTION OF WASTE MATERIALS STRUCTURE B-70-61 | LS | 1 | | | | | | | | | | | | | 1 |
| 517.6001.S | PORTABLE DECONTAMINATION FACILITY | EACH | 1 | | | | | | | | | | | | | 1 |
| 550.0500 | PILE POINTS | EACH | | 44 | 44 | 52 | 52 | 52 | 52 | | | | 52 | 29 | | 377 |
| 550.1140 | PILING STEEL HP 14-INCH X 73 LB | LF | | 2,200 | 2,992 | 2,912 | 3,016 | 3,016 | 3,484 | | | | 1,992 | 1,798 | | 21,410 |
| 604.0600 | SLOPE PAVING SELECT CRUSHED MATERIALS | SY | | | | | | | | | | | | | | 3,809 |
| 606.0300 | RIPRAP HEAVY | CY | | | | | | | | | | | | | | 1,236 |
| 612.0406 | PIPE UNDERDRAIN WRAPPED 6-INCH | LF | | | | | | | | | | | | 112 | | 112 |
| 645.0120 | GEOTEXTILE FABRIC TYPE HR | SY | | | | | | | | | | | | | | 1,855 |
| 652.0125 | CONDUIT RIGID METALLIC 2-INCH | LF | | | | | | | | | | | | | | 182 |
| 652.0225 | CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH | LF | | | | | | | | | | | | | | 3,560 |
| 653.0220 | JUNCTION BOXES 18X6X6-INCH | EACH | | | | | | | | | | | | | | 23 |
| 653.0222 | JUNCTION BOXES 18X12X6-INCH | EACH | | | | | | | | | | | | | | 5 |
| 657.6005.S | ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES | EACH | 5 | | | | | | | | | | | | | 5 |
| SPV.0035.700 | MODIFIED HIGH PERFORMANCE CONCRETE (HPC) MASONRY BRIDGES | CY | 9471.2 | 449.3 | 371.4 | 451.4 | 486.0 | 488.2 | 478.5 | 3.3 | 3.3 | 103.5 | 358.4 | 277.4 | 101.2 | 13,043.1 |
| SPV.0035.701 | EXCAVATION, HAULING AND DISPOSAL OF CONTAMINATED SEDIMENT | CY | | | | | 97 | 97 | 97 | | | | | | | 291 |
| SPV.0060.700 | ANCHOR ASSEMBLIES SIGN BRIDGE ON STRUCTURES | EACH | 8 | | | | | | | | | | | | | 8 |
| SPV.0060.701 | STRUCTURAL STEEL REPAIR AT CROSS FRAMES B-70-61 | EACH | 42 | | | | | | | | | | | | | 42 |
| SPV.0060.702 | STRUCTURAL STEEL REPAIR AT SHELF PLATE B-70-61 | EACH | 24 | | | | | | | | | | | | | 24 |
| SPV.0060.703 | EXISTING STRUCTURE SHORING | EACH | 1 | | | | | | | | | | | | | 1 |
| SPV.0060.704 | CLEANING AND PAINTING BEARINGS | EACH | 77 | | | | | | | | | | | | | 77 |
| SPV.0060.705 | HANGER ASSEMBLY | EACH | 7 | | | | | | | | | | | | | 7 |
| SPV.0105.700 | TEMPORARY CAUSEWAY | LS | | | | | | | | | | | | | | 1 |
| NON-BID ITEM | BRIDGE SEAT PROTECTION AND FILLERS | | | | | | | | | | | | | | | |
| NON-BID ITEM | NAME PLATE | EACH | | | | | | | | | | | | | | 1 |

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

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ESTIMATED QUANTITIES

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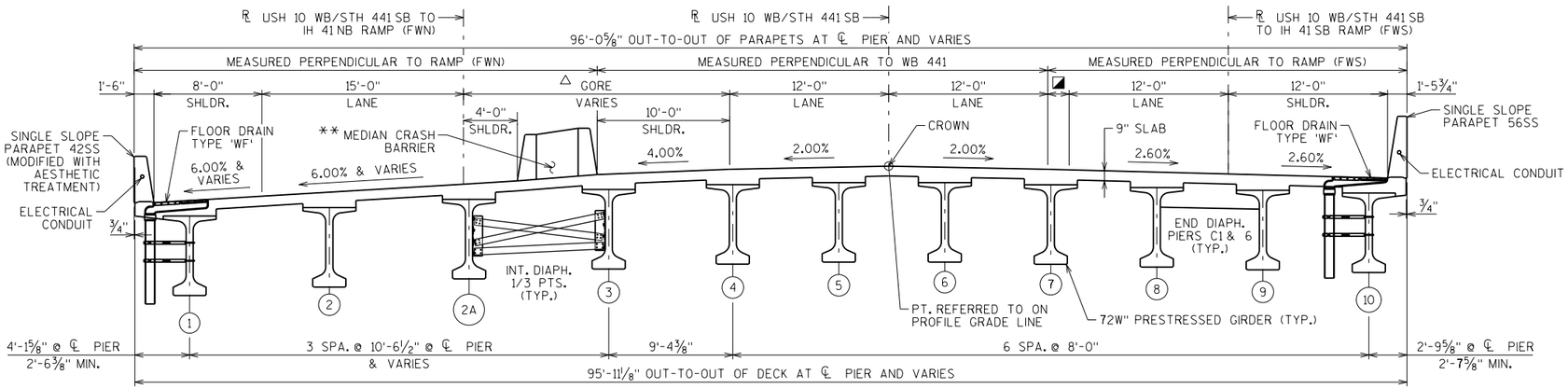
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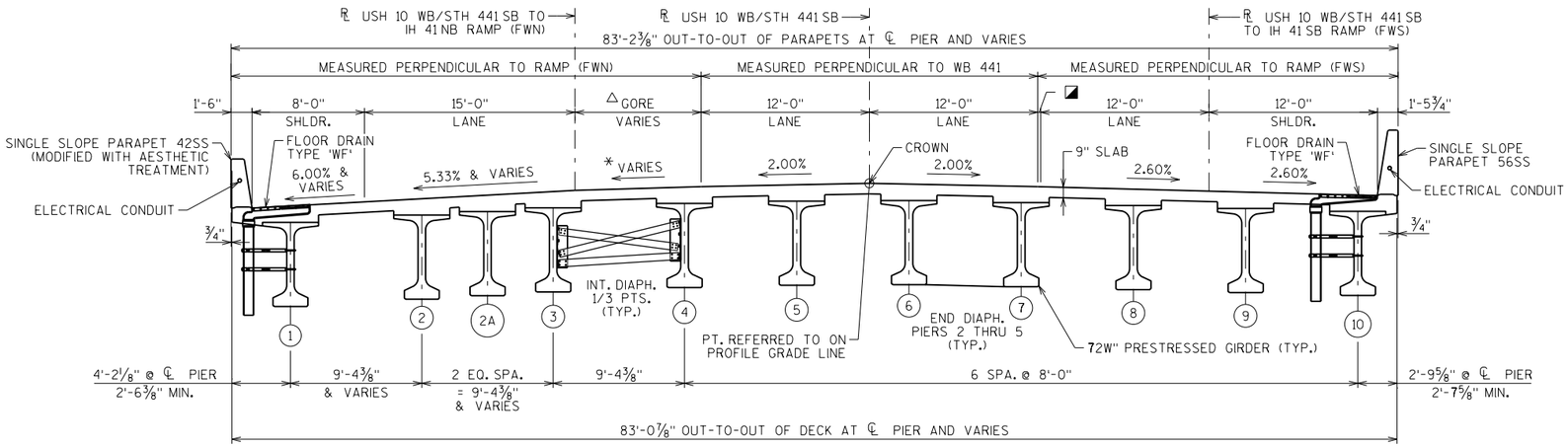
STATE PROJECT NUMBER

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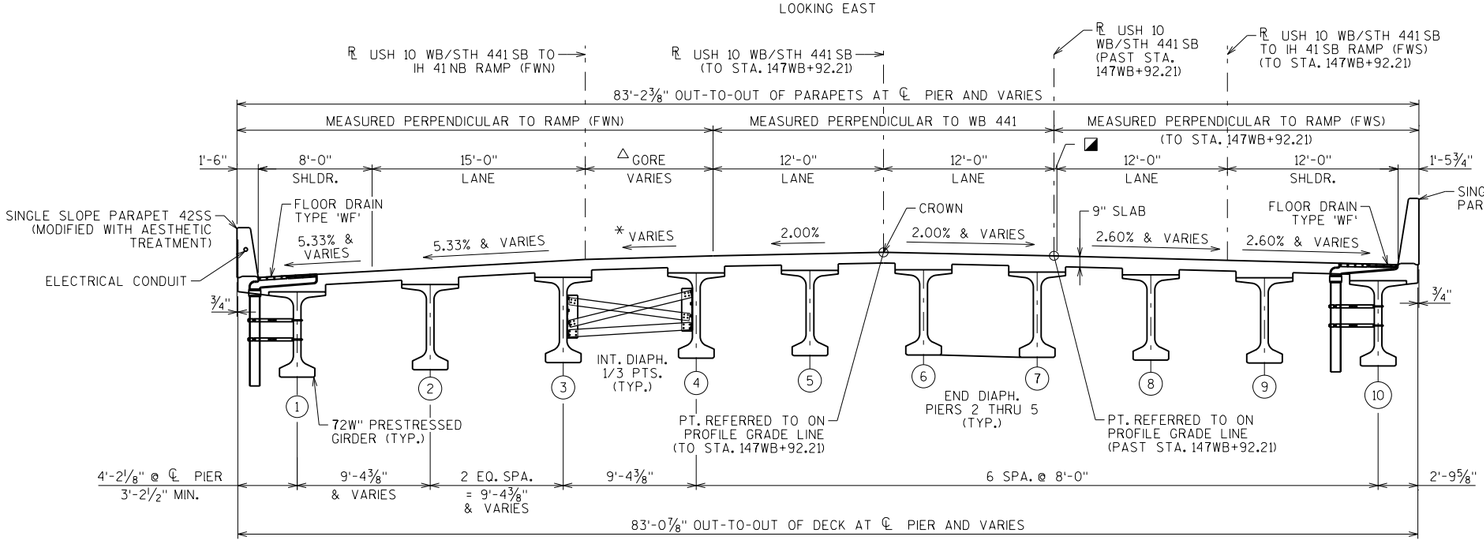

## CROSS SECTION AT PIER C1 - SPAN 1

LOOKING EAST



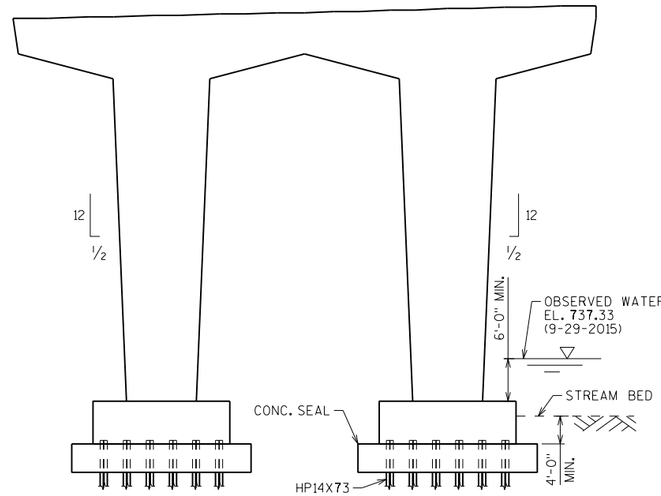

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LOOKING EAST



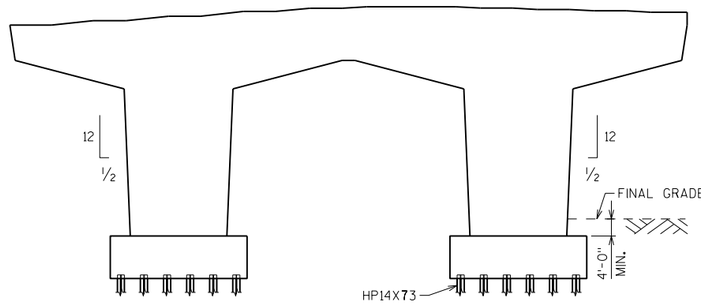

## CROSS SECTION AT PIER 2 - SPAN 2

LOOKING EAST




## PIERS 4 THRU 6

LOOKING EAST
SEE SHEETS 26 "PIER 4 GEOMETRY", 27 "PIER 5 GEOMETRY" AND 28 "PIER 6 GEOMETRY"




## PIERS C1, 2, 3 & 21

LOOKING EAST
SEE SHEETS 23 "PIER C1 GEOMETRY", 24 "PIER 2 GEOMETRY", 25 "PIER 3 GEOMETRY" AND 29 "PIER 21 GEOMETRY"

## NOTES

BEAM SPACING AND OUT-TO-OUT WIDTHS ARE MEASURED ALONG ℄ OF PIER.

LANE WIDTHS AND CROSS SLOPES ARE MEASURED PERPENDICULAR TO THE REFERENCE LINES FOR WHICH THEY ARE DEFINED. FOR DETAILS SEE SHEETS 11 "ALIGNMENT & SUPERELEVATION TRANSITION - 1 OF 2" AND 12 "ALIGNMENT & SUPERELEVATION TRANSITION - 2 OF 2".

FLOOR DRAIN ORIENTATION IS SHOWN SCHEMATICALLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE ORIENTATION OF THE FLOOR DRAINS. FOR FLOOR DRAIN DETAILS AND LOCATIONS SEE 95 "FLOOR DRAIN TYPE 'WF'".

## LEGEND

* GORE SLOPE VARIES TO STA. 148WB+24.15 AND BECOMES 2.00% PERPENDICULAR TO RAMP (FWN) PAST STA. 148WB+24.15

** FOR DETAILS SEE SHEET 101 "MEDIAN CRASH BARRIER DETAILS"

△ GORE WIDTH VARIES FROM 20'-1" AT ℄ PIER C1 TO 8'-0" AT STA. 147WB+64.21. FOR DETAILS SEE SHEET 12 "ALIGNMENT & SUPERELEVATION TRANSITION - 2 OF 2"

◪ LANE TAPER VARIES FROM 1'-7¼" AT ℄ PIER C1 TO 0'-0" AT STA. 147WB+92.21

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STATE OF WISCONSIN
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CROSS SECTIONS AT PIERS C1 AND 2

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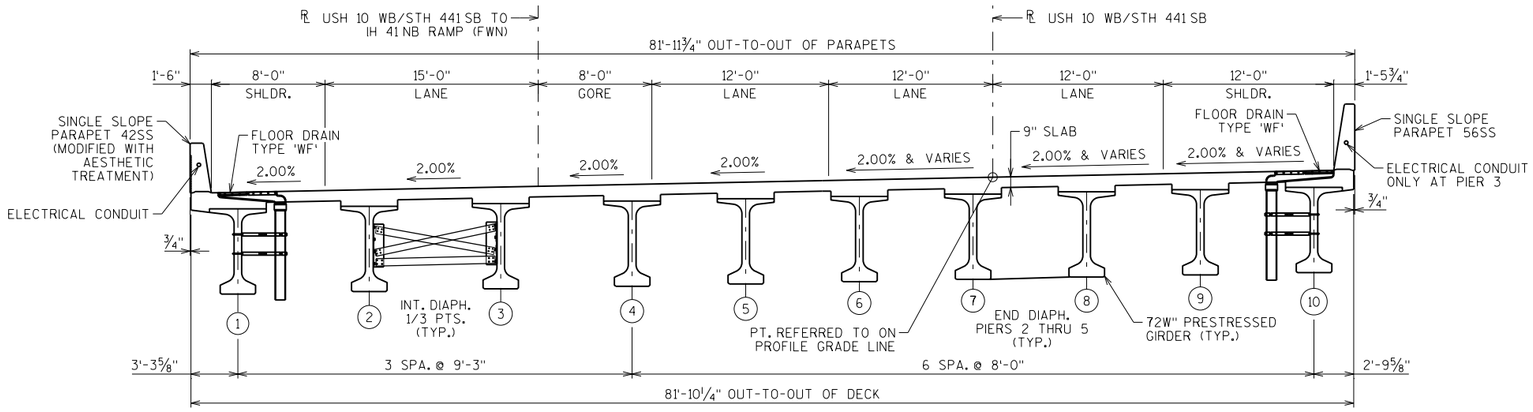
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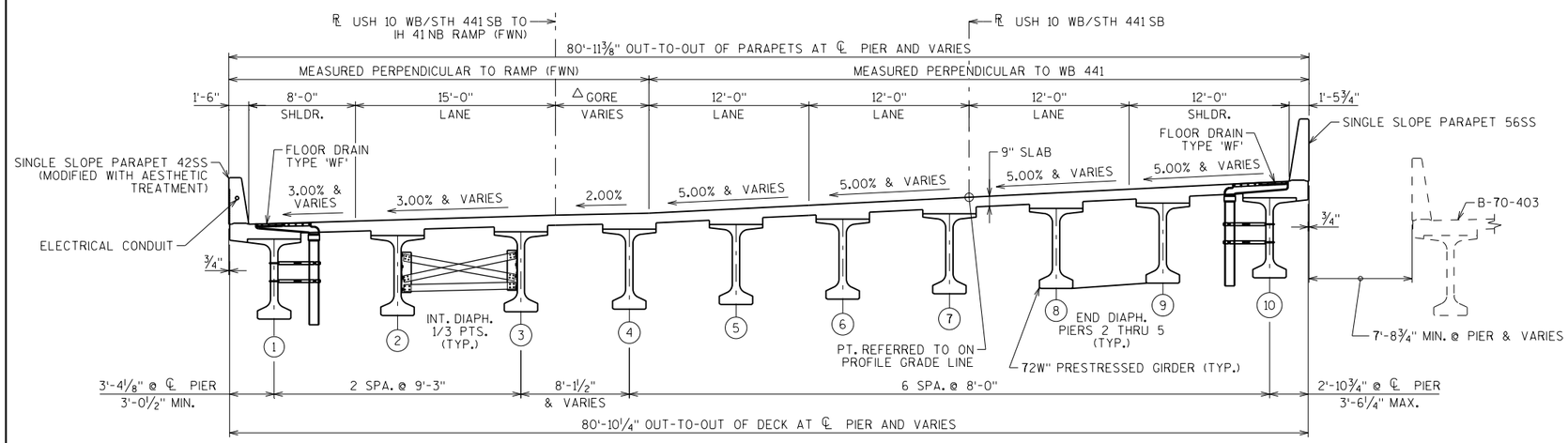
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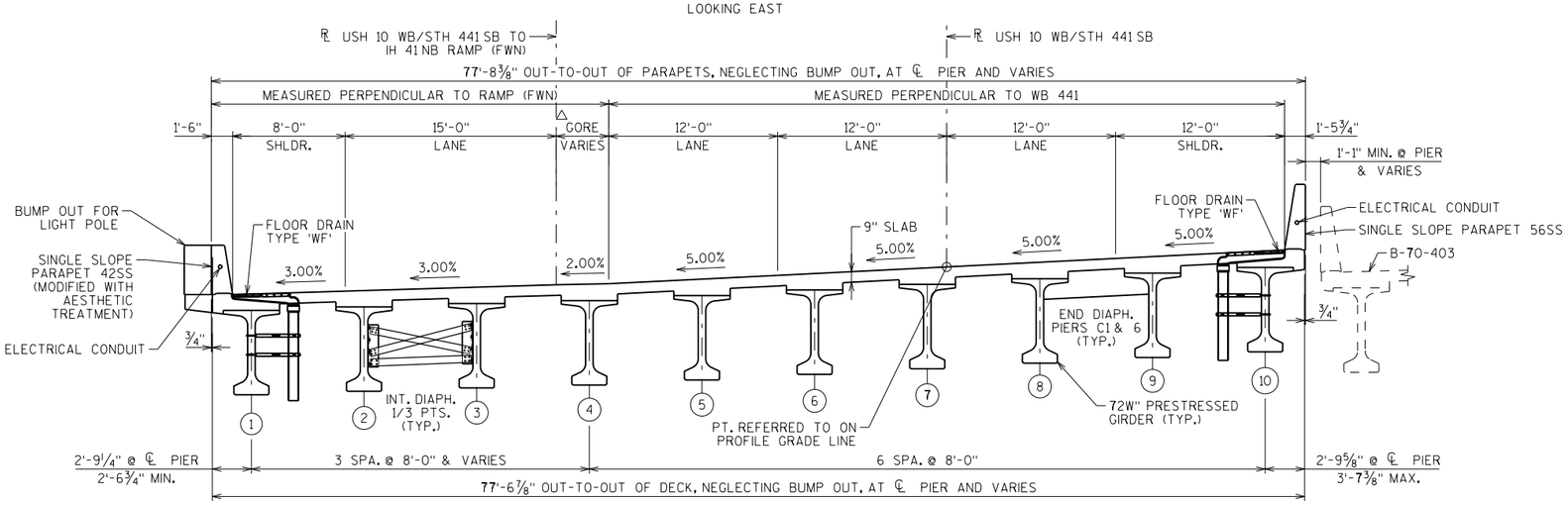

## CROSS SECTION AT PIERS 3 AND 4 - SPAN 3

LOOKING EAST
LANE DIMENSIONS AND CROSS SLOPES PERPENDICULAR TO WB 441




## CROSS SECTION AT PIER 5 - SPAN 4

LOOKING EAST




## CROSS SECTION AT PIER 6 - SPAN 5

LOOKING EAST

## NOTES

BEAM SPACING AND OUT-TO-OUT WIDTHS ARE MEASURED ALONG ℄ OF PIER.

LANE WIDTHS AND CROSS SLOPES ARE MEASURED PERPENDICULAR TO THE REFERENCE LINES FOR WHICH THEY ARE DEFINED, UNLESS NOTED OTHERWISE. FOR DETAILS SEE SHEETS 11 "ALIGNMENT & SUPERELEVATION TRANSITION - 1 OF 2" AND 12 "ALIGNMENT & SUPERELEVATION TRANSITION - 2 OF 2".

FLOOR DRAIN ORIENTATION IS SHOWN SCHEMATICALLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE ORIENTATION OF THE FLOOR DRAINS. FOR FLOOR DRAIN DETAILS AND LOCATIONS SEE 95 "FLOOR DRAIN TYPE 'WF'".

DISTANCE BETWEEN PROPOSED STRUCTURE B-70-61 AND EXISTING STRUCTURE B-70-403 IS THE MINIMUM DISTANCE BETWEEN OUTSIDE FACES OF PARAPETS.

## LEGEND

△ GORE WIDTH VARIES FROM 8'-0" AT STA. 151WB+09.72 TO 0'-0" AT STA. 154WB+17.67. FOR DETAILS SEE SHEET 12 "ALIGNMENT & SUPERELEVATION TRANSITION - 2 OF 2"

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

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

CROSS SECTIONS AT PIERS 3-6

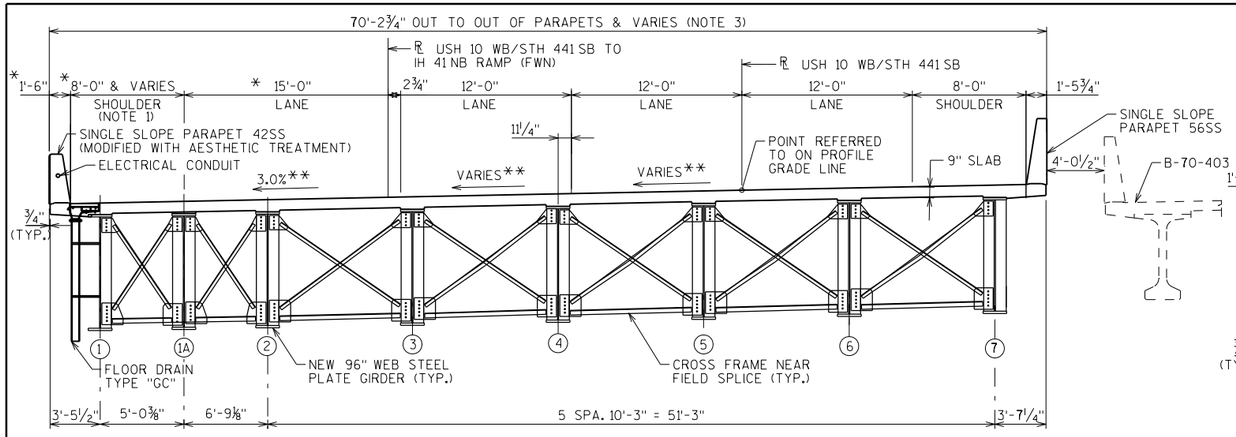
SHEET 8 OF 109
315

DATE: 3/15/2016
I.D.

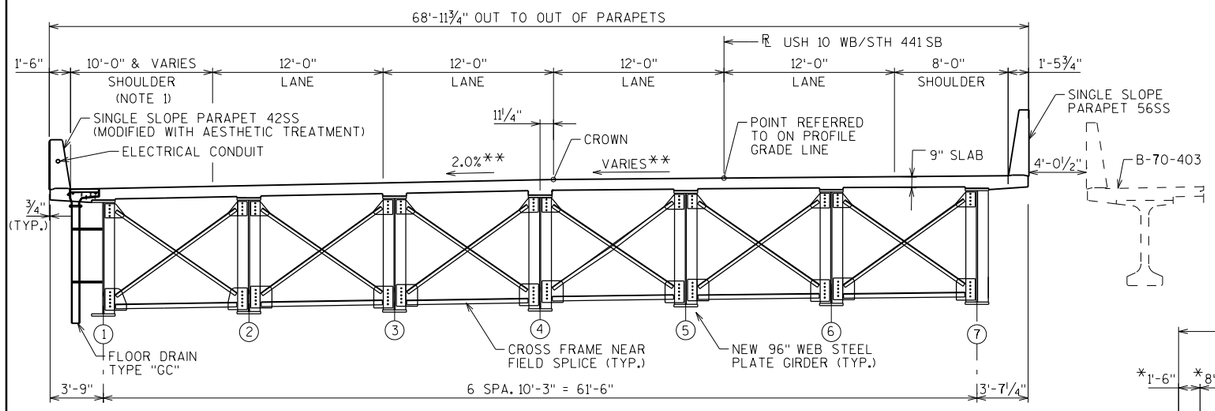
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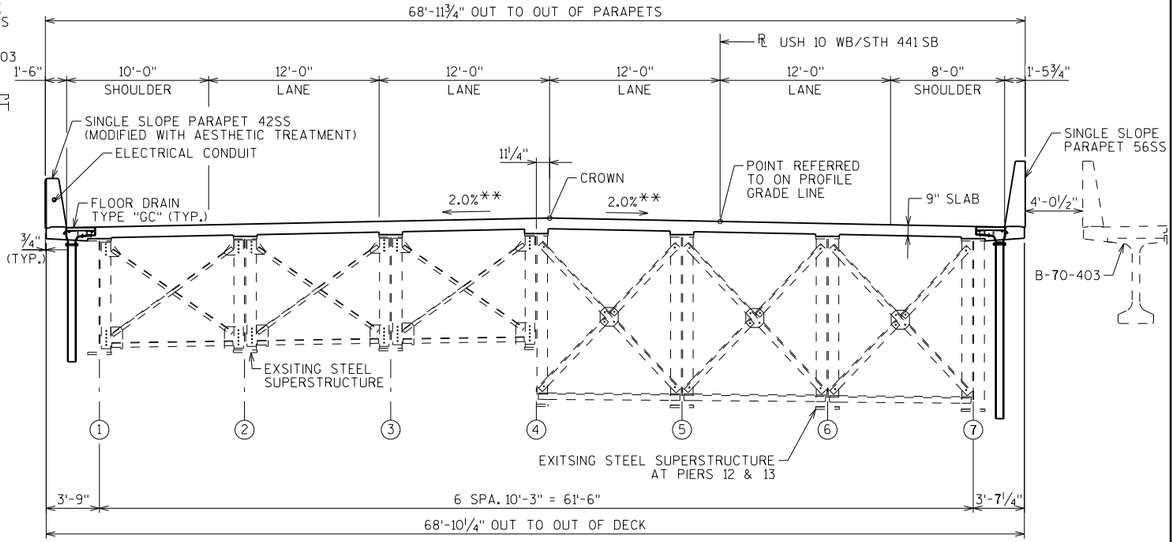

CROSS SECTION AT F.S. 1 SPAN 6



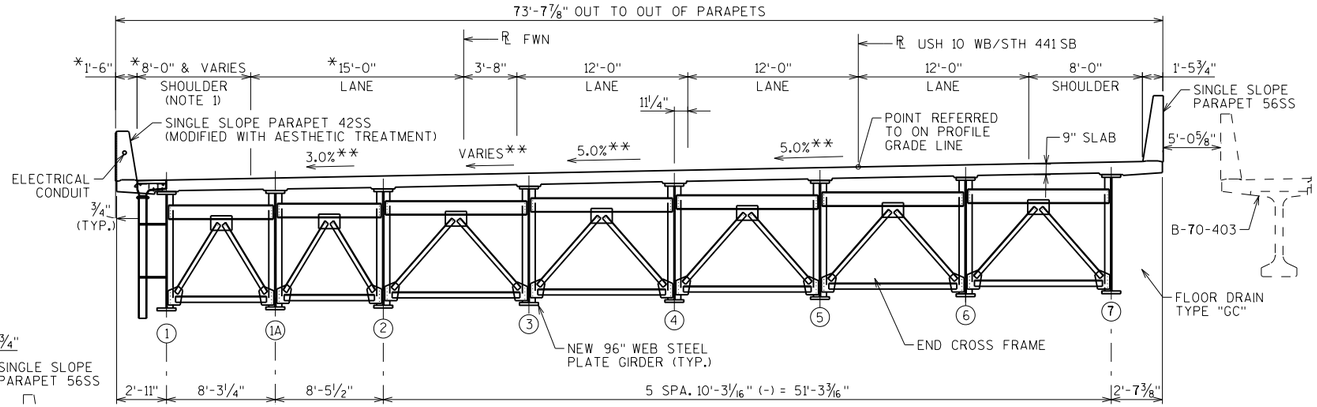

CROSS SECTION AT F.S. 2 SPAN 6




CROSS SECTION AT HINGE #1 SPAN 7
AND AT F.S. 20, 21, 22 & 23 SPANS 16 & 17




CROSS SECTION AT SPAN 8 TO SPAN 17




CROSS SECTION AT PIER 6 SPAN 6

## LEGEND

(1) STEEL GIRDER

F.S. 1 FIELD SPLICE NUMBER

## NOTES:

1. LEFT SHOULDER 8'-0" FROM STA. 146WB+34.79 TO STA. 154WB+49.81 AND VARIES FROM 8'-0" AT STA. 154WB+49.81 TO 10'-0" AT STA. 155WB+91.11 AND VARIES FROM 10'-0" AT STA. 177WB+72.51 TO 12'-0" AT STA. 179WB+12.56
2. OUT TO OUT PARAPETS VARIES FROM 70'-2¾" AT PIER 6 TO 68'-11¾" AT STA. 154WB+49.83

* MEASURED PERPENDICULAR TO ℄ FWN.
** SEE SHEETS 11 "ALIGNMENT & SUPERELEVATION - 1 OF 2" AND 12 "ALIGNMENT & SUPERELEVATION - 2 OF 2" FOR SUPERELEVATION TRANSITION DATA

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY KMP | PLANS CK'D. NPP

CROSS SECTIONS AT SPANS 6 & 7 AND AT FIELD SPLICES

SHEET 9 OF 109
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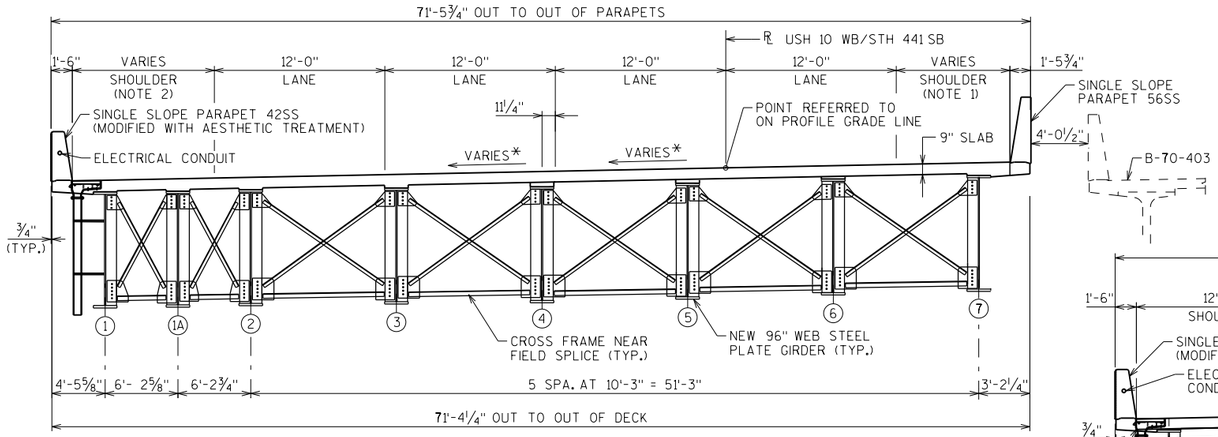
DATE: 3/15/2016
I.D.

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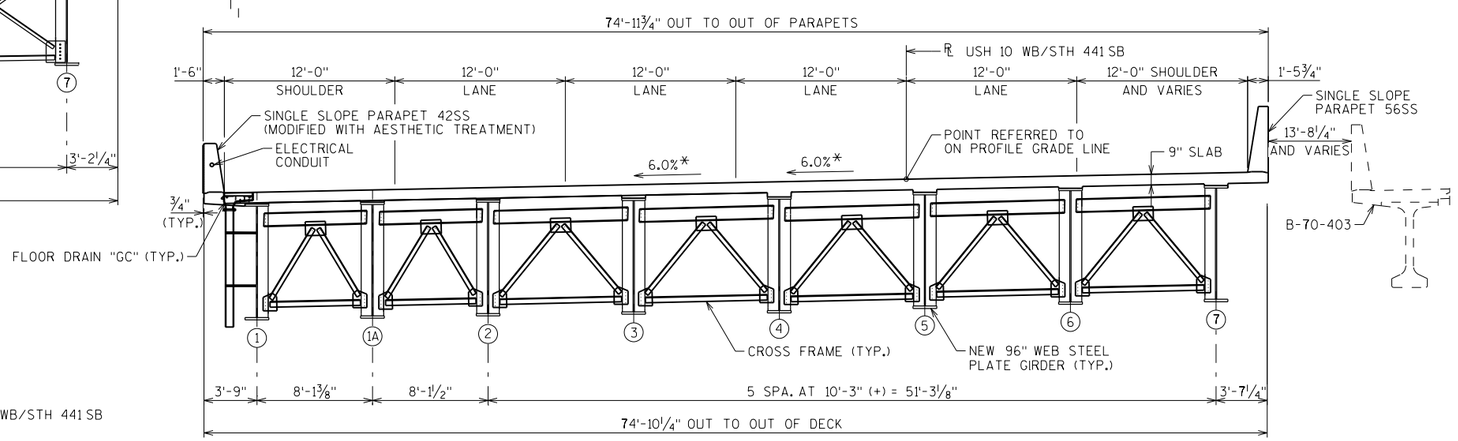
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| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |

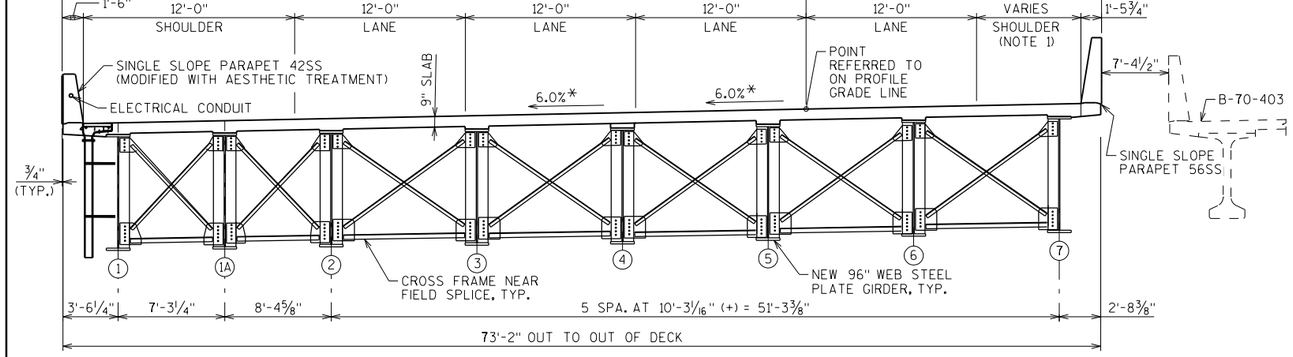



## CROSS SECTION AT F.S. 24 SPAN 20

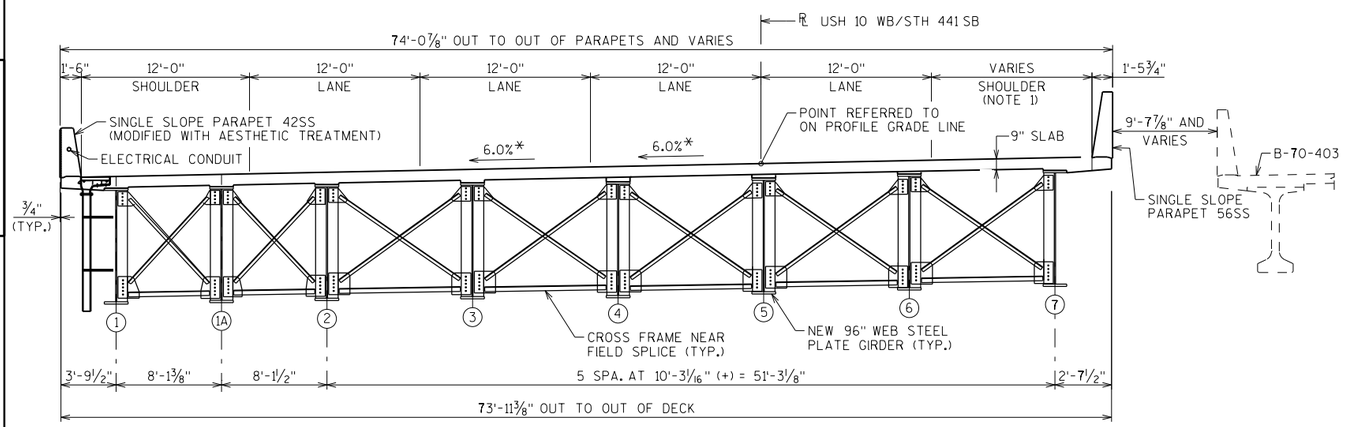



## CROSS SECTION AT EAST ABUTMENT

(LOOKING EAST)




## CROSS SECTION AT F.S. 25 SPAN 20




## CROSS SECTION AT F.S. 26 SPAN 21

### LEGEND

| | |
|---|---|
| ① | STEEL GIRDER |
| F.S. 1 | FIELD SPLICE NUMBER |

### NOTES

1. RIGHT SHOULDER VARIES FROM 8'-0" AT STA. 177WB+72.55 TO 12'-0" AT STA. 180WB+52.56
2. LEFT SHOULDER VARIES FROM 10'-0" AT STA. 177WB+72.51 TO 12'-0" AT STA. 179WB+12.56
3. OUT TO OUT PARAPETS VARIES FROM 68'-11¾" AT STA. 177WB+72.55 TO 74'-11¾" AT ℄ BRG. EAST ABUTMENT.

*SEE SHEETS 11 "ALIGNMENT & SUPERELEVATION - 1 OF 2" AND 12 "ALIGNMENT & SUPERELEVATION - 2 OF 2" FOR SUPERELEVATION TRANSITION DATA

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

# STRUCTURE B-70-61

DRAWN BY KMP | PLANS CK'D. NPP

CROSS SECTIONS AT F.S. 24 TO 27 SPANS 17 & 18

SHEET 10 OF 109
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DATE: 3/15/2016
I.D.

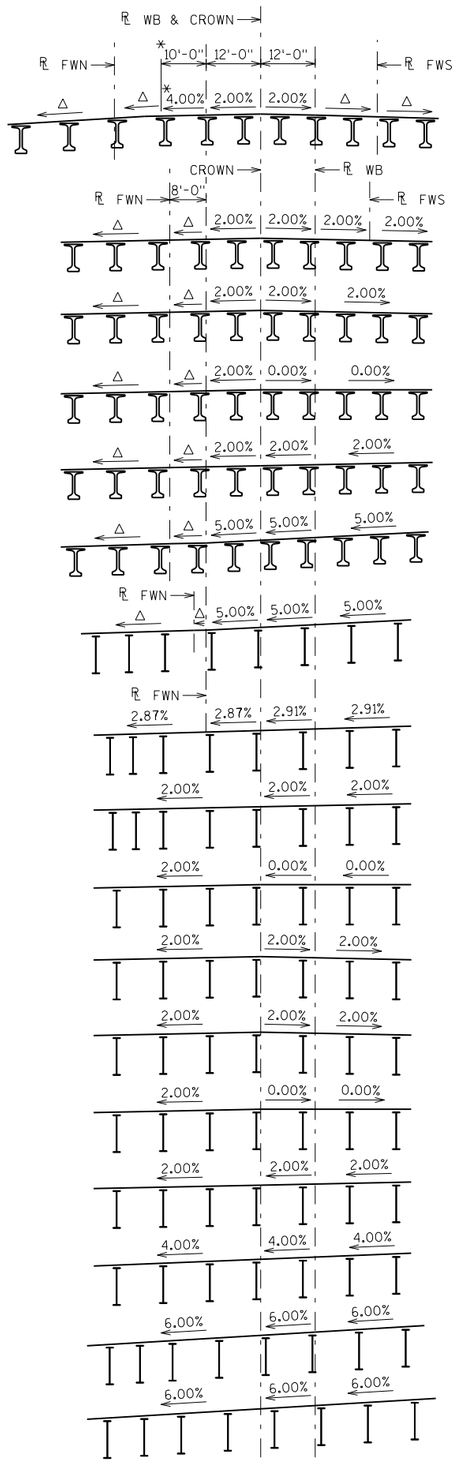
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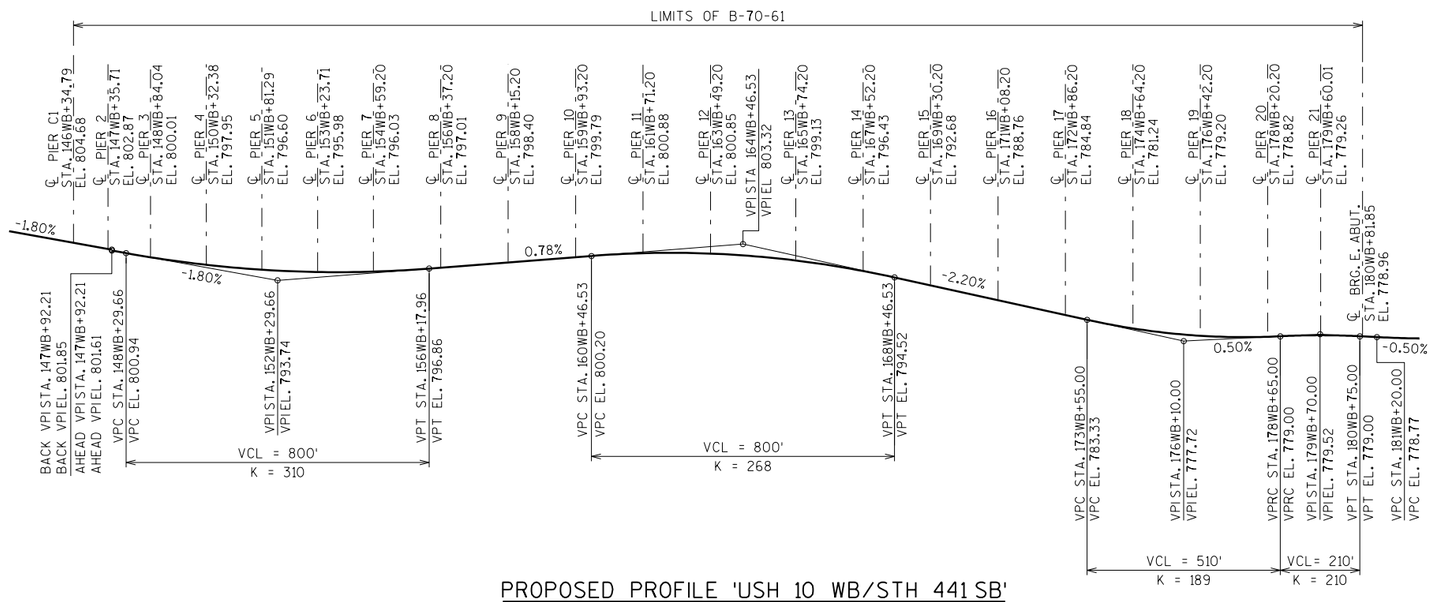
STATE PROJECT NUMBER

1517-07-77




## SUPERELEVATION

SUPERELEVATION TRANSITION DATA SHOWN FOR USH 10 WB/STH 441 SB. FOR TRANSITIONS ON RAMPS (FWN) AND (FWS) SEE SHEET 12 "ALIGNMENT & SUPERELEVATION - 2 OF 2"



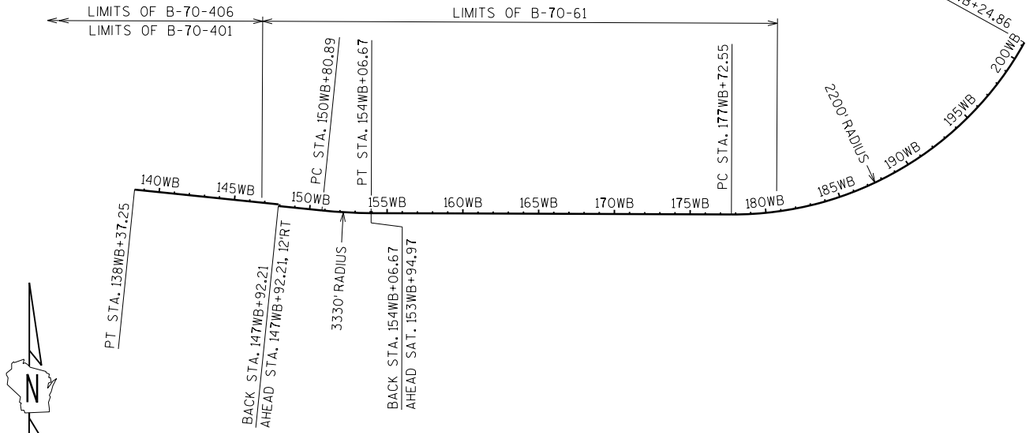

## PROPOSED PROFILE 'USH 10 WB/STH 441 SB'

### CURVE WB 3 (WEST)

PC = 150WB+80.89
X = 811880.41
Y = 546360.89
PI = 152WB+43.91
X = 812042.59
Y = 546344.36
PT = 154WB+06.67
X = 812205.61
Y = 546343.74
R = 3330.00
DELTA = 5°36'20" LT
D = 1°43'14"
L = 325.79
T = 163.02
BK = S 84°10'39" E
AH = S 89°46'59" E

### CURVE WB-1 (EAST)

PC = 177WB+72.55
X = 814583.17
Y = 546334.74
PI = 190WB+75.25
X = 815885.86
Y = 546329.80
PT = 201WB+24.86
X = 816516.51
Y = 547469.67
R = 2200.00
DELTA = 61°15'45" LT
D = 2°36'16"
L = 2352.31
T = 1302.69
E = 356.76
BK = S 89°46'59" E
AH = N 28°57'16" E




## HORIZONTAL ALIGNMENT 'USH 10 WB/STH 441 SB'

RAMPS (FWN) AND (FWS) NOT SHOWN FOR CLARITY.
FOR HORIZONTAL ALIGNMENT OF RAMPS SEE SHEET 12 "ALIGNMENT & SUPERELEVATION - 2 OF 2"

## LEGEND:

△ DENOTES CROSS SLOPE IS NOT DEFINED PERPENDICULAR TO ℄ USH 10 WB/STH 441 SB. FOR TRANSITIONS ON RAMPS SEE SHEET 12 "ALIGNMENT & SUPERELEVATION - 2 OF 2".

* THE NORTH SHOULDER OF THE MAINLINE USH 10 WB/STH 441 SB IS 10'-0" WIDE AND HAS A CROSS SLOPE OF 4.00% AT THE C/L OF PIER C1 AND VARIES. THIS SHOULDER MERGES WITH THE SOUTH SHOULDER OF RAMP (FWN) TO FORM THE MEDIAN GORE. SEE SHEET 12 "ALIGNMENT & SUPERELEVATION - 2 OF 2" FOR DETAILS.

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

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ALIGNMENT & SUPERELEVATION 1 OF 2

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DATE: 3/15/2016
I.D.

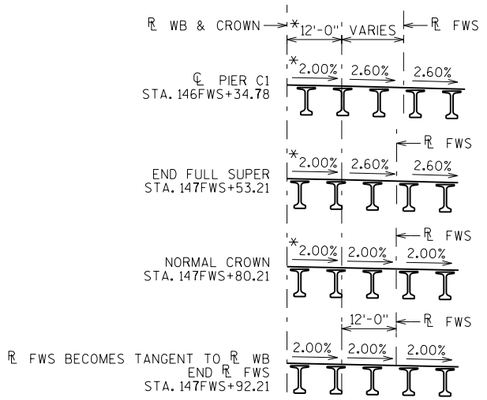
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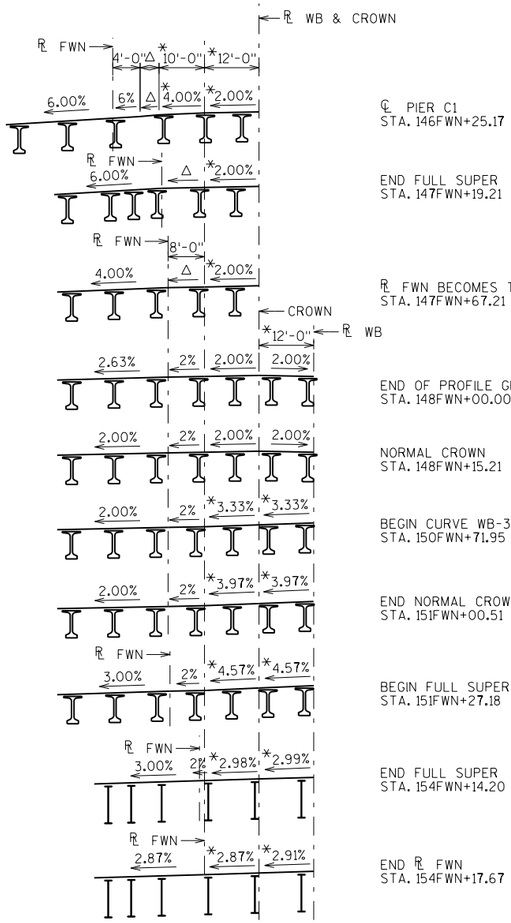
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STATE PROJECT NUMBER

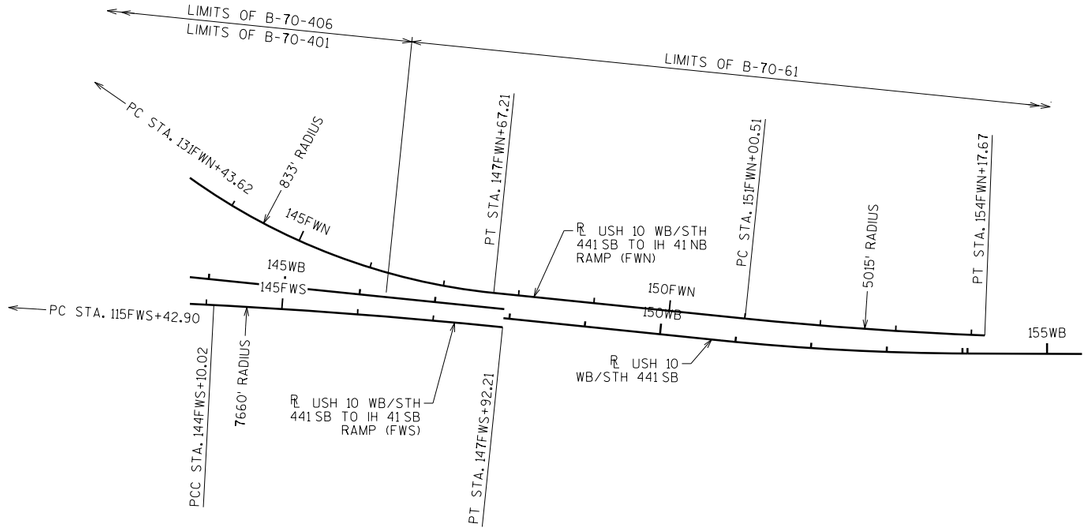
1517-07-77




## SUPERELEVATION FOR RAMP (FWS)




## SUPERELEVATION FOR RAMP (FWN)




## HORIZONTAL ALIGNMENT RAMP (FWN) & RAMP (FWS)

### CURVE FWN2

PC = 131FWN+43.62
X = 810926.10
Y = 547636.94
PI = 143FWN+71.06
X = 810359.38
Y = 546548.16
PT = 147FWN+67.21
X = 811580.49
Y = 546423.64
R = 833.00
DELTA = 111°40'29" LT
D = 6°52'42"
L = 1623.59
T = 1227.44
BK = S 27°29'49" W
AH = S 84°10'39" E

### CURVE FWN3

PC = 151FWN+00.51
X = 811912.06
Y = 546389.83
PI = 152FWN+59.14
X = 812069.88
Y = 546373.74
PT = 154FWN+17.67
X = 812228.40
Y = 546367.65
R = 5015.00
DELTA = 3°37'25" LT
D = 1°08'33"
L = 317.16
T = 158.63
BK = S 84°10'39" E
AH = S 87°48'04" E

### CURVE FWS3

PCC = 144FWS+10.02
X = 811210.98
Y = 546407.51
PI = 145FWS+01.16
X = 811401.85
Y = 546397.63
PT = 147FWS+92.21
X = 811592.00
Y = 546378.24
R = 7660.00
DELTA = 2°51'31" RT
D = 0°44'53"
L = 382.19
T = 191.13
BK = S 87°02'11" E
AH = S 84°10'39" E




## PROPOSED PROFILE RAMP (FWN)

### LEGEND:

* DENOTES DIMENSION OR CROSS SLOPE IS DEFINED PERPENDICULAR TO ℄ USH 10 WB/STH 441 SB.

△ SLOPE OF GORE AREA BETWEEN STA. 146WB+34.78 AND STA. 148WB+08.94 IS DEFINED BY A STRAIGHT LINE, PERPENDICULAR TO ℄ RAMP (FWN) BETWEEN THE EDGE OF THE NORTH SHOULDER OF THE MAINLINE USH 10 WB/STH 441 SB AND THE EDGE OF THE SOUTH SHOULDER OF RAMP (FWN)

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

# STRUCTURE B-70-61

DRAWN BY PSK | PLANS CK'D. KMP

ALIGNMENT & SUPERELEVATION 2 OF 2

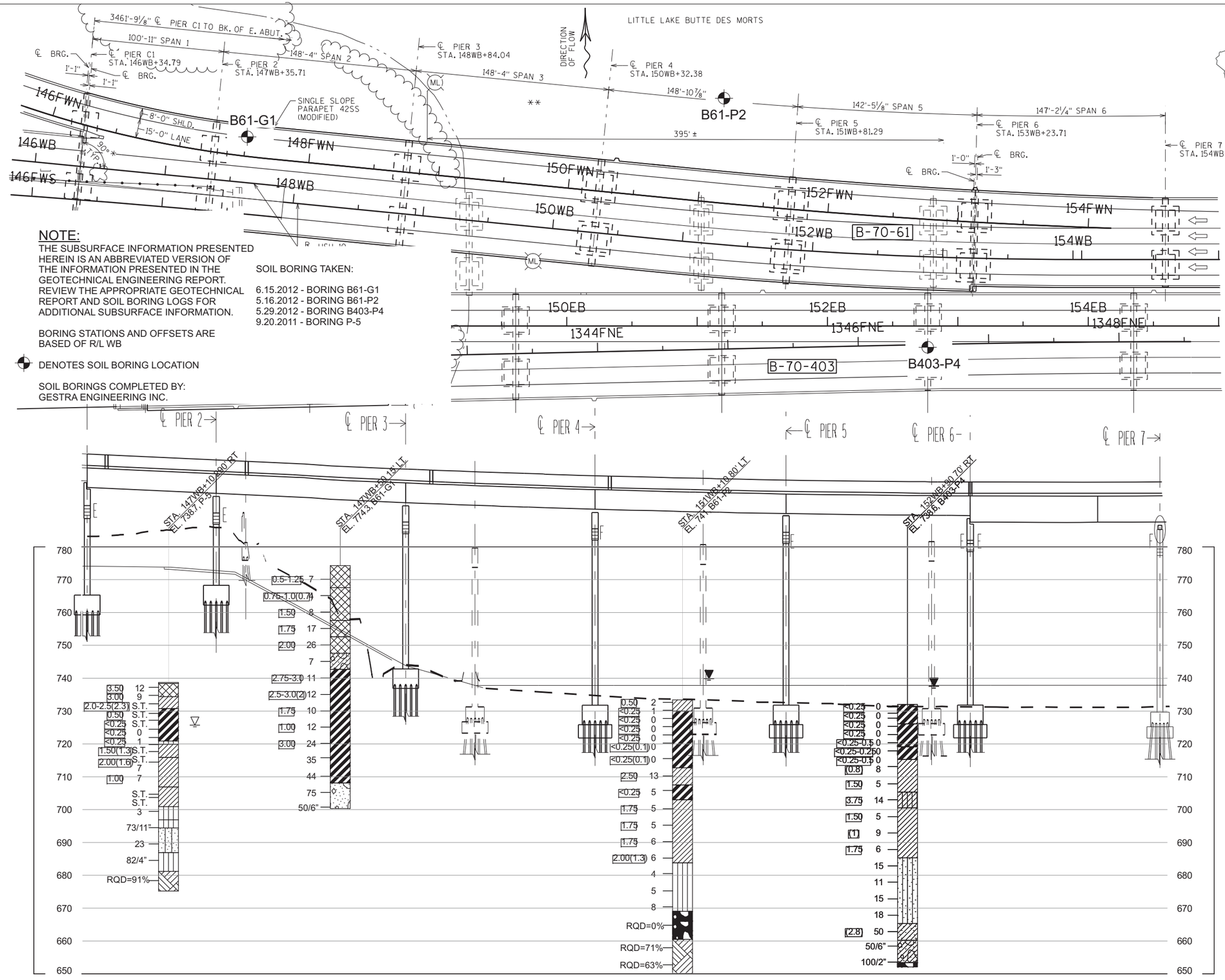
SHEET 12 OF 109
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DATE: 3/15/2016
I.D.




## NOTE:

THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

BORING STATIONS AND OFFSETS ARE BASED OF R/L WB

⌖ DENOTES SOIL BORING LOCATION

SOIL BORINGS COMPLETED BY:
GESTRA ENGINEERING INC.

SOIL BORING TAKEN:

6.15.2012 - BORING B61-G1
5.16.2012 - BORING B61-P2
5.29.2012 - BORING B403-P4
9.20.2011 - BORING P-5

NOTE: ▽ -WATER LEVEL AFTER 0 HOURS ▽* -WATER LEVEL ASSUMED FROM SAMPLE CONDITION

NOTE: Boring P-5 location is not shown in plan view due to the scale of the drawing, refer to station and offset.

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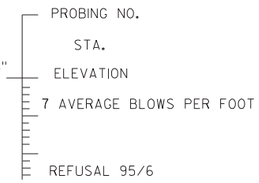
ABBREVIATIONS

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

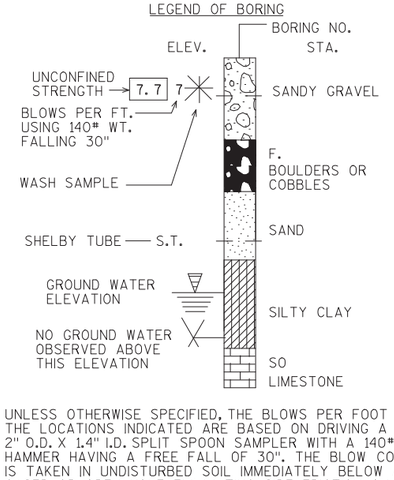
MATERIAL SYMBOLS

TOPSOIL | SILT | FAT CLAY
SAND | PEAT | DOLOMITE
GRAVEL | CLAY | FILL

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-70-61

DRAWN BY RHE | PLANS CK'D. SL

SUBSURFACE EXPLORATION

SHEET 13 OF 109
320

SCALE 1"=75'

8

8

LITTLE LAKE BUTTE DES MORTS

DIRECTION OF FLOW

178'-0" SPAN 17 | 178'-0" SPAN 18 | 178'-0" SPAN 19 | 139-9¾" SPAN 20 | 121'-10" SPAN 21

℄ PIER 17 STA. 172WB+86.20
℄ PIER 18 STA. 174WB+64.20
℄ PIER 19 STA. 176WB+42.20
℄ PIER 20 STA. 178WB+20.20
℄ PIER 21 STA. 179WB+60.02
℄ BRG. E. ABUT. STA. 180WB+81.85

℄ USH 10 WB/STH 441 SB

174WB | 176WB | 178WB | 180WB | 182WB

B-70-61

P-3

R120-G2

176EB | 178EB | 180EB | 182EB

B-70-403

℄ USH 10 EB/STH 441 NB

90° TYP. TURNO

℄ PIER 18 | ℄ PIER 19 | ℄ PIER 20 & SIGN STRUCTURE S-70-209 | ℄ PIER 21 | ℄ BRG. E. ABUT.

N

## NOTE:

THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

BORING STATIONS AND OFFSETS ARE BASED OF R/L WB

⊕ DENOTES SOIL BORING LOCATION

SOIL BORINGS COMPLETED BY:
GESTRA ENGINEERING INC.

SOIL BORING TAKEN:

9.20.2011 - BORING P-3
2.21.2013 - BORING R120-G2

STA. 180WB+20.10 LT
EL. 777.4, P-3

STA. 181WB+00.20 LT
EL. 752.002, R-120-G2

780 770 760 750 740 730 720 710 700 690 680 670 660 650

| | P-3 | R120-G2 |
|---|---|---|
| | 2.50 8 | 12 |
| | 2.00 15 | 19 |
| | 25 | 19 |
| | 25 | 12 |
| | 15 | (2.8) S.T. |
| | 11 | 8 |
| | 2.75 S.T. | (1.5) S.T. |
| | 2.00 12 | 4 |
| | 28 | (0.7) S.T. |
| | 2.50 19 | 6 |
| | 2.75 S.T. | (2.2) S.T. |
| | 1.00 6 | 17 |
| | 0.75 2 | 28 |
| | 4.50(3.1) 18 | 29 |
| | 2.25 S.T. | 49 |
| | 2.50 S.T. | 56 |
| | 59 | 100 |
| | 1.75 22 | 60/1" RQD=0% |
| | 1.50 S.T. | 60/1" |
| | 29 | 60/1" |
| | 50/3" | |
| | 86 | |
| | 67 | |
| | 50/4" | |

NOTE: ▼ -WATER LEVEL AFTER 0 HOURS ▽ -WATER LEVEL DURING DRILLING

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ABBREVIATIONS

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

MATERIAL SYMBOLS

TOPSOIL | SILT | FAT CLAY
SAND | PEAT | DOLOMITE
GRAVEL | CLAY | FILL

LEGEND OF PROBING

PROBING NO.
STA.
ELEVATION
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6

95/6=95 BLOWS FOR 6" PENETRATION
PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

LEGEND OF BORING

BORING NO.
ELEV. STA.
UNCONFINED STRENGTH → 7.7 7
BLOWS PER FT. USING 140# WT. FALLING 30"
WASH SAMPLE
SHELBY TUBE — S.T.
GROUND WATER ELEVATION
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION
SANDY GRAVEL
F. BOULDERS OR COBBLES
SAND
SILTY CLAY
SO LIMESTONE

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR 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-70-61

DRAWN BY RHE | PLANS CK'D. SL

SUBSURFACE EXPLORATION

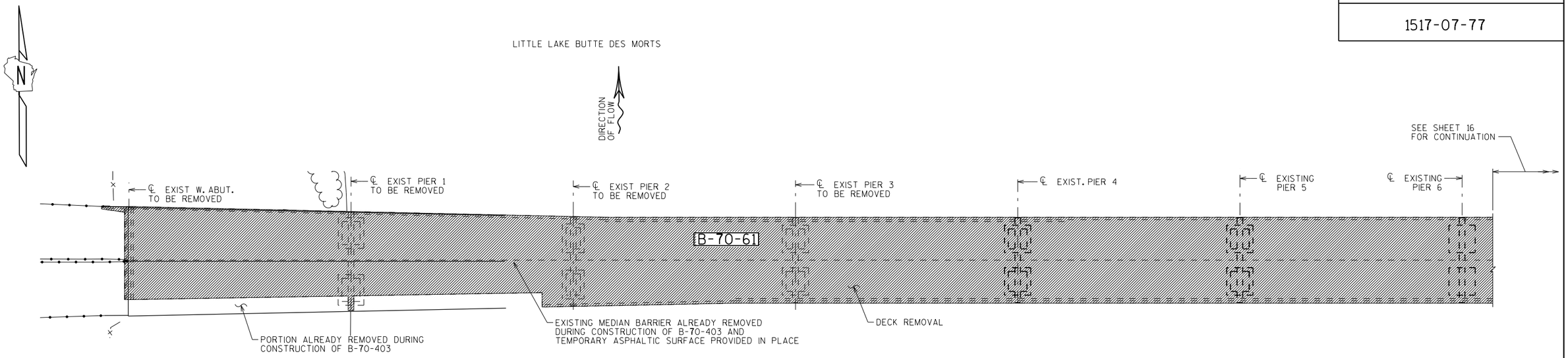
SHEET 14 OF 109
321

SCALE 1"=75'

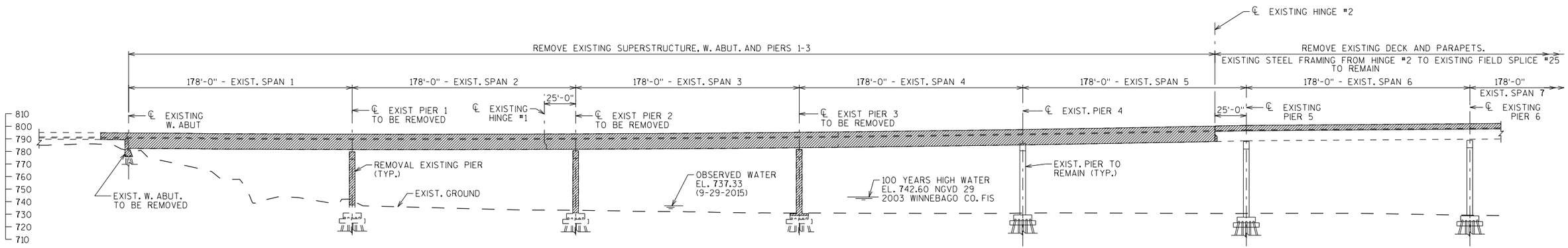
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| STATE PROJECT NUMBER |
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| 1517-07-77 |




PLAN




ELEVATION

## NOTES:

REMOVE EXISTING E. ABUTMENT, AND W. ABUTMENT A MIN. 2'-0" BELOW FINISHED GRADE.

REMOVE EXISTING PIERS 1, 2 & 3 AT A MIN. 2'-0" BELOW STREAM BED

REMOVE EXISTING PIER 17 CAP AS SHOWN.

EXISTING STEEL AND SHEAR STUDS WITHIN THE LIMITS SHOWN ARE TO BE REUSED. EXERCISE CAUTION NOT TO DAMAGE EXISTING SHEAR STUDS OR THE STRUCTURAL STEEL FRAMING IN THE PROCESS OF DECK REMOVAL. REPAIR OR REPLACE ANY DAMAGED STEEL COMPONENT OR THE SHEAR STUDS TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE DEPARTMENT.

SEE SHEET 5 "GENERAL NOTES" FOR ADDITIONAL NOTES FOR STRUCTURE REMOVAL.

## LEGEND

REMOVAL OF EXISTING STRUCTURE

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

STRUCTURE B-70-61

DRAWN BY NPP | PLANS CK'D. PSK

STRUCTURE REMOVAL PLAN & ELEVATION SPANS 1 TO 6

SHEET 15 OF 109
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I.D.

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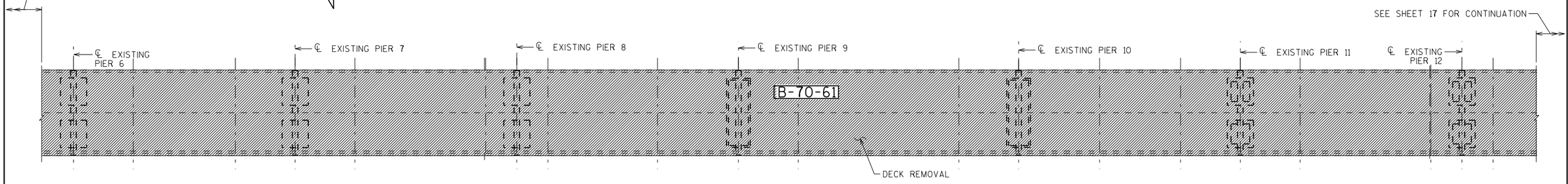
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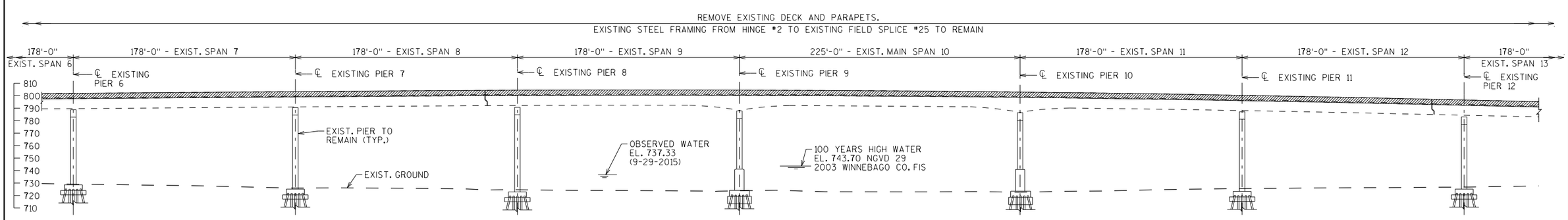
| STATE PROJECT NUMBER |
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| 1517-07-77 |

LITTLE LAKE BUTTE DES MORTS

DIRECTION OF FLOW




PLAN




ELEVATION

LEGEND

REMOVAL OF EXISTING STRUCTURE

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

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STRUCTURE REMOVAL PLAN & ELEVATION SPANS 7 TO 12

SHEET 16 OF 109
323

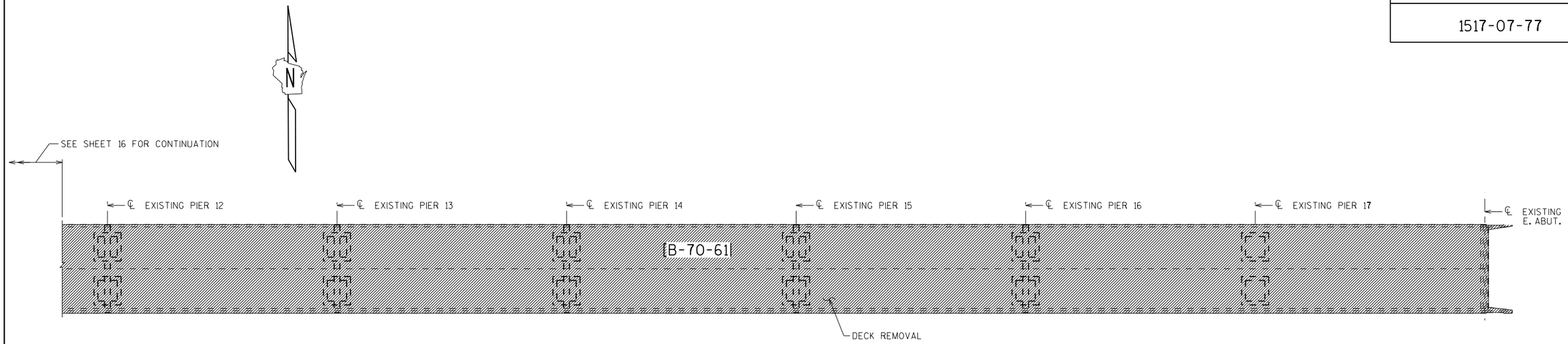
DATE: 3/15/2016
I.D.

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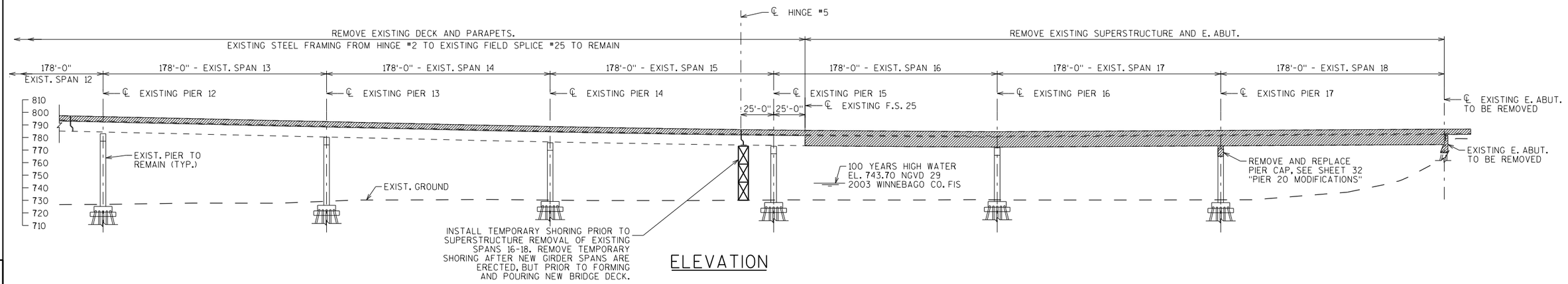
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| STATE PROJECT NUMBER |
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| 1517-07-77 |




PLAN




ELEVATION

LEGEND

REMOVAL OF EXISTING STRUCTURE

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY NPP | PLANS CK'D. PSK

STRUCTURE REMOVAL PLAN & ELEVATION SPANS 13 TO 18

SHEET 17 OF 109
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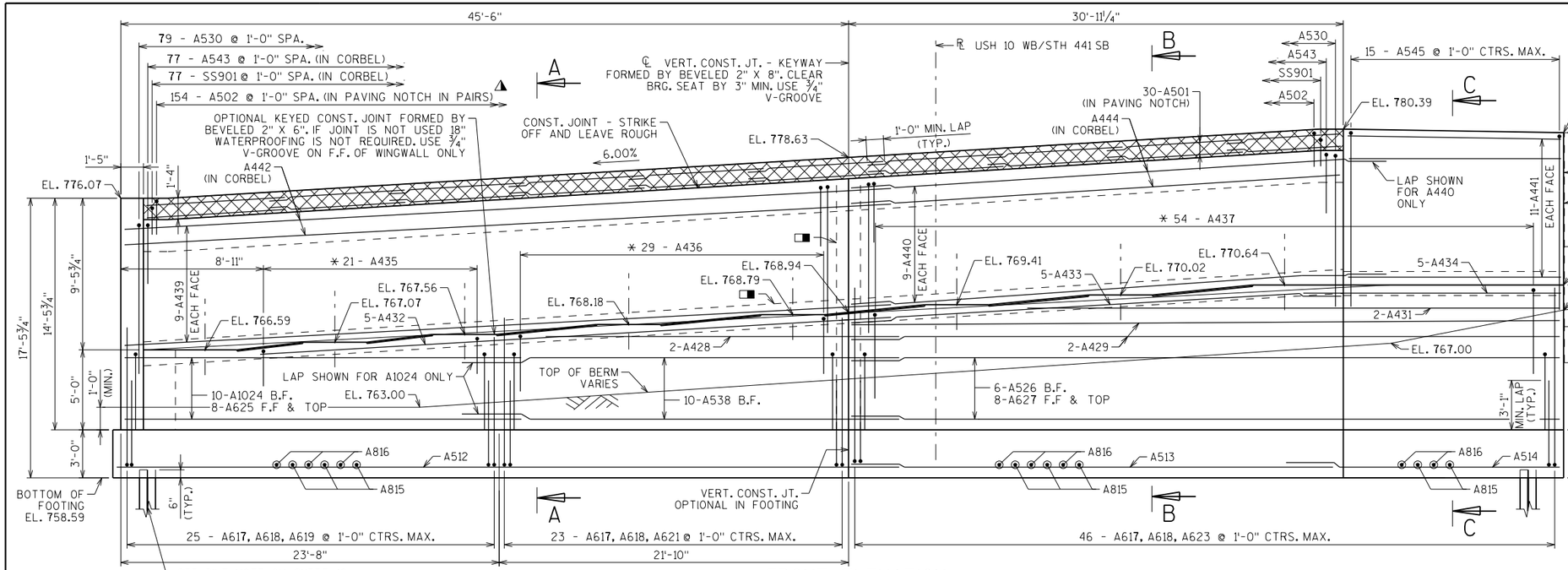
DATE: 3/15/2016
I.D.

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## FRONT ELEVATION

BEARING SEAT ELEVATIONS ARE GIVEN AT THE C/L OF BEARING. ALL OTHER DIMENSIONS AND ELEVATIONS ARE GIVEN ALONG THE FRONT FACE OF THE BACKWALL.

## MINIMUM BAR LAPS

(UNLESS NOTED OTHERWISE)

LAP #4 BARS MIN. 2'-4"

LAP #5 BARS MIN. 2'-11"

LAP #6 BARS MIN. 3'-6"

## LEGEND

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

(1) INDICATES GIRDER NUMBER

* BARS A435, A436 AND A437 - SEE FRONT ELEVATION FOR TOTAL NUMBERS AND SEE PLAN FOR BAR SPACINGS.

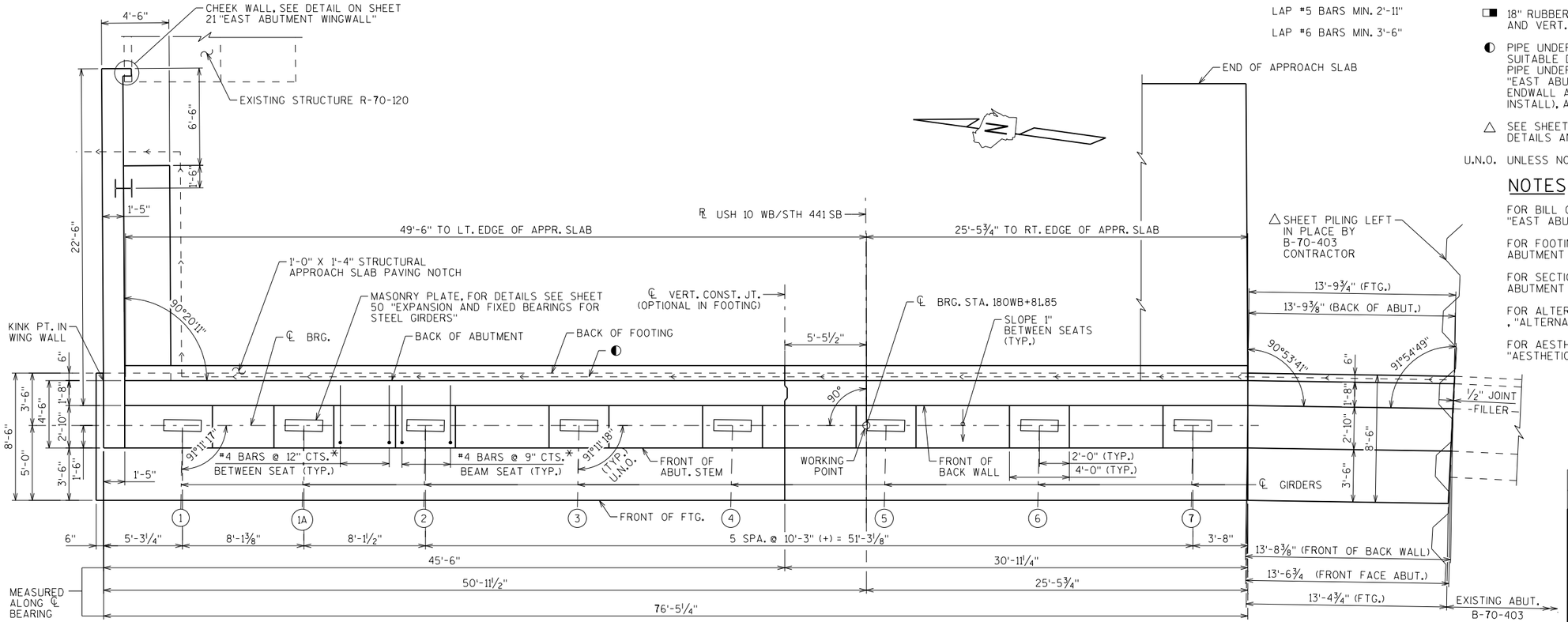
△ SEE SHEET 93 "MODULAR EXP. JT. AT HINGES 1-4 & E. ABUT."

■ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. AND VERT. JOINTS ON BACKFACE ABOVE FOOTING.

◐ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. FOR RODENT SHIELD DETAIL SEE SHEET 20 "EAST ABUTMENT SECTIONS". INSTALL A CONCRETE APRON ENDWALL AND CULVERT MARKER (ROADWAY CONTRACTOR TO INSTALL), AS PAID FOR IN THE ROADWAY PLANS.

△ SEE SHEET 19 "EAST ABUTMENT LAYOUT" FOR SHEET PILING DETAILS AND NOTES.

U.N.O. UNLESS NOTED OTHERWISE




## PLAN

FOOTING REINFORCEMENT NOT SHOWN FOR CLARITY

## NOTES

FOR BILL OF BARS AND BAR BEND DETAILS SEE SHEET 22 "EAST ABUTMENT DETAILS".

FOR FOOTING REINFORCEMENT DETAILS SEE SHEET 19 "EAST ABUTMENT LAYOUT".

FOR SECTIONS A-A, B-B AND C-C SEE SHEET 20 "EAST ABUTMENT SECTIONS".

FOR ALTERNATE CONSTRUCTION JOINT DETAIL, SEE SHEET 109 , "ALTERNATE CONSTRUCTION JOINT".

FOR AESTHETIC TREATMENT DETAILS SEE SHEET 108 "AESTHETIC DETAILS".

APPLY "BRIDGE SEAT PROTECTION" PER SECTION 502.2.12 TO THE TOP OF ABUTMENT SEATS AND BETWEEN SEATS.

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

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EAST ABUTMENT PLAN & ELEVATION

SHEET 18 OF 109

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DATE: 3/15/2016
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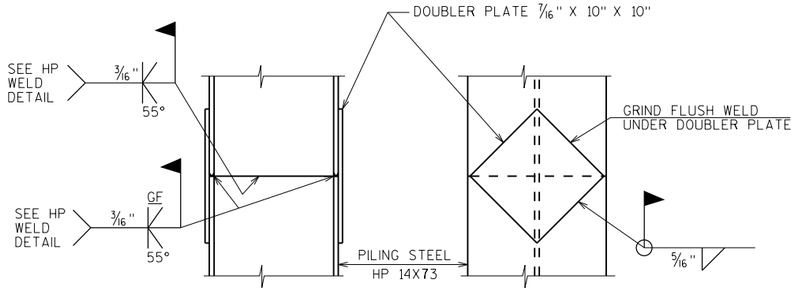
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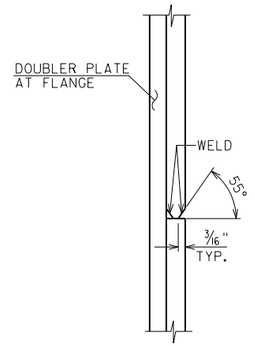
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STATE PROJECT NUMBER

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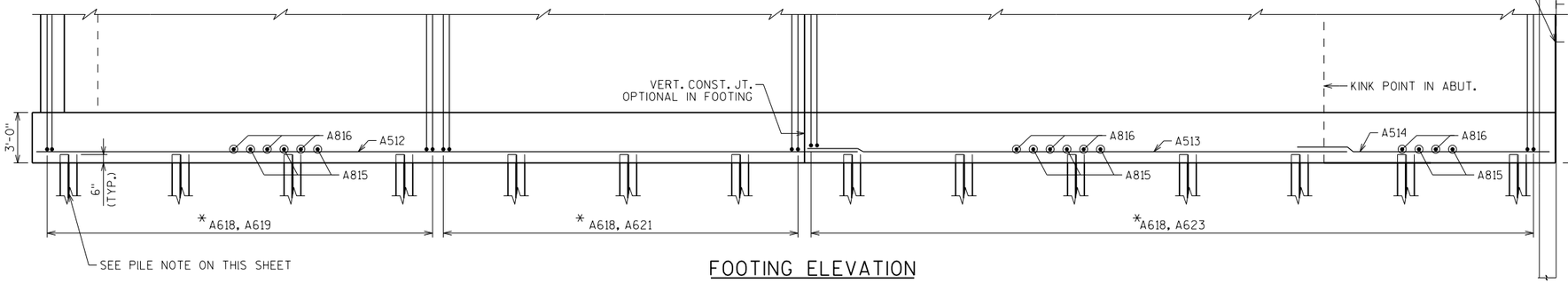



PILE SPLICE DETAIL




HP WELD DETAIL

(FLANGE SHOWN, WEB SIMILAR)




FOOTING ELEVATION

## LEGEND

- INDICATES BATTERED PILE
- (1) INDICATES PILE NUMBER
- * PLACE DOWELS ON TOP OF FOOTING MAT REINFORCEMENT.
- ** MEASURED ALONG CENTERLINE OF WINGWALL.

## PILE NOTE

EAST ABUTMENT TO BE SUPPORTED ON HP14X73 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 205 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. SEE TABLE ON SHEET 4 "GENERAL PLAN SPANS 17-21" FOR ESTIMATED LENGTH.

## MINIMUM BAR LAPS

(UNLESS NOTED OTHERWISE)

LAP #5 BARS MIN. 2'-11"

## NOTE

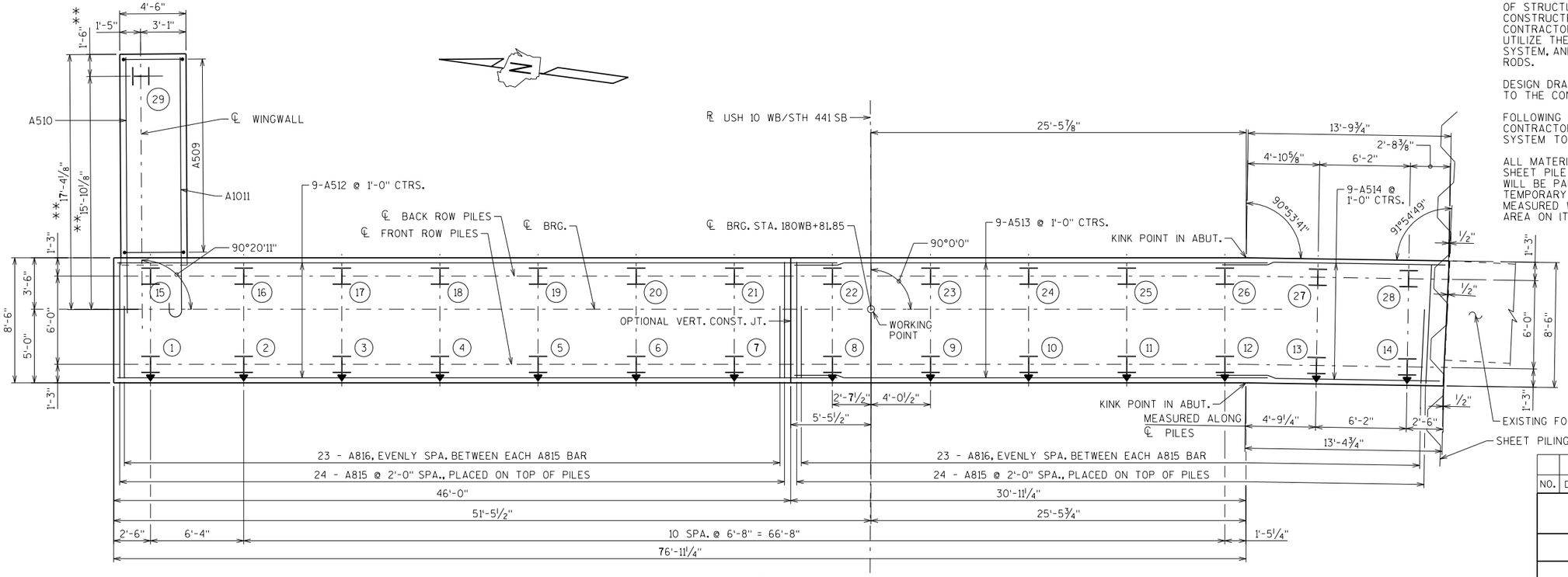
FOR BILL OF BARS AND BAR BEND DETAILS SEE SHEET 22 "EAST ABUTMENT DETAILS".

TEMPORARY SHEET PILING BETWEEN EAST ABUTMENTS OF STRUCTURES B-70-61 AND B-70-403 WILL BE CONSTRUCTED AND LEFT IN PLACE BY THE B-70-403 CONTRACTOR. THE CONTRACTOR FOR B-70-61 SHALL UTILIZE THE SAME SHEET PILING, INSTALL A WALER SYSTEM, AND TENSION THE PREVIOUSLY INSTALLED TIE RODS.

DESIGN DRAWINGS FOR THE SHORING ARE AVAILABLE TO THE CONTRACTOR FROM THE NE REGION.

FOLLOWING B-70-61 ABUTMENT CONSTRUCTION, THE CONTRACTOR SHALL REMOVE THE SHEET PILE SHORING SYSTEM TO THE GREATEST EXTENT POSSIBLE.

ALL MATERIAL AND LABOR INVOLVED FOR TEMPORARY SHEET PILE SHORING WORK INCLUDING WHALER SYSTEM WILL BE PAID FOR UNDER THE BID ITEM "REMOVING TEMPORARY SHORING LEFT IN PLACE", SF. THE AREA MEASURED WILL BE BASED ON THE EXPOSED WALL AREA ON ITS NORTH SIDE DURING EXCAVATION.




PLAN

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

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EAST ABUTMENT LAYOUT

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DATE: 4/8/2016
I.D.

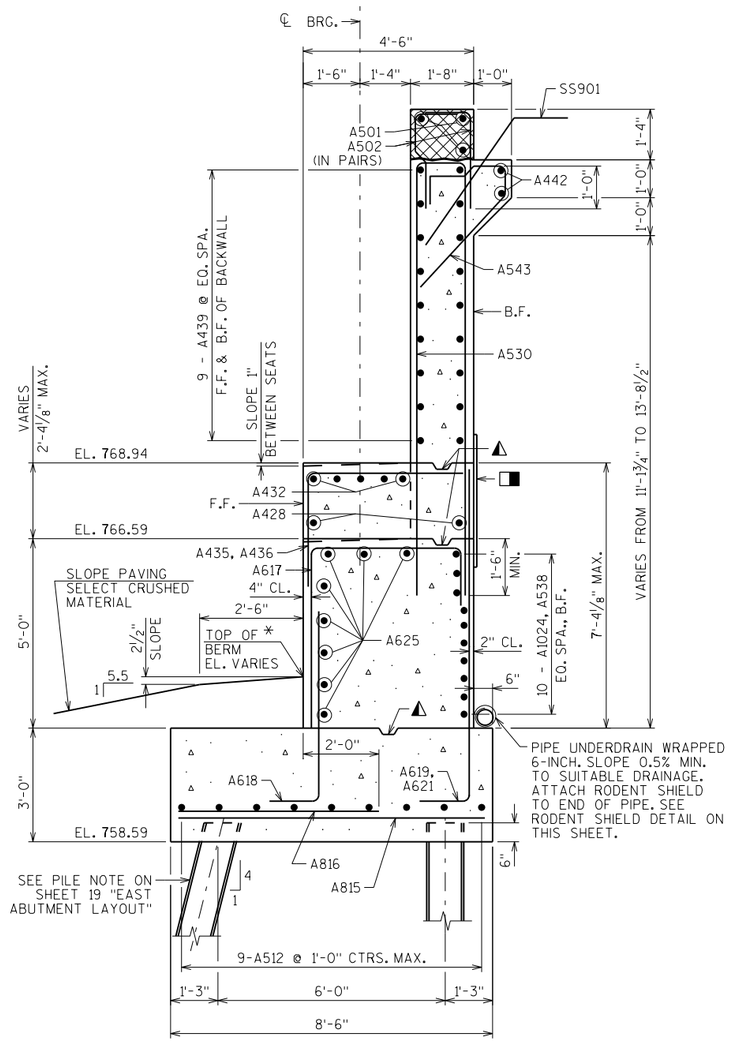
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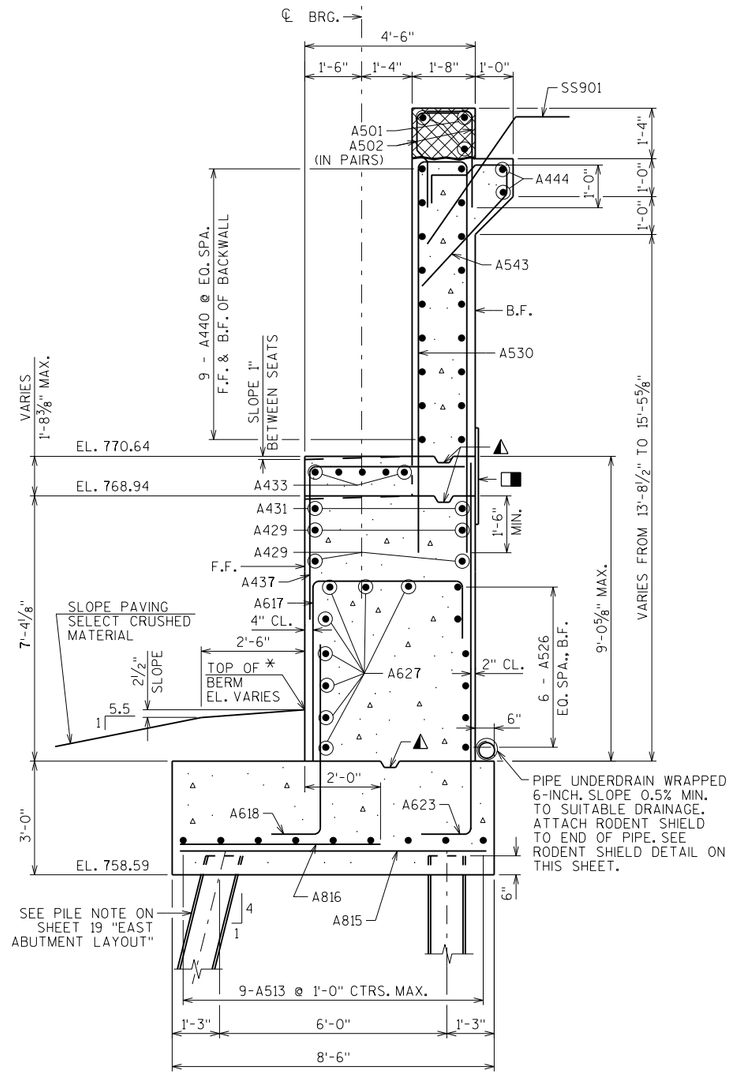
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STATE PROJECT NUMBER

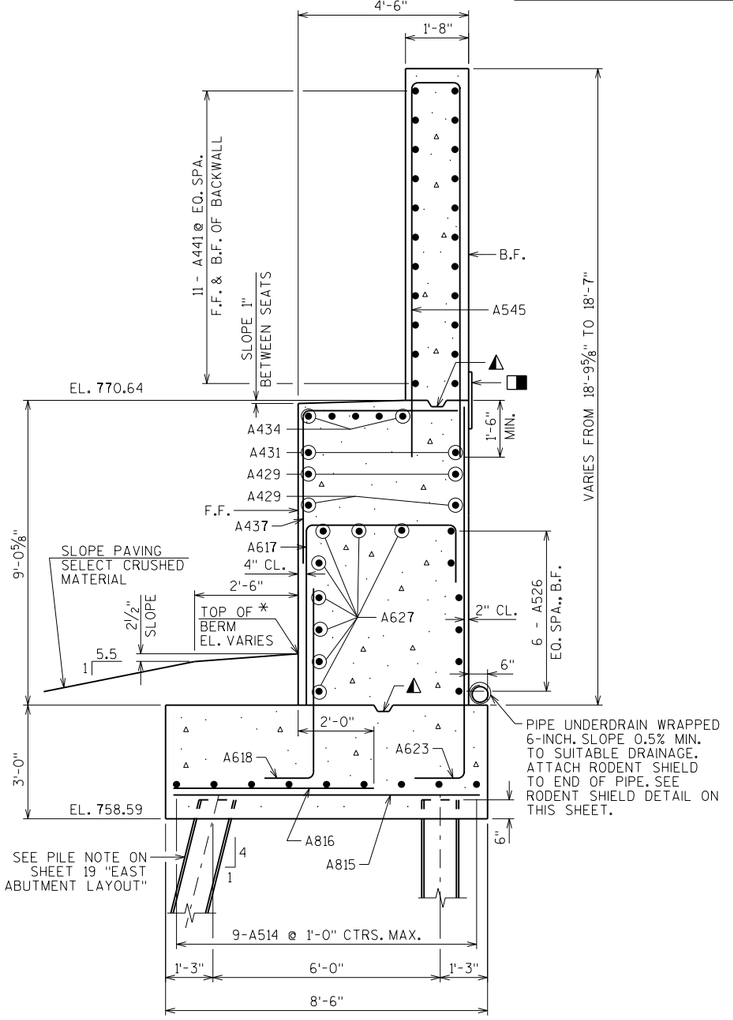
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SECTION A-A
TYPICAL SECTION THRU BODY




SECTION B-B
TYPICAL SECTION THRU BODY




SECTION C-C
TYPICAL SECTION THRU BODY

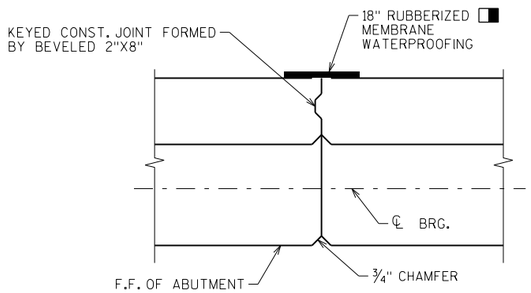
## LEGEND

- ▲ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6"
- ■ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. AND VERT. JOINTS ON BACKFACE ABOVE FOOTING
- ▨ INDICATES CONCRETE AREA TO BE POURED AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE
- * TOP OF BERM EL. VARIES FROM 763.00 TO 769.00
- B.F. BACK FACE
- F.F. FRONT FACE

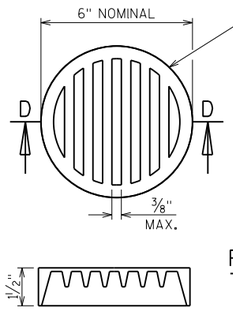
## NOTE

SEE SHEET 18 "EAST ABUTMENT PLAN & ELEVATION" FOR LOCATIONS OF SECTIONS A-A, B-B AND C-C.

FOR BILL OF BARS AND BAR BEND DETAILS SEE SHEET 22 "EAST ABUTMENT DETAILS".




CONSTRUCTION JOINT




SECTION D-D

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".

## RODENT SHIELD DETAIL

ORIENT SHIELD SO SLOTS ARE VERTICAL AS SHOWN. DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

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EAST ABUTMENT SECTIONS

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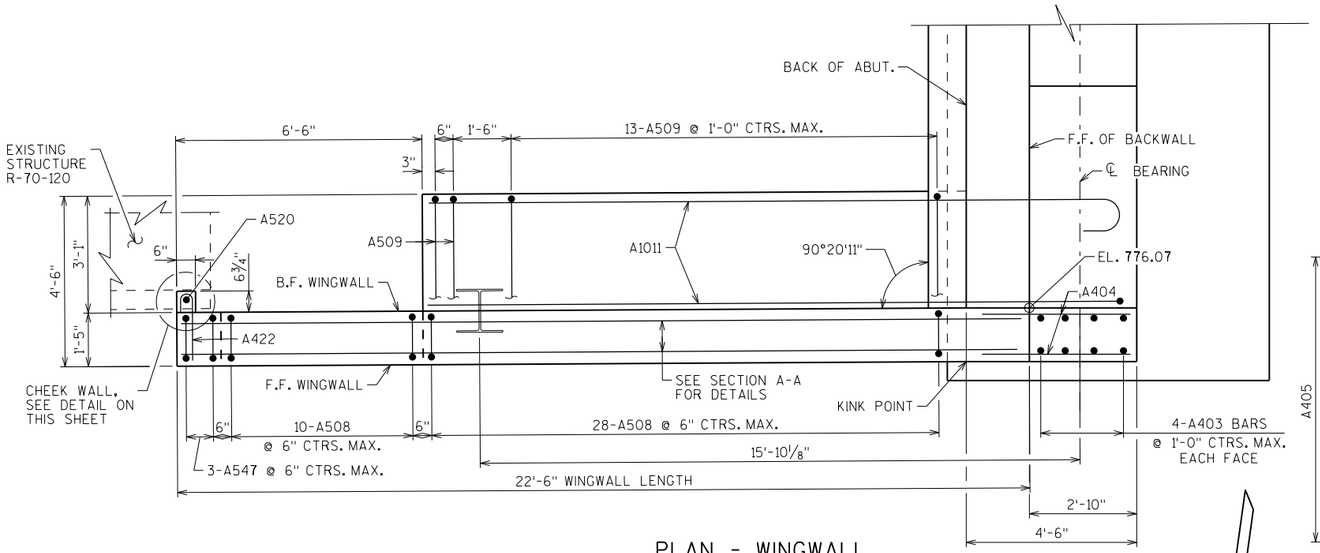
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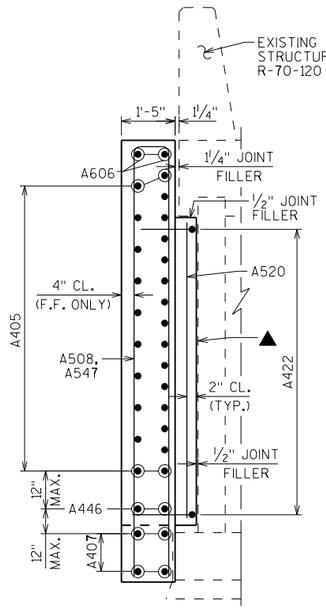
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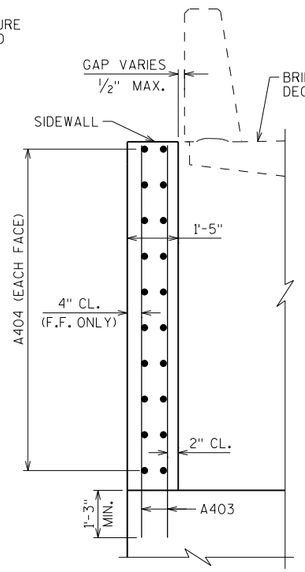
1517-07-77



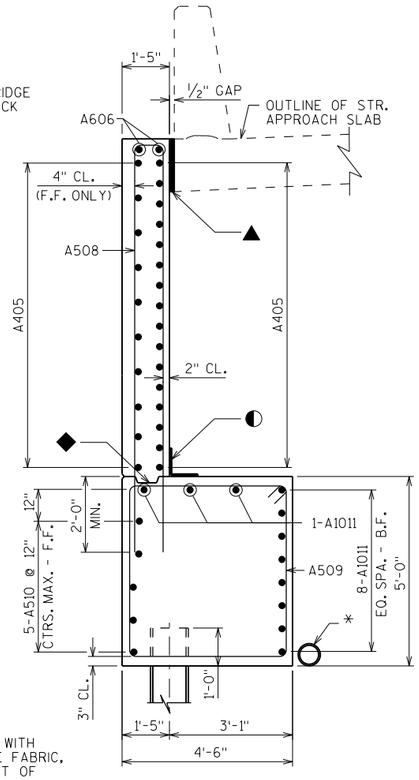

PLAN - WINGWALL



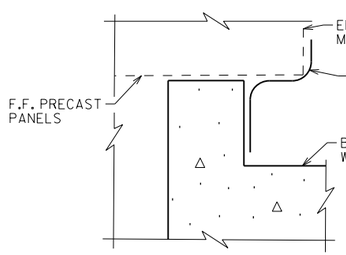

SECTION C-C



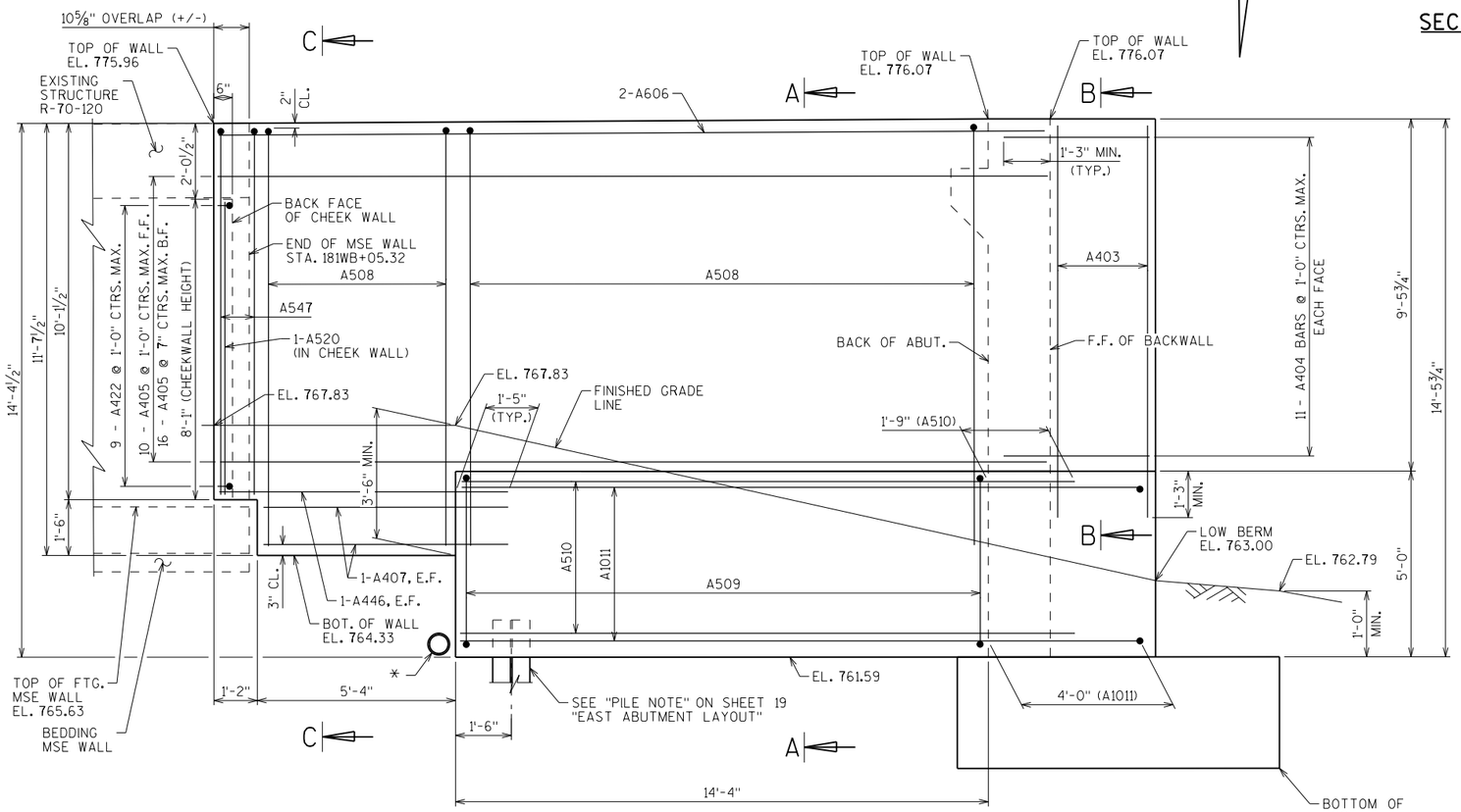

SECTION B-B




SECTION A-A




CHEEKWALL DETAIL




ELEVATION - WINGWALL

## NOTES

FOR BILL OF BARS AND BAR BEND DETAILS SEE SHEET 22 "EAST ABUTMENT DETAILS".

SEE SHEET 108 "AESTHETIC DETAILS" FOR FORMLINER DETAILS AND STAINING SCHEDULE.

PLACE WIRE MESH WITH GEOTEXTILE FABRIC ALONG THE HEIGHT OF THE CHEEKWALL, COST TO BE INCLUDED WITH THE BID ITEM "MODIFIED HIGH PERFORMANCE CONCRETE (HPC) MASONRY BRIDGES".

## LEGEND

* PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. FOR RODENT SHIELD DETAILS SEE SHEET 20, "EAST ABUTMENT SECTIONS". INSTALL A CONCRETE APRON ENDWALL AND CULVERT MARKER (ROADWAY CONTRACTOR TO INSTALL), AS PAID FOR IN THE ROADWAY PLANS.

E.F. EACH FACE

◆ OPTIONAL CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6" KEYWAY WITH MEMBRANE ON BACKFACE.

▲ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

◐ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. AND VERT. JOINTS ON BACKFACE ABOVE FOOTING.

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

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EAST ABUTMENT WINGWALL

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DATE: 3/15/2016
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## BILL OF BARS - ABUTMENT (COATED)

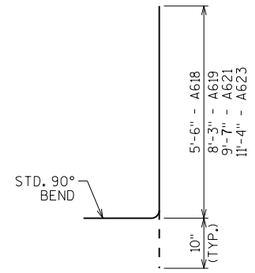
| BAR MARK | NO. REQ'D | LENGTH | BENT | SERIES | LOCATION |
|---|---|---|---|---|---|
| COATED | | | | | TOTAL = 15,130 LB |
| A501 | 30 | 8'-5" | | | CORBEL LONGIT. BAR |
| A502 | 154 | 3'-4" | X | | CORBEL ANCHOR BAR |
| A403 | 8 | 10'-7" | | | SIDEWALL VERT. BAR |
| A404 | 22 | 3'-11" | | | SIDEWALL HORIZ. BAR |
| A405 | 26 | 22'-2" | | | WINGWALL HORIZ. BAR |
| A606 | 2 | 22'-2" | | | WINGWALL HORIZ. BAR |
| A407 | 4 | 6'-9" | | | WINGWALL HORIZ. BAR |
| A508 | 38 | 23'-2" | X | | WINGWALL VERT. BAR |
| A509 | 15 | 17'-10" | X | | WINGWALL STIRRUP |
| A510 | 5 | 15'-11" | | | WINGWALL HORIZ. BAR |
| A1011 | 11 | 19'-7" | X | | WINGWALL HORIZ. BAR |
| A617 | 94 | 10'-0" | X | | ABUTMENT STIRRUP |
| A618 | 94 | 6'-4" | X | | ABUTMENT DOWEL |
| A619 | 25 | 9'-1" | X | | ABUTMENT DOWEL |
| A520 | 1 | 7'-9" | | | CHEEKWALL VERT. BAR |
| A621 | 23 | 10'-5" | X | | ABUTMENT DOWEL |
| A422 | 9 | 1'-11" | X | | CHEEKWALL STIRRUP |
| A623 | 46 | 12'-2" | X | | ABUTMENT DOWEL |
| A1024 | 10 | 22'-6" | | | ABUTMENT LONGIT. BAR |
| A625 | 8 | 49'-1" | | | ABUTMENT LONGIT. BAR |
| A526 | 6 | 44'-4" | X | | ABUTMENT LONGIT. BAR |
| A627 | 8 | 44'-1" | X | | ABUTMENT LONGIT. BAR |
| A428 | 2 | 22'-1" | | | ABUTMENT HORIZ. BAR |
| A429 | 4 | 44'-1" | X | | ABUTMENT HORIZ. BAR |
| A530 | 79 | 20'-7" | X | | ABUTMENT VERT. BAR |
| A431 | 2 | 33'-1" | X | | ABUTMENT HORIZ. BAR |
| A432 | 5 | 39'-4" | | | ABUTMENT SEAT BAR |
| A433 | 5 | 30'-9" | | | ABUTMENT SEAT BAR |
| A434 | 5 | 15'-10" | | | ABUTMENT SEAT BAR |
| A435 | 21 | 7'-3" | X | | ABUTMENT SEAT BAR |
| A436 | 29 | 8'-11" | X | | ABUTMENT SEAT BAR |
| A437 | 54 | 9'-9" | X | | ABUTMENT SEAT BAR |
| A538 | 10 | 28'-10" | | | ABUTMENT LONGIT. BAR |
| A439 | 18 | 47'-11" | | | ABUT. BACKWALL HORIZ. BAR |
| A440 | 18 | 33'-4" | | | ABUT. BACKWALL HORIZ. BAR |
| A441 | 22 | 13'-6" | | | ABUT. BACKWALL HORIZ. BAR |
| A442 | 2 | 47'-11" | | | ABUT. CORBEL HORIZ. BAR |
| A543 | 77 | 6'-0" | X | | ABUT. CORBEL STIRRUP |
| A444 | 2 | 30'-8" | | | ABUT. CORBEL HORIZ. BAR |
| A545 | 15 | 23'-3" | X | | ABUTMENT VERT. BAR |
| A446 | 2 | 7'-9" | | | WINGWALL HORIZ. BAR |
| A547 | 3 | 20'-2" | | | WINGWALL VERT. BAR |

## BILL OF BARS - ABUTMENT (UNCOATED)

| BAR MARK | NO. REQ'D | LENGTH | BENT | SERIES | LOCATION |
|---|---|---|---|---|---|
| UNCOATED | | | | | TOTAL = 2,580 LB |
| A512 | 9 | 48'-11" | | | ABUT. FOOTING LONGIT. BAR |
| A513 | 9 | 32'-4" | | | ABUT. FOOTING LONGIT. BAR |
| A514 | 9 | 15'-1" | | | ABUT. FOOTING LONGIT. BAR |
| A815 | 48 | 8'-0" | | | ABUT. FOOTING TRANS. BAR |
| A816 | 46 | 5'-3" | | | ABUT. FOOTING TRANS. BAR |

## BILL OF BARS - ABUTMENT (STAINLESS STEEL)

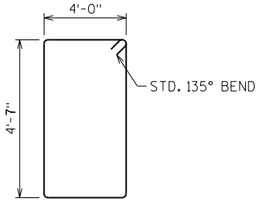
| BAR MARK | NO. REQ'D | LENGTH | BENT | SERIES | LOCATION |
|---|---|---|---|---|---|
| STAINLESS STEEL | | | | | TOTAL = 1,310 LB |
| SS901 | 77 | 5'-0" | X | | CONC. BACKWALL TO APPROACH SLAB |



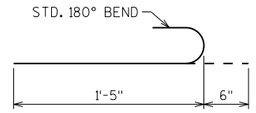

A618, A619, A621 & A623



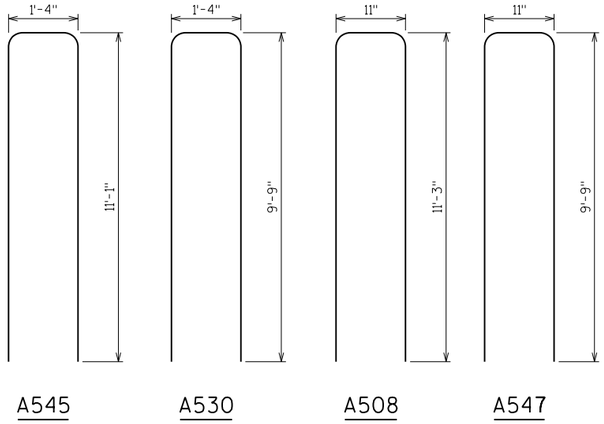

A502



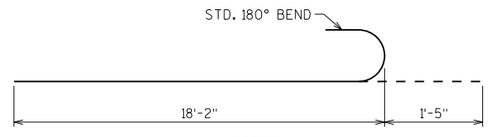

A509



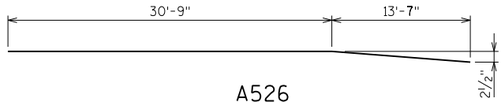

A422



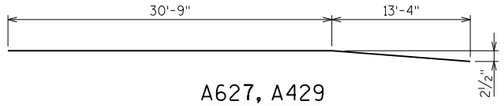

A545 A530 A508 A547



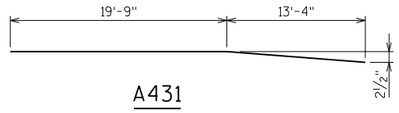

A1011



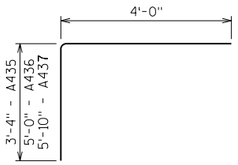

A526



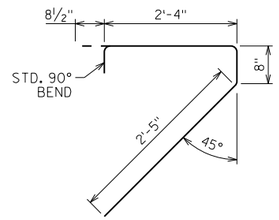

A627, A429



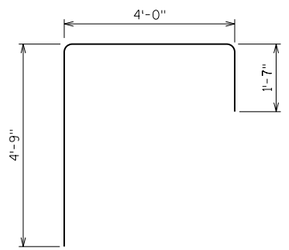

A431



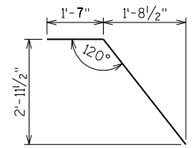

A435, A436 & A437




A543




A617




SS901

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY PSK | PLANS CK'D. KO

EAST ABUTMENT DETAILS

SHEET 22 OF 109
329

DATE: 3/15/2016
I.D.

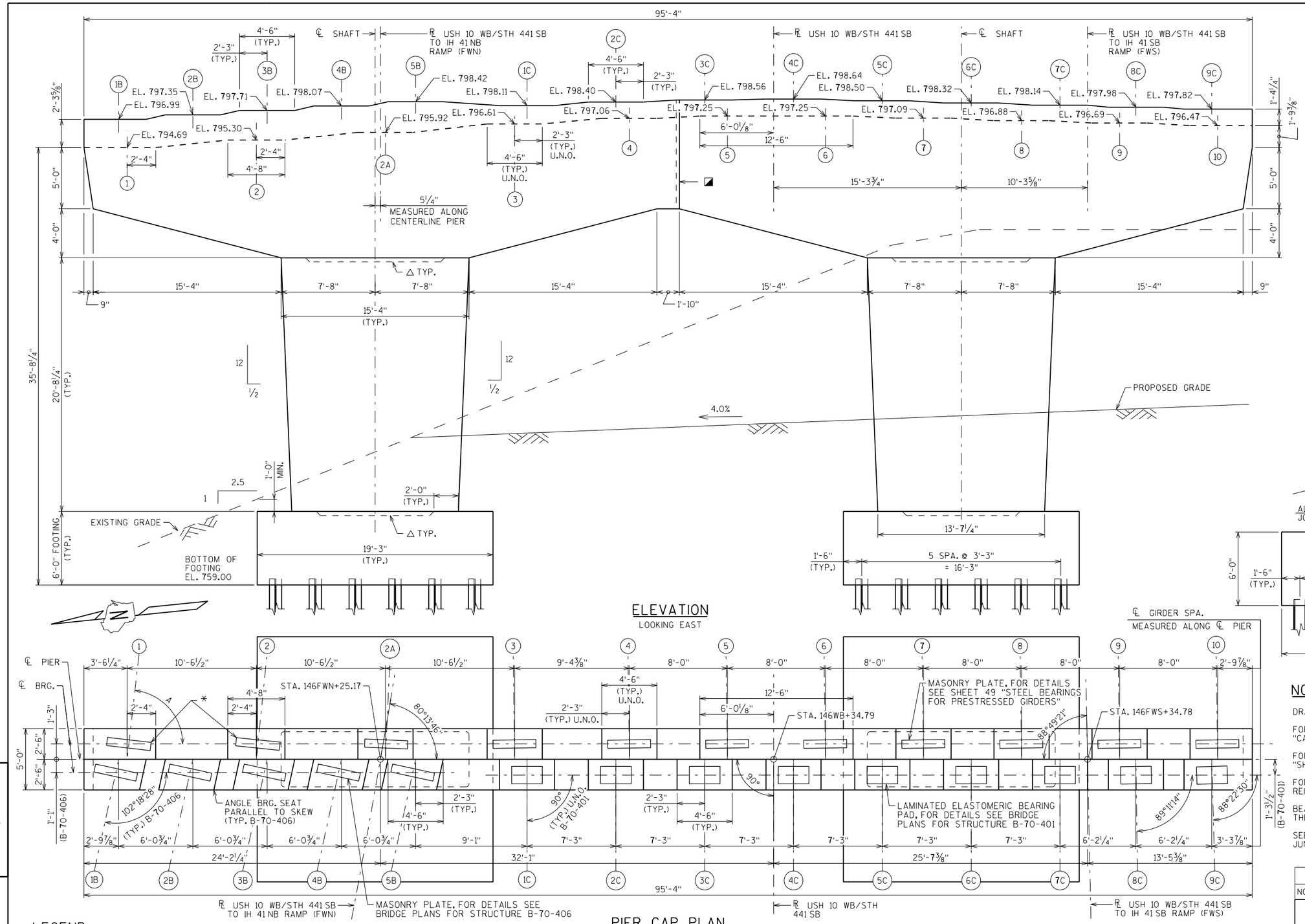
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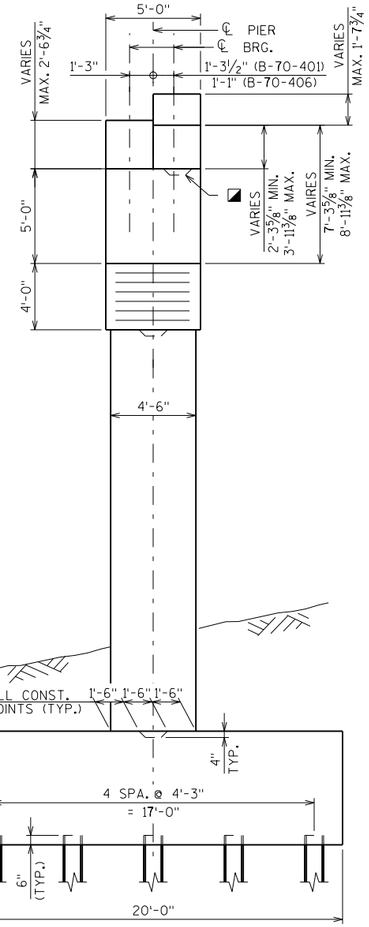
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8

STATE PROJECT NUMBER

1517-07-77




## ELEVATION

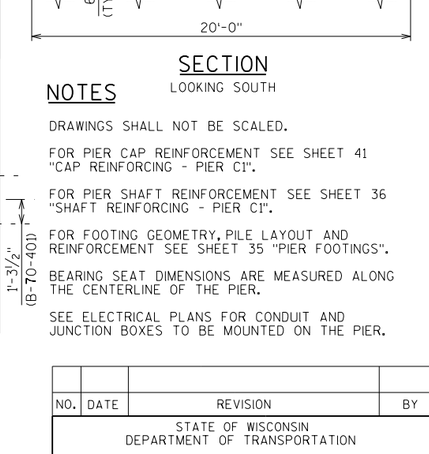
LOOKING EAST




## PIER CAP PLAN

## SECTION

LOOKING SOUTH




## NOTES

DRAWINGS SHALL NOT BE SCALED.

FOR PIER CAP REINFORCEMENT SEE SHEET 41 "CAP REINFORCING - PIER C1".

FOR PIER SHAFT REINFORCEMENT SEE SHEET 36 "SHAFT REINFORCING - PIER C1".

FOR FOOTING GEOMETRY, PILE LAYOUT AND REINFORCEMENT SEE SHEET 35 "PIER FOOTINGS".

BEARING SEAT DIMENSIONS ARE MEASURED ALONG THE CENTERLINE OF THE PIER.

SEE ELECTRICAL PLANS FOR CONDUIT AND JUNCTION BOXES TO BE MOUNTED ON THE PIER.

## LEGEND

△ KEYED STAGE CONSTRUCTION JOINT

◪ OPTIONAL KEYED STAGE CONSTRUCTION JOINT

* NON-STANDARD BEARING. BEARING PLATES ARE 1" LONGER THAN TYPICAL. SEE DETAILS ON SHEET 49 "STEEL BEARINGS FOR PRESTRESSED GIRDERS"

U.N.O. UNLESS NOTED OTHERWISE

## BEARING ALIGNMENT TABLE

| LOCATION | GIRDER LINE | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 2A | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| A | 83°30'28" | 84°10'6" | 87°28'35" | 90°48'5" | 90°48'5" | 90°48'5" | 90°48'5" | 90°48'5" | 90°48'5" | 90°48'5" | 90°48'5" |

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY PSK | PLANS CK'D. KO

PIER C1 GEOMETRY

SHEET 23 OF 109
330

DATE: 3/15/2016
I.D.

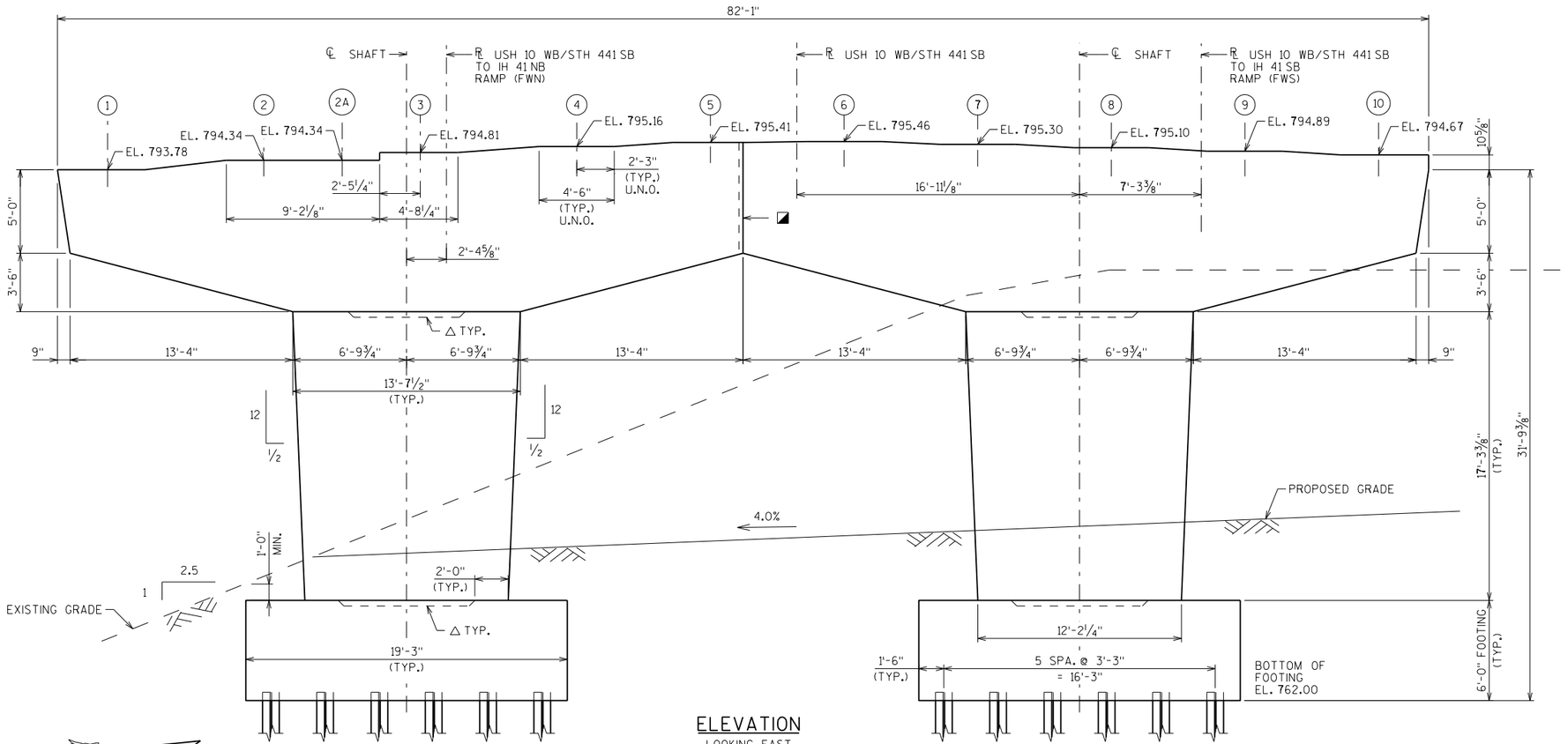
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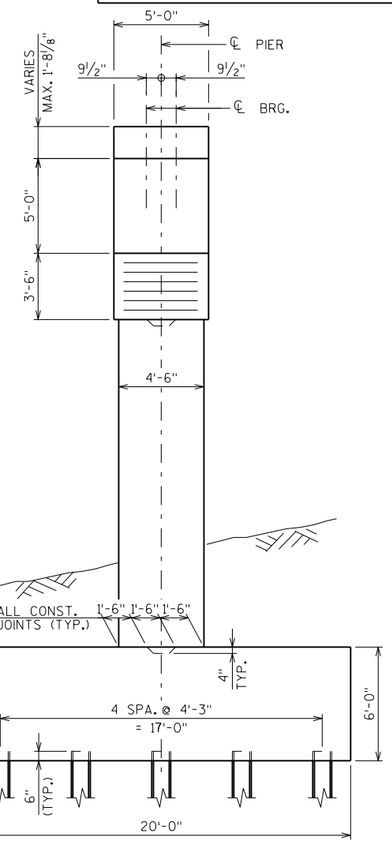
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STATE PROJECT NUMBER

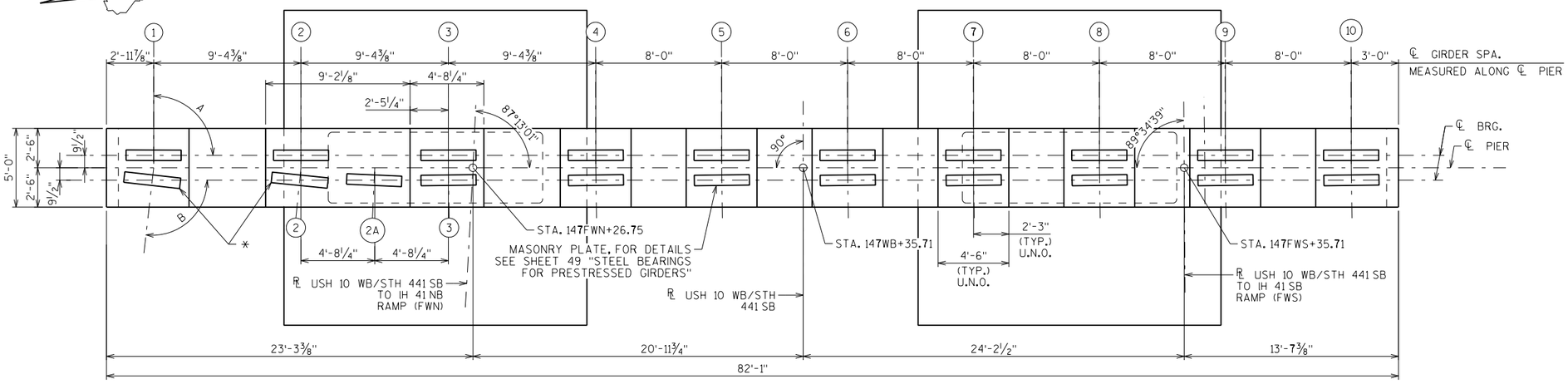
1517-07-77




ELEVATION
LOOKING EAST




SECTION
LOOKING SOUTH




PIER CAP PLAN

## NOTES

DRAWINGS SHALL NOT BE SCALED.

FOR PIER CAP REINFORCEMENT SEE SHEET 42 "CAP REINFORCING PIER 2".

FOR PIER SHAFT REINFORCEMENT SEE SHEET 37 "SHAFT REINFORCING - PIER 2".

FOR FOOTING GEOMETRY, PILE LAYOUT AND REINFORCEMENT SEE SHEET 35 "PIER FOOTINGS".

BEARING SEAT DIMENSIONS ARE MEASURED ALONG THE CENTERLINE OF THE PIER.

## LEGEND

△ KEYED STAGE CONSTRUCTION JOINT

◪ OPTIONAL KEYED STAGE CONSTRUCTION JOINT

* NON-STANDARD BEARING. BEARING PLATES ARE 1" LONGER THAN TYPICAL. FOR DETAILS SEE DETAILS ON SHEET 49 "STEEL BEARINGS FOR PRESTRESSED GIRDERS"

U.N.O. UNLESS NOTED OTHERWISE

## BEARING ALIGNMENT TABLE

| LOCATION | GIRDER LINE | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 2A | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| A | 89°56' 52" | 89°59' 32" | -- | 90°2' 11" | 90°4' 50" | 90°4' 50" | 90°4' 50" | 90°4' 50" | 90°4' 50" | 90°4' 50" | 90°4' 50" |
| B | 96°29' 32" | 95°49' 54" | 92°31' 25" | 89°11'55" | 89°11'55" | 89°11'55" | 89°11'55" | 89°11'55" | 89°11'55" | 89°11'55" | 89°11'55" |

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY KO | PLANS CK'D. PSK

PIER 2 GEOMETRY

SHEET 24 OF 109
331

DATE: 3/15/2016
I.D.

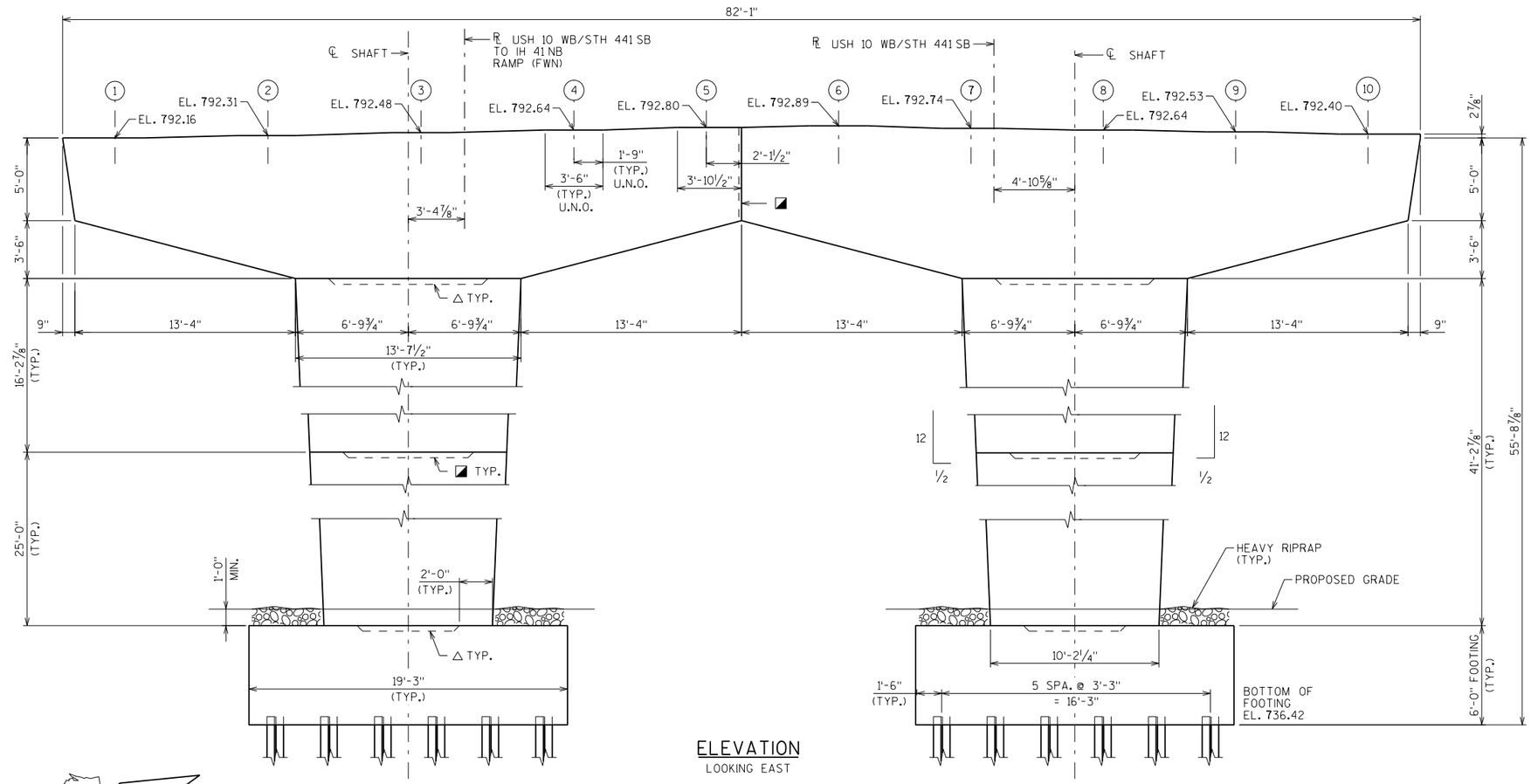
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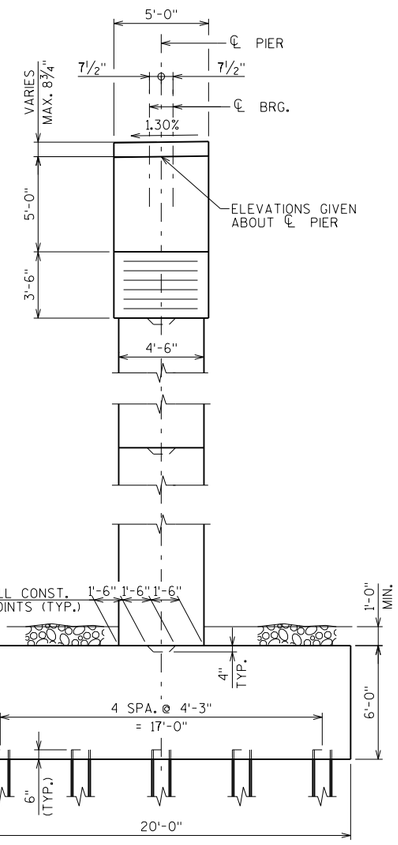
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STATE PROJECT NUMBER

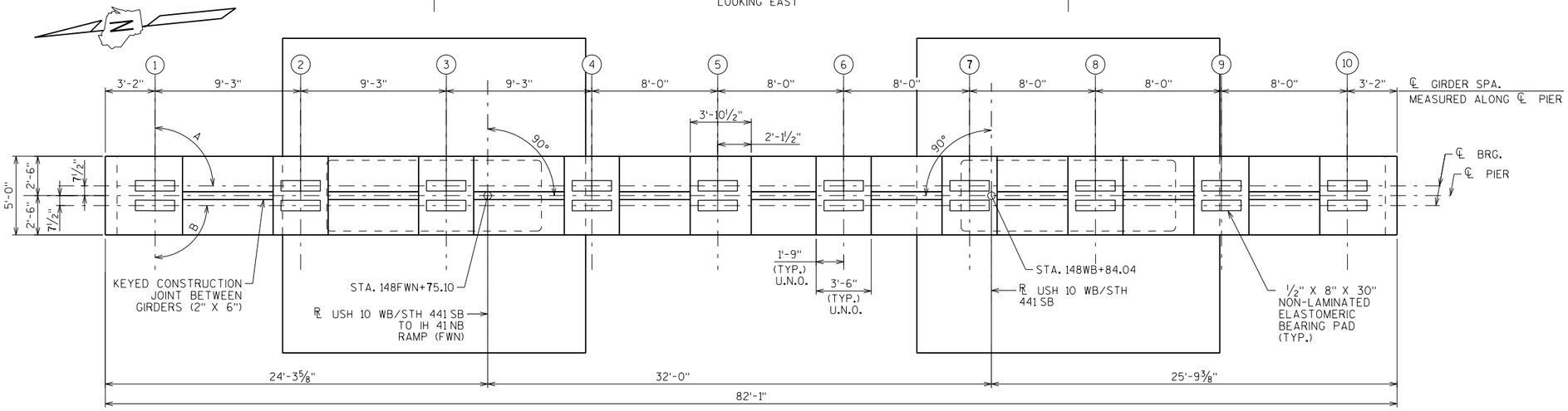
1517-07-77




## ELEVATION
LOOKING EAST




## SECTION
LOOKING SOUTH




## PIER CAP PLAN

## NOTES

DRAWINGS SHALL NOT BE SCALED.

FOR PIER CAP REINFORCEMENT SEE SHEET 43 "CAP REINFORCING PIER 3".

FOR PIER SHAFT REINFORCEMENT SEE SHEET 38 "SHAFT REINFORCING - PIERS 3-5".

FOR FOOTING GEOMETRY, PILE LAYOUT AND REINFORCEMENT SEE SHEET 35 "PIER FOOTINGS".

FOR KEYED CONSTRUCTION JOINT DETAIL AND FIXED BEARING DETAIL SEE SHEET 26 "PIER 4 GEOMETRY".

BEARING SEAT DIMENSIONS ARE MEASURED ALONG THE CENTERLINE OF THE PIER.

## LEGEND

△ KEYED STAGE CONSTRUCTION JOINT

◪ OPTIONAL KEYED STAGE CONSTRUCTION JOINT

U.N.O. UNLESS NOTED OTHERWISE

## BEARING ALIGNMENT TABLE

| LOCATION | GIRDER LINE | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| A | 90°0'0" | 90°0'0" | 90°0'0" | 90°0'0" | 90°0'0" | 90°0'0" | 90°0'0" | 90°0'0" | 90°0'0" | 90°0'0" |
| B | 90°3'8" | 90°0'28" | 89°57'49" | 89°55'10" | 89°55'10" | 89°55'10" | 89°55'10" | 89°55'10" | 89°55'10" | 89°55'10" |

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY KO | PLANS CK'D. PSK

PIER 3 GEOMETRY

SHEET 25 OF 109
332

DATE: 3/15/2016
I.D.

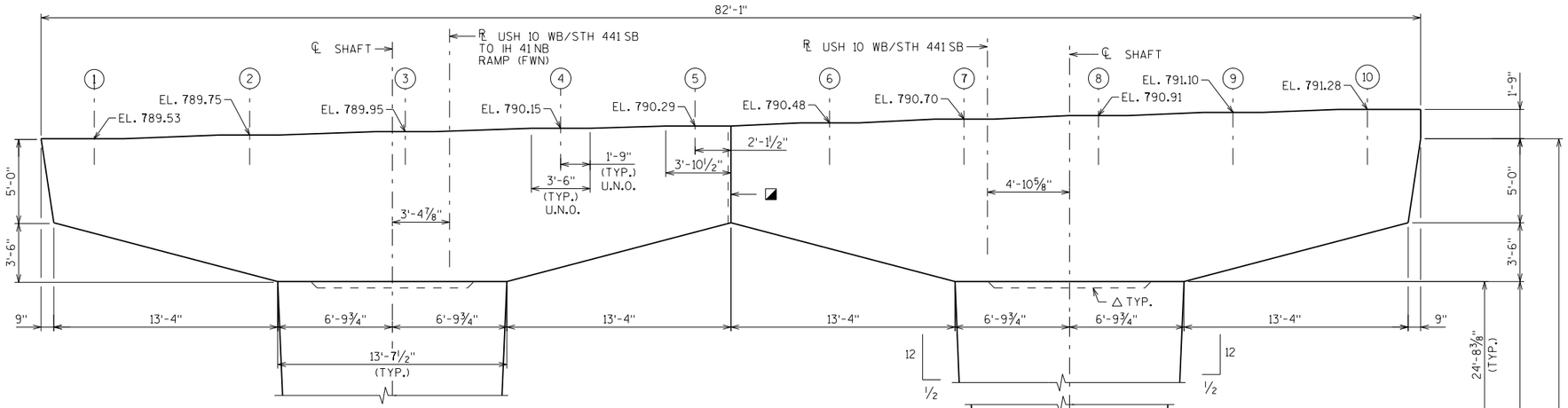
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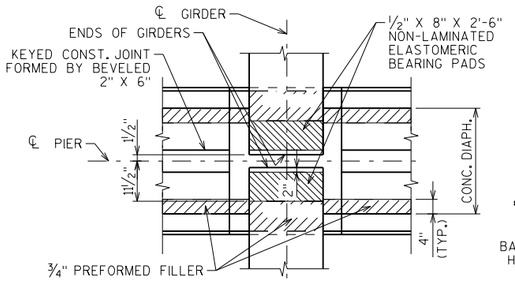
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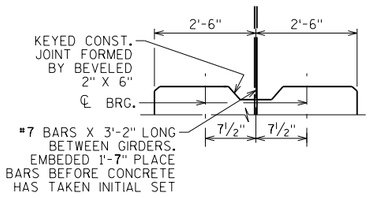
STATE PROJECT NUMBER

1517-07-77

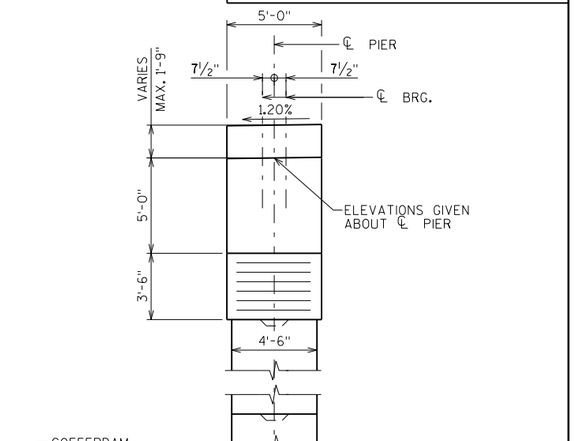



FIXED BEARING DETAIL




KEYED CONST. JOINT DETAIL 1

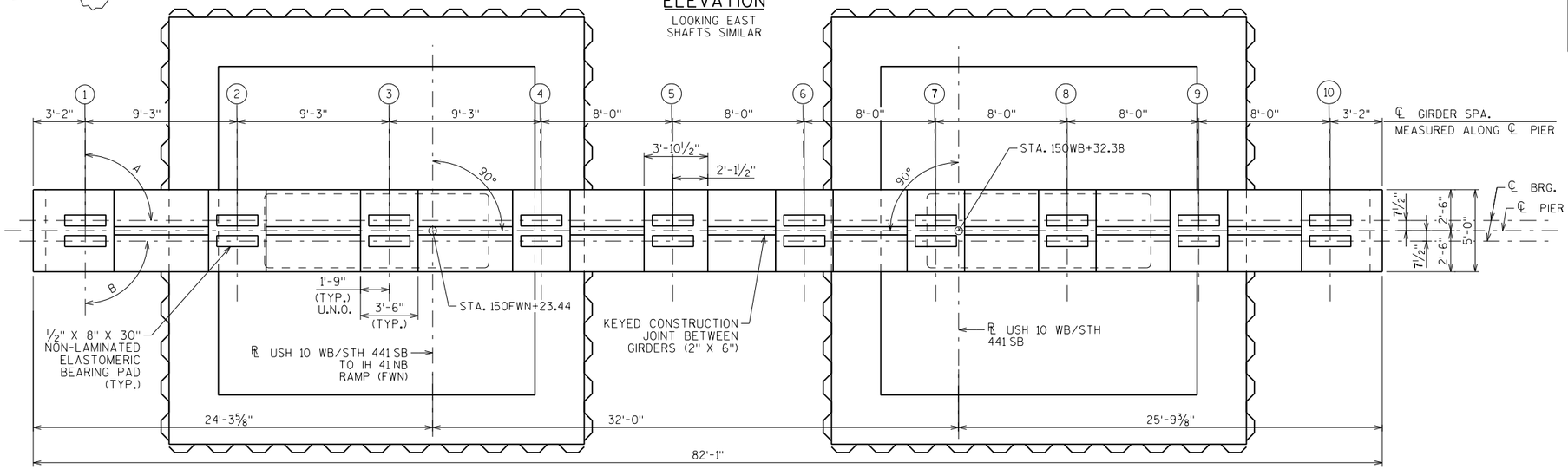



SECTION

LOOKING SOUTH

ELEVATION

LOOKING EAST
SHAFTS SIMILAR




PIER CAP PLAN

## NOTES

DRAWINGS SHALL NOT BE SCALED.

FOR PIER CAP REINFORCEMENT SEE SHEET 44 "CAP REINFORCING - PIER 4".

FOR PIER SHAFT REINFORCEMENT SEE SHEET 38 "SHAFT REINFORCING - PIERS 3-5".

FOR FOOTING GEOMETRY, PILE LAYOUT AND REINFORCEMENT SEE SHEET 35 "PIER FOOTINGS".

BEARING SEAT DIMENSIONS ARE MEASURED ALONG THE CENTERLINE OF THE PIER.

BACKFILL FOOTING TO STREAMBED ELEVATION.

## LEGEND

△ KEYED STAGE CONSTRUCTION JOINT

◪ OPTIONAL KEYED STAGE CONSTRUCTION JOINT

U.N.O. UNLESS NOTED OTHERWISE

## BEARING ALIGNMENT TABLE

| LOCATION | GIRDER LINE | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| A | 90°10' 38" | 90°10' 43" | 90°10' 47" | 90°36' 58" | 90°36' 59" | 90°37' 1" | 90°37' 2" | 90°37' 4" | 90°37' 5" | 90°37' 6" |
| B | 90°0' 0" | 90°0' 0" | 90°0' 0" | 90°0' 0" | 90°0' 0" | 90°0' 0" | 90°0' 0" | 90°0' 0" | 90°0' 0" | 90°0' 0" |

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY KO | PLANS CK'D. PSK

PIER 4 GEOMETRY

SHEET 26 OF 109
333

DATE: 4/8/2016
I.D.

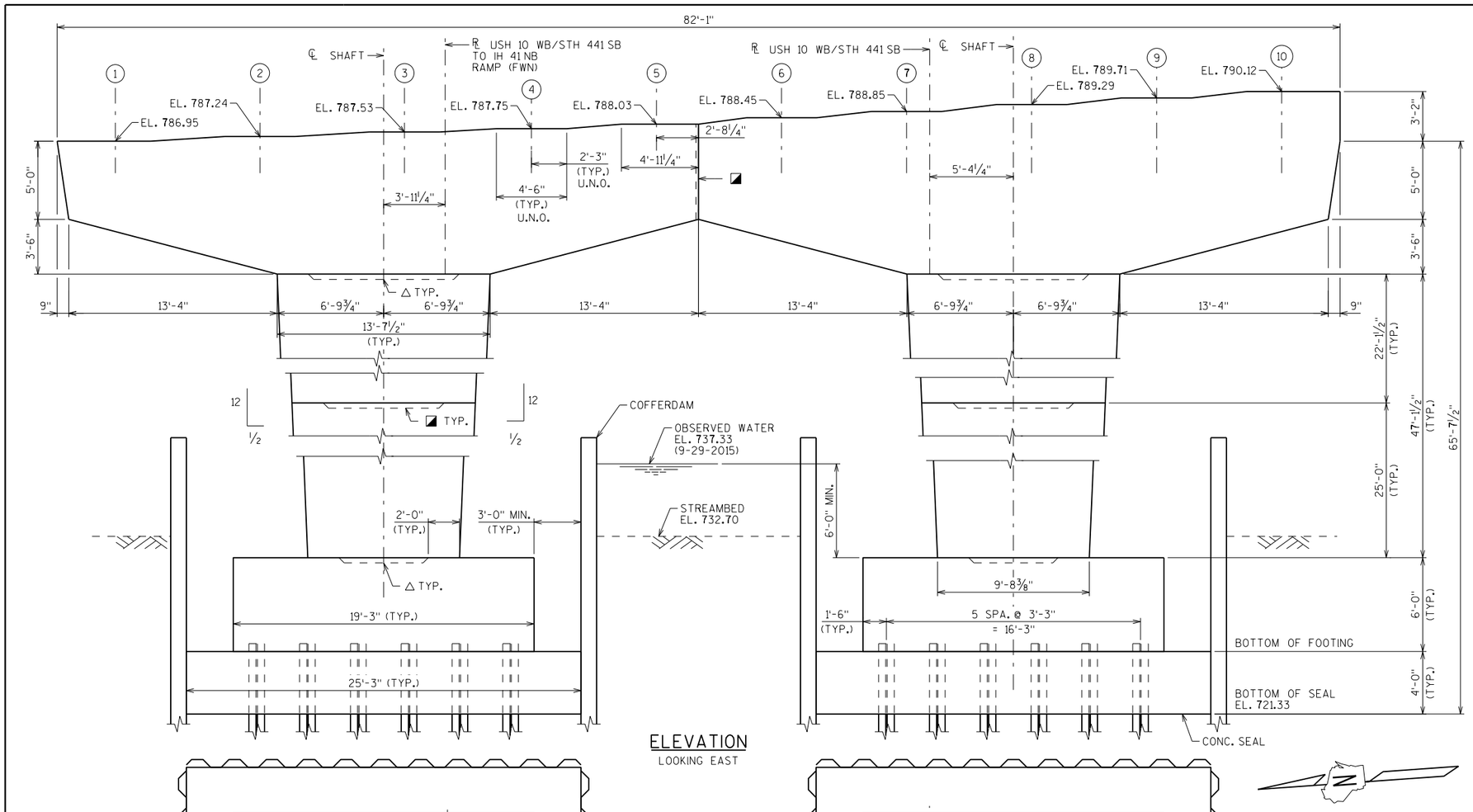
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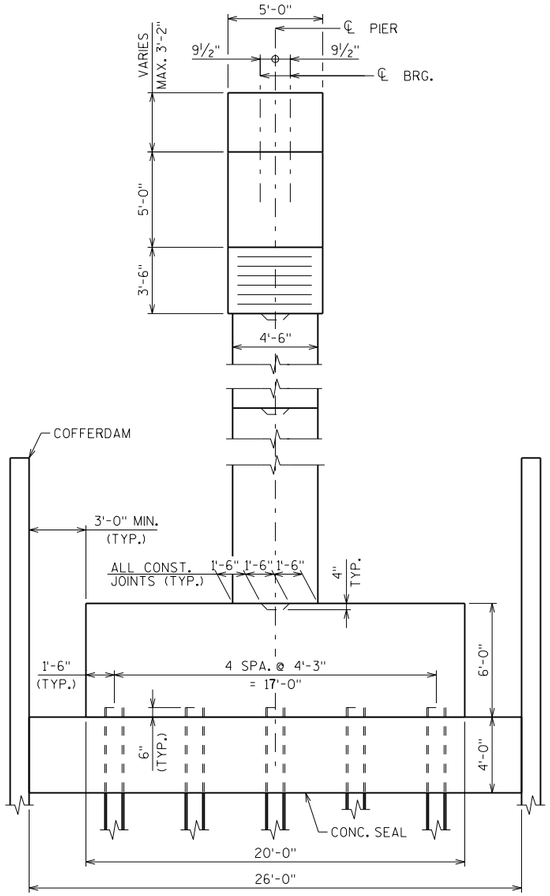
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STATE PROJECT NUMBER

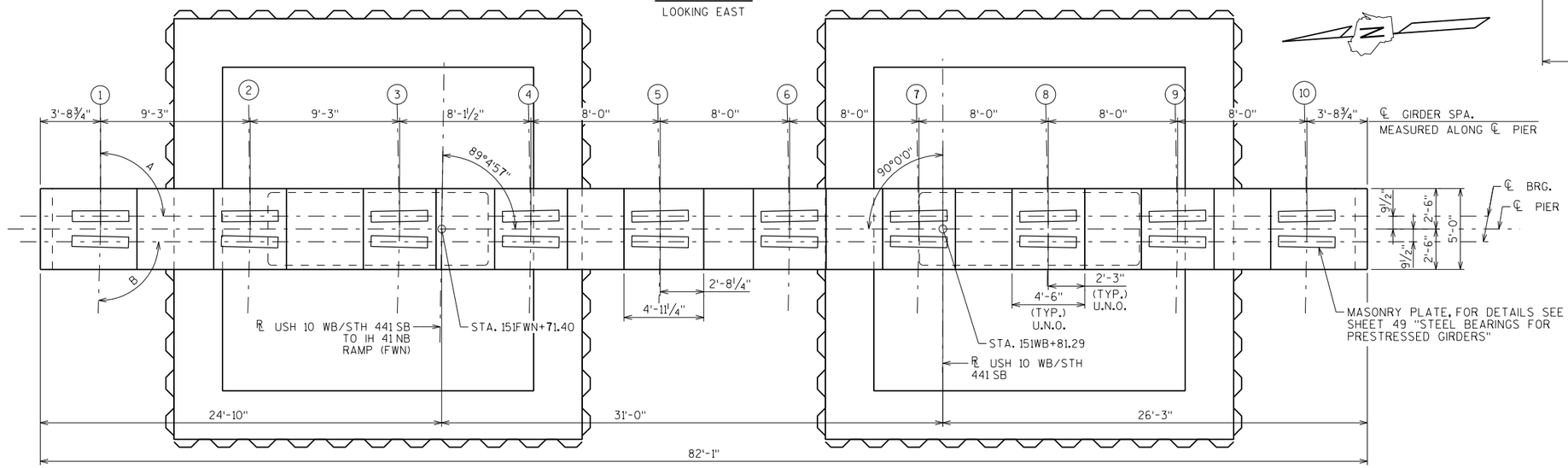
1517-07-77




ELEVATION
LOOKING EAST




SECTION
LOOKING SOUTH




PIER CAP PLAN

## NOTES

DRAWINGS SHALL NOT BE SCALED.

FOR PIER CAP REINFORCEMENT SEE SHEET 45 "CAP REINFORCING - PIER 5".

FOR PIER SHAFT REINFORCEMENT SEE SHEET 38 "SHAFT REINFORCING - PIERS 3-5".

FOR FOOTING GEOMETRY, PILE LAYOUT AND REINFORCEMENT SEE SHEET 35 "PIER FOOTINGS".

BEARING SEAT DIMENSIONS ARE MEASURED ALONG THE CENTERLINE OF THE PIER.

## LEGEND

△ KEYED STAGE CONSTRUCTION JOINT

◪ OPTIONAL KEYED STAGE CONSTRUCTION JOINT

U.N.O. UNLESS NOTED OTHERWISE

## BEARING ALIGNMENT TABLE

| LOCATION | GIRDER LINE | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| A | 90°6'52" | 90°37'35" | 91°8'9" | 91°11'12" | 91°11'13" | 91°11'13" | 91°11'13" | 91°11'14" | 91°11'14" | 91°11'14" |
| B | 91°33'1" | 91°32'56" | 91°32'51" | 91°6'41" | 91°6'39" | 91°6'38" | 91°6'37" | 91°6'35" | 91°6'34" | 91°6'32" |

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY KO | PLANS CK'D. PSK

PIER 5 GEOMETRY

SHEET 27 OF 109
334

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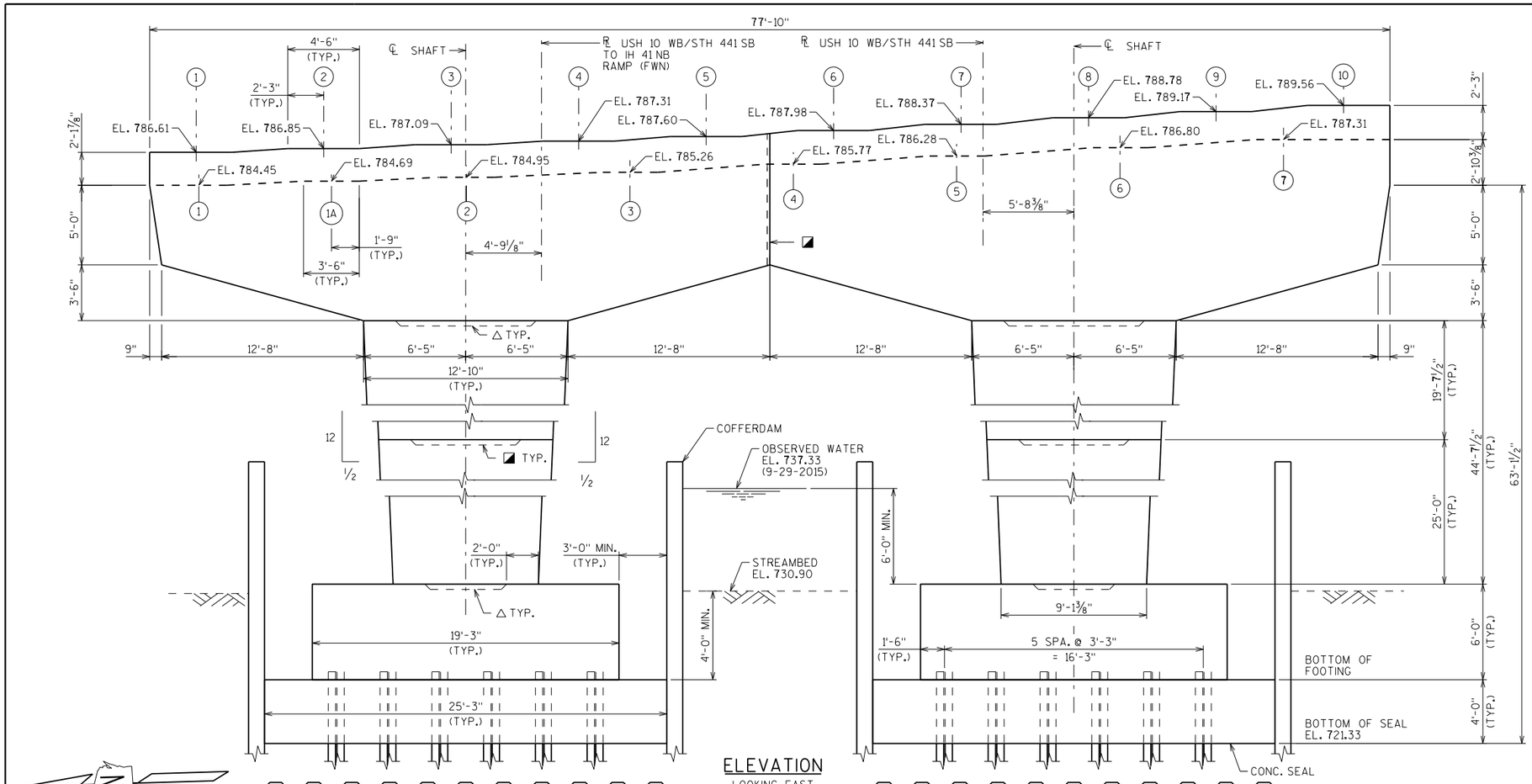
DATE: 3/15/2016
I.D.

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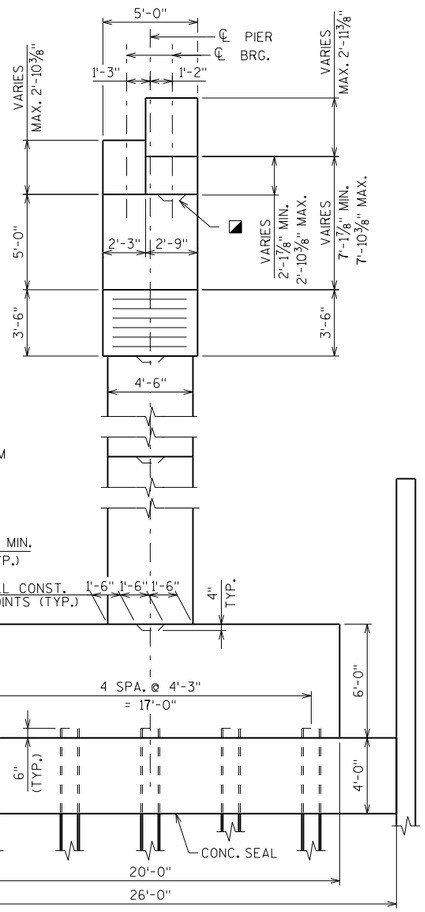
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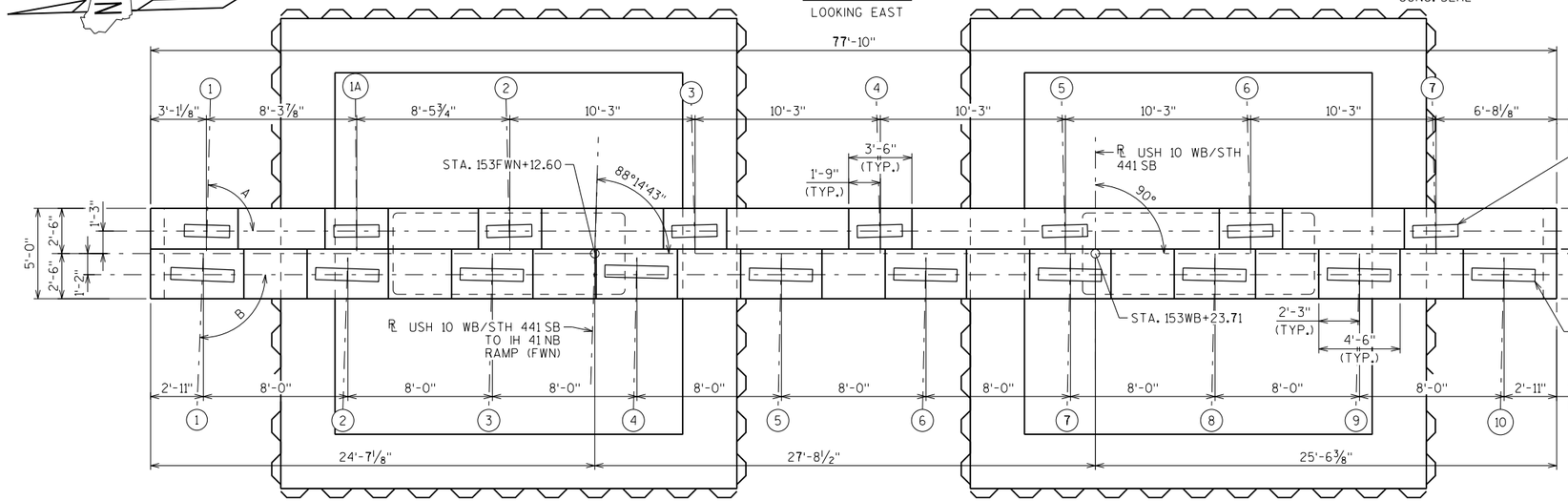
1517-07-77




ELEVATION
LOOKING EAST




SECTION
LOOKING SOUTH




PIER CAP PLAN

## NOTES

DRAWINGS SHALL NOT BE SCALED.

FOR PIER CAP REINFORCEMENT SEE SHEET 46 "CAP REINFORCING - PIER 6".

FOR PIER SHAFT REINFORCEMENT SEE SHEET 39 "SHAFT REINFORCING - PIER 6".

FOR FOOTING GEOMETRY, PILE LAYOUT AND REINFORCEMENT SEE SHEET 35 "PIER FOOTINGS".

BEARING SEAT DIMENSIONS ARE MEASURED ALONG THE CENTERLINE OF THE PIER.

## LEGEND

△ KEYED STAGE CONSTRUCTION JOINT

◪ OPTIONAL KEYED STAGE CONSTRUCTION JOINT

## BEARING ALIGNMENT TABLE

| LOCATION | GIRDER LINE | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| STEEL SPANS | 1 | 1A | 2 | 3 | 4 | 5 | 6 | 7 | | |
| A | 88°30'23" | 90°25'39" | 91°25'39" | 91°25'39" | 91°25'39" | 91°25'39" | 91°25'39" | 91°25'39" | | |
| CONC. SPANS | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| B | 92°20'10" | 91°49'27" | 91°18'53" | 91°15'50" | 91°15'49" | 91°15'49" | 91°15'49" | 91°15'48" | 91°15'48" | 91°15'48" |

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY KO | PLANS CK'D. PSK

PIER 6 GEOMETRY

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DATE: 3/15/2016
I.D.

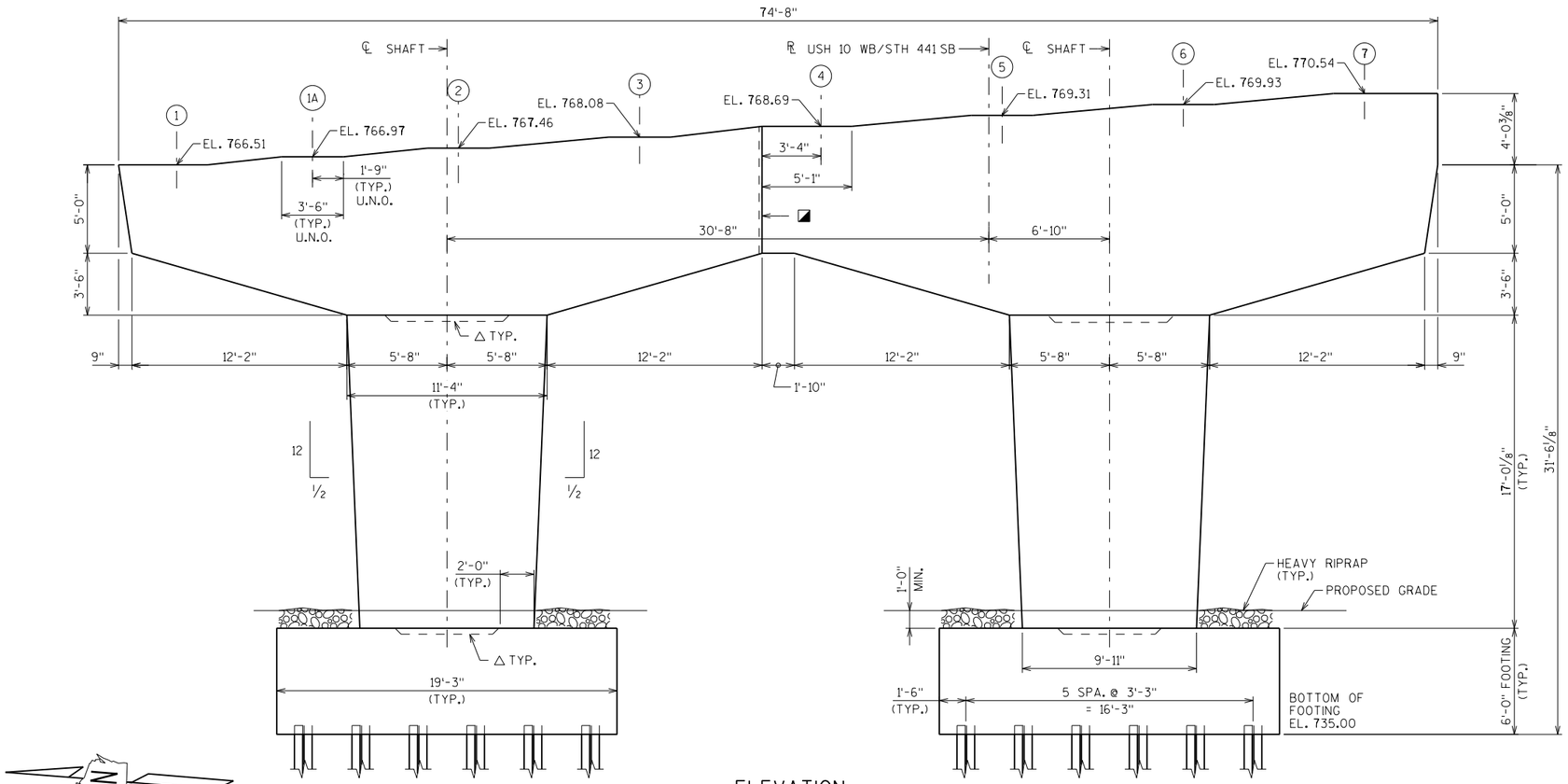
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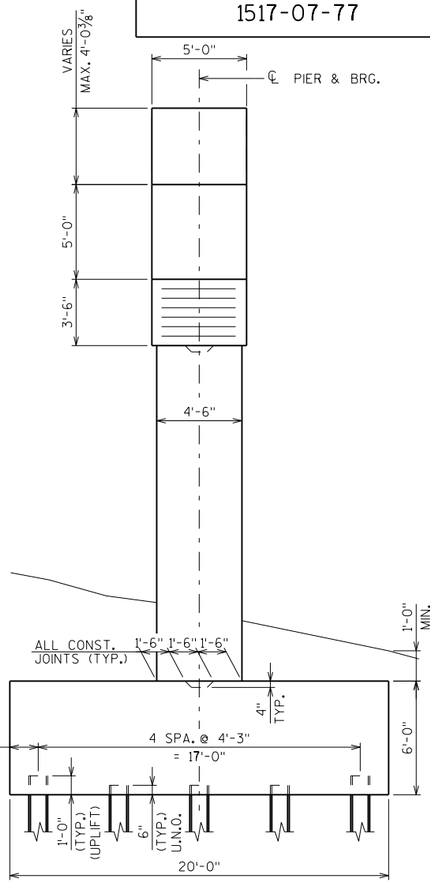
STATE PROJECT NUMBER

1517-07-77



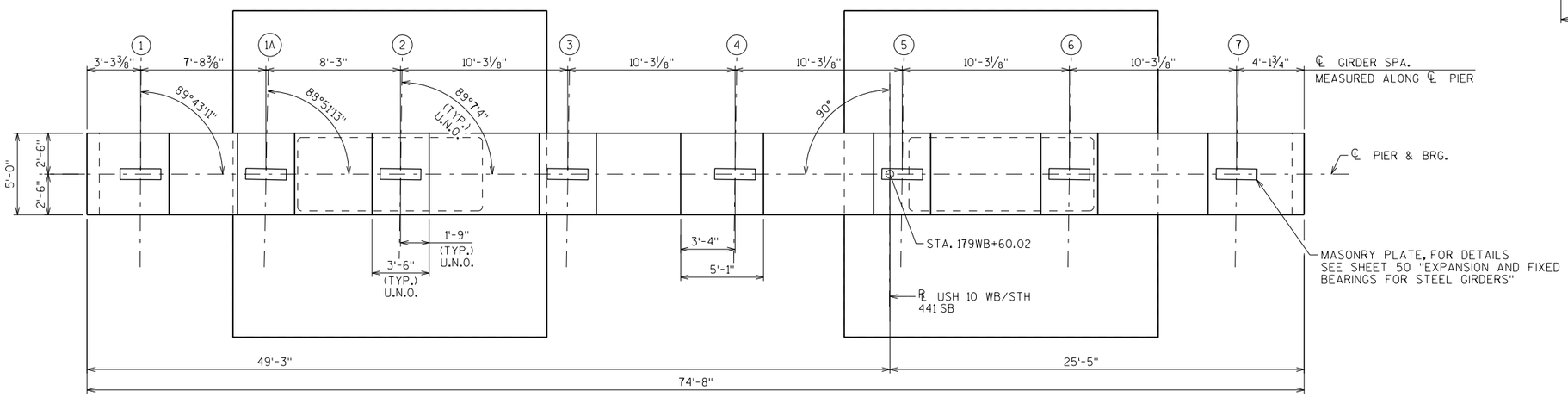

## ELEVATION

LOOKING EAST




## SECTION

LOOKING SOUTH




## PIER CAP PLAN

## NOTES

DRAWINGS SHALL NOT BE SCALED.

FOR PIER CAP REINFORCEMENT SEE SHEET 47 "CAP REINFORCING - PIER 21".

FOR PIER SHAFT REINFORCEMENT SEE SHEET 40 "SHAFT REINFORCING - PIER 21".

FOR FOOTING GEOMETRY, PILE LAYOUT AND REINFORCEMENT SEE SHEET 35 "PIER FOOTINGS".

## LEGEND

△ KEYED STAGE CONSTRUCTION JOINT

◪ OPTIONAL KEYED STAGE CONSTRUCTION JOINT

U.N.O. UNLESS NOTED OTHERWISE

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

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PIER 21 GEOMETRY

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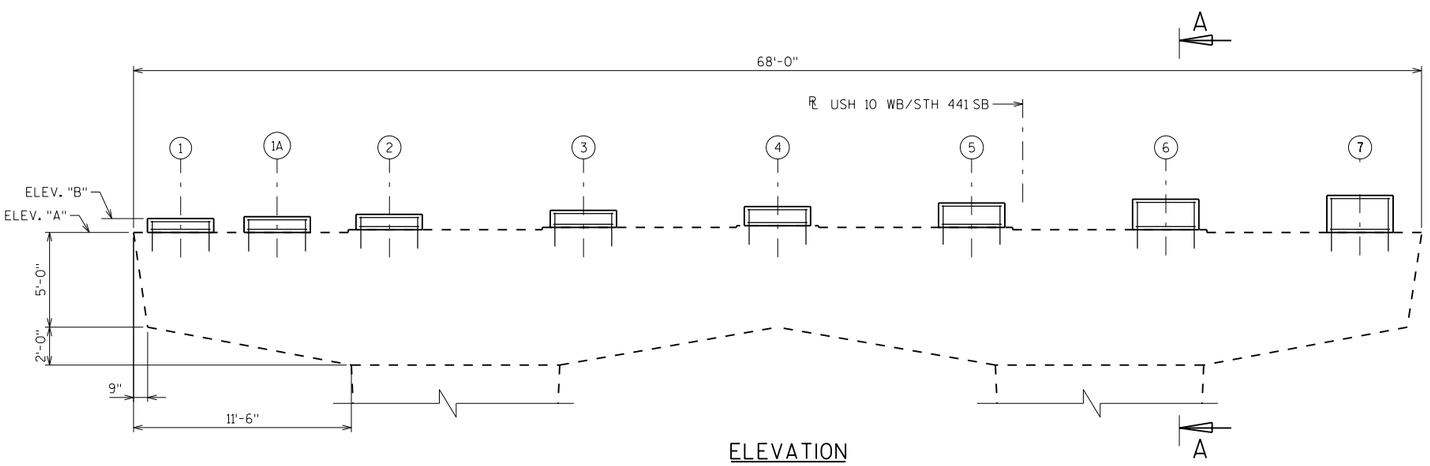
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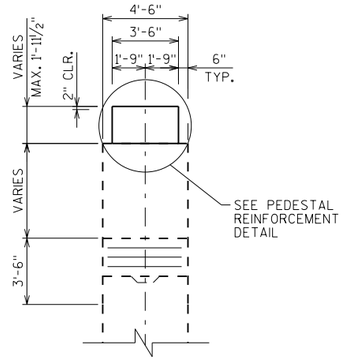
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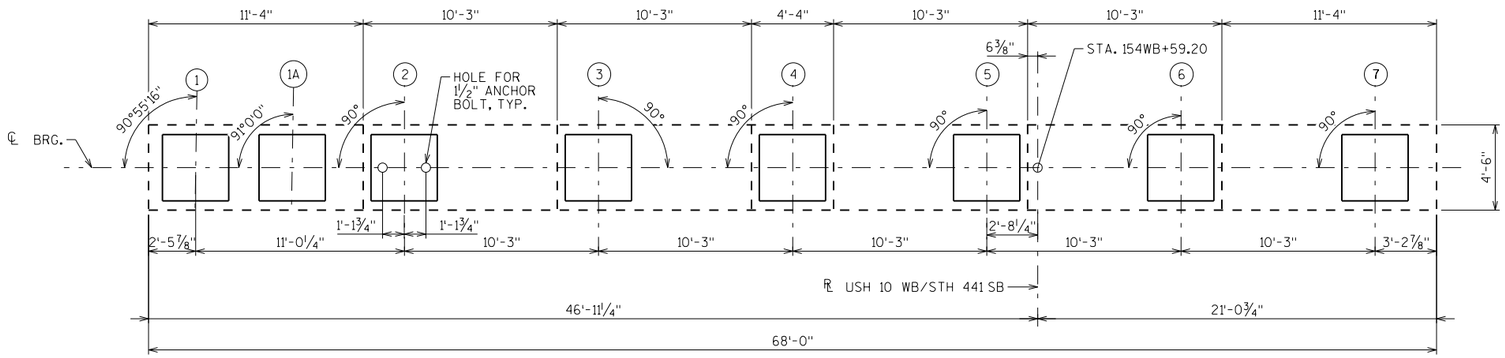
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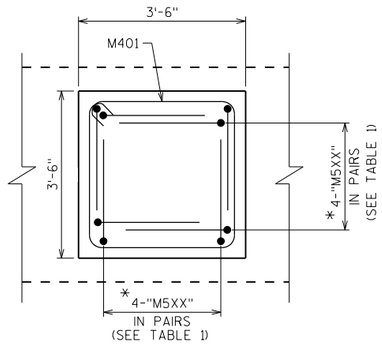

ELEVATION



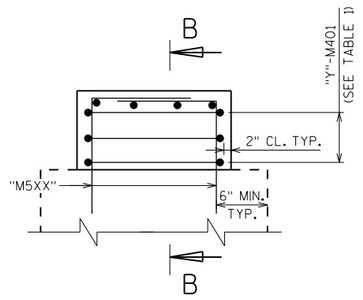

SECTION A-A




CAP PLAN




SECTION B-B




PEDESTAL REINFORCEMENT DETAIL

TABLE 1

| GIRDER | ELEV. "A" | ELEV. "B" | PEDESTAL HT. | "M4XX" | "Y"-M401 |
|---|---|---|---|---|---|
| 1 | 784.62 | 785.36 | 0'- 8 7/8" | M502 | 2 |
| 1A | 784.62 | 785.46 | 0'- 10" | M502 | 2 |
| 2 | 784.77 | 785.58 | 0'- 9 3/4" | M502 | 2 |
| 3 | 784.89 | 785.78 | 0'- 10 3/4" | M502 | 2 |
| 4 | 784.98 | 785.99 | 1'- 0 1/8" | M503 | 2 |
| 5 | 784.89 | 786.19 | 1'- 3 1/2" | M504 | 2 |
| 6 | 784.77 | 786.38 | 1'- 7 3/8" | M505 | 3 |
| 7 | 784.62 | 786.58 | 1'- 11 1/2" | M506 | 3 |

## NOTES

MASONRY ANCHORS TYPE L NO. 5 BARS. EMBED 9" IN CONCRETE.

EXISTING PIER CAP BEAM SEAT ELEVATIONS ARE OBTAINED USING ELEVATIONS FROM EXISTING PLANS AND CORRECTING TO NGVD29 BY ADDING 0.62'. THE CONTRACTOR SHALL FIELD VERIFY THE REQUIRED HEIGHT OF THE PEDESTALS PRIOR TO PERFORMING WORK.

LOCATE NO. 11 REINFORCING BARS IN PIER CAP PRIOR TO DRILLING FOR 1½" Φ ANCHOR BOLTS.

SEE SHEET 31 "PIER 19 MODIFICATIONS" FOR BILL OF BARS AND BEND DETAILS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY KMP | PLANS CK'D. NPP

PIER 7 MODIFICATIONS

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337

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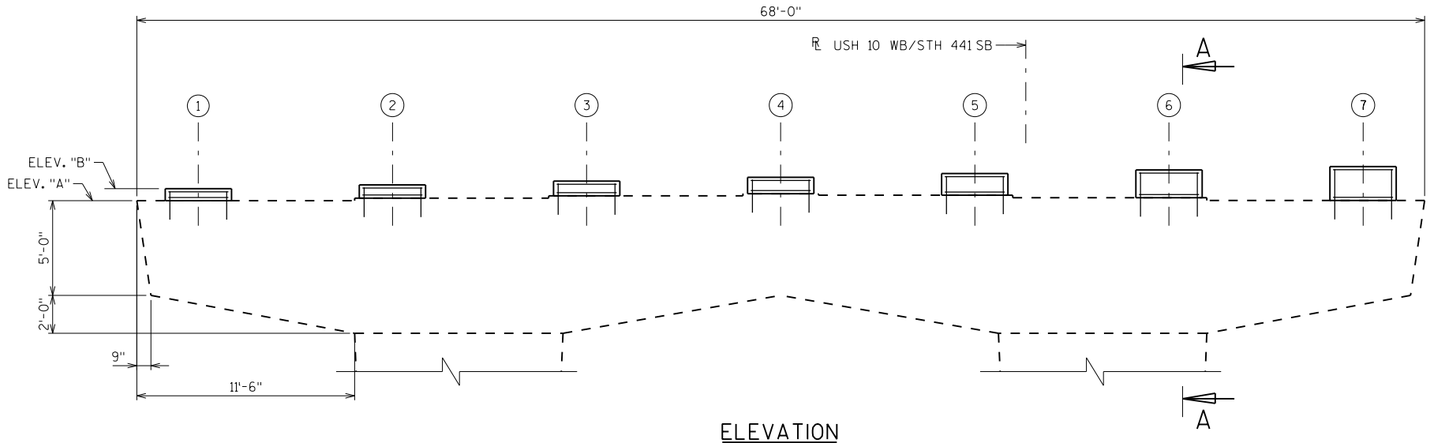
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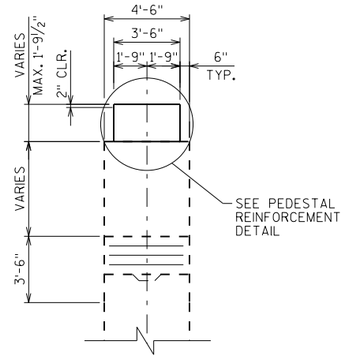
DATE: 3/15/2016
I.D.

STATE PROJECT NUMBER

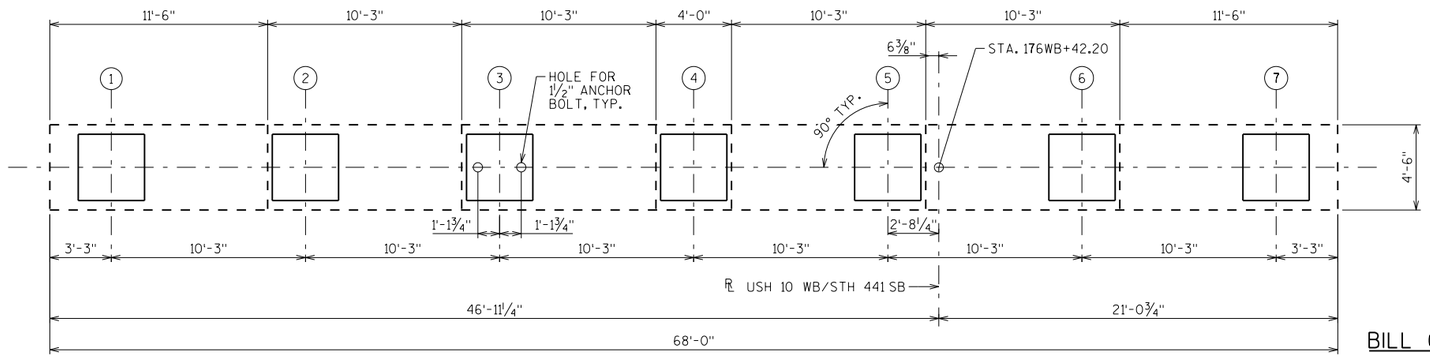
1517-07-77




ELEVATION




SECTION A-A



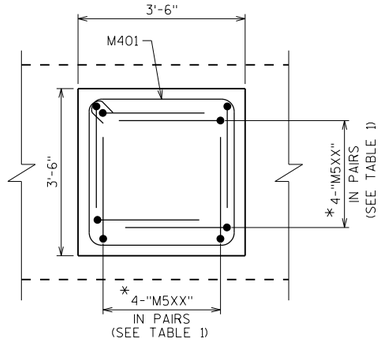

PLAN

## TABLE 1

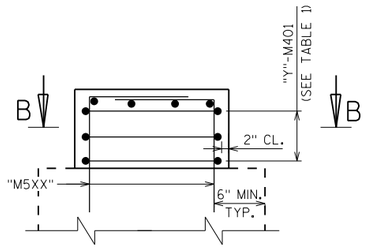
| GIRDER | ELEV. "A" | ELEV. "B" | PEDESTAL HT. | "M5XX" | "Y"-M401 |
|---|---|---|---|---|---|
| 1 | 767.88 | 768.51 | 0'- 7 1/2" | M502 | 2 |
| 2 | 768.02 | 768.71 | 0'- 8 1/4" | M502 | 2 |
| 3 | 768.14 | 768.92 | 0'- 9 3/8" | M507 | 2 |
| 4 | 768.25 | 769.12 | 0'- 10 1/2" | M507 | 2 |
| 5 | 768.17 | 769.31 | 1'- 1 5/8" | M508 | 2 |
| 6 | 768.04 | 769.50 | 1'- 5 1/2" | M509 | 3 |
| 7 | 767.89 | 769.68 | 1'- 9 1/2" | M510 | 3 |

## BILL OF BARS - PIER MODIFICATIONS (ALL BARS ARE COATED)

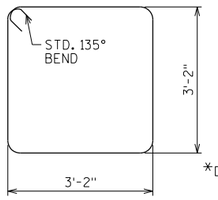
| BAR MARK | NO. REQ'D | LENGTH | BENT | SERIES | LOCATION |
|---|---|---|---|---|---|
| COATED | | | | | TOTAL = 1,340 LB |
| M401 | 34 | 7'-0" | X | | CLOSED STIRRUPS (PIER 7 AND 19) |
| M502 | 96 | 4'-3" | X | | MASONRY ANCHOR (PIER 7 AND PIER 19) |
| M503 | 16 | 4'-6" | X | | MASONRY ANCHOR (PIER 7) |
| M504 | 16 | 5'-1" | X | | MASONRY ANCHOR (PIER 7) |
| M505 | 16 | 5'-5" | X | | MASONRY ANCHOR (PIER 7) |
| M506 | 16 | 5'-9" | X | | MASONRY ANCHOR (PIER 7) |
| M507 | 32 | 4'-4" | X | | MASONRY ANCHOR (PIER 19) |
| M508 | 16 | 4'-8" | X | | MASONRY ANCHOR (PIER 19) |
| M509 | 16 | 5'-0" | X | | MASONRY ANCHOR (PIER 19) |
| M510 | 16 | 5'-4" | X | | MASONRY ANCHOR (PIER 19) |
| | | | | | |



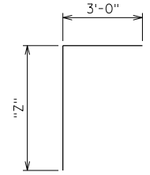

SECTION B-B




PEDESTAL REINFORCEMENT DETAIL




M401




* M502 THRU M506

*DENOTES BAR IS A TYPE L MASONRY ANCHOR

| MARK | "Z" |
|---|---|
| M502 | 1'-4" |
| M503 | 1'-7" |
| M504 | 2'-2" |
| M505 | 2'-6" |
| M506 | 2'-10" |
| M507 | 1'-5" |
| M508 | 1'-9" |
| M509 | 2'-1" |
| M510 | 2'-5" |

## NOTES

MASONRY ANCHORS TYPE L NO. 5 BARS. EMBED 9" IN CONCRETE.

EXISTING PIER CAP BEAM SEAT ELEVATIONS ARE OBTAINED USING ELEVATIONS FROM EXISTING PLANS AND CORRECTING TO NGVD29 BY ADDING 0.62'. THE CONTRACTOR SHALL FIELD VERIFY THE REQUIRED HEIGHT OF THE PEDESTALS PRIOR TO PERFORMING WORK.

LOCATE NO. 11 REINFORCING BARS IN PIER CAP PRIOR TO DRILLING FOR 1½" Φ ANCHOR BOLTS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY KMP | PLANS CK'D. NPP

PIER 19 MODIFICATIONS

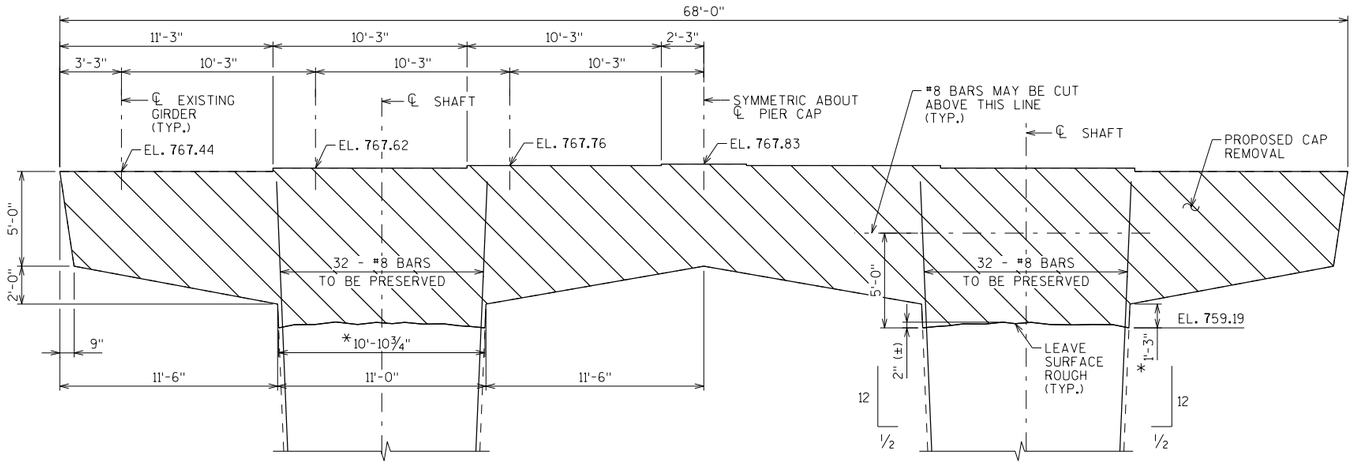
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I.D.

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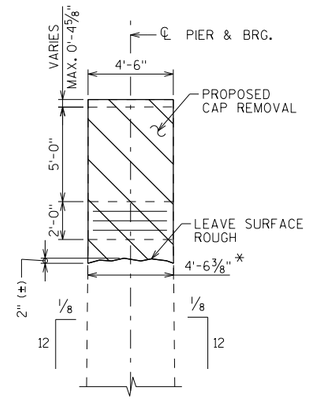
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## EXISTING PIER 20 ELEVATION

(PIER 17 IN EXISTING PLANS)
LOOKING EAST




## EXISTING PIER 20 SECTION

LOOKING SOUTH

## NOTES

DRAWINGS SHALL NOT BE SCALED.

FOR PIER CAP REINFORCEMENT SEE SHEET 33 "PIER 20 DETAILS".

VERTICAL SHAFT BARS ARE TO BE CLEANED OF DEBRIS PRIOR TO POURING NEW CONCRETE.

PIER CAP REMOVAL IS PAID FOR UNDER THE BID ITEM "REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 147WB+54.00".

ELEVATIONS SHOWN FOR THE EXISTING BRIDGE ARE BASED ON THE EXISTING PLANS, WITH A DATUM CORRECTION OF +0.62'. ACTUAL ELEVATIONS MAY VARY.

## LEGEND

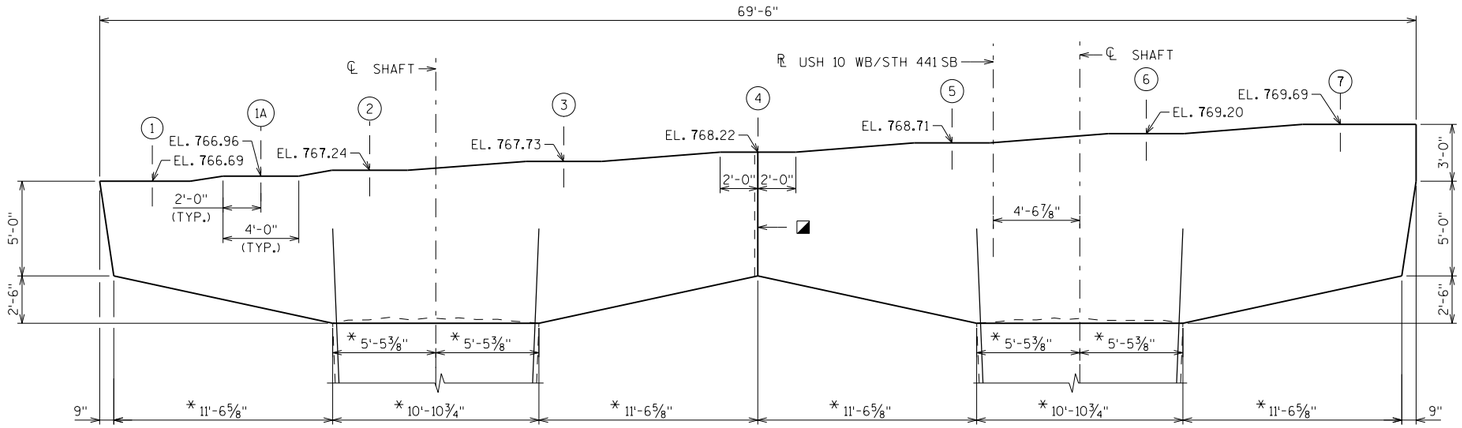
◪ OPTIONAL KEYED STAGE CONSTRUCTION JOINT

U.N.O. UNLESS NOTED OTHERWISE

* ELEVATIONS OF THE EXISTING PIER CAP SHALL BE VERIFIED IN THE FIELD PRIOR TO REMOVAL. THESE DIMENSIONS TO BE ADJUSTED AS NECESSARY.

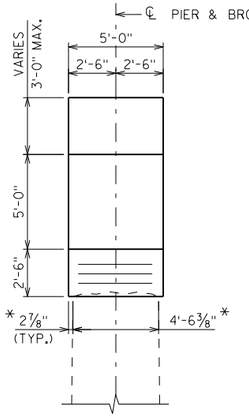
▨ PROPOSED REMOVAL OF EXISTING CAP

① GIRDER NUMBER



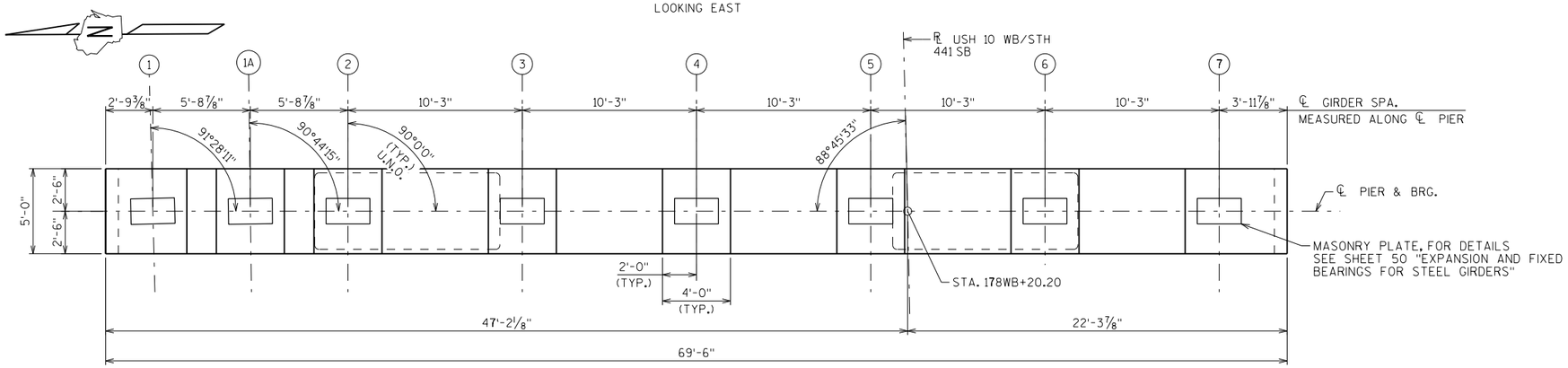

## PROPOSED CAP REPLACEMENT ELEVATION

LOOKING EAST




## PROPOSED CAP REPLACEMENT SECTION

LOOKING SOUTH




## PROPOSED CAP REPLACEMENT PLAN

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY PSK | PLANS CK'D. KO

PIER 20 MODIFICATIONS

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STATE PROJECT NUMBER
1517-07-77

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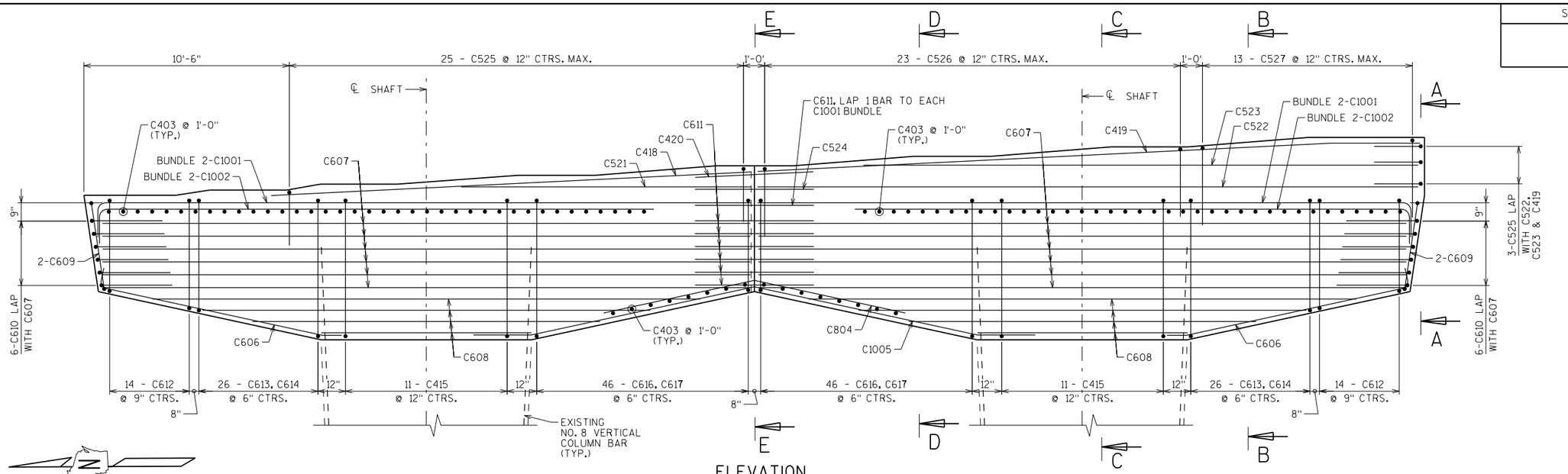
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I.D.

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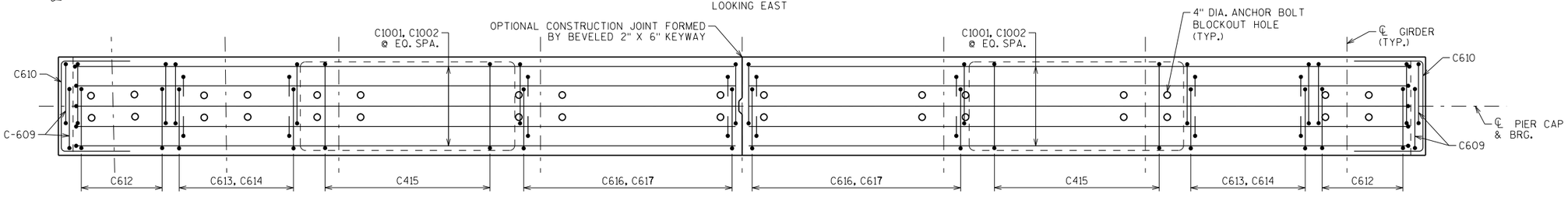
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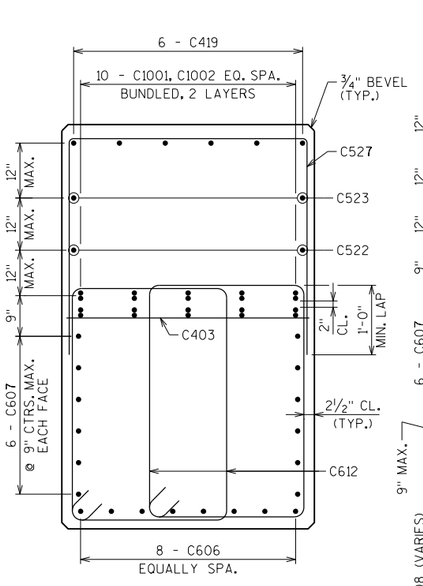
1517-07-77



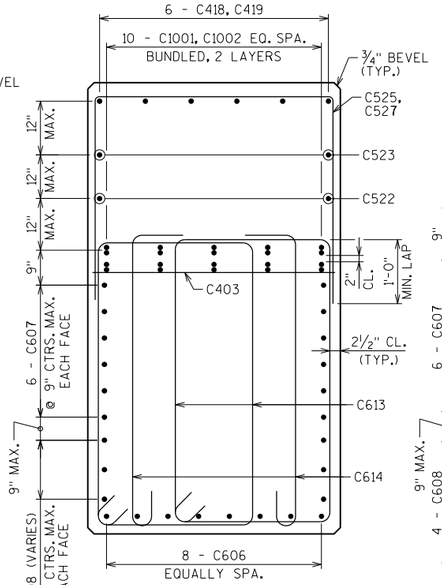

## ELEVATION
LOOKING EAST



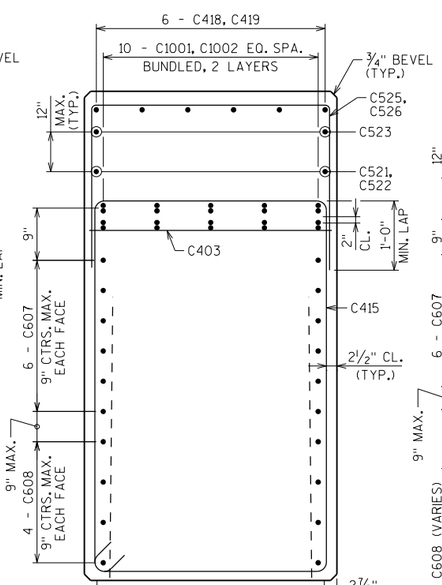

## PLAN



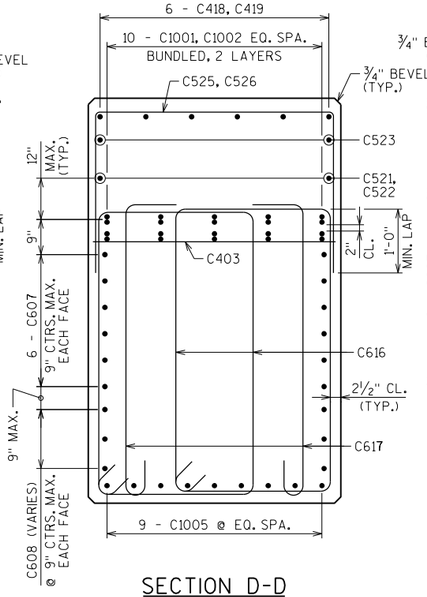

## SECTION A-A



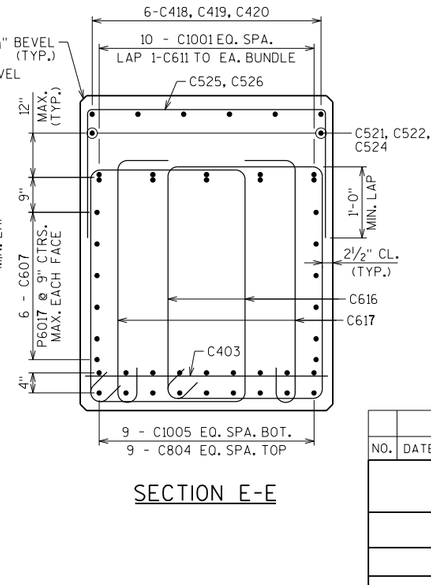

## SECTION B-B




## SECTION C-C




## SECTION D-D




## SECTION E-E

## MINIMUM BAR LAPS
(UNLESS NOTED OTHERWISE)

LAP #4 BARS MIN. 1'-11"

LAP #5 BARS MIN. 2'-5"

LAP #6 BARS MIN. 2'-11"

## NOTES

DRAWINGS SHALL NOT BE SCALED.

WORK THIS SHEET WITH SHEET 32 "PIER 20 MODIFICATIONS".

FOR BAR DETAILS AND BILL OF BARS SEE SHEET 34 "PIER 20 BILL OF BARS".

SHIFT BARS TO PROVIDE CLEARANCE FOR ANCHOR BOLTS AT BEARINGS UNDER SUPERVISION OF THE FIELD ENGINEER. IF SHIFTING STIRRUPS IS REQUIRED, MAINTAIN MINIMUM CLEAR COVER.

TOTAL NUMBER OF C403 BARS : 72

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

# STRUCTURE B-70-61

DRAWN BY PSK | PLANS CK'D. KO

PIER 20 DETAILS

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FILE= P:\WisDOT_12345678_10-441\Plans\B-70-61\Control Copy\Final Plans, 2015\034 B-70-61 - Pier 20 Details.dgn

DATE: 3/15/2016
I.D.

STATE PROJECT NUMBER

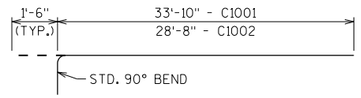
1517-07-77

# BILL OF BARS - PIER 20 CAP REPLACEMENT

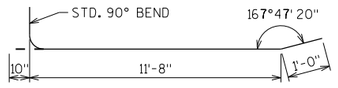
| BAR MARK | NO. REQ'D | LENGTH | BENT | SERIES | LOCATION |
|---|---|---|---|---|---|
| UNCOATED | | | | | TOTAL = 17,840 LB |
| C1001 | 20 | 35'-4" | X | | PIER 20 - TOP BAR |
| C1002 | 20 | 30'-2" | X | | PIER 20 - TOP BAR |
| C403 | 72 | 4'-7" | | | PIER 20 - TIE BAR |
| C804 | 9 | 16'-0" | X | | PIER 20 - BOTTOM BAR |
| C1005 | 9 | 29'-8" | X | | PIER 20 - BOTTOM BAR |
| C606 | 16 | 13'-6" | X | | PIER 20 - BOTTOM BAR |
| C607 | 24 | 33'-7" | | | PIER 20 - HORIZONTAL BAR |
| C608 | 16 | 19'-5" | | X | PIER 20 - HORIZONTAL BAR |
| C609 | 4 | 16'-2" | X | | PIER 20 - STIRRUPS |
| C610 | 12 | 11'-5" | X | | PIER 20 - STIRRUPS |
| C611 | 17 | 6'-6" | | | PIER 20 - LAP BAR |
| C612 | 28 | 17'-2" | X | X | PIER 20 - STIRRUPS |
| C613 | 52 | 19'-9" | X | X | PIER 20 - STIRRUPS |
| C614 | 52 | 7'-11" | X | X | PIER 20 - STIRRUPS |
| C415 | 22 | 23'-10" | X | | PIER 20 - STIRRUPS |
| C616 | 92 | 18'-8" | X | X | PIER 20 - STIRRUPS |
| C617 | 92 | 7'-4" | X | X | PIER 20 - STIRRUPS |
| C418 | 6 | 25'-0" | | | PIER 20 - SEAT BAR |
| C419 | 6 | 34'-4" | | | PIER 20 - SEAT BAR |
| C420 | 6 | 4'-6" | | | PIER 20 - LAP BAR |
| C521 | 2 | 15'-0" | | | PIER 20 - HORIZONTAL BAR |
| C522 | 2 | 34'-3" | | | PIER 20 - HORIZONTAL BAR |
| C523 | 2 | 28'-10" | | | PIER 20 - HORIZONTAL BAR |
| C524 | 2 | 5'-6" | | | PIER 20 - LAP BAR |
| C525 | 28 | 9'-6" | X | | PIER 20 - STIRRUPS |
| C526 | 23 | 11'-4" | X | | PIER 20 STIRRUPS |
| C527 | 13 | 12'-4" | X | | PIER 20 STIRRUPS |

## BAR SERIES TABLE

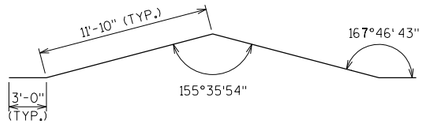
| MARK | NO. REQUIRED | LENGTH |
|---|---|---|
| C608 | 4 SERIES OF 4 | 10'-11" TO 27'-11" |
| C612 | 4 SERIES OF 7 | 16'-2" TO 18'-2" |
| C613 | 4 SERIES OF 13 | 18'-6" TO 21'-0" |
| C614 | 4 SERIES OF 13 | 7'-3" TO 8'-6" |
| C616 | 4 SERIES OF 23 | 16'-4" TO 21'-0" |
| C617 | 4 SERIES OF 23 | 6'-2" TO 8'-6" |



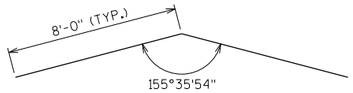

C1001, C1002



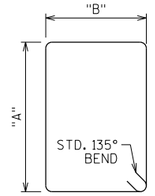

C606




C1005



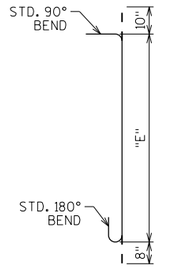

C804




HOOP STIRRUP
SEE TABLE

## HOOP STIRRUP TABLE

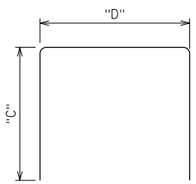
| MARK | "A" | "B" |
|---|---|---|
| C609 | 4'-7" | 3'-1" |
| C612 | 4'-7" TO 5'-7" | 3'-1" |
| C613 | 5'-9" TO 7'-0" | 3'-1" |
| C415 | 7'-1" | 4'-7" |
| C616 | 4'-8" TO 7'-0" | 3'-1" |
| | | |
| | | |




## TIE STIRRUP TABLE

| MARK | "E" |
|---|---|
| C614 | 5'-9" TO 7'-0" |
| C617 | 4'-8" TO 7'-0" |
| | |

TIE STIRRUP TABLE
SEE TABLE




U-BAR STIRRUP
SEE TABLE

## U-BAR STIRRUP TABLE

| MARK | "C" | "D" |
|---|---|---|
| C610 | 3'-7" | 4'-7" |
| C525 | 2'-7" | 4'-7" |
| C526 | 3'-6" | 4'-7" |
| C527 | 4'-0" | 4'-7" |
| | | |

## NOTES

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY PSK | PLANS CK'D. KO

PIER 20
BILL OF BARS

SHEET 34 OF 109
341

DATE: 3/15/2016
I.D.

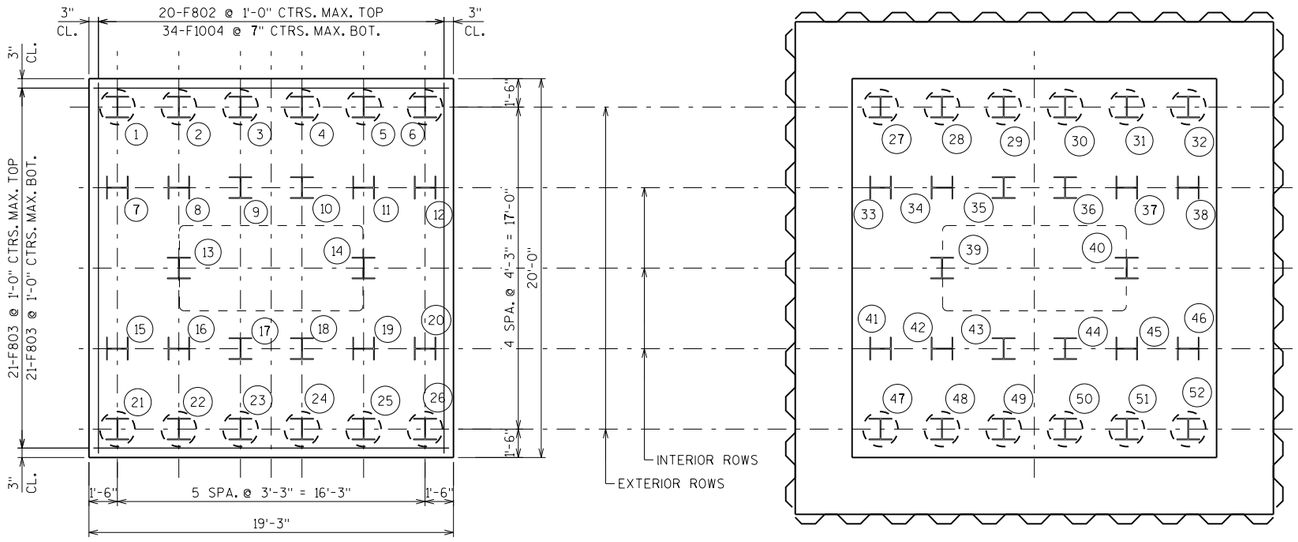
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8

8

STATE PROJECT NUMBER

1517-07-77




NORTH FOOTING

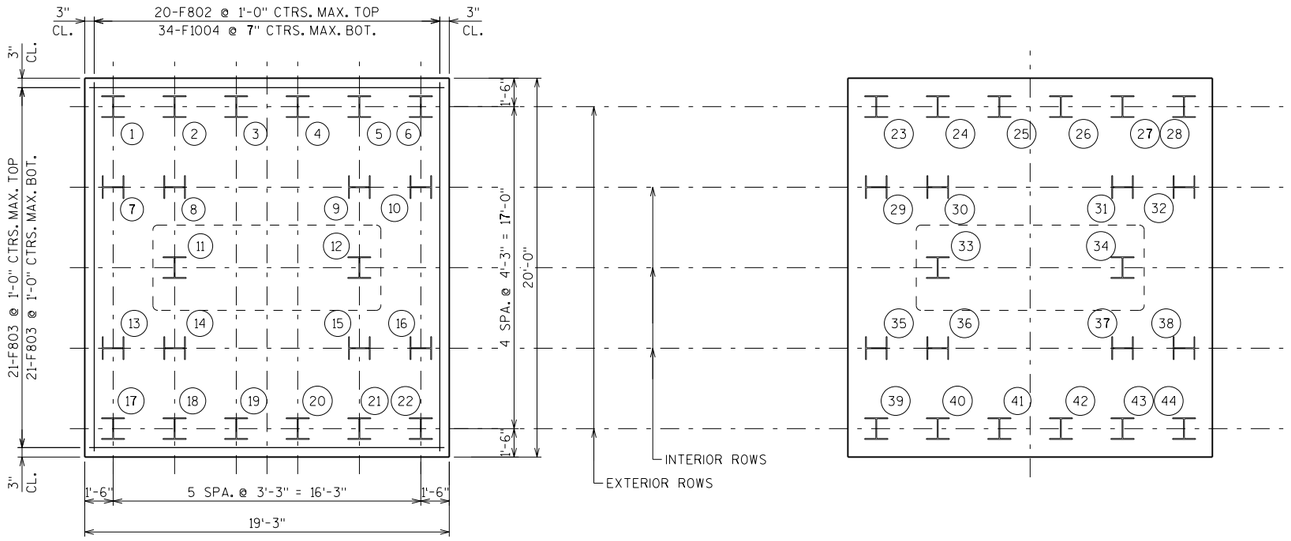


SOUTH FOOTING

DETAILS FOR NORTH AND SOUTH FOOTINGS SIMILAR. COFFERDAM AND SEAL SHOWN ARE TYPICAL FOR PIERS 4 THROUGH 6.

## PIERS 3, 4, 5, 6 AND 21

UPLIFT PILES ARE REQUIRED AT PIER 21 ONLY. SEE UPLIFT CONNECTION DETAIL ON THIS SHEET.



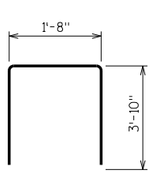

NORTH FOOTING



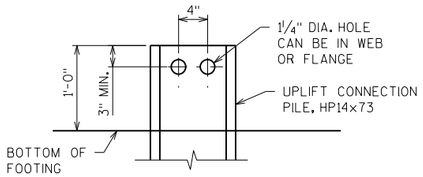
SOUTH FOOTING

DETAILS FOR NORTH AND SOUTH FOOTINGS SIMILAR.

## PIERS C1 AND 2



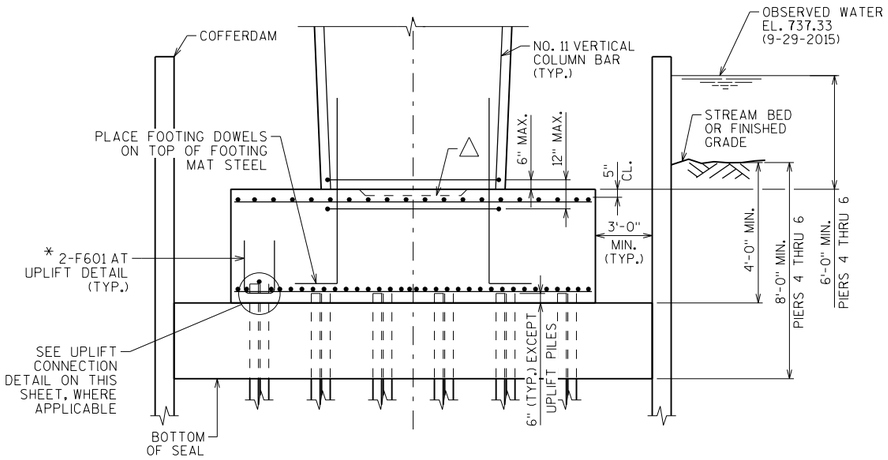

F601




UPLIFT CONNECTION DETAIL

## BILL OF BARS

| BAR MARK | NO. REQ'D | LENGTH | BENT | SERIES | LOCATION |
|---|---|---|---|---|---|
| UNCOATED | | | | | TOTAL = 84,650 LB |
| F601 | 48 | 9'-0" | X | | PIER 21 FOOTING UPLIFT BAR |
| F802 | 280 | 19'-6" | | | PIERS C1, 2 THRU 6 AND 21 FOOTING TOP LONGITUDINAL BAR |
| F803 | 588 | 18'-9" | | | PIERS C1, 2 THRU 6 AND 21 FOOTING TOP AND BOT. TRANSVERSE BAR |
| F1004 | 476 | 19'-6" | | | PIERS C1, 2 THRU 6 AND 21 FOOTING BOT. LONGITUDINAL BAR |
| | | | | | |




## ELEVATION

FOOTING WITH SEAL SHOWN
FOOTING WITHOUT SEAL SIMILAR

## NOTES

DRAWINGS SHALL NOT BE SCALED.

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

## LEGEND

INDICATES PILE LOCATION WHERE UPLIFT CONNECTION IS REQUIRED AT PIER 21 ONLY.

* PLACE IN 1¼" DIA. HOLES BURNED INTO PILE. USE 2 BARS AT EACH UPLIFT PILE.

△ FOR CONSTRUCTION JOINT DIMENSIONS SEE SHEETS 23 THROUGH 29, PIER GEOMETRY SHEETS.

(1) INDICATES PILE NUMBER.

## PILE NOTES PIERS:

PIERS C1, 2 THROUGH 6 AND 21 TO BE SUPPORTED ON HP14X73 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE AS FOLLOWS, AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. FOR ESTIMATED LENGTHS AND MINIMUM REQUIRED DRIVING ELEVATIONS SEE TABLE ON SHEET 4 "GENERAL PLAN SPANS 17-21".

PIERS C1, 2 THROUGH 6 AND 21:

PILES IN THE EXTERIOR ROWS 245 TONS
PILES IN THE INTERIOR ROWS 225 TONS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY KO | PLANS CK'D. PSK

PIER FOOTINGS

SHEET 35 OF 109
342

DATE: 3/15/2016
I.D.

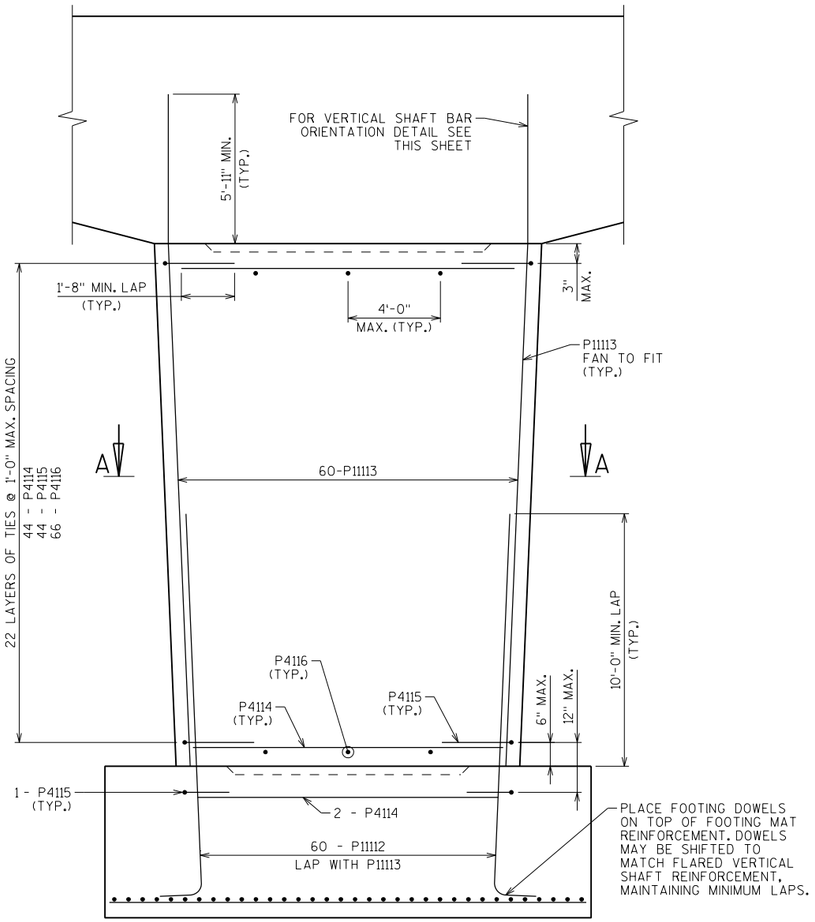
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8

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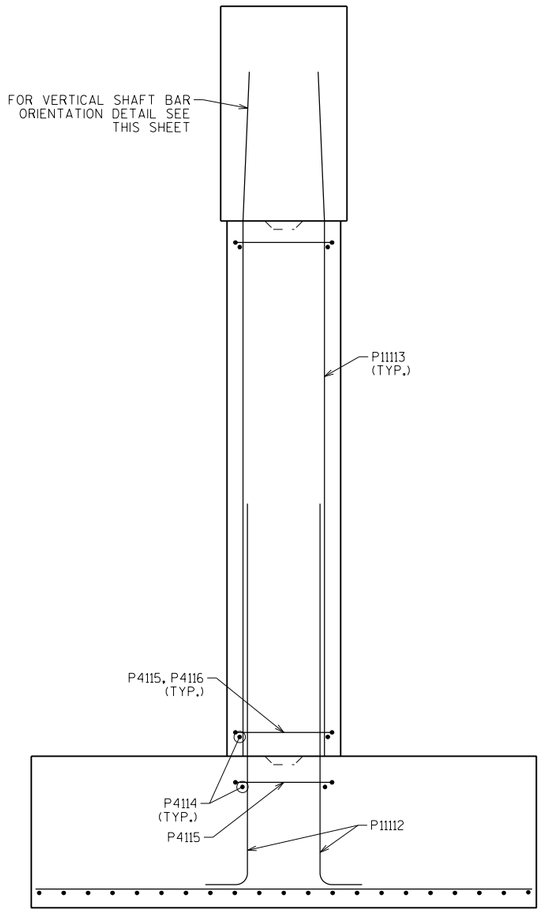
STATE PROJECT NUMBER

1517-07-77




ELEVATION

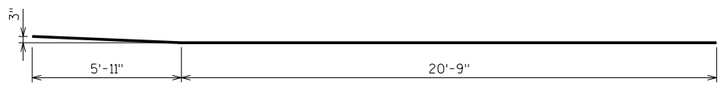
NUMBER OF BARS SHOWN IS PER SHAFT.
LOOKING UPSTATION



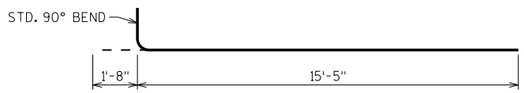

SECTION

## PIER SHAFT BILL OF BARS - PIER C1

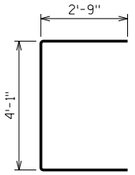
| BAR MARK | NO. REQ'D | LENGTH | BENT | SERIES | LOCATION |
|---|---|---|---|---|---|
| COATED | | | | | TOTAL = 29,720 LB |
| P11112 | 120 | 17'-1" | X | | FOOTING DOWEL BAR |
| P11113 | 120 | 26'-8" | X | | PIER C1 - VERTICAL SHAFT BAR |
| P4114 | 92 | 13'-2" | | | PIER C1 - SHAFT TIE BAR |
| P4115 | 92 | 9'-5" | X | | PIERS C1 AND 6 - SHAFT TIE BAR |
| P4116 | 132 | 4'-11" | X | | PIERS C1 AND 6 - SHAFT TIE BAR |
| | | | | | |



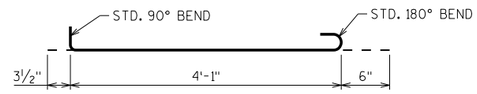

P11113



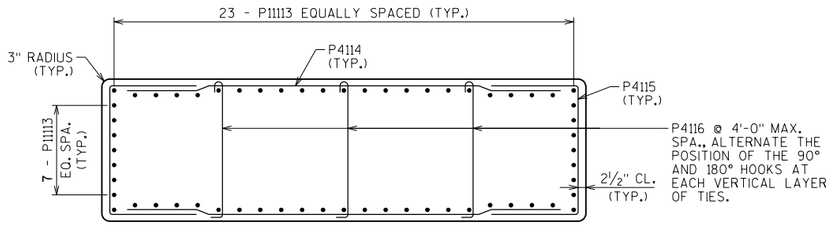

P11112




P4115

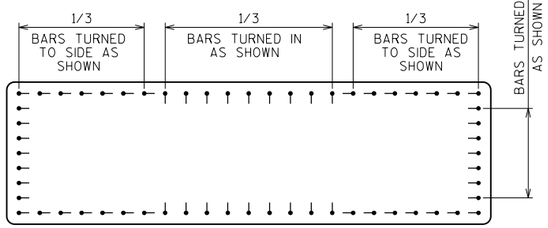



P4116




SECTION A-A

NUMBER OF BARS SHOWN IS PER SHAFT.
BARS SHOWN REPRESENT ONE LAYER OF TIES.




VERTICAL SHAFT BAR ORIENTATION DETAIL

PIER C1 SHOWN, OTHER PIERS SIMILAR

## NOTES

DRAWINGS SHALL NOT BE SCALED.

WORK THIS SHEET WITH SHEET 23 "PIER C1 GEOMETRY".

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY PSK | PLANS CK'D. KO

SHAFT REINFORCING - PIER C1

SHEET 36 OF 109
343

DATE: 3/15/2016
I.D.

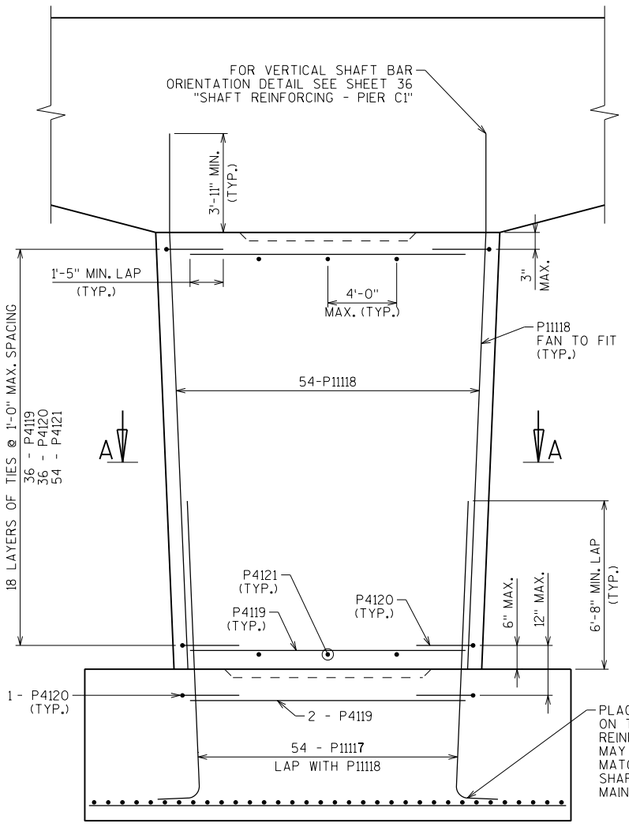
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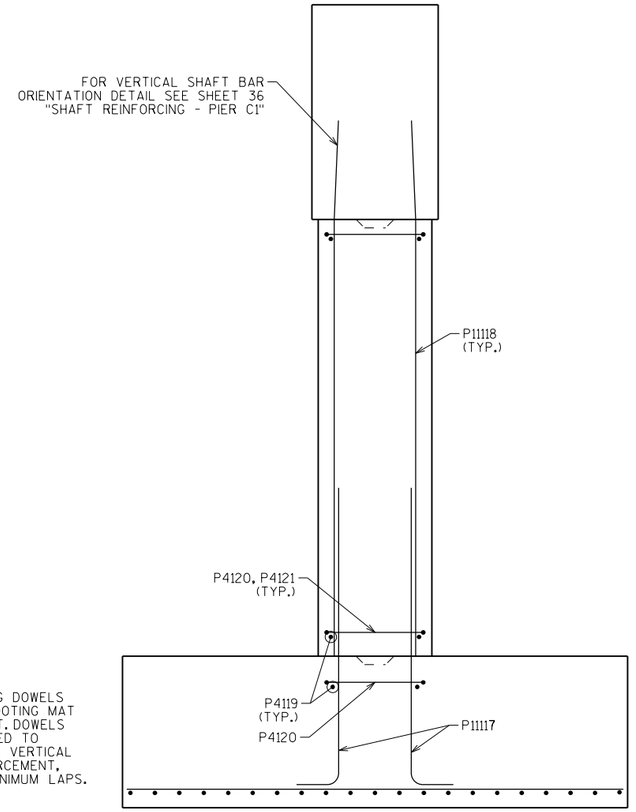
STATE PROJECT NUMBER

1517-07-77

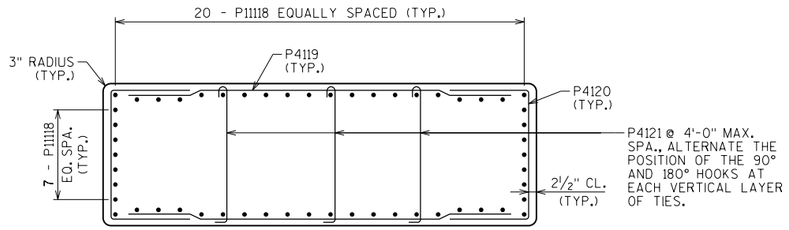



## ELEVATION

NUMBER OF BARS SHOWN IS PER SHAFT.
LOOKING UPSTATION




## SECTION

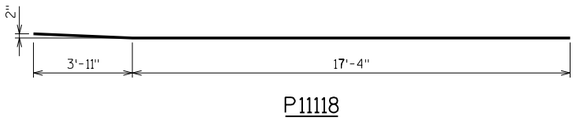



## SECTION A-A

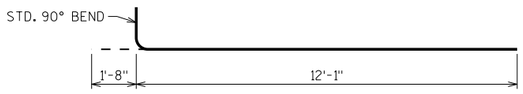
NUMBER OF BARS SHOWN IS PER SHAFT.
BARS SHOWN REPRESENT ONE LAYER OF TIES.

## PIER SHAFT BILL OF BARS - PIER 2

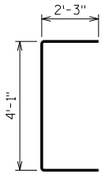
| BAR MARK | NO. REQ'D | LENGTH | BENT | SERIES | LOCATION |
|---|---|---|---|---|---|
| UNCOATED | | | | | TOTAL = 21,470 LB |
| P11117 | 108 | 13'-9" | X | | FOOTING DOWEL BAR |
| P11118 | 108 | 21'-3" | X | | PIER 2 - VERTICAL SHAFT BAR |
| P4119 | 76 | 11'-9" | | | PIER 2 - TIE BAR |
| P4120 | 76 | 8'-5" | X | | PIERS 2 AND 21 - TIE BAR |
| P4121 | 108 | 4'-11" | X | | PIERS 2 THRU 5 AND 21 - TIE BAR |
| | | | | | |



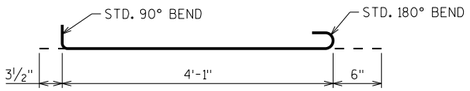

P11118




P11117




P4120




P4121

## NOTES

DRAWINGS SHALL NOT BE SCALED.

WORK THIS SHEET WITH SHEET 24 "PIER 2 GEOMETRY".

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY PSK | PLANS CK'D. KO

SHAFT REINFORCING - PIER 2

SHEET 37 OF 109
344

DATE: 3/15/2016
I.D.

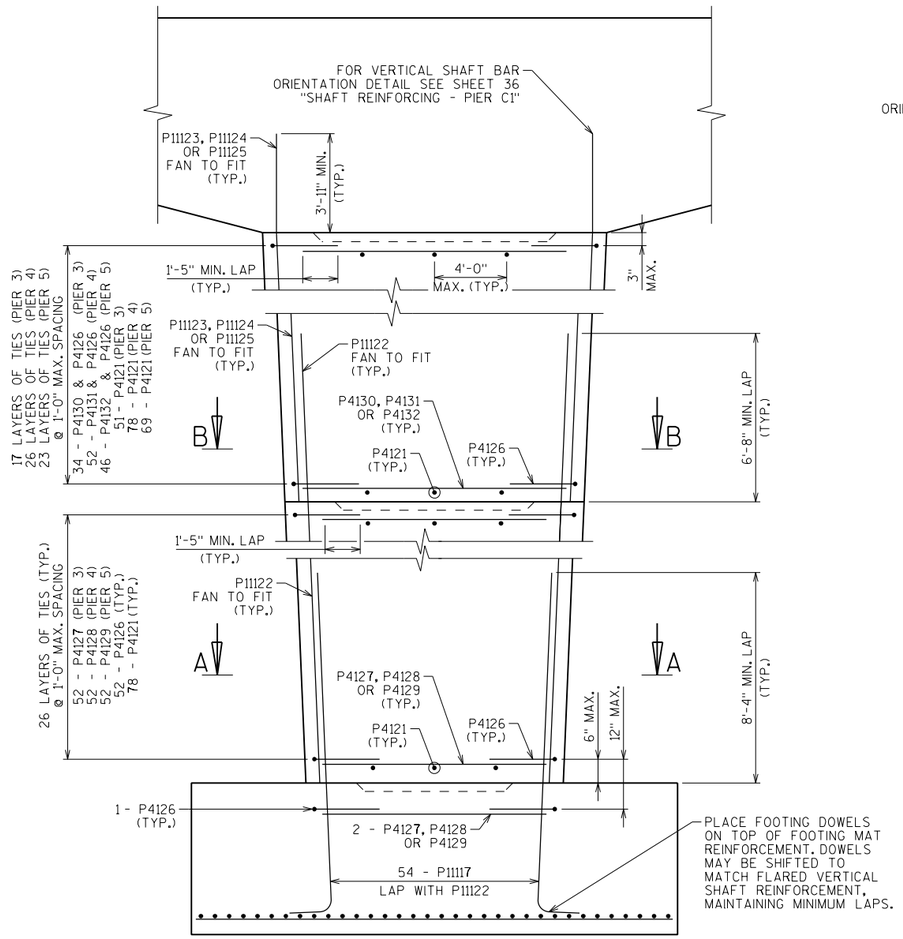
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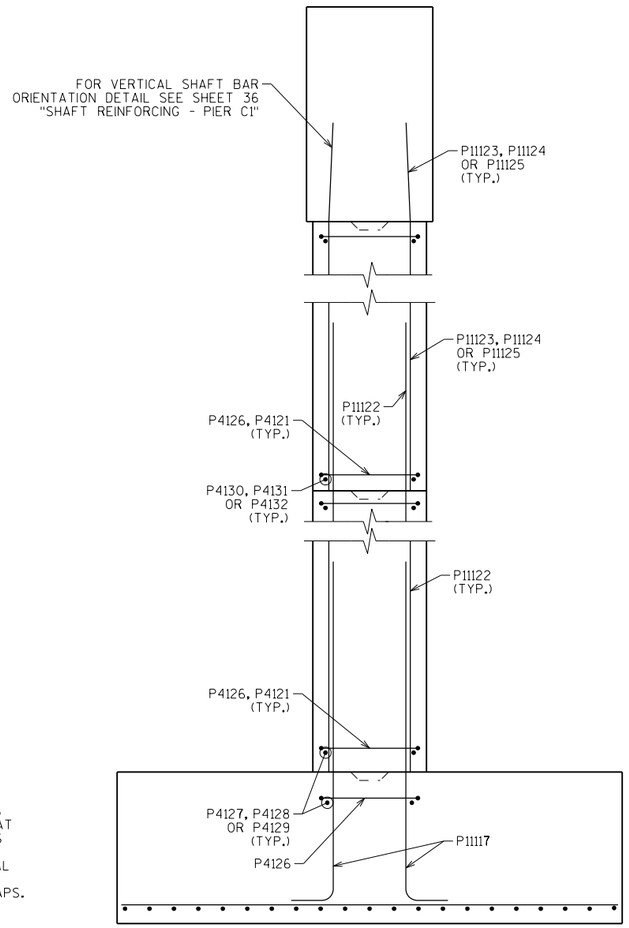
STATE PROJECT NUMBER

1517-07-77



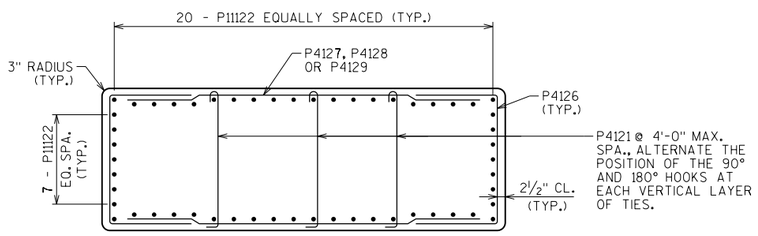

## ELEVATION

DETAILS SHOWN ARE TYPICAL FOR PIERS 3 THRU 5, UNLESS NOTED OTHERWISE.
NUMBER OF BARS SHOWN IS PER SHAFT.
LOOKING UPSTATION



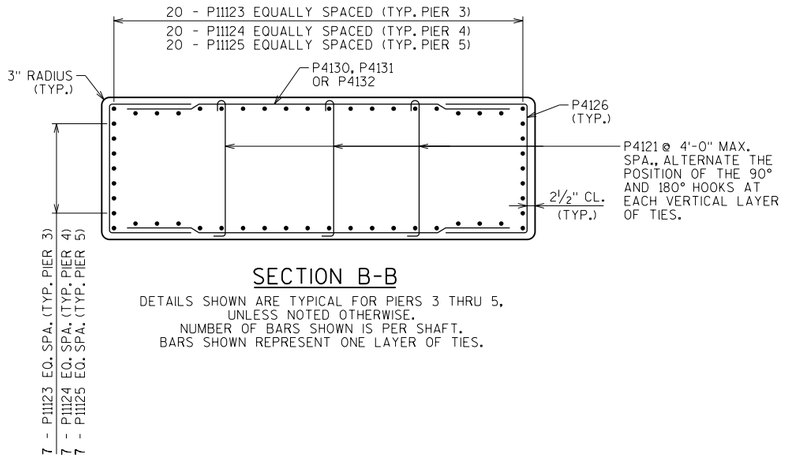

## SECTION

DETAILS SHOWN ARE TYPICAL FOR PIERS 3 THRU 5, UNLESS NOTED OTHERWISE.
NUMBER OF BARS SHOWN IS PER SHAFT.
LOOKING UPSTATION




## SECTION A-A

DETAILS SHOWN ARE TYPICAL FOR PIERS 3 THRU 5, UNLESS NOTED OTHERWISE.
NUMBER OF BARS SHOWN IS PER SHAFT.
BARS SHOWN REPRESENT ONE LAYER OF TIES.

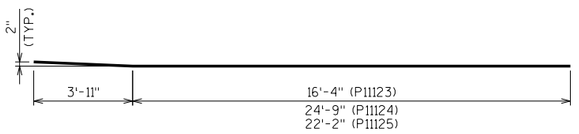



## SECTION B-B

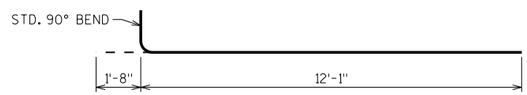
DETAILS SHOWN ARE TYPICAL FOR PIERS 3 THRU 5, UNLESS NOTED OTHERWISE.
NUMBER OF BARS SHOWN IS PER SHAFT.
BARS SHOWN REPRESENT ONE LAYER OF TIES.

## PIER SHAFT BILL OF BARS - PIERS 3 THRU 5

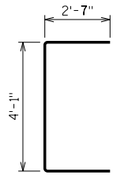
| BAR MARK | NO. REQ'D | LENGTH | BENT | SERIES | LOCATION |
|---|---|---|---|---|---|
| UNCOATED | | | | | TOTAL = 131,810 LB |
| P11117 | 324 | 13'-9" | X | | FOOTING DOWEL BAR |
| P4121 | 864 | 4'-11" | X | | PIERS 3 THRU 5 - TIE BAR |
| P11122 | 324 | 31'-9" | | | PIERS 3 THRU 5 - VERTICAL SHAFT BAR |
| P11123 | 108 | 20'-3" | X | | PIER 3 - VERTICAL SHAFT BAR |
| P11124 | 108 | 28'-8" | X | | PIER 4 - VERTICAL SHAFT BAR |
| P11125 | 108 | 26'-1" | X | | PIER 5 - VERTICAL SHAFT BAR |
| P4126 | 588 | 9'-1" | X | | PIERS 3 THRU 5 - TIE BAR |
| P4127 | 108 | 9'-9" | | | PIER 3 - TIE BAR |
| P4128 | 108 | 9'-0" | | | PIER 4 - TIE BAR |
| P4129 | 108 | 9'-3" | | | PIER 5 - TIE BAR |
| P4130 | 68 | 11'-10" | | | PIER 3 - TIE BAR |
| P4131 | 104 | 11'-2" | | | PIER 4 - TIE BAR |
| P4132 | 92 | 11'-4" | | | PIER 5 - TIE BAR |
| | | | | | |



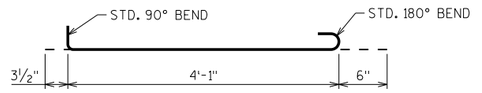

P11123, P11124 & P11125




P11117




P4126




P4121

## NOTES

DRAWINGS SHALL NOT BE SCALED.

WORK THIS SHEET WITH SHEET 25 "PIER 3 GEOMETRY", SHEET 26 "PIER 4 GEOMETRY" AND SHEET 27 "PIER 5 GEOMETRY".

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY PSK | PLANS CK'D. KO

SHAFT REINFORCING - PIERS 3-5

SHEET 38 OF 109
345

DATE: 3/15/2016
I.D.

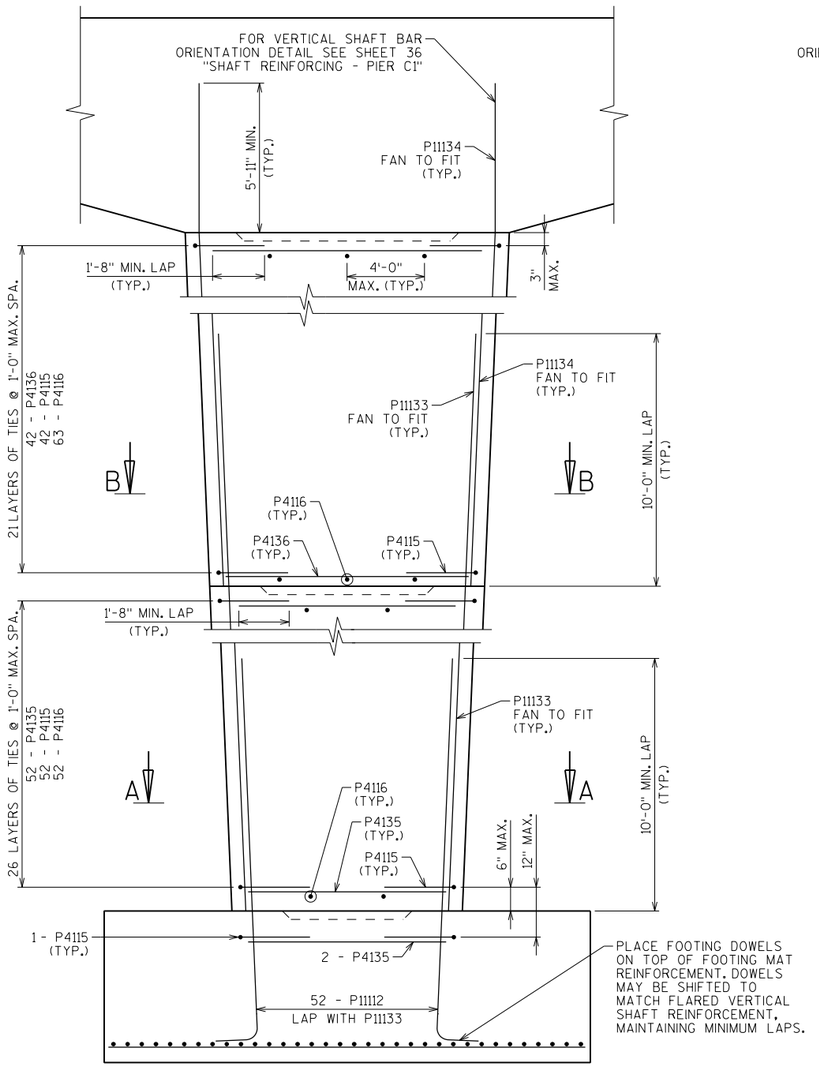
FILE= P:\WisDOT_12345678_10-441\Plans\B-70-61\Control Copy\Final Plans, 2015\039 B-70-61 - Shaft Reinforcing - Piers 3-5.dgn

8

8

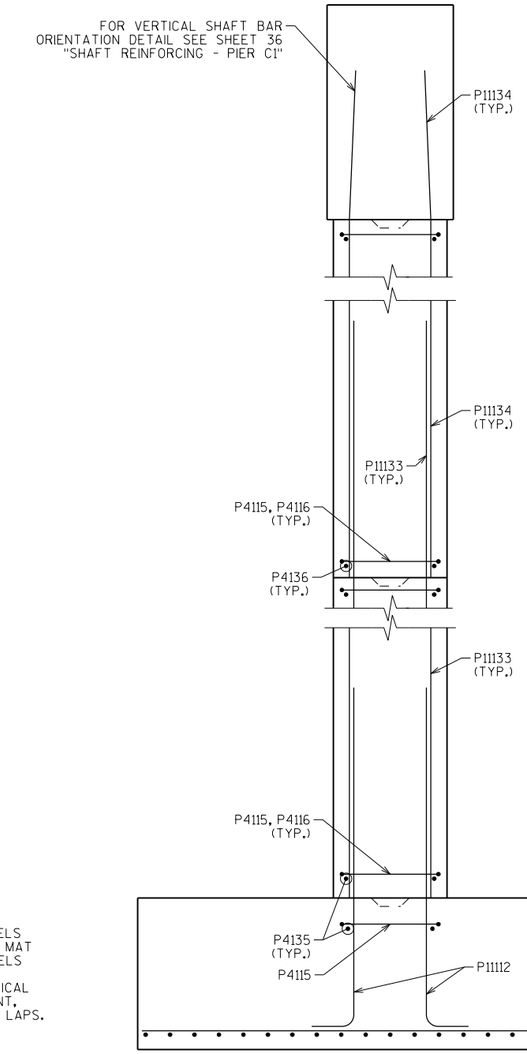
STATE PROJECT NUMBER

1517-07-77

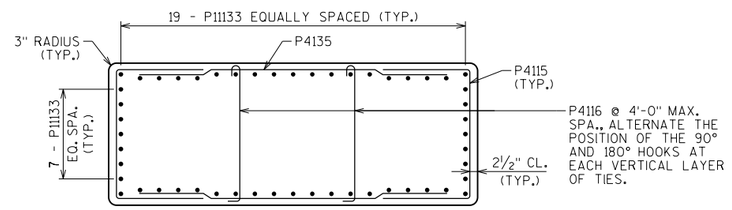



## ELEVATION

NUMBER OF BARS SHOWN IS PER SHAFT.
LOOKING UPSTATION

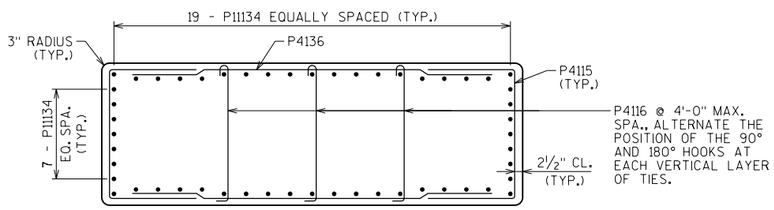



## SECTION




## SECTION A-A

NUMBER OF BARS SHOWN IS PER SHAFT.
BARS SHOWN REPRESENT ONE LAYER OF TIES.

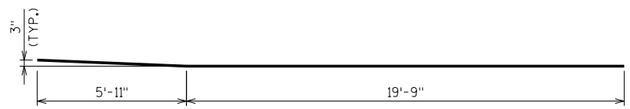



## SECTION B-B

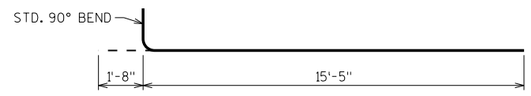
NUMBER OF BARS SHOWN IS PER SHAFT.
BARS SHOWN REPRESENT ONE LAYER OF TIES.

## PIER SHAFT BILL OF BARS - PIER 6

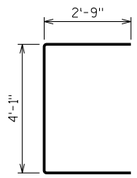
| BAR MARK | NO. REQ'D | LENGTH | BENT | SERIES | LOCATION |
|---|---|---|---|---|---|
| COATED | | | | | TOTAL = 46,200 LB |
| P11112 | 104 | 17'-1" | X | | FOOTING DOWEL BAR |
| P4115 | 192 | 9'-5" | X | | PIERS C1 AND 6 SHAFT TIE BAR |
| P4116 | 230 | 4'-11" | X | | PIERS C1 AND 6 SHAFT TIE BAR |
| P11133 | 104 | 35'-1" | | | PIER 6 - VERTICAL SHAFT BAR |
| P11134 | 104 | 25'-8" | X | | PIER 6 - VERTICAL SHAFT BAR |
| P4135 | 108 | 8'-8" | | | PIER 6 - TIE BAR |
| P4136 | 84 | 10'-9" | | | PIER 6 - TIE BAR |
| | | | | | |



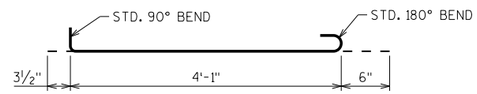

P11134




P11112




P4115




P4116

## NOTES

DRAWINGS SHALL NOT BE SCALED.

WORK THIS SHEET WITH SHEET 28 "PIER 6 GEOMETRY".

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY PSK | PLANS CK'D. KO

SHAFT REINFORCING - PIER 6

SHEET 39 OF 109
346

DATE: 3/15/2016
I.D.

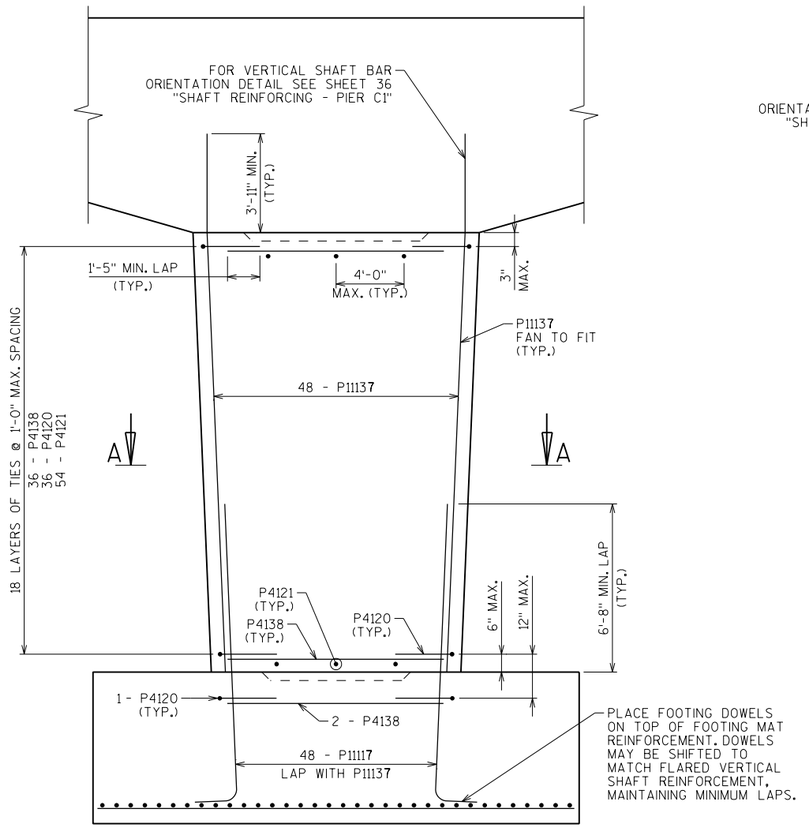
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8

8

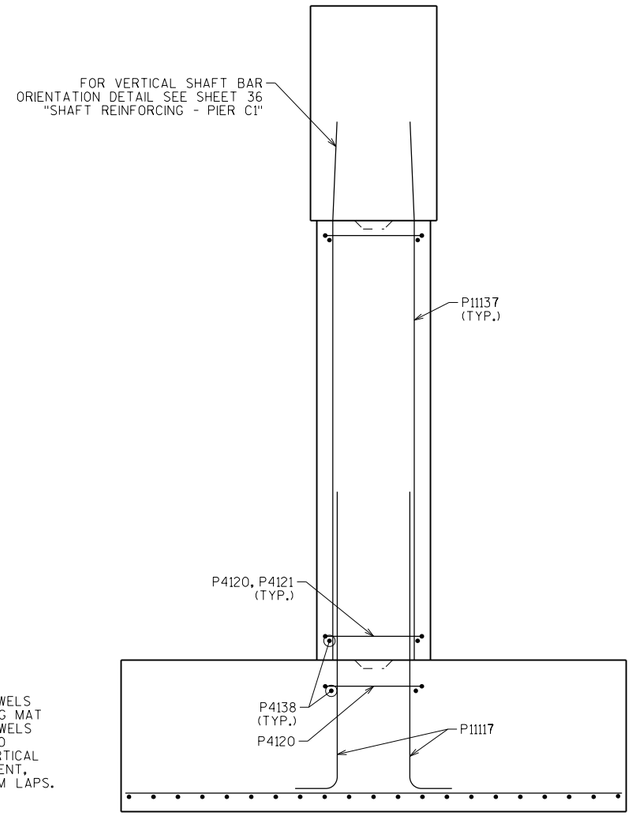
STATE PROJECT NUMBER

1517-07-77

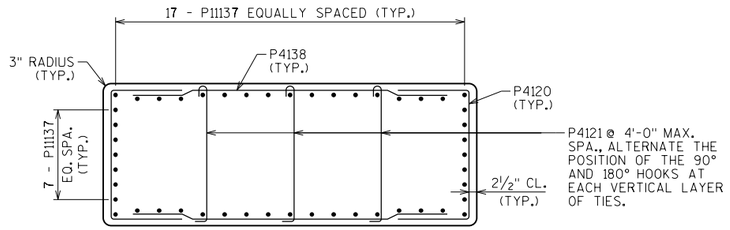



ELEVATION

NUMBER OF BARS SHOWN IS PER SHAFT.
LOOKING UPSTATION




SECTION

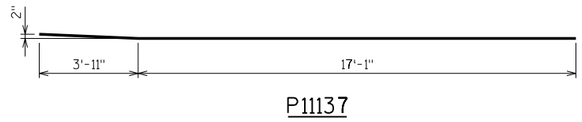



SECTION A-A

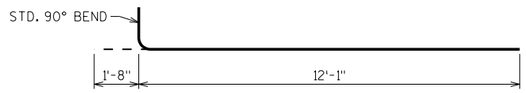
NUMBER OF BARS SHOWN IS PER SHAFT.
BARS SHOWN REPRESENT ONE LAYER OF TIES.

## PIER SHAFT BILL OF BARS - PIER 21

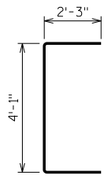
| BAR MARK | NO. REQ'D | LENGTH | BENT | SERIES | LOCATION |
|---|---|---|---|---|---|
| UNCOATED | | | | | TOTAL = 18,990 LB |
| P11117 | 96 | 13'-9" | X | | FOOTING DOWEL BAR |
| P4120 | 76 | 8'-5" | X | | PIERS 2 AND 21 - TIE BAR |
| P4121 | 108 | 4'-11" | X | | PIERS 2 THRU 5 AND 21 - TIE BAR |
| P11137 | 96 | 21'-0" | X | | PIER 21 - VERTICAL SHAFT BAR |
| P4138 | 76 | 9'-6" | | | PIER 21 - TIE BAR |
| | | | | | |



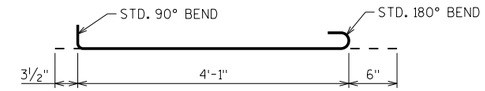

P11137




P11117




P4120




P4121

## NOTES

DRAWINGS SHALL NOT BE SCALED.

WORK THIS SHEET WITH SHEET 29 "PIER 21 GEOMETRY".

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY PSK | PLANS CK'D. KO

SHAFT REINFORCING - PIER 21

SHEET 40 OF 109
347

DATE: 3/15/2016
I.D.

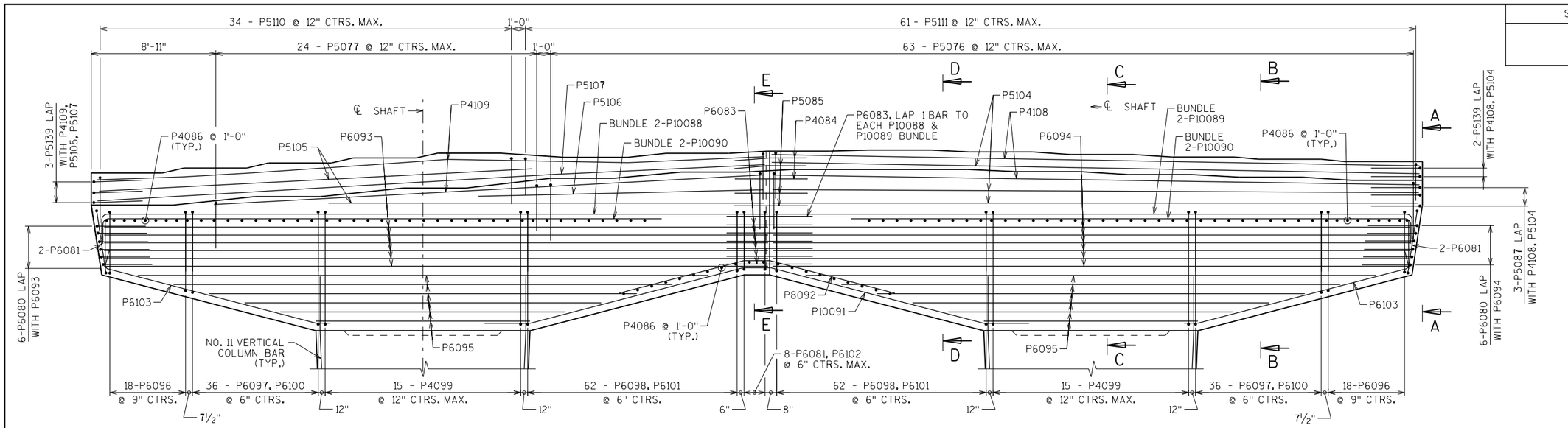
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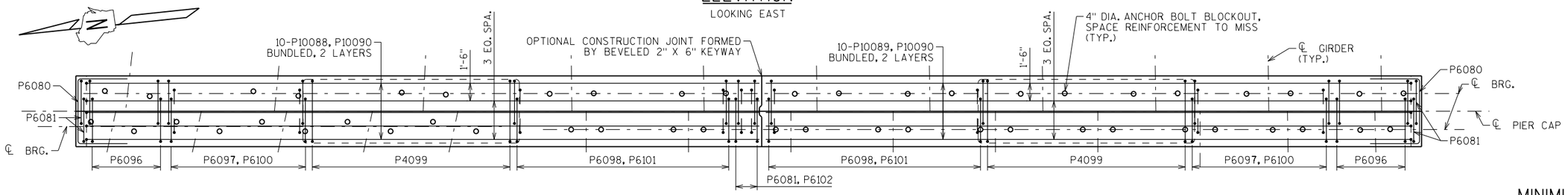
STATE PROJECT NUMBER

1517-07-77

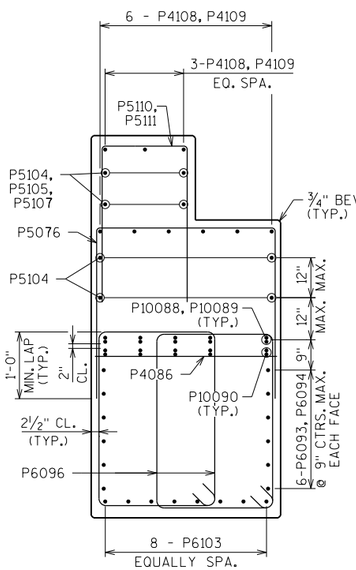



## ELEVATION

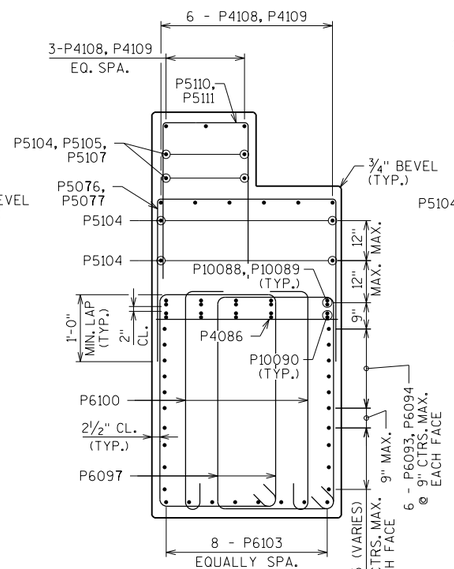
LOOKING EAST



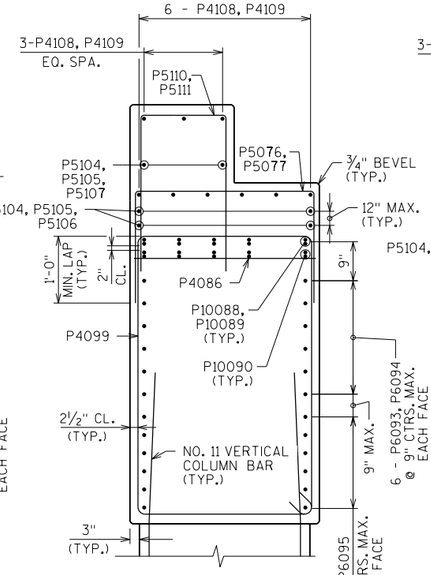

## PIER CAP PLAN



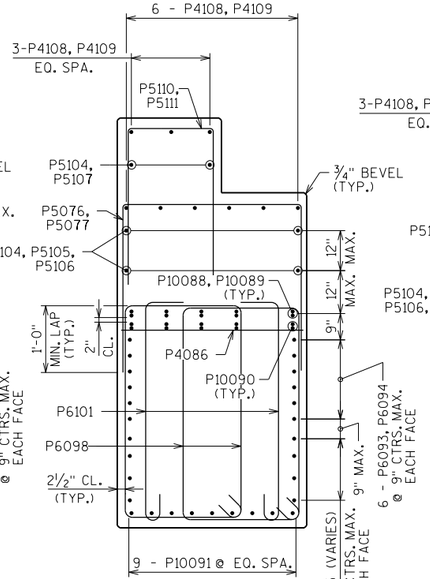

## SECTION A-A



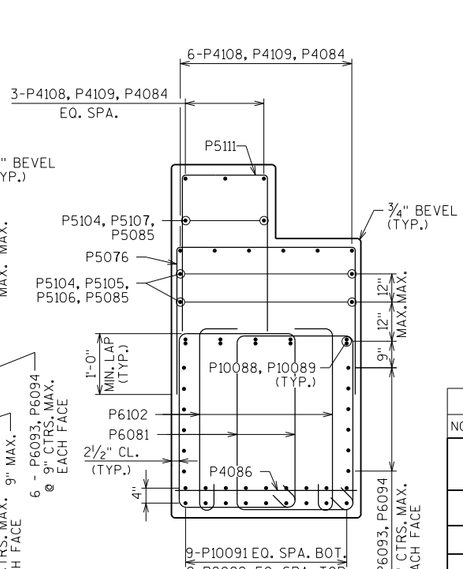

## SECTION B-B




## SECTION C-C




## SECTION D-D




## SECTION E-E

## MINIMUM BAR LAPS

(UNLESS NOTED OTHERWISE)

LAP #4 BARS MIN. 2'-4"

LAP #5 BARS MIN. 2'-11"

LAP #6 BARS MIN. 3'-6"

## NOTES

DRAWINGS SHALL NOT BE SCALED.

WORK THIS SHEET WITH SHEET 23 "PIER C1 GEOMETRY".

FOR BAR DETAILS AND BILL OF BARS SEE SHEET 48 "CAP REINFORCING BILL OF BARS".

SHIFT BARS TO PROVIDE CLEARANCE FOR ANCHOR BOLTS AT BEARINGS UNDER SUPERVISION OF THE FIELD ENGINEER. IF SHIFTING STIRRUPS IS REQUIRED, MAINTAIN MINIMUM CLEAR COVER.

TOTAL NUMBER OF P4086 BARS : 100

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY KO | PLANS CK'D. PSK

CAP REINFORCING - PIER C1

SHEET 41 OF 109

348

DATE: 3/15/2016
I.D.

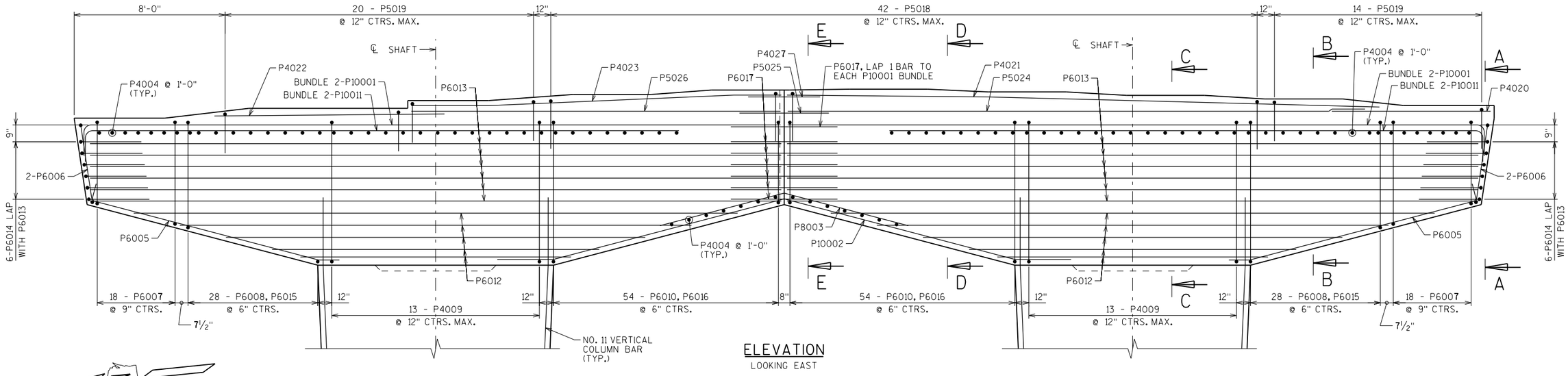
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8

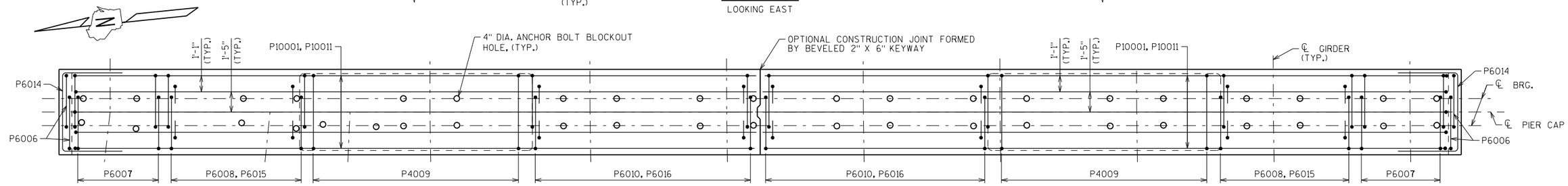
STATE PROJECT NUMBER

1517-07-77

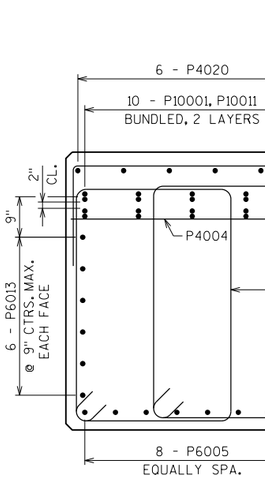



## ELEVATION

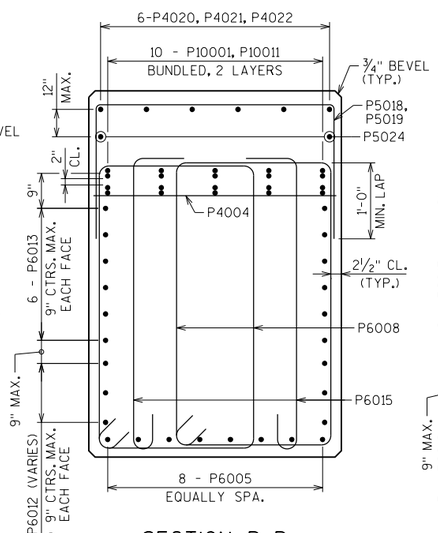
LOOKING EAST



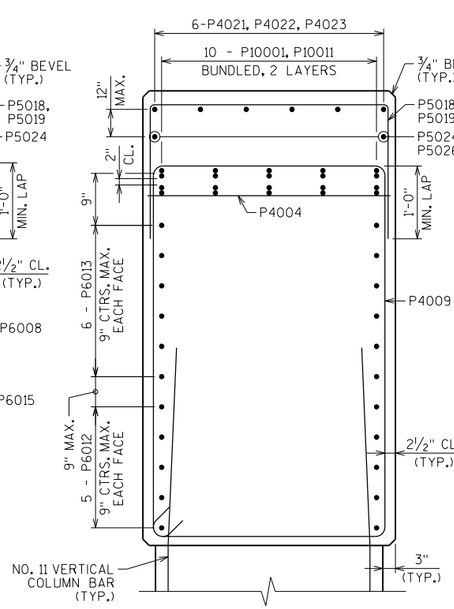

## PLAN



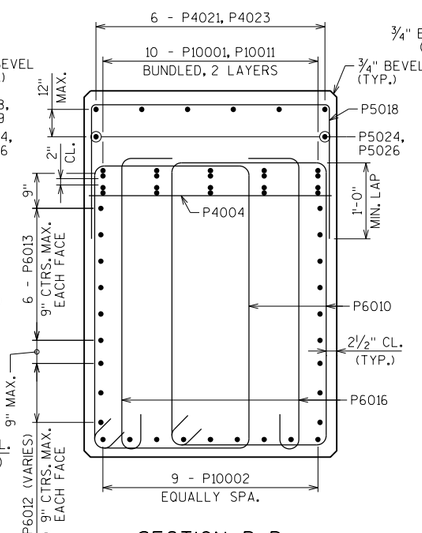

## SECTION A-A



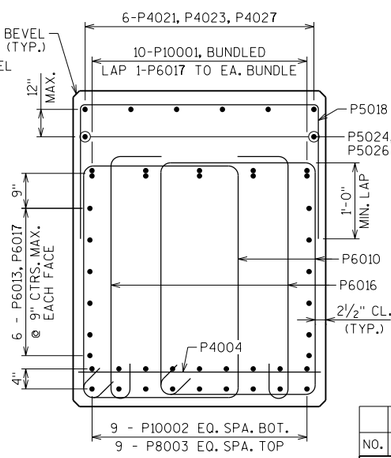

## SECTION B-B




## SECTION C-C




## SECTION D-D




## SECTION E-E

## MINIMUM BAR LAPS

(UNLESS NOTED OTHERWISE)

LAP #4 BARS MIN. 1'-11"

LAP #5 BARS MIN. 2'-5"

LAP #6 BARS MIN. 2'-11"

## NOTES

DRAWINGS SHALL NOT BE SCALED.

WORK THIS SHEET WITH SHEET 24 "PIER 2 GEOMETRY".

FOR BAR DETAILS AND BILL OF BARS SEE SHEET 48 "CAP REINFORCING BILL OF BARS".

SHIFT BARS TO PROVIDE CLEARANCE FOR ANCHOR BOLTS AT BEARINGS UNDER SUPERVISION OF THE FIELD ENGINEER. IF SHIFTING STIRRUPS IS REQUIRED, MAINTAIN MINIMUM CLEAR COVER.

TOTAL NUMBER OF P4004 BARS : 86

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

| DRAWN BY | KO | PLANS CK'D. | PSK |
|---|---|---|---|

CAP REINFORCING - PIER 2

SHEET 42 OF 109

349

DATE: 3/15/2016
I.D.

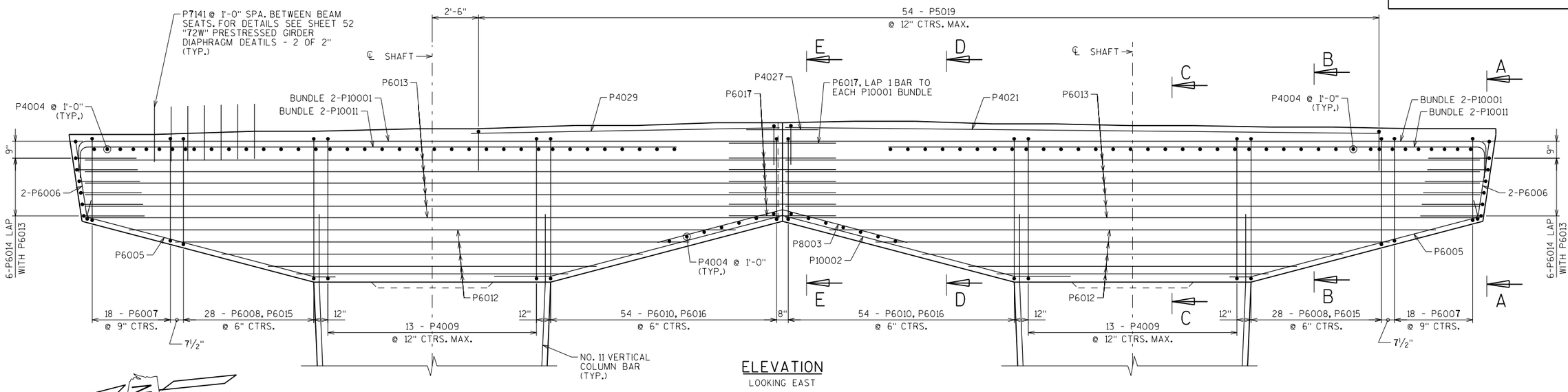
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8

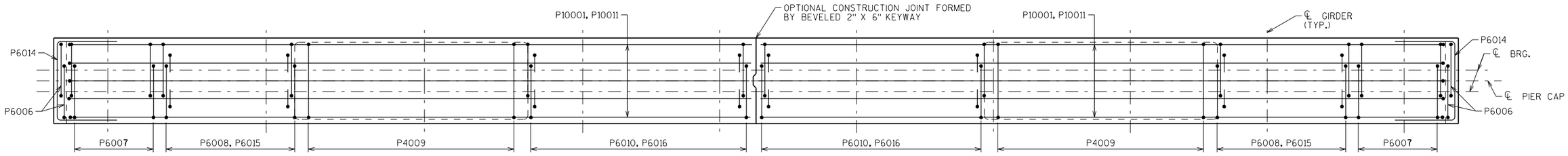
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STATE PROJECT NUMBER

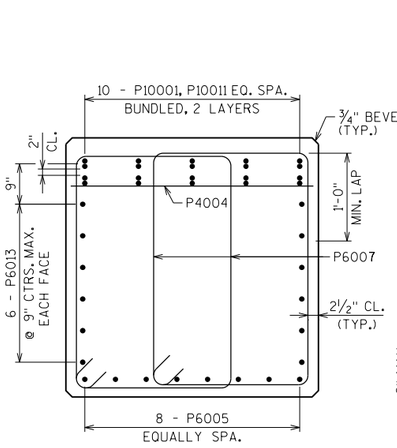
1517-07-77



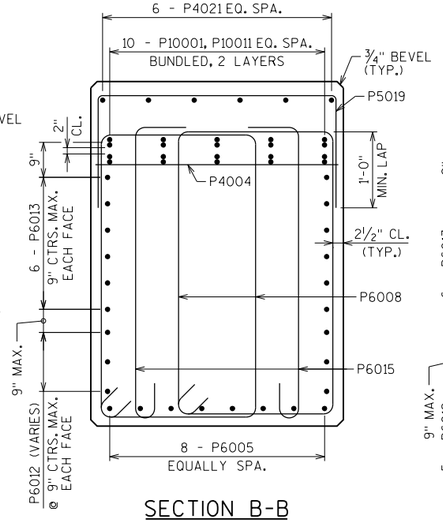

## ELEVATION
LOOKING EAST



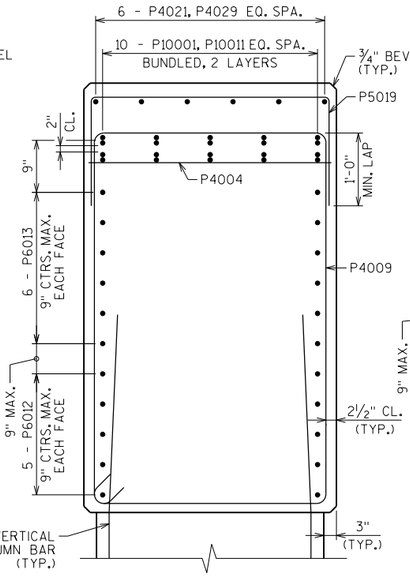

## PLAN



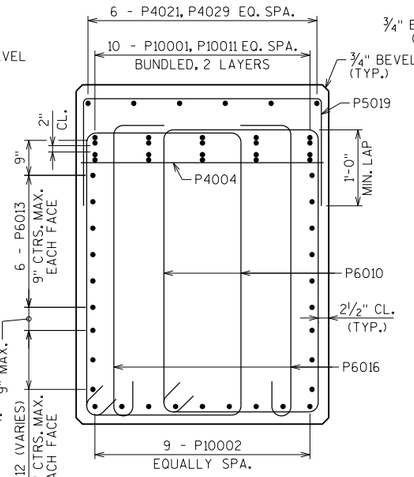

## SECTION A-A



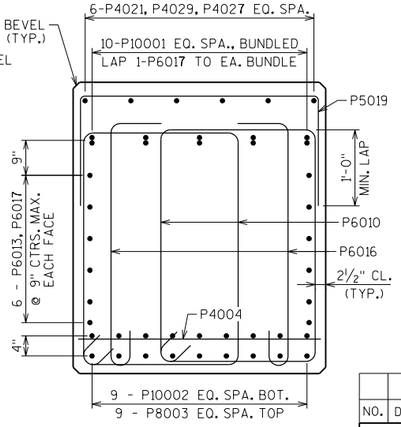

## SECTION B-B




## SECTION C-C




## SECTION D-D




## SECTION E-E

## MINIMUM BAR LAPS
(UNLESS NOTED OTHERWISE)

LAP #4 BARS MIN. 1'-11"

LAP #5 BARS MIN. 2'-5"

LAP #6 BARS MIN. 2'-11"

## NOTES

DRAWINGS SHALL NOT BE SCALED.

WORK THIS SHEET WITH SHEET 25 "PIER 3 GEOMETRY".

FOR BAR DETAILS AND BILL OF BARS SEE SHEET 48 "CAP REINFORCING BILL OF BARS".

TOTAL NUMBER OF P4004 BARS : 86
TOTAL NUMBER OF P7141 BARS : 57

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

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CAP REINFORCING - PIER 3

SHEET 43 OF 109
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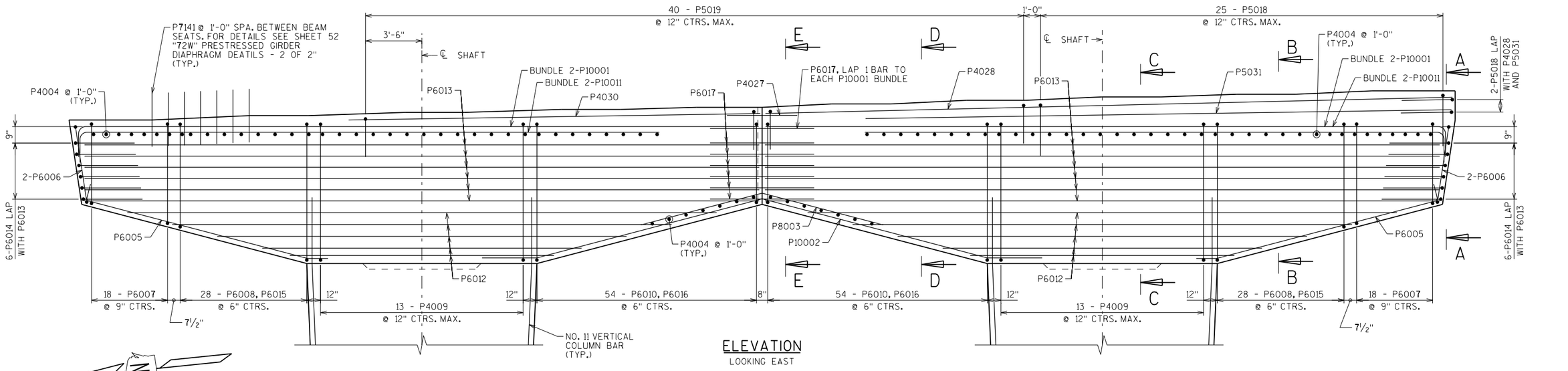
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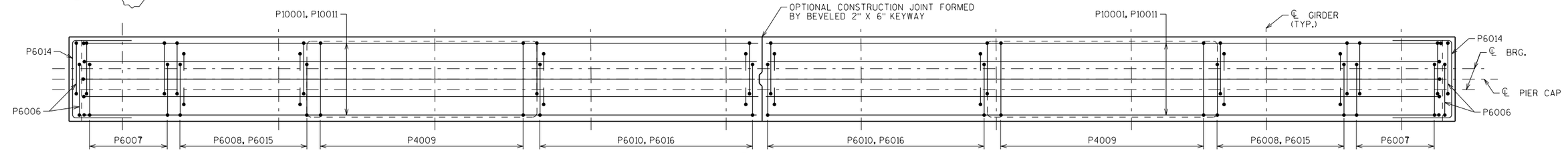
DATE: 3/15/2016
I.D.

STATE PROJECT NUMBER

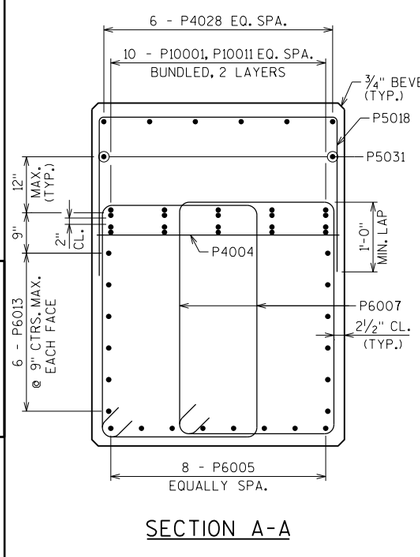
1517-07-77



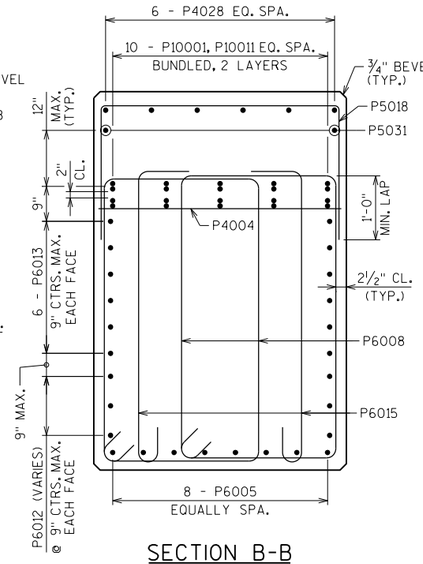

## ELEVATION
LOOKING EAST



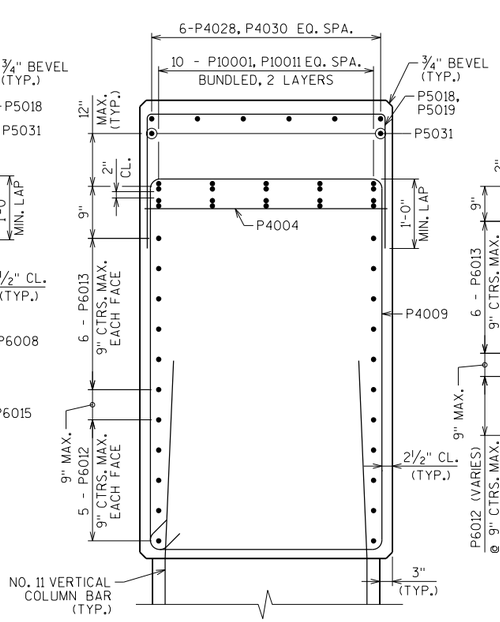

## PLAN



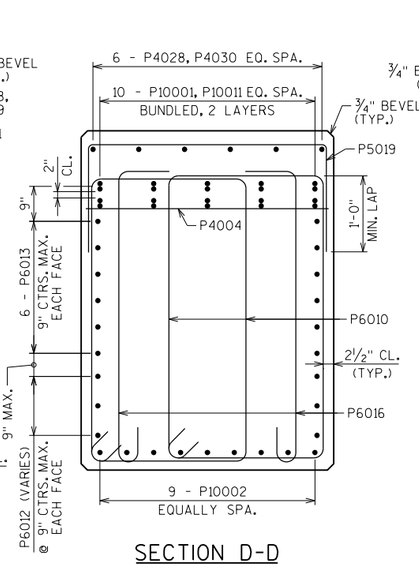

## SECTION A-A



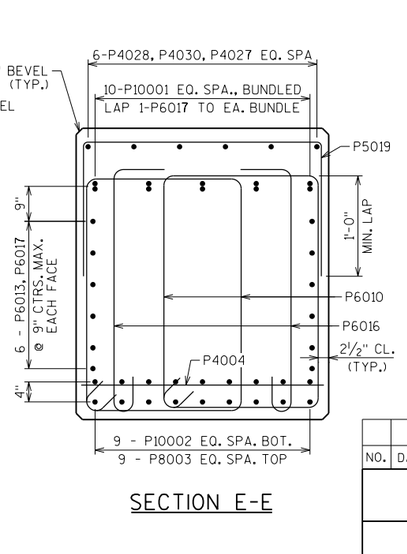

## SECTION B-B




## SECTION C-C




## SECTION D-D




## SECTION E-E

## MINIMUM BAR LAPS
(UNLESS NOTED OTHERWISE)

LAP #4 BARS MIN. 1'-11"

LAP #5 BARS MIN. 2'-5"

LAP #6 BARS MIN. 2'-11"

## NOTES

DRAWINGS SHALL NOT BE SCALED.

WORK THIS SHEET WITH SHEET 26 "PIER 4 GEOMETRY".

FOR BAR DETAILS AND BILL OF BARS SEE SHEET 48 "CAP REINFORCING BILL OF BARS".

TOTAL NUMBER OF P4004 BARS : 86
TOTAL NUMBER OF P7141 BARS : 56

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY KO | PLANS CK'D. PSK

CAP REINFORCING - PIER 4

SHEET 44 OF 109

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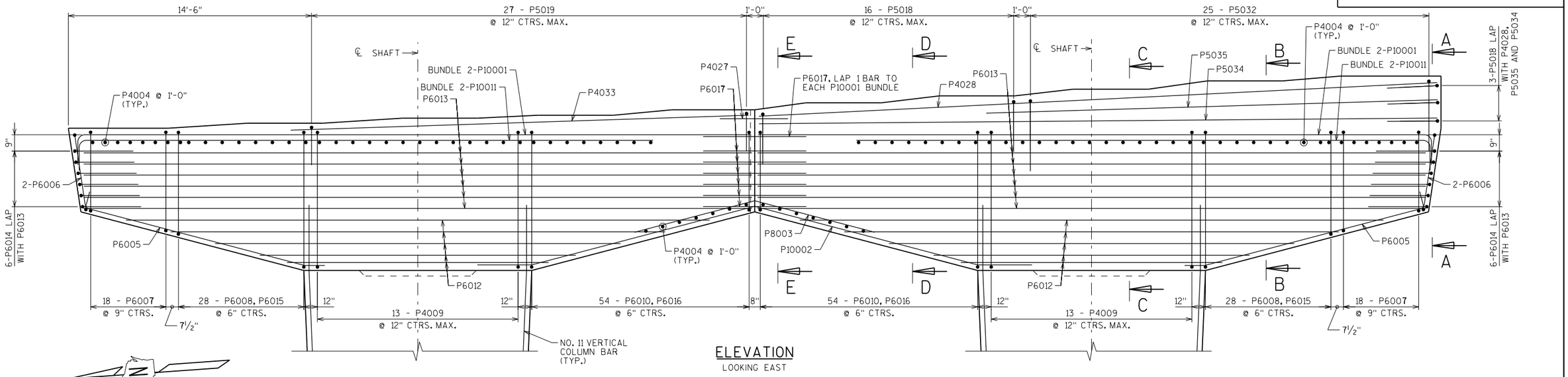
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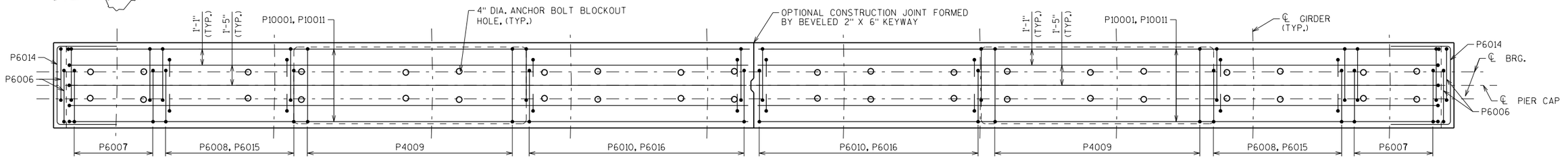
DATE: 3/15/2016
I.D.

STATE PROJECT NUMBER

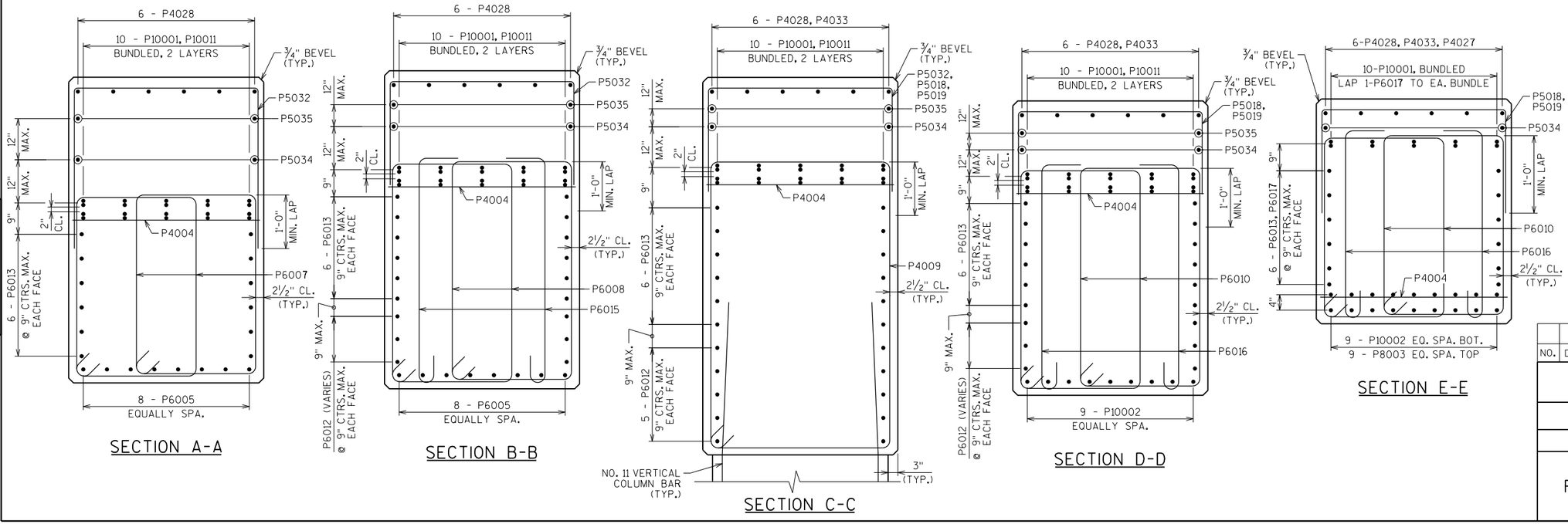
1517-07-77




## ELEVATION
LOOKING EAST




## PLAN




SECTION A-A

SECTION B-B

SECTION C-C

SECTION D-D

SECTION E-E

## MINIMUM BAR LAPS
(UNLESS NOTED OTHERWISE)

LAP #4 BARS MIN. 1'-11"

LAP #5 BARS MIN. 2'-5"

LAP #6 BARS MIN. 2'-11"

## NOTES

DRAWINGS SHALL NOT BE SCALED.

WORK THIS SHEET WITH SHEET 27 "PIER 5 GEOMETRY".

FOR BAR DETAILS AND BILL OF BARS SEE SHEET 48 "CAP REINFORCING BILL OF BARS".

SHIFT BARS TO PROVIDE CLEARANCE FOR ANCHOR BOLTS AT BEARINGS UNDER SUPERVISION OF THE FIELD ENGINEER. IF SHIFTING STIRRUPS IS REQUIRED, MAINTAIN MINIMUM CLEAR COVER.

TOTAL NUMBER OF P4004 BARS : 86

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY KO | PLANS CK'D. PSK

CAP REINFORCING - PIER 5

SHEET 45 OF 109
352

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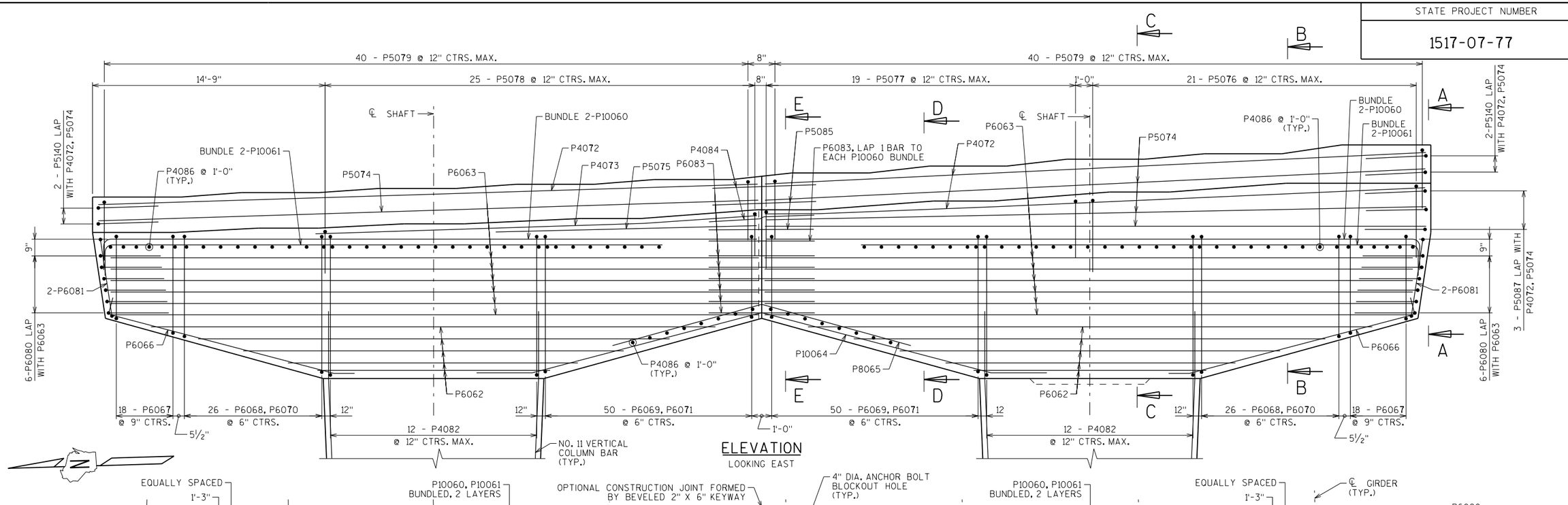
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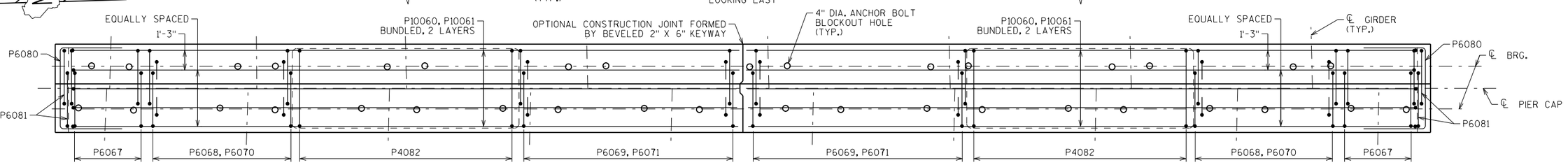
DATE: 3/15/2016
I.D.

STATE PROJECT NUMBER

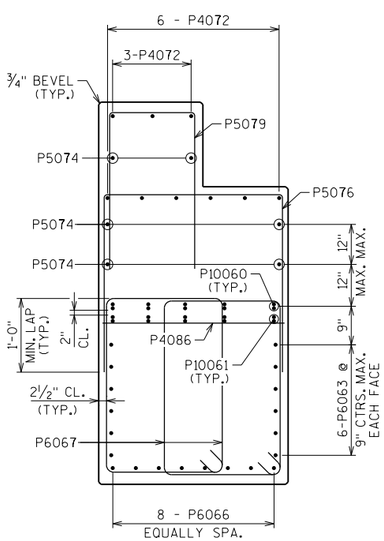
1517-07-77



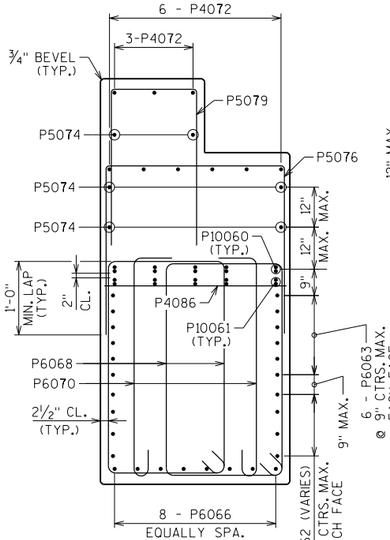

## ELEVATION
LOOKING EAST



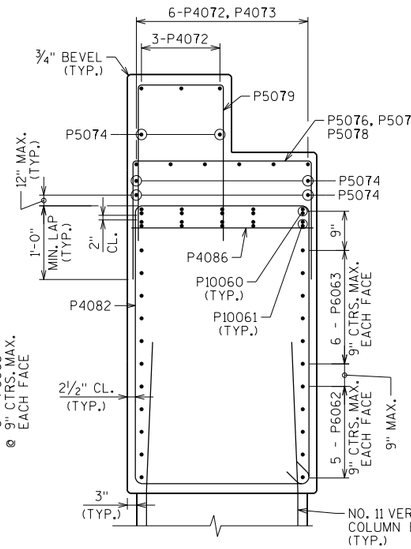

## PLAN



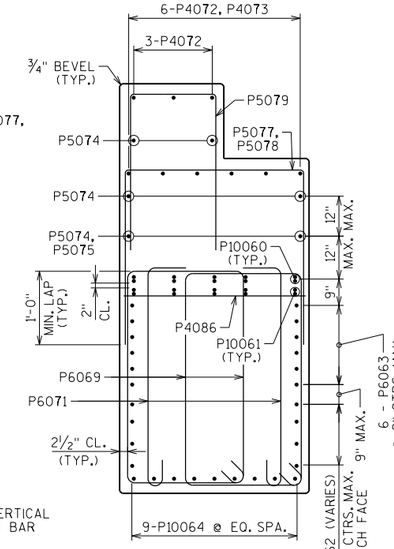

## SECTION A-A



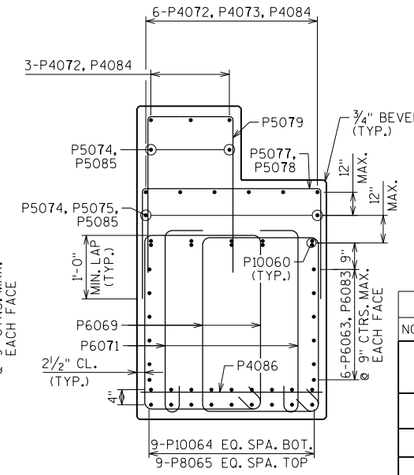

## SECTION B-B




## SECTION C-C




## SECTION D-D




## SECTION E-E

## MINIMUM BAR LAPS
(UNLESS NOTED OTHERWISE)

LAP #4 BARS MIN. 2'-4"

LAP #5 BARS MIN. 2'-11"

LAP #6 BARS MIN. 3'-6"

## NOTES

DRAWINGS SHALL NOT BE SCALED.

WORK THIS SHEET WITH SHEET 28 "PIER 6 GEOMETRY".

FOR BAR DETAILS AND BILL OF BARS SEE SHEET 48 "CAP REINFORCING BILL OF BARS".

SHIFT BARS TO PROVIDE CLEARANCE FOR ANCHOR BOLTS AT BEARINGS UNDER SUPERVISION OF THE FIELD ENGINEER. IF SHIFTING STIRRUPS IS REQUIRED, MAINTAIN MINIMUM CLEAR COVER.

TOTAL NUMBER OF P4086 BARS : 84

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

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CAP REINFORCING - PIER 6

SHEET 46 OF 109
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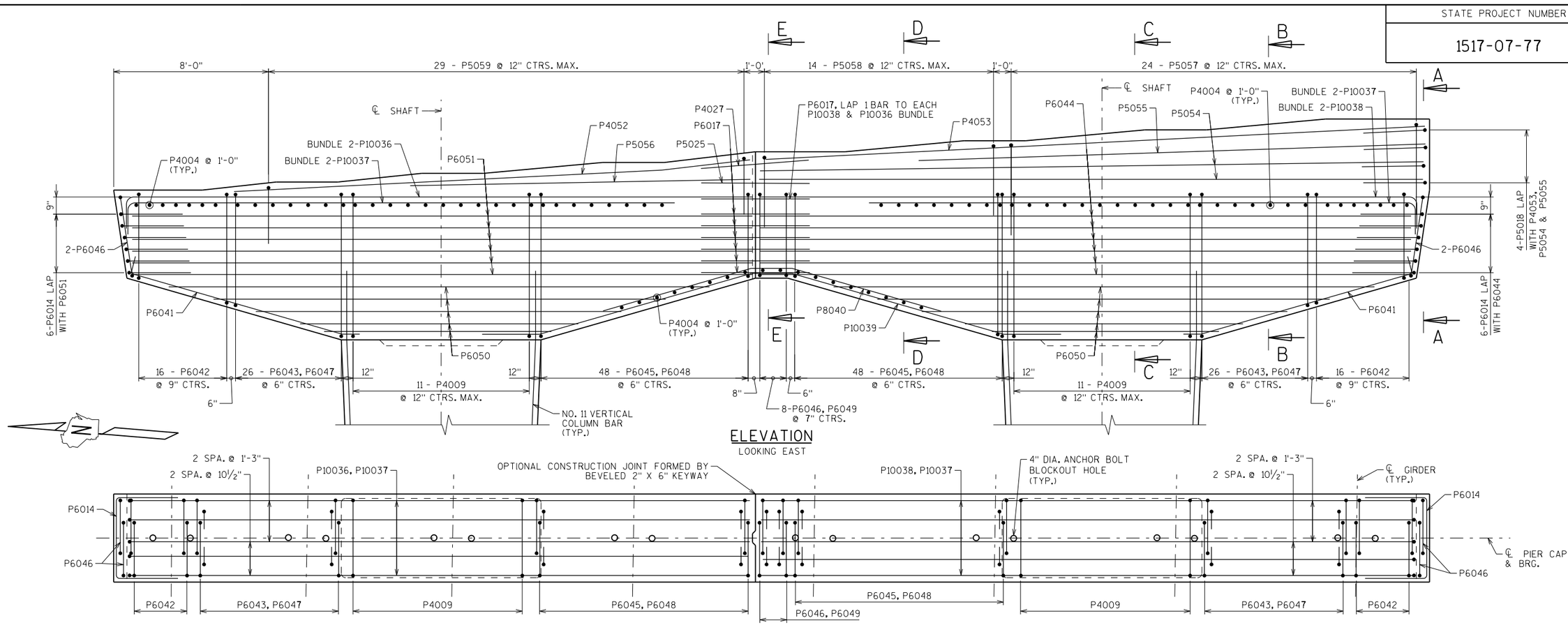
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DATE: 3/15/2016
I.D.

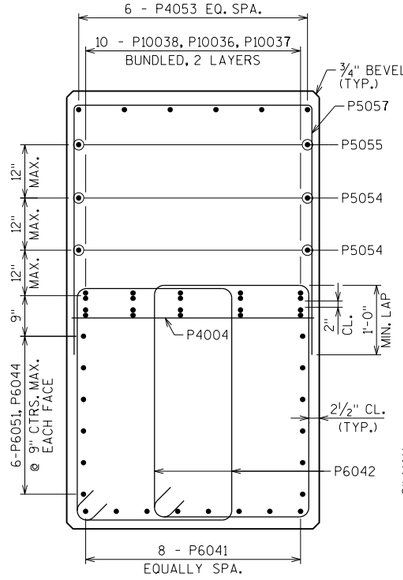
| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |



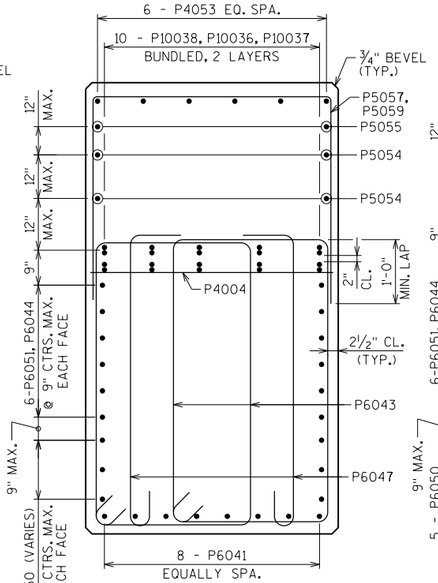

## ELEVATION
LOOKING EAST



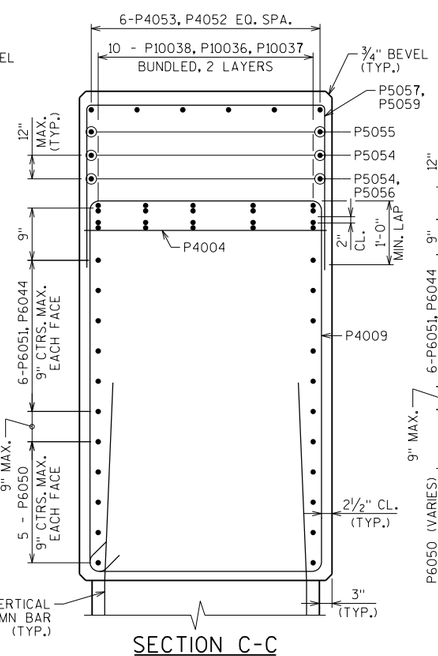

## PLAN



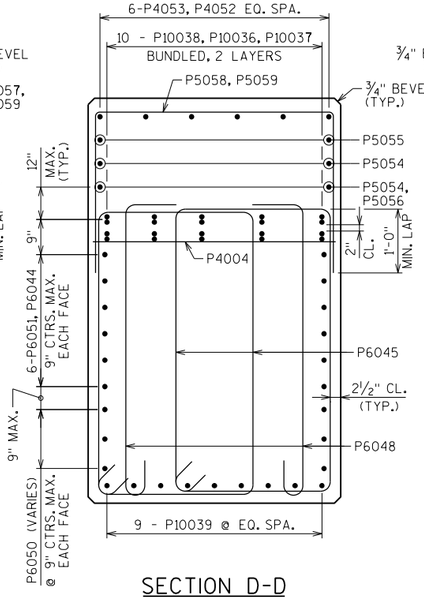

## SECTION A-A



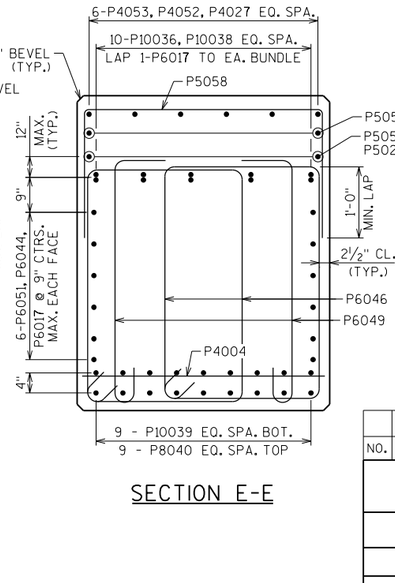

## SECTION B-B




## SECTION C-C




## SECTION D-D




## SECTION E-E

## MINIMUM BAR LAPS
(UNLESS NOTED OTHERWISE)

LAP #4 BARS MIN. 1'-11"

LAP #5 BARS MIN. 2'-5"

LAP #6 BARS MIN. 2'-11"

## NOTES

DRAWINGS SHALL NOT BE SCALED.

WORK THIS SHEET WITH SHEET 29 "PIER 21 GEOMETRY".

FOR BAR DETAILS AND BILL OF BARS SEE SHEET 48 "CAP REINFORCING BILL OF BARS".

SHIFT BARS TO PROVIDE CLEARANCE FOR ANCHOR BOLTS AT BEARINGS UNDER SUPERVISION OF THE FIELD ENGINEER. IF SHIFTING STIRRUPS IS REQUIRED, MAINTAIN MINIMUM CLEAR COVER.

TOTAL NUMBER OF P4004 BARS : 82

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

# STRUCTURE B-70-61

| DRAWN BY | KO | PLANS CK'D. | PSK |
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CAP REINFORCING - PIER 21

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FILE= P:\WisDOT_12345678_10-441\Plans\B-70-61\Control Copy\Final Plans, 2015\048 B-70-61 - Cap Reinforcing - Pier 21.dgn

DATE: 3/15/2016
I.D.

STATE PROJECT NUMBER

1517-07-77

## BILL OF BARS - PIER CAP (UNCOATED)

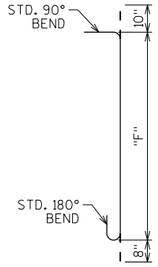
| BAR MARK | NO. REQ'D | LENGTH | BENT | SERIES | LOCATION |
|---|---|---|---|---|---|
| UNCOATED | | | | | TOTAL = 104,800 LB |
| P10001 | 80 | 41'-7" | X | | PIERS 2 THRU 5 - TOP BAR |
| P10002 | 36 | 33'-8" | X | | PIERS 2 THRU 5 - BOTTOM BAR |
| P8003 | 36 | 18'-0" | X | | PIERS 2 THRU 5 - BOTTOM BAR |
| P4004 | 426 | 4'-7" | | | PIERS 2 THRU 5 & 21 - TIE BAR |
| P6005 | 64 | 15'-5" | X | | PIERS 2 THRU 5 - BOTTOM BAR |
| P6006 | 16 | 16'-2" | X | | PIERS 2 THRU 5 - STIRRUP |
| P6007 | 144 | 17'-11" | X | X | PIERS 2 THRU 5 - STIRRUP |
| P6008 | 224 | 21'-6" | X | X | PIERS 2 THRU 5 - STIRRUP |
| P4009 | 126 | 25'-10" | X | | PIERS 2 THRU 5 & 21 - STIRRUP |
| P6010 | 432 | 19'-9" | X | X | PIERS 2 THRU 5 - STIRRUP |
| P10011 | 80 | 35'-9" | X | | PIERS 2 THRU 5 - TOP BAR |
| P6012 | 80 | 24'-1" | | X | PIERS 2 THRU 5 - HORIZONTAL BAR |
| P6013 | 96 | 39'-10" | | | PIERS 2 THRU 5 - HORIZONTAL BAR |
| P6014 | 60 | 11'-7" | X | | PIERS 2 THRU 5 & 21 - STIRRUP |
| P6015 | 224 | 8'-9" | X | X | PIERS 2 THRU 5 - STIRRUP |
| P6016 | 432 | 7'-11" | X | X | PIERS 2 THRU 5 - STIRRUP |
| P6017 | 85 | 6'-6" | | | PIERS 2 THRU 5 & 21 - LAP BAR |
| P5018 | 92 | 10'-4" | X | | PIERS 2 THRU 5 & 21 - STIRRUP |
| P5019 | 155 | 8'-10" | X | | PIERS 2 THRU 5 - STIRRUP |
| P4020 | 6 | 9'-6" | | | PIER 2 - SEAT BAR |
| P4021 | 12 | 34'-3" | | | PIERS 2 & 3 - SEAT BAR |
| P4022 | 6 | 13'-6" | | | PIER 2 - SEAT BAR |
| P4023 | 6 | 21'-4" | | | PIER 2 - SEAT BAR |
| P5024 | 2 | 33'-5" | | | PIER 2 - HORIZONTAL BAR |
| P5025 | 4 | 5'-6" | | | PIERS 2 & 21 - LAP BAR |
| P5026 | 2 | 21'-4" | | | PIER 2 - HORIZONTAL BAR |
| P4027 | 30 | 4'-6" | | | PIERS 2 THRU 5 & 21 - LAP BAR |
| P4028 | 12 | 40'-7" | | | PIERS 4 & 5 - SEAT BAR |
| P4029 | 6 | 17'-9" | | | PIER 3 - SEAT BAR |
| P4030 | 6 | 24'-4" | | | PIER 4 - SEAT BAR |
| P5031 | 2 | 34'-9" | | | PIER 4 - HORIZONTAL BAR |
| P5032 | 25 | 13'-4" | X | | PIER 5 - STIRRUP |
| P4033 | 6 | 27'-6" | | | PIER 5 - SEAT BAR |
| P5034 | 2 | 40'-7" | | | PIER 5 - HORIZONTAL BAR |
| P5035 | 2 | 27'-0" | | | PIER 5 - HORIZONTAL BAR |
| P10036 | 10 | 37'-0" | X | | PIER 21 - TOP BAR |
| P10037 | 20 | 32'-6" | X | | PIER 21 - TOP BAR |
| P10038 | 10 | 38'-10" | X | | PEIR 21 - TOP BAR |
| P10039 | 9 | 33'-3" | X | | PIER 21 - BOTTOM BAR |
| P8040 | 9 | 20'-0" | X | | PIER 21 - BOTTOM BAR |
| P6041 | 16 | 14'-4" | X | | PIER 21 - BOTTOM BAR |
| P6042 | 32 | 17'-10" | X | X | PIER 21 - STIRRUP |
| P6043 | 52 | 21'-4" | X | X | PIER 21 - STIRRUP |
| P6044 | 12 | 37'-1" | | | PIER 21 - HORIZONTAL BAR |
| P6045 | 96 | 19'-10" | X | X | PIER 21 - STIRRUP |
| P6046 | 12 | 16'-2" | X | | PIER 21 - STIRRUP |
| P6047 | 52 | 8'-8" | X | X | PIER 21 - STIRRUP |
| P6048 | 96 | 7'-11" | X | X | PIER 21 - STIRRUP |
| P6049 | 8 | 6'-1" | X | | PIER 21 - STIRRUP |
| P6050 | 20 | 20'-11" | | X | PIER 21 - HORIZONTAL BAR |
| P6051 | 12 | 35'-3" | | | PIER 21 - HORIZONTAL BAR |
| P4052 | 6 | 29'-4" | | | PIER 21 - SEAT BAR |
| P4053 | 6 | 37'-10" | | | PIER 21 - SEAT BAR |
| P5054 | 4 | 37'-10" | | | PIER 21 - HORIZONTAL BAR |
| P5055 | 2 | 28'-9" | | | PIER 21 - HORIZONTAL BAR |
| P5056 | 2 | 19'-4" | | | PIER 21 - HORIZONTAL BAR |
| P5057 | 24 | 14'-10" | X | | PIER 21 - STIRRUP |
| P5058 | 14 | 12'-10" | X | | PIER 21 - STIRRUP |
| P5059 | 29 | 10'-10" | X | | PIER 21 - STIRRUP |

## BILL OF BARS - PIER CAP (COATED)

| BAR MARK | NO. REQ'D | LENGTH | BENT | SERIES | LOCATION |
|---|---|---|---|---|---|
| COATED | | | | | TOTAL = 49,450 LB |
| P10060 | 20 | 39'-6" | X | | PIER 6 - TOP BAR |
| P10061 | 20 | 34'-0" | X | | PIER 6 - TOP BAR |
| P6062 | 20 | 22'-10" | | X | PIER 6 - HORIZONTAL BAR |
| P6063 | 24 | 37'-9" | | | PIER 6 - HORIZONTAL BAR |
| P10064 | 9 | 32'-6" | X | | PIER 6 - BOTTOM BAR |
| P8065 | 9 | 18'-0" | X | | PIER 6 - BOTTOM BAR |
| P6066 | 16 | 14'-11" | X | | PIER 6 - BOTTOM BAR |
| P6067 | 36 | 18'-0" | X | X | PIER 6 - STIRRUP |
| P6068 | 52 | 21'-6" | X | X | PIER 6 - STIRRUP |
| P6069 | 100 | 19'-9" | X | X | PIER 6 - STIRRUP |
| P6070 | 52 | 8'-9" | X | X | PIER 6 - STIRRUP |
| P6071 | 100 | 7'-11" | X | X | PIER 6 - STIRRUP |
| P4072 | 12 | 38'-5" | | | PIER 6 - SEAT BAR |
| P4073 | 6 | 25'-9" | | | PIER 6 - SEAT BAR |
| P5074 | 8 | 38'-5" | | | PIER 6 - HORIZONTAL BAR |
| P5075 | 2 | 15'-0" | | | PIER 6 - HORIZONTAL BAR |
| P5076 | 84 | 12'-4" | X | | PIERS C1 & 6 - STIRRUP |
| P5077 | 43 | 10'-10" | X | | PIERS C1 & 6 - STIRRUP |
| P5078 | 25 | 9'-4" | X | | PIER 6 - STIRRUP |
| P5079 | 80 | 9'-1" | X | | PIER 6 - STIRRUP |
| P6080 | 24 | 12'-9" | X | | PIERS C1 & 6 - STIRRUP |
| P6081 | 16 | 16'-2" | X | | PIERS C1 & 6 - STIRRUP |
| P4082 | 24 | 25'-10" | X | | PIER 6 - STIRRUP |
| P6083 | 34 | 7'-8" | | | PIERS C1 & 6 - LAP BAR |
| P4084 | 18 | 5'-4" | | | PIERS C1 & 6 - LAP BAR |
| P5085 | 10 | 6'-6" | | | PIERS C1 & 6 - LAP BAR |
| P4086 | 184 | 4'-7" | | | PIERS C1 & 6 - TIE BAR |
| P5087 | 6 | 10'-4" | X | | PIERS C1 & 6 - STIRRUP |
| P10088 | 10 | 49'-2" | X | | PIER C1 - TOP BAR |
| P10089 | 10 | 47'-4" | X | | PIER C1 - TOP BAR |
| P10090 | 20 | 41'-8" | X | | PIER C1 - TOP BAR |
| P10091 | 9 | 39'-9" | X | | PIER C1 - BOTTOM BAR |
| P8092 | 9 | 20'-6" | X | | PIER C1 - BOTTOM BAR |
| P6093 | 12 | 47'-5" | | | PIER C1 - HORIZONTAL BAR |
| P6094 | 12 | 45'-7" | | | PIER C1 - HORIZONTAL BAR |
| P6095 | 24 | 27'-11" | | X | PIER C1 - HORIZONTAL BAR |
| P6096 | 36 | 17'-10" | X | X | PIER C1 - STIRRUP |
| P6097 | 72 | 22'-0" | X | X | PIER C1 - STIRRUP |
| P6098 | 124 | 20'-3" | X | X | PIER C1 - STIRRUP |
| P4099 | 30 | 26'-10" | X | | PIER C1 - STIRRUP |
| P6100 | 72 | 9'-0" | X | X | PIER C1 - STIRRUP |
| P6101 | 124 | 8'-2" | X | X | PIER C1 - STIRRUP |
| P6102 | 8 | 6'-1" | X | | PIER C1 - STIRRUP |
| P6103 | 16 | 17'-6" | X | | PIER C1 - BOTTOM BAR |
| P5104 | 6 | 46'-4" | | | PIER C1 - HORIZONTAL BAR |
| P5105 | 4 | 30'-6" | | | PIER C1 - HORIZONTAL BAR |
| P5106 | 2 | 20'-5" | | | PIER C1 - HORIZONTAL BAR |
| P5107 | 2 | 47'-10" | | | PIER C1 - HORIZONTAL BAR |
| P4108 | 9 | 45'-7" | | | PIER C1 - SEAT BAR |
| P4109 | 9 | 47'-5" | | | PIER C1 - SEAT BAR |
| P5110 | 34 | 8'-10" | X | | PIER C1 - STIRRUP |
| P5111 | 61 | 6'-10" | X | | PIER C1 - STIRRUP |
| P5139 | 5 | 7'-10" | X | | PIER C1 - STIRRUP |
| P5140 | 4 | 8'-1" | X | | PIER 6 - STIRRUP |
| P7141 | 113 | 3'-2" | | | PIERS 3 & 4 - VERTICAL DIAPHRAGM BAR |

## BAR SERIES TABLE

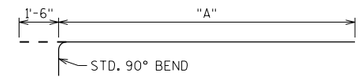
| MARK | NO. REQUIRED | LENGTH |
|---|---|---|
| P6007 | 16 SERIES OF 9 | 16'-4" TO 19'-6" |
| P6008 | 16 SERIES OF 14 | 19'-10" TO 23'-2" |
| P6010 | 16 SERIES OF 27 | 16'-4" TO 23'-2" |
| P6012 | 16 SERIES OF 5 | 13'-7" TO 34'-7" |
| P6015 | 16 SERIES OF 14 | 7'-11" TO 9'-7" |
| P6016 | 16 SERIES OF 27 | 6'-2" TO 9'-7" |
| P6042 | 4 SERIES OF 8 | 16'-4" TO 19'-4" |
| P6043 | 4 SERIES OF 13 | 19'-8" TO 23'-0" |
| P6045 | 4 SERIES OF 24 | 16'-6" TO 23'-2" |
| P6047 | 4 SERIES OF 13 | 7'-10" TO 9'-6" |
| P6048 | 4 SERIES OF 24 | 6'-3" TO 9'-7" |
| P6050 | 4 SERIES OF 5 | 11'-4" TO 30'-6" |
| P6062 | 4 SERIES OF 5 | 12'-10" TO 32'-9" |
| P6067 | 4 SERIES OF 9 | 16'-4" TO 19'-8" |
| P6068 | 4 SERIES OF 13 | 19'-10" TO 23'-2" |
| P6069 | 4 SERIES OF 25 | 16'-6" TO 23'-0" |
| P6070 | 4 SERIES OF 13 | 7'-11" TO 9'-7" |
| P6071 | 4 SERIES OF 25 | 6'-3" TO 9'-6" |
| P6095 | 4 SERIES OF 6 | 15'-4" TO 40'-6" |
| P6096 | 4 SERIES OF 9 | 16'-4" TO 19'-4" |
| P6097 | 4 SERIES OF 18 | 19'-10" TO 24'-2" |
| P6098 | 4 SERIES OF 31 | 16'-4" TO 24'-2" |
| P6100 | 4 SERIES OF 18 | 7'-11" TO 10'-1" |
| P6101 | 4 SERIES OF 31 | 6'-2" TO 10'-1" |




TIE STIRRUP TABLE
SEE TABLE

TIE STIRRUP TABLE

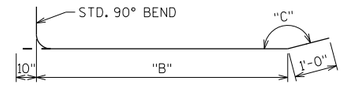
| MARK | "F" |
|---|---|
| P6015 | 6'-5" TO 8'-1" |
| P6016 | 4'-8" TO 8'-1" |
| P6047 | 6'-4" TO 8'-0" |
| P6048 | 4'-9" TO 8'-1" |
| P6049 | 4'-7" |
| P6070 | 6'-5" TO 8'-1" |
| P6071 | 4'-9" TO 8'-0" |
| P6100 | 6'-5" TO 8'-7" |
| P6101 | 4'-8" TO 8'-7" |
| P6102 | 4'-7" |




TOP BAR
SEE TABLE

TOP BAR TABLE

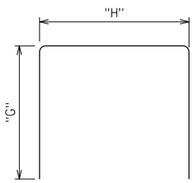
| MARK | "A" |
|---|---|
| P10001 | 40'-1" |
| P10011 | 34'-3" |
| P10036 | 35'-6" |
| P10037 | 31'-0" |
| P10038 | 37'-4" |
| P10060 | 38'-0" |
| P10061 | 32'-6" |
| P10088 | 47'-8" |
| P10089 | 45'-10" |
| P10090 | 40'-2" |




BOTTOM BAR
SEE TABLE

BOTTOM BAR TABLE

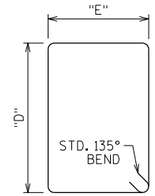
| MARK | "B" | "C" |
|---|---|---|
| P6005 | 13'-7" | 165°17' 30" |
| P6041 | 12'-6" | 163°57' 4" |
| P6066 | 13'-1" | 164°33' 13" |
| P6103 | 15'-8" | 165°22' 45" |




U-BAR STIRRUP
SEE TABLE

U-BAR STIRRUP TABLE

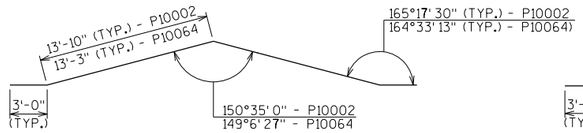
| MARK | "G" | "H" |
|---|---|---|
| P6014 | 3'-8" | 4'-7" |
| P5018 | 3'-0" | 4'-7" |
| P5019 | 2'-3" | 4'-7" |
| P5032 | 4'-6" | 4'-7" |
| P5057 | 5'-3" | 4'-7" |
| P5058 | 4'-3" | 4'-7" |
| P5059 | 3'-3" | 4'-7" |
| P5076 | 4'-0" | 4'-7" |
| P5077 | 3'-3" | 4'-7" |
| P5078 | 2'-6" | 4'-7" |
| P5079 | 3'-6" | 2'-4" |
| P6080 | 4'-3" | 4'-7" |
| P5087 | 3'-0" | 4'-7" |
| P5110 | 3'-6" | 2'-1" |
| P5111 | 2'-6" | 2'-1" |
| P5139 | 3'-0" | 2'-1" |
| P5140 | 3'-0" | 2'-4" |



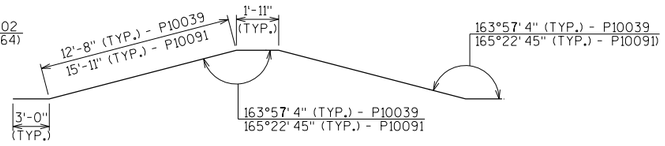

HOOP STIRRUP
SEE TABLE

HOOP STIRRUP TABLE

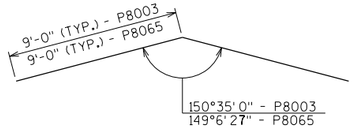
| MARK | "D" | "E" |
|---|---|---|
| P6006 | 4'-7" | 3'-1" |
| P6007 | 4'-8" TO 6'-3" | 3'-1" |
| P6008 | 6'-5" TO 8'-1" | 3'-1" |
| P4009 | 8'-1" | 4'-7" |
| P6010 | 4'-8" TO 8'-1" | 3'-1" |
| P6042 | 4'-8" TO 6'-2" | 3'-1" |
| P6043 | 6'-4" TO 8'-0" | 3'-1" |
| P6045 | 4'-9" TO 8'-1" | 3'-1" |
| P6046 | 4'-7" | 3'-1" |
| P6067 | 4'-8" TO 6'-4" | 3'-1" |
| P6068 | 6'-5" TO 8'-1" | 3'-1" |
| P6069 | 4'-9" TO 8'-0" | 3'-1" |
| P6081 | 4'-7" | 3'-1" |
| P4082 | 8'-1" | 4'-7" |
| P6096 | 4'-8" TO 6'-2" | 3'-1" |
| P6097 | 6'-5" TO 8'-7" | 3'-1" |
| P6098 | 4'-8" TO 8'-7" | 3'-1" |
| P4099 | 8'-7" | 4'-7" |



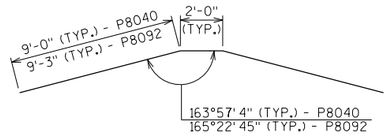

P10002, P10064




P10039, P10091




P8003, P8065




P8040, P8092

## NOTES

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

| DRAWN BY | PSK | PLANS CK'D. | KO |
|---|---|---|---|

CAP REINFORCING BILL OF BARS

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I.D.

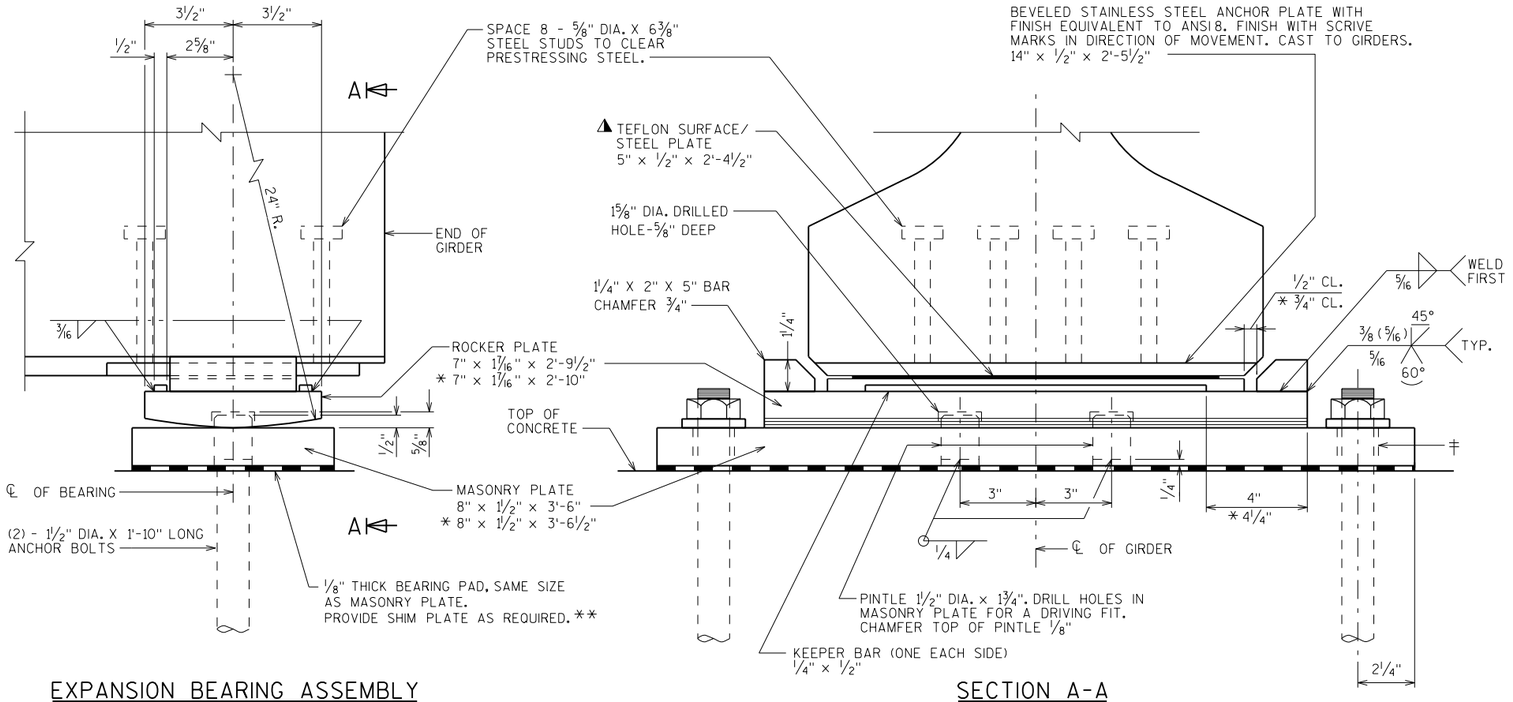
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8

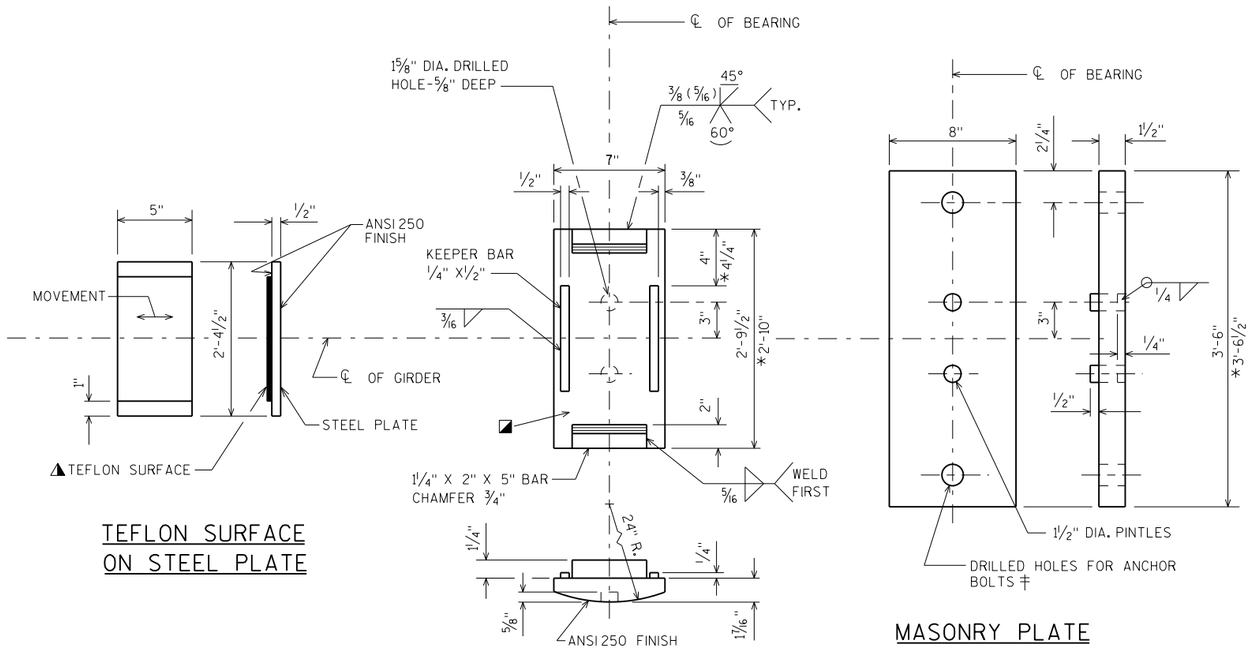
STATE PROJECT NUMBER

1517-07-77




EXPANSION BEARING ASSEMBLY

SECTION A-A




TEFLON SURFACE ON STEEL PLATE

ROCKER PLATE

MASONRY PLATE

EXPANSION BEARING

## BEARING NOTES

ALL BEARINGS ARE SYMMETRICAL ABOUT C/L OF GIRDER AND C/L OF BEARING.

ALL MATERIAL IN BEARINGS, BUT EXCLUDING STAINLESS STEEL PLATE, TEFLON SURFACE, PINTLES, ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 50W.

STAINLESS STEEL PLATE SHALL CONFORM TO ASTM A240, TYPE 304.

STEEL PINTLES SHALL CONFORM TO ASTM A449 OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 36, OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

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

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ALL FINISHED SURFACES SHALL BE MACHINE FINISHED BY AN AUTOMATIC PROCESS.

ANCHOR BOLTS SHALL BE THREADED 3". PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT. PROJECT ANCHOR BOLTS, MASONRY PLATE THICKNESS + 2¼", ABOVE TOP OF CONCRETE.

CHAMFER ANCHOR BOLTS PRIOR TO THREADING.

MASONRY PLATE, ROCKER PLATE, ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153, CLASS "C". STEEL PLATE ATTACHED TO TEFLON SURFACE SHALL BE SHOP PAINTED. DO NOT PAINT TEFLON SURFACE.

ALL MATERIAL IN "STEEL BEARINGS FOR PRESTRESSED CONCRETE GIRDERS", INCLUDING BEARING PADS, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR BID ITEM "BEARING ASSEMBLIES EXPANSION B-70-61, EACH.

‡ DRILLED HOLES FOR ANCHOR BOLTS IN MASONRY PLATE SHALL HAVE A DIAMETER ⅜" LARGER THAN ANCHOR BOLT.

▲ TEFLON SURFACE, USE UNFILLED WITH MINIMUM 1/16" THICKNESS. PLACE WITH SCRIVE MARKS IN DIRECTION OF MOVEMENT. BOND STEEL PLATE AND TEFLON WITH ADHESIVE MATERIAL MEETING FEDERAL SPECIFICATION MMM-A-134, FEP FILM OR EQUAL.

◪ PROVIDE A METHOD FOR HANDLING ROCKER PLATE DURING GALVANIZING.

AT INSTALLATION, ENSURE STAINLESS STEEL SLIDING FACE OF THE UPPER ELEMENT AND THE TEFLON SLIDING FACE OF THE LOWER ELEMENT HAVE THE SURFACE FINISH SPECIFIED AND ARE CLEAN AND FREE OF ALL DUST, MOISTURE, AND OTHER FOREIGN MATTER.

## LEGEND:

* PROVIDE A TOTAL OF FOUR (4) EXTRA LENGTH BEARINGS, AS DEFINED ON THIS SHEET, IN SPAN 1 FOR GIRDERS 1 AND 2. FOR LOCATIONS SEE SHEETS 23 "PIER C1 GEOMETRY" AND 24 "PIER 2 GEOMETRY".

** PROVIDE ONE 3¼" SHIM PLATE FOR GIRDER 2A AT THE EAST OF SPAN 1, ON PIER 2.

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| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

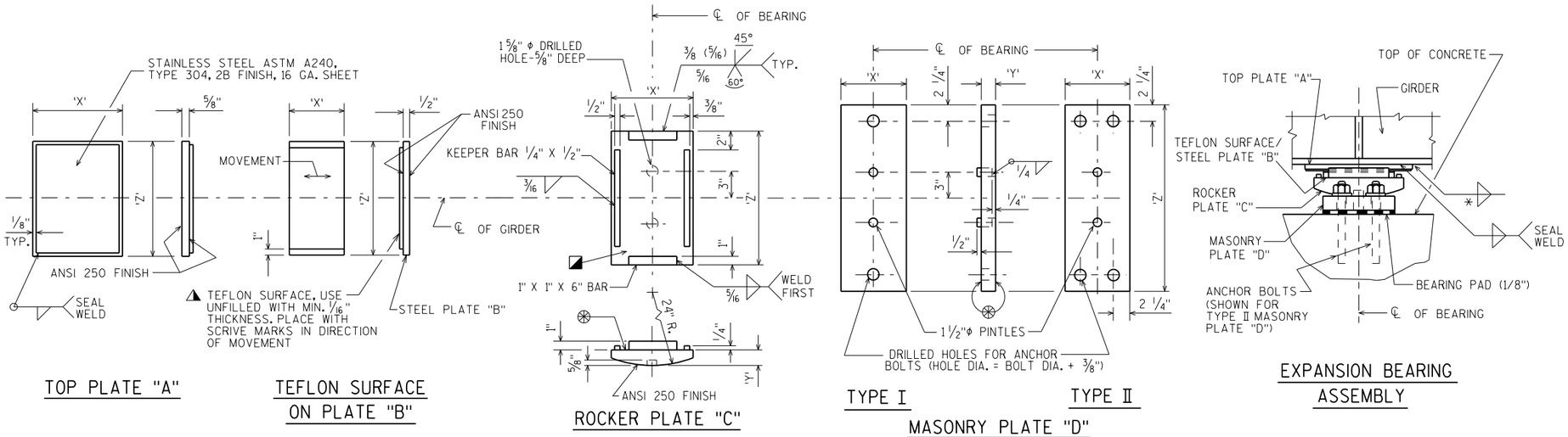
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STEEL BEARINGS FOR PRESTRESSED GIRDERS

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356

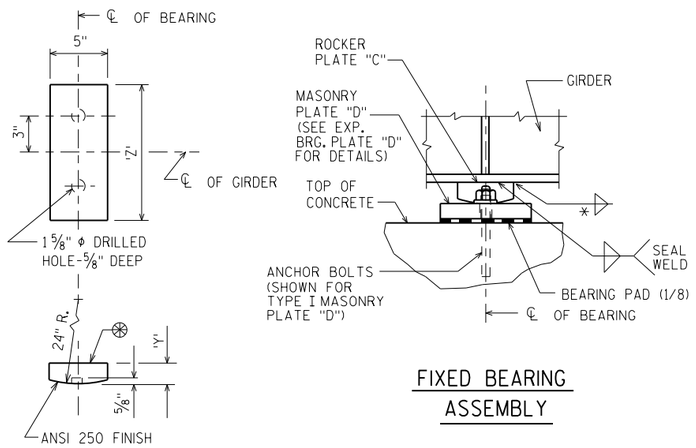
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DATE: 3/15/2016
I.D.




## EXPANSION BEARING

| | PLATE "A" | | PLATE "B" | | PLATE "C" | | | PLATE "D" | | | PLATE "D" TYPE | ANCHOR BOLT SIZE | NO. OF BRG'S REQ'D. | LOCATION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 'X' | 'Z' | 'X' | 'Z' | 'X' | 'Y' | 'Z' | 'X' | 'Y' | 'Z' | | | | |
| EXPANSION BEARING | 11" | 1'-8" | 7" | 1'-8" | 9" | 1 15/16 " | 1'- 10 1/4" | 9" | 2" | 2'-6" | I | 1 1/2" ϕ | 8 | PIER 6 |
| | 1'-7" | 1'-8" | 1'-3" | 1'-8" | 1'-5" | 3 7/8" | 1'- 10 1/4" | 1'-6" | 3 7/8" | 2'-7" | II | 1 1/2" ϕ | 8 | PIER 20 |
| | 1'-7" | 1'-8" | 1'-3" | 1'-8" | 1'-5" | 3 7/8" | 1'- 10 1/4" | 1'-6" | 3 7/8" | 2'-7" | I | 1 1/2" ϕ | 8 | PIER 21 |
| | 11" | 1'-8" | 7" | 1'-8" | 9" | 1 15/16 " | 1'- 10 1/4" | 9" | 2" | 2'-6" | I | 1 1/2" ϕ | 8 | EAST ABUTMENT |
| | | | | | | | | | | | | | | |
| FIXED BEARING | | | | | | 2 3/8" | 1'- 8" | 1'-6" | 3 7/8" | 2'-8" | II | 1 1/2" ϕ | 8 | PIER 7 |
| | | | | | | 2 3/8" | 1'- 8" | 1'-6" | 3 7/8" | 2'-8" | II | 1 1/2" ϕ | 7 | PIER 19 |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |




ROCKER PLATE "C"

FIXED BEARING

## BEARING NOTES

ALL BEARINGS ARE SYMMETRICAL ABOUT ℄ OF GIRDER AND ℄ OF BEARING.

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

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ALL FINISHED SURFACES SHALL BE MACHINE FINISHED BY AN AUTOMATIC PROCESS.

CHAMFER ANCHOR BOLTS PRIOR TO THREADING.

ANCHOR BOLTS SHALL BE THREADED 3". PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT. BOLT LENGTH TO BE 1'-5 FOR 1 1/4" ϕ AND 1'-10 FOR 1 1/2" ϕ BOLTS. PROJECT ANCHOR BOLTS, MASONRY PLATE "D" THICKNESS + 2 1/4", ABOVE TOP OF CONCRETE.

CHAMFER TOP OF PINTLES 1/8". DRILL HOLES FOR ALL PINTLES IN MASONRY PLATE "D" FOR A DRIVING FIT.

ALL MATERIAL IN BEARINGS, INCLUDING SHIM PLATES, BUT EXCLUDING ANCHOR BOLTS, STAINLESS STEEL SHEET, TEFLON SURFACE, PINTLES, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 50W.

STEEL PINTLES SHALL CONFORM TO ASTM A449 OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 36, OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

PROVIDE 1/8" THICK BEARING PAD THE SAME SIZE AS MASONRY PLATE "D" FOR EACH BEARING.

ALL MATERIAL IN BEARINGS, INCLUDING SHIM PLATES AND BEARING PADS, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING ASSEMBLIES EXPANSION B-70-61" OR "BEARING ASSEMBLIES FIXED B-70-61", EACH.

ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153, CLASS C.

FIXED BEARINGS:
ROCKER PLATE "C" SHALL BE SHOP PAINTED WITH A WELDABLE PRIMER.
MASONRY PLATE "D" SHALL BE GALVANIZED.

EXPANSION BEARINGS:
TOP PLATE "A" AND STEEL PLATE "B" SHALL BE SHOP PAINTED. USE A WELDABLE PRIMER ON TOP PLATE "A".
ROCKER PLATE "C" AND MASONRY PLATE "D" SHALL BE GALVANIZED. DO NOT PAINT STAINLESS STEEL OR TEFLON SURFACES.

⊛ FINISH THESE SURFACES TO ANSI 250 IF 'Y' DIMENSION IS GREATER THAN 2".

◪ PROVIDE A METHOD FOR HANDLING ROCKER PLATE "C" DURING GALVANIZING.

⚠ BOND STEEL PLATE "B" AND TEFLON WITH ADHESIVE MATERIAL MEETING FEDERAL SPECIFICATION MMM-A-134, FEP FILM OR EQUAL.

AT INSTALLATION, ENSURE STAINLESS STEEL SLIDING FACE OF THE UPPER ELEMENT AND THE TFE SLIDING FACE OF THE LOWER ELEMENT HAVE THE SURFACE FINISH SPECIFIED AND ARE CLEAN AND FREE OF ALL DUST, MOISTURE, AND OTHER FOREIGN MATTER.

* SEE SHEET 5 "GENERAL NOTES" FOR TABLE OF FILLET WELD SIZES

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

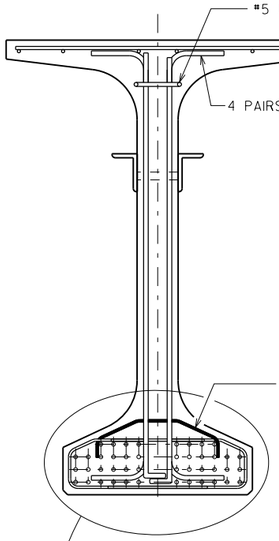
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EXPANSION AND FIXED BEARINGS FOR STEEL GIRDERS

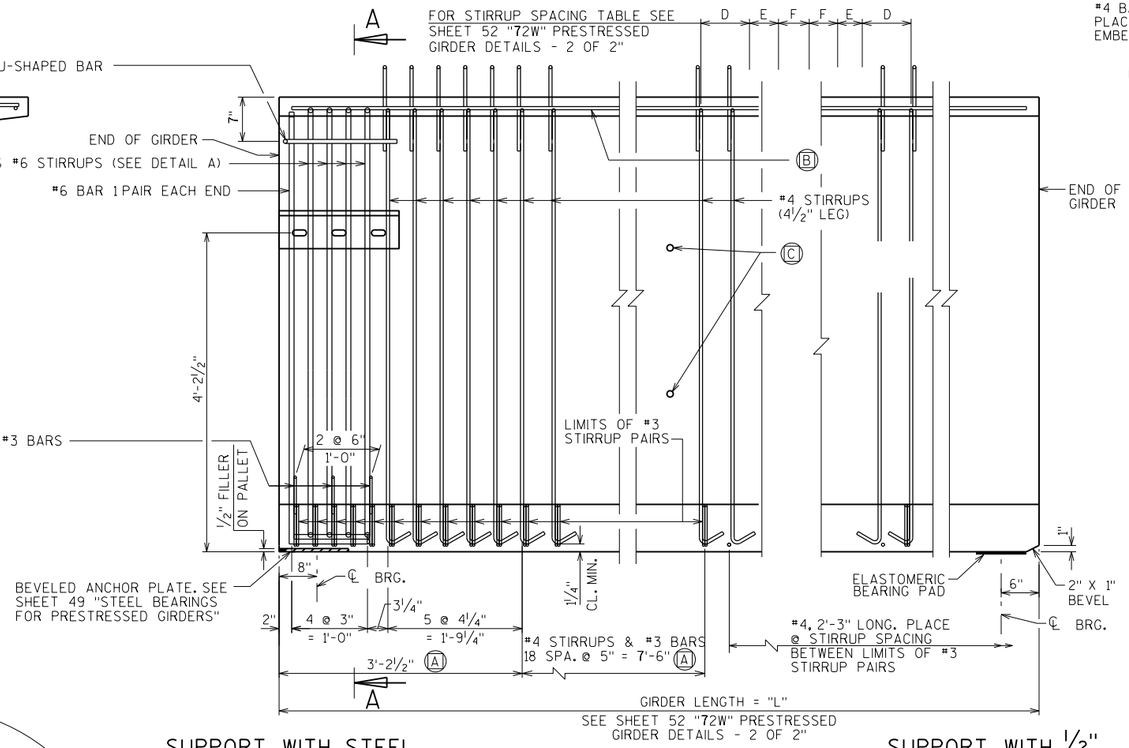
SHEET 50 OF 109
357

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DATE: 3/15/2016
I.D.
LEVELS 1 2 3 5 6 7 8 9 10

STATE PROJECT NUMBER
1517-07-77

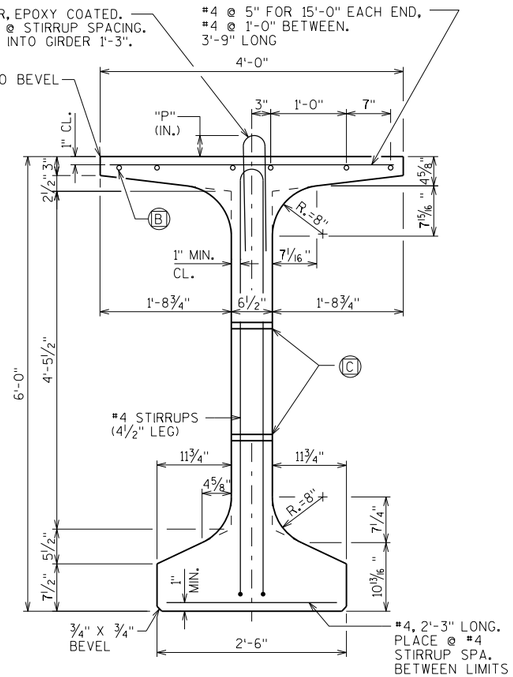



SECTION A-A




SUPPORT WITH STEEL ROCKER BEARINGS

SUPPORT WITH ½" ELASTOMERIC BEARING PAD




SECTION THRU GIRDER

## GIRDER NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY FOR BONDING TO THE SLAB, EXCEPT THE OUTSIDE 15" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 15" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

STRANDS SHALL BE FLUSH WITH THE END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, ENDS OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO APPLICATION OF THE SEALER.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

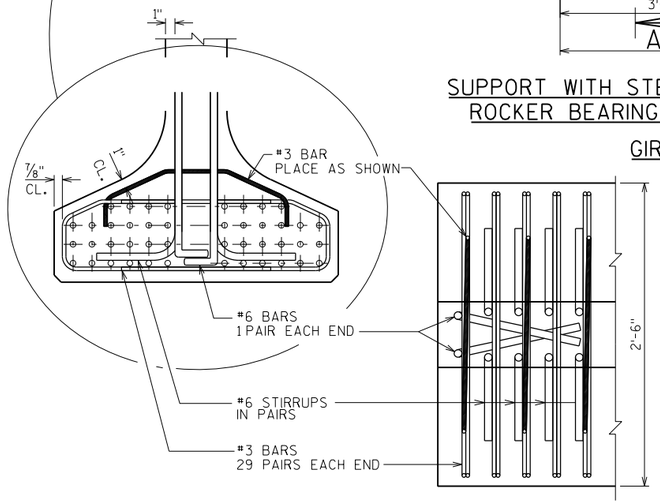
AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

PRESTRESSING STRANDS SHALL BE 0.6" DIA.-7-WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

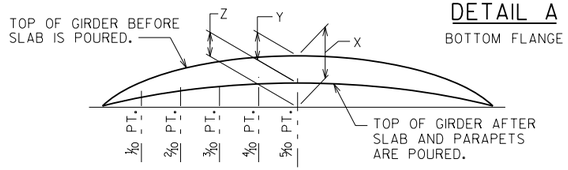
FOR DIAPHRAGM INSERT AND CONNECTION DETAILS SEE SHEET 55 "INTERMEDIATE STEEL DIAPH. FOR PRESTRESSED GIRDERS".

FOR FLOOR DRAIN BRACKET INSERT DETAILS SEE SHEET 98 "FLOOR DRAIN TYPE 'WF'".

FOR STORAGE, HANDLING, AND TRANSPORTING, THIS GIRDER IS REINFORCED TO ALLOW A MAXIMUM OVERHANG FROM THE LIFTING LOCATION UP TO 1/10TH THE GIRDER LENGTH. THE CONTRACTOR IS RESPONSIBLE FOR LATERAL STABILITY OF THE GIRDER UNTIL THE DECK IS CURED.




DETAIL A
BOTTOM FLANGE




DEAD LOAD DEFLECTION DIAGRAM

"X" = PRESTRESSED CAMBER
"Y" = DEAD LOAD DEFLECTION
"Z" = RESIDUAL CAMBER

SEE "GIRDER DATA" TABLE ON THIS SHEET FOR DEAD LOAD DEFLECTION.

## NOTE

FOR PRESTRESSING STRAND PATTERNS, THEORETICAL CAMBER TABLE, AND TOP FLANGE AND BLOCK OUT DETAILS SEE SHEET 52 "72W" PRESTRESSED GIRDER DETAILS - 2 OF 2".

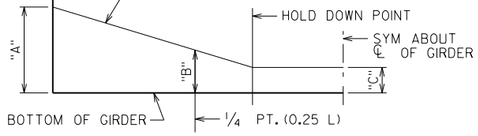
## GIRDER ELEVATION & TYP. SECTION IN SPAN

STRANDS NOT SHOWN

(A) DETAIL TYP. AT EACH END

(B) 6-#5 BARS, FULL LENGTH, MIN. LAP = 2'-11"

(C) 1" DIA. SLEEVE CAST IN GIRDER WEB FOR FLOOR DRAIN BRACKETS. PLACE INSERTS TO MISS DRAPED STRANDS. FOR INSERT LOCATIONS SEE SHEET 52 "72W" PRESTRESSED GIRDER DETAILS - 2 OF 2"

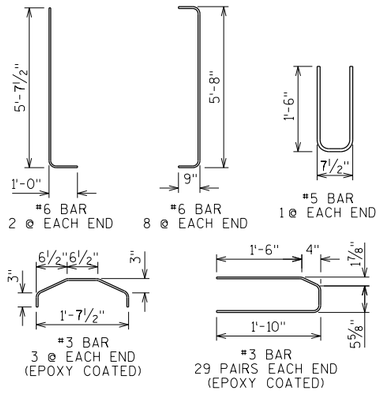



DRAPED STRAND PROFILE

GIRDER DATA TABLE

| SPAN | GIRDER | GIRDER LENGTH "L" | DL DEFLECTION (IN.) SYM. ABOUT ℄ 1/10 | 2/10 | 3/10 | 4/10 | 5/10 | CONC. STRGTH. F'c (P.S.I.) | "P" 1ST 1/3 OF GIRDER | "P" MID 1/3 OF GIRDER | "P" END 1/3 OF GIRDER | DIA. OF STRAND (IN.) | DRAPED PATTERN TOTAL NO. OF STRANDS | F'ci (P.S.I) * | (IN.) "A" | "B" MIN. | "B" MAX. | "C" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1-4 | SEE GIRDER LENGTHS TABLE ON SHEET 52 "72W" PRESTRESSED GIRDER DETAILS - 2 OF 2" | 0.2 | 0.4 | 0.5 | 0.6 | 0.6 | 8,000 | 8 | 7 1/8 | 8 | 0.6 | 22 | 6,800 | 54 | 16.5 | 19.5 | 4 |
| | 5-9 | | 0.2 | 0.3 | 0.5 | 0.5 | 0.6 | | 7 | 7 | 7 | | | | | | | |
| | 10 | | 0.2 | 0.3 | 0.4 | 0.5 | 0.5 | | 7 | 7 | 7 | | | | | | | |
| 2 | 1 | | 1.0 | 1.9 | 2.6 | 3.1 | 3.3 | 8,000 | 8 3/4 | 10 5/8 | 9 3/4 | 0.6 | 46 | 6,800 | 67 | 20.5 | 23.5 | 5 |
| | 2-3 | | 1.0 | 2.0 | 2.7 | 3.2 | 3.4 | | 8 | 9 1/4 | 8 3/4 | | | | | | | |
| | 4 | | 1.0 | 1.8 | 2.5 | 2.9 | 3.1 | | 7 1/2 | 7 | 8 1/8 | | | | | | | |
| | 5-9 | | 0.9 | 1.6 | 2.3 | 2.7 | 2.8 | | 7 | 7 | 9 3/8 | | | | | | | |
| | 10 | | 0.8 | 1.5 | 2.1 | 2.4 | 2.6 | | 7 | 7 | 10 | | | | | | | |
| 3 | 1 | | 0.9 | 1.7 | 2.4 | 2.8 | 3.0 | 8,000 | 7 3/8 | 7 | 9 1/8 | 0.6 | 46 | 6,800 | 67 | 20.5 | 23.5 | 5 |
| | 2-3 | | 1.0 | 1.9 | 2.6 | 3.0 | 3.2 | | 7 7/8 | 7 | 8 5/8 | | | | | | | |
| | 4 | | 0.9 | 1.8 | 2.4 | 2.8 | 3.0 | | 8 1/8 | 7 | 8 1/4 | | | | | | | |
| | 5-9 | | 0.9 | 1.7 | 2.3 | 2.7 | 2.8 | | 9 3/8 | 7 | 8 3/4 | | | | | | | |
| | 10 | | 0.8 | 1.5 | 2.1 | 2.4 | 2.6 | | 10 | 7 | 7 5/8 | | | | | | | |
| 4 | 1 | | 0.9 | 1.8 | 2.4 | 2.8 | 3.0 | 8,000 | 9 1/8 | 7 1/2 | 10 1/2 | 0.6 | 46 | 6,800 | 67 | 20.5 | 23.5 | 5 |
| | 2-3 | | 1.0 | 1.9 | 2.6 | 3.0 | 3.2 | | 8 5/8 | 7 | 10 1/2 | | | | | | | |
| | 4 | | 0.9 | 1.8 | 2.4 | 2.8 | 3.0 | | 8 1/4 | 7 | 9 7/8 | | | | | | | |
| | 5-9 | | 0.9 | 1.7 | 2.4 | 2.8 | 2.9 | | 8 3/4 | 7 | 10 3/4 | | | | | | | |
| | 10 | | 0.9 | 1.7 | 2.4 | 2.8 | 2.9 | | 7 5/8 | 7 | 9 3/4 | | | | | | | |
| 5 | 1 | | 0.7 | 1.3 | 1.8 | 2.1 | 2.2 | 8,000 | 10 1/2 | 7 | 7 3/4 | 0.6 | 44 | 6,800 | 67 | 20.5 | 23.5 | 5 |
| | 2-3 | | 0.8 | 1.5 | 2.0 | 2.4 | 2.5 | | 10 1/2 | 7 | 7 3/4 | | | | | | | |
| | 4-9 | | 0.8 | 1.5 | 2.0 | 2.4 | 2.5 | | 10 3/4 | 7 | 8 7/8 | | | | | | | |
| | 10 | | 0.8 | 1.5 | 2.1 | 2.4 | 2.6 | | 9 3/4 | 7 | 9 | | | | | | | |

DATA PROVIDED IS GROUPED FOR SIMILAR GIRDERS, AT THE DISCRETION OF THE ENGINEER.
DEAD LOAD DEFLECTIONS ARE ROUNDED TO THE NEAREST 0.1 INCHES.
* MINIMUM CYLINDER STRENGTH OF CONCRETE AT TIME OF TRANSFER OF PRESTRESS FORCE.




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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY PSK | PLANS CK'D. NPP

72W" PRESTRESSED GIRDER DETAILS - 1 OF 2

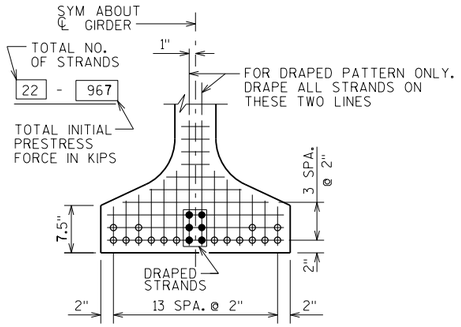
SHEET 51 OF 109
358

8

FILE= P:\WisDOT_12345678_10-441\Plans\B-70-61\Control Copy\Final Plans, 2015\052 B-70-61 - 72W Prestressed Girder Details - 1 of 2.dgn
DATE: 3/15/2016
I.D.

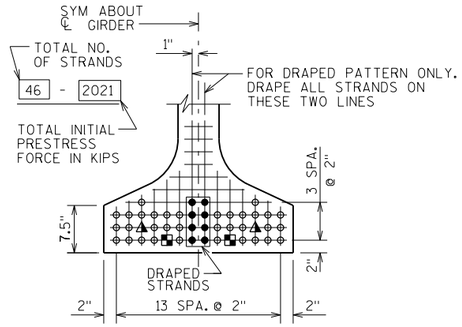
STATE PROJECT NUMBER

1517-07-77



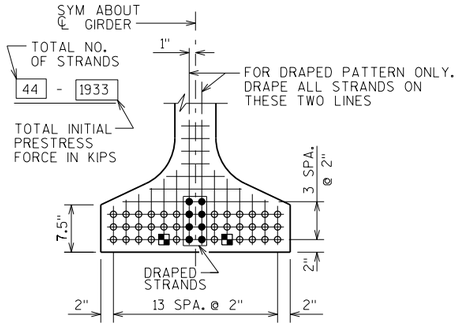

## TYP. MIDSPAN STRAND PATTERN

SPAN 1 GIRDERS
(DESIGN ASSUMES HOLD-DOWN POINT AT 0.35L)




## TYP. MIDSPAN STRAND PATTERN

SPANS 2-4 GIRDERS
(DESIGN ASSUMES HOLD-DOWN POINT AT 0.33L)




## TYP. MIDSPAN STRAND PATTERN

SPAN5 5 GIRDERS
(DESIGN ASSUMES HOLD-DOWN POINT AT 0.33L)

## LEGEND

- ○ STRAIGHT STRAND
- ● DRAPED STRAND
- ◘ PARTIALLY DEBONDED STRAND, 20'-0" EACH END
- ▲ PARTIALLY DEBONDED STRAND, 14'-0" EACH END

## GIRDER LENGTH TABLE

| GIRDER | SPAN 1 | SPAN 2 | SPAN 3 | SPAN 4 | SPAN 5 |
|---|---|---|---|---|---|
| 1 | 100' - 10 1/8" | 148' - 1" | 148' - 1" | 147' - 0 7/8" | 139' - 7 3/4" |
| 2 | 100' - 8 3/4" | 148' - 1" | 148' - 1" | 147' - 4 1/4" | 139' - 1 7/8" |
| 2A | 100' - 3 5/8" | -- | -- | -- | -- |
| 3 | 100' - 2 5/8" | 148' - 1" | 148' - 1" | 147' - 7 5/8" | 140' - 4 1/4" |
| 4 | 100' - 2 5/8" | 148' - 1" | 148' - 1" | 147' - 10 5/8" | 140' - 8 3/8" |
| 5 | 100' - 2 5/8" | 148' - 1" | 148' - 1" | 148' - 1 1/2" | 141' - 0 1/2" |
| 6 | 100' - 2 5/8" | 148' - 1" | 148' - 1" | 148' - 4 3/8" | 141' - 4 5/8" |
| 7 | 100' - 2 5/8" | 148' - 1" | 148' - 1" | 148' - 7 3/8" | 141' - 8 3/4" |
| 8 | 100' - 2 5/8" | 148' - 1" | 148' - 1" | 148' - 10 1/4" | 142' - 0 3/4" |
| 9 | 100' - 2 5/8" | 148' - 1" | 148' - 1" | 149' - 1 1/8" | 142' - 4 7/8" |
| 10 | 100' - 2 5/8" | 148' - 1" | 148' - 1" | 149' - 4" | 142' - 9" |

## GIRDER STIRRUP TABLE

| SPAN | GIRDER | D | E | F |
|---|---|---|---|---|
| 1 | 1 | 10 SPA. @ 9 IN. | 8 5/8 IN. | 21 SPA. @ 18 IN. |
| | 2 | 10 SPA. @ 9 IN. | 7 7/8 IN. | 21 SPA. @ 18 IN. |
| | 2A | 10 SPA. @ 9 IN. | 5 3/8 IN. | 21 SPA. @ 18 IN. |
| | 3-10 | 10 SPA. @ 9 IN. | 4 7/8 IN. | 21 SPA. @ 18 IN. |
| 2 | ALL | 15 SPA. @ 6 IN. | 4 IN. | 37 SPA. @ 18 IN. |
| 3 | ALL | 15 SPA. @ 6 IN. | 4 IN. | 37 SPA. @ 18 IN. |
| 4 | 1 | 15 SPA. @ 6 IN. | 16 IN. | 36 SPA. @ 18 IN. |
| | 2 | 15 SPA. @ 6 IN. | 17 5/8 IN. | 36 SPA. @ 18 IN. |
| | 3 | 15 SPA. @ 6 IN. | 1 3/8 IN. | 37 SPA. @ 18 IN. |
| | 4 | 15 SPA. @ 6 IN. | 2 7/8 IN. | 37 SPA. @ 18 IN. |
| | 5 | 15 SPA. @ 6 IN. | 4 2/8 IN. | 37 SPA. @ 18 IN. |
| | 6 | 15 SPA. @ 6 IN. | 5 6/8 IN. | 37 SPA. @ 18 IN. |
| | 7 | 15 SPA. @ 6 IN. | 7 2/8 IN. | 37 SPA. @ 18 IN. |
| | 8 | 15 SPA. @ 6 IN. | 8 5/8 IN. | 37 SPA. @ 18 IN. |
| | 9 | 15 SPA. @ 6 IN. | 10 1/8 IN. | 37 SPA. @ 18 IN. |
| | 10 | 15 SPA. @ 6 IN. | 11 4/8 IN. | 37 SPA. @ 18 IN. |
| 5 | 1 | 15 SPA. @ 6 IN. | 7 3/8 IN. | 34 SPA. @ 18 IN. |
| | 2 | 15 SPA. @ 6 IN. | 4 4/8 IN. | 34 SPA. @ 18 IN. |
| | 3 | 15 SPA. @ 6 IN. | 11 5/8 IN. | 34 SPA. @ 18 IN. |
| | 4 | 15 SPA. @ 6 IN. | 13 6/8 IN. | 34 SPA. @ 18 IN. |
| | 5 | 15 SPA. @ 6 IN. | 15 6/8 IN. | 34 SPA. @ 18 IN. |
| | 6 | 15 SPA. @ 6 IN. | 17 7/8 IN. | 34 SPA. @ 18 IN. |
| | 7 | 15 SPA. @ 6 IN. | 1 7/8 IN. | 35 SPA. @ 18 IN. |
| | 8 | 15 SPA. @ 6 IN. | 3 7/8 IN. | 35 SPA. @ 18 IN. |
| | 9 | 15 SPA. @ 6 IN. | 6 IN. | 35 SPA. @ 18 IN. |
| | 10 | 15 SPA. @ 6 IN. | 8 IN. | 35 SPA. @ 18 IN. |

## TOP FLANGE BLOCK OUT TABLE

| SPAN | GIRDER | △CORNER | 'A' (IN.) |
|---|---|---|---|
| 1 | 1 | S.W | 1 3/8 |
| | | N.E. | |
| | 2 | S.W. | 1 1/4 |
| | | N.E. | |
| | 2A | S.W. | 5/8 |

△ S.W. - SOUTHWEST
N.E. - NORTHEAST
S.E. - SOUTHEAST
N.W. - NORTHWEST

## GIRDER CAMBER TABLE

| SPAN | *CAMBER (IN.) |
|---|---|
| 1 | 1 1/8 |
| 2 | 4 1/2 |
| 3 | 4 1/2 |
| 4 | 4 1/2 |
| 5 | 4 1/4 |

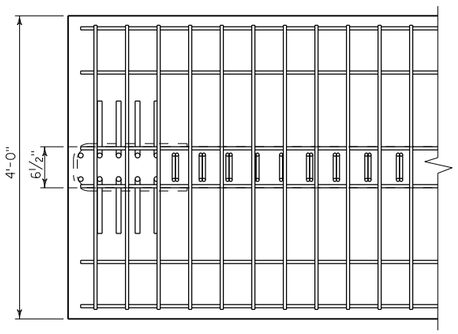
THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS. THESE VALUES ARE FOR INFORMATION PURPOSES ONLY.

* THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

## FLOOR DRAIN LOCATION TABLE

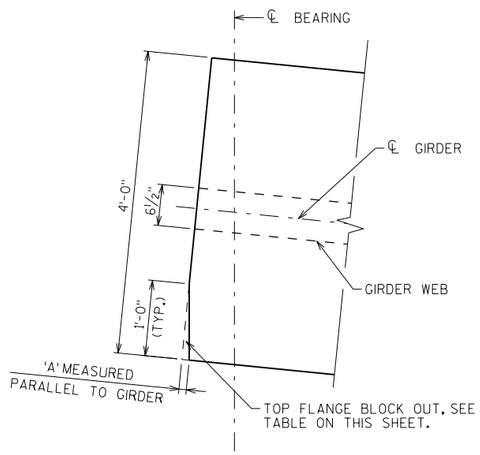
| SPAN | GIRDER | DISTANCE** |
|---|---|---|
| 2 | 1 | 64'-2" |
| 2 | 10 | 64'-2" |
| 2 | 10 | 124'-2" |
| 3 | 10 | 25'-10" |
| 3 | 1 | 90'-10" |
| 5 | 1 | 42'-11" |
| 5 | 1 | 116'-9" |

** DISTANCE IS MEASURED FROM WEST END OF GIRDER.

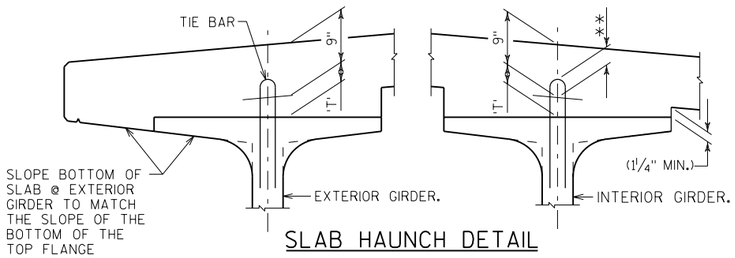



## TYPICAL TOP FLANGE DETAIL

FOR ADDITIONAL REINFORCEMENT DETAILS SEE SHEET 51 "72W" PRESTRESSED GIRDER DETAILS - 1 OF 2"




## TOP FLANGE BLOCK OUT DETAIL




## SLAB HAUNCH DETAIL

IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', EL. OF TOP OF GIRDERS AT C/L OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK EL. AT FINAL GRADE
- TOP OF GIRDER EL.
+ DEAD LOAD DEFLECTION
- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: FOR PRESTRESSED GIRDERS AN AVERAGE HAUNCH ('T') OF 4" WAS USED IN THE QUANTITY "HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES".

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

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72W" PRESTRESSED GIRDER DETAILS - 2 OF 2

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DATE: 3/15/2016
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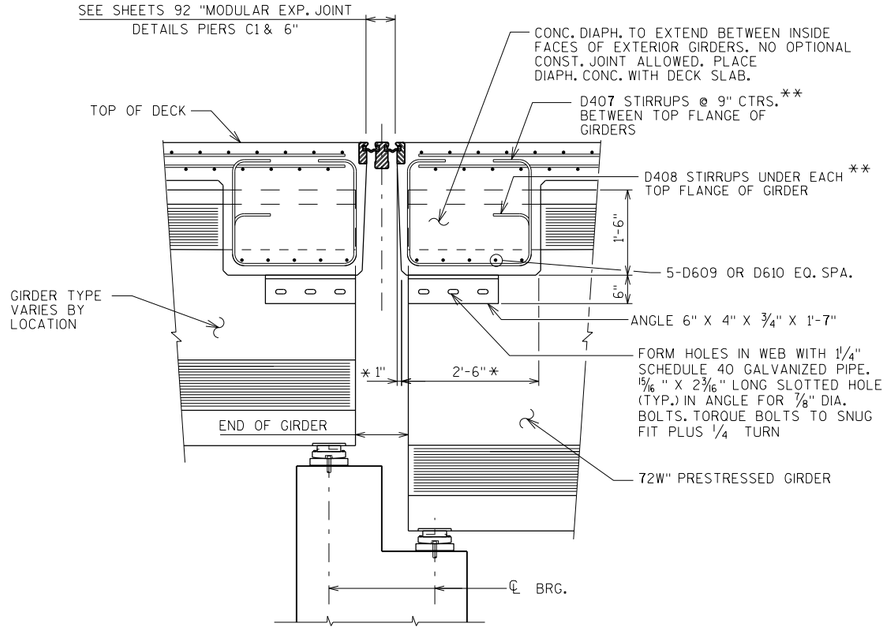
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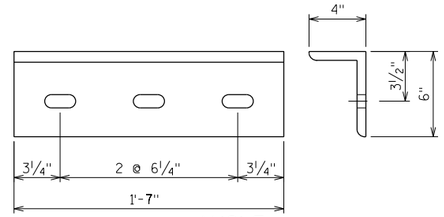
STATE PROJECT NUMBER

1517-07-77




## PARTIAL DEPTH DIAPHRAGM AT PIERS C1 AND 6

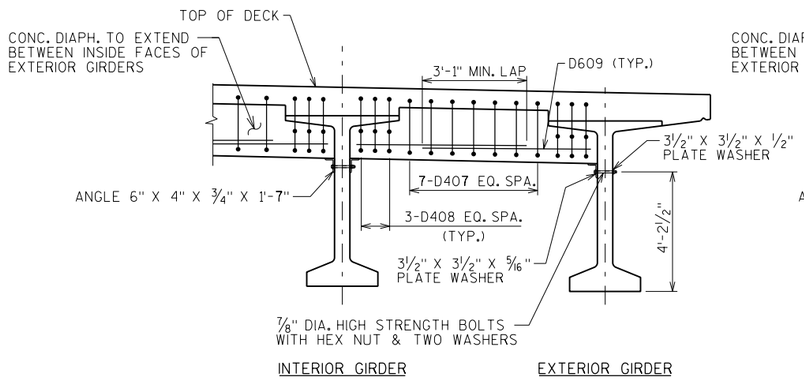
PIER C1 SHOWN ADJACENT TO BRIDGE B-70-401. DETAILS FOR 72W" DIAPHRAGM SIMILAR AT OTHER LOCATIONS.



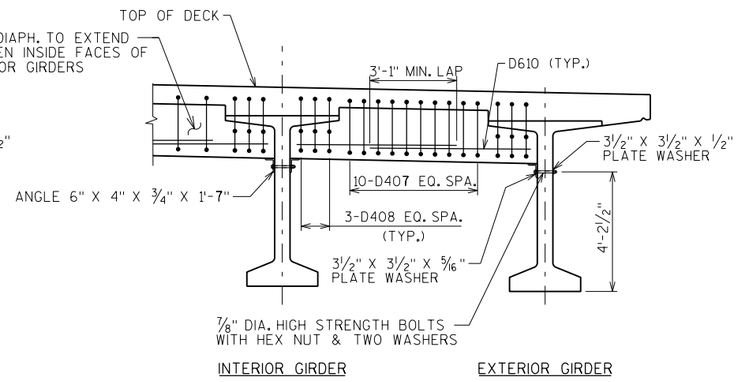

## ANGLE

ANGLE 6" X 4" X 3/4" X 1'-7"

PROVIDE 3 1/2" X 3 1/2" X 5/16" PLATE WASHERS AT ALL LOCATIONS EXCEPT AT EXTERIOR FACES OF EXTERIOR GIRDERS WHERE 3 1/2" X 3 1/2" X 1/2" PLATE WASHERS SHALL BE PROVIDED.




DETAIL TYPICAL BETWEEN:
GIRDERS 4 THRU 10 - PIER C1
GIRDERS 1 THRU 10 - PIER 6




DETAIL TYPICAL BETWEEN:
GIRDERS 1 THRU 4 - PIER C1

## SECTION AT PARTIAL DEPTH DIAPHRAGM

## NOTES

1. DIAPHRAGM SUPPORT ANGLES SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.
2. ALL SUPPORT ANGLES SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.
3. ALL DIAPHRAGM SUPPORT HARDWARE SHALL BE INCIDENTAL TO THE BID ITEM "HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES".
4. LAP LENGTHS FOR DIAPHRAGM REINFORCEMENT SHALL BE BASED ON A CLASS "C" TENSION LAP SPLICE, UNLESS OTHERWISE NOTED.
5. FOR BILL OF BARS AND BAR DETAILS, SEE SHEET 83 "SUPERSTRUCTURE BILL OF BARS".

## LEGEND

* DIMENSION IS TAKEN NORMAL TO C/L SUBSTRUCTURE UNITS.

** DIMENSION IS TAKEN PERPENDICULAR TO C/L GIRDER. BARS PLACED PARALLEL TO C/L GIRDER.

◪ DIMENSION IS TAKEN PARALLEL TO C/L GIRDER.

