EAU

FEBRUARY 2022

PROJECT ID: 7363-00-70

WITH: N/A

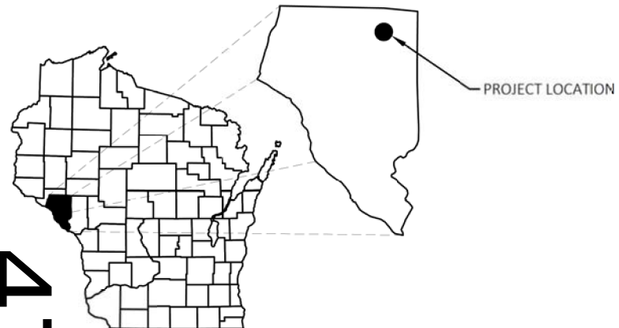
COUNTY: BUFFALO

47

ORDER OF SHEETS


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


TOTAL SHEETS = 32




DESIGN DESIGNATION

| | | | |
|---|---|---|---|
| A.A.D.T. | 2022 | = | 447 |
| A.A.D.T. | 2042 | = | 469 |
| D.H.V. | | = | 57 |
| D.D. | | = | 60/40 |
| T. | | = | 7.8 |
| DESIGN SPEED | | = | 60 |
| ESALS | | = | 81,000 |

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

# STATE OF WISCONSIN
# DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

# CTH H - CTH Y

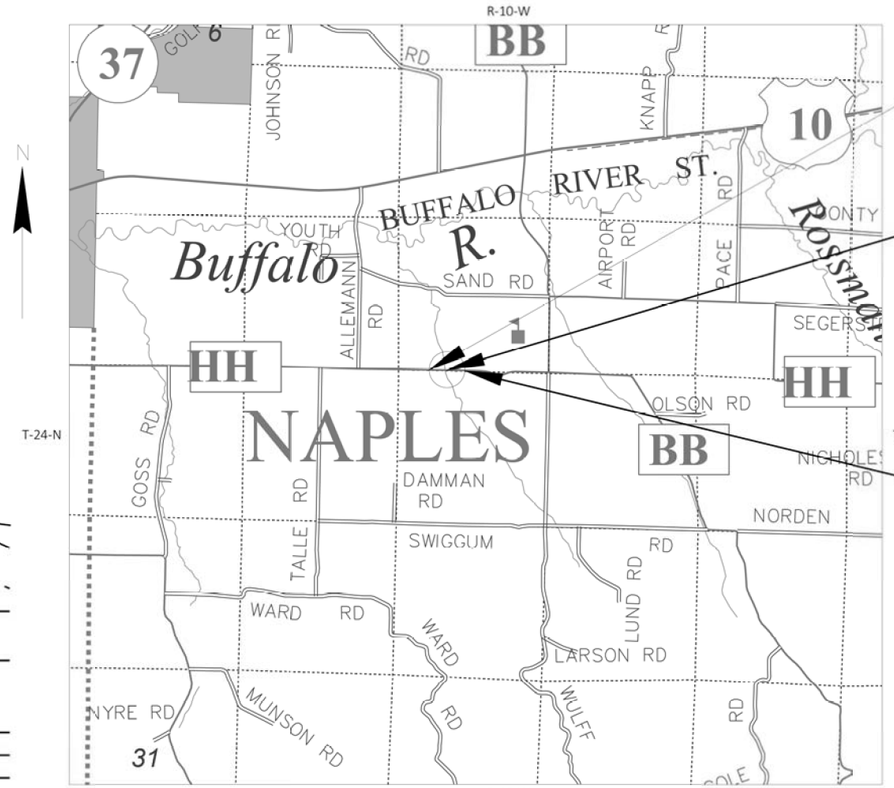
BR BUFFALO RIVER BRIDGE B-06-0196

## CTH HH

## BUFFALO

| STATE PROJECT NUMBER |
|---|
| 7363-00-70 |

| STATE PROJECT | FEDERAL PROJECT | |
|---|---|---|
| | PROJECT | CONTRACT |
| 7363-00-70 | WISC 2022187 | 1 |
| | | |
| | | |
| | | |




BEGIN PROJECT
STA 9+31.75
Y = 390 892.003
X = 625 412.222

STRUCTURE
B-06-0196

END PROJECT
STA 10+68.25
Y = 390 892.003
X = 625 548.722

LAYOUT

SCALE 0 1 MI

TOTAL NET LENGTH OF CENTERLINE = 0.0259 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), BUFFALO 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.

ACCEPTED FOR

BUFFALO COUNTY

8/3/21 (Date) (Signature and Title of Official) HWY COMMISSIONER

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: 8-3-21 (Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

| | |
|---|---|
| Surveyor | WESTBROOK ASSOCIATED ENGINEERS, INC |
| Designer | WESTBROOK ASSOCIATED ENGINEERS, INC |
| Project Manager | MATTHEW THORNSEN, PE |
| Regional Examiner | TOU YANG, PE |
| Regional Supervisor | TYLER RONGSTAD, PE |

APPROVED FOR THE DEPARTMENT

DATE: 10/19/2021 (Signature)

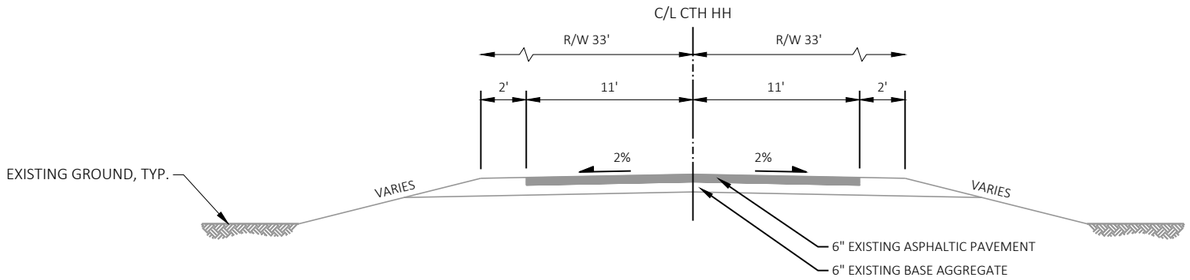
E

FILE NAME : G:\00-PROJECT FILES\2019\19163 CTH HH, BUFFALO COUNTY ID 7363-00-00\0-CAD\SHEETSPLAN\010101_TI.DWG

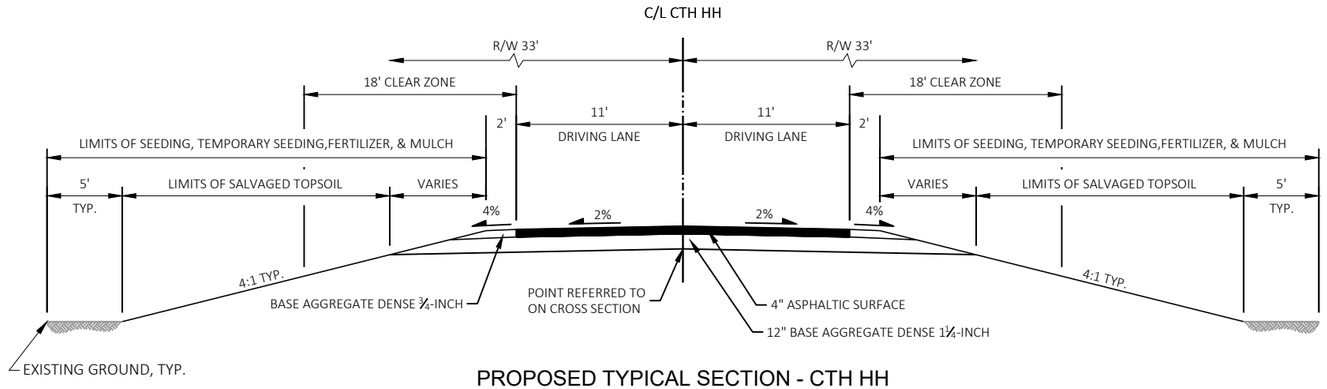
PLOT DATE : 10/5/2021 10:17 AM

PLOT BY : ERIK MEYER

PLOT NAME :




## EXISTING TYPICAL SECTION
STA. 9+31.75 - 10+68.25




## PROPOSED TYPICAL SECTION - CTH HH
STA. 9+31.75 - 10+68.25

### 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 = 0.21 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.16 ACRES

## GENERAL NOTES

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.

