MAD

SEPTEMBER 2022

PROJECT ID: 5683-00-72

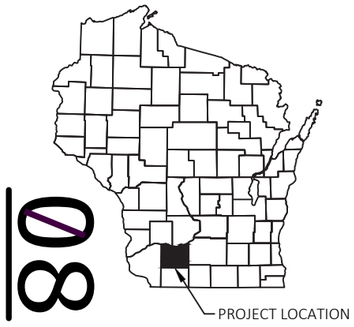
WITH: N/A

COUNTY: IOWA

ORDER OF SHEETS



TOTAL SHEETS = 52




# STATE OF WISCONSIN
# DEPARTMENT OF TRANSPORTATION

## PLAN OF PROPOSED IMPROVEMENT

# STH 39 - STH 191

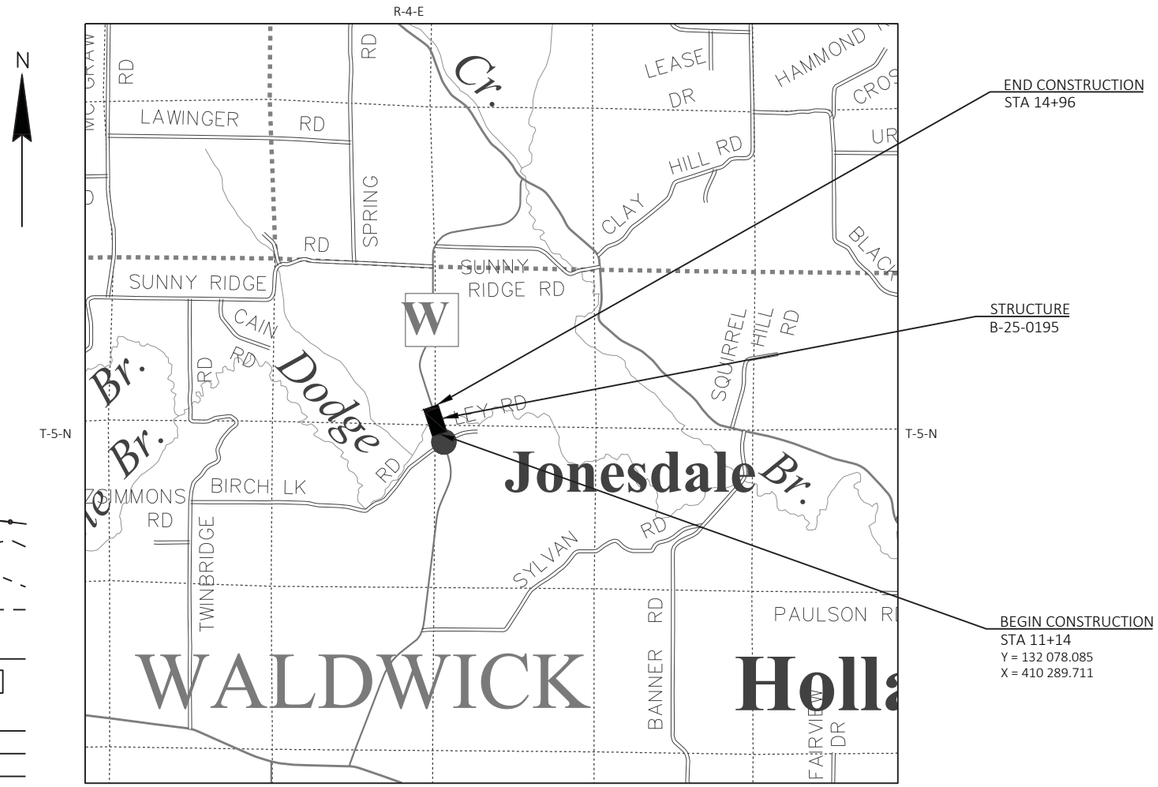
### DODGE BRANCH BRIDGE B-25-0195

## CTH W

## IOWA COUNTY

| STATE PROJECT NUMBER |
|---|
| 5683-00-72 |

| STATE PROJECT | FEDERAL PROJECT | |
|---|---|---|
| | PROJECT | CONTRACT |
| 5683-00-72 | WISC 2022510 | 1 |
| | | |
| | | |
| | | |




LAYOUT

SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 0.0723 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), IOWA COUNTY, NAD83 ( 2011 ), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88 ( 2012 ). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

DESIGN DESIGNATION 5683-00-72

| | | | |
|---|---|---|---|
| A.A.D.T. | 2023 | = | 220 |
| A.A.D.T. | 2043 | = | 240 |
| D.H.V. | | = | 34 |
| D.D. | | = | 62/38 |
| T. | | = | 7.7% |
| DESIGN SPEED | | = | 60 |
| ESALS | | = | 44 000 |

CONVENTIONAL SYMBOLS

PLAN

- CORPORATE LIMITS
- PROPERTY LINE
- LOT LINE
- LIMITED HIGHWAY EASEMENT
- EXISTING RIGHT OF WAY
- PROPOSED OR NEW R/W LINE
- SLOPE INTERCEPT
- REFERENCE LINE (300'EB')
- EXISTING CULVERT
- PROPOSED CULVERT (Box or Pipe)
- COMBUSTIBLE FLUIDS (CAUTION)
- MARSH AREA
- WOODED OR SHRUB AREA

PROFILE

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

UTILITIES

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

ACCEPTED FOR

IOWA COUNTY

4/19/22 Date

(Signature and Title of Official)

ORIGINAL PLANS PREPARED BY


WESTBROOK
Associated Engineers, Inc.
619 EAST HOXIE STREET
P.O. BOX 429
SPRING GREEN, WISCONSIN 53588
PHONE (608) 588-7866
FAX (608) 588-7954


WISCONSIN AARON B. PALMER E-35695 RICHLAND CENTER, WI PROFESSIONAL ENGINEER

DATE: 4/13/22 (Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

| | |
|---|---|
| Surveyor | WESTBROOK ASSOCIATED ENGINEERS |
| Designer | WESTBROOK ASSOCIATED ENGINEERS |
| Project Manager | VALERIE GUIDER, P.E. |
| Regional Examiner | SW REGION |
| Regional Supervisor | KYLE HEMP, P.E. |

APPROVED FOR THE DEPARTMENT

DATE: 4/19/2022 Valerie Guider, P.E. (Signature)

Digitally signed by Valerie Guider, P.E. Date: 2022.04.19 17:53:56-05'00'

E

FILE NAME : G:\00-PROJECT FILES\2021\21069 CTH W, DODGE BR BRIDGE, IOWA COUNTY 5683-00-02\0-CAD\SHEETSPLAN\010101_TI.DWG PLOT DATE : 4/13/2022 1:29 PM PLOT BY : ERIK MEYER PLOT NAME :

## GENERAL NOTES

UNNAMED ARCHEOLOGICAL SITE 47IA253 EXISTS BEYOND THE EXISTING RIGHT-OF-WAY AT THE PROJECT AREA. THE SITE SHALL NOT BE USED FOR BORROW OR WASTE DISPOSAL, OR FOR THE STAGING OF PERSONNEL, EQUIPMENT OR SUPPLIES. A QUALIFIED ARCHAEOLOGIST SHALL BE ON SITE TO MONITOR ANY DISTURBANCES BEYOND THE EXISTING RIGHT-OF-WAY.

WETLANDS EXIST IN THE PROJECT AREA. NO DISTURBANCES SHALL OCCUR OUTSIDE OF THE SLOPE INTERCEPTS IN WETLAND AREAS.

EROSION CONTROL ITEMS TO BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER. SILT FENCE AND TURBIDITY BARRIER SHALL BE IN PLACE PRIOR TO CONSTRUCTION.

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

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED, TEMPORARY SEEDED, AND MULCHED AS DIRECTED BY THE ENGINEER.

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

SLOPES STEEPER THAN 2.5:1 REQUIRE EROSION MAT.

REMOVAL OF ASPHALTIC SURFACES WHERE AN ABUTTING ASPHALTIC SURFACE IS TO REMAIN IN PLACE SHALL REQUIRE A SAWCUT MEETING THE APPROVAL OF THE ENGINEER IN THE FIELD.

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.

D.O.T. MONUMENT IS TO BE FURNISHED BY THE STATE AND PLACED BY THE CONTRACTOR IN THE SAME WING THAT THE PROPOSED NAME PLATE WILL BE PLACED, AS DIRECTED BY THE ENGINEER.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), IOWA COUNTY, HORIZONTAL DATUM NAD83 (2011), ELEVATION DATUM NAVD88 (2012).

THE 4-INCH ASPHALTIC SURFACE SHALL BE CONSTRUCTED USING A 2 1/4-INCH LOWER LAYER OF 19 MM NOMINAL SIZE AGGREGATE AND A 1 3/4-INCH UPPER LAYER OF 12.5 MM NOMINAL SIZE AGGREGATE.

ASPHALTIC SURFACE CALCULATIONS ARE BASED ON 112 LB/SY/IN.

MAINTAIN ACCESS TO FIELD ENTRANCES FOR THE DURATION OF THE PROJECT.

## ORDER OF DETAIL SHEETS



## RUNOFF COEFFICIENT TABLE

| | HYDROLOGIC SOIL GROUP | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | | | B | | | C | | | D | | |
| | SLOPE RANGE (PERCENT) | | | SLOPE RANGE (PERCENT) | | | SLOPE RANGE (PERCENT) | | | SLOPE RANGE (PERCENT) | | |
| LAND USE | 0-2 | 2-6 | 6 & OVER | 0-2 | 2-6 | 6 & OVER | 0-2 | 2-6 | 6 & OVER | 0-2 | 2-6 | 6 & OVER |
| ROW CROPS | .08<br>.22 | .16<br>.30 | .22<br>.38 | .12<br>.26 | .20<br>.34 | .27<br>.44 | .15<br>.30 | .24<br>.37 | .33<br>.50 | .19<br>.34 | .28<br>.41 | .38<br>.56 |
| MEDIAN STRIP-TURF | .19<br>.24 | .20<br>.26 | .24<br>.30 | .19<br>.25 | .22<br>.28 | .26<br>.33 | .20<br>.26 | .23<br>.30 | .30<br>.37 | .20<br>.27 | .25<br>.32 | .30<br>.40 |
| SIDE SLOPE-TURF | | | .25<br>.32 | | | .27<br>.34 | | | .28<br>.36 | | | .30<br>.38 |
| PAVEMENT: | | | | | | | | | | | | |
| ASPHALT | .70 - .95 | | | | | | | | | | | |
| CONCRETE | .80 - .95 | | | | | | | | | | | |
| BRICK | .70 - .80 | | | | | | | | | | | |
| DRIVES,WALKS | .75 - .85 | | | | | | | | | | | |
| ROOFS | .75 - .95 | | | | | | | | | | | |
| GRAVEL ROADS, SHOULDERS | .40 - .60 | | | | | | | | | | | |

TOTAL PROJECT AREA = 1.15 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.63 ACRES

## CONTACTS

### CONSULTANT LIAISON

WESTBROOK ASSOCIATED ENGINEERS, INC.
619 EAST HOXIE STREET
SPRING GREEN, WI 53588

ATTN: AARON PALMER, P.E.
PH: (608) 588-7866
FAX: (608) 588-7954
apalmer@westbrookeng.com

### WDNR LIAISON

DNR SOUTH CENTRAL REGION HEADQUARTERS
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711

ATTN: ANDY BARTA
PH: (608) 235-2955
andrew.barta@wisconsin.gov

### COUNTY LIAISON

IOWA COUNTY HIGHWAY DEPARTMENT
1215 BEQUETTE STREET
DODGEVILLE, WI 53533

ATTN: CRAIG HARDY
ATTO: (608) 574-2935
Craig.Hardy@iowacounty.org

## UTILITIES

### ELECTRIC

ALLIANT ENERGY
CHAD NOVAK
490 SHAKERAG STREET
MINERAL POINT, WI, 53565
PHONE: (608) 574-1037
EMAIL: Chad.Novak@alliantenergy.com

### COMMUNICATION

FRONTIER COMMUNICATIONS
BRIAN BEST
208 S MAIN STREET
BAILEYVILLE, IL 61007
PHONE: (815) 541-7576
EMAIL: bbest@mscon.com

### COMMUNICATIONS

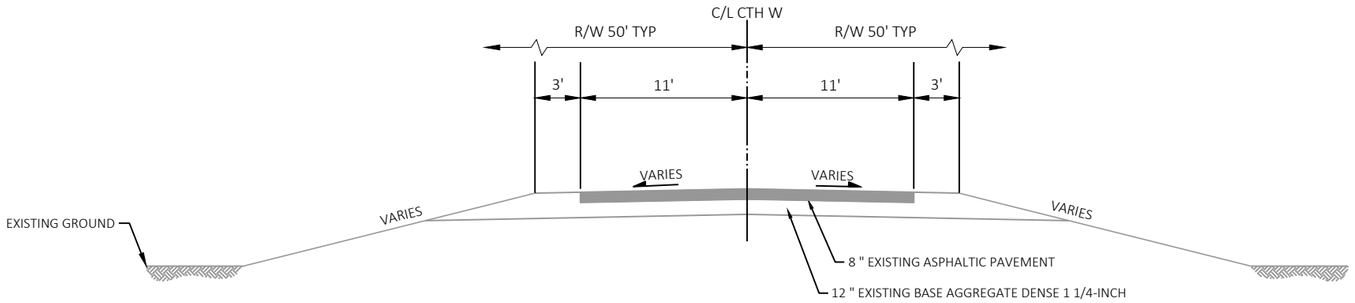
BUG TUSSEL WIRELESS
SCOTT CERVENY
417 PINE STREET
GREEN BAY, WI 54301
PHONE: (920) 366-1735
EMAIL: Scott.Cerveny@bugtusselwireless.com

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

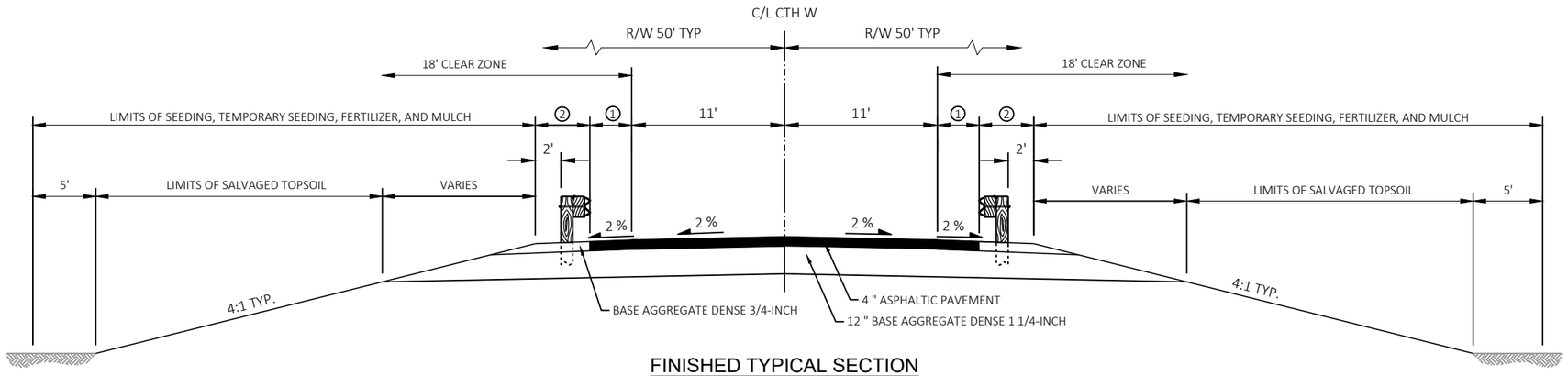
## STANDARD ABBREVIATIONS

| | | | | | |
|---|---|---|---|---|---|
| AADT | ANNUAL AVERAGE DAILY TRAFFIC | L.F. | LINEAR FEET | REQ'D | REQUIRED |
| AAG. | AGGREGATE | L.H.F. | LEFT HAND FORWARD | RT. | RIGHT |
| B.M. | BENCH MARK | L.S. | LUMP SUM | R/W | RIGHT-OF-WAY |
| C OR CL | CENTERLINE | LT. | LEFT | RD. | ROAD |
| CR. | CRUSHED | MAX. | MAXIMUM | RDWY. | ROADWAY |
| C.T.H. | COUNTY TRUNK HIGHWAY | MIN. | MINIMUM | S. | SOUTH |
| CWT. | HUNDREDWEIGHT | N. | NORTH | SE | SOUTHEAST |
| C.Y. | CUBIC YARD | NOR. | NORMAL | SHRK. | SHRINKAGE |
| D.H. | DOUBLE HEADED | PAV'T. | PAVEMENT | S.R. | SIDE ROAD |
| D.H.V. | DESIGN HOURLY VOLUME | P.C. | POINT OF CURVE | STD. | STANDARD |
| DIR. | DIRECTED | P.I. | POINT OF INTERSECTION | S.T.H. | STATE TRUNK HIGHWAY |
| E. | EAST | P.E. | PRIVATE ENTRANCE | STA. | STATION |
| COR. | CORNER | P.K. | PARKER-KALON NAIL | S.Y. | SQUARE YARD |
| EL. OR ELEV. | ELEVATION | P OR PL | PROPERTY LINE | T | TANGENT LENGTH OF CURVE |
| F.E. | FIELD ENTRANCE | P.P. | POWER POLE | T | TRANSIT LINE |
| FT. | FOOT (FEET) | PROJ. | PROJECT | UNCL. | UNCLASSIFIED EXCAVATION |
| GAL. | GALLON | P.T. | POINT OF TANGENCY | V. | DESIGN SPEED |
| H.W. | HIGH WATER | PVMT. | PAVEMENT | V.C. | VERTICAL CURVE |
| IN. | INCHES | R. | RADIUS | VAR. | VARIABLE |
| K | SIGHT DISTANCE | R.R. | RAILROAD | W. | WEST |
| L. | LENGTH OF CURVE | REINF. | REINFORCED | | |

2




EXISTING TYPICAL SECTION



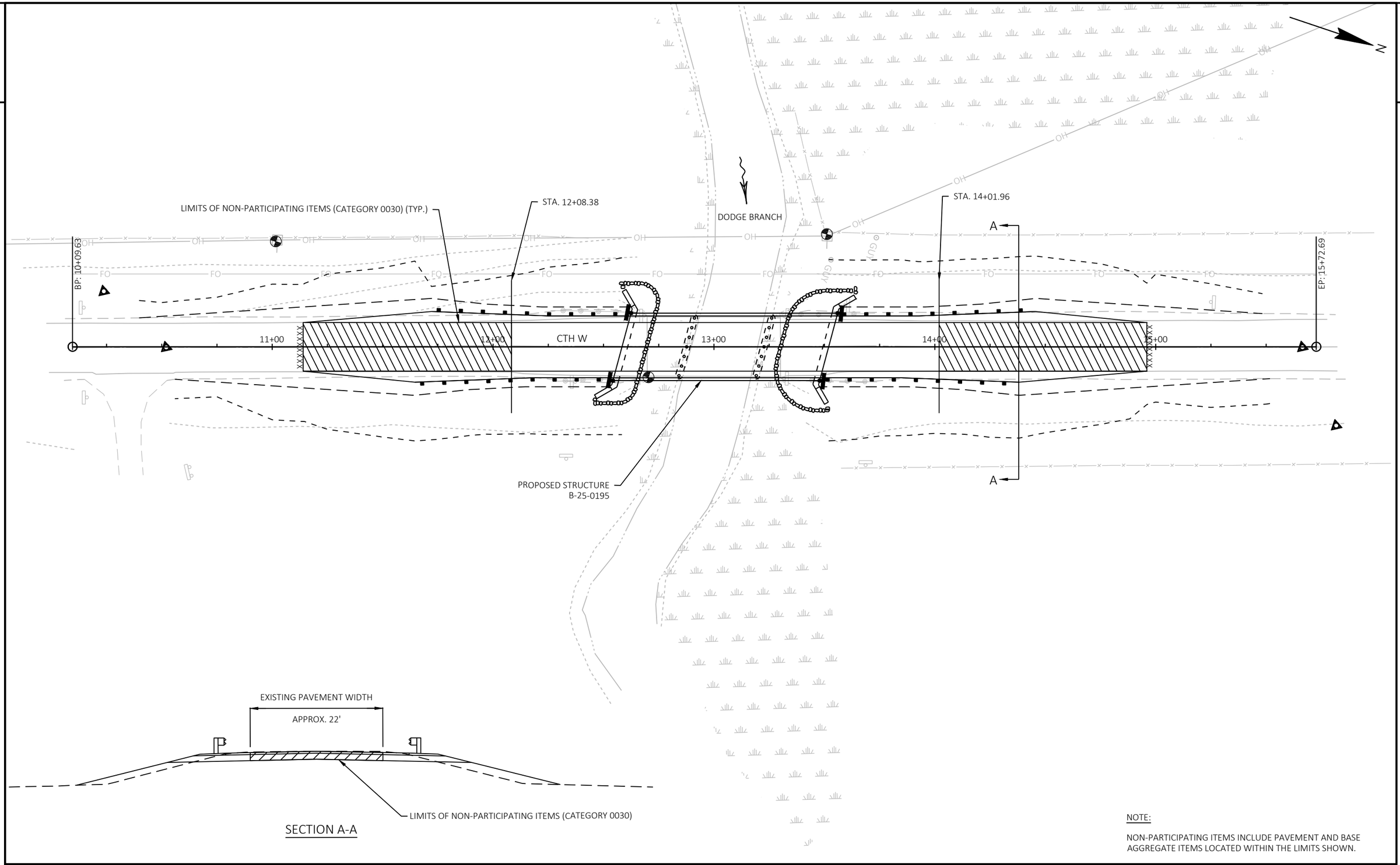

FINISHED TYPICAL SECTION

IN FILL

① TAPER PAVEMENT TO FACE OF GUARDRAIL. WIDTH VARIES AT GUARDRAIL FLARES AS WELL AS TO MATCH TO EXISTING AT BEGIN AND END OF PROJECT.

② VARIES FROM POST 9 TO POST 1. SEE CROSS SECTIONS AND SDD 14B44-04a.

2







SECTION A-A

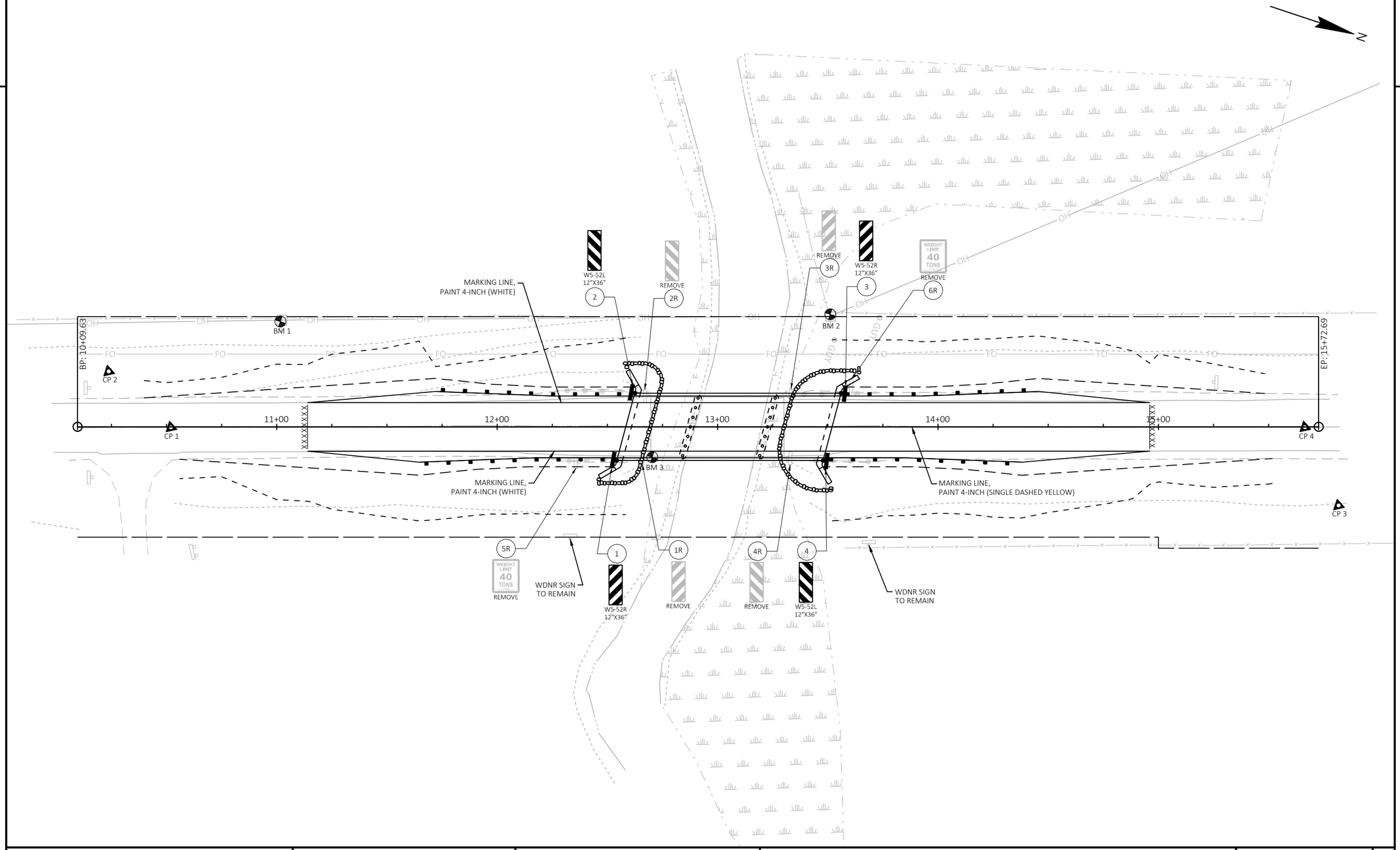
NOTE:

NON-PARTICIPATING ITEMS INCLUDE PAVEMENT AND BASE AGGREGATE ITEMS LOCATED WITHIN THE LIMITS SHOWN.

| PROJECT NO: 5683-00-72 | HWY: CTH W | COUNTY: IOWA | NON-PARTICIPATING ITEMS DETAIL | SHEET 4 | E |
|---|---|---|---|---|---|

FILE NAME : G:\00-PROJECT FILES\2021\21069 CTH W, DODGE BR BRIDGE, IOWA COUNTY 5683-00-02\0-CAD\SHEETSPLAN\021001_CD.DWG
LAYOUT NAME - 021001_cd
PLOT DATE : 4/14/2022 9:52 AM PLOT BY : ERIK MEYER PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 42

2




| PROJECT NO: 5683-00-72 | HWY: CTH W | COUNTY: IOWA | SIGNING AND PAVEMENT MARKING | SHEET 5 | E |
|---|---|---|---|---|---|

FILE NAME : G:\00-PROJECT FILES\2021\21069 CTH W, DODGE BR BRIDGE, IOWA COUNTY 5683-00-02\0-CAD\SHEETSPLAN\023201_PS.DWG
LAYOUT NAME - 023201_ps

PLOT DATE : 4/14/2022 9:54 AM PLOT BY : ERIK MEYER PLOT NAME : PLOT SCALE : ############

2

CP #2
¾" X 24" REBAR
Y = 131 984.506
X = 410 294.226
ELEV. = 895.589

BM #1
RAILROAD SPIKE IN POWER POLE
Y = 132 051.358
X = 410 248.312
ELEV. = 893.286

BM #2
RAILROAD SPIKE IN POWER POLE
Y = 132 287.186
X = 410 166.859
ELEV. = 891.973

BP: 10+09.63

EP: 15+72.69

BP: 10+09.63
Y = 131 978.995
X = 410 322.488

11+00 N18°18'11"W 12+00 13+00 14+00 15+00

563.06'

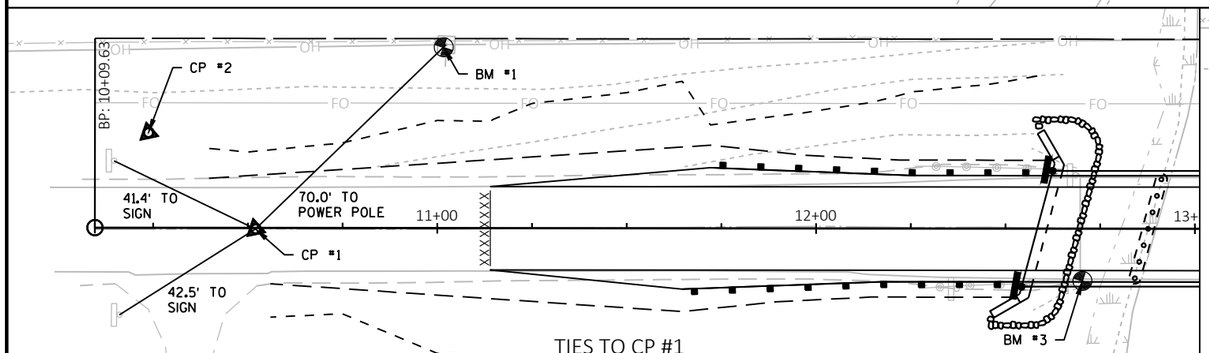
EP: 15+72.69
Y = 132 513.569
X = 410 145.663

CP #4
GIN SPIKE
Y = 132 507.684
X = 410 147.838
ELEV. = 895.308

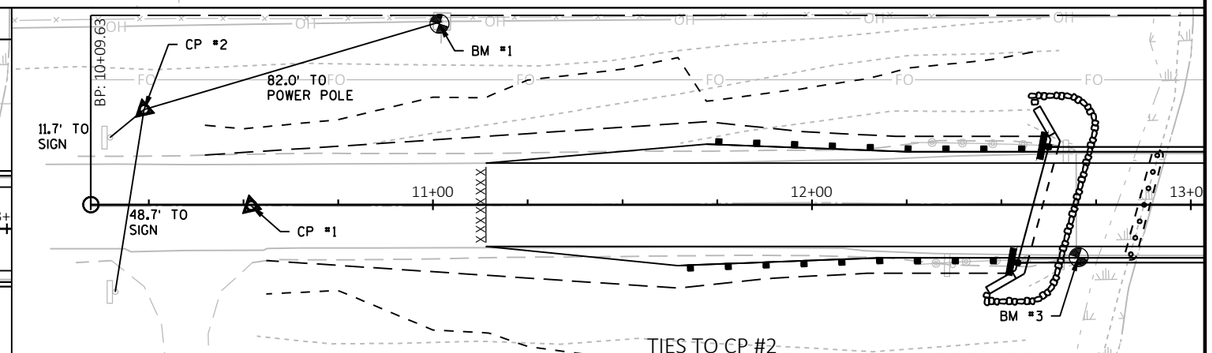
CP #1
GIN SPIKE
Y = 132 019.294
X = 410 309.444
ELEV. = 898.271

BM #3
MONUMENT IN SIDE OF BRIDGE
Y = 132 230.845
X = 410 253.727
ELEV. = 897.972

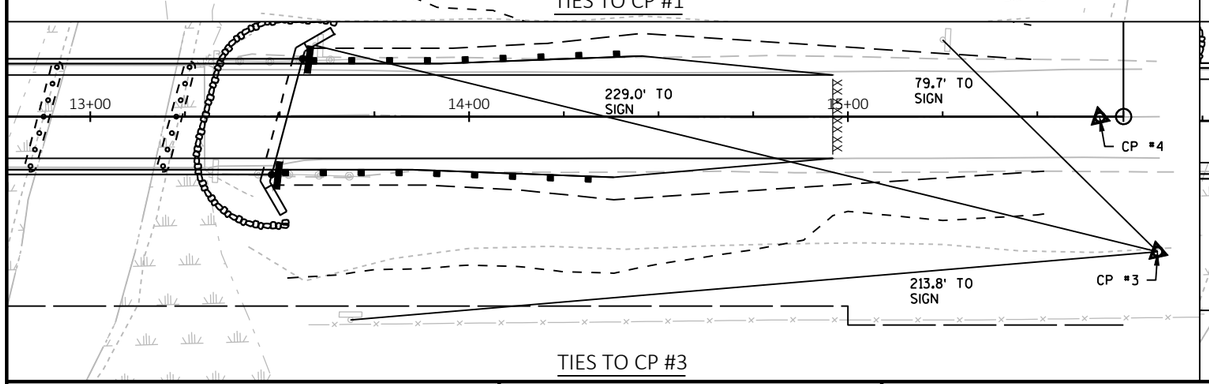
CP #3
¾" X 24" REBAR
Y = 132 533.316
X = 410 176.673
ELEV. = 891.189



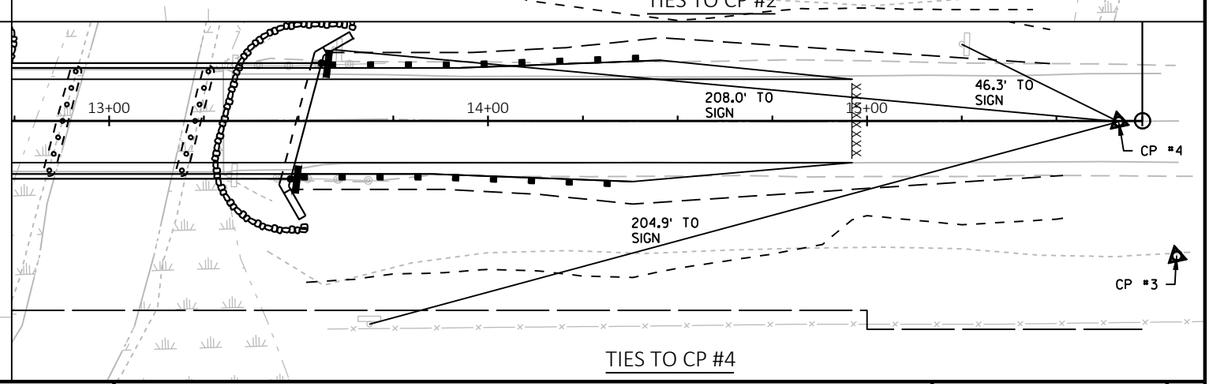

TIES TO CP #1




TIES TO CP #2




TIES TO CP #3




TIES TO CP #4

| PROJECT NO: 5683-00-72 | HWY: CTH W | COUNTY: IOWA | ALIGNMENT DETAILS AND CONTROL POINTS | SHEET 6 | E |
|---|---|---|---|---|---|

FILE NAME : G:\00-PROJECT FILES\2021\21069 CTH W, DODGE BR BRIDGE, IOWA COUNTY 5683-00-02\0-CAD\SHEETSPLAN\027201_AD.DWG
LAYOUT NAME - 027201_ad
PLOT DATE : 4/14/2022 9:54 AM
PLOT BY : ERIK MEYER
PLOT NAME :
PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 42