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

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

72W" PRESTRESSED GIRDER DIAPHRAGM DETAILS - 1 OF 2

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360

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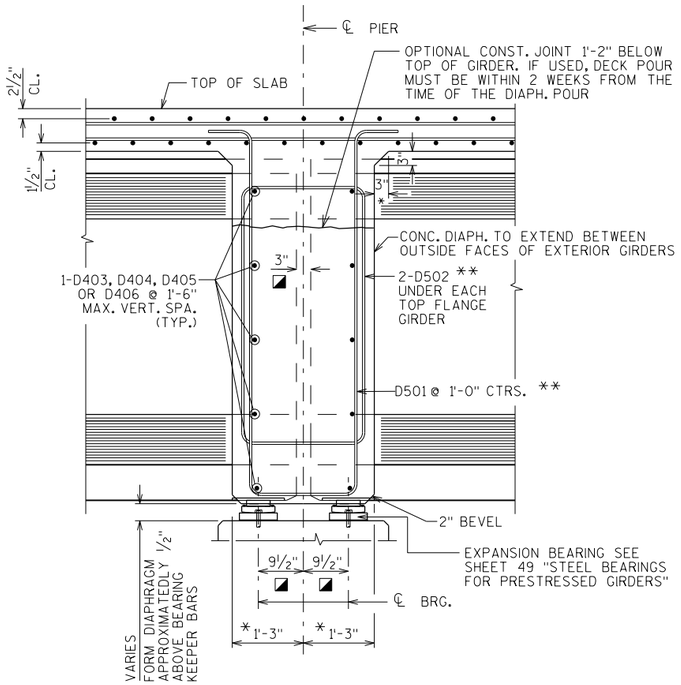
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DATE: 3/15/2016
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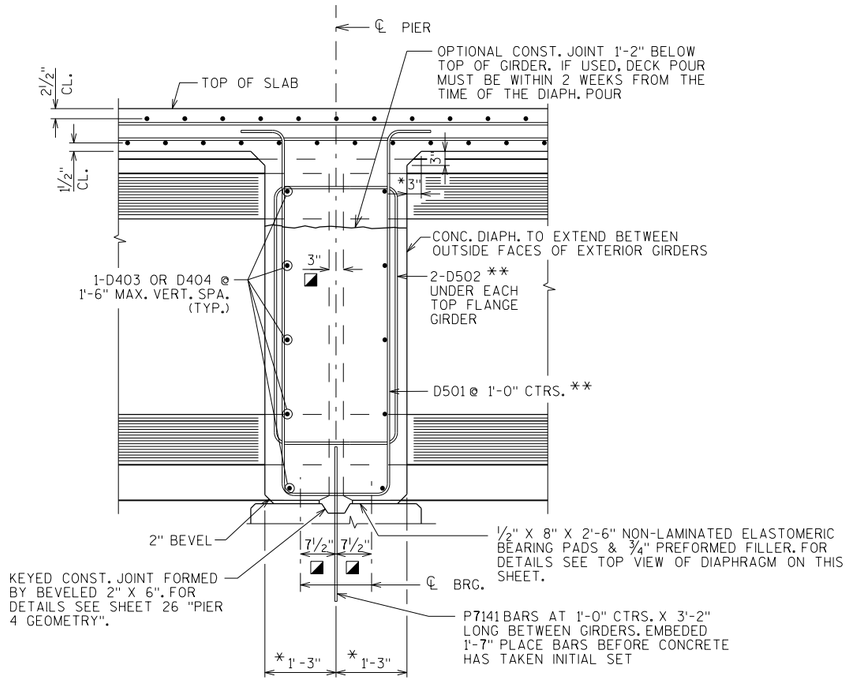
STATE PROJECT NUMBER

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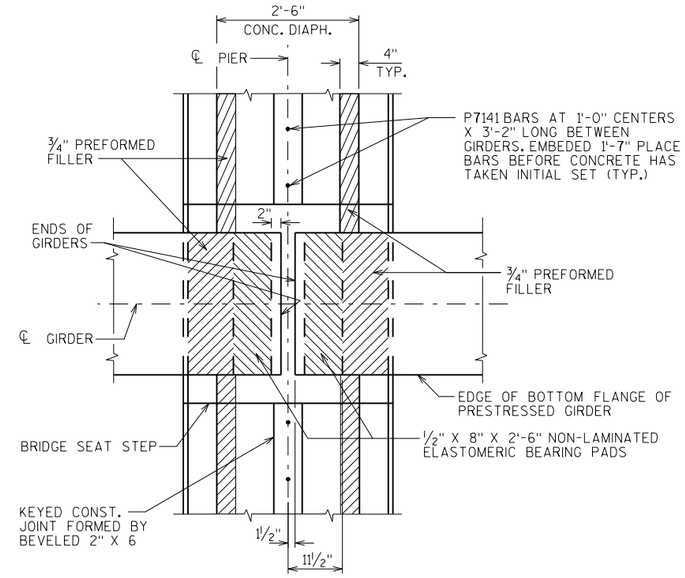

FULL DEPTH DIAPHRAGM AT EXPANSION PIERS

(PIERS 2, AND 5)



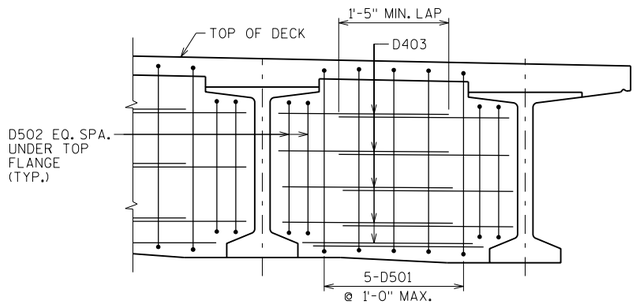

FULL DEPTH DIAPHRAGM AT FIXED PIERS

(PIERS 3 AND 4)



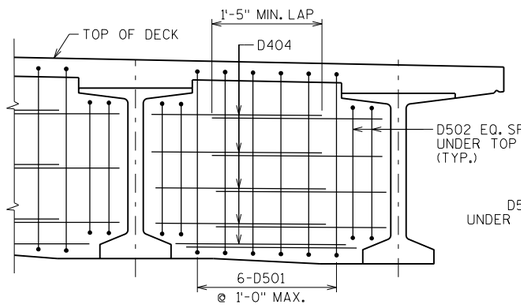

TOP VIEW OF DIAPHRAGM

(PIERS 3 AND 4)



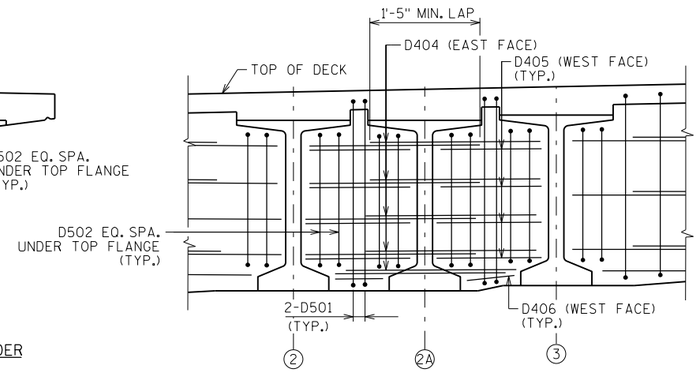

INTERIOR GIRDER EXTERIOR GIRDER

DETAIL TYPICAL BETWEEN:
GIRDERS 4 THRU 10 - PIERS 2 THRU 4
GIRDERS 3 THRU 10 - PIER 5




INTERIOR GIRDER EXTERIOR GIRDER

DETAIL TYPICAL BETWEEN:
GIRDERS 1 & 2 - PIER 2
GIRDERS 3 & 4 - PIER 2
GIRDERS 1 THRU 4 - PIERS 3 & 4
GIRDERS 1 THRU 3 - PIER 5




DETAIL TYPICAL BETWEEN:
GIRDERS 2, 2A & 3 - PIER 2

SECTIONS AT FULL DEPTH DIAPHRAGMS

## LEGEND

* DIMENSION IS TAKEN NORMAL TO C/L SUBSTRUCTURE UNITS.

** DIMENSION IS TAKEN PERPENDICULAR TO C/L GIRDER. BARS PLACED PARALLEL TO C/L GIRDER.

◪ DIMENSION IS TAKEN PARALLEL TO C/L GIRDER.

## NOTE:

FOR BILL OF BARS AND BAR DETAILS, SEE SHEET 83 "SUPERSTRUCTURE BILL OF BARS".

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STATE OF WISCONSIN
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STRUCTURE B-70-61

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72W" PRESTRESSED GIRDER DIAPHRAGM DETAILS - 2 OF 2

SHEET 54 OF 109

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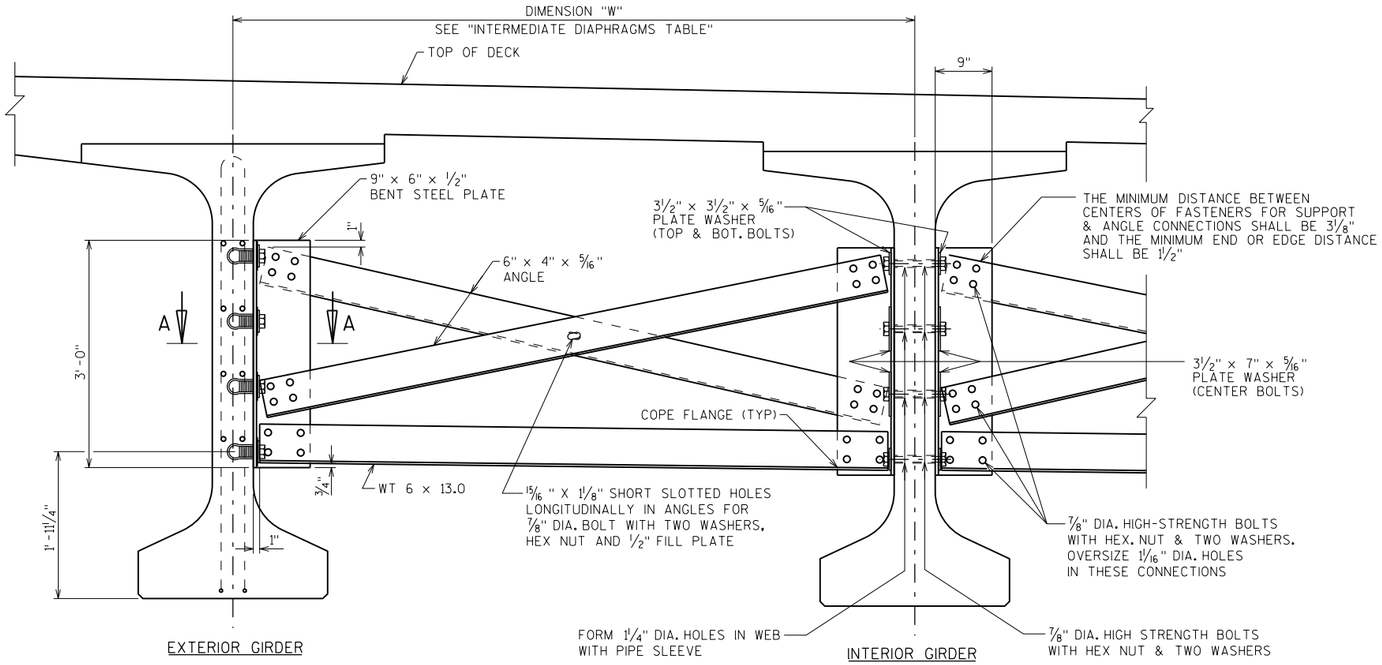
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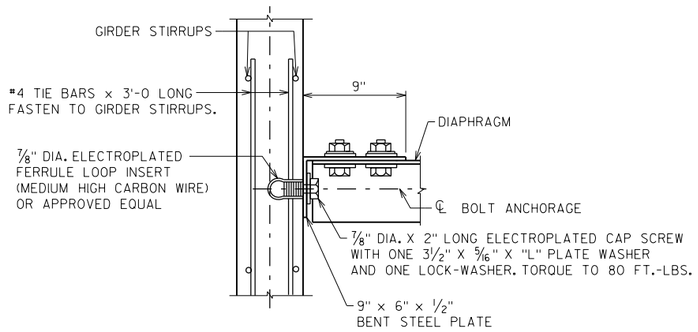
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## PART TRANSVERSE SECTION AT DIAPHRAGM

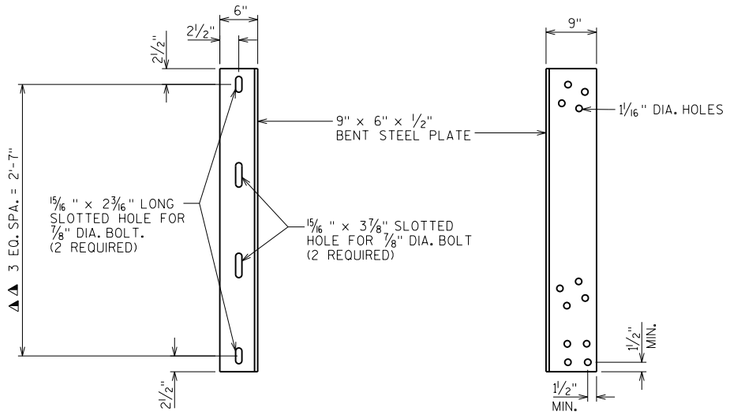
(92 REQUIRED)




## SECTION A-A

(FOR EXTERIOR ATTACHMENT)

"L" = 3 1/2"; TOP AND BOT. BOLTS
"L" = 7"; CENTER BOLTS




## DIAPHRAGM SUPPORT

▲▲ BOLT HOLES SHALL BE SPACED SO AS TO MISS PRESTRESSED STRANDS IN CONCRETE BEAMS

## INTERMEDIATE DIAPHRAGMS TABLE

| LOCATION | | DIMENSION "W" | NO. OF DIAPH. REQ'D |
|---|---|---|---|
| SPAN 1 | G1-G2 | 10'-1 3/4" | 1 |
| | | 9'-9 1/8" | 1 |
| | G2-G3 | 8'-7 1/8" | 2 |
| | | 6'-7 5/8" | 2 |
| | G3-G4 | 9'-4 3/8" | 2 |
| SPAN 2 | G1-G4 | 9'-3 7/8" | 3 |
| | | 9'-3 1/2" | 3 |
| SPAN 3 | G1-G4 | 9'-3" | 6 |
| SPAN 4 | G1-G3 | 9'-3" | 4 |
| | G3-G4 | 8'-10 1/2" | 1 |
| | | 8'-6" | 1 |
| SPAN 5 | G1-G3 | 8'-10" | 2 |
| | | 8'-5" | 2 |
| | G3-G4 | 8'-1" | 1 |
| | | 8'-0 1/2" | 1 |
| SPANS 1-5 | G4-G10 | 8'-0" | 60 |

## NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-70-61, EACH".

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

DIAPHRAGMS REQUIRED AT 1/3 AND 2/3 SPAN POINT. FOR LOCATIONS SEE SHEET 58 "FRAMING PLAN - SPANS 1-5".

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STATE OF WISCONSIN
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STRUCTURE B-70-61

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INTERMEDIATE STEEL DIAPH. FOR PRESTRESSED GIRDERS

SHEET 55 OF 109
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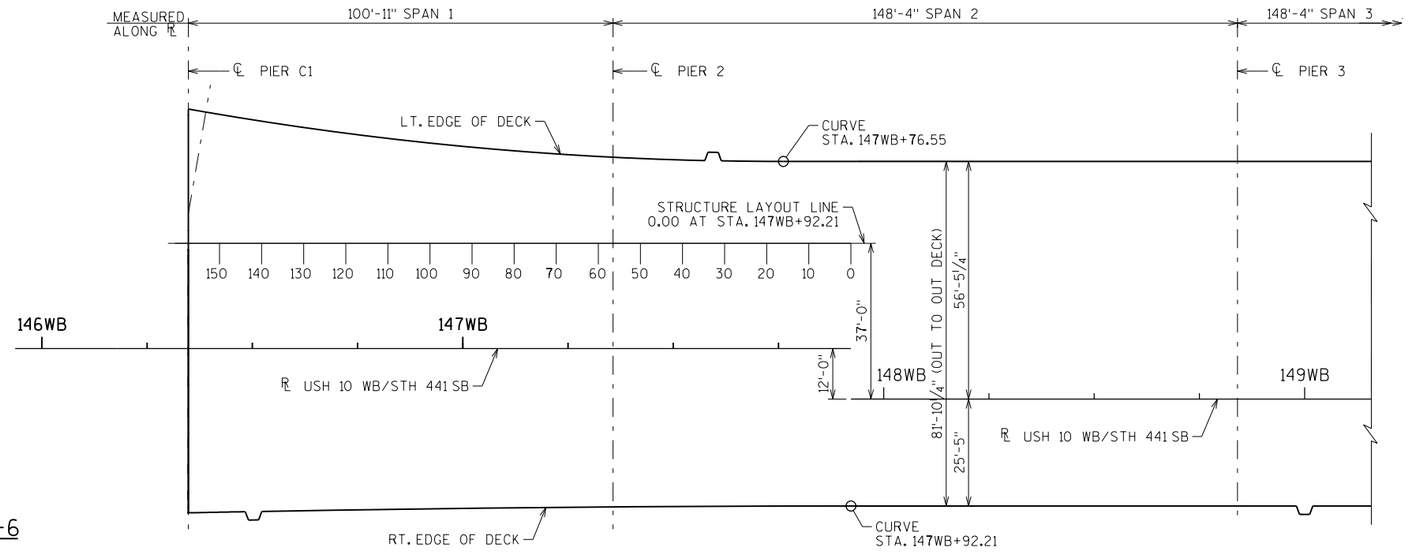
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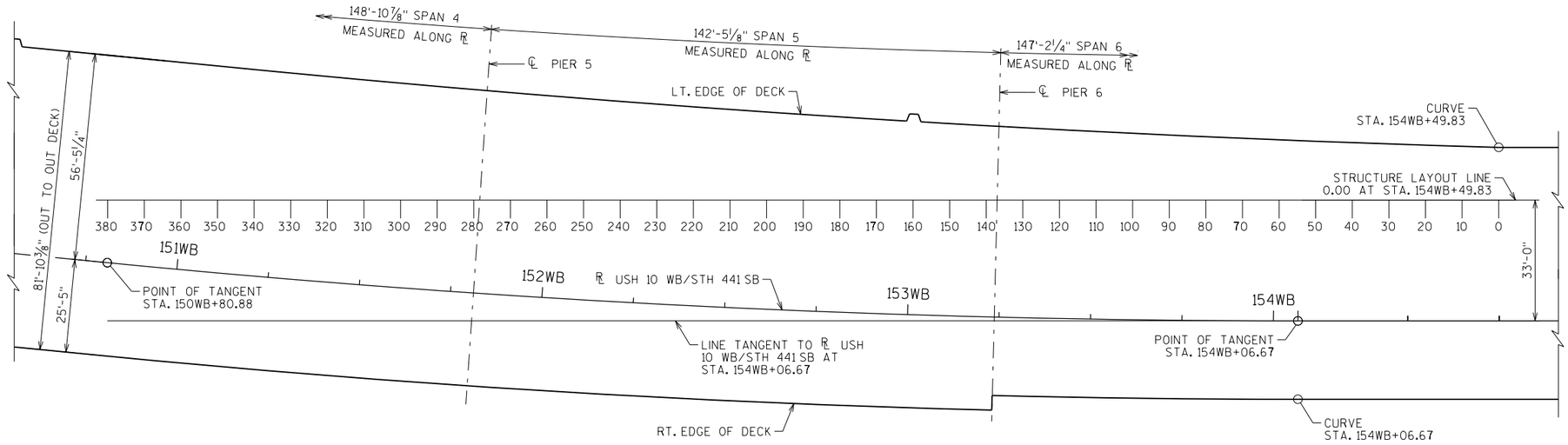
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## TABLE OF LAYOUT LINE OFFSETS SPANS 1-3

| DISTANCE ALONG STR. REFERENCE LINE | OFFSET TO ℄ USH 10 WB/STH 441 SB | OFFSET TO LT. EDGE OF DECK | OFFSET TO RT. EDGE OF DECK |
|---|---|---|---|
| 0 | 25' - 0" | 19' - 5 1/4" | 62' - 5" |
| 10 | 25' - 0" | 19' - 5 1/4" | 62' - 5 1/8" |
| 20 | 25' - 0" | 19' - 5 3/8" | 62' - 5 3/8" |
| 30 | 25' - 0" | 19' - 6 3/4" | 62' - 5 3/4" |
| 40 | 25' - 0" | 19' - 9 1/2" | 62' - 6 1/4" |
| 50 | 25' - 0" | 20' - 1 3/4" | 62' - 7" |
| 60 | 25' - 0" | 20' - 7 5/8" | 62' - 7 7/8" |
| 70 | 25' - 0" | 21' - 2 7/8" | 62' - 8 7/8" |
| 80 | 25' - 0" | 21' - 11 5/8" | 62' - 10" |
| 90 | 25' - 0" | 22' - 9 7/8" | 62' - 11 3/8" |
| 100 | 25' - 0" | 23' - 9 5/8" | 63' - 0 7/8" |
| 110 | 25' - 0" | 24' - 11" | 63' - 2 1/2" |
| 120 | 25' - 0" | 26' - 1 3/4" | 63' - 4 1/4" |
| 130 | 25' - 0" | 27' - 6 1/8" | 63' - 6 1/4" |
| 140 | 25' - 0" | 28' - 11 7/8" | 63' - 8 1/2" |
| 150 | 25' - 0" | 30' - 7 1/4" | 63' - 10 5/8" |




## PARTIAL PLAN SPANS 1-3




## PARTIAL PLAN SPANS 4-6

## TABLE OF LAYOUT LINE OFFSETS SPANS 4-6

| DISTANCE ALONG STR. REFERENCE LINE | OFFSET TO ℄ USH 10 WB/STH 441 SB | OFFSET TO LT. EDGE OF DECK | OFFSET TO RT. EDGE OF DECK |
|---|---|---|---|
| 0 | 33' - 0" | 14' - 5 1/4" | 54' - 5" |
| 10 | 33' - 0" | 14' - 8 3/4" | 54' - 5" |
| 20 | 33' - 0" | 15' - 0 1/2" | 54' - 5" |
| 30 | 33' - 0" | 15' - 4 1/2" | 54' - 5" |
| 40 | 33' - 0" | 15' - 8 3/4" | 54' - 5" |
| 50 | 33' - 0" | 16' - 1 1/4" | 54' - 5" |
| 60 | 33' - 0" | 16' - 6" | 54' - 5" |
| 70 | 32'-11 5/8" | 16' - 11" | 54' - 4 5/8" |
| 80 | 32' - 10 7/8" | 17' - 4 1/8" | 54' - 3 7/8" |
| 90 | 32' - 9 3/4" | 17' - 9 5/8" | 54' - 2 3/4" |
| 100 | 32' - 8 3/8" | 18' - 3 1/4" | 54' - 1 3/8" |
| 110 | 32' - 6 1/2" | 18' - 9 1/4" | 53' - 11 1/2" |
| 120 | 32' - 4 3/8" | 19' - 3 3/8" | 53' - 9 3/8" |
| 130 | 32' - 1 7/8" | 19' - 9 3/4" | 53' - 6 7/8" |
| 140 | 31' - 11" | 20' - 4 1/2" | 57' - 4" |
| 150 | 31' - 7 3/4" | 20' - 11 3/8" | 57' - 0 7/8" |
| 160 | 31' - 4 1/8" | 21' - 6 1/2" | 56' - 9 1/4" |
| 170 | 31' - 0 1/8" | 22' - 1 7/8" | 56' - 5 1/4" |
| 180 | 30' - 7 3/4" | 22' - 9 1/2" | 56' - 1" |
| 190 | 30' - 3 1/8" | 23' - 5 3/8" | 55' - 8 3/8" |
| 200 | 29' - 10" | 24' - 1 1/2" | 55' - 3 3/8" |
| 210 | 29' - 4 5/8" | 24' - 9 3/4" | 54' - 10" |
| 220 | 28' - 10 7/8" | 25' - 6 3/8" | 54' - 4 1/4" |
| 230 | 28' - 4 3/4" | 26' - 3 1/4" | 53' - 10 1/8" |
| 240 | 27' - 10 1/4" | 27' - 0 1/4" | 53' - 3 5/8" |
| 250 | 27' - 3 3/8" | 27' - 9 5/8" | 52' - 8 7/8" |
| 260 | 26' - 8 1/8" | 28' - 7 1/8" | 52' - 1 5/8" |
| 270 | 26' - 0 1/2" | 29' - 5" | 51' - 6 1/8" |
| 280 | 25' - 4 5/8" | 30' - 3" | 50' - 10 1/4" |
| 290 | 24' - 8 1/4" | 31' - 1 1/4" | 50' - 2" |
| 300 | 23' - 11 5/8" | 31' - 11 7/8" | 49' - 5 3/8" |
| 310 | 23' - 2 1/2" | 32' - 10 5/8" | 48' - 8 3/8" |
| 320 | 22' - 5 1/8" | 33' - 9 5/8" | 47' - 11 1/8" |
| 330 | 21' - 7 3/8" | 34' - 8 7/8" | 47' - 1 3/8" |
| 340 | 20' - 9 1/4" | 35' - 8 3/8" | 46' - 3 3/8" |
| 350 | 19' - 10 3/4" | 36' - 8 1/8" | 45' - 4 7/8" |
| 360 | 18' - 11 7/8" | 37' - 7 7/8" | 44' - 6 1/8" |
| 370 | 18' - 0 5/8" | 38' - 7 5/8" | 43' - 7" |
| 380 | 17' - 1 1/8" | 39' - 7 5/8" | 42' - 7 1/2" |

## NOTES

SEE SHEET 11 "ALIGNMENT AND SUPERELEVATION - 1 OF 2" FOR DETAILS OF ALIGNMENT CURVE DATA

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

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LAYOUT LINE OFFSETS SPANS 1-6

SHEET 56 OF 109
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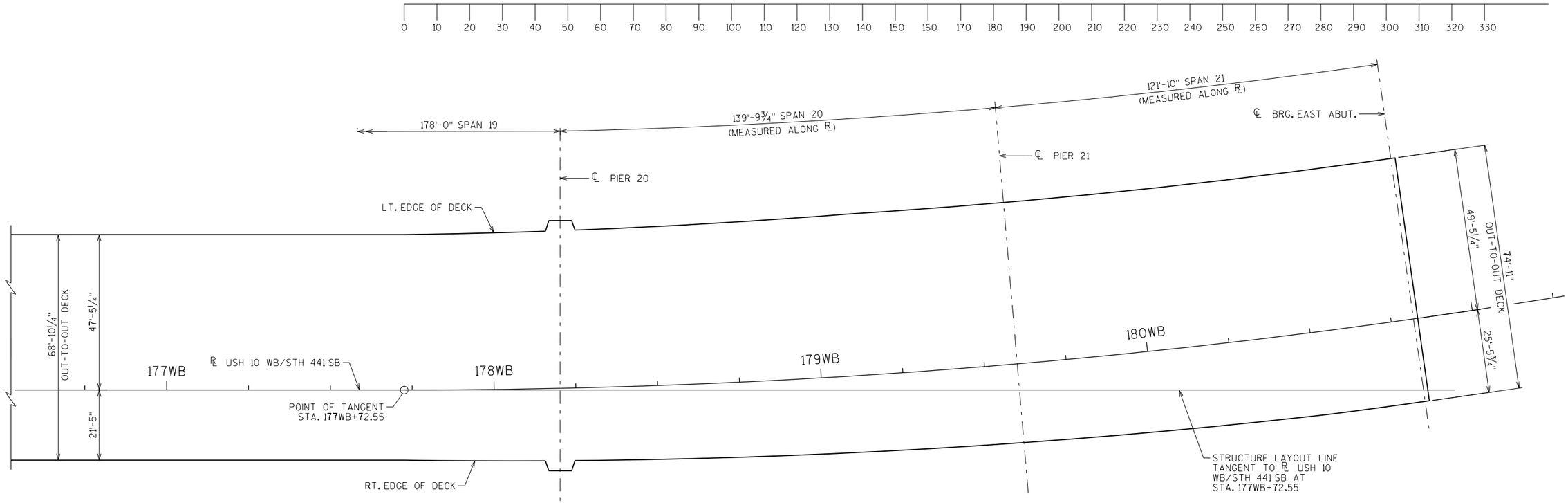
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PARTIAL PLAN SPANS 19-21

## TABLE OF LAYOUT LINE OFFSETS

| DISTANCE FROM P.O.T. | OFFSET TO ℄ USH 10 WB/STH 441 SB | OFFSET TO LT. EDGE OF DECK | OFFSET TO RT. EDGE OF DECK |
|---|---|---|---|
| 0 | 0' - 0" | 47' - 5 1/4" | 21' - 5" |
| 10 | 0' - 0 1/4" | 47' - 7 1/4" | 21' - 6 1/2" |
| 20 | 0' - 1 1/8" | 47' - 9 3/4" | 21' - 7 3/8" |
| 30 | 0' - 2 1/2" | 48' - 0 7/8" | 21' - 7 3/4" |
| 40 | 0' - 4 3/8" | 48' - 4 1/2" | 21' - 7 1/2" |
| 50 | 0' - 6 7/8" | 51' - 8 1/2" | 24' - 7 1/2" |
| 60 | 0' - 9 7/8" | 49' - 1 1/2" | 21' - 5 5/8" |
| 70 | 1' - 1 3/8" | 49' - 6 7/8" | 21' - 3 3/4" |
| 80 | 1' - 5 1/2" | 50' - 0 7/8" | 21' - 1 1/2" |
| 90 | 1' - 10 1/8" | 50' - 7 3/8" | 20' - 10 5/8" |
| 100 | 2' - 3 1/4" | 51' - 2 1/2" | 20' - 7 1/8" |
| 110 | 2' - 9" | 51' - 10 1/8" | 20' - 3 1/8" |
| 120 | 3' - 3 1/4" | 52' - 6 3/8" | 19' - 10 5/8" |
| 130 | 3' - 10 1/8" | 53' - 3 1/4" | 19' - 5 5/8" |
| 140 | 4' - 5 1/2" | 54' - 0" | 19' - 0" |
| 150 | 5' - 1 3/8" | 54' - 8 1/8" | 18' - 5 7/8" |

| DISTANCE FROM P.O.T. | OFFSET TO ℄ USH 10 WB/STH 441 SB | OFFSET TO LT. EDGE OF DECK | OFFSET TO RT. EDGE OF DECK |
|---|---|---|---|
| 160 | 5' - 9 7/8" | 55' - 4 3/4" | 17' - 11 1/4" |
| 170 | 6' - 6 7/8" | 56' - 2" | 17' - 4" |
| 180 | 7' - 4 1/2" | 56' - 11 3/4" | 16' - 8 1/4" |
| 190 | 8' - 2 5/8" | 57' - 10 1/8" | 15' - 11 7/8" |
| 200 | 9' - 1 3/8" | 58' - 9 1/8" | 15' - 3" |
| 210 | 10' - 0 1/2" | 59' - 8 5/8" | 14' - 5 5/8" |
| 220 | 11' - 0 3/8" | 60' - 8 5/8" | 13' - 7 5/8" |
| 230 | 12' - 0 5/8" | 61' - 9 1/4" | 12' - 9 1/8" |
| 240 | 13' - 1 1/2" | 62' - 10 1/2" | 11' - 10 1/8" |
| 250 | 14' - 3" | 64' - 0 1/4" | 10' - 10 1/2" |
| 260 | 15' - 5" | 65' - 2 1/2" | 9' - 10 3/8" |
| 270 | 16' - 7 5/8" | 66' - 5 1/2" | 8' - 9 5/8" |
| 280 | 17' - 10 3/4" | 67' - 8 7/8" | 7' - 8 3/8" |
| 290 | 19' - 2 3/8" | 69' - 1" | 6' - 5 1/4" |
| 300 | 20' - 6 5/8" | 70' - 5 5/8" | 5' - 1 1/4" |
| 310 | 21' - 11 3/8" | -- | 3' - 8 5/8" |

## NOTES

SEE SHEET 11 "ALIGNMENT AND SUPERELEVATION - 1 OF 2" FOR DETAILS OF ALIGNMENT CURVE DATA

## LEGEND

P.O.T. INDICATES POINT OF TANGENT

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LAYOUT LINE OFFSETS SPANS 19-21

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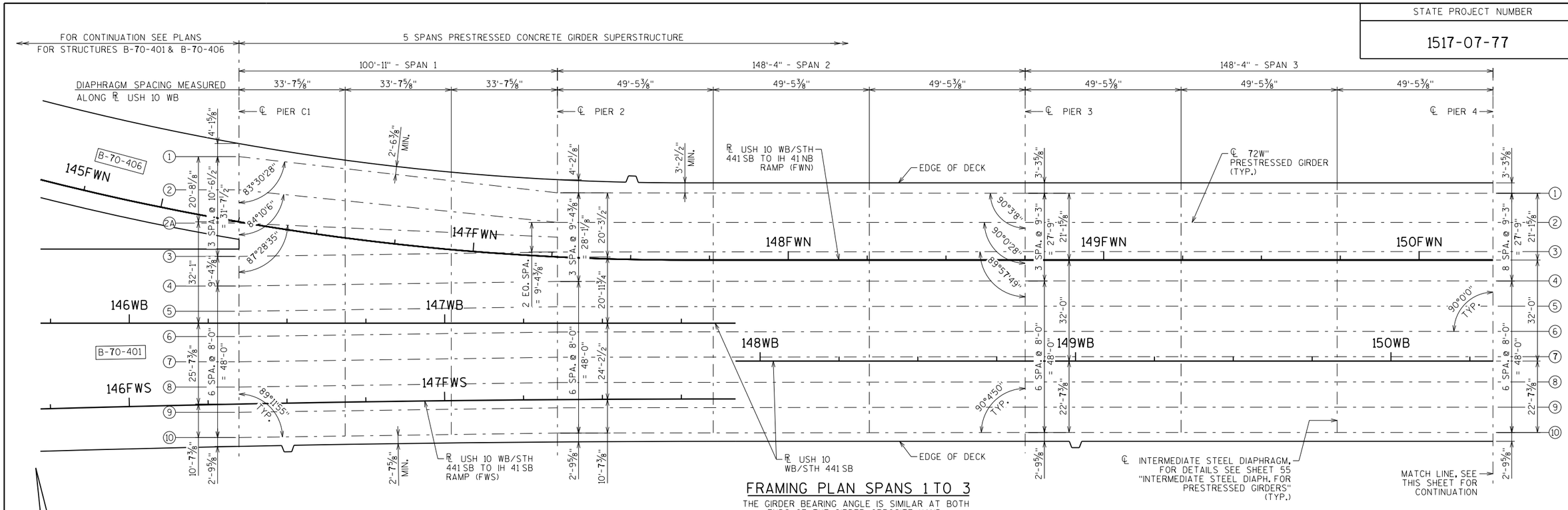
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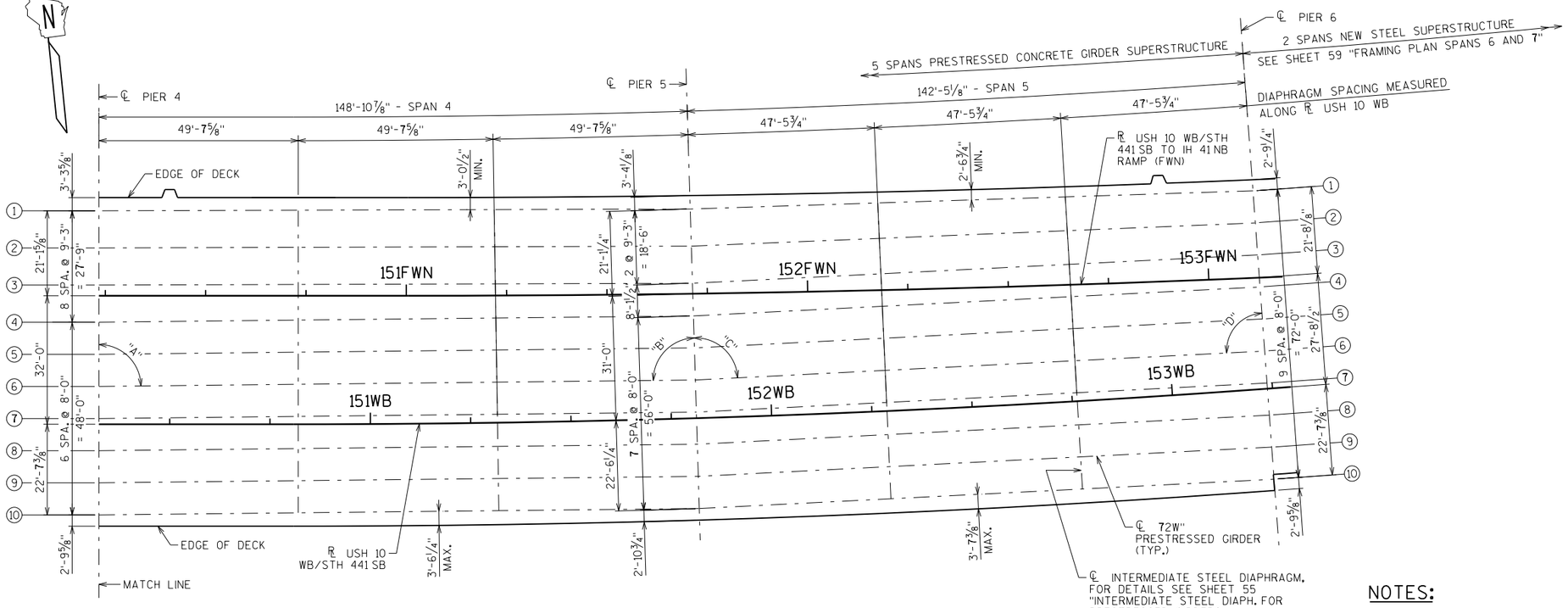
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## FRAMING PLAN SPANS 1 TO 3

THE GIRDER BEARING ANGLE IS SIMILAR AT BOTH ENDS OF THE GIRDER, OPPOSITE HAND.




## FRAMING PLAN SPANS 4 AND 5

FOR GIRDER BEARING ANGLES SEE TABLE ON THIS SHEET.

## GIRDER BEARING ANGLES TABLE

| GIRDER NUMBER | PIER 4 | PIER 5 | | PIER 6 |
|---|---|---|---|---|
| | A | B | C | D |
| 1 | 89°49'22" | 88°26'59" | 89°53'8" | 87°39'50" |
| 2 | 89°49'17" | 88°27'4" | 89°22'25" | 88°10'33" |
| 3 | 89°49'13" | 88°27'9" | 88°51'51" | 88°41'7" |
| 4 | 89°23'2" | 88°53'19" | 88°48'48" | 88°44'10" |
| 5 | 89°23'1" | 88°53'21" | 88°48'47" | 88°44'11" |
| 6 | 89°22'59" | 88°53'22" | 88°48'47" | 88°44'11" |
| 7 | 89°22'58" | 88°53'23" | 88°48'47" | 88°44'11" |
| 8 | 89°22'56" | 88°53'25" | 88°48'46" | 88°44'12" |
| 9 | 89°22'55" | 88°53'26" | 88°48'46" | 88°44'12" |
| 10 | 89°22'54" | 88°53'28" | 88°48'46" | 88°44'12" |

## NOTES:

GIRDER SPACING MEASURED ALONG ℄ PIERS.

SPAN LENGTHS ARE MEASURED ALONG ℞ USH 10 WB/STH 441 SB.

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FRAMING PLAN SPANS 1-5

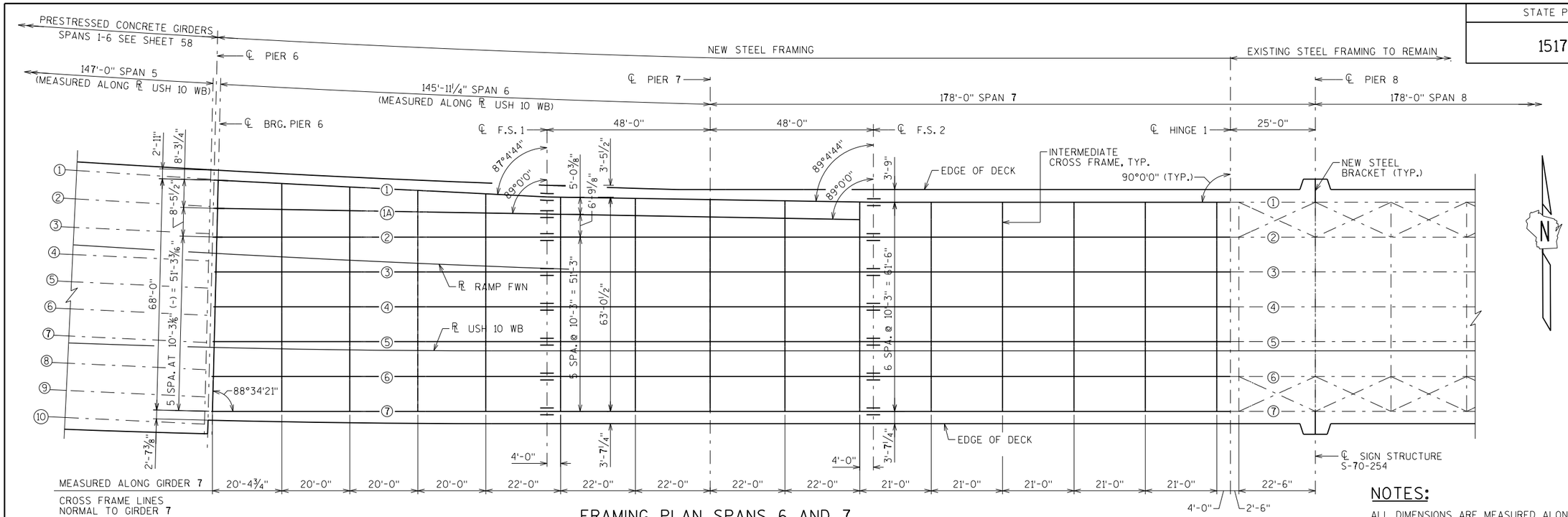
SHEET 58 OF 109
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DATE: 3/15/2016
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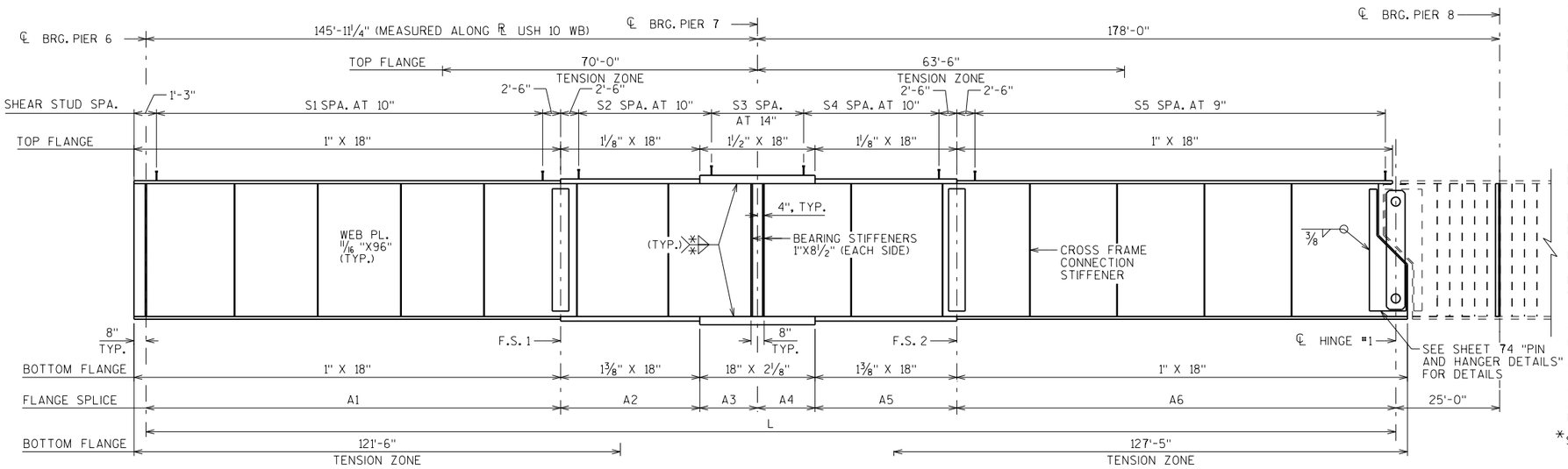
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## FRAMING PLAN SPANS 6 AND 7




## GIRDER ELEVATION SPANS 6 AND 7

(INTERMEDIATE STIFFENERS AT EXTERIOR GIRDERS NOT SHOWN FOR CLARITY)

| GIRDER | A1 | A2 | A3 | A4 | A5 | A6 | L | S1 | S2 | S3 | S4 | S5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 96' - 9 15/16" | 35' - 0 1/16" | 13' - 0" | 13' - 0" | 35' - 0 1/16" | 105' - 0" | 297' - 10 1/8" | 117 | 43 | 21 | 43 | 140 |
| 1A | 96' - 11 1/8" | 35' - 0 1/16" | 13' - 0" | 13' - 0" | 31' - 0 1/16" | -- | 188' - 11 1/4" | 117 | 43 | 21 | 38 | -- |
| 2 | 97' - 1 7/16" | 35' - 0" | 13' - 0" | 13' - 0" | 35' - 0" | 105' - 0" | 298' - 1 7/16" | 117 | 42 | 22 | 42 | 140 |
| 3 | 97' - 4 1/2" | 35' - 0" | 13' - 0" | 13' - 0" | 35' - 0" | 105' - 0" | 298' - 4 1/2" | 117 | 42 | 23 | 42 | 140 |
| 4 | 97' - 7 9/16" | 35' - 0" | 13' - 0" | 13' - 0" | 35' - 0" | 105' - 0" | 298' - 7 9/16" | 118 | 42 | 22 | 42 | 140 |
| 5 | 97' - 10 5/8" | 35' - 0" | 13' - 0" | 13' - 0" | 35' - 0" | 105' - 0" | 298' - 10 5/8" | 118 | 42 | 22 | 42 | 140 |
| 6 | 98' - 1 11/16" | 35' - 0" | 13' - 0" | 13' - 0" | 35' - 0" | 105' - 0" | 299' - 1 11/16" | 118 | 42 | 23 | 42 | 140 |
| 7 | 98' - 4 3/4" | 35' - 0" | 13' - 0" | 13' - 0" | 35' - 0" | 105' - 0" | 299' - 4 3/4" | 119 | 42 | 22 | 42 | 140 |

LEGEND:

F.S. - FIELD SPLICE

## NOTES:

ALL DIMENSIONS ARE MEASURED ALONG THE CENTERLINE OF THE WEB. THE DIMENSIONS SHOWN ARE HORIZONTAL AND DO NOT ACCOUNT FOR CAMBER OR SLOPE OF GRADE.

ALL STEEL SHALL BE ASTM A709 GRADE 50.

OPTIONAL WELDED SHOP SPLICES MAY BE USED FOR ALL FLANGE AND WEB PLATES OVER 60'-0" LONG. IF USED, THE LOCATION OF THE SPLICE SHALL BE SHOWN ON SHOP DRAWINGS AND WILL BE SUBJECT TO THE APPROVAL OF THE STRUCTURES DESIGN SECTION.

AT EXTERIOR GIRDERS, PLACE AN INTERMEDIATE STIFFENER SPACED EQUALLY BETWEEN ALL CONNECTION STIFFENERS ALONG THE ENTIRE LENGTH OF GIRDER.

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.

PRIOR TO STEEL BLAST, ALL FLAME CUT EDGES OF PLATES THAT ARE TO BE PAINTED SHALL BE GROUND OR PLANED TO REMOVE THE HARDENED SURFACE CAUSED BY THE FLAME, AND CORNERS CHAMFERED 1/16" MINIMUM.

THE COLOR OF THE FINAL COAT OF PAINT ON ALL STRUCTURAL STEEL SHALL BE "BLUE (DENIM)". SEE SHEET 108 "AESTHETIC DETAILS" FOR AESTHETIC DETAILS.

SEE SHEET 66 "FIELD SPLICE DETAILS" FOR SPLICE DETAILS.

SEE SHEETS 63 "STEEL GIRDER CROSS FRAME DETAILS 1 OF 2" AND 64 "STEEL GIRDER CROSS FRAME DETAILS 2 OF 2" FOR CROSS FRAME AND OTHER GIRDER DETAILS.

*SEE SHEET 5 "GENERAL NOTES" FOR MINIMUM WELD SIZE

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STRUCTURE B-70-61

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FRAMING PLAN SPANS 6 AND 7

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I.D.

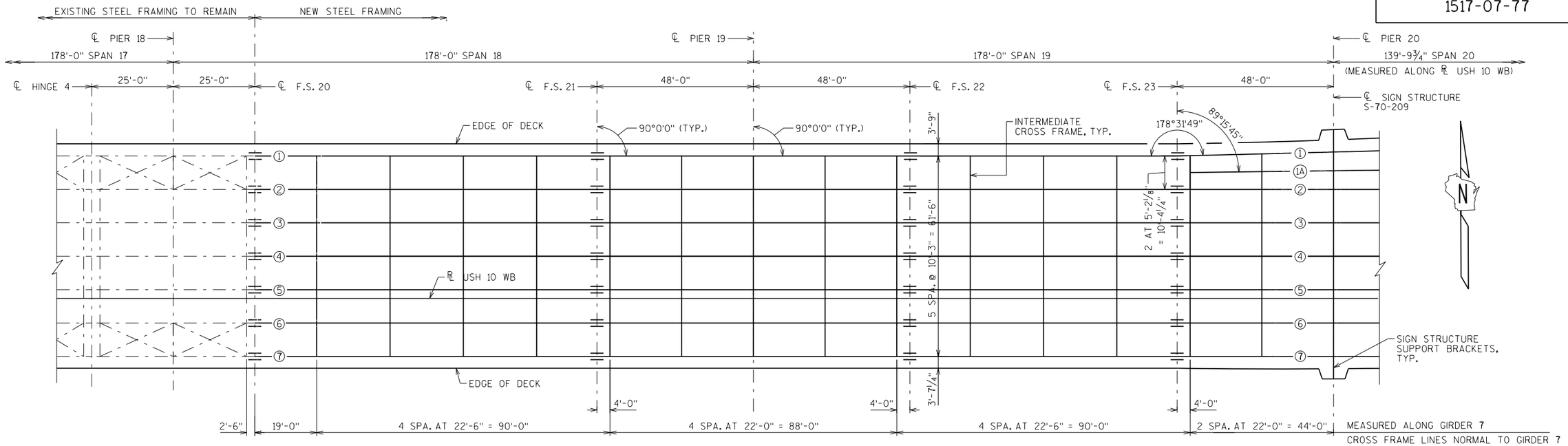
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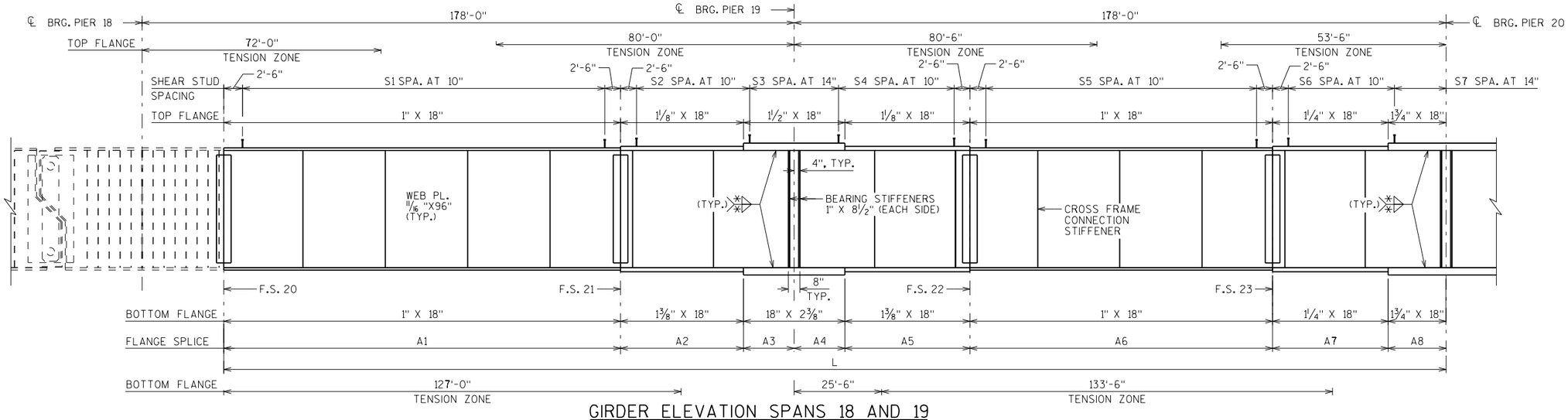
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STATE PROJECT NUMBER

1517-07-77




## FRAMING PLAN SPANS 18 AND 19




## GIRDER ELEVATION SPANS 18 AND 19

(INTERMEDIATE STIFFENERS AT EXTERIOR GIRDERS NOT SHOWN FOR CLARITY)

### LEGEND:

F.S. - FIELD SPLICE

| GIRDER | A1 | A2 | A3 | A4 | A5 | A6 | A7 | A8 | L | S1 | S2 | S3 | S4 | S5 | S6 | S7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 105' - 0" | 34' - 0" | 14' - 0" | 14' - 0" | 34' - 0" | 82' - 0" | 38' - 0 1/8" | 10' - 0 1/16" | 331' - 0 3/16" | 126 | 41 | 23 | 41 | 99 | 46 | 13 |
| 1A | -- | -- | -- | -- | -- | -- | 34' - 0 1/16" | 10' - 0" | 44' - 0 1/16" | -- | -- | -- | -- | -- | 41 | 13 |
| 2 | 105' - 0" | 34' - 0" | 14' - 0" | 14' - 0" | 34' - 0" | 82' - 0" | 38' - 0" | 10' - 0" | 331' - 0" | 126 | 41 | 23 | 41 | 99 | 46 | 12 |
| 3 | 105' - 0" | 34' - 0" | 14' - 0" | 14' - 0" | 34' - 0" | 82' - 0" | 38' - 0" | 10' - 0" | 331' - 0" | 126 | 41 | 23 | 41 | 99 | 46 | 12 |
| 4 | 105' - 0" | 34' - 0" | 14' - 0" | 14' - 0" | 34' - 0" | 82' - 0" | 38' - 0" | 10' - 0" | 331' - 0" | 126 | 41 | 23 | 41 | 99 | 46 | 12 |
| 5 | 105' - 0" | 34' - 0" | 14' - 0" | 14' - 0" | 34' - 0" | 82' - 0" | 38' - 0" | 10' - 0" | 331' - 0" | 126 | 41 | 23 | 41 | 99 | 46 | 12 |
| 6 | 105' - 0" | 34' - 0" | 14' - 0" | 14' - 0" | 34' - 0" | 82' - 0" | 38' - 0" | 10' - 0" | 331' - 0" | 126 | 41 | 23 | 41 | 99 | 46 | 12 |
| 7 | 105' - 0" | 34' - 0" | 14' - 0" | 14' - 0" | 34' - 0" | 82' - 0" | 38' - 0" | 10' - 0" | 331' - 0" | 126 | 41 | 23 | 41 | 99 | 46 | 12 |

### NOTES:

SEE SHEET 5 "GENERAL NOTES" FOR GENERAL NOTES.

*SEE SHEET 5 "GENERAL NOTES" FOR MINIMUM WELD SIZE

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

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FRAMING PLAN SPANS 18 AND 19

SHEET 60 OF 109
367

DATE: 3/15/2016
I.D.

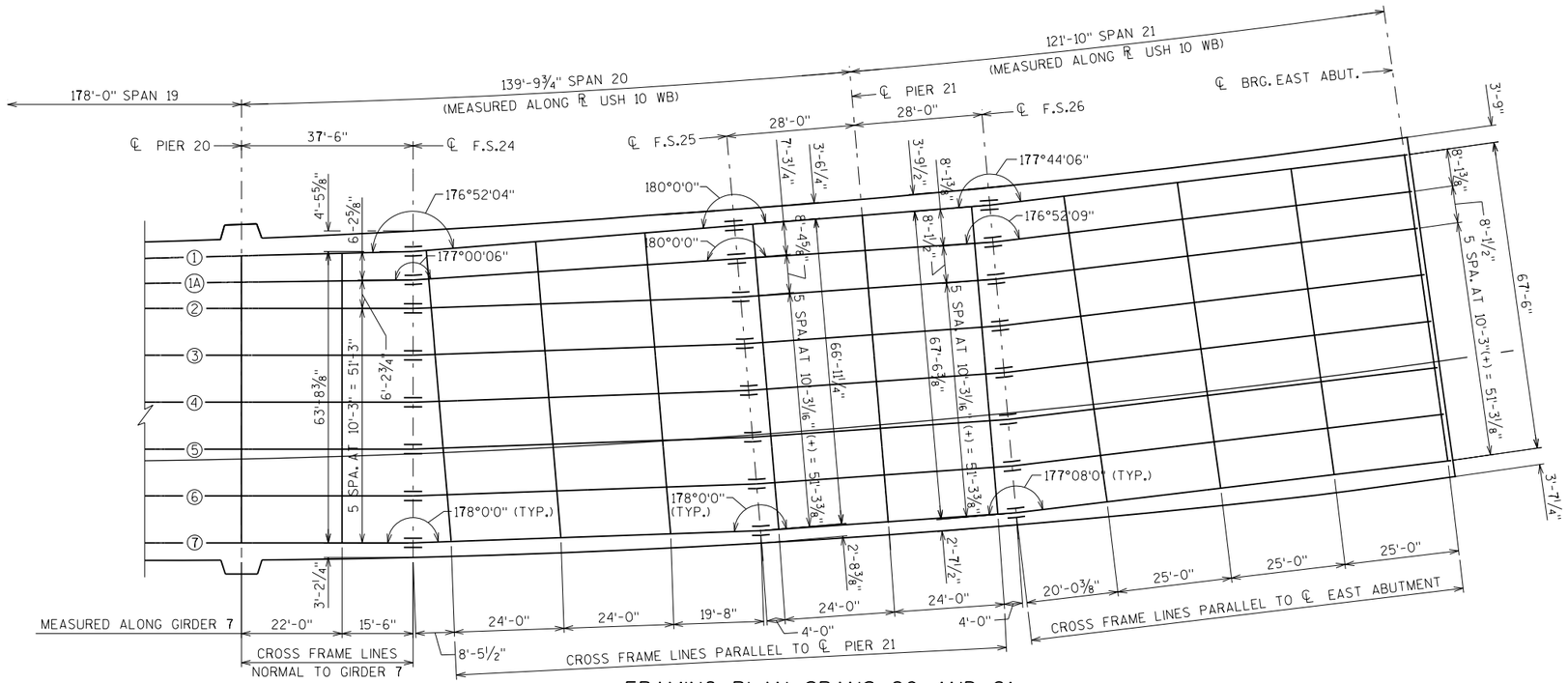
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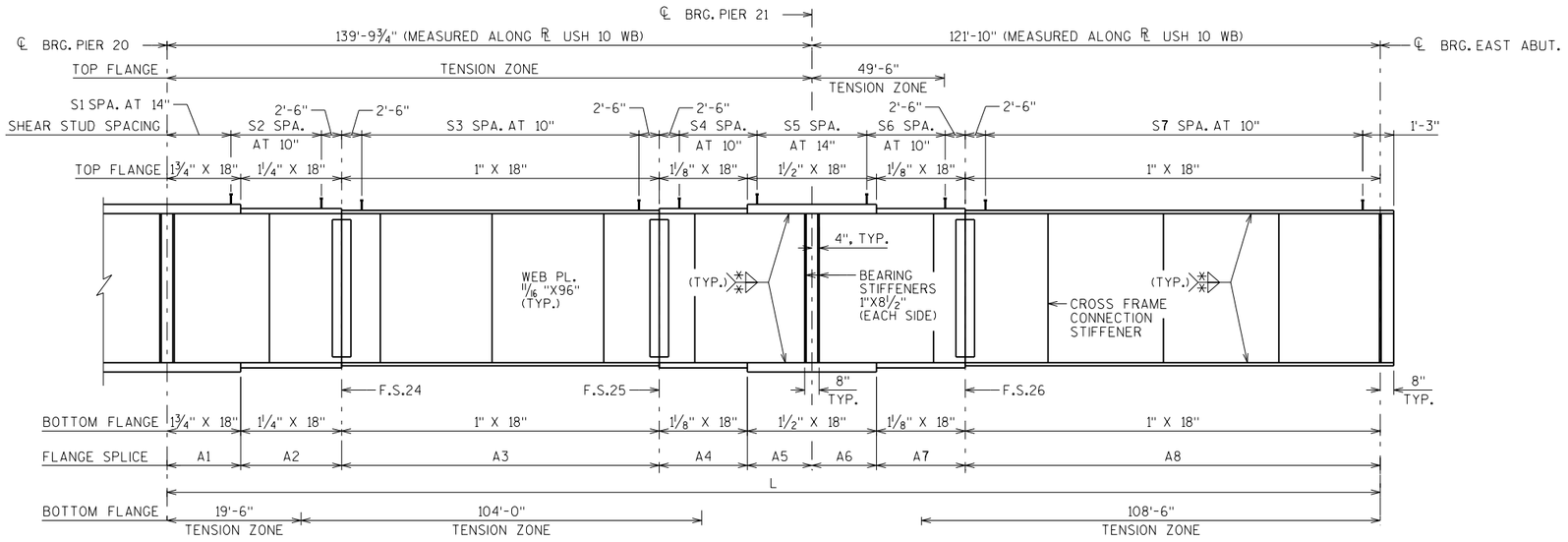
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STATE PROJECT NUMBER

1517-07-77




## FRAMING PLAN SPANS 20 AND 21




## GIRDER ELEVATION SPANS 20 AND 21

(INTERMEDIATE STIFFENERS AT EXTERIOR GIRDERS NOT SHOWN FOR CLARITY)

**LEGEND:**

F.S. - FIELD SPLICE

| GIRDER | A1 | A2 | A3 | A4 | A5 | A6 | A7 | A8 | L | S1 | S2 | S3 | S4 | S5 | S6 | S7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 10' - 0 1/16" | 27' - 6 1/8" | 70' - 5 15/16" | 21' - 0" | 7' - 0" | 7' - 0" | 21' - 0" | 91' - 3 9/16" | 255' - 3 5/8" | 8 | 34 | 85 | 26 | 10 | 26 | 110 |
| 1A | 10' - 0" | 27' - 6" | 71' - 0 7/16" | 21' - 0 1/16" | 7' - 0" | 7' - 0" | 21' - 0 1/16" | 91' - 8 15/16" | 256' - 3 9/16" | 8 | 34 | 86 | 26 | 9 | 26 | 111 |
| 2 | 10' - 0" | 27' - 6" | 71' - 7 11/16" | 21' - 0" | 7' - 0" | 7' - 0" | 21' - 0" | 92' - 2 5/16" | 257' - 4 1/8" | 8 | 33 | 86 | 26 | 11 | 26 | 111 |
| 3 | 10' - 0" | 27' - 6" | 72' - 6 1/4" | 21' - 0" | 7' - 0" | 7' - 0" | 21' - 0" | 92' - 9 1/8" | 258' - 9 7/16" | 8 | 33 | 88 | 26 | 10 | 26 | 112 |
| 4 | 10' - 0" | 27' - 6" | 73' - 4 11/16" | 21' - 0" | 7' - 0" | 7' - 0" | 21' - 0" | 93' - 3 15/16" | 260' - 2 3/4" | 8 | 33 | 89 | 26 | 10 | 26 | 112 |
| 5 | 10' - 0" | 27' - 6" | 74' - 3 3/16" | 21' - 0" | 7' - 0" | 7' - 0" | 21' - 0" | 93' - 10 3/4" | 261' - 8" | 8 | 33 | 90 | 26 | 10 | 26 | 113 |
| 6 | 10' - 0" | 27' - 6" | 75' - 1 11/16" | 21' - 0" | 7' - 0" | 7' - 0" | 21' - 0" | 94' - 5 9/16" | 263' - 1 5/16" | 8 | 33 | 91 | 26 | 10 | 26 | 114 |
| 7 | 10' - 0" | 27' - 6" | 76' - 0 3/16" | 21' - 0" | 7' - 0" | 7' - 0" | 21' - 0" | 95' - 0 3/8" | 264' - 6 5/8" | 8 | 33 | 92 | 26 | 10 | 26 | 115 |

## NOTES

SEE SHEET 5 "GENERAL NOTES" FOR GENERAL NOTES.

*SEE SHEET 5 "GENERAL NOTES" FOR MINIMUM WELD SIZE

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY KMP | PLANS CK'D. DEM

FRAMING PLAN SPANS 20 AND 21

SHEET 61 OF 109
368

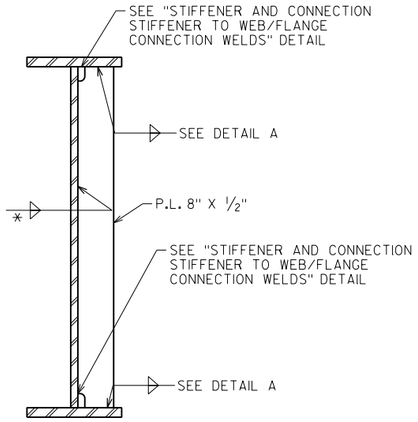
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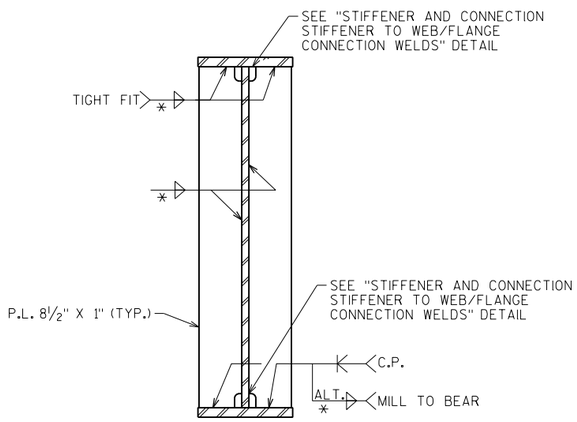
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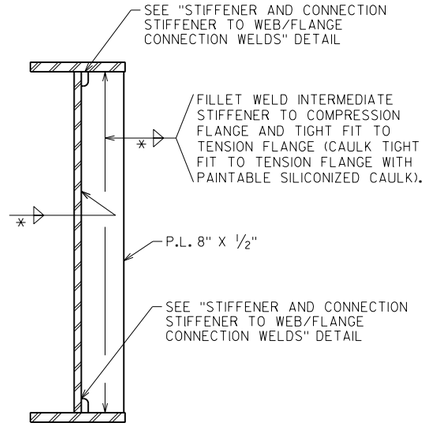
| STATE PROJECT NUMBER |
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| 1517-07-77 |




## CONNECTION STIFFENER DETAILS




## BEARING STIFFENER DETAILS




## INTERMEDIATE STIFFENER DETAILS

(INSIDE FACE OF EXTERIOR GIRDERS, SEE FRAMING PLAN)




## DETAIL A

CONNECTION STIFFENER
DETAIL AT TENSION FLANGE




## INTERMEDIATE STIFFENER AND CONNECTION STIFFENER TO WEB/FLANGE CONNECTION WELDS




## SHEAR CONNECTION DETAIL

## NOTES:

*SEE SHEET 5 "GENERAL NOTES" FOR TABLE OF FILLET WELD SIZES.

8

8

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

STRUCTURE B-70-61

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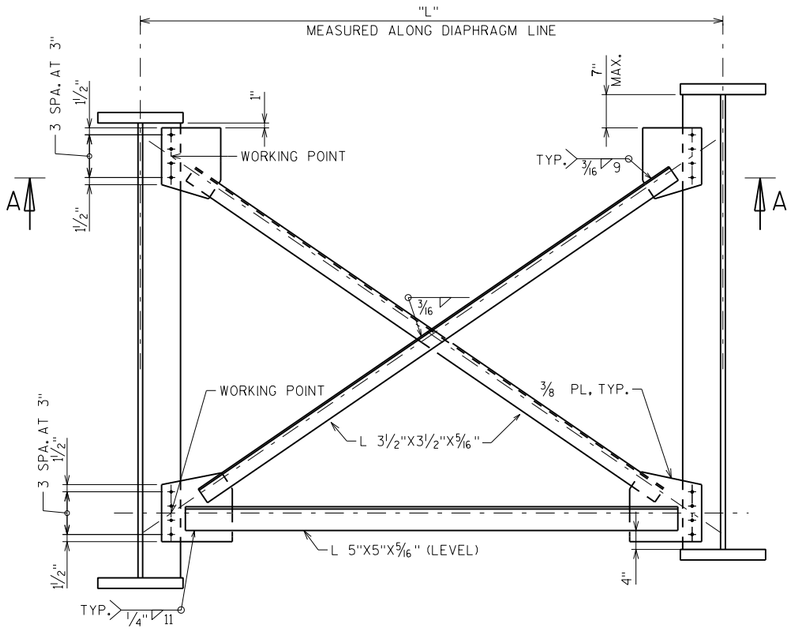
PLATE GIRDER DETAILS

SHEET 62 OF 109
369

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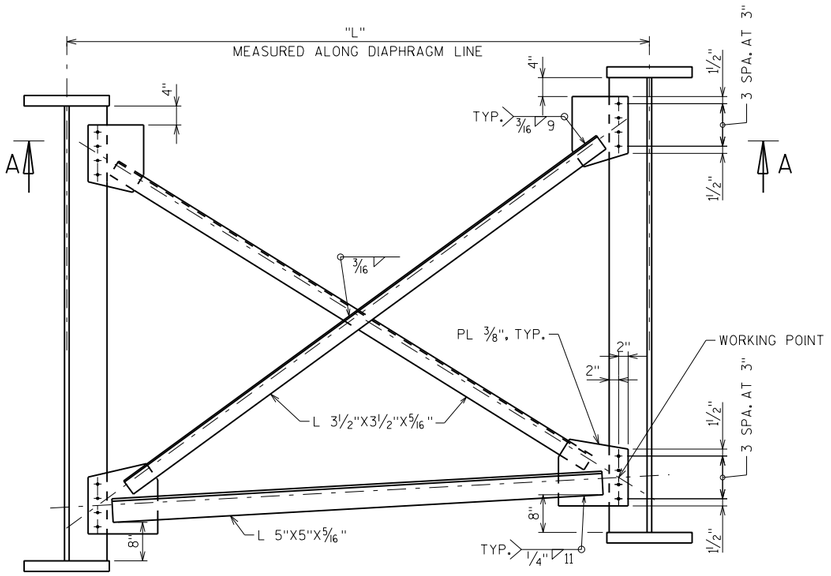
DATE: 3/15/2016
I.D.

| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |




## INTERMEDIATE AND PIER CROSS FRAME DETAILS (LEVEL LOWER LATERAL MEMBER)

SPANS 1, 2 AND 19 - ALL CROSS FRAMES
SPANS 20 AND 21 - CROSS FRAMES BETWEEN GIRDERS 1, 1A AND 2




## INTERMEDIATE AND PIER CROSS FRAME DETAILS (SLOPED LOWER LATERAL MEMBER)

SPANS 20 AND 21 - CROSS FRAMES BETWEEN GIRDERS 2 TO 7

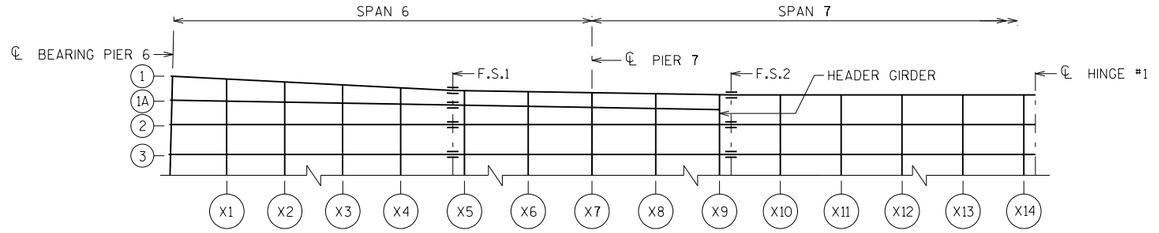
## NOTE:

ALL STEEL SHALL BE ASTM A709 GRADE 50.

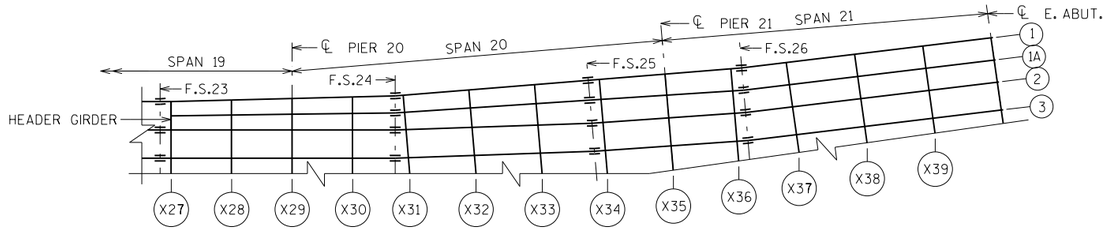
ALL BOLTED CONNECTIONS SHALL BE FRICTION TYPE USING ¾" Φ HIGH STRENGTH ASTM A325 BOLTS WITH DOUBLE WASHERS.

SEE SHEET 64 "STEEL GIRDER CROSS FRAME DETAILS 2 OF 2" FOR SECTION A-A.

SEE SHEET 64 "STEEL GIRDER CROSS FRAME DETAILS 2 OF 2" FOR END DIAPHRAGM DETAILS AT PIER 6 AND EAST ABUTMENT.




## SPANS 6 AND 7




## SPANS 19 TO 21

## TABLE 1

| LOCATION | | "L" | NO. OF DIAPHRAGMS REQUIRED |
|---|---|---|---|
| SPANS 6 AND 7 | BETWEEN GIRDERS 1-2 | SEE TABLE 2 | 21 |
| | BETWEEN GIRDERS 2-7 | 10'-3" | 70 |
| SPANS 18 AND 19 | BETWEEN GIRDERS 1-2 (WEST OF F.S.23) | 10'-3" | 12 |
| | BETWEEN GIRDERS 1-2 (EAST OF F.S.23) | SEE TABLE 3 | 2 |
| | BETWEEN GIRDERS 2-7 | 10'-3" | 70 |
| SPANS 20 AND 21 | BETWEEN GIRDERS 1-2 | SEE TABLE 3 | 22 |
| | BETWEEN GIRDERS 2-7 | SEE TABLE 3 | 55 |

## TABLE 2 - DIMENSION "L" - SPANS 6 AND 7

| LOCATION | X1 | X2 | X3 | X4 | X5 | X6 | X7 | X8 | *X9 | X10 | X11 | X12 | X13 | X14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BETWEEN GIRDERS 1 AND 1A | 7'-7 1/16" | 6'-11 3/4" | 6'-3 11/16" | 5'-7 5/8" | 5'-0 7/16" | 5'-0 1/16" | 5'-1 3/16" | 5'-1 9/16" | -- | -- | -- | -- | -- | -- |
| BETWEEN GIRDERS 1A AND 2 | 8'-1 1/2" | 7'-9 5/16" | 7'-5 1/8" | 7'-0 15/16" | 6'-8 5/16" | 6'-3 3/4" | 5'-11 1/8" | 5'-6 1/2" | -- | -- | -- | -- | -- | -- |
| BETWEEN GIRDERS 1 AND 2 | -- | -- | -- | -- | -- | -- | -- | -- | -- | 10'-3" | 10'-3" | 10'-3" | 10'-3" | 10'-3" |

*X9 CONNECTS GIRDER G1, G1A, G2 WITH HEADER GIRDER

## TABLE 3 - DIMENSION "L" - SPANS 19 TO 21

| LOCATION | *X27 | X28 | X29 | X30 | X31 | X32 | X33 | X34 | X35 | X36 | X37 | X38 | X39 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BETWEEN GIRDERS 1 AND 1A | -- | 5'-5 1/2" | 5'-8 7/8" | 6'-0 1/4" | 6'-3" | 6'-7 3/8" | 6'11 11/16" | 7'-4" | 7'-8 5/16" | 8'-0 11/16" | 8'-1 3/8" | 8'-1 3/8" | 8'-1 3/8" |
| BETWEEN GIRDERS 1A AND 2 | -- | 5'-5 1/2" | 5'-8 15/16" | 6'-0 5/16" | 6'-4" | 7'-0 3/4" | 7'-9 7/16" | 8'-4 3/8" | 8'-3 1/16" | 8'-1 3/4" | 8'-1 1/2" | 8'-1 1/2" | 8'-1 1/2" |
| BETWEEN GIRDERS 2 AND 7 | -- | -- | 10'-3" | 10'-3" | 10'-3 1/16" | 10'-3 1/16" | 10'-3 1/16" | 10'-3 1/16" | 10'-3 1/16" | 10'-3 1/16" | 10'-3 1/16" | 10'-3 1/16" | 10'-3 1/16" |

*X27 CONNECTS GIRDER G1, G1A, G2 WITH HEADER GIRDER

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|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

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STEEL GIRDER CROSS FRAME DETAILS 1 OF 2

SHEET 63 OF 109
370

DATE: 3/15/2016
I.D.

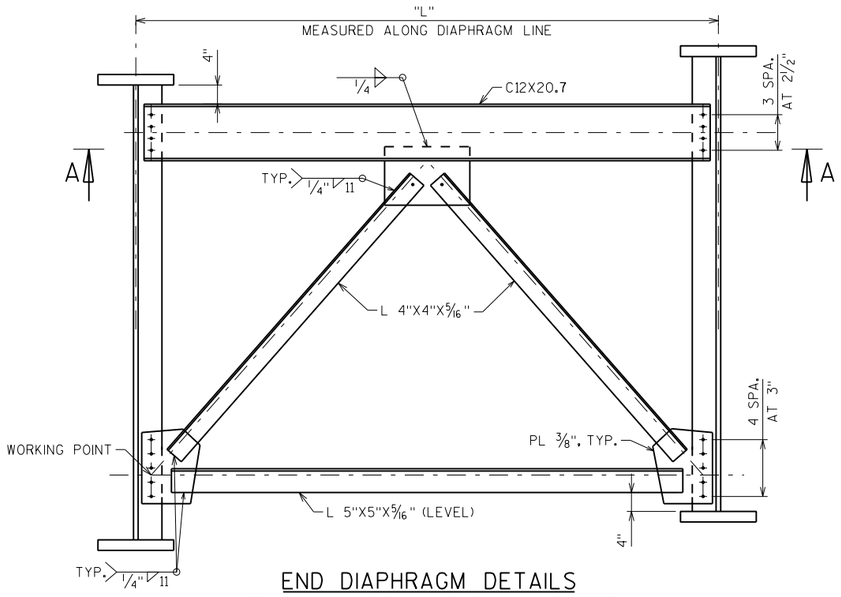
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8

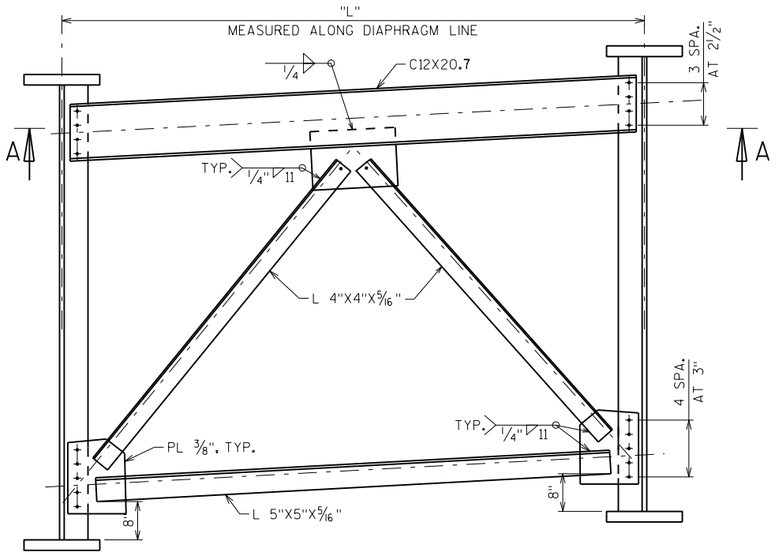
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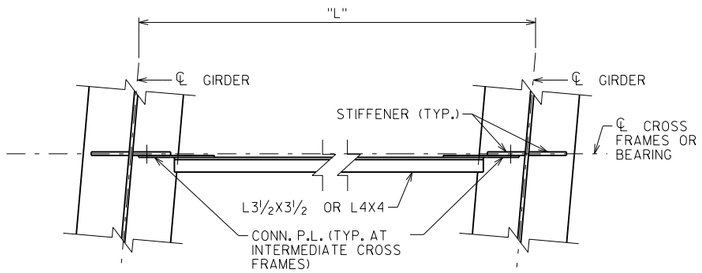
1517-07-77




END DIAPHRAGM DETAILS
(LEVEL LOWER LATERAL MEMBER)
(PIER 6)




END DIAPHRAGM DETAILS
(SLOPED LOWER LATERAL MEMBER)
(EAST ABUTMENT)




SECTION A-A

END, INTERMEDIATE AND PIER DIAPHRAGM CONNECTION PLAN DETAIL

TABLE 1

| LOCATION | | "L" | NO. OF DIAPHRAGMS REQUIRED |
|---|---|---|---|
| PIER 6 | BETWEEN GIRDERS 1-1A | 8'-3 5/16" | 1 |
| | BETWEEN GIRDERS 1A-2 | 8'-5 1/2" | 1 |
| | BETWEEN GIRDERS 2-7 | 10'-3 1/16" | 5 |
| EAST ABUTMENT | BETWEEN GIRDERS 1-1A | 8'-1 3/8" | 1 |
| | BETWEEN GIRDERS 1A-2 | 8'-1 1/2" | 1 |
| | BETWEEN GIRDERS 2-7 | 10'-3 1/16" | 5 |

NOTE:

ALL STEEL SHALL BE ASTM A709 GRADE 50.

ALL BOLTED CONNECTIONS SHALL BE FRICTION TYPE USING 3/4" ϕ HIGH STRENGTH ASTM A325 BOLTS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

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STEEL GIRDER CROSS FRAME DETAILS 2 OF 2

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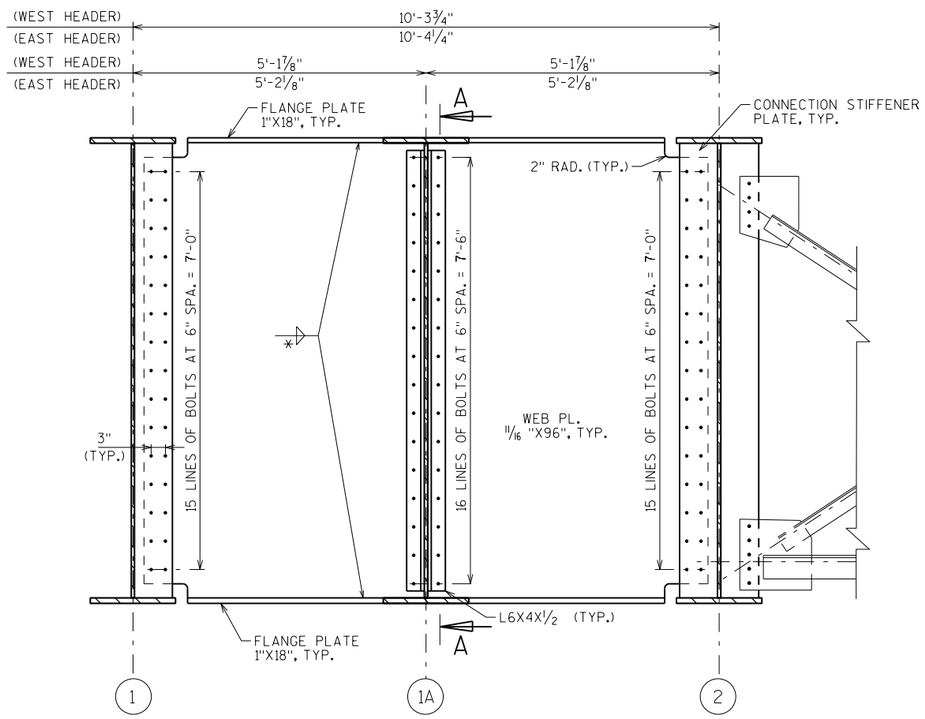
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I.D.

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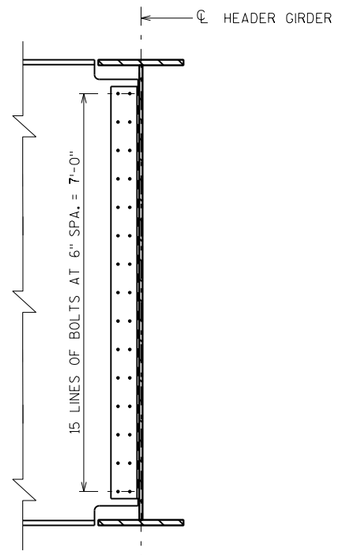
STATE PROJECT NUMBER

1517-07-77

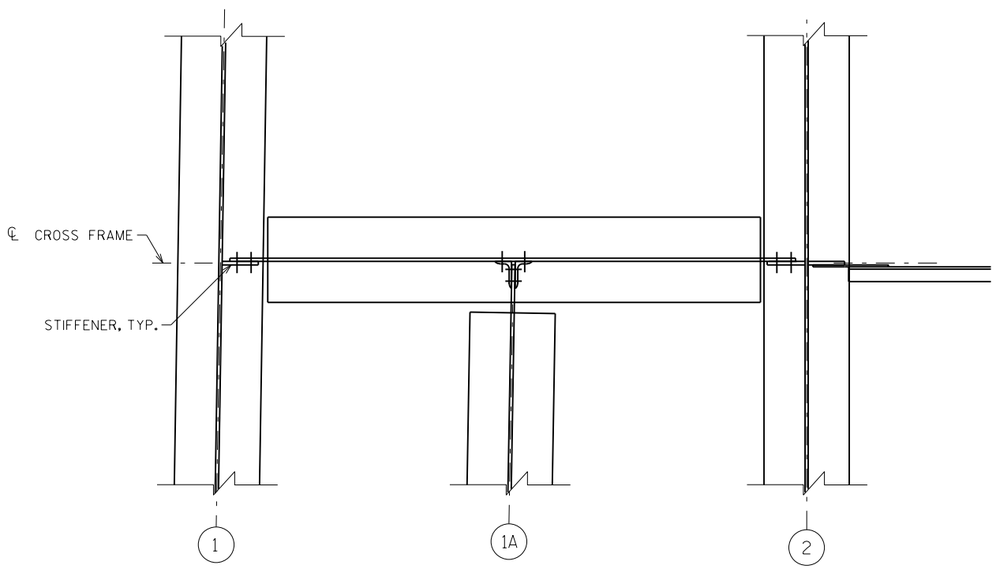



ELEVATION

(LOOKING EAST)




SECTION A-A




PLAN

## NOTES

ALL STEEL SHALL BE ASTM A709 GRADE 50.

ALL BOLTED CONNECTIONS SHALL BE FRICTION TYPE USING ¾" ϕ HIGH STRENGTH ASTM A325 BOLTS.

*SEE SHEET 5 "GENERAL NOTES" FOR MINIMUM WELD SIZE

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

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HEADER GIRDER DETAILS

SHEET 65 OF 109
372

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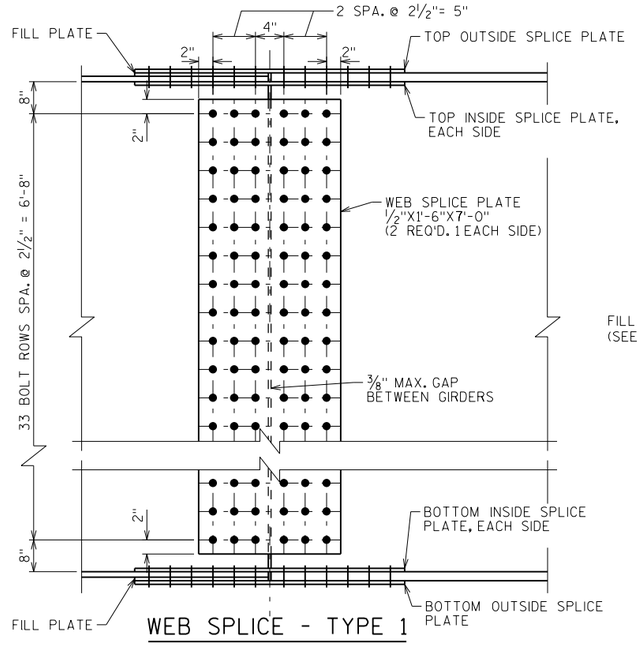
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DATE: 3/15/2016
I.D.

STATE PROJECT NUMBER

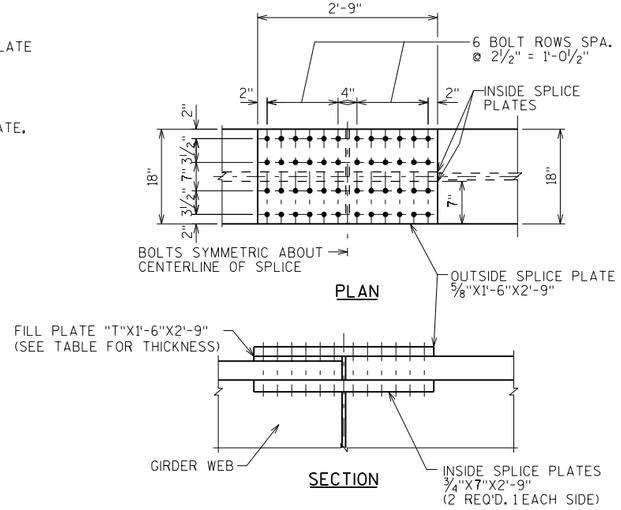
1517-07-77




## WEB SPLICE - TYPE 1

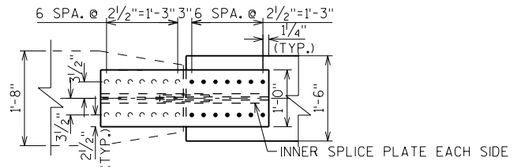
(FOR FIELD SPLICES 1, 2, 21 THROUGH 26

| FIELD SPLICE | FILL PLATE THICKNESS "T" TOP | BOT. |
|---|---|---|
| 1 | ⅛" | ⅜" |
| 2 | ⅛" | ⅜" |
| 20 | - | - |
| 21 | ⅛" | ⅜" |
| 22 | ⅛" | ⅜" |
| 23 | ¼" | ¼" |
| 24 | ¼" | ¼" |
| 25 | ⅛" | ⅛" |
| 26 | ⅛" | ⅛" |



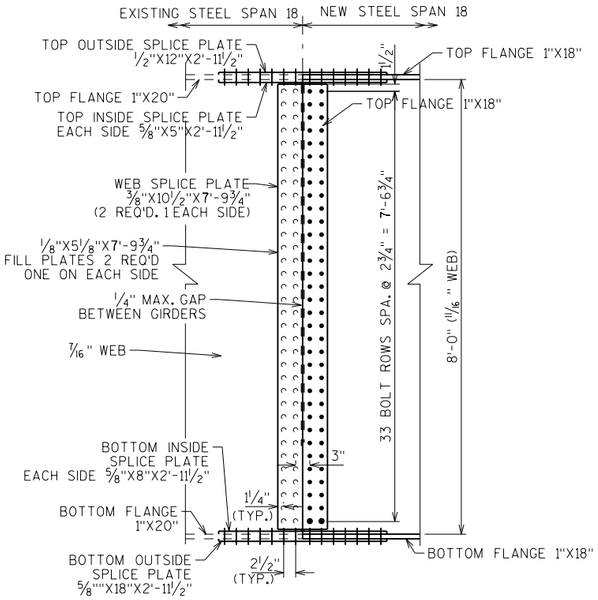

## TOP AND BOTTOM FLANGE SPLICE - TYPE 1

(FOR FIELD SPLICES 1, 2, 21 THROUGH 26



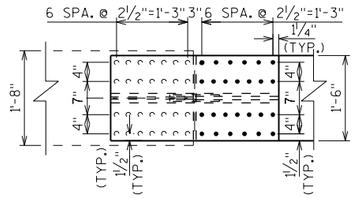

## TOP FLANGE SPLICE - TYPE 2

(FOR F.S. 20 ONLY)




## WEB SPLICE - TYPE 2

(FOR F.S. 20 ONLY)
(LOOKING NORTH)




## BOTTOM FLANGE SPLICE - TYPE 2

(FOR F.S. 20 ONLY)

## LEGEND

F.S. INDICATES FIELD SPLICE

( ) HOLE IN THE EXISTING STEEL TO BE REUSED FOR NEW BOLT

● HOLE IN THE NEW STEEL FOR NEW BOLT

## GIRDER FIELD SPLICE NOTES

1. ALL BOLT HOLES SHALL BE 13/16 " DIAMETER STANDARD HOLES
2. ALL SPLICE PLATES SHALL CONFORM TO ASTM A709, GRADE 50
3. ALL BOLTS SHALL BE ¾" DIAMETER A325 WITH DOUBLE WASHERS.
4. ALL BOLTS SHALL BE FABRICATED SUCH THAT THREADS SHALL BE EXCLUDED FROM THE SHEAR PLANES AT FIELD SPLICE CONNECTIONS.
5. SEE FRAMING PLAN FOR FIELD SPLICE TYPE LOCATIONS.
6. AT FIELD SPLICE 20, USE HOLES IN THE EXISTING WEB AND FLANGES AS TEMPLATE TO FIELD DRILL HOLES IN THE NEW SPLICE PLATES.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY BAR | PLANS CK'D. NPP

FIELD SPLICE DETAILS

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FILE= P:\WisDOT_12345678_10-441\Plans\B-70-61\Control Copy\Final Plans, 2015\067 B-70-61 - Field Splice Details - 1 of 2.dgn

DATE: 3/15/2016
I.D.

STATE PROJECT NUMBER

1517-07-77

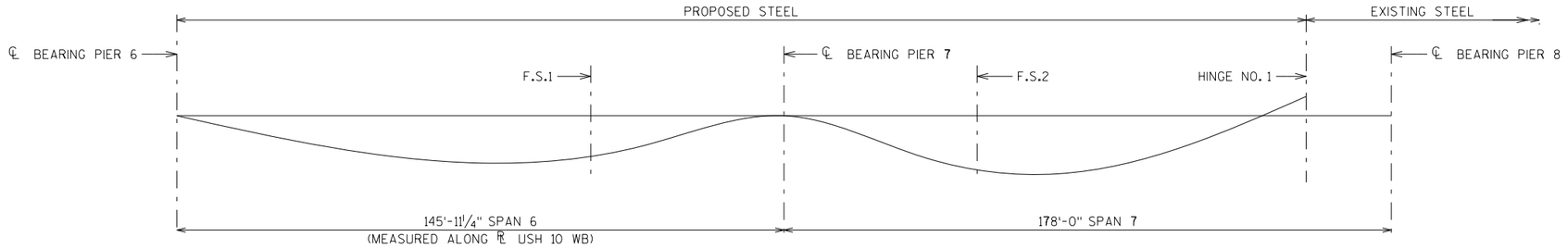
## SPAN 6 — SPAN 7

| GIRDERS 1 AND 2 | C.L. PIER 6 | 0.1 PT. | 0.2 PT. | 0.3 PT. | 0.4 PT. | 0.5 PT. | 0.6 PT. | F.S.1 | 0.7 PT. | 0.8 PT. | 0.9 PT. | C.L. PIER 7 | 0.1 PT. | 0.2 PT. | F.S.2 | 0.3 PT. | 0.4 PT. | 0.5 PT. | 0.6 PT. | 0.7 PT. | 0.8 PT. | HINGE #1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DL - STEEL ONLY | 0 | 0.1 | 0.3 | 0.3 | 0.4 | 0.4 | 0.3 | 0.2 | 0.2 | 0.1 | 0.0 | 0 | 0.1 | 0.2 | 0.3 | 0.3 | 0.4 | 0.5 | 0.4 | 0.3 | 0.1 | -0.1 |
| DL - DECK | 0 | 0.3 | 0.6 | 0.8 | 0.9 | 0.8 | 0.7 | 0.5 | 0.5 | 0.2 | 0.1 | 0 | 0.1 | 0.3 | 0.5 | 0.9 | 1.2 | 1.3 | 1.1 | 0.6 | -0.1 | -0.6 |
| DL - PARAPETS | 0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 |
| TOTAL | 0 | 0.5 | 1.0 | 1.3 | 1.4 | 1.3 | 1.1 | 0.8 | 0.7 | 0.4 | 0.1 | 0 | 0.2 | 0.6 | 0.9 | 1.4 | 1.8 | 1.9 | 1.6 | 1.0 | 0.0 | -0.6 |

| GIRDER 1A | C.L. PIER 6 | 0.1 PT. | 0.2 PT. | 0.3 PT. | 0.4 PT. | 0.5 PT. | 0.6 PT. | F.S.1 | 0.7 PT. | 0.8 PT. | 0.9 PT. | C.L. PIER 7 | 0.1 PT. | *0.2 PT. | F.S.2 | 0.3 PT. | 0.4 PT. | 0.5 PT. | 0.6 PT. | 0.7 PT. | 0.8 PT. | HINGE #1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DL - STEEL ONLY | 0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.3 | 0.3 | 0.3 | 0.2 | 0.1 | 0.0 | 0 | 0.1 | 0.2 | -- | -- | -- | -- | -- | -- | -- | -- |
| DL - DECK | 0 | 0.3 | 0.6 | 0.8 | 0.9 | 0.8 | 0.7 | 0.7 | 0.5 | 0.2 | 0.1 | 0 | 0.1 | 0.3 | -- | -- | -- | -- | -- | -- | -- | -- |
| DL - PARAPETS | 0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0 | 0.0 | 0.0 | -- | -- | -- | -- | -- | -- | -- | -- |
| TOTAL | 0 | 0.5 | 1.0 | 1.2 | 1.4 | 1.3 | 1.1 | 1.0 | 0.7 | 0.4 | 0.1 | 0 | 0.2 | 0.6 | -- | -- | -- | -- | -- | -- | -- | -- |

*0.2 PT. IN SPAN 7 REPRESENTS THE END OF GIRDER 1A AT THE HEADER GIRDER

| GIRDERS 3 TO 7 | C.L. PIER 6 | 0.1 PT. | 0.2 PT. | 0.3 PT. | 0.4 PT. | 0.5 PT. | 0.6 PT. | F.S.1 | 0.7 PT. | 0.8 PT. | 0.9 PT. | C.L. PIER 7 | 0.1 PT. | 0.2 PT. | F.S.2 | 0.3 PT. | 0.4 PT. | 0.5 PT. | 0.6 PT. | 0.7 PT. | 0.8 PT. | HINGE #1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DL - STEEL ONLY | 0 | 0.1 | 0.3 | 0.3 | 0.4 | 0.4 | 0.3 | 0.2 | 0.2 | 0.1 | 0.0 | 0 | 0.1 | 0.2 | 0.3 | 0.3 | 0.4 | 0.5 | 0.4 | 0.3 | 0.1 | -0.1 |
| DL - DECK | 0 | 0.4 | 0.8 | 1.1 | 1.2 | 1.1 | 0.9 | 0.7 | 0.6 | 0.3 | 0.1 | 0 | 0.2 | 0.5 | 0.8 | 0.9 | 1.2 | 1.3 | 1.1 | 0.6 | -0.1 | -0.6 |
| DL - PARAPETS | 0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 |
| TOTAL | 0 | 0.6 | 1.2 | 1.5 | 1.6 | 1.6 | 1.3 | 1.0 | 0.9 | 0.4 | 0.1 | 0 | 0.2 | 0.8 | 1.2 | 1.4 | 1.8 | 1.9 | 1.6 | 1.0 | 0.0 | -0.6 |




DEAD LOAD DEFLECTION DIAGRAM - SPANS 6 AND 7

8

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY KMP | PLANS CK'D. DEM

STEEL GIRDER DEFLECTIONS 1 OF 3

SHEET 67 OF 109
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DATE: 3/15/2016
I.D.

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STATE PROJECT NUMBER

1517-07-77

## SPAN 7 — SPAN 8 — SPAN 9

| ALL GIRDERS | HINGE #1 | 0.9 PT. | C.L. PIER 8 | 0.1 PT. | F.S.3 | 0.2 PT. | 0.3 PT. | 0.4 PT. | 0.5 PT. | 0.6 PT. | 0.7 PT. | F.S.4 | 0.8 PT. | 0.9 PT. | C.L. PIER 9 | 0.1 PT. | 0.2 PT. | F.S.5 | 0.3 PT. | 0.4 PT. | 0.5 PT. | 0.6 PT. | 0.7 PT. | F.S.6 | 0.8 PT. | 0.9 PT. | C.L. PIER 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DL - DECK | -0.6 | -0.4 | 0 | 0.6 | 0.9 | 1.4 | 2.0 | 2.3 | 2.4 | 2.1 | 1.6 | 1.4 | 0.9 | 0.4 | 0 | -0.1 | 0.1 | 0.3 | 0.3 | 0.6 | 0.7 | 0.6 | 0.4 | 0.3 | 0.1 | -0.1 | 0 |
| DL - PARAPETS | 0.0 | 0.0 | 0 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.0 | 0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0 |
| TOTAL | -0.6 | -0.4 | 0 | 0.7 | 1.0 | 0.6 | 2.1 | 2.5 | 2.6 | 2.3 | 1.7 | 1.5 | 1.0 | 0.4 | 0 | -0.1 | 0.1 | 0.3 | 0.4 | 0.7 | 0.8 | 0.7 | 0.5 | 0.4 | 0.1 | -0.1 | 0 |

## SPAN 10 — SPAN 11

| ALL GIRDERS | C.L. PIER 10 | 0.1 PT. | 0.2 PT. | F.S.7 | 0.3 PT. | 0.4 PT. | 0.5 PT. | 0.6 PT. | 0.7 PT. | 0.8 PT. | HINGE #2 | 0.9 PT. | C.L. PIER 11 | 0.1 PT. | F.S.8 | 0.2 PT. | 0.3 PT. | 0.4 PT. | 0.5 PT. | 0.6 PT. | F.S.9 | 0.7 PT. | 0.8 PT. | 0.9 PT. | C.L. PIER 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DL - DECK | 0.00 | 0.3 | 0.9 | 1.3 | 1.5 | 2.0 | 2.1 | 2.0 | 1.4 | 0.6 | 0.0 | 0.0 | 0 | 0.2 | 0.3 | 0.5 | 0.8 | 0.9 | 0.8 | 0.5 | 0.3 | 0.1 | -0.2 | -0.2 | 0 |
| DL - PARAPETS | 0.00 | 0.0 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.0 | 0.0 | 0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0 |
| TOTAL | 0.00 | 0.4 | 1.0 | 1.5 | 1.6 | 2.1 | 2.3 | 2.1 | 1.6 | 0.7 | 0.1 | 0.1 | 0 | 0.2 | 0.3 | 0.6 | 0.9 | 1.0 | 0.8 | 0.5 | 0.4 | 0.1 | -0.2 | -0.2 | 0 |

## SPAN 12 — SPAN 13

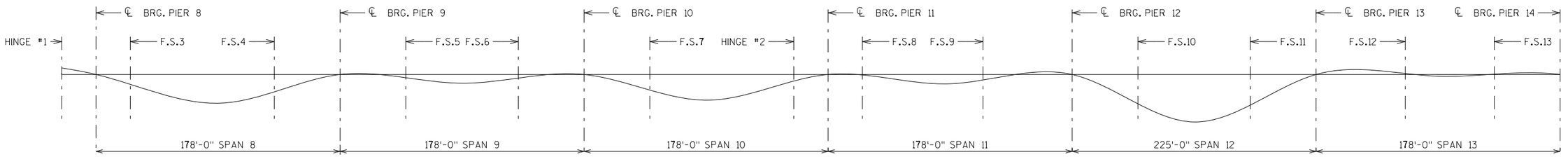
| ALL GIRDERS | C.L. PIER 12 | 0.1 PT. | 0.2 PT. | F.S.10 | 0.3 PT. | 0.4 PT. | 0.5 PT. | 0.6 PT. | 0.7 PT. | F.S.11 | 0.8 PT. | 0.9 PT. | C.L. PIER 13 | 0.1 PT. | 0.2 PT. | 0.3 PT. | F.S.12 | 0.4 PT. | 0.5 PT. | 0.6 PT. | 0.7 PT. | F.S.13 | 0.8 PT. | 0.9 PT. | C.L. PIER 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DL - DECK | 0 | 0.6 | 1.6 | 1.8 | 2.7 | 3.5 | 3.9 | 3.6 | 2.9 | 1.9 | 1.8 | 0.7 | 0 | -0.3 | -0.4 | -0.3 | -0.1 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | -0.1 | -0.2 | 0 |
| DL - PARAPETS | 0 | 0.1 | 0.2 | 0.2 | 0.3 | 0.4 | 0.4 | 0.4 | 0.3 | 0.2 | 0.2 | 0.1 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0 |
| TOTAL | 0 | 0.7 | 1.8 | 2.0 | 3.0 | 3.9 | 4.3 | 4.0 | 3.2 | 2.2 | 2.0 | 0.8 | 0 | -0.3 | -0.4 | -0.2 | -0.1 | 0.0 | 0.2 | 0.2 | 0.1 | 0.0 | -0.1 | -0.2 | 0 |

## SPAN 14 — SPAN 15

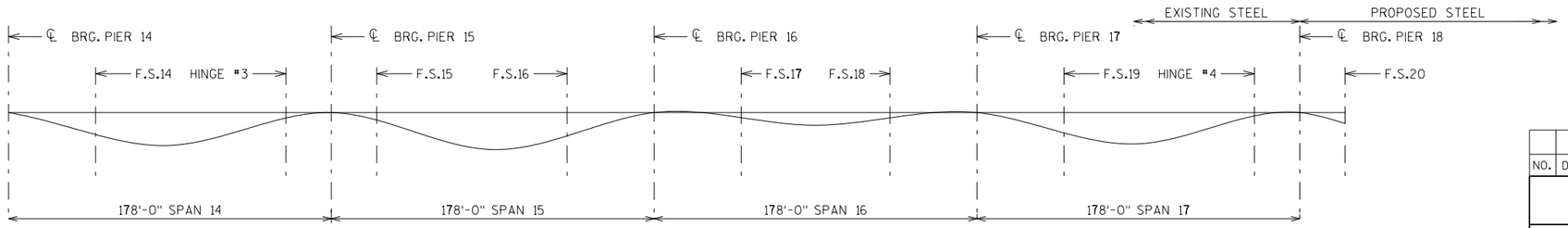
| ALL GIRDERS | C.L. PIER 14 | 0.1 PT. | 0.2 PT. | F.S.14 | 0.3 PT. | 0.4 PT. | 0.5 PT. | 0.6 PT. | 0.7 PT. | 0.8 PT. | HINGE #3 | 0.9 PT. | C.L. PIER 15 | 0.1 PT. | F.S.15 | 0.2 PT. | 0.3 PT. | 0.4 PT. | 0.5 PT. | 0.6 PT. | 0.7 PT. | F.S.16 | 0.8 PT. | 0.9 PT. | C.L. PIER 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DL - DECK | 0 | 0.4 | 1.0 | 1.4 | 1.6 | 2.0 | 2.1 | 1.8 | 1.1 | 0.2 | -0.5 | -0.4 | 0 | 0.6 | 0.9 | 1.3 | 1.9 | 2.3 | 2.3 | 2.1 | 1.5 | 1.4 | 0.9 | 0.3 | 0 |
| DL - PARAPETS | 0 | 0.0 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.0 | 0 |
| TOTAL | 0 | 0.5 | 1.1 | 1.6 | 1.7 | 2.2 | 2.3 | 1.9 | 1.2 | 0.2 | -0.5 | -0.4 | 0 | 0.7 | 0.9 | 1.4 | 2.1 | 2.5 | 2.5 | 2.2 | 1.7 | 1.5 | 1.0 | 0.4 | 0 |

## SPAN 16 — SPAN 17

| ALL GIRDERS | C.L. PIER 16 | 0.1 PT. | 10.2 | F.S.17 | 0.3 PT. | 0.4 PT. | 0.5 PT. | 0.6 PT. | 0.7 PT. | F.S.18 | 0.8 PT. | 0.9 PT. | C.L. PIER 17 | 0.1 PT. | 0.2 PT. | F.S.19 | 0.3 PT. | 0.4 PT. | 0.5 PT. | 0.6 PT. | 0.7 PT. | 0.8 PT. | HINGE #4 | 0.9 PT. | C.L. PIER 18 | 0.1 PT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DL - DECK | 0 | -0.1 | 0.1 | 0.3 | 0.4 | 0.6 | 0.7 | 0.7 | 0.4 | 0.3 | 0.1 | 0.0 | 0 | 0.3 | 0.8 | 1.2 | 1.4 | 1.8 | 2.0 | 1.7 | 1.2 | 0.3 | -0.3 | -0.2 | 0 | 0.5 |
| DL - PARAPETS | 0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.0 | 0.0 | 0 | 0.0 |
| TOTAL | 0 | -0.1 | 0.1 | 0.4 | 0.5 | 0.7 | 0.9 | 0.8 | 0.5 | 0.4 | 0.2 | 0.0 | 0 | 0.3 | 0.9 | 1.4 | 1.5 | 2.0 | 2.1 | 1.9 | 1.3 | 0.4 | -0.3 | -0.2 | 0 | 0.5 |




DEAD LOAD DEFLECTION DIAGRAM - SPANS 8 TO 13




DEAD LOAD DEFLECTION DIAGRAM - SPANS 14 TO 17

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY KMP | PLANS CK'D. DEM

STEEL GIRDER DEFLECTIONS 2 OF 3

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STATE PROJECT NUMBER

1517-07-77

## SPAN 18 / SPAN 19

| GIRDERS 1 AND 2 | F.S.20 | 0.2 PT. | 0.3 PT. | 0.4 PT. | 0.5 PT. | 0.6 PT. | 0.7 PT. | F.S.21 | 0.8 PT. | 0.9 PT. | C.L. PIER 19 | 0.1 PT. | 0.2 PT. | F.S.22 | 0.3 PT. | 0.4 PT. | 0.5 PT. | 0.6 PT. | 0.7 PT. | F.S.23 | 0.8 PT. | 0.9 PT. | C.L. PIER 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DL - STEEL ONLY | 0.3 | 0.4 | 0.6 | 0.7 | 0.7 | 0.6 | 0.4 | 0.4 | 0.2 | 0.1 | 0 | 0.0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.4 | 0.4 | 0.3 | 0.3 | 0.2 | 0.1 | 0 |
| DL - DECK | 0.7 | 1.0 | 1.4 | 1.7 | 1.7 | 1.5 | 1.1 | 1.0 | 0.6 | 0.2 | 0 | 0.1 | 0.4 | 0.6 | 0.8 | 1.1 | 1.3 | 1.3 | 1.0 | 0.8 | 0.6 | 0.2 | 0 |
| DL - PARAPETS | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0 |
| TOTAL | 1.0 | 1.5 | 2.2 | 2.5 | 2.6 | 2.3 | 1.7 | 1.5 | 0.9 | 0.3 | 0 | 0.1 | 0.6 | 0.9 | 1.1 | 1.6 | 1.8 | 1.8 | 1.5 | 1.2 | 0.8 | 0.3 | 0 |

## SPAN 20 / SPAN 21

| GIRDERS 1 AND 2 | C.L. PIER 20 | 0.1 PT. | 0.2 PT. | F.S.24 | 0.3 PT. | 0.4 PT. | 0.5 PT. | 0.6 PT. | 0.7 PT. | F.S.25 | 0.8 PT. | 0.9 PT. | C.L. PIER 21 | 0.1 PT. | 0.2 PT. | F.S.26 | 0.3 PT. | 0.4 PT. | 0.5 PT. | 0.6 PT. | 0.7 PT. | 0.8 PT. | 0.9 PT. | C.L. BRG. EAST ABUT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DL - STEEL ONLY | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | 0.0 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.3 | 0.2 | 0.2 | 0.1 | 0 |
| DL - DECK | 0 | -0.1 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.6 | 0.6 | 0.4 | 0.2 | 0 |
| DL - PARAPETS | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0 |
| TOTAL | 0 | -0.1 | -0.1 | 0.0 | 0.1 | 0.2 | 0.2 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0 | 0.1 | 0.4 | 0.4 | 0.6 | 0.8 | 0.9 | 0.9 | 0.8 | 0.6 | 0.3 | 0 |

## SPAN 19 / SPAN 20 / SPAN 21

| GIRDER 1A | *0.8 PT. | 0.9 PT. | C.L. PIER 20 | 0.1 PT. | 0.2 PT. | F.S.24 | 0.3 PT. | 0.4 PT. | 0.5 PT. | 0.6 PT. | 0.7 PT. | F.S.25 | 0.8 PT. | 0.9 PT. | C.L. PIER 21 | 0.1 PT. | 0.2 PT. | F.S.26 | 0.3 PT. | 0.4 PT. | 0.5 PT. | 0.6 PT. | 0.7 PT. | 0.8 PT. | 0.9 PT. | C.L. BRG. EAST ABUT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DL - STEEL ONLY | 0.2 | 0.1 | 0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0 |
| DL - DECK | 0.6 | 0.2 | 0 | -0.1 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.6 | 0.6 | 0.4 | 0.2 | 0 |
| DL - PARAPETS | 0.1 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0 |
| TOTAL | 0.8 | 0.3 | 0 | -0.1 | 0.0 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.1 | 0.1 | 0.0 | 0 | 0.1 | 0.4 | 0.4 | 0.6 | 0.8 | 0.9 | 0.9 | 0.8 | 0.6 | 0.3 | 0 |

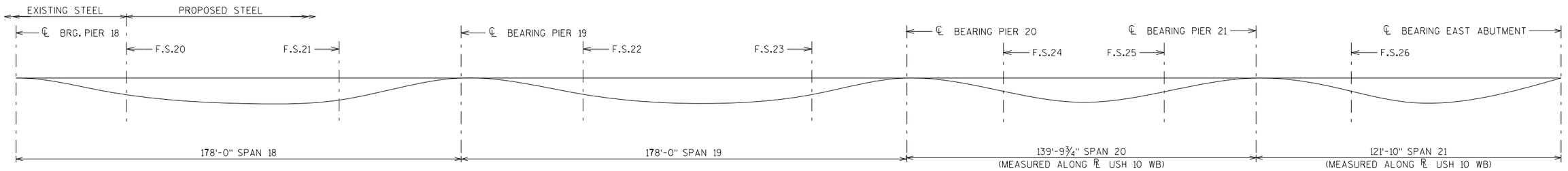
*0.8 PT. IN SPAN 19 REPRESENTS THE END OF GIRDER 1A AT THE HEADER GIRDER

## SPAN 18 / SPAN 19

| GIRDERS 3 TO 7 | F.S.20 | 0.2 PT. | 0.3 PT. | 0.4 PT. | 0.5 PT. | 0.6 PT. | 0.7 PT. | F.S.21 | 0.8 PT. | 0.9 PT. | C.L. PIER 19 | 0.1 PT. | 0.2 PT. | F.S.22 | 0.3 PT. | 0.4 PT. | 0.5 PT. | 0.6 PT. | 0.7 PT. | F.S.23 | 0.8 PT. | 0.9 PT. | C.L. PIER 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DL - STEEL ONLY | 0.3 | 0.4 | 0.6 | 0.7 | 0.7 | 0.6 | 0.4 | 0.4 | 0.2 | 0.1 | 0 | 0.0 | 0.1 | 0.2 | 0.3 | 0.4 | 0.4 | 0.4 | 0.3 | 0.3 | 0.2 | 0.1 | 0 |
| DL - DECK | 0.7 | 1.0 | 1.4 | 1.7 | 1.7 | 1.5 | 1.1 | 1.0 | 0.6 | 0.2 | 0 | 0.1 | 0.4 | 0.7 | 0.8 | 1.1 | 1.3 | 1.3 | 1.0 | 0.9 | 0.7 | 0.3 | 0 |
| DL - PARAPETS | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0 |
| TOTAL | 1.0 | 1.5 | 2.2 | 2.5 | 2.6 | 2.3 | 1.7 | 1.4 | 0.9 | 0.3 | 0 | 0.1 | 0.6 | 1.0 | 1.1 | 1.6 | 1.8 | 1.8 | 1.5 | 1.3 | 0.9 | 0.4 | 0 |

## SPAN 20 / SPAN 21

| GIRDERS 3 TO 7 | C.L. PIER 20 | 0.1 PT. | 0.2 PT. | F.S.24 | 0.3 PT. | 0.4 PT. | 0.5 PT. | 0.6 PT. | 0.7 PT. | F.S.25 | 0.8 PT. | 0.9 PT. | C.L. PIER 21 | 0.1 PT. | 0.2 PT. | F.S.26 | 0.3 PT. | 0.4 PT. | 0.5 PT. | 0.6 PT. | 0.7 PT. | 0.8 PT. | 0.9 PT. | C.L. BRG. EAST ABUT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DL - STEEL ONLY | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | 0.0 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.3 | 0.2 | 0.2 | 0.1 | 0 |
| DL - DECK | 0 | -0.1 | 0.0 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0 | 0.1 | 0.3 | 0.3 | 0.5 | 0.6 | 0.7 | 0.8 | 0.7 | 0.5 | 0.3 | 0 |
| DL - PARAPETS | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0 |
| TOTAL | 0 | -0.1 | 0.0 | 0.1 | 0.1 | 0.2 | 0.3 | 0.3 | 0.2 | 0.1 | 0.1 | 0.0 | 0 | 0.2 | 0.4 | 0.5 | 0.7 | 0.9 | 1.1 | 1.1 | 1.0 | 0.7 | 0.4 | 0 |




DEAD LOAD DEFLECTION DIAGRAM - SPANS 18 TO 21

8

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STRUCTURE B-70-61

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STEEL GIRDER DEFLECTIONS 3 OF 3

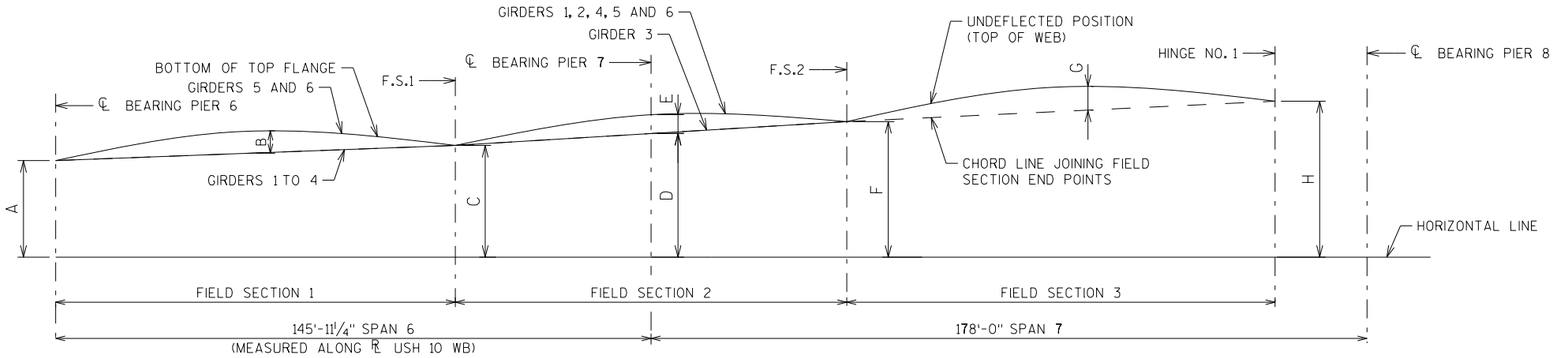
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DATE: 3/15/2016
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STATE PROJECT NUMBER

1517-07-77




## CAMBER AND BLOCKING DIAGRAM - SPANS 6 AND 7

(GIRDERS 1 TO 6)

## CAMBER AND BLOCKING TABLE - SPANS 6 AND 7

| LOCATION | A | B | C | D | E | *F | G | H |
|---|---|---|---|---|---|---|---|---|
| GIRDER 1 | 10' - 0" | 0' - 0" | 10' - 6 1/4" | 11' - 1 1/16" | 0' - 1 7/16" | 11' - 5" | 0' - 2 3/4" | 12' - 0 3/8" |
| GIRDER 1A | 10' - 0" | 0' - 0" | 10' - 5 1/2" | 10' - 11 3/8" | 0' - 0 3/4" | 11' - 3 3/8" | -- | -- |
| GIRDER 2 | 10' - 0" | 0' - 0" | 10' - 4 9/16" | 10' - 9 3/4" | 0' - 0 3/4" | 11' - 1 7/16" | 0' - 3" | 11' - 8 5/16" |
| GIRDER 3 | 10' - 0" | 0' - 0" | 10' - 4 5/8" | 10' - 8 1/2" | -0' - 0" | 11' - 0 3/8" | 0' - 3" | 11' - 6 1/2" |
| GIRDER 4 | 10' - 0" | 0' - 0" | 10' - 2 5/16" | 10' - 4 7/8" | -0' - 0 3/4" | 10' - 8 13/16" | 0' - 3 3/4" | 11' - 1 9/16" |
| GIRDER 5 | 10' - 0" | 0' - 0 7/8" | 9' - 11 13/16" | 10' - 1 1/16" | -0' - 0 3/4" | 10' - 3 7/8" | 0' - 3 3/4" | 10' - 6 1/4" |
| GIRDER 6 | 10' - 0" | 0' - 0 7/8" | 9' - 9 5/16" | 9' - 9 3/16" | -0' - 0 13/16" | 9' - 10 11/16" | 0' - 3 3/4" | 9' - 10 1/8" |

*FOR GIRDERS 1A, F.S.2 AND DIM. F REPRESENTS THE END OF GIRDER AT THE HEADER BEAM CONNECTION

## TOP OF ERECTED STEEL ELEVATIONS - SPANS 6 AND 7

| LOCATION | C.L. PIER 6 | F.S.1 | C.L. PIER 7 | *F.S.2 | HINGE #1 |
|---|---|---|---|---|---|
| GIRDER 1 | 793.06 | 793.62 | 794.19 | 794.51 | 795.09 |
| GIRDER 1A | 793.30 | 793.80 | 794.29 | 794.61 | -- |
| GIRDER 2 | 793.56 | 793.98 | 794.41 | 794.72 | 795.25 |
| GIRDER 3 | 793.87 | 794.30 | 794.62 | 794.94 | 795.41 |
| GIRDER 4 | 794.38 | 794.62 | 794.82 | 795.15 | 795.51 |
| GIRDER 5 | 794.89 | 794.92 | 795.02 | 795.25 | 795.41 |
| GIRDER 6 | 795.41 | 795.23 | 795.21 | 795.33 | 795.25 |

## NOTES:

1. POSITIVE CAMBER IS UPWARD RELATIVE TO A CHORD LINE JOINING THE FIELD SECTION ENDPOINTS. THE ELEVATION OF THE TOP OF STEEL AT THE FIELD SPLICE POINTS SHALL BE CHECKED, AND CORRECTED, IF POSSIBLE, AFTER ERECTION AND BEFORE PERMANENTLY BOLTING THE DIAPHRAGMS IN PLACE.
2. BECAUSE VERTICAL PROFILE AND DEFLECTIONS ARE EXAGGERATED TO DIFFERENT DEGREES, THE CAMBERS SHOWN ON THIS DIAGRAM ARE SCHEMATIC ONLY.
3. SPECIFICALLY COMPARING RELATIVE CAMBER MAGNITUDES BETWEEN FIELD SECTIONS MAY BE MISLEADING.
4. TOP OF ERECTED STEEL ELEVATIONS AT SUPPORTS AND FIELD SPLICES SHALL BE CHECKED AFTER ERECTION IS COMPLETE AND BEFORE BOLTED CONNECTIONS ARE FINALLY TORQUED.
5. 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.
6. THE VALUES OF CAMBER AND BLOCKING PROVIDED IN THE TABLES ARE IN INCHES.

"T" = HAUNCH HEIGHT AT CENTERLINE OF GIRDER.

TO DETERMINE "T": AFTER ALL STRUCTURAL STEEL HAS BEEN ERECTED, ELEVATIONS OF THE TOP FLANGES SHALL BE TAKEN AT CENTERLINE OF BEARINGS AND AT 0.1 PTS.

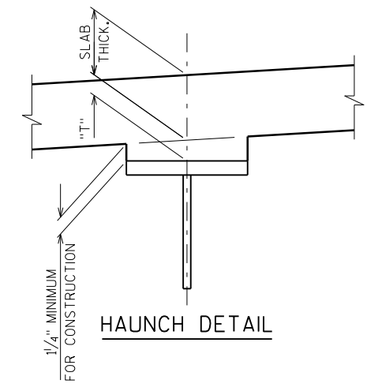
TOP OF DECK ELEVATION AT FINAL GRADE

\- TOP OF STEEL ELEVATION AFTER STEEL ERECTION

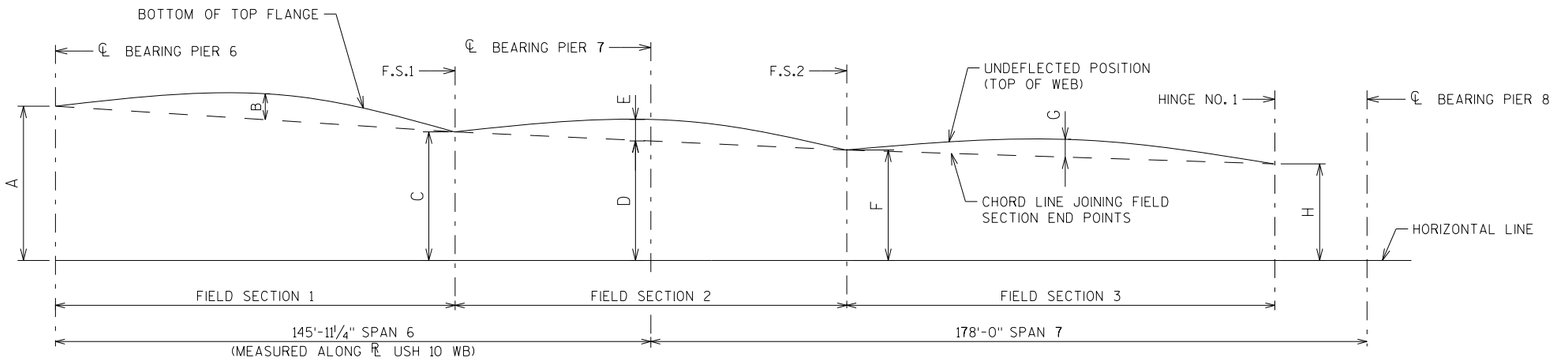
\+ CONC. ONLY DEFLECTION: DOWNWARD DEFLECTION IS ADDED, UPWARD DEFLECTION IS SUBTRACTED

\- SLAB THICKNESS

= "T" VALUE FOR SETTING HAUNCH




HAUNCH DETAIL




## CAMBER AND BLOCKING DIAGRAM - SPANS 6 AND 7

(GIRDER 7)

## CAMBER AND BLOCKING TABLE - SPANS 6 AND 7

| LOCATION | A | B | C | D | E | F | G | H |
|---|---|---|---|---|---|---|---|---|
| GIRDER 7 | 10' - 9 15/16" | 0' - 1 3/16" | 10' - 4 11/16" | 10' - 3 3/8" | -0' - 0 3/4" | 10' - 3 1/2" | 0' - 3 1/2" | 10' - 0" |

## TOP OF ERECTED STEEL ELEVATIONS - SPANS 6 AND 7

| LOCATION | C.L. PIER 6 | F.S.1 | C.L. PIER 7 | F.S.2 | HINGE #1 |
|---|---|---|---|---|---|
| GIRDER 7 | 795.92 | 795.53 | 795.41 | 795.42 | 795.09 |

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STRUCTURE B-70-61

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CAMBER DIAGRAM SPANS 6 AND 7

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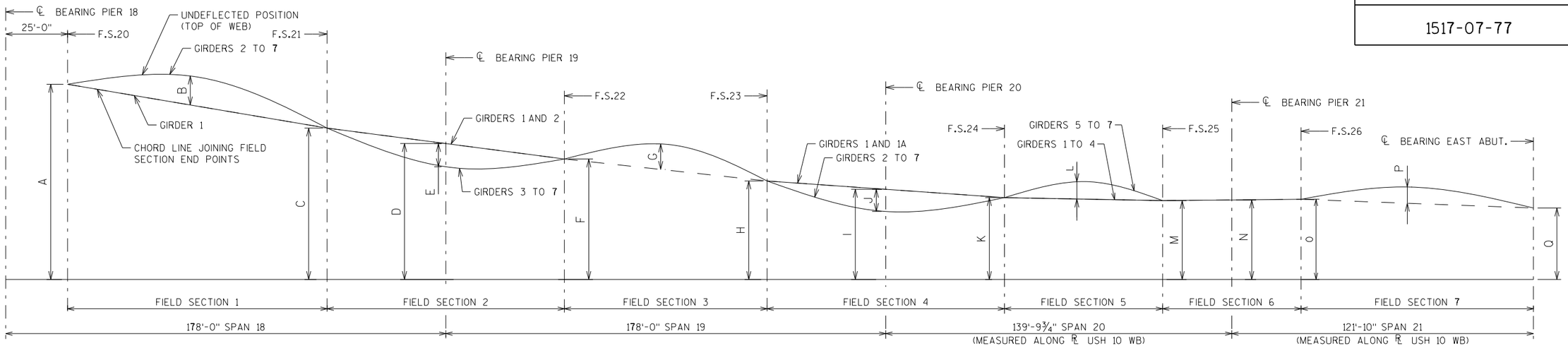
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STATE PROJECT NUMBER

1517-07-77




## CAMBER AND BLOCKING DIAGRAM - SPANS 18 TO 21

(TYPICAL ALL GIRDERS)

## CAMBER AND BLOCKING TABLE - SPANS 18 TO 21

| LOCATION | A | B | C | D | E | F | G | *H | I | J | K | L | M | N | O | P | Q |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GIRDER 1 | 14' - 2 7/8" | 0' - 0" | 12' - 8" | 12' - 1 1/2" | 0' - 0" | 11' - 7" | 0' - 1" | 10' - 9 7/16" | 10' - 5 3/4" | 0' - 0" | 10' - 2 15/16" | 0' - 0" | 10' - 2 15/16" | 10' - 3 3/8" | 10' - 3 13/16" | 0' - 1 3/8" | 10' - 0" |
| GIRDER 1A | -- | -- | -- | -- | -- | -- | -- | 10' - 6 1/8" | 10' - 3 1/4" | -0' - 0 5/16" | 10' - 1 5/16" | 0' - 0" | 10' - 2 5/16" | 10' - 3 1/16" | 10' - 3 13/16" | 0' - 1 1/4" | 10' - 0" |
| GIRDER 2 | 13' - 4 7/8" | 0' - 0 7/8" | 11' - 10 7/16" | 11' - 4 1/4" | 0' - 0" | 10' - 10 1/8" | 0' - 1 1/4" | 10' - 3 5/16" | 10' - 0 11/16" | -0' - 0 3/4" | 10' - 0" | 0' - 0" | 10' - 2 1/2" | 10' - 3 1/8" | 10' - 3 13/16" | 0' - 1 3/8" | 10' - 0" |
| GIRDER 3 | 12' - 11 7/16" | 0' - 1 1/8" | 11' - 5 7/8" | 10' - 11 3/8" | -0' - 0 13/16" | 10' - 6 7/16" | 0' - 1" | 10' - 0 15/16" | 9' - 11 3/16" | -0' - 0 13/16" | 9' - 11 3/8" | 0' - 0" | 10' - 2 7/16" | 10' - 3 3/16" | 10' - 3 13/16" | 0' - 1 3/8" | 10' - 0" |
| GIRDER 4 | 12' - 5 3/8" | 0' - 1 13/16" | 11' - 0 15/16" | 10' - 6 7/16" | -0' - 1 3/16" | 10' - 2 5/16" | 0' - 1" | 9' - 10 1/2" | 9' - 9 3/4" | -0' - 0 13/16" | 9' - 10 5/8" | 0' - 0" | 10' - 2 1/2" | 10' - 3 3/16" | 10' - 3 13/16" | 0' - 1 3/8" | 10' - 0" |
| GIRDER 5 | 11' - 8 3/4" | 0' - 2" | 10' - 6 15/16" | 10' - 1 5/16" | -0' - 1 1/4" | 9' - 10 1/8" | 0' - 1" | 9' - 8" | 9' - 8 1/4" | -0' - 0 13/16" | 9' - 9 7/8" | 0' - 1" | 10' - 2 1/2" | 10' - 3 3/16" | 10' - 3 13/16" | 0' - 1 3/8" | 10' - 0" |
| GIRDER 6 | 10' - 11 1/2" | 0' - 2 7/8" | 10' - 0 13/16" | 9' - 8 3/16" | -0' - 1 1/4" | 9' - 6" | 0' - 1" | 9' - 5 1/2" | 9' - 6 11/16" | -0' - 0 13/16" | 9' - 9 1/8" | 0' - 1 11/16" | 10' - 2 1/2" | 10' - 3 3/16" | 10' - 3 13/16" | 0' - 1 1/2" | 10' - 0" |
| GIRDER 7 | 10' - 2 5/16" | 0' - 2 3/4" | 9' - 6 11/16" | 9' - 3" | -0' - 1 1/4" | 9' - 1 13/16" | 0' - 1 1/16" | 9' - 3 1/16" | 9' - 5 3/16" | -0' - 0 13/16" | 9' - 8 3/8" | 0' - 1 11/16" | 10' - 2 1/2" | 10' - 3 3/16" | 10' - 3 13/16" | 0' - 1 7/16" | 10' - 0" |

## TOP OF ERECTED STEEL ELEVATIONS - SPANS 18 TO 21

| LOCATION | F.S.20 | F.S.21 | C.L. PIER 19 | F.S.22 | *F.S.23 | C.L. PIER 20 | F.S.24 | F.S.25 | C.L. PIER 21 | F.S.26 | EAST ABUT. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| GIRDER 1 | 779.46 | 777.90 | 777.36 | 776.82 | 776.03 | 775.74 | 775.51 | 775.50 | 775.52 | 775.57 | 775.20 |
| GIRDER 1A | -- | -- | -- | -- | 776.20 | 776.01 | 775.86 | 775.94 | 775.98 | 776.05 | 775.68 |
| GIRDER 2 | 779.60 | 778.07 | 777.57 | 777.06 | 776.49 | 776.29 | 776.24 | 776.44 | 776.47 | 776.54 | 776.17 |
| GIRDER 3 | 779.76 | 778.30 | 777.77 | 777.37 | 776.91 | 776.78 | 776.80 | 777.05 | 777.09 | 777.15 | 776.78 |
| GIRDER 4 | 779.87 | 778.51 | 777.98 | 777.64 | 777.32 | 777.27 | 777.36 | 777.67 | 777.71 | 777.77 | 777.40 |
| GIRDER 5 | 779.77 | 778.62 | 778.17 | 777.90 | 777.73 | 777.76 | 777.91 | 778.28 | 778.32 | 778.39 | 778.02 |
| GIRDER 6 | 779.61 | 778.73 | 778.35 | 778.17 | 778.14 | 778.25 | 778.46 | 778.90 | 778.94 | 779.00 | 778.63 |
| GIRDER 7 | 779.46 | 778.83 | 778.54 | 778.44 | 778.55 | 778.74 | 779.01 | 779.51 | 779.55 | 779.62 | 779.25 |

*FOR GIRDER 1A, F.S.23 AND DIM. H REPRESENTS THE END OF GIRDER AT THE HEADER BEAM CONNECTION

## NOTES:

1. POSITIVE CAMBER IS UPWARD RELATIVE TO A CHORD LINE JOINING THE FIELD SECTION ENDPOINTS. THE ELEVATION OF THE TOP OF STEEL AT THE FIELD SPLICE POINTS SHALL BE CHECKED, AND CORRECTED, IF POSSIBLE, AFTER ERECTION AND BEFORE PERMANENTLY BOLTING THE DIAPHRAGMS IN PLACE.
2. BECAUSE VERTICAL PROFILE AND DEFLECTIONS ARE EXAGGERATED TO DIFFERENT DEGREES, THE CAMBERS SHOWN ON THIS DIAGRAM ARE SCHEMATIC ONLY.
3. SPECIFICALLY COMPARING RELATIVE CAMBER MAGNITUDES BETWEEN FIELD SECTIONS MAY BE MISLEADING.
4. TOP OF ERECTED STEEL ELEVATIONS AT SUPPORTS AND FIELD SPLICES SHALL BE CHECKED AFTER ERECTION IS COMPLETE AND BEFORE BOLTED CONNECTIONS ARE FINALLY TORQUED.
5. 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.
6. THE VALUES OF CAMBER AND BLOCKING PROVIDED IN THE TABLES ARE IN INCHES.

"T" = HAUNCH HEIGHT AT CENTERLINE OF GIRDER.

TO DETERMINE "T": AFTER ALL STRUCTURAL STEEL HAS BEEN ERECTED, ELEVATIONS OF THE TOP FLANGES SHALL BE TAKEN AT CENTERLINE OF BEARINGS AND AT 0.1 PTS.

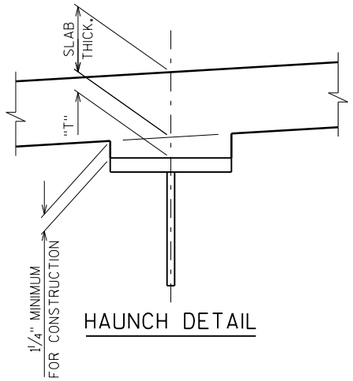
TOP OF DECK ELEVATION AT FINAL GRADE

\- TOP OF STEEL ELEVATION AFTER STEEL ERECTION

\+ CONC. ONLY DEFLECTION: DOWNWARD DEFLECTION IS ADDED, UPWARD DEFLECTION IS SUBTRACTED

\- SLAB THICKNESS

= "T" VALUE FOR SETTING HAUNCH




HAUNCH DETAIL

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

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CAMBER DIAGRAM SPANS 18 TO 21

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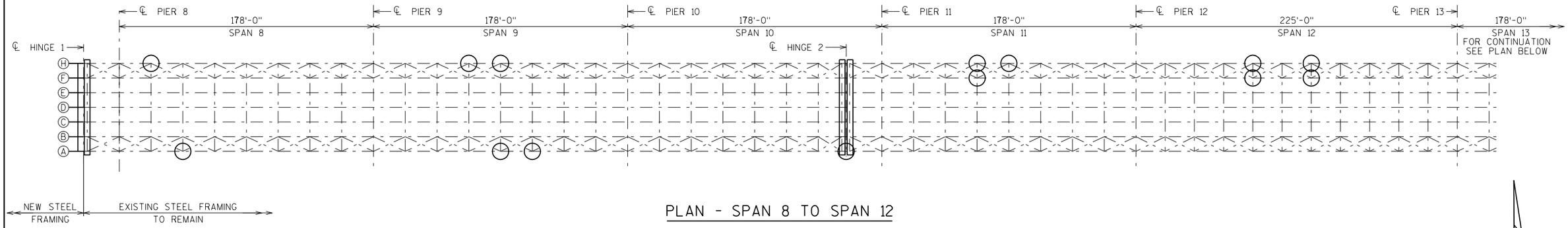
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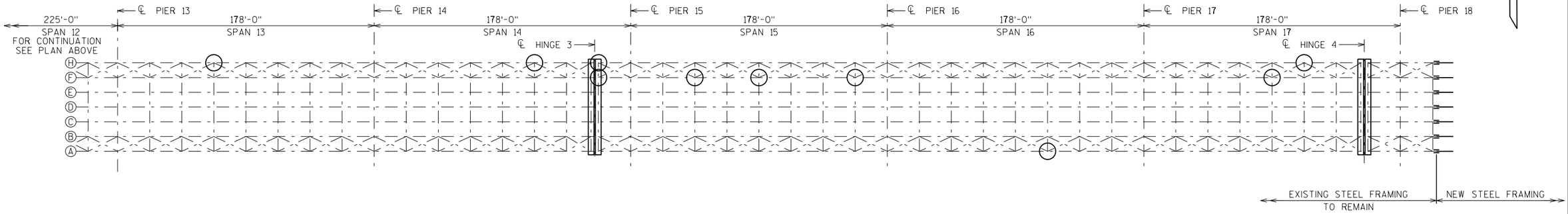
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| STATE PROJECT NUMBER |
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| 1517-07-77 |




PLAN - SPAN 8 TO SPAN 12




PLAN - SPAN 13 TO SPAN 17

## NOTE

SEE SHEET 73 "STRUCTURAL STEEL REPAIRS" FOR SHELF PLATE AND CROSS FRAME REPAIR DETAILS.

## LEGEND

- ○ - SHELF PLATE REPAIR LOCATION
- ▭ - CROSS FRAME REPAIR LOCATION

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY BAR | PLANS CK'D. DEM

EXISTING FRAMING PLAN

SHEET 72 OF 109
379

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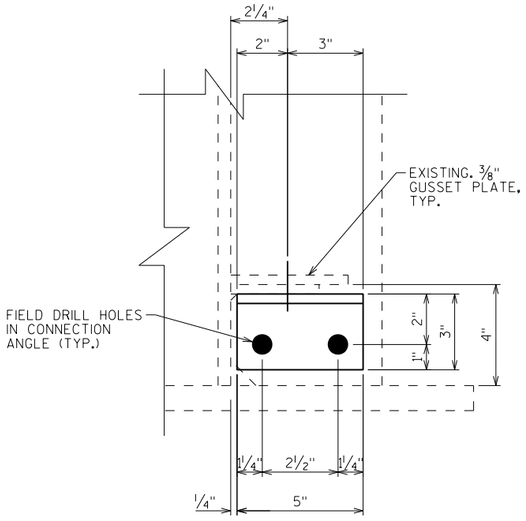
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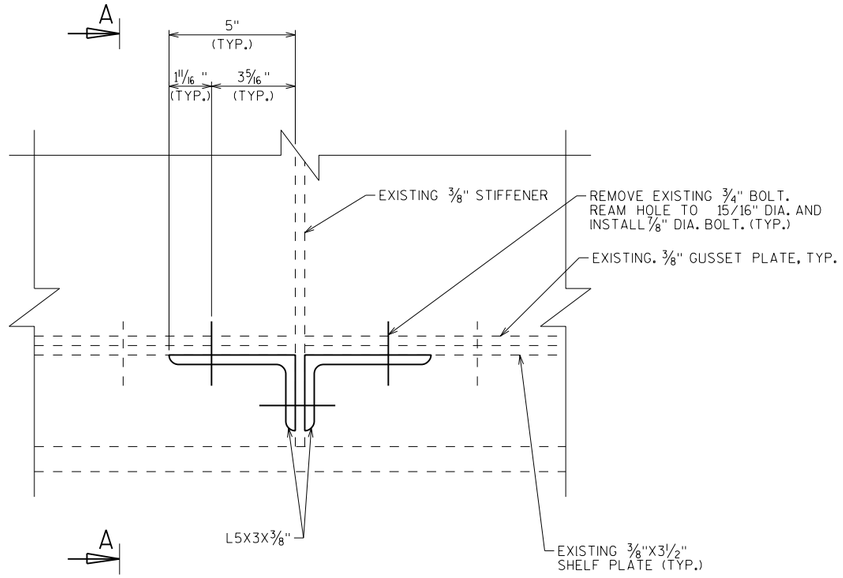
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STATE PROJECT NUMBER

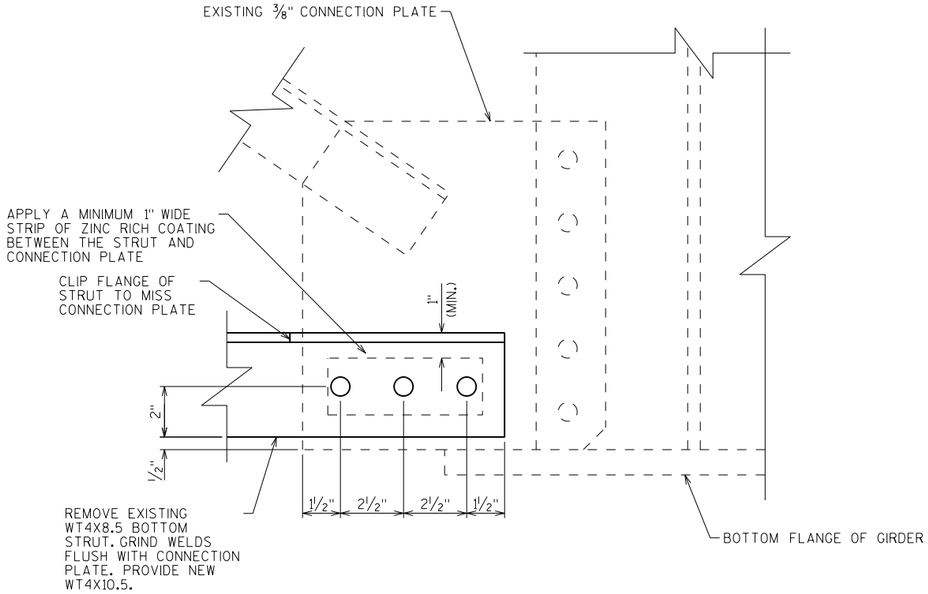
1517-07-77




SECTION A-A




SHELF PLATE REPAIR DETAIL




CROSS FRAME REPAIR DETAIL

NOTES:

1. ALL BOLT HOLES SHALL BE 13/16 " DIAMETER STANDARD HOLES, U.N.O..
2. ALL BOLTS SHALL BE ¾" DIAMETER A325 WITH DOUBLE WASHERS, U.N.O..

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| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
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STRUCTURE B-70-61

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STRUCTURAL STEEL REPAIRS

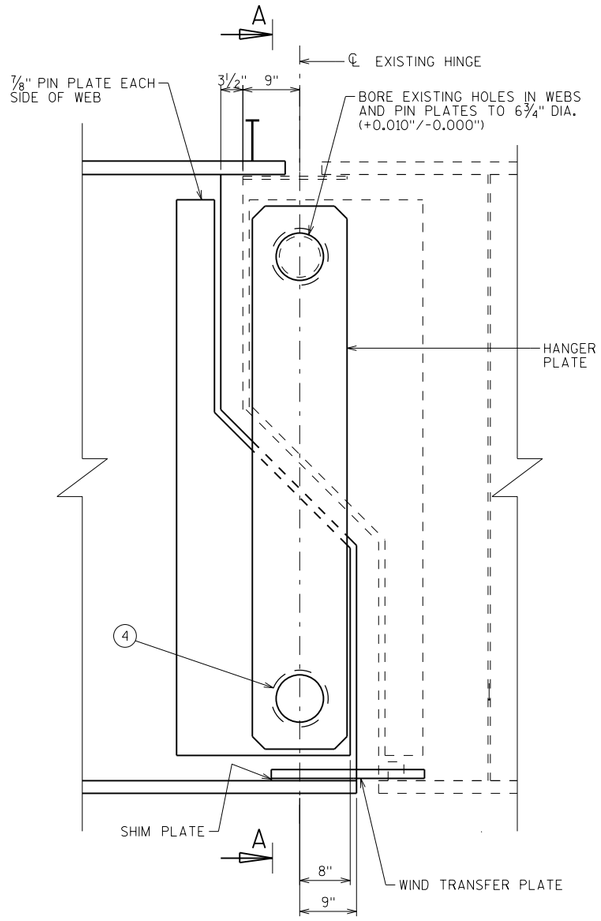
SHEET 73 OF 109
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DATE: 3/15/2016
I.D.

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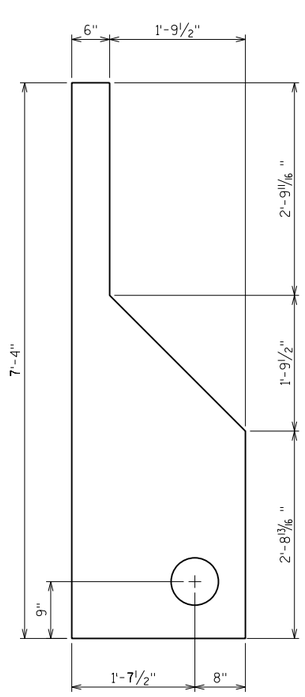
STATE PROJECT NUMBER

1517-07-77



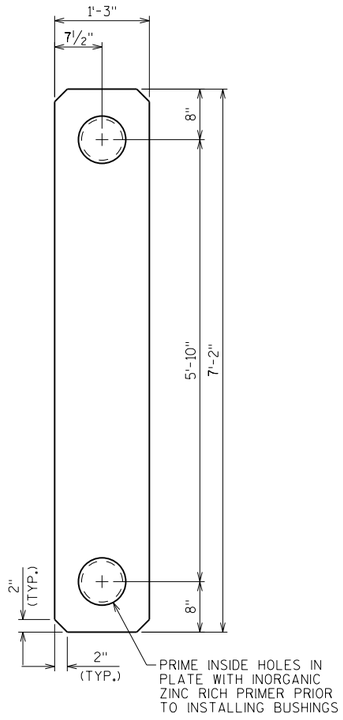

## HANGER ELEVATION

AT HINGE 1
7 GIRDER LINES



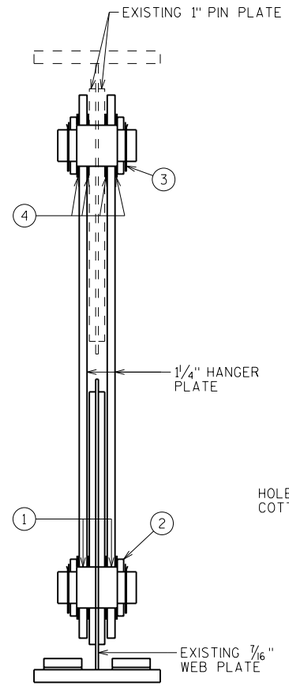

## PIN PLATE

AT HINGE 1
14 REQ'D
(SHOP WELDED TO NEW GIRDER END)

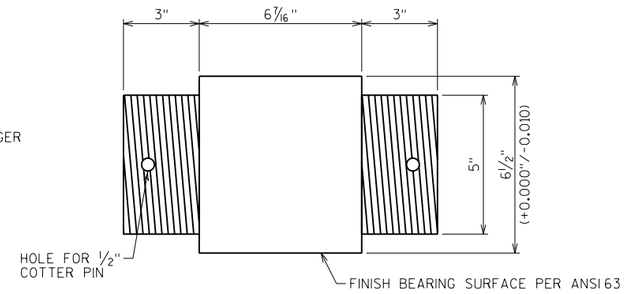



## HANGER PLATE

AT HINGE 1
14 REQ'D

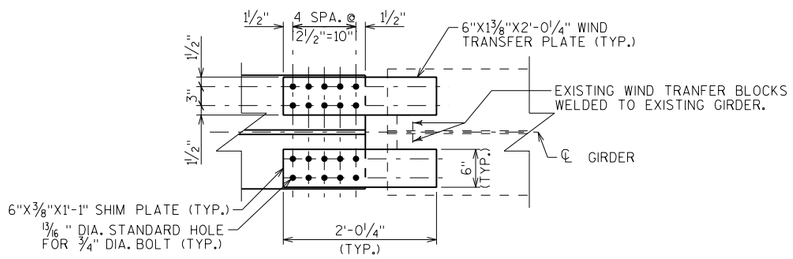



## SECTION A-A




## PIN DETAIL

ASTM A276 TYPE S20161 OR EQUAL




## WIND TRANSFER PLATE PLAN

AT HINGE 1
7 LOCATIONS

## LEGEND

(1) BUSHINGS SHALL BE GAR-MAX AS MANUFACTURED BY GARLOCK BEARINGS, INC. OR DURALON JOURNAL BEARINGS AS MANUFACTURED BY REXNORD BEARING DIVISION, OR APPROVED EQUAL. BUSHINGS SHALL HAVE A NOMINAL WALL THICKNESS OF ¼".

(2) RECESSED AMERICAN STANDARD HEXED NUT (PRESSED STEEL)

(3) ½" DIA. COTTER PIN

(4) NON-METALLIC WASHERS REQUIRED FOR USE AS SPACERS BETWEEN THE PIN PLATES AND THE HANGER PLATES, AND THE HANGER PLATES AND NUTS SHALL BE MADE FROM ONE OF THE FOLLOWING MATERIALS:

1. PHENOLIC, CANVAS REINFORCED, MIL-P-15035
2. POLYETHYLENE, HIGH DENSITY, ASTM D4976, CLASS 3
3. ACETAL, FEDERAL SPECIFICATION L-P-392
4. TEFLON TFE, MIL-P-22241A

## NOTES

1. ALL STEEL SHALL CONFORM TO ASTM A709 GRADE 50 AND CHARPY V-NOTCH TOUGHNESS REQUIREMENTS OF ZONE 2.
2. REMOVE EXISTING HANGER PLATES, PINS, AND WIND TRANSFER PLATES AND REPLACE WITH NEW MATERIALS AT LOCATIONS NOTED.
3. INSIDE HOLES OF HANGER PLATES SHALL BE COATED WITH "BLOXIDE" OR AN APPROVED EQUAL AFTER FINISHING. THE BUSHINGS SHALL HAVE A PRESS FIT INTO HANGER PLATES. THE INSIDE DIAMETER OF THE BUSHING SHALL PROVIDE A CLEARANCE OF 0.005" MINIMUM AND 0.010" MAXIMUM OVER THE FINISHED DIAMETER OF THE PIN. THE HOLE DIAMETER SHALL BE SMALLER THAN THE BUSHING O.D. BY AT LEAST 0.001". FNISH ANSI 125.
4. BLAST CLEAN GIRDER WEB AND FLANGES WITHIN 2'-0" OF ℄ OF HINGE IN ACCORDANCE WITH THE STEEL STRUCTURES PAINTING COUNCIL'S SPECIFICATION SSPC-SP6. PAINT AREA CLEANED WITH ORGANIC ZINC RICH PAINT.
5. HANGER PLATES AND WIND TRANSFER PLATES SHALL BE SHOP PAINTED.
6. NON-METALLIC WASHERS SHALL HAVE AN INSIDE DIAMETER OF BETWEEN 0.005" AND 0.010" LARGER THAN THE PIN DIAMTER.
7. BUSHINGS SHALL BE THE SAME LENGTH AS THE HANGER PLATE THICKNESS.
8. ALL MATERIAL AND LABOR INVOLVED FOR PIN AND HANGER, AND FOR WIND TRANSFER PLATE WORK SHALL BE PAID FOR UNDER THE BID ITEM "HANGER ASSEMBLY", EACH.

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY BAR | PLANS CK'D. DEM

PIN AND HANGER DETAILS

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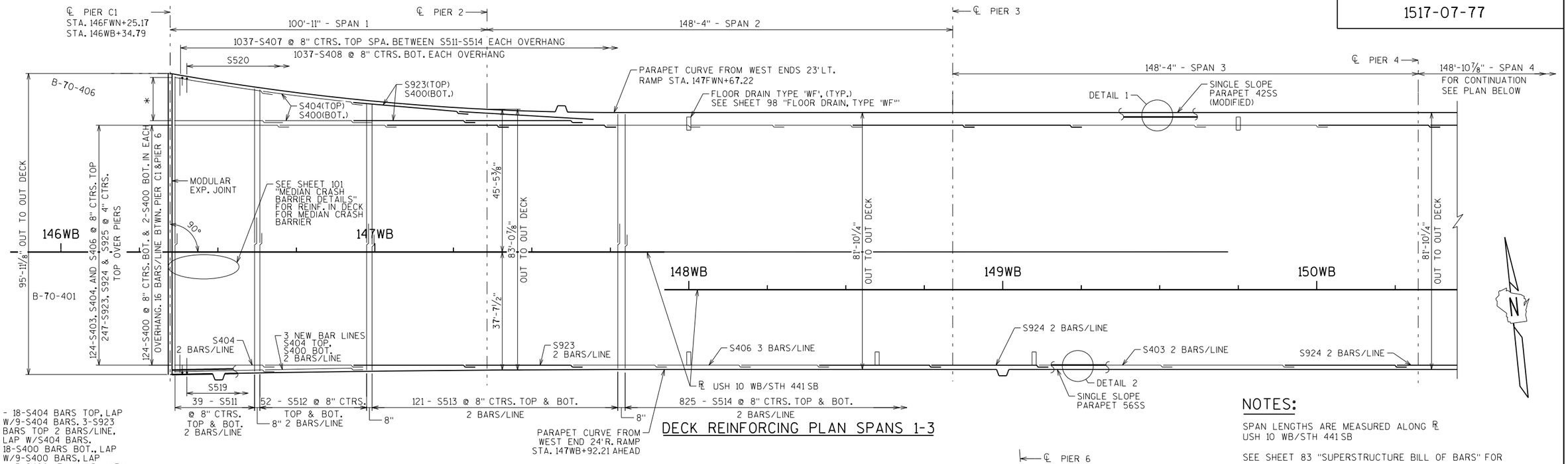
DATE: 3/15/2016
I.D.

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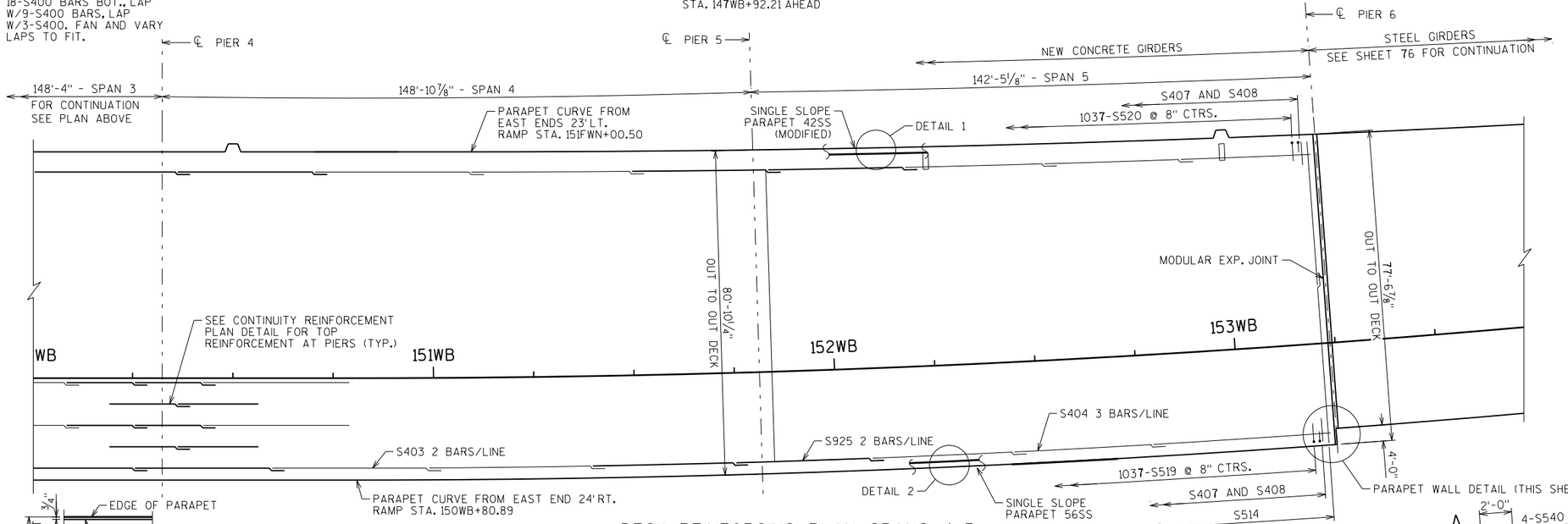
STATE PROJECT NUMBER

1517-07-77

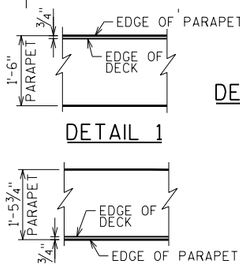



* - 18-S404 BARS TOP, LAP W/9-S404 BARS. 3-S923 BARS TOP 2 BARS/LINE, LAP W/S404 BARS. 18-S400 BARS BOT., LAP W/9-S400 BARS, LAP W/3-S400. FAN AND VARY LAPS TO FIT.

## DECK REINFORCING PLAN SPANS 1-3




## DECK REINFORCING PLAN SPANS 4-5




### DETAIL 1

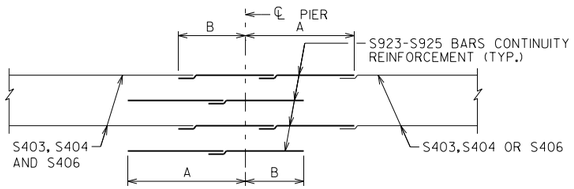



### DETAIL 2

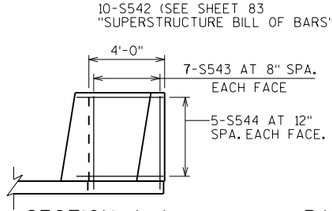
### DECK BAR LAP LENGTH

| BAR SIZE | MIN. LAP LENGTH |
|---|---|
| #4 | 1'-8" |
| #5 | 2'-7" |
| #6 | 3'-1" |
| #9 | 8'-0" |

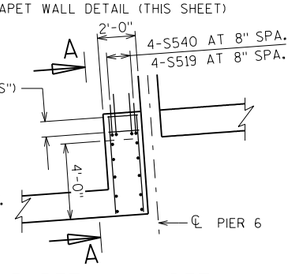
| PIER | A | B |
|---|---|---|
| 2 | 39'-0" | 27'-0" |
| 3 | 43'-0" | 26'-0" |
| 4 | 43'-0" | 26'-0" |
| 5 | 49'-0" | 37'-0" |




### CONTINUITY REINFORCEMENT PLAN DETAIL




### SECTION A-A




### PARAPET WALL DETAIL

## NOTES:

SPAN LENGTHS ARE MEASURED ALONG ℄ USH 10 WB/STH 441 SB

SEE SHEET 83 "SUPERSTRUCTURE BILL OF BARS" FOR BILL OF BARS.

SEE "GENERAL PLAN AND ELEVATION" SHEETS, SHEETS 1-4, FOR LOCATIONS OF FLOOR DRAINS. FOR FLOOR DRAIN DETAILS SEE SHEETS 97 AND 98.

SEE SHEETS 92-94 "MODULAR EXP. JOINT DETAILS PIERS C1 & 6", "MODULAR EXP. JOINT AT HINGES 1-4 & E. ABUT." & "MODULAR EXPANSION JOINT DATA" FOR MODULAR EXPANSION JOINT DETAILS.

SEE SHEET 92 "MODULAR EXP. JOINT DETAILS PIERS C1 & 6" FOR REINFORCING DETAILS AT EXPANSION JOINTS.

SEE SHEETS 80 "DECK REINFORCING SECTIONS - SPANS 1-5" AND 81 "DECK REINFORCING SECTIONS - SPANS 6-21" FOR DECK REINFORCING SECTIONS.

SEE SHEETS 11 "ALIGNMENT & SUPERELEVATION - 1 OF 2" AND 12 "ALIGNMENT & SUPERELEVATION - 2 OF 2" FOR ALIGNMENT CURVE DATA.

THE BOTTOM TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS WITH A CENTER TO CENTER SPACING NOT TO EXCEED 4'-0". ONE LINE OF CONTINUOUS BAR CHAIRS SHALL BE PLACED NEAR EACH EDGE OF SLAB TO SUPPORT THE ENDS OF THE BOTTOM TRANSVERSE BAR STEEL.

THE TOP LONGITUDINAL BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS IN TRANSVERSE DIRECTION ON 4'-0" CENTERS.

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY BAR | PLANS CK'D. KMP

DECK REINFORCING PLAN SPANS 1-5

SHEET 75 OF 109
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DATE: 4/8/2016
I.D.

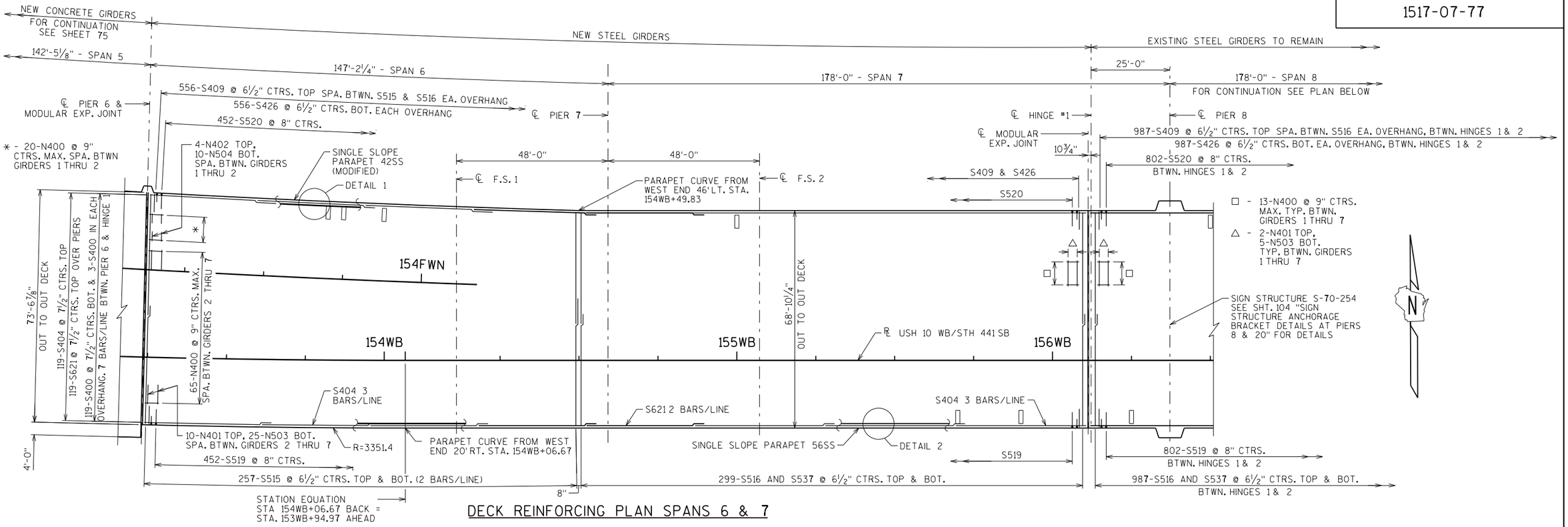
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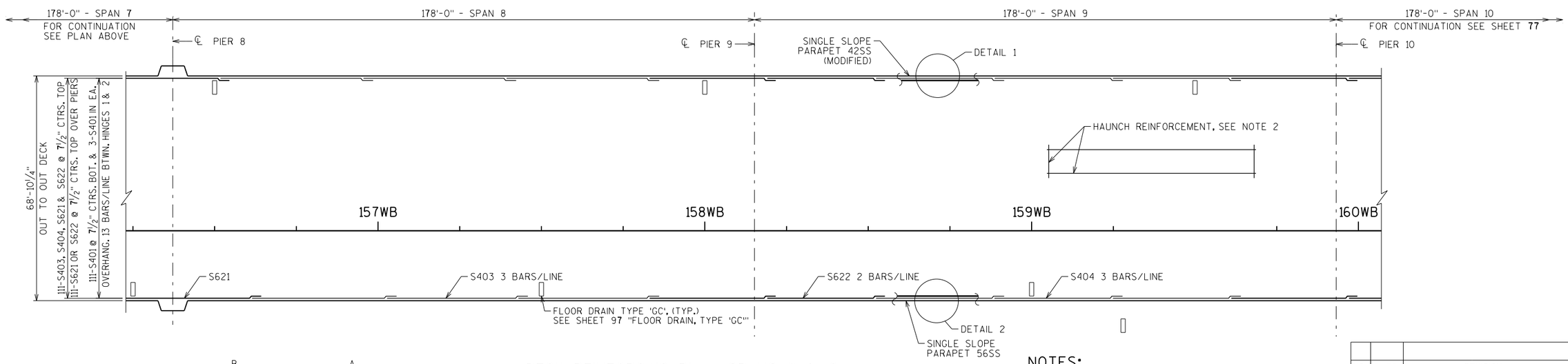
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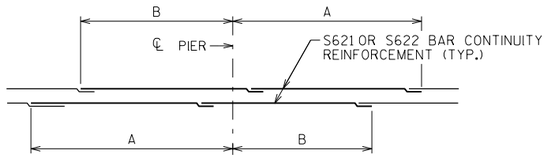
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## DECK REINFORCING PLAN SPANS 6 & 7




## DECK REINFORCING PLAN SPANS 8 & 9




| PIER | A | B |
|---|---|---|
| 7 | 49'-4" | 46'-1" |
| 9 | 37'-8" | 34'-4" |

## CONTINUITY REINFORCEMENT PLAN DETAIL

### NOTES:

1. FOR NOTES, LAP LENGTHS, AND DETAILS 1 AND 2 SEE DECK REINFORCING PLAN SPANS 1-5, SHEET 75.
2. FOR BILL OF BARS, BAR BEND DETAILS AND HAUNCH REINFORCEMENT DETAILS, SEE SUPERSTRUCTURE BILL OF BARS, SHEET 83 "SUPERSTRUCTURE BILL OF BARS".

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|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY BAR | PLANS CK'D. KMP

DECK REINFORCING PLAN SPANS 6-9

SHEET 76 OF 109

383

DATE: 3/15/2016
I.D.

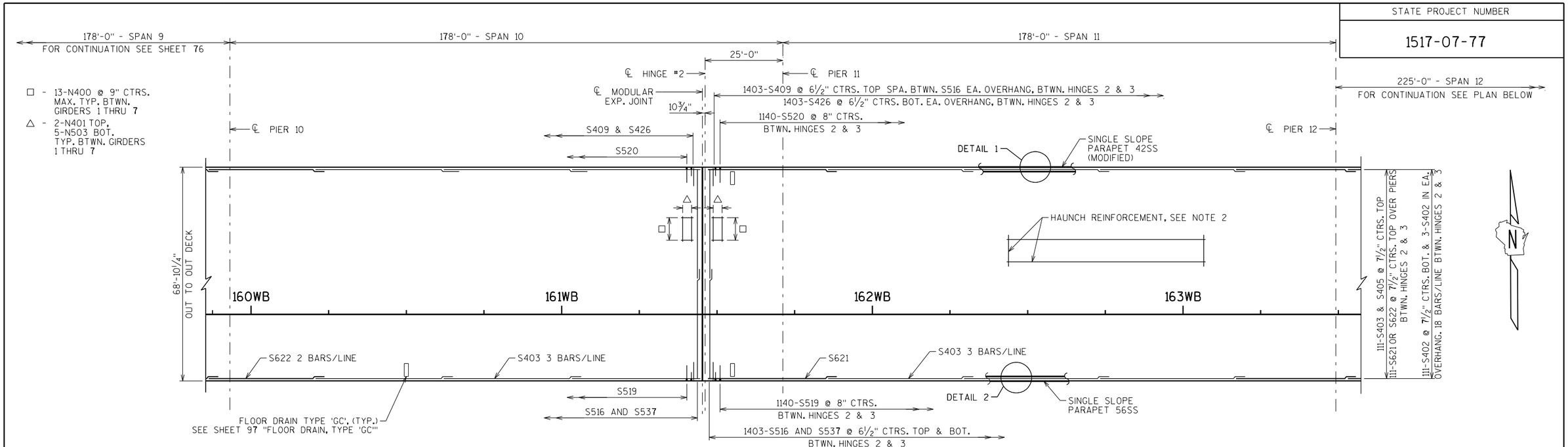
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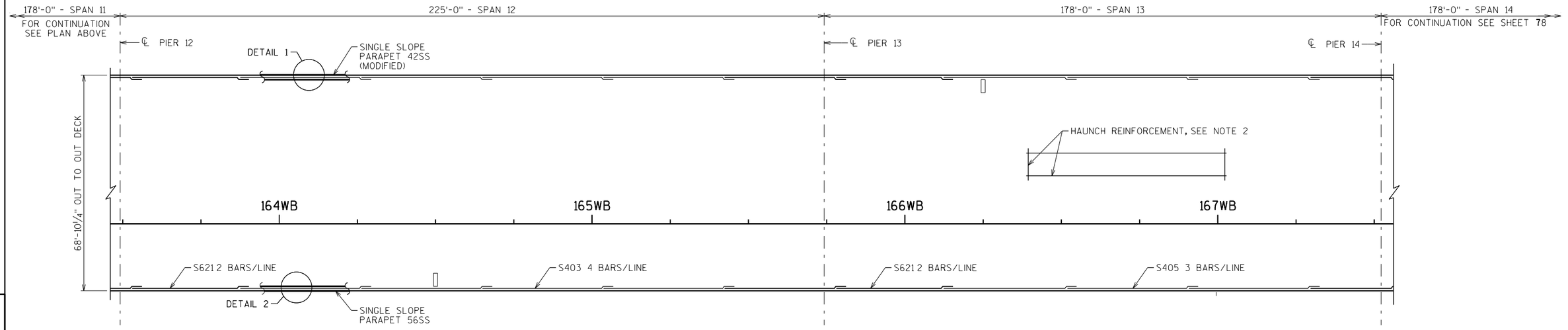
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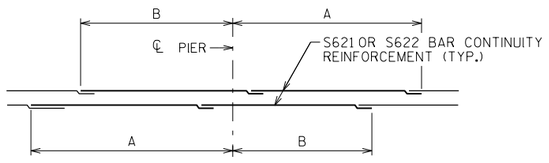
1517-07-77




## DECK REINFORCING PLAN SPANS 10 & 11




## DECK REINFORCING PLAN SPANS 12 & 13




| PIER | A | B |
|---|---|---|
| 10 | 37'-8" | 34'-4" |
| 12 | 49'-4" | 46'-1" |
| 13 | 49'-4" | 46'-1" |

## CONTINUITY REINFORCEMENT PLAN DETAIL

## NOTES:

1. FOR NOTES, LAP LENGTHS, AND DETAILS 1 AND 2 SEE SHEET 75 "DECK REINFORCING PLAN SPANS 1-5".
2. FOR BILL OF BARS, BAR BEND DETAILS AND HAUNCH REINFORCEMENT DETAILS, SEE SHEET 83 "SUPERSTRUCTURE BILL OF BARS".

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

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DECK REINFORCING PLAN SPANS 10-13

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DATE: 3/15/2016

I.D.

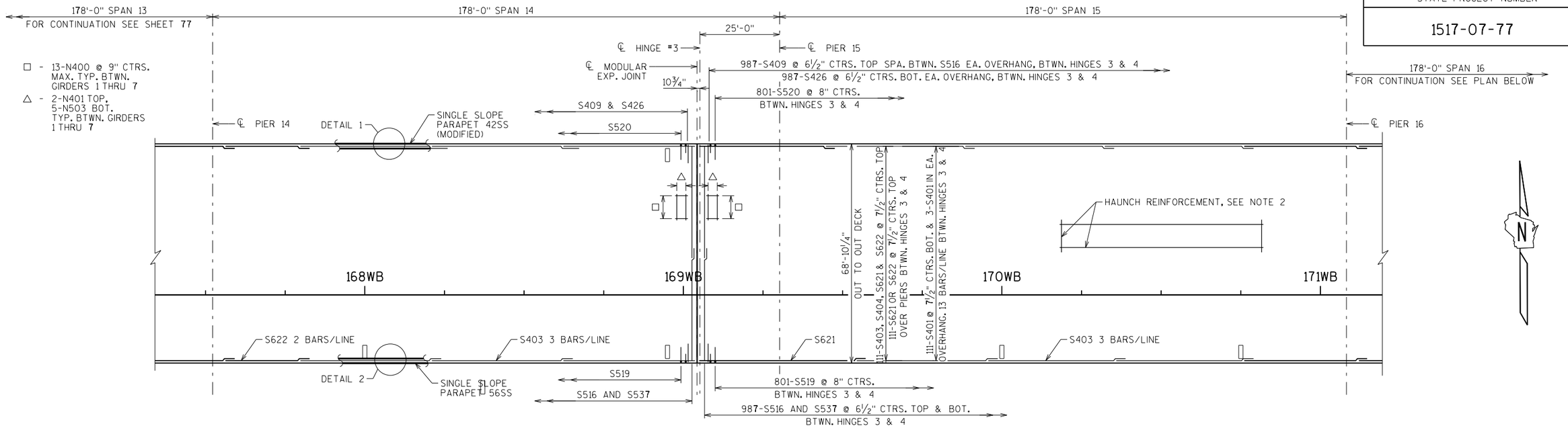
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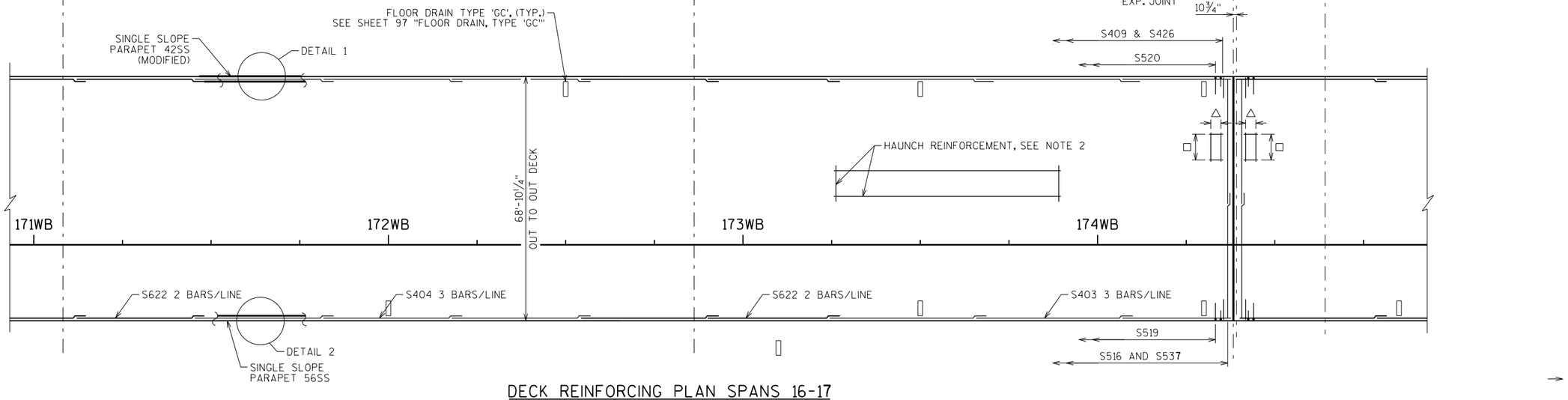
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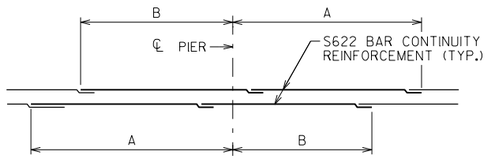
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DECK REINFORCING PLAN SPANS 14-15




DECK REINFORCING PLAN SPANS 16-17




| PIER | A | B |
|---|---|---|
| 14 | 37'-8" | 34'-4" |
| 16 | 37'-8" | 34'-4" |
| 17 | 37'-8" | 34'-4" |

CONTINUITY REINFORCEMENT PLAN DETAIL

NOTES:

1. FOR NOTES, LAP LENGTHS, AND DETAILS 1 AND 2 SEE SHEET 75 "DECK REINFORCING PLAN SPANS 1-5".
2. FOR BILL OF BARS, BAR BEND DETAILS AND HAUNCH REINFORCEMENT DETAILS, SEE SHEET 83 "SUPERSTRUCTURE BILL OF BARS".

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY BAR | PLANS CK'D. KMP

DECK REINFORCING PLAN SPANS 14-17

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385

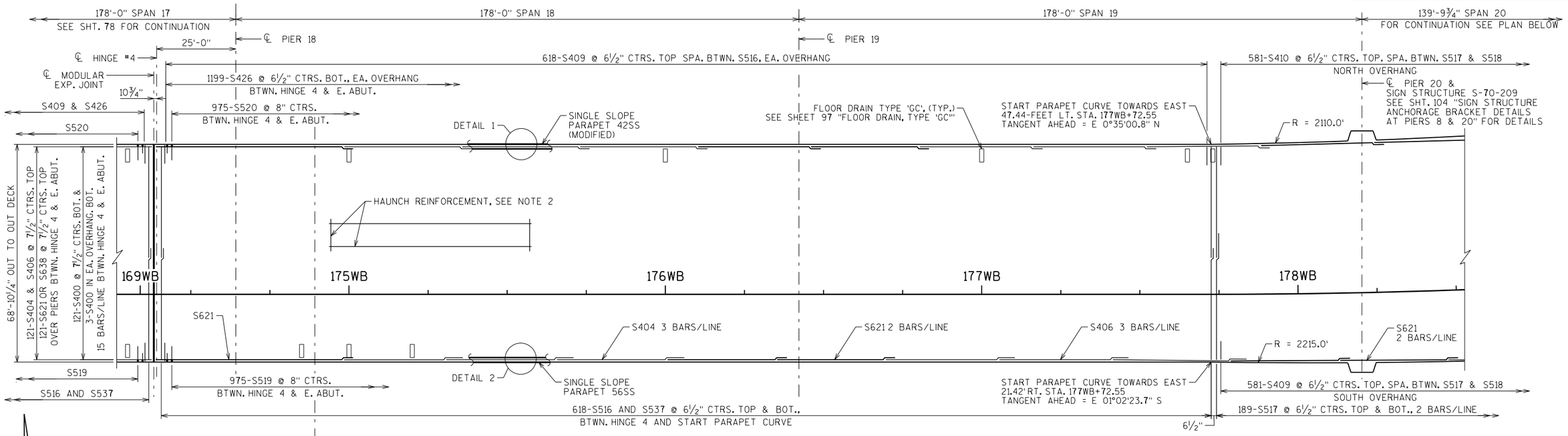
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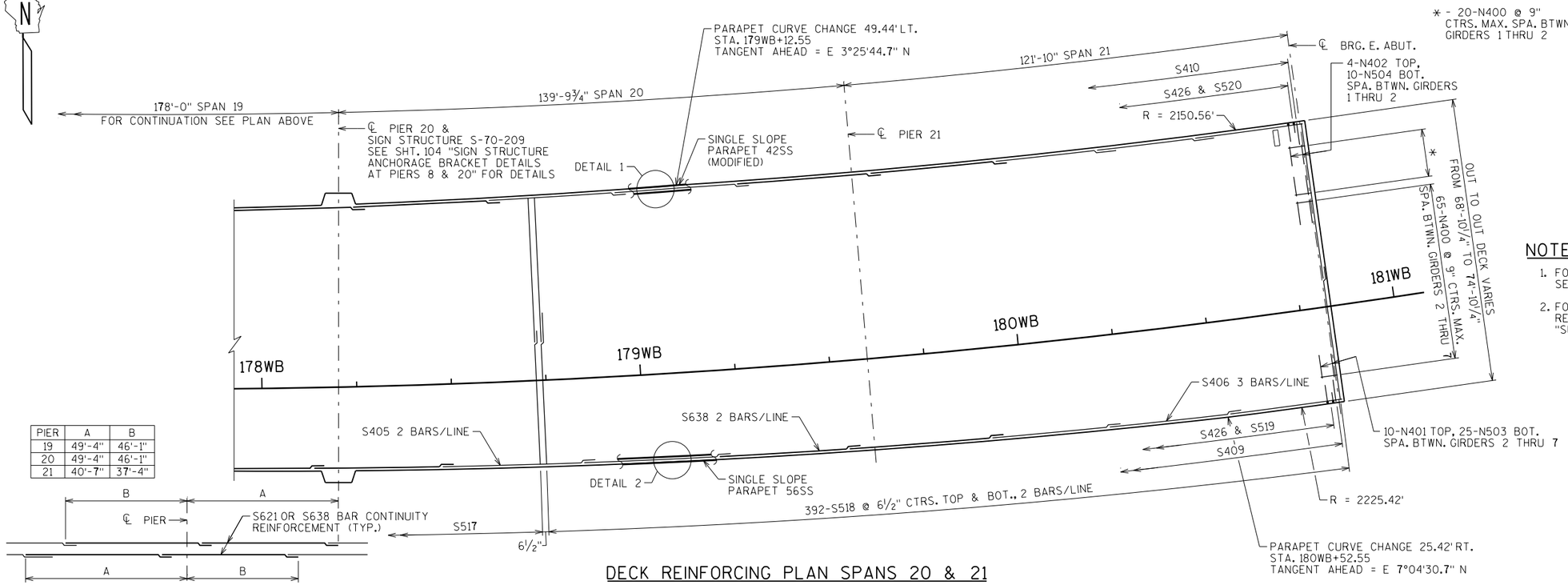
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| 1517-07-77 |




## DECK REINFORCING PLAN SPANS 18 & 19




## DECK REINFORCING PLAN SPANS 20 & 21

| PIER | A | B |
|---|---|---|
| 19 | 49'-4" | 46'-1" |
| 20 | 49'-4" | 46'-1" |
| 21 | 40'-7" | 37'-4" |




## CONTINUITY REINFORCEMENT PLAN DETAIL

### NOTES:

1. FOR NOTES, LAP LENGTHS, AND DETAILS 1 AND 2 SEE SHEET 75 "DECK REINFORCING PLAN SPANS 1-5".
2. FOR BILL OF BARS, BAR BEND DETAILS AND HAUNCH REINFORCEMENT DETAILS, SEE SHEET 83 "SUPERSTRUCTURE BILL OF BARS".

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY BAR | PLANS CK'D. KMP

DECK REINFORCING PLAN SPANS 18-21

SHEET 79 OF 109
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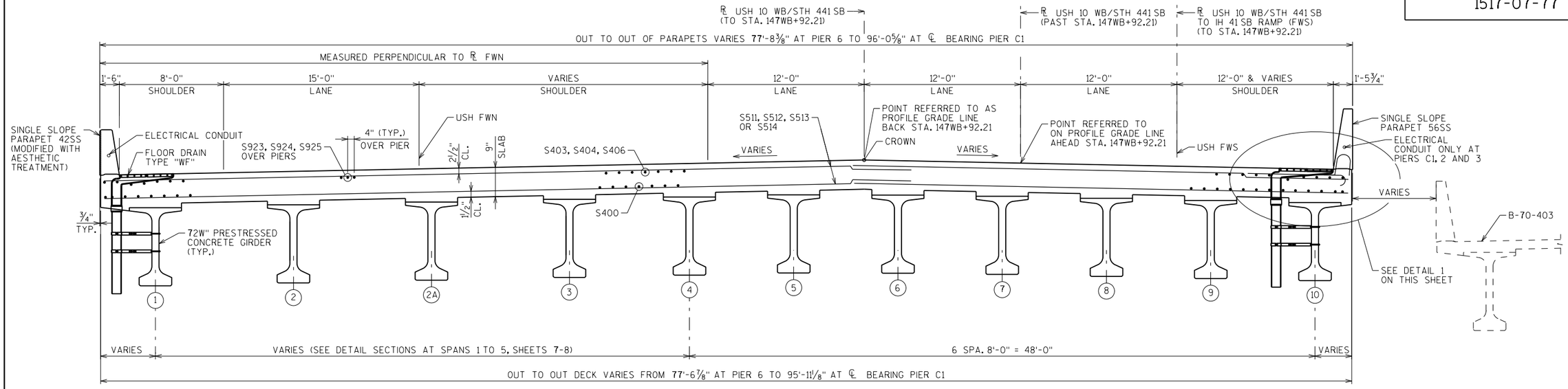
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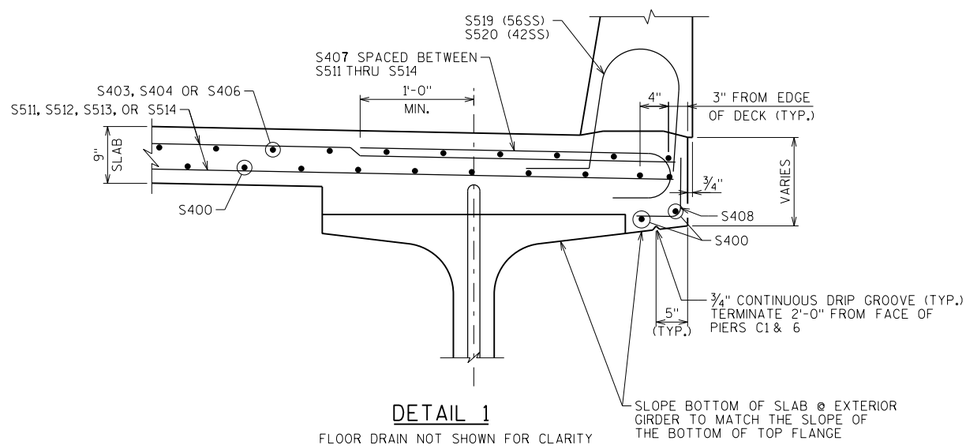
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## CROSS SECTION SPANS 1 - 5

(LOOKING EAST)




## DETAIL 1

FLOOR DRAIN NOT SHOWN FOR CLARITY

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| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY KMP | PLANS CK'D. NPP

DECK REINFORCING SECTIONS SPANS 1 - 5

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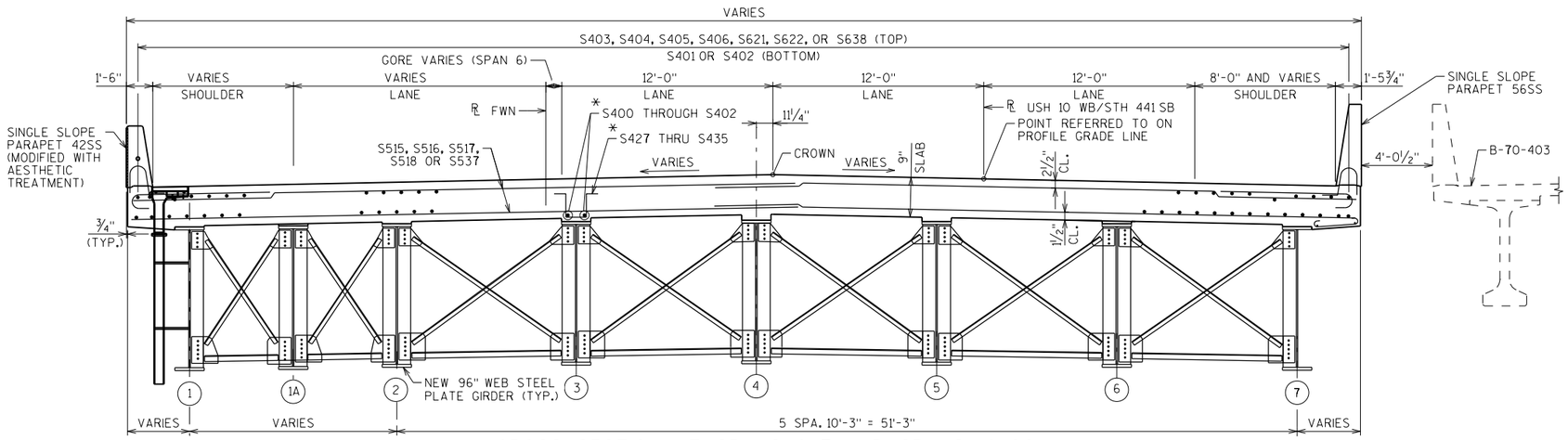
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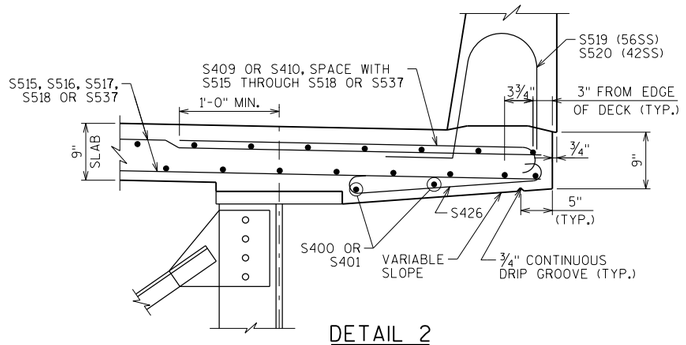
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| 1517-07-77 |

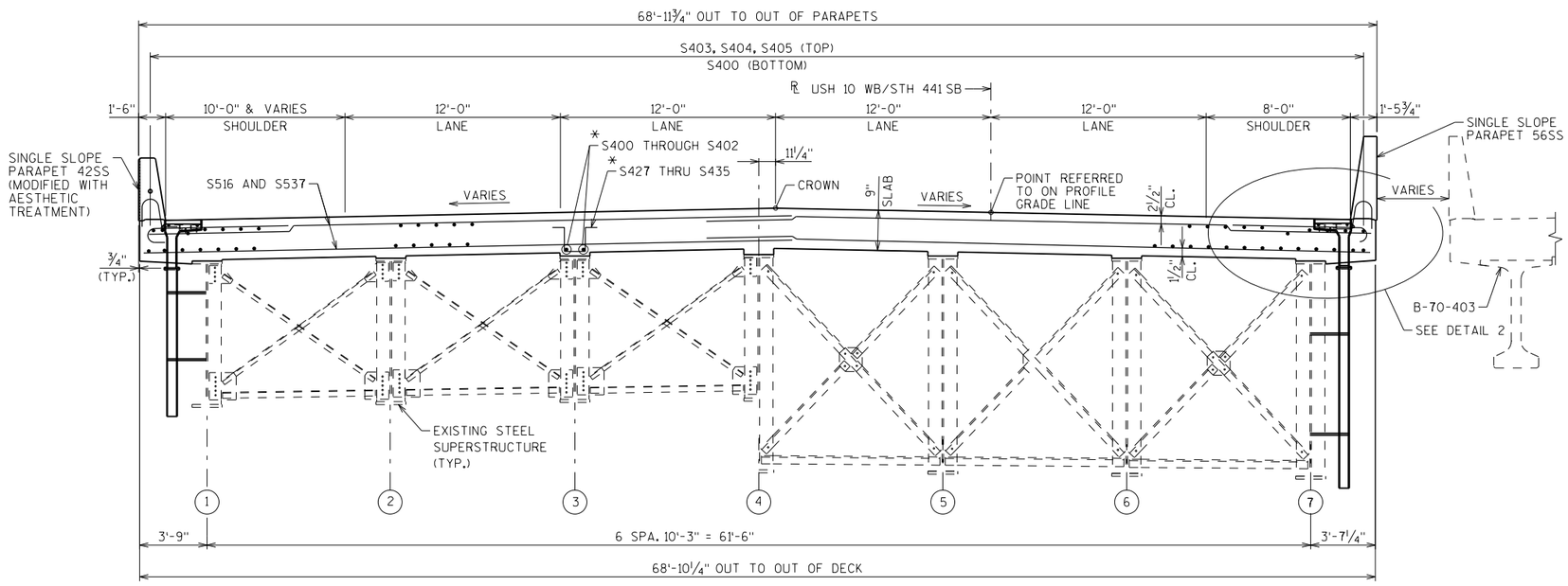



CROSS SECTION AT SPANS 6-7 AND SPANS 18-20




DETAIL 2

FLOOR DRAIN NOT SHOWN FOR CLARITY




CROSS SECTION AT SPANS 8-17

## LEGEND

F.S. INDICATES FIELD SPLICE

* NOT TYPICAL AT ALL GIRDERS. SEE SHEET 83 "SUPERSTRUCTURE BILL OF BARS" FOR LOCATIONS.

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STATE OF WISCONSIN
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STRUCTURE B-70-61

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DECK REINFORCING SECTIONS SPANS 6-21

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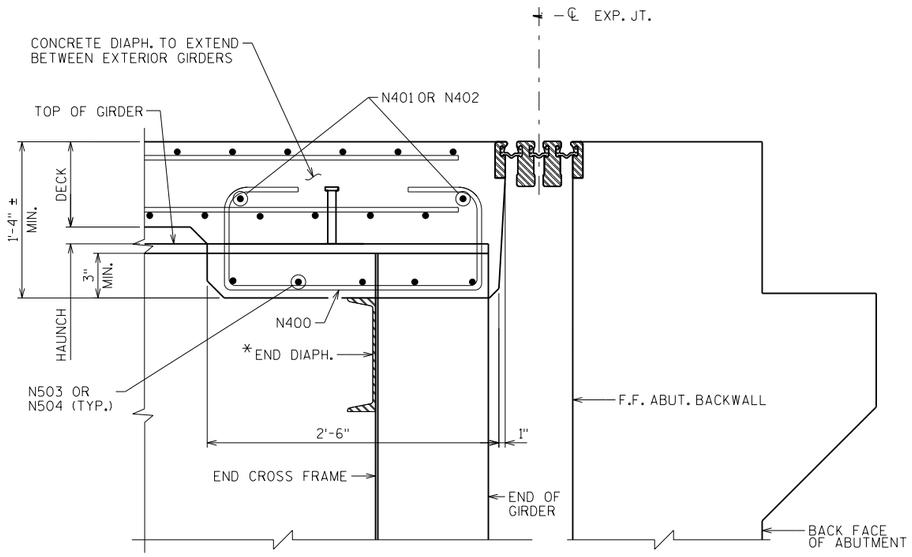
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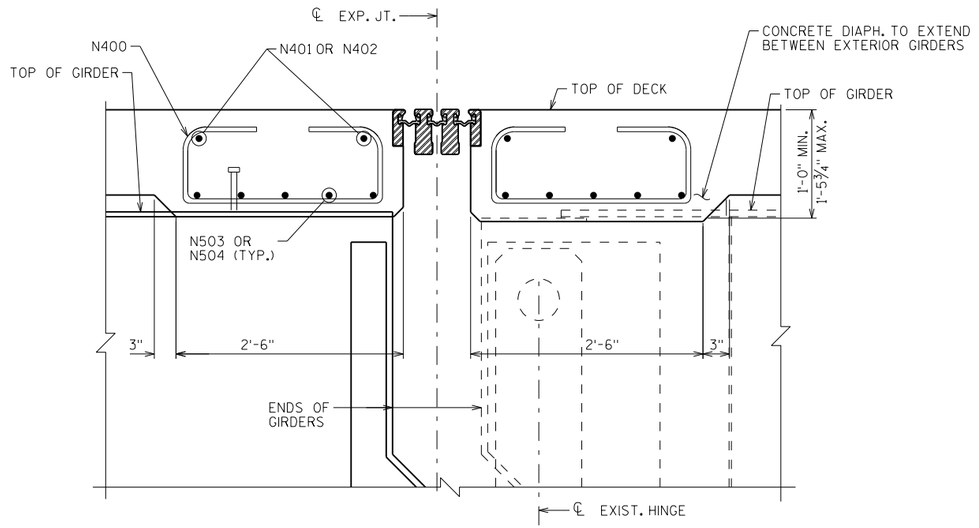
1517-07-77




## SECTION THRU JOINT AT EAST ABUTMENT

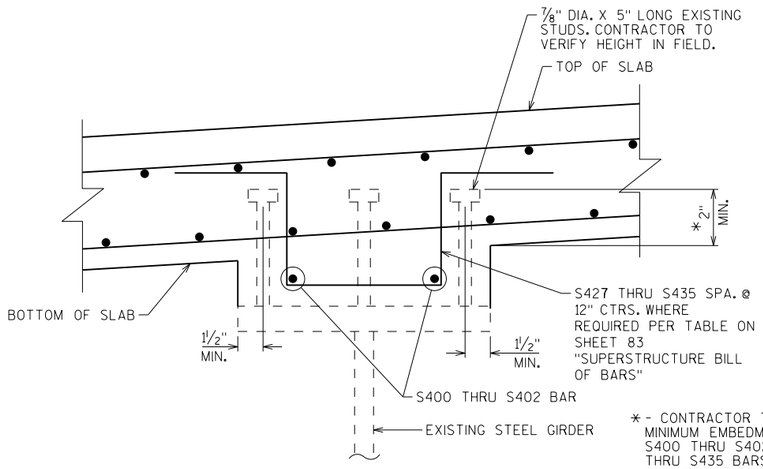
NORMAL TO ℄ SUBSTRUCTURE
SECTION SHOWN AT EAST ABUTMENT. SIMILAR DETAILS FOR CONCRETE DIAPHRAGM AND REINFORCEMENT AT PIER 6.

*SEE STEEL GIRDER CROSS FRAME DETAILS FOR LOCATION OF END DIAPHRAGM




## SECTION THRU JOINT AT HINGES 1-4

(HINGE #1 WEST SIDE NEW STEEL & EAST SIDE EXISTING STEEL. EXISTING STEEL AT ALL OTHER HINGES.)




*- CONTRACTOR TO CHECK MINIMUM EMBEDMENT DEPTH. S400 THRU S402 AND S427 THRU S435 BARS ARE REQUIRED IF THE EMBEDMENT DEPTH IS LESS THAN 2".

## SHEAR CONNECTION DETAIL

8

8

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY BAR | PLANS CK'D. KMP

DECK REINFORCING DETAILS

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DATE: 3/15/2016
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## BILL OF BARS - SUPERSTRUCTURE

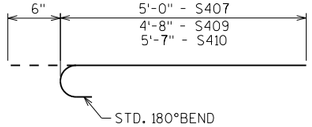
| BAR MARK | NO. REQ'D | LENGTH | BENT | SERIES | LOCATION |
|---|---|---|---|---|---|
| COATED | | | | | TOTAL = 2,230,120 LB |
| S400 | 4876 | 45'-0" | | | BOTTOM LONGITUDINAL AND HAUNCH |
| S401 | 3406 | 42'-8" | | | BOTTOM LONGITUDINAL AND HAUNCH |
| S402 | 2358 | 43'-9" | | | BOTTOM LONGITUDINAL AND HAUNCH |
| S403 | 2938 | 42'-4" | | | TOP LONGITUDINAL |
| S404 | 2396 | 38'-11" | | | TOP LONGITUDINAL |
| S405 | 575 | 34'-4" | | | TOP LONGITUDINAL |
| S406 | 1098 | 32'-7" | | | TOP LONGITUDINAL |
| S407 | 2074 | 5'-6" | X | | TOP TRANSVERSE OVERHANG |
| S408 | 2074 | 1'-11" | X | | BOTTOM TRANSVERSE OVERHANG |
| S409 | 9683 | 5'-2" | X | | TOP TRANSVERSE OVERHANG |
| S410 | 581 | 6'-1" | X | | TOP TRANSVERSE OVERHANG |
| S511 | 156 | 49'-3" | | | TOP AND BOTTOM TRANSVERSE |
| S512 | 208 | 46'-10" | | | TOP AND BOTTOM TRANSVERSE |
| S513 | 484 | 44'-5" | | | TOP AND BOTTOM TRANSVERSE |
| S514 | 3300 | 42'-3" | | | TOP AND BOTTOM TRANSVERSE |
| S515 | 1028 | 38'-3" | | | TOP AND BOTTOM TRANSVERSE |
| S516 | 8588 | 37'-7" | | | TOP AND BOTTOM TRANSVERSE |
| S517 | 756 | 37'-2" | | | TOP AND BOTTOM TRANSVERSE |
| S518 | 1568 | 38'-8" | | | TOP AND BOTTOM TRANSVERSE |
| S519 | 5211 | 4'-6" | X | | 56SS PARAPET |
| S520 | 5207 | 4'-5" | X | | 42SS PARAPET |
| S621 | 1620 | 49'-3" | | | TOP LONGITUDINAL OVER PIERS |
| S622 | 1110 | 37'-7" | | | TOP LONGITUDINAL OVER PIERS |
| S923 | 500 | 37'-0" | | | TOP LONGITUDINAL OVER PIERS |
| S924 | 988 | 38'-6" | | | TOP LONGITUDINAL OVER PIERS |
| S925 | 494 | 47'-0" | | | TOP LONGITUDINAL OVER PIERS |
| S426 | 10264 | 3'-3" | X | | BOTTOM TRANSVERSE OVERHANG |
| S427 | 1101 | 3'-1" | X | | HAT BARS |
| S428 | 2542 | 3'-3" | X | | HAT BARS |
| S429 | 2315 | 3'-5" | X | | HAT BARS |
| S430 | 909 | 3'-7" | X | | HAT BARS |
| S431 | 165 | 3'-3" | X | | HAT BARS |
| S432 | 1449 | 3'-5" | X | | HAT BARS |
| S433 | 2506 | 3'-7" | X | | HAT BARS |
| S434 | 1846 | 3'-9" | X | | HAT BARS |
| S435 | 604 | 3'-11" | X | | HAT BARS |
| S536 | 197 | 5'-0" | | | FLOOR DRAIN |
| S537 | 8588 | 33'-7" | | | TOP AND BOTTOM TRANSVERSE |
| S638 | 242 | 38'-10" | | | TOP LONGITUDINAL OVER PIERS |
| S539 | 5207 | 6'-8" | X | | 42SS PARAPET VERTICAL |
| S540 | 5211 | 9'-1" | X | | 56SS PARAPET VERTICAL |
| S541 | 1170 | 57'-0" | X | | PARAPET LONGITUDINAL |
| S542 | 10 | 1'-7" | | | 56SS PARAPET LONGITUDINAL |
| S543 | 14 | 5'-2" | | | 56SS PARAPET VERTICAL |
| S544 | 10 | 4'-6" | | | 56SS PARAPET LONGITUDINAL |
| N400 | 794 | 3'-11" | X | | MODULAR JOINTS |
| N401 | 116 | 9'-9" | | | MODULAR JOINTS |
| N402 | 8 | 7'-8" | | | MODULAR JOINTS |
| N503 | 290 | 9'-9" | | | MODULAR JOINTS |
| N504 | 20 | 7'-8" | | | MODULAR JOINTS |

## BILL OF BARS - PRESTRESSED GIRDER DIAPHRAGMS

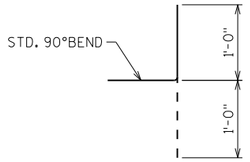
| BAR MARK | NO. REQ'D | LENGTH | BENT | SERIES | LOCATION |
|---|---|---|---|---|---|
| COATED | | | | | TOTAL = 9,930 LB |
| D501 | 189 | 15'-10" | X | | INTERMEDIATE DIA. STIRRUP BAR |
| D502 | 148 | 13'-4" | X | | INTERMEDIATE DIA. STIRRUP BAR |
| D403 | 500 | 4'-4" | | | INTERMEDIATE DIA. LONGIT. BAR |
| D404 | 210 | 5'-1" | | | INTERMEDIATE DIA. LONGIT. BAR |
| D405 | 8 | 3'-9" | | | INTERMEDIATE DIA. LONGIT. BAR |
| D406 | 2 | 1'-10" | | | INTERMEDIATE DIA. LONGIT. BAR |
| D407 | 145 | 6'-1" | X | | EXP. JT. DIA. STIRRUP BAR |
| D408 | 114 | 5'-0" | X | | EXP. JT. DIA. STIRRUP BAR |
| D609 | 150 | 5'-4" | | | EXP. JT. DIA. LONGIT. BAR |
| D610 | 40 | 6'-7" | | | EXP. JT. DIA. LONGIT. BAR |

## LONGITUDINAL HAUNCH BARS TABLE

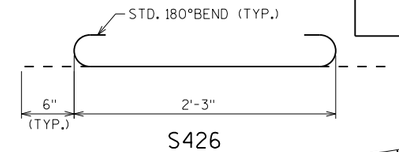
| SPANS | NO. OF BARS PER LINE | BAR MARK |
|---|---|---|
| 8-10 | 13 | S401 |
| 11-14 | 18 | S402 |
| 15-17 | 13 | S401 |
| 18-21 | 2 | S400 |




S407, S409 & S410

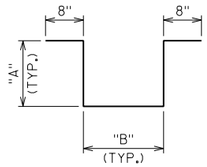



S408

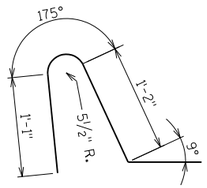



S426

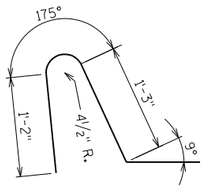
| MARK | "A" | "B" |
|---|---|---|
| S427 | 7" | 11" |
| S428 | 8" | 11" |
| S429 | 9" | 11" |
| S430 | 10" | 11" |
| S431 | 6" | 1'-5" |
| S432 | 7" | 1'-5" |
| S433 | 8" | 1'-5" |
| S434 | 9" | 1'-5" |
| S435 | 10" | 1'-5" |



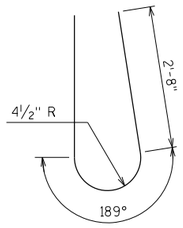

S427 THRU S435



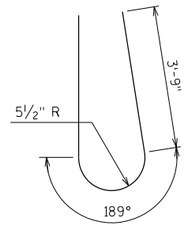

S519




S520




S539




S540

## S427 THRU S435 BAR LOCATIONS

| *LOCATION | NO. OF BARS PER GIRDER | BAR MARK G1 | G2 | G3 | G4 | G5 | G6 | G7 |
|---|---|---|---|---|---|---|---|---|
| PIER 8 | 51 | S432 | S432 | S433 | S434 | S433 | S433 | S432 |
| SPAN 8 | 106 | S427 | S427 | S428 | S429 | S428 | S428 | S427 |
| PIER 9 | 98 | S432 | S432 | S433 | S434 | S433 | S433 | S432 |
| SPAN 9 | 83 | S428 | S428 | S429 | S430 | S429 | S429 | S428 |
| PIER 10 | 97 | S433 | S433 | S434 | S435 | S434 | S434 | S433 |
| SPAN 10 | 106 | S428 | S429 | S430 | S430 | S430 | S429 | S429 |
| PIER 11 | 51 | S433 | S433 | S434 | S435 | S434 | S434 | S433 |
| SPAN 11 | 89 | S427 | S427 | S428 | S429 | S428 | S428 | S427 |
| PIER 12 | 114 | S431 | S432 | S433 | S434 | S433 | S432 | S432 |
| SPAN 12 | 130 | S428 | S428 | S429 | S430 | S429 | S429 | S428 |
| PIER 13 | 114 | S432 | S433 | S433 | S435 | S434 | S433 | S433 |
| SPAN 13 | 66 | S427 | S427 | S428 | S429 | S428 | S428 | S427 |
| PIER 14 | 97 | S432 | S432 | S433 | S434 | S433 | S433 | S432 |
| SPAN 14 | 106 | S428 | S428 | S429 | S430 | S429 | S429 | S428 |
| PIER 15 | 51 | S432 | S432 | S433 | S434 | S433 | S433 | S432 |
| SPAN 15 | 106 | S427 | S427 | S428 | S429 | S428 | S428 | S427 |
| PIER 16 | 97 | S433 | S433 | S434 | S435 | S434 | S434 | S433 |
| SPAN 16 | 83 | S428 | S429 | S429 | S430 | S430 | S429 | S428 |
| PIER 17 | 97 | S433 | S434 | S434 | S435 | S435 | S434 | S434 |
| SPAN 17 | 106 | S428 | S428 | S429 | S430 | S429 | S429 | S429 |
| PIER 18 | 51 | S431 | S432 | S432 | S434 | S433 | S434 | S435 |
| SPAN 18 | 48 | - | - | - | - | S433 | S434 | S434 |

*"PIER" INDICATES REGIONS OF THE GIRDER WITH A FLANGE WIDTH GREATER THAN 14 INCHES.
"SPAN" INDICATES REGIONS OF THE GIRDER WITH A FLANGE WIDTH OF 14 INCHES.




SECTION THRU 56SS PARAPET ON BRIDGE

| LOCATION | NO. S541 BARS PER LINE |
|---|---|
| PIER C1 TO PIER 6 | 13 |
| PIER 6 TO HINGE 1 | 6 |
| HINGE 1 TO HINGE 2 | 10 |
| HINGE 2 TO HINGE 3 | 14 |
| HINGE 3 TO HINGE 4 | 10 |
| HINGE 4 TO E. ABUT. | 12 |




SECTION THRU 42SS (MODIFIED) PARAPET ON BRIDGE




D407




D408




D502




D501




N400

## NOTES

SEE SHEET 101 "MEDIAN CRASH BARRIER DETAILS" FOR MEDIAN CRASH BARRIER REINF. IN DECK AND BILL OF BARS FOR MEDIAN CRASH BARRIER



OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 2'-11". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾" - 'V' GROOVE.

◐ CONSTRUCTION JOINT - STRIKE OFF AS SHOWN

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY BAR | PLANS CK'D. KMP

SUPERSTRUCTURE BILL OF BARS

SHEET 83 OF 109
390

DATE: 4/8/2016
I.D.

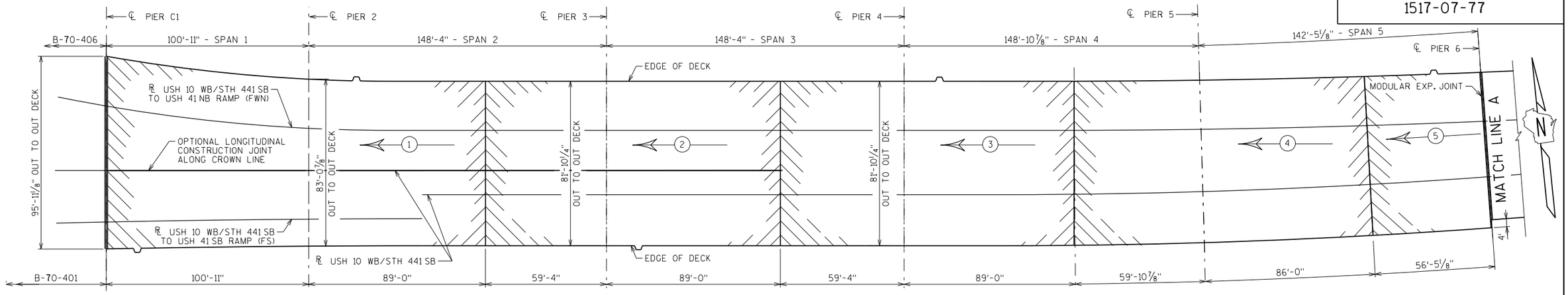
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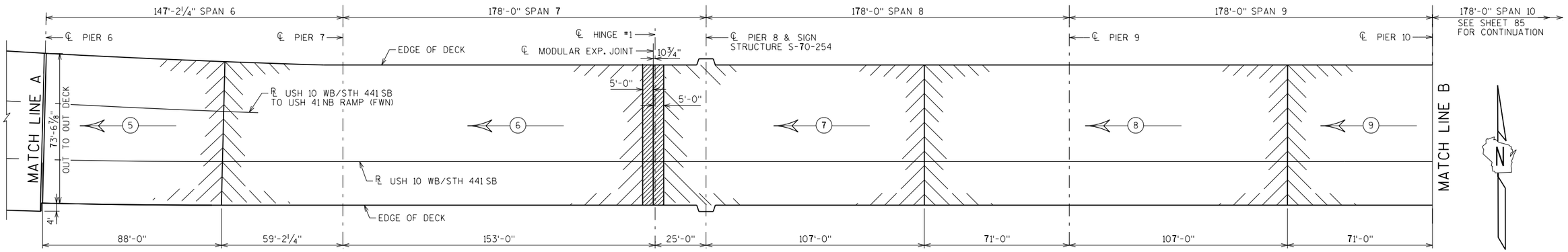
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STATE PROJECT NUMBER

1517-07-77

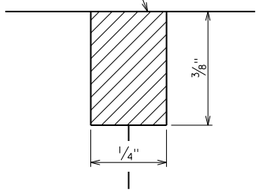



## DECK POUR SEQUENCE - SPANS 1-5




## DECK POUR SEQUENCE - SPANS 6-9

ROUTE OUT ¼" X ⅜" DEEP AT JOINT. FILL IN WITH LOW VISCOCITY CRACK SEALER PER THE APPROVED PRODUCTS LIST. INCIDENTAL TO ("MODIFIED HIGH PERFORMANCE CONCRETE (HPC) MASONRY BRIDGES")




## LONGITUDINAL CONSTRUCTION JOINT DETAIL

## NOTES

SEE SHEET 5 "GENERAL NOTES" FOR GENERAL NOTES.

SEE SHEETS 92-94 "MODULAR EXP. JOINT DETAILS PIERS C1-6" "MODULAR EXP. JOINT AT HINGES 1-4 & E. ABUT." & "MODULAR EXPANSION JOINT DATA" FOR MODULAR EXPANSION JOINT DETAILS, REINFORCING AT EXPANSION JOINTS FOR BLOCKOUTS AND OTHER DETAILS REQUIRED AT EXPANSION JOINT LOCATIONS.

DIMENSIONS ON THIS DRAWING ARE MEASURED ALONG ℄ USH 10 WB/STH 441 SB.

THE RATE OF PLACING CONCRETE SHALL EQUAL OR EXCEED ½ SPAN LENGTH PER HOUR BUT NEED NOT EXCEED 100 CU. YDS. PER HOUR.

PREVENT UPLIFT AT ALL BEARING LOCATIONS. NOTE THAT ANY POUR SEQUENCE THAT REQUIRES POURING THE FIRST INTERIOR SPAN BEFORE THE ADJACENT END SPAN WILL RESULT IN UPLIFT FORCES AT THE EXPANSION END BEARINGS. THE CONTRACTOR SHALL ACCOUNT FOR THIS CONDITION.

FOR SIGN SUPPORT PEDESTAL REINFORCEMENT DETAILS SEE SHEETS 103 "SIGN STRUCTURE ANCHORAGE REINF. AT PIERS 8 & 20" AND 105 "SIGN STRUCTURE ANCHORAGE BILL OF BARS".

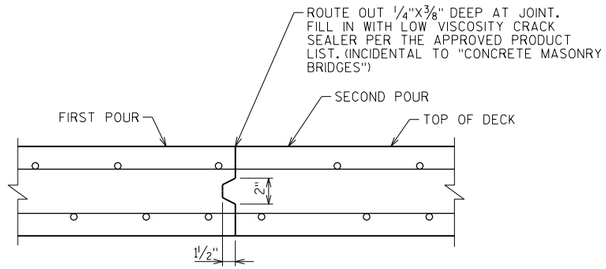
CONTROL THE PLACEMENT TO ENSURE THAT THE FURTHEST PROGRESS OF FRESH CONCRETE VARIES BY NO MORE THAN 10 FEET ACROSS THE WIDTH OF THE DECK.

PREVIOUSLY PLACED DECK CONCRETE MUST HAVE ATTAINED A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI BEFORE THE AREAS IMMEDIATELY ADJACENT MAY BE PLACED.

SECURE ALL GIRDERS IN THEIR PROPER PLACE & ELEVATION PRIOR TO ANY CONCRETE PLACEMENT.

STOP POUR ADJACENT TO HINGES FOR FIVE FEET EACH SIDE OF ℄ EXPANSION JOINTS. POUR THE FIVE FEET AFTER MODULAR JOINT HAVE BEEN PLACED AND SECURED.

THE CONTRACTOR MAY SUBMIT AN ALTERNATE POURING SEQUENCE SUBJECT TO THE APPROVAL OF THE STRUCTURES DESIGN SECTION. SEE STD. 24-11.




## SECTION THRU TRANSVERSE JOINTS BETWEEN POURS

## LEGEND

(1) IDENTIFIES POUR AREA. NUMBER INDICATES THE POUR SEQUENCE IN DIRECTION SHOWN.

INDICATES FIVE FEET OF POUR EITHER SIDE OF ℄ OF MODULAR EXP. JOINT AT THE HINGES TO BE POURED AFTER MODULAR EXP. JOINT HAVE BEEN PLACED AND SECURED.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY KMP | PLANS CK'D. BAR

DECK POUR SEQUENCE SPANS 1-9

SHEET 84 OF 109

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DATE: 4/8/2016
I.D.

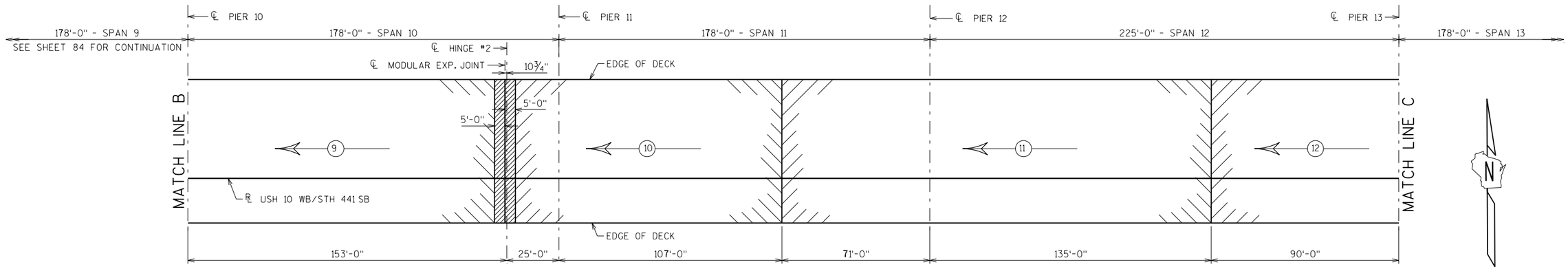
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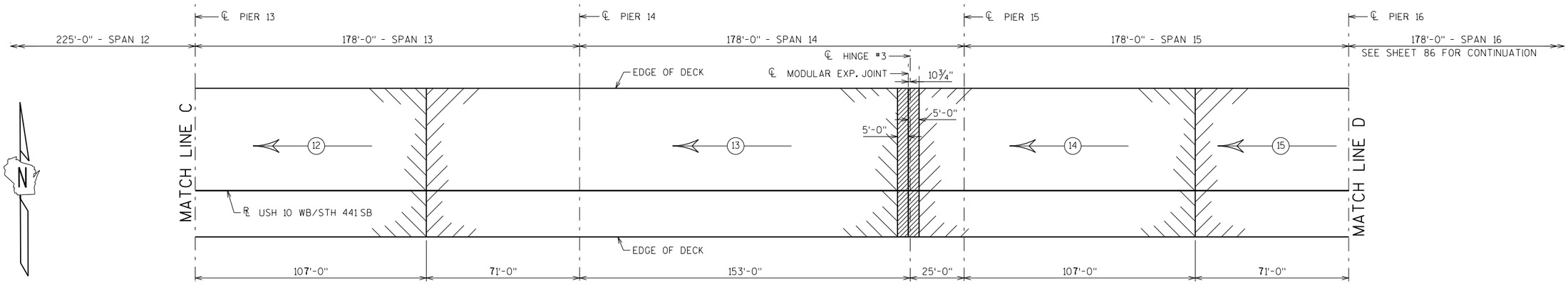
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STATE PROJECT NUMBER

1517-07-77




DECK POUR SEQUENCE - SPANS 10-12




DECK POUR SEQUENCE - SPANS 13-15

## NOTES:

FOR TRANSVERSE JOINT DETAIL SEE SHEET 84 "DECK POUR SEQUENCE - SPANS 1-9".

FOR NOTES SEE SHEET 5 "GENERAL NOTES".

## LEGEND

(1) IDENTIFIES POUR AREA. NUMBER INDICATES THE POUR SEQUENCE IN DIRECTION SHOWN.

INDICATES FIVE FEET OF POUR EITHER SIDE OF ℄ OF MODULAR EXP. JOINT AT THE HINGES TO BE POURED AFTER MODULAR EXP. JOINT HAVE BEEN PLACED AND SECURED.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY KMP | PLANS CK'D. BAR

DECK POUR SEQUENCE SPANS 10-15

SHEET 85 OF 109
392

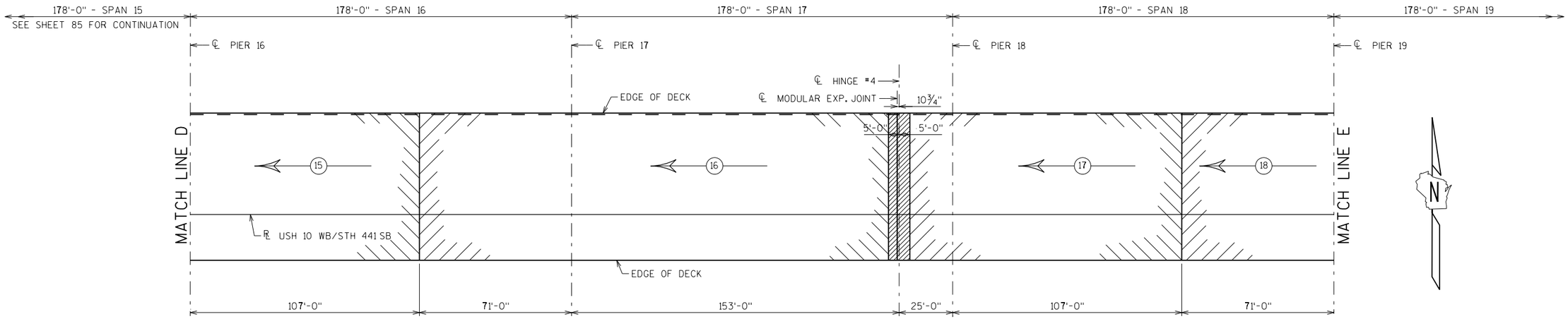
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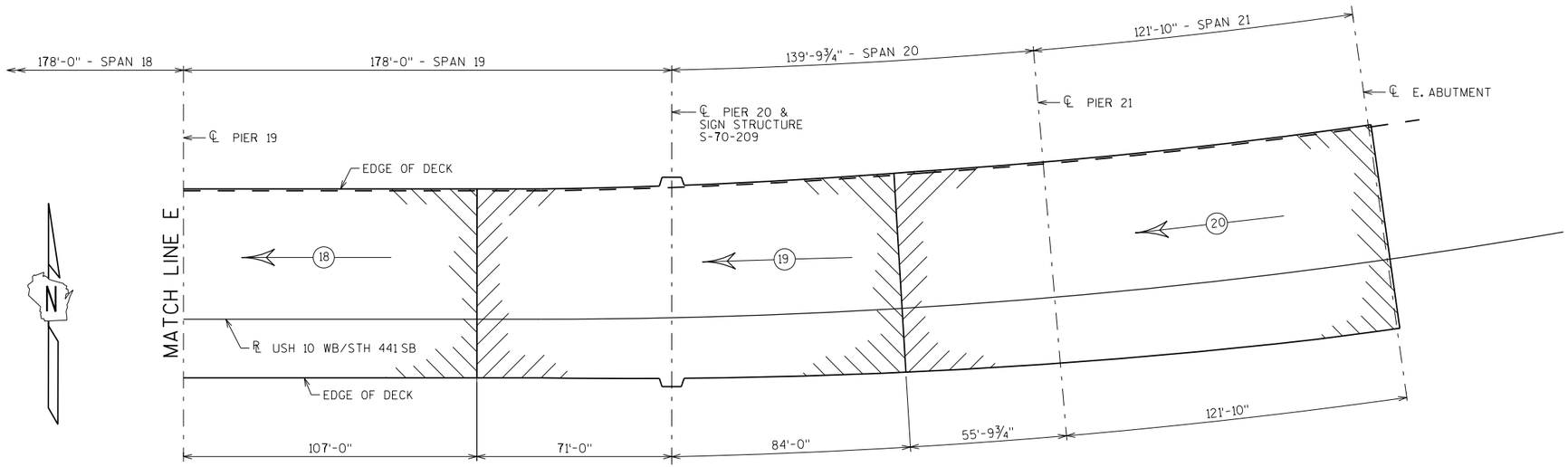
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DATE: 3/15/2016
I.D.

| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |




DECK POUR SEQUENCE SPANS 16-18




DECK POUR SEQUENCE SPANS 19-21

## NOTES:

FOR TRANSVERSE JOINT DETAIL SEE SHEET 84 "DECK POUR SEQUENCE - SPANS 1-9".

FOR NOTES SEE SHEET 5 "GENERAL NOTES"

## LEGEND

(1) IDENTIFIES POUR AREA. NUMBER INDICATES THE POUR SEQUENCE IN DIRECTION SHOWN.

INDICATES FIVE FEET OF POUR EITHER SIDE OF ℄ OF MODULAR EXP. JOINT AT THE HINGES TO BE POURED AFTER MODULAR EXP. JOINT HAVE BEEN PLACED AND SECURED.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY KMP | PLANS CK'D. BAR

DECK POUR SEQUENCE SPANS 16-21

SHEET 86 OF 109
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FILE= P:\WisDOT_12345678_10-441\Plans\B-70-61\Control Copy\Final Plans, 2015\087 B-70-61 - Deck Pour Sequence - Spans 16-21.dgn

DATE: 3/15/2016
I.D.

| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |

## SPAN 1

| LOCATION | ℄ PIER C1 | 0.1 PT | 0.2 PT | 0.3 PT | 0.4 PT | 0.5 PT | 0.6 PT | 0.7 PT | 0.8 PT | 0.9 PT | ℄ PIER 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| STA. ALONG RL WB | 146+34.79 | 146+44.88 | 146+54.97 | 146+65.07 | 146+75.16 | 146+85.25 | 146+95.34 | 147+05.43 | 147+15.53 | 147+25.62 | 147+35.71 |
| PROFILE WB | 804.68 | 804.50 | 804.32 | 804.14 | 803.96 | 803.78 | 803.59 | 803.41 | 803.23 | 803.05 | 802.87 |
| STA. ALONG RL (FWN) | 146+25.17 | 146+35.39 | 146+45.60 | 146+55.80 | 146+65.97 | 146+76.13 | 146+86.28 | 146+96.41 | 147+06.53 | 147+16.65 | 147+26.75 |
| PROFILE (FWN) | 803.32 | 803.27 | 803.21 | 803.13 | 803.05 | 802.96 | 802.86 | 802.75 | 802.63 | 802.50 | 802.37 |
| STA. ALONG RL (FWS) | 146+34.78 | 146+44.87 | 146+54.97 | 146+65.06 | 146+75.15 | 146+85.25 | 146+95.34 | 147+05.43 | 147+15.52 | 147+25.62 | 147+35.71 |
| PROFILE (FWS) | 804.09 | 803.92 | 803.74 | 803.56 | 803.39 | 803.21 | 803.03 | 802.85 | 802.67 | 802.49 | 802.31 |
| LT. EDGE OF SLAB | 801.97 | 801.91 | 801.85 | 801.78 | 801.70 | 801.61 | 801.51 | 801.40 | 801.28 | 801.15 | 801.07 |
| GIRDER 1 | 802.12 | 802.03 | 801.95 | 801.86 | 801.76 | 801.67 | 801.57 | 801.47 | 801.37 | 801.27 | 801.22 |
| GIRDER 2 | 802.73 | 802.64 | 802.55 | 802.45 | 802.35 | 802.25 | 802.15 | 802.05 | 801.94 | 801.83 | 801.75 |
| GIRDER 2A | 803.35 | 803.22 | 803.09 | 802.96 | 802.83 | 802.70 | 802.56 | 802.42 | 802.28 | 802.14 | 802.02 |
| GIRDER 3 | 804.08 | 803.89 | 803.70 | 803.52 | 803.26 | 803.10 | 802.94 | 802.78 | 802.63 | 802.45 | 802.28 |
| GIRDER 4 | 804.45 | 804.26 | 804.08 | 803.89 | 803.70 | 803.51 | 803.33 | 803.14 | 802.96 | 802.78 | 802.59 |
| GIRDER 5 | 804.61 | 804.42 | 804.24 | 804.06 | 803.87 | 803.69 | 803.50 | 803.32 | 803.13 | 802.95 | 802.76 |
| GIRDER 6 | 804.60 | 804.42 | 804.24 | 804.06 | 803.88 | 803.70 | 803.53 | 803.35 | 803.17 | 802.99 | 802.81 |
| GIRDER 7 | 804.44 | 804.26 | 804.08 | 803.90 | 803.72 | 803.54 | 803.37 | 803.19 | 803.01 | 802.83 | 802.65 |
| GIRDER 8 | 804.23 | 804.05 | 803.88 | 803.70 | 803.52 | 803.34 | 803.16 | 802.99 | 802.81 | 802.63 | 802.45 |
| GIRDER 9 | 804.03 | 803.85 | 803.67 | 803.49 | 803.31 | 803.14 | 802.96 | 802.78 | 802.60 | 802.42 | 802.24 |
| GIRDER 10 | 803.82 | 803.64 | 803.47 | 803.29 | 803.11 | 802.93 | 802.75 | 802.57 | 802.39 | 802.22 | 802.04 |
| RT. EDGE OF SLAB | 803.79 | 803.61 | 803.43 | 803.25 | 803.08 | 802.90 | 802.72 | 802.54 | 802.36 | 802.18 | 802.00 |

## SPAN 2

| LOCATION | ℄ PIER 2 | 0.1 PT | 0.2 PT | 0.3 PT | 0.4 PT | 0.5 PT | 0.6 PT | 0.7 PT | 0.8 PT | 0.9 PT | ℄ PIER 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| STA. ALONG RL WB | 147+35.71 | 147+50.54 | 147+65.38 | 147+80.21 | 147+95.04 | 148+09.87 | 148+24.71 | 148+39.54 | 148+54.37 | 148+69.21 | 148+84.04 |
| PROFILE WB | 802.87 | 802.60 | 802.33 | 802.07 | 801.56 | 801.29 | 801.03 | 800.76 | 800.50 | 800.25 | 800.01 |
| STA. ALONG RL (FWN) | 147+26.75 | 147+41.60 | 147+56.44 | 147+71.19 | 147+86.10 | 148+00.94 | 148+15.77 | 148+30.60 | 148+45.44 | 148+60.27 | 148+75.10 |
| PROFILE (FWN) | 802.37 | 802.14 | 801.91 | 801.65 | 801.39 | -- | -- | -- | -- | -- | -- |
| STA. ALONG RL (FWS) | 147+35.71 | 147+50.54 | 147+65.38 | 147+80.13 | -- | -- | -- | -- | -- | -- | -- |
| PROFILE (FWS) | 802.31 | 802.05 | 801.81 | 801.59 | -- | -- | -- | -- | -- | -- | -- |
| LT. EDGE OF SLAB | 801.07 | 800.99 | 800.89 | 800.78 | 800.66 | 800.54 | 800.41 | 800.14 | 799.85 | 799.56 | 799.27 |
| GIRDER 1 | 801.22 | 801.10 | 800.97 | 800.84 | 800.71 | 800.58 | 800.44 | 800.18 | 799.88 | 799.59 | 799.31 |
| GIRDER 2 | 801.75 | 801.57 | 801.39 | 801.20 | 801.01 | 800.82 | 800.63 | 800.36 | 800.07 | 799.78 | 799.49 |
| GIRDER 3 | 802.02 | 802.04 | 801.80 | 801.56 | 801.31 | 801.06 | 800.81 | 800.55 | 800.25 | 799.96 | 799.68 |
| GIRDER 4 | 802.28 | 802.33 | 802.07 | 801.80 | 801.53 | 801.27 | 801.00 | 800.73 | 800.44 | 800.15 | 799.86 |
| GIRDER 5 | 802.59 | 802.50 | 802.23 | 801.96 | 801.69 | 801.43 | 801.16 | 800.89 | 800.60 | 800.31 | 800.02 |
| GIRDER 6 | 802.76 | 802.54 | 802.28 | 802.01 | 801.74 | 801.48 | 801.21 | 800.95 | 800.66 | 800.38 | 800.10 |
| GIRDER 7 | 802.81 | 802.38 | 802.12 | 801.85 | 801.58 | 801.32 | 801.05 | 800.79 | 800.52 | 800.27 | 800.02 |
| GIRDER 8 | 802.65 | 802.18 | 801.94 | 801.69 | 801.42 | 801.16 | 800.89 | 800.63 | 800.39 | 800.16 | 799.94 |
| GIRDER 9 | 802.24 | 801.98 | 801.75 | 801.53 | 801.26 | 801.00 | 800.73 | 800.47 | 800.25 | 800.05 | 799.85 |
| GIRDER 10 | 802.04 | 801.77 | 801.56 | 801.37 | 801.10 | 800.84 | 800.57 | 800.31 | 800.12 | 799.94 | 799.77 |
| RT. EDGE OF SLAB | 802.00 | 801.74 | 801.53 | 801.35 | 801.08 | 800.81 | 800.55 | 800.28 | 800.09 | 799.92 | 799.76 |

## SPAN 3

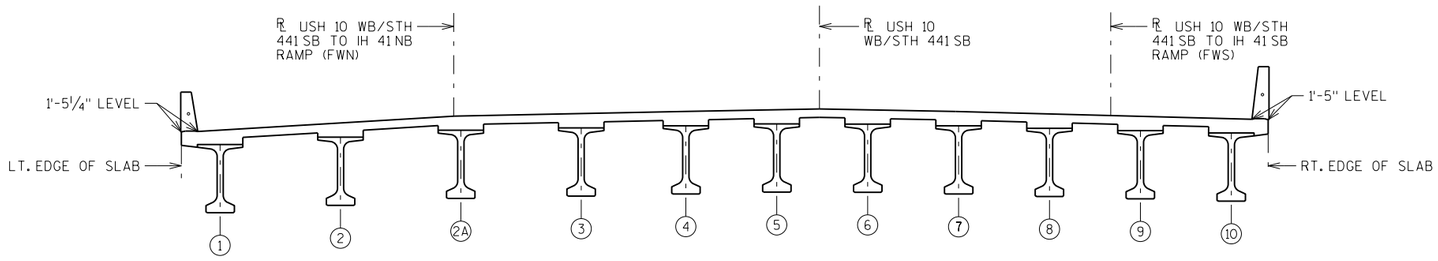
| LOCATION | ℄ PIER 3 | 0.1 PT | 0.2 PT | 0.3 PT | 0.4 PT | 0.5 PT | 0.6 PT | 0.7 PT | 0.8 PT | 0.9 PT | ℄ PIER 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| STA. ALONG RL WB | 148+84.04 | 148+98.87 | 149+13.71 | 149+28.54 | 149+43.38 | 149+58.21 | 149+73.04 | 149+87.88 | 150+02.71 | 150+17.55 | 150+32.38 |
| PROFILE WB | 800.01 | 799.77 | 799.54 | 799.31 | 799.10 | 798.89 | 798.69 | 798.49 | 798.30 | 798.12 | 797.95 |
| LT. EDGE OF SLAB | 799.27 | 798.99 | 798.73 | 798.46 | 798.21 | 797.96 | 797.72 | 797.48 | 797.26 | 797.04 | 796.79 |
| GIRDER 1 | 799.31 | 799.03 | 798.76 | 798.50 | 798.24 | 797.99 | 797.75 | 797.52 | 797.29 | 797.07 | 796.83 |
| GIRDER 2 | 799.49 | 799.22 | 798.95 | 798.68 | 798.43 | 798.18 | 797.94 | 797.70 | 797.48 | 797.26 | 797.01 |
| GIRDER 3 | 799.68 | 799.40 | 799.13 | 798.87 | 798.61 | 798.36 | 798.12 | 797.89 | 797.66 | 797.44 | 797.20 |
| GIRDER 4 | 799.86 | 799.59 | 799.32 | 799.05 | 798.80 | 798.55 | 798.31 | 798.07 | 797.85 | 797.63 | 797.38 |
| GIRDER 5 | 800.02 | 799.75 | 799.48 | 799.21 | 798.96 | 798.71 | 798.47 | 798.23 | 798.01 | 797.79 | 797.56 |
| GIRDER 6 | 800.10 | 799.83 | 799.57 | 799.32 | 799.07 | 798.83 | 798.60 | 798.37 | 798.15 | 797.94 | 797.74 |
| GIRDER 7 | 800.02 | 799.78 | 799.54 | 799.31 | 799.09 | 798.88 | 798.67 | 798.47 | 798.28 | 798.10 | 797.92 |
| GIRDER 8 | 799.94 | 799.72 | 799.51 | 799.31 | 799.12 | 798.93 | 798.75 | 798.58 | 798.41 | 798.25 | 798.10 |
| GIRDER 9 | 799.85 | 799.66 | 799.48 | 799.31 | 799.14 | 798.98 | 798.82 | 798.68 | 798.54 | 798.41 | 798.28 |
| GIRDER 10 | 799.77 | 799.61 | 799.45 | 799.30 | 799.16 | 799.03 | 798.90 | 798.78 | 798.67 | 798.56 | 798.46 |
| RT. EDGE OF SLAB | 799.76 | 799.60 | 799.45 | 799.30 | 799.16 | 799.03 | 798.91 | 798.69 | 798.69 | 798.59 | 798.49 |

## SPAN 4

| LOCATION | ℄ PIER 4 | 0.1 PT | 0.2 PT | 0.3 PT | 0.4 PT | 0.5 PT | 0.6 PT | 0.7 PT | 0.8 PT | 0.9 PT | ℄ PIER 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| STA. ALONG RL WB | 150+32.38 | 150+47.27 | 150+62.16 | 150+77.05 | 150+91.94 | 151+06.84 | 151+21.73 | 151+36.62 | 151+51.51 | 151+66.40 | 151+81.29 |
| PROFILE WB | 797.95 | 797.78 | 797.62 | 797.47 | 797.33 | 797.19 | 797.06 | 796.93 | 796.81 | 796.70 | 796.60 |
| LT. EDGE OF SLAB | 796.79 | 796.55 | 796.31 | 796.08 | 795.85 | 795.64 | 795.33 | 795.00 | 794.81 | 794.68 | 794.58 |
| GIRDER 1 | 796.83 | 796.58 | 796.34 | 796.11 | 795.88 | 795.67 | 795.36 | 795.05 | 794.85 | 794.72 | 794.63 |
| GIRDER 2 | 797.01 | 796.76 | 796.52 | 796.29 | 796.07 | 795.85 | 795.59 | 795.32 | 795.13 | 795.00 | 794.91 |
| GIRDER 3 | 797.20 | 796.95 | 796.71 | 796.48 | 796.25 | 796.03 | 795.81 | 795.60 | 795.40 | 795.28 | 795.18 |
| GIRDER 4 | 797.38 | 797.13 | 796.89 | 796.65 | 796.43 | 796.21 | 796.00 | 795.79 | 795.60 | 795.47 | 795.37 |
| GIRDER 5 | 797.56 | 797.33 | 797.11 | 796.89 | 796.68 | 796.47 | 796.29 | 796.11 | 795.94 | 795.82 | 795.73 |
| GIRDER 6 | 797.74 | 797.54 | 797.34 | 797.15 | 796.97 | 796.79 | 796.63 | 796.47 | 796.33 | 796.22 | 796.13 |
| GIRDER 7 | 797.92 | 797.74 | 797.57 | 797.41 | 797.25 | 797.11 | 796.97 | 796.84 | 796.72 | 796.62 | 796.53 |
| GIRDER 8 | 798.10 | 797.95 | 797.81 | 797.67 | 797.54 | 797.42 | 797.31 | 797.20 | 797.11 | 797.02 | 796.93 |
| GIRDER 9 | 798.28 | 798.16 | 798.04 | 797.93 | 797.83 | 797.73 | 797.64 | 797.57 | 797.50 | 797.42 | 797.33 |
| GIRDER 10 | 798.46 | 798.36 | 798.27 | 798.19 | 798.11 | 798.04 | 797.98 | 797.93 | 797.90 | 797.82 | 797.73 |
| RT. EDGE OF SLAB | 798.49 | 798.40 | 798.32 | 798.25 | 798.18 | 798.12 | 798.07 | 798.03 | 797.99 | 797.90 | 797.80 |

## SPAN 5

| LOCATION | ℄ PIER 5 | 0.1 PT | 0.2 PT | 0.3 PT | 0.4 PT | 0.5 PT | 0.6 PT | 0.7 PT | 0.8 PT | 0.9 PT | ℄ PIER 6 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| STA. ALONG RL WB | 151+81.29 | 151+95.53 | 152+09.77 | 152+24.02 | 152+38.26 | 152+52.50 | 152+66.74 | 152+80.98 | 152+95.23 | 153+09.47 | 153+23.71 |
| PROFILE WB | 796.60 | 796.51 | 796.42 | 796.35 | 796.27 | 796.21 | 796.15 | 796.10 | 796.05 | 796.01 | 795.98 |
| LT. EDGE OF SLAB | 794.58 | 794.49 | 794.41 | 794.34 | 794.27 | 794.21 | 794.16 | 794.12 | 794.08 | 794.05 | 794.02 |
| GIRDER 1 | 794.63 | 794.54 | 794.45 | 794.37 | 794.30 | 794.24 | 794.19 | 794.14 | 794.11 | 794.08 | 794.06 |
| GIRDER 2 | 794.91 | 794.81 | 794.72 | 794.64 | 794.57 | 794.50 | 794.44 | 794.39 | 794.35 | 794.32 | 794.30 |
| GIRDER 3 | 795.18 | 795.08 | 794.99 | 794.90 | 794.83 | 794.76 | 794.70 | 794.65 | 794.60 | 794.56 | 794.54 |
| GIRDER 4 | 795.37 | 795.28 | 795.19 | 795.10 | 795.03 | 794.97 | 794.91 | 794.86 | 794.81 | 794.78 | 794.75 |
| GIRDER 5 | 795.73 | 795.62 | 795.53 | 795.44 | 795.37 | 795.30 | 795.24 | 795.20 | 795.16 | 795.13 | 795.11 |
| GIRDER 6 | 796.13 | 796.02 | 795.93 | 795.84 | 795.77 | 795.70 | 795.64 | 795.60 | 795.56 | 795.53 | 795.51 |
| GIRDER 7 | 796.53 | 796.42 | 796.33 | 796.24 | 796.17 | 796.10 | 796.04 | 796.00 | 795.96 | 795.93 | 795.91 |
| GIRDER 8 | 796.93 | 796.82 | 796.73 | 796.64 | 796.57 | 796.50 | 796.44 | 796.40 | 796.36 | 796.33 | 796.31 |
| GIRDER 9 | 797.33 | 797.22 | 797.13 | 797.04 | 796.97 | 796.90 | 796.84 | 796.80 | 796.76 | 796.73 | 796.71 |
| GIRDER 10 | 797.73 | 797.62 | 797.53 | 797.44 | 797.37 | 797.30 | 797.24 | 797.20 | 797.16 | 797.13 | 797.11 |
| RT. EDGE OF SLAB | 797.80 | 797.71 | 797.62 | 797.55 | 797.47 | 797.41 | 797.35 | 797.30 | 797.25 | 797.21 | 797.18 |




HORIZONTAL LOCATION KEY

LOOKING EAST

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY PSK | PLANS CK'D. NPP

TOP OF DECK ELEVATIONS - SPANS 1 TO 5

SHEET 87 OF 109

394

8

8

FILE= P:\WisDOT_12345678_10-441\Plans\B-70-61\Control Copy\Final Plans, 2015\088 B-70-61 - Top of Deck Elevations - Spans 1 to 5.dgn

DATE: 3/15/2016
I.D.

STATE PROJECT NUMBER

1517-07-77

## SPAN 6

| LOCATION | ℄ PIER 6 | 0.1 PT | 0.2 PT | 0.3 PT | 0.4 PT | 0.5 PT | 0.6 PT | F.S.1 | 0.7 PT | 0.8 PT | 0.9 PT | ℄ PIER 7 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STA. ALONG RL WB | 153+23.71 | 153+38.43 | 153+53.15 | 153+67.87 | 153+82.58 | 153+97.30 | 154+00.32 | 154+11.20 | 154+15.04 | 154+29.76 | 154+44.48 | 154+59.20 |
| PROFILE WB | 795.98 | 795.96 | 795.94 | 795.93 | 795.93 | 795.93 | 795.94 | 795.95 | 795.95 | 795.97 | 796.00 | 796.03 |
| STA. ALONG RL (FWN) | 153+13.85 | 153+27.20 | 153+41.81 | 153+56.42 | 153+71.03 | 153+85.65 | 154+00.31 | 154+11.19 | 154+15.04 | -- | -- | -- |
| PROFILE FWN | 801.77 | 801.77 | 801.77 | 801.77 | 801.77 | 801.77 | 801.77 | 801.77 | 801.77 | -- | -- | -- |
| LT. EDGE OF SLAB | 794.02 | 794.03 | 794.10 | 794.18 | 794.26 | 794.35 | 794.44 | 794.53 | 794.55 | 794.76 | 794.95 | 795.12 |
| GIRDER 1 | 794.06 | 794.07 | 794.14 | 794.22 | 794.30 | 794.39 | 794.50 | 794.57 | 794.60 | 794.80 | 794.99 | 795.15 |
| GIRDER 1A | 794.30 | 794.31 | 794.36 | 794.42 | 794.49 | 794.57 | 794.66 | 794.73 | 794.76 | 794.93 | 795.10 | 795.25 |
| GIRDER 2 | 794.56 | 794.56 | 794.60 | 794.66 | 794.72 | 794.79 | 794.87 | 794.93 | 794.96 | 795.10 | 795.24 | 795.37 |
| GIRDER 3 | 794.87 | 794.86 | 794.90 | 794.96 | 795.02 | 795.09 | 795.18 | 795.24 | 795.26 | 795.36 | 795.47 | 795.58 |
| GIRDER 4 | 795.38 | 795.36 | 795.37 | 795.39 | 795.42 | 795.46 | 795.51 | 795.55 | 795.56 | 795.63 | 795.70 | 795.78 |
| GIRDER 5 | 795.89 | 795.86 | 795.83 | 795.82 | 795.81 | 795.82 | 795.84 | 795.85 | 795.86 | 795.89 | 795.93 | 795.98 |
| GIRDER 6 | 796.41 | 796.35 | 796.30 | 796.25 | 796.21 | 796.18 | 796.17 | 796.16 | 796.16 | 796.15 | 796.16 | 796.18 |
| GIRDER 7 | 796.92 | 796.85 | 796.76 | 796.68 | 796.61 | 796.55 | 796.50 | 796.46 | 796.45 | 796.42 | 796.39 | 796.37 |
| RT. EDGE OF SLAB | 796.98 | 796.92 | 796.84 | 796.76 | 796.69 | 796.62 | 796.57 | 796.53 | 796.52 | 796.47 | 796.44 | 796.41 |

## SPAN 7

| LOCATION | ℄ PIER 7 | 0.1 PT | 0.2 PT | F.S.2 | 0.3 PT | 0.4 PT | 0.5 PT | 0.6 PT | 0.7 PT | 0.8 PT | HINGE 1 | 0.9 PT | ℄ PIER 8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STA. ALONG RL WB | 154+59.20 | 154+77.00 | 154+94.80 | 155+07.20 | 155+12.60 | 155+30.40 | 155+48.20 | 155+66.00 | 155+83.80 | 156+01.60 | 156+12.20 | 156+19.40 | 156+37.20 |
| PROFILE WB | 796.03 | 796.08 | 796.15 | 796.19 | 796.22 | 796.30 | 796.39 | 796.50 | 796.61 | 796.74 | 796.82 | 796.87 | 797.01 |
| LT. EDGE OF SLAB | 795.12 | 795.22 | 795.33 | 795.37 | 795.45 | 795.58 | 795.72 | 795.87 | 796.04 | 796.21 | 796.23 | 796.39 | 796.57 |
| GIRDER 1 | 795.15 | 795.25 | 795.37 | 795.41 | 795.50 | 795.63 | 795.77 | 795.92 | 796.08 | 796.25 | 796.27 | 796.44 | 796.61 |
| GIRDER 1A | 795.25 | 795.36 | 795.50 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| GIRDER 2 | 795.37 | 795.47 | 795.58 | 795.62 | 795.70 | 795.83 | 795.97 | 796.12 | 796.29 | 796.46 | 796.48 | 796.64 | 796.82 |
| GIRDER 3 | 795.58 | 795.68 | 795.79 | 795.82 | 795.91 | 796.04 | 796.18 | 796.33 | 796.49 | 796.66 | 796.68 | 796.85 | 797.02 |
| GIRDER 4 | 795.78 | 795.88 | 795.99 | 796.03 | 796.11 | 796.24 | 796.38 | 796.53 | 796.70 | 796.87 | 796.89 | 797.05 | 797.23 |
| GIRDER 5 | 795.98 | 796.04 | 796.12 | 796.12 | 796.20 | 796.29 | 796.40 | 796.51 | 796.64 | 796.77 | 796.77 | 796.92 | 797.06 |
| GIRDER 6 | 796.18 | 796.20 | 796.23 | 796.21 | 796.27 | 796.33 | 796.39 | 796.46 | 796.55 | 796.64 | 796.62 | 796.75 | 796.86 |
| GIRDER 7 | 796.37 | 796.35 | 796.34 | 796.30 | 796.35 | 796.36 | 796.38 | 796.41 | 796.46 | 796.51 | 796.46 | 796.58 | 796.65 |
| RT. EDGE OF SLAB | 796.41 | 796.38 | 796.36 | 796.31 | 796.36 | 796.37 | 796.38 | 796.40 | 796.44 | 796.48 | 796.43 | 796.54 | 796.61 |

## SPAN 8

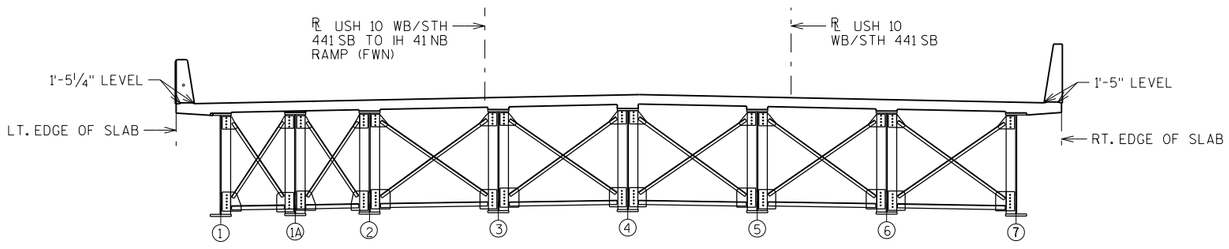
| LOCATION | ℄ PIER 8 | 0.1 PT | F.S.3 | 0.2 PT | 0.3 PT | 0.4 PT | 0.5 PT | 0.6 PT | 0.7 PT | F.S.4 | 0.8 PT | 0.9 PT | ℄ PIER 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STA. ALONG RL WB | 156+37.20 | 156+55.00 | 156+62.20 | 156+72.80 | 156+90.60 | 157+08.40 | 157+26.20 | 157+44.00 | 157+61.80 | 157+67.20 | 157+79.60 | 157+97.40 | 158+15.20 |
| PROFILE WB | 797.01 | 797.15 | 797.20 | 797.28 | 797.42 | 797.56 | 797.70 | 797.84 | 797.98 | 798.02 | 798.12 | 798.26 | 798.40 |
| LT. EDGE OF SLAB | 796.57 | 796.71 | 796.76 | 796.84 | 796.98 | 797.12 | 797.26 | 797.40 | 797.54 | 797.58 | 797.68 | 797.82 | 797.96 |
| GIRDER 1 | 796.61 | 796.75 | 796.81 | 796.89 | 797.03 | 797.17 | 797.31 | 797.45 | 797.59 | 797.63 | 797.72 | 797.86 | 798.00 |
| GIRDER 2 | 796.82 | 796.96 | 797.01 | 797.10 | 797.23 | 797.37 | 797.51 | 797.65 | 797.79 | 797.83 | 797.93 | 798.07 | 798.21 |
| GIRDER 3 | 797.02 | 797.16 | 797.22 | 797.30 | 797.44 | 797.58 | 797.72 | 797.86 | 798.00 | 798.04 | 798.13 | 798.27 | 798.41 |
| GIRDER 4 | 797.23 | 797.37 | 797.42 | 797.51 | 797.64 | 797.78 | 797.92 | 798.06 | 798.20 | 798.24 | 798.34 | 798.48 | 798.62 |
| GIRDER 5 | 797.06 | 797.20 | 797.26 | 797.34 | 797.48 | 797.62 | 797.76 | 797.89 | 798.03 | 798.07 | 798.17 | 798.31 | 798.45 |
| GIRDER 6 | 796.86 | 796.99 | 797.05 | 797.13 | 797.27 | 797.41 | 797.55 | 797.69 | 797.83 | 797.87 | 797.97 | 798.11 | 798.24 |
| GIRDER 7 | 796.65 | 796.79 | 796.85 | 796.93 | 797.07 | 797.21 | 797.35 | 797.48 | 797.62 | 797.66 | 797.76 | 797.90 | 798.04 |
| RT. EDGE OF SLAB | 796.61 | 796.75 | 796.80 | 796.88 | 797.02 | 797.16 | 797.30 | 797.44 | 797.58 | 797.62 | 797.72 | 797.86 | 798.00 |

## SPAN 9

| LOCATION | ℄ PIER 9 | 0.1 PT | 0.2 PT | F.S.5 | 0.3 PT | 0.4 PT | 0.5 PT | 0.6 PT | 0.7 PT | F.S.6 | 0.8 PT | 0.9 PT | ℄ PIER 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STA. ALONG RL WB | 158+15.20 | 158+33.00 | 158+50.80 | 158+63.20 | 158+68.60 | 158+86.40 | 159+04.20 | 159+22.00 | 159+39.80 | 159+45.20 | 159+57.60 | 159+75.40 | 159+93.20 |
| PROFILE WB | 798.40 | 798.53 | 798.67 | 798.77 | 798.81 | 798.95 | 799.09 | 799.23 | 799.37 | 799.41 | 799.51 | 799.65 | 799.78 |
| LT. EDGE OF SLAB | 797.96 | 798.09 | 798.23 | 798.33 | 798.37 | 798.51 | 798.65 | 798.79 | 798.93 | 798.97 | 799.07 | 799.21 | 799.34 |
| GIRDER 1 | 798.00 | 798.14 | 798.28 | 798.38 | 798.42 | 798.56 | 798.70 | 798.83 | 798.97 | 799.02 | 799.11 | 799.25 | 799.39 |
| GIRDER 2 | 798.21 | 798.35 | 798.48 | 798.58 | 798.62 | 798.76 | 798.90 | 799.04 | 799.18 | 799.22 | 799.32 | 799.46 | 799.60 |
| GIRDER 3 | 798.41 | 798.55 | 798.69 | 798.79 | 798.83 | 798.97 | 799.11 | 799.24 | 799.38 | 799.43 | 799.52 | 799.66 | 799.80 |
| GIRDER 4 | 798.62 | 798.76 | 798.89 | 798.99 | 799.03 | 799.17 | 799.31 | 799.45 | 799.59 | 799.63 | 799.73 | 799.87 | 800.01 |
| GIRDER 5 | 798.82 | 798.87 | 799.00 | 799.14 | 799.28 | 799.42 | 799.46 | 799.56 | 799.70 | 799.84 | | | |
| GIRDER 6 | 798.38 | 798.52 | 798.62 | 798.66 | 798.80 | 798.94 | 799.08 | 799.22 | 799.26 | 799.36 | 799.49 | 799.63 | |
| GIRDER 7 | 798.04 | 798.18 | 798.32 | 798.41 | 798.46 | 798.59 | 798.73 | 798.87 | 799.01 | 799.05 | 799.15 | 799.29 | 799.43 |
| RT. EDGE OF SLAB | 798.00 | 798.13 | 798.27 | 798.37 | 798.41 | 798.55 | 798.69 | 798.83 | 798.97 | 799.01 | 799.11 | 799.25 | 799.38 |

## SPAN 10

| LOCATION | ℄ PIER 10 | 0.1 PT | 0.2 PT | F.S.7 | 0.3 PT | 0.4 PT | 0.5 PT | 0.6 PT | 0.7 PT | 0.8 PT | HINGE 2 | 0.9 PT | ℄ PIER 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STA. ALONG RL WB | 159+93.20 | 160+11.00 | 160+28.80 | 160+41.20 | 160+46.60 | 160+64.40 | 160+82.20 | 161+00.00 | 161+17.80 | 161+35.60 | 161+46.20 | 161+53.40 | 161+71.20 |
| PROFILE WB | 799.78 | 799.92 | 800.06 | 800.16 | 800.20 | 800.33 | 800.45 | 800.56 | 800.66 | 800.75 | 800.79 | 800.82 | 800.88 |
| LT. EDGE OF SLAB | 799.34 | 799.48 | 799.62 | 799.72 | 799.76 | 799.89 | 800.01 | 800.12 | 800.22 | 800.31 | 800.35 | 800.38 | 800.44 |
| GIRDER 1 | 799.39 | 799.53 | 799.67 | 799.76 | 799.81 | 799.94 | 800.06 | 800.17 | 800.27 | 800.35 | 800.40 | 800.43 | 800.49 |
| GIRDER 2 | 799.60 | 799.73 | 799.87 | 799.97 | 800.01 | 800.14 | 800.27 | 800.38 | 800.47 | 800.56 | 800.60 | 800.63 | 800.69 |
| GIRDER 3 | 799.80 | 799.94 | 800.08 | 800.17 | 800.22 | 800.35 | 800.47 | 800.58 | 800.68 | 800.76 | 800.81 | 800.84 | 800.90 |
| GIRDER 4 | 800.01 | 800.14 | 800.28 | 800.38 | 800.42 | 800.55 | 800.68 | 800.79 | 800.88 | 800.97 | 801.01 | 801.04 | 801.10 |
| GIRDER 5 | 799.84 | 799.98 | 800.12 | 800.21 | 800.25 | 800.39 | 800.51 | 800.62 | 800.72 | 800.80 | 800.85 | 800.87 | 800.94 |
| GIRDER 6 | 799.63 | 799.77 | 799.91 | 800.01 | 800.05 | 800.18 | 800.30 | 800.41 | 800.51 | 800.60 | 800.64 | 800.67 | 800.73 |
| GIRDER 7 | 799.43 | 799.57 | 799.71 | 799.80 | 799.84 | 799.98 | 800.10 | 800.21 | 800.31 | 800.39 | 800.44 | 800.46 | 800.53 |
| RT. EDGE OF SLAB | 799.38 | 799.52 | 799.66 | 799.76 | 799.80 | 799.93 | 800.05 | 800.16 | 800.26 | 800.35 | 800.39 | 800.42 | 800.48 |




HORIZONTAL LOCATION KEY

LOOKING EAST

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY KMP | PLANS CK'D. NPP

TOP OF DECK ELEVATIONS SPANS 6 TO 10

SHEET 88 OF 109

395

DATE: 3/15/2016

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FILE= P:\WisDOT_12345678_10-441\Plans\B-70-61\Control Copy\Final Plans, 2015\089 B-70-61 - Top of Deck Elevations - Spans 6 to 10.dgn

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| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |

## SPAN 11

## SPAN 12

| LOCATION | ℄ PIER 11 | 0.1 PT | F.S.8 | 0.2 PT | 0.3 PT | 0.4 PT | 0.5 PT | 0.6 PT | 0.7 PT | F.S.9 | 0.8 PT | 0.9 PT | ℄ PIER 12 | 0.1 PT | 0.2 PT | F.S.10 | 0.3 PT | 0.4 PT | 0.5 PT | 0.6 PT | 0.7 PT | F.S.11 | 0.8 PT | 0.9 PT | ℄ PIER 13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STA. ALONG RL WB | 161+71.20 | 161+89.00 | 161+96.20 | 162+06.80 | 162+24.60 | 162+42.40 | 162+60.20 | 162+78.00 | 162+84.20 | 162+95.80 | 163+13.60 | 163+31.40 | 163+49.20 | 163+71.70 | 163+94.20 | 163+97.20 | 164+16.70 | 164+39.20 | 164+61.70 | 164+84.20 | 165+06.70 | 165+26.20 | 165+29.20 | 165+51.70 | 165+74.20 |
| PROFILE WB | 800.88 | 800.93 | 800.95 | 800.97 | 801.00 | 801.01 | 801.02 | 801.01 | 801.00 | 800.99 | 800.95 | 800.91 | 800.85 | 800.77 | 800.66 | 800.64 | 800.54 | 800.39 | 800.23 | 800.05 | 799.85 | 799.66 | 799.63 | 799.39 | 799.13 |
| LT. EDGE OF SLAB | 800.44 | 800.49 | 800.51 | 800.53 | 800.56 | 800.57 | 800.58 | 800.57 | 800.56 | 800.55 | 800.51 | 800.47 | 800.41 | 800.33 | 800.22 | 800.20 | 800.10 | 799.95 | 799.79 | 799.61 | 799.41 | 799.22 | 799.19 | 798.95 | 798.69 |
| GIRDER 1 | 800.49 | 800.54 | 800.56 | 800.58 | 800.60 | 800.62 | 800.62 | 800.61 | 800.61 | 800.59 | 800.56 | 800.52 | 800.46 | 800.37 | 800.27 | 800.25 | 800.14 | 800.00 | 799.83 | 799.65 | 799.45 | 799.26 | 799.23 | 798.99 | 798.74 |
| GIRDER 2 | 800.69 | 800.74 | 800.76 | 800.78 | 800.81 | 800.82 | 800.83 | 800.82 | 800.81 | 800.80 | 800.77 | 800.72 | 800.67 | 800.58 | 800.47 | 800.46 | 800.35 | 800.20 | 800.04 | 799.86 | 799.66 | 799.47 | 799.44 | 799.20 | 798.94 |
| GIRDER 3 | 800.90 | 800.95 | 800.97 | 800.99 | 801.01 | 801.03 | 801.03 | 801.02 | 801.02 | 801.00 | 800.97 | 800.93 | 800.87 | 800.78 | 800.68 | 800.66 | 800.55 | 800.41 | 800.24 | 800.06 | 799.86 | 799.67 | 799.64 | 799.40 | 799.15 |
| GIRDER 4 | 801.10 | 801.15 | 801.17 | 801.19 | 801.22 | 801.23 | 801.24 | 801.23 | 801.22 | 801.21 | 801.18 | 801.13 | 801.08 | 800.99 | 800.88 | 800.87 | 800.76 | 800.61 | 800.45 | 800.27 | 800.07 | 799.88 | 799.85 | 799.61 | 799.35 |
| GIRDER 5 | 800.94 | 800.99 | 801.00 | 801.03 | 801.05 | 801.07 | 801.07 | 801.06 | 801.06 | 801.04 | 801.01 | 800.96 | 800.91 | 800.82 | 800.71 | 800.70 | 800.59 | 800.44 | 800.28 | 800.10 | 799.90 | 799.71 | 799.68 | 799.44 | 799.18 |
| GIRDER 6 | 800.73 | 800.78 | 800.80 | 800.82 | 800.85 | 800.86 | 800.87 | 800.86 | 800.85 | 800.84 | 800.80 | 800.76 | 800.70 | 800.62 | 800.51 | 800.49 | 800.38 | 800.24 | 800.08 | 799.89 | 799.69 | 799.50 | 799.47 | 799.24 | 798.98 |
| GIRDER 7 | 800.53 | 800.58 | 800.59 | 800.62 | 800.64 | 800.66 | 800.66 | 800.65 | 800.65 | 800.63 | 800.60 | 800.55 | 800.50 | 800.41 | 800.30 | 800.29 | 800.18 | 800.03 | 799.87 | 799.69 | 799.49 | 799.30 | 799.27 | 799.03 | 798.77 |
| RT. EDGE OF SLAB | 800.48 | 800.53 | 800.55 | 800.57 | 800.60 | 800.61 | 800.62 | 800.61 | 800.60 | 800.59 | 800.55 | 800.51 | 800.45 | 800.37 | 800.26 | 800.24 | 800.14 | 799.99 | 799.83 | 799.65 | 799.45 | 799.26 | 799.23 | 798.99 | 798.73 |

## SPAN 13

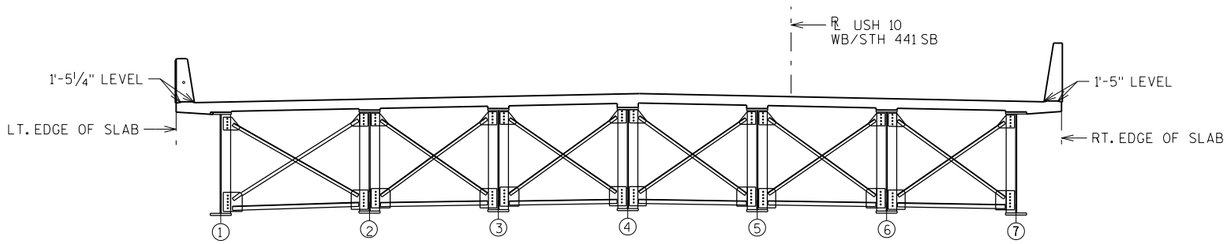
## SPAN 14

| LOCATION | ℄ PIER 13 | 0.1 PT | 0.2 PT | 0.3 PT | F.S.12 | 0.4 PT | 0.5 PT | 0.6 PT | 0.7 PT | F.S.13 | 0.8 PT | 0.9 PT | ℄ PIER 14 | 0.1 PT | 0.2 PT | F.S.14 | 0.3 PT | 0.4 PT | 0.5 PT | 0.6 PT | 0.7 PT | 0.8 PT | HINGE 3 | 0.9 PT | ℄ PIER 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STA. ALONG RL WB | 165+74.20 | 165+92.00 | 166+09.80 | 166+27.60 | 166+39.20 | 166+45.40 | 166+63.20 | 166+81.00 | 166+98.80 | 167+04.20 | 167+16.60 | 167+34.40 | 167+52.20 | 167+70.00 | 167+87.80 | 168+00.20 | 168+05.60 | 168+23.40 | 168+41.20 | 168+59.00 | 168+76.80 | 168+94.60 | 169+05.20 | 169+12.40 | 169+30.20 |
| PROFILE WB | 799.13 | 798.91 | 798.68 | 798.44 | 798.28 | 798.19 | 797.93 | 797.65 | 797.36 | 797.27 | 797.06 | 796.75 | 796.43 | 796.09 | 795.75 | 795.50 | 795.39 | 795.02 | 794.64 | 794.24 | 793.85 | 793.46 | 793.23 | 793.07 | 792.68 |
| LT. EDGE OF SLAB | 798.69 | 798.47 | 798.24 | 798.00 | 797.84 | 797.75 | 797.49 | 797.21 | 796.92 | 796.83 | 796.62 | 796.31 | 795.99 | 795.65 | 795.31 | 795.06 | 794.95 | 794.58 | 794.20 | 793.80 | 793.41 | 793.02 | 792.79 | 792.63 | 792.24 |
| GIRDER 1 | 798.74 | 798.52 | 798.29 | 798.05 | 797.89 | 797.80 | 797.53 | 797.26 | 796.97 | 796.88 | 796.67 | 796.36 | 796.04 | 795.70 | 795.35 | 795.11 | 795.00 | 794.63 | 794.24 | 793.85 | 793.46 | 793.07 | 792.83 | 792.67 | 792.28 |
| GIRDER 2 | 798.94 | 798.72 | 798.50 | 798.26 | 798.09 | 798.00 | 797.74 | 797.46 | 797.17 | 797.09 | 796.88 | 796.56 | 796.24 | 795.91 | 795.56 | 795.31 | 795.20 | 794.83 | 794.45 | 794.05 | 793.66 | 793.27 | 793.04 | 792.88 | 792.49 |
| GIRDER 3 | 799.15 | 798.93 | 798.70 | 798.46 | 798.30 | 798.21 | 797.94 | 797.67 | 797.38 | 797.29 | 797.08 | 796.77 | 796.45 | 796.11 | 795.76 | 795.52 | 795.41 | 795.04 | 794.65 | 794.26 | 793.87 | 793.48 | 793.24 | 793.08 | 792.69 |
| GIRDER 4 | 799.35 | 799.13 | 798.91 | 798.67 | 798.50 | 798.41 | 798.15 | 797.87 | 797.58 | 797.50 | 797.29 | 796.97 | 796.65 | 796.32 | 795.97 | 795.72 | 795.61 | 795.24 | 794.86 | 794.46 | 794.07 | 793.68 | 793.45 | 793.29 | 792.90 |
| GIRDER 5 | 799.18 | 798.97 | 798.74 | 798.50 | 798.33 | 798.25 | 797.98 | 797.71 | 797.42 | 797.33 | 797.12 | 796.81 | 796.48 | 796.15 | 795.80 | 795.55 | 795.44 | 795.07 | 794.69 | 794.30 | 793.90 | 793.51 | 793.28 | 793.12 | 792.73 |
| GIRDER 6 | 798.98 | 798.76 | 798.53 | 798.29 | 798.13 | 798.04 | 797.78 | 797.50 | 797.21 | 797.12 | 796.91 | 796.60 | 796.28 | 795.94 | 795.60 | 795.35 | 795.24 | 794.87 | 794.49 | 794.09 | 793.70 | 793.31 | 793.07 | 792.92 | 792.52 |
| GIRDER 7 | 798.77 | 798.56 | 798.33 | 798.09 | 797.92 | 797.84 | 797.57 | 797.30 | 797.01 | 796.92 | 796.71 | 796.40 | 796.07 | 795.74 | 795.39 | 795.14 | 795.03 | 794.66 | 794.28 | 793.89 | 793.49 | 793.10 | 792.87 | 792.71 | 792.32 |
| RT. EDGE OF SLAB | 798.73 | 798.51 | 798.28 | 798.04 | 797.88 | 797.79 | 797.53 | 797.25 | 796.96 | 796.87 | 796.66 | 796.35 | 796.03 | 795.69 | 795.35 | 795.10 | 794.99 | 794.62 | 794.24 | 793.84 | 793.45 | 793.06 | 792.83 | 792.67 | 792.28 |

## SPAN 15

## SPAN 16

| LOCATION | ℄ PIER 15 | 0.1 PT | F.S.15 | 0.2 PT | 0.3 PT | 0.4 PT | 0.5 PT | 0.6 PT | 0.7 PT | F.S.16 | 0.8 PT | 0.9 PT | ℄ PIER 16 | 0.1 PT | 0.2 PT | F.S.17 | 0.3 PT | 0.4 PT | 0.5 PT | 0.6 PT | 0.7 PT | F.S.18 | 0.8 PT | 0.9 PT | ℄ PIER 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STA. ALONG RL WB | 169+30.20 | 169+48.00 | 169+55.20 | 169+65.80 | 169+83.60 | 170+01.40 | 170+19.20 | 170+37.00 | 170+54.80 | 170+60.20 | 170+72.60 | 170+90.40 | 171+08.20 | 171+26.00 | 171+43.80 | 171+56.20 | 171+61.60 | 171+79.40 | 171+97.20 | 172+15.00 | 172+32.80 | 172+38.20 | 172+50.60 | 172+68.40 | 172+86.20 |
| PROFILE WB | 792.68 | 792.28 | 792.13 | 791.89 | 791.50 | 791.11 | 790.72 | 790.33 | 789.93 | 789.82 | 789.54 | 789.15 | 788.76 | 788.37 | 787.98 | 787.70 | 787.58 | 787.19 | 786.80 | 786.41 | 786.02 | 785.90 | 785.63 | 785.24 | 784.84 |
| LT. EDGE OF SLAB | 792.24 | 791.84 | 791.69 | 791.45 | 791.06 | 790.67 | 790.28 | 789.89 | 789.49 | 789.38 | 789.10 | 788.71 | 788.32 | 787.93 | 787.54 | 787.26 | 787.14 | 786.75 | 786.36 | 785.97 | 785.58 | 785.46 | 785.19 | 784.80 | 784.40 |
| GIRDER 1 | 792.28 | 791.89 | 791.73 | 791.50 | 791.11 | 790.72 | 790.32 | 789.93 | 789.54 | 789.42 | 789.15 | 788.76 | 788.37 | 787.97 | 787.58 | 787.31 | 787.19 | 786.80 | 786.41 | 786.02 | 785.62 | 785.51 | 785.23 | 784.84 | 784.45 |
| GIRDER 2 | 792.49 | 792.10 | 791.94 | 791.70 | 791.31 | 790.92 | 790.53 | 790.14 | 789.75 | 789.63 | 789.35 | 788.96 | 788.57 | 788.18 | 787.79 | 787.51 | 787.40 | 787.00 | 786.61 | 786.22 | 785.83 | 785.71 | 785.44 | 785.05 | 784.65 |
| GIRDER 3 | 792.69 | 792.30 | 792.14 | 791.91 | 791.52 | 791.13 | 790.73 | 790.34 | 789.95 | 789.83 | 789.56 | 789.17 | 788.78 | 788.38 | 787.99 | 787.72 | 787.60 | 787.21 | 786.82 | 786.43 | 786.03 | 785.92 | 785.64 | 785.25 | 784.86 |
| GIRDER 4 | 792.90 | 792.51 | 792.35 | 792.11 | 791.72 | 791.33 | 790.94 | 790.55 | 790.16 | 790.04 | 789.76 | 789.37 | 788.98 | 788.59 | 788.20 | 787.92 | 787.81 | 787.41 | 787.02 | 786.63 | 786.24 | 786.12 | 785.85 | 785.46 | 785.06 |
| GIRDER 5 | 792.73 | 792.34 | 792.18 | 791.95 | 791.55 | 791.16 | 790.77 | 790.38 | 789.99 | 789.87 | 789.60 | 789.21 | 788.81 | 788.42 | 788.03 | 787.76 | 787.64 | 787.25 | 786.86 | 786.46 | 786.07 | 785.95 | 785.68 | 785.29 | 784.90 |
| GIRDER 6 | 792.52 | 792.13 | 791.97 | 791.74 | 791.35 | 790.96 | 790.57 | 790.17 | 789.78 | 789.66 | 789.39 | 789.00 | 788.61 | 788.22 | 787.83 | 787.55 | 787.43 | 787.04 | 786.65 | 786.26 | 785.87 | 785.75 | 785.48 | 785.08 | 784.69 |
| GIRDER 7 | 792.32 | 791.93 | 791.77 | 791.54 | 791.14 | 790.75 | 790.36 | 789.97 | 789.58 | 789.46 | 789.19 | 788.80 | 788.40 | 788.01 | 787.62 | 787.35 | 787.23 | 786.84 | 786.45 | 786.05 | 785.66 | 785.54 | 785.27 | 784.88 | 784.49 |
| RT. EDGE OF SLAB | 792.28 | 791.88 | 791.73 | 791.49 | 791.10 | 790.71 | 790.32 | 789.93 | 789.53 | 789.42 | 789.14 | 788.75 | 788.36 | 787.97 | 787.58 | 787.30 | 787.18 | 786.79 | 786.40 | 786.01 | 785.62 | 785.50 | 785.23 | 784.84 | 784.44 |




HORIZONTAL LOCATION KEY

LOOKING EAST

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY KMP | PLANS CK'D. NPP

TOP OF DECK ELEVATIONS SPANS 11 TO 16

SHEET 89 OF 109

396

FILE= P:\WisDOT_12345678_10-441\Plans\B-70-61\Control Copy\Final Plans, 2015\090 B-70-61 - Top of Deck Elevations - Spans 11 to 16.dgn

DATE: 3/15/2016
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| STATE PROJECT NUMBER |
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| 1517-07-77 |

## SPAN 17

## SPAN 18

| LOCATION | ℄ PIER 17 | 0.1 PT | 0.2 PT | F.S.19 | 0.3 PT | 0.4 PT | 0.5 PT | 0.6 PT | 0.7 PT | 0.8 PT | HINGE #4 | 0.9 PT | ℄ PIER 18 | 0.1 PT | F.S.20 | 0.2 PT | 0.3 PT | 0.4 PT | 0.5 PT | 0.6 PT | 0.7 PT | F.S.21 | 0.8 PT | 0.9 PT | ℄ PIER 19 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STA. ALONG RL WB | 172+86.20 | 173+04.00 | 173+21.80 | 173+34.20 | 173+39.60 | 173+57.40 | 173+75.20 | 173+93.00 | 174+10.80 | 174+28.60 | 174+39.20 | 174+46.40 | 174+64.20 | 174+82.00 | 174+89.20 | 174+99.80 | 175+17.60 | 175+35.40 | 175+53.20 | 175+71.00 | 175+88.80 | 175+94.20 | 176+06.60 | 176+24.40 | 176+42.20 |
| PROFILE WB | 784.84 | 784.45 | 784.06 | 783.79 | 783.67 | 783.28 | 782.90 | 782.53 | 782.18 | 781.85 | 781.67 | 781.54 | 781.24 | 780.96 | 780.85 | 780.70 | 780.45 | 780.22 | 780.01 | 779.81 | 779.63 | 779.58 | 779.47 | 779.33 | 779.20 |
| LT. EDGE OF SLAB | 784.40 | 784.01 | 783.62 | 783.35 | 783.23 | 782.84 | 782.46 | 782.09 | 781.74 | 781.38 | 781.17 | 781.03 | 780.70 | 780.39 | 780.26 | 780.09 | 779.80 | 779.54 | 779.29 | 779.06 | 778.84 | 778.78 | 778.64 | 778.46 | 778.30 |
| GIRDER 1 | 784.45 | 784.06 | 783.67 | 783.39 | 783.28 | 782.88 | 782.50 | 782.14 | 781.79 | 781.43 | 781.22 | 781.08 | 780.75 | 780.43 | 780.31 | 780.13 | 779.85 | 779.58 | 779.34 | 779.10 | 778.89 | 778.83 | 778.69 | 778.51 | 778.34 |
| GIRDER 2 | 784.65 | 784.26 | 783.87 | 783.60 | 783.48 | 783.09 | 782.71 | 782.34 | 782.00 | 781.63 | 781.42 | 781.29 | 780.95 | 780.64 | 780.51 | 780.34 | 780.06 | 779.79 | 779.54 | 779.31 | 779.09 | 779.03 | 778.90 | 778.71 | 778.55 |
| GIRDER 3 | 784.86 | 784.47 | 784.08 | 783.80 | 783.69 | 783.29 | 782.91 | 782.55 | 782.20 | 781.84 | 781.63 | 781.49 | 781.16 | 780.84 | 780.72 | 780.54 | 780.26 | 779.99 | 779.75 | 779.51 | 779.30 | 779.24 | 779.10 | 778.92 | 778.75 |
| GIRDER 4 | 785.06 | 784.67 | 784.28 | 784.01 | 783.89 | 783.50 | 783.12 | 782.75 | 782.41 | 782.04 | 781.83 | 781.70 | 781.36 | 781.05 | 780.92 | 780.75 | 780.47 | 780.20 | 779.95 | 779.72 | 779.50 | 779.44 | 779.31 | 779.12 | 778.96 |
| GIRDER 5 | 784.90 | 784.51 | 784.11 | 783.84 | 783.72 | 783.33 | 782.95 | 782.59 | 782.24 | 781.90 | 781.71 | 781.58 | 781.27 | 780.99 | 780.87 | 780.71 | 780.46 | 780.22 | 780.00 | 779.80 | 779.61 | 779.56 | 779.44 | 779.28 | 779.15 |
| GIRDER 6 | 784.69 | 784.30 | 783.91 | 783.64 | 783.52 | 783.13 | 782.75 | 782.38 | 782.03 | 781.72 | 781.55 | 781.43 | 781.16 | 780.90 | 780.80 | 780.66 | 780.43 | 780.23 | 780.04 | 779.86 | 779.70 | 779.66 | 779.56 | 779.44 | 779.33 |
| GIRDER 7 | 784.49 | 784.10 | 783.70 | 783.43 | 783.31 | 782.92 | 782.54 | 782.18 | 781.83 | 781.54 | 781.39 | 781.28 | 781.04 | 780.81 | 780.72 | 780.60 | 780.41 | 780.23 | 780.07 | 779.93 | 779.80 | 779.76 | 779.69 | 779.60 | 779.52 |
| RT. EDGE OF SLAB | 784.44 | 784.05 | 783.66 | 783.39 | 783.27 | 782.88 | 782.50 | 782.13 | 781.78 | 781.51 | 781.35 | 781.25 | 781.01 | 780.79 | 780.71 | 780.59 | 780.40 | 780.23 | 780.08 | 779.94 | 779.82 | 779.79 | 779.72 | 779.63 | 779.56 |

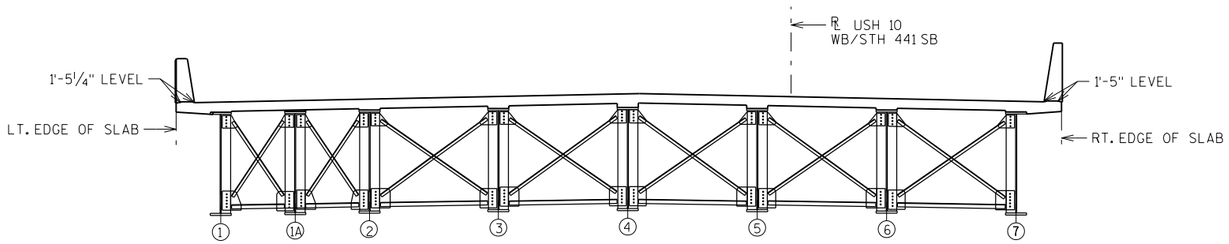
## SPAN 19

## SPAN 20

| LOCATION | ℄ PIER 19 | 0.1 PT | 0.2 PT | F.S.22 | 0.3 PT | 0.4 PT | 0.5 PT | 0.6 PT | 0.7 PT | F.S.23 | HEADER GIRDER | 0.8 PT | 0.9 PT | ℄ PIER 20 | 0.1 PT | 0.2 PT | F.S.24 | 0.3 PT | 0.4 PT | 0.5 PT | 0.6 PT | 0.7 PT | F.S.25 | 0.8 PT. | 0.9 PT | ℄ PIER 21 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STA. ALONG RL WB | 176+42.20 | 176+60.00 | 176+77.80 | 176+90.20 | 176+95.60 | 177+13.40 | 177+31.20 | 177+49.00 | 177+66.80 | 177+72.20 | 177+72.55 | 177+84.60 | 178+02.40 | 178+20.20 | 178+34.18 | 178+48.16 | 178+57.72 | 178+62.15 | 178+76.13 | 178+90.11 | 179+04.09 | 179+18.07 | 179+32.01 | 179+32.05 | 179+46.03 | 179+60.02 |
| PROFILE WB | 779.20 | 779.08 | 778.99 | 778.93 | 778.91 | 778.85 | 778.80 | 778.77 | 778.76 | 778.76 | 778.76 | 778.77 | 778.79 | 778.83 | 778.87 | 778.92 | 778.96 | 778.99 | 779.05 | 779.11 | 779.16 | 779.20 | 779.23 | 779.23 | 779.25 | 779.26 |
| LT. EDGE OF SLAB | 778.30 | 778.11 | 777.88 | 777.73 | 777.66 | 777.46 | 777.28 | 777.12 | 776.97 | 776.93 | -- | 776.83 | 776.71 | 776.59 | 776.52 | 776.45 | 776.40 | 776.39 | 776.34 | 776.27 | 776.29 | 776.32 | 776.47 | 776.35 | 776.37 | 776.38 |
| GIRDER 1 | 778.34 | 778.16 | 777.93 | 777.79 | 777.72 | 777.53 | 777.35 | 777.20 | 777.06 | 777.02 | -- | 776.92 | 776.80 | 776.70 | 776.64 | 776.59 | 776.57 | 776.55 | 776.49 | 776.42 | 776.43 | 776.45 | 776.47 | 776.47 | 776.49 | 776.50 |
| GIRDER 1A | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 777.20 | 777.15 | 777.07 | 776.97 | 776.94 | 776.91 | 776.91 | 776.90 | 776.86 | 776.81 | 776.84 | 776.87 | 776.91 | 776.91 | 776.94 | 776.96 |
| GIRDER 2 | 778.55 | 778.38 | 778.18 | 778.06 | 778.00 | 777.84 | 777.70 | 777.57 | 777.46 | 777.43 | -- | 777.37 | 777.30 | 777.25 | 777.23 | 777.23 | 777.25 | 777.24 | 777.24 | 777.24 | 777.29 | 777.35 | 777.41 | 777.41 | 777.44 | 777.46 |
| GIRDER 3 | 778.75 | 778.59 | 778.43 | 778.32 | 778.28 | 778.15 | 778.04 | 777.94 | 777.86 | 777.84 | -- | 777.80 | 777.76 | 777.74 | 777.75 | 777.77 | 777.80 | 777.81 | 777.83 | 777.85 | 777.91 | 777.97 | 778.02 | 778.03 | 778.05 | 778.07 |
| GIRDER 4 | 778.96 | 778.81 | 778.68 | 778.59 | 778.56 | 778.46 | 778.37 | 778.31 | 778.26 | 778.25 | -- | 778.23 | 778.22 | 778.23 | 778.27 | 778.31 | 778.36 | 778.37 | 778.42 | 778.46 | 778.52 | 778.58 | 778.64 | 778.64 | 778.67 | 778.69 |
| GIRDER 5 | 779.15 | 779.03 | 778.92 | 778.86 | 778.84 | 778.77 | 778.71 | 778.68 | 778.66 | 778.66 | -- | 778.66 | 778.68 | 778.72 | 778.78 | 778.85 | 778.91 | 778.93 | 779.00 | 779.07 | 779.14 | 779.20 | 779.26 | 779.26 | 779.28 | 779.30 |
| GIRDER 6 | 779.33 | 779.24 | 779.17 | 779.13 | 779.11 | 779.08 | 779.05 | 779.05 | 779.06 | 779.06 | -- | 779.09 | 779.14 | 779.21 | 779.29 | 779.39 | 779.46 | 779.49 | 779.59 | 779.68 | 779.75 | 779.81 | 779.87 | 779.87 | 779.90 | 779.92 |
| GIRDER 7 | 779.52 | 779.46 | 779.42 | 779.40 | 779.39 | 779.38 | 779.39 | 779.41 | 779.46 | 779.47 | -- | 779.52 | 779.60 | 779.70 | 779.81 | 779.92 | 780.01 | 780.05 | 780.17 | 780.29 | 780.36 | 780.43 | 780.49 | 780.49 | 780.51 | 780.53 |
| RT. EDGE OF SLAB | 779.56 | 779.51 | 779.47 | 779.46 | 779.45 | 779.45 | 779.46 | 779.49 | 779.54 | 779.56 | -- | 779.61 | 779.71 | 779.82 | 779.92 | 780.03 | 780.13 | 780.15 | 780.28 | 780.40 | 780.47 | 780.52 | 780.56 | 780.56 | 780.60 | 780.62 |

## SPAN 21

| LOCATION | ℄ PIER 21 | 0.1 PT | 0.2 PT | F.S.26 | 0.3 PT | 0.4 PT | 0.5 PT | 0.6 PT | 0.7 PT | 0.8 PT | 0.9 PT | ℄ BRG. E. ABUT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STA. ALONG RL WB | 179+60.02 | 179+72.20 | 179+84.38 | 179+88.02 | 179+96.56 | 180+08.75 | 180+20.93 | 180+33.11 | 180+45.30 | 180+57.48 | 180+69.66 | 180+81.85 |
| PROFILE WB | 779.26 | 779.26 | 779.26 | 779.25 | 779.24 | 779.22 | 779.20 | 779.17 | 779.13 | 779.08 | 779.03 | 778.96 |
| LT. EDGE OF SLAB | 776.38 | 776.38 | 776.38 | 776.37 | 776.36 | 776.34 | 776.32 | 776.29 | 776.25 | 776.20 | 776.15 | 776.08 |
| GIRDER 1 | 776.50 | 776.51 | 776.51 | 776.51 | 776.50 | 776.47 | 776.43 | 776.40 | 776.36 | 776.32 | 776.27 | 776.22 |
| GIRDER 1A | 776.96 | 776.98 | 777.00 | 777.00 | 776.98 | 776.95 | 776.92 | 776.88 | 776.85 | 776.80 | 776.76 | 776.71 |
| GIRDER 2 | 777.46 | 777.47 | 777.48 | 777.49 | 777.47 | 777.44 | 777.41 | 777.37 | 777.33 | 777.29 | 777.25 | 777.19 |
| GIRDER 3 | 778.07 | 778.09 | 778.10 | 778.10 | 778.08 | 778.05 | 778.02 | 777.99 | 777.95 | 777.91 | 777.86 | 777.81 |
| GIRDER 4 | 778.69 | 778.70 | 778.72 | 778.72 | 778.70 | 778.67 | 778.64 | 778.60 | 778.56 | 778.52 | 778.48 | 778.42 |
| GIRDER 5 | 779.30 | 779.32 | 779.33 | 779.33 | 779.31 | 779.29 | 779.25 | 779.22 | 779.18 | 779.14 | 779.09 | 779.04 |
| GIRDER 6 | 779.92 | 779.93 | 779.95 | 779.95 | 779.93 | 779.90 | 779.87 | 779.83 | 779.79 | 779.75 | 779.71 | 779.65 |
| GIRDER 7 | 780.53 | 780.55 | 780.56 | 780.57 | 780.55 | 780.52 | 780.48 | 780.45 | 780.41 | 780.37 | 780.32 | 780.27 |
| RT. EDGE OF SLAB | 780.62 | 780.63 | 780.64 | 780.64 | 780.63 | 780.64 | 780.61 | 780.59 | 780.56 | 780.52 | 780.47 | 780.40 |




HORIZONTAL LOCATION KEY

LOOKING EAST

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY KMP | PLANS CK'D. NPP

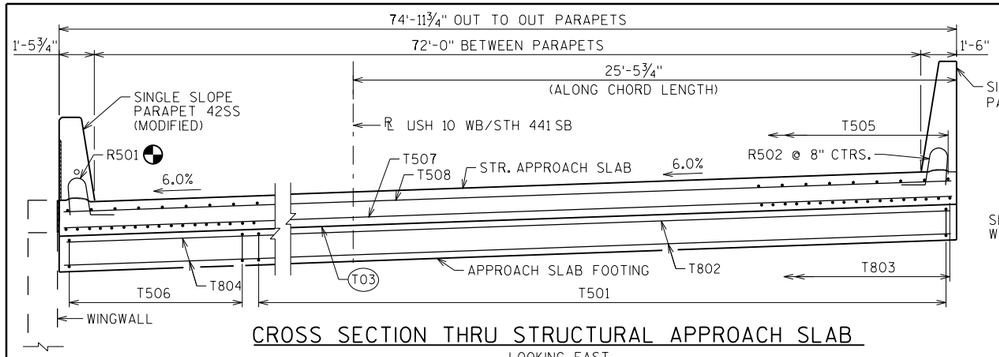
TOP OF DECK ELEVATIONS SPANS 17 TO 21

SHEET 90 OF 109

397

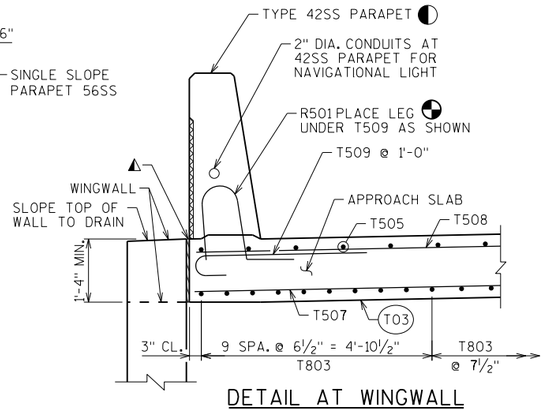
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DATE: 3/15/2016
I.D.




## CROSS SECTION THRU STRUCTURAL APPROACH SLAB

LOOKING EAST




## DETAIL AT WINGWALL

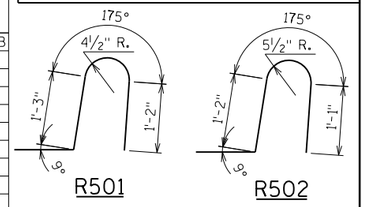
"42SS" PARAPET SHOWN, "56SS" PARAPET SIMILAR
(WINGWALL AT "42SS" PARAPET ONLY)

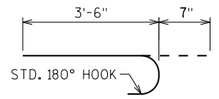
## BILL OF BARS

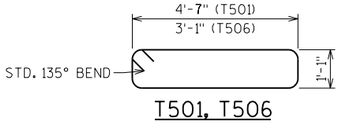
| BAR MARK | NO. REQ'D | LENGTH | BENT | LOCATION |
|---|---|---|---|---|
| EPOXY COATED | | | | TOTAL = 16,040 LB |
| R501 | 32 | 4'-5" | X | 42SS STIRRUP ON APPROACH SLAB |
| R502 | 30 | 4'-6" | X | 56SS STIRRUP ON APPROACH SLAB |
| T501 | 64 | 12'-0" | X | APPROACH SLAB FOOTING STIRRUP |
| T802 | 24 | 34'-5" | | APPROACH SLAB FOOTING TRANS. |
| T803 | 123 | 21'-3" | X | APPROACH SLAB LONG. - BOTT. |
| T804 | 12 | 17'-1" | | APPROACH SLAB FOOTING STIRRUP |
| T505 | 76 | 19'-5" | | APPROACH SLAB LONG. - TOP |
| T506 | 12 | 9'-0" | X | APPROACH SLAB FOOTING STIRRUP |
| T507 | 42 | 38'-7" | | APPROACH SLAB TRANS. - BOTT. |
| T508 | 42 | 38'-9" | | APPROACH SLAB TRANS. - TOP |
| T509 | 40 | 4'-1" | X | APPROACH SLAB TRANS. - TOP |

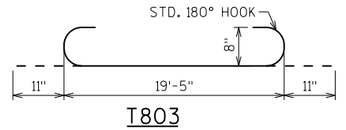
STATE PROJECT NUMBER

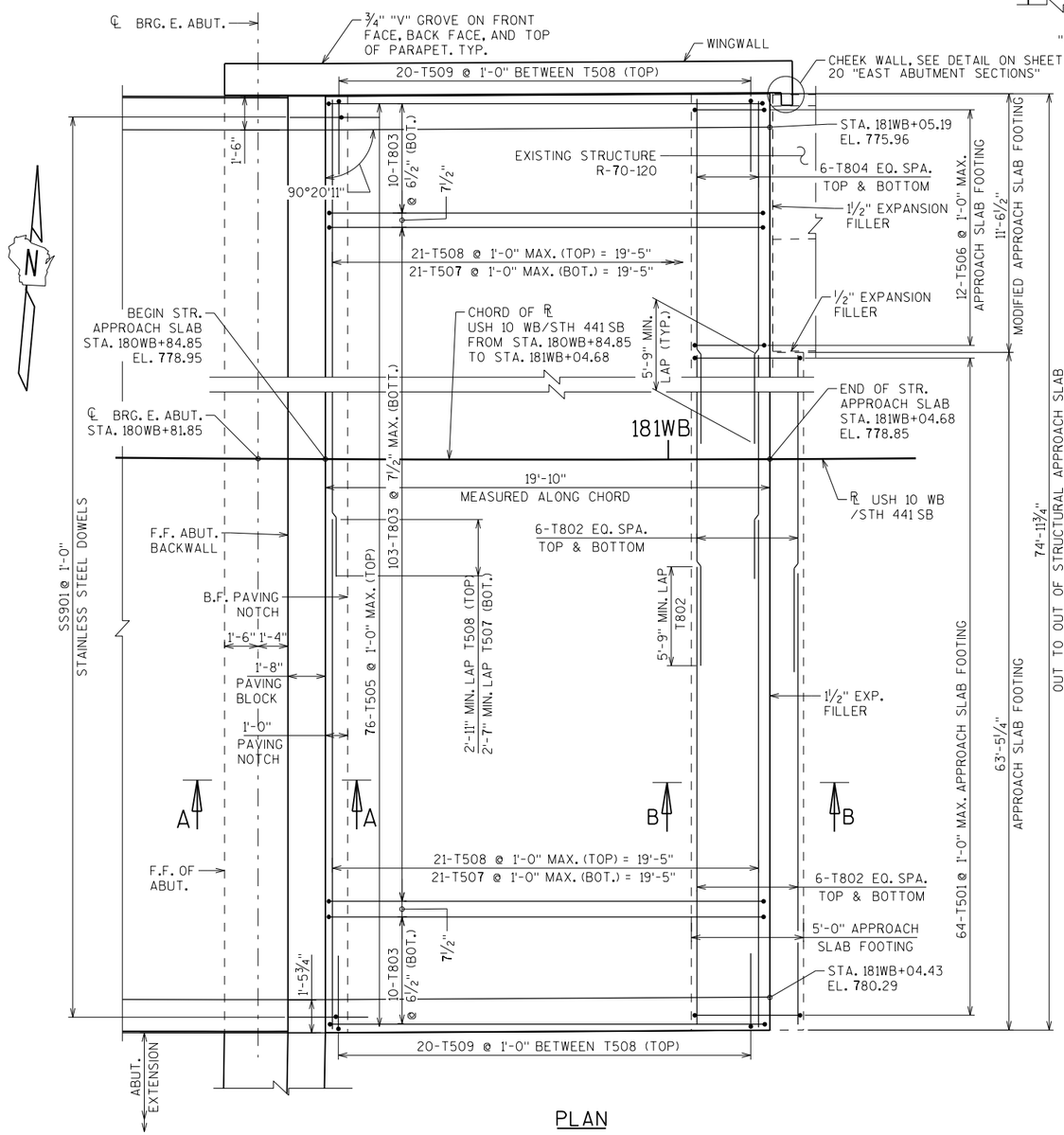
1517-07-77




## PLAN




## SECTION A-A




## SECTION B-B

## TRANSVERSE SECTION THRU STRUCTURAL APPROACH SLAB

* MEASURED NORMAL TO ABUTMENT.

** PROVIDE BASE AGGREGATE DENSE 1¼" UNDER STRUCTURAL APPROACH SLAB. COST INCLUDED WITH ROADWAY BID ITEMS.

## LEGEND

(T02) STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THICKNESS) OF POLYETHYLENE SHEETS OVER THE ENTIRE TOP OF FOOTING.

(T03) PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THICKNESS) OF POLYETHYLENE SHEETS OVER THE ENTIRE TOP OF SUBGRADE BENEATH SLAB.

▲ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

◐ SEE PARAPET STANDARD DETAILS FOR LOCATION OF NAME PLATE AND BENCH MARK WITH RESPECT TO THE END OF PARAPET.

◔ R501 BAR SPACING VARIES ALONG THE LENGTH OF SINGLE SLOPE PARAPET 42SS (MODIFIED). SEE SHEET 99 "SINGLE SLOPE PARAPET 42SS AT E. ABUT." FOR SPACING DETAILS.

F.F. INDICATES FRONT FACE.

B.F INDICATES BACK FACE.

## DESIGN DATA

| | |
|---|---|
| CONCRETE STRENGTH, f'c: | 4,000 psi |
| BAR STEEL REINFORCEMENT, GRADE 60, fy: | 60,000 psi |
| ALLOWABLE SOIL BEARING PRESSURE: | 2,000 psi |

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY KO | PLANS CK'D. NPP

STRUCTURAL APPROACH SLAB DETAILS E. ABUT.

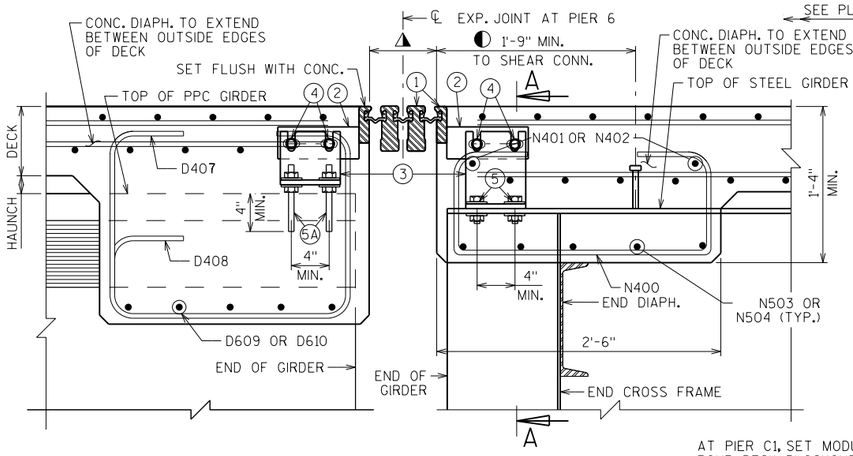
SHEET 91 OF 109
398

DATE: 3/15/2016
I.D.

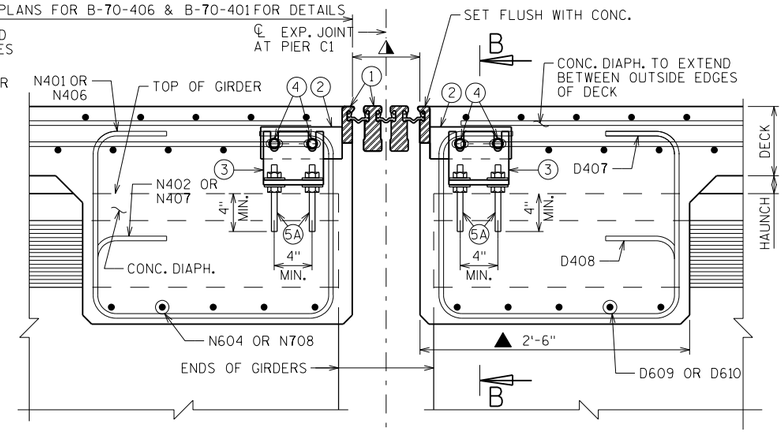
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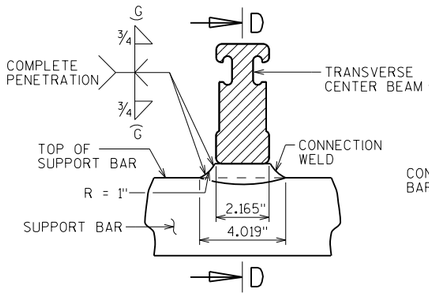



## SECTION THRU JOINT AT PIER 6

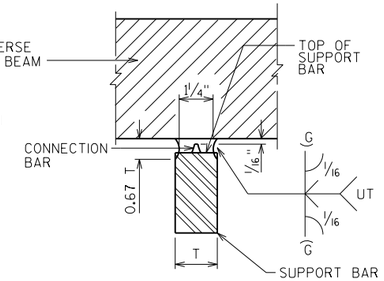



## SECTION THRU JOINT AT PIER C1

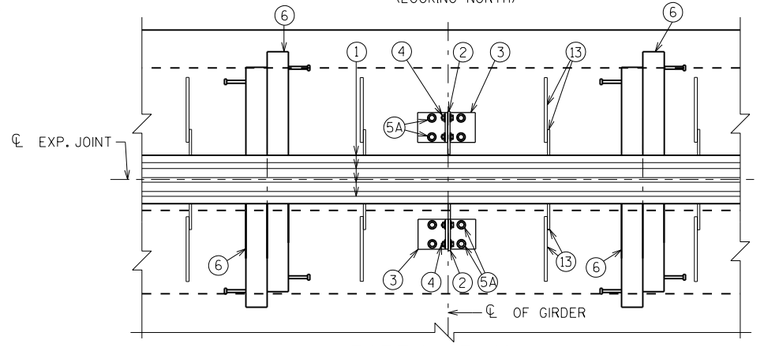
AT PIER C1, SET MODULAR JOINT AND POUR DECK BLOCKOUT FOR STRUCTURES B-70-61, B-70-401 & B-70-406 AT THE SAME TIME.



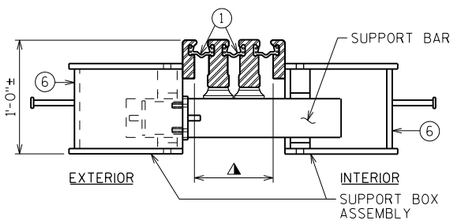

## MODULAR EXPANSION JOINT CONNECTION DETAIL AND WELD SPECIFICATION




## SECTION D-D

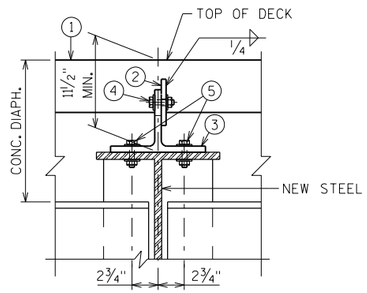



## PARTIAL PLAN

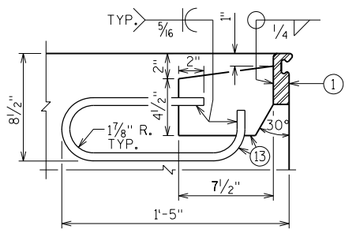



## JOINT DETAIL

AT SUPPORT BAR & SUPPORT BOX ASSEMBLY

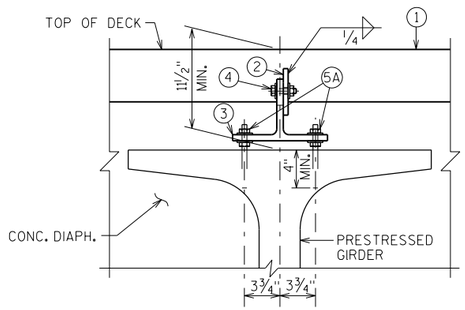



## SECTION A-A




## ANCHORAGE DETAIL

PLACE ADJACENT TO SUPPORT BOXES IN PAVING BLOCK @ ABUT. & IN DECK @ CONC. DIAPH.




## SECTION B-B

## NOTES

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.

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, 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.

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 "EXPANSION DEVICE MODULAR B-70-61".

BAR STEEL REINF. IN DECK AND CONC. DIAPHRAGM SHALL BE RESPACED AS NECESSARY TO ALLOW PLACEMENT OF JOINT ASSEMBLY. TOP TRANSVERSE BARS, ADJACENT TO MOD. JT., TO BE CUT AND PLACED BETWEEN JT. SUPPORT SYSTEM.

DETAILS SHOWN ON THIS SHEET ARE ALSO APPLICABLE TO SHEET 93 MODULAR EXP. JOINT DETAILS AT HINGES 1-4 & E. ABUT".

ALL DIMENSIONS SHOWN ARE AT MEDIAN TEMPERATURE 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.

## LEGEND

(1) MODULAR EXPANSION JOINT DEVICES. SEE SHEET 92 "MODULAR EXPANSION JOINT AT PIER C1 & 6" FOR NUMBERS OF CELLS.

(2) 1/2" PLATE, ONE PER GIRDER MIN. PROVIDE 2 - 1" X 2" MIN. SLOTTED HOLES PLACED HORIZONTALLY FOR NO. 4.

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

(3A) WT 6 X 48 (OR EQUIVALENT BUILT UP T-SECTION). ONE PER GIRDER. PROVIDE 2 - 1" X 3" MIN. SLOTTED HOLES PLACED VERTICALLY IN WEB OF WT FOR BOLTS NO. 4.

(4) 3/4" DIA. HIGH STRENGTH BOLTS WITH NUTS & WASHERS. (A325 GALV.)

(5) 3/4" DIA. HIGH STRENGTH BOLTS WITH NUTS & WASHERS. FIELD DRILL HOLES IN NEW GIRDER TOP FLANGE AND 7/8" DIA. HIGH STRENGTH BOLTS WITH NUTS & WASHERS FOR EXISTING GIRDERS AND REUSE HOLES IN THE EXISTING GIRDER TOP FLANGE (A325 GALV.)

(5A) 3/4" DIA. THREADED ROD WITH 2 NUTS & WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES. (A325 GALV.)

(6) SUPPORT BOX ASSEMBLY FOR SUPPORT BAR (SPA. PER MANUFACTURER). FABRICATE BOX FROM 1/2" PLATES.

(7) 3/8" BULKHEAD PLATE. WELD TO NO. 1, NO. 8 AND NO. 14 WHEN CONDUIT IS PRESENT IN PARAPET. ACCOMMODATE 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 & NO. 14 AS SHOWN.

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

(13) 1/2" PLATE WITH 5/8" DIA. LOOP ANCHOR FABRICATED AS SHOWN. SPACED AT MANUFACTURER'S SPEC.

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

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

* 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 "TEMPERATURE TABLE" ON SHEET 92 "MODULAR EXP. JOINT AT PIER C1 & 6".

▲ JOINT MANUFACTURER SHALL INFORM AND PROVIDE NECESSARY DETAILS TO THE PRESTRESSED GIRDER FABRICATOR WHEN FORM- OUT OF THE TOP FLANGE IS REQUIRED TO ALLOW PLACEMENT OF SUPPORT BOX ASSEMBLY.

† A501 WITH 1'-0" MIN. LAP. CUT IN FIELD TO CLEAR JOINT SUPPORT SYSTEM AS REQUIRED.

◐ DIMENSION IS PARALLEL TO ℄ GIRDER.

■ (2) A502 COATED L-SHAPED MASONRY ANCHORS TYPE S-5/8" INCH EMBEDED 12" IN CONCRETE. SPACE AT 1'-0". PLACE WITH EPOXY RESIN AFTER MODULAR JOINT IS IN POSITION. FOLLOW STANDARD SPECIFICATION FOR MASONRY ANCHOR TYPE S.

SEE SHEETS 95 "COVER PLATES FOR PARAPET "42SS" " AND 94 "COVER PLATES FOR PARAPET "56SS" " FOR DETAILS AT THE PARAPETS.

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.

FOR DIAPHRAGM REINFORCEMENT INFORMATION, SEE SHEET 51 "72W" PRESTRESSED GIRDER DIAPHRAGM DETAILS - 1 OF 2" OR SHEET 82 "DECK REINFORCING DETAILS"

STATE PROJECT NUMBER

1517-07-77

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY BAR | PLANS CK'D. DEM

MODULAR EXP. JOINT DETAILS PIERS C1 & 6

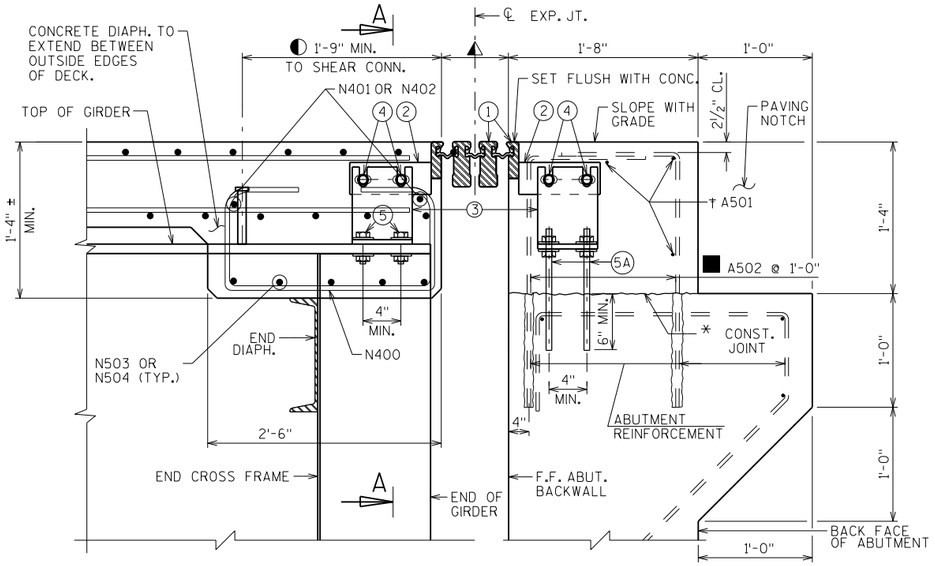
SHEET 92 OF 109
399

8

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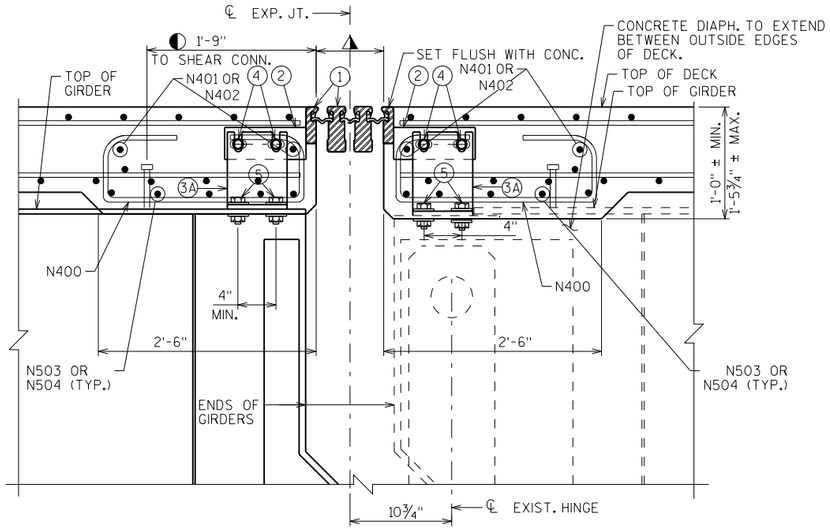
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DATE: 3/15/2016
I.D.



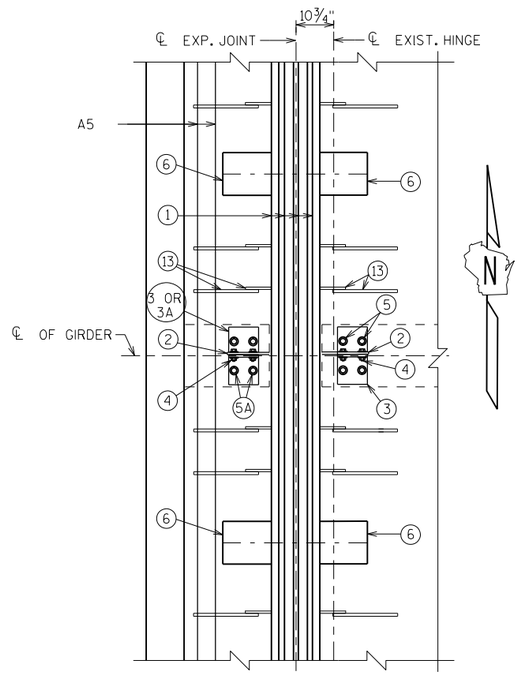

## SECTION THRU JOINT AT EAST ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE




## SECTION THRU JOINT AT HINGES 1-4

(HINGE #1 WEST SIDE NEW STEEL & EAST SIDE EXISTING STEEL. EXISTING STEEL AT ALL OTHER HINGES.)




## PARTIAL PLAN

## NOTES

SEE SHEET 92 "MODULAR EXP. JOINT DETAILS PIERS C1 & 6" FOR NOTES, LEGENDS AND DETAILS NOT SHOWN HERE.

SEE SHEET 94 "MODULAR EXPANSION JOINT DATA" FOR TEMPERATURE TABLE AND EXPANSION JOINT BLOCK OUT DIMENSIONS.

SEE SHEET 82 "DECK REINFORCING DETAILS" FOR DIAPHRAGM REINFORCING DETAILS.

STATE PROJECT NUMBER

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY BAR | PLANS CK'D. DEM

MODULAR EXP. JT. AT HINGES 1-4 & E. ABUT.

SHEET 93 OF 109

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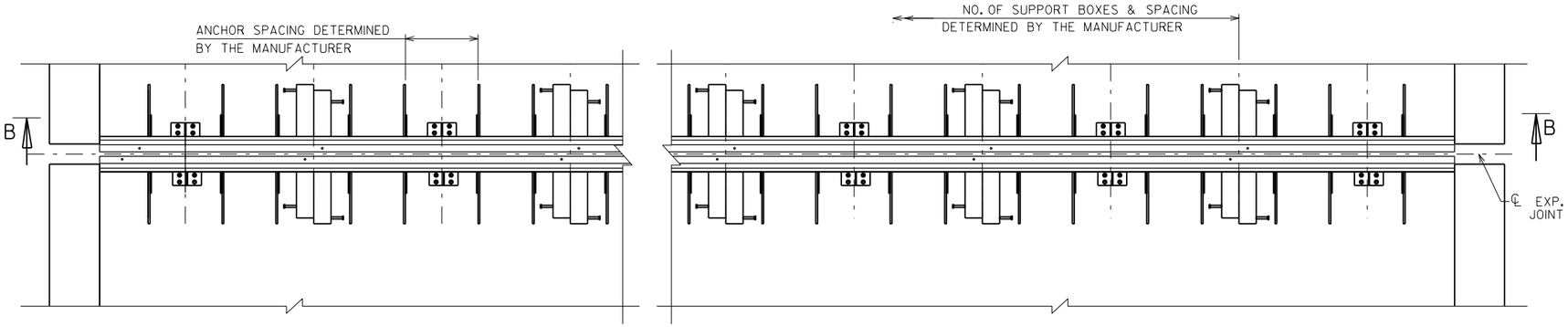
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DATE: 3/15/2016

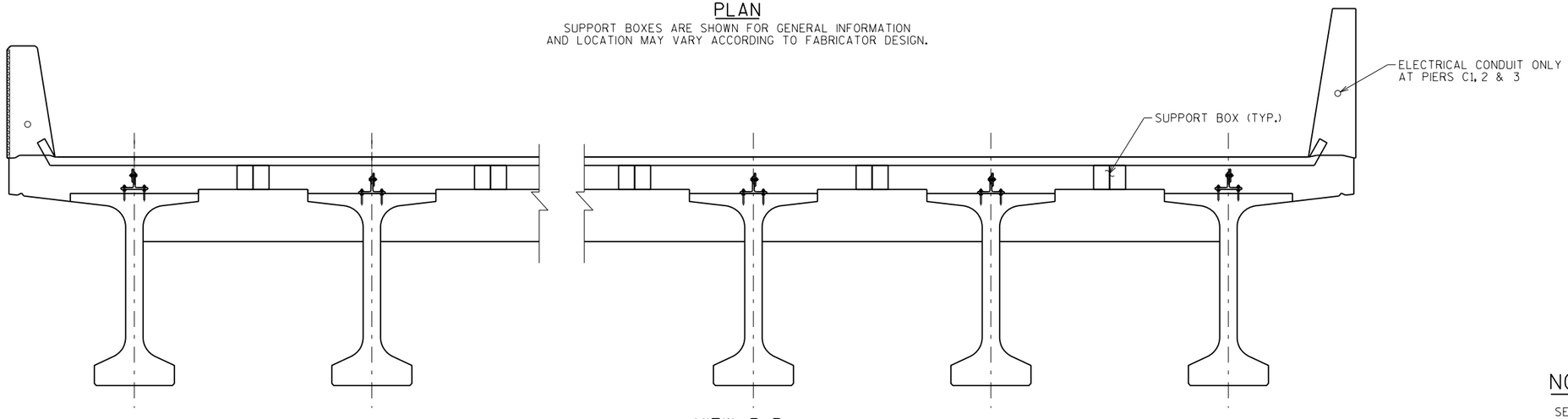
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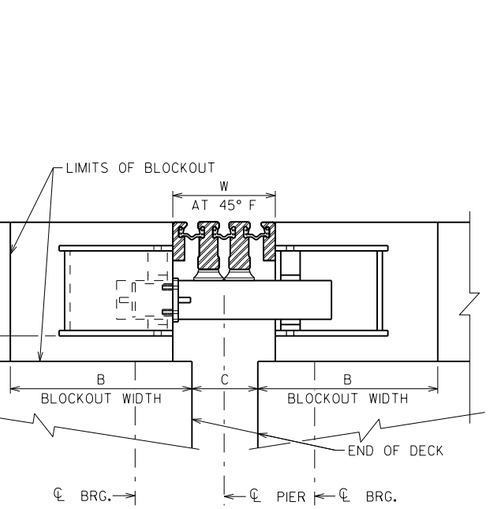
| STATE PROJECT NUMBER |
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| 1517-07-77 |




## PLAN

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



VIEW B-B
(NOT TO SCALE)

## NOTE

SEE SHEET 92 "MODULAR EXP. JOINT DETAILS PIERS C1 & 6" FOR NOTES.




## TYPICAL SECTION THRU SUPPORT BOX

'W' IS THE INITIAL JOINT WIDTH SETTING AT 45° F, PER THE MANUFACTURER'S SPECIFICATIONS. SEE TEMPERATURE TABLE ON THIS SHEET FOR TEMPERATURE ADJUSTMENTS.

## EXPANSION JOINT BLOCK OUT DIMENSIONS

| | | PIER C1 | PIER 6 | HINGE #1 | HINGE #2 | HINGE #3 | HINGE #4 | E. ABUT. |
|---|---|---|---|---|---|---|---|---|
| CELLS | | 3 | 3 | 2 | 3 | 3 | 3 | 3 |
| DIMENSION | W | 12.24" | 12.24" | 8.17" | 12.24" | 12.24" | 12.24" | 12.24" |
| | A | 14" | 14" | 14" | 14" | 14" | 14" | 14" |
| | B | 18" | 18" | 5'-0" | 5'-0" | 5'-0" | 5'-0" | 18" |
| | C MIN. | 4.92" | 4.92" | 3.35" | 4.92" | 4.92" | 4.92" | 4.92" |
| | C MAX. | 9.65" | 9.65" | 5.71" | 9.65" | 9.65" | 9.65" | 9.65" |

'C' DIMENSIONS ARE PER THE MANUFACTURER'S SPECIFICATIONS, AT THE TIME OF INITIAL SET.

## TEMPERATURE TABLE

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

1. MOVEMENT PER 10° F:
   - PIER C1 - 9/16"
   - PIER 6 - 1/2"
   - HINGE #1 - 1/4"
   - HINGE #2 - 9/16"
   - HINGE #3 - 1/2"
   - HINGE #4 - 7/16"
   - E. ABUT. - 3/8"
2. MEDIAN TEMPERATURE OF 45°F.
3. TEMPERATURE RANGE IN TABLE FROM +5°F TO +85°F FOR PRESTRESSED GIRDER AND -30° TO 120° F FOR STEEL GIRDER

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY BAR | PLANS CK'D. DEM

MODULAR EXPANSION JOINT DATA

SHEET 94 OF 109
401

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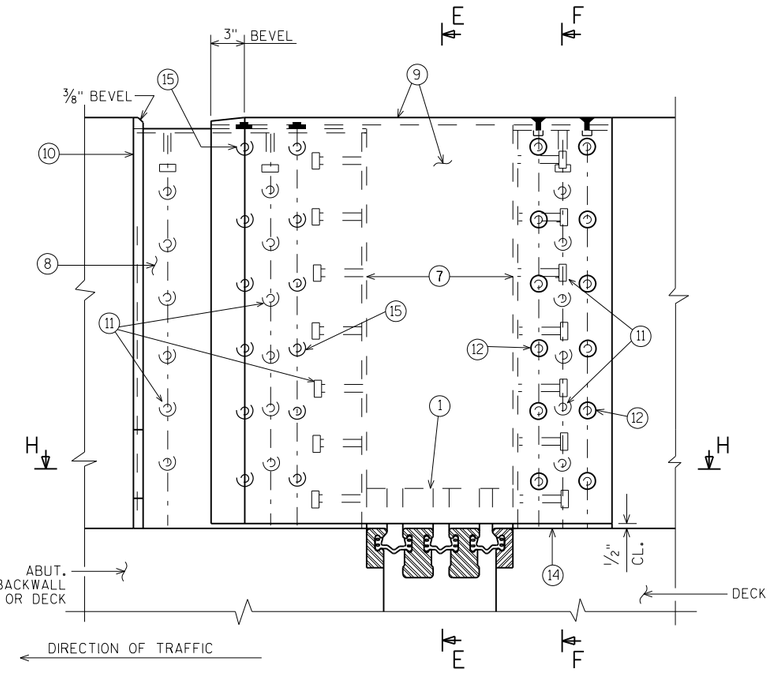
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DATE: 3/15/2016
I.D.

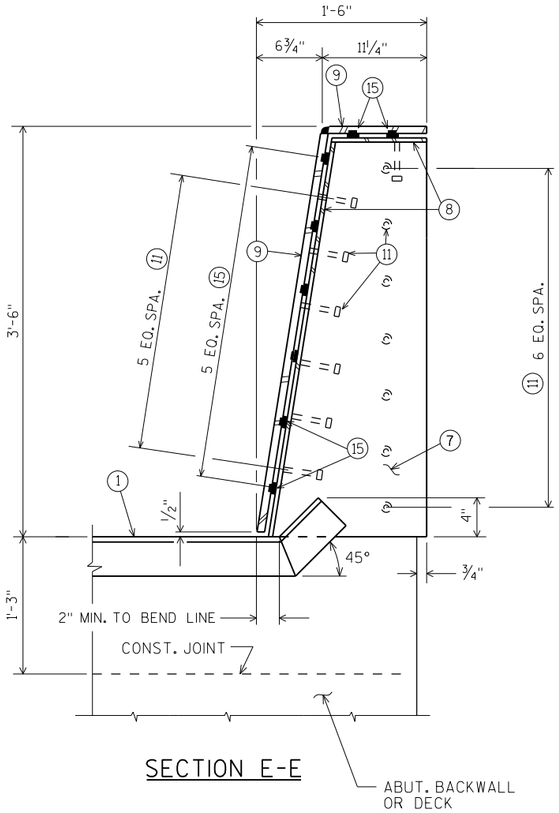
STATE PROJECT NUMBER

1517-07-77

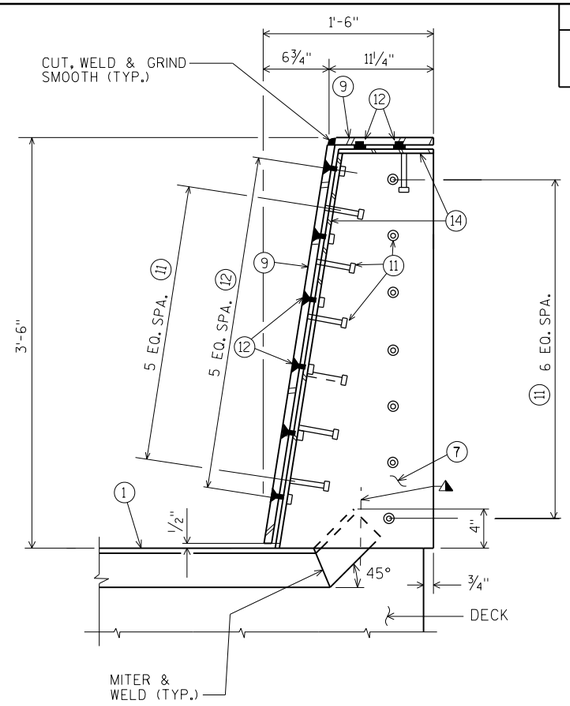



ELEVATION OF SINGLE SLOPE PARAPET

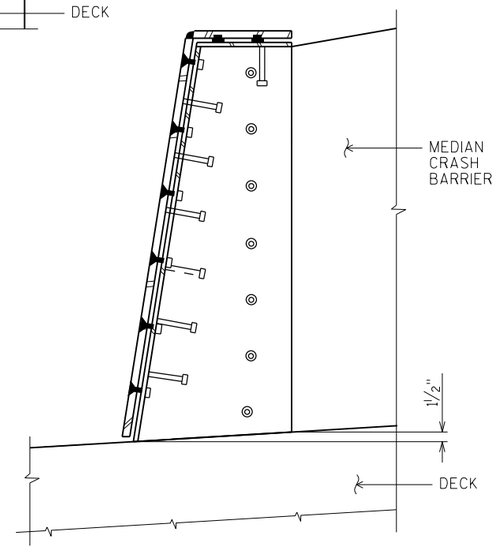
(LOOKING NORTH)




SECTION E-E

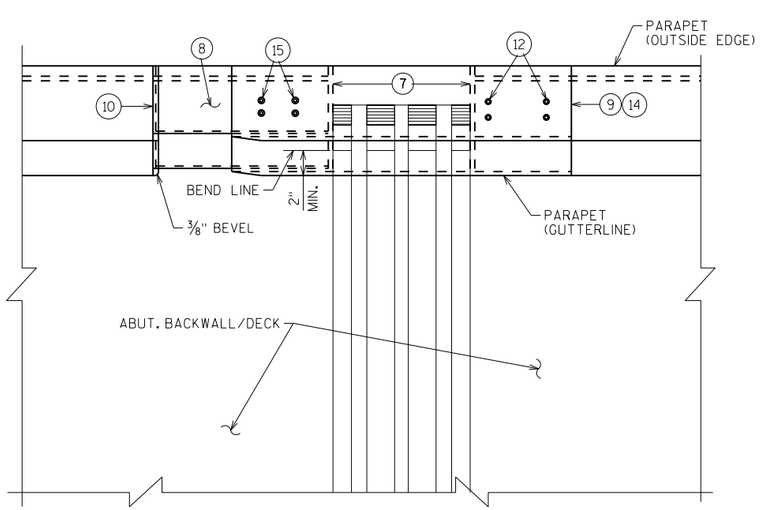



SECTION F-F

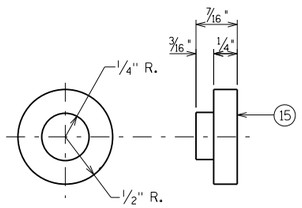



MODIFIED BULKHEAD DETAIL

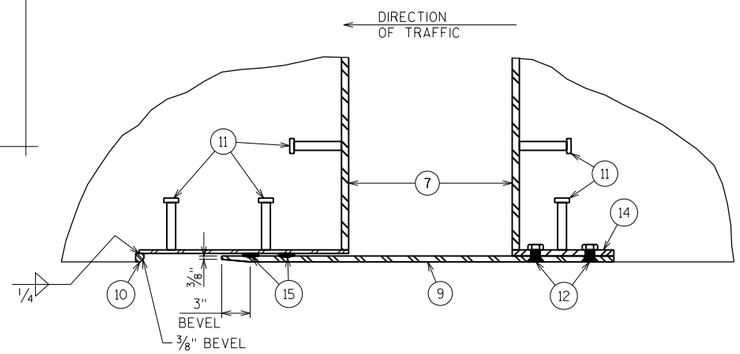
SEE SHEET 101 "MEDIAN CRASH BARRIER DETAILS" FOR LOCATION




PLAN OF SINGLE SLOPE PARAPET




ADIPRENE BUTTON DETAIL




SECTION H-H

NOTE

SEE SHEET 92 "MODULAR EXP. JOINT DETAILS PIERS C1 & 6" FOR LEGEND.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

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COVER PLATES FOR PARAPET 42SS

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DATE: 3/15/2016
I.D.

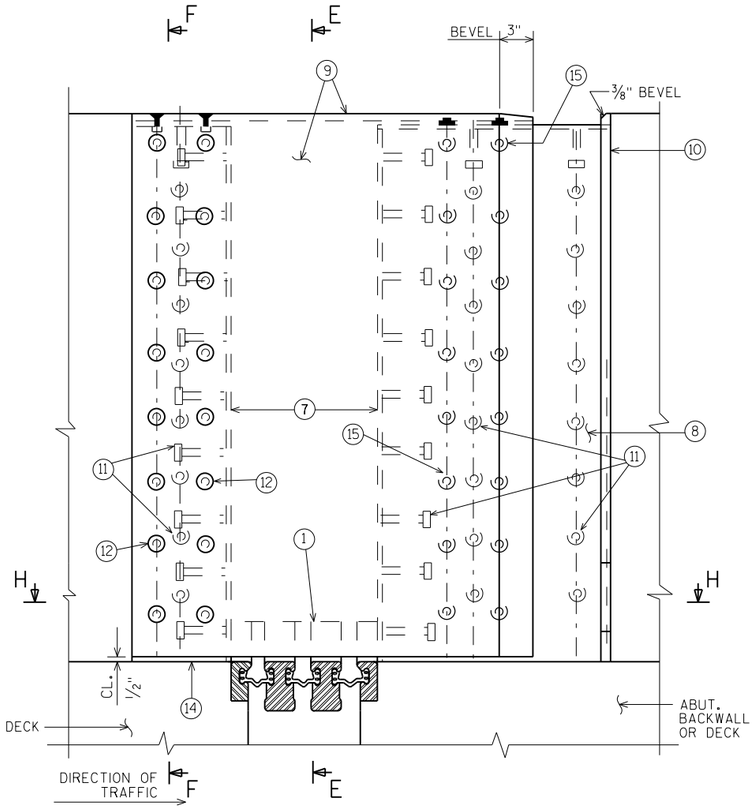
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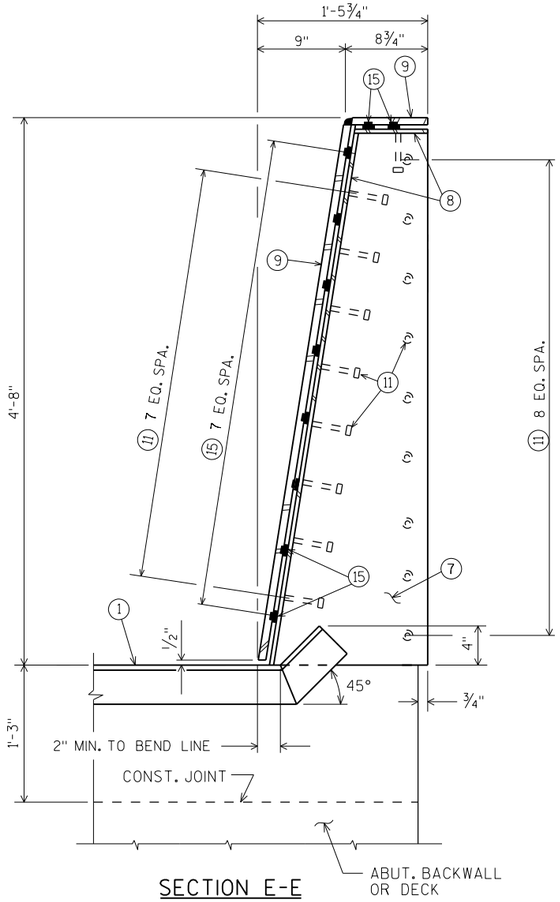
STATE PROJECT NUMBER

1517-07-77

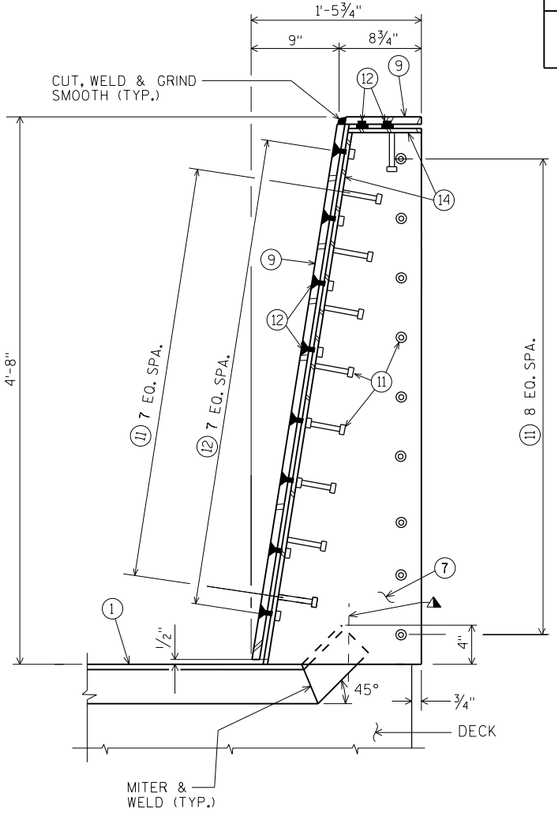



ELEVATION OF SINGLE SLOPE PARAPET

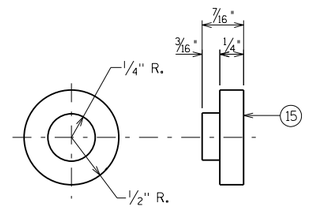
(LOOKING SOUTH)



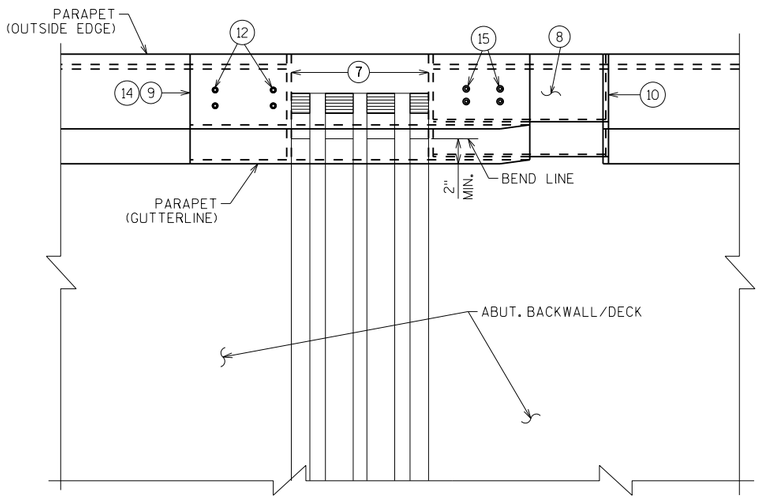

SECTION E-E



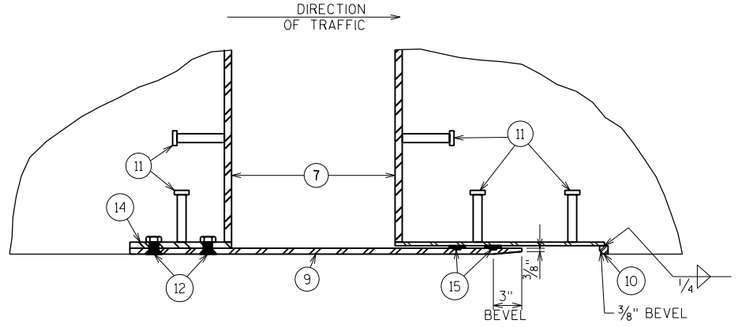

SECTION F-F




ADIPRENE BUTTON DETAIL




PLAN OF SINGLE SLOPE PARAPET




SECTION H-H

NOTE

SEE SHEET 92 "MODULAR EXP. JOINT DETAILS PIERS C1 & 6" FOR LEGEND.

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

STRUCTURE B-70-61

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COVER PLATE FOR PARAPET 56SS

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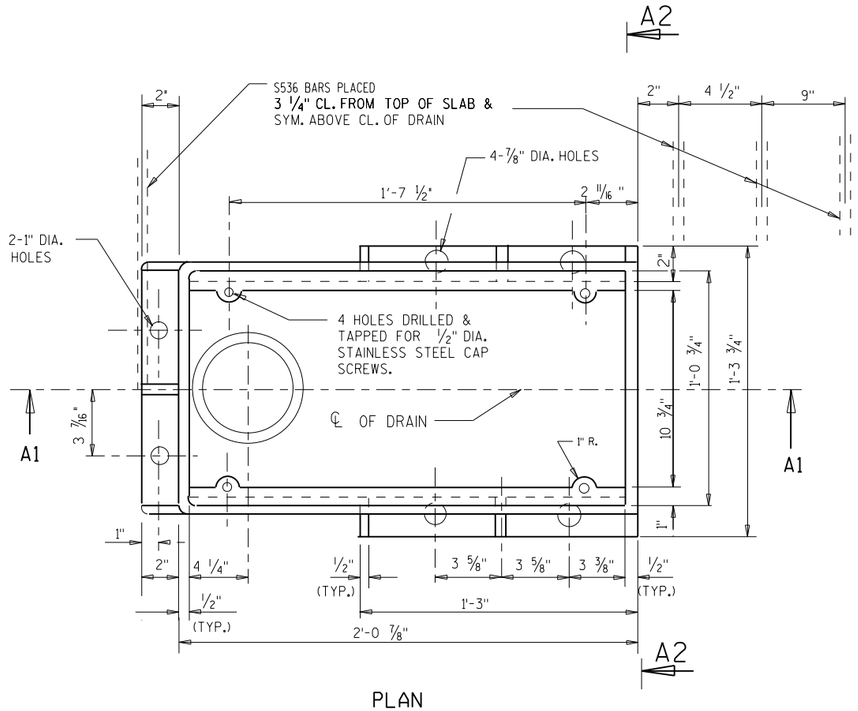
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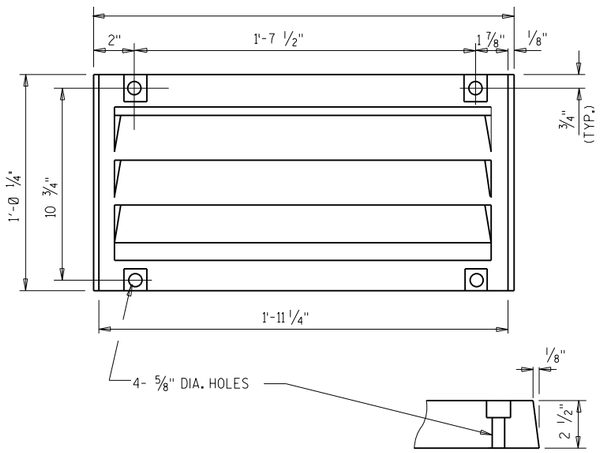
1517-07-77

## FLOOR DRAIN LOCATION TABLE

| DRAIN NO. | STATION | OFFSET |
|---|---|---|
| 8 | 153WB+82.00 | LT. |
| 9 | 153WB+87.00 | LT. |
| 10 | 154WB+00.00 | LT. |
| 11 | 155WB+00.00 | LT. |
| 12 | 155WB+70.00 | RT. |
| 13 | 155WB+90.00 | RT. |
| 14 | 156WB+25.00 | RT. |
| 15 | 156WB+50.00 | LT. |
| 16 | 157WB+50.00 | RT. |
| 17 | 158WB+00.00 | LT. |
| 18 | 159WB+00.00 | RT. |
| 19 | 159WB+50.00 | LT. |
| 20 | 160WB+50.00 | RT. |
| 21 | 161WB+55.00 | LT. |
| 22 | 161WB+55.00 | RT. |
| 23 | 164WB+50.00 | RT. |
| 24 | 166WB+25.00 | LT. |
| 25 | 168WB+00.00 | RT. |
| 26 | 168WB+95.00 | LT. |
| 27 | 168WB+95.00 | RT. |
| 28 | 170WB+00.00 | RT. |
| 29 | 170WB+75.00 | RT. |
| 30 | 172WB+00.00 | RT. |
| 31 | 172WB+50.00 | LT. |
| 32 | 173WB+50.00 | LT. |
| 33 | 173WB+50.00 | RT. |
| 34 | 174WB+30.00 | LT. |
| 35 | 174WB+30.00 | RT. |
| 36 | 174WB+85.00 | RT. |
| 37 | 175WB+00.00 | LT. |
| 38 | 175WB+00.00 | RT. |
| 39 | 175WB+20.00 | RT. |
| 40 | 176WB+00.00 | LT. |
| 41 | 177WB+00.00 | LT. |
| 42 | 177WB+65.00 | LT. |
| 43 | 177WB+73.00 | LT. |
| 44 | 180WB+75.00 | LT. |

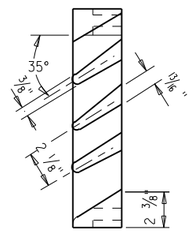


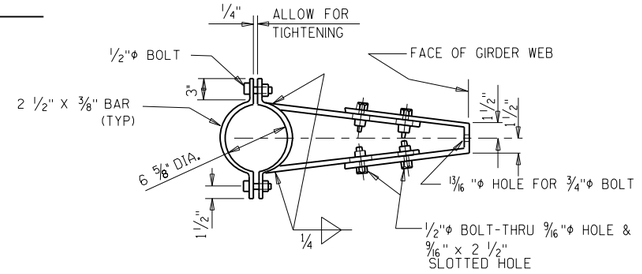

PLAN



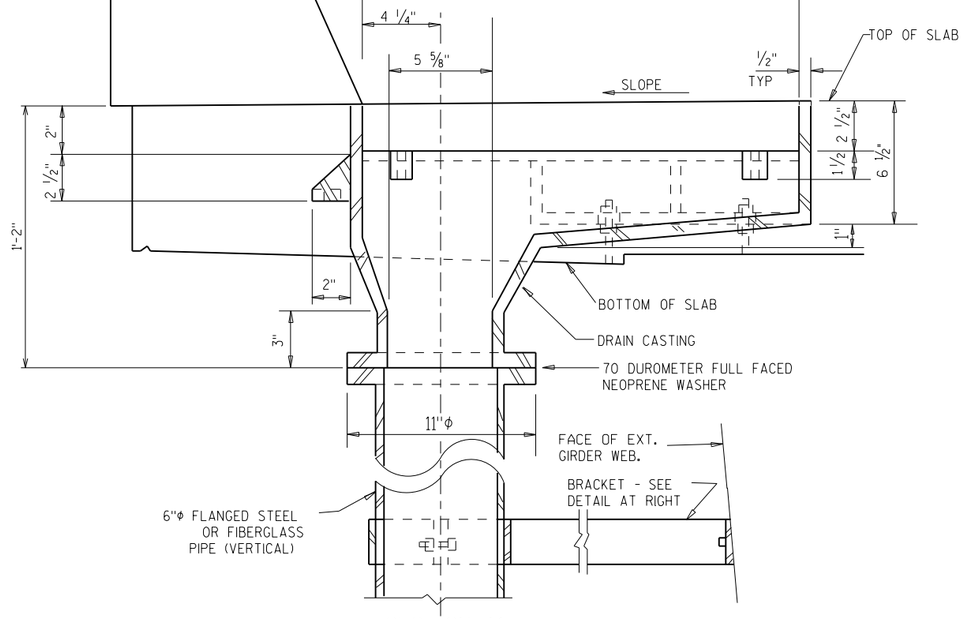

GRATE CASTING DETAIL

ATTACH GRATE TO FRAME FOR SHIPMENT

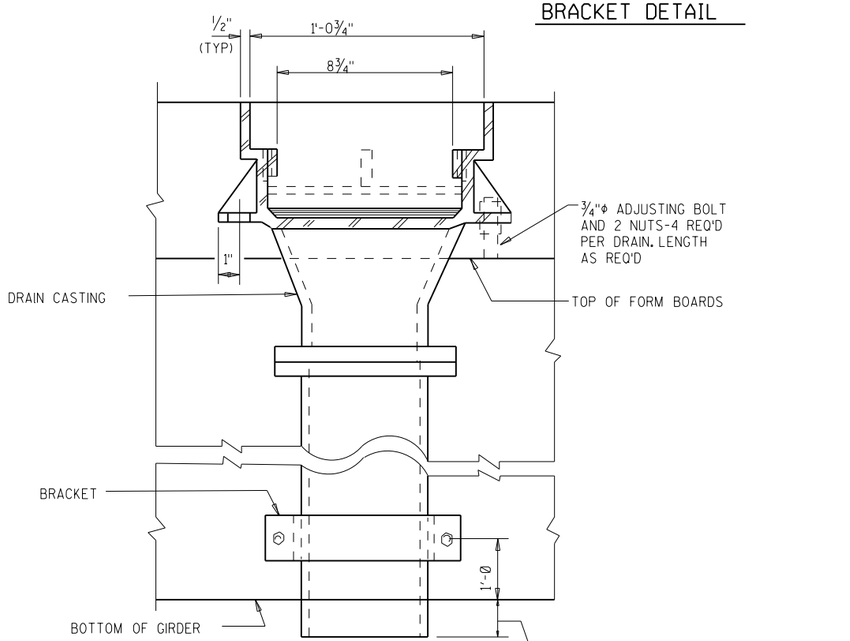



BRACKET DETAIL




SECTION A1




SECTION A2

## GENERAL NOTES

ALL MATERIAL FOR TYPE "GC" CASTING AND 6" DIA. CONNECTION PIPE, EXCLUDING GRATE HOLD DOWN SCREWS, SHALL BE GRAY IRON CONFORMING TO ASTM A48, CLASS 30.

MATERIAL FOR BRACKETS SHALL CONFORM TO ASTM A36.

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

FLANGED 6" DIA. DOWNSPOUTS SHALL BE REINFORCED THERMOSETTING RESIN PIPE CONFORMING TO SECTION 514 OF THE STANDARD SPECIFICATIONS.

TRANSVERSE & LONGITUDINAL SLAB BAR REINFORCEMENT TO BE CUT A MAXIMUM OF 1" CLEAR FROM DRAIN FRAME. DISPLACE BARS WHERE POSSIBLE.

AT THE EXISTING GIRDERS, FIELD DRILLING OF HOLES REQUIRED FOR THE BRACKET CONNECTIONS. THE COST OF FIELD DRILLING OF HOLES IS INCLUDED IN THE UNIT BID PRICE FOR "FLOOR DRAINS TYPE GC".

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

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FLOOR DRAIN TYPE 'GC'

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I.D.

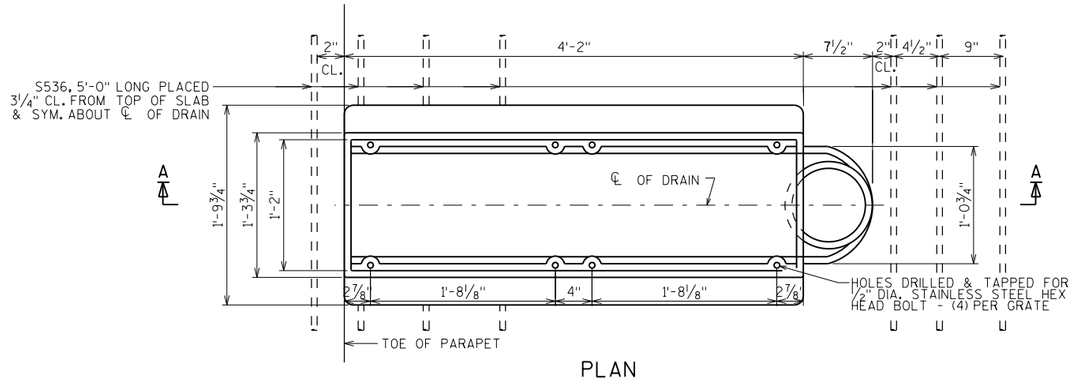
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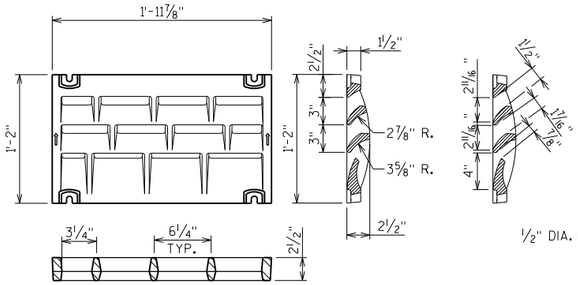
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STATE PROJECT NUMBER

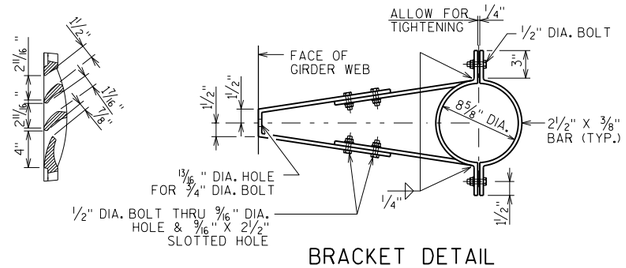
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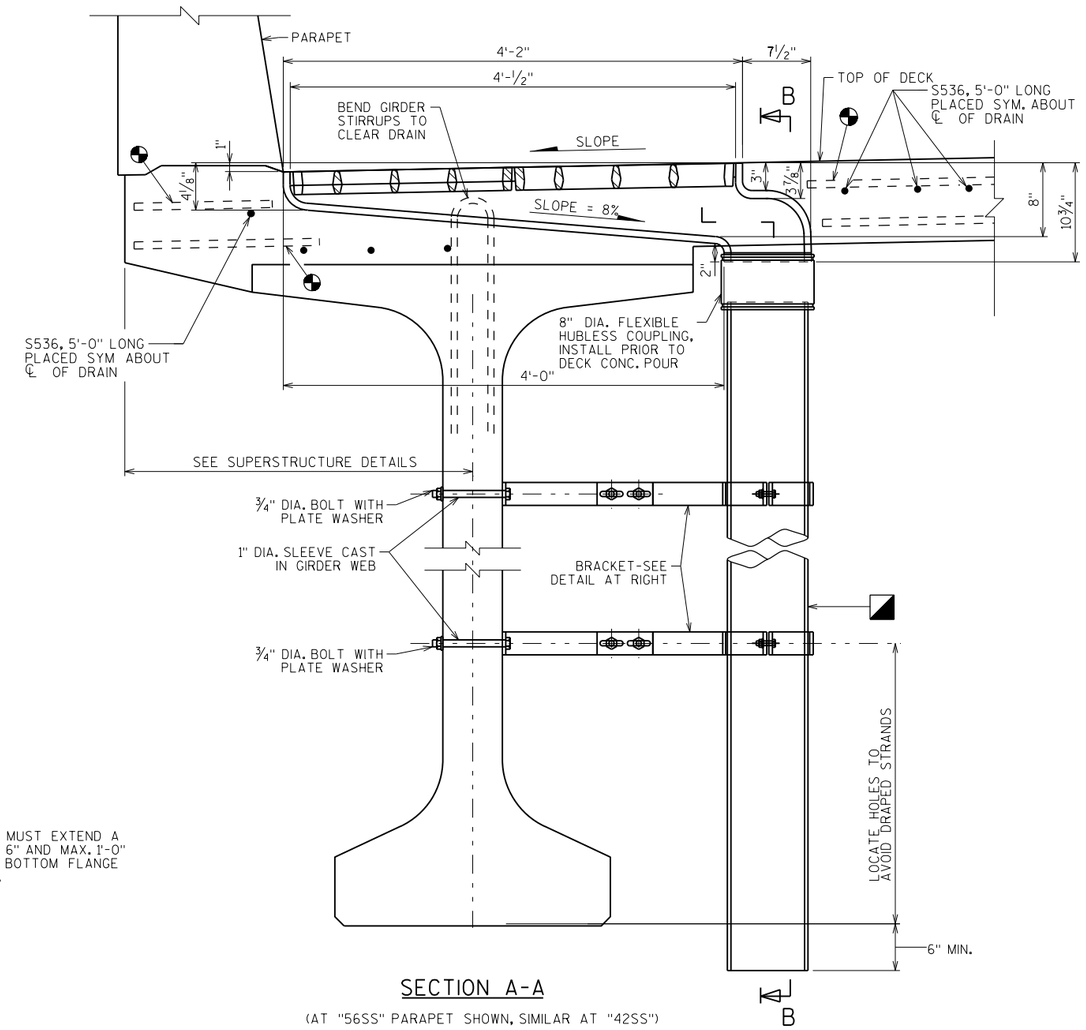

PLAN




GRATE CASTING DETAILS



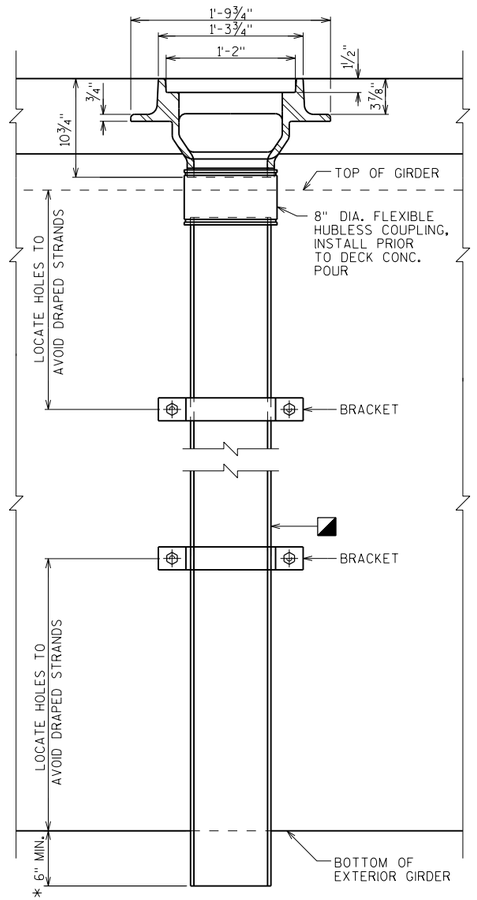

BRACKET DETAIL




SECTION A-A

(AT "56SS" PARAPET SHOWN, SIMILAR AT "42SS")

* THE DRAINS MUST EXTEND A MINIMUM OF 6" AND MAX. 1'-0" BELOW THE BOTTOM FLANGE OF GIRDERS.




SECTION B-B

## FLOOR DRAIN LOCATION TABLE

| DRAIN NO. | STATION | OFFSET |
|---|---|---|
| 1 | 148WB+00.00 | LT. |
| 2 | 148WB+00.00 | RT. |
| 3 | 148WB+60.00 | RT. |
| 4 | 149WB+10.00 | RT. |
| 5 | 149WB+75.00 | LT. |
| 6 | 152WB+25.00 | LT. |
| 7 | 153WB+00.00 | LT. |

## GENERAL NOTES

ALL MATERIAL FOR TYPE "WF" CASTING AND 8" DIA. CONNECTION PIPE, EXCLUDING GRATE HOLD DOWN SCREWS, SHALL BE GRAY IRON CONFORMING TO ASTM A48, CLASS 30.

MATERIAL FOR BRACKETS SHALL CONFORM TO ASTM A36.

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

◪ 8" DIA. DOWNSPOUTS SHALL BE REINFORCED THERMOSETTING RESIN PIPE CONFORMING TO SECTION 514 OF THE STANDARD SPECIFICATIONS.

◔ TRANSVERSE & LONGITUDINAL SLAB BAR REINFORCEMENT TO BE CUT A MAXIMUM OF 1" CLEAR FROM DRAIN FRAME. DISPLACE BARS WHERE POSSIBLE.

COORDINATE LOCATIONS FOR BRACKET INSERT IN THE WEB OF PRESTRESSED GIRDER WITH GIRDER FABRICATOR.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY BAR | PLANS CK'D. NPP

FLOOR DRAIN TYPE 'WF'

SHEET 98 OF 109
405

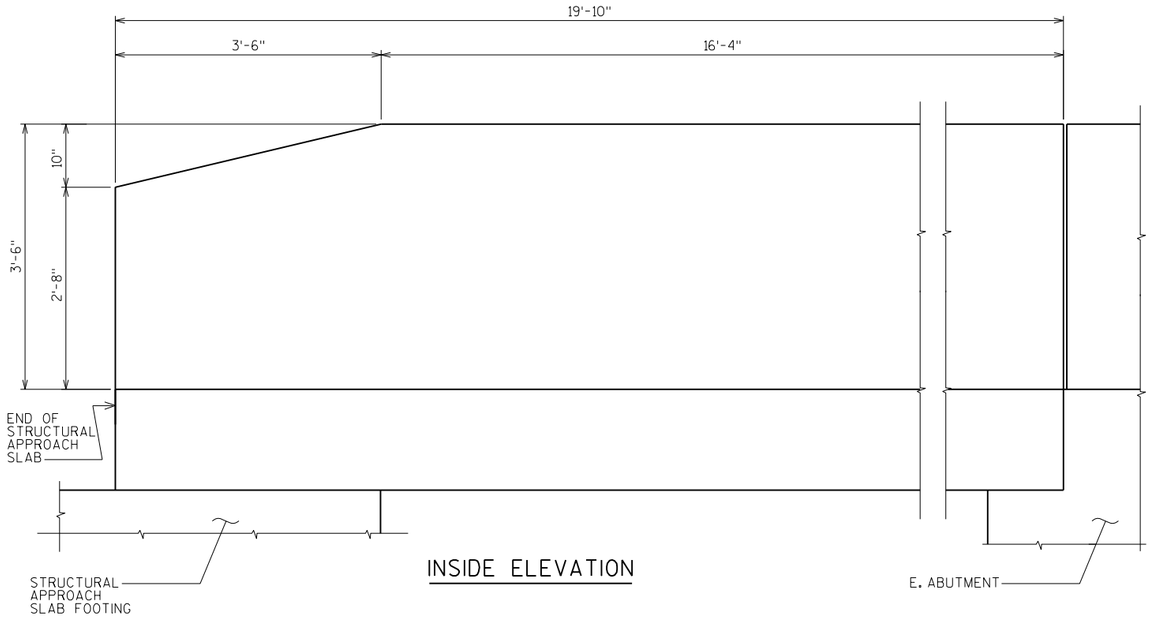
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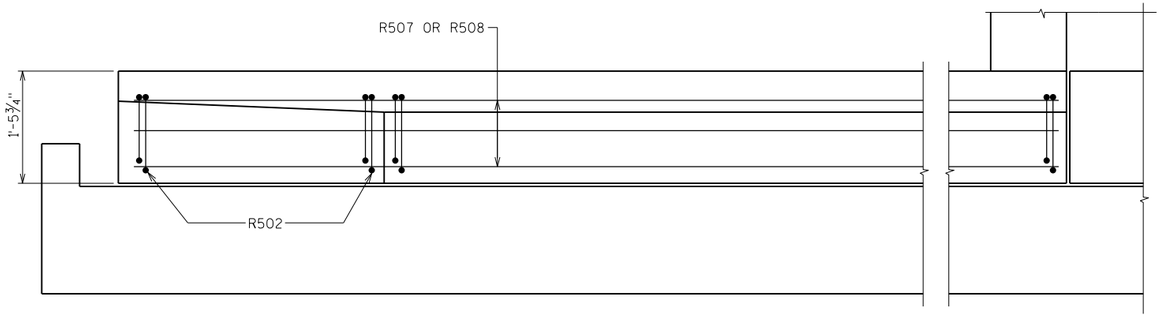
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DATE: 3/15/2016
I.D.

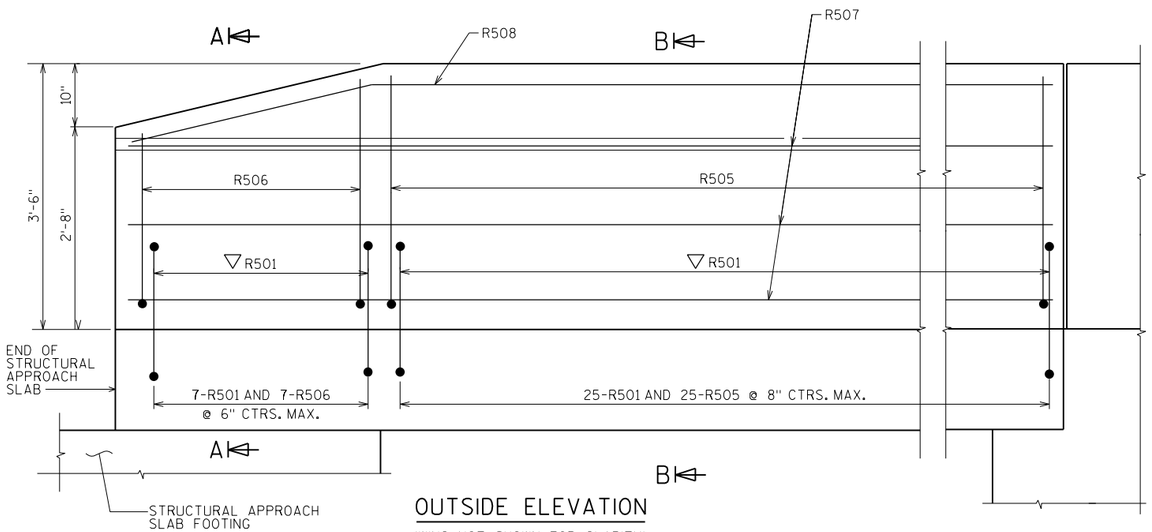
| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |




INSIDE ELEVATION

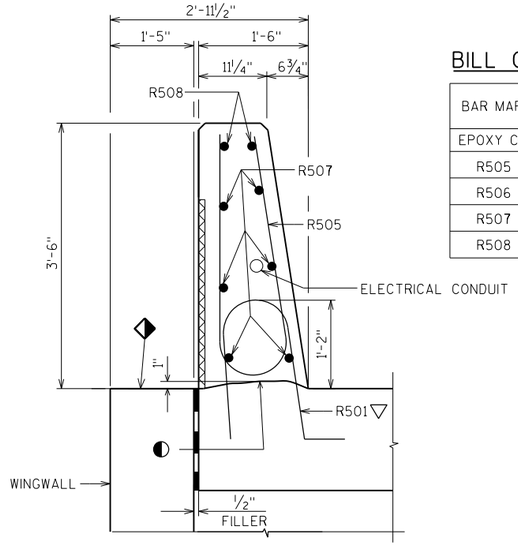



PLAN




OUTSIDE ELEVATION

(WING NOT SHOWN FOR CLARITY)



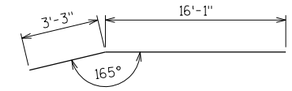

SECTION B-B



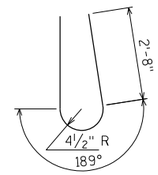

SECTION A-A

## BILL OF BARS

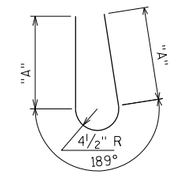
| BAR MARK | NO. REQUIRED | LENGTH | BENT | SERIES | LOCATION |
|---|---|---|---|---|---|
| EPOXY COATED | | | | | TOTAL = 380 LB |
| R505 | 25 | 6'-8" | X | | 42SS PARAPET VERTICAL |
| R506 | 7 | 5'-10" | X | X | 42SS PARAPET VERTICAL |
| R507 | 6 | 19'-5" | | | 42SS PARAPET HORIZ. |
| R508 | 2 | 19'-4" | X | | 42SS PARAPET HORIZ. |




R508




R505




R506

## BAR SERIES TABLE

| MARK | NO. REQUIRED | LENGTH "A" | TOTAL LENGTH |
|---|---|---|---|
| R506 | 1 SERIES OF 7 | 1'-10" TO 2'-8" | 5'-0" TO 6'-8" |

## LEGEND

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

◆ SLOPE FOR DRAINAGE

▽ R501 BARS TO BE TIED TO STRUCTURAL APPROACH SLAB STEEL BEFORE STRUCTURAL APPROACH SLAB IS POURED. SEE SHEET 91 "STRUCTURAL APPROACH SLAB DETAILS E. ABUT." FOR BILL OF BARS AND BAR DETAILS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY KO | PLANS CK'D. NPP

SINGLE SLOPE PARAPET '42SS' AT E. ABUT.

SHEET 99 OF 109
406

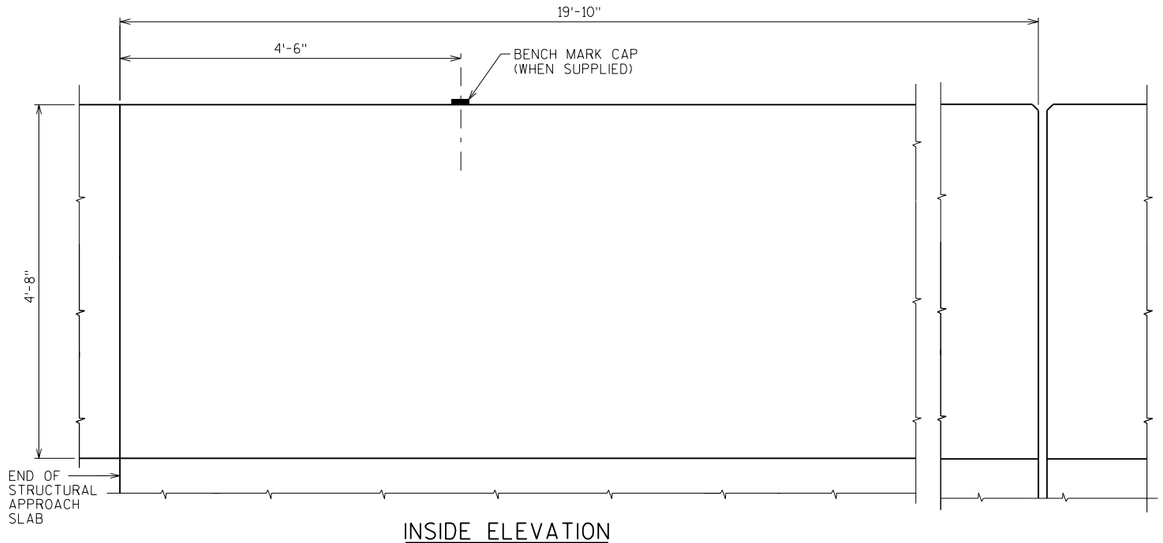
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DATE: 3/15/2016
I.D.

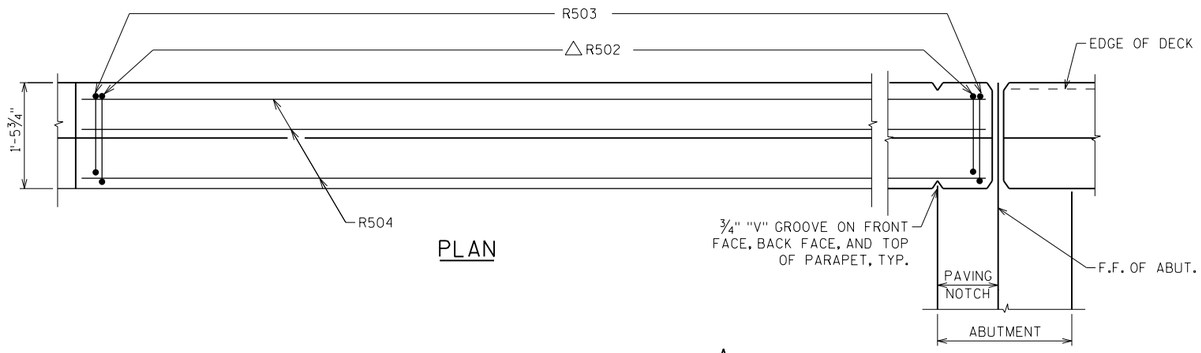
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1 2 3 4

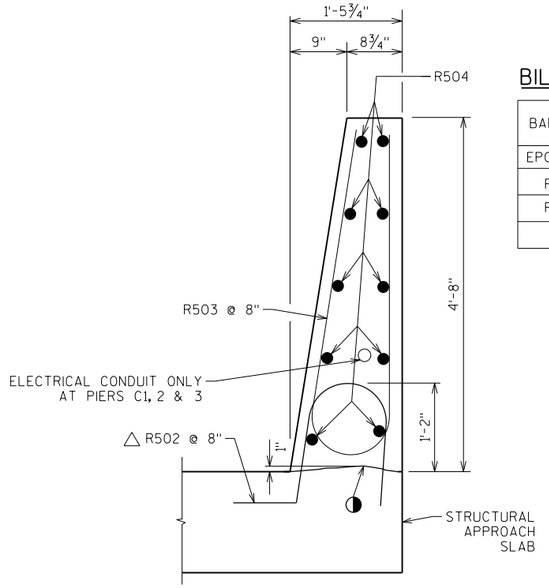
| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |




INSIDE ELEVATION



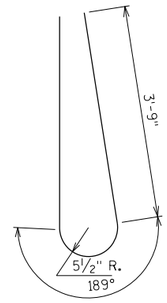

PLAN



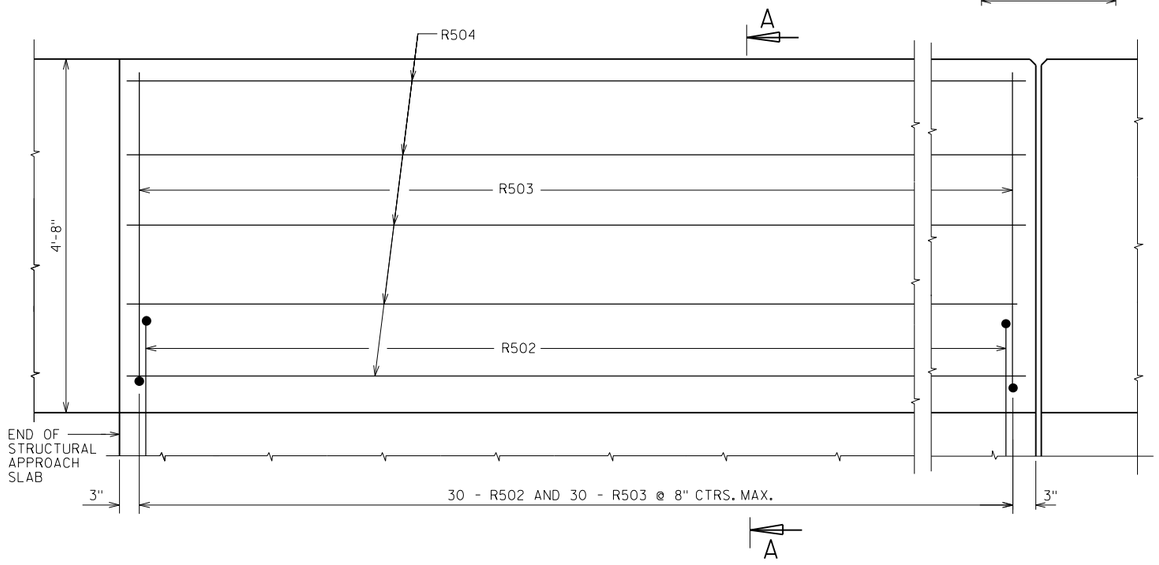

SECTION A-A

## BILL OF BARS

| BAR MARK | NO. REQUIRED | LENGTH | BENT | LOCATION |
|---|---|---|---|---|
| EPOXY COATED | | | | TOTAL = 490 LB |
| R503 | 30 | 9'-1" | X | SS56 PARAPET VERTICAL |
| R504 | 10 | 19'-5" | | SS56 PARAPET HORIZONTAL |
| | | | | |




R503




OUTSIDE ELEVATION

## LEGEND

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

△ R502 BARS TO BE TIED TO APPROACH SLAB STEEL BEFORE STRUCTURAL APPROACH SLAB IS POURED. SEE SHEET 91 "STRUCTURAL APPROACH SLAB DETAILS E. ABUT." FOR BILL OF BARSAND BAR DETAILS.

## NOTE

SEE SHEET 91 "STRUCTURAL APPROACH SLAB DETAILS E. ABUT." FOR STRUCTURAL APPROACH SLAB INFORMATION.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY KO | PLANS CK'D. NPP

SINGLE SLOPE PARAPET '56SS' AT E. ABUT.

SHEET 100 OF 109
407

8

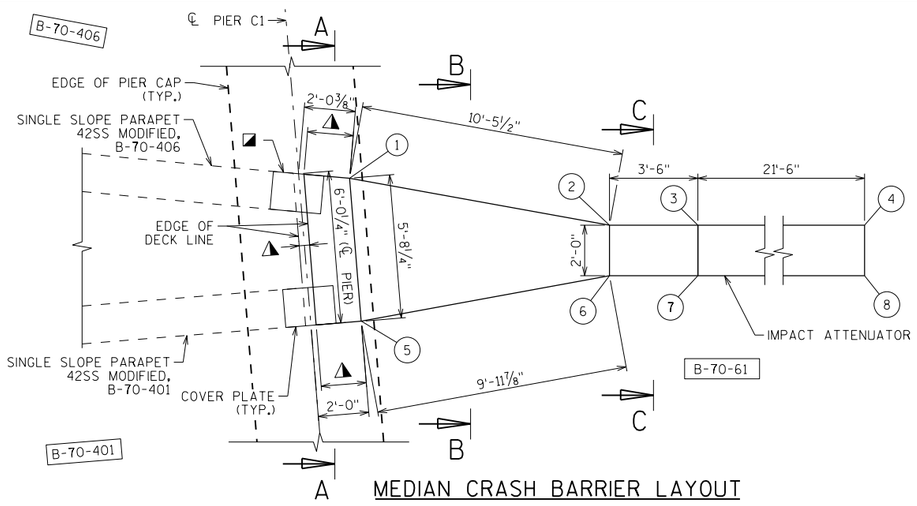
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DATE: 3/15/2016
I.D.

STATE PROJECT NUMBER

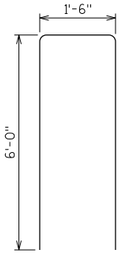
1517-07-77



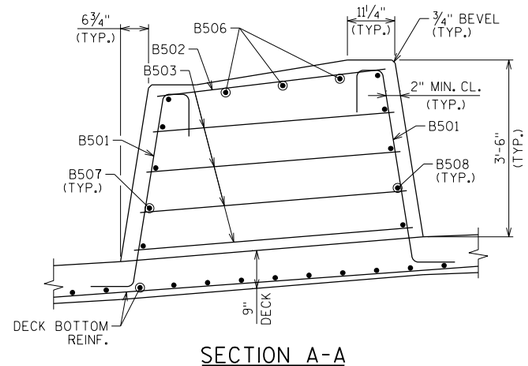

MEDIAN CRASH BARRIER LAYOUT

## STATION / OFFSET TABLE

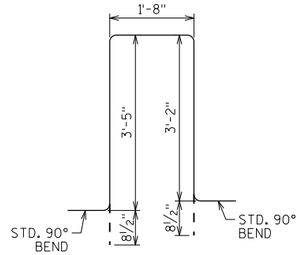
| LOCATION | STATION | OFFSET |
|---|---|---|
| 1 | 146WB+36.79 | 27.68 |
| 2 | 146WB+46.90 | 24.99 |
| 3 | 146WB+50.38 | 24.70 |
| 4 | 146WB+71.81 | 22.96 |
| 5 | 146WB+36.79 | 22.00 |
| 6 | 146WB+46.73 | 23.00 |
| 7 | 146WB+50.22 | 22.71 |
| 8 | 146WB+71.65 | 20.97 |
| | | |



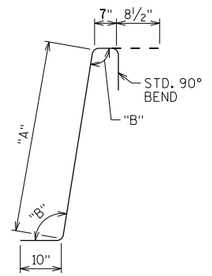

B509



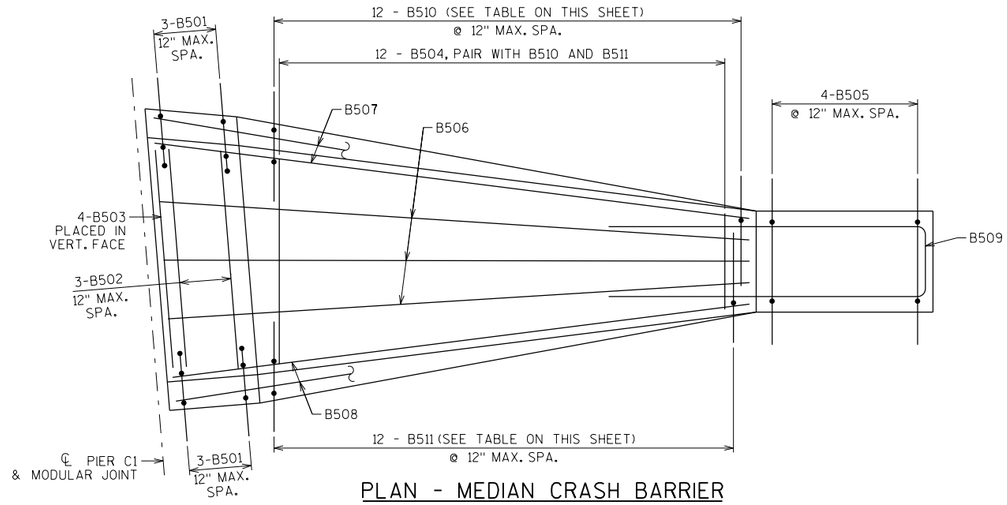

SECTION A-A
(LOOKING EAST)




B505




VERT. BAR
SEE TABLE



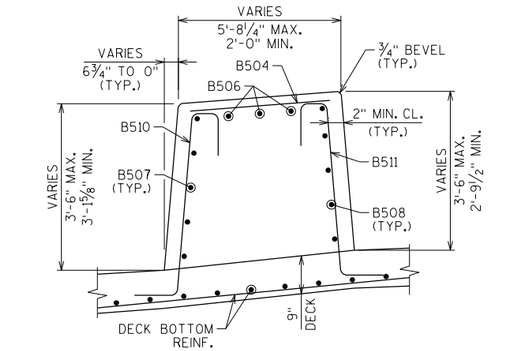

PLAN - MEDIAN CRASH BARRIER

## BAR SERIES TABLE

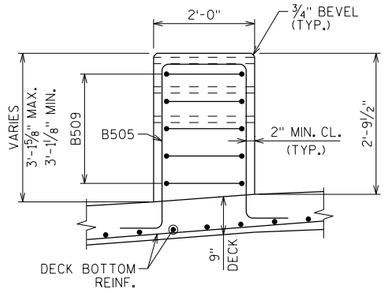
| MARK | NO. REQUIRED | LENGTH |
|---|---|---|
| B502 | 1 SET OF 3 | 4'-2" TO 4'-6" |
| B503 | 1 SET OF 4 | 4'-8" TO 5'-7" |
| B504 | 1 SET OF 12 | 1'-8" TO 4'-2" |
| | | |
| | | |

## VERT. BAR TABLE

| MARK | "A" | "B" |
|---|---|---|
| B501 | 3'-9 1/2" | 99°7' 49" |
| B510 | 3'-4 1/2" TO 3'-9 1/2" | 99°7' 49" TO 90° |
| B511 | 3'-0 1/2" TO 3'-9 1/2" | 99°7' 49" TO 90° |
| | | |



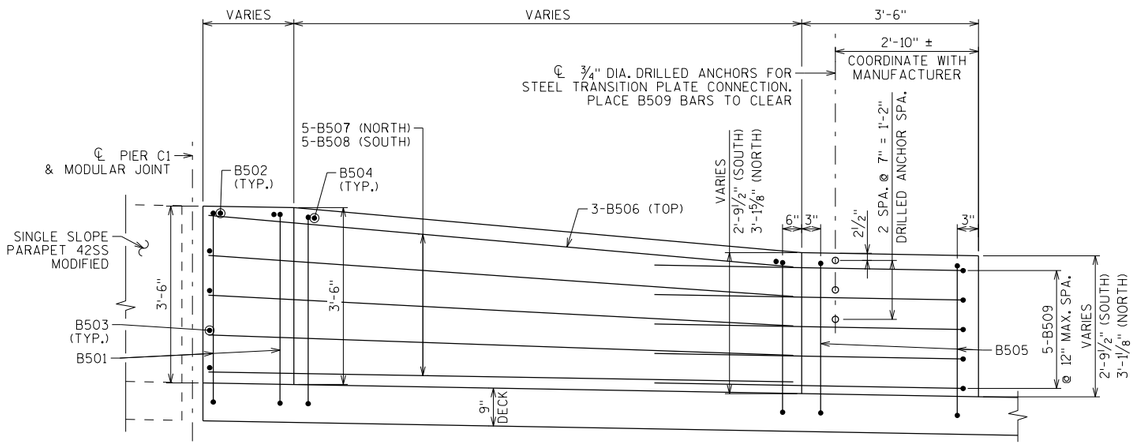

SECTION B-B
(LOOKING EAST)




SECTION C-C
(LOOKING EAST)

## BILL OF BARS - MEDIAN CRASH BARRIER

| BAR MARK | NO. REQ'D | LENGTH | BENT | SERIES | LOCATION |
|---|---|---|---|---|---|
| COATED | | | | | TOTAL = 520 LB |
| B501 | 6 | 5'-11" | X | | CRASH BARRIER - VERT. BAR |
| B502 | 3 | 4'-4" | | X | CRASH BARRIER - TOP BAR |
| B503 | 4 | 5'-2" | | X | CRASH BARRIER - HORIZ. BAR |
| B504 | 12 | 2'-11" | | X | CRASH BARRIER - TOP BAR |
| B505 | 4 | 9'-5" | X | | CRASH BARRIER - VERT. BAR |
| B506 | 3 | 11'-10" | | | CRASH BARRIER - TOP BAR |
| B507 | 5 | 12'-1" | | | CRASH BARRIER - HORIZ. BAR |
| B508 | 5 | 11'-7" | | | CRASH BARRIER - HORIZ. BAR |
| B509 | 5 | 13'-3" | X | | CRASH BARRIER - HORIZ. BAR |
| B510 | 12 | 5'-9" | X | X | CRASH BARRIER - VERT. BAR |
| B511 | 12 | 5'-7" | X | X | CRASH BARRIER - VERT. BAR |
| | | | | | |




ELEVATION - MEDIAN CRASH BARRIER

## NOTES

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

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

DUE TO THE MODULAR JOINT BLOCKOUT, BAR B501 MAY BE PLACED AT THE TIME OF THE BLOCKOUT POUR. BARS MAY BE ADJUSTED BASED ON THE VARIABLE DIMENSIONS AT THE EDGE OF THE DECK.