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.

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

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), BUFFALO 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.

## ORDER OF SECTION 2 SHEETS
GENERAL NOTES & TYPICAL SECTIONS

## CONTACTS

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

### 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 WEST CENTRAL REGION HQ
1300 WEST CLAIREMONT AVENUE
EAU CLAIRE, WI 54701

ATTN: AMY LESIK
PH: (715) 836-6571
AmyL.Lesik@wisconsin.gov

### COUNTY LIAISON
ALMA HIGHWAY SHOP
S1672 STH 37
ALMA, WI 54610

ATTN:BOB PLATTETER
ATTO:(608) 685-6226
Bob.Platteter@co.buffalo.wi.us

## 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 | | |

## Estimate Of Quantities

7363-00-70

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 0002 | 203.0260 | Removing Structure Over Waterway Minimal Debris (structure) 01. P-06-0116 | EACH | 1.000 | 1.000 |
| 0004 | 205.0100 | Excavation Common | CY | 237.000 | 237.000 |
| 0006 | 206.1000 | Excavation for Structures Bridges (structure) 01. B-06-0196 | LS | 1.000 | 1.000 |
| 0008 | 210.1500 | Backfill Structure Type A | TON | 300.000 | 300.000 |
| 0010 | 213.0100 | Finishing Roadway (project) 01. 7363-00-70 | EACH | 1.000 | 1.000 |
| 0012 | 305.0110 | Base Aggregate Dense 3/4-Inch | TON | 14.000 | 14.000 |
| 0014 | 305.0120 | Base Aggregate Dense 1 1/4-Inch | TON | 260.000 | 260.000 |
| 0016 | 455.0605 | Tack Coat | GAL | 20.000 | 20.000 |
| 0018 | 465.0105 | Asphaltic Surface | TON | 60.000 | 60.000 |
| 0020 | 502.0100 | Concrete Masonry Bridges | CY | 137.000 | 137.000 |
| 0022 | 502.3200 | Protective Surface Treatment | SY | 186.000 | 186.000 |
| 0024 | 505.0400 | Bar Steel Reinforcement HS Structures | LB | 4,760.000 | 4,760.000 |
| 0026 | 505.0600 | Bar Steel Reinforcement HS Coated Structures | LB | 17,110.000 | 17,110.000 |
| 0028 | 513.7084 | Railing Steel Type NY4 | LF | 78.000 | 78.000 |
| 0030 | 516.0500 | Rubberized Membrane Waterproofing | SY | 14.000 | 14.000 |
| 0032 | 550.2106 | Piling CIP Concrete 10 3/4 X 0.365-Inch | LF | 1,260.000 | 1,260.000 |
| 0034 | 606.0300 | Riprap Heavy | CY | 96.000 | 96.000 |
| 0036 | 612.0406 | Pipe Underdrain Wrapped 6-Inch | LF | 150.000 | 150.000 |
| 0038 | 618.0100 | Maintenance And Repair of Haul Roads (project) 01. 7363-00-70 | EACH | 1.000 | 1.000 |
| 0040 | 619.1000 | Mobilization | EACH | 1.000 | 1.000 |
| 0042 | 624.0100 | Water | MGAL | 2.800 | 2.800 |
| 0044 | 625.0500 | Salvaged Topsoil | SY | 215.000 | 215.000 |
| 0046 | 627.0200 | Mulching | SY | 440.000 | 440.000 |
| 0048 | 628.1504 | Silt Fence | LF | 330.000 | 330.000 |
| 0050 | 628.1520 | Silt Fence Maintenance | LF | 660.000 | 660.000 |
| 0052 | 628.1905 | Mobilizations Erosion Control | EACH | 3.000 | 3.000 |
| 0054 | 628.1910 | Mobilizations Emergency Erosion Control | EACH | 3.000 | 3.000 |
| 0056 | 628.6005 | Turbidity Barriers | SY | 120.000 | 120.000 |
| 0058 | 629.0210 | Fertilizer Type B | CWT | 0.280 | 0.280 |
| 0060 | 630.0130 | Seeding Mixture No. 30 | LB | 10.000 | 10.000 |
| 0062 | 630.0200 | Seeding Temporary | LB | 15.000 | 15.000 |
| 0064 | 630.0500 | Seed Water | MGAL | 5.000 | 5.000 |
| 0066 | 634.0612 | Posts Wood 4x6-Inch X 12-FT | EACH | 4.000 | 4.000 |
| 0068 | 637.2230 | Signs Type II Reflective F | SF | 12.000 | 12.000 |
| 0070 | 638.2602 | Removing Signs Type II | EACH | 6.000 | 6.000 |
| 0072 | 638.3000 | Removing Small Sign Supports | EACH | 6.000 | 6.000 |
| 0074 | 642.5001 | Field Office Type B | EACH | 1.000 | 1.000 |
| 0076 | 643.0420 | Traffic Control Barricades Type III | DAY | 1,260.000 | 1,260.000 |
| 0078 | 643.0705 | Traffic Control Warning Lights Type A | DAY | 2,520.000 | 2,520.000 |
| 0080 | 643.0900 | Traffic Control Signs | DAY | 1,120.000 | 1,120.000 |
| 0082 | 643.5000 | Traffic Control | EACH | 1.000 | 1.000 |
| 0084 | 645.0111 | Geotextile Type DF Schedule A | SY | 72.000 | 72.000 |
| 0086 | 645.0120 | Geotextile Type HR | SY | 179.000 | 179.000 |
| 0088 | 650.4500 | Construction Staking Subgrade | LF | 100.000 | 100.000 |
| 0090 | 650.5000 | Construction Staking Base | LF | 100.000 | 100.000 |
| 0092 | 650.6500 | Construction Staking Structure Layout (structure) 01. B-06-0196 | LS | 1.000 | 1.000 |
| 0094 | 650.9910 | Construction Staking Supplemental Control (project) 01. 7363-00-70 | LS | 1.000 | 1.000 |
| 0096 | 650.9920 | Construction Staking Slope Stakes | LF | 100.000 | 100.000 |
| 0098 | 690.0150 | Sawing Asphalt | LF | 44.000 | 44.000 |

## Estimate Of Quantities

7363-00-70

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 0100 | 715.0502 | Incentive Strength Concrete Structures | DOL | 822.000 | 822.000 |
| 0102 | 999.2000.S | Installing and Maintaining Bird Deterrent System (station) 01. 10+00 | EACH | 1.000 | 1.000 |
| 0104 | ASP.1T0A | On-the-Job Training Apprentice at $5.00/HR | HRS | 300.000 | 300.000 |
| 0106 | ASP.1T0G | On-the-Job Training Graduate at $5.00/HR | HRS | 300.000 | 300.000 |

3

## 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) | BORROW (ITEM # 208.0100) | COMMENT: |
|---|---|---|---|---|---|---|---|---|---|
| 9+31.75 - 9+81.75 | WEST APPROACH | 115 | 26 | 89 | 10 | 13 | 77 | - | |
| 10+18.25 - 10+68.25 | EAST APPROACH | 122 | 30 | 92 | 24 | 30 | 62 | - | |
| | TOTALS | 237 | 56 | 181 | 34 | 43 | 139 | 0 | |

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

NOTE:
ALL ITEMS CATEGORY 0010
UNLESS OTHERWISE NOTED.