## Estimate Of Quantities

5683-00-72

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 0002 | 203.0260 | Removing Structure Over Waterway Minimal Debris (structure) 01. B-25-0011 | EACH | 1.000 | 1.000 |
| 0004 | 204.0165 | Removing Guardrail | LF | 156.600 | 156.600 |
| 0006 | 205.0100 | Excavation Common | CY | 576.000 | 576.000 |
| 0008 | 206.1000 | Excavation for Structures Bridges (structure) 01. B-25-0195 | LS | 1.000 | 1.000 |
| 0010 | 210.1500 | Backfill Structure Type A | TON | 460.000 | 460.000 |
| 0012 | 213.0100 | Finishing Roadway (project) 01. 5683-00-72 | EACH | 1.000 | 1.000 |
| 0014 | 305.0110 | Base Aggregate Dense 3/4-Inch | TON | 104.000 | 104.000 |
| 0016 | 305.0120 | Base Aggregate Dense 1 1/4-Inch | TON | 1,082.000 | 1,082.000 |
| 0018 | 455.0605 | Tack Coat | GAL | 64.000 | 64.000 |
| 0020 | 465.0105 | Asphaltic Surface | TON | 204.000 | 204.000 |
| 0022 | 502.0100 | Concrete Masonry Bridges | CY | 304.000 | 304.000 |
| 0024 | 502.3200 | Protective Surface Treatment | SY | 401.000 | 401.000 |
| 0026 | 505.0400 | Bar Steel Reinforcement HS Structures | LB | 8,240.000 | 8,240.000 |
| 0028 | 505.0600 | Bar Steel Reinforcement HS Coated Structures | LB | 34,570.000 | 34,570.000 |
| 0030 | 513.4061 | Railing Tubular Type M | LF | 192.000 | 192.000 |
| 0032 | 516.0500 | Rubberized Membrane Waterproofing | SY | 14.000 | 14.000 |
| 0034 | 550.0020 | Pre-Boring Rock or Consolidated Materials | LF | 120.000 | 120.000 |
| 0036 | 550.1100 | Piling Steel HP 10-Inch X 42 Lb | LF | 520.000 | 520.000 |
| 0038 | 606.0300 | Riprap Heavy | CY | 146.000 | 146.000 |
| 0040 | 612.0406 | Pipe Underdrain Wrapped 6-Inch | LF | 160.000 | 160.000 |
| 0042 | 614.2500 | MGS Thrie Beam Transition | LF | 157.600 | 157.600 |
| 0044 | 614.2610 | MGS Guardrail Terminal EAT | EACH | 4.000 | 4.000 |
| 0046 | 618.0100 | Maintenance And Repair of Haul Roads (project) 01. 5683-00-72 | EACH | 1.000 | 1.000 |
| 0048 | 619.1000 | Mobilization | EACH | 1.000 | 1.000 |
| 0050 | 624.0100 | Water | MGAL | 11.400 | 11.400 |
| 0052 | 625.0500 | Salvaged Topsoil | SY | 1,190.000 | 1,190.000 |
| 0054 | 627.0200 | Mulching | SY | 2,600.000 | 2,600.000 |
| 0056 | 628.1504 | Silt Fence | LF | 1,150.000 | 1,150.000 |
| 0058 | 628.1520 | Silt Fence Maintenance | LF | 1,836.000 | 1,836.000 |
| 0060 | 628.1905 | Mobilizations Erosion Control | EACH | 3.000 | 3.000 |
| 0062 | 628.1910 | Mobilizations Emergency Erosion Control | EACH | 2.000 | 2.000 |
| 0064 | 628.6005 | Turbidity Barriers | SY | 211.000 | 211.000 |
| 0066 | 629.0210 | Fertilizer Type B | CWT | 1.650 | 1.650 |
| 0068 | 630.0175 | Seeding Mixture No. 75 | LB | 18.000 | 18.000 |
| 0070 | 630.0200 | Seeding Temporary | LB | 75.000 | 75.000 |
| 0072 | 630.0400 | Seeding Nurse Crop | LB | 20.000 | 20.000 |
| 0074 | 630.0500 | Seed Water | MGAL | 44.000 | 44.000 |
| 0076 | 634.0612 | Posts Wood 4x6-Inch X 12-FT | EACH | 4.000 | 4.000 |
| 0078 | 637.2230 | Signs Type II Reflective F | SF | 12.000 | 12.000 |
| 0080 | 638.2602 | Removing Signs Type II | EACH | 6.000 | 6.000 |
| 0082 | 638.3000 | Removing Small Sign Supports | EACH | 6.000 | 6.000 |
| 0084 | 642.5001 | Field Office Type B | EACH | 1.000 | 1.000 |
| 0086 | 643.0420 | Traffic Control Barricades Type III | DAY | 2,112.000 | 2,112.000 |
| 0088 | 643.0705 | Traffic Control Warning Lights Type A | DAY | 4,224.000 | 4,224.000 |
| 0090 | 643.0900 | Traffic Control Signs | DAY | 1,728.000 | 1,728.000 |
| 0092 | 643.5000 | Traffic Control | EACH | 1.000 | 1.000 |
| 0094 | 645.0111 | Geotextile Type DF Schedule A | SY | 70.000 | 70.000 |
| 0096 | 645.0120 | Geotextile Type HR | SY | 278.000 | 278.000 |
| 0098 | 646.1005 | Marking Line Paint 4-Inch | LF | 864.000 | 864.000 |

## Estimate Of Quantities

5683-00-72

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 0100 | 650.4500 | Construction Staking Subgrade | LF | 290.000 | 290.000 |
| 0102 | 650.5000 | Construction Staking Base | LF | 290.000 | 290.000 |
| 0104 | 650.6500 | Construction Staking Structure Layout (structure) 01. B-25-0195 | LS | 1.000 | 1.000 |
| 0106 | 650.9910 | Construction Staking Supplemental Control (project) 01. 5683-00-72 | LS | 1.000 | 1.000 |
| 0108 | 650.9920 | Construction Staking Slope Stakes | LF | 421.000 | 421.000 |
| 0110 | 690.0150 | Sawing Asphalt | LF | 44.000 | 44.000 |
| 0112 | 715.0502 | Incentive Strength Concrete Structures | DOL | 1,824.000 | 1,824.000 |
| 0114 | 999.2000.S | Installing and Maintaining Bird Deterrent System (station) 01. 12+91 | EACH | 1.000 | 1.000 |
| 0116 | ASP.1T0A | On-the-Job Training Apprentice at $5.00/HR | HRS | 1,000.000 | 1,000.000 |
| 0118 | ASP.1T0G | On-the-Job Training Graduate at $5.00/HR | HRS | 900.000 | 900.000 |
| 0120 | SPV.0180 | Special 01.  Salvaged Topsoil Over Riprap | SY | 205.000 | 205.000 |
| 0122 | SPV.0195 | Special 01. Removal, Hauling, and Disposal of Creosote Contaminated Timbers | TON | 212.000 | 212.000 |

NOTE:
ALL ITEMS CATEGORY 0010
UNLESS OTHERWISE NOTED.

3

## REMOVING GUARDRAIL

| STATION | - | STATION | LOCATION | 204.0165 REMOVING GUARDRAIL (LF) |
|---|---|---|---|---|
| 12+26 | - | 12+65 | MAINLINE, LT | 39.0 |
| 12+27 | - | 12+66 | MAINLINE, RT | 39.0 |
| 13+34 | - | 13+73 | MAINLINE, LT | 39.0 |
| 13+35 | - | 13+74 | MAINLINE, RT | 39.0 |
| | | | TOTALS | 156.0 |

## EARTHWORK SUMMARY

| STATION - STATION | LOCATION | COMMON EXCAVATION (1) (ITEM # 205.0100) CUT (2) | SALVGED / UNUSABLE PAVEMENT MATERIAL (3) | AVAILABLE MATERIAL (4) | UNEXPANDED FILL | EXPANDED FILL (5) FACTOR 1.25 | MASS ORDINATE +/- (6) | COMMENT: |
|---|---|---|---|---|---|---|---|---|
| 10+39 - 12+59 | SOUTH APPROACH | 285 | 85 | 200 | 127 | 159 | 41 | CAT 0010 |
| 13+51 - 15+52 | NORTH APPROACH | 291 | 87 | 204 | 151 | 189 | 15 | CAT 0010 |
| | TOTALS | 576 | 172 | 404 | 278 | 348 | 57 | |

1) COMMON EXCAVATION IS THE CUT. ITEM # 205.0100.
2) SALVAGED/UNUSABLE MATERIAL IS INCLUDED IN CUT.
3) SALVAGED/UNUSABLE MATERIAL INCLUDES ASPHATLIC PAVEMENT.
4) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSABLE MATERIAL
5) EXPANDED FILL FACTOR = 1.25: EXPANDED FILL = (UNEXPANDED FILL)*1.25
6) THE MASS ORDINATE + OR - CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL IN THE DIVISION.

3

## BASE AGGREGATE DENSE

| CATEGORY | STATION | - | STATION | LOCATION | 305.0110 3/4-INCH BASE (TON) | 305.0120 1 1/4-INCH BASE (TON) | 624.0100 WATER (MGAL) |
|---|---|---|---|---|---|---|---|
| 0010 | 10+39 | - | 12+59 | MAINLINE | 53 | 392 | 5.7 |
| 0030 | 11+14 | - | 12+08 | MAINLINE | --- | 154 | --- |
| 0030 | 13+51 | - | 14+02 | MAINLINE | --- | 154 | --- |
| 0010 | 14+02 | - | 15+52 | MAINLINE | 51 | 382 | 5.7 |
| | | | | TOTALS | 104 | 1082 | 11.4 |

## ASPHALTIC ITEMS

| CATEGORY | STATION | - | STATION | LOCATION | 455.0600 TACK COAT (GAL) | 465.0105 ASPHALTIC SURFACE (TON) |
|---|---|---|---|---|---|---|
| 0030 | 11+14 | - | 12+08 | MAINLINE | 16 | 52 |
| 0010 | 11+14 | - | 12+59 | MAINLINE | 16 | 50 |
| 0010 | 13+51 | - | 14+96 | MAINLINE | 16 | 50 |
| 0030 | 14+02 | - | 14+96 | MAINLINE | 16 | 52 |
| | | | | TOTALS | 64 | 204 |

## MGS GUARDRAIL

| STATION | - | STATION | LOCATION | 614.2500 MGS THRIE BEAM TRANSIITION (LF) | 614.2610 MGS GUARDRAIL TERMINAL EAT (EACH) |
|---|---|---|---|---|---|
| 11+64.64 | - | 12+04.04 | MAINLINE, LT | 39.40 | 1 |
| 11+72.14 | - | 12+11.54 | MAINLINE, RT | 39.40 | 1 |
| 13+98.79 | - | 14+38.19 | MAINLINE, LT | 39.40 | 1 |
| 14+06.30 | - | 14+45.70 | MAINLINE, RT | 39.40 | 1 |
| | | | TOTALS | 157.60 | 4 |

## SILT FENCE

| STATION | - | STATION | LOCATION | 628.1504 SILT FENCE (LF) | 628.1520 SILT FENCE MAINTENANCE (LF) |
|---|---|---|---|---|---|
| 10+39 | - | 12+59 | MAINLINE, LT | 253 | 506 |
| 10+56 | - | 12+58 | MAINLINE, RT | 224 | 448 |
| 13+51 | | 15+48 | MAINLINE, LT | 215 | 430 |
| 13+51 | | 15+52 | MAINLINE, RT | 226 | 452 |
| | | | UNDISTRIBUTED | 232 | --- |
| | | | TOTALS | 1150 | 1836 |

## MOBILIZATIONS EROSION CONTROL

| LOCATION | 628.1905 MOBILIZATIONS EROSION CONTROL (EACH) | 628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL (EACH) |
|---|---|---|
| ID 5683-00-72 | 3 | 2 |
| TOTALS | 3 | 2 |

## TURBIDITY BARRIER

| LOCATION | 628.6005 (SY) |
|---|---|
| SOUTH APPROACH | 103 |
| NORTH APPROACH | 108 |
| TOTALS | 211 |

| PROJECT NO: 5683-00-72 | HWY: CTH W | COUNTY: IOWA | MISCELLANEOUS QUANTITIES | SHEET 9 | E |
|---|---|---|---|---|---|

NOTE:
ALL ITEMS CATEGORY 0010
UNLESS OTHERWISE NOTED.

3

## FINISHING ITEMS

| STATION | - | STATION | LOCATION | 625.0500 SALVAGED TOPSOIL (SY) | 627.0200 MULCHING (SY) | 629.0210 FERTILIZER TYPE B (CWT) | 630.0175 SEEDING MIX NO. 75 (LB) | 630.0200 SEEDING TEMPORARY (LB) | 630.0400 SEEDING NURSE CROP (LB) | 630.0500 SEED WATER (MGAL) |
|---|---|---|---|---|---|---|---|---|---|---|
| 10+39 | - | 12+58 | MAINLINE, LT | 170 | 440 | 0.27 | 3 | 12 | 3 | 7.3 |
| 10+56 | - | 12+58 | MAINLINE, RT | 270 | 500 | 0.32 | 3 | 14 | 4 | 8.5 |
| 13+51 | | 15+48 | MAINLINE, LT | 260 | 480 | 0.30 | 3 | 13 | 3 | 8.1 |
| 13+51 | | 15+52 | MAINLINE, RT | 250 | 490 | 0.31 | 3 | 13 | 4 | 8.3 |
| | | | SOUTH RIPRAP | --- | 60 | 0.04 | 1 | 2 | 1 | 1.0 |
| | | | NORTH RIPRAP | --- | 110 | 0.07 | 1 | 3 | 1 | 1.9 |
| | | | UNDISTRIBUTED | 240 | 520 | 0.34 | 4 | 18 | 4 | 8.9 |
| | | | TOTALS | 1190 | 2600 | 1.65 | 18 | 75 | 20 | 44.0 |

## SIGNING

| STATION | LOCATION | SIGN NUMBER | SIGN CODE | 634.0612 POSTS WOOD 4X6-INCH X 12-FT (EACH) | 637.2230 SIGNS TYPE II REFLECTIVE TYPE F (SF) | 638.2602 REMOVING SIGN TYPE II (EACH) | 638.3000 REMOVING SMALL SIGN SUPPORTS (EACH) | NOTES |
|---|---|---|---|---|---|---|---|---|
| 12+37 | RT | 5R | --- | --- | --- | 1 | 1 | LOAD POSTING |
| 12+54 | RT | 1 | W5-52R | 1 | 3 | --- | --- | BRIDGE HASH MARKS |
| 12+62 | LT | 2 | W5-52L | 1 | 3 | --- | --- | BRIDGE HASH MARKS |
| 12+67 | RT | 1R | --- | --- | --- | 1 | 1 | BRIDGE HASH MARKS |
| 12+68 | LT | 2R | --- | --- | --- | 1 | 1 | BRIDGE HASH MARKS |
| 13+31 | LT | 3R | --- | --- | --- | 1 | 1 | BRIDGE HASH MARKS |
| 13+31 | RT | 4R | --- | --- | --- | 1 | 1 | BRIDGE HASH MARKS |
| 13+48 | RT | 3 | W5-52R | 1 | 3 | --- | --- | BRIDGE HASH MARKS |
| 13+56 | LT | 4 | W5-52L | 1 | 3 | --- | --- | BRIDGE HASH MARKS |
| 13+59 | LT | 6R | --- | --- | --- | 1 | 1 | LOAD POSTING |
| | | | TOTAL | 4 | 12 | 6 | 6 | |

3

## TRAFFIC CONTROL

| LOCATION | DURATION | 643.0420 TRAFFIC CONTROL BARRICADES TYPE III (NO.) | 643.0420 TRAFFIC CONTROL BARRICADES TYPE III (DAY) | 643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A (NO.) | 643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A (DAY) | 643.0900 TRAFFIC CONTROL SIGNS (NO.) | 643.0900 TRAFFIC CONTROL SIGNS (DAY) | 643.5000 TRAFFIC CONTROL (EACH) |
|---|---|---|---|---|---|---|---|---|
| NORTH APPROACH | 96 | 9 | 864 | 18 | 1728 | 7 | 672 | 1 |
| SOUTH APPROACH | 96 | 9 | 864 | 18 | 1728 | 7 | 672 | --- |
| UNDISTRIBUTED | 96 | 4 | 384 | 8 | 768 | 4 | 384 | --- |
| | TOTAL | 22 | 2112 | 44 | 4224 | 18 | 1728 | 1 |

PLACE TRAFFIC CONTROL IN ACCORDANCE WITH SDD 15C2.
PLACEMENT SUBJECT TO ENGINEER APPROVAL.

## MARKING LINE PAINT 4-INCH

| STATION | - | STATION | LOCATION | 646.1005 (LF) | REMARK |
|---|---|---|---|---|---|
| 11+14 | - | 14+96 | CENTERLINE | 100 | SINGLE DASHED YELLOW |
| 11+14 | - | 14+96 | EDGELINE, LT | 382 | SOLID WHITE |
| 11+14 | - | 14+96 | EDGELINE, RT | 382 | SOLID WHITE |
| | | | TOTAL | 864 | |

## CONSTRUCTION STAKING

| STATION | - | STATION | LOCATION | 650.4500 SUBGRADE (LF) | 650.5000 BASE (LF) | 650.6500 STRUCTURE LAYOUT 01. B-25-195 (LS) | 650.9910 SUPPLEMENTAL CONTROL (LS) | 650.9920 SLOPE STAKES (LF) |
|---|---|---|---|---|---|---|---|---|
| 10+39 | - | 12+59 | MAINLINE | 145 | 145 | --- | --- | 220 |
| 13+51 | - | 15+52 | MAINLINE | 145 | 145 | --- | --- | 201 |
| --- | - | --- | PROJECT | --- | --- | 1 | 1 | --- |
| | | | TOTALS | 290 | 290 | 1* | 1 | 421 |

* CATEGORY 0020

## SAWING ASPHALT

| STATION | LOCATION | 690.0150 (LF) |
|---|---|---|
| 11+14 | MAINLINE | 22 |
| 14+96 | MAINLINE | 22 |
| | TOTAL | 44 |

LEGEND

SLOPE INTERCEPT
SURFACE WATER FLOW
SAWCUT
TURBIDITY BARRIER
STREAM EDGE
EXISTING SIGN
SILT FENCE
PROPOSED SIGN

MICHAEL J & GALE E STATZ

MICHAEL J & GALE E STATZ

STREAM EDGE

ALLIANT ENERGY

FRONTIER COMMUNICATIONS

DODGE BRANCH

EXISTING R/W

BM 1

BM 2

BM 3

BP: 10+09.63

EP: 15+72.69

CP 1

CP 2

CP 3

CP 4

11+00

12+00

13+00

14+00

15+00

CTH W
(ASPHALT)

F.E.
(B.A.D.)

SLOPE INTERCEPT, TYP.

EXISTING R/W

BEGIN CONSTRUCTION
STA 11+14
MATCH EXISTING
SAW CUT REQ'D

END CONSTRUCTION
STA 14+96
MATCH EXISTING
SAW CUT REQ'D

WDNR FISHING EASEMENT

NOTE: UNNAMED ARCHEOLOGICAL SITE
47IA253 EXISTS BEYOND RIGHT-OF-WAY.

JONESDALE SPORTSMAN CLUB

MIKE, BRIONY, COLLEEN, MORNA, CATHLIN, ERIN FOY

BENCH MARKS

| NO. | STATION | DESCRIPTION | ELEV. |
|---|---|---|---|
| BM 1 | 11+01.63 | RAILROAD SPIKE IN POWER POLE, 47.70' LT | 893.286 |
| BM 2 | 13+51.10 | RAILROAD SPIKE IN POWER POLE, 50.97' LT | 891.873 |
| BM 3 | 12+70.33 | MONUMENT IN SIDE OF BRIDGE, 13.81' RT | 897.972 |

10+00.00 11+00.00 12+00.00 13+00.00 14+00.00 15+00.00 16+00.00

895 890 885 882

EXISTING ℄ PROFILE

PROPOSED ℄ PROFILE

-0.31%

-0.64%

-0.79%

HIGH WATER$_{100}$
EL. 896.87

STA 11+14.00
EL 898.09

STA 12+08.37
EL 897.80

STA 14+01.96
EL 896.57

STA 14+96.00
EL 895.82

OBSERVED WATER
EL. = 885.00
(04-15-2021)

APPROX. STREAMBED EL. = 882.18

PROPOSED ℄ ELEVATION

EXISTING ℄ ELEVATION

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 898.30 | 898.14 | 897.98 | 897.98 | 897.85 | 897.83 | 897.34 | 897.53 | 883.58 | 897.22 | 896.82 | 896.90 | 896.57 | 896.58 | 896.25 | 896.19 | 895.78 | 895.39 |

STA. 12+91.16
REMOVE EXISTING STRUCTURE B-25-0011
60.5-FT OVERALL LENGTH AND
27.2 CLEAR ROADWAY WIDTH
SINGLE SPAN STEEL DECK GIRDER STRUCTURE

STA. 12+91.16
STRUCTURE B-25-0195 REQUIRED
93.58-FT OVERALL LENGTH AND
28.0-FT CLEAR ROADWAY WIDTH
THREE SPAN CONCRETE FLAT
SLAB STRUCTURE

| PROJECT NO: 5683-00-72 | HWY: CTH W | COUNTY: IOWA | PLAN & PROFILE | SHEET 11 | E |
|---|---|---|---|---|---|

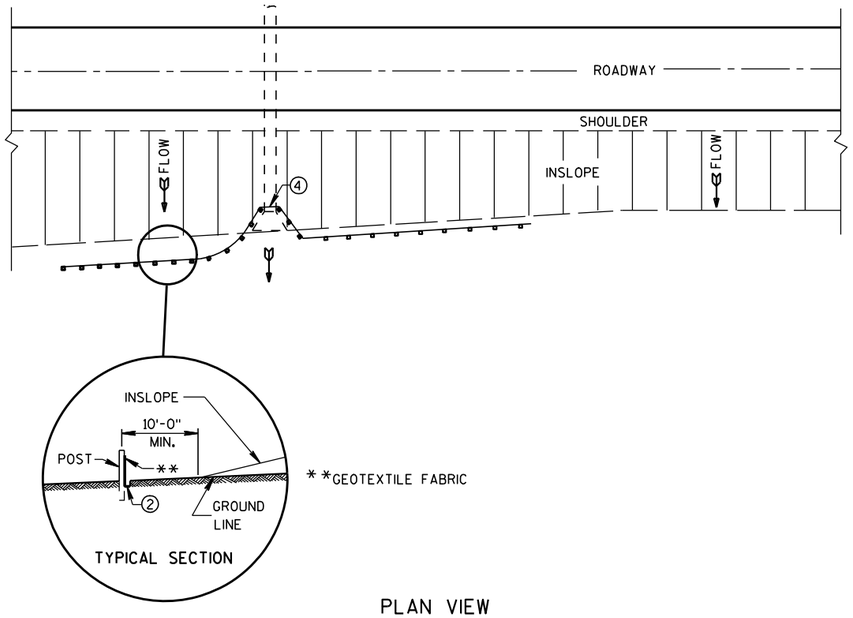
FILE NAME : G:\00-PROJECT FILES\2021\21069 CTH W, DODGE BR BRIDGE, IOWA COUNTY 5683-00-02\0-CAD\SHEETSPLAN\050101_PP.DWG
LAYOUT NAME - 050101_pp

PLOT DATE : 4/14/2022 9:14 AM PLOT BY : ERIK MEYER PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 44

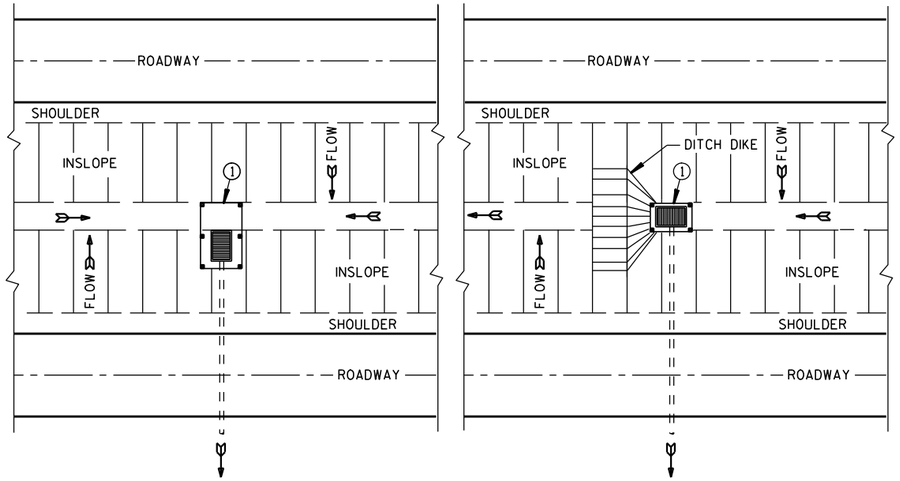
# Standard Detail Drawing List

| | |
|---|---|
| 08E09-06 | SILT FENCE |
| 08E11-02 | TURBIDITY BARRIER |
| 12A03-10 | NAME PLATE (STRUCTURES) |
| 14B44-04A | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS) |
| 14B44-04B | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS) |
| 14B44-04C | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS) |
| 14B45-05A | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-05B | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-05C | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-05H | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 15C02-08A | BARRICADES AND SIGNS FOR MAINLINE CLOSURES |
| 15C02-08B | BARRICADES AND SIGNS FOR VARIOUS CLOSURES |
| 15C06-09 | SIGNING & MARKING FOR TWO LANE BRIDGES |
| 15C11-09B | CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS |




PLAN VIEW

## TYPICAL APPLICATION OF SILT FENCE



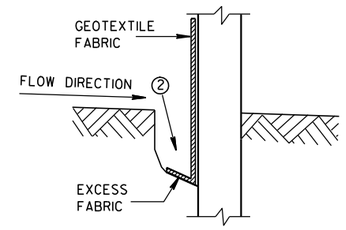

PLAN VIEW

## SILT FENCE AT MEDIAN SURFACE DRAINS

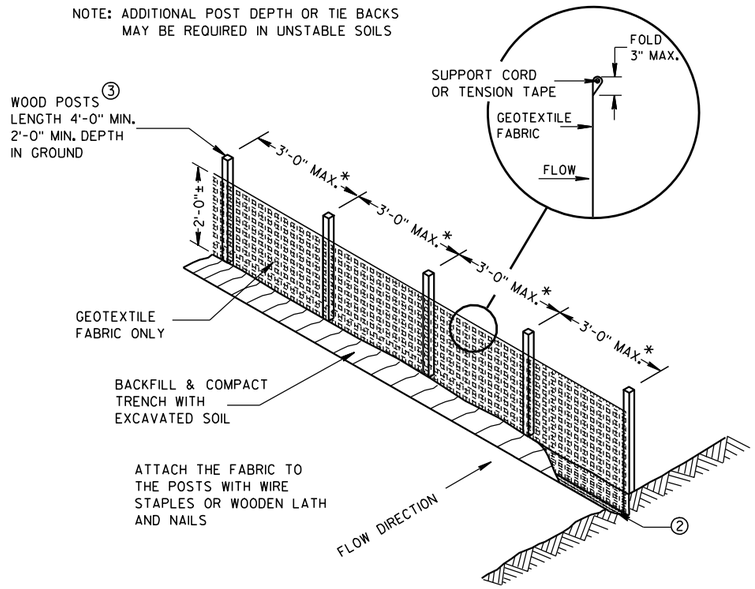
## GENERAL NOTES

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

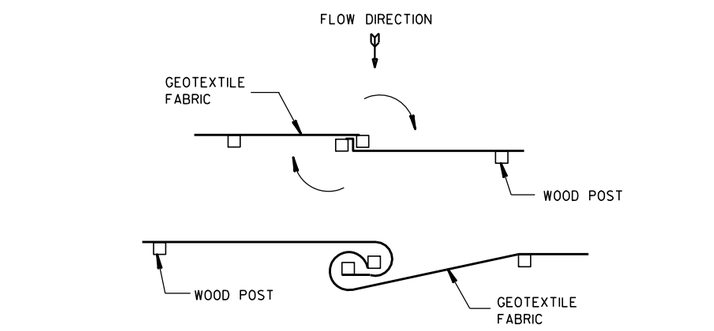
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



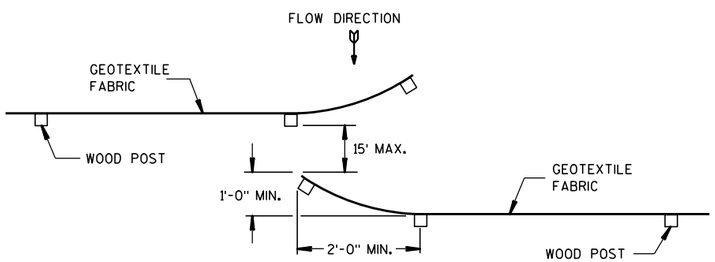

## TRENCH DETAIL




## SILT FENCE

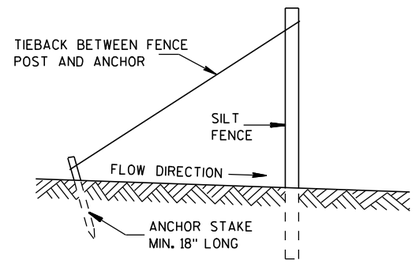



TWIST METHOD




HOOK METHOD

## JOINING TWO LENGTHS OF SILT FENCE 5




## SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

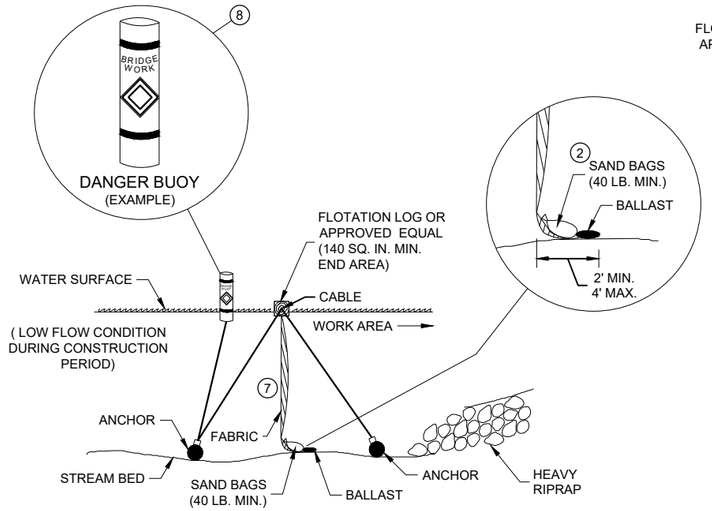


6

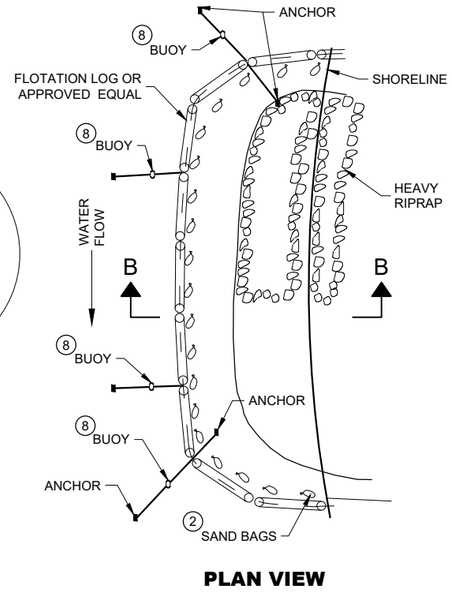
S.D.D. 8 E 9-6

6

S.D.D. 8 E 9-6

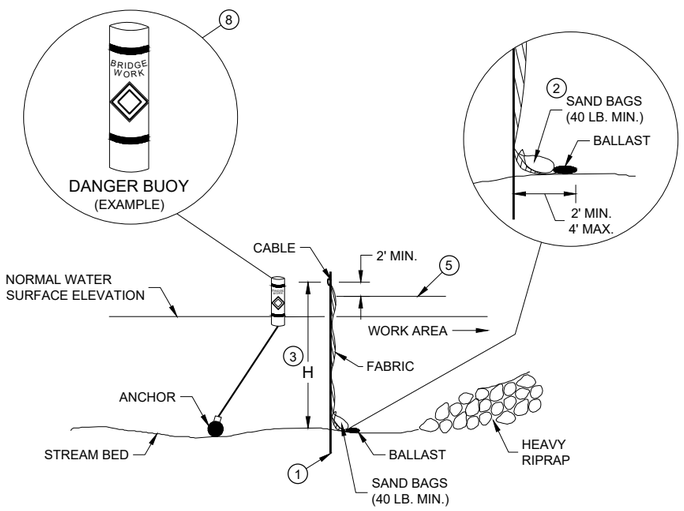



**SECTION B - B**

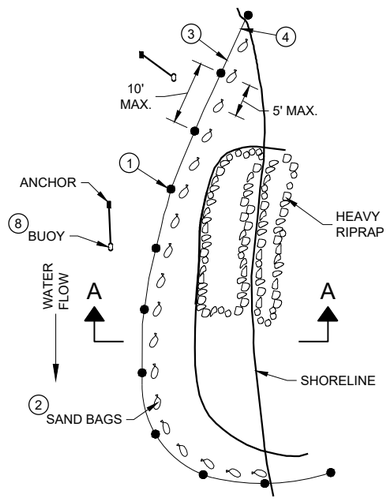



**PLAN VIEW**

**TURBIDITY BARRIER - FLOAT ALTERNATIVE**
**CAUTION - SEE NOTE 6**




**SECTION A - A**




**PLAN VIEW**

**TURBIDITY BARRIER - STANDARD POST INSTALLATION**

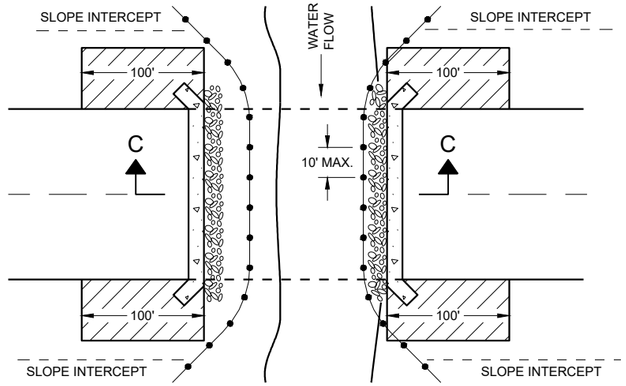
**TURBIDITY BARRIER PLACEMENT DETAILS**

## GENERAL NOTES

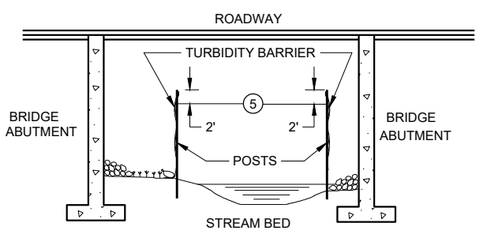
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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. SAND BAGS 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 FEET, 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. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE Q2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.
6. FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK 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

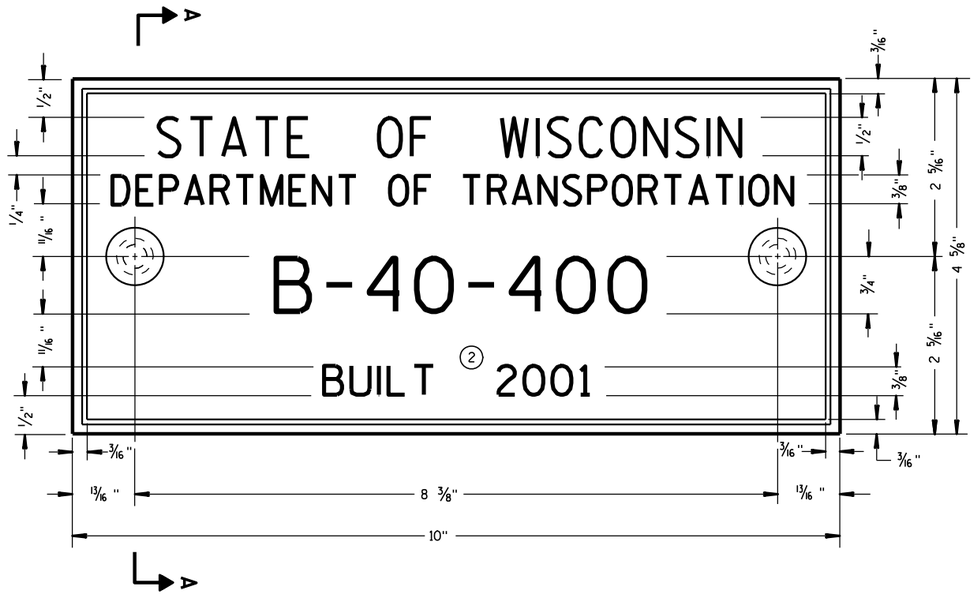
APPROVED
6/4/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA



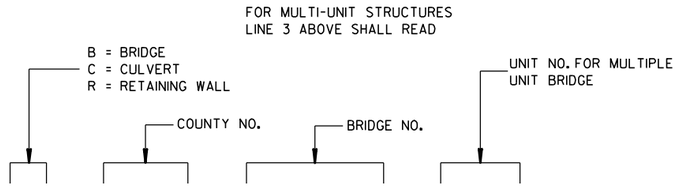


6
SDD 08E11 - 02




## TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)




## NUMBERING DESIGNATION
## MULTI-UNIT STRUCTURES

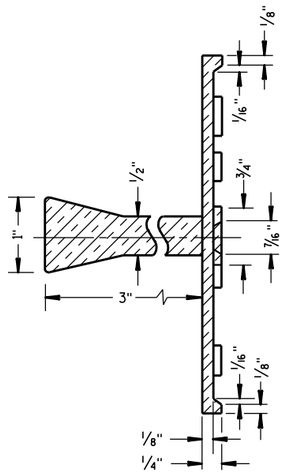
## GENERAL NOTES

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

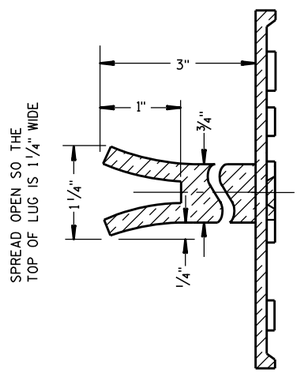
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

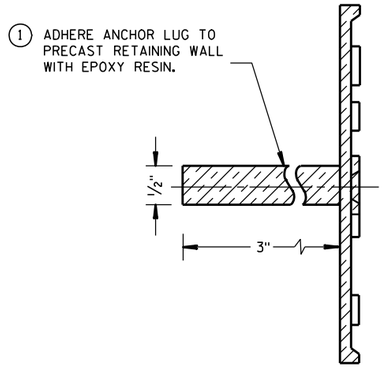
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.