## LEGEND

- ▲ DIMENSION VARIES BY TEMPERATURE. SEE SHEET 92 "MODULAR EXPANSION JOINT DETAILS PIERS C1 & 6" FOR DETAILS.
- ◪ MODIFIED COVER PLATE. SEE SHEET 95 "COVER PLATES FOR PARAPET 42SS" FOR DETAILS.
- (1) STATION / OFFSET LOCATION NUMBER

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY PSK | PLANS CK'D. KO

MEDIAN CRASH BARRIER DETAILS

SHEET 101 OF 109
408

DATE: 3/15/2016
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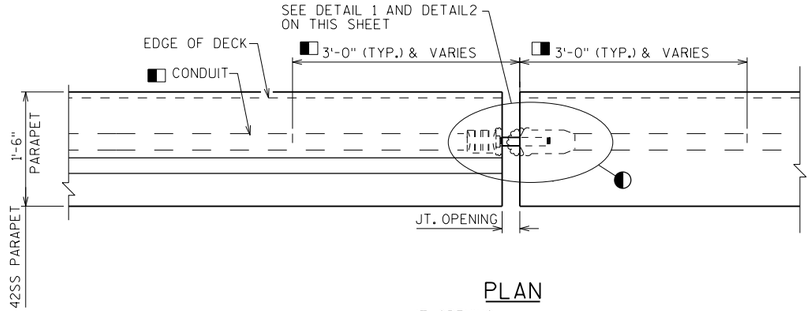
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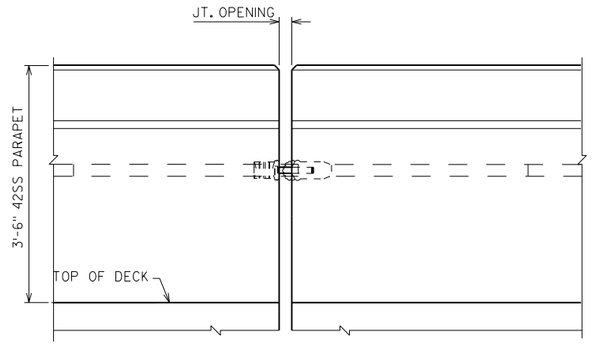
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STATE PROJECT NUMBER

1517-07-77

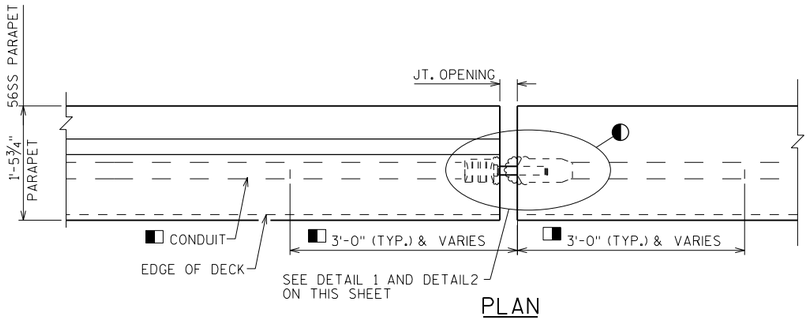



PLAN

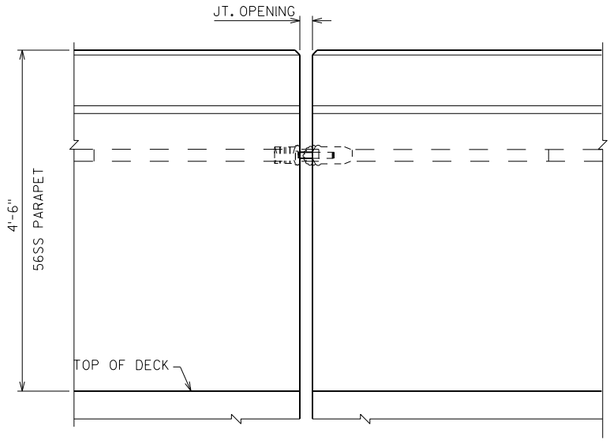



ELEVATION

## DETAILS AT 42SS NORTH PARAPET AT PIER C1, PIER 6, HINGES 1 THROUGH 4 & E. ABUT.




PLAN




ELEVATION

## DETAILS AT 56SS SOUTH PARAPET AT PIER C1

■ USE RIGID NON-METALLIC CONDUIT EXCEPT AT EXPANSION FITTING. AT EXPANSION FITTING USE RIGID METALLIC CONDUIT 3'-0" INTO PARAPET ON DECK AND APPROACH SLAB SIDES OF THE JOINT OPENING, UNLESS NOTED OTHERWISE ON THIS SHEET. SEE RIGID CONDUIT EXTENSION TABLE ON THIS SHEET FOR LOCATIONS AND LENGTHS OF NON-TYPICAL RIGID CONDUIT EXTENSIONS.

◐ POSITION MOVABLE END OF CONDUIT INSIDE EXPANSION FITTING, SUCH THAT IT WILL HAVE THE SAME ALLOWANCE FOR MOVEMENT (EXPANSION/CONTRACTION) AS THE EXPANSION DEVICE SET IN PLACE IN THE DECK BELOW IT. TAKE CARE TO INSTALL EXPANSION FITTING AND CONDUIT EXACTLY PARALLEL TO BRIDGE MOVEMENT.

### RIGID CONDUIT EXTENSION TABLE

| PARAPET | LOCATION | RIGID CONDUIT LENGTH (+/-) |
|---|---|---|
| 42SS | STA. 146WB+35 TO STA. 146WB+50 | 15'-6" |
| 56SS | STA. 153WB+00 TO STA. 153WB+24 | 23'-6" |
| 56SS | STA. 156WB+00 TO STA. 156WB+11 | 11'-3" |
| 56SS | STA. 161WB+30 TO STA. 161WB+45 | 15'-3" |
| 56SS | STA. 169WB+04 TO STA. 169WB+60 | 55'-8" |
| 56SS | STA. 174WB+38 TO STA. 174WB+25 | 13'-3" |
| 56SS | STA. 180WB+75 TO STA. 180WB+78 | 5'-0" |
| | | |

## NOTES

BID ITEMS SHALL BE:

"CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH"
"CONDUIT RIGID METALLIC 2-INCH"

APPROVED MANUFACTURERS - JUNCTION BOXES:
SEE APPROVED MATERIAL LIST.

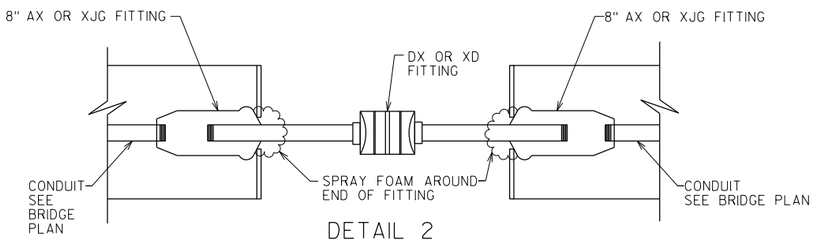
ELECTRICAL FITTING - AX/DX CONNECTION SEE DETAIL 1 ON THIS SHEET
APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING:

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. OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED.

AT PIERS C1, 6, HINGES 1 TO 4 AND E. ABUT. USE ELECTRICAL FITTING - AX/DX CONNECTION. SEE DETAIL 1 ON THIS SHEET.

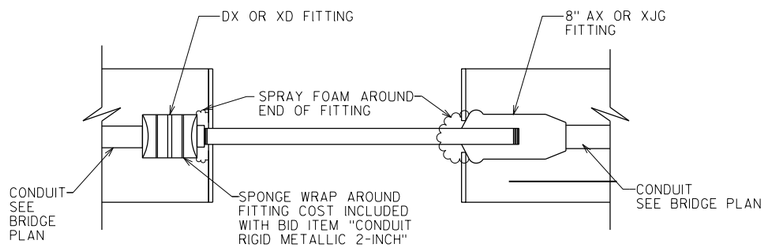
XD FITTING IS GOOD FOR 3/4" MOVEMENT IN ANY DIRECTION. THE XD FITTING WILL ALLOW FOR ANGULAR MOVEMENT WITH A DEFLECTION OF UP TO 30 DEGREES FROM THE NORMAL IN ANY DIRECTION.




DETAIL 2

ELECTRICAL FITTING - DX OR XD CONNECTION

PARAPET MODULAR BRIDGE JOINT
THIS ARRANGEMENT ACCOMMODATES UP TO 16¾" TOTAL MOVEMENT.




DETAIL 1

ELECTRICAL FITTING - AX/DX CONNECTION

PARAPET MODULAR BRIDGE JOINT
THIS ARRANGEMENT ACCOMMODATES UP TO 8¾" OF TOTAL MOVEMENT AT A JOINT.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY NPP | PLANS CK'D. DEM

EXPANSION FITTINGS FOR "SS" PARAPETS

SHEET 102 OF 109
409

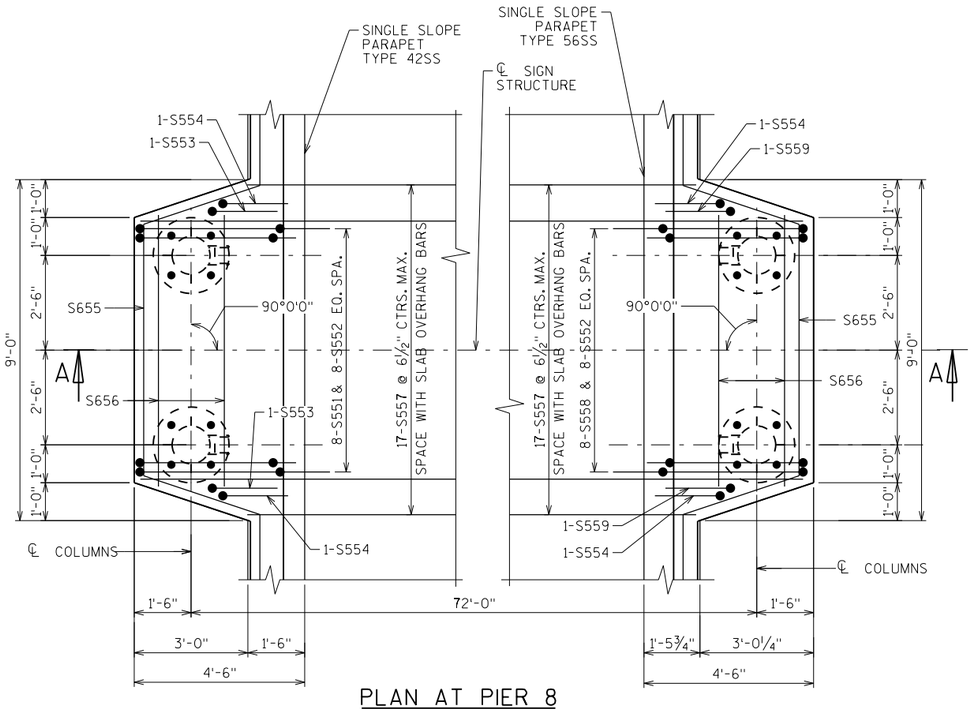
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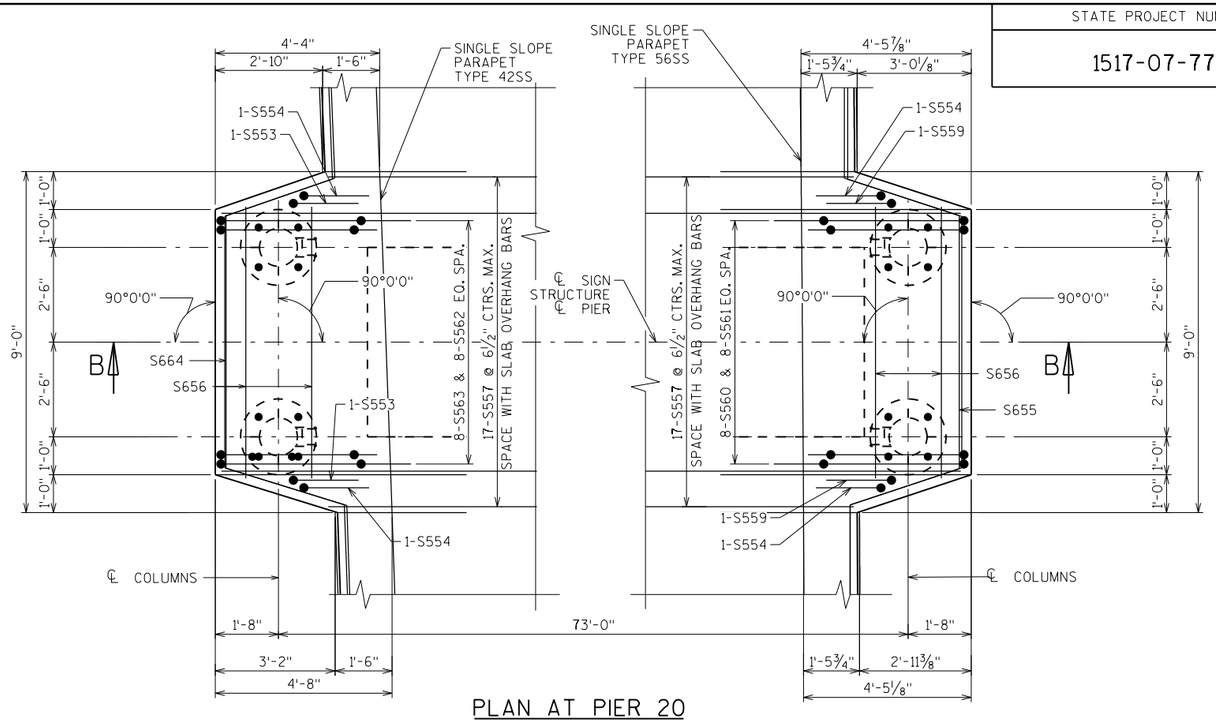
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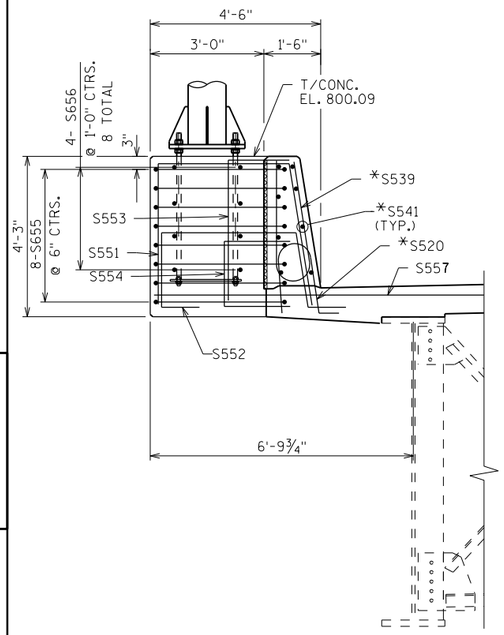
| STATE PROJECT NUMBER |
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| 1517-07-77 |

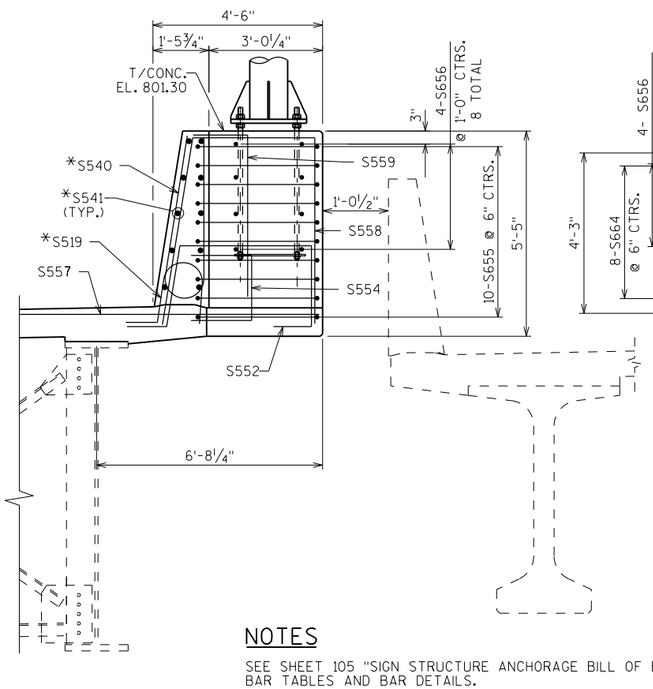



PLAN AT PIER 8



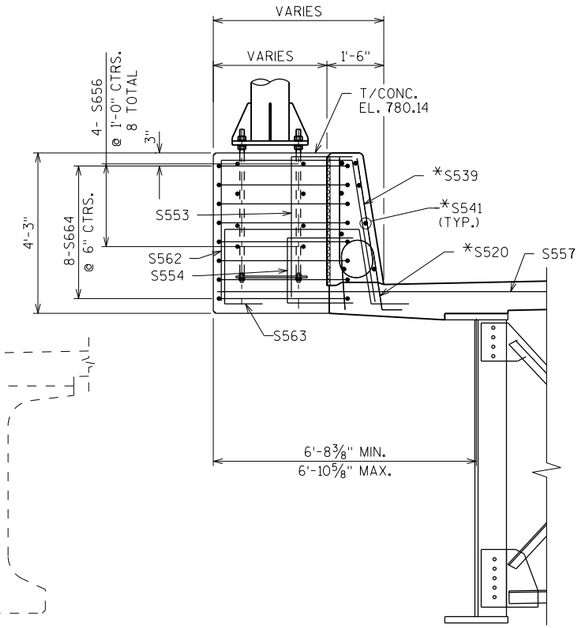

PLAN AT PIER 20



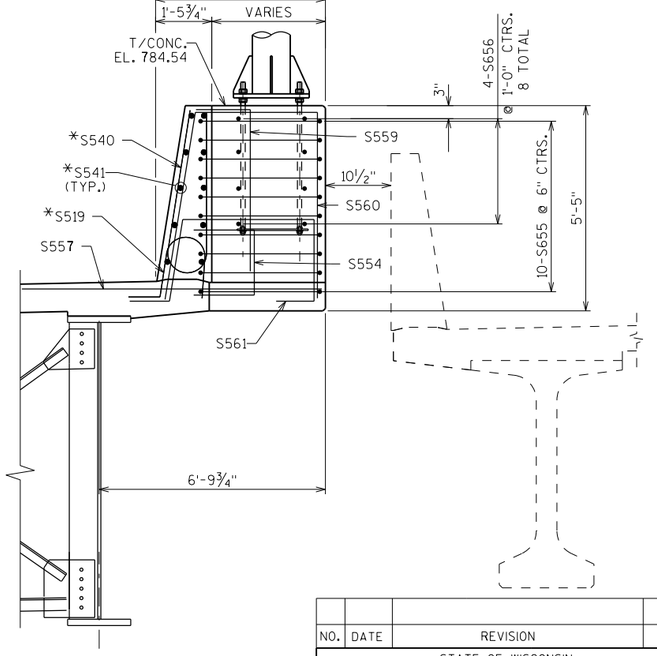

SECTION A-A

LOOKING EAST
(STEEL BRACKET NOT SHOWN FOR CLARITY)




SECTION B-B

LOOKING EAST
(STEEL BRACKET NOT SHOWN FOR CLARITY)




## NOTES

SEE SHEET 105 "SIGN STRUCTURE ANCHORAGE BILL OF BARS" FOR BILL OF BAR TABLES AND BAR DETAILS.

* SEE SHEETS 76 "DECK REINFORCING PLAN - SPANS 6-9", SHEET 79 "DECK REINFORCING PLAN - SPANS 18-21" AND SHEET 81 "DECK REINFORCING SECTIONS - SPANS 6-21" FOR ADDITIONAL REINFORCEMENT DETAILS.

TOP OF CONCRETE ELEVATION SHOWN IS TO BE HELD LEVEL ACROSS SIGN STRUCTURE BASE.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
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STATE OF WISCONSIN
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STRUCTURE B-70-61

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SIGN STRUCTURE ANCHORAGE REINF. AT PIERS 8 & 20

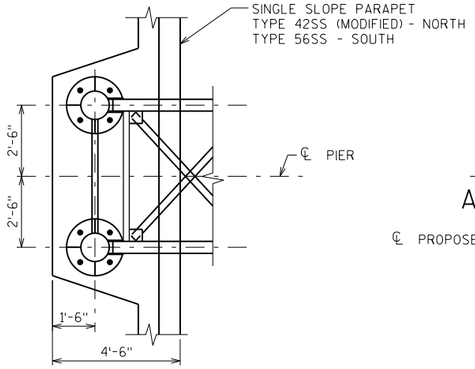
SHEET 103 OF 109
410

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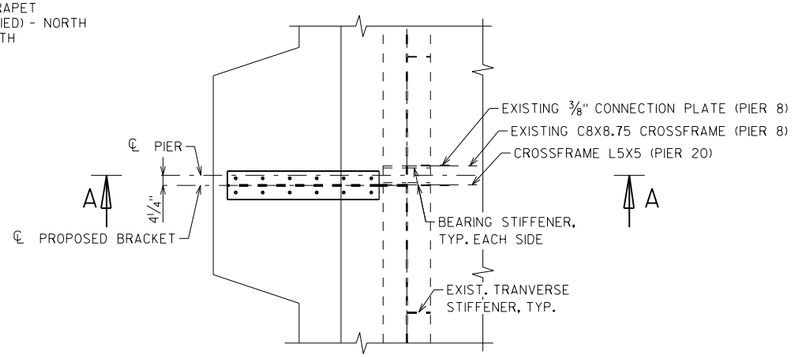
DATE: 3/15/2016
I.D.

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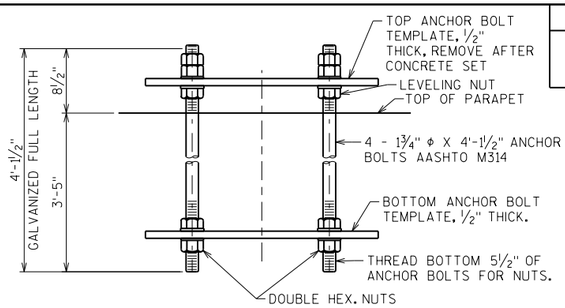

TOP PLAN

(NORTH SUPPORT SHOWN, SOUTH SUPPORT SIMILAR)

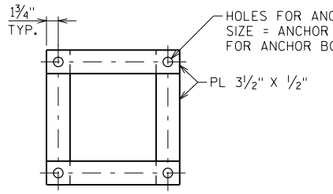



FRAMING PLAN

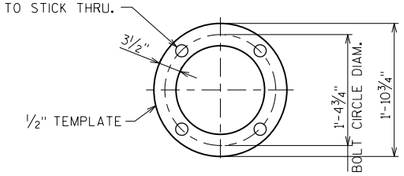
(NORTH SUPPORT SHOWN, SOUTH SUPPORT SIMILAR)




ANCHOR BOLT DETAIL



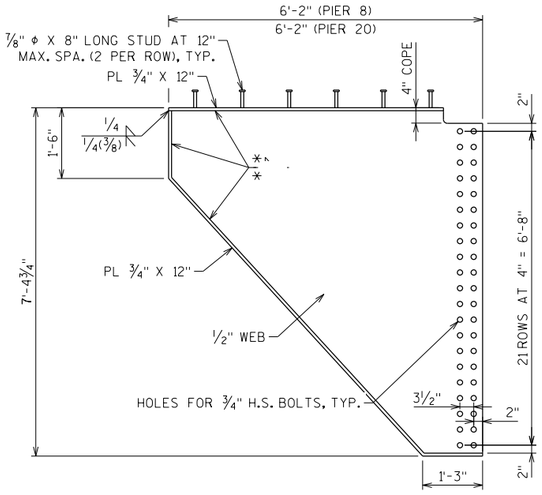

ALTERNATE
ANCHOR PLATE TEMPLATE



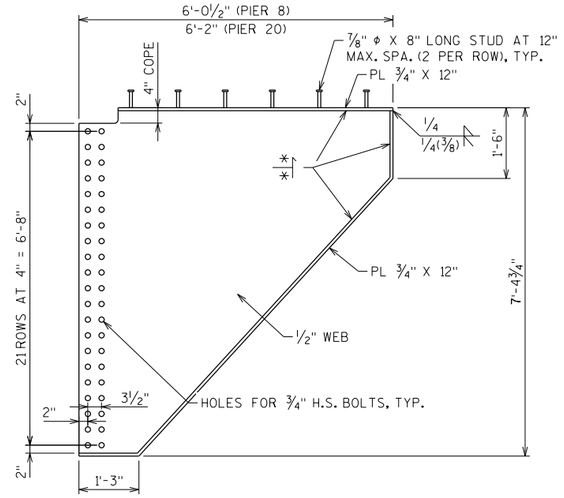

ANCHOR PLATE TEMPLATE

## POST ANCHORAGE DETAILS AT PIERS 8 AND 20

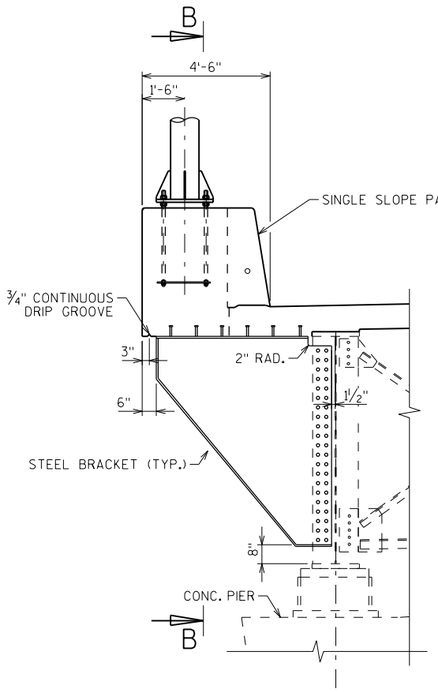
NOTE:
HOLD ANCHOR BOLTS RIGIDLY IN POSITION DURING CONCRETE PLACEMENT USING STEEL ANCHOR PLATE AND TOP TEMPLATE, REMOVE TOP TEMPLATE AFTER CONCRETE SETS.




NORTH SUPPORT

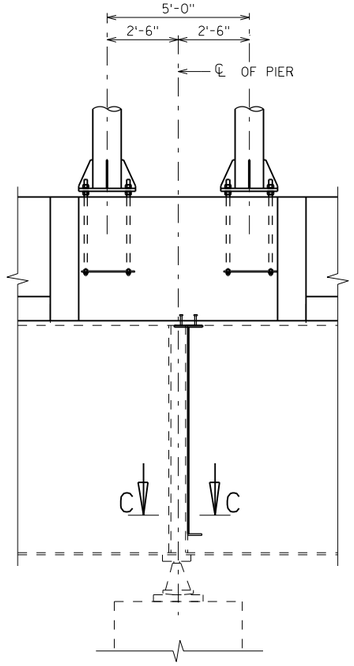



SOUTH SUPPORT

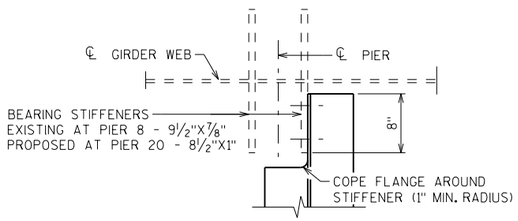



SECTION A-A

(NORTH SUPPORT SHOWN, SOUTH SUPPORT SIMILAR)




VIEW B-B




SECTION C-C

BRACKET DETAIL

*SEE SHEET 5 "GENERAL NOTES" FOR MINIMUM WELD SIZE

## NOTES

SEE SHEET 103 "SIGN STRUCTURE ANCHORAGE REINF. AT PIERS 8 & 20" FOR PARAPET AND SIGN SUPPORT GEOMETRY.

DETAILS FOR PIER 8 SHOWN, PIER 20 SIMILAR EXCEPT AS NOTED. BRACKETS AT PIER 8 ARE CONNECTED TO EXISTING BEARING STIFFENERS. FIELD DRILL HOLES FOR BOLTS USING NEW BRACKET AS A TEMPLATE.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY KMP | PLANS CK'D. DEM

SIGN STRUCTURE ANCHORAGE AND BRACKET DETAILS

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411

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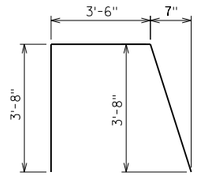
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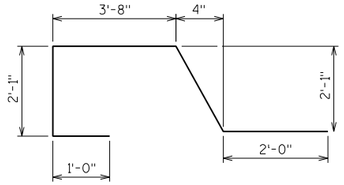
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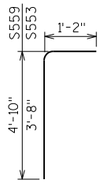
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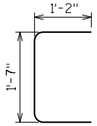

S551



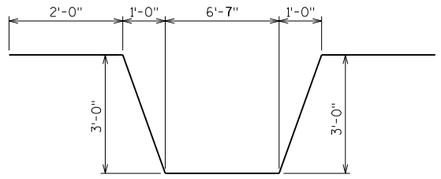

S552



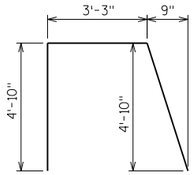

S553 & S559



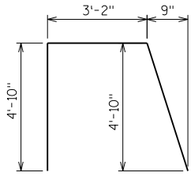

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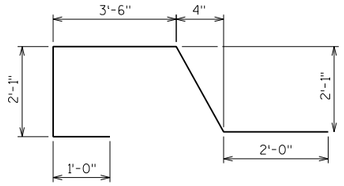

S655




S558



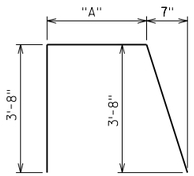

S560



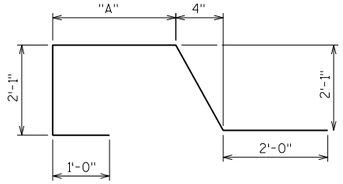

S561

## BILL OF BARS - SIGN STRUCTURE PEDESTAL PIERS 8 & 20

| BAR MARK | NO. REQ'D | LENGTH | BENT | SERIES | LOCATION |
|---|---|---|---|---|---|
| EPOXY COATED | | | | | TOTAL = 2,820LB |
| S551 | 8 | 10'-9" | X | | PARAPET VERT. AT SIGN STR. |
| S552 | 16 | 10'-7" | X | | PARAPET VERT. AT SIGN STR. |
| S553 | 4 | 4'-9" | X | | PARAPET VERT. AT SIGN STR. |
| S554 | 8 | 3'-8" | X | | PARAPET VERT. AT SIGN STR. |
| S655 | 28 | 16'-11" | X | | PARAPET HORIZ. AT SIGN STR. |
| S656 | 32 | 6'-10" | | | PARAPET HORIZ. AT SIGN STR. |
| S557 | 68 | 10'-7" | X | | PARAPET HORIZ. AT SIGN STR. |
| S558 | 8 | 12'-10" | X | | PARAPET VERT. AT SIGN STR. |
| S559 | 4 | 5'-11" | X | | PARAPET VERT. AT SIGN STR. |
| S560 | 8 | 12'-9" | X | | PARAPET VERT. AT SIGN STR. |
| S561 | 8 | 10'-5" | X | | PARAPET VERT. AT SIGN STR. |
| S562 | 8 | 10'-9" | X | X | PARAPET VERT. AT SIGN STR. |
| S563 | 8 | 10'-7" | X | X | PARAPET VERT. AT SIGN STR. |
| S664 | 8 | 17'-0" | X | | PARAPET HORIZ. AT SIGN STR. |
| | | | | | |



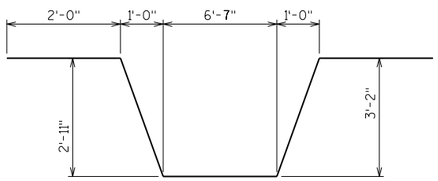

S562



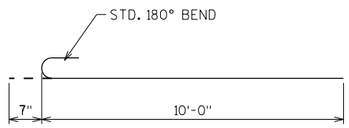

S563

## BAR SERIES TABLE

| MARK | NO. REQUIRED | LENGTH "A" | TOTAL LENGTH |
|---|---|---|---|
| S562 | 1 SERIES OF 8 | 3'-4" TO 3'-8" | 10'-7" TO 10'-11" |
| S563 | 1 SERIES OF 8 | 3'-6" TO 3'-10" | 10'-5" TO 10'-9" |




S664




S557

8

8

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

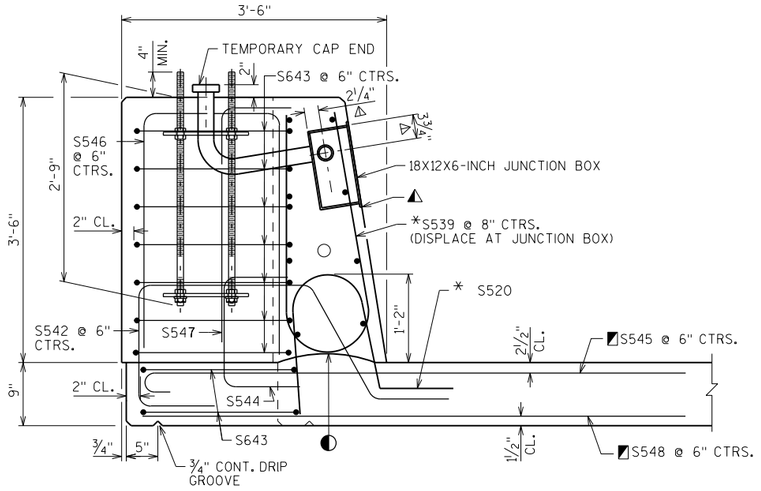
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SIGN STRUCTURE ANCHORAGE BILL OF BARS

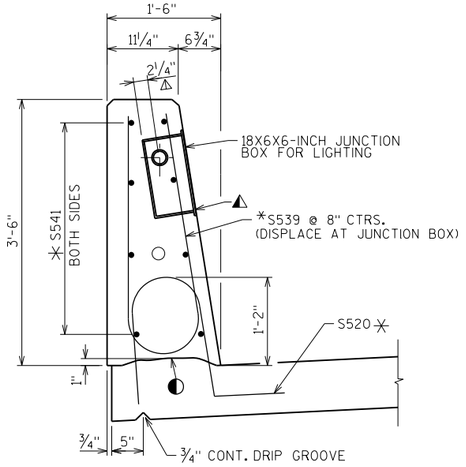
SHEET 105 OF 109
412

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DATE: 3/15/2016
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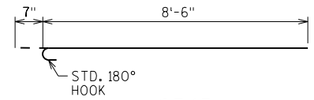

SECTION A-A



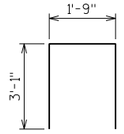

SECTION THRU PARAPET

## BILL OF BARS

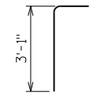
| BAR MARK | NO. REQ'D | LENGTH | BENT | LOCATION |
|---|---|---|---|---|
| EPOXY COATED | | | | TOTAL = 1,280LB |
| S542 | 18 | 7'-0" | X | 42SS PARAPET VERT. AT LIGHT STD. |
| S643 | 27 | 10'-0" | X | 42SS PARAPET HORIZ. AT LIGHT STD. |
| S544 | 6 | 3'-4" | X | 42SS PARAPET VERT. AT LIGHT STD. |
| S545 | 30 | 9'-1" | X | 42SS PARAPET HORIZ. AT LIGHT STD. |
| S546 | 18 | 7'-8" | X | 42SS PARAPET VERT. AT LIGHT STD. |
| S547 | 6 | 4'-0" | X | 42SS PARAPET VERT. AT LIGHT STD. |
| S548 | 30 | 8'-6" | | 42SS PARAPET HORIZ. AT LIGHT STD. |



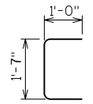

S545



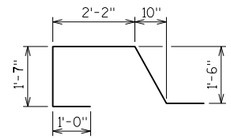

S546



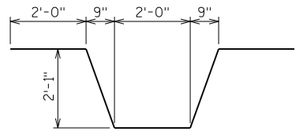

S547




S544




S542




S643

## NOTES

BID ITEMS SHALL BE:
"JUNCTION BOXES 18X6X6-INCH", EACH
"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.

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING:
O-Z/GEDNEY TYPE AX8DX-200/AXDX-200 AND BONDING JUMPER COMBINATION EXPANSION AND DEFLECTION FITTING. SEE SHEET 102 "EXPANSION FITTINGS FOR "SS" PARAPETS" FOR DETAILS OF EXPANSION FITTINGS.

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

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

LIGHTING JUNCTION BOX REQUIREMENTS
PLACE A 18"X12"X6" JUNCTION BOX AT EACH LIGHT STANDARD (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'.

## LIGHT POLE TABLE
## 18X12X6 JUNCTION BOX

| ℄ LIGHT POLE STATIONS |
|---|
| STA. 147WB+60.00 |
| STA. 150WB+50.00 |
| STA. 153WB+00.00 |

## JUNCTION BOX
## 18X6X6 TABLE

| ℄ JUNCTION BOX STATION |
|---|
| STA. 146WB+45.00 |
| STA. 149WB+00.00 |
| STA. 151WB+85.00 |
| STA. 155WB+00.00 |
| STA. 156WB+00.00 |
| STA. 156WB+90.00 |
| STA. 158WB+90.00 |
| STA. 160WB+80.00 |
| STA. 161WB+30.00 |
| STA. 162WB+70.00 |
| STA. 164WB+60.00 |
| STA. 165WB+80.00 |
| STA. 167WB+70.00 |
| STA. 169WB+60.00 |
| STA. 171WB+50.00 |
| STA. 173WB+40.00 |
| STA. 174WB+25.00 |
| STA. 175WB+30.00 |
| STA. 177WB+20.00 |
| STA. 179WB+10.00 |
| STA. 180WB+75.00 |
| STA. 181WB+00.00 |

INTERMEDIATE JUNCTION BOX 18X6X6 CAN BE RELOCATED 10± FEET FROM THE STATIONS SHOWN ABOVE.

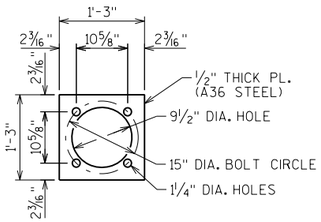
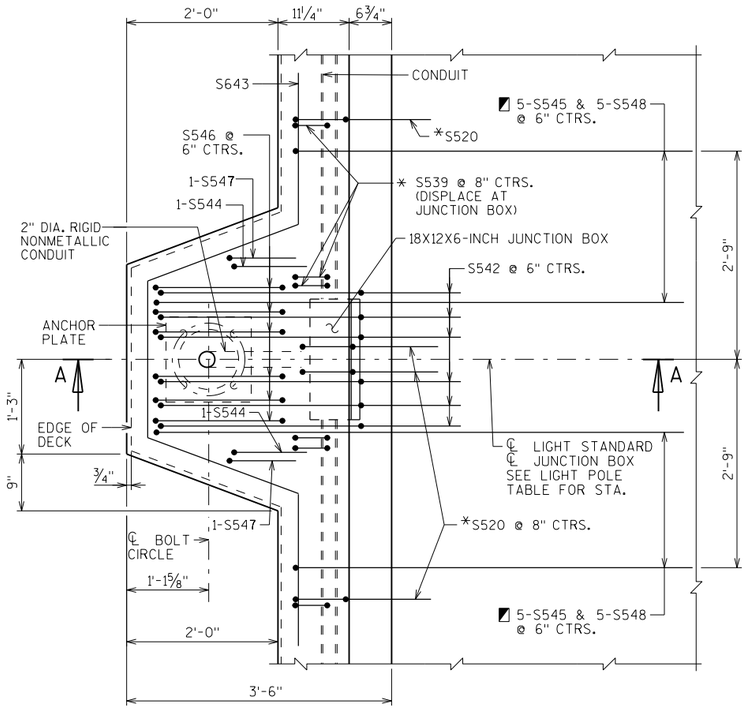
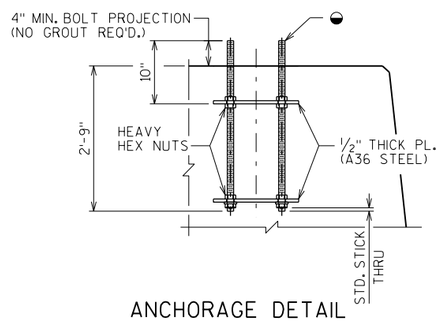



PLATE DETAIL FOR 15" DIA. BOLT CIRCLE
(3 REQ'D. FOR LIGHT STANDARDS)




PLAN AT LIGHT STANDARD




ANCHORAGE DETAIL
(3 ASSEMBLIES REQ'D.)

## LEGEND

- ◐ CONSTRUCTION JOINT 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.
- ◩ THESE BARS ARE IN ADDITION TO STANDARD TRANSVERSE BARS IN DECK.
- ◒ 1" DIA. THREADED ANCHOR BOLTS ASTM A449 OR AASHTO M 314-90 GR 55. HOT-DIP ASTM A153, CLASS C, ENTIRE ANCHORAGE. PROVIDE ENLARGED THREAD ON NUTS FOR PROPER FIT AFTER GALVANIZING. PROVIDE DOUBLE FLAT WASHERS & NUTS.
- ✳ SEE SHEET 75 "DECK REINFORCING PLAN - SPANS 1-5" AND SHEET 80 "DECK REINFORCING SECTIONS - SPANS 1-5" SHEETS FOR ADDITIONAL BAR STEEL DETAILS.

STATE PROJECT NUMBER
1517-07-77

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY KO | PLANS CK'D. NPP

LIGHT STD. & JUNCTION BOX FOR "42SS" PARAPET

SHEET 106 OF 109
413

DATE: 3/15/2016
I.D.

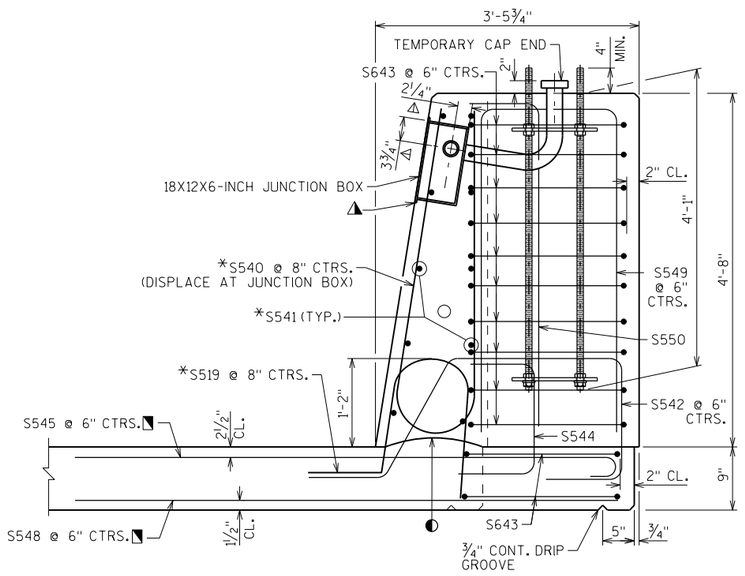
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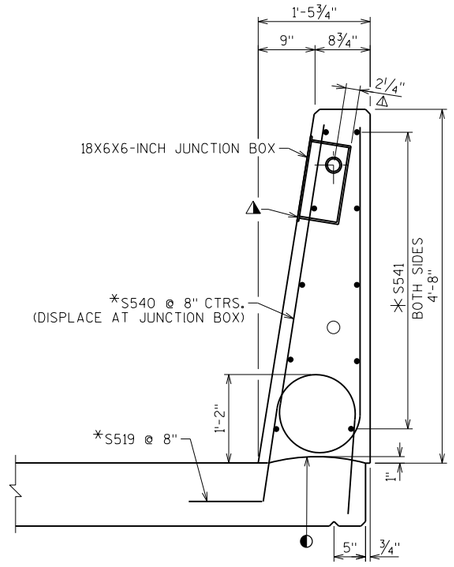
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STATE PROJECT NUMBER

1517-07-77




SECTION A-A

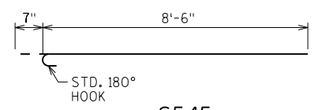



SECTION THRU PARAPET

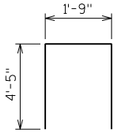
SHOWING 18X12X6-INCH JUNCTION BOX (SINGLE CONDUIT APPLICATION ONLY)

## BILL OF BARS

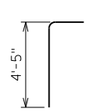
| BAR MARK | NO. REQ'D | LENGTH | BENT | LOCATION |
|---|---|---|---|---|
| EPOXY COATED | | | | TOTAL = 980LB |
| S542 | 12 | 7'-0" | X | 56SS PARAPET VERT. AT LIGHT STD. |
| S643 | 24 | 10'-0" | X | 56SS PARAPET HORIZ. AT LIGHT STD. |
| S544 | 4 | 3'-4" | X | 56SS PARAPET VERT. AT LIGHT STD. |
| S545 | 20 | 9'-1" | X | 56SS PARAPET HORIZ. AT LIGHT STD. |
| S548 | 20 | 8'-6" | | 56SS PARAPET HORIZ. AT LIGHT STD. |
| S549 | 12 | 10'-0" | X | 56SS PARAPET VERT. AT LIGHT STD. |
| S550 | 4 | 5'-4" | X | 56SS PARAPET VERT. AT LIGHT STD. |



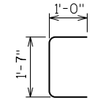

S545



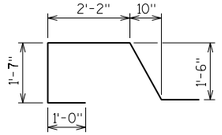

S549



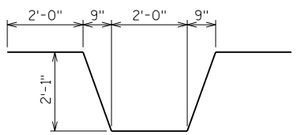

S550




S544




S542




S643

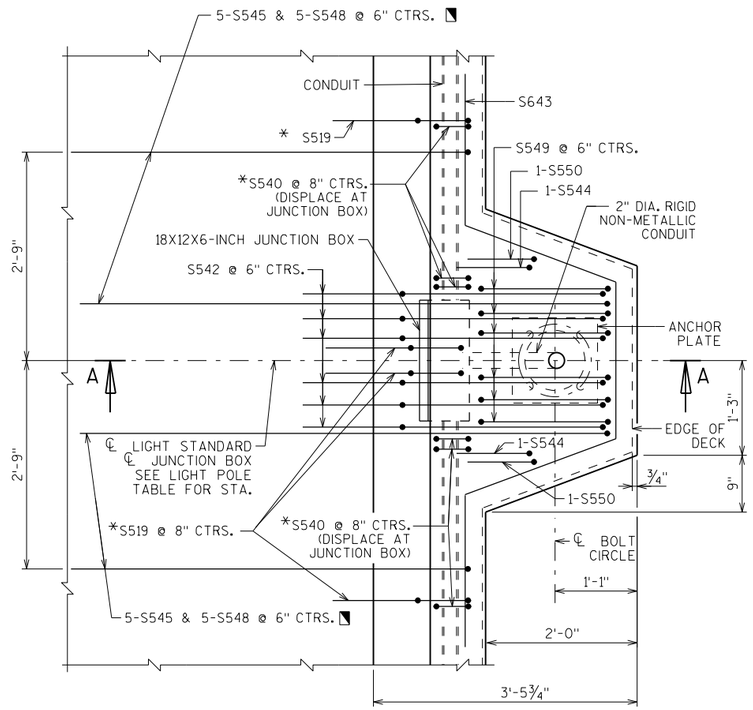
## LIGHT POLE TABLE
## 18X12X6 JUNCTION BOX

| ℄ LIGHT POLE STATIONS |
|---|
| STA. 146WB+50.00 |
| STA. 149WB+00.00 |

## JUNCTION BOX 18X12X6 TABLE

| ℄ JUNCTION BOX STATION |
|---|
| STA. 147WB+83.00 |

INTERMEDIATE JUNCTION BOX 18X6X6 CAN BE RELOCATED 10± FEET FROM THE STATIONS SHOWN ABOVE.




PLAN AT LIGHT STANDARD

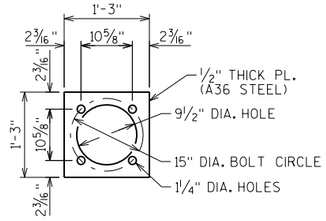
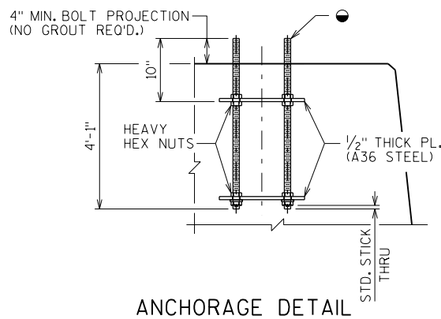



PLATE DETAIL FOR 15" DIA. BOLT CIRCLE

(2 REQ'D. FOR LIGHT STANDARDS)




ANCHORAGE DETAIL

(2 ASSEMBLIES REQ'D.)

## LEGEND

◐ CONST. JOINT 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.

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

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

✳ SEE SHEET 75 "DECK REINFORCING PLAN - SPANS 1-5" AND SHEET 80 "DECK REINFORCING SECTIONS - SPANS 1-5" FOR ADDITIONAL BAR STEEL DETAILS.

## NOTES

BID ITEMS SHALL BE:
"JUNCTION BOXES 18X6X6-INCH", EACH
"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.

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING:
O-Z/GEDNEY TYPE AXDX-8-200 AND PBS-200-12S AND BONDING JUMPER COMBINATION EXPANSION AND DEFLECTION FITTING. SEE SHEET 102 "EXPANSION FITTINGS FOR "SS" PARAPETS" FOR DETAILS OF EXPANSION FITTINGS.

EXPANSION FITTINGS, ANGLES AND ADAPTER FITTINGS TO BE INCIDENTAL TO BID ITEM "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 STANDARD (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'.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

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LIGHT STD. & JUNCTION BOX FOR "56SS" PARAPET

SHEET 107 OF 109
414

DATE: 3/15/2016
I.D.

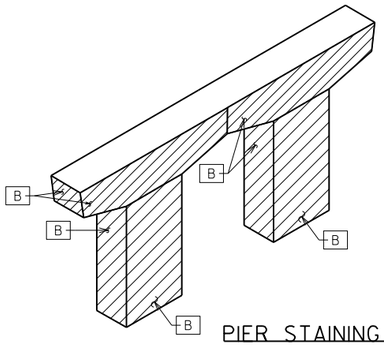
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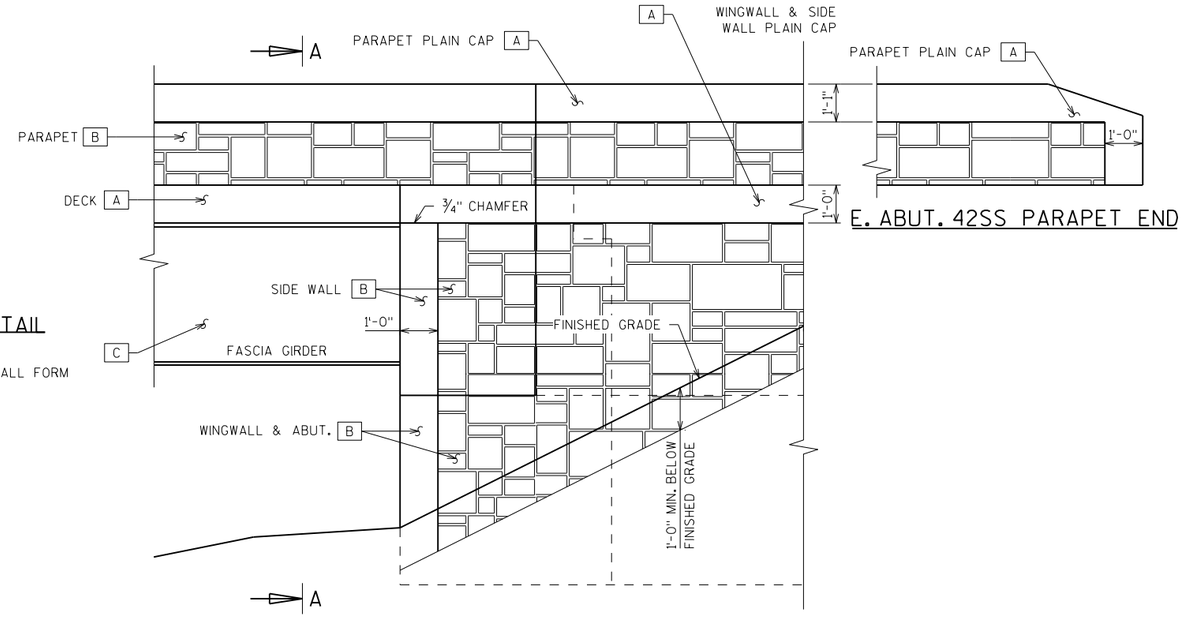
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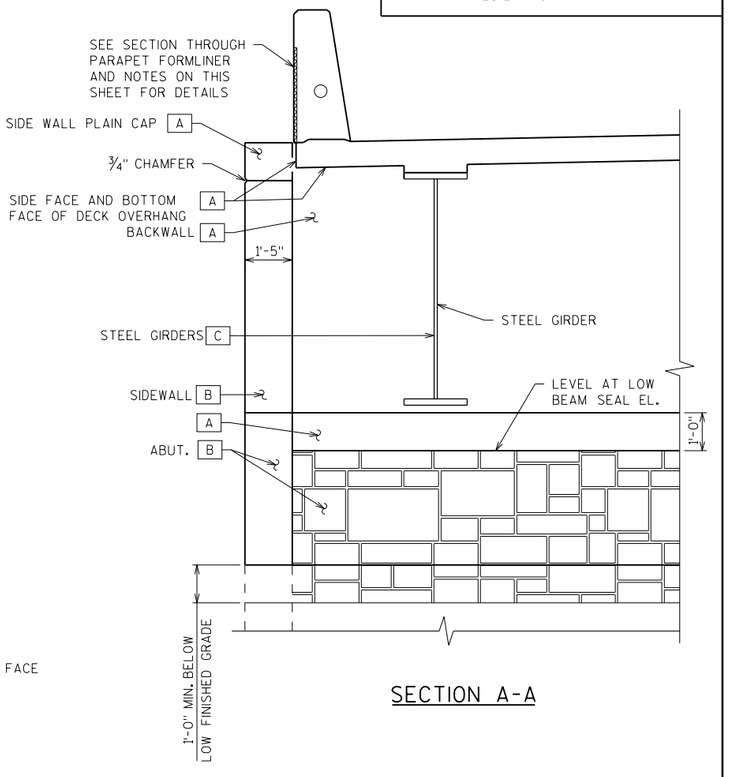



PIER STAINING DETAIL

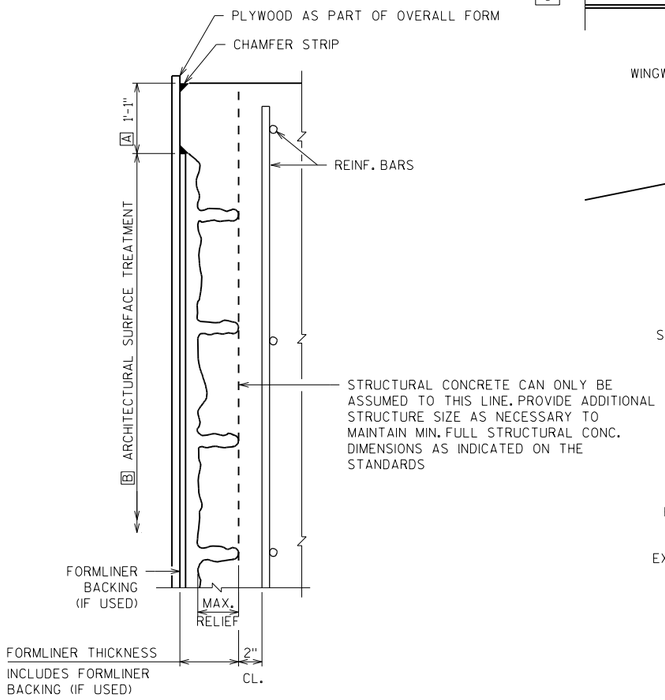



E. ABUT. 42SS PARAPET END

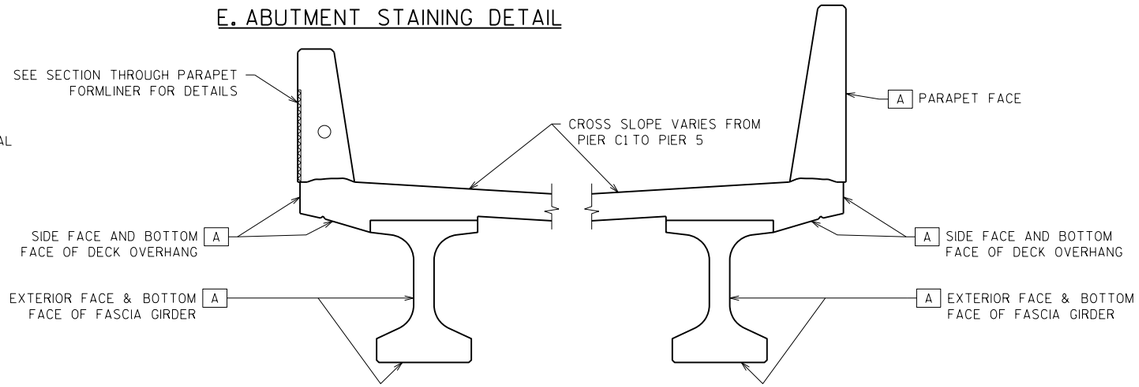
E. ABUTMENT STAINING DETAIL




SECTION A-A




SECTION THRU PARAPET FORMLINER



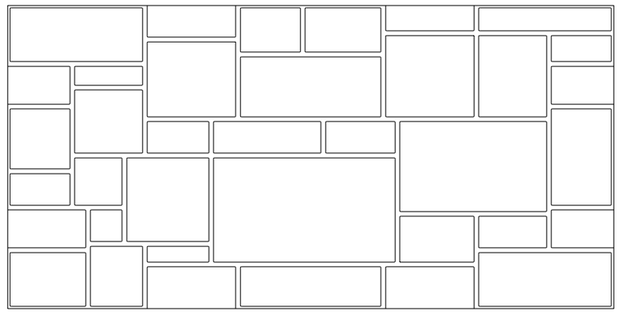

NORTH PARAPET SECTION AT WEST END

SOUTH PARAPET SECTION WEST OF PIER 5

## CONCRETE STAINING SCHEDULE

| MARK | COLOR | FED. COLOR NO. | LOCATION |
|---|---|---|---|
| A | HOPSACK | SW 6109 | FASCIA GIRDERS, DECK EDGE, PARAPET AND WING PLAIN CAPS |
| B | LATTE | 33522 | PARAPETS, WINGWALLS, SIDE WALLS, ABUTMENTS, PIER CAPS AND SHAFTS |
| C | BLUE (DENIM) | 25177 | NORTH FASCIA GIRDER (ENTIRE LENGTH OF THE BRIDGE)<br>SOUTH FASCIA GIRDER (WEST OF PIER 5) |

FINISH ON COLORS IS FLAT (LUSTERLESS)



ASHLAR

MAXIMUM RELIEF: 1⅝"
AVERAGE RELIEF: 1¼"
LINER THICKNESS*: 2½"
STONE SIZE: HEIGHT: 3" TO 17"
WIDTH: 5" TO 29"

* INCLUDES INTERNAL PLYWOOD BACKING

## NOTES

FORMLINER COURSING ON ABUTMENT AND WINGWALL SHALL BE LEVEL.

THE FORMLINER COURSING ON THE WINGWALL SHALL BE VERTICALLY ALIGNED WITH THE FORMLINER COURSING ON THE FRONT OF THE ABUTMENT.

THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS CONSTRUCTION JOINTS.

FORMLINER COURSING ON PARAPET SHALL BE PARALLEL TO TOP OF PARAPET.

FORMLINER AND CONCRETE STAINING IS NOT APPLICABLE TO 56SS PARAPET.

CONCRETE STAINING IS NOT APPLICABLE TO SOUTH FACE OF SOUTH FASCIA GIRDERS.

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY NPP | PLANS CK'D. MJA

AESTHETIC DETAILS

SHEET 108 OF 109
415

DATE: 3/15/2016
I.D.

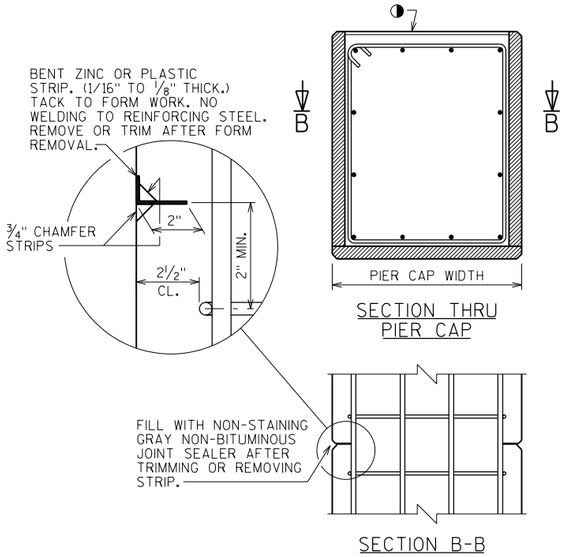
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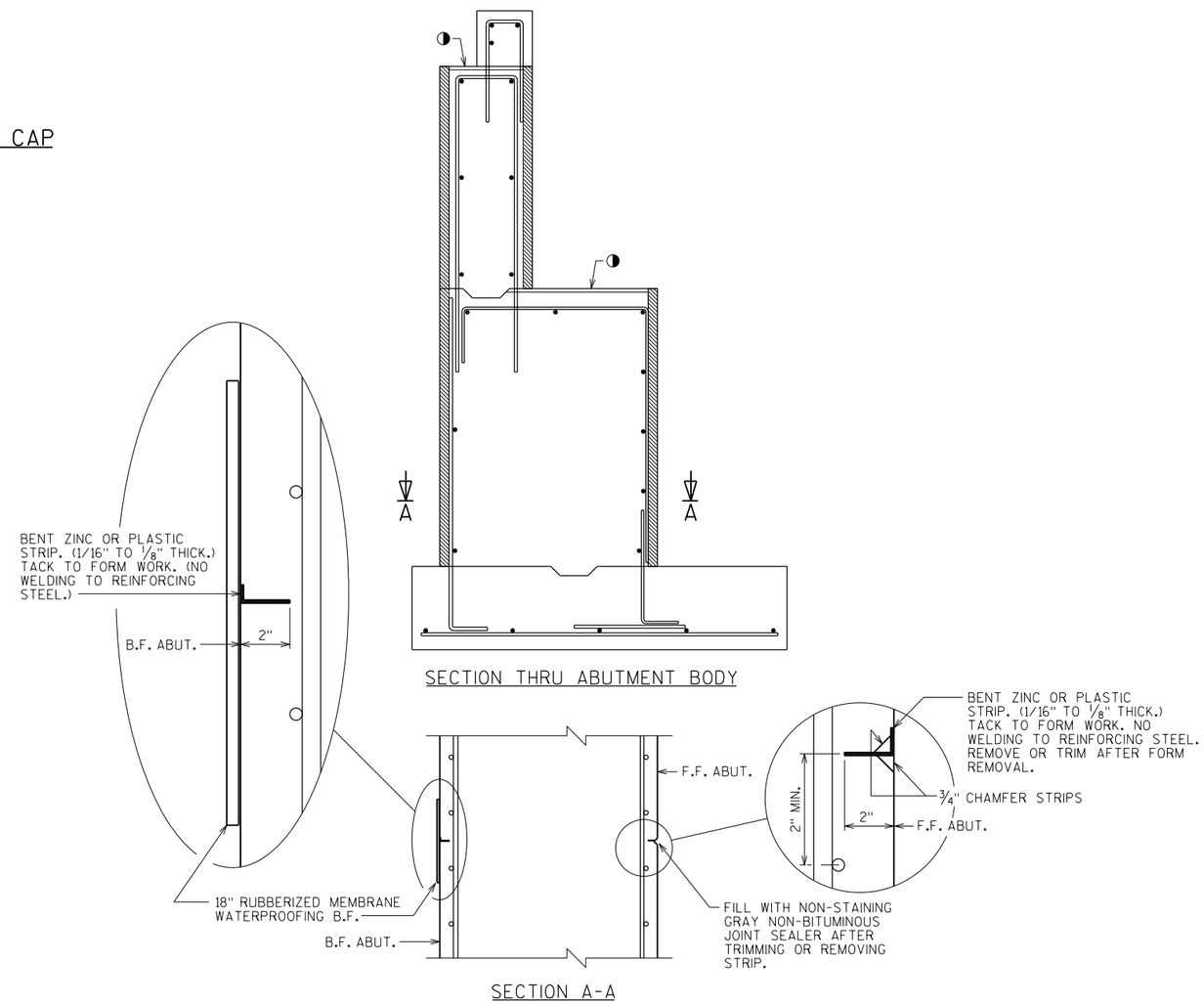
1517-07-77




SECTION THRU PIER CAP

SECTION B-B

ALTERNATE CONSTRUCTION JOINT AT PIER CAP




SECTION THRU ABUTMENT BODY

SECTION A-A

ALTERNATE CONSTRUCTION JOINT AT ABUTMENT

## NOTES

PARTIAL ZINC OR PLASTIC BULKHEAD MAY BE USED AS ALTERNATE CONSTRUCTION JOINT, WITH THE PERMISSION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

VERTICAL CONSTRUCTION JOINT KEYWAY IS NOT REQUIRED WHEN USING ALTERNATE CONSTRUCTION JOINT.

CARE IS TO BE USED IN CASTING CONCRETE AROUND BULKHEAD TO PREVENT DISLOCATION OR MISALIGNMENT OF THE BULKHEAD.

SAW CUTTING THE CONSTRUCTION JOINT IS NOT ALLOWED.

◑ USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY 1/2" DEEP.

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-61

DRAWN BY NPP | PLANS CK'D.

ALTERNATE CONSTRUCTION JOINT

SHEET 109 OF 109

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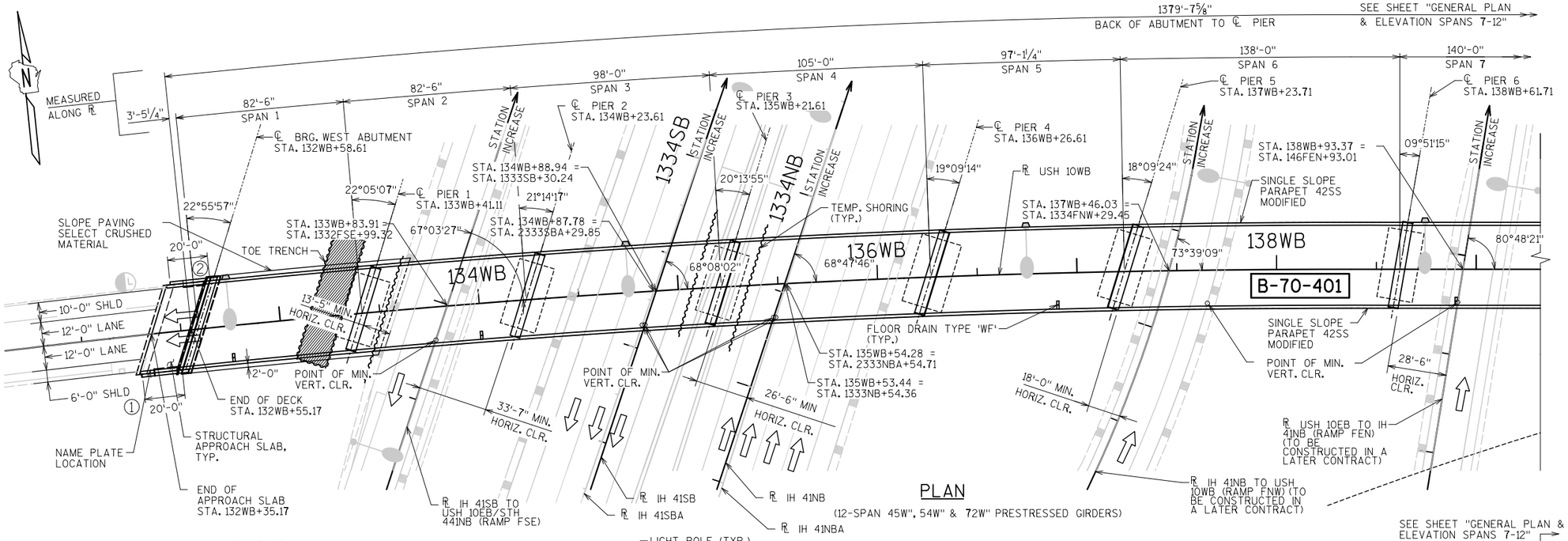
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I.D.

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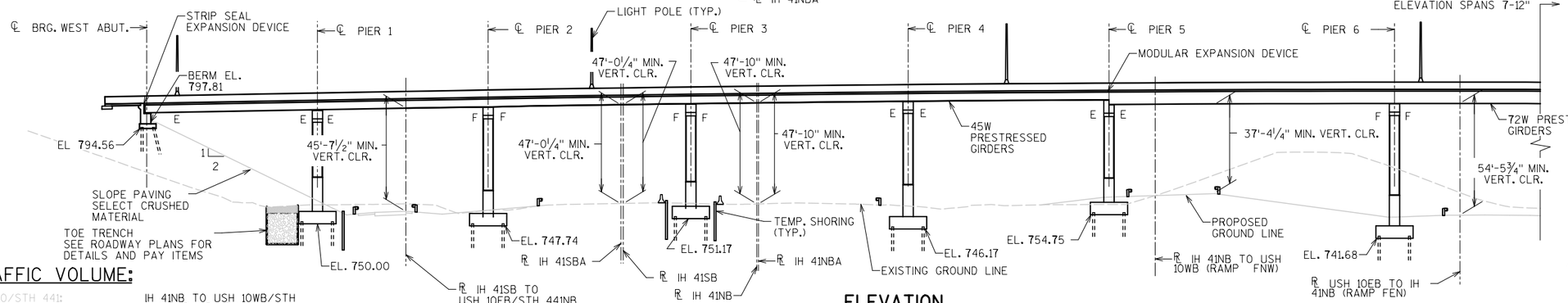
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| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |




## PLAN

(12-SPAN 45W", 54W" & 72W" PRESTRESSED GIRDERS)




## ELEVATION

NORMAL TO ℞ USH 10WB

## STRUCTURE TYPE

12-SPAN PRESTRESSED CONCRETE GIRDER BRIDGE. ALL SPANS ARE DESIGNED AS CONTINUOUS FOR COMPOSITE DEAD AND LIVE LOAD BETWEEN EXPANSION DEVICES.

## FOUNDATION DATA

WEST ABUTMENT TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO BEDROCK WITH A REQUIRED DRIVING RESISTANCE OF 220** TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 50 FEET LONG.

PIERS 1 THROUGH PIER 11 TO BE SUPPORTED ON HP14X73 STEEL PILING DRIVEN TO BEDROCK WITH A REQUIRED DRIVING RESISTANCE OF 195** (PIER 1), 205** (PIER 2), 205** (PIER 3), 195** (PIER 4), 210** (PIER 5), 250** (PIER 6), 230** (PIER 7), 200** (PIER 8), 215** (PIER 9), 205** (PIER 10), 210** (PIER 11) TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. PILES SUBJECTED TO UPLIFT EXCEEDING UPLIFT CAPACITY OF SOIL WILL BE PRE-BORED AND SOCKETED INTO SOUND ROCK. FOR ESTIMATED PILE LENGTHS AND PRE-BORING DETAILS SEE SHEETS "PIER FOOTING PILE LAYOUT 1" OR "PIER FOOTING PILE LAYOUT 2". PIER 1C IS A COMMON PIER TO BE CONSTRUCTED WITH BRIDGE B-70-61.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

## LEGEND

E - EXPANSION BEARING

F - FIXED BEARING

(#) - INDICATES WINGWALL NUMBER

## TRAFFIC VOLUME:

USH 10/STH 441:
ADT (2038) = 88,000
R.D.S. = 70 M.P.H.

IH 41SB TO IH 10EB/441NB RAMP (FSE):
ADT (2038) = 11,200

IH 41:
ADT (2038) = 113,800

IH 41NB TO USH 10WB/STH 441SB RAMP (FNW):
ADT (2038) = 1,700

USH 10EB/STH 441NB TO IH 41NB RAMP (FEN):
ADT (2038) = 2,600

## LIST OF DRAWINGS


1. GENERAL PLAN AND ELEVATION SPANS 1-6
2. GENERAL PLAN AND ELEVATION SPANS 7-12
3. GENERAL NOTES AND QUANTITIES
4. STRUCTURE CROSS SECTIONS 1
5. STRUCTURE CROSS SECTIONS 2
6. ROADWAY CROSS SECTIONS
7. ALIGNMENTS AND PROFILES 1
8. ALIGNMENTS AND PROFILES 2
9. SUBSURFACE EXPLORATION
10. SUBSURFACE EXPLORATION
11. REMOVAL DETAILS
12. WEST ABUTMENT PLAN & ELEVATION
13. WEST ABUTMENT DETAILS
14. WEST ABUTMENT WINGWALL 1
15. WEST ABUTMENT WINGWALL 2
16. ABUTMENT BILL OF BARS
17. PIERS 1-4 LAYOUT DETAILS
18. PIER 5 LAYOUT DETAILS
19. PIERS 6 AND 7 LAYOUT DETAILS
20. PIER 8 LAYOUT DETAILS
21. PIER 9 LAYOUT DETAILS
22. PIER 10 LAYOUT DETAILS
23. PIER 11 LAYOUT DETAILS
24. PIER 1-4, 6 & 7 CAP REINFORCEMENT DETAILS
25. PIER 5 CAP REINFORCEMENT DETAILS
26. PIER 8 CAP REINFORCEMENT DETAILS
27. PIER 9 CAP REINFORCEMENT DETAILS
28. PIER 10 CAP REINFORCEMENT DETAILS
29. PIER 11 CAP REINFORCEMENT DETAILS
30. PIERS 1-7 SHAFT REINFORCEMENT DETAILS
31. PIER 8 SHAFT REINFORCEMENT DETAILS
32. PIER 9 SHAFT REINFORCEMENT DETAILS
33. PIER 10 SHAFT REINFORCEMENT DETAILS
34. PIER 11 SHAFT REINFORCEMENT DETAILS
35. FOOTING REINFORCING DETAILS
36. PIER FOOTING PILE LAYOUT 1
37. PIER FOOTING PILE LAYOUT 2
38. BEARING PEDESTAL DETAILS PIER 8
39. PIER BILL OF BARS
40. ELASTOMERIC BEARINGS
41. 45W" PRESTRESSED GIRDER DETAILS 1
42. 45W" PRESTRESSED GIRDER DETAILS 2
43. STEEL DIAPHRAGM DETAILS 45W" AND 54W" GIRDERS
44. 72W" PRESTRESSED GIRDER DETAILS 1
45. 72W" PRESTRESSED GIRDER DETAILS 2
46. STEEL DIAPHRAGM DETAILS FOR 72W" GIRDERS
47. 54W" PRESTRESSED GIRDER DETAILS 1
48. 54W" PRESTRESSED GIRDER DETAILS 2
49. EXPANSION DIAPHRAGM DETAILS 1
50. EXPANSION DIAPHRAGM DETAILS 2
51. FIXED DIAPHRAGM DETAILS 1
52. FIXED DIAPHRAGM DETAILS 2
53. FRAMING PLAN UNIT 1
54. FRAMING PLAN UNIT 2
55. FRAMING PLAN UNIT 3
56. DECK REINFORCEMENT UNITS 1& 2
57. DECK REINFORCEMENT UNIT 3
58. DECK REINF. CROSS SECTIONS UNITS 1& 2
59. DECK REINF. CROSS SECTIONS UNIT 3
60. DECK REINF. CROSS SECTIONS UNIT 3
61. SUPERSTRUCTURE BILL OF BARS
62. TOP OF DECK ELEVATIONS 1
63. TOP OF DECK ELEVATIONS 2
64. STRUCTURAL APPROACH SLAB DETAILS
65. PARAPET 42SS MODIFIED
66. PARAPET 56SS MODIFIED AND TRANSITION
67. PARAPET ELECTRICAL WORK 1
68. PARAPET ELECTRICAL WORK 2 & LIGHT STD
69. MEDIAN GORE CRASH BARRIER
70. SIGN BRIDGE ANCHORAGE PIER 11
71. SIGN BRIDGE ANCHORAGE REINF. AT PIER 11
72. SIGN BRIDGE ANCHORAGE DETAILS AT PIER 11
73. WEST ABUTMENT EXPANSION DEVICE
74. WEST ABUTMENT COVER PLATE DETAILS
75. MODULAR EXP. JOINT DETAILS
76. MODULAR JOINT COVER PLATES
77. FLOOR DRAIN TYPE "WF"
78. DOWNSPOUT DETAILS
79. AESTHETIC DETAILS
80. SLOPE PAVING
81. ALTERNATE CONSTRUCTION JOINT


## DESIGN DATA

MATERIAL PROPERTIES: (WBM 6.2.2.3.4)

CONCRETE MASONRY, HIGH PERFORMANCE CONCRETE
SLAB---------- f'c = 4,000 p.s.i.
ALL OTHER---------- f'c = 4,000 p.s.i.
45W" PRESTRESSED GIRDERS - CONCRETE MASONRY---------- f'ci = 6,800 p.s.i.
f'c = 8,000 p.s.i.
54W" PRESTRESSED GIRDERS - CONCRETE MASONRY---------- f'ci = 6,800 p.s.i.
f'c = 8,000 p.s.i.
72W" PRESTRESSED GIRDERS - CONCRETE MASONRY---------- f'ci = 6,800 p.s.i.
f'c = 8,000 p.s.i.

STRANDS - 0.6" DIA. WITH AN ULTIMATE TENSILE STRENGTH OF 270,000 p.s.i.

BAR STEEL REINFORCEMENT, GRADE 60---------- fy = 60,000 p.s.i.

LIVE LOAD:
DESIGN LOADING-----HL-93
INVENTORY RATING FACTOR-----RF = 1.20
OPERATING RATING FACTOR-----RF = 1.75
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

NE REGION CONTACT - SCOTT EBEL (920) 492-2240
BUREAU OF STRUCTURES CONTACT - WILLIAM DREHER (608) 266-8489
CONSULTANT CONTACT - MIKE ARNOLD (414) 944-6142

WISCONSIN PROFESSIONAL ENGINEER
MICHAEL J. ARNOLD
E-41747
GREENDALE
WI
1/29/2016

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


AECOM
1555 Rivercenter Dr.
Suite 214
Milwaukee, WI 53212
(414) 944-6080


STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 04/04/16
CHIEF STRUCTURES DESIGN ENGINEER — DATE

# STRUCTURE B-70-401

USH 10 WB OVER IH 41 & WCL

| COUNTY | TOWN/~~CITY~~/~~VILLAGE~~ |
|---|---|
| WINNEBAGO | MENASHA |

DESIGN SPEC.
AASHTO LFRD DESIGN SPEC.

| DESIGNED BY | JDL | DESIGN CK'D. | MJA | DRAWN BY | JDL | PLANS CK'D. | MJA |
|---|---|---|---|---|---|---|---|

GENERAL PLAN & ELEVATION SPANS 1-6

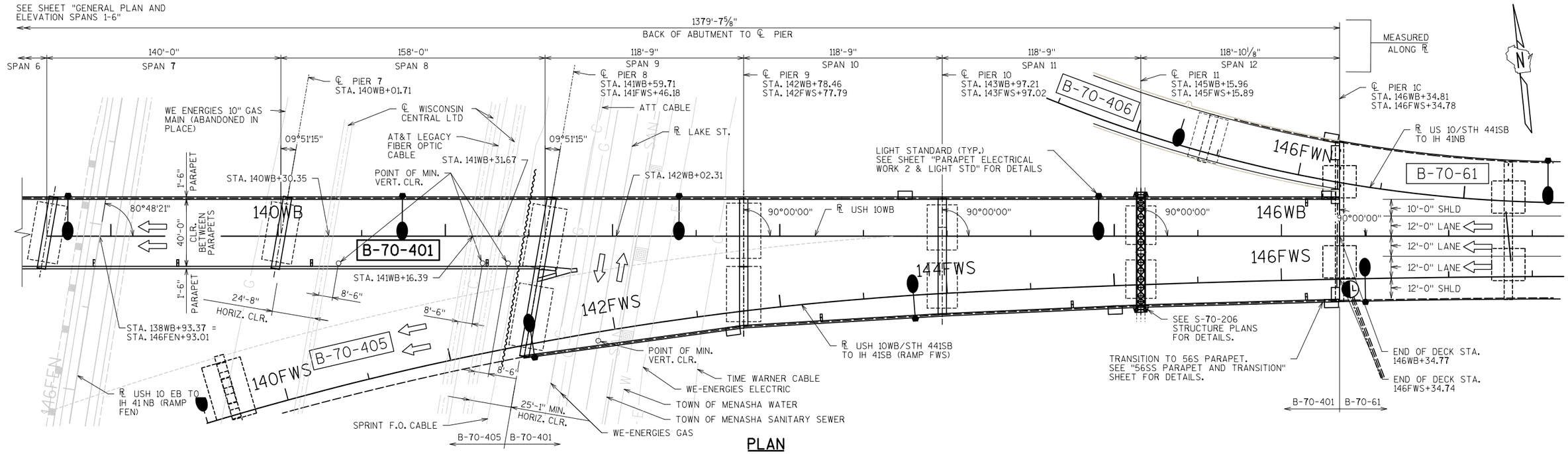
SHEET 1 OF 81
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8

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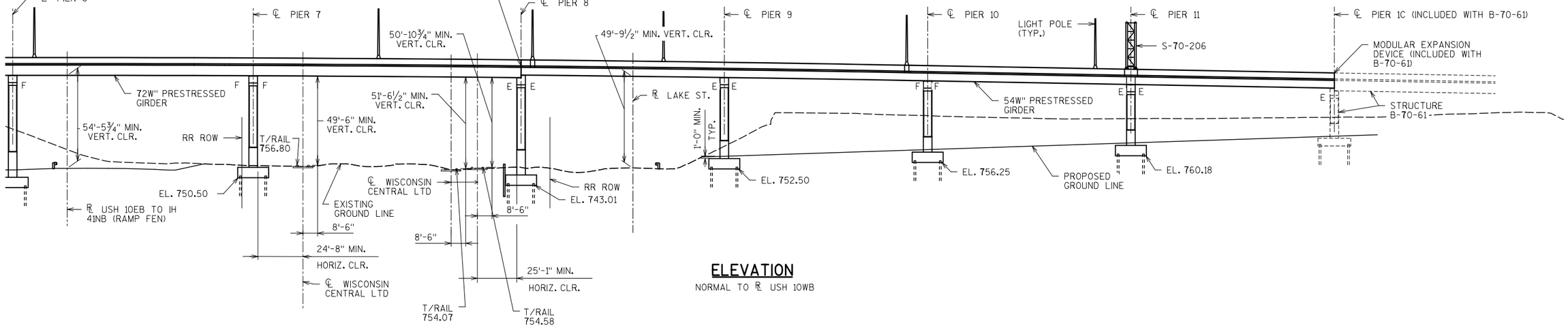
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DATE: 1/29/2016
I.D. jon_lidgard

| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |




## PLAN

(12-SPAN 45W", 54W" & 72W" PRESTRESSED GIRDERS)




## ELEVATION

NORMAL TO ℄ USH 10WB

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

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GENERAL PLAN & ELEVATION SPANS 7-12

SHEET 2 OF 81
418

DATE:1/29/2016
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FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\B-70-401\02 - general plan and elevation 2.dgn

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## 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 FOOTINGS (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.

## GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

ELEVATIONS ARE REFERENCED TO NGVD29.

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.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

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

AT ABUTMENTS, BACKFILL ALL EXCAVATED VOLUME NOT OCCUPIED BY NEW STRUCTURE WITH BACKFILL STRUCTURE. THE QUANTITY FOR BACKFILL STRUCTURE, BID ITEM 210.0100, IS CALCULATED BASED ON THE APPLICABLE FIGURES 12.6-1 AND 12.6-2 IN THE WISCONSIN DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL.

EXISTING STRUCTURE B-70-76 IS STEEL PALTE GIRDER BRIDGE TO BE REMOVED. B-70-78 IS A FIVE SPAN STEEL PLATE GIRDER STRUCTURE TO BE REMOVED. EXISTING STRUCTURE B-70-79 IS A THREE SPAN STEEL PLATE GIRDER STRUCTURE TO BE REMOVED. B-70-78 AND B-70-79 WERE PARTIALLY REMOVED AS PART OF THE CONSTRUCTION OF B-70-400.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING MATERIAL TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS.

## DESIGN CRITERIA

DESIGN IS IN ACCORDANCE WITH AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) LRFD BRIDGE DESIGN SPECIFICATIONS AND THE WISDOT BRIDGE MANUAL.

ALL DETAILS, MATERIALS, AND FABRICATION SHALL CONFORM TO 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).

## CONCRETE

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE PRESTRESSED GIRDER DETAILS SHEET.

CHAMFER ALL EXPOSED OUTSIDE CORNERS ¾" UNLESS NOTED OTHERWISE.

PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED TO TOP OF DECK AND APPROACH SLABS.

PIGMENTED SURFACE SEALER IS TO BE APPLIED TO THE INSIDE FACE AND TOP OF PARAPETS.

CONCRETE FOR ABUTMENT AND EXPANSION PIER DIAPHRAGMS SHALL BE PLACED WITH THE DECK CONCRETE, AND NO OPTIONAL CONSTRUCTION JOINT IS PERMITTED. IF OPTIONAL CONSTRUCTION JOINT IS USED IN FIXED PIER DIAPHRAGMS, DECK POUR MUST BE WITHIN TWO WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

## OTHER DESIGN LOADS

THE STRUCTURE IS DESIGNED FOR THE DECK THICKNESS SHOWN. AN ADDITIONAL LOAD OF 20 PSF FOR A FUTURE WEARING SURFACE AND 5 PSF FOR A FUTURE POLYMER OVERLAY ARE CONSIDERED IN THE DESIGN.

TEMPERATURE CHANGE FOR DETERMINING THERMAL FORCES ON SUBSTRUCTURES = 45°F.

PARAPETS WERE ASSUMED TO WEIGH 639 PLF FOR 42SS PARAPET WITH AESTHETIC FORMLINER.

ALL OTHER LOADS IN ACCORDANCE WITH AASHTO.

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## TOTAL ESTIMATED QUANTITIES

| | BID ITEM # | BID ITEM | UNIT | SUPER. SPANS | W. STR. APPR. | W. ABUT. | PIER 1 | PIER 2 | PIER 3 | PIER 4 | PIER 5 | PIER 6 | PIER 7 | PIER 8 | PIER 9 | PIER 10 | PIER 11 | PIER C1 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 203.0200.701 | REMOVING OLD STRUCTURE STA. 142WB+83 | LS | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 |
| | 203.0200.702 | REMOVING OLD STRUCTURE STA. 142EB+35 | LS | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 |
| | 203.0200.703 | REMOVING OLD STRUCTURE STA. 131EB+93 | LS | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 |
| | 203.0225.S.700 | DEBRIS CONTAINMENT B-70-76 | LS | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 |
| | 203.0225.S.701 | DEBRIS CONTAINMENT B-70-78 | LS | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 |
| | 203.0225.S.702 | DEBRIS CONTAINMENT B-70-79 | LS | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 |
| | 206.1000.701 | EXCAVATION FOR STRUCTURES BRIDGES B-70-401 | LS | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 |
| | 210.0100 | BACKFILL STRUCTURE | CY | - | - | 140 | - | - | - | - | - | - | - | - | - | - | - | - | 140 |
| | 305.0120 | BASE AGGREGATE DENSE 1 1/4-INCH | TON | - | 159 | - | - | - | - | - | - | - | - | - | - | - | - | - | 159 |
| | 501.1000.S | ICE HOT WEATHER CONCRETING | LB | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 58028 |
| | 502.3100.701 | EXPANSION DEVICE B-70-401 | LS | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 |
| | 502.3110.S.701 | EXPANSION DEVICE MODULAR B-70-401 | LS | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 |
| | 502.3200 | PROTECTIVE SURFACE TREATMENT | SY | 8310 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 8310 |
| | 502.3210 | PIGMENTED SURFACE SEALER | SY | 1430 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1430 |
| | 503.0146 | PRESTRESSED GIRDER TYPE I 45W-INCH | LF | 2785 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2785 |
| | 503.0155 | PRESTRESSED GIRDER TYPE I 54W-INCH | LF | 5278 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5278 |
| | 503.0172 | PRESTRESSED GIRDER TYPE I 72W-INCH | LF | 3039 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 3039 |
| | 505.0400 | BAR STEEL REINFORCEMENT HS STRUCTURES | LB | - | - | 810 | 14768 | 14924 | 15140 | 16049 | 17149 | 15578 | 15725 | 46597 | 31700 | 24437 | 18904 | - | 231781 |
| | 505.0600 | BAR STEEL REINFORCEMENT HS COATED STRUCTURES | LB | 677390 | 9380 | 8350 | 41507 | 47842 | 46986 | 49051 | 44893 | 50848 | 46969 | 116934 | 64732 | 52906 | 46660 | - | 1304450 |
| | 505.0800.S | BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES | LB | - | 750 | - | - | - | - | - | - | - | - | - | - | - | - | - | 750 |
| | 506.2605 | BEARING PADS ELASTOMERIC NON-LAMINATED | EACH | - | - | - | - | 12 | 12 | - | - | 14 | 14 | - | - | 21 | - | - | 73 |
| | 506.2610 | BEARING PADS ELASTOMERIC LAMINATED | EACH | - | - | 6 | 12 | - | - | 12 | 13 | - | - | 21 | 25 | - | 19 | 9 | 117 |
| | 506.4000.701 | STEEL DIAPHRAGMS B-70-401 | EACH | 166 | - | - | - | - | - | - | - | - | - | - | - | - | - | 9 | 175 |
| | 511.1200.700 | TEMPORARY SHORING B-70-401 | SF | - | - | - | 364 | - | 728 | - | - | - | 756 | 798 | - | - | - | - | 2646 |
| | 514.0450 | FLOOR DRAINS TYPE WF | EACH | 11 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 11 |
| | 514.2608 | DOWNSPOUT 8-INCH | LF | - | - | 4 | - | 82 | - | - | 4 | 97 | 7 | 182 | - | 12 | - | 10 | 398 |
| | 516.0500 | RUBBERIZED MEMBRANE WATERPROOFING | SY | - | - | 15 | - | - | - | - | - | - | - | - | - | - | - | - | 15 |
| | 517.1010.S.701 | CONCRETE STAINING B-70-401 | SF | 40750 | - | 580 | 2420 | 2580 | 2500 | 2690 | 2430 | 2845 | 2480 | 6165 | 4400 | 3515 | 2820 | - | 76175 |
| | 517.1050.S.701 | ARCHITECTURAL SURFACE TREATMENT B-70-401 | SF | 6790 | - | 580 | - | - | - | - | - | - | - | - | - | - | - | - | 7370 |
| * | 550.0020 | PRE-BORING ROCK OR CONSOLIDATED MATERIALS | LF | - | - | - | 162 | 180 | 316 | 195 | 334 | 205 | 346 | 1321 | 688 | 0 | 0 | - | 3747 |
| | 550.0500 | PILE POINTS | EACH | - | - | 16 | 24 | - | 20 | 28 | 28 | 28 | 34 | 52 | 74 | 72 | 72 | - | 448 |
| | 550.1120 | PILING STEEL HP 12-INCH X 53 LB | LF | - | - | 840 | - | - | - | - | - | - | - | - | - | - | - | - | 840 |
| ** | 550.1140 | PILING STEEL HP 14-INCH X 73 LB | LF | - | - | - | 370 | 434 | 585 | 499 | 886 | 523 | 1025 | 1444 | 2673 | 2358 | 3186 | | 13983 |
| | 604.0600 | SLOPE PAVING SELECT CRUSHED MATERIAL | SY | - | - | 478 | - | - | - | - | - | - | - | - | - | - | - | - | 478 |
| | 606.0300 | RIPRAP HEAVY | CY | - | - | 17 | - | 1 | - | - | - | 1 | 1 | 1 | - | - | - | - | 20 |
| | 612.0406 | PIPE UNDERDRAIN WRAPPED 6-INCH | LF | - | - | 110 | - | - | - | - | - | - | - | - | - | - | - | - | 110 |
| | 645.0120 | GEOTEXTILE FABRIC TYPE HR | SY | - | - | 45 | - | - | - | - | - | - | - | - | - | - | - | - | 45 |
| | 652.0125 | CONDUIT RIGID METALLIC 2-INCH | LF | 127 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 127 |
| | 652.0225 | CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH | LF | 1755 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1755 |
| | 653.0220 | JUNCTION BOXES 18X6X6-INCH | EACH | 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 |
| | 653.0222 | JUNCTION BOXES 18X12X6-INCH | EACH | 11 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 11 |
| | 657.6005.S | ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES | EACH | 9 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 9 |
| | SPV.0035.700 | MODIFIED HIGH PERFORMANCE CONCRETE (HPC) MASONRY BRIDGES | CY | 2985 | 61 | 129 | 303 | 313 | 309 | 359 | 335 | 344 | 321 | 844 | 610 | 448 | 376 | - | 7737 |
| | SPV.0060.700 | ANCHOR ASSEMBLIES SIGN BRIDGE ON STRUCTURES | EACH | 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 |
| | | NON BID ITEMS | | | | | | | | | | | | | | | | | |
| | | FILLER | SIZE | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1/2" & 3/4" |
| | | NAME PLATE | EACH | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 |

* BID ITEM "PRE-BORING ROCK OR CONSOLIDATED MATERIALS" INCLUDES DRILLING THE PRE-BORING HOLES; FURNISHING, INSTALLING, AND REMOVING CASING IF NECESSARY; FURNISHING AND PLACING CEMENT GROUT; BACKFILLING; AND DISPOSING OF EXCESS MATERIAL. PROVIDING PILES AND SETTING PILES IN PRE-BORED HOLES IS INCLUDED WITH BID ITEM "PILING STEEL HP 14-INCH X 73 LB."

** PILES PLACED IN PRE-BORED HOLES CORED INTO SOLID ROCK DO NOT REQUIRE DRIVING.

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
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STRUCTURE B-70-401

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GENERAL NOTES AND QUANTITIES

SHEET 3 OF 81
419

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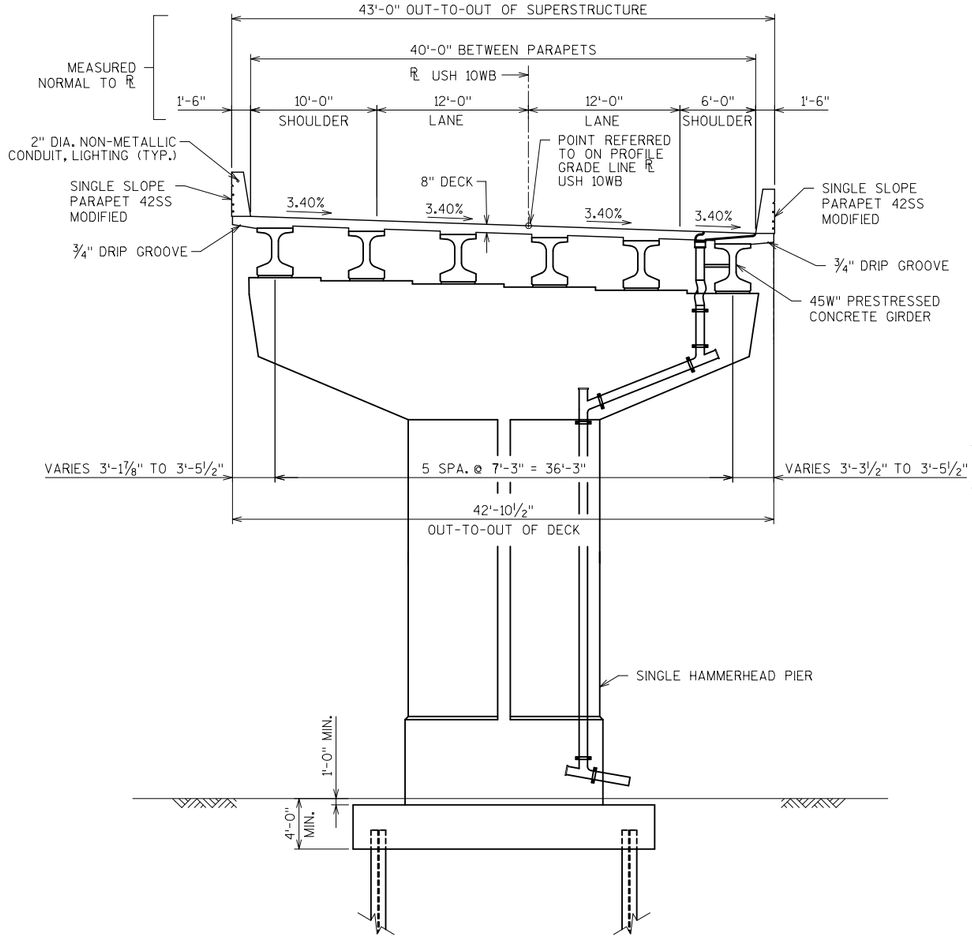
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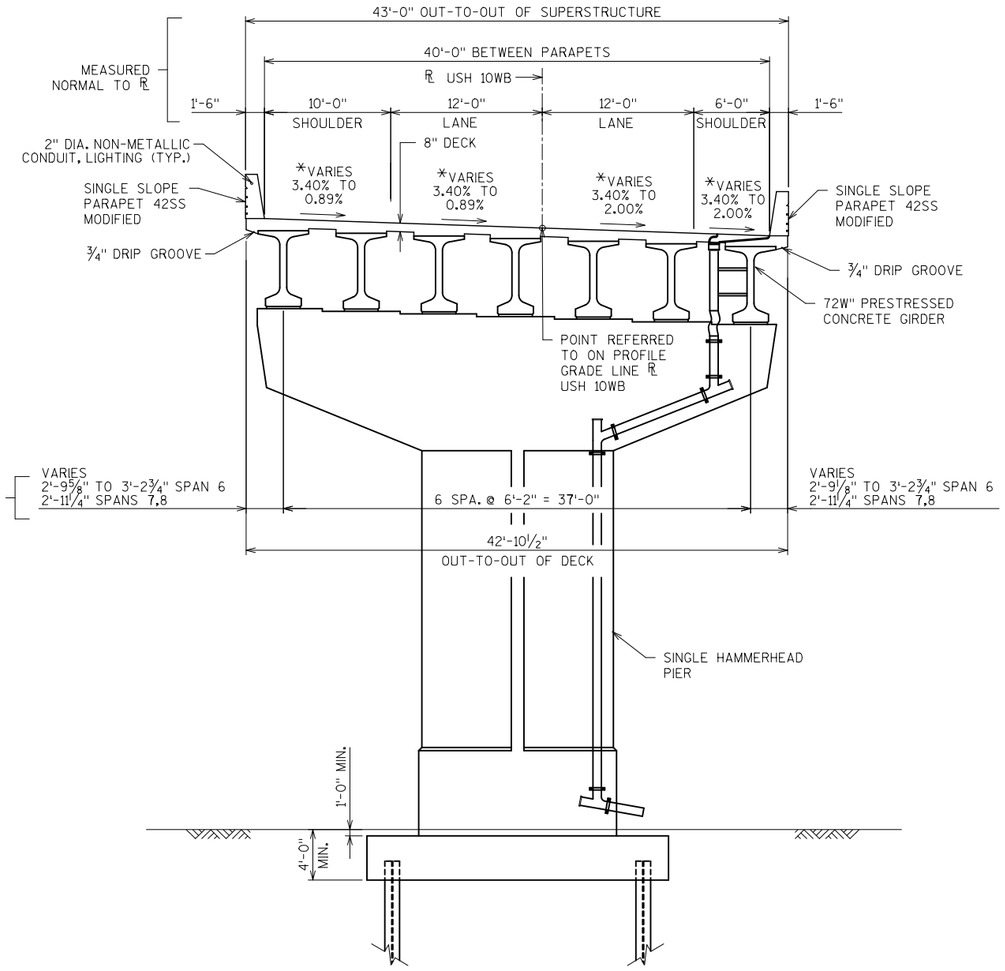
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TYPICAL SECTION
SPANS 1 - 5
(LOOKING UPSTATION)




TYPICAL SECTION
SPANS 6 - 8
(LOOKING UPSTATION)

*SEE SHEET "ALIGNMENTS AND PROFILES 2" FOR SUPERELEVATION DATA

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|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

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STRUCTURE CROSS SECTIONS 1

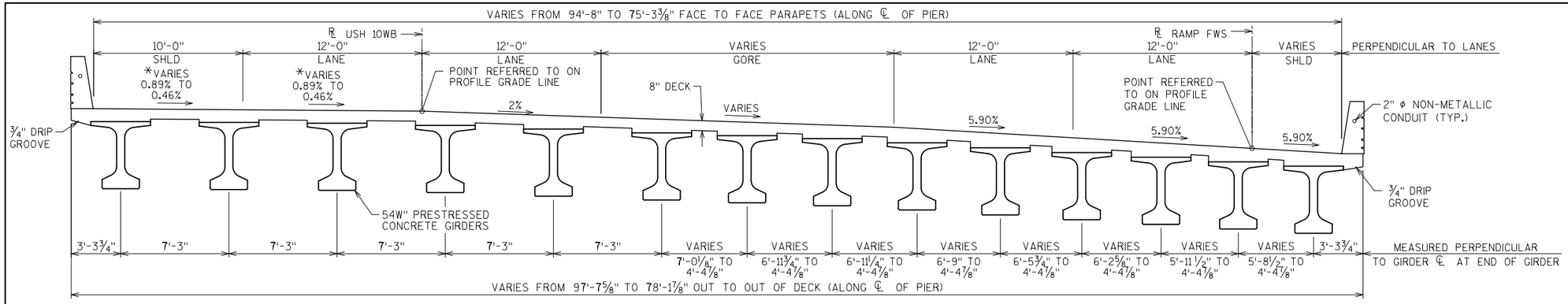
SHEET 4 OF 81
420

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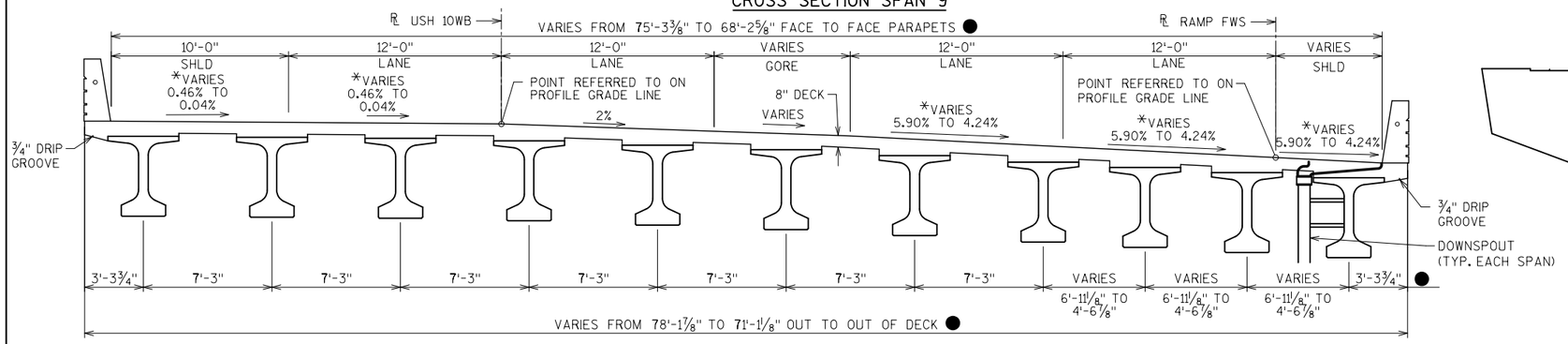
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DATE: 1/29/2016
I.D. jon_lidgard

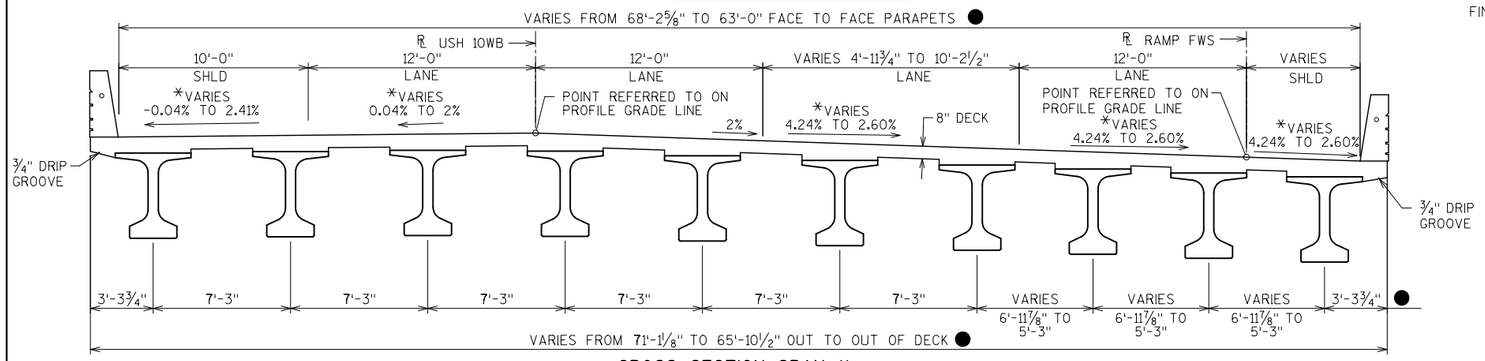
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| 1517-07-77 |



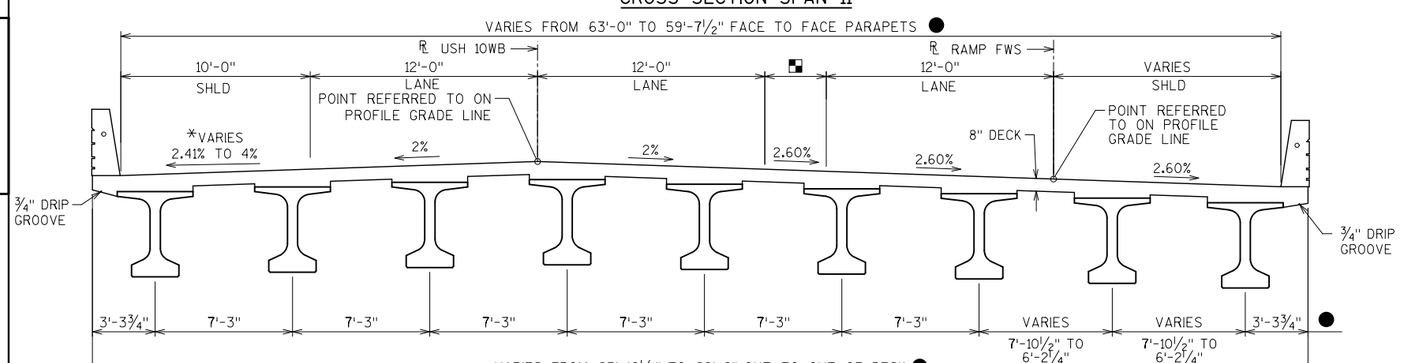

## CROSS SECTION SPAN 9



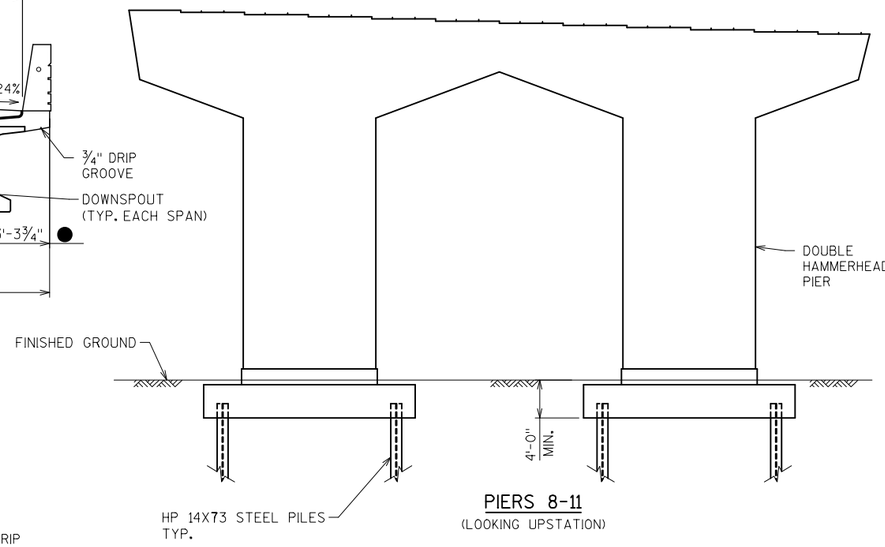

## CROSS SECTION SPAN 10




## CROSS SECTION SPAN 11




## CROSS SECTION SPAN 12




## PIERS 8-11

(LOOKING UPSTATION)

## NOTES

ALL CROSS SECTIONS ARE LOOKING EAST

## LEGEND

■ VARIES 1'-7 3/8" TO 4'-11 3/4"

● DIMENSIONS TAKEN AT ℄ OF PIER PERPENDICULAR TO GIRDER

*SEE SHEET "ALIGNMENTS AND PROFILES 2" FOR SUPERELEVATION DATA

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

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STRUCTURE CROSS SECTIONS 2

SHEET 5 OF 81
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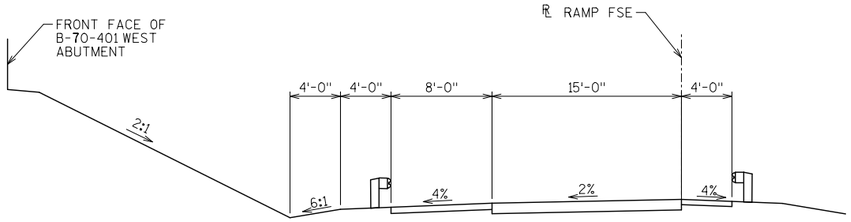
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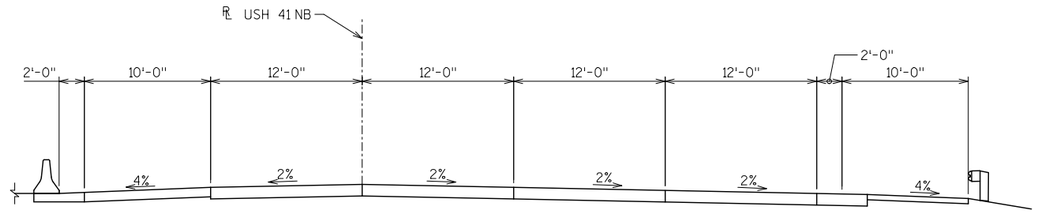
DATE: 1/29/2016
I.D. jon_lidgard

STATE PROJECT NUMBER

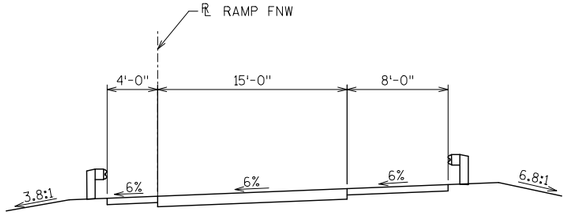
1517-07-77



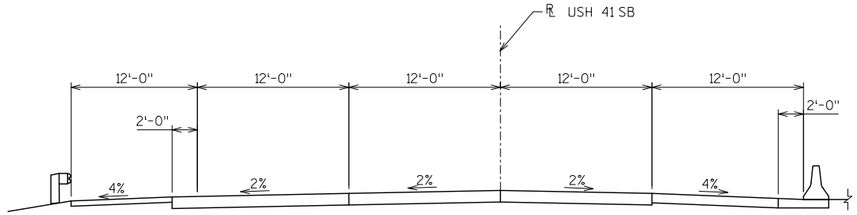

RAMP FSE
(LOOKING NORTH)



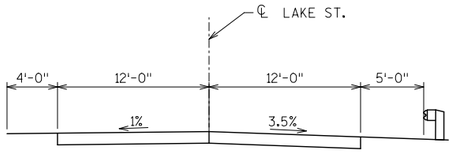

USH 41 NB
(LOOKING NORTH)



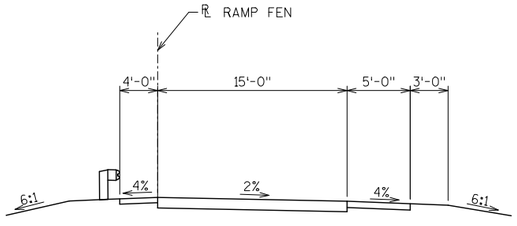

RAMP FNW
(LOOKING NORTH)



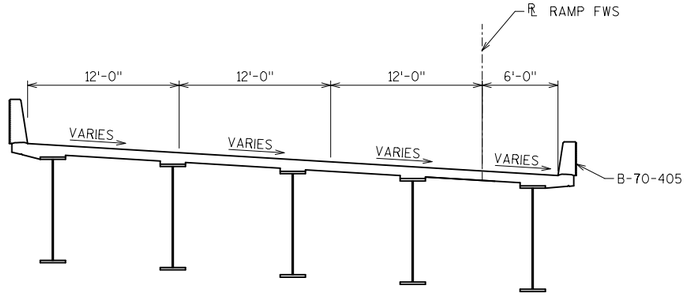

USH 41 SB
(LOOKING NORTH)




LAKE ST.
(LOOKING NORTH)




RAMP FEN
(LOOKING NORTH)




RAMP FWS
(LOOKING EAST)

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

DRAWN BY JDB | PLANS CK'D. MJA

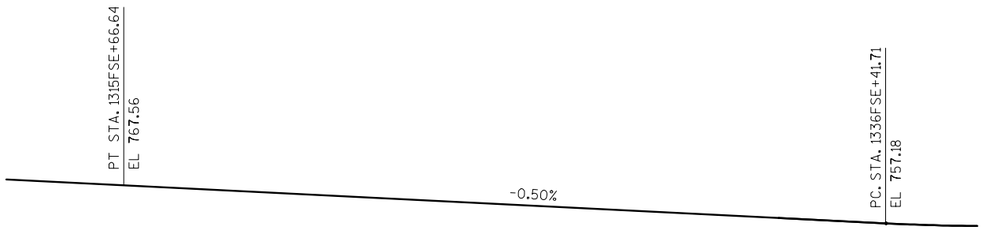
ROADWAY
CROSS SECTIONS

SHEET 6 OF 81
422

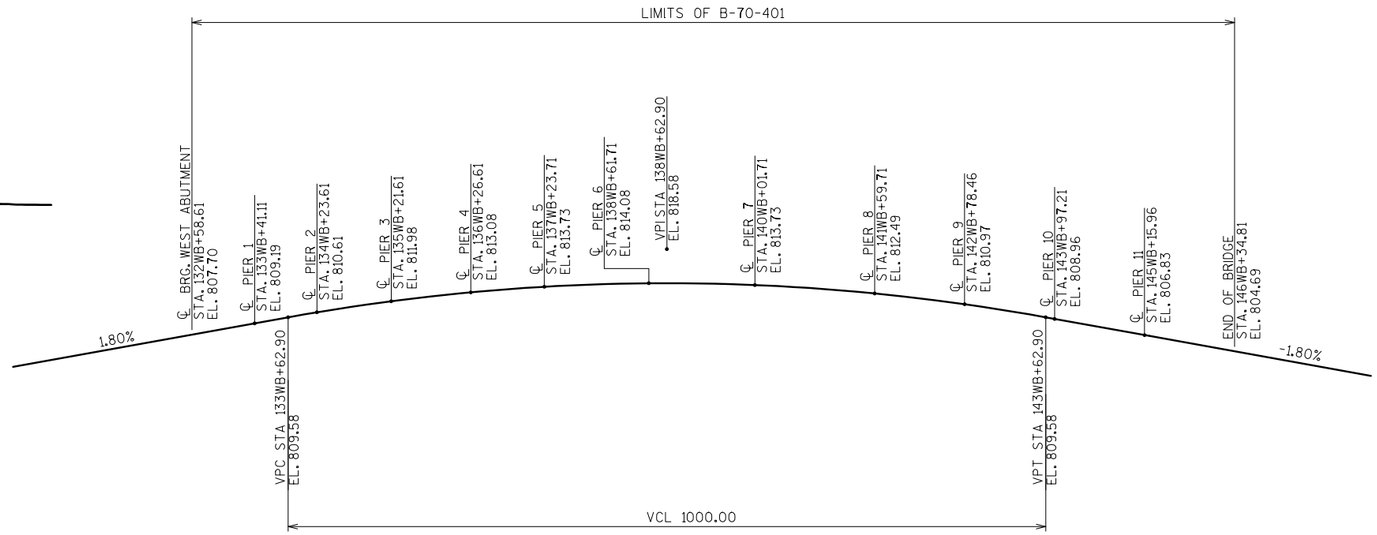
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DATE: 1/29/2016
I.D. jon_liggard

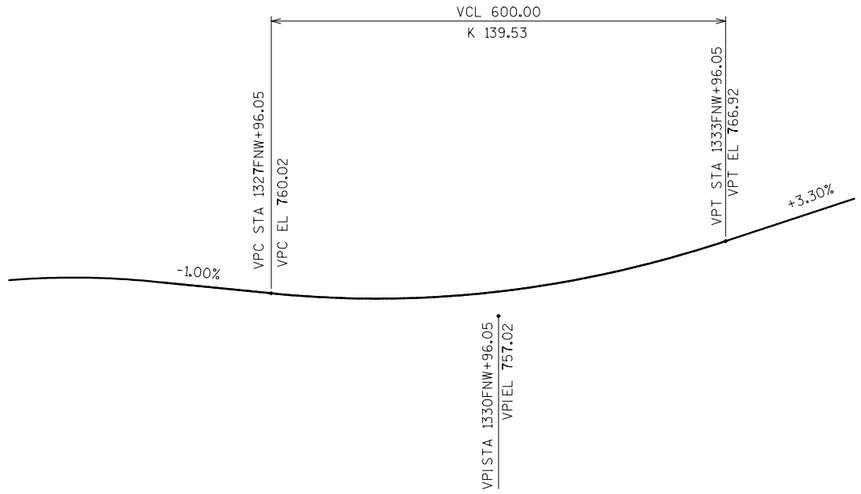
| STATE PROJECT NUMBER |
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| 1517-07-77 |



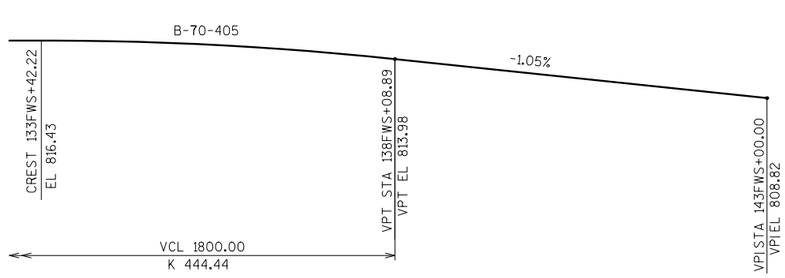

PROFILE GRADE LINE RAMP 'FSE'
IH 41 SB TO USH 10 EB /STH 441 NB



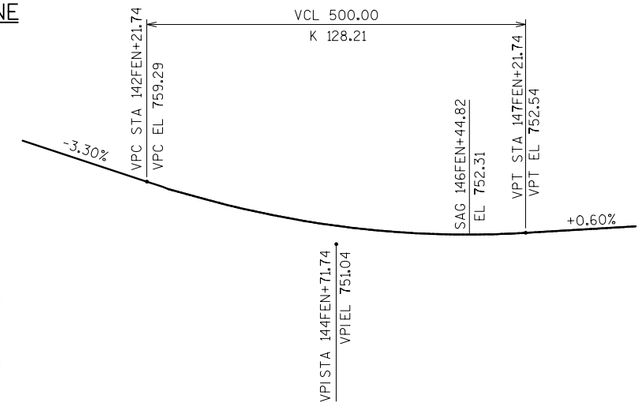

PROFILE GRADE LINE
USH 10 WB



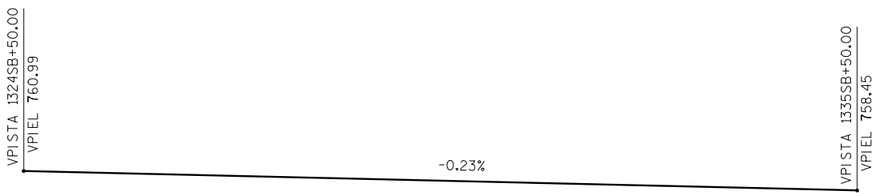

PROFILE GRADE LINE RAMP 'FNW'
IH 41 NB TO USH 10 WB



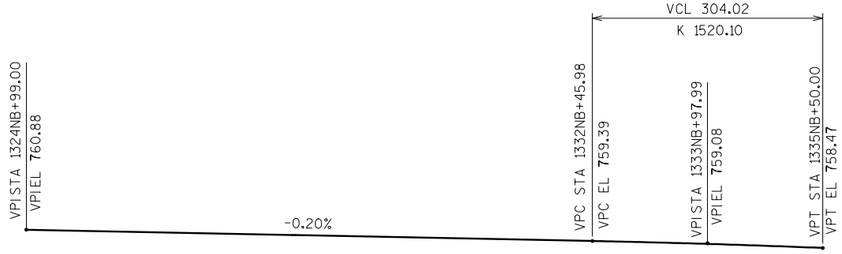

PROFILE GRADE LINE RAMP 'FWS'
USH 10 WB TO IH 41 SB




PROFILE GRADE LINE RAMP 'FEN'
USH 10 EB TO IH 41 NB




PROFILE GRADE LINE IH 41 SB




PROFILE GRADE LINE IH 41 NB

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

| DRAWN BY | MJA | PLANS CK'D. | JDL |
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ALIGNMENTS AND PROFILES 1

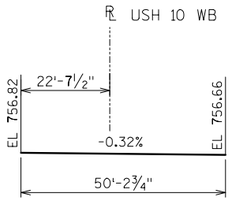
SHEET 7 OF 81
423

8

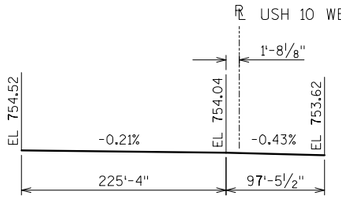
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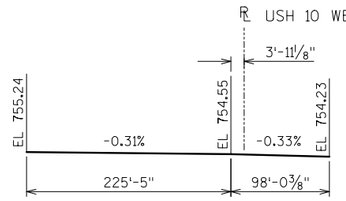
DATE: 1/29/2016
I.D. Jon_Lidgard



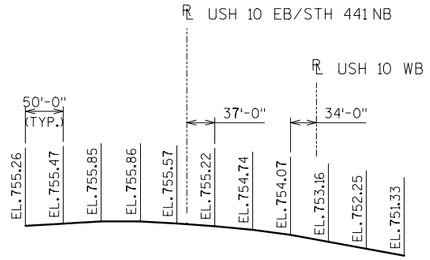

VERTICAL PROFILE WEST TRACK




VERTICAL PROFILE MIDDLE TRACK

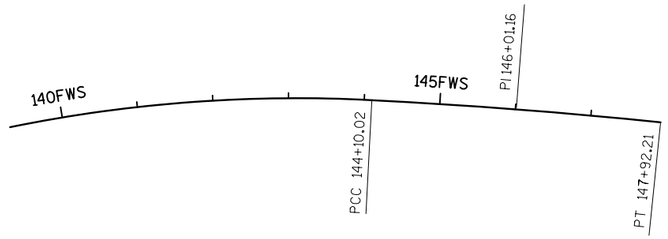



VERTICAL PROFILE EAST TRACK




SCALE
100'-0"

PROFILE GRADE LINE
LAKE ST

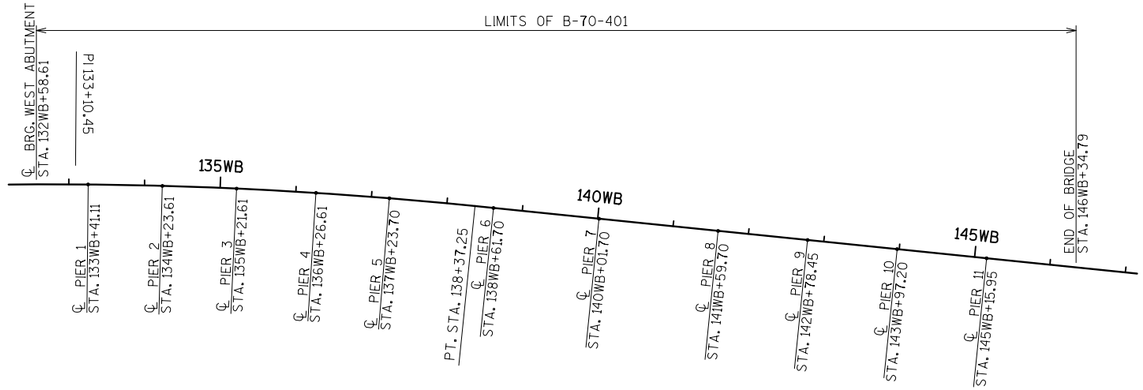



HORIZONTAL ALIGNMENT RAMP 'FWS'
US 10WB/441SB TO IH 41SB RAMP

CURVE DATA
RAMP FWS

PC= 115FWS+42.90
X = 809224.97
Y = 544725.27
PI = 133FWS+28.99
X = 809427.28
Y = 546499.86
PCC = 144FWS+10.02
X = 811210.98
Y = 546407.51
R = 1900.00
DELTA = 86°27'36" RT
D = 3°00'56"
L = 2867.12
T = 1786.09
BK= N 6°30'14" E
AH= S 87°02'11" E

| SUPERELEVATION DATA RAMP FWS | STATION | RATE | |
|---|---|---|---|
| | | LEFT | RIGHT |
| END NORMAL CROWN | 112+94.50 | -2.00% | -2.00% |
| REMOVE CROWN | 113+78.23 | FLAT | FLAT |
| REVERSE CROWN | 114+61.96 | 2.00% | 2.00% |
| BEGIN FULL SUPER | 116+25.23 | 5.90% | 5.90% |
| END FULL SUPER | 143+27.69 | 5.90% | 5.90% |
| BEGIN FULL SUPER | 144+65.84 | 2.60% | 2.60% |
| END FULL SUPER | 147+53.21 | 2.60% | 2.60% |
| REVERSE CROWN | 147+80.21 | 2.00% | 2.00% |

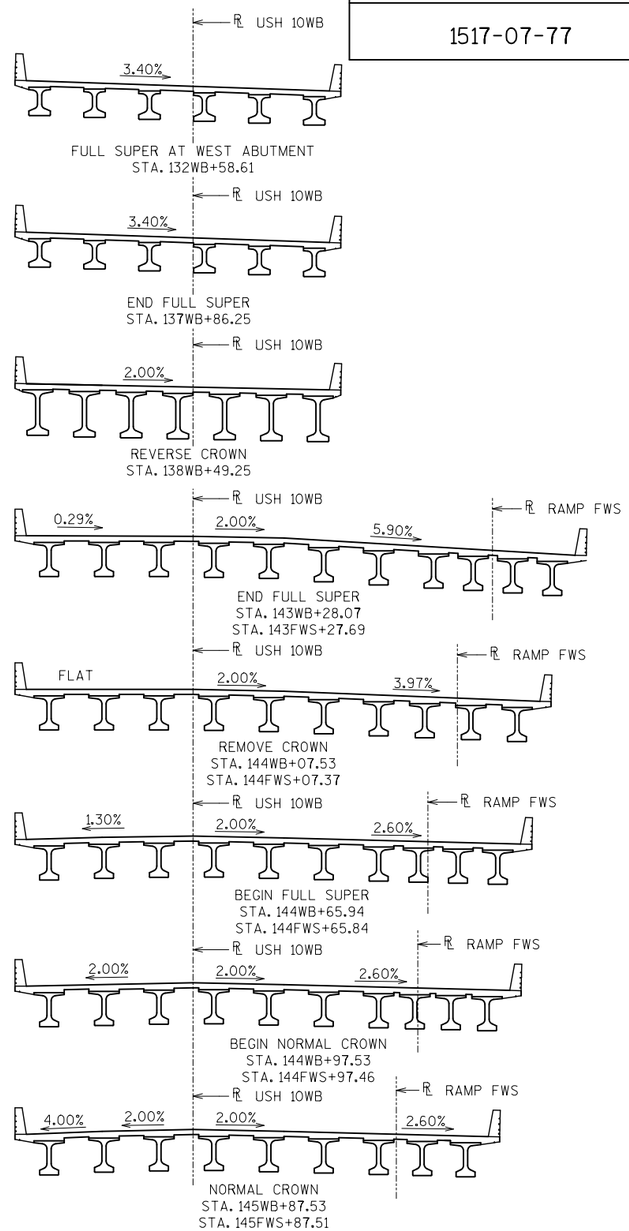



HORIZONTAL ALIGNMENT
USH 10 WB

CURVE DATA
USH 10WB

PC= 127WB+80.49
X = 809589.24
Y = 546506.30
PI = 133WB+10.45
X = 810117.17
Y = 546552.76
PT= 138WB+37.25
X = 810644.40
Y = 546498.99
R = 5580.00
DELTA = 10°51'03" RT
D = 1°01'37"
L = 1056.76
T = 529.97
BK= N 84°58'17" E
AH= S 84°10'39" E

| SUPERELEVATION DATA USH 10 WB | STATION | RATE | |
|---|---|---|---|
| | | LEFT | RIGHT |
| END NORMAL CROWN | 125+88.49 | -2.00% | -2.00% |
| REMOVE CROWN | 126+78.49 | FLAT | -2.00% |
| REVERSE CROWN | 127+68.49 | 2.00% | -2.00% |
| BEGIN FULL SUPER | 128+31.49 | 3.40% | -3.40% |
| END FULL SUPER | 137+86.25 | 3.40% | -3.40% |
| REVERSE CROWN | 138+49.25 | 2.00% | -2.00% |
| REMOVE CROWN | 144+07.53 | FLAT | -2.00% |
| BEGIN NORMAL CROWN | 144+97.53 | -2.00% | -2.00% |




NOTES
ALL CROSS SECTIONS LOOKING EAST

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

DRAWN BY MJA | PLANS CK'D. JDL

ALIGNMENTS AND PROFILES 2

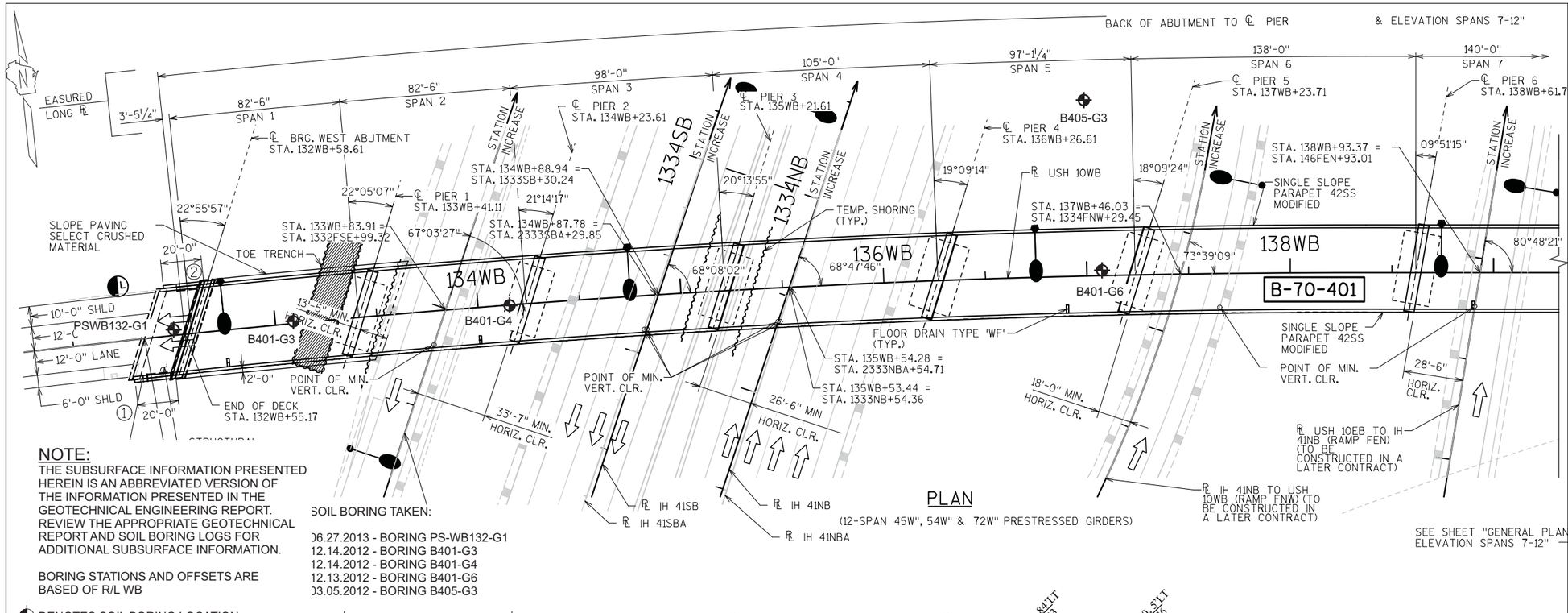
SHEET 8 OF 81
424

STATE PROJECT NUMBER
1517-07-77

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DATE: 1/29/2016
I.D. jon_lidgard




**NOTE:**
THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

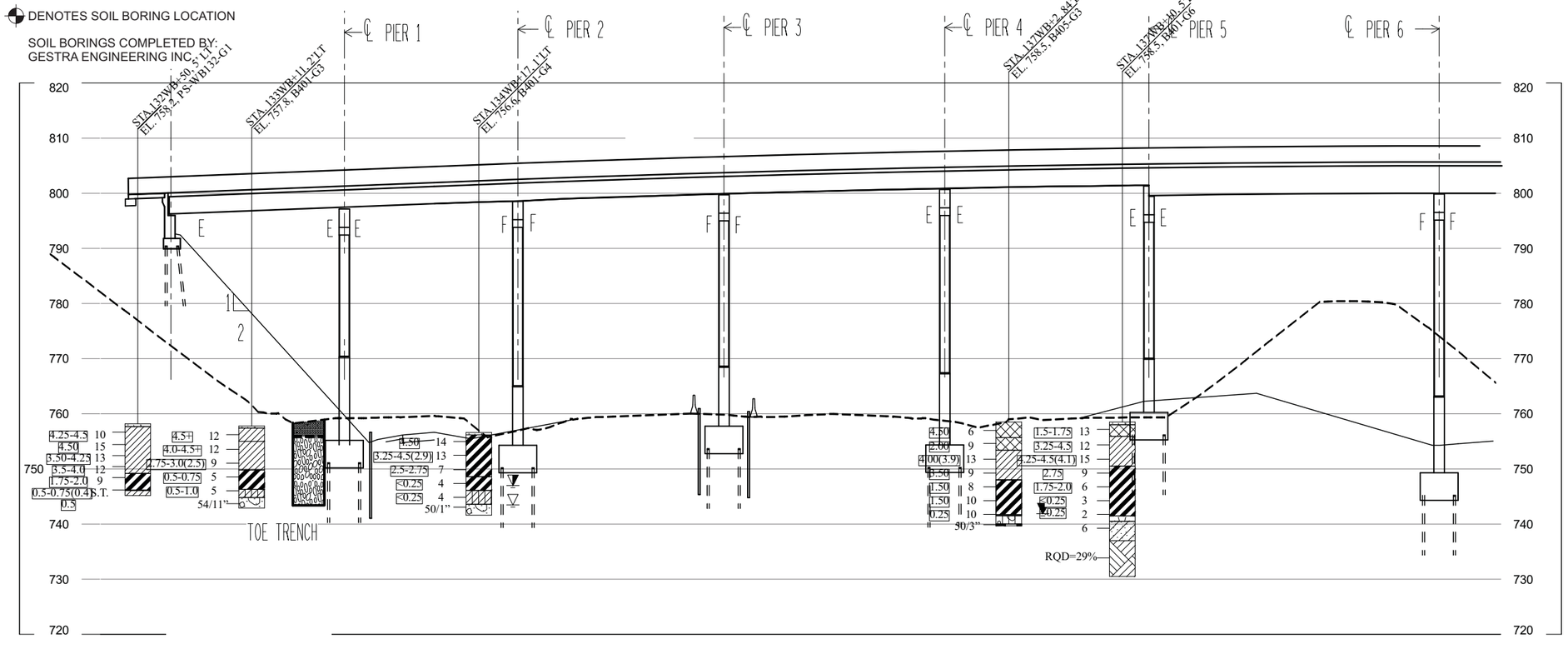
BORING STATIONS AND OFFSETS ARE BASED OF R/L WB

SOIL BORING TAKEN:

06.27.2013 - BORING PS-WB132-G1
12.14.2012 - BORING B401-G3
12.14.2012 - BORING B401-G4
12.13.2012 - BORING B401-G6
03.05.2012 - BORING B405-G3

DENOTES SOIL BORING LOCATION

SOIL BORINGS COMPLETED BY:
GESTRA ENGINEERING INC.




NOTE: ▽ ...RING DRILLING ▼ -WATER LEVEL AFTER 0 HOURS

STATE PROJECT NUMBER

1517-07-77

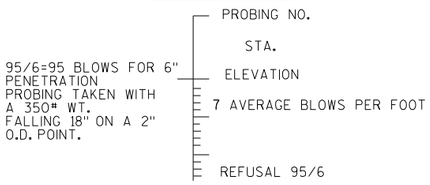
ABBREVIATIONS

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

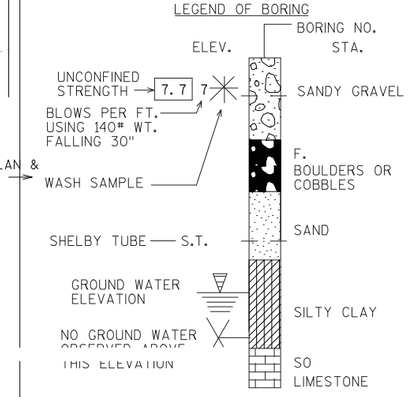
MATERIAL SYMBOLS

TOPSOIL SILT FAT CLAY
SAND PEAT BEDROCK
GRAVEL CLAY FILL

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-70-401

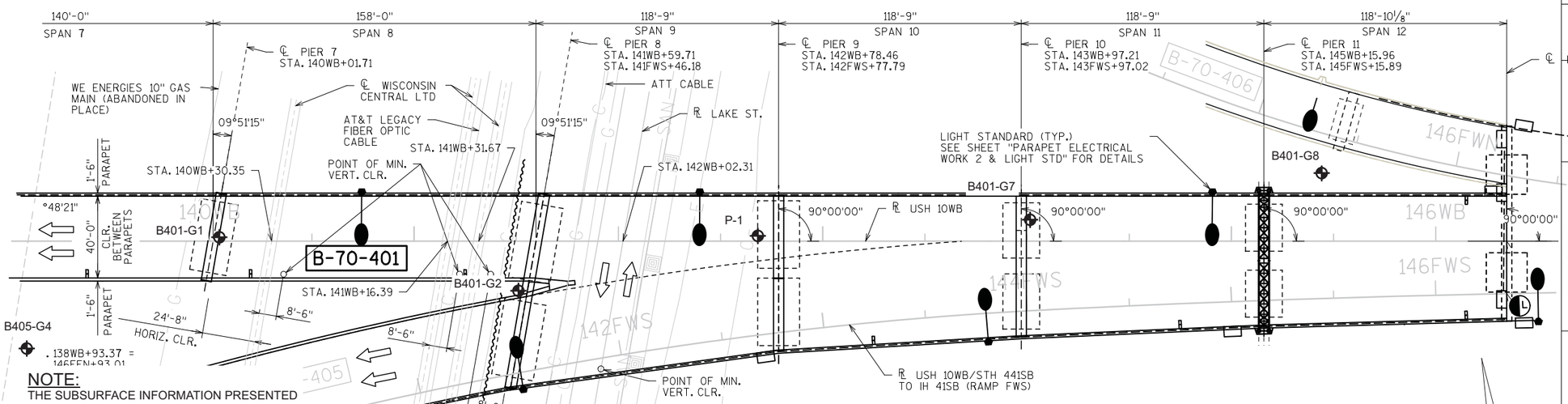
DRAWN BY RHE | PLANS CK'D. SL

SUBSURFACE EXPLORATION

SHEET 425 OF 81

SCALE 1"=60'

8




**NOTE:**
THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

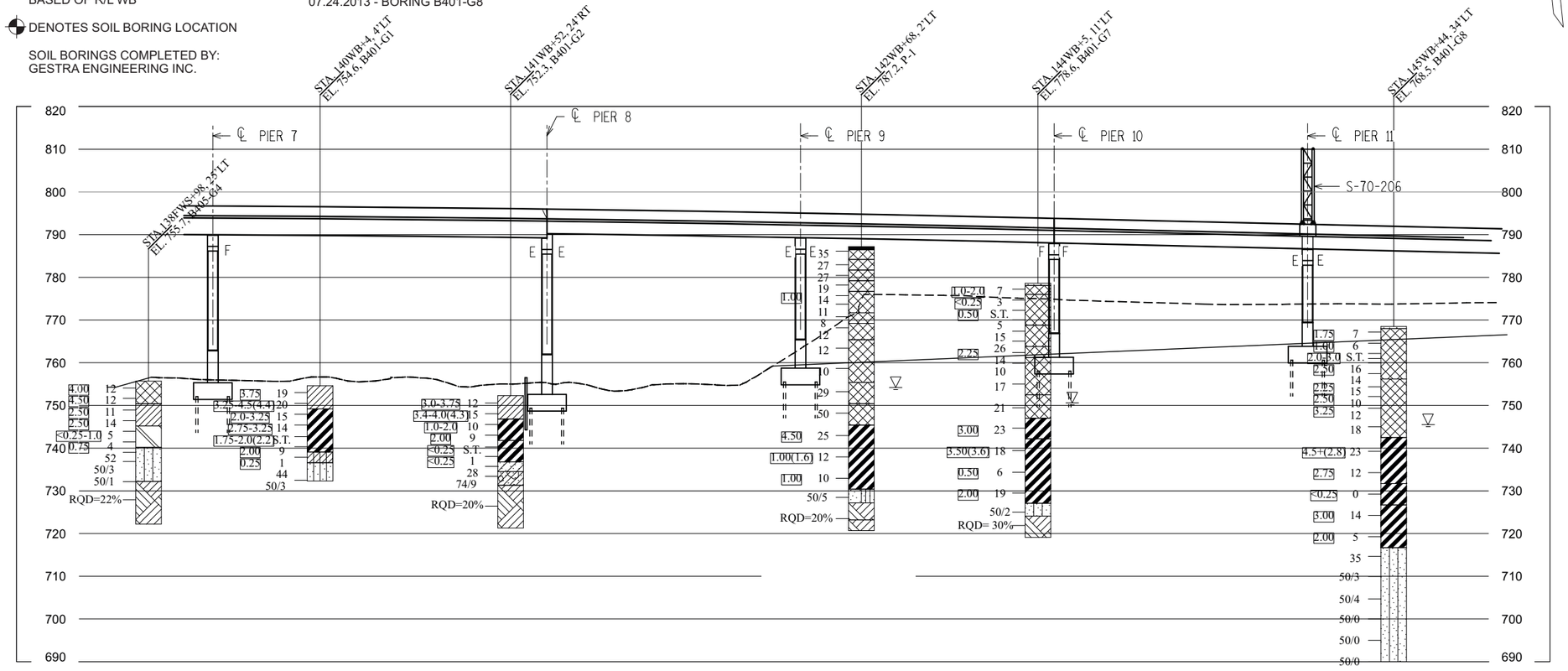
BORING STATIONS AND OFFSETS ARE BASED OF R/L WB

DENOTES SOIL BORING LOCATION

SOIL BORINGS COMPLETED BY:
GESTRA ENGINEERING INC.

SOIL BORING TAKEN:

07.02.2012 - BORING B401-G1
07.03.2012 - BORING B401-G2
03.06.2012 - BORING B405-G4
09.18.2011 - BORING P-1
07.25.2013 - BORING B401-G7
07.24.2013 - BORING B401-G8




NOTE: ▽ -WATER LEVEL DURING DRILLING ▼ -WATER LEVEL AFTER 0 HOURS

STATE PROJECT NUMBER

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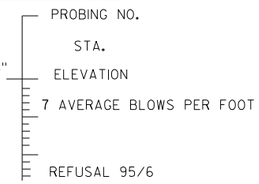
ABBREVIATIONS

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

MATERIAL SYMBOLS

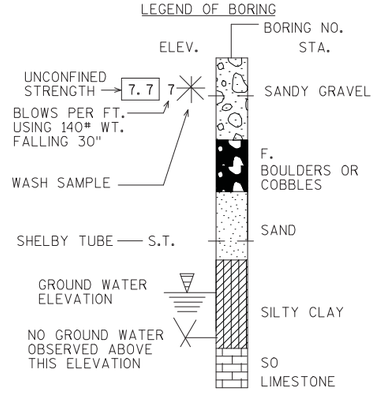
TOPSOIL, SILT, FAT CLAY, SAND, PEAT, BEDROCK, GRAVEL, CLAY, FILL

LEGEND OF PROBING




95/6=95 BLOWS FOR 6" PENETRATION
PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

LEGEND OF BORING




UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR 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-70-401

DRAWN BY RHE | PLANS CK'D. SL

SUBSURFACE EXPLORATION

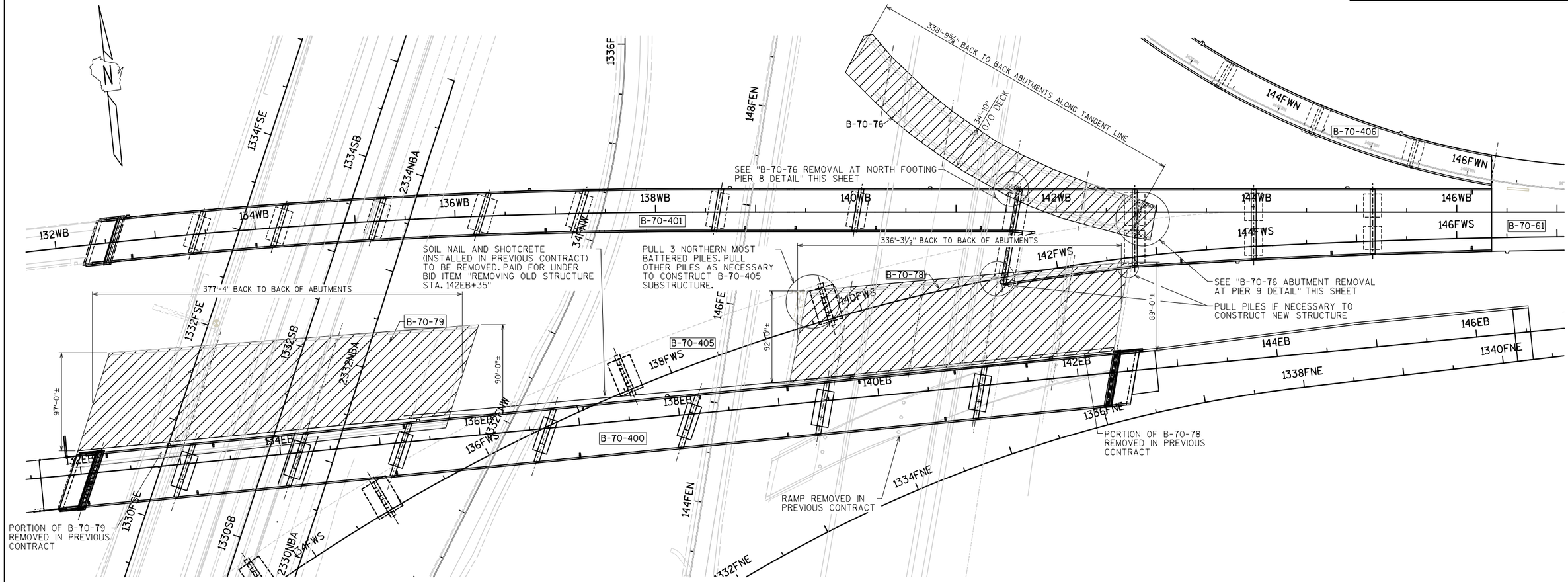
SHEET 10 OF 81
426

SCALE 1"=60'

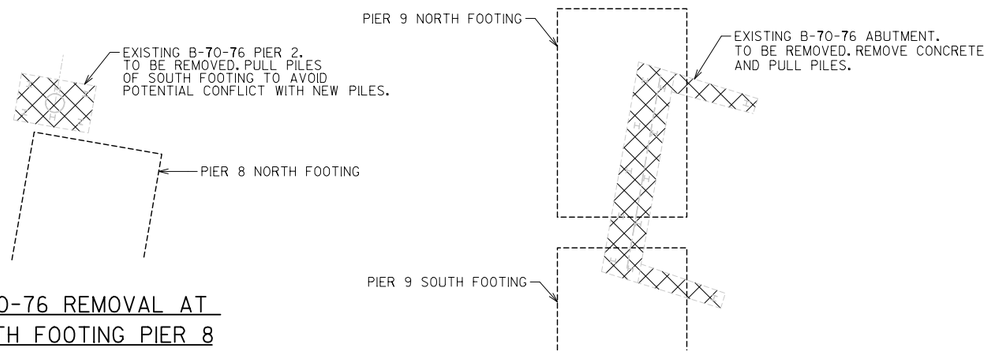
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| STATE PROJECT NUMBER |
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| 1517-07-77 |




PLAN




B-70-76 REMOVAL AT NORTH FOOTING PIER 8

B-70-76 ABUTMENT REMOVAL AT PIER 9

## NOTES

EXISTING STRUCTURE B-70-76 IS A STEEL PLATE GIRDER BRIDGE. B-70-78 IS A ROLLED STEEL BEAM BRIDGE. B-70-79 IS A STEEL PLATE GIRDER BRIDGE.

AS-BUILT PLANS ARE AVAILABLE ON THE WISDOT HIGHWAY STRUCTURES INFORMATION (HSI) WEBSITE.

REMOVE ENTIRE B-70-76 STRUCTURE UNDER BID ITEM "REMOVING OLD STRUCTURE STA. 142WB+20".

REMOVE REMAINING B-70-78 STRUCTURE UNDER BID ITEM "REMOVING OLD STRUCTURE STA. 131EB+93". AT EXISTING WEST ABUTMENT PULL 3 NORTHERN-MOST BATTERED PILES.

REMOVE REMAINING B-70-79 STRUCTURE UNDER BID ITEM "REMOVING OLD STRUCTURE STA. 142EB+35".

CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF ANY TEMPORARY SHORING NECESSARY TO REMOVE EXISTING STRUCTURE.

## LEGEND

REMOVE CONCRETE, ABUTMENTS AND FOOTINGS CUT EXISTING PILES 3'-0" BELOW FINISHED GRADE OR AS NECESSARY TO CONSTRUCT NEW STRUCTURE, WHICHEVER IS DEEPER.

REMOVE CONCRETE, ABUTMENTS, FOOTINGS AND PULL PILES.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

# STRUCTURE B-70-401

DRAWN BY JDL | PLANS CK'D. MAD

REMOVAL DETAILS

SHEET 11 OF 81
427

8

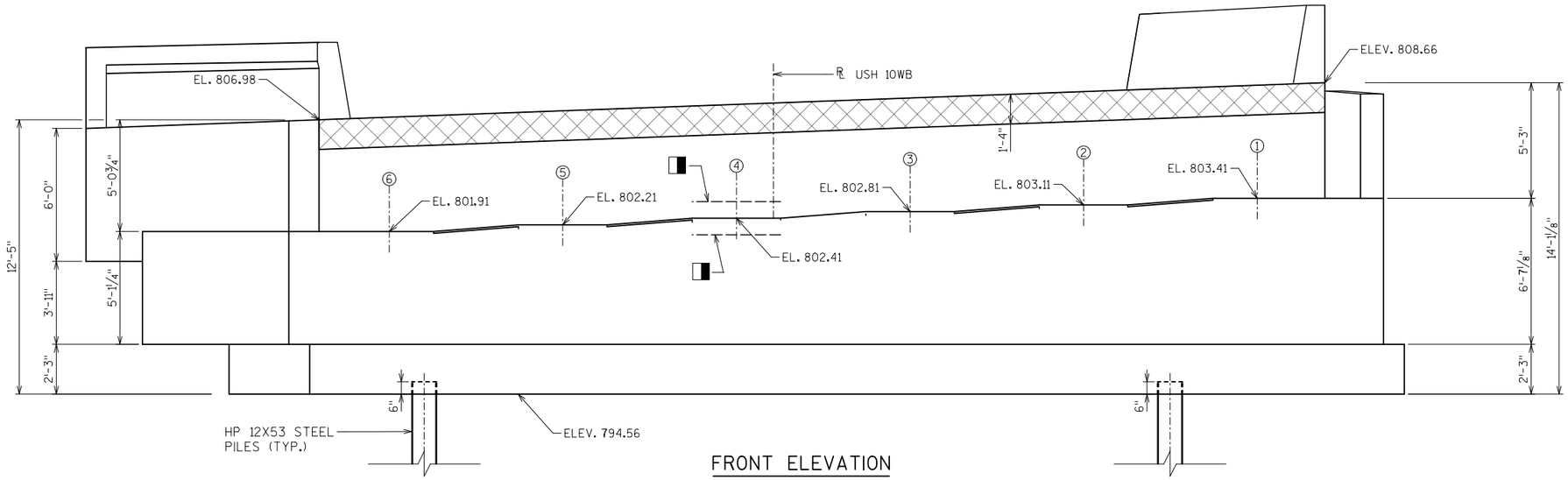
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DATE: 1/29/2016
I.D. jon_lidgard

STATE PROJECT NUMBER

1517-07-77




## FRONT ELEVATION

LOOKING WEST
ELEVATIONS TAKEN AT FRONT FACE OF BACKWALL
(SOME PILES NOT SHOWN FOR CLARITY)

## NOTES

FOR REINFORCING STEEL AND PILE SPACING SEE SHEET, "WEST ABUTMENT DETAILS".

FOR PILE SPLICE DETAIL AND RODENT SHIELD DETAIL, SEE SHEET, "ABUTMENT BILL OF BARS."

FOR ALTERNATE CONSTRUCTION JOINT DETAIL, SEE SHEET, "ALTERNATE CONSTRUCTION JOINT".

IN FRONT ELEVATION VIEW, ALL ELEVATION ARE TAKEN AT FRONT FACE OF BACKWALL.

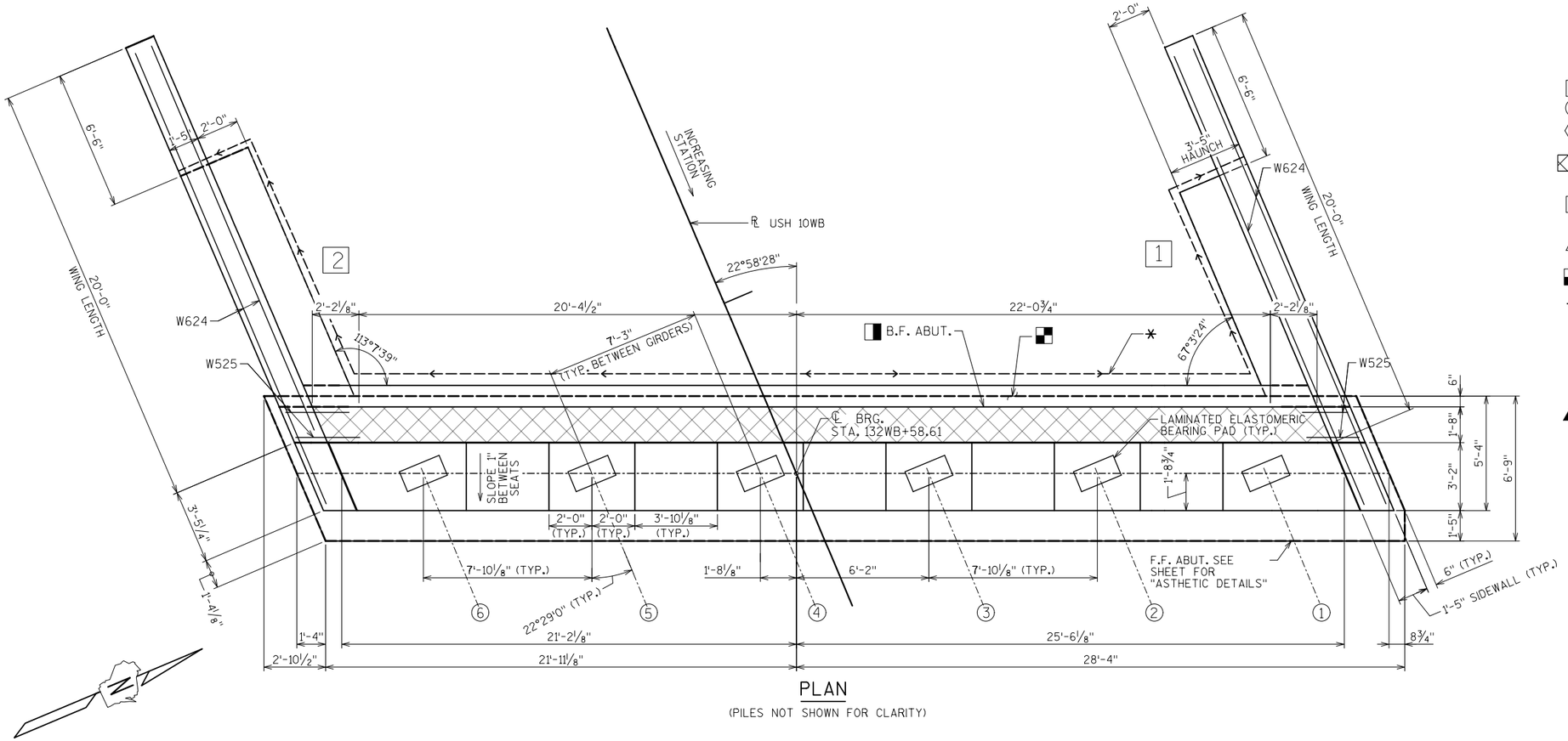
ELEVATIONS ARE GIVEN AT THE TOP OF CONCRETE AT THE ℄ OF BEARING.

MIN. LAP LENGTHS (UNLESS OTHERWISE SHOWN):

#4 BARS: 1'-8"
#6 BARS: 3'-1"
#7 BARS: 3'-10"
#9 BARS: 6'-5"

## LEGEND

- [#] INDICATES WING NUMBER
- (#) INDICATES PILE NUMBER
- ⟨#⟩ INDICATES GIRDER NUMBER
- INDICATES CONCRETE AREA TO BE POURED AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. AND VERT. JOINTS ON BACKFACE ABOVE FOOTING.
- KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6"
- 1'-0" WIDE BY 1'-4" DEEP APPROACH SLAB PAVING NOTCH.
- * PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. FOR RODENT SHIELD DETAILS SEE SHEET, "ABUTMENT BILL OF BARS"). AT THE DAYLIGHT END OF PIPE UNDERDRAIN, INSTALL A CONCRETE APRON ENDWALL AND CULVERT MARKER (ROADWAY CONTRACTOR TO INSTALL). PAYMENT FOR THESE ITEMS IS INCLUDED IN THE ROADWAY PLANS.
- SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.




## PLAN

(PILES NOT SHOWN FOR CLARITY)

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

DRAWN BY MKN | PLANS CK'D. JDL

WEST ABUTMENT PLAN & ELEVATION

SHEET 12 OF 81
428

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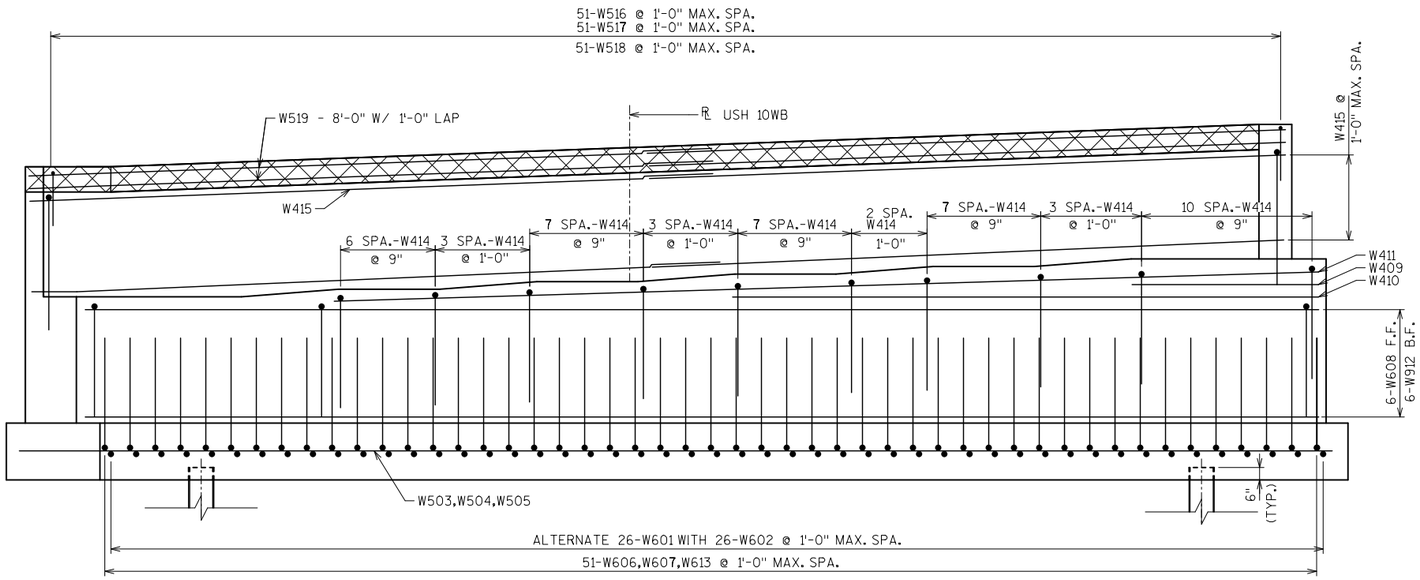
DATE: 1/29/2016
I.D. jon_liddard

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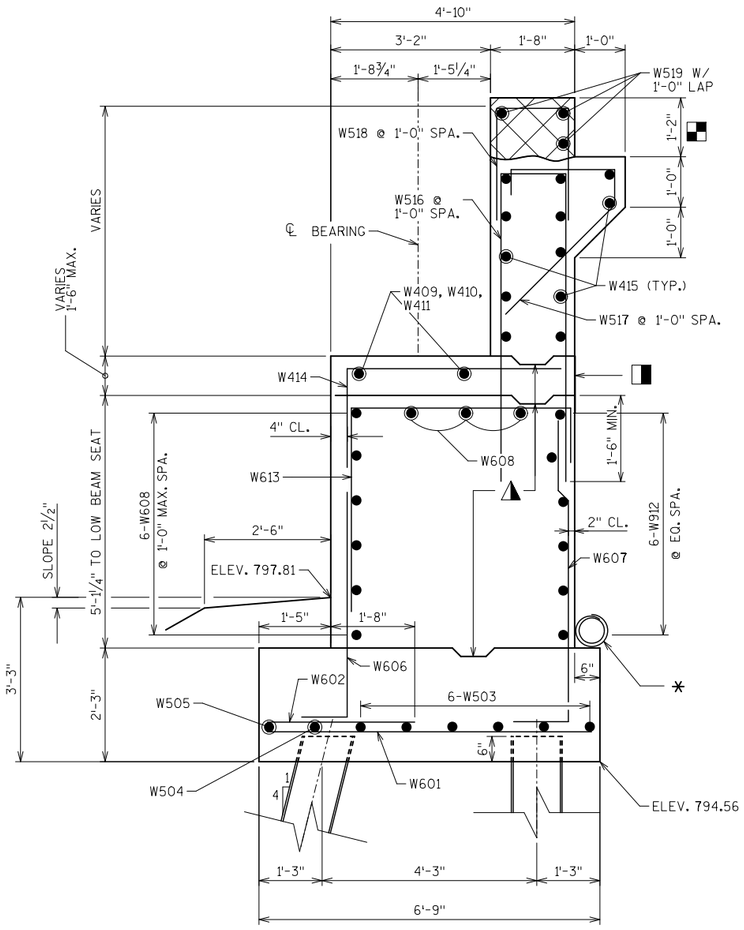
STATE PROJECT NUMBER

1517-07-77

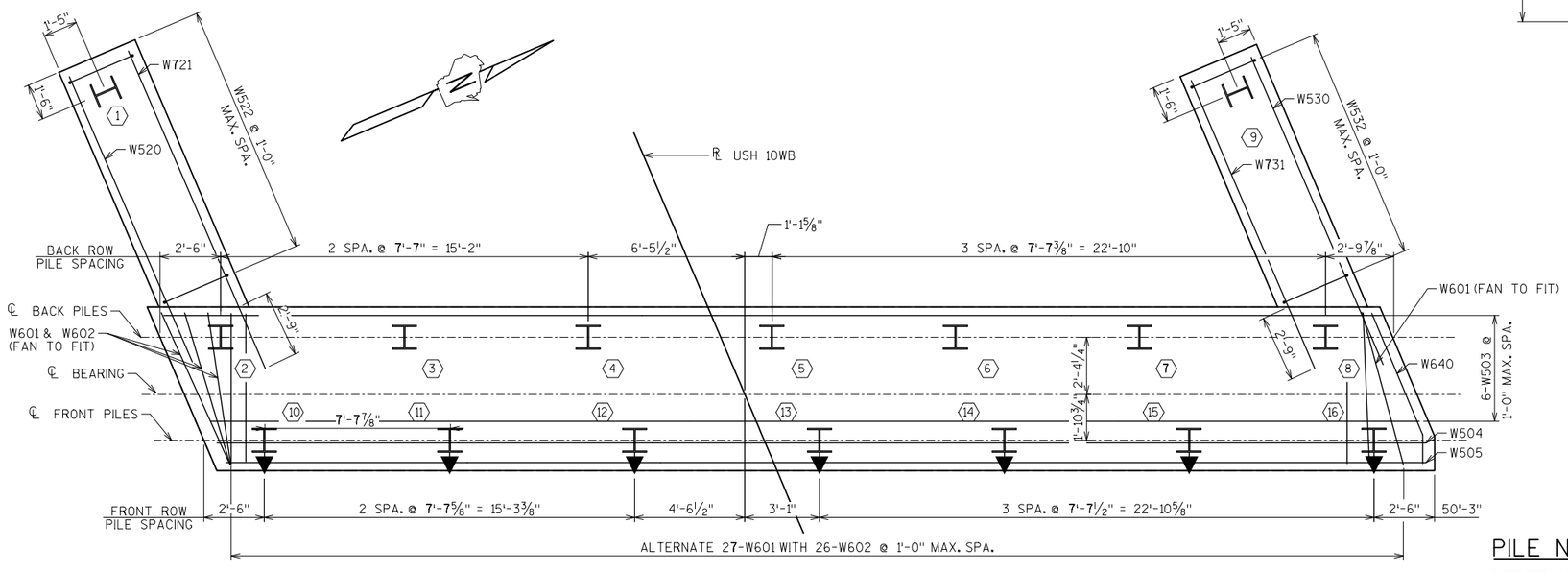



FRONT ELEVATION

(LOOKING WEST)




SECTION VIEW




PLAN

## PILE NOTE

SUPPORT ON PILING STEEL HP 12-INCH X 53 LB DRIVEN TO BEDROCK WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTH IS 50 FEET.

## NOTES

FOR NOTES AND LEGEND SEE SHEET "WEST ABUTMENT PLAN & ELEVATION.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

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WEST ABUTMENT DETAILS

SHEET 13 OF 81
429

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\B-70-401\11 - B-70-401 West Abutment Details.dgn

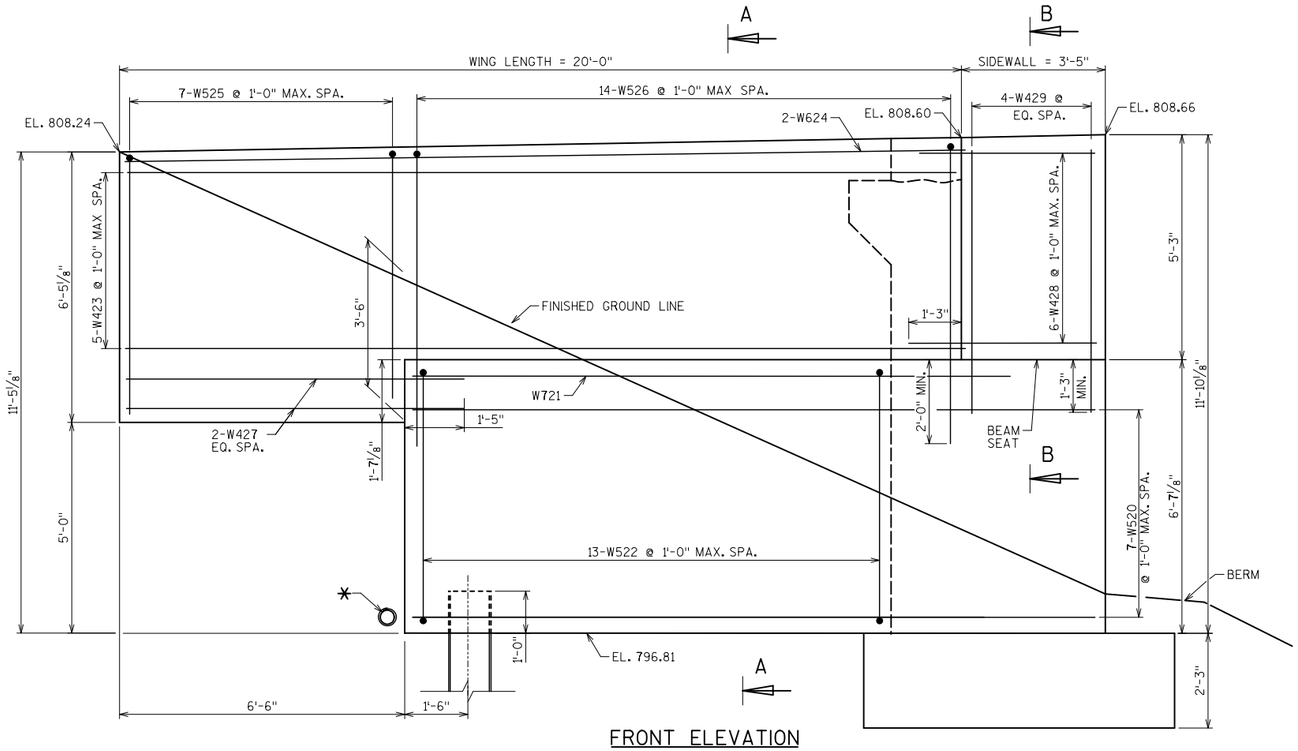
DATE: 1/29/2016
I.D. Jon_Lidgard

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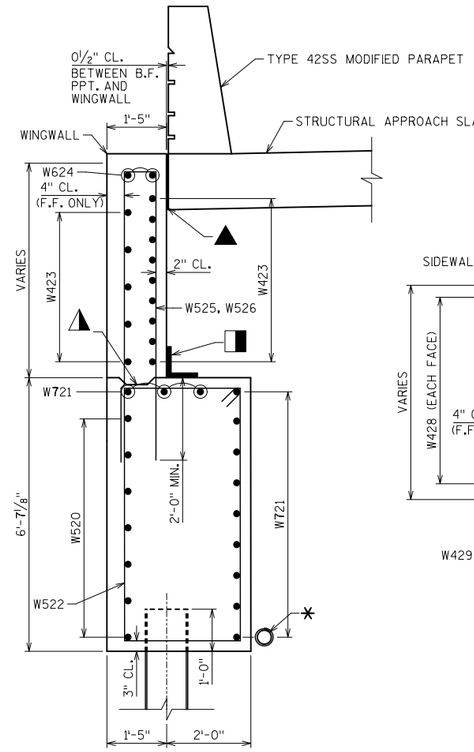
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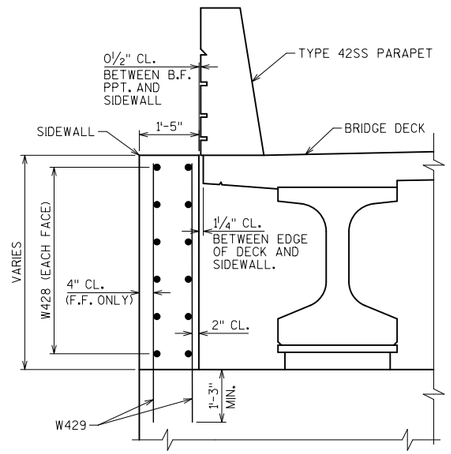
1517-07-77



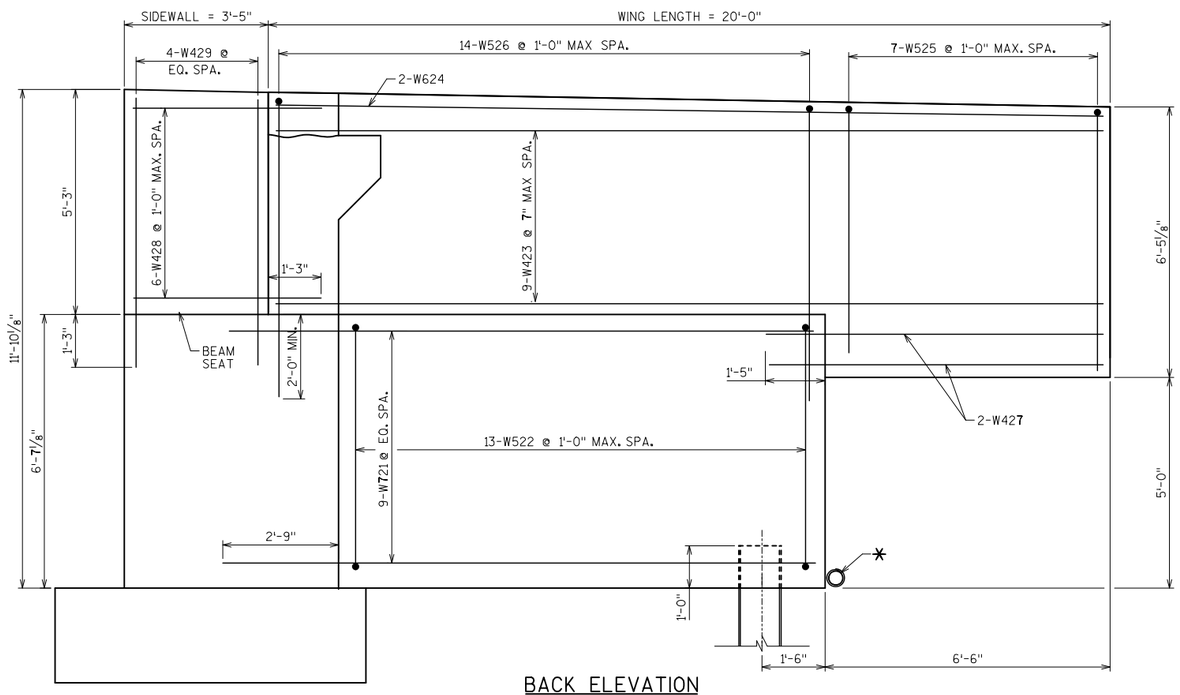

FRONT ELEVATION




SECTION A-A




SECTION B-B




BACK ELEVATION

## NOTE

SEE SHEET, "WEST ABUTMENT PLAN AND ELEVATION" FOR LEGEND.

SEE SHEET, "AESTHETIC DETAILS" FOR FORMLINER DETAILS AND STAINING SCHEDULE.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

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WEST ABUTMENT WINGWALL 1

SHEET 14 OF 81
430

8

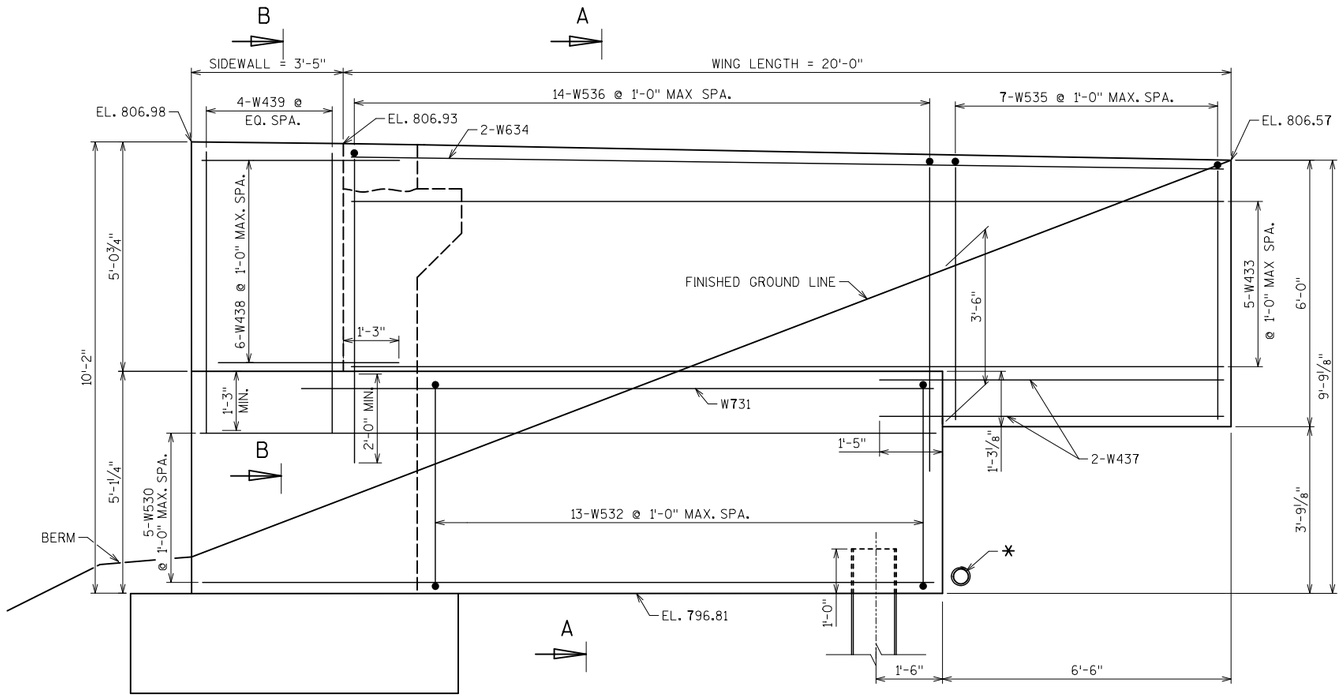
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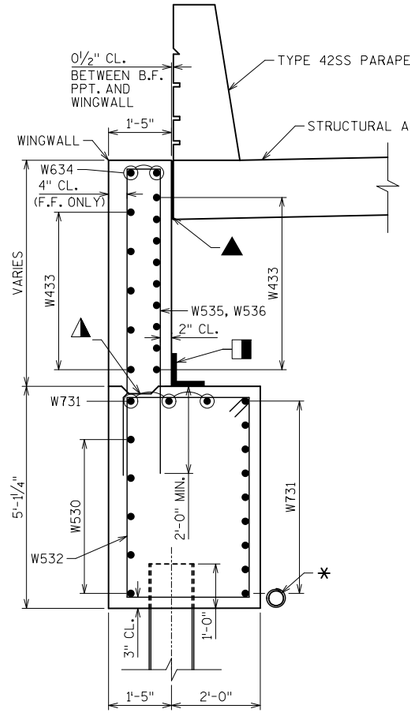
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STATE PROJECT NUMBER

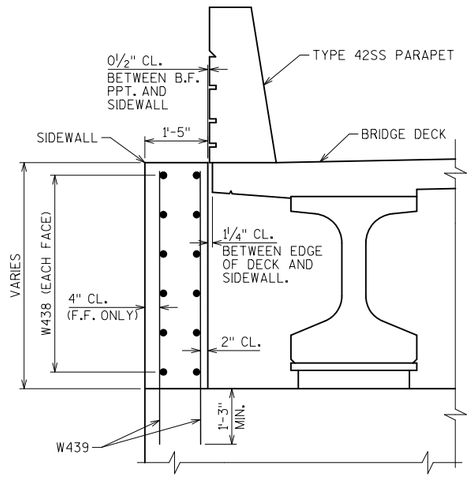
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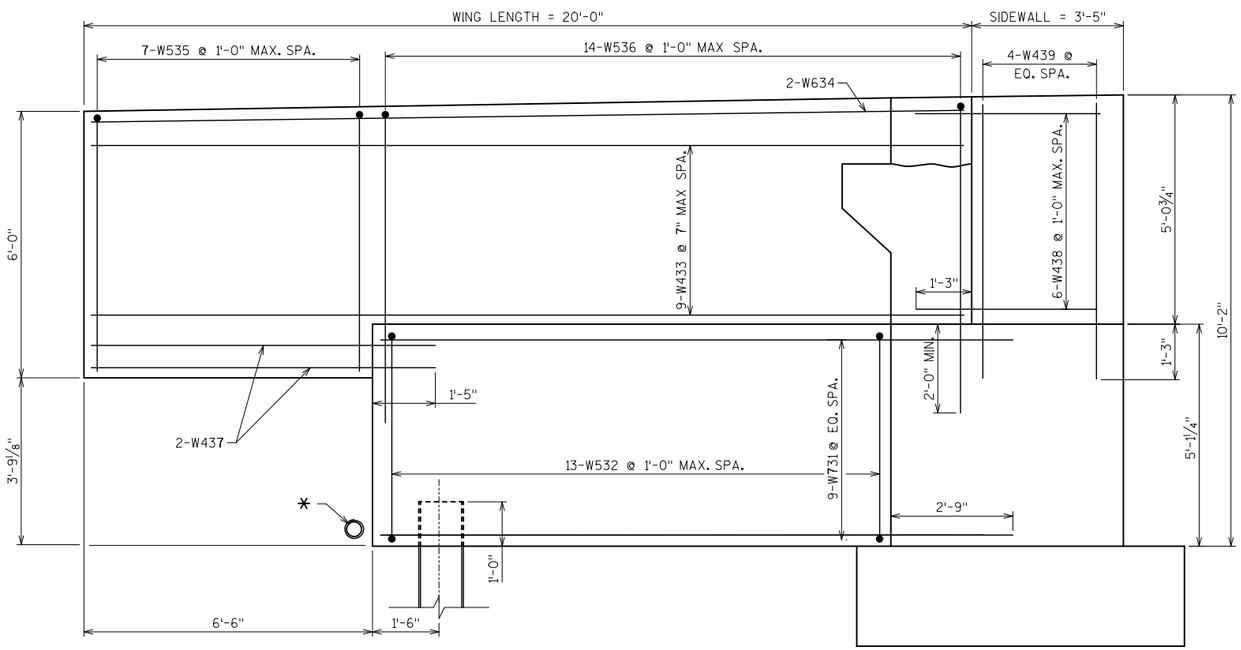

FRONT ELEVATION




SECTION A-A




SECTION B-B




BACK ELEVATION

## NOTE

SEE SHEET, "WEST ABUTMENT PLAN AND ELEVATION" FOR LEGEND.

SEE SHEET, "AESTHETIC DETAILS" FOR FORMLINER DETAILS AND STAINING SCHEDULE.

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

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WEST ABUTMENT WINGWALL 2

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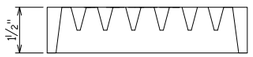
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DATE:1/29/2016
I.D. jon_liggard

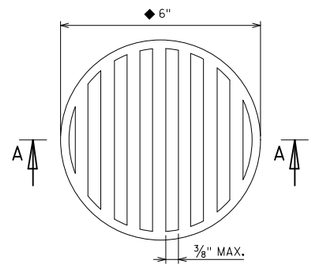
## WEST ABUTMENT

| BAR MARK | NO. REQ'D | LENGTH | BENT | COATED | LOCATION |
|---|---|---|---|---|---|
| W601 | 27 | 6'-5" | | | TRANS. FOOTING |
| W602 | 26 | 2'-11" | | | TRANS. FOOTING |
| W503 | 6 | 50'-4" | | | LONGIT. FOOTING |
| W504 | 1 | 50'-0" | | | LONGIT. FOOTING |
| W505 | 1 | 49'-9" | | | LONGIT. FOOTING |
| W606 | 51 | 5'-8" | X | X | TRANS. FOOTING VERTICAL |
| W607 | 51 | 7'-3" | X | X | TRANS. FOOTING VERTICAL |
| W608 | 9 | 49'-2" | | X | LONGIT. BODY |
| W409 | 2 | 7'-6" | | X | BEAM SEAT HORIZ. |
| W410 | 2 | 23'-0" | | X | BEAM SEAT HORIZ. |
| W411 | 2 | 38'-9" | | X | BEAM SEAT HORIZ. |
| W912 | 6 | 51'-8" | | X | LONGIT. BODY |
| W613 | 51 | 10'-3" | X | X | VERTICAL BODY |
| W414 | 48 | 7'-6" | X | X | BEAM SEAT TRANS. |
| W415 | 24 | 25'-9" | | X | BACKWALL HORIZ. |
| W516 | 51 | 12'-3" | X | X | BACKWALL VERT. |
| W517 | 51 | 6'-4" | X | X | BACKWALL VERT. |
| W518 | 51 | 5'-7" | X | X | BACKWALL VERT. |
| W519 | 21 | 8'-0" | | X | BACKWALL HORIZ. |
| W520 | 7 | 16'-4" | | X | WINGWALL 1 BODY LONGIT. |
| W721 | 12 | 14'-4" | | X | WINGWALL 1 BODY LONGIT. |
| W522 | 13 | 18'-6" | X | X | WINGWALL 1 BODY TRANS. |
| W423 | 14 | 19'-6" | | X | WINGWALL 1 TOP LONGIT. |
| W624 | 2 | 19'-6" | | X | WINGWALL 1 TOP LONGIT. |
| W525 | 7 | 12'-9" | X | X | WINGWALL 1 TOP VERT. |
| W526 | 14 | 14'-11" | X | X | WINGWALL 1 TOP VERT. |
| W427 | 4 | 7'-8" | | X | WINGWALL 1 TOP LONGIT. |
| W428 | 12 | 4'-4" | | X | WINGWALL 1 SIDEWALL LONGIT. |
| W429 | 8 | 6'-4" | | X | WINGWALL 1 SIDEWALL VERT. |
| W530 | 5 | 16'-4" | | X | WINGWALL 2 BODY LONGIT. |
| W731 | 12 | 14'-4" | | X | WINGWALL 2 BODY LONGIT. |
| W532 | 13 | 15'-6" | X | X | WINGWALL 2 BODY TRANS. |
| W433 | 14 | 19'-6" | | X | WINGWALL 2 TOP LONGIT. |
| W634 | 2 | 19'-6" | | X | WINGWALL 2 TOP LONGIT. |
| W535 | 7 | 11'-9" | X | X | WINGWALL 2 TOP VERT. |
| W536 | 14 | 14'-7" | X | X | WINGWALL 2 TOP VERT. |
| W437 | 4 | 7'-8" | | X | WINGWALL 2 TOP LONGIT. |
| W438 | 12 | 4'-5" | | X | WINGWALL 2 SIDEWALL LONGIT. |
| W439 | 8 | 6'-2" | | X | WINGWALL 2 SIDEWALL VERT. |
| W640 | 1 | 6'-10" | X | | TRANS. FOOTING |

TOTAL WEIGHT COATED BARS= 8,350 LB
TOTAL WEIGHT UNCOATED BARS= 805 LB




SECTION A-A

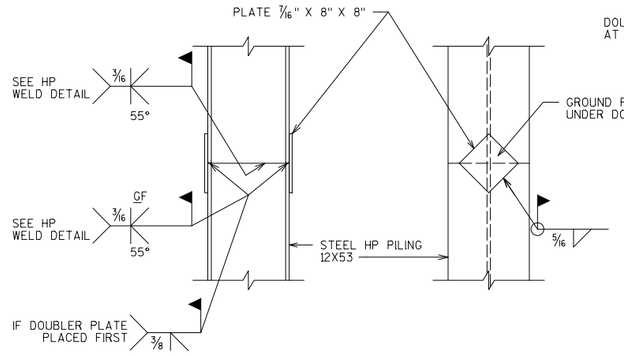



RODENT SHIELD

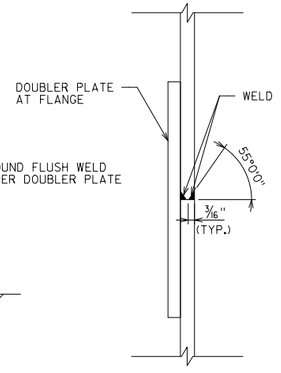
◆ DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. FASTEN TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

ORIENT SHIELD SO SLOTS ARE VERTICAL.

COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."

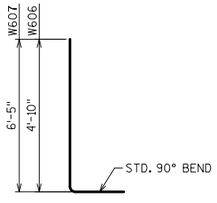



PILE SPLICE DETAIL FOR WEST ABUTMENT

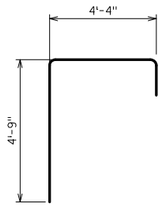



HP WELD DETAIL

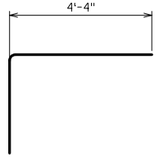
FLANGE SHOWN, WEB SIMILAR



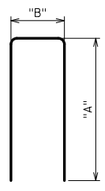

W606, W607




W613

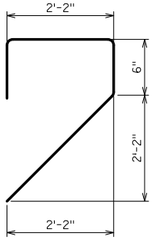



W414

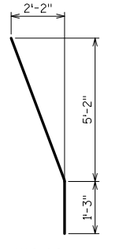



W516, W518, W525, W526, W535, W536

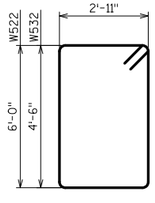
| MARK | A | B |
|---|---|---|
| W516 | 5'-8" | 1'-4" |
| W518 | 2'-4" | 1'-4" |
| W525 | 6'-0" | 1'-0" |
| W526 | 7'-1" | 1'-0" |
| W535 | 5'-6" | 1'-0" |
| W536 | 6'-11" | 1'-0" |




W517




W640




W522, W532

## NOTES

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

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ABUTMENT
BILL OF BARS

SHEET 16 OF 81
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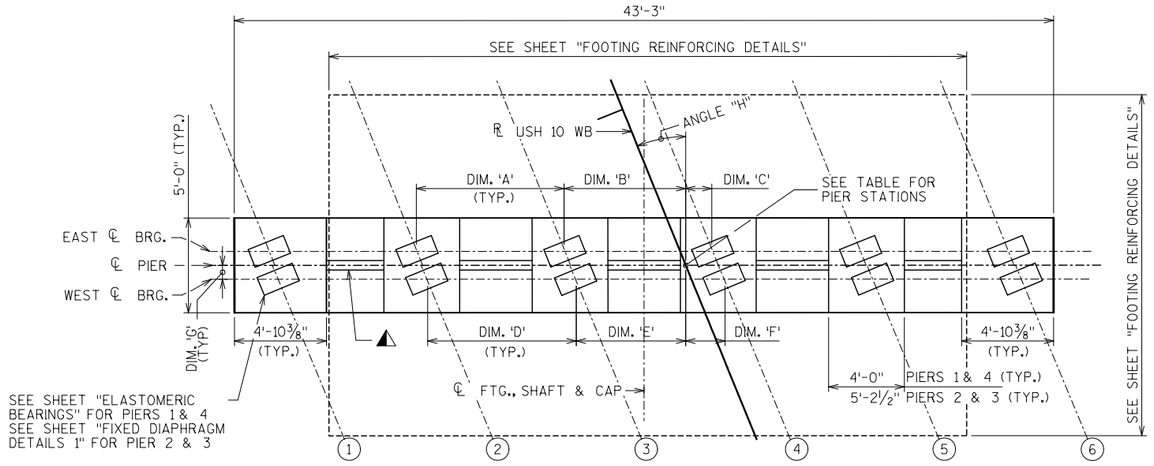
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DATE: 1/29/2016
I.D. jon_liggard

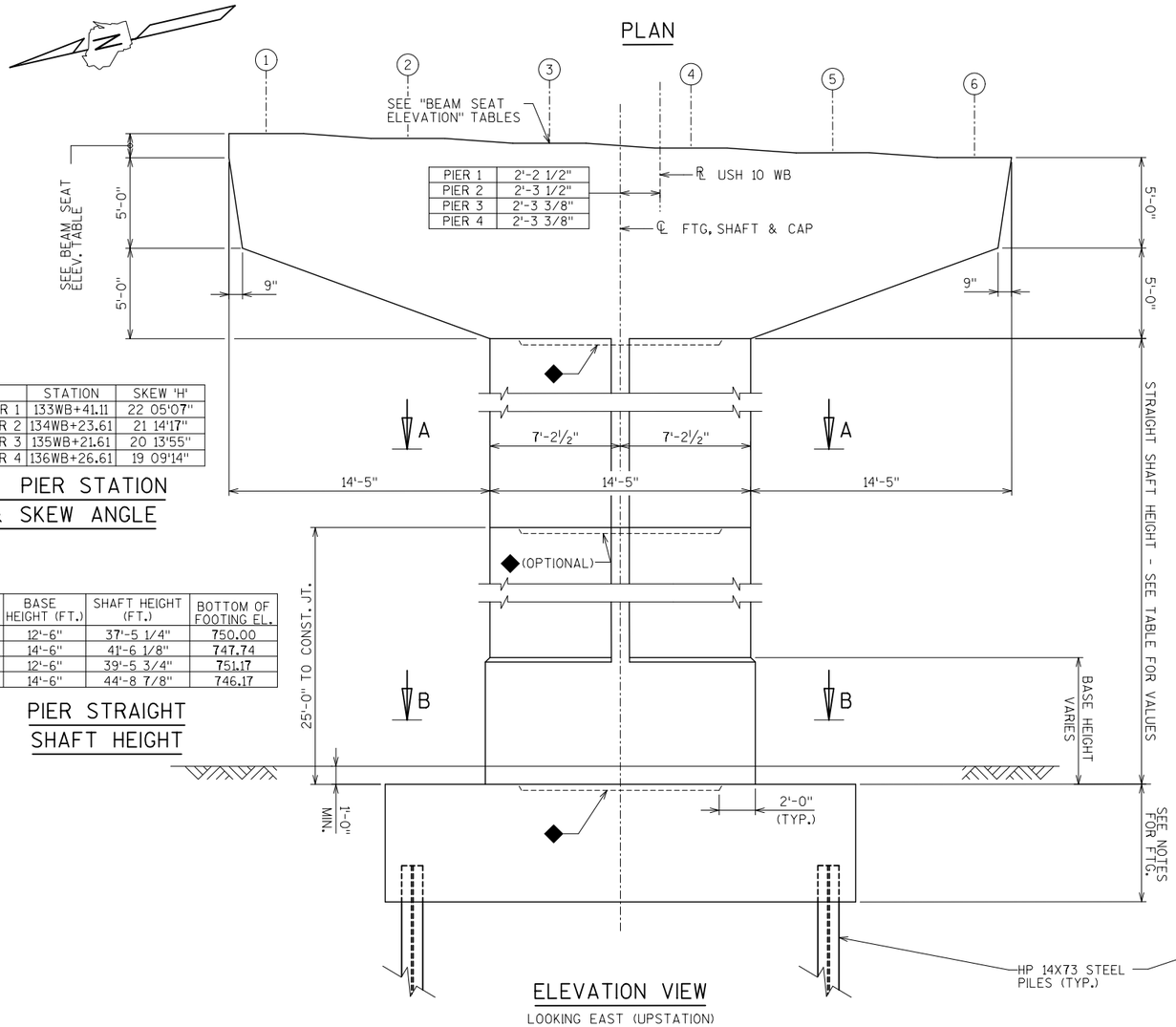
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| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |




PLAN




| | |
|---|---|
| PIER 1 | 2'-2 1/2" |
| PIER 2 | 2'-3 1/2" |
| PIER 3 | 2'-3 3/8" |
| PIER 4 | 2'-3 3/8" |

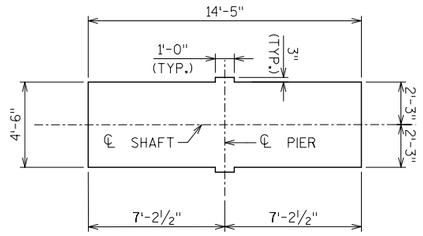
| | STATION | SKEW 'H' |
|---|---|---|
| CL PIER 1 | 133WB+41.11 | 22 05'07" |
| CL PIER 2 | 134WB+23.61 | 21 14'17" |
| CL PIER 3 | 135WB+21.61 | 20 13'55" |
| CL PIER 4 | 136WB+26.61 | 19 09'14" |

℄ PIER STATION & SKEW ANGLE

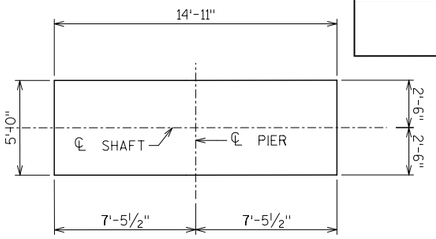
| PIER NUMBER | BASE HEIGHT (FT.) | SHAFT HEIGHT (FT.) | BOTTOM OF FOOTING EL. |
|---|---|---|---|
| 1 | 12'-6" | 37'-5 1/4" | 750.00 |
| 2 | 14'-6" | 41'-6 1/8" | 747.74 |
| 3 | 12'-6" | 39'-5 3/4" | 751.17 |
| 4 | 14'-6" | 44'-8 7/8" | 746.17 |

PIER STRAIGHT SHAFT HEIGHT

ELEVATION VIEW
LOOKING EAST (UPSTATION)



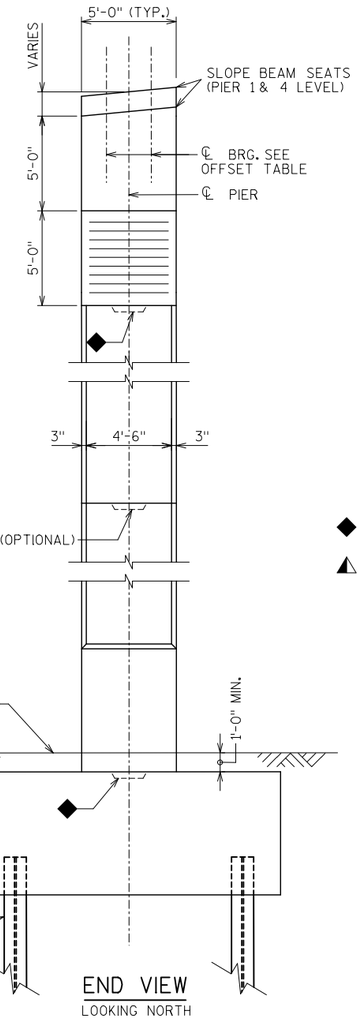

SECTION A-A




SECTION B-B

| | EAST PIER DIMENSIONS | | | WEST PIER DIMENSIONS | | | DIST. NORMAL FROM CL OF PIER |
|---|---|---|---|---|---|---|---|
| | 'A' | 'B' | 'C' | 'D' | 'E' | 'F' | 'G' |
| PIER 1 | 7'-9 5/8" | 6'-5 1/8" | 1'-4 1/2" | 7'-10 1/8" | 5'-9 1/4" | 2'-0 7/8" | 8 3/4" |
| PIER 2 | 7'-9" | 6'-4 5/8" | 1'-4 3/8" | 7'-9 5/8" | 5'-11 5/8" | 1'-10" | 7" |
| PIER 3 | 7'-8 3/8" | 6'-4 1/4" | 1'-4 1/8" | 7'-9" | 5'-11 1/4" | 1'-9 3/4" | 7" |
| PIER 4 | 7'-7 7/8" | 6'-4 1/2" | 1'-3 3/8" | 7'-8 3/8" | 5'-9 7/8" | 1'-10 1/2" | 8 3/4" |

DIMENSIONS TO CENTER OF BEARING & TYPICAL ℄ TO ℄ GIRDER SPA.




END VIEW
LOOKING NORTH

| | PIER 1 | PIER 4 |
|---|---|---|
| GIRDER 1 | 804.95 | 808.75 |
| GIRDER 2 | 804.64 | 808.48 |
| GIRDER 3 | 804.34 | 808.21 |
| GIRDER 4 | 804.04 | 807.94 |
| GIRDER 5 | 803.74 | 807.67 |
| GIRDER 6 | 803.44 | 807.41 |

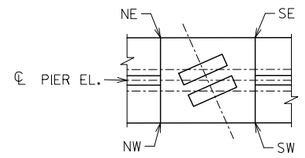
BEAM SEAT ELEVATION @ ℄ PIER 1& 4

| | CL PIER | NE | NW | SE | SW |
|---|---|---|---|---|---|
| GIRDER 1 | 806.71 | 806.77 | 806.69 | 806.73 | 806.65 |
| GIRDER 2 | 806.41 | 806.47 | 806.38 | 806.44 | 806.35 |
| GIRDER 3 | 806.12 | 806.18 | 806.09 | 806.15 | 806.06 |
| GIRDER 4 | 805.83 | 805.89 | 805.80 | 805.86 | 805.77 |
| GIRDER 5 | 805.54 | 805.60 | 805.51 | 805.57 | 805.48 |
| GIRDER 6 | 805.25 | 805.31 | 805.23 | 805.27 | 805.19 |

BEAM SEAT ELEVATION @ PIER 2

| | CL PIER | NE | NW | SE | SW |
|---|---|---|---|---|---|
| GIRDER 1 | 808.05 | 808.09 | 808.03 | 808.07 | 808.01 |
| GIRDER 2 | 807.78 | 807.83 | 807.76 | 807.80 | 807.73 |
| GIRDER 3 | 807.50 | 807.55 | 807.48 | 807.52 | 807.45 |
| GIRDER 4 | 807.22 | 807.27 | 807.20 | 807.24 | 807.17 |
| GIRDER 5 | 806.94 | 806.99 | 806.92 | 806.96 | 806.89 |
| GIRDER 6 | 806.65 | 806.70 | 806.63 | 806.67 | 806.60 |

BEAM SEAT ELEVATION @ PIER 3




SLOPED BEAM SEAT DETAILS

## LEGEND

◆ KEYED CONST. JOINT FORMED BY BEVELED 4" X 1'-6".

◭ KEYED CONSTR. JT. BETWEEN GIRDERS FORMED BY BEVELED 2" X 6" AT PIER 2, 3, 6, 7 AND 10 ONLY.

## NOTES

SEE SHEET "BILL OF BARS PIERS" FOR BAR STEEL REINFORCEMENT DETAILS.

SEE SHEET "PIER FOOTING PILE LAYOUT 1" FOR PILE LAYOUT DETAILS.

SEE SHEET "FIXED DIAPHRAGM DETAILS 1" & "ELASTOMERIC BEARINGS" FOR DETAILS OF BEARING PADS AND PREFORMED FILLER.

SEE SHEET "AESTHETIC DETAILS" FOR PIER AESTHETIC TREATMENTS.

BEAM SEATS MAY BE CONSTRUCTED WITH VERTICAL STEP OR SLOPED AS SHOWN IN ELEVATION VIEW.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

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|---|---|---|---|

PIERS 1-4 LAYOUT DETAILS

SHEET 17 OF 81
433

8

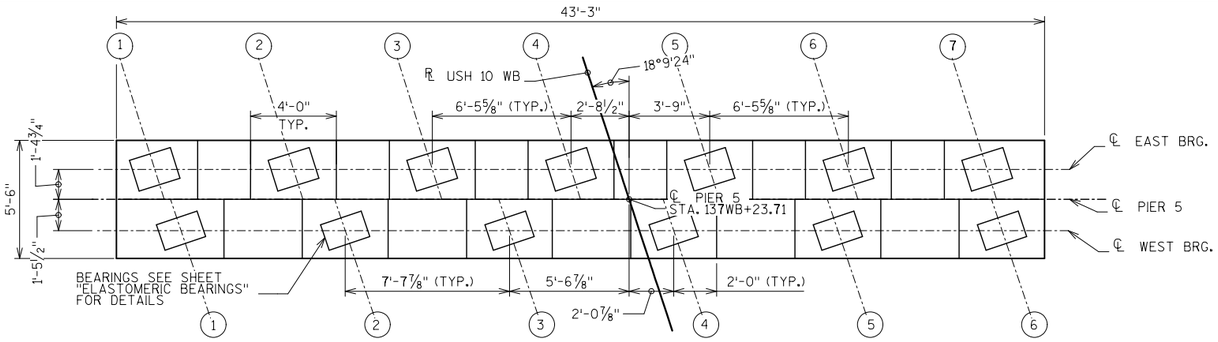
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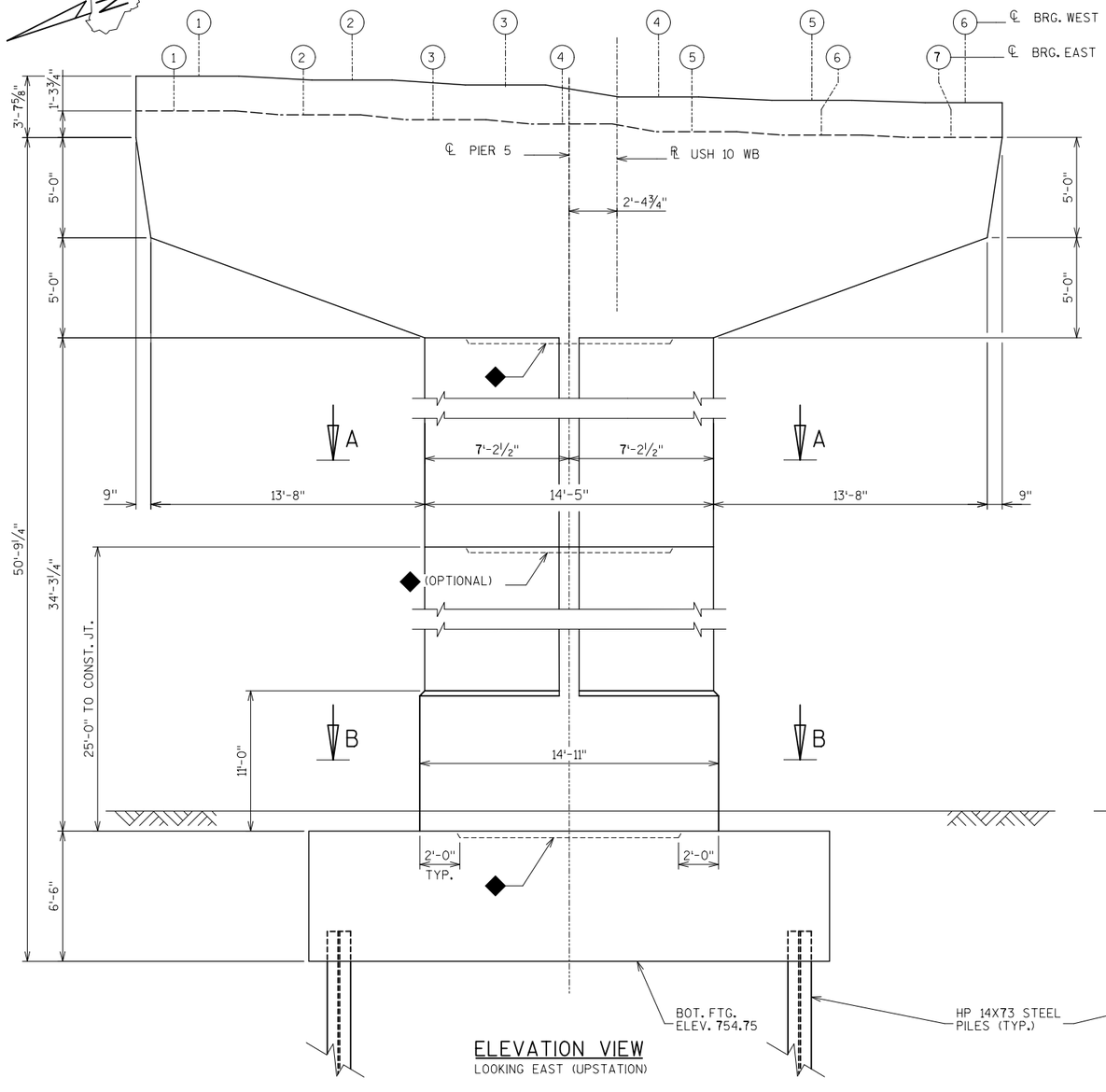
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I.D. jon_liggard

STATE PROJECT NUMBER

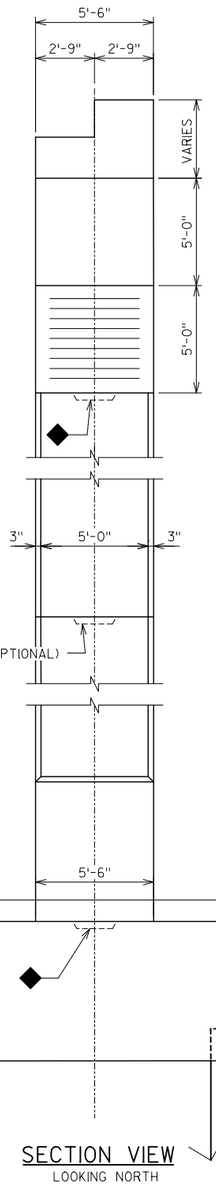
1517-07-77



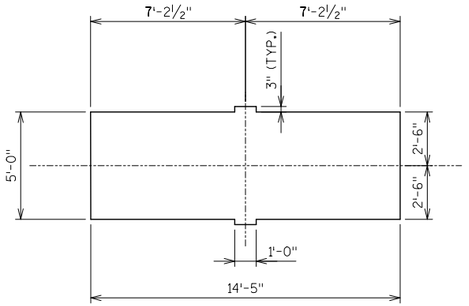

PLAN VIEW



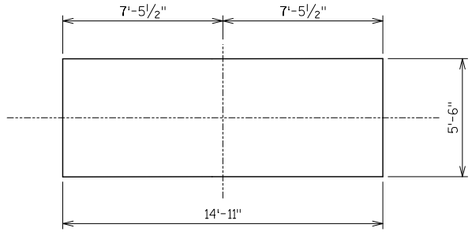

ELEVATION VIEW
LOOKING EAST (UPSTATION)




SECTION VIEW
LOOKING NORTH




SECTION A-A




SECTION B-B

| PIER 5 | | |
|---|---|---|
| | WEST | EAST |
| GIRDER 1 | 809.16 | 806.83 |
| GIRDER 2 | 808.90 | 806.62 |
| GIRDER 3 | 808.64 | 806.40 |
| GIRDER 4 | 808.38 | 806.18 |
| GIRDER 5 | 808.12 | 805.96 |
| GIRDER 6 | 807.86 | 805.74 |
| GIRDER 7 | -- | 805.52 |

BEAM SEAT ELEVATIONS

## NOTES

SEE SHEET "PIERS 1-4 LAYOUT DETAILS" FOR NOTES & LEGEND

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

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PIER 5 LAYOUT DETAILS

SHEET 18 OF 81
434

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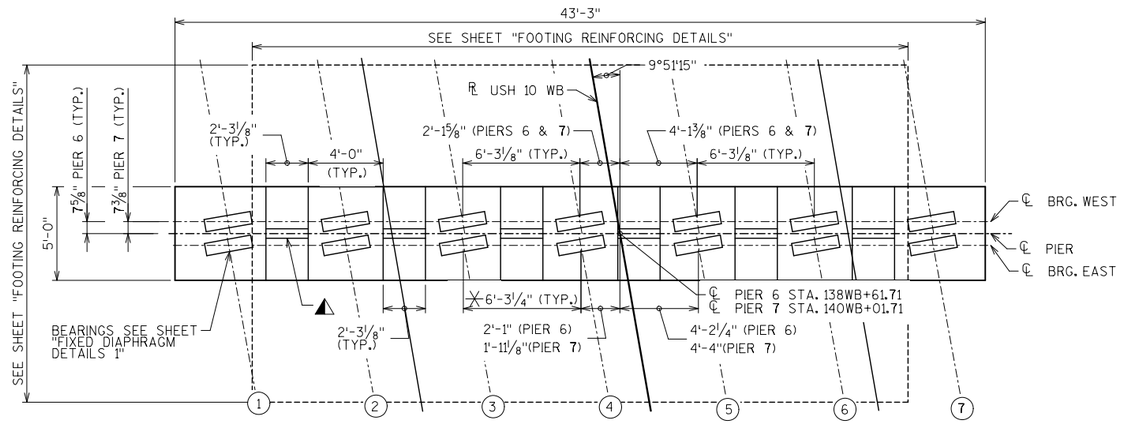
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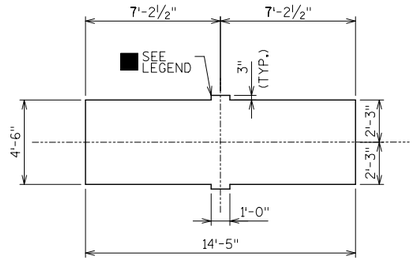
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I.D. jon_liggard

STATE PROJECT NUMBER

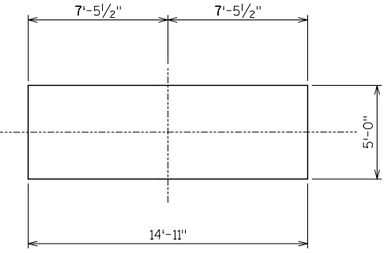
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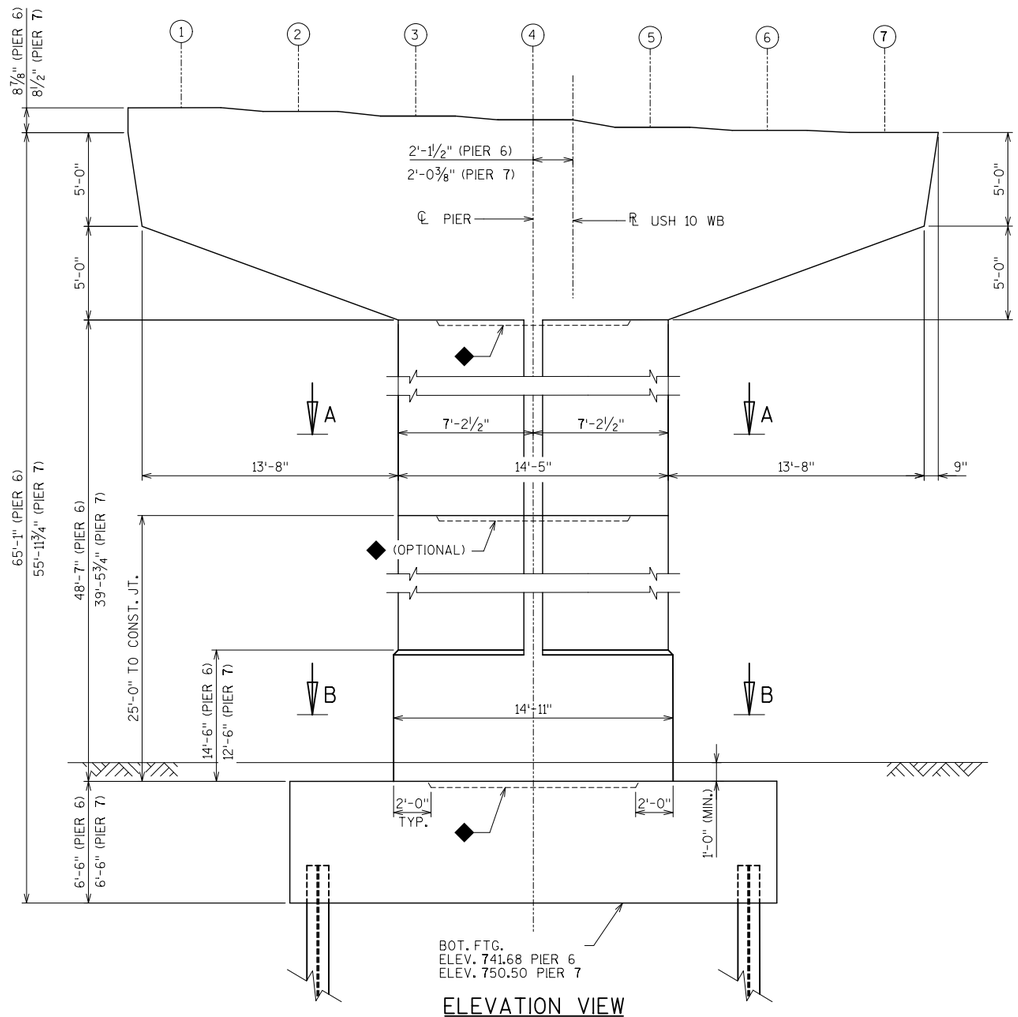

PLAN VIEW



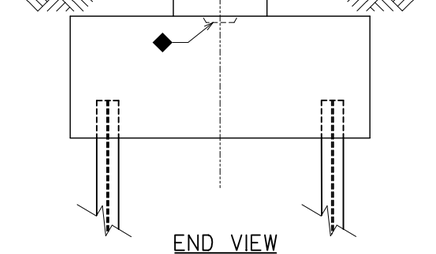

SECTION A-A




SECTION B-B




ELEVATION VIEW




END VIEW
LOOKING NORTH

| | PIER 6 | PIER 7 |
|---|---|---|
| GIRDER 1 | 807.50 | 807.19 |
| GIRDER 2 | 807.38 | 807.07 |
| GIRDER 3 | 807.26 | 806.95 |
| GIRDER 4 | 807.13 | 806.84 |
| GIRDER 5 | 807.01 | 806.72 |
| GIRDER 6 | 806.88 | 806.60 |
| GIRDER 7 | 806.76 | 806.48 |

BEAM SEAT ELEVATIONS

## LEGEND

- ✳ FOR PIER 6 ONLY, WEST OF ℄ PIER
- ■ OMIT 3" ASTHETIC DETAIL ON EAST FACE OF PIER 7

## NOTES

SEE SHEET "PIERS 1-4 LAYOUT DETAILS" FOR NOTES & LEGEND

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

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PIERS 6 AND 7
LAYOUT DETAILS

SHEET 19 OF 81
435

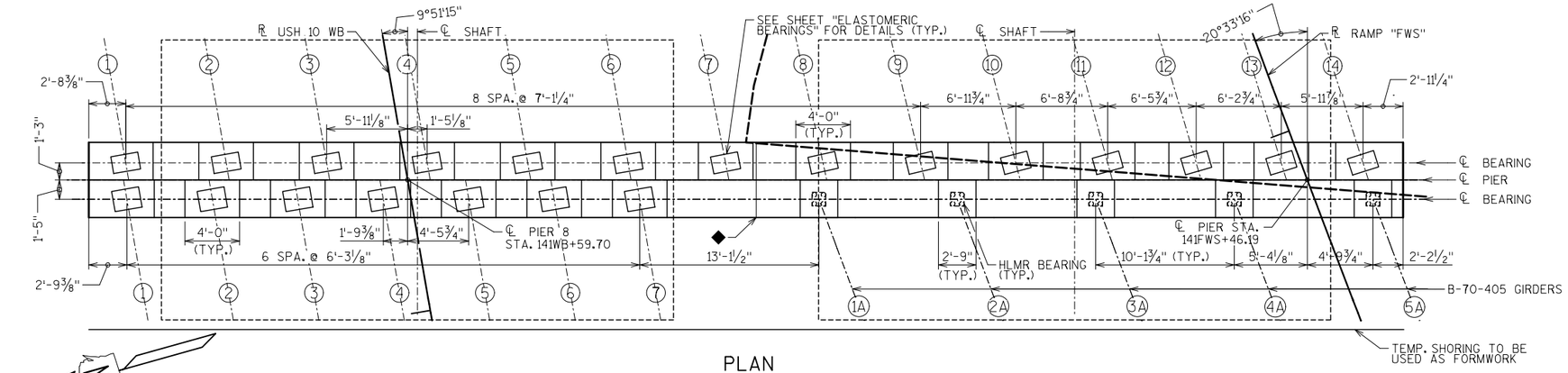
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I.D. Jon_Lidgard

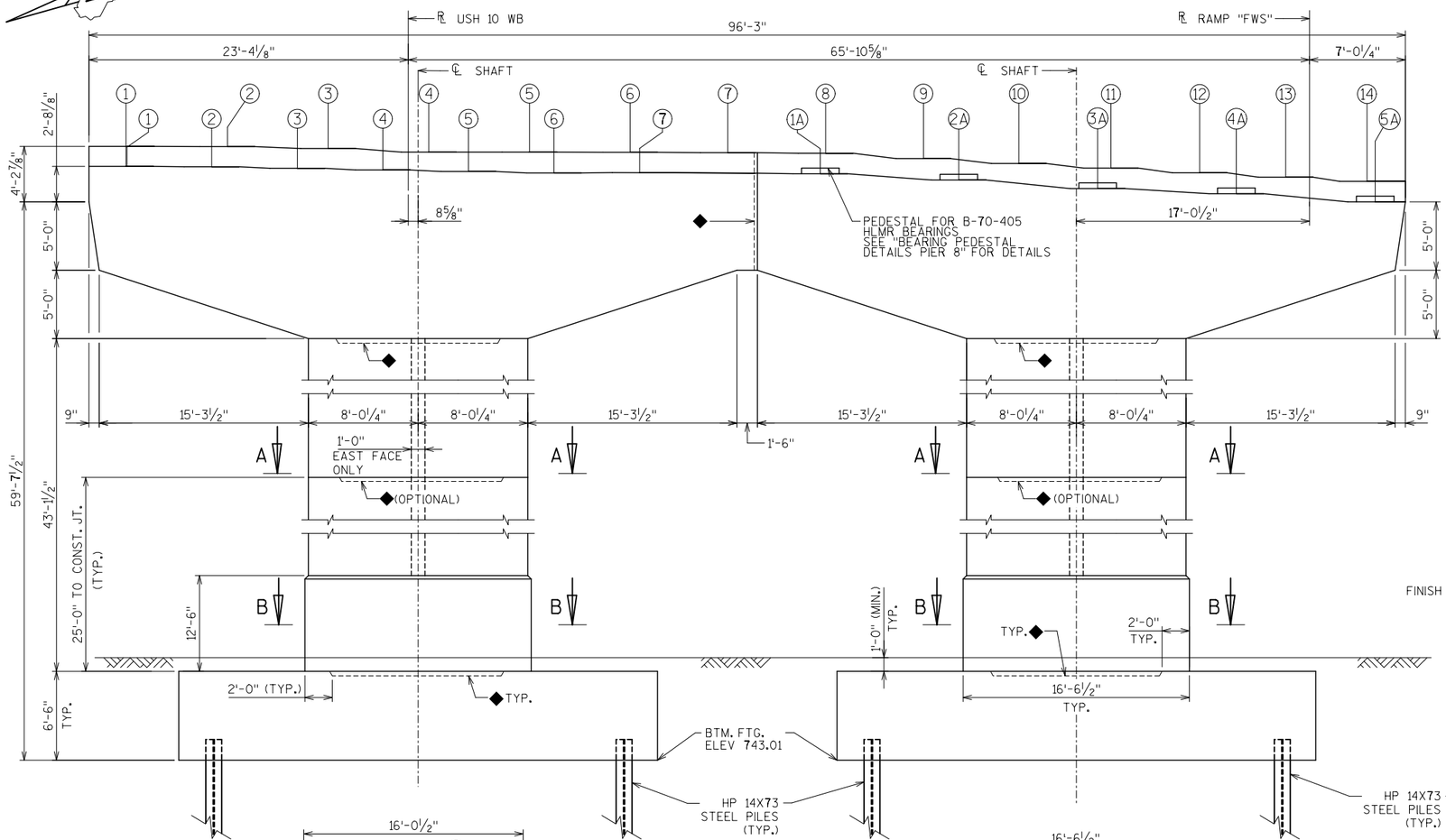
| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |




PLAN

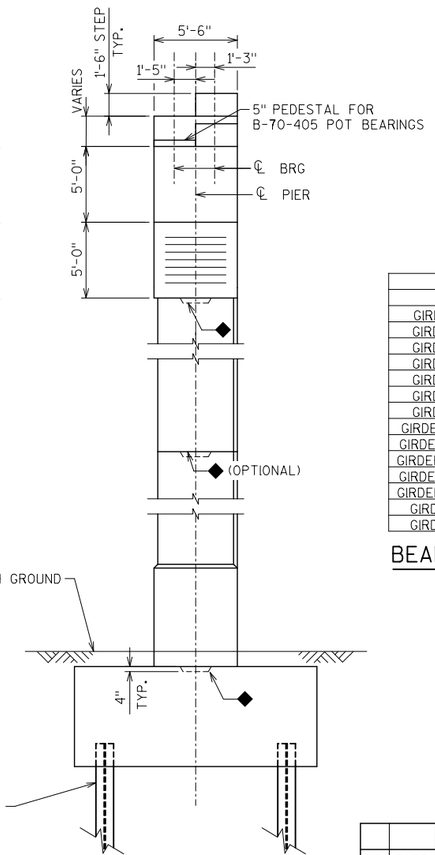
## NOTES

SEE "PIERS 1-4 LAYOUT DETAILS" FOR NOTES AND LEGEND.




ELEVATION

LOOKING EAST (UPSTATION)

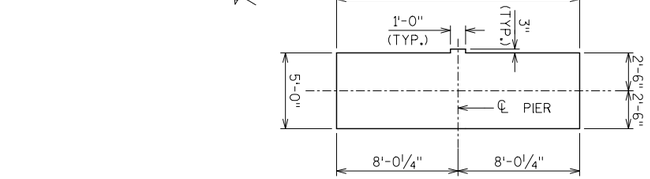



SECTION

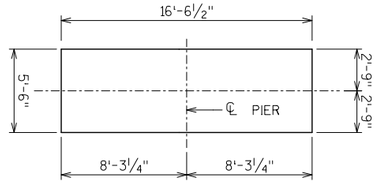
LOOKING NORTH

| PIER 8 | | |
|---|---|---|
| | WEST | EAST |
| GIRDER 1 | 805.32 | 806.88 |
| GIRDER 2 | 805.21 | 806.74 |
| GIRDER 3 | 805.10 | 806.61 |
| GIRDER 4 | 804.99 | 806.48 |
| GIRDER 5 | 804.88 | 806.35 |
| GIRDER 6 | 804.76 | 806.21 |
| GIRDER 7 | 804.65 | 806.24 |
| GIRDER 8/1A | 804.74 | 806.27 |
| GIRDER 9/2A | 804.21 | 805.92 |
| GIRDER 10/3A | 803.69 | 805.56 |
| GIRDER 11/4A | 803.17 | 805.21 |
| GIRDER 12/5A | 802.64 | 804.87 |
| GIRDER 13 | -- | 804.55 |
| GIRDER 14 | -- | 804.24 |

BEAM SEAT ELEVATIONS




SECTION A-A




SECTION B-B

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

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PIER 8
LAYOUT DETAILS

SHEET 20 OF 81
436

8

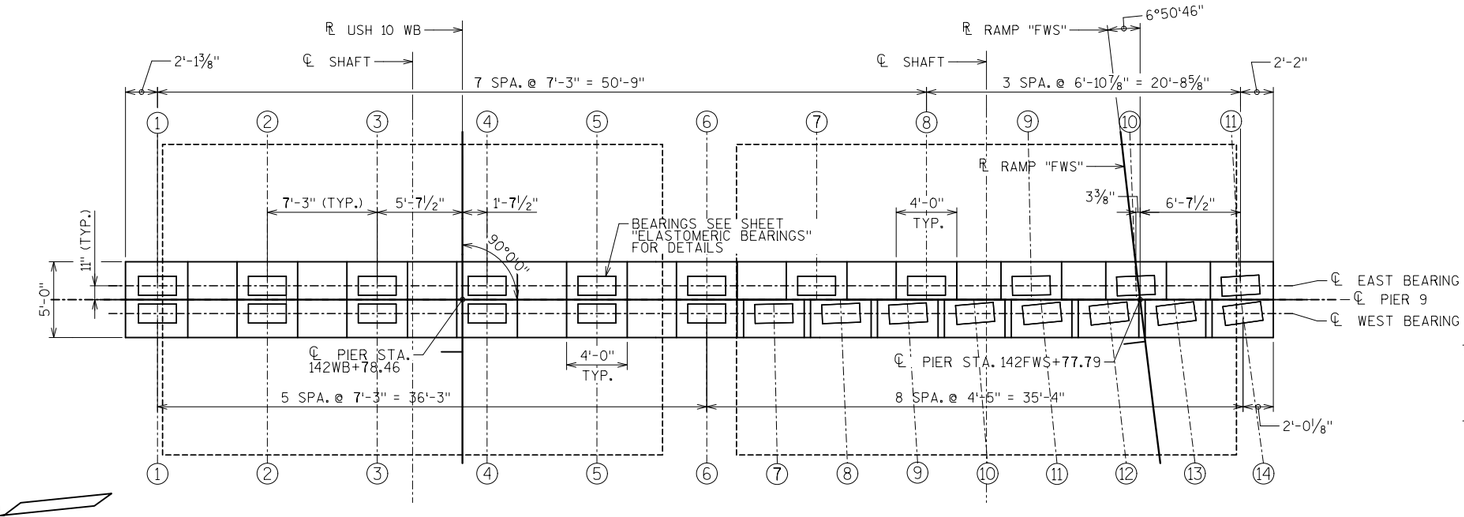
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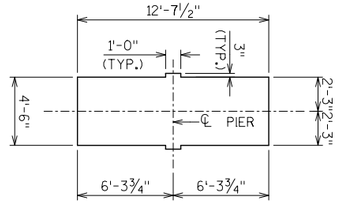
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DATE: 1/29/2016
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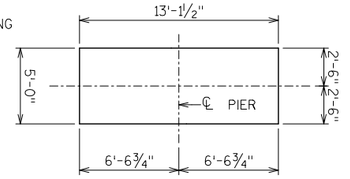
STATE PROJECT NUMBER

1517-07-77



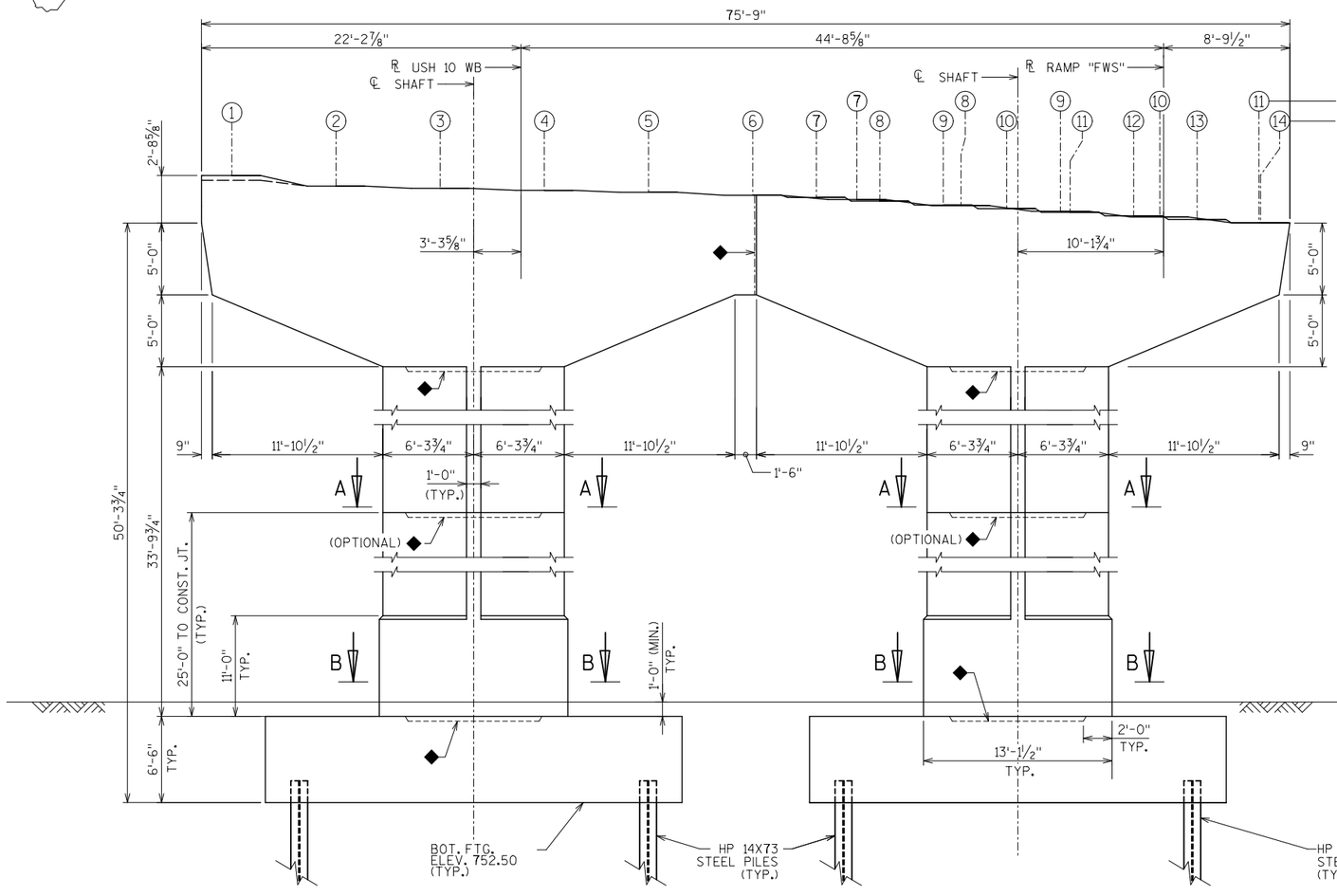

SECTION A-A




SECTION B-B

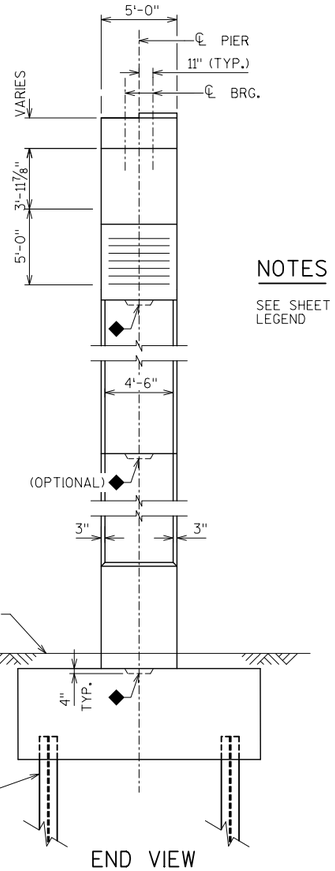
| PIER 9 | | |
|---|---|---|
| | WEST | EAST |
| GIRDER 1 | 805.53 | 805.33 |
| GIRDER 2 | 805.38 | 805.39 |
| GIRDER 3 | 805.24 | 805.25 |
| GIRDER 4 | 805.09 | 805.10 |
| GIRDER 5 | 804.95 | 804.96 |
| GIRDER 6 | 804.75 | 804.76 |
| GIRDER 7 | 804.59 | 804.41 |
| GIRDER 8 | 804.34 | 804.00 |
| GIRDER 9 | 804.10 | 803.60 |
| GIRDER 10 | 803.85 | 803.20 |
| GIRDER 11 | 803.60 | 802.81 |
| GIRDER 12 | 803.35 | -- |
| GIRDER 13 | 803.09 | -- |
| GIRDER 14 | 802.84 | -- |

BEAM SEAT ELEVATIONS




TYPICAL SECTION

LOOKING EAST (UPSTATION)




END VIEW

LOOKING NORTH

## NOTES

SEE SHEET "PIERS 1-4 LAYOUT DETAILS" FOR NOTES AND LEGEND

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

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PIER 9
LAYOUT DETAILS

SHEET 21 OF 81
437

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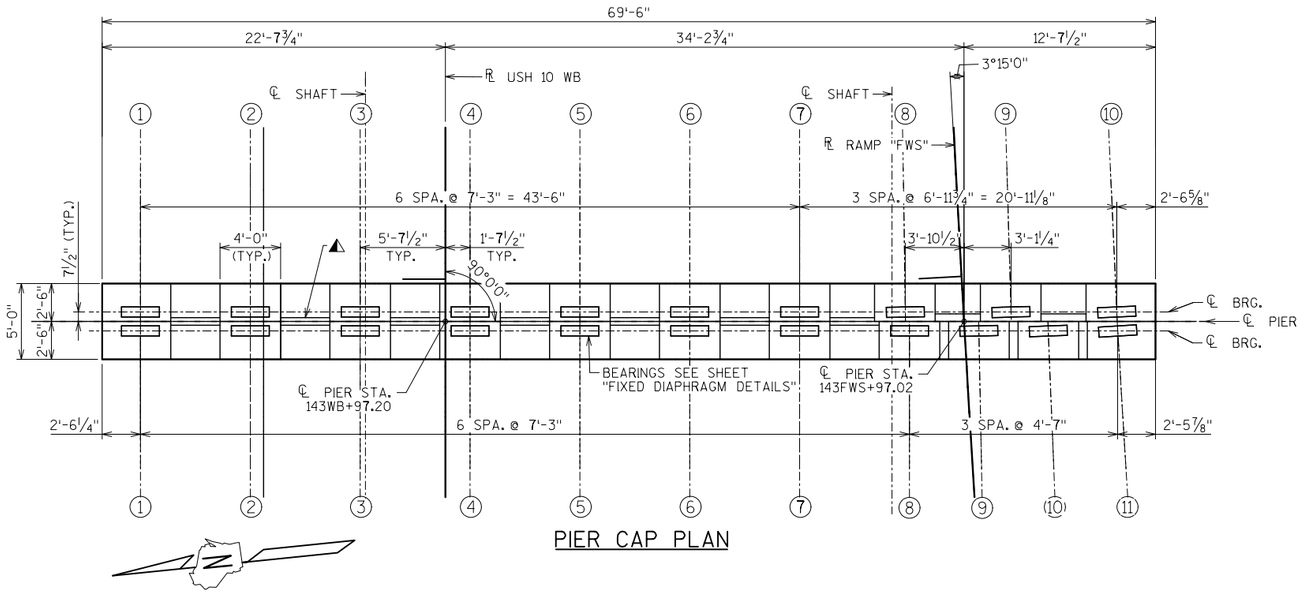
DATE: 1/29/2016
I.D. jon_liddgard

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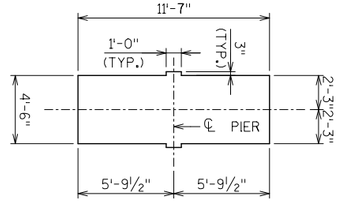
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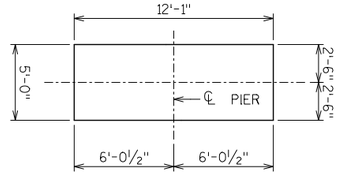
1517-07-77




PIER CAP PLAN



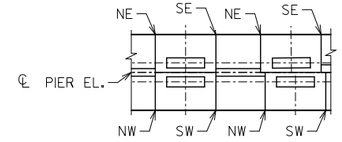

SECTION A-A



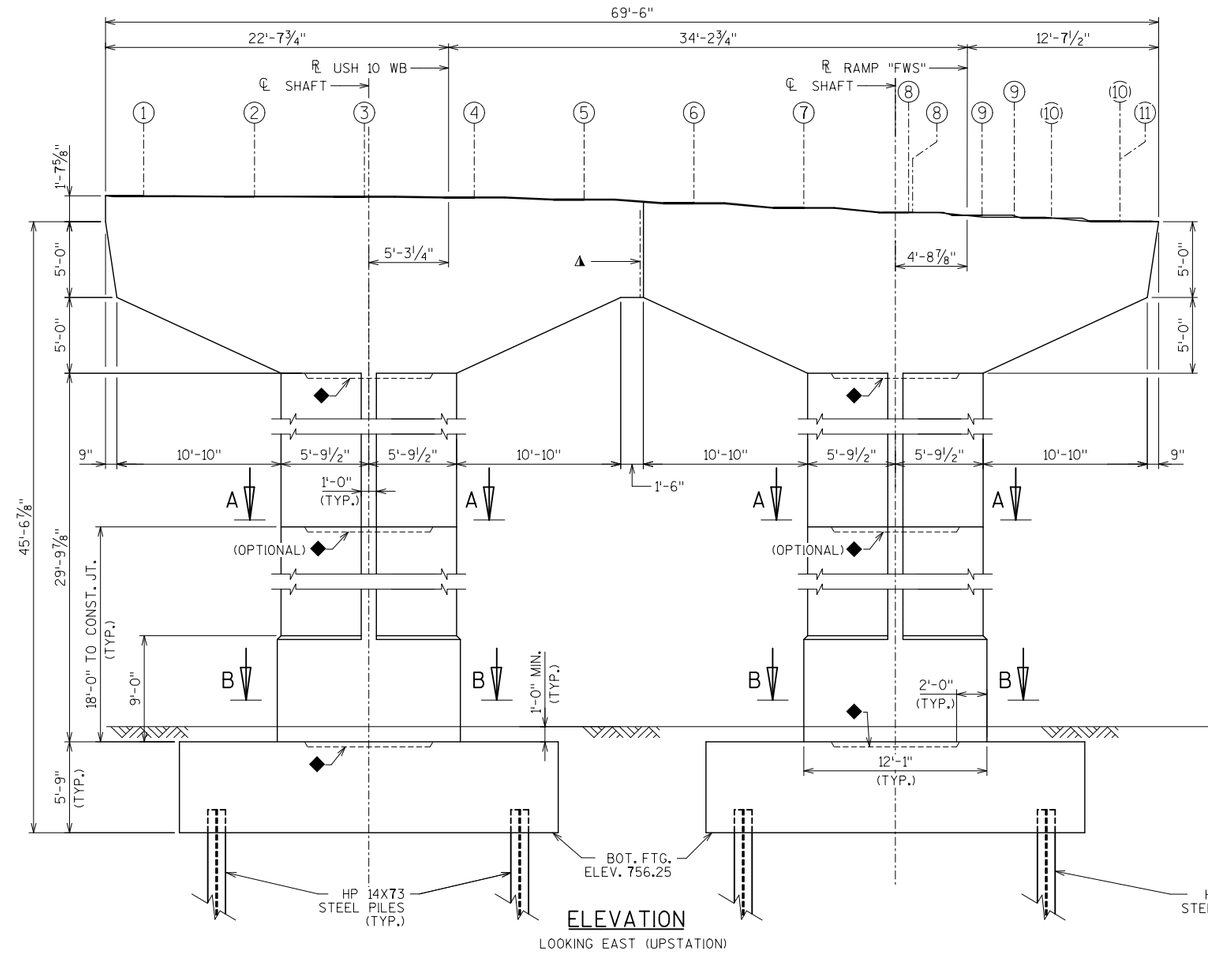

SECTION B-B

## BEAM SEAT ELEVATIONS

| | CL PIER | NE | NW | SE | SW |
|---|---|---|---|---|---|
| GIRDER 1 | 803.46 | 803.41 | 803.51 | 803.41 | 803.51 |
| GIRDER 2 | 803.45 | 803.40 | 803.50 | 803.40 | 803.50 |
| GIRDER 3 | 803.43 | 803.38 | 803.48 | 803.38 | 803.48 |
| GIRDER 4 | 803.38 | 803.34 | 803.42 | 803.34 | 803.42 |
| GIRDER 5 | 803.24 | 803.20 | 803.28 | 803.20 | 803.28 |
| GIRDER 6 | 802.99 | 802.95 | 803.03 | 802.95 | 803.03 |
| GIRDER 7 | 802.69 | 802.65 | 802.73 | 802.65 | 802.73 |
| GIRDER 8 EAST | 802.40 | 802.37 | 802.41 | 802.38 | 802.41 |
| GIRDER 9 EAST | 802.11 | 802.08 | 802.12 | 802.09 | 802.12 |
| GIRDER 10 EAST | 801.82 | 801.80 | 801.83 | 801.80 | 801.83 |
| GIRDER 8 WEST | 802.39 | 802.38 | 802.42 | 802.38 | 802.42 |
| GIRDER 9 WEST | 802.20 | 802.19 | 802.23 | 802.19 | 802.23 |
| GIRDER 10 WEST | 802.01 | 802.00 | 802.03 | 802.00 | 802.03 |
| GIRDER 11 WEST | 801.82 | 801.81 | 801.84 | 801.81 | 801.84 |

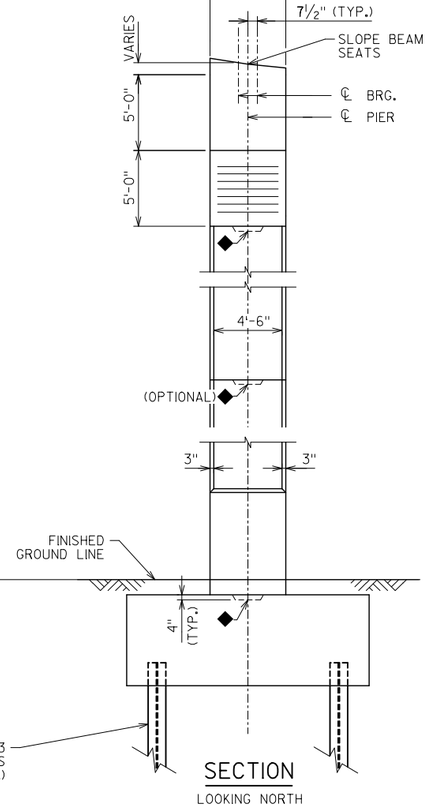



SLOPED BEAM SEAT DETAILS




ELEVATION

LOOKING EAST (UPSTATION)




SECTION

LOOKING NORTH

## NOTES

FOR NOTES AND LEGEND SEE SHEET "PIERS 1-4 LAYOUT DETAILS."

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

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PIER 10
LAYOUT DETAILS

SHEET 22 OF 81
438

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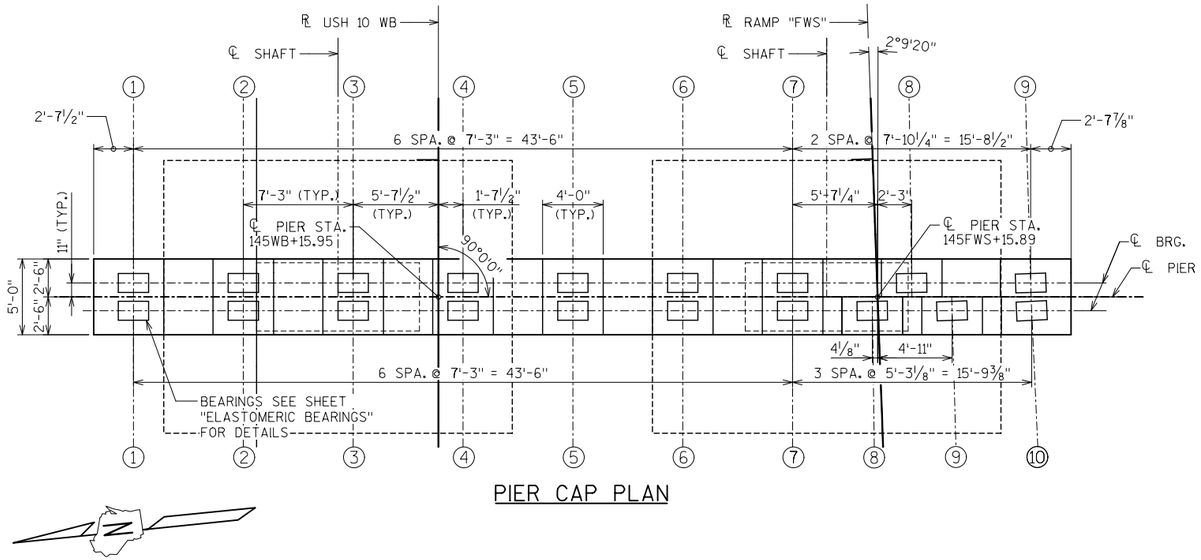
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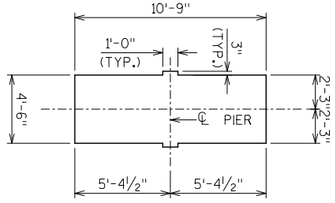
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I.D. Jon_Lidgard

STATE PROJECT NUMBER

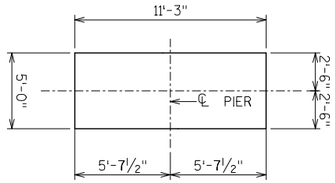
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PIER CAP PLAN



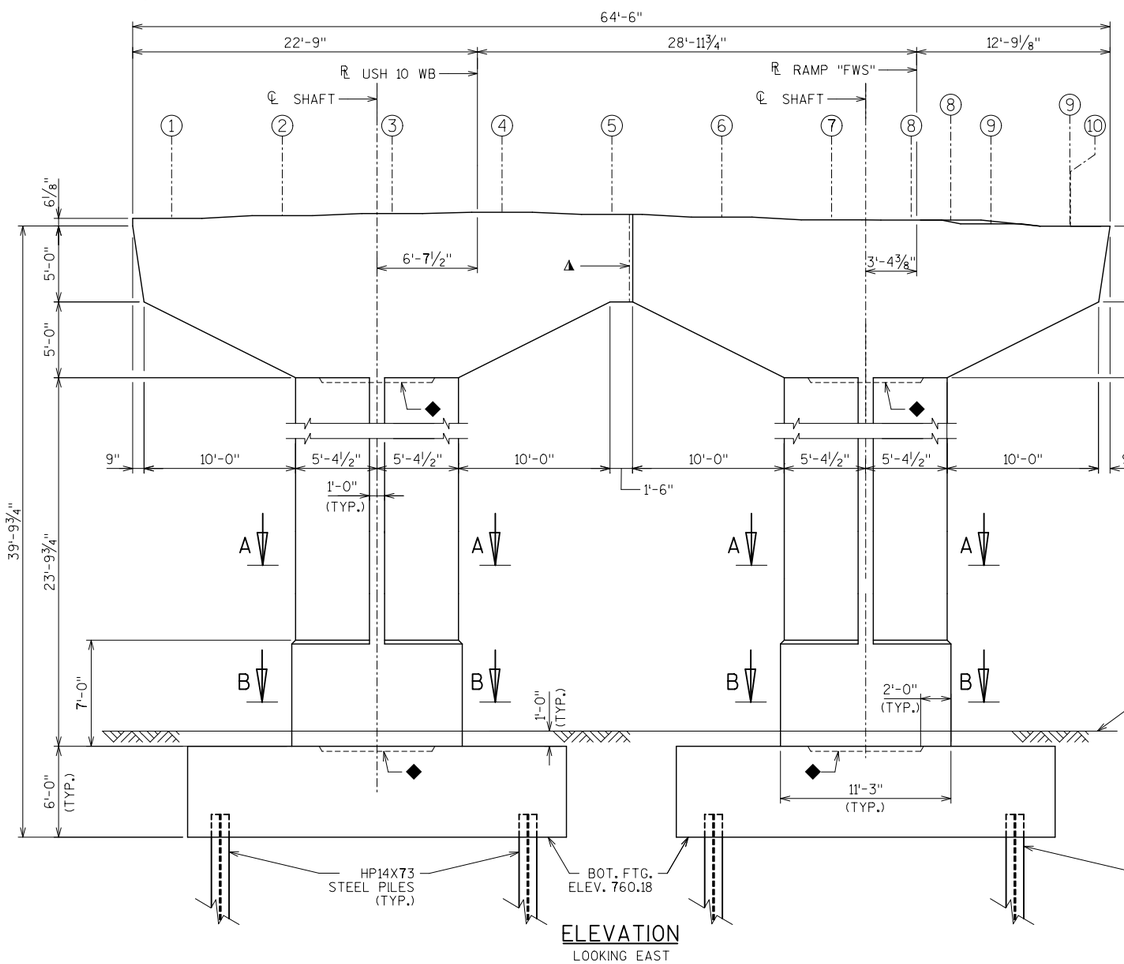

SECTION A-A



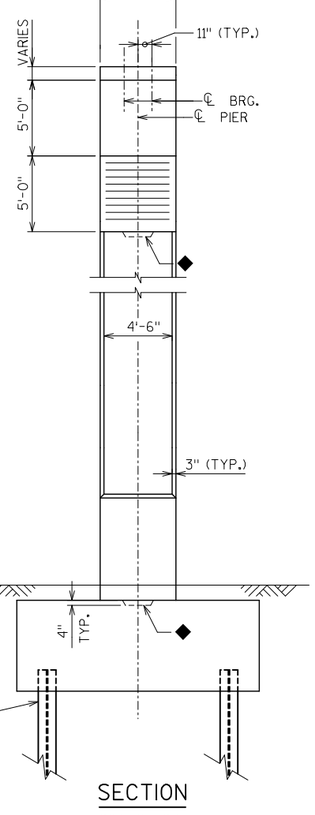

SECTION B-B

## NOTES

SEE SHEET "PIERS 1-4 LAYOUT DETAILS" FOR NOTES & LEGEND




ELEVATION
LOOKING EAST




SECTION
LOOKING NORTH

| PIER 11 | | |
|---|---|---|
| | WEST | EAST |
| GIRDER 1 | 800.50 | 800.48 |
| GIRDER 2 | 800.67 | 800.66 |
| GIRDER 3 | 800.82 | 800.81 |
| GIRDER 4 | 800.90 | 800.89 |
| GIRDER 5 | 800.76 | 800.74 |
| GIRDER 6 | 800.58 | 800.57 |
| GIRDER 7 | 800.39 | 800.38 |
| GIRDER 8 | 800.26 | 800.18 |
| GIRDER 9 | 800.13 | 799.99 |
| GIRDER 10 | 799.99 | -- |

BEAM SEAT ELEVATIONS

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

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PIER 11
LAYOUT DETAILS

SHEET 23 OF 81
439

DATE: 1/29/2016
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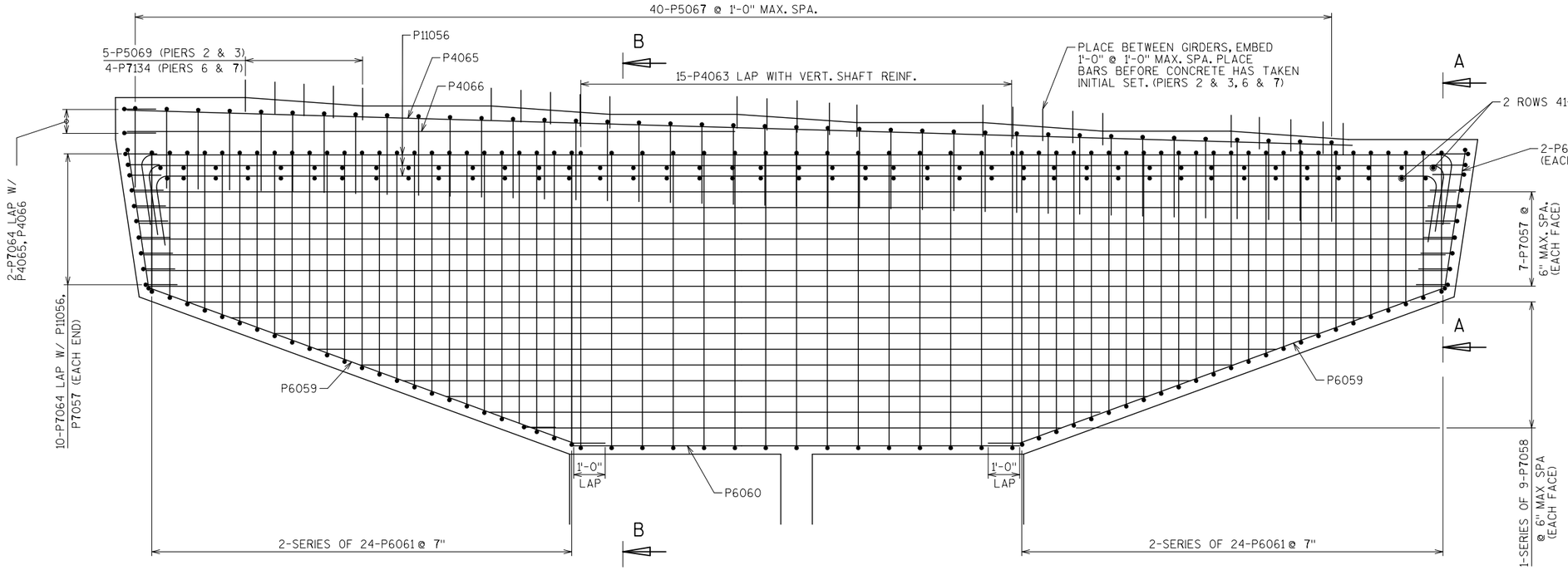
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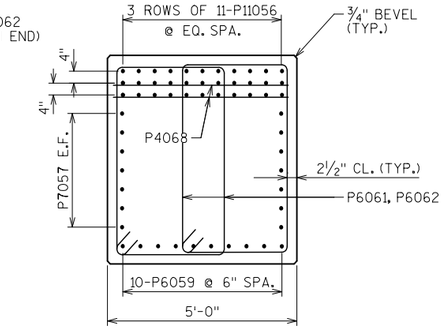
STATE PROJECT NUMBER

1517-07-77

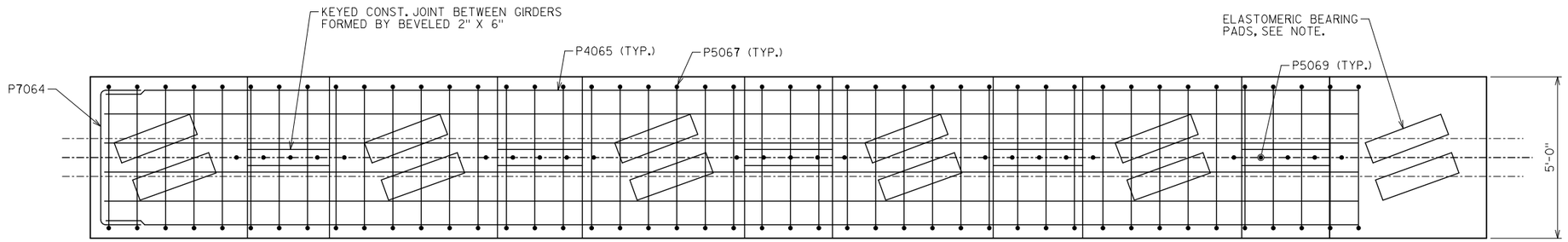



ELEVATION

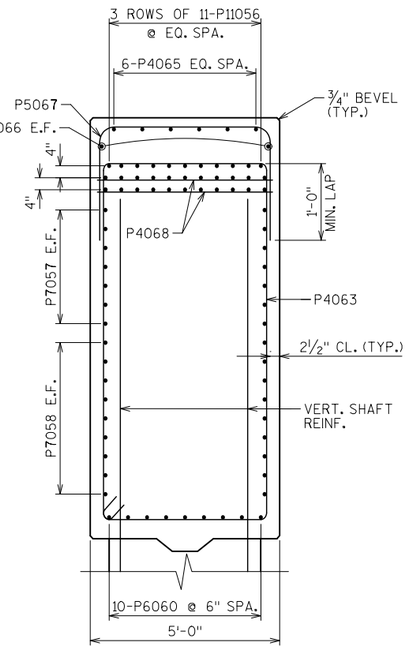
LOOKING EAST
(PIER 1 SHOWN, OTHERS SIMILAR)




SECTION A-A




PLAN




SECTION B-B

## NOTES

LAP #11 BARS MIN. 14'-2".
LAP #7 BARS MIN. 4'-10".
LAP #4 BARS MIN. 1'-8".

SEE SHEETS "UNIT 1 & 2 LAYOUT DETAILS" FOR GEOMETRY AND ELEVATIONS.

SEE SHEET "PIER BILL OF BARS" FOR PIER CAP BAR STEEL REINFORCEMENT DETAILS.

SEE SHEETS "FIXED DIAPHRAGM DETAILS 1", "EXPANSION DIAPHRAGM DETIALS 1", OR "ELASTOMERIC BEAINGS" FOR DETAILS OF BEARING PADS AND PREFORM FILLER.

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

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PIER 1-4, 6 & 7 CAP REINFORCEMENT DETAILS

SHEET 24 OF 81
440

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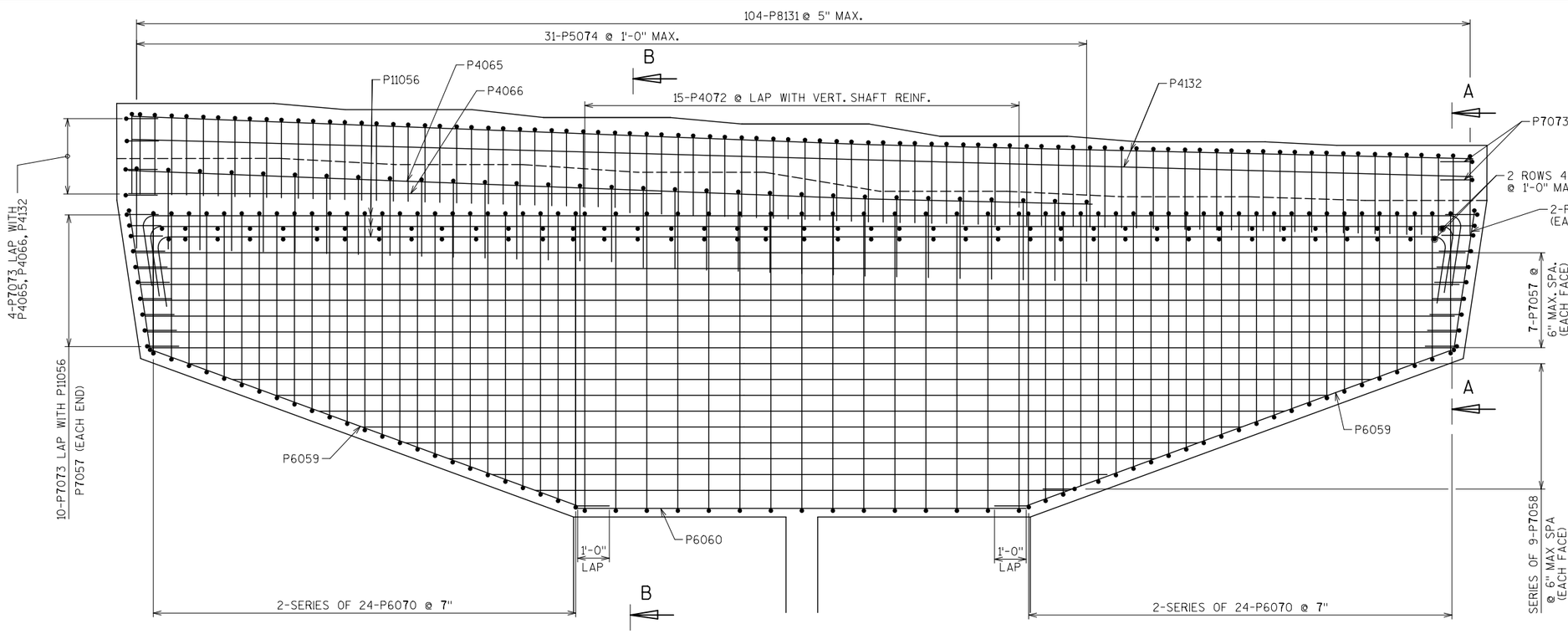
DATE: 1/29/2016
I.D. jon_lidgard

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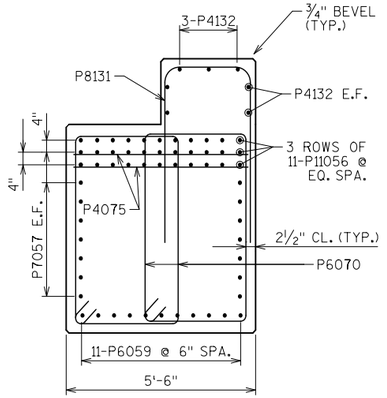
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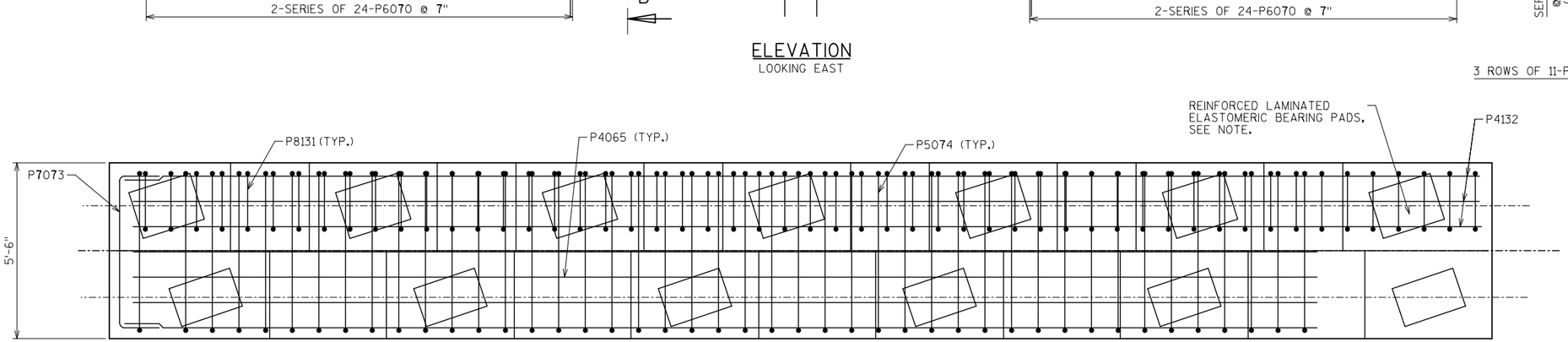
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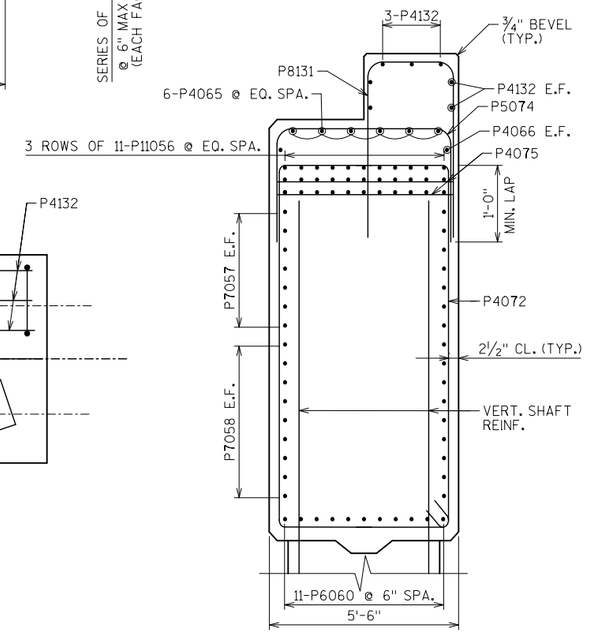

ELEVATION
LOOKING EAST




SECTION A-A




PLAN




SECTION B-B

## NOTES

SEE SHEET "PIER 1-4, 6 & 7 CAP REINFORCEMENT DETAILS" FOR NOTES.

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

STATE OF WISCONSIN
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STRUCTURE B-70-401

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PIER 5 CAP REINFORCEMENT DETAILS

SHEET 25 OF 81
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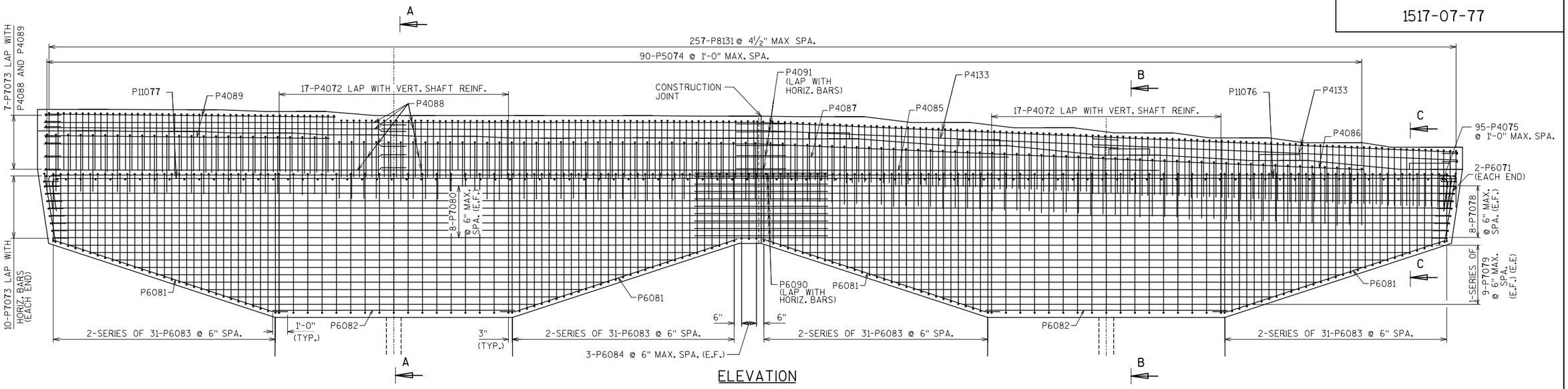
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I.D. Jon_Lidgard

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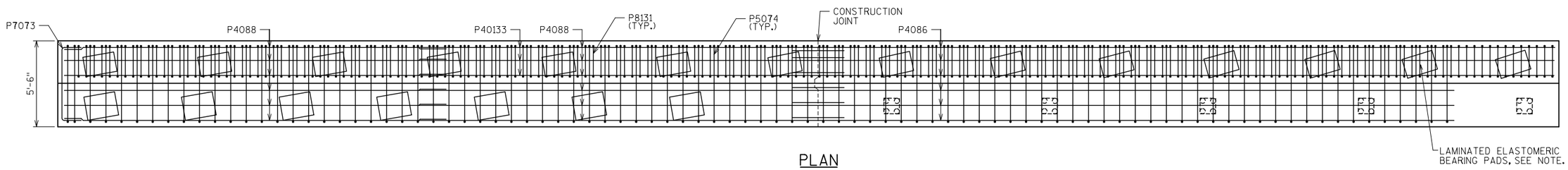
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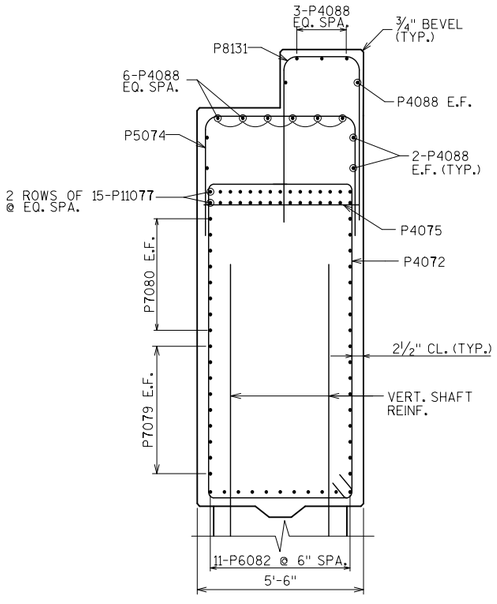
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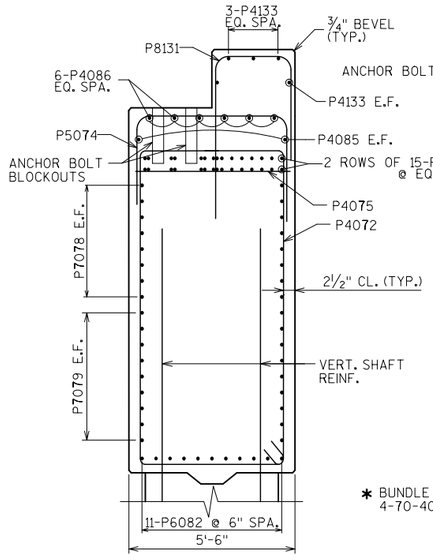

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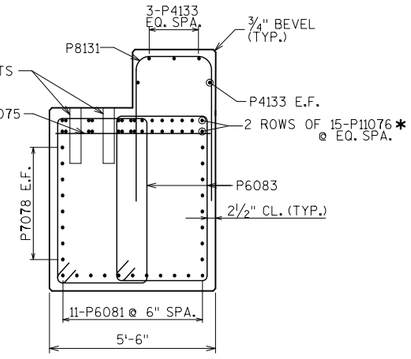

PLAN




SECTION A-A




SECTION B-B




SECTION C-C

* BUNDLE P11076 BARS AND PLACE TO AVOID 4-70-405 BEARING ANCHOR BOLT BLOCKOUTS.

## NOTES

SEE SHEET "PIER 1-4, 6 & 7 CAP REINFORCEMENT DETAILS" FOR NOTES.

SEE SHEETS "PIER 8 LAYOUT DETAILS" FOR GEOMETRY AND ELEVATIONS.

STEP REINFORCEMENT NOT SHOWN IN PLAN VIEW FOR CLARITY.

8

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| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

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PIER 8 CAP REINFORCEMENT DETAILS

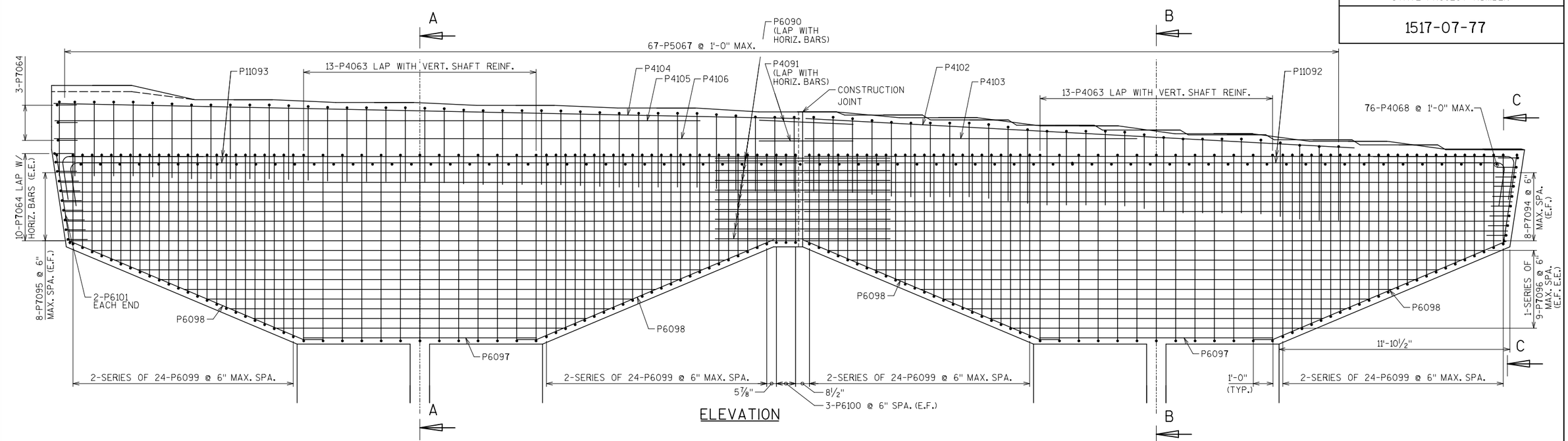
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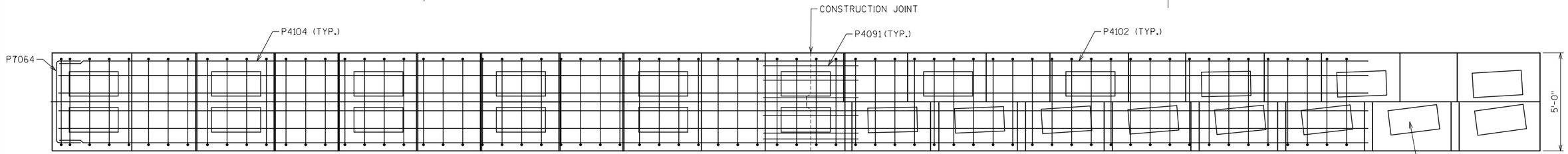
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I.D. jon_lidgard

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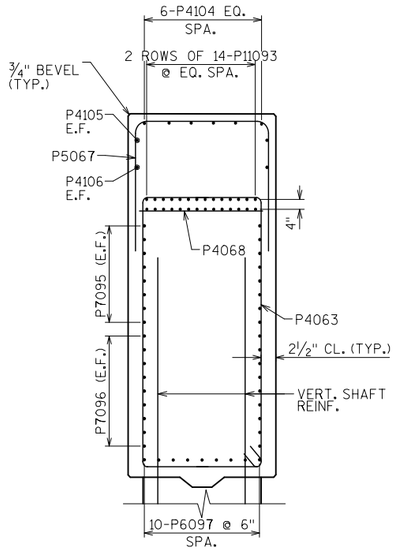
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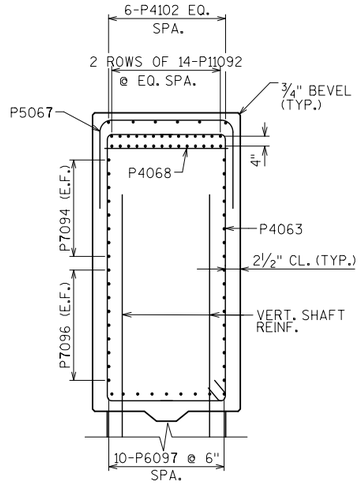

ELEVATION



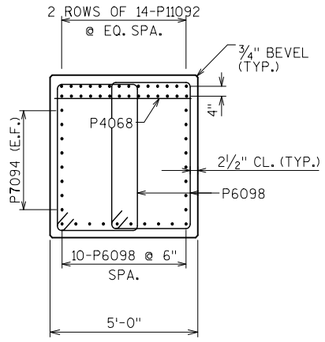

PLAN




SECTION A-A




SECTION B-B




SECTION C-C

## NOTES

SEE SHEET "PIER 1-4, 6 & 7 CAP REINFORCEMENT DETAILS" FOR NOTES.

SEE SHEETS "PIER 9 LAYOUT DETAILS" FOR GEOMETRY AND ELEVATIONS.

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

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PIER 9 CAP REINFORCEMENT DETAILS

SHEET 27 OF 81
443

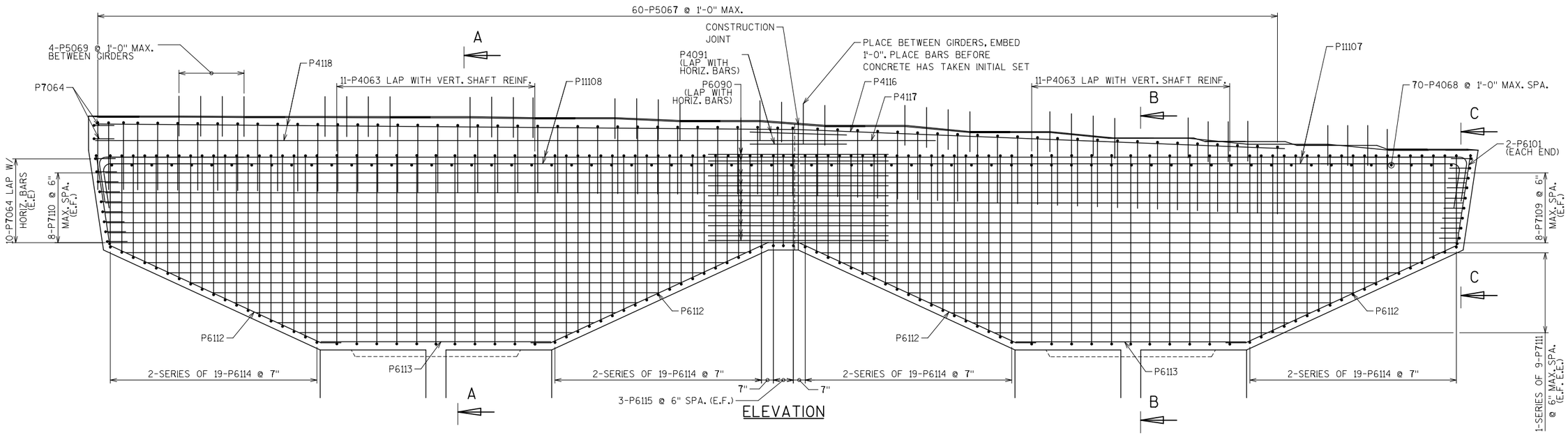
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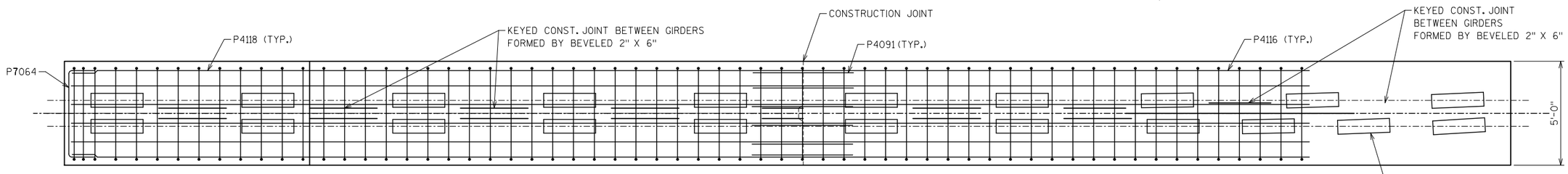
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I.D. jon_lidgard

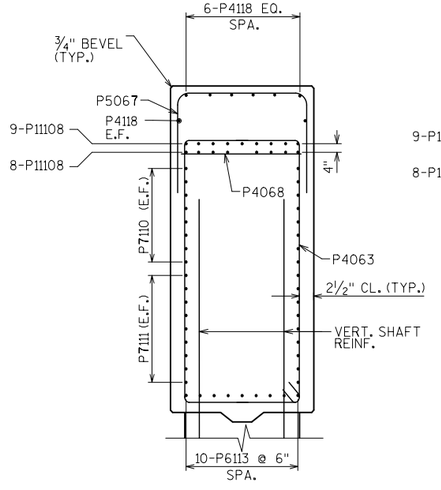
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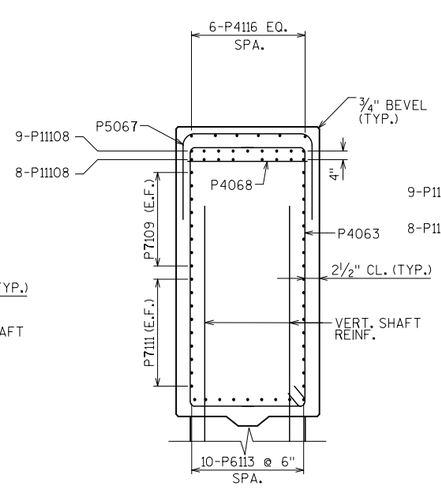

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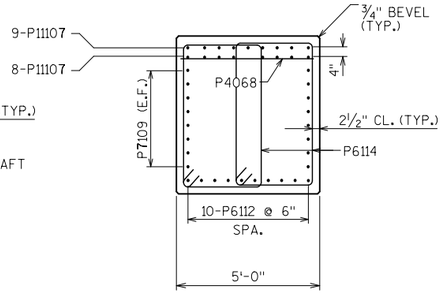

PLAN




SECTION A-A




SECTION B-B




SECTION C-C

## NOTES

SEE SHEET "PIER 1-4, 6 & 7 CAP REINFORCEMENT DETAILS" FOR NOTES.

SEE SHEETS "PIER 10 LAYOUT DETAILS" FOR GEOMETRY AND ELEVATIONS.

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STATE OF WISCONSIN
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STRUCTURE B-70-401

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PIER 10 CAP REINFORCEMENT DETAILS

SHEET 28 OF 81
444

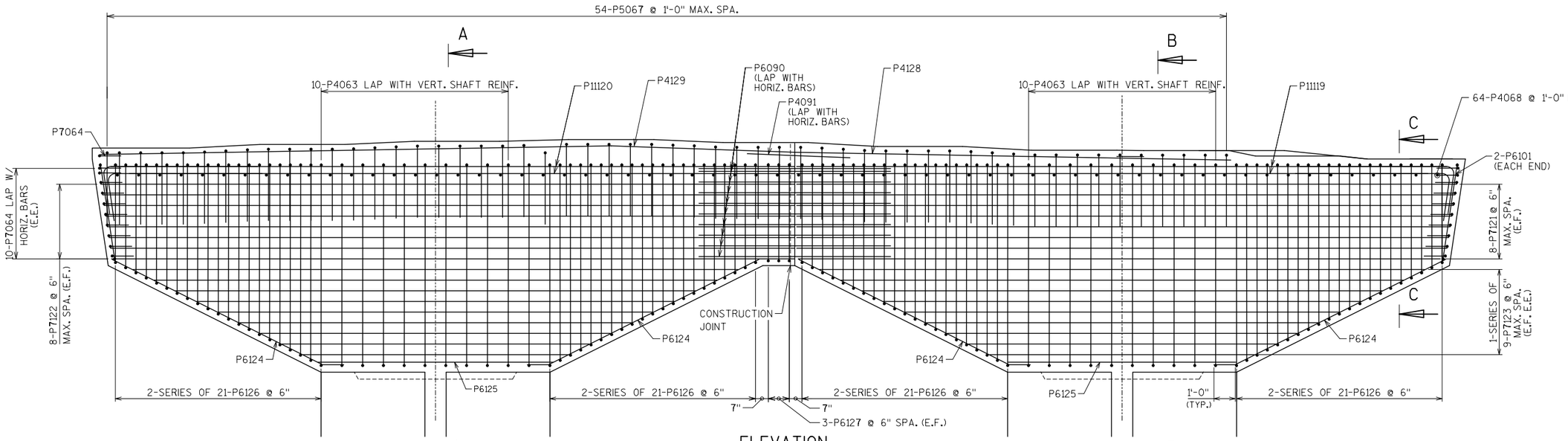
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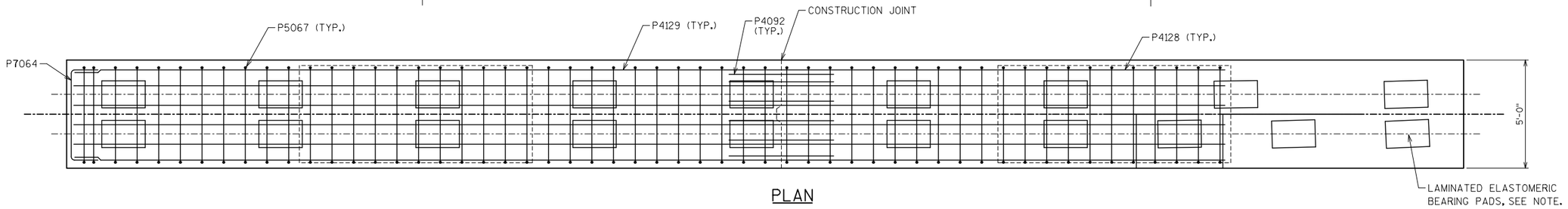
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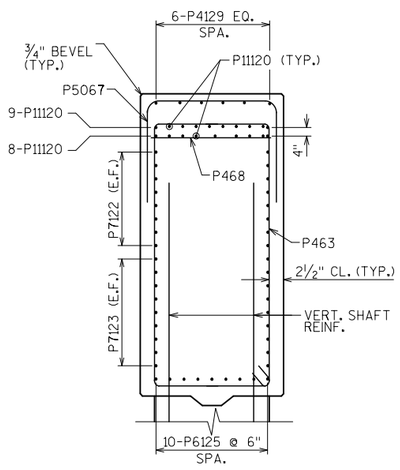
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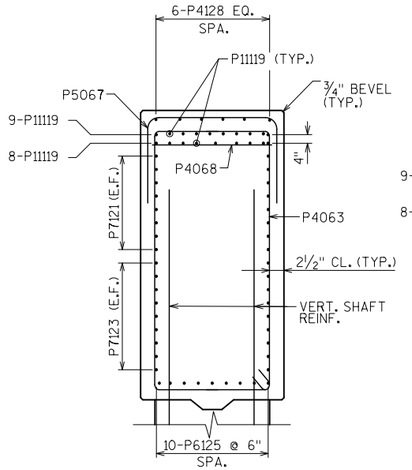

ELEVATION



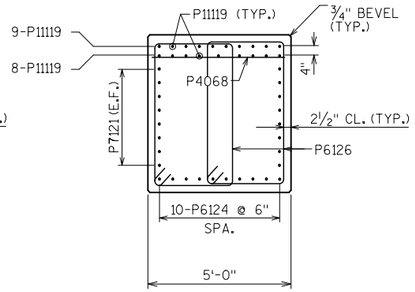

PLAN




SECTION A-A




SECTION B-B




SECTION C-C

## NOTES

SEE SHEET "PIER 1-4, 6 & 7 CAP REINFORCEMENT DETAILS" FOR NOTES.

SEE SHEETS "PIER 11 LAYOUT DETAILS" FOR GEOMETRY AND ELEVATIONS.

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

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PIER 11 CAP REINFORCEMENT DETAILS

SHEET 29 OF 81
445

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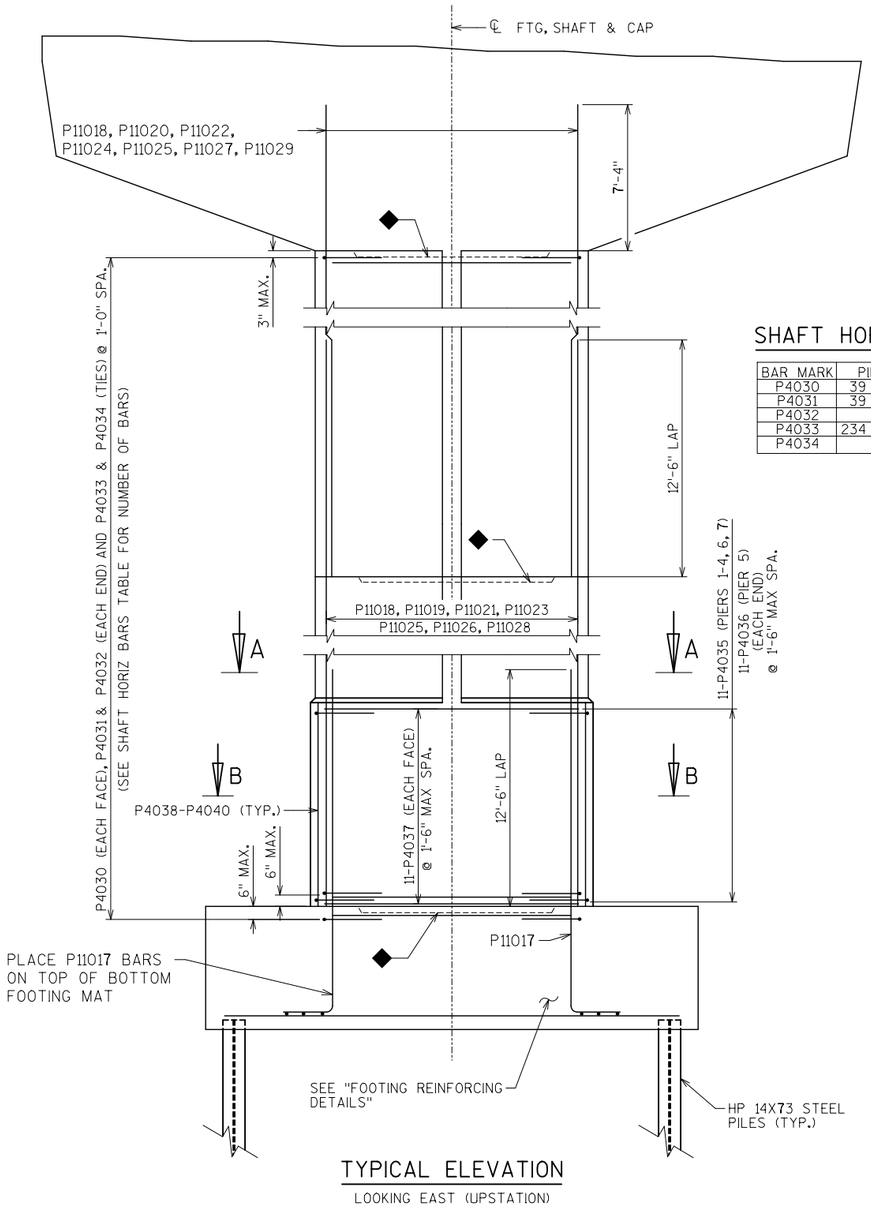
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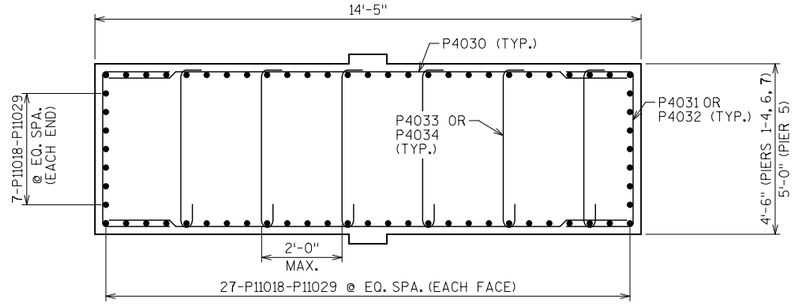
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TYPICAL ELEVATION

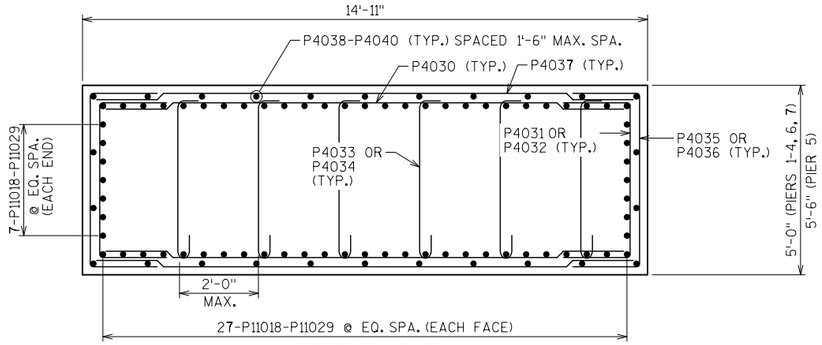
LOOKING EAST (UPSTATION)




SECTION A-A

## SHAFT HORIZ. BARS

| BAR MARK | PIER 1 | PIER 2 | PIER 3 | PIER 4 | PIER 5 | PIER 6 | PIER 7 |
|---|---|---|---|---|---|---|---|
| P4030 | 39 (E.F.) | 43 (E.F.) | 41 (E.F.) | 46 (E.F.) | 36 (E.F.) | 50 (E.F.) | 41 (E.F.) |
| P4031 | 39 (E.E.) | 43 (E.E.) | 41 (E.E.) | 46 (E.E.) | -- | 50 (E.E.) | 41 (E.E.) |
| P4032 | -- | -- | -- | -- | 36 (E.E.) | -- | -- |
| P4033 | 234 (39X6) | 258 (43X6) | 246 (41X6) | 276 (46X6) | -- | 300 (50X6) | 246 (41X6) |
| P4034 | -- | -- | -- | -- | 216 (36X6) | -- | -- |




SECTION B-B

## NOTES

FOOTING REINFORCING NOT SHOWN FOR CLARITY.

FOR NOTES AND LEGEND SEE SHEET "PIERS 1-4 LAYOUT DETAILS".

THE BAR LAP AT THE OPTIONAL KEYED CONST. JT. MAY BE ELIMINATED WHETHER OR NOT THE JOINT IS UTILIZED. PAYMENT WILL BE FOR ACTUAL BARS INSTALLED.

ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES. TIES ARE SPACED 1'-0" VERTICALLY.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

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PIERS 1-7 SHAFT REINFORCEMENT DETAILS

SHEET 30 OF 81
446

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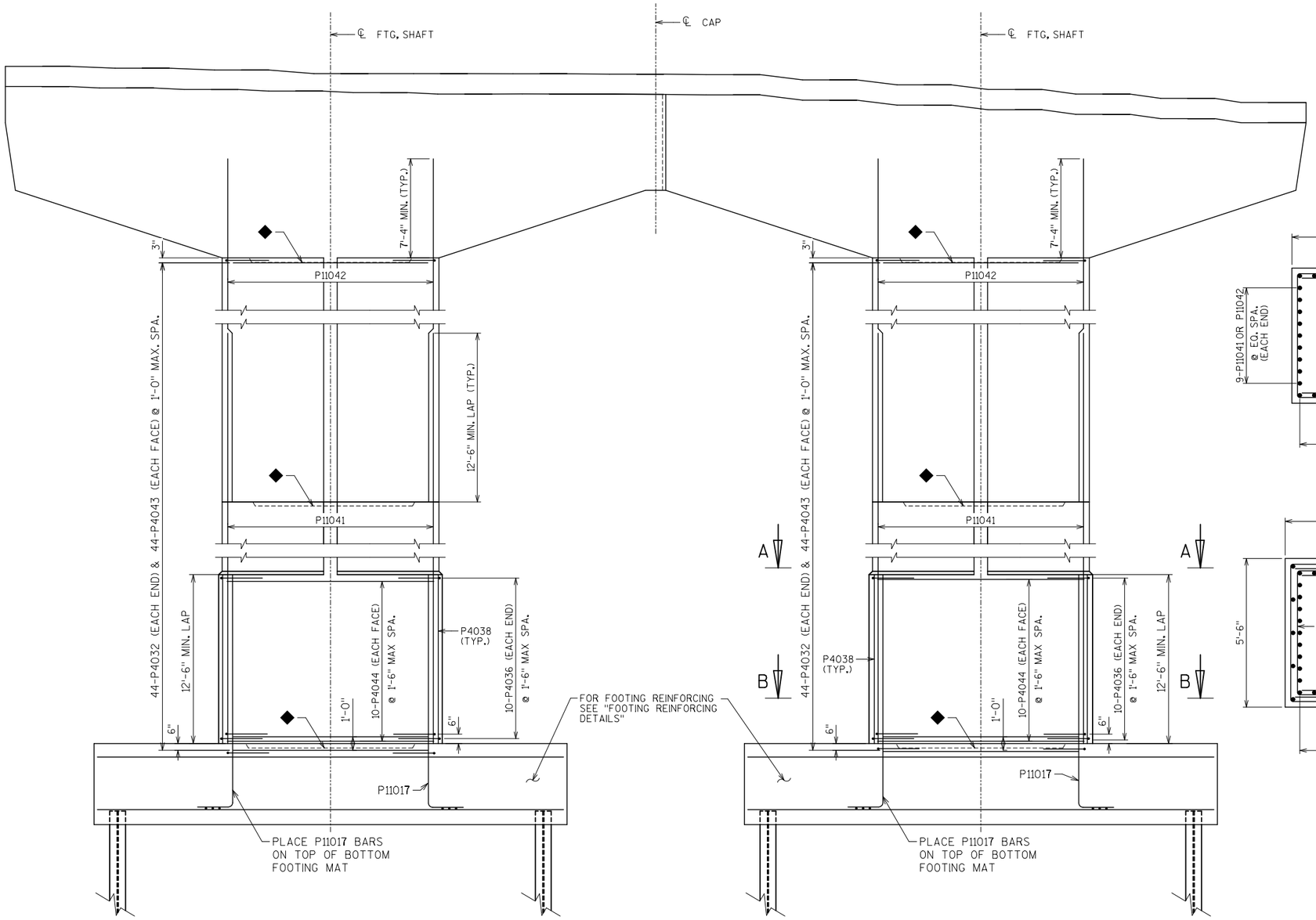
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DATE: 1/29/2016
I.D. jon_lidgard

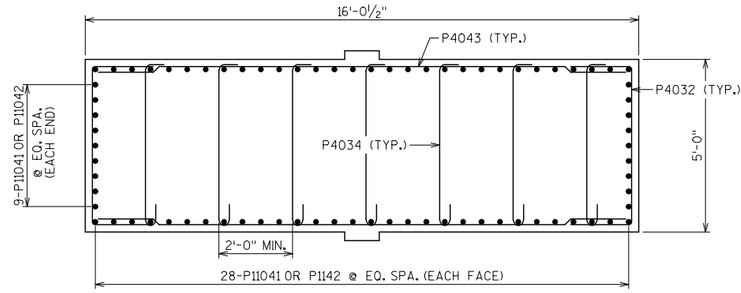
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1517-07-77

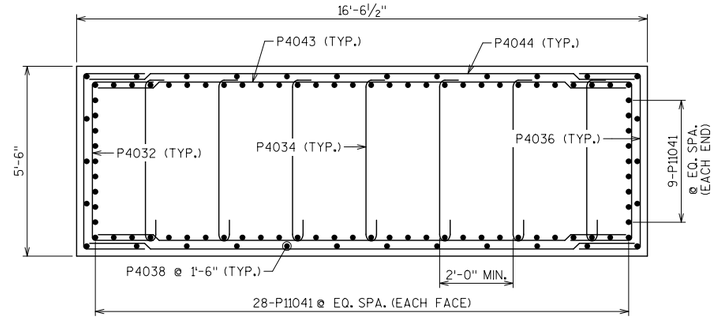



ELEVATION

LOOKING EAST (UPSTATION)




SECTION A-A




SECTION B-B

## NOTES

FOOTING REINFORCING NOT SHOWN FOR CLARITY.

FOR NOTES AND LEGEND SEE SHEET "PIERS 1-4 LAYOUT DETAILS".

THE BAR LAP AT THE OPTIONAL KEYED CONST. JT. MAY BE ELIMINATED WHETHER OR NOT THE JOINT IS UTILIZED. PAYMENT WILL BE FOR ACTUAL BARS INSTALLED.

ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES. TIES ARE SPACED 1'-0" VERTICALLY.

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STATE OF WISCONSIN
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STRUCTURE B-70-401

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PIER 8 SHAFT REINFORCEMENT DETAILS

SHEET 31 OF 81
447

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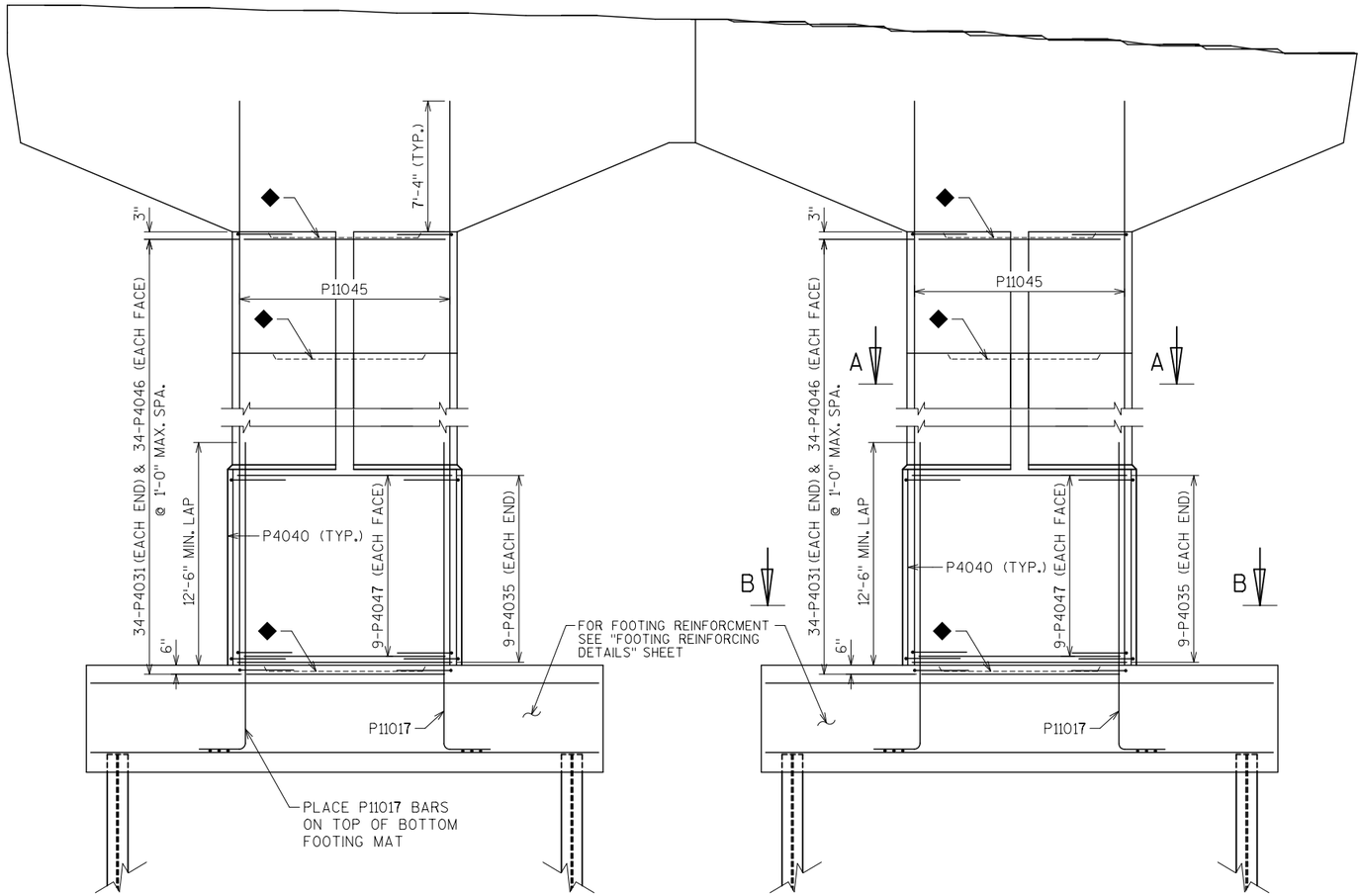
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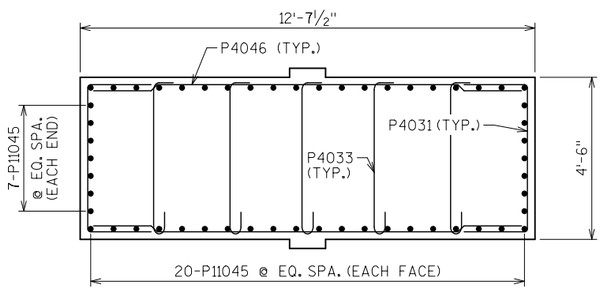
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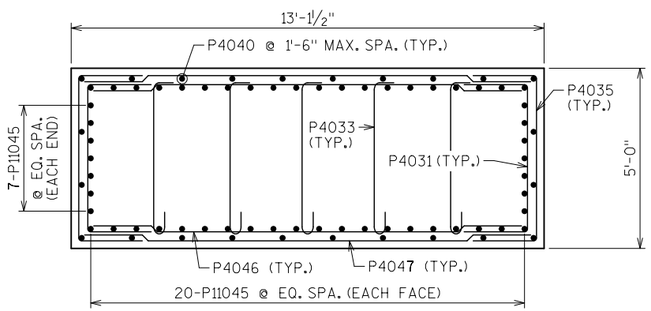



## ELEVATION

LOOKING EAST (UPSTATION)




## SECTION A-A




## SECTION B-B

## NOTES

FOR NOTES AND LEGEND SEE SHEET "PIERS 1-4 LAYOUT DETAILS".

FOOTING REINFORCING NOT SHOWN FOR CLARITY.

ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES. TIES ARE SPACED 1'-0" VERTICALLY.

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STATE OF WISCONSIN
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STRUCTURE B-70-401

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PIER 9 SHAFT REINFORCEMENT DETAILS

SHEET 32 OF 81
448

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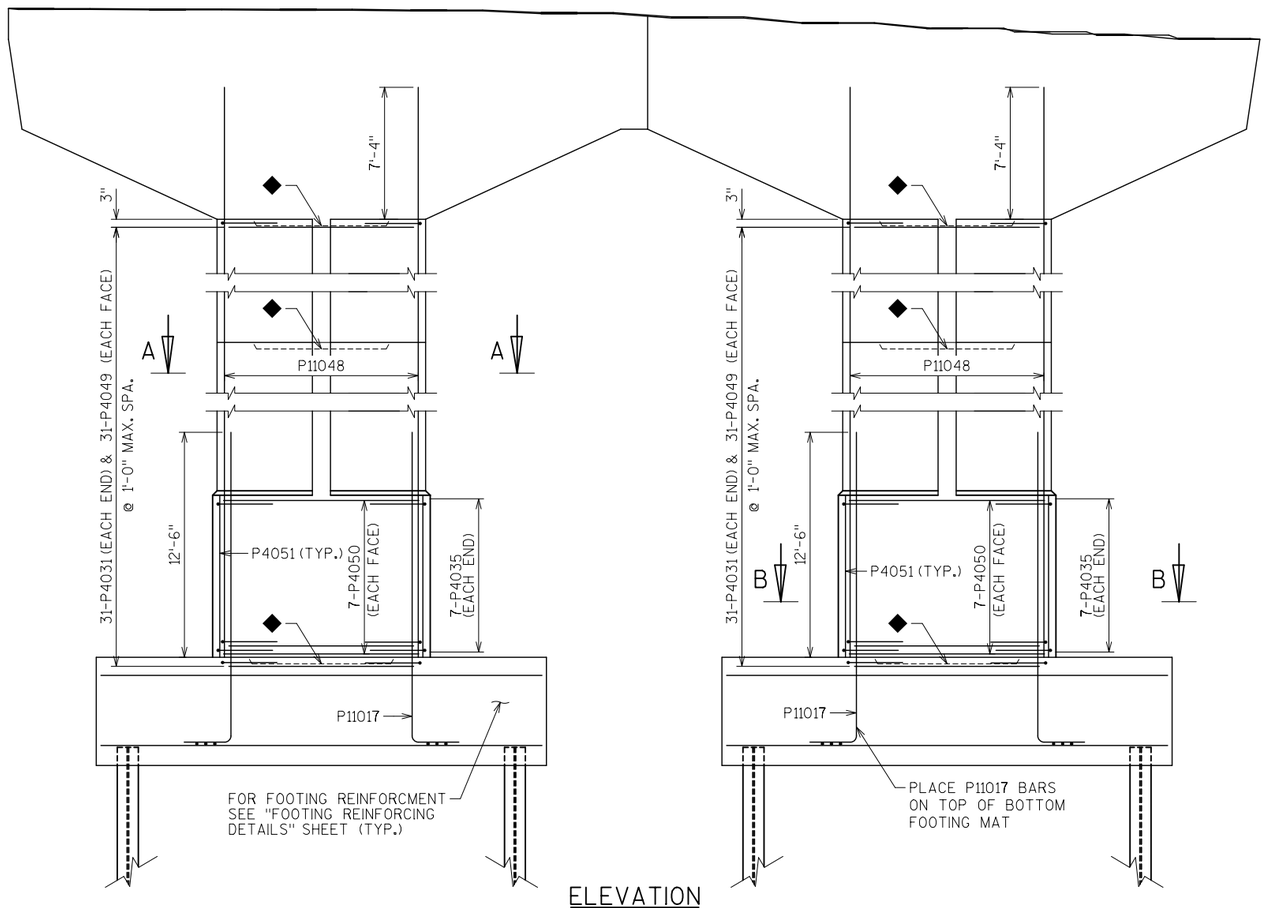
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I.D. Jon_Lidgard

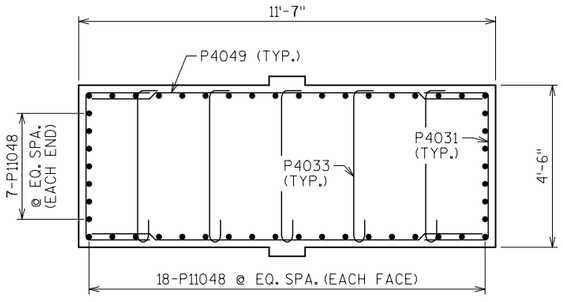
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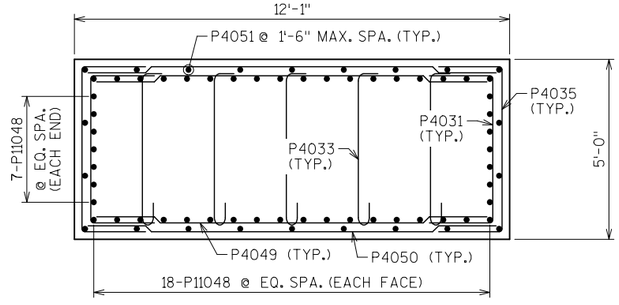



ELEVATION

LOOKING EAST (UPSTATION)




SECTION A-A




SECTION B-B

NOTES

FOR NOTES AND LEGEND SEE SHEET "PIERS 1-4 LAYOUT DETAILS".

FOOTING REINFORCING NOT SHOWN FOR CLARITY.

ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES. TIES ARE SPACED 1'-0" VERTICALLY.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

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PIER 10 SHAFT REINFORCEMENT DETAILS

SHEET 33 OF 81
449

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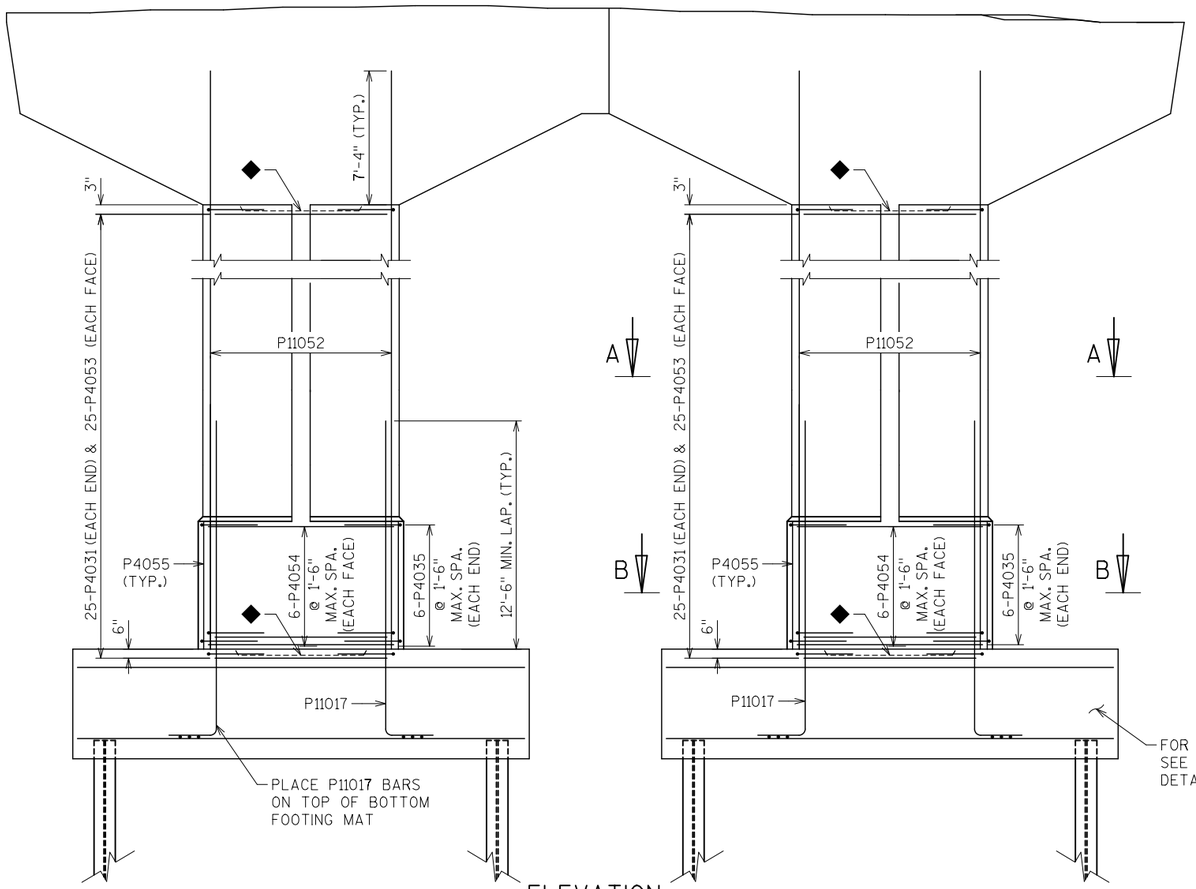
DATE: 1/29/2016
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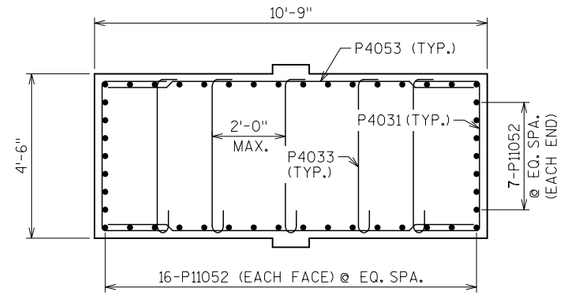
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1517-07-77

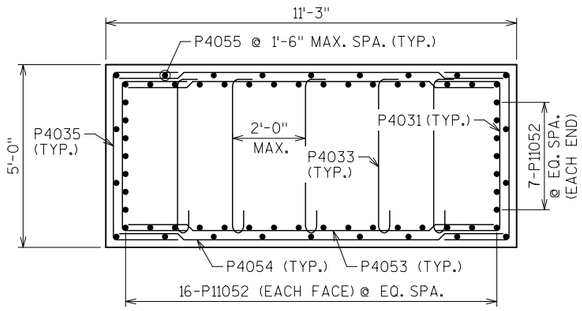



ELEVATION

LOOKING EAST (UPSTATION)




SECTION A-A




SECTION B-B

## NOTES

FOR NOTES AND LEGEND SEE SHEET "PIERS 1-4 LAYOUT DETAILS".

FOOTING REINFORCING NOT SHOWN FOR CLARITY.

ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES. TIES ARE SPACED 1'-0" VERTICALLY.

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
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STRUCTURE B-70-401

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PIER 11 SHAFT REINFORCEMENT DETAILS

SHEET 34 OF 81
450

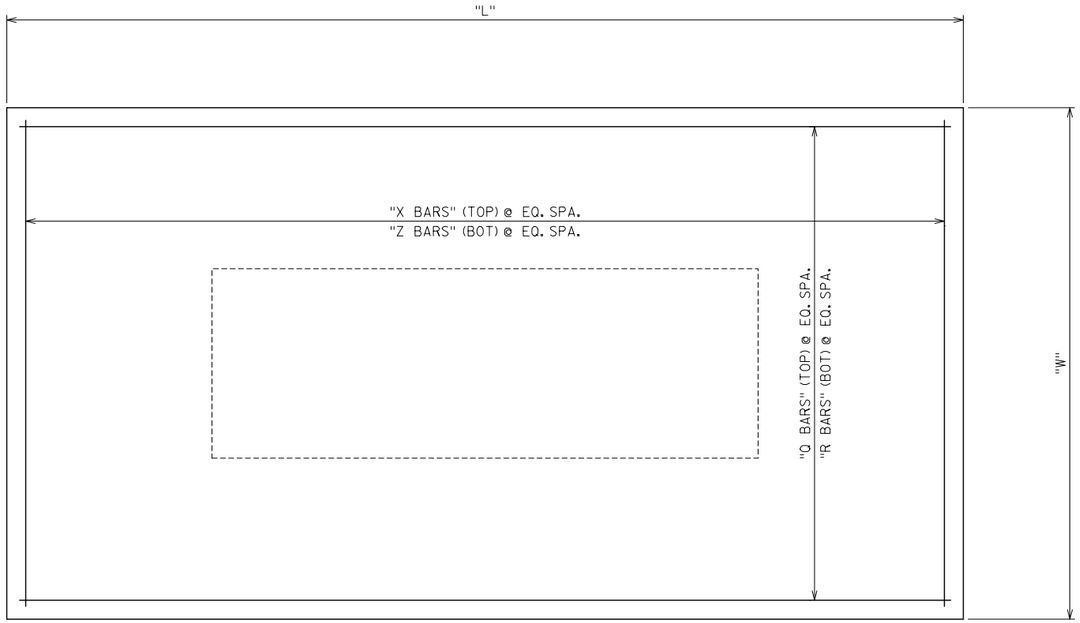
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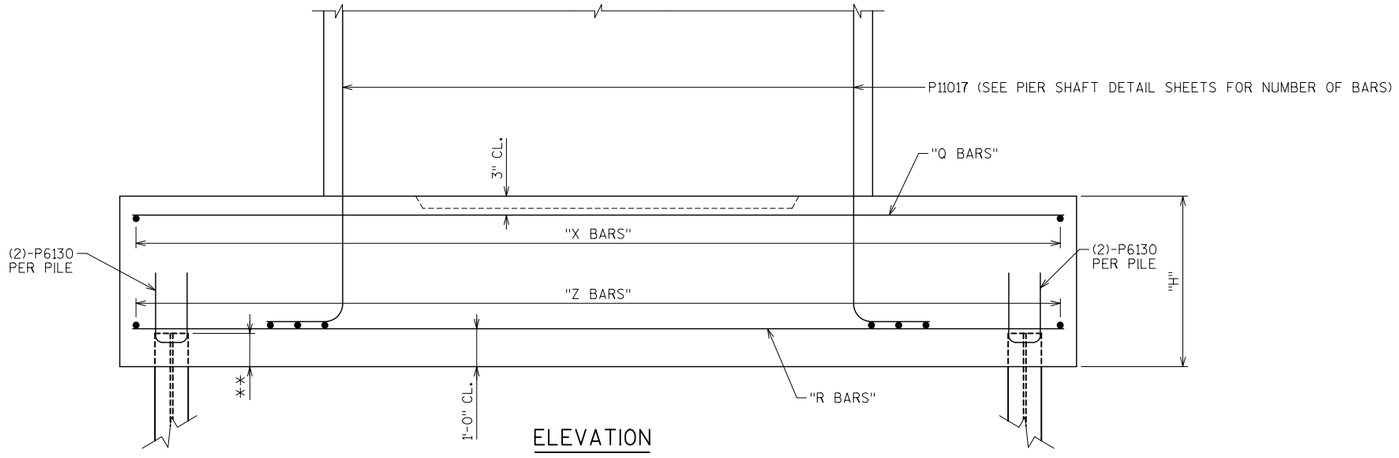
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|---|
| 1517-07-77 |




PLAN

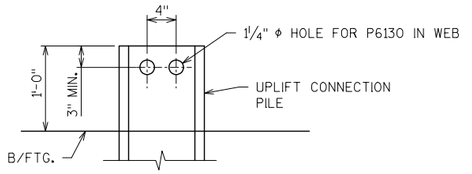



ELEVATION

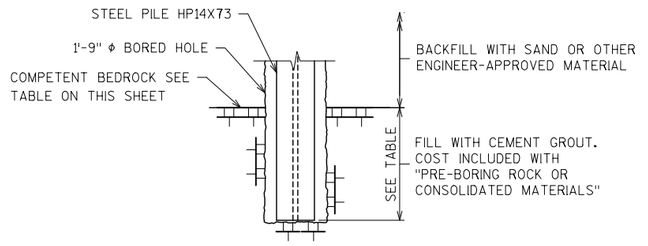
## FOOTING DIMENSIONS AND REINFORCING BARS

| | PIER | L | W | H | R BARS | Q BARS | X BARS | Z BARS | P6130 BARS |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | 33'-8" | 18'-0" | 6'-0" | 30 - P11002 | 30 - P7004 | 43 - P7003 | 56 - P11001 | 52 |
| | 2 | 33'-8" | 18'-0" | 6'-0" | 30 - P11002 | 30 - P7004 | 43 - P7003 | 60 - P11001 | 36 |
| | 3 | 33'-8" | 18'-0" | 6'-0" | 30 - P11002 | 30 - P7004 | 43 - P7003 | 60 - P11001 | 52 |
| | 4 | 35'-0" | 20'-6" | 6'-6" | 31 - P11006 | 30 - P7008 | 43 - P7007 | 55 - P11005 | 48 |
| | 5 | 35'-0" | 18'-0" | 6'-6" | 35 - P11006 | 30 - P7008 | 43 - P7003 | 68 - P11001 | 56 |
| | 6 | 35'-0" | 18'-0" | 6'-6" | 40 - P11006 | 30 - P7008 | 43 - P7003 | 43 - P11001 | 44 |
| | 7 | 35'-0" | 18'-0" | 6'-6" | 40 - P11006 | 30 - P7008 | 43 - P7003 | 44 - P11001 | 48 |
| * | 8 | 37'-6" | 20'-6" | 6'-6" | 64 - P11009 | 30 - P7010 | 45 - P7007 | 51 - P11005 | 88 |
| * | 9 | 33'-0" | 20'-6" | 6'-6" | 34 - P11011 | 30 - P7012 | 43 - P7007 | 52 - P11005 | 52 |
| * | 10 | 27'-0" | 18'-0" | 5'-9" | 41 - P11013 | 19 - P7014 | 28 - P7003 | 44 - P11001 | 24 |
| * | 11 | 23'-0" | 18'-0" | 6'-0" | 21 - P11015 | 21 - P7016 | 25 - P7003 | 50 - P11001 | 32 |

* BARS ARE FOR EACH FOOTING




UPLIFT CONNECTION DETAIL




DETAIL FOR PILE ANCHOR IN ROCK

## NOTES

FOR BAR STEEL REINFORCEMENT DETAILS, SEE SHEET "PIER BILL OF BARS".

FOR PILE LAYOUTS AND DETAILS SEE SHEETS "PIER FOOTING PILE LAYOUT 1" AND "PIER FOOTING PILE LAYOUT 2".

PLACE P6130 BAR IN 1¼" DIAMETER HOLES BURNED INTO PILE. USE 2 BARS AT EACH UPLIFT PILE.

** EMBED SOCKETED PILES 1'-0"
EMBED ALL OTHER PILES 6"

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

STATE OF WISCONSIN
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STRUCTURE B-70-401

| DRAWN BY | JDL | PLANS CK'D. | JDB |
|---|---|---|---|

FOOTING REINFORCING DETAILS

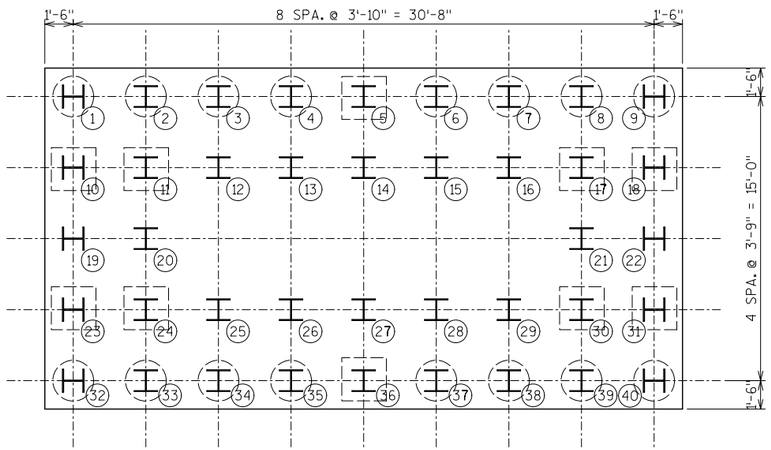
SHEET 36 OF 81
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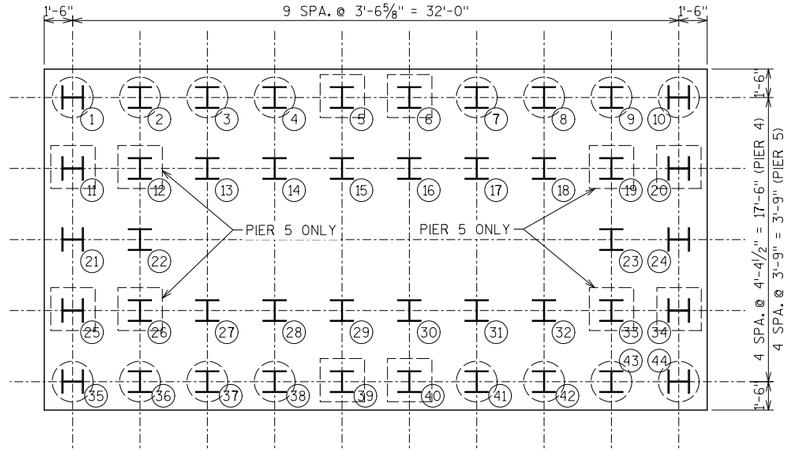
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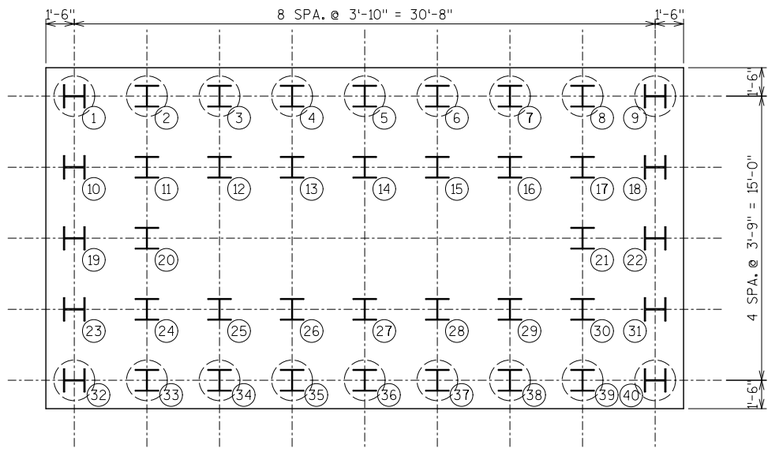
DATE: 1/29/2016
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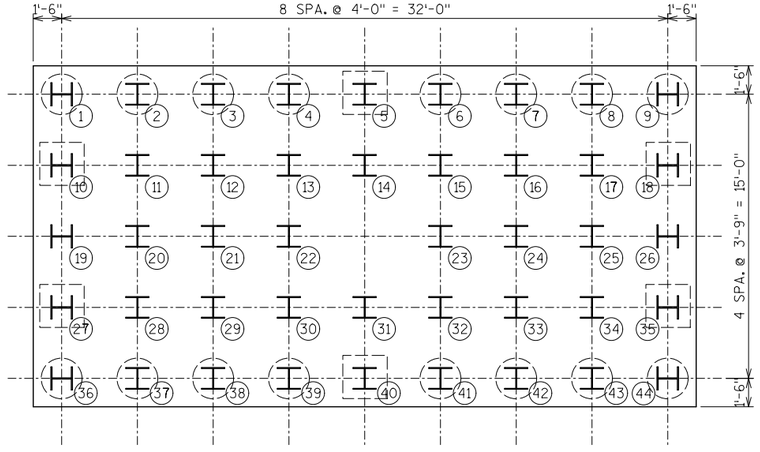

PIER 1 FOOTING PILE LAYOUT



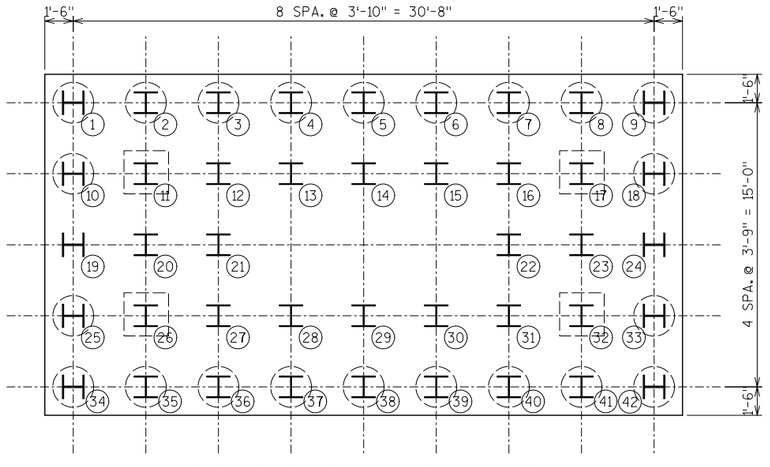

PIERS 4 & 5 FOOTING PILE LAYOUT



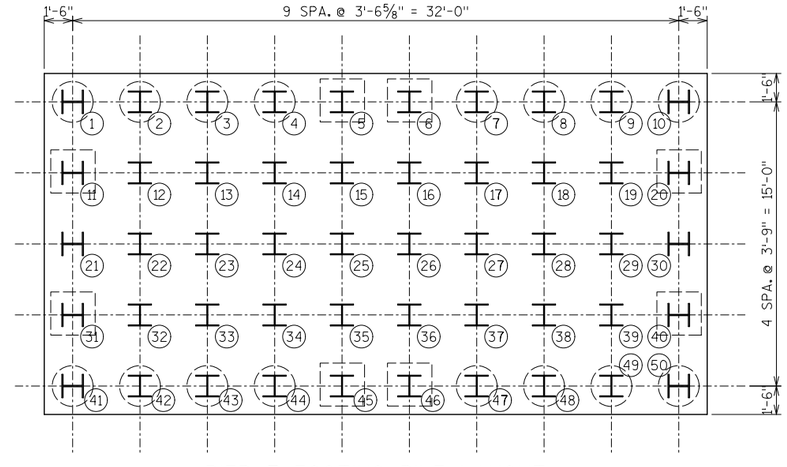

PIER 2 FOOTING PILE LAYOUT




PIER 6 FOOTING PILE LAYOUT




PIER 3 FOOTING PILE LAYOUT




PIER 7 FOOTING PILE LAYOUT

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1517-07-77

## LEGEND

(#) INDICATES PILE NUMBER

PREBORING WITH UPLIFT CONNECTION

UPLIFT CONNECTION ONLY

## NOTES

FOR BAR STEEL REINFORCEMENT DETAILS, SEE SHEET "PIER BILL OF BARS"

FOR FOOTING DIMENSIONS AND REINFORCING DETAILS SEE SHEET "FOOTING REINFORCING DETAILS".

THE ESTIMATED ELEVATIONS OF BEDROCK ARE BASED ON THE AVAILABLE BORING INFORMATION. HARD PRE-BORING MAY BE REQUIRED ABOVE OR BELOW THE ESTIMATED COMPETENT BEDROCK ELEVATIONS BECAUSE OF VARIABILITY IN THE ELEVATION AND WEATHERING OF THE BEDROCK AND THE POSSIBILITY OF PRESENCE OF COBBLES OR BOULDERS.

FOR UPLIFT CONNECTION AND PILE ANCHOR IN ROCK DETAILS SEE SHEET "FOOTING REINFORCING DETAILS".

## PILE NOTE

PIERS ARE TO BE SUPPORTED ON HP14X73 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE PER PILE AS SHOWN IN THE TABLE BELOW AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. PILES SUBJECT TO UPLIFT LOADS ARE PRE-BORED AND SOCKETED INTO SOLID ROCK, AND THESE PILES ARE NOT DRIVEN. ALL PILES THAT ARE NOT PREBORED REQUIRE PILE POINTS. SEE TABLE ON THIS SHEET FOR ROCK EMBEDMENT LENGTHS.

## ESTIMATED PILE LENGTH AND RESISTANCE

| PIER | ESTIMATED DRIVEN PILE LENGTH (FEET) | REQUIRED DRIVING RESISTANCE (TONS) |
|---|---|---|
| 1 | 8 | 195 |
| 2 | 7.5 | 205 |
| 3 | 12 | 205 |
| 4 | 10.5 | 195 |
| 5 | 19 | 210 |
| 6 | 11 | 250 |
| 7 | 19.75 | 230 |

## PILE PRE-BORING AND UPLIFT CONNECTION TABLE

| PIER | 3'-6" EMBED. PILES WITH UPLIFT CONNECTION | 3'-0" EMBED. PILES WITH UPLIFT CONNECTION | UPLIFT CONNECTION ONLY (NO PREBORING) |
|---|---|---|---|
| 1 | 1, 9, 32, 40 | 2-4, 6-8, 33-35, 37-39 | 5, 10, 11, 17, 18, 23, 24, 30, 31, 36 |
| 2 | 1, 2, 8, 9, 32, 33, 39, 40 | 3-7, 34-38 | -- |
| 3 | 1, 2, 8, 9, 34, 35, 41, 42 | 3-7, 10, 18, 25, 33, 36-40 | 11, 17, 26, 32 |
| 4 | -- | 1-4, 7-10, 35-38, 41-44 | 5, 6, 11, 20, 25, 34, 39, 40 |
| 5 | 1, 10, 35, 44 | 2-4, 7-9, 36-38, 41-43 | 5, 6, 11, 12, 19, 20, 25, 26, 33, 34, 39, 40 |
| 6 | 1, 9, 36, 44 | 2-4, 6-8, 37-39, 41-43 | 5, 10 ,18, 27, 35, 40 |
| 7 | 1, 10, 41, 50 | 2-4, 7-9, 42-44, 47-49 | 5, 6, 11, 20, 31, 40, 45, 46 |

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

STATE OF WISCONSIN
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STRUCTURE B-70-401

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PIER FOOTING PILE LAYOUT 1

SHEET 36 OF 81
452

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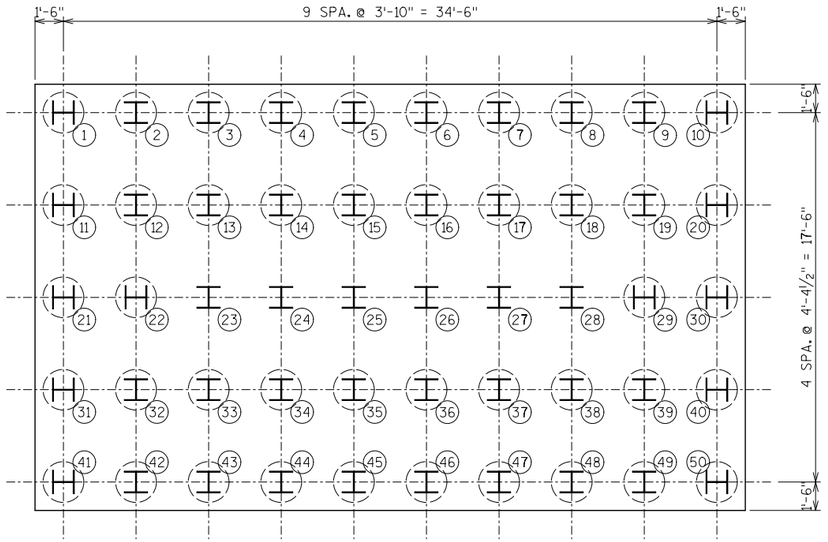
DATE: 1/29/2016
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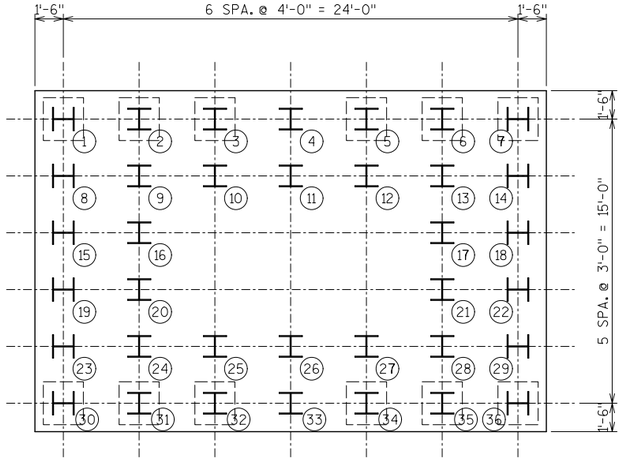
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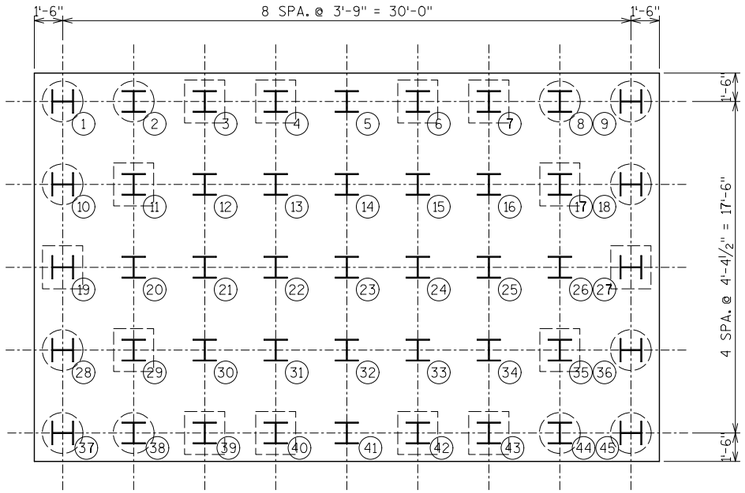
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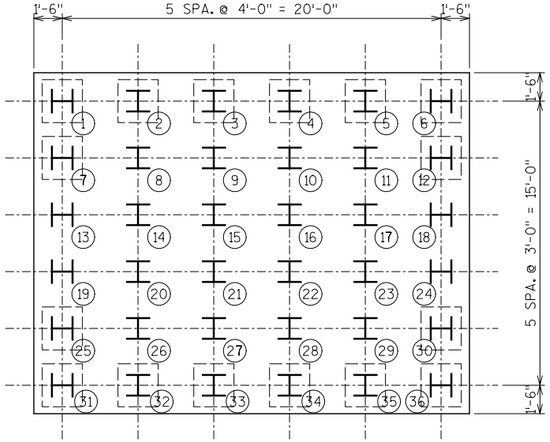

PIER 8 FOOTING PILE LAYOUT




PIER 10 FOOTING PILE LAYOUT




PIER 9 FOOTING PILE LAYOUT



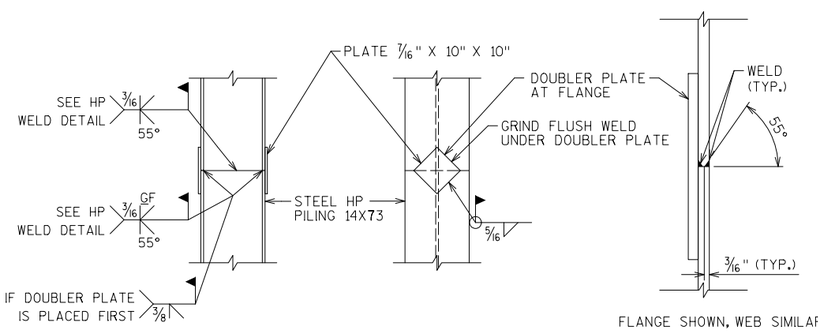

PIER 11 FOOTING PILE LAYOUT

## PILE PRE-BORING AND UPLIFT CONNECTION TABLE

| PIER | 3'-6" EMBED. PILES WITH UPLIFT CONNECTION | 3'-0" EMBED. PILES WITH UPLIFT CONNECTION | UPLIFT CONNECTION ONLY (NO PREBORING) |
|---|---|---|---|
| 8 | -- | 1-22, 29-50 | -- |
| 9 | 1, 9, 37, 45 | 2, 8, 10, 18, 28, 36, 38, 44 | 3, 4, 6, 7, 11, 17, 19, 27, 29, 35, 39, 40, 42, 43 |
| 10 | -- | -- | 1-3, 5-7, 30-32, 34-36 |
| 11 | -- | -- | 1-7, 12, 25, 30-36 |

## ESTIMATED PILE LENGTH AND RESISTANCE

| PIER | ESTIMATED DRIVEN PILE LENGTH (FEET) | REQUIRED DRIVING RESISTANCE (TONS) |
|---|---|---|
| 8 | 14.25 | 200 |
| 9 | 17.75 | 215 |
| 10 | 32.75 | 205 |
| 11 | 45 | 210 |




PILE SPLICE DETAIL

FLANGE SHOWN, WEB SIMILAR

HP WELD DETAIL

## NOTES

SEE SHEET "PIER FOOTING PILE LAYOUT 1" FOR LEGEND AND NOTES.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

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PIER FOOTING PILE LAYOUT 2

SHEET 37 OF 81
453

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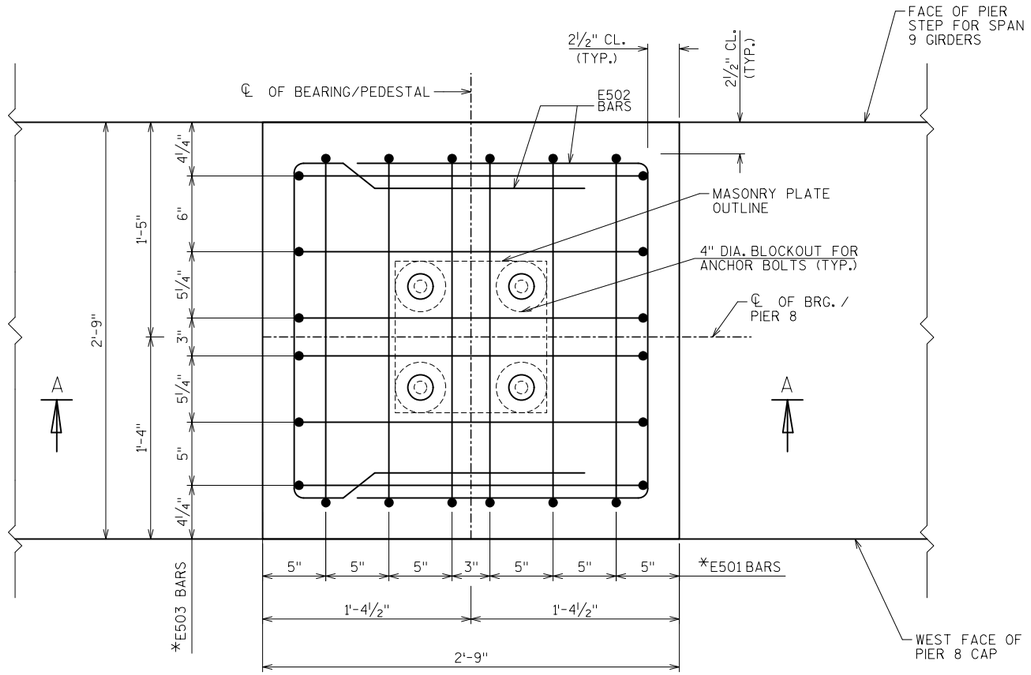
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DATE: 1/29/2016
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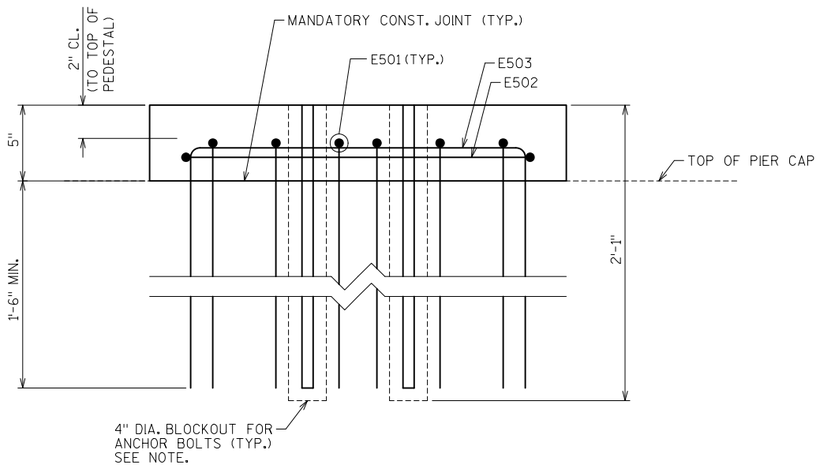
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PLAN

(PIER 8 PEDESTAL)

* ADJUST SPA. TO MISS ANCHOR BOLT BLOCKOUTS




SECTION A-A

## NOTES:

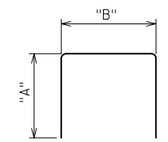
1. ADJUST TOP OF PEDESTAL ELEVATIONS IF ACTUAL BEARING THICKNESSES ARE DIFFERENT THAN THOSE SHOWN ON B-70-405 PLANS.
2. THE BLOCKOUT HOLES MUST BE PROTECTED FROM WATER ENTERING INTO THE HOLES PRIOR TO INSTALLING ANCHOR BOLT AND GROUTING.
3. CONSTRUCT TOP BEARING SURFACE OF CONCRETE PEDESTALS IN STRICT ACCORDANCE WITH AASHTO CONSTRUCTION SPECIFICATIONS, SECTION 8.10.5. THE CONTRACTOR WILL CORRECT ANY VARIANCE FROM THE CONSTRUCTION SPECIFICATION AT THE DIRECTION OF THE ENGINEER.
4. THE TOP OF THE 4" DIAMETER BLOCKOUT FORMS MUST BE BELOW THE BEARING SURFACE PRIOR TO PLACEMENT OF THE BEARING.
5. ANCHOR BOLT BLOCKOUT TO BE CONSTRUCTED OF CORRUGATED STEEL, GALVANIZED PER ASTM A123. COST OF ANCHOR BOLT BLOCKOUTS INCLUDED WITH BID ITEM "MODIFIED HIGH PERFORMANCE CONCRETE (HPC) MASONRY BRIDGES"

## BILL OF BARS

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

| BAR MARK | NO. REQ'D | LENGTH | BENT | LOCATION |
|---|---|---|---|---|
| E501 | 30 | 5'-7" | X | PEDESTAL - VERT. |
| E502 | 10 | 5'-9" | X | PEDESTAL - HORIZ. |
| E503 | 30 | 5'-5" | X | PEDESTAL - VERT. |

TOTAL WEIGHT= 410 LB




E501, E502, E503,

| BAR MARK | A | B |
|---|---|---|
| E501 | 1'-9" | 2'-4" |
| E502 | 1'-11" | 2'-2" |
| E503 | 1'-9" | 2'-2" |

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

STATE OF WISCONSIN
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STRUCTURE B-70-401

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BEARING PEDESTAL DETAILS PIER 8

SHEET 30 OF 81
454

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DATE: 1/29/2016
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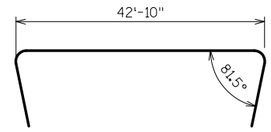
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# BILL OF BARS - PIER

| BAR MARK | NO. REQ'D | LENGTH | BAR SERIES | BENT | COATED | LOCATION |
|---|---|---|---|---|---|---|
| P11001 | 519 | 17'-6" | | | | FOOTING - BOT. LONGIT. PIERS 1-3, 5-7, 10, 11 |
| P11002 | 90 | 33'-2" | | | | FOOTING - BOT. TRANS. PIERS 1-3 |
| P7003 | 364 | 17'-6" | | | | FOOTING - TOP LONGIT. PIER 1-3, 5-7, 10, 11 |
| P7004 | 90 | 33'-2" | | | | FOOTING - TOP TRANS. PIERS 1-3 |
| P11005 | 261 | 20'-0" | | | | FOOTING - BOT. LONGIT. PIER 4, 8, 9 |
| P11006 | 146 | 34'-6" | | | | FOOTING - BOT. TRANS. PIERS 4-7 |
| P7007 | 219 | 20'-0" | | | | FOOTING - TOP LONGIT. PIERS 4, 8, 9 |
| P7008 | 120 | 34'-6" | | | | FOOTING - TOP TRANS. PIERS 4-7 |
| P11009 | 128 | 37'-0" | | | | FOOTING - BOT. TRANS. PIER 8 |
| P7010 | 60 | 37'-0" | | | | FOOTING - TOP TRANS. PIER 8 |
| P11011 | 68 | 32'-6" | | | | FOOTING - BOT. TRANS. PIER 9 |
| P7012 | 60 | 32'-6" | | | | FOOTING - TOP TRANS. PIER 9 |
| P11013 | 82 | 26'-6" | | | | FOOTING - BOT. TRANS. PIER 10 |
| P7014 | 38 | 26'-6" | | | | FOOTING - TOP TRANS. PIER 10 |
| P11015 | 42 | 22'-6" | | | | FOOTING - BOT. TRANS. PIER 11 |
| P7016 | 42 | 22'-6" | | | | FOOTING - TOP TRANS. PIER 11 |
| P11017 | 924 | 19'-6" | | X | X | SHAFT - VERTICAL DOWEL |
| P11018 | 68 | 44'-9" | | | X | SHAFT - VERTICAL PIER 1 |
| P11019 | 68 | 37'-6" | | | X | SHAFT - VERTICAL PIER 2 |
| P11020 | 68 | 24'-0" | | | X | SHAFT - VERTICAL PIER 2 |
| P11021 | 68 | 37'-6" | | | X | SHAFT - VERTICAL PIER 3 |
| P11022 | 68 | 22'-0" | | | X | SHAFT - VERTICAL PIER 3 |
| P11023 | 68 | 37'-6" | | | X | SHAFT - VERTICAL PIER 4 |
| P11024 | 68 | 27'-1" | | | X | SHAFT - VERTICAL PIER 4 |
| P11025 | 68 | 41'-9" | | | X | SHAFT - VERTICAL PIER 5 |
| P11026 | 68 | 37'-6" | | | X | SHAFT - VERTICAL PIER 6 |
| P11027 | 68 | 31'-1" | | | X | SHAFT - VERTICAL PIER 6 |
| P11028 | 68 | 37'-6" | | | X | SHAFT - VERTICAL PIER 7 |
| P11029 | 68 | 21'-8" | | | X | SHAFT - VERTICAL PIER 7 |
| P4030 | 592 | 14'-0" | | | X | SHAFT - HORIZ. PIERS 1-7 |
| P4031 | 880 | 7'-3" | | X | X | SHAFT - HORIZ. PIERS 1-4, 6, 7, 9-11 |
| P4032 | 248 | 7'-9" | | X | X | SHAFT - HORIZ. PIERS 5, 8 |
| P4033 | 2460 | 5'-2" | | X | X | SHAFT - HORIZ. TIES PIERS 1-4, 6, 7, 9-11 |
| P4034 | 832 | 5'-8" | | X | X | SHAFT - HORIZ. TIES PIERS 5, 8 |
| P4035 | 220 | 7'-9" | | X | X | SHAFT - BASE HORIZ. PIERS 1-4, 6, 7, 9-11 |
| P4036 | 62 | 8'-3" | | X | X | SHAFT - BASE HORIZ. PIERS 5, 8 |
| P4037 | 154 | 14'-6" | | X | X | SHAFT - BASE HORIZ. PIERS 1-7 |
| P4038 | 138 | 12'-3" | | | X | SHAFT - BASE VERT. PIERS 1, 3, 7, 8 |
| P4039 | 78 | 14'-3" | | | X | SHAFT - BASE VERT. PIERS 2, 4, 6 |
| P4040 | 74 | 10'-9" | | | X | SHAFT - BASE VERT. PIERS 5, 9 |
| P11041 | 148 | 37'-6" | | | X | SHAFT - VERTICAL PIER 8 |
| P11042 | 148 | 24'-11" | | | X | SHAFT - VERTICAL PIER 8 |
| P4043 | 176 | 15'-7" | | | X | SHAFT - HORIZ. PIER 8 |
| P4044 | 40 | 16'-1" | | | X | SHAFT - BASE HORIZ. PIER 8 |
| P11045 | 108 | 39'-11" | | | X | SHAFT - VERTICAL PIER 9 |
| P4046 | 136 | 12'-2" | | | X | SHAFT - HORIZ. PIER 9 |
| P4047 | 36 | 12'-8" | | | X | SHAFT - BASE HORIZ. PIER 9 |
| P11048 | 100 | 37'-1" | | | X | SHAFT - VERTICAL PIER 10 |
| P4049 | 124 | 11'-2" | | | X | SHAFT - HORIZ. PIER 10 |
| P4050 | 28 | 11'-8" | | | X | SHAFT - BASE HORIZ. PIER 10 |
| P4051 | 44 | 8'-9" | | | X | SHAFT - BASE VERT. PIER 10 |
| P11052 | 92 | 30'-5" | | | X | SHAFT - VERTICAL PIER 11 |
| P4053 | 100 | 10'-4" | | | X | SHAFT - HORIZ. PIER 11 |
| P4054 | 24 | 10'-10" | | | X | SHAFT - BASE HORIZ. PIER 11 |
| P4055 | 44 | 6'-9" | | | X | SHAFT - BASE VERT. PIER 11 |
| P11056 | 231 | 46'-2" | | X | X | CAP - TOP LONGIT. PIERS 1-7 |
| P7057 | 98 | 41'-5" | | | X | CAP - LONGIT. PIERS 1-7 |
| P7058 | 98 | 28'-10" | X | | X | CAP - LONGIT. PIERS 1-7 |
| P6059 | 142 | 15'-5" | | | X | CAP - LONGIT. PIERS 1-7 |
| P6060 | 71 | 14'-5" | | | X | CAP - LONGIT. PIERS 1-7 |
| P6061 | 576 | 21'-2" | X | X | X | CAP - VERT. STIRRUPS PIERS 1-4, 6, 7 |
| P6062 | 24 | 16'-4" | | X | X | CAP - VERT. STIRRUPS CAP END PIERS 1-4, 6, 7 |
| P4063 | 158 | 28'-10" | | X | X | CAP - VERT. STIRRUPS PIERS 1-4, 6, 7, 9-11 |
| P7064 | 198 | 15'-3" | | X | X | CAP - HORIZ. ENDS PIERS 1-4, 6, 7, 9-11 |
| P4065 | 42 | 41'-0" | | | X | CAP - BEAM SEAT HORIZ. PIERS 1-7 |
| P4066 | 14 | 21'-7" | | | X | CAP - BEAM SEAT HORIZ. PIERS 1-7 |
| P5067 | 421 | 11'-8" | | X | X | CAP - BEAM SEAT VERT. PIERS 1-4, 6, 7, 9-11 |
| P4068 | 702 | 4'-7" | | | X | CAP - LONGIT. PIERS 1-4, 6, 7, 9-11 |
| P5069 | 86 | 2'-0" | | | X | CAP - DIAPHRAGM DOWELS PIERS 2, 3, 10 |
| P6070 | 96 | 21'-10" | X | X | X | CAP - VERT. STIRRUPS PIER 5 |
| P6071 | 8 | 17'-0" | | X | X | CAP - VERT. STIRRUPS CAP END PIERS 5, 8 |
| P4072 | 49 | 29'-10" | | X | X | CAP - VERT. STIRRUPS PIERS 5, 8 |
| P7073 | 55 | 15'-8" | | X | X | CAP - HORIZ. ENDS PIERS 5, 8 |
| P5074 | 130 | 11'-10" | | X | X | CAP - BEAM SEAT VERT. PIERS 5, 8 |
| P4075 | 177 | 5'-1" | | | X | CAP - LONGIT. PIERS 5, 8 |
| P11076 | 30 | 48'-8" | | X | X | CAP - TOP LONGIT. PIER 8 |
| P11077 | 30 | 50'-2" | | X | X | CAP - TOP LONGIT. PIER 8 |
| P7078 | 16 | 46'-5" | | | X | CAP - LONGIT. PIER 8 |
| P7079 | 36 | 31'-2" | X | | X | CAP - LONGIT. PIER 8 |
| P7080 | 16 | 47'-11" | | | X | CAP - LONGIT. PIER 8 |
| P6081 | 44 | 16'-10" | | X | X | CAP - LONGIT. PIER 8 |
| P6082 | 22 | 16'-0" | | | X | CAP - LONGIT. PIER 8 |
| P6083 | 248 | 21'-10" | X | X | X | CAP - VERT. STIRRUPS PIER 8 |
| P6084 | 6 | 16'-10" | | X | X | CAP - VERT. STIRRUPS PIER 8 |
| P4085 | 2 | 27'-0" | | | X | CAP - BEAM SEAT HORIZ. PIER 8 |
| P4086 | 6 | 42'-0" | | | X | CAP - BEAM SEAT HORIZ. PIER 8 |
| P4087 | 2 | 17'-0" | | | X | CAP - BEAM SEAT HORIZ. PIER 8 |
| P4088 | 30 | 25'-2" | | | X | CAP - BEAM SEAT HORIZ. PIER 8 |
| P4089 | 6 | 19'-3" | | | X | CAP - BEAM SEAT HORIZ. PIER 8 |
| P6090 | 199 | 10'-0" | | | X | CAP - CONST. JT. DOWELS PIERS 8-11 |
| P4091 | 37 | 3'-4" | | | X | CAP - CONST. JT. DOWELS PIERS 8-11 |
| P11092 | 28 | 38'-5" | | X | X | CAP - TOP LONGIT. PIER 9 |
| P11093 | 28 | 39'-11" | | X | X | CAP - TOP LONGIT. PIER 9 |
| P7094 | 16 | 36'-2" | | | X | CAP - LONGIT. PIER 9 |
| P7095 | 16 | 37'-8" | | | X | CAP - LONGIT. PIER 9 |
| P7096 | 36 | 24'-1" | X | | X | CAP - LONGIT. PIER 9 |
| P6097 | 20 | 12'-7" | | | X | CAP - LONGIT. PIER 9 |
| P6098 | 40 | 13'-8" | | X | X | CAP - LONGIT. PIER 9 |
| P6099 | 192 | 21'-2" | X | X | X | CAP - VERT. STIRRUPS PIER 9 |
| P6100 | 6 | 16'-2" | | X | X | CAP - VERT. STIRRUPS PIER 9 |
| P6101 | 12 | 16'-2" | | X | X | CAP - VERT. STIRRUPS CAP END PIERS 9-11 |
| P4102 | 6 | 28'-3" | | | X | CAP - BEAM SEAT HORIZ. PIER 9 |
| P4103 | 2 | 17'-2" | | | X | CAP - BEAM SEAT HORIZ. PIER 9 |
| P4104 | 6 | 38'-4" | | | X | CAP - BEAM SEAT HORIZ. PIER 9 |
| P4105 | 2 | 33'-1" | | | X | CAP - BEAM SEAT HORIZ. PIER 9 |
| P4106 | 2 | 38'-4" | | | X | CAP - BEAM SEAT HORIZ. PIER 9 |
| P11107 | 17 | 35'-3" | | X | X | CAP - TOP LONGIT. PIER 10 |
| P11108 | 17 | 36'-9" | | X | X | CAP - TOP LONGIT. PIER 10 |
| P7109 | 16 | 33'-0" | | | X | CAP - LONGIT. PIER 10 |
| P7110 | 16 | 34'-6" | X | | X | CAP - LONGIT. PIER 10 |
| P7111 | 36 | 22'-5" | | | X | CAP - LONGIT. PIER 10 |
| P6112 | 40 | 12'-7" | | X | X | CAP - LONGIT. PIER 10 |
| P6113 | 20 | 11'-7" | | | X | CAP - LONGIT. PIER 10 |
| P6114 | 152 | 21'-2" | X | X | X | CAP - VERT. STIRRUPS PIER 10 |
| P6115 | 6 | 16'-2" | | X | X | CAP - VERT. STIRRUPS PIER 10 |
| P4116 | 6 | 24'-6" | | | X | CAP - BEAM SEAT HORIZ. PIER 10 |
| P4117 | 2 | 7'-0" | | | X | CAP - BEAM SEAT HORIZ. PIER 10 |
| P4118 | 8 | 35'-3" | | | X | CAP - BEAM SEAT HORIZ. PIER 10 |
| P11119 | 19 | 32'-9" | | X | X | CAP - TOP LONGIT. PIER 11 |
| P11120 | 19 | 34'-3" | | X | X | CAP - TOP LONGIT. PIER 11 |
| P7121 | 16 | 30'-6" | | | X | CAP - LONGIT. PIER 11 |
| P7122 | 16 | 32'-0" | | | X | CAP - LONGIT. PIER 11 |
| P7123 | 36 | 20'-4" | X | | X | CAP - LONGIT. PIER 11 |
| P6124 | 40 | 12'-0" | | X | X | CAP - LONGIT. PIER 11 |
| P6125 | 20 | 10'-9" | | | X | CAP - LONGIT. PIER 11 |
| P6126 | 168 | 21'-2" | X | X | X | CAP - VERT. STIRRUPS PIER 11 |
| P6127 | 6 | 16'-2" | | X | X | CAP - VERT. STIRRUPS PIER 11 |
| P4128 | 6 | 20'-6" | | | X | CAP - BEAM SEAT HORIZ. PIER 11 |
| P4129 | 6 | 32'-9" | | | X | CAP - BEAM SEAT HORIZ. PIER 11 |
| P6130 | 728 | 9'-0" | | X | | FOOTING - UPLIFT CONNECTION |
| P8131 | 361 | 14'-4" | | X | X | CAP - STEP VERT. PIERS 5 & 8 |
| P4132 | 7 | 42'-10" | | | X | CAP - STEP LONGIT. PIER 5 |
| P4133 | 10 | 24'-4" | | | X | CAP - STEP LONGIT. PIER 8 |
| P7134 | 48 | 3'-2" | | | X | CAP - STEP LONGIT. PIER 9 |

TOTAL WEIGHT COATED BARS= 608,920 LB
TOTAL WEIGHT UNCOATED BARS= 230,971 LB

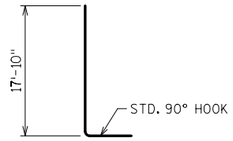



P11056

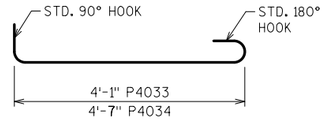



| MARK | L |
|---|---|
| P11076 | 47'-0" |
| P11077 | 48'-6" |
| P11092 | 36'-9" |
| P11093 | 38'-3" |
| P11107 | 33'-7" |
| P11108 | 35'-1" |
| P11119 | 31'-1" |
| P11120 | 32'-7" |

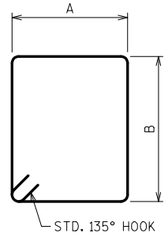
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P11017

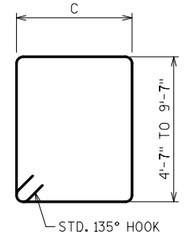



P4033, P4034



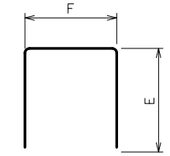

| MARK | A | B |
|---|---|---|
| P4063 | 4'-7" | 9'-7" |
| P6062 | 3'-1" | 4'-8" |
| P6071 | 3'-5" | 4'-8" |
| P4072 | 5'-1" | 9'-7" |
| P6084 | 3'-5" | 4'-7" |
| P6100 | 3'-1" | 4'-7" |
| P6101 | 3'-1" | 4'-7" |
| P6115 | 3'-1" | 4'-7" |
| P6127 | 3'-1" | 4'-7" |

P6062, P4063, P6071, P4072, P6084, P6100, P6101, P6115, P6127



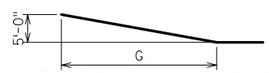

| MARK | C |
|---|---|
| P6061 | 3'-1" |
| P6070 | 3'-5" |
| P6083 | 3'-5" |
| P6099 | 3'-1" |
| P6114 | 3'-1" |
| P6126 | 3'-1" |

P6061, P6070, P6083, P6099, P6114, P6126




| MARK | E | F |
|---|---|---|
| P4031 | 1'-8" | 4'-1" |
| P4032 | 1'-8" | 4'-7" |
| P4035 | 1'-8" | 4'-7" |
| P4036 | 1'-8" | 5'-1" |
| P7064 | 5'-7" | 4'-4" |
| P5067 | 3'-8" | 4'-7" |
| P7073 | 5'-7" | 4'-10" |
| P5074 | 3'-8" | 5'-0" |
| P6130 | 3'-10" | 1'-8" |
| P8131 | 6'-3" | 2'-3" |

P4031, P4032, P4035, P4036, P7064, P5067, P7073, P5074, P6130, P8131




P6059, P6081, P6098, P6112, P6124

| MARK | G |
|---|---|
| P6059 | 13'-6" |
| P6081 | 15'-1" |
| P6098 | 11'-8" |
| P6112 | 10'-8" |
| P6124 | 9'-10" |

## BAR SERIES TABLE

| BAR MARK | NO. REQ'D | LENGTH |
|---|---|---|
| P7058 | 28 SERIES OF 9 | 16'-8" TO 40'-11" |
| P6061 | 24 SERIES OF | 16'-6" TO 26'-6" |
| P6070 | 4 SERIES OF 24 | 17'-2" TO 27'-2" |
| P7079 | 4 SERIES OF 9 | 16'-0" TO 43'-5" |
| P6083 | 8 SERIES OF 31 | 17'-2" TO 27'-2" |
| P7096 | 4 SERIES OF 9 | 14'-6" TO 34'-6" |
| P6099 | 8 SERIES OF 24 | 16'-6" TO 26'-6" |
| P7111 | 4 SERIES OF 9 | 13'-9" TO 31'-1" |
| P6114 | 8 SERIES OF 19 | 16'-6" TO 26'-6" |
| P7123 | 4 SERIES OF 9 | 12'-4" TO 28'-5" |
| P6126 | 8 SERIES OF 21 | 16'-6" TO 26'-6" |

## NOTES

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

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

STATE PROJECT NUMBER

1517-07-77

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

DRAWN BY JDL | PLANS CK'D. MKN

PIER BILL OF BARS

SHEET 30 OF 81
455

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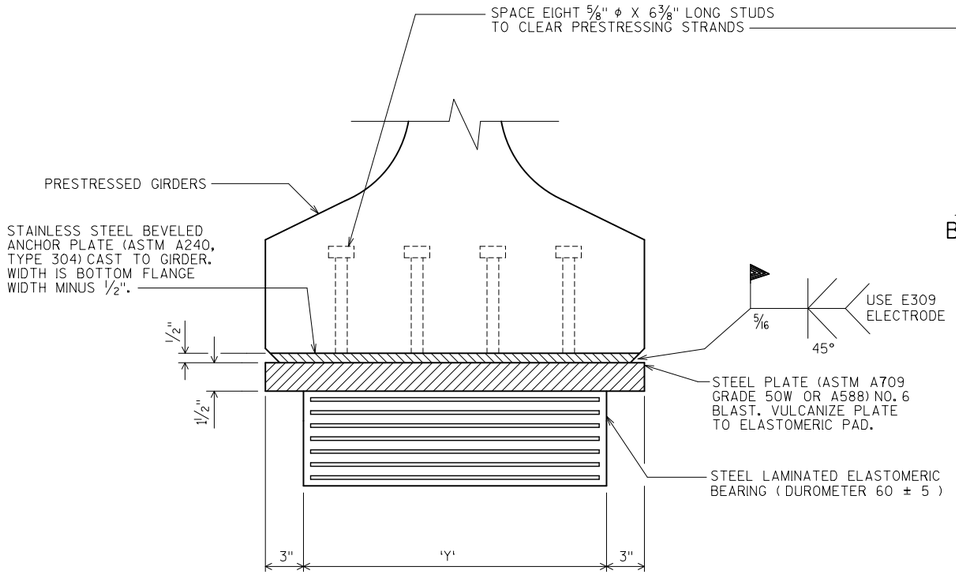
DATE: 1/29/2016
I.D. jon_liddgard

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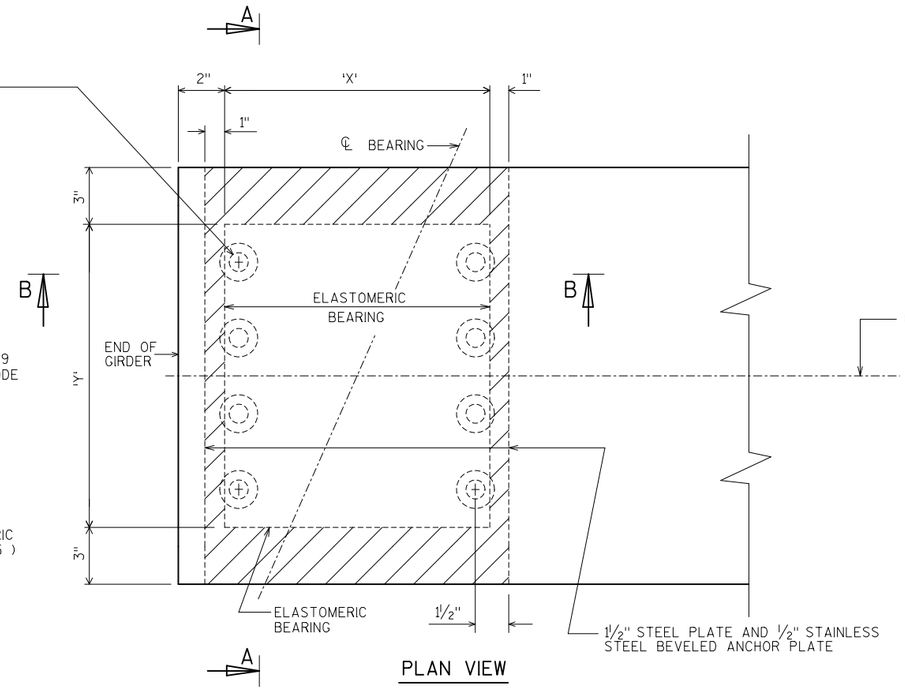
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STATE PROJECT NUMBER

1517-07-77




END VIEW




PLAN VIEW

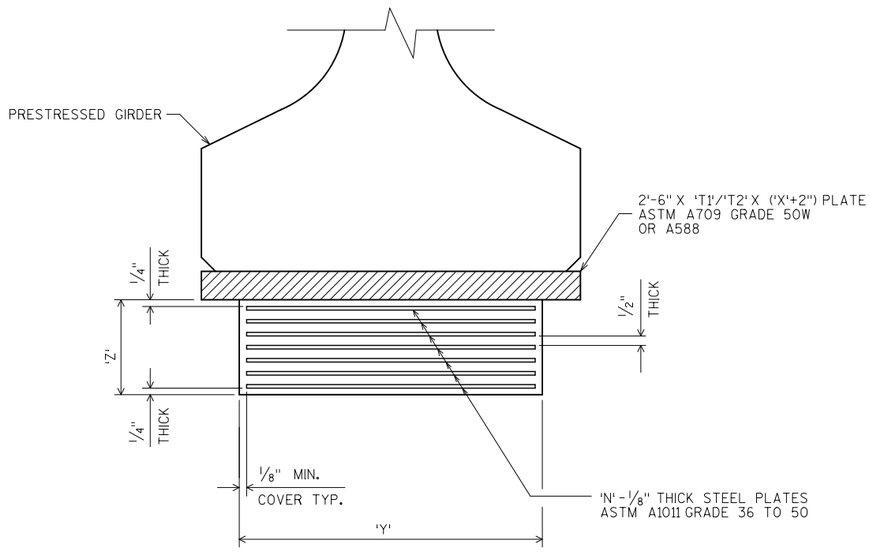
## BEARING NOTES

BEARINGS SHALL NOT BE PLACED AT A TEMPERATURE LESS THAN 5°OR GREATER THAN 85° F.

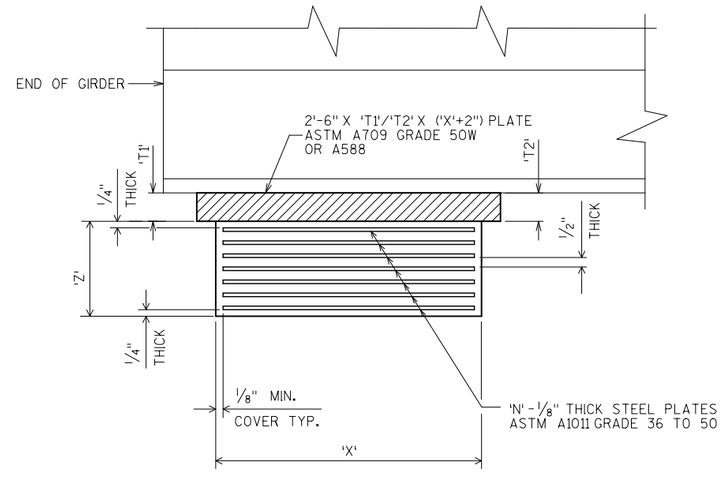
ALL MATERIAL USED FOR BEARINGS SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING PADS ELASTOMERIC LAMINATED", EACH.

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

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.




SECTION A-A




SECTION B-B

ELASTOMERIC BEARING PAD DIMENSIONS

| LOCATION | 'X' LENGTH | 'Y' WIDTH | 'Z' HEIGHT | 'N' NO. STEEL PLATES | 'T1' GIRDER END HEIGHT | 'T2' TAPERED END HEIGHT |
|---|---|---|---|---|---|---|
| WEST ABUT. | 1'-0" | 2'-0" | 3 3/4" | 8 | 1 1/2" | 1 3/4" |
| PIER 1 (WEST) | 1'-0" | 2'-0" | 3 1/8" | 5 | 1 1/2" | 1 3/4" |
| PIER 1 (EAST) | 1'-0" | 2'-0" | 3 1/8" | 5 | 1 1/2" | 1 3/4" |
| PIER 4 (WEST) | 1'-0" | 2'-0" | 3 1/8" | 5 | 1 1/2" | 1 5/8" |
| PIER 4 (EAST) | 1'-0" | 2'-0" | 3 1/8" | 5 | 1 1/2" | 1 5/8" |
| PIER 5 (WEST) | 1'-3" | 2'-0" | 5" | 8 | 1 1/2" | 1 5/8" |
| PIER 5 (EAST) | 1'-6" | 2'-0" | 5 5/8" | 9 | 1 1/2" | 1 5/8" |
| PIER 8 (WEST) | 1'-6" | 2'-0" | 5" | 8 | 1 1/2" | 1 5/8" |
| PIER 8 (EAST) | 1'-3" | 2'-0" | 4 3/8" | 7 | 1 1/2" | 1 5/8" |
| PIER 9 (WEST) | 1'-3" | 2'-0" | 3 1/8" | 5 | 1 1/2" | 1 3/4" |
| PIER 9 (EAST) | 1'-3" | 2'-0" | 3 1/8" | 5 | 1 1/2" | 1 3/4" |
| PIER 11 (WEST) | 1'-3" | 2'-0" | 3 1/8" | 5 | 1 1/2" | 1 3/4" |
| PIER 11 (EAST) | 1'-3" | 2'-0" | 3 1/8" | 5 | 1 1/2" | 1 3/4" |
| PIER 12 (WEST) | 1'-6" | 2'-0" | 4 3/8" | 7 | 1 1/2" | 1 7/8" |

8

8

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

DRAWN BY MKN | PLANS CK'D. MJA

ELASTOMERIC BEARINGS

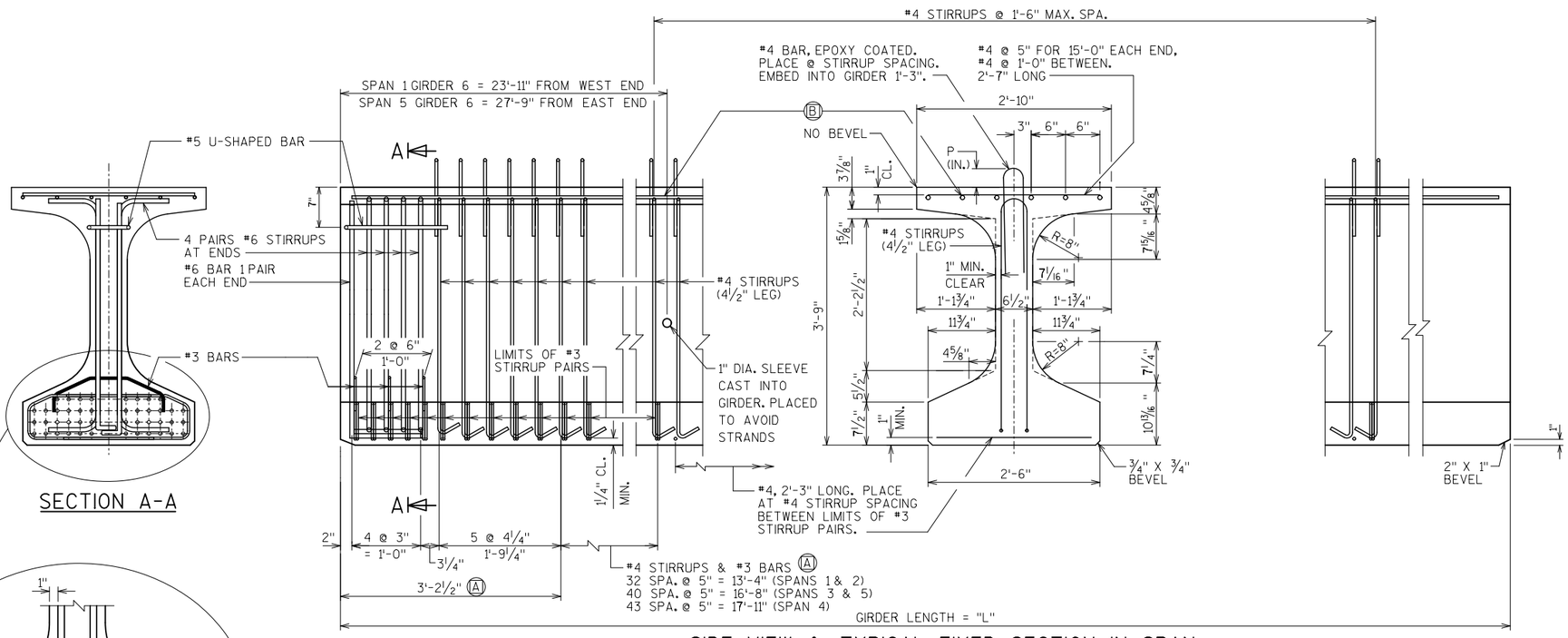
SHEET 40 OF 81
456

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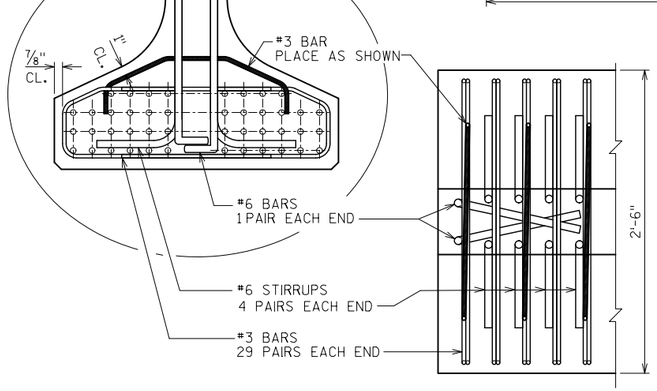
STATE PROJECT NUMBER

1517-07-77

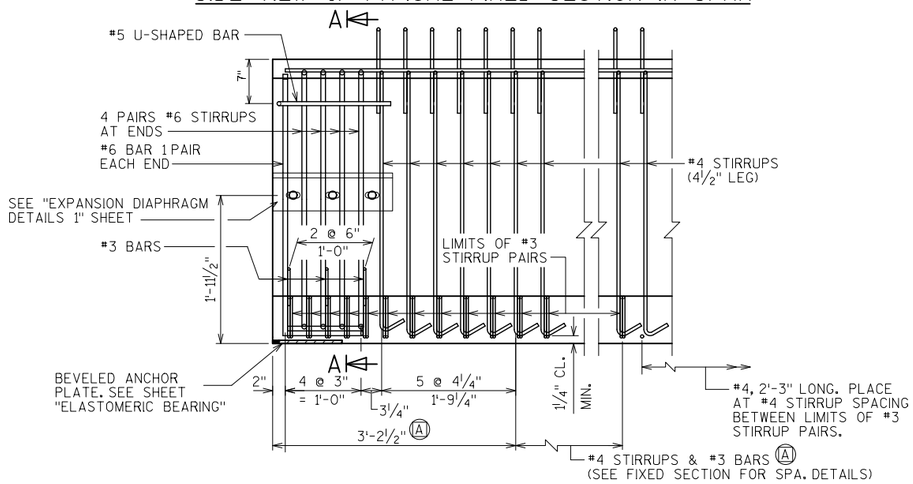


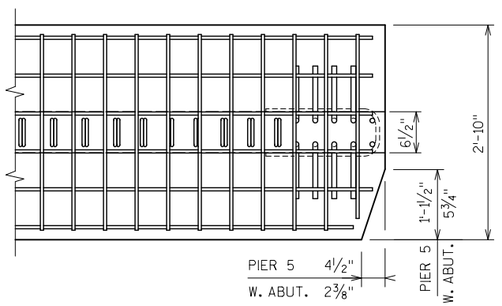

SECTION A-A

SIDE VIEW & TYPICAL FIXED SECTION IN SPAN




BOTTOM FLANGE

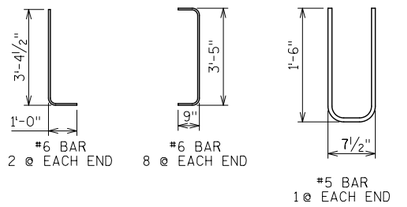


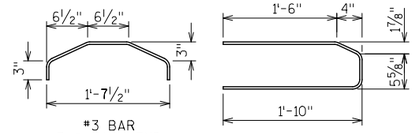




TOP FLANGE

SIDE VIEW & TYPICAL EXPANSION SECTION IN SPAN

| SPAN | GIRDER | GIRDER LENGTH "L" | GIRDER DATA: DEAD LOAD DEFLECTION (IN.) 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | CONC. STRENGTH f'c | "P" 1ST 1/3 OF GIRDER | "P" MID 1/3 OF GIRDER | "P" END 1/3 OF GIRDER | DIA. STRANDS | DRAPED TOTAL NO. OF | f'ci (PSI) * | "A" | "B" MIN | "B" MAX | "C" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 83'-0 3/8" | 0.24 | 0.46 | 0.67 | 0.75 | 0.79 | 0.75 | 0.63 | 0.45 | 0.23 | 8000 | 7 | 8 | 9 | 0.6 | 22 | 6800 | 41 | 12.4 | 15.4 | 2.9 |
| | 2 TO 5 | | 0.24 | 0.46 | 0.64 | 0.75 | 0.79 | 0.75 | 0.63 | 0.45 | 0.23 | | | | | | | | | | | |
| | 6 | | 0.27 | 0.53 | 0.73 | 0.86 | 0.90 | 0.85 | 0.72 | 0.52 | 0.26 | | | | | | | | | | | |
| 2 | 1 | 82'-3 3/8" | 0.22 | 0.43 | 0.59 | 0.70 | 0.74 | 0.70 | 0.59 | 0.43 | 0.22 | | | | | | 22 | | 41 | 12.4 | 15.4 | 2.9 |
| | 2 TO 5 | | 0.22 | 0.42 | 0.59 | 0.69 | 0.73 | 0.69 | 0.59 | 0.42 | 0.24 | | | | | | | | | | | |
| | 6 | | 0.22 | 0.42 | 0.59 | 0.69 | 0.73 | 0.69 | 0.59 | 0.42 | 0.22 | | | | | | | | | | | |
| 3 | 1 | 97'-8 7/8" | 0.45 | 0.88 | 1.22 | 1.44 | 1.51 | 1.44 | 1.22 | 0.88 | 0.45 | | | | | | 26 | | 41 | 12.6 | 15.6 | 3.1 |
| | 2 TO 5 | | 0.44 | 0.87 | 1.20 | 1.42 | 1.49 | 1.42 | 1.20 | 0.87 | 0.44 | | | | | | | | | | | |
| | 6 | | 0.45 | 0.87 | 1.19 | 1.42 | 1.49 | 1.40 | 1.20 | 0.87 | 0.44 | | | | | | | | | | | |
| 4 | 1 | 104'-8 7/8" | 0.59 | 1.16 | 1.60 | 1.89 | 1.98 | 1.89 | 1.63 | 1.15 | 0.59 | | | | | | 32 | | 40 | 12.6 | 15.6 | 3.5 |
| | 2 TO 5 | | 0.58 | 1.14 | 1.58 | 1.86 | 1.95 | 1.86 | 1.58 | 1.14 | 0.58 | | | | | | | | | | | |
| | 6 | | 0.58 | 1.14 | 1.58 | 1.86 | 1.96 | 1.86 | 1.58 | 1.14 | 0.58 | | | | | | | | | | | |
| 5 | 1 | 96'-2 5/8" | 0.43 | 0.84 | 1.19 | 1.39 | 1.47 | 1.40 | 1.20 | 0.81 | 0.45 | | | | | | 26 | | 41 | 12.6 | 15.6 | 3.1 |
| | 2 TO 5 | | 0.42 | 0.83 | 1.15 | 1.37 | 1.44 | 1.40 | 1.18 | 0.86 | 0.44 | | | | | | | | | | | |
| | 6 | | 0.42 | 0.83 | 1.16 | 1.37 | 1.45 | 1.38 | 1.18 | 0.86 | 0.44 | | | | | | | | | | | |




## NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

STRANDS SHALL BE FLUSH WITH END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE SEALER.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

PRESTRESSING STRANDS SHALL BE (0.6" DIA.)-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM DETAILS 45W" AND 54W" GIRDERS" SHEET.