## BASE AGGREGATE DENSE

| STATION - STATION | LOCATION | 305.0110 3/4-INCH SHLD. (TON) | 305.0120 1 1/4-INCH BASE (TON) | 624.0100 WATER (MGAL) |
|---|---|---|---|---|
| 9+32 - 9+82 | WEST APPROACH | 7 | 130 | 1.4 |
| 10+18 - 10+68 | EAST APPROACH | 7 | 130 | 1.4 |
| | TOTALS | 14 | 260 | 2.8 |

3

## ASPHALTIC ITEMS

| STATION - STATION | LOCATION | 455.0600 TACK COAT (GAL) | 465.0105 ASPHALTIC SURFACE (TON) |
|---|---|---|---|
| 9+31.75 - 9+81.75 | MAINLINE | 10 | 30 |
| 10+18.25 - 10+68.25 | MAINLINE | 10 | 30 |
| | TOTALS | 20 | 60 |

## FINISHING ITEMS

| STATION - STATION | LOCATION | 625.0500 SALVAGED TOPSOIL (SY) | 627.0200 MULCHING (SY) | 629.0210 FERTILIZER TYPE B (CWT) | 630.0130 SEEDING MIXTURE NO. 30 (LB) | 630.0200 SEEDING TEMPORARY (LB) | 630.0500 SEED WATER (MGAL) |
|---|---|---|---|---|---|---|---|
| 9+32 - 9+82 | NORTHWEST | 36 | 86 | 0.05 | 2 | 3 | 1.0 |
| 9+32 - 9+82 | SOUTHWEST | 37 | 81 | 0.05 | 2 | 3 | 1.0 |
| 10+18 10+68 | NORTHEAST | 53 | 95 | 0.06 | 2 | 3 | 1.0 |
| 10+18 10+68 | SOUTHEAST | 48 | 93 | 0.06 | 2 | 3 | 1.0 |
| | UNDISTRIBUTED | 41 | 85 | 0.06 | 2 | 3 | 1.0 |
| | TOTALS | 215 | 440 | 0.28 | 10 | 15 | 5.0 |

## SILT FENCE

| STATION - STATION | LOCATION | 628.1504 SILT FENCE (LF) | 628.1520 SILT FENCE MAINTENANCE (LF) |
|---|---|---|---|
| 9+32 - 9+82 | MAINLINE, LT | 60 | 120 |
| 9+32 - 9+82 | MAINLINE, RT | 70 | 140 |
| 10+18 10+68 | MAINLINE, LT | 70 | 140 |
| 10+18 10+68 | MAINLINE, RT | 65 | 130 |
| | UNDISTRIBUTED | 65 | 130 |
| | TOTALS | 330 | 660 |

## TURBIDITY BARRIER

| LOCATION | 628.6005 (SY) |
|---|---|
| WEST APPROACH | 60 |
| EAST APPROACH | 60 |
| TOTALS | 120 |

## MOBILIZATIONS EROSION CONTROL

| LOCATION | 628.1905 MOBILIZATIONS EROSION CONTROL (EACH) | 628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL (EACH) |
|---|---|---|
| ID 7363-00-70 | 3 | 3 |
| TOTALS | 3 | 3 |

## SIGNING

| STATION | LOCATION | 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 |
|---|---|---|---|---|---|---|---|
| 9+75 | RT | - | - | - | 1 | 1 | LOAD POSTING |
| 9+81 | RT | W5-52R | 1 | 3 | 1 | 1 | BRIDGE HASH MARKS |
| 9+81 | LT | W5-52L | 1 | 3 | 1 | 1 | BRIDGE HASH MARKS |
| 10+20 | LT | W5-52L | 1 | 3 | 1 | 1 | BRIDGE HASH MARKS |
| 10+20 | RT | W5-52R | 1 | 3 | 1 | 1 | BRIDGE HASH MARKS |
| 10+25 | LT | - | - | - | 1 | 1 | LOAD POSTING |
| | | TOTAL | 4 | 12 | 6 | 6 | |

NOTE:
ALL ITEMS CATEGORY 0010
UNLESS OTHERWISE NOTED.

3

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) |
|---|---|---|---|---|---|---|---|---|
| PROJECT | --- | --- | --- | --- | --- | --- | --- | 1 |
| WEST | 70 | 8 | 560 | 16 | 1120 | 7 | 490 | --- |
| EAST | 70 | 8 | 560 | 16 | 1120 | 7 | 490 | --- |
| UNDISTRIBUTED | 70 | 2 | 140 | 4 | 280 | 2 | 140 | --- |
| | TOTAL | 18 | 1260 | 36 | 2520 | 16 | 1120 | 1 |

PLACE TRAFFIC CONTROL IN ACCORDANCE WITH SDD 15C02 "BARRICADES AND SIGNS FOR MAINLINE CLOSURES".
PLACEMENT SUBJECT TO ENGINEER APPROVAL.

## CONSTRUCTION STAKING

| STATION | - | STATION | LOCATION | 650.4500 SUBGRADE (LF) | 650.5000 BASE (LF) | 650.6500 STRUCTURE LAYOUT 01. B-06-0196 (LS) | 650.9910 SUPPLEMENTAL CONTROL (LS) | 650.992 SLOPE STAKES (LF) |
|---|---|---|---|---|---|---|---|---|
| 9+32 | - | 9+82 | MAINLINE | 50 | 50 | --- | --- | 50 |
| 10+18 | - | 10+68 | MAINLINE | 50 | 50 | --- | --- | 50 |
| --- | - | --- | PROJECT | --- | --- | 1 | 1 | --- |
| | | | TOTALS | 100 | 100 | 1* | 1 | 100 |

* CATEGORY 0020

## SAWING ASPHALT

| STATION | LOCATION | 690.0150 (LF) |
|---|---|---|
| 9+32 | MAINLINE | 22 |
| 10+68 | MAINLINE | 22 |
| | TOTAL | 44 |

| PROJECT NO: 7363-00-70 | HWY: CTH HH | COUNTY: BUFFALO | MISCELLANEOUS QUANTITIES | SHEET 6 | E |
|---|---|---|---|---|---|

FILE NAME : G:\00-PROJECT FILES\2019\19163 CTH HH, BUFFALO COUNTY ID 7363-00-00\0-CAD\SHEETSPLAN\030201_MQ.DWG
LAYOUT NAME - 02
PLOT DATE : 10/5/2021 11:21 AM PLOT BY : ERIK MEYER PLOT NAME : PLOT SCALE : 1" = 1'

LEGEND

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

CP3

CHARLES F SEYFORTH

N

STREAM EDGE

SLOPE INTERCEPT, TYP.

RIVERLAND ENERGY COOPERATIVE

EXISTING R/W

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

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

CP2

8+00

CTH HH (ASPHALT)

9+00

10+00

11+00

N90° 00' 00"E

12+00

CP1

BP: 7+00.00
N = 390892.003
E = 625180.472

EP: 13+00.00
N = 390892.003
E = 625780.472

EXISTING R/W

RIVERLAND ENERGY COOPERATIVE (3 Pair)

FRONTIER COMMUNICATIONS

BEGIN CONSTRUCTION
STA 9+31.75
MATCH EXISTING
SAW CUT REQ'D

PROPERTY LINE

BUFFALO RIVER

END CONSTRUCTION
STA 10+68.25
MATCH EXISTING
SAW CUT REQ'D

| CP 1 | CP 2 | CP 3 |
|---|---|---|
| STA. 12+86.86, 0.85' LT | STA. 7+25.67, 0.52' RT | STA. 7+50.11, 16.39' LT |
| N - 390 892.854 | N - 390 891.484 | N - 390 908.396 |
| E - 625 767.332 | E - 625 206.144 | E - 625 230.581 |
| ELEV. - 843.911 | ELEV. - 837.642 | ELEV. - 836.344 |
| GIN SPIKE | GIN SPIKE | 3/4" REBAR |

GREGORY A HAIGH

CODY S HAIGH

5

5

840

835

830

825

820

VCL = 136.50

K = 44.90

PROPOSED ℄ PROFILE

EXISTING ℄ PROFILE

VPC STA 9+31.75
VPC EL 833.95

VPI STA 10+00.00
VPI EL 833.43

VPT STA 10+68.25
VPT EL 834.98

HIGH WATER$_{100}$
EL. = 831.22

OBSERVED WATER
EL. = 824.79
(12/05/2019)

APPROX. STREAMBED EL. = 823.99

EXISTING ℄ ELEVATION

PROPOSED ℄ ELEVATION

STA. 10+00
REMOVE EXISTING STRUCTURE P-06-0116
24.6-FT OVERALL LENGTH AND
30-FT CLEAR ROADWAY WIDTH
SINGLE SPAN STEEL DECK GIRDER BRIDGE