SECTION A-A




ALTERNATE LUG




## ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE (STRUCTURES)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER

FHWA



6

S.D.D. 12 A 3-10

## GENERAL NOTES

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

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

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

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

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

DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

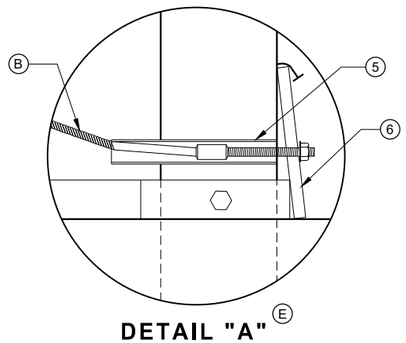
SEE SDD 14B42 FOR MORE INFORMATION.

* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

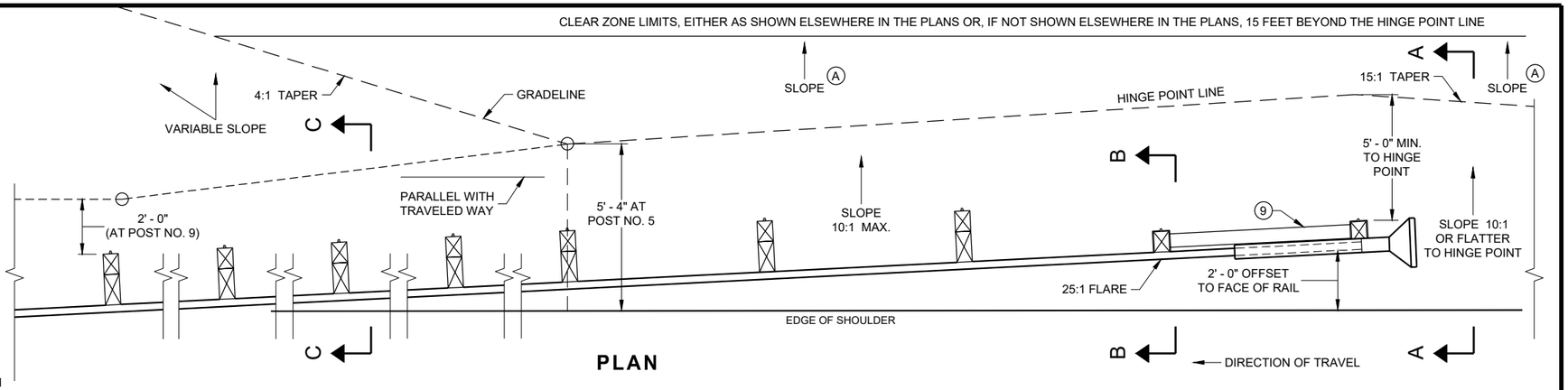
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

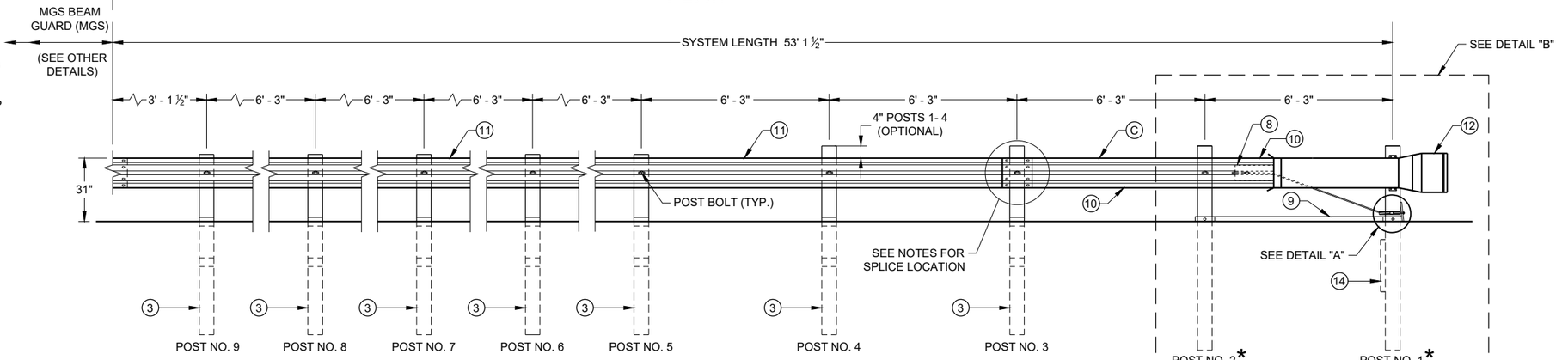
THE CENTER OF THE UPPER 3 ½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



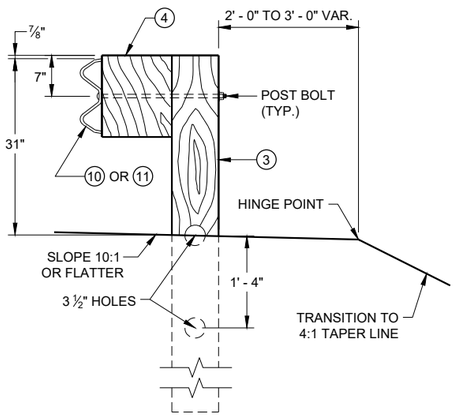

DETAIL "A" (E)



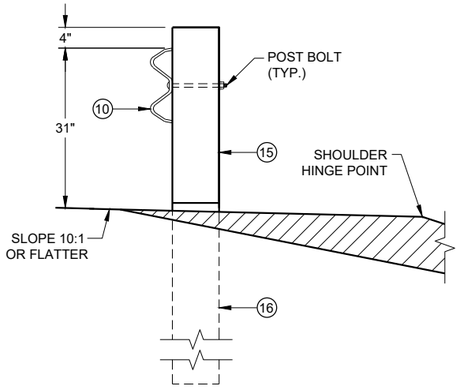

PLAN



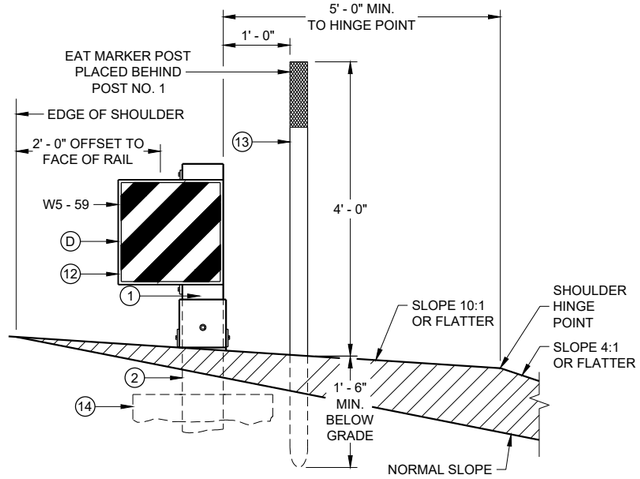

ELEVATION



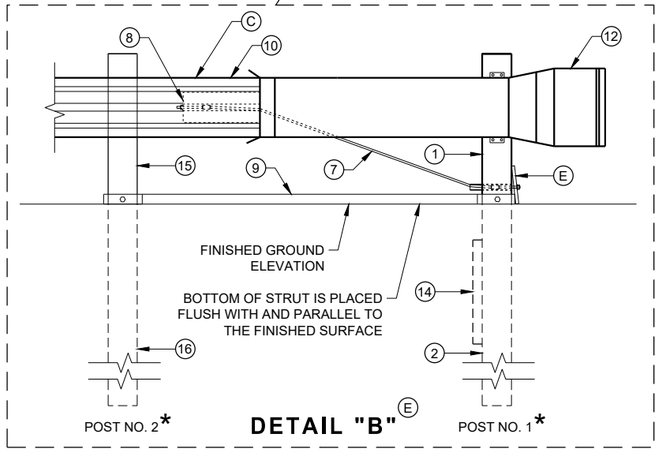

SECTION C - C
TYPICAL AT POST NOS. 3 - 9




SECTION B - B
TYPICAL AT POST NO. 2*




SECTION A - A
TYPICAL AT POST NO. 1*




DETAIL "B" (E)

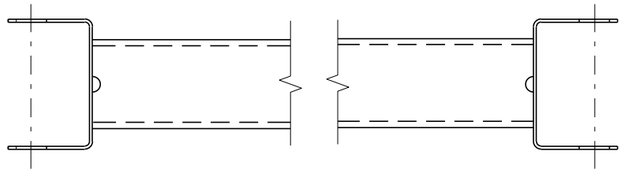
**MIDWEST GUARDRAIL SYSTEM**
**ENERGY ABSORBING TERMINAL (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 14B44 - 04a



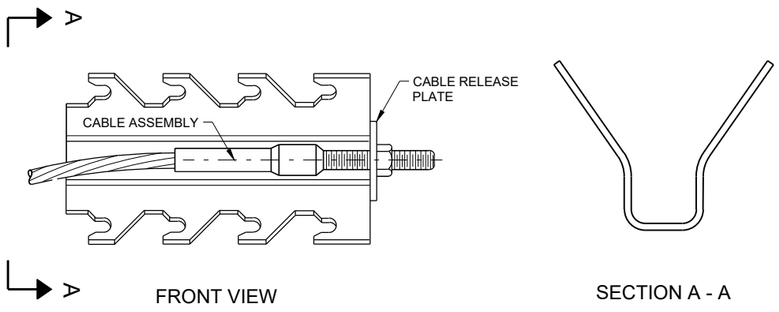
SDD 14B44 - 04a



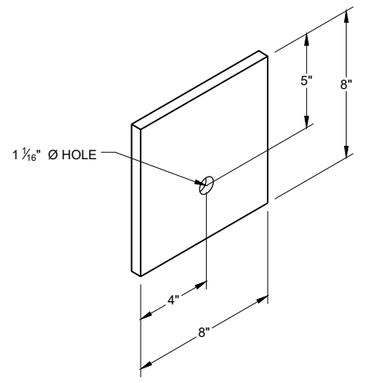
GENERIC GROUND STRUT ⑨ Ⓔ

## BILL OF MATERIALS

| PART NO. | DESCRIPTION<br>MATERIALS PROVIDED BY MGS EAT MANUFACTURER.<br>SEE MANUGACTURER'S DETAILS FOR MORE INFORMATION. |
|---|---|
| ① | UPPER POST NO. 1 6" X 6" TUBE |
| ② | LOWER POST NO. 1 |
| ③ | WOOD CRT |
| ④ | WOOD BLOCKOUT |
| ⑤ | PIPE SLEEVE |
| ⑥ | BEARING PLATE |
| ⑦ | BCT CABLE ASSEMBLY |
| ⑧ | ANCHOR CABLE BOX |
| ⑨ | GROUND STRUT |
| ⑩ | PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG. |
| ⑪ | STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED.<br>SECTIONS VARY IN LENGTH. |
| ⑫ | IMPACT HEAD |
| ⑬ | EAT MARKER POST - YELLOW<br>(SEE APPROVED PRODUCTS LIST) |
| ⑭ | SOIL PLATE |
| ⑮ | UPPER POST NO. 2 |
| ⑯ | LOWER POST NO. 2 |




GENERIC ANCHOR CABLE BOX ⑧ Ⓔ




BEARING PLATE ⑥ Ⓔ

6

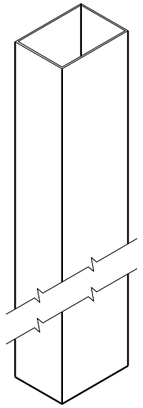
6

SDD 14B44 - 04b

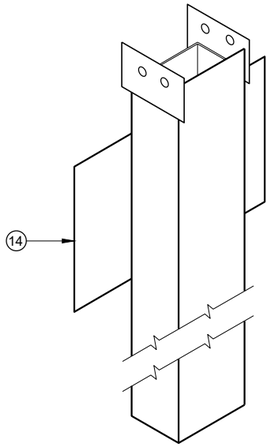
SDD 14B44 - 04b

**MIDWEST GUARDRAIL SYSTEM**
**ENERGY ABSORBING TERMINAL**
**(MGS)**

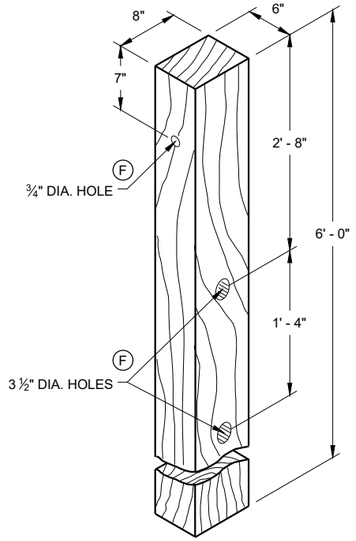
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



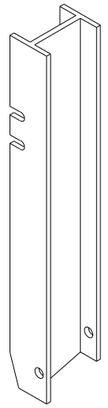
**UPPER POST NO. 1** (1) (E)



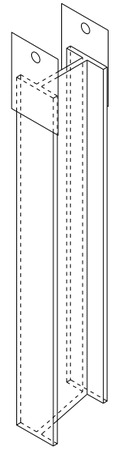

**LOWER POST NO. 1** (2) (E)



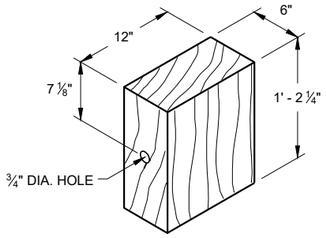

**WOOD CRT POST** (3) (E)
POSTS NUMBER 3-9



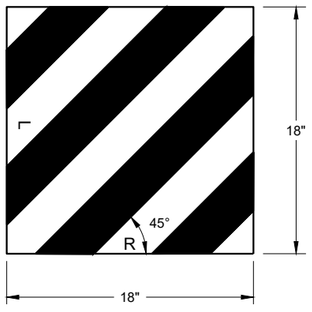
**UPPER POST NO. 2** (15) (E)



**LOWER POST NO. 2** (16) (E)

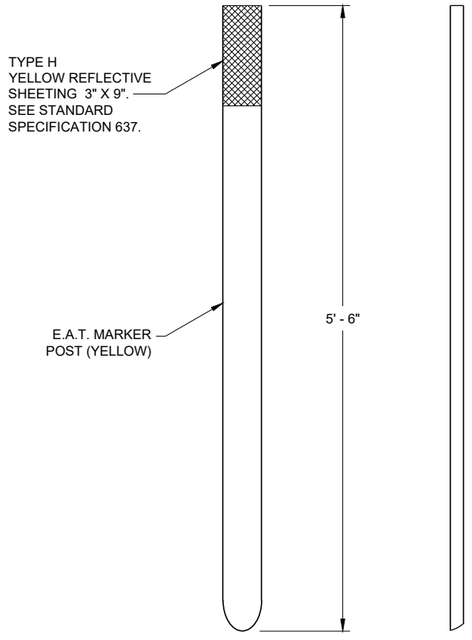



**WOOD BLOCKOUT** (4)
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



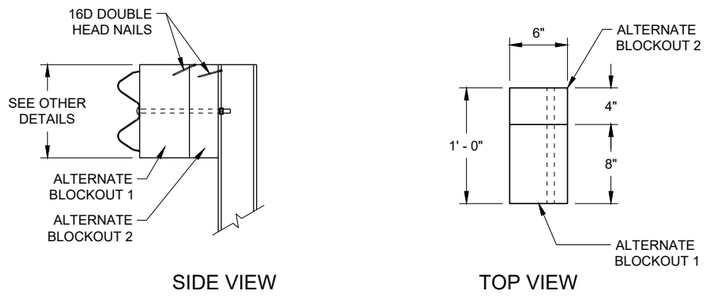

W5 - 59

**REFLECTIVE SHEETING DETAIL** (E)




FRONT VIEW SIDE VIEW

**E.A.T. MARKER POST** (13)




SIDE VIEW TOP VIEW

**ALTERNATE WOOD BLOCKOUT DETAIL**

**MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

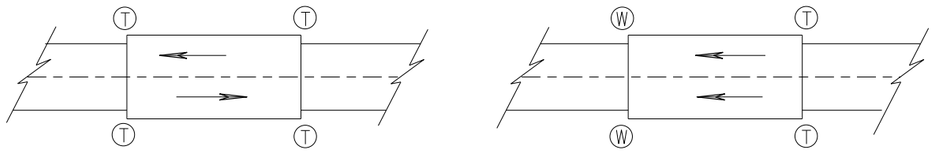
APPROVED
7/2018 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE UNIT SUPERVISOR

FHWA




6


SDD 14B44 - 04c




**TWO WAY TRAFFIC**




**ONE WAY TRAFFIC**

(T) THRIE BEAM CONNECTION

(W) W-BEAM CONNECTION WHEN REQUIRED

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

## GENERAL NOTES

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

TRANSITION USES STEEL POSTS ONLY.

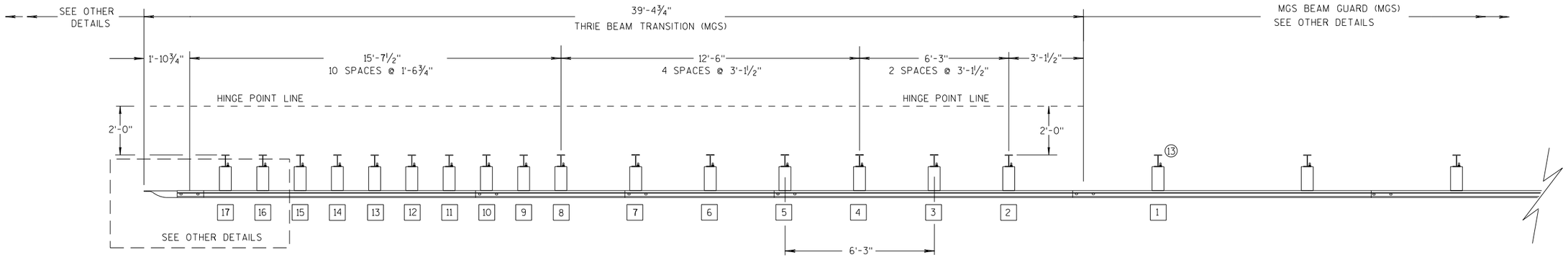
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

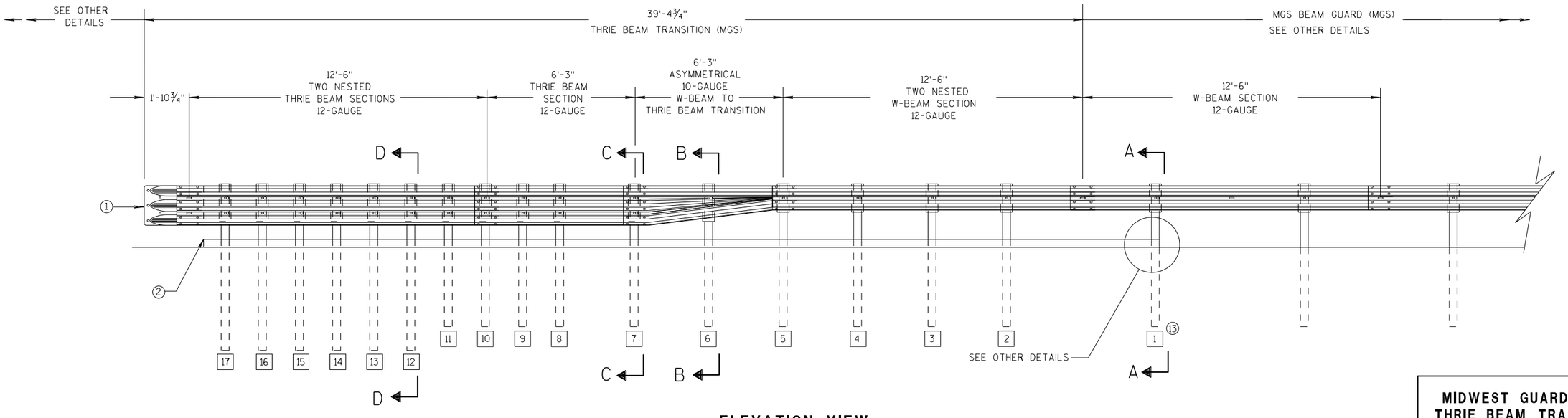
(1) BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

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

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




**PLAN VIEW**




**ELEVATION VIEW**

## MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR







6

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

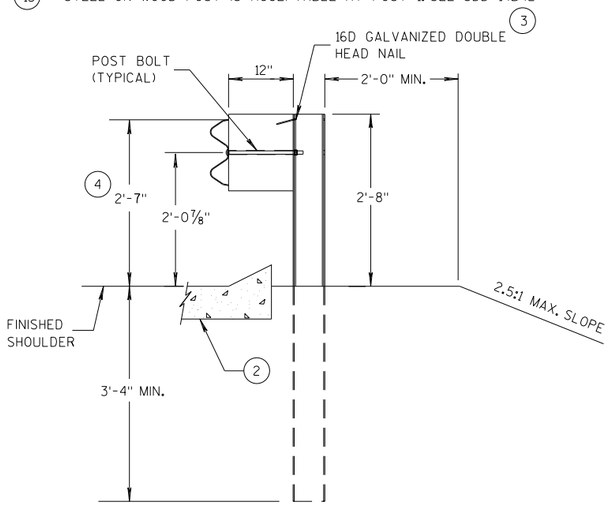
## GENERAL NOTES

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

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

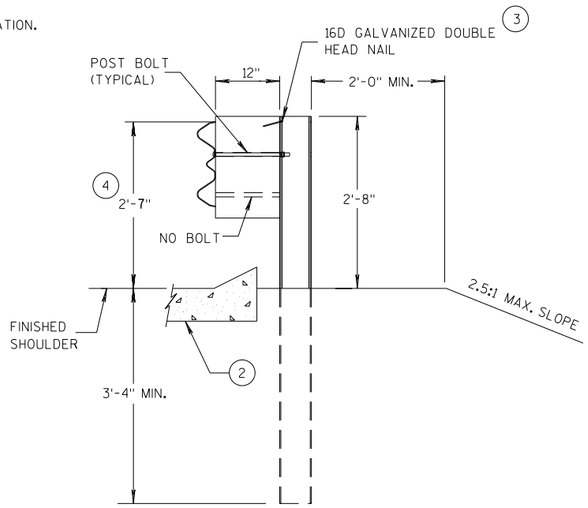
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".

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



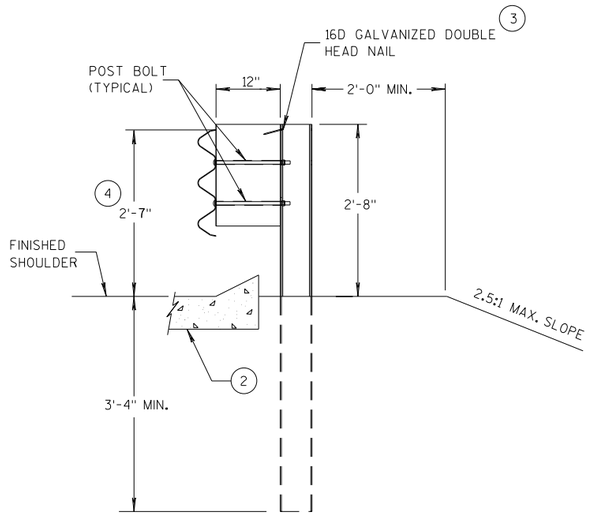

SECTION A-A (13)

**POSTS 1-5**



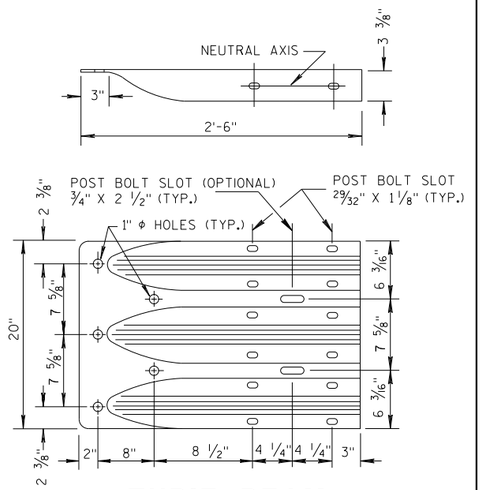

SECTION B-B

**POST 6**

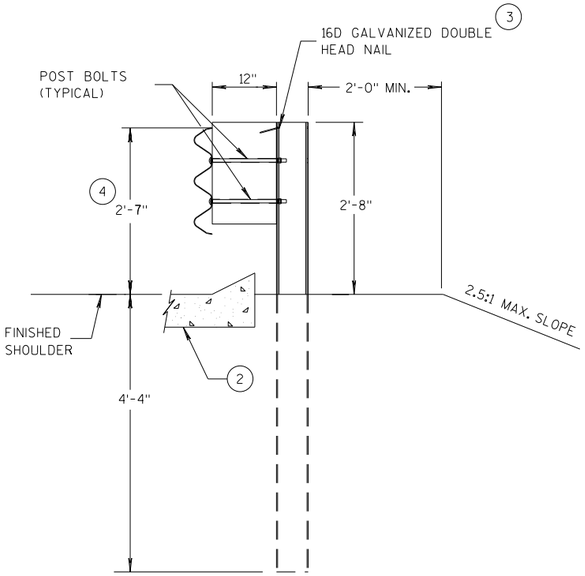



SECTION C-C

**POSTS 7-11**

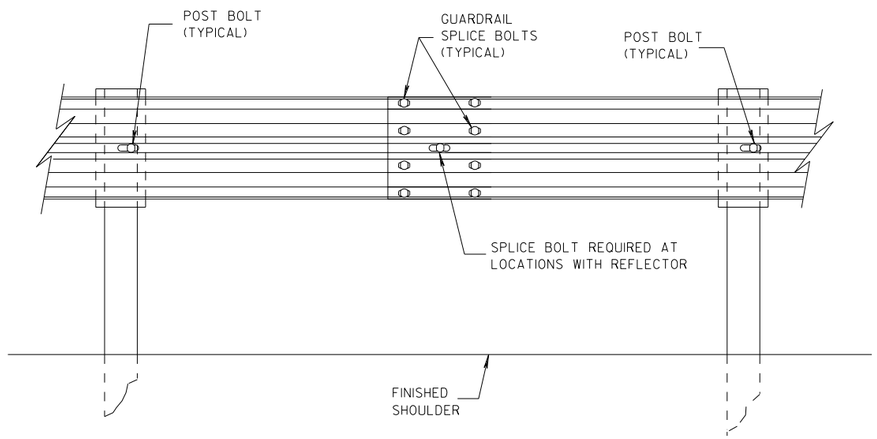



**THRIE BEAM TERMINAL CONNECTOR**




SECTION D-D

**POSTS 12-17**




**SPLICE DETAIL**

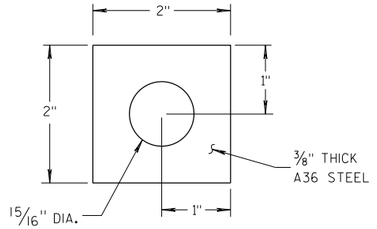
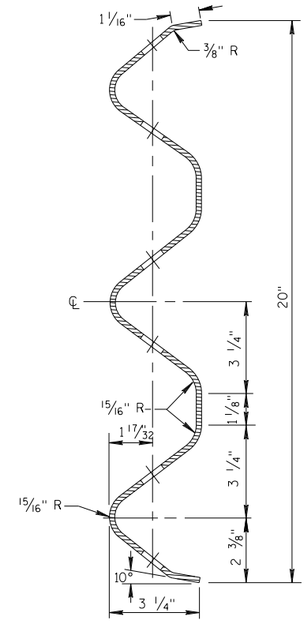



**PLATE WASHER DETAIL**




**SECTION THRU THRIE BEAM RAIL ELEMENT**

**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

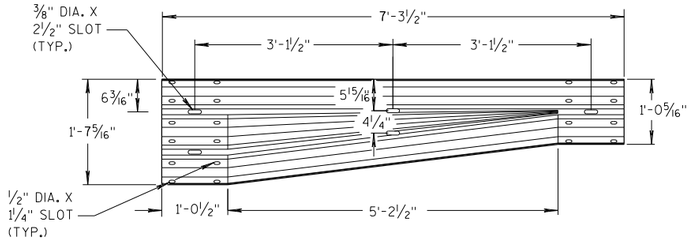
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 20

6

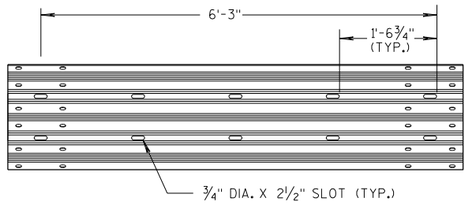
S.D.D. 14 B 45-5b

6

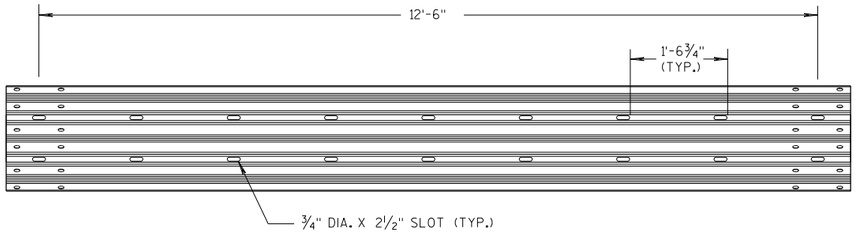
S.D.D. 14 B 45-5b



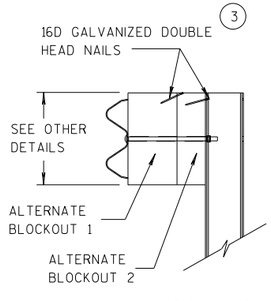

## W-BEAM TO THRIE BEAM TRANSITION SECTION



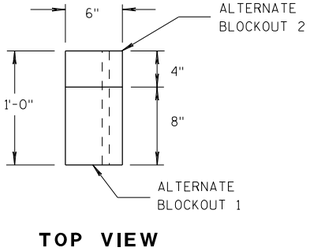

## 6'-3" THRIE BEAM SECTION




## 12'-6" THRIE BEAM SECTION

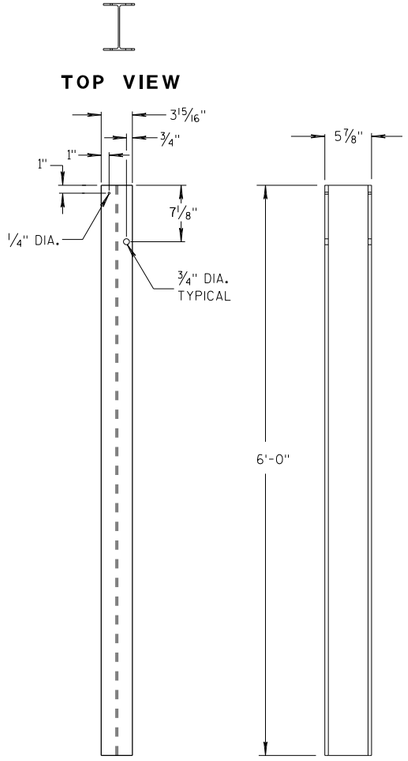



SIDE VIEW



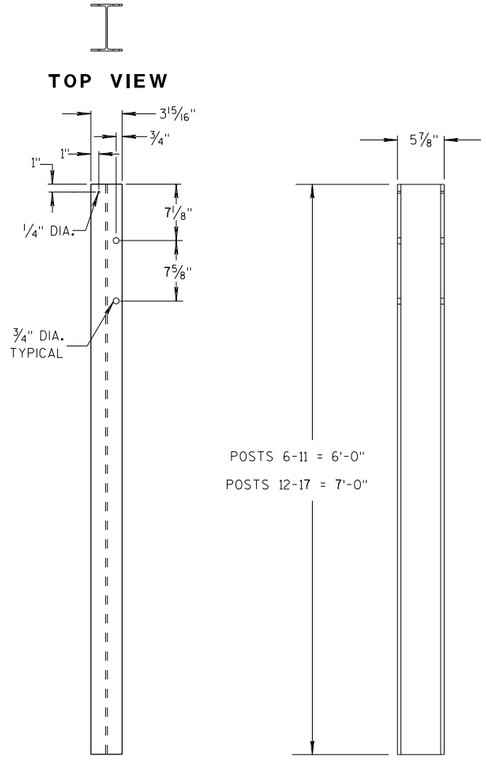

TOP VIEW

## ALTERNATE WOOD BLOCKOUT DETAIL



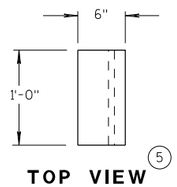

FRONT VIEW SIDE VIEW

## STEEL POSTS 1-5 (13)

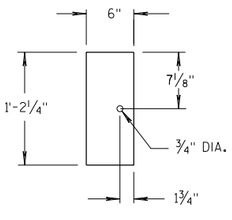



FRONT VIEW SIDE VIEW

## STEEL POSTS 6-17

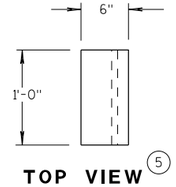



TOP VIEW (5)

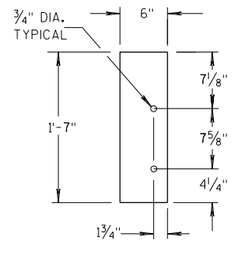



FRONT VIEW

## BLOCKOUT POSTS 1-5




TOP VIEW (5)