(A) DETAIL TYP. AT EACH END

(B) 6 #4 BARS, FULL LENGTH, MIN. LAP = 1'-11"

* MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

DRAWN BY MKN | PLANS CK'D. JDB

45W" PRESTRESSED GIRDER DETAILS 1

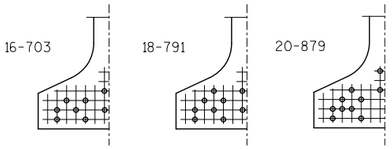
SHEET 41 OF 81
457

7-13
G45W

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DATE: 1/29/2016
I.D. jon_lidgard

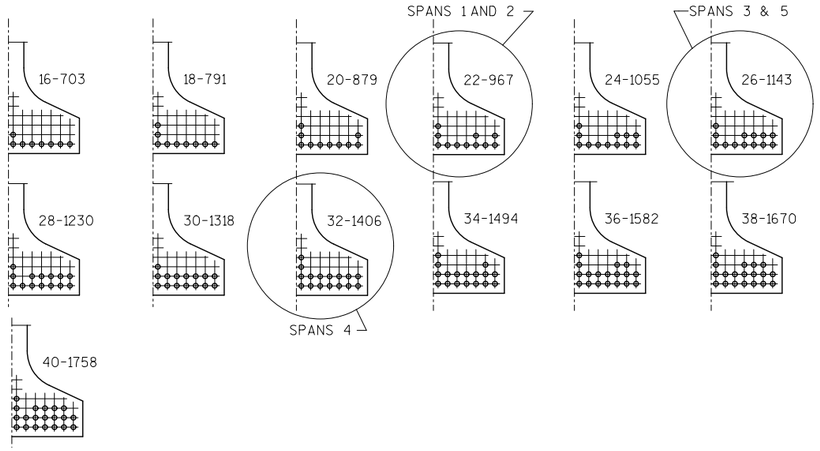
STATE PROJECT NUMBER

1517-07-77



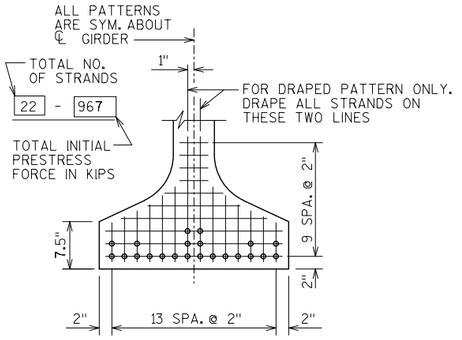

## STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY TO AVOID DRAPING OF STRANDS

0.6"ϕ STRANDS



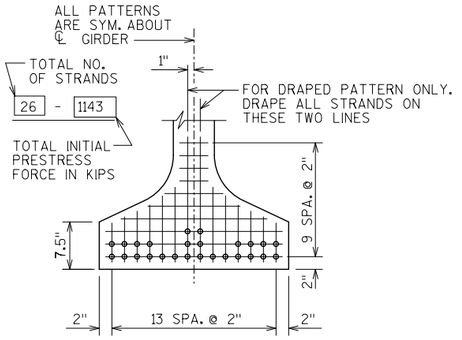

## ARRANGEMENT AT ℄ SPAN - FOR GIRDERS WITH DRAPED STRANDS

0.6"ϕ STRANDS



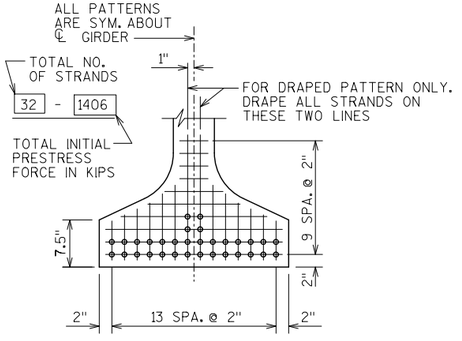

## TYP. STRAND PATTERN

SPANS 1 AND 2



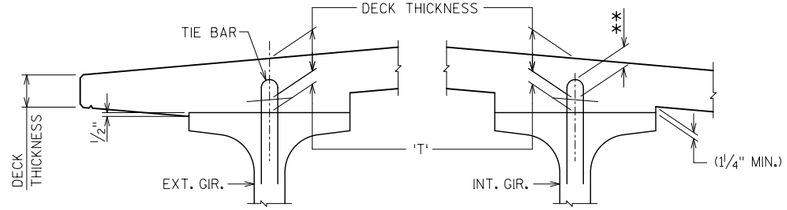

## TYP. STRAND PATTERN

SPANS 3 & 5




## TYP. STRAND PATTERN

SPAN 4




## DECK HAUNCH DETAIL

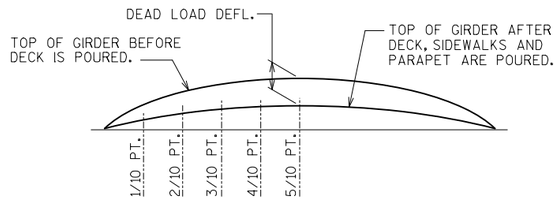
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

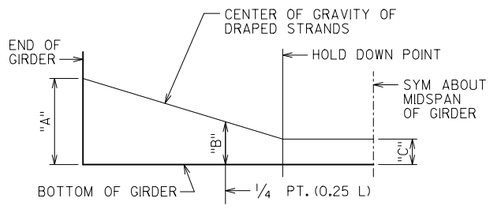
TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- DECK THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 2¾" WAS USED IN THE QUANTITY "MODIFIED HIGH PERFORMANCE CONCRETE (HPC) MASONRY BRIDGES".




## DEAD LOAD DEFLECTION DIAGRAM




## DRAPED STRAND PROFILE

*THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

| SPAN | CAMBER (IN.) * |
|---|---|
| 1 &2 | 1.54 |
| 3&5 | 2.21 |
| 4 | 3.07 |

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

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45W" PRESTRESSED GIRDER DETAILS 2

SHEET 458 OF 81

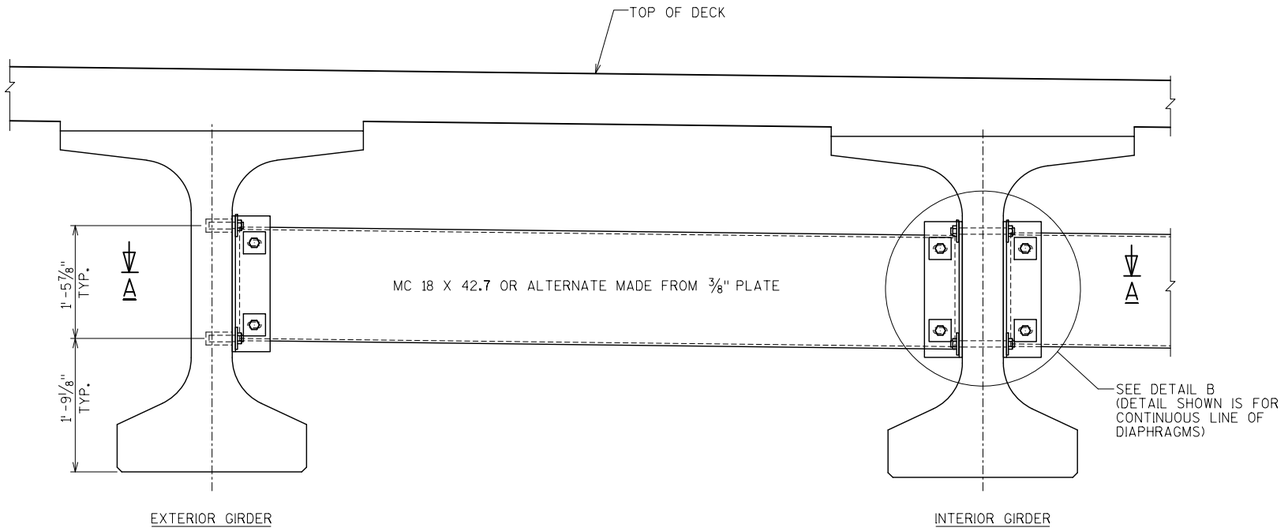
DATE: 1/29/2016
I.D. jon.liggard

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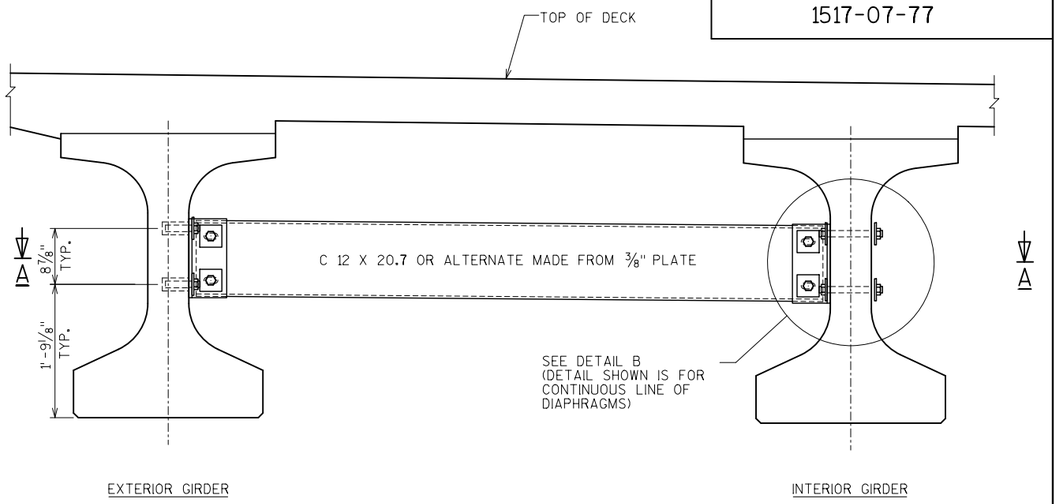
G45W
7-13

STATE PROJECT NUMBER

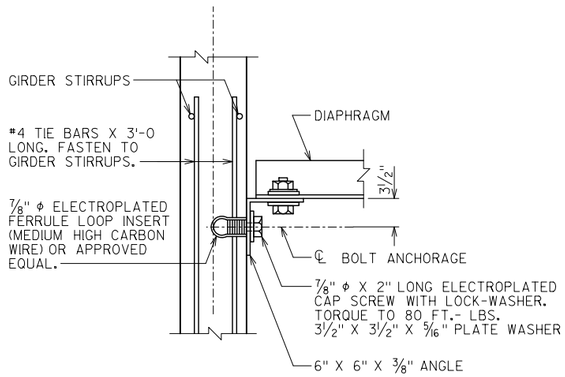
1517-07-77




GIRDER 54W PART TRANSVERSE SECTION AT DIAPHRAGM

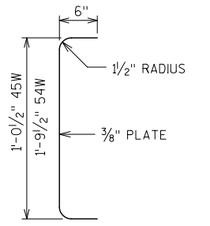



GIRDER 45W PART TRANSVERSE SECTION AT DIAPHRAGM

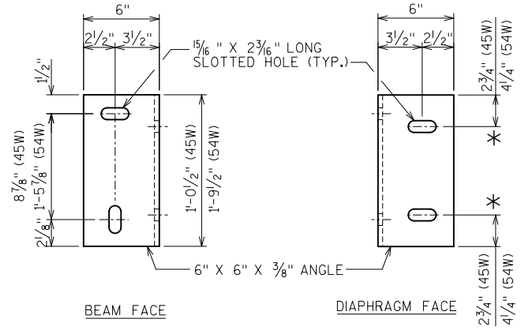



SECTION A-A

(FOR EXTERIOR ATTACHMENT)




SECTION THRU ALTERNATE DIAPHRAGM




DIAPHRAGM SUPPORT

✳ 2½" FOR ALTERNATE PLATE DIAPHRAGM

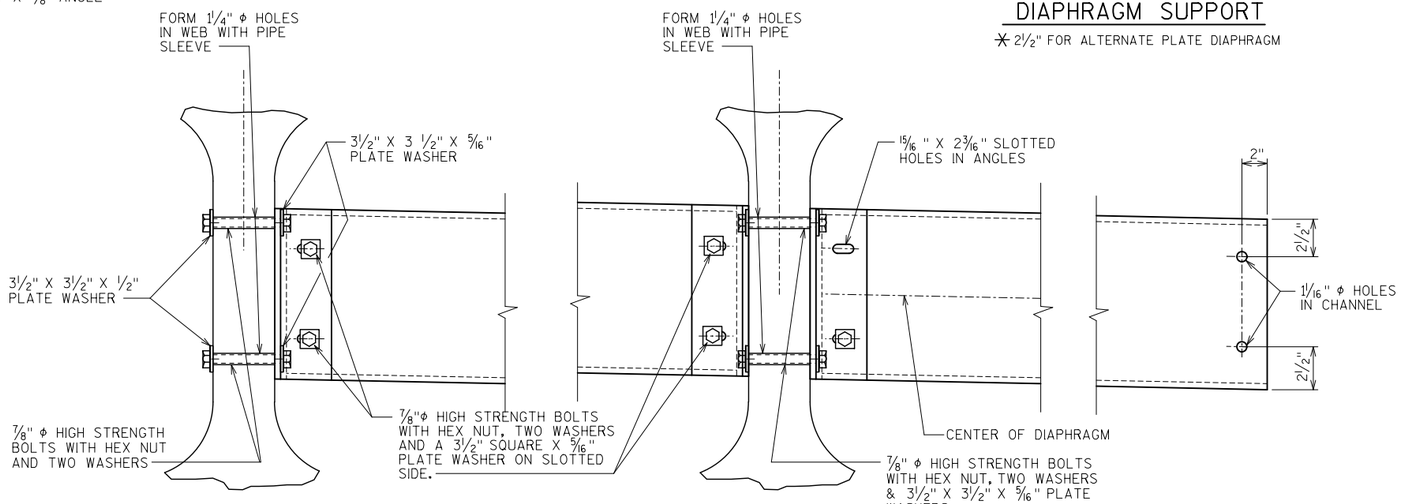
## NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-70-401", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.




DETAIL B

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

| DRAWN BY | MKN | PLANS CK'D. | JDB |
|---|---|---|---|

STEEL DIAPHRAGM DETAILS 45W" AND 54W" GIRDERS

SHEET 13 OF 81
459

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7-13

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DATE: 1/29/2016
I.D. jon.lidgard

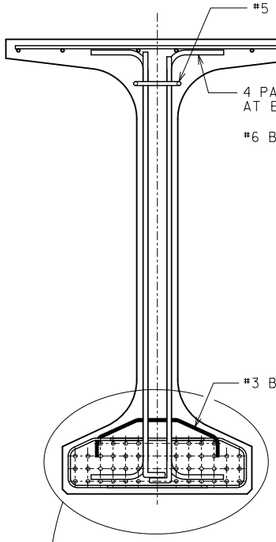
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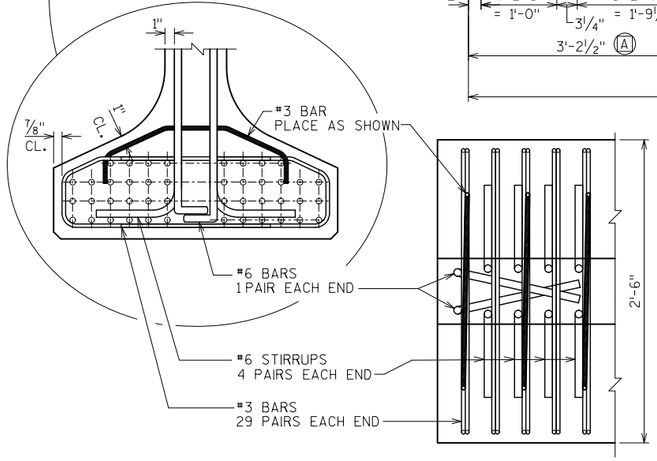
STATE PROJECT NUMBER

1517-07-77

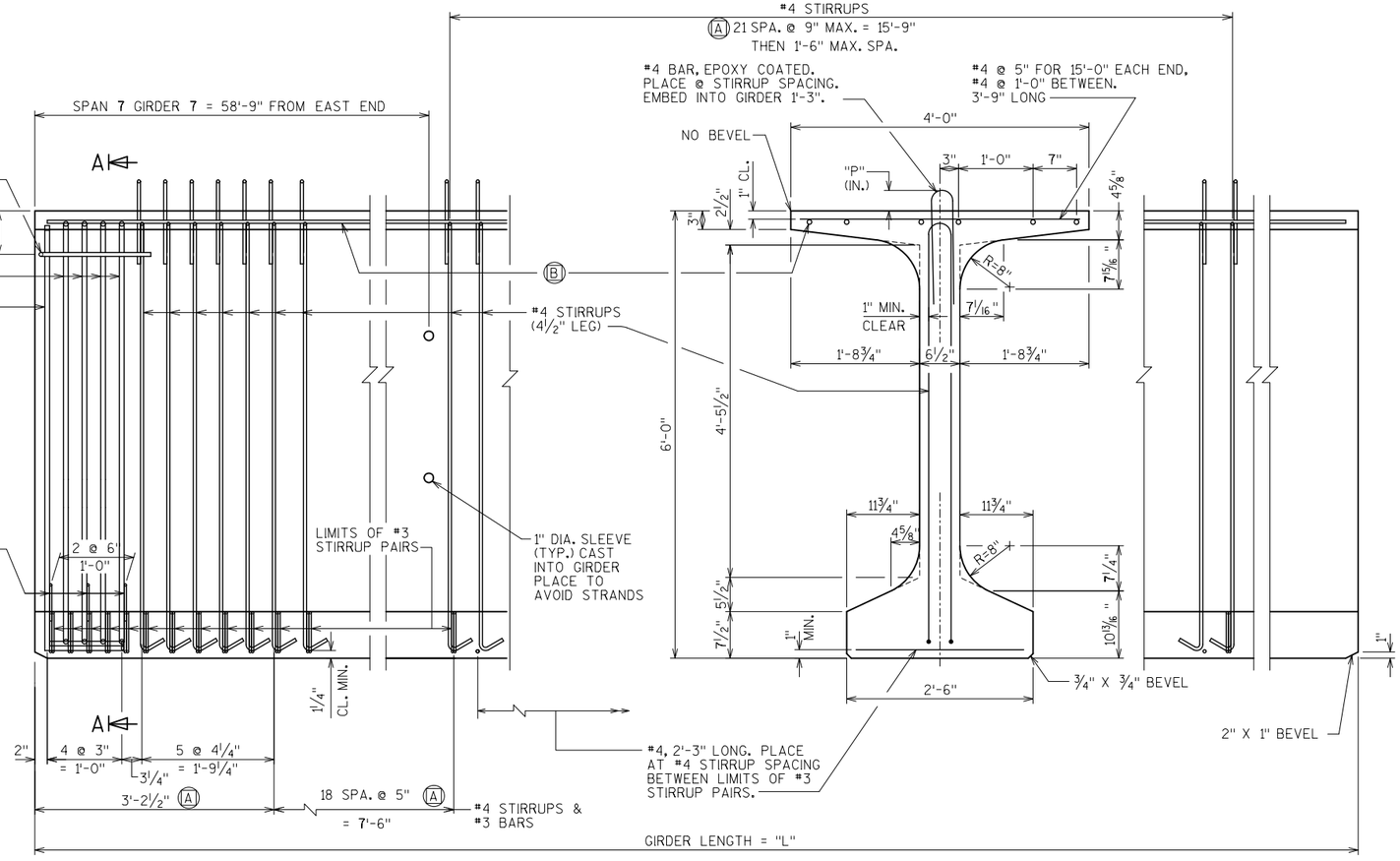
## TOP FLANGE



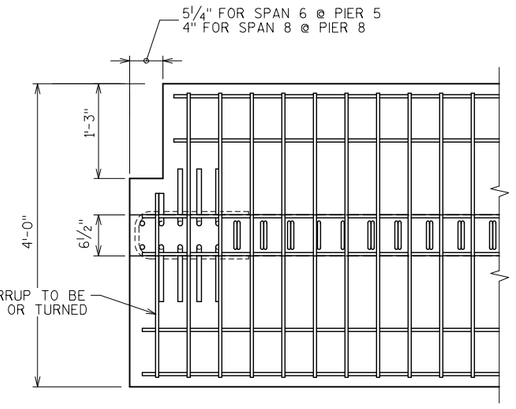

## SECTION A-A




## BOTTOM FLANGE




## SIDE VIEW & TYP. FIXED SECTION IN SPAN




## TOP FLANGE

(SPANS 6 AND 8 ONLY)
NO BLOCK OUT FOR SPAN 7
BLOCKOUT TO ALLOW DECK TO DIAPHRAGM STEEL REINFORCEMENT
SEE "EXPANSION DIAPHRAGM DETAILS 2"

## NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 15" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 15" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

STRANDS SHALL BE FLUSH WITH END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, GRADE 2, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE SEALER.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

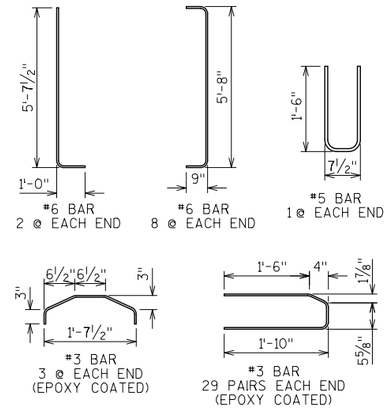
PRESTRESSING STRANDS SHALL BE (0.6" DIA.)-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM DETAILS FOR 72W" GIRDERS" SHEET.

FOR STORAGE, HANDLIND, AND TRANSPORTING, THIS GIRDER IS REINFORCED TO ALLOW A MAXIMUM OVERHANG FROM THE LIFTING LOCATION UP TO 1/10TH THE GIRDER LENGTH. THE CONTRACTOR IS RESPONSIBLE FOR LATERAL STABILITY OF THE GIRDER UNTIL THE DECK IS CURED.

(A) DETAIL TYP. AT EACH END

(B) 6 #4 BARS, FULL LENGTH, MIN. LAP = 1'-11"




GIRDER DATA

| SPAN | GIRDER | GIRDER LENGTH "L" | DEAD LOAD DEFLECTION (IN.) | | | | | | | | | CONC. STRENGTH F'c(KSI) | "P" 1ST 1/3 OF GIRDER | "P" MID 1/3 OF GIRDER | "P" END 1/3 OF GIRDER | DIA. STRANDS (IN.) | DRAPED | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | | | | | | TOTAL NO. OF | F'ci(PSI) * | "A" | "B" MIN | "B" MAX | "C" |
| 6 | 1 | 134'-6 5/8" | 0.50 | 0.96 | 1.32 | 1.55 | 1.62 | 1.54 | 1.30 | 0.94 | 0.49 | 8000 | 8 | 8 | 8 | 0.6 | 34 | 6800 | 67 | 19.5 | 22.5 | 3.7 |
| | 2 | 135'-4 1/2" | 0.45 | 0.87 | 1.19 | 1.40 | 1.46 | 1.39 | 1.18 | 0.85 | 0.44 | 8000 | 8 | 8 | 8 | 0.6 | 34 | 6800 | 67 | 19.5 | 22.5 | 3.7 |
| | 3 | 136'-1 1/4" | 0.46 | 0.89 | 1.22 | 1.43 | 1.50 | 1.42 | 1.20 | 0.87 | 0.45 | 8000 | 8 | 8 | 8 | 0.6 | 34 | 6800 | 67 | 19.5 | 22.5 | 3.7 |
| | 4 | 137'-0" | 0.47 | 0.91 | 1.25 | 1.47 | 1.54 | 1.46 | 1.23 | 0.89 | 0.46 | 8000 | 8 | 8 | 8 | 0.6 | 34 | 6800 | 67 | 19.5 | 22.5 | 3.7 |
| | 5 | 137'-9 7/8" | 0.49 | 0.93 | 1.28 | 1.50 | 1.57 | 1.49 | 1.26 | 0.91 | 0.47 | 8000 | 8 | 8 | 8 | 0.6 | 34 | 6800 | 67 | 19.5 | 22.5 | 3.7 |
| | 6 | 138'-7 3/4" | 0.50 | 0.96 | 1.31 | 1.54 | 1.61 | 1.53 | 1.29 | 0.93 | 0.48 | 8000 | 8 | 8 | 8 | 0.6 | 34 | 6800 | 67 | 19.5 | 22.5 | 3.7 |
| | 7 | 139'-5 3/8" | 0.51 | 0.98 | 1.35 | 1.58 | 1.67 | 1.57 | 1.33 | 0.96 | 0.50 | 8000 | 8 | 8 | 8 | 0.6 | 34 | 6800 | 67 | 19.5 | 22.5 | 3.7 |
| 7 | 1 & 7 | 139'-9" | 0.49 | 0.90 | 1.29 | 1.51 | 1.59 | 1.51 | 1.29 | 0.95 | 0.50 | 8000 | 8 | 8 | 8 | 0.6 | 34 | 6800 | 67 | 19.5 | 22.5 | 3.7 |
| | 2 TO 6 | 139'-9" | 0.48 | 0.92 | 1.26 | 1.47 | 1.55 | 1.48 | 1.26 | 0.93 | 0.49 | 8000 | 8 | 8 | 8 | 0.6 | 34 | 6800 | 67 | 19.5 | 22.5 | 3.7 |
| 8 | 1 & 7 | 157'-4 1/2" | 0.82 | 1.59 | 2.21 | 2.61 | 2.75 | 2.63 | 2.24 | 1.64 | 0.86 | 8000 | 8 | 8 | 8 | 0.6 | 44 | 6800 | 67 | 19.9 | 22.9 | 4.2 |
| | 2 TO 6 | 157'-4 1/2" | 0.80 | 1.56 | 2.15 | 2.55 | 2.69 | 2.57 | 2.20 | 1.60 | 0.84 | 8000 | 8 | 8 | 8 | 0.6 | 44 | 6800 | 67 | 19.9 | 22.9 | 4.2 |

* MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

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72W" PRESTRESSED GIRDER DETAILS 1

SHEET 44 OF 81
460

7-13
G72W

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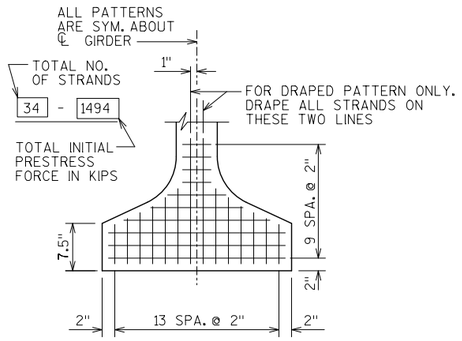
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I.D. jon.liggard

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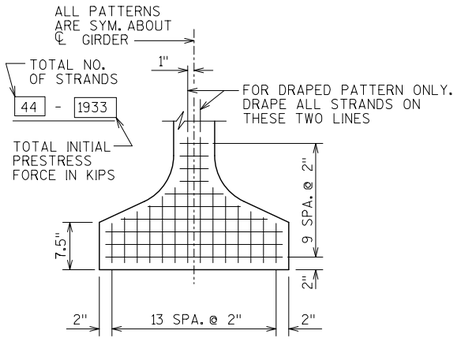
STATE PROJECT NUMBER

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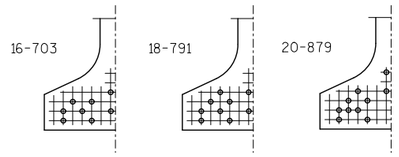

## TYP. STRAND PATTERN

SPANS 6 & 7



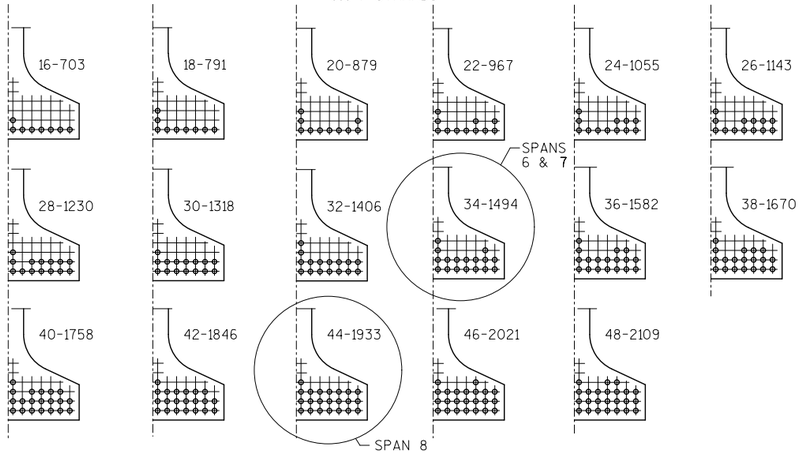

## TYP. STRAND PATTERN

SPAN 8



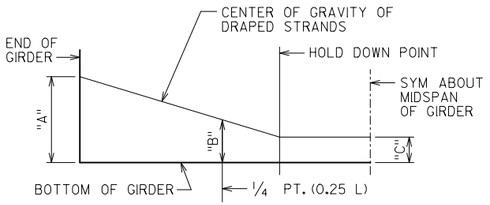

## STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY TO AVOID DRAPING OF STRANDS

0.6"Φ STRANDS




## ARRANGEMENT AT ℄ SPAN - FOR GIRDERS WITH DRAPED STRANDS

0.6"Φ STRANDS



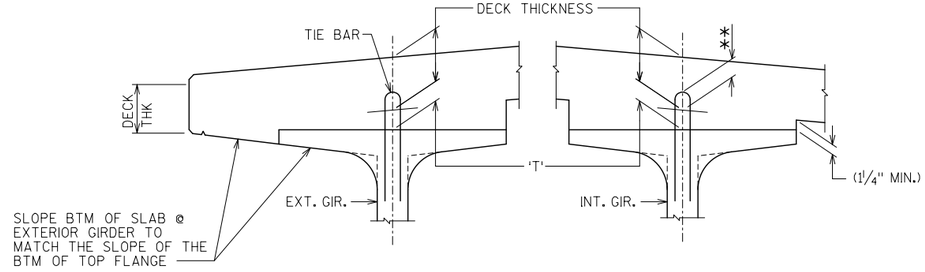

## DRAPED STRAND PROFILE

*THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

| SPAN | CAMBER (IN.) * |
|---|---|
| 6 | 2.42 (IN.) |
| 7 | 2.40 (IN.) |
| 8 | 3.94 (IN.) |
| | |
| | |

**THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.**

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.




## DECK HAUNCH DETAIL

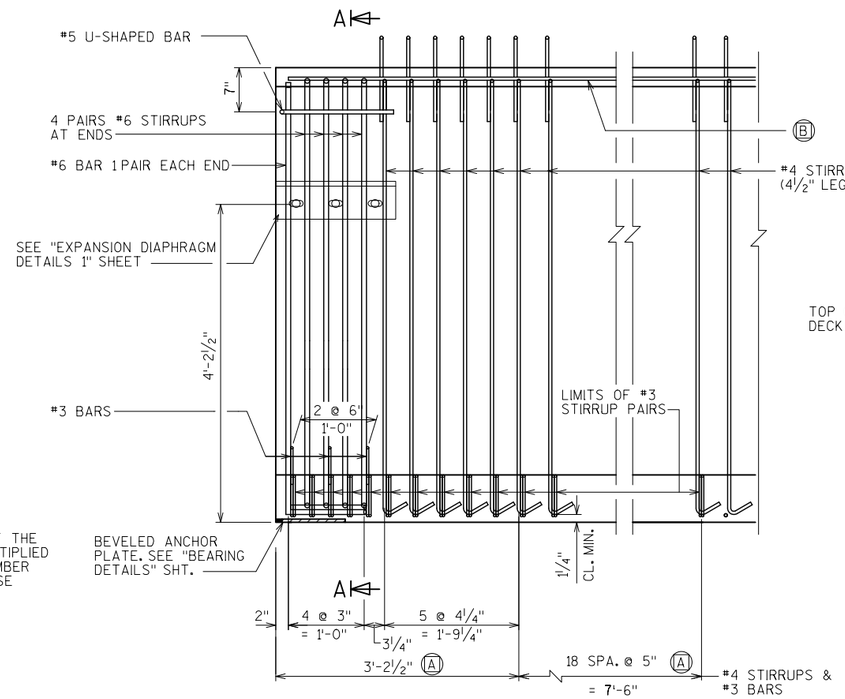
IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

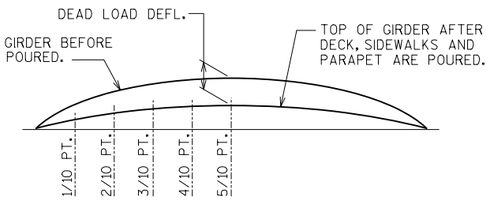
TOP OF DECK ELEV. AT FINAL GRADE
\- TOP OF GIRDER ELEVATION
\+ DEAD LOAD DEFLECTION
\- DECK THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3" WAS USED IN THE QUANTITY "MODIFIED HIGH PERFORMANCE CONCRETE (HPC) MASONRY BRIDGES".




## SIDE VIEW & TYP. EXPANSION SECTION IN SPAN

SEE "72W" PRESTRESSED GIRDER DETAILS 1" SHEET FOR REBAR AND SECTION A-A




## DEAD LOAD DEFLECTION DIAGRAM

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

DRAWN BY MKN | PLANS CK'D. JDB

72W" PRESTRESSED GIRDER DETAILS 2

SHEET 45 OF 81
461

C72W
7-13

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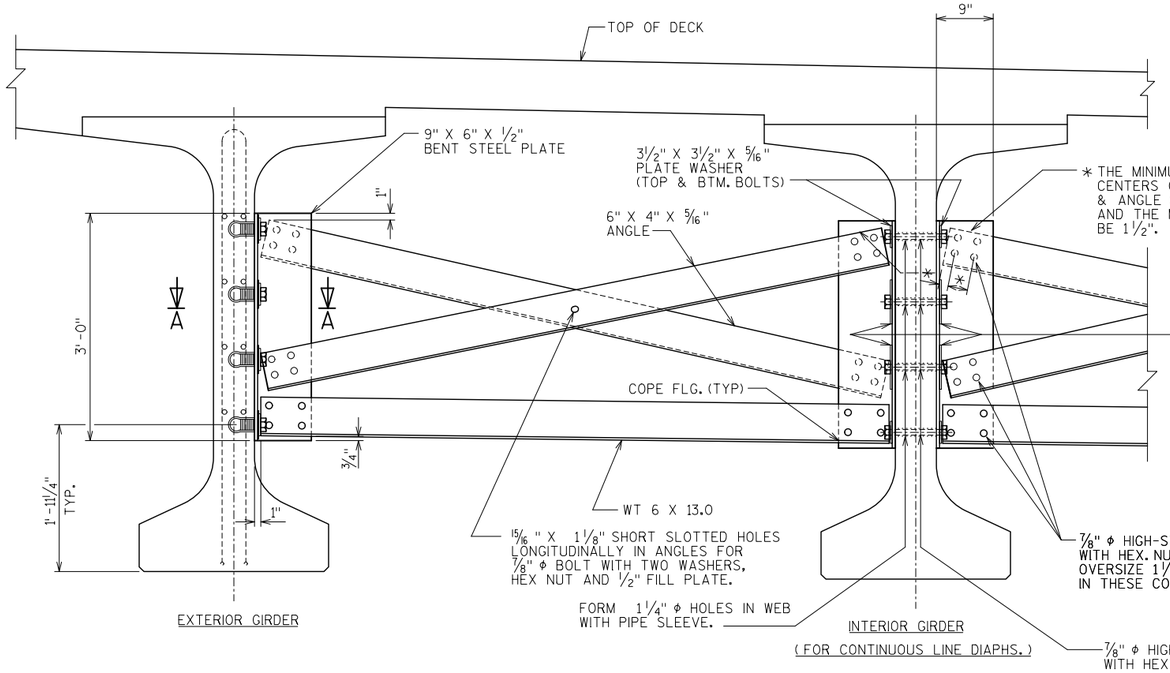
DATE: 1/29/2016
I.D. jon_lidgard

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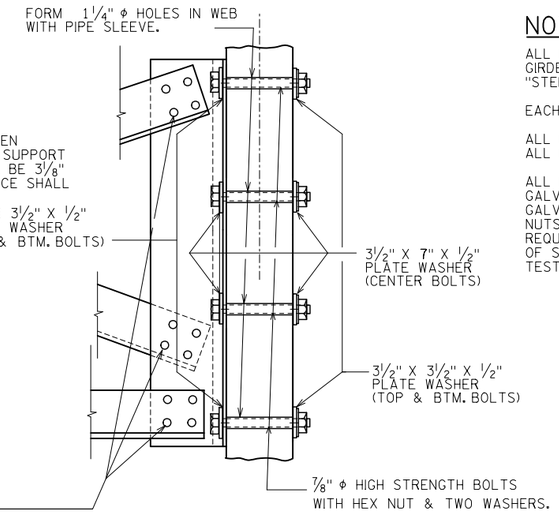
8
20

1 2 3 6 9

| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |




## PART TRANSVERSE SECTION AT DIAPHRAGM




## SECTION AT INTERIOR GIRDERS (FOR STAGGERED DIAPHRAGMS)

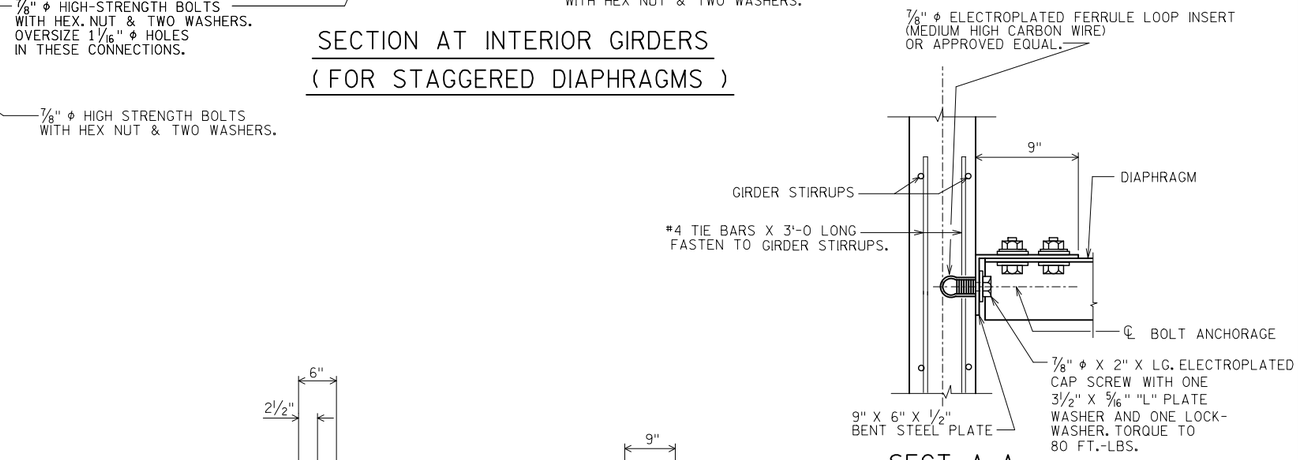
## NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-70-401", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

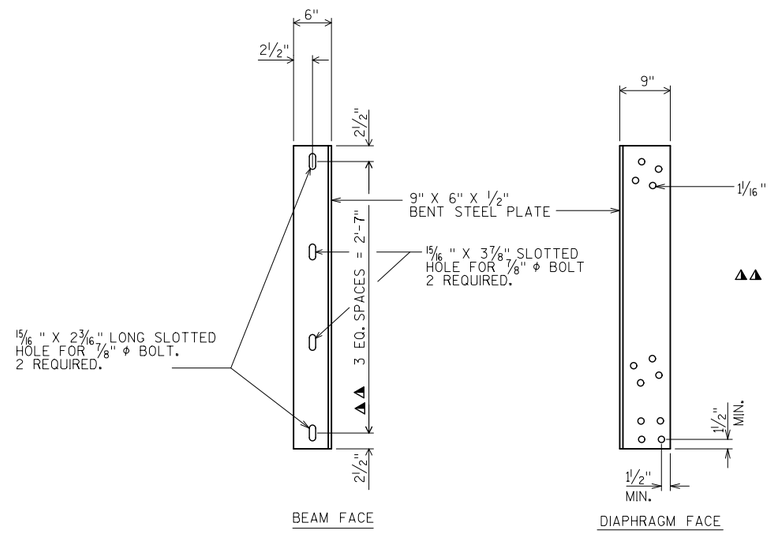
ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.




## SECT. A-A

(FOR EXTERIOR ATTACHMENT)

"L" = 3 1/2"; TOP AND BOTTOM BOLTS
"L" = 7"; CENTER BOLTS




▲▲ BOLT HOLES SHALL BE SPACED SO AS TO MISS PRESTRESSED STRANDS IN CONCRETE BEAMS.

## DIAPHRAGM SUPPORT

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

DRAWN BY MKN | PLANS CK'D. JDB

STEEL DIAPHRAGM DETAILS FOR 72W" GIRDERS

SHEET 46 OF 81
462

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\B-70-401\40 - 72W Intermediate Steel Diaphragm.dgn

DATE: 1/29/2016
I.D. jon_liggard

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1 2 4

7-13
GSTDIA70

STATE PROJECT NUMBER

1517-07-77

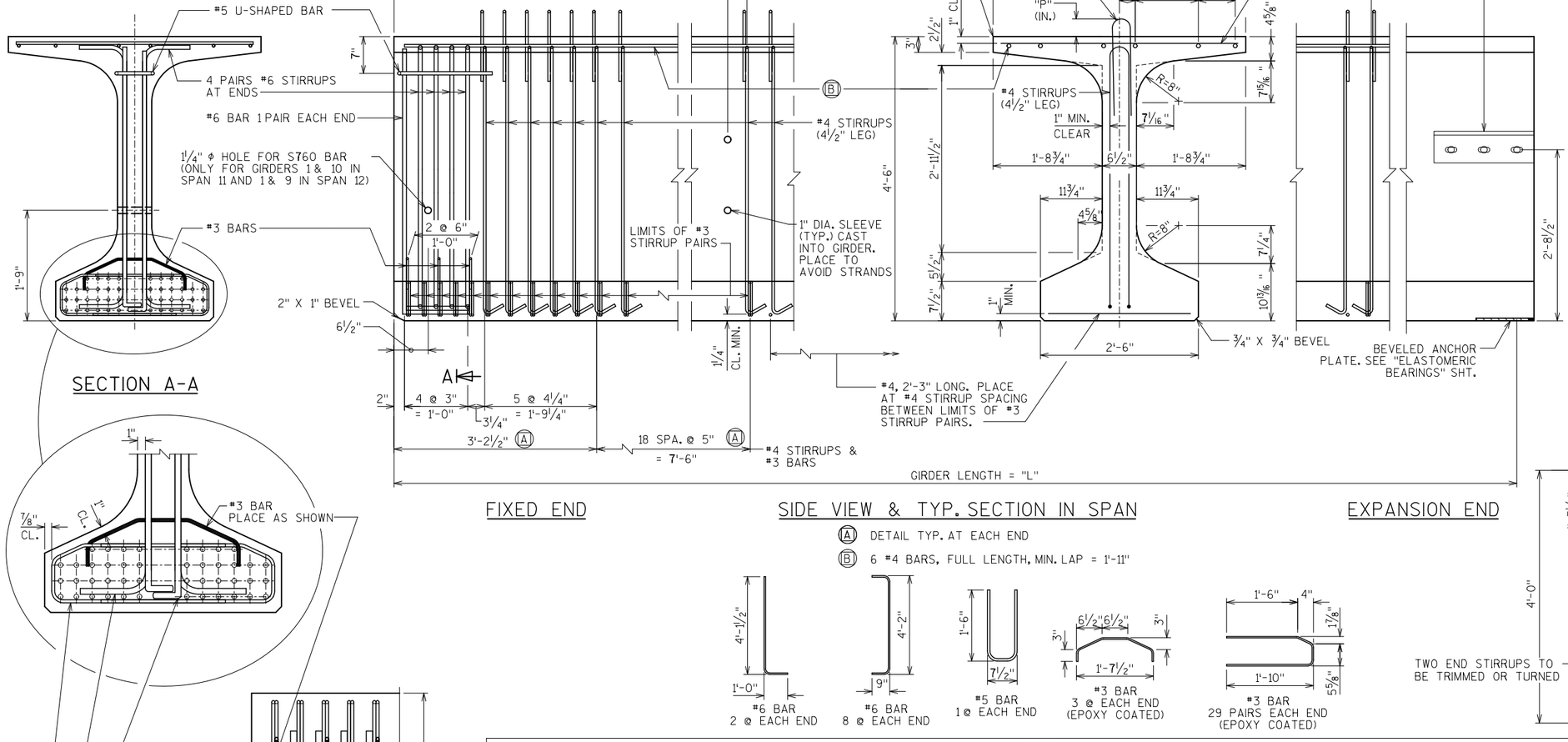
#4 STIRRUPS
(A) 18 SPA. @ 9" MAX. = 13'-6"
THEN 1'-6" MAX. SPA.

SPAN 10 GIRDER 11 = 46'-3" FROM WEST END
SPAN 11 GIRDER 10 = 40'-10" FROM EAST END
SPAN 12 GIRDERS 1 & 9 = 19'-8" FROM EAST END

#4 BAR, EPOXY COATED. PLACE @ STIRRUP SPACING. EMBED INTO GIRDER 1'-3".

#4 @ 5" FOR 15'-0" EACH END, #4 @ 1'-0" BETWEEN. 3'-9" LONG

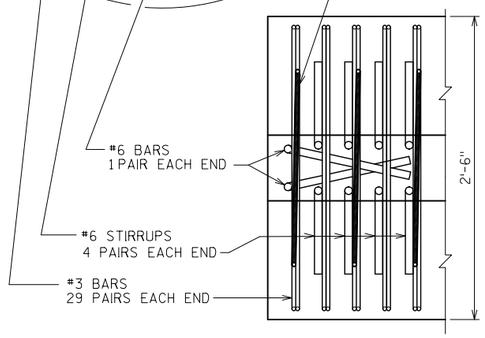
SEE "EXPANSION DIAPHRAGM DETIALS 1" SHEET




## SECTION A-A




FIXED END




BOTTOM FLANGE

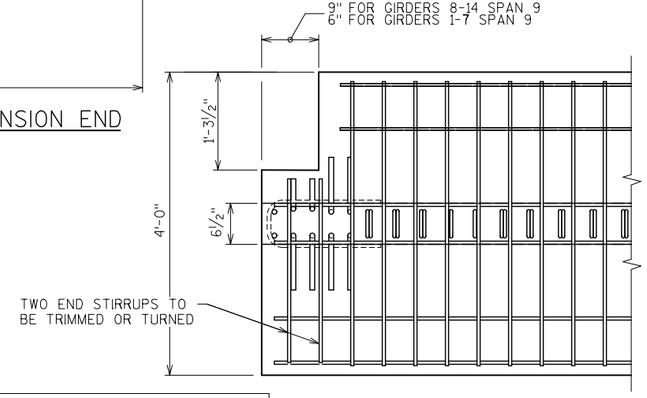
## SIDE VIEW & TYP. SECTION IN SPAN

(A) DETAIL TYP. AT EACH END

(B) 6 #4 BARS, FULL LENGTH, MIN. LAP = 1'-11"




EXPANSION END




## NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 15" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 15" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

STRANDS SHALL BE FLUSH WITH END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, GRADE 2, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE SEALER.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

PRESTRESSING STRANDS SHALL BE (0.6" DIA.)-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGM DETAILS 45W" AND 54W" GIRDERS" SHEET.

GIRDER DATA

| SPAN | GIRDER | GIRDER LENGTH "L" | DEAD LOAD DEFLECTION (IN.) 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | CONC. STRENGTH F'c(KSI) | "P" 1ST 1/3 OF GIRDER | "P" MID 1/3 OF GIRDER | "P" END 1/3 OF GIRDER | DIA. STRANDS (IN.) | DRAPED TOTAL NO. OF | F'c(PSI) | "A" | "B" MIN | "B" MAX | "C" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9 | 1 | 114'-7 7/8" | 0.40 | 0.77 | 1.05 | 1.23 | 1.31 | 1.23 | 1.05 | 0.77 | 0.40 | 8000 | 7 | 7 | 7 | 0.6 | 40 | 6800 | 49 | 15.3 | 18.3 | 4.0 |
| | 2 | 115'-10 7/8" | 0.46 | 0.87 | 1.20 | 1.40 | 1.50 | 1.40 | 1.20 | 0.87 | 0.46 | 8000 | 7 | 7 | 7 | 0.6 | 42 | 6800 | 49 | 15.3 | 18.3 | 4.1 |
| | 3 | 117'-2" | 0.48 | 0.91 | 1.25 | 1.47 | 1.56 | 1.47 | 1.25 | 0.91 | 0.48 | 8000 | 7 | 7 | 7 | 0.6 | 42 | 6800 | 49 | 15.3 | 18.3 | 4.1 |
| | 4 | 118'-5 1/8" | 0.50 | 0.95 | 1.30 | 1.53 | 1.63 | 1.53 | 1.30 | 0.95 | 0.50 | 8000 | 7 | 7 | 7 | 0.6 | 42 | 6800 | 49 | 15.3 | 18.3 | 4.1 |
| | 5 | 119'-8 1/4" | 0.53 | 0.99 | 1.36 | 1.60 | 1.70 | 1.60 | 1.36 | 0.99 | 0.53 | 8000 | 7 | 7 | 7 | 0.6 | 42 | 6800 | 49 | 15.3 | 18.3 | 4.1 |
| | 6 | 120'-11 3/8" | 0.55 | 1.04 | 1.42 | 1.66 | 1.76 | 1.66 | 1.42 | 1.04 | 0.55 | 8000 | 7 | 7 | 7 | 0.6 | 42 | 6800 | 49 | 15.3 | 18.3 | 4.1 |
| | 7 | 122'-2 3/8" | 0.57 | 1.08 | 1.48 | 1.73 | 1.85 | 1.73 | 1.48 | 1.08 | 0.57 | 8000 | 7 | 7 | 7 | 0.6 | 42 | 6800 | 49 | 15.3 | 18.3 | 4.1 |
| | 8 | 123'-6" | 0.59 | 1.13 | 1.54 | 1.81 | 1.93 | 1.81 | 1.54 | 1.13 | 0.59 | 8000 | 7 | 7 | 7 | 0.6 | 42 | 6800 | 49 | 15.3 | 18.3 | 4.1 |
| | 9 | 124'-10 3/8" | 0.62 | 1.18 | 1.61 | 1.89 | 2.02 | 1.89 | 1.61 | 1.18 | 0.62 | 8000 | 7 | 7 | 7 | 0.6 | 42 | 6800 | 49 | 15.3 | 18.3 | 4.1 |
| | 10 | 126'-2 3/4" | 0.65 | 1.23 | 1.68 | 1.97 | 2.11 | 1.97 | 1.68 | 1.23 | 0.65 | 8000 | 7 | 7 | 7 | 0.6 | 42 | 6800 | 49 | 15.3 | 18.3 | 4.1 |
| | 11 | 127'-7 | 0.68 | 1.28 | 1.76 | 2.06 | 2.20 | 2.06 | 1.76 | 1.28 | 0.68 | 8000 | 7 | 7 | 7 | 0.6 | 42 | 6800 | 49 | 15.3 | 18.3 | 4.1 |
| | 12 | 128'-10 5/8" | 0.71 | 1.34 | 1.83 | 2.15 | 2.29 | 2.15 | 1.83 | 1.34 | 0.71 | 8000 | 7 | 7 | 7 | 0.6 | 42 | 6800 | 49 | 15.3 | 18.3 | 4.1 |
| | 13 | 130'-1 7/8" | 0.73 | 1.39 | 1.90 | 2.23 | 2.38 | 2.23 | 1.90 | 1.39 | 0.73 | 8000 | 7 | 7 | 7 | 0.6 | 42 | 6800 | 49 | 15.3 | 18.3 | 4.1 |
| | 14 | 131'-4 3/8" | 0.76 | 1.44 | 1.98 | 2.32 | 2.47 | 2.32 | 1.98 | 1.44 | 0.76 | 8000 | 7 | 7 | 7 | 0.6 | 42 | 6800 | 49 | 15.3 | 18.3 | 4.1 |
| 10 | 1 TO 8 | 118'-6" | 0.51 | 0.96 | 1.31 | 1.54 | 1.66 | 1.54 | 1.31 | 0.96 | 0.51 | 8000 | 7 | 7 | 7 | 0.6 | 38 | 6800 | 49 | 15.2 | 18.2 | 3.9 |
| | 9 | 118'-6 1/4" | 0.51 | 0.96 | 1.31 | 1.54 | 1.66 | 1.54 | 1.31 | 0.96 | 0.51 | 8000 | 7 | 7 | 7 | 0.6 | 38 | 6800 | 49 | 15.2 | 18.2 | 3.9 |
| | 10 | 118'-7 1/8" | 0.51 | 0.96 | 1.32 | 1.55 | 1.66 | 1.55 | 1.32 | 0.96 | 0.51 | 8000 | 7 | 7 | 7 | 0.6 | 38 | 6800 | 49 | 15.2 | 18.2 | 3.9 |
| | 11 | 118'-8 1/2" | 0.51 | 0.96 | 1.32 | 1.55 | 1.67 | 1.55 | 1.32 | 0.96 | 0.51 | 8000 | 7 | 7 | 7 | 0.6 | 38 | 6800 | 49 | 15.2 | 18.2 | 3.9 |
| 11 | 1 TO 7 | 118'-6" | 0.51 | 0.96 | 1.31 | 1.54 | 1.66 | 1.54 | 1.31 | 0.96 | 0.51 | 8000 | 8 | 7 | 8 | 0.6 | 38 | 6800 | 49 | 15.2 | 18.2 | 3.9 |
| | 8 | 118'-6 1/8" | 0.51 | 0.96 | 1.31 | 1.54 | 1.66 | 1.54 | 1.31 | 0.96 | 0.51 | 8000 | 8 | 7 | 8 | 0.6 | 38 | 6800 | 49 | 15.2 | 18.2 | 3.9 |
| | 9 | 118'-6 5/8" | 0.51 | 0.96 | 1.32 | 1.54 | 1.66 | 1.54 | 1.32 | 0.96 | 0.51 | 8000 | 8 | 7 | 8 | 0.6 | 38 | 6800 | 49 | 15.2 | 18.2 | 3.9 |
| | 10 | 118'-7 3/8" | 0.51 | 0.96 | 1.32 | 1.55 | 1.66 | 1.55 | 1.32 | 0.96 | 0.51 | 8000 | 8 | 7 | 8 | 0.6 | 38 | 6800 | 49 | 15.2 | 18.2 | 3.9 |
| 12 | 1 TO 7 | 118'-6 5/8" | 0.51 | 0.96 | 1.32 | 1.55 | 1.66 | 1.55 | 1.32 | 0.96 | 0.51 | 8000 | 8 | 7 | 8 | 0.6 | 38 | 6800 | 49 | 15.2 | 18.2 | 3.9 |
| | 8 | 118'-6 7/8" | 0.51 | 0.96 | 1.32 | 1.55 | 1.66 | 1.55 | 1.32 | 0.96 | 0.51 | 8000 | 8 | 7 | 8 | 0.6 | 38 | 6800 | 49 | 15.2 | 18.2 | 3.9 |
| | 9 | 118'-7 1/8" | 0.51 | 0.96 | 1.32 | 1.55 | 1.66 | 1.55 | 1.32 | 0.96 | 0.51 | 8000 | 8 | 7 | 8 | 0.6 | 38 | 6800 | 49 | 15.2 | 18.2 | 3.9 |

## TOP FLANGE

(FOR PIER 8 SPAN 9 ONLY)
NO BLOCK OUT FOR SPANS 10-12
BLOCKOUT TO ALLOW DECK TO DIAPHRAGM STEEL REINFORCEMENT
SEE "EXPANSION DIAPHRAGM DETAILS 2"

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

DRAWN BY MKN | PLANS CK'D. JDB

54W" PRESTRESSED GIRDER DETAILS 1

SHEET 47 OF 81
463

7-13
G54W

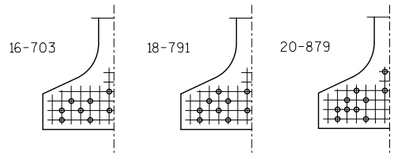
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DATE: 1:29:2016
I.D. jon.liggard

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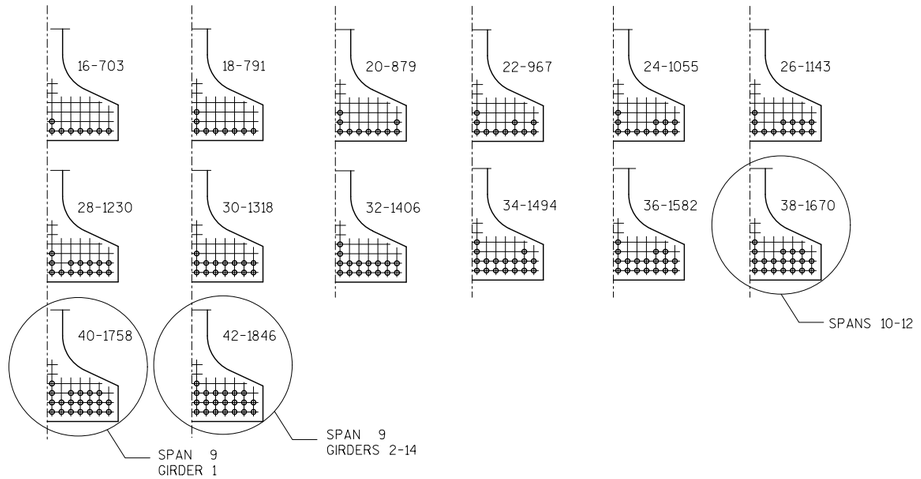
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1 2 3 4 6 9



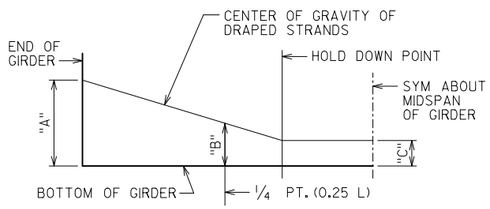

## STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY TO AVOID DRAPING OF STRANDS

0.6"ϕ STRANDS




## ARRANGEMENT AT ℄ SPAN - FOR GIRDERS WITH DRAPED STRANDS

0.6"ϕ STRANDS



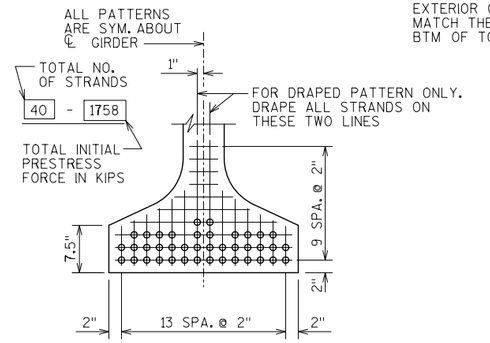

## DRAPED STRAND PROFILE

| SPAN | CAMBER (IN.) * |
|---|---|
| 9 | 3.56-4.42 |
| 10 | 3.64 |
| 11 | 3.64 |
| 12 | 3.64 |

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.

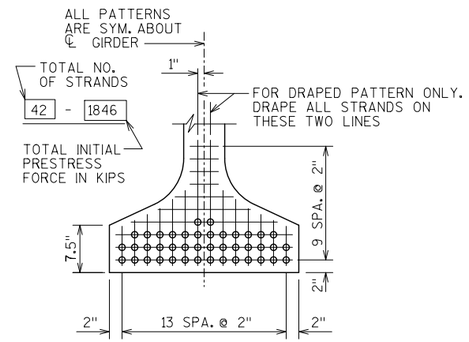
THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

*THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.



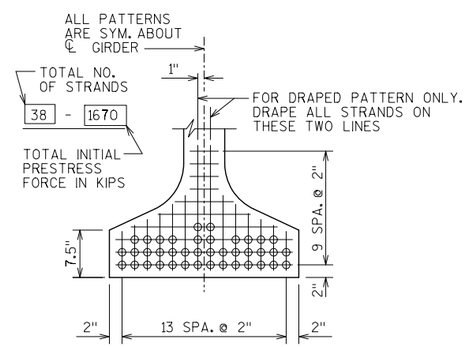

## TYP. STRAND PATTERN

(SPAN 9, GIRDER 1)



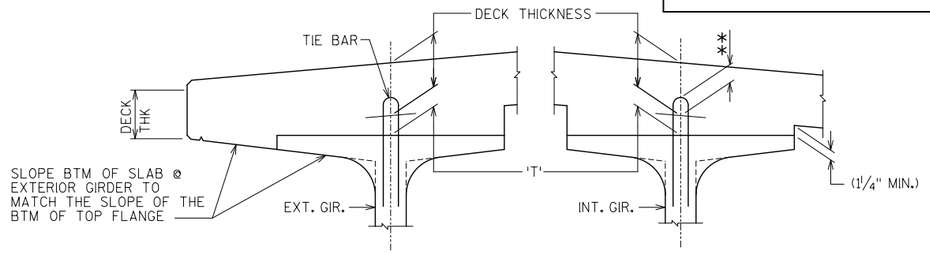

## TYP. STRAND PATTERN

(SPAN 9, GIRDERS 2-14)




## TYP. STRAND PATTERN

SPANS 10-12




## DECK HAUNCH DETAIL

IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION

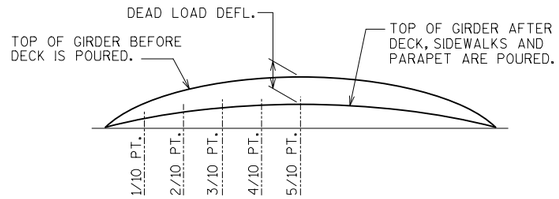
* IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- DECK THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3" WAS USED IN THE QUANTITY "MODIFIED HIGH PERFORMANCE CONCRETE (HPC) MASONRY BRIDGES".




## DEAD LOAD DEFLECTION DIAGRAM

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

DRAWN BY MKN | PLANS CK'D. JDB

54W" PRESTRESSED GIRDER DETAILS 2

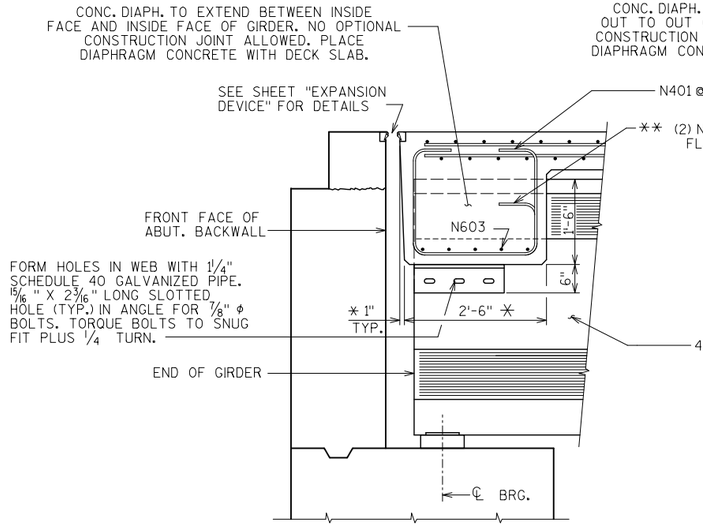
SHEET 42 OF 81
464

C54W
7-13

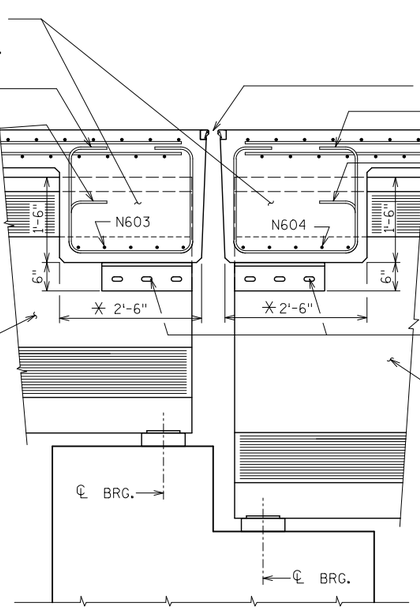
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DATE: 1/29/2016
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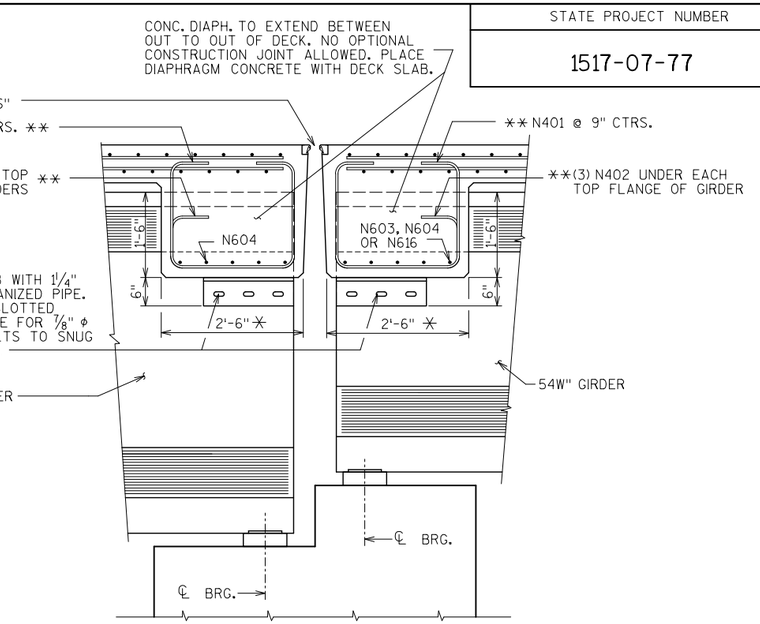
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PARTIAL LONGIT. SECTION AT W. ABUTMENT

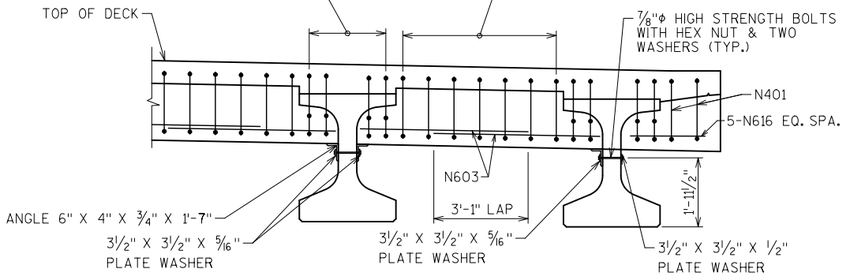



PARTIAL LONGIT. SECTION AT EXPANSION PIER 5



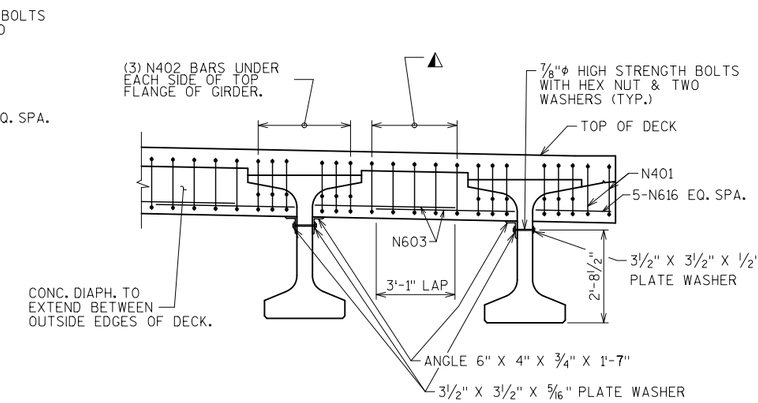

PARTIAL LONGIT. SECTION AT EXPANSION PIER 8 AND 1C

PIER 8 SHOWN.
PIER 1C 54W" GIRDER ONLY. 72W" GIRDER IN B-70-61



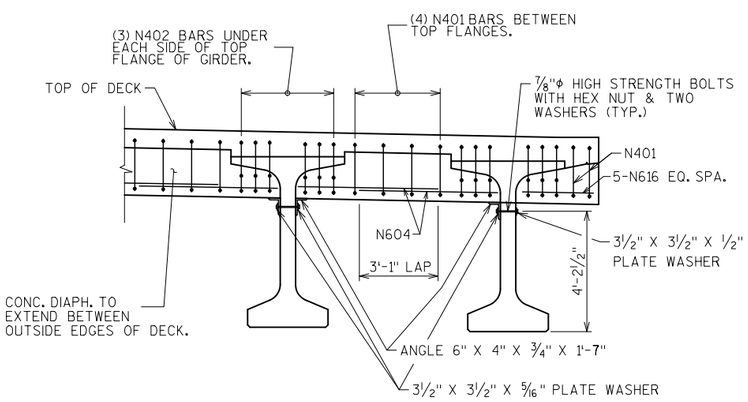

SECTION AT PARTIAL DEPTH DIAPHRAGM - 45W GIRDER

PIER 5



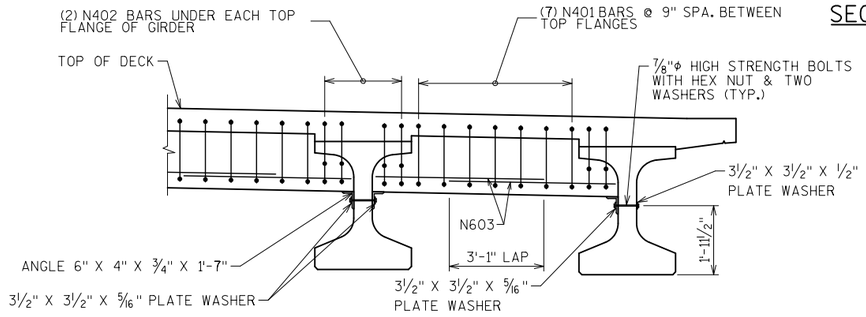

SECTION AT PARTIAL DEPTH DIAPHRAGM - 54W GIRDER

PIER 8 & PIER 1C




SECTION AT PARTIAL DEPTH DIAPHRAGM - 72W GIRDER

PIER 5 & PIER 8




SECTION AT PARTIAL DEPTH DIAPHRAGM - 45W GIRDER

WEST ABUTMENT

## LEGEND

* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

** BARS PLACED PARALLEL TO GIRDERS SPACING PERPENDICULAR TO ℄ GIRDERS

⚠ NUMBER OF N401 BARS AT PIER 8:
- (6) BETWEEN TOP FLANGES OF GIRDERS 1-6
- (5) BETWEEN TOP FLANGES OF GIRDERS 6-11
- (4) BETWEEN TOP FLANGES OF GIRDERS 11-14
- (2) BETWEEN GIRDER 14 & S. EDGE OF DECK

NUMBER OF N401 BARS AT PIER 1C:
- (2) BETWEEN N. EDGE OF DECK & GIRDER 1
- (6) BETWEEN TOP FLANGES OF GIRDERS 1-7
- (4) BETWEEN TOP FLANGES OF GIRDERS 7-9
- (2) BETWEEN GIRDER 9 & S. EDGE OF DECK

## NOTES

DIAPHRAGM SUPPORT ANGLES SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUT AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL SUPPORT ANGLES SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563. LUBRICANT AND TEST FOR COATED NUTS.

ALL DIAPHRAGM SUPPORT HARDWARE SHALL BE INCIDENTAL TO "MODIFIED HIGH PERFORMANCE CONCRETE (HPC) MASONRY BRIDGES".

FOR PLAN VIEW OF EXPANSION DIAPHRAGMS SEE SHEET "EXPANSION DIAPHRAGM DETAILS 2".

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

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EXPANSION DIAPHRAGM DETAILS 1

SHEET 49 OF 81
465

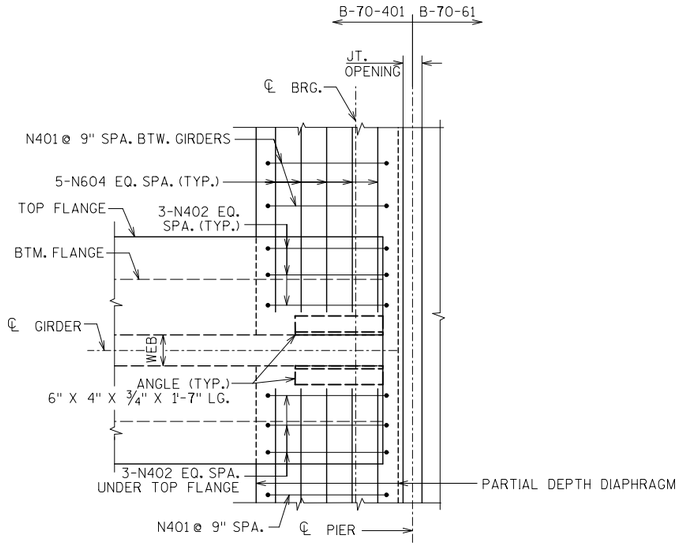
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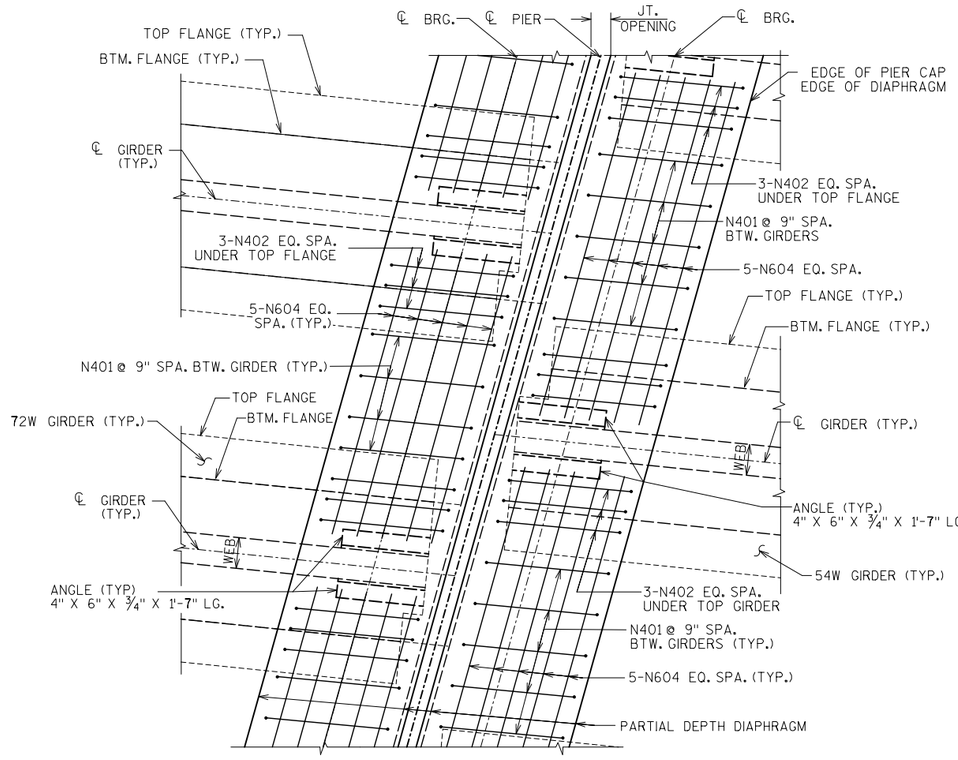
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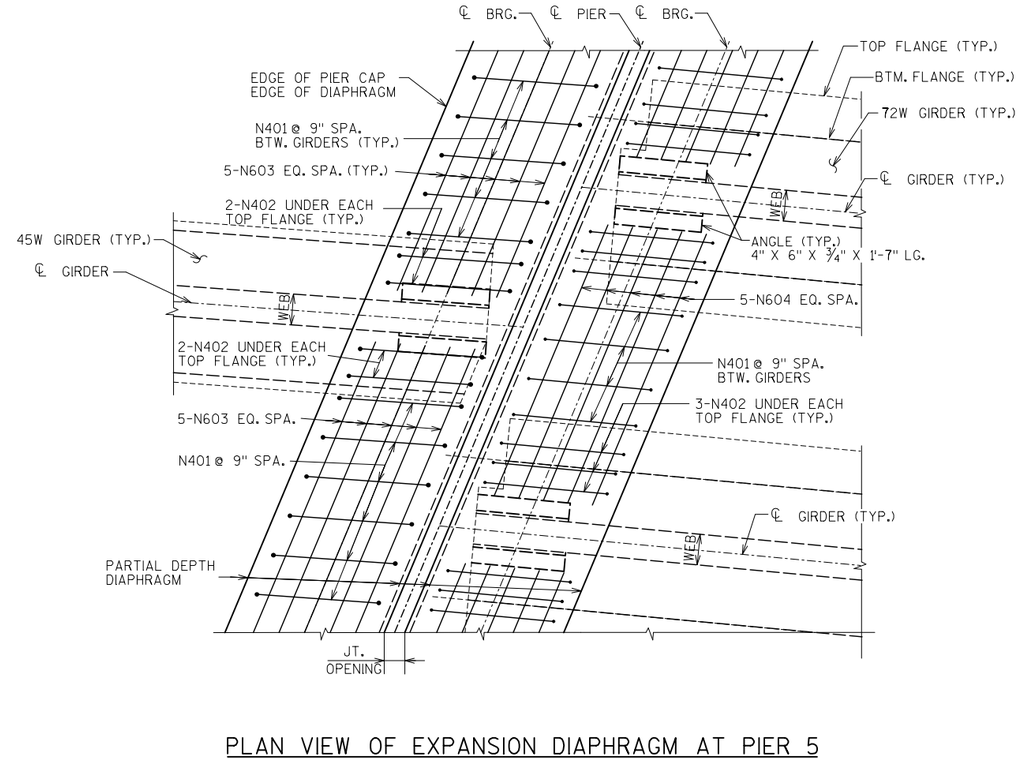
1517-07-77




TOP VIEW OF EXPANSION DIAPHRAGM AT PIER 1C




PLAN VIEW OF EXPANSION DIAPHRAGM AT PIER 8




PLAN VIEW OF EXPANSION DIAPHRAGM AT PIER 5

(WEST ABUTMENT SIMILAR)

NOTES

FOR JOINT DETAILS SEE SHEET. "EXPANSION DEVICE".

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STATE OF WISCONSIN
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EXPANSION DIAPHRAGM DETAILS 2

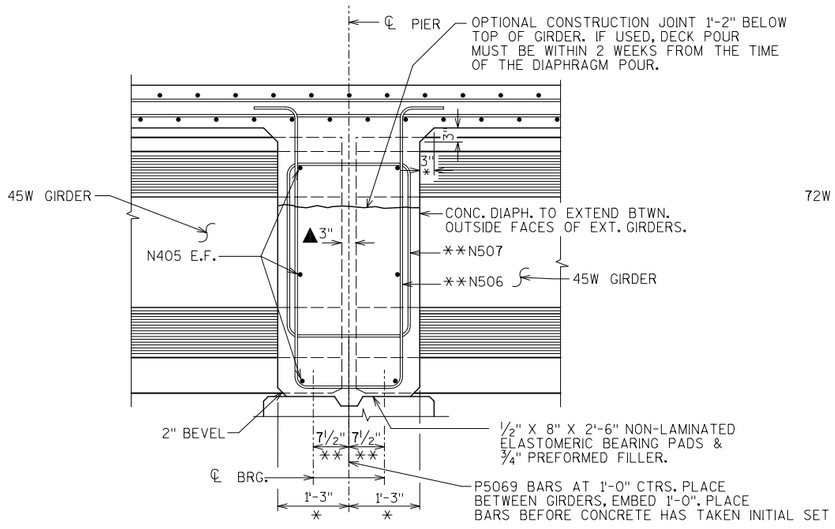
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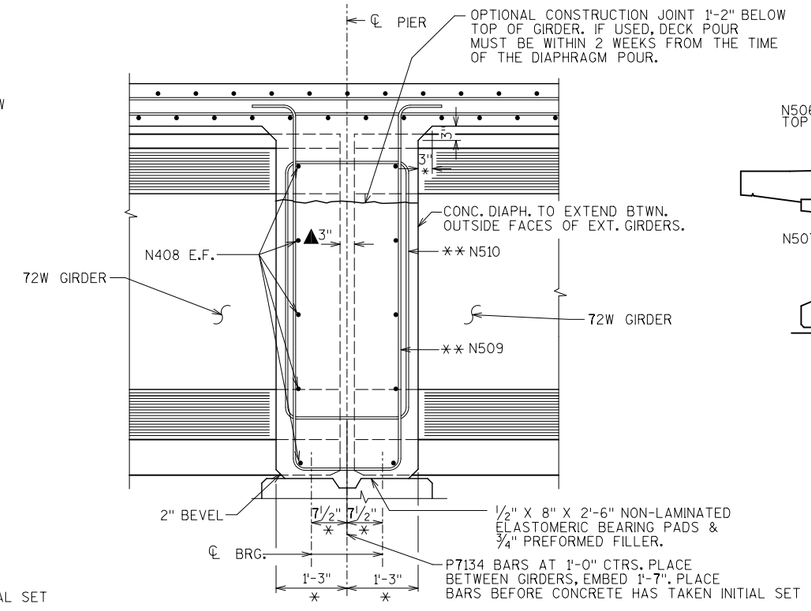
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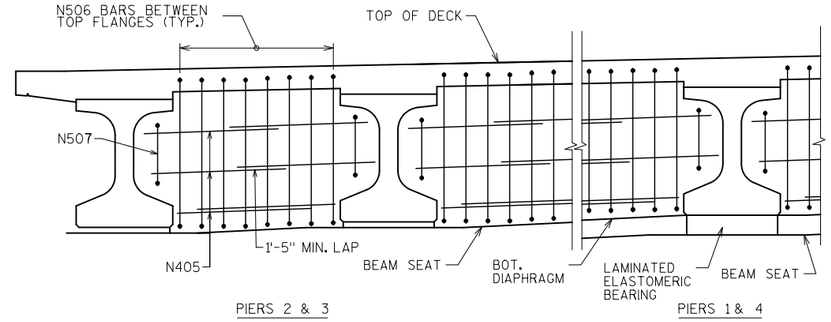



PIERS 2 & 3 DIAPHRAGM

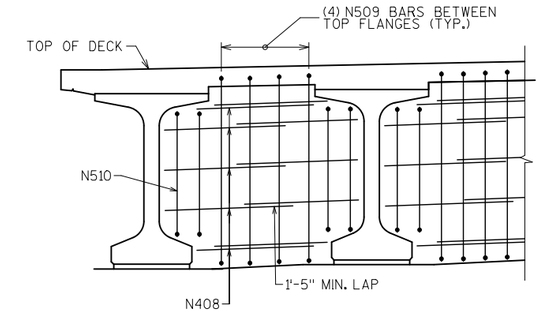
PIER 1 & 4 SIMILAR REINF.
SEE SHEET "EXPANSION BEARING DETAILS 1" FOR DETIALS.




PIERS 6 & 7 DIAPHRAGM

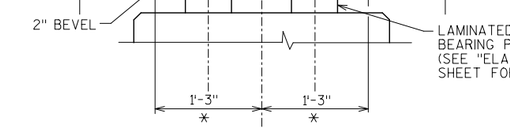



SECTION AT FULL DEPTH DIAPHRAGM



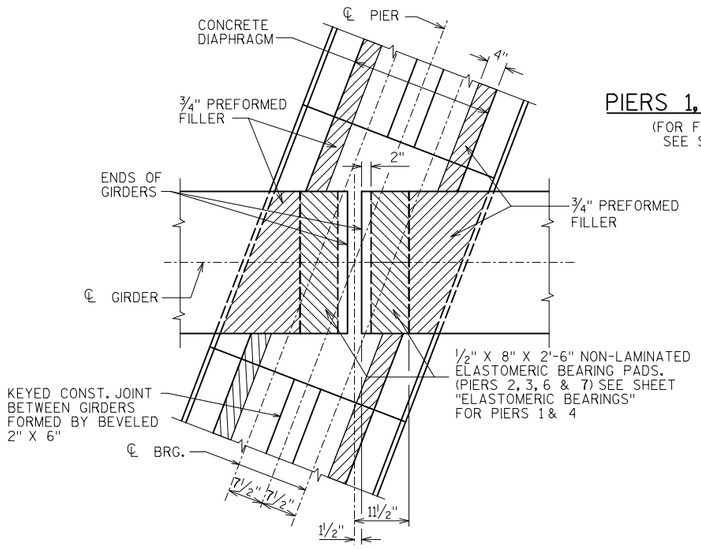

SECTION AT FULL DEPTH DIAPHRAGM

PIERS 6 & 7




PIERS 1, 4, 9, 11 FULL DEPTH DIAPHRAGM

(FOR FULL DEPTH DIAPHRAGM BAR STEEL DETAILS, SEE SHEETS "FIXED DIAPHRAGM DETAILS 1 & 2")

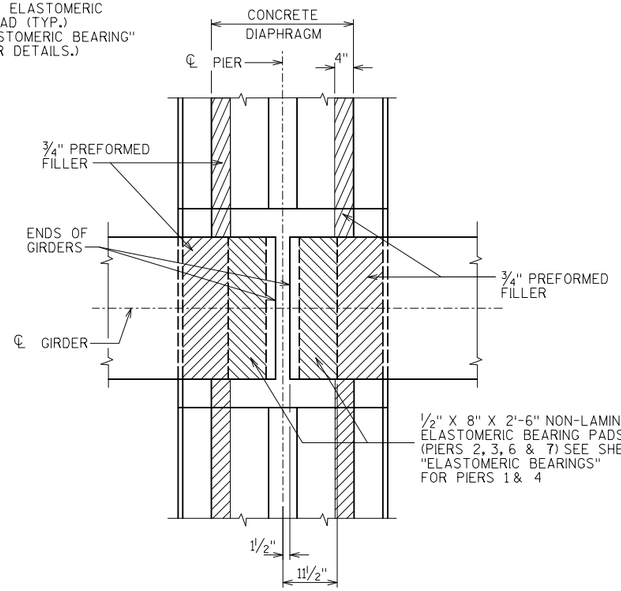



PLAN VIEW AT PIER DIAPHRAGM

* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

** BARS PLACED PARALLEL TO GIRDERS SPACING PERPENDICULAR TO ℄ GIRDERS

▲ DIMENSION TAKEN PARALLEL TO ℄ OF GIRDERS




PLAN VIEW AT PIER DIAPHRAGM

## NOTES

DIAPHRAGM SUPPORT ANGLES SHALL BE ASTM A709 GRADE 36.
ALL BOLTS, NUT AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL SUPPORT ANGLES SHALL BE HOT-DIPPED GALVANIZED.
ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563. LUBRICANT AND TEST FOR COATED NUTS.

ALL DIAPHRAGM SUPPORT HARDWARE SHALL BE INCIDENTAL TO "HPC MASONRY STRUCTURES".

FOR REINFORCING DETAILS FOR PIERS 9 THRU 11 SEE SHEET "FIXED DIAPHRAGM DETAILS 2".

FOR LAMINATED ELASTOMERIC BEARING DETAILS SEE SHEET "ELASTOMERIC BEARINGS".

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STATE OF WISCONSIN
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STRUCTURE B-70-401

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FIXED DIAPHRAGM DETAILS 1

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467

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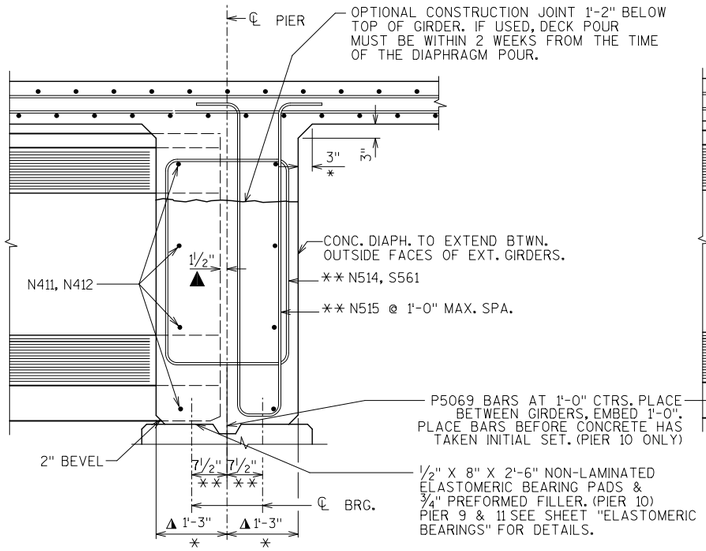
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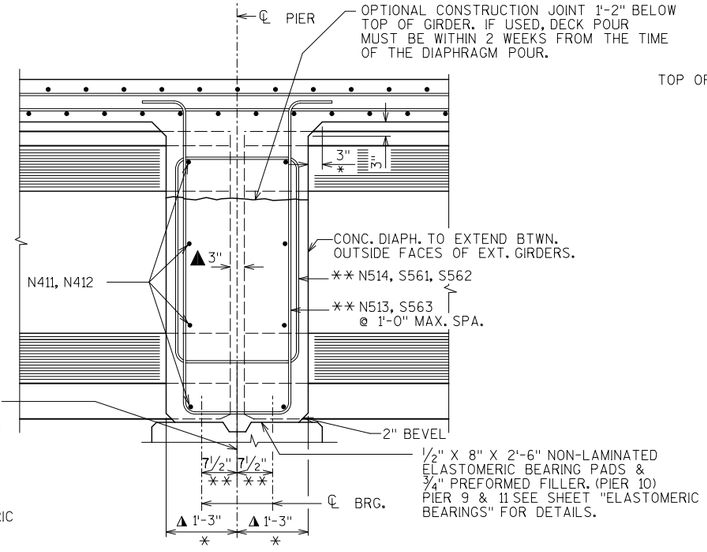
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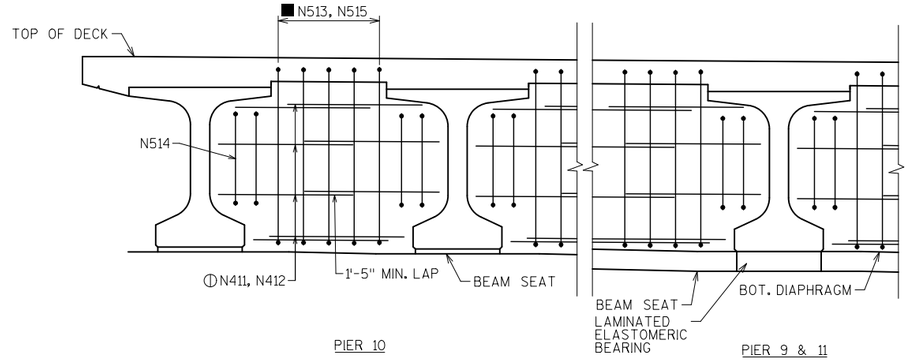

## PIER 10 DIAPHRAGM

TYPICAL SECTION WHERE GIRDERS DO NOT FORM CONTINUOUS LINE
PIER 9 & 11 SIMILAR REINF.



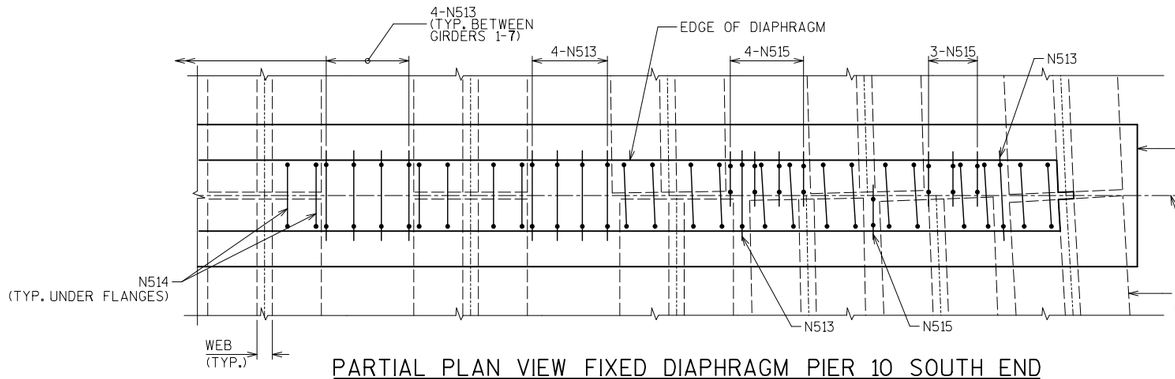

## PIER 10 DIAPHRAGM

TYPICAL SECTION WHERE GIRDER FORM CONTINUOUS LINE
PIER 9 & 11 SIMILAR REINF.

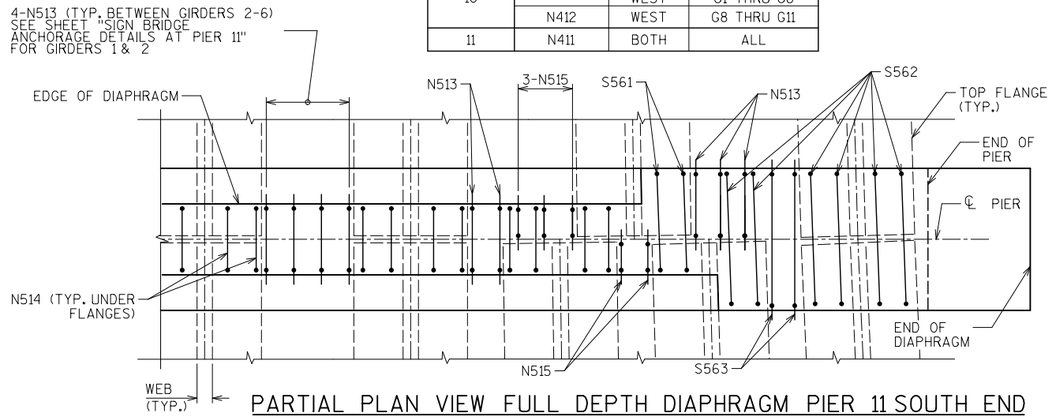



## SECTION AT FULL DEPTH DIAPHRAGM

| PIER | BAR MARK | FACE | GIRDERS BETWEEN |
|---|---|---|---|
| 9 | N411 | EAST | ALL |
| | | WEST | G1 THRU G6 |
| | N412 | WEST | G6 THRU G14 |
| 10 | N411 | EAST | ALL |
| | | WEST | G1 THRU G8 |
| | N412 | WEST | G8 THRU G11 |
| 11 | N411 | BOTH | ALL |

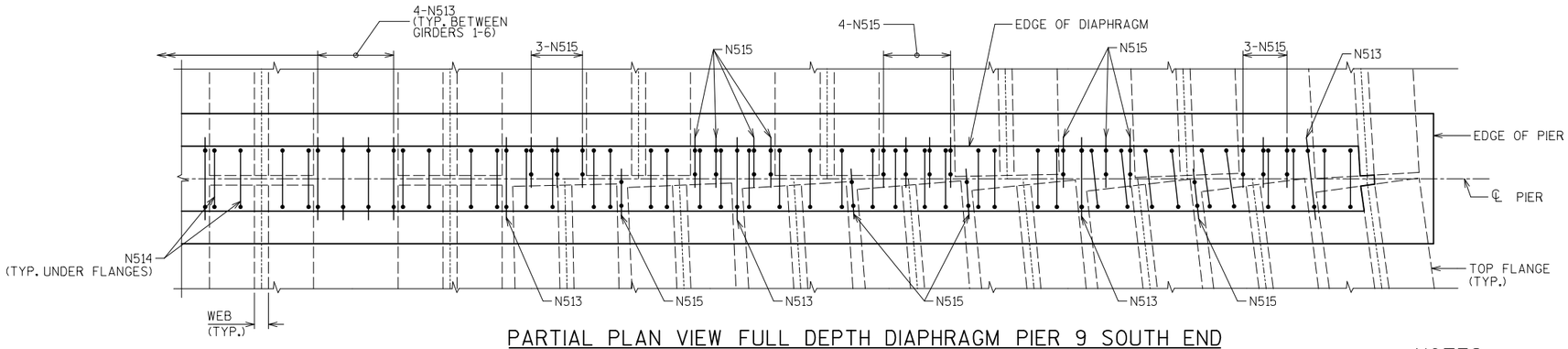



## PARTIAL PLAN VIEW FIXED DIAPHRAGM PIER 10 SOUTH END




## PARTIAL PLAN VIEW FULL DEPTH DIAPHRAGM PIER 11 SOUTH END

(SEE "SIGN BRIDGE ANCHORAGE REINFORCEMENT" FOR ADDITIONAL DETAILS)




## PARTIAL PLAN VIEW FULL DEPTH DIAPHRAGM PIER 9 SOUTH END

## LEGEND

- ▲ 2'-6" BETWEEN G1 AND G2 AS WELL AS G9 AND G10 FOR PIER 11. SEE SHEET "SIGN BRIDGE ANCHORAGE PIER 11" FOR DETAILS.
- ■ FOR NUMBER AND LOCATION OF N513 & N516 BARS SEE PLAN VIEWS, THIS SHEET.
- * DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.
- ** BARS PLACED PARALLEL TO GIRDERS SPACING PERPENDICULAR TO ℄ GIRDERS
- ▲ DIMENSIONS TAKEN PARALLEL TO ℄ OF GIRDER

## NOTES

SEE SHEET "FIXED DIAPHRAGM DETAILS 1" FOR NOTES.

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STATE OF WISCONSIN
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FIXED DIAPHRAGM DETAILS 2

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468

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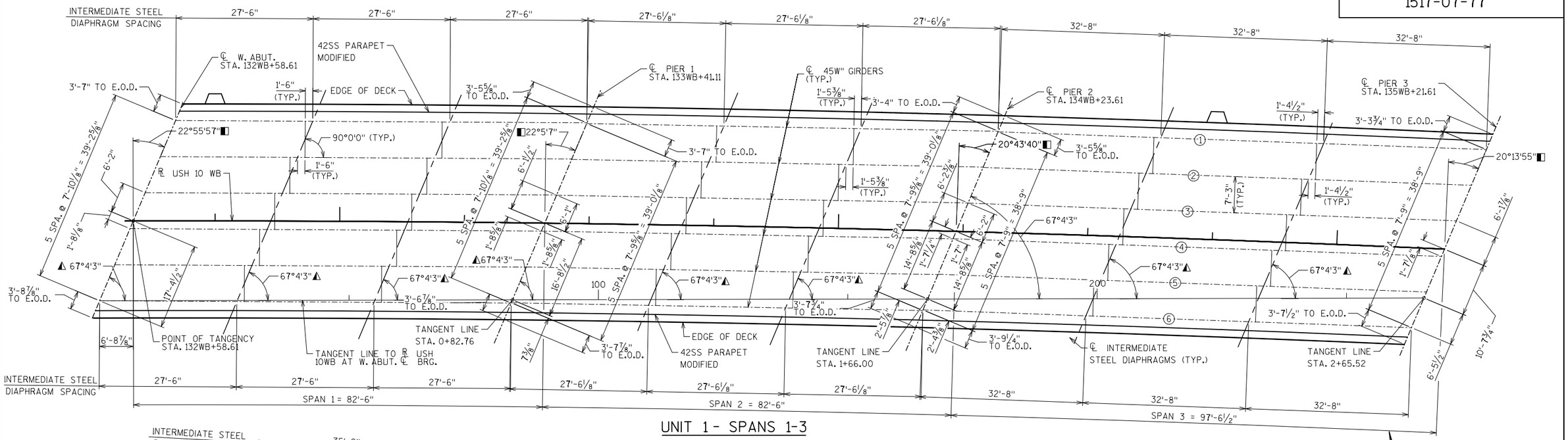
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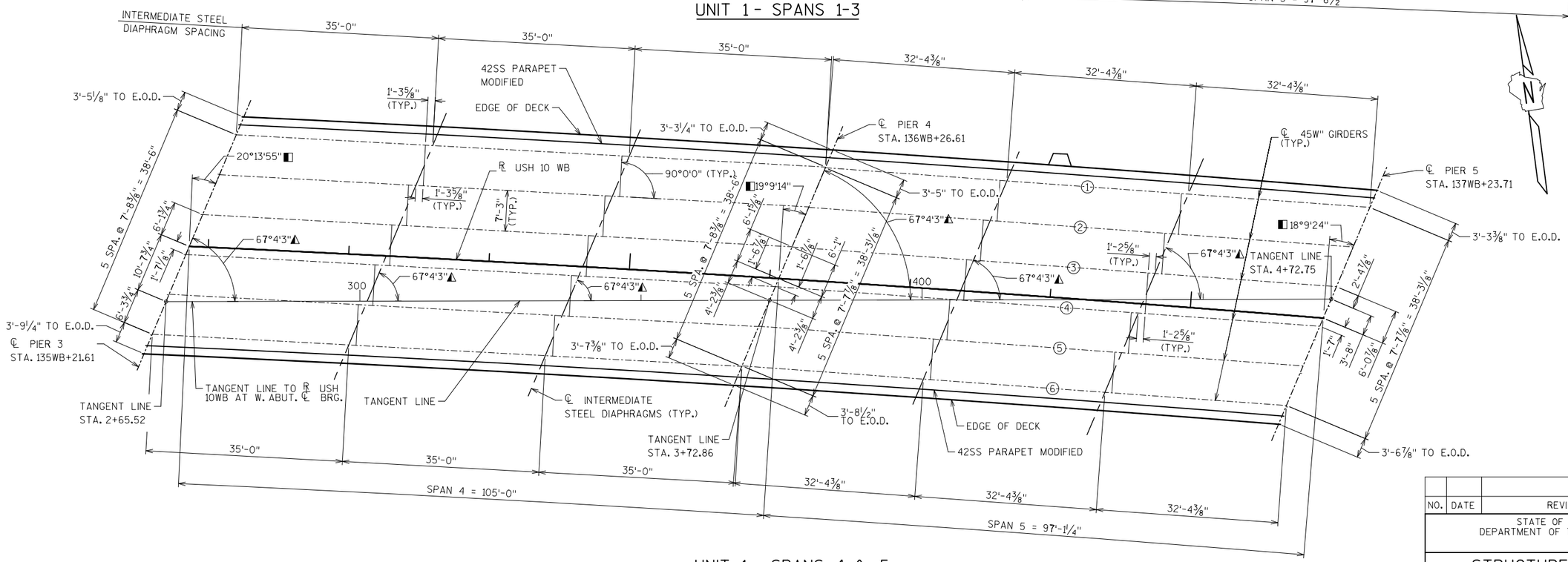
DATE: 1/29/2016
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## UNIT 1 - SPANS 1-3




## UNIT 1 - SPANS 4 & 5

### LEGEND

- (#) GIRDER NUMBER
- ◧ ANGLE TAKEN PERPENDICULAR TO ℄ USH 10 WB
- ◭ ANGLE TAKEN TO TANGENT LINE

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FRAMING PLAN
UNIT 1

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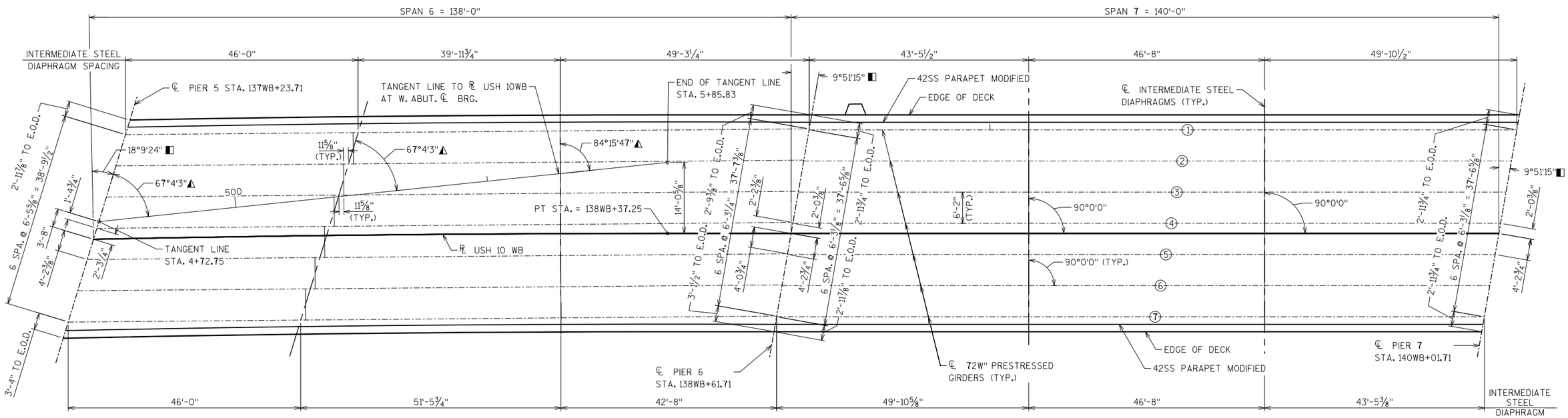
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DATE: 1/29/2016
I.D. Jon_Lidgard

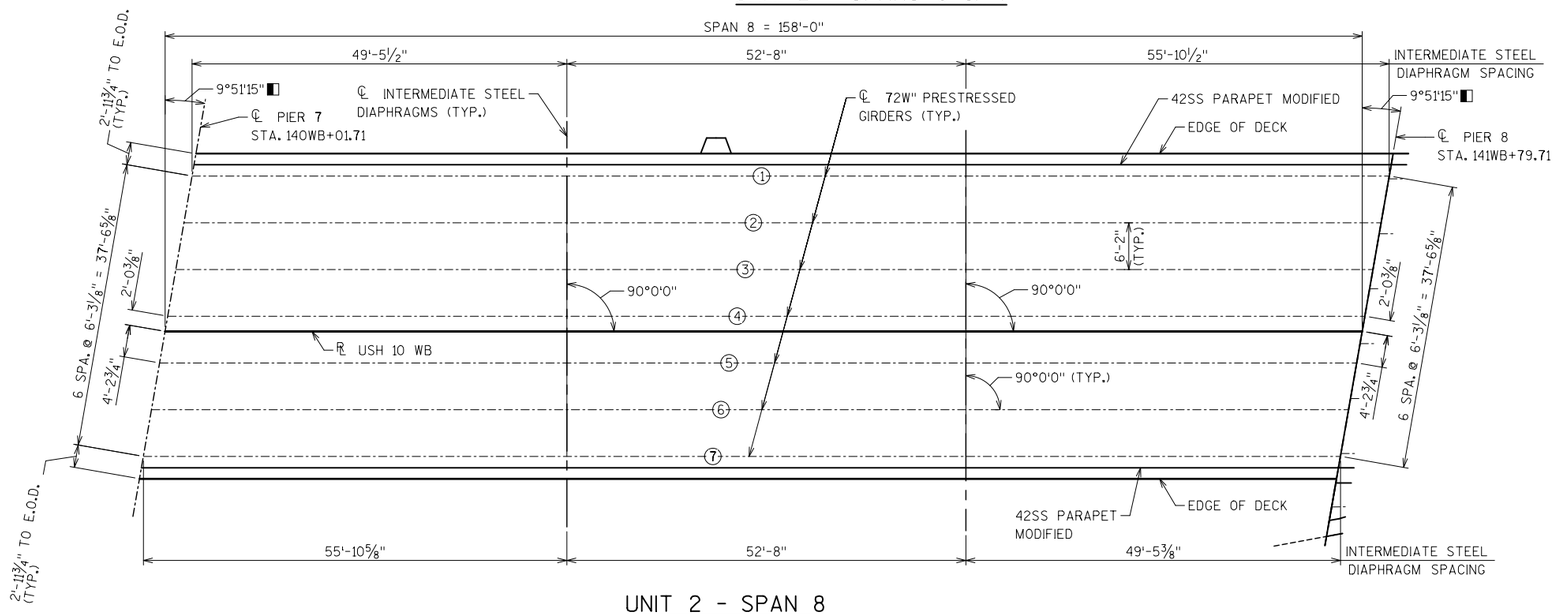
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| STATE PROJECT NUMBER |
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| 1517-07-77 |




UNIT 2 - SPANS 6 & 7




UNIT 2 - SPAN 8

## NOTES

FOR NOTES AND LEGEND SEE SHEET "FRAMING PLAN UNIT 1".

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STATE OF WISCONSIN
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FRAMING PLAN UNIT 2

SHEET 54 OF 81
470

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I.D. jon_liggard

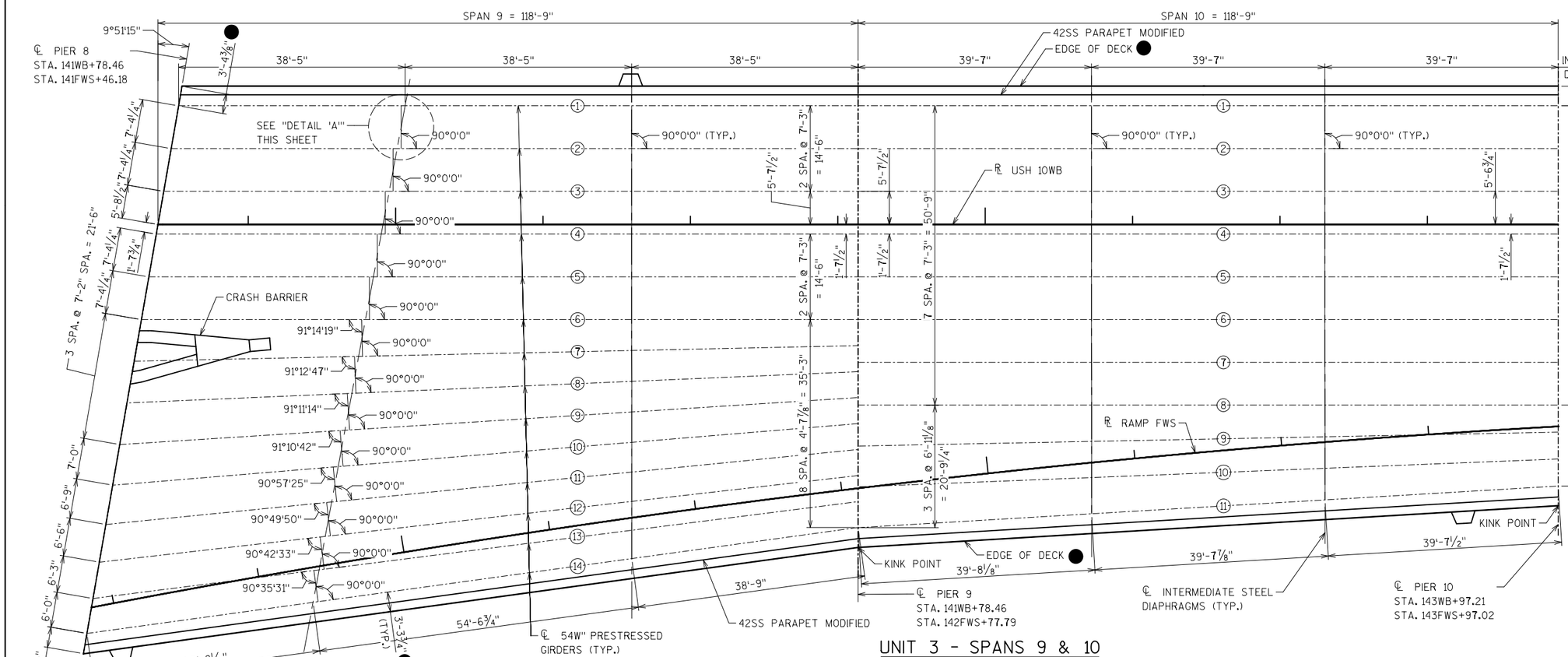
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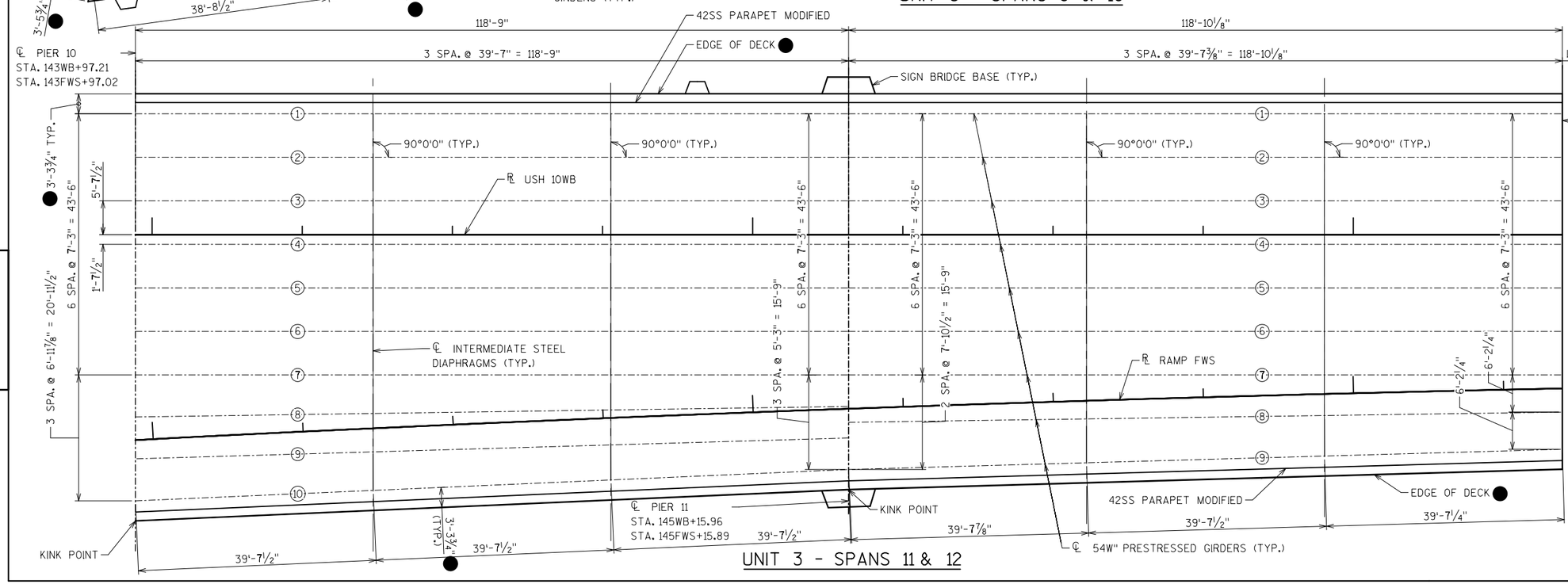



## UNIT 3 - SPANS 9 & 10

## DETAIL 'A'

| BAY # | 'A' | 'B' |
|---|---|---|
| 1 | 8⅛" | 8⅛" |
| 2 | 8⅛" | 8⅛" |
| 3 | 8⅛" | 8⅛" |
| 4 | 8⅛" | 8⅛" |
| 5 | 8⅛" | 8⅛" |
| 6 | 7¾" | 7¾" |
| 7 | 8½" | 8⅝" |
| 8 | 9¼" | 9⅜" |
| 9 | 9⅞" | 9⅞" |
| 10 | 10⅛" | 10¼" |
| 11 | 10⅜" | 10½" |
| 12 | 10½" | 10½" |
| 13 | 10½" | 10⅝" |

FOR FIRST LINE OF DIAPHRAGMS IN SPAN 9




## UNIT 3 - SPANS 11 & 12

## LEGEND

● EDGE OF DECK IS STRAIGHT AND PARALLEL TO FASCIA GIRDERS.

## NOTES

FOR NOTES AND LEGEND SEE SHEET "FRAMING PLAN UNIT 1".

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STATE OF WISCONSIN
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STRUCTURE B-70-401

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FRAMING PLAN UNIT 3

SHEET 55 OF 81
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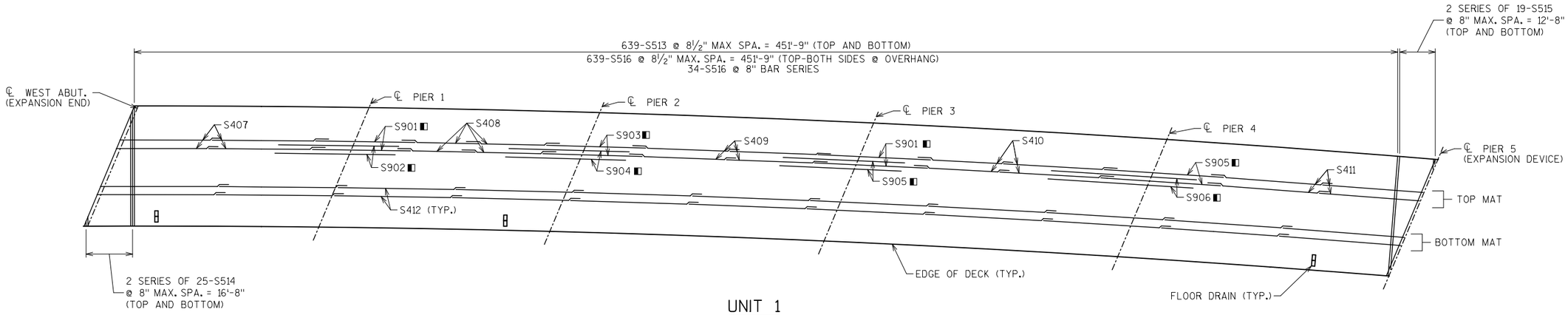
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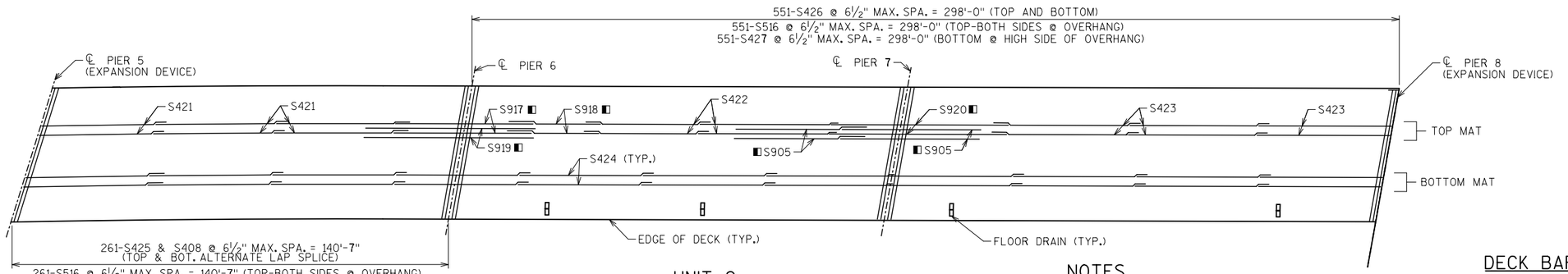
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I.D. jon_lidgard

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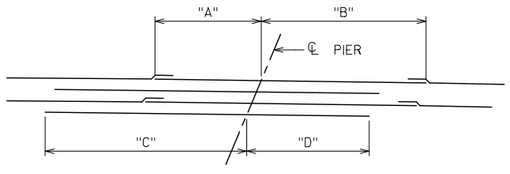

UNIT 1




UNIT 2

## CONTINUITY CUT-OFF LENGTHS

| PIER | "A" | "B" | "C" | "D" |
|---|---|---|---|---|
| 1 | 14'-3" | 26'-9" | 20'-9" | 14'-3" |
| 2 | 14'-3" | 21'-9" | 26'-9" | 16'-3" |
| 3 | 15'-3" | 25'-9" | 26'-9" | 16'-9" |
| 4 | 17'-9" | 25'-9" | 31'-9" | 16'-3" |
| 6 | 22'-9" | 43'-9" | 31'-9" | 22'-9" |
| 7 | 22'-9" | 34'-9" | 52'-9" | 26'-0" |
| 9 | 19'-6" | 36'-9" | 30'-9" | 19'-6" |
| 10 | 19'-6" | 27'-9" | 27'-9" | 19'-6" |
| 11 | 19'-6" | 28'-9" | 37'-9" | 19'-6" |




CONTINUITY STEEL DETAIL

## LEGEND

◧ FOR LENGTH OF CONTINUITY STEEL SEE CONTINUITY STEEL DETAIL, THIS SHEET.

## NOTES

SEE "SUPERSTRUCTURE BILL OF BARS" SHEET FOR BAR BILL AND BAR BEND DETAILS.

THE BOTTOM TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS WITH A CENTER TO CENTER SPACING NOT TO EXCEED 4'-0". ONE LINE OF CONTINUOUS BAR CHAIRS SHALL BE PLACED NEAR EACH EDGE OF SLAB TO SUPPORT THE ENDS OF THE BOTTOM TRANSVERSE BAR STEEL.

THE TOP LONGITUDINAL BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS IN THE TRANSVERSE DIRECTION ON 4'-0" CENTERS.

SEE SHEET "FLOOR DRAINS TYPE "WF"" FOR LOCATIONS OF FLOOR DRAINS. FOR FLOOR DRAIN DETAILS SEE SHEET "FLOOR DRAIN TYPE WF". ADDITIONAL REINFORCEMENT REQUIRED AT FLOOR DRAIN LOCATIONS.

FOR DECK REINFORCEMENT DETAILS AT LIGHT STANDARDS, SEE SHEET "PARAPET ELECTRICAL WORK 2 & LIGHT STD".

FOR NUMBER OF LONGITUDINAL REINFORCING SEE "DECK REINF. CROSS SECTIONS UNITS 1& 2" SHEET.

## DECK BAR LAP LENGTHS

| BAR SIZE | LAP LENGTH |
|---|---|
| #4 | 1'-8" |
| #4 & #9 | 2'-1" |
| #5 | 2'-7" |
| #9 | 8'-0" |

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

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DECK REINFORCEMENT UNITS 1 & 2

SHEET 56 OF 81
472

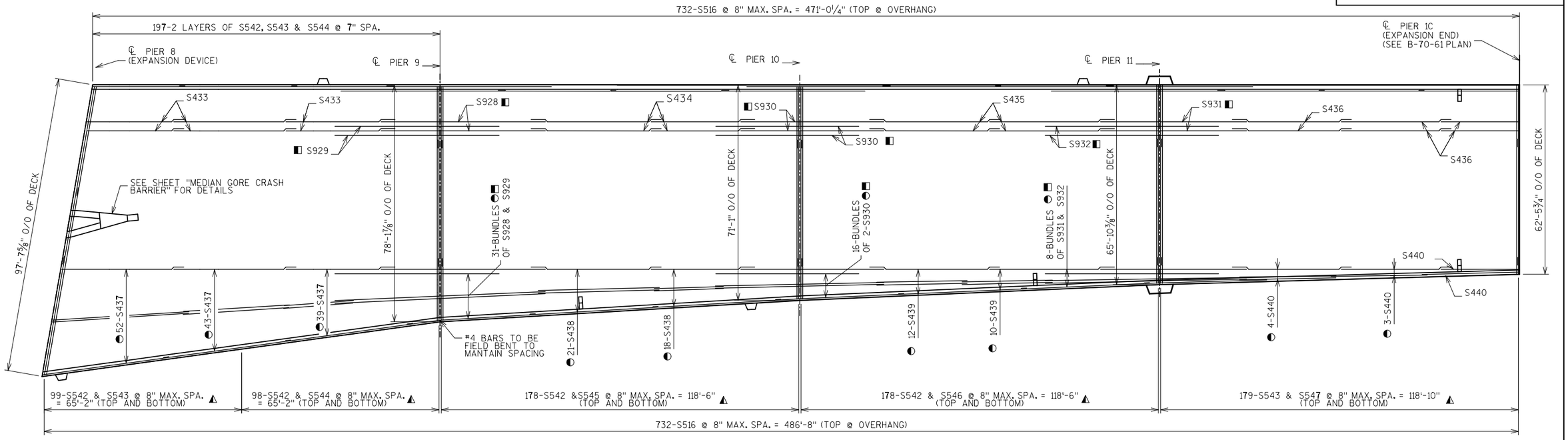
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DATE: 1/29/2016
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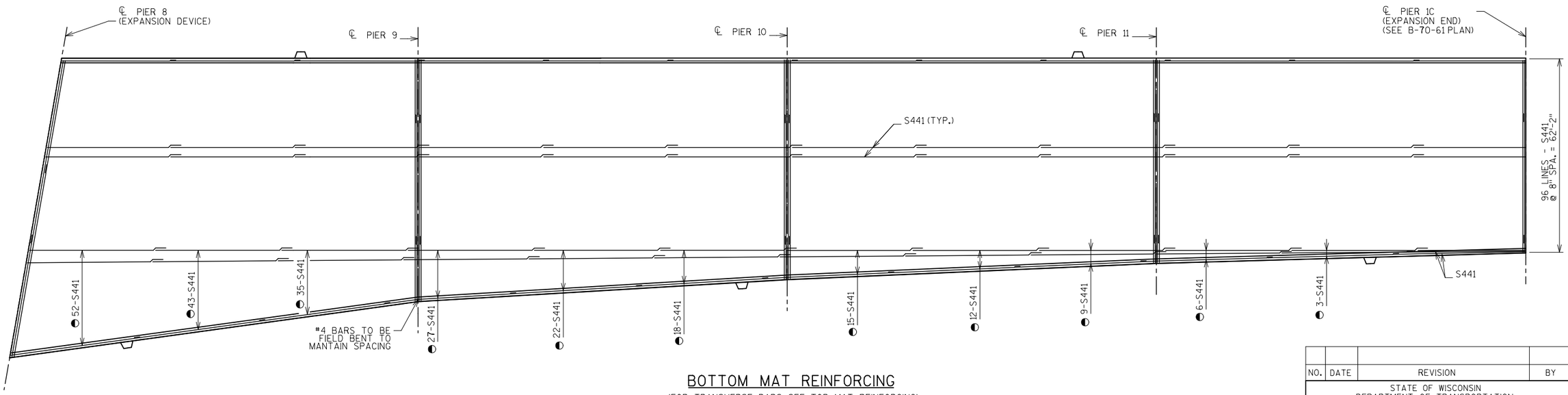
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|---|
| 1517-07-77 |




## TOP MAT REINFORCING




## BOTTOM MAT REINFORCING

(FOR TRANSVERSE BARS SEE TOP MAT REINFORCING)

## NOTES

SEE "DECK REINFORCEMENT UNITS 1 & 2" SHEET FOR GENERAL NOTES.

FOR BAR BUNDLE DETAIL SEE "SUPERSTRUCTURE BILL OF BARS" SHEET.

## LEGEND

◧ SEE "DECK REINFORCEMENT UNITS 1 & 2" SHEET FOR CONTINUITY STEEL DETAILS.

◭ LAP LENGTH VARIES. MIN. LAP LENGTH = 2'-7"

◐ FLARE BARS. SPLICE MIN. 70% OF BARS

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DECK REINFORCEMENT UNIT 3

SHEET 57 OF 81
473

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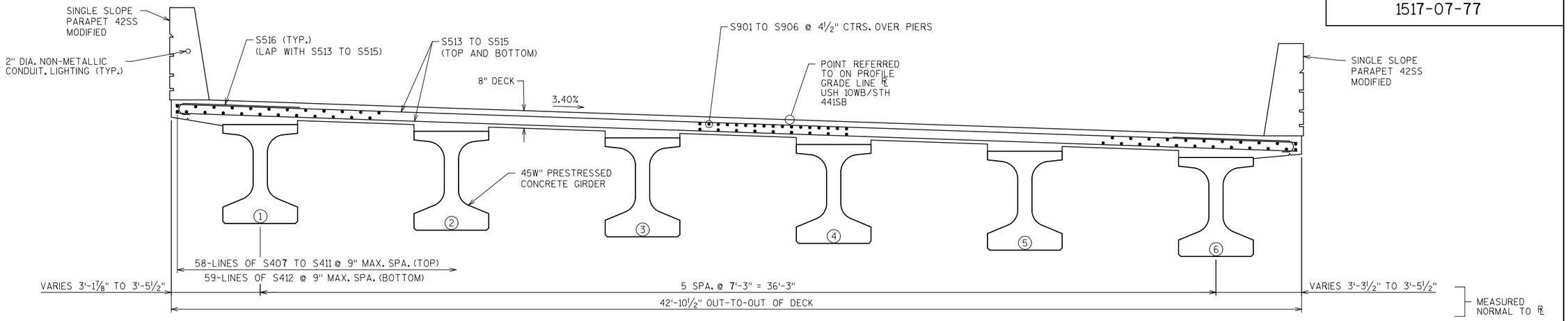
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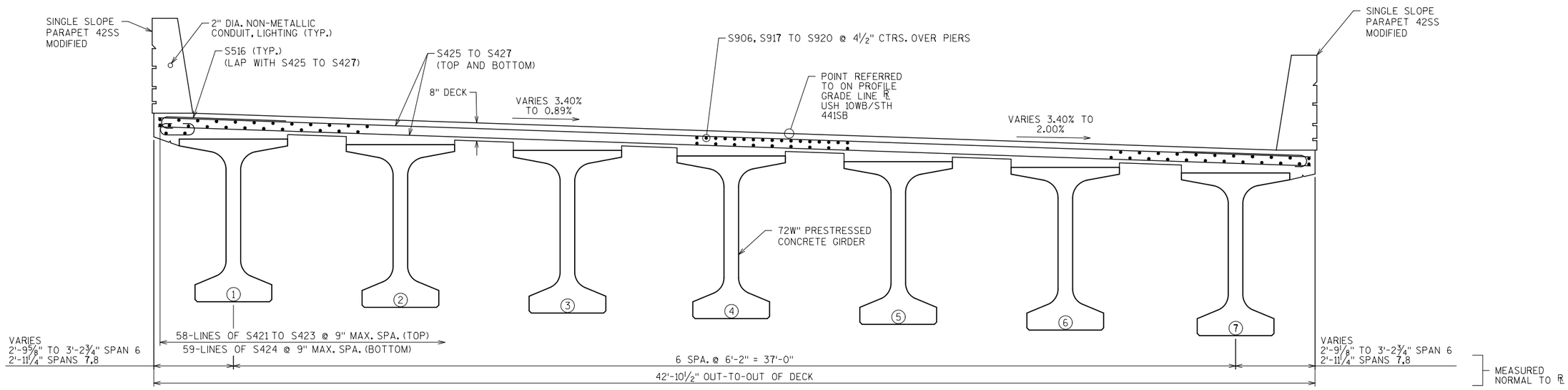
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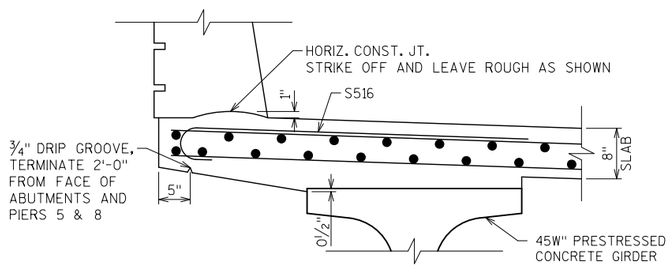
1517-07-77



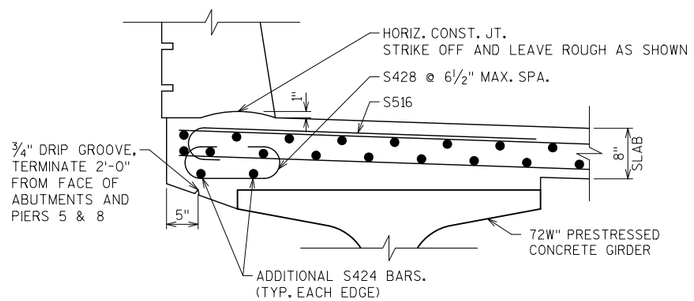

CROSS SECTION UNIT 1 (SPANS 1 THRU 5)



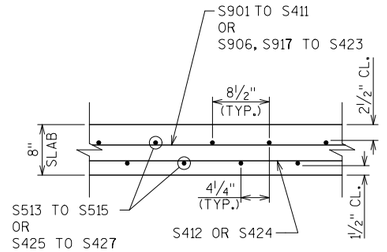

CROSS SECTION UNIT 2 (SPANS 6 THRU 8)




TYPICAL TRANS. DECK SECTION - UNIT 1




TYPICAL TRANS. DECK SECTION - UNIT 2




TYPICAL LONG. SECTION DECK

## NOTES

FOR NOTES SEE SHEET "DECK REINFORCEMENT UNITS 1& 2".

FOR SUPERELEVATION INFORMATION SEE SHEET "ALIGNMENT AND PROFILES 2".

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DECK REINF. CROSS SECTIONS UNITS 1& 2

SHEET 52 OF 81
474

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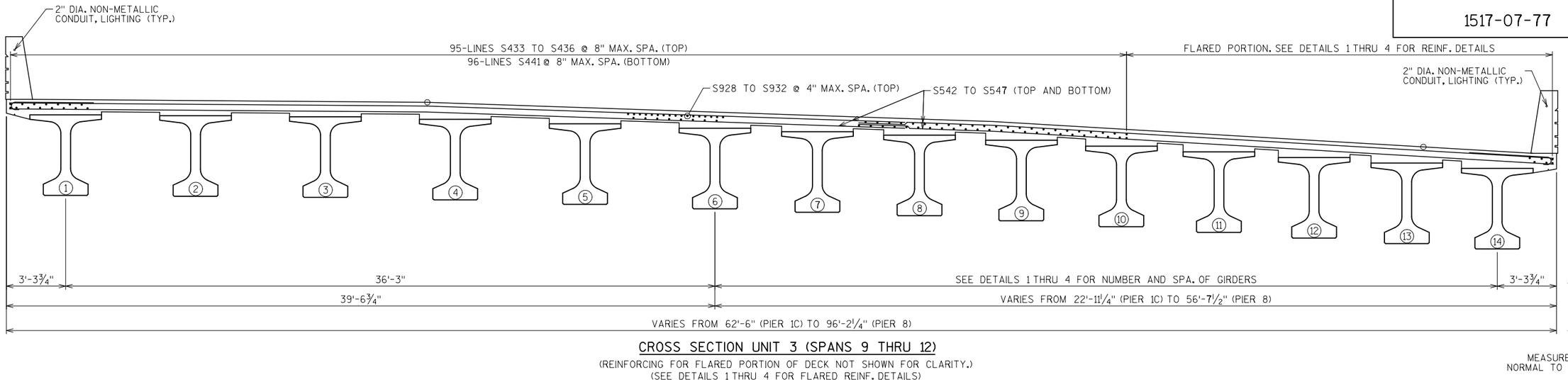
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DATE: 1/29/2016
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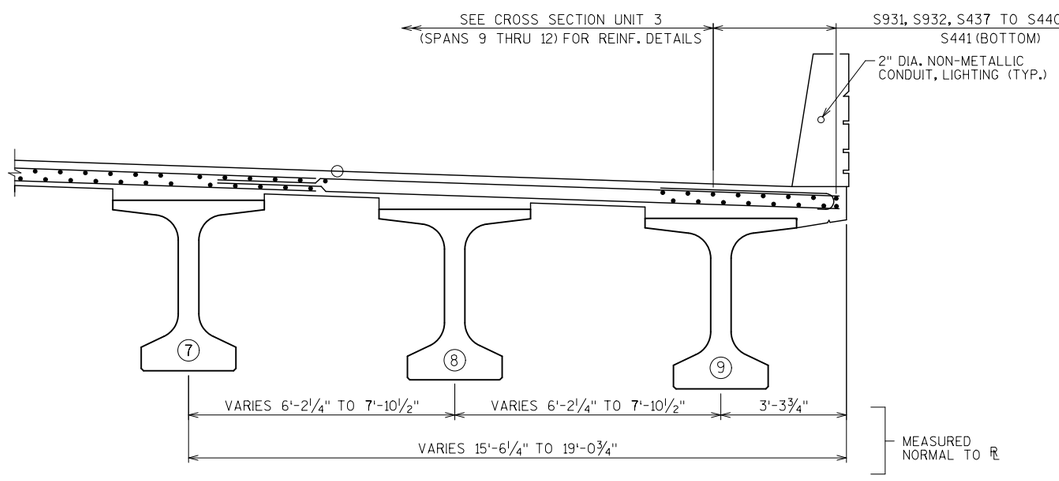
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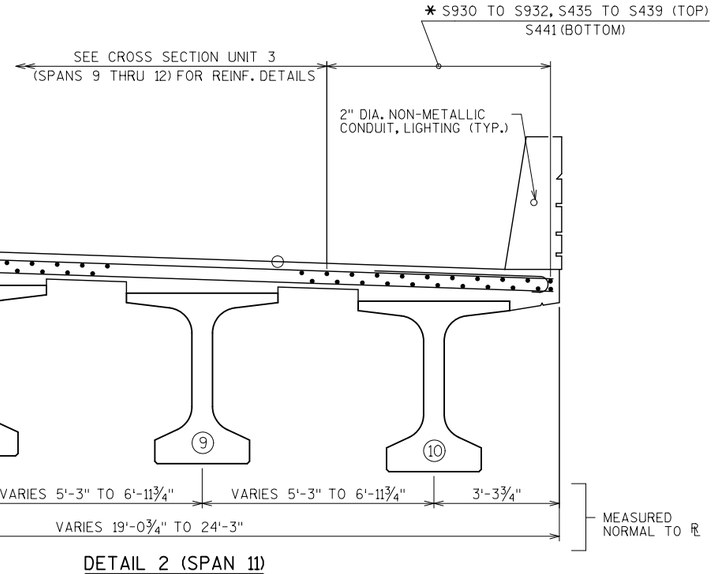



## CROSS SECTION UNIT 3 (SPANS 9 THRU 12)

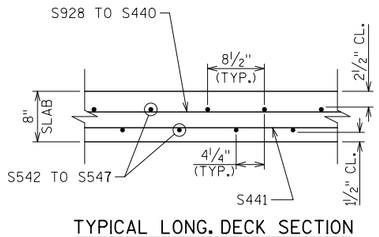
(REINFORCING FOR FLARED PORTION OF DECK NOT SHOWN FOR CLARITY.)
(SEE DETAILS 1 THRU 4 FOR FLARED REINF. DETAILS)



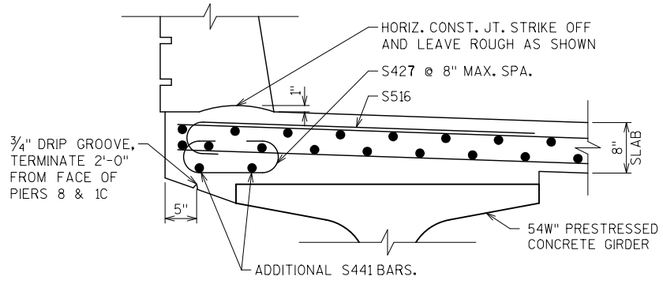

## DETAIL 1 (SPAN 12)




## DETAIL 2 (SPAN 11)




## TYPICAL LONG. DECK SECTION




## TYPICAL TRANS. DECK SECTION

## LEGEND

* FOR NUMBER OF BARS AND CONTINUITY DETAILS IN FLARED PORTION OF DECK SEE SHEET "DECK REINFORCEMENT UNIT 3".

## NOTES

FOR NOTES SEE SHEET "DECK REINFORCEMENT UNITS 1& 2".

FOR SPANS 9 AND 10 DETAILS SEE SHEET "DECK REINF. CROSS SECTIONS UNIT 3"

FOR SUPERELEVATION INFORMATION SEE SHEET "ALIGNMENT AND PROFILES 2".

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DECK REINF. CROSS SECTIONS UNIT 3

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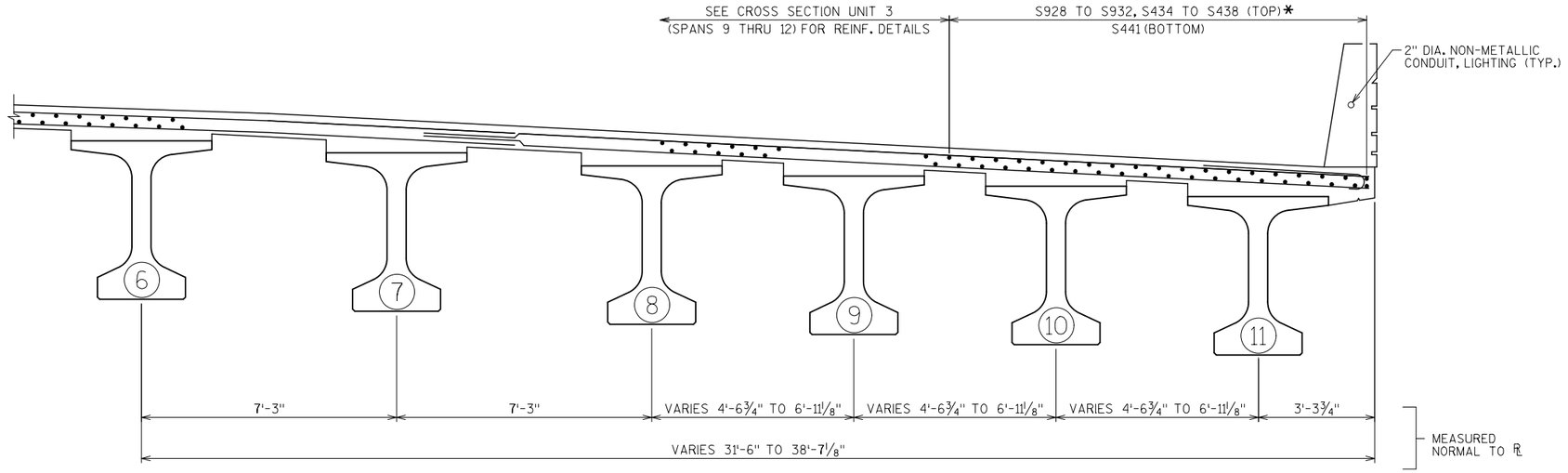
DATE: 1/29/2016
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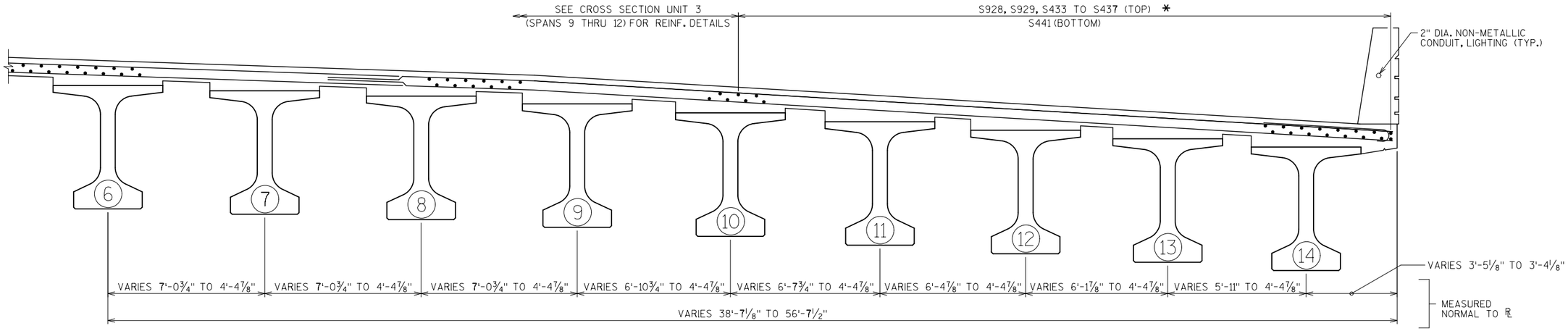
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DETAIL 3 (SPAN 10)




DETAIL 4 (SPAN 9)

## NOTES

FOR LEGEND AND NOTES SEE SHEET "DECK REINF. CROSS SECTIONS UNIT 3".

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DECK REINF.
CROSS SECTIONS
UNIT 3

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FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\B-70-401\52a - B-70-401 Deck Reinforcement Cross Section Unit 3.2.dgn

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I.D. jon_lidgard

# DECK BILL OF BARS

ALL BARS STEEL REINFORCEMENT IN THIS BILL OF BARS SHALL BE EPOXY COATED

| BAR MARK | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION | |
|---|---|---|---|---|---|---|
| S901 | 116 | 41'-0" | | | CONTINUITY OVER PIER 1 & 3 - TOP | |
| S902 | 58 | 35'-0" | | | CONTINUITY OVER PIER 1 - TOP | |
| S903 | 58 | 36'-0" | | | CONTINUITY OVER PIER 2 & 7 - TOP | |
| S904 | 58 | 43'-0" | | | CONTINUITY OVER PIER 2 - TOP | |
| S905 | 232 | 43'-6" | | | CONTINUITY OVER PIER 3, 4 & 7 - TOP | |
| S906 | 58 | 48'-0" | | | CONTINUITY OVER PIER 4 - TOP | |
| S407 | 116 | 36'-0" | | | LONGIT. SPAN 1 - TOP | |
| S408 | 116 | 23'-8" | | | LONGIT. SPAN 2 - TOP | |
| S409 | 116 | 33'-5" | | | LONGIT. SPAN 3 - TOP | |
| S410 | 116 | 33'-8" | | | LONGIT. SPAN 4 -TOP | |
| S411 | 116 | 37'-6" | | | LONGIT. SPAN 5 - TOP | |
| S412 | 649 | 43'-10" | | | LONGIT. UNIT 1 - BOTTOM | |
| S513 | 1278 | 42'-6" | | | TRANS. UNIT 1 - TOP AND BOTTOM | |
| S514 | 50 | 21'-5" | | X | TRANS. SPAN 1 - TOP AND BOTTOM | |
| S515 | 38 | 21'-0" | | X | TRANS. SPAN 5 & 6 - TOP AND BOTTOM | |
| S516 | 4410 | 5'-6" | X | | TRANS. - TOP OVERHANG | |
| S917 | 58 | 60'-0" | | | CONTINUITY OVER PIER 6 - TOP | |
| S918 | 58 | 14'-6" | | | CONTINUITY OVER PIER 6 - TOP | |
| S919 | 58 | 54'-6" | | | CONTINUITY OVER PIER 6 - TOP | |
| S920 | 58 | 57'-6" | | | CONTINUITY OVER PIER 7 - TOP | |
| S421 | 174 | 41'-0" | | | LONGIT. SPAN 6 - TOP | |
| S422 | 116 | 39'-8" | | | LONGIT. SPAN 7 - TOP | |
| S423 | 174 | 42'-11" | | | LONGIT. SPAN 8 - TOP | |
| S424 | 693 | 41'-5" | | | LONGIT. UNIT 2 - BOTTOM | |
| S425 | 522 | 22'-9" | | | LONGIT. UNIT 2 - TOP AND BOTTOM | |
| S426 | 1102 | 43'-0" | | | TRANS. SPAN 7 & 8 - TOP AND BOTTOM | |
| S427 | 812 | 2'-3" | X | | TRANS. SPAN 6, 7 & 8 - TOP AND BOTTOM | |
| S928 | 126 | 56'-3" | | | CONTINUITY OVER PIER 9 - TOP | |
| S929 | 126 | 50'-3" | | | CONTINUITY OVER PIER 9 - TOP | |
| S930 | 222 | 47'-3" | | | CONTINUITY OVER PIER 10 - TOP | |
| S931 | 103 | 48'-3" | | | CONTINUITY OVER PIER 11 - TOP | |
| S932 | 103 | 57'-3" | | | CONTINUITY OVER PIER 11 - TOP | |
| S433 | 285 | 37'-3" | | | LONGIT. SPAN 9 - TOP | |
| S434 | 190 | 34'-2" | | | LONGIT. SPAN 10 - TOP | |
| S435 | 190 | 38'-8" | | | LONGIT. SPAN 11 - TOP | |
| S436 | 285 | 31'-10" | | | LONGIT. SPAN 12 - TOP | |
| S437 | 134 | 39'-6" | | | LONGIT. SPAN 9 - TOP FLARE | * |
| S438 | 39 | 34'-4" | | | LONGIT. SPAN 10 - TOP FLARE | * |
| S439 | 22 | 38'-9" | | | LONGIT. SPAN 11 - TOP FLARE | * |
| S440 | 9 | 31'-11" | | | LONGIT. SPAN 12 - TOP FLARE | * |
| S441 | 1396 | 42'-4" | | | LONGIT. SPAN 9-12 - TOP FLARE | * |
| S542 | 1470 | 55'-0" | | | TRANS. UNIT 3 - TOP AND BOTTOM | |
| S543 | 198 | 45'-0" | | | TRANS. SPAN 9 - TOP AND BOTTOM | |
| S544 | 196 | 35'-6" | | | TRANS. SPAN 9 - TOP AND BOTTOM | |
| S545 | 358 | 25'-6" | | | TRANS. SPAN 10 - TOP AND BOTTOM | |
| S546 | 358 | 18'-6" | | | TRANS. SPAN 11 - TOP AND BOTTOM | |
| S547 | 360 | 13'-3" | | | TRANS. SPAN 12 - TOP AND BOTTOM | |
| S548 | 42 | 4'-5" | X | | SS MEDIAN BARRIER | |
| S549 | 20 | 4'-10" | X | X | GORE BARRIER - VERT. | |
| S550 | 4 | 8'-10" | X | | GORE BARRIER NOSE - VERT. | |
| S551 | 77 | 5'-0" | | | FLOOR DRAIN | |
| S452 | 8 | 4'-2" | X | X | DIAPHRAGM HORIZ. STIRRUP | |
| S553 | 16 | 11'-8" | X | | SIGN STRUCTURE BULB-OUT STIRRUP INTO DECK | |
| S554 | 16 | 10'-0" | X | | SIGN STRUCTURE 42SS BULB-OUT STIRRUP | |
| S555 | 4 | 3'-9" | X | | SIGN STRUCTURE BULB-OUT STIRRUP INTO DECK | |
| S556 | 4 | 4'-3" | X | | SIGN STRUCTURE 42SS BULB-OUT STIRRUP | |
| S557 | 16 | 12'-9" | X | | SIGN STRUCTURE DIAPHRAGM BAR WITH SHORT LEGS | |
| S658 | 12 | 7'-0" | | | SIGN STRUCTURE LONG. STRAIGHT BAR | |
| S659 | 20 | 16'-6" | X | | SIGN STRUCTURE BULB-OUT HORIZ. STIRRUP | |
| S760 | 4 | 19'-4" | X | | SIGN STRUCTURE DIAPHRAGM BAR | |
| S561 | 2 | 13'-4" | X | | SIGN STRUCTURE DIAPHRAGM BAR - STIRRUP | |
| S562 | 10 | 15'-10" | X | | SIGN STRUCTURE DIAPHRAGM BAR - STIRRUP | |
| S563 | 6 | 15'-8" | X | | DIAPHRAGM BAR WITH SHORT LEGS | |

TOTAL WEIGHT= 585,530 LB

## BAR SERIES

| BAR MARK | NO. REQ'D | LENGTH |
|---|---|---|
| S514 | 2 SERIES OF 25 | 1'-8" TO 41'-1" |
| S515 | 2 SERIES OF 19 | 1'-8" TO 40'-4" |
| S452 | 2 SERIES OF 4 | 2'-8" TO 5'-7" |
| S549 | 2 SERIES OF 10 | 4'-5" TO 5'-2" |

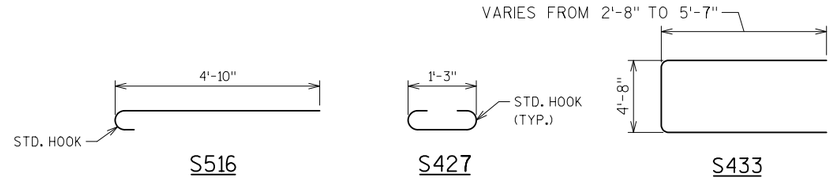
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## DIAPHRAGM BILL OF BARS

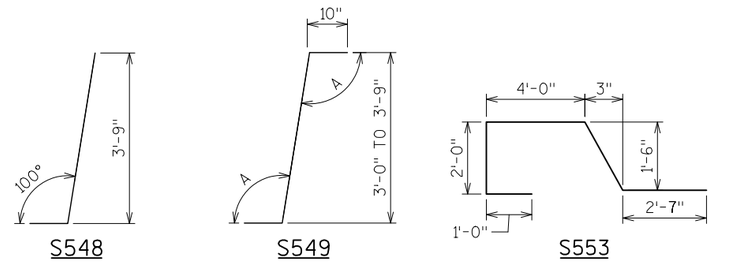
ALL BARS STEEL REINFORCEMENT IN THIS BILL OF BARS SHALL BE EPOXY COATED

| BAR MARK | NO. REQ'D | LENGTH | BENT | LOCATION |
|---|---|---|---|---|
| N401 | 258 | 6'-11" | X | DIAPH. VERT. W. ABUT & PIER 5, PIER 8, PIER 1C |
| N402 | 266 | 5'-8" | X | DIAPH. VERT. W. ABUT & PIER 5, PIER 8, PIER 1C |
| N603 | 290 | 4'-10" | | DIAPH. HORIZ. W. ABUT. PIER 5, PIER 8, PIER 1C |
| N604 | 140 | 4'-3" | | DIAPH. HORIZ. PIER 5, PIER 8, PIER 1C |
| N405 | 240 | 4'-3" | | DIAPH. HORIZ. PIER 1 THRU PIER 4 |
| N506 | 120 | 11'-8" | X | DIAPH. VERT. PIER 1 THRU PIER 4 |
| N507 | 40 | 9'-6" | X | DIAPH. VERT. PIER 1 THRU PIER 4 |
| N408 | 240 | 3'-7" | | DIAPH. HORIZ. PIER 6 & PIER 7 |
| N509 | 48 | 16'-2" | X | DIAPH. VERT. PIER 6 & PIER 7 |
| N510 | 48 | 14'-0" | X | DIAPH. VERT. PIER 6 & PIER 7 |
| N411 | 384 | 3'-11" | | DIAPH. HORIZ. PIER 9 THRU PIER 11 |
| N412 | 88 | 2'-6" | | DIAPH. HORIZ. PIER 9 & PIER 10 |
| N513 | 72 | 13'-2" | X | DIAPH. VERT. PIER 9 THRU PIER 11 |
| N514 | 128 | 11'-0" | X | DIAPH. VERT. PIER 9 THRU PIER 11 |
| N515 | 37 | 12'-0" | X | DIAPH. VERT. PIER 9 THRU PIER 11 |
| N616 | 50 | 2'-9" | | DIAPH. END PIER 8 SOUTH END & PIER 1C |

TOTAL WEIGHT= 13,900 LB

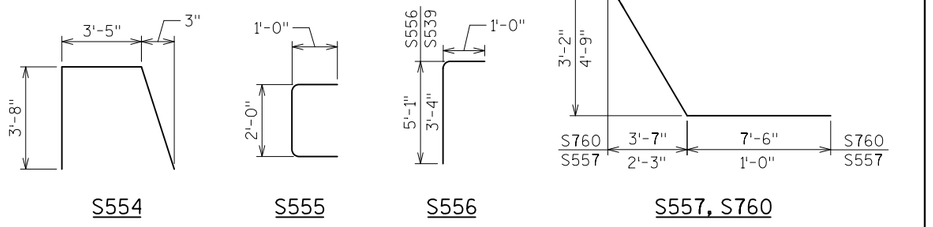



S516 S427 S433

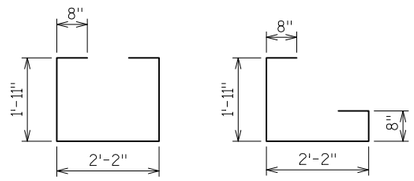



S548 S549 S553

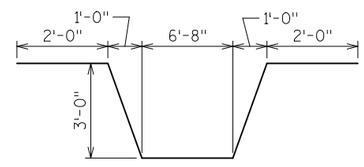
■ ANGLE "A"= 100° FOR LONGEST BAR
= 90° FOR SHORTEST BAR



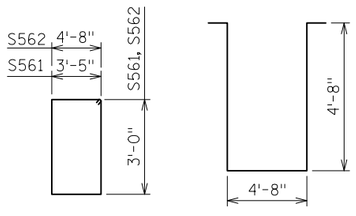

S554 S555 S556 S557, S760



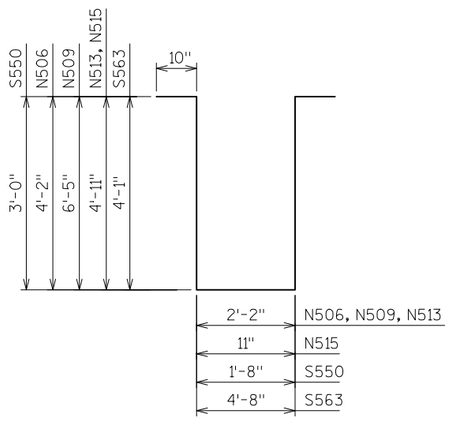

N401 N402



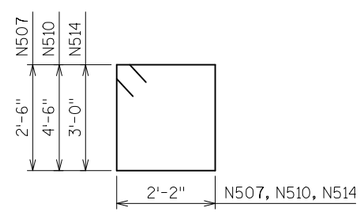

S659



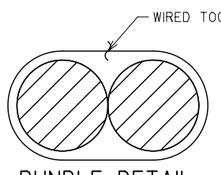

S561, S562 S563




N506, N509 N513, N515, S550, S563




N507, N510, N514




BUNDLE DETAIL

## LEGEND

* BARS TO BE BUNDLED

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

DRAWN BY MKN | PLANS CK'D. JDL

SUPERSTRUCTURE BILL OF BARS

SHEET 61 OF 81
477

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\B-70-401\53 - B-70-401 Deck Bill of Bars.dgn

DATE: 1/29/2016
I.D. jon_lidgard

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STATE PROJECT NUMBER

1517-07-77

| LOCATION | CL BRG. WEST | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | CL PIER 1 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | CL PIER 2 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | CL PIER 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ℄ USH 10 WB | 807.70 | 807.85 | 808.00 | 808.15 | 808.30 | 808.45 | 808.59 | 808.74 | 808.89 | 809.04 | 809.19 | 809.34 | 809.48 | 809.63 | 809.78 | 809.92 | 810.06 | 810.20 | 810.34 | 810.47 | 810.61 | 810.76 | 810.91 | 811.06 | 811.20 | 811.34 | 811.47 | 811.61 | 811.74 | 811.86 | 811.98 |
| NORTH EDGE OF DECK | 808.64 | 808.78 | 808.94 | 809.07 | 809.22 | 809.39 | 809.52 | 809.66 | 809.81 | 809.96 | 810.11 | 810.26 | 810.40 | 810.55 | 810.69 | 810.84 | 810.97 | 811.11 | 811.24 | 811.38 | 811.50 | 811.65 | 811.79 | 811.94 | 812.08 | 812.22 | 812.35 | 812.48 | 812.60 | 812.72 | 812.84 |
| NORTH GUTTER LINE | 808.63 | 808.77 | 808.93 | 809.06 | 809.21 | 809.38 | 809.51 | 809.65 | 809.80 | 809.95 | 810.10 | 810.25 | 810.39 | 810.54 | 810.68 | 810.83 | 810.96 | 811.10 | 811.23 | 811.37 | 811.49 | 811.64 | 811.78 | 811.93 | 812.07 | 812.21 | 812.34 | 812.47 | 812.59 | 812.71 | 812.84 |
| GIRDER 1 | 808.54 | 808.69 | 808.83 | 808.98 | 809.13 | 809.28 | 809.43 | 809.57 | 809.72 | 809.87 | 810.02 | 810.17 | 810.31 | 810.46 | 810.60 | 810.74 | 810.88 | 811.02 | 811.16 | 811.29 | 811.42 | 811.56 | 811.71 | 811.85 | 811.99 | 812.13 | 812.26 | 812.39 | 812.52 | 812.64 | 812.76 |
| GIRDER 2 | 808.24 | 808.39 | 808.53 | 808.68 | 808.83 | 808.98 | 809.13 | 809.27 | 809.42 | 809.57 | 809.72 | 809.87 | 810.01 | 810.16 | 810.31 | 810.45 | 810.59 | 810.73 | 810.86 | 811.00 | 811.13 | 811.28 | 811.42 | 811.56 | 811.71 | 811.84 | 811.98 | 812.11 | 812.24 | 812.36 | 812.49 |
| GIRDER 3 | 807.94 | 808.09 | 808.23 | 808.38 | 808.53 | 808.68 | 808.82 | 808.97 | 809.12 | 809.27 | 809.42 | 809.57 | 809.72 | 809.86 | 810.01 | 810.15 | 810.29 | 810.43 | 810.57 | 810.71 | 810.84 | 810.99 | 811.13 | 811.28 | 811.42 | 811.56 | 811.69 | 811.83 | 811.96 | 812.08 | 812.21 |
| GIRDER 4 | 807.64 | 807.79 | 807.93 | 808.08 | 808.23 | 808.38 | 808.52 | 808.67 | 808.82 | 808.97 | 809.12 | 809.27 | 809.42 | 809.57 | 809.72 | 809.86 | 810.00 | 810.15 | 810.28 | 810.42 | 810.55 | 810.70 | 810.85 | 810.99 | 811.13 | 811.27 | 811.41 | 811.54 | 811.67 | 811.80 | 811.93 |
| GIRDER 5 | 807.34 | 807.48 | 807.63 | 807.78 | 807.93 | 808.07 | 808.22 | 808.37 | 808.52 | 808.67 | 808.82 | 808.97 | 809.12 | 809.27 | 809.41 | 809.56 | 809.70 | 809.84 | 809.98 | 810.12 | 810.26 | 810.41 | 810.56 | 810.70 | 810.85 | 810.99 | 811.12 | 811.26 | 811.39 | 811.54 | 811.65 |
| GIRDER 6 | 807.04 | 807.18 | 807.33 | 807.48 | 807.63 | 807.77 | 807.92 | 808.07 | 808.22 | 808.37 | 808.52 | 808.67 | 808.82 | 808.97 | 809.12 | 809.26 | 809.41 | 809.55 | 809.69 | 809.83 | 809.97 | 810.12 | 810.27 | 810.42 | 810.56 | 810.70 | 810.84 | 810.98 | 811.11 | 811.24 | 811.36 |
| SOUTH GUTTER LINE | 806.95 | 807.10 | 807.25 | 807.40 | 807.55 | 807.70 | 807.85 | 808.00 | 808.15 | 808.30 | 808.44 | 808.59 | 808.74 | 808.89 | 809.04 | 809.19 | 809.33 | 809.47 | 809.61 | 809.75 | 809.88 | 810.04 | 810.19 | 810.34 | 810.49 | 810.63 | 810.77 | 810.90 | 811.04 | 811.16 | 811.29 |
| SOUTH EDGE OF DECK | 806.95 | 807.10 | 807.25 | 807.40 | 807.55 | 807.70 | 807.85 | 808.00 | 808.15 | 808.30 | 808.44 | 808.59 | 808.74 | 808.89 | 809.04 | 809.19 | 809.33 | 809.47 | 809.61 | 809.75 | 809.88 | 810.04 | 810.19 | 810.34 | 810.49 | 810.63 | 810.77 | 810.90 | 811.04 | 811.16 | 811.29 |

## TOP OF DECK ELEVATIONS SPANS 1-3

| LOCATION | CL PIER 3 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | CL PIER 4 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | CL PIER 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ℄ USH 10 WB | 811.98 | 812.11 | 812.23 | 812.35 | 812.47 | 812.58 | 812.69 | 812.79 | 812.89 | 812.98 | 813.08 | 813.16 | 813.23 | 813.31 | 813.38 | 813.45 | 813.51 | 813.57 | 813.63 | 813.68 | 813.73 |
| NORTH EDGE OF DECK | 812.84 | 812.98 | 813.10 | 813.21 | 813.33 | 813.44 | 813.54 | 813.64 | 813.74 | 813.83 | 813.91 | 813.97 | 814.04 | 814.11 | 814.18 | 814.25 | 814.31 | 814.37 | 814.42 | 814.47 | 814.51 |
| NORTH GUTTER LINE | 812.84 | 812.96 | 813.07 | 813.19 | 813.31 | 813.42 | 813.51 | 813.61 | 813.71 | 813.81 | 813.89 | 813.97 | 814.04 | 814.11 | 814.18 | 814.25 | 814.31 | 814.37 | 814.42 | 814.47 | 814.51 |
| GIRDER 1 | 812.76 | 812.88 | 813.00 | 813.12 | 813.23 | 813.33 | 813.44 | 813.64 | 813.64 | 813.73 | 813.83 | 813.90 | 813.97 | 814.04 | 814.11 | 814.17 | 814.23 | 814.29 | 814.35 | 814.40 | 814.45 |
| GIRDER 2 | 812.49 | 812.61 | 812.73 | 812.84 | 812.95 | 813.06 | 813.17 | 813.27 | 813.37 | 813.47 | 813.56 | 813.63 | 813.71 | 813.78 | 813.84 | 813.91 | 813.97 | 814.03 | 814.09 | 814.14 | 814.20 |
| GIRDER 3 | 812.21 | 812.33 | 812.45 | 812.57 | 812.68 | 812.79 | 812.89 | 813.00 | 813.10 | 813.20 | 813.29 | 813.37 | 813.44 | 813.51 | 813.58 | 813.65 | 813.71 | 813.77 | 813.83 | 813.89 | 813.94 |
| GIRDER 4 | 811.93 | 812.05 | 812.17 | 812.29 | 812.40 | 812.51 | 812.62 | 812.73 | 812.83 | 812.93 | 813.02 | 813.10 | 813.17 | 813.25 | 813.32 | 813.38 | 813.45 | 813.51 | 813.57 | 813.62 | 813.68 |
| GIRDER 5 | 811.65 | 811.77 | 811.90 | 812.01 | 812.13 | 812.24 | 812.35 | 812.46 | 812.56 | 812.66 | 812.75 | 812.83 | 812.91 | 812.98 | 813.05 | 813.12 | 813.19 | 813.25 | 813.31 | 813.36 | 813.42 |
| GIRDER 6 | 811.36 | 811.50 | 811.62 | 811.74 | 811.85 | 811.97 | 812.08 | 812.18 | 812.29 | 812.39 | 812.49 | 812.57 | 812.64 | 812.72 | 812.79 | 812.86 | 812.92 | 812.99 | 813.05 | 813.10 | 813.16 |
| SOUTH GUTTER LINE | 811.29 | 811.42 | 811.55 | 811.67 | 811.79 | 811.90 | 812.01 | 812.12 | 812.22 | 812.32 | 812.41 | 812.49 | 812.57 | 812.65 | 812.72 | 812.79 | 812.86 | 812.92 | 812.98 | 813.04 | 813.09 |
| SOUTH EDGE OF DECK | 811.29 | 811.42 | 811.55 | 811.67 | 811.79 | 811.90 | 812.01 | 812.12 | 812.22 | 812.32 | 812.40 | 812.49 | 812.57 | 812.65 | 812.72 | 812.79 | 812.86 | 812.92 | 812.98 | 813.03 | 813.09 |

## TOP OF DECK ELEVATIONS SPANS 4-5

| LOCATION | CL PIER 5 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | CL PIER 6 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | CL PIER 7 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | CL PIER 8 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ℄ USH 10 WB | 813.73 | 813.80 | 813.86 | 813.91 | 813.95 | 813.99 | 814.02 | 814.05 | 814.07 | 814.08 | 814.08 | 814.08 | 814.07 | 814.05 | 814.03 | 813.99 | 813.96 | 813.91 | 813.86 | 813.80 | 813.73 | 813.65 | 813.56 | 813.46 | 813.35 | 813.23 | 813.10 | 812.96 | 812.81 | 812.66 | 812.49 |
| NORTH EDGE OF DECK | 814.51 | 814.58 | 814.63 | 814.68 | 814.72 | 814.70 | 814.66 | 814.61 | 814.56 | 814.52 | 814.52 | 814.52 | 814.51 | 814.50 | 814.48 | 814.46 | 814.42 | 814.38 | 814.34 | 814.30 | 814.22 | 814.18 | 814.07 | 813.98 | 813.87 | 813.76 | 813.63 | 813.50 | 813.36 | 813.22 | 813.06 | 812.89 |
| NORTH GUTTER LINE | 814.51 | 814.58 | 814.63 | 814.68 | 814.72 | 814.70 | 814.66 | 814.61 | 814.56 | 814.52 | 814.52 | 814.52 | 814.50 | 814.48 | 814.46 | 814.43 | 814.39 | 814.34 | 814.30 | 814.22 | 814.18 | 814.07 | 813.98 | 813.87 | 813.76 | 813.63 | 813.50 | 813.36 | 813.22 | 813.06 | 812.89 |
| GIRDER 1 | 814.46 | 814.52 | 814.57 | 814.62 | 814.66 | 814.64 | 814.61 | 814.57 | 814.53 | 814.49 | 814.49 | 814.49 | 814.47 | 814.45 | 814.43 | 814.40 | 814.36 | 814.31 | 814.25 | 814.19 | 814.13 | 814.04 | 813.95 | 813.84 | 813.73 | 813.61 | 813.48 | 813.34 | 813.19 | 813.03 | 812.87 |
| GIRDER 2 | 814.25 | 814.30 | 814.36 | 814.40 | 814.44 | 814.45 | 814.44 | 814.42 | 814.39 | 814.37 | 814.37 | 814.36 | 814.35 | 814.33 | 814.31 | 814.28 | 814.24 | 814.19 | 814.14 | 814.08 | 814.01 | 813.92 | 813.83 | 813.73 | 813.61 | 813.49 | 813.36 | 813.22 | 813.08 | 812.92 | 812.75 |
| GIRDER 3 | 814.03 | 814.09 | 814.14 | 814.19 | 814.23 | 814.25 | 814.26 | 814.26 | 814.25 | 814.24 | 814.25 | 814.24 | 814.23 | 814.21 | 814.19 | 814.15 | 814.12 | 814.07 | 814.02 | 813.96 | 813.89 | 813.81 | 813.71 | 813.61 | 813.50 | 813.38 | 813.25 | 813.11 | 812.96 | 812.81 | 812.64 |
| GIRDER 4 | 813.81 | 813.87 | 813.92 | 813.97 | 814.02 | 814.05 | 814.08 | 814.10 | 814.11 | 814.12 | 814.12 | 814.12 | 814.11 | 814.09 | 814.07 | 814.03 | 814.00 | 813.95 | 813.90 | 813.84 | 813.77 | 813.69 | 813.60 | 813.49 | 813.38 | 813.26 | 813.13 | 813.00 | 812.85 | 812.69 | 812.53 |
| GIRDER 5 | 813.59 | 813.65 | 813.71 | 813.76 | 813.80 | 813.84 | 813.89 | 813.93 | 813.96 | 813.99 | 814.00 | 814.00 | 813.98 | 813.97 | 813.94 | 813.91 | 813.88 | 813.83 | 813.78 | 813.72 | 813.65 | 813.57 | 813.48 | 813.38 | 813.27 | 813.15 | 813.02 | 812.88 | 812.74 | 812.58 | 812.42 |
| GIRDER 6 | 813.37 | 813.43 | 813.49 | 813.54 | 813.59 | 813.64 | 813.70 | 813.76 | 813.81 | 813.86 | 813.87 | 813.87 | 813.86 | 813.85 | 813.82 | 813.79 | 813.76 | 813.71 | 813.66 | 813.60 | 813.54 | 813.45 | 813.36 | 813.26 | 813.15 | 813.03 | 812.91 | 812.77 | 812.62 | 812.47 | 812.31 |
| GIRDER 7 | 813.15 | 813.22 | 813.27 | 813.33 | 813.37 | 813.42 | 813.51 | 813.59 | 813.66 | 813.73 | 813.75 | 813.75 | 813.74 | 813.72 | 813.70 | 813.67 | 813.64 | 813.59 | 813.54 | 813.48 | 813.42 | 813.34 | 813.24 | 813.14 | 813.04 | 812.92 | 812.79 | 812.66 | 812.51 | 812.36 | 812.19 |
| SOUTH GUTTER LINE | 813.09 | 813.16 | 813.22 | 813.28 | 813.33 | 813.38 | 813.47 | 813.55 | 813.63 | 813.70 | 813.72 | 813.72 | 813.71 | 813.69 | 813.67 | 813.64 | 813.61 | 813.56 | 813.51 | 813.45 | 813.39 | 813.31 | 813.22 | 813.12 | 813.01 | 812.89 | 812.77 | 812.63 | 812.48 | 812.33 | 812.17 |
| SOUTH EDGE OF DECK | 813.09 | 813.16 | 813.22 | 814.28 | 814.33 | 813.37 | 813.46 | 813.55 | 813.62 | 813.69 | 813.72 | 813.63 | 813.71 | 813.69 | 813.67 | 813.64 | 813.61 | 813.56 | 813.51 | 813.45 | 813.39 | 813.31 | 813.22 | 813.12 | 813.01 | 812.89 | 812.77 | 812.63 | 812.49 | 812.33 | 812.17 |

## TOP OF DECK ELEVATIONS SPAN 6-8

| LOCATION | CL PIER 8 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | CL PIER 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ℄ USH 10 WB | 812.49 | 812.36 | 812.23 | 812.09 | 811.95 | 811.80 | 811.64 | 811.48 | 811.32 | 811.15 | 810.97 |
| ℄ FWS RAMP | 810.44 | 810.30 | 810.16 | 810.02 | 809.88 | 809.74 | 809.61 | 809.47 | 809.33 | 809.19 | 809.05 |
| NORTH EDGE OF DECK | 812.89 | 812.77 | 812.65 | 812.50 | 812.37 | 812.22 | 812.06 | 811.91 | 811.75 | 811.58 | 811.41 |
| NORTH GUTTER LINE | 812.89 | 812.77 | 812.65 | 812.50 | 812.37 | 812.22 | 812.06 | 811.91 | 811.75 | 811.58 | 811.41 |
| GIRDER 1 | 812.86 | 812.73 | 812.60 | 812.46 | 812.32 | 812.18 | 812.03 | 811.87 | 811.71 | 811.54 | 811.37 |
| GIRDER 2 | 812.73 | 812.60 | 812.47 | 812.33 | 812.19 | 812.04 | 811.89 | 811.73 | 811.57 | 811.40 | 811.23 |
| GIRDER 3 | 812.60 | 812.47 | 812.33 | 812.19 | 812.05 | 811.90 | 811.75 | 811.59 | 811.43 | 811.26 | 811.08 |
| GIRDER 4 | 812.46 | 812.33 | 812.20 | 812.06 | 811.92 | 811.77 | 811.61 | 810.45 | 811.28 | 811.11 | 810.94 |
| GIRDER 5 | 812.33 | 812.20 | 812.07 | 811.93 | 811.78 | 811.63 | 811.47 | 811.31 | 811.14 | 810.97 | 810.79 |
| GIRDER 6 | 812.19 | 812.08 | 811.91 | 811.76 | 811.61 | 811.45 | 811.29 | 811.12 | 810.95 | 810.77 | 810.59 |
| GIRDER 7 | 812.22 | 812.00 | 811.76 | 811.61 | 811.45 | 811.29 | 811.12 | 810.95 | 810.78 | 810.61 | 810.44 |
| GIRDER 8 | 812.25 | 811.91 | 811.62 | 811.46 | 811.29 | 811.12 | 810.96 | 810.76 | 810.56 | 810.37 | 810.19 |
| GIRDER 9 | 811.88 | 811.67 | 811.46 | 811.25 | 811.05 | 810.85 | 810.66 | 810.48 | 810.29 | 810.12 | 809.93 |
| GIRDER 10 | 811.52 | 811.31 | 811.11 | 810.92 | 810.73 | 810.54 | 810.36 | 810.18 | 810.01 | 809.84 | 809.68 |
| GIRDER 11 | 811.17 | 810.97 | 810.78 | 810.60 | 810.41 | 810.24 | 810.07 | 809.90 | 809.74 | 809.58 | 809.43 |
| GIRDER 12 | 810.84 | 810.65 | 810.46 | 810.28 | 810.11 | 809.94 | 809.78 | 809.62 | 809.47 | 809.32 | 809.18 |
| GIRDER 13 | 810.51 | 810.33 | 810.15 | 809.98 | 809.81 | 809.65 | 809.50 | 809.34 | 809.20 | 809.06 | 808.92 |
| GIRDER 14 | 810.20 | 810.03 | 809.85 | 809.69 | 809.53 | 809.37 | 809.22 | 809.07 | 808.93 | 808.80 | 808.67 |
| SOUTH GUTTER LINE | 810.11 | 809.93 | 809.75 | 809.58 | 809.42 | 809.27 | 809.12 | 808.97 | 808.83 | 808.69 | 808.56 |
| SOUTH EDGE OF DECK | 810.11 | 809.93 | 809.75 | 809.58 | 809.42 | 809.27 | 809.12 | 808.97 | 808.83 | 808.69 | 808.56 |

## TOP OF DECK ELEVATIONS SPAN 9

| LOCATION | CL PIER 9 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | CL PIER 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ℄ USH 10 WB | 810.97 | 810.79 | 810.61 | 810.42 | 810.22 | 810.02 | 809.81 | 809.60 | 809.39 | 809.18 | 808.96 |
| ℄ FWS RAMP | 809.05 | 808.93 | 808.80 | 808.68 | 808.55 | 808.43 | 808.30 | 808.18 | 808.05 | 807.93 | 807.80 |
| NORTH EDGE OF DECK | 811.41 | 811.23 | 811.05 | 810.86 | 810.68 | 810.36 | 810.10 | 809.83 | 809.56 | 809.28 | 809.01 |
| NORTH GUTTER LINE | 811.41 | 811.23 | 811.05 | 810.86 | 810.68 | 810.36 | 810.10 | 809.83 | 809.56 | 809.28 | 809.01 |
| GIRDER 1 | 811.16 | 811.19 | 811.01 | 810.82 | 810.58 | 810.33 | 810.07 | 809.81 | 809.54 | 809.27 | 809.01 |
| GIRDER 2 | 811.23 | 811.05 | 810.86 | 810.67 | 810.45 | 810.22 | 809.98 | 809.73 | 809.49 | 809.24 | 808.99 |
| GIRDER 3 | 811.08 | 810.90 | 810.72 | 810.53 | 810.32 | 810.11 | 809.89 | 809.66 | 809.43 | 809.20 | 808.97 |
| GIRDER 4 | 810.94 | 810.76 | 810.57 | 810.38 | 810.19 | 809.99 | 809.78 | 809.57 | 809.36 | 809.14 | 809.93 |
| GIRDER 5 | 810.79 | 810.61 | 810.43 | 810.24 | 810.04 | 809.84 | 809.64 | 809.43 | 809.21 | 809.00 | 800.78 |
| GIRDER 6 | 810.59 | 810.42 | 810.24 | 810.08 | 809.90 | 809.65 | 809.41 | 809.16 | 808.96 | 808.75 | 808.55 |
| GIRDER 7 | 810.28 | 810.07 | 809.87 | 809.68 | 809.49 | 809.26 | 809.03 | 808.81 | 808.62 | 808.43 | 808.25 |
| GIRDER 8 | 809.86 | 809.66 | 809.46 | 809.26 | 809.07 | 808.86 | 808.65 | 808.45 | 808.27 | 808.11 | 807.95 |
| GIRDER 9 | 809.46 | 809.27 | 809.09 | 808.90 | 808.72 | 808.54 | 808.36 | 808.19 | 808.04 | 807.90 | 807.76 |
| GIRDER 10 | 809.07 | 808.89 | 808.71 | 808.54 | 808.38 | 808.22 | 808.07 | 807.92 | 807.80 | 807.68 | 807.57 |
| GIRDER 11 | 808.67 | 808.50 | 808.34 | 808.19 | 808.03 | 807.90 | 807.78 | 807.66 | 807.56 | 807.47 | 807.38 |
| SOUTH GUTTER LINE | 808.56 | 808.40 | 808.24 | 808.08 | 807.93 | 807.80 | 807.68 | 807.56 | 807.47 | 807.39 | 807.30 |
| SOUTH EDGE OF DECK | 808.56 | 808.40 | 808.24 | 808.08 | 807.93 | 807.80 | 807.68 | 807.56 | 807.47 | 807.39 | 807.30 |

## TOP OF DECK ELEVATIONS SPAN 10

8

8

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

DRAWN BY MKN | PLANS CK'D. MJA

TOP OF DECK ELEVATIONS 1

SHEET 63 OF 81
478

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\B-70-401\54 -Top of deck Elevations.dgn

DATE: 1/29/2016
I.D. Jon_Liggard

| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |

| LOCATION | CL PIER 10 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | CL PIER 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ℄ USH 10 WB | 808.96 | 808.75 | 808.54 | 808.32 | 808.11 | 807.89 | 807.68 | 807.47 | 807.25 | 807.04 | 806.82 |
| ℄ FWS RAMP | 807.80 | 807.68 | 807.55 | 807.43 | 807.30 | 807.18 | 807.05 | 806.93 | 806.80 | 806.68 | 806.55 |
| NORTH EDGE OF DECK | 809.01 | 808.74 | 808.47 | 808.20 | 807.93 | 807.65 | 807.38 | 807.11 | 806.84 | 806.59 | 806.34 |
| NORTH GUTTER LINE | 809.01 | 808.74 | 808.47 | 808.20 | 807.93 | 807.65 | 807.38 | 807.11 | 806.84 | 806.59 | 806.34 |
| GIRDER 1 | 809.01 | 808.74 | 808.47 | 808.21 | 807.94 | 807.67 | 807.41 | 807.14 | 806.87 | 806.62 | 806.39 |
| GIRDER 2 | 808.99 | 808.74 | 808.50 | 808.25 | 808.00 | 807.75 | 807.51 | 807.26 | 807.01 | 806.78 | 806.56 |
| GIRDER 3 | 808.97 | 808.75 | 808.52 | 808.29 | 808.06 | 807.83 | 807.60 | 807.37 | 807.15 | 806.93 | 806.71 |
| GIRDER 4 | 808.93 | 808.72 | 808.50 | 808.29 | 808.07 | 807.86 | 807.65 | 807.43 | 807.22 | 807.01 | 806.79 |
| GIRDER 5 | 808.78 | 808.57 | 808.36 | 808.14 | 807.93 | 807.72 | 807.50 | 807.29 | 807.07 | 806.86 | 806.65 |
| GIRDER 6 | 808.55 | 808.35 | 808.15 | 807.94 | 807.74 | 807.54 | 807.34 | 807.12 | 806.91 | 806.69 | 806.48 |
| GIRDER 7 | 808.25 | 808.07 | 807.89 | 807.70 | 807.52 | 807.34 | 807.15 | 806.94 | 806.72 | 806.51 | 806.30 |
| GIRDER 8 | 807.96 | 807.80 | 807.65 | 807.49 | 807.33 | 807.17 | 807.00 | 806.79 | 806.58 | 806.37 | 806.16 |
| GIRDER 9 | 807.67 | 807.54 | 807.41 | 807.27 | 807.14 | 807.03 | 806.85 | 806.65 | 806.44 | 806.23 | 806.03 |
| GIRDER 10 | 807.38 | 807.27 | 807.17 | 807.06 | 806.95 | 806.83 | 806.70 | 806.50 | 806.30 | 806.10 | 805.90 |
| SOUTH GUTTER LINE | 807.30 | 807.20 | 807.10 | 807.00 | 806.89 | 806.78 | 806.56 | 806.45 | 806.25 | 806.05 | 805.85 |
| SOUTH EDGE OF DECK | 807.30 | 807.20 | 807.10 | 807.00 | 806.89 | 806.78 | 806.56 | 806.45 | 806.25 | 806.05 | 805.85 |

TOP OF DECK ELEVATIONS SPAN 11

| LOCATION | CL PIER 11 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | CL PIER 1C |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ℄ USH 10 WB | 806.83 | 806.61 | 806.40 | 806.18 | 805.97 | 805.76 | 805.54 | 805.33 | 805.11 | 804.90 | 804.68 |
| ℄ FWS RAMP | 806.55 | 806.43 | 806.30 | 806.18 | 806.05 | 805.93 | 805.80 | 805.68 | 805.55 | 805.43 | 805.30 |
| NORTH EDGE OF DECK | 806.34 | 806.11 | 805.86 | 805.63 | 805.37 | 805.13 | 804.89 | 804.68 | 804.46 | 804.26 | 804.04 |
| NORTH GUTTER LINE | 806.34 | 806.11 | 805.86 | 805.63 | 805.37 | 805.13 | 804.89 | 804.68 | 804.46 | 804.26 | 804.04 |
| GIRDER 1 | 806.39 | 806.15 | 805.91 | 805.68 | 805.44 | 805.20 | 804.97 | 804.75 | 804.54 | 804.33 | 804.12 |
| GIRDER 2 | 806.56 | 806.35 | 806.13 | 805.91 | 805.69 | 805.48 | 805.26 | 805.04 | 804.83 | 804.62 | 804.41 |
| GIRDER 3 | 806.71 | 806.50 | 806.28 | 806.07 | 805.85 | 805.64 | 805.42 | 805.21 | 804.99 | 804.79 | 804.57 |
| GIRDER 4 | 806.79 | 806.58 | 806.36 | 806.15 | 805.93 | 805.72 | 805.50 | 805.29 | 805.07 | 804.86 | 804.65 |
| GIRDER 5 | 806.65 | 806.43 | 806.22 | 806.00 | 805.79 | 805.57 | 805.36 | 805.14 | 804.93 | 804.72 | 804.51 |
| GIRDER 6 | 806.48 | 806.26 | 806.05 | 805.84 | 805.62 | 805.41 | 805.19 | 804.98 | 804.77 | 804.55 | 804.34 |
| GIRDER 7 | 806.30 | 806.08 | 805.87 | 805.65 | 805.44 | 805.22 | 805.01 | 804.79 | 804.58 | 804.37 | 804.15 |
| GIRDER 8 | 806.10 | 805.89 | 805.68 | 805.47 | 805.25 | 805.04 | 804.83 | 804.62 | 804.41 | 804.20 | 803.99 |
| GIRDER 9 | 805.90 | 805.69 | 805.48 | 805.28 | 805.07 | 804.87 | 804.66 | 804.45 | 804.25 | 804.04 | 803.84 |
| SOUTH GUTTER LINE | 805.85 | 805.65 | 805.44 | 805.23 | 805.02 | 804.83 | 804.61 | 804.41 | 804.20 | 803.99 | 803.79 |
| SOUTH EDGE OF DECK | 805.85 | 805.65 | 805.44 | 805.23 | 805.02 | 804.83 | 804.61 | 804.41 | 804.20 | 803.99 | 803.79 |

TOP OF DECK ELEVATIONS SPAN 12

8

8

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

| DRAWN BY | MKN | PLANS CK'D. | MJA |
|---|---|---|---|

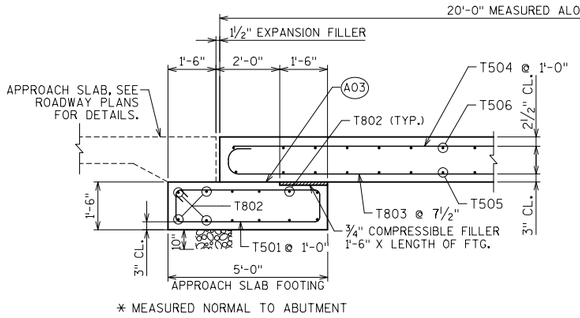
TOP OF DECK ELEVATIONS 2

SHEET 63 OF 81
479

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\B-70-401\54a -Top of deck Elevations 2.dgn

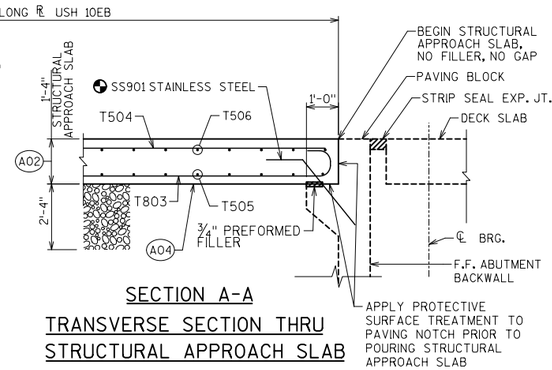
DATE: 1/29/2016
I.D. Jon_Lidgard

| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |

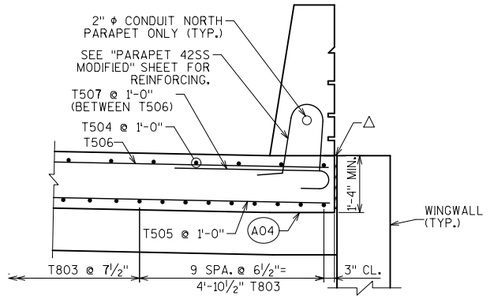



✳ MEASURED NORMAL TO ABUTMENT

## SECTION B-B




## SECTION A-A
## TRANSVERSE SECTION THRU STRUCTURAL APPROACH SLAB




## DETAIL AT WINGWALL
(LOOKING UPSTATION)

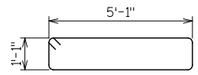
| BAR MARK | NO. REQ'D | LENGTH | BENT | LOCATION |
|---|---|---|---|---|
| T501 | 48 | 13'-0" | X | FOOTING - STIRRUP |
| T802 | 12 | 46'-4" | | FOOTING - TRANS. |
| T803 | 72 | 21'-6" | X | LONG. - BOT. |
| T504 | 44 | 19'-8" | | LONG. - TOP |
| T505 | 21 | 46'-4" | | TRANS. - BOT. |
| T506 | 21 | 46'-4" | | TRANS. - TOP |
| T507 | 40 | 4'-1" | X | TRANS. - TOP - WING |

TOTAL WEIGHT EPOXY COATED= 9,380 LB

| | | | | |
|---|---|---|---|---|
| SS901 | 44 | 5'-0" | X | CONC. BACKWALL TO APPROACH SLAB |

TOTAL WEIGHT STAINLESS= 750 LB

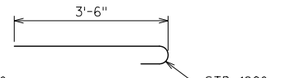
## APPROACH SLAB BILL OF BARS



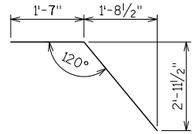

T501



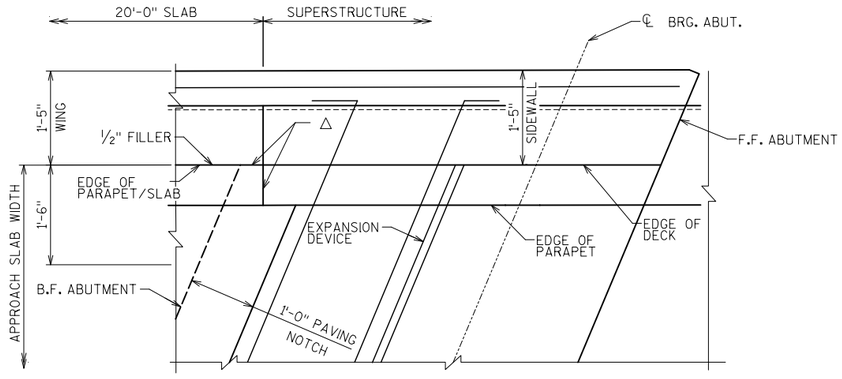

T803



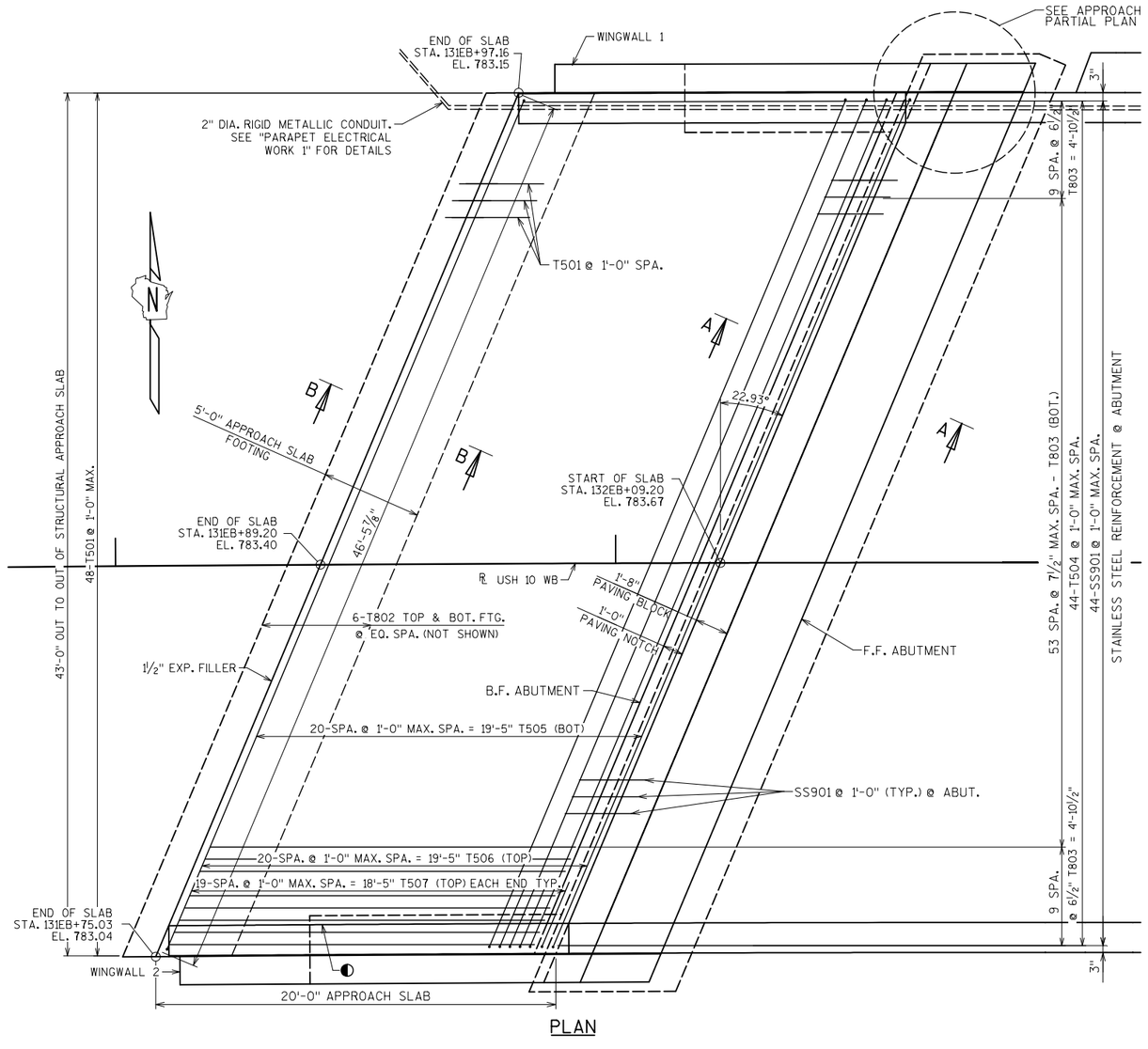

T507




SS901




## APPROACH SLAB PARTIAL PLAN




## PLAN

## NOTES

SEE SHEET "AESTHETIC DETAILS" FOR STRUCTURAL APPROACH SLAB PARAPET STAIN COLOR.

SEE SHEET "PARAPET ELECTRICAL WORK 1" FOR METALLIC CONDUIT LOCATION.

## LEGEND

(A02) STRUCTURAL APPROACH SLAB, STRUCTURAL APPROACH SLAB FOOTING, AND STRUCTURAL APPROACH SLAB PARAPETS SHALL BE "MODIFIED HIGH PERFORMANCE CONCRETE (HPC) MASONRY BRIDGES".

(A03) STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHELENE SHEETS OVER THE ENTIRE LENGTH OF THE FOOTING.

(A04) PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHELENE SHEETS OVER THE ENTIRE LENGTH AND WIDTH OF THE SUBGRADE. POLYETHELENE SHEETS SHALL BE INCIDENTAL TO BID ITEM "MODIFIED HIGH PERFORMANCE CONCRETE (HPC) MASONRY BRIDGES".

△ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE. EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

◓ THE COST OF STAINLESS STEEL BARS SS901IS INCLUDED WITH BID ITEM "SPV.0085.0800.5 BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES".

◐ SEE SHEET "PARAPET 42SS MODIFIED" FOR LOCATION OF NAME PLATE AND BENCH MARK.

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

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STRUCTURAL APPROACH SLAB DETAILS

SHEET 54 OF 81
480

8

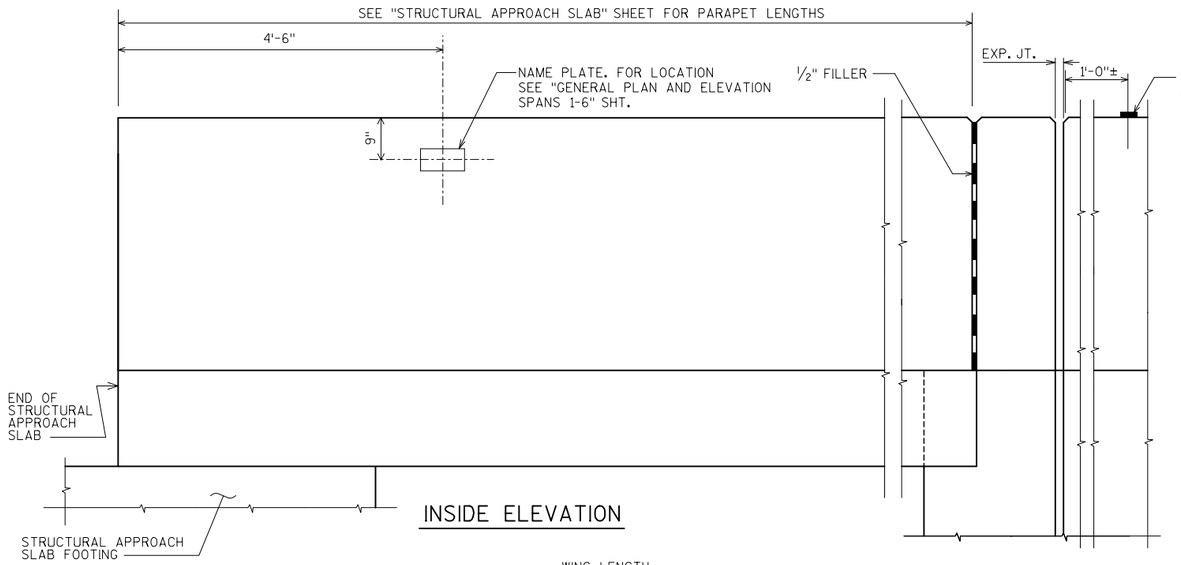
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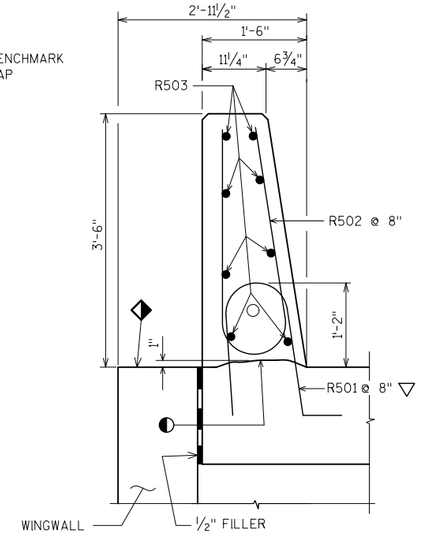
DATE: 1/29/2016
I.D. jon_liggard

STATE PROJECT NUMBER

1517-07-77




INSIDE ELEVATION

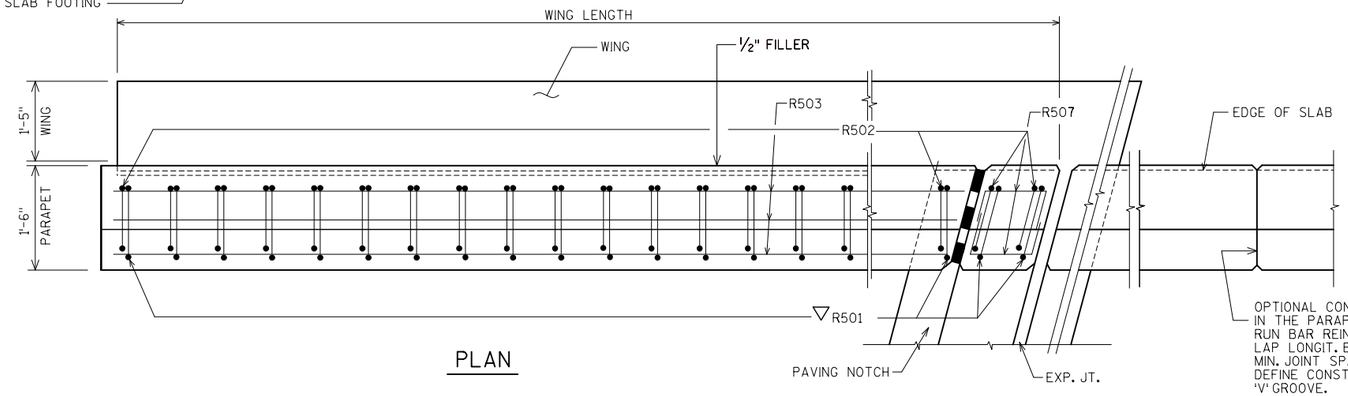



SECTION C

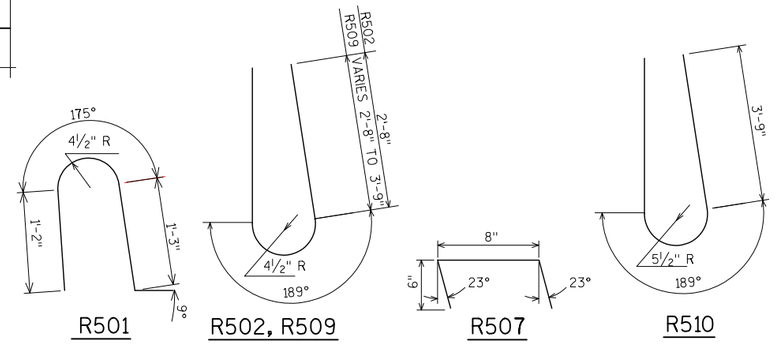
## BILL OF BARS

| BAR MARK | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|
| R501 | 4225 | 4'-5" | X | | PARAPET - VERT. |
| R502 | 4202 | 6'-8" | X | | PARAPET - VERT. |
| R503 | 16 | 19'-8" | | | PARAPET - LONGIT. WINGS |
| R504 | 144 | 54'-6" | | | PARAPET - LONGIT. UNIT 1 |
| R505 | 128 | 57'-1" | | | PARAPET - LONGIT. UNIT 2 |
| R506 | 144 | 56'-8" | | | PARAPET - LONGIT. UNIT 3 |
| R507 | 16 | 1'-5" | X | | PARAPET - STIRRUPS ABUTS. |
| R508 | 2 | 17'-5" | X | | PARAPET - LONGIT. TRANSITION |
| * R509 | 8 | 7'-8" | X | X | PARAPET - VERT. TRANSITION |
| R510 | 15 | 9'-1" | X | | PARAPET - VERT. 56SS |

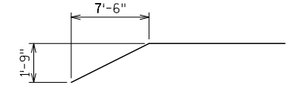
TOTAL WEIGHT= 73,600 LB



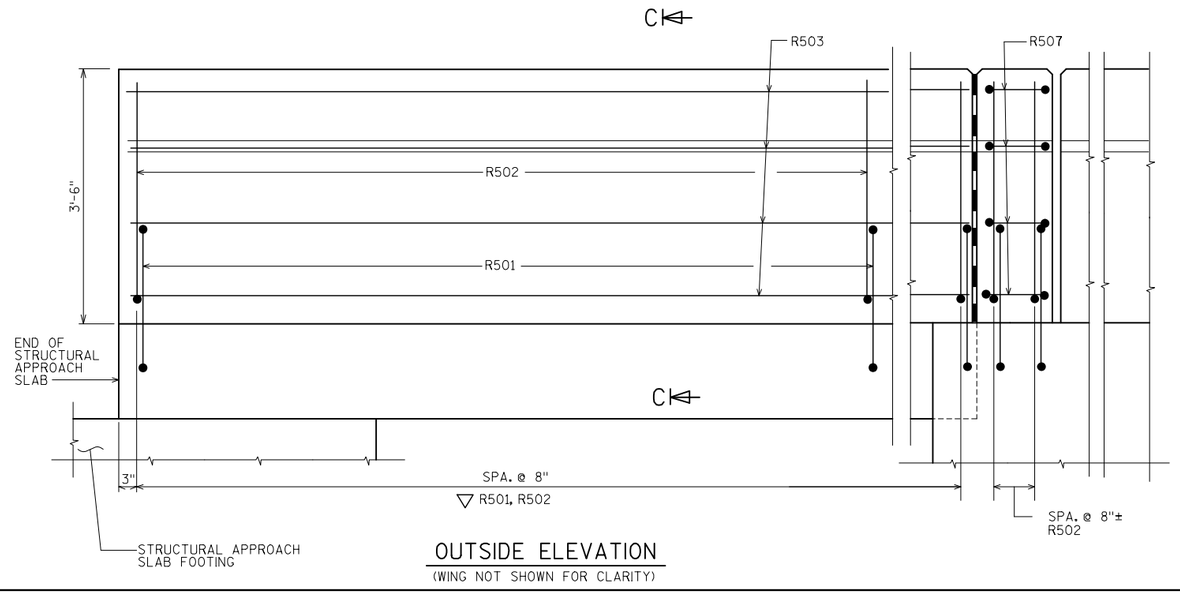

PLAN



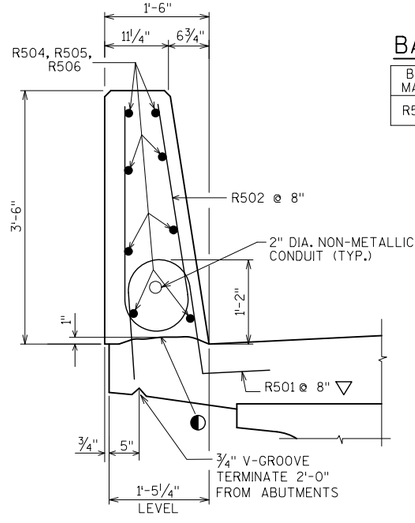

R501 R502, R509 R507 R510




R508




OUTSIDE ELEVATION
(WING NOT SHOWN FOR CLARITY)




PARAPET ON BRIDGE

## BAR SERIES TABLE

| BAR MARK | NO. REQ'D | LENGTH |
|---|---|---|
| R509 | 1 SERIES OF 8 | 6'-8" TO 8'-8" |

## NOTES

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

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

◆ SLOPE FOR DRAINAGE

▽ R501 BARS TO BE TIED TO DECK AND STRUCTURAL APPROACH SLAB STEEL BEFORE DECK AND STRUCTURAL APPROACH SLAB IS POURED.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

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PARAPET 42SS MODIFIED

SHEET 68 OF 81
481

DATE: 1/29/2016
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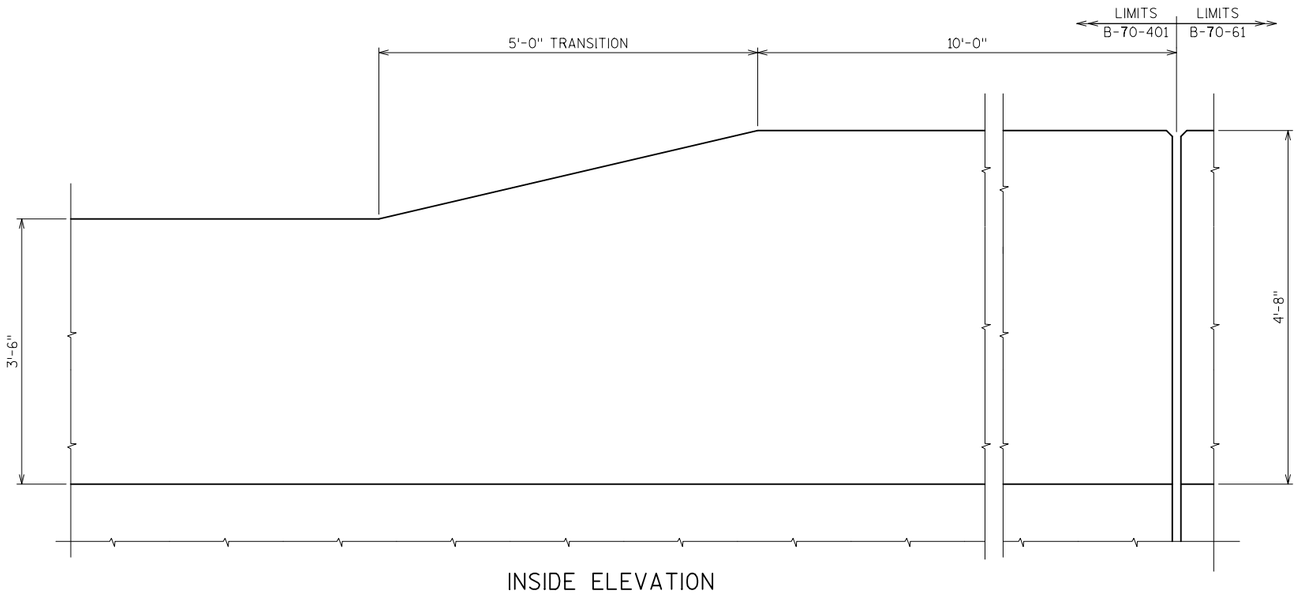
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8

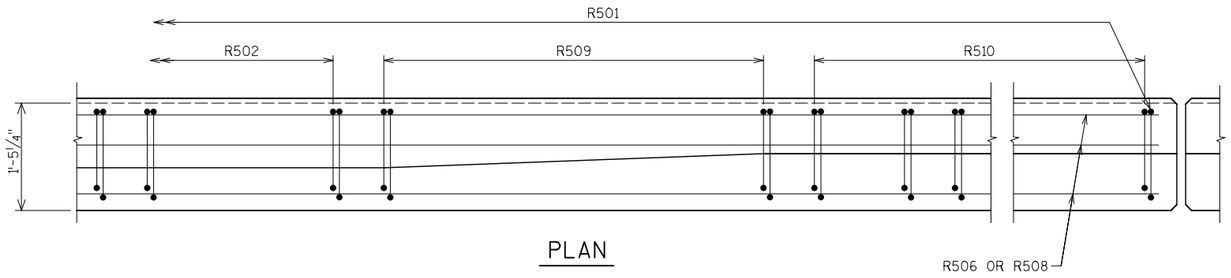
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STATE PROJECT NUMBER

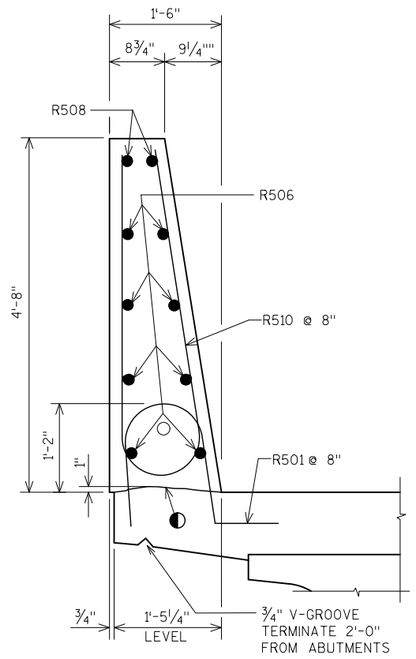
1517-07-77




INSIDE ELEVATION



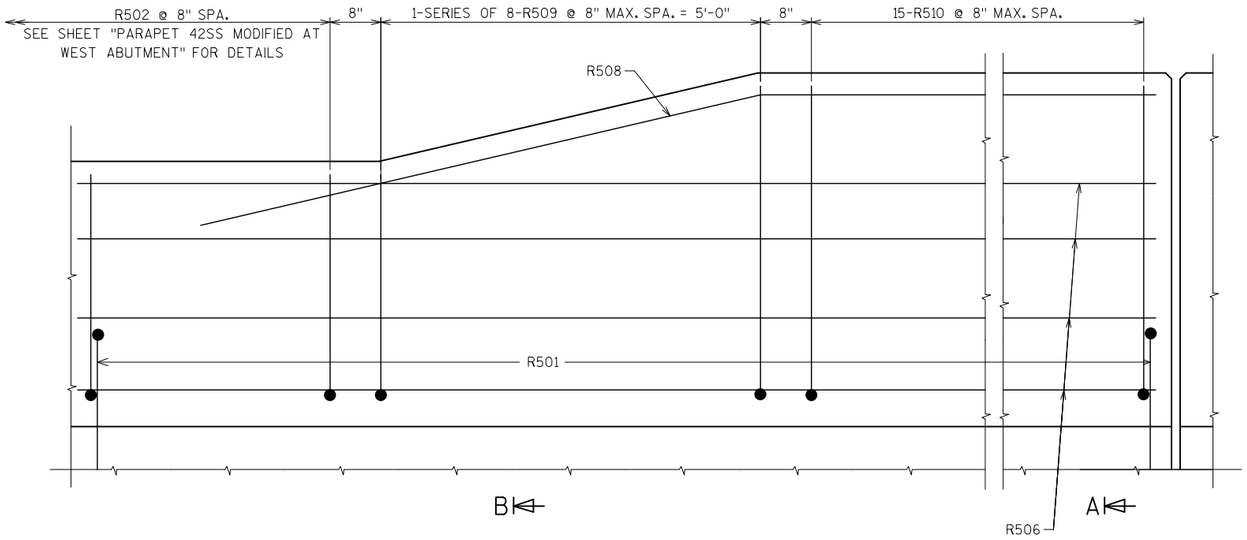

PLAN



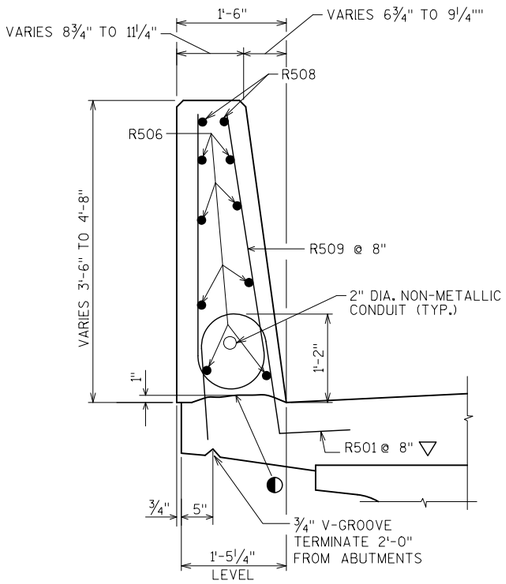

SECTION A

B

A




OUTSIDE ELEVATION




SECTION B

## NOTES

FOR NOTES, LEGEND, BILL OF BARS, AND BEND DIAGRAMS SEE SHEET "PARAPET 42SS MODIFIED"

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
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STRUCTURE B-70-401

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PARAPET 56SS MODIFIED AND TRANSITION

SHEET 55 OF 81
482

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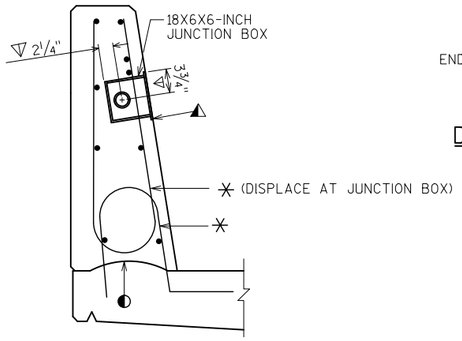
DATE: 1/29/2016
I.D. jon_liddgard

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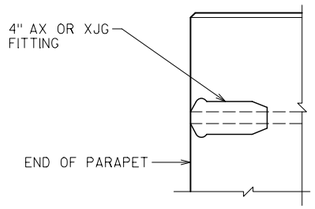
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STATE PROJECT NUMBER

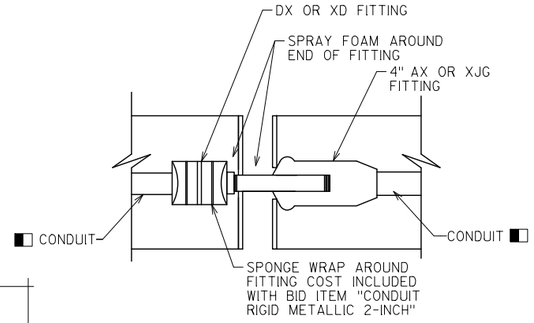
1517-07-77




SECTION A-A

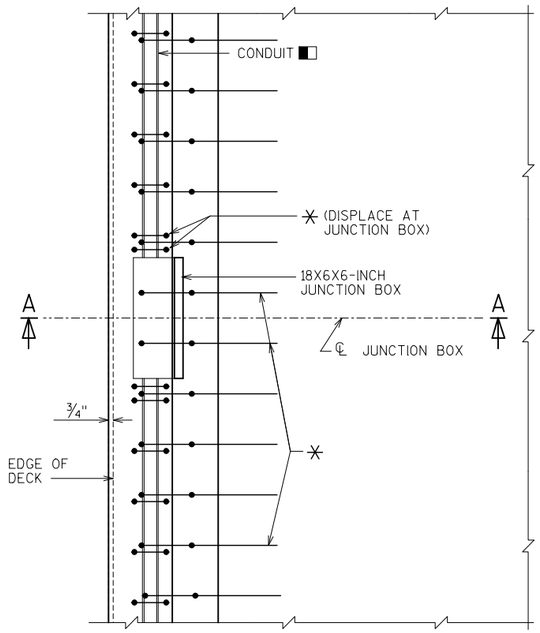



DETAIL OF PARAPET AT B-70-405

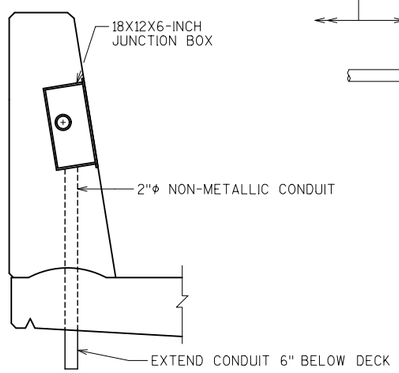



DETAIL 1
ELECTRICAL FITTING -
AX/DX CONNECTION

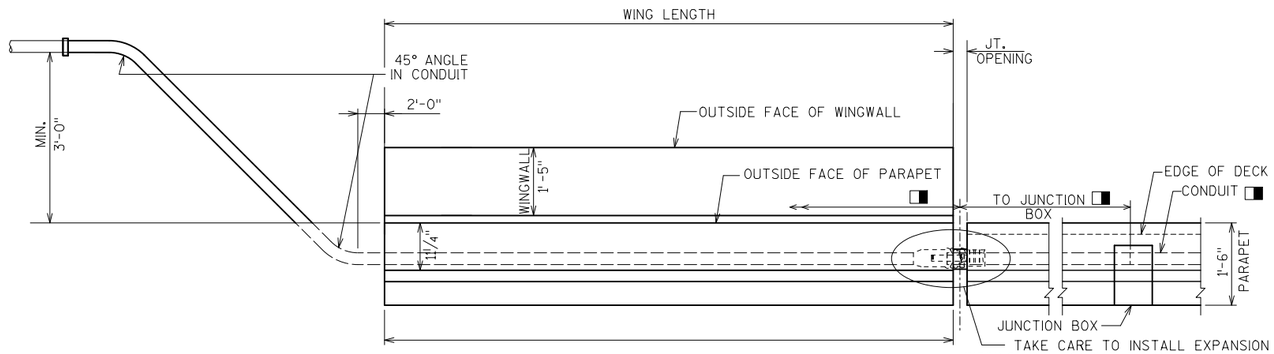
XD FITTING IS GOOD FOR 3/4" MOVEMENT IN ANY DIRECTION. THE XD FITTING WILL ALLOW FOR ANGULAR MOVEMENT WITH A DEFLECTION OF UP TO 30 DEGREES FROM THE NORMAL IN ANY DIRECTION.



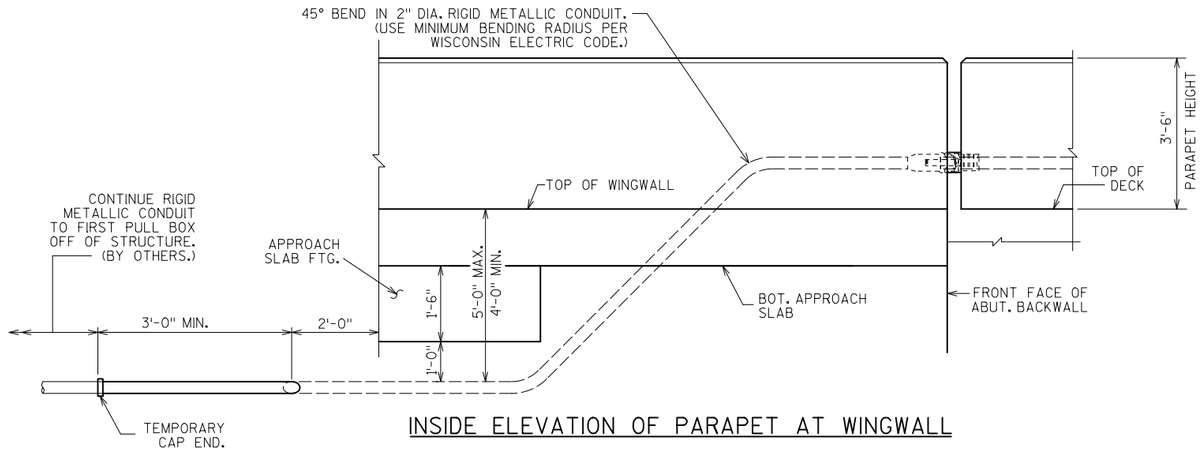

PLAN AT JUNCTION BOX




SECTION AT PIER C1




PLAN OF PARAPET AT WINGWALL




INSIDE ELEVATION OF PARAPET AT WINGWALL

■ USE RIGID METALLIC CONDUIT IN PARAPET ON DECK FROM JOINTS TO NEAREST PULL BOX AND TO PULL BOX ON WING SIDES OF THE JOINT OPENING.

◐ 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.

✳ SEE "PARAPET 42SS MODIFIED" SHEET FOR ADDITIONAL BAR STEEL DETAILS.

## NOTES

BID ITEMS SHALL BE:
"JUNCTION BOXES 18X6X6-INCH", EACH.
"JUNCTION BOXES 18X12X6-INCH", EACH.
"CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH"
"CONDUIT RIGID METALLIC 2-INCH"
"ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURE", EACH.

APPROVED MANUFACTURERS - JUNCTION BOXES:
SEE APPROVED MATERIAL LIST.

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING:
O-Z/GEDNEY TYPE AXDX-200 AND BONDING JUMPER (4¾" TOTAL 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. OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED.

FOR PLAN OF PARAPET AT WINGWALL SEE SHEET "PARAPET ELECTRICAL WORK 1".

| ℄ LIGHT STD. & 18X12X6-INCH JUNCTION BOX |
|---|
| STA. 132WB+75 NORTH |
| STA. 134WB+75 NORTH |
| STA. 136WB+75 NORTH |
| STA. 138WB+75 NORTH |
| STA. 140WB+75 NORTH |
| STA. 142WB+40 NORTH |
| STA. 144WB+91 NORTH |

| ℄ 18X6X6-INCH JUNCTION BOX |
|---|
| STA. 143WB+75 NORTH |
| STA. 141WB+50 NORTH |

| ℄ 18X12X6-INCH JUNCTION BOX |
|---|
| STA. 146WB+30 NORTH |

LIGHT STD. & JUNCTION BOX NORTH LOCATIONS

| ℄ LIGHT STD. & 18X12X6-INCH JUNCTION BOX |
|---|
| STA. 141FWS+50 SOUTH |
| STA. 143FWS+80 SOUTH |

| ℄ 18X6X6-INCH JUNCTION BOX |
|---|
| STA. 142FWS+70 SOUTH |
| STA. 145FWS+00 SOUTH |

| ℄ 18X12X6-INCH JUNCTION BOX |
|---|
| 146FWS+30.00 SOUTH |

LIGHT STD. & JUNCTION BOX SOUTH LOCATIONS

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

DRAWN BY MKN | PLANS CK'D. JDL

PARAPET ELECTRICAL WORK 1

SHEET 67 OF 81
483

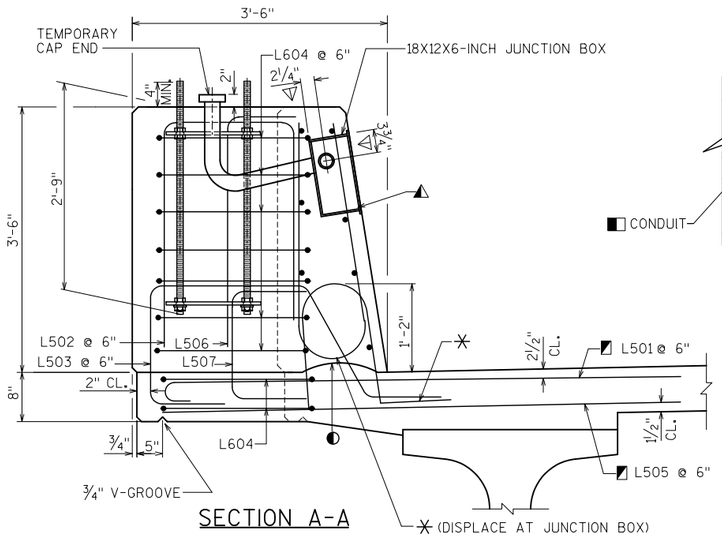
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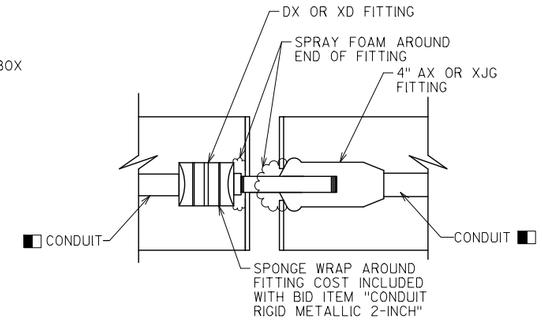
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DATE: 1/29/2016
I.D. jon_liddard




SECTION A-A




DETAIL 1
ELECTRICAL FITTING - AX/DX CONNECTION

XD FITTING IS GOOD FOR 3/4" MOVEMENT IN ANY DIRECTION. THE XD FITTING WILL ALLOW FOR ANGULAR MOVEMENT WITH A DEFLECTION OF UP TO 30 DEGREES FROM THE NORMAL IN ANY DIRECTION.

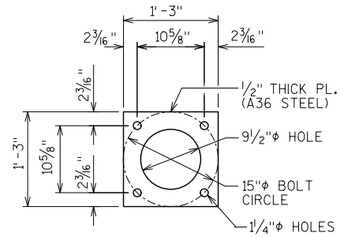
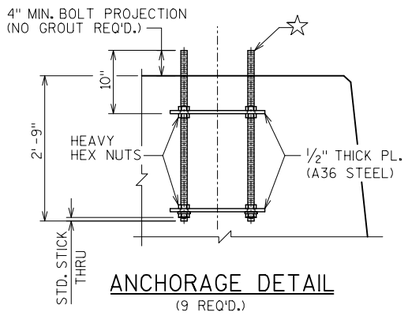
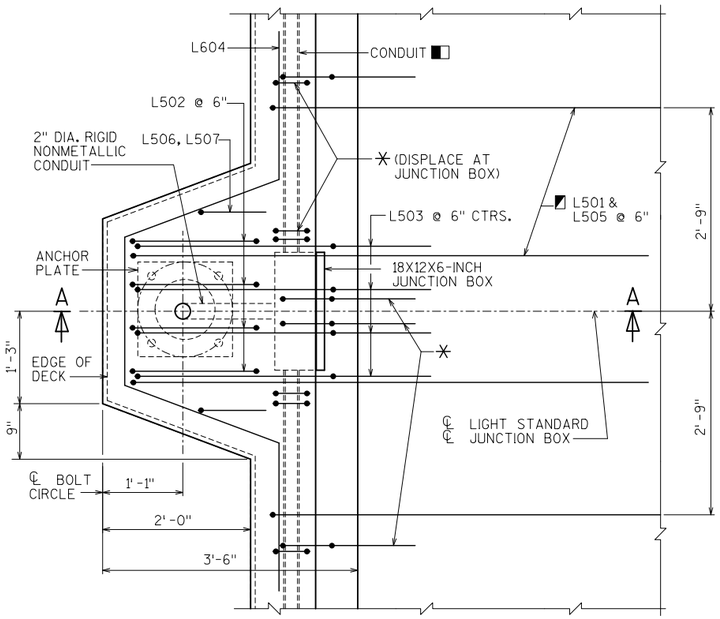


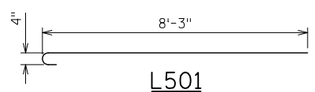

PLATE DETAIL
(18 REQ'D.)



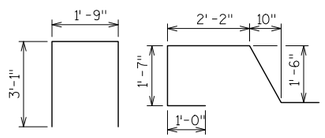

ANCHORAGE DETAIL
(9 REQ'D.)



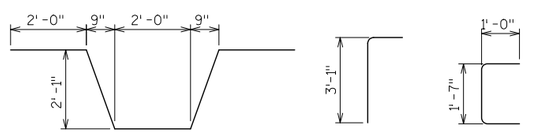

PLAN AT LIGHT STANDARD




L501




L502 L503




L604 L506 L507

STATE PROJECT NUMBER

1517-07-77

## NOTES

BID ITEMS SHALL BE:
"JUNCTION BOXES 18X6X6-INCH", EACH.
"JUNCTION BOXES 18X12X6-INCH", EACH.
"ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURE", EACH.
"CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH"
"CONDUIT RIGID METALLIC 2-INCH"

APPROVED MANUFACTURERS - JUNCTION BOXES:
SEE APPROVED MATERIAL LIST.

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING:
O-Z/GEDNEY TYPE AXDX-200 AND BONDING JUMPER (4¾" TOTAL 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. OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED.

FOR PLAN OF PARAPET AT WINGWALL SEE SHEET "PARAPET ELECTRICAL WORK 1".

## LEGEND

- ■ USE RIGID METALLIC CONDUIT 3'-0" INTO PARAPET ON DECK AND TO END OF CONDUIT ON WING SIDES OF THE JOINT OPENING.
- ◐ 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.
- ◩ THESE BARS ARE IN ADDITION TO STANDARD TRANSVERSE BARS IN DECK.
- ✳ SEE SHEET "PARAPET 42SS MODIFIED" FOR ADDITIONAL BAR STEEL DETAILS.
- ☆ 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.

## BILL OF BARS

ALL BARS IN THIS TABLE SHALL BE EPOXY COATED

| BAR MARK | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|
| L501 | 108 | 8'-11" | X | | DECK TRANSV. @ LIGHT STD. |
| L502 | 36 | 7'-8" | X | | PARAPET VERT. @ LIGHT STD. |
| L503 | 36 | 7'-0" | X | | PARAPET VERT. @ LIGHT STD. |
| L604 | 81 | 10'-0" | X | | PARAPET HORIZ. @ LIGHT STD. |
| L505 | 108 | 8'-4" | | | DECK TRANSV. @ LIGHT STD. |
| L506 | 18 | 4'-0" | X | | PARAPET VERT. @ LIGHT STD. |
| L507 | 18 | 3'-4" | X | | PARAPET VERT. @ LIGHT STD. |

TOTAL WEIGHT= 3,850 LB

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

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PARAPET ELECTRICAL WORK 2 & LIGHT STD

SHEET 60 OF 81
484

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DATE:1/29/2016
I.D. jon.liggard

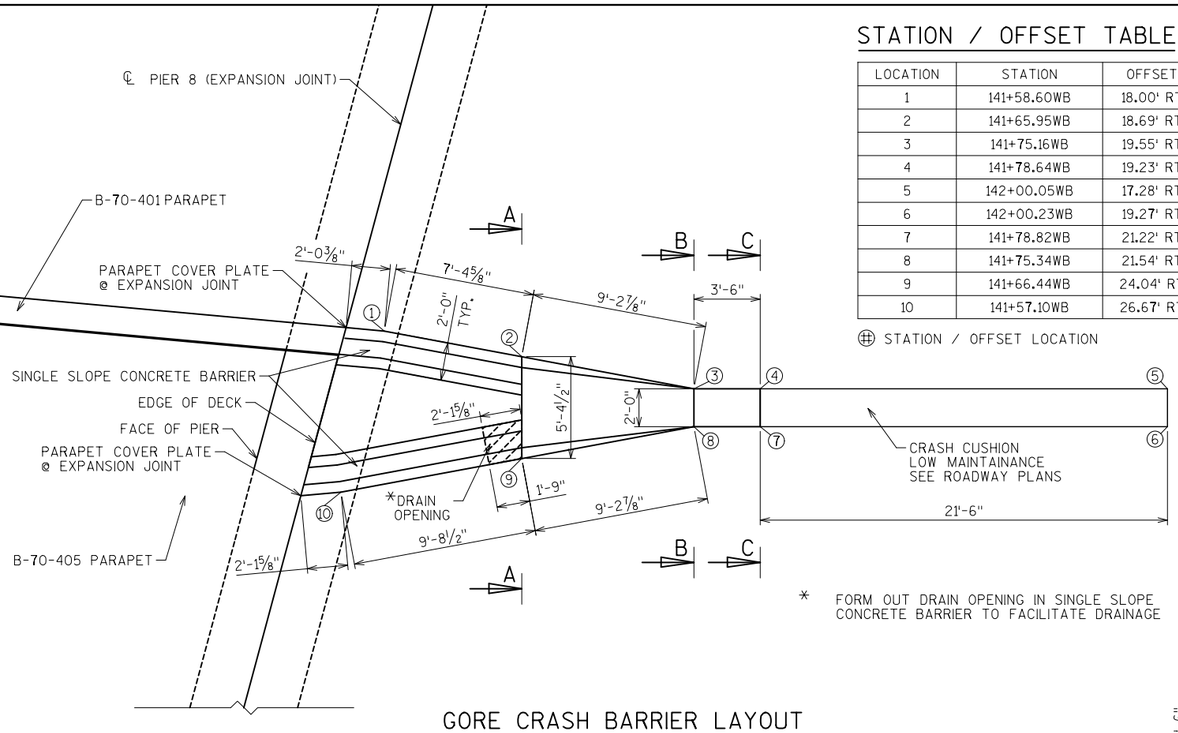
STATE PROJECT NUMBER

1517-07-77

## STATION / OFFSET TABLE

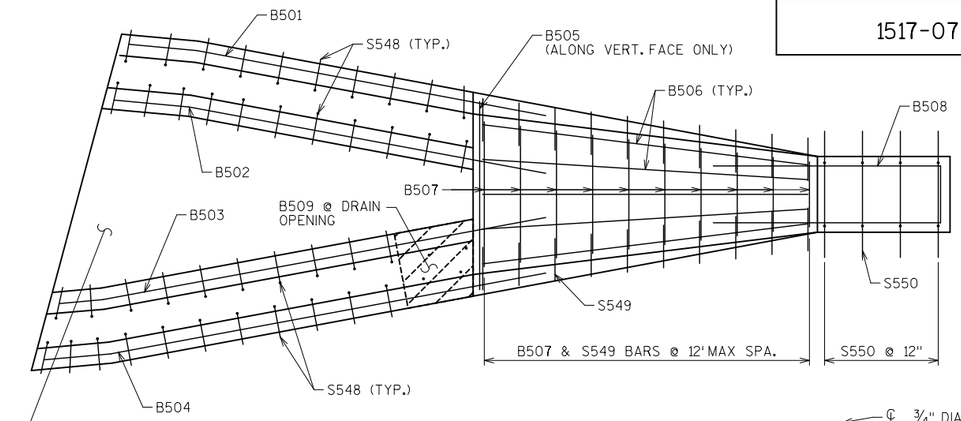
| LOCATION | STATION | OFFSET |
|---|---|---|
| 1 | 141+58.60WB | 18.00' RT |
| 2 | 141+65.95WB | 18.69' RT |
| 3 | 141+75.16WB | 19.55' RT |
| 4 | 141+78.64WB | 19.23' RT |
| 5 | 142+00.05WB | 17.28' RT |
| 6 | 142+00.23WB | 19.27' RT |
| 7 | 141+78.82WB | 21.22' RT |
| 8 | 141+75.34WB | 21.54' RT |
| 9 | 141+66.44WB | 24.04' RT |
| 10 | 141+57.10WB | 26.67' RT |

⊕ STATION / OFFSET LOCATION



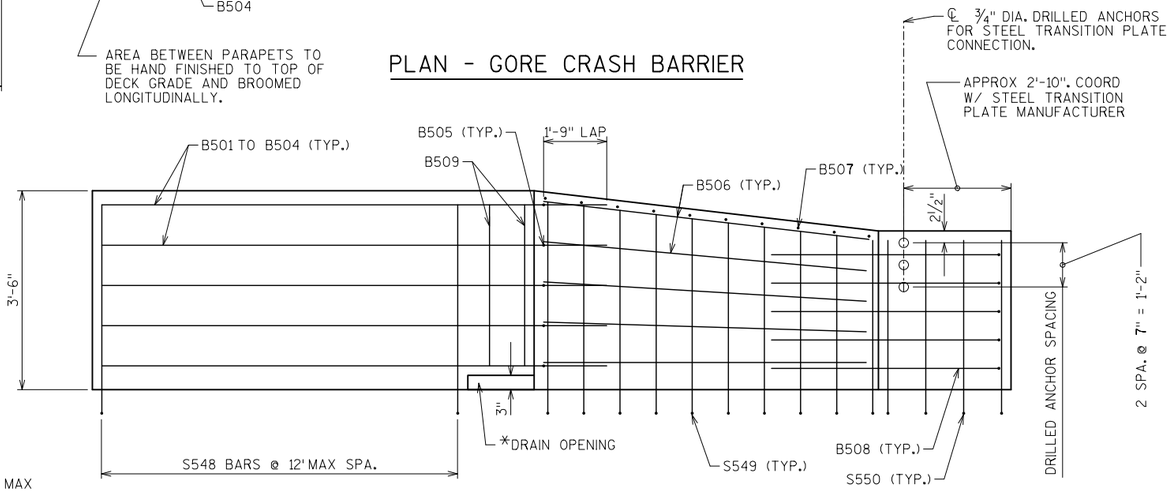

* FORM OUT DRAIN OPENING IN SINGLE SLOPE CONCRETE BARRIER TO FACILITATE DRAINAGE

## GORE CRASH BARRIER LAYOUT

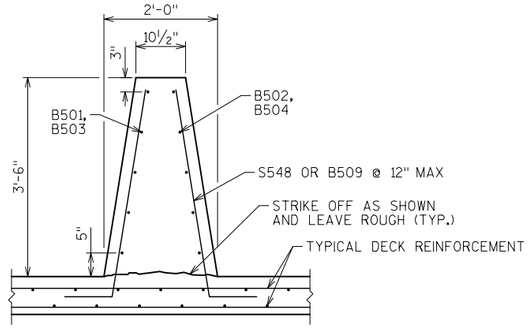



AREA BETWEEN PARAPETS TO BE HAND FINISHED TO TOP OF DECK GRADE AND BROOMED LONGITUDINALLY.

## PLAN - GORE CRASH BARRIER

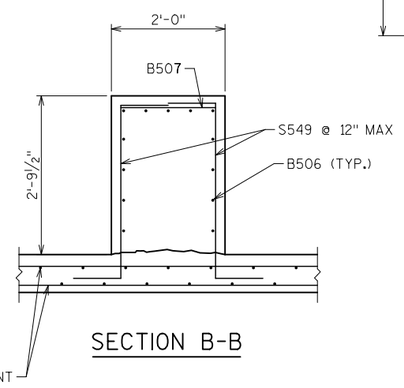



## ELEVATION




## SECTION THRU SINGLE SLOPE CONCRETE BARRIER

(LOOKING EAST)




## SECTION B-B

## BILL OF BARS

ALL BARS ARE EPOXY COATED

| BAR MARK | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|
| B501 | 5 | 11'-2" | X | | SS BARRIER - NORTH |
| B502 | 5 | 11'-7" | X | | SS BARRIER - NORTH |
| B503 | 5 | 13'-0" | X | | SS BARRIER - SOUTH |
| B504 | 5 | 13'-5" | X | | SS BARRIER - SOUTH |
| B505 | 4 | 4'-5" | | X | GORE BARRIER - HORIZONTAL |
| B506 | 13 | 8'-10" | | | GORE BARRIER - HORIZONTAL |
| B507 | 10 | 2'-9" | | X | GORE BARRIER - HORIZONTAL |
| B508 | 5 | 13'-5" | X | | GORE BARRIER NOSE - HORIZONTAL |
| B509 | 4 | 2'-10" | | | SS BARRIER - VERTICAL @ DRAIN OPENING |

TOTAL WEIGHT= 510 LB

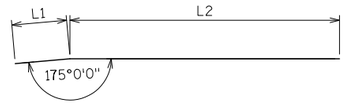
## BAR SERIES

S548, S549, & S550 BARS ARE TO BE TIED TO THE TOP OF THE BOTTOM MAT.

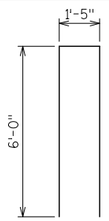
## BAR SERIES

| BAR MARK | NO. REQ'D | LENGTH |
|---|---|---|
| B505 | 1 SERIES OF 4 | 4'-1" TO 4'-9" |
| B507 | 1 SERIES OF 10 | 1'-8" TO 3'-10" |

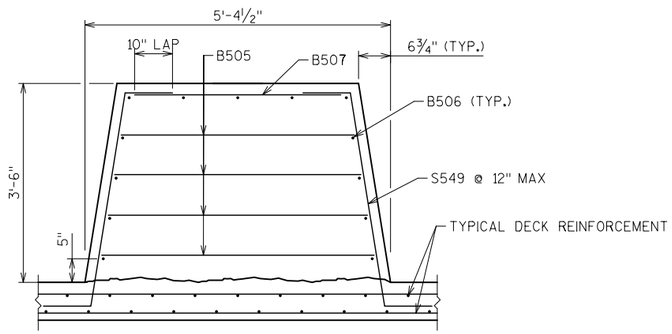
| BAR MARK | L1 | L2 |
|---|---|---|
| B501 | 1'-10" | 9'-4" |
| B502 | 2'-0" | 9'-7" |
| B503 | 1'-2" | 11'-10" |
| B504 | 1'-9" | 11'-8" |



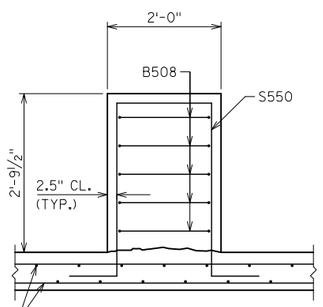

## B501 - B504




## B508




## SECTION A-A




## SECTION C-C

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

DRAWN BY JDB | PLANS CK'D. MJA

MEDIAN GORE CRASH BARRIER

SHEET 58 OF 81

485

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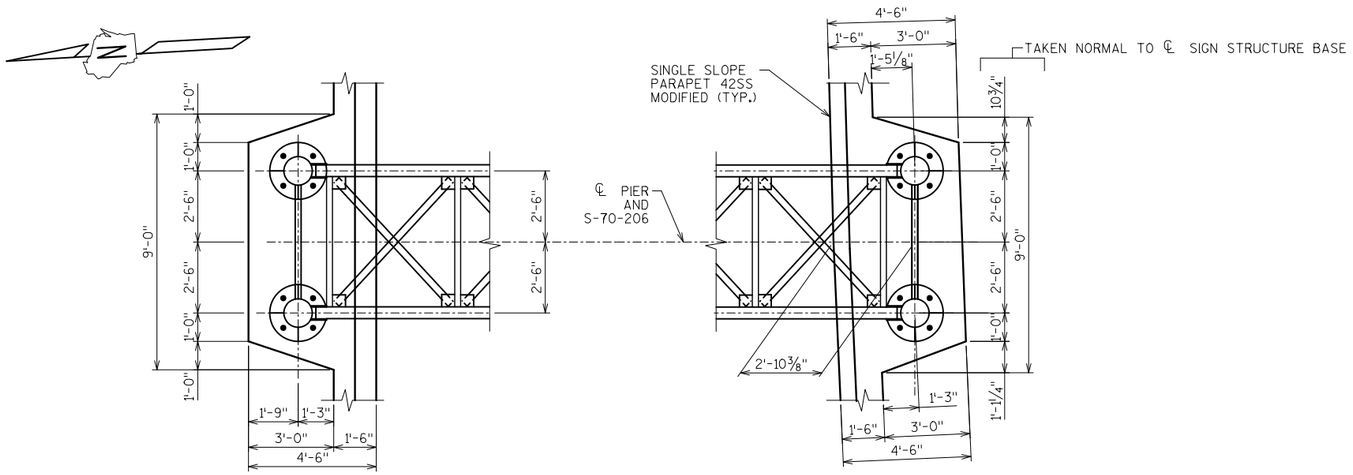
DATE: 1/29/2016
I.D. jon_lidgard

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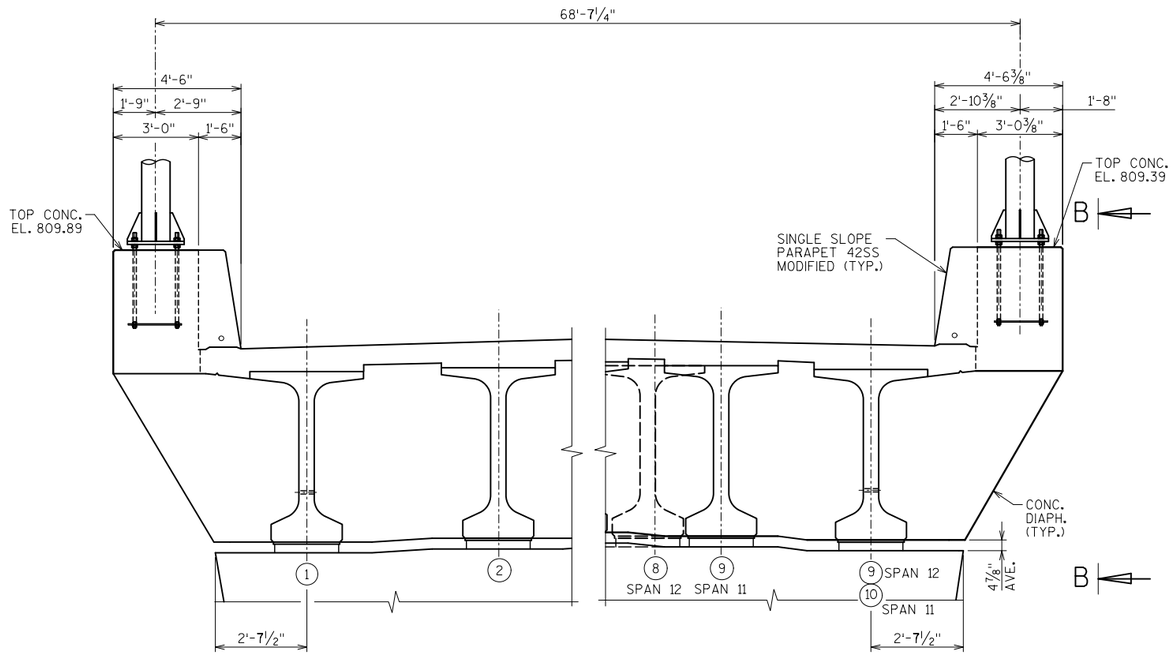
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STATE PROJECT NUMBER

1517-07-77

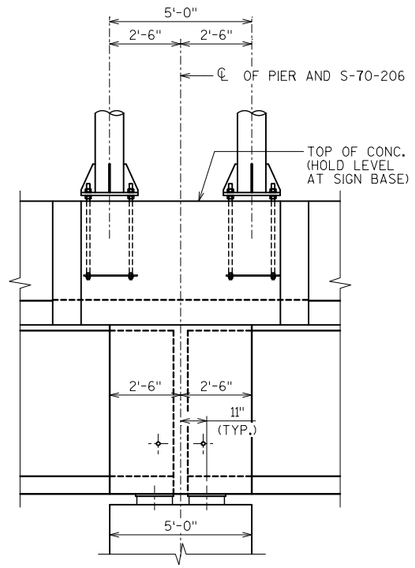



PLAN AT PIER 11




SECTION AT PIER 11

DIMENSIONS TAKEN ALONG ℄ OF S-70-206




VIEW B-B

(END ELEVATION AT 42SS PARAPET IS SHOWN)

## NOTE

FOR REINFORCEMENT DETAILS SEE THE FOLLOWING SHEETS:
SHEET "SIGN BRIDGE ANCHORAGE REINF. AT PIER 11".
SHEET "SIGN BRIDGE ANCHORAGE DETAILS AT PIER 11".
SHEET "SUPERSTRUCTURE BILL OF BARS".

## LEGEND:

(1) INDICATES GIRDER NO.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

DRAWN BY MKN | PLANS CK'D. MAD

SIGN BRIDGE ANCHORAGE PIER 11

SHEET 70 OF 81
486

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DATE: 1/29/2016
I.D. jon_liggard

STATE PROJECT NUMBER

1517-07-77

## NOTES

SEE SHEET "SUPERSTRUCTURE BILL OF BARS" FOR BILL OF BAR TABLES AND BAR DETAILS.

* SEE "PARAPET ELECTRICAL WORK 1" SHEET OR "PARAPET ELECTRICAL WORK 2 & LIGHT STD" SHEET FOR ADDITIONAL REINFORCEMENT DETAILS.

FOR VIEW B-B AND SECTION C-C DETAILS SEE SHEET "SIGN BRIDGE ANCHORAGE DETAILS AT PIER 11".

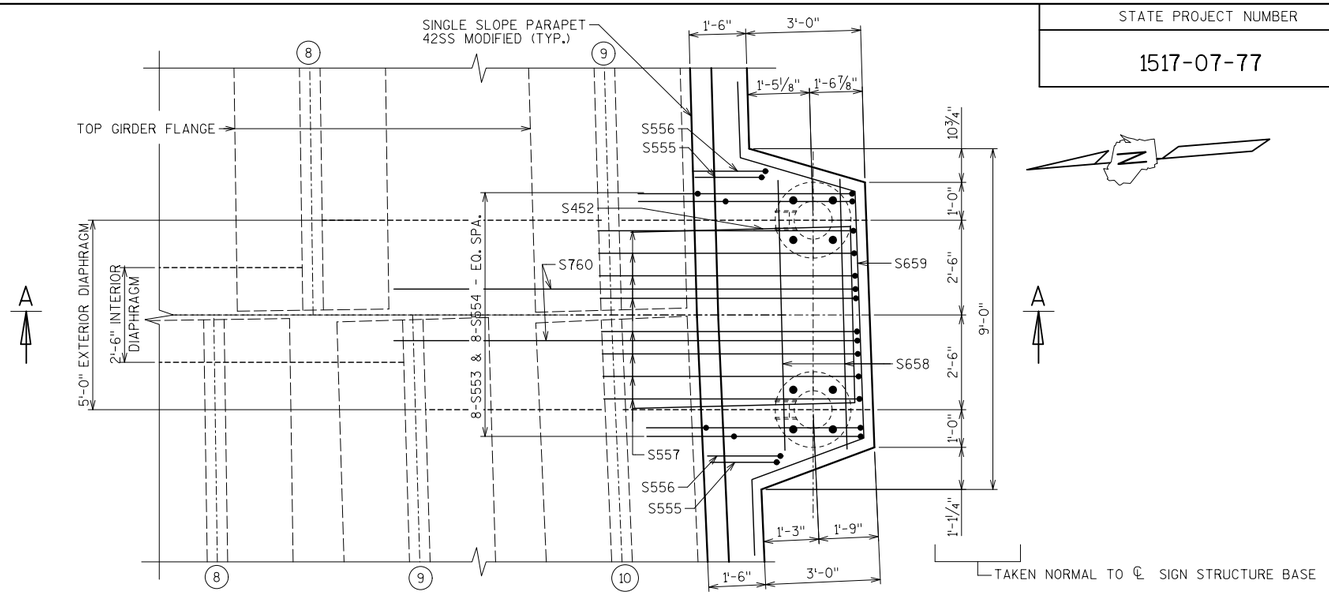
SEE SHEET "54W" PRESTRESSED GIRDER DETAILS 1" FOR DETAILS OF THE HOLE IN THE WEB OF THE GIRDER FOR S760 REINFORCING BAR.

SEE SHEET "FIXED DIAPHRAGM REINFORCING.

FOR ANCHOR BOLT ASSEMBLY PLACEMENT AND SIGN STRUCTURE DETAILS SEE S-70-206 PLANS.

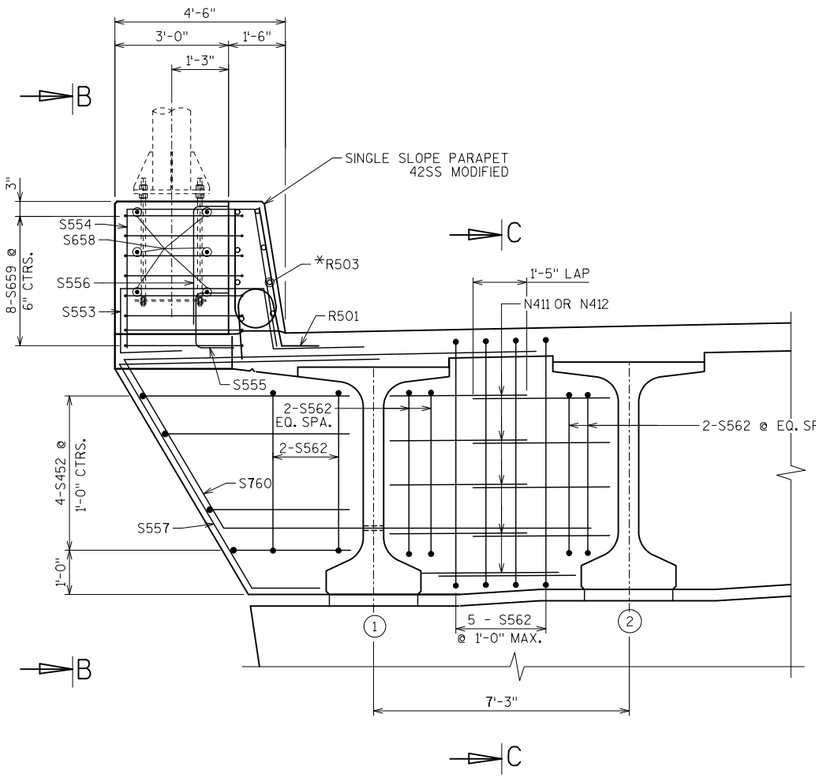
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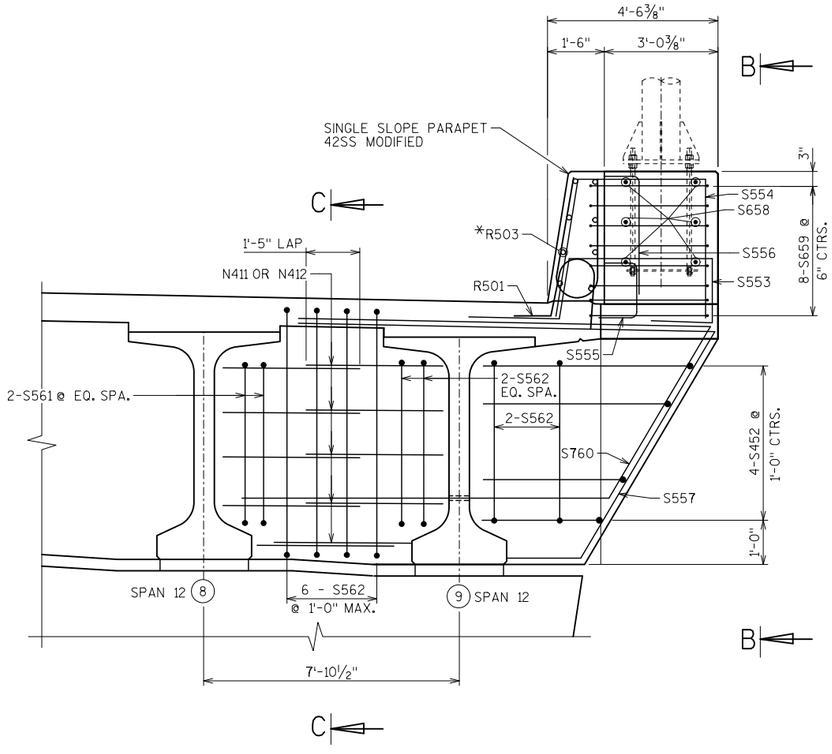
(1) INDICATES GIRDER NUMBER




## PLAN

(SIGN TRUSS & PARAPET REINF. NOT SHOWN FOR CLARITY)
SOUTH END SHOWN, NORTH END SIMILAR




## SECTION A-A
## AT PIER 11

DIMENSIONS TAKEN ALONG ℄ SIGN S-70-206

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

DRAWN BY MKN | PLANS CK'D. MAD

SIGN BRIDGE ANCHORAGE REINF. AT PIER 11

SHEET 71 OF 81
487

DATE: 1.29.2016
I.D. jon_liggard

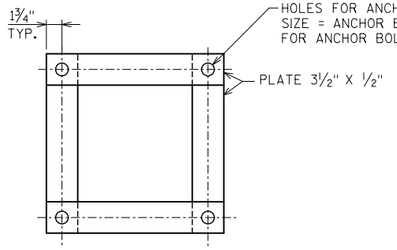
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STATE PROJECT NUMBER

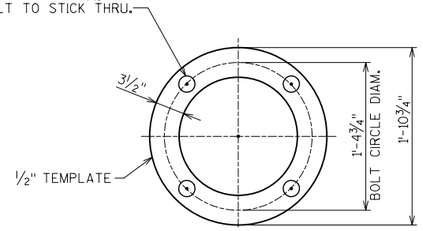
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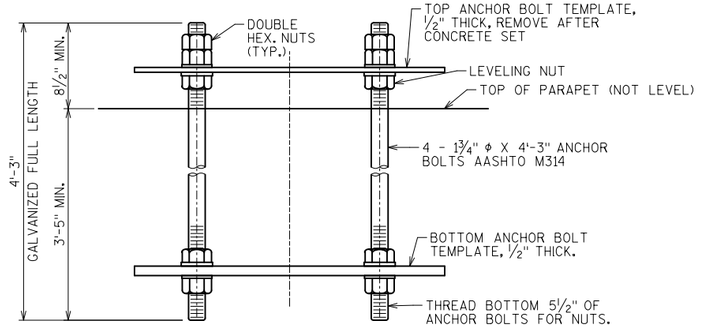
ANCHOR PLATE/TEMPLATE PLAN

NOTE:
HOLD ANCHOR BOLTS RIGIDLY IN POSITION DURING CONCRETE PLACEMENT USING STEEL ANCHOR PLATE AND TOP TEMPLATE, REMOVE TEMPLATE AFTER CONCRETE SETS.

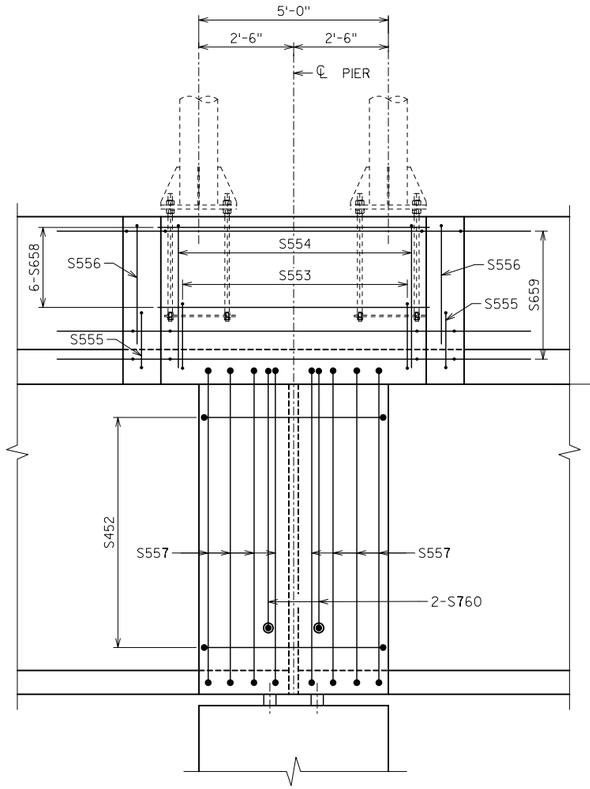



ANCHOR PLATE/TEMPLATE PLAN

AT PIER 11

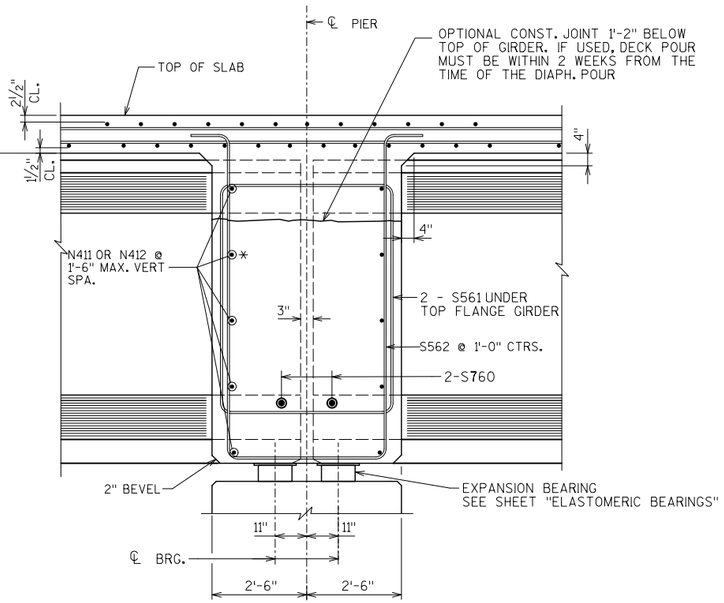



ANCHOR ASSEMBLY DETAIL




VIEW B-B

(PARAPET REINF. NOT SHOWN FOR CLARITY)




SECTION C-C

AT PIER 11

NOTES

SEE SHEET "SIGN BRIDGE ANCHORAGE REINF. AT PIER 11" FOR NOTES.

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STATE OF WISCONSIN
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STRUCTURE B-70-401

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SIGN BRIDGE ANCHORAGE DETAILS AT PIER 11

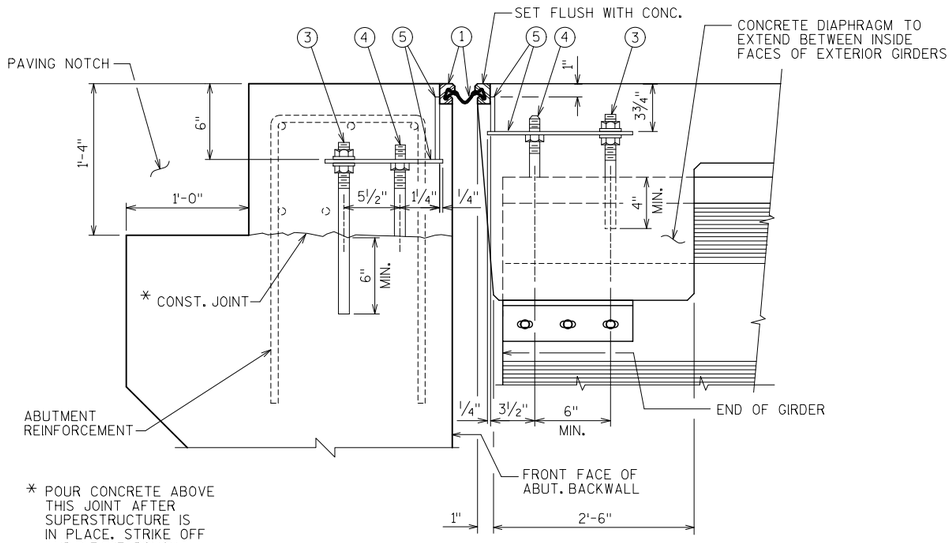
SHEET 72 OF 81
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DATE: 1/29/2016
I.D. jon_lidgard

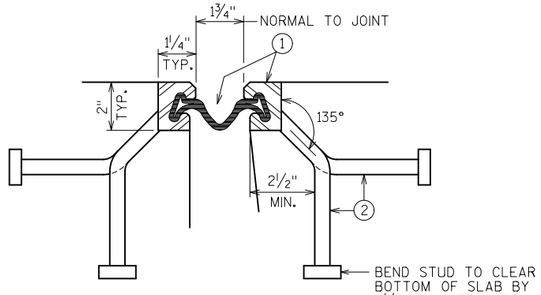
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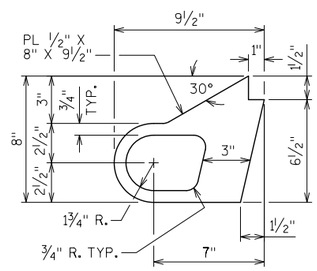

## SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE

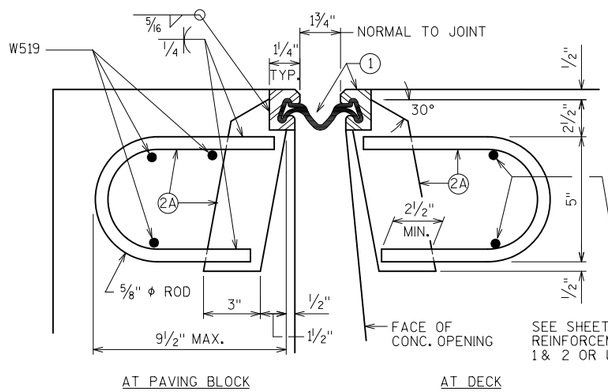



## SECTION THRU JOINT

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

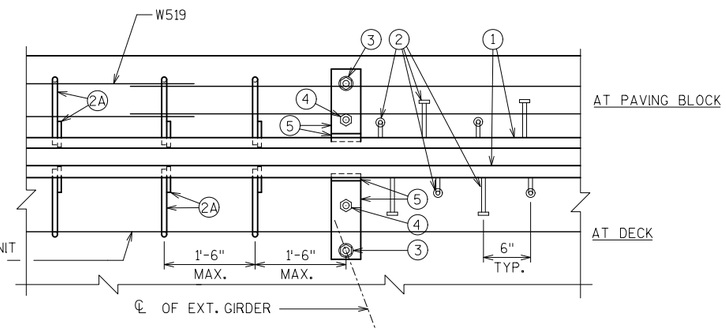



## ALTERNATE STRIP SEAL ANCHOR




## SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.




## PART PLAN

## LEGEND

(1) NEOPRENE STRIP SEAL (4-INCH) AND STEEL EXTRUSIONS.

(2) STUDS 5/8"ϕ X 6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.

(2A) 1/2" THICK ANCHOR PLATE WITH 5/8"ϕ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE. WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.

(3) 3/4" ϕ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES ON ℄ OF GIRDER.

(4) 3/4"ϕ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

(5) FABRICATE SUPPORT FROM 3" X 1/2" BAR AS SHOWN OR EQUIVALENT. ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1 1/2" ϕ HOLE FOR NO. 3 AND 1" ϕ HOLE FOR NO. 4.

(6) GALVANIZED PLATE 3/8" X 10" X 2'-2" LONG WITH HOLES FOR NO. 7.

(7) 3/4"ϕ X 1 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.

(8) 3/4"ϕ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

(9) 3/4"ϕ X 2 1/4" GALVANIZED THREADED COUPLING.

(10) 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.

## NOTES

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

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

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

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

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

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-70-401".

SEE SHEET "COVER PLATE DETAILS" FOR (6) THROUGH (10) DETAILS.

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STATE OF WISCONSIN
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STRUCTURE B-70-401

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WEST ABUTMENT EXPANSION DEVICE

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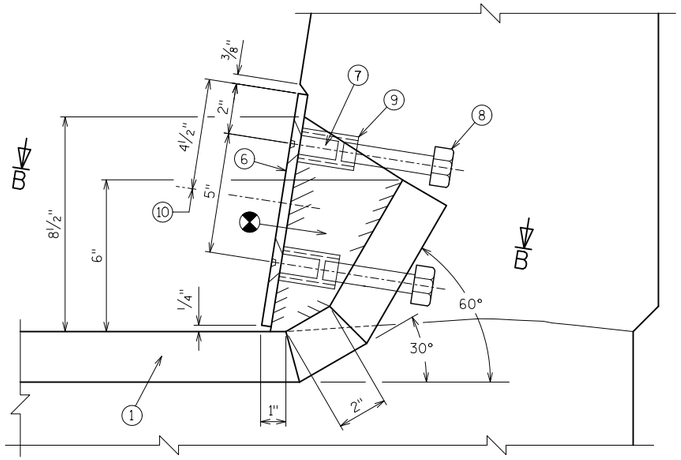
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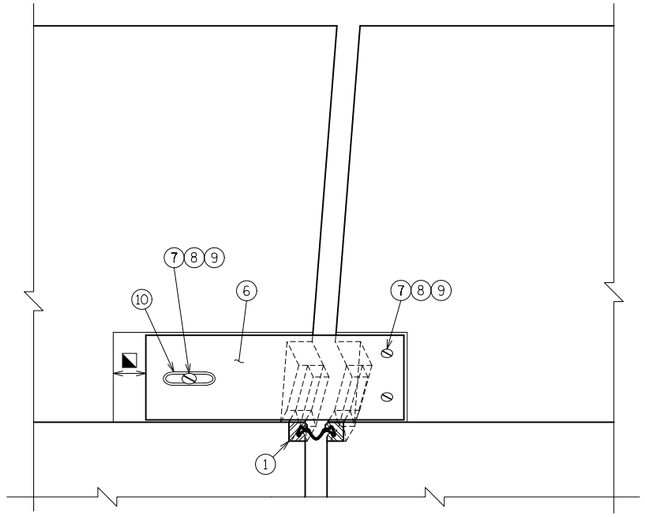
DATE: 1/29/2016
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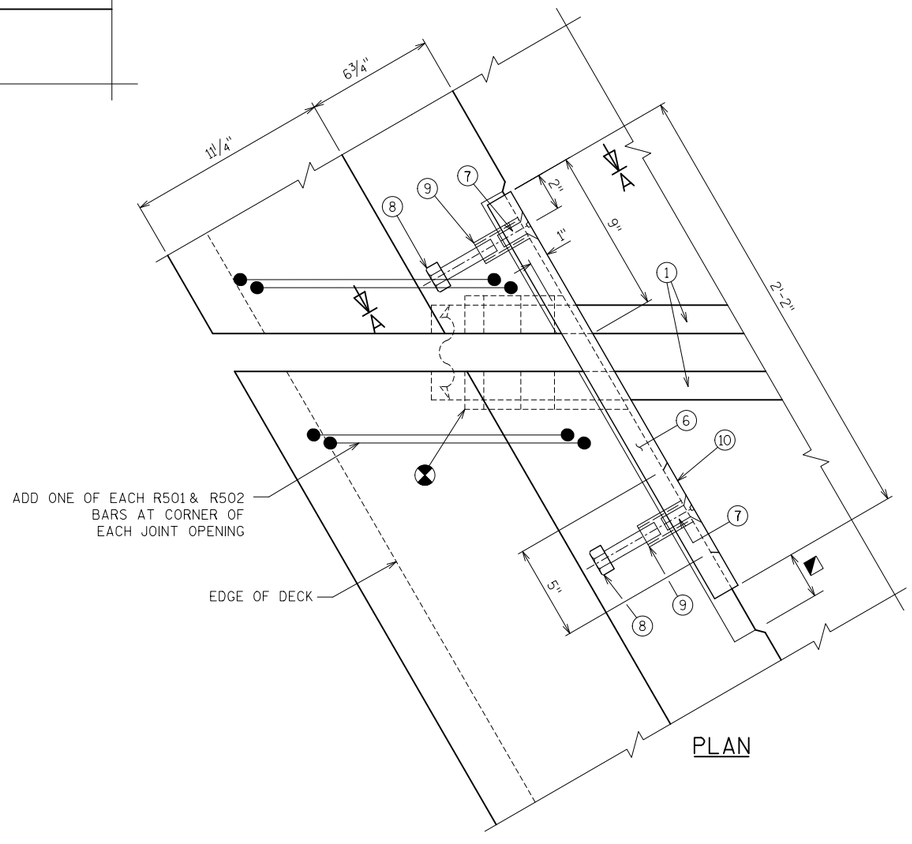
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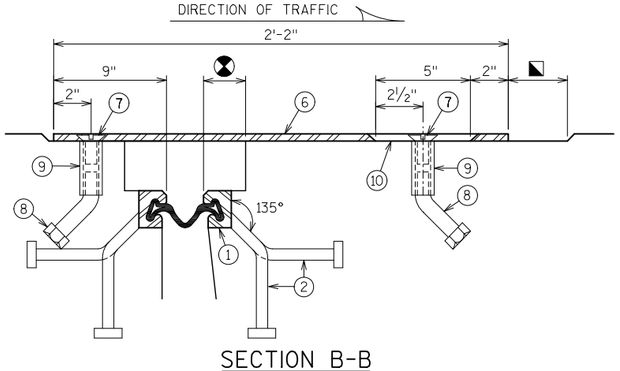

SECTION A-A




VIEW OF PARAPET PLATE
FROM ROADWAY




PLAN




SECTION B-B

FOR COVER PLATES AT MODULAR JOINTS AT PIER 5 AND PIER 8 NORTH SEE "MODULAR JOINT COVER PLATES". FOR PIER 8 SOUTH AND PIER 1C SEE B-70-61 OR B-70-405 PLANS.

⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

◺ JOINT OPENING DIMENSION ALONG SKEW PLUS ½".

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STATE OF WISCONSIN
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STRUCTURE B-70-401

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WEST ABUTMENT COVER PLATE DETAILS

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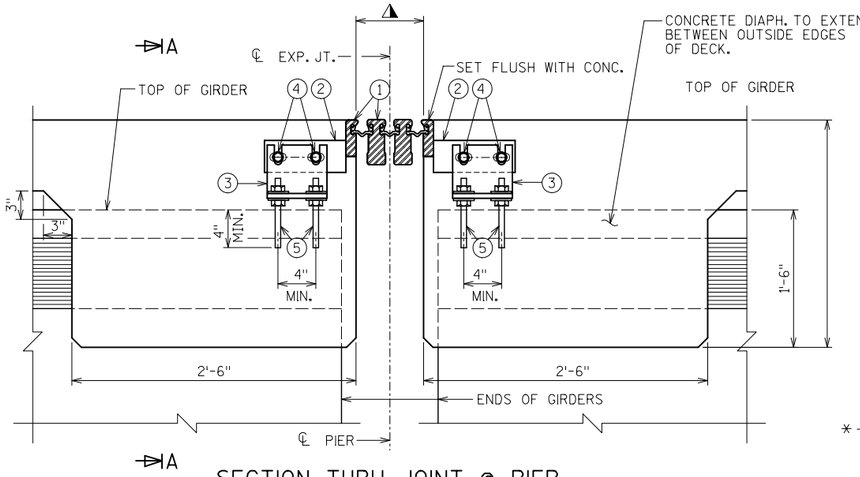
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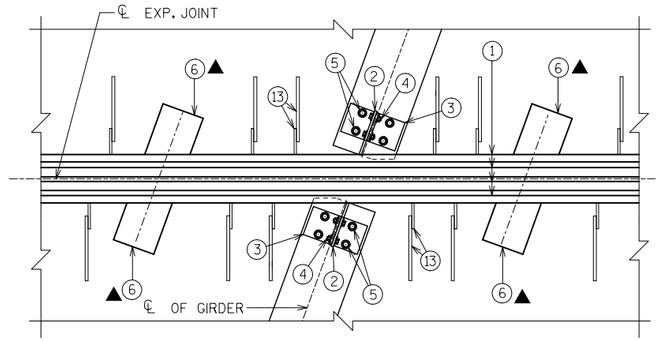
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## SECTION THRU JOINT @ PIER

NORMAL TO ℄ SUBSTRUCTURE
SEE "EXPANSION DIAPHRAGM DETAILS 1 OR 2" FOR REINFORCING DETAILS




## PART PLAN

NOTE:
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.

## LEGEND

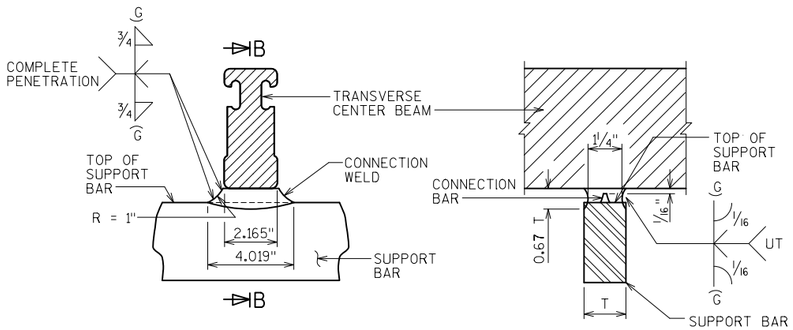
1. MODULAR EXPANSION JOINT DEVICE, 2 CELLS AT PIER 5 AND PIER 8 NORTH. SEE B-70-405 AND B-70-61 PLANS FOR PIER 8 SOUTH AND PIER 1C.
2. ½" PLATE, ONE PER GIRDER MIN. PROVIDE 2 - 1" X 2" MIN. SLOTTED HOLES PLACED HORIZONTALLY FOR NO. 4.
3. WT 6 X 29 (OR EQUIVALENT BUILT UP T-SECTION). ONE PER GIRDER. PROVIDE 2 - 1" X 3" MIN. SLOTTED HOLES PLACED VERTICALLY IN WEB OF WT FOR BOLTS NO. 4.
4. ¾" ϕ HIGH STRENGTH BOLTS WITH NUTS & WASHERS. (A325 GALV.)
5. ¾" ϕ 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.
7. ⅜" BULKHEAD PLATE. WELD TO NO. 1, NO. 8 AND NO. 14. WHEN CONDUIT IS PRESENT, ACCOMMODATE FOR BY PROVIDING OPENING IN NO. 7.
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" ϕ X 4" LONG STUDS. WELD TO NO. 8 , NO. 7 & NO. 14 AS SHOWN.
12. ¾" ϕ X 2" STAINLESS STEEL FLAT CTSK. SLOTTED HEAD CAP SCREWS WITH ANTI-SEIZE LUBRICANT. RECESS 1/16" BELOW PLATE SURFACE.
13. ½" PLATE WITH ⅝" ϕ LOOP ANCHOR FABRICATED AS SHOWN. SPACED AT MANUFACTURER'S SPEC.
14. INSIDE PLATE. FABRICATE FROM ⅝" PLATE
15. ADIPRENE BUTTON. SEE DETAIL. SET IN OUTSIDE PLATE.

* SEE "MODULAR JOINT COVER PLATES" FOR DETAILS

⚠ 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.

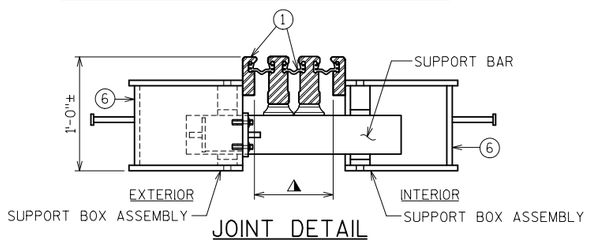
▲ JOINT MANUFACTURER SHALL INFORM AND PROVIDE NECESSARY DETAILS TO THE PRESTRESSED GIRDER FABRICATOR, WHEN FORM-OUT OF THE TOP FLANGE IS REQ'D. TO ALLOW PLACEMENT OF SUPPORT BOX ASSEMBLY.

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.




## MODULAR EXPANSION JOINT CONNECTION DETAIL AND WELD SPECIFICATION

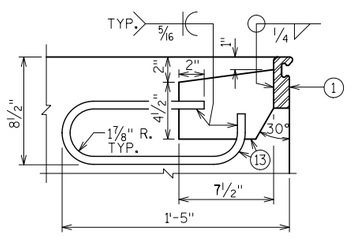
## SECTION B-B




## JOINT DETAIL

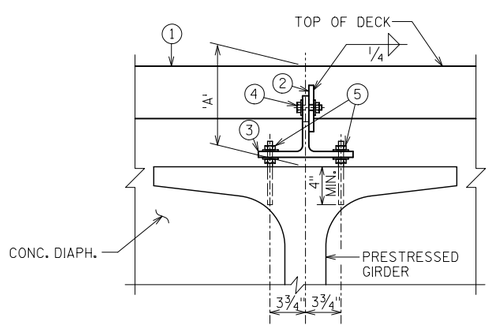
AT SUPPORT BAR & SUPPORT BOX ASSEMBLY

| 'A' HEIGHT | |
|---|---|
| PIER 5 | |
| SPAN 5 | 12"± |
| SPAN 6 | 12.33"± |
| PIER 8 | |
| SPAN 8 | 11.7" TO 12"± |
| SPAN 9 | 11.7" TO 12"± |




## ANCHORAGE DETAIL

PLACE ADJACENT TO SUPPORT BOXES IN DECK @ CONC. DIAPH.




## SECTION A-A

## GENERAL NOTES

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, 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 "COMMERICAL BLAST CLEANING". AFTER BLAST CLEANING, THIS ASSEMBLY SHALL BE HOT DIPPED GALVANIZED.

COST OF FURNISHING & PLACING OF THE EXPANSION JOINTS COMPLETE WITH PARAPET PLATES FOR JOINTS AT PIER 5 AND THE NORTH END OF PIER 8 SHALL BE PAID FOR UNDER THE PRICE BID FOR "EXPANSION DEVICE MODULAR B-70-401". THE JOINT AT PIER 1C SHALL BE PAID FOR WITH THE B-70-61 BRIDGE. THE JOINT AT THE SOUTH END OF PIER 8 SHALL BE PAID FOR WITH THE B-70-405 BRIDGE.

BAR STEEL REINF. IN DECK AND CONC. DIAPHRAGM SHALL BE RESPACED AS NECESSARY TO ALLOW PLACEMENT OF JOINT ASSEMBLY. TOP TRANSVERSE BARS, ADJACENT TO MOD. JT., TO BE CUT AND PLACED BETWEEN JT. SUPPORT SYSTEM.

## TEMP. TABLE

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

1. MOVEMENT PER 10° F

   PIER 5 = ⅜"
   PIER 8 NORTH = ⅜"
   PIER 8 SOUTH = SEE B-70-405 PLANS
   PIER 1C = SEE B-70-61 PLANS

2. MEDIAN TEMPERATURE OF 45° F
3. TEMP. RANGE IN TABLE FROM (5°F) TO (85°F)
4. ADJUST INITIAL JOINT OPENINGS BY A REDUCTION OF 1⅝" PIER 5 AND 1⅞" PIER 8 NORTH, WHICH ACCOUNTS FOR SHRINKAGE (CREEP) OF THE SUPERSTRUCTURE OVER TIME, TO PRODUCE FINAL JOINT OPENINGS FOR TABLE.

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

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
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STRUCTURE B-70-401

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MODULAR EXP. JOINT DETAILS

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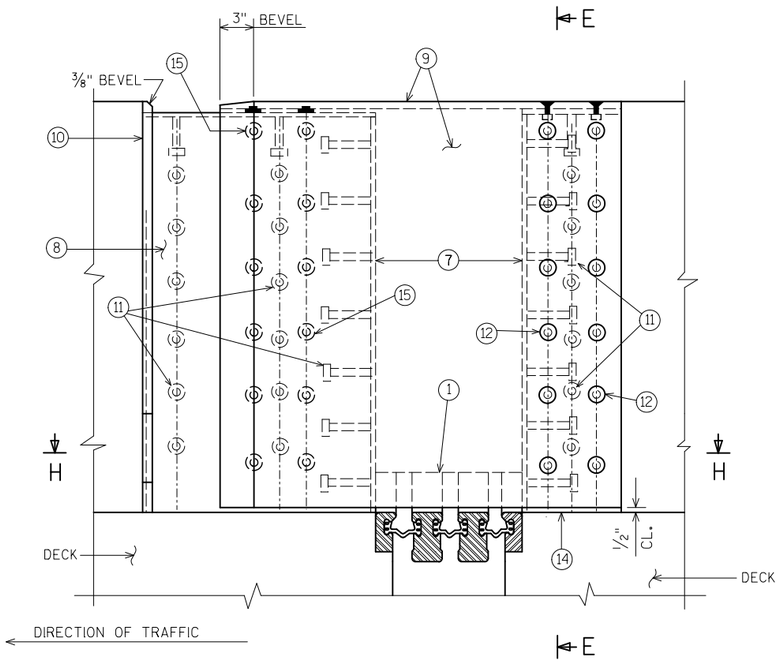
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DATE: 1/29/2016
I.D. Jon_Lidgard

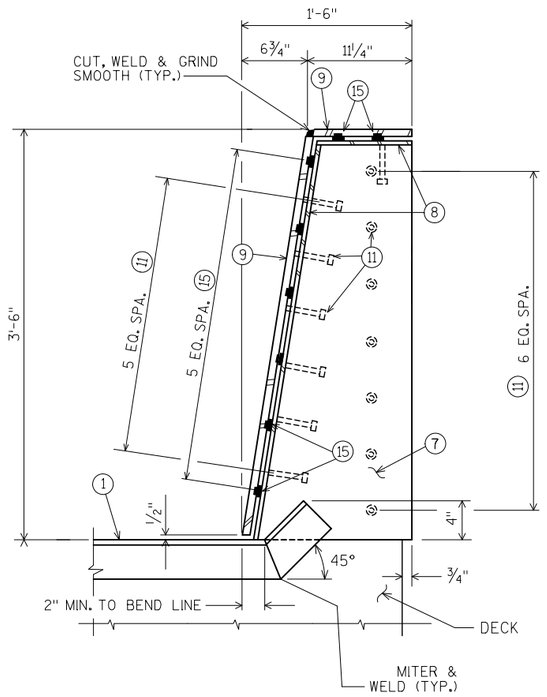
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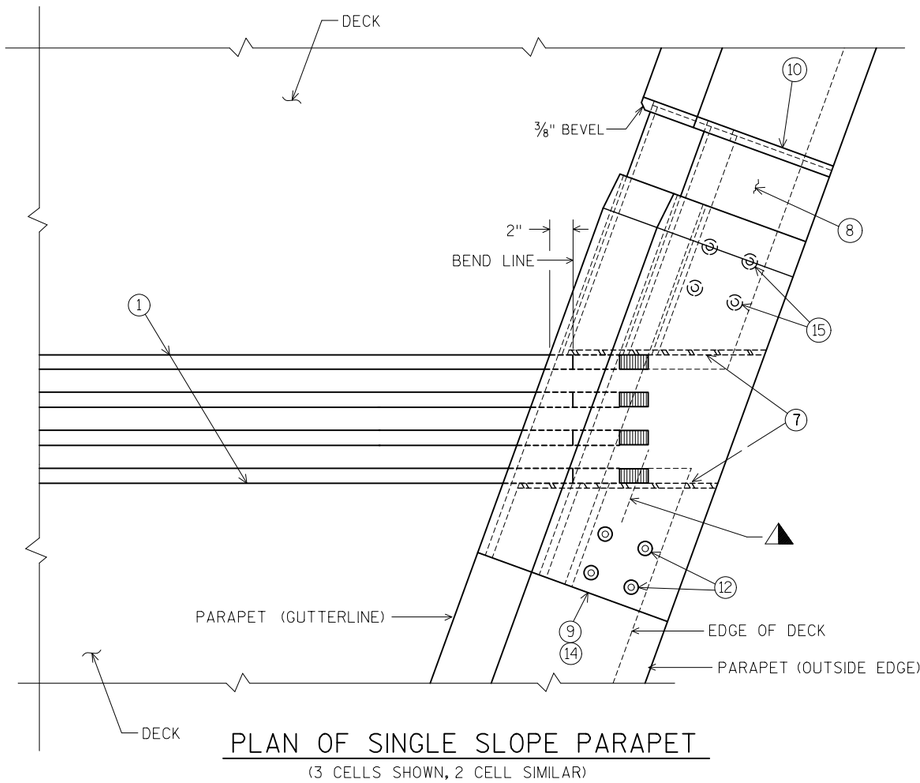



ELEVATION OF SINGLE SLOPE PARAPET

(3 CELLS SHOWN, 2 CELL SIMILAR)

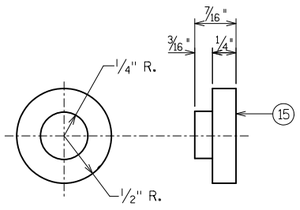



SECTION E-E

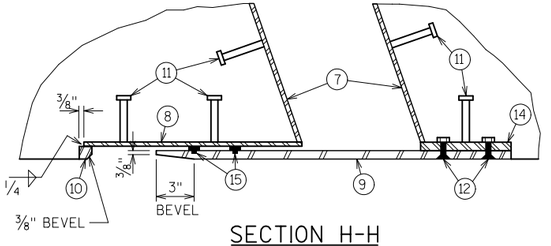



PLAN OF SINGLE SLOPE PARAPET

(3 CELLS SHOWN, 2 CELL SIMILAR)




ADIPRENE BUTTON DETAIL




SECTION H-H

MITER EXTRUSION ENDS AS REQ'D TO PROVIDE CLEARANCE

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STATE OF WISCONSIN
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STRUCTURE B-70-401

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MODULAR JOINT COVER PLATES

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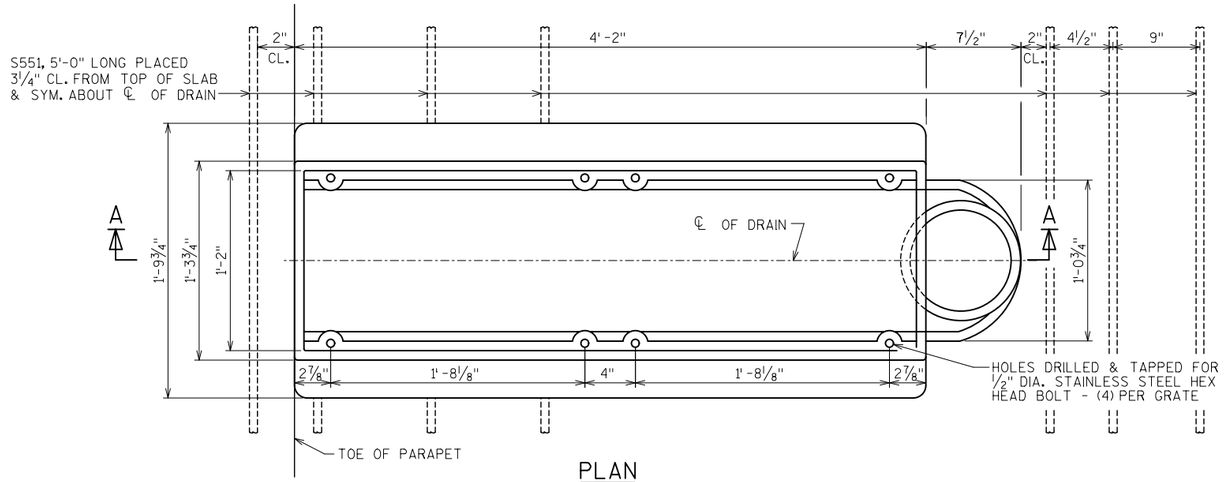
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I.D. jon_liggard

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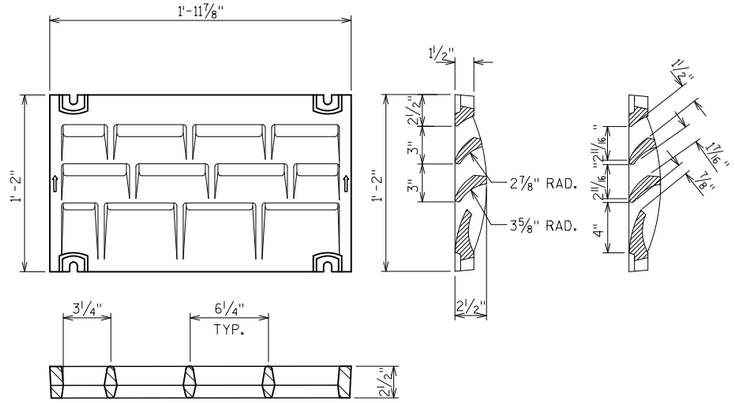
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STATE PROJECT NUMBER

1517-07-77




PLAN




GRATE CASTING DETAILS

ATTACH GRATES TO FRAME FOR SHIPMENT

## GENERAL NOTES

ALL MATERIAL FOR TYPE "WF" CASTING AND 8" DIA. CONNECTION PIPE, EXCLUDING GRATE HOLD DOWN SCREWS, SHALL BE GRAY IRON CONFORMING TO ASTM A48, CLASS 30.

MATERIAL FOR BRACKETS SHALL CONFORM TO ASTM A36.

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

SEE SHEET "DOWNSPOUT DETAILS" FOR DOWNSPOUT DETAILS.

DOWNSPOUT TO BE PIGMENTED SAME COLOR AS GIRDER FACE. SEE SHEET "AESTHETIC DETAILS" FOR DETAILS.

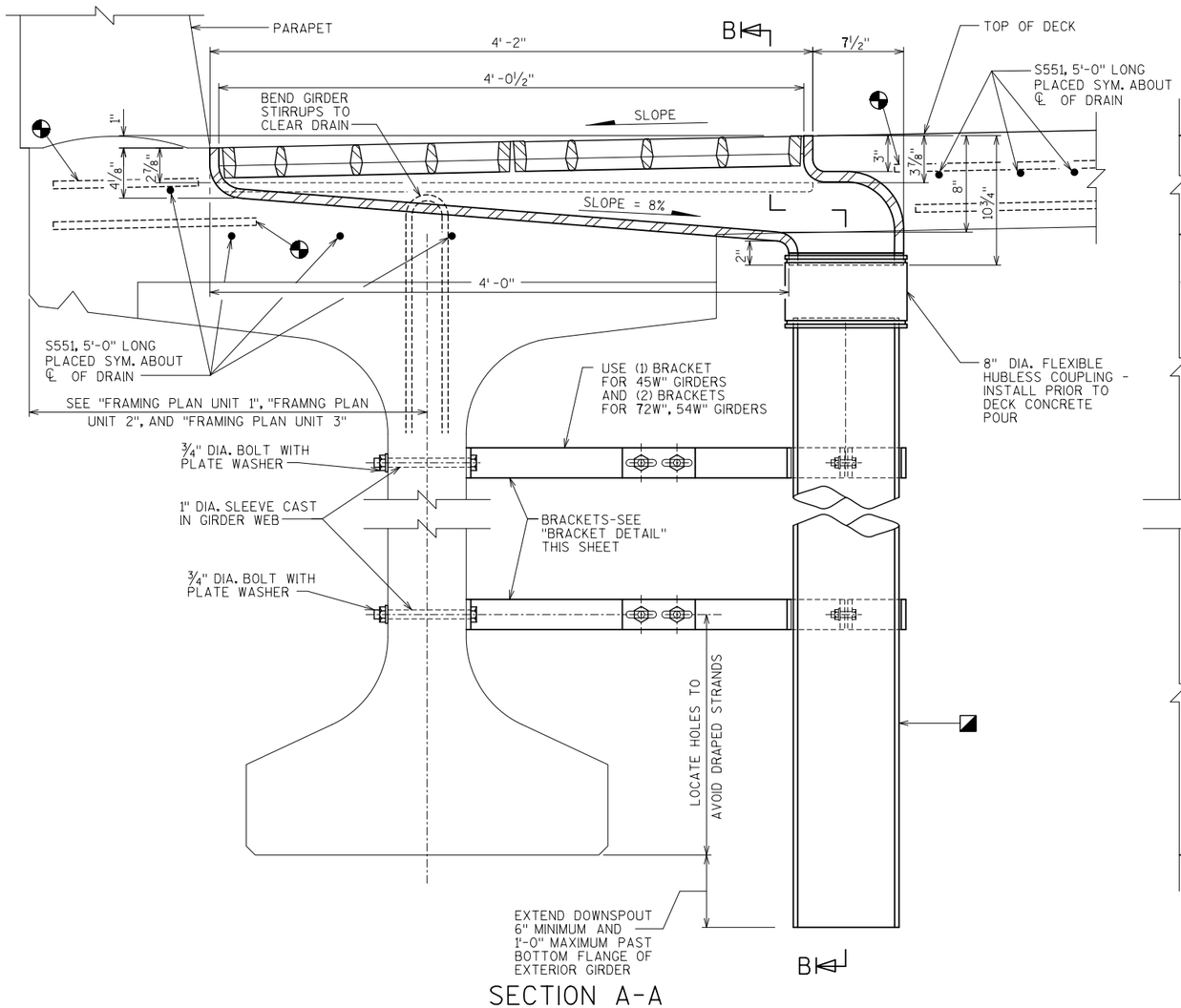
◪ 8" DIA. DOWNSPOUTS SHALL BE REINFORCED THERMOSETTING RESIN PIPE CONFORMING TO SECTION 514 OF THE STANDARD SPECIFICATIONS.

⊕ TRANSVERSE & LONGITUDINAL SLAB BAR REINFORCEMENT TO BE CUT A MAXIMUM OF 1" CLEAR FROM DRAIN FRAME. DISPLACE BARS WHERE POSSIBLE.

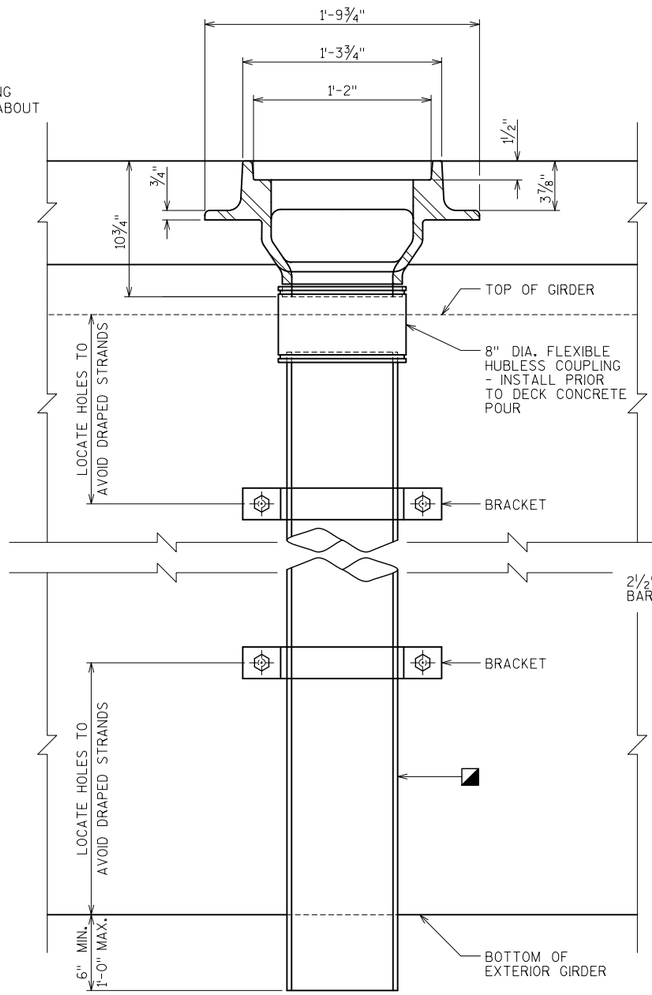
## FLOOR DRAIN LOCATIONS

| DRAIN # | STATION | OFFSET | |
|---|---|---|---|
| 1 | 132WB+75.00 | RIGHT | |
| 2 | 134WB+00.00 | RIGHT | ⓘ |
| 3 | 136WB+90.00 | RIGHT | |
| 4 | 138WB+90.00 | RIGHT | ⓘ |
| 5 | 139WB+40.00 | RIGHT | |
| 6 | 140WB+20.00 | RIGHT | ⓘ |
| 7 | 141WB+25.00 | RIGHT | ⓘ |
| 8 | 143WB+25.00 | RIGHT | |
| 9 | 144WB+75.00 | RIGHT | |
| 10 | 146WB+15.00 | RIGHT | |
| 11 | 146WB+15.00 | LEFT | |

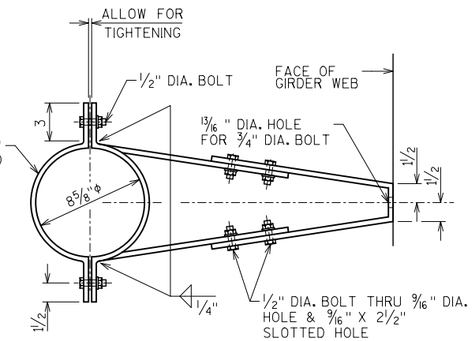
ⓘ SEE "DOWNSPOUT DETAILS" SHEET FOR DETAILS ON DOWNSPOUT ATTACHMENTS.




SECTION A-A




SECTION B-B




BRACKET DETAIL

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

DRAWN BY JDL | PLANS CK'D. MJA

FLOOR DRAIN TYPE "WF"

SHEET 77 OF 81
493

DATE: 1/29/2016
I.D. Jon_Lidgard

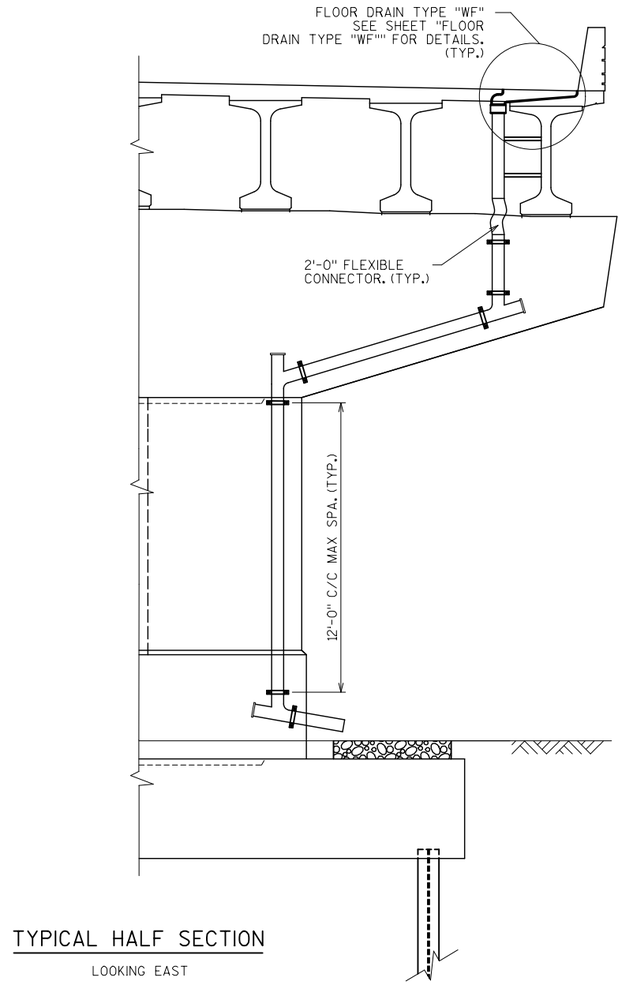
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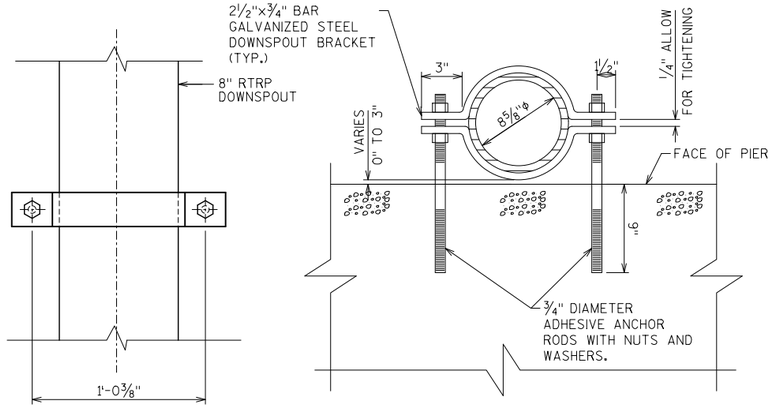
STATE PROJECT NUMBER

1517-07-77

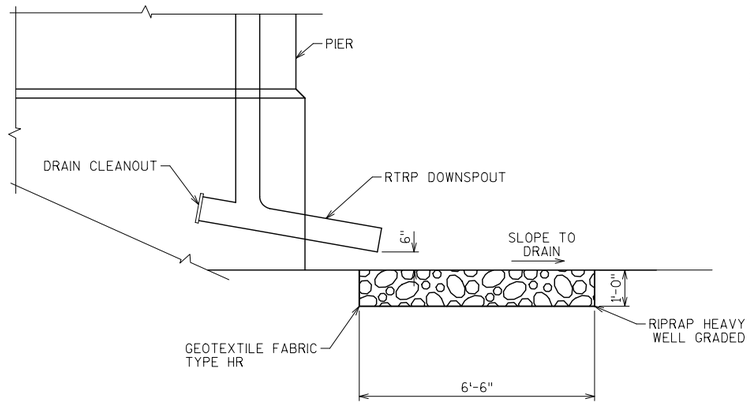



TYPICAL HALF SECTION

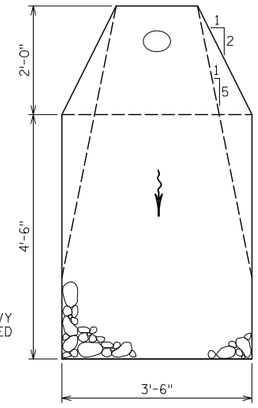
LOOKING EAST



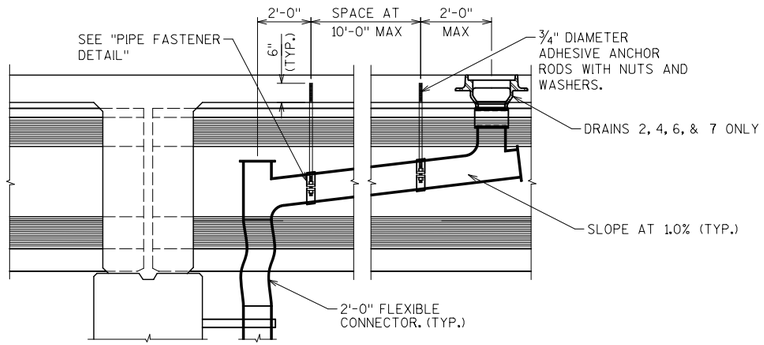

PIPE FASTENER DETAIL




ELEVATION VIEW




PLAN VIEW




ELEVATION VIEW FOR HORIZONTAL RUNS

(REQ'D FOR PIERS 2, 6, 7, 8)

ENERGY DISSIPATOR DETAIL

## NOTES:

EXCAVATION FOR ENERGY DISSIPATOR IS INCIDENTAL TO ITEM "RIPRAP HEAVY".

MATERIAL FOR BRACKETS SHALL CONFORM TO ASTM A36.

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

DOWNSPOUT TO BE PIGMENTED SAME COLOR AS PIER COLOR "A". SEE SHEET "AESTHETIC DETAILS" FOR DETAILS.

8" DIA. DOWNSPOUTS SHALL BE REINFORCED THERMOSETTING RESIN PIPE CONFORMING TO SECTION 514 OF THE STANDARD SPECIFICATIONS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

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DOWNSPOUT DETAILS

SHEET 78 OF 81
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8

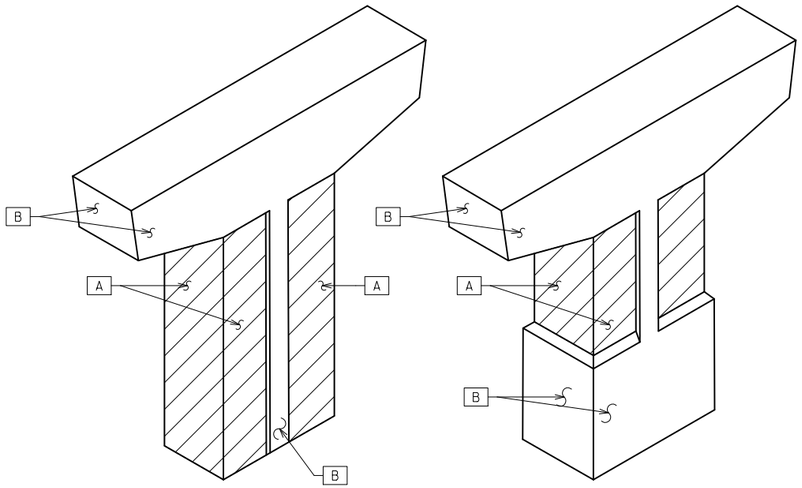
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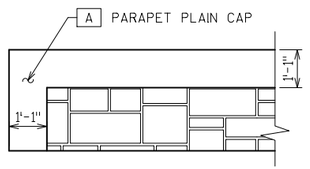
DATE:1/29/2016
I.D. jon_liggard

STATE PROJECT NUMBER

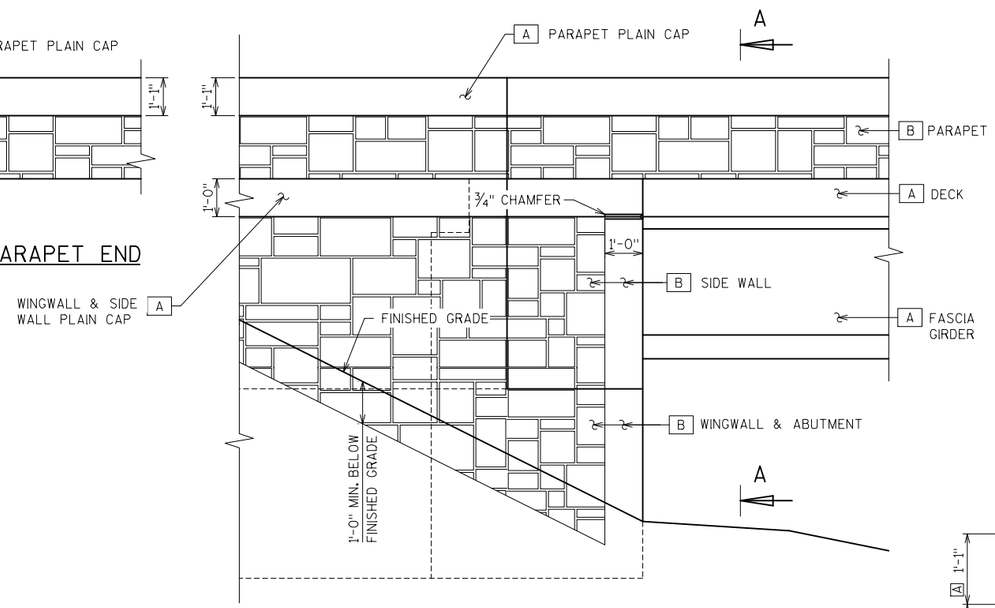
1517-07-77



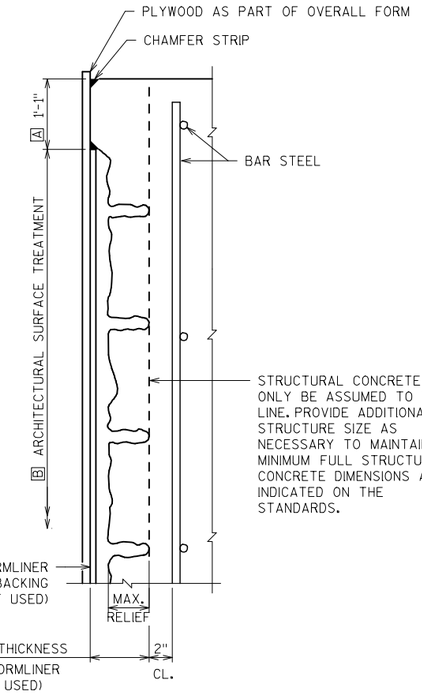

PIER STAINING DETAIL




ABUT. PARAPET END




ABUTMENT STAINING DETAIL

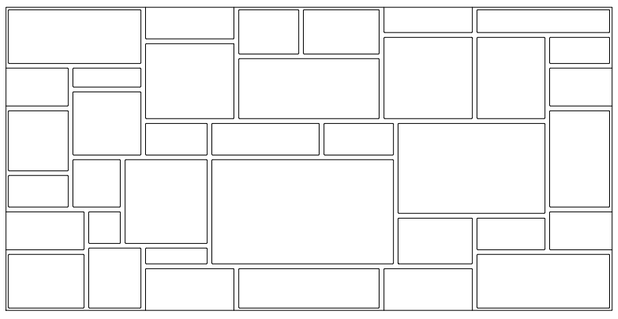



SECTION THROUGH PARAPET FORMLINER

## CONCRETE STAINING SCHEDULE

| MARK | COLOR | FED. COLOR NO. | LOCATION |
|---|---|---|---|
| A | HOPSACK | SW 6109 | FASCIA GIRDERS, DECK EDGE, PARAPET AND WING PLAIN CAPS |
| B | LATTE | FED. 33522 | PARAPETS, WINGWALLS, SIDE WALLS, ABUTMENTS, PIER CAPS, AND BASES. |

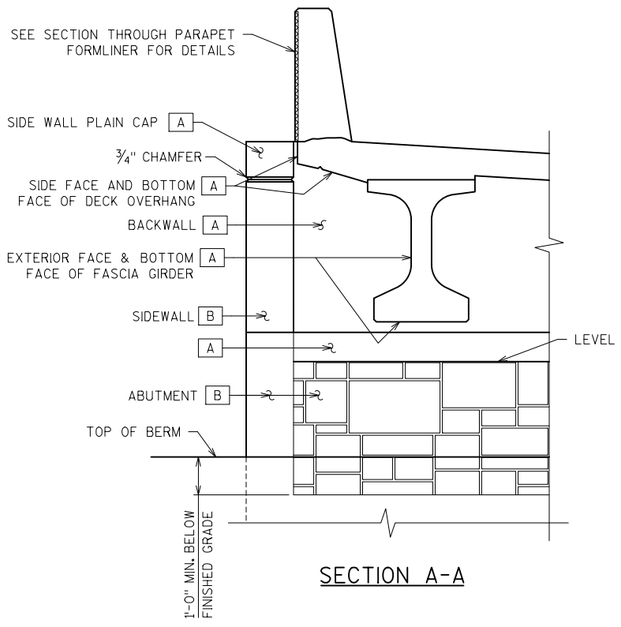
NOTE: 1. FINISH ON COLORS IS FLAT (LUSTERLESS)



## ASHLAR

MAXIMUM RELIEF: 1⅝"
AVERAGE RELIEF: 1¼"
LINER THICKNESS*: 2½"
STONE SIZE: H: 3" - 17"
W: 5"-29"

* INCLUDES INTERNAL PLYWOOD BACKING




SECTION A-A

## NOTES

FORMLINER COURSING ON ABUTMENTS AND WINGS SHALL BE LEVEL.

THE FORMLINER COURSING ON THE WINGS SHALL BE VERTICALLY ALIGNED WITH THE FORMLINER COURSING ON THE FRONT OF THE ABUTMENT.

THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS CONSTRUCTION JOINTS.

FORMLINER COURSING ON PARAPET SHALL BE PARALLEL TO TOP OF PARAPET.

FORMLINER NEED NOT EXTEND AROUND LIGHT BLISTER.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

DRAWN BY JDL | PLANS CK'D. MJA

AESTHETIC DETAILS

SHEET 78 OF 81
495

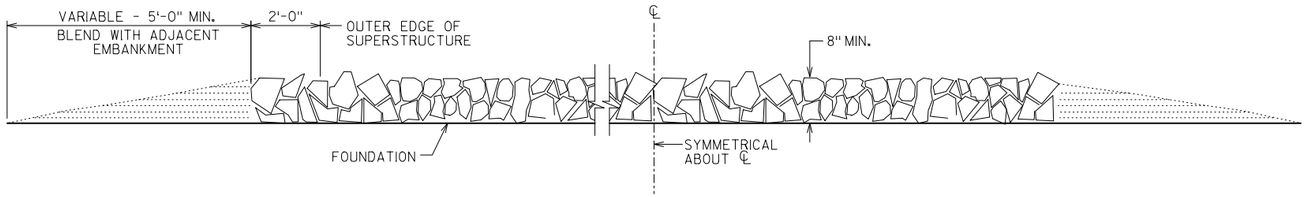
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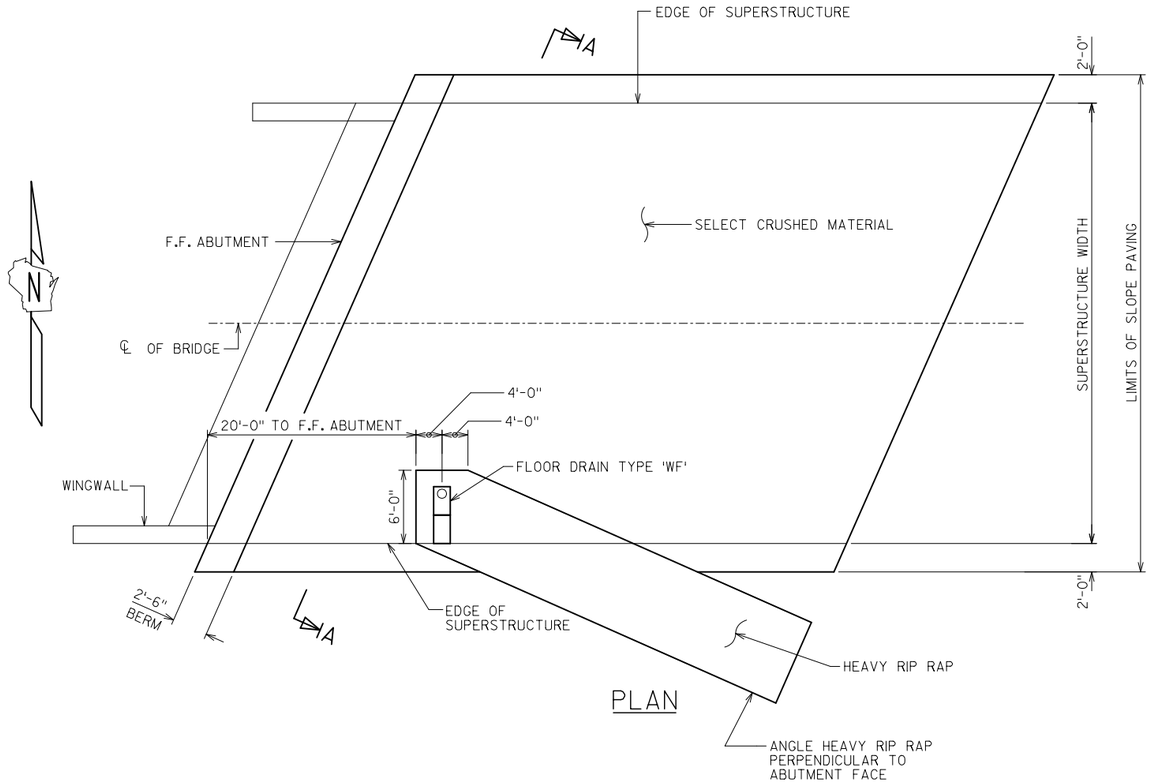
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DATE: 1/29/2016
I.D. jon_lidgard

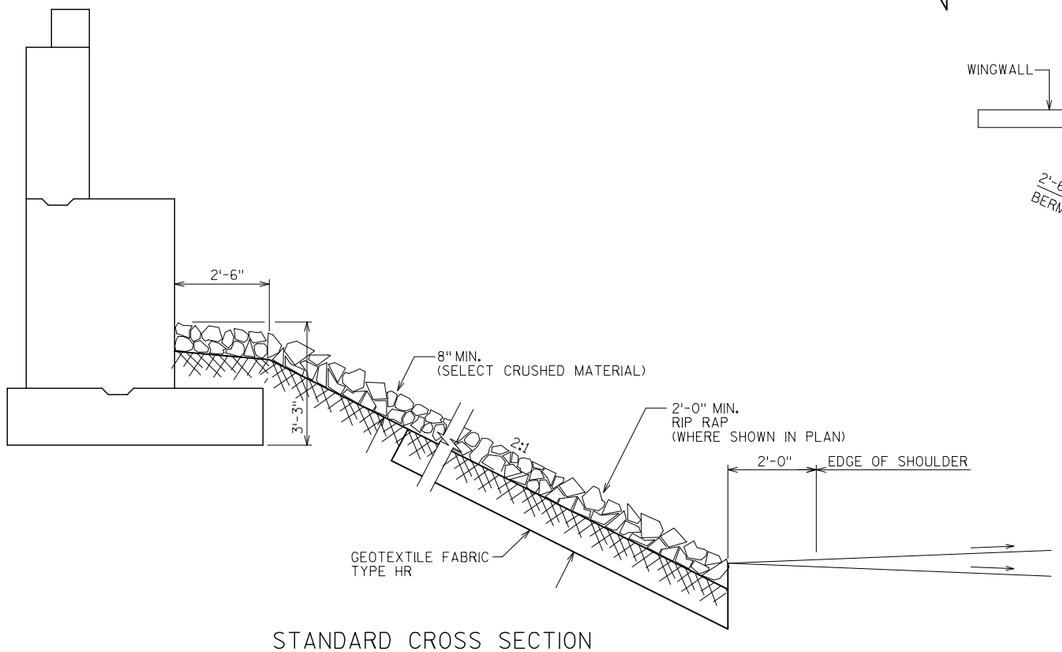
| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |




SECTION A-A




PLAN




STANDARD CROSS SECTION

## 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.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

DRAWN BY JDL | PLANS CK'D. MJA

SLOPE PAVING

SHEET 80 OF 81
496

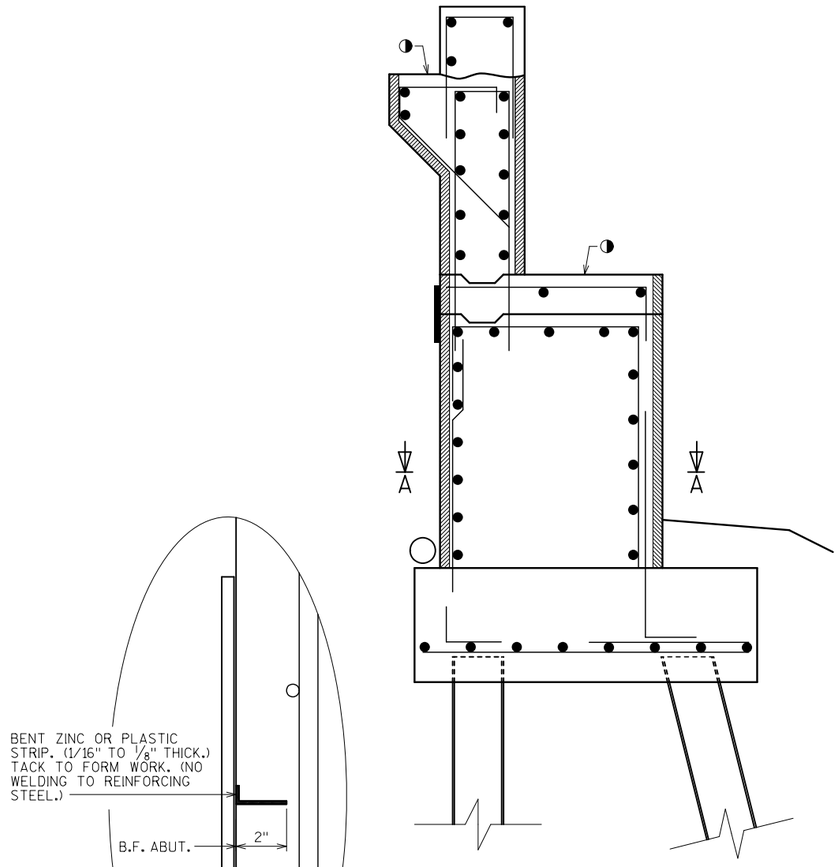
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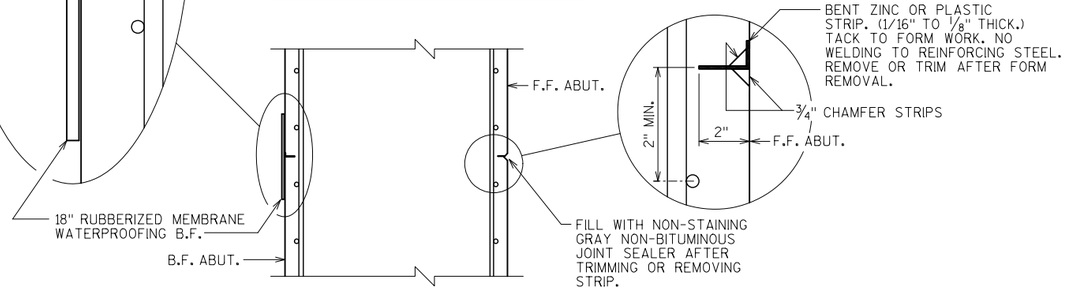
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DATE: 1/29/2016
I.D. jon_lidgard

| STATE PROJECT NUMBER |
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| 1517-07-77 |




SECTION THRU ABUTMENT BODY




SECTION A-A

## ALTERNATE CONSTRUCTION JOINT AT ABUTMENT

### NOTES

PARTIAL ZINC OR PLASTIC BULKHEAD MAY BE USED AS ALTERNATE CONSTRUCTION JOINT, WITH THE PERMISSION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

VERTICAL CONSTRUCTION JOINT KEYWAY IS NOT REQUIRED WHEN USING ALTERNATE CONSTRUCTION JOINT.

CARE IS TO BE USED IN CASTING CONCRETE AROUND BULKHEAD TO PREVENT DISLOCATION OR MISALIGNMENT OF THE BULKHEAD.

◑ USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY 1/2" DEEP.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-401

DRAWN BY MKN | PLANS CK'D. MJA

ALTERNATE CONSTRUCTION JOINT

SHEET 81 OF 81
497

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8

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DATE: 1/29/2016
I.D. jon_lidgard

STATE PROJECT NUMBER

1517-07-77

## BENCH MARK

| NO. | LOCATION | DESCRIPTION | ELEVATION |
|---|---|---|---|
| 41-D | STA. 1331SB+95.23 89.7' LT | SIGN BRIDGE NORTH OF STH 441 BRIDGE OVER ON AND OFF RAMP LANES, NW CORNER OF CONCRETE BASE BETWEEN ON OFF RAMP LANES AND SOUTH BOUND USH 41 | 761.25 |

## TRAFFIC VOLUME:

USH 41
ADT (2038) = 113,800
R.D.S. = 70 M.P.H.

RAMP 'FWS'
ADT (2038) = 19,000
R.D.S. = 65 M.P.H.

RAMP 'FSE'
ADT (2038) = 10,300
R.D.S. = 30 M.P.H.

RAMP 'FEN'
ADT (2038) = 2,600
R.D.S. = 50 M.P.H.

RAMP 'FNW'
ADT (2038) = 1,700
R.D.S. = 45 M.P.H.

## NOTES:

SPAN LENGTHS AND ASSOCIATED LENGTH DIMENSIONS SHOWN ARE MEASURED ALONG ℄ FWS

FOR CURVE DATA SEE ALIGNMENT PROFILE AND SUPERELEVATION SHEET.

GUIDED LONGITUDINAL BEARINGS ARE ORIENTED PARALLEL TO ℄ RAMP 'FWS'

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.

## DESIGN DATA:

DESIGN LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: RF = 1.16
OPERATING RATING FACTOR: RF = 1.51
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 230 KIPS
SEE SHEET GENERAL NOTES & QUANTITIES FOR OTHER DESIGN LOADS

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.
STRUCTURAL STEEL,---------- FY = 50,000 P.S.I.
(ASTM A709, GRADE 50)

## FOUNDATION DATA:

WEST ABUTMENT TO BE SUPPORTED ON HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220* TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. ESTIMATED 25'-6" LONG.

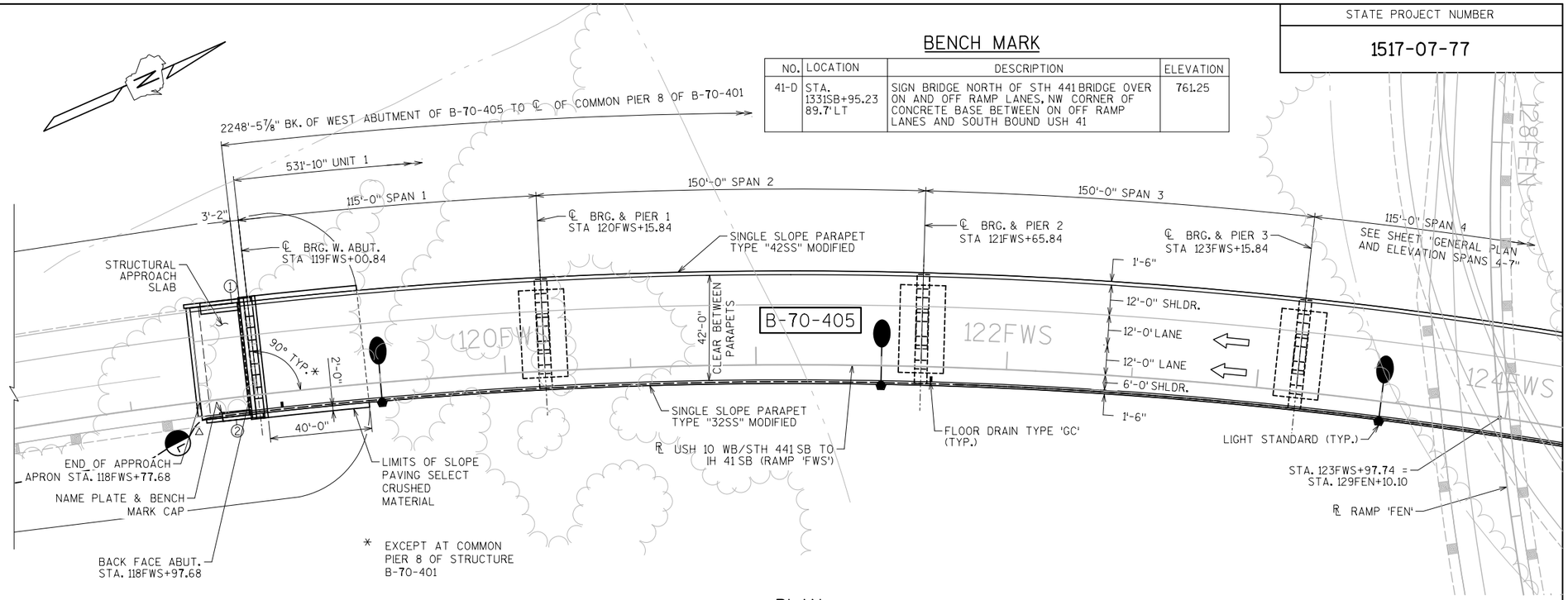
PIERS 1-5, 7-13 TO BE SUPPORTED ON HP14X73 STEEL PILING DRIVEN TO BEDROCK. SEE DRIVING RESISTANCE TABLE FOR REQUIRED DRIVING RESISTANCE* AND ESTIMATED DRIVING LENGTHS.

*THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING THE MODIFIED GATES DYNAMIC EQUATION.

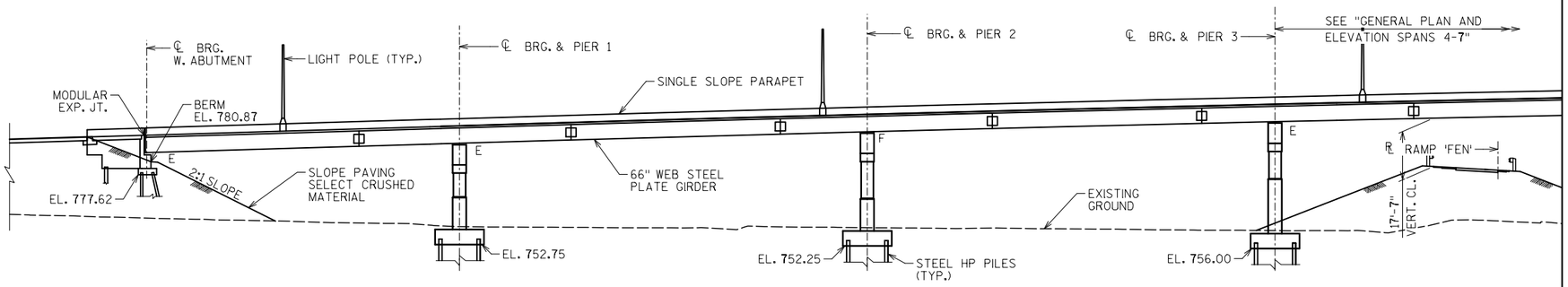
PIER 6 TO BE SUPPORTED ON A CONCRETE SEAL POURED ON SOUND ROCK WITH A REQUIRED FACTORED BEARING RESISTANCE OF 20,000 PSF ***. A GEOTECHNICAL ENGINEER, WITH THREE DAYS NOTICE, WILL DETERMINE THE FACTORED BEARING RESISTANCE BY VISUAL INSPECTION PRIOR TO CONSTRUCTION OF THE PIER FOOTING.

*** THE FACTORED BEARING RESISTANCE IS THE VALUE USED FOR DESIGN.

PRE-BORE HP14X73 PILES 3'-0" OR 3'-6" INTO BEDROCK FOR PIERS 1-5, 7-13 AND BACKFILL WITH CONCRETE. BID ITEM "PRE-BORING ROCK OR CONSOLIDATED MATERIALS" IS USED.




PLAN
(14-SPAN STEEL PLATE GIRDER BRIDGE)




ELEVATION
(NORMAL TO ℄ FWS)

## DRIVING RESISTANCE TABLE

| PIER | ESTIMATED DRIVEN PILE LENGTH (FEET) | REQUIRED DRIVING RESISTANCE |
|---|---|---|
| 1 | 7 | 220 |
| 2 | 7 | 200 |
| 3 | 11.5 | 240 |
| 4 | 17 | 195 |
| 5 | 7 | 235 |
| 7 | 10 | 220 |
| 8 | 9 | 220 |
| 9 | 9.5 | 250 |
| 10 | 10.5 | 240 |
| 11 | 6 | 205 |
| 12 | 10.5 | 205 |
| 13 | 9.5 | 220 |

WISCONSIN
MICHAEL J. ARNOLD
E-41717
GREENDALE
WI
PROFESSIONAL ENGINEER

## LEGEND:

F - FIXED BEARING

E - EXPANSION BEARING

△ - ANCHOR ASSEMBLY FOR STEEL PLATE BEAM GUARD ATTACHMENT.

② - INDICATES WINGWALL NUMBER

⇦ - DIRECTION OF TRAFFIC

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


AECOM
1555 N RiverCenter Dr.
Suite 214
Milwaukee, WI 53212
(414) 944-6080


STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 04/12/16
CHIEF STRUCTURES DESIGN ENGINEER — DATE

# STRUCTURE B-70-405

USH 10 WB/STH 441 SB TO IH 41 SB

| COUNTY | TOWN/~~CITY~~/~~VILLAGE~~ |
|---|---|
| WINNEBAGO | MENASHA |

DESIGN SPEC.
AASHTO LRFD DESIGN SPEC.

| DESIGNED BY | DESIGN CK'D. | DRAWN BY | PLANS CK'D. |
|---|---|---|---|
| JDL | MJA | JDL | MJA |

GENERAL PLAN AND ELEVATION SPANS 1 - 3

SHEET 1 OF 85
498

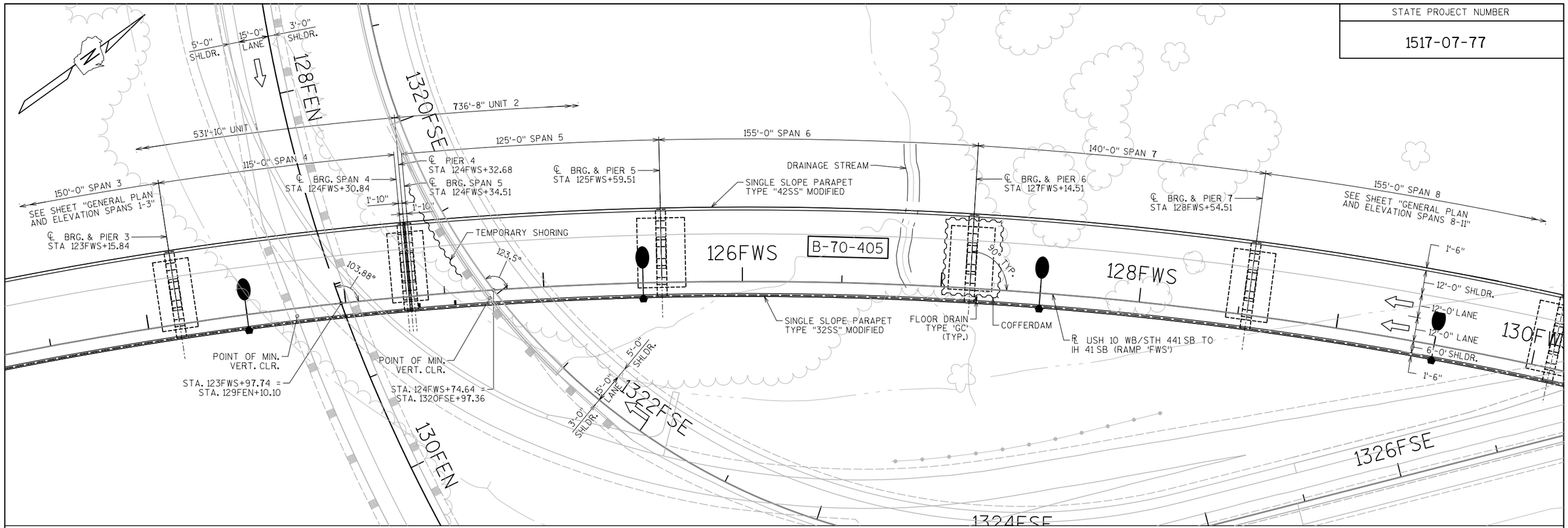
NE REGION CONTACT: SCOTT EBEL (920) 492-2240
BUREAU OF STRUCTURES CONTACT: WILLIAM DREHER (608) 266-8489
CONSULTANT CONTACT: MICHAEL ARNOLD (414) 944-6142

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I.D.

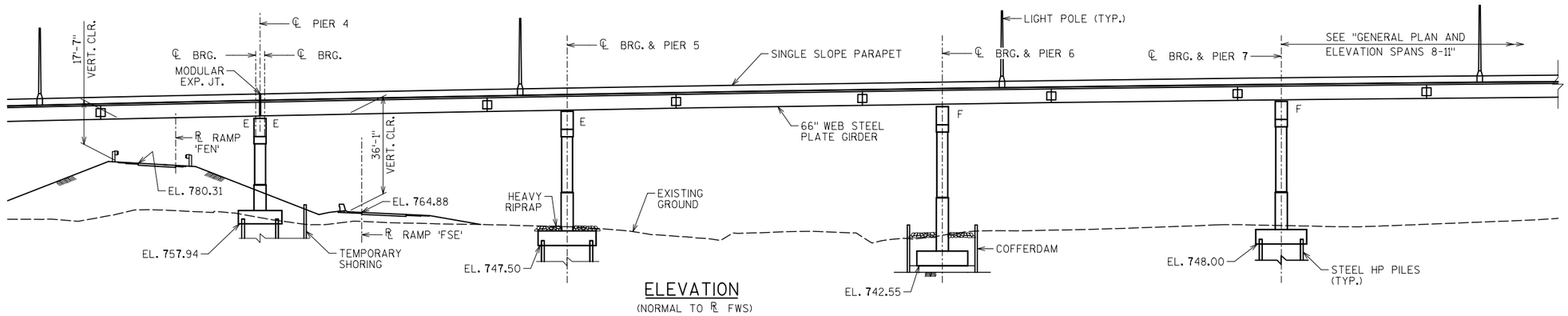
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| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |




PLAN
(14-SPAN STEEL PLATE GIRDER BRIDGE)




ELEVATION
(NORMAL TO ℄ FWS)




## LIST OF DRAWINGS


| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | GENERAL PLAN AND ELEVATION SPANS 1-3 | 18 | PIER 5-8 LAYOUT | 35 | BEARING LAYOUT UNIT 1 | 52 | FIELD SPLICE DETAILS UNIT 3 | 69 | DECK POUR SEQUENCE UNIT 3 |
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| 3 | GENERAL PLAN AND ELEVATION SPANS 8-11 | 20 | PIER 9 LAYOUT | 37 | BEARING LAYOUT UNIT 3 | 54 | PLATE GIRDER DIAPHRAGMS UNIT 3 | 71 | SINGLE SLOPE PARAPET 42SS MODIFIED |
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| 9 | SUBSURFACE 2 | 26 | PIERS 1-3 SHAFT REINFORCING | 43 | FRAMING PLAN AND ELEVATION SPANS 3-4 | 60 | CAMBER AND BLOCKING UNIT 2 | 77 | MODULAR EXPANSION JOINT DETAILS 2 |
| 10 | SUBSURFACE 3 | 27 | PIER 4 SHAFT REINFORCING | 44 | FRAMING PLAN AND ELEVATION SPANS 5-6 | 61 | CAMBER AND BLOCKING UNIT 3 | 78 | REINFORCING AT EXPANSION JOINT UNITS 1, 2, & 3 |
| 11 | WEST ABUTMENT PLAN & ELEVATION | 28 | PIERS 5-8 SHAFT REINFORCING | 45 | FRAMING PLAN AND ELEVATION SPANS 7-8 | 62 | DECK REINFORCEMENT UNIT 1 | 79 | MODULAR JOINT COVER PLATES 42SS PARAPETS |
| 12 | WEST ABUTMENT DETAILS | 29 | PIER 9 SHAFT REINFORCING | 46 | FRAMING PLAN AND ELEVATION SPAN 9 | 63 | DECK REINFORCEMENT UNIT 2 | 80 | MODULAR JOINT COVER PLATES 32SS PARAPETS |
| 13 | WEST ABUTMENT WING 1 | 30 | PIERS 10-13 SHAFT REINFORCING | 47 | FRAMING PLAN AND ELEVATION SPANS 10-11 | 64 | DECK REINFORCEMENT UNIT 3 | 81 | FLOOR DRAIN TYPE 'GC' |
| 14 | WEST ABUTMENT WING 2 | 31 | PIERS 1-4 FOOTING PILE LAYOUT | 48 | FRAMING PLAN AND ELEVATION SPANS 12 | 65 | SUPERSTRUCTURE DETAILS & BILL OF BARS | 82 | DOWNSPOUT DETAILS |
| 15 | WEST ABUTMENT BILL OF BARS | 32 | PIERS 5, 7-9 FOOTING PILE LAYOUT | 49 | FRAMING PLAN AND ELEVATION SPANS 13 | 66 | TOP OF DECK ELEVATIONS | 83 | AESTHETIC DETAILS |
| 16 | PIER 1-3 LAYOUT | 33 | PIER 6 FOOTING LAYOUT | 50 | FRAMING PLAN AND ELEVATION SPANS 14 | 67 | DECK POUR SEQUENCE UNIT 1 | 84 | SLOPE PAVING |
| 17 | PIER 4 LAYOUT | 34 | PIERS 10-13 FOOTING PILE LAYOUT | 51 | FIELD SPLICE DETAILS UNIT 1-2 | 68 | DECK POUR SEQUENCE UNIT 2 | 85 | STANDPIPE SYSTEM DETAILS |


| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

| DRAWN BY | JDL | PLANS CK'D. | MJA |
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GENERAL PLAN AND ELEVATION SPANS 4-7

SHEET 2 OF 85
499

DATE: 4/11/2016
I.D.

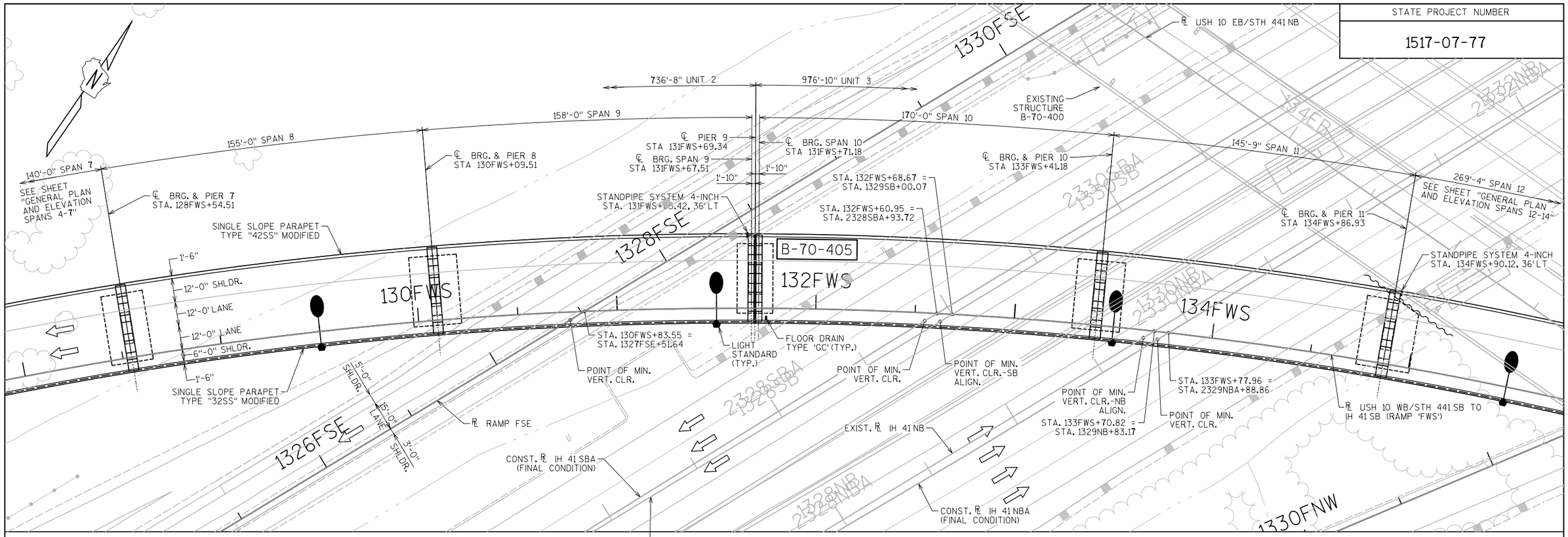
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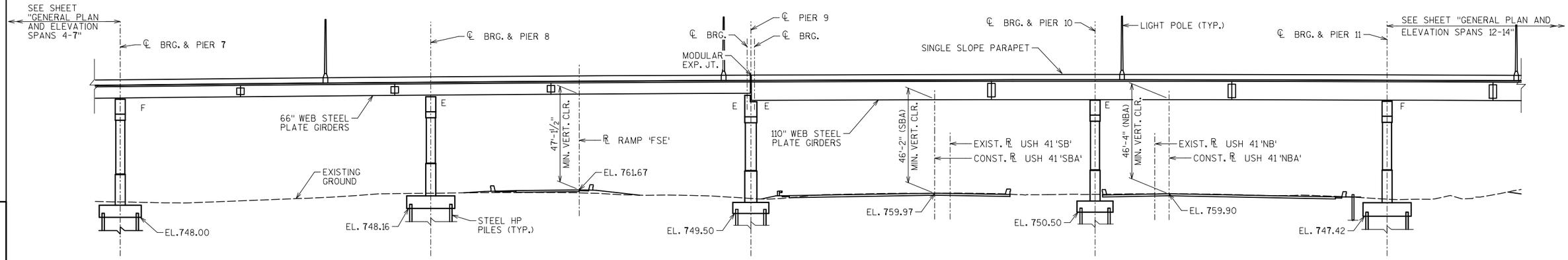
STATE PROJECT NUMBER

1517-07-77




## PLAN

(14-SPAN STEEL PLATE GIRDER BRIDGE)




## ELEVATION

(NORMAL TO ℄ FWS)

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. MJA

GENERAL PLAN AND ELEVATION SPANS 8 - 11

SHEET 3 OF 95
500

DATE: 4/11/2016
I.D.

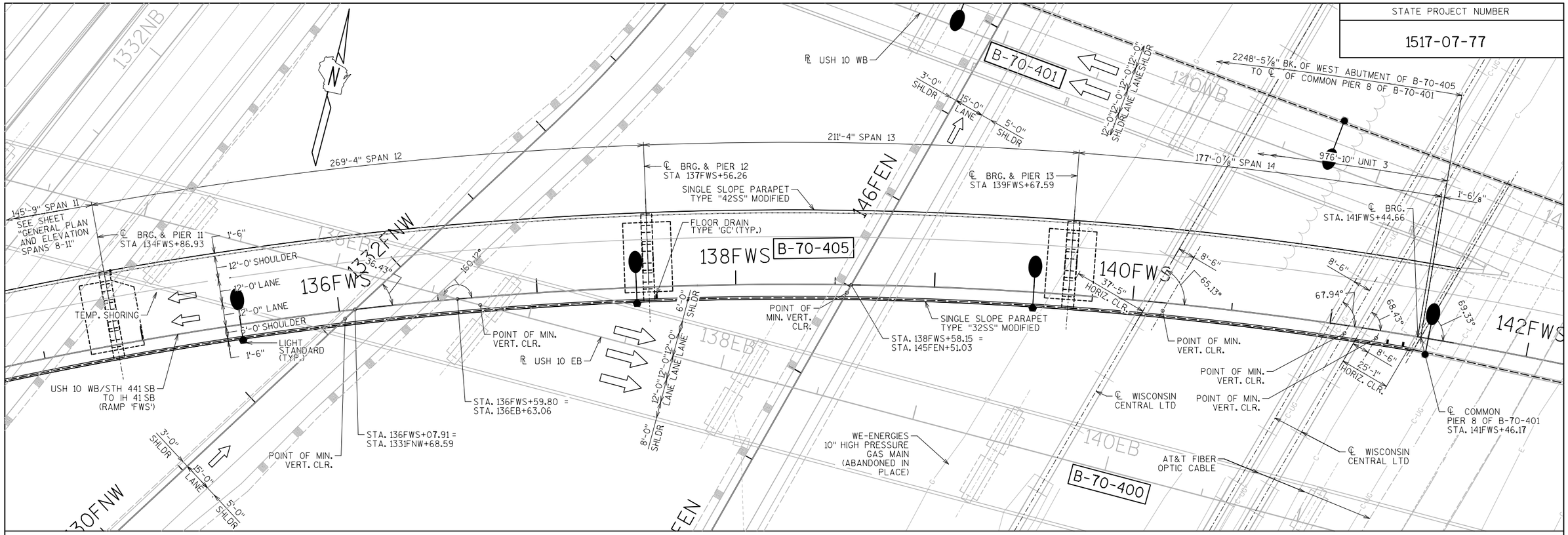
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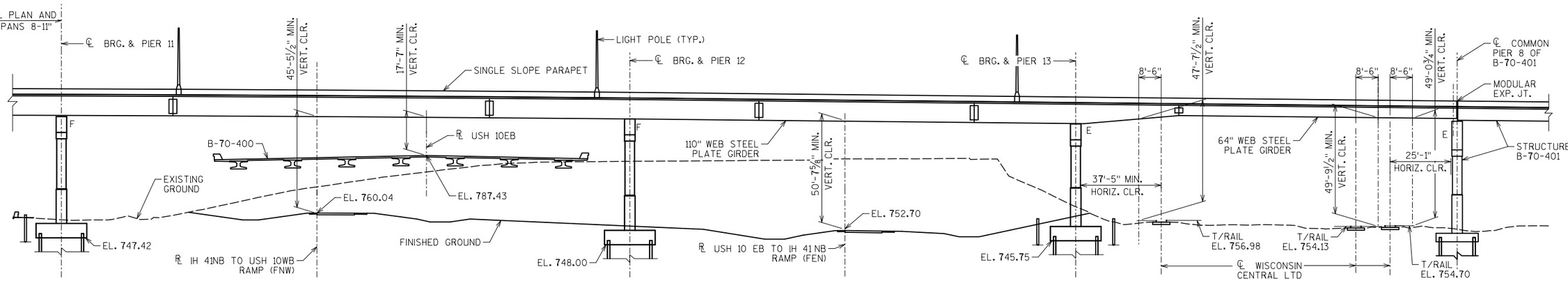
STATE PROJECT NUMBER

1517-07-77




## PLAN

(14-SPAN STEEL PLATE GIRDER BRIDGE)




## ELEVATION

(NORMAL TO ℄ FWS)

8

8

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. MJA

GENERAL PLAN AND ELEVATION SPANS 12 - 14

SHEET 4 OF 85
501

DATE: 4/11/2016
I.D.

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STATE PROJECT NUMBER

1517-07-77

## TOTAL ESTIMATED QUANTITIES

| | BID ITEM # | BID ITEM | UNIT | SUPER. SPANS | W. STR. APPR. | W. ABUT. | PIER 1 | PIER 2 | PIER 3 | PIER 4 | PIER 5 | PIER 6 | PIER 7 | PIER 8 | PIER 9 | PIER 10 | PIER 11 | PIER 12 | PIER 13 | PIER 8 (401) | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 206.1000 | EXCAVATION FOR STRUCTURES BRIDGES B-70-405 | LS | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 |
| | 206.5000.701 | COFFERDAMS B-70-405 | LS | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 |
| | 210.0100 | BACKFILL STRUCTURE | CY | - | - | 219 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 219 |
| | 305.0120 | BASE AGGREGATE DENSE 1 1/4-INCH | TON | - | 151 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 151 |
| | 501.1000.S | ICE HOT WEATHER CONCRETING | LB | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 64785 |
| | 502.1100.001 | CONCRETE MASONRY SEAL | CY | - | - | - | - | - | - | - | - | 109 | - | - | - | - | - | - | - | - | 109 |
| | 502.3110.S.702 | EXPANSION DEVICE MODULAR B-70-405 | LS | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 |
| | 502.3200 | PROTECTIVE SURFACE TREATMENT | SY | 10700 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 10700 |
| | 502.3210 | PIGMENTED SURFACE SEALER | SY | 2110 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2110 |
| | 505.0400 | BAR STEEL REINFORCEMENT HS STRUCTURES | LB | - | - | 750 | 17820 | 15380 | 17310 | 13390 | 17560 | 14640 | 16480 | 19260 | 14800 | 18830 | 21630 | 19150 | 20670 | - | 227670 |
| | 505.0600 | BAR STEEL REINFORCEMENT HS COATED STRUCTURES | LB | 773800 | 9390 | 12040 | 31360 | 28810 | 41200 | 36570 | 54350 | 56560 | 49350 | 57210 | 47490 | 59280 | 63500 | 52680 | 64580 | - | 1438170 |
| | 505.0800.S | BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES | LB | - | 790 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 790 |
| | 506.0605 | STRUCTURAL STEEL HS | LB | 5409957 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 5409957 |
| | 506.3020 | WELDED STUD SHEAR CONNECTORS 7/8X7-INCH | EACH | 29082 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 29082 |
| | 511.1200 | TEMPORARY SHORING B-70-405 | SF | - | - | - | - | - | 416 | - | - | - | 500 | 550 | - | - | - | - | - | - | 1466 |
| | 514.0445 | FLOOR DRAINS TYPE GC | EACH | 9 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 9 |
| | 514.2625 | DOWNSPOUT 6-INCH | LF | - | - | 8 | - | 62 | - | 89 | - | 86 | - | - | 80 | - | - | 80 | - | 84 | 489 |
| | 516.0500 | RUBBERIZED MEMBRANE WATERPROOFING | SY | - | - | 18 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 18 |
| | 517.0600 | PAINTING EPOXY SYSTEM B-70-405 | LS | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 |
| | 517.1010.S | CONCRETE STAINING B-70-405 | SF | 30055 | - | 675 | 1790 | 1950 | 2090 | 2160 | 2510 | 2770 | 2630 | 2715 | 2910 | 2545 | 2655 | 2565 | 2635 | - | 62655 |
| | 517.1050.S | ARCHITECTURAL SURFACE TREATMENT B-70-405 | SF | 9195 | - | 675 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 9870 |
| * | 550.0020 | PRE-BORING ROCK OR CONSOLIDATED MATERIALS | LF | - | - | - | 260 | 190 | 703 | 795 | 300 | - | 181 | 421 | 330 | 506 | 212 | 475 | 502 | - | 4876 |
| | 550.0500 | PILE POINTS | EACH | - | - | 16 | 14 | 20 | 0 | 0 | 20 | - | 26 | 24 | 14 | 10 | 33 | 24 | 20 | - | 221 |
| | 550.1120 | PILING STEEL HP 12-INCH X 53 LB | LF | - | - | 410 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 410 |
| ** | 550.1140 | PILING STEEL HP 14-INCH X 73 LB | LF | - | - | - | 338 | 329 | 563 | 816 | 332 | - | 389 | 579 | 393 | 559 | 348 | 675 | 620 | - | 5941 |
| | 604.0600 | SLOPE PAVING SELECT CRUSHED MATERIAL | SY | - | - | 247 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 247 |
| | 606.0300 | RIPRAP HEAVY | CY | - | - | 112 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 112 |
| | 612.0406 | PIPE UNDERDRAIN WRAPPED 6-INCH | LF | - | - | 110 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 110 |
| | 614.0150 | ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD | EACH | - | - | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 |
| | 645.0120 | GEOTEXTILE FABRIC TYPE HR | SY | - | - | 368 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 368 |
| | 652.0125 | CONDUIT RIGID METALLIC 2-INCH | LF | 94 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 94 |
| | 652.0225 | CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH | LF | 2205 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 2205 |
| | 653.0220 | JUNCTION BOXES 18X6X6-INCH | EACH | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 |
| | 653.0222 | JUNCTION BOXES 18X12X6-INCH | EACH | 11 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 11 |
| | 657.6005.S | ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES | EACH | 11 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 11 |
| | SPV.0035.700 | MODIFIED HIGH PERFORMANCE CONCRETE (HPC) MASONRY BRIDGES | CY | 3752 | 63 | 159 | 263 | 273 | 314 | 328 | 363 | 350 | 347 | 398 | 410 | 380 | 419 | 404 | 415 | - | 8638 |
| | SPV.0060.706 | BEARINGS HIGH-LOAD MULTI-ROTATIONAL GUIDED | EACH | - | - | 5 | 5 | - | 5 | 5 | 5 | - | - | 5 | 5 | 5 | - | - | 5 | 5 | 50 |
| | SPV.0060.707 | BEARINGS HIGH-LOAD MULTI-ROTATIONAL FIXED | EACH | - | - | - | - | 5 | - | - | - | 5 | 5 | - | - | - | 5 | 5 | - | - | 25 |
| | SPV.0060.708 | STAND PIPE SYSTEM | EACH | - | - | - | - | - | - | - | - | - | - | - | 1 | - | 1 | - | - | - | 2 |
| | | NON BID ITEMS | | | | | | | | | | | | | | | | | | | |
| | | FILLER | SIZE | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1/2" & 3/4" |
| | | NAME PLATE | EACH | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1 |

## GENERAL NOTES

DO NOT SCALE DRAWINGS.

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

ELEVATIONS ON THIS PLAN ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD 29).

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.

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

THE EXISTING GROUND LINE IS THE UPPER LIMIT OF EXCAVATION FOR STRUCTURES.

AT ABUTMENT, BACKFILL ALL EXCAVATED VOLUME NOT OCCUPIED BY NEW STRUCTURE WITH BACKFILL STRUCTURE.

THE GRADATION OF THE STRUCTURE BACKFILL SHALL MEET THE REQUIREMENTS OF SECTION 209.2.2 OF THE STANDARD SPECIFICATIONS FOR GRADE 1 MATERIAL.

THE SLOPE OF THE FILL IN FRONT OF THE WEST ABUTMENT SHALL BE COVERED WITH "SLOPE PAVING SELECT CRUSHED MATERIAL" TO THE EXTENT SHOWN ON GENERAL PLAN SHEET.

FOR DETAILS RELATING TO COMMON PIER 8 SEE B-70-401 STRUCTURE PLANS.

## DESIGN CRITERIA

DESIGN IS IN ACCORDANCE WITH AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) LRFD BRIDGE DESIGN SPECIFICATIONS 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).

## 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 A955, GRADE 60 REQUIREMENTS.

REINFORCING STEEL SHALL BE UNCOATED IN FOOTINGS (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.

## CONCRETE

CONCRETE QUANTITY IN THE HAUNCHES IS CALCULATED BASED ON AN AVERAGE HAUNCH DEPTH PROVIDED ON THE DRAWINGS. THIS IS THE MAXIMUM HAUNCH QUANTITY FOR WHICH PAYMENT WILL BE MADE.

CHAMFER ALL EXPOSED OUTSIDE CORNERS ¾" UNLESS NOTED OTHERWISE.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE TOP OF DECK SURFACE AND APPROACH SLAB.

PIGMENTED SURFACE SEALER TO BE APPLIED TO INSIDE FACE AND TOP OF PARAPETS.

## OTHER DESIGN LOADS

THE STRUCTURE IS DESIGNED FOR THE DECK THICKNESS SHOWN. A POLYMER OVERLAY WILL BE APPLIED TO THE TOP OF THE DECK. 5 PSF DESIGN LOAD IS CONSIDERED FOR POLYMER OVERLAY. ADDITIONAL LOAD OF 20 PSF FOR A FUTURE WEARING SURFACE IS CONSIDERED IN THE DESIGN.

TEMPERATURE CHANGE FOR DETERMINING THERMAL FORCES ON SUBSTRUCTURES = 150°F.

DESIGN ASSUMED 7.5 PSF FOR TEMPORARY FORMWORK.

PARAPETS WERE ASSUMED TO WEIGH 639 POUND/LF AND 516 POUND/LF FOR MODIFIED 42SS AND 32SS SECTIONS RESPECTIVELY.

ALL OTHER LOADS IN ACCORDANCE WITH AASHTO.

## STRUCTURAL STEEL

PROVIDE HIGH STRENGTH STRUCTURAL STEEL CONFORMING TO THE REQUIREMENTS OF ASTM A709 GRADE 50 FOR ALL GIRDER WEB, FLANGES, STIFFENERS, SPLICE PLATES AND DIAPHRAGMS.

PROVIDE 7/8" DIA. ASTM A325 HIGH STRENGTH BOLTS FOR ALL STRUCTURAL STEEL CONNECTIONS.

DETAIL CROSS FRAME DIAPHRAGMS FOR STEEL DEAD LOAD FIT (ERECTED FIT).

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

* BID ITEM "PRE-BORING ROCK OR CONSOLIDATED MATERIALS" INCLUDES DRILLING THE PRE-BORING HOLES; FURNISHING, INSTALLING, AND REMOVING CASING IF NECESSARY; FURNISHING AND PLACING CEMENT GROUT; BACKFILLING; AND DISPOSING OF EXCESS MATERIAL. PROVIDING PILES AND SETTING PILES IN PRE-BORED HOLES IS INCLUDED WITH BID ITEM "PILING STEEL HP 14-INCH X 73 LB."