STA. 10+00
STRUCTURE B-06-0196 REQUIRED
36.5-FT OVERALL LENGTH AND
30-FT CLEAR ROADWAY WIDTH
SINGLE SPAN REINFORCED CONCRETE
FLAT SLAB BRIDGE

7+00.00 | 8+00.00 | 9+00.00 | 10+00.00 | 11+00.00 | 12+00.00 | 13+00.00

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 838.05 | 836.83 | 836.21 | 835.20 | 834.30 | 833.86 | 833.85 | 834.28 | 833.95 | 834.58 | 834.61 | 836.00 | 837.80 | 839.95 | 842.03 | 844.19 |

| PROJECT NO: 7363-00-70 | HWY: CTH HH | COUNTY: BUFFALO | PLAN AND PROFILE | SHEET 7 | E |
|---|---|---|---|---|---|

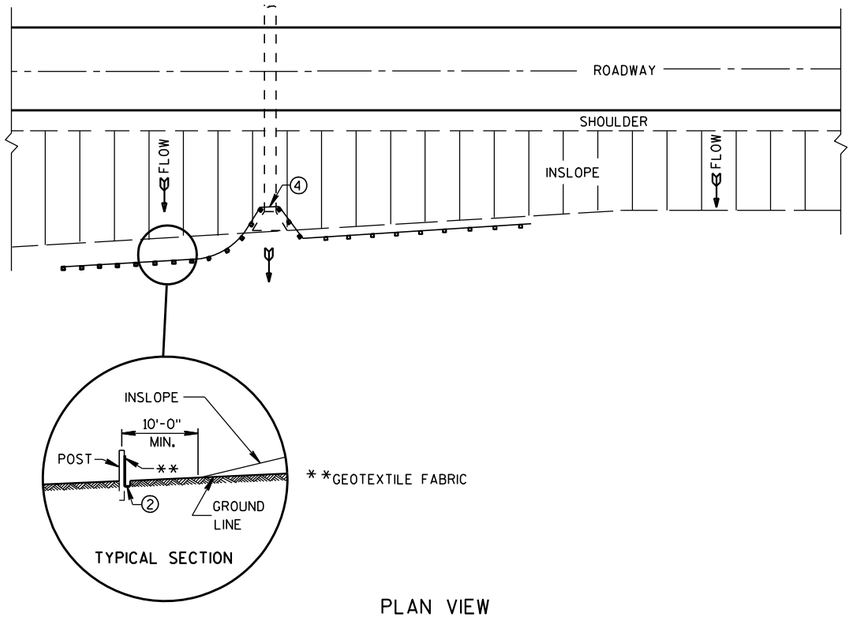
FILE NAME : G:\00-PROJECT FILES\2019\19163 CTH HH, BUFFALO COUNTY ID 7363-00-00\0-CAD\SHEETSPLAN\050101_PP.DWG
LAYOUT NAME - 050101_pp

PLOT DATE : 9/1/2021 9:59 AM PLOT BY : ERIK MEYER PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 44

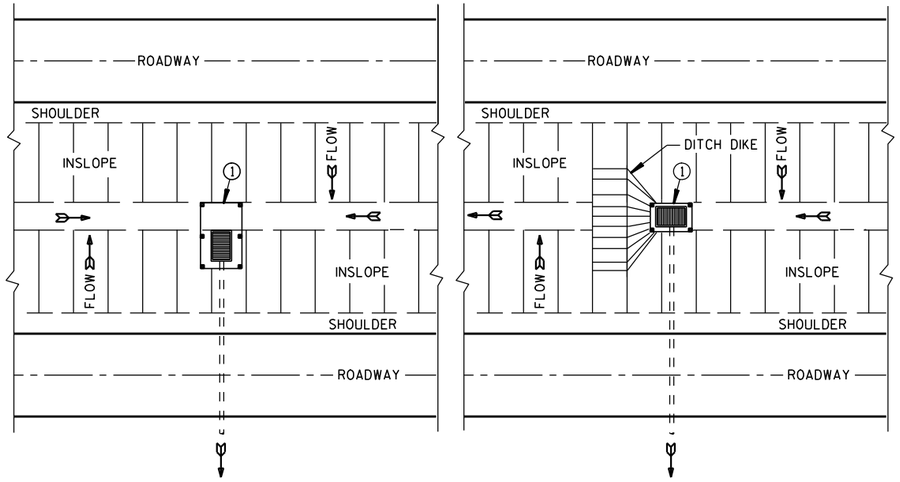
# Standard Detail Drawing List

| | |
|---|---|
| 08E09-06 | SILT FENCE |
| 08E11-02 | TURBIDITY BARRIER |
| 12A03-10 | NAME PLATE (STRUCTURES) |
| 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



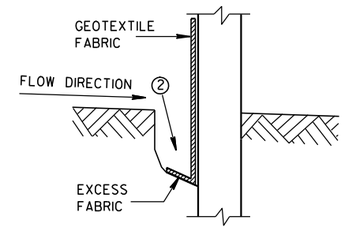

PLAN VIEW

## SILT FENCE AT MEDIAN SURFACE DRAINS

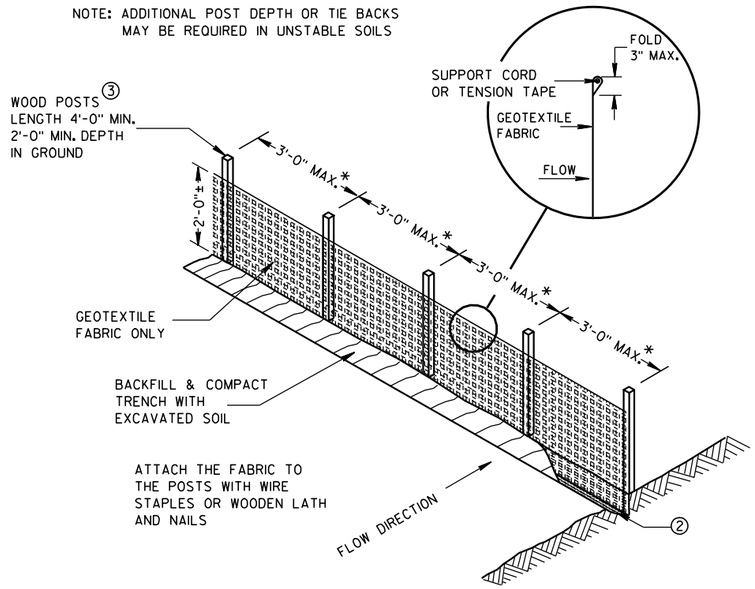
## GENERAL NOTES

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

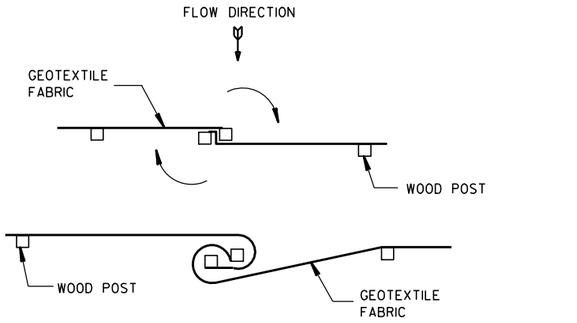
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