FRONT VIEW

## BLOCKOUT POSTS 6-17

## GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

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

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

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

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

**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR 21

6

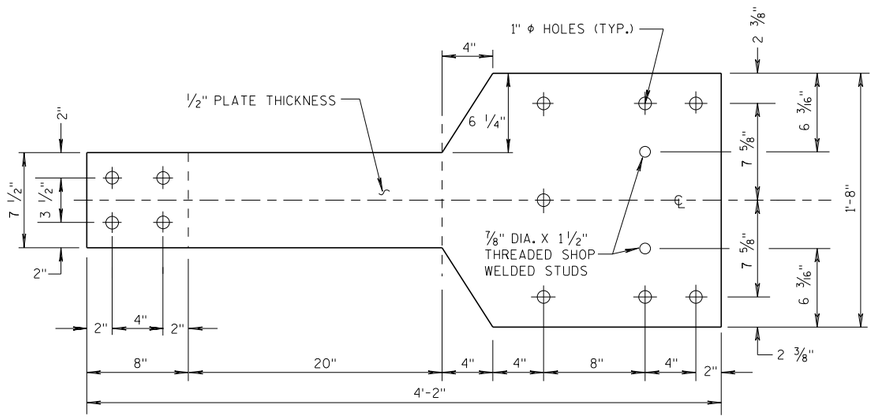
S.D.D. 14 B 45-5c

6

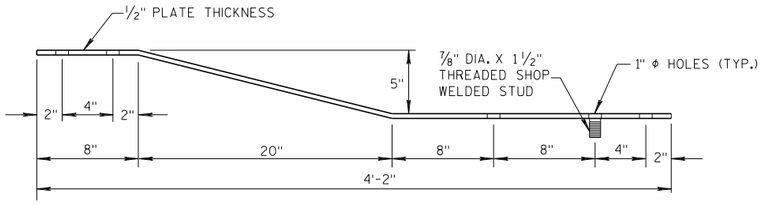
S.D.D. 14 B 45-5c

## GENERAL NOTES

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

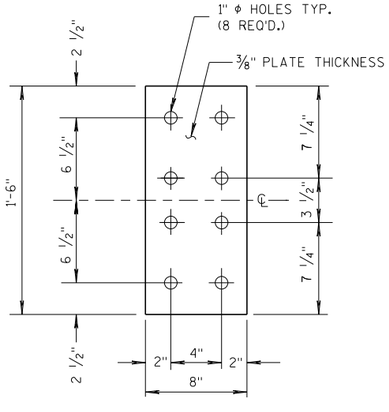



FRONT VIEW



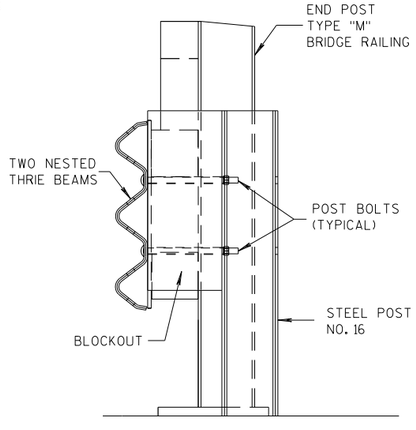

PLAN VIEW

## BACK-UP PLATE DETAIL, TYPE "M"

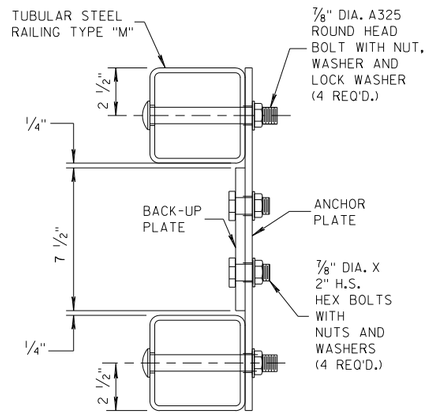



FRONT VIEW

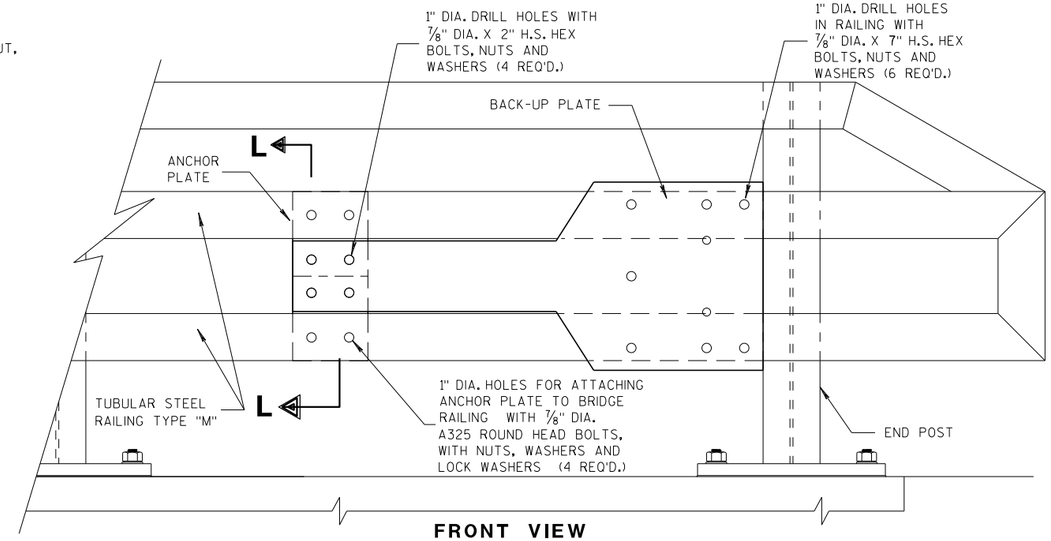
## ANCHOR PLATE DETAIL, TYPE "M"




SECTION M-M

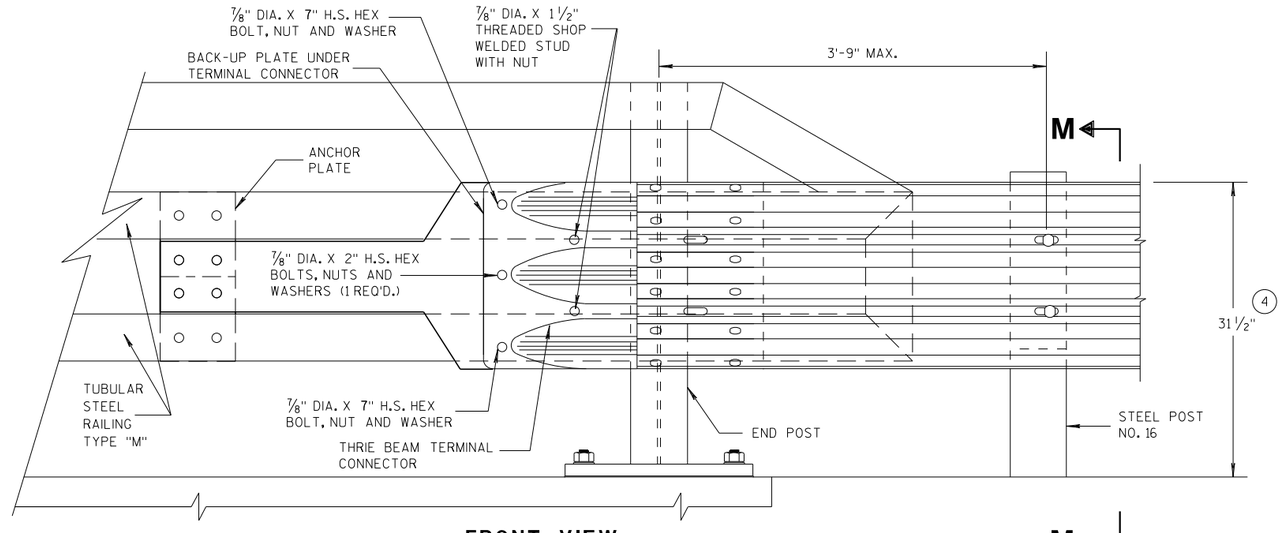



SECTION L-L

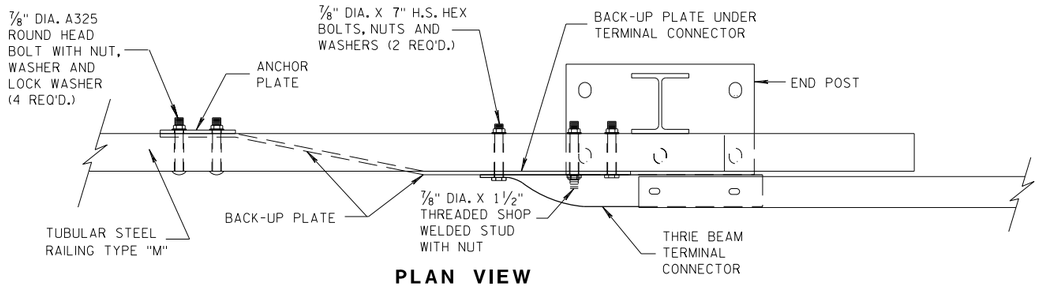



FRONT VIEW

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




FRONT VIEW




PLAN VIEW

## THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

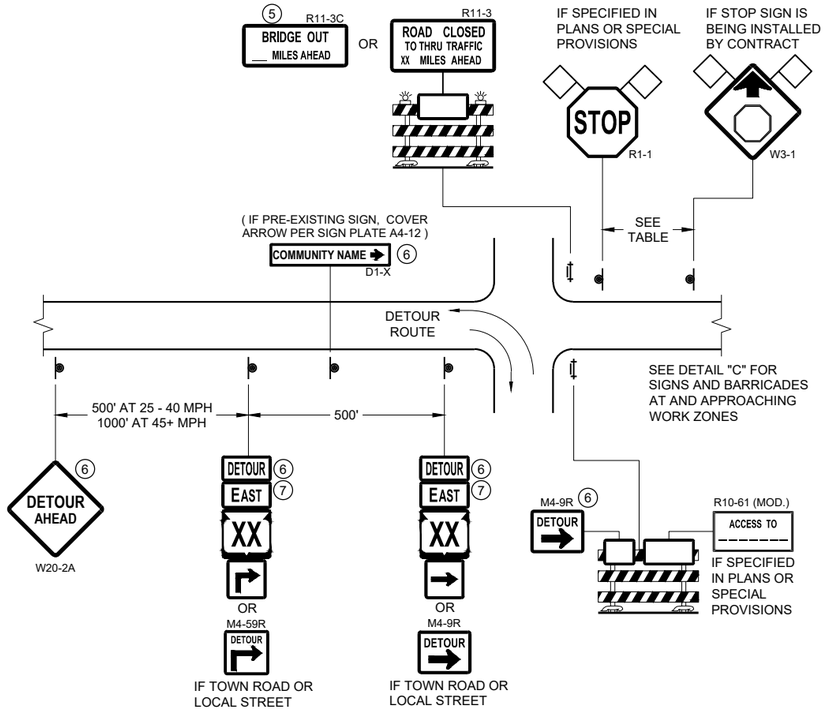


6

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

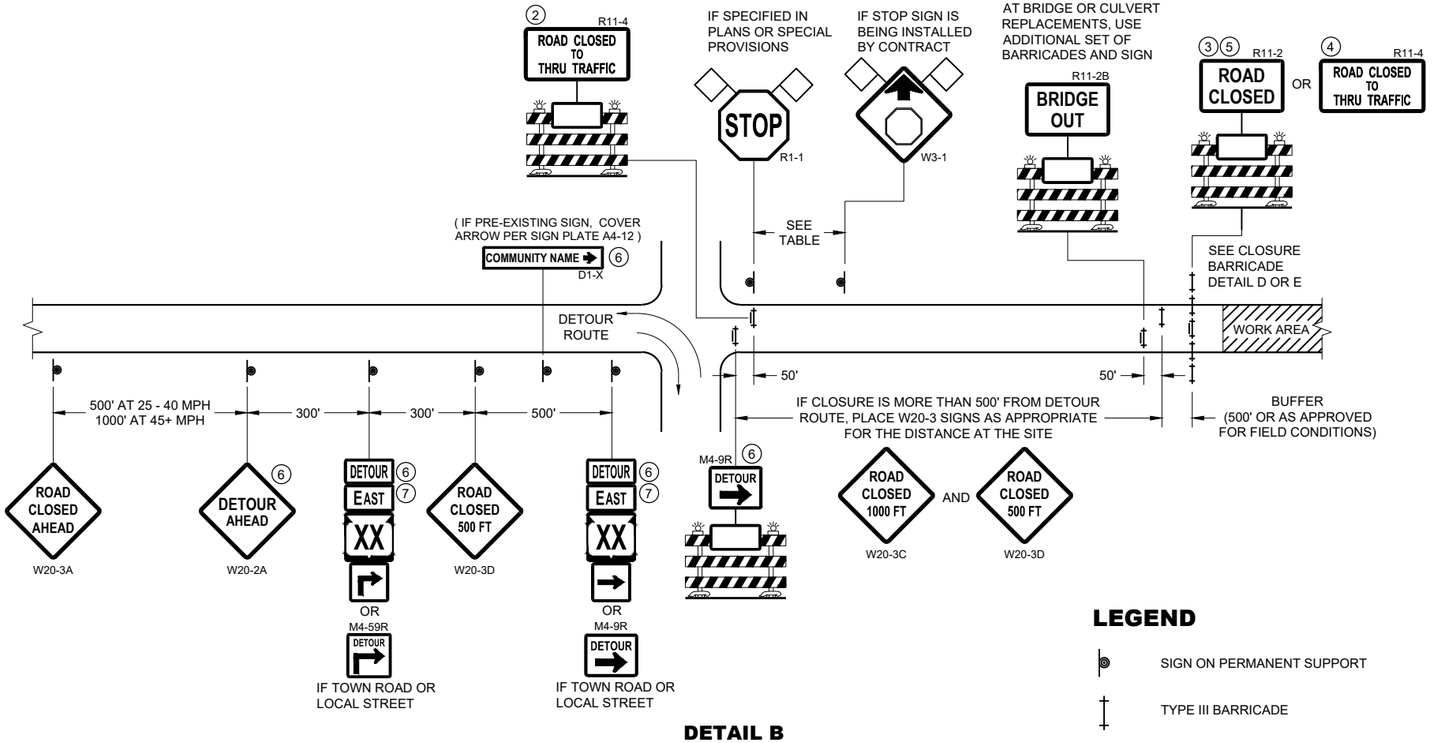
6

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



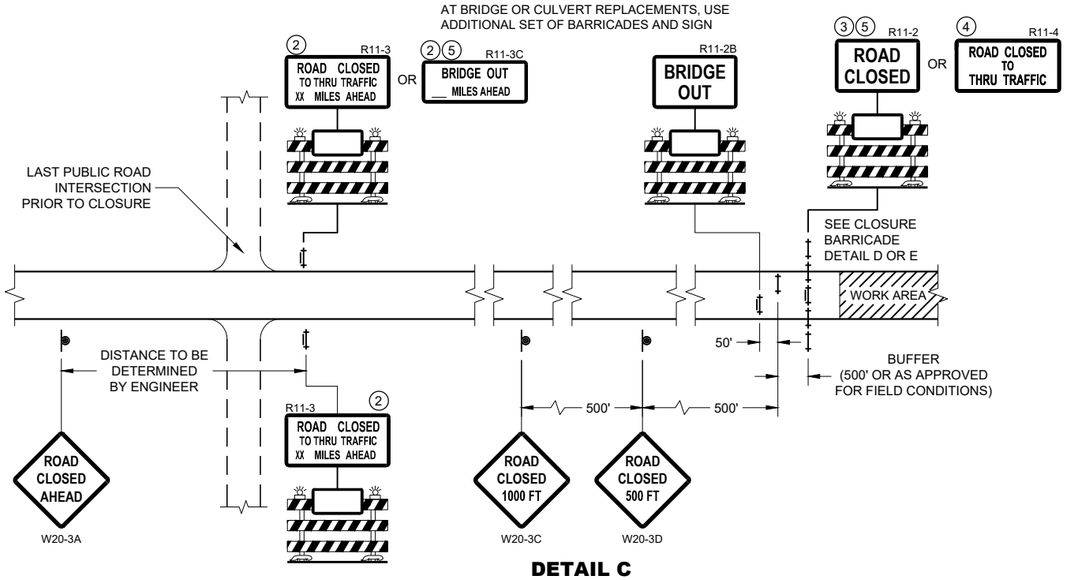

## DETAIL A
## MAINLINE CLOSURE WITH POSTED DETOUR

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




## DETAIL B
## MAINLINE CLOSURE WITH POSTED DETOUR

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




## DETAIL C
## MAINLINE CLOSURE, NO POSTED DETOUR

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

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

## LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)

DETOUR M4 - 8
EAST M3 - X
XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A
M05 - 1 OR M06 - 1

**BARRICADES AND SIGNS FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

FHWA

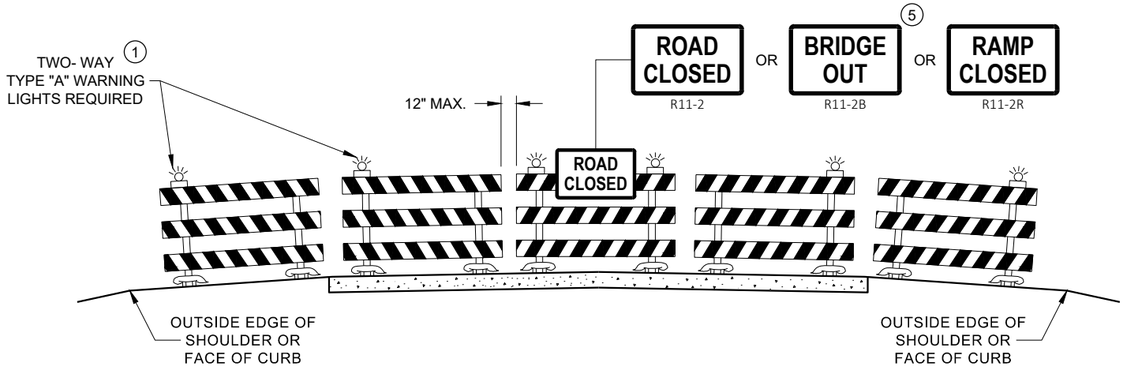


6

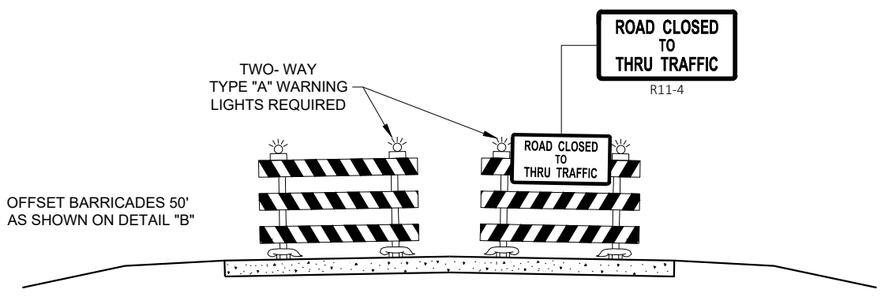
SDD 15C02 - 08a

6

SDD 15C02 - 08a




**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 THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL 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 SHALL, 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" (36" X 18" 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)
- MO5 - 1 AND MO6 - 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 AN 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 ROAD 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 VARIOUS CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE
FHWA

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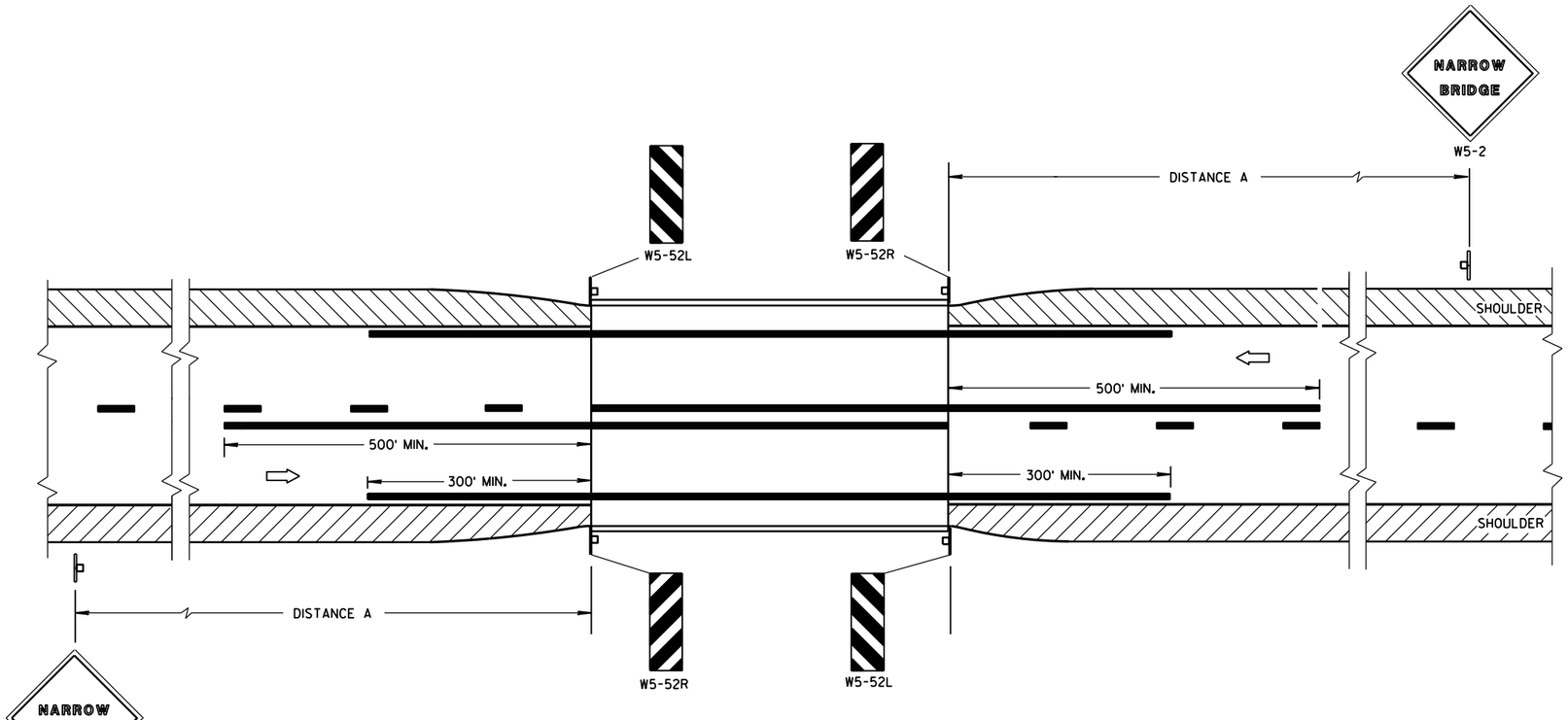
SDD 15C02 - 08b




## SITUATION 1

WARRANTING CRITERIA:

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

### DISTANCE TABLE

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

## GENERAL NOTES

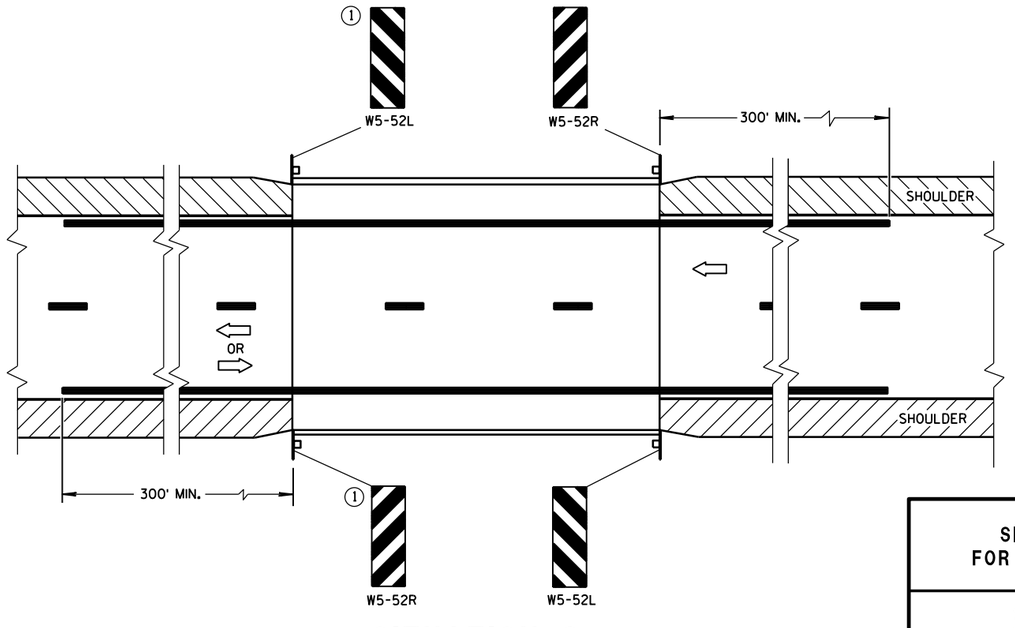
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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

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

(1) OMIT ON ONE-WAY TRAVELLED WAYS.

⇨ DIRECTION OF TRAFFIC




## SITUATION 2

WARRANTING CRITERIA:

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

**SIGNING & MARKING FOR TWO LANE BRIDGES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA



6

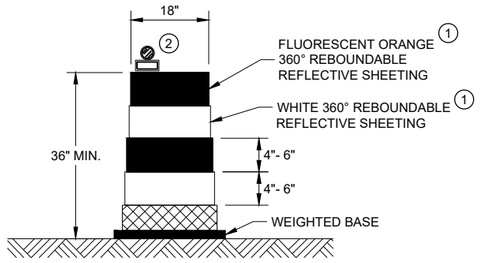
S.D.D. 15 C 6-9

6

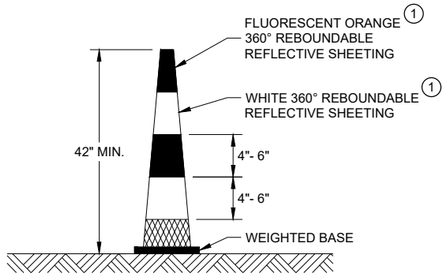
S.D.D. 15 C 6-9

## GENERAL NOTES

1. REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
2. LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

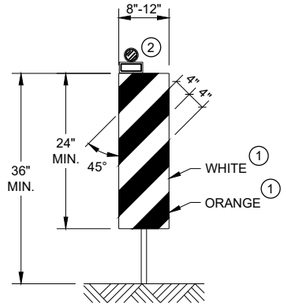



### DRUM



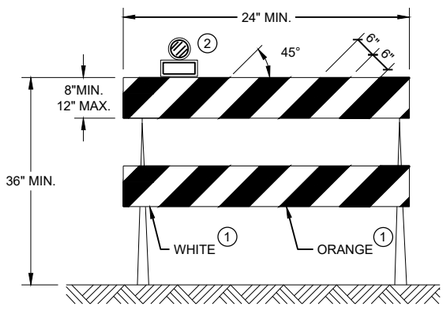

### 42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



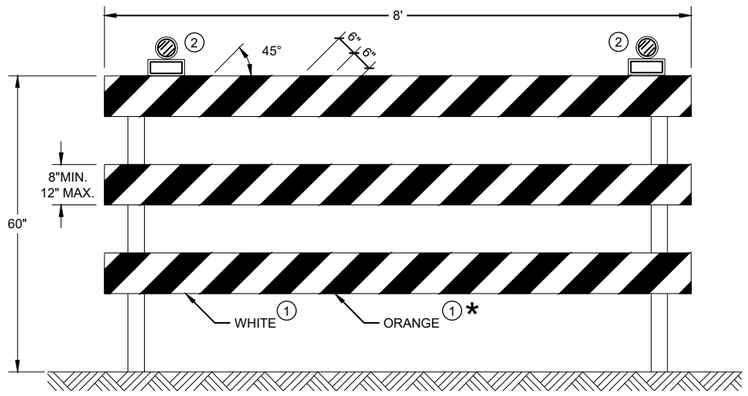

### VERTICAL PANEL

THE STRIPES SHALL SLOPE DOWNWARD TO
THE TRAFFIC SIDE FOR CHANNELIZATION.




### TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES
MAY BE USED. ALL STRIPES SHALL SLOPE DOWNWARD
TO THE TRAFFIC SIDE FOR CHANNELIZATION.




### TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

**CHANNELIZING DEVICES**
**DRUMS, CONES, BARRICADES**
**AND VERTICAL PANELS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2021 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER
FHWA

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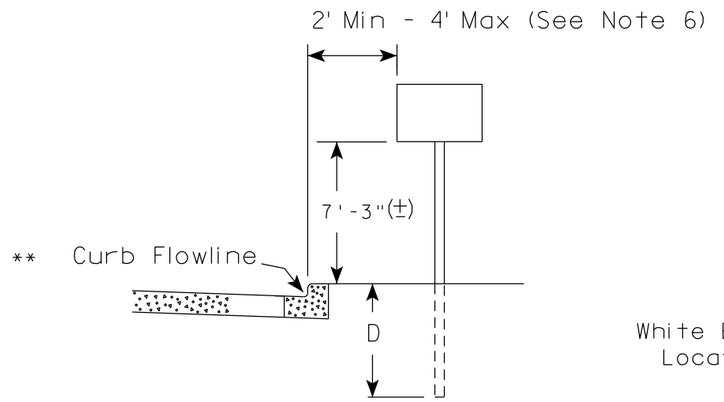
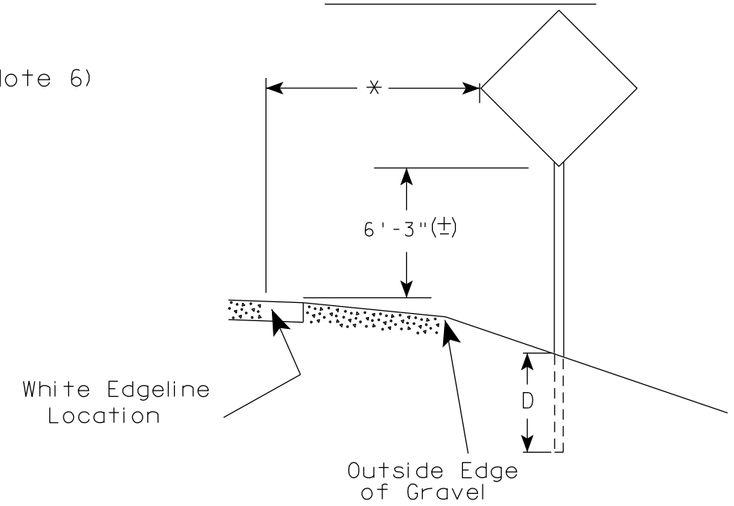
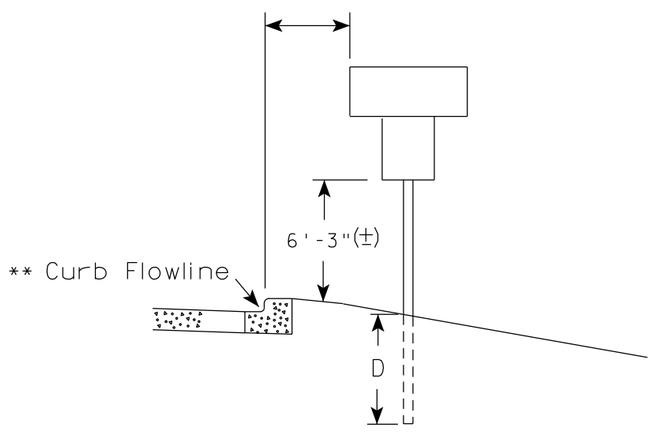
SDD 15C11 - 09b
SDD 15C11 - 09b

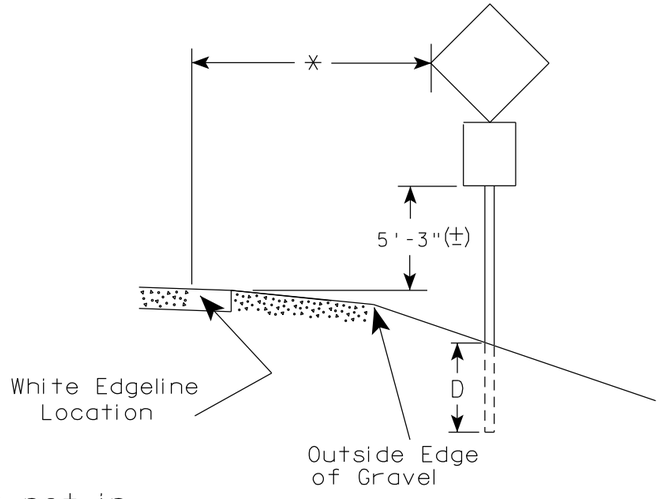
## URBAN AREA




## 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 or behind barrier wall, see A4-10 sign plate.
   The Double Arrow sign (W12-1D) 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" (±).
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 signs mounted on traffic signal poles is 5'- 3" (±).
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. The (±) tolerance for mounting height is 3 inches.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.

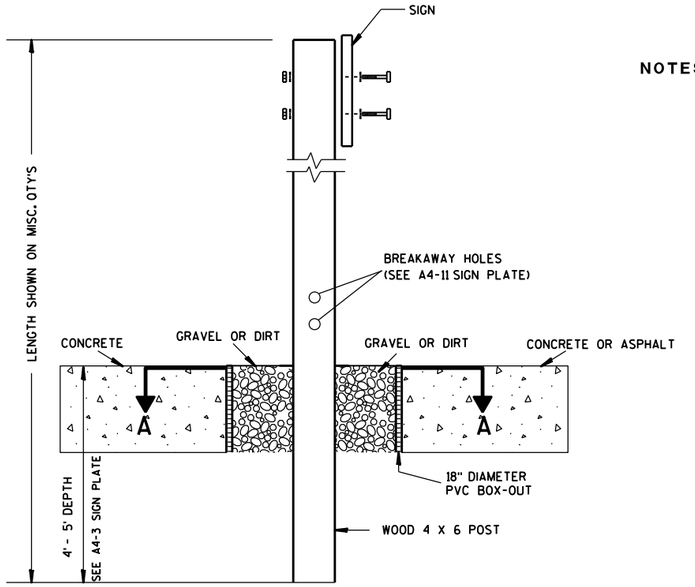
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/13/2020 PLATE NO. A4-3.22

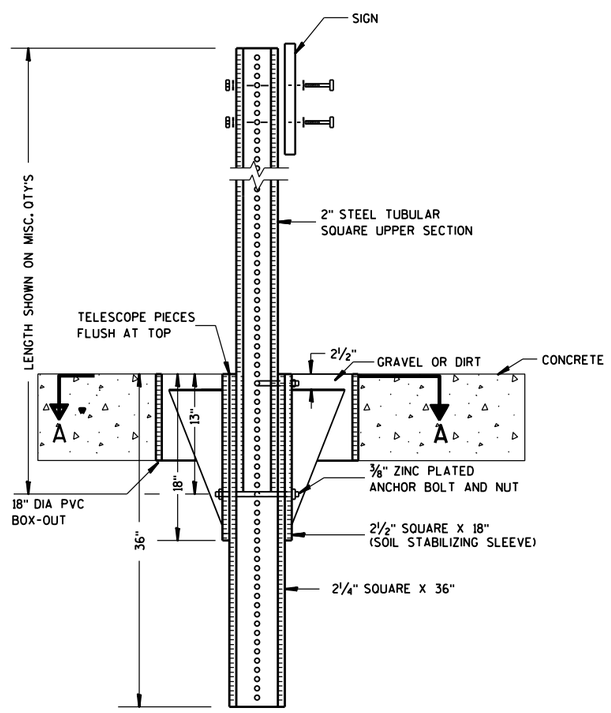
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 27 | E |
|---|---|---|---|---|---|




**ELEVATION VIEW**

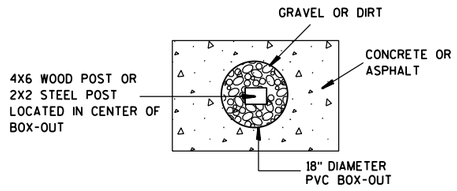
**DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT**

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

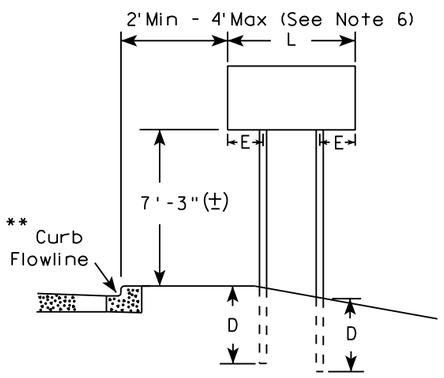
DATE 1/27/14 PLATE NO. A4-3B.1



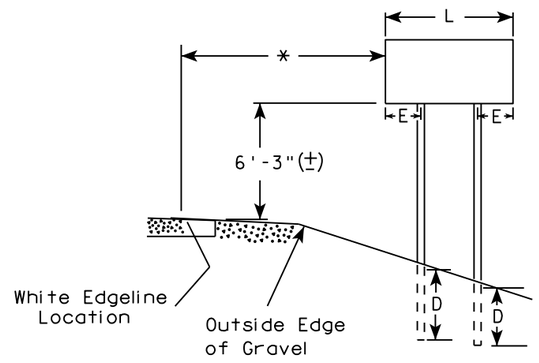
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|

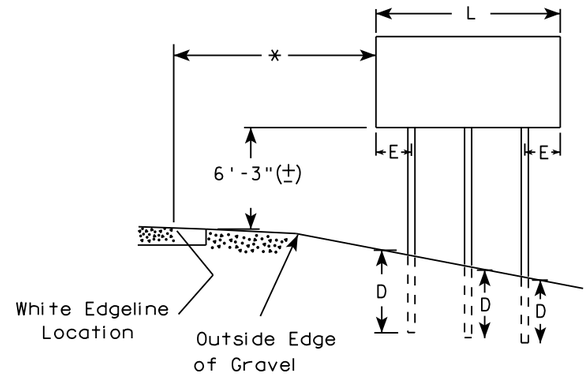
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

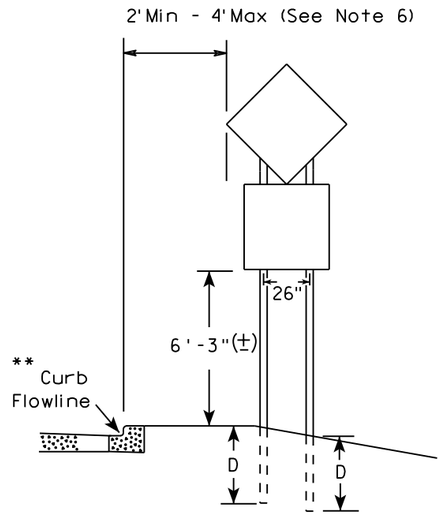
## URBAN AREA



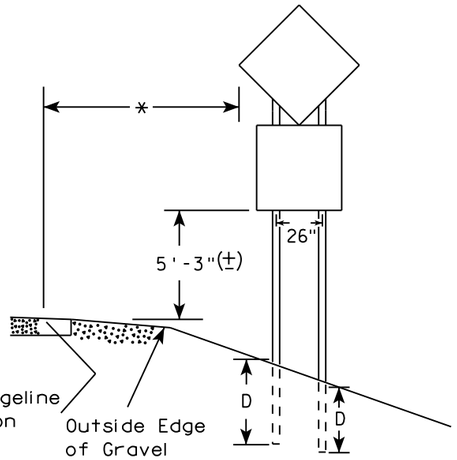

## RURAL AREA (See Note 3)




48" DIAMOND WARNING SIGN




48" DIAMOND WARNING SIGN

| *** | SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED) | |
|---|---|---|
| | L | E |
| | Greater than 48" Less than 60" | 12" |
| | 60" to 108" | L/5 |

| SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED) | |
|---|---|
| L | E |
| Greater than 108" to 144" | 12" |

## 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. J-Assemblies are considered to be one sign for mounting height.
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.