** PILES PLACED IN PRE-BORED HOLES CORED INTO SOLID ROCK DO NOT REQUIRE DRIVING.

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| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. MJA

GENERAL NOTES AND QUANTITIES

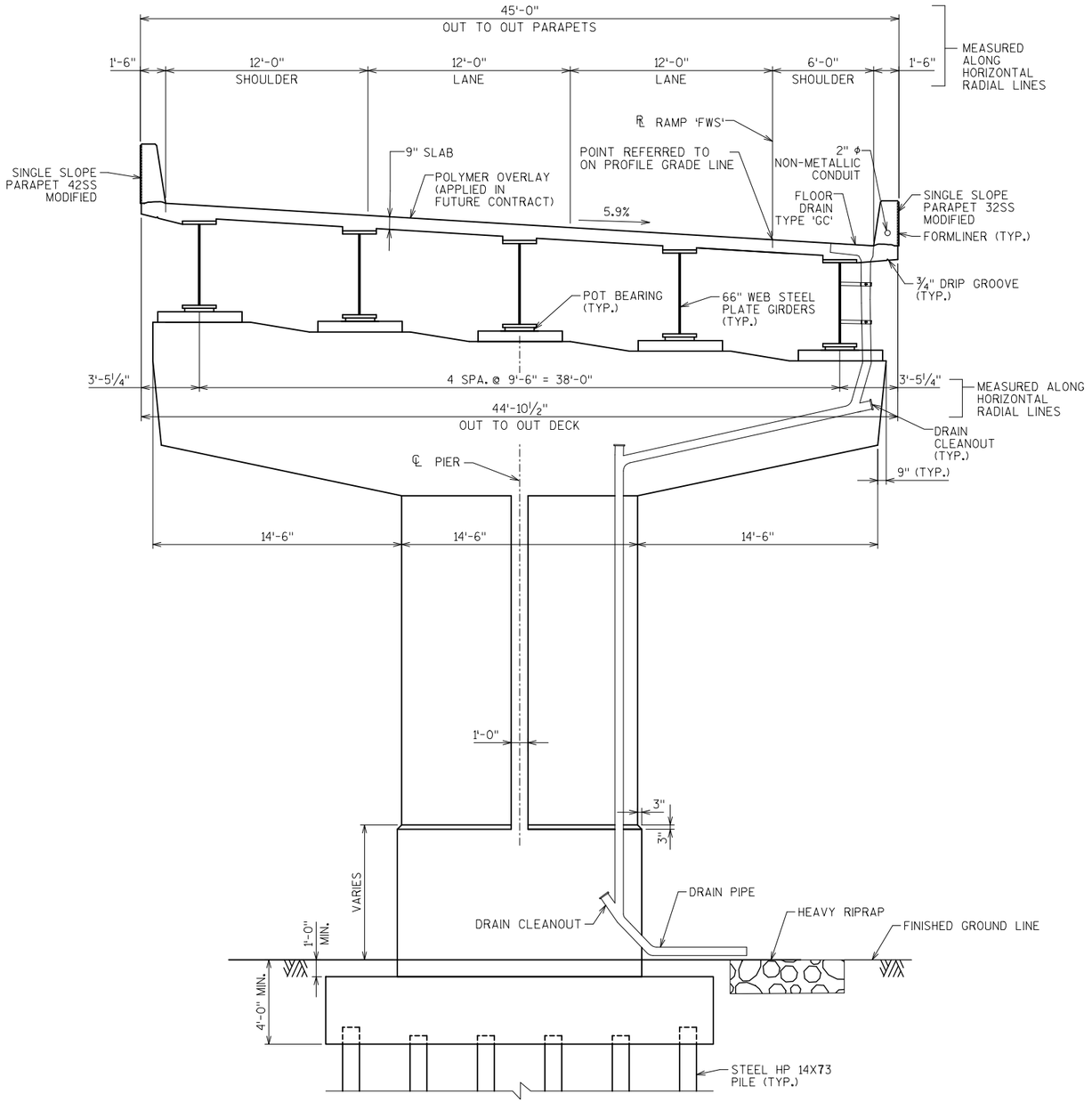
SHEET 5 OF 95
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DATE: 4/11/2016
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STATE PROJECT NUMBER

1517-07-77

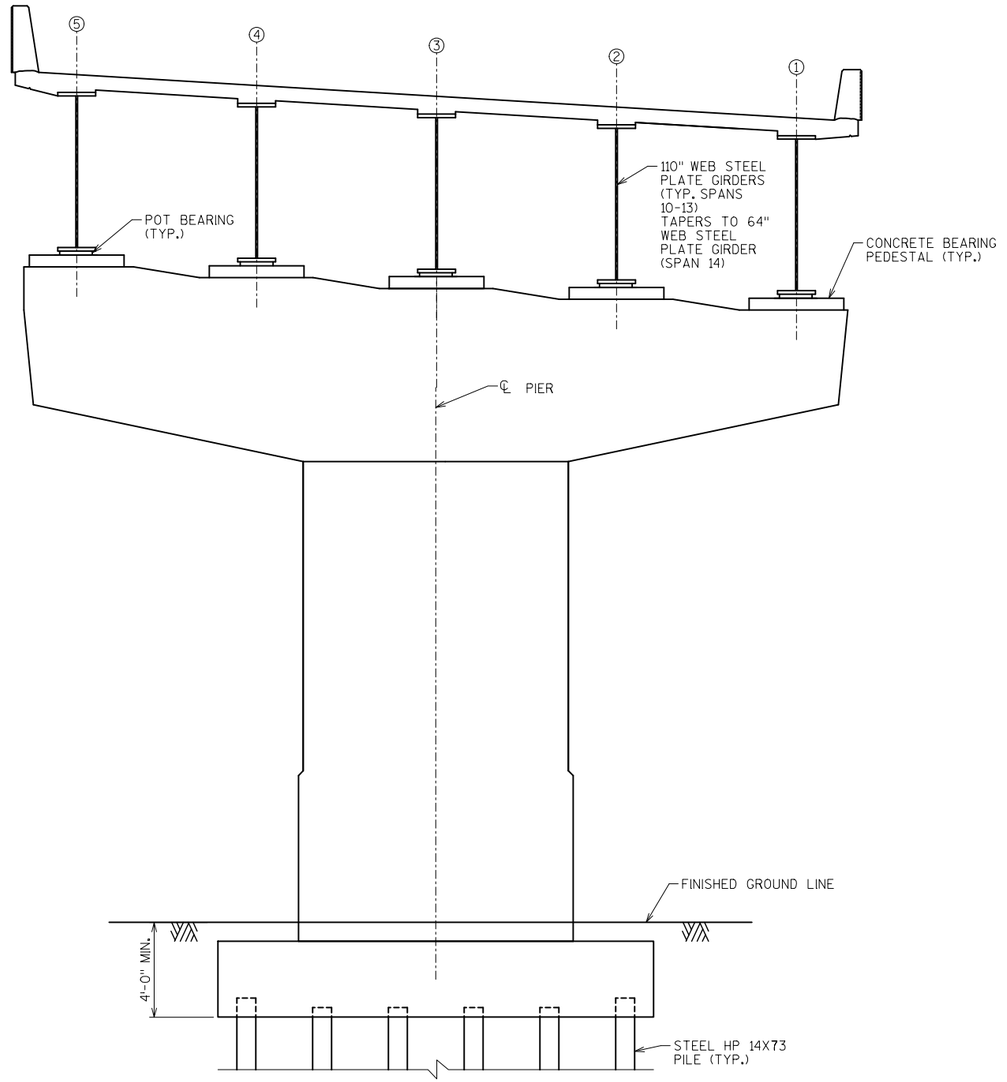



## SECTION AT PIER (SPANS 1-9)

(LOOKING UPSTATION)

(SPANS WITH 66" WEB GIRDERS)

(PIER 6 IS FOUNDED ON SPREAD FOOTING ON BEDROCK)




## SECTION AT PIER (SPANS 10-14)

(LOOKING UPSTATION)

(SPANS WITH 110" WEB PLATE GIRDERS. THE PIER ELEVATION SHOWN FACING THE RAILROAD. REMAINING PIER DETAILS SIMILAR TO SECTION AT PIER, SPANS 1-9)

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. MJA

CROSS SECTION

SHEET 5 OF 85
503

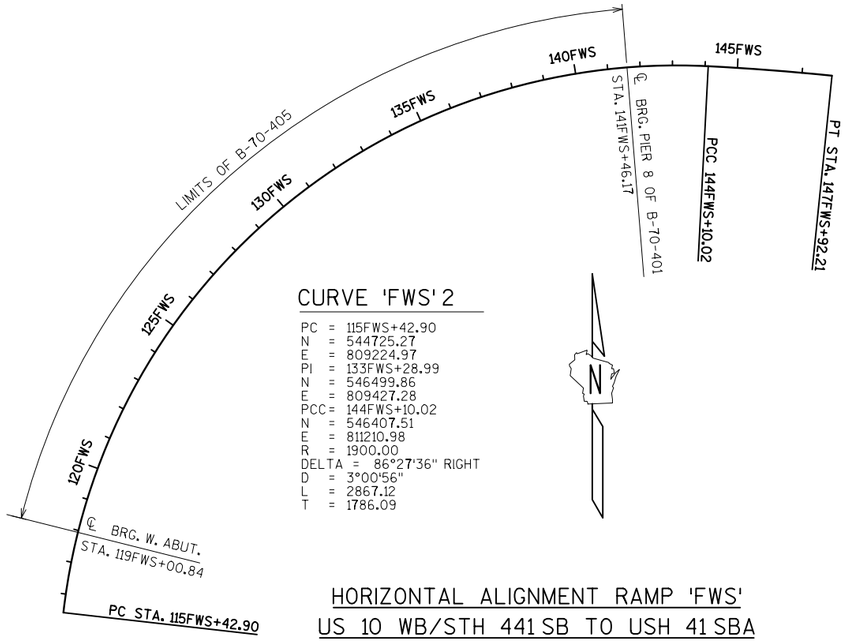
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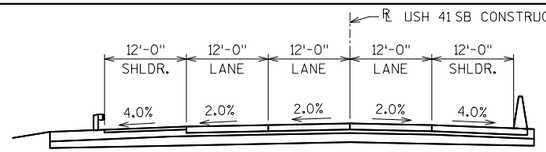
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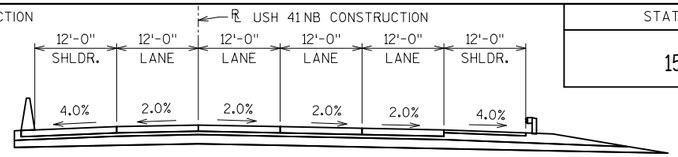

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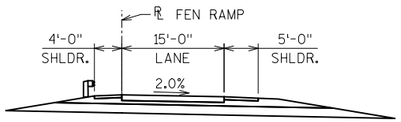
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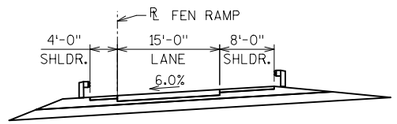

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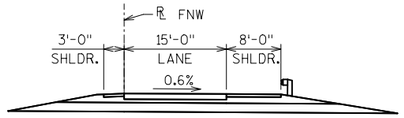

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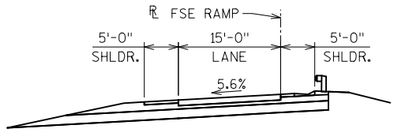

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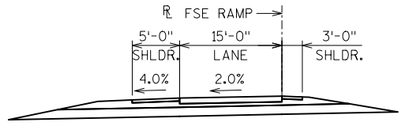

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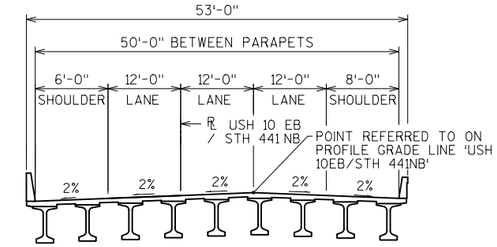

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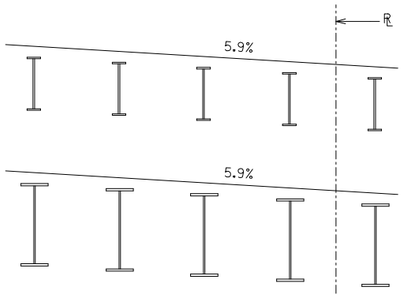

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## TYPICAL SECTION B-70-400
## (USH 10EB/STH 441NB)



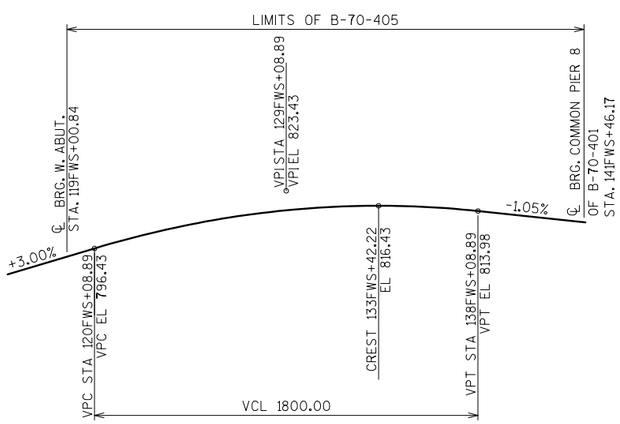

## DECK SLOPE



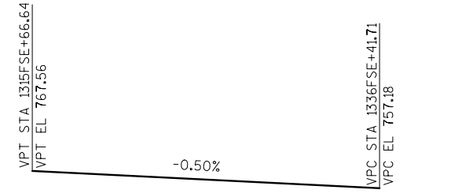

## USH 41 NBA



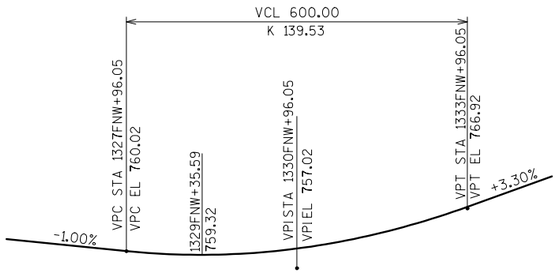

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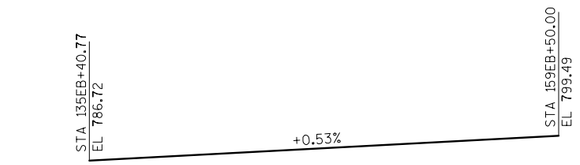

## PROFILE GRADE LINE RAMP 'FWS'
## US 10 WB/STH 441 SB TO USH 41 SB



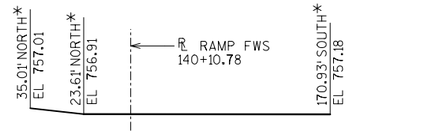

## PROFILE GRADE LINE RAMP 'FSE'
## USH 41 SB TO USH 10 EB/STH 441 NB




## PROFILE GRADE LINE RAMP 'FNW'
## USH 41 NB TO USH 10 WB



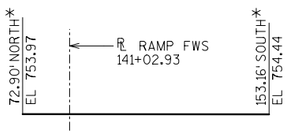

## PROFILE GRADE LINE USH 10 EB/STH 441 NB




## PROFILE GRADE LINE WEST RR

(WISCONSIN CENTRAL LTD)

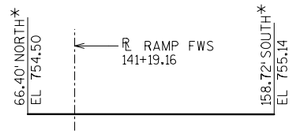
* DISTANCE MEASURED ALONG EAST TRACK BETWEEN ℄ TO SURVEY POINT




## PROFILE GRADE LINE CENTER RR

(WISCONSIN CENTRAL LTD)

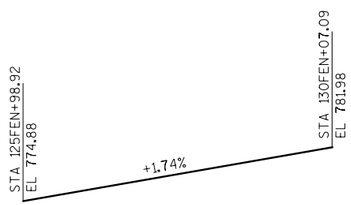
* DISTANCE MEASURED ALONG EAST TRACK BETWEEN ℄ TO SURVEY POINT



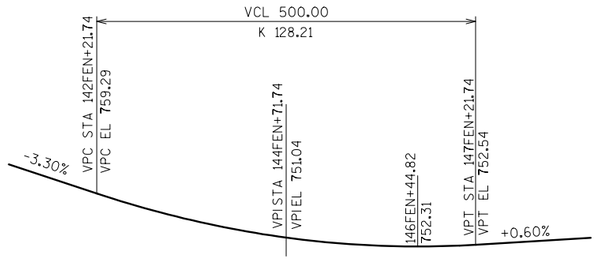

## PROFILE GRADE LINE EAST RR

(WISCONSIN CENTRAL LTD)

* DISTANCE MEASURED ALONG EAST TRACK BETWEEN ℄ TO SURVEY POINT




## PROFILE GRADE LINE - RAMP 'FEN'
## USH 10 EB TO USH 41 NB




## PROFILE GRADE LINE RAMP 'FEN'
## USH 10 EB TO USH 41 NB

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. MJA

ALIGNMENT, PROFILE AND SUPERELEVATION

SHEET 7 OF 85
504

STATE PROJECT NUMBER
1517-07-77

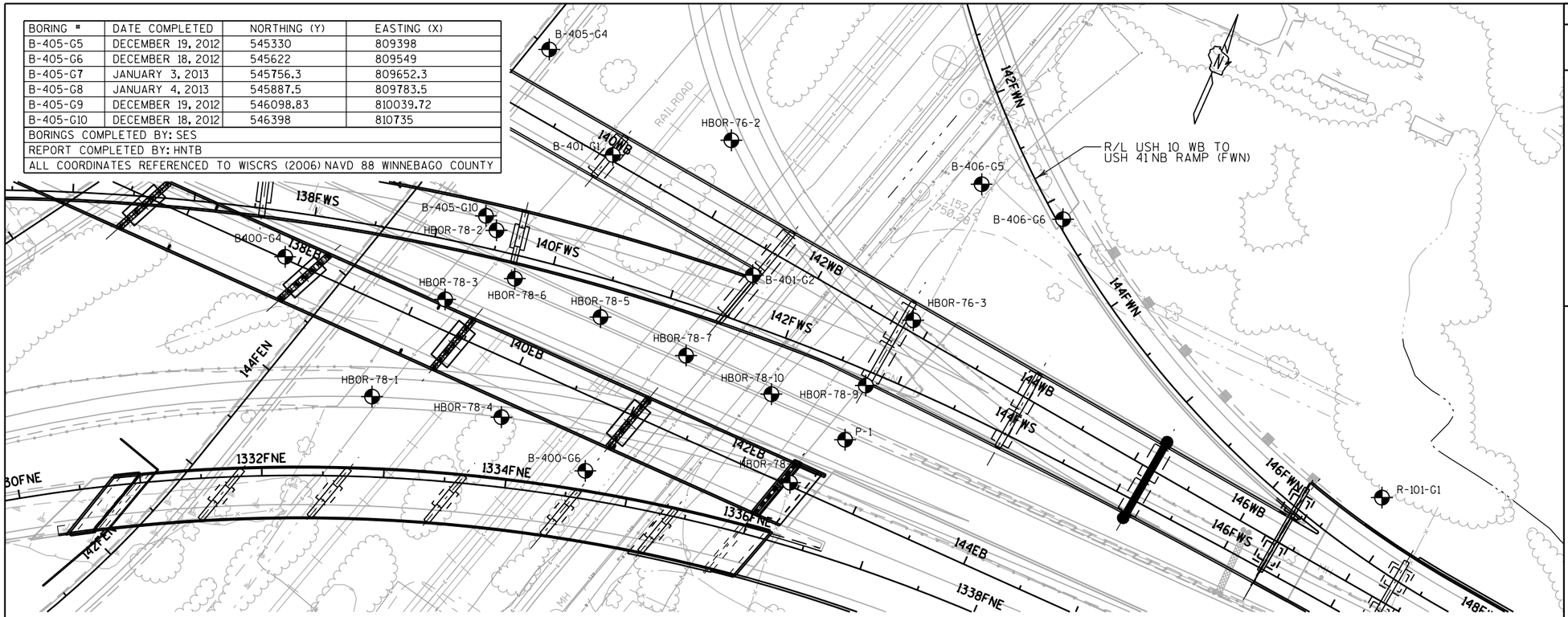
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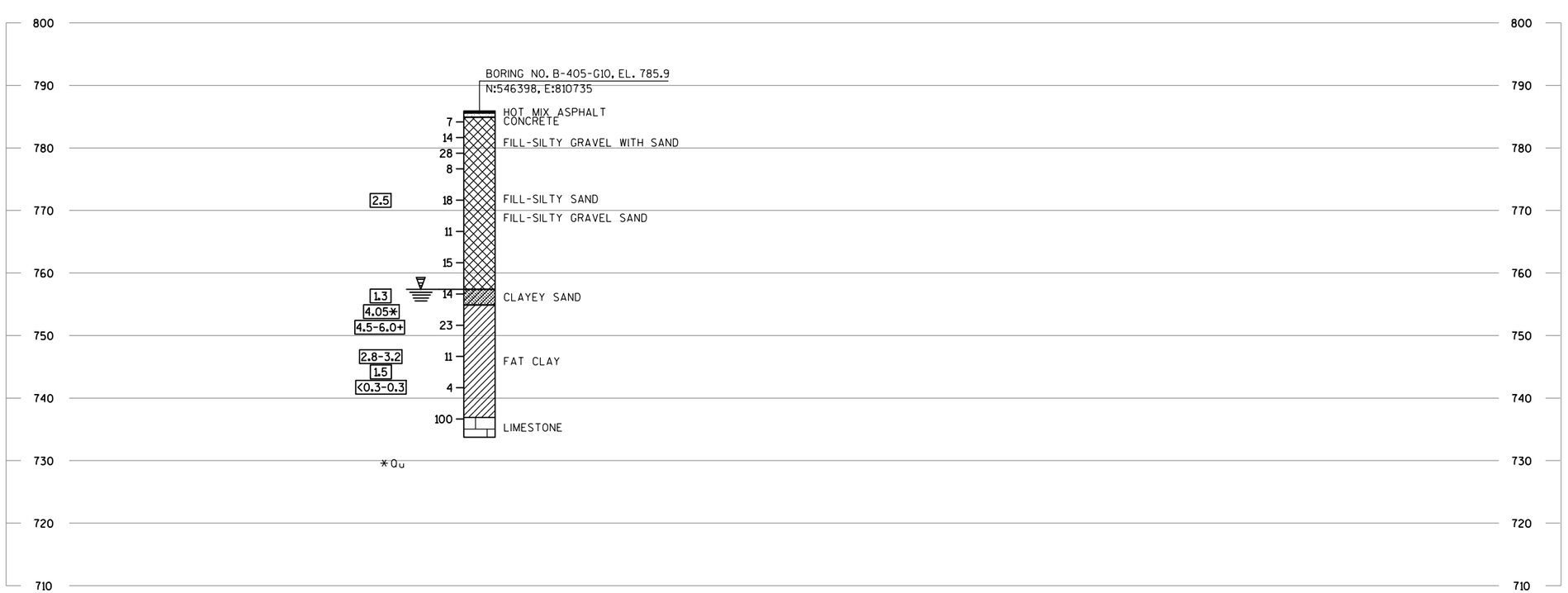
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DATE: 4/11/2016
I.D.

| BORING # | DATE COMPLETED | NORTHING (Y) | EASTING (X) |
|---|---|---|---|
| B-405-G5 | DECEMBER 19, 2012 | 545330 | 809398 |
| B-405-G6 | DECEMBER 18, 2012 | 545622 | 809549 |
| B-405-G7 | JANUARY 3, 2013 | 545756.3 | 809652.3 |
| B-405-G8 | JANUARY 4, 2013 | 545887.5 | 809783.5 |
| B-405-G9 | DECEMBER 19, 2012 | 546098.83 | 810039.72 |
| B-405-G10 | DECEMBER 18, 2012 | 546398 | 810735 |
| BORINGS COMPLETED BY: SES | | | |
| REPORT COMPLETED BY: HNTB | | | |
| ALL COORDINATES REFERENCED TO WISCRS (2006) NAVD 88 WINNEBAGO COUNTY | | | |



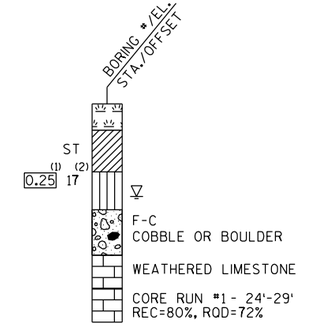

STATE PROJECT NUMBER

1517-07-77

MATERIAL SYMBOLS

ASPHALT, TOPSOIL, PEAT, CONCRETE, FILL, GRAVEL, SAND, CLAY, SILT, BOULDERS OR COBBLES, LIMESTONE, BEDROCK (UNKNOWN), SHALE, SANDSTONE, IGNEOUS/META

LEGEND OF BORING




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

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- AT TIME OF DRILLING
- END OF DRILLING
- AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-70-405

DRAWN BY JS | PLANS CK'D. BW

SUBSURFACE EXPLORATION

SHEET 10 OF 85

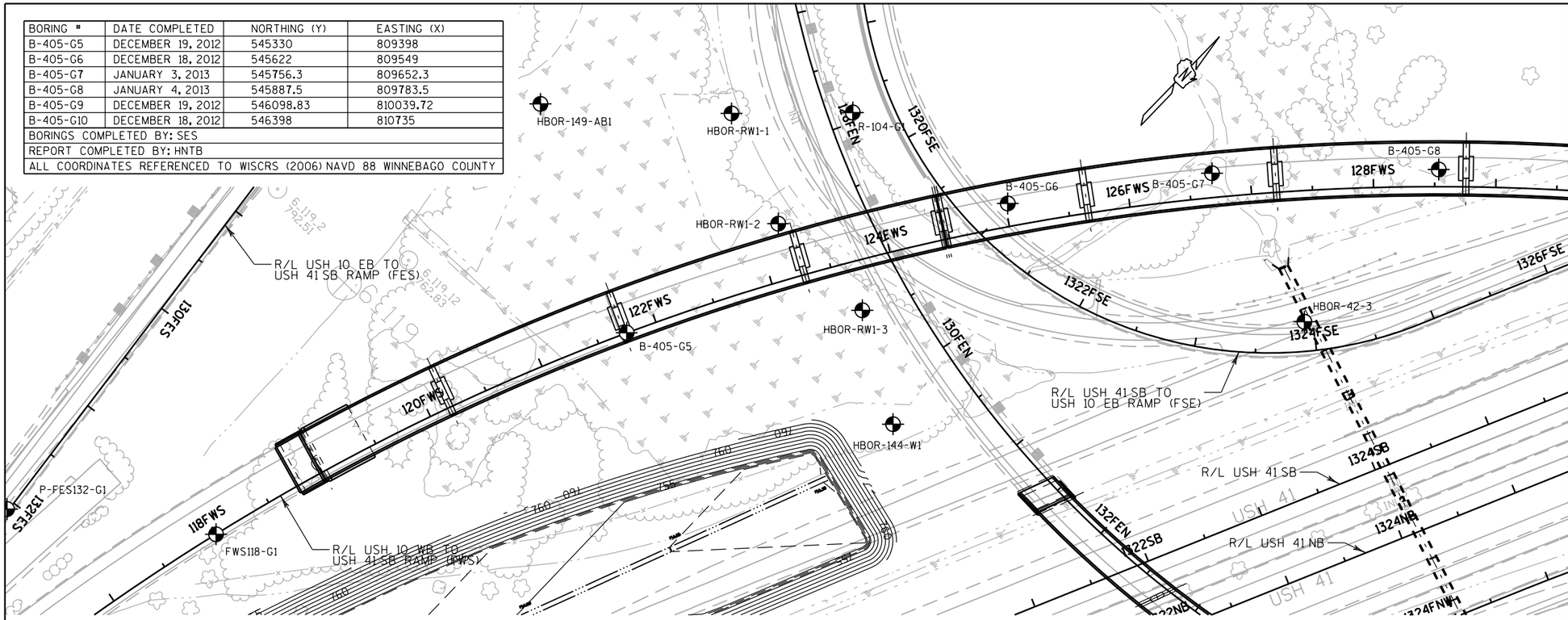
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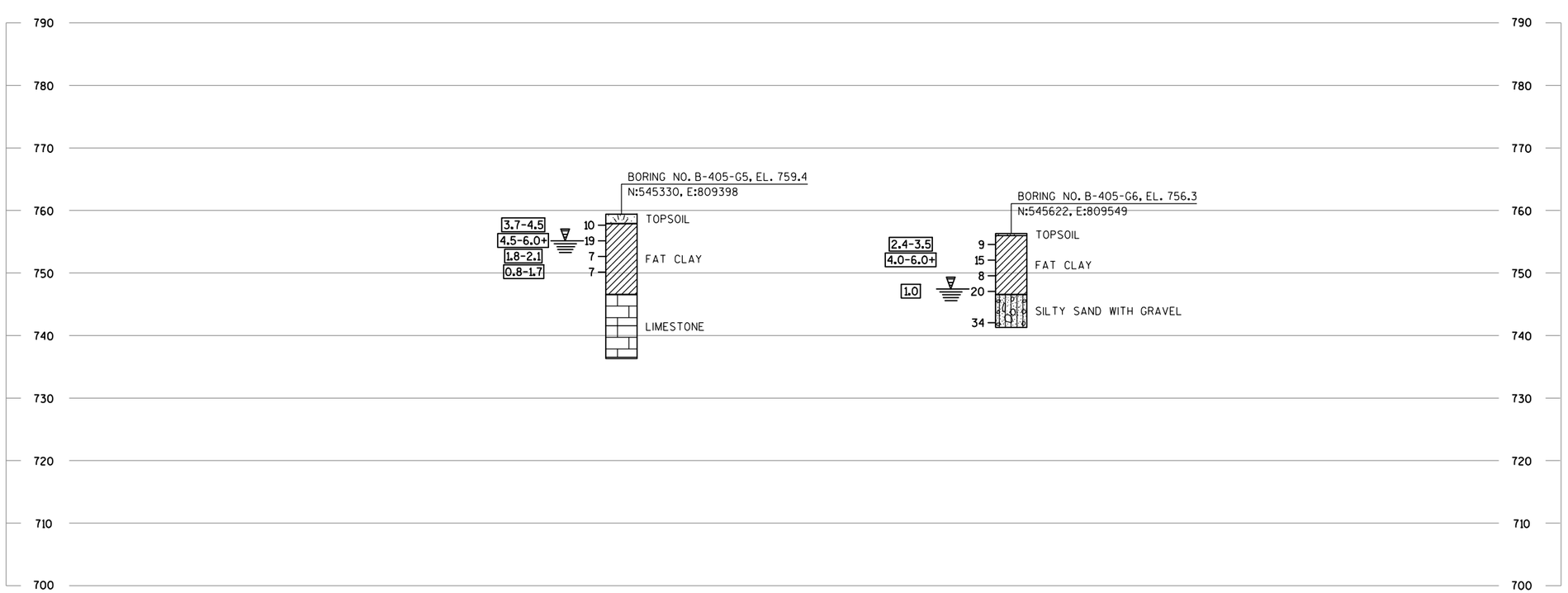
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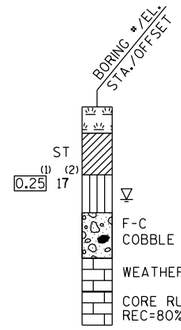

STATE PROJECT NUMBER

1517-07-77

MATERIAL SYMBOLS

| | | |
|---|---|---|
| ASPHALT | TOPSOIL | PEAT |
| CONCRETE | FILL | GRAVEL |
| SAND | CLAY | SILT |
| BOULDERS OR COBBLES | LIMESTONE | BEDROCK (UNKNOWN) |
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| NO. | DATE | REVISION | BY |
|---|---|---|---|
| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-70-405

DRAWN BY JS | PLANS CK'D. BW

SUBSURFACE EXPLORATION

SHEET 8 OF 85

506

8

8

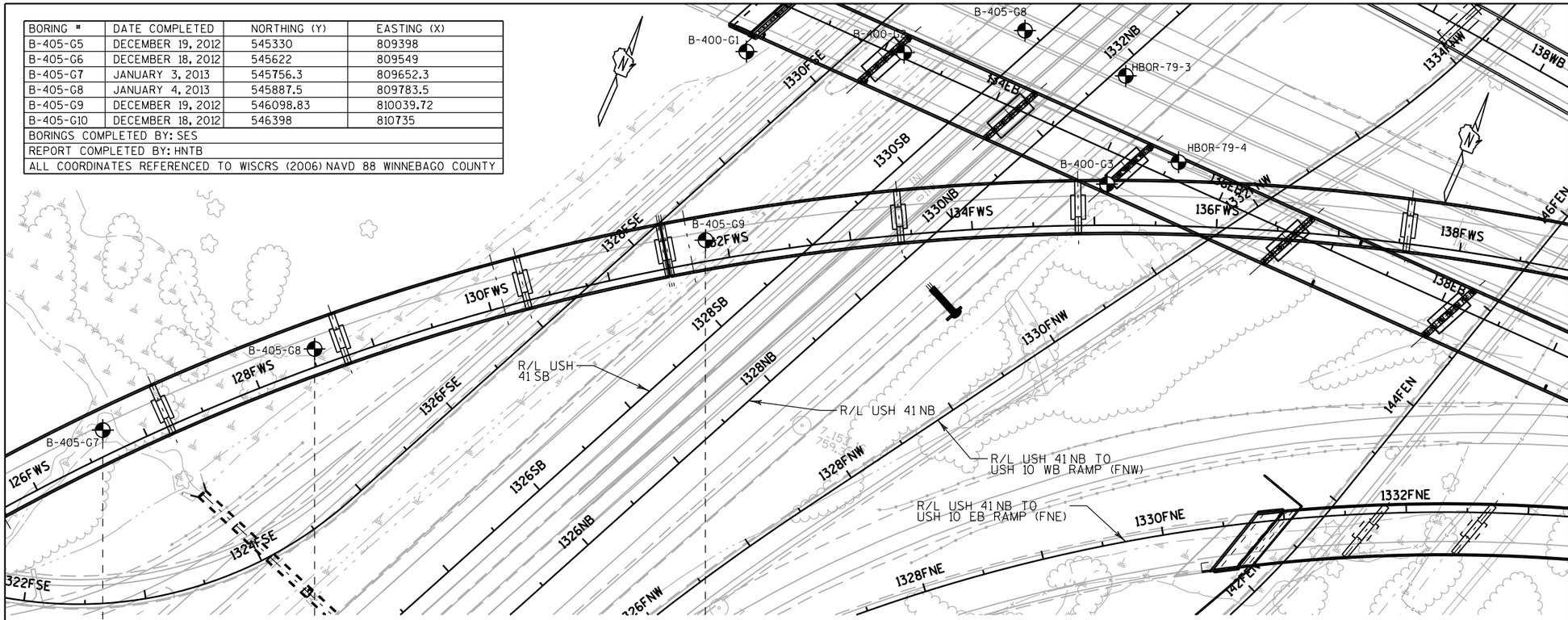
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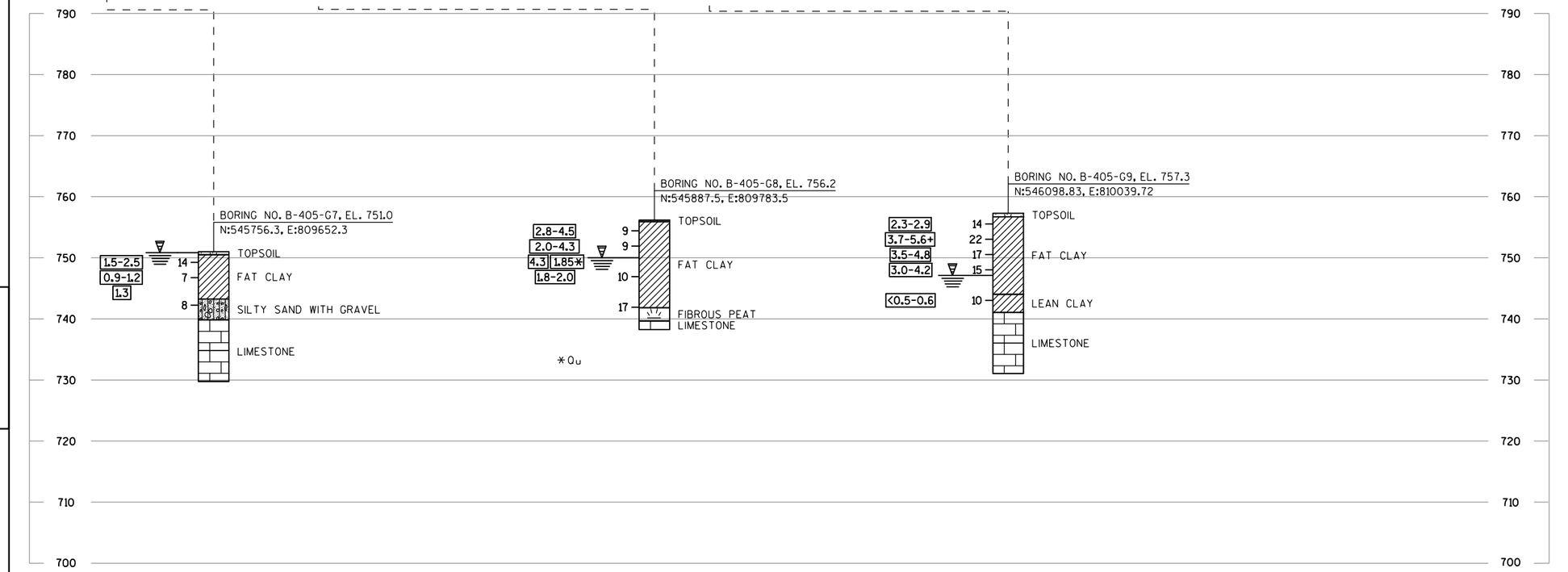
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BORINGS COMPLETED BY: SES

REPORT COMPLETED BY: HNTB

ALL COORDINATES REFERENCED TO WISCRS (2006) NAVD 88 WINNEBAGO COUNTY



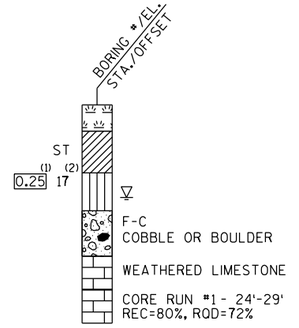

STATE PROJECT NUMBER

1517-07-77

MATERIAL SYMBOLS

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-70-405

DRAWN BY JS | PLANS CK'D. BW

SUBSURFACE EXPLORATION

SHEET 9 OF 85

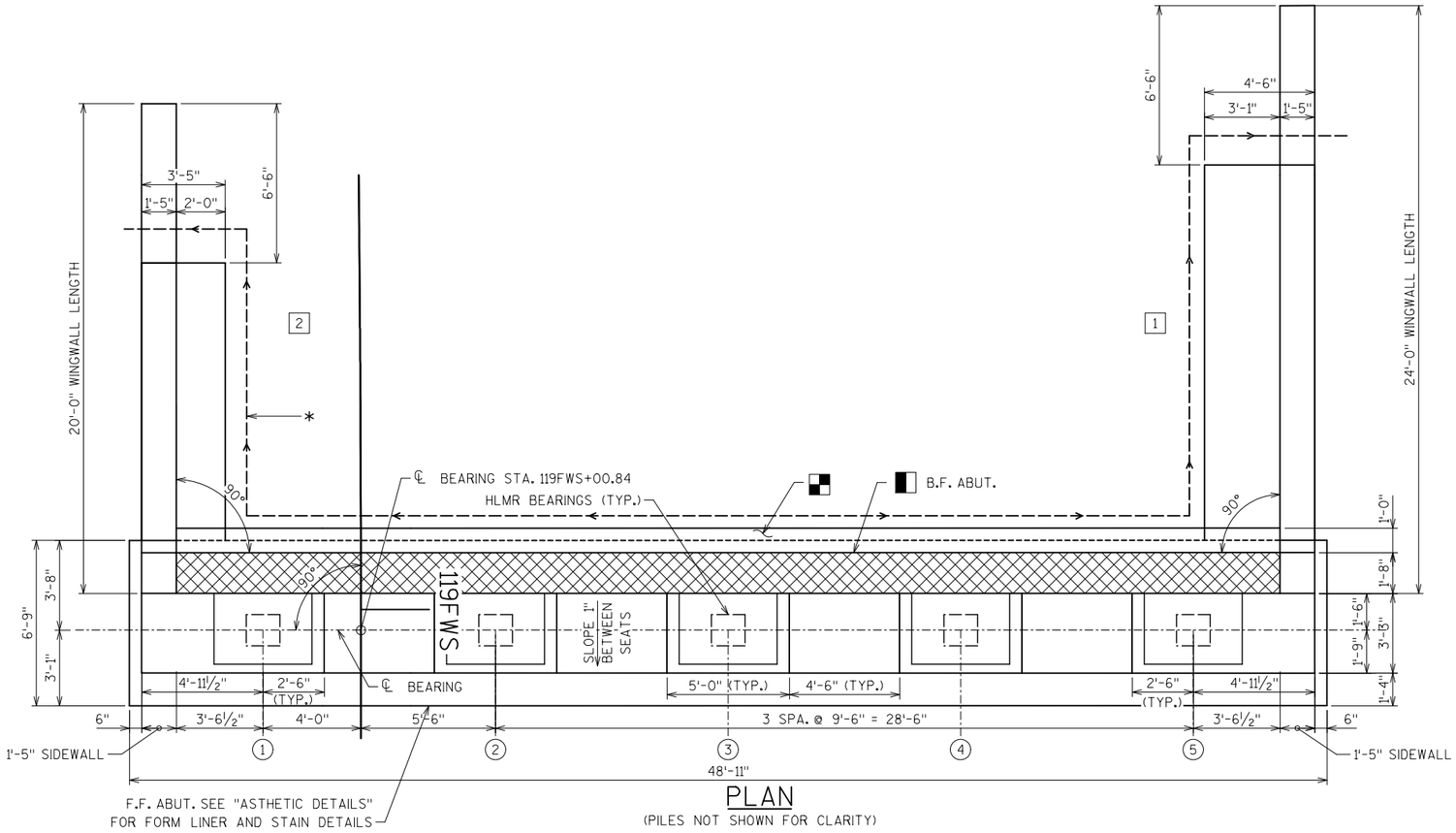
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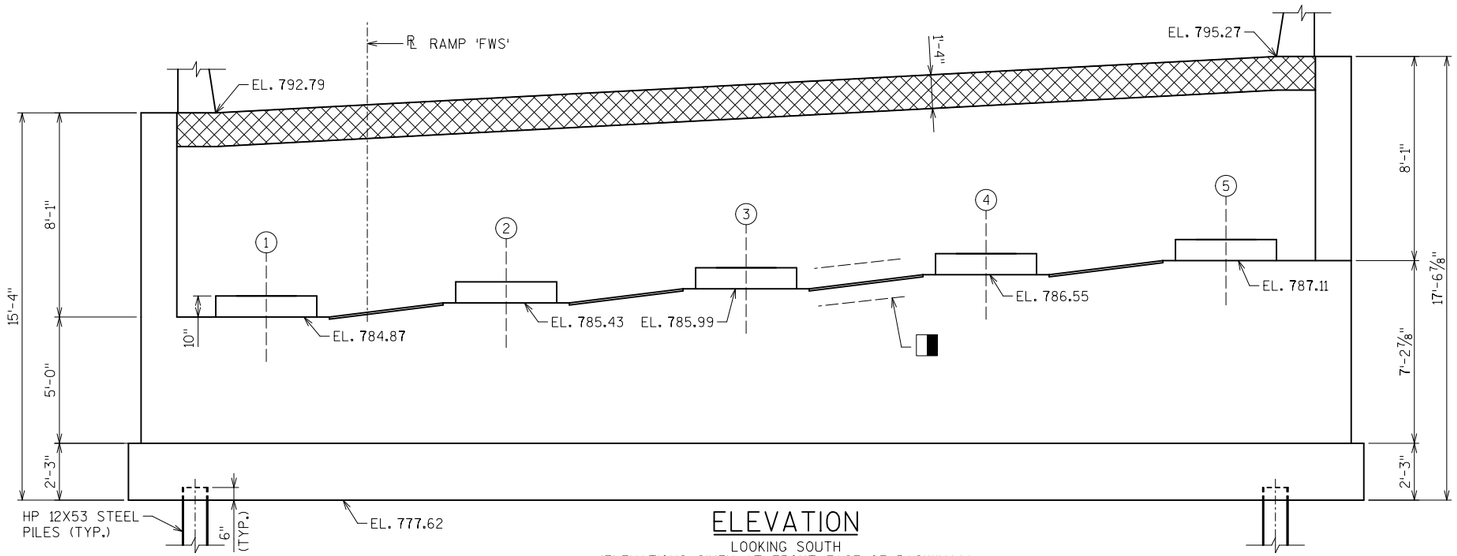
STATE PROJECT NUMBER

1517-07-77




PLAN

(PILES NOT SHOWN FOR CLARITY)




ELEVATION

LOOKING SOUTH

(ELEVATIONS GIVEN AT FRONT FACE OF BACKWALL)

(SOME PILES NOT SHOWN FOR CLARITY)

## NOTES

FOR REINFORCING STEEL AND PILE SPACING SEE SHEET "WEST ABUTMENT DETAILS".

FOR PILE SPLICE DETIALS AND RODENT SHIELD DETAILS, SEE SHEET "WEST ABUTMENT BAR BILL".

MIN. LAP LENGTHS (UNLESS NOTED OTHERWISE):

#4 BARS: 1'-8"
#6 BARS: 3'-1"
#7 BARS: 3'-10"
#9 BARS: 6'-5"

## LEGEND

- [#] INDICATES WING NUMBER
- (#) INDICATES PILE NUMBER
- ⟨#⟩ INDICATES GIRDER NUMBER
- INDICATES CONCRETE AREA TO BE POURED AFTER SUPERSTRUCTRE CONCRETE IS IN PLACE.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. AND VERT. JOINTS ON BACKFACE ABOVE FOOTING.
- KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2" X 6"
- 1'-0" WIDE X 1'-4" DEEP APPROACH SLAB PAVING NOTCH.
- * PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN. FOR RODENT SHIELD DETAILS SEE SHEET "WEST ABUTMENT BAR BILL". AT THE DAYLIGHT END OF PIPE UNDERDRAIN, INSTALL A CONCRETE APRON ENDWALL AND CULVERT MARKER (ROADWAY CONTRACTOR TO INSTALL). PAYMENT FOR APRON ENDWALL AND CULVERT MARKER INCLUDED IN ROADWAY PLANS.
- ▲ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. MJA

WEST ABUTMENT PLAN & ELEVATION

SHEET 11 OF 35
508

8

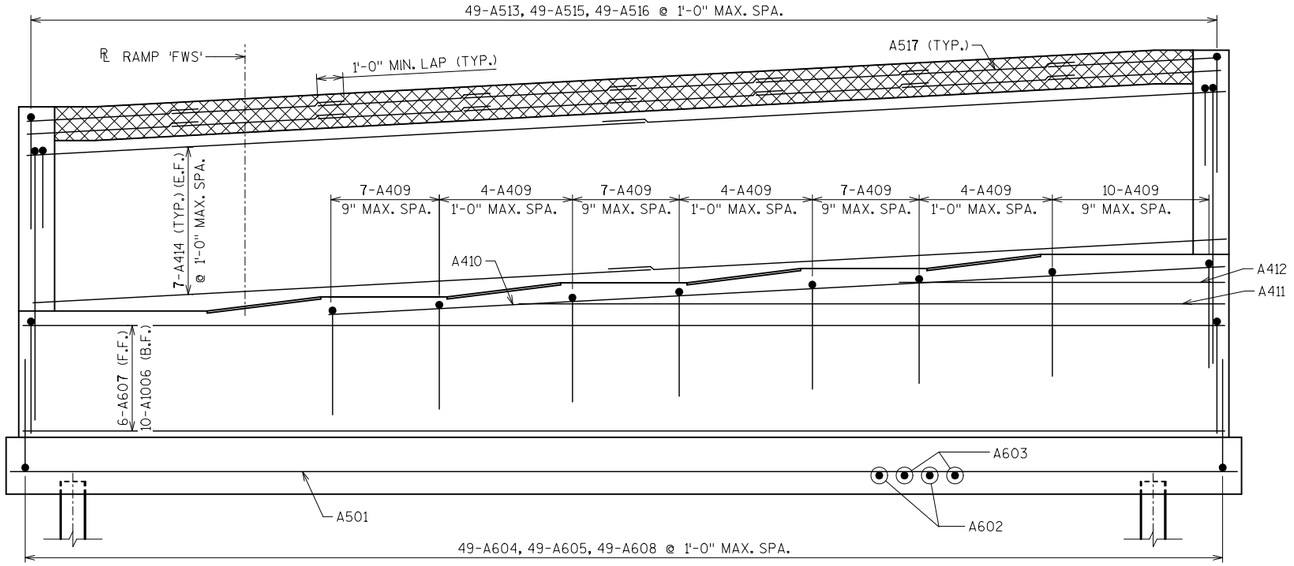
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I.D.

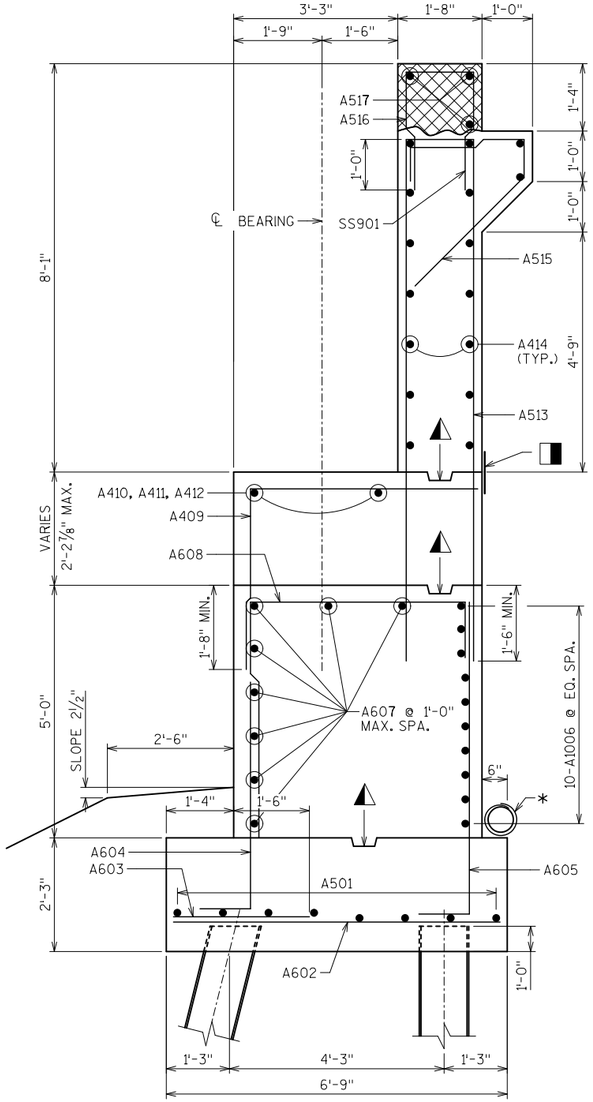
STATE PROJECT NUMBER

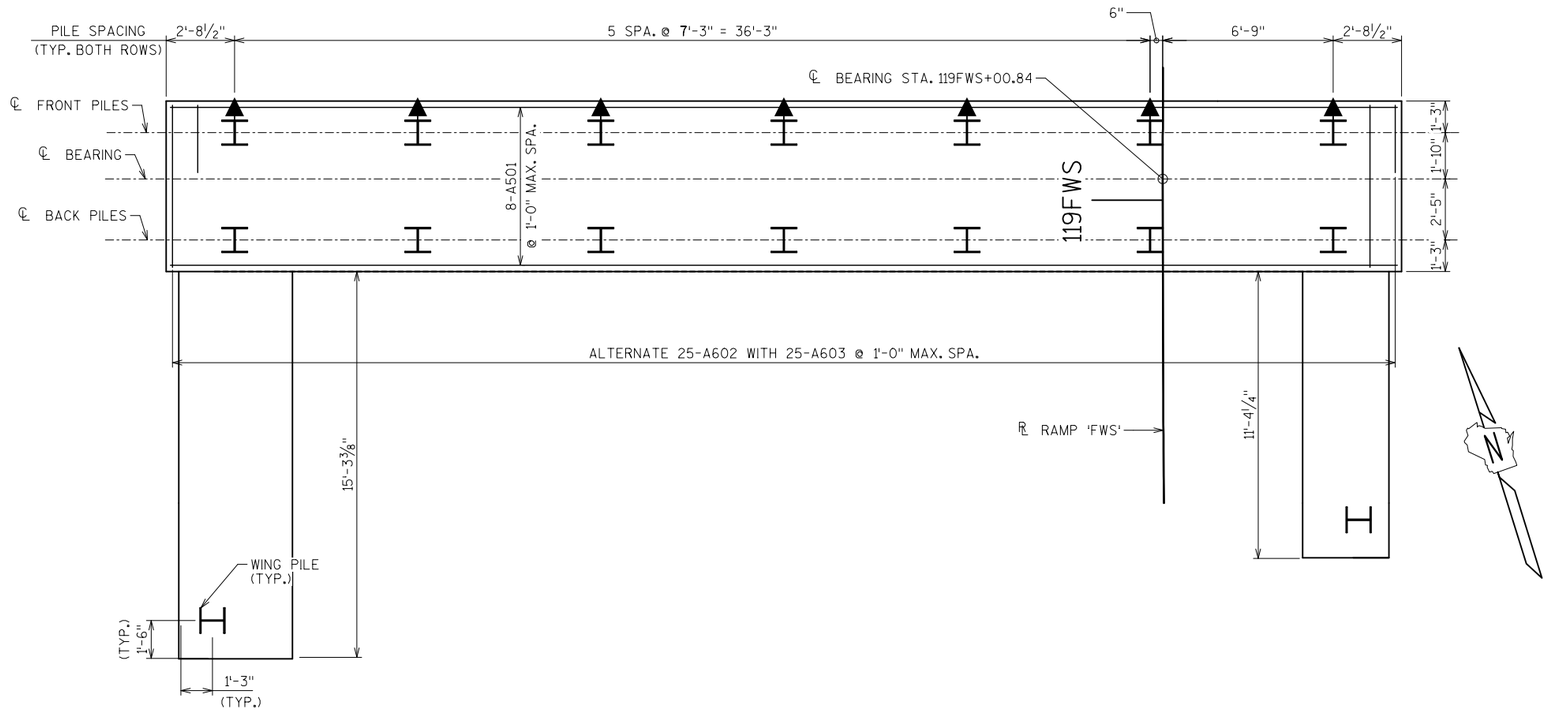
1517-07-77




## ELEVATION

LOOKING SOUTH
(SOME PILES NOT SHOWN FOR CLARITY)




## PLAN

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. MJA

WEST ABUTMENT DETAILS

SHEET 12 OF 85
509

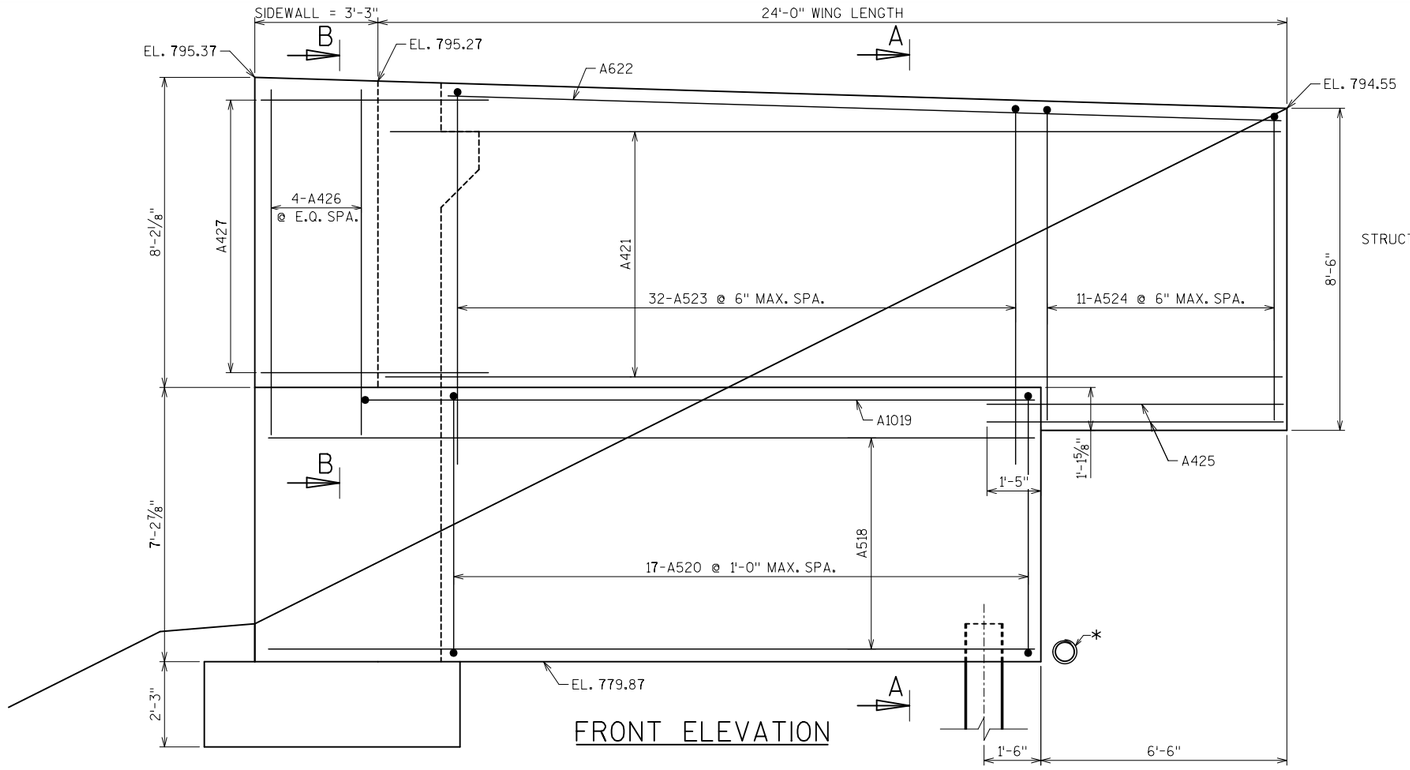
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I.D.

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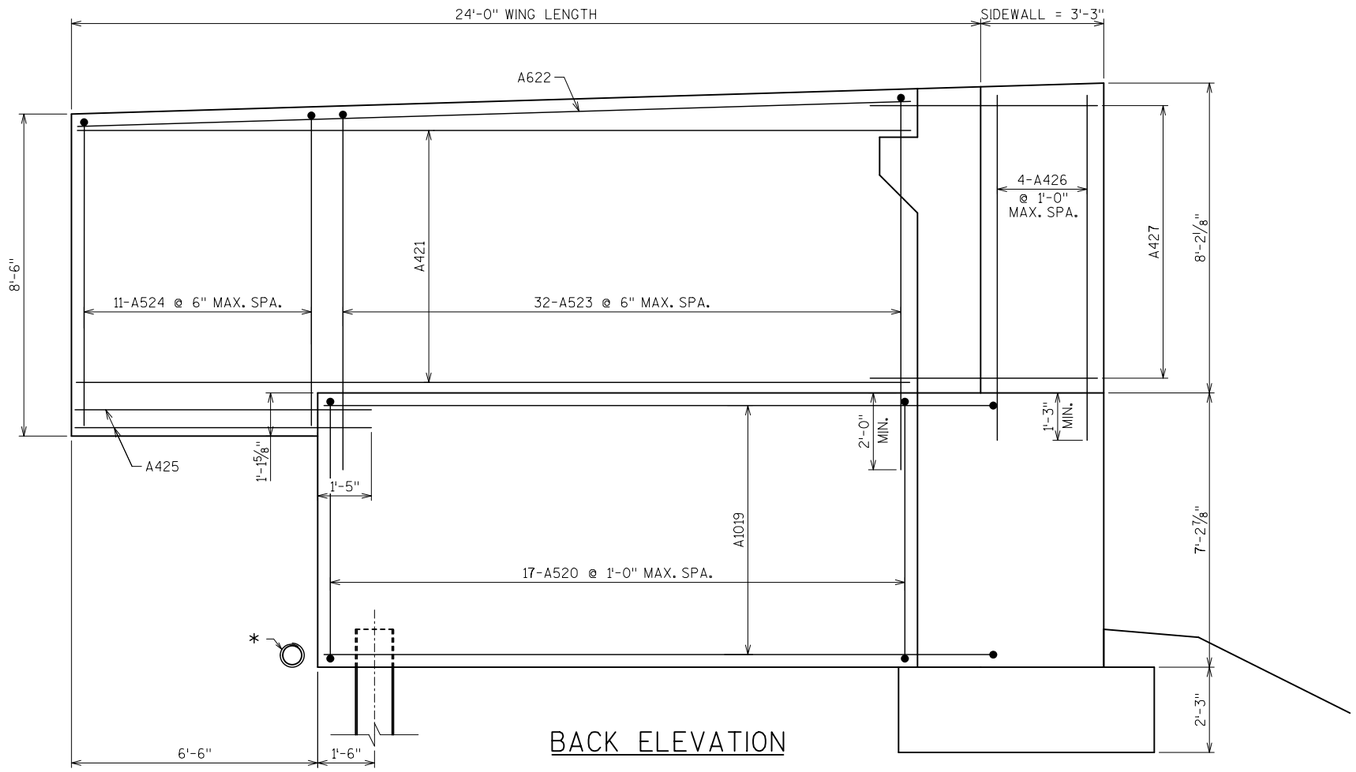
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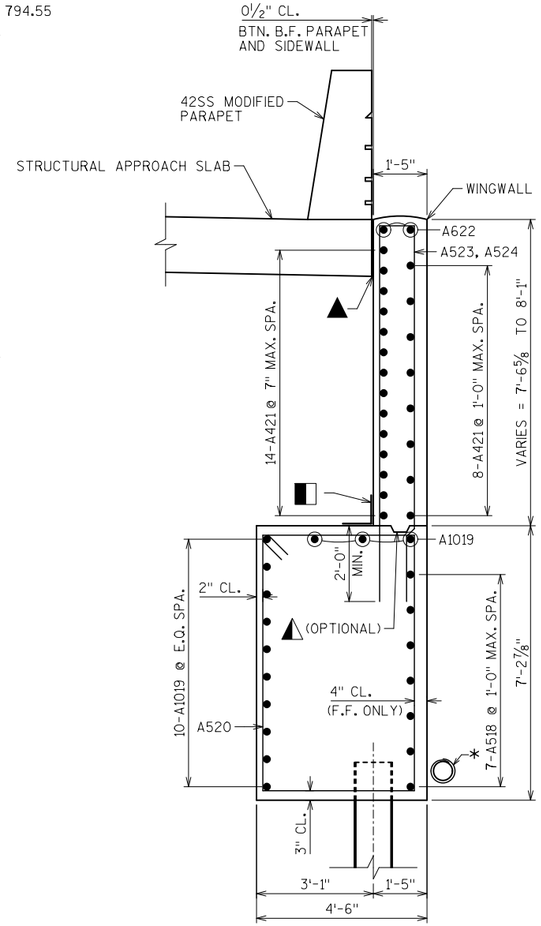
| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |



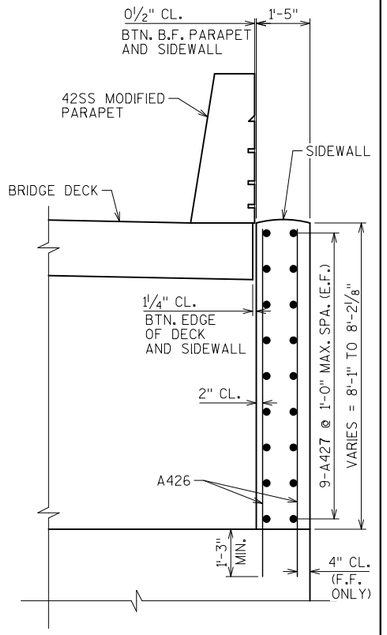

FRONT ELEVATION




BACK ELEVATION




SECTION A-A




SECTION B-B

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. MJA

WEST ABUTMENT
WING 1

SHEET 13 OF 95
510

DATE: 4/11/2016
I.D.

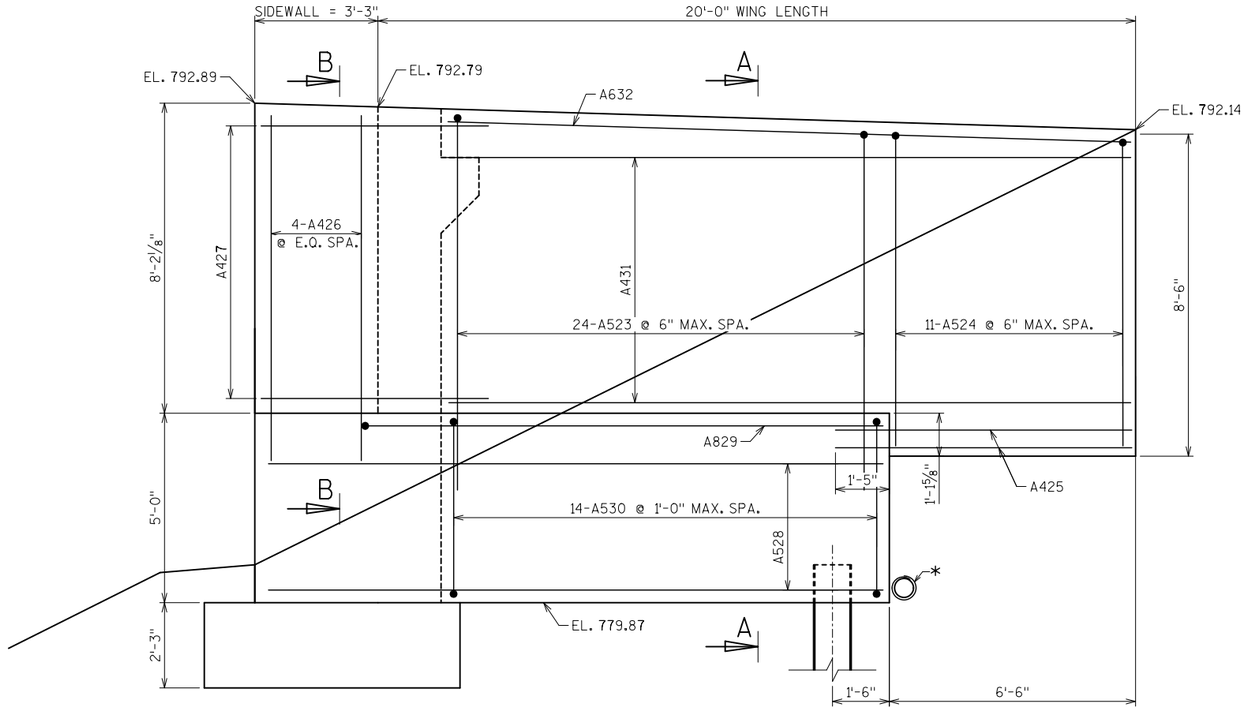
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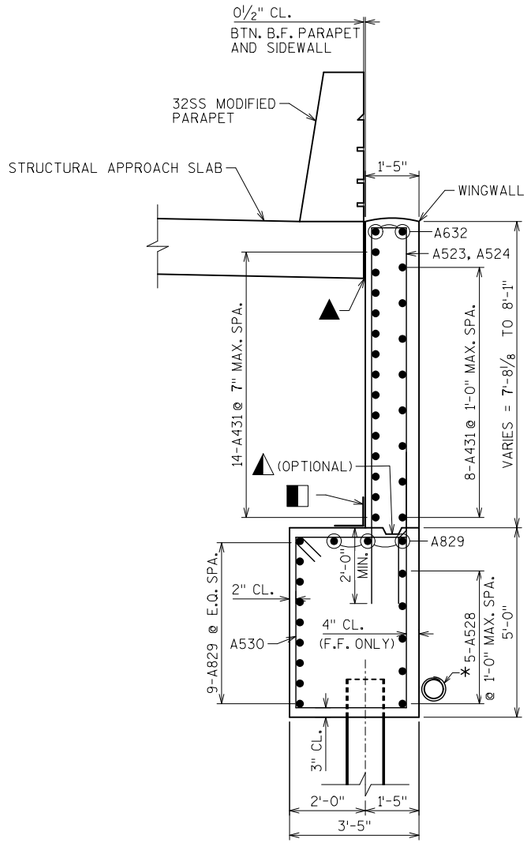
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STATE PROJECT NUMBER

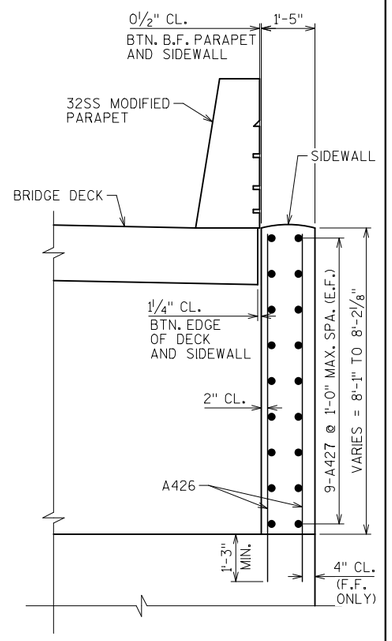
1517-07-77



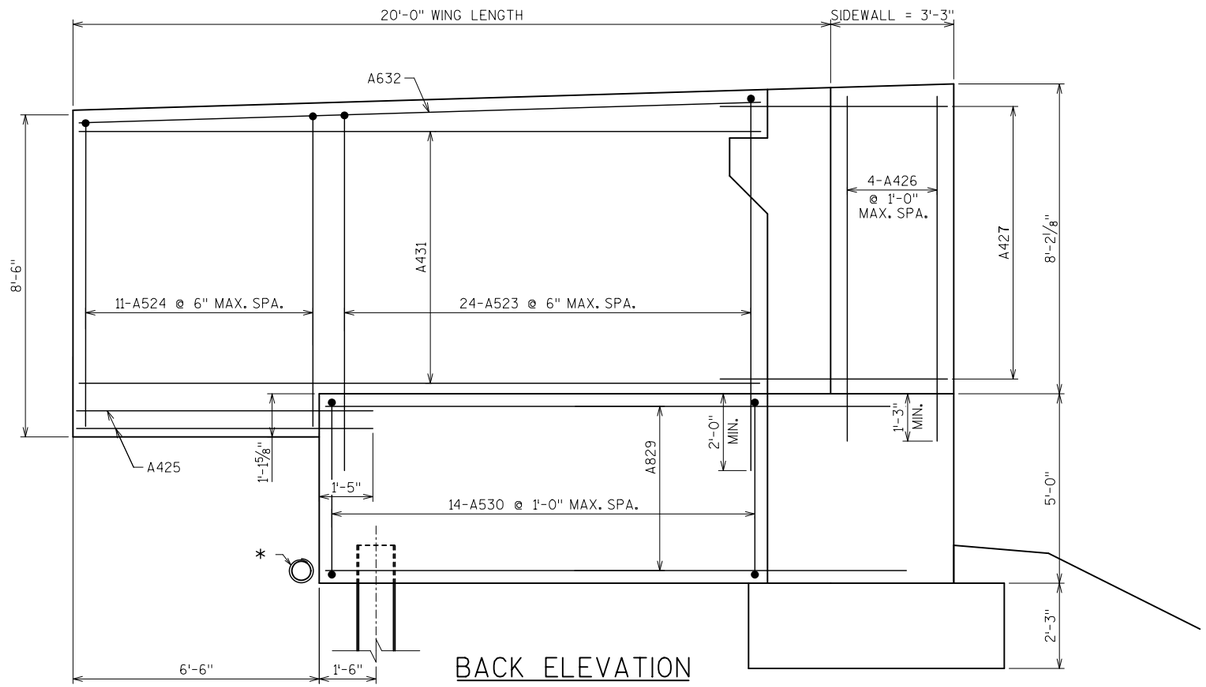

FRONT ELEVATION




SECTION A-A




SECTION B-B




BACK ELEVATION

8

8

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. MJA

WEST ABUTMENT
WING 2

SHEET 14 OF 85
511

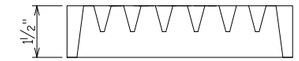
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I.D.

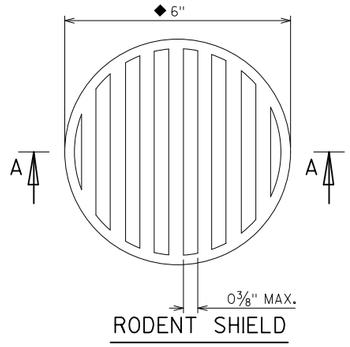
# ABUTMENT BILL OF BARS

| BAR MARK | NO. REQ'D | LENGTH | BENT | COATED | LOCATION |
|---|---|---|---|---|---|
| A501 | 8 | 48'-7" | | | FOOTING LONGIT. |
| A602 | 25 | 6'-5" | | | FOOTING TRANS. |
| A603 | 25 | 2'-8" | | | FOOTING TRANS. |
| A604 | 49 | 5'-8" | X | X | FOOTING DOWEL |
| A605 | 49 | 7'-3" | X | X | FOOTING DOWEL |
| A1006 | 10 | 47'-5" | | X | BODY LONGIT. |
| A607 | 8 | 47'-5" | | X | BODY LONGIT. |
| A608 | 49 | 9'-7" | X | X | BODY VERT. |
| A409 | 43 | 8'-1" | X | X | BEAM SEAT VERT. |
| A410 | 2 | 33'-3" | | X | BEAM SEAT HORIZ. |
| A411 | 2 | 26'-3" | | X | BEAM SEAT HORIZ. |
| A412 | 2 | 14'-6" | | X | BEAM SEAT HORIZ. |
| A513 | 49 | 21'-9" | X | X | BACKWALL VERT. |
| A414 | 32 | 24'-10" | | X | BACKWALL HORIZ. |
| A515 | 49 | 6'-11" | X | X | CORBEL STIRRUP |
| A516 | 49 | 5'-9" | X | X | PAVING BLOCK VERT. |
| A517 | 24 | 6'-10" | | X | PAVING BLOCK HORIZ. |
| A518 | 7 | 20'-3" | | X | WINGWALL 1 LONGIT |
| A1019 | 13 | 18'-6" | X | X | WINGWALL 1 LONGIT |
| A520 | 17 | 22'-4" | X | X | WINGWALL 1 STIRRUP |
| A421 | 22 | 23'-8" | | X | WINGWALL 1 TOP HORIZ. |
| A622 | 2 | 23'-8" | | X | WINGWALL 1 TOP HORIZ. |
| A523 | 56 | 20'-6" | X | X | WINGWALL 1 & 2 TOP VERT. |
| A524 | 22 | 17'-0" | X | X | WINGWALL 1 & 2 TOP VERT. |
| A425 | 8 | 7'-9" | | X | WINGWALL 1 & 2 TOP HORIZ. |
| A426 | 16 | 9'-4" | | X | SIDEWALL VERT. |
| A427 | 36 | 4'-4" | | X | SIDEWALL HORIZ. |
| A528 | 5 | 16'-3" | | X | WINGWALL 2 LONGIT. |
| A829 | 12 | 15'-4" | | X | WINGWALL 2 LONGIT. |
| A530 | 14 | 15'-4" | X | X | WINGWALL 2 STIRRUP |
| A431 | 22 | 19'-8" | | X | WINGWALL 2 TOP HORIZ. |
| A632 | 2 | 19'-8" | | X | WINGWALL 2 TOP HORIZ. |

TOTAL WEIGHT COATED BARS= 12,036 LB
TOTAL WEIGHT UNCOATED BARS= 746 LB




SECTION A-A

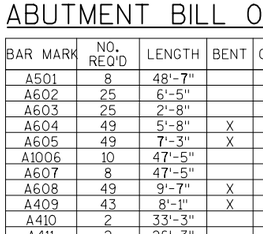



RODENT SHIELD

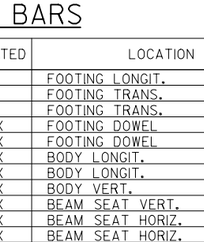
◆ DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. FASTEN TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

ORIENT SHIELD SO SLOTS ARE VERTICAL.

COST OF RODENT SHIELD AND ALL FITTINGS TO BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH."




A604, A605




A608

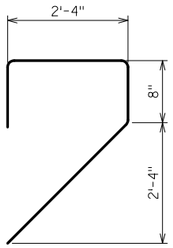



A409

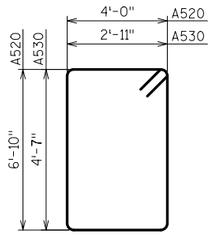



A513, A523, A524, A516

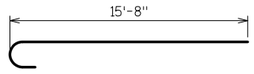
| MARK | A | B |
|---|---|---|
| A513 | 10'-4" | 1'-4" |
| A516 | 2'-4" | 1'-4" |
| A523 | 9'-11" | 11" |
| A524 | 8'-2" | 11" |



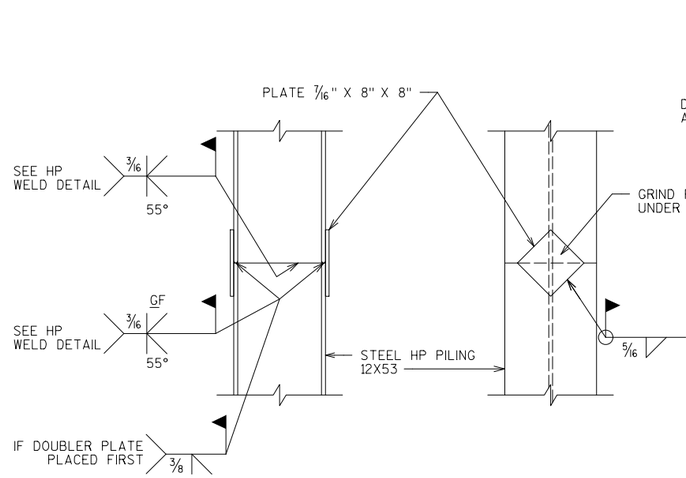

A515



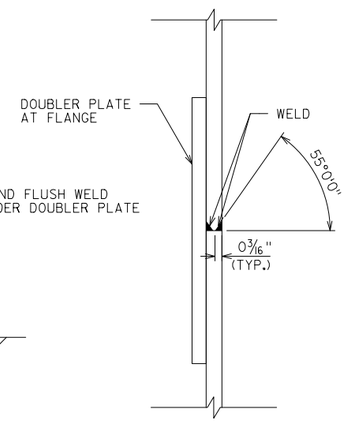

A520, A530




A1019




PILE SPLICE DETAIL FOR WEST ABUTMENT




HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

## NOTES

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. MJA

WEST ABUTMENT BILL OF BARS

SHEET 15 OF 85
512

STATE PROJECT NUMBER
1517-07-77

8

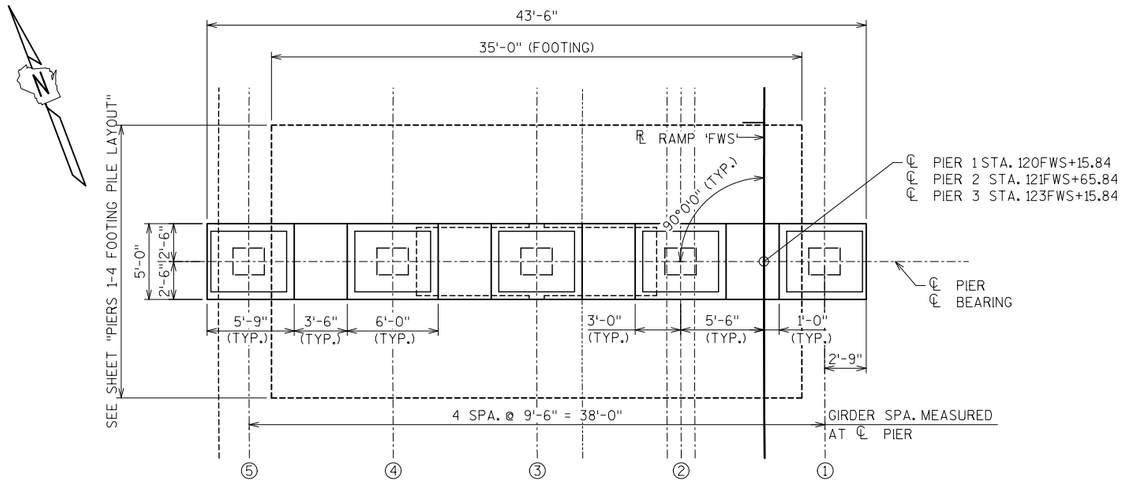
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I.D.

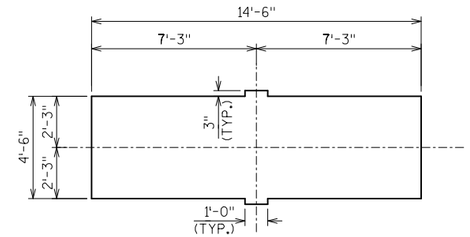
STATE PROJECT NUMBER

1517-07-77

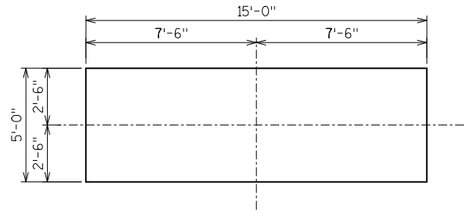



PLAN

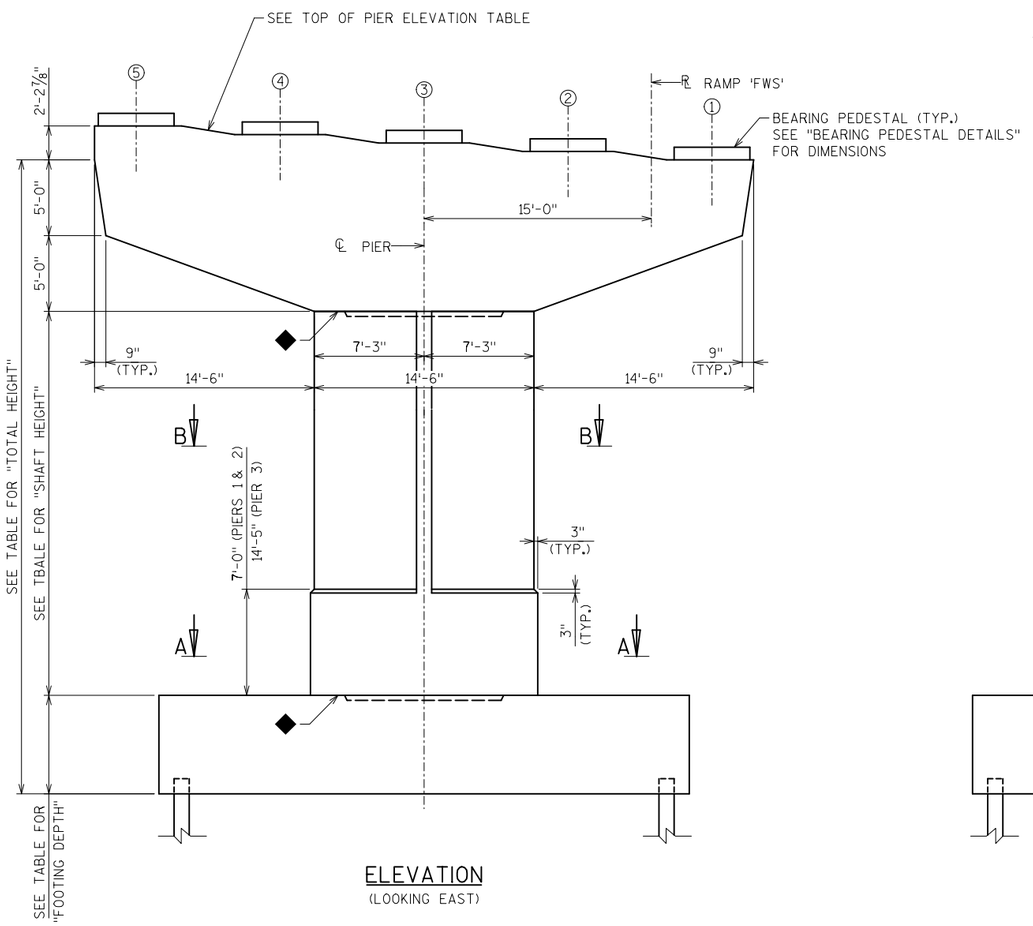
(PIER 1 SHOWN, OTHERS SIMILAR)




SECTION B-B

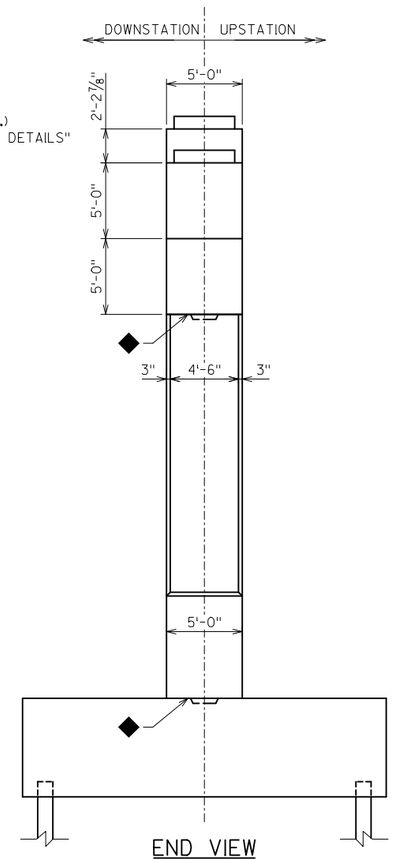



SECTION A-A




ELEVATION

(LOOKING EAST)




END VIEW

(LOOKING NORTH)

## TOP OF PIER ELEVATION TABLE

| PIER | G5 | G4 | G3 | G2 | G1 |
|---|---|---|---|---|---|
| 1 | 790.26 | 789.70 | 789.14 | 788.58 | 788.02 |
| 2 | 794.51 | 793.95 | 793.38 | 792.82 | 792.26 |
| 3 | 798.21 | 797.65 | 797.09 | 796.53 | 795.97 |

## PIER DIMENSIONS

| PIER | TOTAL HEIGHT | SHAFT HEIGHT | FOOTING DEPTH |
|---|---|---|---|
| 1 | 35'-6½" | 19'-9½" | 5'-9" |
| 2 | 39'-8" | 23'-11" | 5'-9" |
| 3 | 43'-3⅝" | 27'-5⅝" | 6'-0" |

## LEGEND

◆ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 4" X 1'-6" X 10'-6"

## NOTES

FOR CAP REINIFORCING DETAILS SEE SHEET "PIERS 1-3, 5-8 CAP REINFORCING".

FOR PIER SHAFT REINFORCING DETAILS SEE SHEET "PIERS 1-3 SHAFT REINFORCING".

FOR FOOTING DETAILS SEE SHEET "PIERS 1-4 FOOTING PILE LAYOUT".

FOR BEARING AND BEARING PEDESTAL DETAILS SEE SHEETS "BEARING PEDESTAL DETAILS" AND "BEARING LAYOUT UNIT 1".

SEE SHEET "AESTHETICS" FOR PIER AESTHETICS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. JCF

PIERS 1-3 LAYOUT

SHEET 16 OF 95
513

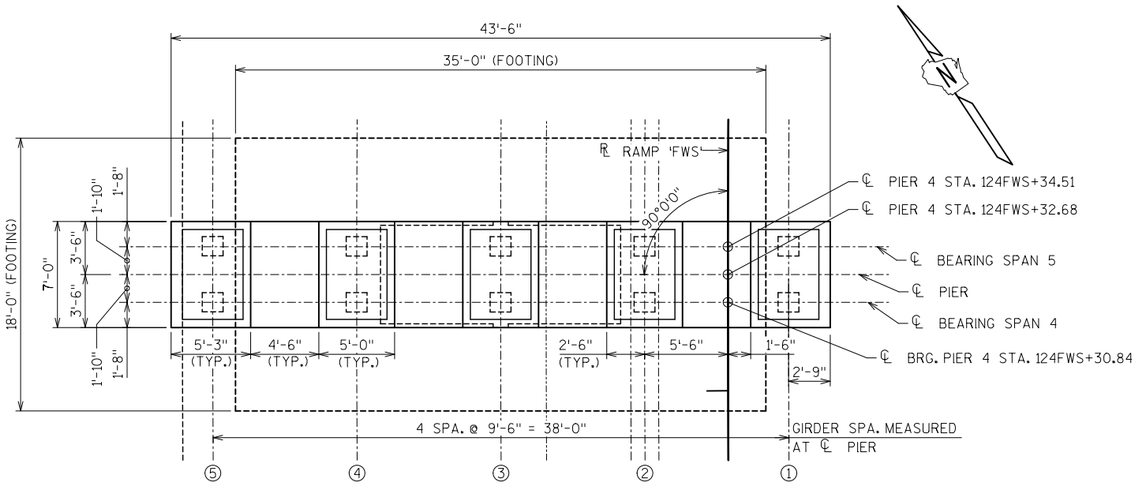
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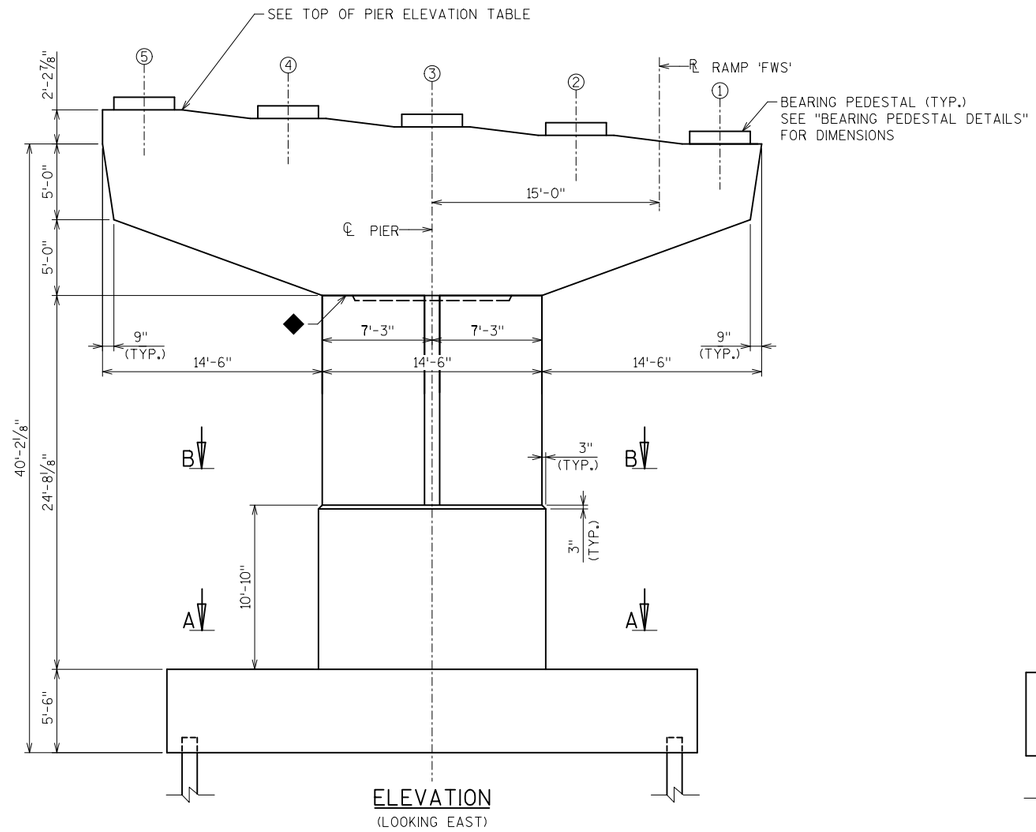
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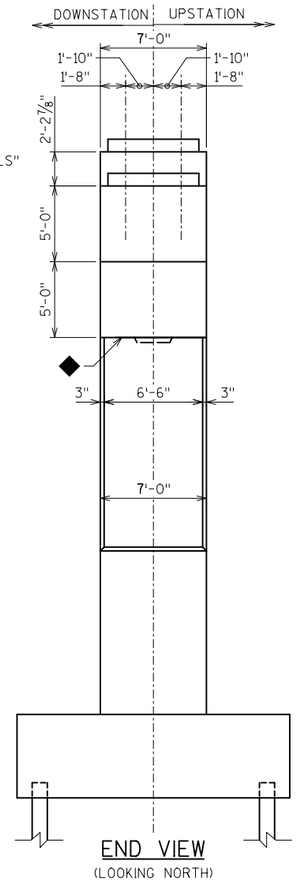
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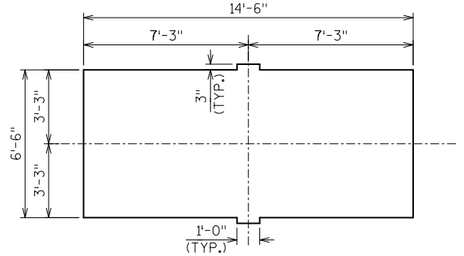

PLAN



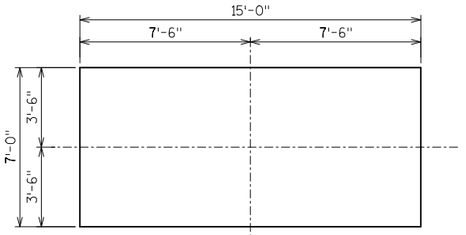

ELEVATION
(LOOKING EAST)




END VIEW
(LOOKING NORTH)




SECTION B-B




SECTION A-A

## TOP OF PIER ELEVATION TABLE

| PIER 4 | G5 | G4 | G3 | G2 | G1 |
|---|---|---|---|---|---|
| UNIT 1 | 800.83 | 800.27 | 799.71 | 799.15 | 798.59 |
| UNIT 2 | 800.89 | 800.33 | 799.77 | 799.21 | 798.65 |

## LEGEND

◆ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 4" X 2'-2" X 10'-6"

## NOTES

FOR CAP REINIFORCING DETAILS SEE SHEET "PIER 4 CAP REINFORCING".

FOR PIER SHAFT REINFORCING DETAILS SEE SHEET "PIER 4 SHAFT REINFORCING".

FOR FOOTING DETAILS SEE SHEET "PIERS 1-4 FOOTING PILE LAYOUT".

FOR BEARING AND BEARING PEDESTAL DETAILS SEE SHEETS "BEARING PEDESTAL DETAILS" AND "BEARING LAYOUT UNIT 1".

SEE SHEET "AESTHETICS" FOR PIER AESTHETICS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. JCF

PIER 4 LAYOUT

SHEET 17 OF 95
514

STATE PROJECT NUMBER
1517-07-77

8

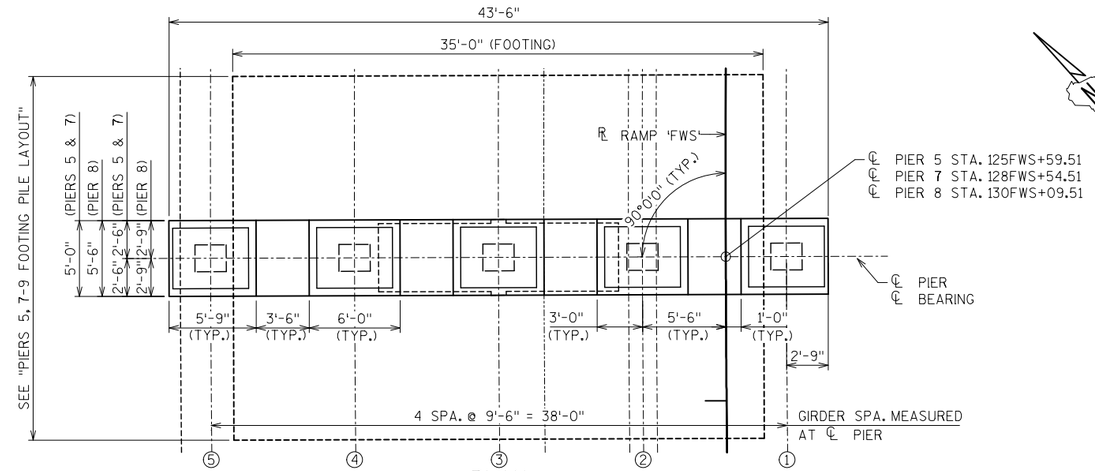
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I.D.

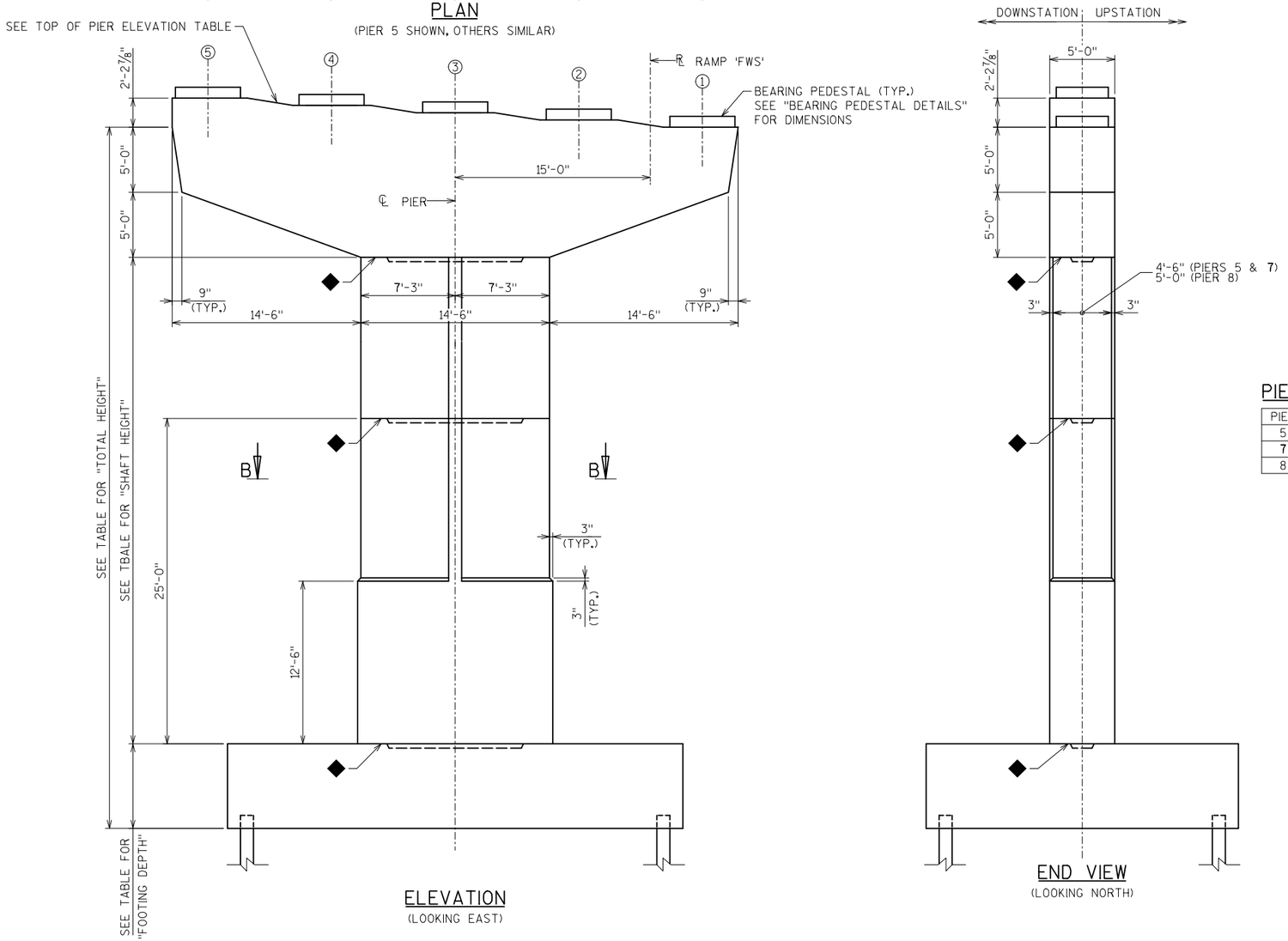
STATE PROJECT NUMBER

1517-07-77




PLAN

(PIER 5 SHOWN, OTHERS SIMILAR)



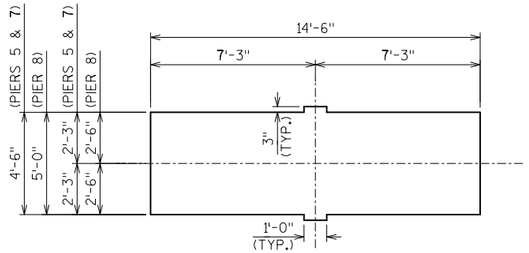

ELEVATION

(LOOKING EAST)

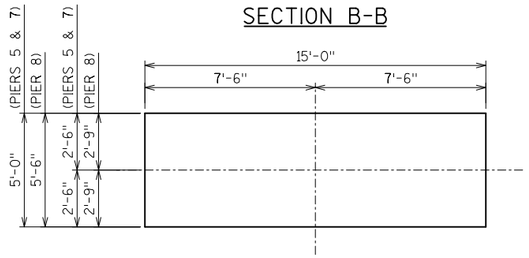



END VIEW

(LOOKING NORTH)




SECTION B-B




SECTION A-A

## TOP OF PIER ELEVATION TABLE

| PIER | G5 | G4 | G3 | G2 | G1 |
|---|---|---|---|---|---|
| 5 | 803.16 | 802.60 | 802.04 | 801.48 | 800.92 |
| 7 | 807.41 | 806.85 | 806.29 | 805.73 | 805.17 |
| 8 | 808.79 | 808.23 | 807.67 | 807.11 | 806.55 |

## PIER DIMENSIONS

| PIER | TOTAL HEIGHT | SHAFT HEIGHT | FOOTING DEPTH |
|---|---|---|---|
| 5 | 54'-3⅛" | 38'-3⅛" | 6'-0" |
| 7 | 57'-4¼" | 41'-4¼" | 6'-0" |
| 8 | 58'-2⅜" | 41'-11⅜" | 6'-3" |

## LEGEND

◆ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 4" X 1'-6" X 10'-6"

## NOTES

FOR CAP REINIFORCING DETAILS SEE SHEET "PIERS 1-3, 5-8 CAP REINFORCING".

FOR PIER SHAFT REINFORCING DETAILS SEE SHEET "PIERS 5-8 SHAFT REINFORCING".

FOR FOOTING DETAILS SEE SHEETS "PIERS 5, 7-9 FOOTING PILE LAYOUT"

FOR BEARING AND BEARING PEDESTAL DETAILS SEE SHEETS "BEARING PEDESTAL DETAILS" AND "BEARING LAYOUT UNIT 2".

SEE SHEET "AESTHETICS" FOR PIER AESTHETICS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. JCF

PIERS 5, 7, 8 LAYOUT

SHEET 18 OF 85
515

DATE: 4/11/2016
I.D.

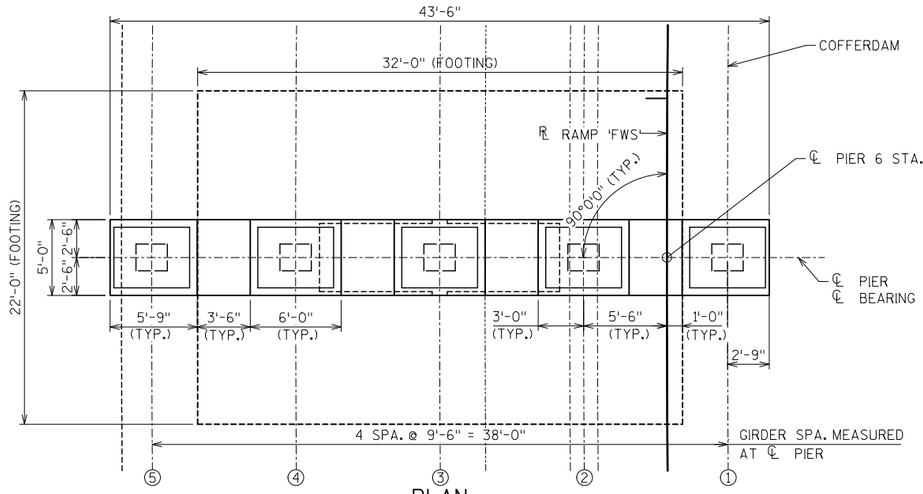
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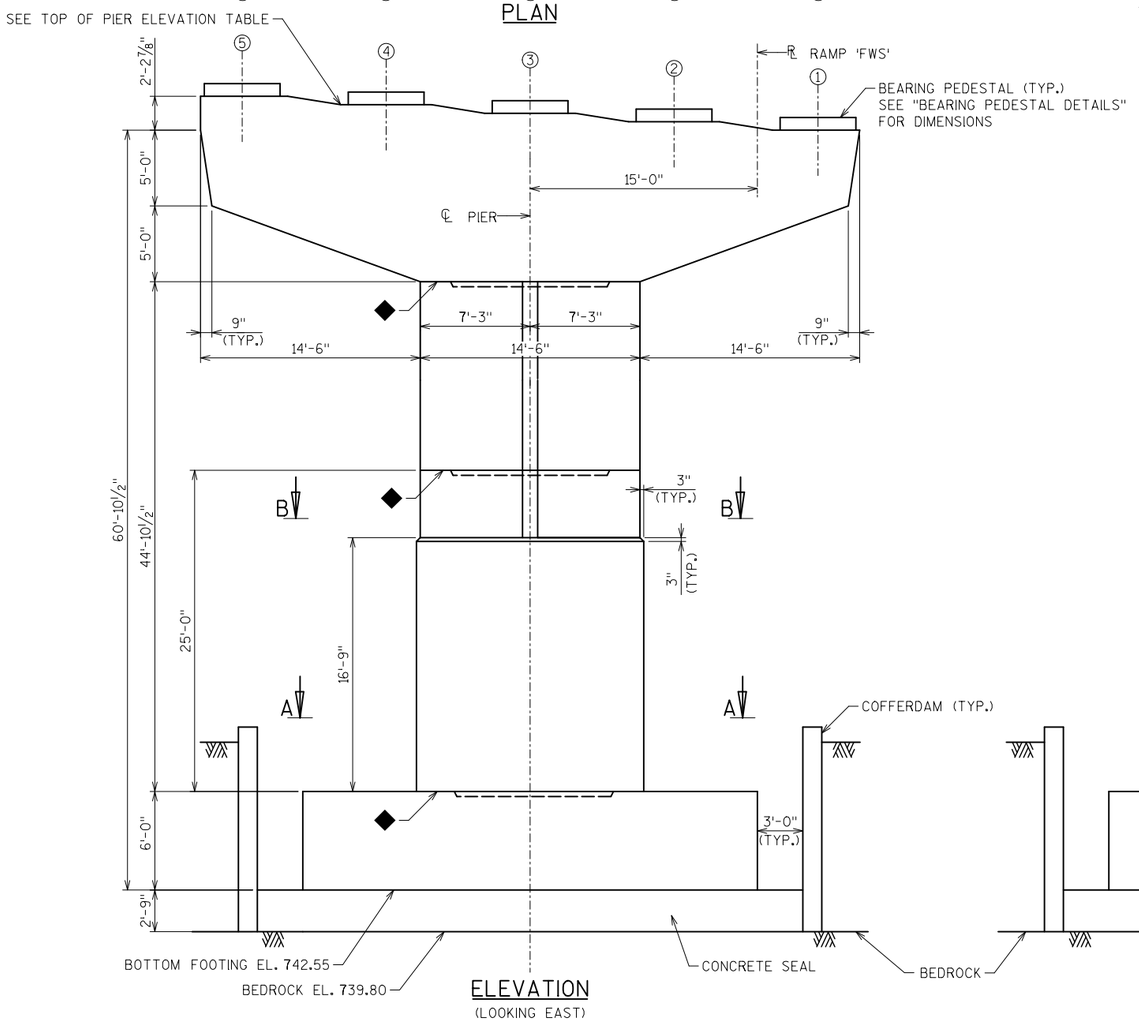
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STATE PROJECT NUMBER

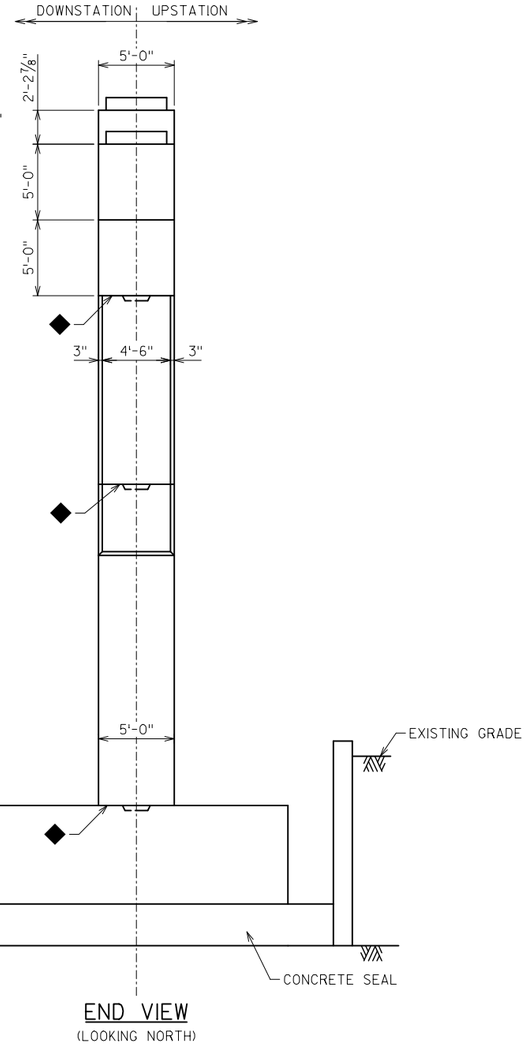
1517-07-77



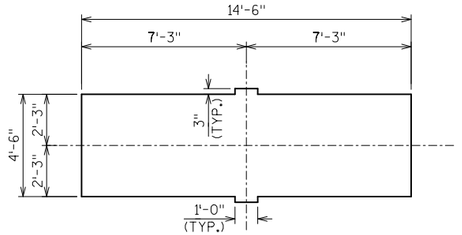

PLAN



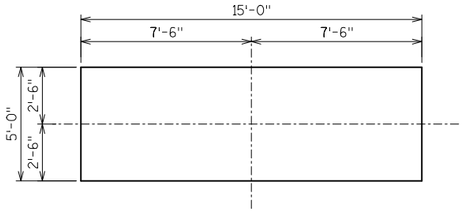

ELEVATION
(LOOKING EAST)




END VIEW
(LOOKING NORTH)




SECTION B-B




SECTION A-A

## TOP OF PIER ELEVATION TABLE

| PIER | G5 | G4 | G3 | G2 | G1 |
|---|---|---|---|---|---|
| 6 | 805.65 | 805.09 | 804.53 | 803.97 | 803.41 |

## LEGEND

◆ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 4" X 1'-6" X 10'-6"

## NOTES

FOR CAP REINIFORCING DETAILS SEE SHEET "PIERS 1-3, 5-8 CAP REINFORCING".

FOR PIER SHAFT REINFORCING DETAILS SEE SHEET "PIERS 5-8 SHAFT REINFORCING".

FOR FOOTING DETAILS SEE SHEET "PIER 6 SPREAD FOOTING LAYOUT".

FOR BEARING AND BEARING PEDESTAL DETAILS SEE SHEETS "BEARING PEDESTAL DETAILS" AND "BEARING LAYOUT UNIT 2".

SEE SHEET "AESTHETICS" FOR PIER AESTHETICS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. JCF

PIER 6 LAYOUT

SHEET 19 OF 35
516

8

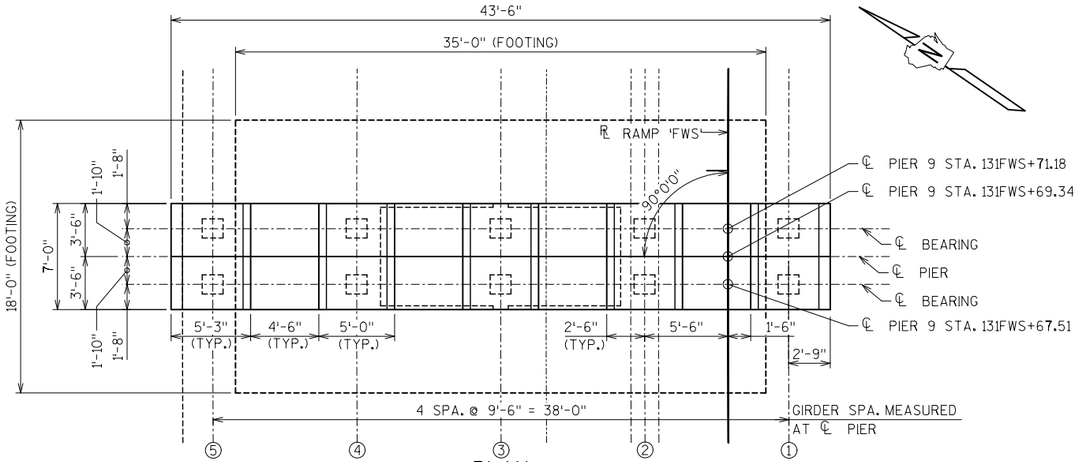
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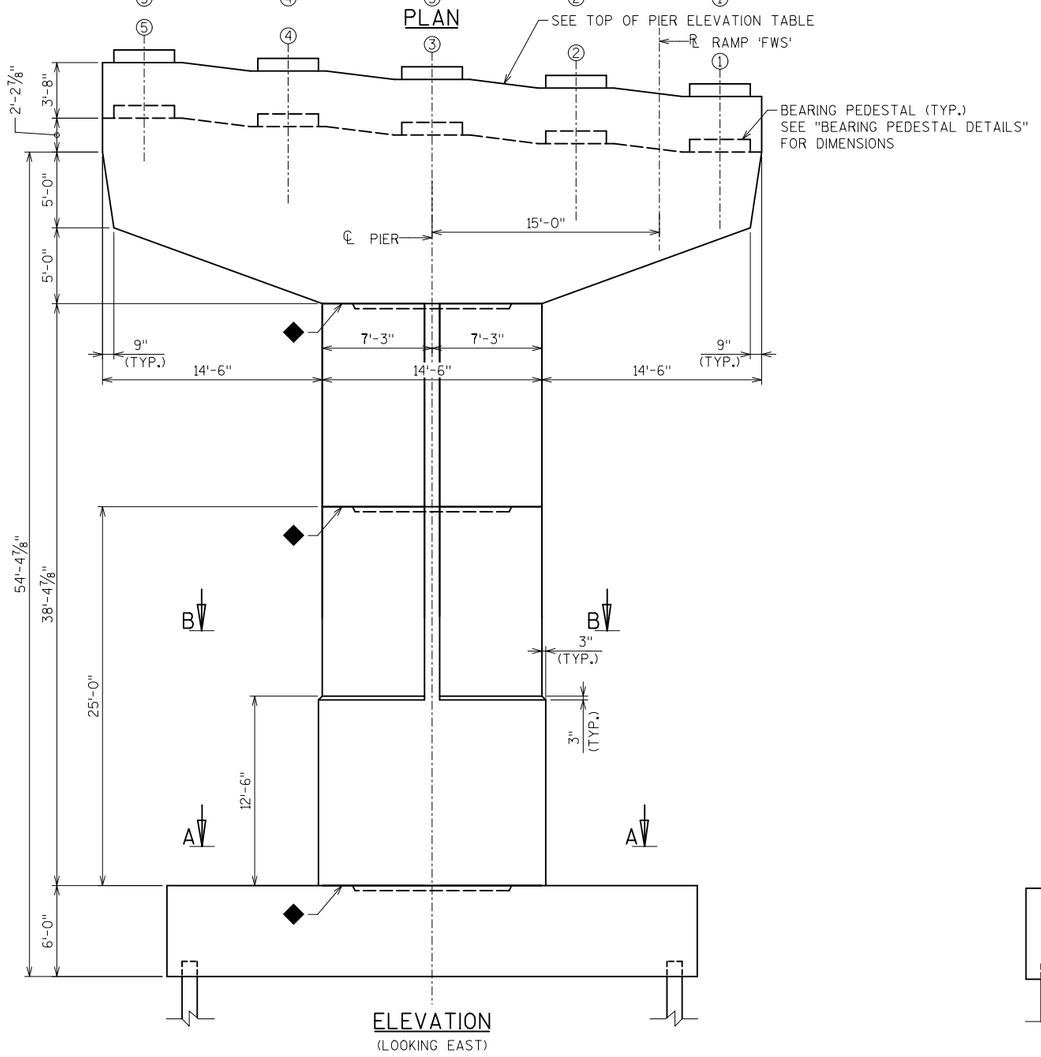
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I.D.

STATE PROJECT NUMBER

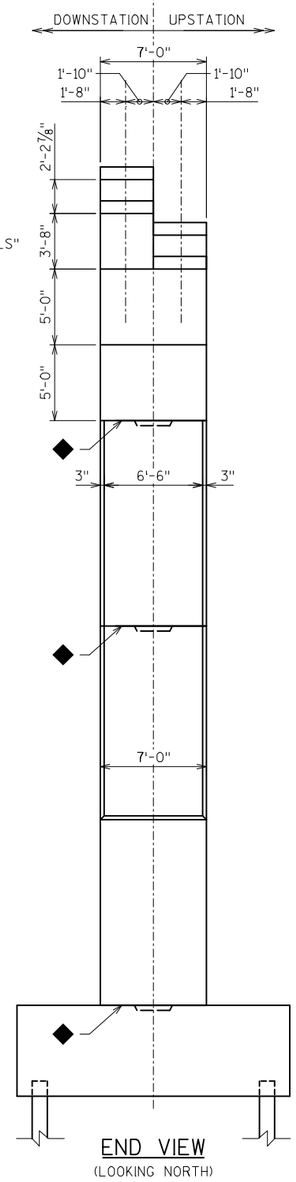
1517-07-77



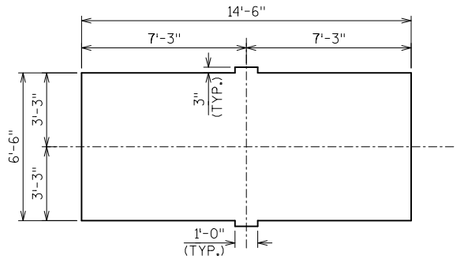

PLAN



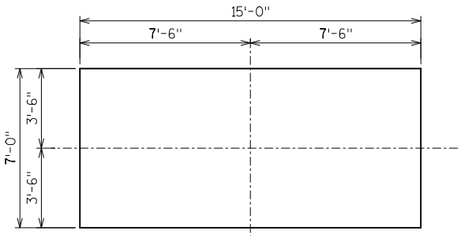

ELEVATION
(LOOKING EAST)




END VIEW
(LOOKING NORTH)




SECTION B-B




SECTION A-A

## TOP OF PIER ELEVATION TABLE

| PIER 9 | G5 | G4 | G3 | G2 | G1 |
|---|---|---|---|---|---|
| UNIT 2 | 809.80 | 809.24 | 808.68 | 808.12 | 807.57 |
| UNIT 3 | 806.14 | 805.57 | 805.01 | 804.45 | 803.88 |

## LEGEND

◆ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 4" X 2'-2" X 10'-6"

## NOTES

FOR CAP REINIFORCING DETAILS SEE SHEET "PIER 9 CAP REINFORCING".

FOR PIER SHAFT REINFORCING DETAILS SEE SHEET "PIER 9 SHAFT REINFORCING".

FOR FOOTING DETAILS SEE SHEET "PIERS 9-13 FOOTING PILE LAYOUT".

FOR BEARING AND BEARING PEDESTAL DETAILS SEE SHEETS "BEARING PEDESTAL DETAILS" AND "BEARING LAYOUT UNIT 3".

SEE SHEET "AESTHETICS" FOR PIER AESTHETICS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. JCF

PIER 9 LAYOUT

SHEET 30 OF 85
517

8

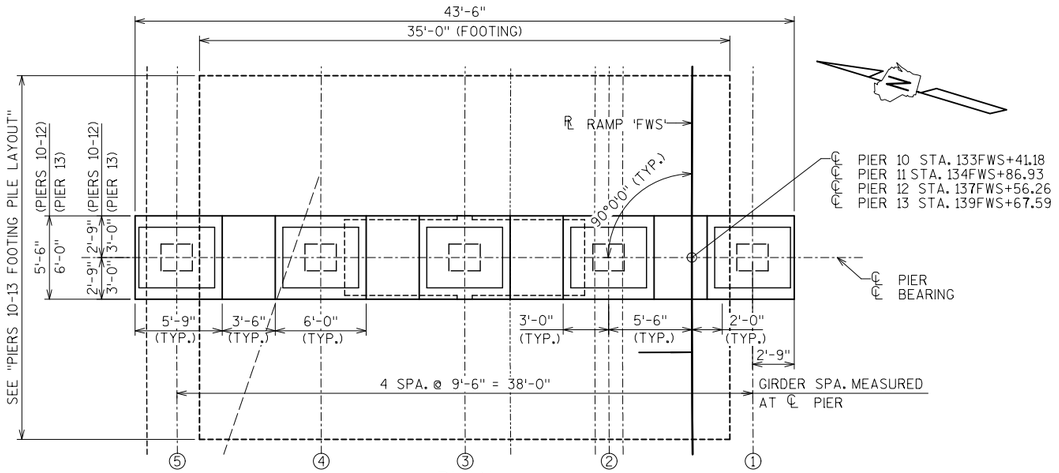
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DATE: 4/11/2016
I.D.

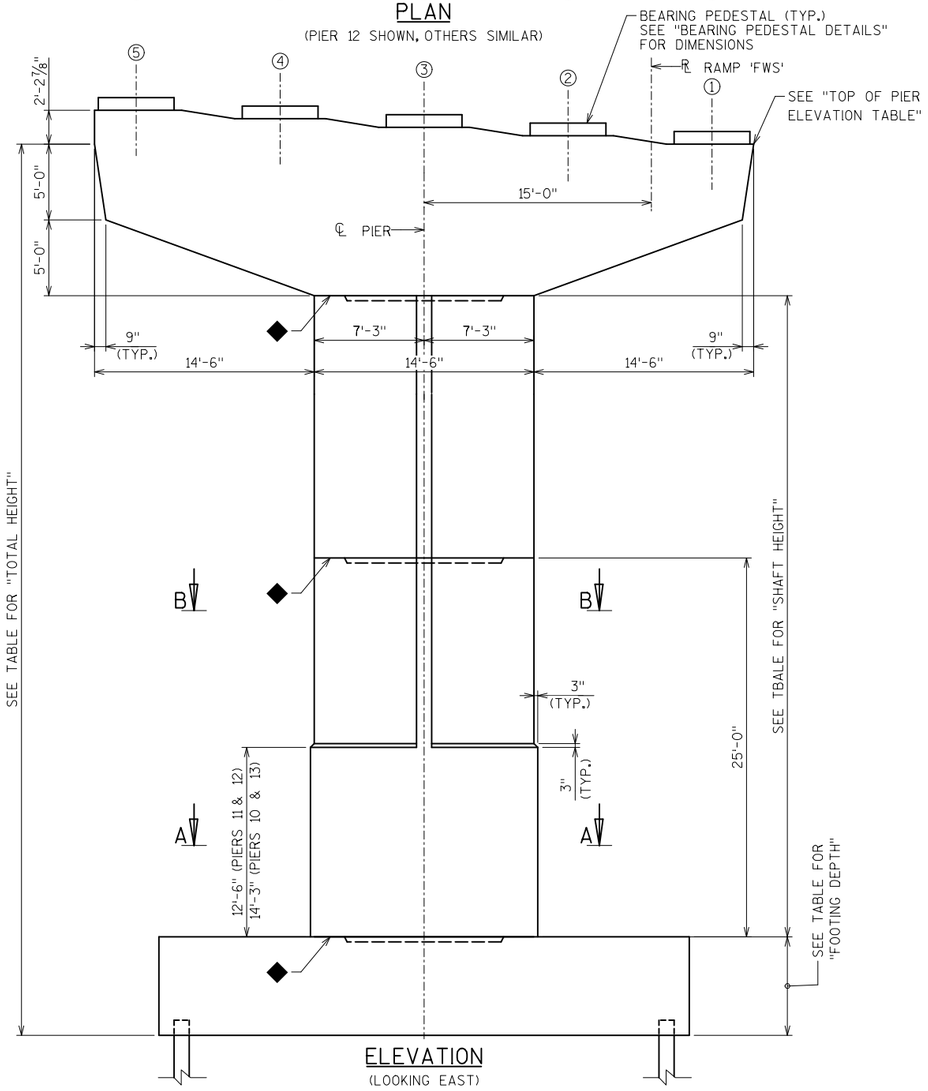
STATE PROJECT NUMBER

1517-07-77



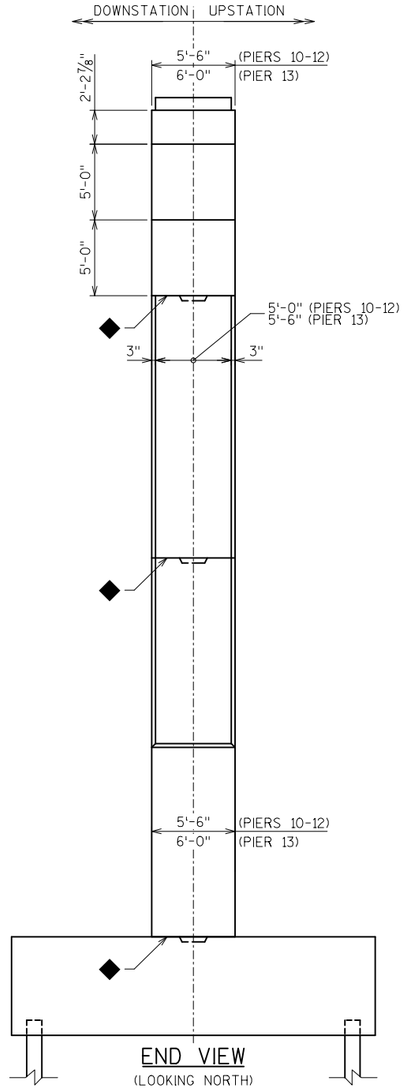

PLAN

(PIER 12 SHOWN, OTHERS SIMILAR)



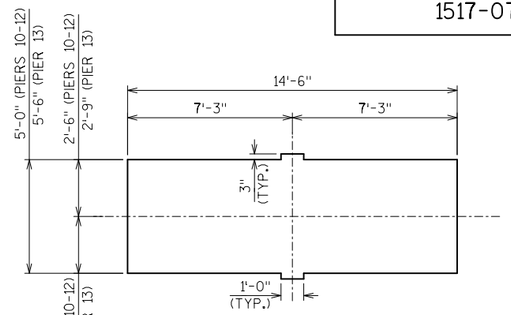

ELEVATION

(LOOKING EAST)

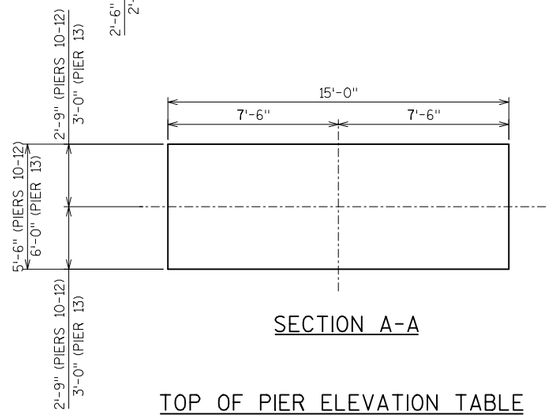



END VIEW

(LOOKING NORTH)




SECTION B-B




SECTION A-A

## TOP OF PIER ELEVATION TABLE

| PIER | G5 | G4 | G3 | G2 | G1 |
|---|---|---|---|---|---|
| 10 | 806.40 | 805.84 | 805.28 | 804.72 | 804.16 |
| 11 | 806.11 | 805.55 | 804.99 | 804.43 | 803.87 |
| 12 | 804.42 | 803.86 | 803.30 | 802.74 | 802.17 |
| 13 | 802.22 | 801.65 | 801.09 | 800.53 | 799.97 |

## PIER DIMENSIONS

| PIER | TOTAL HEIGHT | SHAFT HEIGHT | FOOTING DEPTH |
|---|---|---|---|
| 10 | 53'-8" | 37'-8" | 6'-0" |
| 11 | 56'-11½" | 40'-5½" | 6'-6" |
| 12 | 54'-11⅛" | 38'-2⅛" | 6'-9" |
| 13 | 54'-11⅛" | 38'-5⅛" | 6'-6" |

## LEGEND

◆ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 4" X 1'-6" X 10'-6"

## NOTES

FOR CAP REINIFORCING DETAILS SEE SHEET "PIERS 10-13 CAP REINFORCING".

FOR PIER SHAFT REINFORCING DETAILS SEE SHEET "PIERS 10-13 SHAFT REINFORCING".

FOR FOOTING DETAILS SEE SHEET "PIERS 9-13 FOOTING PILE LAYOUT".

FOR BEARING AND BEARING PEDESTAL DETAILS SEE SHEETS "BEARING PEDESTAL DETAILS" AND "BEARING LAYOUT UNIT 3".

SEE SHEET "AESTHETICS" FOR PIER AESTHETICS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. JCF

PIERS 10-13 LAYOUT

SHEET 21 OF 85
518

DATE: 4/11/2016
I.D.

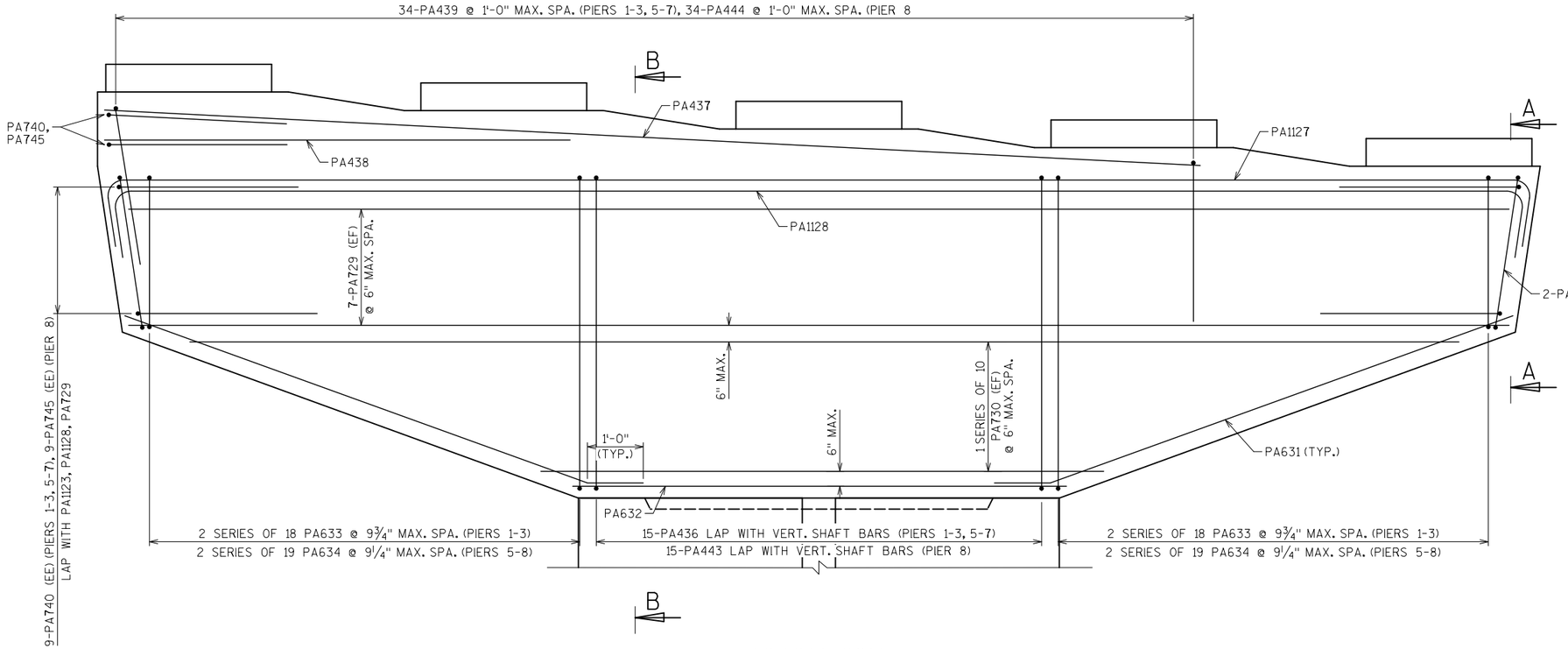
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8

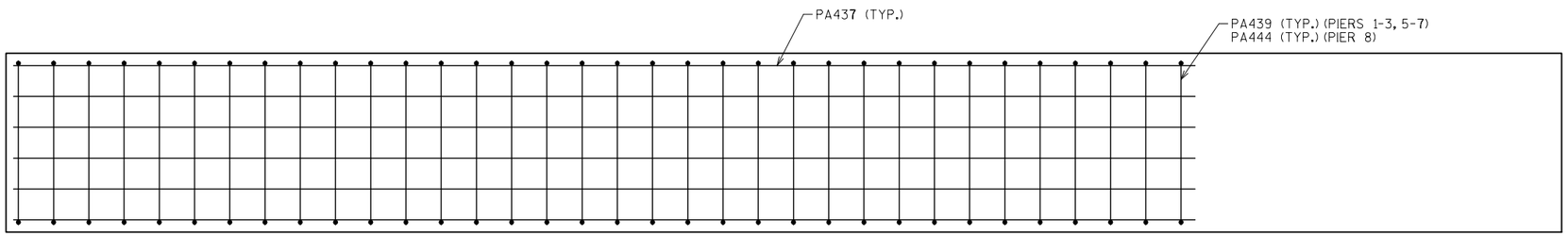
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STATE PROJECT NUMBER

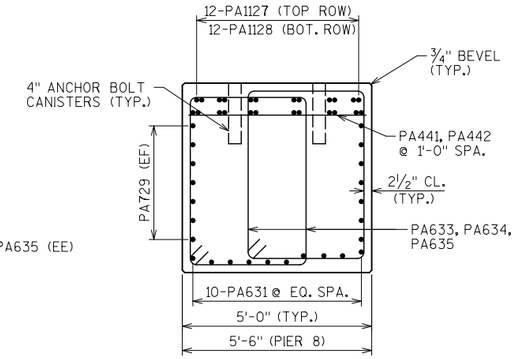
1517-07-77



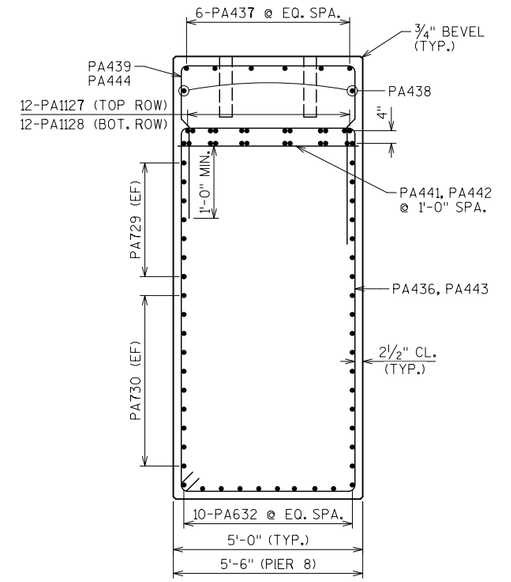

ELEVATION




PLAN




SECTION A-A




SECTION B-B

## SHAFT BILL OF BARS

ALL BARS TO BE EPOXY COATED

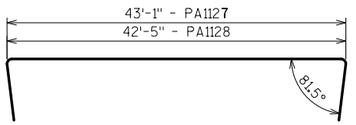
| | BAR MARK | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| * | PA1127 | 84 | 46'-5" | X | | PIERS 1-3, 5-8 CAP TOP LONGIT. |
| * | PA1128 | 84 | 45'-9" | X | | PIERS 1-3, 5-8 CAP TOP LONGIT. |
| | PA729 | 98 | 41'-7" | | | PIERS 1-3, 5-8 CAP LONGIT. |
| | PA730 | 140 | 27'-10" | | X | PIERS 1-3, 5-8 CAP LONGIT. |
| | PA631 | 140 | 15'-6" | X | | PIERS 1-3, 5-8 CAP LONGIT. |
| | PA632 | 70 | 14'-6" | | | PIERS 1-3, 5-8 CAP LONGIT. |
| | PA633 | 216 | 21'-2" | X | X | PIERS 1-3 CAP STIRRUPS |
| | PA634 | 304 | 21'-2" | X | X | PIERS 5-8 CAP STIRRUPS |
| | PA635 | 28 | 16'-2" | X | | PIERS 1-3, 5-8 CAP STIRRUPS |
| | PA436 | 90 | 28'-10" | X | | PIERS 1-3, 5-7 CAP STIRRUPS |
| | PA437 | 42 | 33'-0" | | | PIERS 1-3, 5-8 CAP BEAM SEAT LONGIT. |
| | PA438 | 14 | 14'-3" | | | PIERS 1-3, 5-8 CAP BEAM SEAT LONGIT. |
| | PA439 | 204 | 10'-11" | X | | PIERS 1-3, 5-7 CAP BEAM SEAT VERT. |
| | PA740 | 120 | 13'-3" | X | | PIERS 1-3, 5-7 CAP ENDS |
| | PA441 | 264 | 4'-7" | | | PIERS 1-3, 5-7 CAP TRANS. |
| | PA442 | 44 | 5'-1" | | | PIER 8 CAP TRANS. |
| | PA443 | 15 | 29'-3" | X | | PIER 8 CAP STIRRUPS |
| | PA444 | 34 | 11'-5" | X | | PIER 8 CAP BEAM SEAT VERT. |
| | PA745 | 20 | 5'-7" | X | | PIER 8 CAP ENDS |

TOTAL WEIGHT= 88,700 LB

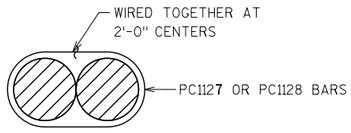
* BARS TO BE BUNDLED. SEE BUNDLE DETAIL.

## BAR SERIES TABLE

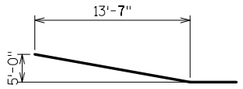
| BAR MARK | NO. REQ'D | LENGTH |
|---|---|---|
| PA730 | 14 SETS OF 10 | 16'-10" TO 38'-10" |
| PA633 | 12 SETS OF 18 | 16'-2" TO 26'-2" |
| PA634 | 16 SETS OF 19 | 16'-2" TO 26'-2" |



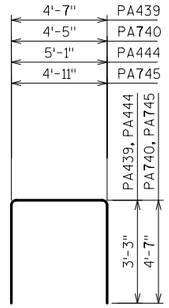

PA1127, PA1128



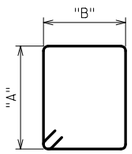

BUNDLE DETAIL




PA631




PA439, PA740, PA444, PA745




PA633, PA634, PA635, PA436, PA443

| BAR MARK | "A" | "B" |
|---|---|---|
| PA633 | 4'-7" TO 9'-7" | 3'-1" |
| PA634 | 4'-7" TO 9'-7" | 3'-1" |
| PA635 | 4'-7" | 3'-1" |
| PA436 | 9'-7" | 4'-7" |
| PA443 | 9'-7" | 5'-1" |

## NOTES

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

FOR BAR IN SERIES LENGTH SHOWN IS AVERAGE LENGTH ONLY TO BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. JCF

PIERS 1-3, 5-8 CAP REINFORCING

SHEET 22 OF 85
519

DATE: 4/11/2016
I.D.

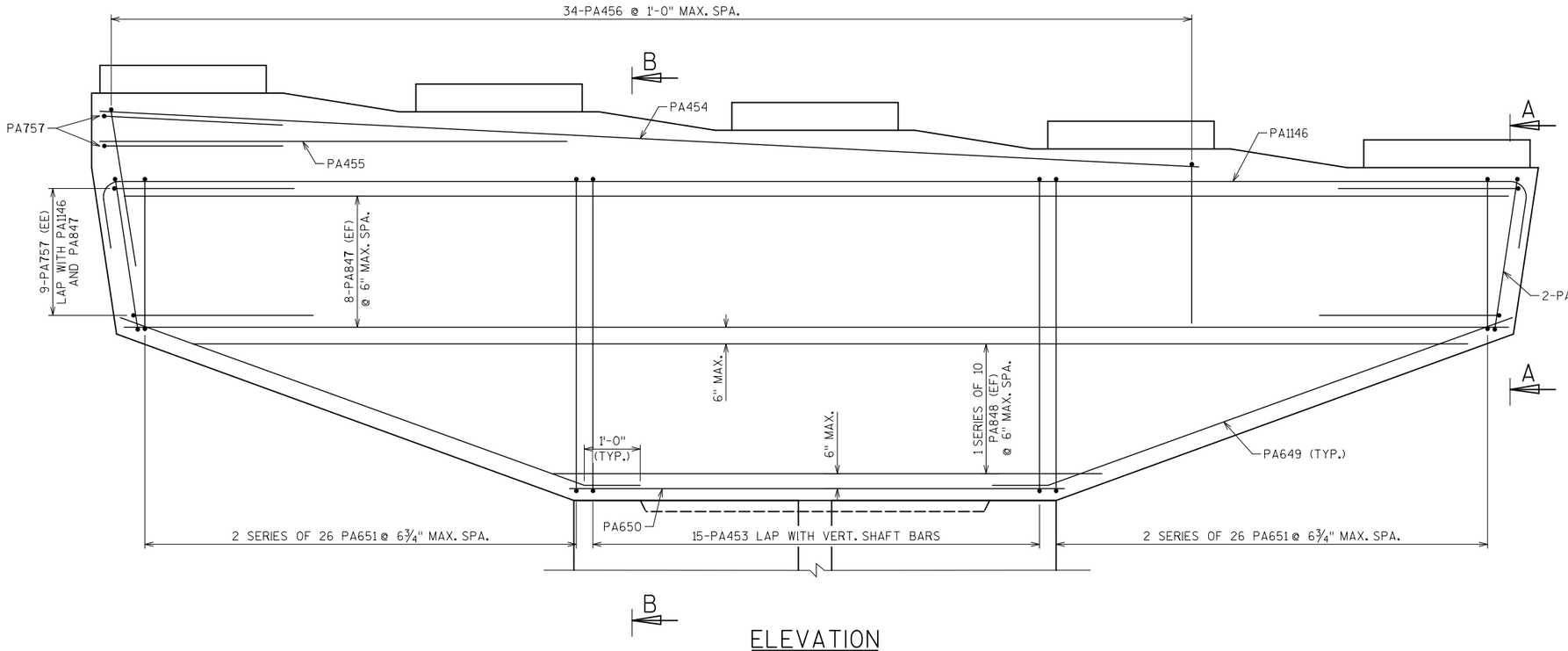
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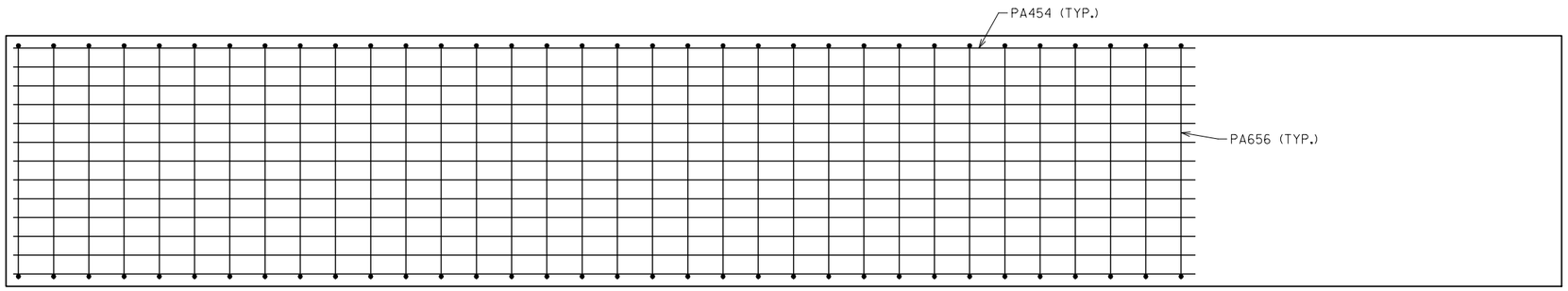
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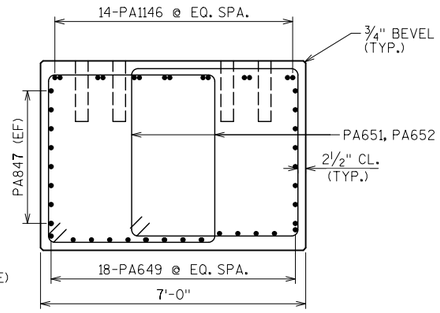
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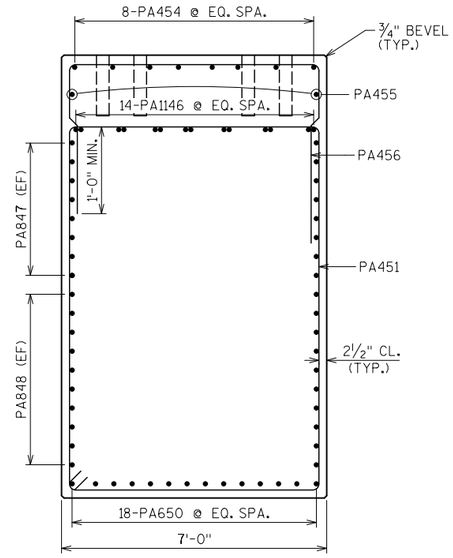

ELEVATION




PLAN




SECTION A-A




SECTION B-B

## SHAFT BILL OF BARS

ALL BARS TO BE EPOXY COATED

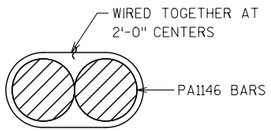
| | BAR MARK | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| * | PA1146 | 14 | 46'-5" | X | | PIER 4 CAP TOP LONGIT. |
| | PA847 | 16 | 41'-7" | | | PIER 4 CAP LONGIT. |
| | PA848 | 20 | 27'-10" | | X | PIER 4 CAP LONGIT. |
| | PA649 | 36 | 15'-6" | X | | PIER 4 CAP LONGIT. |
| | PA650 | 18 | 14'-6" | | | PIER 4 CAP LONGIT. |
| | PA651 | 104 | 23'-10" | X | X | PIER 4 CAP STIRRUPS |
| | PA652 | 4 | 18'-10" | X | | PIER 4 CAP STIRRUPS |
| | PA453 | 15 | 32'-10" | X | | PIER 4 CAP STIRRUPS |
| | PA454 | 8 | 33'-0" | | | PIER 4 CAP BEAM SEAT LONGIT. |
| | PA455 | 2 | 14'-3" | | | PIER 4 CAP BEAM SEAT LONGIT. |
| | PA456 | 34 | 12'-11" | X | | PIER 4 CAP BEAM SEAT VERT. |
| | PA757 | 20 | 15'-3" | X | | PIER 4 CAP ENDS |

TOTAL WEIGHT= 13,223 LB

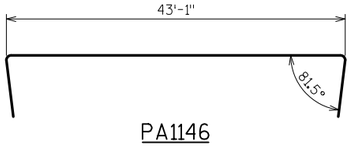
* BARS TO BE BUNDLED. SEE BUNDLE DETAIL

## BAR SERIES TABLE

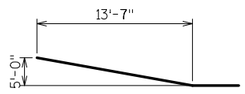
| BAR MARK | NO. REQ'D | LENGTH |
|---|---|---|
| PA848 | 2 SETS OF 10 | 16'-10" TO 38'-10" |
| PA651 | 4 SETS OF 26 | 18'-10" TO 28'-10" |



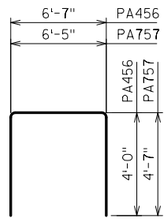

BUNDLE DETAIL



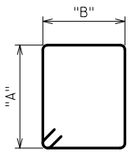

PA1146




PA649




PA456, PA757




PA651, PA652, PA453

| BAR MARK | "A" | "B" |
|---|---|---|
| PA651 | 4'-7" TO 9'-7" | 4'-5" |
| PA652 | 4'-7" | 4'-5" |
| PA453 | 9'-7" | 6'-7" |

## NOTES

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

FOR BAR IN SERIES LENGTH SHOWN IS AVERAGE LENGTH ONLY TO BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. JCF

PIER 4
CAP REINFORCING

SHEET 23 OF 95
520

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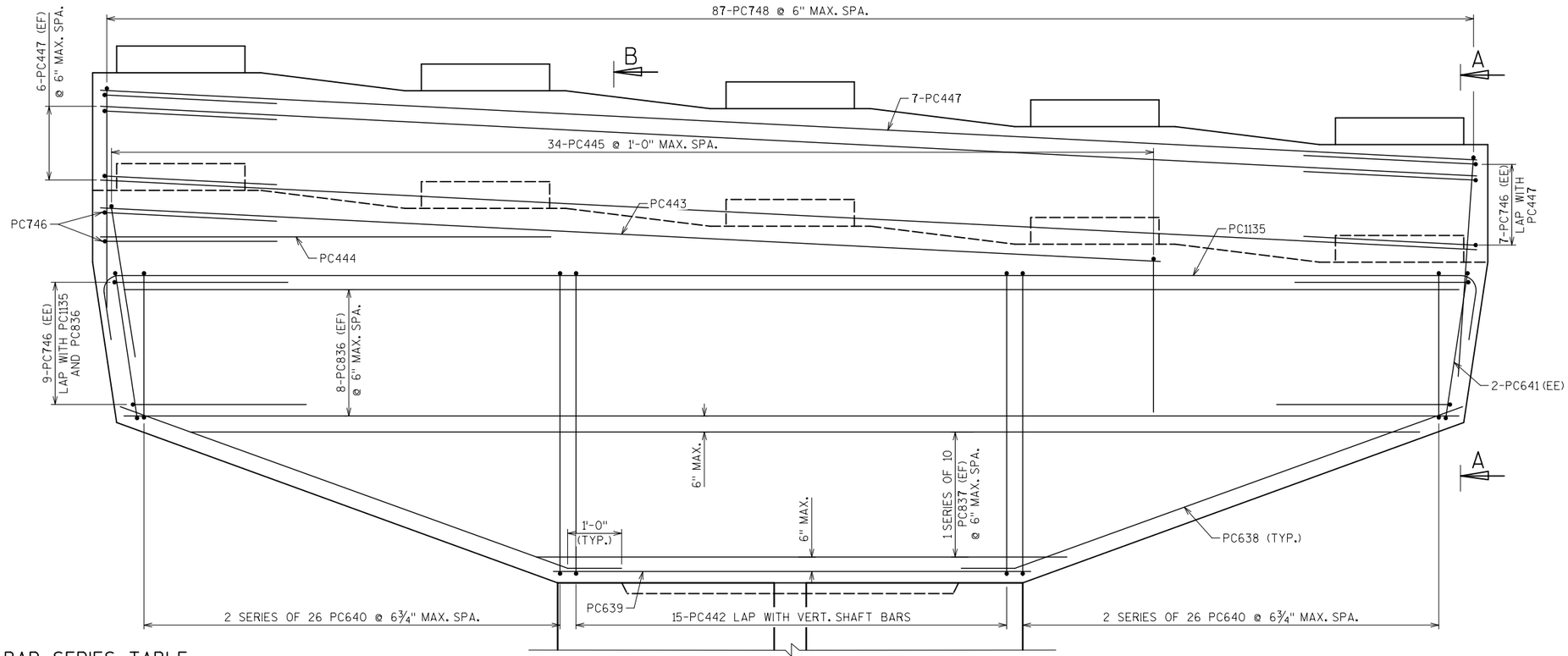
DATE: 4/11/2016
I.D.

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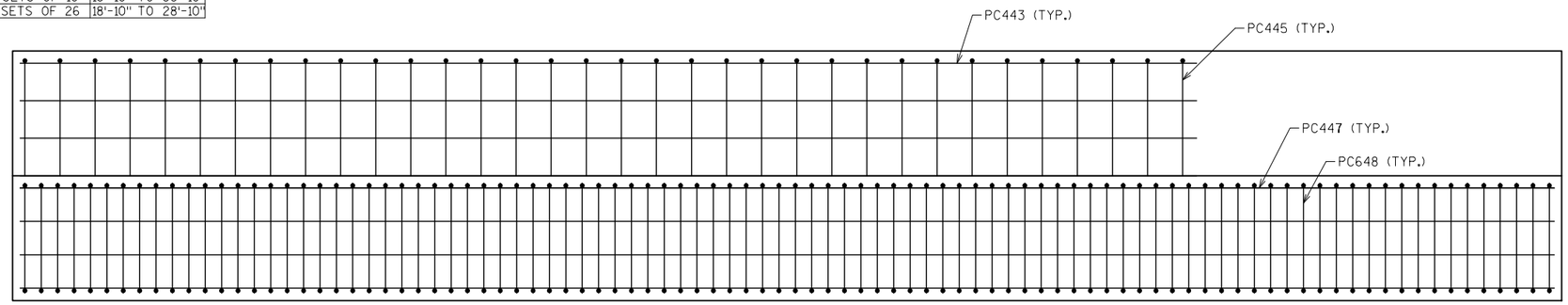
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STATE PROJECT NUMBER

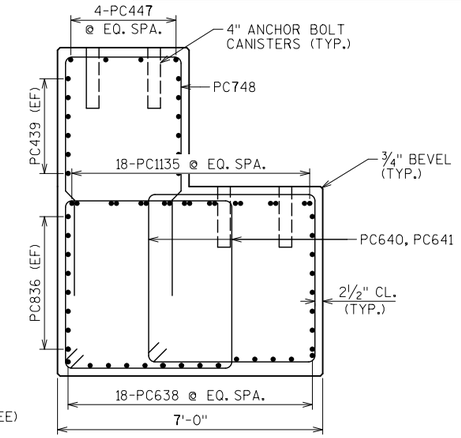
1517-07-77



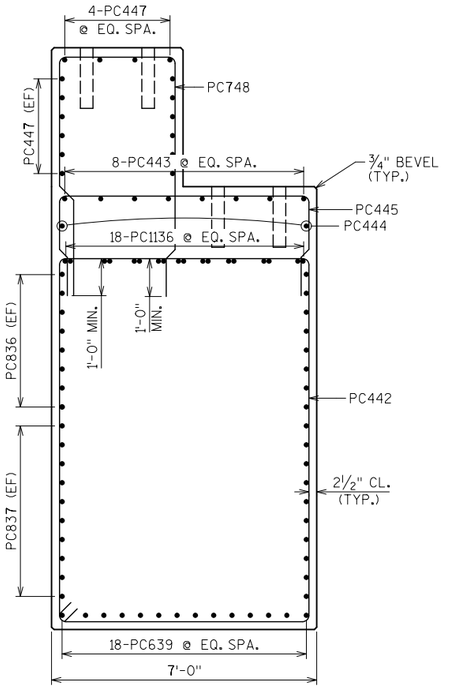

ELEVATION




PLAN




SECTION A-A




SECTION B-B

## BAR SERIES TABLE

| BAR MARK | NO. REQ'D | LENGTH |
|---|---|---|
| PC837 | 2 SETS OF 10 | 16'-10" TO 38'-10" |
| PC640 | 4 SETS OF 26 | 18'-10" TO 28'-10" |

## SHAFT BILL OF BARS

ALL BARS TO BE EPOXY COATED

| | BAR MARK | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| * | PC1135 | 18 | 46'-5" | X | | PIER 9 CAP TOP LONGIT. |
| | PC836 | 16 | 41'-7" | | | PIER 9 CAP LONGIT. |
| | PC837 | 20 | 27'-10" | | X | PIER 9 CAP LONGIT. |
| | PC638 | 36 | 15'-6" | X | | PIER 9 CAP LONGIT. |
| | PC639 | 18 | 14'-6" | | | PIER 9 CAP LONGIT. |
| * | PC640 | 104 | 23'-10" | X | X | PIER 9 CAP STIRRUPS |
| | PC641 | 4 | 18'-10" | X | | PIER 9 CAP STIRRUPS |
| | PC442 | 15 | 32'-10" | X | | PIER 9 CAP STIRRUPS |
| | PC443 | 8 | 33'-0" | | | PIER 9 CAP BEAM SEAT LONGIT. |
| | PC444 | 2 | 14'-3" | | | PIER 9 CAP BEAM SEAT LONGIT. |
| | PC445 | 34 | 12'-9" | X | | PIER 9 CAP BEAM SEAT VERT. |
| | PC746 | 32 | 15'-3" | X | | PIER 9 CAP ENDS |
| | PC447 | 16 | 43'-1" | | | PIER 9 CAP PEDESTAL LONGIT. |
| | PC648 | 87 | 16'-7" | X | | PIER 9 CAP PEDESTAL VERT. |

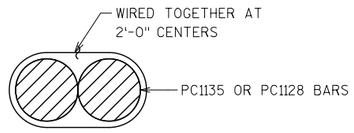
TOTAL WEIGHT= 17,207 LB

* BARS TO BE BUNDLED. SEE BUNDLE DETAIL.

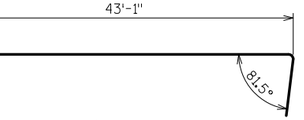
## NOTES

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

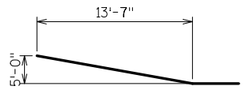
FOR BAR IN SERIES LENGTH SHOWN IS AVERAGE LENGTH ONLY TO BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



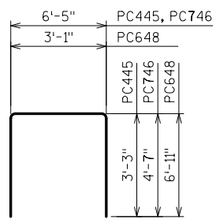

BUNDLE DETAIL



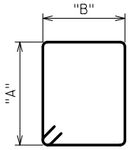

PC1135




PC638




PC445, PC746, PC648




PC640, PC641, PC442

| BAR MARK | "A" | "B" |
|---|---|---|
| PC640 | 4'-7" TO 9'-7" | 4'-5" |
| PC641 | 4'-7" | 4'-5" |
| PC442 | 9'-7" | 6'-7" |

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. JCF

PIER 9
CAP REINFORCING

SHEET 24 OF 85
521

DATE: 4/11/2016
I.D.

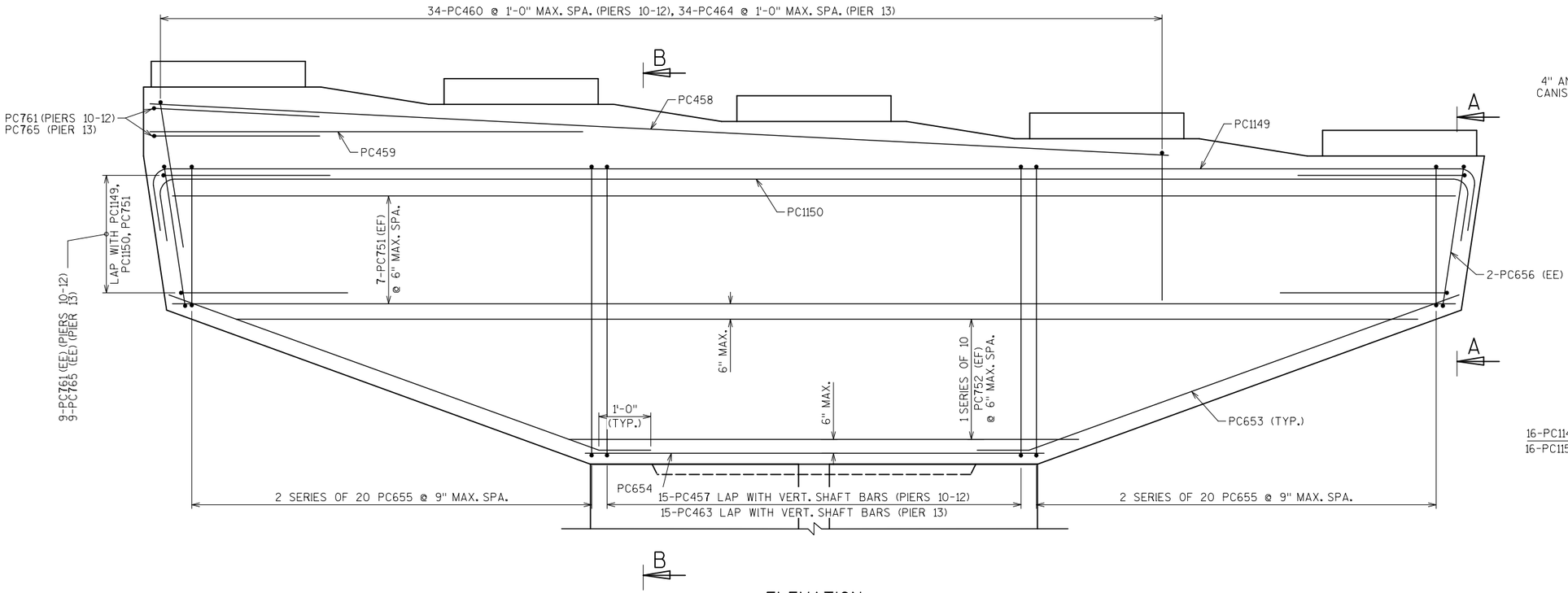
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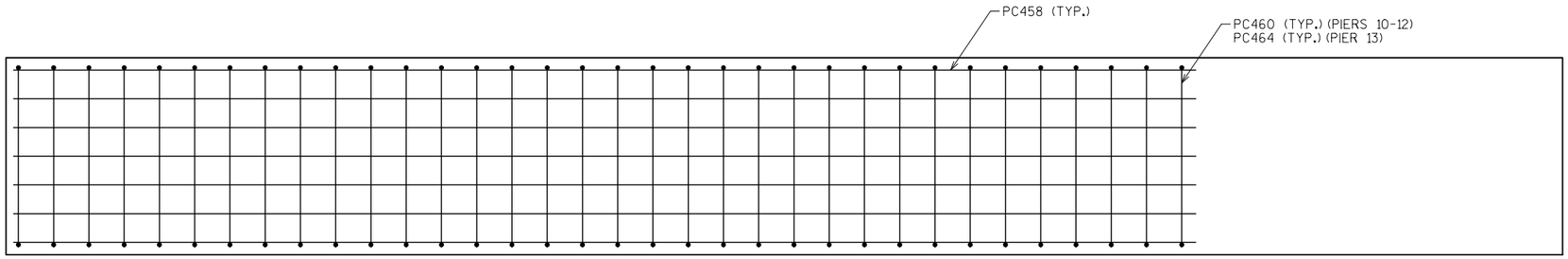
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STATE PROJECT NUMBER

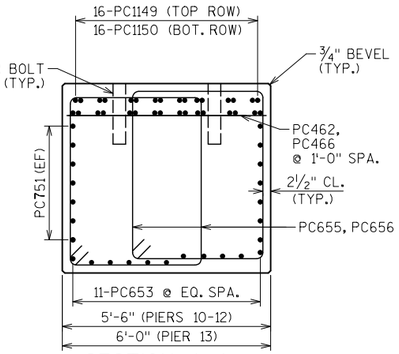
1517-07-77



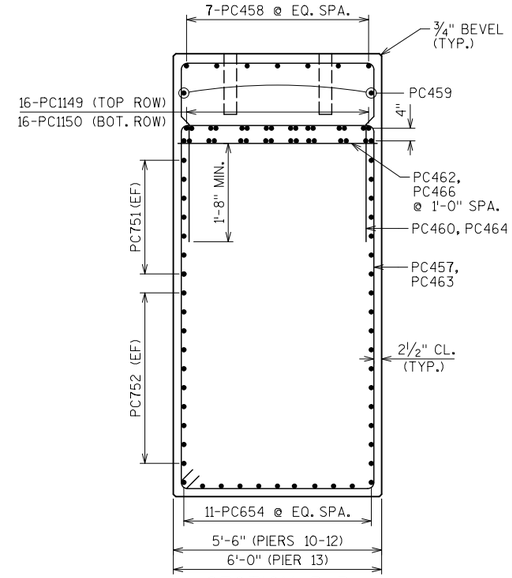

ELEVATION




PLAN




SECTION A-A




SECTION B-B

## SHAFT BILL OF BARS

ALL BARS TO BE EPOXY COATED

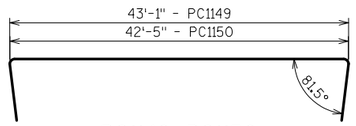
| | BAR MARK | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| * | PC1149 | 64 | 46'-5" | X | | PIERS 10-13 CAP TOP LONGIT. |
| | PC1150 | 64 | 45'-9" | X | | PIERS 10-13 CAP TOP LONGIT. |
| | PC751 | 56 | 41'-7" | | | PIERS 10-13 CAP LONGIT. |
| | PC752 | 80 | 27'-10" | | X | PIERS 10-13 CAP LONGIT. |
| | PC653 | 88 | 15'-6" | X | | PIERS 10-13 CAP LONGIT. |
| | PC654 | 44 | 14'-6" | | | PIERS 10-13 CAP LONGIT. |
| | PC655 | 320 | 22'-4" | X | X | PIERS 10-13 CAP STIRRUPS |
| | PC656 | 16 | 17'-4" | X | | PIERS 10-13 CAP STIRRUPS |
| | PC457 | 45 | 29'-10" | X | | PIERS 10-12 CAP STIRRUPS |
| | PC458 | 28 | 33'-0" | | | PIERS 10-13 CAP BEAM SEAT LONGIT. |
| | PC459 | 8 | 14'-3" | | | PIERS 10-13 CAP BEAM SEAT LONGIT. |
| | PC460 | 102 | 11'-5" | X | | PIERS 10-12 CAP BEAM SEAT VERT. |
| | PC761 | 60 | 13'-9" | X | | PIERS 10-12 CAP ENDS |
| | PC462 | 132 | 5'-1" | | | PIERS 10-12 CAP TRANS. |
| | PC463 | 15 | 30'-10" | X | | PIER 13 CAP STIRRUPS |
| | PC464 | 34 | 11'-11" | X | | PIER 13 CAP BEAM SEAT VERT. |
| | PC765 | 20 | 14'-3" | X | | PIER 13 CAP ENDS |
| | PC466 | 44 | 5'-7" | | | PIER 13 CAP TRANS. |

TOTAL WEIGHT= 60,640 LB

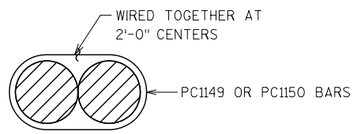
* BAR TO BE BUNDLED. SEE BUNDLE DETIAL.

## BAR SERIES TABLE

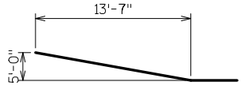
| BAR MARK | NO. REQ'D | LENGTH |
|---|---|---|
| PC752 | 8 SETS OF 10 | 16'-10" TO 38'-10" |
| PC655 | 16 SETS OF 20 | 17'-4"" TO 27'-4" |



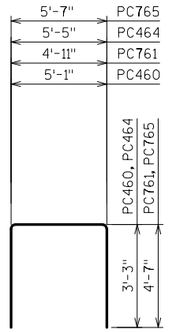

PC1149, PC1150



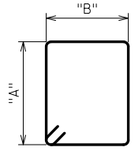

BUNDLE DETAIL




PC653




PC460, PC761
PC464, PC765




PC655, PC656,
PC457, PC463

| BAR MARK | "A" | "B" |
|---|---|---|
| PC655 | 4'-7" TO 9'-7" | 3'-8" |
| PC656 | 4'-7" | 3'-8" |
| PC457 | 9'-7" | 5'-1" |
| PC463 | 9'-7" | 5'-7" |

## NOTES

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

FOR BAR IN SERIES LENGTH SHOWN IS AVERAGE LENGTH ONLY TO BE USED FOR BAR WIEGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. JCF

PIERS 10-13
CAP REINFORCING

SHEET 25 OF 85
522

DATE: 4/11/2016
I.D.

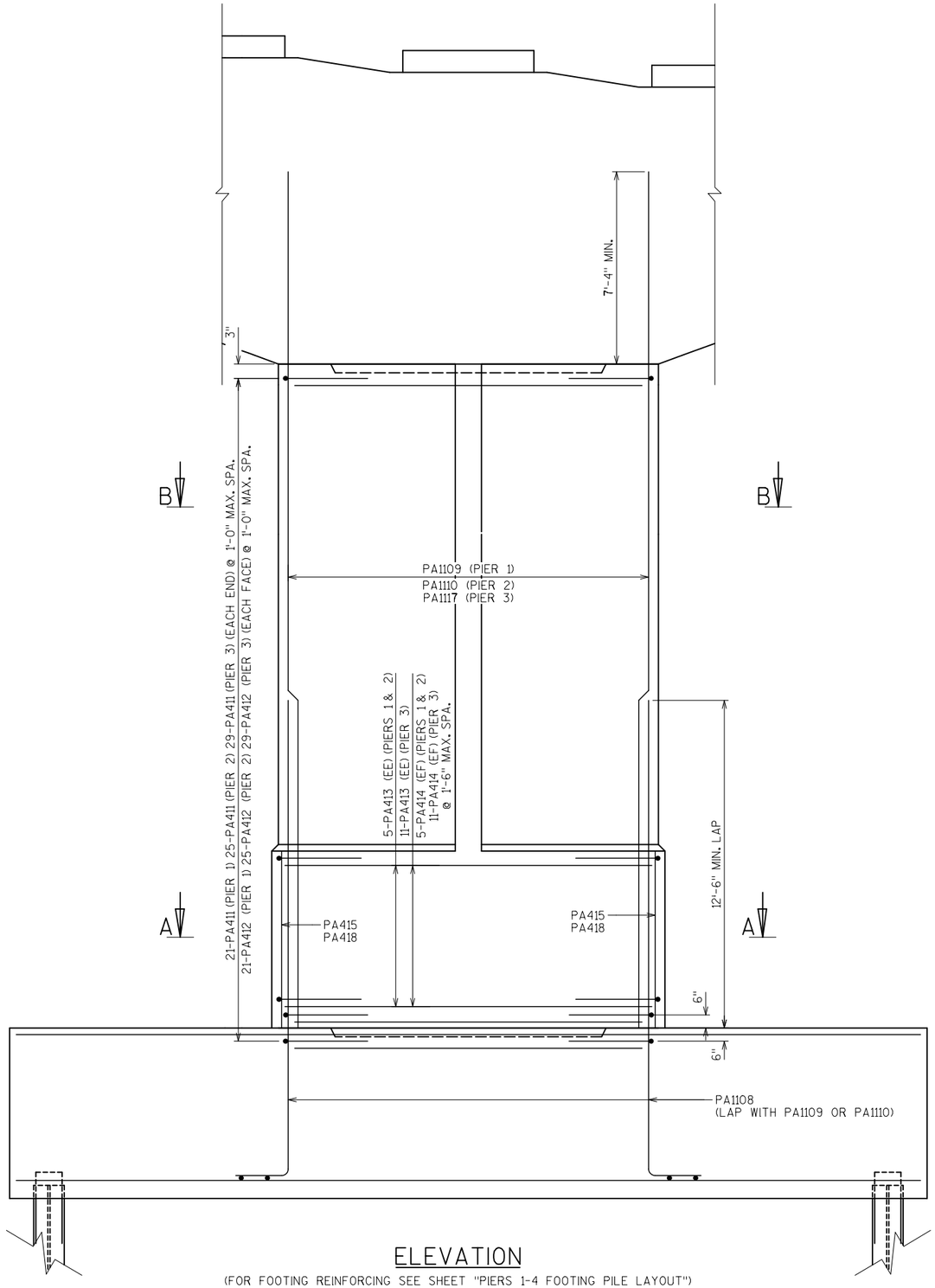
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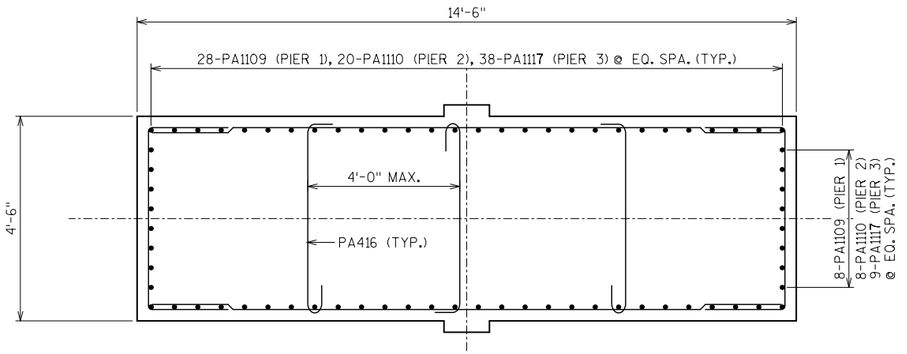
STATE PROJECT NUMBER

1517-07-77



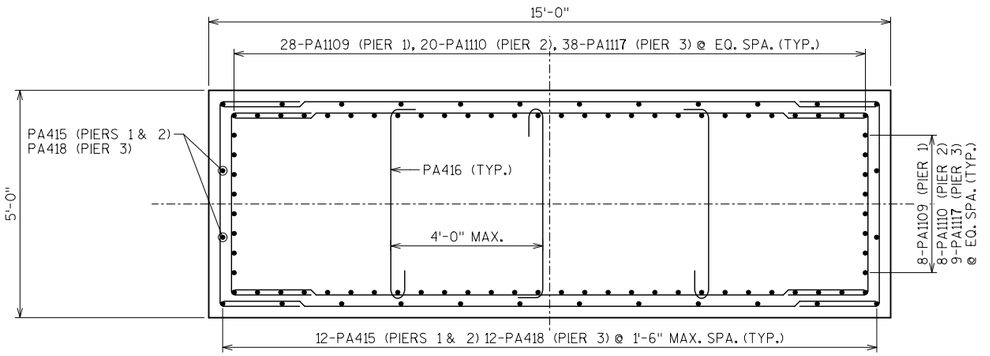

ELEVATION

(FOR FOOTING REINFORCING SEE SHEET "PIERS 1-4 FOOTING PILE LAYOUT")




SECTION B-B

(PIER 1 SHOWN)




SECTION A-A

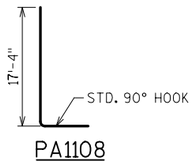
(PIER 1 SHOWN)

## SHAFT BILL OF BARS

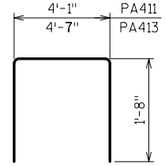
ALL BARS TO BE EPOXY COATED

| BAR MARK | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|
| PA1108 | 222 | 19'-0" | X | | PIERS 1-3 SHAFT DOWEL |
| PA1109 | 72 | 27'-1" | | | PIER 1 SHAFT VERT. |
| PA1110 | 56 | 31'-2" | | | PIER 2 SHAFT VERT. |
| PA411 | 150 | 7'-3" | X | | PIERS 1-3 SHAFT STIRRUPS |
| PA412 | 150 | 14'-1" | | | PIERS 1-3 SHAFT STIRRUPS |
| PA413 | 42 | 7'-9" | X | | PIERS 1-3 SHAFT BASE STIRRUPS |
| PA414 | 42 | 14'-7" | | | PIERS 1-3 SHAFT BASE STIRRUPS |
| PA415 | 56 | 6'-9" | | | PIERS 1 & 2 SHAFT BASE VERT. |
| PA416 | 225 | 5'-2" | X | | PIERS 1-3 SHAFT TIE BARS |
| PA1117 | 94 | 34'-9" | | | PIER 3 SHAFT VERT. |
| PA418 | 28 | 14'-2" | | | PIER 3 SHAFT BASE VERT. |

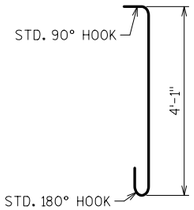
TOTAL WEIGHT= 63,460 LB




PA1108




PA411, PA413




PA416

## NOTES

ALTERNATE THE POSITION OF THE 90° BEND AND 180° BEND OF THE PA416 BARS AT EVERY VERTICAL LAYER. TIE IN WITH EACH LAYER OF PA411 & PA412.

FOR FOOTING REINFORCING DETAILS SEE "PIERS 1-4 FOOTING PILE LAYOUT".

FOR CAP REINFORCING DETAILS SEE "PIERS 1-3, 5-8 CAP REINFORCING".

FOR PIER DIMENSIONS SEE "PIERS 1-3 LAYOUT"

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JRS | PLANS CK'D. GJCF

PIERS 1-3
SHAFT REINFORCING

SHEET 36 OF 85
523

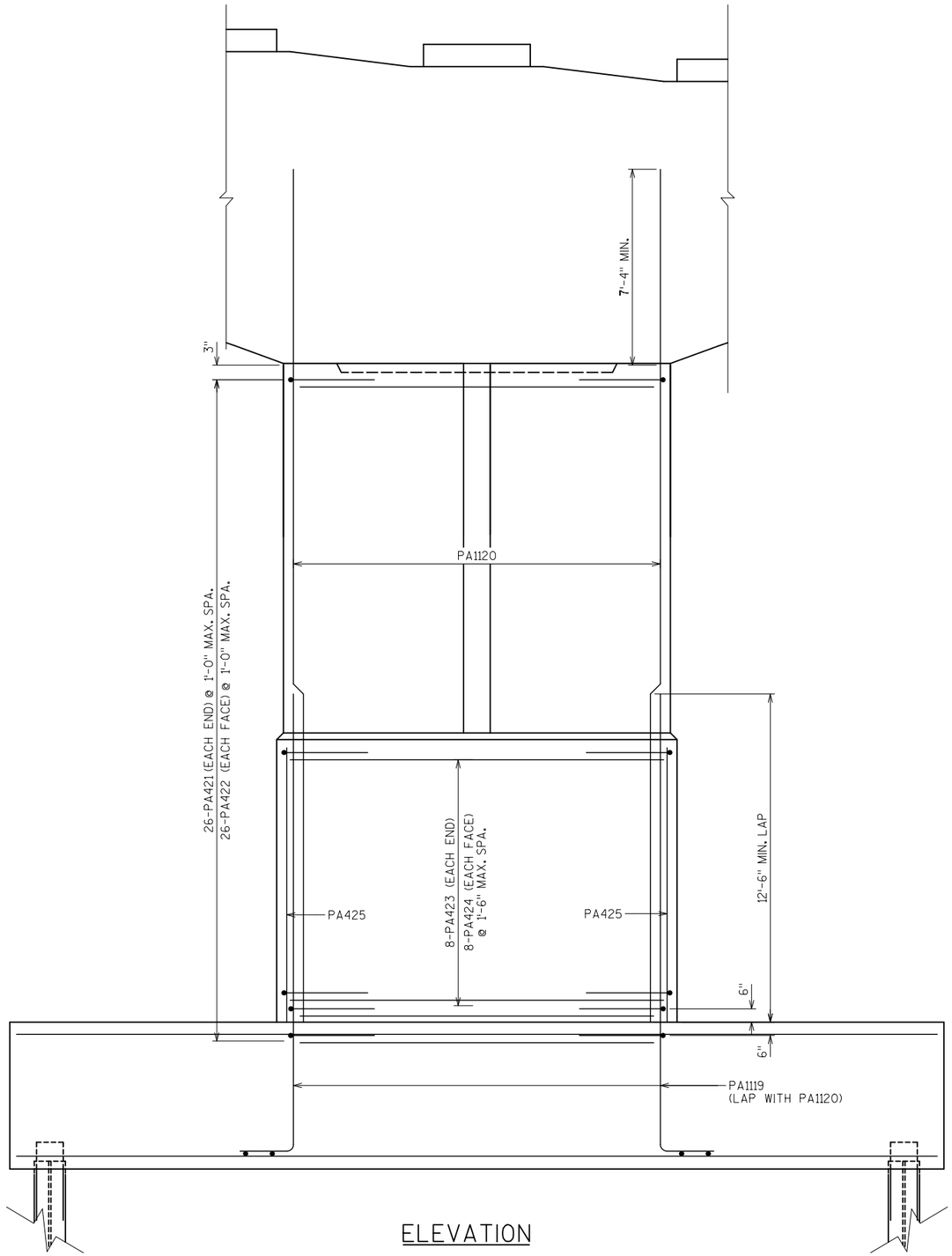
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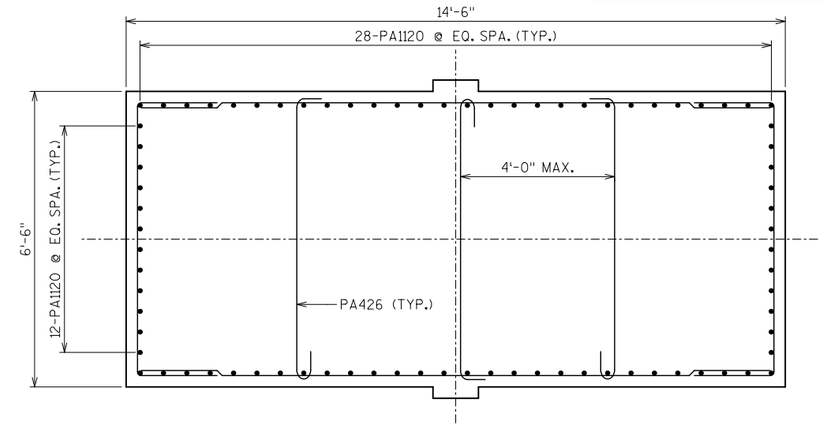
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DATE: 4/11/2016
I.D.

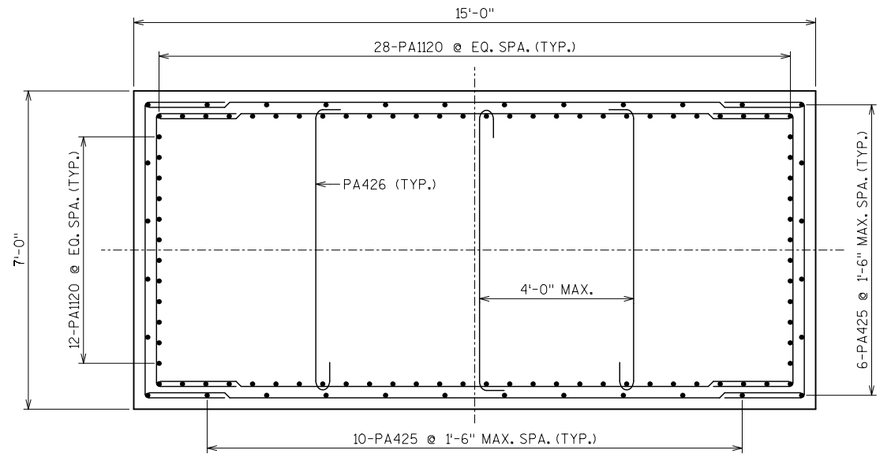
| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |




ELEVATION




SECTION B-B



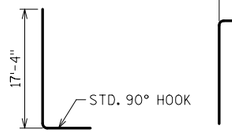

SECTION A-A

## SHAFT BILL OF BARS

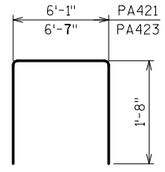
ALL BARS TO BE EPOXY COATED

| BAR MARK | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|
| PA1119 | 80 | 19'-0" | X | | PIER 4 SHAFT DOWEL |
| PA1120 | 80 | 32'-0" | | | PIER 4 SHAFT VERT. |
| PA421 | 52 | 9'-3" | X | | PIER 4 SHAFT STIRRUPS |
| PA422 | 52 | 14'-1" | | | PIER 4 SHAFT STIRRUPS |
| PA423 | 16 | 9'-9" | X | | PIER 4 SHAFT BASE STIRRUPS |
| PA424 | 16 | 14'-7" | | | PIER 4 SHAFT BASE STIRRUPS |
| PA425 | 32 | 10'-7" | | | PIER 4 SHAFT BASE VERT. |
| PA426 | 78 | 7'-2" | X | | PIER 4 SHAFT TIE BARS |

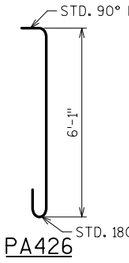
TOTAL WEIGHT= 23,350 LB




PA1119




PA421, PA423




PA426

## NOTES

ALTERNATE THE POSITION OF THE 90° BEND AND 180° BEND OF THE PA426 BARS AT EVERY VERTICAL LAYER. TIE IN WITH EACH LAYER OF PA421 & PA423.

FOR FOOTING REINFORCING DETAILS SEE "PIERS 1-4 FOOTING PILE LAYOUT".

FOR CAP REINFORCING DETAILS SEE "PIER 4 CAP REINFORCING".

FOR PIER DIMENSIONS SEE "PIER 4 LAYOUT"

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. JCF

PIER 4
SHAFT REINFORCING

SHEET 27 OF 85
524

DATE: 4/11/2016
I.D.

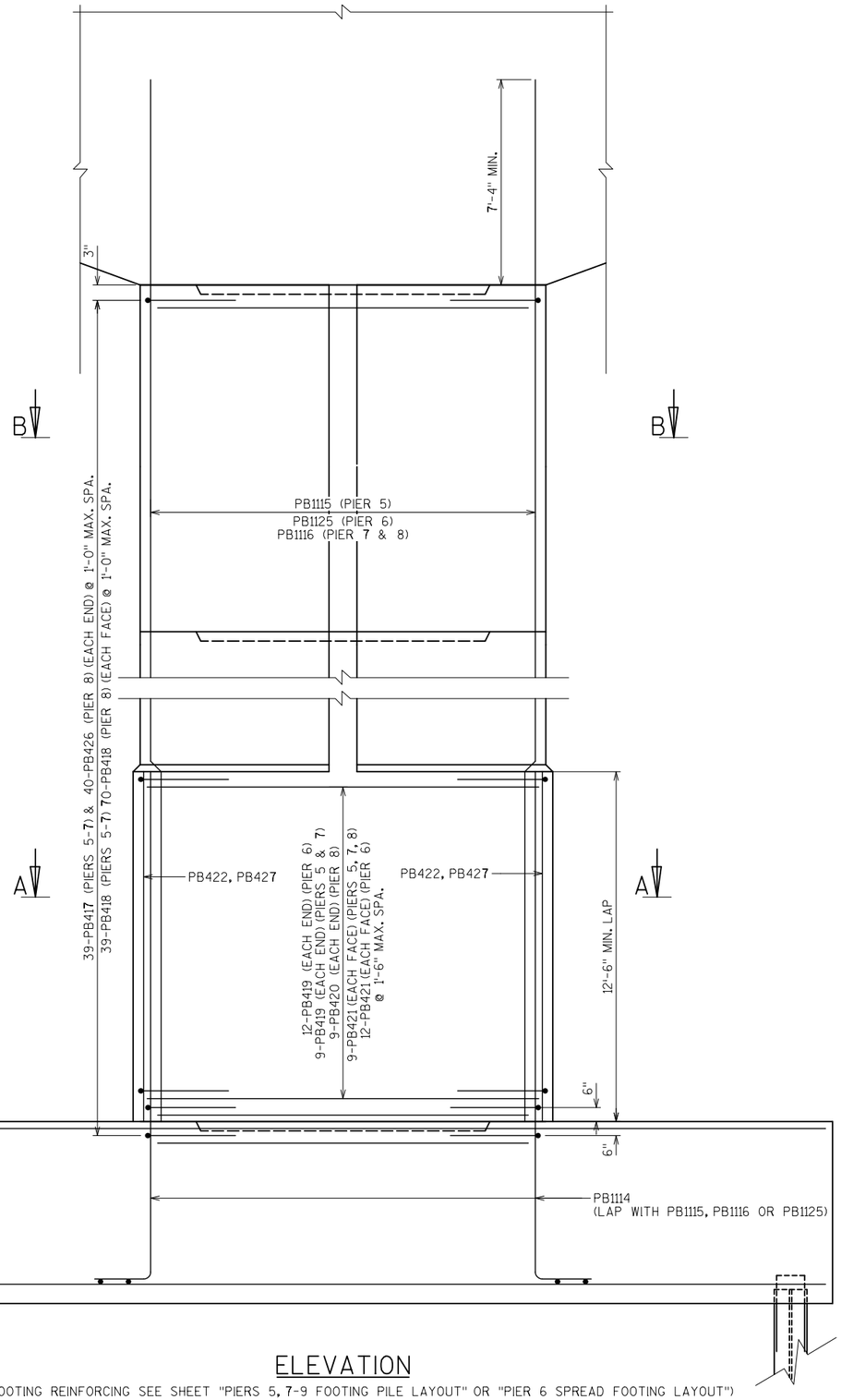
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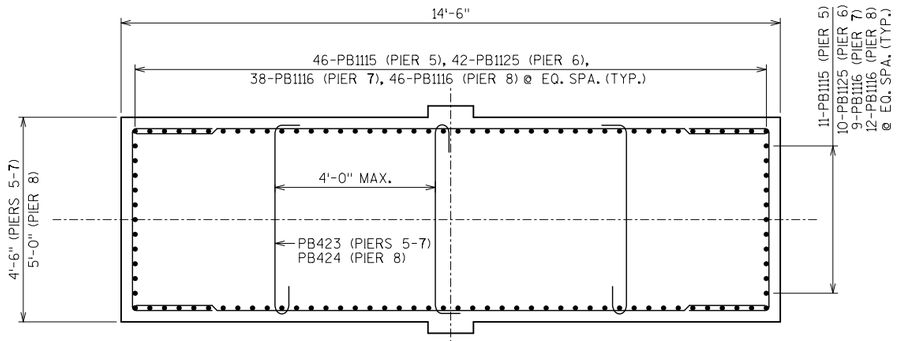
STATE PROJECT NUMBER

1517-07-77



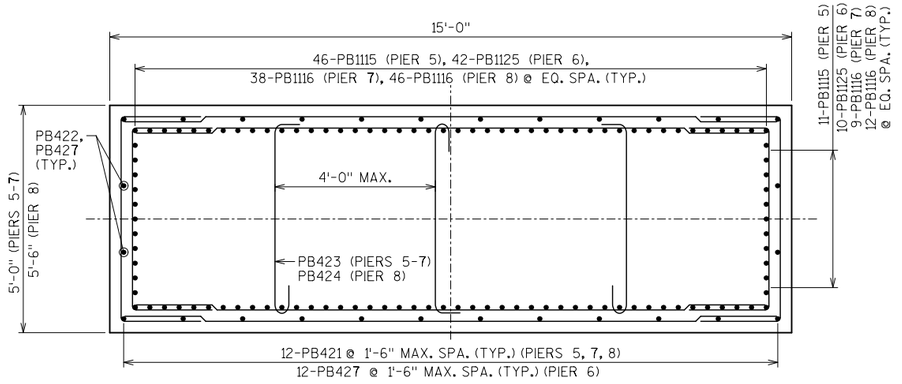

## ELEVATION

(FOR FOOTING REINFORCING SEE SHEET "PIERS 5, 7-9 FOOTING PILE LAYOUT" OR "PIER 6 SPREAD FOOTING LAYOUT")




## SECTION B-B

(PIER 5 SHOWN)




## SECTION A-A

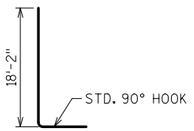
(PIER 5 SHOWN)

## SHAFT BILL OF BARS

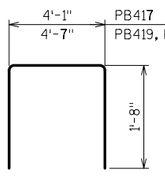
ALL BARS TO BE EPOXY COATED

| BAR MARK | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|
| PB1114 | 428 | 19'-10" | X | | PIERS 5-8 SHAFT DOWEL |
| PB1115 | 114 | 45'-6" | | | PIER 5 SHAFT VERT. |
| PB1116 | 210 | 49'-2" | | | PIERS 7 & 8 SHAFT VERT. |
| PB417 | 258 | 7'-3" | X | | PIERS 5-8 SHAFT STIRRUPS |
| PB418 | 342 | 14'-1" | | | PIERS 5-8 SHAFT STIRRUPS |
| PB419 | 60 | 7'-9" | X | | PIERS 5-7 SHAFT BASE STIRRUPS |
| PB420 | 18 | 8'-3" | X | | PIER 8 SHAFT BASE STIRRUPS |
| PB421 | 78 | 14'-7" | | | PIERS 5, 7, 8 SHAFT BASE STIRRUPS |
| PB422 | 84 | 12'-3" | | | PIERS 5-8 SHAFT BASE VERT. |
| PB423 | 387 | 5'-2" | X | | PIERS 5-7 SHAFT TIE BARS |
| PB424 | 126 | 5'-8" | X | | PIER 8 SHAFT TIE BARS |
| PB1125 | 104 | 54'-10" | | | PIER 6 SHAFT VERT. |
| PB426 | 84 | 7'-9" | X | | PIERS 5, 7, 8 SHAFT STIRRUPS |
| PB427 | 28 | 16'-6" | | | PIER 6 SHAFT STIRRUPS |

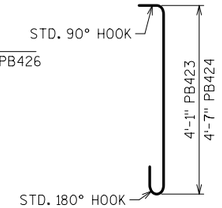
TOTAL WEIGHT= 166,390 LB




PB1114




PB417, PB419, PB426




PB423, PB424

## NOTES

ALTERNATE THE POSITION OF THE 90° BEND AND 180° BEND OF THE PB423 OR PB424 BARS AT EVERY VERTICAL LAYER. TIE IN WITH EACH LAYER OF PB417, PB418, OR PB26.

FOR FOOTING REINFORCING DETAILS SEE "PIERS 5, 7-9 FOOTING PILE LAYOUT" OR "PIER 6 SPREAD FOOTING LAYOUT".

FOR CAP REINFORCING DETAILS SEE "PIERS 1-3, 5-8 CAP REINFORCING".

FOR PIER DIMENSIONS SEE "PIERS 5-8 LAYOUT"

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. JCF

PIERS 5-8
SHAFT REINFORCING

SHEET 38 OF 85
525

DATE: 4/11/2016
I.D.

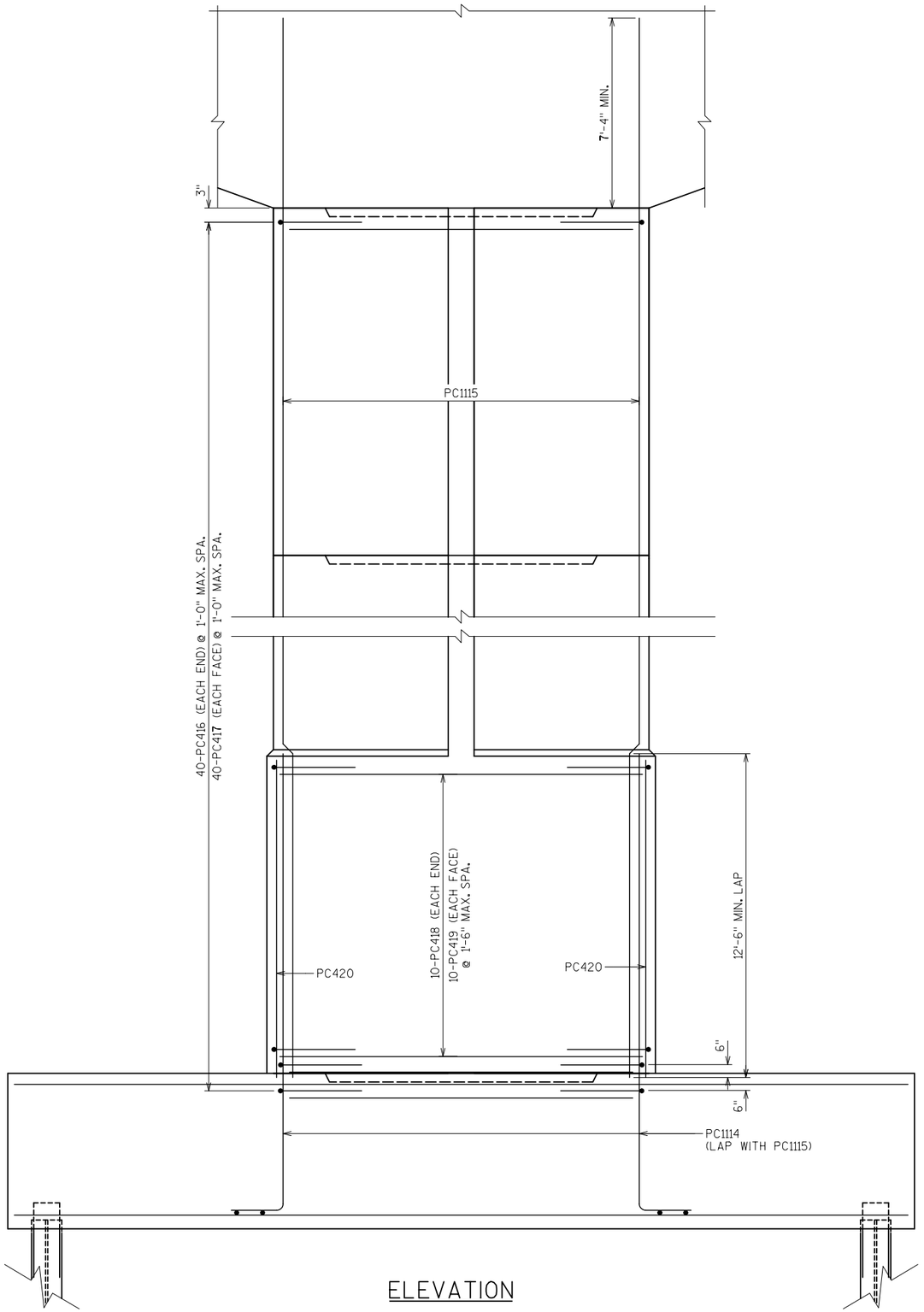
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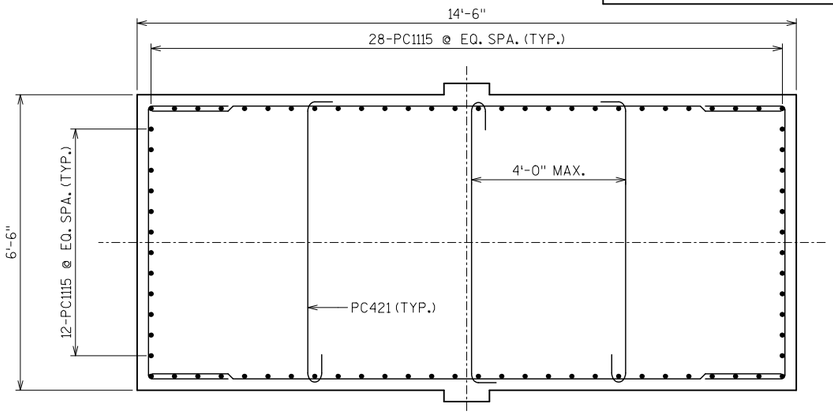
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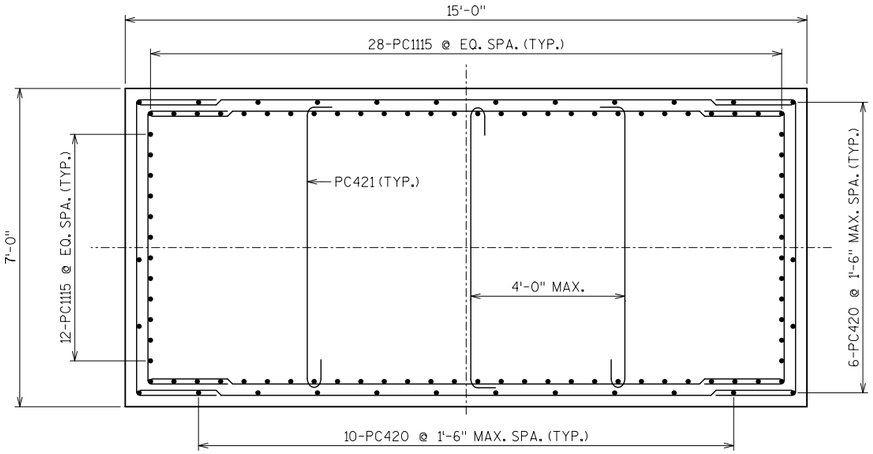
1517-07-77




ELEVATION




SECTION B-B



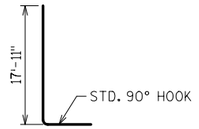

SECTION A-A

## SHAFT BILL OF BARS

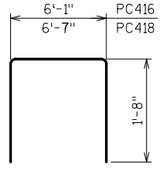
ALL BARS TO BE EPOXY COATED

| BAR MARK | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|
| PC1114 | 80 | 19'-10" | X | | PIER 9 SHAFT DOWEL |
| PC1115 | 80 | 45'-9" | | | PIER 9 SHAFT VERT. |
| PC416 | 80 | 9'-3" | X | | PIER 9 SHAFT STIRRUPS |
| PC417 | 80 | 14'-1" | | | PIER 9 SHAFT STIRRUPS |
| PC418 | 20 | 9'-9" | X | | PIER 9 SHAFT BASE STIRRUPS |
| PC419 | 20 | 14'-6" | | | PIER 9 SHAFT BASE STIRRUPS |
| PC420 | 32 | 12'-3" | | | PIER 9 SHAFT BASE VERT. |
| PC421 | 120 | 7'-2" | X | | PIER 9 SHAFT TIE BARS |

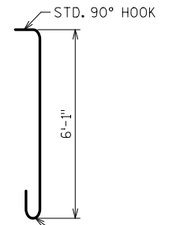
TOTAL WEIGHT= 30,290 LB




PC1114




PC416, PC418




PC421

## NOTES

ALTERNATE THE POSITION OF THE 90° BEND AND 180° BEND OF THE PC421 BARS AT EVERY VERTICAL LAYER. TIE IN WITH EACH LAYER OF PC416 & PC417.

FOR FOOTING REINFORCING DETAILS SEE "PIERS 9-13 FOOTING PILE LAYOUT".

FOR CAP REINFORCING DETAILS SEE "PIER 9 CAP REINFORCING".

FOR PIER DIMENSIONS SEE "PIER 9 LAYOUT"

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. JCF

PIER 9
SHAFT REINFORCING

SHEET 28 OF 85
526

8

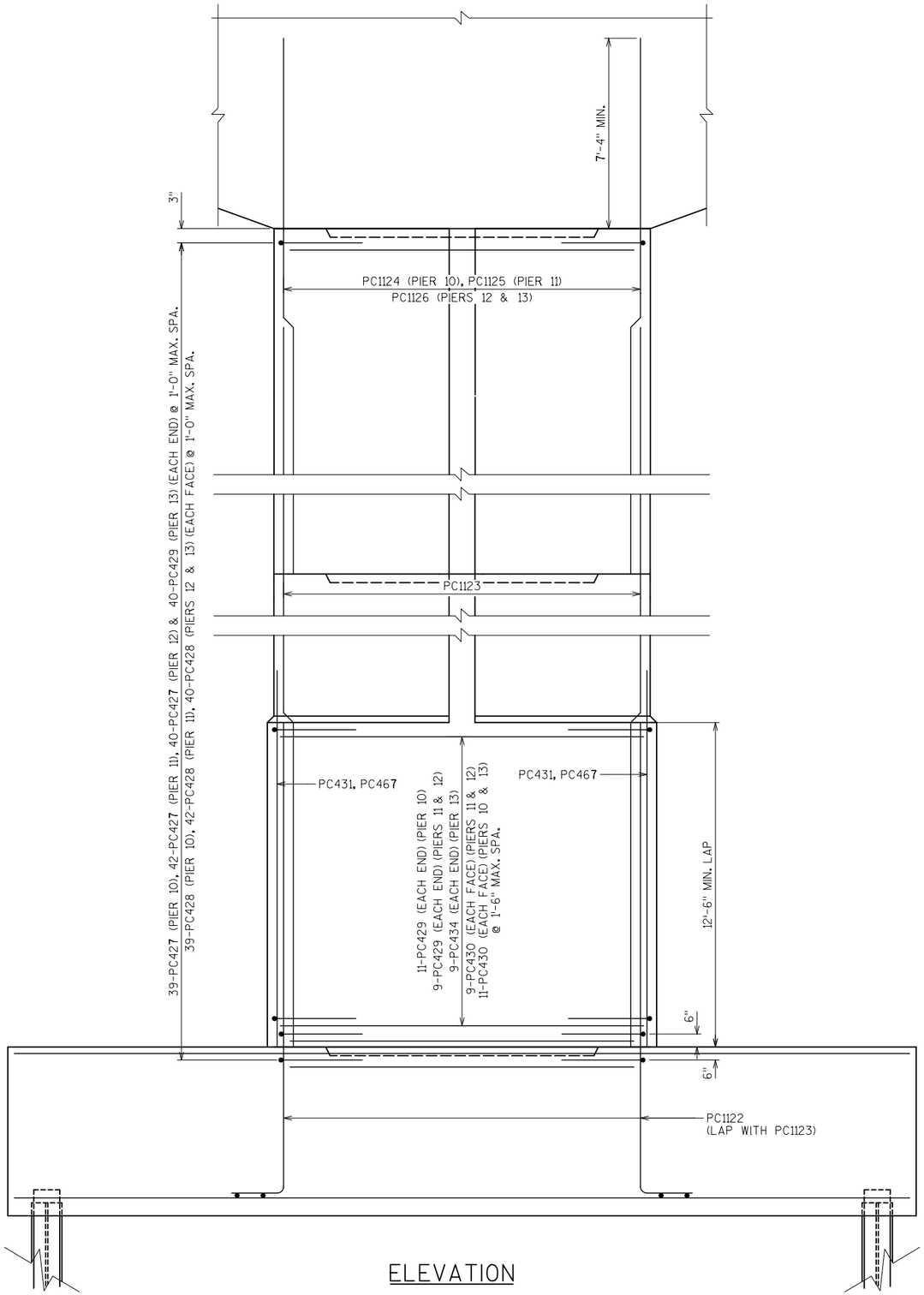
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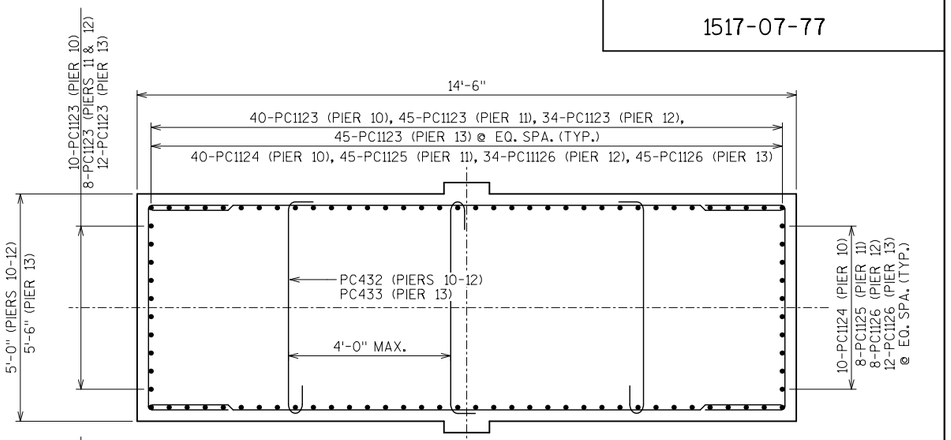
DATE: 4/11/2016
I.D.

STATE PROJECT NUMBER

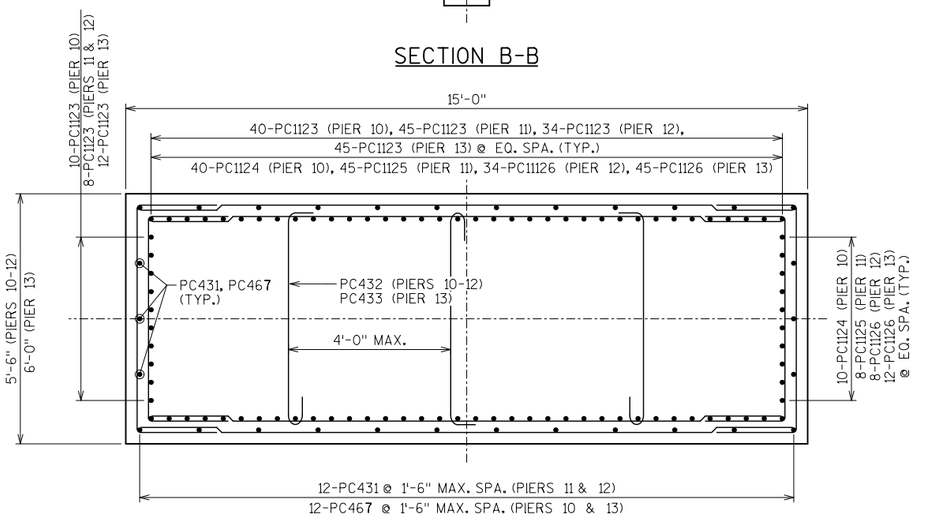
1517-07-77




ELEVATION




SECTION B-B



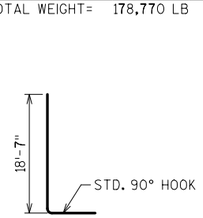

SECTION A-A

## SHAFT BILL OF BARS

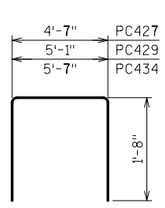
ALL BARS TO BE EPOXY COATED

| BAR MARK | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|
| PC1122 | 404 | 20'-3" | X | | PIERS 10-13 SHAFT DOWEL |
| PC1123 | 404 | 37'-6" | | | PIERS 10-13 SHAFT VERT. |
| PC1124 | 100 | 19'-11" | | | PIER 10 SHAFT VERT. |
| PC1125 | 106 | 22'-9" | | | PIER 11 SHAFT VERT. |
| PC1126 | 198 | 20'-0" | | | PIERS 12 & 13 SHAFT VERT. |
| PC427 | 242 | 20'-8" | X | | PIERS 10-12 SHAFT STIRRUPS |
| PC428 | 322 | 14'-1" | | | PIERS 10-13 SHAFT STIRRUPS |
| PC429 | 138 | 8'-3" | X | | PIERS 10-13 SHAFT BASE STIRRUPS |
| PC430 | 80 | 14'-7" | | | PIERS 10-13 SHAFT BASE STIRRUPS |
| PC431 | 60 | 12'-3" | | | PIERS 11 & 12 SHAFT BASE VERT. |
| PC432 | 363 | 5'-8" | X | | PIERS 10-12 SHAFT TIE BARS |
| PC433 | 120 | 6'-2" | X | | PIER 13 SHAFT TIE BARS |
| PC434 | 18 | 8'-9" | X | | PIER 13 SHAFT BASE STIRRUPS |
| PC467 | 60 | 14'-0" | | | PIERS 10 & 13 SHAFT BASE VERT. |

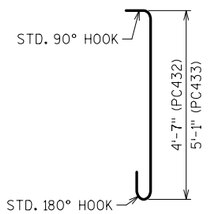
TOTAL WEIGHT= 178,770 LB




PC1122




PC427, PC429, PC434




PC432, PC433

## NOTES

ALTERNATE THE POSITION OF THE 90° BEND AND 180° BEND OF THE PC432 OR PC433 BARS AT EVERY VERTICAL LAYER. TIE IN WITH EACH LAYER OF PC427, PC428 & PC434.

FOR FOOTING REINFORCING DETAILS SEE "PIERS 10-13 FOOTING PILE LAYOUT".

FOR CAP REINFORCING DETAILS SEE "PIERS 10-13 CAP REINFORCING".

FOR PIER DIMENSIONS SEE "PIERS 10-13 LAYOUT"

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. JCF

PIERS 10-13
SHAFT REINFORCING

SHEET 30 OF 85
527

DATE: 4/11/2016
I.D.

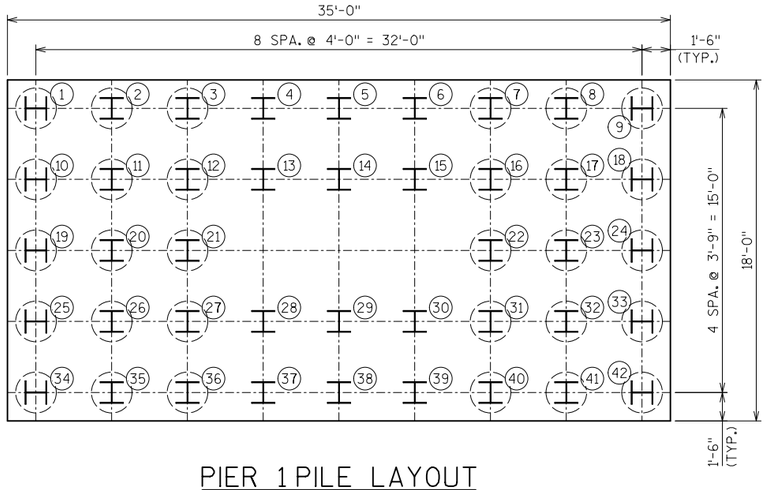
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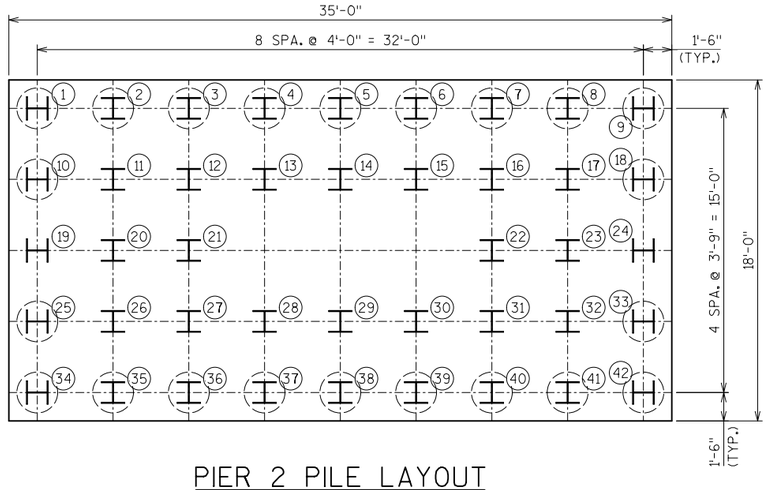
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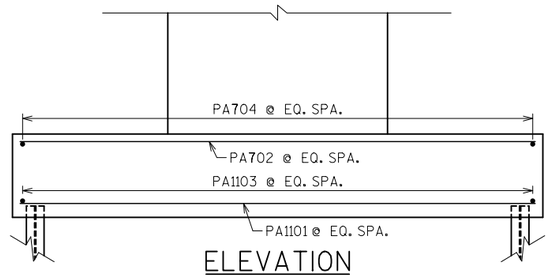
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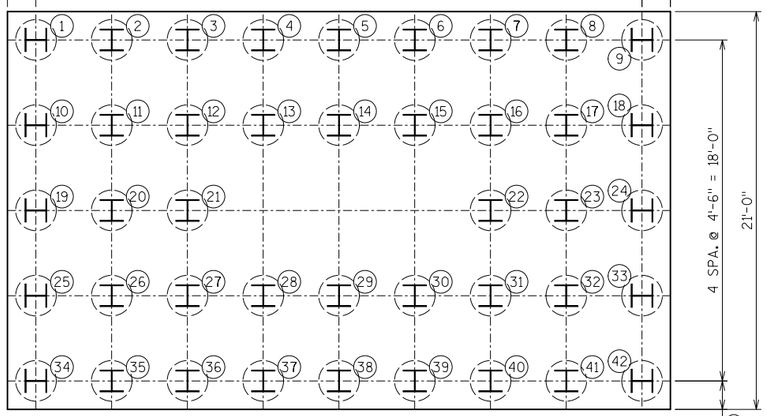

PIER 1 PILE LAYOUT



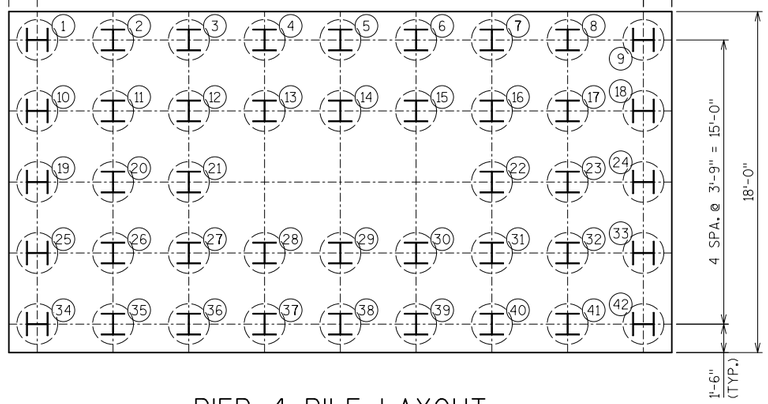

PIER 2 PILE LAYOUT



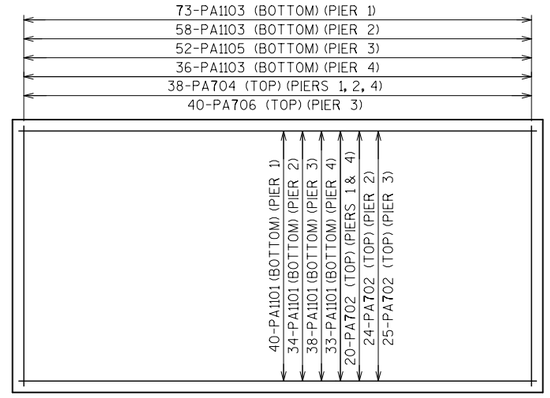

ELEVATION




PIER 3 PILE LAYOUT




PIER 4 PILE LAYOUT




PLAN

FOOTING REINFORCING

## ESTIMATED PILE LENGTH AND RESISTANCE

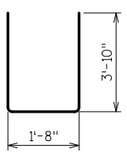
| PIER | ESTIMATED DRIVEN PILE LENGTH (FEET) | REQUIRED DRIVING RESISTANCE |
|---|---|---|
| 1 | 7 | 220 |
| 2 | 7 | 200 |
| 3 | 11.5 | 240 |
| 4 | 17 | 195 |

## PILE PRE-BORING & UPLIFT CONNECTION TABLE

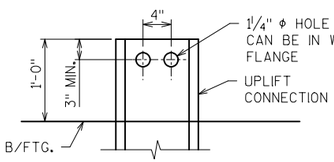
| PIER | 3'-6" EMBED. PILES WITH UPLIFT CONNECTION | 3'-0" EMBED. PILES WITH UPLIFT CONNECTION | UPLIFT CONNECTION ONLY |
|---|---|---|---|
| 1 | 1, 2, 8, 9, 34, 35, 41, 42 | 3,7, 10-12, 16-27, 31-33, 36, 40 | -- |
| 2 | -- | 1-10, 18, 25, 33-42 | -- |
| 3 | 1, 9, 34, 42 | 2-8, 10-33, 35-41 | -- |
| 4 | -- | 1-42 | -- |

## COMPETENT BEDROCK TABLE

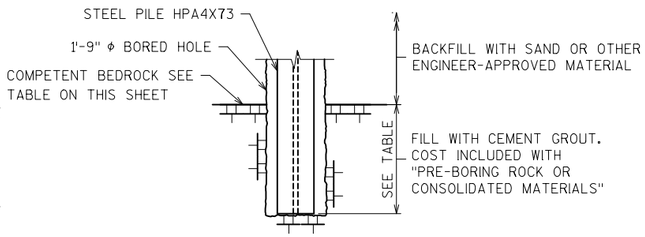
| PIER | COMPETENT BEDROCK EL |
|---|---|
| 1 | 746.60 |
| 2 | 746.60 |
| 3 | 742.30 |
| 4 | 742.00 |




PA607




UPLIFT CONNECTION DETAIL




DETAIL FOR PILE ANCHOR IN ROCK

## FOOTING BILL OF BARS

ALL BARS ARE UNCOATED

| BAR MARK | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|
| PA1101 | 145 | 34'-8" | | | PIERS 1, 2, 4 FOOTING BOT. LONGIT. |
| PA702 | 89 | 34'-8" | | | PIERS 1, 2, 4 FOOTING TOP LONGIT. |
| PA1103 | 167 | 17'-8" | | | PIERS 1, 2, 4 FOOTING BOT. TRANS. |
| PA704 | 114 | 17'-8" | | | PIERS 1, 2, 4 FOOTING TOP TRANS. |
| PA1105 | 52 | 20'-8" | | | PIER 3 FOOTING BOT. TRANS. |
| PA706 | 40 | 20'-8" | | | PIER 3 FOOTING TOP TRANS. |
| PA607 | 272 | 9'-0" | X | | PIERS 1-4 FOOTING PILE UPLIFT BAR |

TOTAL WEIGHT= 63,890 LB

## LEGEND

(#) INDICATES PILE NUMBER

PREBORING WITH UPLIFT CONNECTION

## NOTES

THE ESTIMATED ELEVATIONS OF BEDROCK ARE BASED ON THE AVAILABLE BORING INFORMATION. HARD PRE-BORING MAY BE REQUIRED ABOVE OR BELOW THE ESTIMATED COMPETENT BEDROCK ELEVATIONS BECAUSE OF VARIABILITY IN THE ELEVATION AND WEATHERING OF THE BEDROCK AND THE POSSIBILITY OF PRESENCE OF COBBLES OR BOULDERS.

FOR PILE SPLICE DETAILS SEE "PIERS 5-8 FOOTING PILE LAYOUT".

## PILE NOTE

PIERS ARE TO BE SUPPORTED ON HPA4X73 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE PER PILE AS SHOWN IN THE TABLE ON THIS SHEET AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. PILES SUBJECT TO UPLIFT LOADS ARE PRE-BORED AND SOCKETED INTO SOLID ROCK, AND THESE PILES ARE NOT DRIVEN. ALL PILES THAT ARE NOT PREBORED REQUIRE PILE POINTS. SEE TABLE ON THIS SHEET FOR ROCK EMBEDMENT LENGTHS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. JCF

PIERS 1-4 FOOTING PILE LAYOUT

SHEET 31 OF 95
528

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DATE: 4/11/2016

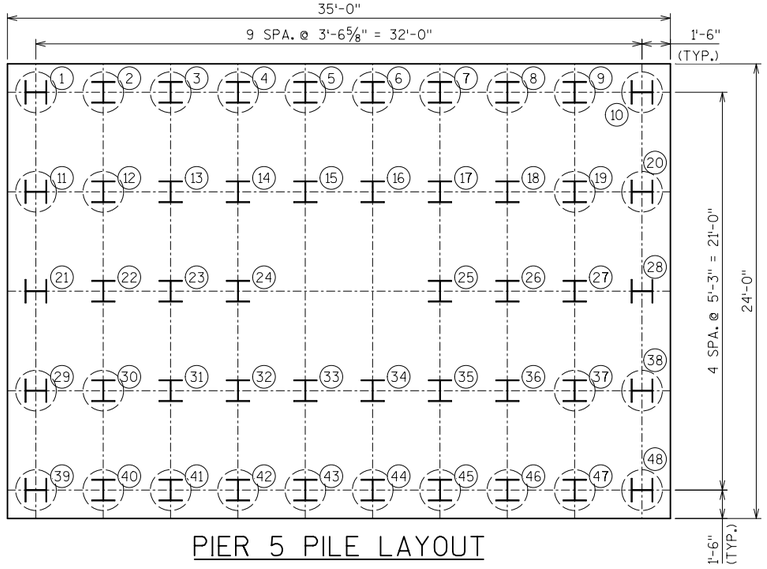
I.D.

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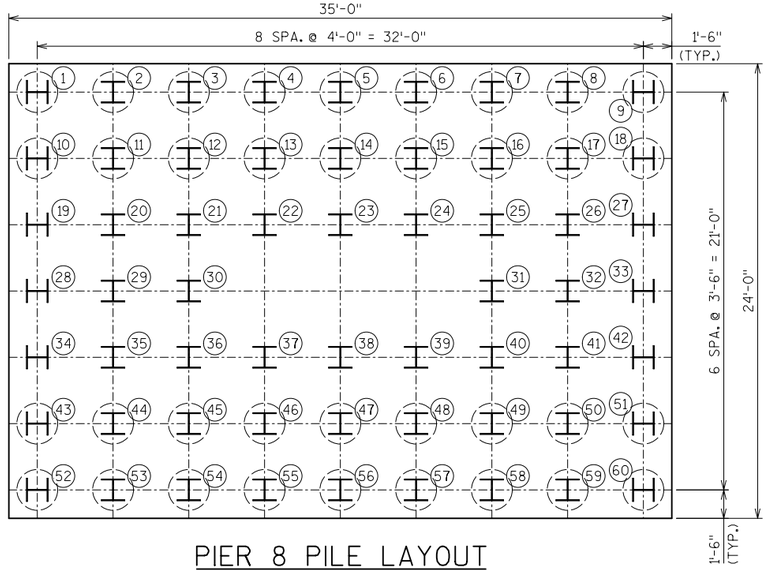
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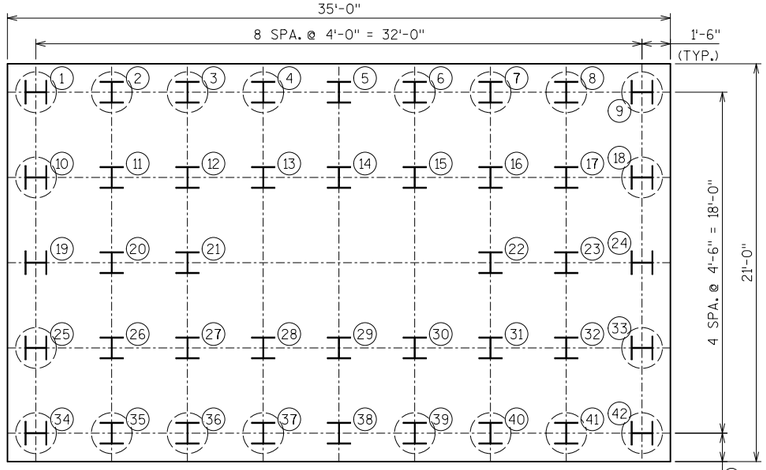
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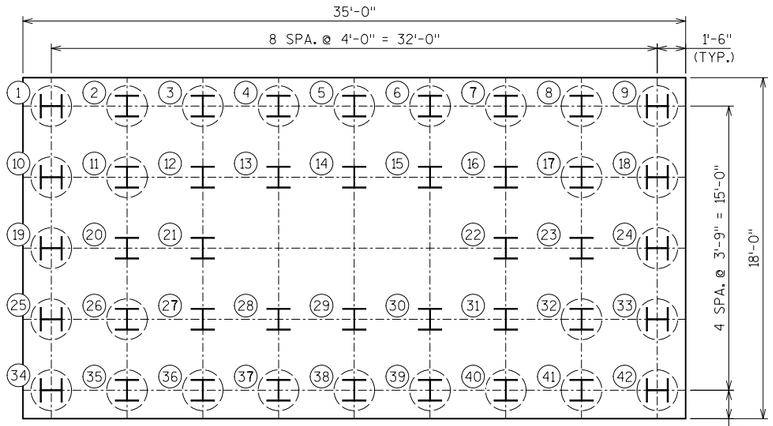

PIER 5 PILE LAYOUT



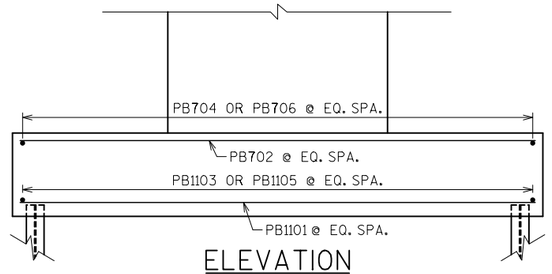

PIER 8 PILE LAYOUT



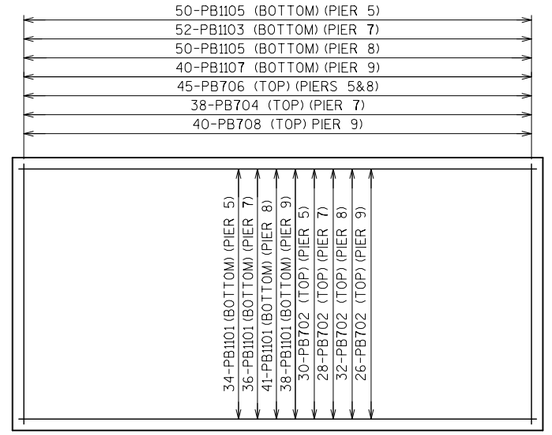

PIER 7 PILE LAYOUT




PIER 9 PILE LAYOUT




ELEVATION




PLAN

FOOTING REINFORCING

## FOOTING BILL OF BARS

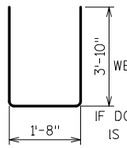
ALL BARS ARE UNCOATED

| BAR MARK | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|
| PB1101 | 149 | 34'-8" | | | PIERS 5,7-9 FOOTING BOT. LONGIT. |
| PB702 | 116 | 34'-8" | | | PIERS 5, 7-9 FOOTING TOP LONGIT. |
| PB1103 | 52 | 20'-8" | | | PIER 7 FOOTING BOT. TRANS. |
| PB704 | 38 | 20'-8" | | | PIERS 7 FOOTING TOP TRANS. |
| PB1105 | 100 | 23'-8" | | | PIERS 5, 8 FOOTING BOT. TRANS. |
| PB706 | 90 | 23'-8" | | | PIERS 5, 8 FOOTING TOP TRANS. |
| PB1107 | 40 | 17'-8" | | | PIER 9 FOOTING BOT. TRANS. |
| PB708 | 40 | 17'-8" | | | PIER 9 FOOTING TOP TRANS. |
| PB609 | 220 | 9'-0" | X | | PIERS 5, 7-9 FOOTING PILE UPLIFT BAR |

TOTAL WEIGHT= 68,080 LB

## PILE PRE-BORING & UPLIFT CONNECTION TABLE

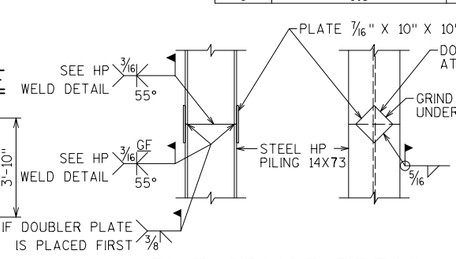
| PIER | 3'-6" EMBED. PILES WITH UPLIFT CONNECTION | 3'-0" EMBED. PILES WITH UPLIFT CONNECTION | UPLIFT CONNECTION ONLY |
|---|---|---|---|
| 5 | 1-3, 8-10, 39-41, 46-49 | 4-7, 11,12, 19, 20, 29, 30, 37, 38, 42-45 | -- |
| 7 | -- | 1-3, 7-10, 18, 25, 33-36, 40-42 | -- |
| 8 | 1-4, 6-9, 52-55, 57-60 | 5, 10-18, 43-51, 56 | -- |
| 9 | 1-4, 6-9, 34-37, 39-42 | 5, 10, 11, 17-19, 24-26, 32, 33, 38 | -- |



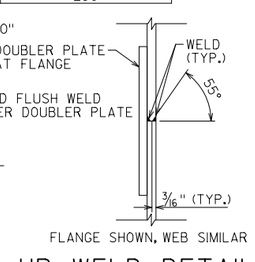

PB609

## ESTIMATED PILE LENGTH AND RESISTANCE

| PIER | ESTIMATED DRIVEN PILE LENGTH (FEET) | REQUIRED DRIVING RESISTANCE |
|---|---|---|
| 5 | 7 | 235 |
| 7 | 10 | 220 |
| 8 | 9 | 220 |
| 9 | 9.5 | 250 |




PILE SPLICE DETAIL




HP WELD DETAIL

## COMPETENT BEDROCK TABLE

| PIER | COMPETENT BEDROCK EL |
|---|---|
| 5 | 740.00 |
| 7 | 739.70 |
| 8 | 739.70 |
| 9 | 741.00 |

## LEGEND

(#) INDICATES PILE NUMBER

PREBORING WITH UPLIFT CONNECTION

## NOTES

THE ESTIMATED ELEVATIONS OF BEDROCK ARE BASED ON THE AVAILABLE BORING INFORMATION. HARD PRE-BORING MAY BE REQUIRED ABOVE OR BELOW THE ESTIMATED COMPETENT BEDROCK ELEVATIONS BECAUSE OF VARIABILITY IN THE ELEVATION AND WEATHERING OF THE BEDROCK AND THE POSSIBILITY OF PRESENCE OF COBBLES OR BOULDERS.

FOR UPLIFT CONNECTION AND PILE ANCHOR DETAILS SEE "PIERS 1-4 FOOTING PILE LAYOUT".

## PILE NOTE

PIERS ARE TO BE SUPPORTED ON HP14X73 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE PER PILE AS SHOWN IN THE TABLE ON THIS SHEET AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. PILES SUBJECT TO UPLIFT LOADS ARE PRE-BORED AND SOCKETED INTO SOLID ROCK, AND THESE PILES ARE NOT DRIVEN. ALL PILES THAT ARE NOT PREBORED REQUIRE PILE POINTS. SEE TABLE ON THIS SHEET FOR ROCK EMBEDMENT LENGTHS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. JCF

PIERS 5, 7-9 FOOTING PILE LAYOUT

SHEET 32 OF 35
529

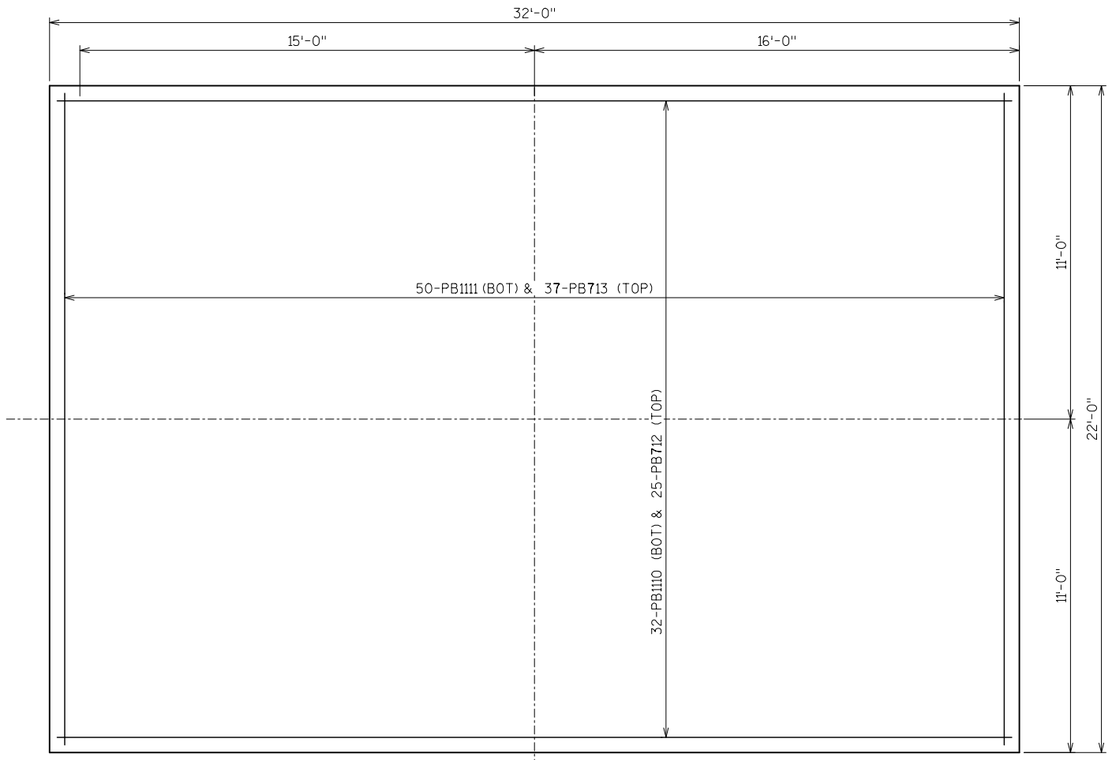
DATE: 4/11/2016
I.D.

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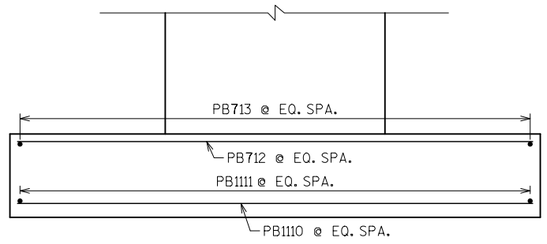
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8

| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |




PIER 6 FOOTING LAYOUT




ELEVATION

## FOOTING BILL OF BARS

ALL BARS ARE UNCOATED

| BAR MARK | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|
| PB1110 | 32 | 31'-8" | | | PIER 6 FOOTING BOT. LONGIT. |
| PB1111 | 50 | 31'-8" | | | PIER 6 FOOTING TOP LONGIT. |
| PB712 | 25 | 21'-8" | | | PIER 6 FOOTING BOT. TRANS. |
| PB713 | 37 | 21'-8" | | | PIER 6 FOOTING TOP TRANS. |

TOTAL WEIGHT= 16,550 LB

## FOUNDATION NOTE

PIER 6 TO BE SUPPORTED ON A CONCRETE SEAL POURED ON SOUND BEDROCK WITH A REQUIRED FACTORED BEARING RESISTANCE OF 20,000 PSF. A GEOTECHNICAL ENGINEER, WITH THREE DAYS NOTICE, WILL DETERMINE THE FACTORED BEARING RESISTANCE BY VISUAL INSPECTION (IF BEDROCK CAN BE MADE VISIBLE) PRIOR TO CONSTRUCTION OF THE PIER FOOTING.

PRIOR TO POURING OF CONCRETE SEAL, BEDROCK SHALL BE CLEARED OF ALL LOOSE STONES AND SOILS. COST IS INCIDENTAL TO "CONCRETE MASONRY SEAL".

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. JCF

PIER 6 SPREAD FOOTING LAYOUT

SHEET 33 OF 95
530

DATE: 4/11/2016
I.D.

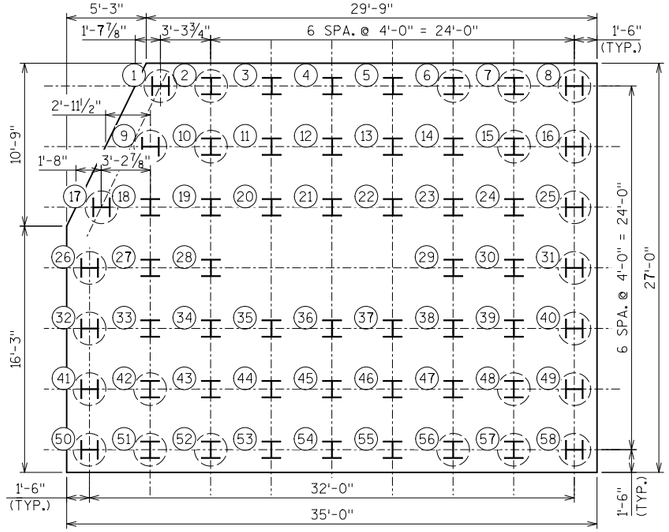
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STATE PROJECT NUMBER

1517-07-77




## PIER 11 PILE LAYOUT

## NOTES

THE ESTIMATED ELEVATIONS OF BEDROCK ARE BASED ON THE AVAILABLE BORING INFORMATION. HARD PRE-BORING MAY BE REQUIRED ABOVE OR BELOW THE ESTIMATED COMPETENT BEDROCK ELEVATIONS BECAUSE OF VARIABILITY IN THE ELEVATION AND WEATHERING OF THE BEDROCK AND THE POSSIBILITY OF PRESENCE OF COBBLES OR BOULDERS.

FOR UPLIFT CONNECTION AND PILE ANCHOR DETAILS SEE "PIERS 1-4 FOOTING PILE LAYOUT".

FOR PILE SPLICE DETAILS SEE "PIERS 5, 7-9 FOOTING PILE LAYOUT".

## FOOTING BILL OF BARS

ALL BARS ARE UNCOATED

| BAR MARK | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|
| PC1101 | 119 | 34'-8" | | | PIERS 10, 12, 13 FOOTING BOT. LONGIT. |
| PC702 | 102 | 34'-8" | | | PIERS 10, 12, 13 FOOTING TOP LONGIT. |
| PC1103 | 162 | 23'-8" | | | PIERS 10, 12, 13 FOOTING BOT. TRANS. |
| PC704 | 126 | 23'-8" | | | PIERS 10, 12, 13 FOOTING TOP TRANS. |
| PC1105 | 10 | 21'-3" | | X | PIER 11 FOOTING BOT. TRANS. |
| PC1106 | 53 | 26'-8" | | | PIER 11 FOOTING BOT. TRANS. |
| PC707 | 7 | 21'-4" | | X | PIER 11 FOOTING TOP TRANS. |
| PC708 | 34 | 26'-8" | | | PIER 11 FOOTING TOP TRANS. |
| PC1109 | 19 | 31'-11" | | X | PIER 11 FOOTING BOT. LONGIT. |
| PC1110 | 25 | 34'-8" | | | PIER 11 FOOTING BOT. LONGIT. |
| PC711 | 15 | 31'-11" | | X | PIER 11 FOOTING TOP. LONGIT. |
| PC712 | 19 | 34'-8" | | | PIER 11 FOOTING TOP. LONGIT. |
| PC613 | 274 | 9'-0" | X | | PIERS 10-13 FOOTING PILE UPLIFT BAR |
| PC767 | 2 | 18'-3" | | | PIER 11 FOOTING DIAG. TOP AND BOT. |

TOTAL WEIGHT= 80,340 LB

## ESTIMATED PILE LENGTH AND RESISTANCE

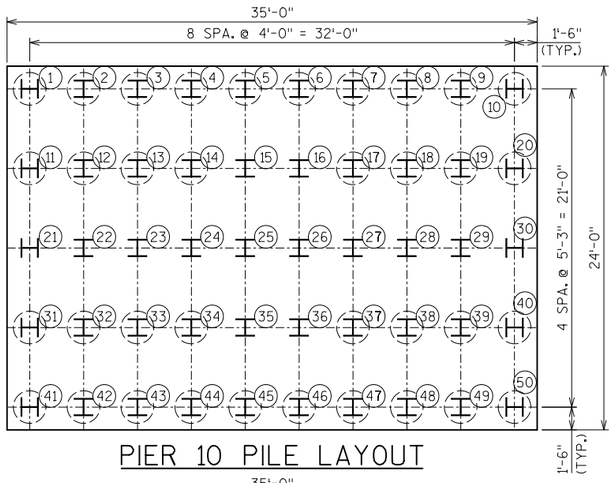
| PIER | ESTIMATED DRIVEN PILE LENGTH (FEET) | REQUIRED DRIVING RESISTANCE |
|---|---|---|
| 10 | 10.5 | 240 |
| 11 | 6 | 205 |
| 12 | 10.5 | 205 |
| 13 | 9.5 | 220 |

## PILE PRE-BORING & UPLIFT CONNECTION TABLE

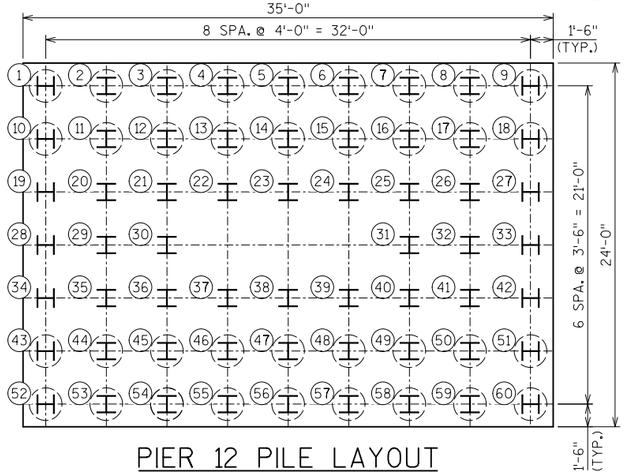
| PIER | 3'-6" EMBED. PILES WITH UPLIFT CONNECTION | 3'-0" EMBED. PILES WITH UPLIFT CONNECTION | UPLIFT CONNECTION ONLY |
|---|---|---|---|
| 10 | 1-3, 8-10, 41-43, 48-50 | 4-7, 11-20, 31-40, 44-47 | -- |
| 11 | 1, 8, 50, 58 | 2, 6, 7, 9, 10, 15-17, 25, 26, 31, 32, 40-42, 48, 49, 51, 52, 56, 57 | -- |
| 12 | -- | 1-18, 43-60 | -- |
| 13 | 1, 2, 8, 9, 54, 55, 61, 62 | 3-7, 10-19, 27, 28, 35, 36, 44-53, 56-60 | -- |

## COMPETENT BEDROCK TABLE

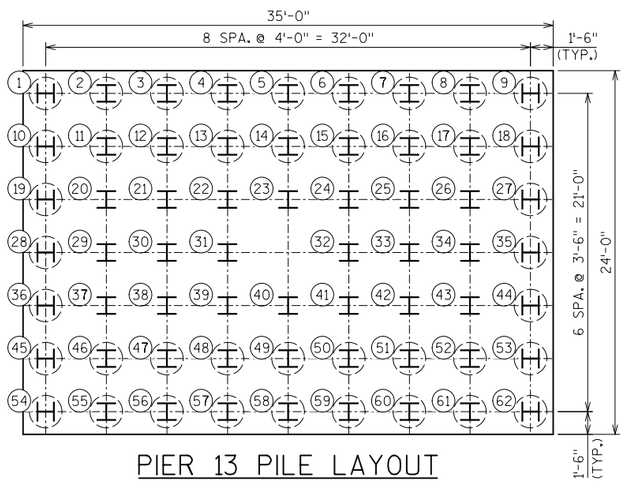
| PIER | COMPETENT BEDROCK EL |
|---|---|
| 10 | 741.00 |
| 11 | 742.00 |
| 12 | 737.80 |
| 13 | 736.90 |




## PIER 10 PILE LAYOUT



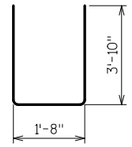

## PIER 12 PILE LAYOUT



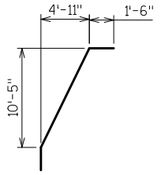

## PIER 13 PILE LAYOUT

## BAR SERIES TABLE

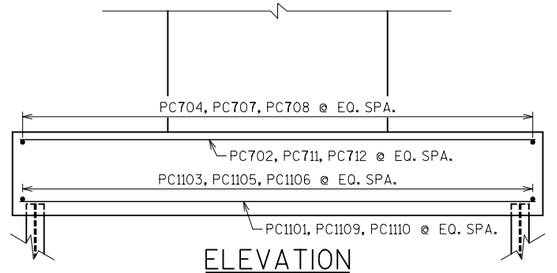
| BAR MARK | NO. REQ'D | LENGTH |
|---|---|---|
| PC1105 | 1 SERIES OF 10 | 16'-1" TO 26'-5" |
| PC707 | 1 SERIES OF 7 | 16'-1" TO 26'-8" |
| PC1109 | 1 SERIES OF 19 | 29'-5" TO 34'-5" |
| PC711 | 1 SERIES OF 15 | 29'-5" TO 34'-5" |



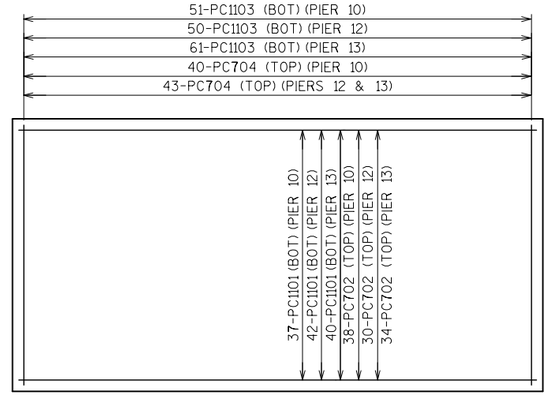

## PC613




## PC767

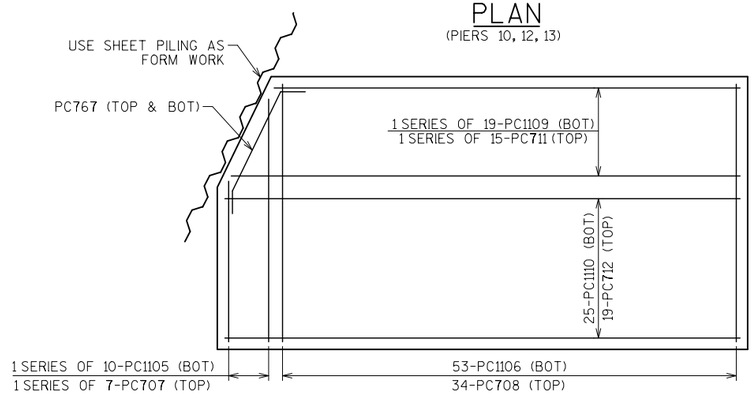



## ELEVATION




## PLAN

(PIERS 10, 12, 13)




## PLAN

(PIER 11)

## FOOTING REINFORCING

## LEGEND

(#) INDICATES PILE NUMBER

PREBORING WITH UPLIFT CONNECTION

## PILE NOTE

PIERS ARE TO BE SUPPORTED ON HP14X73 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE PER PILE AS SHOWN IN THE TABLE ON THIS SHEET AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION. PILES SUBJECT TO UPLIFT LOADS ARE PRE-BORED AND SOCKETED INTO SOLID ROCK, AND THESE PILES ARE NOT DRIVEN. ALL PILES THAT ARE NOT PREBORED REQUIRE PILE POINTS. SEE TABLE ON THIS SHEET FOR ROCK EMBEDMENT LENGTHS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

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PIERS 10-13 FOOTING PILE LAYOUT

SHEET 34 OF 85
531

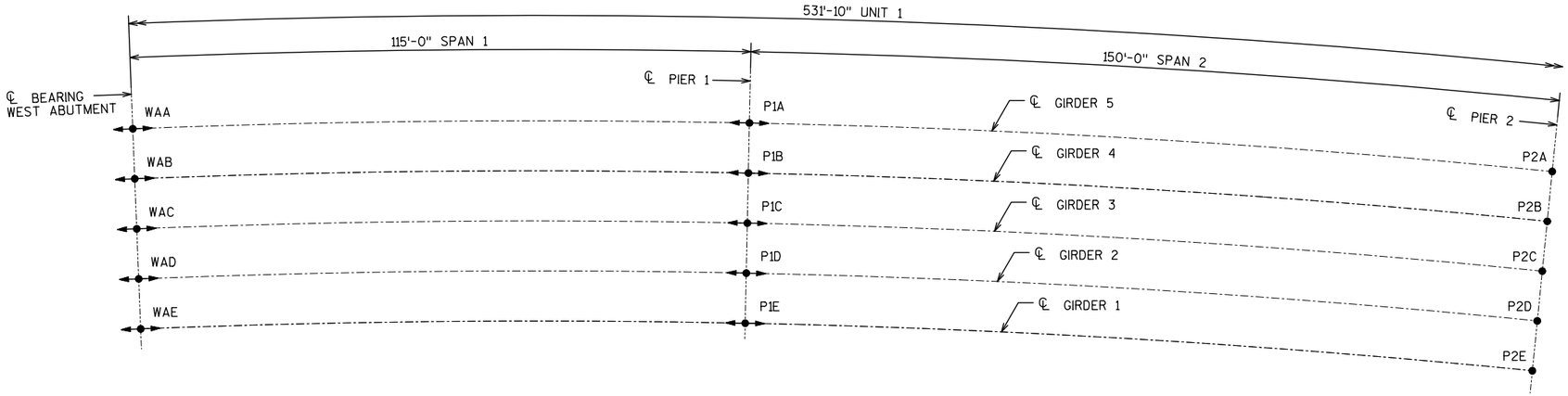
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I.D.

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| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |



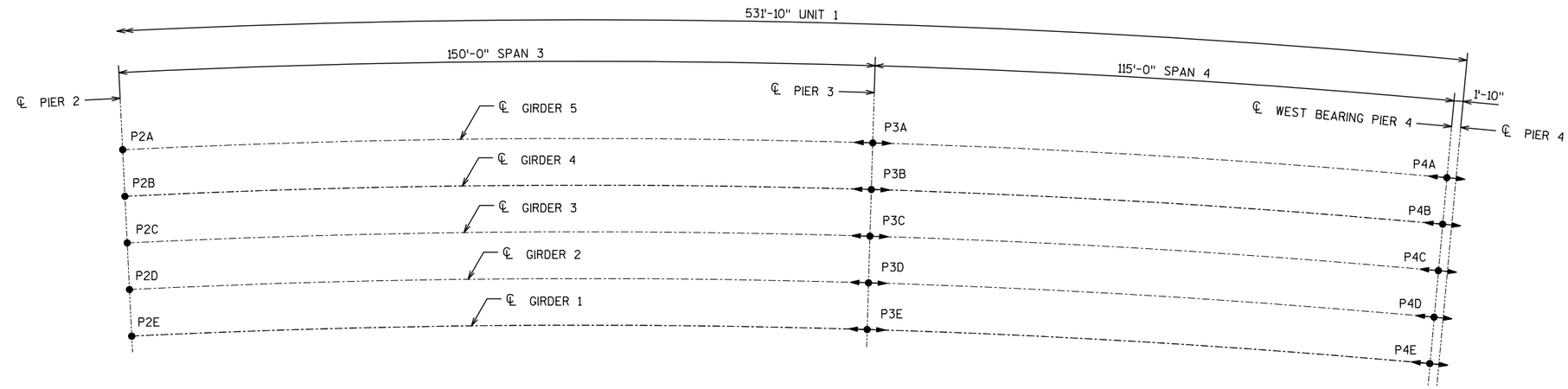

BEARING LAYOUT - UNIT 1- SPANS 1 & 2

## BEARING LEGEND

- MULTIROTATIONAL FIXED
- MULTIROTATIONAL UNIDERECTIONAL (GUIDED) ARROWHEADS DENOTE MOVEMENT DIRECTIONS.

## NOTE:

SEE BEARING DETAILS SHEET FOR TYPICAL BEARING DETAILS.




BEARING LAYOUT - UNIT 1- SPANS 3 & 4

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY EAN | PLANS CK'D. MJA

BEARING LAYOUT
UNIT 1

SHEET 35 OF 95
532

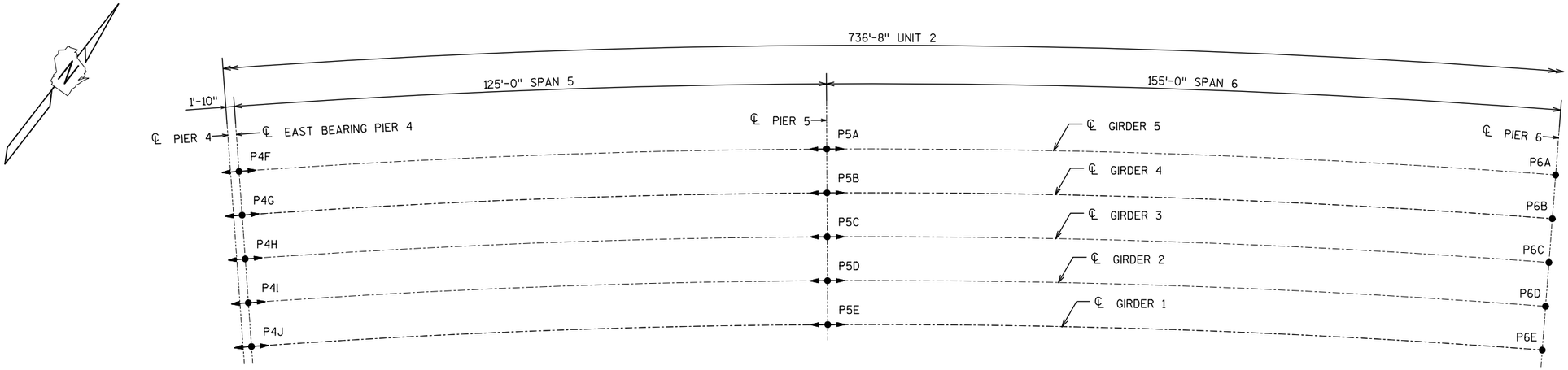
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8

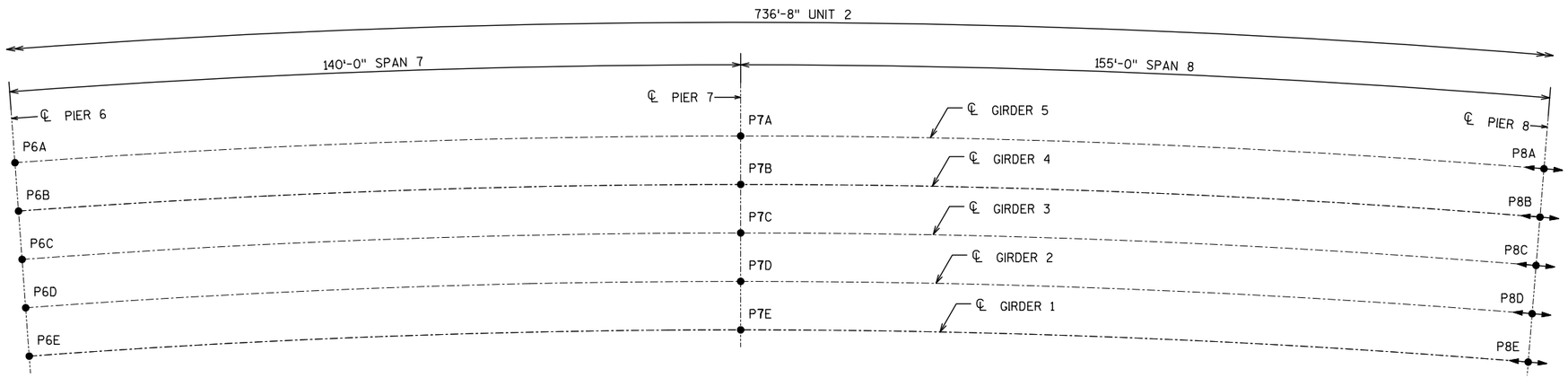
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DATE: 4/11/2016
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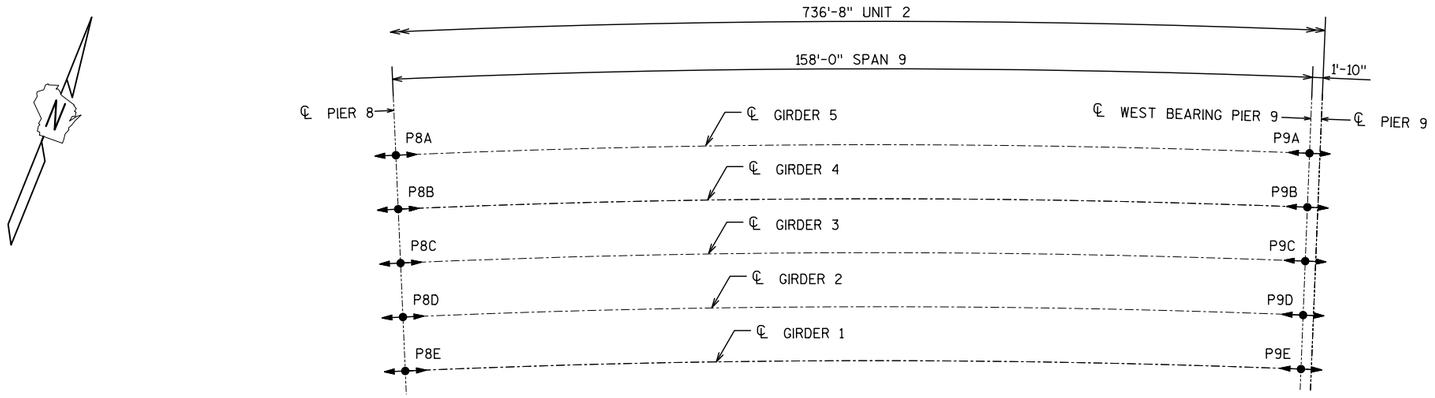
| STATE PROJECT NUMBER |
| --- |
| 1517-07-77 |




BEARING LAYOUT - UNIT 2 - SPANS 5 & 6




BEARING LAYOUT - UNIT 2 - SPANS 7 & 8




BEARING LAYOUT - UNIT 2 - SPAN 9

## BEARING LEGEND

- ● MULTIROTATIONAL FIXED
- ◆—◆ MULTIROTATIONAL UNIDERECTIONAL (GUIDED) ARROWHEADS DENOTE MOVEMENT DIRECTIONS.

## NOTES:

SEE BEARING DETAILS SHEET FOR TYPICAL BEARING DETAILS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY EAN | PLANS CK'D. MJA

BEARING LAYOUT
UNIT 2

SHEET 36 OF 85
533

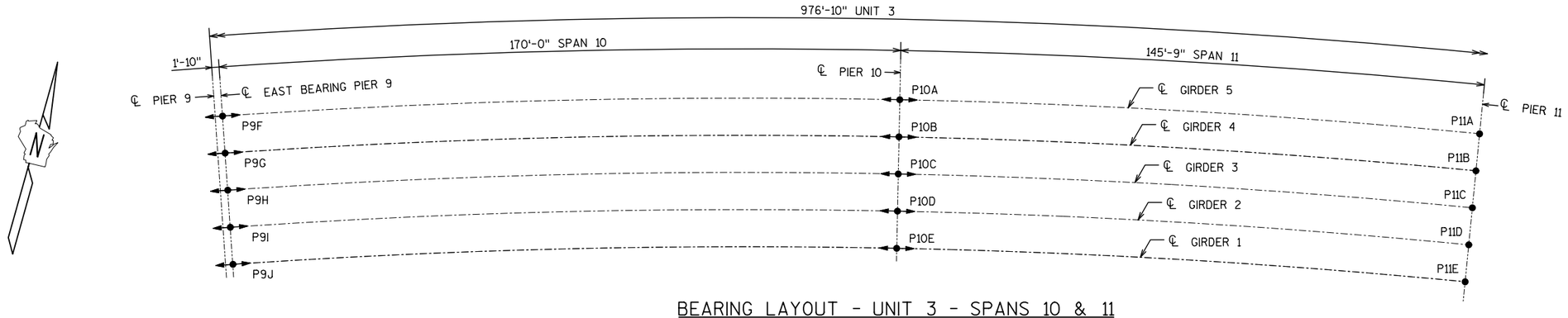
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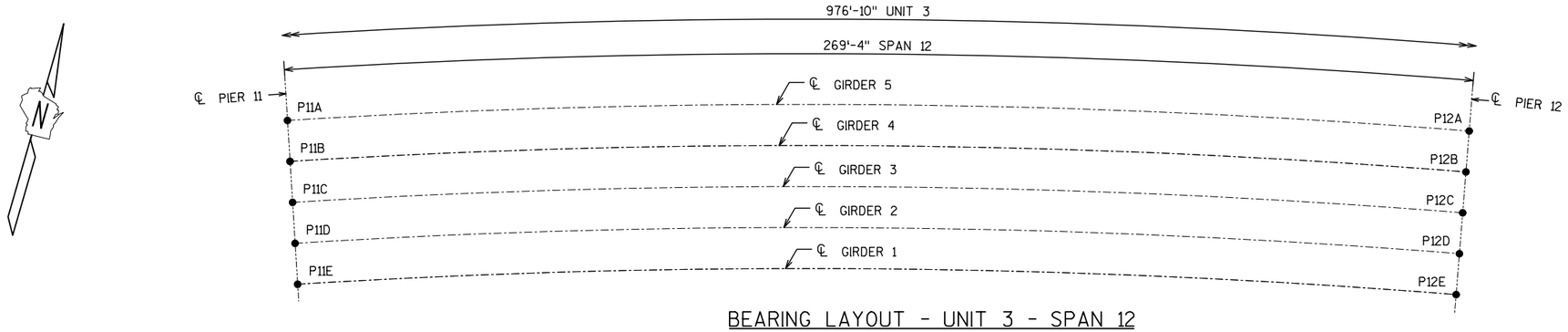
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| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |




BEARING LAYOUT - UNIT 3 - SPANS 10 & 11



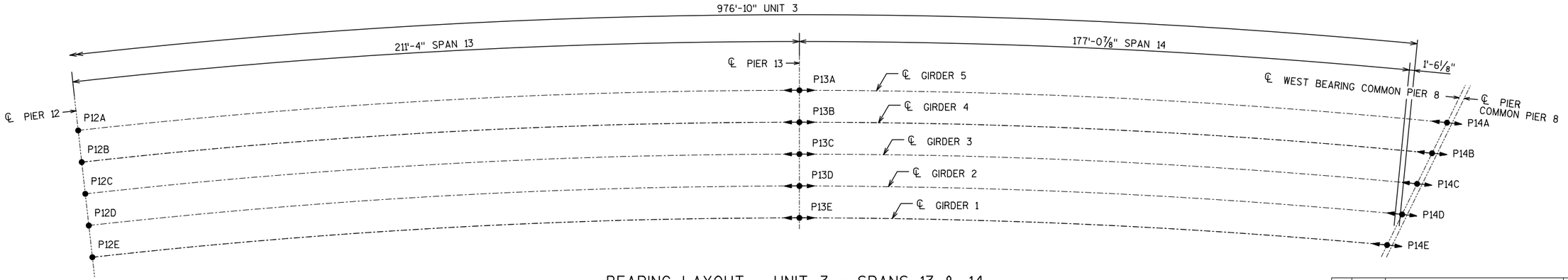

BEARING LAYOUT - UNIT 3 - SPAN 12

## BEARING LEGEND

- ● MULTIROTATIONAL FIXED
- ◄●► MULTIROTATIONAL UNIDERECTIONAL (GUIDED) ARROWHEADS DENOTE MOVEMENT DIRECTIONS.

## NOTES:

SEE BEARING DETAILS SHEET FOR TYPICAL BEARING DETAILS.




BEARING LAYOUT - UNIT 3 - SPANS 13 & 14

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY EAN | PLANS CK'D. MJA

BEARING LAYOUT
UNIT 3

SHEET 37 OF 95
534

DATE: 4/11/2016
I.D.

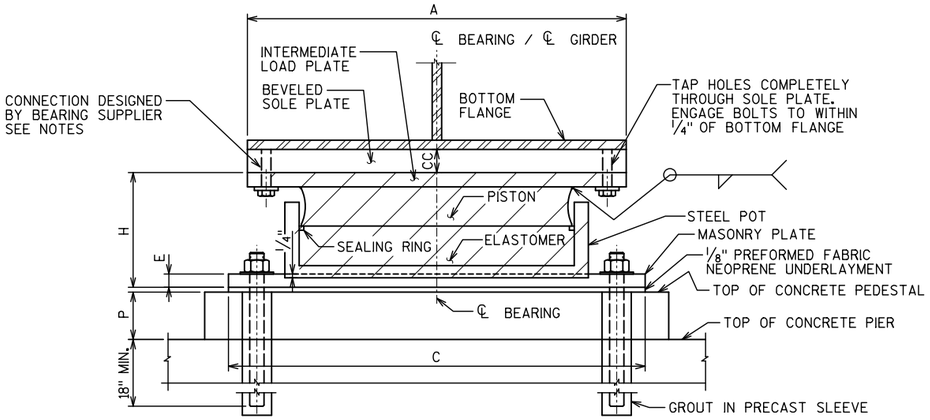
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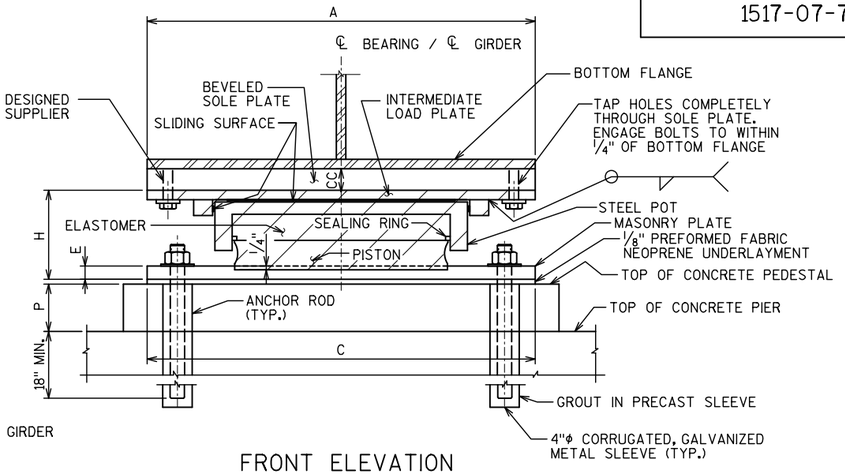
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STATE PROJECT NUMBER

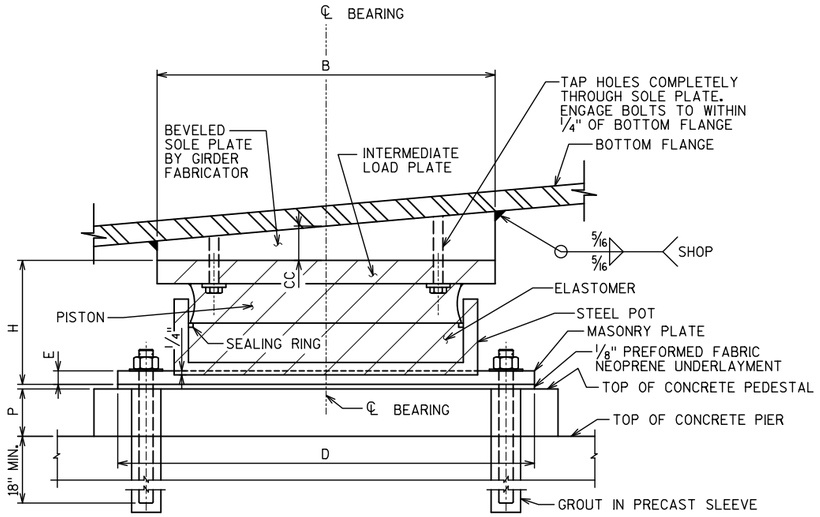
1517-07-77



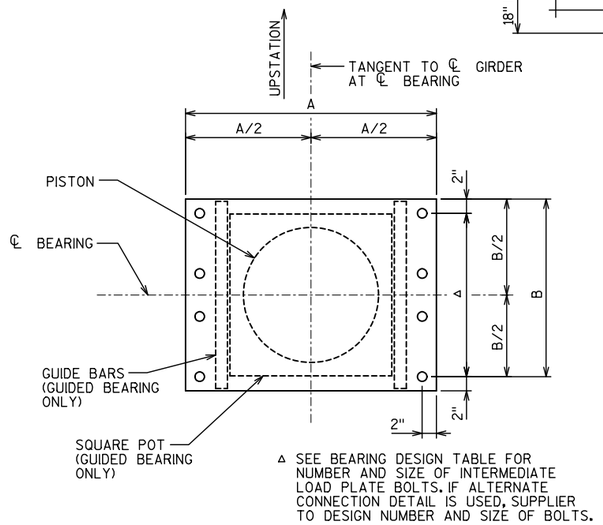

FRONT ELEVATION
FIXED BEARING
(LOOKING UPSTATION)




FRONT ELEVATION
GUIDED BEARING
(LOOKING UPSTATION)

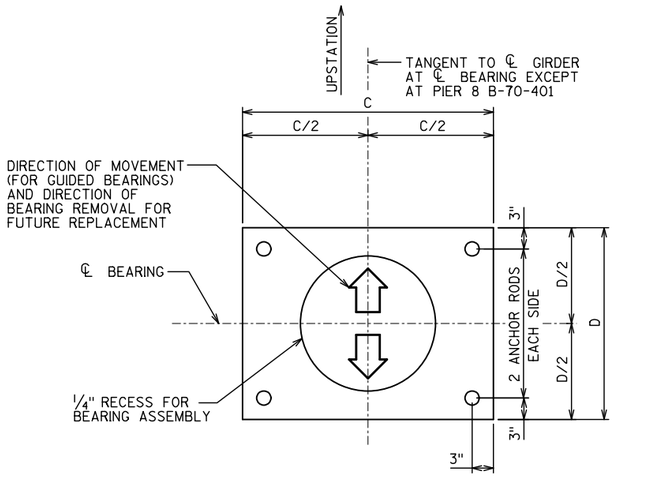



SIDE ELEVATION




△ SEE BEARING DESIGN TABLE FOR NUMBER AND SIZE OF INTERMEDIATE LOAD PLATE BOLTS. IF ALTERNATE CONNECTION DETAIL IS USED, SUPPLIER TO DESIGN NUMBER AND SIZE OF BOLTS.

PLAN - INTERMEDIATE LOAD PLATE
(BEVELED SOLE PLATE SIMILAR)




PLAN - MASONRY PLATE

## NOTES:

SEE DESIGN DATA SHEET FOR LOCATION-SPECIFIC DIMENSIONS.

DESIGN BOLTED CONNECTION BETWEEN BEVELED SOLE PLATE AND INTERMEDIATE LOAD PLATE FOR THE COMBINED SPECIFIED HORIZONTAL LOADS SHOWN ON THE DESIGN DATA SHEET 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. THE CONNECTION CONFIGURATION SHOWN FOR THE INTERMEDIATE LOAD PLATE IS ONE POSSIBLE OPTION.

IF SUPPLIER ELECTS TO USE A THROUGH-BOLTED INTERMEDIATE LOAD PLATE CONNECTION DETAIL, HOLES IN INTERMEDIATE LOAD 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 AND INTERMEDIATE LOAD PLATE ARE ALIGNED WITH THE GIRDER.

MASONRY PLATES ARE ALIGNED TO THE GIRDER AND SUBSTRUCTURE BELOW AT ALL LOCATIONS EXCEPT AT PIER 8, B-70-401 WHERE MASONRY PLATE IS SQUARE TO SUBSTRUCTURE.

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" AT ALL LOCATIONS.

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

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

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

A TECHNICAL REPRESENTATIVE FROM THE BEARING MANUFACTURER MUST BE PRESENT DURING INSTALLATION OF THE BEARINGS.

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY EAN | PLANS CK'D. MJA

BEARING DETAILS

SHEET 38 OF 95
535

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DATE: 4/11/2016
I.D.

STATE PROJECT NUMBER

1517-07-77

| | LOCATION | BEARING MARK | TYPE | SKEW ANGLE (DEGREES) | VERTICAL LOAD (KIPS) | | | | | | | | | | TRANSVERSE LOADS (KIPS) | | | | LONGITUDINAL LOADS** (KIPS) | | | | LONG. TEMP. MOVEMENT (FOR 90 DEGREES) (IN.) | TAPERED SOLE PLATE THICKNESS (IN.) | | | NOMINAL BEARING DIMENSIONS (IN.) | | | | | | ANCHOR BOLTS | | TOP CONN. BOLTS | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | DC | DW | WS | | WL | | CE | | LL+I | | WS | WL | TU | CE | WS | WL | TU | BR | | HA | HB | CC | A | B | C | D | E | H | NO. | DIA. (IN.) | NO. | DIA. (IN.) |
| Unit 1 | W. ABUT. | WAA THRU WAE | GUIDED | 0 | 73 | 7 | 11 | -32 | 2 | -2 | 7 | -7 | 103 | -21 | 7 | 1 | 3 | 4 | 20 | | | | 2.5 | 1.250 | 1.750 | 1.50 | 14.75 | 16.25 | 22.25 | 14.25 | 1.75 | 5.75 | 4 | 1 1/4 | 4 | 7/8 |
| | PIER 1 | P1A THRU P1E | GUIDED | 0 | 282 | 26 | 26 | -74 | 4 | -4 | 14 | -14 | 197 | -26 | 17 | 3 | 3 | 8 | 55 | | | | 1.7 | 1.250 | 1.875 | 1.56 | 21.00 | 21.25 | 27.88 | 19.88 | 1.75 | 7.00 | 4 | 1 1/4 | 4 | 7/8 |
| | PIER 2 | P2A THRU P2E | FIXED | 0 | 292 | 27 | 30 | -84 | 5 | -5 | 14 | -14 | 197 | -28 | 19 | 3 | 3 | 8 | 5 | 1 | 19 | 17 | - | 1.250 | 1.688 | 1.47 | 16.75 | 16.75 | 28.75 | 20.75 | 1.75 | 6.88 | 4 | 1 1/4 | 4 | 7/8 |
| | PIER 3 | P3A THRU P3E | GUIDED | 0 | 275 | 26 | 26 | -74 | 4 | -4 | 14 | -14 | 194 | -27 | 17 | 3 | 3 | 8 | 54 | | | | 1.7 | 1.250 | 1.750 | 1.50 | 21.00 | 21.25 | 27.88 | 19.88 | 1.75 | 7.00 | 4 | 1 1/4 | 4 | 7/8 |
| | PIER 4 UNIT 1 | P4A THRU P4E | GUIDED | 0 | 74 | 7 | 11 | -32 | 2 | -2 | 7 | -7 | 103 | -20 | 7 | 1 | 3 | 4 | 20 | | | | 2.5 | 1.250 | 1.563 | 1.41 | 14.75 | 16.25 | 22.25 | 14.25 | 1.75 | 5.75 | 4 | 1 1/4 | 4 | 7/8 |
| Unit 2 | PIER 4 UNIT 2 | P4F THRU P1J | GUIDED | 0 | 81 | 8 | 12 | -35 | 2 | -2 | 7 | -7 | 104 | -21 | 8 | 1 | 3 | 4 | 21 | | | | 4.0 | 1.250 | 1.625 | 1.44 | 16.00 | 18.75 | 23.25 | 15.25 | 1.75 | 5.88 | 4 | 1 1/4 | 4 | 7/8 |
| | PIER 5 | P5A THRU P5E | GUIDED | 0 | 302 | 28 | 28 | -78 | 5 | -5 | 14 | -14 | 198 | -26 | 18 | 3 | 3 | 8 | 58 | | | | 3.2 | 1.250 | 1.688 | 1.47 | 21.75 | 23.50 | 28.63 | 20.63 | 1.75 | 7.13 | 4 | 1 1/4 | 4 | 7/8 |
| | PIER 6 | P6A THRU P6E | FIXED | 0 | 280 | 26 | 29 | -82 | 5 | -5 | 14 | -14 | 200 | -36 | 19 | 3 | 3 | 8 | 5 | 1 | 13 | 17 | - | 1.250 | 1.500 | 1.38 | 16.75 | 16.75 | 28.75 | 20.75 | 1.75 | 6.88 | 4 | 1 1/4 | 4 | 7/8 |
| | PIER 7 | P7A THRU P7E | FIXED | 0 | 254 | 24 | 29 | -82 | 5 | -5 | 14 | -14 | 198 | -40 | 19 | 3 | 3 | 8 | 5 | 1 | 12 | 17 | - | 1.250 | 1.438 | 1.34 | 16.75 | 16.75 | 28.75 | 20.75 | 1.75 | 6.88 | 4 | 1 1/4 | 4 | 7/8 |
| | PIER 8 | P8A THRU P8E | GUIDED | 0 | 363 | 33 | 31 | -87 | 5 | -5 | 14 | -14 | 215 | -29 | 20 | 3 | 3 | 8 | 66 | | | | 2.4 | 1.250 | 1.438 | 1.34 | 23.00 | 23.25 | 29.50 | 21.50 | 1.75 | 7.50 | 4 | 1 1/4 | 4 | 1 |
| | PIER 9 UNIT 2 | P9A THRU P9E | GUIDED | 0 | 117 | 11 | 21 | -50 | 3 | -3 | 9 | -9 | 118 | -19 | 13 | 2 | 3 | 4 | 28 | | | | 3.5 | 1.250 | 1.313 | 1.28 | 16.75 | 19.00 | 24.00 | 16.00 | 1.75 | 6.25 | 4 | 1 1/4 | 4 | 7/8 |
| Unit 3 | PIER 9 UNIT 3 | P9F THRU P9J | GUIDED | 0 | 149 | 14 | 23 | -53 | 4 | -4 | 9 | -9 | 124 | -18 | 14 | 2 | 3 | 4 | 32 | | | | 4.5 | 1.250 | 1.313 | 1.28 | 17.75 | 21.00 | 25.00 | 17.00 | 1.75 | 6.38 | 4 | 1 1/4 | 4 | 7/8 |
| | PIER 10 | P10A THRU P10E | GUIDED | 0 | 297 | 27 | 42 | -99 | 7 | -7 | 18 | -18 | 221 | -55 | 26 | 3 | 3 | 8 | 61 | | | | 3.3 | 1.250 | 1.250 | 1.25 | 21.75 | 23.50 | 28.63 | 20.63 | 1.75 | 7.13 | 4 | 1 1/4 | 4 | 1 |
| | PIER 11 | P11A THRU P11E | FIXED | 0 | 490 | 41 | 56 | -131 | 9 | -9 | 18 | -18 | 257 | -56 | 35 | 4 | 3 | 8 | 8 | 1 | 29 | 17 | - | 1.313 | 1.250 | 1.28 | 21.25 | 21.25 | 33.25 | 25.25 | 1.75 | 7.75 | 4 | 1 1/4 | 8 | 7/8 |
| | PIER 12 | P12A THRU P12E | FIXED | 0 | 527 | 45 | 65 | -151 | 10 | -10 | 18 | -18 | 263 | -55 | 40 | 5 | 3 | 8 | 10 | 2 | 21 | 17 | - | 1.438 | 1.250 | 1.34 | 21.25 | 21.25 | 33.25 | 25.25 | 1.75 | 7.75 | 4 | 1 1/4 | 8 | 7/8 |
| | PIER 13 | P13A THRU P13E | GUIDED | 0 | 424 | 38 | 52 | -122 | 8 | -8 | 18 | -18 | 246 | -40 | 32 | 4 | 3 | 8 | 79 | | | | 3.1 | 1.500 | 1.250 | 1.38 | 24.25 | 25.25 | 30.75 | 22.75 | 1.75 | 7.88 | 4 | 1 1/4 | 8 | 7/8 |
| | PIER 14 (PIER 8 B-70-401) | P14A THRU P14E | GUIDED | 20.67 | 130 | 13 | 16 | -48 | 5 | -5 | 12 | -12 | 117 | -25 | 12 | 2 | 3 | 6 | 29 | | | | 4.4 | 1.438 | 1.250 | 1.34 | 16.75 | 19.75 | 24.00 | 16.00 | 1.75 | 6.25 | 4 | 1 1/4 | 4 | 7/8 |

NEGATIVE VALUES GIVEN ACT IN UPWARD DIRECTION

** EXPANSION PIER LONGITUDINAL FORCE LIMITED TO 0.1 FRICTION COEF. TIMES MAX. VERT. LOAD

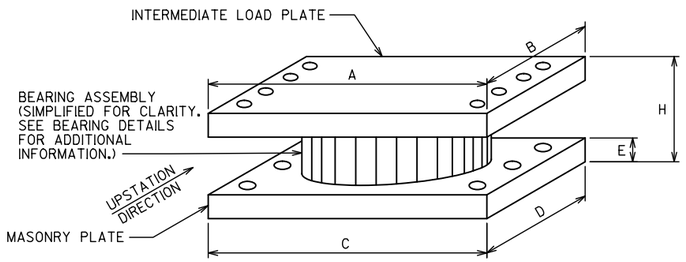
## NOTES:

SEE BEARING DETAILS SHEET FOR TYPICAL BEARING DETAILS.

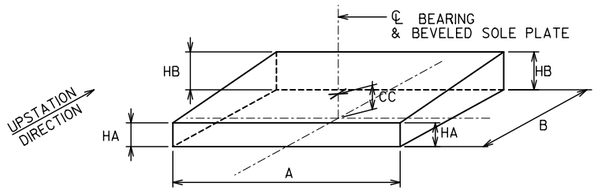
BEARING DIMENSIONS SHOWN ARE NOMINAL VALUES ONLY AND MAY VARY WITH THE SELECTED MANUFACTURER. IF BEARING DIMENSIONS VARY FROM THOSE SHOWN HERE, THE BEARING MANUFACTURER SHALL COORDINATE WITH THE STEEL GIRDER FABRICATOR TO ASSURE THERE ARE NO CONFLICTS WITH STEEL ELEMENTS. THE STEEL GIRDER FABRICATOR 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.

MAXIMUM SERVICE LOAD ROTATION IS 0.0003 RADIANS. 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 |
|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

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BEARING DESIGN DATA

SHEET 39 OF 85
536

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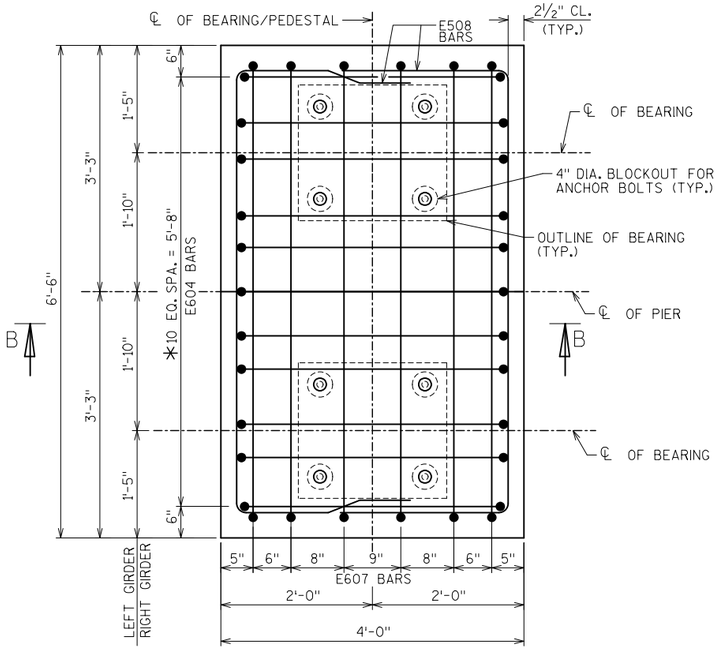
DATE: 4/11/2016
I.D.

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STATE PROJECT NUMBER

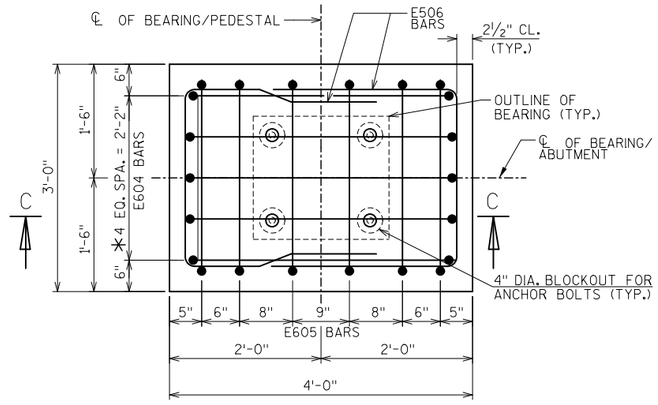
1517-07-77




PLAN

(PIER PEDESTAL - PIER 4)

✳ ADJUST SPA. TO MISS ANCHOR BOLT BLOCKOUTS




PLAN

(WEST ABUTMENT PEDESTAL)

✳ ADJUST SPA. TO MISS ANCHOR BOLT BLOCKOUTS

## NOTES:

1. FOR ANCHOR GROUT SLEEVE USE HIGH MODULUS FLOWABLE EPOXY RESIN GROUT,

   SIKADUR 42 GROUT-PAK
   W. R. MEDOWS REZI-WELD EPOXY GROUT GROUT
   L. & M. CONSTRUCTION CHEMICALS, INC., EPOXY GROUT 758

   OR APPROVED EQUAL. GROUT SLEEVE AND GROUT WILL BE CONSIDERED INCIDENTAL TO THE COST OF "MODIFIED HIGH PERFORMANCE CONCRETE (HPC) MASONRY BRIDGES".

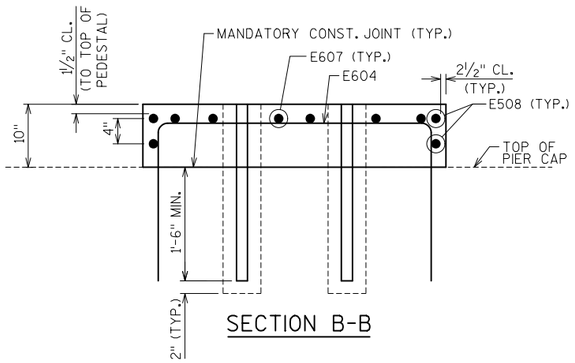
2. ADJUST TOP OF PEDESTAL ELEVATIONS IF ACTUAL BEARING THICKNESSES ARE DIFFERENT THAN THOSE SHOWN ON SHEET 39.

3. THE BLOCKOUT HOLES MUST BE PROTECTED FROM WATER ENTERING INTO THE HOLES PRIOR TO INSTALLING ANCHOR BOLT AND GROUTING.

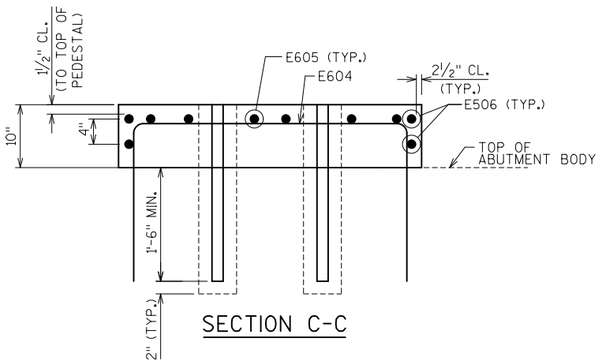
4. CONSTRUCT TOP BEARING SURFACE OF CONCRETE PEDESTALS IN STRICT ACCORDANCE WITH AASHTO CONSTRUCTION SPECIFICATIONS, SECTION 8.10.5. THE CONTRACTOR WILL CORRECT ANY VARIANCE FROM THE CONSTRUCTION SPECIFICATION AT THE DIRECTION OF THE ENGINEER.

5. THE TOP OF THE 4" DIAMETER BLOCKOUT FORMS MUST BE BELOW THE BEARING SURFACE PRIOR TO PLACEMENT OF THE BEARING.

6. ANCHOR BOLT BLOCKOUT TO BE CONSTRUCTED OF CORRUGATED STEEL, GALVANIZED PER ASTM A123. COST OF ANCHOR BOLT BLOCKOUTS INCLUDED WITH BID ITEM "MODIFIED HIGH PERFORMANCE CONCRETE (HPC) MASONRY BRIDGES."




SECTION B-B



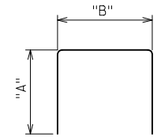

SECTION C-C

## BILL OF BARS

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

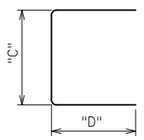
| BAR MARK | NO. REQ'D | LENGTH | BENT | LOCATION |
|---|---|---|---|---|
| E601 | 440 | 8'-5" | X | PEDESTAL - AT PIERS 1-3, 5-8, 10-13 |
| E602 | 330 | 9'-4" | X | PEDESTAL - AT PIERS 1-3, 5-8, 10-13 |
| E503 | 220 | 9'-5" | X | PEDESTAL - AT PIERS 1-3, 5-8, 10-13 |
| E604 | 140 | 8'-4" | X | PEDESTAL - AT W. ABUT., PIERS 4 & 9 |
| E605 | 30 | 7'-5" | X | PEDESTAL - AT W. ABUT. |
| E506 | 20 | 7'-5" | X | PEDESTAL - AT W. ABUT. |
| E607 | 30 | 10'-11" | X | PEDESTAL - AT PIER 4 |
| E508 | 20 | 10'-11" | X | PEDESTAL - AT PIER 4 |
| E609 | 60 | 7'-11" | X | PEDESTAL - AT PIER 9 |
| E510 | 40 | 8'-1" | X | PEDESTAL - AT PIER 9 |

TOTAL WEIGHT= 16,370 LB




E601, E602, E604, E605, E607, E608

| MARK | "A" | "B" |
|---|---|---|
| E601 | 2'-7" | 3'-7" |
| E602 | 2'-7" | 4'-6" |
| E604 | 2'-7" | 3'-6" |
| E605 | 2'-7" | 2'-7" |
| E607 | 2'-7" | 6'-1" |
| E609 | 2'-7" | 3'-1" |




E503, E506, E508, E510

| MARK | "C" | "D" |
|---|---|---|
| E503 | 3'-6" | 3'-1" |
| E506 | 2'-6" | 2'-7" |
| E508 | 6'-0" | 2'-7" |
| E510 | 3'-0" | 2'-8" |

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

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BEARING PEDESTAL DETAILS 1

SHEET 40 OF 95
537

DATE: 4/11/2016
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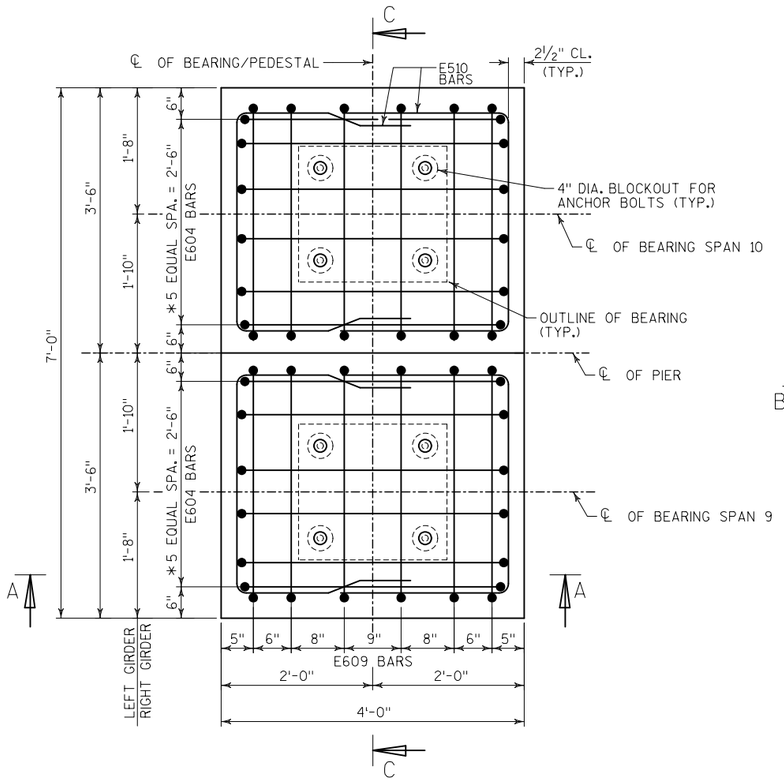
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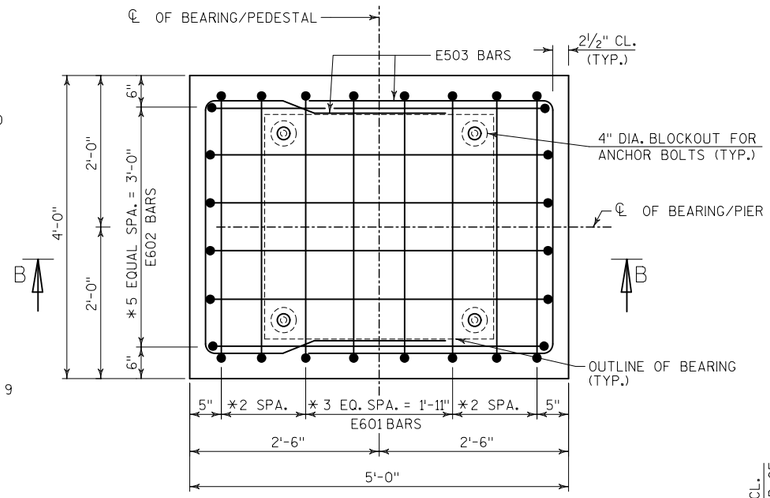
STATE PROJECT NUMBER

1517-07-77



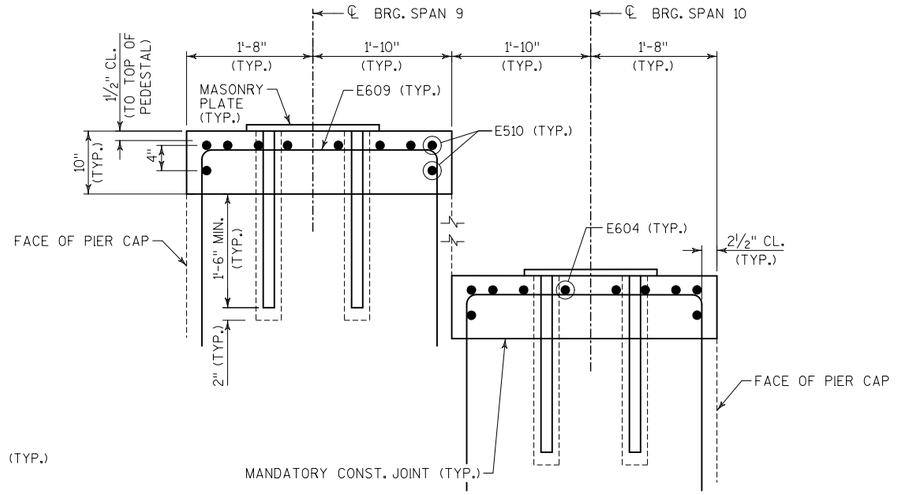

PLAN

(PIER PEDESTAL - PIER 9)
∗ ADJUST SPA. TO MISS ANCHOR BOLT BLOCKOUTS

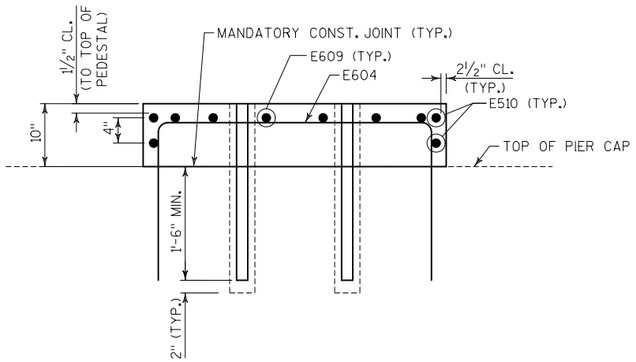



PLAN

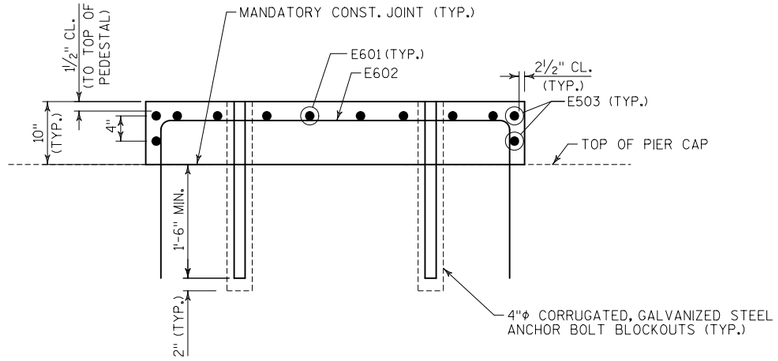
(PIER PEDESTAL - PIERS 1-3, 5-8, 10-13)
∗ ADJUST SPA. TO MISS ANCHOR BOLT BLOCKOUTS




SECTION C-C




SECTION A-A




SECTION B-B

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

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BEARING PEDESTAL DETAILS 2

SHEET 41 OF 95
538

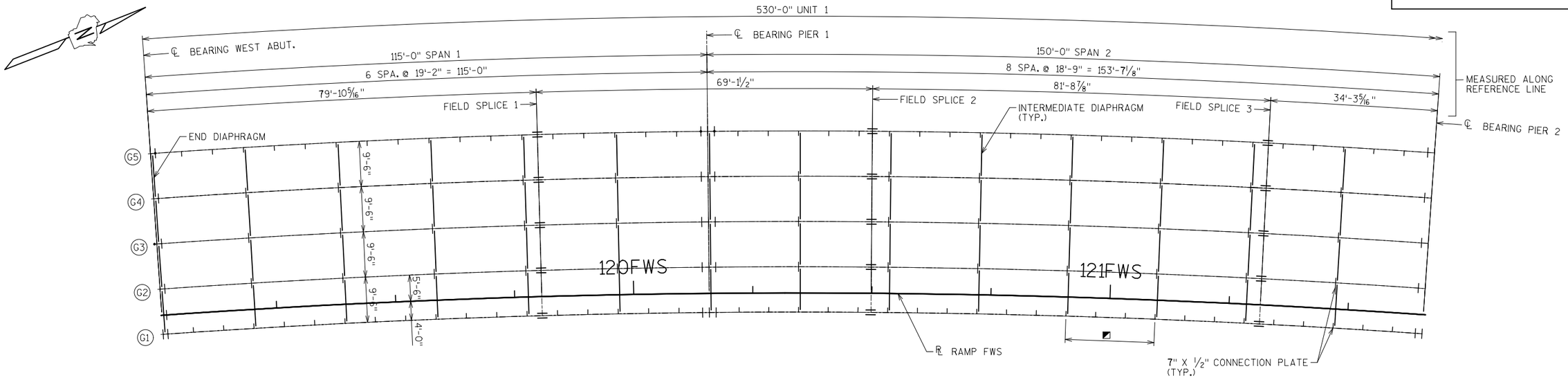
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I.D.

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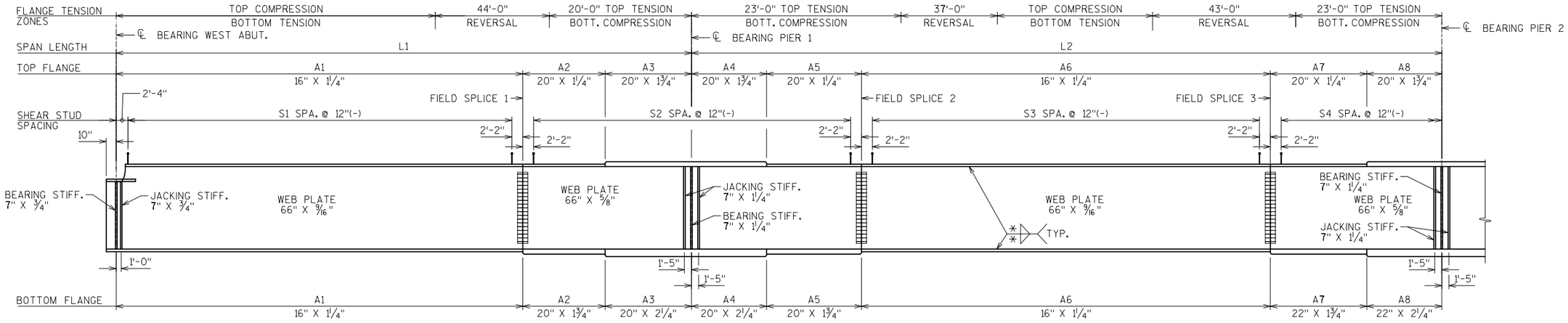
8

8

| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |




## FRAMING PLAN




## TABLE OF VARIABLES

| LOCATION | RADIUS | L1 | L2 | A1 | A2 | A3 | A4 | A5 | A6 | A7 | A8 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| G1 | 1896' -0" | 114' -9⅛" | 149' -8¼" | 79' -8¼" | 17' -10¼" | 17' -2½" | 14' -11⅝" | 18' -11¼" | 81' -6⅞" | 19' -2⅞" | 14' -11⅝" |
| G2 | 1905' -6" | 115' -4" | 150' -5¼" | 80' -1⅛" | 17' -11⅜" | 17' -3½" | 15' -0½" | 19' -0⅜" | 81' -11¾" | 19' -4" | 15' -0½" |
| G3 | 1915' -0" | 115' -10⅞" | 151' -2¼" | 80' -5⅞" | 18' -0½" | 17' -4⅝" | 15' -1½" | 19' -1½" | 82' -4⅝" | 19' -5⅛" | 15' -1⅜" |
| G4 | 1924' -6" | 116' -5¾" | 151' -11¼" | 80' -10⅝" | 18' -1½" | 17' -5⅝" | 15' -2⅜" | 19' -2⅝" | 82' -9½" | 19' -6¼" | 15' -2⅜" |
| G5 | 1934' -0" | 117' -0¾" | 152' -8¼" | 81' -3½" | 18' -2⅝" | 17' -6⅝" | 15' -3¼" | 19' -3⅞" | 83' -2½" | 19' -7½" | 15' -3¼" |

| LOCATION | S1 | S2 | S3 | S4 |
|---|---|---|---|---|
| G1 | 76 | 65 | 78 | 65 |
| G2 | 76 | 65 | 78 | 65 |
| G3 | 76 | 66 | 79 | 66 |
| G4 | 77 | 66 | 79 | 66 |
| G5 | 77 | 67 | 79 | 67 |

## GIRDER ELEVATION

## NOTES

◩ 7" X ½" INTERMEDIATE STIFFENERS. PLACE ON INSIDE FACE OF EXTERIOR GIRDERS. THREE EQUAL SPACES BETWEEN DIAPHRAGM CONNECTION STIFFENER

(-) OR (+) INDICATES EXACT DIMENSION IS SLIGHTLY LESS THAN OR GREATER THAN GIVEN DIMENSION.

FIELD WELDING IN TENSION ZONES IS NOT ALLOWED EXCEPT FOR PLACING SHEAR STUDS.

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

STATE OF WISCONSIN
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STRUCTURE B-70-405

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FRAMING PLAN AND ELEVATION SPANS 1 - 2

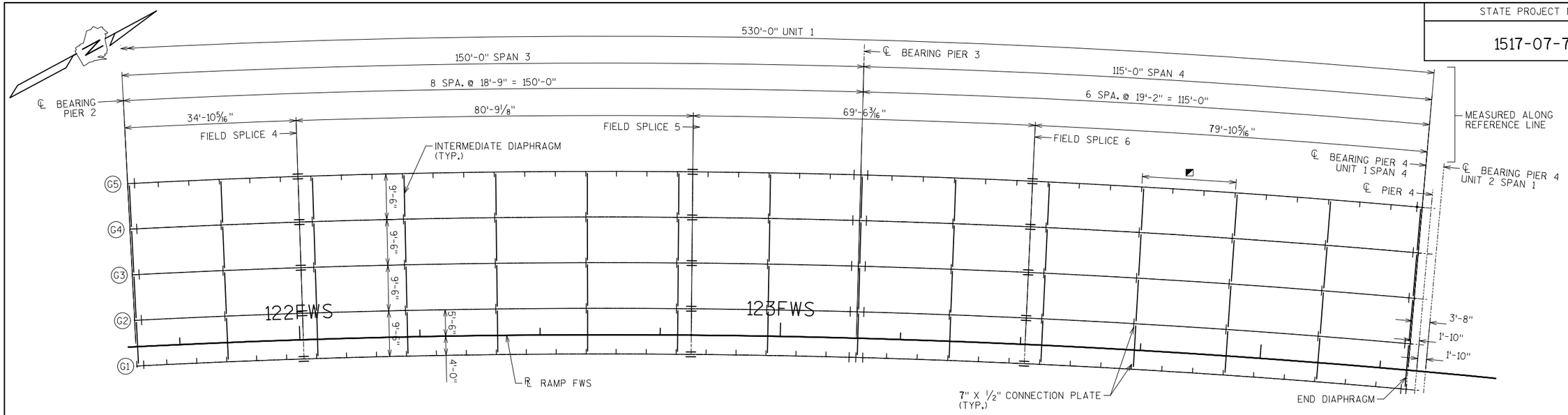
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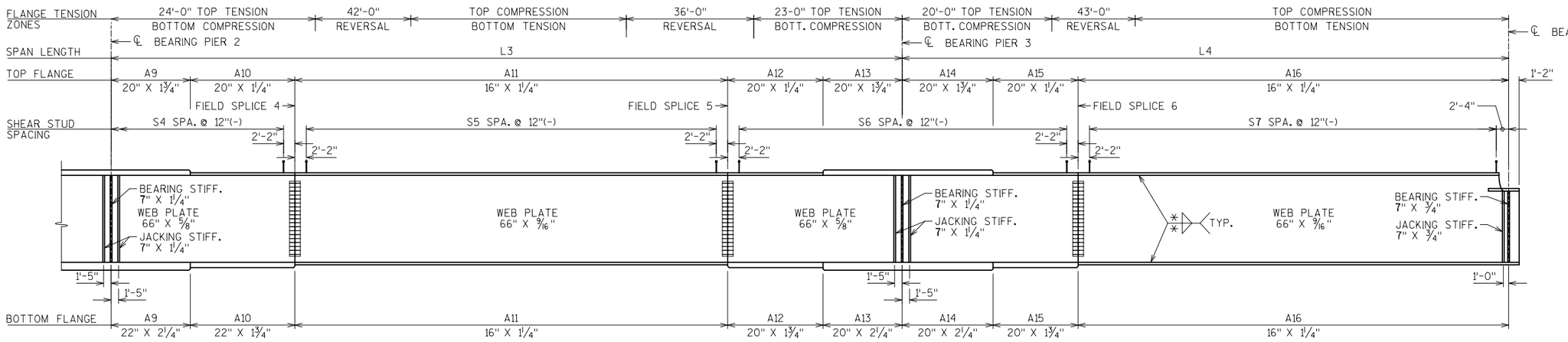
DATE: 4/11/2016
I.D.

STATE PROJECT NUMBER

1517-07-77




## FRAMING PLAN




## TABLE OF VARIABLES

| LOCATION | RADIUS | L3 | L4 | A9 | A10 | A11 | A12 | A13 | A14 | A15 | A16 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| G1 | 1896' -0" | 149' -8 1/4" | 114' -9 1/8" | 14' -11 5/8" | 19' -9 3/4" | 80' -7 1/8" | 19' -4 1/8" | 14' -11 5/8" | 17' -2 1/2" | 17' -10 1/4" | 79' -8 3/8" |
| G2 | 1905' -6" | 150' -5 1/4" | 115' -4" | 15' -0 1/2" | 19' -11" | 80' -11 7/8" | 19' -5 1/4" | 15' -0 5/8" | 17' -3 1/2" | 17' -11 1/4" | 80' -1 1/8" |
| G3 | 1915' -0" | 151' -2 1/4" | 115' -10 7/8" | 15' -1 3/8" | 20' -0 1/8" | 81' -4 3/4" | 19' -6 7/8" | 15' -1 1/2" | 17' -4 5/8" | 18' -0 3/8" | 80' -6" |
| G4 | 1924' -6" | 151' -11 1/4" | 116' -5 3/4" | 15' -2 3/8" | 20' -1 3/8" | 81' -9 5/8" | 19' -7 5/8" | 15' -2 3/8" | 17' -5 5/8" | 18' -1 3/8" | 80' -10 3/4" |
| G5 | 1934' -0" | 152' -8 1/4" | 117' -0 3/4" | 15' -3 1/4" | 20' -2 1/2" | 82' -2 1/2" | 19' -8 3/4" | 15' -3 1/4" | 17' -6 5/8" | 18' -2 1/2" | 81' -3 1/2" |

| LOCATION | S4 | S5 | S6 | S7 |
|---|---|---|---|---|
| G1 | 65 | 77 | 66 | 76 |
| G2 | 65 | 77 | 66 | 76 |
| G3 | 66 | 78 | 66 | 76 |
| G4 | 66 | 78 | 67 | 77 |
| G5 | 67 | 78 | 67 | 77 |

## GIRDER ELEVATION

FOR NOTES, SEE SHEET FRAMING PLAN AND ELEVATION SPANS 1-2.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JRS | PLANS CK'D. GPG

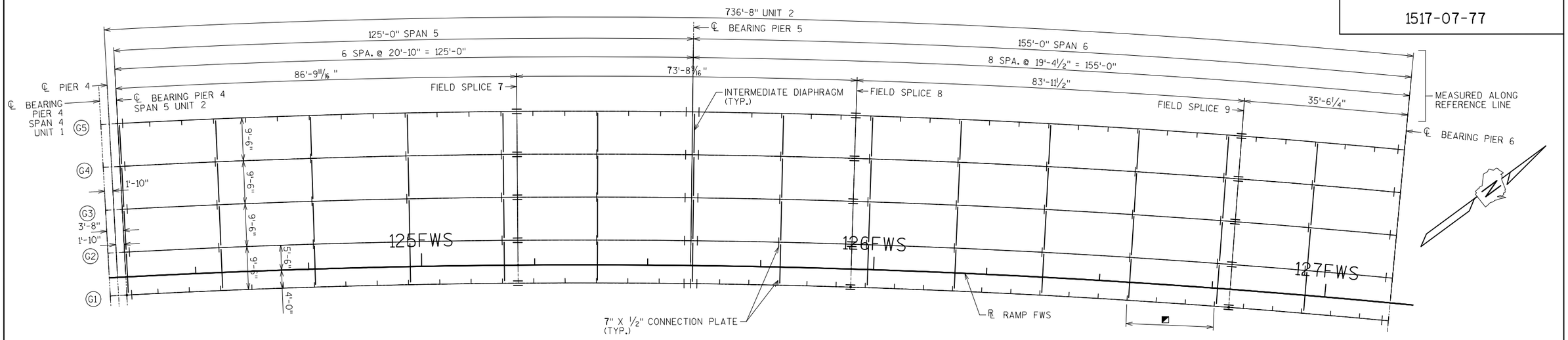
FRAMING PLAN AND ELEVATION SPANS 3 - 4

SHEET 43 OF 95
540

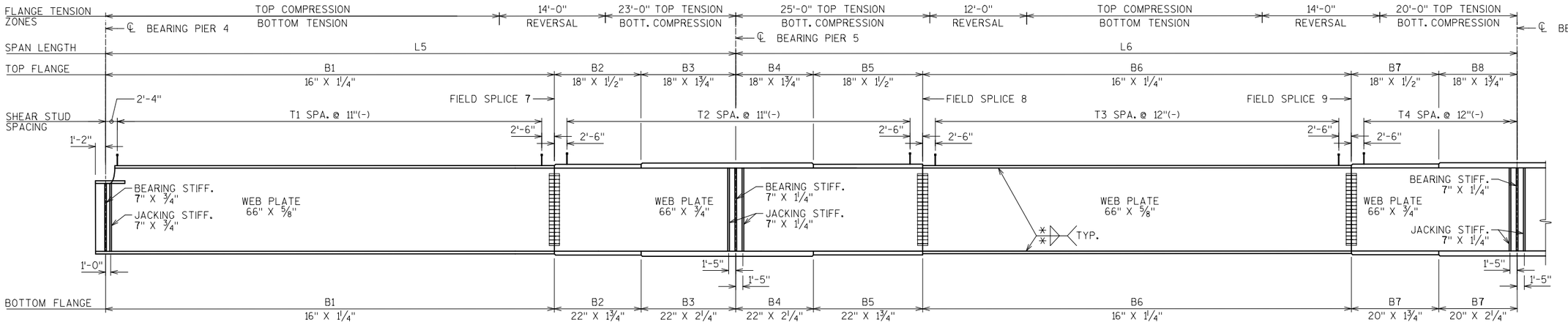
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DATE: 4/11/2016
I.D.

| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |




## FRAMING PLAN




## TABLE OF VARIABLES

| LOCATION | RADIUS | L5 | L6 | B1 | B2 | B3 | B4 | B5 | B6 | B7 | B8 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| G1 | 1896'-0" | 124'-8⅞" | 154'-8⅛" | 86'-7½" | 19'-4¾" | 18'-8⅝" | 15'-5½" | 19'-11¾" | 83'-9⅜" | 19'-11¾" | 15'-5⅝" |
| G2 | 1905'-6" | 125'-4⅜" | 155'-5⅜" | 87'-0⅝" | 19'-5⅞" | 18'-9¾" | 15'-6½" | 20'-1" | 84'-2⅜" | 20'-0⅞" | 15'-6⅝" |
| G3 | 1915'-0" | 125'-11⅞" | 156'-2⅝" | 87'-5⅞" | 19'-7⅛" | 18'-10⅞" | 15'-7⅜" | 20'-2¼" | 84'-7½" | 20'-2⅛" | 15'-7½" |
| G4 | 1924'-6" | 126'-7⅜" | 157'-0" | 87'-11⅛" | 19'-8¼" | 18'-12" | 15'-8⅜" | 20'-3⅜" | 85'-0½" | 20'-3¼" | 15'-8½" |
| G5 | 1934'-0" | 127'-2⅞" | 157'-9¼" | 88'-4¼" | 19'-9⅜" | 19'-1⅛" | 15'-9¼" | 20'-4⅝" | 85'-5½" | 20'-4½" | 15'-9⅜" |

| LOCATION | T1 | T2 | T3 | T4 |
|---|---|---|---|---|
| G1 | 90 | 75 | 79 | 70 |
| G2 | 90 | 76 | 80 | 70 |
| G3 | 91 | 76 | 80 | 71 |
| G4 | 91 | 76 | 81 | 71 |
| G5 | 92 | 77 | 81 | 71 |

## GIRDER ELEVATION

FOR NOTES, SEE SHEET FRAMING PLAN AND ELEVATION SPANS 1-2.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

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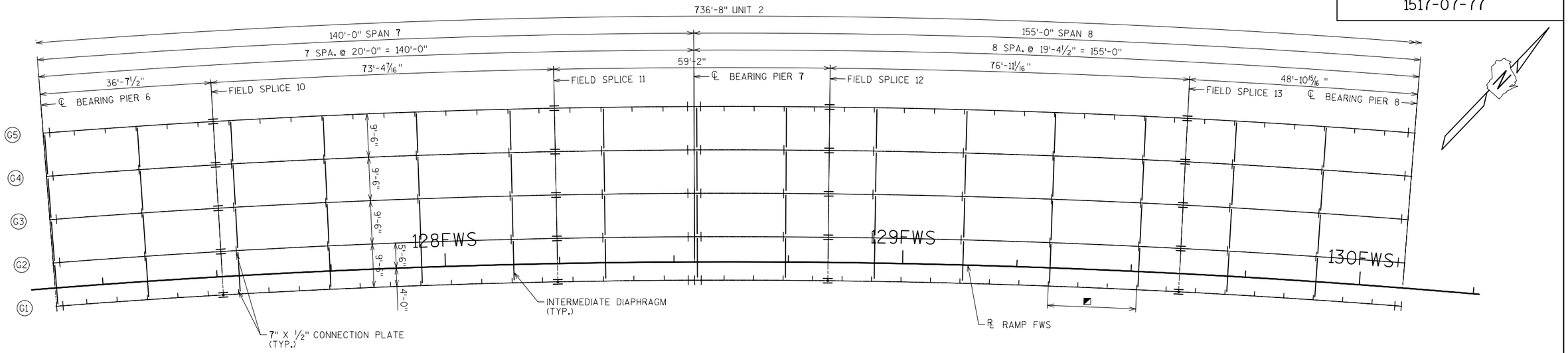
FRAMING PLAN AND ELEVATION SPANS 5 - 6

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541

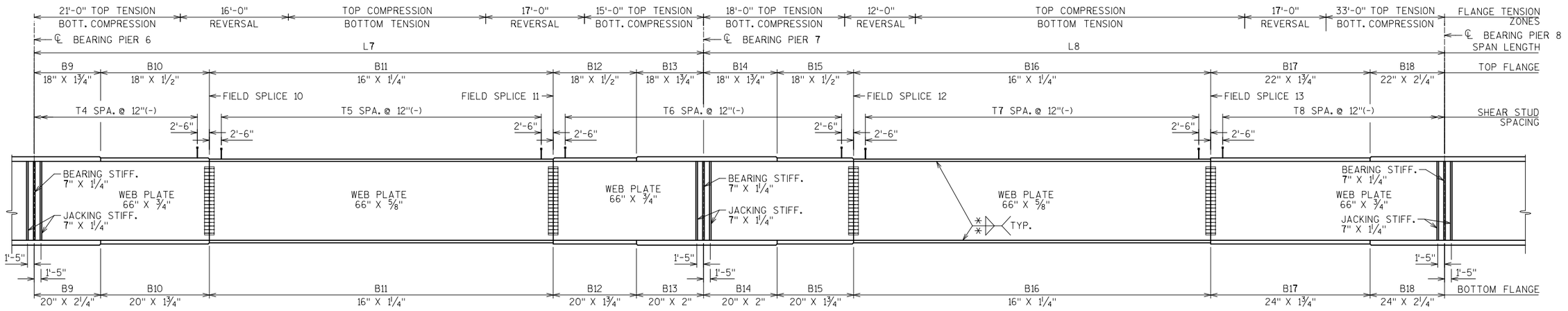
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DATE: 4/11/2016
I.D.

| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |




## FRAMING PLAN




## TABLE OF VARIABLES

| LOCATION | RADIUS | L7 | L8 | B9 | B10 | B11 | B12 | B13 | B14 | B15 | B16 | B17 | B18 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| G1 | 1896' -0" | 139' -8½" | 154' -8⅛" | 13' -11⅝" | 22' -7" | 73' -2⅝" | 15' -11⅝" | 13' -11¾" | 15' -5½" | 13' -7⅝" | 76' -9⅛" | 33' -4⅛" | 15' -5⅝" |
| G2 | 1905' -6" | 140' -4⅞" | 155' -5⅜" | 14' -0½" | 22' -8⅜" | 73' -7" | 16' -0½" | 14' -0½" | 15' -6½" | 13' -8½" | 77' -1¾" | 33' -6⅛" | 15' -6⅝" |
| G3 | 1915' -0" | 141' -1¼" | 156' -2⅝" | 14' -1¼" | 22' -9⅝" | 73' -11⅜" | 16' -1½" | 14' -1⅜" | 15' -7⅜" | 13' -9¼" | 77' -6⅜" | 33' -8⅛" | 15' -7½" |
| G4 | 1924' -6" | 141' -9⅝" | 157' -0" | 14' -2⅛" | 22' -11" | 74' -3¾" | 16' -2½" | 14' -2¼" | 15' -8⅜" | 13' -10⅛" | 77' -11" | 33' -10⅛" | 15' -8½" |
| G5 | 1934' -0" | 142' -6⅛" | 157' -9¼" | 14' -3" | 23' -0⅜" | 74' -8¼" | 16' -3⅜" | 14' -3⅛" | 15' -9¼" | 13' -10⅞" | 78' -3⅝" | 34' -0⅛" | 15' -9⅜" |

| LOCATION | T4 | T5 | T6 | T7 | T8 |
|---|---|---|---|---|---|
| G1 | 70 | 69 | 55 | 72 | 80 |
| G2 | 70 | 69 | 55 | 73 | 81 |
| G3 | 71 | 69 | 55 | 73 | 81 |
| G4 | 71 | 70 | 55 | 73 | 82 |
| G5 | 71 | 70 | 56 | 74 | 82 |

## GIRDER ELEVATION

FOR NOTES, SEE SHEET FRAMING PLAN AND ELEVATION SPANS 1-2.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JRS | PLANS CK'D. GPG

FRAMING PLAN AND ELEVATION SPANS 7 - 8

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542

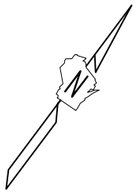
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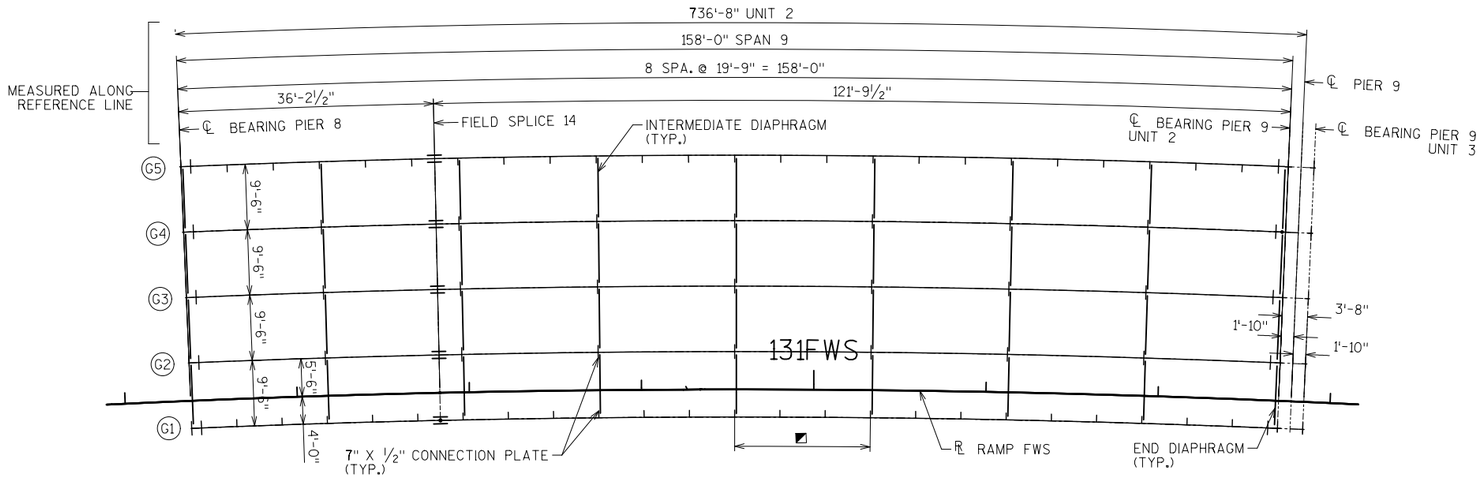
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I.D.

8

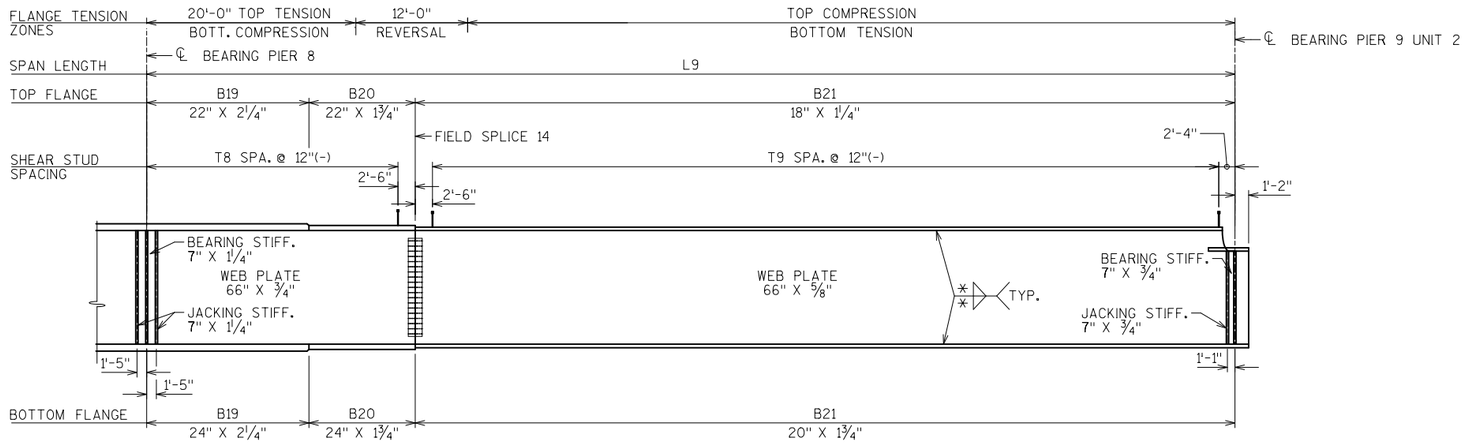
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| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |






## FRAMING PLAN




## TABLE OF VARIABLES

| LOCATION | RADIUS | L9 | B19 | B20 | B21 |
|---|---|---|---|---|---|
| G1 | 1896'-0" | 157'-8" | 23'-7¾" | 12'-5¾" | 121'-6⅞" |
| G2 | 1905'-6" | 158'-5½" | 23'-9¼" | 12'-6½" | 122'-1¾" |
| G3 | 1915'-0" | 159'-3" | 23'-10⅝" | 12'-7¼" | 122'-9" |
| G4 | 1924'-6" | 160'-0½" | 24'-0" | 12'-8" | 123'-4⅜" |
| G5 | 1934'-0" | 160'-9⅞" | 24'-1½" | 12'-8¾" | 123'-11⅞" |

| LOCATION | T8 | T9 |
|---|---|---|
| G1 | 80 | 117 |
| G2 | 81 | 118 |
| G3 | 81 | 118 |
| G4 | 82 | 119 |
| G5 | 82 | 120 |

## GIRDER ELEVATION

FOR NOTES, SEE SHEET FRAMING PLAN AND ELEVATION SPANS 1-2.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JRS | PLANS CK'D. GPG

FRAMING PLAN AND ELEVATION SPAN 9

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543

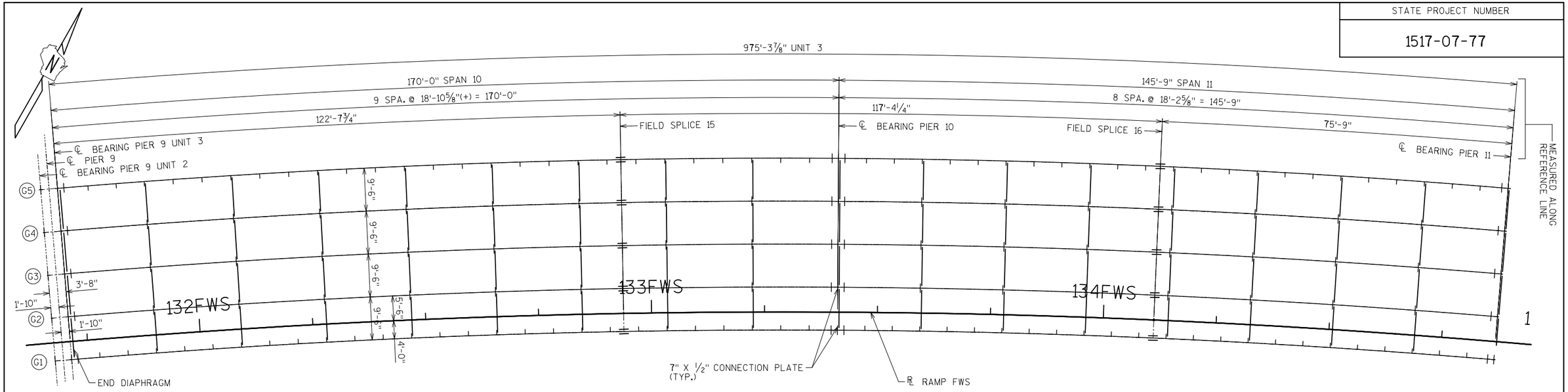
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DATE: 4/11/2016
I.D.

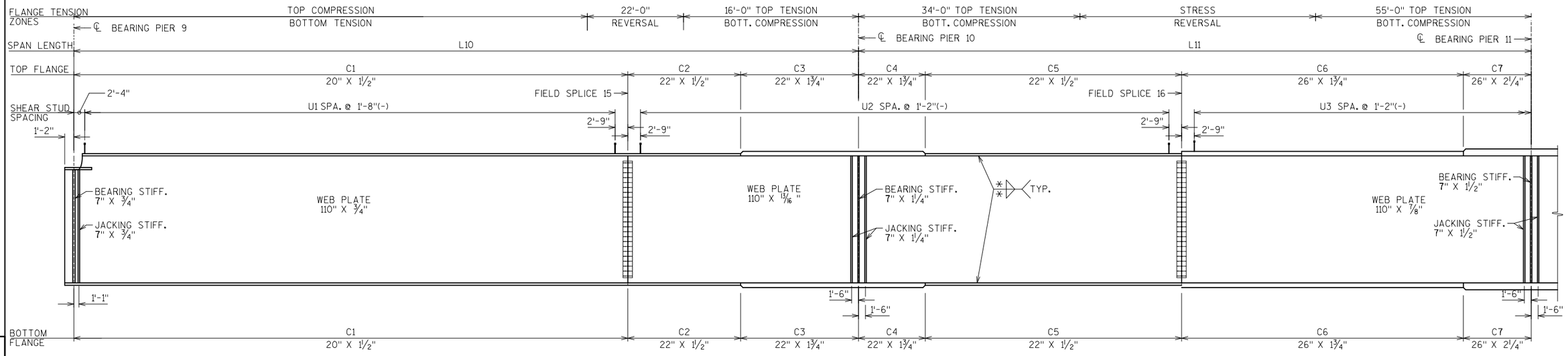
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8

| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |




## FRAMING PLAN




## TABLE OF VARIABLES

| LOCATION | RADIUS | L10 | L11 | C1 | C2 | C3 | C4 | C5 | C6 | C7 |
|---|---|---|---|---|---|---|---|---|---|---|
| G1 | 1896' -0" | 169' -7¾" | 145' -5⅜" | 122' -4⅝" | 21' -9¾" | 25' -5⅜" | 13' -6½" | 56' -3⅝" | 53' -5" | 22' -2⅛" |
| G2 | 1905' -6" | 170' -5⅛" | 146' -2⅛" | 123' -0" | 21' -11" | 25' -6⅞" | 13' -7⅞" | 56' -7⅛" | 53' -8¼" | 22' -3⅜" |
| G3 | 1915' -0" | 171' -4⅛" | 146' -10¾" | 123' -7⅜" | 22' -0⅜" | 25' -8⅜" | 13' -8⅛" | 56' -10½" | 53' -11½" | 22' -4¾" |
| G4 | 1924' -6" | 172' -2¼" | 147' -7½" | 124' -2¾" | 22' -1⅝" | 25' -9⅞" | 13' -9" | 57' -1⅞" | 54' -2⅝" | 22' -6⅛" |
| G5 | 1934' -0" | 173' -0½" | 148' -4¼" | 124' -10⅛" | 22' -3" | 25' -11½" | 13' -9¾" | 57' -5¼" | 54' -5⅞" | 22' -7⅜" |

| LOCATION | U1 | U2 | U3 |
|---|---|---|---|
| G1 | 71 | 96 | 107 |
| G2 | 71 | 97 | 108 |
| G3 | 72 | 97 | 108 |
| G4 | 72 | 98 | 109 |
| G5 | 72 | 98 | 109 |

## GIRDER ELEVATION

FOR NOTES, SEE SHEET FRAMING PLAN AND ELEVATION SPANS 1-2.

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

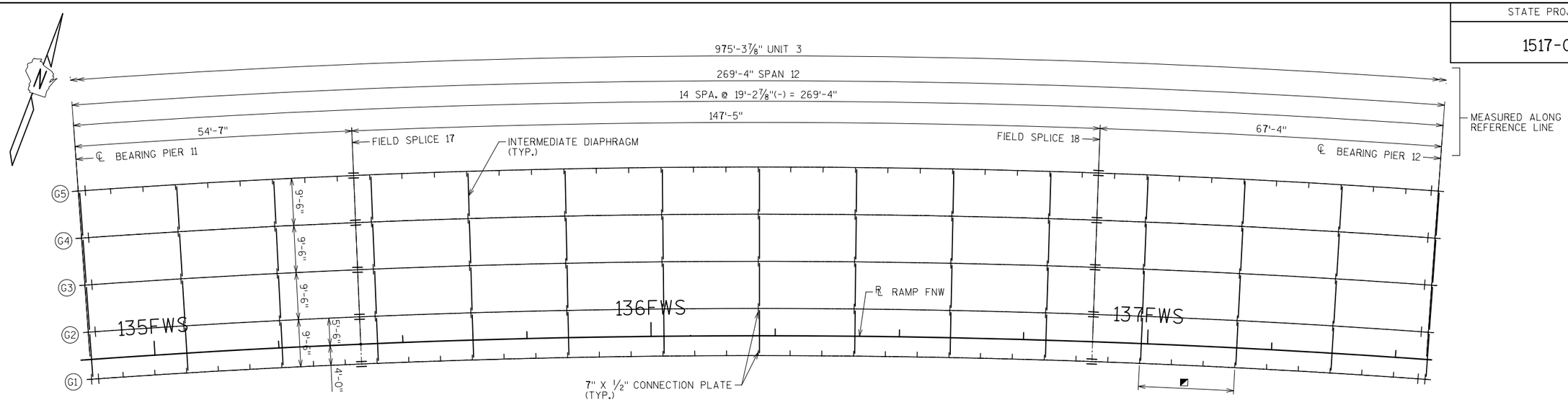
DRAWN BY JRS | PLANS CK'D. GPG

FRAMING PLAN AND ELEVATION SPANS 10 - 11

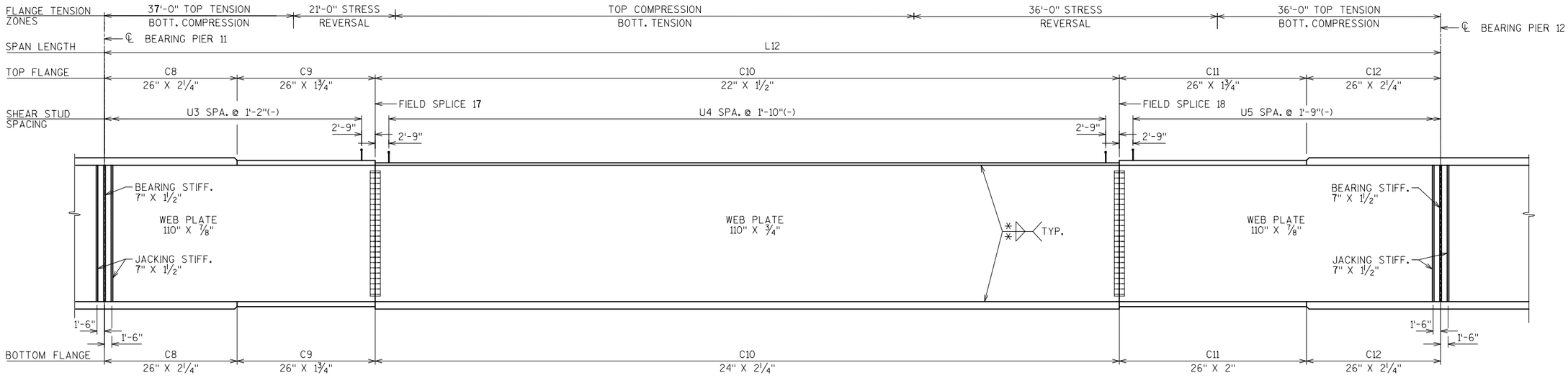
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544

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DATE: $DATE$
I.D.

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|---|
| 1517-07-77 |




## FRAMING PLAN




## TABLE OF VARIABLES

| LOCATION | RADIUS | L12 | C8 | C9 | C10 | C11 | C12 |
|---|---|---|---|---|---|---|---|
| G1 | 1896' -0" | 268' -9¼" | 26' -10½" | 27' -7⅛" | 147' -1¼" | 40' -3⅜" | 26' -10½" |
| G2 | 1905' -6" | 270' -1⅜" | 27' -0⅛" | 27' -8¾" | 147' -10⅛" | 40' -6¼" | 27' -0⅛" |
| G3 | 1915' -0" | 271' -5½" | 27' -1¾" | 27' -10⅜" | 148' -7" | 40' -8⅝" | 27' -1¾" |
| G4 | 1924' -6" | 272' -9⅝" | 27' -3⅜" | 28' -0" | 149' -3¾" | 40' -11⅛" | 27' -3⅜" |
| G5 | 1934' -0" | 274' -1⅛" | 27' -5" | 28' -1¾" | 150' -0⅝" | 41' -1½" | 27' -5" |

| LOCATION | U3 | U4 | U5 |
|---|---|---|---|
| G1 | 107 | 78 | 70 |
| G2 | 108 | 78 | 71 |
| G3 | 108 | 79 | 71 |
| G4 | 109 | 79 | 72 |
| G5 | 109 | 79 | 72 |

## GIRDER ELEVATION

FOR NOTES, SEE SHEET FRAMING PLAN AND ELEVATION SPANS 1-2.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

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FRAMING PLAN AND ELEVATION SPAN 12

SHEET 12 OF 85
545

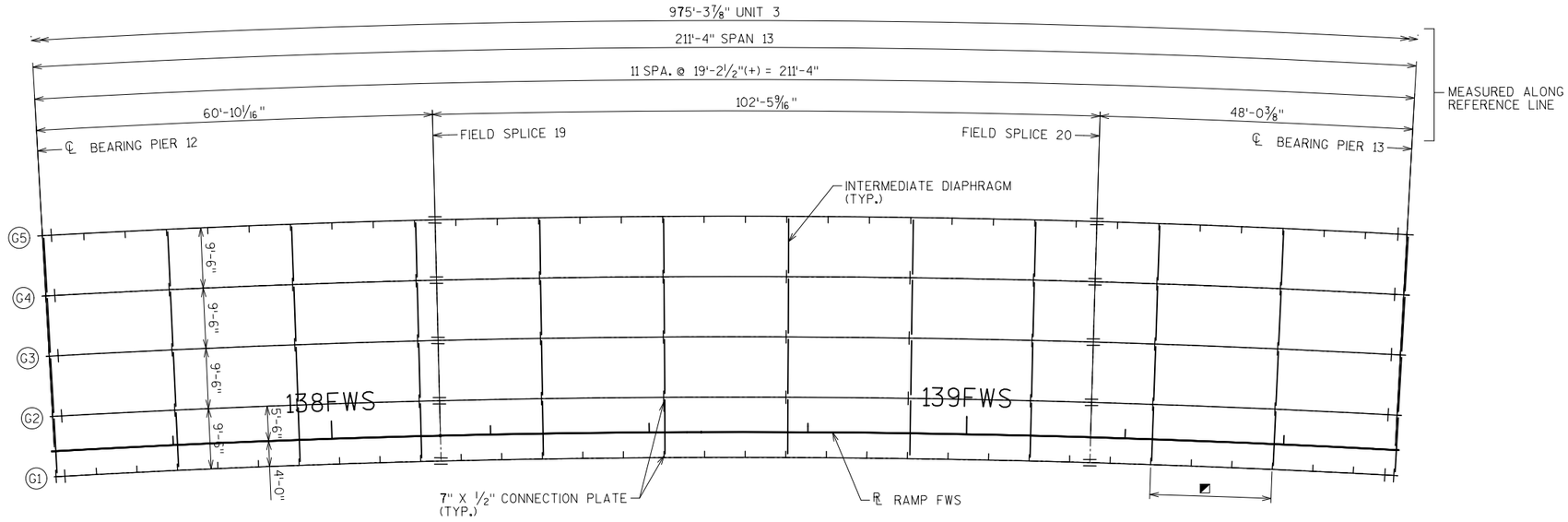
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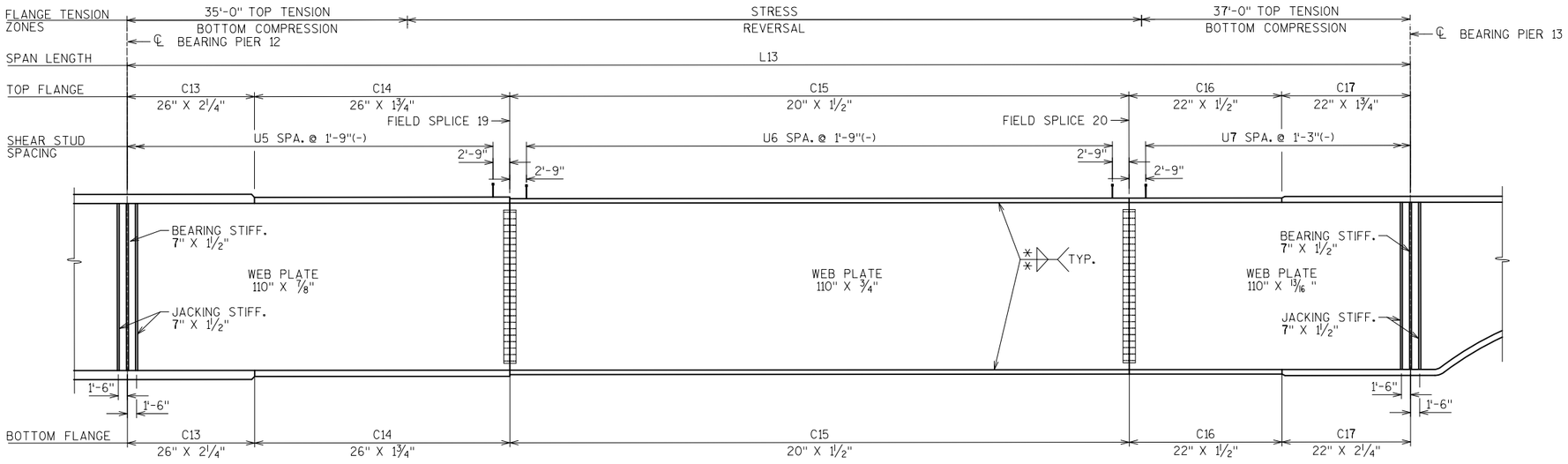
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| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |






## FRAMING PLAN




## TABLE OF VARIABLES

| LOCATION | RADIUS | L13 | C13 | C14 | C15 | C16 | C17 |
|---|---|---|---|---|---|---|---|
| G1 | 1896'-0" | 210'-10⅝" | 21'-1⅛" | 39'-7⅜" | 102'-3" | 26'-10⅛" | 21'-1" |
| G2 | 1905'-6" | 211'-11⅜" | 21'-2⅜" | 39'-9¾" | 102'-9⅛" | 26'-11¾" | 21'-2⅜" |
| G3 | 1915'-0" | 213'-0" | 21'-3⅝" | 40'-0⅛" | 103'-3¼" | 27'-1⅜" | 21'-3⅝" |
| G4 | 1924'-6" | 214'-0¾" | 21'-5" | 40'-2½" | 103'-9¾" | 27'-3" | 21'-4⅞" |
| G5 | 1934'-0" | 215'-1⅜" | 21'-6¼" | 40'-4⅞" | 104'-3⅝" | 27'-4⅝" | 21'-6⅛" |

| LOCATION | U5 | U6 | U7 |
|---|---|---|---|
| G1 | 70 | 56 | 73 |
| G2 | 71 | 56 | 74 |
| G3 | 71 | 56 | 74 |
| G4 | 72 | 57 | 75 |
| G5 | 72 | 57 | 75 |

## GIRDER ELEVATION

FOR NOTES, SEE SHEET FRAMING PLAN AND ELEVATION SPANS 1-2.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JRS | PLANS CK'D. GPG

FRAMING PLAN AND ELEVATION SPAN 13

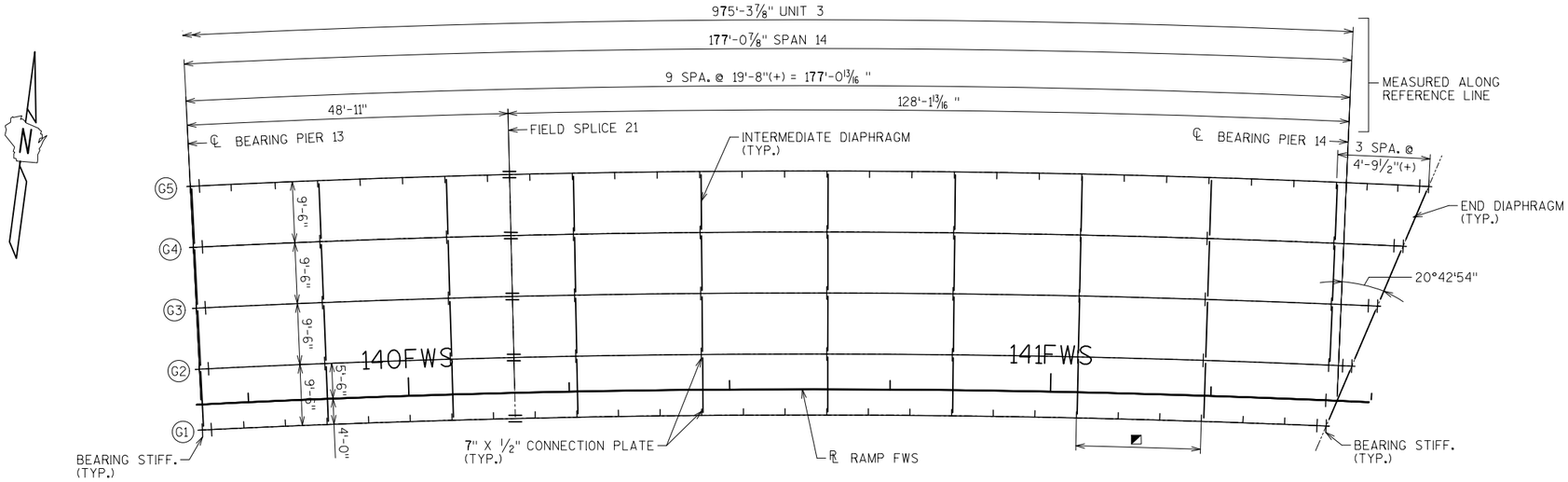
SHEET 49 OF 85
546

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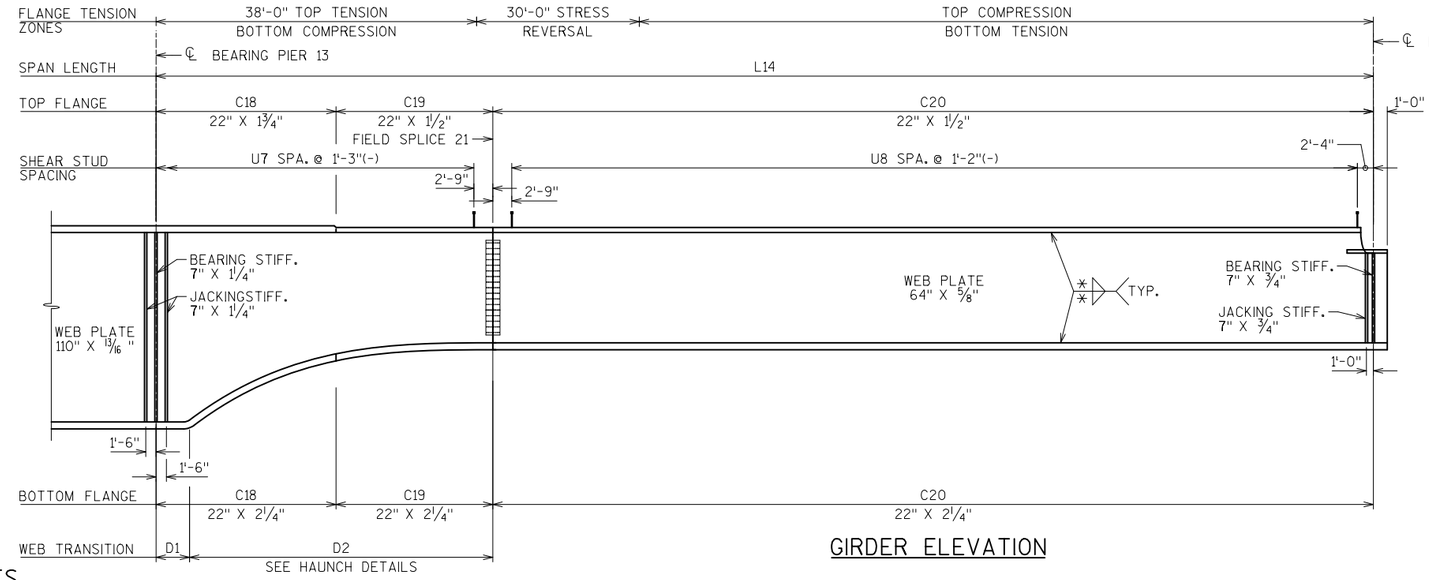
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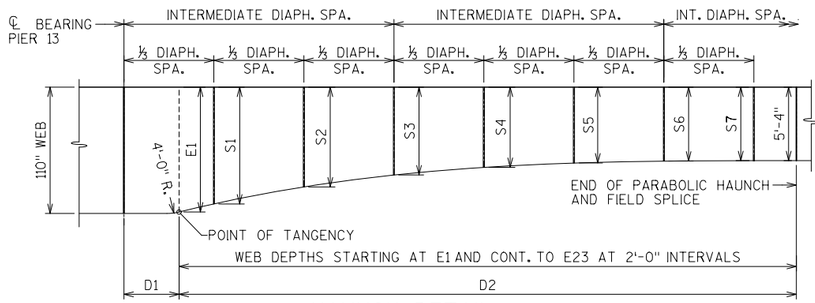
| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |




## FRAMING PLAN




## GIRDER ELEVATION




## HAUNCH DETAIL

## TABLE OF VARIABLES

| LOCATION | RADIUS | L14 | C18 | C19 | C20 | D1 | D2 |
|---|---|---|---|---|---|---|---|
| G1 | 1896' -0" | 175' -2 1/4" | 26' -2 3/4" | 22' -7" | 126' -4 1/2" | 4' -0" | 44' -9 3/4" |
| G2 | 1905' -6" | 179' -7 7/8" | 26' -4 3/8" | 22' -8 1/4" | 130' -7 1/4" | 4' -0 1/4" | 45' -0 1/2" |
| G3 | 1915' -0" | 184' -1 1/2" | 26' -6" | 22' -9 5/8" | 134' -9 7/8" | 4' -0 1/2" | 45' -3 1/8" |
| G4 | 1924' -6" | 188' -7" | 26' -7 1/2" | 22' -11" | 139' -0 1/2" | 4' -0 3/4" | 45' -5 7/8" |
| G5 | 1934' -0" | 193' -0 5/8" | 26' -9 1/8" | 23' -0 3/8" | 143' -3 1/8" | 4' -1" | 45' -8 1/2" |

| LOCATION | U7 | U8 |
|---|---|---|
| G1 | 73 | 104 |
| G2 | 74 | 108 |
| G3 | 74 | 112 |
| G4 | 75 | 115 |
| G5 | 75 | 119 |

| LOCATION | S1 | S2 | S3 | S4 | S5 | S6 | S7 |
|---|---|---|---|---|---|---|---|
| ALL | 8' -5 3/4" | 7' -2 15/16" | 6' -4 7/16" | 5' -9 15/16" | 5' -6 1/8" | 5' -4 7/16" | 5' -4" |

| LOCATION | E1 | E2 | E3 | E4 | E5 | E6 | E7 | E8 | E9 | E10 | E11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| ALL | 9' -0 13/16" | 8' -7 3/16" | 8' -2" | 7' -9 5/16" | 7' -5" | 7' -1 7/16" | 6' -9 13/16" | 6' -6 3/4" | 6' -4 1/16" | 6' -1 3/4" | 5' -11 3/4" |

| LOCATION | E12 | E13 | E14 | E15 | E16 | E17 | E18 | E19 | E20 | E21 | E22 | E23 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ALL | 5' -10" | 5' -8 5/16" | 5' -7 7/8" | 5' -6 7/16" | 5' -5 5/8" | 5' -5 1/16" | 5' -4 5/8" | 5' -4 3/8" | 5' -4 3/16" | 5' -4 1/16" | 5' -4" | 5' -4" |

FOR NOTES, SEE SHEET FRAMING PLAN AND ELEVATION SPANS 1-2.

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

STATE OF WISCONSIN
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DRAWN BY JRS | PLANS CK'D. GPG

FRAMING PLAN AND ELEVATION SPAN 14

SHEET 50 OF 95
547

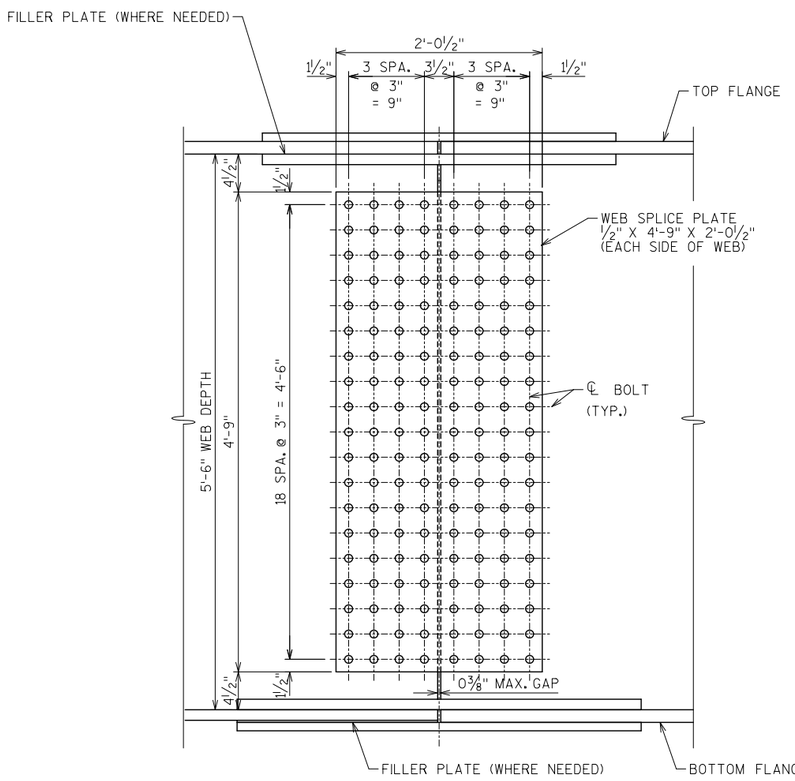
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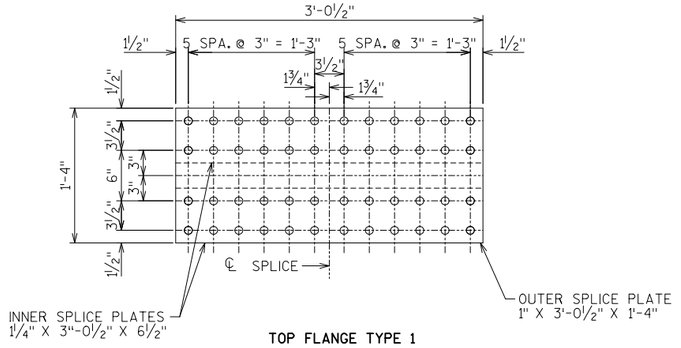
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STATE PROJECT NUMBER

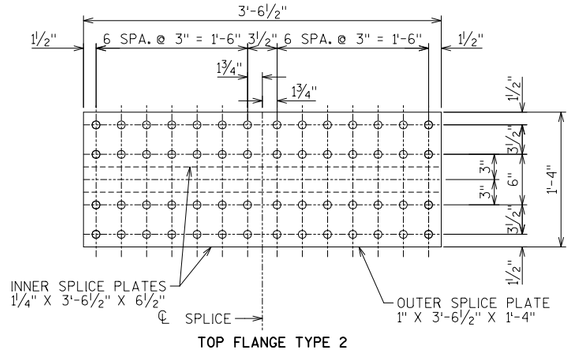
1517-07-77




## WEB SPLICE DETAILS




TOP FLANGE TYPE 1




TOP FLANGE TYPE 2

## TOP FLANGE SPLICE DETAILS




BOTTOM FLANGE TYPE 1




BOTTOM FLANGE TYPE 2

## BOTTOM FLANGE SPLICE DETAILS

### SPLICE PLATE TABLE

| LOCATION | F.S. 1 | F.S. 2 | F.S. 3 | F.S. 4 | F.S. 5 | F.S. 6 | F.S. 7 | F.S. 8 | F.S. 9 | F.S. 10 | F.S. 11 | F.S. 12 | F.S. 13 | F.S. 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOP FLANGE SPLICE | TYPE 1 | TYPE 1 | TYPE 1 | TYPE 1 | TYPE 1 | TYPE 1 | TYPE 1 | TYPE 1 | TYPE 1 | TYPE 1 | TYPE 1 | TYPE 1 | TYPE 1 | TYPE 2 |
| BOTTOM FLANGE SPLICE | TYPE 1 | TYPE 1 | TYPE 1 | TYPE 1 | TYPE 1 | TYPE 1 | TYPE 1 | TYPE 1 | TYPE 1 | TYPE 1 | TYPE 1 | TYPE 1 | TYPE 1 | TYPE 2 |

### SPLICE PLATE FILL PLATES

| LOCATION | F.S. 1 | F.S. 2 | F.S. 3 | F.S. 4 | F.S. 5 | F.S. 6 | F.S. 7 | F.S. 8 | F.S. 9 | F.S. 10 | F.S. 11 | F.S. 12 | F.S. 13 | F.S. 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TOP FLANGE SPLICE | N/A | N/A | N/A | N/A | N/A | N/A | ¼"X1'-6"X1'-4" | ¼"X1'-6"X1'-4" | ¼"X1'-6"X1'-4" | ¼"X1'-6"X1'-4" | ¼"X1'-6"X1'-4" | ¼"X1'-6"X1'-4" | ½"X1'-6"X1'-4" | ½"X1'-9"X1'-6" |
| BOTTOM FLANGE SPLICE | ½"X1'-6"X1'-4" | ½"X1'-9"X1'-4" | ½"X1'-9"X1'-4" | ½"X1'-9"X1'-4" | ½"X1'-9"X1'-4" | ½"X1'-9"X1'-4" | ½"X1'-9"X1'-4" | ½"X1'-9"X1'-4" | ½"X1'-9"X1'-4" | ½"X1'-9"X1'-4" | ½"X1'-9"X1'-4" | ½"X1'-9"X1'-4" | ½"X1'-9"X1'-4" | N/A |

### NOTES:

ALL BOLT HOLES SHALL BE 15/16 " DIAMETER STANDARD HOLES.

ALL SPLICE PLATES SHALL CONFORM TO ASTM A709, GRADE 50.

ALL BOLTS SHALL BE ⅞" DIAMETER A325.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
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STATE OF WISCONSIN
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FIELD SPLICE DETAILS UNITS 1 AND 2

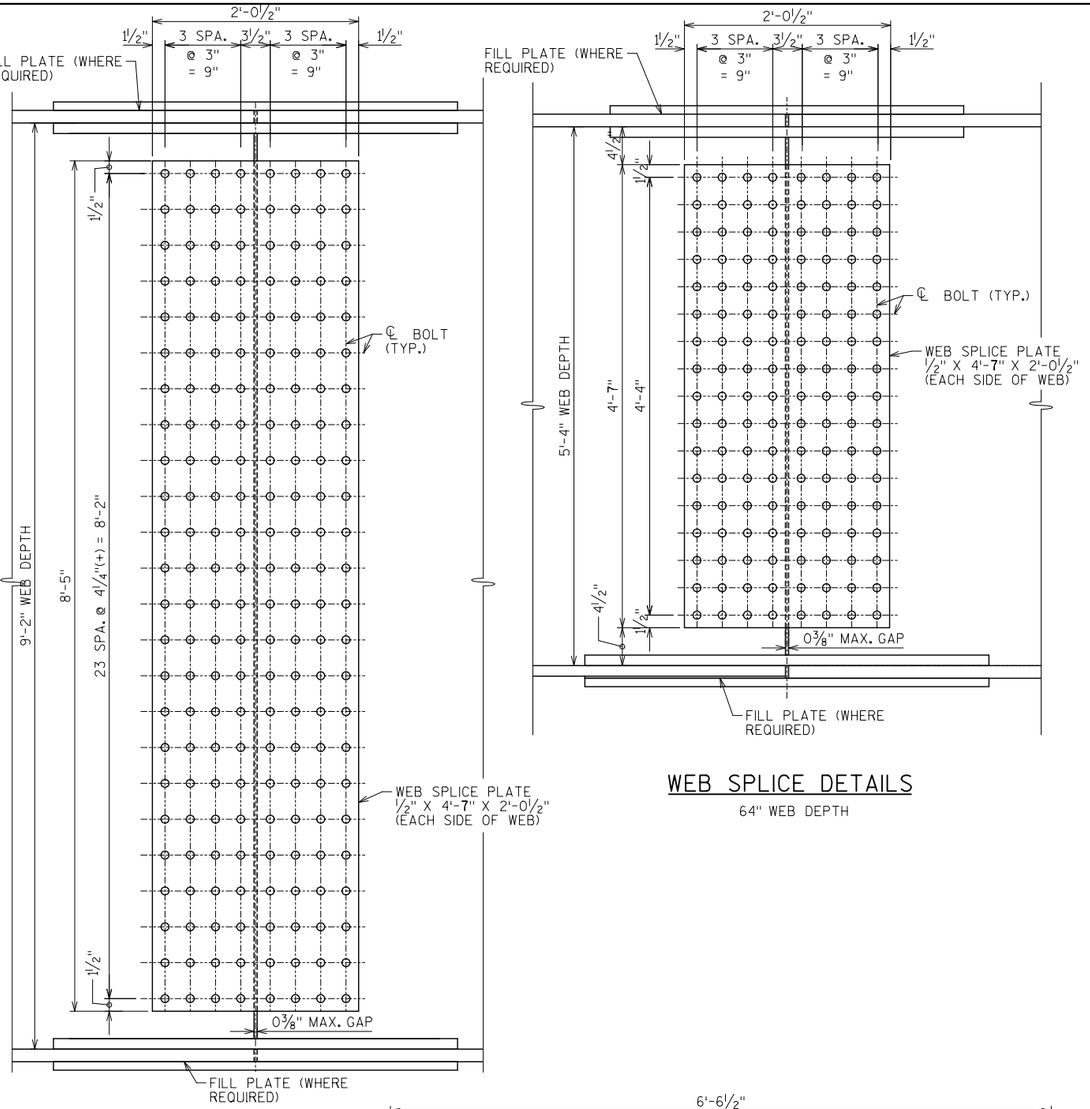
SHEET 51 OF 85
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FILE= $FILE$

DATE: $DATE$
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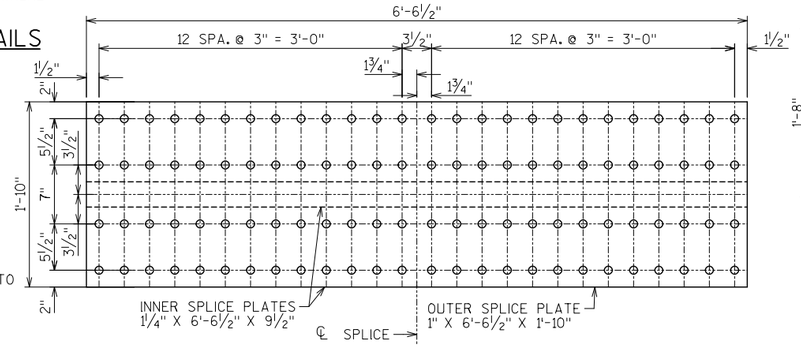

## WEB SPLICE DETAILS

64" WEB DEPTH




## WEB SPLICE DETAILS

110" WEB DEPTH



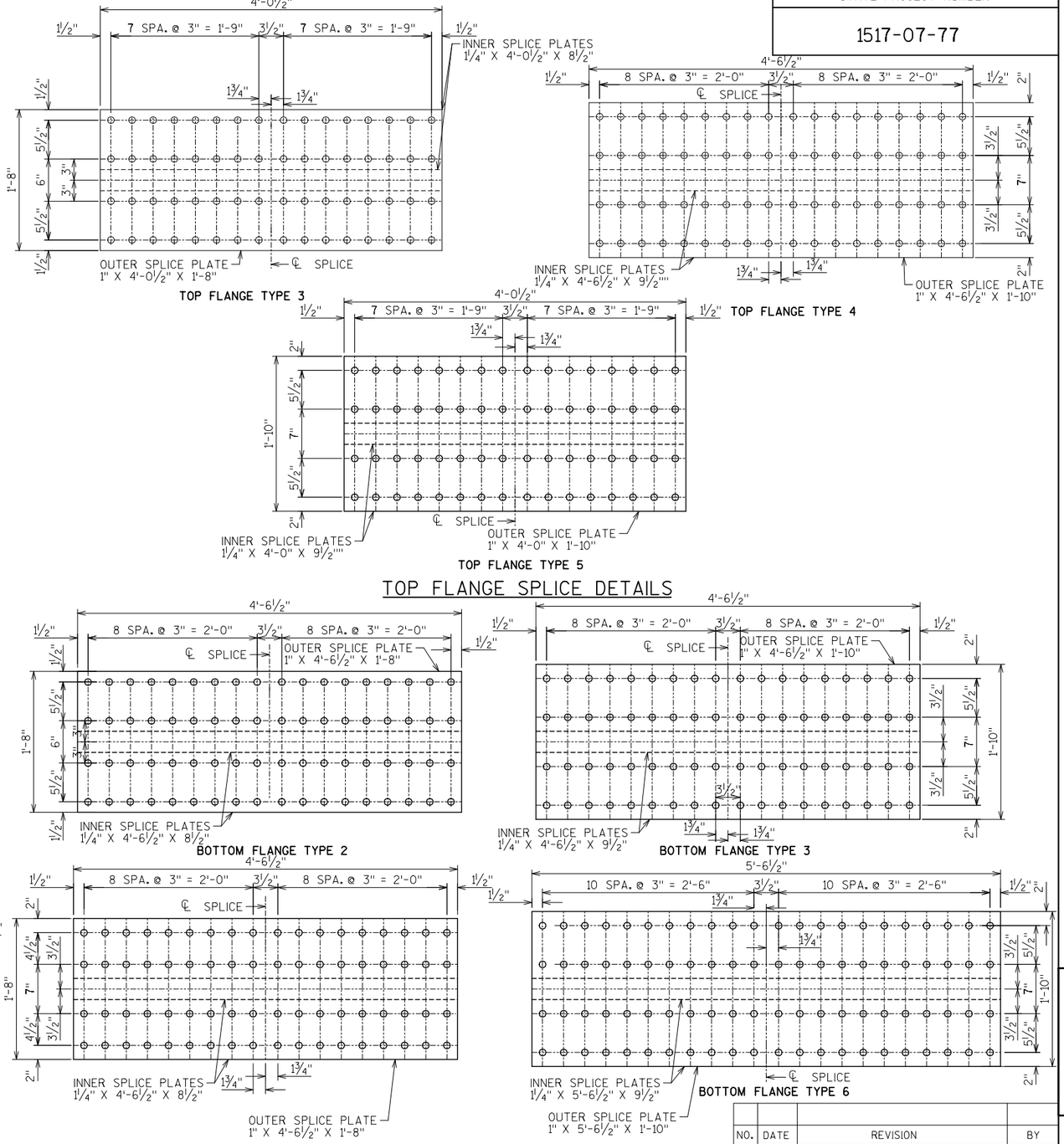

BOTTOM FLANGE TYPE 4

## NOTES:

ALL BOLT HOLES SHALL BE 15/16 " DIAMETER STANDARD HOLES.

ALL SPLICE PLATES SHALL CONFORM TO ASTM A709, GRADE 50.

ALL BOLTS SHALL BE ⅞" DIAMETER A325.




## TOP FLANGE SPLICE DETAILS







BOTTOM FLANGE TYPE 5

## BOTTOM FLANGE SPLICE DETAILS

## SPLICE PLATE TABLE

| LOCATION | F.S. 15 | F.S. 16 | F.S. 17 | F.S. 18 | F.S. 19 | F.S. 20 | F.S. 21 |
|---|---|---|---|---|---|---|---|
| TOP FLANGE SPLICE | TYPE 3 | TYPE 4 | TYPE 4 | TYPE 4 | TYPE 3 | TYPE 3 | TYPE 5 |
| BOTTOM FLANGE SPLICE | TYPE 2 | TYPE 3 | TYPE 4 | TYPE 4 | TYPE 5 | TYPE 2 | TYPE 6 |

## SPLICE PLATE FILL PLATES

| LOCATION | F.S. 15 | F.S. 16 | F.S. 17 | F.S. 18 | F.S. 19 | F.S. 20 | F.S. 21 |
|---|---|---|---|---|---|---|---|
| TOP FLANGE SPLICE | N/A | ¼"X2'-3"X1'-10" | ¼"X2'-3"X1'-10" | ¼"X2'-3"X1'-10" | ¼"X2'-0"X1'-8" | N/A | N/A |
| BOTTOM FLANGE SPLICE | N/A | ¼"X2'-3"X1'-10" | ½"X2'-9"X1'-10" | ¼"X3'-3"X1'-10" | ¼"X2'-3"X1'-8" | N/A | N/A |

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

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FIELD SPLICE DETAILS UNIT 3

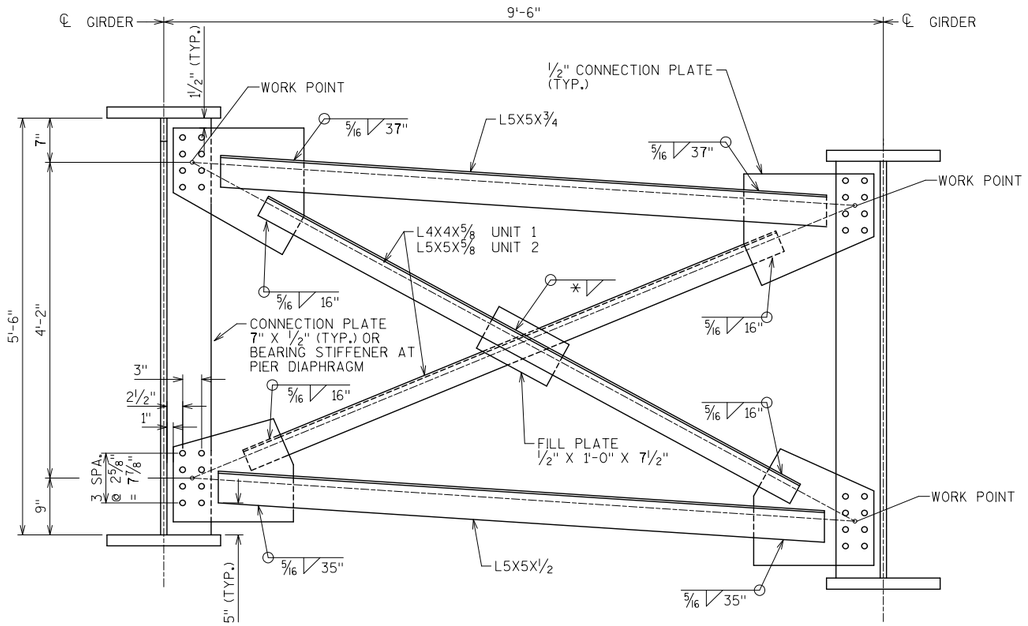
SHEET 53 OF 85
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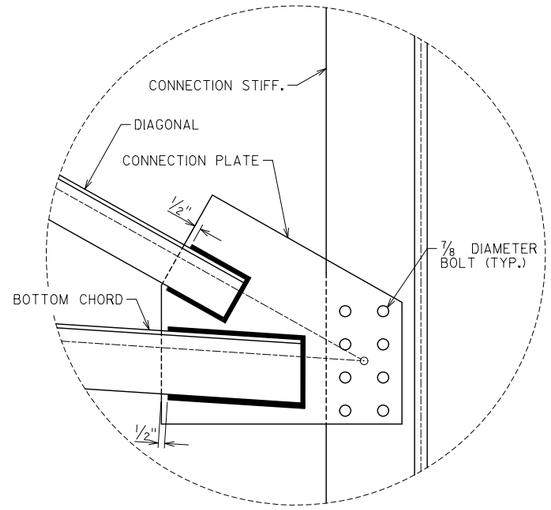
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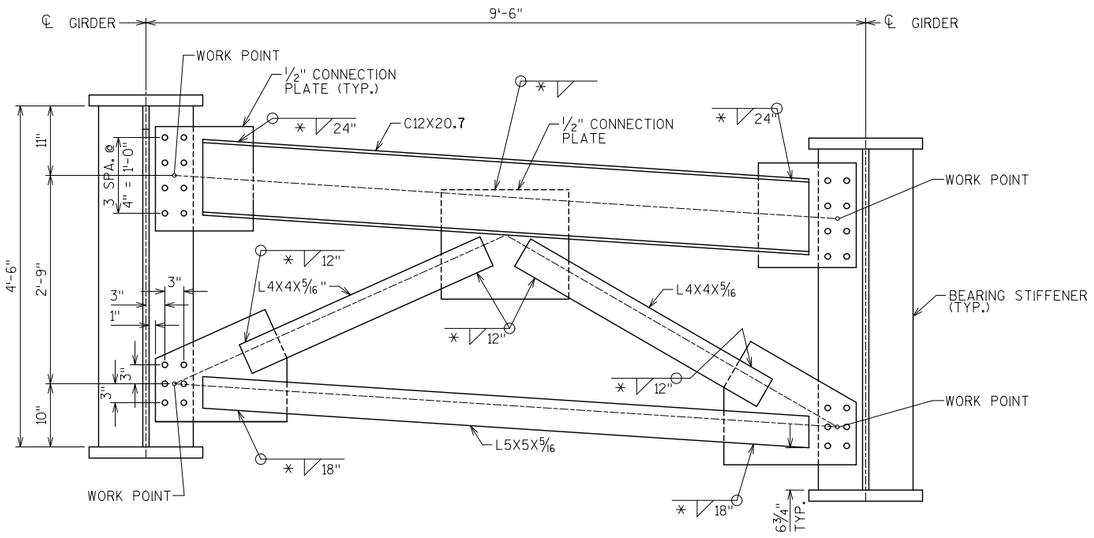
8




INTERMEDIATE AND PIER DIAPHRAGM




TYPICAL CONNECTION WELDS




UNIT END DIAPHRAGM

* SEE GIRDER DETAILS SHEET FOR WELD SIZES NOT SHOWN.

## NOTES:

ALL BOLTS SHALL BE FRICTION TYPE USING ⅞ INCH DIAMETER HIGH STRENGTH (ASTM A325) WITH WASHERS.

ALL STEEL SHALL BE ASTM A709 GRADE 50.

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STATE OF WISCONSIN
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PLATE GIRDER DIAPHRAGMS UNITS 1 AND 2

SHEET 53 OF 85
550

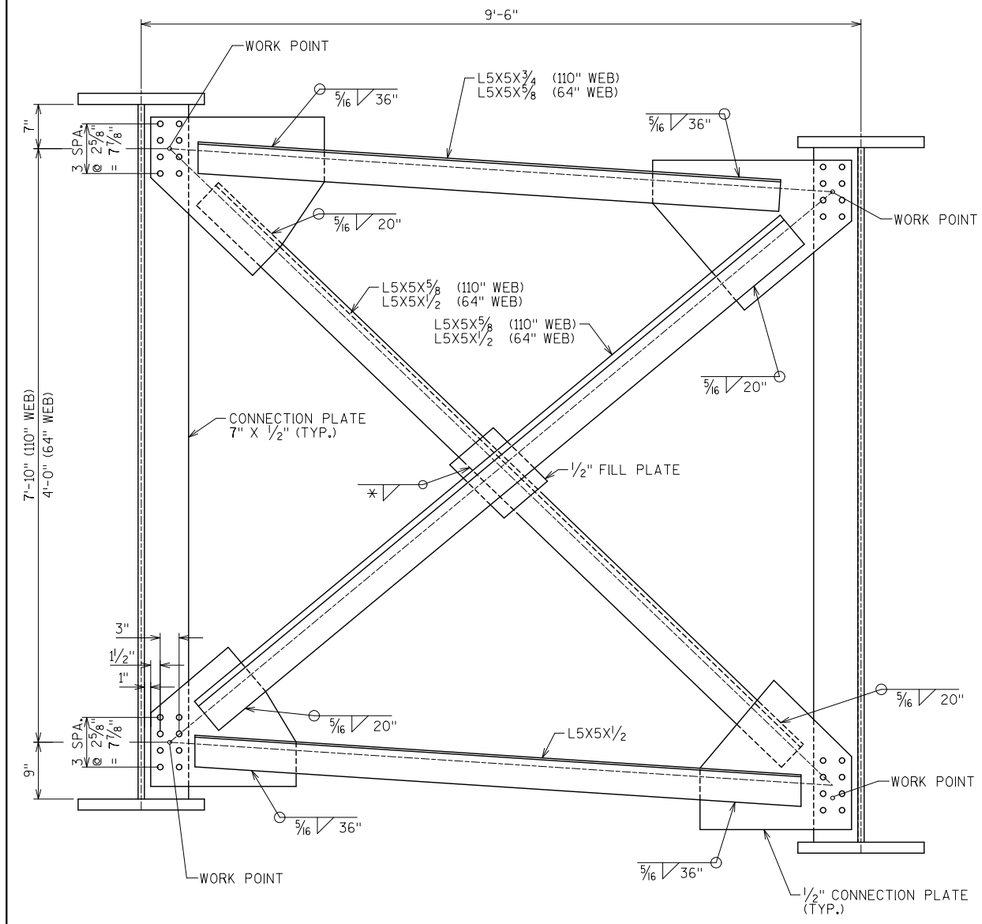
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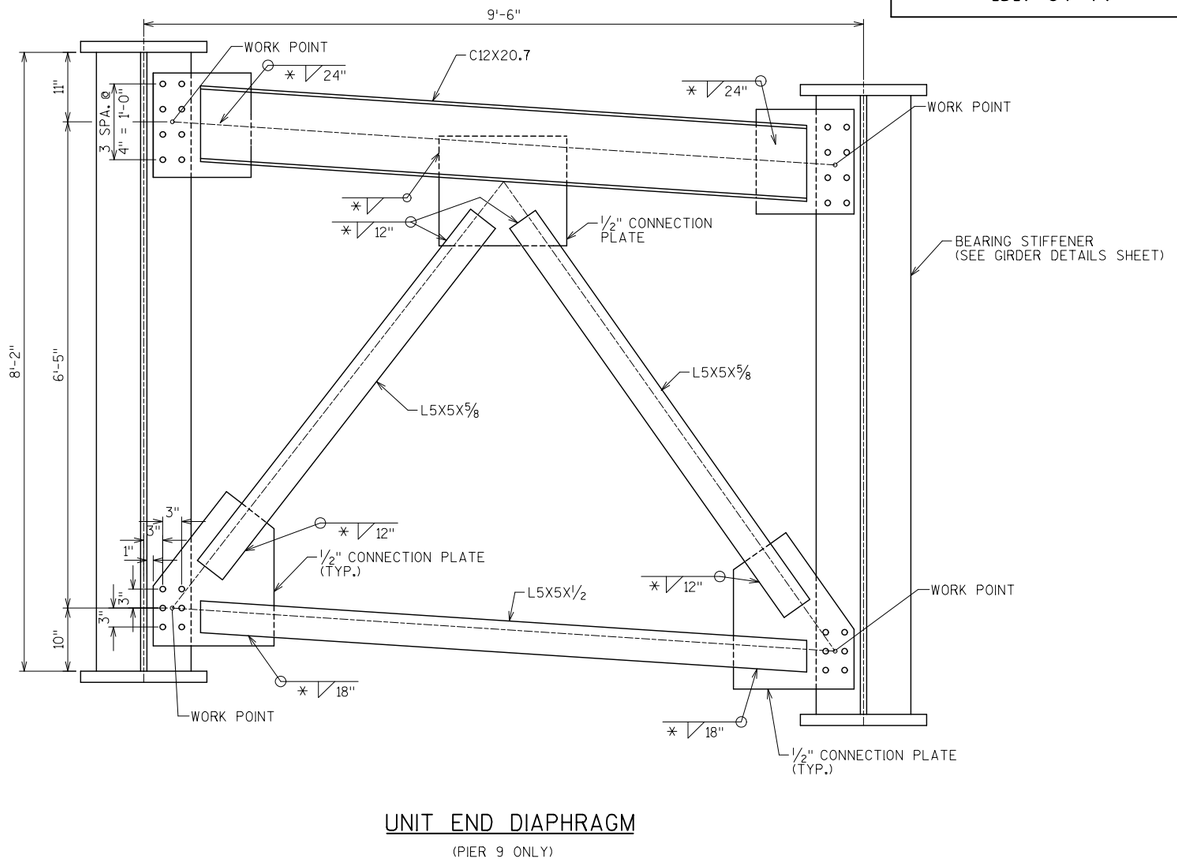
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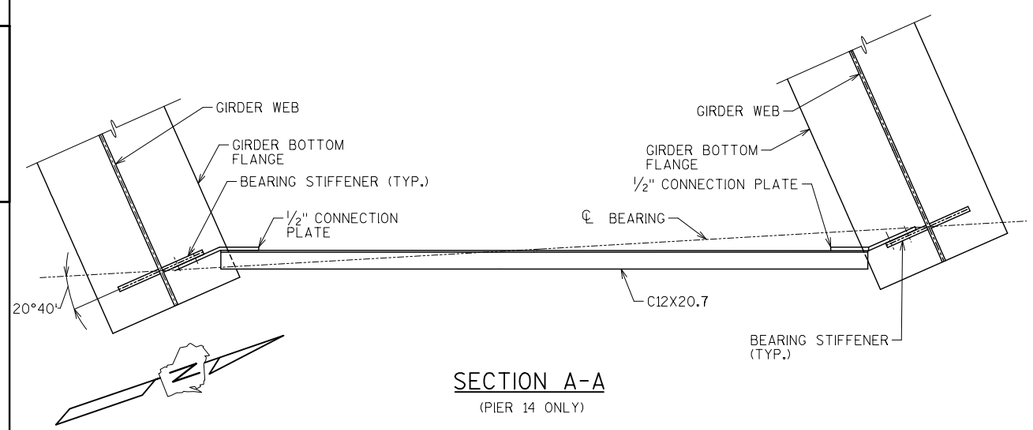

## INTERMEDIATE DIAPHRAGM

(110" AND 64" WEB GIRDERS)



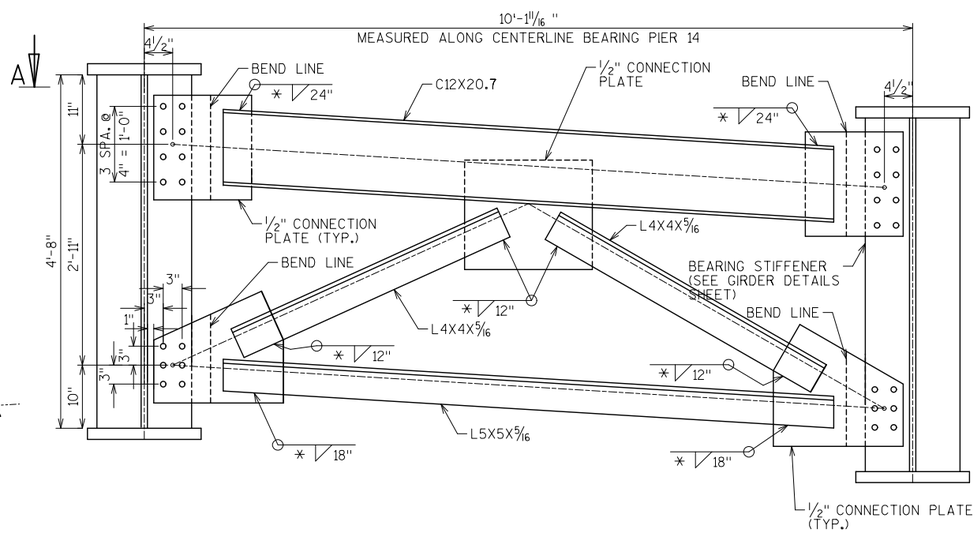

## UNIT END DIAPHRAGM

(PIER 9 ONLY)




## SECTION A-A

(PIER 14 ONLY)




## UNIT END DIAPHRAGM

(PIER 14 ONLY)

## NOTES:

ALL BOLTS SHALL BE FRICTION TYPE USING 7/8 INCH DIAMETER HIGH STRENGTH (ASTM A325) WITH WASHERS.

ALL STEEL SHALL BE ASTM A709 GRADE 50.

* SEE GIRDER DETAILS SHEET FOR WELD SIZES

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|---|---|---|---|

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PLATE GIRDER DIAPHRAGMS UNIT 3

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FILE= $FILE$

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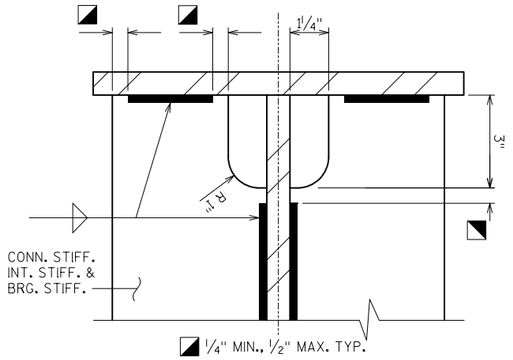
1517-07-77

## * TABLE OF FILLET WELD SIZES

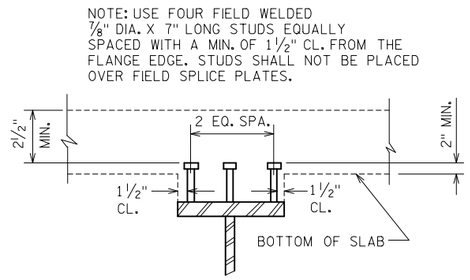
| MATERIAL THICKNESS OF THICKER PART JOINED. | † MIN. SIZE OF FILLET WELD |
|---|---|
| TO 1/2" INCLUSIVE | 3/16" |
| OVER 1/2" TO 3/4" | 1/4" |
| OVER 3/4" TO 1 1/2" | △ 5/16" |
| OVER 1 1/2" TO 2 1/4" | △ 3/8" |
| OVER 2 1/4" TO 6" | △ 1/2" |

† EXCEPT THAT THE WELD SIZE SHALL NOT EXCEED THE THICKNESS OF THE THINNER PART JOINED.

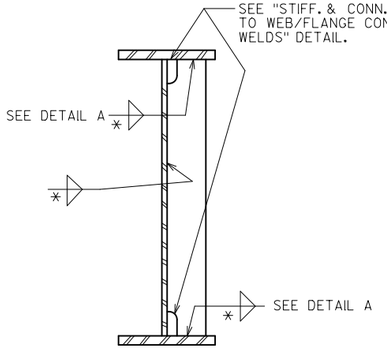
△ MIN. PASS SIZE IS 5/16"

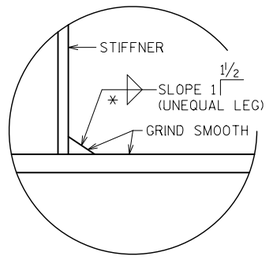



## STIFF. & CONN. STIFF. TO WEB/FLANGE CONN. WELDS




## SHEAR CONN. DETAILS

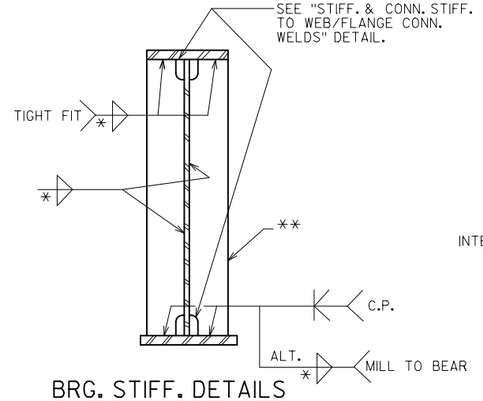


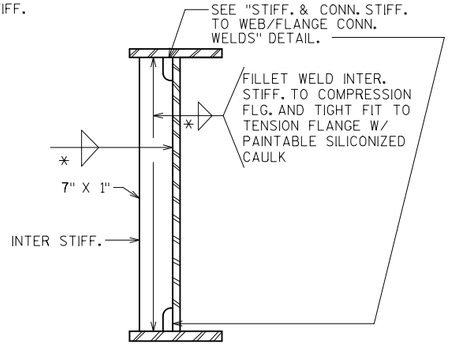

## DETAIL A

CONNECTION STIFFENER DETAIL @ TENSION FLANGE

## CONNECTION STIFF. DETAILS




## BRG. STIFF. DETAILS TYP. AT ABUT. & PIER




## INTERMEDIATE STIFF. DETAILS

(ALL GIRDERS)

## NOTES

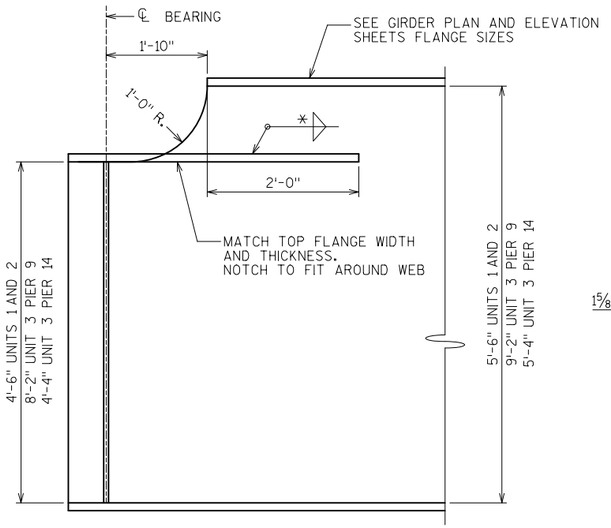
OPTIONAL WELDED SHOP SPLICES MAY BE USED FOR ALL FLANGE AND WEB PLATES OVER 60'-0" LONG. IF USED, THE LOCATION OF THE SPLICE SHALL BE SHOWN ON SHOP DRAWINGS AND WILL BE SUBJECT TO THE APPROVAL OF THE STRUCTURES DESIGN SECTION.

⌖ OPTIONAL FLANGE BUTT SPLICE. A FLANGE PLATE OF THE LARGER SIZE MAY BE FURNISHED FULL LENGTH, BUT PAY WEIGHT SHALL BE BASED ON SECTIONS AS DETAILED.

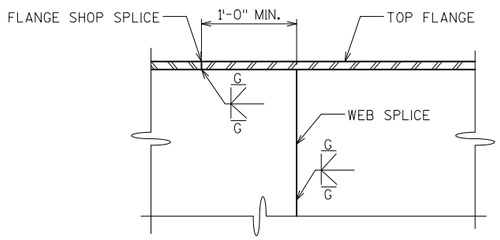
AT EXTERIOR GIRDERS PLACE INTERMEDIATE TRANSVERSE STIFFENERS ON INTERIOR FACE OF GIRDER.

PRIOR TO STEEL BLAST, ALL FLAME CUT EDGES OF PLATES THAT ARE TO BE PAINTED SHALL BE GROUND OR PLANED TO REMOVE THE HARDENED SURFACE CAUSED BY THE FLAME.

CONNECTION PLATES ARE TO BE PLACED NORMAL TO TOP FLANGE. BEARING AND JACKING STIFFENERS ARE TO BE PLACED VERTICAL.