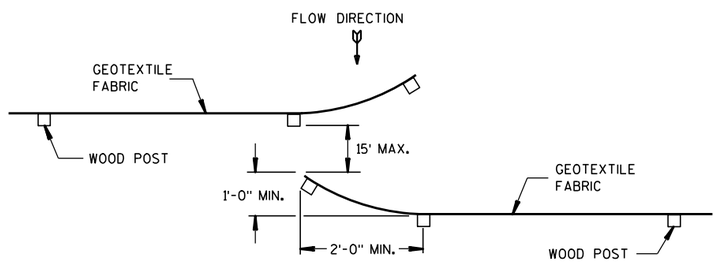

## TRENCH DETAIL




## SILT FENCE

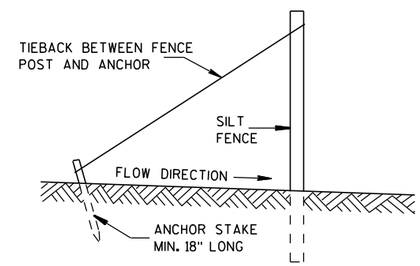



TWIST METHOD




HOOK METHOD

## JOINING TWO LENGTHS OF SILT FENCE 5



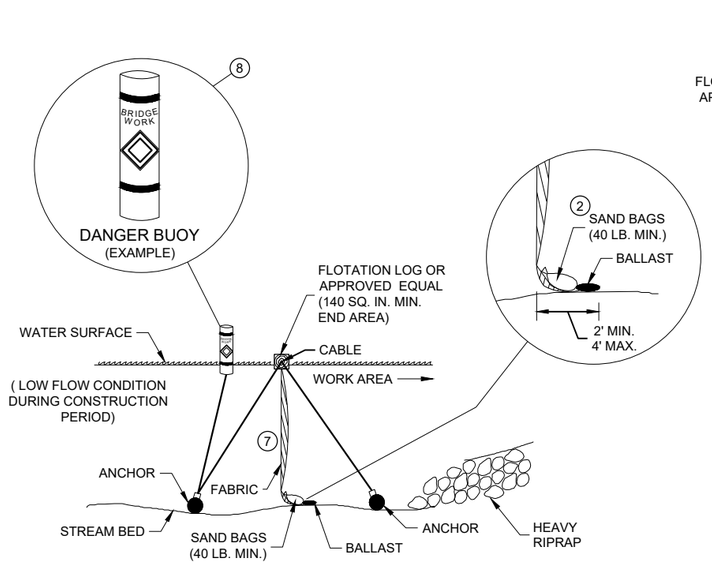

## SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

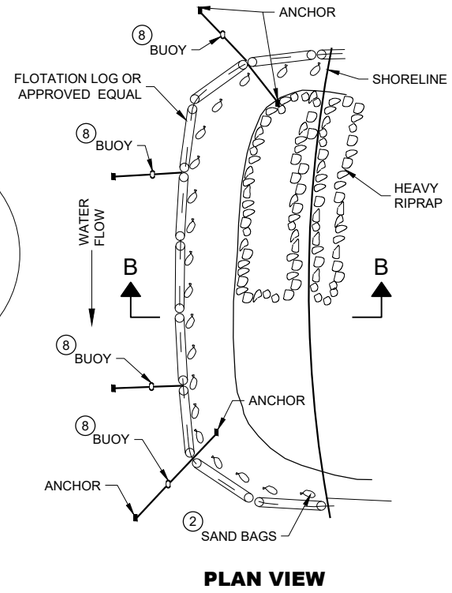
**SILT FENCE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

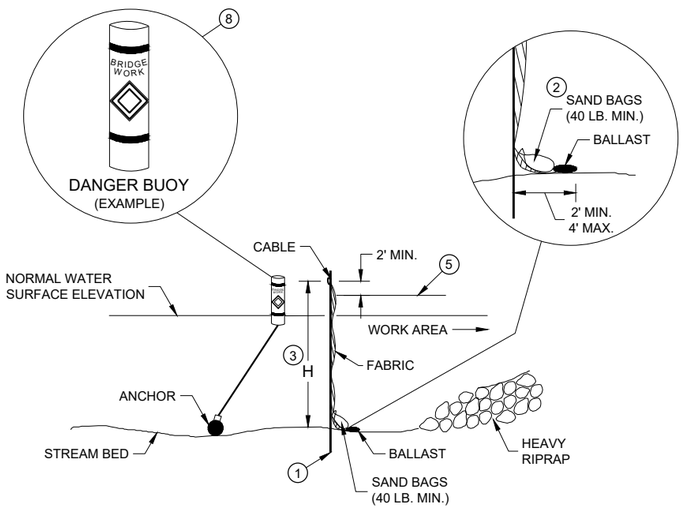



**SECTION B - B**

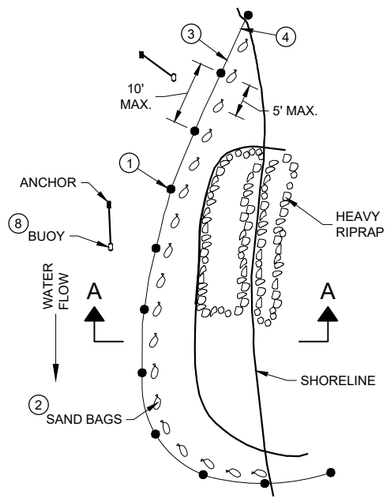



**PLAN VIEW**

**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.

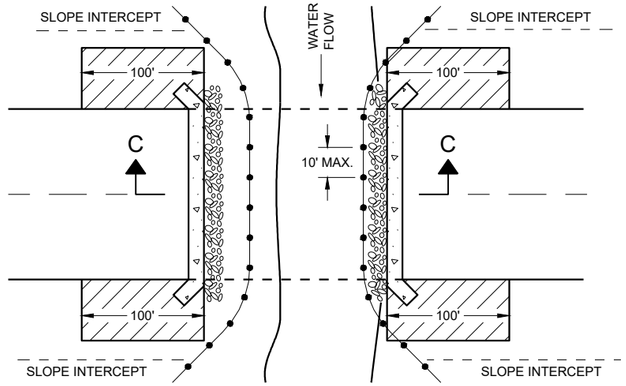
(4) IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

(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.

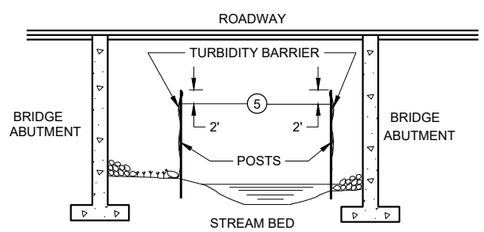
(6) FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.

(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**

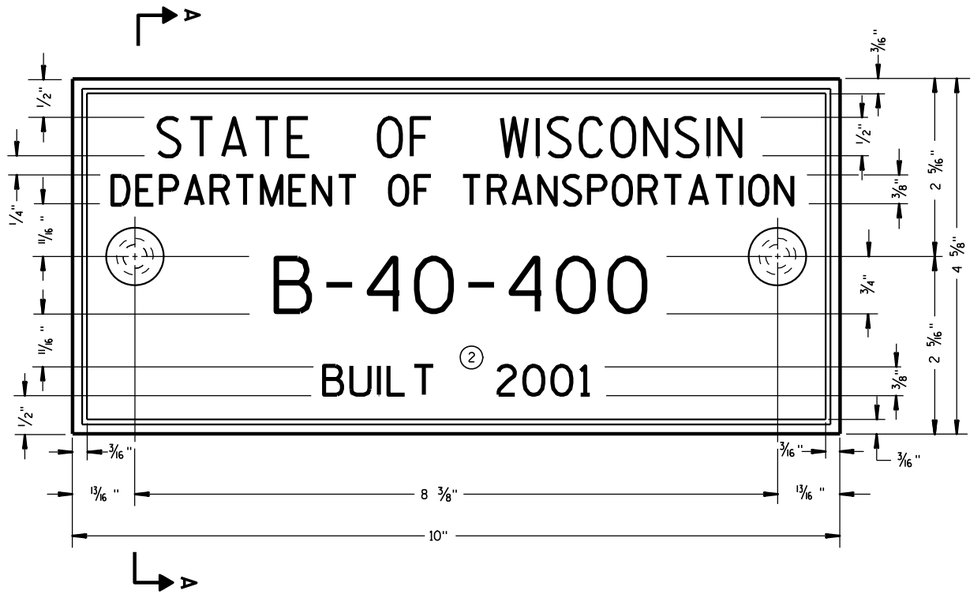
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

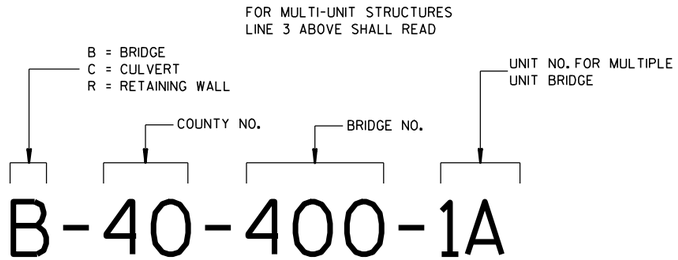



6
SDD 08E11 - 02




## TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)




## NUMBERING DESIGNATION
## MULTI-UNIT STRUCTURES

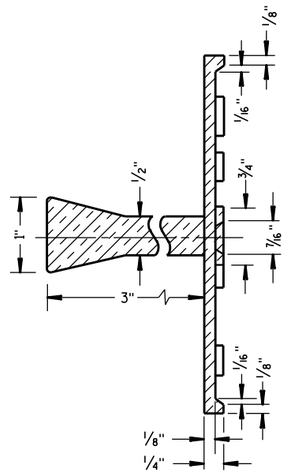
## GENERAL NOTES

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.