## POST EMBEDMENT DEPTH

| Area of Sign Installation ( Sq. Ft. ) | D ( Min ) |
|---|---|
| 20 or Less | 4' |
| Greater than 20 | 5' |

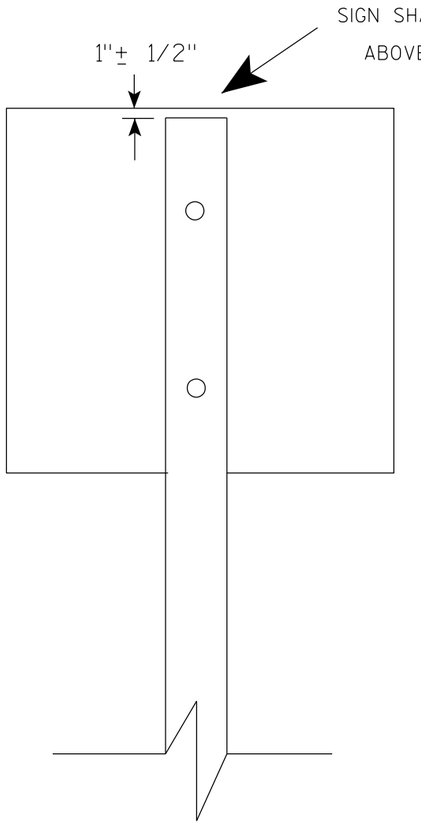
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

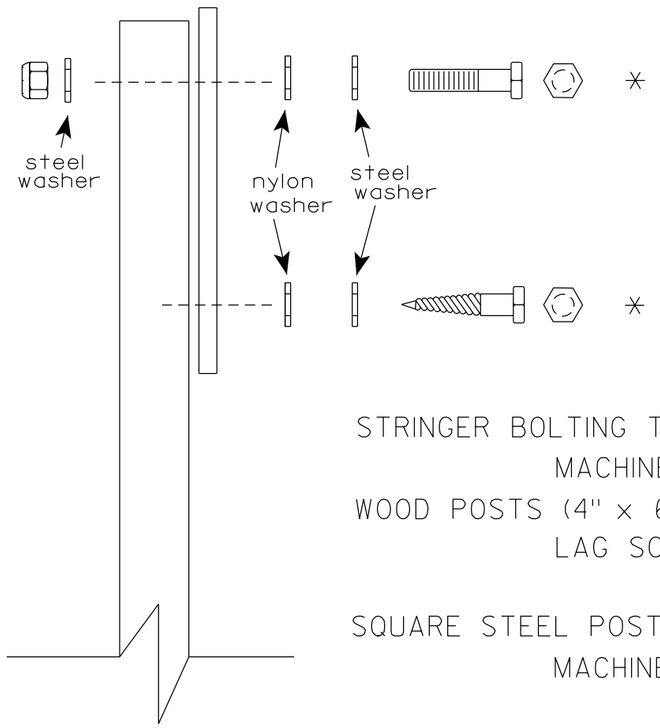
*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 29 | 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.

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

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

* 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

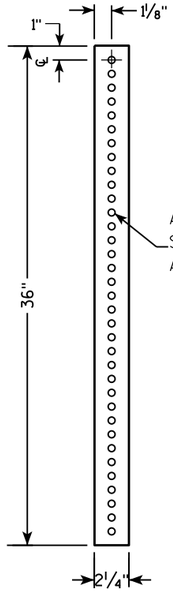
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

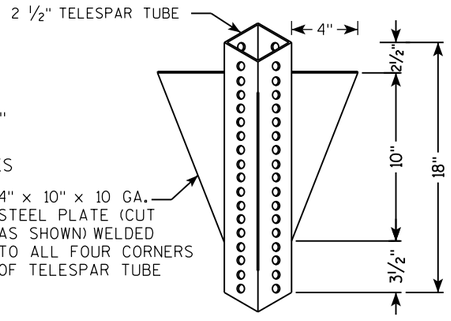
DATE 4/1/2020 PLATE NO. A4-8.9

## TELESCOPIC TUBING ANCHORS
## TWO PIECE SYSTEM

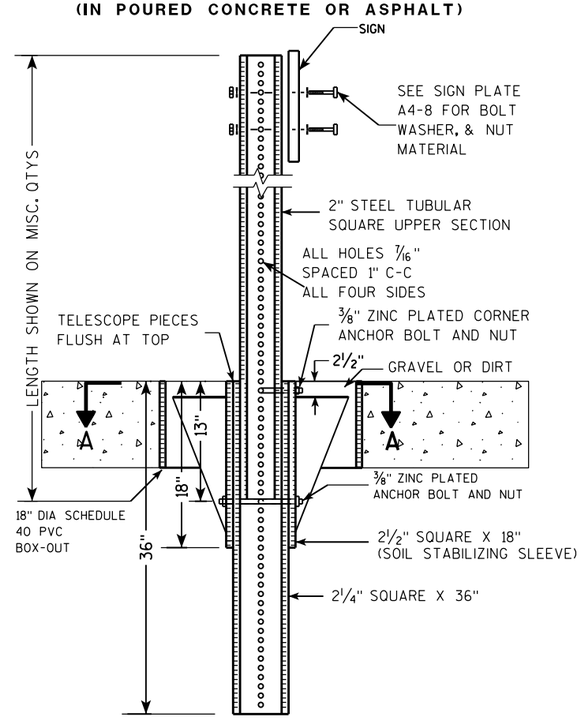
**2 1/4 " SQUARE**
**12 GAUGE**
**PERFORATED**
**GALVANIZED FINISH**



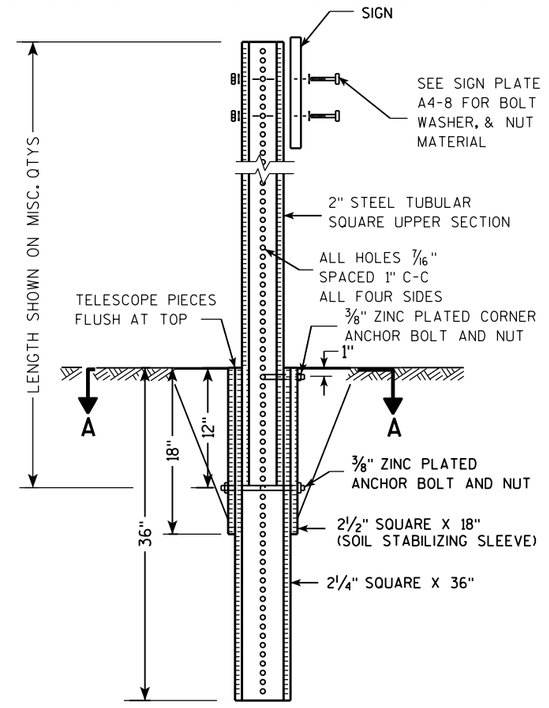

**2 1/2 " SQUARE**
**12 GAUGE**
**OMNI-DIRECTIONAL**
**PERFORATED**
**SOIL STABILIZING SLEEVE**
**GALVANIZED FINISH**

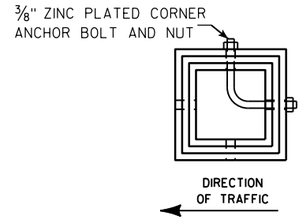



## DETAIL OF TUBULAR STEEL SIGN POST
**(IN POURED CONCRETE OR ASPHALT)**




## 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*

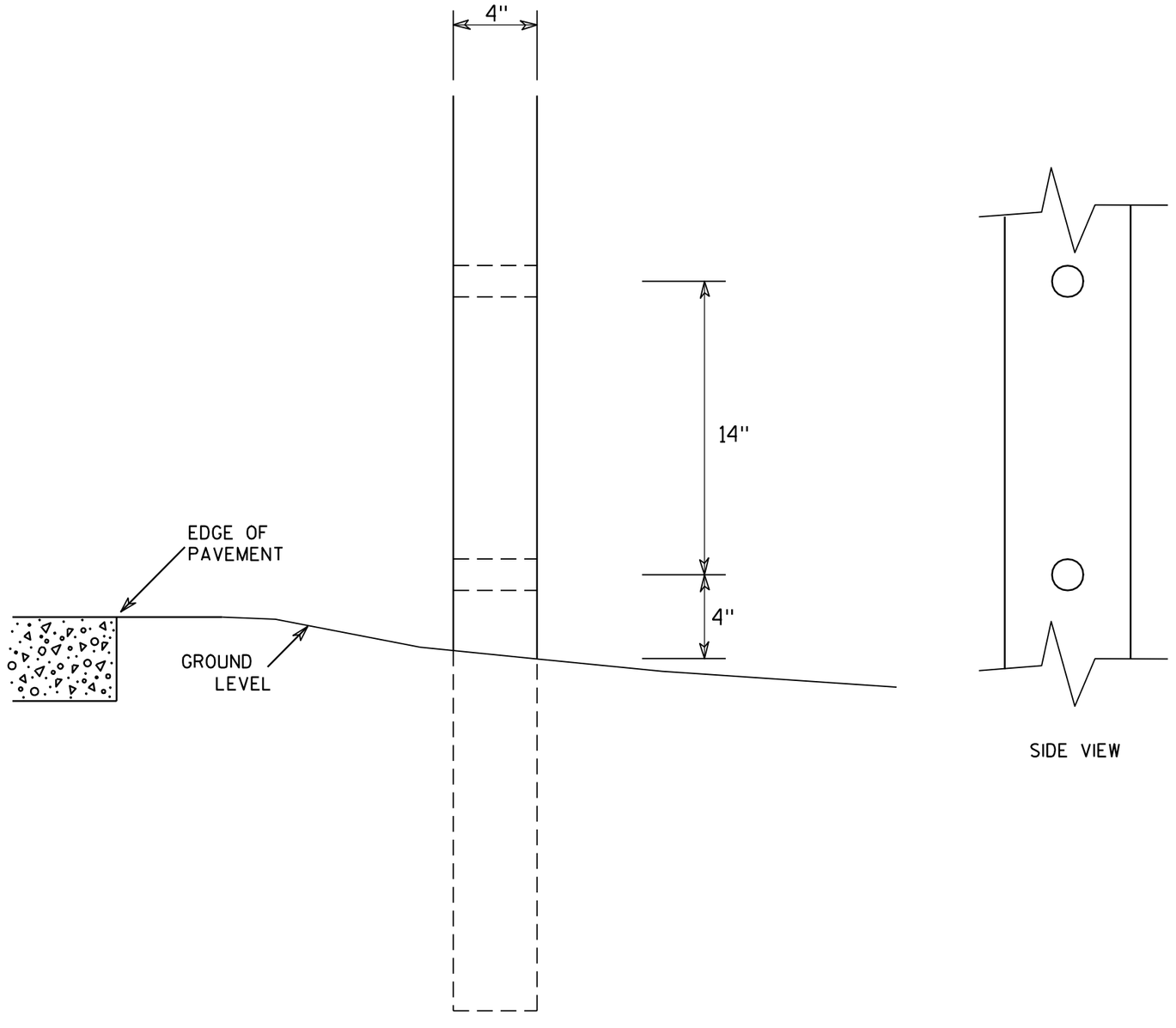
APPROVED Matthew R Rauch
*for* State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9



| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42






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.

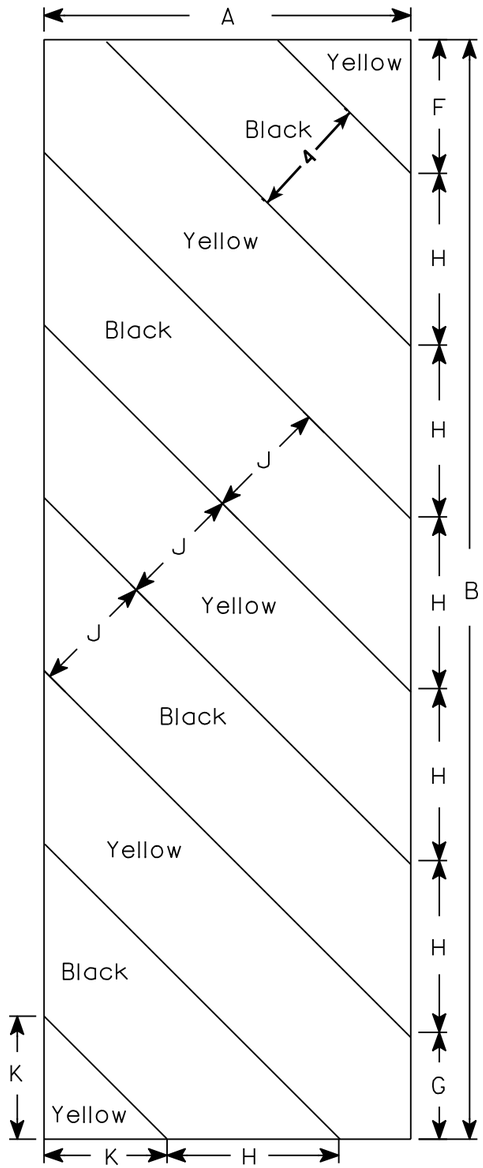
# 4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

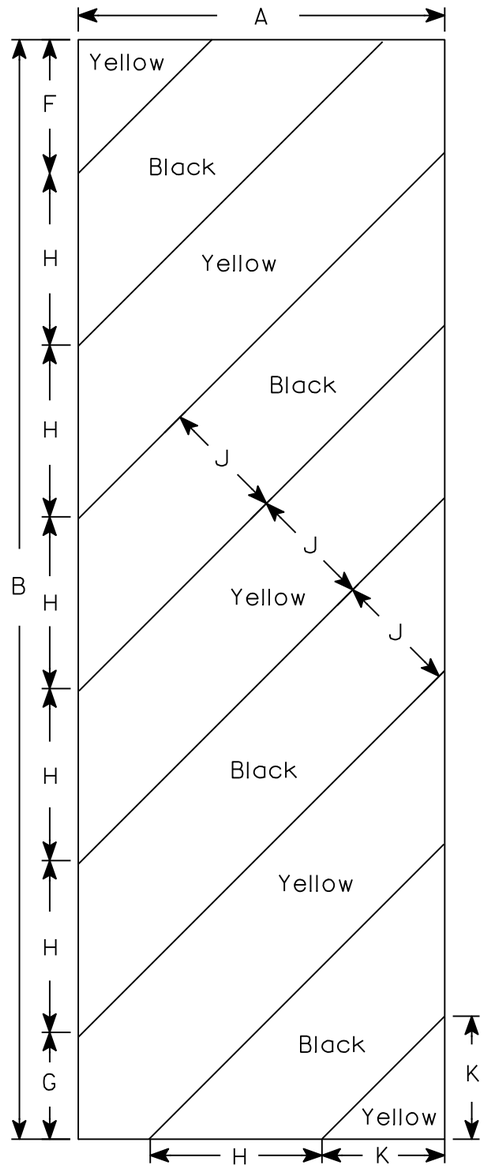
APPROVED Chester J Spang for State Traffic Engineer

DATE 3/27/97 PLATE NO. A4-11.2

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 32 | E |
|---|---|---|---|---|---|




W5-52L




W5-52R

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. Alternate colors of stripes as shown.

| 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 | 12 | 36 | | | | 4 3/8 | 3 1/2 | 5 5/8 | 45° | 4 | 4 | | | | | | | | | | | | | | | | 3.0 |
| 2M | 12 | 36 | | | | 4 3/8 | 3 1/2 | 5 5/8 | 45° | 4 | 4 | | | | | | | | | | | | | | | | 3.0 |
| 3 | 18 | 54 | | | | 6 | 5 1/2 | 8 1/2 | 45° | 6 | 6 9/16 | | | | | | | | | | | | | | | | 6.75 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

STANDARD SIGN

W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/29/12 PLATE NO. W5-52.9

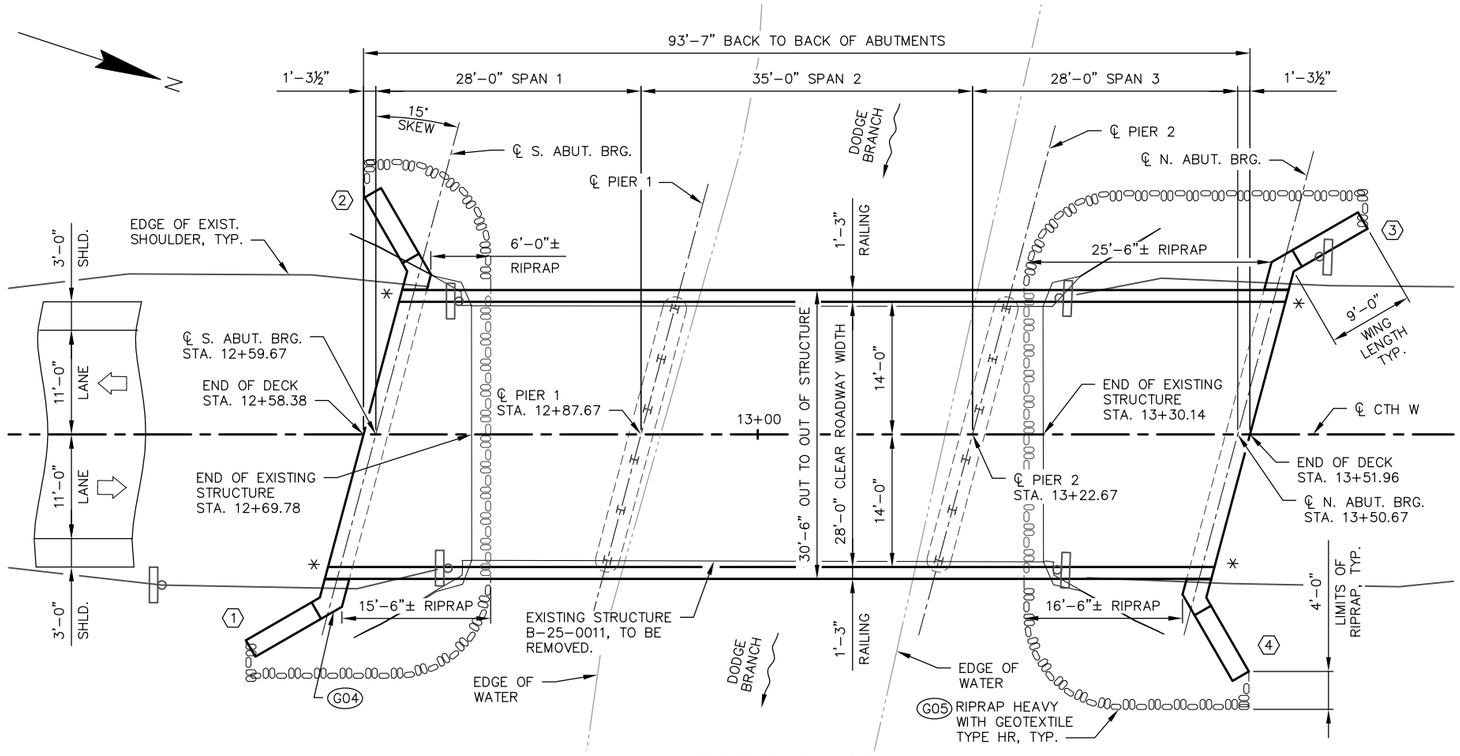
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 33 | E |
|---|---|---|---|---|---|

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W552.DGN PLOT DATE : 29-MAY-2012 13:03 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 4.961899:1.000000

WISDOT/CADDS SHEET 42

7

7




## PLAN B-25-195

(THREE SPAN CONCRETE FLAT SLAB BRIDGE)

## NOTES

EXCAVATION AS INDICATED IN THE HATCH AREAS, TO BE INCLUDED IN THE BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-25-195".

(G01) BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCLUDED WITH BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-25-195". LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

(G02) "GEOTEXTILE TYPE DF SCHEDULE A" LIMITS. EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT FOR THE ENTIRE ABUTMENT BODY LENGTH.

(G03) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED IN "ABUTMENT DETAILS" SHEET.

(G04) NAME PLATE REQUIRED AND BENCH MARK CAP (WHEN SUPPLIED). FOR LOCATION SEE "ABUTMENT" SHEET.

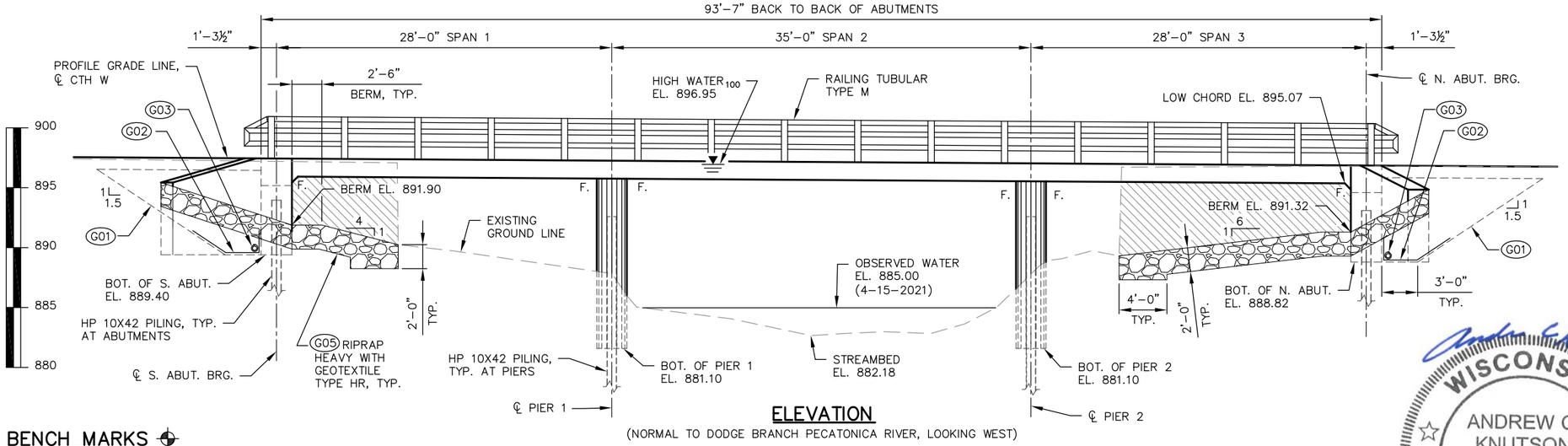
(G05) ALL RIPRAP ABOVE EL. 887.23 (OHWM) MUST BE TOP-DRESSED WITH SOIL AND SEEDED WITH AN APPROVED SEED MIX. SEE ROADWAY PLANS FOR DETAILS.

∗ LOCATION OF BEAM GUARD ATTACHMENT

⬡ INDICATES WING NUMBER

## LIST OF DRAWINGS






## ELEVATION

(NORMAL TO DODGE BRANCH PECATONICA RIVER, LOOKING WEST)

## BENCH MARKS

| NO. | STATION/OFFSET | DESCRIPTION | ELEVATION |
|---|---|---|---|
| BM #1 | 11+01.63, 47.70' LT. | RR SPIKE | 893.29 |
| BM #2 | 13+51.10, 50.97' LT. | RR SPIKE | 891.87 |

HORIZONTAL DATUM AND ADJUSTMENT: NAD 83 (2011)
VERTICAL DATUM AND ADJUSTMENT: NAVD 88 (2012)
COORDINATE REFERENCE SYSTEM: WCCS IOWA CO.

TRAFFIC DATA:

CTH W
A.A.D.T. (2023) ——— 220
A.A.D.T. (2043) ——— 240
DESIGN SPEED ——— 60 M.P.H.

STATE PROJECT NUMBER

5683-00-72

## DESIGN DATA

LIVE LOAD:

DESIGN LOADING ——— HL-93
INVENTORY RATING FACTOR ——— RF=1.13
OPERATING RATING FACTOR ——— RF=1.46
WISCONSIN STANDARD PERMIT VEHICLE RATING (WIS.-SPV): ——— 250 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

MATERIAL PROPERTIES:

CONCRETE MASONRY, SLAB ——— $f'c$ = 4,000 P.S.I.
ALL OTHER ——— $f'c$ = 3,500 P.S.I.
HIGH-STRENGTH BAR STEEL REINFORCEMENT ——— $fy$ = 60,000 P.S.I.

FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON HP 10X42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 140 TONS PER PILE** AT S. ABUT. AND 120 TONS PER PILE** AT N. ABUT. AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 20 FT PILE LENGTHS AT S. ABUT. AND 20 FT PILE LENGTHS AT N. ABUT.

PIER 1 & PIER 2 TO BE SUPPORTED ON HP 10X42 STEEL PILING AND SHALL BE PRE-BORED A MINIMUM OF 3-FT INTO THE BEDROCK. THE MAXIMUM FACTORED AXIAL COMPRESSION DESIGN LOAD IS 85 TONS PER PILE AT PIER 1 & PIER 2. ESTIMATED 20 FT PILE LENGTHS AT PIER 1 & PIER 2.

**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 DYNAMIC FORMULA TO DETERMINE DRIVEN PILE CAPACITY.

HYDRAULIC DATA:

DESIGN $Q_{100}$ ——— 5,620 C.F.S.
$Q_{100}$ (THRU BRIDGE) ——— 4,761 C.F.S.
$Q_{100}$ (ROAD) ——— 859 C.F.S.
DRAINAGE AREA ——— 38.1 SQ. MI.
BRIDGE WATER AREA ——— 605 SQ. FT.
BRIDGE VELOCITY ——— 7.87 F.P.S.
HIGH WATER$_{100}$ EL. ——— 896.95 FT.
OVERTOPPING Q ——— 3,850 C.F.S.
OVERTOPPING EL. ——— 895.31 FT.
OVERTOPPING Q FREQ. ——— 24 YEARS
SCOUR CRITICAL CODE ——— 5
$Q_2$ ——— 1,138 C.F.S.
$Q_2$ ELEVATION ——— 890.89 FT.
$Q_2$ VELOCITY ——— 4.75 F.P.S.


BRIDGE OFFICE CONTACT
AARON BONK, P.E.
(608) 261-0261

CONSULTANT CONTACT
ANDY KNUTSON, P.E., S.E.
(608) 588-7866


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


WESTBROOK Associated Engineers, Inc.
619 EAST HOXIE STREET
P.O. BOX 429
SPRING GREEN, WI 53588
PHONE (608) 588-7866
FAX (608) 588-7954


STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 05/10/22
CHIEF STRUCTURES DESIGN ENGINEER — DATE

WISCONSIN ANDREW C. KNUTSON E-34662 SPRING GREEN, WI 5-2-2022 PROFESSIONAL ENGINEER

# STRUCTURE B-25-195

CTH W OVER DODGE BRANCH PECATONICA RIVER

| COUNTY | TOWN/~~CITY/VILLAGE~~ |
|---|---|
| IOWA | WALDWICK |

DESIGN SPEC. AASHTO LRFD DESIGN SPEC.

| DESIGNED BY | DESIGN CK'D. | DRAWN BY | PLANS CK'D. |
|---|---|---|---|
| JDO | CDS | JDO | ACK |

GENERAL PLAN

SHEET 1 OF 9

34

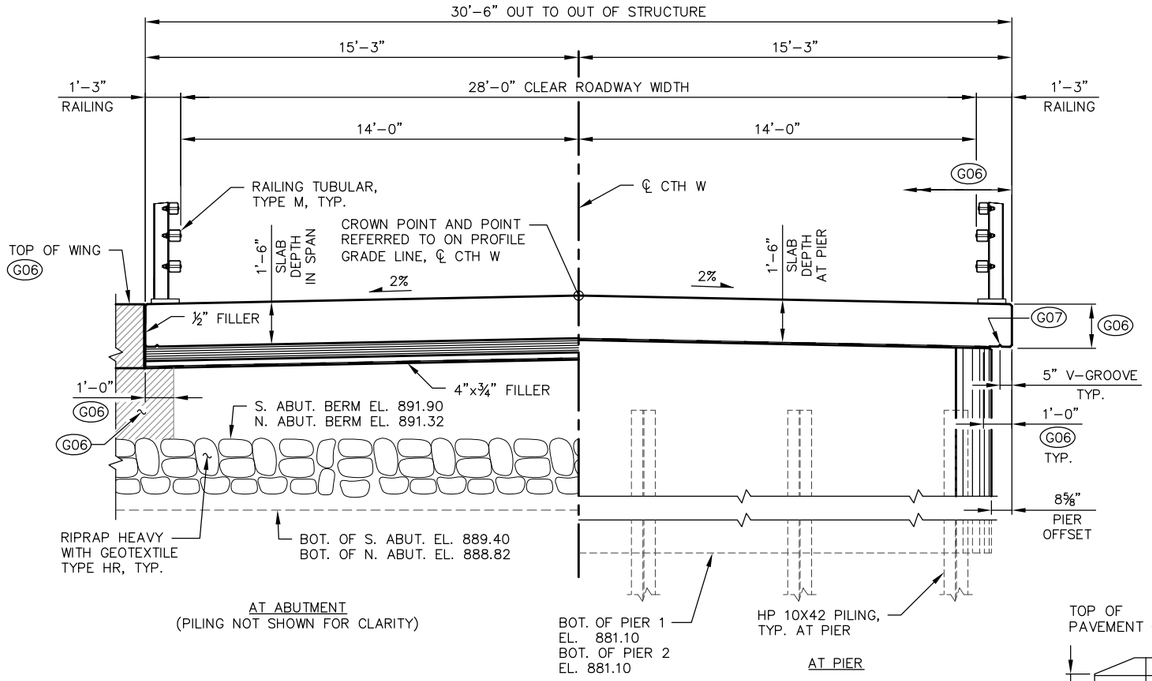
8

8

FILE: B250195_01_gen.dwg
PLOT SCALE:

I.D. 5683-00-72

PLOT DATE: May 02, 2022




## CROSS SECTION THRU ROADWAY

(LOOKING NORTH)

## NOTES

(G06) COAT WITH "PROTECTIVE SURFACE TREATMENT" AS PER THE STANDARD SPECIFICATIONS. PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO ENTIRE EXPOSED TOP OF SLAB INCLUDING THE SLAB EDGES AND 1'-0" UNDER THE SLAB, THE TOP AND EXTERIOR EXPOSED FACE OF WINGS, AND THE FRONT FACE OF WINGS, AND THE FRONT FACE OF THE ABUTMENTS TO 1'-0" PAST THE EDGE OF SLAB.

(G07) ¾" V-GROOVE REQ'D. EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUTMENT BODY.

## GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

THE FIRST OR FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

AT THE BACK FACE OF THE ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A.

THE BACKFILL QUANTITIES ARE BASED ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS AND ABUTMENT WINGS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCLUDED WITH BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-25-195".

EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT THE BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.

DO NOT PLACE FILL ABOVE 3'-0" FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE, UNLESS AN ALTERNATE METHOD IS APPROVED BY THE ENGINEER.

AT SUBSTRUCTURES, CONCRETE POURED UNDER WATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-25-195" SHALL BE THE EXISTING GROUND LINE.

THE EXISTING STREAM BED SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE PIERS.

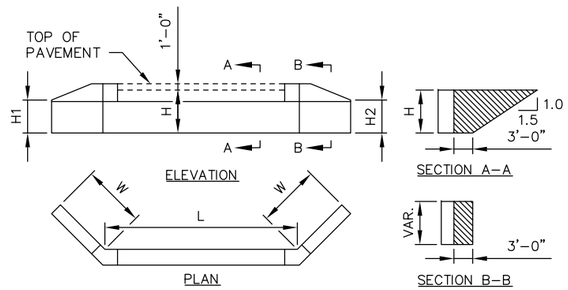
THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON THE "GENERAL PLAN" AND "ABUTMENT" SHEETS.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE SUPERSTRUCTURE SLAB PER THE STANDARD SPECIFICATION.

A MINIMUM OF 3-FEET OF PRE-BORE AT THE PIER INTO SUITABLE BEDROCK IS REQUIRED IF THE MINIMUM 10-FEET OF PILE PENETRATION INTO NATURAL GROUND CANNOT BE ACHIEVED. THE CONTRACTOR AND THE CONSTRUCTION ENGINEER SHOULD ANTICIPATE VARIABLE PILE PENETRATION AND POSSIBLE ADDITIONAL LOCATIONS OF PRE-BORING.

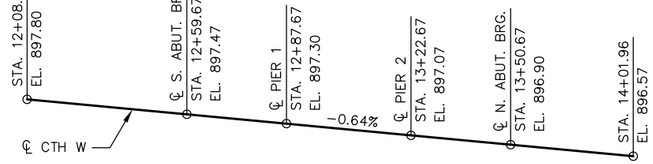
PILES PLACED IN PREBORED HOLES CORED INTO ROCK DO NOT REQUIRE DRIVING. PILES SHALL BE "FIRMLY SEATED" ON ROCK AFTER PLACEMENT IN PREBORED HOLES.