## GIRDER COPE DETAIL



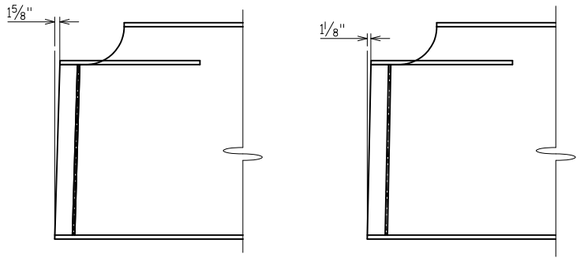

## OPTIONAL SHOP SPLICE DETAIL

## BEARING STIFFENERS

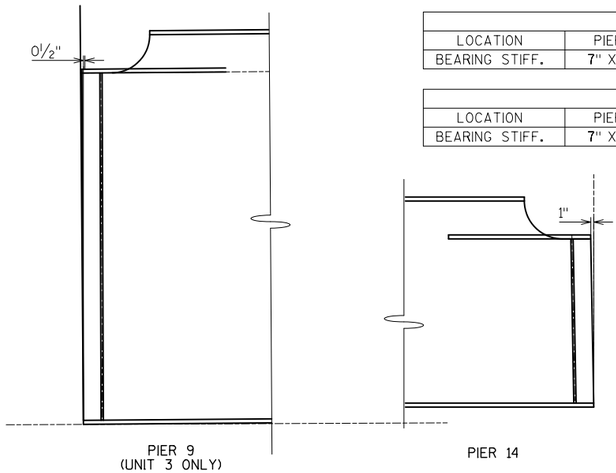
| UNIT 1 | | | | | |
|---|---|---|---|---|---|
| LOCATION | S. ABUT. | PIER 1 | PIER 2 | PIER 3 | PIER 4 |
| BEARING STIFF. | 7" X 3/4" | 7" X 1 1/4" | 7" X 1 1/4" | 7" X 1 1/4" | 7" X 3/4" |

| UNIT 2 | | | | | | |
|---|---|---|---|---|---|---|
| LOCATION | PIER 4 | PIER 5 | PIER 6 | PIER 7 | PIER 8 | PIER 9 |
| BEARING STIFF. | 7" X 3/4" | 7" X 1 1/4" | 7" X 1 1/4" | 7" X 1 1/4" | 7" X 1 1/4" | 7" X 3/4" |

| UNIT 3 | | | | | | |
|---|---|---|---|---|---|---|
| LOCATION | PIER 9 | PIER 10 | PIER 11 | PIER 12 | PIER 13 | PIER 14 |
| BEARING STIFF. | 7" X 3/4" | 7" X 1 1/4" | 7" X 1 1/2" | 7" X 1 1/2" | 7" X 1 1/2" | 7" X 3/4" |




WEST. ABUT. PIER 4




PIER 9 (UNIT 3 ONLY) PIER 14

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

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STRUCTURE B-70-405

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GIRDER DETAILS

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FILE= $FILE$

DATE: $DATE$
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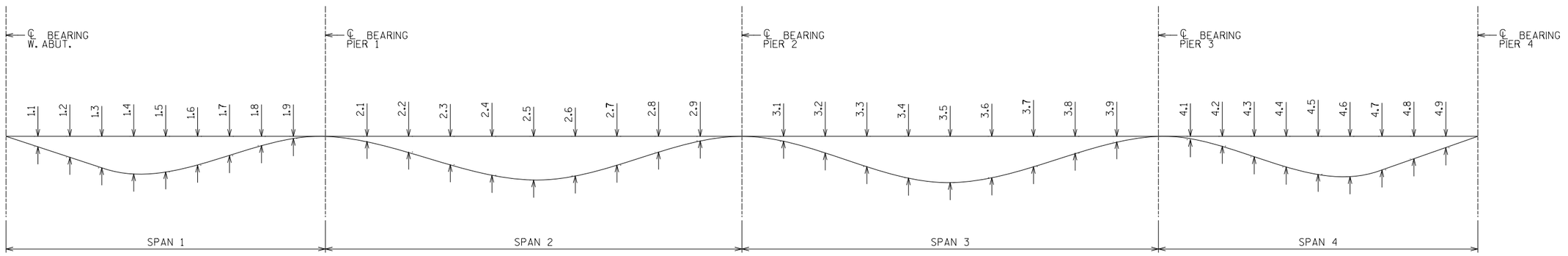
STATE PROJECT NUMBER

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# DEAD LOAD DEFLECTIONS

DIMENSIONS ARE IN INCHES
NEGATIVE VALUES INDICATE UPWARDS DEFLECTION

| | SPAN 1 | | | | | | | | | | | SPAN 2 | | | | | | | | | | SPAN 3 | | | | | | | | | | SPAN 4 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LOCATION | 1.0 | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.0 | 2.1 | 2.2 | 2.3 | 2.4 | 2.5 | 2.6 | 2.7 | 2.8 | 2.9 | 3.0 | 3.1 | 3.2 | 3.3 | 3.4 | 3.5 | 3.6 | 3.7 | 3.8 | 3.9 | 4.0 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 4.7 | 4.8 | 4.9 | 5.0 |
| DL-STEEL ONLY | 0.00 | 0.09 | 0.16 | 0.21 | 0.23 | 0.21 | 0.17 | 0.12 | 0.06 | 0.02 | 0.00 | 0.04 | 0.12 | 0.22 | 0.29 | 0.31 | 0.28 | 0.21 | 0.12 | 0.04 | 0.00 | 0.04 | 0.12 | 0.22 | 0.29 | 0.32 | 0.30 | 0.23 | 0.13 | 0.05 | 0.00 | 0.01 | 0.06 | 0.11 | 0.17 | 0.21 | 0.23 | 0.21 | 0.16 | 0.09 | 0.00 |
| DL-SLAB | 0.00 | 0.33 | 0.57 | 0.74 | 0.80 | 0.75 | 0.61 | 0.41 | 0.21 | 0.06 | 0.00 | 0.14 | 0.41 | 0.74 | 0.99 | 1.08 | 0.98 | 0.73 | 0.41 | 0.12 | 0.00 | 0.12 | 0.40 | 0.73 | 1.00 | 1.10 | 1.02 | 0.78 | 0.45 | 0.15 | 0.00 | 0.05 | 0.20 | 0.40 | 0.60 | 0.76 | 0.80 | 0.75 | 0.58 | 0.33 | 0.00 |
| DL-PARPT. AND OVRLY | 0.00 | 0.05 | 0.08 | 0.11 | 0.12 | 0.11 | 0.09 | 0.06 | 0.03 | 0.01 | 0.00 | 0.02 | 0.06 | 0.11 | 0.15 | 0.16 | 0.15 | 0.11 | 0.06 | 0.02 | 0.00 | 0.02 | 0.06 | 0.11 | 0.15 | 0.16 | 0.15 | 0.12 | 0.07 | 0.02 | 0.00 | 0.01 | 0.03 | 0.06 | 0.09 | 0.11 | 0.11 | 0.11 | 0.08 | 0.05 | 0.00 |
| DL-TOTAL | 0.00 | 0.46 | 0.81 | 1.05 | 1.14 | 1.07 | 0.87 | 0.58 | 0.30 | 0.09 | 0.00 | 0.20 | 0.60 | 1.06 | 1.43 | 1.55 | 1.41 | 1.06 | 0.59 | 0.18 | 0.00 | 0.18 | 0.58 | 1.06 | 1.44 | 1.59 | 1.47 | 1.13 | 0.65 | 0.22 | 0.00 | 0.06 | 0.28 | 0.57 | 0.85 | 1.08 | 1.14 | 1.07 | 0.83 | 0.47 | 0.00 |
| | SPAN 1 | | | | | | | | | | | SPAN 2 | | | | | | | | | | SPAN 3 | | | | | | | | | | SPAN 4 | | | | | | | | | |
| LOCATION | 1.0 | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.0 | 2.1 | 2.2 | 2.3 | 2.4 | 2.5 | 2.6 | 2.7 | 2.8 | 2.9 | 3.0 | 3.1 | 3.2 | 3.3 | 3.4 | 3.5 | 3.6 | 3.7 | 3.8 | 3.9 | 4.0 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 4.7 | 4.8 | 4.9 | 5.0 |
| DL-STEEL ONLY | 0.00 | 0.10 | 0.17 | 0.22 | 0.24 | 0.22 | 0.18 | 0.12 | 0.06 | 0.02 | 0.00 | 0.04 | 0.13 | 0.23 | 0.30 | 0.33 | 0.30 | 0.22 | 0.12 | 0.04 | 0.00 | 0.04 | 0.13 | 0.23 | 0.31 | 0.34 | 0.31 | 0.24 | 0.14 | 0.05 | 0.00 | 0.01 | 0.06 | 0.12 | 0.18 | 0.23 | 0.24 | 0.22 | 0.17 | 0.10 | 0.00 |
| DL-SLAB | 0.00 | 0.35 | 0.62 | 0.80 | 0.87 | 0.81 | 0.66 | 0.44 | 0.23 | 0.07 | 0.00 | 0.14 | 0.44 | 0.78 | 1.05 | 1.15 | 1.05 | 0.78 | 0.44 | 0.13 | 0.00 | 0.13 | 0.42 | 0.78 | 1.07 | 1.18 | 1.08 | 0.83 | 0.48 | 0.16 | 0.00 | 0.05 | 0.21 | 0.43 | 0.65 | 0.82 | 0.87 | 0.82 | 0.64 | 0.36 | 0.00 |
| DL-PARPT. AND OVRLY | 0.00 | 0.05 | 0.09 | 0.11 | 0.12 | 0.11 | 0.09 | 0.06 | 0.03 | 0.01 | 0.00 | 0.02 | 0.06 | 0.11 | 0.15 | 0.16 | 0.15 | 0.11 | 0.06 | 0.02 | 0.00 | 0.02 | 0.06 | 0.11 | 0.15 | 0.17 | 0.16 | 0.12 | 0.07 | 0.02 | 0.00 | 0.01 | 0.03 | 0.06 | 0.09 | 0.11 | 0.12 | 0.11 | 0.09 | 0.05 | 0.00 |
| DL-TOTAL | 0.00 | 0.50 | 0.88 | 1.13 | 1.23 | 1.15 | 0.94 | 0.63 | 0.32 | 0.10 | 0.00 | 0.20 | 0.63 | 1.12 | 1.51 | 1.64 | 1.49 | 1.11 | 0.62 | 0.19 | 0.00 | 0.19 | 0.61 | 1.11 | 1.52 | 1.68 | 1.55 | 1.18 | 0.68 | 0.23 | 0.00 | 0.07 | 0.30 | 0.61 | 0.91 | 1.16 | 1.23 | 1.15 | 0.90 | 0.50 | 0.00 |
| | SPAN 1 | | | | | | | | | | | SPAN 2 | | | | | | | | | | SPAN 3 | | | | | | | | | | SPAN 4 | | | | | | | | | |
| LOCATION | 1.0 | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.0 | 2.1 | 2.2 | 2.3 | 2.4 | 2.5 | 2.6 | 2.7 | 2.8 | 2.9 | 3.0 | 3.1 | 3.2 | 3.3 | 3.4 | 3.5 | 3.6 | 3.7 | 3.8 | 3.9 | 4.0 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 4.7 | 4.8 | 4.9 | 5.0 |
| DL-STEEL ONLY | 0.00 | 0.10 | 0.18 | 0.23 | 0.25 | 0.23 | 0.19 | 0.13 | 0.07 | 0.02 | 0.00 | 0.04 | 0.13 | 0.23 | 0.31 | 0.34 | 0.31 | 0.23 | 0.13 | 0.04 | 0.00 | 0.04 | 0.13 | 0.23 | 0.32 | 0.35 | 0.32 | 0.24 | 0.14 | 0.05 | 0.00 | 0.02 | 0.06 | 0.13 | 0.19 | 0.24 | 0.25 | 0.23 | 0.18 | 0.10 | 0.00 |
| DL-SLAB | 0.00 | 0.37 | 0.65 | 0.84 | 0.92 | 0.85 | 0.70 | 0.47 | 0.24 | 0.07 | 0.00 | 0.15 | 0.45 | 0.81 | 1.09 | 1.19 | 1.08 | 0.81 | 0.45 | 0.14 | 0.00 | 0.14 | 0.44 | 0.81 | 1.11 | 1.22 | 1.13 | 0.86 | 0.50 | 0.16 | 0.00 | 0.06 | 0.23 | 0.46 | 0.68 | 0.87 | 0.92 | 0.86 | 0.67 | 0.38 | 0.00 |
| DL-PARPT. AND OVRLY | 0.00 | 0.05 | 0.09 | 0.11 | 0.12 | 0.12 | 0.09 | 0.06 | 0.03 | 0.01 | 0.00 | 0.02 | 0.07 | 0.12 | 0.15 | 0.17 | 0.15 | 0.11 | 0.06 | 0.02 | 0.00 | 0.02 | 0.06 | 0.11 | 0.15 | 0.17 | 0.16 | 0.12 | 0.07 | 0.02 | 0.00 | 0.01 | 0.03 | 0.06 | 0.09 | 0.11 | 0.12 | 0.11 | 0.09 | 0.05 | 0.00 |
| DL-TOTAL | 0.00 | 0.52 | 0.92 | 1.19 | 1.29 | 1.20 | 0.98 | 0.66 | 0.34 | 0.10 | 0.00 | 0.21 | 0.65 | 1.16 | 1.56 | 1.70 | 1.54 | 1.16 | 0.65 | 0.20 | 0.00 | 0.20 | 0.64 | 1.16 | 1.58 | 1.74 | 1.60 | 1.23 | 0.71 | 0.23 | 0.00 | 0.08 | 0.33 | 0.65 | 0.96 | 1.22 | 1.29 | 1.21 | 0.94 | 0.53 | 0.00 |
| | SPAN 1 | | | | | | | | | | | SPAN 2 | | | | | | | | | | SPAN 3 | | | | | | | | | | SPAN 4 | | | | | | | | | |
| LOCATION | 1.0 | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.0 | 2.1 | 2.2 | 2.3 | 2.4 | 2.5 | 2.6 | 2.7 | 2.8 | 2.9 | 3.0 | 3.1 | 3.2 | 3.3 | 3.4 | 3.5 | 3.6 | 3.7 | 3.8 | 3.9 | 4.0 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 4.7 | 4.8 | 4.9 | 5.0 |
| DL-STEEL ONLY | 0.00 | 0.10 | 0.18 | 0.23 | 0.26 | 0.24 | 0.20 | 0.13 | 0.07 | 0.02 | 0.00 | 0.04 | 0.13 | 0.24 | 0.32 | 0.34 | 0.31 | 0.23 | 0.13 | 0.04 | 0.00 | 0.04 | 0.13 | 0.24 | 0.32 | 0.35 | 0.32 | 0.25 | 0.14 | 0.05 | 0.00 | 0.02 | 0.07 | 0.13 | 0.20 | 0.25 | 0.26 | 0.24 | 0.19 | 0.11 | 0.00 |
| DL-SLAB | 0.00 | 0.38 | 0.66 | 0.86 | 0.93 | 0.87 | 0.71 | 0.48 | 0.25 | 0.08 | 0.00 | 0.15 | 0.46 | 0.82 | 1.10 | 1.20 | 1.09 | 0.82 | 0.46 | 0.14 | 0.00 | 0.14 | 0.45 | 0.82 | 1.12 | 1.24 | 1.14 | 0.87 | 0.50 | 0.16 | 0.00 | 0.06 | 0.24 | 0.47 | 0.70 | 0.89 | 0.94 | 0.88 | 0.68 | 0.38 | 0.00 |
| DL-PARPT. AND OVRLY | 0.00 | 0.05 | 0.09 | 0.12 | 0.13 | 0.12 | 0.10 | 0.07 | 0.03 | 0.01 | 0.00 | 0.02 | 0.07 | 0.12 | 0.16 | 0.17 | 0.16 | 0.12 | 0.07 | 0.02 | 0.00 | 0.02 | 0.06 | 0.12 | 0.16 | 0.18 | 0.17 | 0.13 | 0.07 | 0.03 | 0.00 | 0.01 | 0.03 | 0.06 | 0.09 | 0.12 | 0.13 | 0.12 | 0.09 | 0.05 | 0.00 |
| DL-TOTAL | 0.00 | 0.53 | 0.94 | 1.21 | 1.31 | 1.23 | 1.00 | 0.67 | 0.35 | 0.11 | 0.00 | 0.21 | 0.66 | 1.17 | 1.58 | 1.72 | 1.56 | 1.17 | 0.65 | 0.20 | 0.00 | 0.20 | 0.64 | 1.17 | 1.60 | 1.77 | 1.63 | 1.25 | 0.72 | 0.24 | 0.00 | 0.08 | 0.34 | 0.67 | 0.99 | 1.25 | 1.32 | 1.24 | 0.96 | 0.54 | 0.00 |
| | SPAN 1 | | | | | | | | | | | SPAN 2 | | | | | | | | | | SPAN 3 | | | | | | | | | | SPAN 4 | | | | | | | | | |
| LOCATION | 1.0 | 1.1 | 1.2 | 1.3 | 1.4 | 1.5 | 1.6 | 1.7 | 1.8 | 1.9 | 2.0 | 2.1 | 2.2 | 2.3 | 2.4 | 2.5 | 2.6 | 2.7 | 2.8 | 2.9 | 3.0 | 3.1 | 3.2 | 3.3 | 3.4 | 3.5 | 3.6 | 3.7 | 3.8 | 3.9 | 4.0 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 4.7 | 4.8 | 4.9 | 5.0 |
| DL-STEEL ONLY | 0.00 | 0.11 | 0.19 | 0.24 | 0.26 | 0.24 | 0.20 | 0.13 | 0.07 | 0.02 | 0.00 | 0.04 | 0.14 | 0.24 | 0.32 | 0.35 | 0.32 | 0.24 | 0.13 | 0.04 | 0.00 | 0.04 | 0.13 | 0.23 | 0.32 | 0.36 | 0.33 | 0.25 | 0.14 | 0.05 | 0.00 | 0.02 | 0.07 | 0.14 | 0.20 | 0.25 | 0.27 | 0.25 | 0.19 | 0.11 | 0.00 |
| DL-SLAB | 0.00 | 0.38 | 0.67 | 0.86 | 0.93 | 0.87 | 0.71 | 0.47 | 0.25 | 0.07 | 0.00 | 0.14 | 0.45 | 0.81 | 1.10 | 1.20 | 1.08 | 0.80 | 0.44 | 0.13 | 0.00 | 0.13 | 0.44 | 0.81 | 1.11 | 1.24 | 1.14 | 0.87 | 0.50 | 0.16 | 0.00 | 0.06 | 0.24 | 0.47 | 0.70 | 0.89 | 0.94 | 0.88 | 0.69 | 0.39 | 0.00 |
| DL-PARPT. AND OVRLY | 0.00 | 0.06 | 0.10 | 0.13 | 0.14 | 0.13 | 0.10 | 0.07 | 0.04 | 0.01 | 0.00 | 0.02 | 0.07 | 0.13 | 0.17 | 0.18 | 0.17 | 0.12 | 0.07 | 0.02 | 0.00 | 0.02 | 0.07 | 0.12 | 0.17 | 0.19 | 0.17 | 0.13 | 0.08 | 0.03 | 0.00 | 0.01 | 0.03 | 0.07 | 0.10 | 0.13 | 0.13 | 0.13 | 0.10 | 0.06 | 0.00 |
| DL-TOTAL | 0.00 | 0.54 | 0.95 | 1.23 | 1.33 | 1.24 | 1.01 | 0.68 | 0.35 | 0.11 | 0.00 | 0.21 | 0.66 | 1.18 | 1.59 | 1.73 | 1.56 | 1.16 | 0.64 | 0.19 | 0.00 | 0.19 | 0.63 | 1.16 | 1.60 | 1.78 | 1.64 | 1.25 | 0.72 | 0.23 | 0.00 | 0.08 | 0.34 | 0.67 | 1.00 | 1.27 | 1.35 | 1.26 | 0.98 | 0.55 | 0.00 |




DEAD LOAD DEFLECTION DIAGRAM

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JRS | PLANS CK'D. GPG

GIRDER DEFLECTIONS UNIT 1

SHEET 55 OF 85
553

FILE= $FILE$
DATE: $DATE$
I.D.

8

8

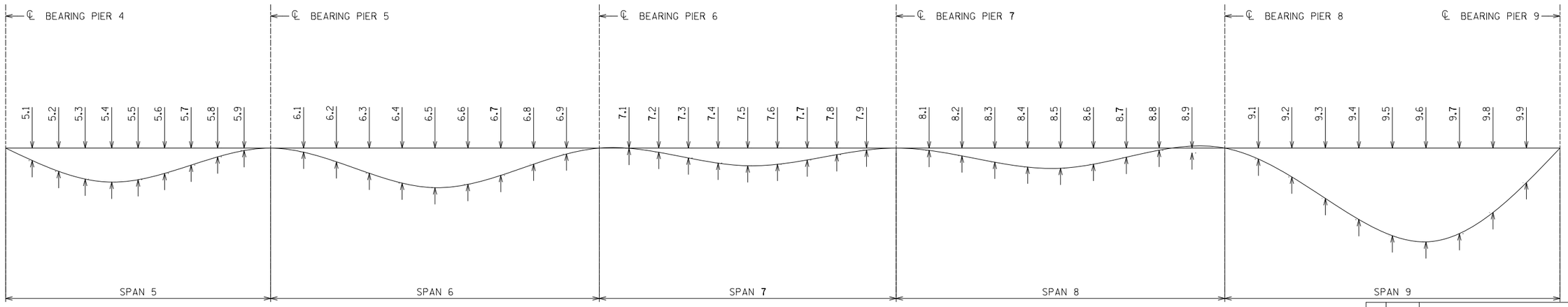
STATE PROJECT NUMBER

1517-07-77

# DEAD LOAD DEFLECTIONS

DIMENSIONS ARE IN INCHES
NEGATIVE VALUES INDICATE UPWARDS DEFLECTION

| GIRDER 1 | SPAN 5 | | | | | | | | | | | SPAN 6 | | | | | | | | | | SPAN 7 | | | | | | | | | | SPAN 8 | | | | | | | | | | SPAN 9 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LOCATION | 5.0 | 5.1 | 5.2 | 5.3 | 5.4 | 5.5 | 5.6 | 5.7 | 5.8 | 5.9 | 6.0 | 6.1 | 6.2 | 6.3 | 6.4 | 6.5 | 6.6 | 6.7 | 6.8 | 6.9 | 7.0 | 7.1 | 7.2 | 7.3 | 7.4 | 7.5 | 7.6 | 7.7 | 7.8 | 7.9 | 8.0 | 8.1 | 8.2 | 8.3 | 8.4 | 8.5 | 8.6 | 8.7 | 8.8 | 8.9 | 9.0 | 9.1 | 9.2 | 9.3 | 9.4 | 9.5 | 9.6 | 9.7 | 9.8 | 9.9 | 10.0 |
| DL-STEEL ONLY | 0.00 | 0.14 | 0.24 | 0.31 | 0.34 | 0.33 | 0.27 | 0.19 | 0.10 | 0.04 | 0.00 | 0.05 | 0.15 | 0.27 | 0.36 | 0.41 | 0.38 | 0.30 | 0.19 | 0.07 | 0.00 | 0.01 | 0.06 | 0.13 | 0.18 | 0.21 | 0.20 | 0.15 | 0.09 | 0.03 | 0.00 | 0.03 | 0.10 | 0.18 | 0.23 | 0.22 | 0.17 | 0.09 | 0.01 | -0.04 | 0.00 | 0.15 | 0.36 | 0.60 | 0.81 | 0.94 | 0.96 | 0.86 | 0.66 | 0.36 | 0.00 |
| DL-SLAB | 0.00 | 0.46 | 0.82 | 1.06 | 1.16 | 1.09 | 0.90 | 0.61 | 0.33 | 0.11 | 0.00 | 0.16 | 0.51 | 0.92 | 1.27 | 1.42 | 1.33 | 1.05 | 0.65 | 0.25 | 0.00 | -0.01 | 0.13 | 0.35 | 0.51 | 0.58 | 0.53 | 0.37 | 0.19 | 0.03 | 0.00 | 0.22 | 0.59 | 0.99 | 1.26 | 1.31 | 1.12 | 0.76 | 0.36 | 0.07 | 0.00 | 0.27 | 0.78 | 1.41 | 1.99 | 2.39 | 2.48 | 2.27 | 1.74 | 0.95 | 0.00 |
| DL-PARPT. AND OVRLY | 0.00 | 0.07 | 0.12 | 0.15 | 0.16 | 0.15 | 0.13 | 0.09 | 0.05 | 0.02 | 0.00 | 0.02 | 0.07 | 0.13 | 0.18 | 0.20 | 0.19 | 0.15 | 0.09 | 0.03 | 0.00 | 0.00 | 0.03 | 0.06 | 0.09 | 0.10 | 0.09 | 0.07 | 0.04 | 0.01 | 0.00 | 0.02 | 0.06 | 0.10 | 0.13 | 0.13 | 0.10 | 0.06 | 0.02 | -0.01 | 0.00 | 0.06 | 0.15 | 0.24 | 0.33 | 0.39 | 0.39 | 0.36 | 0.27 | 0.15 | 0.00 |
| DL-TOTAL | 0.00 | 0.67 | 1.17 | 1.52 | 1.66 | 1.57 | 1.30 | 0.89 | 0.48 | 0.16 | 0.00 | 0.23 | 0.72 | 1.32 | 1.81 | 2.02 | 1.90 | 1.50 | 0.93 | 0.36 | 0.00 | 0.00 | 0.22 | 0.53 | 0.77 | 0.89 | 0.82 | 0.60 | 0.32 | 0.08 | 0.00 | 0.27 | 0.75 | 1.27 | 1.62 | 1.66 | 1.39 | 0.91 | 0.39 | 0.02 | 0.00 | 0.48 | 1.29 | 2.25 | 3.13 | 3.71 | 3.83 | 3.49 | 2.67 | 1.45 | 0.00 |
| GIRDER 2 | SPAN 5 | | | | | | | | | | | SPAN 6 | | | | | | | | | | SPAN 7 | | | | | | | | | | SPAN 8 | | | | | | | | | | SPAN 9 | | | | | | | | | |
| LOCATION | 5.0 | 5.1 | 5.2 | 5.3 | 5.4 | 5.5 | 5.6 | 5.7 | 5.8 | 5.9 | 6.0 | 6.1 | 6.2 | 6.3 | 6.4 | 6.5 | 6.6 | 6.7 | 6.8 | 6.9 | 7.0 | 7.1 | 7.2 | 7.3 | 7.4 | 7.5 | 7.6 | 7.7 | 7.8 | 7.9 | 8.0 | 8.1 | 8.2 | 8.3 | 8.4 | 8.5 | 8.6 | 8.7 | 8.8 | 8.9 | 9.0 | 9.1 | 9.2 | 9.3 | 9.4 | 9.5 | 9.6 | 9.7 | 9.8 | 9.9 | 10.0 |
| DL-STEEL ONLY | 0.00 | 0.15 | 0.26 | 0.33 | 0.36 | 0.35 | 0.29 | 0.20 | 0.11 | 0.04 | 0.00 | 0.05 | 0.15 | 0.28 | 0.38 | 0.42 | 0.40 | 0.31 | 0.19 | 0.07 | 0.00 | 0.01 | 0.06 | 0.14 | 0.19 | 0.23 | 0.22 | 0.17 | 0.10 | 0.04 | 0.00 | 0.03 | 0.10 | 0.18 | 0.22 | 0.22 | 0.16 | 0.08 | 0.00 | -0.04 | 0.00 | 0.16 | 0.39 | 0.65 | 0.87 | 1.01 | 1.03 | 0.93 | 0.71 | 0.38 | 0.00 |
| DL-SLAB | 0.00 | 0.50 | 0.88 | 1.14 | 1.25 | 1.18 | 0.97 | 0.66 | 0.36 | 0.12 | 0.00 | 0.17 | 0.54 | 0.98 | 1.35 | 1.51 | 1.42 | 1.12 | 0.69 | 0.27 | 0.00 | -0.01 | 0.14 | 0.37 | 0.54 | 0.62 | 0.57 | 0.40 | 0.20 | 0.03 | 0.00 | 0.23 | 0.63 | 1.06 | 1.35 | 1.40 | 1.19 | 0.81 | 0.38 | 0.07 | 0.00 | 0.30 | 0.85 | 1.52 | 2.15 | 2.58 | 2.69 | 2.46 | 1.89 | 1.03 | 0.00 |
| DL-PARPT. AND OVRLY | 0.00 | 0.07 | 0.12 | 0.16 | 0.17 | 0.16 | 0.13 | 0.09 | 0.05 | 0.02 | 0.00 | 0.02 | 0.07 | 0.13 | 0.18 | 0.20 | 0.19 | 0.15 | 0.09 | 0.04 | 0.00 | 0.00 | 0.03 | 0.06 | 0.09 | 0.10 | 0.10 | 0.07 | 0.04 | 0.01 | 0.00 | 0.02 | 0.06 | 0.10 | 0.13 | 0.12 | 0.10 | 0.06 | 0.01 | -0.01 | 0.00 | 0.06 | 0.16 | 0.26 | 0.35 | 0.41 | 0.42 | 0.38 | 0.29 | 0.16 | 0.00 |
| DL-TOTAL | 0.00 | 0.71 | 1.26 | 1.63 | 1.78 | 1.68 | 1.39 | 0.95 | 0.51 | 0.17 | 0.00 | 0.23 | 0.76 | 1.39 | 1.91 | 2.13 | 2.01 | 1.59 | 0.98 | 0.38 | 0.00 | 0.00 | 0.23 | 0.56 | 0.82 | 0.94 | 0.88 | 0.64 | 0.34 | 0.08 | 0.00 | 0.28 | 0.79 | 1.34 | 1.70 | 1.75 | 1.45 | 0.95 | 0.39 | 0.01 | 0.00 | 0.51 | 1.39 | 2.43 | 3.38 | 4.00 | 4.14 | 3.76 | 2.88 | 1.57 | 0.00 |
| GIRDER 3 | SPAN 5 | | | | | | | | | | | SPAN 6 | | | | | | | | | | SPAN 7 | | | | | | | | | | SPAN 8 | | | | | | | | | | SPAN 9 | | | | | | | | | |
| LOCATION | 5.0 | 5.1 | 5.2 | 5.3 | 5.4 | 5.5 | 5.6 | 5.7 | 5.8 | 5.9 | 6.0 | 6.1 | 6.2 | 6.3 | 6.4 | 6.5 | 6.6 | 6.7 | 6.8 | 6.9 | 7.0 | 7.1 | 7.2 | 7.3 | 7.4 | 7.5 | 7.6 | 7.7 | 7.8 | 7.9 | 8.0 | 8.1 | 8.2 | 8.3 | 8.4 | 8.5 | 8.6 | 8.7 | 8.8 | 8.9 | 9.0 | 9.1 | 9.2 | 9.3 | 9.4 | 9.5 | 9.6 | 9.7 | 9.8 | 9.9 | 10.0 |
| DL-STEEL ONLY | 0.00 | 0.15 | 0.27 | 0.35 | 0.38 | 0.36 | 0.30 | 0.21 | 0.12 | 0.04 | 0.00 | 0.05 | 0.16 | 0.29 | 0.39 | 0.44 | 0.41 | 0.32 | 0.20 | 0.08 | 0.00 | 0.01 | 0.06 | 0.14 | 0.20 | 0.24 | 0.23 | 0.18 | 0.11 | 0.04 | 0.00 | 0.03 | 0.10 | 0.17 | 0.22 | 0.21 | 0.15 | 0.07 | -0.01 | -0.05 | 0.00 | 0.17 | 0.42 | 0.69 | 0.93 | 1.08 | 1.10 | 0.99 | 0.75 | 0.41 | 0.00 |
| DL-SLAB | 0.00 | 0.53 | 0.93 | 1.20 | 1.31 | 1.24 | 1.02 | 0.70 | 0.38 | 0.12 | 0.00 | 0.17 | 0.56 | 1.02 | 1.40 | 1.57 | 1.48 | 1.18 | 0.73 | 0.28 | 0.00 | -0.01 | 0.15 | 0.38 | 0.55 | 0.64 | 0.58 | 0.41 | 0.20 | 0.03 | 0.00 | 0.25 | 0.66 | 1.11 | 1.41 | 1.47 | 1.24 | 0.84 | 0.39 | 0.06 | 0.00 | 0.32 | 0.90 | 1.62 | 2.29 | 2.74 | 2.85 | 2.61 | 2.00 | 1.09 | 0.00 |
| DL-PARPT. AND OVRLY | 0.00 | 0.07 | 0.12 | 0.16 | 0.17 | 0.16 | 0.14 | 0.09 | 0.05 | 0.02 | 0.00 | 0.02 | 0.08 | 0.14 | 0.19 | 0.21 | 0.20 | 0.15 | 0.09 | 0.04 | 0.00 | 0.00 | 0.03 | 0.06 | 0.09 | 0.10 | 0.10 | 0.07 | 0.04 | 0.01 | 0.00 | 0.02 | 0.06 | 0.10 | 0.12 | 0.12 | 0.09 | 0.05 | 0.01 | -0.01 | 0.00 | 0.07 | 0.17 | 0.28 | 0.38 | 0.44 | 0.45 | 0.40 | 0.31 | 0.17 | 0.00 |
| DL-TOTAL | 0.00 | 0.75 | 1.32 | 1.71 | 1.87 | 1.76 | 1.46 | 1.00 | 0.54 | 0.18 | 0.00 | 0.24 | 0.79 | 1.44 | 1.98 | 2.22 | 2.09 | 1.65 | 1.02 | 0.40 | 0.00 | 0.00 | 0.23 | 0.58 | 0.85 | 0.97 | 0.91 | 0.66 | 0.35 | 0.08 | 0.00 | 0.29 | 0.82 | 1.38 | 1.76 | 1.80 | 1.49 | 0.96 | 0.39 | 0.00 | 0.00 | 0.55 | 1.49 | 2.59 | 3.59 | 4.25 | 4.40 | 4.00 | 3.06 | 1.67 | 0.00 |
| GIRDER 4 | SPAN 5 | | | | | | | | | | | SPAN 6 | | | | | | | | | | SPAN 7 | | | | | | | | | | SPAN 8 | | | | | | | | | | SPAN 9 | | | | | | | | | |
| LOCATION | 5.0 | 5.1 | 5.2 | 5.3 | 5.4 | 5.5 | 5.6 | 5.7 | 5.8 | 5.9 | 6.0 | 6.1 | 6.2 | 6.3 | 6.4 | 6.5 | 6.6 | 6.7 | 6.8 | 6.9 | 7.0 | 7.1 | 7.2 | 7.3 | 7.4 | 7.5 | 7.6 | 7.7 | 7.8 | 7.9 | 8.0 | 8.1 | 8.2 | 8.3 | 8.4 | 8.5 | 8.6 | 8.7 | 8.8 | 8.9 | 9.0 | 9.1 | 9.2 | 9.3 | 9.4 | 9.5 | 9.6 | 9.7 | 9.8 | 9.9 | 10.0 |
| DL-STEEL ONLY | 0.00 | 0.16 | 0.28 | 0.36 | 0.39 | 0.37 | 0.31 | 0.22 | 0.12 | 0.04 | 0.00 | 0.05 | 0.16 | 0.29 | 0.40 | 0.45 | 0.42 | 0.33 | 0.20 | 0.08 | 0.00 | 0.01 | 0.07 | 0.15 | 0.21 | 0.25 | 0.24 | 0.18 | 0.11 | 0.04 | 0.00 | 0.03 | 0.09 | 0.17 | 0.21 | 0.20 | 0.14 | 0.05 | -0.03 | -0.06 | 0.00 | 0.18 | 0.44 | 0.73 | 0.98 | 1.14 | 1.16 | 1.05 | 0.79 | 0.43 | 0.00 |
| DL-SLAB | 0.00 | 0.54 | 0.96 | 1.24 | 1.35 | 1.27 | 1.05 | 0.72 | 0.39 | 0.13 | 0.00 | 0.17 | 0.57 | 1.04 | 1.43 | 1.61 | 1.52 | 1.21 | 0.75 | 0.29 | 0.00 | -0.01 | 0.14 | 0.37 | 0.55 | 0.63 | 0.57 | 0.40 | 0.20 | 0.03 | 0.00 | 0.25 | 0.68 | 1.13 | 1.44 | 1.49 | 1.26 | 0.84 | 0.38 | 0.05 | 0.00 | 0.34 | 0.95 | 1.70 | 2.40 | 2.87 | 2.99 | 2.73 | 2.10 | 1.15 | 0.00 |
| DL-PARPT. AND OVRLY | 0.00 | 0.07 | 0.13 | 0.17 | 0.18 | 0.17 | 0.14 | 0.10 | 0.05 | 0.02 | 0.00 | 0.02 | 0.08 | 0.14 | 0.19 | 0.22 | 0.20 | 0.16 | 0.10 | 0.04 | 0.00 | 0.00 | 0.03 | 0.06 | 0.09 | 0.11 | 0.10 | 0.08 | 0.05 | 0.02 | 0.00 | 0.02 | 0.06 | 0.10 | 0.12 | 0.12 | 0.09 | 0.05 | 0.01 | -0.02 | 0.00 | 0.07 | 0.18 | 0.30 | 0.40 | 0.47 | 0.48 | 0.43 | 0.33 | 0.18 | 0.00 |
| DL-TOTAL | 0.00 | 0.77 | 1.36 | 1.76 | 1.93 | 1.81 | 1.50 | 1.03 | 0.56 | 0.19 | 0.00 | 0.24 | 0.80 | 1.47 | 2.02 | 2.27 | 2.14 | 1.70 | 1.05 | 0.41 | 0.00 | 0.00 | 0.23 | 0.58 | 0.85 | 0.98 | 0.91 | 0.66 | 0.35 | 0.08 | 0.00 | 0.30 | 0.83 | 1.40 | 1.78 | 1.81 | 1.49 | 0.94 | 0.36 | -0.02 | 0.00 | 0.59 | 1.58 | 2.73 | 3.79 | 4.48 | 4.63 | 4.21 | 3.22 | 1.75 | 0.00 |
| GIRDER 5 | SPAN 5 | | | | | | | | | | | SPAN 6 | | | | | | | | | | SPAN 7 | | | | | | | | | | SPAN 8 | | | | | | | | | | SPAN 9 | | | | | | | | | |
| LOCATION | 5.0 | 5.1 | 5.2 | 5.3 | 5.4 | 5.5 | 5.6 | 5.7 | 5.8 | 5.9 | 6.0 | 6.1 | 6.2 | 6.3 | 6.4 | 6.5 | 6.6 | 6.7 | 6.8 | 6.9 | 7.0 | 7.1 | 7.2 | 7.3 | 7.4 | 7.5 | 7.6 | 7.7 | 7.8 | 7.9 | 8.0 | 8.1 | 8.2 | 8.3 | 8.4 | 8.5 | 8.6 | 8.7 | 8.8 | 8.9 | 9.0 | 9.1 | 9.2 | 9.3 | 9.4 | 9.5 | 9.6 | 9.7 | 9.8 | 9.9 | 10.0 |
| DL-STEEL ONLY | 0.00 | 0.16 | 0.29 | 0.37 | 0.41 | 0.39 | 0.32 | 0.22 | 0.12 | 0.04 | 0.00 | 0.05 | 0.16 | 0.29 | 0.41 | 0.45 | 0.43 | 0.34 | 0.21 | 0.08 | 0.00 | 0.01 | 0.07 | 0.15 | 0.22 | 0.25 | 0.24 | 0.19 | 0.12 | 0.04 | 0.00 | 0.02 | 0.09 | 0.16 | 0.20 | 0.18 | 0.12 | 0.04 | -0.04 | -0.07 | 0.00 | 0.19 | 0.47 | 0.78 | 1.04 | 1.21 | 1.23 | 1.11 | 0.84 | 0.46 | 0.00 |
| DL-SLAB | 0.00 | 0.55 | 0.98 | 1.26 | 1.38 | 1.29 | 1.06 | 0.72 | 0.39 | 0.13 | 0.00 | 0.17 | 0.57 | 1.05 | 1.45 | 1.63 | 1.54 | 1.22 | 0.76 | 0.30 | 0.00 | -0.02 | 0.12 | 0.35 | 0.52 | 0.60 | 0.55 | 0.38 | 0.18 | 0.02 | 0.00 | 0.26 | 0.69 | 1.15 | 1.45 | 1.50 | 1.25 | 0.82 | 0.36 | 0.03 | 0.00 | 0.36 | 1.00 | 1.77 | 2.50 | 3.00 | 3.12 | 2.85 | 2.19 | 1.19 | 0.00 |
| DL-PARPT. AND OVRLY | 0.00 | 0.08 | 0.14 | 0.18 | 0.19 | 0.18 | 0.15 | 0.10 | 0.06 | 0.02 | 0.00 | 0.03 | 0.08 | 0.15 | 0.20 | 0.23 | 0.21 | 0.17 | 0.10 | 0.04 | 0.00 | 0.00 | 0.03 | 0.07 | 0.10 | 0.12 | 0.11 | 0.08 | 0.05 | 0.02 | 0.00 | 0.02 | 0.06 | 0.10 | 0.13 | 0.12 | 0.09 | 0.05 | 0.00 | -0.02 | 0.00 | 0.08 | 0.19 | 0.32 | 0.43 | 0.50 | 0.51 | 0.46 | 0.35 | 0.19 | 0.00 |
| DL-TOTAL | 0.00 | 0.79 | 1.40 | 1.81 | 1.97 | 1.86 | 1.53 | 1.05 | 0.57 | 0.19 | 0.00 | 0.24 | 0.81 | 1.49 | 2.06 | 2.31 | 2.18 | 1.73 | 1.07 | 0.41 | 0.00 | -0.01 | 0.22 | 0.56 | 0.84 | 0.97 | 0.90 | 0.65 | 0.34 | 0.08 | 0.00 | 0.30 | 0.83 | 1.40 | 1.78 | 1.80 | 1.46 | 0.90 | 0.32 | -0.05 | 0.00 | 0.63 | 1.66 | 2.87 | 3.97 | 4.70 | 4.86 | 4.42 | 3.38 | 1.84 | 0.00 |




DEAD LOAD DEFLECTION DIAGRAM

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JRS | PLANS CK'D. GPG

GIRDER DEFLECTIONS UNIT 2

SHEET 57 OF 85
554

FILE= $FILE$
DATE: $DATE$
I.D.

8

8

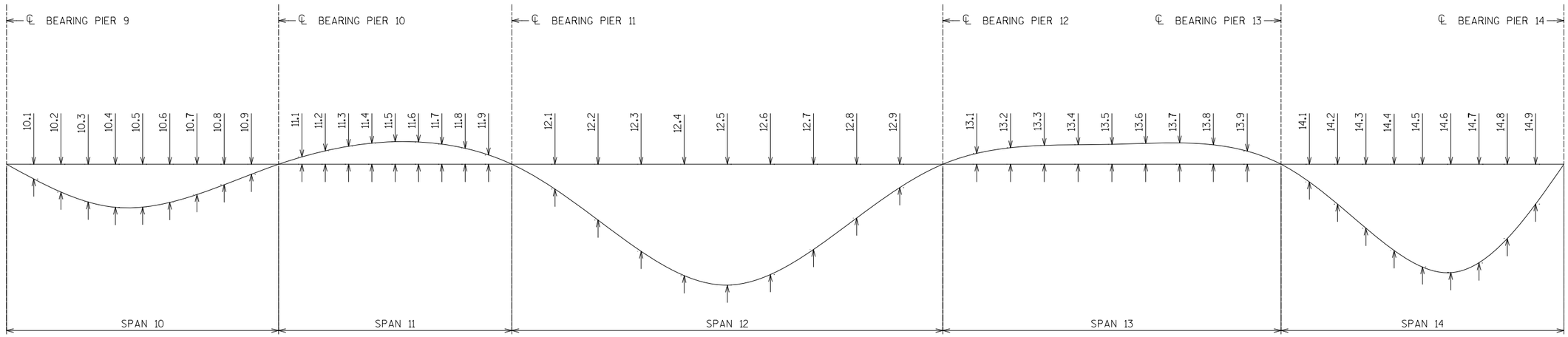
STATE PROJECT NUMBER

1517-07-77

# DEAD LOAD DEFLECTIONS

DIMENSIONS ARE IN INCHES
NEGATIVE VALUES INDICATE UPWARDS DEFLECTION

| GIRDER 1 | SPAN 10 | | | | | | | | | | | SPAN 11 | | | | | | | | | | | SPAN 12 | | | | | | | | | | | SPAN 13 | | | | | | | | | | | SPAN 14 | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LOCATION | 10.0 | 10.1 | 10.2 | 10.3 | 10.4 | 10.5 | 10.6 | 10.7 | 10.8 | 10.9 | 11.0 | 11.1 | 11.2 | 11.3 | 11.4 | 11.5 | 11.6 | 11.7 | 11.8 | 11.9 | 12.0 | 12.1 | 12.2 | 12.3 | 12.4 | 12.5 | 12.6 | 12.7 | 12.8 | 12.9 | 13.0 | 13.1 | 13.2 | 13.3 | 13.4 | 13.5 | 13.6 | 13.7 | 13.8 | 13.8 | 14.0 | 14.1 | 14.2 | 14.3 | 14.4 | 14.5 | 14.6 | 14.7 | 14.8 | 14.9 | 15.0 |
| DL-STEEL ONLY | 0.00 | 0.24 | 0.45 | 0.61 | 0.69 | 0.70 | 0.64 | 0.51 | 0.34 | 0.16 | 0.00 | -0.09 | -0.16 | -0.20 | -0.23 | -0.25 | -0.27 | -0.26 | -0.22 | -0.14 | 0.00 | 0.43 | 0.97 | 1.46 | 1.79 | 1.90 | 1.76 | 1.40 | 0.90 | 0.38 | 0.00 | -0.12 | -0.12 | -0.06 | 0.02 | 0.07 | 0.08 | 0.05 | -0.01 | -0.04 | 0.00 | 0.13 | 0.35 | 0.61 | 0.87 | 1.05 | 1.10 | 1.01 | 0.78 | 0.42 | 0.00 |
| DL-SLAB | 0.00 | 0.47 | 0.87 | 1.17 | 1.33 | 1.35 | 1.23 | 0.99 | 0.66 | 0.31 | 0.00 | -0.19 | -0.32 | -0.41 | -0.47 | -0.51 | -0.52 | -0.50 | -0.42 | -0.26 | 0.00 | 0.77 | 1.70 | 2.53 | 3.03 | 3.16 | 2.89 | 2.28 | 1.45 | 0.61 | 0.00 | -0.17 | -0.14 | -0.02 | 0.11 | 0.19 | 0.17 | 0.07 | -0.05 | -0.11 | 0.00 | 0.31 | 0.80 | 1.40 | 1.97 | 2.36 | 2.48 | 2.27 | 1.74 | 0.95 | 0.00 |
| DL-PARPT. AND OVRLY | 0.00 | 0.08 | 0.15 | 0.21 | 0.24 | 0.24 | 0.22 | 0.17 | 0.12 | 0.05 | 0.00 | -0.03 | -0.05 | -0.06 | -0.07 | -0.08 | -0.08 | -0.08 | -0.07 | -0.04 | 0.00 | 0.13 | 0.29 | 0.44 | 0.53 | 0.56 | 0.52 | 0.41 | 0.27 | 0.11 | 0.00 | -0.03 | -0.02 | 0.00 | 0.02 | 0.04 | 0.04 | 0.02 | -0.01 | -0.02 | 0.00 | 0.05 | 0.14 | 0.24 | 0.33 | 0.40 | 0.42 | 0.38 | 0.29 | 0.16 | 0.00 |
| DL-TOTAL | 0.00 | 0.79 | 1.47 | 1.98 | 2.26 | 2.29 | 2.08 | 1.67 | 1.12 | 0.53 | 0.00 | -0.32 | -0.53 | -0.67 | -0.77 | -0.84 | -0.87 | -0.84 | -0.71 | -0.45 | 0.00 | 1.34 | 2.96 | 4.42 | 5.36 | 5.62 | 5.17 | 4.09 | 2.61 | 1.10 | 0.00 | -0.32 | -0.29 | -0.08 | 0.15 | 0.30 | 0.29 | 0.14 | -0.06 | -0.17 | 0.00 | 0.49 | 1.28 | 2.25 | 3.17 | 3.81 | 4.00 | 3.66 | 2.81 | 1.53 | 0.00 |
| GIRDER 2 | SPAN 10 | | | | | | | | | | | SPAN 11 | | | | | | | | | | | SPAN 12 | | | | | | | | | | | SPAN 13 | | | | | | | | | | | SPAN 14 | | | | | | | | | | |
| LOCATION | 10.0 | 10.1 | 10.2 | 10.3 | 10.4 | 10.5 | 10.6 | 10.7 | 10.8 | 10.9 | 11.0 | 11.1 | 11.2 | 11.3 | 11.4 | 11.5 | 11.6 | 11.7 | 11.8 | 11.9 | 12.0 | 12.1 | 12.2 | 12.3 | 12.4 | 12.5 | 12.6 | 12.7 | 12.8 | 12.9 | 13.0 | 13.1 | 13.2 | 13.3 | 13.4 | 13.5 | 13.6 | 13.7 | 13.8 | 13.8 | 14.0 | 14.1 | 14.2 | 14.3 | 14.4 | 14.5 | 14.6 | 14.7 | 14.8 | 14.9 | 15.0 |
| DL-STEEL ONLY | 0.00 | 0.27 | 0.50 | 0.68 | 0.77 | 0.79 | 0.72 | 0.58 | 0.39 | 0.18 | 0.00 | -0.11 | -0.20 | -0.25 | -0.29 | -0.32 | -0.33 | -0.32 | -0.27 | -0.17 | 0.00 | 0.50 | 1.11 | 1.68 | 2.06 | 2.19 | 2.03 | 1.63 | 1.05 | 0.46 | 0.00 | -0.17 | -0.21 | -0.18 | -0.12 | -0.07 | -0.05 | -0.06 | -0.09 | -0.09 | 0.00 | 0.19 | 0.46 | 0.80 | 1.11 | 1.33 | 1.39 | 1.27 | 0.98 | 0.53 | 0.00 |
| DL-SLAB | 0.00 | 0.53 | 0.98 | 1.32 | 1.51 | 1.54 | 1.40 | 1.13 | 0.76 | 0.36 | 0.00 | -0.23 | -0.39 | -0.50 | -0.58 | -0.63 | -0.64 | -0.61 | -0.51 | -0.31 | 0.00 | 0.90 | 1.97 | 2.93 | 3.51 | 3.67 | 3.37 | 2.68 | 1.72 | 0.74 | 0.00 | -0.25 | -0.29 | -0.21 | -0.11 | -0.04 | -0.05 | -0.13 | -0.21 | -0.21 | 0.00 | 0.42 | 1.05 | 1.80 | 2.51 | 2.99 | 3.13 | 2.87 | 2.21 | 1.21 | 0.00 |
| DL-PARPT. AND OVRLY | 0.00 | 0.09 | 0.17 | 0.23 | 0.26 | 0.27 | 0.24 | 0.19 | 0.13 | 0.06 | 0.00 | -0.04 | -0.06 | -0.08 | -0.09 | -0.10 | -0.10 | -0.10 | -0.08 | -0.05 | 0.00 | 0.15 | 0.34 | 0.50 | 0.62 | 0.65 | 0.60 | 0.48 | 0.31 | 0.14 | 0.00 | -0.05 | -0.05 | -0.04 | -0.02 | -0.01 | -0.01 | -0.02 | -0.04 | -0.04 | 0.00 | 0.07 | 0.18 | 0.30 | 0.42 | 0.50 | 0.52 | 0.47 | 0.36 | 0.20 | 0.00 |
| DL-TOTAL | 0.00 | 0.89 | 1.65 | 2.23 | 2.55 | 2.59 | 2.36 | 1.90 | 1.28 | 0.60 | 0.00 | -0.38 | -0.65 | -0.83 | -0.96 | -1.05 | -1.08 | -1.03 | -0.86 | -0.54 | 0.00 | 1.55 | 3.42 | 5.11 | 6.19 | 6.51 | 6.01 | 4.78 | 3.08 | 1.33 | 0.00 | -0.47 | -0.55 | -0.43 | -0.24 | -0.11 | -0.11 | -0.21 | -0.34 | -0.33 | 0.00 | 0.67 | 1.68 | 2.89 | 4.04 | 4.82 | 5.04 | 4.61 | 3.54 | 1.94 | 0.00 |
| GIRDER 3 | SPAN 10 | | | | | | | | | | | SPAN 11 | | | | | | | | | | | SPAN 12 | | | | | | | | | | | SPAN 13 | | | | | | | | | | | SPAN 14 | | | | | | | | | | |
| LOCATION | 10.0 | 10.1 | 10.2 | 10.3 | 10.4 | 10.5 | 10.6 | 10.7 | 10.8 | 10.9 | 11.0 | 11.1 | 11.2 | 11.3 | 11.4 | 11.5 | 11.6 | 11.7 | 11.8 | 11.9 | 12.0 | 12.1 | 12.2 | 12.3 | 12.4 | 12.5 | 12.6 | 12.7 | 12.8 | 12.9 | 13.0 | 13.1 | 13.2 | 13.3 | 13.4 | 13.5 | 13.6 | 13.7 | 13.8 | 13.8 | 14.0 | 14.1 | 14.2 | 14.3 | 14.4 | 14.5 | 14.6 | 14.7 | 14.8 | 14.9 | 15.0 |
| DL-STEEL ONLY | 0.00 | 0.30 | 0.55 | 0.75 | 0.86 | 0.87 | 0.80 | 0.64 | 0.44 | 0.21 | 0.00 | -0.13 | -0.23 | -0.30 | -0.35 | -0.39 | -0.40 | -0.38 | -0.32 | -0.20 | 0.00 | 0.57 | 1.26 | 1.89 | 2.33 | 2.48 | 2.31 | 1.85 | 1.21 | 0.53 | 0.00 | -0.22 | -0.30 | -0.30 | -0.25 | -0.20 | -0.18 | -0.18 | -0.18 | -0.14 | 0.00 | 0.24 | 0.58 | 0.99 | 1.36 | 1.61 | 1.67 | 1.52 | 1.16 | 0.64 | 0.00 |
| DL-SLAB | 0.00 | 0.58 | 1.09 | 1.46 | 1.68 | 1.71 | 1.56 | 1.26 | 0.86 | 0.41 | 0.00 | -0.26 | -0.46 | -0.60 | -0.69 | -0.75 | -0.76 | -0.72 | -0.60 | -0.36 | 0.00 | 1.02 | 2.23 | 3.31 | 3.98 | 4.16 | 3.84 | 3.06 | 1.98 | 0.87 | 0.00 | -0.33 | -0.44 | -0.41 | -0.34 | -0.29 | -0.29 | -0.34 | -0.37 | -0.30 | 0.00 | 0.53 | 1.30 | 2.20 | 3.04 | 3.60 | 3.75 | 3.42 | 2.62 | 1.44 | 0.00 |
| DL-PARPT. AND OVRLY | 0.00 | 0.10 | 0.19 | 0.25 | 0.29 | 0.29 | 0.27 | 0.22 | 0.15 | 0.07 | 0.00 | -0.04 | -0.08 | -0.10 | -0.11 | -0.12 | -0.13 | -0.12 | -0.10 | -0.06 | 0.00 | 0.17 | 0.38 | 0.57 | 0.70 | 0.74 | 0.69 | 0.55 | 0.36 | 0.16 | 0.00 | -0.06 | -0.08 | -0.07 | -0.06 | -0.05 | -0.05 | -0.06 | -0.06 | -0.05 | 0.00 | 0.09 | 0.22 | 0.37 | 0.50 | 0.59 | 0.61 | 0.56 | 0.43 | 0.23 | 0.00 |
| DL-TOTAL | 0.00 | 0.98 | 1.83 | 2.46 | 2.82 | 2.87 | 2.62 | 2.12 | 1.44 | 0.68 | 0.00 | -0.44 | -0.77 | -1.00 | -1.16 | -1.26 | -1.29 | -1.22 | -1.01 | -0.62 | 0.00 | 1.76 | 3.87 | 5.78 | 7.01 | 7.38 | 6.83 | 5.46 | 3.55 | 1.56 | 0.00 | -0.61 | -0.82 | -0.79 | -0.65 | -0.54 | -0.52 | -0.58 | -0.62 | -0.49 | 0.00 | 0.86 | 2.10 | 3.55 | 4.90 | 5.80 | 6.03 | 5.50 | 4.21 | 2.31 | 0.00 |
| GIRDER 4 | SPAN 10 | | | | | | | | | | | SPAN 11 | | | | | | | | | | | SPAN 12 | | | | | | | | | | | SPAN 13 | | | | | | | | | | | SPAN 14 | | | | | | | | | | |
| LOCATION | 10.0 | 10.1 | 10.2 | 10.3 | 10.4 | 10.5 | 10.6 | 10.7 | 10.8 | 10.9 | 11.0 | 11.1 | 11.2 | 11.3 | 11.4 | 11.5 | 11.6 | 11.7 | 11.8 | 11.9 | 12.0 | 12.1 | 12.2 | 12.3 | 12.4 | 12.5 | 12.6 | 12.7 | 12.8 | 12.9 | 13.0 | 13.1 | 13.2 | 13.3 | 13.4 | 13.5 | 13.6 | 13.7 | 13.8 | 13.8 | 14.0 | 14.1 | 14.2 | 14.3 | 14.4 | 14.5 | 14.6 | 14.7 | 14.8 | 14.9 | 15.0 |
| DL-STEEL ONLY | 0.00 | 0.33 | 0.61 | 0.82 | 0.94 | 0.96 | 0.88 | 0.71 | 0.48 | 0.23 | 0.00 | -0.15 | -0.27 | -0.36 | -0.42 | -0.46 | -0.47 | -0.44 | -0.37 | -0.23 | 0.00 | 0.63 | 1.40 | 2.11 | 2.60 | 2.77 | 2.58 | 2.08 | 1.37 | 0.61 | 0.00 | -0.27 | -0.39 | -0.42 | -0.39 | -0.35 | -0.32 | -0.30 | -0.27 | -0.19 | 0.00 | 0.30 | 0.71 | 1.18 | 1.61 | 1.89 | 1.95 | 1.77 | 1.35 | 0.74 | 0.00 |
| DL-SLAB | 0.00 | 0.64 | 1.18 | 1.60 | 1.83 | 1.87 | 1.71 | 1.39 | 0.95 | 0.46 | 0.00 | -0.30 | -0.54 | -0.70 | -0.82 | -0.89 | -0.90 | -0.84 | -0.69 | -0.42 | 0.00 | 1.14 | 2.49 | 3.69 | 4.44 | 4.66 | 4.30 | 3.44 | 2.25 | 1.00 | 0.00 | -0.42 | -0.60 | -0.63 | -0.59 | -0.55 | -0.55 | -0.57 | -0.55 | -0.40 | 0.00 | 0.65 | 1.55 | 2.60 | 3.56 | 4.19 | 4.35 | 3.95 | 3.02 | 1.67 | 0.00 |
| DL-PARPT. AND OVRLY | 0.00 | 0.11 | 0.20 | 0.28 | 0.32 | 0.32 | 0.29 | 0.24 | 0.16 | 0.08 | 0.00 | -0.05 | -0.09 | -0.12 | -0.13 | -0.14 | -0.15 | -0.14 | -0.11 | -0.07 | 0.00 | 0.19 | 0.43 | 0.64 | 0.78 | 0.83 | 0.78 | 0.62 | 0.41 | 0.18 | 0.00 | -0.08 | -0.11 | -0.11 | -0.10 | -0.09 | -0.09 | -0.10 | -0.09 | -0.07 | 0.00 | 0.11 | 0.27 | 0.44 | 0.60 | 0.70 | 0.72 | 0.65 | 0.50 | 0.27 | 0.00 |
| DL-TOTAL | 0.00 | 1.07 | 1.99 | 2.69 | 3.08 | 3.15 | 2.88 | 2.34 | 1.59 | 0.77 | 0.00 | -0.51 | -0.89 | -1.18 | -1.37 | -1.49 | -1.51 | -1.42 | -1.17 | -0.71 | 0.00 | 1.97 | 4.32 | 6.44 | 7.82 | 8.25 | 7.66 | 6.14 | 4.02 | 1.79 | 0.00 | -0.76 | -1.09 | -1.16 | -1.08 | -0.99 | -0.96 | -0.96 | -0.91 | -0.66 | 0.00 | 1.05 | 2.53 | 4.22 | 5.76 | 6.78 | 7.02 | 6.38 | 4.87 | 2.69 | 0.00 |
| GIRDER 5 | SPAN 10 | | | | | | | | | | | SPAN 11 | | | | | | | | | | | SPAN 12 | | | | | | | | | | | SPAN 13 | | | | | | | | | | | SPAN 14 | | | | | | | | | | |
| LOCATION | 10.0 | 10.1 | 10.2 | 10.3 | 10.4 | 10.5 | 10.6 | 10.7 | 10.8 | 10.9 | 11.0 | 11.1 | 11.2 | 11.3 | 11.4 | 11.5 | 11.6 | 11.7 | 11.8 | 11.9 | 12.0 | 12.1 | 12.2 | 12.3 | 12.4 | 12.5 | 12.6 | 12.7 | 12.8 | 12.9 | 13.0 | 13.1 | 13.2 | 13.3 | 13.4 | 13.5 | 13.6 | 13.7 | 13.8 | 13.8 | 14.0 | 14.1 | 14.2 | 14.3 | 14.4 | 14.5 | 14.6 | 14.7 | 14.8 | 14.9 | 15.0 |
| DL-STEEL ONLY | 0.00 | 0.35 | 0.66 | 0.89 | 1.02 | 1.04 | 0.96 | 0.78 | 0.53 | 0.26 | 0.00 | -0.18 | -0.31 | -0.42 | -0.49 | -0.53 | -0.54 | -0.51 | -0.42 | -0.26 | 0.00 | 0.70 | 1.55 | 2.33 | 2.87 | 3.06 | 2.86 | 2.31 | 1.52 | 0.69 | 0.00 | -0.32 | -0.49 | -0.55 | -0.54 | -0.50 | -0.46 | -0.42 | -0.36 | -0.24 | 0.00 | 0.36 | 0.84 | 1.38 | 1.87 | 2.18 | 2.25 | 2.03 | 1.54 | 0.85 | 0.00 |
| DL-SLAB | 0.00 | 0.69 | 1.28 | 1.74 | 1.99 | 2.03 | 1.87 | 1.52 | 1.04 | 0.50 | 0.00 | -0.35 | -0.62 | -0.82 | -0.96 | -1.04 | -1.05 | -0.97 | -0.79 | -0.47 | 0.00 | 1.26 | 2.75 | 4.08 | 4.91 | 5.16 | 4.78 | 3.83 | 2.51 | 1.12 | 0.00 | -0.51 | -0.77 | -0.86 | -0.85 | -0.83 | -0.81 | -0.80 | -0.73 | -0.50 | 0.00 | 0.76 | 1.81 | 3.01 | 4.09 | 4.79 | 4.95 | 4.49 | 3.42 | 1.89 | 0.00 |
| DL-PARPT. AND OVRLY | 0.00 | 0.12 | 0.23 | 0.30 | 0.35 | 0.36 | 0.33 | 0.26 | 0.18 | 0.09 | 0.00 | -0.06 | -0.10 | -0.13 | -0.16 | -0.17 | -0.17 | -0.16 | -0.13 | -0.08 | 0.00 | 0.22 | 0.48 | 0.71 | 0.87 | 0.93 | 0.87 | 0.70 | 0.46 | 0.21 | 0.00 | -0.09 | -0.14 | -0.15 | -0.15 | -0.14 | -0.13 | -0.13 | -0.12 | -0.09 | 0.00 | 0.13 | 0.31 | 0.52 | 0.70 | 0.82 | 0.84 | 0.76 | 0.58 | 0.32 | 0.00 |
| DL-TOTAL | 0.00 | 1.16 | 2.17 | 2.93 | 3.36 | 3.43 | 3.15 | 2.56 | 1.75 | 0.85 | 0.00 | -0.58 | -1.03 | -1.37 | -1.61 | -1.74 | -1.76 | -1.64 | -1.34 | -0.81 | 0.00 | 2.18 | 4.77 | 7.12 | 8.66 | 9.15 | 8.50 | 6.84 | 4.49 | 2.02 | 0.00 | -0.93 | -1.39 | -1.55 | -1.53 | -1.46 | -1.40 | -1.36 | -1.22 | -0.83 | 0.00 | 1.25 | 2.96 | 4.91 | 6.65 | 7.79 | 8.04 | 7.28 | 5.54 | 3.07 | 0.00 |




DEAD LOAD DEFLECTION DIAGRAM

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JRS | PLANS CK'D. GPG

GIRDER DEFLECTIONS UNIT 3

SHEET 58 OF 85
555

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DATE: $DATE$
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| STATE PROJECT NUMBER |
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| 1517-07-77 |

## CAMBER AND BLOCKING

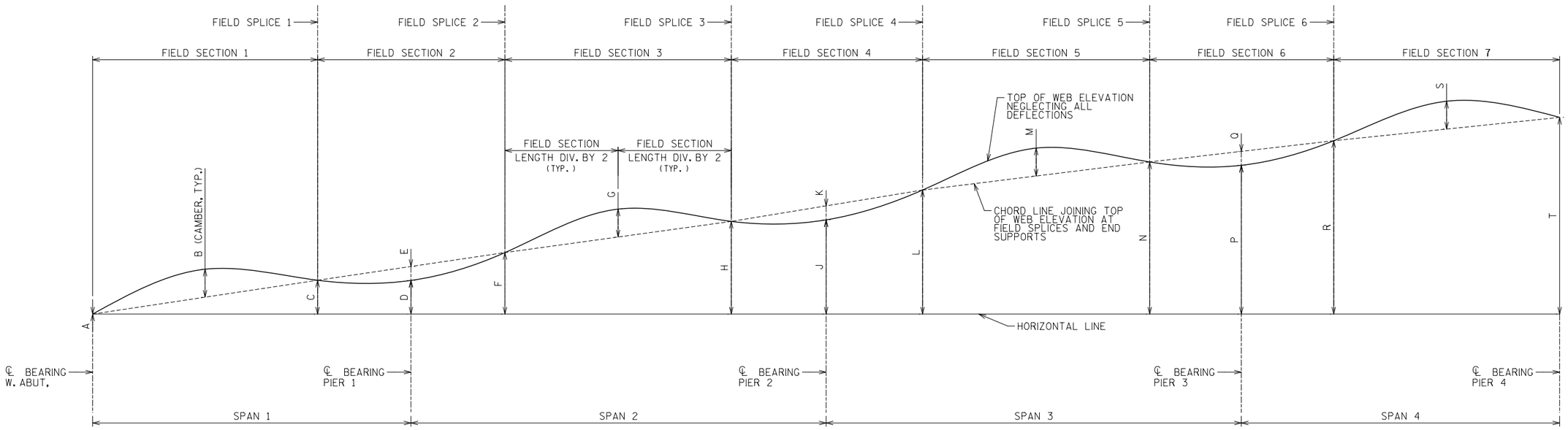
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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GIRDER 1 | 0'-0" | 0 11/16" | 2'-5 1/2" | 3'-5 15/16" | 0 9/16" | 4'-6" | 1 1/16" | 6'-9 7/8" | 7'-8 5/8" | 0 9/16" | 8'-7 9/16" | 0 15/16" | 10'-7 7/8" | 11'-5 1/4" | 0 7/16" | 12'-2 13/16" | 2 1/16" | 13'-10 3/4" |
| GIRDER 2 | 0'-0" | 0 11/16" | 2'-5 9/16" | 3'-6" | 0 5/8" | 4'-6 1/16" | 1 1/8" | 6'-9 7/8" | 7'-8 5/8" | 0 9/16" | 8'-7 9/16" | 1 1/8" | 10'-7 15/16" | 11'-5 5/16" | 0 5/8" | 12'-2 7/8" | 2 1/16" | 13'-10 3/4" |
| GIRDER 3 | 0'-0" | 0 3/4" | 2'-5 9/16" | 3'-6" | 0 5/8" | 4'-6 1/16" | 1 1/8" | 6'-9 15/16" | 7'-8 11/16" | 0 5/8" | 8'-7 5/8" | 1 3/16" | 10'-7 15/16" | 11'-5 5/16" | 0 5/8" | 12'-2 7/8" | 2 1/16" | 13'-10 3/4" |
| GIRDER 4 | 0'-0" | 0 13/16" | 2'-5 9/16" | 3'-6" | 0 5/8" | 4'-6 1/16" | 1 3/16" | 6'-9 15/16" | 7'-8 11/16" | 0 5/8" | 8'-7 5/8" | 1 3/16" | 10'-8" | 11'-5 5/16" | 0 11/16" | 12'-2 15/16" | 2 1/16" | 13'-10 3/4" |
| GIRDER 5 | 0'-0" | 0 13/16" | 2'-5 9/16" | 3'-6 1/16" | 0 5/8" | 4'-6 1/16" | 1 3/16" | 6'-9 15/16" | 7'-8 11/16" | 0 5/8" | 8'-7 5/8" | 1 3/16" | 10'-8" | 11'-5 3/8" | 0 11/16" | 12'-2 15/16" | 2 1/16" | 13'-10 3/4" |

## TOP OF ERECTED STEEL ELEVATIONS

ELEVATIONS INCLUDE STEEL SELFWEIGHT DEFLECTIONS

| LOCATION | W. ABUT. | FS #1 | PIER 1 | FS #2 | FS #3 | PIER 2 | FS #4 | FS #5 | PIER 3 | FS #6 | PIER 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| STATION | 119+00.84 | 119+80.7 | 120+15.84 | 120+49.82 | 121+31.57 | 121+65.84 | 122+00.7 | 122+81.46 | 123+15.84 | 123+50.97 | 124+30.84 |
| GIRDER 1 | 791.89 | 794.39 | 795.38 | 796.43 | 798.76 | 799.60 | 800.56 | 802.60 | 803.32 | 804.16 | 805.79 |
| GIRDER 2 | 792.45 | 794.96 | 795.94 | 796.99 | 799.33 | 800.16 | 801.12 | 803.17 | 803.88 | 804.73 | 806.35 |
| GIRDER 3 | 793.01 | 795.53 | 796.50 | 797.56 | 799.90 | 800.72 | 801.68 | 803.74 | 804.44 | 805.30 | 806.91 |
| GIRDER 4 | 793.57 | 796.09 | 797.06 | 798.12 | 800.46 | 801.28 | 802.25 | 804.30 | 805.00 | 805.86 | 807.47 |
| GIRDER 5 | 794.13 | 796.65 | 797.62 | 798.68 | 801.02 | 801.85 | 802.81 | 804.86 | 805.56 | 806.42 | 808.03 |

THESE 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 FIELD SPLICE POINTS SHALL BE CHECKED, AND CORRECTED IF POSSIBLE. AFTER ERECTION AND BEFORE PERMANENTLY BOLTING THE DIAPHRAGMS IN PLACE.




CAMBER AND BLOCKING DIAGRAM

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JRS | PLANS CK'D. GPG

CAMBER AND BLOCKING UNIT 1

SHEET 59 OF 95
556

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I.D.

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8

STATE PROJECT NUMBER

1517-07-77

## CAMBER AND BLOCKING DIAGRAM

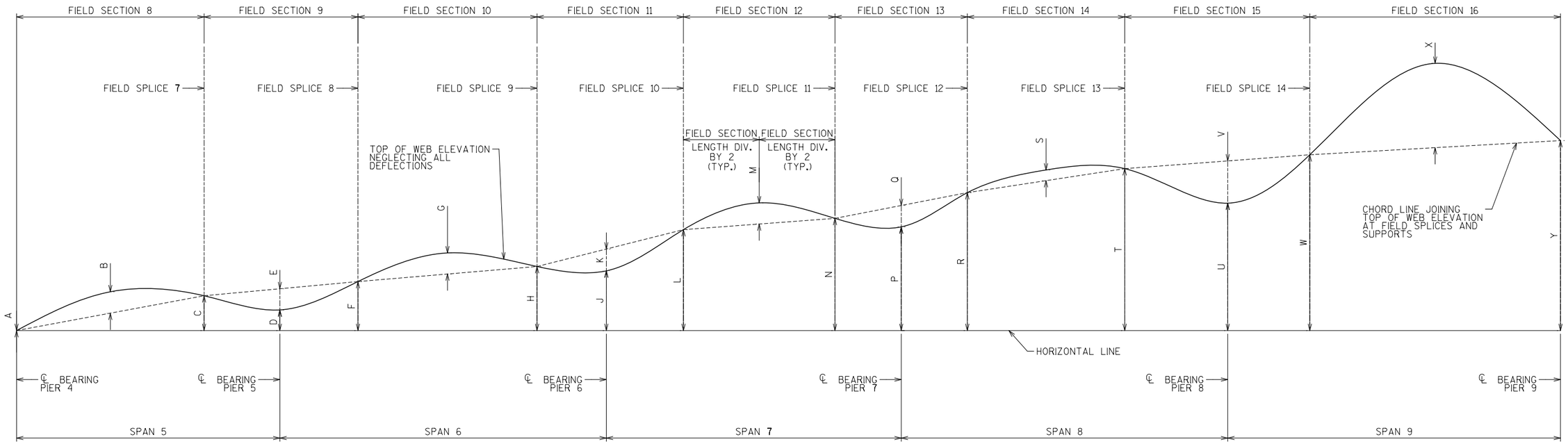
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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GIRDER 1 | 0' -0" | 1¼" | 1' -9⅜" | 5¼" | 0¾" | 3' -0⅝" | 1¼" | 5⅛" | 4' -10⅝" | 0⅝" | 5' -4½" | 0⅝" | 6' -3½" | 7½" | 0⅜" | 6' -11⅜" | 1" | 7' -8¾" | 8' -1¼" | 1" | 8' -4⅝" | 3¾" | 8' -11⅛" |
| GIRDER 2 | 0' -0" | 1¼" | 1' -9⅜" | 2' -5¼" | 0¾" | 3' -0⅝" | 1⅜" | 4' -5⅛" | 4' -10¾" | 0⅝" | 5' -4½" | 0⅝" | 6' -3½" | 6' -7½" | 0⅜" | 6' -11⅜" | 1" | 7' -8¾" | 8' -1⅛" | 0¾" | 8' -4¾" | 4" | 8' -11⅛" |
| GIRDER 3 | 0' -0" | 1⅜" | 1' -9½" | 2' -5⅜" | 0⅞" | 3' -0⅝" | 1⅜" | 4' -5⅛" | 4' -10¾" | 0¾" | 5' -4½" | 0¾" | 6' -3½" | 6' -7½" | 0⅜" | 6' -11⅜" | 1" | 7' -8¾" | 8' -1⅜" | 1⅛" | 8' -4⅞" | 4⅛" | 8' -11⅛" |
| GIRDER 4 | 0' -0" | 1⅜" | 1' -9½" | 2' -5⅜" | 0⅞" | 3' -0⅝" | 1⅜" | 4' -5¼" | 4' -10¾" | 0¾" | 5' -4½" | 0¾" | 6' -3½" | 6' -7½" | 0⅜" | 6' -11⅜" | 1" | 7' -8¾" | 8' -1½" | 1⅛" | 8' -5" | 4⅜" | 8' -11⅛" |
| GIRDER 5 | 0' -0" | 1⅜" | 1' -9½" | 2' -5⅜" | 0⅞" | 3' -0⅝" | 1½" | 4' -5¼" | 4' -10¾" | 0¾" | 5' -4½" | 0¾" | 6' -3½" | 6' -7½" | 0⅜" | 6' -11⅜" | 1" | 7' -8¾" | 8' -1½" | 1¼" | 8' -5" | 4½" | 8' -11⅛" |

## TOP OF ERECTED STEEL ELEVATION

ELEVATIONS INCLUDE STEEL SELFWEIGHT DEFLECTIONS

| LOCATION | PIER 4 | FS #7 | PIER 5 | FS #8 | FS #9 | PIER 6 | FS #10 | FS #11 | PIER 7 | FS #12 | FS #13 | PIER 8 | FS #14 | PIER 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STATION | 124+34.51 | 125+12.63 | 125+59.51 | 125+95.03 | 126+78.99 | 127+14.51 | 127+51.14 | 128+24.51 | 128+54.51 | 128+83.67 | 129+60.6 | 130+09.51 | 130+45.72 | 131+67.51 |
| GIRDER 1 | 805.86 | 807.58 | 808.28 | 808.98 | 810.36 | 810.74 | 811.27 | 812.18 | 812.50 | 812.86 | 813.67 | 813.97 | 814.37 | 814.79 |
| GIRDER 2 | 806.42 | 808.16 | 808.84 | 809.54 | 810.93 | 811.30 | 811.84 | 812.75 | 813.06 | 813.43 | 814.24 | 814.53 | 814.94 | 815.35 |
| GIRDER 3 | 806.98 | 808.73 | 809.40 | 810.11 | 811.50 | 811.86 | 812.40 | 813.31 | 813.62 | 813.99 | 814.81 | 815.09 | 815.52 | 815.91 |
| GIRDER 4 | 807.54 | 809.29 | 809.96 | 810.67 | 812.07 | 812.42 | 812.96 | 813.87 | 814.18 | 814.56 | 815.37 | 815.65 | 816.09 | 816.47 |
| GIRDER 5 | 808.10 | 809.86 | 810.52 | 811.23 | 812.63 | 812.98 | 813.52 | 814.43 | 814.74 | 815.12 | 815.92 | 816.21 | 816.66 | 817.03 |

THESE 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 FIELD SPLICE POINTS SHALL BE CHECKED, AND CORRECTED IF POSSIBLE. AFTER ERECTION AND BEFORE PERMANENTLY BOLTING THE DIAPHRAGMS IN PLACE.




## CAMBER AND BLOCKING DIAGRAM

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JRS | PLANS CK'D. GPG

CAMBER AND BLOCKING UNIT 2

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557

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DATE: $DATE$
I.D.

| STATE PROJECT NUMBER |
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| 1517-07-77 |

## CAMBER AND BLOCKING DIAGRAM

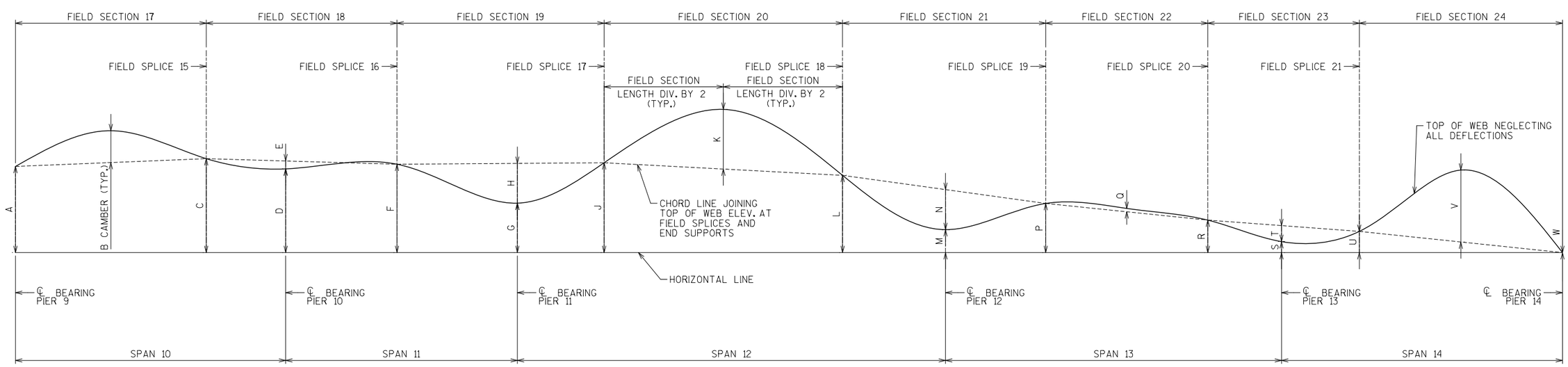
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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GIRDER 1 | 5'-7 5/8" | 1 3/4" | 6'-0 7/8" | 5'-11 1/2" | 0 1/4" | 5'-10 1/8" | 5'-8 3/4" | 0 7/8" | 5'-9 1/8" | 3 1/8" | 4'-10 5/8" | 4'-0 3/8" | 1" | 3'-4 7/8" | 0 3/8" | 2'-4 1/4" | 1'-10 1/8" | 0 7/8" | 1'-5 3/4" | 3 1/8" | 0'-0" |
| GIRDER 2 | 5'-8" | 2" | 6'-1 1/2" | 5'-12" | 0 1/4" | 5'-10 3/8" | 5'-9 1/8" | 1" | 5'-10" | 3 3/8" | 4'-11 5/8" | 4'-0 7/8" | 1" | 3'-5" | 0 1/4" | 2'-4 3/8" | 1'-10 5/8" | 1" | 1'-6 3/4" | 3 3/8" | 0'-0" |
| GIRDER 3 | 5'-8 1/2" | 2 1/8" | 6'-2 1/4" | 6'-0 3/8" | 0 3/8" | 5'-10 5/8" | 5'-9 5/8" | 1 1/8" | 5'-10 7/8" | 3 3/4" | 5'-0 3/4" | 4'-1 1/4" | 1 1/8" | 3'-5 1/8" | 0 1/8" | 2'-4 1/2" | 1'-11" | 1 1/8" | 1'-7 5/8" | 4 5/8" | 0'-0" |
| GIRDER 4 | 5'-8 7/8" | 2 1/4" | 6'-2 7/8" | 6'-0 7/8" | 0 3/8" | 5'-10 3/4" | 5'-10" | 1 3/8" | 5'-11 7/8" | 4 1/8" | 5'-1 3/4" | 4'-1 3/4" | 1 1/4" | 3'-5 1/4" | 0" | 2'-4 5/8" | 1'-11 1/2" | 1 1/4" | 1'-8 5/8" | 5 3/8" | 0'-0" |
| GIRDER 5 | 5'-9 3/8" | 2 3/8" | 6'-3 1/2" | 6'-1 1/4" | 0 3/8" | 5'-11" | 5'-10 1/2" | 1 1/2" | 6'-0 3/4" | 4 3/8" | 5'-2 3/4" | 4'-2 1/8" | 1 3/8" | 3'-5 3/8" | -0 1/8" | 2'-4 5/8" | 1'-11 7/8" | 1 1/4" | 1'-9 5/8" | 6 1/8" | 0'-0" |

## TOP OF ERECTED STEEL ELEVATION

ELEVATIONS INCLUDE STEEL SELFWEIGHT DEFLECTIONS

| LOCATION | PIER 9 | FS #15 | PIER 10 | FS #16 | PIER 11 | FS #17 | FS #18 | PIER 12 | FS #19 | FS #20 | PIER 13 | FS #21 | PIER 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| STATION | 131+71.18 | 132+93.83 | 133+41.18 | 134+11.18 | 134+86.93 | 135+41.51 | 136+88.93 | 137+56.26 | 138+17.1 | 139+19.56 | 139+67.59 | 140+16.51 | 141+43.15 |
| GIRDER 1 | 814.82 | 815.36 | 815.17 | 814.98 | 814.98 | 815.14 | 814.26 | 813.28 | 812.61 | 811.54 | 811.06 | 810.77 | 809.19 |
| GIRDER 2 | 815.38 | 815.95 | 815.73 | 815.52 | 815.54 | 815.76 | 814.90 | 813.85 | 813.13 | 812.06 | 811.62 | 811.41 | 809.71 |
| GIRDER 3 | 815.94 | 816.55 | 816.29 | 816.05 | 816.10 | 816.39 | 815.54 | 814.41 | 813.65 | 812.58 | 812.18 | 812.05 | 810.24 |
| GIRDER 4 | 816.50 | 817.14 | 816.85 | 816.58 | 816.66 | 817.01 | 816.18 | 814.97 | 814.16 | 813.09 | 812.74 | 812.69 | 810.76 |
| GIRDER 5 | 817.06 | 817.73 | 817.41 | 817.10 | 817.22 | 817.63 | 816.82 | 815.53 | 814.68 | 813.60 | 813.30 | 813.33 | 811.28 |

THESE 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 FIELD SPLICE POINTS SHALL BE CHECKED, AND CORRECTED IF POSSIBLE. AFTER ERECTION AND BEFORE PERMANENTLY BOLTING THE DIAPHRAGMS IN PLACE.




## CAMBER AND BLOCKING DIAGRAM

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JRS | PLANS CK'D. GPG

CAMBER AND BLOCKING UNIT 3

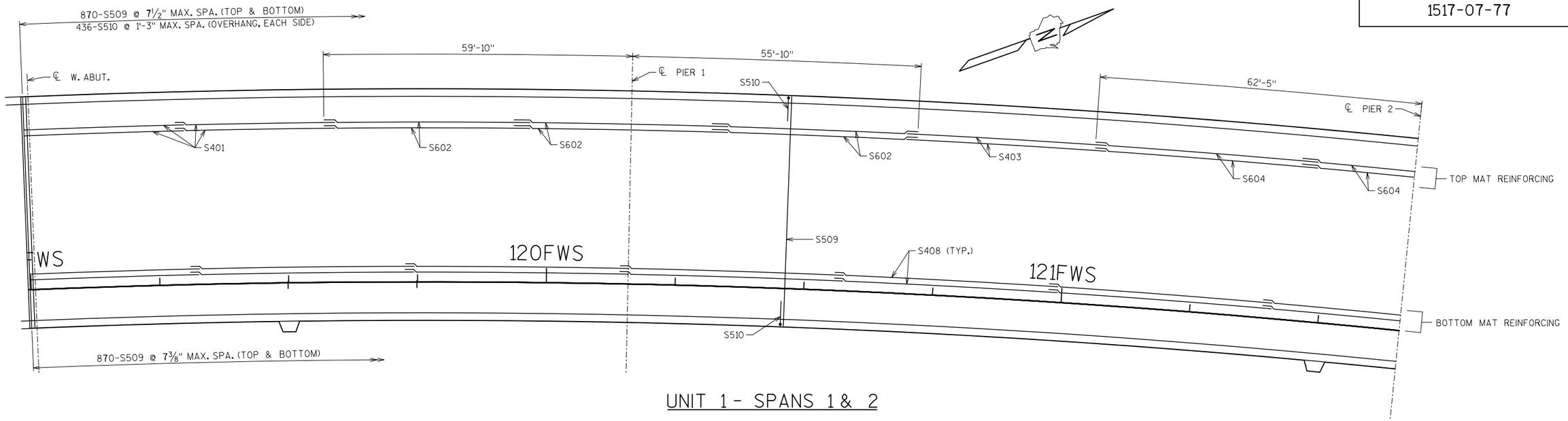
SHEET 61 OF 95
558

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DATE: $DATE$
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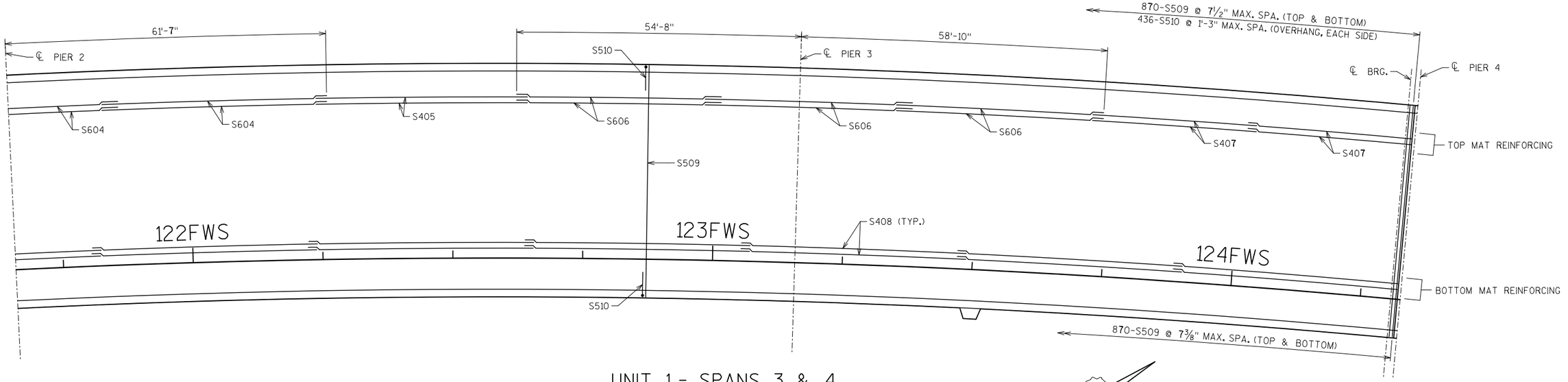
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| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |




UNIT 1 - SPANS 1 & 2




UNIT 1 - SPANS 3 & 4

## NOTES

MIN. LAP LENGTHS:
- #4 BARS = 1'-8"
- #4 BAR & #6 BARS = 2'-1"
- #5 BARS = 2'-7"
- #6 BARS = 3'-1"

SEE "SUPERSTRUCTURE DETAILS & BILL OF BARS" SHEET FOR BAR BILL AND BAR BEND DETAILS.

THE BOTTOM TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS WITH A CENTER TO CENTER SPACING NOT TO EXCEED 4'-0". ONE LINE OF CONTINUOUS BAR CHAIRS SHALL BE PLACED NEAR EACH EDGE OF SLAB TO SUPPORT THE ENDS OF THE BOTTOM TRANSVERSE BAR STEEL.

THE TOP LONGITUDINAL BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS IN THE TRANSVERSE DIRECTION ON 4'-0" CENTERS.

SEE SHEET "FLOOR DRAINS TYPE "GC"" FOR LOCATIONS OF FLOOR DRAINS. FOR FLOOR DRAIN DETAILS SEE SHEET "FLOOR DRAIN TYPE "GC"". ADDITIONAL REINFORCEMENT REQUIRED AT FLOOR DRAIN LOCATIONS.

FOR DECK REINFORCEMENT DETAILS AT LIGHT STANDARDS, SEE SHEET "PARAPET ELECTRICAL".

FOR NUMBER OF LONGITUDINAL REINFORCING SEE "SUPERSTRUCTURE DETAILS & BILL OF BARS" SHEET.

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

| DRAWN BY | JDL | PLANS CK'D. | MJA |
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DECK REINFINFORCEMENT UNIT 1

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559

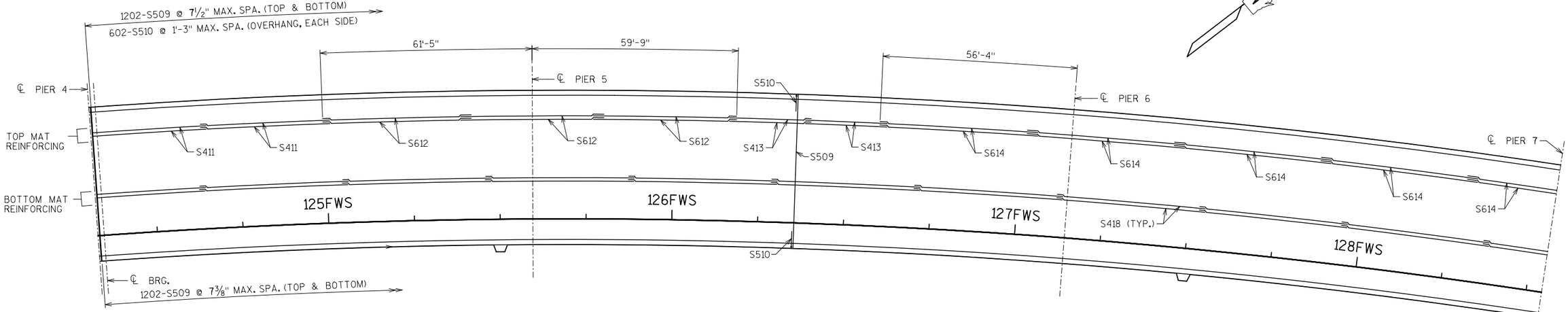
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I.D.

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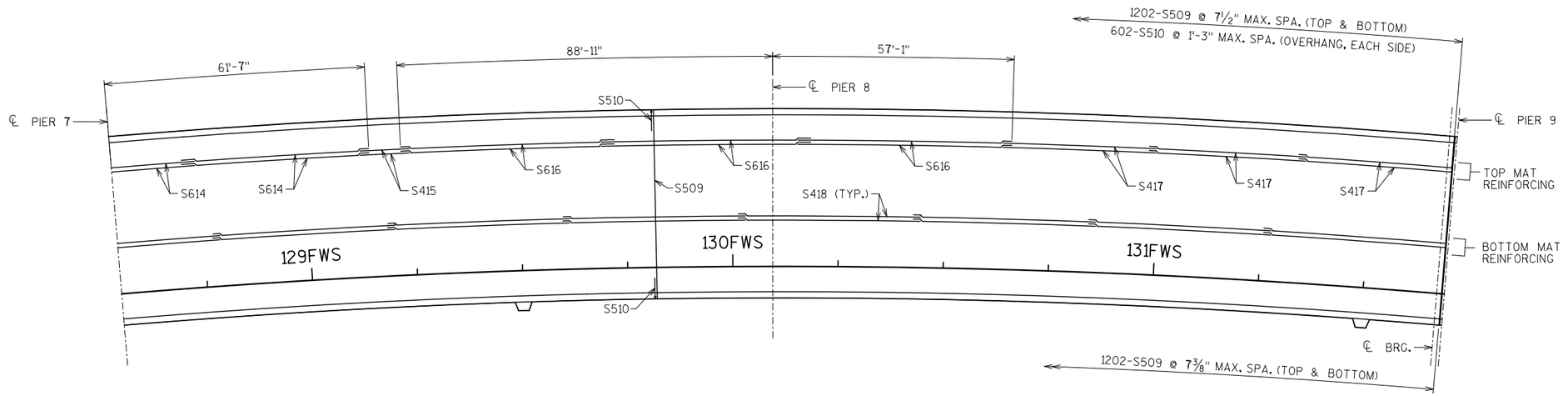
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| STATE PROJECT NUMBER |
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| 1517-07-77 |




UNIT 2 - SPANS 5-7




UNIT 2 - SPANS 8 & 9

## NOTES

FOR NOTES SEE "DECK REINFORCEMENT UNIT 1" SHEET.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. MJA

DECK REINFINFORCEMENT UNIT 2

SHEET 63 OF 95
560

I.D.

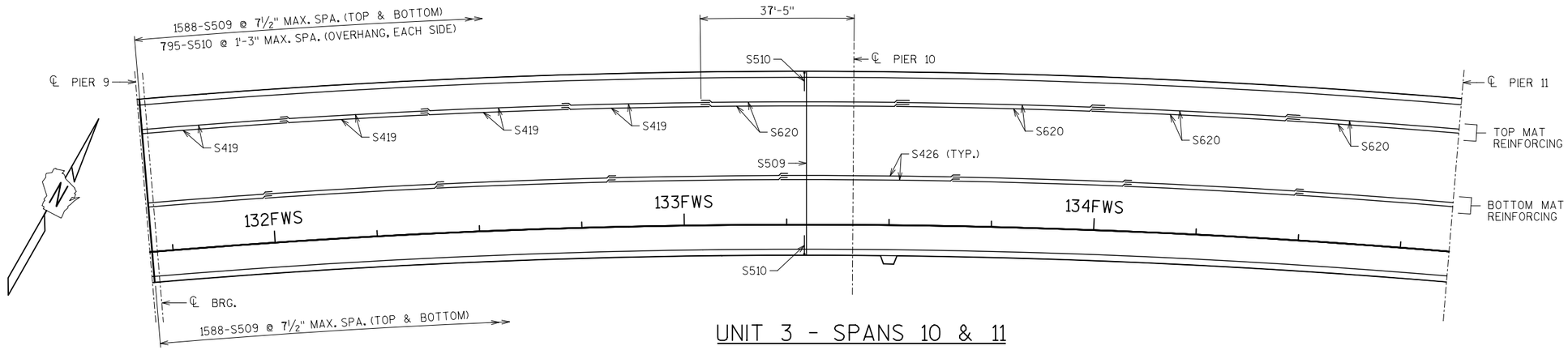
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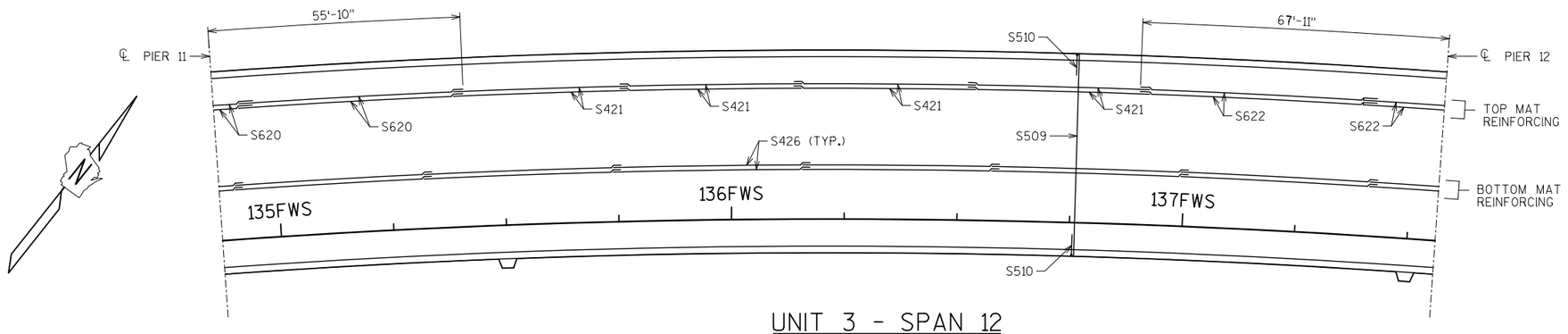
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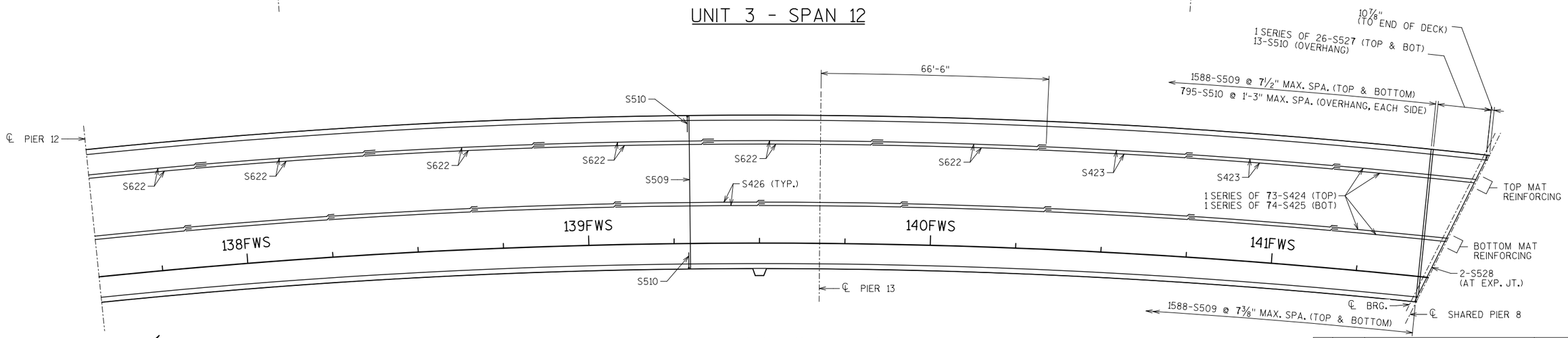
| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |




UNIT 3 - SPANS 10 & 11




UNIT 3 - SPAN 12




UNIT 3 - SPANS 13 & 14

NOTES

FOR NOTES SEE "DECK REINFORCEMENT UNIT 1" SHEET.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

| DRAWN BY | JDL | PLANS CK'D. | MJA |
|---|---|---|---|

DECK REINFINFORCEMENT UNIT 3

SHEET 64 OF 95
561

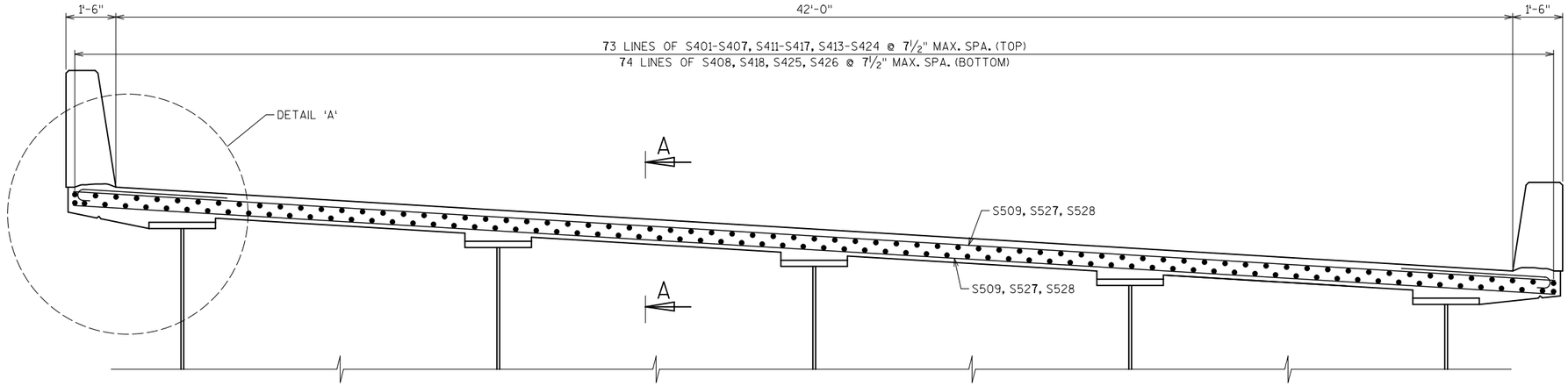
DATE: 4/11/2016
I.D.

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\B-70-405\Sheets\061-405-Deck Reinforcement Unit 3.dgn

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| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |




## SUPERSTRUCTURE BILL OF BARS

(ALL BARS EPOXY COATED)

| BAR MARK | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|
| S401 | 146 | 31'-3" | | | SLAB - TOP - UNIT 1 |
| S602 | 219 | 40'-8" | | | SLAB - TOP - UNIT 1 |
| S403 | 73 | 39'-0" | | | SLAB - TOP - UNIT 1 |
| S604 | 219 | 43'-5" | | | SLAB - TOP - UNIT 1 |
| S405 | 73 | 41'-0" | | | SLAB - TOP - UNIT 1 |
| S606 | 219 | 40'-0" | | | SLAB - TOP - UNIT 1 |
| S407 | 146 | 31'-9" | | | SLAB - TOP - UNIT 1 |
| S408 | 962 | 43'-4" | | | SLAB - BOTTOM - UNIT 1 |
| S509 | 7320 | 44'-6" | | | SLAB - TRANSVERSE TOP & BOTTOM - UNITS 1-3 |
| S510 | 3679 | 5'-6" | X | | SLAB - OVERHANG - UNITS 1-3 |
| S411 | 146 | 35'-7" | | | SLAB - TOP - UNIT 2 |
| S612 | 219 | 42'-6" | | | SLAB - TOP - UNIT 2 |
| S413 | 146 | 24'-0" | | | SLAB - TOP - UNIT 2 |
| S614 | 438 | 46'-1" | | | SLAB - TOP - UNIT 2 |
| S415 | 73 | 11'-11" | | | SLAB - TOP - UNIT 2 |
| S616 | 219 | 50'-9" | | | SLAB - TOP - UNIT 2 |
| S417 | 219 | 36'-11" | | | SLAB - TOP - UNIT 2 |
| S418 | 1332 | 43'-4" | | | SLAB - BOTTOM - UNIT 2 |
| S419 | 292 | 36'-2" | | | SLAB - TOP - UNIT 3 |
| S620 | 365 | 50'-10" | | | SLAB - TOP - UNIT 3 |
| S421 | 292 | 40'-1" | | | SLAB - TOP - UNIT 3 |
| S622 | 511 | 52'-8" | | | SLAB - TOP - UNIT 3 |
| S423 | 146 | 45'-0" | | | SLAB - TOP - UNIT 3 |
| S424 | 73 | 35'-2" | | X | SLAB - TOP - UNIT 3 |
| S425 | 74 | 35'-2" | | X | SLAB - BOTTOM - UNIT 3 |
| S426 | 1702 | 43'-8" | | | SLAB - BOTTOM - UNIT 3 |
| S527 | 52 | 21'-9" | | X | SLAB - TRANSVERSE TOP & BOTTOM - UNIT 3 |
| S528 | 2 | 47'-7" | | | SLAB - TOP & BOTTOM - EXPANSION JOINT SHARED PIER 8 |
| S529 | 36 | 5'-0" | | | FLOOR DRAIN REINFORCEMENT |

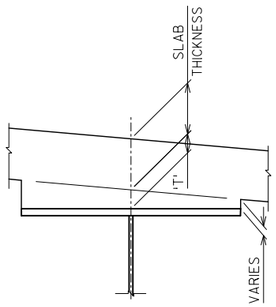
TOTAL WEIGHT= 693,020 LB

## BAR SERIES TABLE

| BAR MARK | NO. REQ'D | LENGTH |
|---|---|---|
| S424 | 1 SERIES OF 73 | 25'-4" TO 45'-0" |
| S425 | 1 SERIES OF 74 | 25'-4" TO 45'-0" |
| S527 | 2 SERIES OF 26 | 1'-1" TO 42'-4" |

## TYPICAL SECTION

(PARAPET REINF. NOT SHOWN FOR CLARITY)

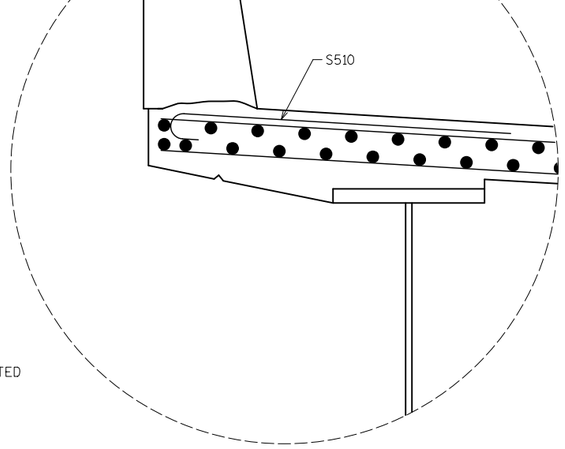



## DECK HAUNCH DETAIL

TO DETERMINE 'T': AFTER ALL STRUCTURAL STEEL HAS BEEN ERECTED, ELEVATIONS OF THE TOP FLANGES SHALL BE TAKEN AT CENTERLINE OF BEARINGS AND AT 0.1 POINTS.

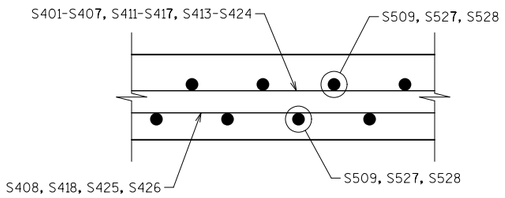
TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF STEEL ELEVATION AFTER STEEL ERECTION
+ CONCRETE ONLY DEFLECTION: DOWNWARD DEFLECTION ADDED, UPWARD DEFLECTION SUBTRACTED
- SLAB THICKNESS

= 'T' VALUE FOR SETTING HAUNCH

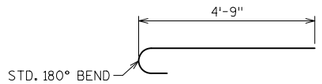



## DETAIL 'A'

(PARAPET REINF. NOT SHOWN FOR CLARITY)




## SECTION A-A




## S510

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. MJA

SUPERSTRUCTURE DETAILS & BILL OF BARS

SHEET 562 OF 595

DATE: 4/11/2016
I.D.

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\B-70-405\Sheets\062-405-Superstructure Details & Bill of Bars.dgn

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STATE PROJECT NUMBER

1517-07-77

| | CL BRG. S. ABUT | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | CL PIER 1 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | CL PIER 2 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | CL PIER 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WEST EDGE OF SLAB | 795.31 | 795.66 | 796.00 | 796.35 | 796.69 | 797.04 | 797.38 | 797.73 | 798.07 | 798.42 | 798.76 | 799.21 | 799.65 | 800.08 | 800.51 | 800.94 | 801.36 | 801.77 | 802.18 | 802.59 | 802.99 | 803.38 | 803.77 | 804.15 | 804.53 | 804.91 | 805.28 | 805.64 | 806.00 | 806.35 | 806.70 |
| WEST GUTTER LINE | 795.31 | 795.66 | 796.00 | 796.35 | 796.69 | 797.04 | 797.38 | 797.73 | 798.07 | 798.42 | 798.76 | 799.21 | 799.65 | 800.08 | 800.51 | 800.94 | 801.36 | 801.77 | 802.18 | 802.59 | 802.99 | 803.38 | 803.77 | 804.15 | 804.53 | 804.91 | 805.28 | 805.64 | 806.00 | 806.35 | 806.70 |
| G5 | 795.19 | 795.54 | 795.88 | 796.23 | 796.57 | 796.92 | 797.26 | 797.61 | 797.95 | 798.30 | 798.64 | 799.09 | 799.53 | 799.96 | 800.39 | 800.82 | 801.24 | 801.65 | 802.06 | 802.47 | 802.87 | 803.26 | 803.65 | 804.04 | 804.41 | 804.79 | 805.16 | 805.52 | 805.88 | 806.24 | 806.58 |
| G4 | 794.63 | 794.98 | 795.32 | 795.67 | 796.01 | 796.36 | 796.70 | 797.05 | 797.39 | 797.74 | 798.08 | 798.53 | 798.97 | 799.40 | 799.83 | 800.26 | 800.68 | 801.09 | 801.50 | 801.91 | 802.31 | 802.70 | 803.09 | 803.48 | 803.85 | 804.23 | 804.60 | 804.96 | 805.32 | 805.68 | 806.02 |
| G3 | 794.07 | 794.42 | 794.76 | 795.11 | 795.45 | 795.80 | 796.14 | 796.49 | 796.83 | 797.18 | 797.52 | 797.97 | 798.41 | 798.84 | 799.27 | 799.70 | 800.12 | 800.53 | 800.94 | 801.35 | 801.75 | 802.14 | 802.53 | 802.91 | 803.29 | 803.67 | 804.04 | 804.40 | 804.76 | 805.11 | 805.46 |
| G2 | 793.51 | 793.86 | 794.20 | 794.55 | 794.89 | 795.24 | 795.58 | 795.93 | 796.27 | 796.62 | 796.96 | 797.41 | 797.85 | 798.28 | 798.71 | 799.14 | 799.56 | 799.97 | 800.38 | 800.79 | 801.19 | 801.58 | 801.97 | 802.35 | 802.73 | 803.11 | 803.48 | 803.84 | 804.20 | 804.55 | 804.90 |
| PGL | 793.19 | 793.53 | 793.88 | 794.22 | 794.57 | 794.91 | 795.26 | 795.60 | 795.95 | 796.29 | 796.64 | 797.08 | 797.52 | 797.96 | 798.39 | 798.81 | 799.23 | 799.65 | 800.06 | 800.46 | 800.86 | 801.26 | 801.65 | 802.03 | 802.41 | 802.78 | 803.15 | 803.52 | 803.88 | 804.23 | 804.58 |
| G1 | 792.95 | 793.30 | 793.64 | 793.99 | 794.33 | 794.68 | 795.02 | 795.37 | 795.71 | 796.06 | 796.40 | 796.85 | 797.29 | 797.72 | 798.15 | 798.58 | 799.00 | 799.41 | 799.82 | 800.23 | 800.63 | 801.02 | 801.41 | 801.79 | 802.17 | 802.55 | 802.92 | 803.28 | 803.64 | 803.99 | 804.34 |
| EAST GUTTER LINE | 792.83 | 793.18 | 793.52 | 793.87 | 794.21 | 794.56 | 794.90 | 795.25 | 795.59 | 795.94 | 796.28 | 796.73 | 797.17 | 797.60 | 798.03 | 798.46 | 798.88 | 799.29 | 799.70 | 800.11 | 800.51 | 800.90 | 801.29 | 801.68 | 802.05 | 802.43 | 802.80 | 803.16 | 803.52 | 803.88 | 804.22 |
| EAST EDGE OF SLAB | 792.83 | 793.18 | 793.52 | 793.87 | 794.21 | 794.56 | 794.90 | 795.25 | 795.59 | 795.94 | 796.28 | 796.73 | 797.17 | 797.60 | 798.03 | 798.46 | 798.88 | 799.29 | 799.70 | 800.11 | 800.51 | 800.90 | 801.29 | 801.68 | 802.05 | 802.43 | 802.80 | 803.16 | 803.52 | 803.88 | 804.22 |

| | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | CL BRG. PIER 4 SPAN 4 | CL BRG. PIER 4 SPAN 5 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | CL PIER 5 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | CL PIER 6 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WEST EDGE OF SLAB | 806.97 | 807.23 | 807.49 | 807.74 | 807.99 | 808.24 | 808.49 | 808.73 | 808.97 | 809.21 | 809.28 | 809.54 | 809.79 | 810.03 | 810.28 | 810.52 | 810.75 | 810.99 | 811.21 | 811.44 | 811.66 | 811.93 | 812.20 | 812.46 | 812.71 | 812.96 | 813.20 | 813.44 | 813.67 | 813.90 | 814.12 |
| WEST GUTTER LINE | 806.97 | 807.23 | 807.49 | 807.74 | 807.99 | 808.24 | 808.49 | 808.73 | 808.97 | 809.21 | 809.28 | 809.54 | 809.79 | 810.03 | 810.28 | 810.52 | 810.75 | 810.99 | 811.21 | 811.44 | 811.66 | 811.93 | 812.20 | 812.46 | 812.71 | 812.96 | 813.20 | 813.44 | 813.67 | 813.90 | 814.12 |
| G5 | 806.85 | 807.11 | 807.37 | 807.62 | 807.88 | 808.12 | 808.37 | 808.61 | 808.85 | 809.09 | 809.17 | 809.42 | 809.67 | 809.92 | 810.16 | 810.40 | 810.64 | 810.87 | 811.10 | 811.32 | 811.54 | 811.81 | 812.08 | 812.34 | 812.59 | 812.84 | 813.08 | 813.32 | 813.55 | 813.78 | 814.00 |
| G4 | 806.29 | 806.55 | 806.81 | 807.06 | 807.31 | 807.56 | 807.81 | 808.05 | 808.29 | 808.53 | 808.61 | 808.86 | 809.11 | 809.36 | 809.60 | 809.84 | 810.07 | 810.31 | 810.54 | 810.76 | 810.98 | 811.25 | 811.52 | 811.78 | 812.03 | 812.28 | 812.52 | 812.76 | 812.99 | 813.22 | 813.44 |
| G3 | 805.73 | 805.99 | 806.25 | 806.50 | 806.75 | 807.00 | 807.25 | 807.49 | 807.73 | 807.97 | 808.05 | 808.30 | 808.55 | 808.80 | 809.04 | 809.28 | 809.51 | 809.75 | 809.98 | 810.20 | 810.42 | 810.69 | 810.96 | 811.22 | 811.47 | 811.72 | 811.96 | 812.20 | 812.43 | 812.66 | 812.88 |
| G2 | 805.17 | 805.43 | 805.69 | 805.94 | 806.19 | 806.44 | 806.69 | 806.93 | 807.17 | 807.41 | 807.49 | 807.74 | 807.99 | 808.24 | 808.48 | 808.72 | 808.95 | 809.19 | 809.41 | 809.64 | 809.86 | 810.13 | 810.40 | 810.66 | 810.91 | 811.16 | 811.40 | 811.64 | 811.87 | 812.10 | 812.32 |
| PGL | 804.84 | 805.10 | 805.36 | 805.62 | 805.87 | 806.12 | 806.36 | 806.61 | 806.85 | 807.09 | 807.16 | 807.41 | 807.66 | 807.91 | 808.15 | 808.39 | 808.63 | 808.86 | 809.09 | 809.32 | 809.54 | 809.81 | 810.07 | 810.33 | 810.59 | 810.84 | 811.08 | 811.32 | 811.55 | 811.78 | 812.00 |
| G1 | 804.61 | 804.87 | 805.13 | 805.38 | 805.63 | 805.88 | 806.13 | 806.37 | 806.61 | 806.85 | 806.92 | 807.18 | 807.43 | 807.67 | 807.92 | 808.16 | 808.39 | 808.63 | 808.85 | 809.08 | 809.30 | 809.57 | 809.84 | 810.10 | 810.35 | 810.60 | 810.84 | 811.08 | 811.31 | 811.54 | 811.76 |
| EAST GUTTER LINE | 804.49 | 804.75 | 805.01 | 805.26 | 805.52 | 805.76 | 806.01 | 806.25 | 806.49 | 806.73 | 806.81 | 807.06 | 807.31 | 807.56 | 807.80 | 808.04 | 808.28 | 808.51 | 808.74 | 808.96 | 809.18 | 809.45 | 809.72 | 809.98 | 810.23 | 810.48 | 810.72 | 810.96 | 811.19 | 811.42 | 811.64 |
| EAST EDGE OF SLAB | 804.49 | 804.75 | 805.01 | 805.26 | 805.52 | 805.76 | 806.01 | 806.25 | 806.49 | 806.73 | 806.81 | 807.06 | 807.31 | 807.56 | 807.80 | 808.04 | 808.28 | 808.51 | 808.74 | 808.96 | 809.18 | 809.45 | 809.72 | 809.98 | 810.23 | 810.48 | 810.72 | 810.96 | 811.19 | 811.42 | 811.64 |

| | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | CL PIER 7 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | CL PIER 8 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | CL BRG. PIER 9 SPAN 9 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WEST EDGE OF SLAB | 814.32 | 814.51 | 814.69 | 814.88 | 815.05 | 815.23 | 815.40 | 815.56 | 815.72 | 815.88 | 816.05 | 816.21 | 816.36 | 816.52 | 816.66 | 816.80 | 816.94 | 817.07 | 817.19 | 817.31 | 817.42 | 817.53 | 817.64 | 817.74 | 817.83 | 817.92 | 818.00 | 818.08 | 818.15 | 818.21 |
| WEST GUTTER LINE | 814.32 | 814.51 | 814.69 | 814.88 | 815.05 | 815.23 | 815.40 | 815.56 | 815.72 | 815.88 | 816.05 | 816.21 | 816.36 | 816.52 | 816.66 | 816.80 | 816.94 | 817.07 | 817.19 | 817.31 | 817.42 | 817.53 | 817.64 | 817.74 | 817.83 | 817.92 | 818.00 | 818.08 | 818.15 | 818.21 |
| G5 | 814.20 | 814.39 | 814.58 | 814.76 | 814.94 | 815.11 | 815.28 | 815.44 | 815.60 | 815.76 | 815.93 | 816.09 | 816.25 | 816.40 | 816.54 | 816.68 | 816.82 | 816.95 | 817.07 | 817.19 | 817.31 | 817.42 | 817.52 | 817.62 | 817.71 | 817.80 | 817.88 | 817.96 | 818.03 | 818.09 |
| G4 | 813.64 | 813.83 | 814.02 | 814.20 | 814.38 | 814.55 | 814.72 | 814.88 | 815.04 | 815.20 | 815.37 | 815.53 | 815.69 | 815.84 | 815.98 | 816.12 | 816.26 | 816.39 | 816.51 | 816.63 | 816.75 | 816.86 | 816.96 | 817.06 | 817.15 | 817.24 | 817.32 | 817.40 | 817.47 | 817.53 |
| G3 | 813.08 | 813.27 | 813.46 | 813.64 | 813.82 | 813.99 | 814.16 | 814.32 | 814.48 | 814.64 | 814.81 | 814.97 | 815.12 | 815.28 | 815.42 | 815.56 | 815.70 | 815.83 | 815.95 | 816.07 | 816.19 | 816.29 | 816.40 | 816.50 | 816.59 | 816.68 | 816.76 | 816.84 | 816.91 | 816.97 |
| G2 | 812.52 | 812.71 | 812.90 | 813.08 | 813.26 | 813.43 | 813.60 | 813.76 | 813.92 | 814.08 | 814.25 | 814.41 | 814.56 | 814.72 | 814.86 | 815.00 | 815.14 | 815.27 | 815.39 | 815.51 | 815.62 | 815.73 | 815.84 | 815.94 | 816.03 | 816.12 | 816.20 | 816.28 | 816.35 | 816.41 |
| PGL | 812.19 | 812.38 | 812.57 | 812.75 | 812.93 | 813.10 | 813.27 | 813.44 | 813.60 | 813.75 | 813.92 | 814.08 | 814.24 | 814.39 | 814.54 | 814.68 | 814.81 | 814.94 | 815.07 | 815.18 | 815.30 | 815.41 | 815.51 | 815.61 | 815.71 | 815.79 | 815.87 | 815.95 | 816.02 | 816.09 |
| G1 | 811.96 | 812.15 | 812.33 | 812.52 | 812.69 | 812.87 | 813.04 | 813.20 | 813.36 | 813.52 | 813.69 | 813.85 | 814.00 | 814.16 | 814.30 | 814.44 | 814.58 | 814.71 | 814.83 | 814.95 | 815.06 | 815.17 | 815.28 | 815.38 | 815.47 | 815.56 | 815.64 | 815.72 | 815.79 | 815.85 |
| EAST GUTTER LINE | 811.84 | 812.03 | 812.22 | 812.40 | 812.58 | 812.75 | 812.92 | 813.08 | 813.24 | 813.40 | 813.57 | 813.73 | 813.89 | 814.04 | 814.18 | 814.32 | 814.46 | 814.59 | 814.71 | 814.83 | 814.95 | 815.06 | 815.16 | 815.26 | 815.35 | 815.44 | 815.52 | 815.60 | 815.67 | 815.73 |
| EAST EDGE OF SLAB | 811.84 | 812.03 | 812.22 | 812.40 | 812.58 | 812.75 | 812.92 | 813.08 | 813.24 | 813.40 | 813.57 | 813.73 | 813.89 | 814.04 | 814.18 | 814.32 | 814.46 | 814.59 | 814.71 | 814.83 | 814.95 | 815.06 | 815.16 | 815.26 | 815.35 | 815.44 | 815.52 | 815.60 | 815.67 | 815.73 |

| | CL BRG. PIER 9 SPAN | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | CL PIER 10 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | CL PIER 11 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | CL BRG. PIER 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WEST EDGE OF SLAB | 818.22 | 818.29 | 818.34 | 818.39 | 818.43 | 818.47 | 818.50 | 818.52 | 818.54 | 818.55 | 818.55 | 818.55 | 818.55 | 818.53 | 818.52 | 818.50 | 818.47 | 818.44 | 818.40 | 818.36 | 818.32 | 818.22 | 818.11 | 817.98 | 817.84 | 817.68 | 817.50 | 817.30 | 817.09 | 816.87 | 816.63 |
| WEST GUTTER LINE | 818.22 | 818.29 | 818.34 | 818.39 | 818.43 | 818.47 | 818.50 | 818.52 | 818.54 | 818.55 | 818.55 | 818.55 | 818.55 | 818.53 | 818.52 | 818.50 | 818.47 | 818.44 | 818.40 | 818.36 | 818.32 | 818.22 | 818.11 | 817.98 | 817.84 | 817.68 | 817.50 | 817.30 | 817.09 | 816.87 | 816.63 |
| G5 | 818.11 | 818.17 | 818.22 | 818.27 | 818.32 | 818.35 | 818.38 | 818.41 | 818.42 | 818.43 | 818.44 | 818.43 | 818.43 | 818.42 | 818.40 | 818.38 | 818.35 | 818.32 | 818.29 | 818.25 | 818.20 | 818.10 | 817.99 | 817.86 | 817.72 | 817.56 | 817.38 | 817.19 | 816.98 | 816.75 | 816.51 |
| G4 | 817.55 | 817.61 | 817.66 | 817.71 | 817.76 | 817.79 | 817.82 | 817.85 | 817.86 | 817.87 | 817.88 | 817.87 | 817.87 | 817.86 | 817.84 | 817.82 | 817.79 | 817.76 | 817.73 | 817.68 | 817.64 | 817.54 | 817.43 | 817.30 | 817.16 | 817.00 | 816.82 | 816.63 | 816.42 | 816.19 | 815.95 |
| G3 | 816.99 | 817.05 | 817.10 | 817.15 | 817.20 | 817.23 | 817.26 | 817.28 | 817.30 | 817.31 | 817.31 | 817.31 | 817.31 | 817.29 | 817.28 | 817.26 | 817.23 | 817.20 | 817.16 | 817.12 | 817.08 | 816.98 | 816.87 | 816.74 | 816.60 | 816.44 | 816.26 | 816.07 | 815.86 | 815.63 | 815.39 |
| G2 | 816.43 | 816.49 | 816.54 | 816.59 | 816.64 | 816.67 | 816.70 | 816.72 | 816.74 | 816.75 | 816.75 | 816.75 | 816.75 | 816.73 | 816.72 | 816.70 | 816.67 | 816.64 | 816.60 | 816.56 | 816.52 | 816.42 | 816.31 | 816.18 | 816.04 | 815.88 | 815.70 | 815.51 | 815.30 | 815.07 | 814.83 |
| PGL | 816.10 | 816.16 | 816.22 | 816.27 | 816.31 | 816.35 | 816.38 | 816.40 | 816.42 | 816.43 | 816.43 | 816.43 | 816.42 | 816.41 | 816.39 | 816.37 | 816.35 | 816.32 | 816.28 | 816.24 | 816.19 | 816.10 | 815.99 | 815.86 | 815.71 | 815.55 | 815.37 | 815.18 | 814.97 | 814.74 | 814.50 |
| G1 | 815.86 | 815.93 | 815.98 | 816.03 | 816.07 | 816.11 | 816.14 | 816.16 | 816.18 | 816.19 | 816.19 | 816.19 | 816.19 | 816.17 | 816.16 | 816.14 | 816.11 | 816.08 | 816.04 | 816.00 | 815.96 | 815.86 | 815.75 | 815.62 | 815.48 | 815.32 | 815.14 | 814.94 | 814.73 | 814.51 | 814.27 |
| EAST GUTTER LINE | 815.75 | 815.81 | 815.86 | 815.91 | 815.96 | 815.99 | 816.02 | 816.05 | 816.06 | 816.07 | 816.08 | 816.07 | 816.07 | 816.06 | 816.04 | 816.02 | 815.99 | 815.96 | 815.93 | 815.89 | 815.84 | 815.74 | 815.63 | 815.50 | 815.36 | 815.20 | 815.02 | 814.83 | 814.62 | 814.39 | 814.15 |
| EAST EDGE OF SLAB | 815.75 | 815.81 | 815.86 | 815.91 | 815.96 | 815.99 | 816.02 | 816.05 | 816.06 | 816.07 | 816.08 | 816.07 | 816.07 | 816.06 | 816.04 | 816.02 | 815.99 | 815.96 | 815.93 | 815.89 | 815.84 | 815.74 | 815.63 | 815.50 | 815.36 | 815.20 | 815.02 | 814.83 | 814.62 | 814.39 | 814.15 |

| | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | CL BRG. PIER 13 | 0.1 | 0.2 | 0.3 | 0.4 | 0.5 | 0.6 | 0.7 | 0.8 | 0.9 | CL BRG. PIER 8 (B-401) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WEST EDGE OF SLAB | 816.42 | 816.21 | 815.99 | 815.77 | 815.55 | 815.33 | 815.10 | 814.88 | 814.66 | 814.44 | 814.24 | 814.04 | 813.84 | 813.64 | 813.44 | 813.23 | 813.03 | 812.83 | 812.63 | 812.43 |
| WEST GUTTER LINE | 816.42 | 816.21 | 815.99 | 815.77 | 815.55 | 815.33 | 815.10 | 814.88 | 814.66 | 814.44 | 814.24 | 814.04 | 813.84 | 813.64 | 813.44 | 813.24 | 813.04 | 812.84 | 812.64 | 812.44 |
| G5 | 816.31 | 816.09 | 815.87 | 815.65 | 815.43 | 815.21 | 814.99 | 814.76 | 814.54 | 814.32 | 814.12 | 813.92 | 813.72 | 813.52 | 813.32 | 813.12 | 812.93 | 812.73 | 812.53 | 812.33 |
| G4 | 815.75 | 815.53 | 815.31 | 815.09 | 814.87 | 814.65 | 814.42 | 814.20 | 813.98 | 813.76 | 813.56 | 813.37 | 813.17 | 812.98 | 812.78 | 812.59 | 812.39 | 812.19 | 812.00 | 811.80 |
| G3 | 815.18 | 814.97 | 814.75 | 814.53 | 814.31 | 814.09 | 813.86 | 813.64 | 813.42 | 813.20 | 813.01 | 812.82 | 812.62 | 812.43 | 812.24 | 812.05 | 811.86 | 811.67 | 811.48 | 811.28 |
| G2 | 814.62 | 814.41 | 814.19 | 813.97 | 813.75 | 813.53 | 813.30 | 813.08 | 812.86 | 812.64 | 812.45 | 812.26 | 812.07 | 811.89 | 811.70 | 811.51 | 811.32 | 811.13 | 810.95 | 810.76 |
| PGL | 814.30 | 814.09 | 813.87 | 813.65 | 813.42 | 813.20 | 812.98 | 812.76 | 812.54 | 812.31 | 812.13 | 811.94 | 811.76 | 811.57 | 811.38 | 811.20 | 811.01 | 810.83 | 810.64 | 810.45 |
| G1 | 814.06 | 813.85 | 813.63 | 813.41 | 813.19 | 812.97 | 812.74 | 812.52 | 812.30 | 812.08 | 811.89 | 811.71 | 811.52 | 811.34 | 811.16 | 810.97 | 810.79 | 810.60 | 810.42 | 810.23 |
| EAST GUTTER LINE | 813.95 | 813.73 | 813.51 | 813.29 | 813.07 | 812.85 | 812.63 | 812.40 | 812.18 | 811.96 | 811.78 | 811.59 | 811.41 | 811.23 | 811.04 | 810.86 | 810.67 | 810.49 | 810.31 | 810.12 |
| EAST EDGE OF SLAB | 813.95 | 813.73 | 813.51 | 813.29 | 813.07 | 812.85 | 812.63 | 812.40 | 812.18 | 811.96 | 811.78 | 811.59 | 811.41 | 811.23 | 811.04 | 810.86 | 810.68 | 810.50 | 810.31 | 810.13 |

8

8

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. MJA

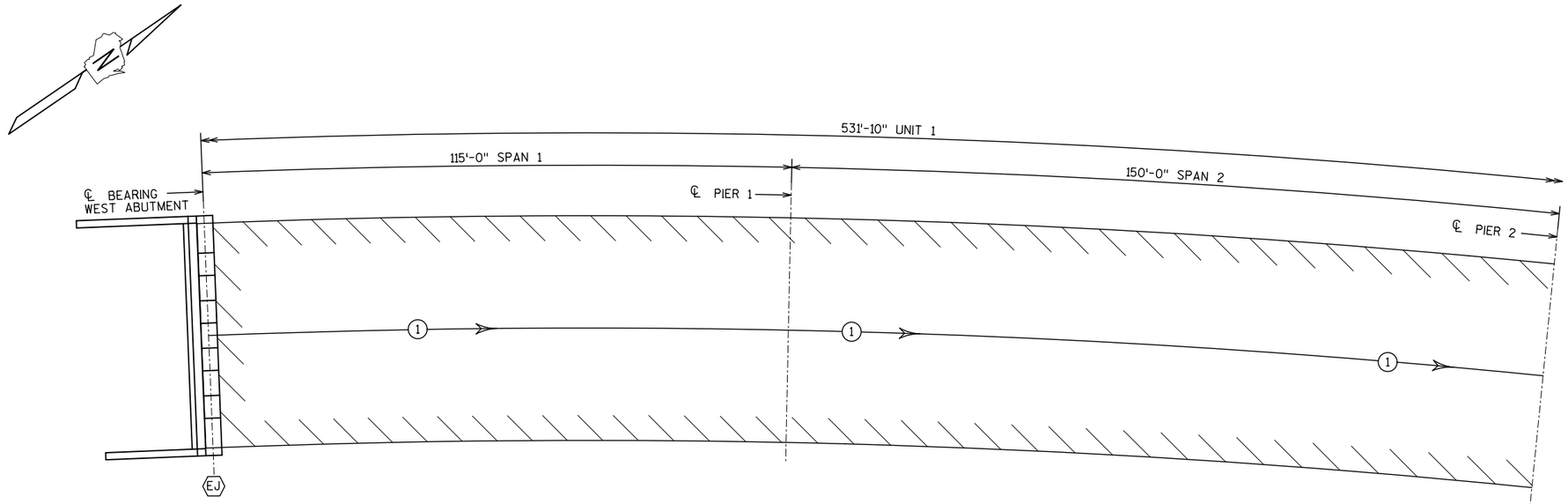
TOP OF DECK ELEVATIONS

SHEET 563 OF 985

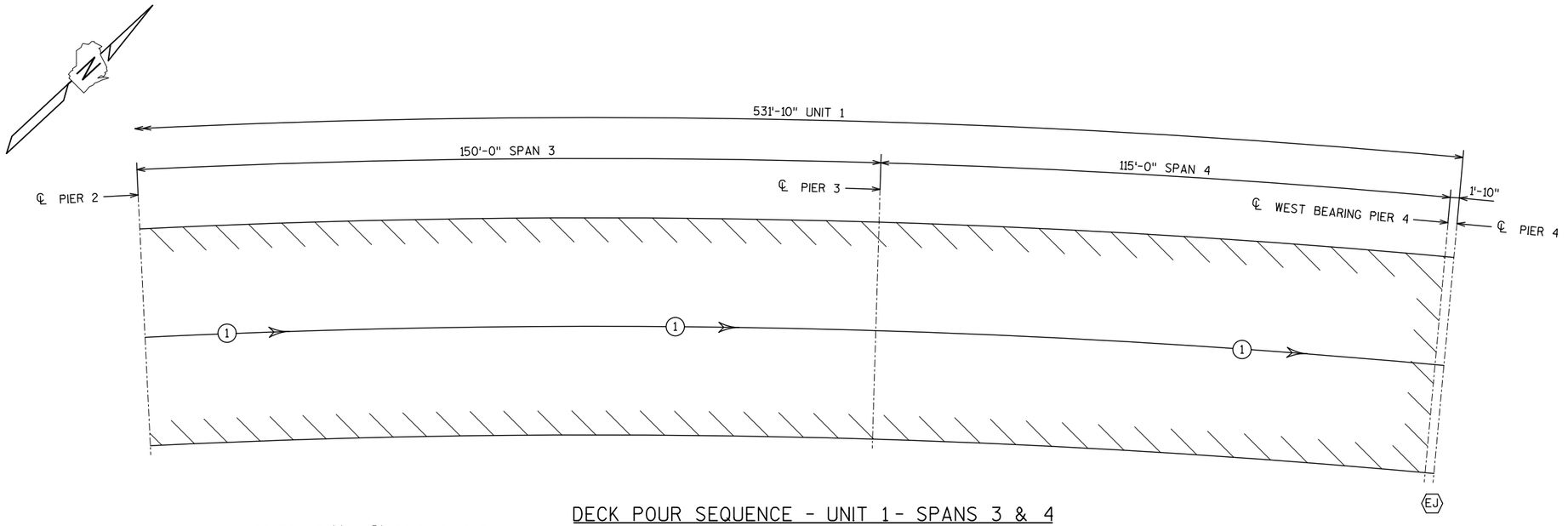
DATE: 4/11/2016
I.D.

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| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |



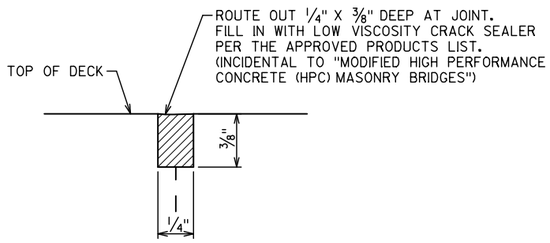

DECK POUR SEQUENCE - UNIT 1 - SPANS 1 & 2




DECK POUR SEQUENCE - UNIT 1 - SPANS 3 & 4

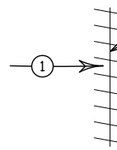
## NOTES:

1. DIMENSIONS ON THIS DRAWING ARE MEASURED ALONG THE REFERENCE LINE.
2. THE CONTRACTOR IS RESPONSIBLE FOR SCHEDULING AND COORDINATING DECK POURS TO BEST SUIT THE MEANS AND METHODS AVAILABLE, SUBJECT TO THE FOLLOWING RESTRICTIONS.
3. CONTRACTOR MAY PLACE THE DECK CONTINUOUSLY FROM THE DOWNHILL END OF THE UNIT. IF MORE THAN ONE POUR IS REQUIRED, BULKHEADS BETWEEN POURS SHALL BE POSITIONED AT THE LOCATIONS IDENTIFIED ON THIS PLAN - SEE LEGEND.
4. 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.
5. IF CONTRACTOR USES AN ALTERNATE POUR SEQUENCE, UPLIFT MAY BE ANTICIPATED AT UNIT ENDS. SUBMIT ALTERNATE POUR SEQUENCES TO THE ENGINEER FOR REVIEW AND DETERMINATION OF UPLIFT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ACCOUNT FOR UPLIFT AT UNIT ENDS IF AN ALTERNATE POUR SEQUENCE IS USED.




TRANSVERSE CONSTRUCTION JOINT
NOT TO SCALE

## LEGEND




IDENTIFIES POUR AREA. NUMBER INDICATES THE POUR SEQUENCE IN DIRECTION SHOWN AND OPTIONAL END.

EJ EXPANSION JOINT LOCATION.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY EAN | PLANS CK'D. MJA

DECK POUR SEQUENCE UNIT 1

SHEET 67 OF 95
564

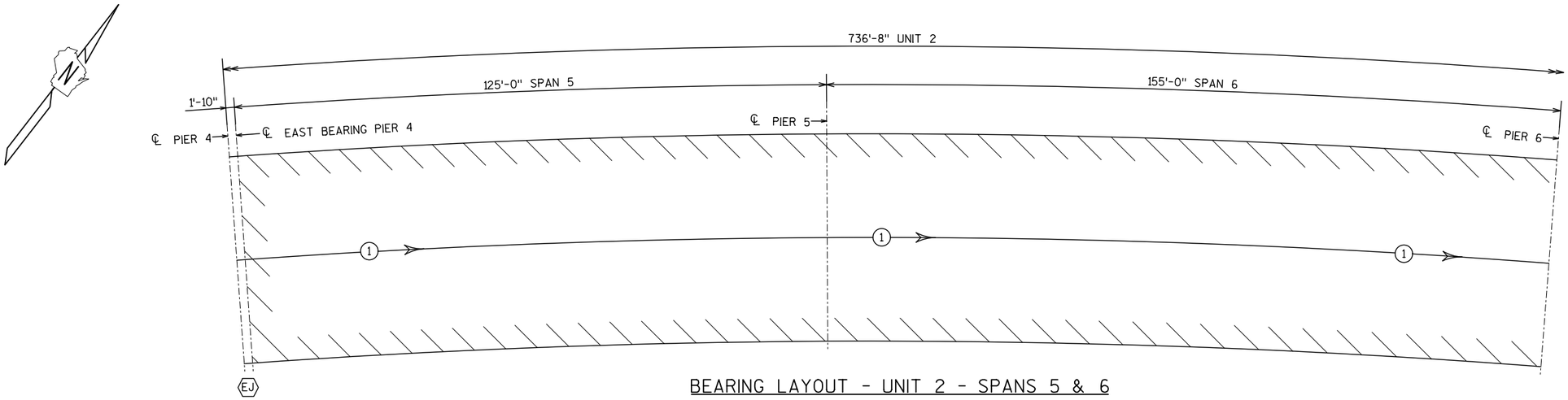
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DATE: 4/11/2016
I.D.

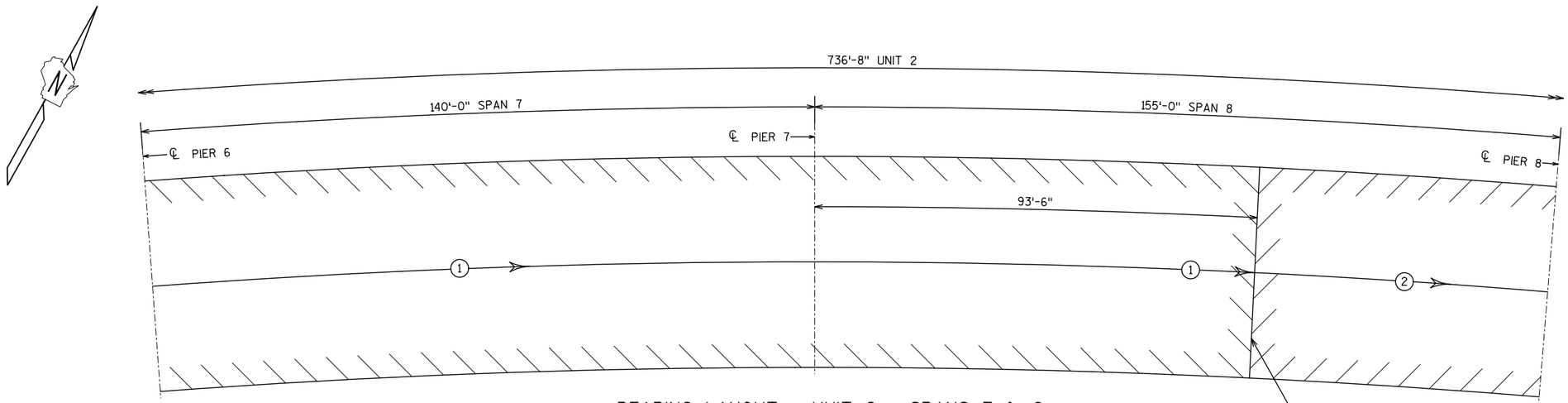
8

8

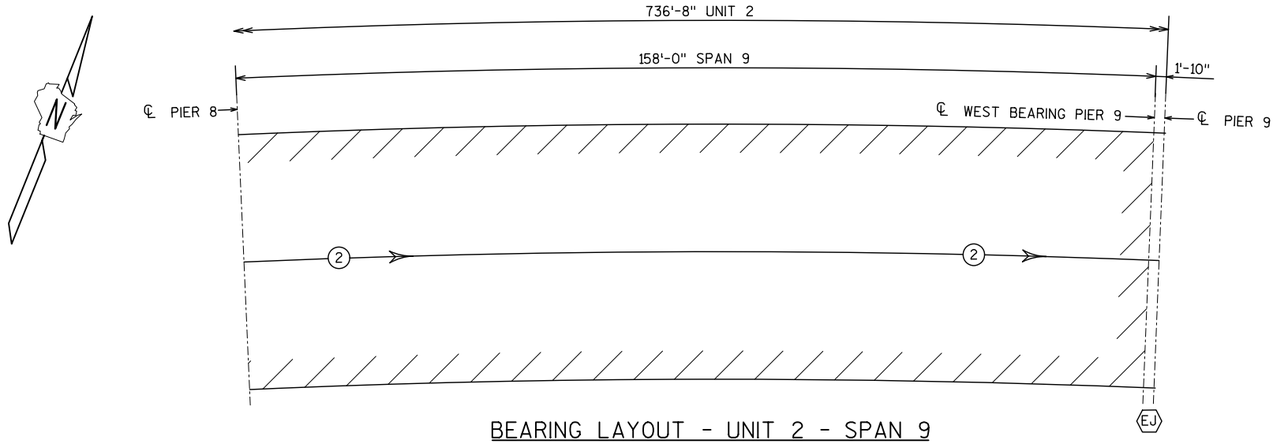
| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |



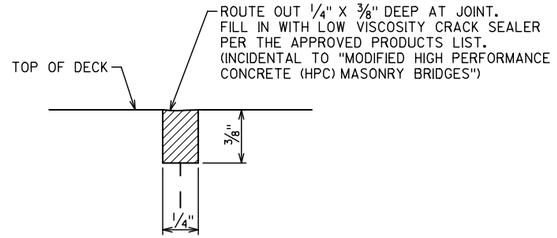

BEARING LAYOUT - UNIT 2 - SPANS 5 & 6




BEARING LAYOUT - UNIT 2 - SPANS 7 & 8

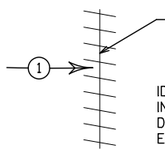



BEARING LAYOUT - UNIT 2 - SPAN 9




TRANSVERSE CONSTRUCTION JOINT
NOT TO SCALE

## LEGEND




IDENTIFIES POUR AREA. NUMBER INDICATES THE POUR SEQUENCE IN DIRECTION SHOWN AND OPTIONAL END.

EJ EXPANSION JOINT LOCATION.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY EAN | PLANS CK'D. MJA

DECK POUR SEQUENCE UNIT 2

SHEET 58 OF 85
565

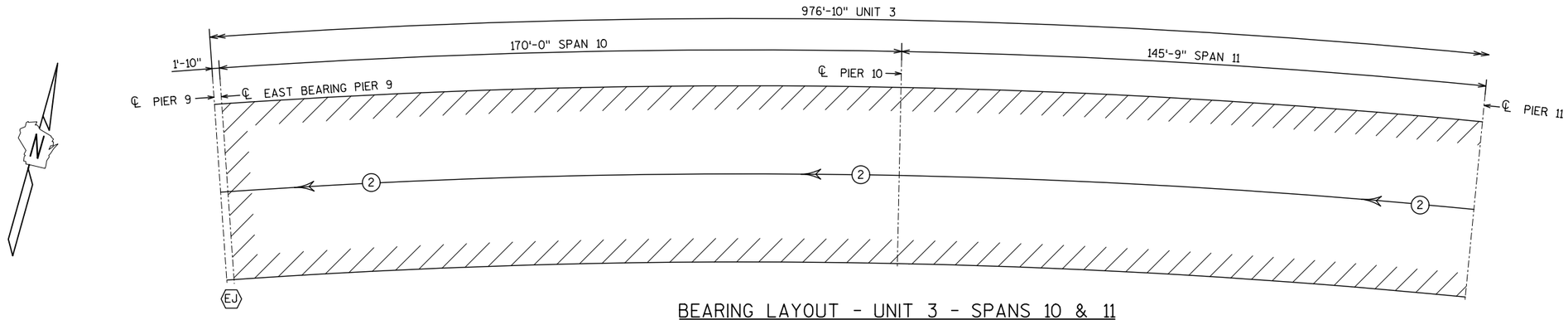
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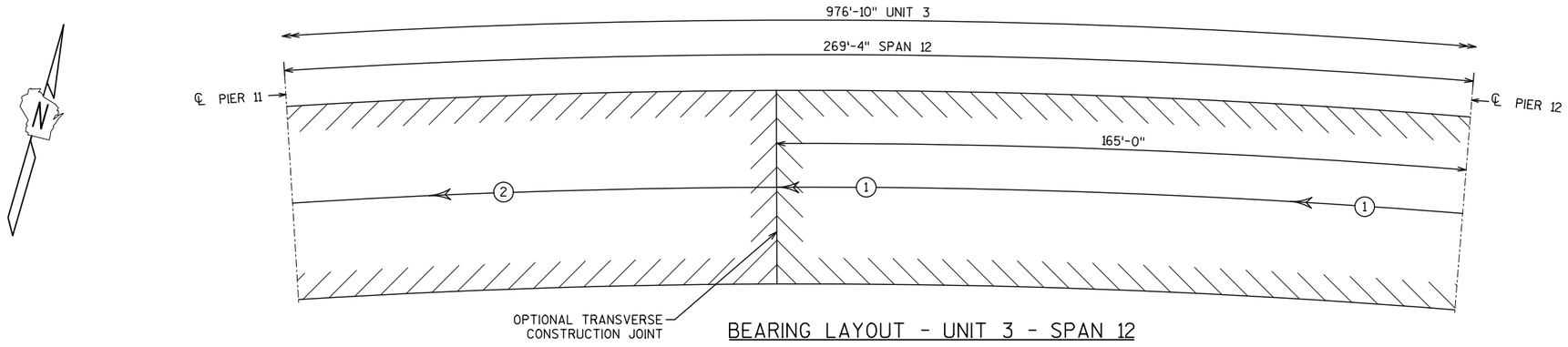
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DATE: 4/11/2016
I.D.

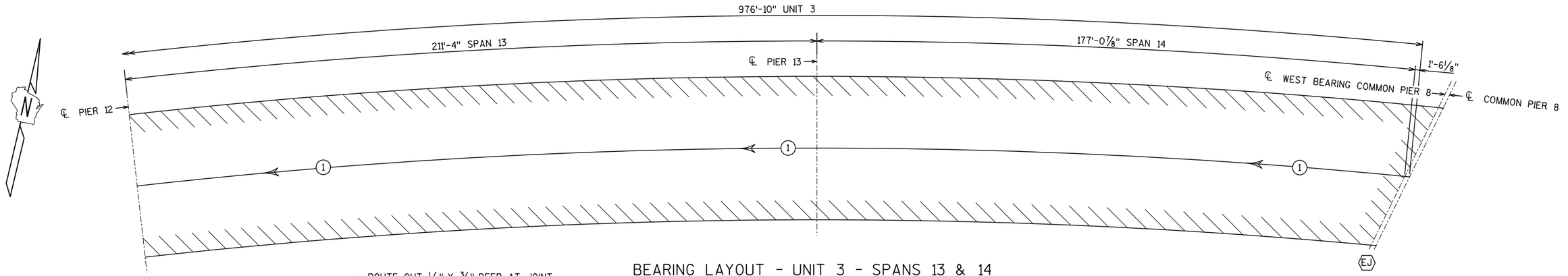
| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |



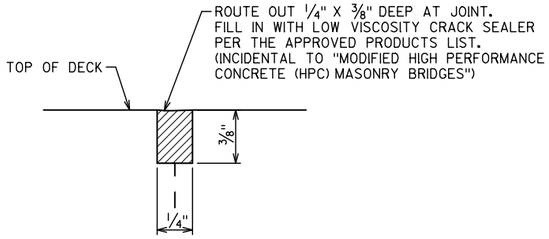

BEARING LAYOUT - UNIT 3 - SPANS 10 & 11




BEARING LAYOUT - UNIT 3 - SPAN 12

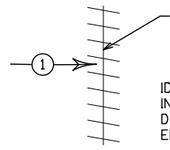



BEARING LAYOUT - UNIT 3 - SPANS 13 & 14




TRANSVERSE CONSTRUCTION JOINT
NOT TO SCALE

LEGEND




OPTIONAL END OF POUR

IDENTIFIES POUR AREA. NUMBER INDICATES THE POUR SEQUENCE IN DIRECTION SHOWN AND OPTIONAL END.

EJ EXPANSION JOINT LOCATION.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY EAN | PLANS CK'D. MJA

DECK POUR SEQUENCE UNIT 3

SHEET 69 OF 85
566

8

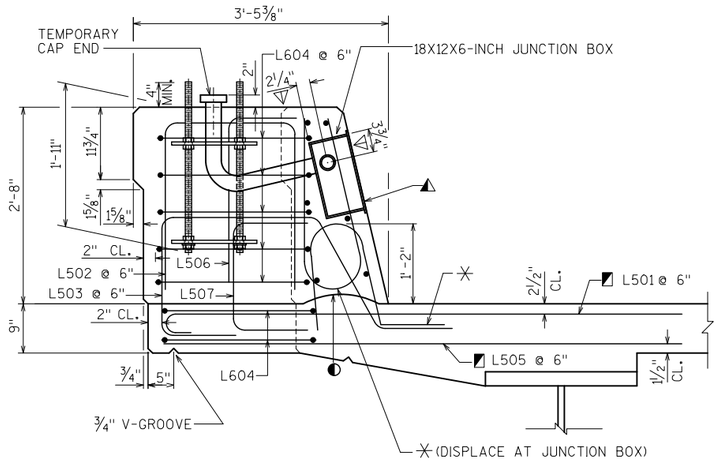
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DATE: 4/11/2016
I.D.

STATE PROJECT NUMBER

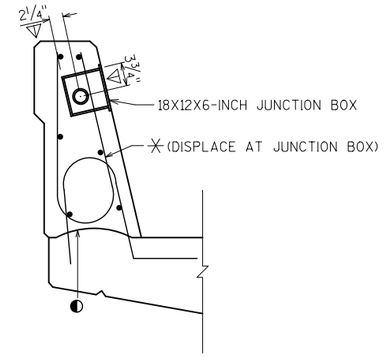
1517-07-77




## LIGHT POLE TABLE

| ℄ LIGHT POLE |
|---|
| STA. 119FWS+50 |
| STA. 121FWS+50 |
| STA. 123FWS+50 |
| STA. 125FWS+50 |
| STA. 127FWS+50 |
| STA. 129FWS+50 |
| STA. 131FWS+50 |
| STA. 133FWS+50 |
| STA. 135FWS+50 |
| STA. 137FWS+50 |
| STA. 139FWS+50 |

## SECTION A-A




## SECTION THRU PARAPET

(FOR PARAPET REINFORCING DETAILS SEE SHEET "SINGLE SLOPE PARAPET 32SS MODIFIED")

## NOTES

BID ITEMS SHALL BE:
"JUNCTION BOXES 18X6X6-INCH", EACH.
"JUNCTION BOXES 18X12X6-INCH", EACH.
"ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURE", EACH.
"CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH"
"CONDUIT RIGID METALLIC 2-INCH"

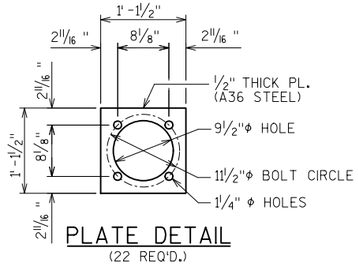
APPROVED MANUFACTURERS - JUNCTION BOXES:
SEE APPROVED MATERIAL LIST.

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING:

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. OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED.

FOR PLAN OF PARAPET AT WINGWALL SEE SHEET "PARAPET ELECTRICAL".




## PLATE DETAIL

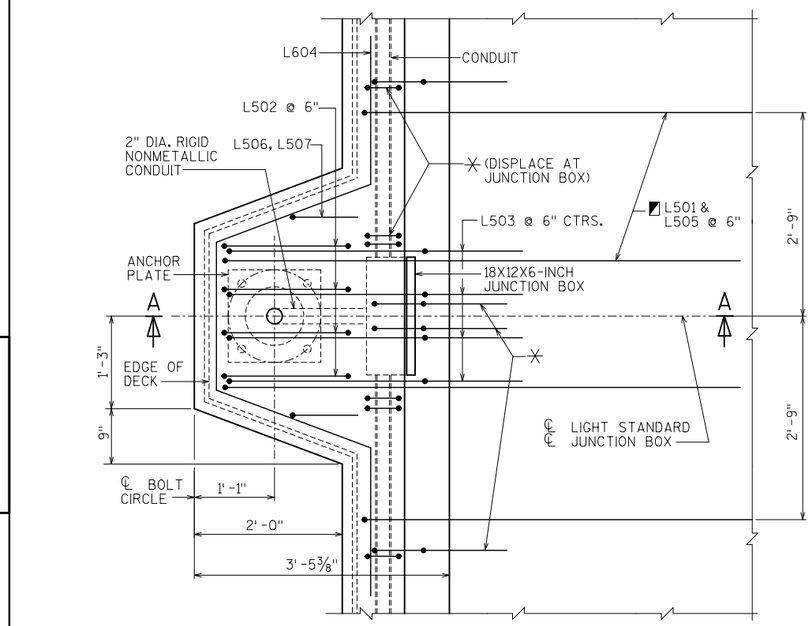
(22 REQ'D.)

## JUNCTION BOX TABLE

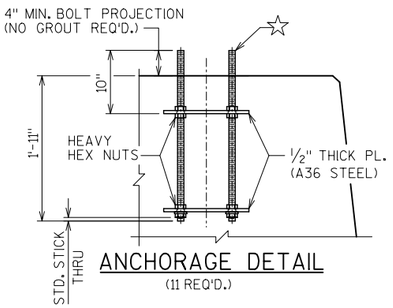
| ℄ JUNCTION BOX |
|---|
| STA. 124FWS+25 |

## 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.
- ◩ THESE BARS ARE IN ADDITION TO BARS IN ANCHOR SLAB.
- ✳ SEE "SINGLE SLOPE PARAPET 32SS MODIFIED" SHEET FOR ADDITIONAL BAR STEEL DETAILS.
- ☆ 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.




## PLAN AT LIGHT STANDARD




## ANCHORAGE DETAIL

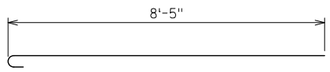
(11 REQ'D.)

## BILL OF BARS

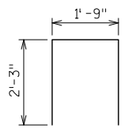
ALL BARS IN THIS TABLE SHALL BE EPOXY COATED

| BAR MARK | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|
| L501 | 132 | 9'-0" | X | | DECK TRANSV. @ LIGHT STD. |
| L502 | 44 | 6'-0" | X | | PARAPET VERT. @ LIGHT STD. |
| L503 | 44 | 7'-0" | X | | PARAPET VERT. @ LIGHT STD. |
| L604 | 77 | 10'-0" | X | | PARAPET HORIZ. @ LIGHT STD. |
| L505 | 132 | 8'-5" | | | DECK TRANSV. @ LIGHT STD. |
| L506 | 22 | 3'-2" | X | | PARAPET VERT. @ LIGHT STD. |
| L507 | 22 | 3'-4" | X | | PARAPET VERT. @ LIGHT STD. |

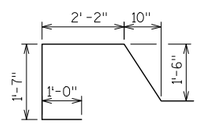
TOTAL WEIGHT= 4,310 LB



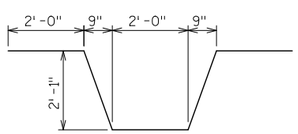

L501



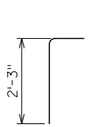

L502



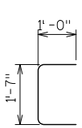

L503




L604




L506




L507

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. MJA

LIGHT STANDARD

SHEET 70 OF 95
567

8

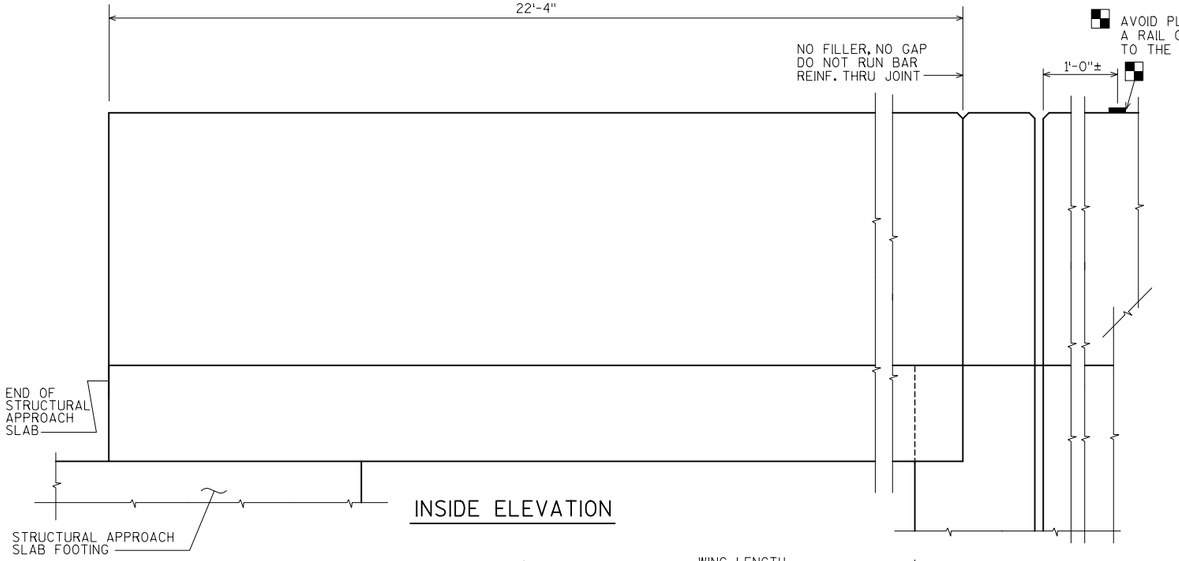
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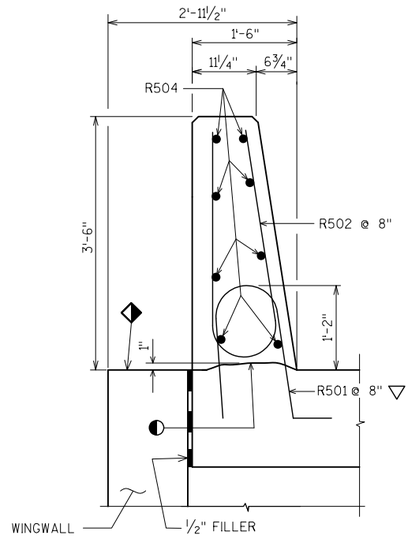
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I.D.

STATE PROJECT NUMBER

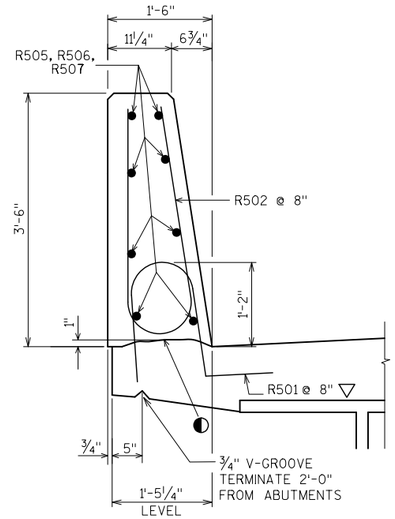
1517-07-77



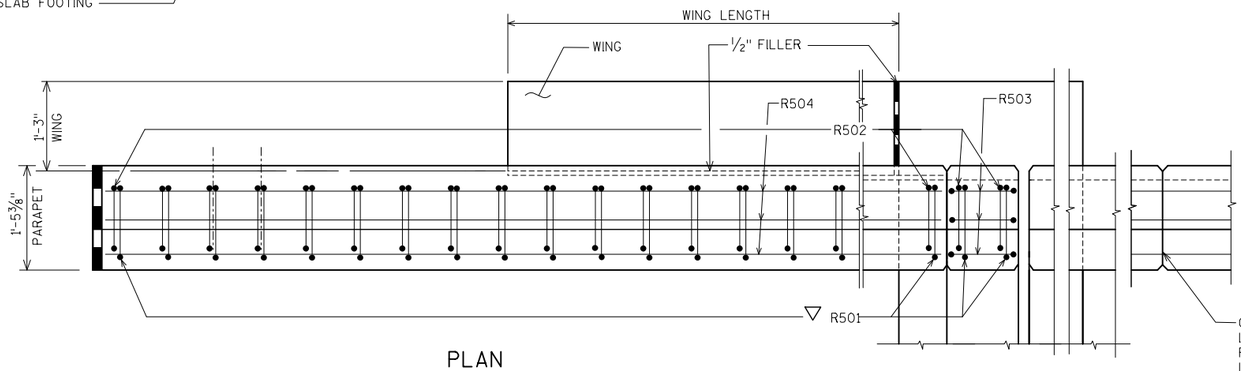

INSIDE ELEVATION



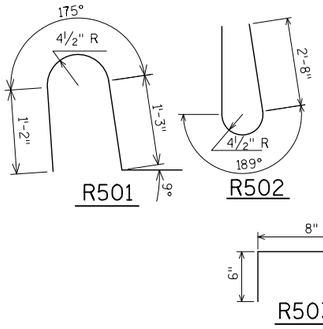

SECTION C

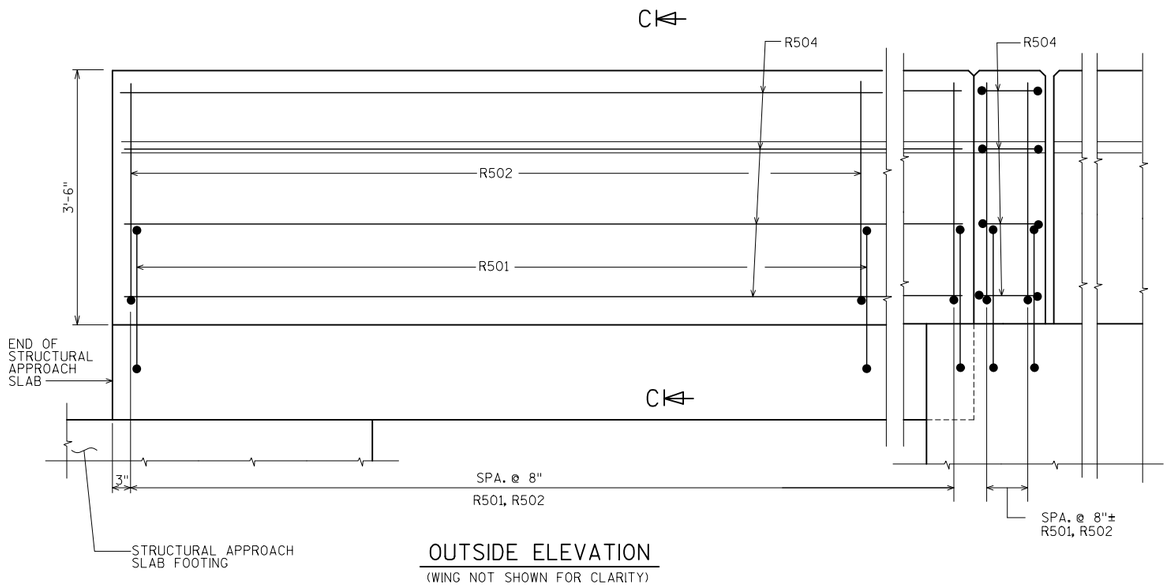



PARAPET ON BRIDGE




PLAN




OUTSIDE ELEVATION

(WING NOT SHOWN FOR CLARITY)

## BILL OF BARS

(ALL BARS EPOXY COATED)

| BAR MARK | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|
| R501 | 3508 | 4'-5" | X | | 42SS MODIFIED PARAPET VERT. |
| R502 | 3499 | 6'-8" | X | | 42SS MODIFIED PARAPET VERT. |
| R503 | 8 | 1'-5" | X | | 42SS MODIFIED PARAPET HORIZ. WING |
| R504 | 8 | 20'-1" | | | 42SS MODIFIED PARAPET LONGIT. WING |
| R505 | 80 | 56'-8" | | | 42SS MODIFIED PARAPET LONGIT. UNIT 1 |
| R506 | 112 | 56'-1" | | | 42SS MODIFIED PARAPET LONGIT. UNIT 2 |
| R507 | 144 | 58'-7" | | | 42SS MODIFIED PARAPET LONGIT. UNIT 3 |

TOTAL WEIGHT= 60,750 LB

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

◆ SLOPE FOR DRAINAGE

▽ R501 BARS TO BE TIED TO STRUCTURAL APPROACH SLAB STEEL BEFORE STRUCTURAL APPROACH SLAB IS POURED.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. MJA

SINGLE SLOPE
PARAPET 42SS
MODIFIED

SHEET 71 OF 95
568

DATE: 4/11/2016
I.D.

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\B-70-405\Sheets\066-405-Single Slope Parapet 42SS Modified.dgn

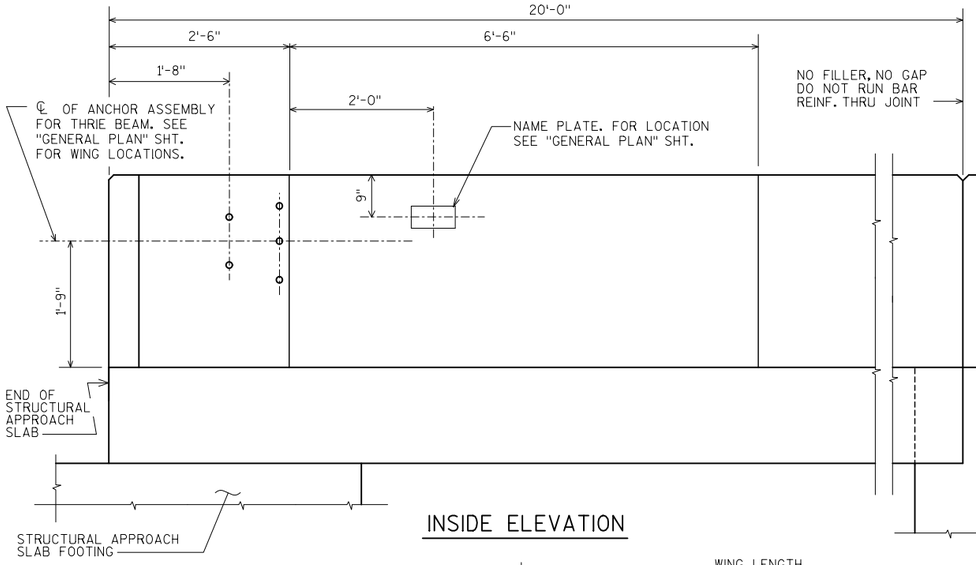
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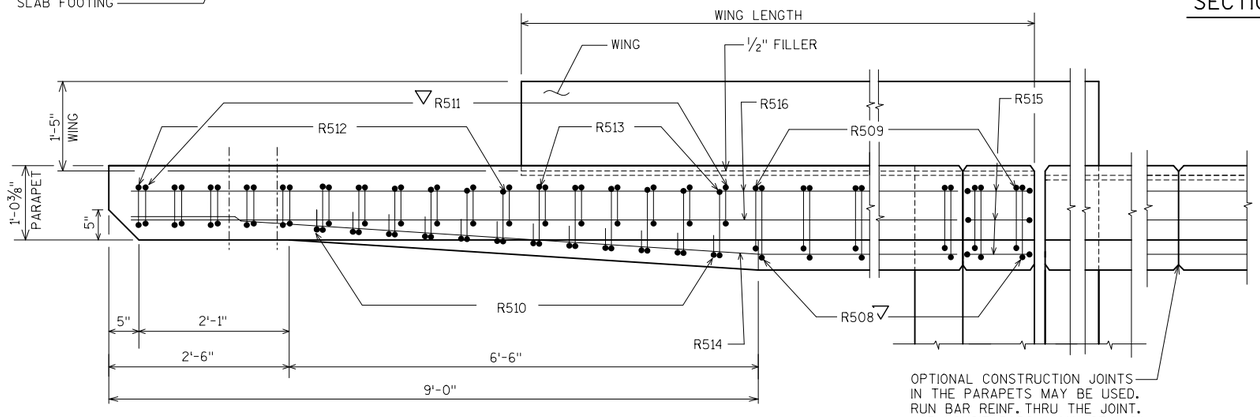
STATE PROJECT NUMBER

1517-07-77

BENCH MARK CAP (WHEN SUPPLIED). AVOID PLACING A BENCH MARK CAP BELOW A RAIL OR FENCE SYSTEM THAT IS ATTACHED TO THE TOP OF THE PARAPET.

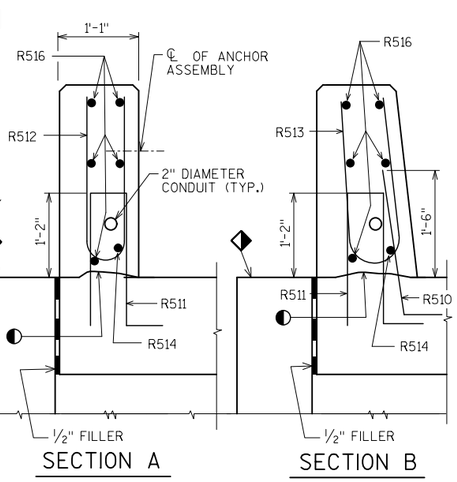



INSIDE ELEVATION




PLAN

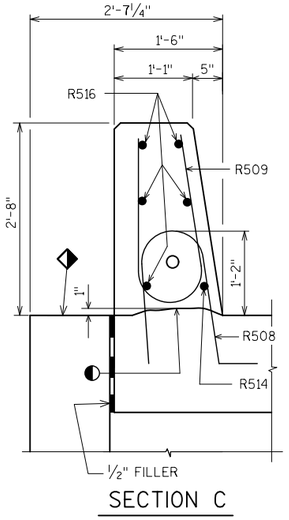
OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾" - 'V' GROOVE.



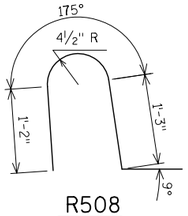

SECTION A



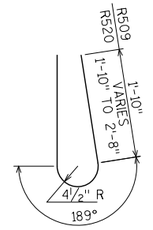

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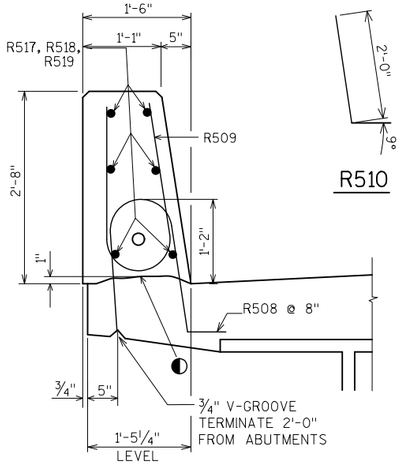

SECTION C



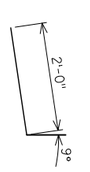

R508



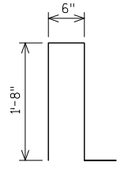

R509, R520



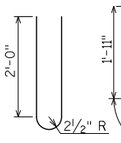

PARAPET ON BRIDGE



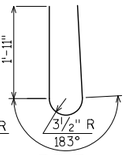

R510



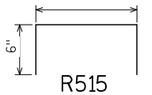

R511



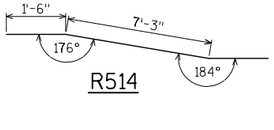

R512



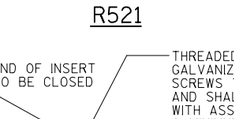

R513




R515




R514




R521

## NOTES

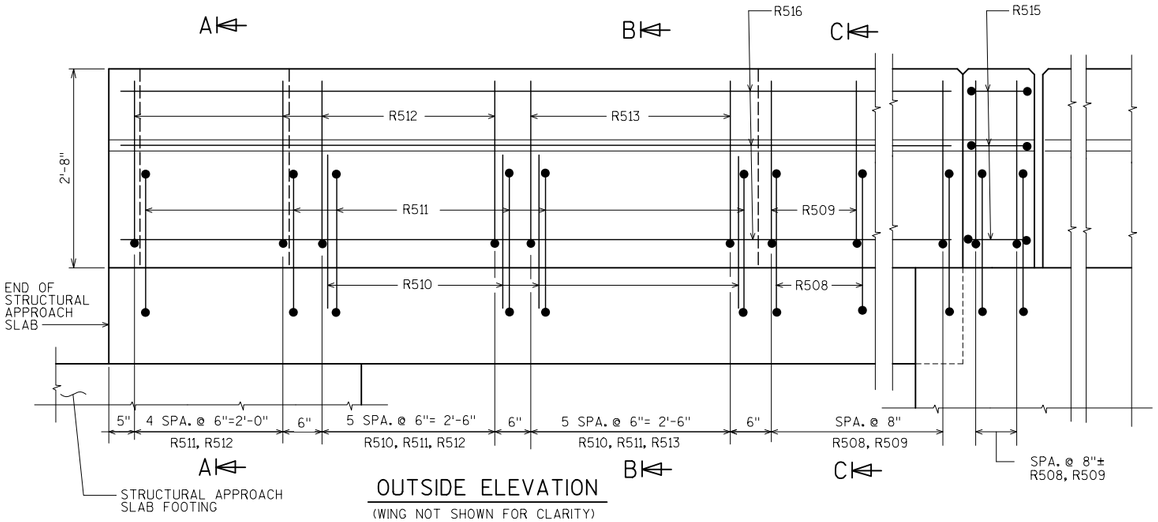
FOR PARAPET TRANSISTION DETAILS AND REINFORCINF SEE "PARAPET TRANSITION".

FOR 42SS MODIFIED PARAPET DETAILS AND REINFORCING SEE SHEET "SINGLE SLOPE PARAPET 42SS MODIFIED".

◆ SLOPE FOR DRAINAGE

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

▽ R501 AND R504 BARS TO BE TIED TO STRUCTURAL APPROACH SLAB STEEL BEFORE STRUCTURAL APPROACH SLAB IS POURED.




OUTSIDE ELEVATION

(WING NOT SHOWN FOR CLARITY)

## BAR SERIES

| BAR MARK | NO. REQ'D | LENGTH |
|---|---|---|
| R520 | 1 SERIES OF 9 | 5'-0" TO 6'-8" |

## BILL OF BARS

(ALL BARS EPOXY COATED)

| BAR MARK | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|
| R508 | 3354 | 4'-5" | X | | 32SS MODIFIED PARAPET VERT. |
| R509 | 3354 | 5'-0" | X | | 32SS MODIFIED PARAPET VERT. |
| R510 | 12 | 2'-9" | X | | 32SS MODIFIED PARAPET VERT. WING |
| R511 | 17 | 4'-4" | X | | 32SS MODIFIED PARAPET VERT. WING |
| R512 | 11 | 4'-9" | X | | 32SS MODIFIED PARAPET VERT. WING |
| R513 | 6 | 4'-10" | X | | 32SS MODIFIED PARAPET VERT. WING |
| R514 | 1 | 19'-7" | X | | 32SS MODIFIED PARAPET LONGIT. WING |
| R515 | 6 | 1'-11" | X | | 32SS MODIFIED PARAPET HORIZ. WING |
| R516 | 5 | 19'-7" | | | 32SS MODIFIED PARAPET LONGIT. WING |
| R517 | 60 | 55'-5" | | | 32SS MODIFIED PARAPET LONGIT. UNIT 1 |
| R518 | 78 | 58'-9" | | | 32SS MODIFIED PARAPET LONGIT. UNIT 2 |
| R519 | 102 | 59'-6" | | | 32SS MODIFIED PARAPET LONGIT. UNIT 3 |
| R520 | 9 | 5'-10" | X | X | TRANSITION VERT. |
| R521 | 2 | 14'-4" | X | | TRANSITION LONGIT. |

TOTAL WEIGHT= 47,940 LB




## DETAIL OF ANCHOR ASSEMBLY

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

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

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SINGLE SLOPE PARAPET 32SS MODIFIED

SHEET 72 OF 85
569

DATE: 4/11/2016
I.D.

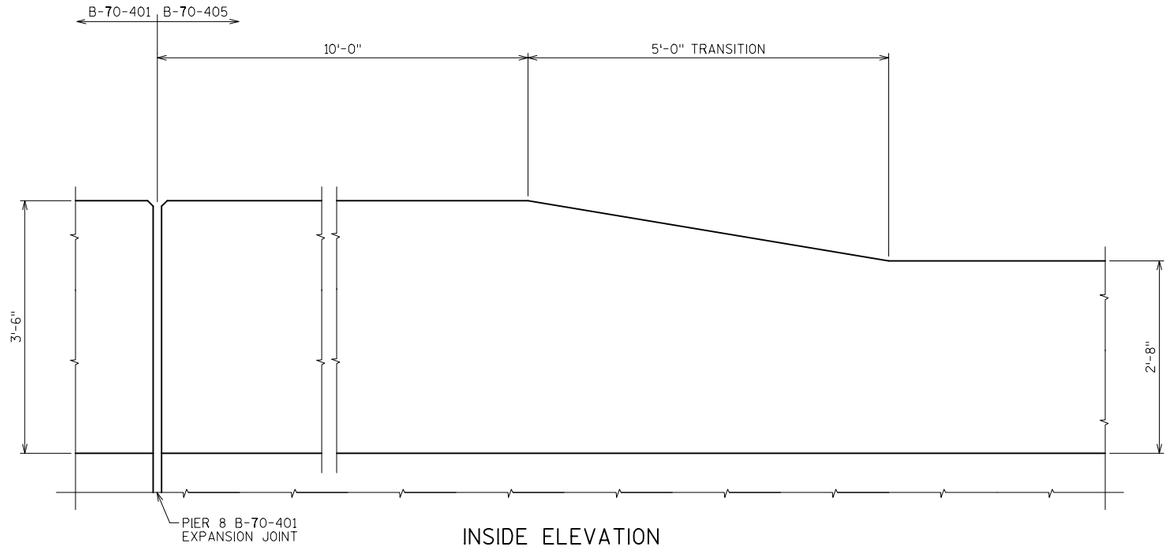
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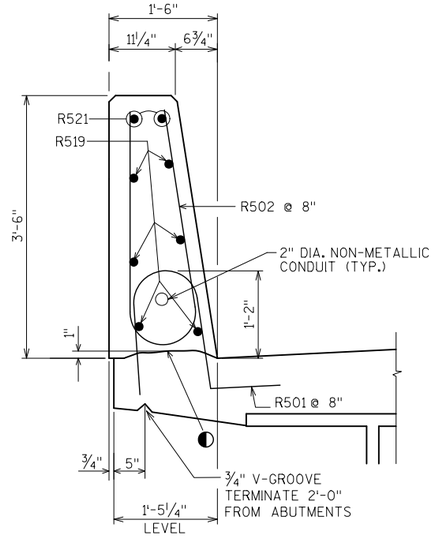
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STATE PROJECT NUMBER

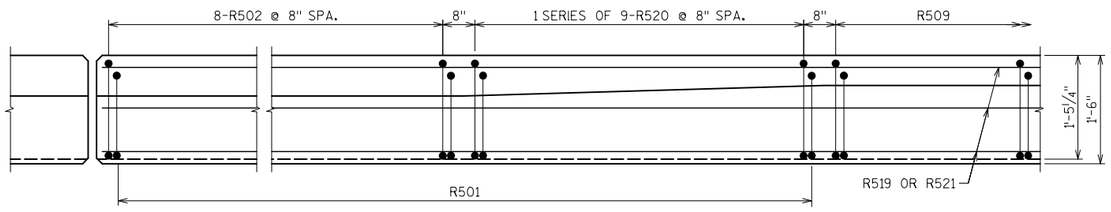
1517-07-77



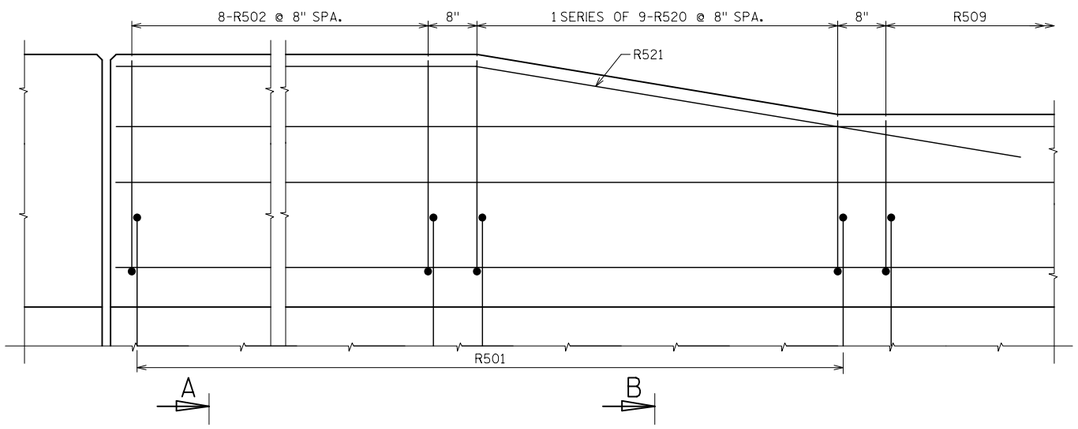

INSIDE ELEVATION



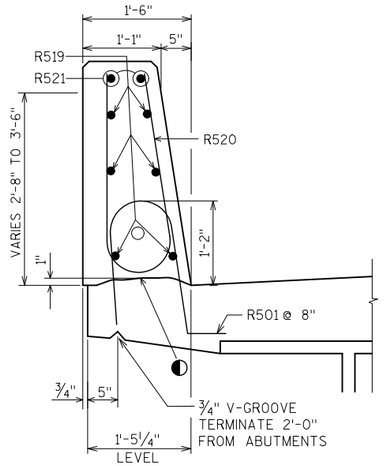

SECTION A-A




PLAN




OUTSIDE ELEVATION




SECTION B-B

## NOTES

FOR NOTES, BILL OF BARS, AND BEND DIAGRAMS SEE "32SS PARAPET MODIFIED".

## LEGEND

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. MJA

PARAPET TRANSITION
42SS TO 32SS

SHEET 73 OF 95
570

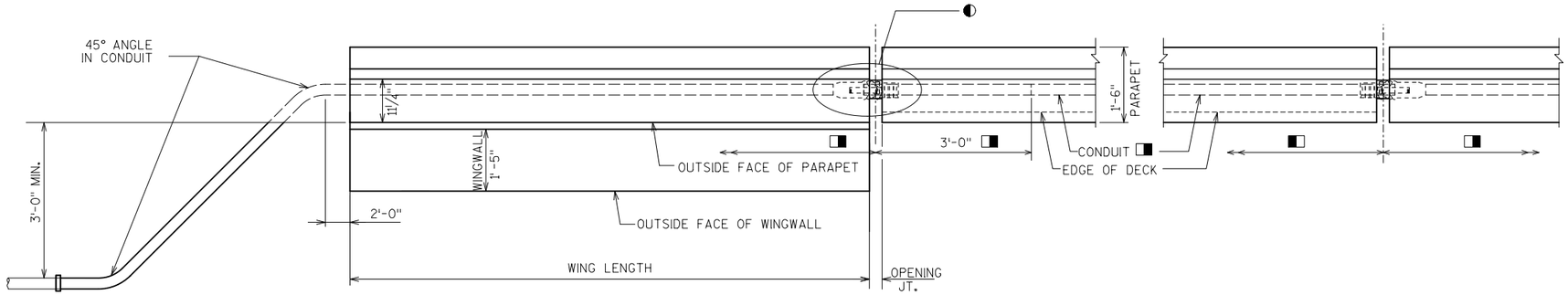
DATE: 4/11/2016
I.D.

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8

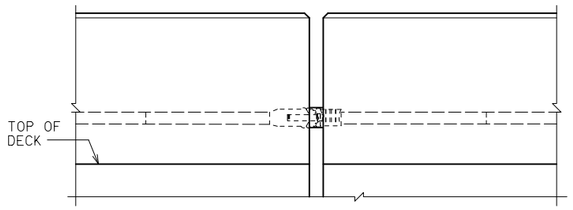
| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |




PLAN OF PARAPET AT WINGWALL

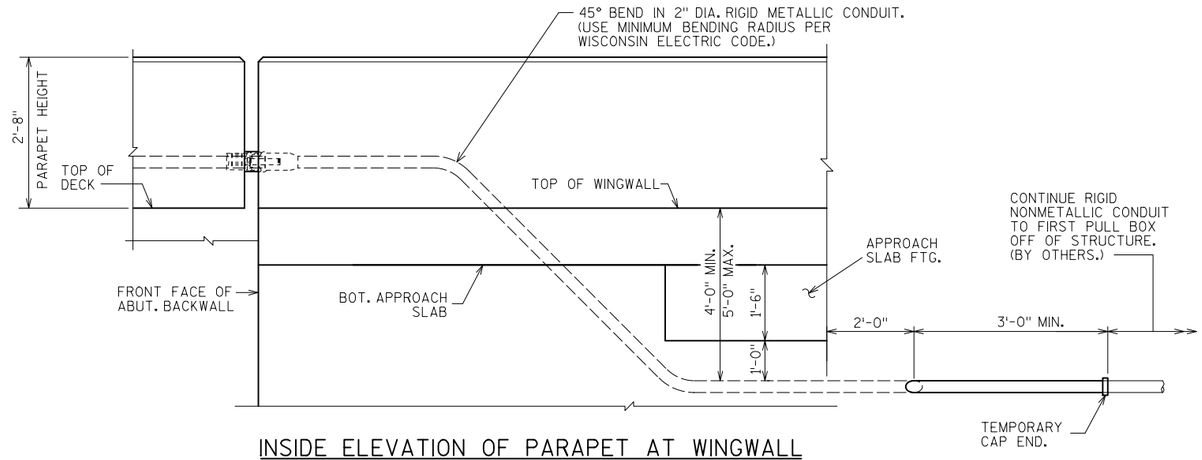
PLAN OF PARAPET
AT MODULAR JOINTS

(PARAPET TYPE 32SS MODIFIED SHOWN,
TYPE 42SS MODIFIED SIMILAR WITH NO CONDUIT)



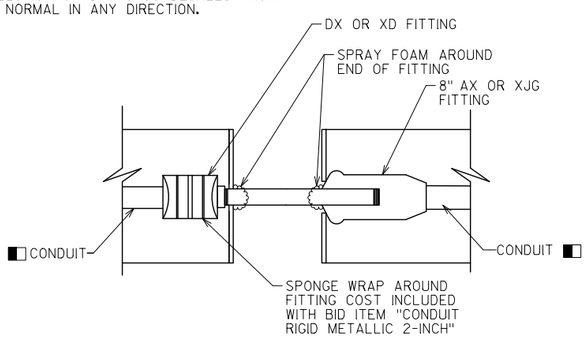

ELEVATION OF PARAPET
AT MODULAR JOINTS

(PARAPET TYPE 32SS MODIFIED SHOWN,
TYPE 42SS MODIFIED SIMILAR WITH NO CONDUIT)



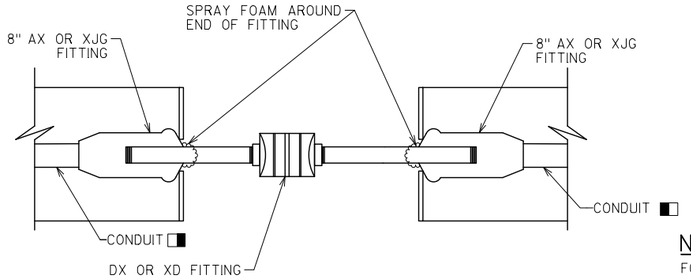

INSIDE ELEVATION OF PARAPET AT WINGWALL

XD FITTING IS GOOD FOR 3/4" MOVEMENT IN ANY DIRECTION. THE XD FITTING WILL ALLOW FOR ANGULAR MOVEMENT WITH A DEFLECTION OF UP TO 30 DEGREES FROM THE NORMAL IN ANY DIRECTION.




DETAIL 1 - WEST ABUTMENT
ELECTRICAL FITTING - AX/DX CONNECTION

THIS ARRANGEMENT ACCOMODATES UP TO $8\frac{3}{4}$" TOTAL MOVEMENT




DETAIL 2 - PIERS 4, 9, COMMON PIER 8
ELECTRICAL FITTING - DX OR XD CONNECTION

THIS ARRANGEMENT ACCOMODATES UP TO $16\frac{3}{4}$" TOTAL MOVEMENT

◐ POSITION MOVABLE END OF CONDUIT INSIDE EXPANSION FITTING, SUCH THAT IT WILL HAVE THE SAME ALLOWANCE FOR MOVEMENT (EXPANSION/CONTRACTION) AS THE EXPANSION DEVICE SET IN PLACE IN THE DECK BELOW IT. TAKE CARE TO INSTALL EXPANSION FITTING AND CONDUIT EXACTLY PARALLEL TO BRIDGE MOVEMENT.

◧ USE RIGID METALLIC CONDUIT 3'-0" INTO PARAPET ON ONE SIDE OF JOINT OPENING AND EXTEND TO NEAREST JUNCTION BOX ON OTHER SIDE.

## NOTES

FOR LIGHT STANDARD DETAILS AND LOCATIONS SEE SHEET "LIGHT STANDARD".

BID ITEMS SHALL BE:
"CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH"
"CONDUIT RIGID METALLIC 2-INCH"

APPROVED MANUFACTURERS - JUNCTION BOXES:
SEE APPROVED MATERIAL LIST.

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING:

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. OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. MJA

PARAPET ELECTRICAL

SHEET 74 OF 85
571

DATE: 4/11/2016
I.D.

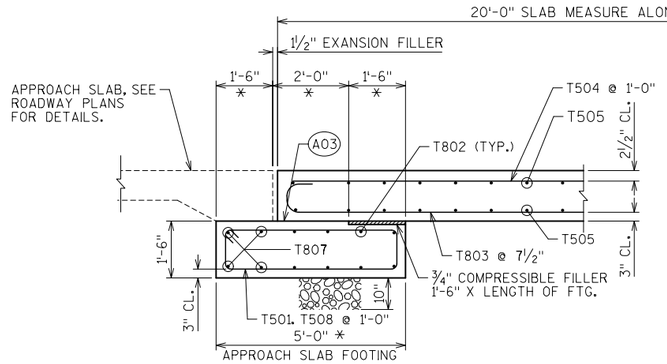
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8

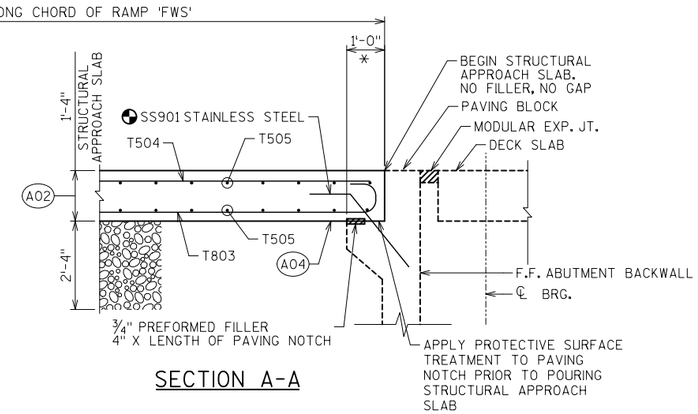
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STATE PROJECT NUMBER

1517-07-77

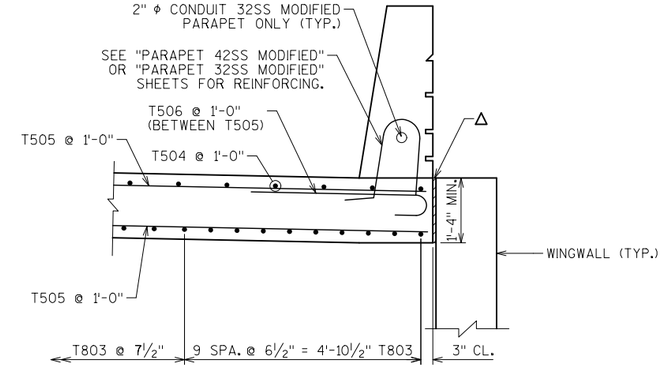



SECTION B-B



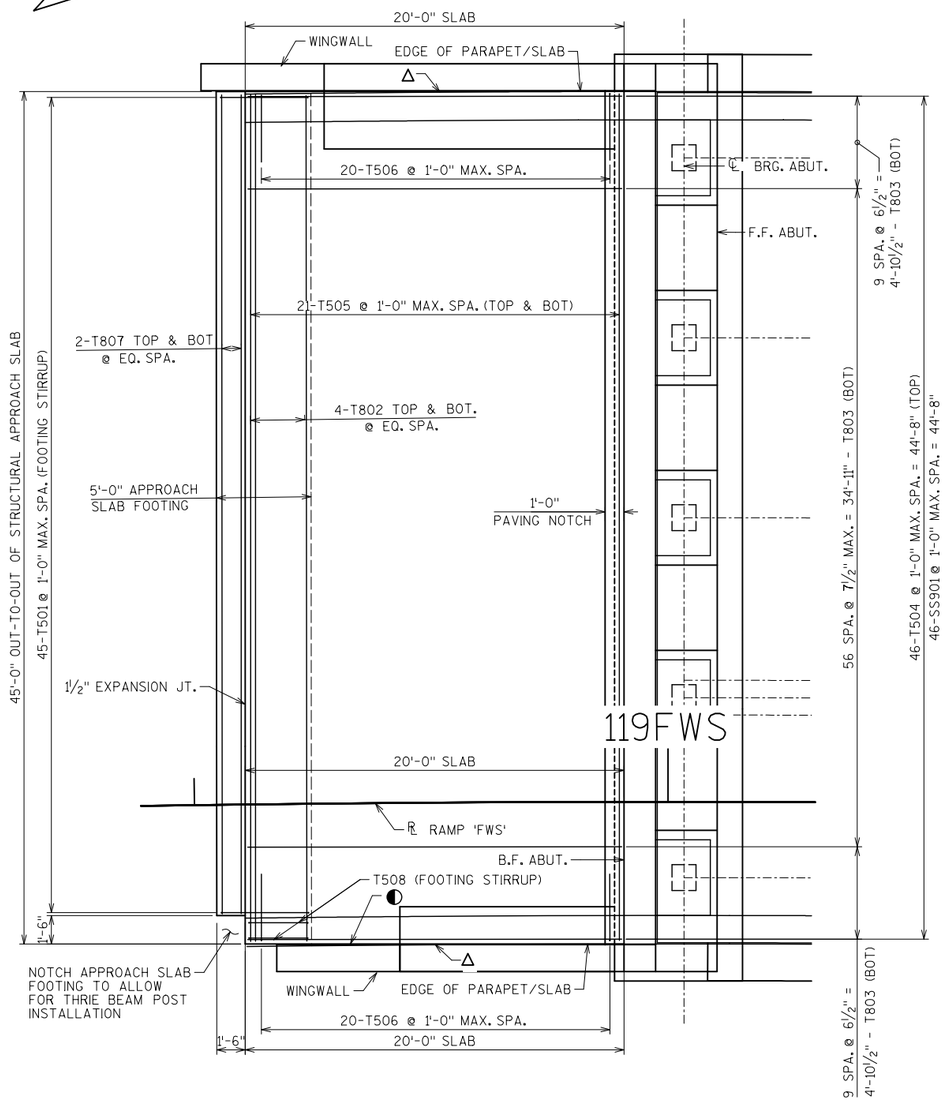

SECTION A-A

## TRANSVERSE SECTION THRU STRUCTURAL APPROACH SLAB




DETAIL AT WINGWALL

(LOOKING UPSTATION)



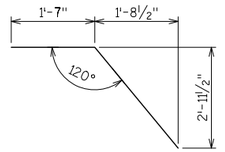

## BILL OF BARS

| BAR MARK | NO. REQ'D | LENGTH | BENT | LOCATION |
|---|---|---|---|---|
| T501 | 45 | 12'-2" | X | FOOTING - STIRRUP |
| T802 | 8 | 44'-8" | | FOOTING - TRANS. |
| T803 | 75 | 21'-6" | X | LONG. - BOT |
| T504 | 46 | 19'-8" | | LONG. - TOP |
| T505 | 42 | 44'-8" | | TRANS. - TOP & BOT |
| T506 | 40 | 4'-1" | X | TRANS. - TOP |
| T807 | 4 | 43'-2" | X | FOOTING - TRANS. |
| T508 | 2 | 9'-2" | X | FOOTING - STIRRUP |

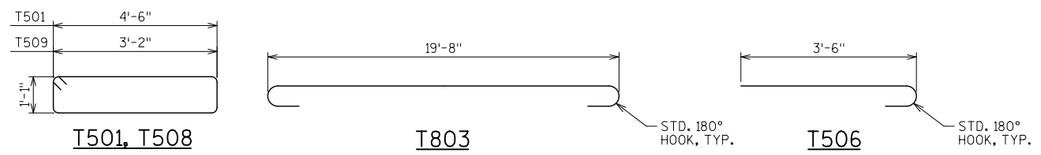
TOTAL WEIGHT EPOXY COATED= 9,390 LB

| | | | | |
|---|---|---|---|---|
| SS901 | 46 | 5'-0" | X | ABUT. BACKWALL |

TOTAL WEIGHT STAINLESS= 790 LB




SS901




T501, T508

T803

T506

## NOTES

SEE SHEET "AESTHETIC DETAILS" FOR STRUCTURAL APPROACH SLAB PARAPET STAIN COLOR.

SEE SHEET "PARAPET ELECTRICAL" FOR METALLIC CONDUIT LOCATION.

## LEGEND

(A02) STRUCTURAL APPROACH SLAB, STRUCTURAL APPROACH SLAB FOOTING, AND STRUCTURAL APPROACH SLAB PARAPETS SHALL BE "MODIFIED HIGH PERFORMANCE CONCRETE (HPC) MASONRY BRIDGES".

(A03) STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHELENE SHEETS OVER THE ENTIRE LENGTH OF THE FOOTING.

(A04) PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHELENE SHEETS OVER THE ENTIRE LENGTH AND WIDTH OF THE SUBGRADE. POLYETHELENE SHEETS SHALL BE INCIDENTAL TO BID ITEM "MODIFIED HIGH PERFORMANCE CONCRETE (HPC) MASONRY BRIDGES".

Δ SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE. EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

◔ THE COST OF STAINLESS STEEL BARS SS901 IS INCLUDED WITH BID ITEM "BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES".

◐ SEE SHEET "PARAPET 32SS MODIFIED" FOR LOCATION OF NAME PLATE AND BENCH MARK.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. MJA

STRUCTURAL APPROACH SLAB DETAILS

SHEET 75 OF 95
572

DATE: 4/11/2016
I.D.

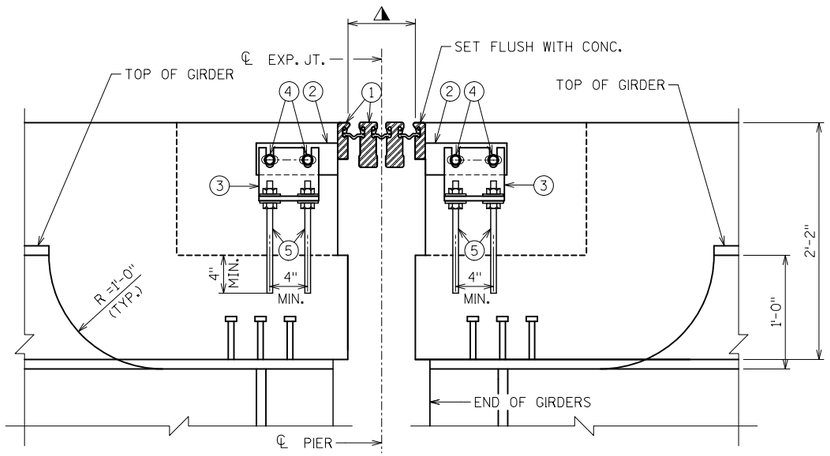
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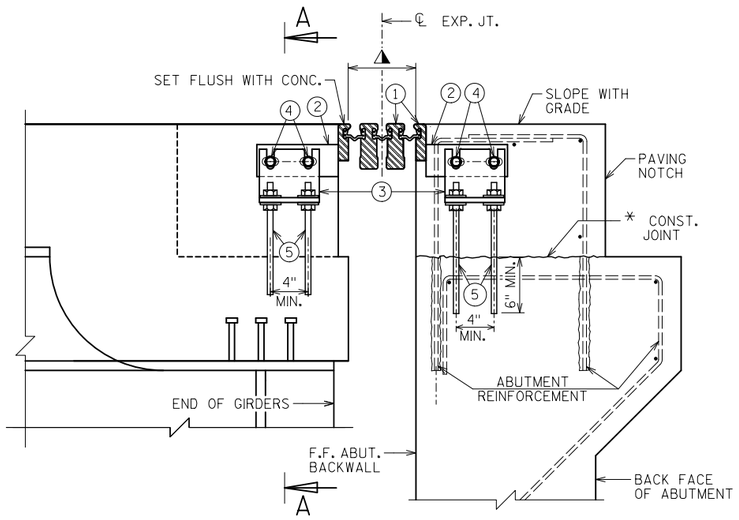
STATE PROJECT NUMBER

1517-07-77



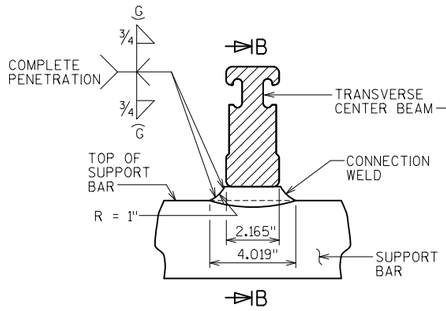

## SECTION THRU JOINT @ PIERS

NORMAL TO ℄ SUBSTRUCTURE

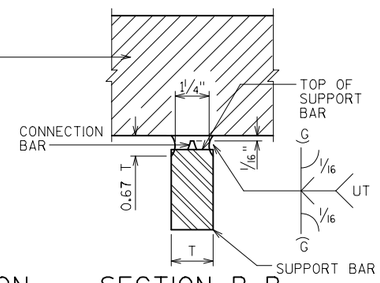



## SECTION THRU JOINT @ W. ABUTMENT

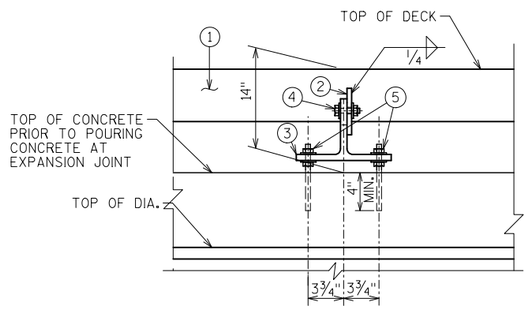
NORMAL TO ℄ SUBSTRUCTURE



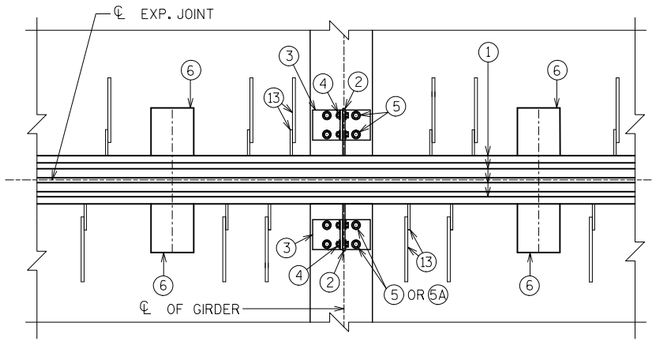

## MODULAR EXPANSION JOINT CONNECTION DETAIL AND WELD SPECIFICATION



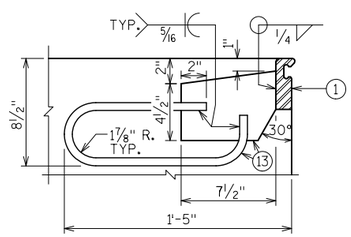

## SECTION B-B




## SECTION A-A

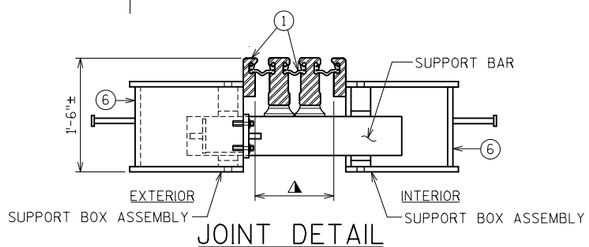



## PART PLAN




## ANCHORAGE DETAIL

PLACE ADJACENT TO SUPPORT BOXES IN DECK @ CONC. DIAPH.




## JOINT DETAIL

AT SUPPORT BAR & SUPPORT BOX ASSEMBLY

## LEGEND

1. MODULAR EXPANSION JOINT DEVICE, 2 CELLS (W. ABUT), 4 CELLS (PIERS 4 AND SHARED PIER C8), AND 5 CELLS (PIER 9).
2. 1/2" PLATE, ONE PER GIRDER MIN. PROVIDE 2 - 1" X 2" MIN. SLOTTED HOLES PLACED HORIZONTALLY FOR NO. 4.
3. WT 6 X 29 (OR EQUIVALENT BUILT UP T-SECTION). ONE PER GIRDER. PROVIDE 2 - 1" X 3" MIN. SLOTTED HOLES PLACED VERTICALLY IN WEB OF WT FOR BOLTS NO. 4.
4. 3/4" Φ HIGH STRENGTH BOLTS WITH NUTS & WASHERS. (A325 GALV.)
5. 3/4" Φ HIGH STRENGTH BOLTS WITH NUTS & WASHERS. FIELD DRILL HOLES IN GIRDER TOP FLANGE. (A325 GALV.)
- 5A. 3/4" Φ 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 1/2" PLATES.

* 7. 3/8" BULKHEAD PLATE. WELD TO NO. 1, NO. 8 AND NO. 14. WHEN CONDUIT IS PRESENT IN PARAPET OR SIDEWALK, ACCOMMODATE 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" Φ X 4" LONG STUDS. WELD TO NO. 8 , NO. 7 & NO. 14 AS SHOWN.

12. 3/4" Φ X 2" STAINLESS STEEL FLAT CTSK. SLOTTED HEAD CAP SCREWS WITH ANTI-SEIZE LUBRICANT. RECESS 1/16" BELOW PLATE SURFACE.
13. 1/2" PLATE WITH 5/8" Φ LOOP ANCHOR FABRICATED AS SHOWN. SPACED AT MANUFACTURER'S SPEC.

* 14. INSIDE PLATE. FABRICATE FROM 5/8" PLATE.

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

* SEE "MODULAR JOINT COVER PLATES" FOR DETAILS

* 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.

◑ DIMENSION IS PARALLEL TO ℄ GIRDER.

## TEMP. TABLE

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

1. MOVEMENT PER 10° F

| | |
|---|---|
| W. ABUT.: | 1/4" |
| PIER 4: | 3/4" |
| PIER 9: | 7/8" |
| SHARED PIER 8: | 11/16" |

2. MEDIAN TEMPERATURE OF 45° F
3. TEMP. RANGE IN TABLE FROM (-5)°F) TO (+95°F).

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

## GENERAL NOTES

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, 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 "COMMERICAL BLAST CLEANING". AFTER BLAST CLEANING, THIS ASSEMBLY SHALL BE HOT DIPPED GALVANIZED.

COST OF FURNISHING & PLACING OF THE EXPANSION JOINTS COMPLETE WITH PARAPET PLATES FOR JOINTS AT PIER 4, PIER 9, AND WEST SIDE OF SHARED PIER 8 SHALL BE PAID FOR UNDER THE PRICE BID FOR "EXPANSION DEVICE MODULAR B-70-405". THE JOINT AT THE EAST SIDE OF SHARED PIER 8 SHALL BE PAID FOR WITH THE B-70-401 BRIDGE.

BAR STEEL REINF. IN DECK AND CONC. DIAPHRAGM SHALL BE RESPACED AS NECESSARY TO ALLOW PLACEMENT OF JOINT ASSEMBLY. TOP TRANSVERSE BARS, ADJACENT TO MOD. JT., TO BE CUT AND PLACED BETWEEN JT. SUPPORT SYSTEM.

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.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY DNJ | PLANS CK'D. MJA

MODULAR EXP. JOINT DETAILS 1

SHEET 76 OF 95
573

DATE: 4/11/2016
I.D.

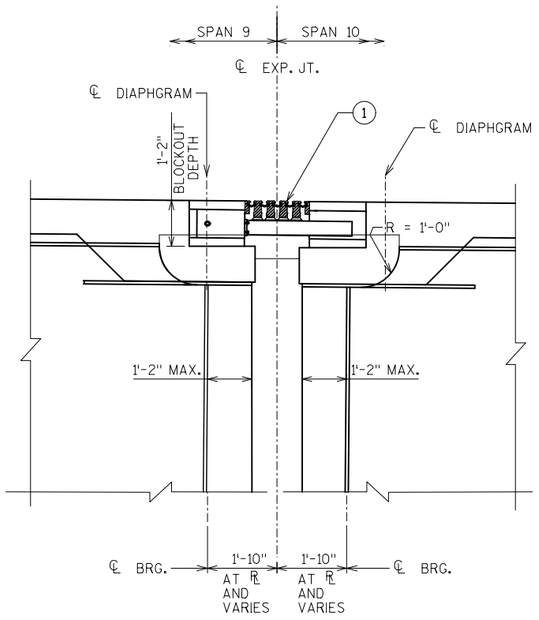
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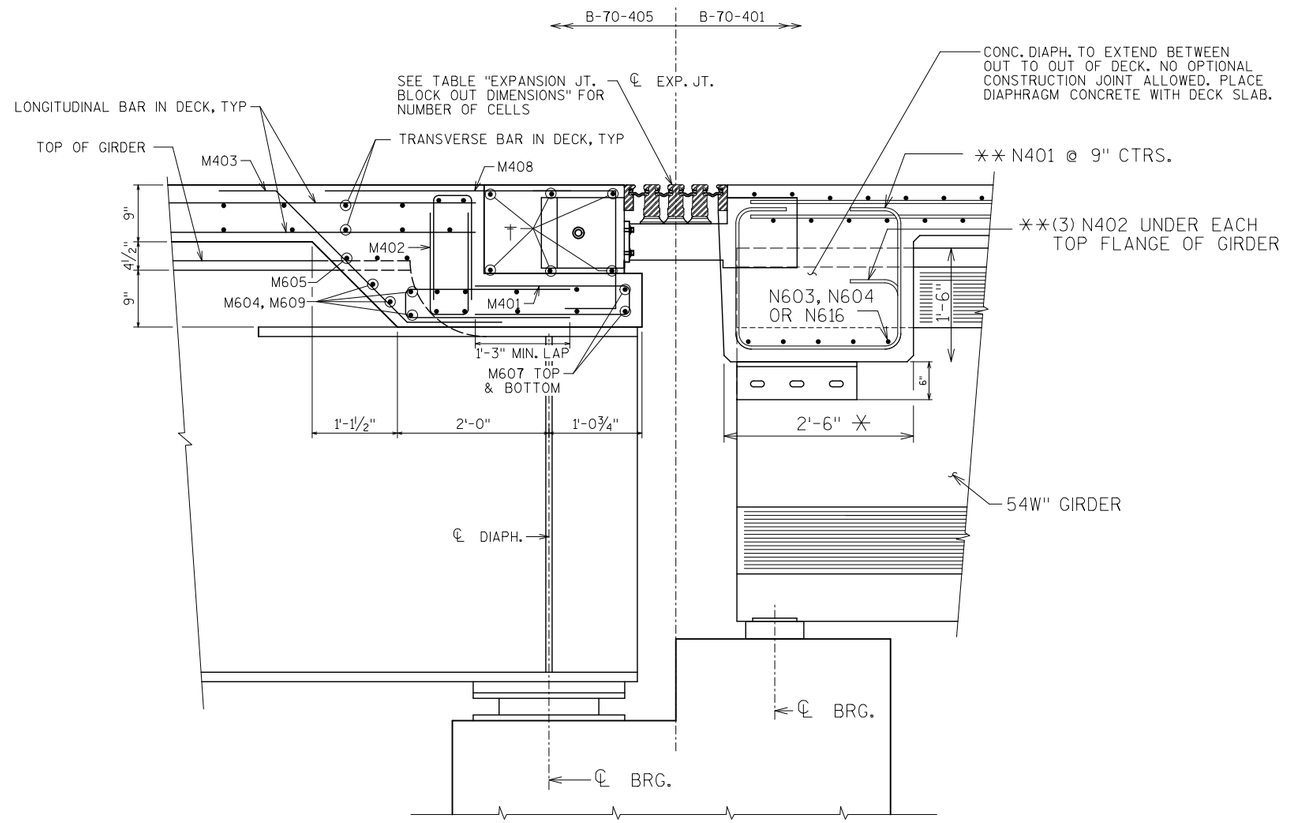
STATE PROJECT NUMBER

1517-07-77

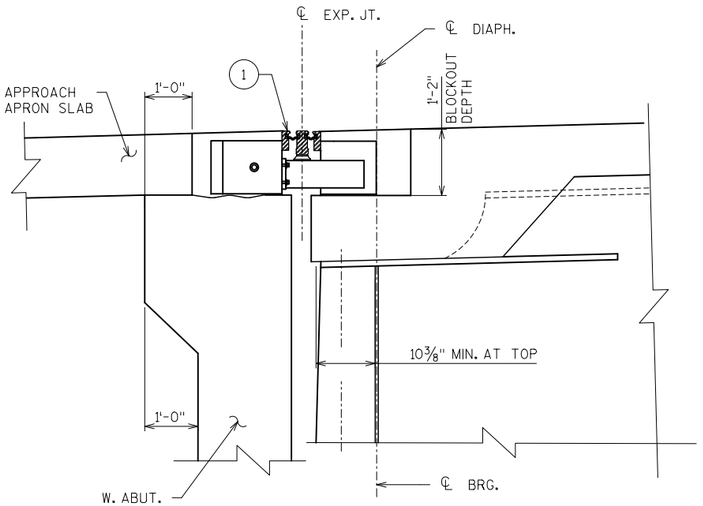



SECTION J-J

(SEE SECTION B-B SHEET 73 FOR FURTHER DETAIL)

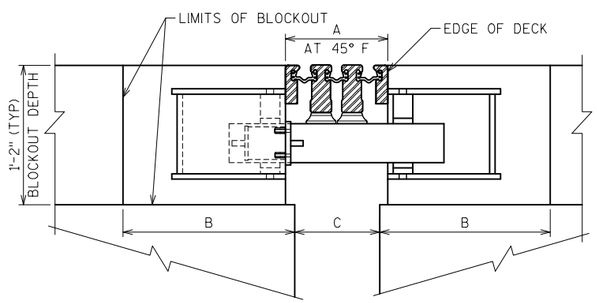



PARTIAL LONGIT. SECTION AT EXPANSION PIER 8C




SECTION A-A

(SEE SECTION E-E SHEET 73 FOR FURTHER DETAIL)




TYPICAL SECTION THRU SUPPORT BOX

EXPANSION JT. BLOCK OUT DIMENSIONS

| | | W. ABUT | PIER 4 | PIER 9 | PIER C8 |
|---|---|---|---|---|---|
| CELLS | | 2 | 4 | 5 | 4 |
| DIM. | A | 8⅛" | 1'-4⅜" | 1'-8⅜" | 1'-4⅜" |
| | B | 1'-3" | 1'-10" | 2'-1" | 1'-10" |
| | C MIN | 3⅜" | 6½" | 8" | 6½" |
| | C MAX | 5¾" | 1'-1⅞" | 1'-5⅞" | 1'-1⅞" |

LEGEND

† M506 BARS, 8'-0" LONG WITH 1'-0" MIN. LAP. CUT IN FIELD TO CLEAR JOINT SUPPORT AS REQ'D.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY DNJ | PLANS CK'D. MJA

MODULAR EXP. JOINT DETAILS 2

SHEET 77 OF 95
574

DATE: 4/11/2016
I.D.

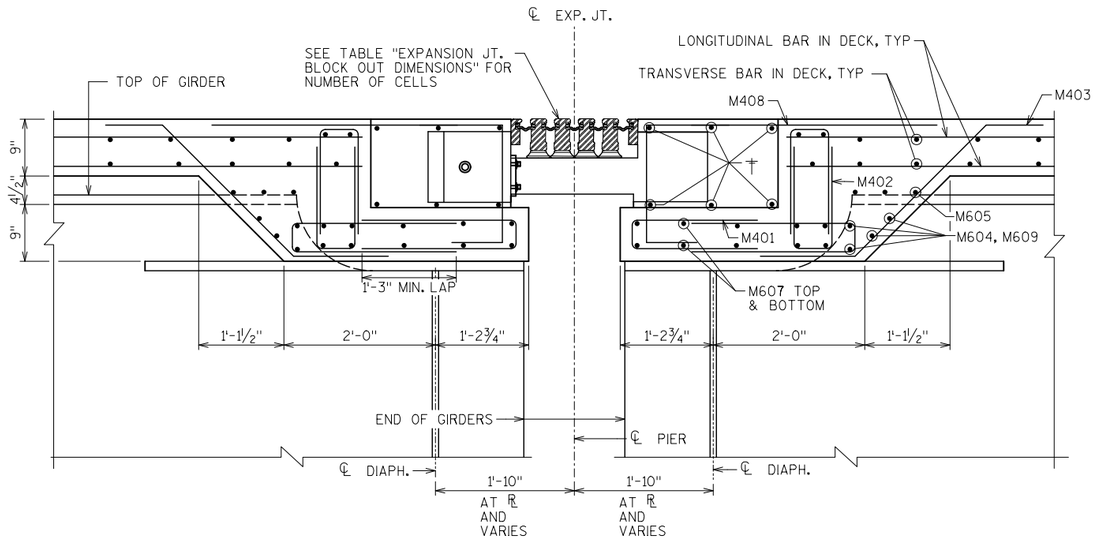
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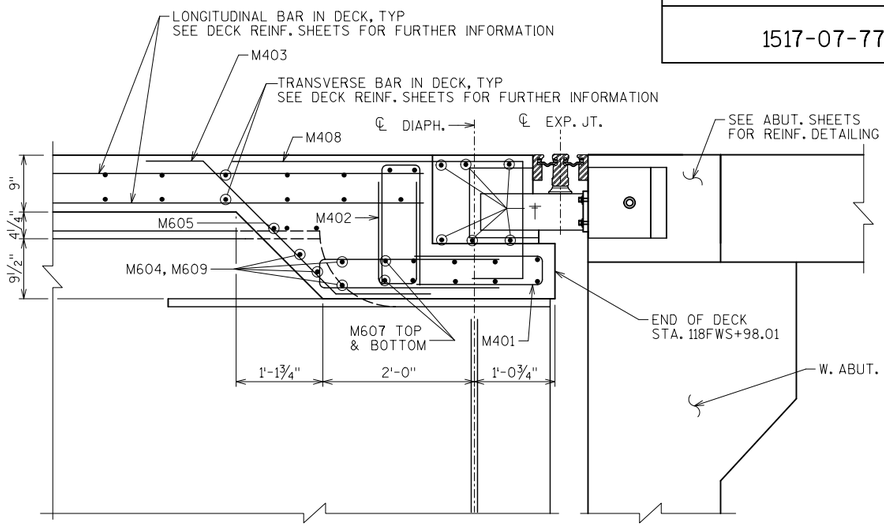
STATE PROJECT NUMBER

1517-07-77



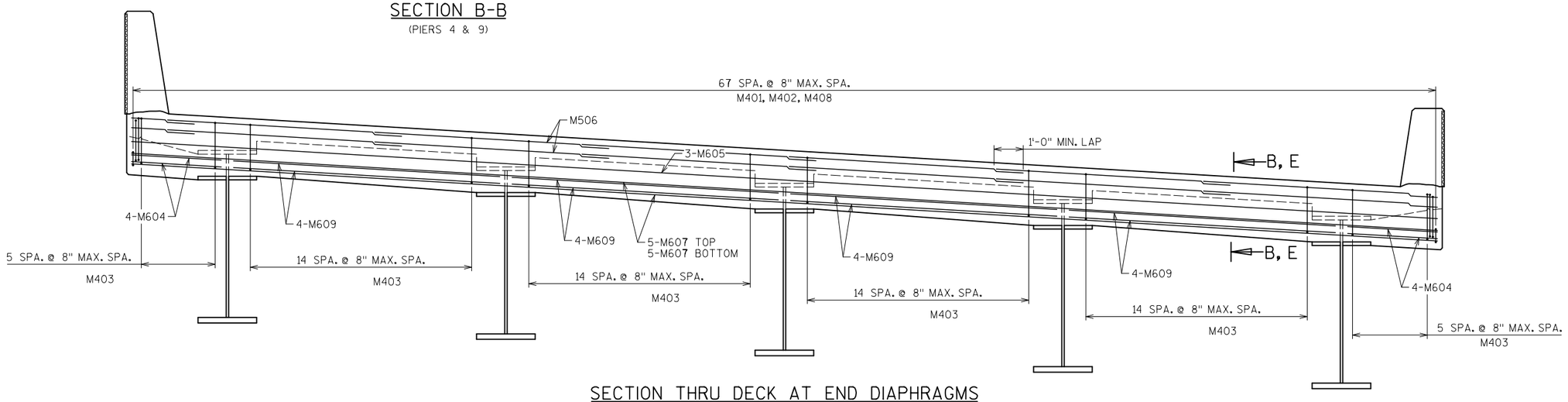

SECTION B-B

(PIERS 4 & 9)




SECTION E-E

(W. ABUTMENT)




SECTION THRU DECK AT END DIAPHRAGMS

(DECK REINFORCEMENT NOT SHOWN FOR CLARITY)
LOOKING UPSTATION

## LEGEND

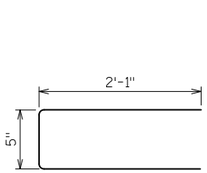
† M506 BARS, 8'-0" LONG WITH 1'-0" MIN. LAP. CUT IN FIELD TO CLEAR JOINT SUPPORT AS REQ'D.

## DIAPHRAGM BILL OF BARS

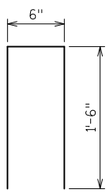
(ALL BARS EPOXY COATED)

| BAR MARK | NO. REQ'D | LENGTH | BENT | LOCATION |
|---|---|---|---|---|
| M401 | 816 | 4'-5" | X | DIAPH. LONGIT. BETWEEN GIRDERS |
| M402 | 816 | 3'-4" | X | DIAPH. VERTICAL |
| M403 | 432 | 3'-11" | X | DIAPH. LONGIT. BETWEEN GIRDERS |
| M604 | 48 | 3'-1" | | DIAPH. EDGE OF DECK TO EXTERIOR GIRDER |
| M605 | 18 | 44'-6" | | DIAPH. TRANS. |
| M506 | 252 | 8'-0" | | DIAPH. TRANS. |
| M607 | 60 | 44'-6" | | DIAPH. TRANS. TOP & BOTTOM |
| M408 | 408 | 5'-6" | X | DIAPH. VERTICAL |
| M609 | 96 | 9'-1" | | DIAPH. TRANS. TOP & BOTTOM BETWEEN GIRDERS |

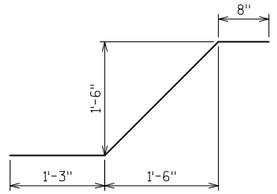
TOTAL WEIGHT= 15,720 LB



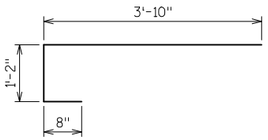

M401




M402




M403




M408

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY DNJ | PLANS CK'D. MJA

REINFORCING AT EXPANSION JOINT UNITS 1, 2, & 3

SHEET 78 OF 85
575

8

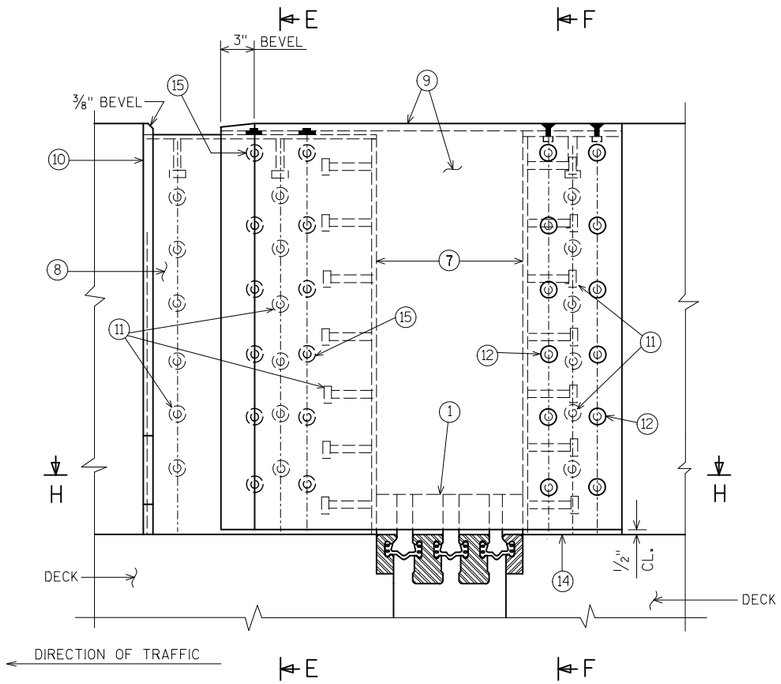
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DATE: 4/11/2016
I.D.

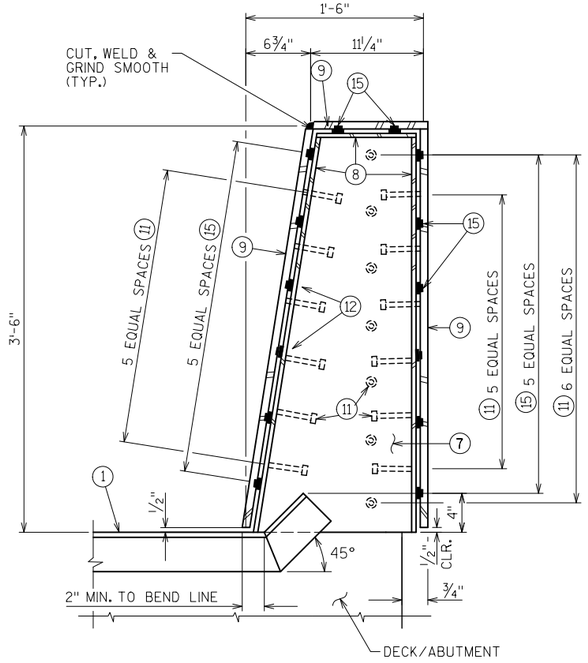
STATE PROJECT NUMBER

1517-07-77

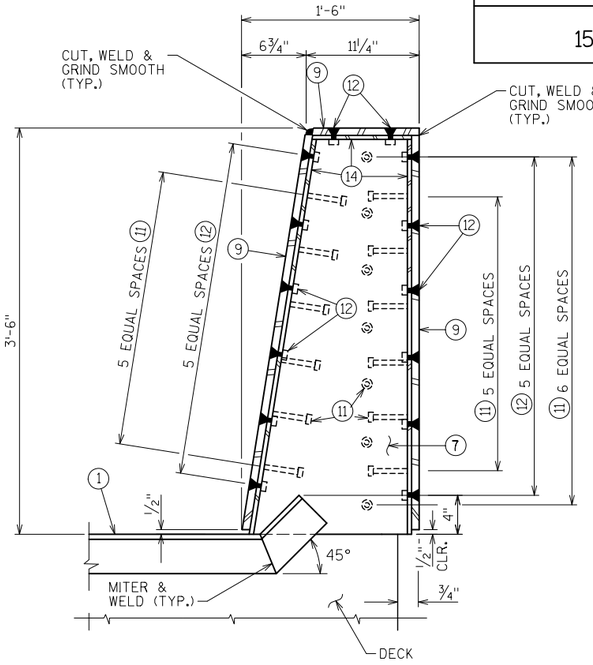



## ELEVATION OF 42SS MODFIED PARAPET

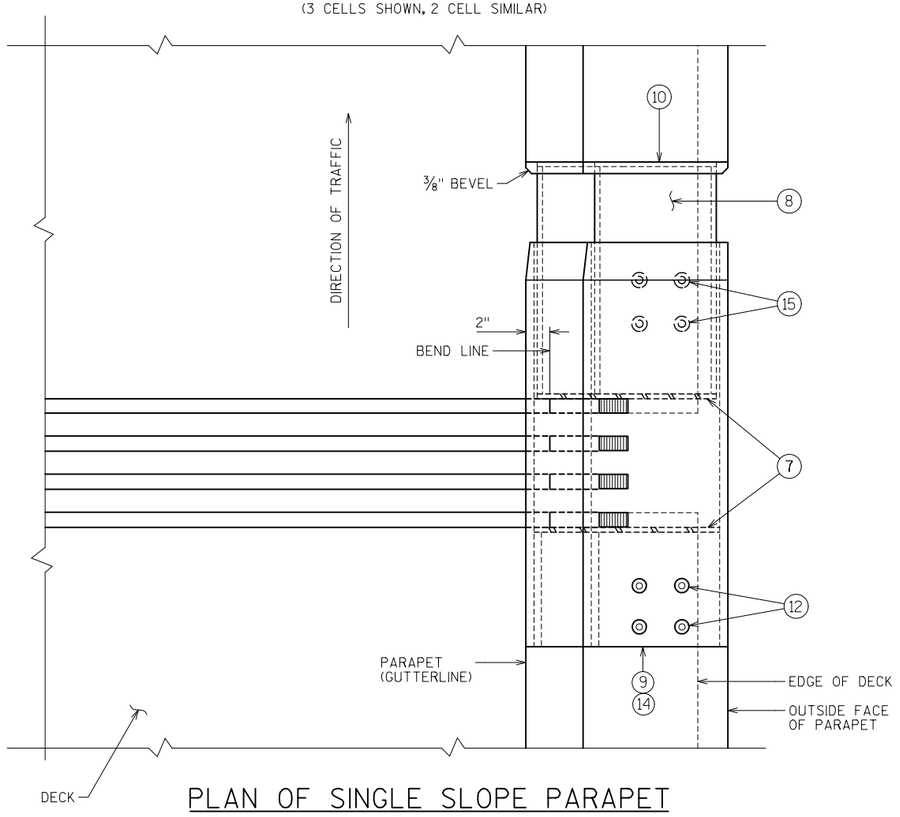
(3 CELLS SHOWN, 2 CELL SIMILAR)



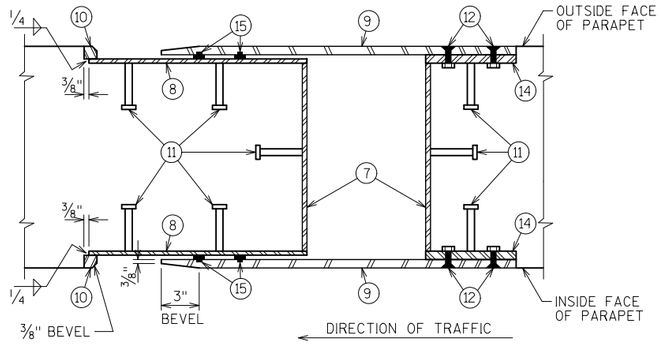

## SECTION E-E




## SECTION F-F

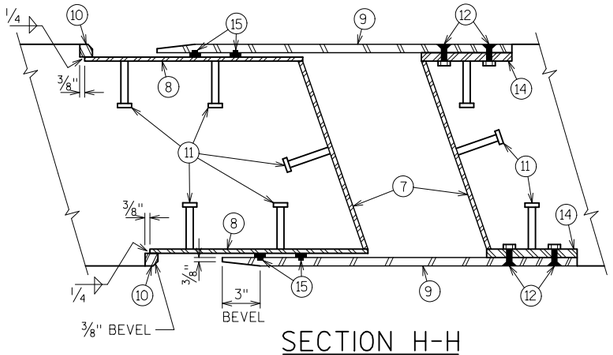



## PLAN OF SINGLE SLOPE PARAPET



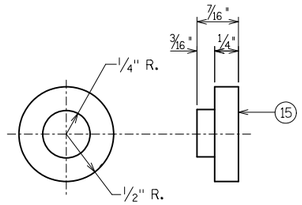

## SECTION H-H

W. ABUT., PIER 4, PIER 9




## SECTION H-H

SHARED PIER 8




## ADIPRENE BUTTON DETAIL

MITER EXTRUSION ENDS AS REQ'D TO PROVIDE CLEARANCE

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY DNJ | PLANS CK'D. MJA

MODULAR JOINT COVER PLATES 42SS PARAPET

SHEET 78 OF 95
576

DATE: 4/11/2016
I.D.

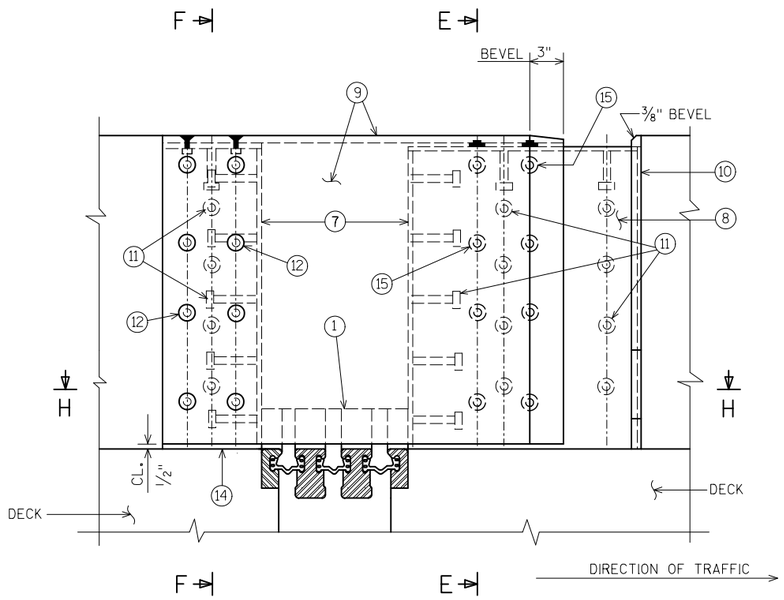
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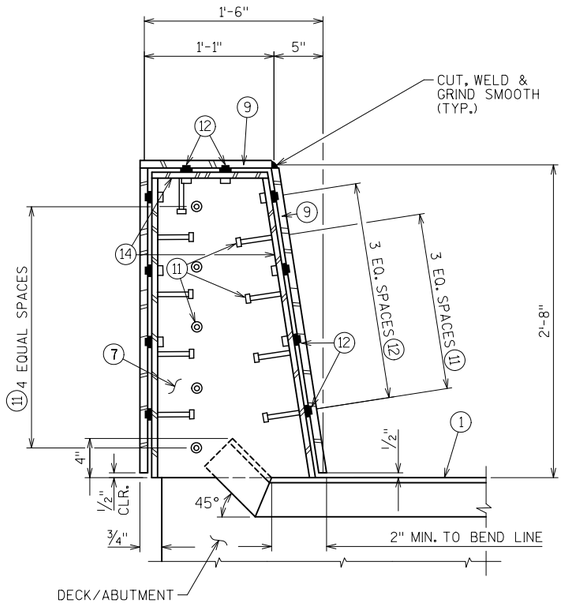
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STATE PROJECT NUMBER

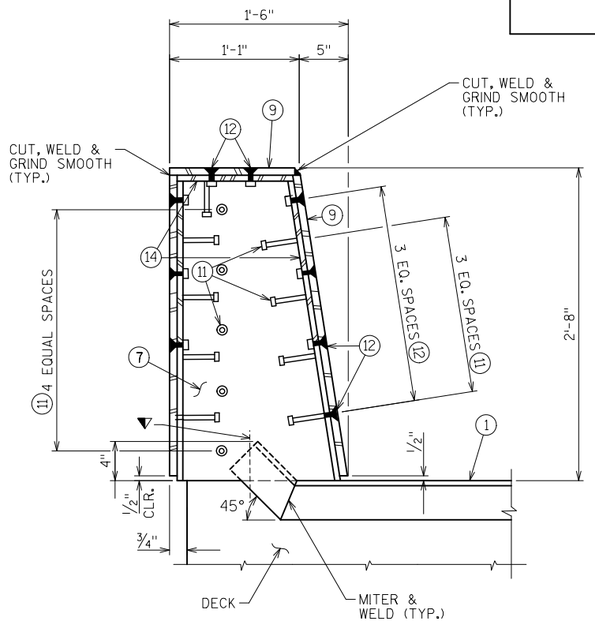
1517-07-77



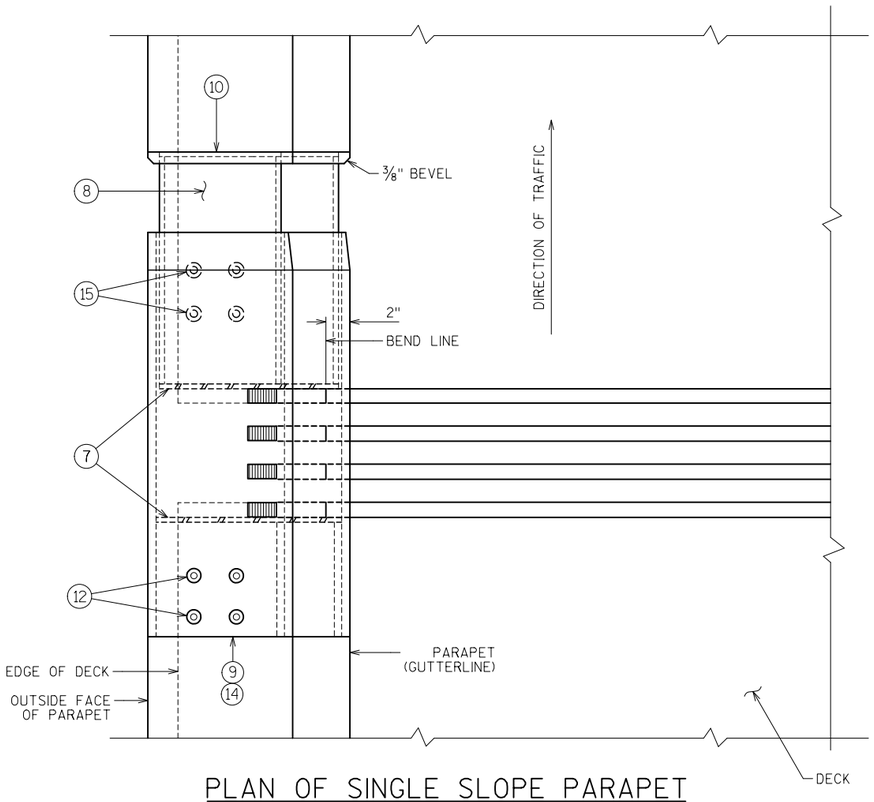

ELEVATION OF 32SS MODIFIED PARAPET



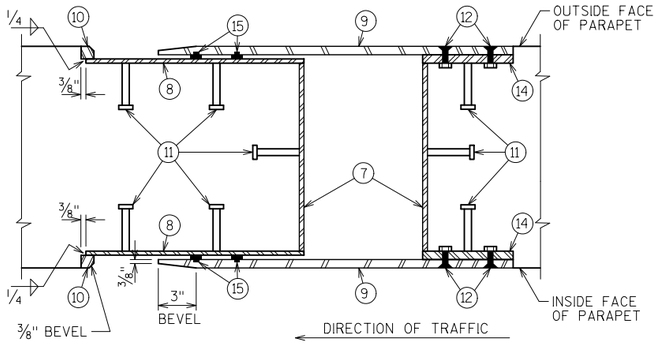

SECTION E-E




SECTION F-F

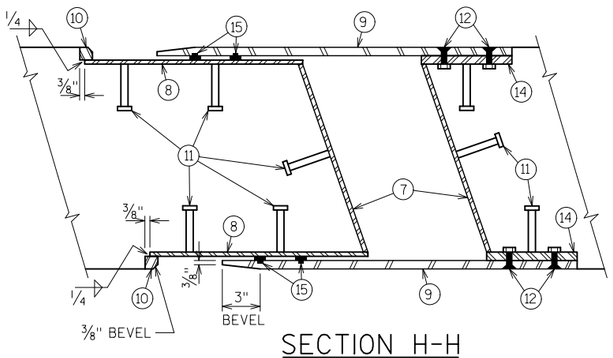



PLAN OF SINGLE SLOPE PARAPET



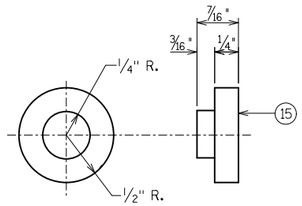

SECTION H-H

W. ABUT., PIER 4, PIER 9




SECTION H-H

SHARED PIER 8




ADIPRENE BUTTON DETAIL

MITER EXTRUSION ENDS AS REQ'D TO PROVIDE CLEARANCE

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY DNJ | PLANS CK'D. MJA

MODULAR JOINT COVER PLATES 32SS PARAPET

SHEET 80 OF 85
577

DATE: 4/11/2016
I.D.

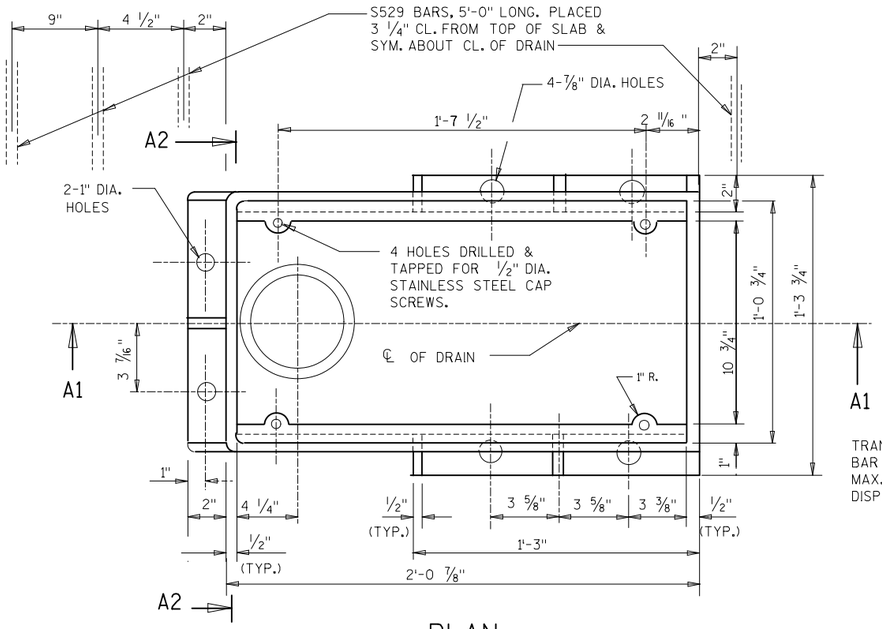
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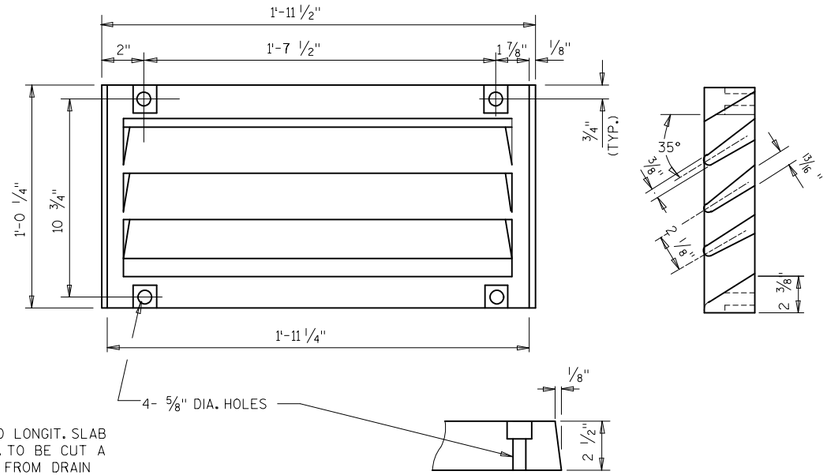
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STATE PROJECT NUMBER

1517-07-77




PLAN




TRANS. AND LONGIT. SLAB BAR REINF. TO BE CUT A MAX. 1" CL. FROM DRAIN DISPLACE BARS WHERE POSSIBLE




## GRATE CASTING DETAIL

ATTACH GRATE TO FRAME FOR SHIPMENT

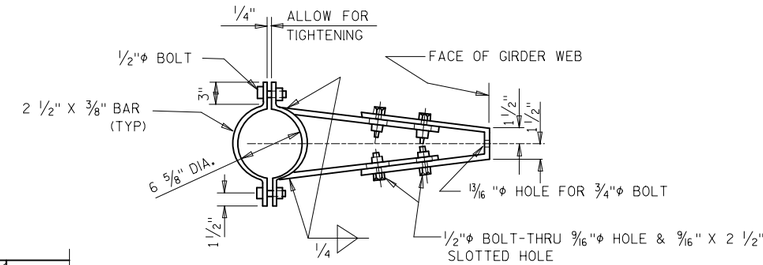
## GERERAL NOTES

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

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 BE REINFORCED THERMOSETTING RESIN PIPE CONFORMING TO SECTION 514 OF THE STANDARD SPECIFICATIONS.




## BRACKET DETAIL




SECTION A1




SECTION A2

| DRAIN LOCATIONS |
|---|
| 119FWS+10 |
| 121FWS+70 |
| 124FWS+37 |
| 124FWS+55 |
| 127FWS+18 |
| 131FWS+75 |
| 137FWS+60 |
| 141FWS+30 |
| 141FWS+38 |

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

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FLOOR DRAIN TYPE 'GC'

SHEET 81 OF 85
578

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\B-70-405\Sheets\076-405-Floor Drain Type GC.dgn

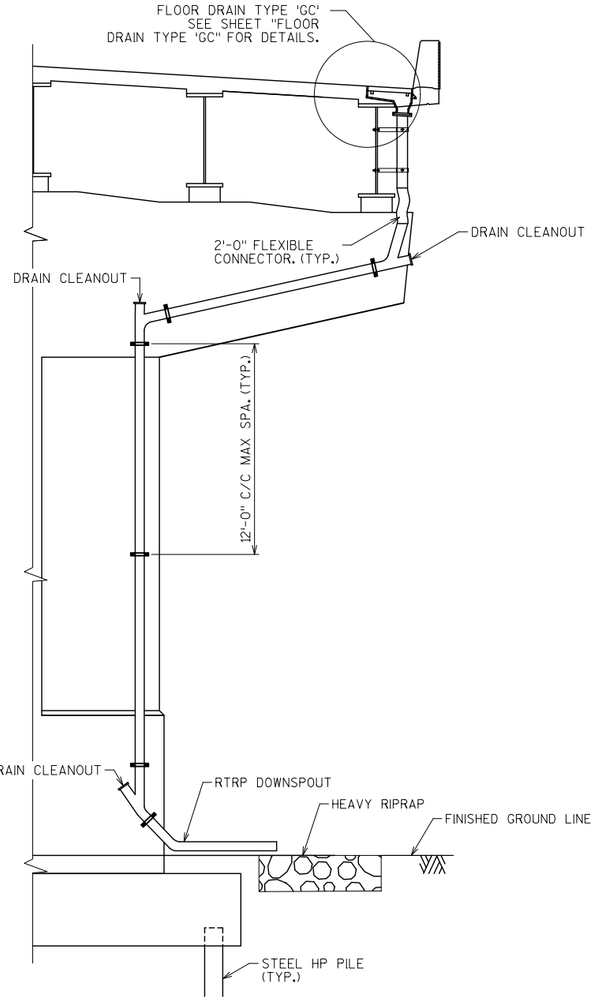
DATE: 4/11/2016
I.D.

8

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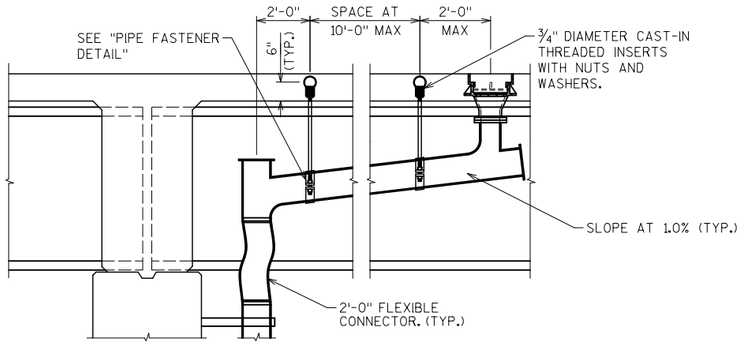
STATE PROJECT NUMBER

1517-07-77

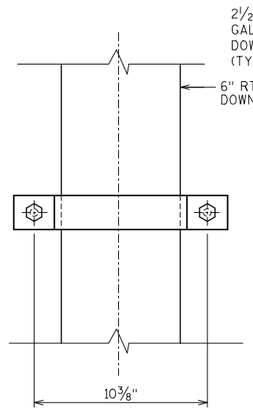


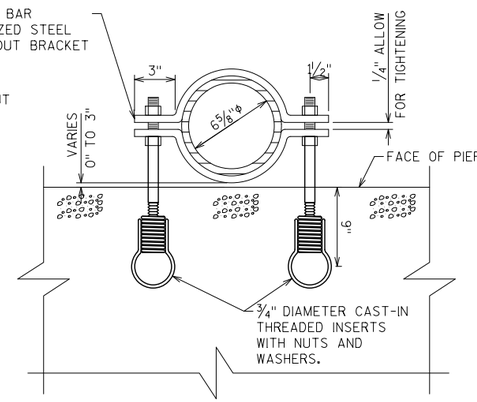

TYPICAL HALF SECTION

LOOKING EAST

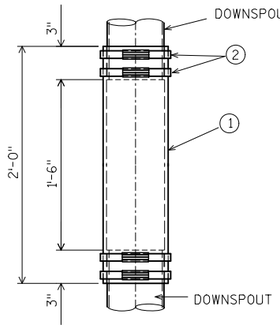



ELEVATION VIEW FOR HORIZONTAL RUNS

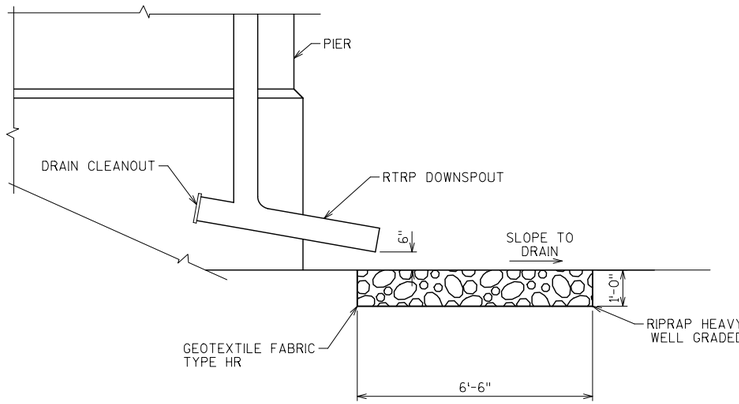


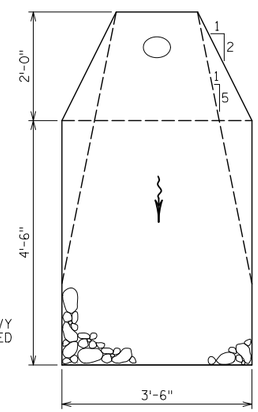

PIPE FASTENER DETAIL




FLEXIBLE CONNECTION

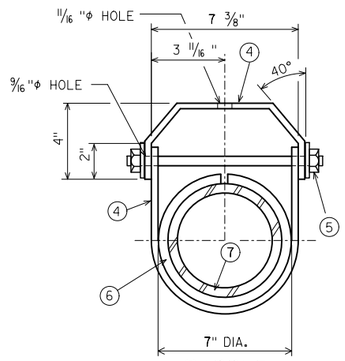



ELEVATION VIEW

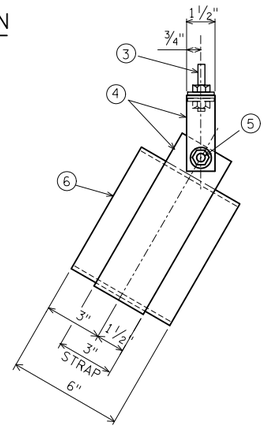



PLAN VIEW

ENERGY DISSIPATOR DETAIL




SADDLE




ADJUSTABLE CLEVIS DETAIL & PIPE HANGER DETAILS

## LEGEND

1. FLEXIBLE RUBBER HOSE, MIN. 3/16" THICK WALL TO SUIT DOWNSPOUT.
2. BREEZE "HI-TORQUE CLAMP #HTM-700 304 HALF HARD STAINLESS STEEL OR EQUIV. ( 4 REQ'D. PER EACH #1).
3. ¾" DIAMETER CAST-IN THREADED INSERTS WITH NUTS AND WASHERS.
4. 10 GAGE GALV. STEEL SADDLE.
5. ½" DIA. X 8" LONG STAINLESS STEEL THREADED ROD WITH STAINLESS STEEL HEX. NUTS & WASHERS.
6. 6" LONG SPLIT RTRP STRIP. BOND TO #7, PLACE AT ALL CLAMP LOCATIONS.
7. 6" DIA. DOWNSPOUTS SHALL BE REINFORCED THERMOSETTING RESIN PIPE CONFORMING TO SECTION 514 OF THE STANDARD SPECIFICATIONS.

## NOTES:

EXCAVATION FOR ENERGY DISSIPATOR IS INCIDENTAL TO ITEM "RIPRAP HEAVY".

MATERIAL FOR BRACKETS SHALL CONFORM TO ASTM A36.

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

DOWNSPOUT TO BE PIGMENTED SAME COLOR AS PIER COLOR "A". SEE SHEET "AESTHETIC DETAILS" FOR DETAILS.

CLEVIS, PIPE CLAMPS, HANGERS, AND MISC. ITEMS ARE INCLUDED IN BID ITEM "DOWNSPOUT 6-INCH."

TIGHTEN CLAMPS TO A TIGHT SLIP FIT (FOR TEMP. EXPANSION).

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

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DOWNSPOUT DETAILS

SHEET 83 OF 85
579

DATE: 4/11/2016
I.D.

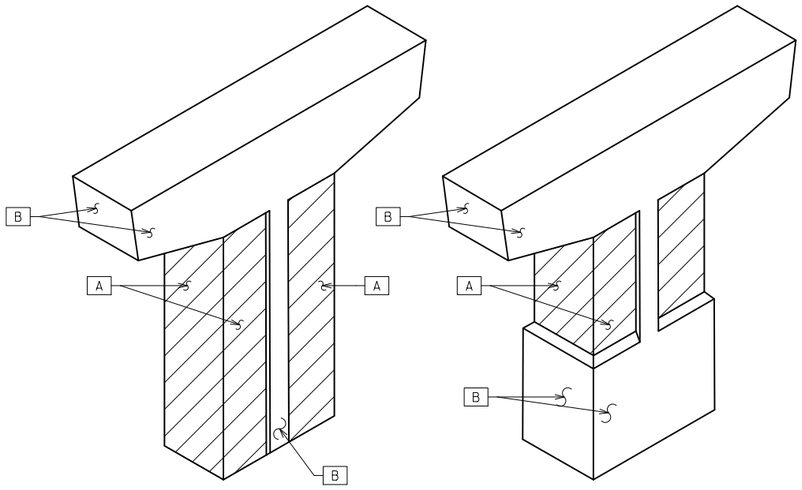
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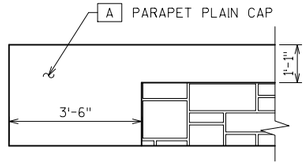
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STATE PROJECT NUMBER

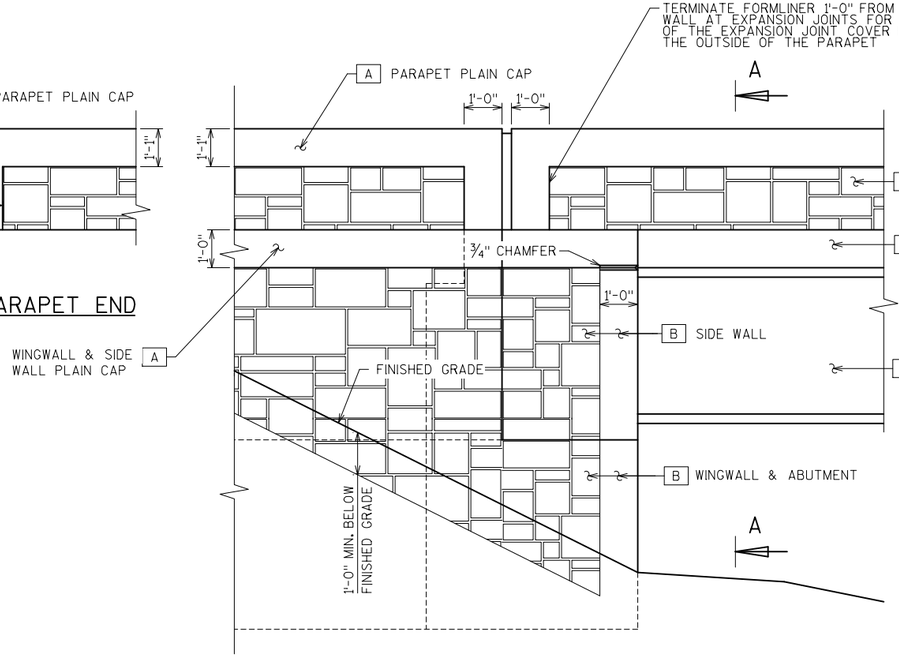
1517-07-77



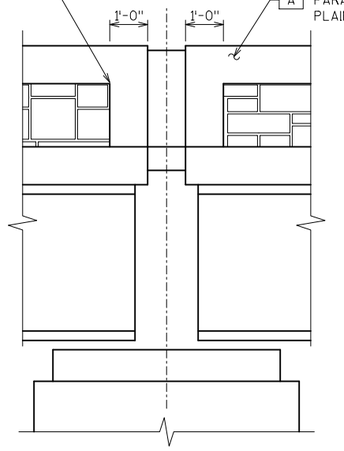

PIER STAINING DETAIL




ABUT. PARAPET END




ABUTMENT STAINING DETAIL

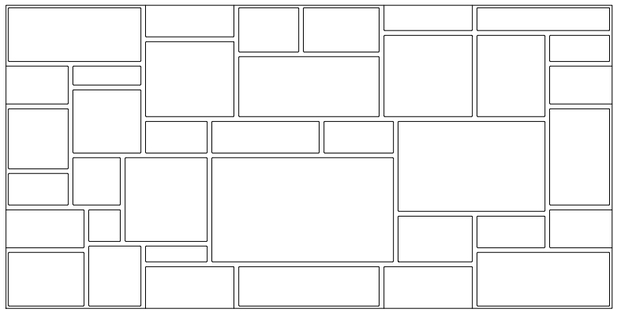



PIER DETAIL

## STAINING SCHEDULE

| MARK | COLOR | FED. COLOR NO. | LOCATION |
|---|---|---|---|
| A | HOPSACK | SW 6109 | DECK EDGE, PARAPET AND WING PLAIN CAPS |
| B | LATTE | FED. 33522 | PARAPETS, WINGWALLS, SIDE WALLS, ABUTMENTS, PIER CAPS, AND BASES. |
| C | DENIM | FED. 25177 | STEEL GIRDERS |

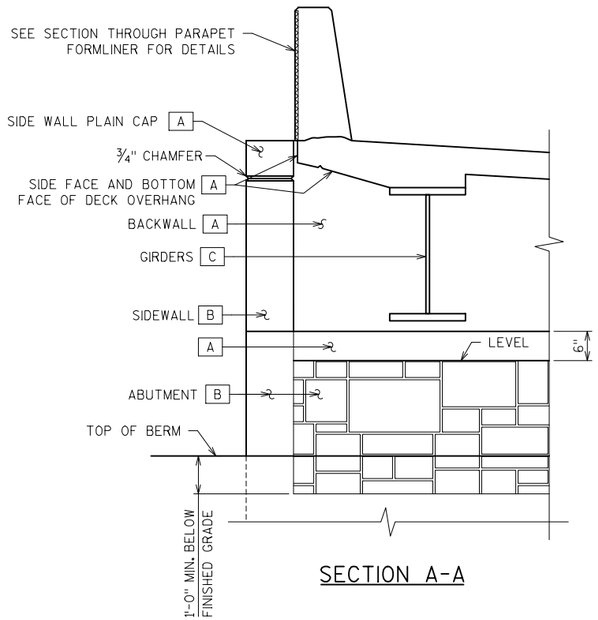
NOTE: 1. FINISH ON CONCRETE STAIN COLORS IS FLAT (LUSTERLESS)



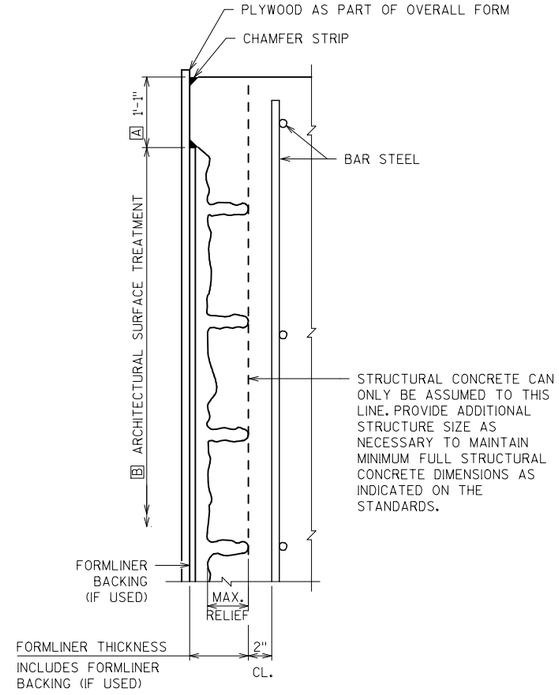
## ASHLAR

MAXIMUM RELIEF: 1⅝"
AVERAGE RELIEF: 1¼"
LINER THICKNESS*: 2½"
STONE SIZE: H: 3" - 17"
W: 5"-29"

* INCLUDES INTERNAL PLYWOOD BACKING




SECTION A-A




SECTION THROUGH PARAPET FORMLINER

## NOTES

FORMLINER COURSING ON ABUTMENTS AND WINGS SHALL BE LEVEL.

THE FORMLINER COURSING ON THE WINGS SHALL BE VERTICALLY ALIGNED WITH THE FORMLINER COURSING ON THE FRONT OF THE ABUTMENT.

THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS CONSTRUCTION JOINTS.

FORMLINER COURSING ON PARAPET SHALL BE PARALLEL TO TOP OF PARAPET.

FORMLINER NEED NOT EXTEND AROUND LIGHT BLISTER.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY JDL | PLANS CK'D. MJA

AESTHETIC DETAILS

SHEET 83 OF 85
580

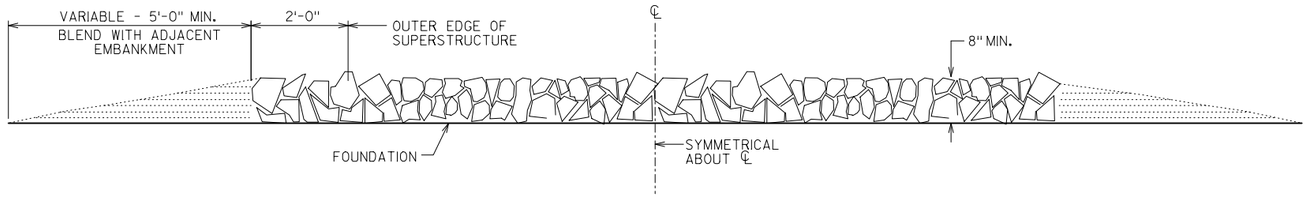
DATE: 4/11/2016
I.D.

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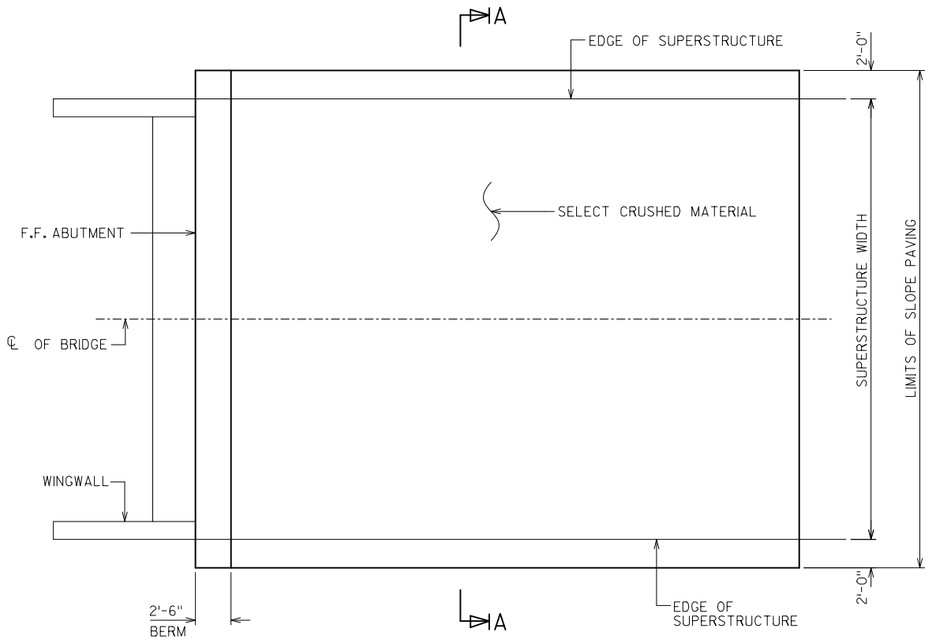
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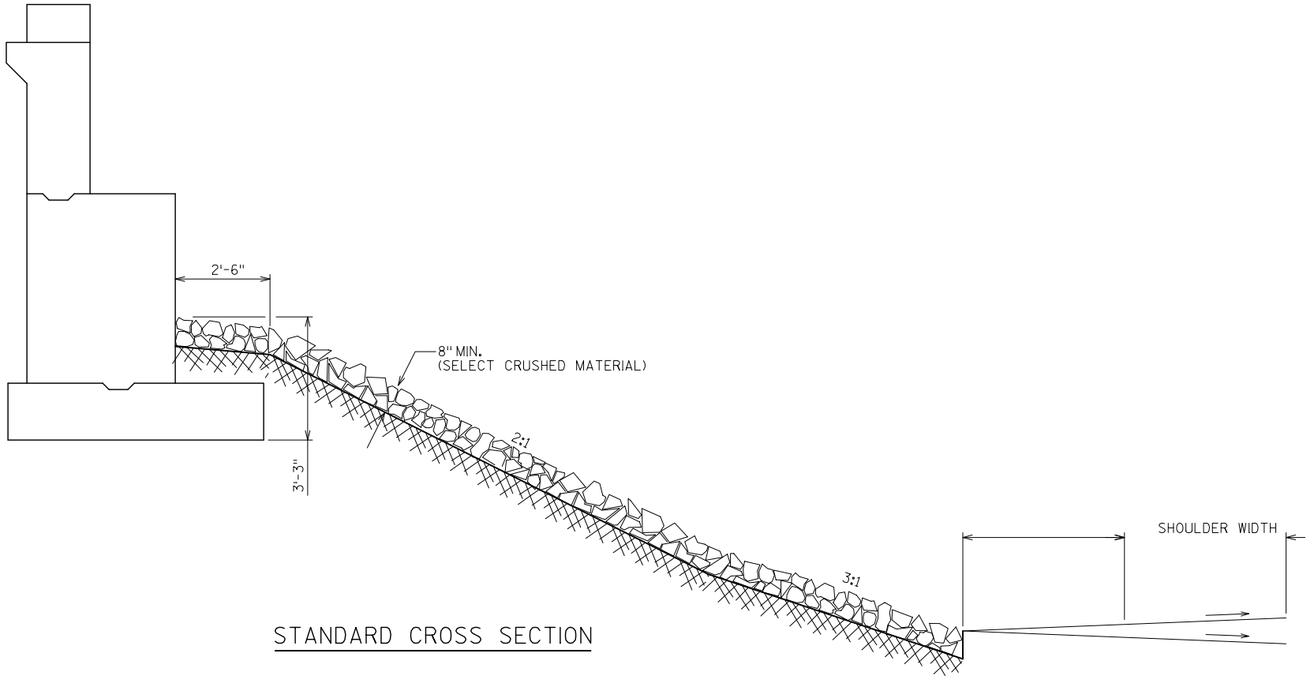
| STATE PROJECT NUMBER |
| --- |
| 1517-07-77 |




SECTION A-A




PLAN




STANDARD CROSS SECTION

## 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.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY DNJ | PLANS CK'D. MJA

SLOPE PAVING

SHEET 84 OF 85
581

DATE: 4/11/2016
I.D.

FILE= P:\Transportation\US 10 WIS 441\CADD\sheets\Structures\B-70-405\Sheets\079-405-Slope Paving.dgn

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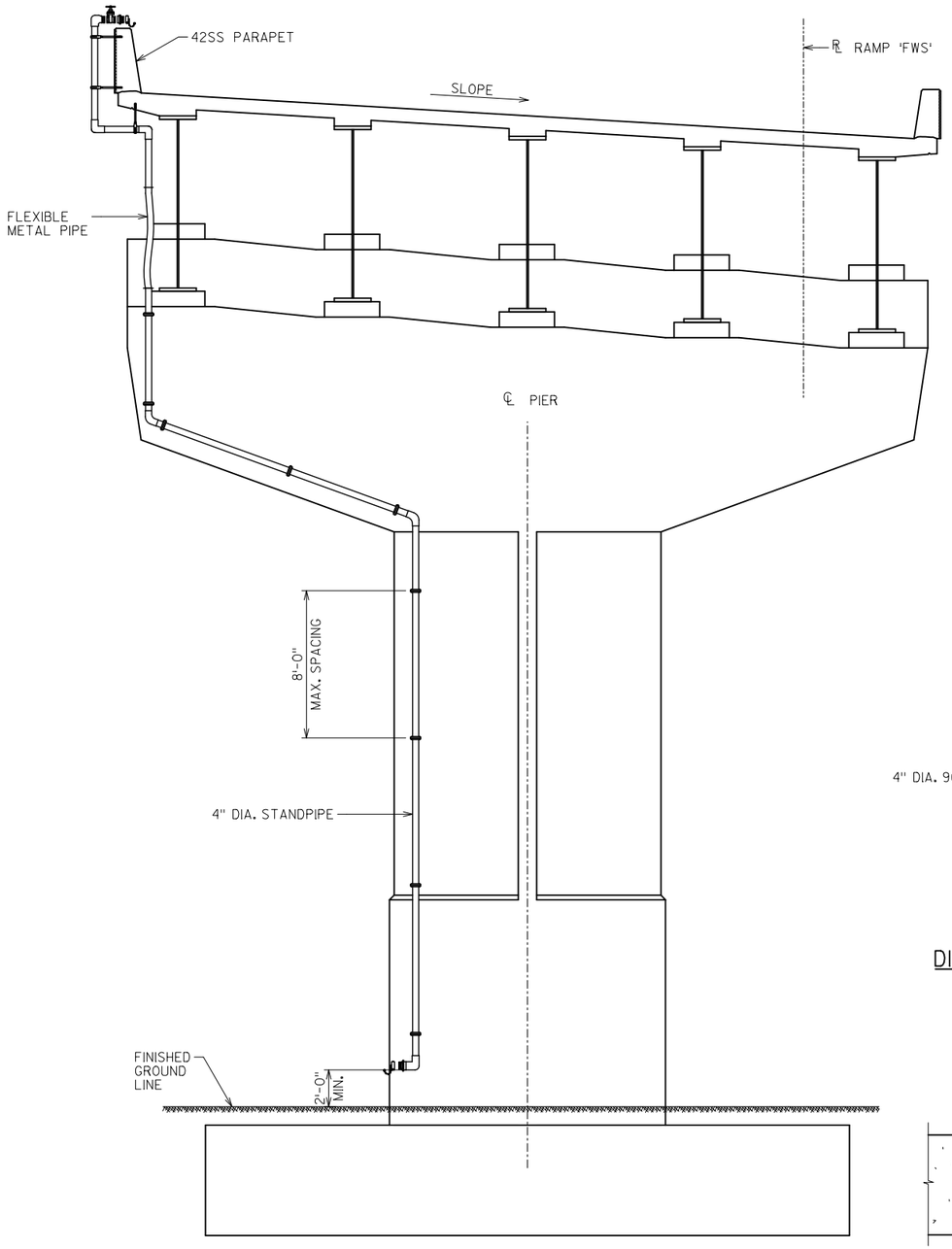
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10 6 2

SLPPAVCRAG
1-15

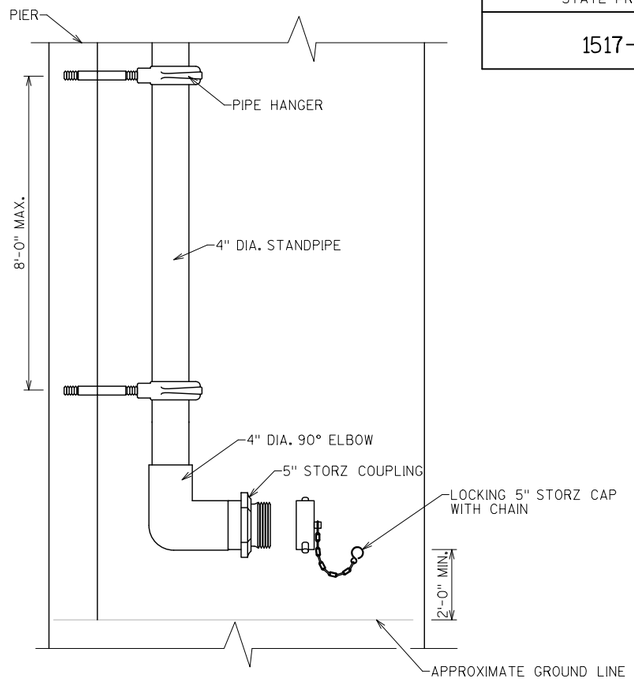
STATE PROJECT NUMBER

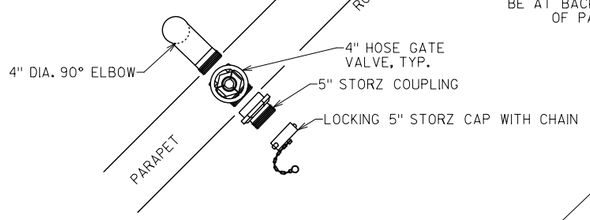
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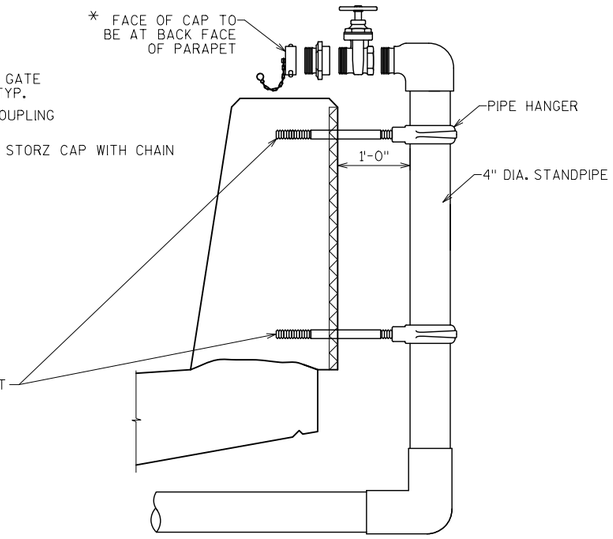

TYPICAL CROSS SECTION

(LOOKING UPSTATION)
(PIER 9 SHOWN)

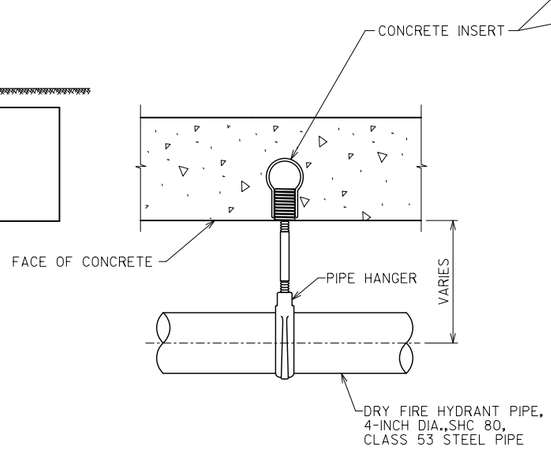



DISCHARGE CONNECTION PLAN




DISCHARGE CONNECTION ELEVATION




CONCRETE INSERT

## NOTES

PAINT 4" DIA. CLASS 53 STEEL PIPE WITH URETHANE PAINT PER SPV.0060.700 "STANDPIPE SYSTEM." PAINT COLOR TO BE HOPSACK - SW 6109

PIPE, PIPE CLAMPS, HANGERS, CONCRETE ANCHOR RODS, STORZ COUPLINGS, FITTINGS, FLEXIBLE METAL PIPE AND MISC. ITEMS ARE INCLUDED IN BID ITEMS SPV.0060.700 "STANDPIPE SYSTEM."

PIPE TO BE SUPPORTED AT 8'-0" MAX.

STANDPIPE LOCATIONS:
PIER 9
STA. 131FWS+65.42, 36'LT
SOUTH SIDE OF PIER

PIER 11
STA. 134FWS+90.12, 36'LT
NORTH SIDE OF PIER

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-405

DRAWN BY DNJ | PLANS CK'D. MJA

STANDPIPE SYSTEM DETAILS

SHEET 85 OF 95
582

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# TRAFFIC VOLUME

RAMP 'FWN':
A.D.T. = 12,000 (2038)
R.D.S. = 50 M.P.H.

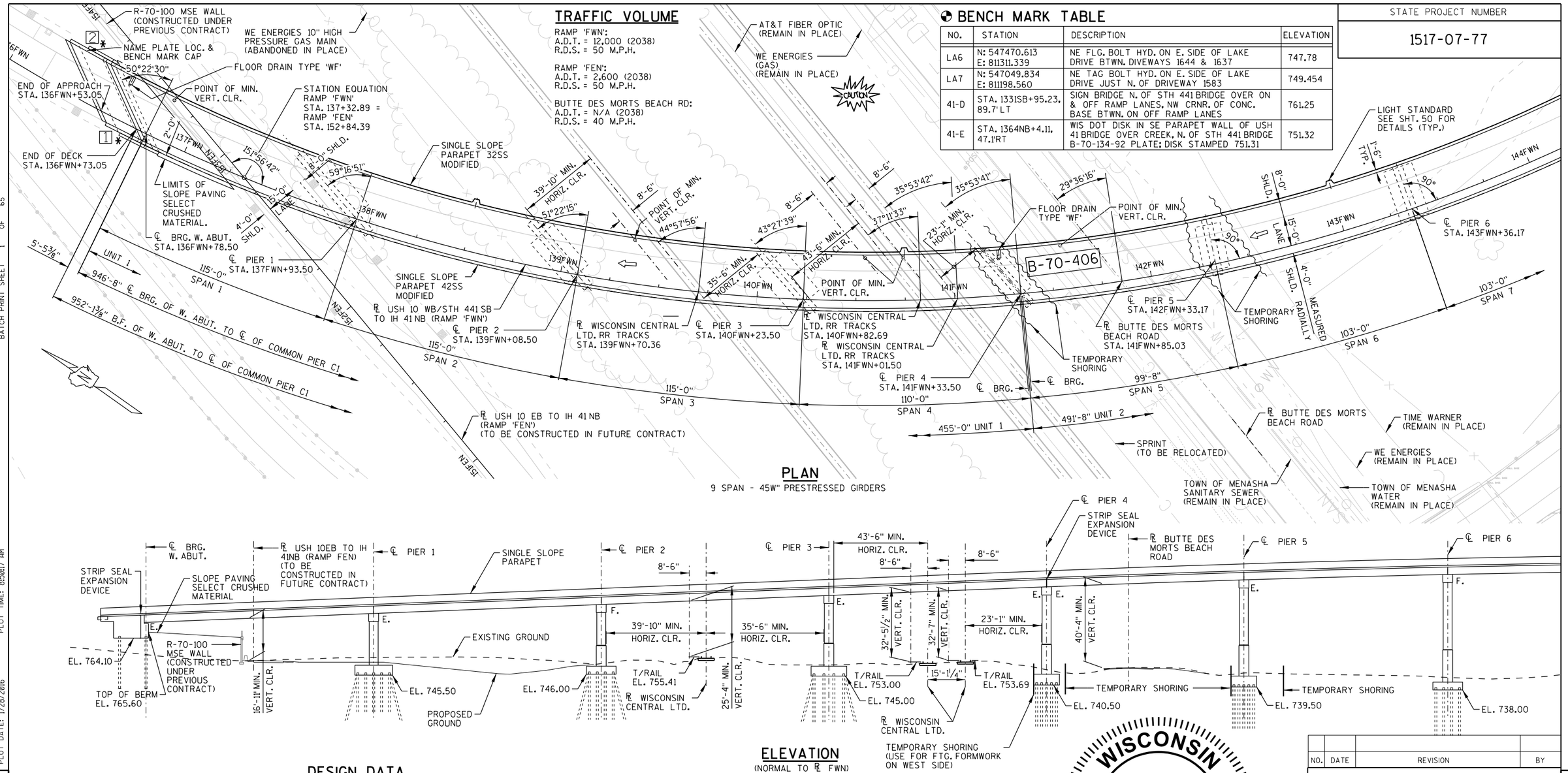
RAMP 'FEN':
A.D.T. = 2,600 (2038)
R.D.S. = 50 M.P.H.

BUTTE DES MORTS BEACH RD:
A.D.T. = N/A (2038)
R.D.S. = 40 M.P.H.

## BENCH MARK TABLE

| NO. | STATION | DESCRIPTION | ELEVATION |
|---|---|---|---|
| LA6 | N: 547470.613<br>E: 811311.339 | NE FLG. BOLT HYD. ON E. SIDE OF LAKE DRIVE BTWN. DIVEWAYS 1644 & 1637 | 747.78 |
| LA7 | N: 547049.834<br>E: 811198.560 | NE TAG BOLT HYD. ON E. SIDE OF LAKE DRIVE JUST N. OF DRIVEWAY 1583 | 749.454 |
| 41-D | STA. 1331SB+95.23, 89.7'LT | SIGN BRIDGE N. OF STH 441 BRIDGE OVER ON & OFF RAMP LANES, NW CRNR. OF CONC. BASE BTWN. ON OFF RAMP LANES | 761.25 |
| 41-E | STA. 1364NB+4.11, 47.1'RT | WIS DOT DISK IN SE PARAPET WALL OF USH 41 BRIDGE OVER CREEK, N. OF STH 441 BRIDGE B-70-134-92 PLATE; DISK STAMPED 751.31 | 751.32 |

STATE PROJECT NUMBER
1517-07-77




## PLAN

9 SPAN - 45W" PRESTRESSED GIRDERS




## ELEVATION

(NORMAL TO ℞ FWN)

## NOTES

SPAN LENGTHS SHOWN ARE MEASURED ALONG ℞ FWN.

ALL UNITS ARE IN SURVEY FEET UNLESS OTHERWISE NOTED.

ELEVATIONS ARE IN NGVD 29 DATUM.

* ANCHOR ASSEMBLY FOR STEEL PLATE BEAM GUARD ATTACHMENT.

[X] INDICATES WINGWALL NUMBER

FOR CURVE DATA SEE ALIGNMENT, PROFILE AND SUPERELEVATION SHEET.

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

## DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR : RF = 1.09
OPERATIONAL RATING FACTOR : RF = 1.46
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

LIVE LOAD RATINGS INCLUDE POLYMER OVERLAY TO BE INSTALLED AS A PART OF CONTRACT 1517-07-80.

SEE SHEET GENERAL NOTES & QUANTITIES FOR OTHER DESIGN LOADS

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY, MODIFIED HIGH PERFORMANCE CONCRETE
SUPERSTRUCTURE — f'c = 4,000 P.S.I.
ALL OTHER — f'c = 4,000 P.S.I.

BAR STEEL REINFORCEMENT, HIGH STRENGTH, GRADE 60 — fy = 60,000 P.S.I.

45W" PRESTRESSED GIRDERS,

CONCRETE MASONRY — f'c = 8,000 P.S.I.
ALL OTHER — f'ci = 6,800 P.S.I.
SPAN 1 BEAM 5 — f'ci = 7,200 p.s.i.
STRANDS - 0.6" DIA WITH ULTIMATE TENSILE STRENGTH OF — fu = 270,000 P.S.I.

## FOUNDATION DATA

WEST ABUTMENT AND PIERS 1 THRU 8 TO BE SUPPORTED ON HP12x53 STEEL PILING. PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS** PER PILE, AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. WEST ABUTMENT PILES INSTALLED UNDER A PREVIOUS CONTRACT. SEE TABLE ON SHT. 33 FOR ESTIMATED PILE LENGTHS AT PIERS 1 - 8. SOME PILES IN PIERS 4, 5 & 6 REQUIRE PRE-BORING. SEE SHTS 32 & 33 FOR DETAILS.

PIER C1 IS A COMMON PIER TO BE CONSTRUCTED WITH STRUCTURE B-70-61. FOR PIER C1 FOUNDATION DATA, SEE B-70-61 PLANS.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING THE MODIFIED GATES DYNAMIC FORMULA TO DETERMINE DRIVEN PILE CAPACITY.

WISCONSIN
MICHAEL J. ARNOLD
E-41717
GREENDALE
WI
PROFESSIONAL ENGINEER

01/28/2016

## STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
BILL DREHER (608) 266-8489
NE REGION:
SCOTT EBEL (920) 492-2240
CONSULTANT:
MICHAEL ARNOLD (414) 944-6142

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

AECOM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 02/08/16
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-70-406

USH 10 WB/STH 441 SB TO IH 41 NB OVER WCL

COUNTY: WINNEBAGO
TOWN/~~CITY/VILLAGE~~: MENASHA

DESIGN SPEC.: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

| DESIGNED BY | CAK | DESIGN CK'D. | LKH | DRAWN BY | KAM | PLANS CK'D. | MJA |
|---|---|---|---|---|---|---|---|

GENERAL PLAN AND ELEVATION

SHEET 1 OF 65
583

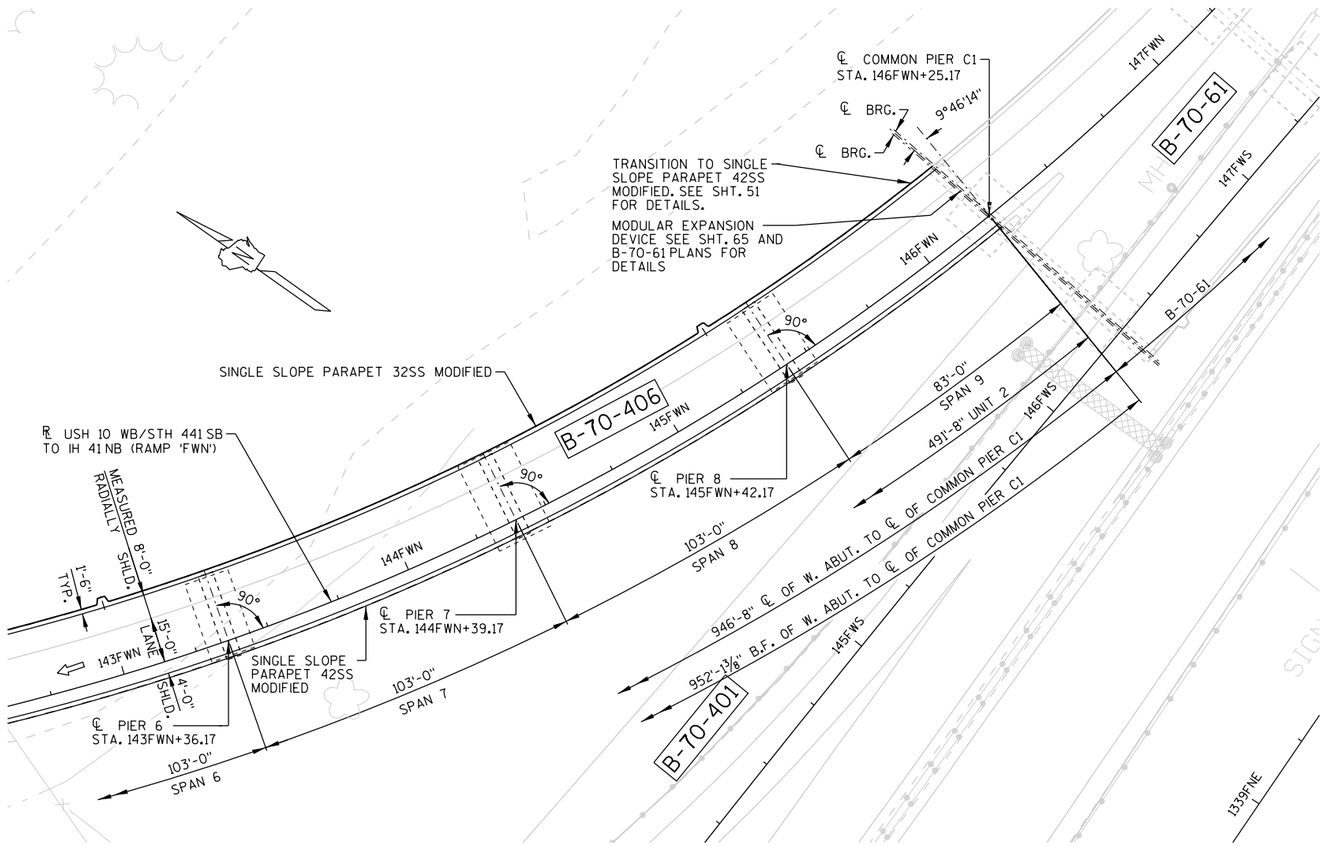
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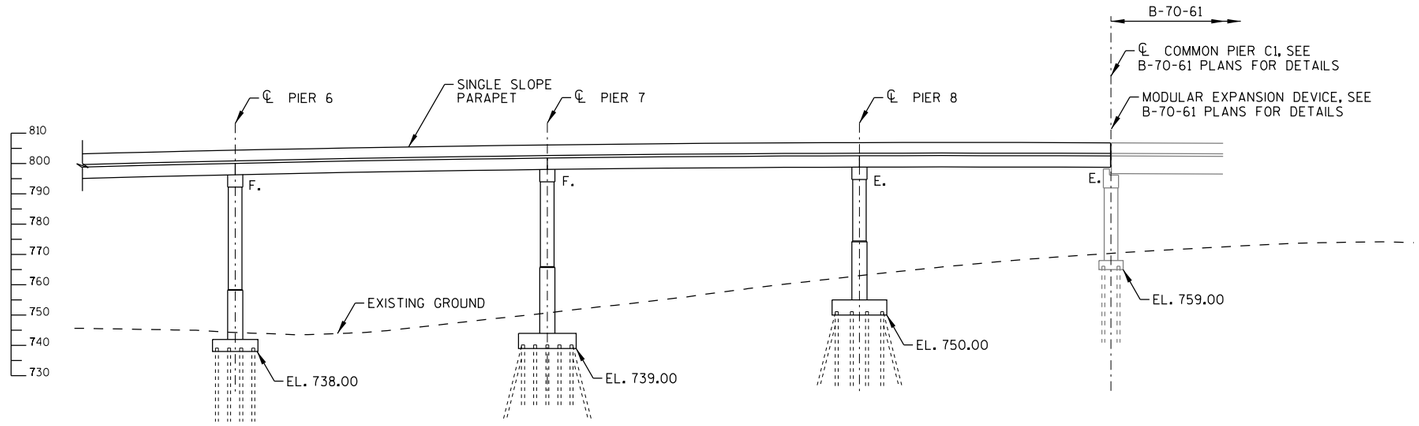
STATE PROJECT NUMBER

1517-07-77




## PLAN

9 SPAN - 45W" PRESTRESSED GIRDERS




## ELEVATION

(NORMAL TO ℞ FWN)

## NOTES

DIMENSIONS SHOWN ARE ALONG ℞ FWN.

SPAN LENGTHS SHOWN ARE MEASURED ALONG ℞ FWN.

ALL UNITS ARE IN SURVEY FEET UNLESS OTHERWISE NOTED.

## LIST OF DRAWINGS

1. GENERAL PLAN AND ELEVATION
2. GENERAL PLAN, ELEVATION AND DRAWING LIST
3. GENERAL NOTES AND QUANTITIES
4. CROSS SECTIONS
5. ALIGNMENT, PROFILE AND SUPERELEVATION
6. COMMON PIER C1
7. SUBSURFACE EXPLORATION
8. SUBSURFACE EXPLORATION
9. WEST ABUTMENT PLAN AND ELEVATION
10. WEST ABUTMENT PILE PLAN
11. WEST ABUTMENT CROSS SECTION
12. WING 1
13. WING 2
14. ABUTMENT DETAILS
15. PIER 1 LAYOUT DETAILS
16. PIER 2 LAYOUT DETAILS
17. PIER 3 LAYOUT DETAILS
18. PIER 4 LAYOUT DETAILS
19. PIER 5 LAYOUT DETAILS
20. PIER 6 LAYOUT DETAILS
21. PIER 7 LAYOUT DETAILS
22. PIER 8 LAYOUT DETAILS
23. PIER CAP DETAILS PIER 1
24. PIER CAP DETAILS PIER 2
25. PIER CAP DETAILS PIER 3
26. PIER CAP DETAILS PIER 4
27. PIER CAP DETAILS PIERS 5, 6, 7, 8
28. SHAFT DETAILS PIERS 1 & 2
29. SHAFT DETAILS PIERS 3 & 4
30. SHAFT DETAILS PIERS 5 & 6
31. SHAFT DETAILS PIERS 7 & 8
32. FOOTING DETAILS PIERS 1, 2, 3, 4
33. FOOTING DETAILS PIERS 5, 6, 7, 8
34. BILL OF BARS PIERS
35. BEARINGS FOR PRESTRESSED GIRDERS
36. 45W" PRESTRESSED GIRDER DETAILS - 1
37. 45W" PRESTRESSED GIRDER DETAILS - 2
38. INTERMEDIATE STEEL DIAPHRAGMS
39. FRAMING PLAN UNIT 1, SPANS 1 & 2
40. FRAMING PLAN UNIT 1, SPANS 3 & 4
41. FRAMING PLAN UNIT 2, SPANS 5 & 6
42. FRAMING PLAN UNIT 2, SPANS 7, 8 & 9
43. LAYOUT LINE OFFSET DETAILS UNIT 1
44. LAYOUT LINE OFFSET DETAILS UNIT 2
45. DECK REINFORCEMENT UNIT 1
46. DECK REINFORCEMENT UNIT 2
47. TYPICAL DECK REINF. CROSS SECTION
48. SUPERSTRUCTURE DETAILS
49. PARTIAL DEPTH DIAPHRAGM DETAILS
50. LIGHT STANDARD
51. SUPERSTRUCTURE REINFORCEMENT DETAILS
52. TOP OF DECK ELEVATIONS
53. SINGLE SLOPE PARAPET 32SS MODIFIED
54. SINGLE SLOPE PARAPET 42SS MODIFIED
55. STRUCTURAL APPROACH SLAB
56. STRUCTURAL APPROACH SLAB DETAILS
57. STRIP SEAL EXP. JOINT DETAILS
58. STRIP SEAL COVER PLATE DETAILS
59. FLOOR DRAIN TYPE "WF"
60. DOWNSPOUT DETAILS
61. AESTHETIC DETAILS
62. SLOPE PAVING SELECT CRUSHED MATERIAL
63. ALTERNATE CONSTRUCTION JOINT
64. PARAPET 32SS ELECTRICAL WORK
65. MODULAR EXPANSION JOINT DETAIL

WISCONSIN
MICHAEL J. ARNOLD
E-41717
GREENDALE
WI
PROFESSIONAL ENGINEER

01/28/2016

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

DRAWN BY KAM | PLANS CK'D. MJA

GENERAL PLAN, ELEVATION AND DRAWING LIST

SHEET 2 OF 65
584

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## GENERAL NOTES:

DRAWINGS SHALL NOT BE SCALED.

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

ELEVATIONS ON THIS PLAN ARE REFERENCED TO NGVD 29.

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.

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

THE EXISTING GROUND LINE IS THE UPPER LIMIT OF EXCAVATION FOR STRUCTURES.

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE SLOPE OF FILL IN FRONT OF THE WEST ABUTMENT SHALL BE COVERED WITH SLOPE PAVING MATERIAL TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS.

## 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, ASTM A615, GRADE 60 WITH fy=60 ksi. AT APPROACH SLAB CONNECTION TO THE ABUTMENT, PROVIDE STAINLESS STEEL REINFORCEMENT CONFORMING TO ASTM A955, GRADE 60 REQUIREMENTS.

REINFORCING STEEL SHALL BE UNCOATED IN FOOTINGS AND ABUTMENT BODY (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.

## CONCRETE

CONCRETE QUANTITY IN THE HAUNCHES IS CALCULATED BASED ON THE AVERAGE HAUNCH DEPTH PROVIDED ON SHT. 37, "45W PRESTRESSED GIRDER DETAILS - 2".

CHAMFER ALL EXPOSED OUTSIDE CORNERS ¾" UNLESS NOTED OTHERWISE.

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND THE TOP OF THE PARAPET, INCLUDING PARAPETS ON APPROACH SLABS. DO NOT SEAL SURFACES WHERE THE PLANS OR SPECIAL PROVISIONS REQUIRE STAINING OR OTHER TREATMENT.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO TOP OF DECK AND STRUCTURAL APPROACH SLAB.

CONCRETE FOR ABUTMENT AND EXPANSION PIER DIAPHRAGMS SHALL BE PLACED WITH THE DECK CONCRETE. NO OPTIONAL CONSTRUCTION JOINT WILL BE PERMITTED. IF OPTIONAL CONSTRUCTION JOINT IS USED IN FIXED PIER DIAPHRAGMS, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF DIAPHRAGM POUR.

POLYMER OVERLAY TO BE APPLIED TO DECK AND APPROACH APRON, AS A PART OF CONTRACT 1517-07-80.

## OTHER DESIGN LOADS

THE STRUCTURE IS DESIGNED FOR THE DECK THICKNESS SHOWN. AN ADDITIONAL LOAD OF 20 PSF FOR A FUTURE WEARING SURFACE AND 5 PSF FOR A FUTURE POLYMER OVERLAY ARE CONSIDERED IN THE DESIGN.

TEMPERATURE CHANGE FOR DETERMINING THERMAL FORCES ON SUBSTRUCTURES = 45°F.

PARAPETS WERE ASSUMED TO WEIGH 638 PLF AND 539 PLF FOR 42SS AND 32SS SECTIONS RESPECTIVELY.

ALL OTHER LOADS IN ACCORDANCE WITH AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

## DESIGN CRITERIA

DESIGN IS IN ACCORDANCE WITH AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) LRFD BRIDGE DESIGN SPECIFICATIONS 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).

## TOTAL ESTIMATED QUANTITIES

| BID ITEM # | BID ITEM | UNIT | SUPER. SPANS | W. STR. APPR. | W. ABUT. | PIER 1 | PIER 2 | PIER 3 | PIER 4 | PIER 5 | PIER 6 | PIER 7 | PIER 8 | PIER C1 | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 206.1000.702 | EXCAVATION FOR STRUCTURES BRIDGES B-70-406 | LS | - | - | - | - | - | - | - | - | - | - | - | - | 1 |
| 305.0120 | BASE AGGREGATE DENSE 1 1/4-INCH | TON | - | 150 | - | - | - | - | - | - | - | - | - | - | 150 |
| 501.1000.S | ICE HOT WEATHER CONCRETING | LB | - | - | - | - | - | - | - | - | - | - | - | - | 22915 |
| 502.3100.702 | EXPANSION DEVICE B-70-406 | LS | 1 | - | - | - | - | - | - | - | - | - | - | - | 1 |
| 502.3200 | PROTECTIVE SURFACE TREATMENT | SY | 2850 | 65 | 25 | - | - | - | - | - | - | - | - | - | 2940 |
| 502.3210 | PIGMENTED SURFACE SEALER | SY | 885 | 20 | 5 | - | - | - | - | - | - | - | - | - | 910 |
| 503.0146 | PRESTRESSED GIRDER TYPE I 45W-INCH | LF | 4710 | - | - | - | - | - | - | - | - | - | - | - | 4710 |
| 505.0400 | BAR STEEL REINFORCEMENT HS STRUCTURES | LB | - | - | 5570 | 9250 | 7710 | 8290 | 5270 | 5270 | 8200 | 12120 | 8670 | - | 70350 |
| 505.0600 | BAR STEEL REINFORCEMENT HS COATED STRUCTURES | LB | 310390 | 8870 | 3100 | 27900 | 27880 | 26000 | 27640 | 25740 | 27110 | 27430 | 21810 | - | 533870 |
| 505.0800.S | BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES | LB | - | - | 530 | - | - | - | - | - | - | - | - | - | 530 |
| 506.2605 | BEARING PADS ELASTOMERIC NON-LAMINATED | EACH | - | - | - | - | 10 | - | - | - | 10 | 10 | - | - | 30 |
| 506.4000.702 | STEEL DIAPHRAGMS B-70-406 | EACH | 72 | - | - | - | - | - | - | - | - | - | - | - | 72 |
| 506.6000.701 | BEARING ASSEMBLIES EXPANSION B-70-406 | EACH | - | - | 5 | 10 | - | 10 | 10 | 10 | - | - | 10 | 5 | 60 |
| 511.1200.701 | TEMPORARY SHORING B-70-406 | SF | - | - | - | - | - | - | 990 | 650 | - | - | - | - | 1640 |
| 514.0450 | FLOOR DRAINS TYPE WF | EACH | 2 | - | - | - | - | - | - | - | - | - | - | - | 2 |
| 514.2608 | DOWNSPOUT 8-INCH | LF | - | - | 50 | - | - | - | 50 | - | - | - | - | - | 100 |
| 516.0500 | RUBBERIZED MEMBRANE WATERPROOFING | SY | - | - | 15 | - | - | - | - | - | - | - | - | - | 15 |
| 517.1010.S.702 | CONCRETE STAINING B-70-406 | SF | 26365 | 130 | 565 | 1775 | 1760 | 1715 | 1945 | 1740 | 1885 | 1910 | 1595 | - | 41385 |
| 517.1050.S.702 | ARCHITECTURAL SURFACE TREATMENT B-70-406 | SF | 3805 | 80 | 395 | - | - | - | - | - | - | - | - | - | 4280 |
| 550.0020 | PRE-BORING ROCK OR CONSOLIDATED MATERIALS | LF | - | - | - | - | - | - | 368 | 360 | 312 | - | - | - | 1040 |
| 550.0500 | PILE POINTS | EACH | - | - | - | 28 | 26 | 26 | 6 | - | - | 28 | 26 | - | 140 |
| 550.1120 | PILING STEEL HP 12-INCH x 53 LB | LF | - | - | - | 420 | 442 | 442 | 470 | 390 | 338 | 700 | 1066 | - | 4268 |
| 604.0600 | SLOPE PAVING SELECT CRUSHED MATERIAL | SY | - | - | 100 | - | - | - | - | - | - | - | - | - | 100 |
| 606.0300 | RIPRAP HEAVY | CY | - | - | 3 | - | - | - | 1 | - | - | - | - | - | 4 |
| 612.0406 | PIPE UNDERDRAIN WRAPPED 6-INCH | LF | - | - | 50 | - | - | - | - | - | - | - | - | - | 50 |
| 614.0150 | ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD | EACH | - | 2 | - | - | - | - | - | - | - | - | - | - | 2 |
| 645.0120 | GEOTEXTILE FABRIC TYPE HR | SY | - | - | 15 | - | - | - | 5 | - | - | - | - | - | 20 |
| 652.0125 | CONDUIT RIGID METALLIC 2-INCH | LF | 57 | 40 | - | - | - | - | - | - | - | - | - | - | 97 |
| 652.0225 | CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH | LF | 895 | - | - | - | - | - | - | - | - | - | - | - | 895 |
| 653.0220 | JUNCTION BOXES 18x6x6-INCH | EACH | 4 | - | - | - | - | - | - | - | - | - | - | - | 4 |
| 653.0222 | JUNCTION BOXES 18x12x6-INCH | EACH | 5 | - | - | - | - | - | - | - | - | - | - | - | 5 |
| 657.6005.S | ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES | EACH | 4 | - | - | - | - | - | - | - | - | - | - | - | 4 |
| SPV.0035.700 | MODIFIED HIGH PERFORMANCE CONCRETE (HPC) MASONRY BRIDGES | CY | 1282 | 50 | 108 | 235 | 200 | 206 | 191 | 170 | 193 | 229 | 191 | - | 3055 |
| SPV.0165.700 | ABUTMENT BACKWALL SOIL REINFORCEMENT | SF | - | - | 465 | - | - | - | - | - | - | - | - | - | 465 |
| | NON BID ITEMS | | | | | | | | | | | | | | |
| | FILLER | SIZE | - | - | - | - | - | - | - | - | - | - | - | - | 1/2" & 3/4" |
| | NAME PLATE | EACH | - | - | - | - | - | - | - | - | - | - | - | - | 1 |

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

DRAWN BY KAM | PLANS CK'D. MJA

GENERAL NOTES AND QUANTITIES

SHEET 3 OF 65
585

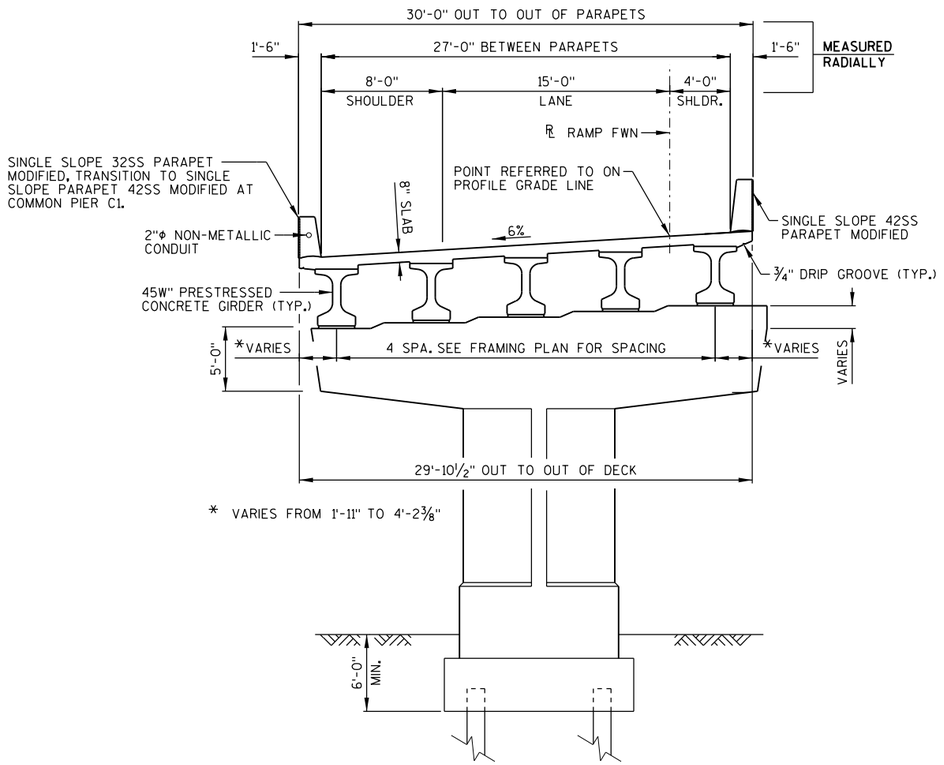


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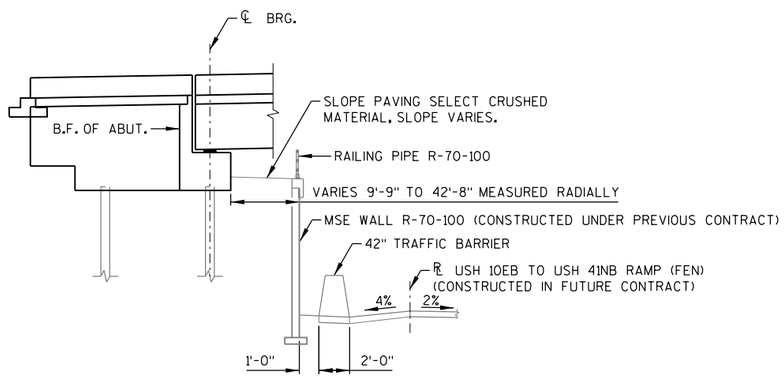
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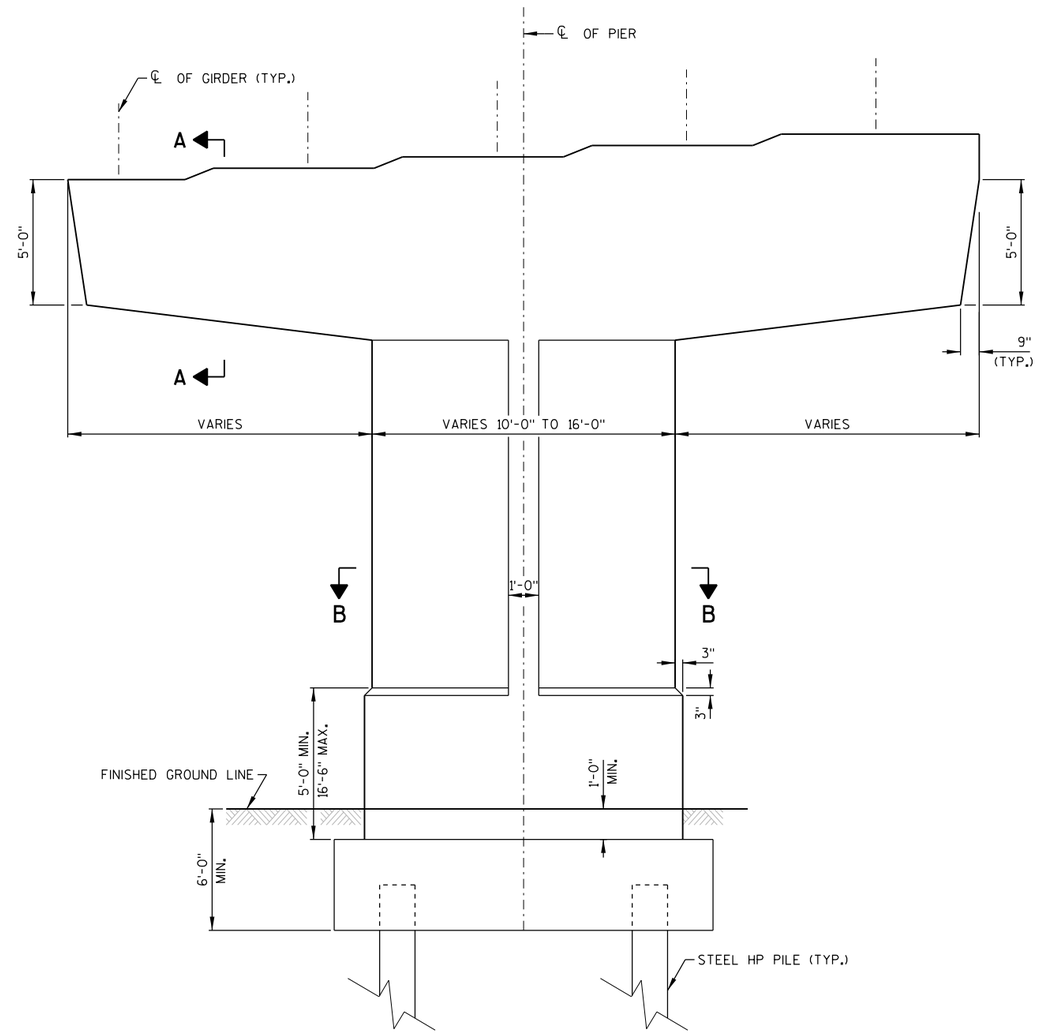



## CROSS SECTION THRU ROADWAY
(LOOKING UPSTATION)

DIMENSIONS ARE MEASURED ALONG
HORIZONTAL RADIAL LINES AT ℄ RAMP FWN




## WEST ABUTMENT SECTION
(LOOKING NORTH)




## TYPICAL PIER ELEVATION (PIERS 1 TO 8)
(LOOKING UPSTATION)

(PIER 2 SHOWN, OTHER PIERS SIMILIAR)
(STRIP FORM EXCLUDED ON SIDES FACING RAILROAD)

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

DRAWN BY KAM | PLANS CK'D. MJA

CROSS SECTIONS

SHEET 4 OF 65
586

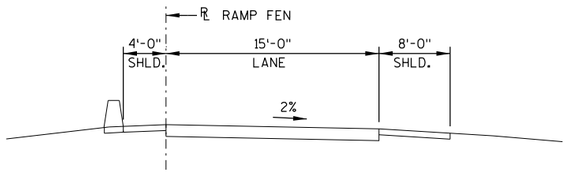
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BATCH PRINT SHEET 5 OF 65

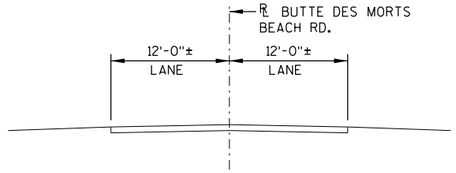
STATE PROJECT NUMBER

1517-07-77



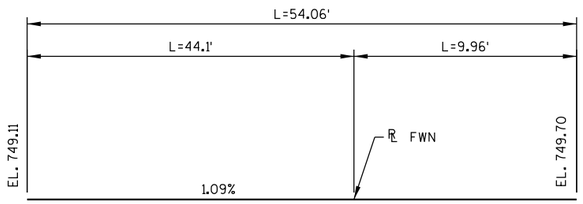

## CROSS SECTION (FEN)

(LOOKING UP STATION)



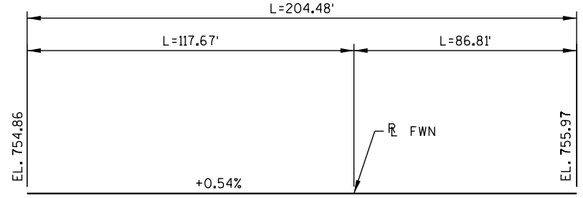

## CROSS SECTION (BUTTE DES MORTS BEACH RD.)

(LOOKING NORTH)



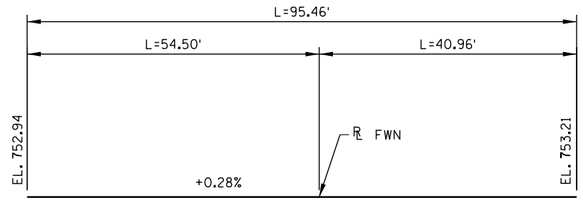

## PROFILE GRADE LINE BUTTE DES MORTS BEACH RD.

(INTERSECTS RAMP FWN ℄ AT STA. 141FWN+85.03)
NTS



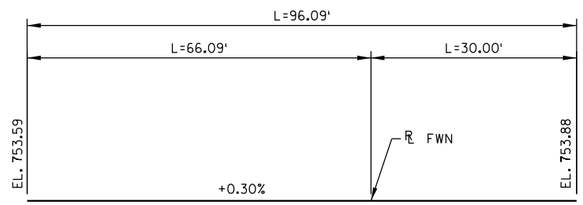

## PROFILE GRADE LINE WISCONSIN CENTRAL LTD WEST TRACK

(INTERSECTS RAMP FWN ℄ AT STA. 139FWN+70.36)
NTS



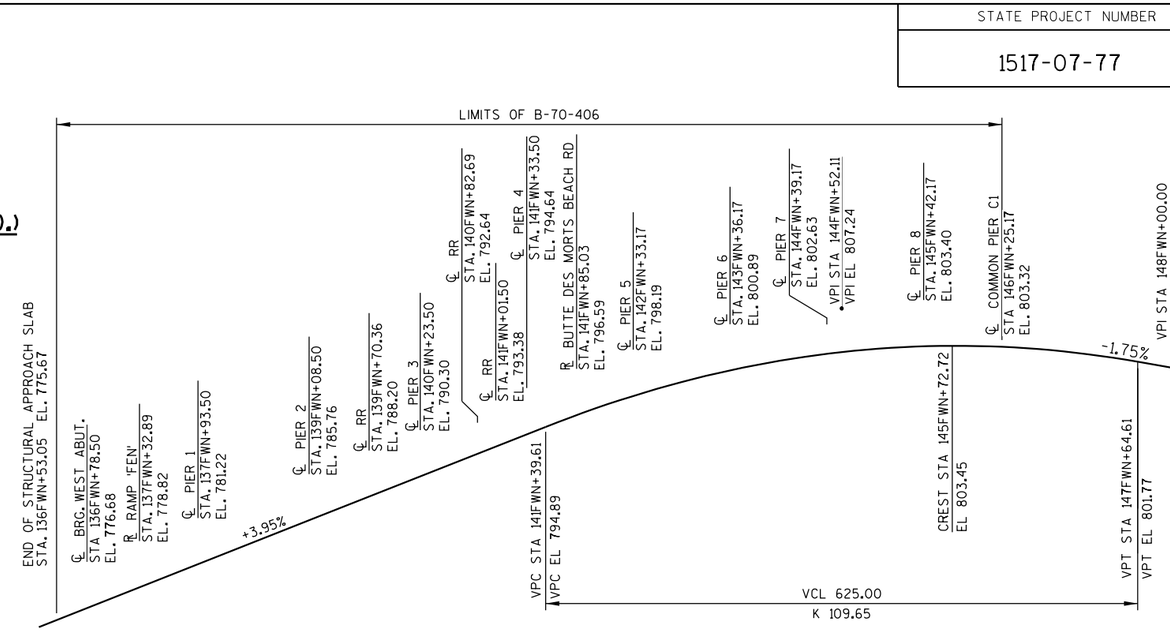

## PROFILE GRADE LINE WISCONSIN CENTRAL LTD MIDDLE TRACK

(INTERSECTS RAMP FWN ℄ AT STA. 140FWN+82.69)
NTS



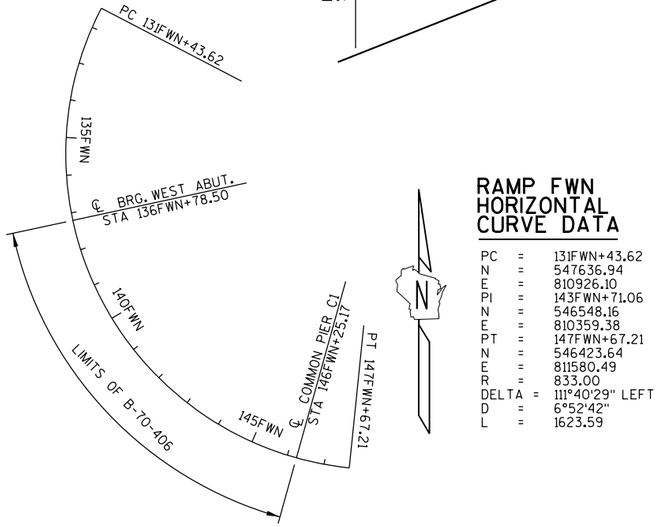

## PROFILE GRADE LINE WISCONSIN CENTRAL LTD EAST TRACK

(INTERSECTS RAMP FWN ℄ AT STA. 141FWN+01.50)
NTS




## PROFILE GRADE LINE RAMP FWN

NTS

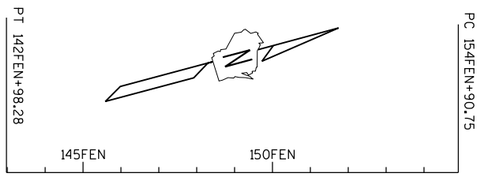



## RAMP FWN HORIZONTAL CURVE DATA

| | | |
|---|---|---|
| PC | = | 131FWN+43.62 |
| N | = | 547636.94 |
| E | = | 810926.10 |
| PI | = | 143FWN+71.06 |
| N | = | 546548.16 |
| E | = | 810359.38 |
| PT | = | 147FWN+67.21 |
| N | = | 546423.64 |
| E | = | 811580.49 |
| R | = | 833.00 |
| DELTA | = | 111°40'29" LEFT |
| D | = | 6°52'42" |
| L | = | 1623.59 |

## HORIZONTAL ALIGNMENT RAMP FWN

NTS

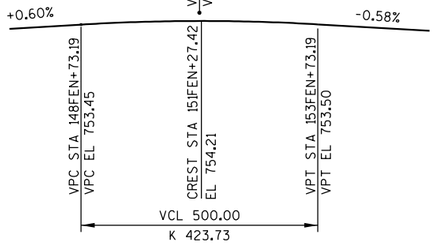



## RAMP FEN HORIZONTAL CURVE DATA

| | | |
|---|---|---|
| PT | = | 142FEN+98.28 |
| N | = | 546112.05 |
| E | = | 810597.96 |
| PC | = | 154FEN+90.75 |
| N | = | 547263.79 |
| E | = | 810906.93 |

## HORIZONTAL ALIGNMENT RAMP FEN

NTS




## PROFILE GRADE LINE RAMP FEN

NTS

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

DRAWN BY KAM | PLANS CK'D. MJA

ALIGNMENT, PROFILE AND SUPERELEVATION

SHEET 5 OF 65
587

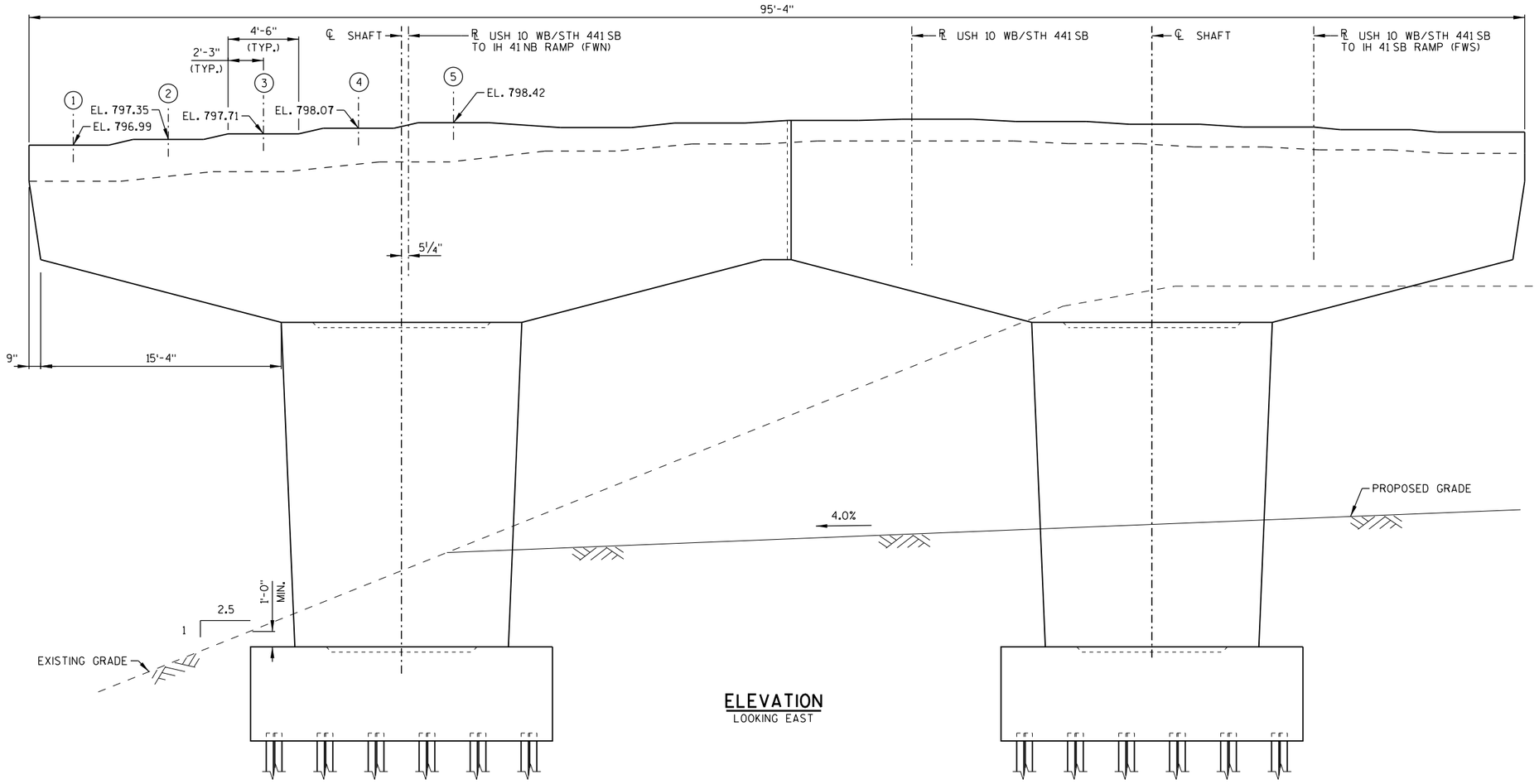
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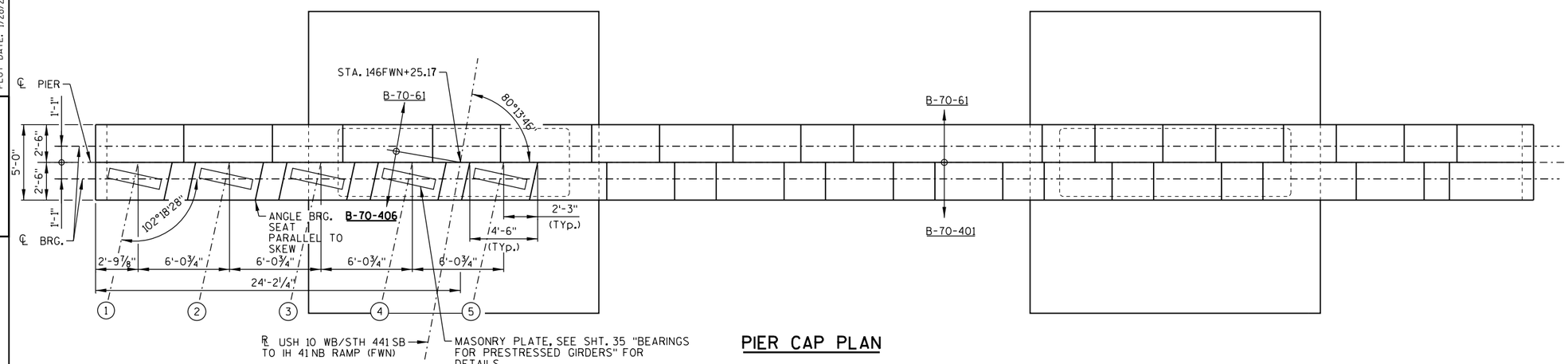
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BATCH PRINT SHEET 6 OF 65

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1517-07-77




## ELEVATION
LOOKING EAST




## PIER CAP PLAN

## NOTES

SEE B-70-61 STRUCTURE PLANS FOR DETAILS OF COMMON PIER C1.

SEE B-70-61 STRUCTURE PLANS FOR DETAILS OF THE MODULAR EXPANSION JOINT AT COMMON PIER C1.

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

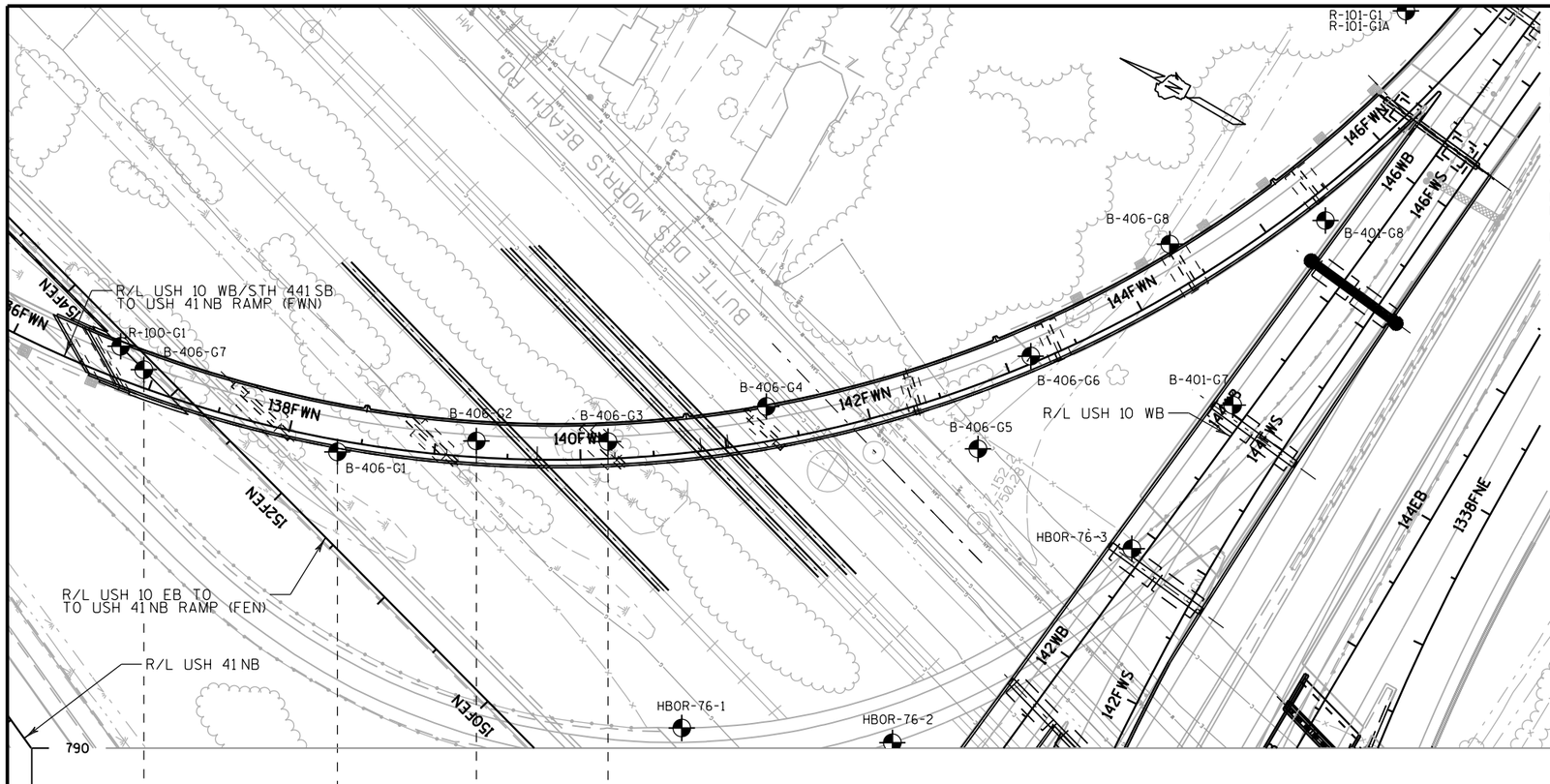
DRAWN BY KAM | PLANS CK'D. MJA

COMMON PIER C1

SHEET 6 OF 65
588

8

8






## NOTE:

THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

WATER LEVELS INDICATED MAY NOT BE REPRESENTATIVE OF STATIC WATER LEVELS.

HISTORICAL BORING LOCATIONS ARE APPROXIMATE. ADDITIONAL INFORMATION IS AVAILABLE FROM THE WISCONSIN DEPARTMENT OF TRANSPORTATION.

DENOTES SOIL BORING LOCATION

SOIL BORINGS COMPLETED BY:
GESTRA ENGINEERING, INC.

SOIL BORING TAKEN:
JULY 24, 2013 - BORING B-401-G8
MARCH 7, 2012 - BORING B-406-G1
JULY 2, 2012 - BORING B-406-G2
JULY 5, 2012 - BORING B-406-G3
JULY 6, 2012 - BORING B-406-G4
APRIL 7, 2012 - BORING B-406-G5
DECEMBER 13, 2012 - BORING B-406-G6
DECEMBER 13, 2012 - BORING B-406-G7
JULY 26, 2013 - BORING B-406-G8

STATE PROJECT NUMBER

1517-07-77

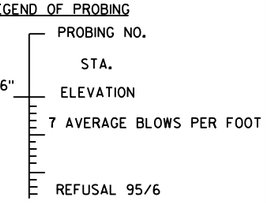
ABBREVIATIONS

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

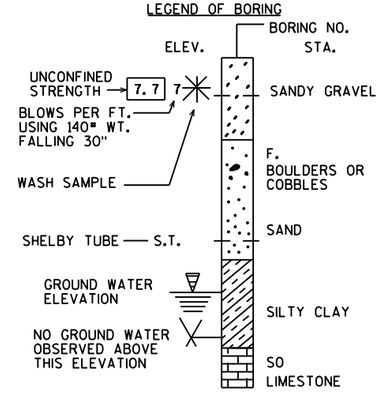
MATERIAL SYMBOLS

TOPSOIL / FILL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING




LEGEND OF BORING




UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR 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

STRUCTURE B-70-406

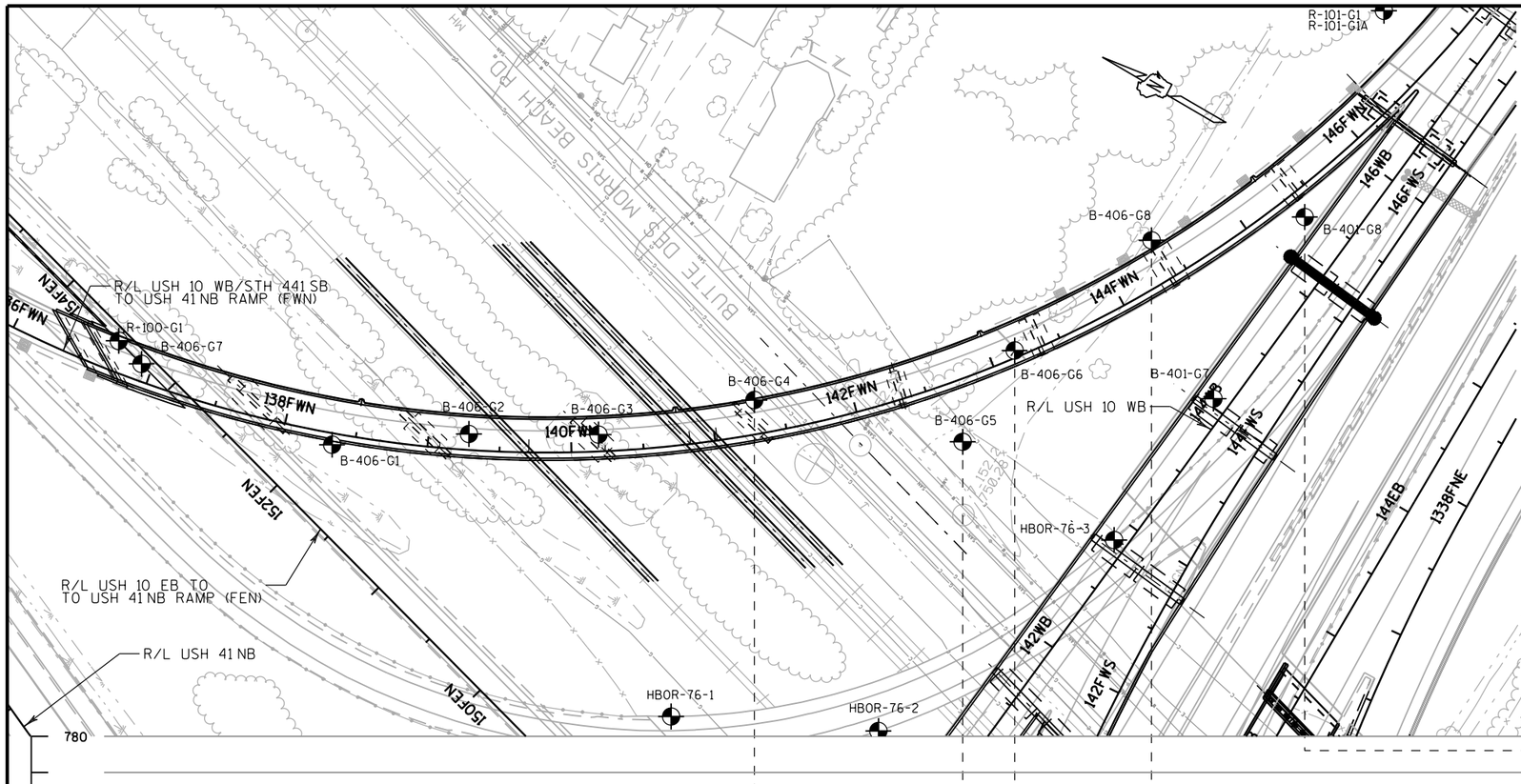
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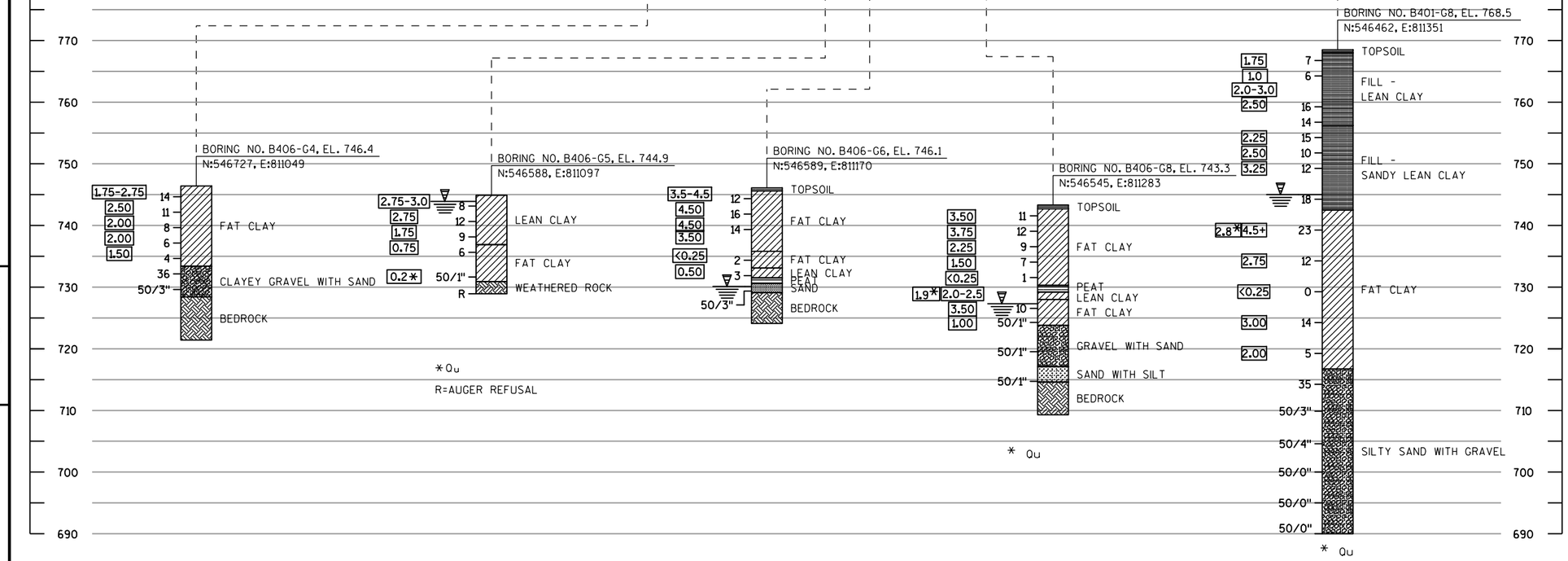
SUBSURFACE EXPLORATION

SHEET 7 OF 64



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## NOTE:

THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

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APRIL 7, 2012 - BORING B-406-G5
DECEMBER 13, 2012 - BORING B-406-G6
DECEMBER 13, 2012 - BORING B-406-G7
JULY 26, 2013 - BORING B-406-G8

STATE PROJECT NUMBER

1517-07-77

ABBREVIATIONS

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

MATERIAL SYMBOLS

TOPSOIL / FILL, SILT, SANDSTONE
SAND, PEAT, LIMESTONE
GRAVEL, CLAY, IGNEOUS ROCK

LEGEND OF PROBING

PROBING NO.
STA.
ELEVATION
7 AVERAGE BLOWS PER FOOT
REFUSAL 95/6

95/6=95 BLOWS FOR 6" PENETRATION PROBING TAKEN WITH A 350# WT. FALLING 18" ON A 2" O.D. POINT.

LEGEND OF BORING

BORING NO.
ELEV.
STA.
UNCONFINED STRENGTH — 7.7 7
BLOWS PER FT. USING 140# WT. FALLING 30"
WASH SAMPLE
SHELBY TUBE — S.T.
GROUND WATER ELEVATION
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION
SANDY GRAVEL
F. BOULDERS OR COBBLES
SAND
SILTY CLAY
SO
LIMESTONE

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR 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

STRUCTURE B-70-406

DRAWN BY DB | PLANS CK'D. BW

SUBSURFACE EXPLORATION

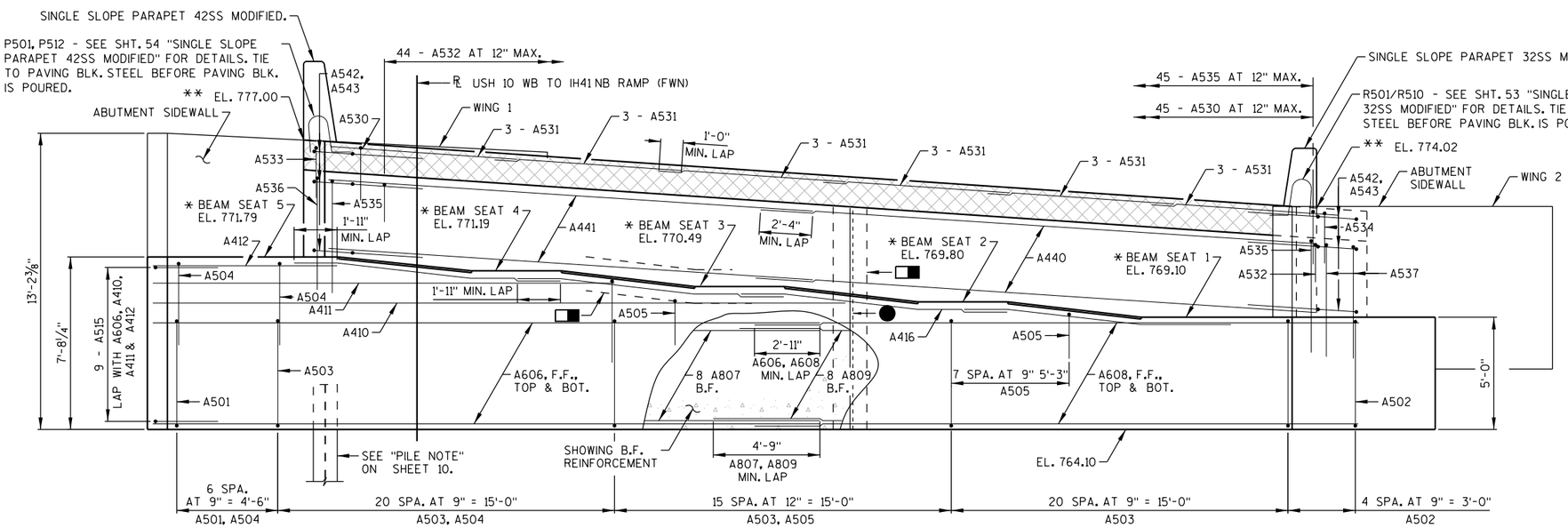
SHEET 8 OF 64



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STATE PROJECT NUMBER

1517-07-77



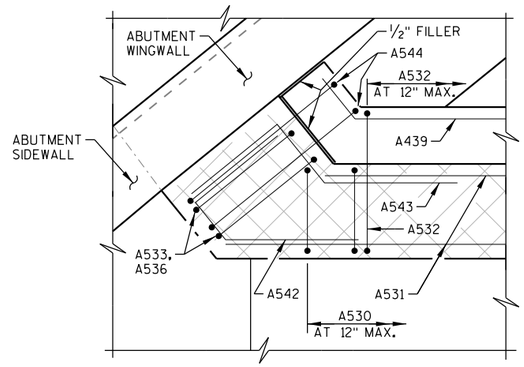

## FRONT ELEVATION

(LOOKING WEST)

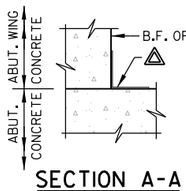
## NOTE

FOR SYMBOL LEGEND SEE SHT. 10.

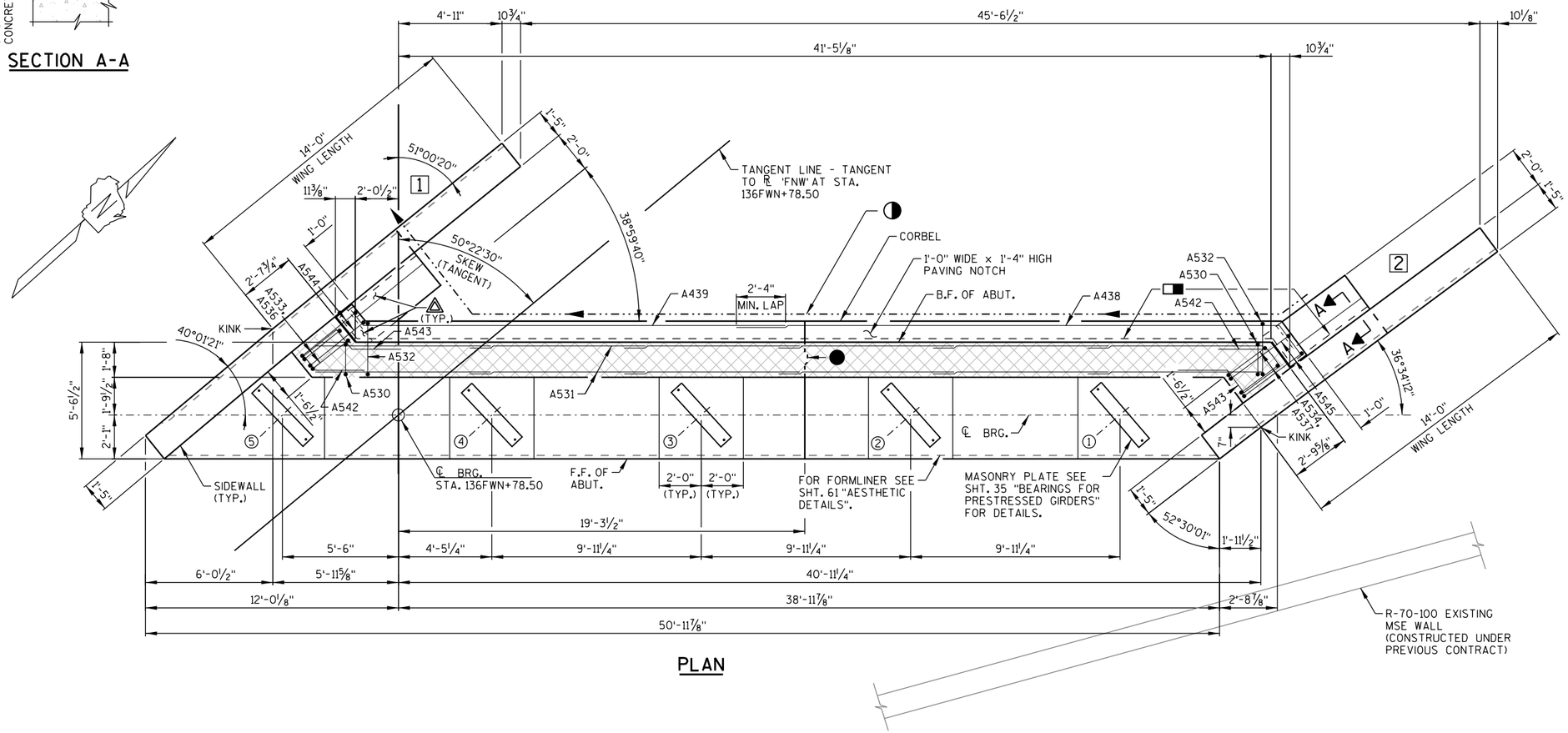
FOR AESTHETIC DETAILS, SEE SHT. 61 "AESTHETIC DETAILS".



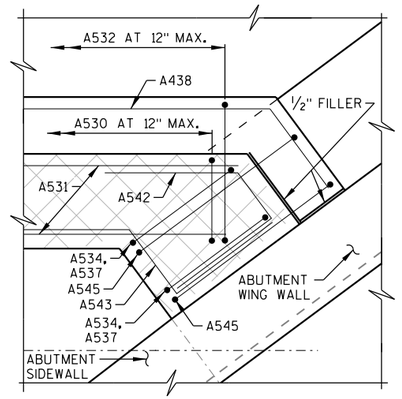

## REINFORCING SOUTH END




## SECTION A-A




## PLAN




## REINFORCING NORTH END

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

DRAWN BY KAM | PLANS CK'D. MJA

WEST ABUTMENT PLAN AND ELEVATION

SHEET 9 OF 65
591

8

8

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BATCH PRINT SHEET 10 OF 65



## LEGEND

- INDICATES CONCRETE AREA TO BE POURED AFTER SUPERSTRUCTURE CONCRETE IS IN PLACE.
- ① INDICATES GIRDER NUMBER
- [2] INDICATES WING NUMBER
- ⟨1⟩ INDICATES PILE NUMBER
- * ELEVATIONS ARE GIVEN AT THE TOP OF CONCRETE AT THE ℄ OF BEARING.
- ** DIMENSIONS AND ELEVATIONS ARE GIVEN AT THE F.F. OF ABUTMENT BACKWALL.
- 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE ABOVE FOOTING.
- PLACE BOTTOM HALF OF RUBBERIZED MEMBRANE WATERPROOFING HORIZONTAL IN THIS AREA. SEE SECTION A-A SHEET 9.
- KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2x6".
- VERTICAL CONST. JOINT KEYWAY FORMED BY BEVELED 2x8". RUN BAR STEEL THRU JOINT. ¾" V-GROOVE AT F.F., SEAL B.F. WITH 18" RUBBERIZED MEMBRANE WATERPROOFING.
- PIPE UNDERDRAIN WRAPPED 6-INCH, SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD, SEE DETAIL SHT. 11. DISCHARGE LOCATION TO BE DETERMINED BY ENGINEER IN THE FIELD.

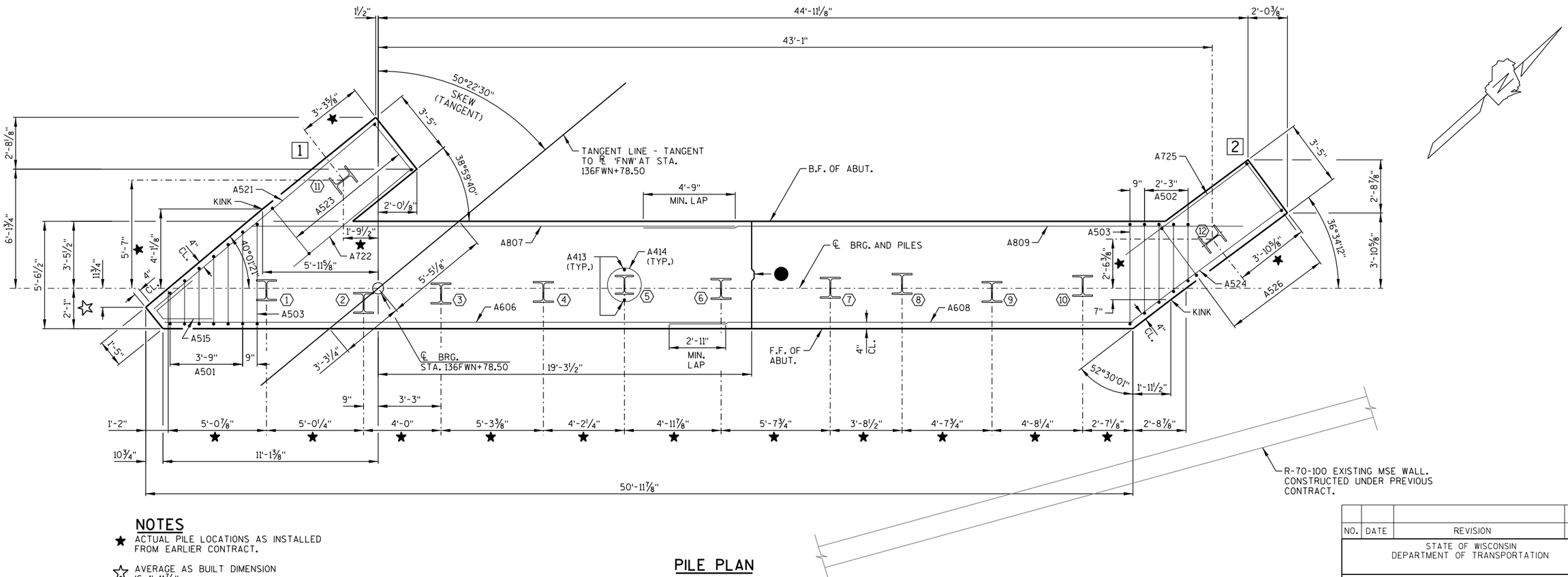
## NOTE

SEE SHEETS 12 AND 13 FOR WINGWALLS 1 AND 2.

## PILE NOTE

B-70-406 WEST ABUTMENT PILES INSTALLED UNDER A PREVIOUS CONTRACT. PILES INSTALLED UNDER PREVIOUS CONTRACT ARE HP12X53 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220*** TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION.

*** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING THE MODIFIED GATES DYNAMIC EQUATION.




## NOTES

★ ACTUAL PILE LOCATIONS AS INSTALLED FROM EARLIER CONTRACT.

☆ AVERAGE AS BUILT DIMENSION IS 1'-11⅞"

## PILE PLAN

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

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WEST ABUTMENT PILE PLAN

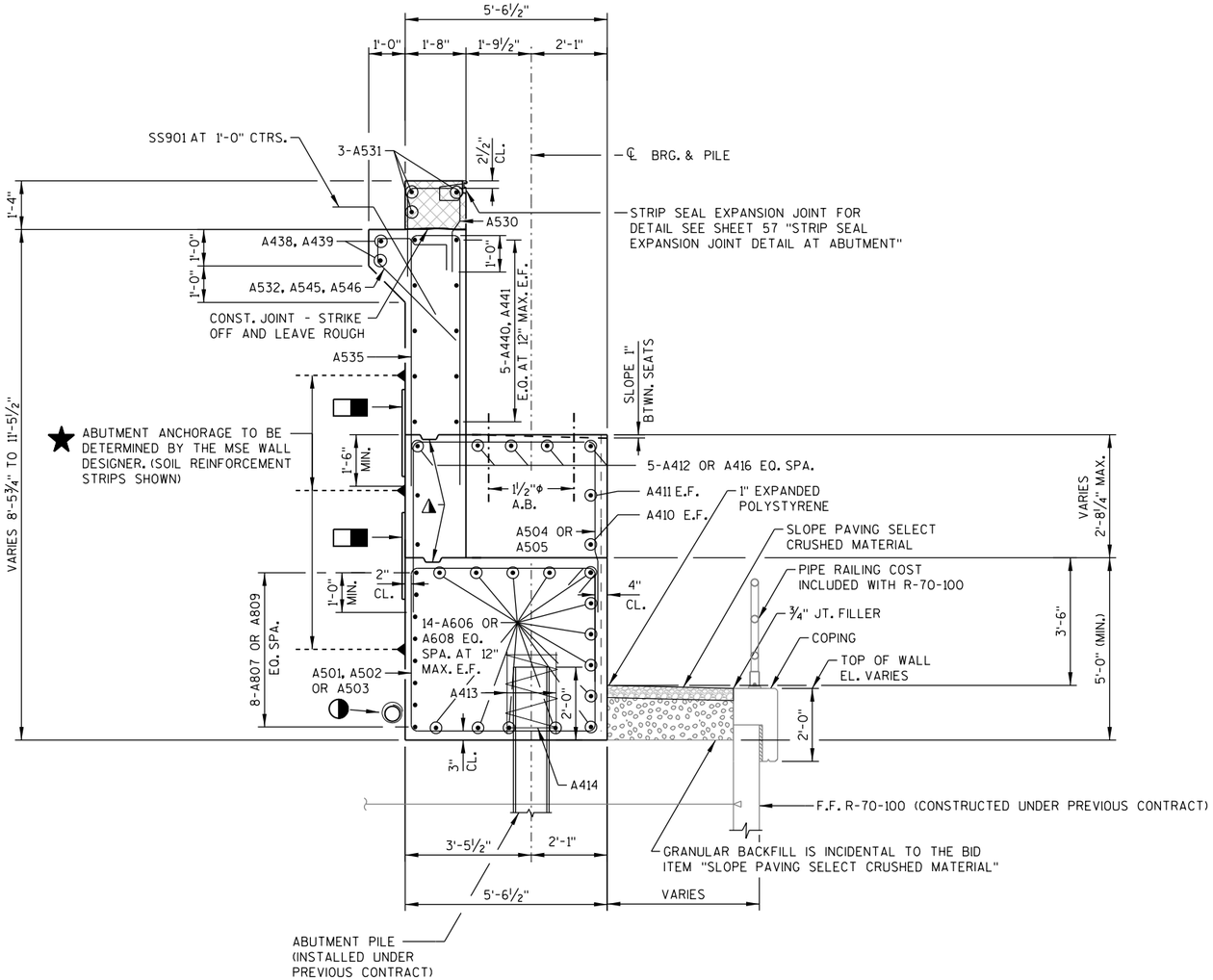
SHEET 10 OF 65
592

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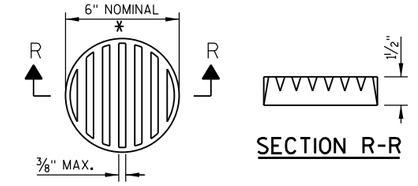
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## TYPICAL SECTION THRU BODY




## SECTION R-R

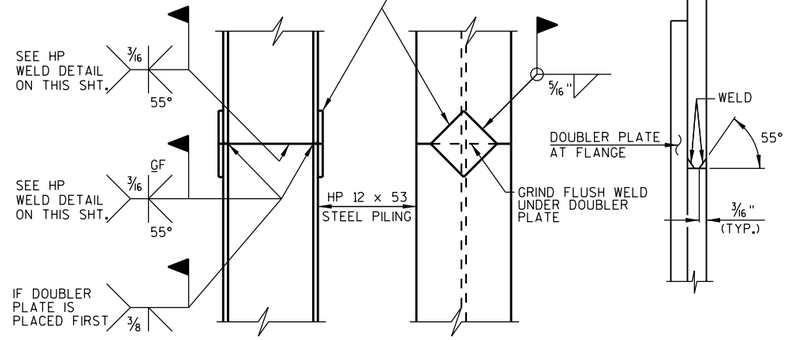
## RODENT SHIELD DETAIL

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

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 EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.




## PILE SPLICE DETAIL

## HP WELD DETAIL
(FLANGE SHOWN, WEB SIMILAR)

## LEGEND

FOR LEGEND DESCRIPTIONS, SEE SHT. 10 "WEST ABUTMENT PILE PLAN".

★ MSE WALL REINFORCEMENT STRIPS TO BE DESIGNED BY MSE MANUFACTURER. THE REINFORCEMENT STRIPS, BACKFILL STRUCTURE AND CONNECTION TO THE ABUTMENT ARE TO BE PAID FOR UNDER THE BID ITEM "ABUTMENT BACKWALL SOIL REINFORCEMENT".

UNFACTORED SUPERSTRUCTURE LATERAL LINE LOADS TRANSFERRED TO THE ABUTMENT, AS SHOWN BELOW, ARE TAKEN PER FOOT OF ABUTMENT LENGTH. THE VALUES ARE TO BE USED FOR THE LRFD DESIGN OF THE ABUTMENT ANCHORAGE BY THE MSE MANUFACTURER (MSE SYSTEM, DEAD MAN ANCHOR, OTHER).
THE FOLLOWING AASHTO LINE LOADS SHALL BE:

| | | |
|---|---|---|
| BR = | 0.45 | KLF |
| WS = | 0.50 | KLF |
| WL = | 0.11 | KLF |
| CE = | 0.30 | KLF |
| TU = | 0.64 | KLF |

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

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WEST ABUTMENT CROSS SECTION

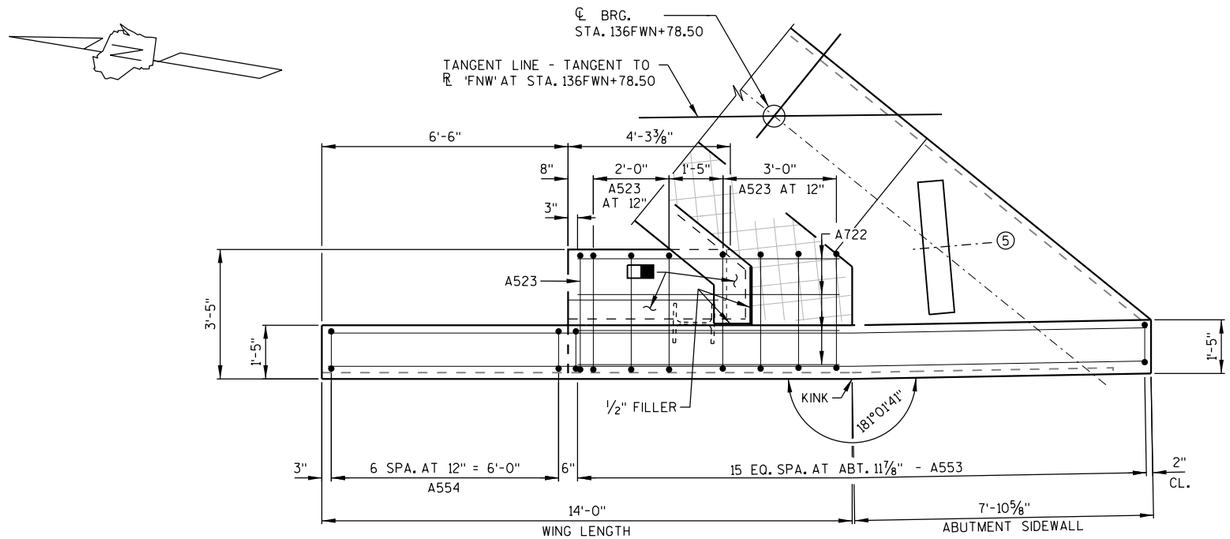
SHEET 11 OF 65
593

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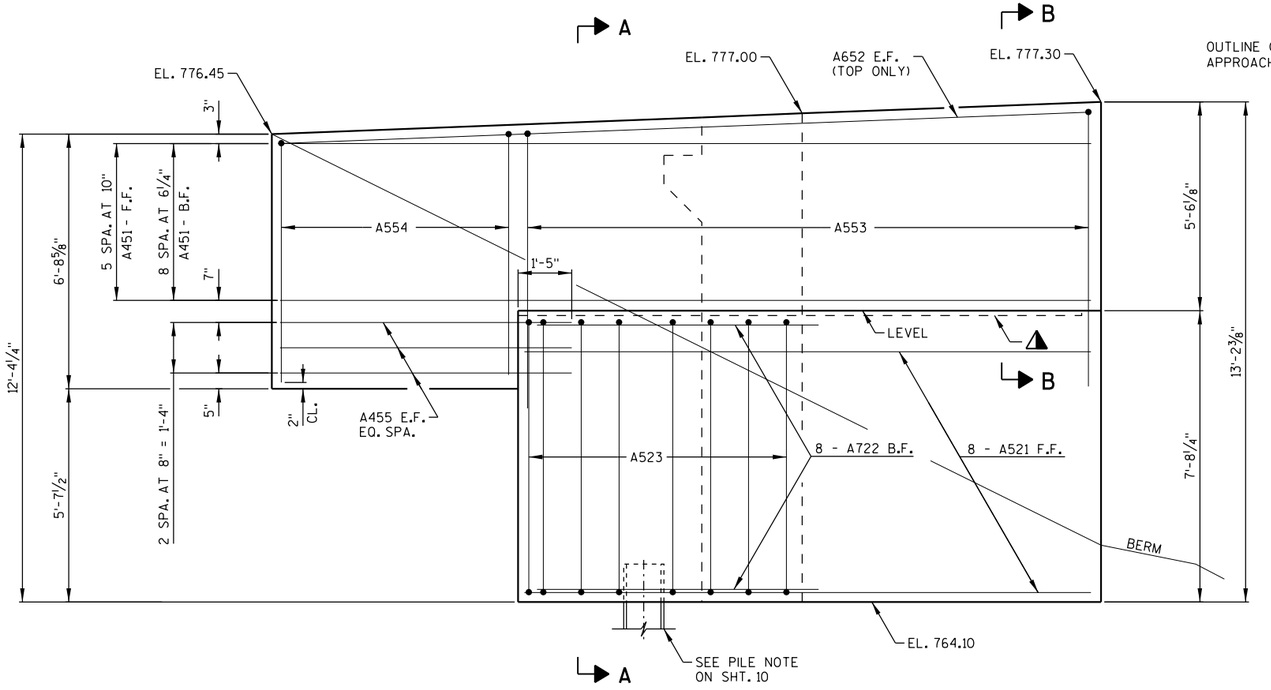
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BATCH PRINT SHEET 12 OF 65






## PLAN - WING 1

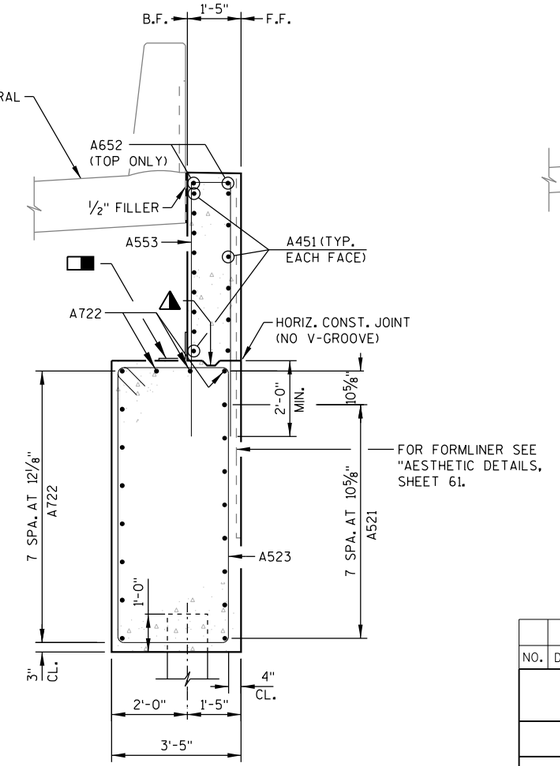



## ELEVATION - WING 1

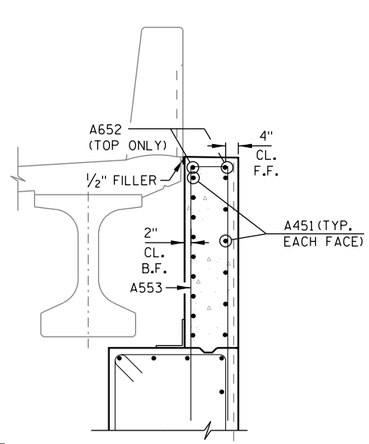
## NOTES

FOR LEGEND DESCRIPTIONS, SEE SHT. 10 "WEST ABUTMENT PILE PLAN".

FOR AESTHETIC DETAILS SEE SHT. 61 "AESTHETIC DETAILS".




## SECTION A-A




## SECTION B-B

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

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WING 1

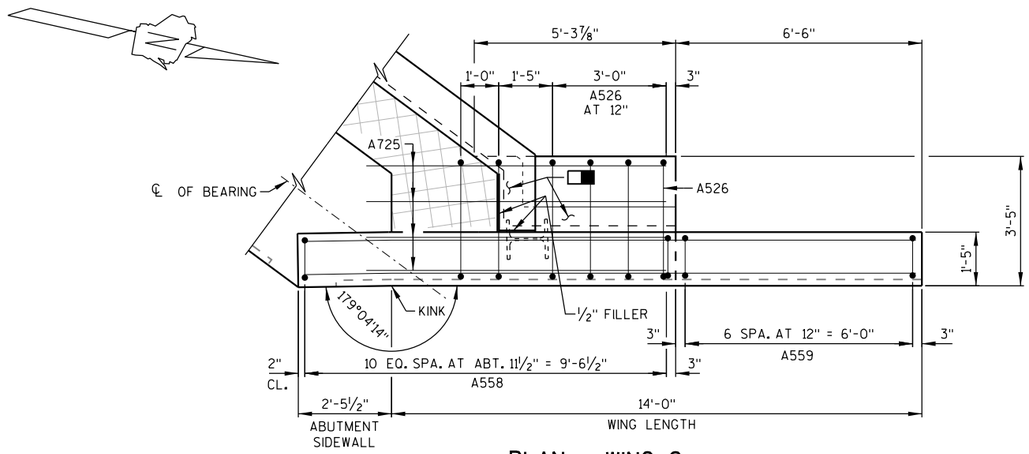
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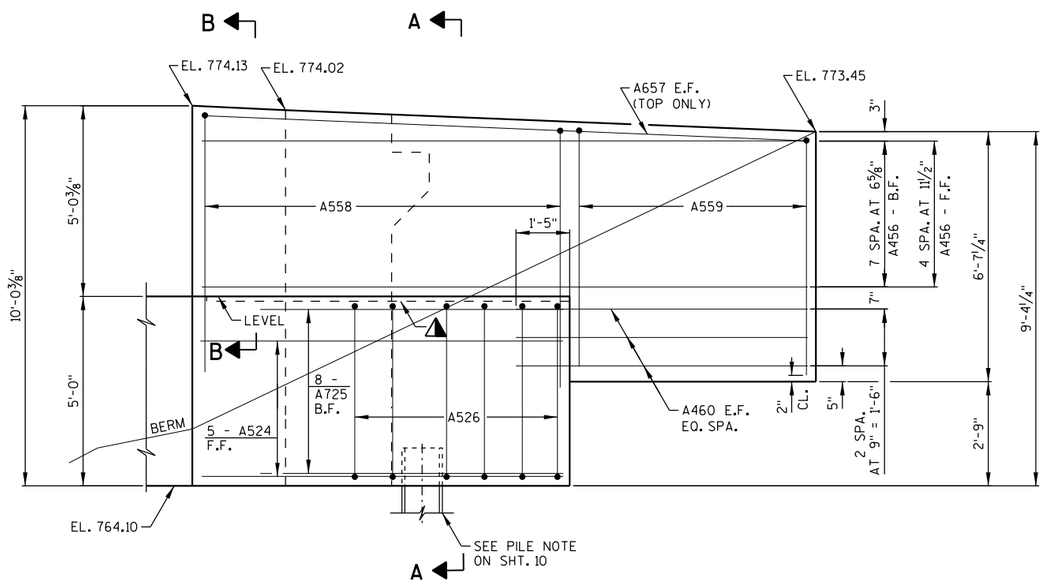



## PLAN - WING 2

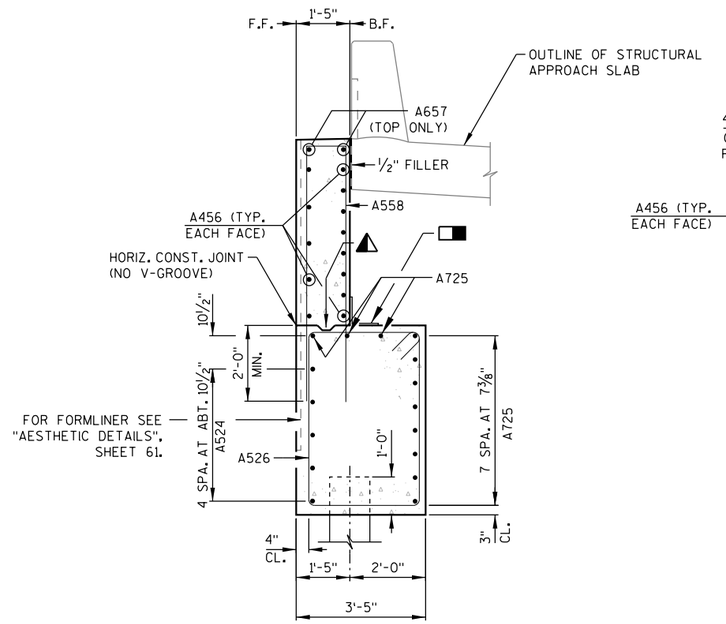
## NOTES

FOR LEGEND DESCRIPTIONS, SEE SHT. 10 "WEST ABUTMENT PILE PLAN".

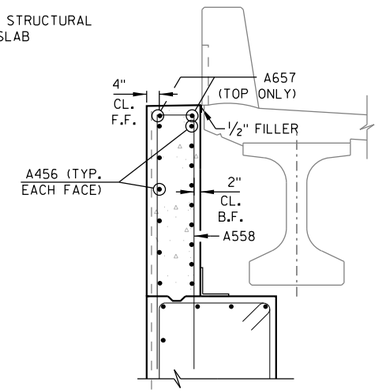
FOR AESTHETIC DETAILS SEE SHT. 61 "AESTHETIC DETAILS".




## ELEVATION - WING 2




## SECTION A-A




## SECTION B-B

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

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WING 2

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STATE PROJECT NUMBER

1517-07-77

## BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
△ LENGTH SHOWN FOR BAR IS AN AVG. LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

| MARK | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|
| UNCOATED BARS | | | | | TOTAL WEIGHT = 5,570 LBS |
| A501 | 6 | 15-8 | X | △ | ABUTMENT BODY END - SOUTH VERT. |
| A502 | 4 | 17-1 | X | △ | ABUTMENT BODY END - NORTH VERT. |
| A503 | 56 | 19-10 | X | | ABUTMENT BODY CENTER VERT. |
| A504 | 27 | 12-3 | X | | ABUTMENT BODY TOP - SOUTH END VERT. |
| A505 | 22 | 10-3 | X | | ABUTMENT BODY TOP - CENTER VERT. |
| A606 | 14 | 25-0 | | | ABUTMENT BODY F.F., TOP & BOT. - SOUTH HORIZ. |
| A807 | 8 | 25-0 | | | ABUTMENT BODY B.F. - SOUTH HORIZ. |
| A608 | 14 | 29-11 | | | ABUTMENT BODY F.F., TOP & BOT. - NORTH HORIZ. |
| A809 | 8 | 31-9 | | | ABUTMENT BODY B.F. NORTH HORIZ. |
| A410 | 2 | 24-10 | | | ABUTMENT BODY TOP HORIZ. |
| A411 | 2 | 20-3 | | | ABUTMENT BODY TOP HORIZ. |
| A412 | 5 | 7-6 | | | ABUTMENT BODY TOP HORIZ. |
| A413 | 20 | 2-3 | | | ABUTMENT AT PILES VERT. |
| A414 | 10 | 28-0 | X | | ABUTMENT AT PILES VERT. |
| A515 | 9 | 5-7 | X | | ABUTMENT BODY F.F. SOUTH END HORIZ. |
| A416 | 20 | 12-0 | | | ABUTMENT BODY TOP HORIZ. |
| A17 | | | | | NOT USED |
| A18 | | | | | NOT USED |
| A19 | | | | | NOT USED |
| A20 | | | | | NOT USED |
| A521 | 8 | 14-10 | | | WING 1 F.F. HORIZ. |
| A722 | 11 | 6-11 | | | WING 1 B.F. HORIZ. |
| A523 | 8 | 21-0 | X | | WING 1 STIRRUP VERT. |
| A524 | 5 | 9-4 | | | WING 2 F.F. HORIZ. |
| A725 | 11 | 7-11 | | | WING 2 B.F. HORIZ. |
| A526 | 6 | 15-8 | X | | WING 2 STIRRUP VERT. |
| A27 | | | | | NOT USED |
| A28 | | | | | NOT USED |
| A29 | | | | | NOT USED |

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

| MARK | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|
| STAINLESS STEEL BARS | | | | | TOTAL WEIGHT = 530 LBS |
| ☆ SS901 | 31 | 5-0 | X | | ABUTMENT BACKWALL/STRUCT. APPROACH SLAB VERT. |

☆ SS901 (STAINLESS STEEL) REINFORCEMENT TO BE INCLUDED IN BID ITEM "BAR STEEL REINFORCEMENT HS STAINLESS STRUCTURES". SEE SHTS. 11, 55 & 56 FOR PLACEMENT.

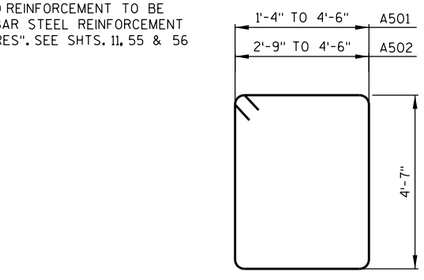
## BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

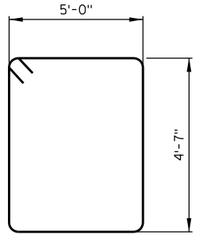
| MARK | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|
| COATED BARS | | | | | TOTAL WEIGHT = 3,100 LBS |
| A530 | 45 | 5-9 | X | | PAVING BLOCK TIE VERT. |
| A531 | 18 | 8-5 | | | PAVING BLOCK HORIZ. |
| A532 | 44 | 7-1 | X | | ABUTMENT CORBEL VERT. |
| A533 | 2 | 6-8 | X | | ABUTMENT PAVING BLK. S. END VERT. |
| A534 | 2 | 6-10 | X | | ABUTMENT PAVING BLK. N. END VERT. |
| A535 | 45 | 11-11 | X | | BACKWALL TIE VERT. |
| A536 | 2 | 12-11 | X | | BACKWALL TIE S. END VERT. |
| A537 | 2 | 13-1 | X | | BACKWALL TIE N. END VERT. |
| A438 | 2 | 27-6 | X | | ABUTMENT CORBEL HORIZ. |
| A439 | 2 | 21-0 | X | | ABUTMENT CORBEL HORIZ. |
| A440 | 10 | 25-1 | | | ABUTMENT BACKWALL NORTH HORIZ. |
| A441 | 10 | 22-3 | | | ABUTMENT BACKWALL SOUTH HORIZ. |
| A542 | 12 | 5-10 | X | | ABUTMENT BACKWALL TIE HORIZ. |
| A543 | 12 | 6-1 | X | | ABUTMENT BACKWALL TIE HORIZ. |
| A544 | 2 | 8-0 | X | | ABUTMENT CORBEL S. END VERT. |
| A545 | 2 | 8-2 | X | | ABUTMENT CORBEL N. END VERT. |
| A46 | | | | | NOT USED |
| A47 | | | | | NOT USED |
| A48 | | | | | NOT USED |
| A49 | | | | | NOT USED |
| A50 | | | | | NOT USED |
| A451 | 15 | 21-6 | | | WING 1 - F.F., B.F. WALL HORIZ. |
| A652 | 2 | 21-6 | | | WING 1 - TOP HORIZ. |
| A553 | 16 | 15-2 | X | | WING 1 - TIE VERT. |
| A554 | 7 | 13-2 | X | | WING 1 - TIE VERT. |
| A455 | 6 | 7-9 | | | WING 1 HORIZ. |
| A456 | 13 | 16-0 | | | WING 2 - F.F., B.F. WALL HORIZ. |
| A657 | 2 | 16-0 | | | WING 2 - TOP HORIZ. |
| A558 | 11 | 14-4 | X | | WING 2 - TIE VERT. |
| A559 | 7 | 13-0 | X | | WING 2 - TIE VERT. |
| A460 | 6 | 7-9 | | | WING 2 HORIZ. |
| | | | | | |

## BAR SERIES

| MARK | NO. REQ'D | LENGTH |
|---|---|---|
| A501 | 1 SERIES OF 6 | 12'-6" TO 18'-10" |
| A502 | 1 SERIES OF 4 | 15'-4" TO 18'-10" |




A501, A502

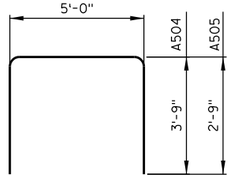



A503

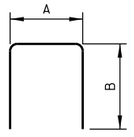



A438, A439

| MARK | E | F |
|---|---|---|
| A438 | 127° | 25'-10" |
| A439 | 129° | 20'-1" |



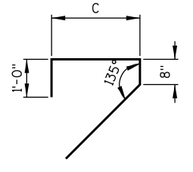

A504, A505



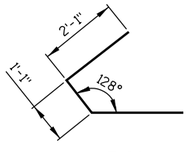

| MARK | A | B |
|---|---|---|
| A530 | 1'-4" | 2'-4" |
| A533 | 2'-3½" | 2'-4" |
| A534 | 2'-5½" | 2'-4" |
| A535 | 1'-4" | 5'-5" |
| A536 | 2'-3½" | 5'-5" |
| A537 | 2'-5½" | 5'-5" |

A530, A533-A537

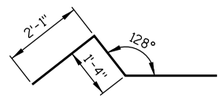
| MARK | C |
|---|---|
| A532 | 2'-4" |
| A544 | 3'-3½" |
| A545 | 3'-5" |



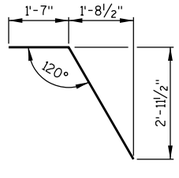

A532, A544, A545



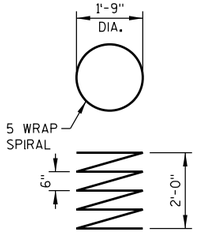

A542



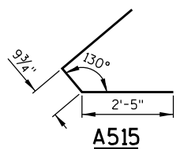

A543



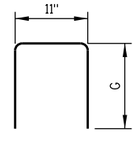

SS901




A414

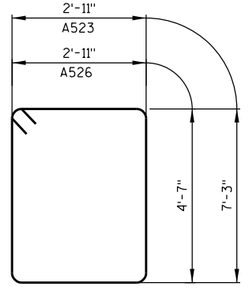



A515




| MARK | G |
|---|---|
| A553 | 7'-3" |
| A554 | 6'-3" |
| A558 | 6'-10" |
| A559 | 6'-2" |

A553, A554, A558, A559




A523, A526

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| | | | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

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ABUTMENT DETAILS

SHEET 14 OF 65
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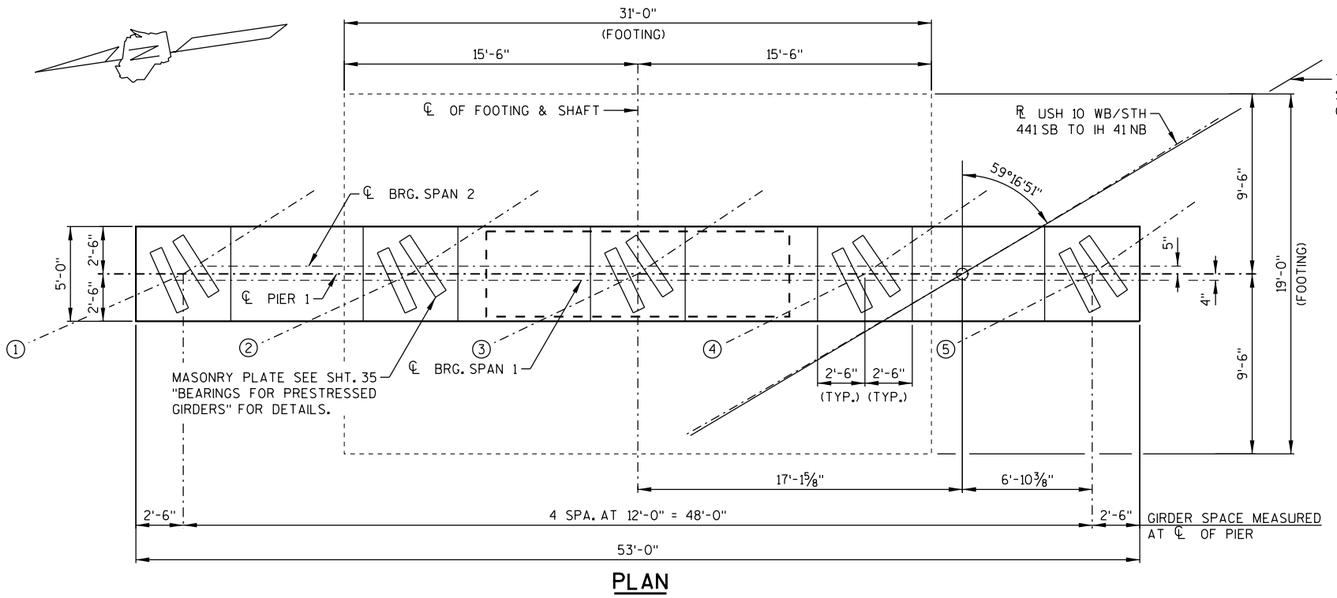

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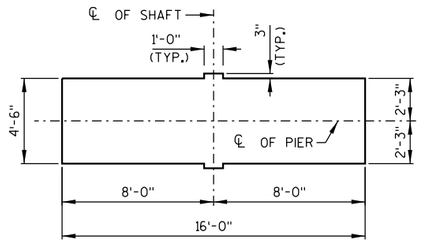
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STATE PROJECT NUMBER

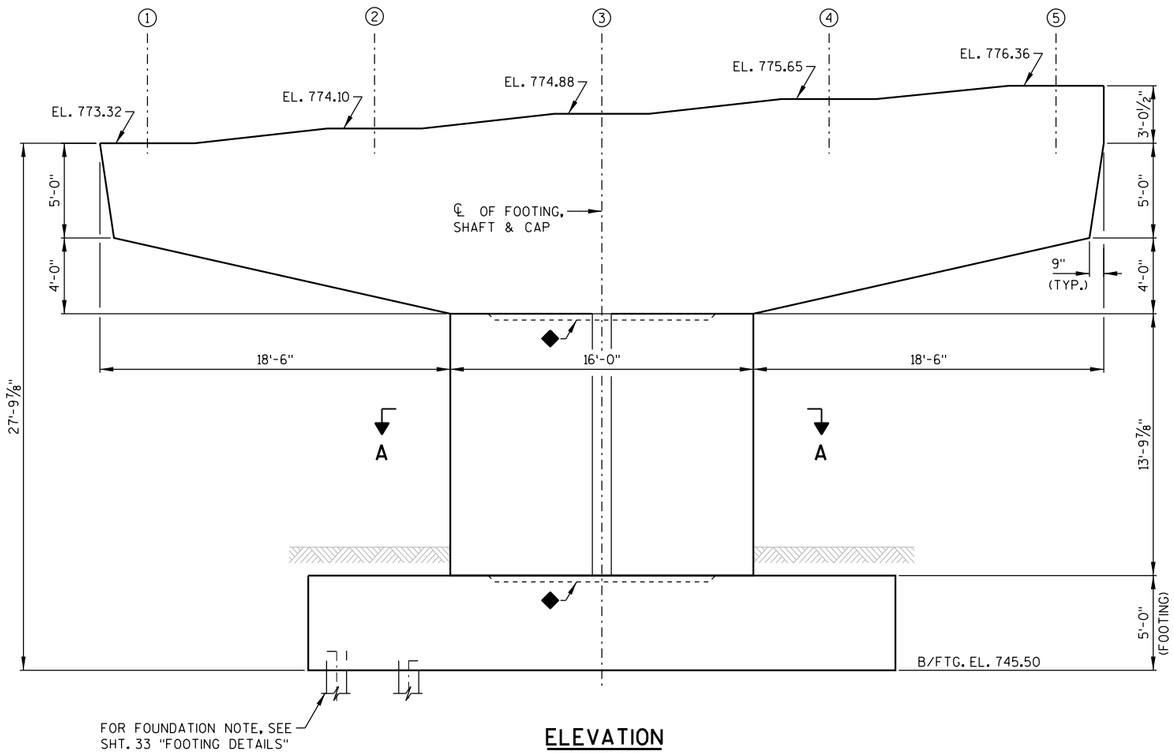
1517-07-77



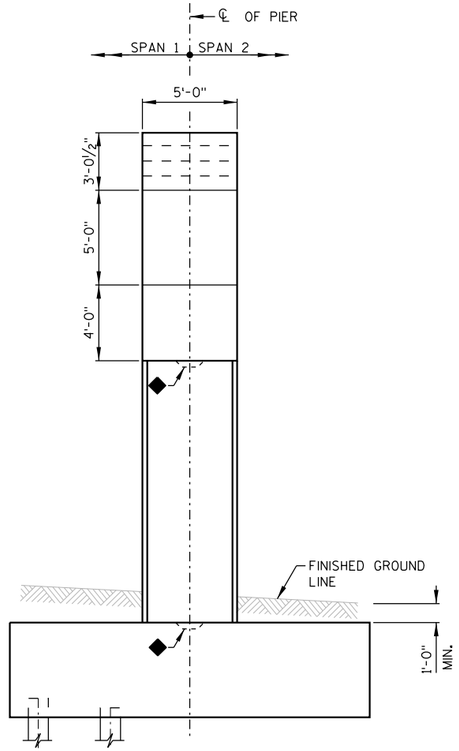

PLAN




SECTION A-A




ELEVATION
(LOOKING UPSTATION)




END VIEW
(HIGH SIDE SHOWN, LOW SIDE SIMILIAR)

## LEGEND

◆ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 4"x1'-6"x12'-0".