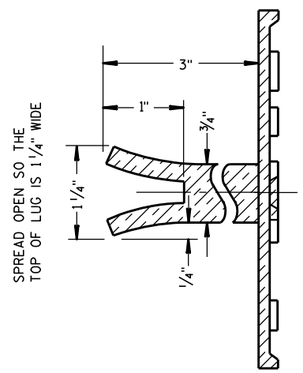
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

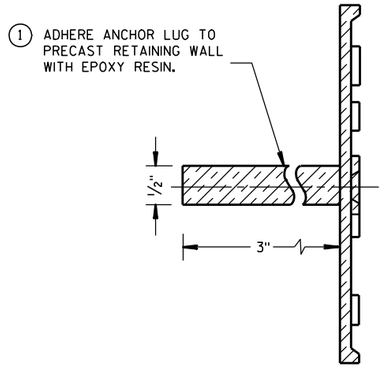
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.




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

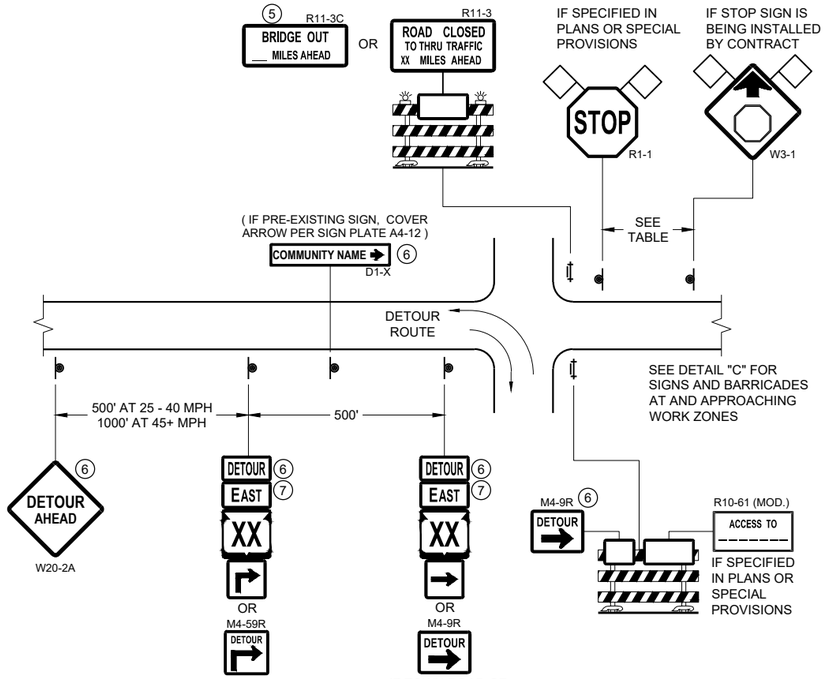
/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOPMENT ENGINEER