THE EXISTING STRUCTURE B-25-0011 IS A SINGLE SPAN STEEL DECK GIRDER BRIDGE WITH AN OVERALL LENGTH OF 60'-6" AND A CLEAR ROADWAY WIDTH OF 27'-2". SUPERSTRUCTURE AND ABUTMENTS SHALL BE REMOVED IN ACCORDANCE WITH THE BID ITEM "REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS B-25-0011".




## ABUTMENT BACKFILL DIAGRAM

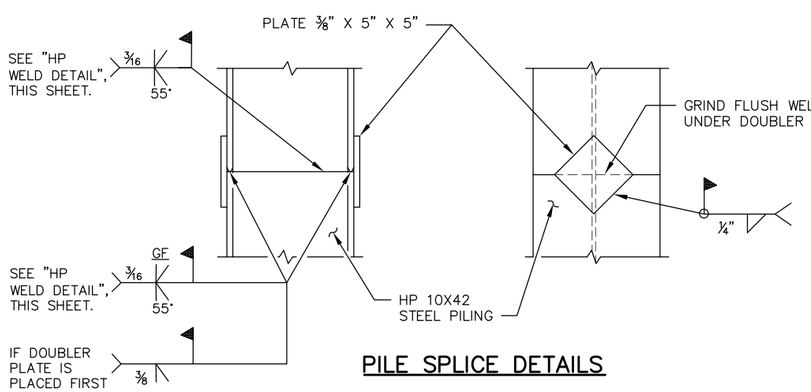
L = ABUTMENT BODY LENGTH AT BACKFACE (FT)
H = AVERAGE ABUTMENT FILL HEIGHT (FT)
H1 = WING 1 HEIGHT AT TIP (FT)
H2 = WING 2 HEIGHT AT TIP (FT)
W = WING LENGTH (FT)
EF = EXPANSION FACTOR (1.20 FOR CY BID ITEMS AND 1.00 FOR TON BID ITEMS)
$V_{CF}$ = (L)(3.0')(H) + (L)(0.5)(1.5H)(H) + (3')(0.5)(H1+H2+H+H)(W)
$V_{CY}$ = $V_{CF}$(EF)/27
$V_{TON}$ = $V_{CY}$(2.0)



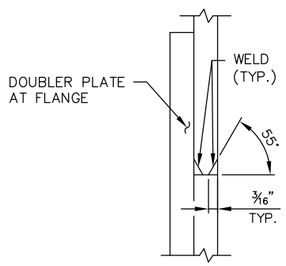

## PROFILE GRADE LINE, ℄ CTH W

## TOTAL ESTIMATED QUANTITIES

| ITEM NO. | BID ITEMS | UNIT | S. ABUT. | PIER 1 | PIER 2 | N. ABUT. | SUPER. | TOTALS |
|---|---|---|---|---|---|---|---|---|
| 203.0260 | REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS B-25-0011 | EACH | --- | --- | --- | --- | --- | 1 |
| 206.1000 | EXCAVATION FOR STRUCTURES BRIDGES B-25-195 | LS | --- | --- | --- | --- | --- | 1 |
| 210.1500 | BACKFILL STRUCTURE TYPE A | TON | 230 | --- | --- | 230 | --- | 460 |
| 502.0100 | CONCRETE MASONRY BRIDGES | CY | 30.9 | 39.5 | 38.8 | 30.9 | 163.8 | 304 |
| 502.3200 | PROTECTIVE SURFACE TREATMENT | SY | 17 | --- | --- | 17 | 367 | 401 |
| 505.0400 | BAR STEEL REINFORCEMENT HS STRUCTURES | LB | 2,335 | 1,785 | 1,785 | 2,335 | --- | 8,240 |
| 505.0600 | BAR STEEL REINFORCEMENT HS COATED STRUCTURES | LB | 1,415 | 65 | 65 | 1,415 | 31,610 | 34,570 |
| 513.4061 | RAILING TUBULAR TYPE M | LF | --- | --- | --- | --- | 192 | 192 |
| 516.0500 | RUBBERIZED MEMBRANE WATERPROOFING | SY | 7 | --- | --- | 7 | --- | 14 |
| 550.0020 | PRE-BORING ROCK OR CONSOLIDATED MATERIALS | LF | --- | 60 | 60 | --- | --- | 120 |
| 550.1100 | PILING STEEL HP 10-INCH X 42 LB | LF | 140 | 120 | 120 | 140 | --- | 520 |
| 606.0300 | RIPRAP HEAVY | CY | 53 | --- | --- | 93 | --- | 146 |
| 612.0406 | PIPE UNDERDRAIN WRAPPED 6-INCH | LF | 80 | --- | --- | 80 | --- | 160 |
| 645.0111 | GEOTEXTILE TYPE DF SCHEDULE A | SY | 35 | --- | --- | 35 | --- | 70 |
| 645.0120 | GEOTEXTILE TYPE HR | SY | 105 | --- | --- | 173 | --- | 278 |
| SPV.0180.01 | SALVAGED TOPSOIL OVER RIPRAP | SY | 71 | --- | --- | 134 | --- | 205 |
| | | | | | | | | |
| (NON-BID ITEM) | FILLER | SIZE | | | | | | ½" & ¾" |




## PILE SPLICE DETAILS




## HP WELD DETAIL

(FLANGE SHOWN, WEB SIMILAR)

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-25-195

DRAWN BY CDS | PLANS CK'D ACK

CROSS SECTION, GENERAL NOTES & QUANTITIES

SHEET 2 OF 9

35

STATE PROJECT NUMBER

5683-00-72

8

8

I.D. 5683-00-72

PLOT DATE: Feb 23, 2022

FILE: B250195_02_crs.dwg
PLOT SCALE:

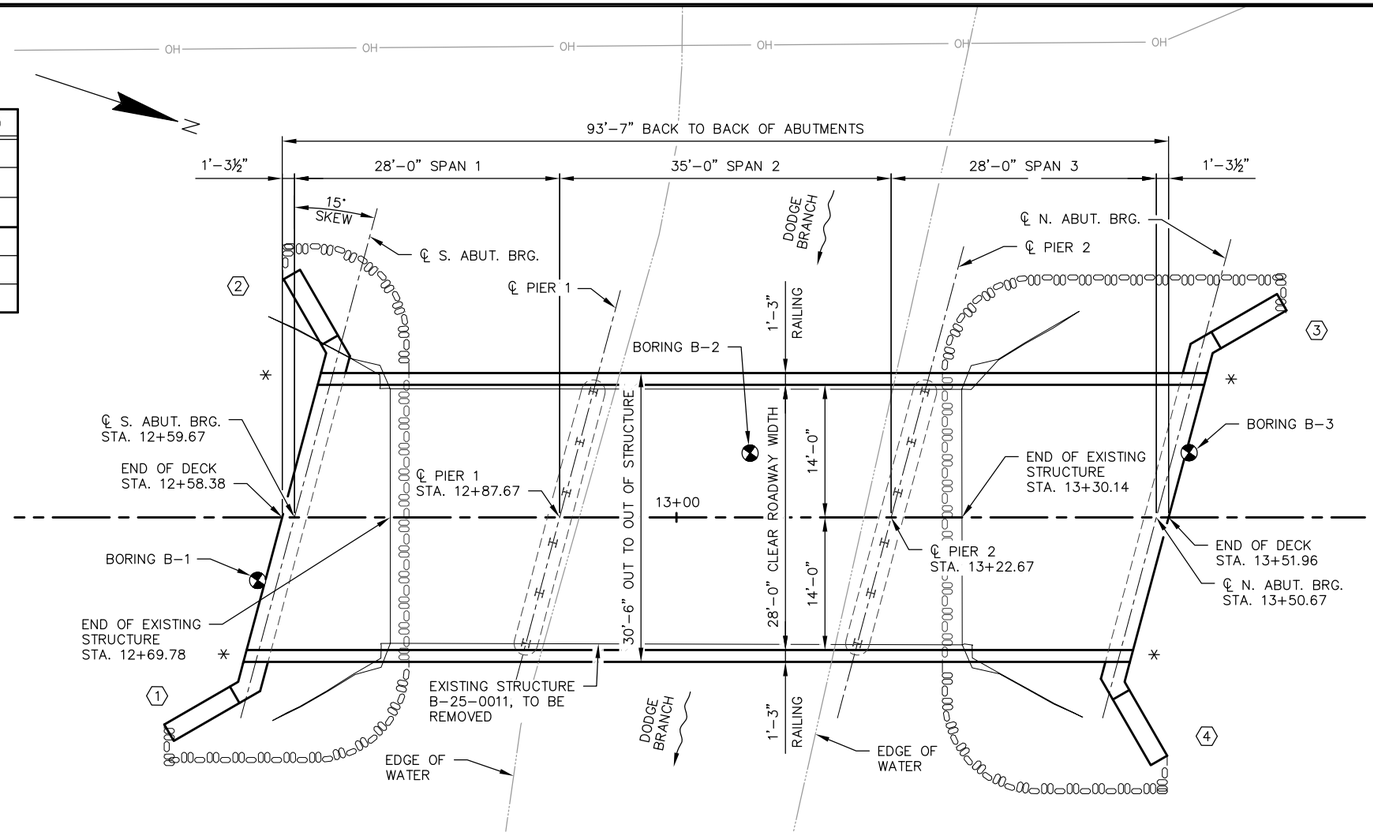
## B–25–195 BORINGS

| BORING # | DATE COMPLETED | NORTHING (Y) | EASTING (X) |
|---|---|---|---|
| BORING B–1 | 6/18/2021 | 132214.8 | 410251.5 |
| BORING B–2 | 6/18/2021 | 132259.9 | 410222.4 |
| BORING B–3 | 6/18/2021 | 132303.9 | 410207.8 |
| BORINGS COMPLETED BY: CHOSEN VALLEY TESTING, INC. | | | |
| SUBSURFACE INVESTIGATION REPORT: CHOSEN VALLEY TESTING, INC. | | | |
| ALL COORDINATES REFERENCED TO WCCS, IOWA COUNTY | | | |

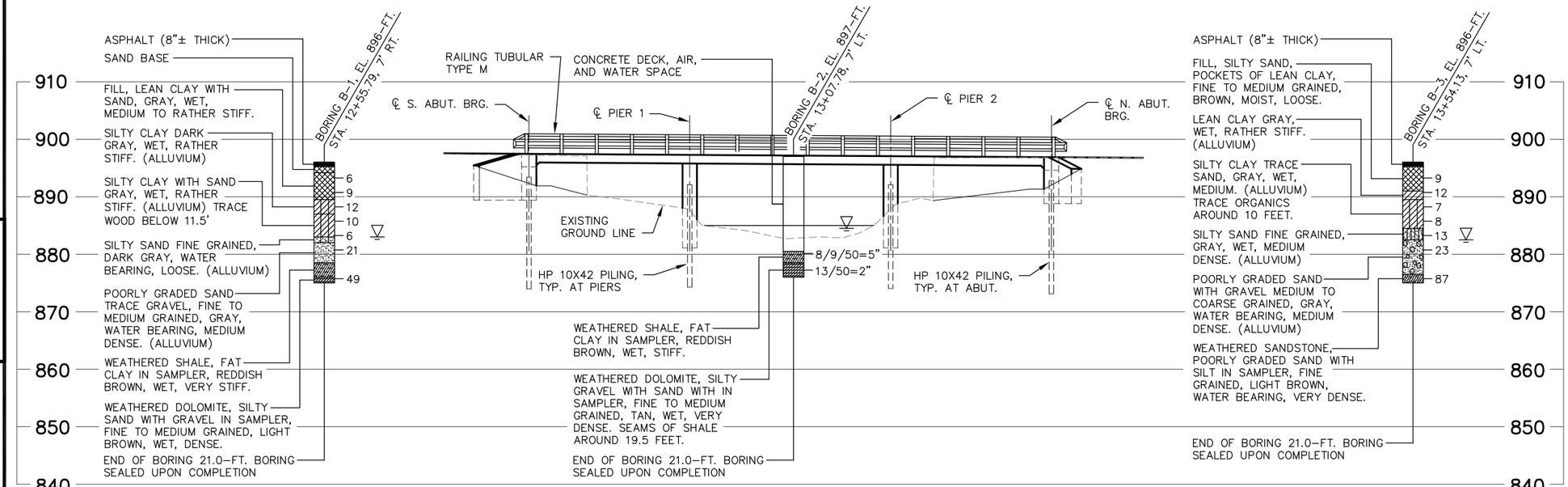
## NOTES

⬡ INDICATES WING NUMBER

✳ LOCATION OF BEAM GUARD ATTACHMENT




PLAN B–25–195




8

8

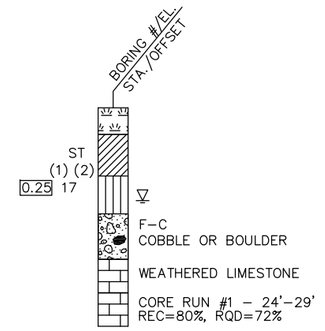
STATE PROJECT NUMBER

5683–00–72

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

STRUCTURE B–25–195

DRAWN BY CDS | PLANS CK'D ACK

SUBSURFACE EXPLORATION

SHEET 3 OF 9

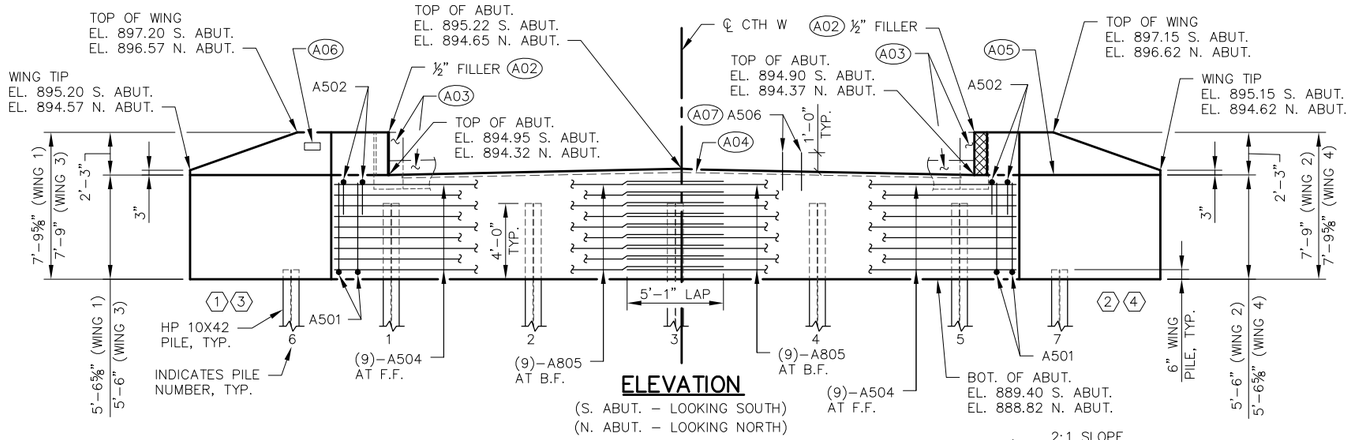
36

I.D. 5683–00–72 PLOT DATE: Feb 23, 2022

FILE: B250195_03_bor.dwg
PLOT SCALE:

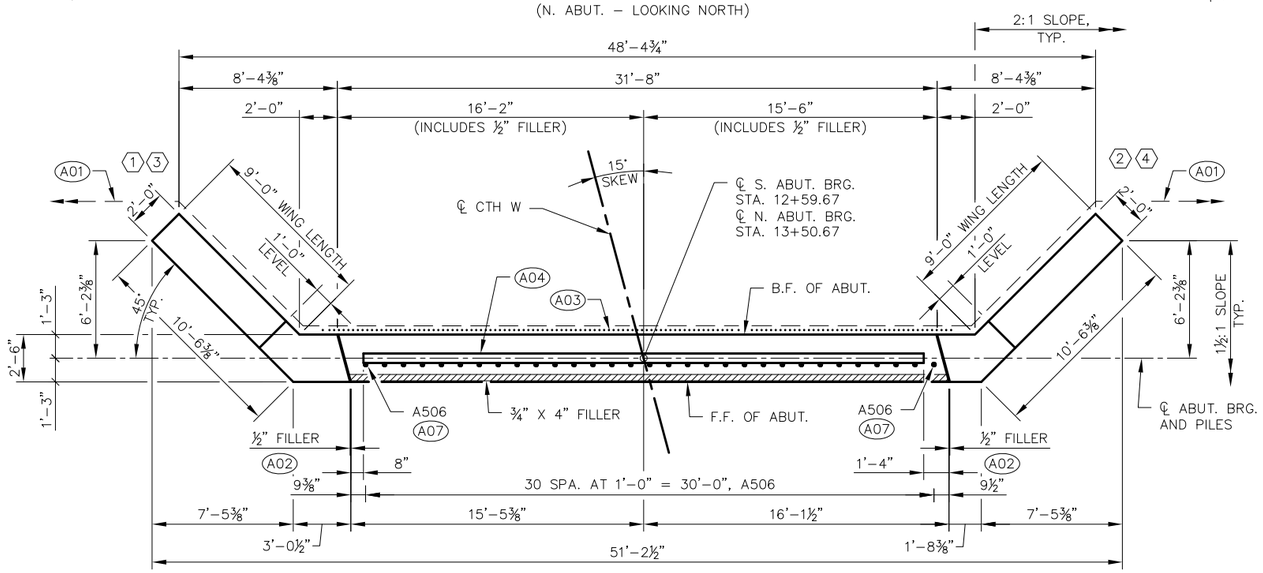
STATE PROJECT NUMBER

5683-00-72

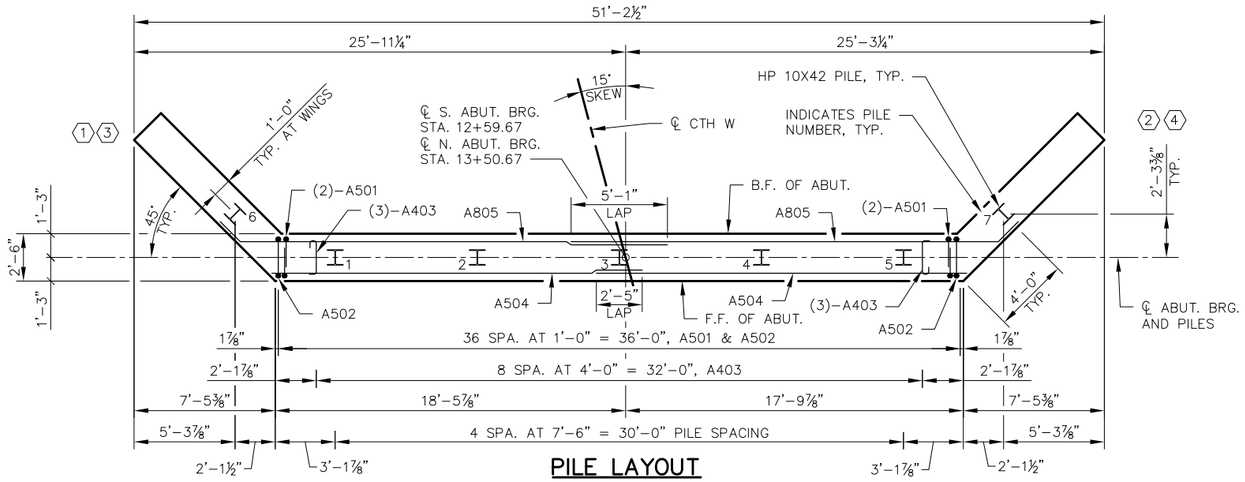



## ELEVATION

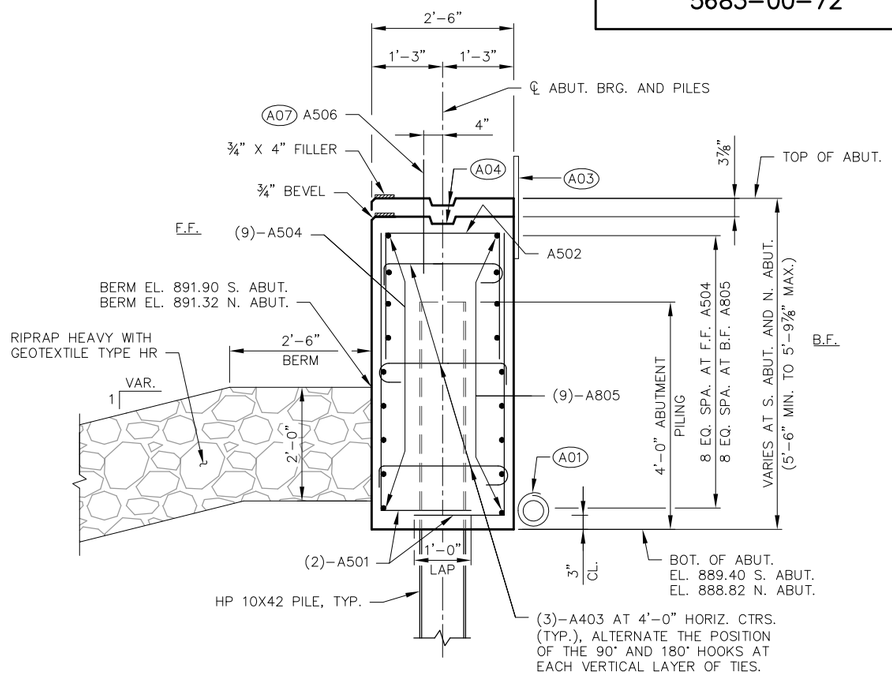
(S. ABUT. – LOOKING SOUTH)
(N. ABUT. – LOOKING NORTH)




## PLAN




## PILE LAYOUT




## TYPICAL SECTION THRU ABUTMENT

## NOTES

DO NOT PLACE FILL ABOVE 3'–0" FROM THE BOTTOM OF THE ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

SOUTH AND NORTH ABUTMENTS TO BE SUPPORTED ON HP 10X42 PILES DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 140 TONS PER PILE AT THE SOUTH ABUTMENT AND 120 TONS PER PILE AT THE NORTH ABUTMENT AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 20 FT PILE LENGTHS AT THE SOUTH ABUTMENT AND AT THE NORTH ABUTMENT.

SEE "CROSS SECTION, GENERAL NOTES & QUANTITIES" SHEET FOR HP 10X42 PILE SPLICE DETAILS.

(A01) PIPE UNDERDRAIN WRAPPED (6–INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON "ABUTMENT DETAILS" SHEET. RODENT SHIELD SHALL BE INCLUDED WITH THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6–INCH".

(A02) 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). ½" FILLER TO EXTEND FROM BRIDGE SEAT TO TOP OF WING.

(A03) 18" RUBBERIZED MEMBRANE WATERPROOFING (R.M.W.), SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACK FACE.

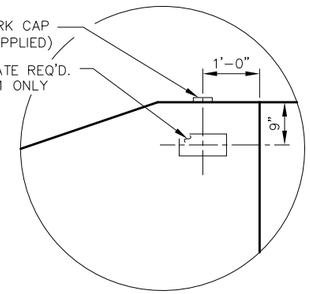
(A04) KEYED CONST. JT. FORMED BY BEVELED 2 X 6

(A05) OPTIONAL KEYED CONST. JT. FORMED BY BEVELED 2 X 6, TYP.

(A06) NAME PLATE & BENCHMARK CAP (WHEN SUPPLIED) AT WING 1 ONLY. SEE "NAME PLATE DETAIL", THIS SHEET.

(A07) A506 BARS MAY BE PLACED AFTER CONCRETE HAS BEEN POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. EMBED 1'–0" INTO ABUTMENT BODY.

⬡ INDICATES WING NUMBER




## NAME PLATE DETAIL

F.F. – FRONT FACE
B.F. – BACK FACE

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

# STRUCTURE B–25–195

DRAWN BY CDS | PLANS CK'D ACK

## ABUTMENTS

SHEET 4 OF 9

37

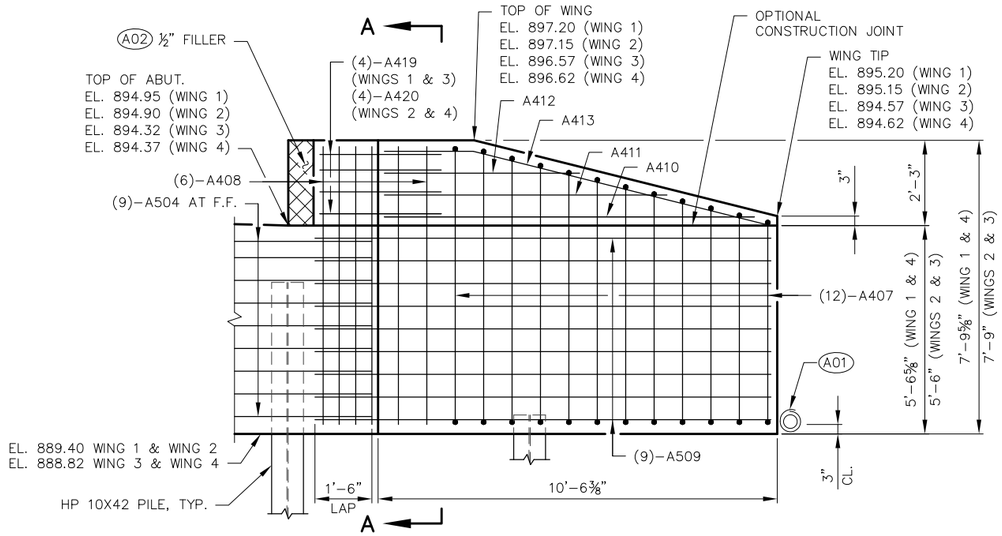
8

8

I.D. 5683–00–72

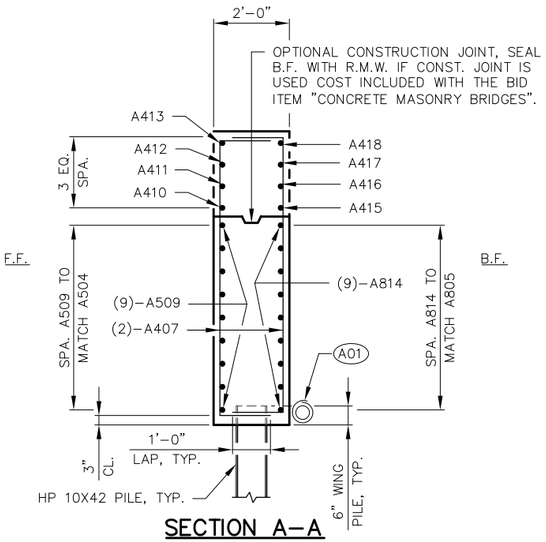
PLOT DATE: Feb 23, 2022

FILE: B250195_04–05_abut.dwg
PLOT SCALE:

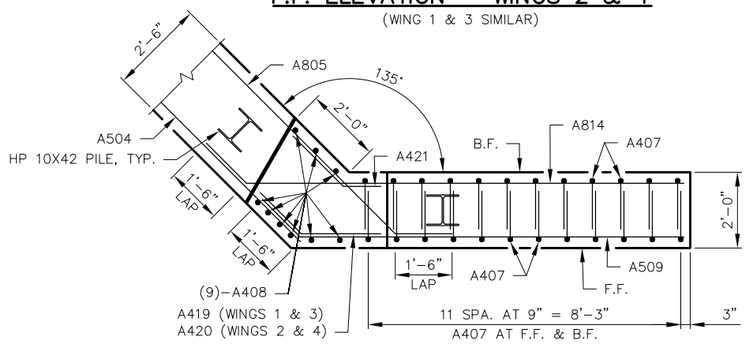



F.F. ELEVATION – WINGS 2 & 4

(WING 1 & 3 SIMILAR)

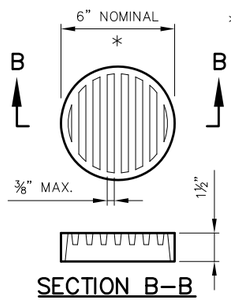



SECTION A–A




PLAN – WINGS 2 & 4

(WING 1 & 3 SIMILAR)



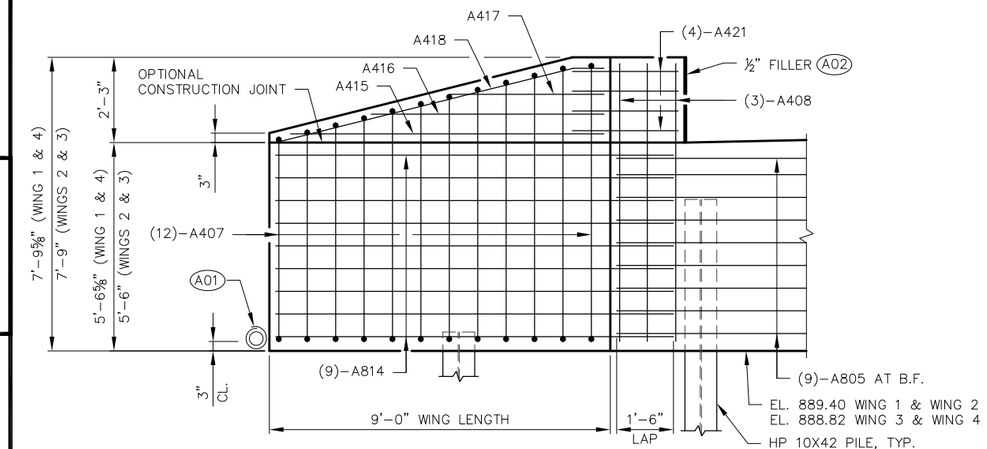

SECTION B–B

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SHIELD SO SLOTS ARE VERTICAL.

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.

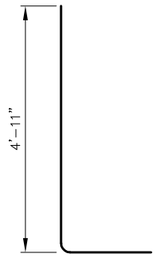
THE RODENT SHIELD. PIPE COUPLING AND SCREWS SHALL BE INCLUDED WITH THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6–INCH".

RODENT SHIELD DETAIL

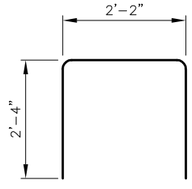



B.F. ELEVATION – WINGS 2 & 4

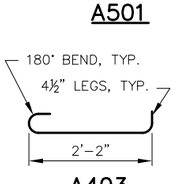
(WING 1 & 3 SIMILAR)



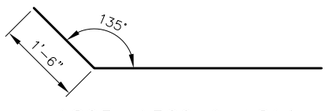

A501



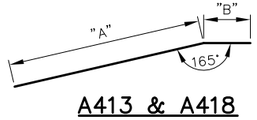

A502




A403



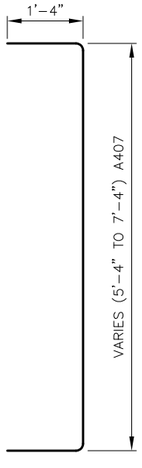

A805, A509 & A814



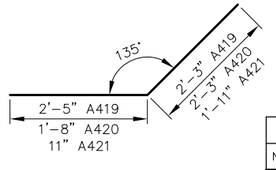

A413 & A418

BAR BEND DIMENSIONS

| MARK | "A" | "B" |
|---|---|---|
| A413 | 8'–0" | 2'–4" |
| A418 | 8'–0" | 0'–9" |




A407




A419, A420, & A421

BAR SERIES TABLE

| MARK | NO. REQ'D | LENGTH |
|---|---|---|
| A407 | 8 SERIES OF 12 | 7'–10" TO 9'–10" |

BUNDLE AND TAG EACH SERIES SEPARATELY.

STATE PROJECT NUMBER

5683–00–72

## BILL OF BARS
## BOTH ABUTMENTS

COATED = 2,830 LBS.
UNCOATED = 4,670 LBS.

| MARK | NUMBER COATED | NUMBER UNCOATED | LENGTH | BENT | BAR SERIES | LOCATION | |
|---|---|---|---|---|---|---|---|
| A501 | | 148 | 6'–5" | X | | BODY – STIRRUP – F.F. & B.F. | VERT. |
| A502 | | 74 | 6'–7" | X | | BODY – STIRRUP – TOP | VERT. |
| A403 | | 54 | 3'–1" | X | | BODY – TIES | HORIZ. |
| A504 | | 36 | 19'–5" | | | BODY – F.F. | HORIZ. |
| A805 | | 36 | 24'–4" | X | | BODY – B.F. | HORIZ. |
| A506 | 62 | | 2'–0" | | | BODY – TOP DOWELS | VERT. |
| A407 | 96 | | 8'–10" | X | ⚠ | WINGS 1 THRU 4 – STIRRUP – F.F. & B.F. | VERT. |
| A408 | 36 | | 7'–4" | | | WINGS 1 THRU 4 – F.F. & B.F. | VERT. |
| A509 | 36 | | 11'–9" | X | | WINGS 1 THRU 4 – F.F. | HORIZ. |
| A410 | 4 | | 9'–9" | | | WINGS 1 THRU 4 – F.F. | HORIZ. |
| A411 | 4 | | 7'–5" | | | WINGS 1 THRU 4 – F.F. | HORIZ. |
| A412 | 4 | | 5'–1" | | | WINGS 1 THRU 4 – F.F. | HORIZ. |
| A413 | 4 | | 10'–4" | X | | WINGS 1 THRU 4 – F.F. – TOP | HORIZ. |
| A814 | 36 | | 13'–3" | X | | WINGS 1 THRU 4 – B.F. | HORIZ. |
| A415 | 4 | | 8'–3" | | | WINGS 1 THRU 4 – B.F. | HORIZ. |
| A416 | 4 | | 6'–1" | | | WINGS 1 THRU 4 – B.F. | HORIZ. |
| A417 | 4 | | 4'–0" | | | WINGS 1 THRU 4 – B.F. | HORIZ. |
| A418 | 4 | | 8'–9" | X | | WINGS 1 THRU 4 – B.F. – TOP | HORIZ. |
| A419 | 8 | | 4'–7" | X | | WINGS 1 AND 3 – F.F. CORNER | HORIZ. |
| A420 | 8 | | 3'–10" | X | | WINGS 2 AND 4 – F.F. CORNER | HORIZ. |
| A421 | 16 | | 2'–9" | X | | WINGS 1 THRU 4 – B.F. CORNER | HORIZ. |

THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

ALL BAR BEND DIMENSIONS ARE OUT TO OUT OF BAR.

⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE "BAR SERIES TABLE" FOR ACTUAL LENGTHS.

## NOTES

DO NOT PLACE FILL ABOVE 3'–0" FROM THE BOTTOM OF THE ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

SOUTH AND NORTH ABUTMENTS TO BE SUPPORTED ON HP 10X42 PILES DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 140 TONS PER PILE AT THE SOUTH ABUTMENT AND 120 TONS PER PILE AT THE NORTH ABUTMENT AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 20 FT PILE LENGTHS AT THE SOUTH ABUTMENT AND AT THE NORTH ABUTMENT.

SEE "CROSS SECTION, GENERAL NOTES & QUANTITIES" SHEET FOR HP 10X42 PILE SPLICE DETAILS.

(A01) PIPE UNDERDRAIN WRAPPED (6–INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON THIS SHEET. RODENT SHIELD SHALL BE INCLUDED WITH THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6–INCH".

(A02) 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.) ½" FILLER TO EXTEND FROM BRIDGE SEAT TO TOP OF WING.