## NOTES

FOR BAR STEEL REINFORCEMENT DETAILS, SEE SHT. 34.

FOR FOOTING LAYOUT DETAILS, SEE SHT. 32 "FOOTING DETAILS".

SEE SHT. 61 "AESTHETIC DETAILS" FOR PIER AESTHETICS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

DRAWN BY KAM | PLANS CK'D. MJA

PIER 1
LAYOUT DETAILS

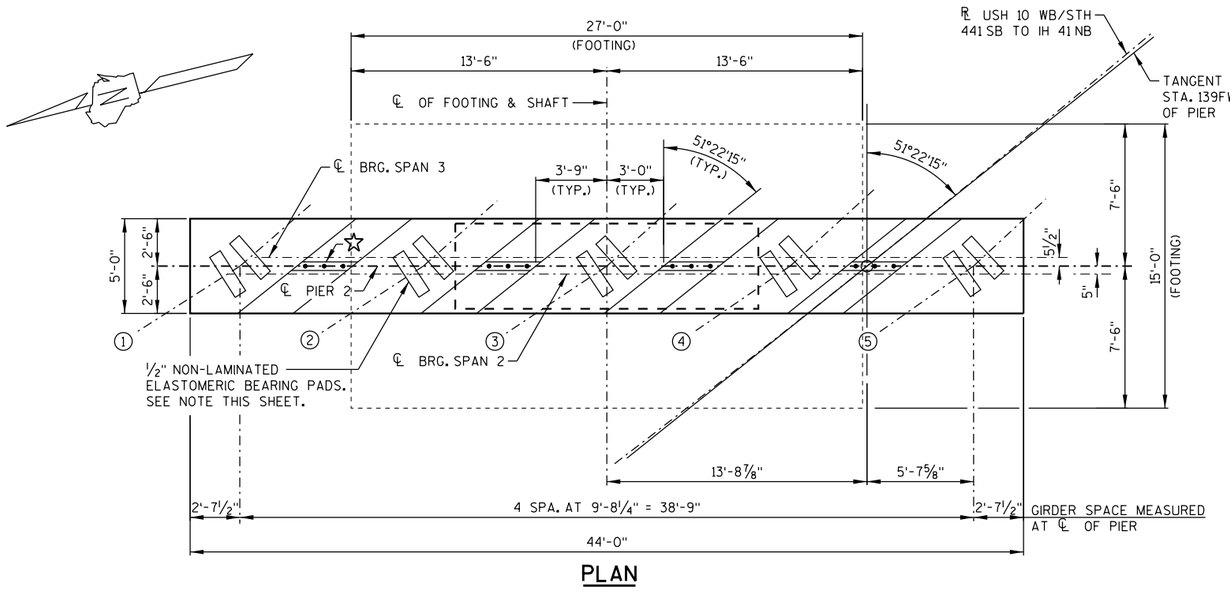
SHEET 15 OF 65
597

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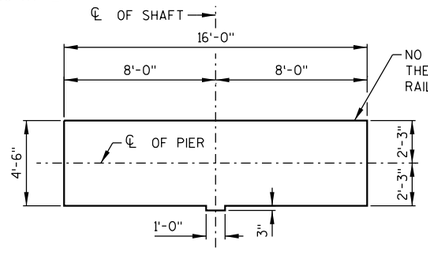
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PLOT DATE: 1/28/2016 PLOT TIME: 8:51:32 AM BATCH PRINT SHEET 16 OF 65

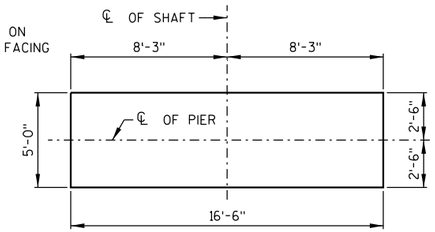




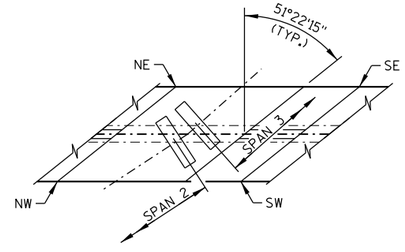

PLAN




SECTION A-A

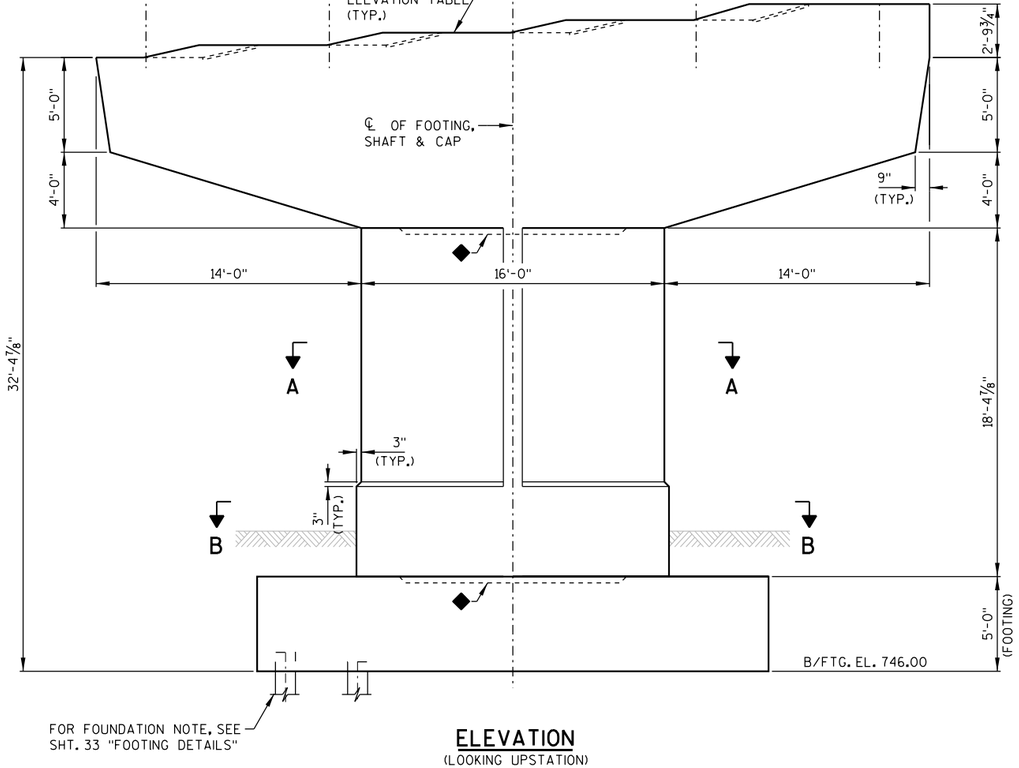



SECTION B-B
(AT PEDESTAL)

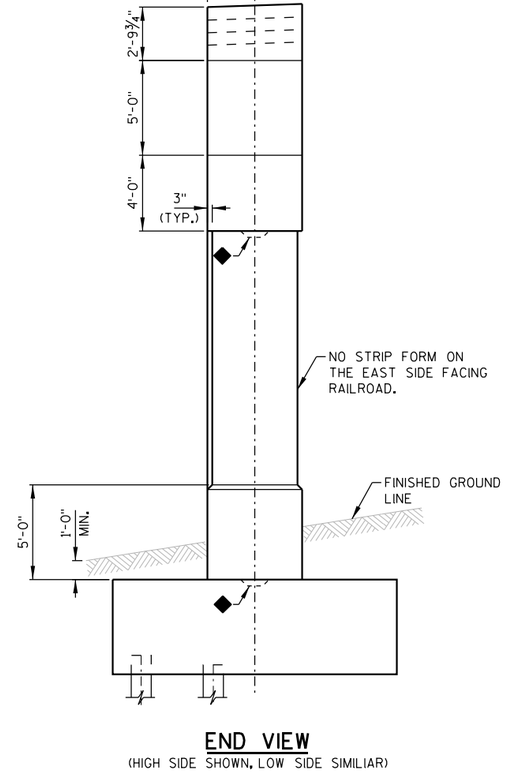



BEAM SEAT ELEVATION

| | NE | NW | SE | SW |
|---|---|---|---|---|
| GIRDER 1 | 778.52 | 778.41 | 778.81 | 778.49 |
| GIRDER 2 | 779.27 | 778.93 | 779.47 | 779.15 |
| GIRDER 3 | 779.93 | 779.59 | 780.13 | 779.81 |
| GIRDER 4 | 780.58 | 780.24 | 780.78 | 780.47 |
| GIRDER 5 | 781.26 | 780.93 | 781.36 | 781.22 |




ELEVATION
(LOOKING UPSTATION)




END VIEW
(HIGH SIDE SHOWN, LOW SIDE SIMILIAR)

## LEGEND

◆ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 4"x1'-6"x12'-0".

☆ KEYED CONSTRUCTION JOINT BETWEEN GIRDERS FORMED BY BEVELED 2"x6", W/. (3) P535 BARS AT 1'-0" CTRS.

## NOTES

FOR BAR STEEL REINFORCEMENT DETAILS, SEE SHT. 34.

FOR FOOTING LAYOUT DETAILS, SEE SHT. 32 "FOOTING DETAILS".

SEE SHT. 61 "AESTHETIC DETAILS" FOR PIER AESTHETICS.

FINISH BEAM SEATS FLAT ACCORDING TO ELEVATIONS GIVEN ON "BEAM SEAT ELEVATION" TABLE.

SEE SHT. 48 "SUPERSTRUCTURE DETAILS" FOR DETAILS OF BEARING PADS AND PREFORM FILLER.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

DRAWN BY KAM | PLANS CK'D. MJA

PIER 2
LAYOUT DETAILS

SHEET 16 OF 65
598

8

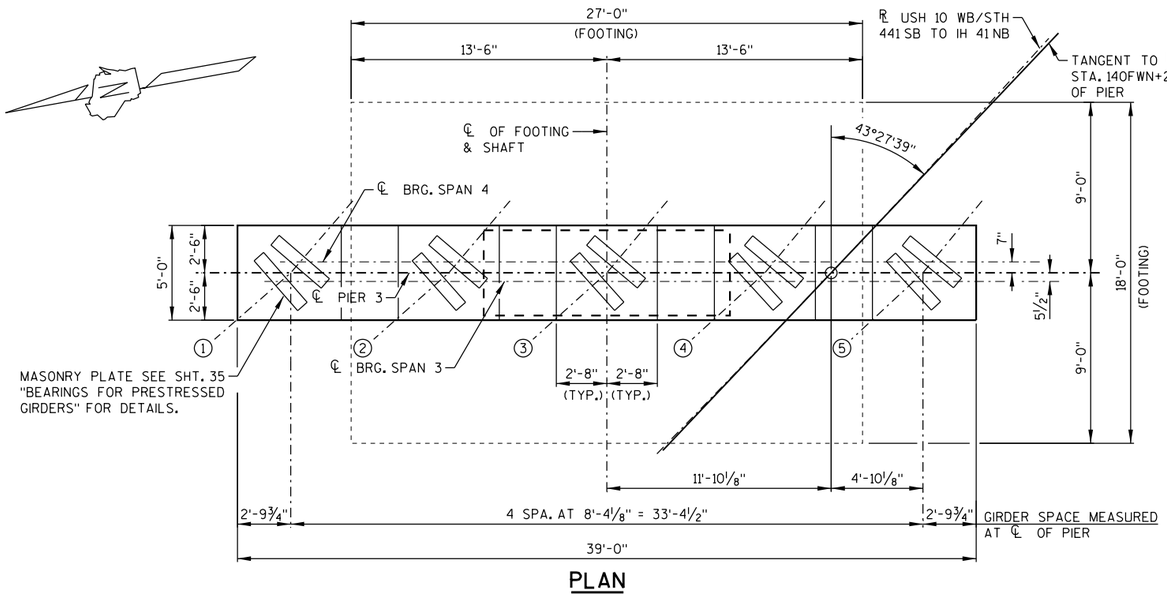
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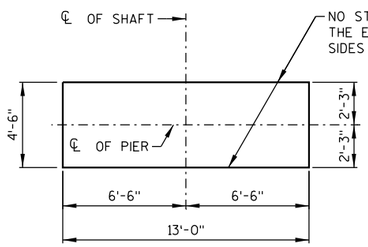
STATE PROJECT NUMBER

1517-07-77

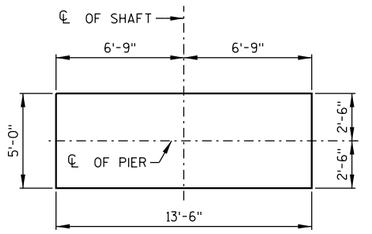




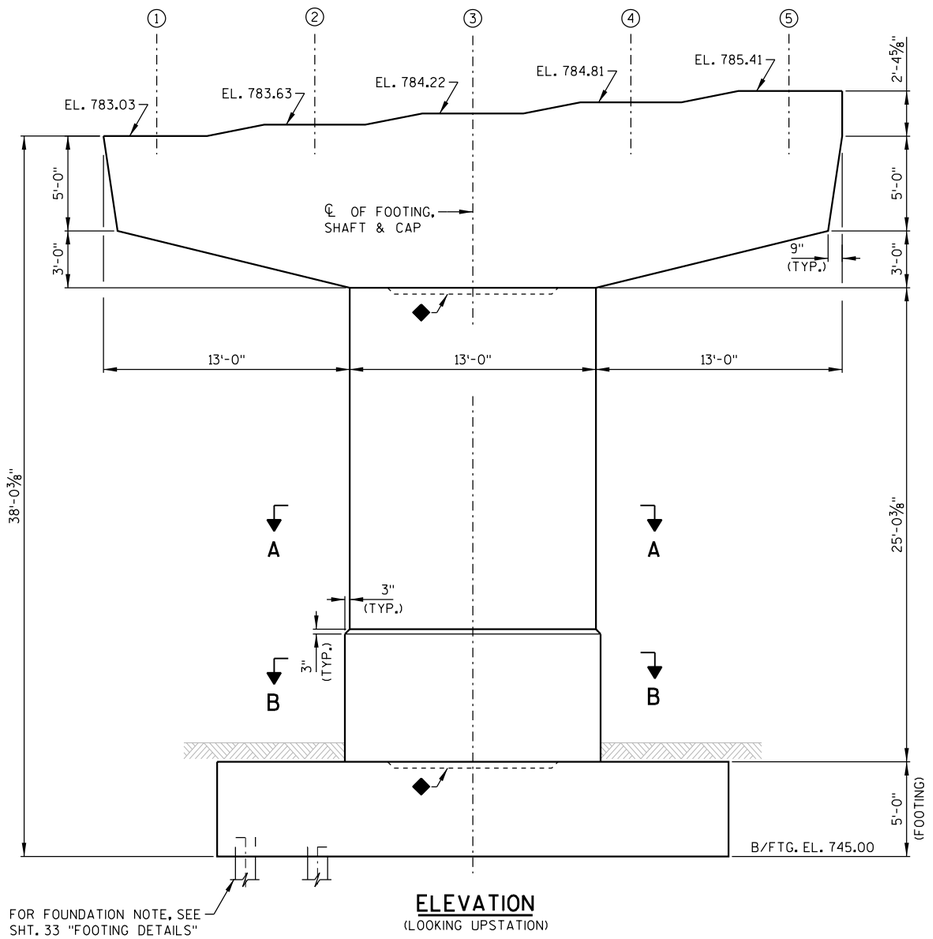

## PLAN



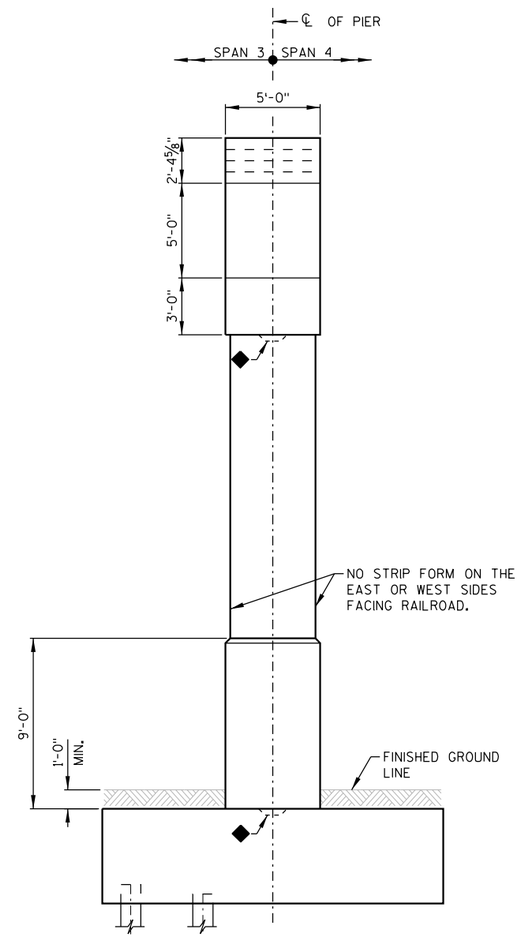

## SECTION A-A




## SECTION B-B
(AT PEDESTAL)




## ELEVATION
(LOOKING UPSTATION)




## END VIEW
(HIGH SIDE SHOWN, LOW SIDE SIMILIAR)

## LEGEND

◆ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 4"x1'-6"x9'-0".

## NOTES

FOR BAR STEEL REINFORCEMENT DETAILS, SEE SHT. 34.

FOR FOOTING LAYOUT DETAILS, SEE SHT. 32 "FOOTING DETAILS".

SEE SHT. 61 "AESTHETIC DETAILS" FOR PIER AESTHETICS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

DRAWN BY KAM | PLANS CK'D. MJA

PIER 3
LAYOUT DETAILS

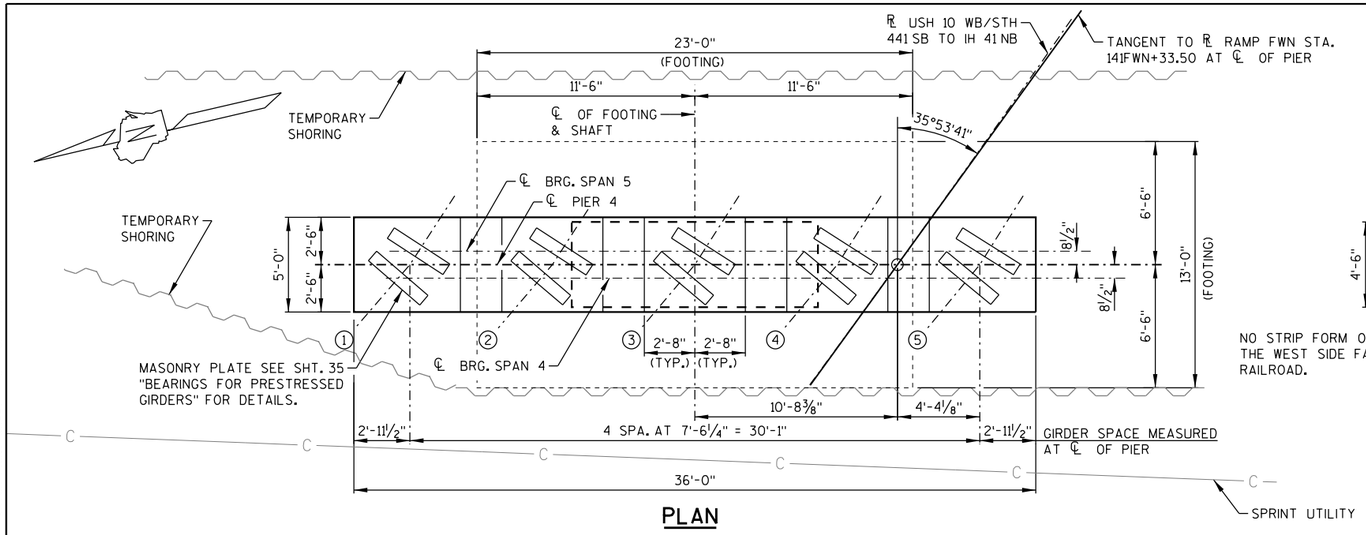
SHEET 17 OF 65
599

8

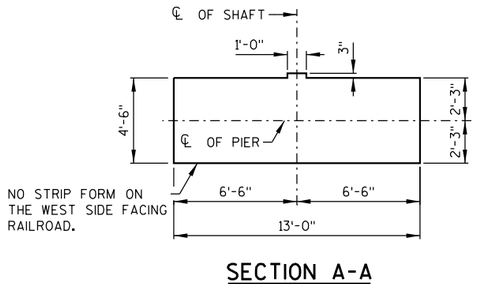
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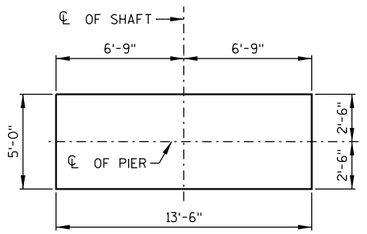
| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |



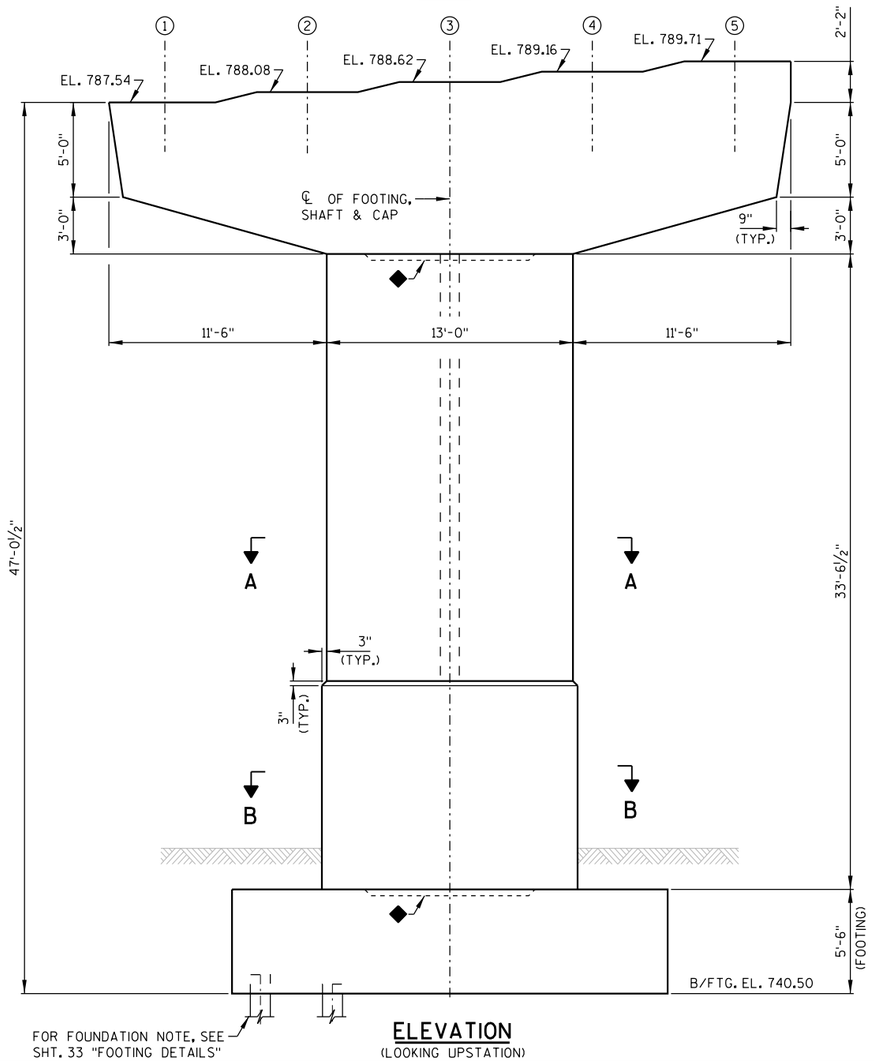

## PLAN



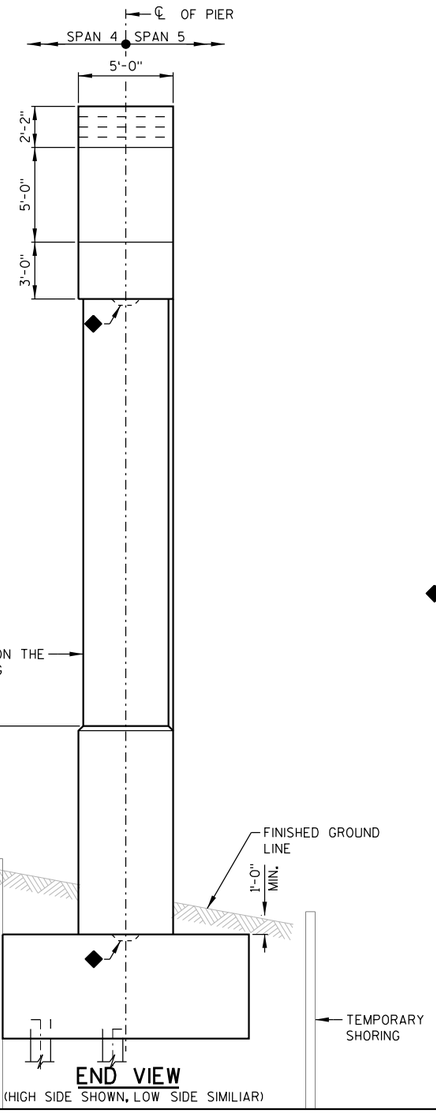

## SECTION A-A




## SECTION B-B
(AT PEDESTAL)




## ELEVATION
(LOOKING UPSTATION)




## END VIEW
(HIGH SIDE SHOWN, LOW SIDE SIMILIAR)

## LEGEND

◆ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 4"x1'-6"x9'-0".

## NOTES

FOR BAR STEEL REINFORCEMENT DETAILS, SEE SHT. 34.

FOR FOOTING LAYOUT DETAILS, SEE SHT. 32 "FOOTING DETAILS".

SEE SHT. 61 "AESTHETIC DETAILS" FOR PIER AESTHETICS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

| DRAWN BY | KAM | PLANS CK'D. | MJA |
|---|---|---|---|

PIER 4
LAYOUT DETAILS

SHEET 18 OF 65
600

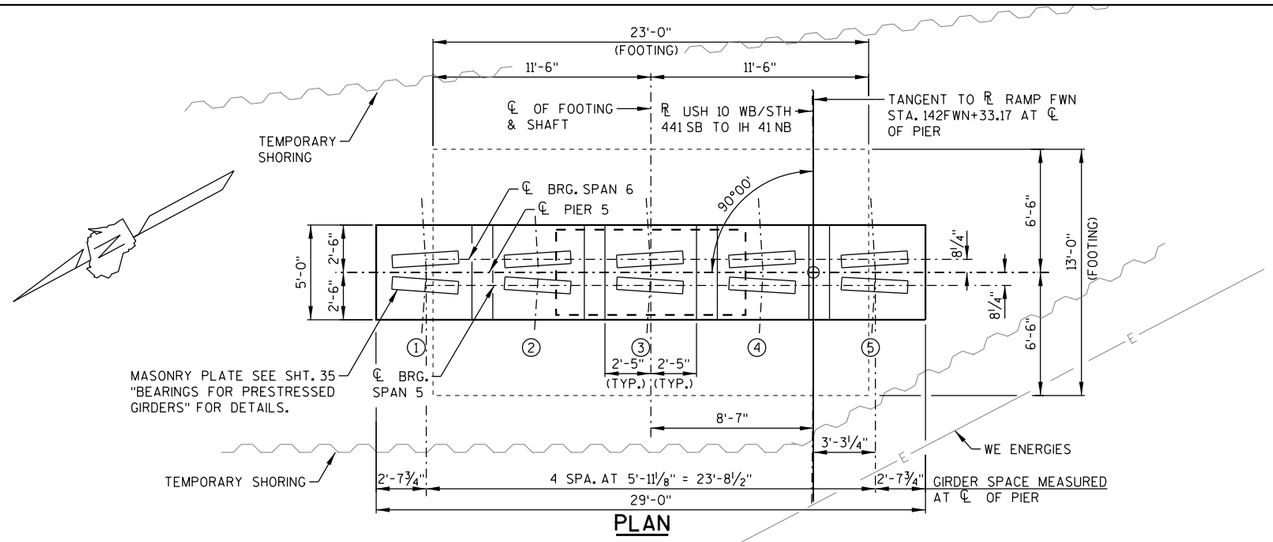
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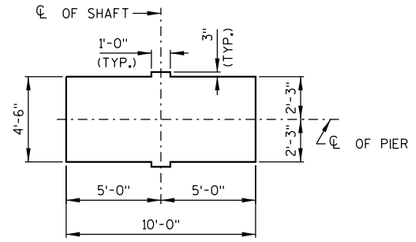
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STATE PROJECT NUMBER

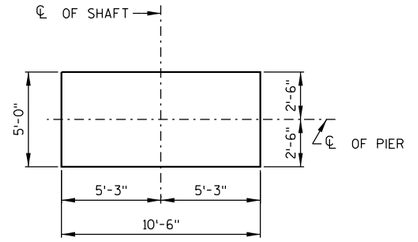
1517-07-77



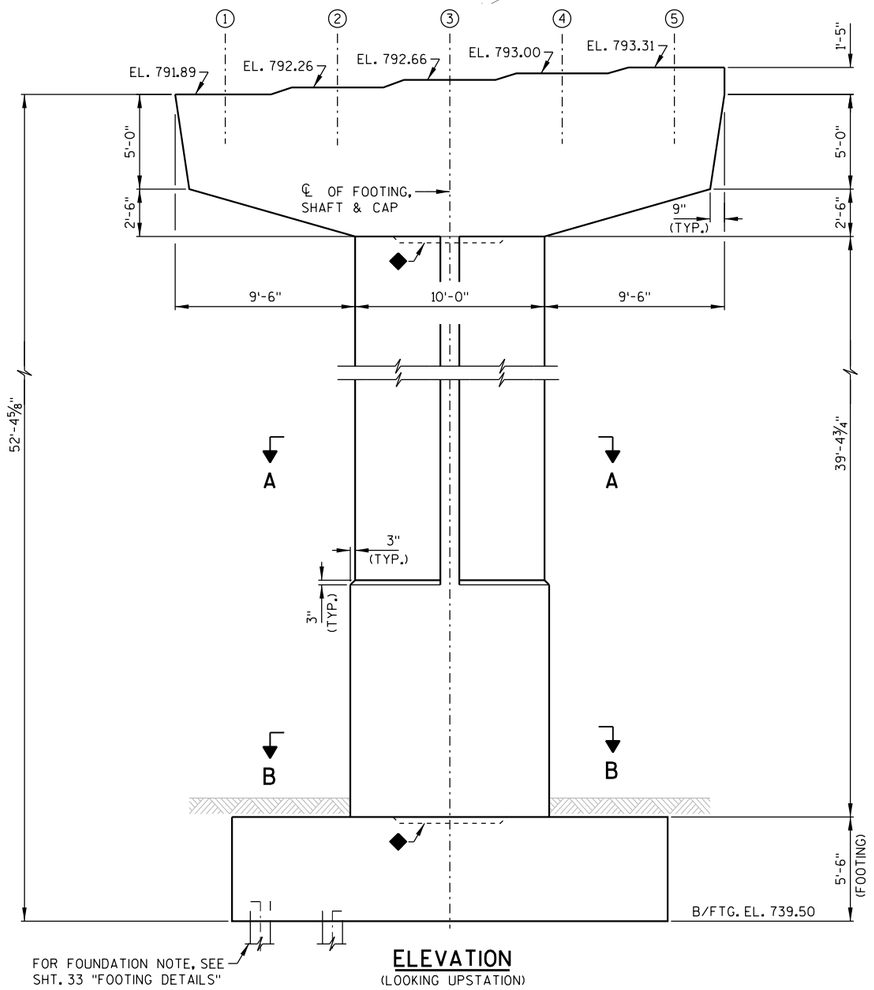

PLAN



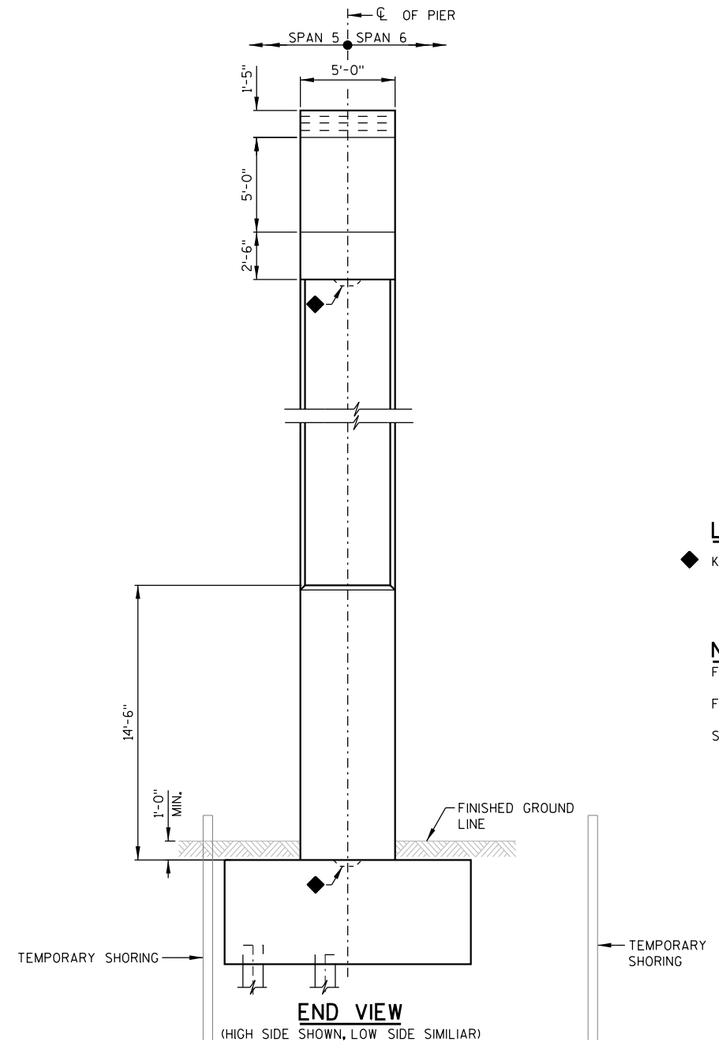

SECTION A-A




SECTION B-B
(AT PEDESTAL)




ELEVATION
(LOOKING UPSTATION)




END VIEW
(HIGH SIDE SHOWN, LOW SIDE SIMILIAR)

## LEGEND

◆ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 4"x1'-6"x6'-0".

## NOTES

FOR BAR STEEL REINFORCEMENT DETAILS, SEE SHT. 34.

FOR FOOTING LAYOUT DETAILS, SEE SHT. 33 "FOOTING DETAILS".

SEE SHT. 61 "AESTHETIC DETAILS" FOR PIER AESTHETICS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

DRAWN BY KAM | PLANS CK'D. MJA

PIER 5
LAYOUT DETAILS

SHEET 19 OF 65
601

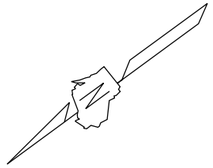
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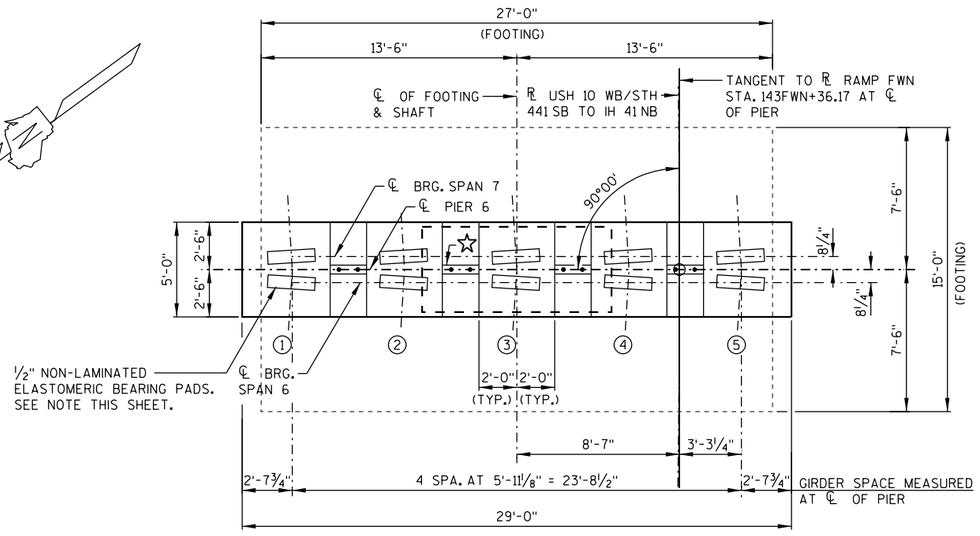
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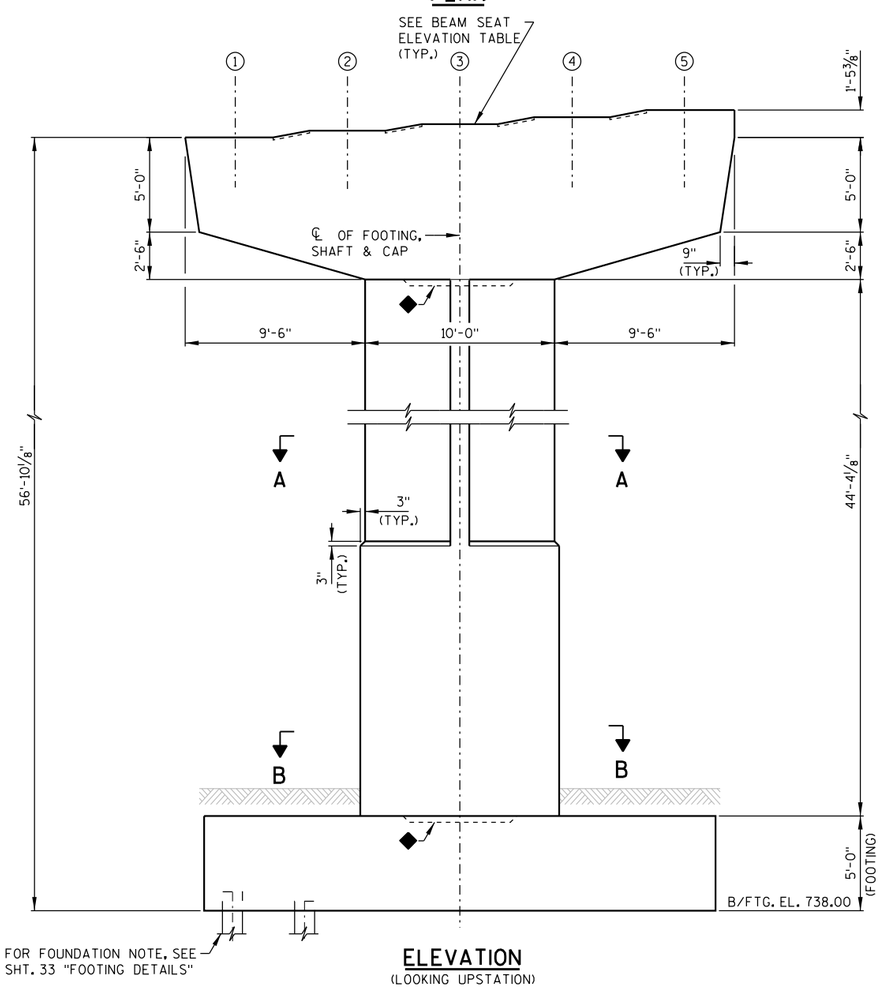
STATE PROJECT NUMBER

1517-07-77

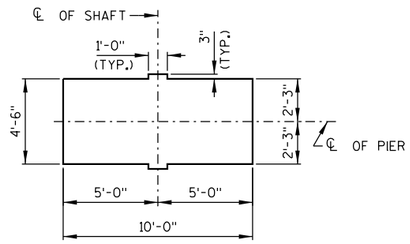




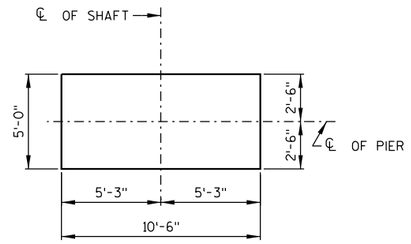

PLAN



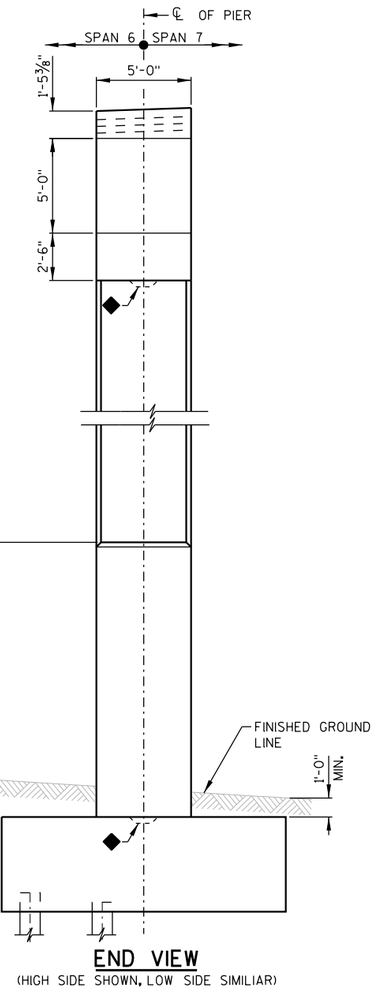

ELEVATION
(LOOKING UPSTATION)



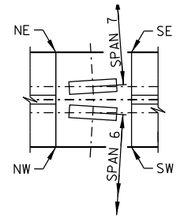

SECTION A-A




SECTION B-B
(AT PEDESTAL)




END VIEW
(HIGH SIDE SHOWN, LOW SIDE SIMILIAR)




BEAM SEAT ELEVATION

| | NE | NW | SE | SW |
|---|---|---|---|---|
| GIRDER 1 | 794.96 | 794.84 | 794.96 | 794.84 |
| GIRDER 2 | 795.34 | 795.22 | 795.34 | 795.22 |
| GIRDER 3 | 795.69 | 795.58 | 795.69 | 795.58 |
| GIRDER 4 | 796.05 | 795.94 | 796.05 | 795.94 |
| GIRDER 5 | 796.41 | 796.29 | 796.41 | 796.29 |

## LEGEND

◆ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 4"x1'-6"x6'-0".

☆ KEYED CONSTRUCTION JOINT BETWEEN GIRDERS FORMED BY BEVELED 2"x6", W/. (2) P535 BARS AT 1'-0" CTRS.

## NOTES

FOR BAR STEEL REINFORCEMENT DETAILS, SEE SHT. 34.

FOR FOOTING LAYOUT DETAILS, SEE SHT. 33 "FOOTING DETAILS".

SEE SHT. 61 "AESTHETIC DETAILS" FOR PIER AESTHETICS.

FINISH BEAM SEATS FLAT ACCORDING TO ELEVATIONS GIVEN ON "BEAM SEAT ELEVATION" TABLE.

SEE SHT. 48 "SUPERSTRUCTURE DETAILS" FOR DETAILS OF BEARING PADS AND PREFORM FILLER.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

DRAWN BY KAM | PLANS CK'D. MJA

PIER 6
LAYOUT DETAILS

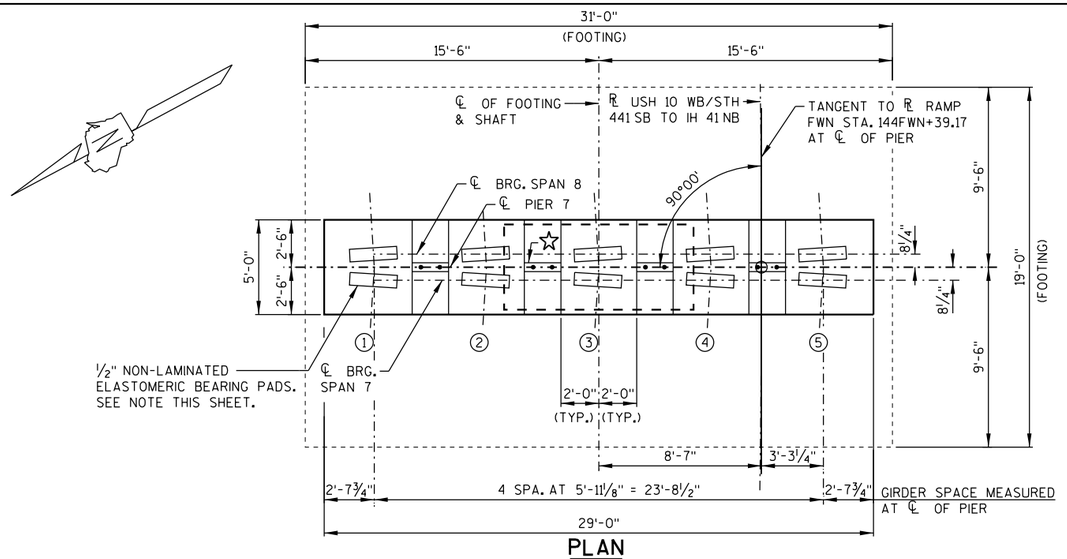
SHEET 20 OF 65
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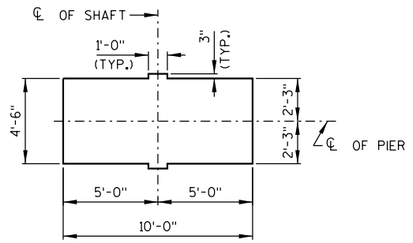
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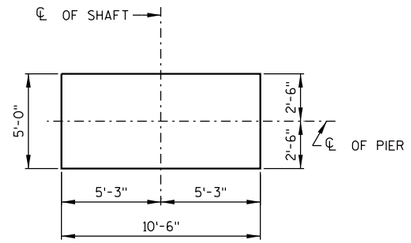




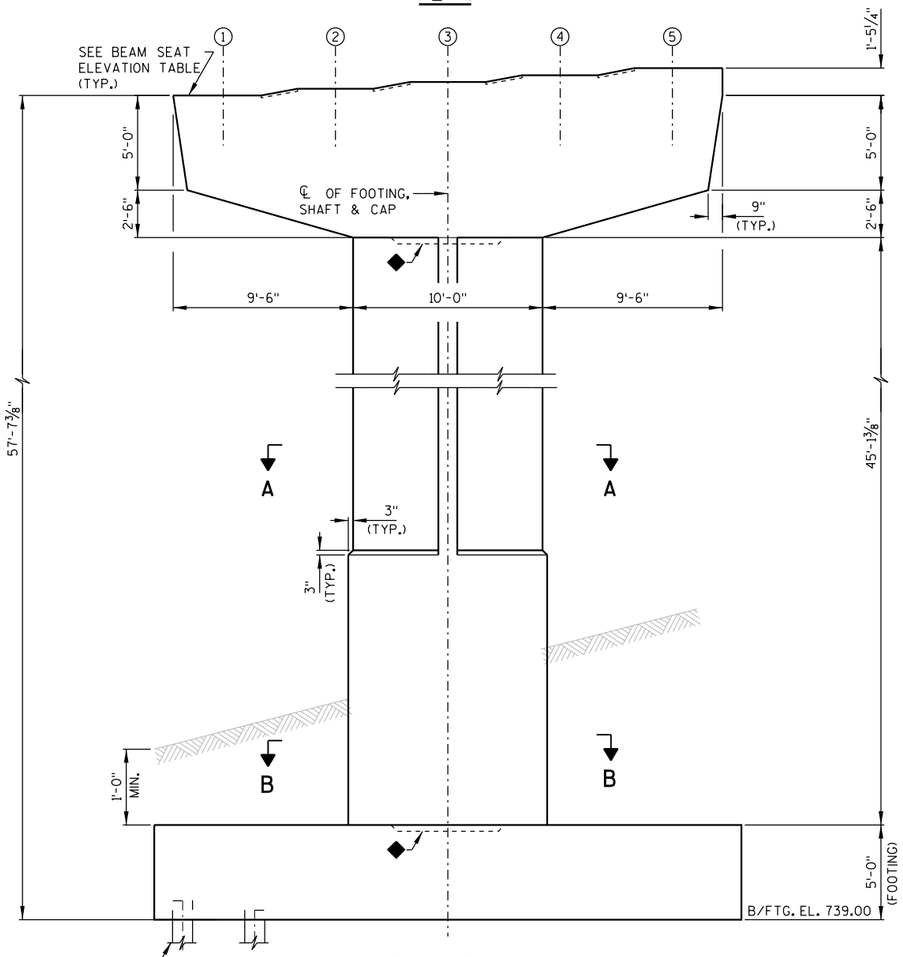

## PLAN



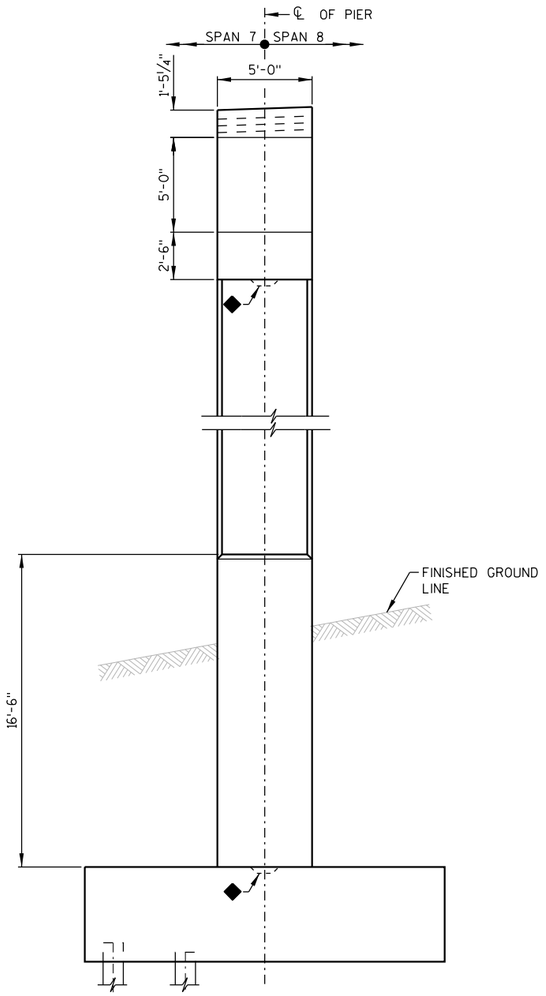

## SECTION A-A



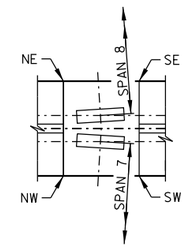

## SECTION B-B
(AT PEDESTAL)




## ELEVATION
(LOOKING UPSTATION)




## END VIEW
(HIGH SIDE SHOWN, LOW SIDE SIMILIAR)




## BEAM SEAT ELEVATION

| | NE | NW | SE | SW |
|---|---|---|---|---|
| GIRDER 1 | 796.67 | 796.61 | 796.67 | 796.61 |
| GIRDER 2 | 797.05 | 796.98 | 797.05 | 796.98 |
| GIRDER 3 | 797.40 | 797.34 | 797.40 | 797.34 |
| GIRDER 4 | 797.76 | 797.70 | 797.76 | 797.70 |
| GIRDER 5 | 798.12 | 798.05 | 798.12 | 798.05 |

## LEGEND

◆ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 4"x1'-6"x6'-0".

☆ KEYED CONSTRUCTION JOINT BETWEEN GIRDERS FORMED BY BEVELED 2"x6", W/ (2) P535 BARS AT 1'-0" CTRS.

## NOTES

FOR BAR STEEL REINFORCEMENT DETAILS, SEE SHT. 34.

FOR FOOTING LAYOUT DETAILS, SEE SHT. 33 "FOOTING DETAILS".

SEE SHT. 61 "AESTHETIC DETAILS" FOR PIER AESTHETICS.

FINISH BEAM SEATS FLAT ACCORDING TO ELEVATIONS GIVEN ON "BEAM SEAT ELEVATION" TABLE.

SEE SHT. 48 "SUPERSTRUCTURE DETAILS" FOR DETAILS OF BEARING PADS AND PREFORM FILLER.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

DRAWN BY KAM | PLANS CK'D. MJA

PIER 7
LAYOUT DETAILS

SHEET 21 OF 65
603

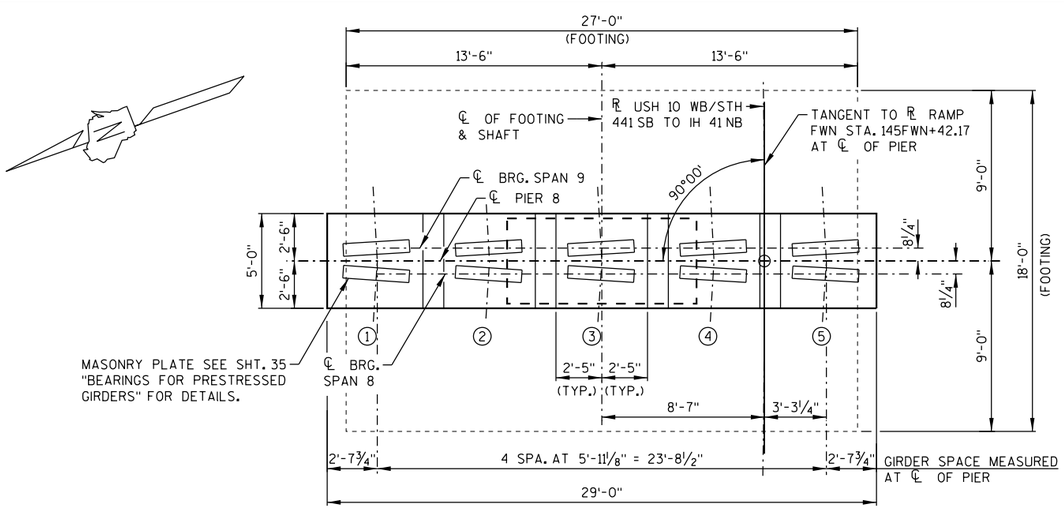
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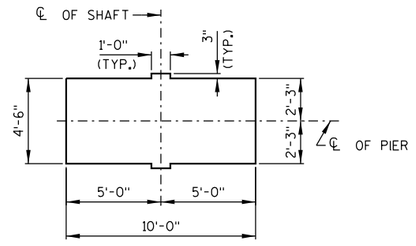
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STATE PROJECT NUMBER

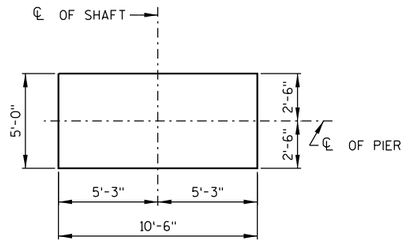
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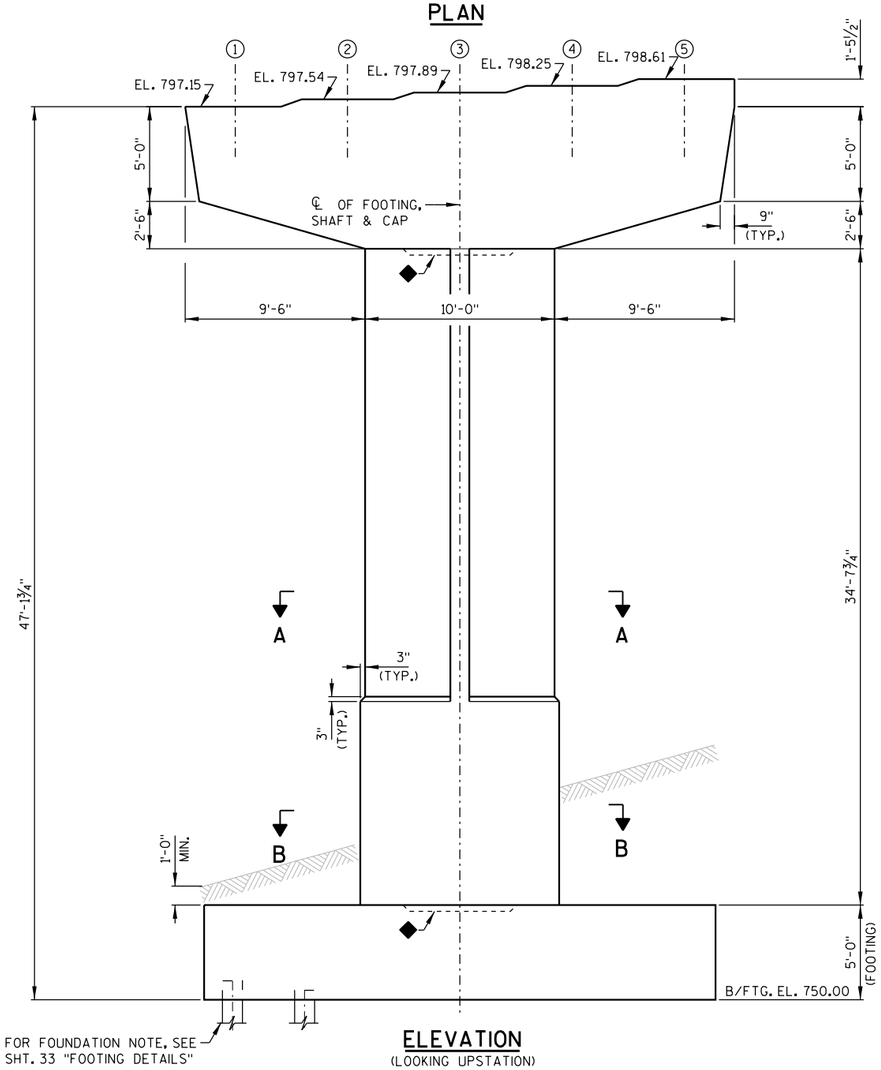

## PLAN



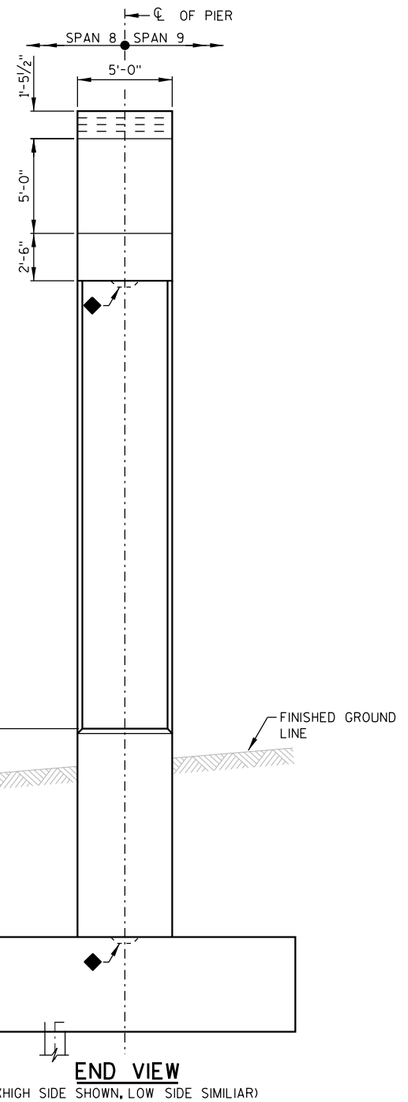

## SECTION A-A




## SECTION B-B
(AT PEDESTAL)




## ELEVATION
(LOOKING UPSTATION)




## END VIEW
(HIGH SIDE SHOWN, LOW SIDE SIMILIAR)

## LEGEND

◆ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 4"x1'-6"x6'-0".

## NOTES

FOR BAR STEEL REINFORCEMENT DETAILS, SEE SHT. 34.

FOR FOOTING LAYOUT DETAILS, SEE SHT. 33 "FOOTING DETAILS".

SEE SHT. 61 "AESTHETIC DETAILS" FOR PIER AESTHETICS.

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|---|---|---|---|

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

DRAWN BY KAM | PLANS CK'D. MJA

PIER 8
LAYOUT DETAILS

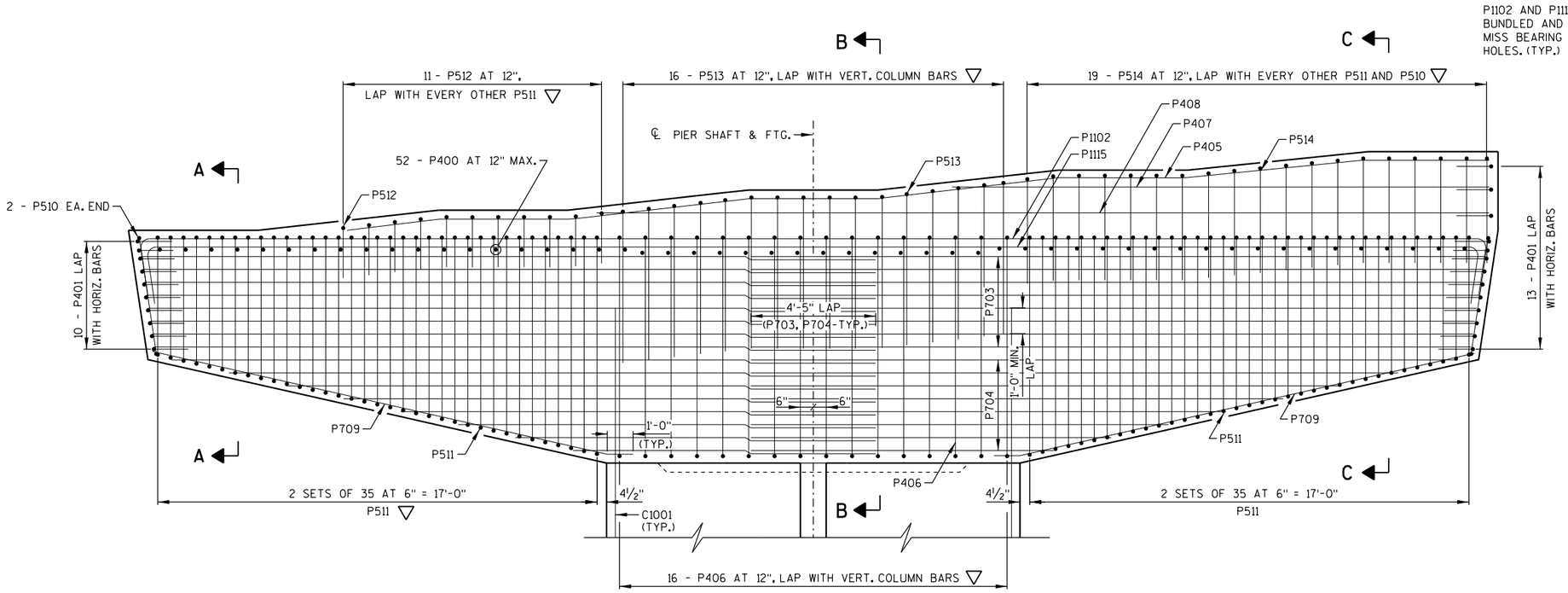
SHEET 22 OF 65
604

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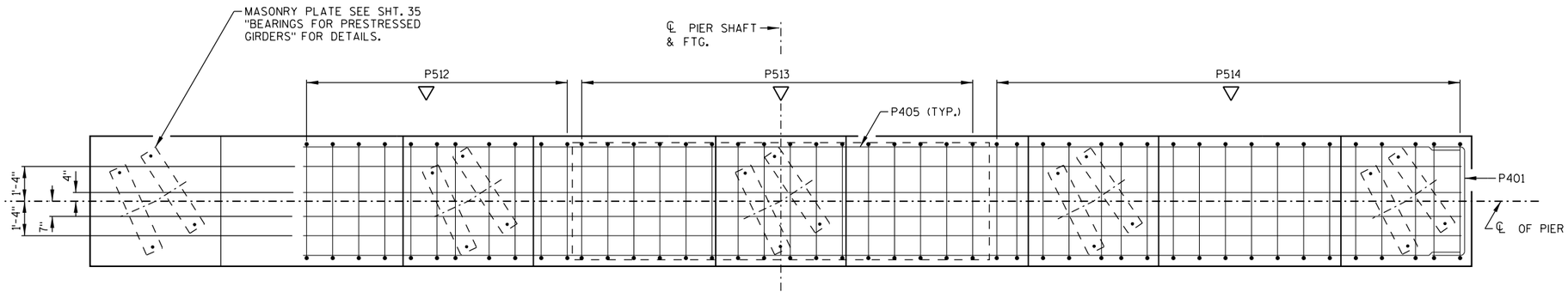
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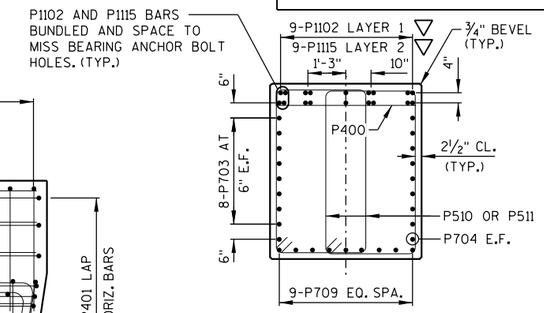



## ELEVATION

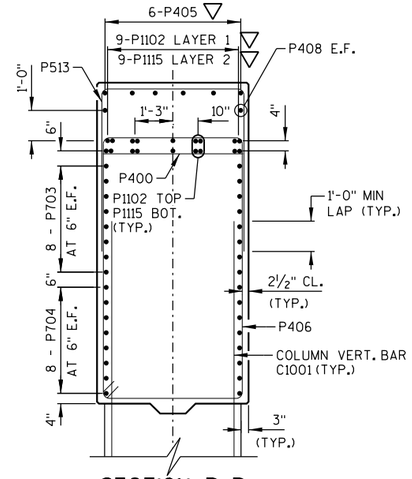
(LOOKING UPSTATION)



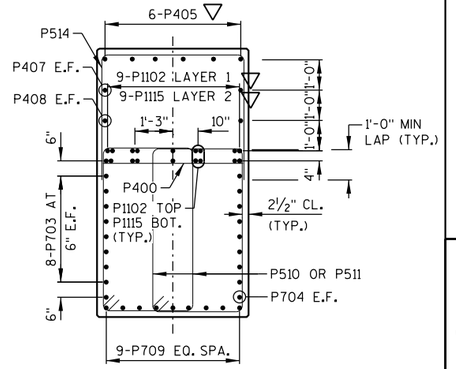

## PLAN




## SECTION A-A




## SECTION B-B




## SECTION C-C

WIRED TOGETHER AT 2'-0" CENTERS.

## BUNDLING DETAIL

BUNDLE P1102 & P1115 BARS

## LEGEND

▽ PLACE REINFORCEMENT STEEL BARS TO MISS BEARING ANCHOR BOLT HOLES.

## NOTE

LAP #7 BARS MIN. 4'-5"

SEE SHT. 15 "PIER 1 LAYOUT DETAILS" FOR PIER GEOMETRY AND ELEVATIONS.

SEE SHT. 34 "BILL OF BARS" FOR PIER CAP BAR STEEL REINFORCEMENT DETAILS.

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

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PIER CAP DETAILS
PIER 1

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605

8

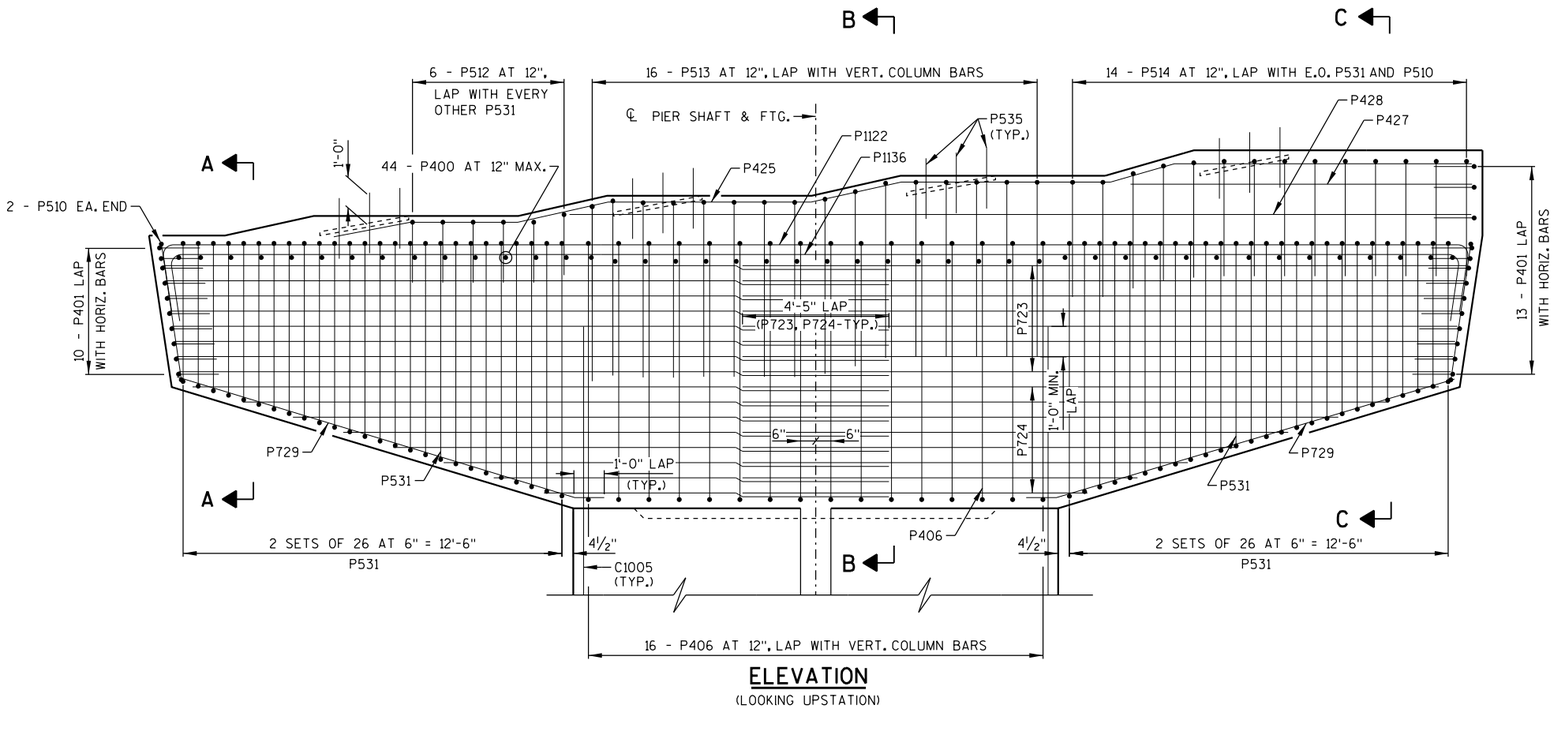
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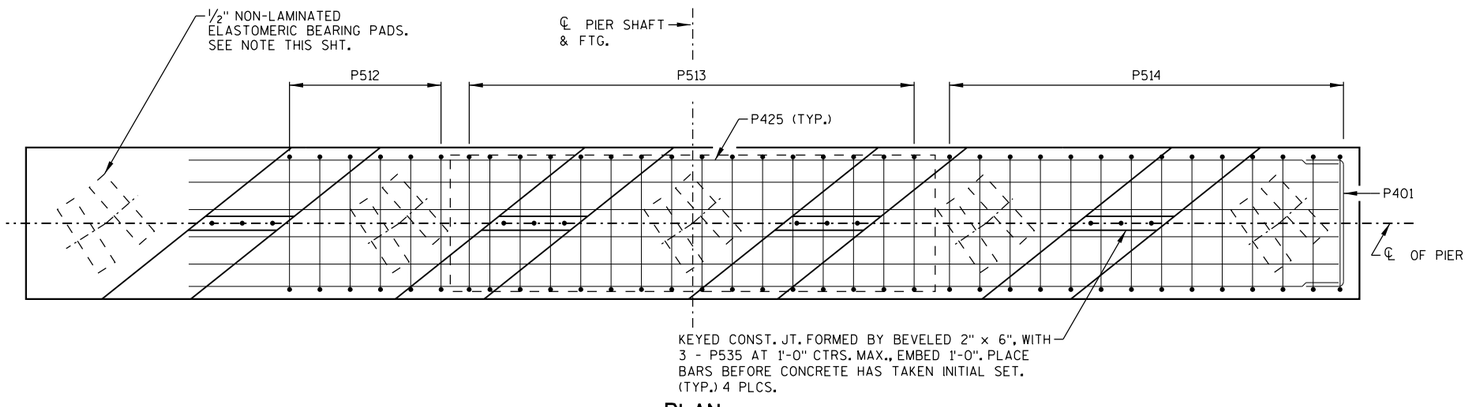
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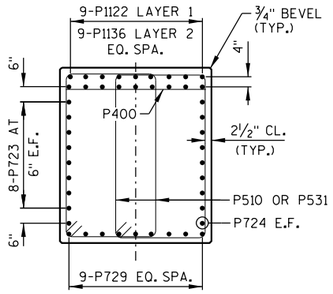
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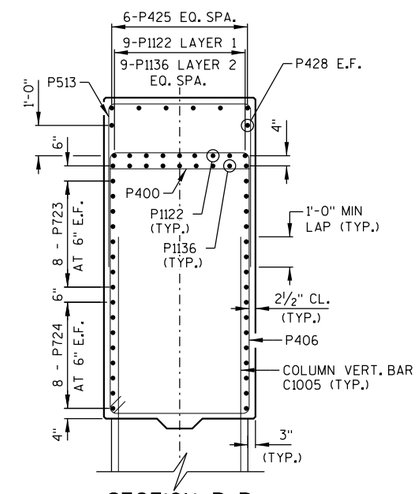

## ELEVATION
(LOOKING UPSTATION)



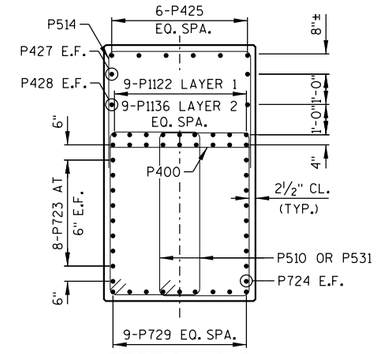

## PLAN




## SECTION A-A




## SECTION B-B




## SECTION C-C

## NOTE

LAP #7 BARS MIN. 4'-5"

SEE SHT. 16 "PIER 2 LAYOUT DETAILS" FOR PIER GEOMETRY AND ELEVATIONS.

SEE SHT. 34 "BILL OF BARS" FOR PIER CAP BAR STEEL REINFORCEMENT DETAILS.

SEE SHT. 48 "SUPERSTRUCTURE DETAILS" FOR DETAILS OF BEARING PADS AND PREFORM FILLER.

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

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PIER CAP DETAILS
PIER 2

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606

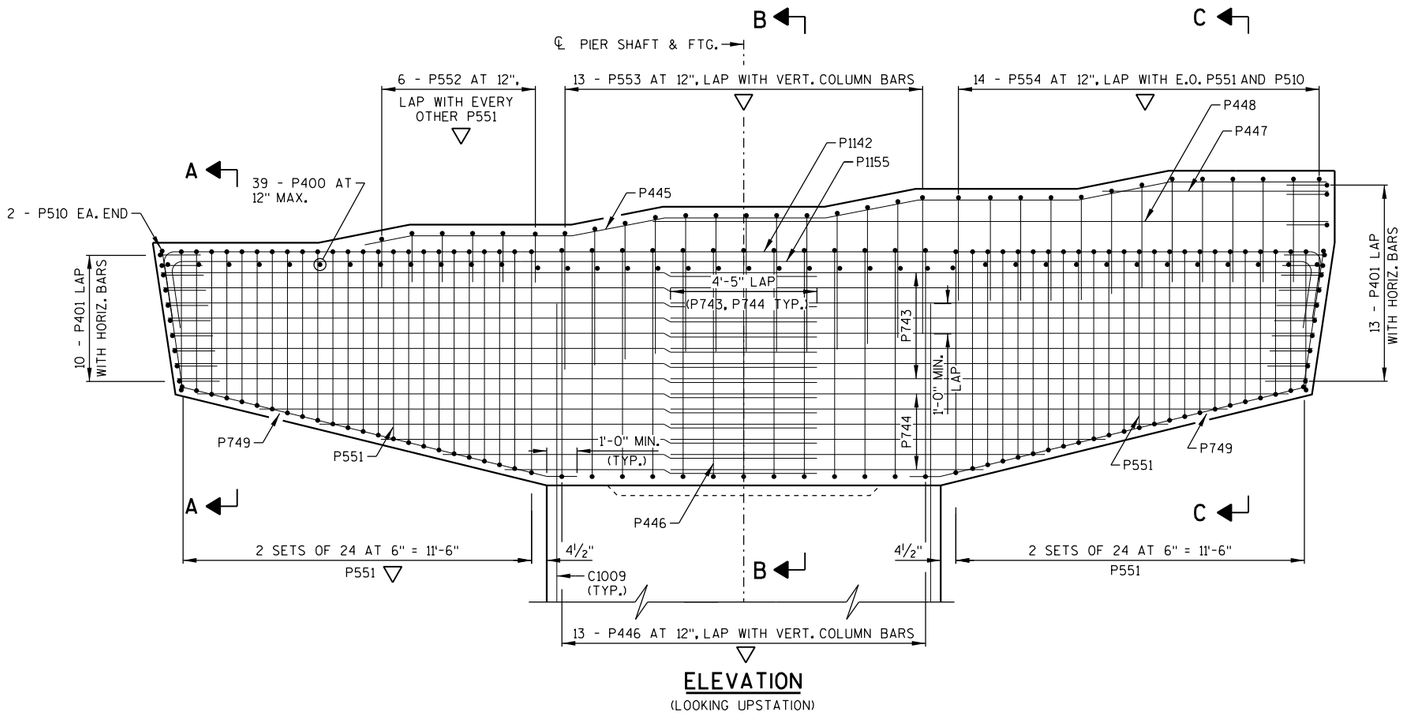
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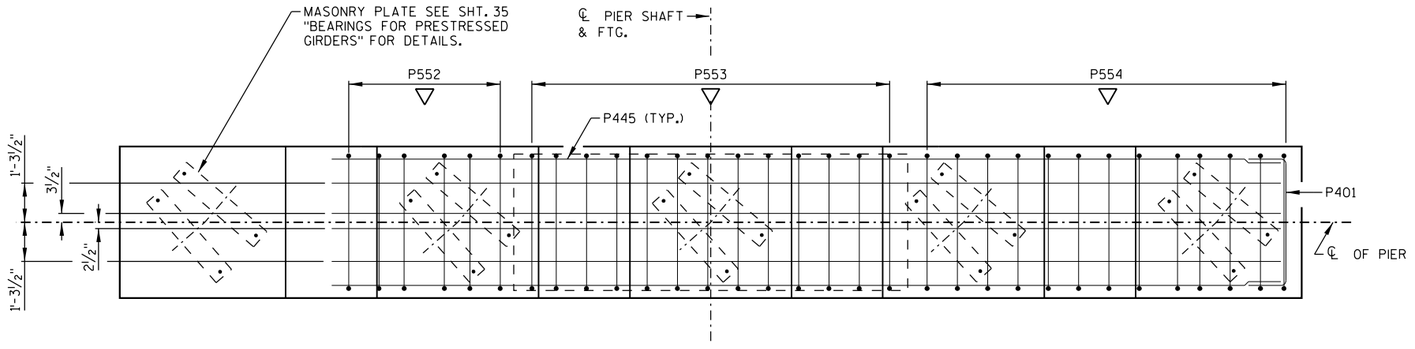
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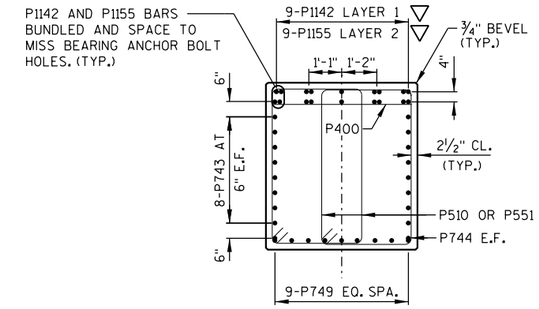



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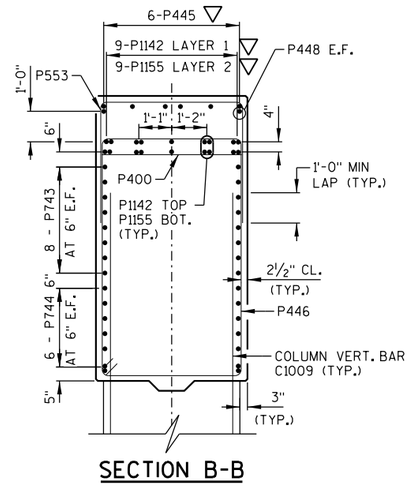
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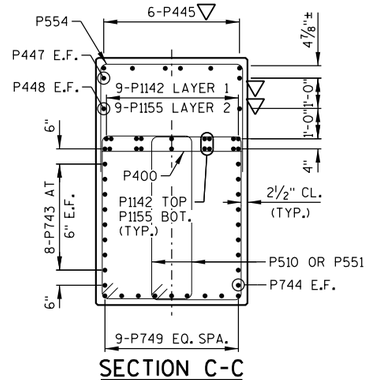

## PLAN




## SECTION A-A




## SECTION B-B




## SECTION C-C

WIRED TOGETHER AT 2'-0" CENTERS.

## BUNDLING DETAIL

BUNDLE P1142 & P1155 BARS

## LEGEND

▽ PLACE REINFORCEMENT STEEL BARS TO MISS BEARING ANCHOR BOLT HOLES.

## NOTE

LAP #7 BARS MIN. 4'-5"

SEE SHT. 17 "PIER 3 LAYOUT DETAILS" FOR PIER GEOMETRY AND ELEVATIONS.

SEE SHT. 34 "BILL OF BARS" FOR PIER CAP BAR STEEL REINFORCEMENT DETAILS.

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STATE OF WISCONSIN
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STRUCTURE B-70-406

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PIER CAP DETAILS PIER 3

SHEET 25 OF 65

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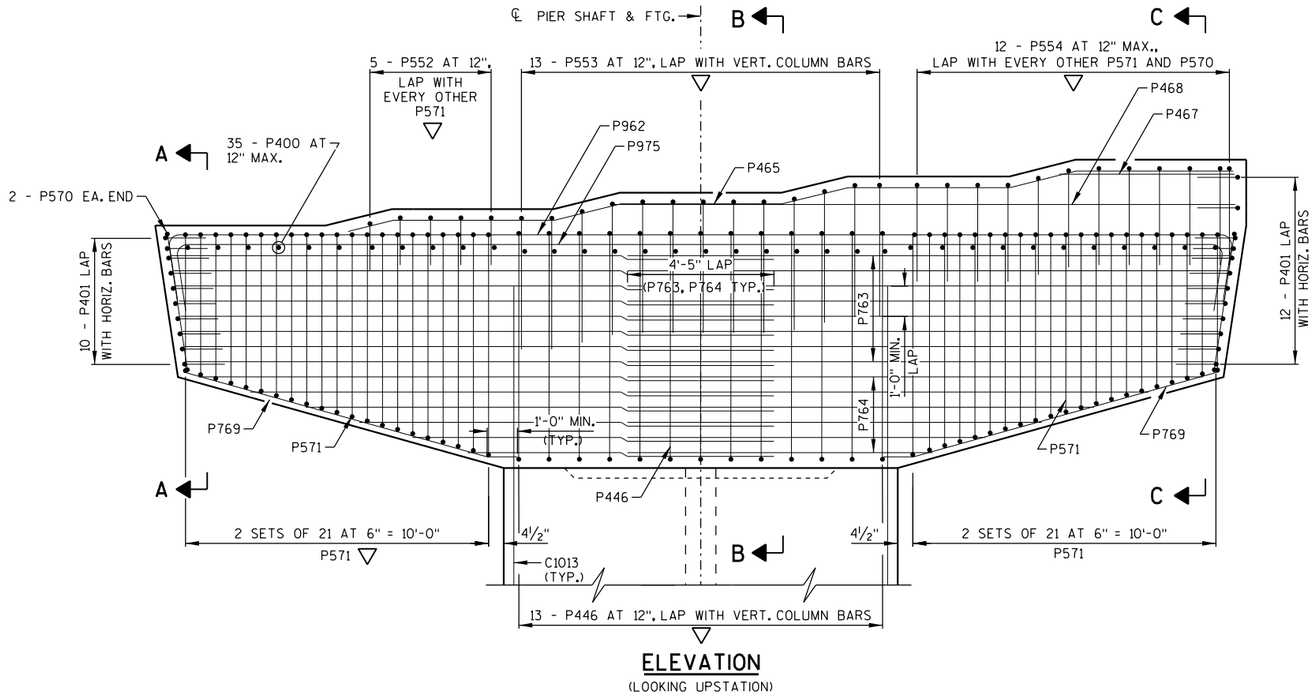
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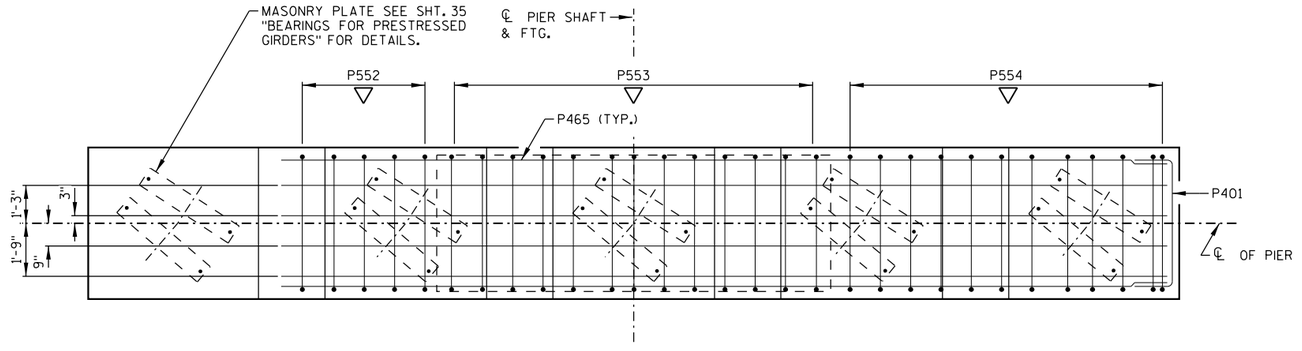
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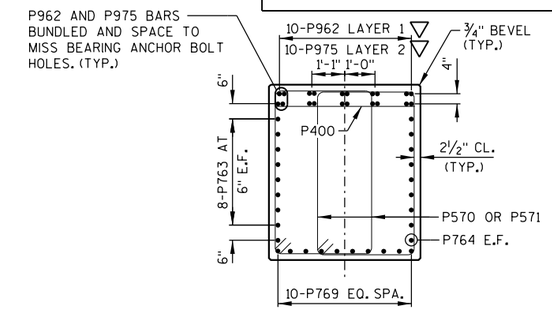
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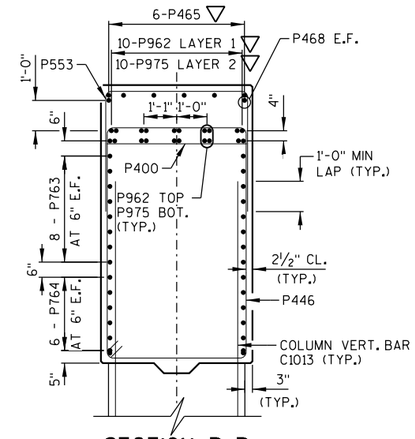

## ELEVATION
(LOOKING UPSTATION)



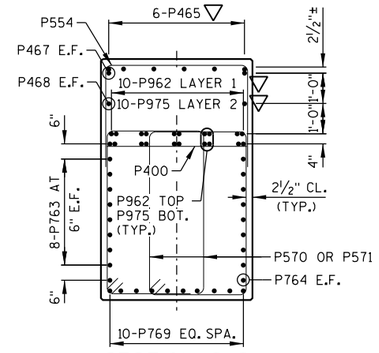

## PLAN




## SECTION A-A




## SECTION B-B




## SECTION C-C

WIRED TOGETHER AT 2'-0" CENTERS.

## BUNDLING DETAIL
BUNDLE P962 & P975 BARS

## LEGEND
▽ PLACE REINFORCEMENT STEEL BARS TO MISS BEARING ANCHOR BOLT HOLES.

## NOTE
LAP #7 BARS MIN. 4'-5"

SEE SHT. 18 "PIER 4 LAYOUT DETAILS" FOR PIER GEOMETRY AND ELEVATIONS.

SEE SHT. 34 "BILL OF BARS" FOR PIER CAP BAR STEEL REINFORCEMENT DETAILS.

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STATE OF WISCONSIN
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STRUCTURE B-70-406

| DRAWN BY | KAM | PLANS CK'D. | MJA |
|---|---|---|---|

PIER CAP DETAILS
PIER 4

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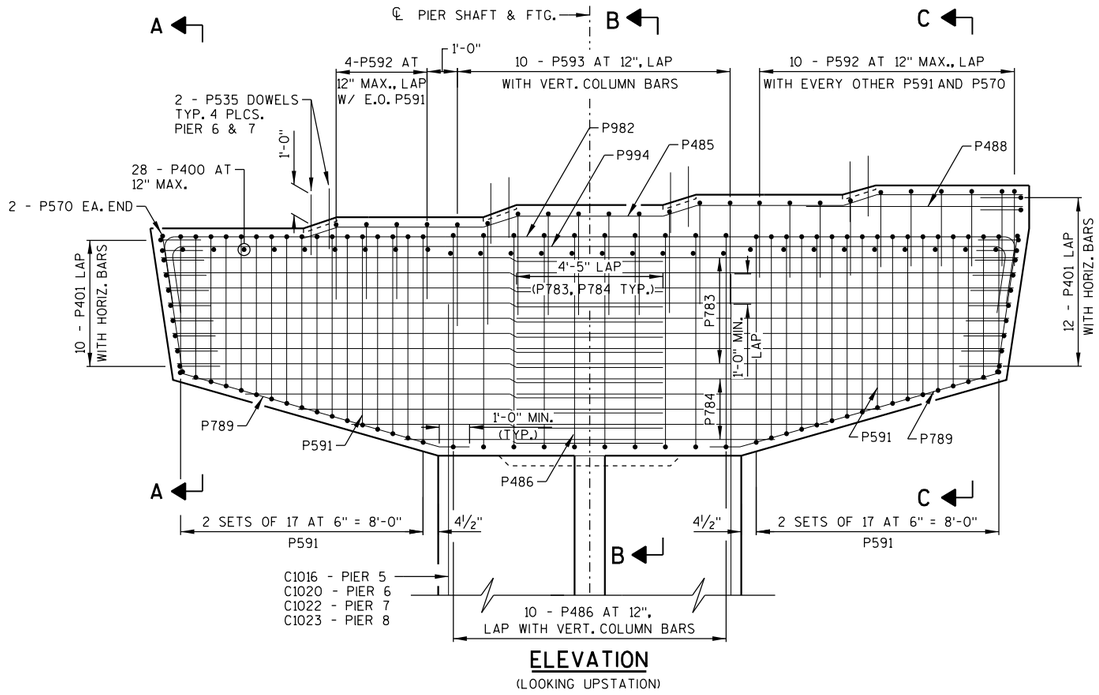
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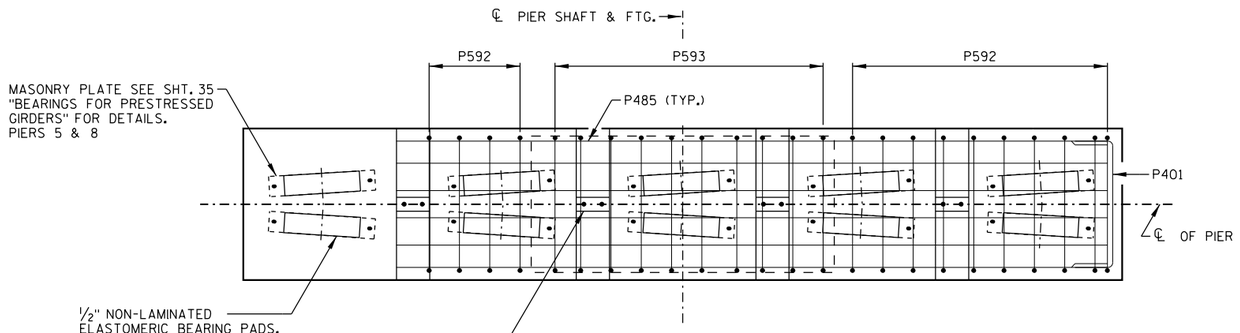
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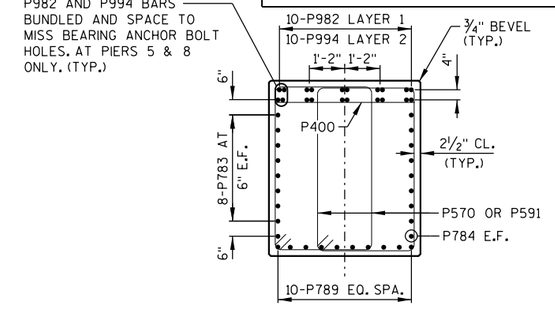



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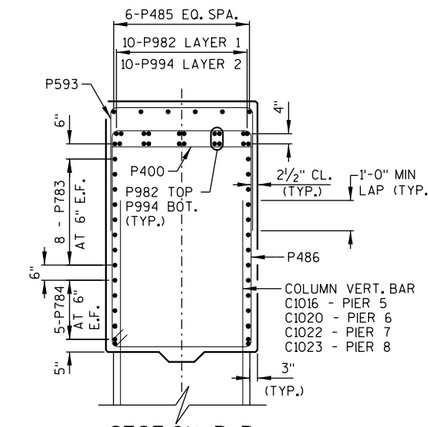
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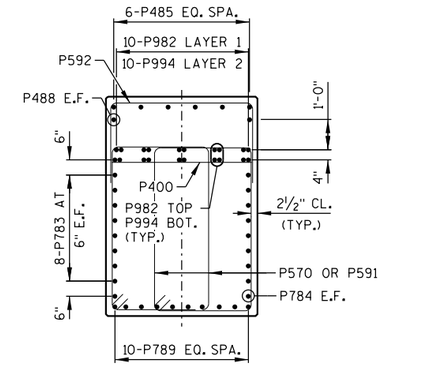

## PLAN




## SECTION A-A




## SECTION B-B




## SECTION C-C




## BUNDLING DETAIL

BUNDLE P982 & P994 BARS - PIERS 5 AND 8 ONLY.

## NOTE

PLACE REINFORCEMENT STEEL BARS TO MISS ANCHOR BOLTS.

LAP #7 BARS MIN. 4'-5"

SEE SHTS. 19-22 "PIER 5/6/7/8 LAYOUT DETAILS" FOR PIER GEOMETRY AND ELEVATIONS.

SEE SHT. 34 "BILL OF BARS" FOR PIER CAP BAR STEEL REINFORCEMENT DETAILS.

SEE SHT. 48 "SUPERSTRUCTURE DETAILS" FOR DETAILS OF BEARING PADS AND PREFORM FILLER.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

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PIER CAP DETAILS
PIERS 5, 6, 7, 8

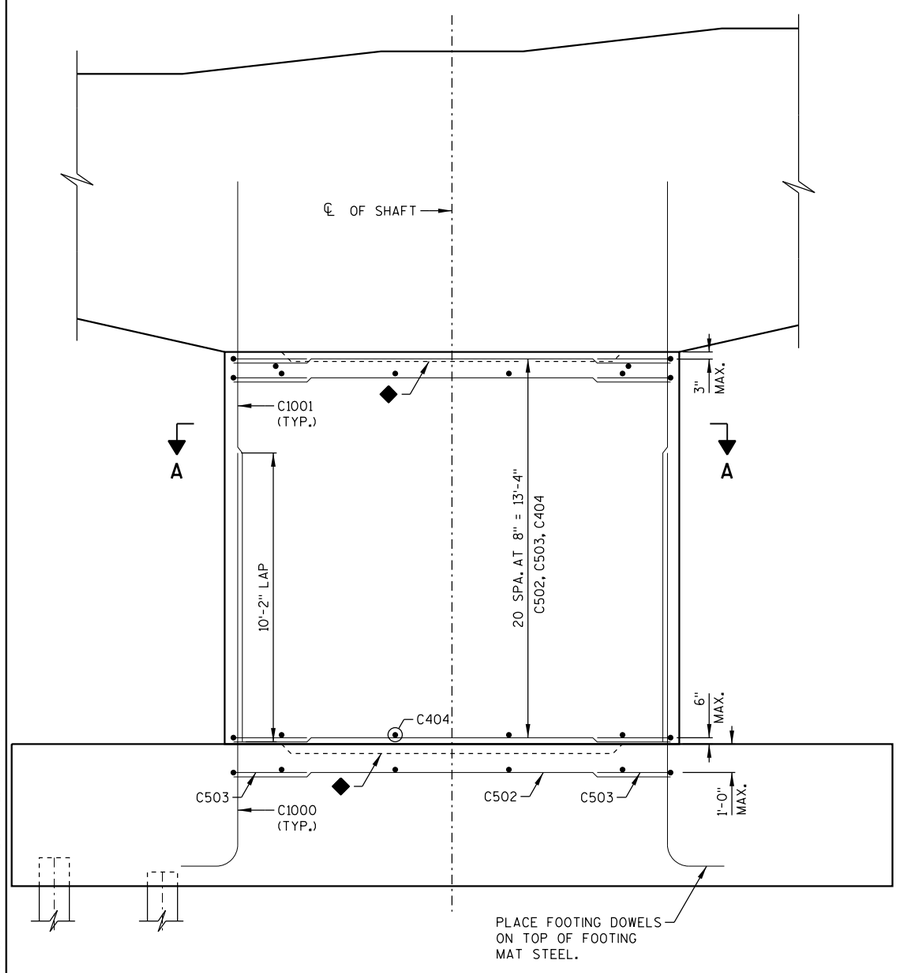
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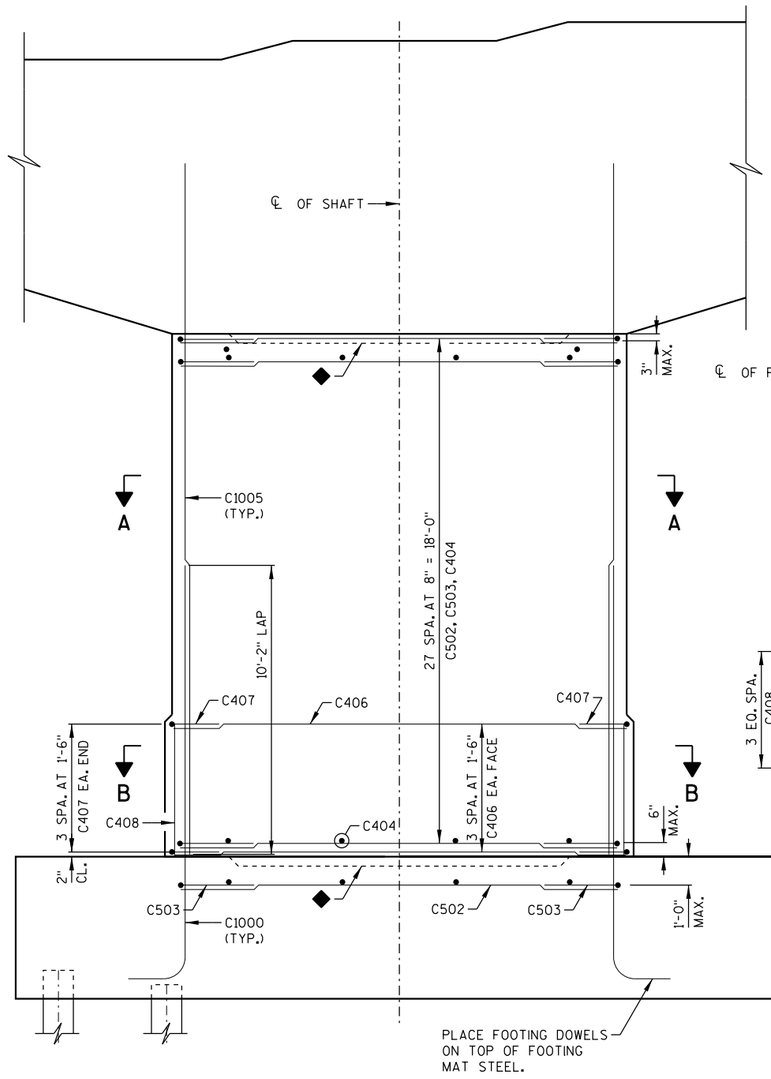
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BATCH PRINT SHEET 28 OF 65

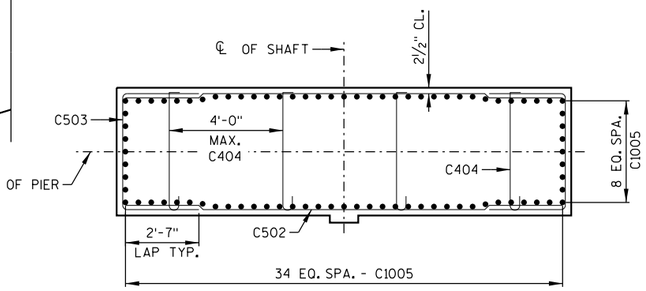




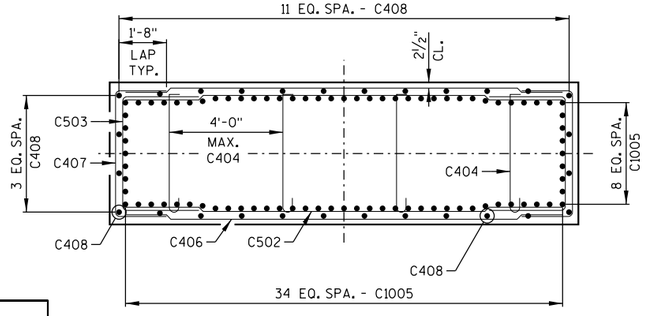

## PIER 1 ELEVATION
(LOOKING UPSTATION)



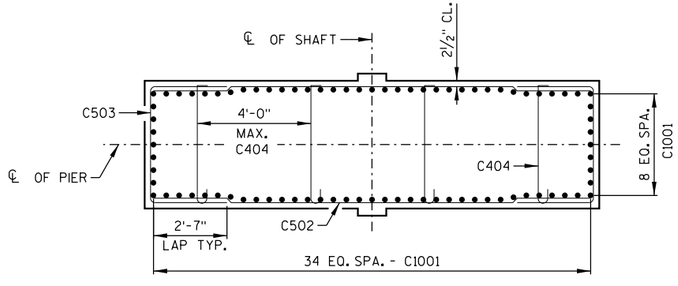

## PIER 2 ELEVATION
(LOOKING UPSTATION)




## PIER 2
## SECTION A-A




## PIER 2
## SECTION B-B
C1000 VERT. BARS NOT SHOWN FOR CLARITY




## PIER 1
## SECTION A-A

## LEGEND
◆ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 4"x1'-6"x12'-0".

## NOTES
ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERT. LAYER OF TIES. TIES ARE SPACED 8" VERTICALLY.

SEE SHT. 15 "PIER 1 LAYOUT DETAILS" AND SHT. 16 "PIER 2 LAYOUT DETAILS" FOR PIER DIMENSIONS.

FOR BAR STEEL REINFORCEMENT DETAILS, SEE SHT. 34.

FOR FOOTING LAYOUT DETAILS, SEE SHT. 32 "FOOTING DETAILS".

SEE SHT. 61 "AESTHETIC DETAILS" FOR PIER AESTHETICS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

DRAWN BY KAM | PLANS CK'D. MJA

SHAFT DETAILS
PIERS 1 & 2

SHEET 28 OF 65
610

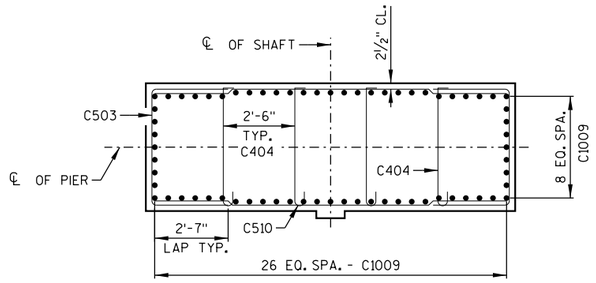
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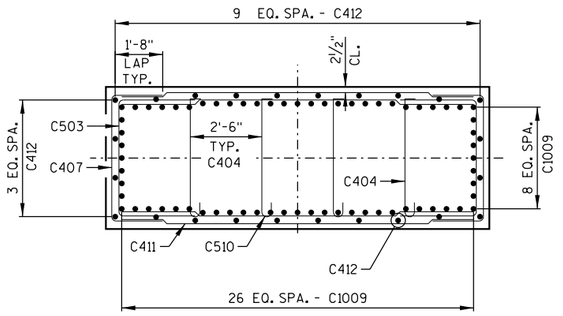
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STATE PROJECT NUMBER

1517-07-77

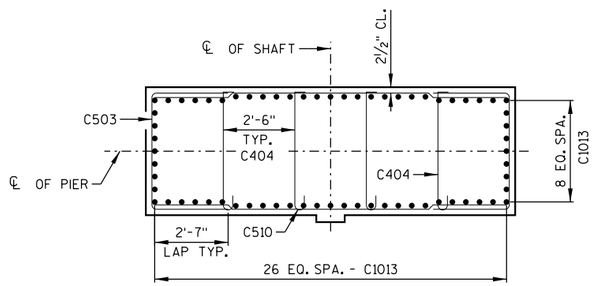



## PIER 3 SECTION A-A

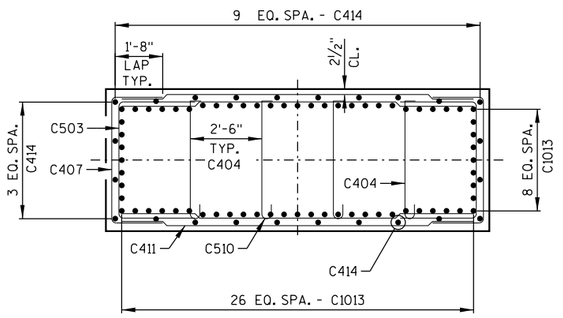



## PIER 3 SECTION B-B

C1000 VERT. BARS NOT SHOWN FOR CLARITY

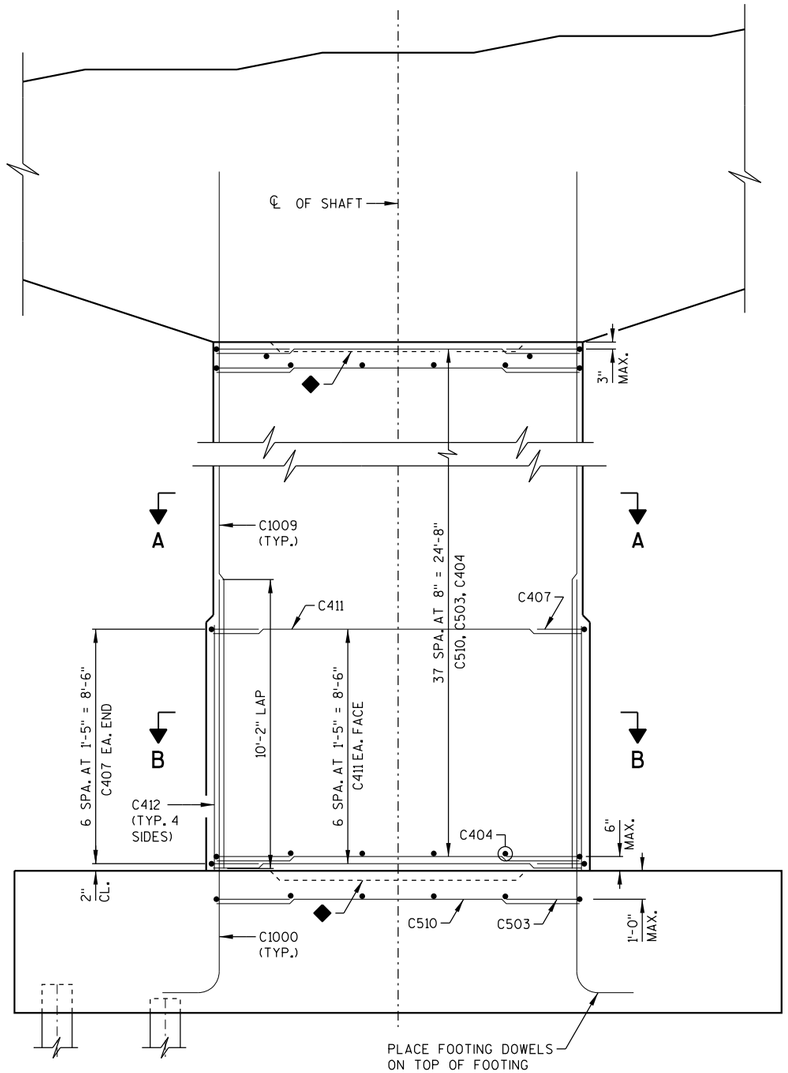



## PIER 4 SECTION A-A



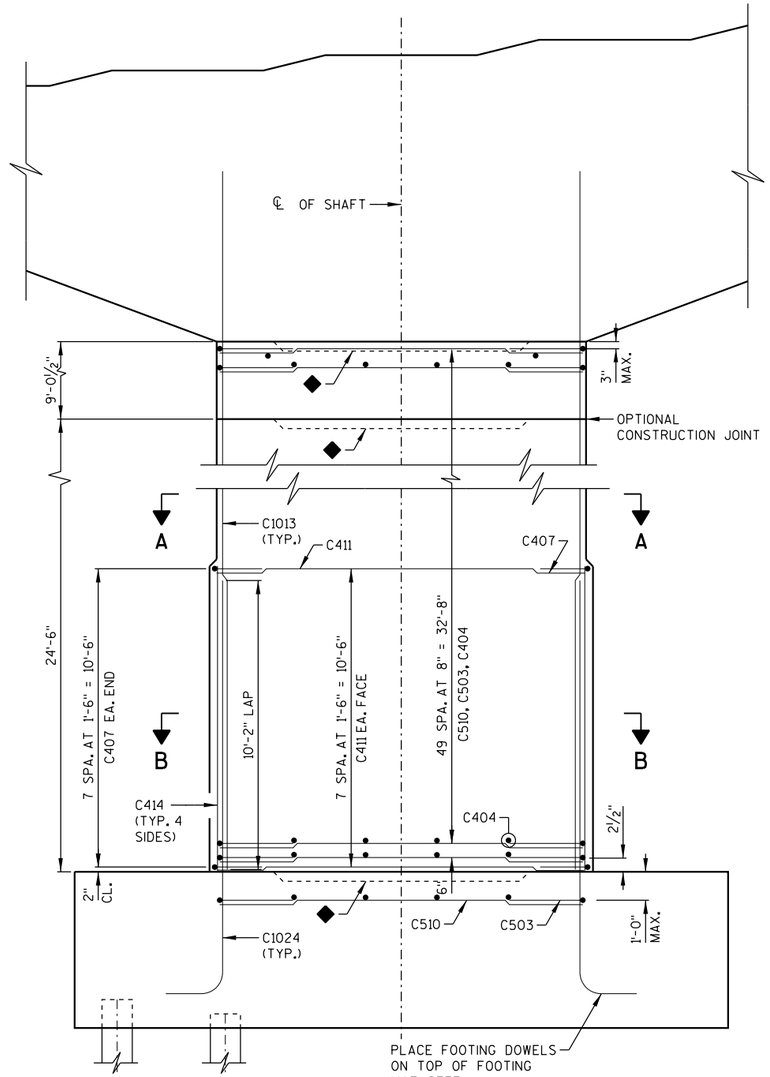

## PIER 4 SECTION B-B

C1024 VERT. BARS NOT SHOWN FOR CLARITY




## PIER 3 ELEVATION

(LOOKING UPSTATION)




## PIER 4 ELEVATION

(LOOKING UPSTATION)

## LEGEND

◆ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 4"x1'-6"x9'-0".

## NOTES

ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERT. LAYER OF TIES. TIES ARE SPACED 8" VERTICALLY.

SEE SHT. 17 "PIER 3 LAYOUT DETAILS" AND SHT. 18 "PIER 4 LAYOUT DETAILS" FOR PIER DIMENSIONS.

FOR BAR STEEL REINFORCEMENT DETAILS, SEE SHT. 34.

FOR FOOTING LAYOUT DETAILS, SEE SHT. 32 "FOOTING DETAILS".

SEE SHT. 61 "AESTHETIC DETAILS" FOR PIER AESTHETICS.

THE BAR SPLICES AT OPTIONAL KEYED CONSTRUCTION JOINTS MAY BE ELIMINATED WHETHER OR NOT THE JOINT IS UTILIZED. PAYMENT WILL BE MADE FOR THE ACTUAL BARS INSTALLED.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

DRAWN BY KAM | PLANS CK'D. MJA

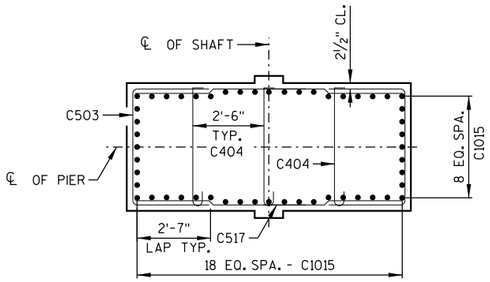
SHAFT DETAILS PIERS 3 & 4

SHEET 29 OF 65

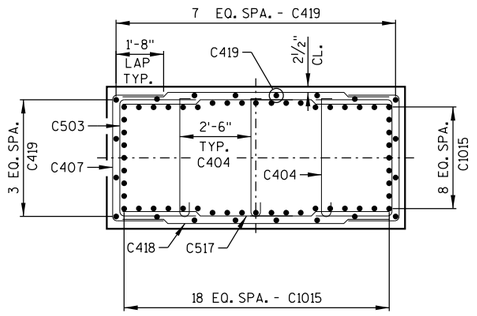
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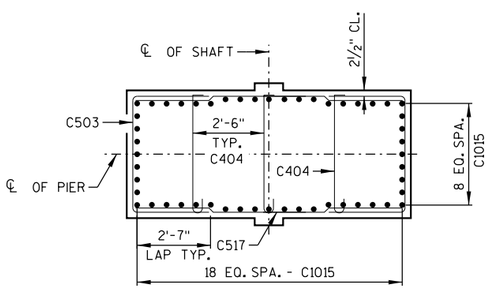



## PIER 5 SECTION A-A

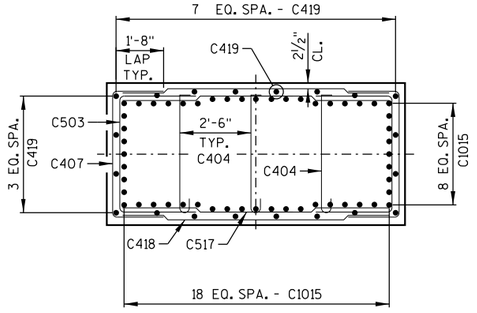



## PIER 5 SECTION B-B

C1024 VERT. BARS NOT SHOWN FOR CLARITY

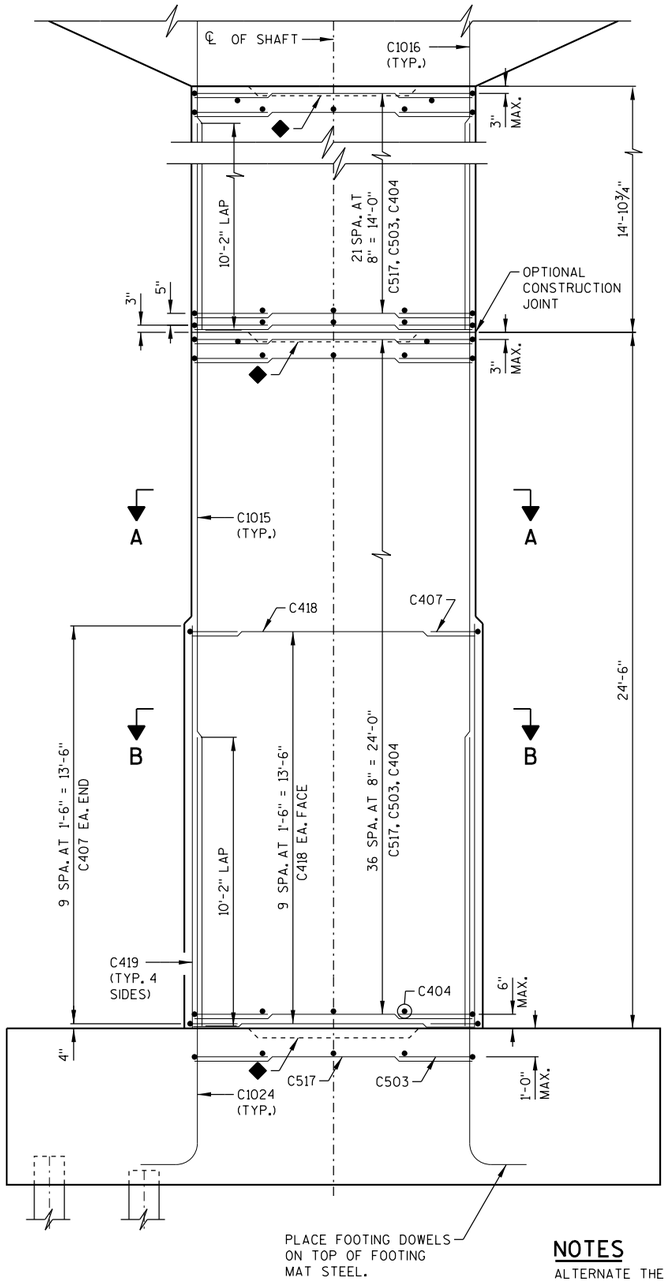



## PIER 6 SECTION A-A



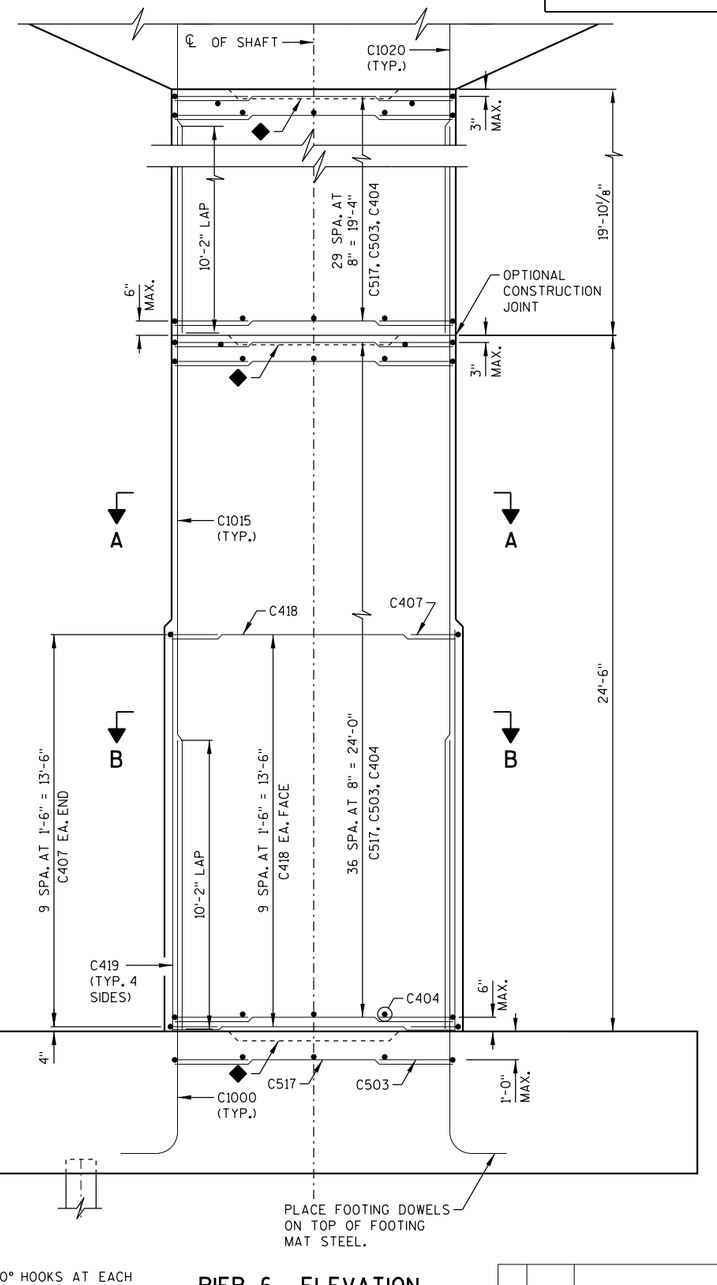

## PIER 6 SECTION B-B

C1000 VERT. BARS NOT SHOWN FOR CLARITY




## PIER 5 ELEVATION

(LOOKING UPSTATION)




## PIER 6 ELEVATION

(LOOKING UPSTATION)

## NOTES

ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERT. LAYER OF TIES. TIES ARE SPACED 8" VERTICALLY.

SEE SHT. 19 "PIER 5 LAYOUT DETAILS" AND SHT. 20 "PIER 6 LAYOUT DETAILS" FOR PIER DIMENSIONS.

FOR BAR STEEL REINFORCEMENT DETAILS, SEE SHT. 34.

FOR FOOTING LAYOUT DETAILS, SEE SHT. 33 "FOOTING DETAILS".

SEE SHT. 61 "AESTHETIC DETAILS" FOR PIER AESTHETICS.

THE BAR SPLICES AT OPTIONAL KEYED CONSTRUCTION JOINTS MAY BE ELIMINATED WHETHER OR NOT THE JOINT IS UTILIZED. PAYMENT WILL BE MADE FOR THE ACTUAL BARS INSTALLED.

## LEGEND

◆ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 4"x1'-6"x6'-0".

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

DRAWN BY KAM | PLANS CK'D. MJA

SHAFT DETAILS PIERS 5 & 6

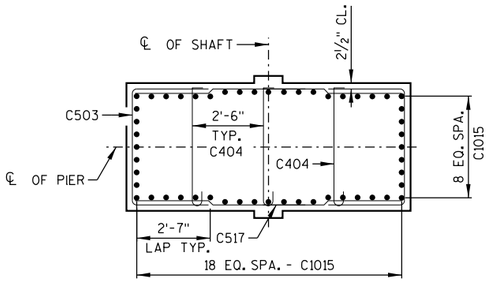
SHEET 30 OF 65
612

8

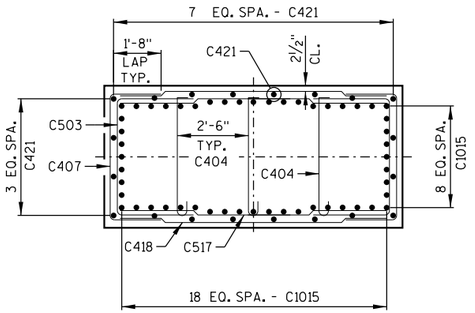
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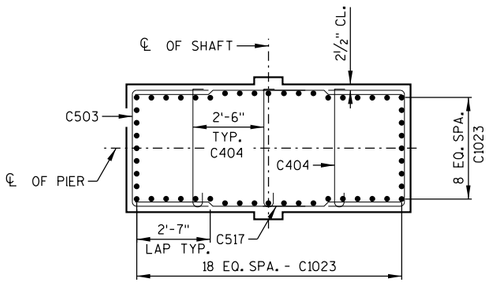



## PIER 7 SECTION A-A

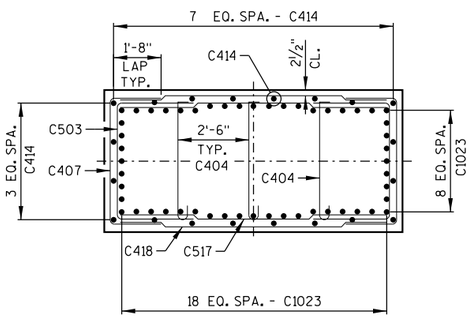



## PIER 7 SECTION B-B

C1000 VERT. BARS NOT SHOWN FOR CLARITY

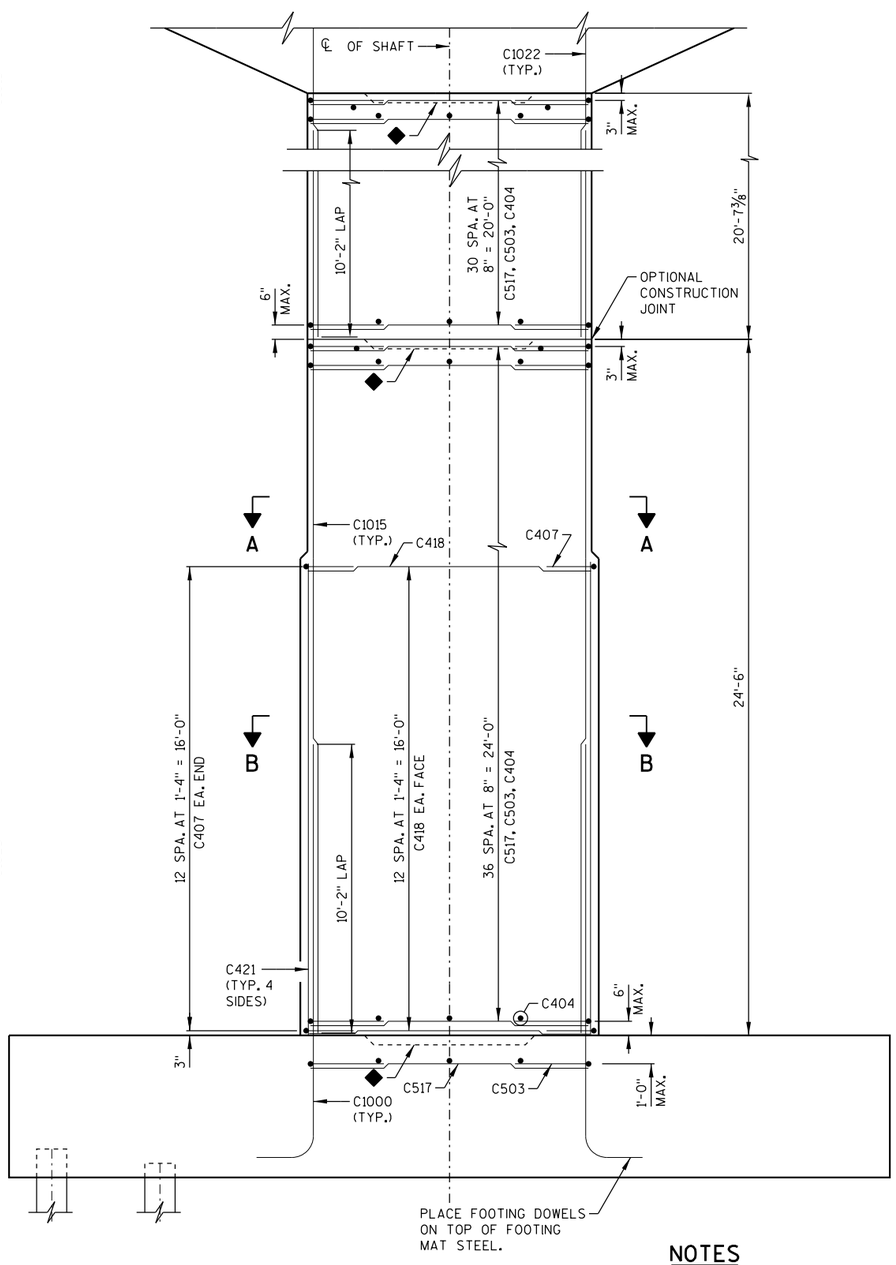



## PIER 8 SECTION A-A



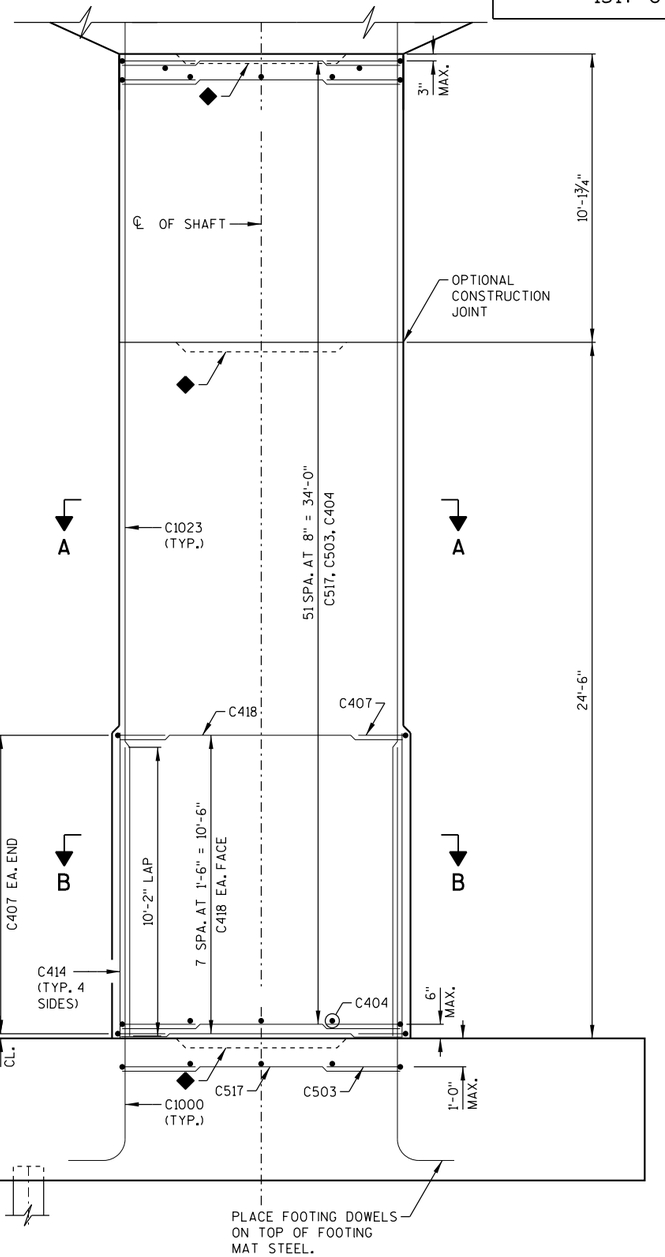

## PIER 8 SECTION B-B

C1000 VERT. BARS NOT SHOWN FOR CLARITY




## PIER 7 ELEVATION

(LOOKING UPSTATION)




## PIER 8 ELEVATION

(LOOKING UPSTATION)

## LEGEND

◆ KEYED CONSTRUCTION JOINT FORMED BY BEVELED 4"x1'-6"x6'-0".

## NOTES

ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERT. LAYER OF TIES. TIES ARE SPACED 8" VERTICALLY.

SEE SHT. 21 "PIER 7 LAYOUT DETAILS" AND SHT. 22 "PIER 8 LAYOUT DETAILS" FOR PIER DIMENSIONS.

FOR BAR STEEL REINFORCEMENT DETAILS, SEE SHT. 34.

FOR FOOTING LAYOUT DETAILS, SEE SHT. 33 "FOOTING DETAILS".

SEE SHT. 61 "AESTHETIC DETAILS" FOR PIER AESTHETICS.

THE BAR SPLICES AT OPTIONAL KEYED CONSTRUCTION JOINTS MAY BE ELIMINATED WHETHER OR NOT THE JOINT IS UTILIZED. PAYMENT WILL BE MADE FOR THE ACTUAL BARS INSTALLED.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

DRAWN BY KAM | PLANS CK'D. MJA

SHAFT DETAILS
PIERS 7 & 8

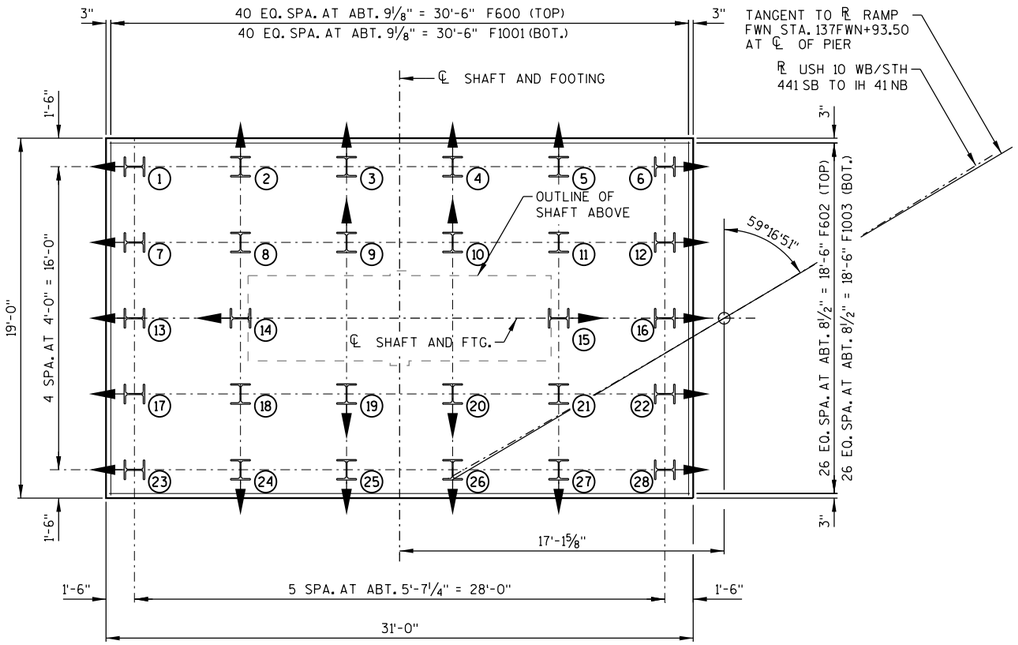
SHEET 31 OF 65
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8

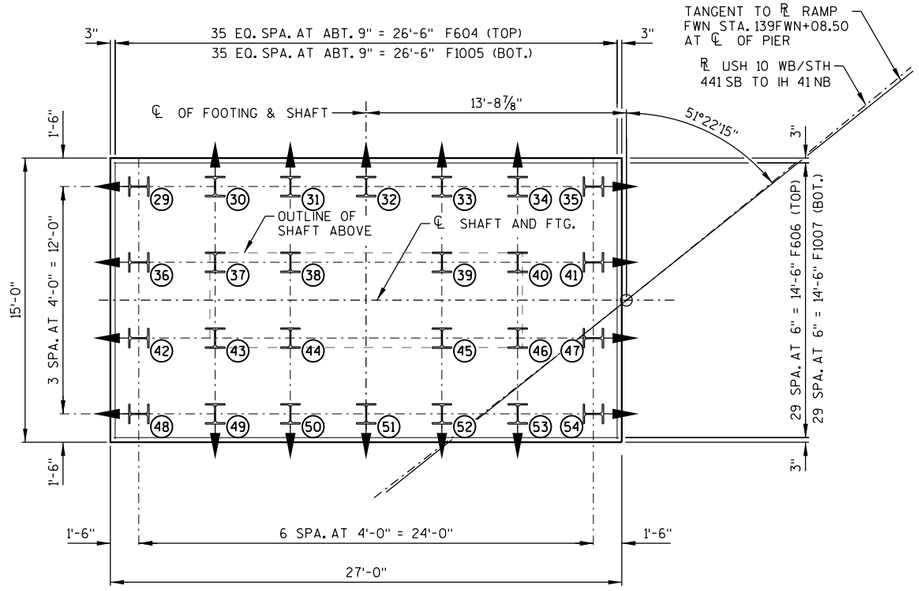
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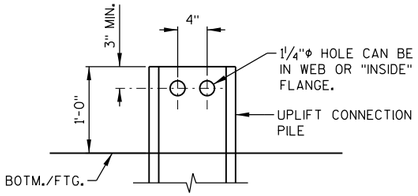





PIER 1 FOOTING LAYOUT

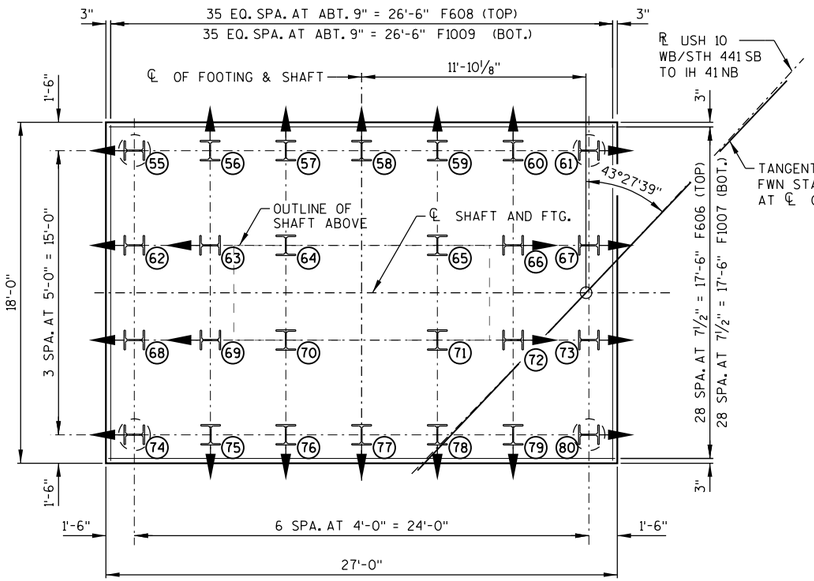



PIER 2 FOOTING LAYOUT

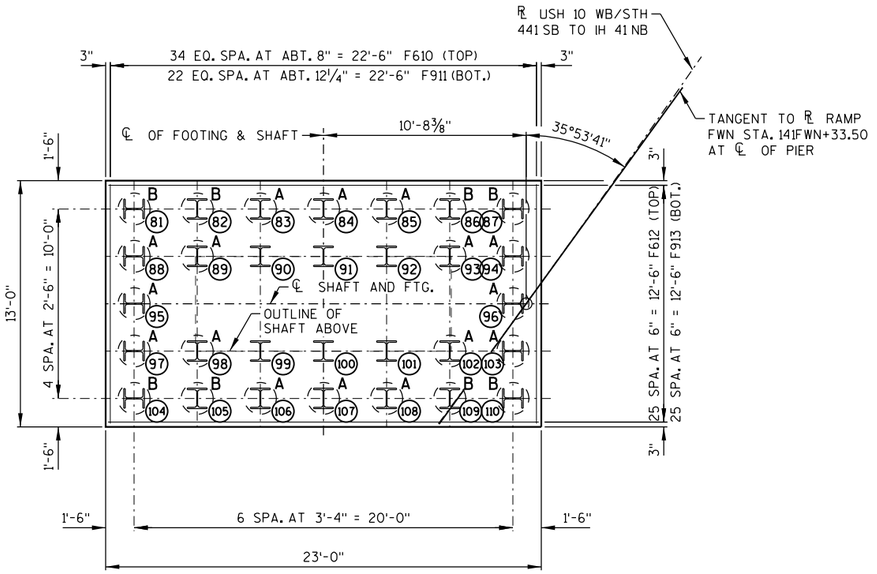



UPLIFT CONNECTION DETAIL

SEE TYPICAL FOOTING ELEVATION, SHT. 33 FOR REQUIRED REINFORCEMENT




PIER 3 FOOTING LAYOUT




PIER 4 FOOTING LAYOUT

## LEGEND

- INDICATES PILE LOCATION WHERE UPLIFT CONNECTION IS REQUIRED. SEE DETAIL THIS SHEET.
- PLACE IN 1¼" DIA. HOLES BURNED INTO PILE. USE 2 BARS AT EACH UPLIFT PILE.
- BEVELED KEYWAY AT CONSTRUCTION JT., SEE PIER LAYOUT DWGS. FOR SIZE.
- A — PREBORE PILE DESIGNATION. FOR PREBORE DETAIL, SEE SHEET 33.
- (59) INDICATES PILE NUMBER.
- BATTERED PILE - PILES ARE BATTERED AT 4V : 1H.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

| DRAWN BY | KAM | PLANS CK'D. | MJA |
|---|---|---|---|

FOOTING DETAILS
PIERS 1, 2, 3, 4

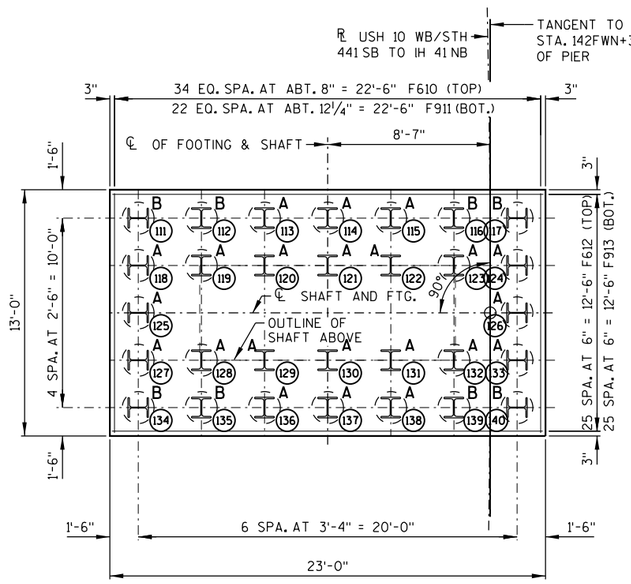
SHEET 32 OF 65
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8

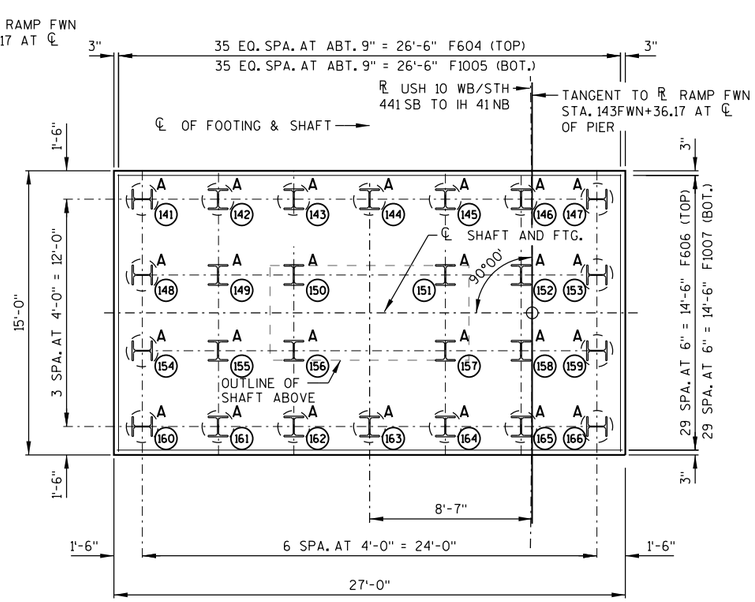
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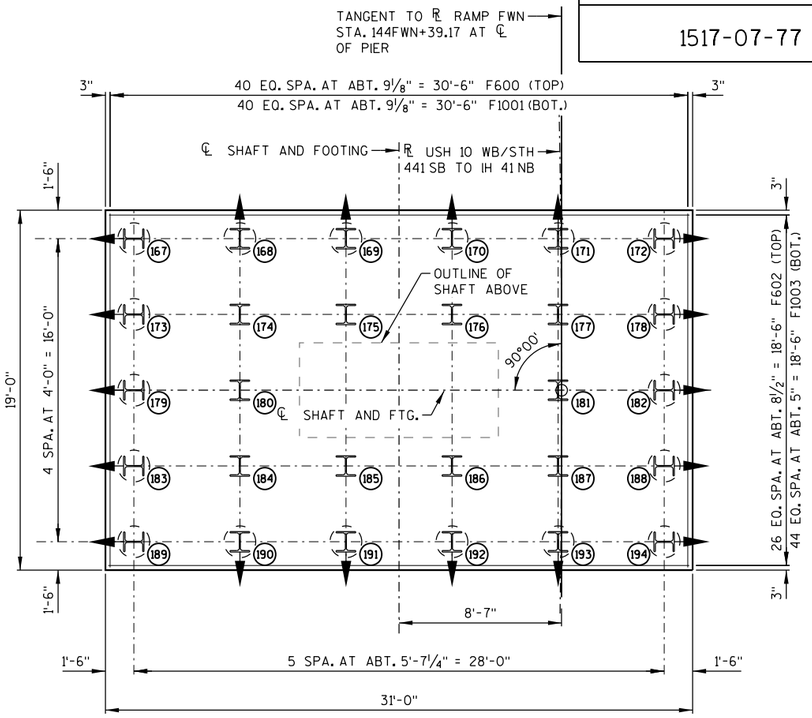




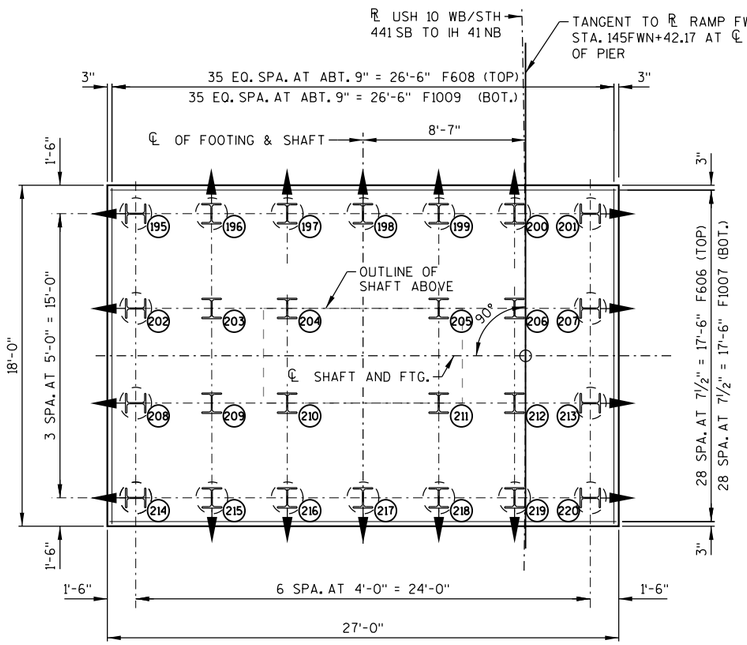

PIER 5 FOOTING LAYOUT



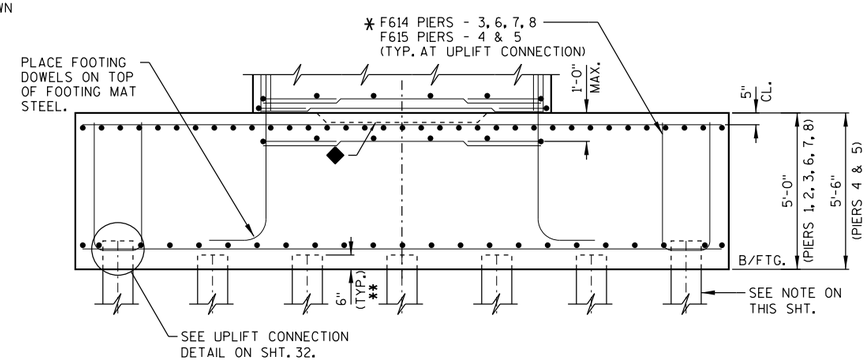

PIER 6 FOOTING LAYOUT




PIER 7 FOOTING LAYOUT

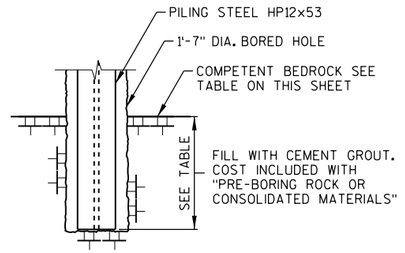



PIER 8 FOOTING LAYOUT




TYPICAL FOOTING ELEVATION

** PILES WITHOUT UPLIFT




DETAIL FOR PILE ANCHOR IN ROCK

| MIN. PRE-BORING ROCK EMBEDMENT LENGTH | |
|---|---|
| UPLIFT PILE DESIGNATION | |
| A | 3'-0" |
| B | 3'-6" |

| PIER # | COMPETENT BEDROCK EL. |
|---|---|
| 1 | 731.20 |
| 2 | 729.50 |
| 3 | 728.50 |
| 4 | 728.40 |
| 5 | 730.90 |
| 6 | 729.10 |
| 7 | 714.60 |
| 8 | 710.00 |

## LEGEND

- (1) INDICATES PILE LOCATION WHERE UPLIFT CONNECTION IS REQUIRED. SEE DETAIL SHEET 32.
- ✱ PLACE IN 1¼" DIA. HOLES BURNED INTO PILE. USE 2 BARS AT EACH UPLIFT PILE.
- ◆ BEVELED KEYWAY AT CONSTRUCTION JT., SEE PIER LAYOUT DWGS. FOR SIZE.
- A PREBORE PILE DESIGNATION. FOR PREBORE DETAIL, SEE THIS SHEET.
- (59) INDICATES PILE NUMBER.
- BATTERED PILE - PILES ARE BATTERED AT 4V : 1H.

## PILE NOTE

PIERS 1 THRU 8 TO BE SUPPORTED ON HP12x53 STEEL PILING. PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.

** THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING THE MODIFIED GATES DYNAMIC FORMULA TO DETERMINE DRIVEN PILE CAPACITY.

PRE-BORED PILES ARE SOCKETED INTO SOLID ROCK, SEE TABLE THIS SHEET FOR ROCK EMBEDMENT LENGTHS. ALL PILES THAT ARE NOT PRE-BORED REQUIRE PILE POINTS.

## NOTES

SEE SHT. 34 "BILL OF BARS PIERS" FOR BAR BILL AND BAR BENT DETAILS.

SEE SHT'S. 28 THRU 31 FOR FOOTING DOWEL BAR LOCATIONS.

## ESTIMATED PILE LENGTH

| PIER # | ESTIMATED DRIVEN PILE LGTH. (FT.) | ESTIMATED PRE-BORED PILE LGTH. (FT.) | |
|---|---|---|---|
| | | A | B |
| 1 | 15 | —— | —— |
| 2 | 17 | —— | —— |
| 3 | 17 | —— | —— |
| 4 | 13 | 16 | 17 |
| 5 | —— | 13 | 13 |
| 6 | —— | 13 | —— |
| 7 | 25 | —— | —— |
| 8 | 41 | —— | —— |

THE ESTIMATED ELEVATIONS OF BEDROCK ARE BASED ON THE AVAILABLE BORING INFORMATION. HARD PRE-BORING MAY BE REQUIRED ABOVE OR BELOW THE ESTIMATED COMPETENT BEDROCK ELEVATIONS BECAUSE OF VARIABILITY IN THE ELEVATION AND WEATHERING OF THE BEDROCK AND THE POSSIBILITY OF PRESENCE OF COBBLES OR BOULDERS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

DRAWN BY KAM | PLANS CK'D. MJA

FOOTING DETAILS
PIERS 5, 6, 7, 8

SHEET 33 OF 65
615

8

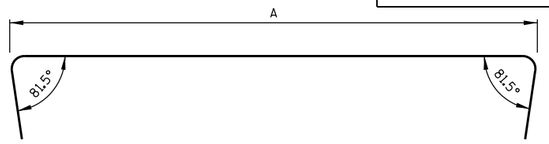
8

# BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
△ LENGTH SHOWN FOR BAR IS AN AVG. LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

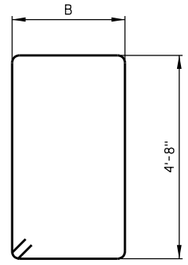
| COATED BARS | | | | | | TOTAL WEIGHT = 67,070 LBS |
|---|---|---|---|---|---|---|
| MARK | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION | |
| P400 | 282 | 4 - 7 | | | PIERS 1 - 8 CAP - TIE | HORIZ. |
| P401 | 179 | 11 - 11 | X | | PIERS 1 - 8 CAP - END BAR | HORIZ. |
| P1102 | 9 | 55 - 10 | X | | PIER 1 CAP - TOP | HORIZ. |
| P703 | 32 | 28 - 6 | | | PIER 1 CAP - SIDE | HORIZ. |
| P704 | 32 | 18 - 6 | | △ | PIER 1 CAP - SIDE | HORIZ. |
| P405 | 6 | 45 - 0 | | | PIER 1 CAP - TOP | HORIZ. |
| P406 | 32 | 26 - 10 | X | | PIERS 1 & 2 CAP - CENTER STIRRUP | VERT. |
| P407 | 2 | 21 - 4 | | | PIER 1 CAP - SIDE TOP | HORIZ. |
| P408 | 2 | 34 - 10 | | | PIER 1 CAP - SIDE TOP | HORIZ. |
| P709 | 18 | 19 - 0 | X | | PIER 1 CAP - BOTTOM | HORIZ. |
| P510 | 12 | 16 - 0 | X | | PIERS 1 - 3 CAP - END STIRRUP | VERT. |
| P511 | 140 | 19 - 9 | X | △ | PIER 1 CAP - STIRRUP | VERT. |
| P512 | 17 | 8 - 4 | X | | PIER 1 & 2 CAP - TOP U - BAR | VERT. |
| P513 | 32 | 16 - 2 | X | | PIER 1 & 2 CAP - TOP U - BAR | VERT. |
| P514 | 33 | 12 - 6 | X | | PIER 1 & 2 CAP - TOP U - BAR | VERT. |
| P1115 | 9 | 55 - 2 | X | | PIER 1 CAP - TOP | HORIZ. |
| P16 - 21 | | | | | NOT USED | |
| P1122 | 9 | 46 - 10 | X | | PIER 2 CAP - TOP | HORIZ. |
| P723 | 32 | 23 - 10 | | | PIER 2 CAP - SIDE | HORIZ. |
| P724 | 32 | 16 - 6 | | △ | PIER 2 CAP - SIDE | HORIZ. |
| P425 | 6 | 39 - 8 | | | PIER 2 CAP - TOP | HORIZ. |
| P26 | | | | | NOT USED | |
| P427 | 2 | 10 - 8 | | | PIER 2 CAP - SIDE TOP | HORIZ. |
| P428 | 2 | 30 - 5 | | | PIER 2 CAP - SIDE TOP | HORIZ. |
| P729 | 18 | 14 - 8 | X | | PIER 2 CAP - BOTTOM | HORIZ. |
| P30 | | | | | NOT USED | |
| P531 | 104 | 19 - 9 | X | △ | PIER 2 CAP - STIRRUP | VERT. |
| P32-34 | | | | | NOT USED | |
| P535 | 28 | 2 - 0 | | | PIERS 2, 6 & 7 -VERTICAL DIAPHRAGM BARS | VERT. |
| P1136 | 9 | 46 - 2 | X | | PIER 2 CAP - TOP | HORIZ. |
| P37-41 | | | | | NOT USED | |
| P1142 | 9 | 41 - 10 | X | | PIER 3 CAP - TOP | HORIZ. |
| P743 | 32 | 21 - 4 | | | PIER 3 CAP - SIDE | HORIZ. |
| P744 | 24 | 14 - 11 | | △ | PIER 3 CAP - SIDE | HORIZ. |
| P445 | 6 | 31 - 8 | | | PIER 3 CAP - TOP | HORIZ. |
| P446 | 26 | 24 - 10 | X | | PIERS 3 & 4 CAP - CENTER STIRRUP | VERT. |
| P447 | 2 | 7 - 4 | | | PIER 3 CAP - SIDE TOP | HORIZ. |
| P448 | 2 | 23 - 1 | | | PIER 3 CAP - SIDE TOP | HORIZ. |
| P749 | 18 | 13 - 5 | X | | PIER 3 CAP - BOTTOM | HORIZ. |
| P50 | | | | | NOT USED | |
| P551 | 96 | 18 - 9 | X | △ | PIER 3 CAP - STIRRUP | VERT. |
| P552 | 11 | 7 - 8 | X | | PIER 3 & 4 CAP - TOP U - BAR | VERT. |
| P553 | 26 | 13 - 6 | X | | PIER 3 & 4 CAP - TOP U - BAR | VERT. |
| P554 | 26 | 11 - 2 | X | | PIER 3 & 4 CAP - TOP U - BAR | VERT. |
| P1155 | 9 | 41 - 2 | X | | PIER 3 CAP - TOP | HORIZ. |
| P56-61 | | | | | NOT USED | |
| P962 | 10 | 38 - 2 | X | | PIER 4 CAP - TOP | HORIZ. |
| P763 | 32 | 19 - 10 | | | PIER 4 CAP - SIDE | HORIZ. |
| P764 | 24 | 14 - 3 | | △ | PIER 4 CAP - SIDE | HORIZ. |
| P465 | 6 | 28 - 10 | | | PIER 4 CAP - TOP | HORIZ. |
| P66 | | | | | NOT USED | |
| P467 | 2 | 6 - 1 | | | PIER 4 CAP - SIDE TOP | HORIZ. |
| P468 | 2 | 20 - 11 | | | PIER 4 CAP - SIDE TOP | HORIZ. |
| P769 | 20 | 11 - 11 | X | | PIER 4 CAP - BOTTOM | HORIZ. |
| P570 | 20 | 16 - 4 | X | | PIERS 4 - 8 CAP - END STIRRUPS | VERT. |
| P571 | 84 | 19 - 1 | X | △ | PIER 4 CAP - STIRRUP | VERT. |
| P72-74 | | | | | NOT USED | |
| P975 | 10 | 37 - 6 | X | | PIER 4 CAP - TOP | HORIZ. |
| P76-81 | | | | | NOT USED | |
| P982 | 40 | 31 - 2 | X | | PIER 5 - 8 CAP - TOP | HORIZ. |
| P783 | 128 | 16 - 4 | | | PIER 5 - 8 CAP - SIDE | HORIZ. |
| P784 | 80 | 11 - 10 | | △ | PIER 5 - 8 CAP - SIDE | HORIZ. |
| P485 | 24 | 24 - 2 | | | PIER 5 - 8 CAP - TOP | HORIZ. |
| P486 | 40 | 23 - 10 | X | | PIER 5 - 8 CAP - CENTER STIRRUP | VERT. |
| P87 | | | | | NOT USED | |
| P488 | 8 | 7 - 2 | | | PIER 5 - 8 CAP - SIDE TOP | HORIZ. |
| P789 | 80 | 9 - 9 | X | | PIER 5 - 8 CAP - BOTTOM | HORIZ. |
| P90 | | | | | NOT USED | |
| P591 | 272 | 18 - 7 | X | △ | PIER 5 - 8 CAP - STIRRUP | VERT. |
| P592 | 56 | 9 - 4 | X | | PIER 5 - 8 CAP - TOP U - BAR | VERT. |
| P593 | 40 | 11 - 4 | X | | PIER 5 - 8 CAP - TOP U - BAR | VERT. |
| P994 | 40 | 30 - 6 | X | | PIER 5 - 8 CAP - TOP | HORIZ. |
| | | | | | | |

| MARK | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION | |
|---|---|---|---|---|---|---|
| NON-COATED BARS | | | | | | TOTAL WEIGHT = 64,780 LBS |
| F600 | 82 | 18 - 8 | | | FOOTING - PIERS 1 AND 7 TOP | HORIZ. |
| F1001 | 82 | 18 - 8 | | | FOOTING - PIERS 1 AND 7 BOTTOM | HORIZ. |
| F602 | 54 | 30 - 8 | | | FOOTING - PIERS 1 AND 7 TOP | HORIZ. |
| F1003 | 72 | 30 - 8 | | | FOOTING - PIERS 1 AND 7 BOTTOM | HORIZ. |
| F604 | 72 | 14 - 8 | | | FOOTING - PIERS 2 AND 6 TOP | HORIZ. |
| F1005 | 72 | 14 - 8 | | | FOOTING - PIERS 2 AND 6 BOTTOM | HORIZ. |
| F606 | 118 | 26 - 8 | | | FOOTING - PIERS 2, 3, 6 AND 8 TOP | HORIZ. |
| F1007 | 118 | 26 - 8 | | | FOOTING - PIERS 2, 3, 6 AND 8 BOTTOM | HORIZ. |
| F608 | 72 | 17 - 8 | | | FOOTING - PIERS 3 AND 8 TOP | HORIZ. |
| F1009 | 72 | 17 - 8 | | | FOOTING - PIERS 3 AND 8 BOTTOM | HORIZ. |
| F610 | 70 | 12 - 8 | | | FOOTING - PIERS 4 AND 5 TOP | HORIZ. |
| F911 | 46 | 12 - 8 | | | FOOTING - PIERS 4 AND 5 BOTTOM | HORIZ. |
| F612 | 52 | 22 - 8 | | | FOOTING - PIERS 4 AND 5 TOP | HORIZ. |
| F913 | 52 | 22 - 8 | | | FOOTING - PIERS 4 AND 5 BOTTOM | HORIZ. |
| F614 | 116 | 9 - 0 | X | | FOOTING - PIERS 3, 6, 7, 8 UPLIFT BARS | VERT. |
| F615 | 96 | 10 - 0 | X | | FOOTING - PIERS 4 AND 5 UPLIFT BARS | VERT. |
| COATED BARS | | | | | | TOTAL WEIGHT = 144,440 LBS |
| C1000 | 392 | 16 - 0 | X | | PIERS 1, 2, 3, 6, 7, 8 DOWELS | VERT. |
| C1001 | 84 | 19 - 10 | | | PIER 1 - SHAFT SIDES & ENDS | VERT. |
| C502 | 102 | 15 - 7 | | | PIER 1 & 2 - SHAFT SIDES | HORIZ. |
| C503 | 786 | 9 - 0 | X | | PIERS 1 THRU 8 - SHAFT ENDS | HORIZ. |
| C404 | 1321 | 4 - 11 | X | | PIERS 1 THRU 8 - SHAFT TIES | HORIZ. |
| C1005 | 84 | 24 - 5 | | | PIER 2 - SHAFT SIDES & ENDS | VERT. |
| C406 | 8 | 16 - 1 | | | PIER 2 - PEDESTAL SIDES | HORIZ. |
| C407 | 120 | 7 - 9 | X | | PIER 2 THRU 8 - PEDESTAL ENDS | HORIZ. |
| C408 | 28 | 4 - 6 | | | PIER 2 - PEDESTAL SIDES & ENDS | VERT. |
| C1009 | 68 | 31 - 1 | | | PIER 3 - SHAFT SIDES AND ENDS | VERT. |
| C510 | 182 | 12 - 7 | | | PIER 3 & 4 -SHAFT SIDES | HORIZ. |
| C411 | 30 | 13 - 1 | | | PIER 3 & 4 - PEDESTAL SIDES | HORIZ. |
| C412 | 24 | 8 - 6 | | | PIER 3 - PEDESTAL SIDES AND ENDS | VERT. |
| C1013 | 68 | 39 - 7 | | | PIER 4 - SHAFT SIDES & ENDS | VERT. |
| C414 | 44 | 10 - 6 | | | PIER 4 & 8 - PEDESTAL SIDES & ENDS | VERT. |
| C1015 | 156 | 34 - 8 | | | PIER 5, 6, 7 - SHAFT SIDES & ENDS, BOTTOM | VERT. |
| C1016 | 52 | 20 - 11 | | | PIER 5 - SHAFT SIDES & ENDS, TOP | VERT. |
| C517 | 502 | 9 - 7 | | | PIER 5, 6, 7, 8 -SHAFT SIDES | HORIZ. |
| C418 | 82 | 10 - 1 | | | PIER 5, 6, 7, 8 - PEDESTAL SIDES | HORIZ. |
| C419 | 40 | 14 - 0 | | | PIER 5 & 6 - PEDESTAL SIDES & ENDS | VERT. |
| C1020 | 52 | 25 - 11 | | | PIER 6 - SHAFT SIDES & ENDS, TOP | VERT. |
| C421 | 20 | 16 - 0 | | | PIER 7 - PEDESTAL SIDES & ENDS | VERT. |
| C1022 | 52 | 26 - 8 | | | PIER 7 - SHAFT SIDES & ENDS, TOP | VERT. |
| C1023 | 52 | 40 - 8 | | | PIER 8 - SHAFT SIDES & ENDS | VERT. |
| C1024 | 120 | 16 - 6 | X | | PIERS 4 AND 5 DOWELS | VERT. |
| | | | | | | |



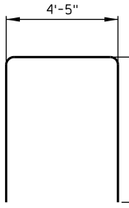

P1102, P1115, P1122, P1136, P1142, P1155, P962, P975, P982, P994

| MARK | A |
|---|---|
| P1102 | 52'-6" |
| P1115 | 51'-10" |
| P1122 | 43'-6" |
| P1136 | 42'-10" |
| P1142 | 38'-6" |
| P1155 | 37'-10" |
| P962 | 35'-6" |
| P975 | 34'-10" |
| P982 | 28'-6" |
| P994 | 27'-10" |



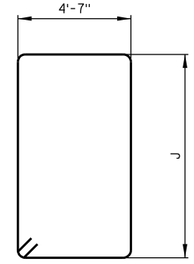

| MARK | B |
|---|---|
| P510 | 3'-0" |
| P570 | 3'-2" |

P510, P570

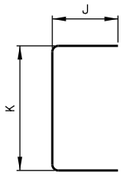



P401

| MARK | J |
|---|---|
| P406 | 8'-7" |
| P446 | 7'-7" |
| P486 | 7'-1" |

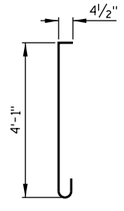



P406, P446, P486

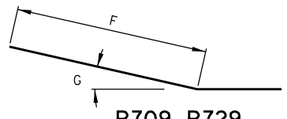



| MARK | K | J |
|---|---|---|
| C503 | 4'-1" | 2'-7" |
| C407 | 4'-7" | 1'-8" |
| F614 | 1'-8" | 3'-10" |
| F615 | 1'-8" | 4'-4" |

C503, C407, F614, F615

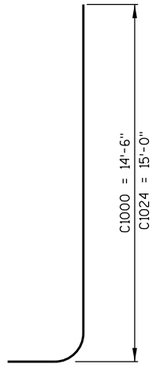



C404

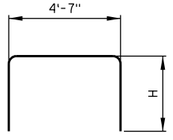



P709, P729, P749, P769, P789

| MARK | F | G |
|---|---|---|
| P709 | 18'-0" | 12.6° |
| P729 | 13'-8" | 16.8° |
| P749 | 12'-5" | 13.8° |
| P769 | 10'-11" | 15.6° |
| P789 | 8'-9" | 16° |

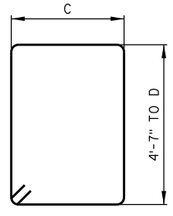



C1000, C1024




P512, P513, P514, P552, P553, P554, P592, P593

| MARK | H |
|---|---|
| P512 | 2'-0" |
| P513 | 5'-11" |
| P514 | 4'-1" |
| P552 | 1'-8" |
| P553 | 4'-7" |
| P554 | 3'-5" |
| P592 | 2'-6" |
| P593 | 3'-6" |




P511, P531, P551, P571, P591

| MARK | C | D |
|---|---|---|
| P511 | 3'-0" | 8'-6" |
| P531 | 3'-0" | 8'-6" |
| P551 | 3'-0" | 7'-6" |
| P571 | 3'-2" | 7'-6" |
| P591 | 3'-2" | 7'-0" |

## BAR SERIES TABLE

| MARK | NO. REQUIRED | LENGTH |
|---|---|---|
| P704 | 4 SETS OF 8 | 10'-8" TO 26'-3" |
| P511 | 4 SETS OF 35 | 15'-10" TO 23'-8" |
| P724 | 4 SETS OF 8 | 10'-8" TO 22'-3" |
| P531 | 4 SETS OF 26 | 15'-10" TO 23'-8" |
| P744 | 4 SETS OF 6 | 9'-7" TO 20'-3" |
| P551 | 4 SETS OF 24 | 15'-10" TO 21'-8" |
| P764 | 4 SETS OF 6 | 9'-9" TO 18'-9" |
| P571 | 4 SETS OF 21 | 16'-2" TO 22'-0" |
| P784 | 16 SETS OF 5 | 8'-4" TO 15'-3" |
| P591 | 16 SETS OF 17 | 16'-2" TO 21'-0" |

STATE PROJECT NUMBER

1517-07-77

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

DRAWN BY KAM | PLANS CK'D. MJA

BILL OF BARS
PIERS

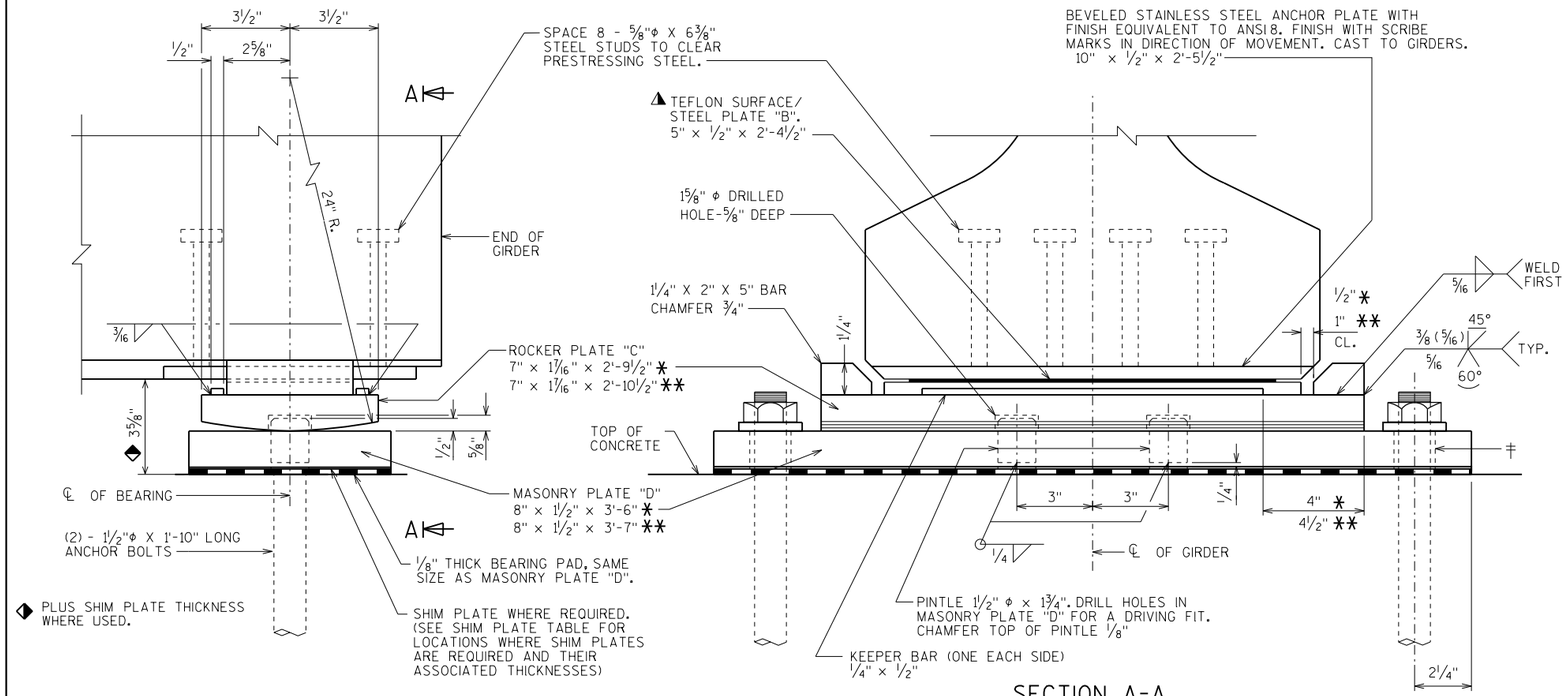
SHEET 34 OF 65
616

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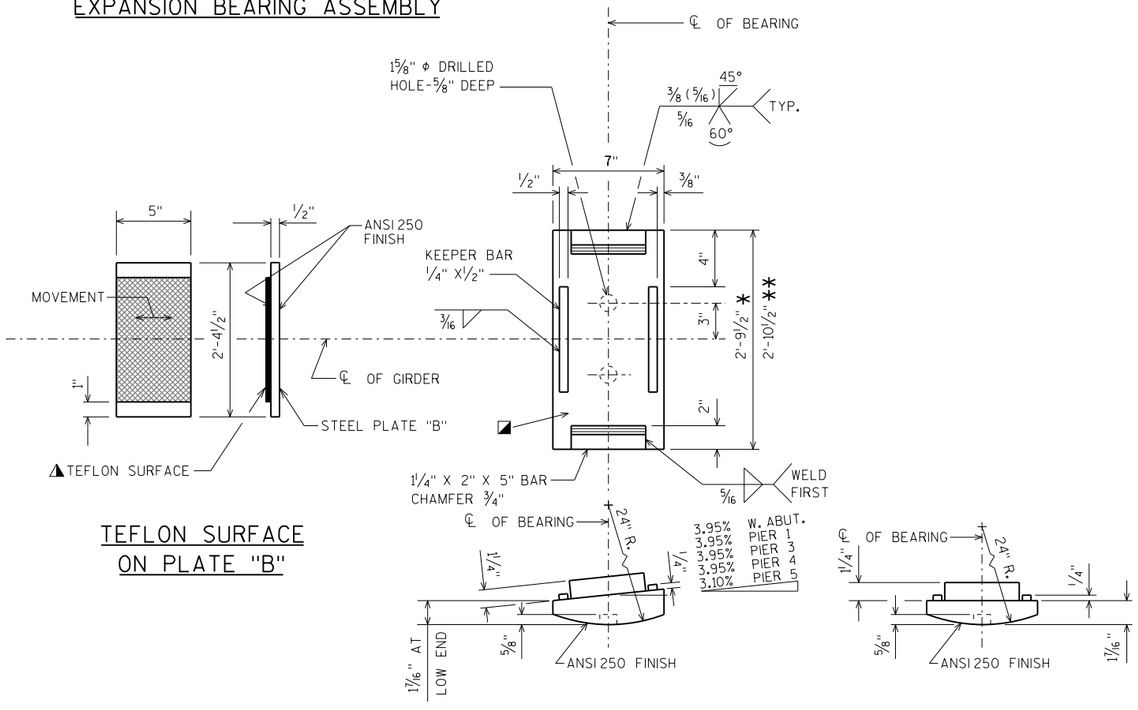
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## EXPANSION BEARING ASSEMBLY




## SECTION A-A




### TEFLON SURFACE ON PLATE "B"

### W. ABUT., PIERS 1, 3, 4 & 5

### PIERS 8 & C1

## EXPANSION BEARING
(LOOKING NORTH)

## BEARING NOTES

ALL BEARINGS ARE SYMMETRICAL ABOUT ℄ OF GIRDER AND ℄ OF BEARING.

ALL MATERIAL IN BEARINGS, BUT EXCLUDING STAINLESS STEEL PLATE, TEFLON SURFACE, PINTLES, ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 50W.

STAINLESS STEEL PLATE SHALL CONFORM TO ASTM A240, TYPE 304.

STEEL PINTLES SHALL CONFORM TO ASTM A449 OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

ANCHOR BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A709 GRADE 36, OR MATERIAL OF EQUIVALENT YIELD STRENGTH AND ELONGATION.

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

ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUTS.

ALL FINISHED SURFACES SHALL BE MACHINE FINISHED BY AN AUTOMATIC PROCESS.

ANCHOR BOLTS SHALL BE THREADED 3". PROVIDE ONE STANDARD WROUGHT WASHER AND ONE HEX NUT PER BOLT. PROJECT ANCHOR BOLTS, MASONRY PLATE "D" THICKNESS + 2¼", ABOVE TOP OF CONCRETE.

CHAMFER ANCHOR BOLTS PRIOR TO THREADING.

MASONRY PLATE "D", ROCKER PLATE "C", ANCHOR BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153, CLASS "C". STEEL PLATE "B" SHALL BE SHOP PAINTED. DO NOT PAINT TEFLON SURFACE.

ALL MATERIAL IN "STEEL BEARINGS FOR PRESTRESSED CONCRETE GIRDERS", INCLUDING BEARING PADS, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "BEARING ASSEMBLIES EXPANSION B-70-406", EACH.

‡ DRILLED HOLES FOR ANCHOR BOLTS IN MASONRY PLATE "D" AND SHIM PLATE SHALL HAVE A DIAMETER ⅜" LARGER THAN ANCHOR BOLT.

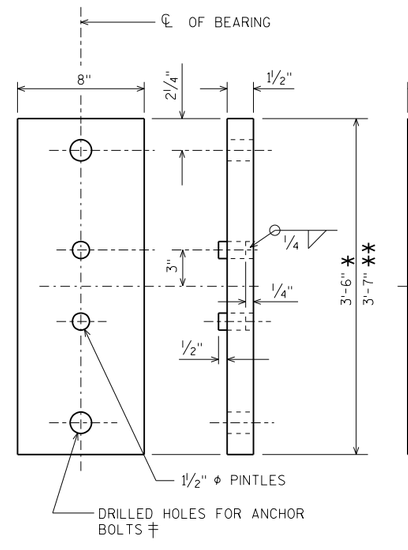
▲ TEFLON SURFACE, USE UNFILLED WITH MINIMUM 1/16" THICKNESS. PLACE WITH SCRIBE MARKS IN DIRECTION OF MOVEMENT. BOND STEEL PLATE "B" AND TEFLON WITH ADHESIVE MATERIAL MEETING FEDERAL SPECIFICATION MMM-A-134, FEP FILM OR EQUAL.

◪ PROVIDE A METHOD FOR HANDLING ROCKER PLATE "C" DURING GALVANIZING.

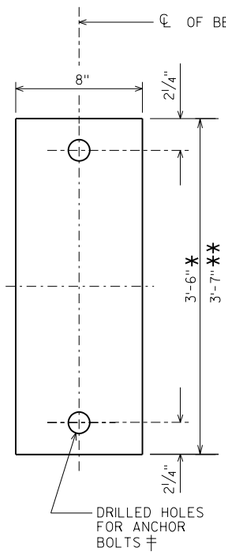
* PIERS 1, 3 & 5.

** WEST ABUTMENT, PIERS 4, 8 & COMMON PIER C1.

AT INSTALLATION, ENSURE STAINLESS STEEL SLIDING FACE OF THE UPPER ELEMENT AND THE TFE SLIDING FACE OF THE LOWER ELEMENT HAVE THE SURFACE FINISH SPECIFIED AND ARE CLEAN AND FREE OF ALL DUST, MOISTURE, AND OTHER FOREIGN MATTER.




### MASONRY PLATE "D"




### SHIM PLATE

### SHIM PLATE TABLE

| | PIER 1 SPAN 2 | PIER 3 SPAN 4 | PIER 4 SPAN 5 | PIER 5 SPAN 6 |
|---|---|---|---|---|
| GIRDER 1 | 13/16 " | 11/16 " | 13/16 " | ½" |
| GIRDER 2 | ¾" | 9/16 " | 13/16 " | ½" |
| GIRDER 3 | ¾" | 9/16 " | 13/16 " | ½" |
| GIRDER 4 | ¾" | 11/16 " | 13/16 " | ½" |
| GIRDER 5 | ¾" | 11/16 " | 13/16 " | ⅝" |

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

DRAWN BY KAM | PLANS CK'D. MJA

BEARINGS FOR PRESTRESSED GIRDERS

SHEET 35 OF 65
617

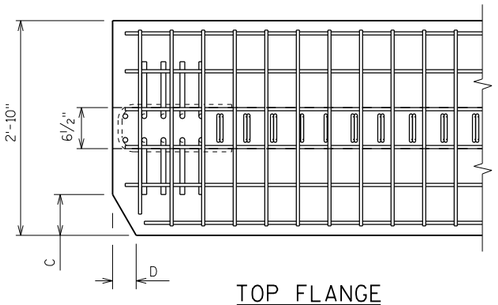
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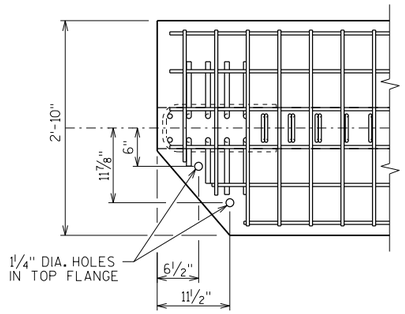
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PLOT TIME: 8:52:17 AM
BATCH PRINT SHEET 36 OF 65

STATE PROJECT NUMBER

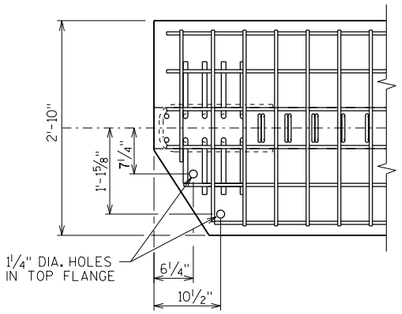
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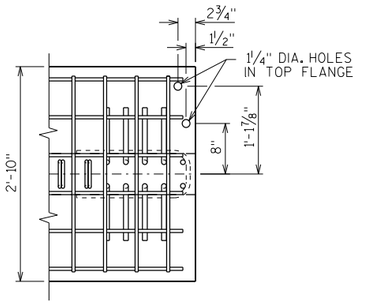

TOP FLANGE




TOP FLANGE
PIER 4, SPAN 4 GIRDER



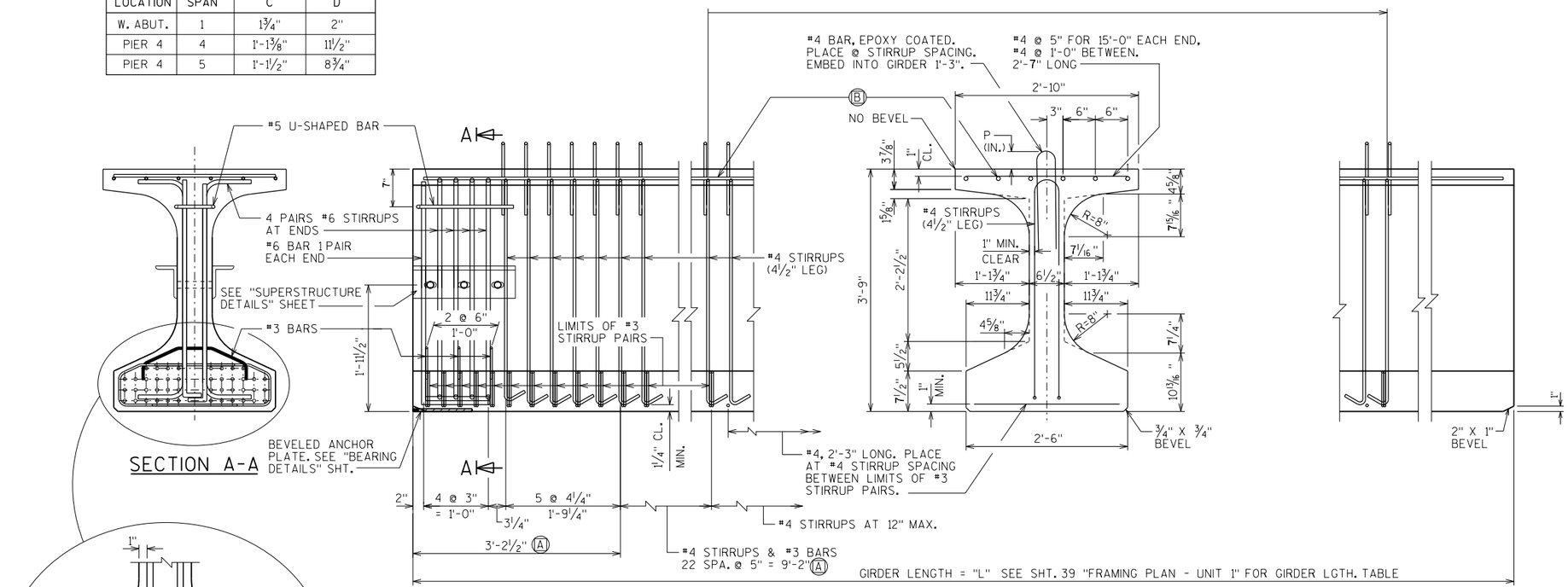

TOP FLANGE
PIER 4, SPAN 5 GIRDER




TOP FLANGE
COMMON PIER C1, SPAN 9 GIRDER

FORM OUT CRNR. TOP FLANGE

| LOCATION | SPAN | C | D |
|---|---|---|---|
| W. ABUT. | 1 | 1¾" | 2" |
| PIER 4 | 4 | 1'-1⅜" | 11½" |
| PIER 4 | 5 | 1'-1½" | 8¾" |

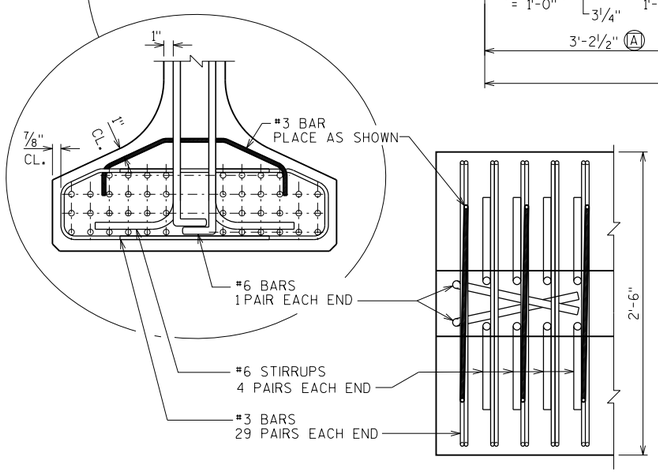



SECTION A-A

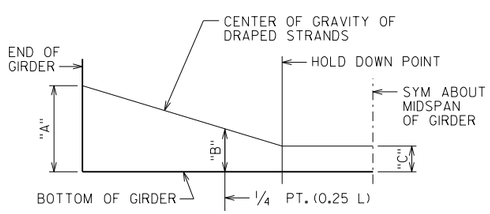
SIDE VIEW & TYPICAL SECTION IN SPAN

Ⓐ DETAIL TYP. AT EACH END

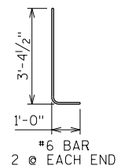
Ⓑ 6 #4 BARS, FULL LENGTH, MIN. LAP = 1'-11"



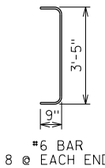

BOTTOM FLANGE



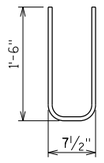

DRAPED STRAND PROFILE



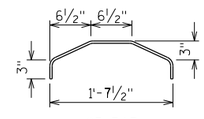

#6 BAR
2 @ EACH END



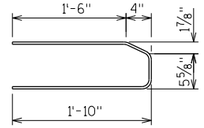

#6 BAR
8 @ EACH END




#5 BAR
1 @ EACH END




#3 BAR
3 @ EACH END
(EPOXY COATED)




#3 BAR
29 PAIRS EACH END
(EPOXY COATED)

* THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

| SPAN | GIRDER NO. | CAMBER (IN.) * |
|---|---|---|
| 1 | 1 - 4 | 3.58 |
| 1 | 5 | 5.38 |
| 2 | 1 | 4.35 |
| 2 | 2-5 | 3.97 |
| 3, 4 | 1-5 | 3.97 |
| 5 | 1, 2 | 3.61 |
| 5 | 3-5 | 2.68 |
| 6-8 | 1-5 | 2.33 |
| 9 | 1-5 | 1.12 |

THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.
THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.

## NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

STRANDS SHALL BE FLUSH WITH END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, END OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO THE APPLICATION OF THE SEALER.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

PRESTRESSING STRANDS SHALL BE (0.6" DIA.)-7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 PSI.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE SHT. 38 "INTERMEDIATE STEEL DIAPHRAGM".

FOR FLOOR DRAIN BRACKET INSERT DETAILS SEE SHT. 59 "FLOOR DRAIN TYPE "WF".

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

DRAWN BY KAM | PLANS CK'D. MJA

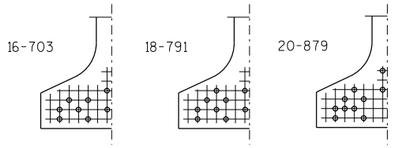
45W" PRESTRESSED GIRDER DETAILS - 1

SHEET 36 OF 65
618

7-13
G45W

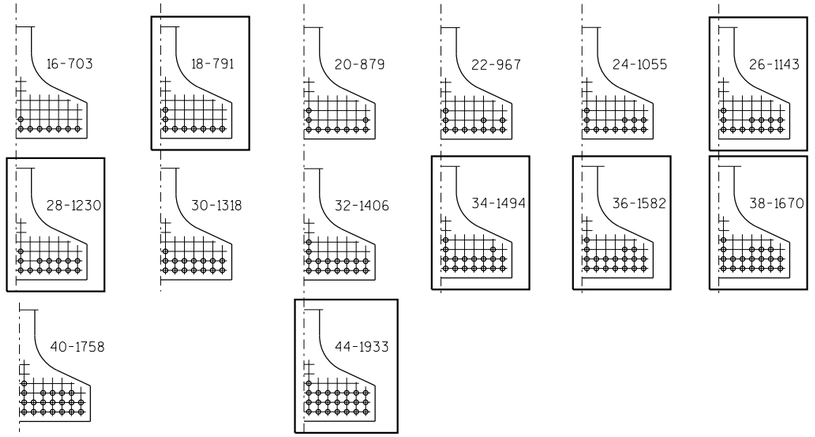
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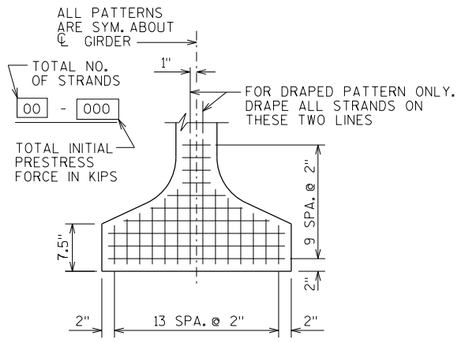

## STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY TO AVOID DRAPING OF STRANDS

0.6"Φ STRANDS




ARRANGEMENT AT ℄ SPAN - FOR GIRDERS WITH DRAPED STRANDS

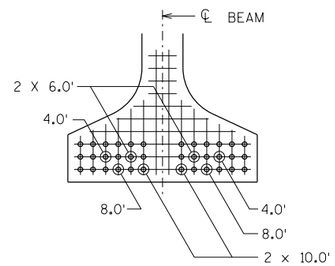
0.6"Φ STRANDS



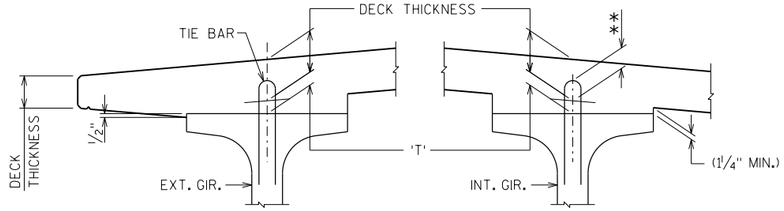

TYP. STRAND PATTERN

## DEBONDING STRAND LAYOUT

(SPAN 1 BEAM 5)




SECTION AT THE END



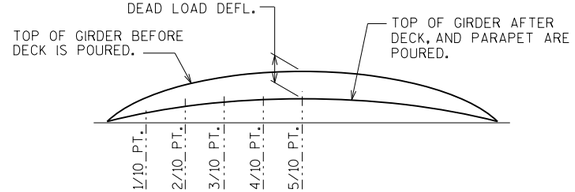

## DECK HAUNCH DETAIL

IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR, THE PLAN DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION
IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,
** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- DECK THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3¾" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".




DEAD LOAD DEFLECTION DIAGRAM

## UNIT 1 GIRDER DATA

| SPAN | GIRDER NO. | GIRDER LENGTH "L" | DEAD LOAD DEFLECTION (IN.) 1/10 | 2/10 | 3/10 | 4/10 | 5/10 | 6/10 | 7/10 | 8/10 | 9/10 | CONC. STRGTH f'c (P.S.I.) | "P" 1ST 1/10TH OF GIRDER | "P" 1/10TH -2/10TH OF GIRDER | "P" 2/10TH -8/10TH OF GIRDER | "P" 8/10TH -9/10TH OF GIRDER | "P" END 1/10TH OF GIRDER | DIA. OF STRAND (IN.) | DRAPED PATTERN TOTAL NO. OF STRANDS | f'ci (P.S.I.) | (IN.) "A" | "B" MIN | "B" MAX | "C" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | SEE "GIRDER LENGTHS TABLE" | 0.53 | 1.02 | 1.40 | 1.64 | 1.72 | 1.62 | 1.37 | 0.99 | 0.50 | 8,000 | 10 | 9 | 7.75 | 9 | 10 | 0.6 | 34 | 6,800 | 40 | 13.75 | 16.75 | 5 |
| 1 | 2 | | 0.57 | 1.14 | 1.57 | 1.84 | 1.93 | 1.82 | 1.53 | 1.09 | 0.54 | 8,000 | 10 | 9 | 7.75 | 9 | 10 | 0.6 | 34 | 6,800 | 40 | 13.75 | 16.75 | 5 |
| 1 | 3 | | 0.66 | 1.30 | 1.80 | 2.11 | 2.21 | 2.09 | 1.76 | 1.25 | 0.63 | 8,000 | 10 | 9 | 7.75 | 9 | 10 | 0.6 | 34 | 6,800 | 40 | 13.75 | 16.75 | 5 |
| 1 | 4 | | 0.75 | 1.48 | 2.06 | 2.41 | 2.52 | 2.38 | 2.01 | 1.44 | 0.72 | 8,000 | 10 | 9 | 7.75 | 9 | 10 | 0.6 | 34 | 6,800 | 40 | 13.75 | 16.75 | 5 |
| 1 | 5 | | 1.01 | 1.95 | 2.68 | 3.14 | 3.29 | 3.11 | 2.64 | 1.90 | 0.97 | 8,000 | 10.5 | 9 | 7.75 | 9 | 10.5 | 0.6 | 44 | 7,200 | 40 | 13.75 | 16.75 | 5 |
| 2 | 1 | | 0.95 | 1.85 | 2.57 | 3.02 | 3.18 | 3.03 | 2.57 | 1.86 | 0.96 | 8,000 | 10 | 9.25 | 7.75 | 9.25 | 10 | 0.6 | 38 | 6,800 | 40 | 13.75 | 16.75 | 5 |
| 2 | 2-4 | | 0.80 | 1.58 | 2.21 | 2.60 | 2.74 | 2.60 | 2.21 | 1.58 | 0.80 | 8,000 | 10 | 9.25 | 7.75 | 9.25 | 10 | 0.6 | 36 | 6,800 | 40 | 13.75 | 16.75 | 5 |
| 2 | 5 | | 0.81 | 1.59 | 2.21 | 2.61 | 2.75 | 2.62 | 2.22 | 1.61 | 0.83 | 8,000 | 10.5 | 9.25 | 7.75 | 9.25 | 10 | 0.6 | 36 | 6,800 | 40 | 13.75 | 16.75 | 5 |
| 3 | 1-5 | | 0.79 | 1.56 | 2.17 | 2.55 | 2.68 | 2.54 | 2.15 | 1.54 | 0.78 | 8,000 | 10 | 9 | 7.75 | 9 | 10 | 0.6 | 36 | 6,800 | 40 | 13.75 | 16.75 | 5 |
| 4 | 1-5 | | 0.67 | 1.33 | 1.85 | 2.19 | 2.31 | 2.21 | 1.88 | 1.37 | 0.70 | 8,000 | 10 | 9 | 7.75 | 9 | 9.5 | 0.6 | 36 | 6,800 | 40 | 13.75 | 16.75 | 5 |

## UNIT 2 GIRDER DATA

| SPAN | GIRDER NO. | GIRDER LENGTH "L" | DEAD LOAD DEFLECTION (IN.) 1/10 | 2/10 | 3/10 | 4/10 | 5/10 | 6/10 | 7/10 | 8/10 | 9/10 | CONC. STRGTH f'c (P.S.I.) | "P" 1ST 1/3 OF GIRDER | "P" MID 1/3 OF GIRDER | "P" END 1/3 OF GIRDER | DIA. OF STRAND (IN.) | DRAPED PATTERN TOTAL NO. OF STRANDS | f'ci (P.S.I.) | (IN.) "A" | "B" MIN | "B" MAX | "C" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5 | 1, 2 | SEE "GIRDER LENGTHS TABLE" | 0.77 | 1.47 | 2.01 | 2.36 | 2.47 | 2.34 | 1.98 | 1.43 | 0.74 | 8,000 | 9.5 | 8.5 | 7.75 | 0.6 | 34 | 6,800 | 40 | 13.75 | 16.75 | 5 |
| 5 | 3-5 | | 0.61 | 1.16 | 1.59 | 1.86 | 1.94 | 1.84 | 1.56 | 1.12 | 0.58 | 8,000 | 9.5 | 8.5 | 7.75 | 0.6 | 28 | 6,800 | 41 | 13.25 | 16.25 | 4 |
| 6 | 1-5 | | 0.51 | 1.00 | 1.39 | 1.65 | 1.74 | 1.65 | 1.40 | 1.01 | 0.52 | 8,000 | 7.5 | 7.5 | 7.5 | 0.6 | 26 | 6,800 | 41 | 13.25 | 16.25 | 4 |
| 7 | 1-5 | | 0.51 | 1.00 | 1.38 | 1.63 | 1.71 | 1.63 | 1.38 | 1.00 | 0.51 | 8,000 | 7.5 | 7.5 | 7.5 | 0.6 | 26 | 6,800 | 41 | 13.25 | 16.25 | 4 |
| 8 | 1-5 | | 0.52 | 1.02 | 1.42 | 1.67 | 1.76 | 1.67 | 1.42 | 1.02 | 0.52 | 8,000 | 7.5 | 7.5 | 7.5 | 0.6 | 26 | 6,800 | 41 | 13.25 | 16.25 | 4 |
| 9 | 1-5 | | 0.21 | 0.41 | 0.57 | 0.68 | 0.72 | 0.69 | 0.59 | 0.43 | 0.22 | 8,000 | 7.5 | 7.5 | 8.25 | 0.6 | 18 | 6,800 | 41 | 13.25 | 16.25 | 4 |

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

DRAWN BY KAM | PLANS CK'D. MJA

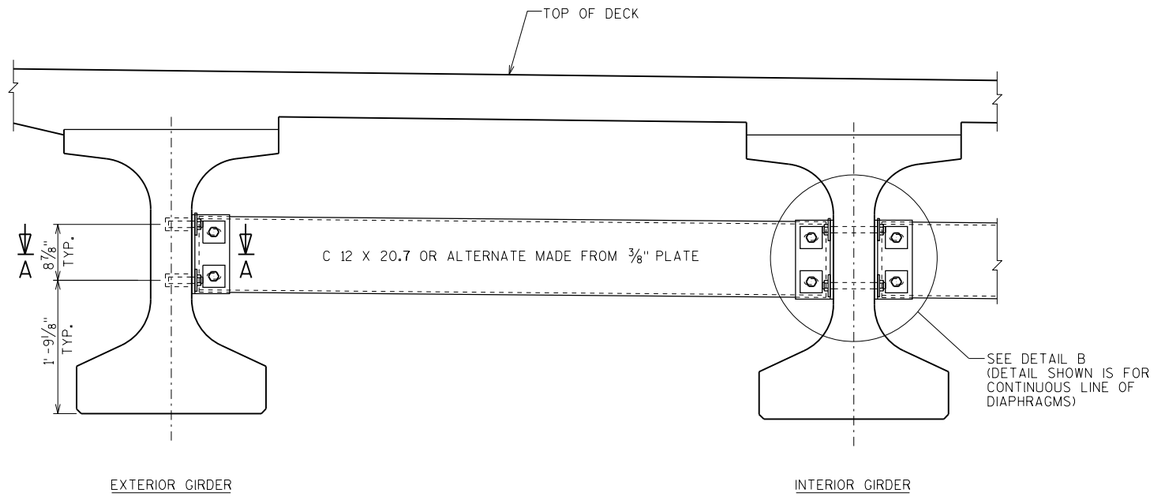
45W" PRESTRESSED GIRDER DETAILS - 2

SHEET 37 OF 65
619

G45W
7-13

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## PART TRANSVERSE SECTION AT DIAPHRAGM

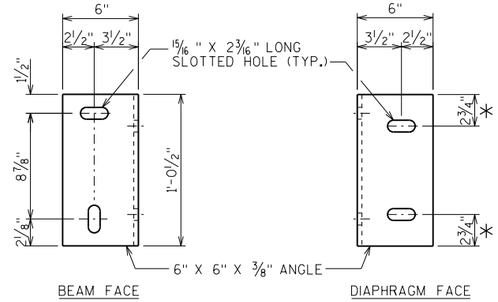
## NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-70-406", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

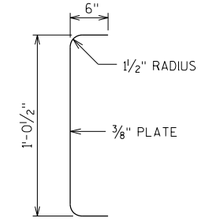
ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.




## DIAPHRAGM SUPPORT

* 2 1/2" FOR ALTERNATE PLATE DIAPHRAGM

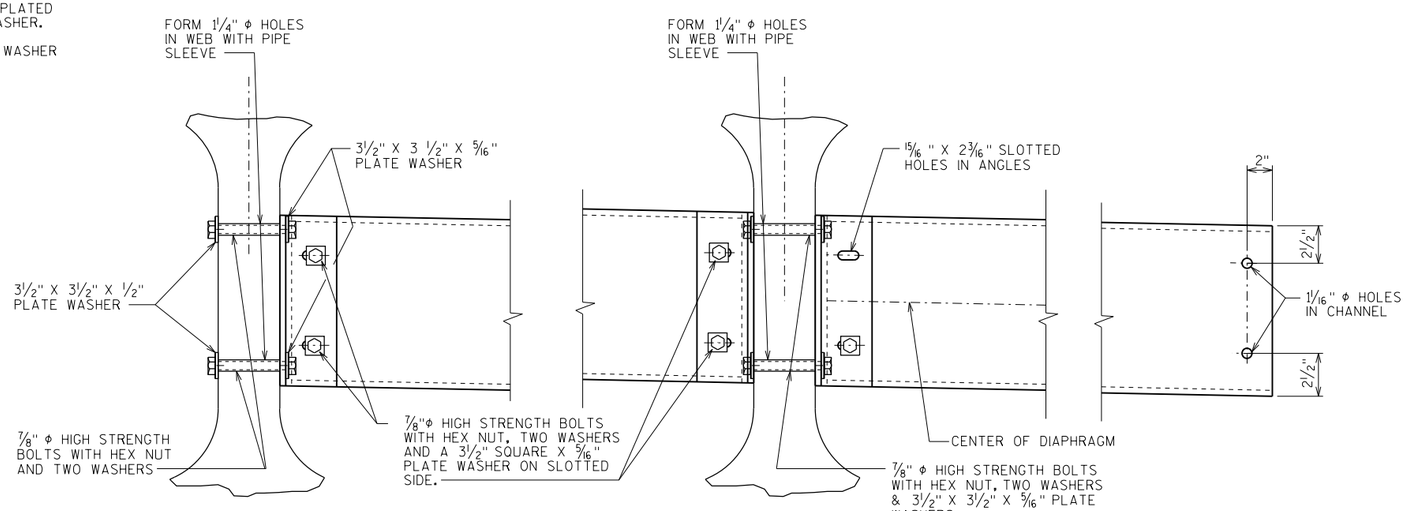



## SECTION THRU ALTERNATE DIAPHRAGM




## SECTION A-A

(FOR EXTERIOR ATTACHMENT)




(FOR STAGGERED DIAPHRAGM)

(FOR CONTINUOUS LINE OF DIAPHRAGMS)

## DETAIL B

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

DRAWN BY KAM | PLANS CK'D. MJA

INTERMEDIATE STEEL DIAPHRAGMS

SHEET 38 OF 65

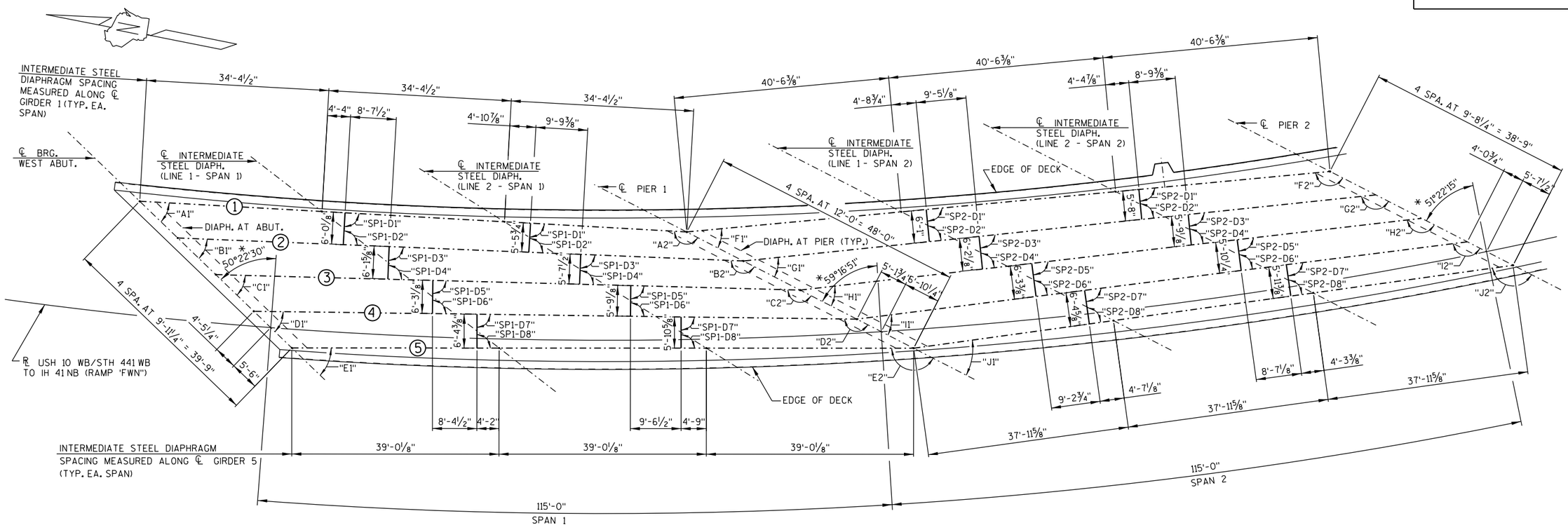
620

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PLOT DATE: 1/28/2016 PLOT TIME: 8:52:36 AM BATCH PRINT SHEET 39 OF 65

| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |




## FRAMING PLAN - UNIT 1 - SPANS 1 & 2

## ANGLES BETWEEN ℄ GIRDERS & ℄ SUBSTRUCTURE

| WEST ABUTMENT - SPAN 1 | | PIER 1 - SPAN 1 | | PIER 1 - SPAN 2 | | PIER 2 - SPAN 2 | |
|---|---|---|---|---|---|---|---|
| LOCATION | ANGLE | LOCATION | ANGLE | LOCATION | ANGLE | LOCATION | ANGLE |
| "A1" | 40°44'44" | "A2" | 156°04'13" | "F1" | 32°31'23" | "F2" | 147°28'37" |
| "B1" | 41°37'07" | "B2" | 155°11'50" | "G1" | 33°07'07" | "G2" | 146°52'53" |
| "C1" | 42°26'12" | "C2" | 154°22'45" | "H1" | 33°44'02" | "H2" | 146°15'58" |
| "D1" | 43°12'17" | "D2" | 153°36'40" | "I1" | 34°22'10" | "I2" | 145°37'50" |
| "E1" | 43°55'37" | "E2" | 152°53'20" | "J1" | 35°01'35" | "J2" | 144°58'25" |

## ANGLES BETWEEN ℄ GIRDERS & ℄ INTERMEDIATE STEEL DIAPHRAGMS

| LINES 1& 2 - SPAN 1 | | LINES 1& 2 - SPAN 2 | |
|---|---|---|---|
| LOCATION | ANGLE | LOCATION | ANGLE |
| "SP1-D1" | 90°00'00" | "SP2-D1" | 90°00'00" |
| "SP1-D2" | 89°07'37" | "SP2-D2" | 89°24'16" |
| "SP1-D3" | 90°00'00" | "SP2-D3" | 90°00'00" |
| "SP1-D4" | 89°10'55" | "SP2-D4" | 89°23'05" |
| "SP1-D5" | 89°13'55" | "SP2-D5" | 89°21'52" |
| "SP1-D6" | 90°00'00" | "SP2-D6" | 90°00'00" |
| "SP1-D7" | 89°16'40" | "SP2-D7" | 89°20'35" |
| "SP1-D8" | 90°00'00" | "SP2-D8" | 90°00'00" |

## LEGEND

(X) INDICATES GIRDER CENTER LINE

* ANGLE MEASURED AT TANGENT LINE TO CURVE AT INTERSECTION WITH RAMP ℄.

## NOTES

FOR DETAILS OF ALIGNMENT, SEE SHEET 6 "ALIGNMENT, PROFILE AND SUPERELEVATION".

FOR STEEL DIAPHRAGM DETAILS, SEE SHEET 38 "INTERMEDIATE STEEL DIAPHRAGMS".

## GIRDER LENGTHS TABLE

(END TO END OF CONCRETE GIRDER)

| GIRDER | SPAN 1 (115' - 0") | SPAN 2 (115' - 0") | SPAN 3 (115' - 0") | SPAN 4 (110' - 0") | SPAN 5 (99' - 8") | SPAN 6 (103' - 0") | SPAN 7 (103' - 0") | SPAN 8 (103' - 0") | SPAN 9 (83' - 0") |
|---|---|---|---|---|---|---|---|---|---|
| 1 | 103' - 3 3/4" | 121' - 0 1/2" | 117' - 11" | 111' - 0 1/4" | 111' - 8 1/8" | 100' - 0 3/8" | 100' - 0 3/8" | 100' - 0 3/8" | 76' - 5 3/4" |
| 2 | 106' - 9 1/2" | 119' - 1 1/2" | 116' - 11" | 110' - 5 7/8" | 107' - 11 7/8" | 100' - 9 1/8" | 100' - 9 1/8" | 100' - 9 1/8" | 78' - 1 1/4" |
| 3 | 110' - 3 3/8" | 117' - 2 5/8" | 115' - 11 1/4" | 109' - 11 5/8" | 104' - 3 3/4" | 101' - 6" | 101' - 6" | 101' - 6" | 79' - 8 5/8" |
| 4 | 113' - 9 3/8" | 115' - 3 7/8" | 114' - 11 1/2" | 109' - 5 3/8" | 100' - 7 1/2" | 102' - 2 3/4" | 102' - 2 3/4" | 102' - 2 3/4" | 81' - 4 1/8" |
| 5 | 117' - 3 3/4" | 113' - 5 3/8" | 113' - 11 7/8" | 108' - 11 1/8" | 96' - 11 3/8" | 102' - 11 1/2" | 102' - 11 1/2" | 102' - 11 1/2" | 82' - 11 1/2" |

| NO. | DATE | REVISION | BY |
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STRUCTURE B-70-406

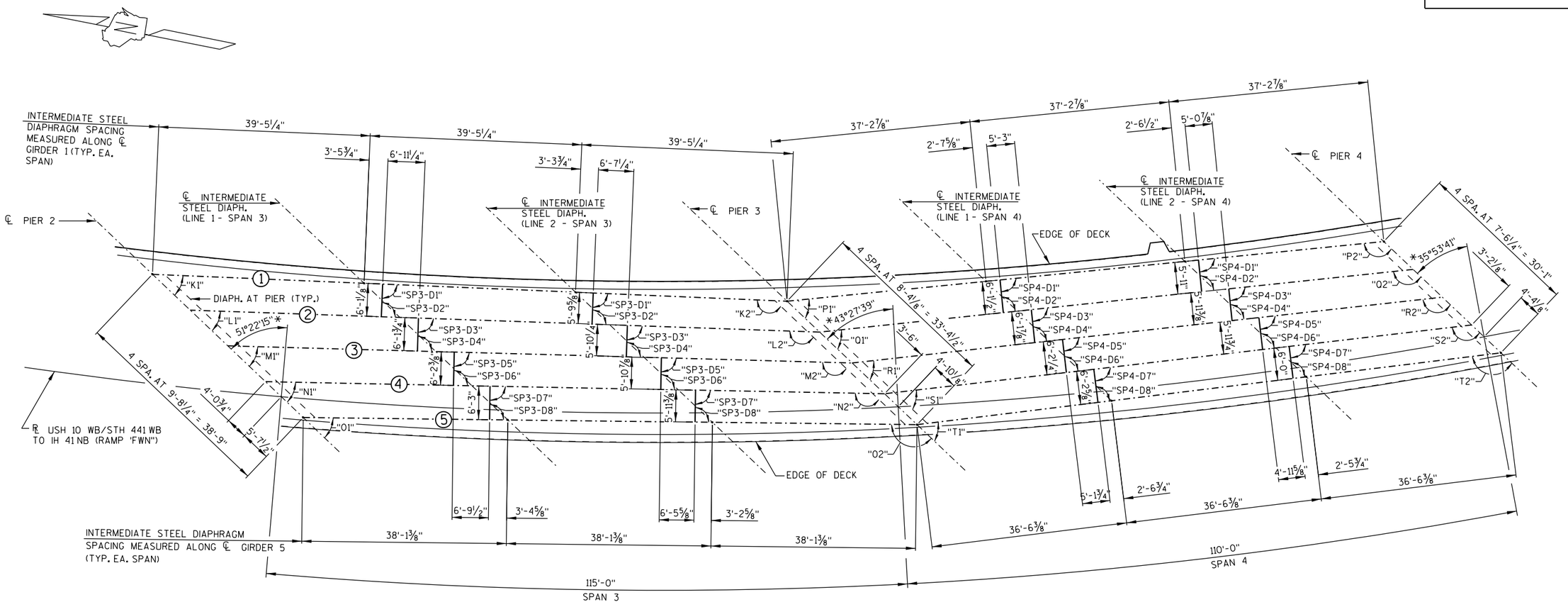
DRAWN BY TAW | PLANS CK'D. MJA

FRAMING PLAN - UNIT 1

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## FRAMING PLAN - UNIT 1 - SPANS 3 & 4

## ANGLES BETWEEN ℄ GIRDERS & ℄ SUBSTRUCTURE

| PIER 2 - SPAN 3 | | PIER 3 - SPAN 3 | | PIER 3 - SPAN 4 | | PIER 4 - SPAN 4 | |
|---|---|---|---|---|---|---|---|
| LOCATION | ANGLE | LOCATION | ANGLE | LOCATION | ANGLE | LOCATION | ANGLE |
| "K1" | 41°05'22" | "K2" | 138°54'38" | "P1" | 49°13'14" | "P2" | 130°46'46" |
| "L1" | 41°31'05" | "L2" | 138°28'55" | "O1" | 49°32'30" | "O2" | 130°27'30" |
| "M1" | 41°57'14" | "M2" | 138°02'46" | "R1" | 49°51'57" | "R2" | 130°08'03" |
| "N1" | 42°23'51" | "N2" | 137°36'09" | "S1" | 50°11'35" | "S2" | 129°46'25" |
| "O1" | 42°50'55" | "O2" | 137°09'05" | "T1" | 50°31'25" | "T2" | 129°28'35" |

## ANGLES BETWEEN ℄ GIRDERS & ℄ INTERMEDIATE STEEL DIAPHRAGMS

| LINES 1& 2 - SPAN 3 | | LINES 1& 2 - SPAN 4 | |
|---|---|---|---|
| LOCATION | ANGLE | LOCATION | ANGLE |
| "SP3-D1" | 90°00'00" | "SP4-D1" | 90°00'00" |
| "SP3-D2" | 89°34'17" | "SP4-D2" | 89°40'44" |
| "SP3-D3" | 90°00'00" | "SP4-D3" | 90°00'00" |
| "SP3-D4" | 89°35'50" | "SP4-D4" | 89°40'33" |
| "SP3-D5" | 89°33'23" | "SP4-D5" | 89°40'22" |
| "SP3-D6" | 90°00'00" | "SP4-D6" | 90°00'00" |
| "SP3-D7" | 89°32'56" | "SP4-D7" | 89°40'10" |
| "SP3-D8" | 90°00'00" | "SP4-D8" | 90°00'00" |

## LEGEND

Ⓧ INDICATES GIRDER CENTER LINE

* ANGLE MEASURED AT TANGENT LINE TO CURVE AT INTERSECTION WITH RAMP ℄.

## NOTES

FOR DETAILS OF ALIGNMENT, SEE SHEET 6 "ALIGNMENT, PROFILE AND SUPERELEVATION".

FOR STEEL DIAPHRAGM DETAILS, SEE SHEET 38 "INTERMEDIATE STEEL DIAPHRAGMS".

| NO. | DATE | REVISION | BY |
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FRAMING PLAN - UNIT 1

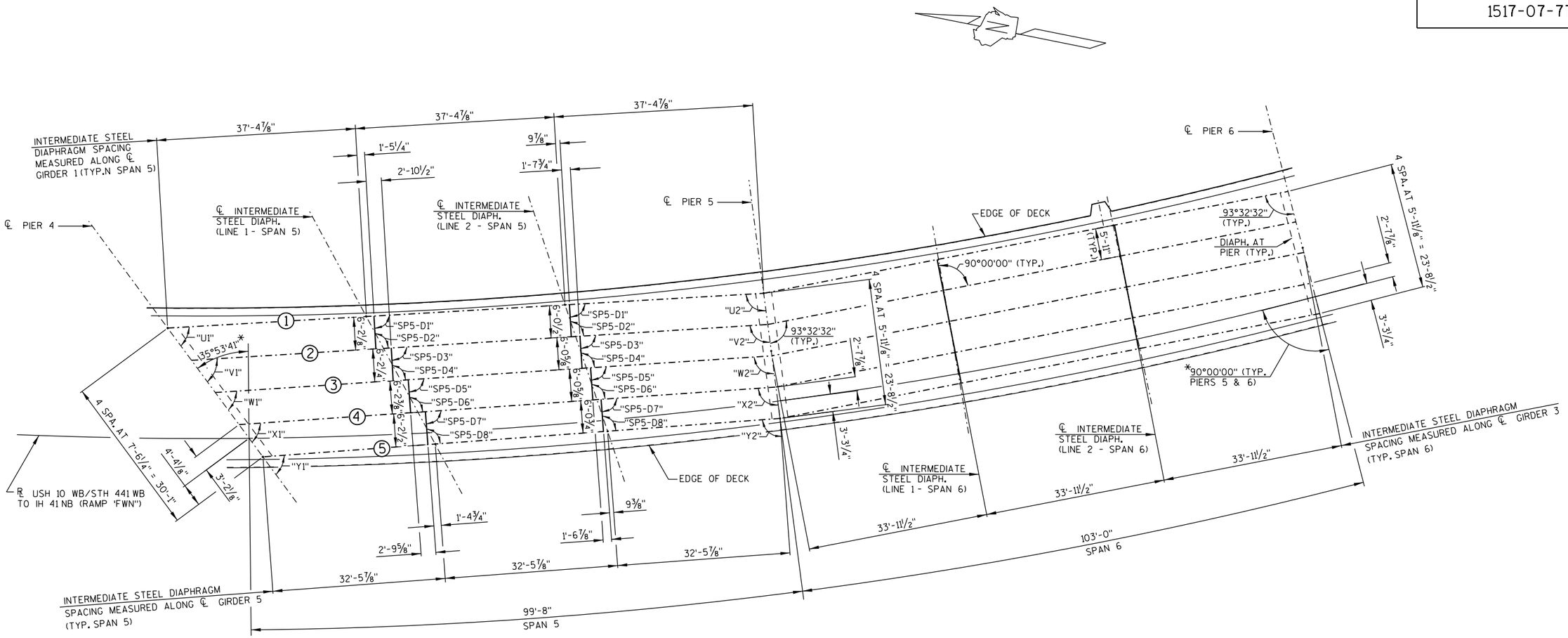
SHEET 40 OF 65
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## FRAMING PLAN - UNIT 2 - SPANS 5 & 6

### ANGLES BETWEEN ℄ GIRDERS & ℄ SUBSTRUCTURE

| PIER 4 - SPAN 5 | | PIER 5 - SPAN 5 | |
|---|---|---|---|
| LOCATION | ANGLE | LOCATION | ANGLE |
| "U1" | 56°51'38" | "U2" | 94°06'01" |
| "V1" | 57°03'50" | "V2" | 93°53'48" |
| "W1" | 57°16'54" | "W2" | 93°40'44" |
| "X1" | 57°30'56" | "X2" | 93°26'42" |
| "Y1" | 57°46'01" | "Y2" | 93°11'38" |

### ANGLES BETWEEN ℄ GIRDERS & ℄ INTERMEDIATE STEEL DIAPHRAGMS

| LINES 1& 2 - SPAN 5 | |
|---|---|
| LOCATION | ANGLE |
| "SP5-D1" | 90°00'00" |
| "SP5-D2" | 89°47'47" |
| "SP5-D3" | 90°00'00" |
| "SP5-D4" | 89°46'56" |
| "SP5-D5" | 89°45'59" |
| "SP5-D6" | 90°00'00" |
| "SP5-D7" | 89°44'55" |
| "SP5-D8" | 90°00'00" |

### LEGEND

Ⓧ INDICATES GIRDER CENTER LINE

* ANGLE MEASURED AT TANGENT LINE TO CURVE AT INTERSECTION WITH RAMP ℞.

### NOTES

FOR DETAILS OF ALIGNMENT, SEE SHEET 6 "ALIGNMENT, PROFILE AND SUPERELEVATION".

FOR STEEL DIAPHRAGM DETAILS, SEE SHEET 38 "INTERMEDIATE STEEL DIAPHRAGMS".

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STATE OF WISCONSIN
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STRUCTURE B-70-406

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FRAMING PLAN - UNIT 2

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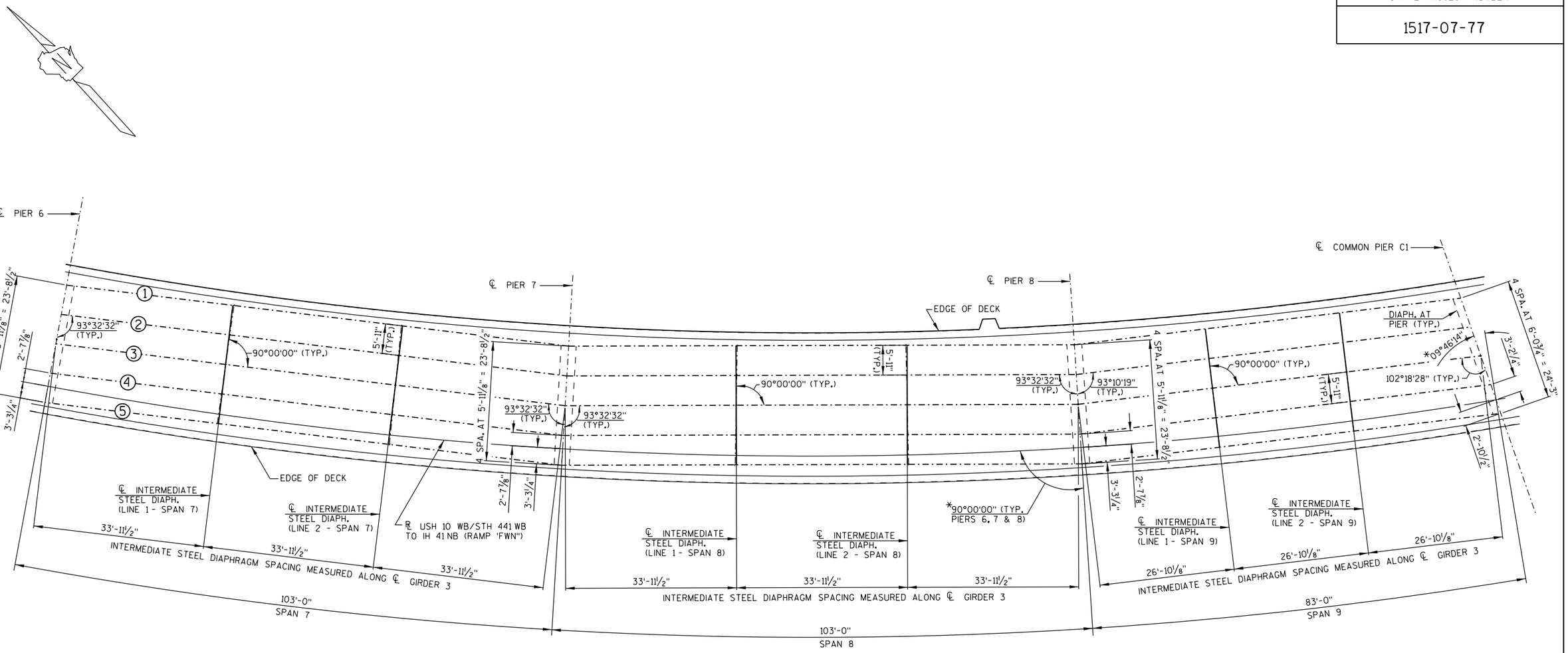
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PLOT TIME: 8:52:38 AM
BATCH PRINT SHEET 42 OF 65

STATE PROJECT NUMBER

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## FRAMING PLAN - UNIT 2 - SPANS 7, 8 & 9

## LEGEND

(X) INDICATES GIRDER CENTER LINE

* ANGLE MEASURED AT TANGENT LINE TO CURVE AT INTERSECTION WITH RAMP ℞.

## NOTES

FOR DETAILS OF ALIGNMENT, SEE SHEET 6 "ALIGNMENT, PROFILE AND SUPERELEVATION".

FOR STEEL DIAPHRAGM DETAILS, SEE SHEET 38 "INTERMEDIATE STEEL DIAPHRAGMS".

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STATE OF WISCONSIN
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STRUCTURE B-70-406

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FRAMING PLAN - UNIT 2

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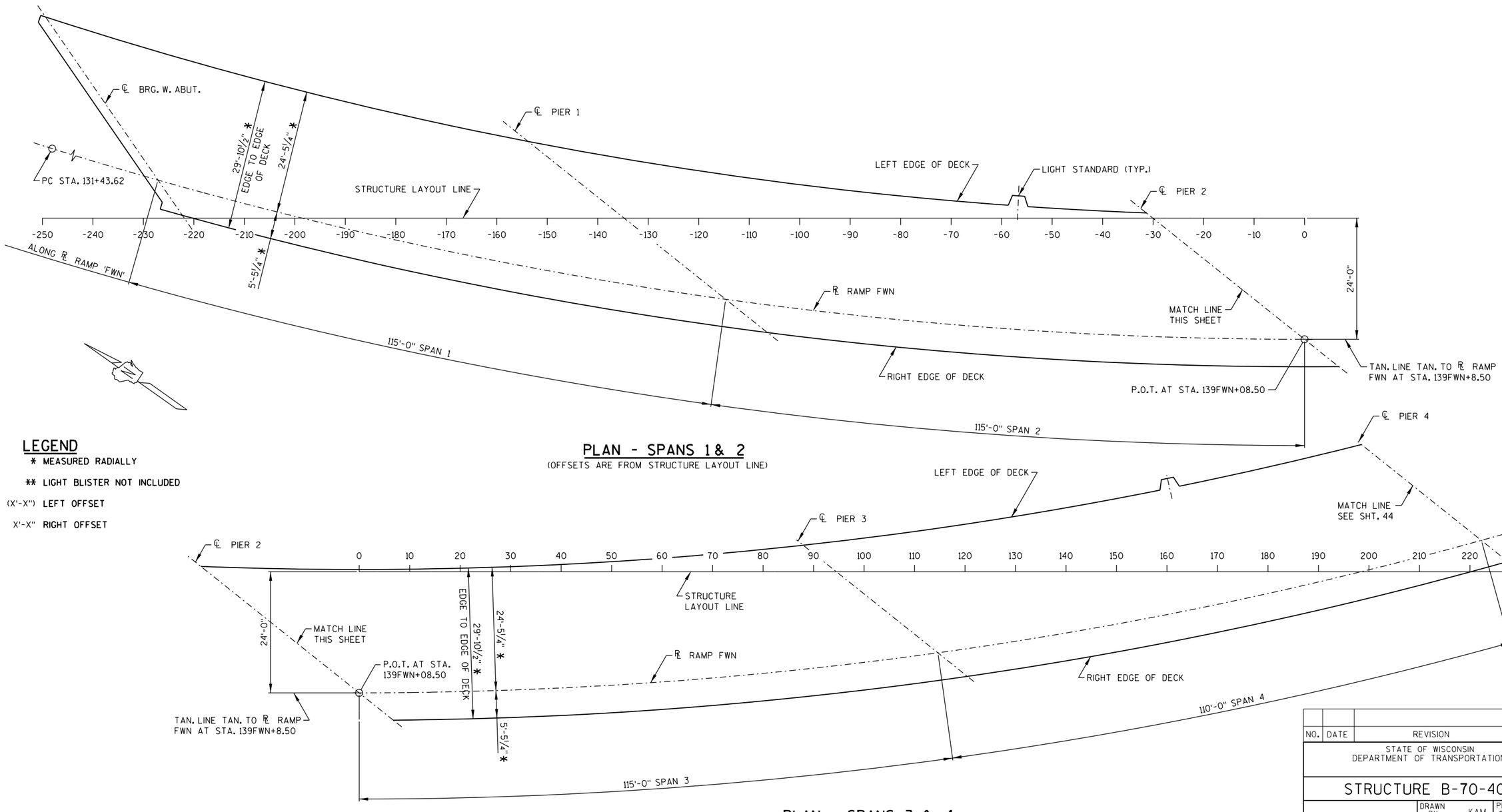
# TABLE OF LAYOUT LINE OFFSETS - SPANS 1 THRU 4

## SPANS 1-2

| DISTANCE FROM P.O.T. | -250 | -240 | -230 | -220 | -210 | -200 | -190 | -180 | -170 | -160 | -150 | -140 | -130 | -120 | -110 | -100 | -90 | -80 | -70 | -60 | -50 | -40 | -30 | -20 | -10 | 0 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OFFSET TO REF. LINE RAMP FWN | (14'-4 3/4") | (11'-3 7/8") | (8'-4 5/8") | (5'-6 7/8") | (2'-10 7/8") | (0'-4 3/8") | 2'-0 1/2" | 4'-3 7/8" | 6'-5 5/8" | 8'-5 7/8" | 10'-4 5/8" | 12'-1 3/4" | 13'-9 1/2" | 15'-3 3/4" | 16'-8 1/2" | 17'-11 3/4" | 19'-1 1/2" | 20'-1 3/4" | 21'-0 5/8" | 21'-10" | 22'-6" | 23'-0 1/2" | 23'-5 1/2" | 23'-9 1/8" | 23'-11 1/4" | 24'-0" |
| OFFSET TO RT. EDGE OF DECK | - | - | - | 0'-0 3/4" | 2'-8 1/2" | 5'-2 3/4" | 7'-7 1/2" | 9'-10 5/8" | 12'-0 1/4" | 14'-0 3/8" | 15'-10 7/8" | 17'-8" | 19'-3 5/8" | 20'-9 5/8" | 22'-2 1/4" | 23'-5 3/8" | 24'-7 1/8" | 25'-7 3/8" | 26'-6 1/8" | 27'-3 1/2" | 27'-11 3/8" | 28'-5 3/4" | 28'-10 3/4" | 29'-2 3/8" | 29'-4 1/2" | 29'-5 1/4" |
| OFFSET TO LT. EDGE OF DECK | 40'-0 5/8" | 36'-10 1/2" | 33'-10 1/8" | 30'-11 1/4" | 28'-2 1/4" | 25'-6 3/4" | 23'-0 7/8" | 20'-8 3/4" | 18'-6 1/8" | 16'-5 1/8" | 14'-5 5/8" | 12'-7 3/4" | 10'-11 1/2" | 9'-4 3/4" | 7'-11 1/2" | 6'-7 3/4" | 5'-5 1/2" | 4'-4 7/8" | 3'-5 5/8" | 2'-8" | 1'-11 7/8" | 1'-5 1/8" | 0'-11 7/8" | 0'-8 1/4" | 0'-6" | 0'-5 1/4" |

## SPANS 3-4

| DISTANCE FROM P.O.T. | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 | 200 | 210 | 220 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OFFSET TO REF. LINE RAMP FWN | 24'-0" | 23'-11 1/4" | 23'-9 1/8" | 23'-5 1/2" | 23'-0 1/2" | 22'-6" | 21'-10" | 21'-0 5/8" | 20'-1 3/4" | 19'-1 1/2" | 17'-11 3/4" | 16'-8 1/2" | 15'-3 3/4" | 13'-9 1/2" | 12'-1 3/4" | 10'-4 5/8" | 8'-5 7/8" | 6'-5 5/8" | 4'-3 7/8" | 2'-0 1/2" | (4 3/8") | (2'-10 7/8") | (5'-6 7/8") |
| OFFSET TO RT. EDGE OF DECK | 29'-5 1/4" | 29'-4 1/2" | 29'-2 3/8" | 28'-10 3/4" | 28'-5 3/4" | 27'-11 3/8" | 27'-3 1/2" | 26'-6 1/8" | 25'-7 3/8" | 24'-7 1/8" | 23'-5 3/8" | 22'-2 1/4" | 20'-9 5/8" | 19'-3 5/8" | 17'-8" | 15'-10 7/8" | 14'-0 3/8" | 12'-0 1/4" | 9'-10 5/8" | 7'-7 1/2" | 5'-2 3/4" | 2'-8 1/2" | 0'-0 3/4" |
| OFFSET TO LT. EDGE OF DECK | 0'-5 1/4" | 0'-6" | 0'-8 1/4" | 0'-11 7/8" | 1'-5 1/8" | 1'-11 7/8" | 2'-8" | 3'-5 5/8" | 4'-4 7/8" | 5'-5 1/2" | 6'-7 3/4" | 7'-11 1/2" | 9'-4 3/4" | 10'-11 1/2" | 12'-7 3/4" | 14'-5 5/8" | 16'-5 1/8"** | 18'-6 1/8" | 20'-8 3/4" | 23'-0 7/8" | - | - | - |




## PLAN - SPANS 1 & 2

(OFFSETS ARE FROM STRUCTURE LAYOUT LINE)

## PLAN - SPANS 3 & 4

(OFFSETS ARE FROM STRUCTURE LAYOUT LINE)

## LEGEND

* MEASURED RADIALLY

** LIGHT BLISTER NOT INCLUDED

(X'-X") LEFT OFFSET

X'-X" RIGHT OFFSET

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STATE OF WISCONSIN
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STRUCTURE B-70-406

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LAYOUT LINE OFFSET DETAILS UNIT 1

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STATE PROJECT NUMBER

1517-07-77

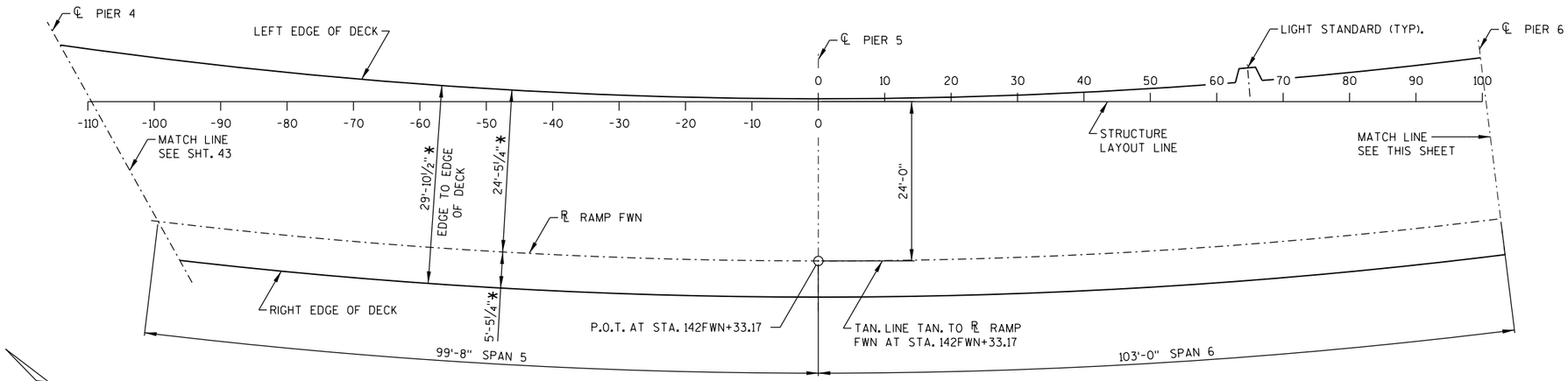
# TABLE OF LAYOUT LINE OFFSETS - SPANS 5 THRU 9

**SPANS 5 - 6**

| DISTANCE FROM P.O.T. | -110 | -100 | -90 | -80 | -70 | -60 | -50 | -40 | -30 | -20 | -10 | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OFFSET TO REF. LINE RAMP FWN | - | 17'-11 3/4" | 19'-1 1/2" | 20'-1 3/4" | 21'-0 5/8" | 21'-10" | 22'-6" | 23'-0 1/2" | 23'-5 1/2" | 23'-9 1/8" | 23'-11 1/4" | 24'-0" | 23'-11 1/4" | 23'-9 1/8" | 23'-5 1/2" | 23'-0 1/2" | 22'-6" | 21'-10" | 21'-0 5/8" | 20'-1 3/4" | 19'-1 1/2" | 17'-11 3/4" |
| OFFSET TO RT. EDGE OF DECK | - | - | 24'-7 1/8" | 25'-7 3/8" | 26'-6 1/8" | 27'-3 1/2" | 27'-11 3/8" | 28'-5 3/4" | 28'-10 3/4" | 29'-2 3/8" | 29'-4 1/2" | 29'-5 1/4" | 29'-4 1/2" | 29'-2 3/8" | 28'-10 3/4" | 28'-5 3/4" | 27'-11 3/8" | 27'-3 1/2" | 26'-6 1/8" | 25'-7 3/8" | 24'-7 1/8" | 23'-5 3/8" |
| OFFSET TO LT. EDGE OF DECK | 7'-11 1/2" | 6'-7 3/4" | 5'-5 1/2" | 4'-4 7/8" | 3'-5 5/8" | 2'-8" | 1'-11 7/8" | 1'-5 1/8" | 0'-11 7/8" | 0'-8 1/4" | 0'-6" | 0'-5 1/4" | 0'-6" | 0'-8 1/4" | 0'-11 7/8" | 1'-5 1/8" | 1'-11 7/8" | 2'-8" | 3'-5 5/8" | 4'-4 7/8" | 5'-5 1/2" | - |

**SPANS 7 - 9**

| DISTANCE FROM P.O.T. | | -100 | -90 | -80 | -70 | -60 | -50 | -40 | -30 | -20 | -10 | 0 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OFFSET TO REF. LINE RAMP FWN | - | 17'-11 3/4" | 19'-1 1/2" | 20'-1 3/4" | 21'-0 5/8" | 21'-10" | 22'-6" | 23'-0 1/2" | 23'-5 1/2" | 23'-9 1/8" | 23'-11 1/4" | 24'-0" | 23'-11 1/4" | 23'-9 1/8" | 23'-5 1/2" | 23'-0 1/2" | 22'-6" | 21'-10" | 21'-0 5/8" | 20'-1 3/4" | 19'-1 1/2" | 17'-11 3/4" | 16'-8 1/2" | 15'-3 3/4" | 13'-9 1/2" | 12'-1 3/4" | 10'-4 5/8" | 8'-5 7/8" | 6'-5 5/8" | 4'-3 7/8" |
| OFFSET TO RT. EDGE OF DECK | - | 23'-5 3/8" | 24'-7 1/8" | 25'-7 3/8" | 26'-6 1/8" | 27'-3 1/2" | 27'-11 3/8" | 28'-5 3/4" | 28'-10 3/4" | 29'-2 3/8" | 29'-4 1/2" | 29'-5 1/4" | 29'-4 1/2" | 29'-2 3/8" | 28'-10 3/4" | 28'-5 3/4" | 27'-11 3/8" | 27'-3 1/2" | 26'-6 1/8" | 25'-7 3/8" | 24'-7 1/8" | 23'-5 3/8" | 22'-2 1/4" | 20'-9 5/8" | 19'-3 5/8" | 17'-8" | 15'-10 7/8" | 14'-0 3/8" | 12'-0 1/4" | 9'-10 5/8" |
| OFFSET TO LT. EDGE OF DECK | - | - | 5'-5 1/2" | 4'-4 7/8" | 3'-5 5/8" | 2'-8" | 1'-11 7/8" | 1'-5 1/8" | 0'-11 7/8" | 0'-8 1/4" | 0'-6" | 0'-5 1/4" | 0'-6" | 0'-8 1/4" | 0'-11 7/8" | 1'-5 1/8" | 1'-11 7/8" | 2'-8" | 3'-5 5/8" | 4'-4 7/8" | 5'-5 1/2" | 6'-7 3/4" | 7'-11 1/2" | 9'-4 3/4" | 10'-11 1/2" | 12'-7 3/4" | 14'-5 5/8" | 16'-5 1/8" | 18'-6 1/8" | - |

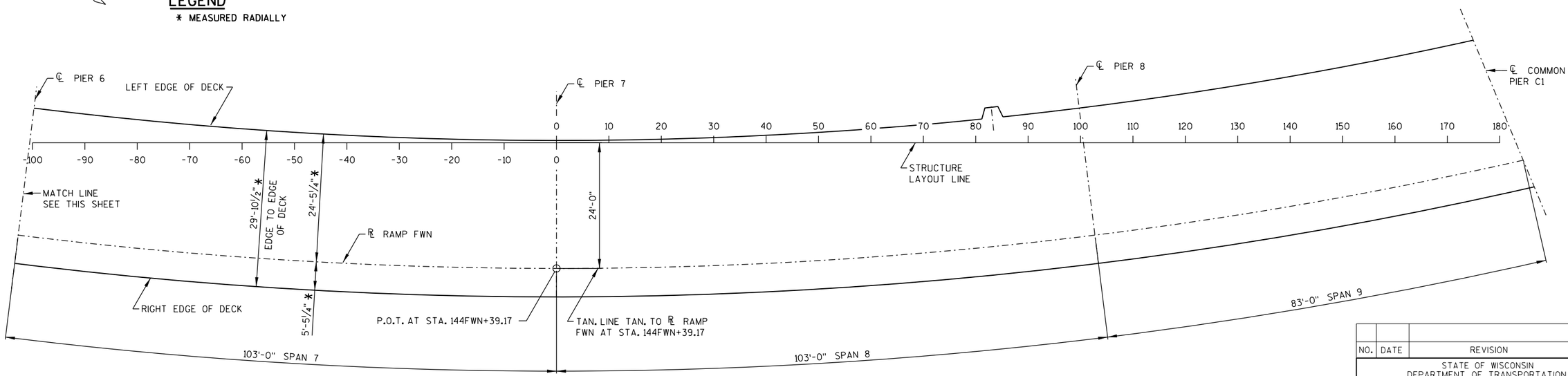



## PLAN - SPANS 5 & 6

(OFFSETS ARE FROM STRUCTURE LAYOUT LINE)

## LEGEND

* MEASURED RADIALLY




## PLAN - SPANS 7, 8 & 9

(OFFSETS ARE FROM STRUCTURE LAYOUT LINE)

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

DRAWN BY KAM | PLANS CK'D. MJA

LAYOUT LINE OFFSET DETAILS UNIT 2

SHEET 44 OF 65

626

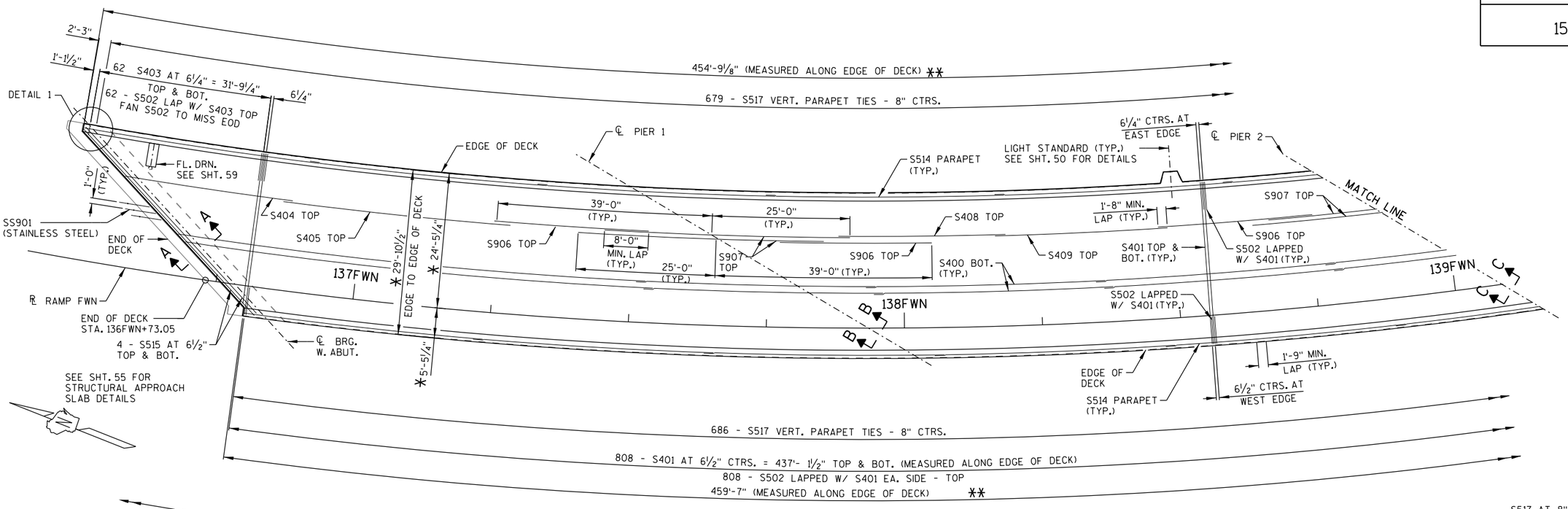
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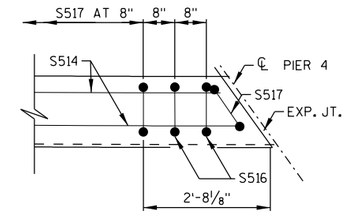

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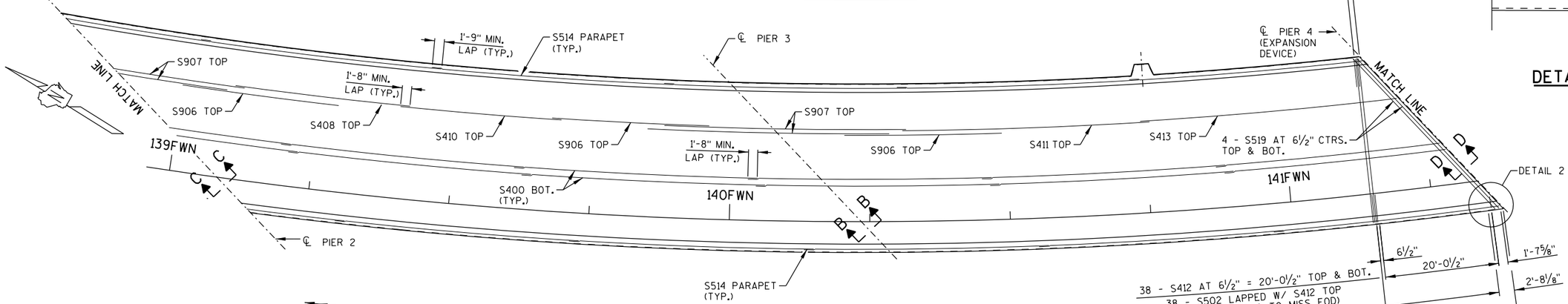
1517-07-77



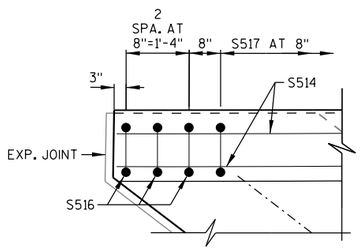

## DECK PLAN SPANS 1 - 2




## DETAIL 2




## DECK PLAN SPANS 3 - 4




## DETAIL 1

* MEASURED RADIAL TO ℞ FWN

** DIMENSION ALONG EDGE OF DECK FOR EXPANSION JOINTS SET AT 60°F., DIMENSION WILL VARY BASED ON TEMPERATURE AT THE TIME OF JOINT PLACEMENT. SEE SHT. 57 FOR JOINT OPENING SIZES AT OTHER TEMPERATURES.

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

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DECK REINFORCEMENT UNIT 1

SHEET 45 OF 65

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8

8

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## NOTES

THE TOP LONGITUDINAL BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS IN THE TRANSVERSE DIRECTION ON 4'-0" CENTERS.

THE BOTTOM TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS WITH A CENTER TO CENTER SPACING NOT TO EXCEED 4'-0". ONE LINE OF CONTINUOUS BAR CHAIRS SHALL BE PLACED NEAR EACH EDGE OF SLAB TO SUPPORT THE ENDS OF THE BOTTOM TRANSVERSE BAR STEEL.

SEE SHEET 59 & 60 "FLOOR DRAIN TYPE "WF"" & "DOWNSPOUT DETAILS" FOR LOCATIONS OF FLOOR DRAINS AND FLOOR DRAIN DETAILS.

ALL TRANSVERSE BAR STEEL TO BE PLACED RADIALLY TO THE RAMP FWN REFERENCE LINE.

ALL LONGITUDINAL BAR STEEL SHALL BE PLACED CONCENTRIC TO THE RAMP FWN REFERENCE LINE.

SEE SHEET 61 "AESTHETIC DETAILS" FOR AESTHETIC TREATMENT ON PARAPET.

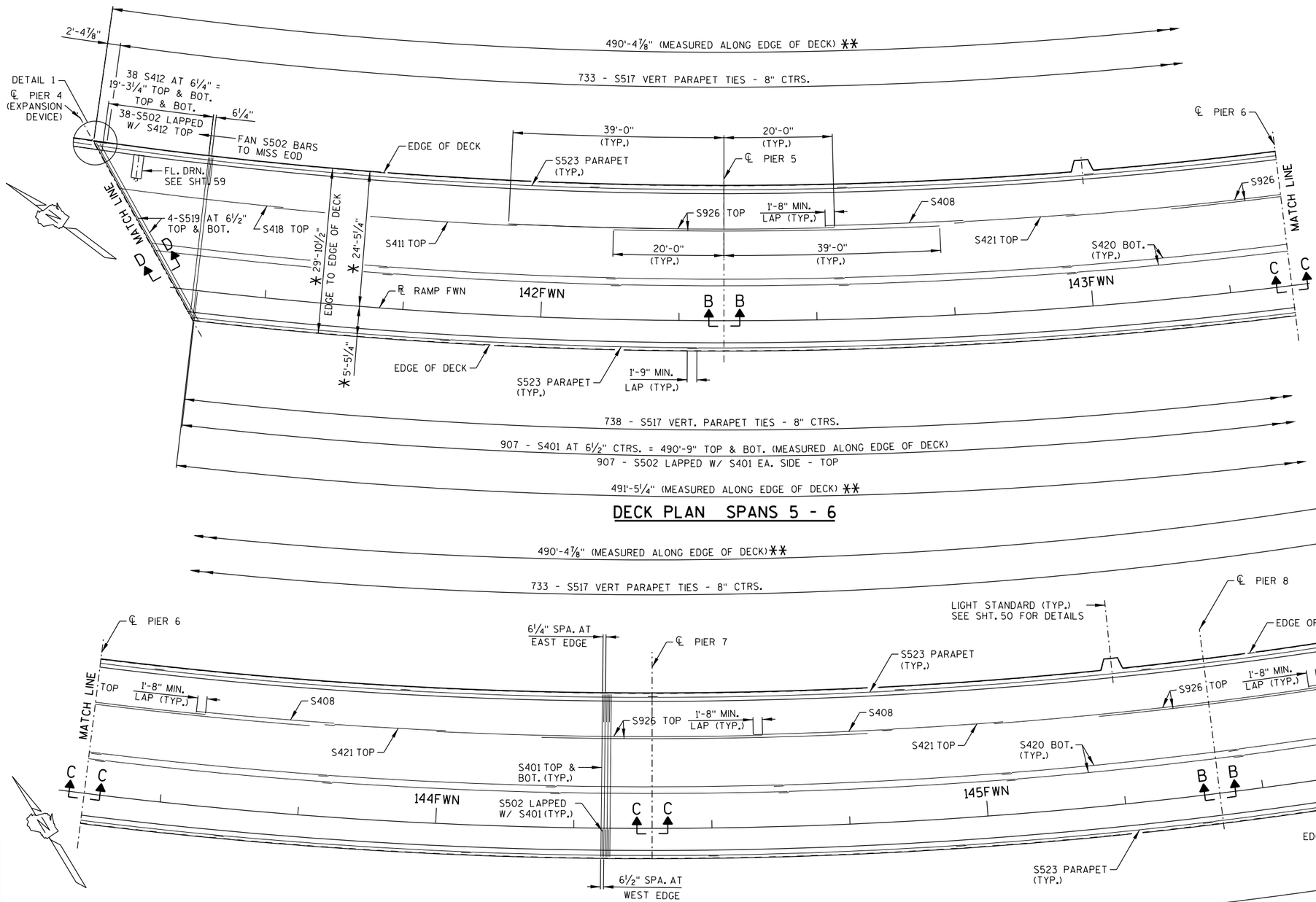
FOR PARAPET REINFORCEMENT AND PARAPET TRANSITION DETAILS AT COMMON PIER C1, SEE SHEET 51 "SUPERSTRUCTURE REINFORCEMENT DETAILS".

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

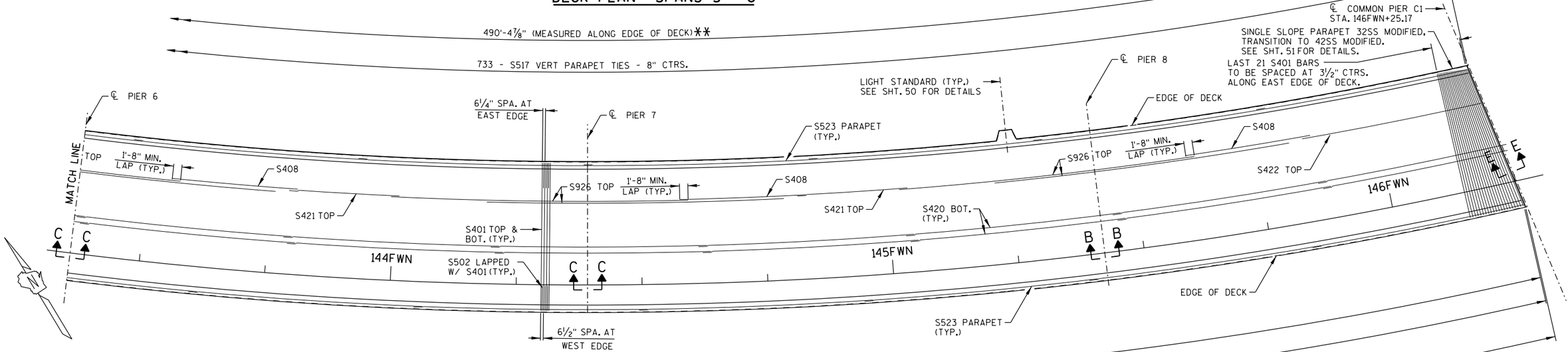
LAP NO. 4 BARS 1'-8" MIN. IN SLAB.

SEE SHT. 50 "LIGHT STANDARD" FOR REINFORCEMENT DETAILS AT LIGHT STANDARDS.

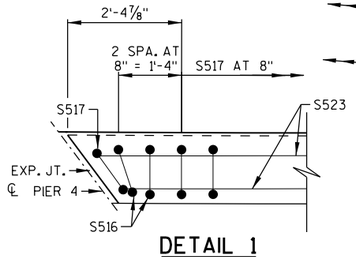
SEE SHT. 51 "SUPERSTRUCTURE REINFORCEMENT DETAILS" FOR SUPERSTRUCTURE BILL OF BARS AND BAR BEND DETAILS.




## DECK PLAN SPANS 5 - 6




## DECK PLAN SPANS 7 - 9




DETAIL 1

* MEASURED RADIAL TO ℄ FWN

** DIMENSION ALONG EDGE OF DECK FOR EXPANSION JOINTS SET AT 60°F.. DIMENSION WILL VARY BASED ON TEMPERATURE AT THE TIME OF JOINT PLACEMENT. SEE SHT. 57 FOR JOINT OPENING SIZES AT OTHER TEMPERATURES.

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

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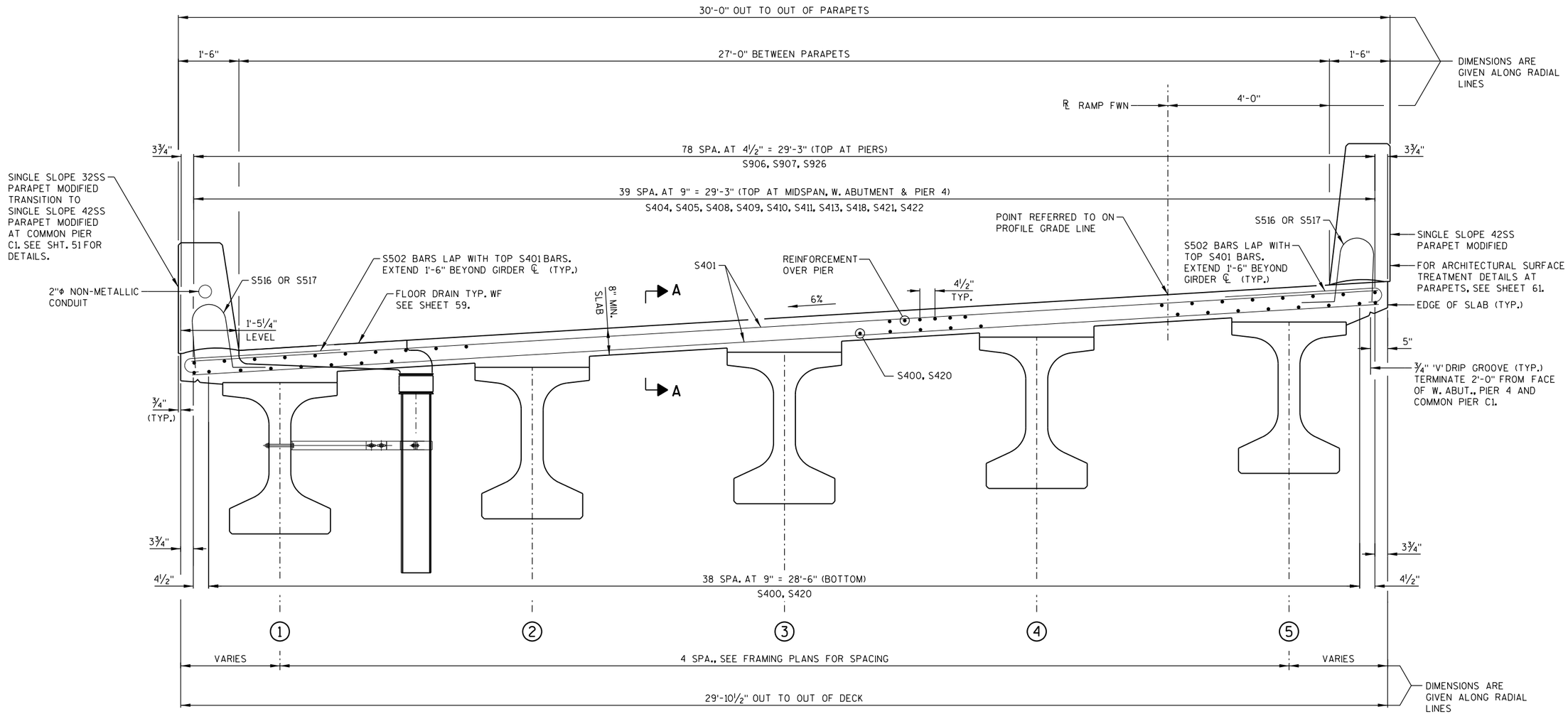
DECK REINFORCEMENT UNIT 2

SHEET 46 OF 65

628

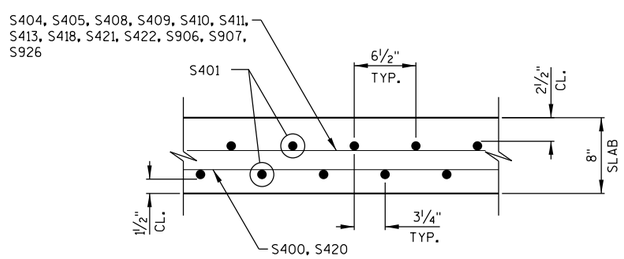
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## CROSS SECTION THRU ROADWAY

(LOOKING UPSTATION)




## SECTION A - A

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

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TYPICAL DECK REINFORCEMENT CROSS SECTION

SHEET 47 OF 65
629

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PLOT DATE: 1/28/2016
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CONC. DIAPH. TO EXTEND BETWEEN INSIDE FACES OF EXTERIOR GIRDERS. NO OPTIONAL CONSTRUCTION JOINT ALLOWED. PLACE DIAPHRAGM CONCRETE WITH DECK SLAB.

STRIP SEAL EXP. JOINT SEE "EXPANSION JT." SHT. 57 FOR DETAILS

**N406 @ 9" CTRS. BETWEEN TOP FLANGES OF GIRDERS

CONST. JOINT STRIKE OFF & LEAVE ROUGH.

**2-N407 STIRRUPS-2 UNDER EACH TOP FLANGE OF GIRDER

FRONT FACE OF ABUT. BACKWALL

5-N608 @ EQ. SPA.

FORM HOLES IN WEB WITH 1¼" SCHEDULE 40 GALVANIZED PIPE. 15/16" X 2 3/16" LONG SLOTTED HOLE (TYP.) IN ANGLE FOR ⅞" ϕ BOLTS. TORQUE BOLTS TO SNUG FIT PLUS ¼ TURN.

*1" 2'-6" * ANGLE 6" X 4" X ¾" X 1'-7"

END OF GIRDER

STEEL BRGS. ℄ BRG.

## AT ABUTMENT

(SECTION A-A, SEE SHEET 45 "DECK REINFORCEMENT UNIT 1" FOR LOCATION)

℄ PIER

OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

TOP OF SLAB 2½" CL. 1½" CL.

N402, N405 BARS @ 1'-6" MAX. VERTICAL SPACING

CONC. DIAPH. TO EXTEND BTWN. OUTSIDE FACES OF EXT. GIRDERS.

**N510, N513 BARS @ 1'-0" CTRS.

**N515, N518 BARS

2" BEVEL KEYED CONST. JOINT FORMED BY BEVELED 2" X 6".

VARIES VARIES

½" NON-LAMINATED ELASTOMERIC BEARING PADS & ¾" PREFORMED FILLER.

℄ BRG.

P535 BARS AT 1'-0" CENTERS X 2'-0" LONG. PLACE BETWEEN GIRDERS, EMBED 1'0". PLACE BARS BEFORE CONCRETE HAS TAKEN INITIAL SET.

*1'-3" *1'-3" PIERS 6 & 7

*2'-0" *2'-0" PIER 2

* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

** BARS PLACED PARALLEL TO GIRDERS SPACING PERPENDICULAR TO ℄ GIRDERS

◪ DIMENSION TAKEN PARALLEL TO ℄ GIRDER

## AT PIER DIAPHRAGM

(FIXED) (PIERS 2, 6, 7)
(SECTION C-C, SEE SHEETS 45 & 46 "DECK REINFORCEMENT" FOR LOCATION)

## PART LONGIT. SECTION

℄ PIER

OPTIONAL CONSTRUCTION JOINT 1'-2" BELOW TOP OF GIRDER. IF USED, DECK POUR MUST BE WITHIN 2 WEEKS FROM THE TIME OF THE DIAPHRAGM POUR.

TOP OF SLAB 2½" CL. 1½" CL.

N401, N403, N405 BARS @ 1'-6" MAX. VERTICAL SPACING

CONC. DIAPH. TO EXTEND BTWN. OUTSIDE FACES OF EXT. GIRDERS.

**N509, N511, N513 BARS @ 1'-0" CTRS.

**N514, N516, N518 BARS

2" BEVEL VARIES VARIES

℄ BRG.

*1'-3" *1'-3" PIERS 5 & 8

*2'-0" *2'-0" PIERS 1 & 3

## AT PIER DIAPHRAGM

(EXPANSION)
(PIERS 1, 3, 5, 8)

(FORM DIAPHRAGM APPROXIMATELY ½" ABOVE BEARING KEEPER BARS)
(SECTION B-B, SEE SHEETS 45 & 46 "DECK REINFORCEMENT" FOR LOCATION)

4" 3½" 6" 3¼" 2 @ 6¼" 3¼" 1'-7"

## ANGLE

6" X 4" X ¾" X 1'-7"

PROVIDE 3½" x 3½" x 5/16" PLATE WASHERS AT ALL LOCATIONS EXCEPT AT EXTERIOR FACES OF EXTERIOR GIRDERS WHERE 3½" x 3½" x ½" PLATE WASHERS SHALL BE PROVIDED.

CONCRETE DIAPHRAGM TO EXTEND BETWEEN INSIDE FACES OF EXTERIOR GIRDERS

TOP OF DECK 10¼" (TYP.) 3'-1" MIN. LAP N608 8"

3½" X 3½" X ½" PLATE WASHER

6-N406 AT EQ. SPA.

ANGLE 6" X 4" X ¾" X 1'-7"

2 N407 EQ. SPA.

1'-11½"

3½" X 3½" X 5/16" PLATE WASHER

⅞"ϕ HIGH STRENGTH BOLTS WITH HEX NUT & TWO WASHERS

INTERIOR GIRDER EXTERIOR GIRDER

## SECTION AT PARTIAL DEPTH DIAPHRAGM

(ABUTMENT)

CONC. DIAPH. TO EXTEND BETWEEN INSIDE FACES OF EXTERIOR GIRDERS. NO OPTIONAL CONSTRUCTION JOINT ALLOWED. PLACE DIAPHRAGM CONCRETE WITH DECK SLAB.

N425 @ 9" CTRS. BETWEEN TOP FLANGES OF GIRDERS **

MODULAR EXPANSION JOINT, SEE STRUCTURE B-70-61 PLANS FOR DETAILS.

2-N426 STIRRUPS - 2 UNDER TOP FLANGE OF GIRDER WITHOUT HOLES FOR REINFORCEMENT. SEE SHT. 49 FOR REINFORCEMENT DETAIL AT FLANGE WITH HOLES FOR REINFORCEMENT. **

5-N624, N628 OR N629 @ EQ. SPA.

1'-6" 6"

ANGLE 6" X 4" X ¾" X 1'-7"

* 2'-6" 1"*

FORM HOLES IN WEB WITH 1¼" SCHEDULE 40 GALVANIZED PIPE. 15/16" X 2 3/16" LONG SLOTTED HOLE (TYP.) IN ANGLE FOR ⅞" ϕ BOLTS. TORQUE BOLTS TO SNUG FIT PLUS ¼ TURN.

END OF GIRDER

STEEL BRGS. ℄ BRG.

## AT COMMON PIER C1

(SECTION E-E, SEE SHEET 46 "DECK REINFORCEMENT UNIT 2" FOR LOCATION) AND SHEET 49 FOR DETAILED PLAN.

℄ PIER 3" MIN. 4" (TYP.)

CONCRETE DIAPHRAGM

P535 BARS AT 1'-0" CTRS. BETWEEN GIRDERS

℄ GIRDER

BRIDGE SEAT STEP

8"×2'-6" NON-LAMINATED ELASTOMERIC BEARING PADS

3" MIN. VARIES

ENDS OF GIRDERS

℄ GIRDER

VARIES VARIES

KEYED CONST. JOINT BETWEEN GIRDERS, FORMED BY BEVELED 2"x6".

¾" PREFORMED FILLER (TYP.)

## AT PIER

(PIERS 2, 6 & 7)
PIER 2 SHOWN, PIERS 6 & 7 SIMILIAR - BRIDGE SEAT STEP NOT SKEWED, PIERS 6 & 7 NOT SKEWED.

N401 - PIER 1
N402 - PIER 2
N403 - PIER 3
N405 - PIER 5-8

1'-5" LAP

TOP OF DECK

N514 BARS PIER 1
N515 BARS PIER 2
N516 BARS PIER 3
N518 BARS PIERS 5-8

AT EQ. SPA.
4- N509 BARS PIER 1
4- N510 BARS PIER 2
4- N511 BARS PIER 3
4- N513 BARS PIERS 5-8

EXTERIOR GIRDER INTERIOR GIRDER

## SECTION AT FULL DEPTH DIAPHRAGM AT PIERS

## NOTES

DIAPHRAGM SUPPORT ANGLES SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUT AND WASHERS SHALL BE ASTM A325 TYPE 1.

ALL SUPPORT ANGLES SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.

ALL DIAPHRAGM SUPPORT HARDWARE SHALL BE INCIDENTAL TO "MODIFIED HIGH PERFORMANCE CONCRETE (HPC) MASONRY BRIDGES".

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

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STRUCTURE DETAILS

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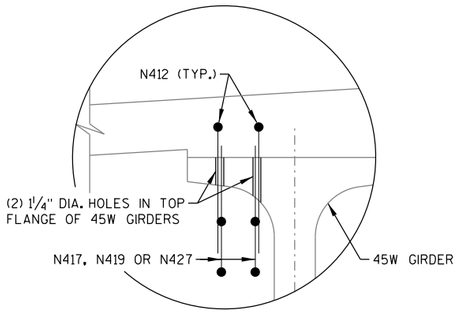
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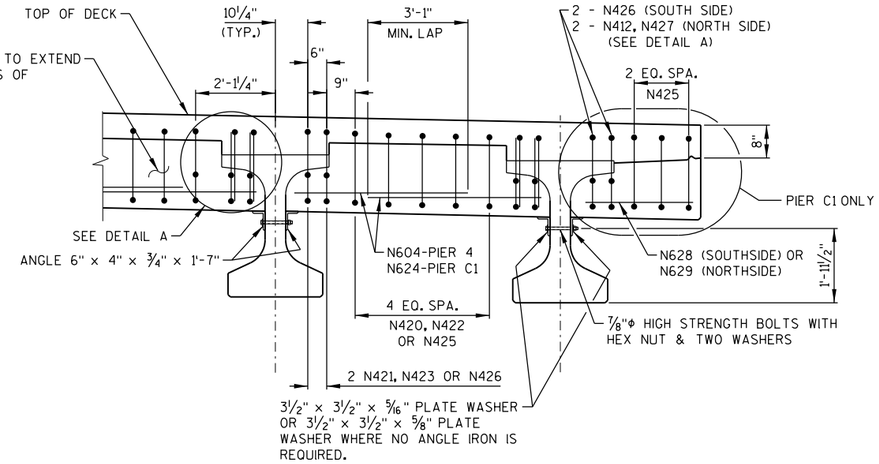
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## DETAIL A



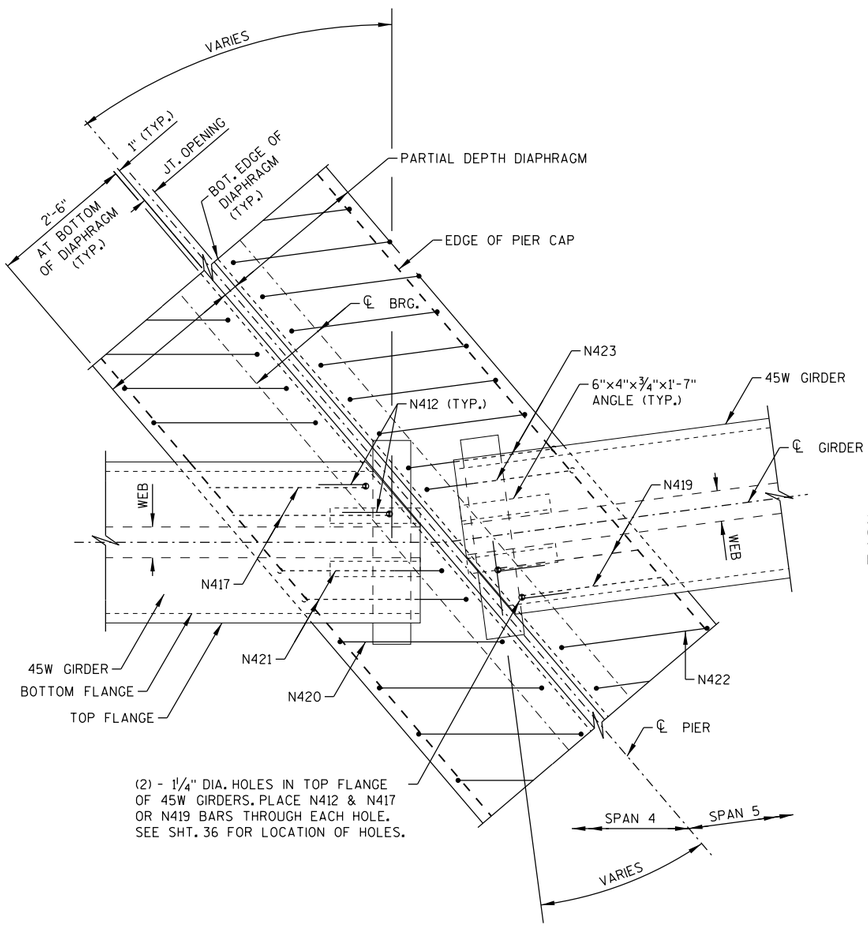

INTERIOR GIRDER EXTERIOR GIRDER

## SECTION AT PARTIAL DEPTH DIAPHRAGM

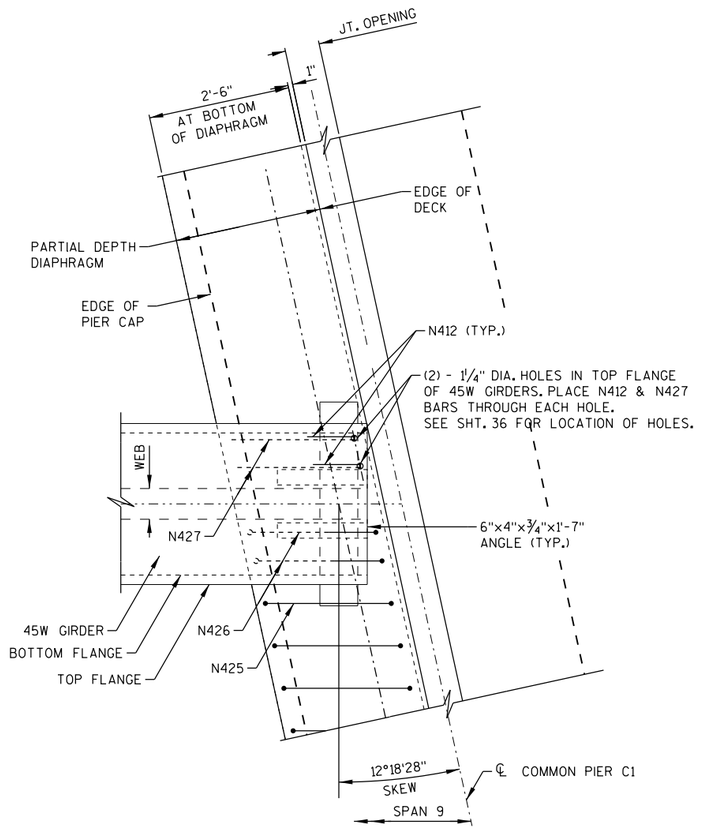
PIER 4 - SPANS 4 & 5
COMMON PIER C1 - SPAN 9

* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

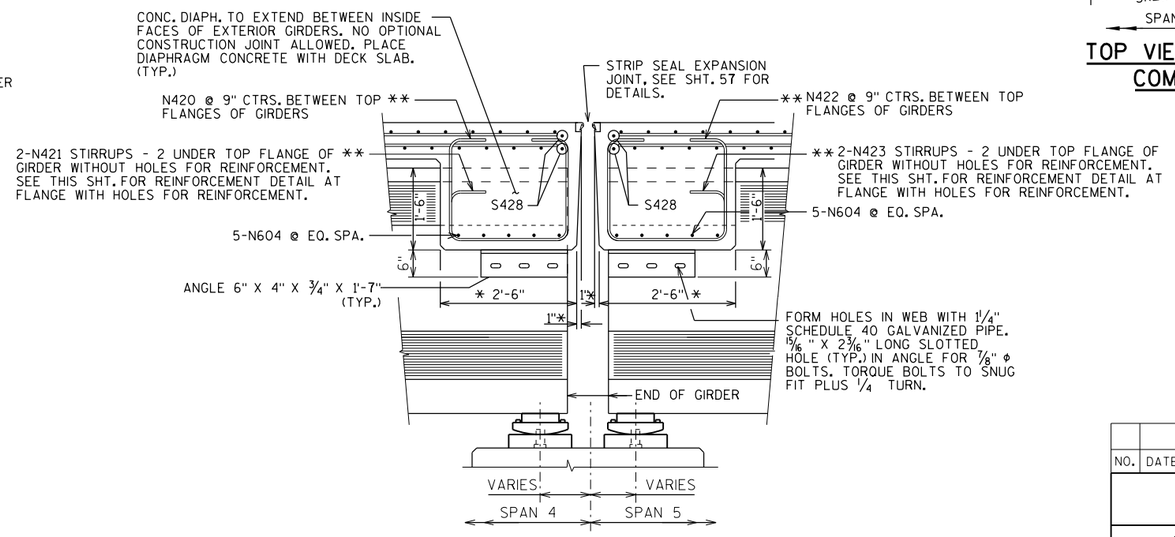
** BARS PLACED PARALLEL TO GIRDERS SPACING PERPENDICULAR TO ℄ GIRDERS




## TOP VIEW OF DIAPHRAGM PIER 4




## TOP VIEW OF DIAPHRAGM COMMON PIER C1




## AT PIER DIAPHRAGM

(EXPANSION)
(PIER 4)

(FORM DIAPHRAGM APPROXIMATELY ½" ABOVE BEARING KEEPER BARS)
(SECTION D-D, SEE SHEETS 45 & 46 "DECK REINFORCEMENT" FOR LOCATION)

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

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PARTIAL DEPTH DIAPHRAGM DETAILS

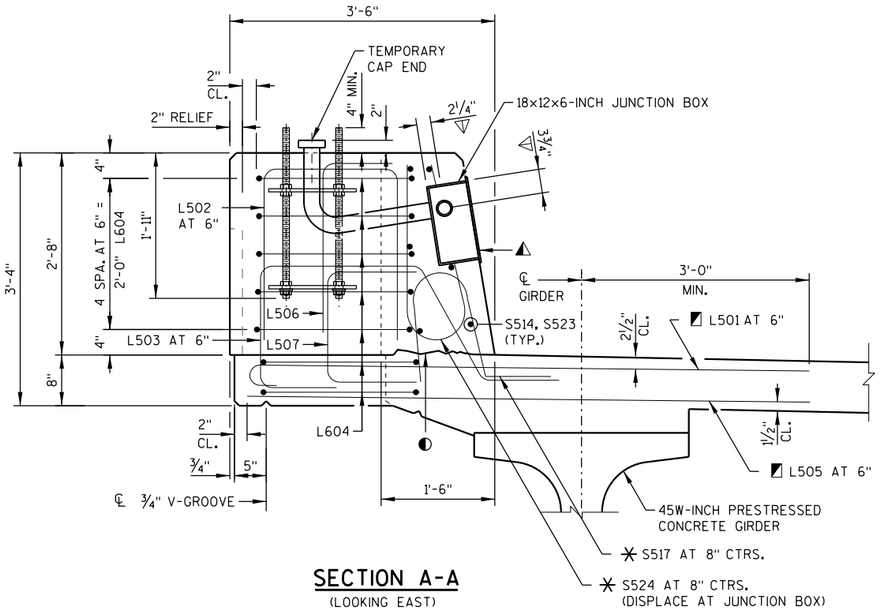
SHEET 49 OF 65
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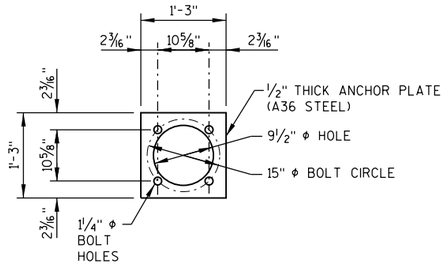
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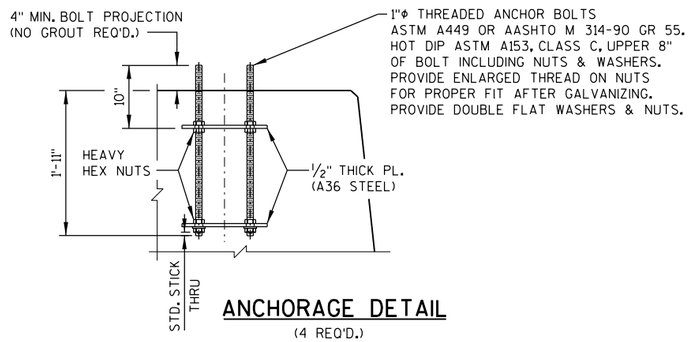





## SECTION A-A
(LOOKING EAST)



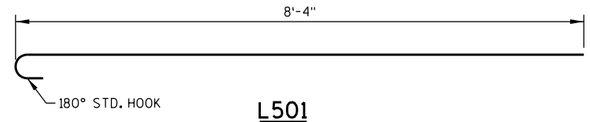

## PLATE DETAIL FOR 15" ϕ BOLT CIRCLE
(2 REQ'D. PER LIGHT STANDARD)



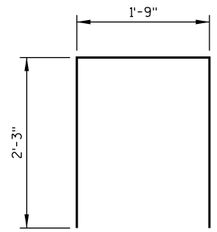

## ANCHORAGE DETAIL
(4 REQ'D.)

## BILL OF BARS
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
QUANTITY IS FOR 4 LIGHT STANDARDS

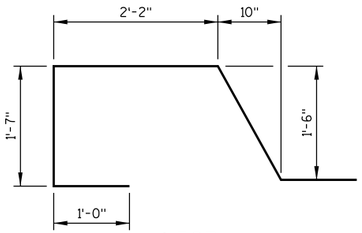
| MARK | NO. REQD | LENGTH | BENT | LOCATION |
|---|---|---|---|---|
| COATED BARS | | | | TOTAL WEIGHT = 1,570 LBS |
| L501 | 48 | 9-1 | X | DECK AT LIGHT STD. TRANS. |
| L502 | 16 | 6-0 | X | PARAPET AT LIGHT STD. VERT. |
| L503 | 16 | 7-0 | X | PARAPET AT LIGHT STD. VERT. |
| L604 | 28 | 10-0 | X | PARAPET AT LIGHT STD. HORIZ. |
| L505 | 48 | 8-4 | | DECK AT LIGHT STD. TRANS. |
| L506 | 8 | 3-2 | X | PARAPET AT LIGHT STD. VERT. |
| L507 | 8 | 3-4 | X | PARAPET AT LIGHT STD. VERT. |



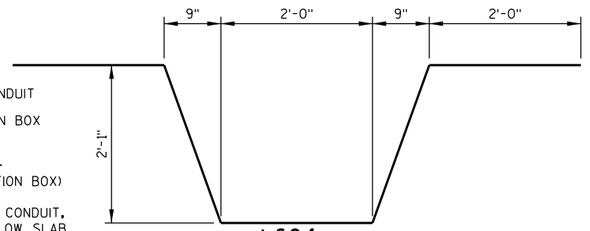

## L501



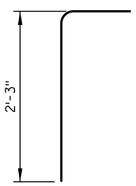

## L502



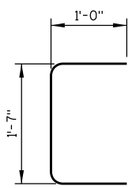

## L503



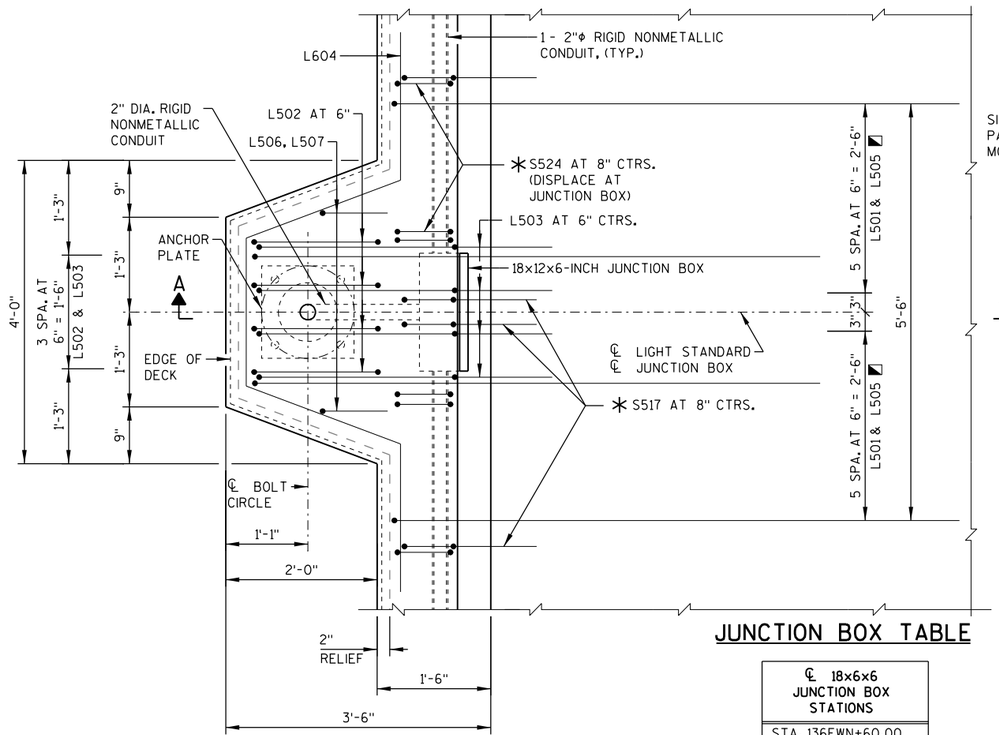

## L604



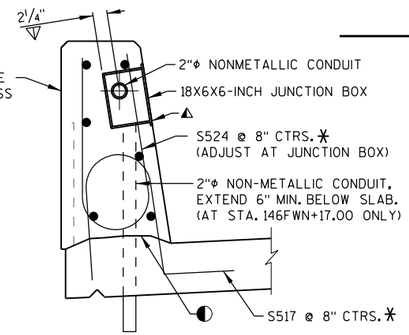

## L506




## L507




## PLAN AT LIGHT STANDARD
(NORTH SIDE OF BRIDGE)




## SECTION THRU PARAPET
SHOWING 18X6X6-INCH JUNCTION BOX (18x12x6 SIMILAR)

## JUNCTION BOX TABLE

| ℄ 18x6x6 JUNCTION BOX STATIONS |
|---|
| STA. 136FWN+60.00 |
| STA. 139FWN+75.00 |
| STA. 141FWN+89.70 |
| STA. 144FWN+00.00 |

## LIGHT POLE TABLE

| ℄ LIGHT STD. AND 18x12x6 JUNCTION BOX STATIONS |
|---|
| STA. 138FWN+50.00 |
| STA. 140FWN+75.00 |
| STA. 143FWN+00.00 |
| STA. 145FWN+25.00 |
| STA. 146FWN+17.00 (JUNCTION BOX ONLY - NO LIGHT STD.) |

## LEGEND
- ◐ CONST. 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.
- ◩ THESE BARS ARE IN ADDITION TO STANDARD TRANSVERSE BARS IN DECK.
- ✳ SEE "SUPERSTRUCTURE REINFORCEMENT DETAILS" SHEET 51 FOR ADDITIONAL BAR STEEL DETAILS

## NOTES
BID ITEMS SHALL BE:
"JUNCTION BOXES 18X6X6-INCH", EACH.
"JUNCTION BOXES 18X12X6-INCH", EACH.
"ANCHOR ASSEMBLIES LIGHT POLES ON STRUCTURES", EACH.
"CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH"

APPROVED MANUFACTURERS - JUNCTION BOXES:
SEE APPROVED MATERIAL LIST.

APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING:
O-Z/GEDNEY TYPE AXDX-200 AND BONDING JUMPER COMBINATION EXPANSION AND DEFLECTION FITTING.

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.

SEE SHT. 64 FOR ELECTRICAL WORK DETAILS.

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

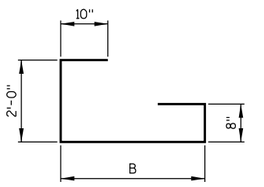
DRAWN BY KAM | PLANS CK'D. MJA

LIGHT STANDARD

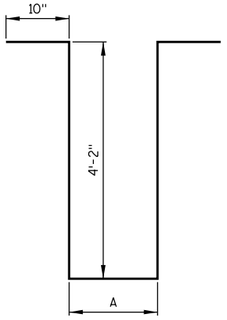
SHEET 50 OF 65
632

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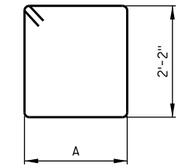



N407, N421, N423, N426



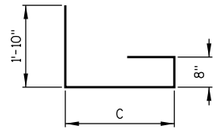

| MARK | A |
|---|---|
| N509, N514 | 7'-5" |
| N510, N515 | 5'-11" |
| N511, N516 | 5'-1" |
| N513, N518 | 2'-1" |

N509 - N511, N513

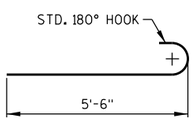



N514 - N516, N518

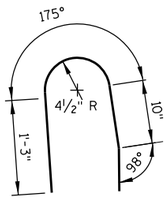
| MARK | C |
|---|---|
| N417 | 2'-8" |
| N419 | 2'-5" |
| N427 | 2'-2" |



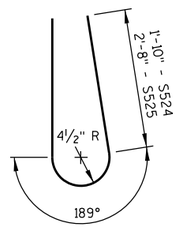

N417, N419, N427



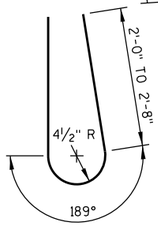

S502



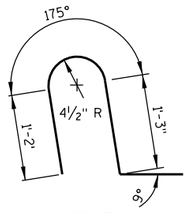

S516



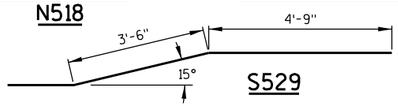

S524, S525



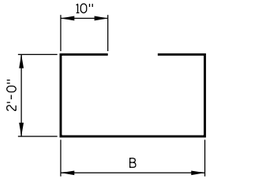

S530




S517

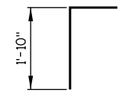



S529

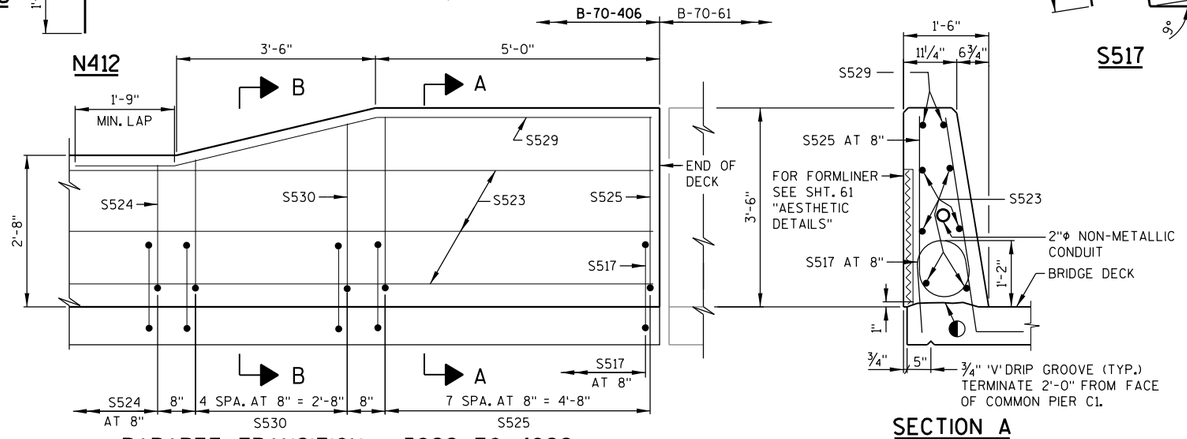



N406, N420, N422, N425

| MARK | B |
|---|---|
| N406, N407 | 3'-3" |
| N420, N421 | 2'-8" |
| N422, N423 | 2'-5" |
| N425, N426 | 2'-2" |



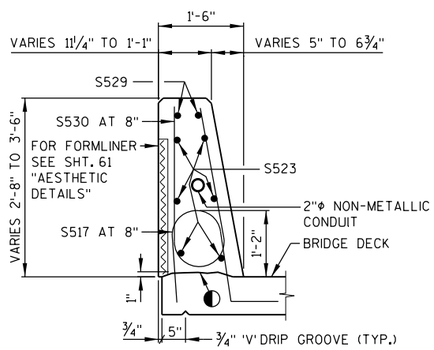

N412




PARAPET TRANSITION - 32SS TO 42SS AT COMMON PIER C1 - NORTH PARAPET



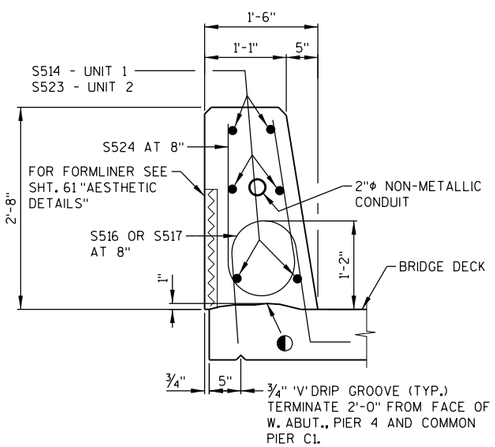

SECTION A



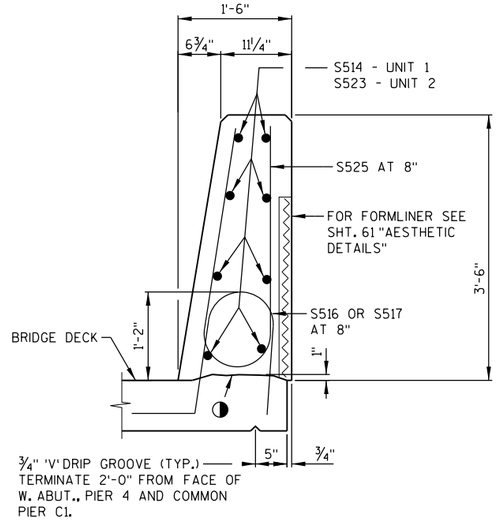

SECTION B

## LEGEND

◐ CONST. JOINT - STRIKE OFF AS SHOWN.




SINGLE SLOPE PARAPET 32SS MODIFIED SECTION ON BRIDGE




SINGLE SLOPE PARAPET 42SS MODIFIED SECTION ON BRIDGE

## BILL OF BARS - DECK

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
Δ LENGTH SHOWN FOR BAR IS AN AVG. LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

| MARK | NO. REQ'D | LENGTH | BENT | BAR SERIES | LOCATION | |
|---|---|---|---|---|---|---|
| COATED BARS | | | | | TOTAL WEIGHT = 308,950 LBS | |
| S400 | 451 | 43-3 | | | BOTTOM - UNIT 1 | LONG. |
| S401 | 3430 | 29-6 | | | TOP & BOTTOM | TRANS. |
| S502 | 3568 | 6-1 | X | | TOP OUTSIDE EDGE - BOTH SIDES | TRANS. |
| S403 | 124 | 14-10 | | Δ | TOP & BOTTOM SPAN 1 | TRANS. |
| S404 | 40 | 43-9 | | | TOP SPAN 1 | LONG. |
| S405 | 40 | 42-6 | | | TOP SPAN 1 | LONG. |
| S906 | 237 | 28-0 | | | TOP AT PIERS - UNIT 1 | LONG. |
| S907 | 237 | 44-0 | | | TOP AT PIERS - UNIT 1 | LONG. |
| S408 | 240 | 25-0 | | | TOP SPANS 2, 3, 5, 6, 7 & 8 | LONG. |
| S409 | 40 | 39-3 | | | TOP SPAN 2 | LONG. |
| S410 | 40 | 35-6 | | | TOP SPAN 3 | LONG. |
| S411 | 80 | 45-0 | | | TOP SPANS 4 & 5 | LONG. |
| S412 | 152 | 15-6 | | Δ | TOP & BOTTOM SPANS 4 & 5 AT TAPER | TRANS. |
| S413 | 40 | 45-5 | | | TOP SPAN 4 | LONG. |
| S514 | 154 | 43-5 | | | PARAPET - UNIT 1 | LONG. |
| S515 | 4 | 45-8 | | | TOP & BOTTOM SPAN 1 AT W. ABUT. | TRANS. |
| S516 | 7 | 3-8 | X | | PARAPET TIES AT ACUTE CORNERS | VERT. |
| S517 | 2838 | 4-5 | X | | PARAPET TIES | VERT. |
| S418 | 40 | 33-4 | | | TOP SPAN 5 | LONG. |
| S519 | 8 | 36-8 | | | TOP & BOTTOM SPANS 4 & 5 AT PIER 4 | TRANS. |
| S420 | 492 | 42-6 | | | BOTTOM - UNIT 2 | LONG. |
| S421 | 120 | 24-8 | | | TOP SPANS 6, 7, & 8 | LONG. |
| S422 | 40 | 42-4 | | | TOP SPAN 9 | LONG. |
| S523 | 154 | 46-3 | | | PARAPET - UNIT 2 | LONG. |
| S524 | 1405 | 5-0 | X | | PARAPET 32SS SINGLE SLOPE | VERT. |
| S525 | 1435 | 6-8 | X | | PARAPET 42SS SINGLE SLOPE | VERT. |
| S926 | 316 | 59-0 | | | TOP AT PIERS - UNIT 2 | LONG. |
| S527 | 14 | 5-0 | | | FLOOR DRAIN REINFORCEMENT | LONG. |
| S428 | 32 | 8-0 | | | DECK BTWN. GIRDERS AT STRIP SEAL EXP. JT. | TRANS. |
| S529 | 2 | 10-0 | X | | PARAPET - UNIT 2 AT TRANSITION | LONG. |
| S530 | 5 | 6-0 | X | Δ | PARAPET - UNIT 2 AT TRANSITION | VERT. |
| | | | | | | |
| N401 | 48 | 6-0 | | | DIAPHRAGM PIER 1 | HORIZ. |
| N402 | 48 | 4-11 | | | DIAPHRAGM PIER 2 | HORIZ. |
| N403 | 48 | 4-5 | | | DIAPHRAGM PIER 3 | HORIZ. |
| N604 | 80 | 4-10 | | | DIAPHRAGM PIER 4 | HORIZ. |
| N405 | 192 | 3-3 | | | DIAPHRAGM PIERS 5-8 | HORIZ. |
| N406 | 24 | 8-7 | X | | DIAPHRAGM AT ABUTMENT | VERT. |
| N407 | 16 | 7-3 | X | | DIAPHRAGM AT ABUTMENT | VERT. |
| N608 | 40 | 6-1 | | | DIAPHRAGM AT ABUTMENT | HORIZ. |
| N509 | 16 | 16-11 | X | | DIAPHRAGM PIER 1 | VERT. |
| N510 | 16 | 15-5 | X | | DIAPHRAGM PIER 2 | VERT. |
| N511 | 16 | 14-7 | X | | DIAPHRAGM PIER 3 | VERT. |
| N412 | 26 | 2-7 | X | | DIAPHRAGM PIER 4 AND COMMON PIER C1 | VERT. |
| N513 | 64 | 11-7 | X | | DIAPHRAGM PIERS 5-8 | VERT. |
| N514 | 16 | 19-10 | X | | DIAPHRAGM PIER 1 | VERT. |
| N515 | 16 | 16-10 | X | | DIAPHRAGM PIER 2 | VERT. |
| N516 | 16 | 15-2 | X | | DIAPHRAGM PIER 3 | VERT. |
| N417 | 8 | 5-9 | X | | DIAPHRAGM PIER 4 SPAN 4 | VERT. |
| N518 | 64 | 9-2 | X | | DIAPHRAGM PIERS 5-8 | VERT. |
| N419 | 8 | 5-6 | X | | DIAPHRAGM PIER 4 SPAN 5 | VERT. |
| N420 | 20 | 8-0 | X | | DIAPHRAGM PIER 4 SPAN 4 | VERT. |
| N421 | 8 | 6-8 | X | | DIAPHRAGM PIER 4 SPAN 4 | VERT. |
| N422 | 20 | 7-9 | X | | DIAPHRAGM PIER 4 SPAN 5 | VERT. |
| N423 | 8 | 6-5 | X | | DIAPHRAGM PIER 4 SPAN 5 | VERT. |
| N624 | 40 | 4-1 | | | DIAPHRAGM COMMON PIER C1 SPAN 9 | HORIZ. |
| N425 | 26 | 7-6 | X | | DIAPHRAGM COMMON PIER C1 SPAN 9 | VERT. |
| N426 | 10 | 6-2 | X | | DIAPHRAGM COMMON PIER C1 SPAN 9 | VERT. |
| N427 | 10 | 5-3 | X | | DIAPHRAGM COMMON PIER C1 SPAN 9 | VERT. |
| N628 | 5 | 2-1 | | | DIAPHRAGM COMMON PIER C1 SPAN 9 - S. END | HORIZ. |
| N629 | 5 | 2-10 | | | DIAPHRAGM COMMON PIER C1 SPAN 9 - N. END | HORIZ. |
| | | | | | | |

## BAR SERIES

| MARK | NO. REQ'D | LENGTH |
|---|---|---|
| S403 | 2 SETS OF 62 | 2'-0" TO 27'-8" |
| S412 | 4 SETS OF 38 | 2'-0" TO 29'-0" |
| S530 | 1 SET OF 5 | 5'-4" TO 6'-8" |

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

DRAWN BY KAM | PLANS CK'D. MJA

SUPERSTRUCTURE REINFORCEMENT DETAILS

SHEET 51 OF 65
633

8

8

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STATE PROJECT NUMBER

1517-07-77

## SPAN 1

| LOCATION | CL BRG. W. ABUT. | 0.1 PT | 0.2 PT | 0.3 PT | 0.4 PT | 0.5 PT | 0.6 PT | 0.7 PT | 0.8 PT | 0.9 PT | CL PIER 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| LT. EOD | 774.07 | 774.47 | 774.87 | 775.27 | 775.67 | 776.08 | 776.48 | 776.88 | 777.28 | 777.68 | 778.09 |
| GIRDER 1 | 774.32 | 774.71 | 775.11 | 775.52 | 775.93 | 776.35 | 776.78 | 777.22 | 777.67 | 778.12 | 778.58 |
| GIRDER 2 | 775.01 | 775.40 | 775.81 | 776.22 | 776.64 | 777.07 | 777.51 | 777.96 | 778.41 | 778.88 | 779.35 |
| GIRDER 3 | 775.69 | 776.09 | 776.50 | 776.92 | 777.35 | 777.79 | 778.24 | 778.70 | 779.16 | 779.63 | 780.11 |
| GIRDER 4 | 776.37 | 776.78 | 777.20 | 777.63 | 778.07 | 778.51 | 778.97 | 779.44 | 779.91 | 780.40 | 780.89 |
| GIRDER 5 | 777.06 | 777.47 | 777.90 | 778.34 | 778.78 | 779.24 | 779.71 | 780.18 | 780.67 | 781.16 | 781.67 |
| RT. EOD | 777.17 | 777.64 | 778.10 | 778.57 | 779.03 | 779.49 | 779.96 | 780.42 | 780.89 | 781.35 | 781.81 |

## SPAN 2

| LOCATION | CL PIER 1 | 0.1 PT | 0.2 PT | 0.3 PT | 0.4 PT | 0.5 PT | 0.6 PT | 0.7 PT | 0.8 PT | 0.9 PT | CL PIER 2 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| LT. EOD | 778.09 | 778.59 | 779.09 | 779.59 | 780.09 | 780.60 | 781.10 | 781.60 | 782.10 | 782.60 | 783.11 |
| GIRDER 1 | 778.58 | 779.02 | 779.47 | 779.94 | 780.42 | 780.90 | 781.40 | 781.91 | 782.43 | 782.96 | 783.50 |
| GIRDER 2 | 779.35 | 779.78 | 780.22 | 780.68 | 781.15 | 781.62 | 782.11 | 782.61 | 783.12 | 783.64 | 784.16 |
| GIRDER 3 | 780.11 | 780.54 | 780.97 | 781.42 | 781.88 | 782.34 | 782.82 | 783.31 | 783.80 | 784.31 | 784.82 |
| GIRDER 4 | 780.89 | 781.30 | 781.73 | 782.17 | 782.61 | 783.07 | 783.53 | 784.01 | 784.49 | 784.98 | 785.49 |
| GIRDER 5 | 781.67 | 782.07 | 782.49 | 782.91 | 783.35 | 783.79 | 784.24 | 784.71 | 785.18 | 785.66 | 786.15 |
| RT. EOD | 781.81 | 782.26 | 782.70 | 783.15 | 783.60 | 784.04 | 784.49 | 784.93 | 785.38 | 785.82 | 786.27 |

## SPAN 3

| LOCATION | CL PIER 2 | 0.1 PT | 0.2 PT | 0.3 PT | 0.4 PT | 0.5 PT | 0.6 PT | 0.7 PT | 0.8 PT | 0.9 PT | CL PIER 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| LT. EOD | 783.11 | 783.59 | 784.08 | 784.56 | 785.05 | 785.54 | 786.02 | 786.51 | 787.00 | 787.48 | 787.97 |
| GIRDER 1 | 783.50 | 783.93 | 784.38 | 784.83 | 785.29 | 785.76 | 786.25 | 786.74 | 787.25 | 787.76 | 788.28 |
| GIRDER 2 | 784.16 | 784.59 | 785.03 | 785.47 | 785.93 | 786.39 | 786.87 | 787.36 | 787.86 | 788.36 | 788.88 |
| GIRDER 3 | 784.82 | 785.24 | 785.67 | 786.11 | 786.56 | 787.02 | 787.49 | 787.97 | 788.46 | 788.96 | 789.47 |
| GIRDER 4 | 785.49 | 785.90 | 786.32 | 786.76 | 787.20 | 787.65 | 788.11 | 788.59 | 789.07 | 789.56 | 790.06 |
| GIRDER 5 | 786.15 | 786.56 | 786.97 | 787.40 | 787.84 | 788.28 | 788.74 | 789.20 | 789.68 | 790.16 | 790.65 |
| RT. EOD | 786.27 | 786.71 | 787.16 | 787.61 | 788.06 | 788.51 | 788.95 | 789.40 | 789.85 | 790.30 | 790.75 |

## SPAN 4

| LOCATION | CL PIER 3 | 0.1 PT | 0.2 PT | 0.3 PT | 0.4 PT | 0.5 PT | 0.6 PT | 0.7 PT | 0.8 PT | 0.9 PT | CL PIER 4 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| LT. EOD | 787.97 | 788.43 | 788.88 | 789.34 | 789.80 | 790.26 | 790.71 | 791.17 | 791.63 | 792.09 | 792.54 |
| GIRDER 1 | 788.28 | 788.69 | 789.11 | 789.54 | 789.98 | 790.43 | 790.88 | 791.35 | 791.82 | 792.31 | 792.80 |
| GIRDER 2 | 788.88 | 789.28 | 789.70 | 790.12 | 790.55 | 791.00 | 791.45 | 791.91 | 792.38 | 792.86 | 793.34 |
| GIRDER 3 | 789.47 | 789.87 | 790.28 | 790.70 | 791.13 | 791.56 | 792.01 | 792.46 | 792.93 | 793.40 | 793.88 |
| GIRDER 4 | 790.06 | 790.45 | 790.86 | 791.27 | 791.70 | 792.13 | 792.57 | 793.02 | 793.48 | 793.95 | 794.42 |
| GIRDER 5 | 790.65 | 791.04 | 791.44 | 791.85 | 792.27 | 792.70 | 793.14 | 793.58 | 794.03 | 794.50 | 794.96 |
| RT. EOD | 790.75 | 791.18 | 791.60 | 792.03 | 792.46 | 792.89 | 793.32 | 793.75 | 794.18 | 794.61 | 795.04 |

## SPAN 5

| LOCATION | CL PIER 4 | 0.1 PT | 0.2 PT | 0.3 PT | 0.4 PT | 0.5 PT | 0.6 PT | 0.7 PT | 0.8 PT | 0.9 PT | CL PIER 5 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| LT. EOD | 792.54 | 793.01 | 793.48 | 793.94 | 794.39 | 794.83 | 795.25 | 795.66 | 796.06 | 796.44 | 796.81 |
| GIRDER 1 | 792.80 | 793.21 | 793.64 | 794.06 | 794.49 | 794.91 | 795.32 | 795.74 | 796.15 | 796.56 | 796.96 |
| GIRDER 2 | 793.34 | 793.74 | 794.15 | 794.55 | 794.95 | 795.36 | 795.75 | 796.15 | 796.54 | 796.93 | 797.32 |
| GIRDER 3 | 793.88 | 794.26 | 794.65 | 795.04 | 795.42 | 795.80 | 796.18 | 796.56 | 796.93 | 797.30 | 797.67 |
| GIRDER 4 | 794.42 | 794.79 | 795.16 | 795.52 | 795.89 | 796.25 | 796.61 | 796.97 | 797.32 | 797.68 | 798.03 |
| GIRDER 5 | 794.96 | 795.31 | 795.66 | 796.01 | 796.35 | 796.70 | 797.04 | 797.38 | 797.72 | 798.05 | 798.39 |
| RT. EOD | 795.04 | 795.42 | 795.79 | 796.15 | 796.50 | 796.85 | 797.18 | 797.51 | 797.82 | 798.13 | 798.43 |

## SPAN 6

| LOCATION | CL PIER 5 | 0.1 PT | 0.2 PT | 0.3 PT | 0.4 PT | 0.5 PT | 0.6 PT | 0.7 PT | 0.8 PT | 0.9 PT | CL PIER 6 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| LT. EOD | 796.81 | 797.13 | 797.43 | 797.73 | 798.01 | 798.29 | 798.55 | 798.81 | 799.05 | 799.29 | 799.52 |
| GIRDER 1 | 796.96 | 797.24 | 797.52 | 797.80 | 798.07 | 798.34 | 798.61 | 798.88 | 799.15 | 799.41 | 799.67 |
| GIRDER 2 | 797.32 | 797.60 | 797.88 | 798.15 | 798.43 | 798.70 | 798.97 | 799.24 | 799.50 | 799.77 | 800.03 |
| GIRDER 3 | 797.67 | 797.95 | 798.23 | 798.51 | 798.78 | 799.05 | 799.32 | 799.59 | 799.86 | 800.12 | 800.38 |
| GIRDER 4 | 798.03 | 798.31 | 798.59 | 798.86 | 799.14 | 799.41 | 799.68 | 799.95 | 800.21 | 800.47 | 800.74 |
| GIRDER 5 | 798.39 | 798.67 | 798.94 | 799.22 | 799.49 | 799.76 | 800.03 | 800.30 | 800.57 | 800.83 | 801.09 |
| RT. EOD | 798.43 | 798.75 | 799.05 | 799.35 | 799.63 | 799.91 | 800.17 | 800.43 | 800.67 | 800.91 | 801.14 |

## SPAN 7

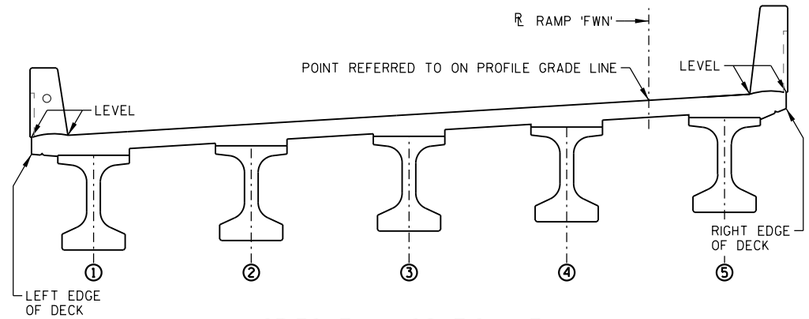
| LOCATION | CL PIER 6 | 0.1 PT | 0.2 PT | 0.3 PT | 0.4 PT | 0.5 PT | 0.6 PT | 0.7 PT | 0.8 PT | 0.9 PT | CL PIER 7 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| LT. EOD | 799.52 | 799.74 | 799.94 | 800.14 | 800.33 | 800.51 | 800.68 | 800.84 | 800.99 | 801.13 | 801.26 |
| GIRDER 1 | 799.67 | 799.85 | 800.04 | 800.21 | 800.39 | 800.57 | 800.74 | 800.91 | 801.08 | 801.24 | 801.41 |
| GIRDER 2 | 800.03 | 800.21 | 800.39 | 800.57 | 800.75 | 800.92 | 801.10 | 801.27 | 801.43 | 801.60 | 801.76 |
| GIRDER 3 | 800.38 | 800.56 | 800.74 | 800.92 | 801.10 | 801.27 | 801.45 | 801.62 | 801.79 | 801.95 | 802.12 |
| GIRDER 4 | 800.74 | 800.92 | 801.10 | 801.28 | 801.46 | 801.63 | 801.80 | 801.97 | 802.14 | 802.31 | 802.47 |
| GIRDER 5 | 801.09 | 801.28 | 801.46 | 801.64 | 801.81 | 801.99 | 802.16 | 802.33 | 802.50 | 802.67 | 802.83 |
| RT. EOD | 801.14 | 801.36 | 801.56 | 801.76 | 801.95 | 802.13 | 802.30 | 802.46 | 802.61 | 802.75 | 802.88 |

## SPAN 8

| LOCATION | CL PIER 7 | 0.1 PT | 0.2 PT | 0.3 PT | 0.4 PT | 0.5 PT | 0.6 PT | 0.7 PT | 0.8 PT | 0.9 PT | CL PIER 8 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| LT. EOD | 801.26 | 801.38 | 801.49 | 801.59 | 801.68 | 801.76 | 801.84 | 801.90 | 801.95 | 801.99 | 802.03 |
| GIRDER 1 | 801.41 | 801.50 | 801.58 | 801.66 | 801.74 | 801.82 | 801.90 | 801.97 | 802.04 | 802.11 | 802.18 |
| GIRDER 2 | 801.76 | 801.85 | 801.94 | 802.02 | 802.10 | 802.18 | 802.25 | 802.33 | 802.40 | 802.47 | 802.53 |
| GIRDER 3 | 802.12 | 802.20 | 802.29 | 802.37 | 802.45 | 802.53 | 802.61 | 802.68 | 802.75 | 802.82 | 802.89 |
| GIRDER 4 | 802.47 | 802.56 | 802.64 | 802.73 | 802.81 | 802.88 | 802.96 | 803.03 | 803.11 | 803.18 | 803.25 |
| GIRDER 5 | 802.83 | 802.92 | 803.00 | 803.08 | 803.16 | 803.24 | 803.32 | 803.39 | 803.46 | 803.53 | 803.60 |
| RT. EOD | 802.88 | 803.00 | 803.11 | 803.21 | 803.30 | 803.38 | 803.46 | 803.52 | 803.57 | 803.61 | 803.65 |

## SPAN 9

| LOCATION | CL PIER 8 | 0.1 PT | 0.2 PT | 0.3 PT | 0.4 PT | 0.5 PT | 0.6 PT | 0.7 PT | 0.8 PT | 0.9 PT | CL SHARED PIER |
|---|---|---|---|---|---|---|---|---|---|---|---|
| LT. EOD | 802.03 | 802.05 | 802.06 | 802.07 | 802.07 | 802.07 | 802.06 | 802.04 | 802.02 | 802.00 | 801.96 |
| GIRDER 1 | 802.18 | 802.18 | 802.17 | 802.16 | 802.15 | 802.14 | 802.13 | 802.12 | 802.11 | 802.09 | 802.08 |
| GIRDER 2 | 802.53 | 802.53 | 802.52 | 802.52 | 802.51 | 802.50 | 802.49 | 802.48 | 802.46 | 802.45 | 802.43 |
| GIRDER 3 | 802.89 | 802.88 | 802.88 | 802.87 | 802.86 | 802.85 | 802.84 | 802.83 | 802.81 | 802.80 | 802.78 |
| GIRDER 4 | 803.25 | 803.24 | 803.23 | 803.23 | 803.22 | 803.21 | 803.19 | 803.18 | 803.17 | 803.15 | 803.14 |
| GIRDER 5 | 803.60 | 803.60 | 803.59 | 803.58 | 803.57 | 803.56 | 803.55 | 803.54 | 803.52 | 803.51 | 803.49 |
| RT. EOD | 803.65 | 803.67 | 803.68 | 803.69 | 803.69 | 803.68 | 803.67 | 803.65 | 803.63 | 803.60 | 803.56 |




HORIZONTAL LOCATION KEY

(LOOKING UPSTATION)

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

DRAWN BY KAM | PLANS CK'D. MJA

TOP OF DECK ELEVATIONS

SHEET 52 OF 65
634

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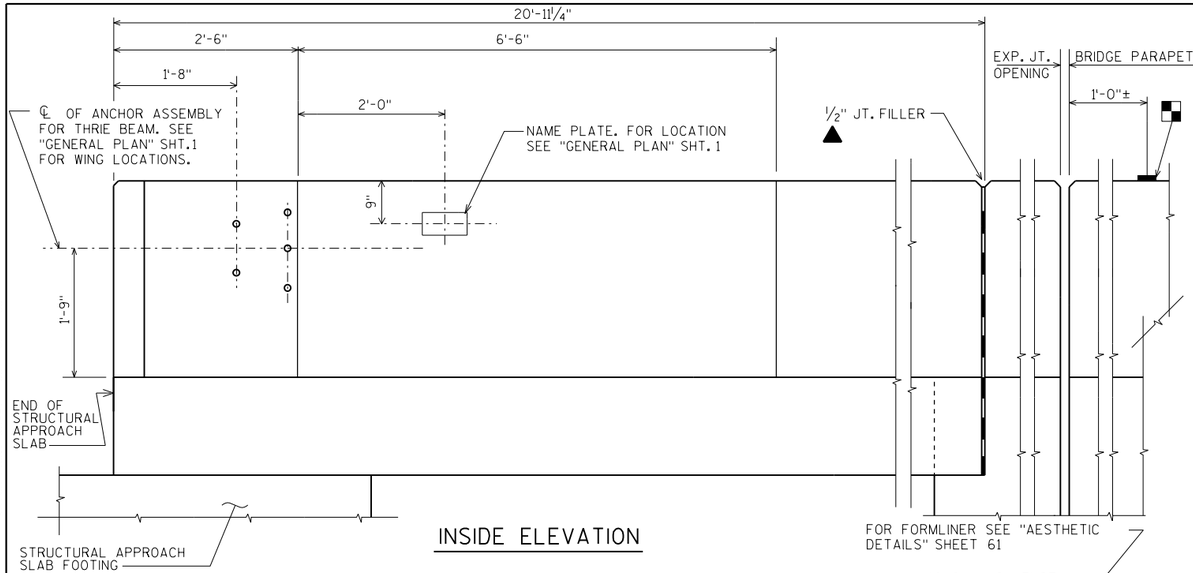
STATE PROJECT NUMBER

1517-07-77

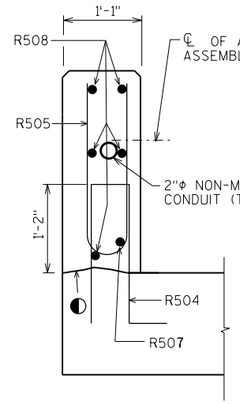
## BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

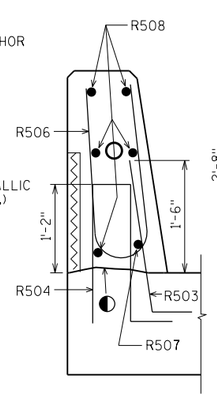
| MARK | NO. REQD | LENGTH | BENT | LOCATION |
|---|---|---|---|---|
| COATED BARS | | | | TOTAL WEIGHT = 580 LBS |
| R501 | 22 | 4-5 | X | PARAPET VERT. |
| R502 | 24 | 5-0 | X | PARAPET VERT. |
| R503 | 12 | 2-9 | X | PARAPET VERT. |
| R504 | 17 | 4-4 | X | PARAPET VERT. |
| R505 | 11 | 4-9 | X | PARAPET VERT. |
| R506 | 6 | 4-10 | X | PARAPET VERT. |
| R507 | 1 | 20-4 | X | PARAPET HORIZ. |
| R508 | 5 | 20-3 | | PARAPET HORIZ. |
| R509 | 6 | 3-1 | X | PARAPET HORIZ. |
| R510 | 2 | 5-0 | X | PARAPET VERT. |



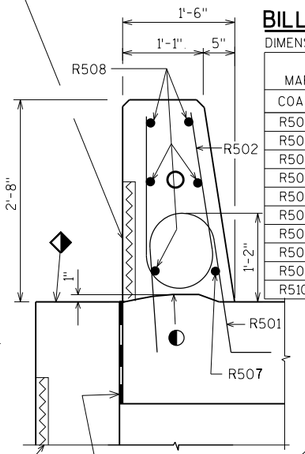

INSIDE ELEVATION



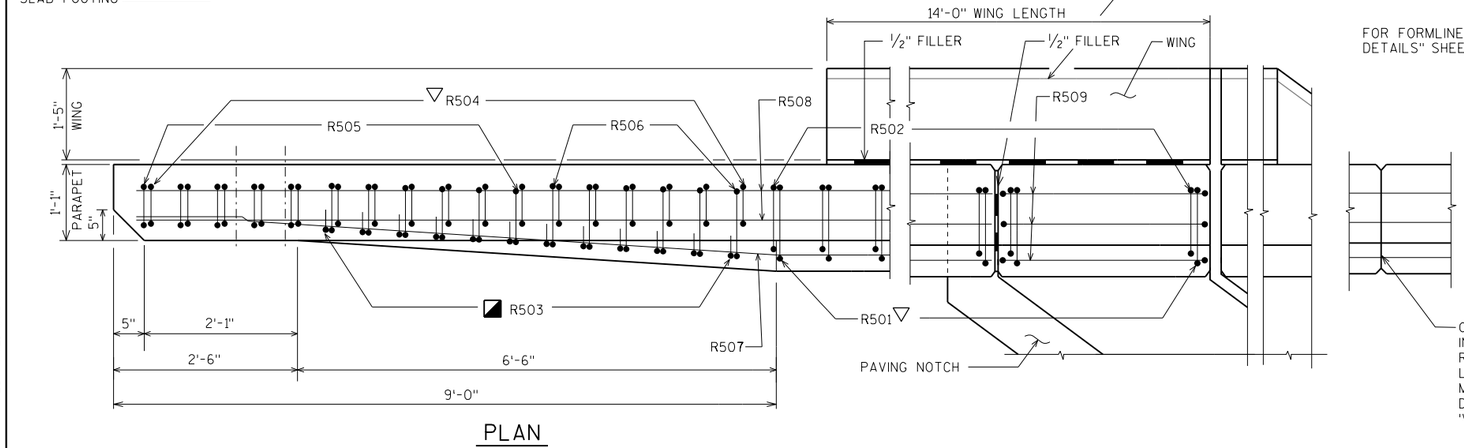

SECTION A



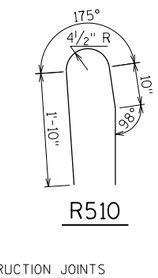

SECTION B




SECTION C

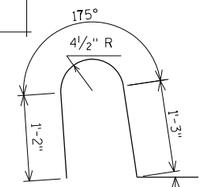



PLAN

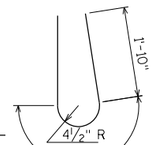



R510

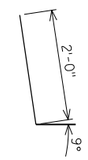
OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾" - 'V' GROOVE.



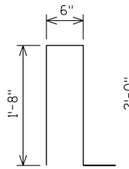

R501



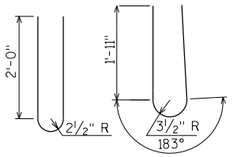

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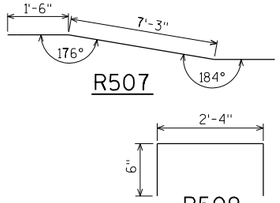

R503



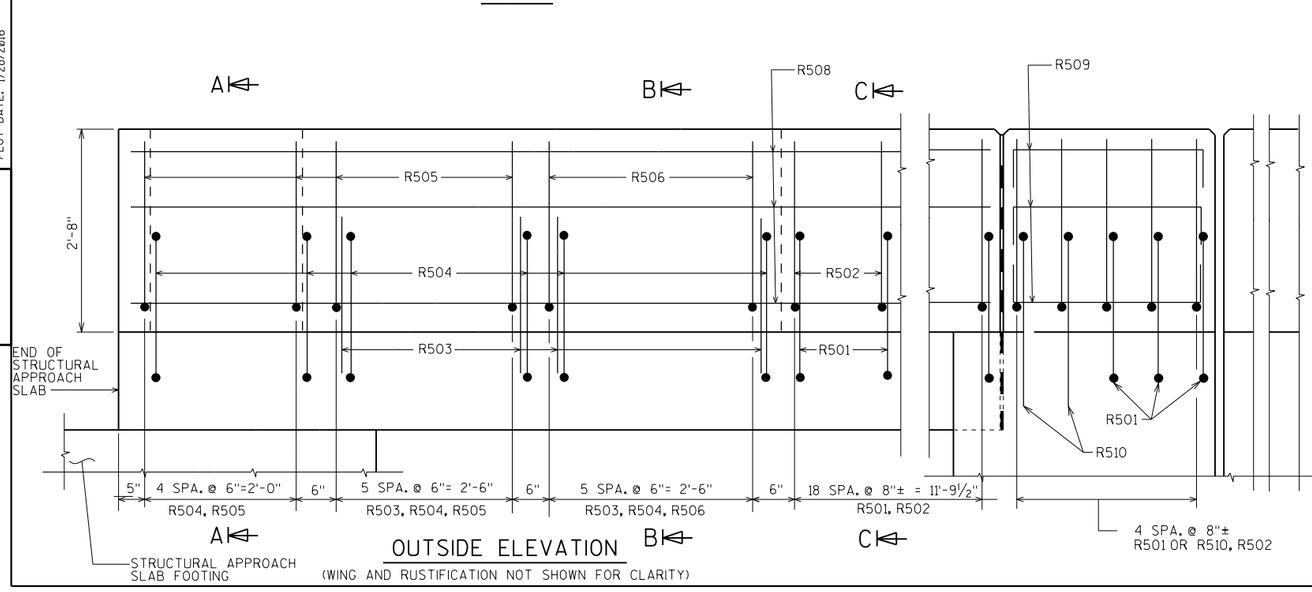

R504




R505 R506




R507 R509




OUTSIDE ELEVATION

(WING AND RUSTIFICATION NOT SHOWN FOR CLARITY)

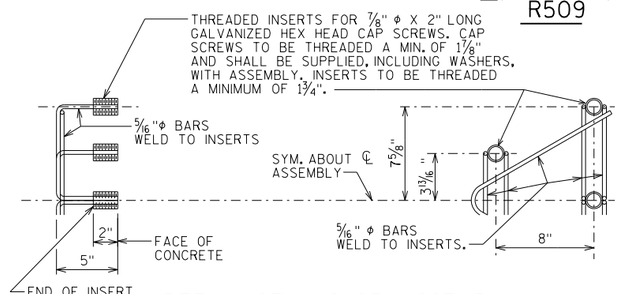
## LEGEND

- ◐ CONST. JOINT - STRIKE OFF AS SHOWN.
- ◆ SLOPE FOR DRAINAGE
- ▽ R501, R504 AND R510 BARS TO BE TIED TO STRUCTURAL APPROACH SLAB OR PAVING BLK. STEEL BEFORE STRUCTURAL APPROACH SLAB OR PAVING BLK. IS POURED.
- ■ BENCH MARK CAP (WHEN SUPPLIED) AVOID PLACING A BENCH MARK CAP BELOW A RAIL OR FENCE SYSTEM THAT IS ATTACHED TO THE TOP OF THE PARAPET.
- ▲ ½" FILLER TO EXTEND AS SHOWN. SEAL ALL HORIZ. AND VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JT. SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).
- ◪ R503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

## NOTES

FOR SECTION THRU PARAPET ON BRIDGE SEE SHT. 51 "SUPERSTRUCTURE REINFORCEMENT DETAILS".

SEE SHT. 56 "STRUCTURAL APPROACH SLAB DETAILS" FOR STRUCTURAL APPROACH SLAB INFORMATION.




## DETAIL OF ANCHOR ASSEMBLY

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

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

DRAWN BY KAM | PLANS CK'D. MJA

SINGLE SLOPE PARAPET 32SS MODIFIED

SHEET 53 OF 65

635

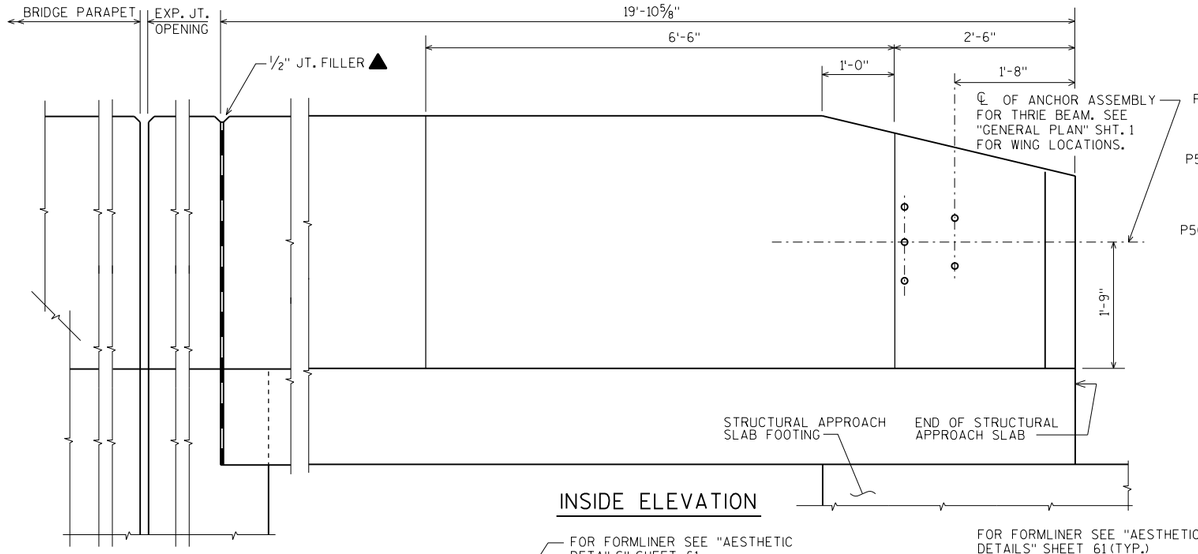
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8

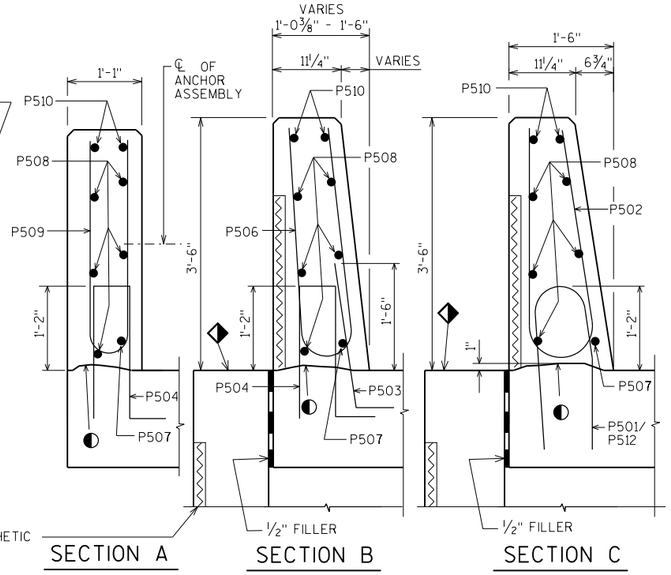
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STATE PROJECT NUMBER

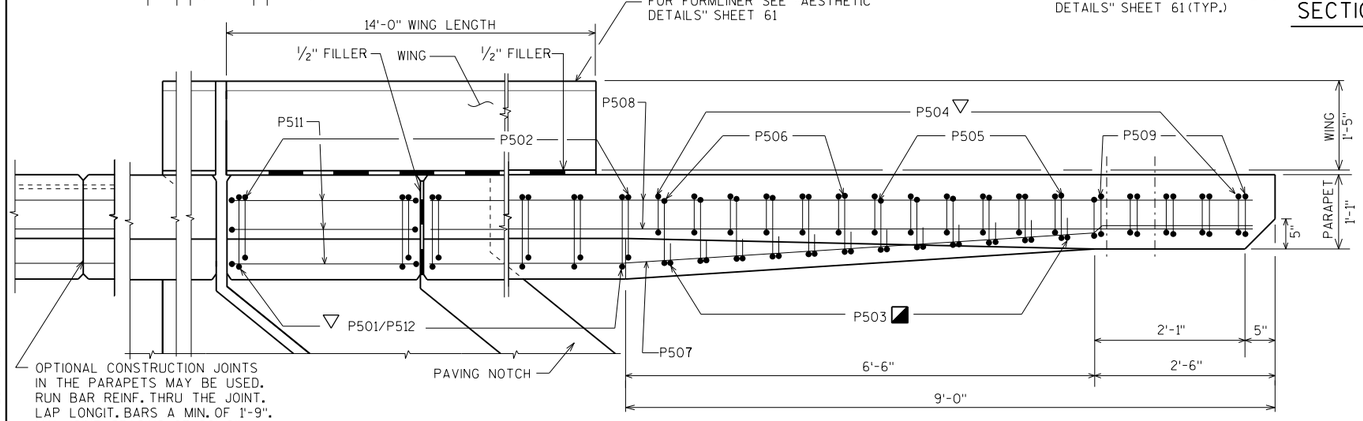
1517-07-77



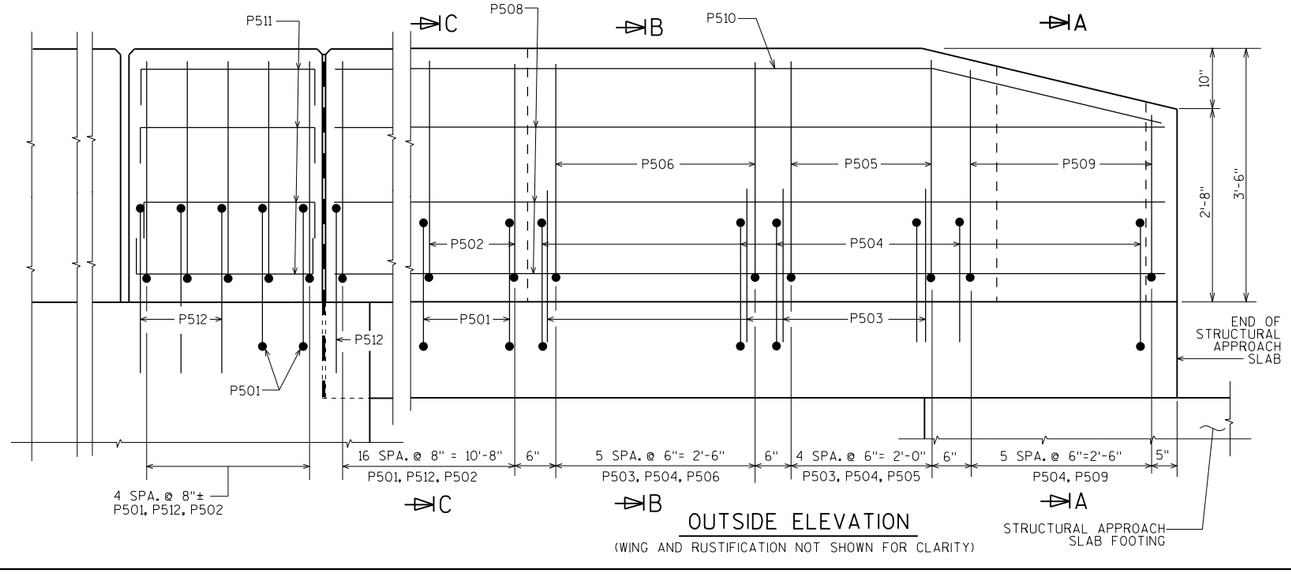

INSIDE ELEVATION




SECTION A SECTION B SECTION C




PLAN




OUTSIDE ELEVATION

(WING AND RUSTIFICATION NOT SHOWN FOR CLARITY)

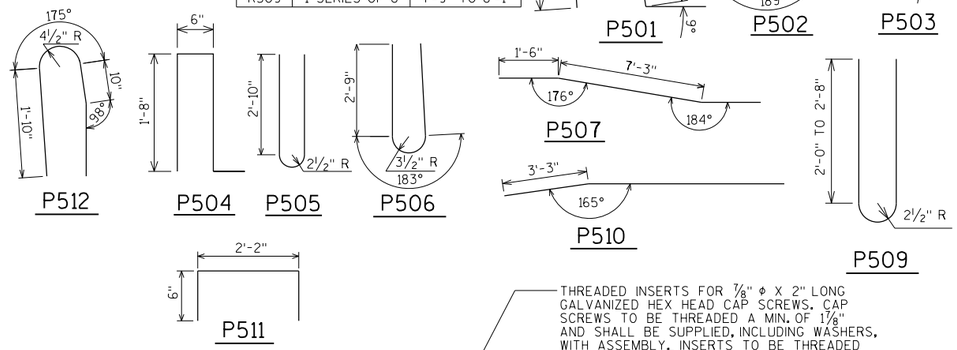
## BILL OF BARS

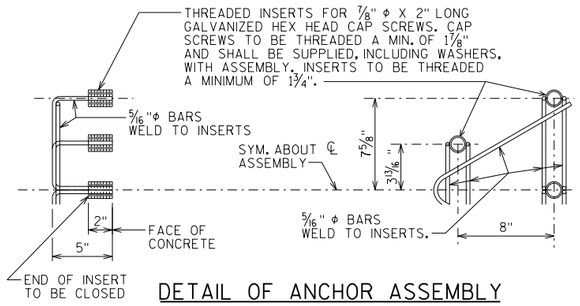
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
△ LENGTH SHOWN FOR BAR IS AN AVG. LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS.
SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.

| MARK | NO. REQD | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|
| COATED BARS | | | | | TOTAL WEIGHT = 660 LBS |
| P501 | 18 | 4-5 | X | | PARAPET VERT. |
| P502 | 22 | 6-8 | X | | PARAPET VERT. |
| P503 | 11 | 2-9 | X | | PARAPET VERT. |
| P504 | 17 | 4-4 | X | | PARAPET VERT. |
| P505 | 5 | 6-5 | X | | PARAPET VERT. |
| P506 | 6 | 6-6 | X | | PARAPET VERT. |
| P507 | 1 | 19-3 | X | | PARAPET HORIZ. |
| P508 | 5 | 19-2 | | | PARAPET HORIZ. |
| P509 | 6 | 5-5 | X | △ | PARAPET VERT. |
| P510 | 2 | 19-1 | X | | PARAPET HORIZ. |
| P511 | 8 | 2-11 | X | | PARAPET HORIZ. |
| P512 | 4 | 5-0 | X | | PARAPET VERT. |

## BAR SERIES

| MARK | NO. REQ'D | LENGTH |
|---|---|---|
| R509 | 1 SERIES OF 6 | 4'-9" TO 6'-1" |




## DETAIL OF ANCHOR ASSEMBLY

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

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

## LEGEND

- ◐ CONST. JOINT - STRIKE OFF AS SHOWN.
- ◆ SLOPE FOR DRAINAGE
- ▽ P501, P504 AND P512 BARS TO BE TIED TO STRUCTURAL APPROACH SLAB OR PAVING BLK. STEEL BEFORE STRUCTURAL APPROACH SLAB OR PAVING BLK. IS POURED.
- ▲ ½" FILLER TO EXTEND AS SHOWN. SEAL ALL HORIZ. AND VERT. SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JT. SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE).
- ◪ P503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE P503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

## NOTES

FOR SECTION THRU PARAPET ON BRIDGE SEE SHT. 51 "SUPERSTRUCTURE REINFORCEMENT DETAIL".

SEE SHT. 56 "STRUCTURAL APPROACH SLAB DETAILS" FOR STRUCTURAL APPROACH SLAB INFORMATION.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

DRAWN BY KAM | PLANS CK'D. MJA

SINGLE SLOPE PARAPET 42SS MODIFIED

SHEET 54 OF 65
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8

8

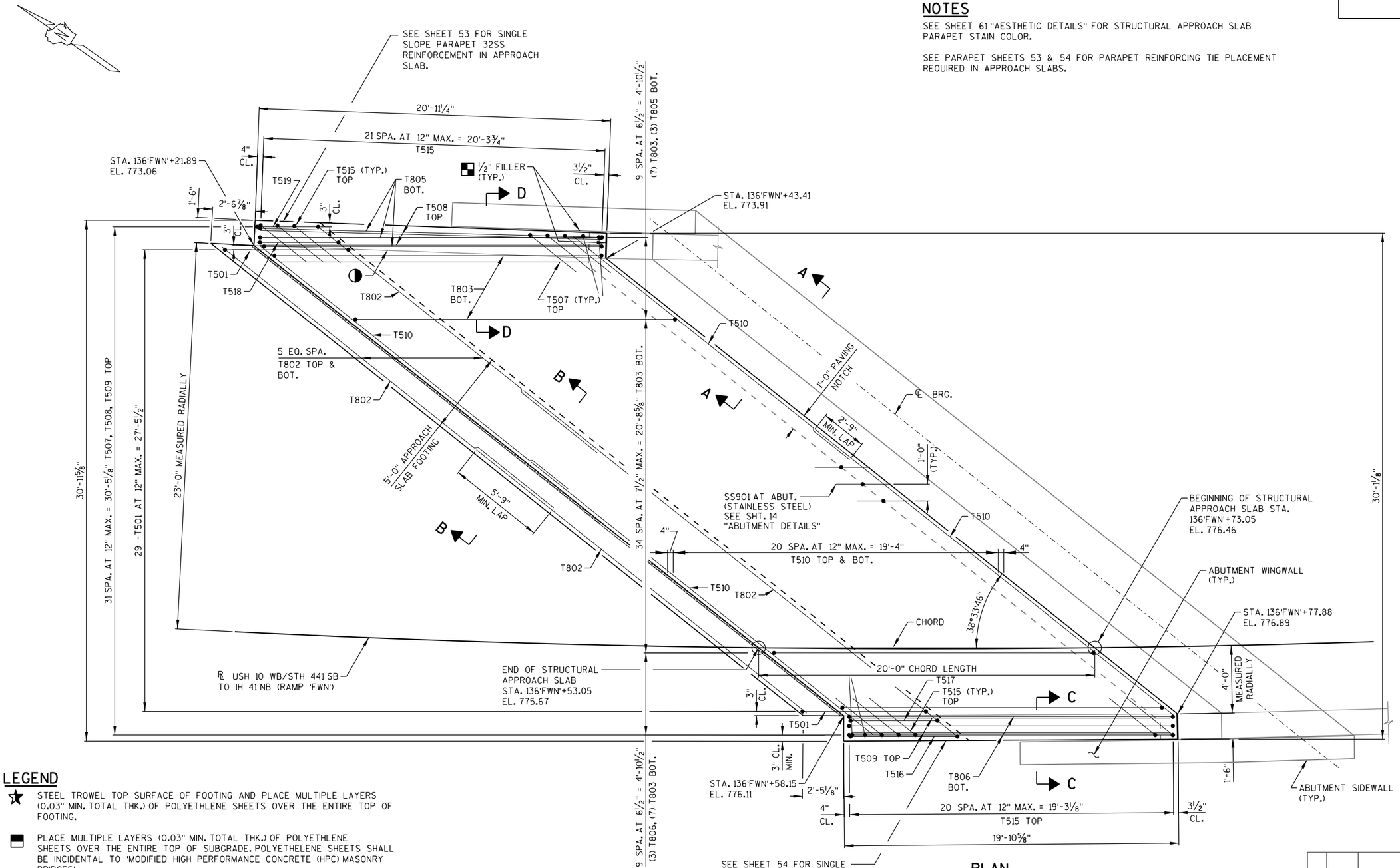
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PLOT DATE: 1/28/2016 PLOT TIME: 8:52:56 AM BATCH PRINT SHEET 55 OF 65

| STATE PROJECT NUMBER |
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| 1517-07-77 |

## NOTES

SEE SHEET 61 "AESTHETIC DETAILS" FOR STRUCTURAL APPROACH SLAB PARAPET STAIN COLOR.

SEE PARAPET SHEETS 53 & 54 FOR PARAPET REINFORCING TIE PLACEMENT REQUIRED IN APPROACH SLABS.




PLAN

## LEGEND

- ★ STEEL TROWEL TOP SURFACE OF FOOTING AND PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHLENE SHEETS OVER THE ENTIRE TOP OF FOOTING.
- ▬ PLACE MULTIPLE LAYERS (0.03" MIN. TOTAL THK.) OF POLYETHLENE SHEETS OVER THE ENTIRE TOP OF SUBGRADE. POLYETHELENE SHEETS SHALL BE INCIDENTAL TO 'MODIFIED HIGH PERFORMANCE CONCRETE (HPC) MASONRY BRIDGES'.
- ▪ SEAL ALL EXPOSED HORIZ. AND VERT. SURFACES OF AS NOTED FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- ◑ SEE PARAPET STANDARD DETAILS SHEET 53 FOR LOCATION OF NAME PLATE AND BENCH MARK WITH RESPECT TO THE END OF PARAPET.
- ◆ CONCRETE PAVEMENT APPROACH SLAB. SEE ROADWAY PLANS FOR DETAILS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

| DRAWN BY | KAM | PLANS CK'D. | MJA |
|---|---|---|---|

STRUCTURAL APPROACH SLAB

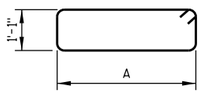
SHEET 55 OF 65
637

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STATE PROJECT NUMBER

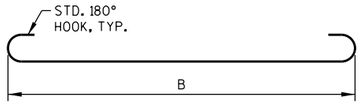
1517-07-77

| MARK | A |
|---|---|
| T501 | 7'-5" |
| T516 | 6'-5" |
| T517 | 5'-3" |
| T518 | 4'-10" |
| T519 | 3'-8" |

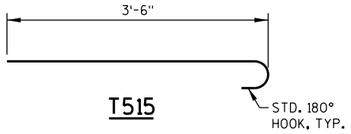



T501, T516, T517, T518, T519

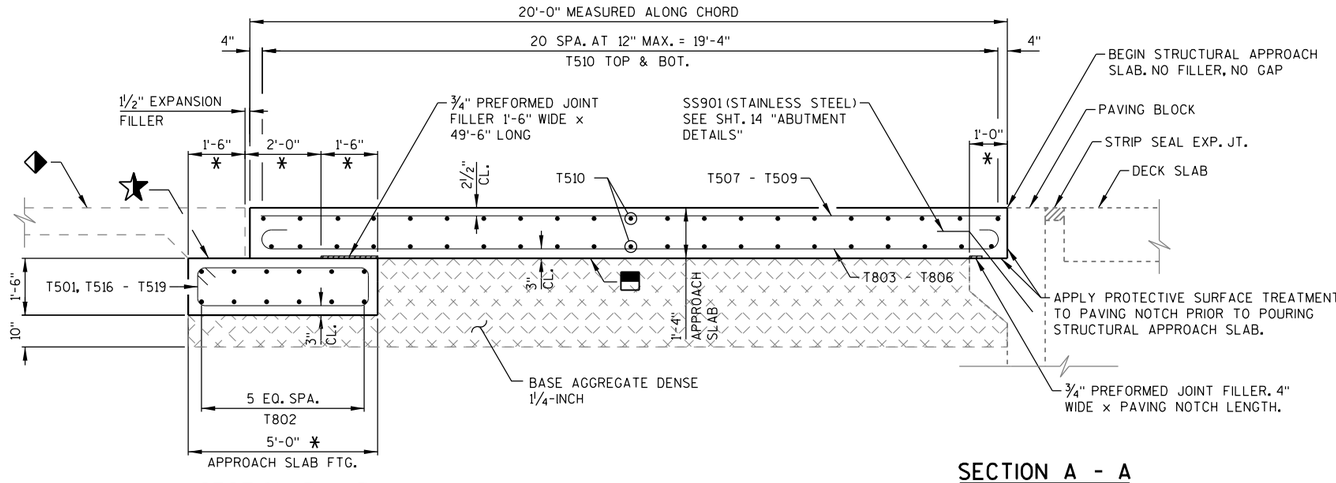
| MARK | B |
|---|---|
| T803 | 19'-4" |
| T805 | 20'-3" |
| T806 | 19'-3' |




T803, T805, T806




T515




SECTION B - B

SECTION A - A

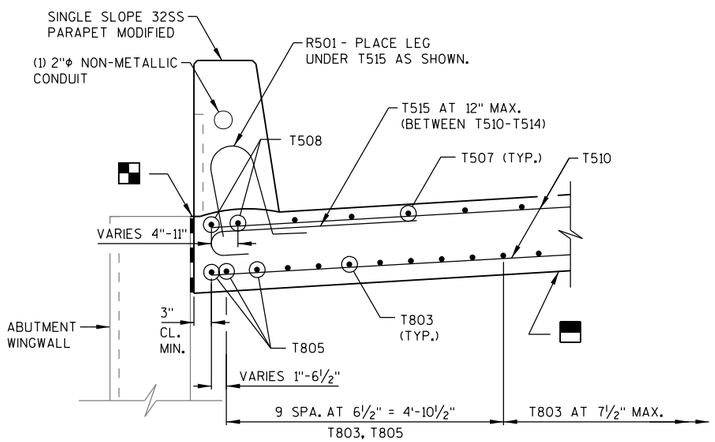
## TRANSVERSE SECTION THRU STRUCTURAL APPROACH SLAB

* DIMENSIONS MEASURED NORMAL TO ABUTMENT

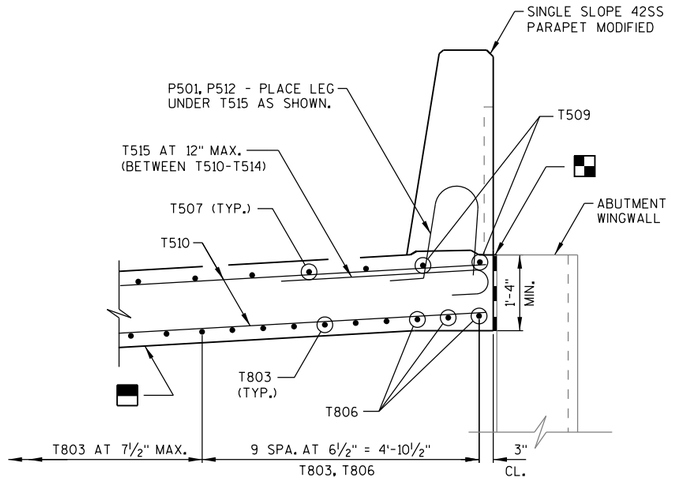
## BILL OF BARS

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

| MARK | NO. REQD | LENGTH | BENT | LOCATION |
|---|---|---|---|---|
| COATED BARS | | | | TOTAL WEIGHT = 7,630 LBS |
| T501 | 29 | 17-8 | X | APPROACH SLAB FOOTING - STIRRUP VERT. |
| T802 | 12 | 27-6 | | APPROACH SLAB FOOTING TRANS. |
| T803 | 48 | 21-2 | X | APPROACH SLAB - BOTTOM LONG. |
| T4 | | | | NOT USED |
| T805 | 3 | 22-1 | X | APPROACH SLAB - BOTTOM LONG. |
| T806 | 3 | 21-1 | X | APPROACH SLAB - BOTTOM LONG. |
| T507 | 28 | 19-4 | | APPROACH SLAB - TOP LONG. |
| T508 | 2 | 20-3 | | APPROACH SLAB - TOP OUTSIDE EDGE LONG. |
| T509 | 2 | 19-3 | | APPROACH SLAB - TOP OUTSIDE EDGE LONG. |
| T510 | 84 | 25-10 | | APPROACH SLAB - TOP AND BOTTOM TRANS. |
| T11 | | | | NOT USED |
| T12 | | | | NOT USED |
| T13 | | | | NOT USED |
| T14 | | | | NOT USED |
| T515 | 43 | 4-1 | X | APPROACH SLAB - TOP SIDES TRANS. |
| T516 | 1 | 15-8 | X | APPROACH SLAB FOOTING - STIRRUP VERT. |
| T517 | 1 | 13-4 | X | APPROACH SLAB FOOTING - STIRRUP VERT. |
| T518 | 1 | 12-6 | X | APPROACH SLAB FOOTING - STIRRUP VERT. |
| T519 | 1 | 10-2 | X | APPROACH SLAB FOOTING - STIRRUP VERT. |
| | | | | |




SECTION D - D




SECTION C - C

## LEGEND

FOR SYMBOL LEGEND SEE SHEET 55.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

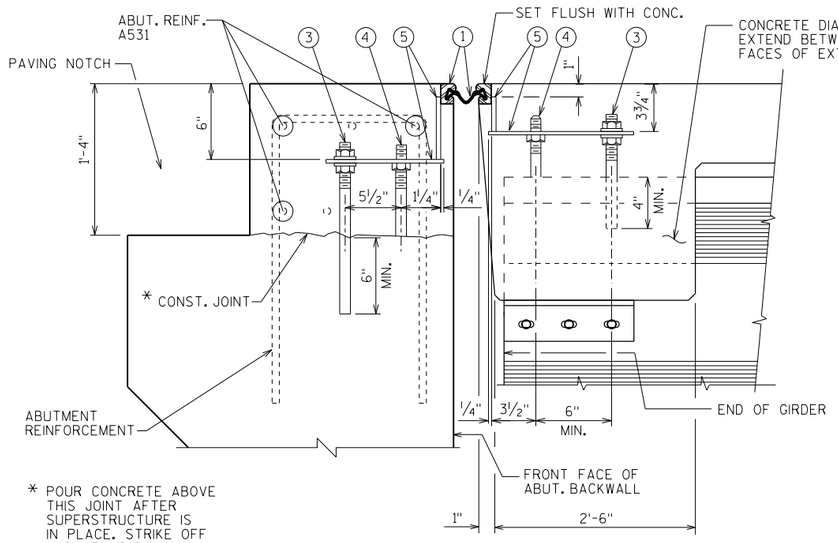
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STRUCTURAL APPROACH SLAB DETAILS

SHEET 56 OF 65
638

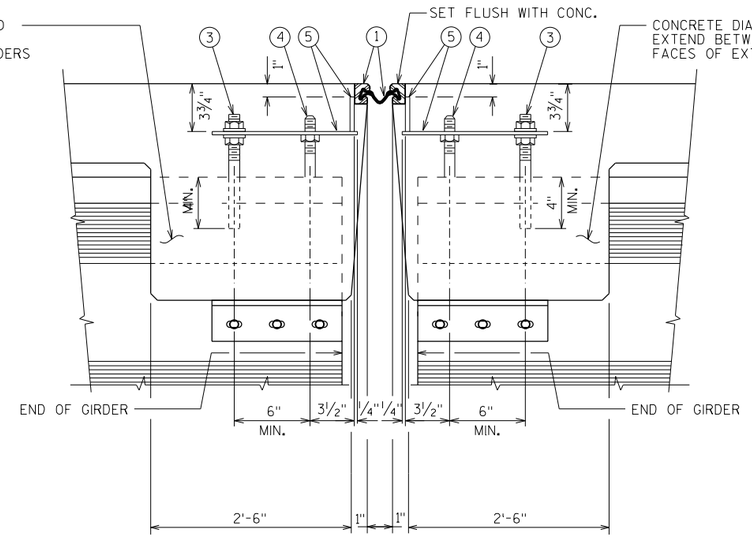
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## SECTION THRU JOINT AT ABUTMENT

NORMAL TO ℄ SUBSTRUCTURE




## SECTION THRU JOINT AT PIER 4

NORMAL TO ℄ SUBSTRUCTURE

## LEGEND

(1) NEOPRENE STRIP SEAL (4-INCH AT W. ABUT. AND 5-INCH AT PIER 4) AND STEEL EXTRUSIONS. SEE THE TEMPERATURE TABLE BELOW. JT. OPENINGS GIVEN NORMAL TO JOINT.

(2) STUDS 5/8"Φ X 6 3/8" LONG AT 6" ALTERNATE CENTERS. WELD TO EXTRUSIONS AND BEND AS SHOWN AFTER WELDING.

(2A) 1/2" THICK ANCHOR PLATE WITH 5/8"Φ ROD (OR ALTERNATE STRIP SEAL ANCHOR). WELD ROD TO ANCHOR PLATE, WELD ANCHOR PLATE TO NO. 1 AT 1'-6" CENTERS BETWEEN GIRDERS.

(3) 3/4" Φ THREADED ROD WITH 2 NUTS AND PLATE WASHERS. GROUT THREADED ROD INTO FIELD DRILLED HOLES ON ℄ OF GIRDER. ON ABUTMENT SIDE GROUT THREADED ROD INTO FIELD DRILLED HOLES IN ABUTMENT BACKWALL AS SHOWN.

(4) 3/4"Φ THREADED ROD WITH NUT. TACK WELD NUT TO NO. 5.

(5) FABRICATE SUPPORT FROM 3" X 1/2" BAR AS SHOWN OR EQUIVALENT, ONE PER GIRDER PER SIDE. SHOP OR FIELD WELD TO NO. 1. IF FIELD WELDED, COVER WELDED AREAS WITH EPOXY-COATING MATERIAL. PROVIDE 1 1/2" Φ HOLE FOR NO. 3 AND 1" Φ HOLE FOR NO. 4.

(6) GALVANIZED PLATE 3/8" X 10" X 3'-0" FOR W. ABUT. AND 3/8" X 10" X 2'-2" LONG FOR PIER 4, WITH HOLES FOR NO. 7.

(7) 3/4"Φ X 1 1/2" STAINLESS STEEL SOCKET FLAT HEAD SCREWS WITH ANTI-SEIZE LUBRICANT. PLACE IN COUNTERSUNK HOLE. RECESS 1/16" BELOW PLATE SURFACE.

(8) 3/4"Φ X 4" GALVANIZED HEX HEAD BOLT. BEND 45°.

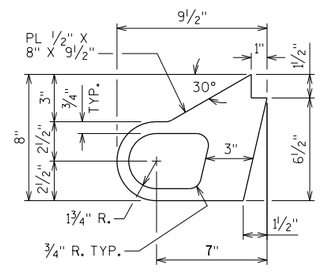
(9) 3/4"Φ X 2 1/4" GALVANIZED THREADED COUPLING.

(10) 1" X 5" SLOTTED COUNTERSUNK HOLE FOR NO. 7. PLACE SLOT PARALLEL TO DIRECTION OF MOVEMENT.




## SECTION THRU JOINT

EXTERIOR GIRDER TO EDGE OF DECK AND AT PARAPETS.




## ALTERNATE STRIP SEAL ANCHOR

## ⚠ TEMPERATURE TABLE

| SHADED UNDERSIDE DECK TEMP. (°F) | FINAL JOINT OPENING (INCHES) | FINAL JOINT OPENING (INCHES) |
|---|---|---|
| | W. ABUT. | PIER 4 |
| 85° | 1.621 | 1.804 |
| 75° | 1.742 | 2.109 |
| 65° | 1.863 | 2.413 |
| 55° | 1.984 | 2.717 |
| 45° | 2.105 | 3.022 |
| 35° | 2.226 | 3.326 |
| 25° | 2.347 | 3.630 |
| 15° | 2.468 | 3.935 |
| 5° | 2.589 | 4.239 |

A SMALL JOINT OPENING DUE TO A HIGH TEMPERATURE AT TIME OF CONSTRUCTION MAY REQUIRE NEOPRENE STRIP SEAL INSTALLATION INTO STEEL EXTRUSIONS PRIOR TO SETTING THE EXPANSION JOINT.




## SECTION THRU JOINT

ROADWAY TRAFFIC AREA BETWEEN EXTERIOR GIRDERS.




## PART PLAN

## NOTES

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

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

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

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

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

STRIP SEAL EXPANSION JOINT ASSEMBLY, INCLUDING ANCHOR STUDS AND HARDWARE WILL BE PAID FOR AT THE LUMP SUM PRICE BID FOR "EXPANSION DEVICE B-70-406".

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

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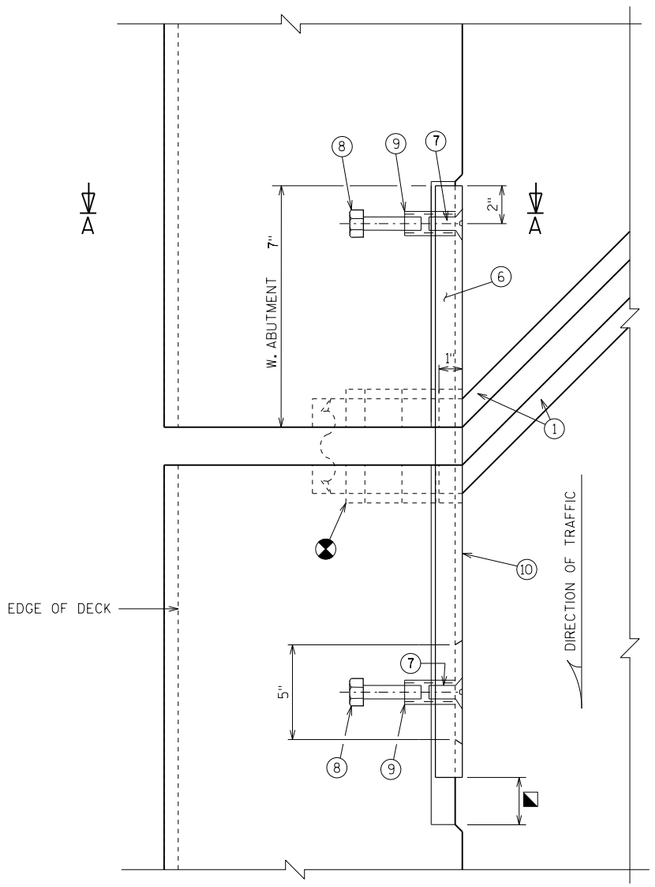
STRIP SEAL EXP. JOINT DETAILS

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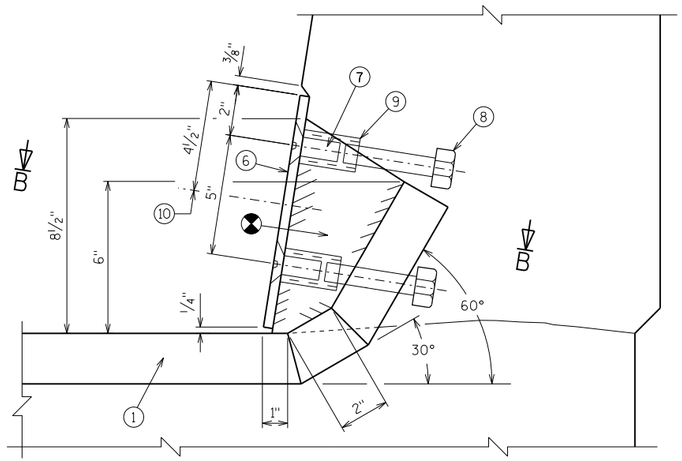
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STATE PROJECT NUMBER

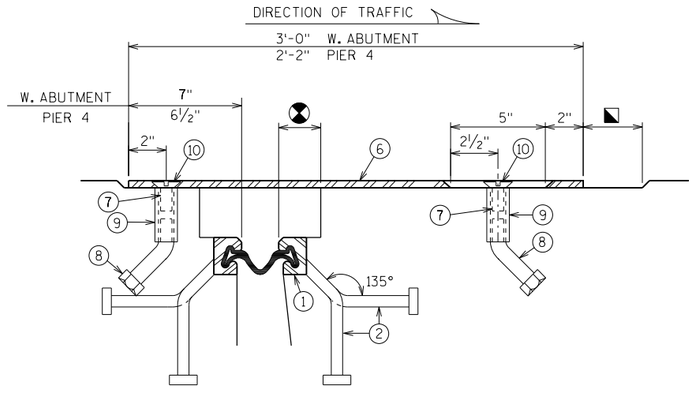
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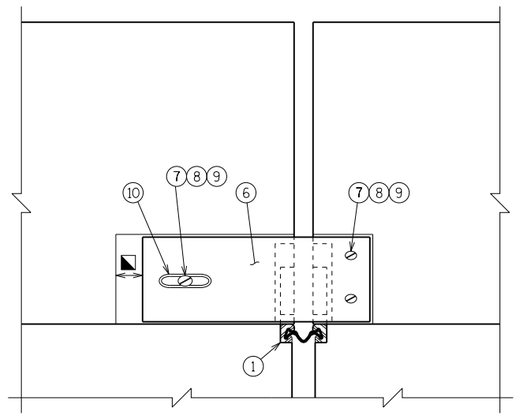

PLAN AT W. ABUT.



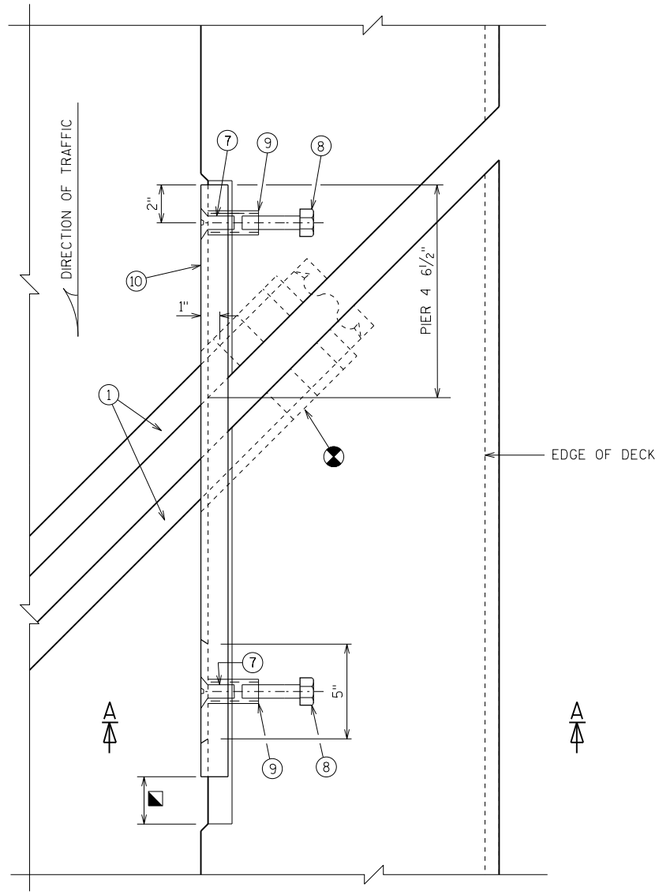

SECTION A-A




SECTION B-B




VIEW OF PARAPET PLATE FROM ROADWAY




PLAN AT PIER 4

## LEGEND

◪ JOINT OPENING DIM. ALONG SKEW PLUS 1/2".

⊗ BLOCK OUT CONCRETE 2" EACH SIDE OF JOINT OPENING.

SEE SHEET 57 "STRIP SEAL EXP. JOINT DETAILS" FOR LEGEND.

## NOTES

SEE B-70-61 PLANS FOR COVER PLATE DETAILS AT COMMON PIER C1 MODULAR JOINT.

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

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STRIP SEAL COVER PLATE DETAILS

SHEET 58 OF 65

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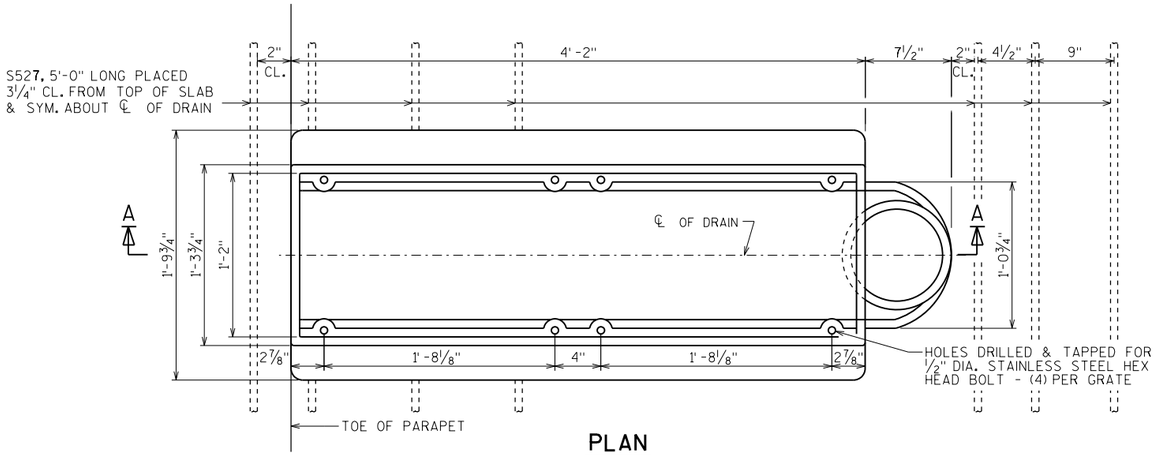
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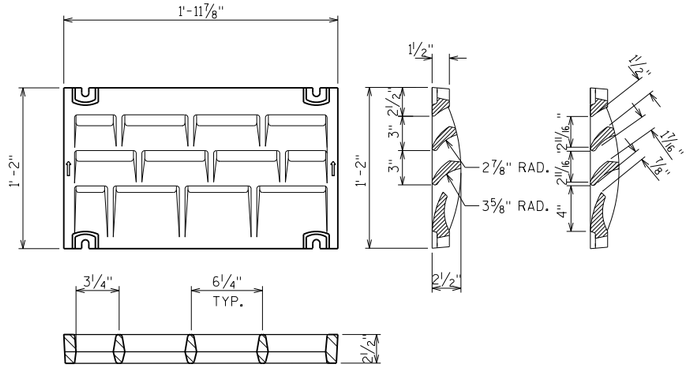
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## PLAN




## GRATE CASTING DETAILS

ATTACH GRATES TO FRAME FOR SHIPMENT

## GENERAL NOTES

ALL MATERIAL FOR TYPE "WF" CASTING AND 8" DIA. CONNECTION PIPE, EXCLUDING GRATE HOLD DOWN SCREWS, SHALL BE GRAY IRON CONFORMING TO ASTM A48, CLASS 30.

MATERIAL FOR BRACKETS SHALL CONFORM TO ASTM A36.

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

SEE SHEET 60 "DOWNSPOUT DETAILS" FOR DOWNSPOUT DETAILS.

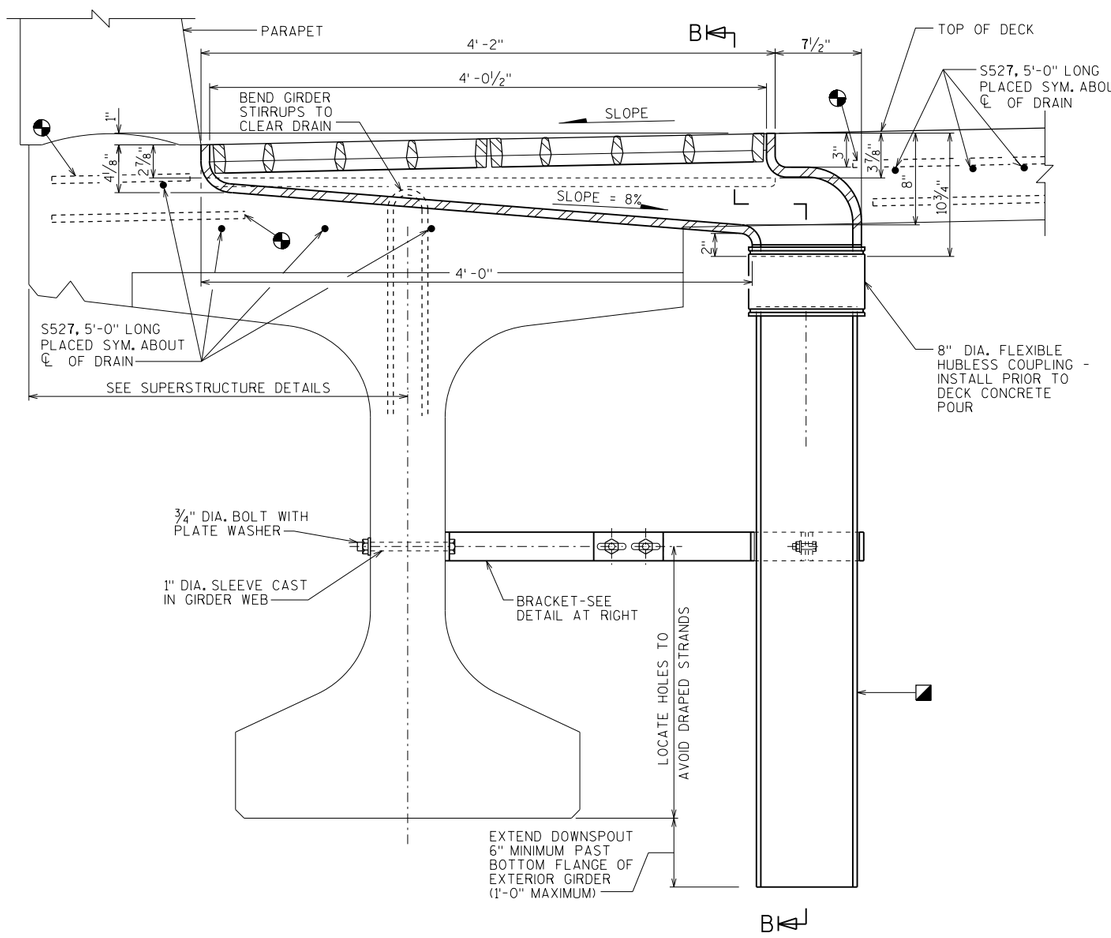
DOWNSPOUT TO BE PIGMENTED SAME COLOR AS GIRDER FACE. SEE SHT. 61 "AESTHETIC DETAILS" FOR DETAILS.

◪ 8" DIA. DOWNSPOUTS SHALL BE REINFORCED THERMOSETTING RESIN PIPE CONFORMING TO SECTION 514 OF THE STANDARD SPECIFICATIONS.

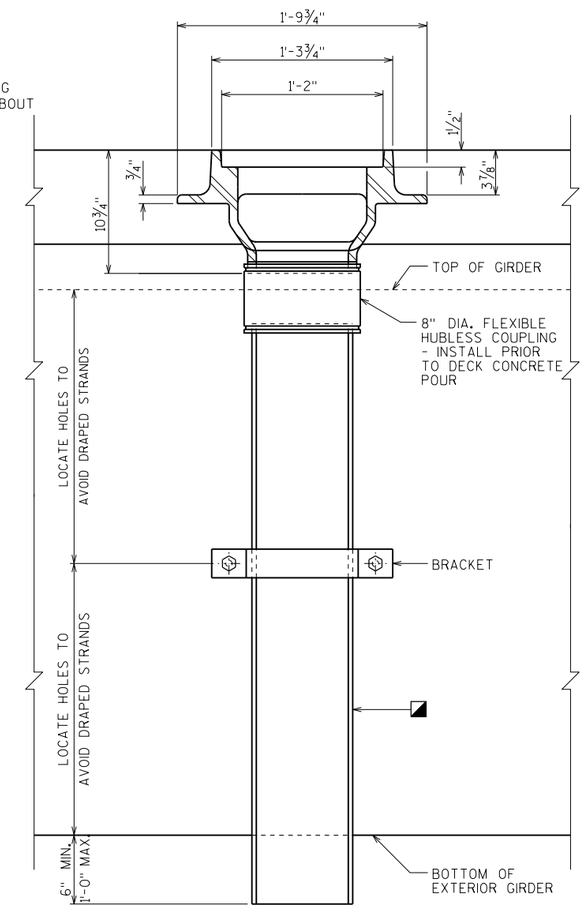
◔ TRANSVERSE & LONGITUDINAL SLAB BAR REINFORCEMENT TO BE CUT A MAXIMUM OF 1" CLEAR FROM DRAIN FRAME. DISPLACE BARS WHERE POSSIBLE.

## FLOOR DRAIN LOCATIONS

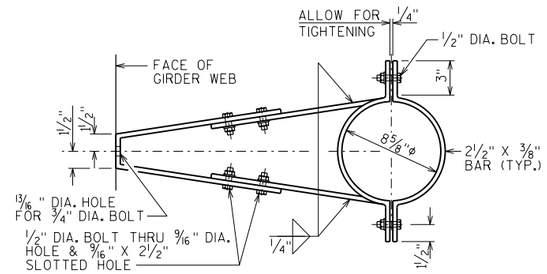
| DRAIN # | STATION | OFFSET |
|---|---|---|
| 1 | 136FWN+60.00 | 23'-0" LT |
| 2 | 141FWN+24.00 | 23'-0" LT |




## SECTION A-A




## SECTION B-B




## BRACKET DETAIL

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

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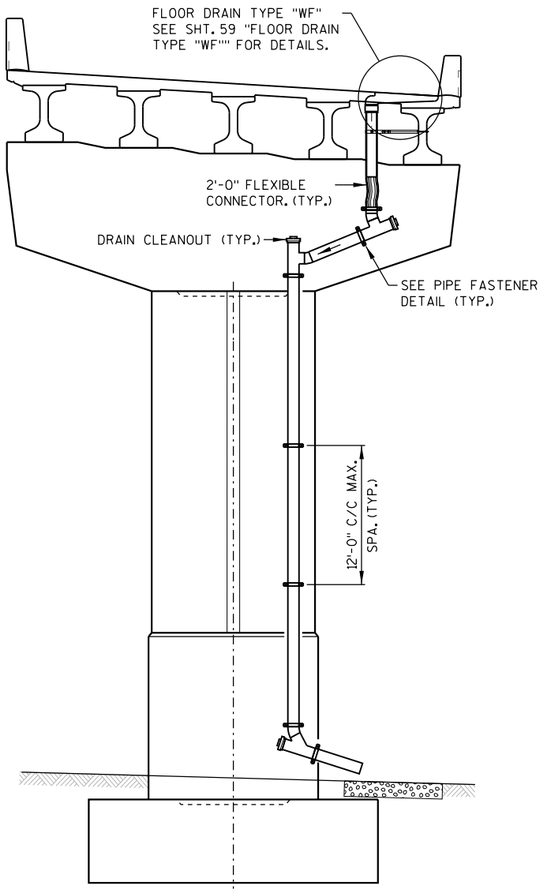
FLOOR DRAIN TYPE "WF"

SHEET 59 OF 65
641

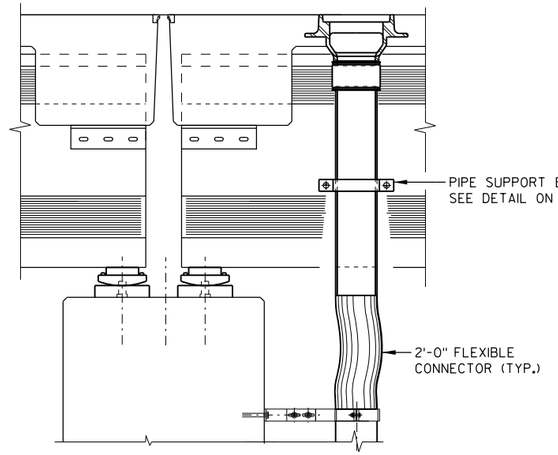
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PLOT DATE: 1/28/2016 PLOT TIME: 8:53:02 AM BATCH PRINT SHEET 60 OF 65

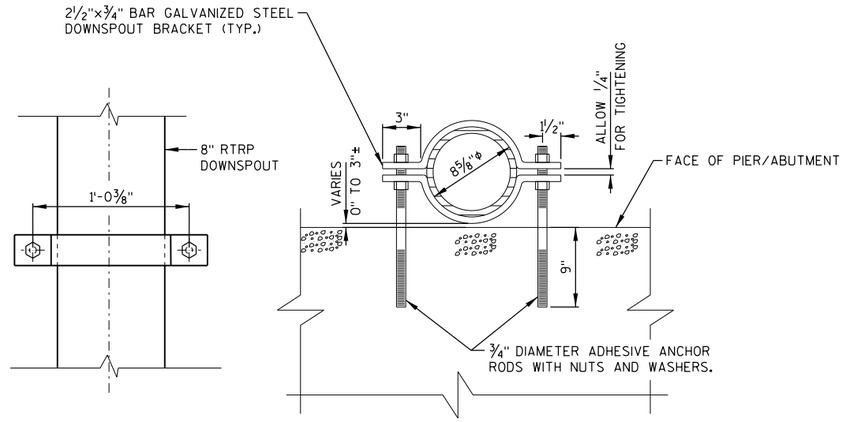




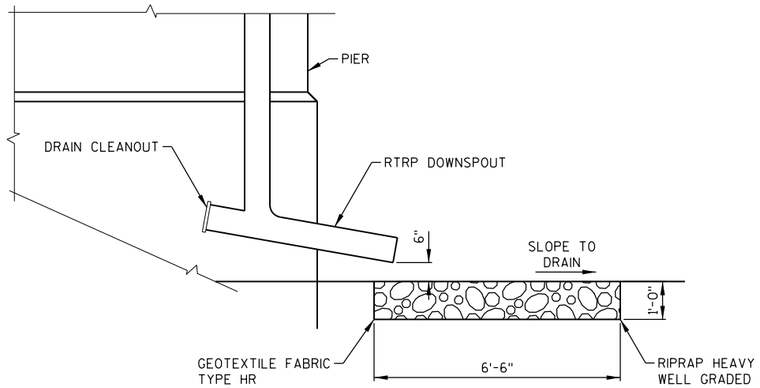

## TYPICAL SECTION AT PIER 4
(LOOKING WEST)



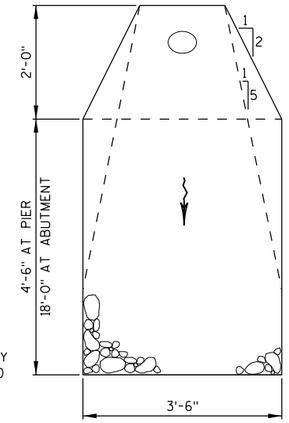

## ELEVATION VIEW AT PIER
(ABUTMENT SIMILIAR)




## PIPE FASTENER DETAIL

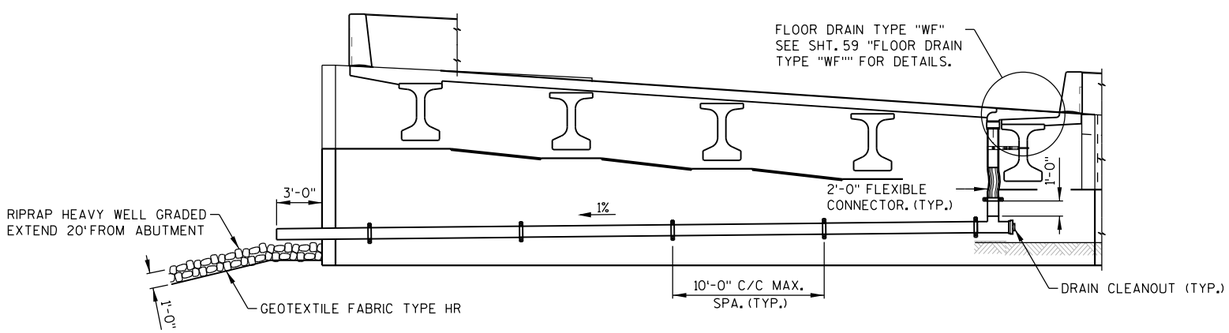



## ELEVATION VIEW
AT PIER




## PLAN VIEW

## ENERGY DISSIPATOR DETAIL




## TYPICAL SECTION AT W. ABUTMENT
(LOOKING WEST)

## NOTES

EXCAVATION FOR DISSIPATOR IS INCIDENTAL TO ITEM "RIPRAP HEAVY".