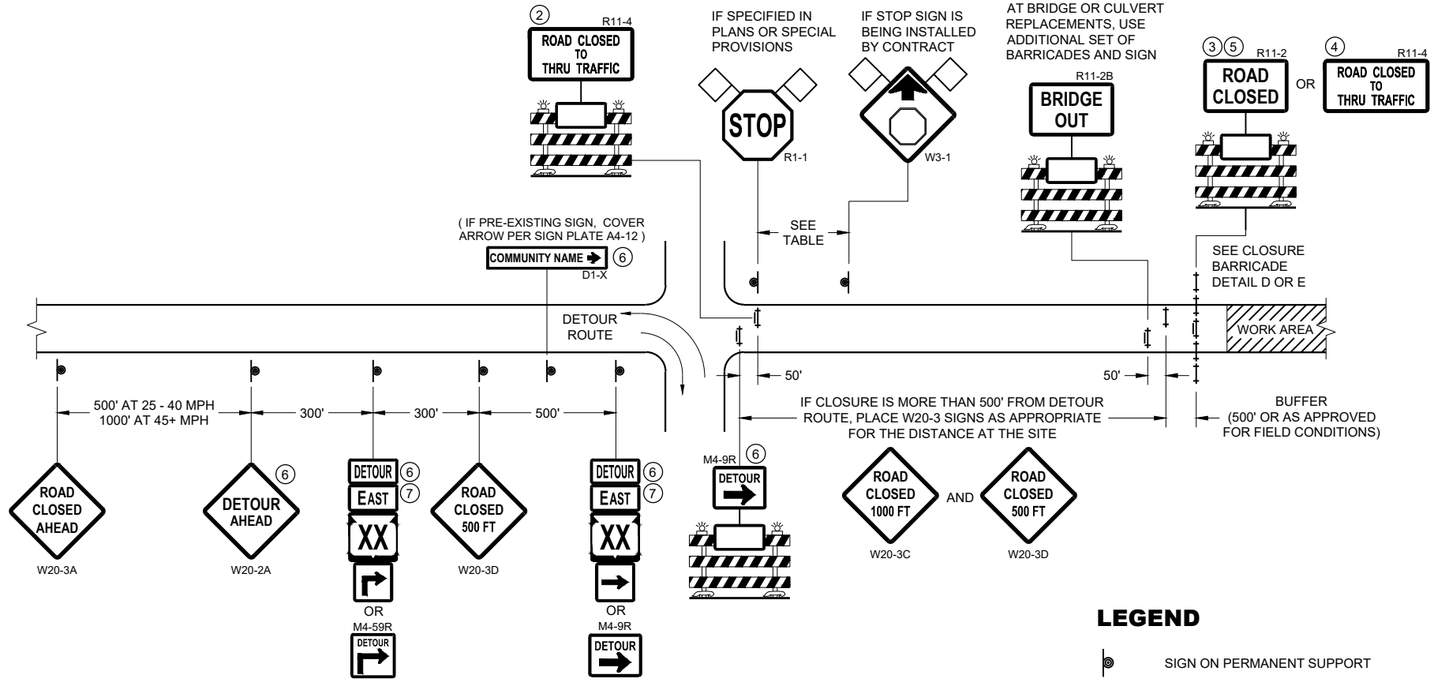
FHWA



6

S.D.D. 12 A 3-10



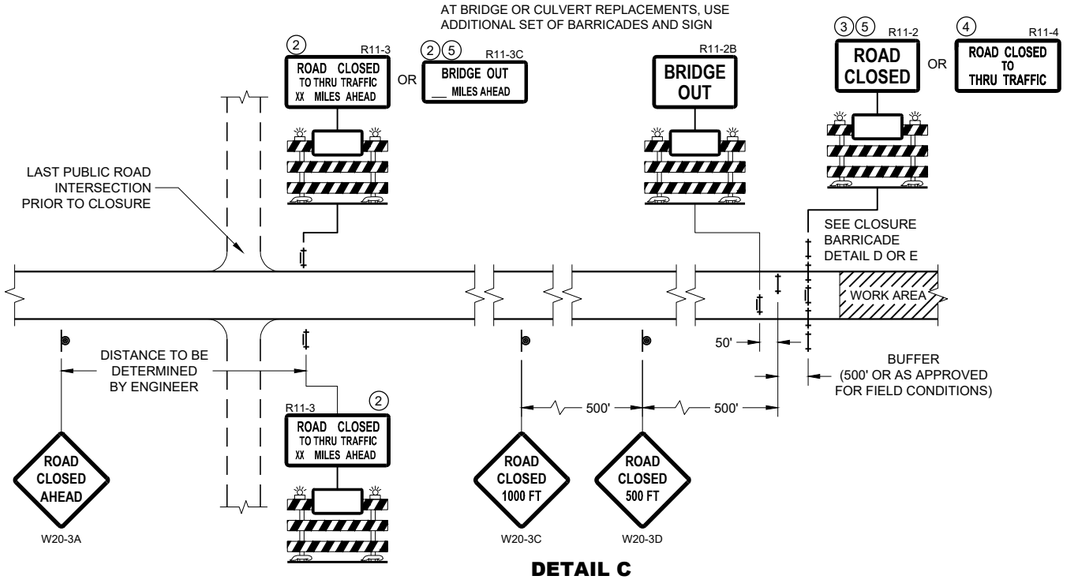




## DETAIL A
## MAINLINE CLOSURE WITH POSTED DETOUR

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

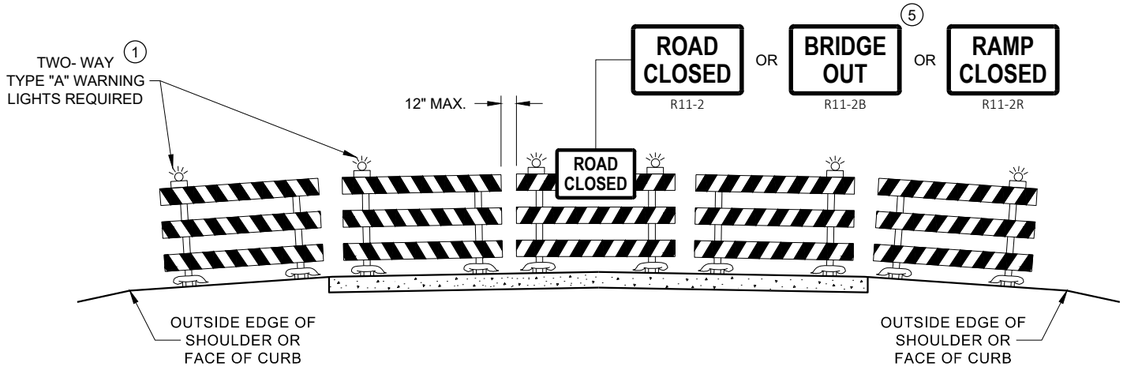
FHWA



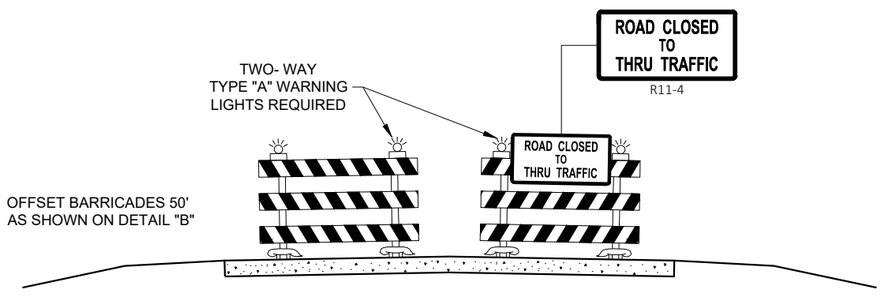
6

SDD 15C02 - 08a

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

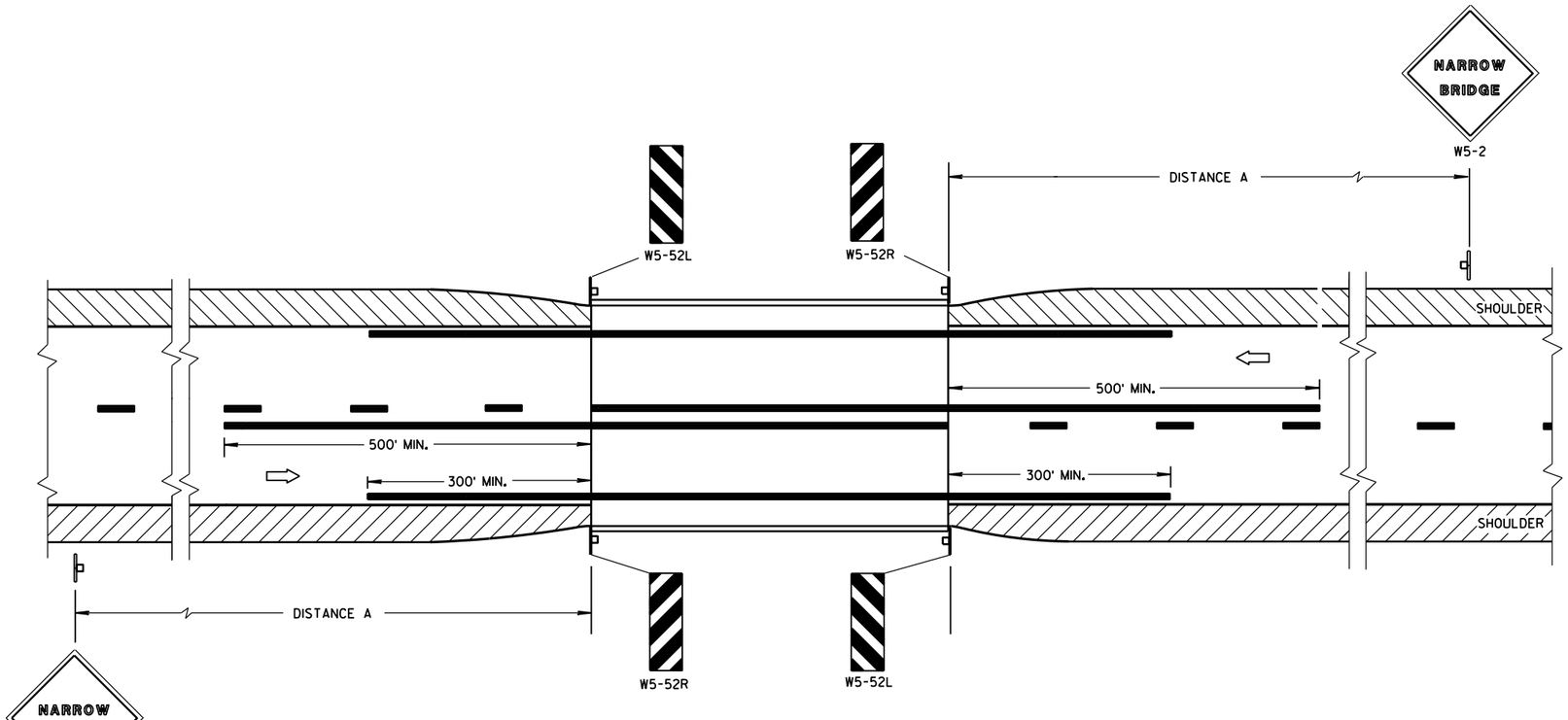


6

SDD 15C02 - 08b

6

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

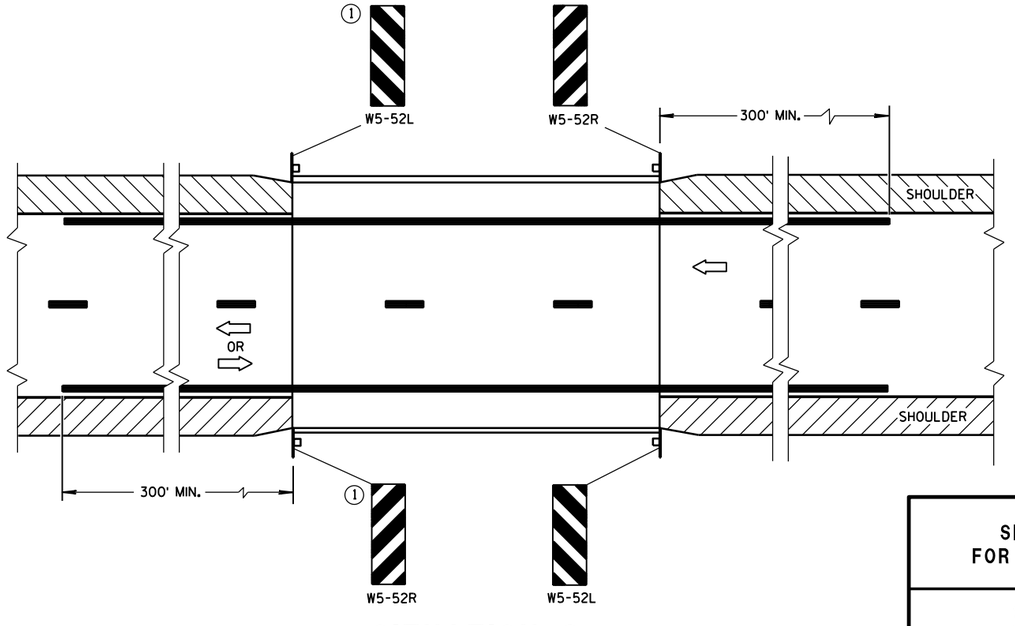
DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