F.F. – FRONT FACE
B.F. – BACK FACE

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–25–195

DRAWN BY CDS | PLANS CK'D ACK

ABUTMENT DETAILS

SHEET 5 OF 9

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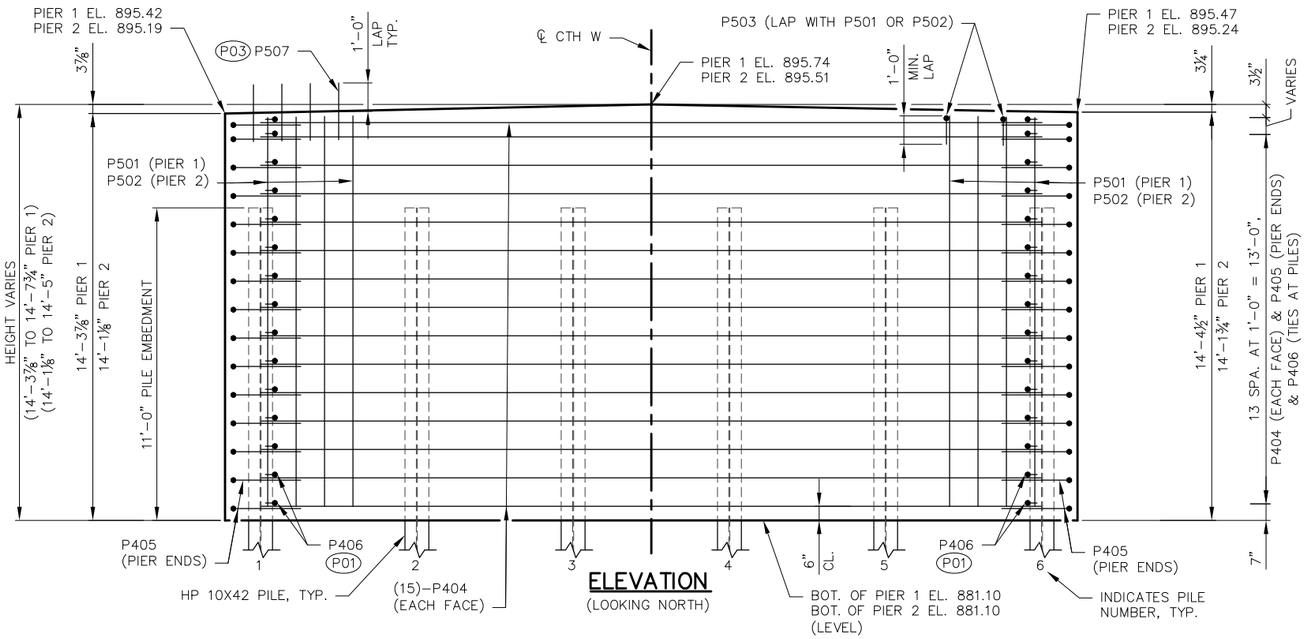
8

8

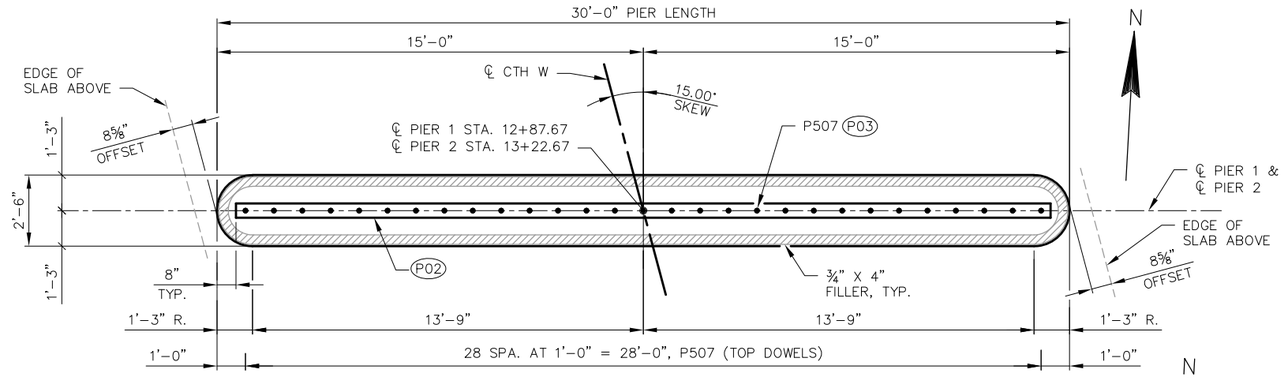
FILE: B250195_04–05_abut.dwg
PLOT SCALE:

I.D. 5683–00–72

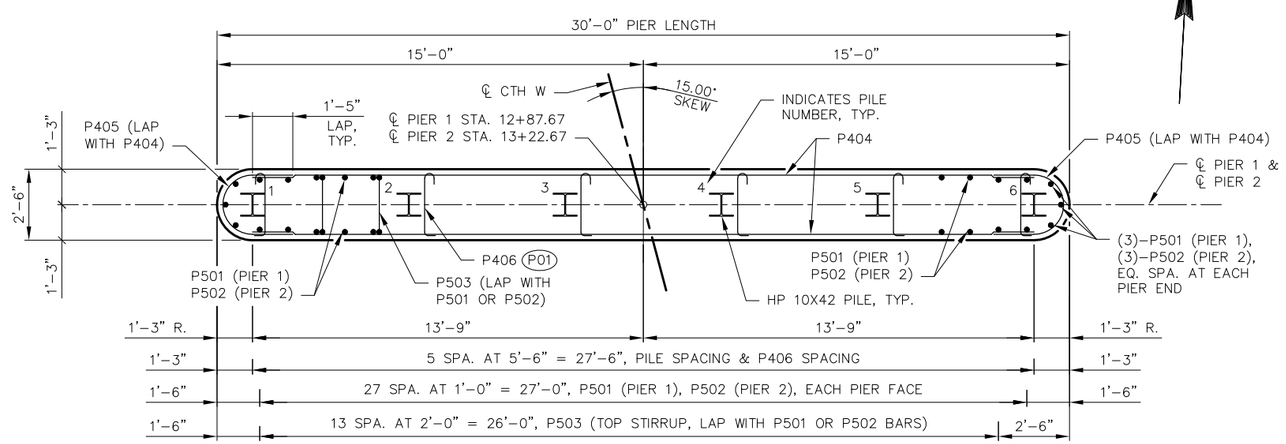
PLOT DATE: Feb 23, 2022




## ELEVATION
(LOOKING NORTH)




## TOP PLAN




## PILE AND REINFORCEMENT PLAN

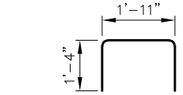
## BILL OF BARS
## PIER 1 & PIER 2

COATED = 130 LBS.
UNCOATED = 3,570 LBS

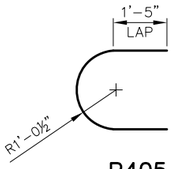
| MARK | NUMBER COATED | NUMBER UNCOATED | LENGTH | BENT | BAR SERIES | LOCATION | |
|---|---|---|---|---|---|---|---|
| P501 | | 62 | 13'-7" | | | PIER 1 – SIDES | VERT. |
| P502 | | 62 | 13'-4" | | | PIER 2 – SIDES | VERT. |
| P503 | | 28 | 4'-4" | X | | PIER 1 & 2 – TOP STIRRUP | VERT. |
| P404 | | 60 | 27'-6" | | | PIER 1 & 2 – SIDES | HORIZ. |
| P405 | | 60 | 6'-2" | X | | PIER 1 & 2 – END STIRRUP | HORIZ. |
| P406 | | 180 | 2'-11" | X | | PIER 1 & 2 – TIES | HORIZ. |
| P507 | 58 | | 2'-0" | | | PIER 1 & 2 – TOP DOWELS | VERT. |
| | | | | | | | |

THE FIRST DIGIT OF A BAR MARK SIGNIFIES THE BAR SIZE.

ALL BAR BEND DIMENSIONS ARE OUT TO OUT OF BAR.




P503

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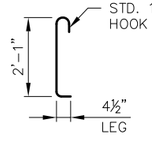


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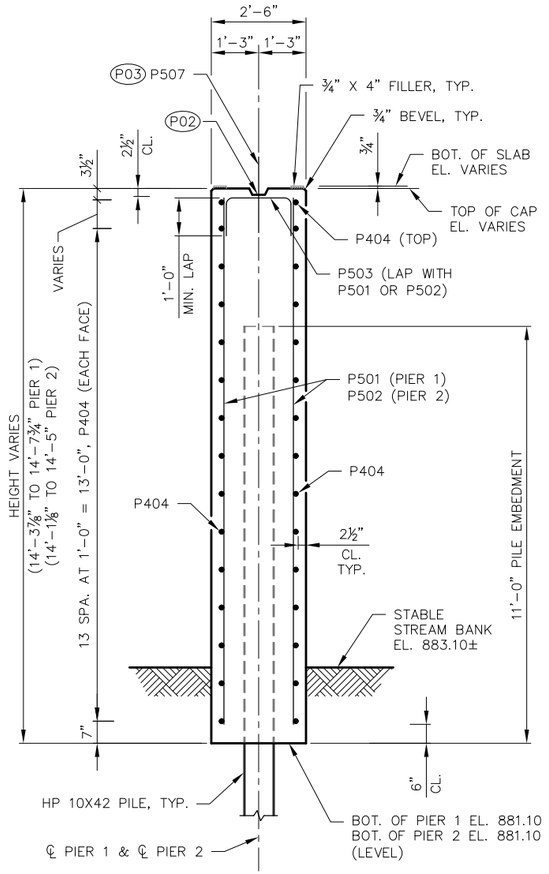


## TYPICAL SECTION THRU PIER

## NOTES

PIER 1 & PIER 2 TO BE SUPPORTED ON HP 10X42 PILING AND SHALL BE PRE-BORED A MINIMUM OF 3-FT INTO THE BEDROCK. THE MAXIMUM FACTORED AXIAL COMPRESSION DESIGN LOAD IS 85 TONS PER PILE AT PIER 1 & PIER 2. ESTIMATED 20 FT PILE LENGTHS AT PIER 1 & PIER 2.

FOR PILE SPLICE DETAILS SEE "CROSS SECTION, GENERAL NOTES & QUANTITIES" SHEET.

(P01) PLACE P406 BARS ADJACENT TO EACH PILE ONLY. TIE TO NEAREST VERT. P501 OR P502 BAR. VERTICAL SPA. AT 1'-0" TO MATCH P404 OUTSIDE BARS. ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.

(P02) KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2"x6".

(P03) P507 BARS MAY BE PLACED AFTER CONCRETE IS POURED, BUT BEFORE INITIAL SET HAS TAKEN PLACE.

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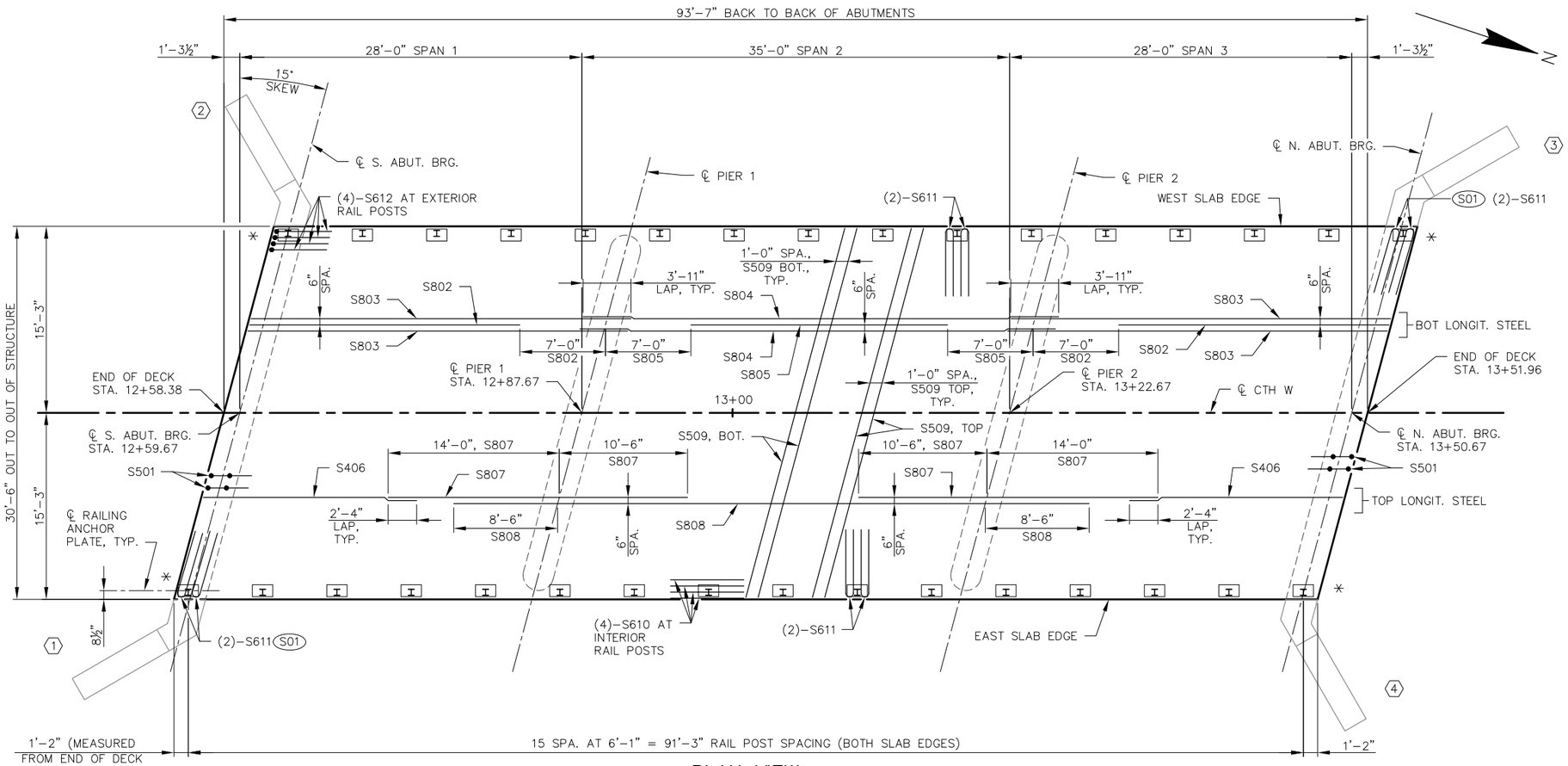



## PLAN VIEW

## NOTES

TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY.

BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

ALL SLAB THICKNESS DIMENSIONS ARE MINIMUM. ANY TOLERANCES NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

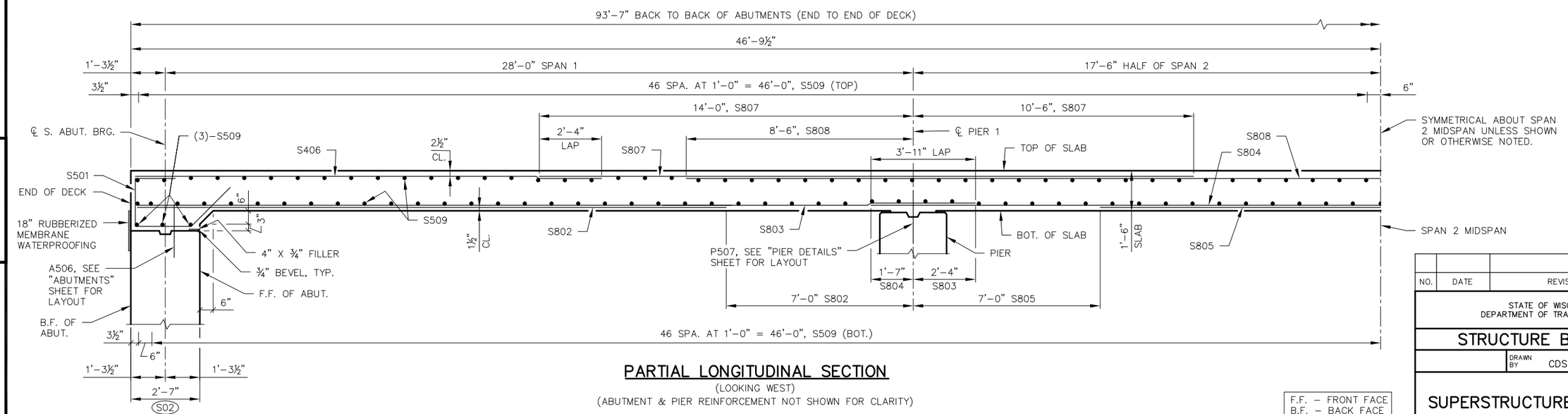
RAILING TO BE INSTALLED ON THE SLAB AFTER FALSEWORK HAS BEEN RELEASED.

(S01) ADJUST ORIENTATION OF S611 BAR AT END POST NEAR WINGS 1 & 3 TO ENSURE CLEAR COVER AT END OF DECK.

(S02) DIMENSION IS TAKEN PARALLEL TO ℄ CTH W.

* LOCATION OF BEAM GUARD ATTACHMENT

⬡ INDICATES WING NUMBER




## PARTIAL LONGITUDINAL SECTION

(LOOKING WEST)

(ABUTMENT & PIER REINFORCEMENT NOT SHOWN FOR CLARITY)

F.F. – FRONT FACE
B.F. – BACK FACE

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STRUCTURE B-25-195

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SUPERSTRUCTURE

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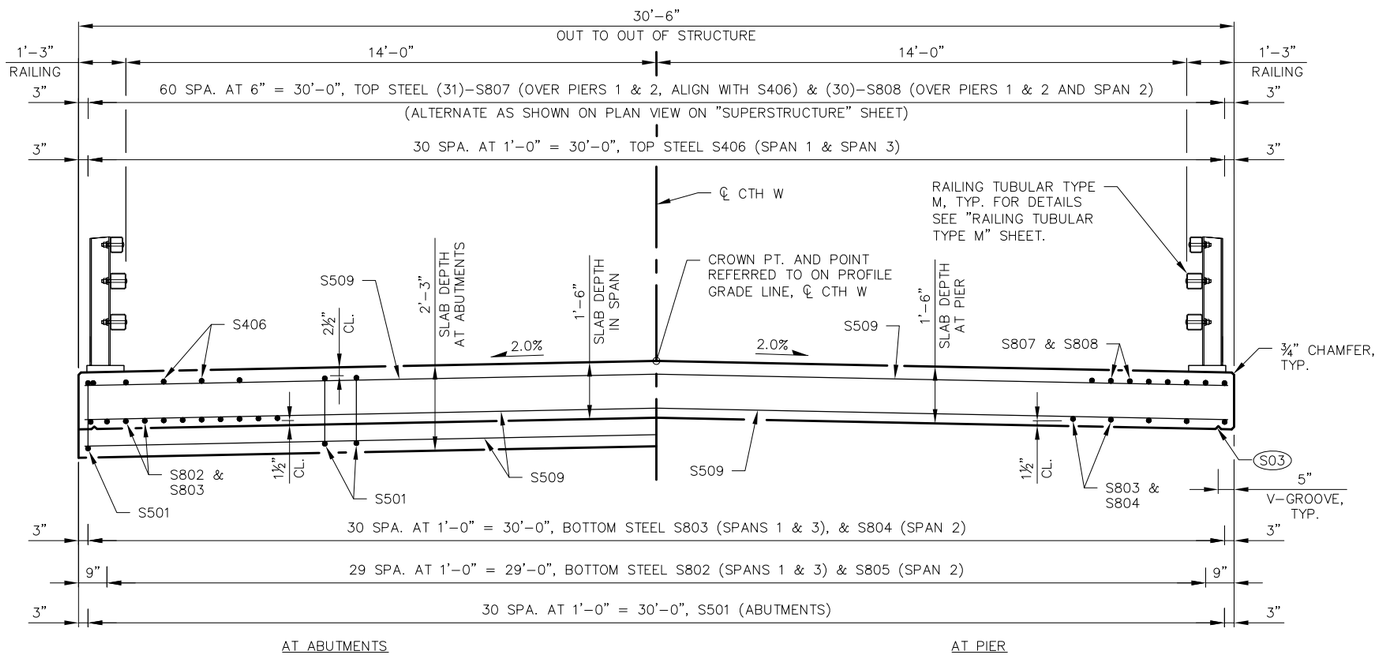


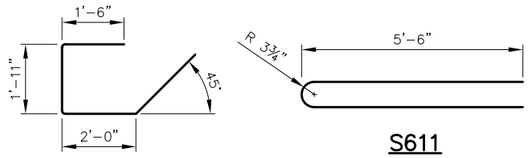

## CROSS SECTION THRU ROADWAY

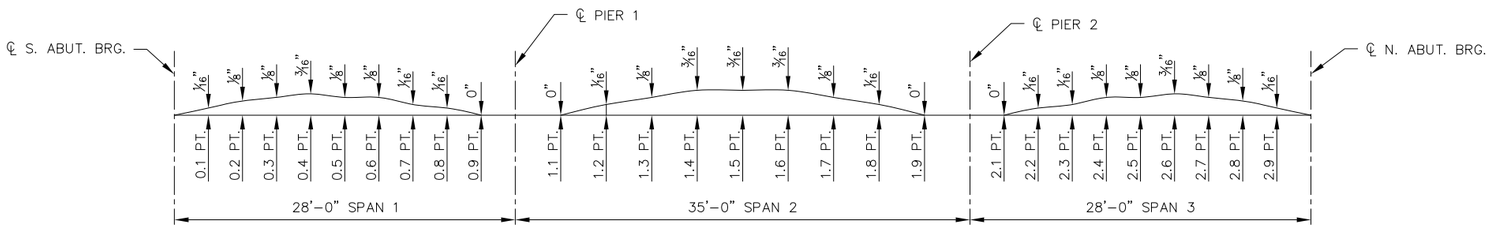
(LOOKING NORTH)

## SURVEY TOP OF SLAB ELEVATIONS

| | ℄ S. ABUT. BRG. | 5/10 PT. | ℄ PIER 1 | 5/10 PT. | ℄ PIER 2 | 5/10 PT. | ℄ N. ABUT. BRG. |
|---|---|---|---|---|---|---|---|
| WEST SLAB EDGE | | | | | | | |
| ℄ CTH W | | | | | | | |
| EAST SLAB EDGE | | | | | | | |

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE ℄ OF ABUTMENTS, ℄ OF PIERS AND AT 5/10 POINTS TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF SLAB AND REFERENCE LINE. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.




## SLAB CAMBER DIAGRAM

TO DETERMINE FALSEWORK ELEVATION AT EDGE OF SLAB, CROWN OR REFERENCE LINE FOLLOW THIS PROCEDURE:

| | |
|---|---|
| | TOP OF SLAB ELEVATION AT FINAL GRADE |
| LESS | SLAB THICKNESS |
| PLUS | CAMBER |
| PLUS | FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR) |
| EQUALS | TOP OF SLAB FALSEWORK ELEVATION. |

## BILL OF BARS
## SUPERSTRUCTURE

COATED = 31,610 LBS.

| MARK | NUMBER COATED | NUMBER UNCOATED | LENGTH | BENT | BAR SERIES | LOCATION | |
|---|---|---|---|---|---|---|---|
| S501 | 62 | | 7'-3" | X | | SLAB AT ABUTMENT - STIRRUPS | VERT. |
| S802 | 60 | | 22'-1" | | | SLAB - BOTTOM SPAN 1 & 3 | LONGIT. |
| S803 | 62 | | 31'-5" | | | SLAB - BOTTOM SPAN 1 & 3 | LONGIT. |
| S804 | 31 | | 38'-2" | | | SLAB - BOTTOM SPAN 2 | LONGIT. |
| S805 | 30 | | 21'-0" | | | SLAB - BOTTOM SPAN 2 | LONGIT. |
| S406 | 62 | | 17'-6" | | | SLAB - TOP SPAN 1 & 3 | LONGIT. |
| S807 | 62 | | 24'-6" | | | SLAB - TOP OVER PIERS | LONGIT. |
| S808 | 30 | | 52'-0" | | | SLAB - TOP OVER PIERS & SPAN 2 | LONGIT. |
| S509 | 195 | | 31'-2" | | | SLAB - TOP & BOTTOM | TRANS. |
| S610 | 112 | | 6'-0" | | | SLAB - TOP AT INTERIOR RAIL POSTS | LONGIT. |
| S611 | 64 | | 12'-0" | X | | SLAB - TOP AT RAIL POSTS | TRANS. |
| S612 | 16 | | 4'-8" | X | | SLAB - TOP AT EXTERIOR RAIL POSTS | LONGIT. |

THE FIRST OR FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFIES THE BAR SIZE.

ALL BAR BEND DIMENSIONS ARE OUT TO OUT OF BAR.

## TOP OF SLAB ELEVATIONS

| SPAN PT | WEST SLAB EDGE | ℄ CTH W | EAST SLAB EDGE |
|---|---|---|---|
| ℄ S. ABUT. | 897.15 | 897.47 | 897.20 |
| 0.1 | 897.13 | 897.46 | 897.18 |
| 0.2 | 897.11 | 897.44 | 897.16 |
| 0.3 | 897.09 | 897.42 | 897.15 |
| 0.4 | 897.08 | 897.40 | 897.13 |
| 0.5 | 897.06 | 897.39 | 897.11 |
| 0.6 | 897.04 | 897.37 | 897.09 |
| 0.7 | 897.02 | 897.35 | 897.08 |
| 0.8 | 897.01 | 897.33 | 897.06 |
| 0.9 | 896.99 | 897.31 | 897.04 |
| ℄ PIER 1 | 896.97 | 897.30 | 897.02 |
| 1.1 | 896.95 | 897.27 | 897.00 |
| 1.2 | 896.93 | 897.25 | 896.98 |
| 1.3 | 896.90 | 897.23 | 896.96 |
| 1.4 | 896.88 | 897.21 | 896.93 |
| 1.5 | 896.86 | 897.18 | 896.91 |
| 1.6 | 896.84 | 897.16 | 896.89 |
| 1.7 | 896.81 | 897.14 | 896.87 |
| 1.8 | 896.79 | 897.12 | 896.84 |
| 1.9 | 896.77 | 897.10 | 896.82 |
| ℄ PIER 2 | 896.75 | 897.07 | 896.80 |
| 2.1 | 896.73 | 897.06 | 896.78 |
| 2.2 | 896.71 | 897.04 | 896.76 |
| 2.3 | 896.69 | 897.02 | 896.75 |
| 2.4 | 896.68 | 897.00 | 896.73 |
| 2.5 | 896.66 | 896.98 | 896.71 |
| 2.6 | 896.64 | 896.97 | 896.69 |
| 2.7 | 896.62 | 896.95 | 896.68 |
| 2.8 | 896.61 | 896.93 | 896.66 |
| 2.9 | 896.59 | 896.91 | 896.64 |
| ℄ N. ABUT. | 896.57 | 896.90 | 896.62 |

## NOTES

CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT.

(S03) ¾" V-GROOVE. EXTEND V-GROOVE TO 6" FROM FRONT FACE OF ABUTMENT BODY. V-GROOVES ARE REQUIRED.

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SUPERSTRUCTURE DETAILS

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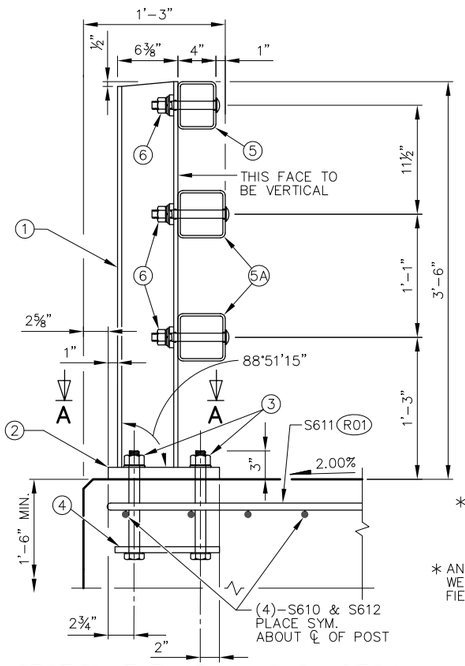
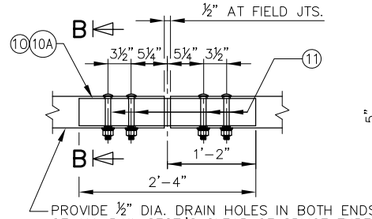
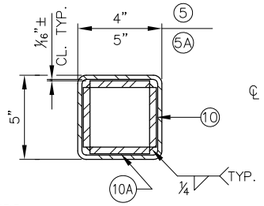


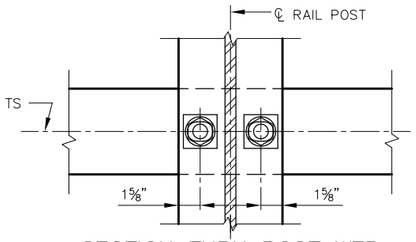

SECTION THRU RAILING ON DECK



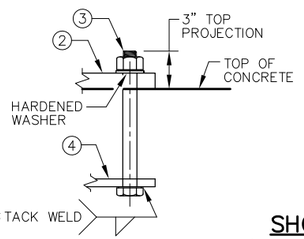

FIELD ERECTION JOINT DETAIL




SECTION B-B

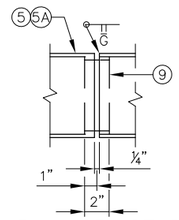



SECTION THRU POST WEB



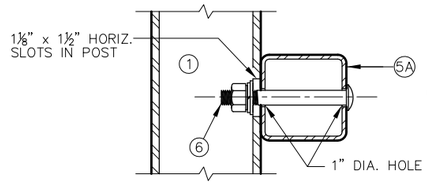

ANCHOR BOLTS

* ANCHOR BOLT ASSEMBLY MAY BE TACK WELDED, EITHER IN THE SHOP, OR IN THE FIELD AFTER THE ANCHOR PLATE IS PLACED.




SHOP RAIL SPLICE DETAIL

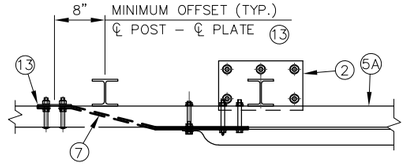
(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)




SECTION THRU RAIL

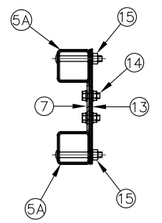
NOTE: CONNECTIONS AT LOWER RAILS SHOWN. CONNECTIONS AT TOP RAIL SIMILAR.

TYPICAL RAIL TO POST CONNECTIONS

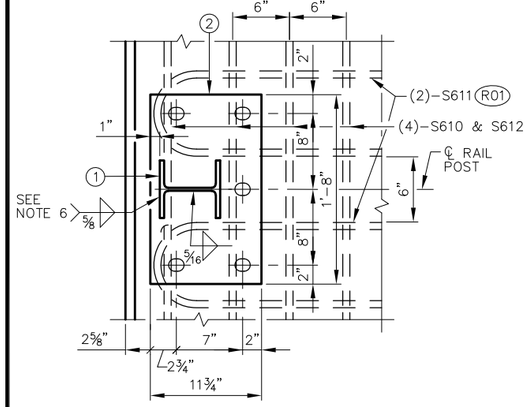



TOP VIEW AT END POST

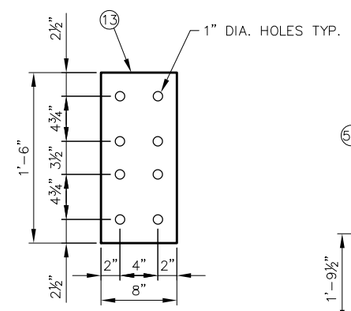
(THRIE BEAM RAIL ATTACHMENT)



SECTION C-C

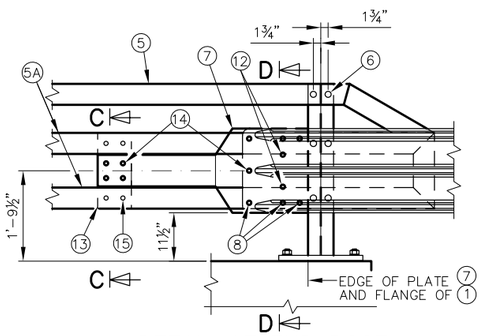



SECTION A-A



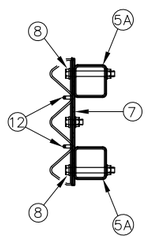

ANCHOR PLATE

AT BEAM GUARD ATTACHMENT




DETAIL AT END POST

(THRIE BEAM RAIL ATTACHMENT)



SECTION D-D

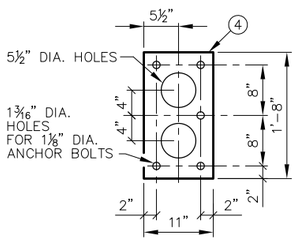
## LEGEND

1. W6 x 25 WITH 1⅛" x 1½" HORIZONTAL SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
2. PLATE 1¼" x 11¾" x 1'-8" WITH 1 7/16" DIA. OVERSIZED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN.
3. ASTM A449 – 1⅛" DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED). 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-9" LONG IN ABUTMENT WINGS. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. USE 10¾" LONG AT ALL OTHER LOCATIONS. (AN EQUIVALENT THREADED ROD WITH NUTS AND HARDENED WASHERS MAY BE SUBSTITUTED FOR ANCHOR BOLTS IN WINGS IF REQ'D. FOR CONSTRUCTABILITY.)
4. ⅝" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 3/16" DIA. HOLES FOR ANCHOR BOLTS NO. 3
5. TS 5 x 4 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
5A. TS 5 x 5 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
6. ⅞" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/16" x 1⅝" x 1⅝" MIN. WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
7. ½" THK. BACK-UP PLATE WITH 2 – ⅞" x 1½" THREADED SHOP WELDED STUDS (NO. 12). BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.
8. 1" DIA. HOLES IN PLATE NO. 7 & TUBES NO. 5A FOR ⅞" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.
9. SPLICE SLEEVE FABRICATED FROM ¼" PLATE. PROVIDE "SLIDING FIT".
10. ⅜" x 3⅝" x 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
10A. ⅜" x 2⅝" x 2'-4" PLATE USED IN NO. 5, ⅜" x 3⅝" x 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
11. ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER AND LOCK WASHER. USE 15/16" x 1¼" LONGIT. SLOTTED HOLES IN PLATE NO. 10A. AT FIELD JOINTS AND 15/16" x 2¼" MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A. PROVIDE 15/16" DIA. ROUND HOLES IN TUBES NO. 5 AND NO. 5A.
12. ⅞" DIA. x 1½" LONG THREADED SHOP WELDED STUDS (2 REQ'D).
13. ⅜" x 8" x 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQUIRED AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYMMETRICALLY ABOUT TUBES NO. 5A.
14. ⅞" DIA. x 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
15. 1" DIA. HOLES IN TUBES NO. 5A FOR ⅞" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

## NOTES

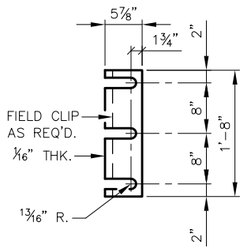
1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE. RAILS SHALL BE SPLICED IN A PANEL OVER EXPANSION JOINTS.
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
8. POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.

R01 TIE TO TOP MAT OF STEEL.