MATERIAL FOR BRACKETS SHALL CONFORM TO ASTM A36.

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

DOWNSPOUT TO BE PIGMENTED SAME COLOR AS PIER COLOR "A". SEE SHT. 61 "AESTHETIC DETAILS" FOR DETAILS.

8" DIA. DOWNSPOUTS SHALL BE REINFORCED THERMOSETTING RESIN PIPE CONFORMING TO SECTION 514 OF THE STANDARD SPECIFICATIONS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

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DOWNSPOUT DETAILS

SHEET 60 OF 65
642

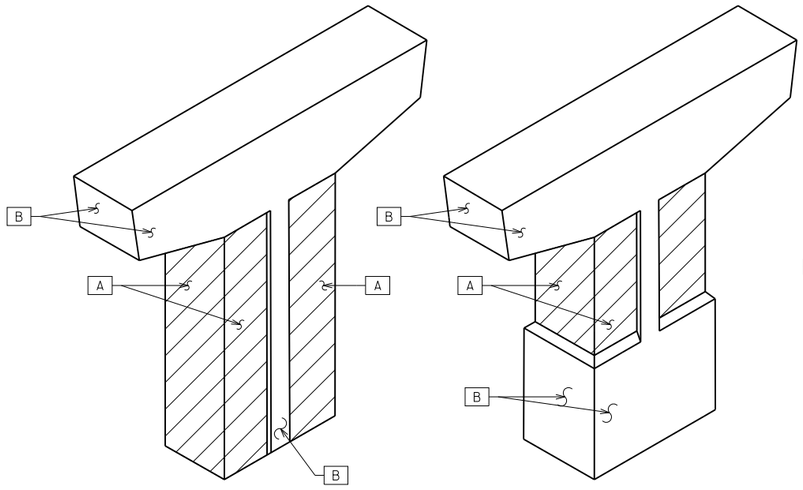
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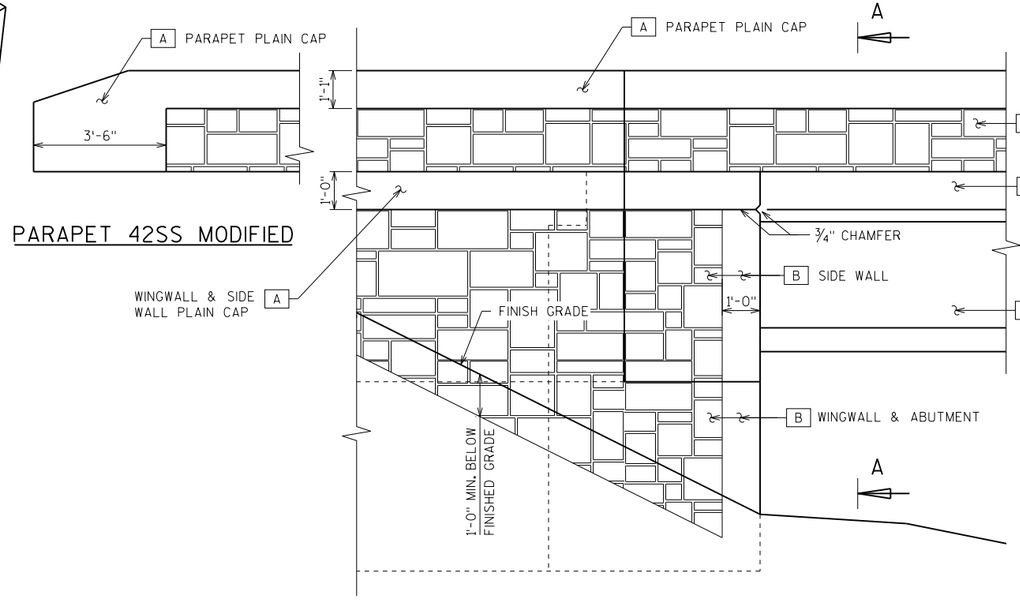
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STATE PROJECT NUMBER

1517-07-77

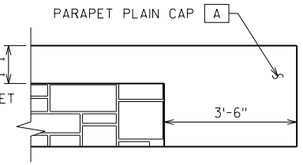



PIER STAINING DETAIL




PARAPET 42SS MODIFIED

ABUTMENT STAINING DETAIL

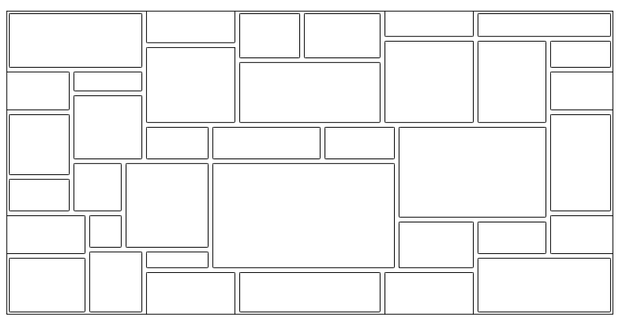



PARAPET 32SS MODIFIED

## CONCRETE STAINING SCHEDULE

| MARK | COLOR | FED. COLOR NO. | LOCATION |
|---|---|---|---|
| A | HOPSACK | SW 6109 | FASCIA GIRDERS, DECK EDGE, PARAPET AND WING PLAIN CAPS. |
| B | LATTE | FED. 33522 | PARAPETS, WINGWALLS, SIDE WALLS, ABUTMENTS, PIER CAPS AND BASES |

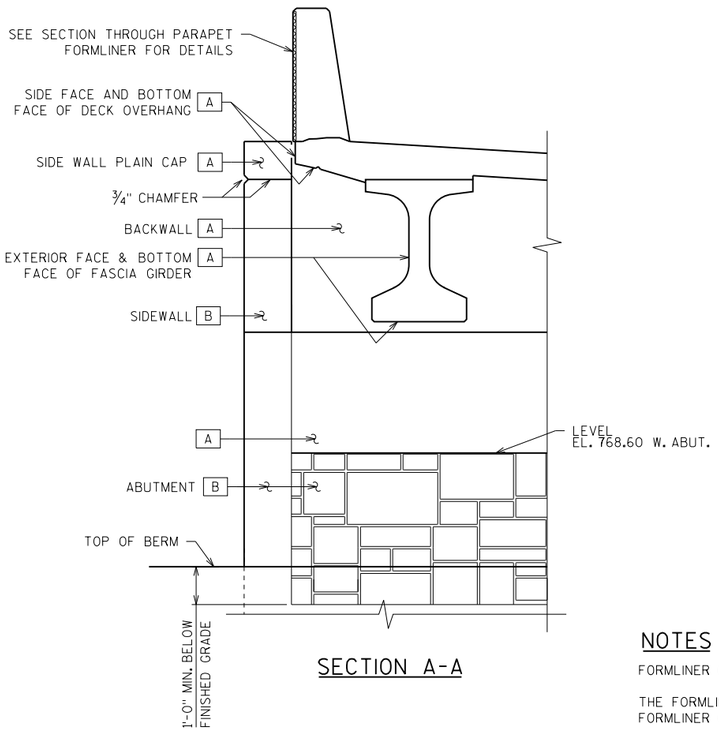
NOTE: 1. FINISH ON COLORS IS FLAT (LUSTERLESS)



## ASHLAR

MAXIMUM RELIEF: 1⅝"
AVERAGE RELIEF: 1¼"
LINER THICKNESS*: 2½"
STONE SIZE: H: 3" - 17"
W: 5"-29"

* INCLUDES INTERNAL PLYWOOD BACKING




SECTION A-A




SECTION THROUGH PARAPET FORMLINER

## NOTES

FORMLINER COURSING ON ABUTMENTS AND WINGS SHALL BE LEVEL.

THE FORMLINER COURSING ON THE WINGS SHALL BE VERTICALLY ALIGNED WITH THE FORMLINER COURSING ON THE FRONT OF THE ABUTMENT.

THE FORMLINER PATTERN SHALL BE CONTINUOUS ACROSS CONSTRUCTION JOINTS.

FORMLINER COURSING ON PARAPET SHALL BE PARALLEL TO TOP OF PARAPET.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

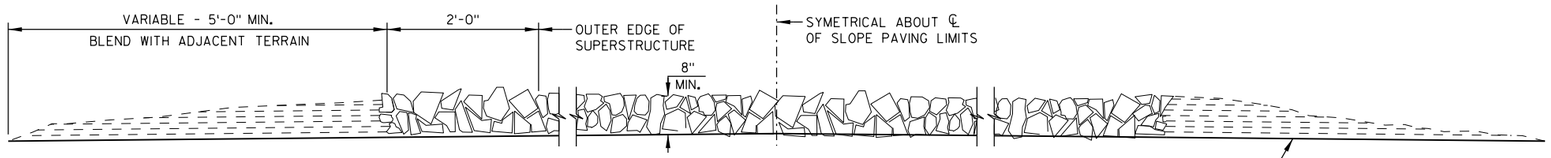
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AESTHETIC DETAILS

SHEET 61 OF 65
643

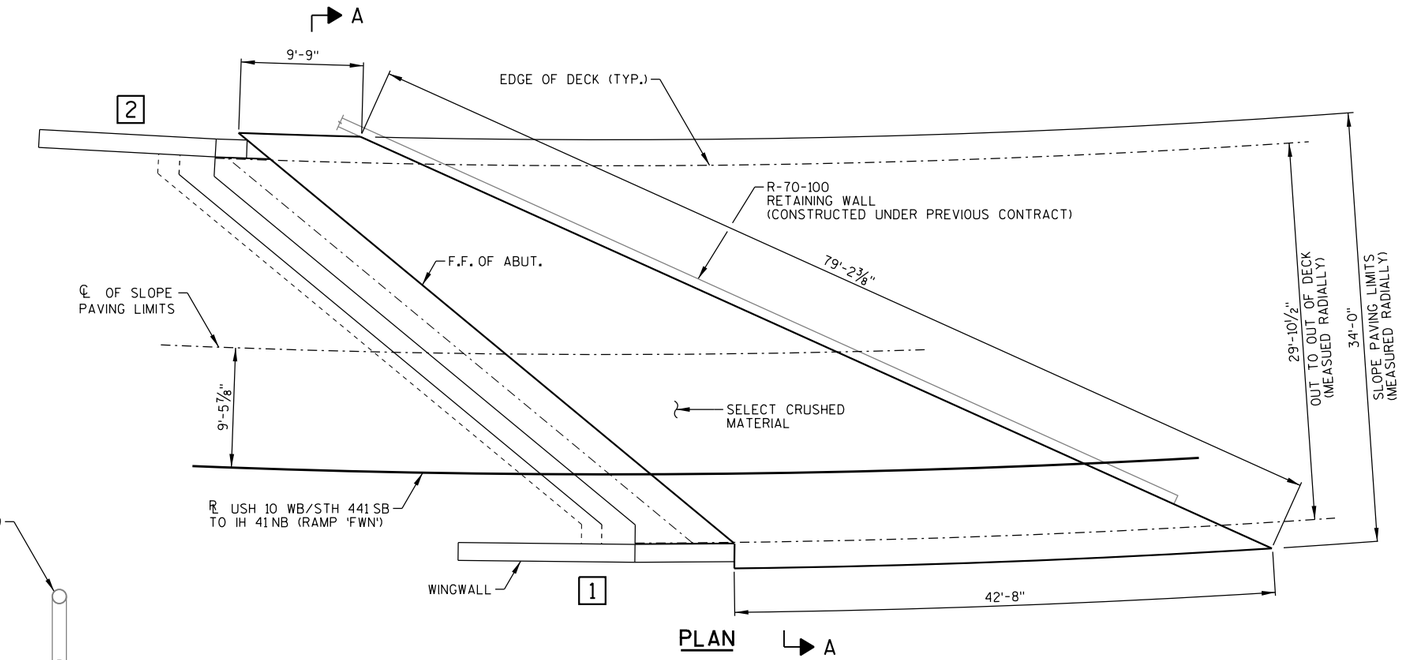
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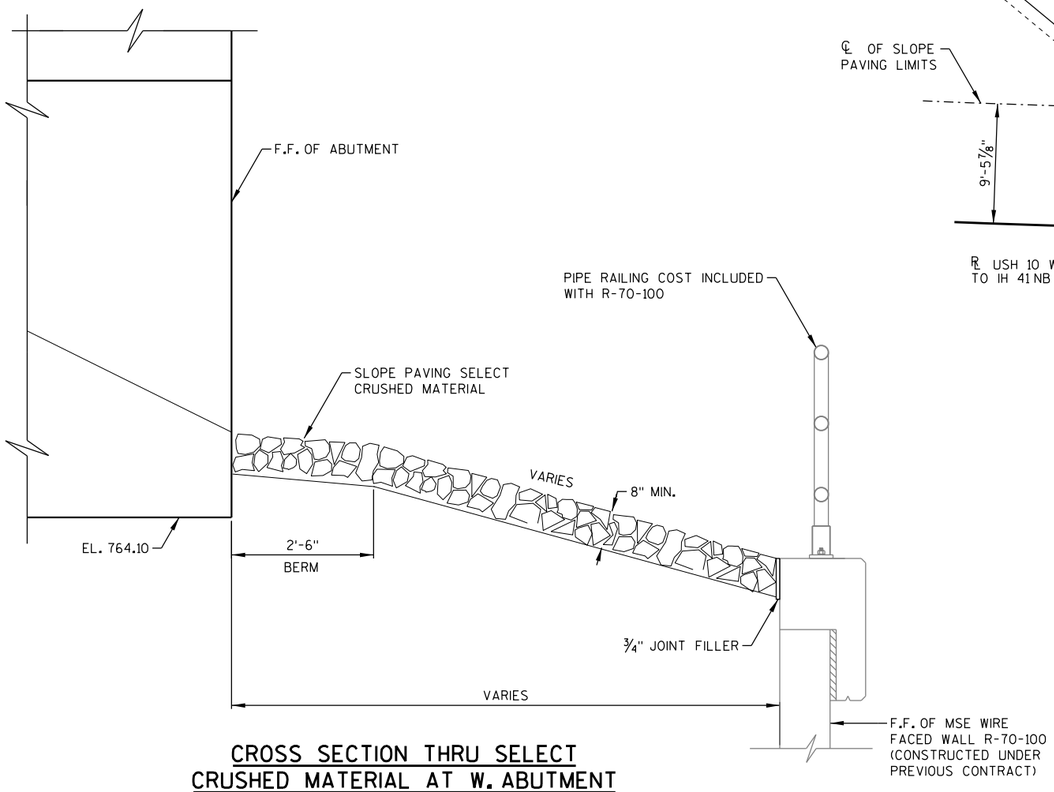



## SECTION A-A

(SHOWING SECTION THRU SELECT CRUSHED MATERIAL SLOPE PAVING)




## PLAN




## CROSS SECTION THRU SELECT CRUSHED MATERIAL AT W. ABUTMENT

### NOTES

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

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

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SLOPE PAVING SELECT CRUSHED MATERIAL

SHEET 62 OF 65

644

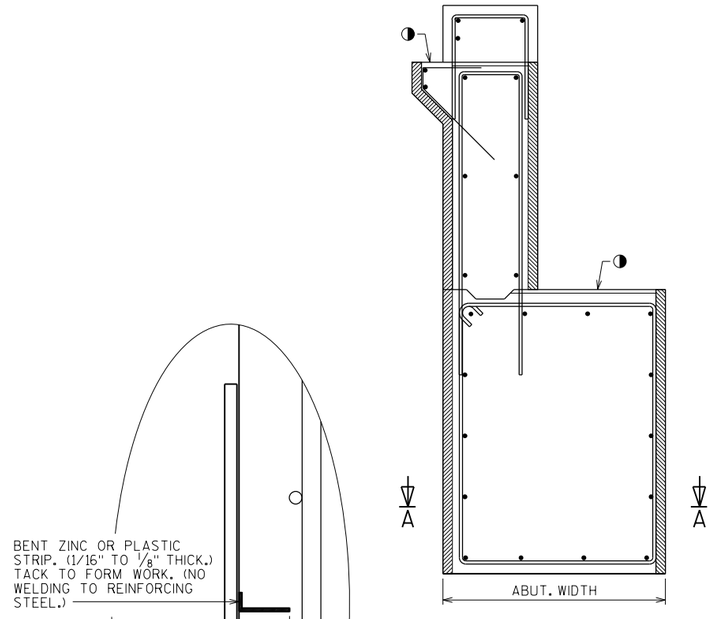
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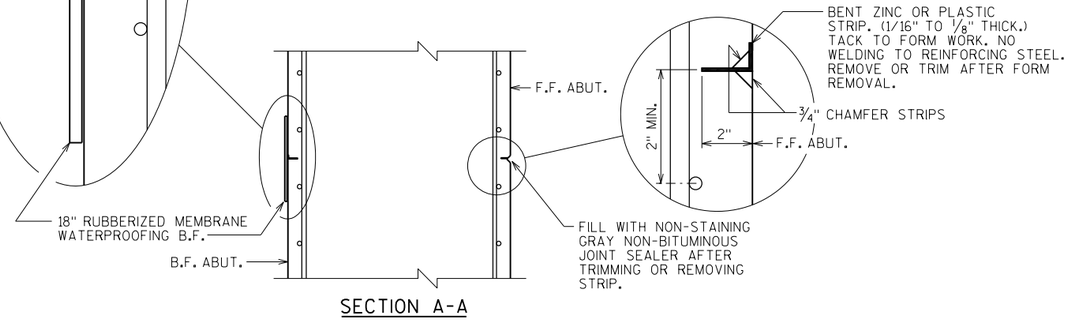
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SECTION THRU ABUTMENT BODY




SECTION A-A

## ALTERNATE CONSTRUCTION JOINT AT ABUTMENT

### NOTES

PARTIAL ZINC OR PLASTIC BULKHEAD MAY BE USED AS ALTERNATE CONSTRUCTION JOINT, WITH THE PERMISSION OF THE ENGINEER, AT THE CONTRACTOR'S EXPENSE.

VERTICAL CONSTRUCTION JOINT KEYWAY IS NOT REQUIRED WHEN USING ALTERNATE CONSTRUCTION JOINT.

CARE IS TO BE USED IN CASTING CONCRETE AROUND BULKHEAD TO PREVENT DISLOCATION OR MISALIGNMENT OF THE BULKHEAD.

SAW CUTTING JOINT IS NOT ALLOWED.

◑ USE A JOINT TOOL TO CONSTRUCT A CONTRACTION JOINT APPROXIMATELY 1/2" DEEP.

| NO. | DATE | REVISION | BY |
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STRUCTURE B-70-406

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ALTERNATE CONSTRUCTION JOINT

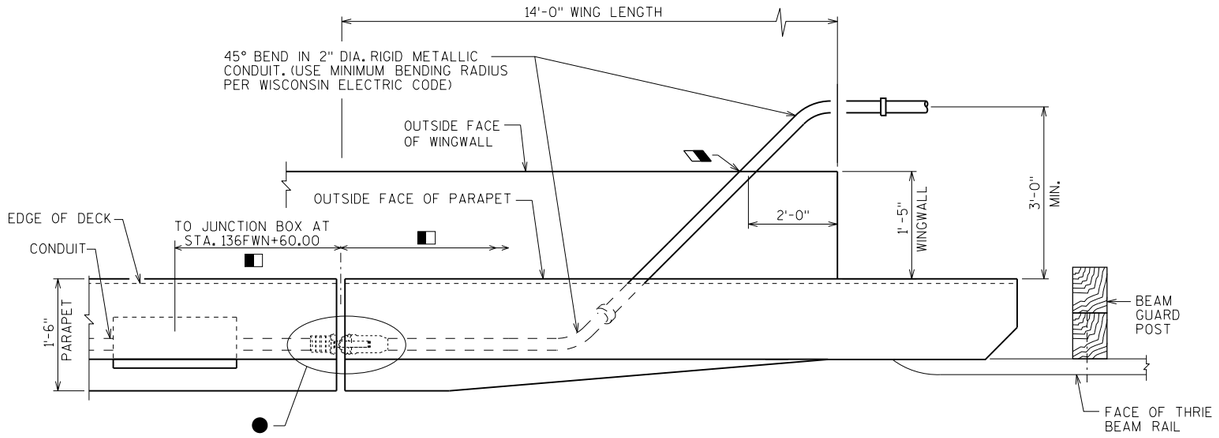
SHEET 63 OF 65
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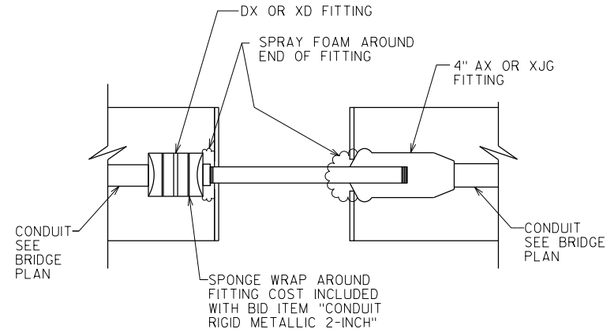
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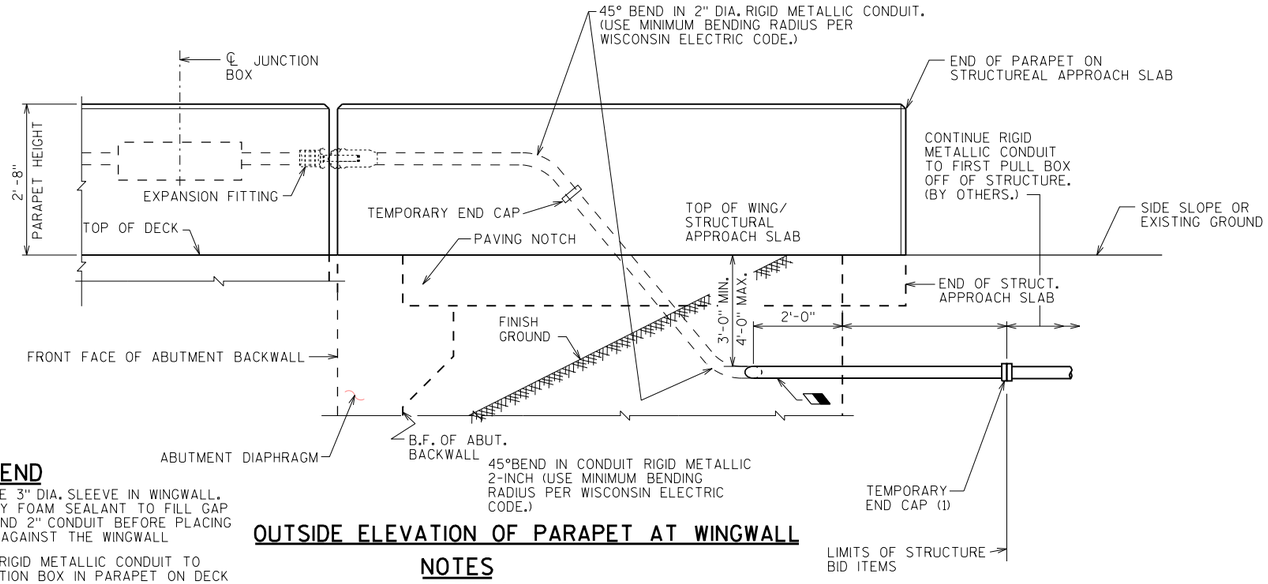

## PLAN OF PARAPET AT WINGWALL

XD FITTING IS GOOD FOR 3/4" MOVEMENT IN ANY DIRECTION. THE XD FITTING WILL ALLOW FOR ANGULAR MOVEMENT WITH A DEFLECTION OF UP TO 30 DEGREES FROM THE NORMAL IN ANY DIRECTION.



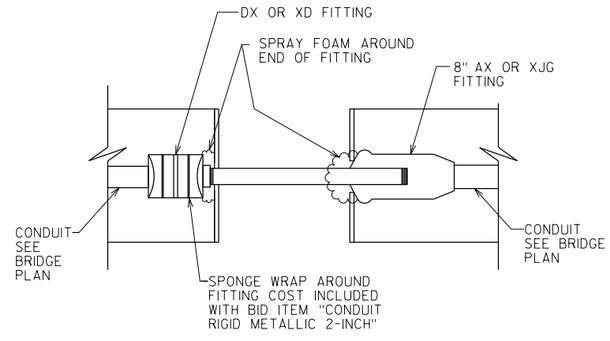

## DETAIL 1
## ELECTRICAL FITTING - AX/DX CONNECTION

PARAPET STRIP SEAL BRIDGE JOINT - W. ABUT.
THIS ARRANGEMENT ACCOMMODATES UP TO 4¾" OF TOTAL MOVEMENT AT A JOINT.




## OUTSIDE ELEVATION OF PARAPET AT WINGWALL

XD FITTING IS GOOD FOR 3/4" MOVEMENT IN ANY DIRECTION. THE XD FITTING WILL ALLOW FOR ANGULAR MOVEMENT WITH A DEFLECTION OF UP TO 30 DEGREES FROM THE NORMAL IN ANY DIRECTION.




## DETAIL 2
## ELECTRICAL FITTING - AX/DX CONNECTION

PARAPET STRIP SEAL BRIDGE JOINT - PIER 4
THIS ARRANGEMENT ACCOMMODATES UP TO 8¾" OF TOTAL MOVEMENT AT A JOINT.

## LEGEND

- PLACE 3" DIA. SLEEVE IN WINGWALL. SPRAY FOAM SEALANT TO FILL GAP AROUND 2" CONDUIT BEFORE PLACING FILL AGAINST THE WINGWALL
- USE RIGID METALLIC CONDUIT TO JUNCTION BOX IN PARAPET ON DECK AND ALL THE WAY TO PULL BOX OFF BRIDGE.
- 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.
- POSITION MOVABLE END OF CONDUIT INSIDE EXPANSION FITTING, SUCH THAT IT WILL HAVE THE SAME ALLOWANCE FOR MOVEMENT (EXPANSION/CONTRACTION) AS THE EXPANSION DEVICE SET IN THE DECK BELOW IT. TAKE CARE TO INSTALL EXPANSION FITTING AND CONDUIT EXACTLY PARALLEL TO BRIDGE MOVEMENT. SEE DETAIL 1 ON THIS SHT. FOR EXPANSION FITTING AT WEST ABUTMENT. SEE DETAIL 2 ON THIS SHT. FOR EXPANSION FITTING AT PIER 4.

## NOTES

BID ITEMS SHALL BE:

"CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH"
"CONDUIT RIGID METALLIC 2-INCH"

APPROVED MANUFACTURERS - JUNCTION BOXES:
SEE APPROVED MATERIAL LIST.

ELECTRICAL FITTING - AX/DX CONNECTION, SEE DETAILS 1 & 2 ON THIS SHEET APPROVED MANUFACTURER OR EQUIVALENT - EXPANSION FITTING:
W. ABUT.: O-Z/GEDNEY TYPE AXDX-200 AND BONDING JUMPER (4¾" TOTAL MOVEMENT).
PIER 4: O-Z/GEDNEY TYPE AXDX-8-200 AND BONDING JUMPER (8¾" TOTAL 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. OR NRTL LISTED FOR ELECTRICAL USE SHALL BE USED.

FOR PARAPET ELECTRICAL WORK AT COMMON PIER C1, SEE B-70-61 STRUCTURE PLANS.

AESTHETIC DETAILS NOT SHOWN FOR CLARITY.

TERMINATE CONDUIT AT 24"X42" PULL BOX. REFER TO ROADWAY PLANS FOR LOCATION AND DETAILS.

PULL BOX QUANTITIES ARE NOT INCORPORATED INTO THE STRUCTURE "TOTAL ESTIMATED QUANTITIES".

VERIFY PULL BOX LOCATION BEFORE DETERMINING FINAL LENGTH OF RIGID NONMETALLIC CONDUIT EXTENDING OUTSIDE THE STRUCTURE LIMIT.

| NO. | DATE | REVISION | BY |
|---|---|---|---|
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STRUCTURE B-70-406

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PARAPET 32SS ELECTRICAL WORK

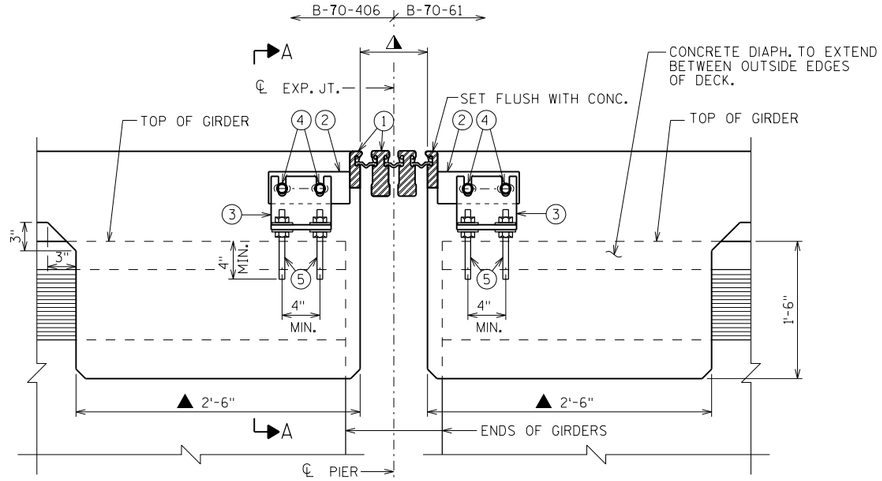
SHEET 64 OF 65
646

8

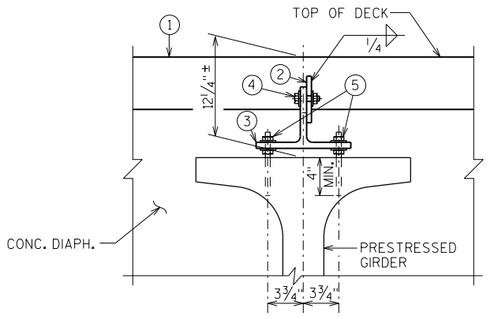
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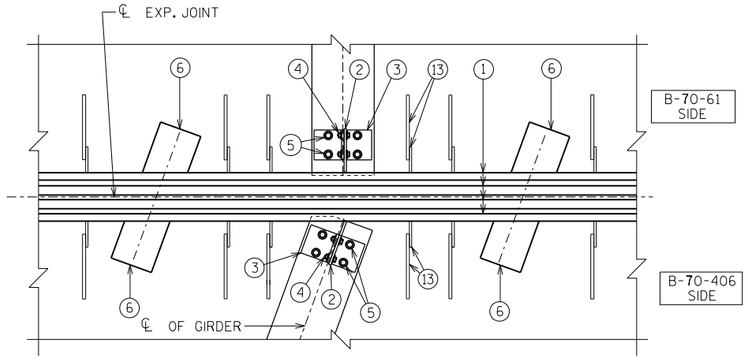





SECTION THRU JOINT @ PIER
NORMAL TO ℄ SUBSTRUCTURE




SECTION A-A




PART PLAN

NOTE:
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.

## LEGEND

(1) MODULAR EXPANSION JOINT DEVICE, 3 CELLS.

(2) 1/2" PLATE, ONE PER GIRDER MIN. PROVIDE 2 - 1" X 2" MIN. SLOTTED HOLES PLACED HORIZONTALLY FOR NO. 4.

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

(4) 3/4" Φ HIGH STRENGTH BOLTS WITH NUTS & WASHERS. (A325 GALV.)

(5) 3/4" Φ 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 1/2" PLATES.

(13) 1/2" PLATE WITH 5/8" Φ 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 IN B-70-61 PLANS. THE MODULAR EXPANSION DEVICE SHALL HAVE THE NUMBER OF CELLS AS INDICATED IN (1).

## GENERAL NOTES

FOR ADDITIONAL MODULAR JOINT DETAILS, SEE B-70-61 PLANS.

BAR STEEL REINF. IN DECK AND CONC. DIAPHRAGM SHALL BE RESPACED AS NECESSARY TO ALLOW PLACEMENT OF JOINT ASSEMBLY. TOP TRANSVERSE BARS, ADJACENT TO MOD. JT., TO BE CUT AND PLACED BETWEEN JT. SUPPORT SYSTEM.

JOINT MANUFACTURER SHALL INFORM AND PROVIDE NECESSARY DETAILS TO THE PRESTRESSED GIRDER FABRICATOR, WHEN FORM-OUT OF THE TOP FLANGE IS REQ'D. TO ALLOW PLACEMENT OF SUPPORT BOX ASSEMBLY.

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-406

DRAWN BY KAM | PLANS CK'D. MJA

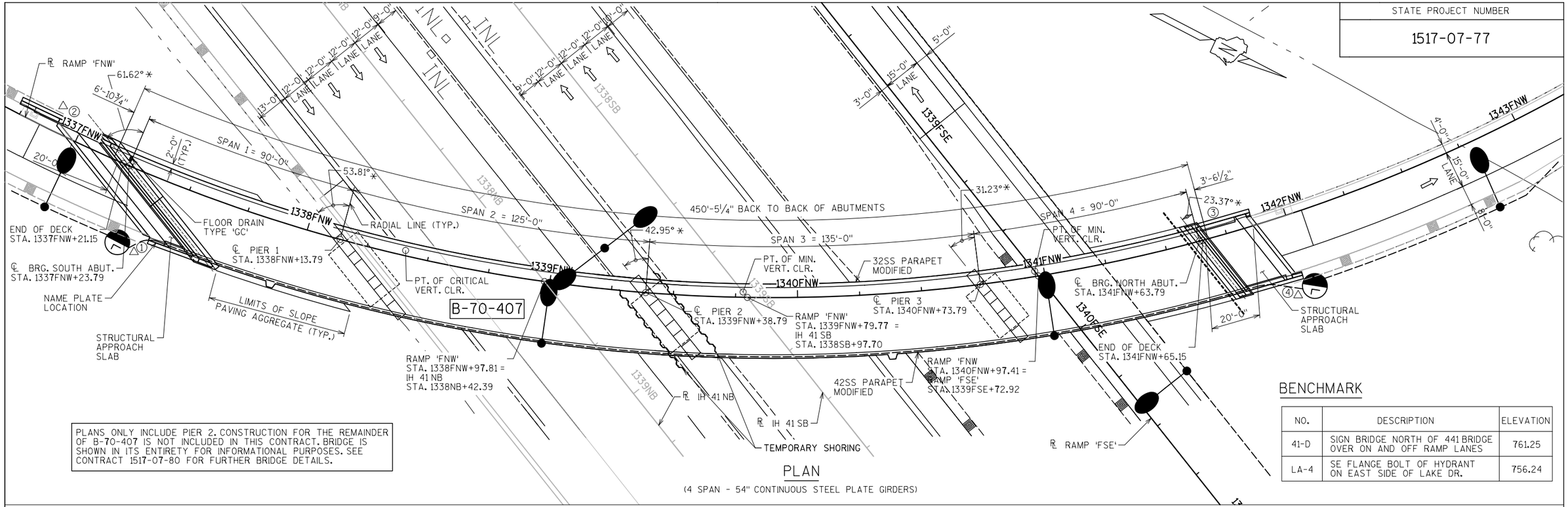
MODULAR EXPANSION JOINT DETAIL

SHEET 65 OF 65
647

8

8

| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |



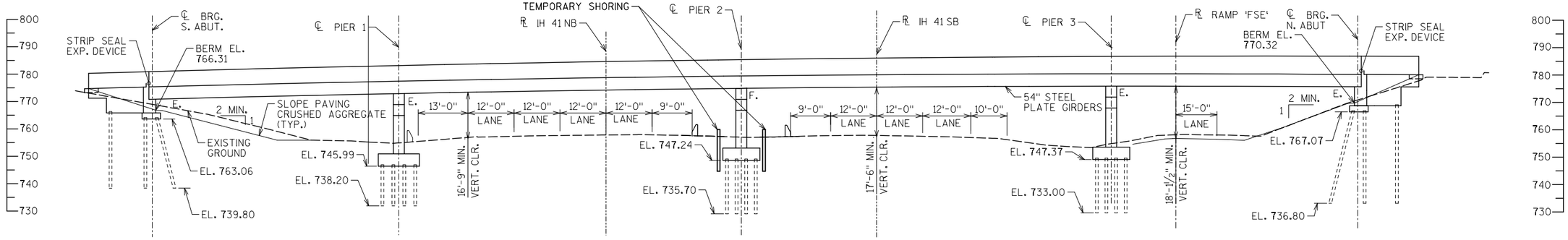

PLANS ONLY INCLUDE PIER 2. CONSTRUCTION FOR THE REMAINDER OF B-70-407 IS NOT INCLUDED IN THIS CONTRACT. BRIDGE IS SHOWN IN ITS ENTIRETY FOR INFORMATIONAL PURPOSES. SEE CONTRACT 1517-07-80 FOR FURTHER BRIDGE DETAILS.

## PLAN

(4 SPAN - 54" CONTINUOUS STEEL PLATE GIRDERS)

## BENCHMARK

| NO. | DESCRIPTION | ELEVATION |
|---|---|---|
| 41-D | SIGN BRIDGE NORTH OF 441 BRIDGE OVER ON AND OFF RAMP LANES | 761.25 |
| LA-4 | SE FLANGE BOLT OF HYDRANT ON EAST SIDE OF LAKE DR. | 756.24 |




## ELEVATION

(LOOKING SOUTHWEST)

## NOTES

DIMENSIONS SHOWN ARE ALONG ℄.

SPAN LENGTHS SHOWN ARE MEASURED ALONG ℄.

ALL UNITS ARE IN FEET UNLESS OTHERWISE NOTED.

## LEGEND

△ ANCHOR ASSEMBLY FOR STEEL PLATE BEAM GUARD ATTACHMENT.

① INDICATES WINGWALL NUMBER.

* ANGLES BETWEEN RADIAL LINE AND TANGENT TO ℄ AT POINT OF INTERSECTION

## TRAFFIC DATA:

IH 41:
A.D.T. = 76,000 (2010)
A.D.T. = 101,000 (2038)
R.D.S. = 70 M.P.H.

RAMP FNW:
A.D.T. = 1,700 (2038)
R.D.S. = 45 M.P.H.

## DESIGN DATA

LIVE LOAD:

DESIGN RATING: HL-93
INVENTORY RATING FACTOR: 1.04
OPERATING RATING FACTOR: 1.83
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS

THE DESIGN PROVIDES FOR AN ADDITIONAL LOAD DUE TO A FUTURE WEARING SURFACE EQUAL TO 20 PSF AND A POLYMER OVERLAY EQUAL TO 5 PSF.

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY
ALL CONCRETE (HPC) ..... F'C = 4,000 PSI

BAR STEEL REINFORCEMENT,
HIGH STRENGTH, GRADE 60 .....FY = 60,000 PSI

54-INCH STEEL PLATE GIRDERS,
HIGH STRENGTH, GRADE 50.....FY = 50,000 PSI

## FOUNDATION DATA

PIER 2 TO BE SUPPORTED ON HP 12x53 STEEL PILING PRE-BORED 3.5 FEET INTO BEDROCK. ESTIMATED PILE LENGTH IS 16 FEET.

## LIST OF DRAWINGS


1. GENERAL PLAN AND ELEVATION
2. CROSS SECTION
3. GENERAL NOTES AND QUANTITIES
4. SUBSURFACE EXPLORATION
5. PIER 2
6. PIER 2 DETAILS
7. BEARING PEDESTAL DETAILS


WISCONSIN
MICHAEL J. ARNOLD
E-41717
GREENDALE, WISCONSIN
PROFESSIONAL ENGINEER
4/12/2016

NE REGION CONTACT - SCOTT EBEL (920) 492-2240
BUREAU OF STRUCTURES CONTACT - WILLIAM DREHER (608) 266-8489
CONSULTANT CONTACT - MICHAEL ARNOLD (414) 944-6142

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


AECOM
1555 North Rivercenter Drive, Suite 214
Milwaukee, WI 53212
(414) 944-6080


STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 04/12/16
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-70-407

IH 41 NB TO USH 10 WB- RAMP 'FNW'

| COUNTY | TOWN ~~CITY/VILLAGE~~ |
|---|---|
| WINNEBAGO | MENASHA |

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

| DESIGNED BY | DESIGN CK'D. | DRAWN BY | PLANS CK'D. |
|---|---|---|---|
| NLD | MJA | MRL | MJA |

GENERAL PLAN AND ELEVATION

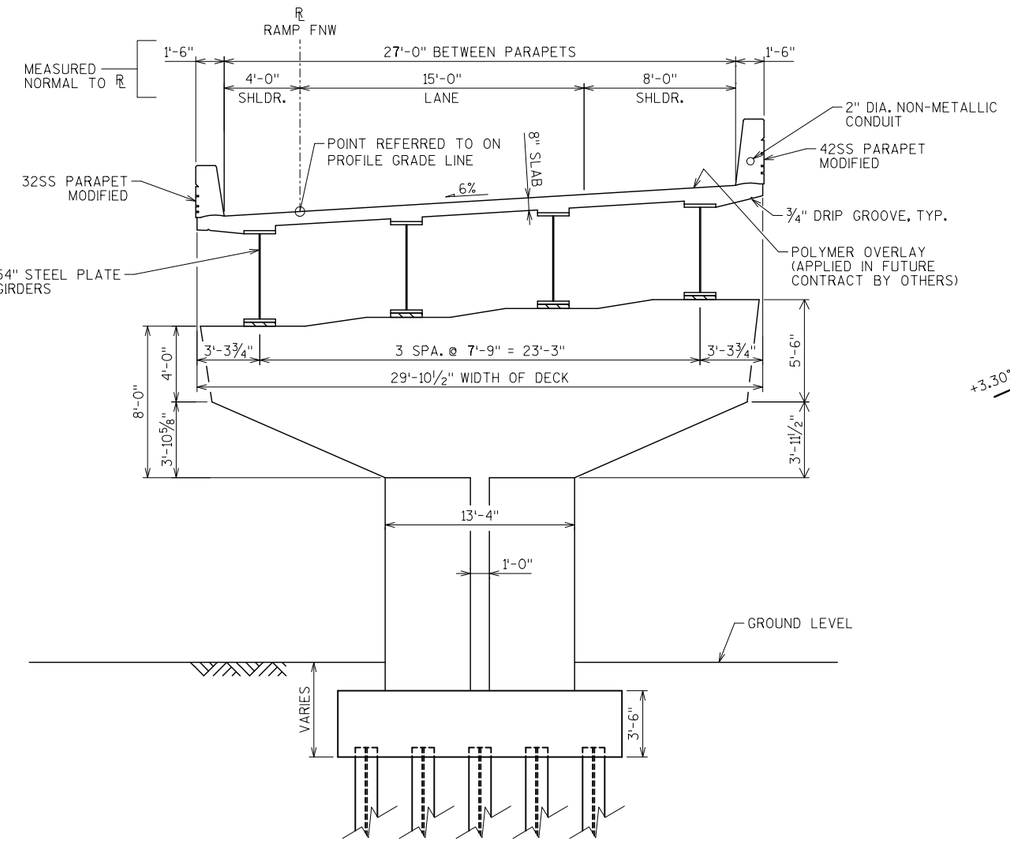
SHEET 1 OF 7
648

DATE: 4/12/2016
I.D.

FILE= \\s1102k306\projects\Transportation\US 10 WIS 441\CADD\sheets\Structures\B-70-407\Sheets\07-77 Pier 2 Plan Set\01-B-70-407_gp.dgn

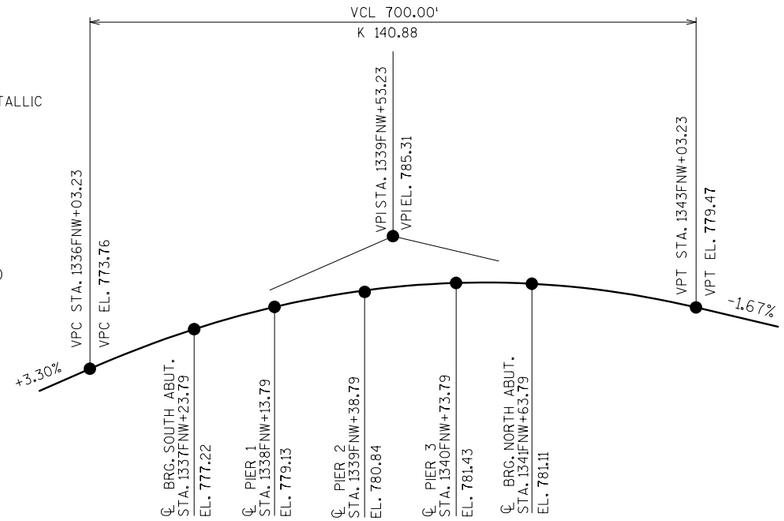
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CROSS SECTION THRU ROADWAY

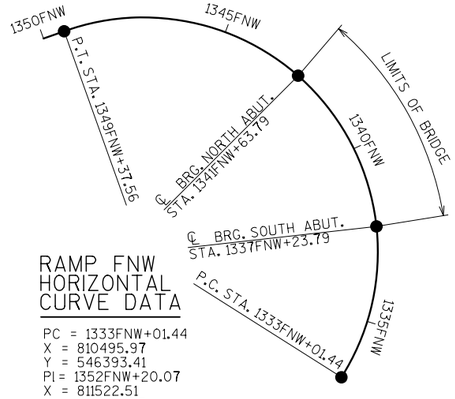
(LOOKING UP STATION)




PROFILE GRADE LINE RAMP FNW



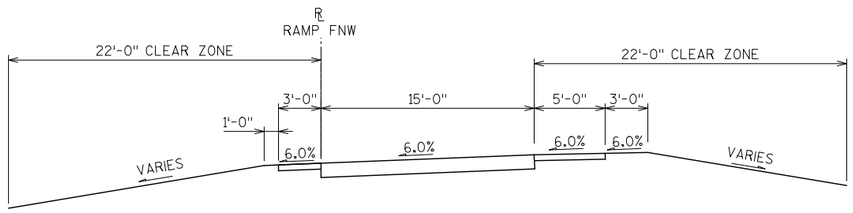

PROFILE GRADE LINE RAMP FSE




RAMP FNW HORIZONTAL CURVE DATA

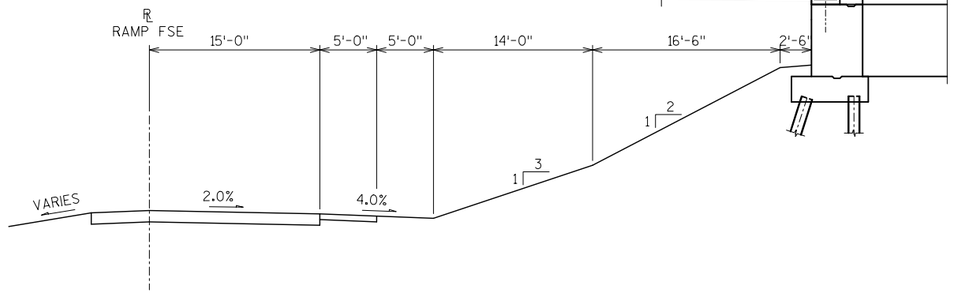
PC = 1333FNW+01.44
X = 810495.97
Y = 546393.41
PI = 1352FNW+20.07
X = 811522.51
Y = 548014.33
PT = 1349FNW+37.56
X = 809716.04
Y = 547367.95
R = 660.00
DELTA = 142°02'03" LT
D = 8°40'52"
L = 1636.12

HORIZONTAL ALIGNMENT RAMP FNW



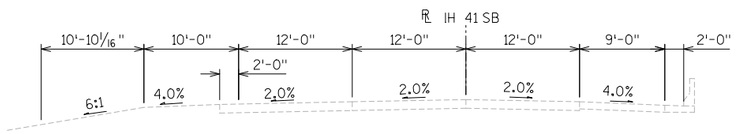

TYPICAL SECTION RAMP FNW

(LOOKING UP STATION)

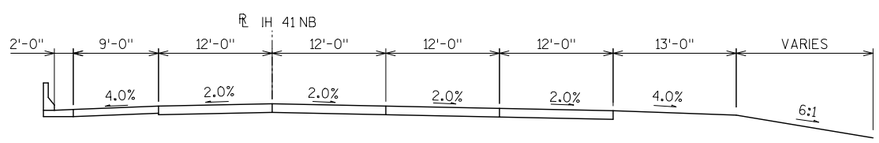



TYPICAL SECTION RAMP FSE

(LOOKING DOWN STATION)




EXISTING TYPICAL SECTION IH 41 SB




TYPICAL SECTION IH 41 NB

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-407

DRAWN BY MRL | PLANS CK'D. MJA

CROSS-SECTION

SHEET 2 OF 7
649

STATE PROJECT NUMBER
1517-07-77

DATE: 4/12/2016
I.D.

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| STATE PROJECT NUMBER |
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| 1517-07-77 |

## GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

ELEVATIONS ARE REFERENCED TO NGVD29.

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.

## 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.

## CONCRETE

CHAMFER ALL EXPOSED OUTSIDE CORNERS ¾" UNLESS NOTED OTHERWISE.

## OTHER DESIGN LOADS

THE STRUCTURE IS DESIGNED FOR THE DECK THICKNESS SHOWN. AN ADDITIONAL LOAD OF 20 PSF FOR A FUTURE WEARING SURFACE AND 5 PSF FOR A POLYMER OVERLAY ARE CONSIDERED IN THE DESIGN.

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

PARAPETS WERE ASSUMED TO WEIGH 639 PLF AND 516 PLF FOR 42SS MODIFIED AND 32SS MODIFIED SECTIONS, RESPECTIVELY.

ALL OTHER LOADS IN ACCORDANCE WITH AASHTO.

## DESIGN CRITERIA

DESIGN IS IN ACCORDANCE WITH AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) LRFD BRIDGE DESIGN SPECIFICATIONS AND THE WISDOT BRIDGE MANUAL.

ALL DETAILS, MATERIALS, AND FABRICATION SHALL CONFORM TO 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).

## TOTAL ESTIMATED QUANTITIES

| BID ITEM | BID ITEM | UNIT | PIER 2 | TOTAL |
| --- | --- | --- | --- | --- |
| 206.1000 | EXCAVATION FOR STRUCTURES BRIDGES B-70-407 | LS | 1 | 1 |
| 501.1000.S | ICE HOT WEATHER CONCRETING | LB | 111,000 | 111,000 |
| 505.0400 | BAR STEEL REINFORCEMENT HS STRUCTURES | LB | 6,286 | 6,286 |
| 505.0600 | BAR STEEL REINFORCEMENT HS COATED STRUCTURES | LB | 18,516 | 18,516 |
| 511.1200 | TEMPORARY SHORING B-70-407 | SF | 525 | 525 |
| 550.0020 | PREBORING ROCK OR CONSOLIDATED MATERIALS | LF | 361 | 361 |
| 550.1120 | PILING STEEL HP 12-INCH X 53 LB | LF | 385 | 385 |
| SPV.0035.700 | MODIFIED HIGH PERFORMANCE CONCRETE (HPC) MASONRY BRIDGES | CY | 148 | 148 |

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| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-407

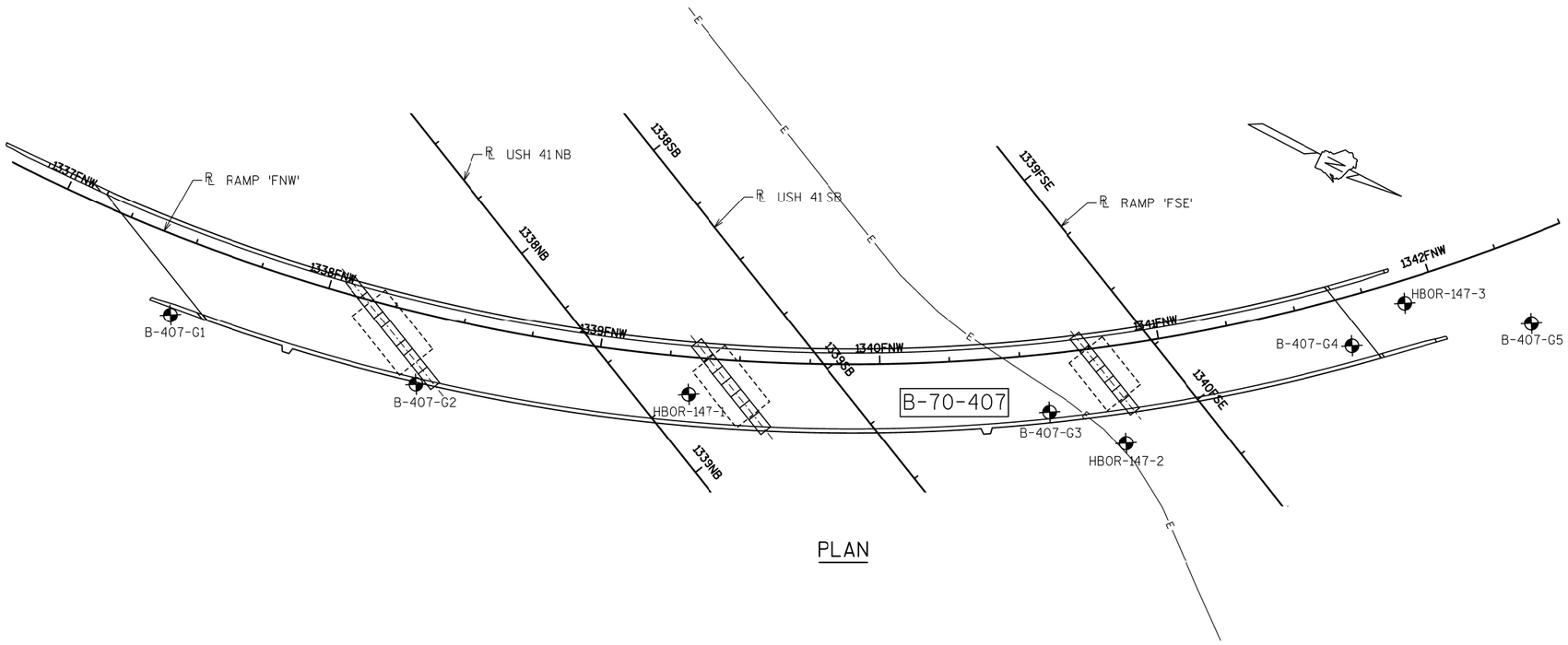
DRAWN BY MRL | PLANS CK'D. MJA

GENERAL NOTES AND QUANTITIES

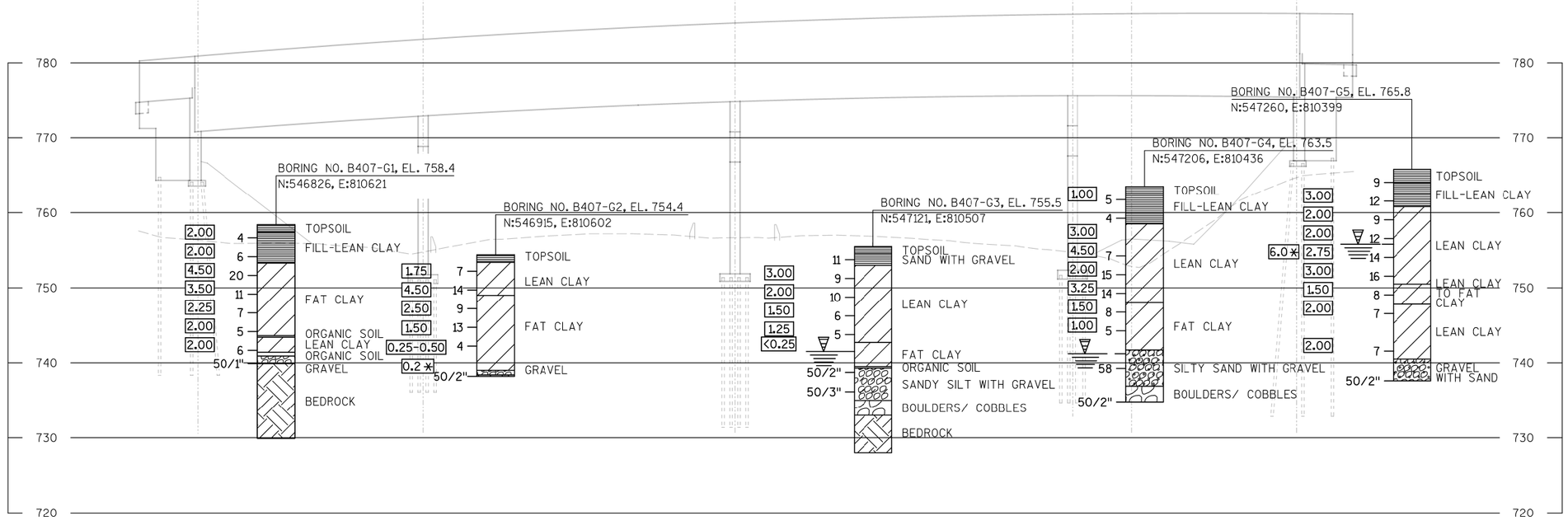
SHEET 3 OF 7
650

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DATE: 4/12/2016
I.D.




PLAN




STATE PROJECT NUMBER

1517-07-77

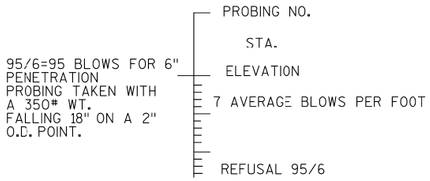
ABBREVIATIONS

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

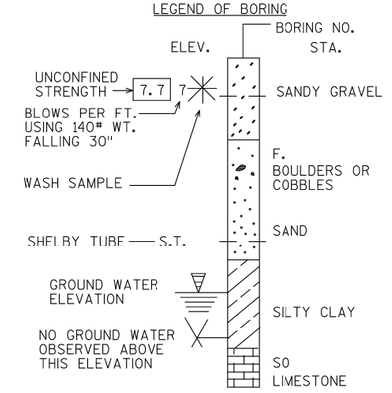
MATERIAL SYMBOLS

TOPSOIL SILT SANDSTONE
SAND PEAT LIMESTONE
GRAVEL CLAY IGNEOUS ROCK

LEGEND OF PROBING




LEGEND OF BORING




UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A CASED OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR 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

STRUCTURE B-70-407

DRAWN BY NLD PLANS CK'D. MJA

SUBSURFACE EXPLORATION

SHEET 4 OF 7
651

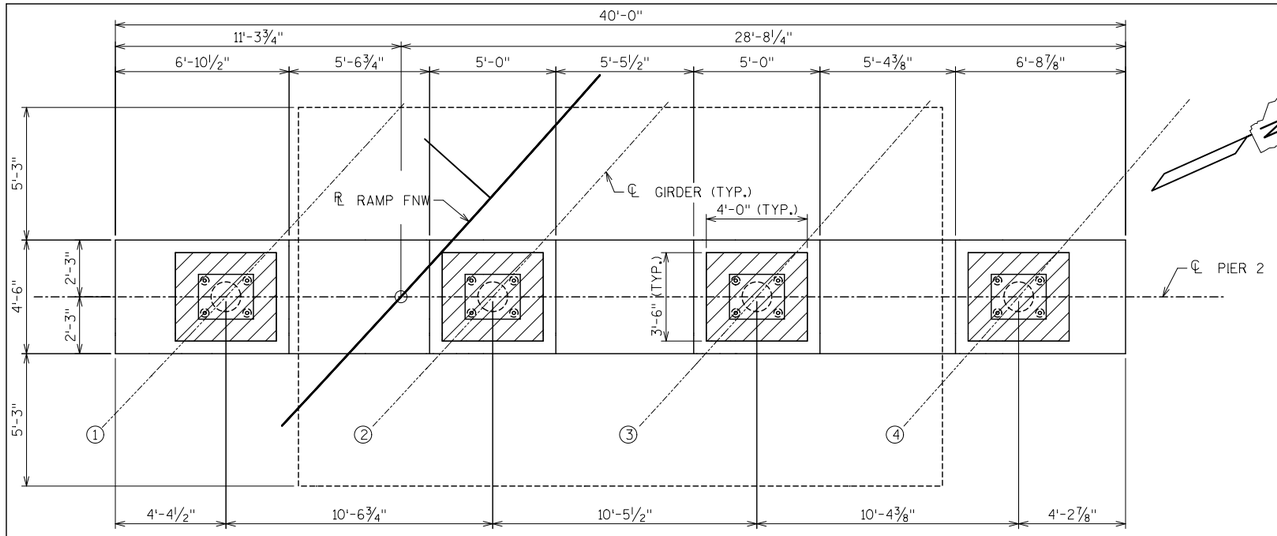
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SCALE =

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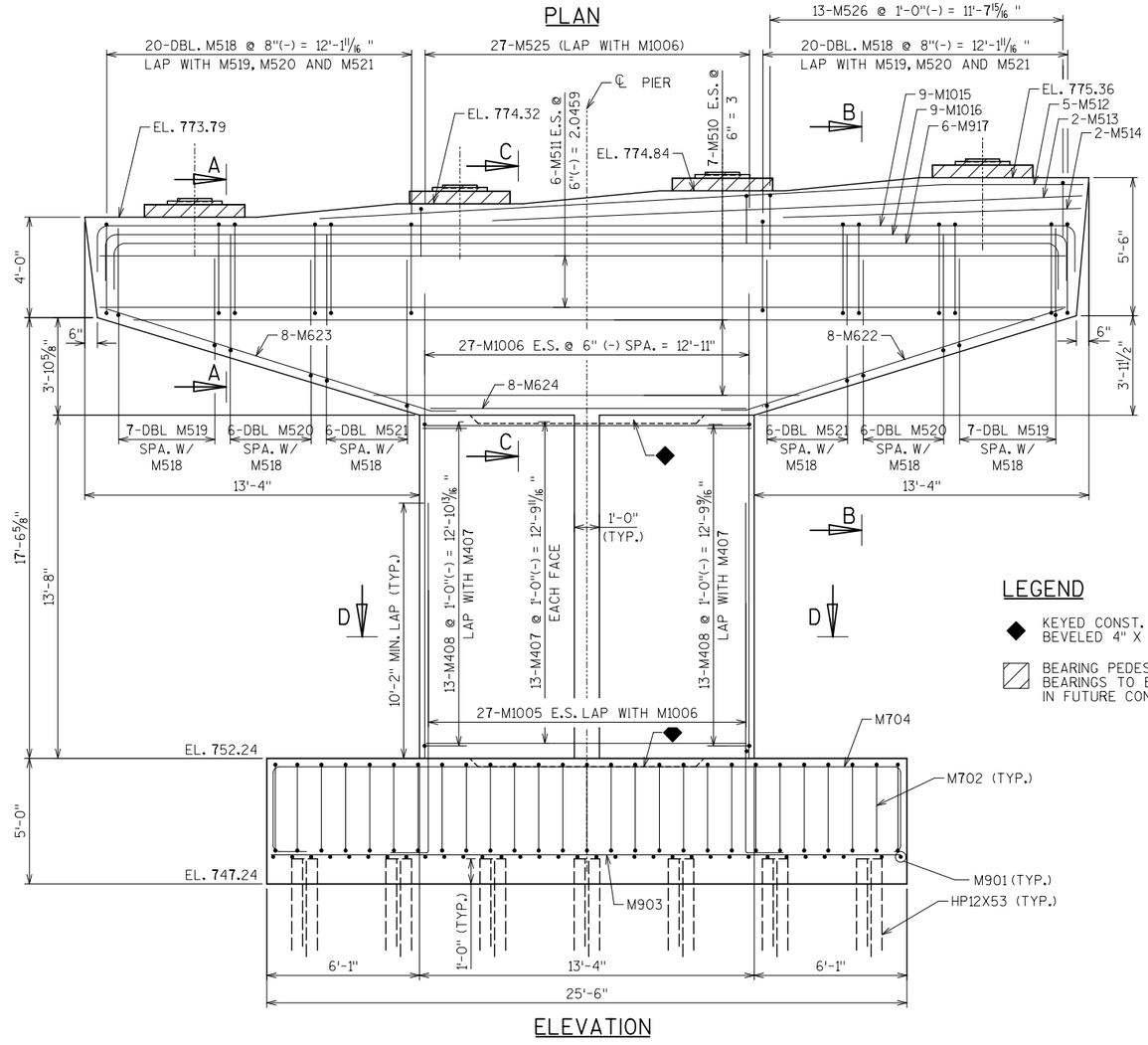
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STATE PROJECT NUMBER

1517-07-77




PLAN

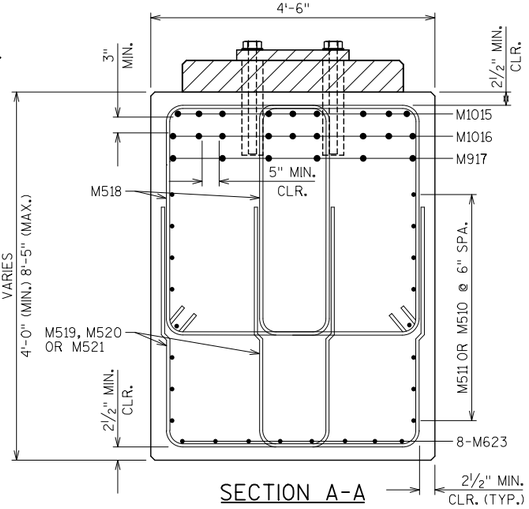



ELEVATION

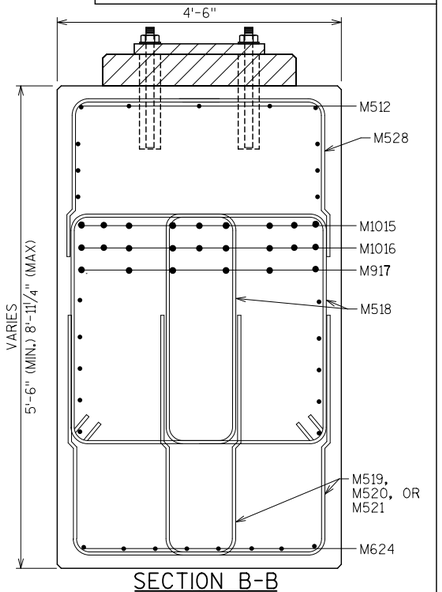
LEGEND

◆ KEYED CONST. JOINT FORMED BY BEVELED 4" X 1'-6" X 12'-3"

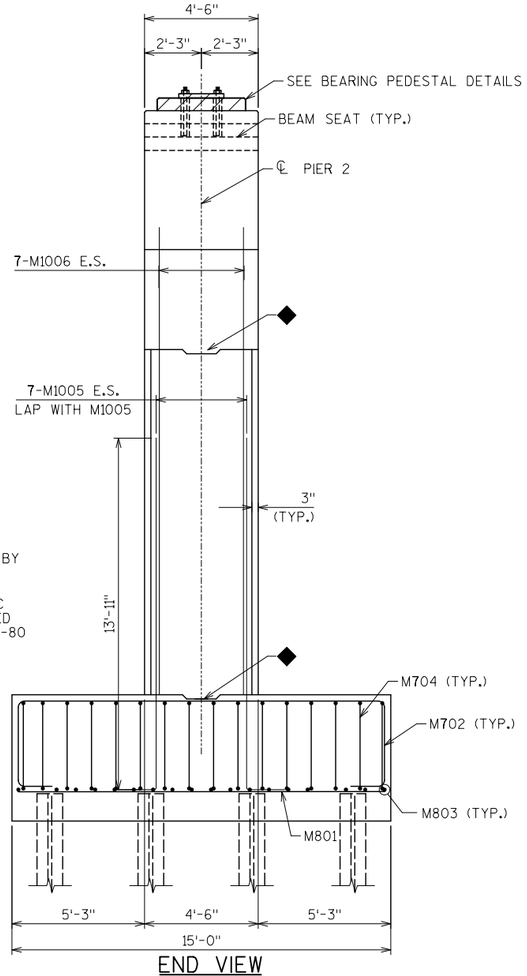
▨ BEARING PEDESTALS AND DISC BEARINGS TO BE CONSTRUCTED IN FUTURE CONTRACT 1517-07-80



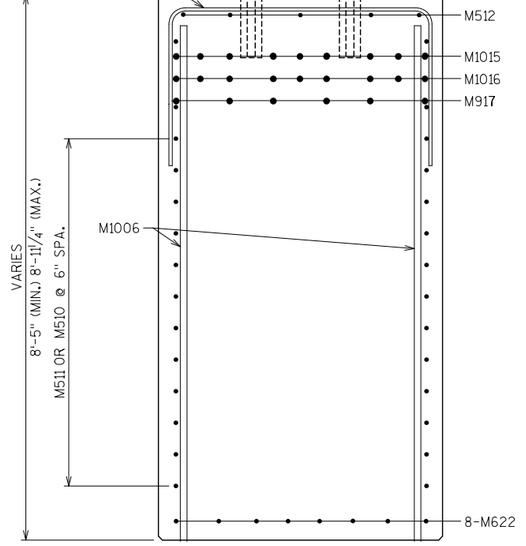

SECTION A-A




SECTION B-B




END VIEW




SECTION C-C

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-407

DRAWN BY JRS | PLANS CK'D. LKH

PIER 2 DETAILS

SHEET 5 OF 7
652

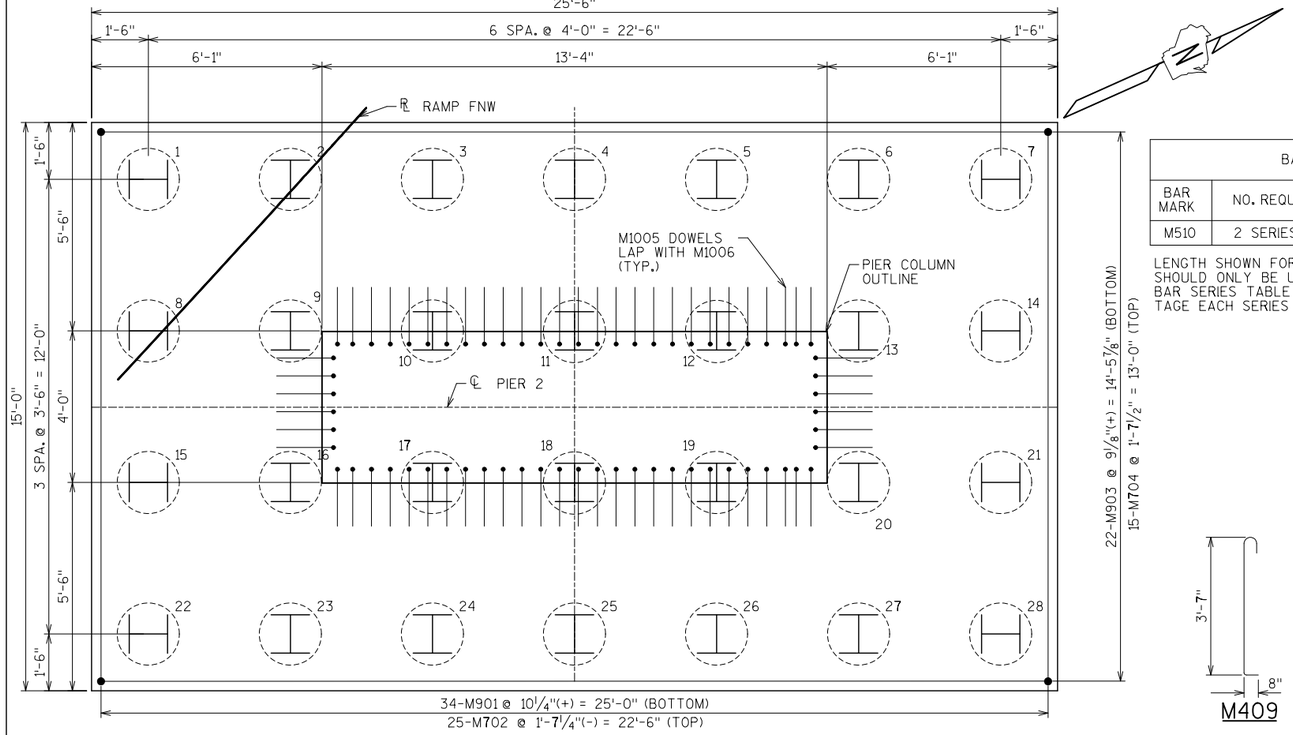
DATE: 4/12/2016
I.D.

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| STATE PROJECT NUMBER |
|---|
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FOOTING PLAN

| BAR SERIES TABLE | | |
|---|---|---|
| BAR MARK | NO. REQUIRED | LENGTH |
| M510 | 2 SERIES OF 7 | 16'-11⅜" TO 35'-10⅝" |

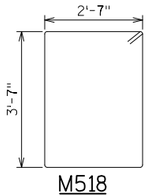
LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS. BUNDLE AND TAGE EACH SERIES SEPARATELY.

## BILL OF BARS - PIER 2

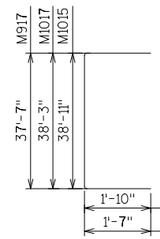
| BAR MARK | COAT | NO. REQ'D | LENGTH | BAR SERIES | BENT | LOCATION |
|---|---|---|---|---|---|---|
| M901 | | 34 | 14'-6" | | | FOOTING HORIZONTAL |
| M702 | | 25 | 23'-3" | | X | FOOTING HORIZONTAL |
| M903 | | 22 | 25'-0" | | | FOOTING HORIZONTAL |
| M704 | | 15 | 33'-9" | | X | FOOTING HORIZONTAL |
| M1005 | X | 66 | 15'-5" | | X | FOOTING DOWEL TO STEM |
| M1006 | X | 66 | 18'-6" | | | COLUMN VERTICAL |
| M407 | X | 26 | 12'-11" | | | COLUMN HORIZONTAL |
| M408 | X | 26 | 8'-8" | | X | HORIZ END COLUMN |
| M409 | X | 78 | 4'-4" | | X | COLUMN TIE |
| M510 | X | 14 | 26'-6" | X | | CAP HORIZONTAL |
| M511 | X | 12 | 38'-5" | | | CAP HORIZONTAL |
| M512 | X | 5 | 30'-4" | | X | CAP HORIZONTAL |
| M513 | X | 2 | 23'-6" | | | CAP HORIZONTAL |
| M514 | X | 2 | 11'-10" | | | CAP HORIZONTAL |
| M1015 | X | 9 | 42'-0" | | X | CAP HORIZONTAL |
| M1016 | X | 9 | 41'-4" | | X | CAP HORIZONTAL |
| M917 | X | 6 | 40'-3" | | X | CAP HORIZONTAL |
| M518 | X | 80 | 13'-0" | | X | CAP STIRRUP |
| M519 | X | 14 | 9'-2" | | X | CAP STIRRUP |
| M520 | X | 12 | 11'-6" | | X | CAP STIRRUP |
| M521 | X | 12 | 14'-0" | | X | CAP STIRRUP |
| M622 | X | 8 | 14'-3" | | X | CAP HORIZONTAL |
| M623 | X | 8 | 14'-6" | | X | CAP HORIZONTAL |
| M624 | X | 8 | 12'-6" | | | CAP HORIZONTAL |
| M525 | X | 27 | 7'-10" | | X | CAP TIE |
| M626 | | 0 | 8'-1" | | | NOT USED |
| M627 | | 0 | 6'-11" | | | NOT USED |
| M528 | X | 20 | 8'-8" | | X | CAP TIE |
| M929 | | 24 | 6'-4" | | X | PILE UPLIFT |



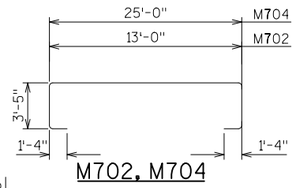
M409



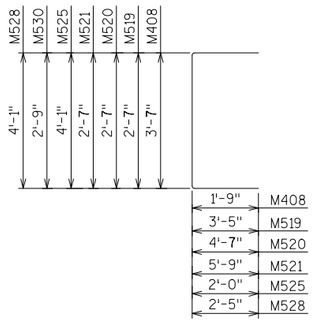
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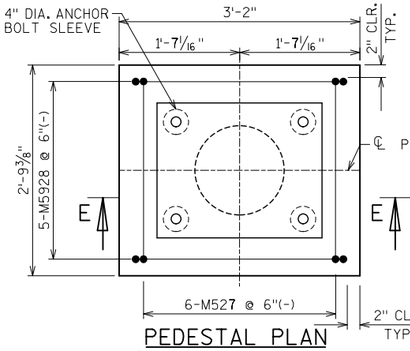
M1015, M1016, M917



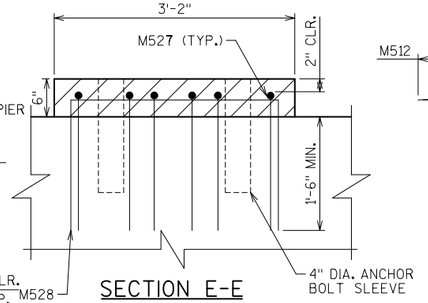
M702, M704



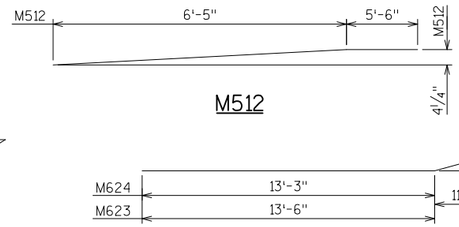
M408, M519, M520
M521, M525, M528



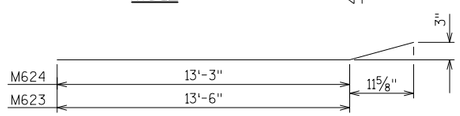
PEDESTAL PLAN



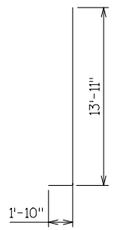
SECTION E-E



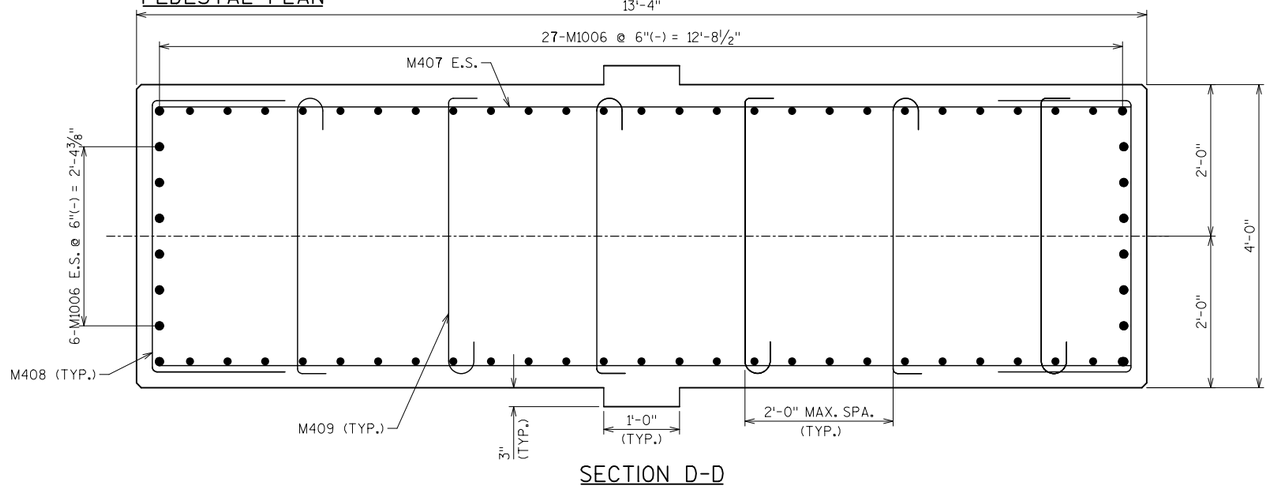
M512



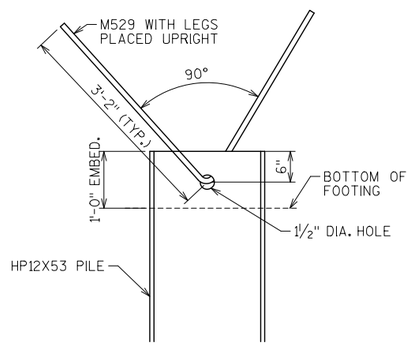
M622, M623



M1005



SECTION D-D



PILE UPLIFT DETAIL

LEGEND

INDICATES PILE UPLIFT DETAIL REQUIRED

PEDESTAL CONCRETE INCLUDED IN FUTURE CONTRACT 1517-07-80

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-407

DRAWN BY JRS | PLANS CK'D. LKH

PIER 2 DETAILS

SHEET 6 OF 7
653

DATE: 4/12/2016
I.D.

FILE= \\s1102k306\projects\TransportationUS 10 WIS 441\CADD\sheets\Structures\B-70-407\Sheets\07-77 Pier 2 Plan Set\06-B-70-407_Pier2_2.dgn

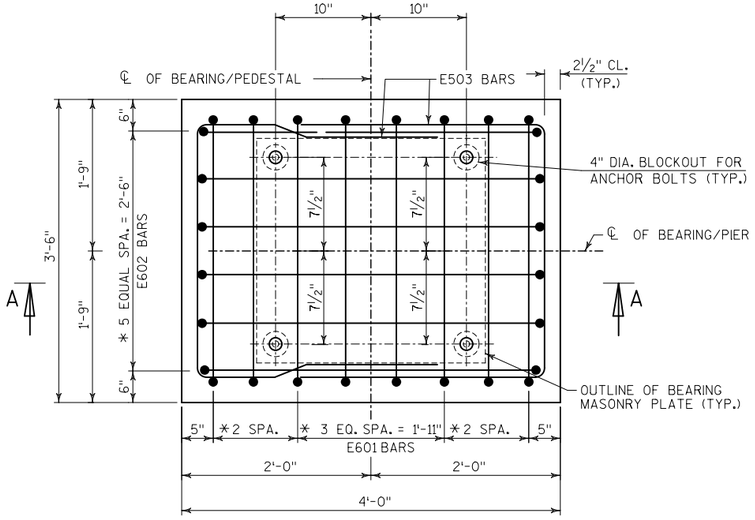
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8

| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |

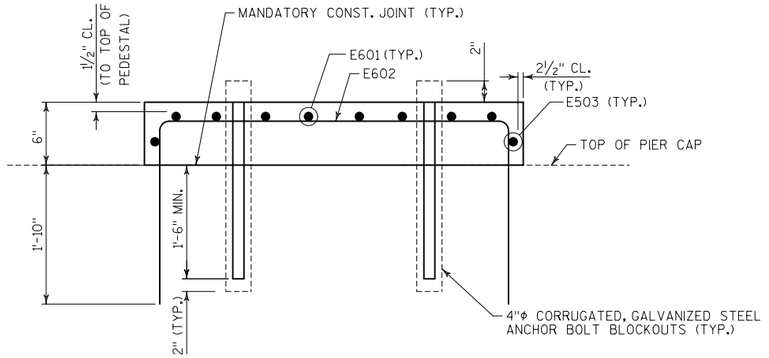
## NOTES:

1. PEDESTAL CONCRETE AND ANCHOR BOLTS SHOWN FOR INFORMATION ONLY AND TO BE CONSTRUCTED WITH CONTRACT ID 1517-07-80 BASED ON AS-FABRICATED BEARING THICKNESS.
2. REBAR TO BE INSTALLED AS SHOWN ON THIS SHEET.
3. THE BLOCKOUT HOLES MUST BE PROTECTED FROM WATER ENTERING INTO THE HOLES PRIOR TO INSTALLING ANCHOR BOLT AND GROUTING.
4. ANCHOR BOLT BLOCKOUT TO BE CONSTRUCTED OF CORRUGATED STEEL, GALVANIZED PER ASTM A123. INSTALL 2" PROUD OF 6" PEDESTAL HEIGHT IN CASE ACTUAL PEDESTAL HEIGHT IS MORE THAN 6". COST OF ANCHOR BOLT BLOCKOUTS INCLUDED WITH BID ITEM "MODIFIED HIGH PERFORMANCE CONCRETE (HPC) MASONRY BRIDGES."




PLAN

(PIER PEDESTAL - PIER 2)
*ADJUST SPA. TO MISS ANCHOR BOLT BLOCKOUTS



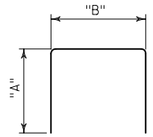

SECTION A-A

## BILL OF BARS

ALL BARS SHALL BE EPOXY COATED.

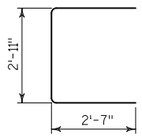
| BAR MARK | NO. REQ'D | LENGTH | BENT | LOCATION |
|---|---|---|---|---|
| E601 | 32 | 7'-1" | X | PIER 2 PEDESTAL - VERTICAL |
| E602 | 24 | 7'-5" | X | PIER 2 PEDESTAL - VERTICAL |
| E503 | 8 | 7'-10" | X | PIER 2 PEDESTAL - HORIZONTAL |

TOTAL WEIGHT = 680 LB




E601, E602

| MARK | "A" | "B" |
|---|---|---|
| E601 | 2'-2" | 3'-1" |
| E602 | 2'-2" | 3'-5" |




E503

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-70-407

DRAWN BY DNJ | PLANS CK'D. MJA

BEARING PEDESTAL DETAILS

SHEET 7 OF 7
654

8

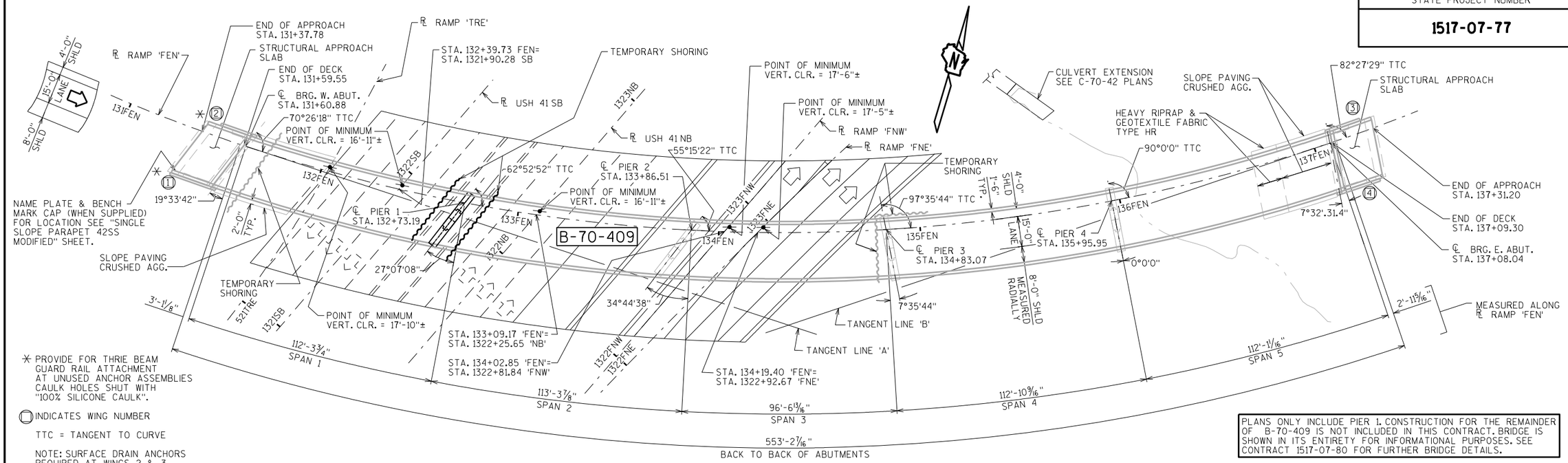
8

FILE= \\s1102k306\projects\Transportation\US 10 WIS 441\CADD\sheets\Structures\B-70-407\Sheets\07-77 Pier 2 Plan Set\07-B-70-407-Bearing Pedestal

DATE: 4/12/2016
I.D.

STATE PROJECT NUMBER

**1517-07-77**




✳ PROVIDE FOR THRIE BEAM GUARD RAIL ATTACHMENT AT UNUSED ANCHOR ASSEMBLIES CAULK HOLES SHUT WITH "100% SILICONE CAULK".

⬡ INDICATES WING NUMBER

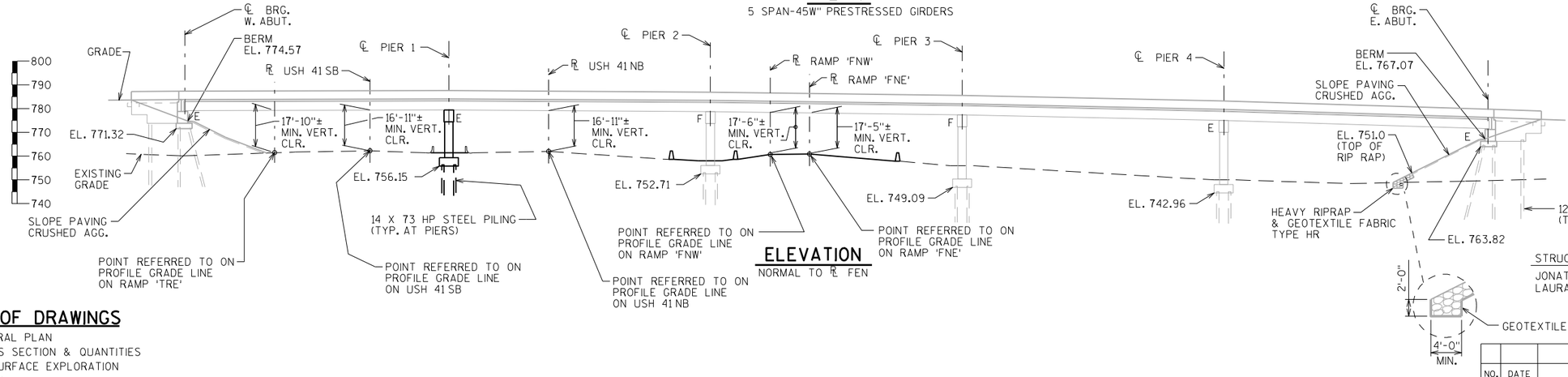
TTC = TANGENT TO CURVE

NOTE: SURFACE DRAIN ANCHORS REQUIRED AT WINGS 2 & 3.

PLANS ONLY INCLUDE PIER 1. CONSTRUCTION FOR THE REMAINDER OF B-70-409 IS NOT INCLUDED IN THIS CONTRACT. BRIDGE IS SHOWN IN ITS ENTIRETY FOR INFORMATIONAL PURPOSES. SEE CONTRACT 1517-07-80 FOR FURTHER BRIDGE DETAILS.

## PLAN

5 SPAN-45W" PRESTRESSED GIRDERS




## ELEVATION

NORMAL TO ℄ FEN

STRUCTURE DESIGN CONTACTS:

JONATHON RESHESKE (608) 266-8491
LAURA SHADEWALD (608) 267-9592

## LIST OF DRAWINGS


1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. SUBSURFACE EXPLORATION
4. PIER 1
5. PIER 1 DETAILS
6. TANGENT OFFSETS


## DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: RF=1.05
OPERATING RATING FACTOR: RF=1.36
WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 240 (KIPS)

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

MATERIAL PROPERTIES:

CONCRETE MASONRY (HPC) ——— f'c = 4,000 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 ——— fy = 60,000 P.S.I.

## FOUNDATION DATA

PIER 1 TO BE SUPPORTED ON HP 14 X 73 STEEL PILING
DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 250 TONS✳✳ PER PILE
AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
ESTIMATED 20'-0" LONG @ PIER 1. PILE POINTS REQ'D.

✳✳ THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

## CURVE DATA

| CURVE FEN3 | CURVE FNE1 | CURVE FNE2 |
|---|---|---|
| P.I. = 138FEN+68.34 | P.I. = 1321FNE+32.58 | P.I. = 1331FNE+30.30 |
| Δ = 108°27'34" | Δ = 4°34'00" | Δ = 60°16'41" |
| D = 6°43'44" | D = 1°18'08" | D = 4°02'41" |
| T = 1181.93 | T = 175.44 | T = 822.46 |
| L = 1611.87 | L = 350.69 | L = 1490.33 |
| R = 851.50 | R = 4400.00 | R = 1416.60 |
| S.E. = 0.06'/' | S.E. = ——— | S.E. = ——— |
| P.C. = 126FEN+86.41 | P.C. = 1319FNE+57.14 | P.C. = 1323FNE+07.83 |
| P.T. = 142FEN+98.28 | P.C.C. = 1323FNE+07.83 | P.T. = 1337FNE+98.17 |

## TRAFFIC VOLUME

RAMP 'FEN'
A.D.T.=2,050 (2035)
R.D.S.=50 M.P.H.

USH 41
A.D.T.=139,770 (2035)
R.D.S.=70 M.P.H.

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

Plans Prepared By **WISDOT**
**BUREAU OF STRUCTURES**

ACCEPTED William C. Ducker LLS 4/13/16
CHIEF STRUCTURES DESIGN ENGINEER — DATE

# STRUCTURE B-70-409

USH 10 EB (RAMP 'FEN') TO USH 41 NB

| COUNTY | TOWN/~~CITY/VILLAGE~~ |
|---|---|
| WINNEBAGO | MENASHA |

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

| DESIGNED BY | DESIGN CK'D. | DRAWN BY | PLANS CK'D. |
|---|---|---|---|
| JLR | BLB | JLR | BLB |

GENERAL PLAN

SHEET 1 OF 6

655

I.D. 1517-07-04

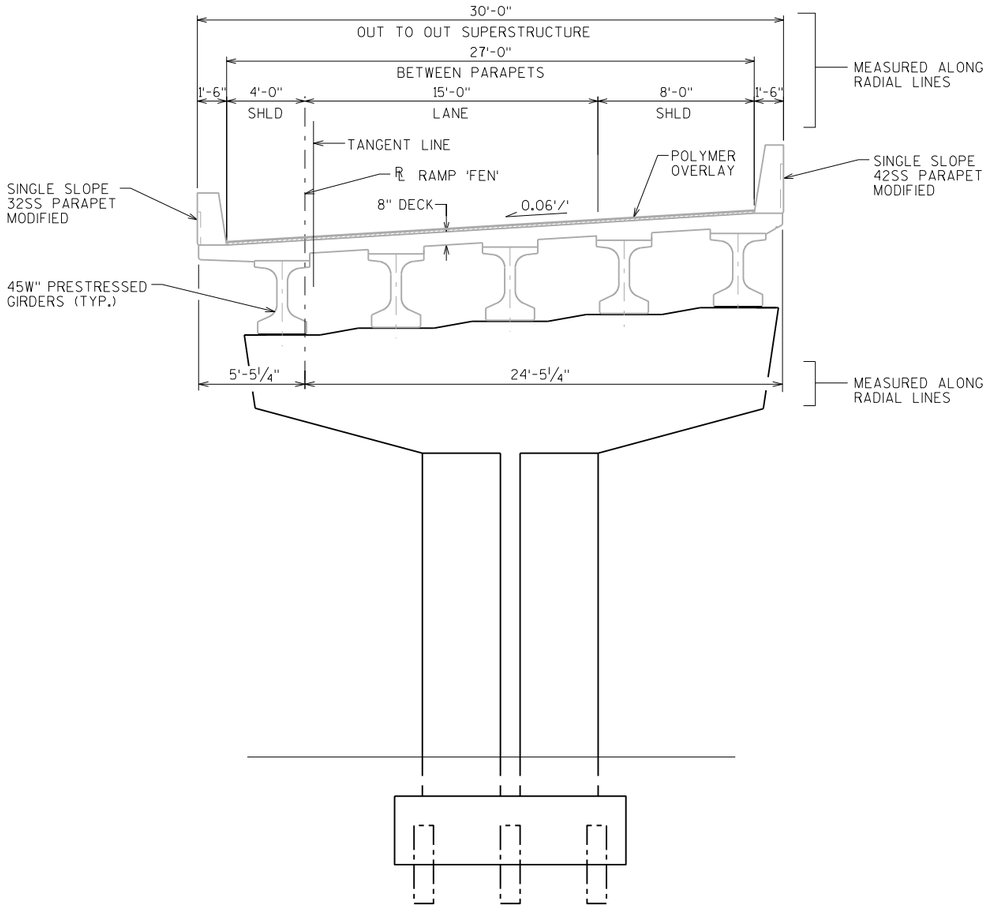
DATE: APR. 2016

SCALE = 25

8

8

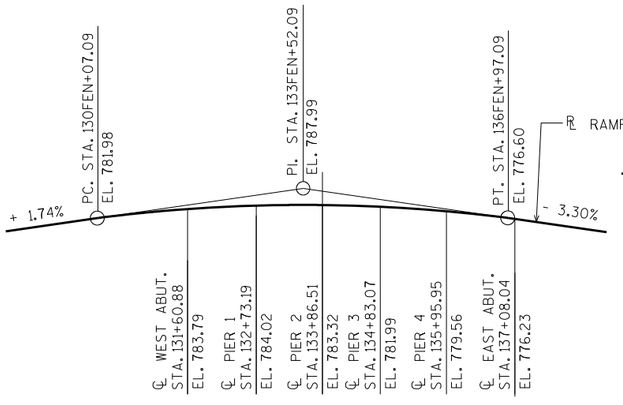
| STATE PROJECT NUMBER |
|---|
| 1517-07-77 |



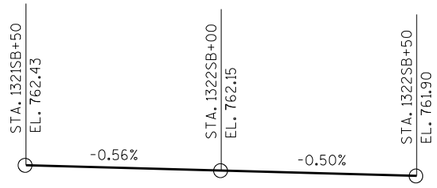

## CROSS SECTION THRU ROADWAY

(LOOKING UPSTATION)

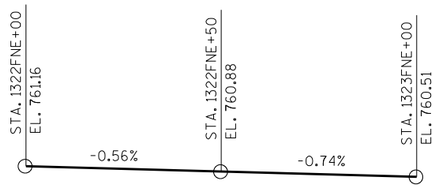
690.0' VERTICAL CURVE




## PROFILE GRADE LINE RAMP 'FEN'

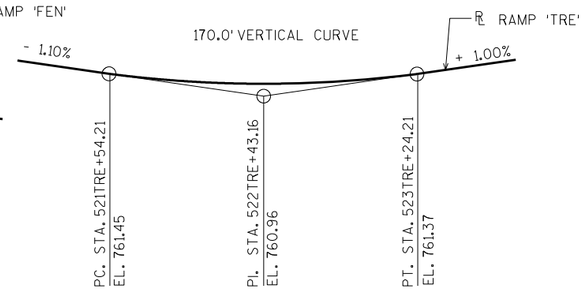



## PROFILE GRADE LINE USH 41 SB

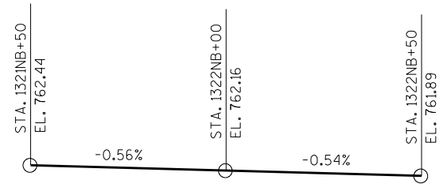



## PROFILE GRADE LINE RAMP 'FNE'

170.0' VERTICAL CURVE

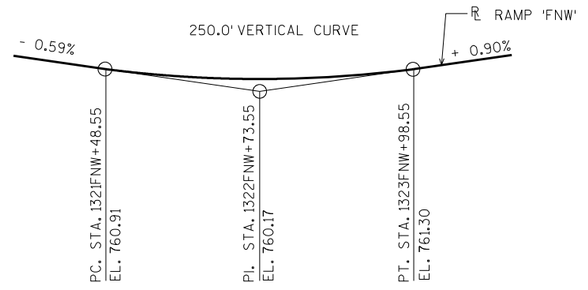



## PROFILE GRADE LINE RAMP 'TRE'




## PROFILE GRADE LINE USH 41 NB

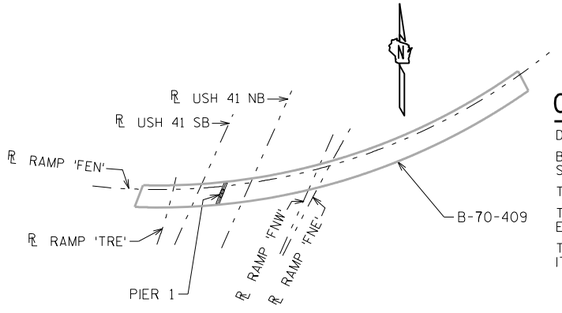
250.0' VERTICAL CURVE




## PROFILE GRADE LINE RAMP 'FNW'

## TOTAL ESTIMATED QUANTITIES

| BID ITEM NUMBER | BID ITEMS | UNIT | TOTALS |
|---|---|---|---|
| 206.1000 | EXCAVATION FOR STRUCTURES BRIDGES B-70-409 | LS | 1 |
| 505.0400 | BAR STEEL REINFORCEMENT HS STRUCTURES | LB | 2,580 |
| 505.0600 | BAR STEEL REINFORCEMENT HS COATED STRUCTURES | LB | 9,930 |
| 501.1000.S | ICE HOT WEATHER CONCRETING | LB | 745 |
| 511.1200 | TEMPORARY SHORING B-70-409 | SF | 600 |
| 550.1140 | PILING STEEL HP 14-INCH X 73 LB | LF | 400 |
| SPV.0035 | HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES | CY | 99 |
| 550.0500 | PILE POINTS | EACH | 20 |




## LOCATION MAP

## GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

THE EXISTING GROUND LINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE PIER.

THE RUSTICATIONS ON THE PIER COLUMN ARE INCLUDED IN THE BID ITEM "HIGH PERFORMANCE CONCRETE (HPC) MASONRY STRUCTURES".

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-70-409

DRAWN BY WWR | PLANS CK'D. BLB

CROSS SECTION & QUANTITIES

SHEET 2

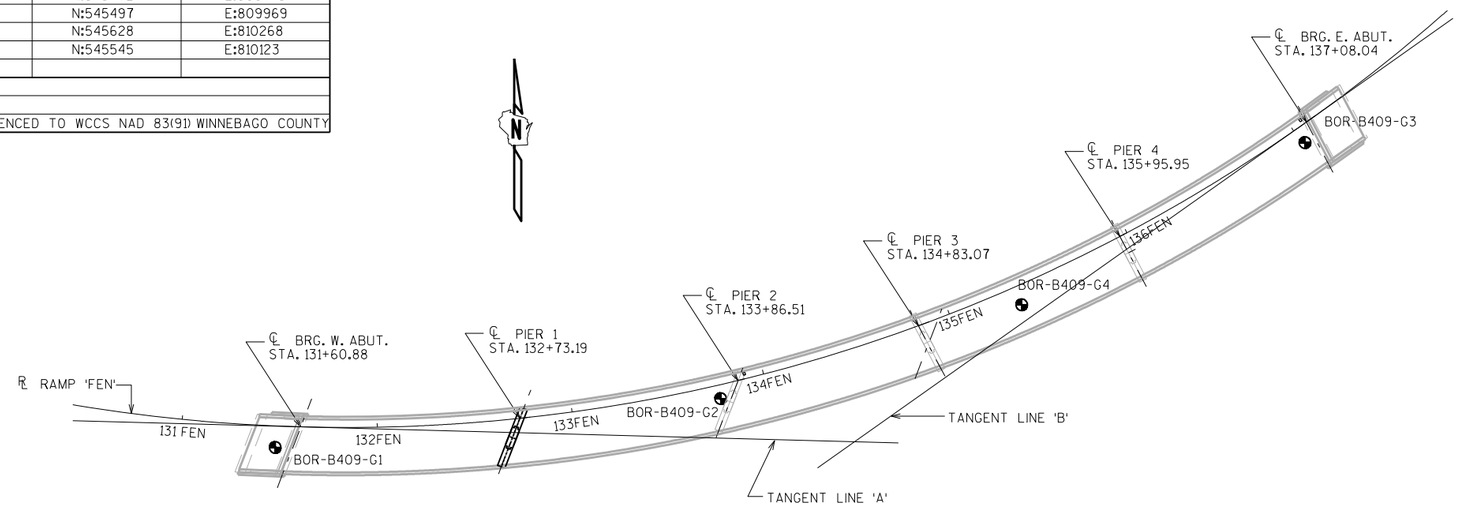
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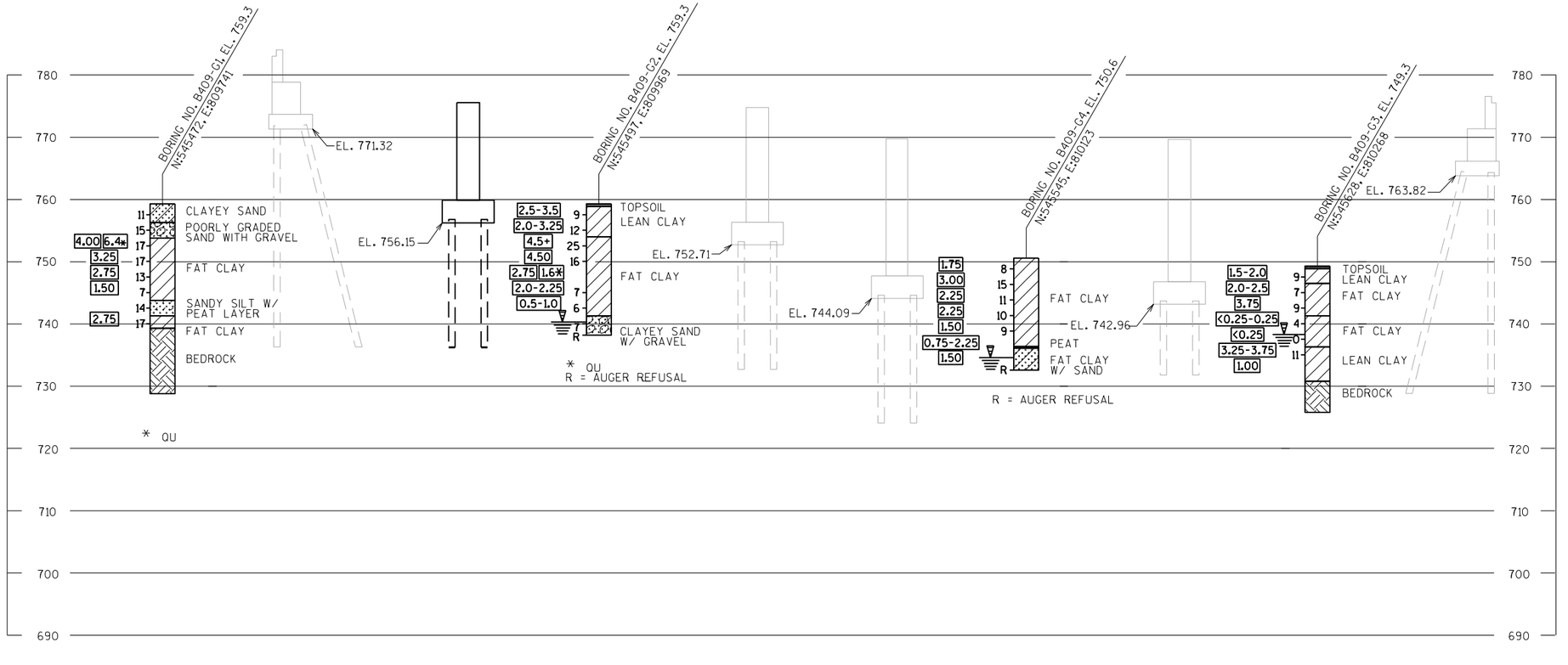
8

8

SCALE = 3.75

| BORING # | DATE COMPLETED | NORTHING (Y) | EASTING (X) |
|---|---|---|---|
| B409-G1 | | N:545472 | E:809741 |
| B409-G2 | | N:545497 | E:809969 |
| B409-G3 | | N:545628 | E:810268 |
| B409-G4 | | N:545545 | E:810123 |
| | | | |
| BORINGS COMPLETED BY: | | | |
| REPORT COMPLETED BY: | | | |
| ALL COORDINATES REFERENCED TO WCCS NAD 83(91) WINNEBAGO COUNTY | | | |



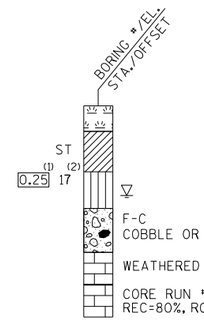

STATE PROJECT NUMBER

**1517-07-77**

MATERIAL SYMBOLS

| | | |
|---|---|---|
| ASPHALT | TOPSOIL | PEAT |
| CONCRETE | FILL | GRAVEL |
| SAND | CLAY | SILT |
| BOULDERS OR COBBLES | LIMESTONE | BEDROCK (UNKNOWN) |
| SHALE | SANDSTONE | IGNEOUS/ META |

LEGEND OF BORING




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

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- AT TIME OF DRILLING
- END OF DRILLING
- AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-70-409

DRAWN BY JLR | PLANS CK'D. BLB

SUBSURFACE EXPLORATION

SHEET 3

657

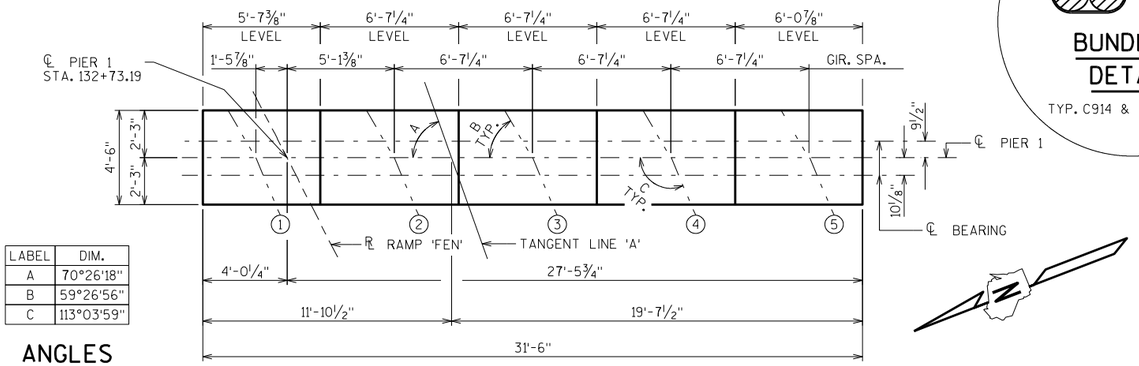
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8

SCALE =

STATE PROJECT NUMBER

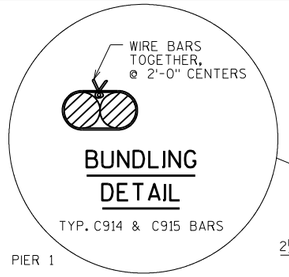
1517-07-77

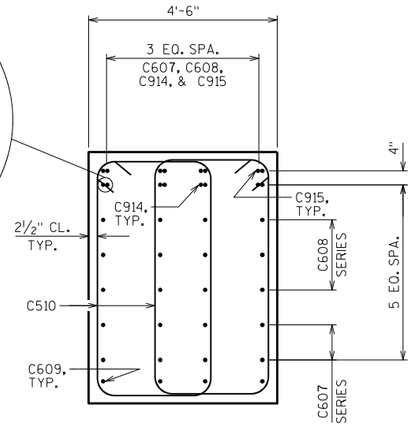



| LABEL | DIM. |
|---|---|
| A | 70°26'18" |
| B | 59°26'56" |
| C | 113°03'59" |

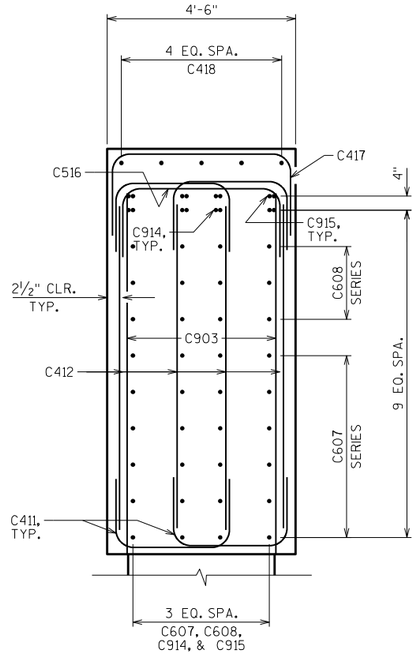
ANGLES

CAP PLAN

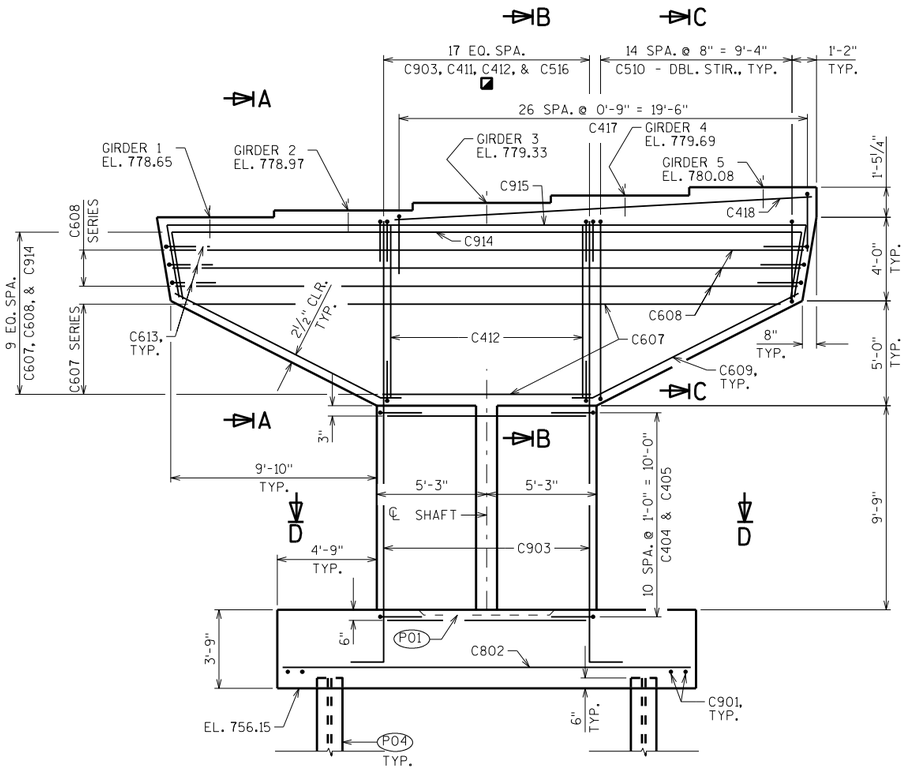



SECTION A-A

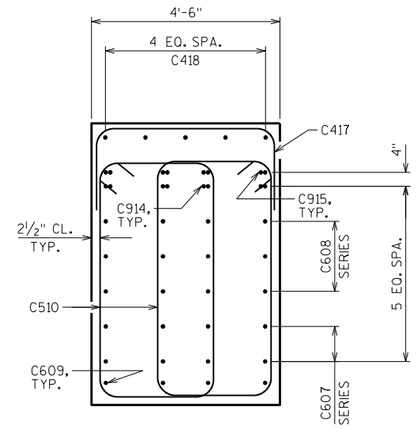



SECTION B-B

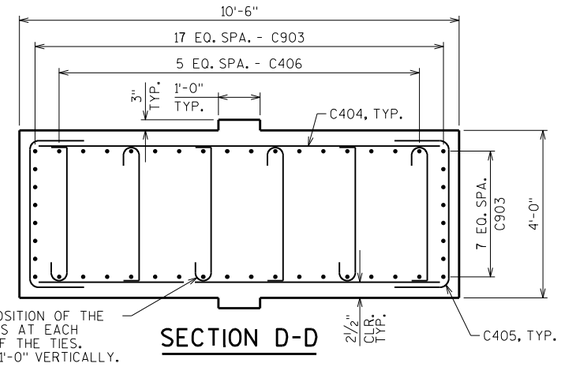



ELEVATION

(LOOKING UPSTATION)




SECTION C-C




SECTION D-D

■ VERTICAL CAP STEEL, TIE C411, C412, & C516 BARS TO C903 VERTICAL COLUMN BARS.

(P01) KEYED CONST. JOINT FORMED BY BEVELED KEYWAY 4" DEEP X 1'-4" WIDE X 6'-6" LONG.

(P04) SUPPORT PIER ON HP 14 x 73 STEEL PILING, ESTIMATED 20'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 250 TONS PER PILE. PILE POINTS REQ'D.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-70-409

DRAWN BY JLR | PLANS CK'D. BLB

PIER 1

SHEET 4

658

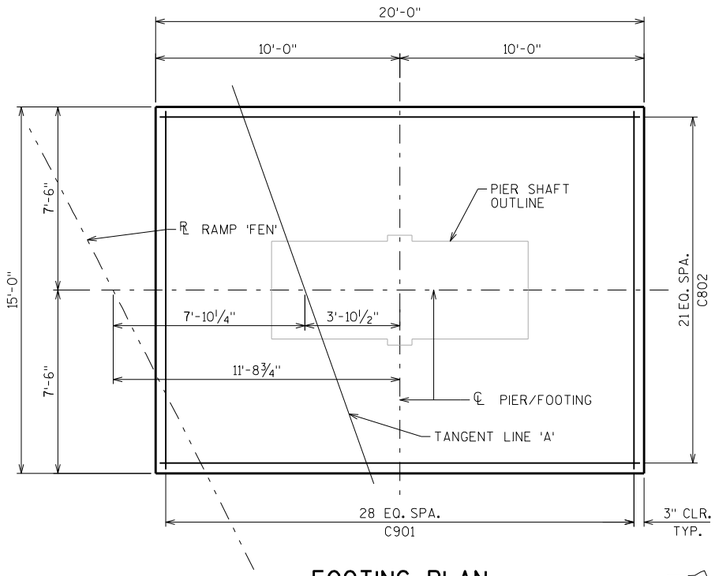
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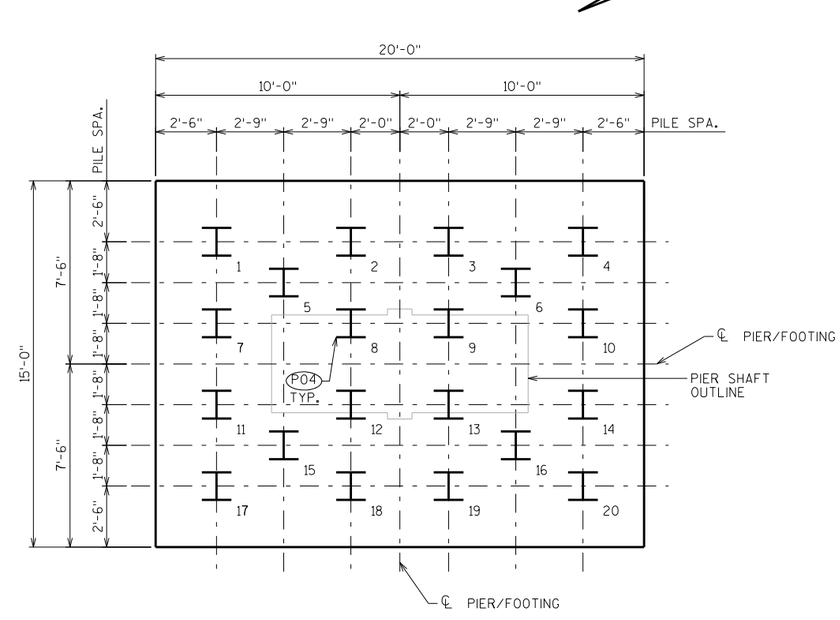
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STATE PROJECT NUMBER

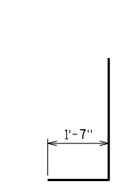
1517-07-77



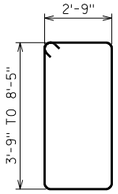

FOOTING PLAN



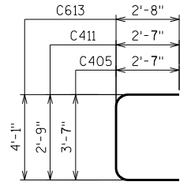

PILE PLAN



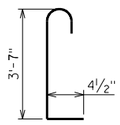

C903



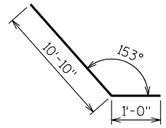

C510



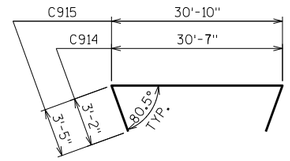

C405, C411, C613



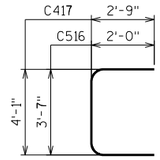

C406




C609




C914, C915




C516, C417

## BILL OF BARS

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

| BAR MARK | COAT | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| C901 | | 29 | 14'-6" | | | FOOTING - HORIZONTAL |
| C802 | | 22 | 19'-6" | | | FOOTING - HORIZONTAL |
| C903 | X | 48 | 22'-8" | X | | COLUMN - VERTICAL |
| C404 | X | 22 | 9'-9" | | | COLUMN - HORIZONTAL |
| C405 | X | 22 | 8'-7" | X | | COLUMN U BARS - HORIZONTAL |
| C406 | X | 66 | 4'-5" | X | | COLUMN TIES |
| C607 | X | 24 | 19'-5" | | ⚠ | CAP - HORIZONTAL |
| C608 | X | 12 | 30'-4" | | ⚠ | CAP - HORIZONTAL |
| C609 | X | 8 | 11'-9" | X | | CAP - BOTTOM |
| C510 | X | 60 | 18'-4" | X | ⚠ | CAP STIRRUPS |
| C411 | X | 72 | 7'-9" | X | | CAP U BARS - VERTICAL |
| C412 | X | 72 | 8'-4" | | | CAP - VERTICAL |
| C613 | X | 6 | 9'-1" | X | | CAP U BARS - HORIZONTAL |
| C914 | X | 8 | 36'-4" | X | | CAP - TOP |
| C915 | X | 8 | 37'-1" | X | | CAP - TOP |
| C516 | X | 18 | 7'-4" | X | | CAP U BARS - VERTICAL |
| C417 | X | 27 | 9'-5" | X | | CAP U BARS - VERTICAL |
| C418 | X | 5 | 20'-0" | | | CAP - TOP |

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

## BAR SERIES TABLE

| MARK | NO. REQD. | LENGTH |
|---|---|---|
| C607 | 4 SERIES OF 6 | 10'-4" TO 28'-6" |
| C608 | 4 SERIES OF 3 | 30'-0" TO 30'-8" |
| C510 | 4 SERIES OF 15 | 13'-8" TO 23'-0" |

BUNDLE AND TAG EACH SERIES SEPARATELY.

(P04) SUPPORT PIER ON HP 14 x 73 STEEL PILING. ESTIMATED 20'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 250 TONS PER PILE. PILE POINTS REQ'D.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-70-409

DRAWN BY JLR | PLANS CK'D. BLB

PIER 1 DETAILS

SHEET 5

659

SCALE = 3.0

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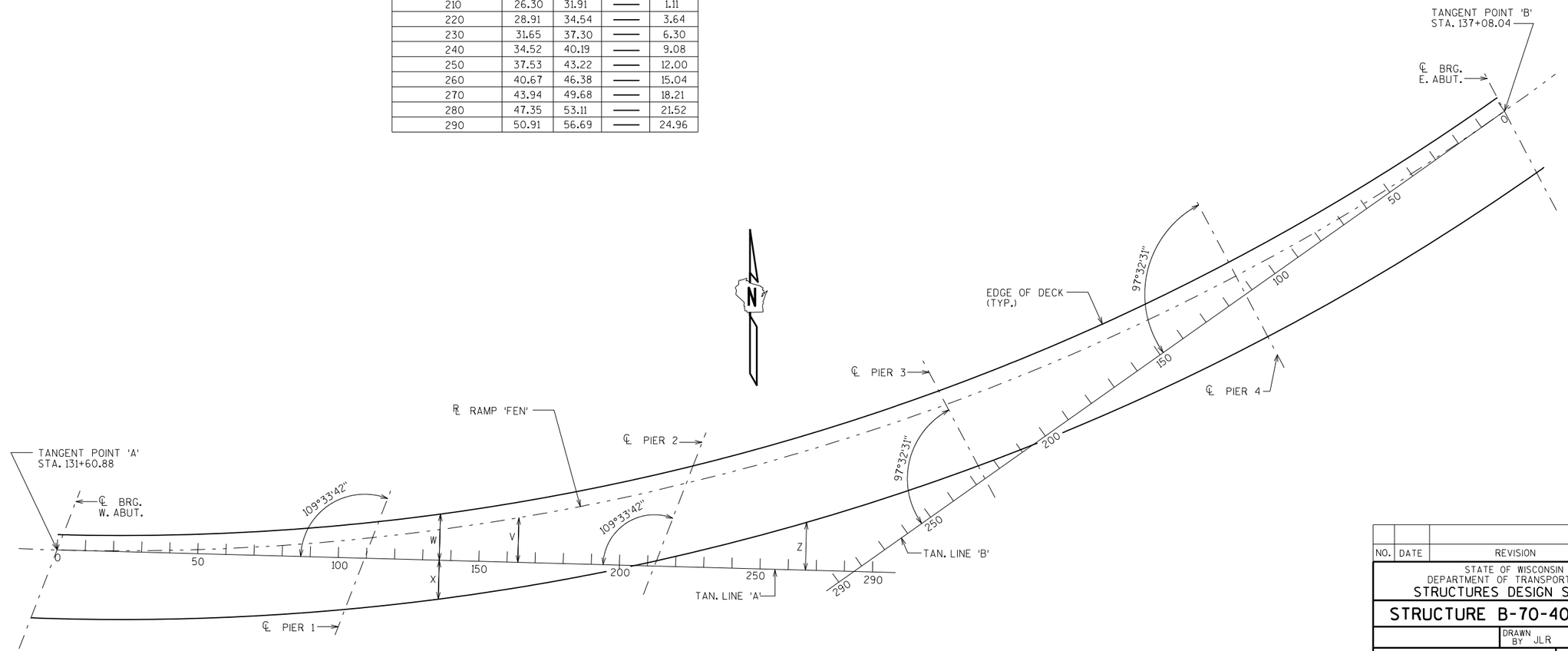
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STATE PROJECT NUMBER

1517-07-77

## TABLE OF TANGENT OFFSETS

| DISTANCE FROM TANGENT POINTS (FT.) | V (FT.) | W (FT.) | X (FT.) | Z (FT.) |
|---|---|---|---|---|
| 0 | 0 | 5.44 | 24.44 | —— |
| 10 | .06 | 5.50 | 24.38 | —— |
| 20 | .24 | 5.67 | 24.21 | —— |
| 30 | .53 | 5.97 | 23.92 | —— |
| 40 | .94 | 6.38 | 23.52 | —— |
| 50 | 1.47 | 6.92 | 23.01 | —— |
| 60 | 2.12 | 7.57 | 22.38 | —— |
| 70 | 2.88 | 8.34 | 21.64 | —— |
| 80 | 3.77 | 9.23 | 20.78 | —— |
| 90 | 4.77 | 10.24 | 19.80 | —— |
| 100 | 5.89 | 11.37 | 18.71 | —— |
| 110 | 7.14 | 12.62 | 17.50 | —— |
| 120 | 8.50 | 13.99 | 16.18 | —— |
| 130 | 9.98 | 15.49 | 14.74 | —— |
| 140 | 11.59 | 17.10 | 13.18 | —— |
| 150 | 13.32 | 18.84 | 11.50 | —— |
| 160 | 15.14 | 20.70 | 9.70 | —— |
| 170 | 17.15 | 22.69 | 7.78 | —— |
| 180 | 19.24 | 24.81 | 5.74 | —— |
| 190 | 21.47 | 27.05 | 3.58 | —— |
| 200 | 23.82 | 29.42 | 1.30 | —— |
| 210 | 26.30 | 31.91 | —— | 1.11 |
| 220 | 28.91 | 34.54 | —— | 3.64 |
| 230 | 31.65 | 37.30 | —— | 6.30 |
| 240 | 34.52 | 40.19 | —— | 9.08 |
| 250 | 37.53 | 43.22 | —— | 12.00 |
| 260 | 40.67 | 46.38 | —— | 15.04 |
| 270 | 43.94 | 49.68 | —— | 18.21 |
| 280 | 47.35 | 53.11 | —— | 21.52 |
| 290 | 50.91 | 56.69 | —— | 24.96 |




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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-70-409

DRAWN BY JLR | PLANS CK'D. BLB

TANGENT OFFSETS

SHEET 6

660

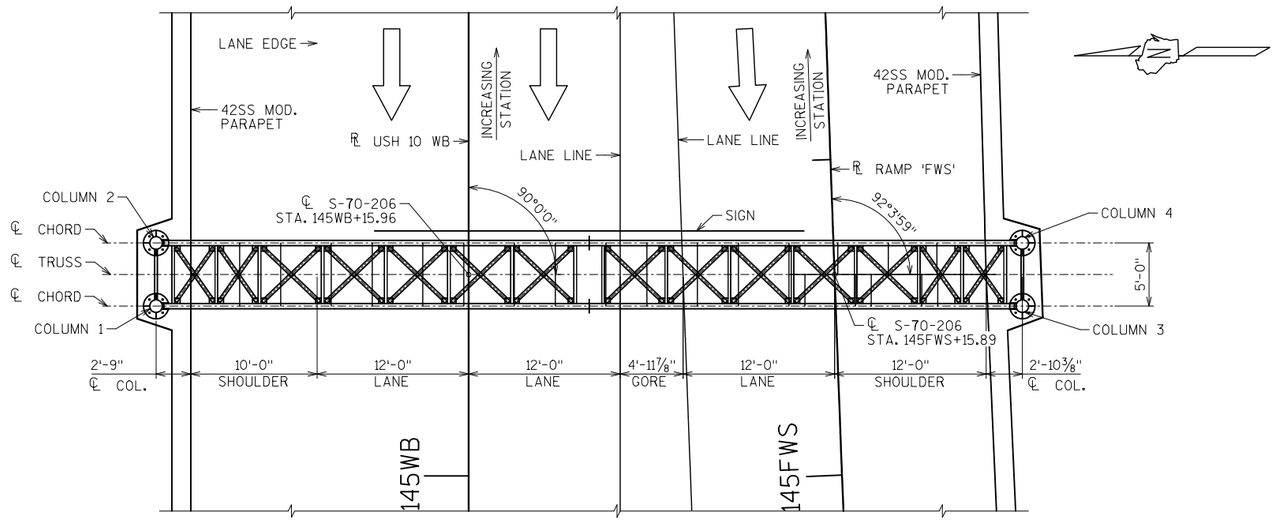
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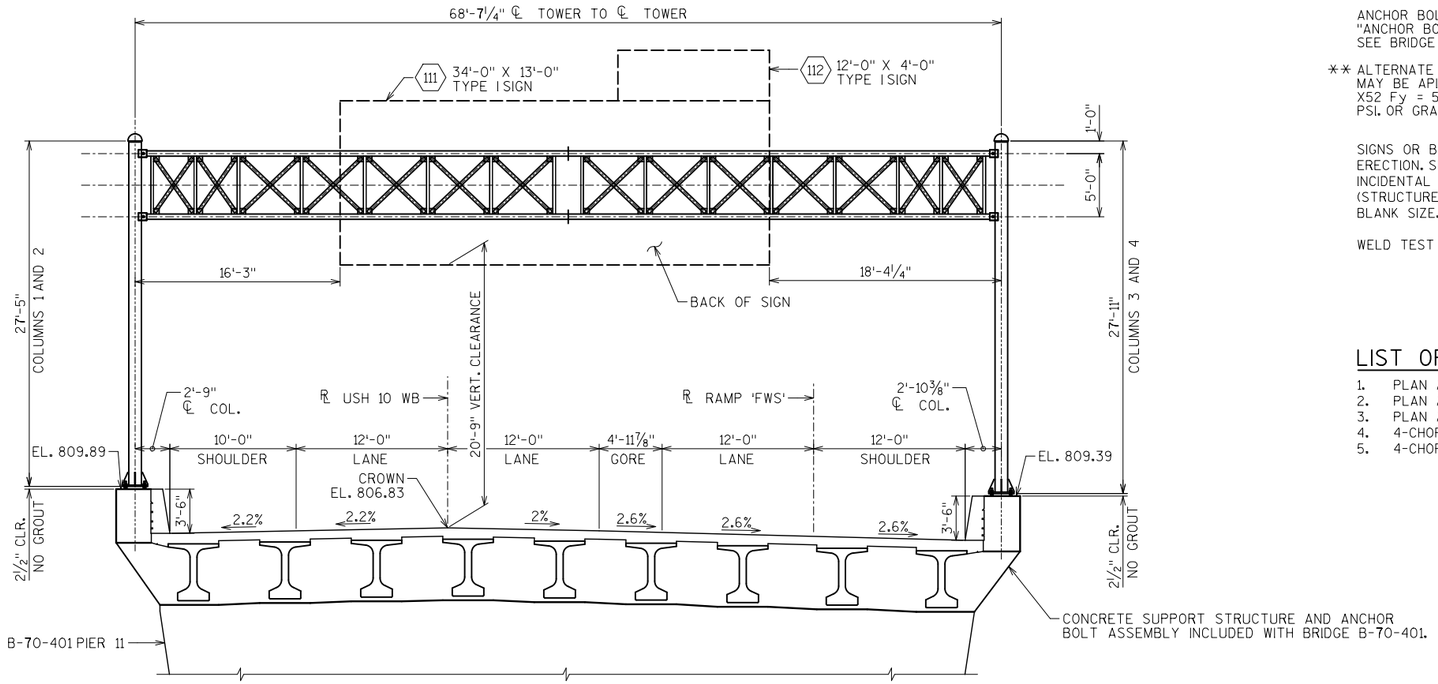
SCALE =

STATE PROJECT NUMBER

1517-07-77




PLAN




ELEVATION

S-70-206, STA. 145WB+15.95
(ELEVATIONS AND DIMENSIONS TAKEN AT ℄ OF STRUCTURE)
(LOOKING EAST, UPSTATION)

## ESTIMATED QUANTITIES

| BID ITEM # | BID ITEM | UNIT | TOTAL |
|---|---|---|---|
| 641.5100.700 | SIGN BRIDGE STRUCTURE MOUNTED S-70-206 | LS | 1 |

## GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29).

ELEVATIONS ARE IN FEET UNLESS OTHERWISE SHOWN OR NOTED.

ALL DIMENSIONS ARE IN SURVEY FEET AND SURVEY INCHES UNLESS OTHERWISE SHOWN OR NOTED.

ALL STRUCTURAL STEEL MEMBERS, PLATES, ANCHOR RODS, H.S. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED PER SECTION 641 OF THE WISDOT STANDARD SPECIFICATIONS.

CENTER TYPE I SIGNS VERTICALLY ON TRUSS AND HORIZONTALLY OVER THE LANES.

ALTERNATE DESIGNS ARE NOT ALLOWED.

HANDHOLES ARE NOT REQUIRED.

PROVIDE AN IDENTIFICATION PLAQUE FOR THE OVERHEAD SIGN SUPPORT IN ACCORDANCE WITH SDD "STRUCTURE IDENTIFICATION PLAQUES, RAMP GATES, SIGN BRIDGES, OVERHEAD SIGN SUPPORTS & TRAFFIC SIGNALS." THIS WORK SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "SIGN BRIDGE STRUCTURE MOUNTED (STRUCTURE)".

STEEL COLUMN AND CHORD PIPE SHALL BE API SPEC. 5L GRADE X42 Fy = 42,000 P.S.I. **

PLATES, BARS, AND STRUCTURAL ANGLES SHALL BE ASTM A709 GRADE 36 Fy = 36,000 P.S.I.

ALL H.S. BOLTED CONNECTIONS SHALL BE MADE WITH ¾" ϕ A325 BOLTS. FIELD CONNECTIONS SHALL BE INSTALLED WITH DTI WASHERS.

WELDED CONNECTIONS CAN BE USED IN LIEU OF BOLTED CONNECTIONS, IF UNIT CAN BE GALVANIZED IN ONE PIECE.

STEEL ANCHOR BOLTS SHALL MEET THE REQUIREMENTS OF ASTM F1554 GRADE 55, ASTM A563A HEAVY HEX NUTS, AND ASTM F436 WASHERS.

ANCHOR BOLT ASSEMBLIES ARE PAID FOR UNDER BID ITEM "ANCHOR BOLT ASSEMBLIES SIGN BRIDGE ON STRUCTURES". SEE BRIDGE PLANS B-70-61 AND B-70-401.

** ALTERNATE MATERIAL FOR CHORD LESS THAN 10" DIAMETER MAY BE API SPEC. 5L GRADE X46 Fy = 46,000 PSI AND GRADE X52 Fy = 52,000 PSI. ASTM A500 GRADE B Fy = 42,000 PSI. OR GRADE C Fy = 46,000 PSI.

SIGNS OR BLANKS SHALL BE INSTALLED AT THE TIME OF ERECTION. SIGN BLANKS AND MOUNTING HARWARE SHALL BE INCIDENTAL TO "SIGN BRIDGE STRUCTURE MOUNTED (STRUCTURE)". REFER TO STANDARD SPECIFICATIONS FOR SIGN BLANK SIZE.

WELD TEST AS PER AWS D1.1

## DESIGN DATA

DEAD LOAD - 3 PSF OF SIGN AND WEIGHT OF SUPPORTING STRUCTURE. NO PROVISIONS HAVE BEEN INCLUDED FOR A CATWALK OR LIGHTING.

LIVE LOAD - NONE.

ICE LOAD - 3 PSF TO ONE FACE OF SIGN & AROUND SURFACE OF MEMBERS.

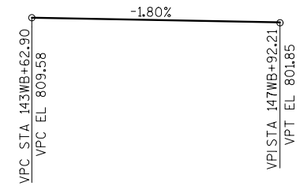
WIND PRESSURE - 90 MPH (3-SECOND GUST SPEED) TO SIGN AREA & EXPOSED MEMBERS.

DESIGNED ACCORDING TO THE 6TH EDITION OF THE AASHTO "STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS."

## TYPE I SIGN DESIGN DATA

DESIGN SIGN AREA = 1,080 SF
MAX. SIGN DEPTH = 18'-0" (TYPE I SIGN)

TOTAL HEIGHT OF MAIN SIGN AND UPPER PANEL SIGN NOT TO EXCEED 20'-0".




PROFILE GRADE LINE USH 10 WB

## LIST OF DRAWINGS

1. PLAN AND ELEVATION S-70-206
2. PLAN AND ELEVATION S-70-209
3. PLAN AND ELEVATION S-70-254
4. 4-CHORD GALVANIZED STEEL SIGN BRIDGE
5. 4-CHORD SIGN BRIDGE DETAILS

WISCONSIN
MICHAEL J. ARNOLD
E-41717
GREENDALE
WI
PROFESSIONAL ENGINEER
04/05/2016

NE REGION CONTACT - SCOTT EBEL (920) 492-2240
BUREAU OF STRUCTURES CONTACT - WILLIAM DREHER (608) 266-8489
CONSULTANT CONTACT - MICHAEL ARNOLD (414) 944-6142

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

AECOM
1555 Rivercenter Dr.
Suite 214
Milwaukee, WI 53212
(414) 944-6080

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 04/06/16
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURES S-70-206, 209, 254

USH 10 WB

| COUNTY | TOWN ~~/CITY/VILLAGE~~ |
|---|---|
| WINNEBAGO | MENASHA |

| DESIGN SPEC. | LOAD 90 MPH |
|---|---|
| AASHTO SIGN SPEC. | 3 SEC. SPEED |

| DESIGNED BY | DESIGN CK'D. | DRAWN BY | PLANS CK'D. |
|---|---|---|---|
| JDL | MJA | JDL | MJA |

PLAN AND ELEVATION S-70-206

SHEET 1 OF 5
661

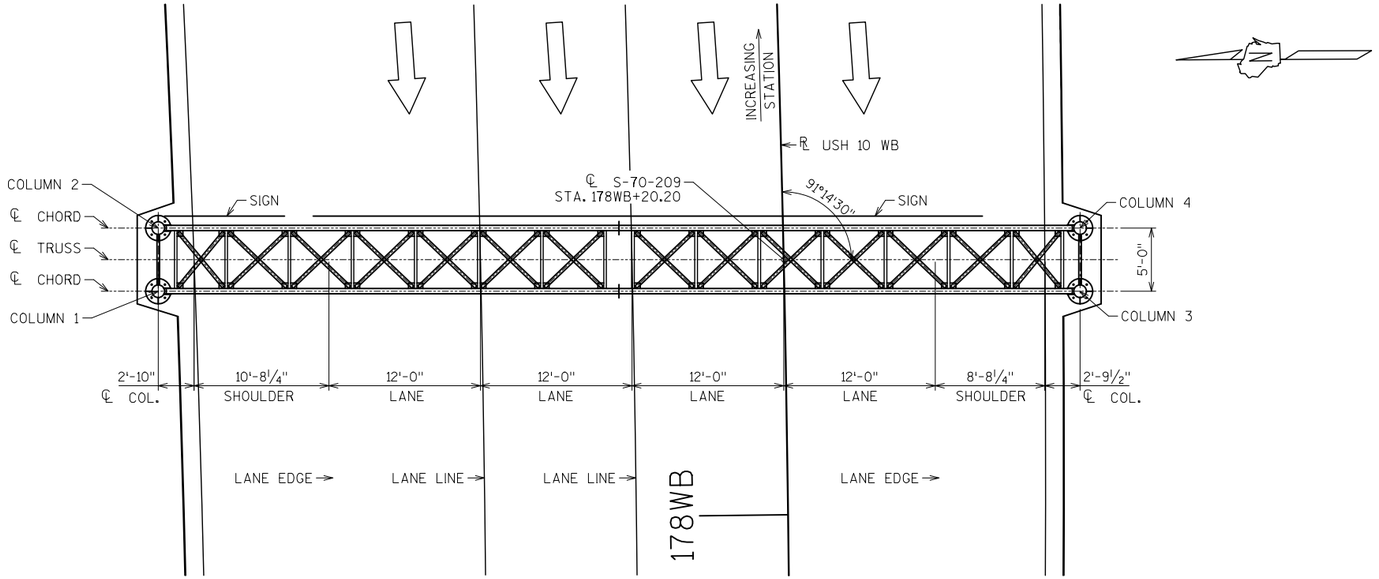
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I.D.

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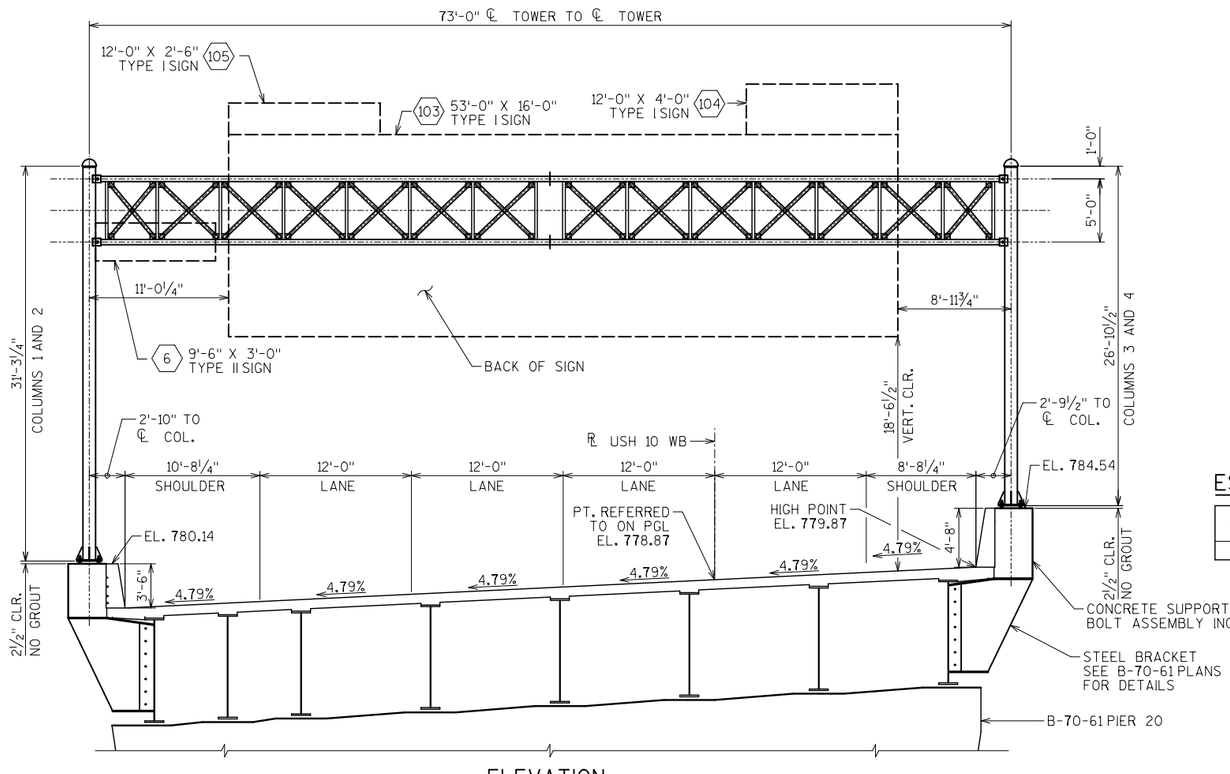
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| STATE PROJECT NUMBER |
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| 1517-07-77 |

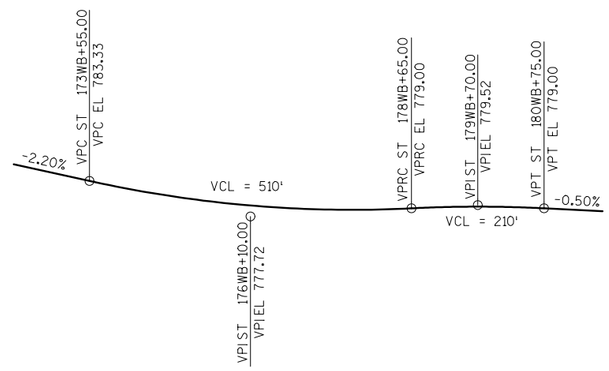



PLAN




ELEVATION

S-70-209, STA. 178WB+20.20
(ELEVATIONS AND DIMENSIONS TAKEN AT ℄ OF STRUCTURE)
(LOOKING EAST, UPSTATION)




PROFILE GRADE LINE USH 10 WB

## TYPE I SIGN DESIGN DATA

DESIGN SIGN AREA = 1,080 SF
MAX. SIGN DEPTH = 18'-0" (TYPE I SIGN)

TOTAL HEIGHT OF MAIN SIGN AND UPPER PANEL SIGN NOT TO EXCEED 20'-0".

## ESTIMATED QUANTITIES

| BID ITEM # | BID ITEM | UNIT | TOTAL |
|---|---|---|---|
| 641.5100.701 | SIGN BRIDGE STRUCTURE MOUNTED S-70-209 | LS | 1 |

## NOTES

SEE SHEET 1 "GENERAL PLAN AND ELEVATION S-70-206" FOR DESIGN DATA AND GENERAL NOTES.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURES S-70-206, 209, 254

DRAWN BY JDL | PLANS CK'D. MJA

PLAN AND ELEVATION S-70-209

SHEET 2 OF 5
662

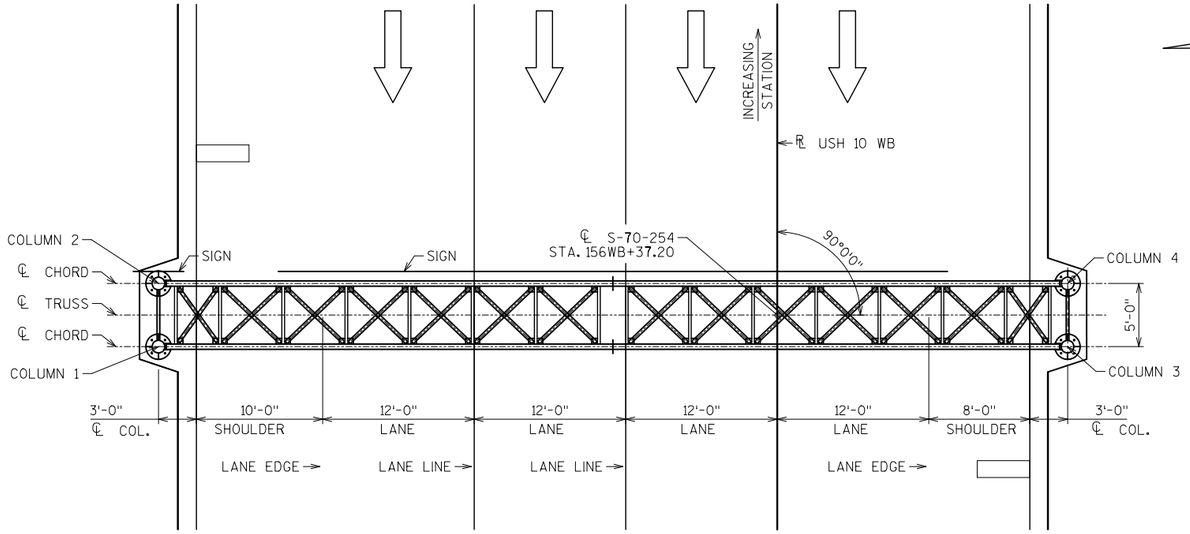
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I.D. mike_arnold

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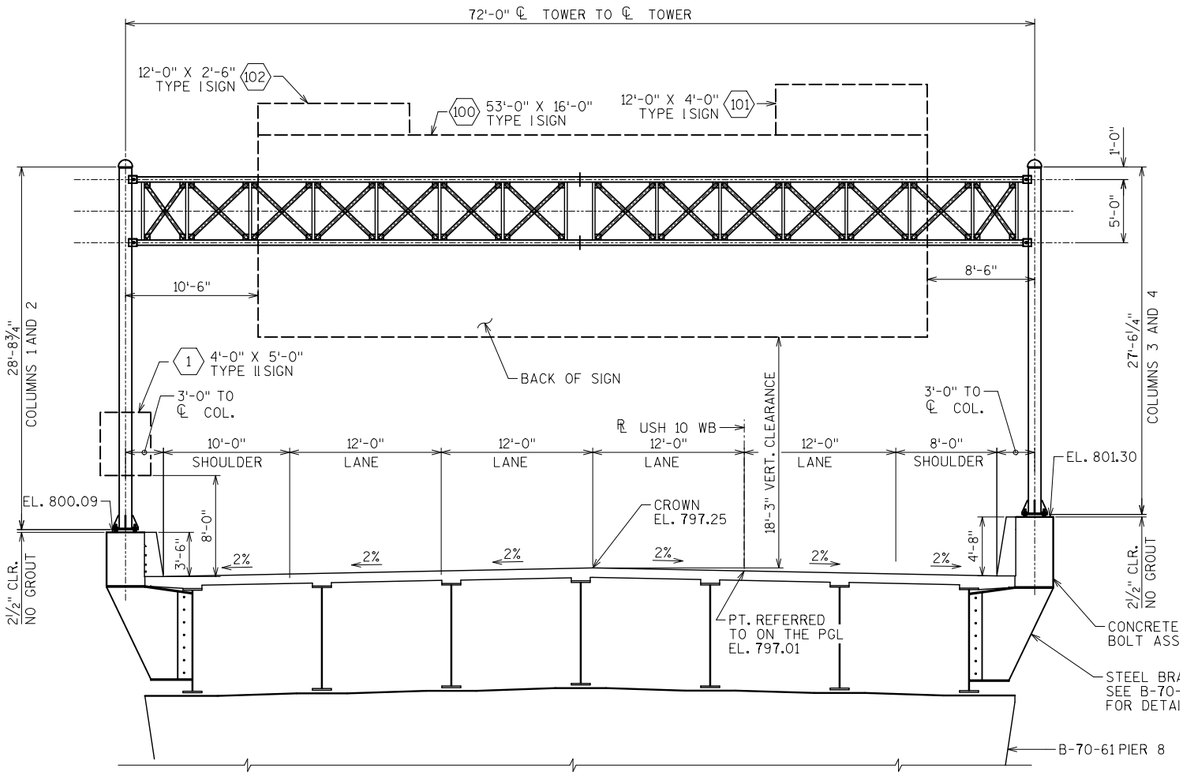
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| STATE PROJECT NUMBER |
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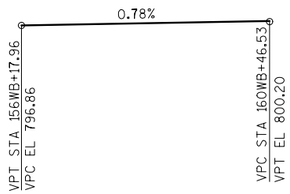



## PLAN




## ELEVATION

S-70-254, STA. 156WB+37.20
(ELEVATIONS AND DIMENSIONS TAKEN AT ℄ OF STRUCTURE)
(LOOKING EAST, UPSTATION)




## PROFILE GRADE LINE USH 10 WB

## TYPE I SIGN DESIGN DATA

DESIGN SIGN AREA = 1,080 SF
MAX. SIGN DEPTH = 18'-0" (TYPE I SIGN)

TOTAL HEIGHT OF MAIN SIGN AND UPPER PANEL SIGN NOT TO EXCEED 20'-0".

## ESTIMATED QUANTITIES

| BID ITEM # | BID ITEM | UNIT | TOTAL |
|---|---|---|---|
| 641.5100.702 | SIGN BRIDGE STRUCTURE MOUNTED S-70-254 | LS | 1 |

## NOTES

SEE SHEET 1 "GENERAL PLAN AND ELEVATION S-70-206" FOR DESIGN DATA AND GENERAL NOTES.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURES S-70-206, 209, 254

DRAWN BY JDL | PLANS CK'D. MJA

PLAN AND ELEVATION S-70-254

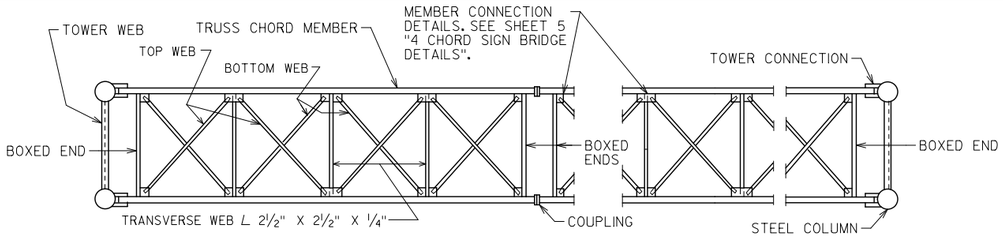
SHEET 3 OF 5
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I.D. mike_arnold

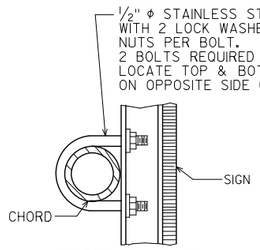
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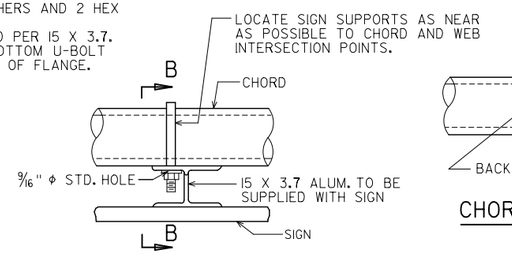
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|---|
| 1517-07-77 |



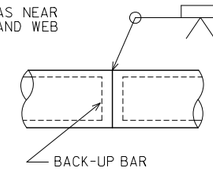

PLAN



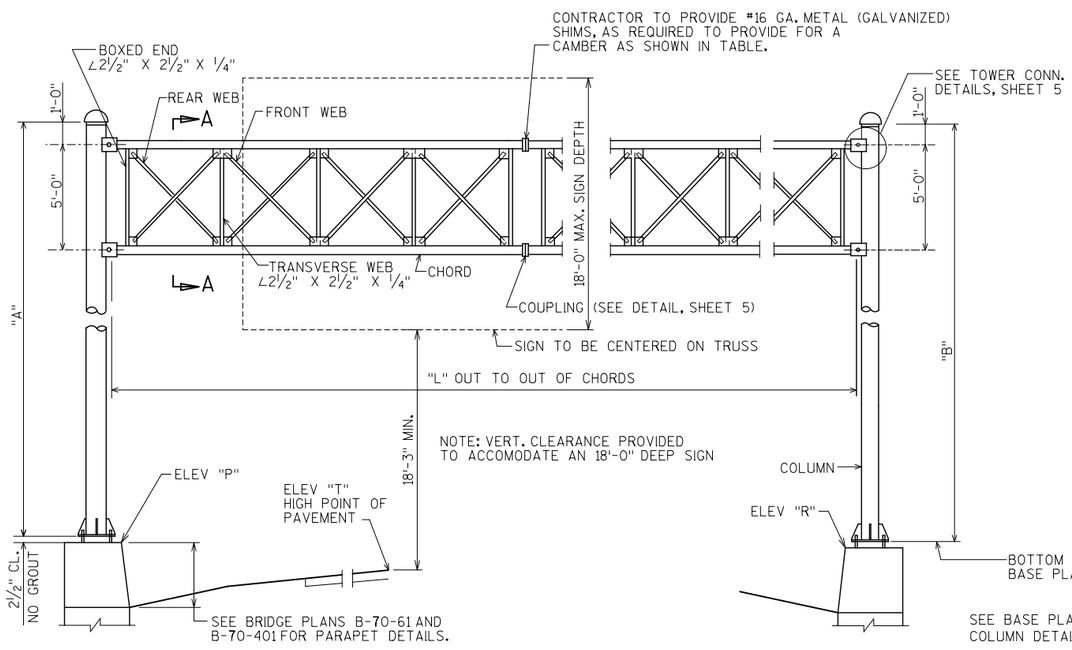

SECTION B-B




TYPICAL SIGN CONNECTION

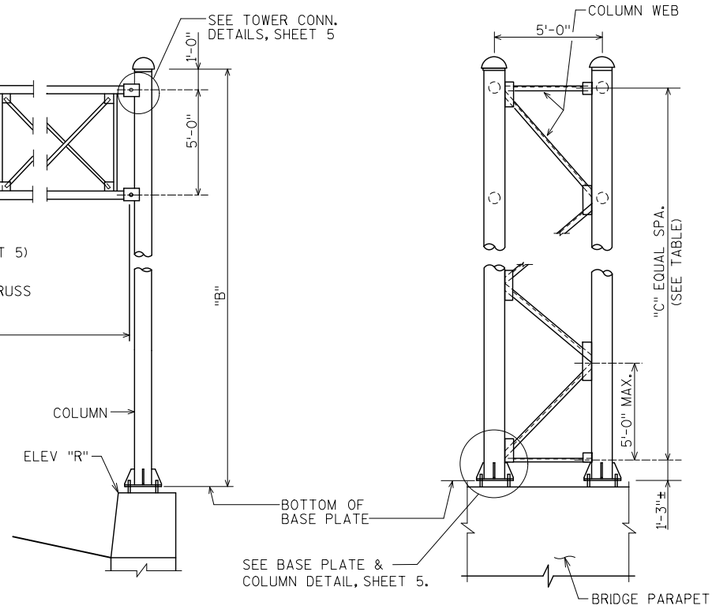



CHORD SPLICE

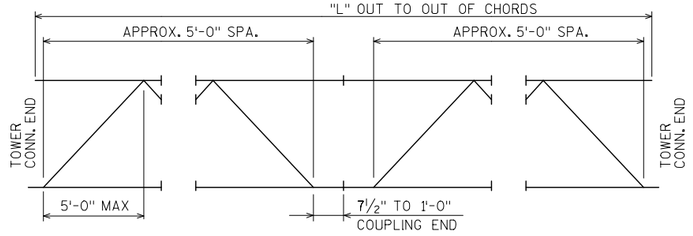



ELEVATION

(LOOKING UPSTATION)

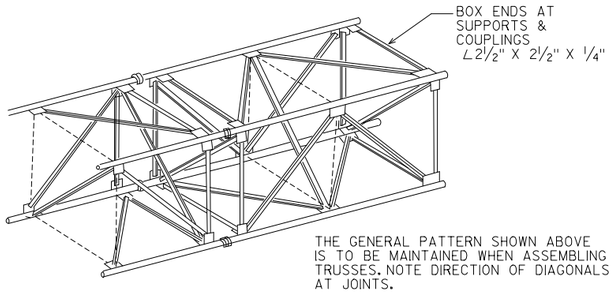



END VIEW

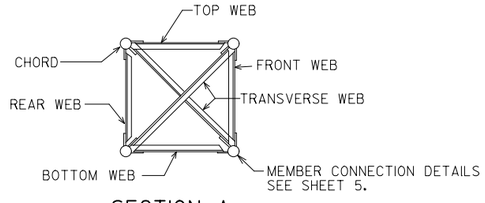



TRUSS ARRANGEMENT

FABRICATOR MAY MAKE TRUSSES ANY LENGTH KEEPING A SECTION A MINIMUM OF 20'-0" & A MULTIPLE OF 5'-0". CHORD FIELD SPLICES SHALL BE MADE WITH COUPLINGS. CHORD SHOP SPLICE SHALL BE THE WELDED SPLICE SHOWN ABOVE.




TYPICAL TRUSS SECTION




SECTION A

## NOTES

DRAWINGS SHALL NOT BE SCALED.

STEEL COLUMN AND CHORD PIPE SHALL BE API SPEC. 5L GRADE X42 Fy = 42,000 P.S.I. **

PLATES, BARS, STRUCTURAL ANGLES SHALL BE ASTM A709 GRADE 36 Fy = 36,000 P.S.I.

ALL STRUCTURAL STEEL MEMBERS, PLATES, ANCHOR RODS, H.S. BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED PER SECTION 641 OF THE WISDOT STANDARD SPECIFICATIONS.

ALL H.S. BOLTED CONNECTIONS SHALL BE MADE WITH ¾" ϕ A325 GALVANIZED BOLTS. FIELD CONNECTIONS SHALL BE INSTALLED WITH DTI WASHERS.

WELDED CONNECTIONS CAN BE USED IN LIEU OF BOLTED CONNECTIONS, IF UNIT CAN BE GALVANIZED IN ONE PIECE.

STEEL ANCHOR BOLTS SHALL MEET THE REQUIREMENTS OF ASTM F1554 GRADE 55, ASTM A563A HEAVY HEX NUTS, AND ASTM F436 WASHERS.

SIGNS OR BLANKS SHALL BE INSTALLED ON TRUSS AT TIME OF ERECTION. REFER TO STANDARD SPECIFICATION FOR SIGN BLANK SIZE.

ANCHOR BOLT ASSEMBLY AND ANCHOR PLATE TEMPLATE SHOWN FOR INFORMATION ONLY. BID ITEM INCLUDED WITH STRUCTURES B-70-61 AND B-70-401.

WELD TEST AS PER AWS D1.1.

** ALTERNATE MATERIAL FOR CHORD LESS THAN 10" DIAMETER MAY BE API SPEC. 5L GRADE X46 Fy = 46,000 PSI AND GRADE X52 Fy = 52,000 PSI, ASTM A500 GRADE B Fy = 42,000 OR GRADE C Fy = 46,000 PSI.

## TABLE

| STRUCTURE | A | B | C | CHORDS O.D. X THK. | TOP & BOTTOM WEB | FRONT & REAR WEB | COUPLING PLATE "D1" & "T" | BOLT CIRCLE DIA. "D2" | NO. OF BOLTS IN COUPLING | CAMBER | COLUMN O.D. X THK. | TOWER WEBS | "L" | ELEV "P" | ELEV "R" | ELEV "T" |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S-70-206 | 27'-5" | 27'-11" | 6 | 5.563"X0.375" | L3"X3"X¼" | L3"X3"X¼" | 10.8125"X1.5" | 8.3125" | 6 | 1.25" | 10.75"X0.500" | L4"X4"X⅜" | 67'-5½" | 809.89 | 809.39 | 806.83 |
| S-70-209 | 31'-3¾" | 26'-10½" | 6 | 5.563"X0.375" | L3"X3"X¼" | L3"X3"X¼" | 10.8125"X1.5" | 8.3125" | 6 | 1.25" | 10.75"X0.500" | L4"X4"X⅜" | 71'-10¼" | 780.14 | 784.54 | 779.87 |
| S-70-254 | 28'-8¾" | 27'-6¼" | 6 | 5.563"X0.375" | L3"X3"X¼" | L3"X3"X¼" | 10.8125"X1.5" | 8.3125" | 6 | 1.25" | 10.75"X0.500" | L4"X4"X⅜" | 70'-10¼" | 800.09 | 801.30 | 797.25 |

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURES S-70-206, 209, 254

DRAWN BY JDL | PLANS CK'D. MJA

4-CHORD GALVANIZED STEEL SIGN BRIDGE

SHEET 4 OF 5
664

DATE: 4/5/2016
I.D. mike_arnold

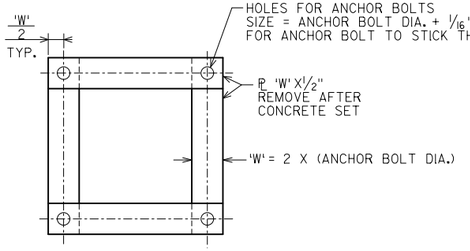
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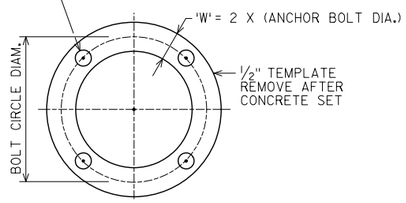
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STATE PROJECT NUMBER

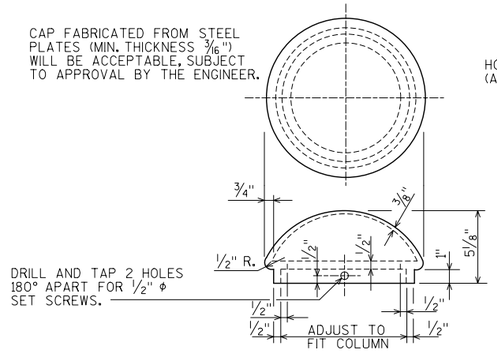
1517-07-77



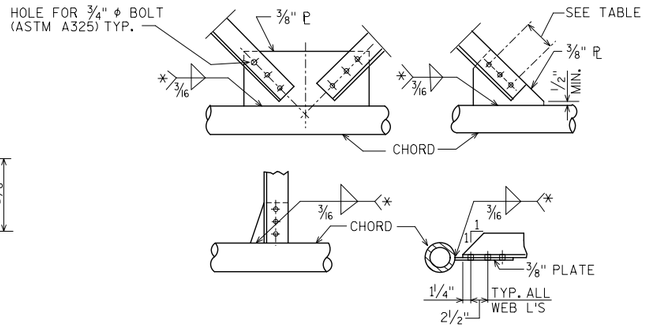

ALTERNATE
ANCHOR PLATE/TEMPLATE PLAN



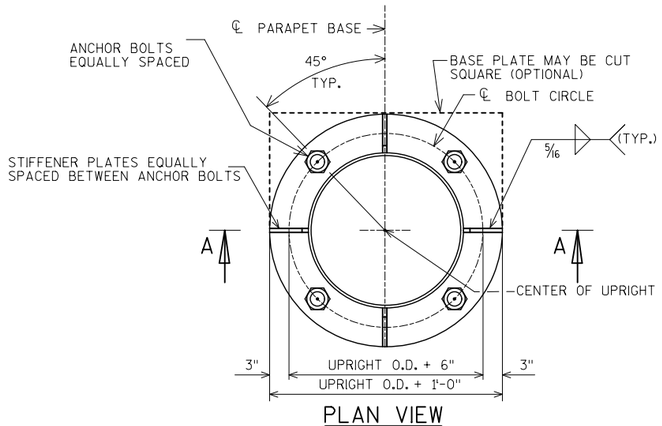

ANCHOR PLATE/TEMPLATE PLAN



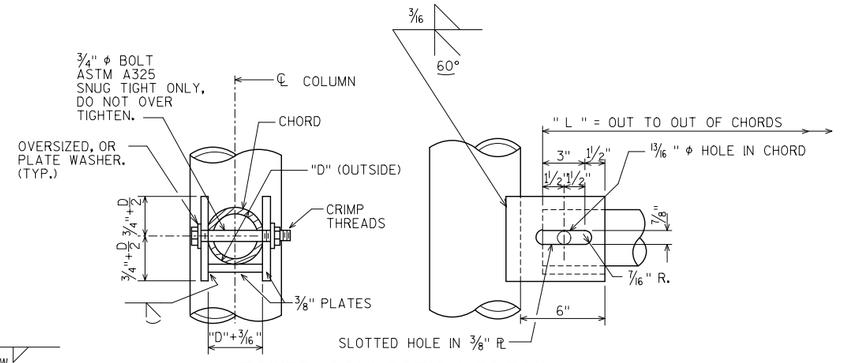

TOWER CAP DETAIL



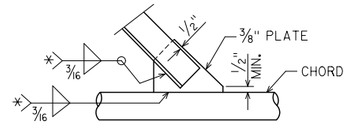

TYPICAL TRUSS CONNECTION DETAILS




PLAN VIEW
(BASE PLATE)




TOWER CONNECTION DETAIL

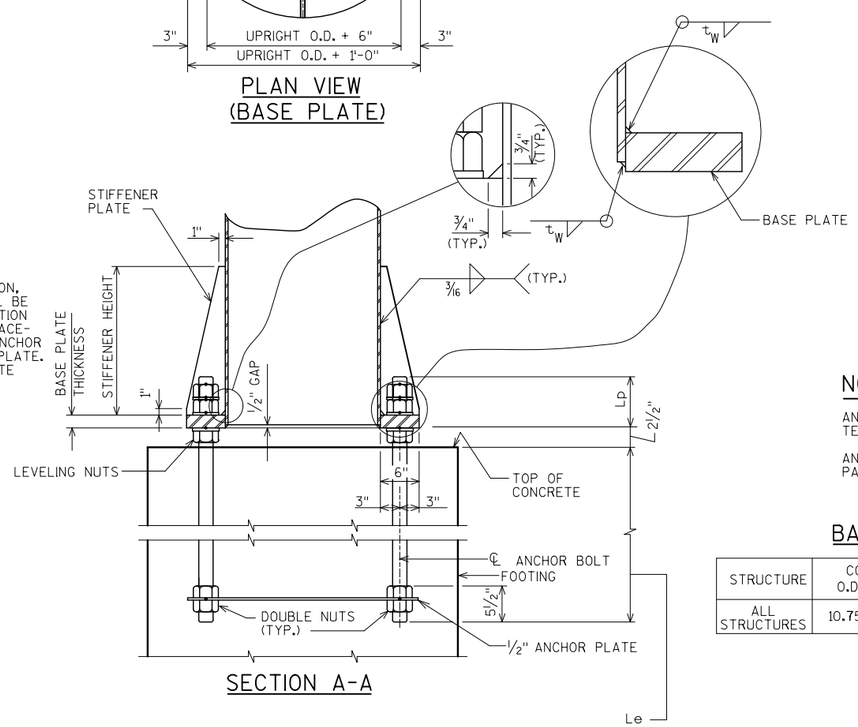



TYPICAL WELDED ALTERNATE

## WEB MEMBERS AND BOXED ENDS

| ANGLE SIZE | *WELD LENGTH | NO. OF BOLTS |
|---|---|---|
| ● 2 1/2"X2 1/2"X1/4" | 11" | 3 |
| 3"X3"X3/16" | 10" | 3 |
| 3"X3"X1/4" | 13" | 4 |
| 3"X3"X5/16" | 16 1/2" | 5 |
| 3"X3"X3/8" | 19 1/2" | 6 |
| 4"X4"X1/4" | 18" | 5 |
| 4"X4"X5/16" | 22" | 6 |
| 4"X4"X3/8" | 26" | 8 |
| 4"X4"X7/16" | 30" | 9 |
| 4"X4"X1/2" | 34" | 10 |

● ONLY USED FOR BOXED END AND TRANSVERSE BRACING.



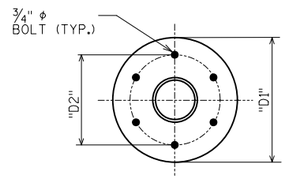

SECTION A-A

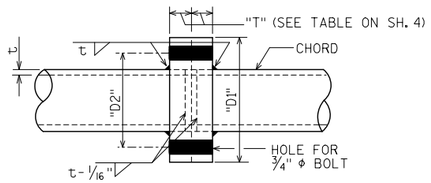
NOTE:
PRIOR TO INSTALLATION, ANCHOR BOLTS SHALL BE RIGIDLY HELD IN POSITION DURING CONCRETE PLACEMENT USING STEEL ANCHOR PLATE AND TOP TEMPLATE. REMOVE TOP TEMPLATE (NOT SHOWN) AFTER CONCRETE SETS.

## NOTE

ANCHOR BOLT ASSEMBLY AND ANCHOR PLATE TEMPLATE SHOWN FOR INFORMATION ONLY.

ANCHOR BOLT ASSEMBLIES PROVIDED, INSTALLED AND PAID FOR IN BRIDGE PLANS FOR B-70-61 AND B-70-401




COUPLING DETAIL

## BASE PLATE, ANCHOR BOLT & COLUMN STIFFENER DETAILS

| STRUCTURE | COLUMN O.D. X THK. | ANCHOR BOLTS | | | BASE PLATE THICKNESS (IN.) | STIFFENER PLATE THICKNESS (IN.) | STIFFENER PLATE HEIGHT (IN.) | $t_W$ (IN.) |
|---|---|---|---|---|---|---|---|---|
| | | SIZE | Le | Lp | | | | |
| ALL STRUCTURES | 10.75"X0.500" | 1 3/4" | 3'-5" | 6 1/2" | 2" | 1/2" | 12" | 1/2" |

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURES S-70-206, 209, 254

DRAWN BY JDL | PLANS CK'D. MJA

4-CHORD
SIGN BRIDGE DETAILS

SHEET 5 OF 5
665

8

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DATE: 4/5/2016
I.D. mike_arnold

**USH 10 WB FILL PLUG**

| STATION | | Distance | AREA (SF) Cut | AREA (SF) Fill | Incremental Vol (CY) (Unadjusted) Cut | Incremental Vol (CY) (Unadjusted) Fill | Cumulative Vol (CY) Cut | Cumulative Vol (CY) Fill | Mass Ordinate |
|---|---|---|---|---|---|---|---|---|---|
| 142+81 | AH | 0.00 | 2839.30 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 143+00 | | 19.02 | 3088.20 | 0.00 | 2087.80 | 0.00 | 2087.80 | 0.00 | 2087.80 |
| 143+50 | | 50.00 | 2656.90 | 0.00 | 5319.54 | 0.00 | 7407.33 | 0.00 | 7407.33 |
| 144+00 | | 50.00 | 2233.70 | 0.00 | 4528.33 | 0.00 | 11935.67 | 0.00 | 11935.67 |
| 144+50 | | 50.00 | 1868.40 | 0.00 | 3798.24 | 0.00 | 15733.91 | 0.00 | 15733.91 |
| 145+00 | | 50.00 | 1567.80 | 0.00 | 3181.67 | 0.00 | 18915.58 | 0.00 | 18915.58 |
| 145+50 | | 50.00 | 1381.40 | 0.00 | 2730.74 | 0.00 | 21646.32 | 0.00 | 21646.32 |
| 146+00 | | 50.00 | 1210.70 | 0.00 | 2400.09 | 0.00 | 24046.41 | 0.00 | 24046.41 |
| 146+50 | | 50.00 | 1039.00 | 0.00 | 2083.06 | 0.00 | 26129.46 | 0.00 | 26129.46 |
| 147+00 | | 50.00 | 1439.60 | 0.00 | 2295.00 | 0.00 | 28424.46 | 0.00 | 28424.46 |
| 147+50 | | 50.00 | 1898.30 | 0.00 | 3090.65 | 0.00 | 31515.11 | 0.00 | 31515.11 |
| 148+00 | | 50.00 | 865.60 | 0.00 | 2559.17 | 0.00 | 34074.28 | 0.00 | 34074.28 |
| 148+50 | | 50.00 | 932.50 | 0.00 | 1664.91 | 0.00 | 35739.19 | 0.00 | 35739.19 |
| 148+83 | BK | 32.74 | 1111.30 | 0.00 | 1239.15 | 0.00 | 36978.33 | 0.00 | 36978.33 |
| | | | | Column totals | 36978.33 | 0.00 | | | |

**PROJECT ID 1517-07-77**
**DIVISION 1 - WB**

| STATION | | Real Station | Distance | AREA (SF) Cut | AREA (SF) Fill | AREA (SF) EBS (In Cross Sections) | AREA (SF) Structure Excavation (In Cross Sections) | Incremental Vol (CY) (Unadjusted) Cut | Incremental Vol (CY) (Unadjusted) Fill | Incremental Vol (CY) (Unadjusted) EBS | Incremental Vol (CY) (Unadjusted) Structure Excavation | Cumulative Vol (CY) Cut | Cumulative Vol (CY) Fill | Cumulative Vol (CY) EBS | Cumulative Vol (CY) Structure Excavation | Mass Ordinate |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 181+02 | **AH** | 18102.00 | 0.00 | 87.27 | 23.73 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 181+06 | | 18106.00 | 4.00 | 87.25 | 22.38 | 0.00 | 0.00 | 12.93 | 3.42 | 0.00 | 0.00 | 12.93 | 3.42 | 0.00 | 0.00 | 9.51 |
| 181+50 | | 18150.00 | 44.00 | 86.77 | 20.17 | 0.00 | 0.00 | 141.79 | 34.67 | 0.00 | 0.00 | 154.72 | 38.09 | 0.00 | 0.00 | 116.64 |
| 182+00 | | 18200.00 | 50.00 | 87.90 | 16.66 | 0.00 | 0.00 | 161.73 | 34.10 | 0.00 | 0.00 | 316.45 | 72.19 | 0.00 | 0.00 | 244.27 |
| 182+25 | | 18225.00 | 25.00 | 87.36 | 13.34 | 0.00 | 0.00 | 81.14 | 13.89 | 0.00 | 0.00 | 397.59 | 86.08 | 0.00 | 0.00 | 311.52 |
| 182+50 | | 18250.00 | 25.00 | 87.43 | 10.57 | 0.00 | 0.00 | 80.92 | 11.07 | 0.00 | 0.00 | 478.51 | 97.15 | 0.00 | 0.00 | 381.37 |
| 183+00 | | 18300.00 | 50.00 | 88.38 | 5.49 | 0.00 | 0.00 | 162.79 | 14.87 | 0.00 | 0.00 | 641.30 | 112.02 | 0.00 | 0.00 | 529.28 |
| 183+50 | | 18350.00 | 50.00 | 86.73 | 9.41 | 0.00 | 0.00 | 162.14 | 13.80 | 0.00 | 0.00 | 803.44 | 125.81 | 0.00 | 0.00 | 677.63 |
| 183+80 | **BK** | 18380.00 | 30.00 | 63.53 | 12.61 | 0.00 | 0.00 | 83.48 | 12.23 | 0.00 | 0.00 | 886.92 | 138.05 | 0.00 | 0.00 | 748.87 |
| | | | | | | | Column totals | 886.92 | 138.05 | 0.00 | 0.00 | | | | | |

**FEN RAMP**

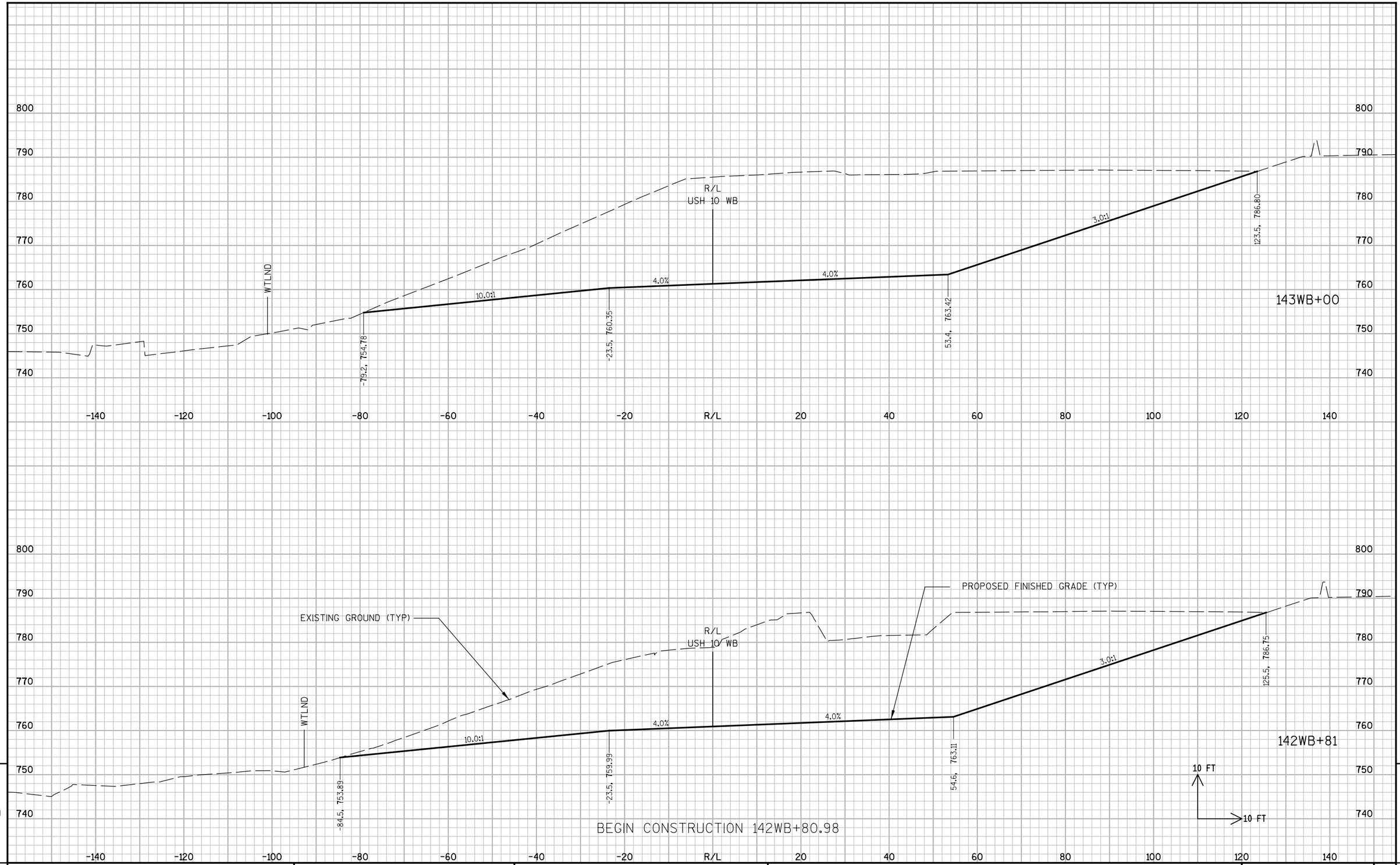
| STATION | Distance | AREA (SF) | | Incremental Vol (CY) (Unadjusted) | | Cumulative Vol (CY) | | Mass Ordinate |
|---|---|---|---|---|---|---|---|---|
| | | Cut | Fill | Cut | Fill | Cut | Fill | |
| 142+50 AH | 0.00 | 61.40 | 10.70 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 143+00 | 49.99 | 1129.00 | 0.00 | 1102.00 | 9.91 | 1102.00 | 9.91 | 1092.10 |
| 143+50 | 50.00 | 3033.00 | 0.00 | 3853.70 | 0.00 | 4955.71 | 9.91 | 4945.80 |
| 144+00 | 50.00 | 6138.10 | 0.00 | 8491.76 | 0.00 | 13447.46 | 9.91 | 13437.56 |
| 144+50 | 50.00 | 5734.10 | 0.00 | 10992.78 | 0.00 | 24440.24 | 9.91 | 24430.34 |
| 145+00 | 50.00 | 6325.70 | 0.00 | 11166.48 | 0.00 | 35606.72 | 9.91 | 35596.82 |
| 145+50 | 50.00 | 6588.40 | 0.00 | 11957.50 | 0.00 | 47564.22 | 9.91 | 47554.32 |
| 146+00 | 50.00 | 6353.70 | 0.00 | 11983.43 | 0.00 | 59547.65 | 9.91 | 59537.74 |
| 146+50 | 50.00 | 3148.00 | 0.00 | 8797.87 | 0.00 | 68345.52 | 9.91 | 68335.61 |
| 147+00 | 50.00 | 1164.40 | 0.00 | 3992.96 | 0.00 | 72338.48 | 9.91 | 72328.58 |
| 147+50 | 50.00 | 1272.10 | 0.00 | 2256.02 | 0.00 | 74594.50 | 9.91 | 74584.60 |
| 148+00 | 50.00 | 1606.90 | 0.00 | 2665.74 | 0.00 | 77260.24 | 9.91 | 77250.34 |
| 148+50 | 50.00 | 3128.60 | 0.00 | 4384.72 | 0.00 | 81644.96 | 9.91 | 81635.06 |
| 149+00 | 50.00 | 4787.50 | 0.00 | 7329.72 | 0.00 | 88974.69 | 9.91 | 88964.78 |
| 149+50 | 50.00 | 5349.80 | 0.00 | 9386.39 | 0.00 | 98361.08 | 9.91 | 98351.17 |
| 150+00 | 50.00 | 4572.40 | 0.00 | 9187.22 | 0.00 | 107548.30 | 9.91 | 107538.39 |
| 150+50 | 50.00 | 4019.40 | 0.00 | 7955.37 | 0.00 | 115503.67 | 9.91 | 115493.76 |
| 151+00 | 50.00 | 3188.50 | 0.00 | 6673.98 | 0.00 | 122177.65 | 9.91 | 122167.74 |
| 151+50 | 50.00 | 2587.80 | 0.00 | 5348.43 | 0.00 | 127526.08 | 9.91 | 127516.17 |
| 152+00 | 50.00 | 2003.60 | 0.00 | 4251.30 | 0.00 | 131777.37 | 9.91 | 131767.47 |
| 152+50 | 50.00 | 1557.60 | 0.00 | 3297.41 | 0.00 | 135074.78 | 9.91 | 135064.87 |
| 152+91 BK | 41.49 | 805.20 | 0.00 | 1815.42 | 0.00 | 136890.20 | 9.91 | 136880.29 |
| Column totals | | | | 136890.20 | 9.91 | | | |

**FNW RAMP**

| STATION | Distance | AREA (SF) | | Incremental Vol (CY) (Unadjusted) | | Cumulative Vol (CY) | | Mass Ordinate |
|---|---|---|---|---|---|---|---|---|
| | | Cut | Fill | Cut | Fill | Cut | Fill | |
| 1323+50 AH | 0.00 | 7.15 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1324+00 | 50.00 | 5.07 | 0.00 | 11.31 | 0.00 | 11.31 | 0.00 | 11.31 |
| 1324+50 | 50.00 | 102.50 | 0.00 | 99.60 | 0.00 | 110.92 | 0.00 | 110.92 |
| 1325+00 | 50.00 | 24.80 | 4.50 | 117.87 | 4.17 | 228.79 | 4.17 | 224.62 |
| 1325+50 | 50.00 | 30.50 | 6.50 | 51.20 | 10.19 | 279.99 | 14.35 | 265.64 |
| 1326+00 | 50.00 | 82.20 | 0.00 | 104.35 | 6.02 | 384.34 | 20.37 | 363.97 |
| 1326+50 | 50.00 | 188.30 | 0.00 | 250.46 | 0.00 | 634.81 | 20.37 | 614.44 |
| 1327+00 | 50.00 | 319.50 | 0.00 | 470.19 | 0.00 | 1104.99 | 20.37 | 1084.62 |
| 1327+50 | 50.00 | 500.80 | 0.00 | 759.54 | 0.00 | 1864.53 | 20.37 | 1844.16 |
| 1328+00 | 50.00 | 705.50 | 0.00 | 1116.94 | 0.00 | 2981.47 | 20.37 | 2961.10 |
| 1328+50 | 50.00 | 826.50 | 6.30 | 1418.52 | 5.83 | 4399.99 | 26.20 | 4373.79 |
| 1329+00 | 50.00 | 791.00 | 17.20 | 1497.69 | 21.76 | 5897.68 | 47.96 | 5849.71 |
| 1329+50 | 50.00 | 932.70 | 21.70 | 1596.02 | 36.02 | 7493.69 | 83.98 | 7409.71 |
| 1330+00 | 50.00 | 1162.90 | 35.60 | 1940.37 | 53.06 | 9434.06 | 137.04 | 9297.03 |
| 1330+50 | 50.00 | 1518.90 | 20.30 | 2483.15 | 51.76 | 11917.21 | 188.80 | 11728.42 |
| 1331+00 | 50.00 | 2407.70 | 49.50 | 3635.74 | 64.63 | 15552.95 | 253.43 | 15299.53 |
| 1331+50 | 50.00 | 4425.20 | 0.00 | 6326.76 | 45.83 | 21879.71 | 299.26 | 21580.45 |
| 1332+00 | 50.00 | 3404.00 | 0.00 | 7249.26 | 0.00 | 29128.97 | 299.26 | 28829.71 |
| 1332+50 | 50.00 | 3763.90 | 0.00 | 6636.94 | 0.00 | 35765.92 | 299.26 | 35466.66 |
| 1333+00 | 50.00 | 3222.50 | 0.00 | 6468.89 | 0.00 | 42234.81 | 299.26 | 41935.55 |
| 1333+50 | 50.00 | 1378.40 | 0.00 | 4260.09 | 0.00 | 46494.90 | 299.26 | 46195.64 |
| 1334+00 | 50.00 | 213.80 | 11.80 | 1474.26 | 10.93 | 47969.16 | 310.19 | 47658.97 |
| 1334+50 | 50.00 | 136.00 | 0.00 | 323.89 | 10.93 | 48293.05 | 321.11 | 47971.94 |
| 1335+00 | 50.00 | 132.80 | 0.00 | 248.89 | 0.00 | 48541.94 | 321.11 | 48220.82 |
| 1335+50 | 50.00 | 106.00 | 0.00 | 221.11 | 0.00 | 48763.05 | 321.11 | 48441.94 |
| 1336+00 | 50.00 | 67.40 | 0.00 | 160.56 | 0.00 | 48923.60 | 321.11 | 48602.49 |
| 1336+50 | 50.00 | 57.60 | 0.00 | 115.74 | 0.00 | 49039.34 | 321.11 | 48718.23 |
| 1336+69 BK | 18.81 | 25.00 | 0.00 | 28.77 | 0.00 | 49068.11 | 321.11 | 48747.00 |
| Column totals | | | | 49068.11 | 321.11 | | | |

**MIDWAY ROAD EARLY FILL**

| STATION | | Distance | AREA (SF) Cut | AREA (SF) Fill | Incremental Vol (CY) (Unadjusted) Cut | Incremental Vol (CY) (Unadjusted) Fill | Cumulative Vol (CY) Cut | Cumulative Vol (CY) Fill | Mass Ordinate |
|---|---|---|---|---|---|---|---|---|---|
| 243+50 | AH | 0.00 | 0.00 | 327.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 244+00 | | 50.00 | 0.00 | 462.26 | 0.00 | 730.83 | 0.00 | 730.83 | -730.83 |
| 244+50 | | 50.00 | 0.00 | 807.26 | 0.00 | 1175.48 | 0.00 | 1906.31 | -1906.31 |
| 245+00 | | 50.00 | 0.00 | 1115.70 | 0.00 | 1780.52 | 0.00 | 3686.83 | -3686.83 |
| 245+50 | | 50.00 | 0.00 | 1427.57 | 0.00 | 2354.88 | 0.00 | 6041.72 | -6041.72 |
| 246+00 | | 50.00 | 0.00 | 1796.79 | 0.00 | 2985.52 | 0.00 | 9027.23 | -9027.23 |
| 246+50 | | 50.00 | 0.00 | 2151.43 | 0.00 | 3655.75 | 0.00 | 12682.99 | -12682.99 |
| 247+00 | | 50.00 | 0.00 | 2624.83 | 0.00 | 4422.46 | 0.00 | 17105.45 | -17105.45 |
| 247+50 | | 50.00 | 0.00 | 3248.15 | 0.00 | 5437.94 | 0.00 | 22543.40 | -22543.40 |
| 248+00 | | 50.00 | 0.00 | 3407.02 | 0.00 | 6162.19 | 0.00 | 28705.59 | -28705.59 |
| 248+50 | | 50.00 | 0.00 | 3107.68 | 0.00 | 6032.13 | 0.00 | 34737.72 | -34737.72 |
| 249+00 | | 50.00 | 0.00 | 3143.58 | 0.00 | 5788.20 | 0.00 | 40525.92 | -40525.92 |
| 249+50 | | 50.00 | 0.00 | 3273.86 | 0.00 | 5942.07 | 0.00 | 46467.99 | -46467.99 |
| 250+00 | | 50.00 | 0.00 | 3207.58 | 0.00 | 6001.33 | 0.00 | 52469.32 | -52469.32 |
| 250+50 | | 50.00 | 0.00 | 3230.90 | 0.00 | 5961.55 | 0.00 | 58430.87 | -58430.87 |
| 251+00 | | 50.00 | 0.00 | 3514.43 | 0.00 | 6245.67 | 0.00 | 64676.54 | -64676.54 |
| 251+50 | | 50.00 | 0.00 | 3644.49 | 0.00 | 6628.63 | 0.00 | 71305.17 | -71305.17 |
| 252+00 | | 50.00 | 0.00 | 3381.49 | 0.00 | 6505.54 | 0.00 | 77810.71 | -77810.71 |
| 252+50 | | 50.00 | 0.00 | 3385.63 | 0.00 | 6265.85 | 0.00 | 84076.56 | -84076.56 |
| 253+00 | | 50.00 | 0.00 | 2241.19 | 0.00 | 5210.02 | 0.00 | 89286.58 | -89286.58 |
| 253+50 | | 50.00 | 0.00 | 1854.19 | 0.00 | 3792.02 | 0.00 | 93078.60 | -93078.60 |
| 254+00 | | 50.00 | 0.00 | 1536.08 | 0.00 | 3139.14 | 0.00 | 96217.74 | -96217.74 |
| 254+50 | | 50.00 | 0.00 | 1239.59 | 0.00 | 2570.06 | 0.00 | 98787.80 | -98787.80 |
| 255+00 | | 50.00 | 0.00 | 1014.92 | 0.00 | 2087.51 | 0.00 | 100875.31 | -100875.31 |
| 255+50 | | 50.00 | 0.00 | 513.36 | 0.00 | 1415.08 | 0.00 | 102290.39 | -102290.39 |
| 256+00 | BK | 50.00 | 0.00 | 386.28 | 0.00 | 715.34 | 0.00 | 103005.73 | -103005.73 |
| | | | | Column totals | 0.00 | 103005.73 | | | |

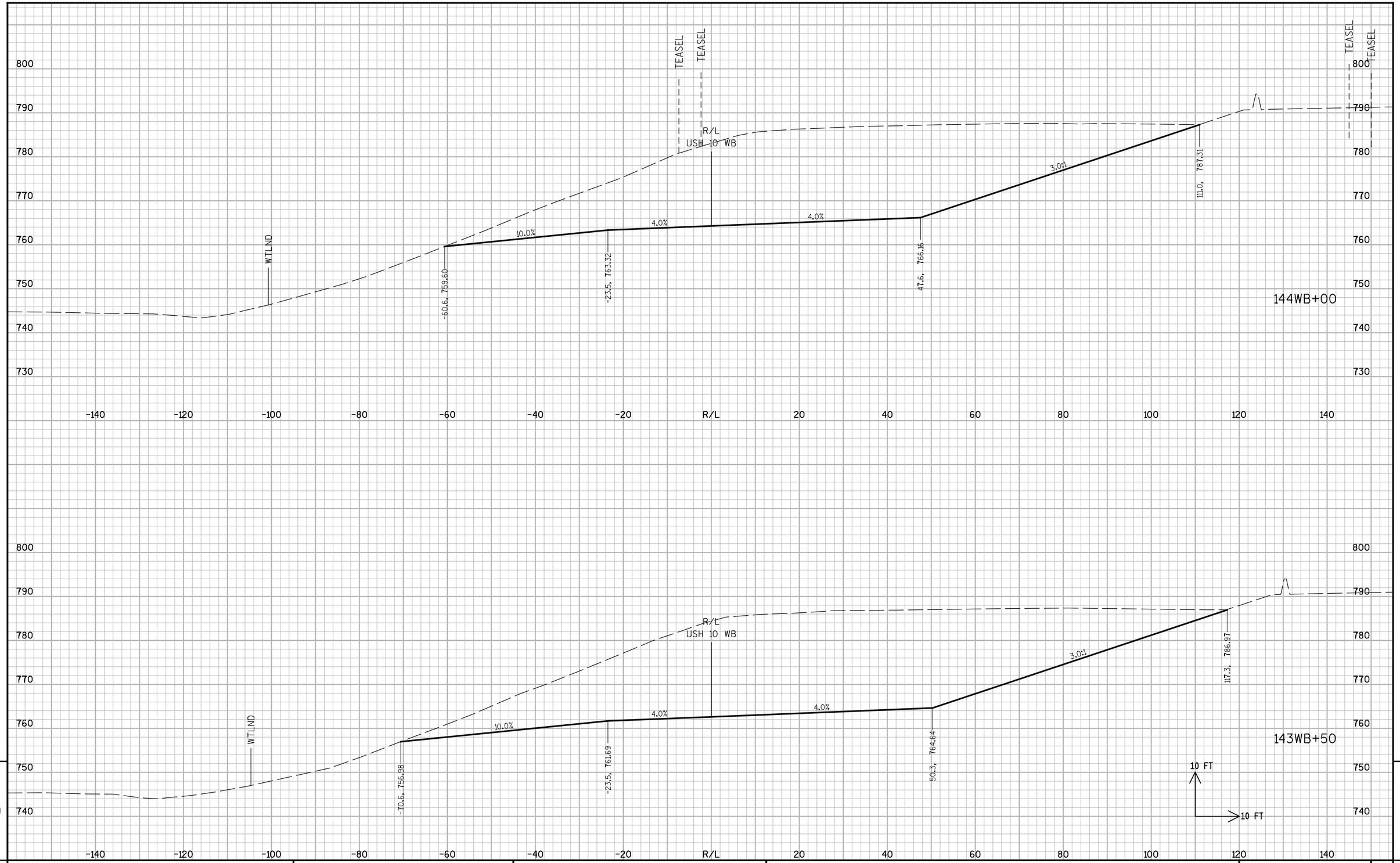



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| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: USH 10 WB | SHEET NO: . 671 | E |
|---|---|---|---|---|---|

9

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\090200_441WB_FILL PLUG_XS.dgn PLOT DATE : 1/18/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -

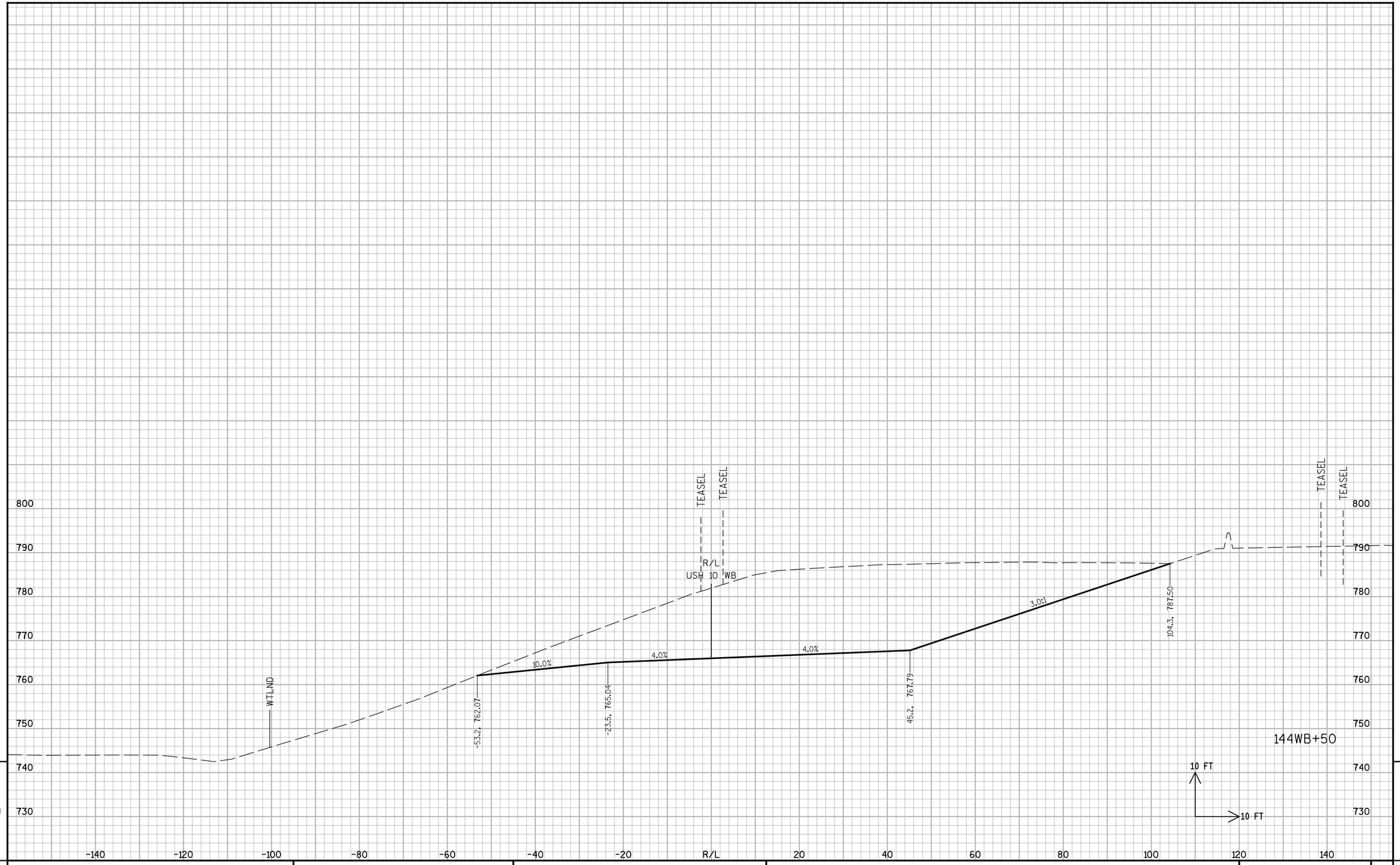



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| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: USH 10 WB | SHEET NO: . 672 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\090200_441WB_FILL PLUG_XS.dgn PLOT DATE : 1/18/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -

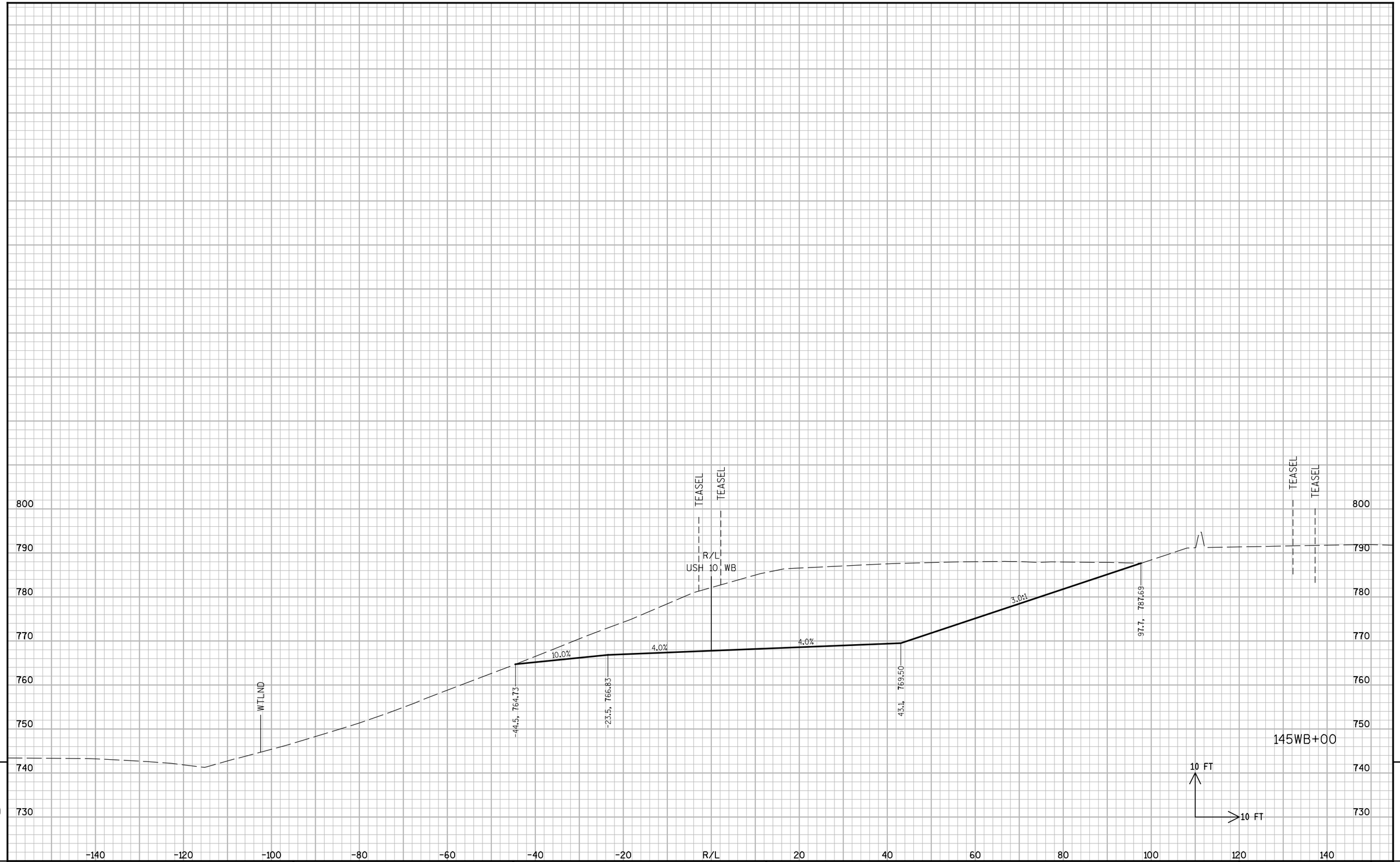



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| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: USH 10 WB | SHEET NO: . 673 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\090200_441WB_FILL PLUG_XS.dgn PLOT DATE : 1/18/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -

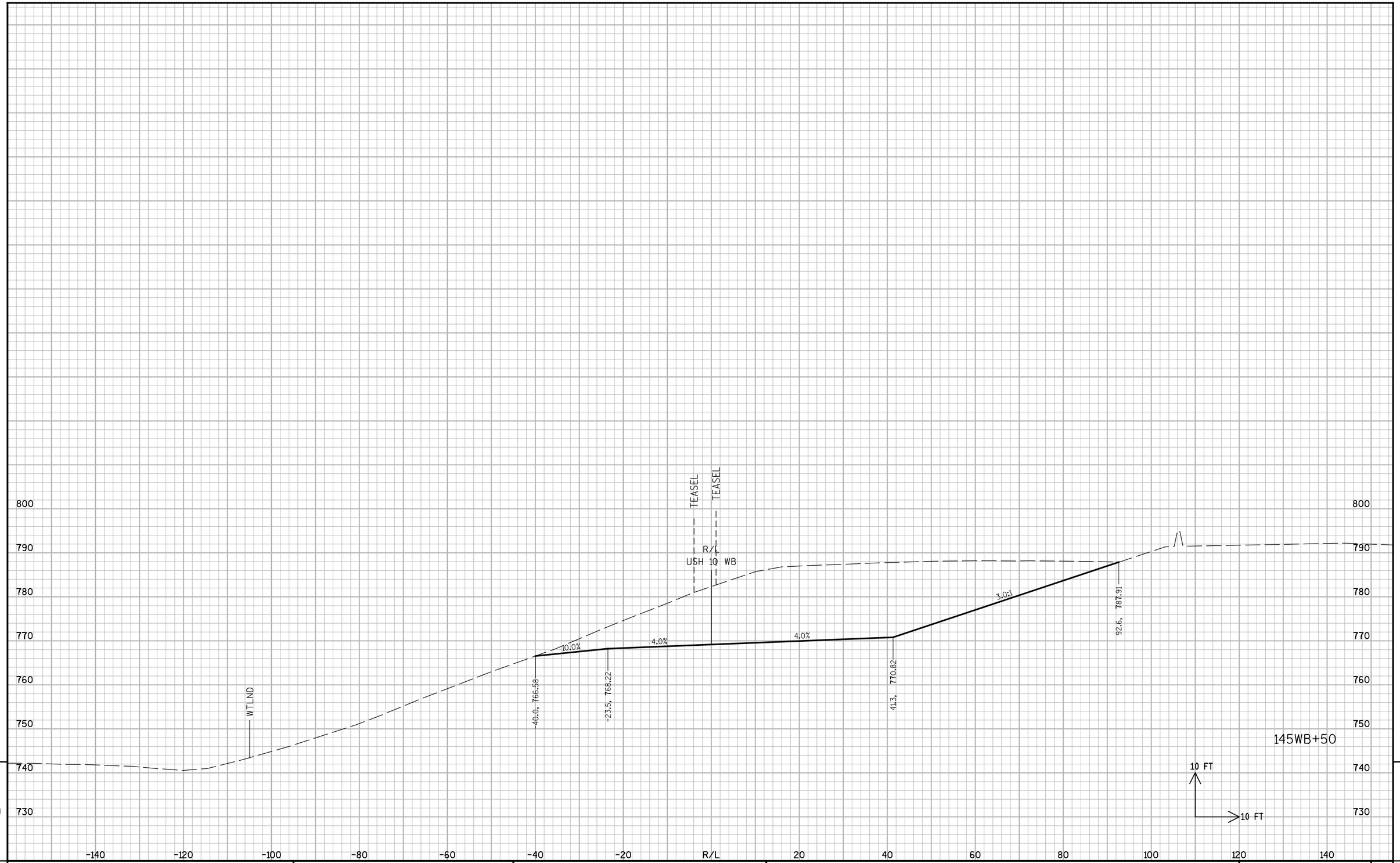



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STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: USH 10 WB | SHEET NO: . 674 | E

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\090200_441WB_FILL PLUG_XS.dgn PLOT DATE : 1/18/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -

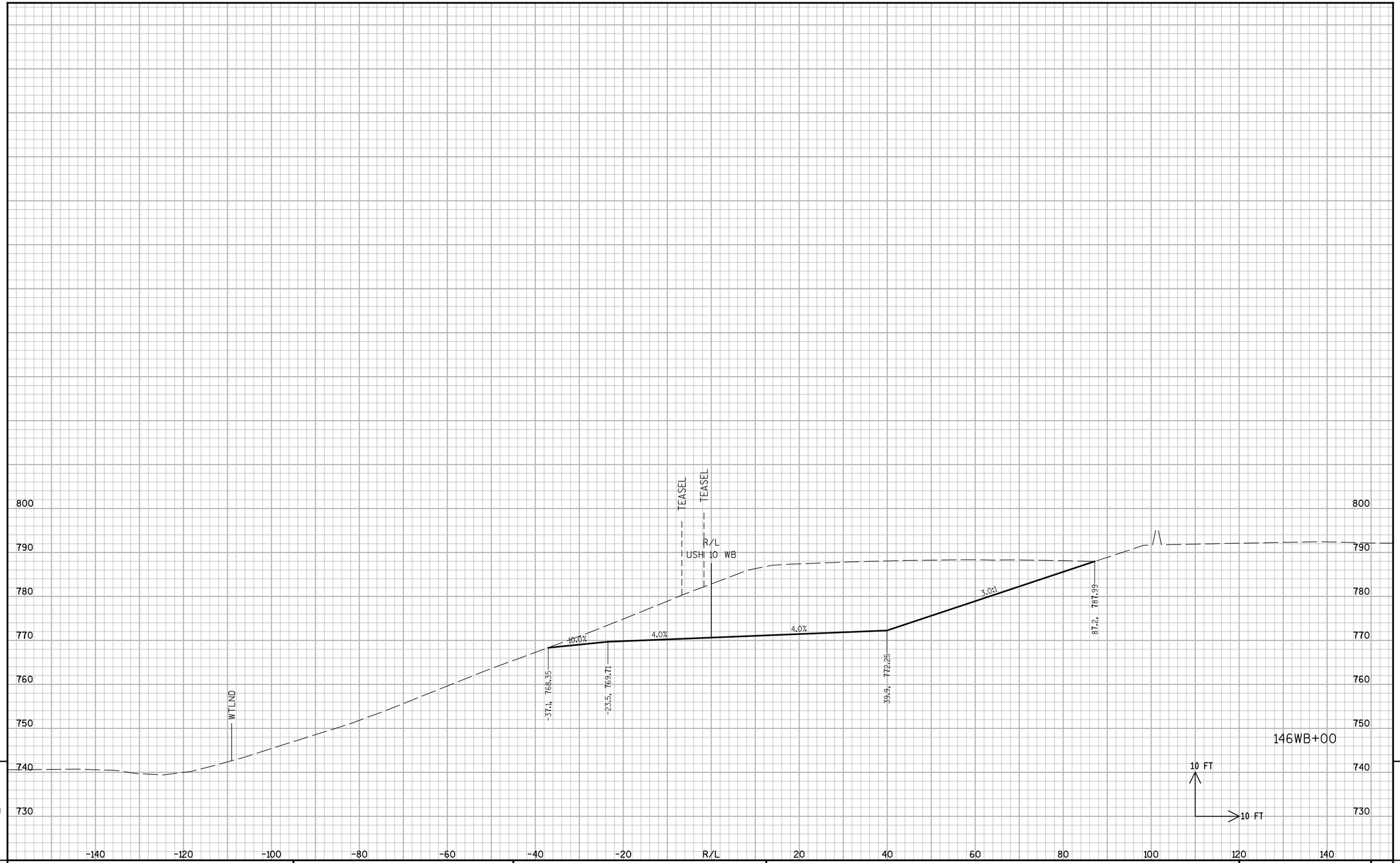



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| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: USH 10 WB | SHEET NO: . 675 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\090200_441WB_FILL PLUG_XS.dgn PLOT DATE : 1/18/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -

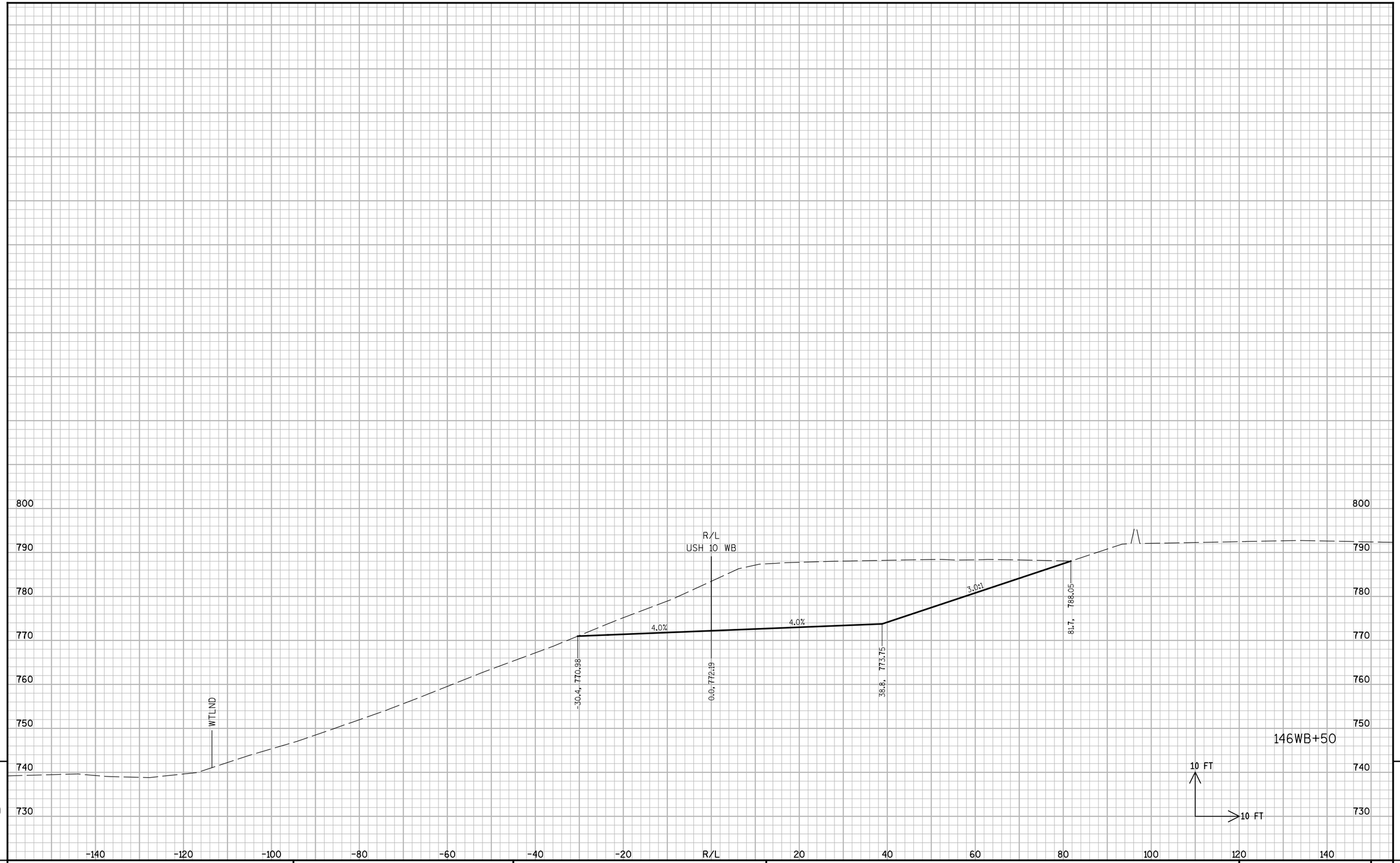



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| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: USH 10 WB | SHEET NO: . 676 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\090200_441WB_FILL PLUG_XS.dgn PLOT DATE : 1/18/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -

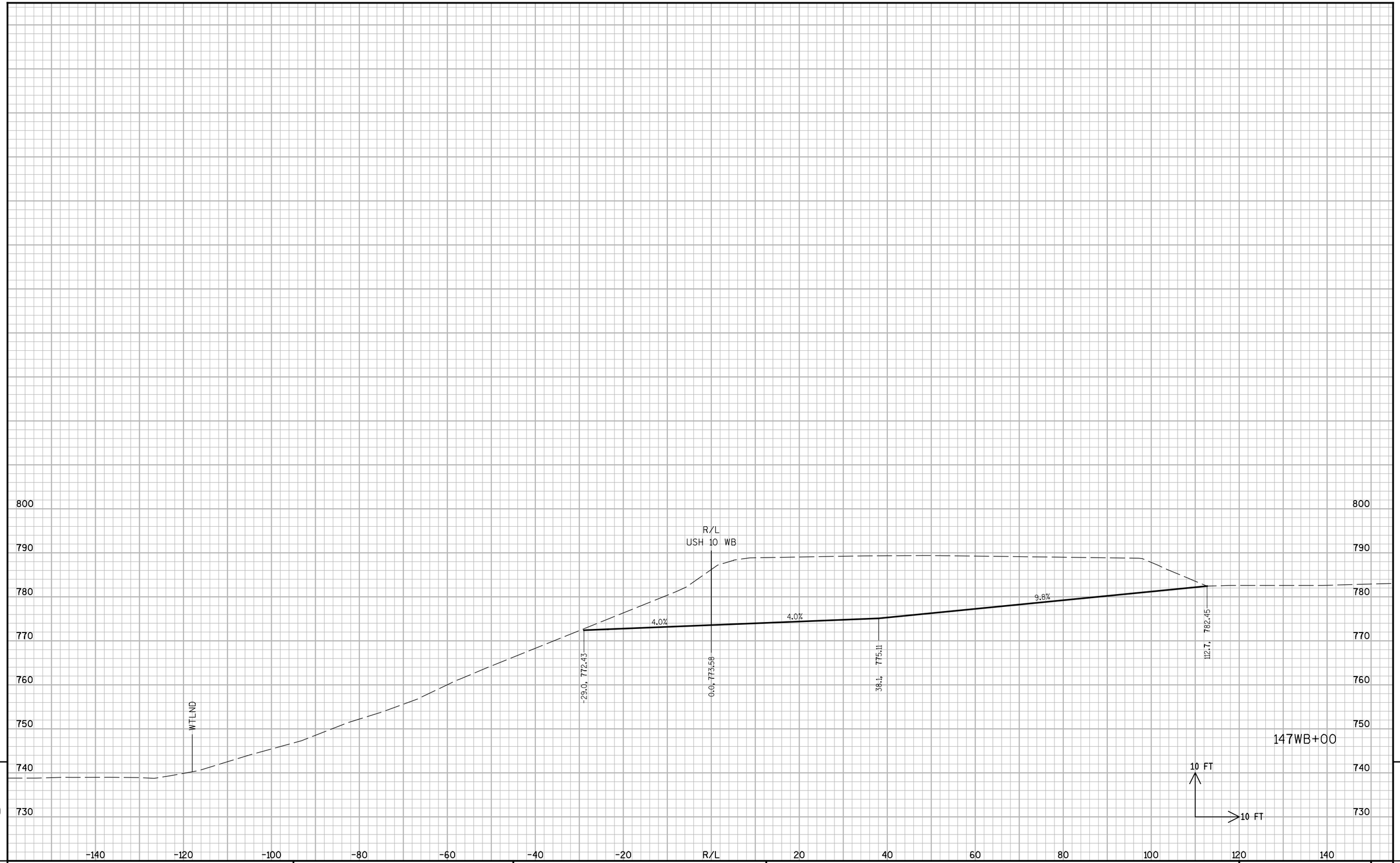



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| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: USH 10 WB | SHEET NO: . 677 | E |
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FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\090200_441WB_FILL PLUG_XS.dgn PLOT DATE : 1/18/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -

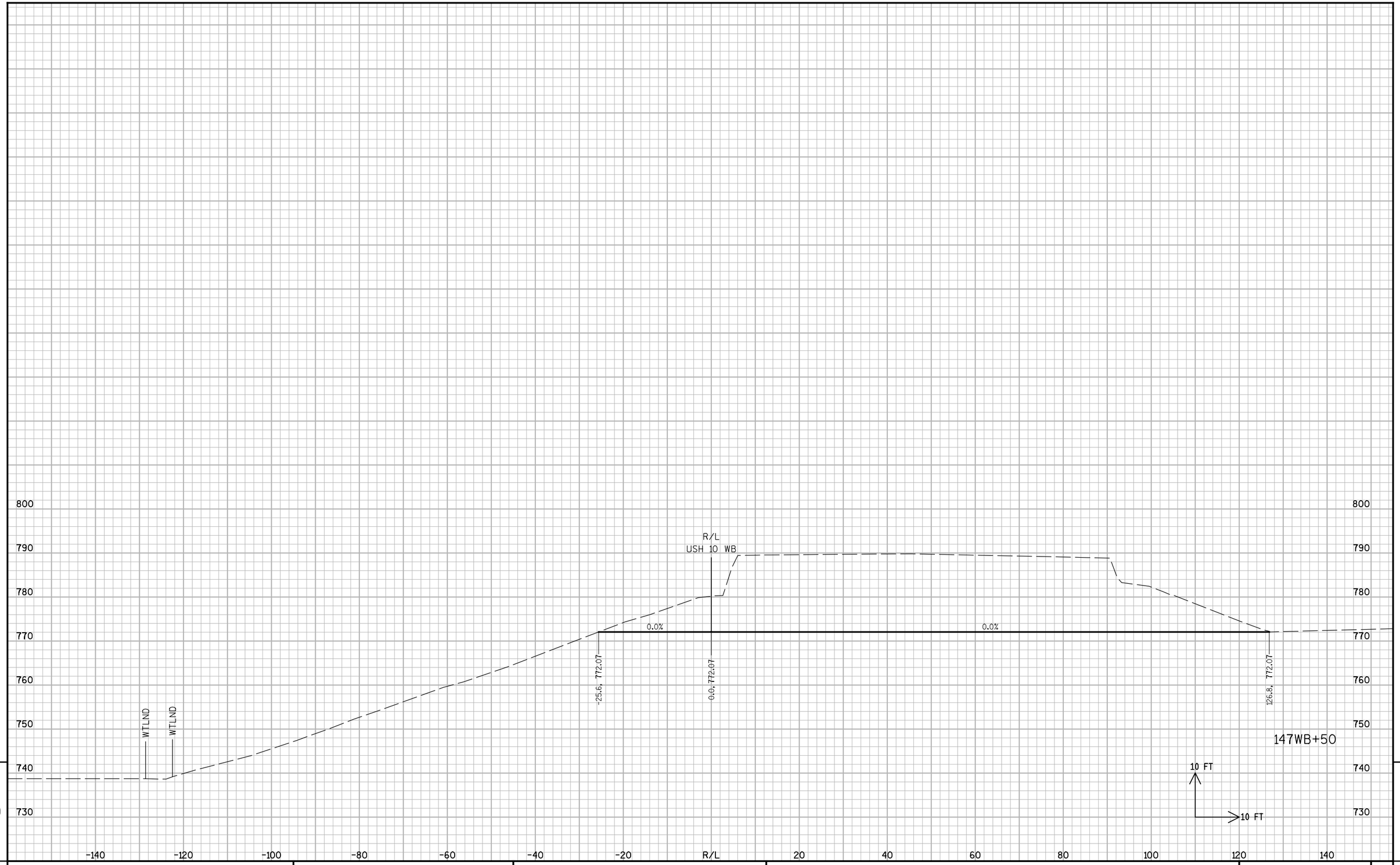



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| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: USH 10 WB | SHEET NO: . 678 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\090200_441WB_FILL PLUG_XS.dgn PLOT DATE : 1/18/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -

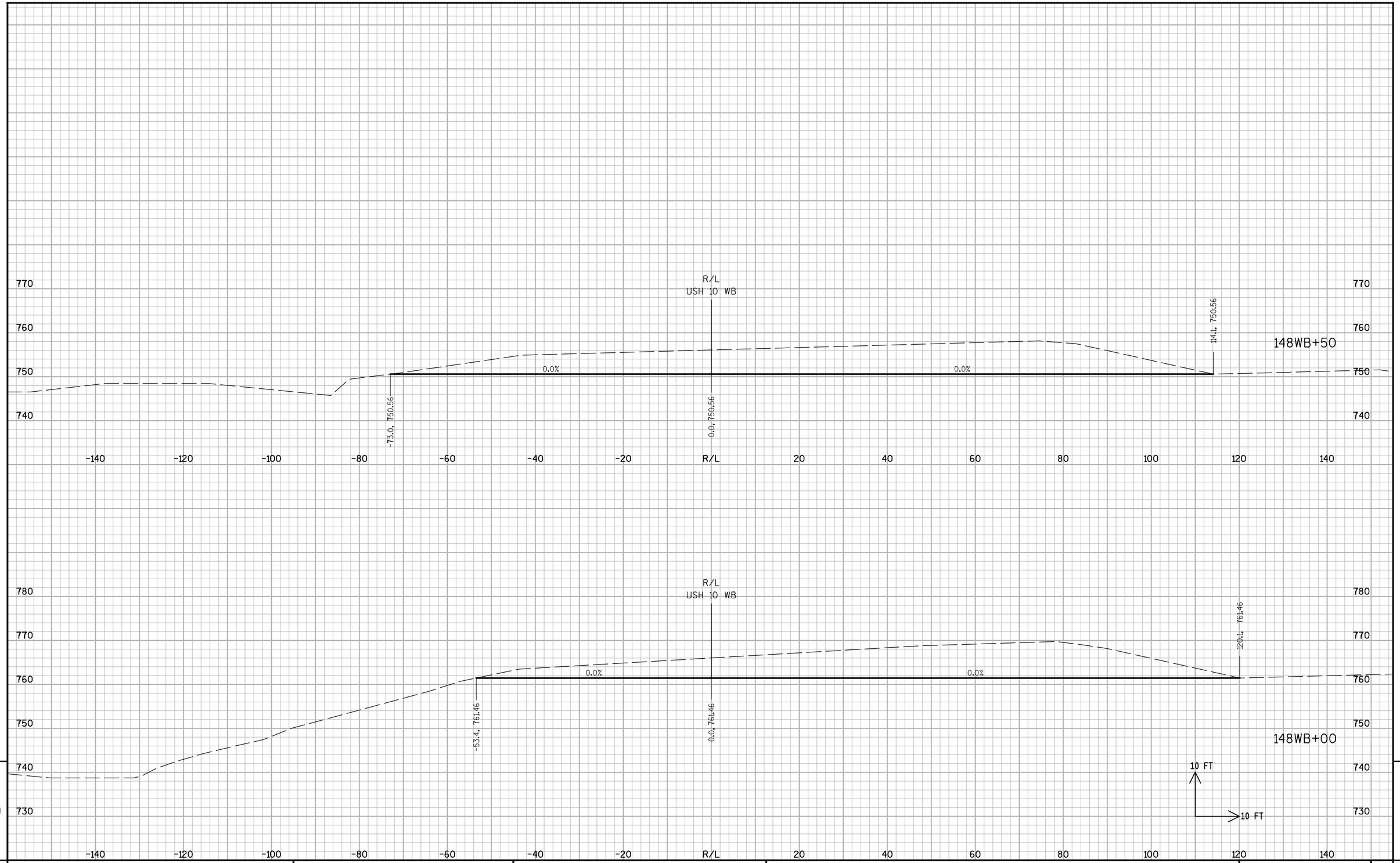



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| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: USH 10 WB | SHEET NO: . 679 | E |
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FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\090200_441WB_FILL PLUG_XS.dgn PLOT DATE : 1/18/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -



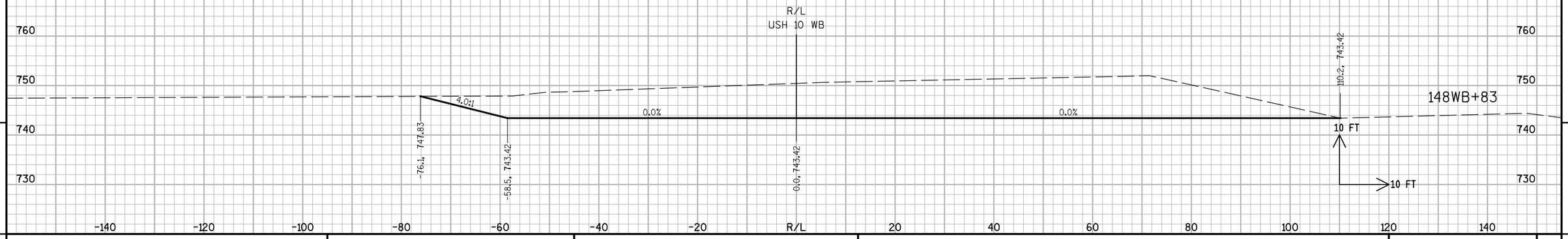

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| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: USH 10 WB | SHEET NO: . 680 | E |
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FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\090200_441WB_FILL PLUG_XS.dgn PLOT DATE : 1/18/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -

END CONSTRUCTION 148WB+82.74

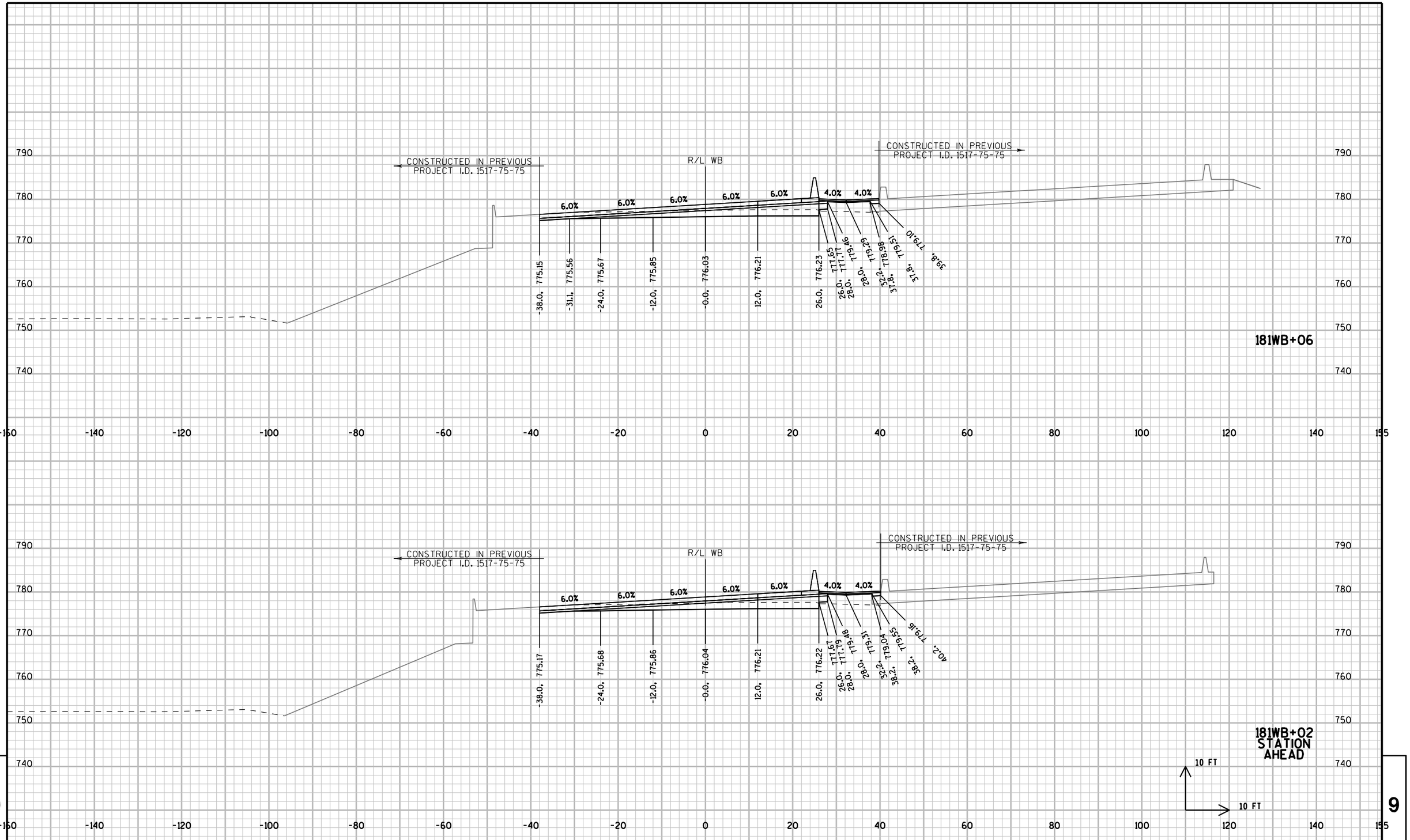



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| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: USH 10 WB | SHEET NO: . 681 | E |
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FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\090200_441WB_FILL PLUG_XS.dgn PLOT DATE : 1/18/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -



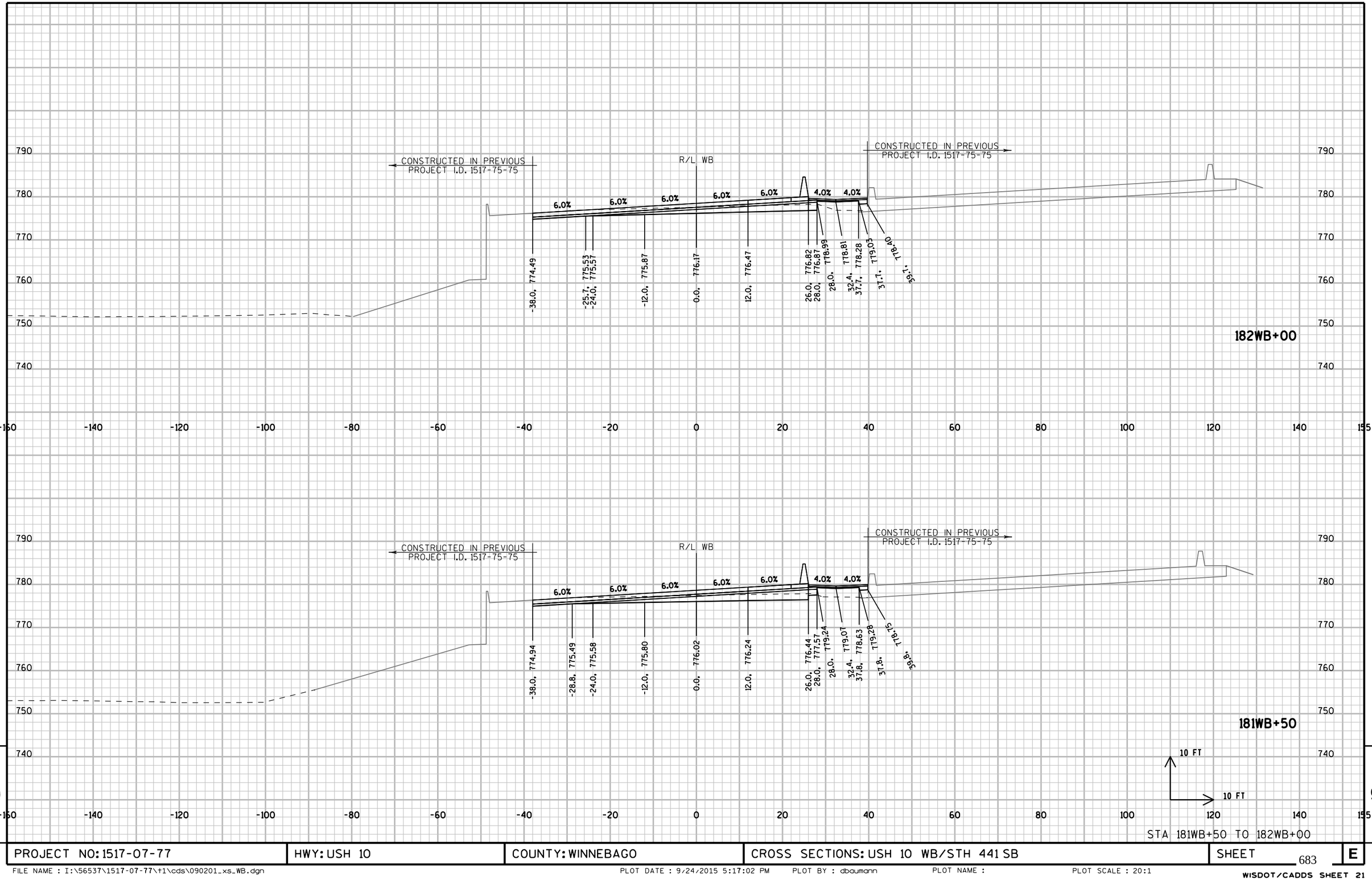

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| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: USH 10 WB/STH 441 SB | SHEET | E |
|---|---|---|---|---|---|



FILE NAME : I:\56537\1517-07-77\t1\cds\090201_xs_WB.dgn PLOT DATE : 9/24/2015 5:17:01 PM PLOT BY : dbaumann PLOT NAME : PLOT SCALE : 20:1




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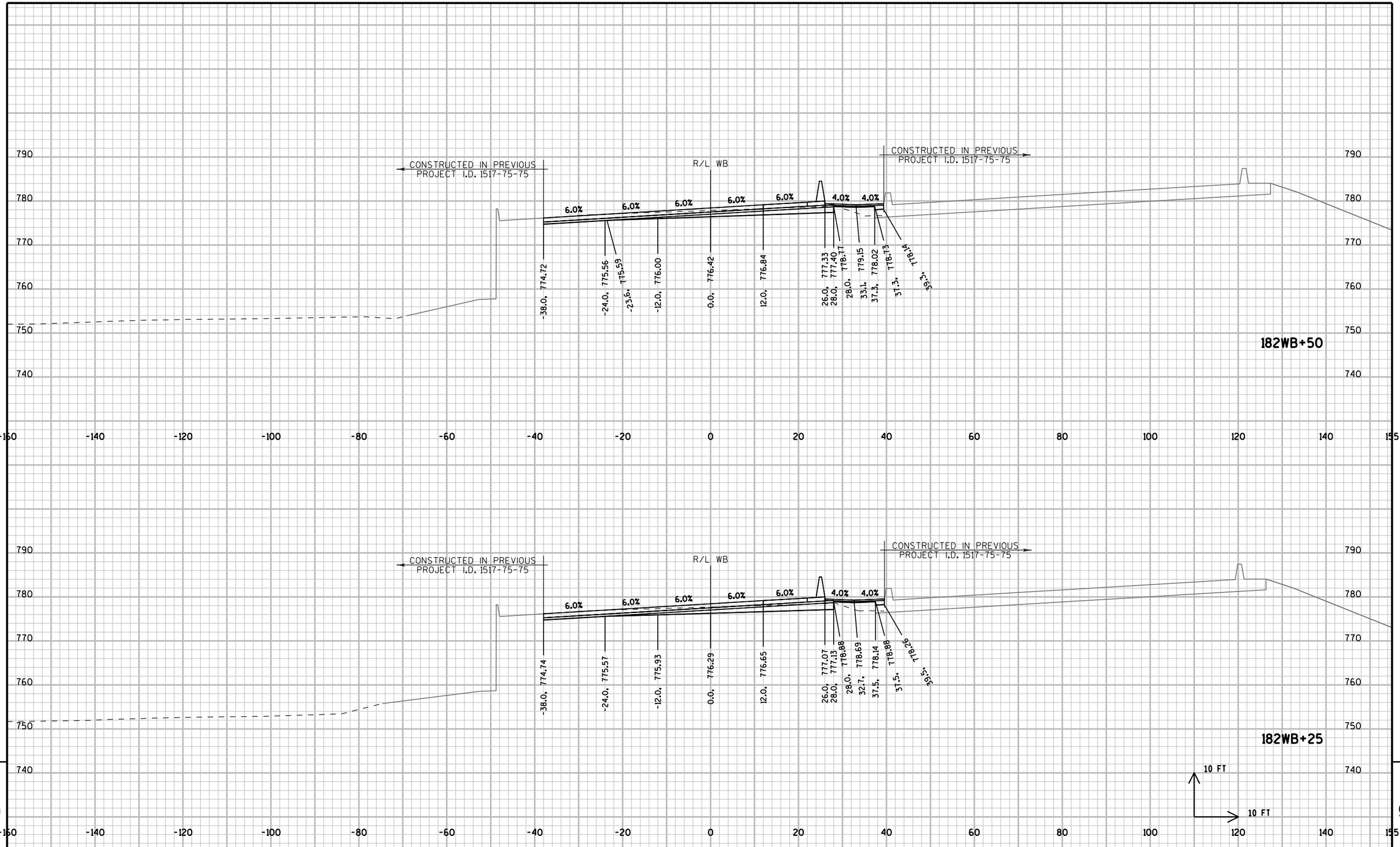
STA 181WB+50 TO 182WB+00

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: USH 10 WB/STH 441 SB | SHEET | E |
|---|---|---|---|---|---|



FILE NAME : I:\56537\1517-07-77\t1\cds\090201_xs_WB.dgn PLOT DATE : 9/24/2015 5:17:02 PM PLOT BY : dbaumann PLOT NAME : PLOT SCALE : 20:1

WISDOT/CADDS SHEET 21



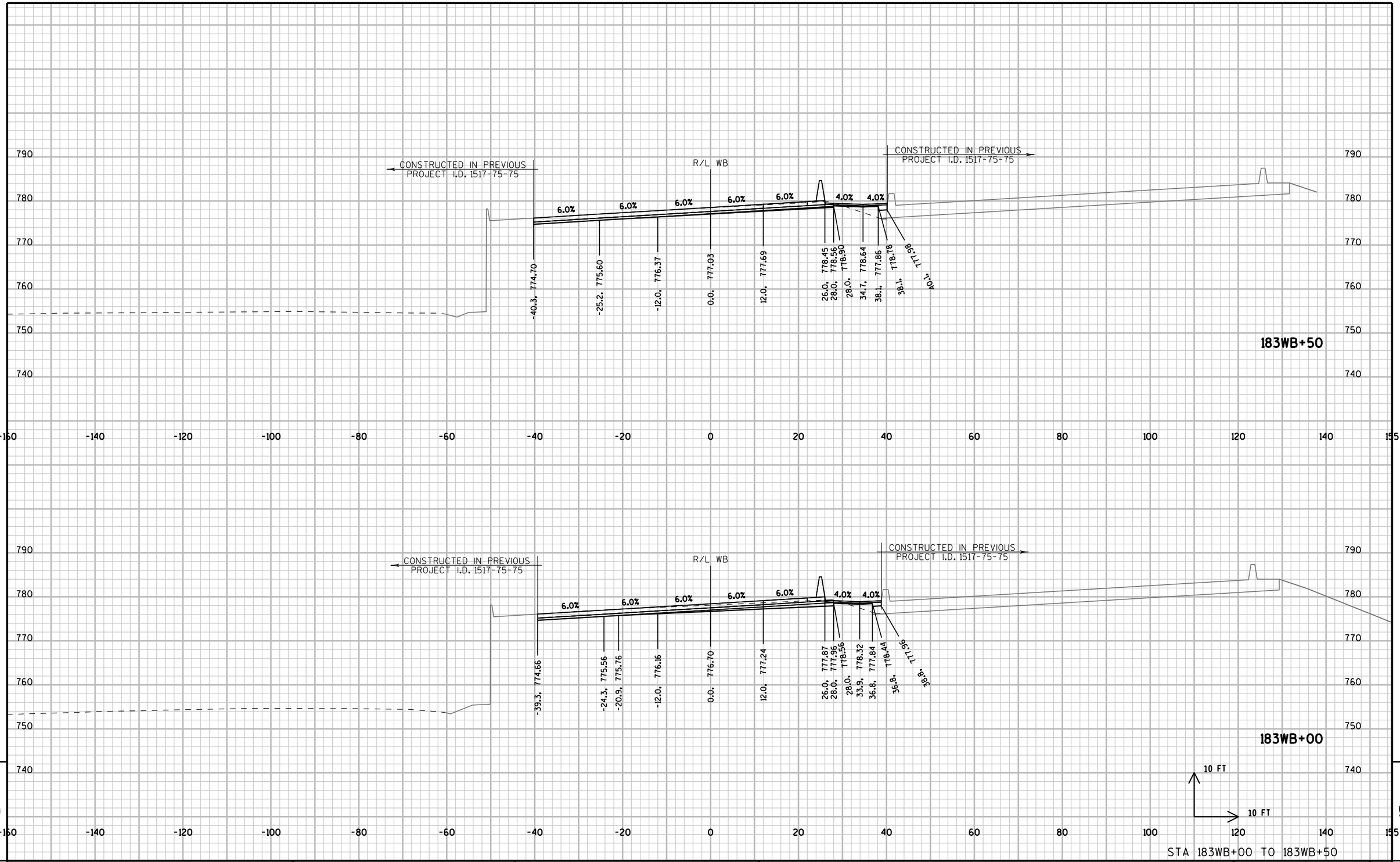

STA 182WB+25 TO 182WB+50

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: USH 10 WB/STH 441 SB | SHEET | E |
|---|---|---|---|---|---|



FILE NAME : I:\56537\1517-07-77\t1\cds\090201_xs_WB.dgn PLOT DATE : 9/24/2015 5:17:02 PM PLOT BY : dbaumann PLOT NAME : PLOT SCALE : 20:1

WISDOT/CADDS SHEET 21




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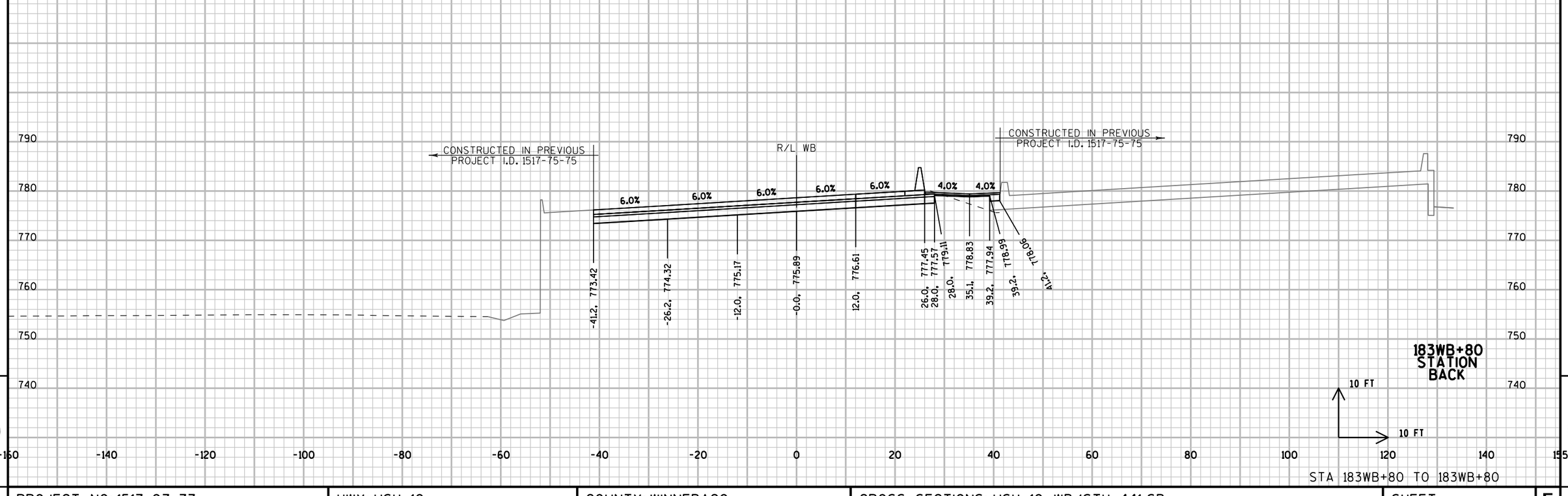
STA 183WB+00 TO 183WB+50

| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: USH 10 WB/STH 441 SB | SHEET | E |
|---|---|---|---|---|---|



FILE NAME : I:\56537\1517-07-77\t1\cds\090201_xs_WB.dgn PLOT DATE : 9/24/2015 5:17:03 PM PLOT BY : dbaumann PLOT NAME : PLOT SCALE : 20:1

WISDOT/CADDS SHEET 21



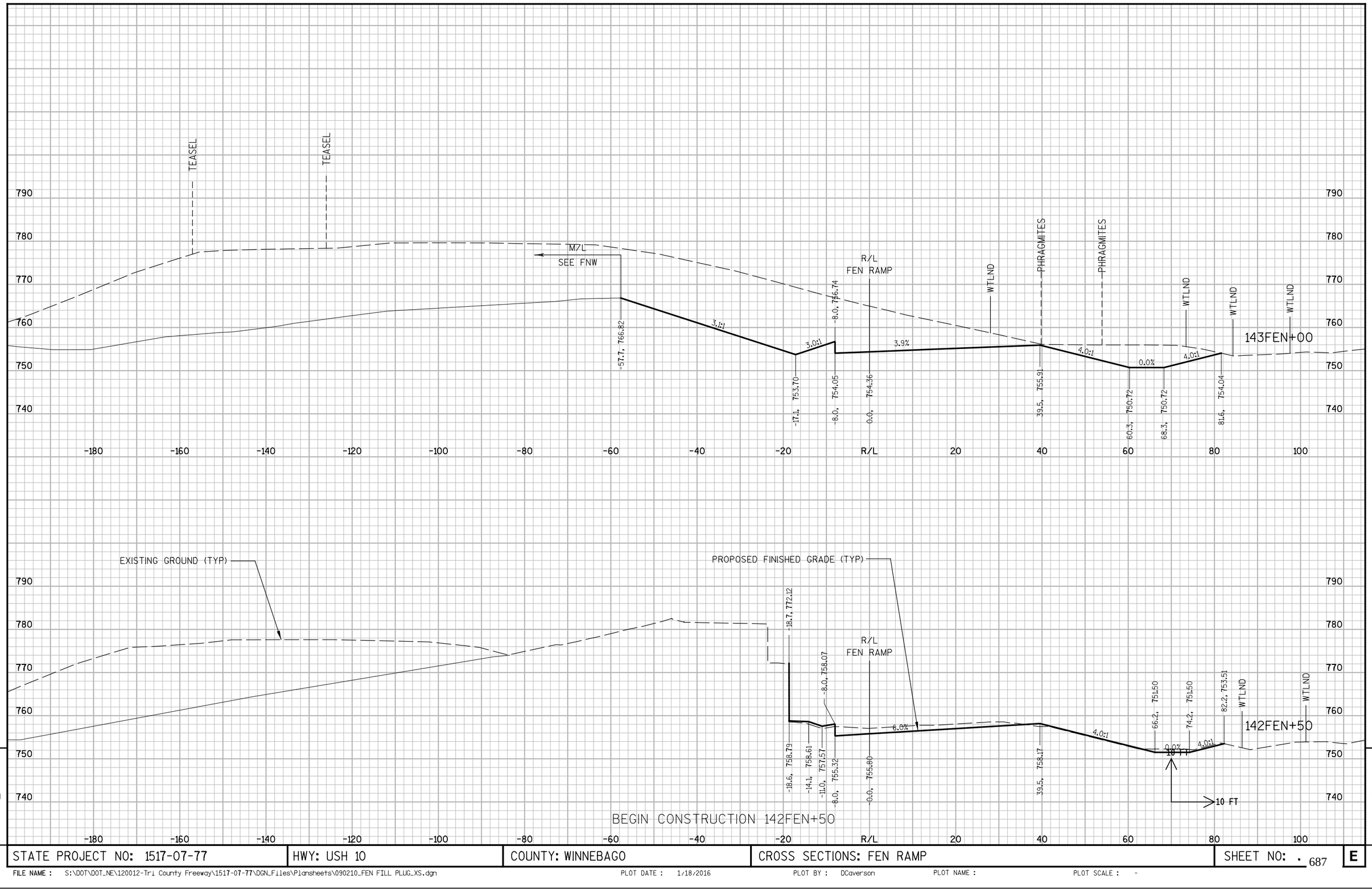

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| PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: USH 10 WB/STH 441 SB | SHEET E |
|---|---|---|---|---|



FILE NAME : I:\56537\1517-07-77\t1\cds\090201_xs_WB.dgn PLOT DATE : 9/24/2015 5:17:03 PM PLOT BY : dbaumann PLOT NAME : PLOT SCALE : 20:1

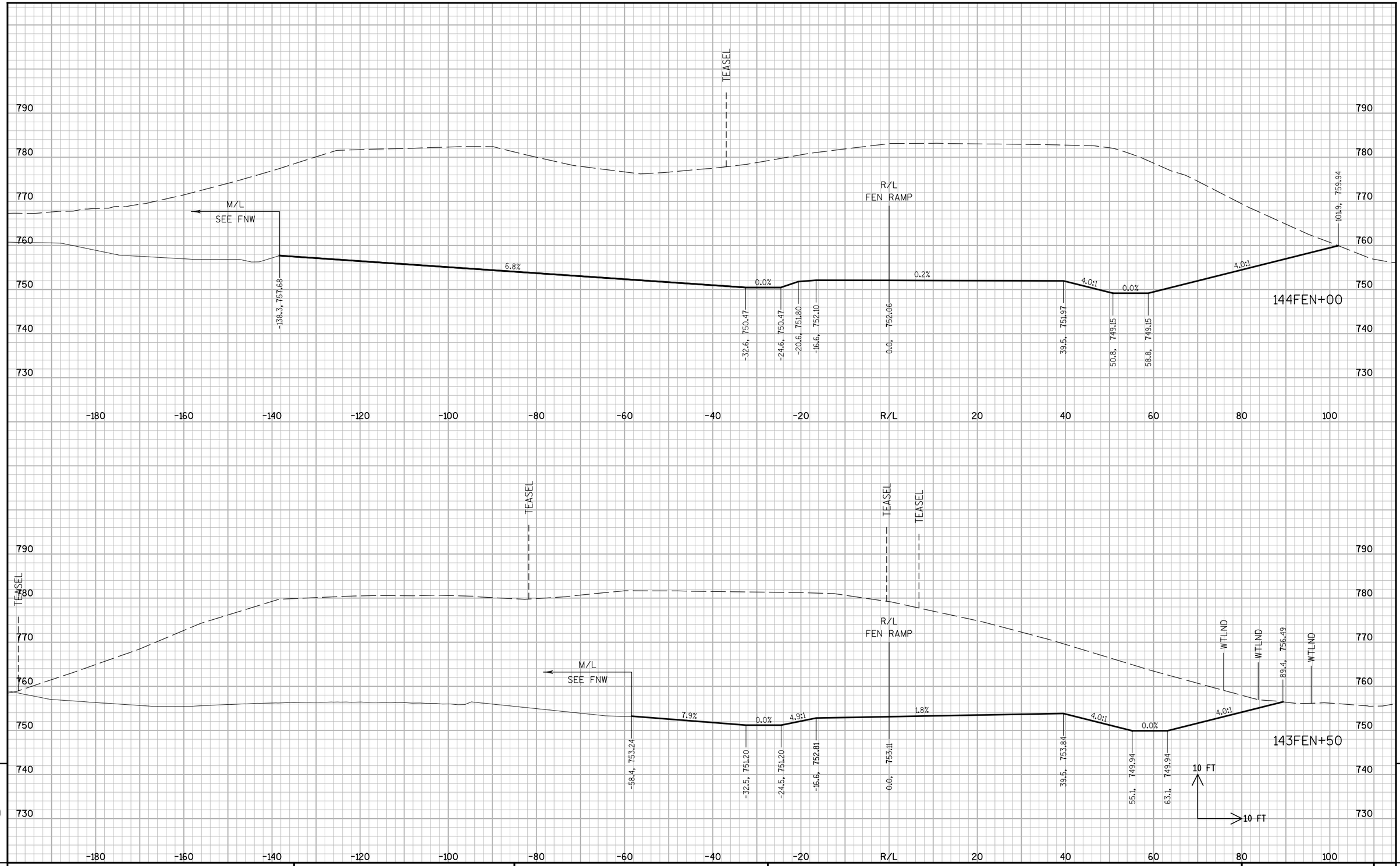



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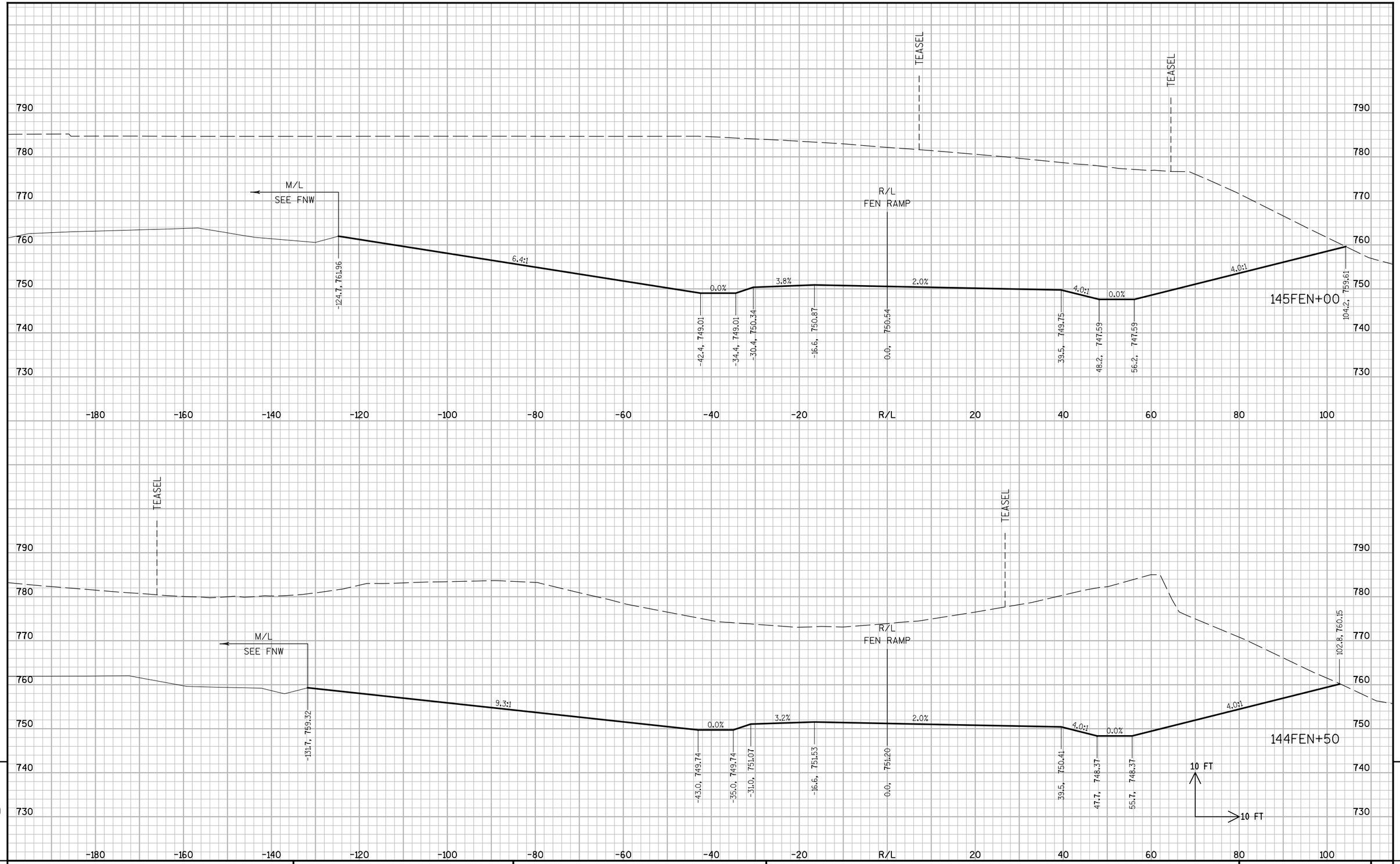
| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: FEN RAMP | SHEET NO: . 687 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\090210_FEN FILL PLUG_XS.dgn PLOT DATE : 1/18/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -




| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: FEN RAMP | SHEET NO: . 688 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\090210_FEN FILL PLUG_XS.dgn PLOT DATE : 1/18/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -

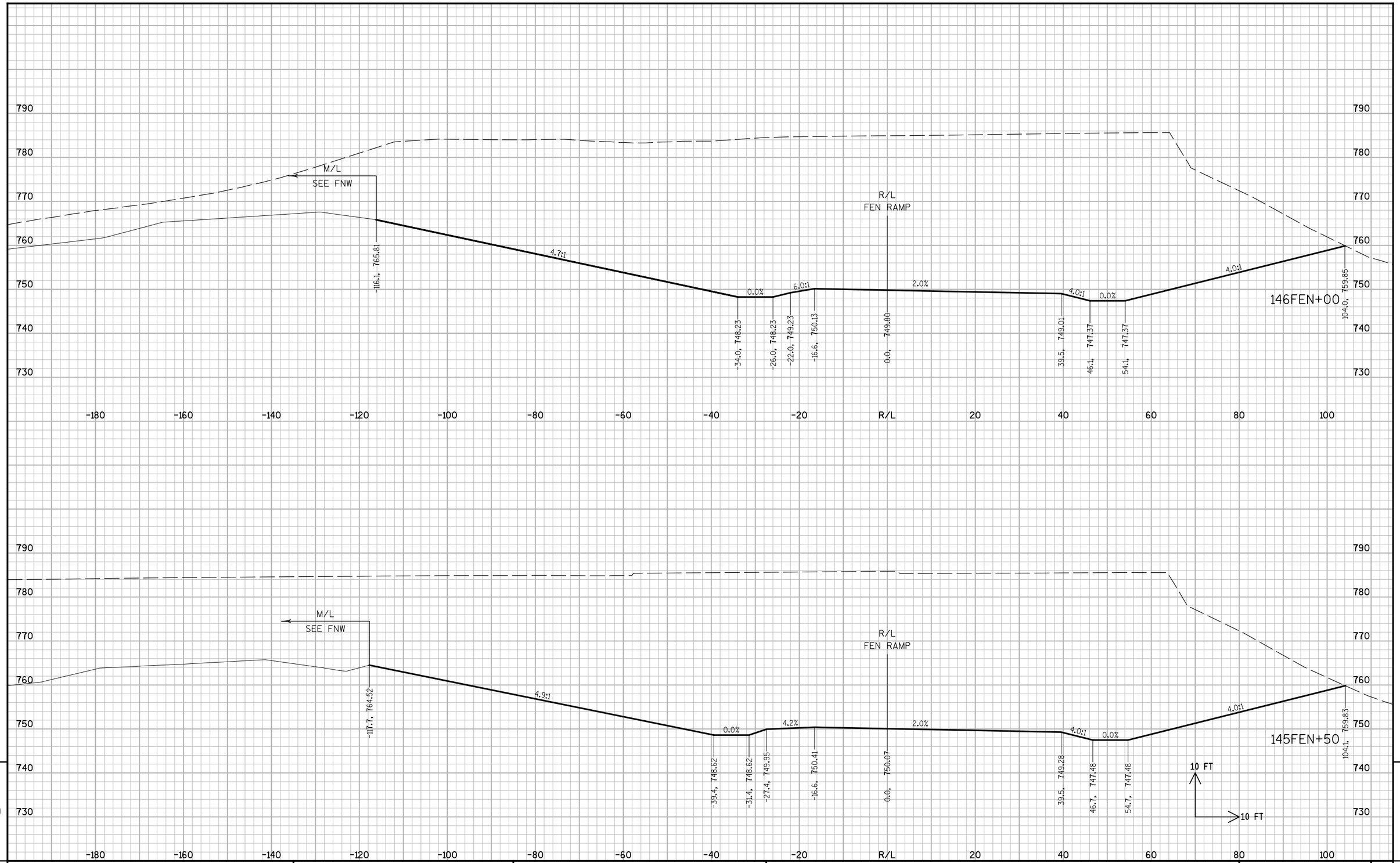



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| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: FEN RAMP | SHEET NO: . 689 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\090210_FEN FILL PLUG_XS.dgn PLOT DATE : 1/18/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -

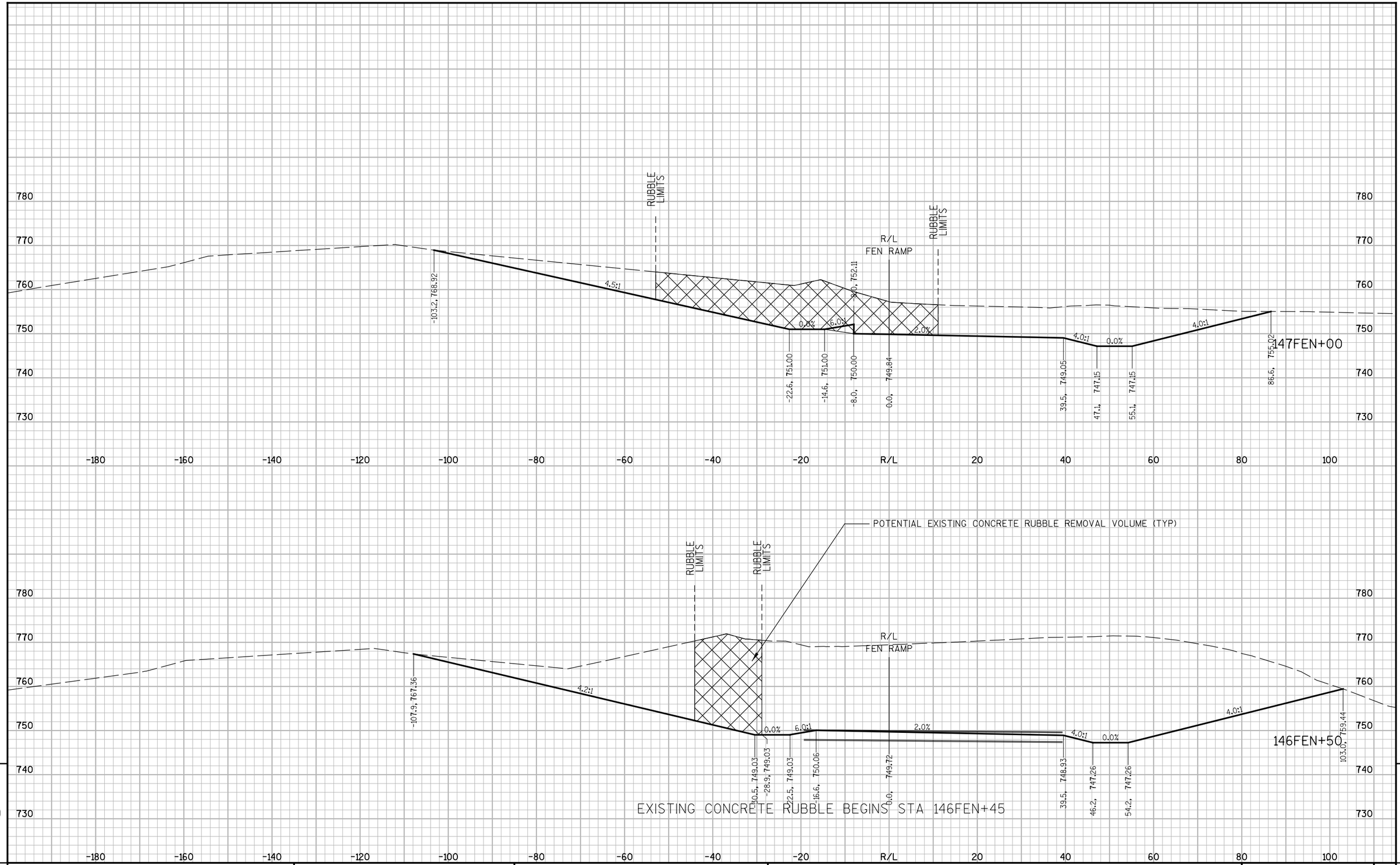



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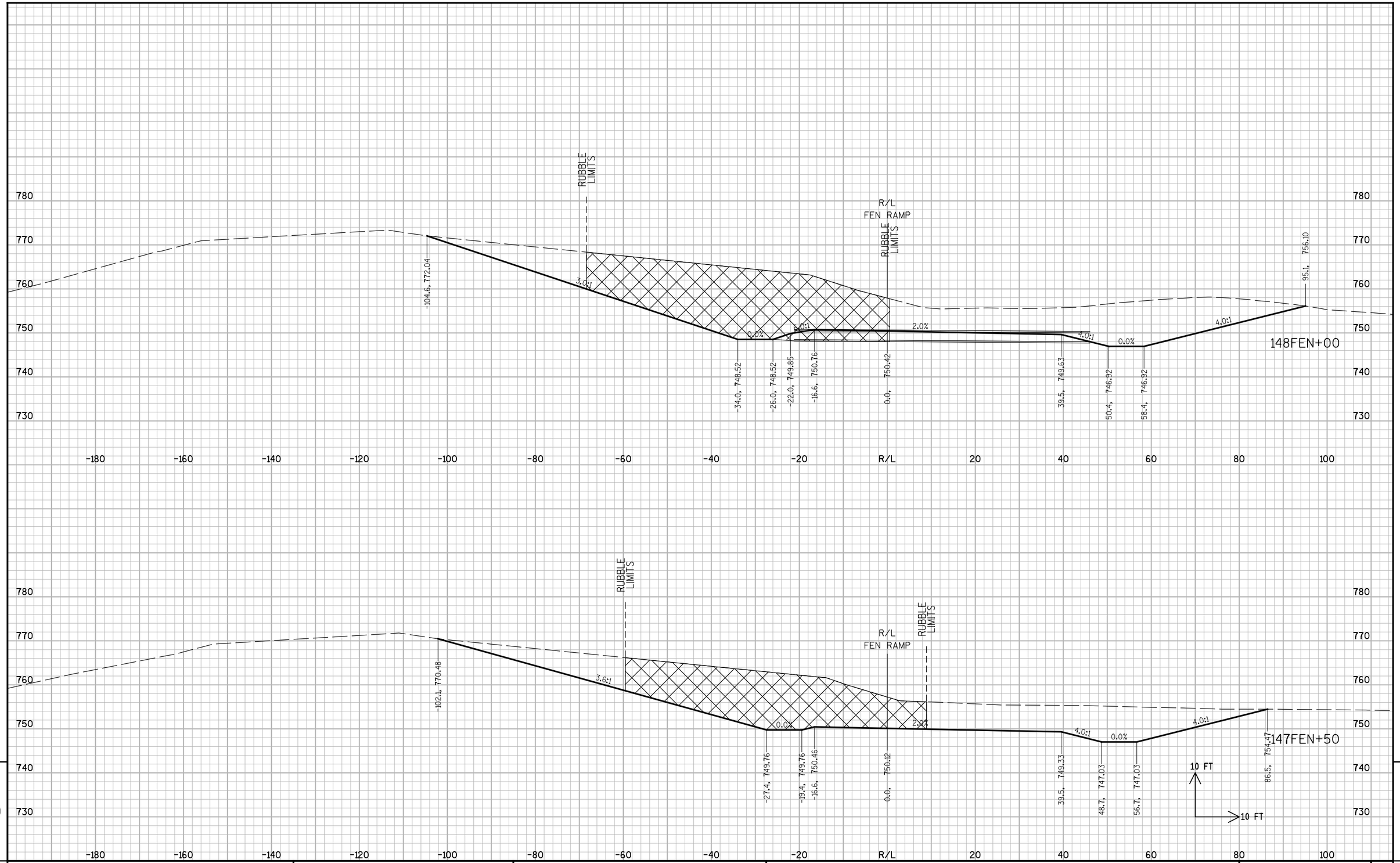
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|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\090210_FEN FILL PLUG_XS.dgn PLOT DATE : 1/18/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -




| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: FEN RAMP | SHEET NO: . 691 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\090210_FEN FILL PLUG_XS.dgn PLOT DATE : 1/18/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -



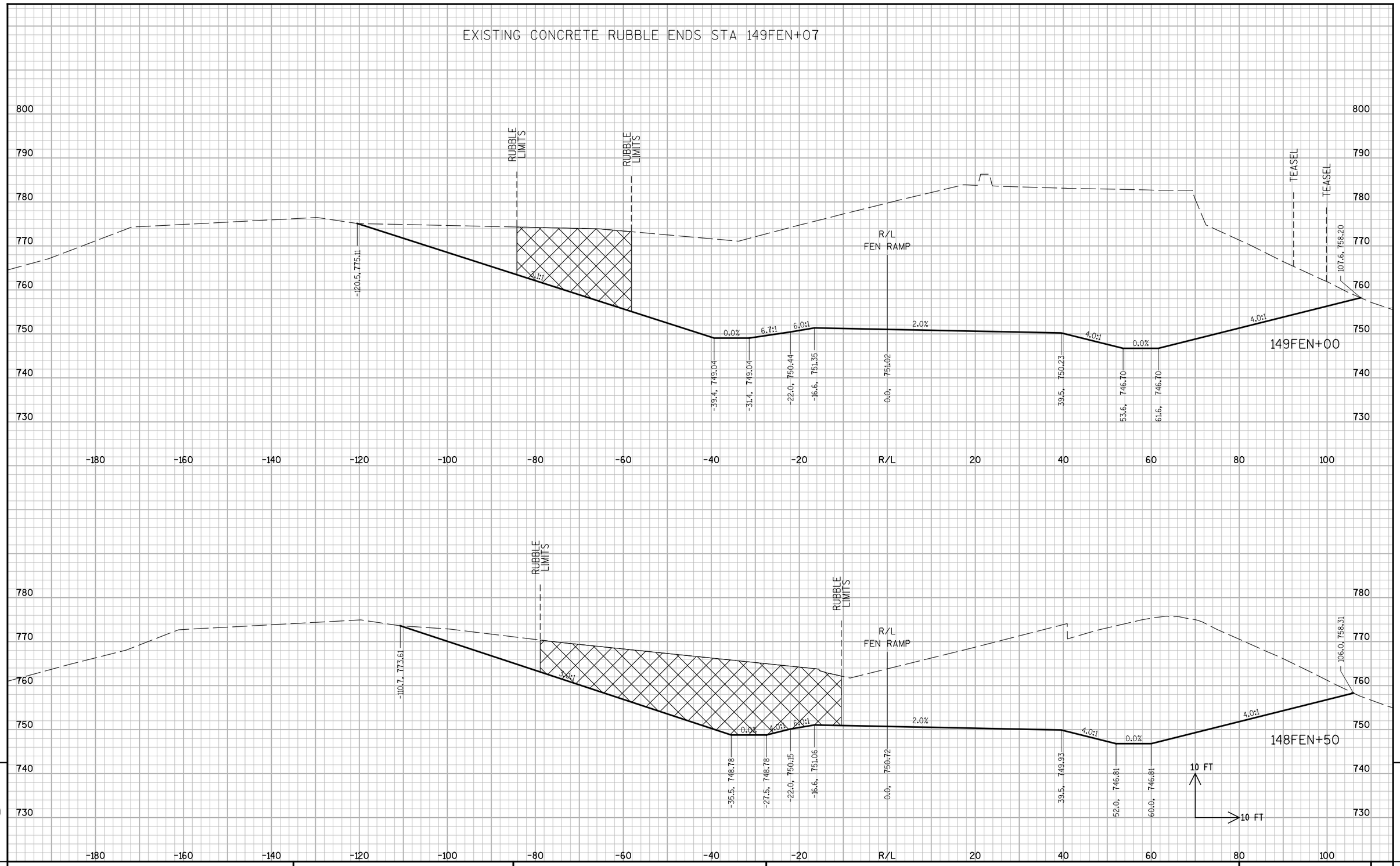

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| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: FEN RAMP | SHEET NO: . 692 | E |
|---|---|---|---|---|---|

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\090210_FEN FILL PLUG_XS.dgn PLOT DATE : 1/18/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -

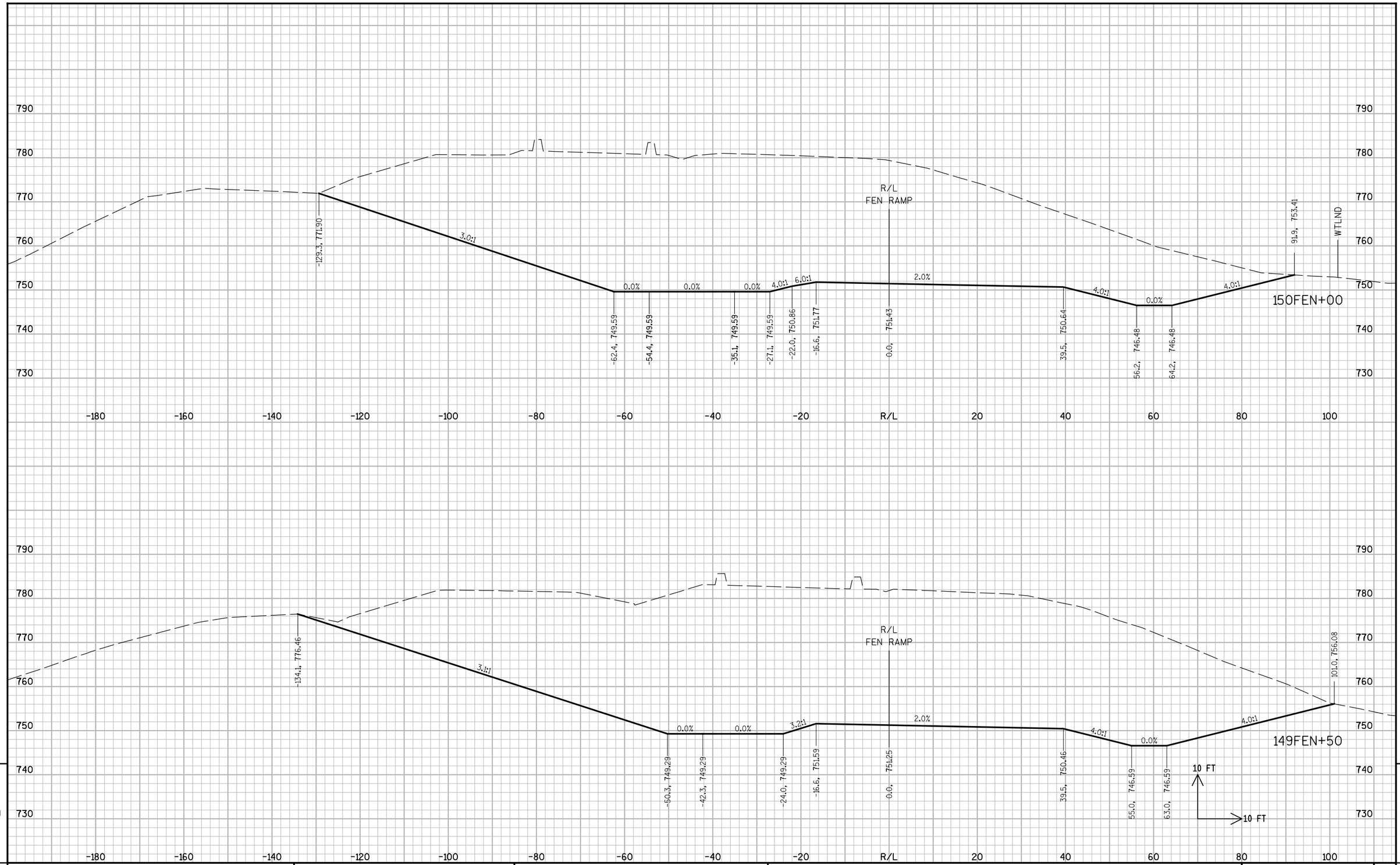
## EXISTING CONCRETE RUBBLE ENDS STA 149FEN+07




| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: FEN RAMP | SHEET NO: . 693 | E |
|---|---|---|---|---|---|

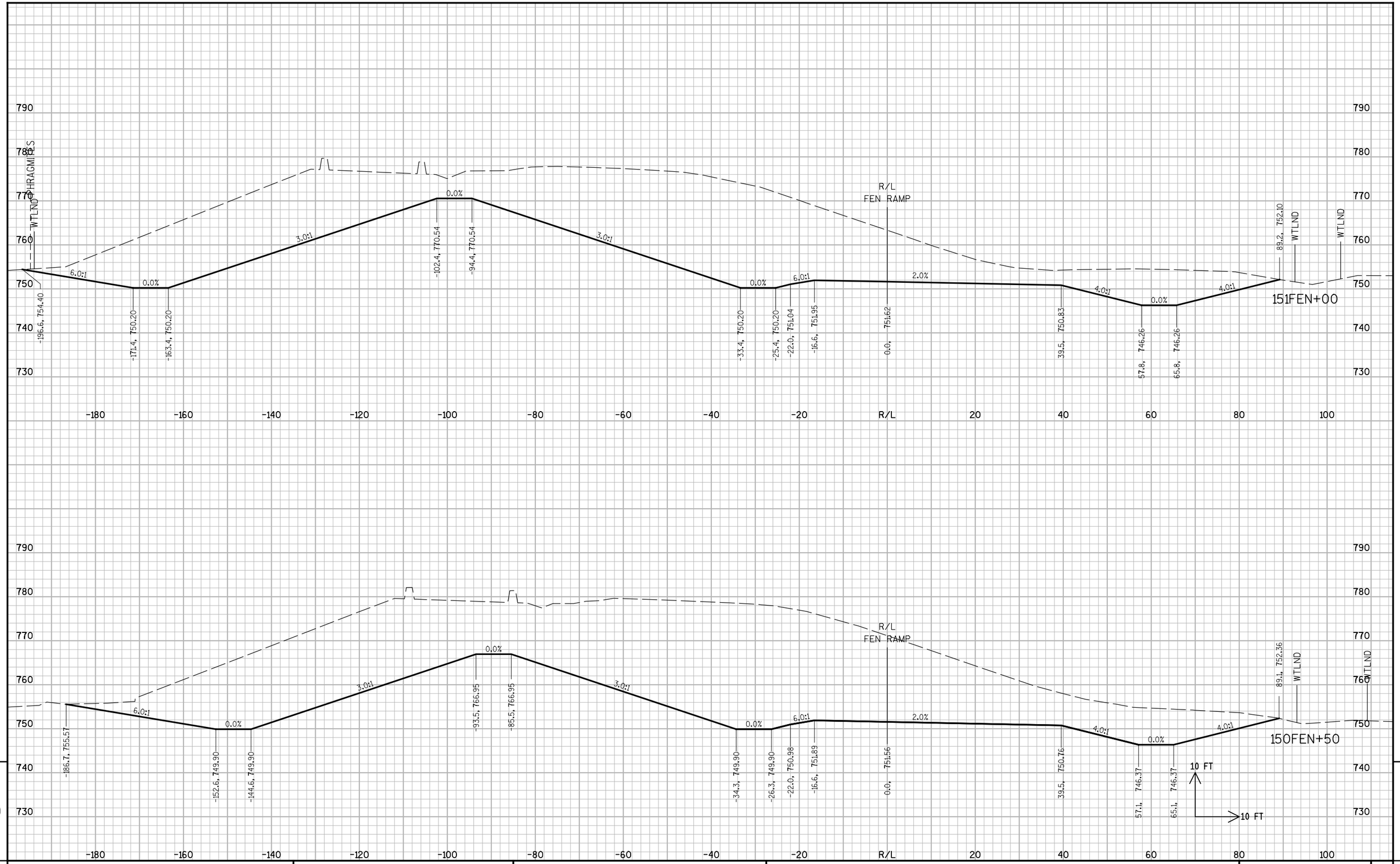


FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\090210_FEN FILL PLUG_XS.dgn PLOT DATE : 1/18/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -




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| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: FEN RAMP | SHEET NO: . 694 E |

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\090210_FEN FILL PLUG_XS.dgn PLOT DATE : 1/18/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -

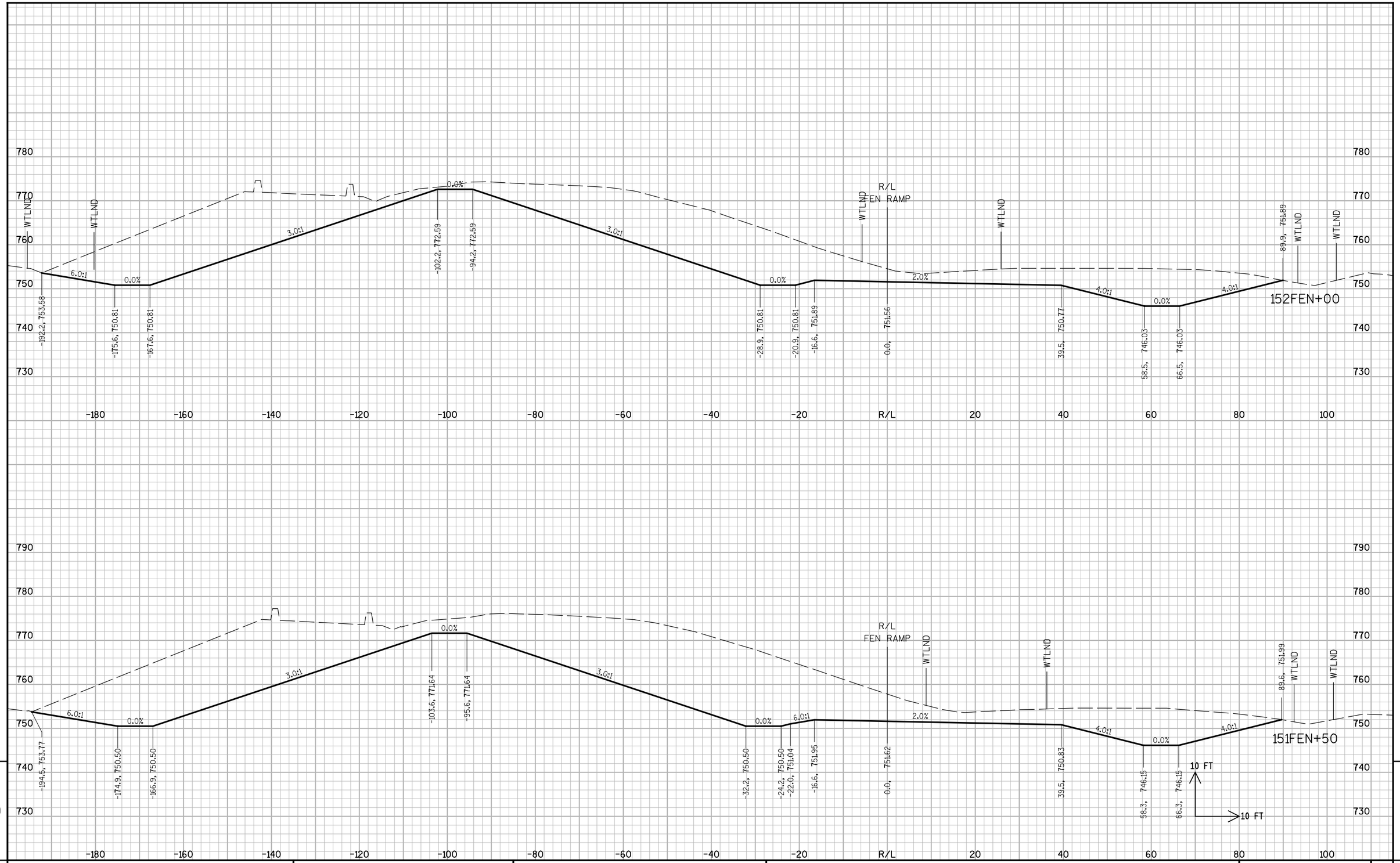



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| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: FEN RAMP | SHEET NO: . 695 | E |
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FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\090210_FEN FILL PLUG_XS.dgn PLOT DATE : 1/18/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -



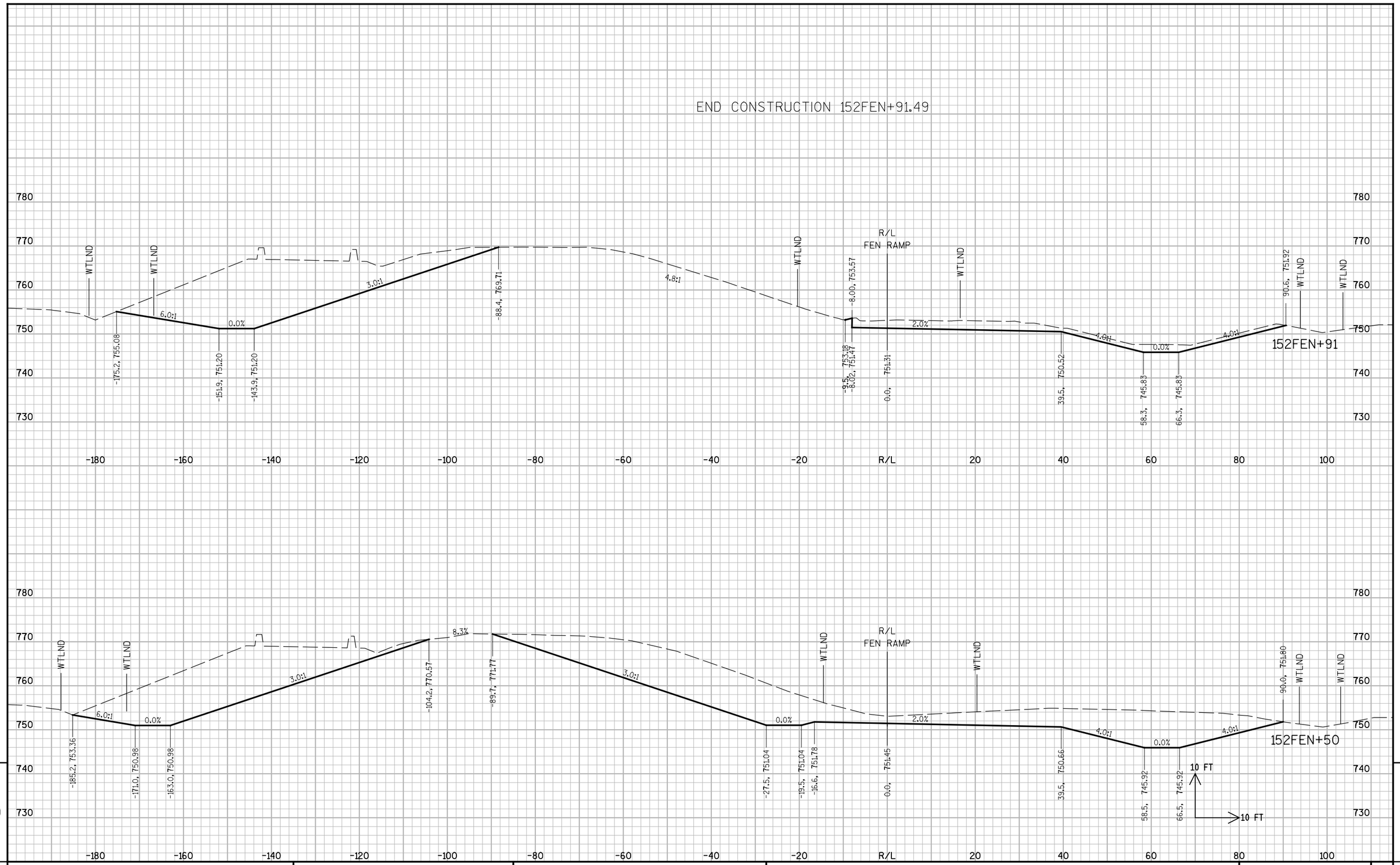

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| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: FEN RAMP | SHEET NO: . 696 | E |
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FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\090210_FEN FILL PLUG_XS.dgn PLOT DATE : 1/18/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -

END CONSTRUCTION 152FEN+91.49





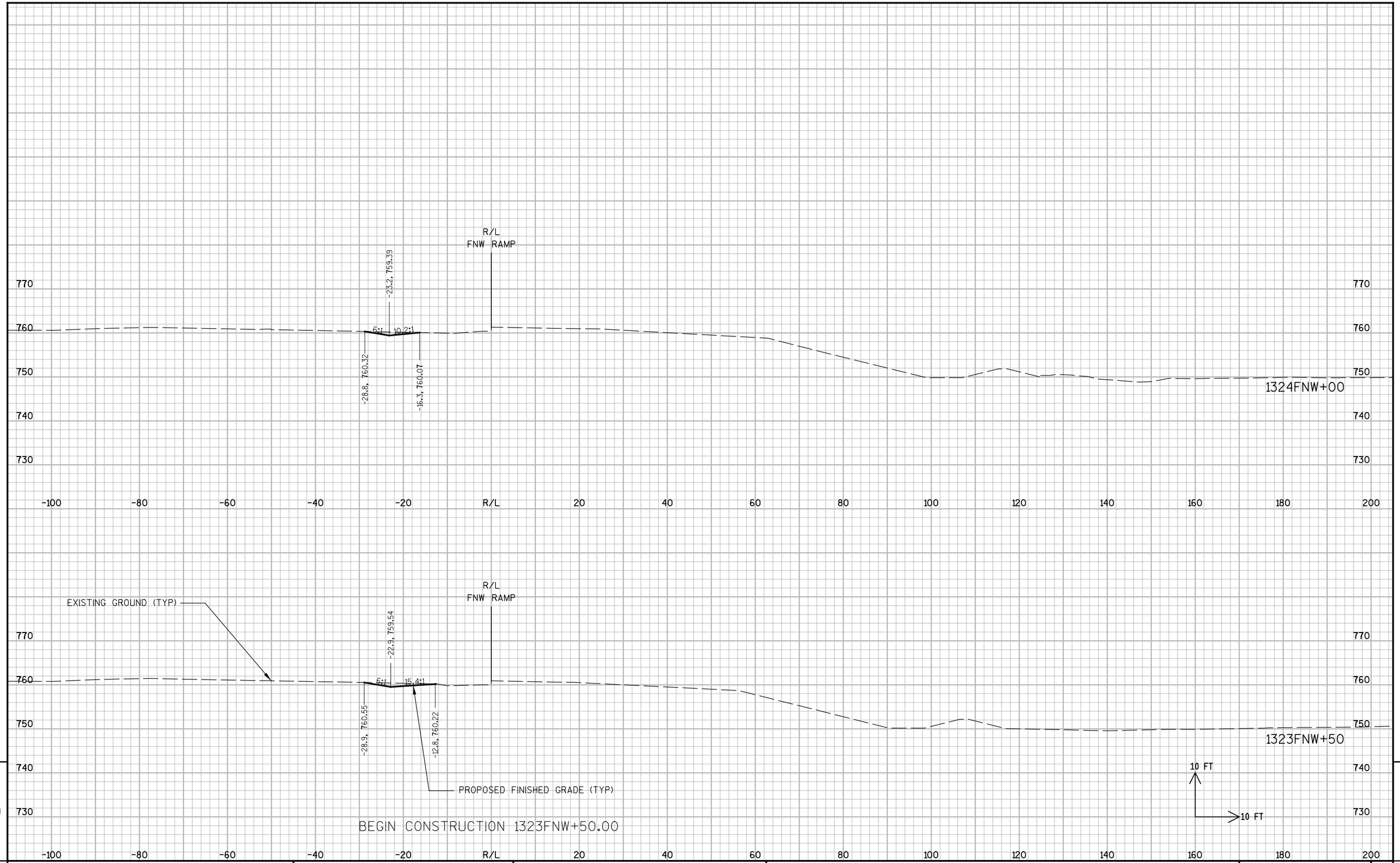


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| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: FEN RAMP | SHEET NO: . 697 | E |
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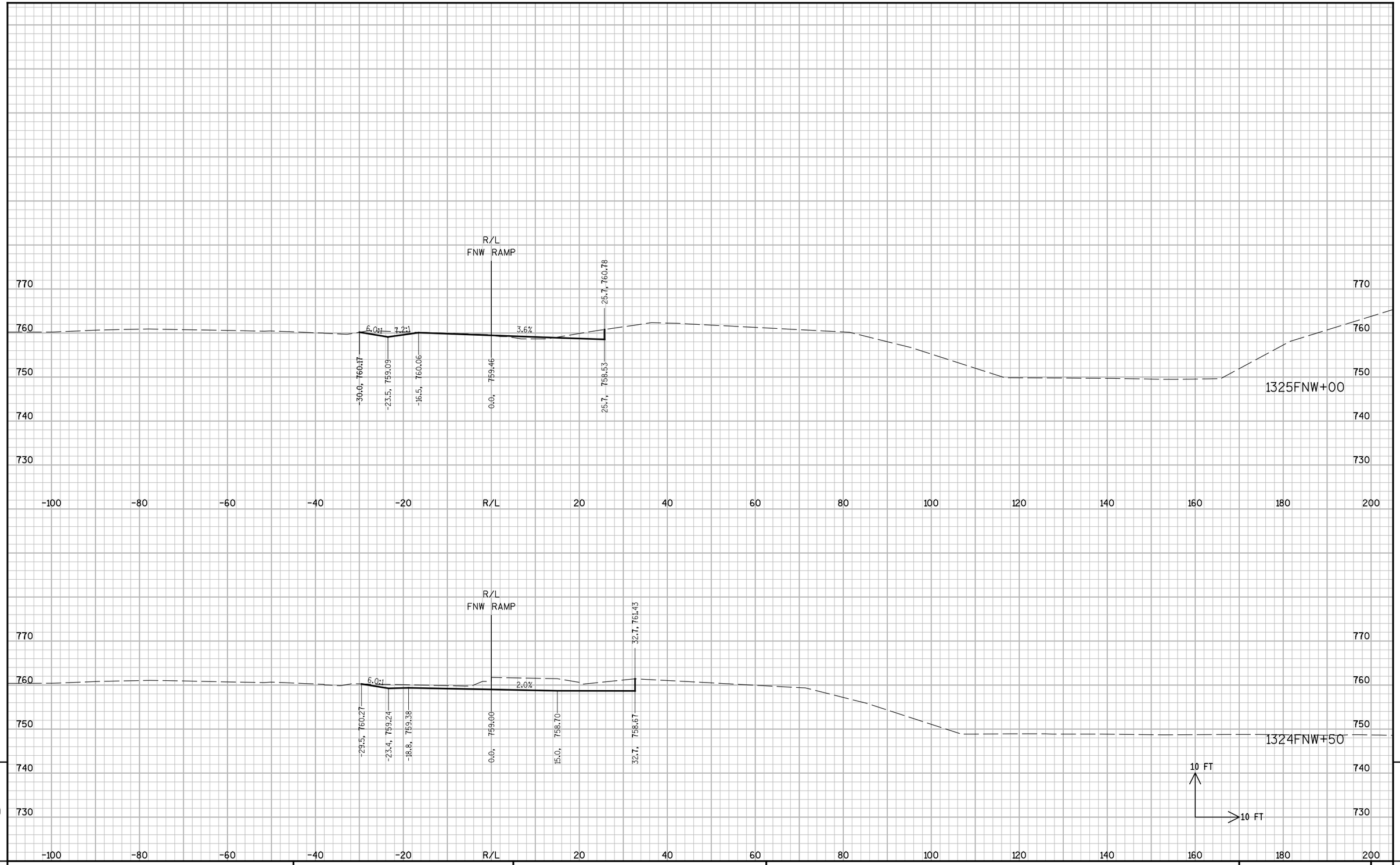



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| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: FNW RAMP | SHEET NO: . 698 | E |
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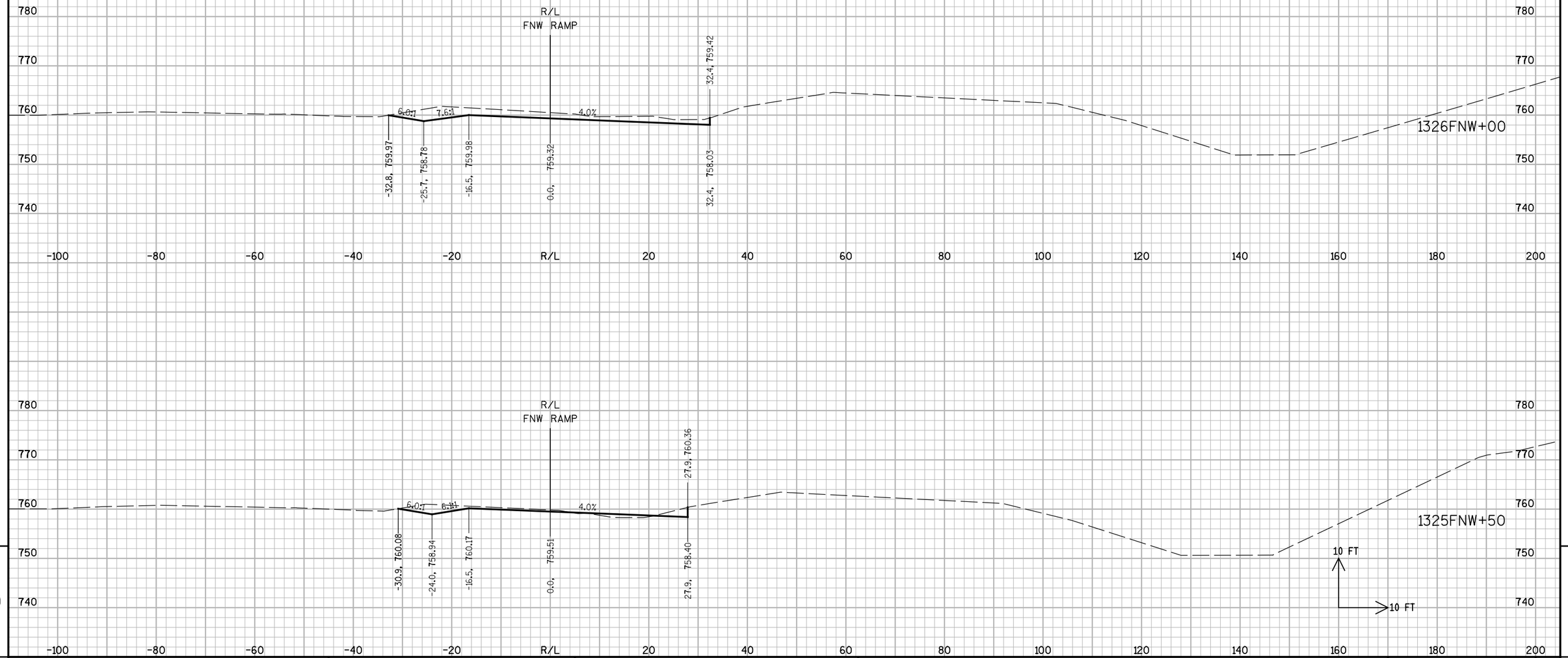



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| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: FNW RAMP | SHEET NO: . 699 | E |
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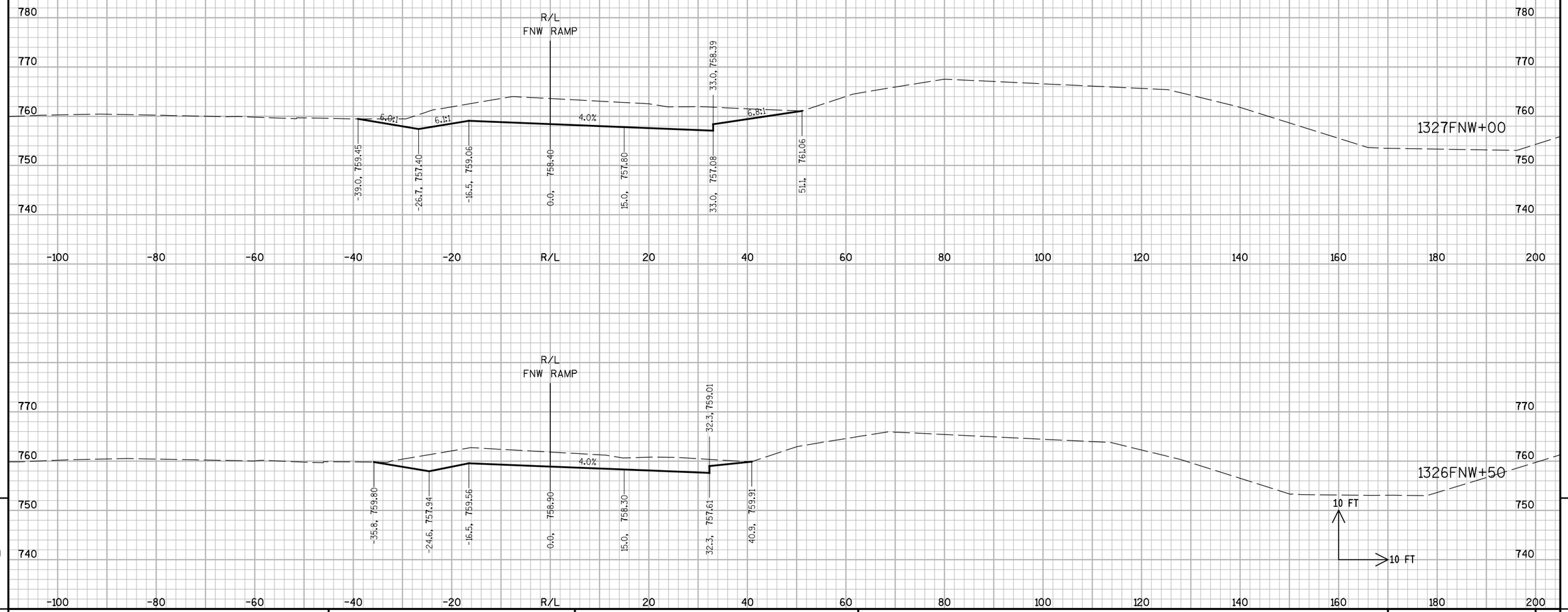



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| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: FNW RAMP | SHEET NO: . 700 | E |
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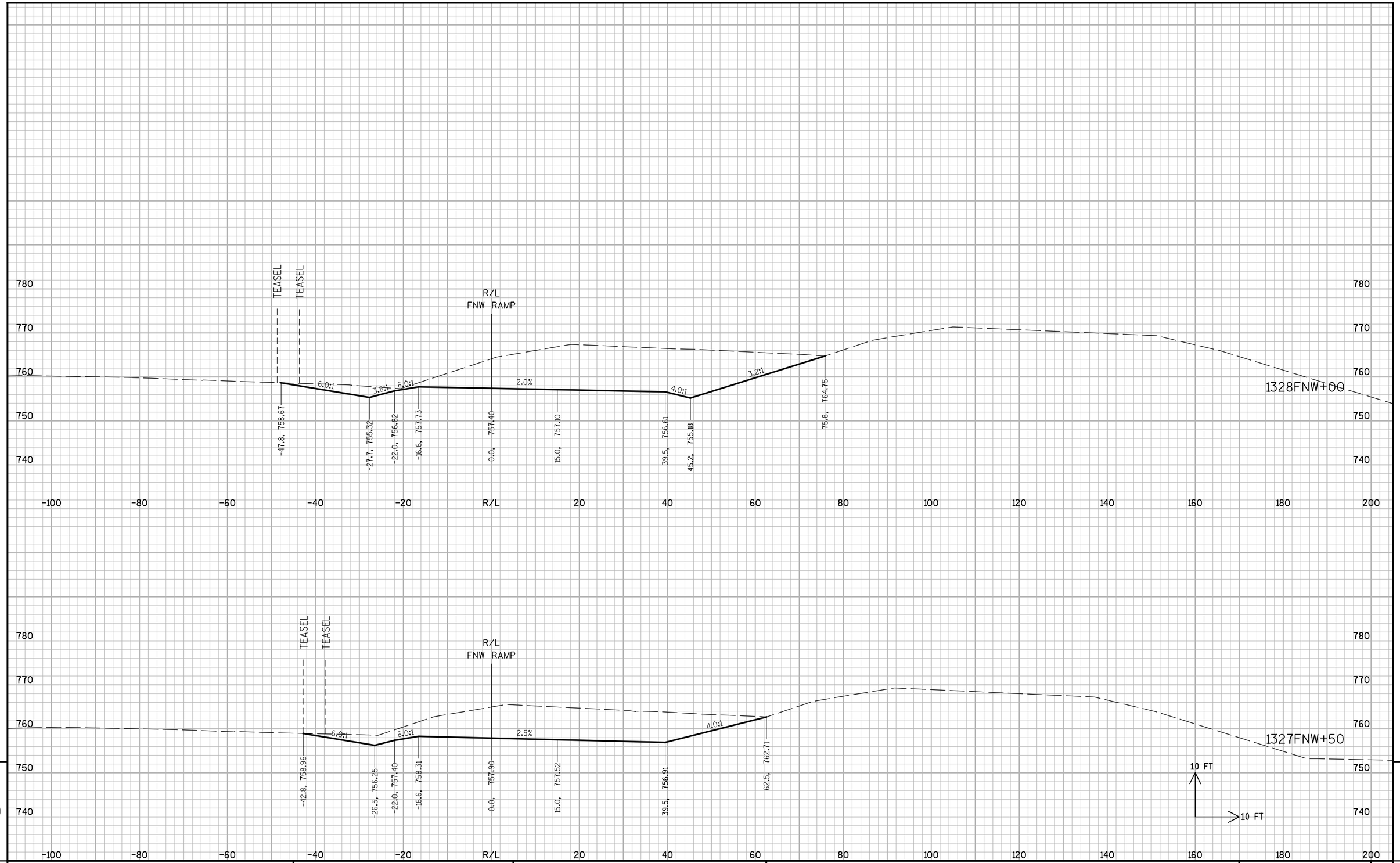



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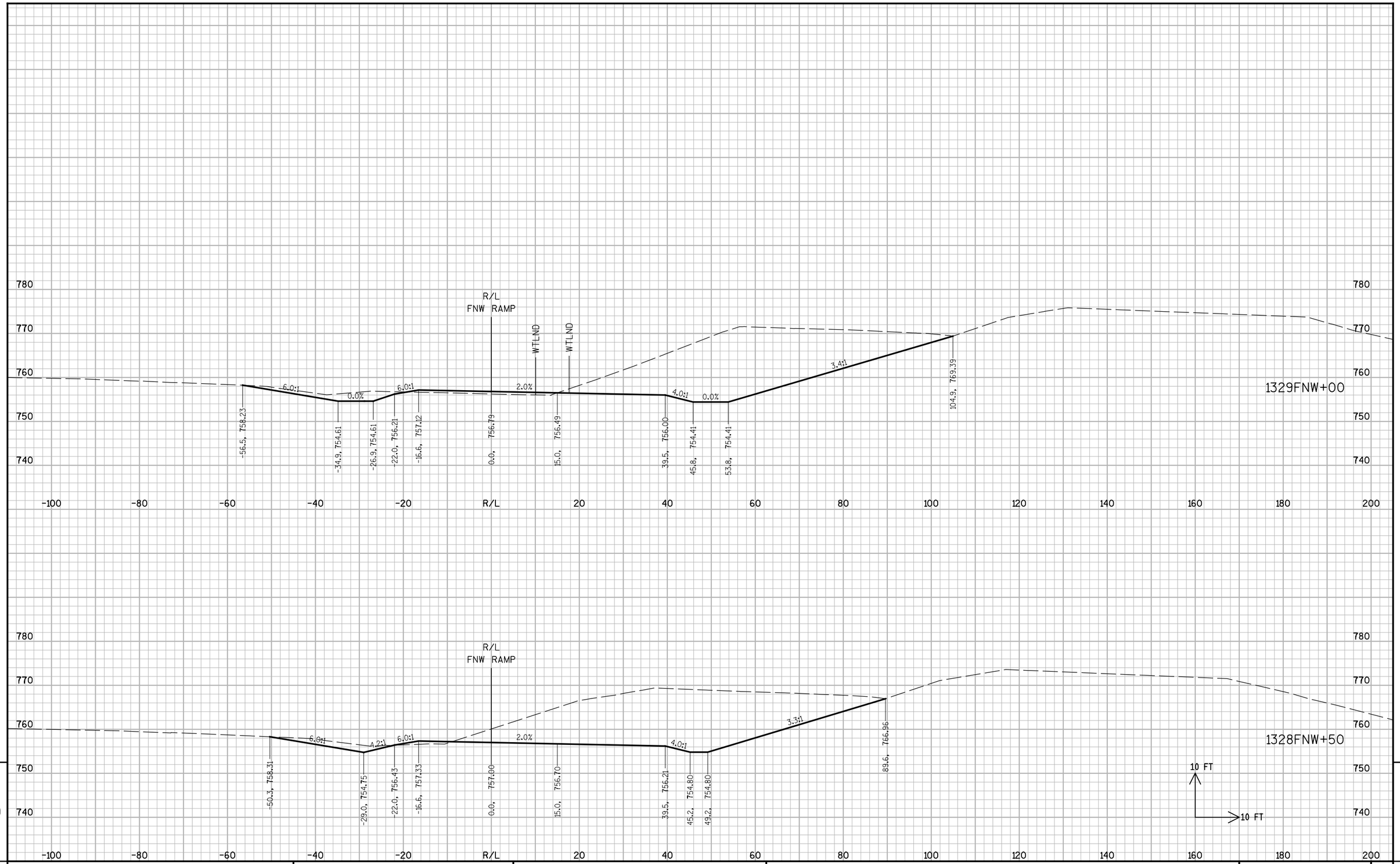
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| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: FNW RAMP | SHEET NO: . 702 | E |
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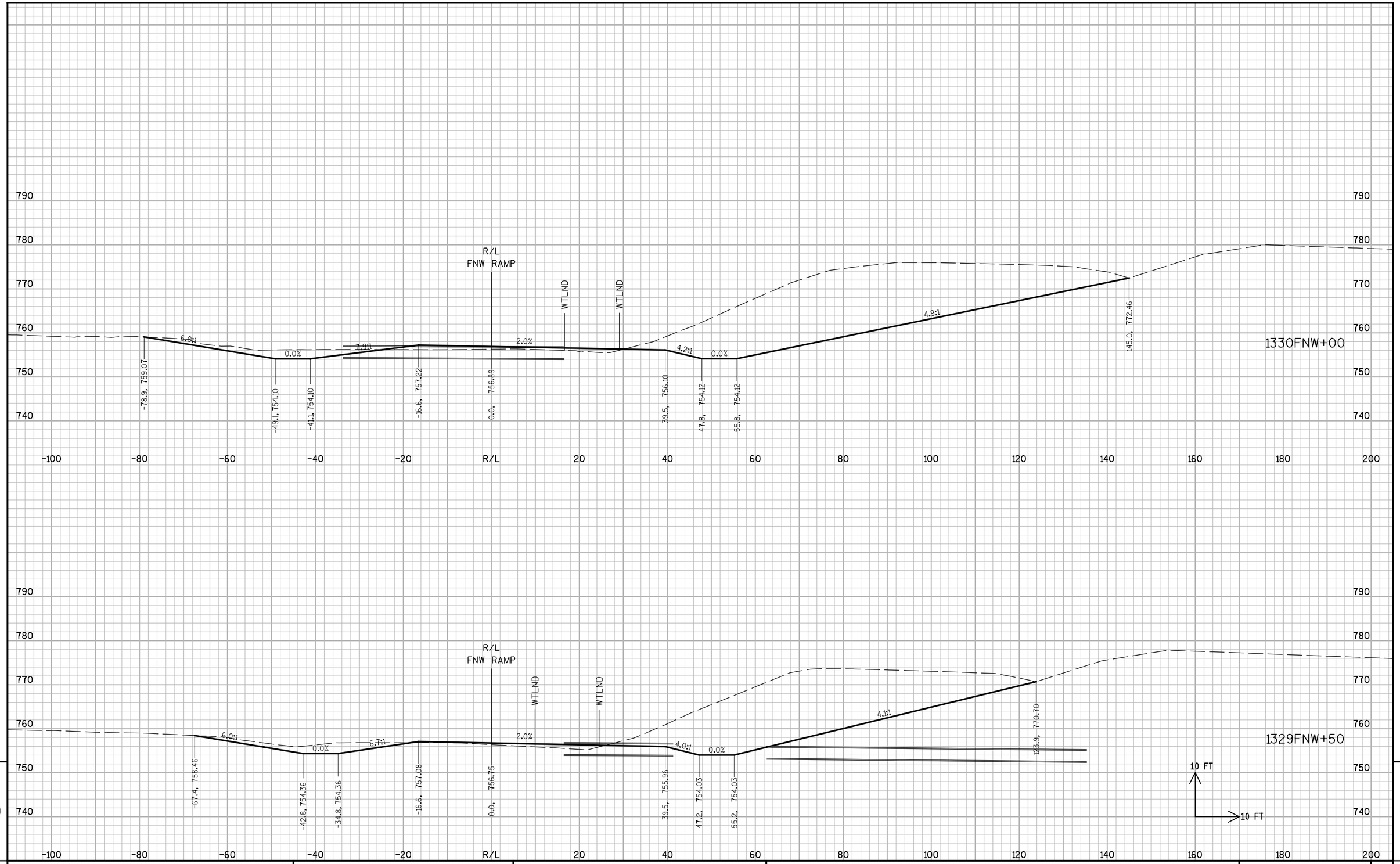



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| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: FNW RAMP | SHEET NO: . 703 E |

FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\090211_FNW FILL PLUG_XS.dgn PLOT DATE : 1/18/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -

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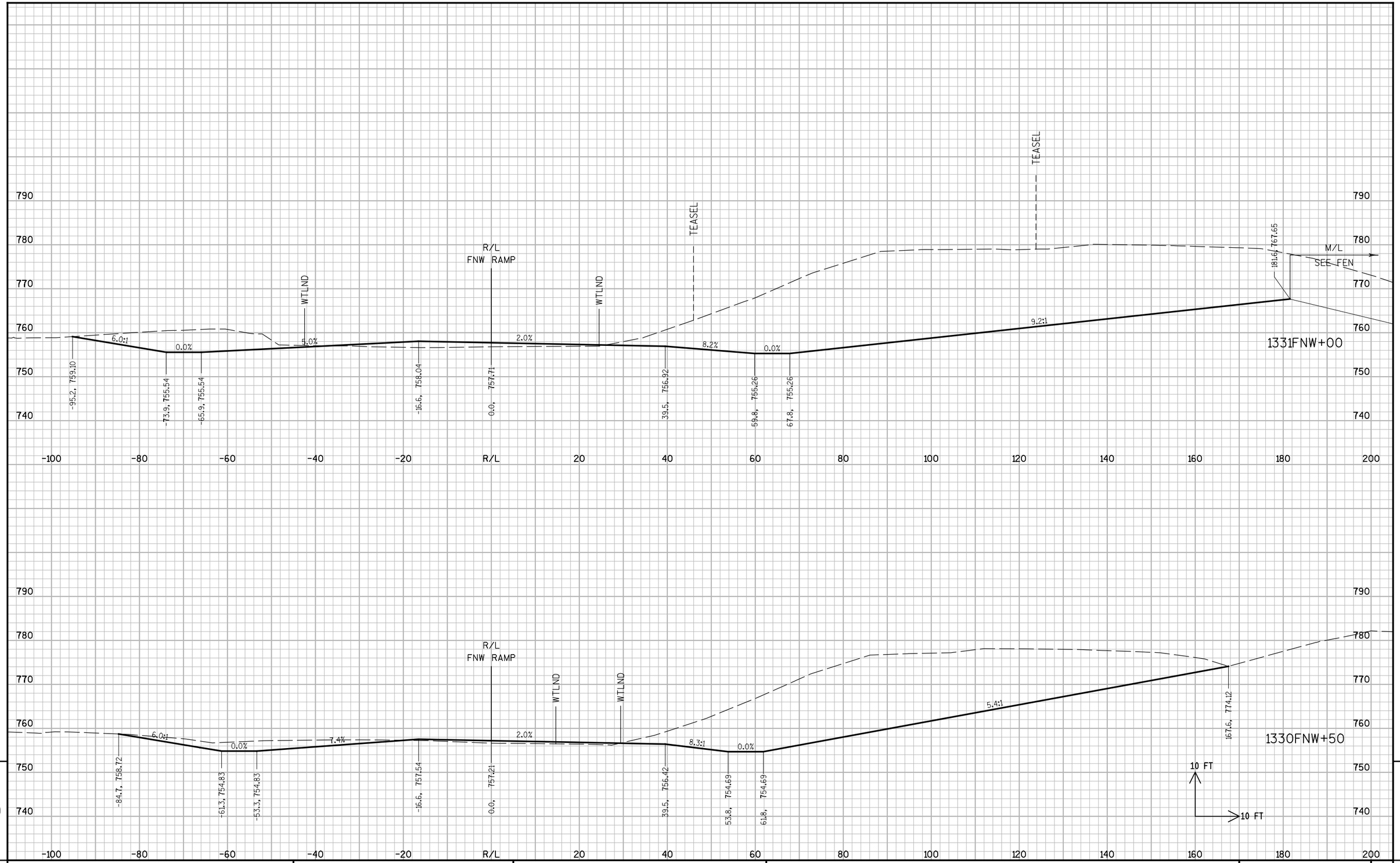



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| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: FNW RAMP | SHEET NO: . 704 | E |
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FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\090211_FNW FILL PLUG_XS.dgn PLOT DATE : 1/18/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -

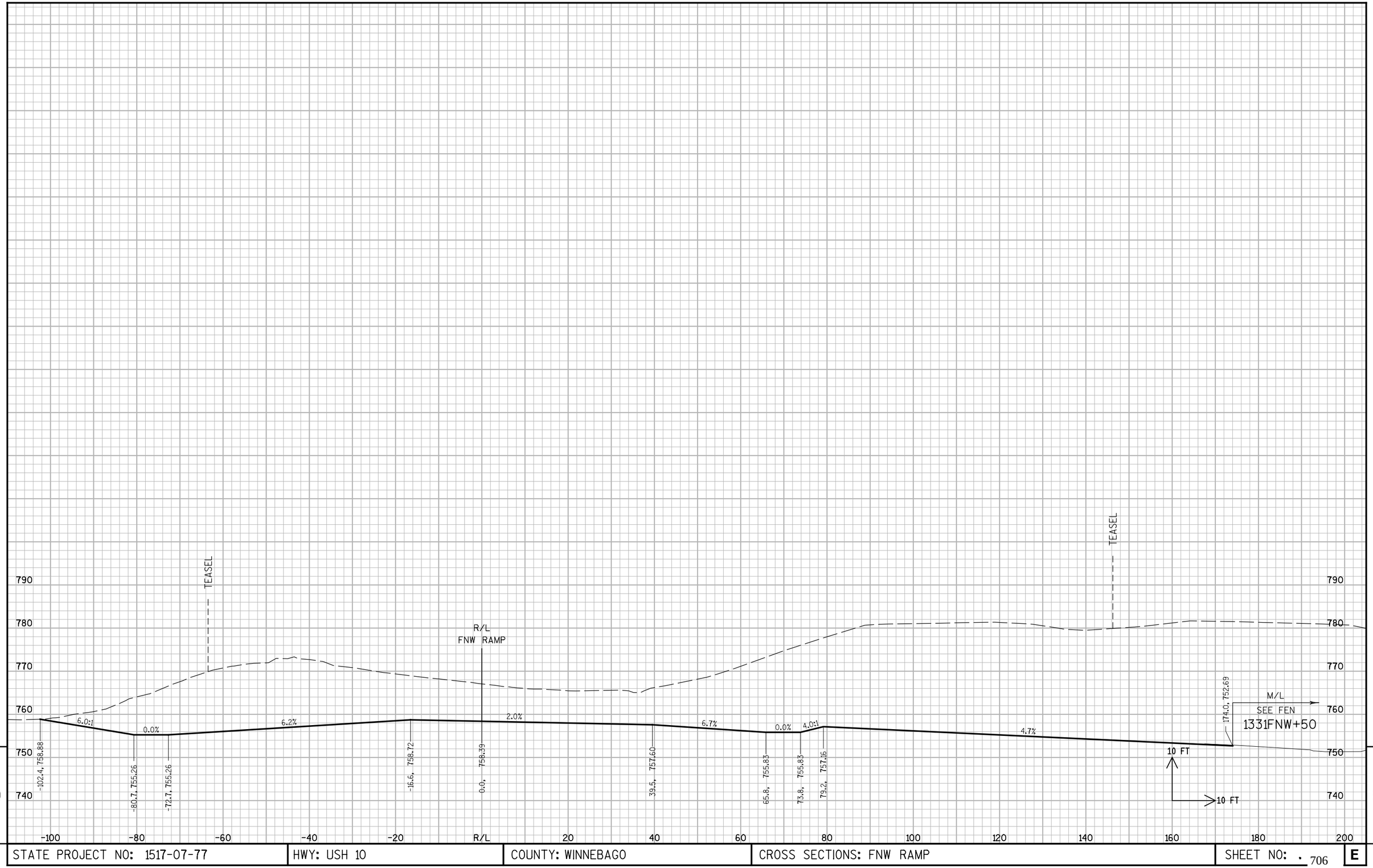



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| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: FNW RAMP | SHEET NO: . 705 | E |
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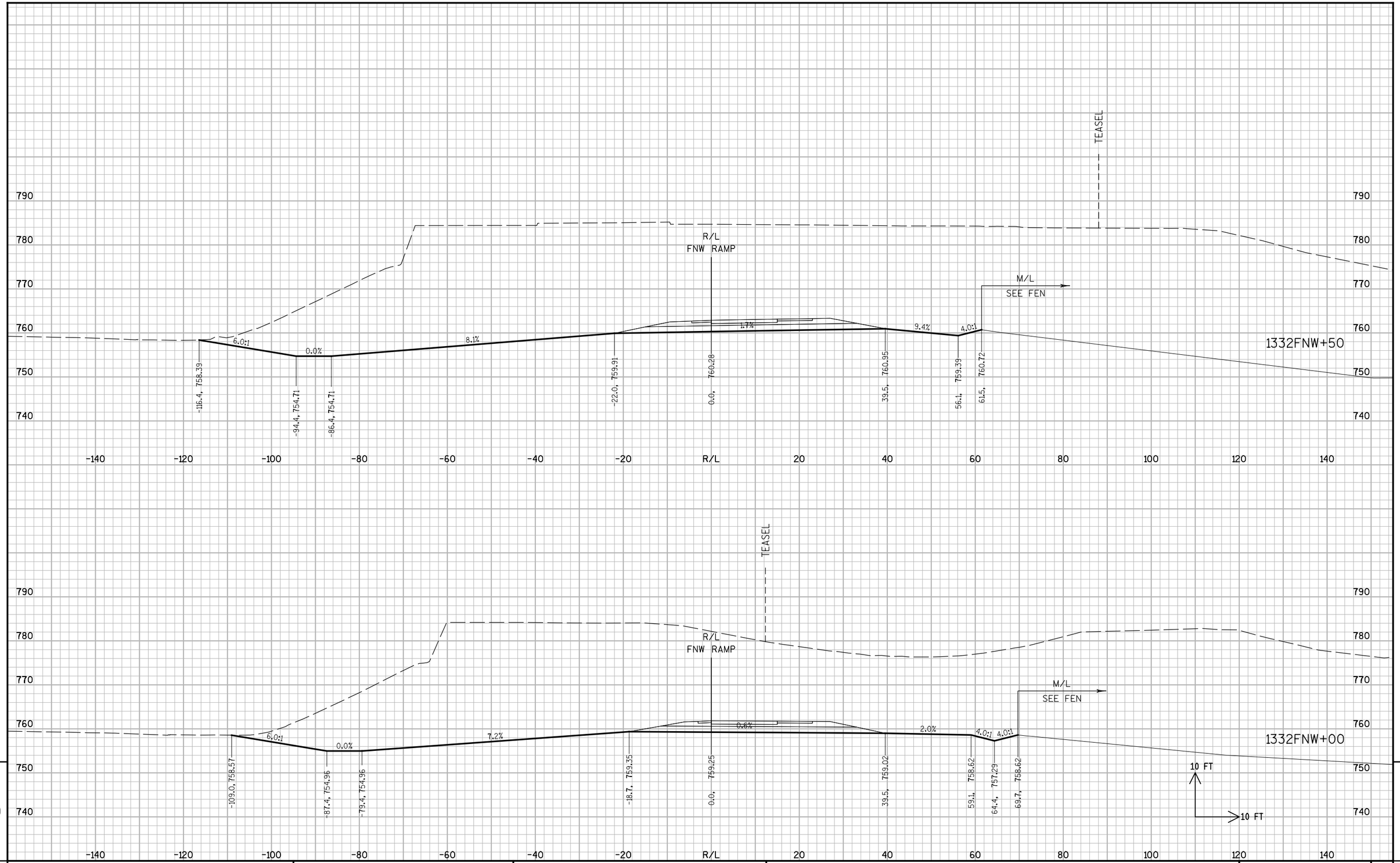
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| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: FNW RAMP | SHEET NO: . 706 | E |
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FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\090211_FNW FILL PLUG_XS.dgn PLOT DATE : 1/18/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -

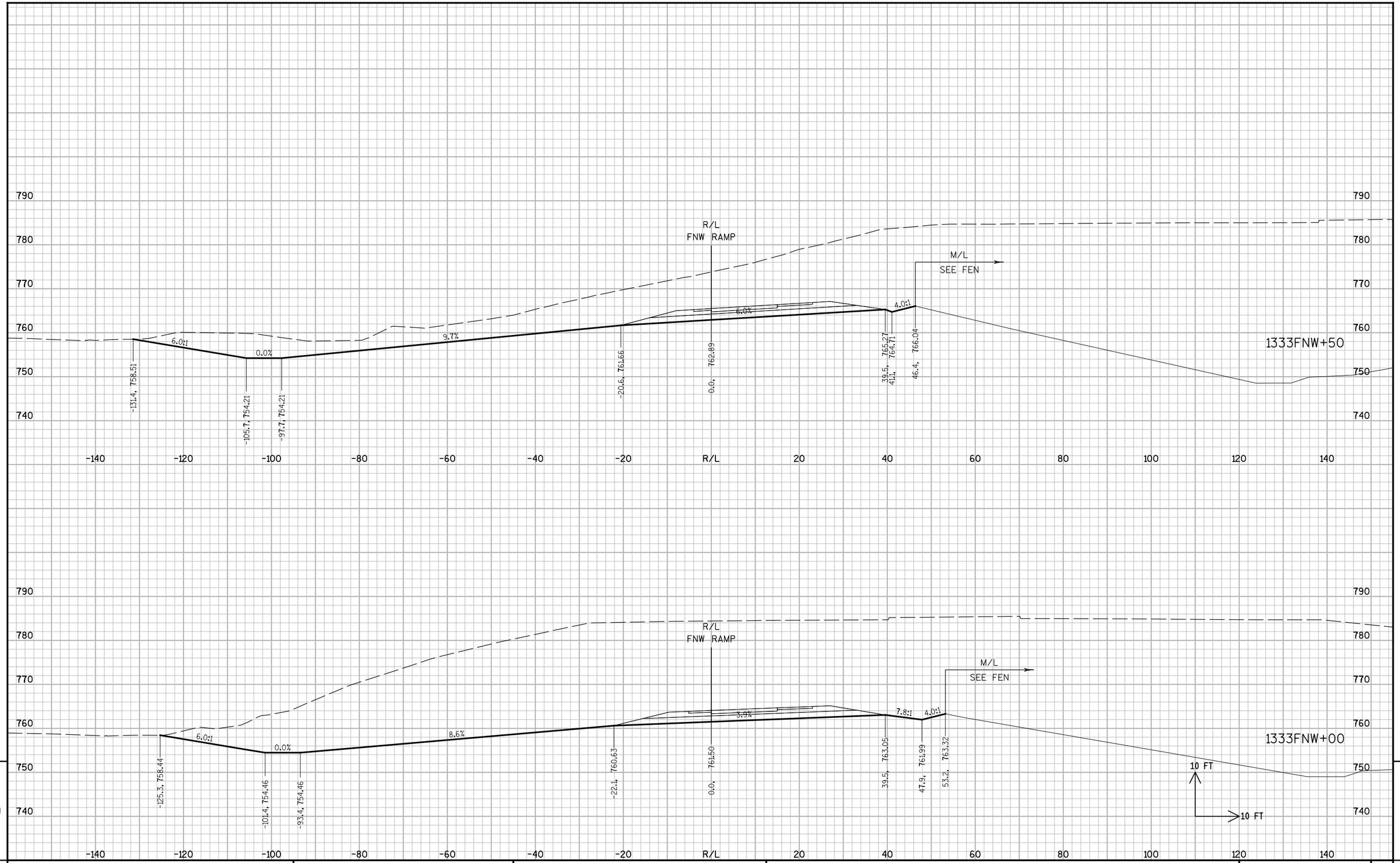



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| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: FNW RAMP | SHEET NO: . 707 | E |
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FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\090211_FNW FILL PLUG_XS.dgn PLOT DATE : 1/18/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -

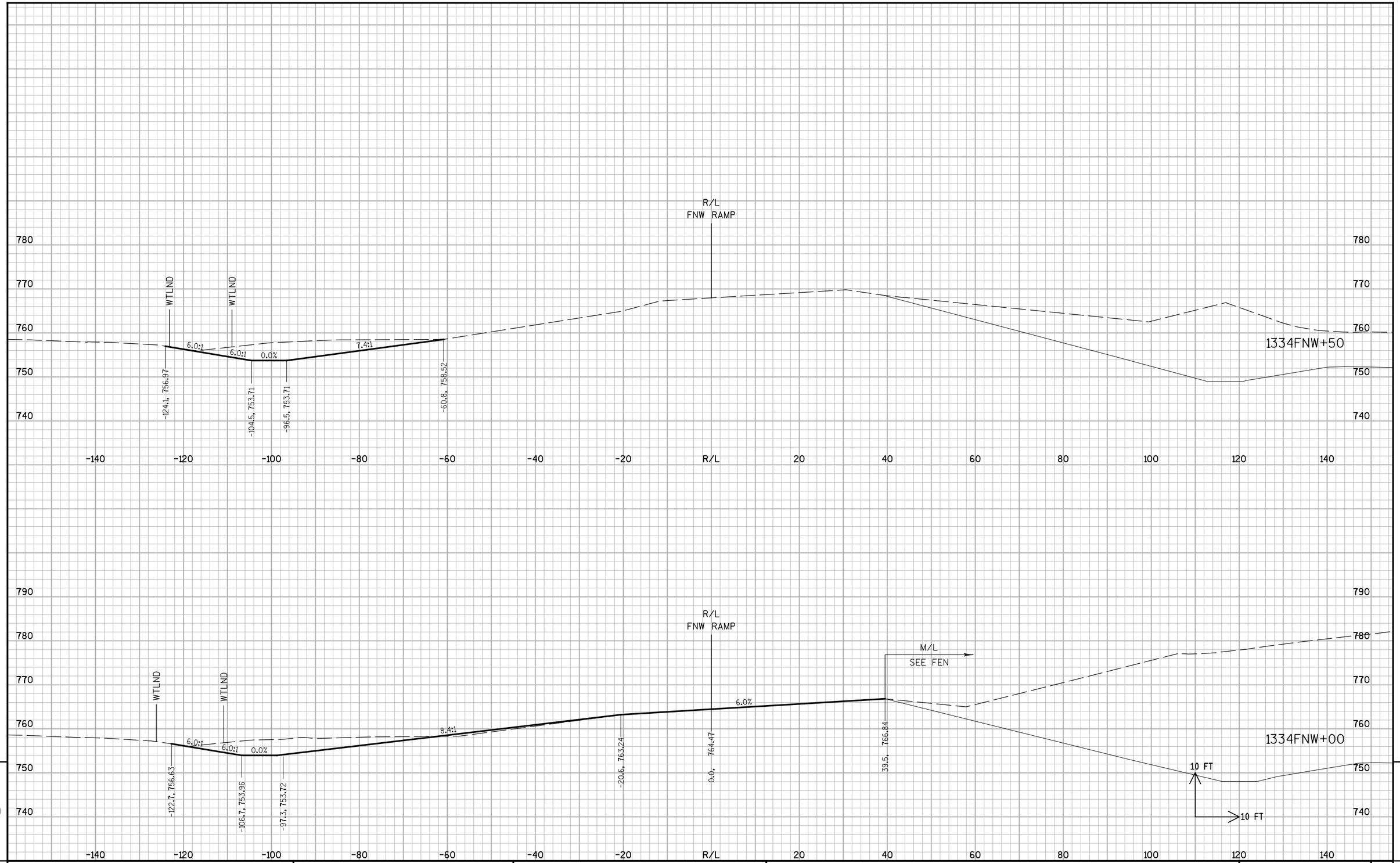



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| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: FNW RAMP | SHEET NO: . 708 | E |
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FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\090211_FNW FILL PLUG_XS.dgn PLOT DATE : 1/18/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -

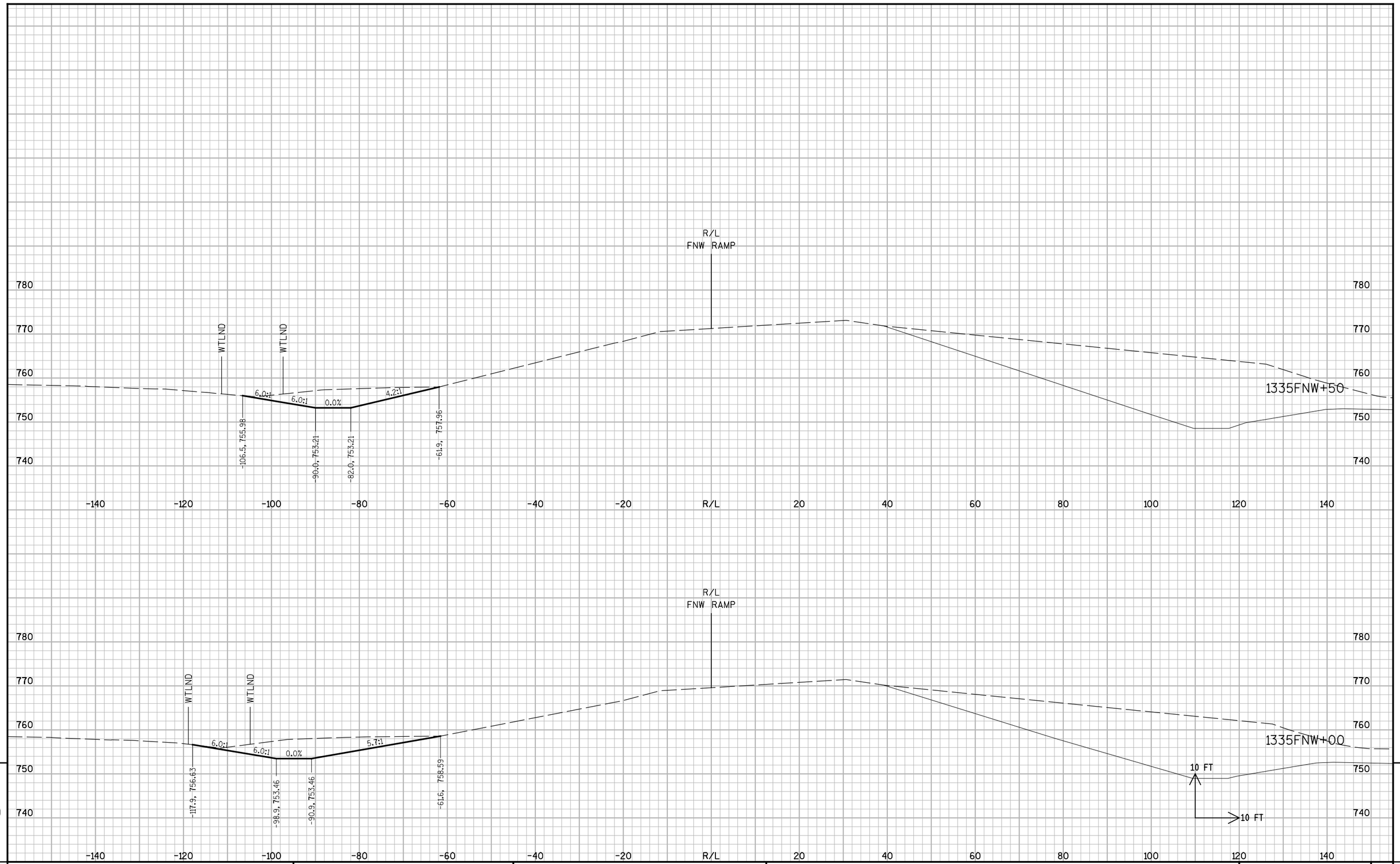



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| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: FNW RAMP | SHEET NO: . 709 | E |
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FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\090211_FNW FILL PLUG_XS.dgn PLOT DATE : 1/18/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -

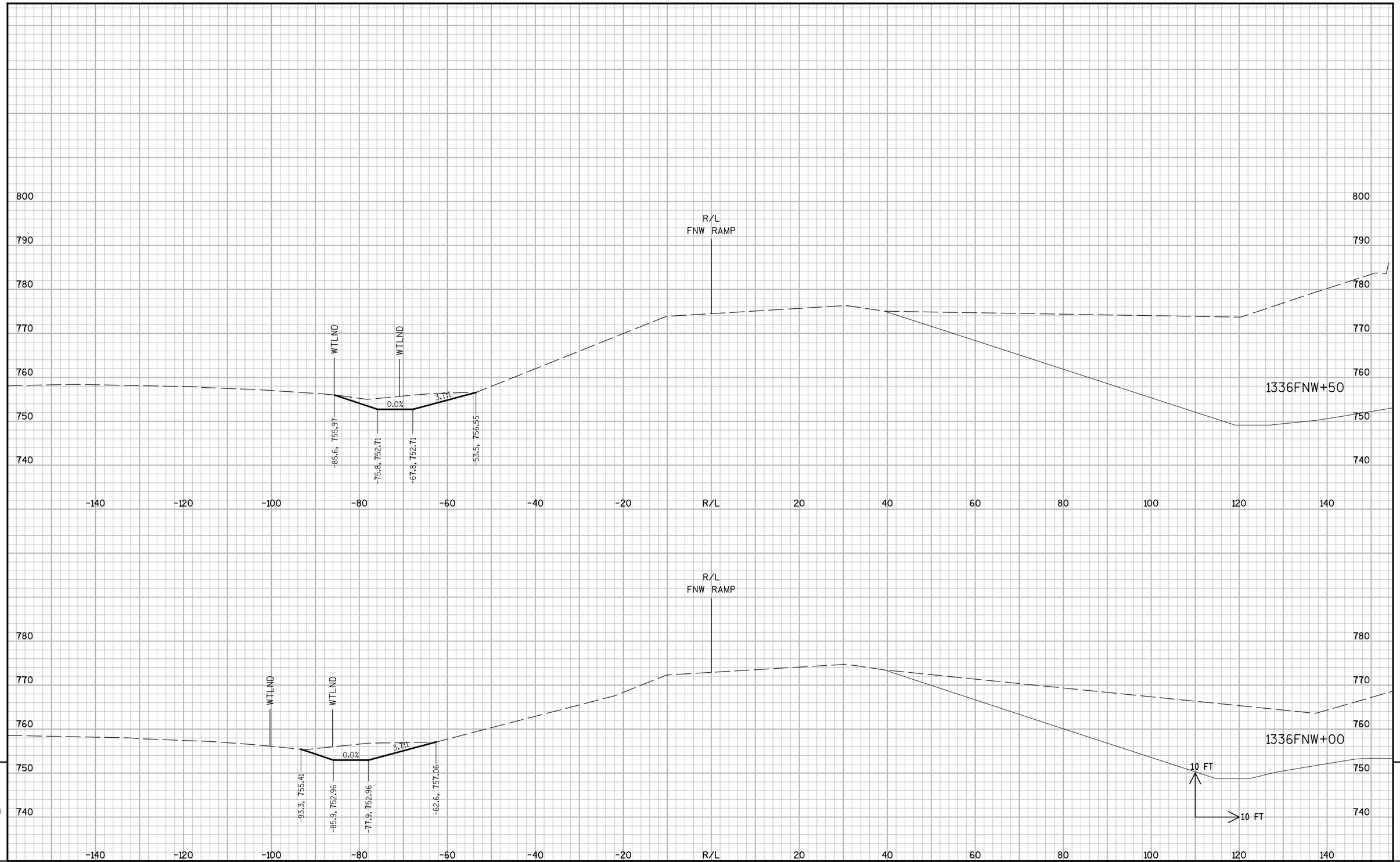



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| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: FNW RAMP | SHEET NO: . 710 | E |
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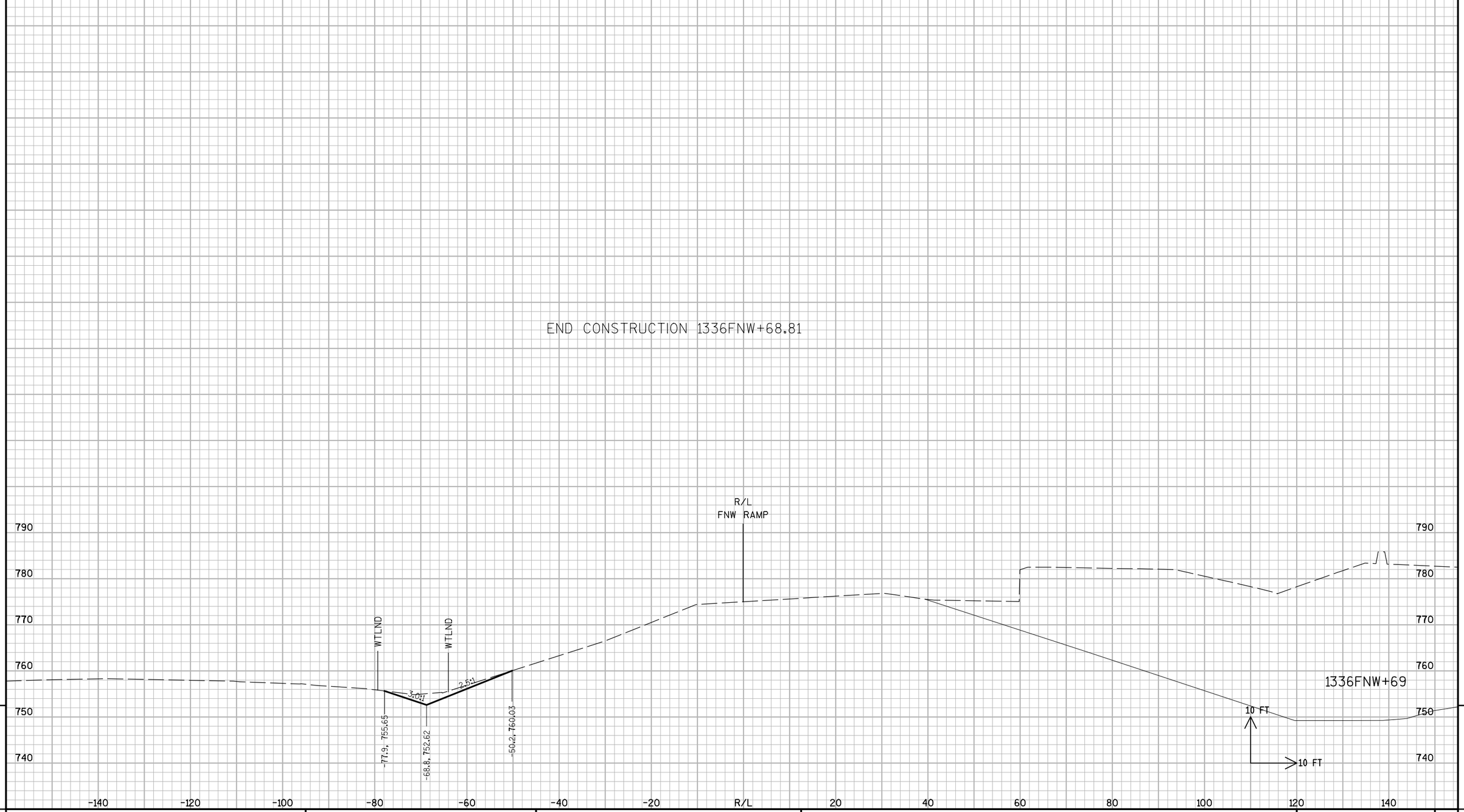

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| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: FNW RAMP | SHEET NO: . 711 | E |
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FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\090211_FNW FILL PLUG_XS.dgn PLOT DATE : 1/18/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -

END CONSTRUCTION 1336FNW+68.81



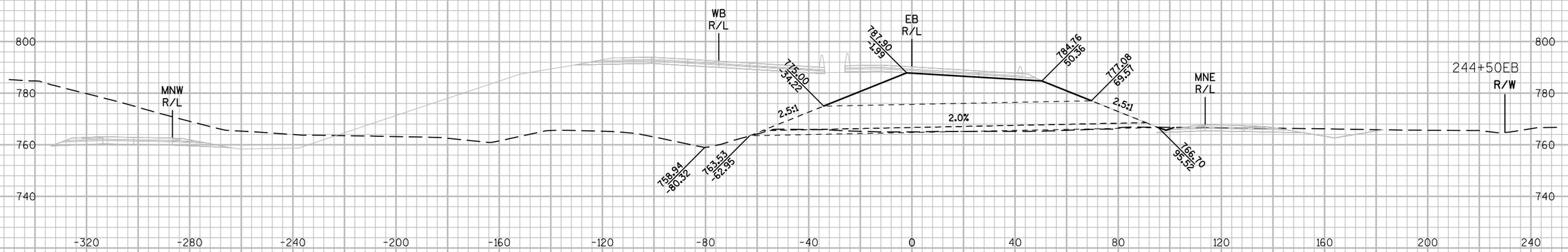

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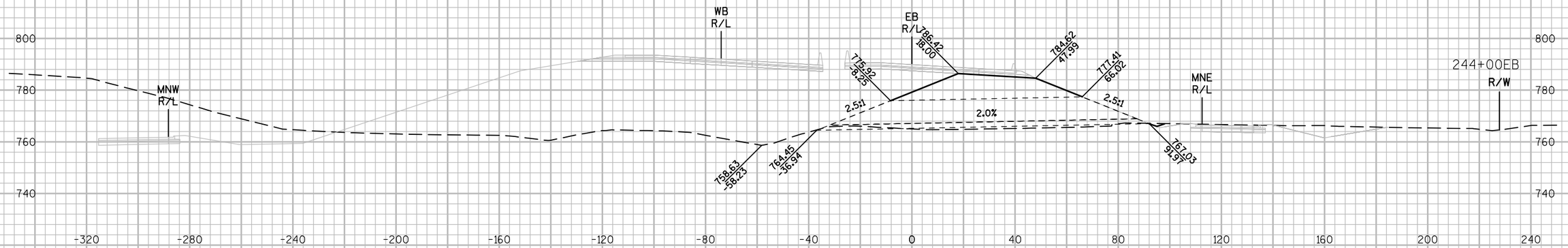
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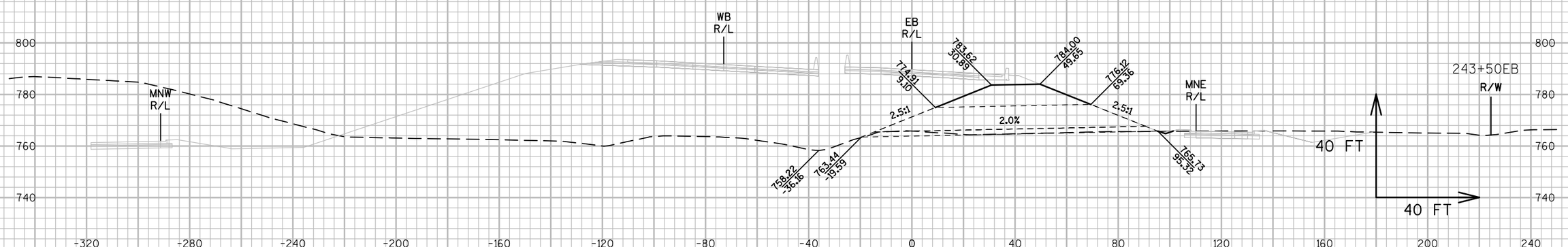
| STATE PROJECT NO: 1517-07-77 | HWY: USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: FNW RAMP | SHEET NO: . 712 | E |
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FILE NAME : S:\DOT\DOT_NE\120012-Tri County Freeway\1517-07-77\DGN_Files\Plansheets\090211_FNW FILL PLUG_XS.dgn PLOT DATE : 1/18/2016 PLOT BY : DCaverson PLOT NAME : PLOT SCALE : -

PROVIDED BY NE REGION



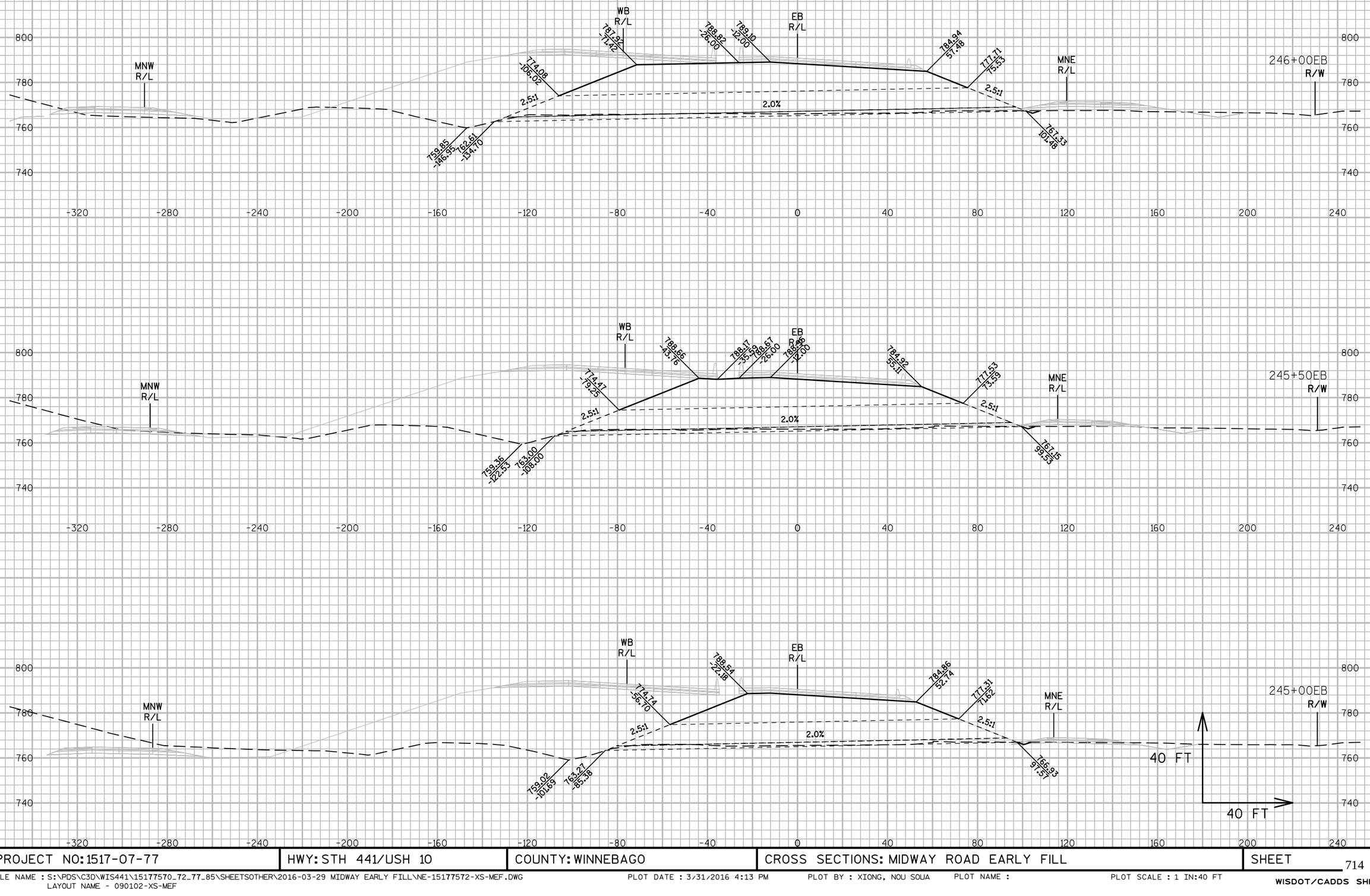

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| PROJECT NO: 1517-07-77 | HWY: STH 441/USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: MIDWAY ROAD EARLY FILL | SHEET 713 | E |
|---|---|---|---|---|---|

FILE NAME : S:\PDS\C3D\WIS441\15177570_72_77_85\SHEETSOTHER\2016-03-29 MIDWAY EARLY FILL\NE-15177572-XS-MEF.DWG
LAYOUT NAME - 090101-XS-MEF
PLOT DATE : 3/31/2016 4:13 PM
PLOT BY : XIONG, NOU SOUA
PLOT NAME :
PLOT SCALE : 1 IN:40 FT

PROVIDED BY NE REGION

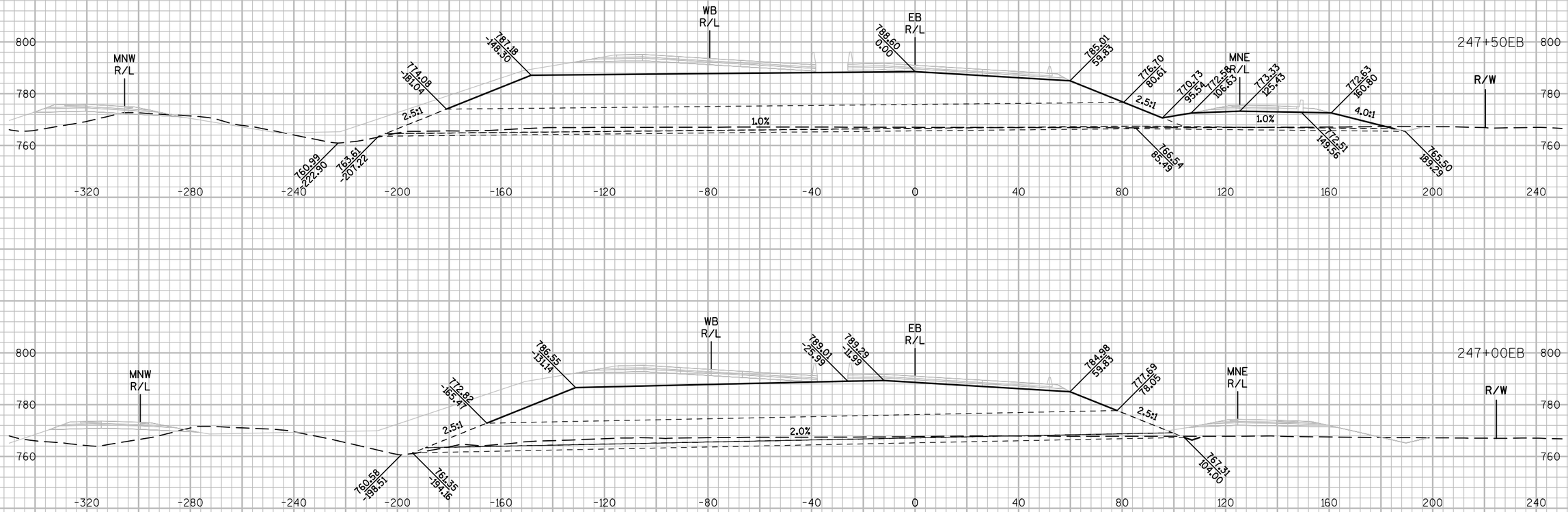



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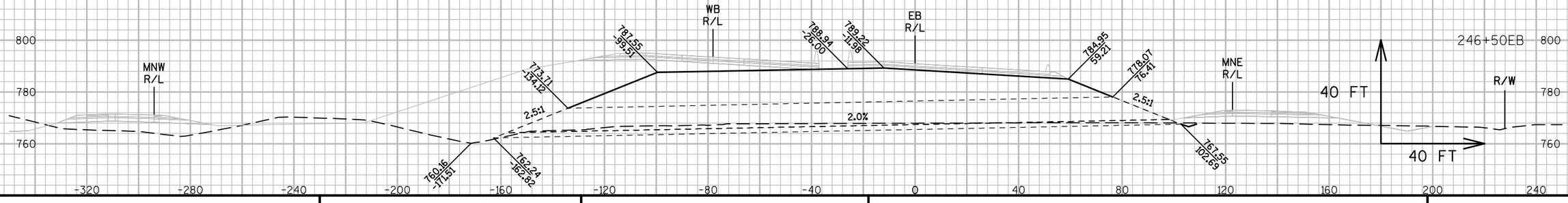
| PROJECT NO: 1517-07-77 | HWY: STH 441/USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: MIDWAY ROAD EARLY FILL | SHEET 714 | E |
|---|---|---|---|---|---|

PROVIDED BY NE REGION










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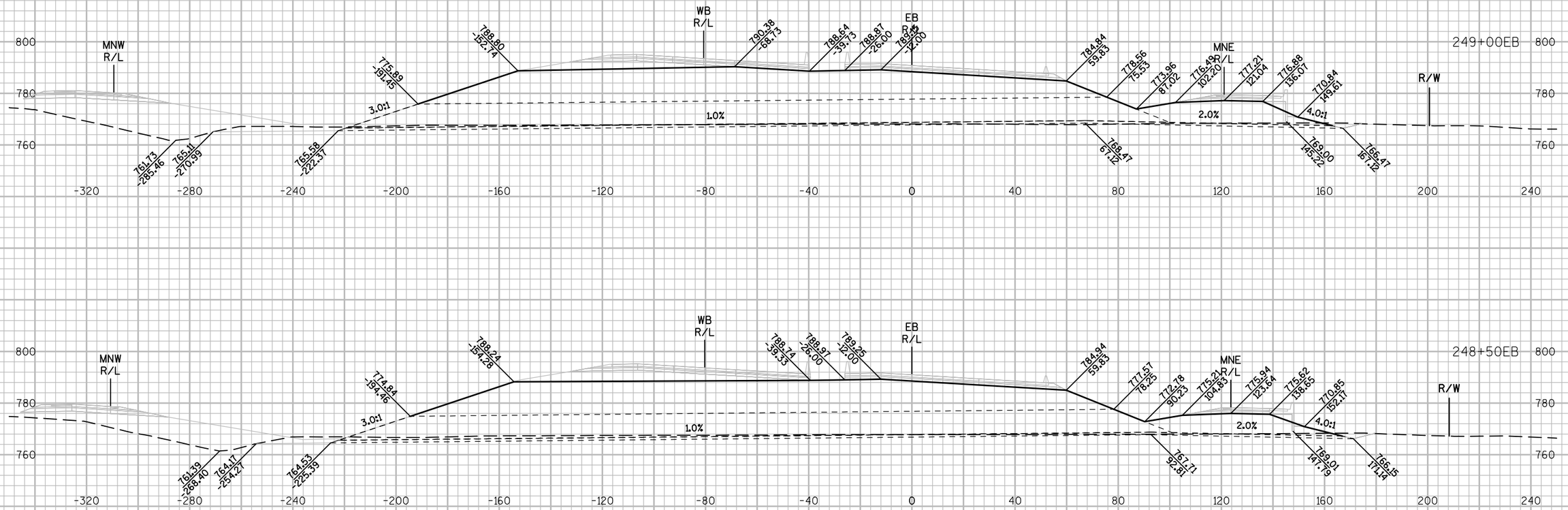
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| PROJECT NO: 1517-07-77 | HWY: STH 441/USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: MIDWAY ROAD EARLY FILL | SHEET 715 | E |
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FILE NAME : S:\PDS\C3D\WIS441\15177570_72_77_85\SHEETSOTHER\2016-03-29 MIDWAY EARLY FILL\NE-15177572-XS-MEF.DWG
LAYOUT NAME - 090103-XS-MEF

PLOT DATE : 3/31/2016 4:13 PM PLOT BY : XIONG, NOU SOUA PLOT NAME : PLOT SCALE : 1 IN:40 FT

PROVIDED BY NE REGION

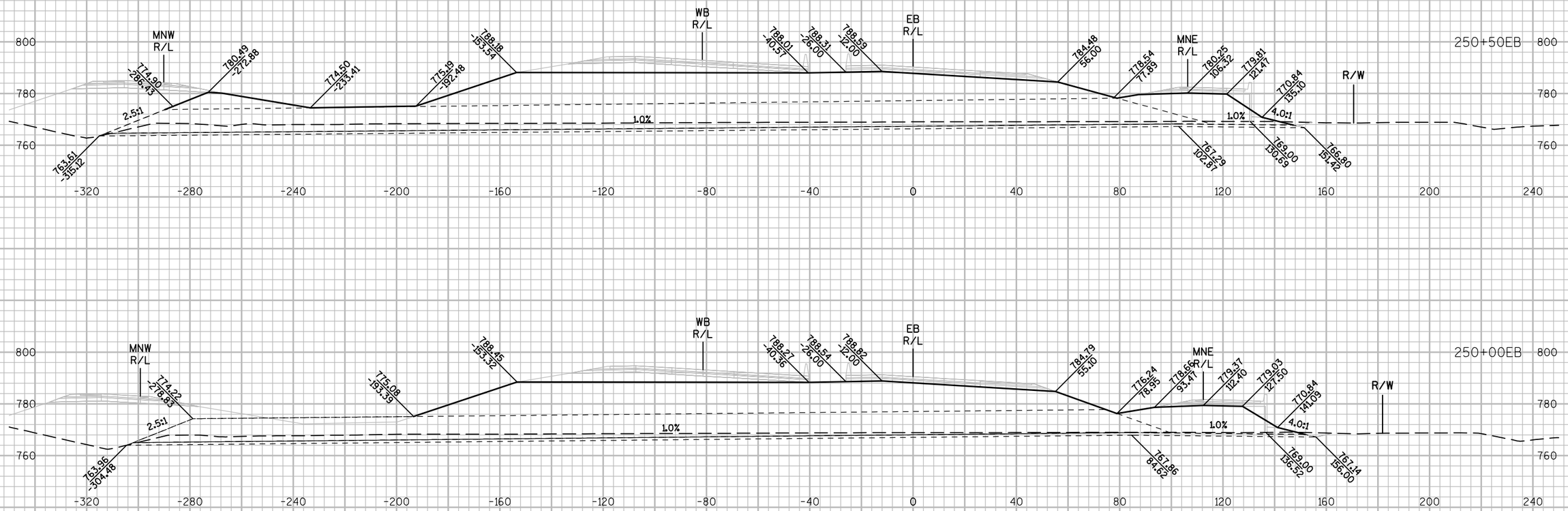



| PROJECT NO: 1517-07-77 | HWY: STH 441/USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: MIDWAY ROAD EARLY FILL | SHEET 716 | E |
|---|---|---|---|---|---|




FILE NAME : S:\PDS\C3D\WIS441\15177570_72_77_85\SHEETSOTHER\2016-03-29 MIDWAY EARLY FILL\NE-15177572-XS-MEF.DWG
LAYOUT NAME - 090104-XS-MEF
PLOT DATE : 3/31/2016 4:13 PM PLOT BY : XIONG, NOU SOUA PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 49

PROVIDED BY NE REGION

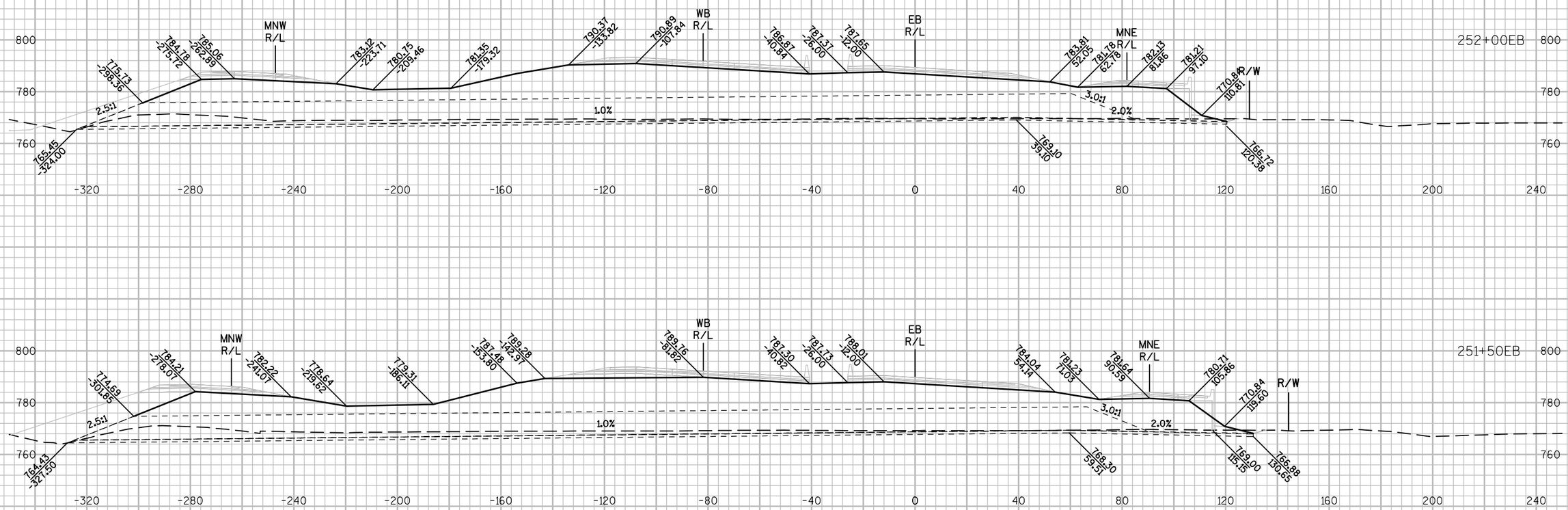



| PROJECT NO: 1517-07-77 | HWY: STH 441/USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: MIDWAY ROAD EARLY FILL | SHEET 717 | E |
|---|---|---|---|---|---|



FILE NAME : S:\PDS\C3D\WIS441\15177570_72_77_85\SHEETSOTHER\2016-03-29 MIDWAY EARLY FILL\NE-15177572-XS-MEF.DWG
LAYOUT NAME - 090105-XS-MEF
PLOT DATE : 3/31/2016 4:14 PM PLOT BY : XIONG, NOU SOUA PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 49

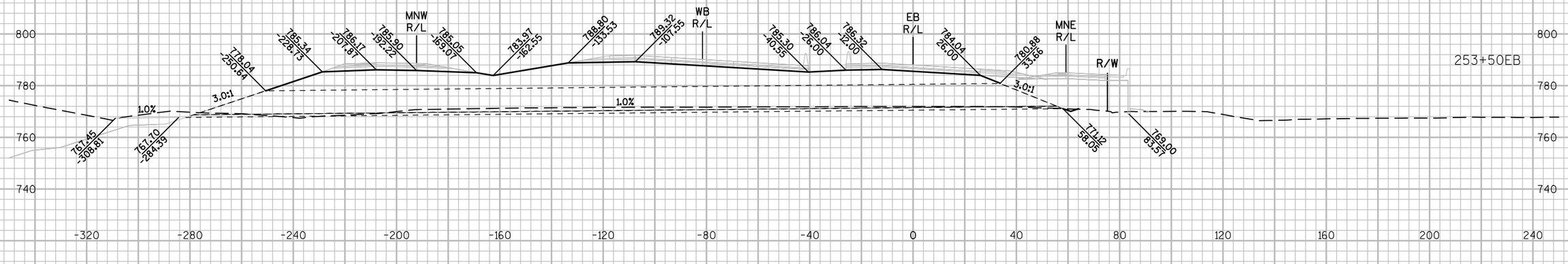
PROVIDED BY NE REGION

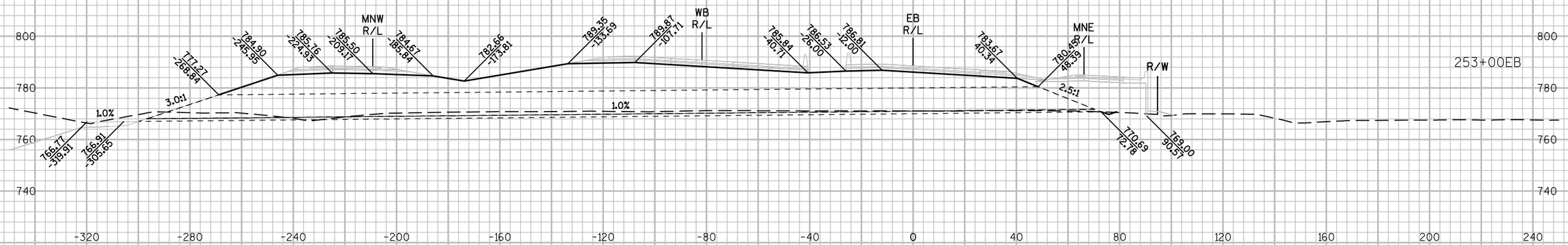


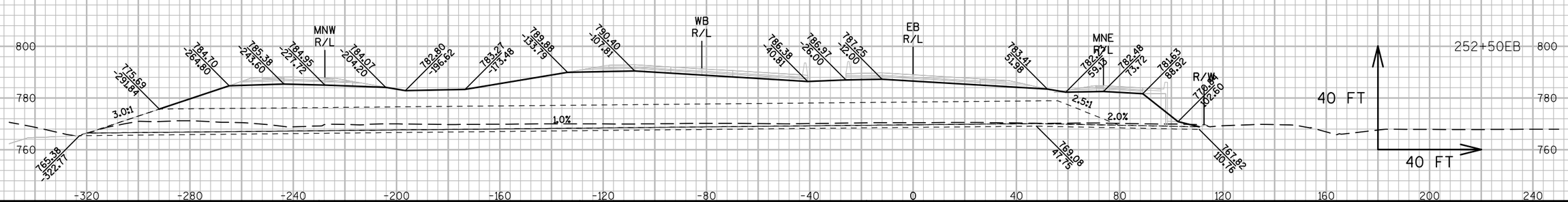

| PROJECT NO: 1517-07-77 | HWY: STH 441/USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: MIDWAY ROAD EARLY FILL | SHEET 718 | E |
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FILE NAME : S:\PDS\C3D\WIS441\15177570_72_77_85\SHEETSOTHER\2016-03-29 MIDWAY EARLY FILL\NE-15177572-XS-MEF.DWG
LAYOUT NAME - 090106-XS-MEF
PLOT DATE : 3/31/2016 4:14 PM
PLOT BY : XIONG, NOU SOUA
PLOT NAME :
PLOT SCALE : 1 IN:40 FT

PROVIDED BY NE REGION



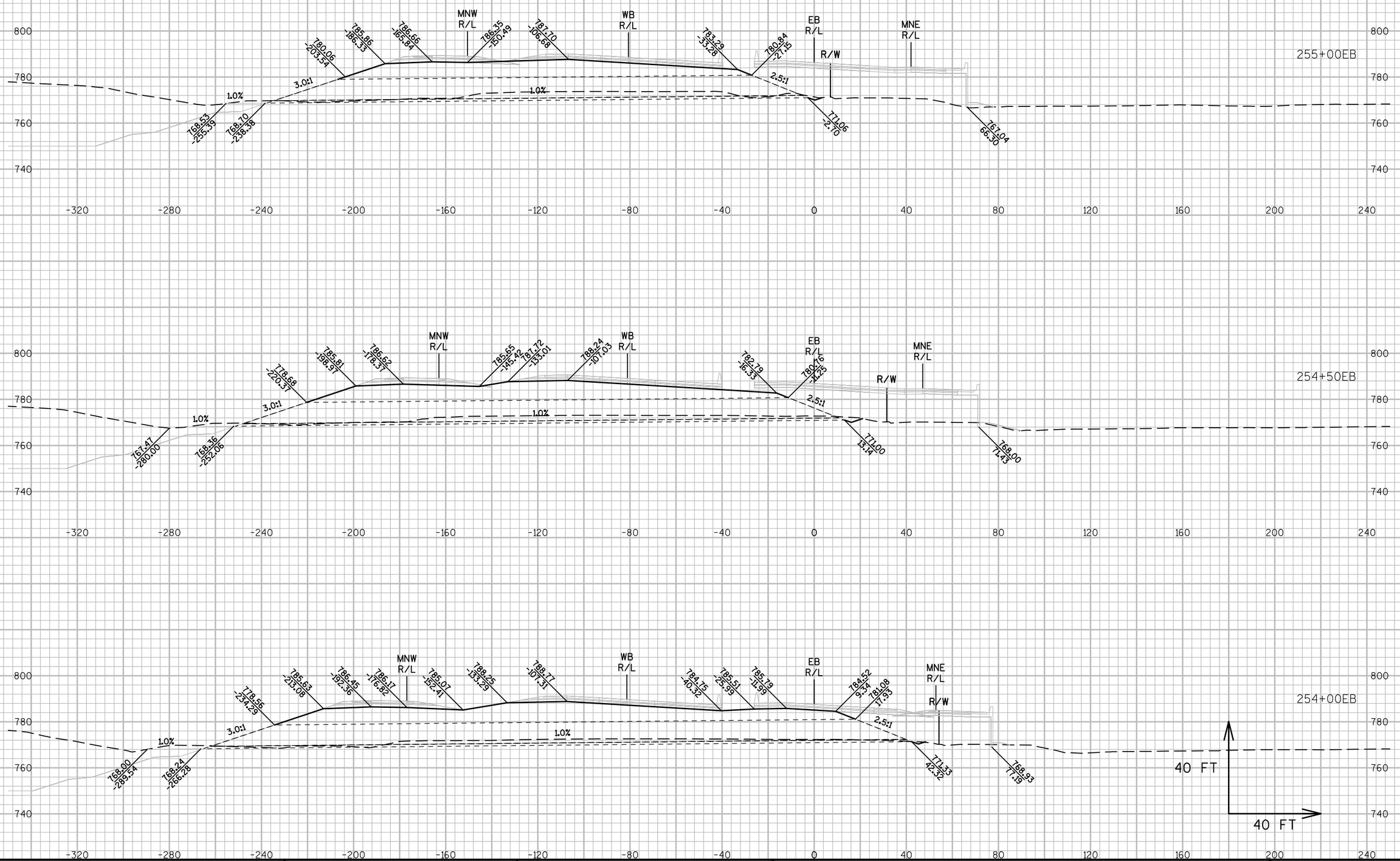




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| PROJECT NO: 1517-07-77 | HWY: STH 441/USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: MIDWAY ROAD EARLY FILL | SHEET 719 | E |
|---|---|---|---|---|---|

PROVIDED BY NE REGION



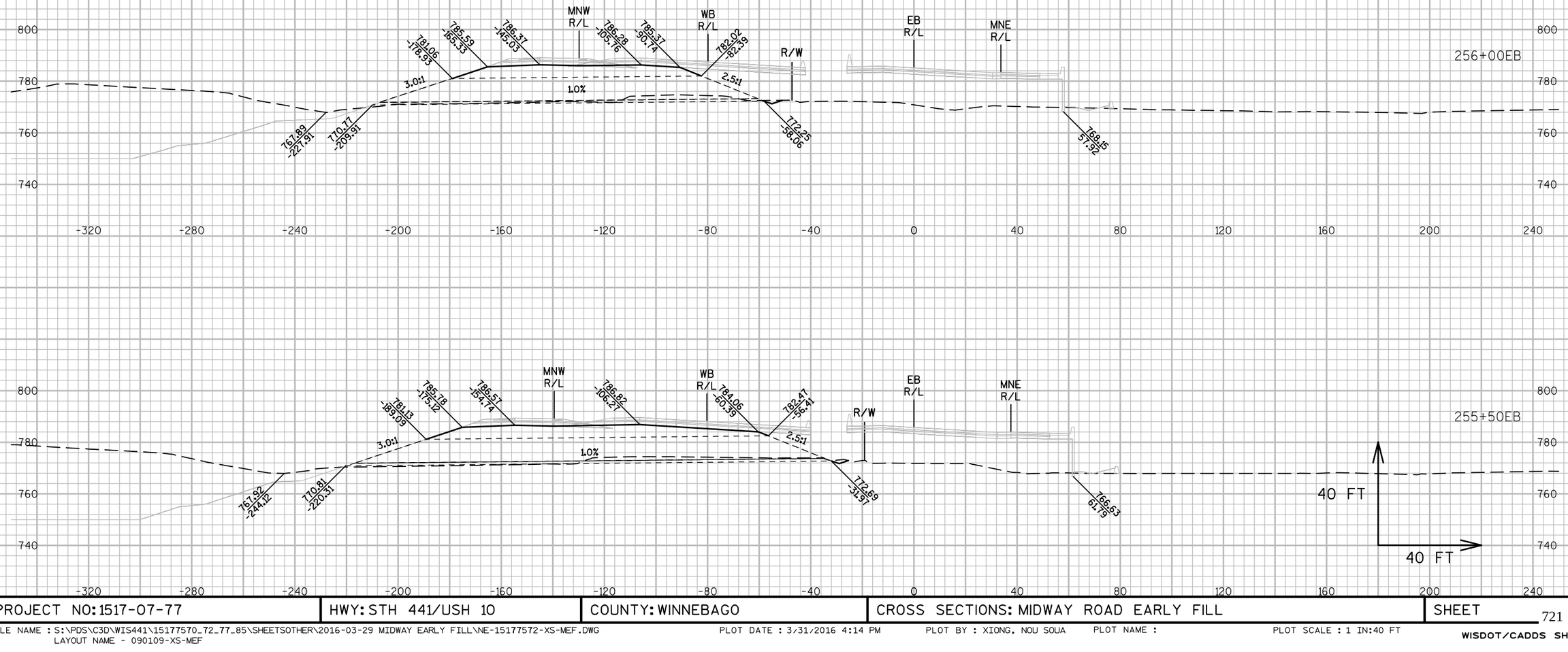

| PROJECT NO: 1517-07-77 | HWY: STH 441/USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: MIDWAY ROAD EARLY FILL | SHEET 720 | E |
|---|---|---|---|---|---|

FILE NAME : S:\PDS\C3D\WIS441\15177570_72_77_85\SHEETSOTHER\2016-03-29 MIDWAY EARLY FILL\NE-15177572-XS-MEF.DWG
LAYOUT NAME - 090108-XS-MEF

PLOT DATE : 3/31/2016 4:14 PM PLOT BY : XIONG, NOU SOUA PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 49

PROVIDED BY NE REGION




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| PROJECT NO: 1517-07-77 | HWY: STH 441/USH 10 | COUNTY: WINNEBAGO | CROSS SECTIONS: MIDWAY ROAD EARLY FILL | SHEET 721 | E |
|---|---|---|---|---|---|

FILE NAME : S:\PDS\C3D\WIS441\15177570_72_77_85\SHEETSOTHER\2016-03-29 MIDWAY EARLY FILL\NE-15177572-XS-MEF.DWG
LAYOUT NAME - 090109-XS-MEF

PLOT DATE : 3/31/2016 4:14 PM PLOT BY : XIONG, NOU SOUA PLOT NAME : PLOT SCALE : 1 IN:40 FT

**Wisconsin Department of Transportation**

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