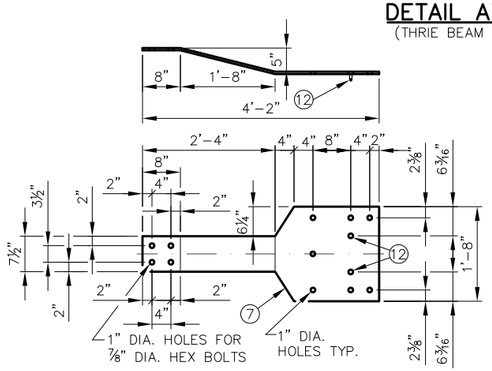



ANCHOR PLATE

AT RAIL TO DECK CONNECTION

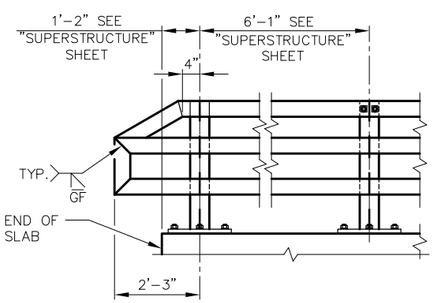



POST SHIM DETAIL




BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENTS




PART ELEVATION OF RAILING

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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-25-195

DRAWN BY JDO | PLANS CK'D ACK

RAILING TUBULAR TYPE M

SHEET 9 OF 9

42

I.D. 5683-00-72

PLOT DATE: Feb 23, 2022

FILE: B250195_09_mrail.dwg
PLOT SCALE:

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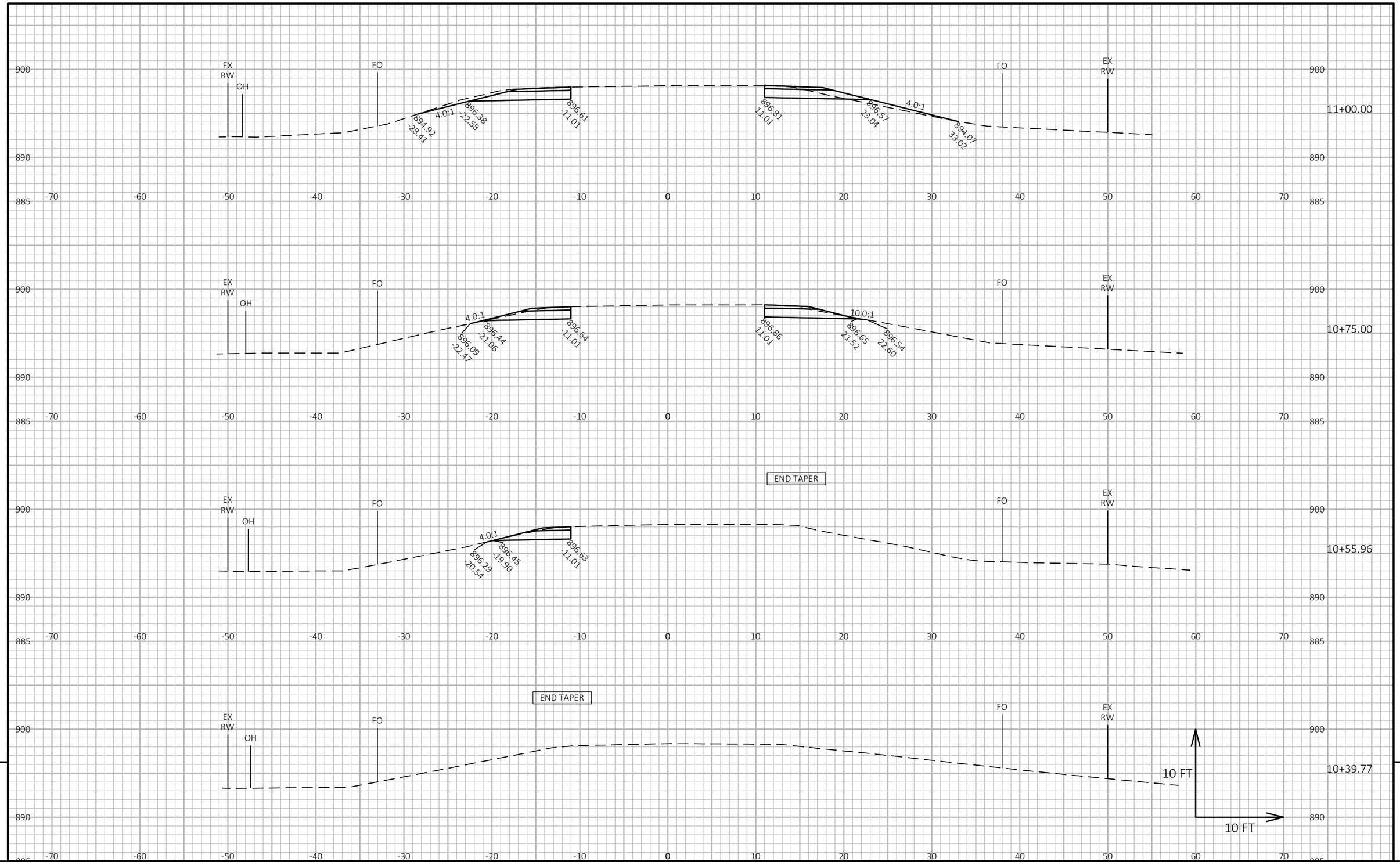
| STATION | DISTANCE | AREA (SF) CUT | AREA (SF) SALVAGED/UNUSABLE PAVEMENT MATERIAL | AREA (SF) FILL | INCREMENTAL VOL (CY) (UNADJUSTED) CUT Note 1 | INCREMENTAL VOL (CY) (UNADJUSTED) SALVAGED/UNUSABLE PAVEMENT MATERIAL Note 2 | INCREMENTAL VOL (CY) (UNADJUSTED) FILL Note 3 | CUMULATIVE VOL (CY) CUT 1.00 Note 1 | CUMULATIVE VOL (CY) EXPANDED FILL 1.25 | MASS ORDINATE Note 4 |
|---|---|---|---|---|---|---|---|---|---|---|
| 10+39.77 | - | 0.00 | 0.00 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10+55.96 | 16.19 | 7.34 | 0.00 | 0.00 | 2 | 0 | 0 | 2 | 0 | 2 |
| 10+75.00 | 19.04 | 17.73 | 0.00 | 0.05 | 9 | 0 | 0 | 11 | 0 | 11 |
| 11+00.00 | 25.00 | 22.45 | 0.00 | 3.14 | 19 | 0 | 1 | 30 | 1 | 28 |
| 11+14.00 | 14.00 | 24.74 | 14.88 | 6.36 | 12 | 4 | 2 | 42 | 4 | 34 |
| 11+14.01 | 0.01 | 57.72 | 14.88 | 2.48 | 0 | 0 | 0 | 42 | 4 | 34 |
| 11+50.00 | 36.00 | 57.94 | 14.87 | 19.51 | 62 | 20 | 13 | 104 | 20 | 60 |
| 11+64.64 | 14.64 | 46.63 | 14.85 | 29.15 | 28 | 8 | 13 | 132 | 36 | 64 |
| 11+72.14 | 7.50 | 43.84 | 14.92 | 21.20 | 13 | 4 | 7 | 145 | 45 | 64 |
| 11+89.62 | 17.48 | 43.12 | 15.23 | 18.16 | 28 | 10 | 13 | 173 | 61 | 66 |
| 11+97.12 | 7.50 | 43.48 | 15.37 | 19.29 | 12 | 4 | 5 | 185 | 68 | 68 |
| 12+08.38 | 11.26 | 46.17 | 15.54 | 23.37 | 19 | 6 | 9 | 204 | 79 | 69 |
| 12+14.60 | 6.22 | 46.63 | 16.09 | 23.50 | 11 | 4 | 5 | 215 | 85 | 70 |
| 12+22.11 | 7.51 | 47.02 | 16.42 | 25.90 | 13 | 5 | 7 | 228 | 94 | 69 |
| 12+45.00 | 22.89 | 46.19 | 17.36 | 47.14 | 40 | 14 | 31 | 268 | 133 | 56 |
| 12+58.37 | 13.37 | 21.92 | 8.86 | 39.61 | 17 | 6 | 21 | 285 | 159 | 40 |
| STRUCTURE B-25-0195 | | | | | | | | | | |
| | | DIVISION 1 TOTALS | | | 285 | 85 | 127 | | | |

| STATION | DISTANCE | AREA (SF) CUT | AREA (SF) SALVAGED/UNUSABLE PAVEMENT MATERIAL | AREA (SF) FILL | INCREMENTAL VOL (CY) (UNADJUSTED) CUT Note 1 | INCREMENTAL VOL (CY) (UNADJUSTED) SALVAGED/UNUSABLE PAVEMENT MATERIAL Note 2 | INCREMENTAL VOL (CY) (UNADJUSTED) FILL Note 3 | CUMULATIVE VOL (CY) CUT 1.00 Note 1 | CUMULATIVE VOL (CY) EXPANDED FILL 1.25 | MASS ORDINATE Note 4 |
|---|---|---|---|---|---|---|---|---|---|---|
| STRUCTURE B-25-0195 | | | | | | | | | | |
| 13+51.96 | - | 22.77 | 8.24 | 18.92 | 0 | 0 | 0 | 0 | 0 | 0 |
| 13+65.00 | 13.04 | 45.01 | 15.69 | 28.95 | 16 | 6 | 12 | 16 | 15 | -5 |
| 13+88.23 | 23.23 | 47.09 | 15.34 | 32.49 | 40 | 13 | 26 | 56 | 48 | -11 |
| 13+95.73 | 7.50 | 47.53 | 15.24 | 29.32 | 13 | 4 | 9 | 69 | 59 | -13 |
| 14+01.96 | 6.23 | 47.43 | 15.24 | 29.88 | 11 | 4 | 7 | 80 | 68 | -14 |
| 14+13.21 | 11.25 | 46.72 | 15.30 | 34.29 | 20 | 6 | 13 | 100 | 84 | -17 |
| 14+20.71 | 7.50 | 47.76 | 15.29 | 35.71 | 13 | 4 | 10 | 113 | 96 | -20 |
| 14+38.19 | 17.48 | 48.23 | 15.07 | 43.69 | 31 | 10 | 26 | 144 | 129 | -32 |
| 14+45.70 | 7.51 | 48.99 | 15.07 | 37.98 | 14 | 4 | 11 | 158 | 143 | -36 |
| 14+75.00 | 29.30 | 50.36 | 15.22 | 15.67 | 54 | 16 | 29 | 212 | 179 | -34 |
| 14+95.99 | 20.99 | 52.12 | 15.27 | 0.93 | 40 | 12 | 6 | 252 | 186 | -14 |
| 14+96.00 | 0.01 | 19.35 | 15.27 | 3.31 | 0 | 0 | 0 | 252 | 179 | -34 |
| 15+25.00 | 29.00 | 24.34 | 0.00 | 0.00 | 23 | 8 | 2 | 275 | 181 | -21 |
| 15+48.35 | 23.35 | 10.72 | 0.00 | 0.00 | 15 | 0 | 0 | 290 | 181 | -6 |
| 15+51.77 | 3.42 | 0.00 | 0.00 | 0.00 | 1 | 0 | 0 | 291 | 181 | -6 |
| | | DIVISION 2 TOTALS | | | 291 | 87 | 151 | | | |
| | | PROJECT TOTALS | | | 576 | 172 | 278 | | | |

| NOTES: | |
|---|---|
| 1 - CUT | CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL |
| 2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL | THIS DOES NOT SHOW UP IN CROSS SECTIONS |
| 3 - FILL | DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME |
| 4 - MASS ORDINATE | [(CUT) - (FILL * FILL FACTOR) - (SALVAGED/UNUSABLE PAVEMENT MATERIAL)] |

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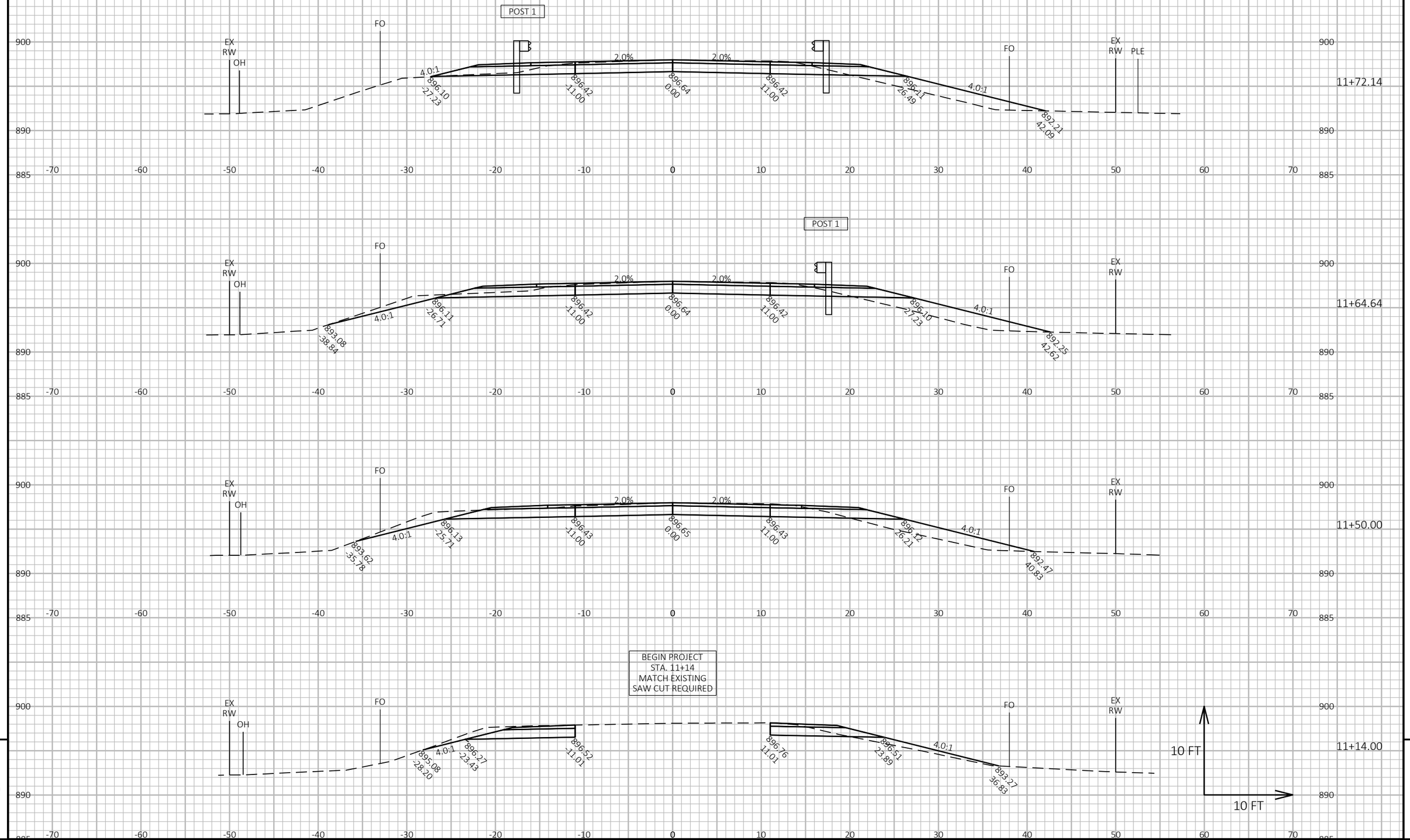
| PROJECT NO: 5683-00-72 | HWY: CTH W | COUNTY: IOWA | CROSS SECTIONS: | SHEET 44 | E |
|---|---|---|---|---|---|


FILE NAME : G:\00-PROJECT FILES\2021\21069 CTH W, DODGE BR BRIDGE, IOWA COUNTY 5683-00-02\0-CAD\DESIGN\CORRIDORS\CRDR_CTH W.DWG
LAYOUT NAME - 090201_xs

PLOT DATE : 4/14/2022 10:30 AM PLOT BY : ERIK MEYER PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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| PROJECT NO: 5683-00-72 | HWY: CTH W | COUNTY: IOWA | CROSS SECTIONS: | SHEET 45 | E |
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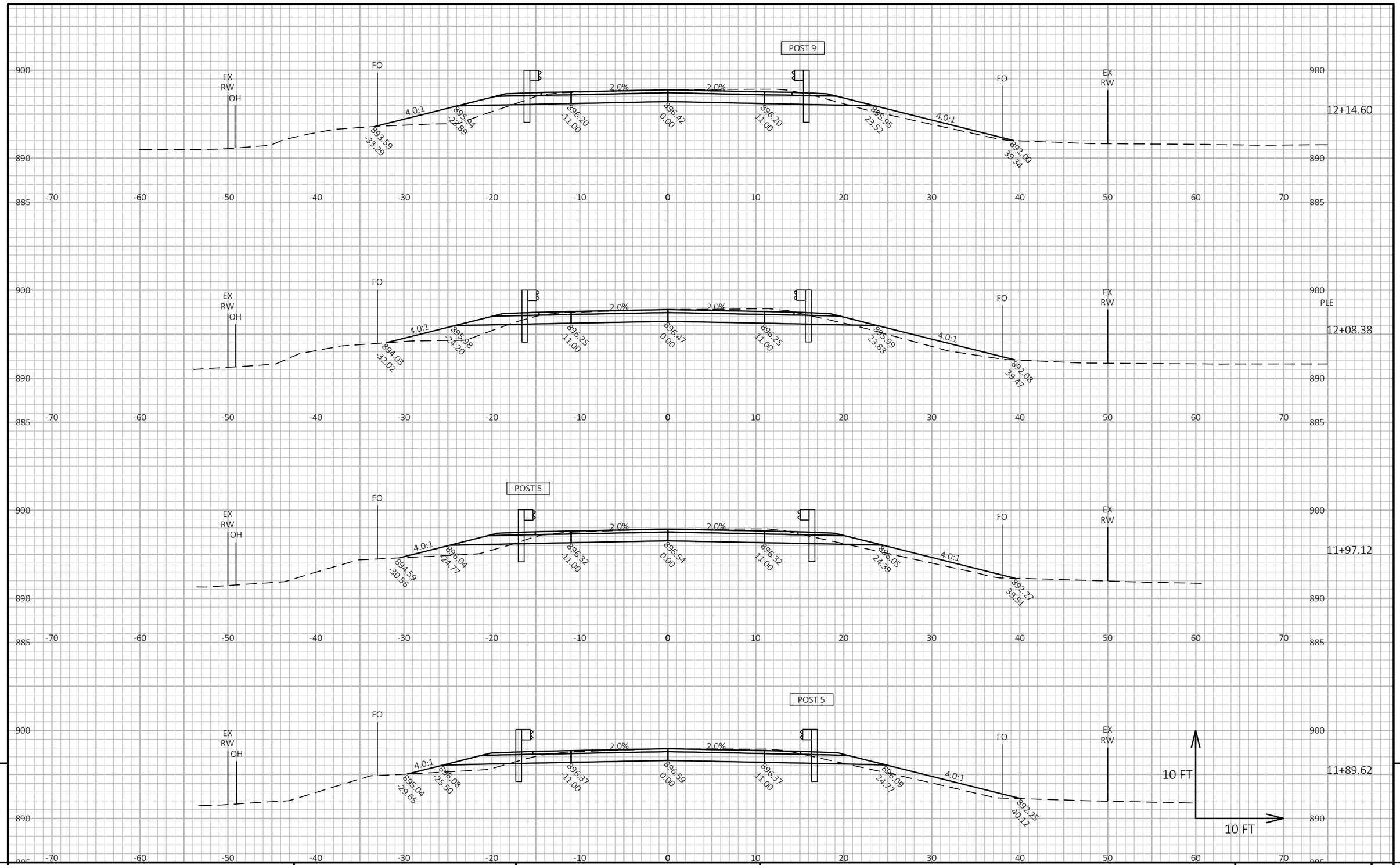
LAYOUT NAME - 090202_xs

PLOT DATE : 4/14/2022 10:30 AM PLOT BY : ERIK MEYER PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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| PROJECT NO: 5683-00-72 | HWY: CTH W | COUNTY: IOWA | CROSS SECTIONS: | SHEET 46 | E |
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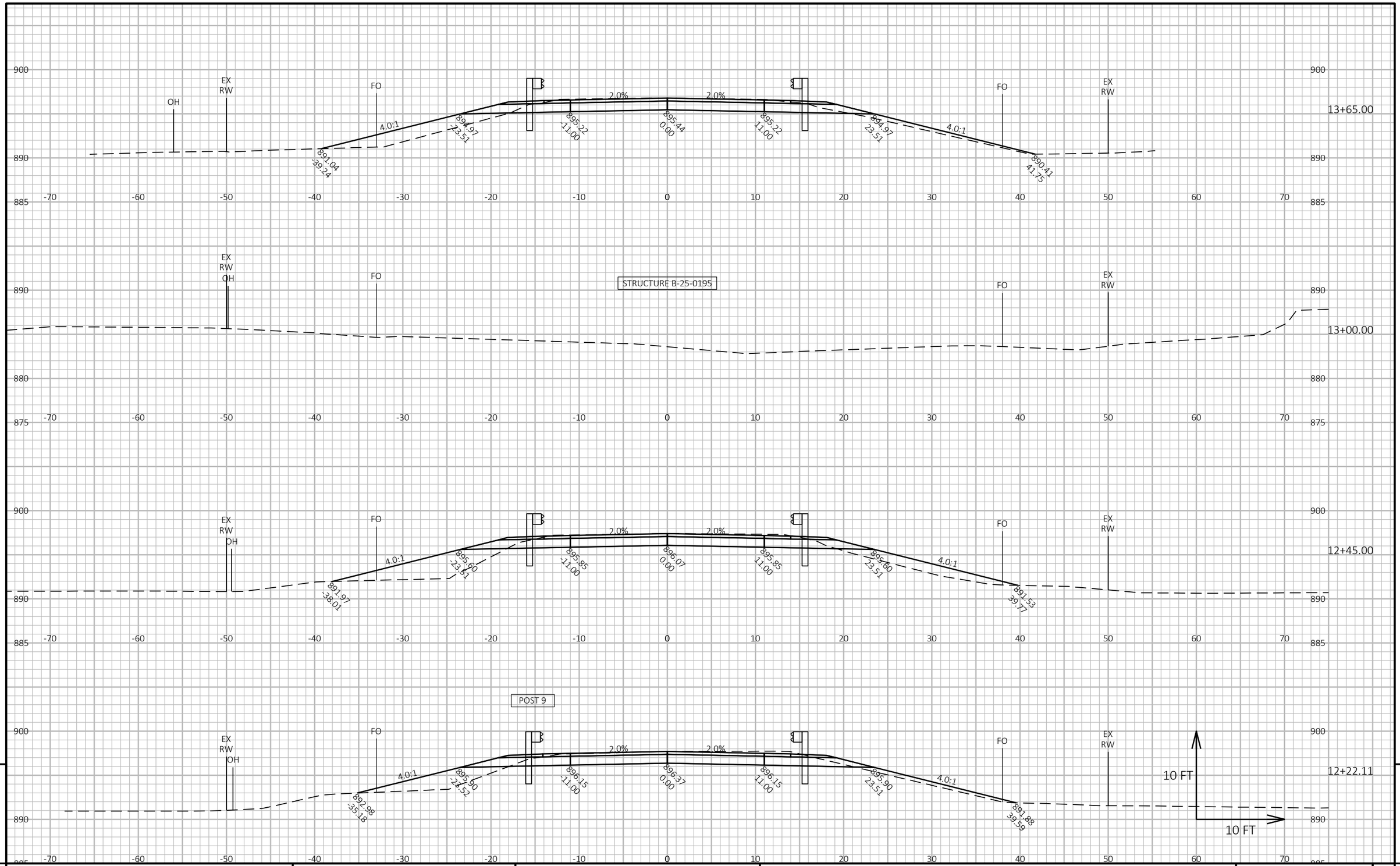
FILE NAME : G:\00-PROJECT FILES\2021\21069 CTH W, DODGE BR BRIDGE, IOWA COUNTY 5683-00-02\0-CAD\DESIGN\CORRIDORS\CRDR_CTH W.DWG
LAYOUT NAME - 090203_xs

PLOT DATE : 4/14/2022 10:30 AM PLOT BY : ERIK MEYER PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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| PROJECT NO: 5683-00-72 | HWY: CTH W | COUNTY: IOWA | CROSS SECTIONS: | SHEET 47 | E |
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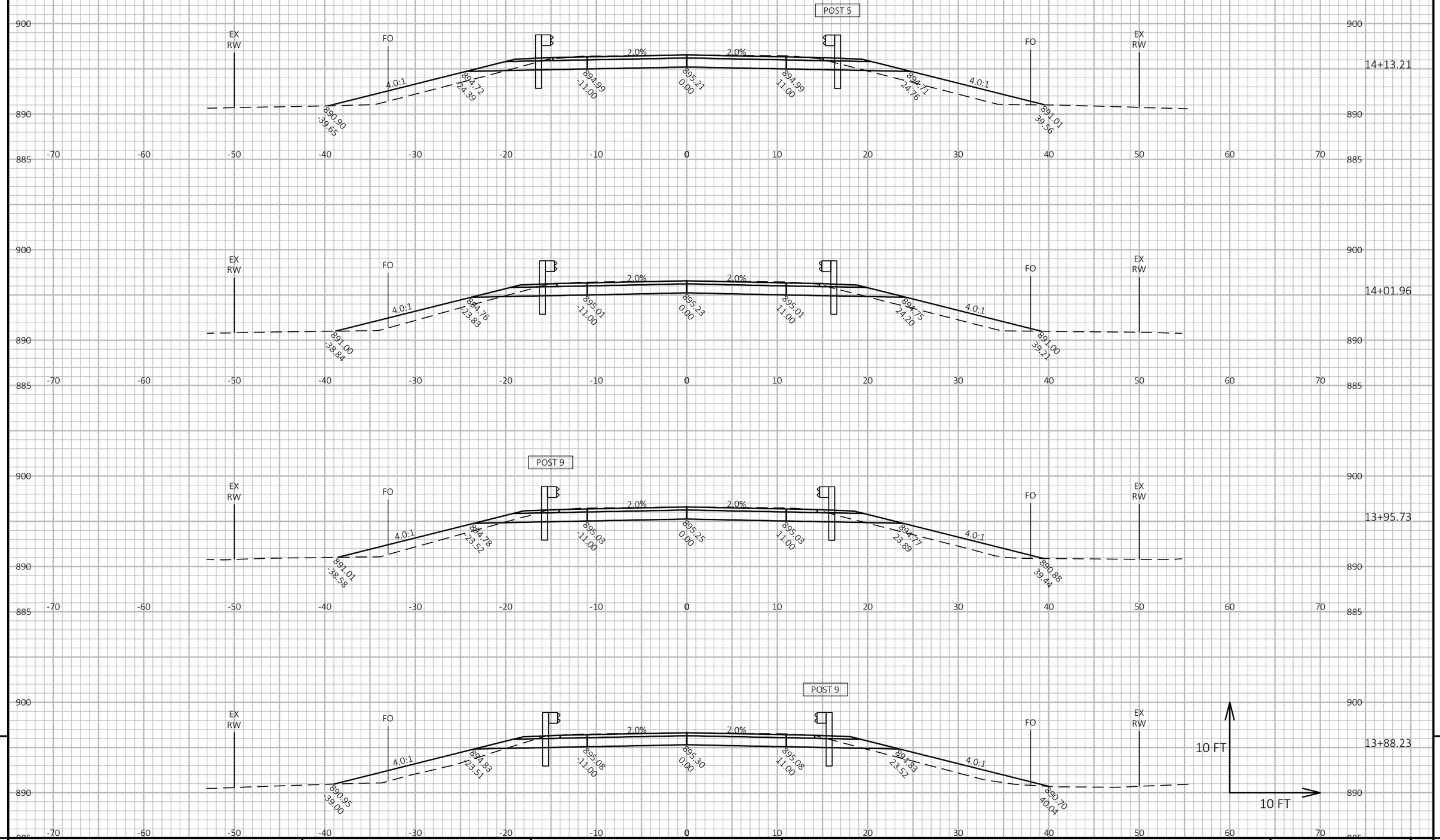
FILE NAME : G:\00-PROJECT FILES\2021\21069 CTH W, DODGE BR BRIDGE, IOWA COUNTY 5683-00-02\0-CAD\DESIGN\CORRIDORS\CRDR_CTH W.DWG
LAYOUT NAME - 090204_xs

PLOT DATE : 4/14/2022 10:30 AM PLOT BY : ERIK MEYER PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




| PROJECT NO: 5683-00-72 | HWY: CTH W | COUNTY: IOWA | CROSS SECTIONS: | SHEET 48 | E |
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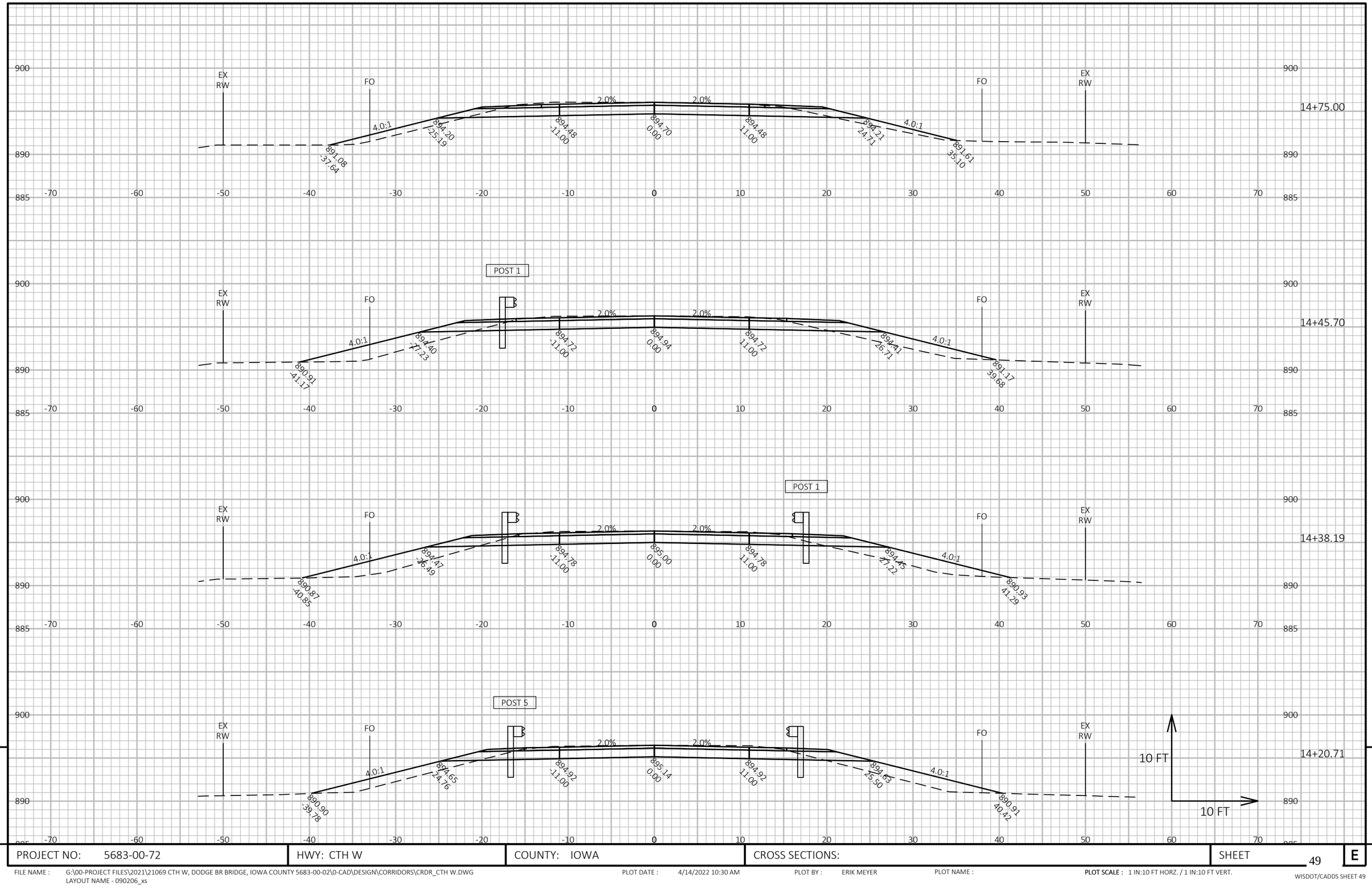
FILE NAME : G:\00-PROJECT FILES\2021\21069 CTH W, DODGE BR BRIDGE, IOWA COUNTY 5683-00-02\0-CAD\DESIGN\CORRIDORS\CRDR_CTH W.DWG
LAYOUT NAME - 090205_xs

PLOT DATE : 4/14/2022 10:30 AM PLOT BY : ERIK MEYER PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




| PROJECT NO: 5683-00-72 | HWY: CTH W | COUNTY: IOWA | CROSS SECTIONS: | SHEET 49 | E |
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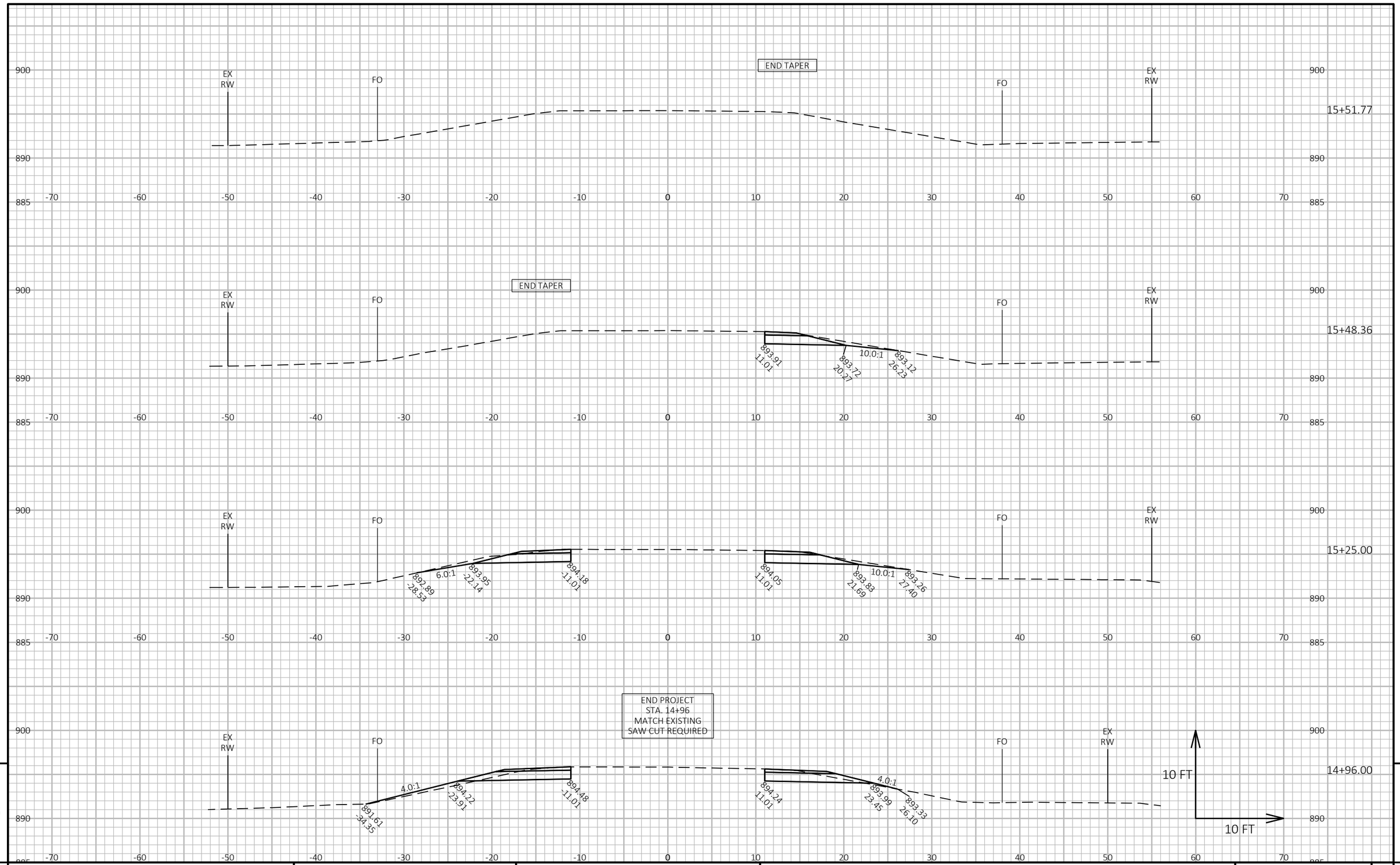
FILE NAME : G:\00-PROJECT FILES\2021\21069 CTH W, DODGE BR BRIDGE, IOWA COUNTY 5683-00-02\0-CAD\DESIGN\CORRIDORS\CRDR_CTH W.DWG
LAYOUT NAME - 090206_xs

PLOT DATE : 4/14/2022 10:30 AM PLOT BY : ERIK MEYER PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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| PROJECT NO: 5683-00-72 | HWY: CTH W | COUNTY: IOWA | CROSS SECTIONS: | SHEET 50 | E |
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LAYOUT NAME - 090207_xs

PLOT DATE : 4/14/2022 10:30 AM PLOT BY : ERIK MEYER PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

Notes

**Wisconsin Department of Transportation**

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through innovation and exceptional service.

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