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 MAR ...IEER
FHWA



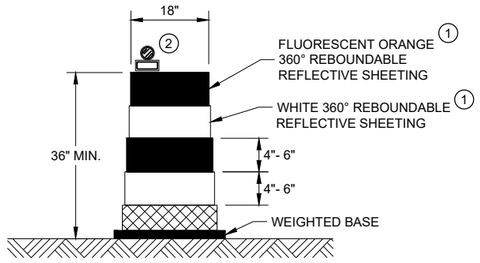


6

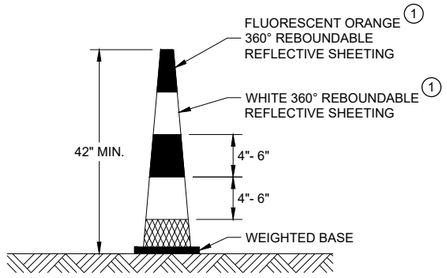
S.D.D. 15 C 6-9

## 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.

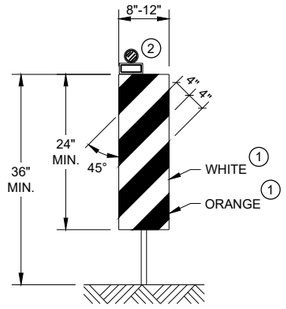



### DRUM



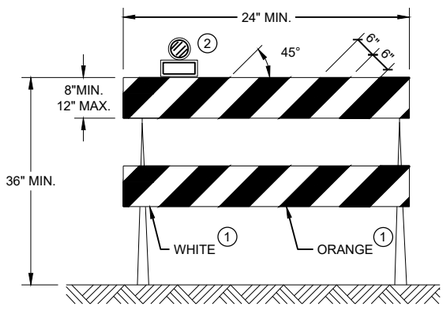

### 42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



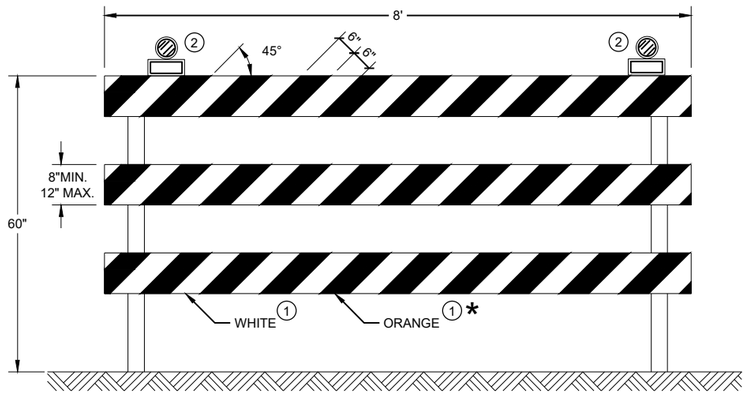

### VERTICAL PANEL

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 ENGINEE
FHWA

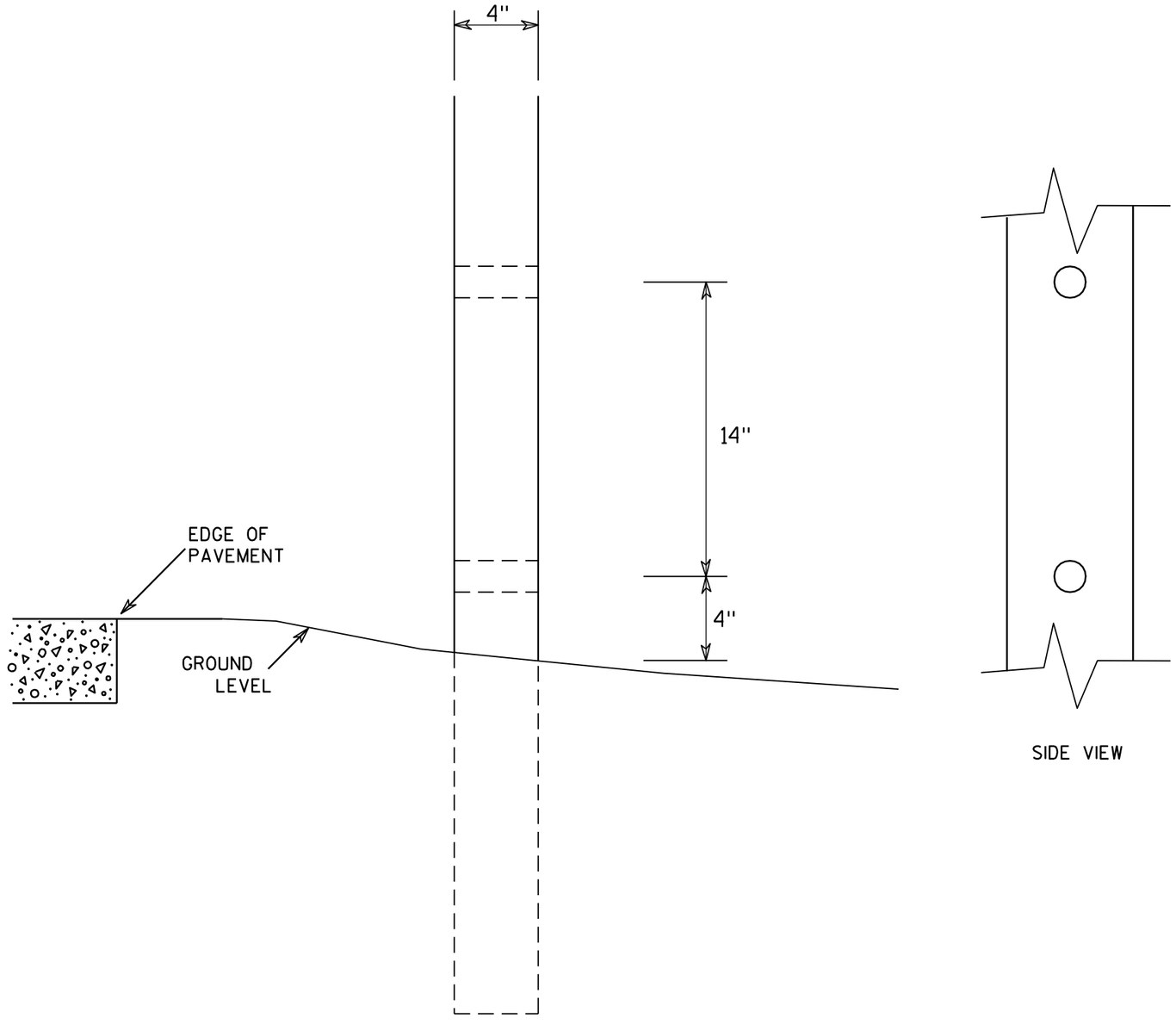


6

SDD15C11 - 09b

6

SDD15C11 - 09b






SIDE VIEW

GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

7

7

# 4 X 6 WOOD POST MODIFICATIONS

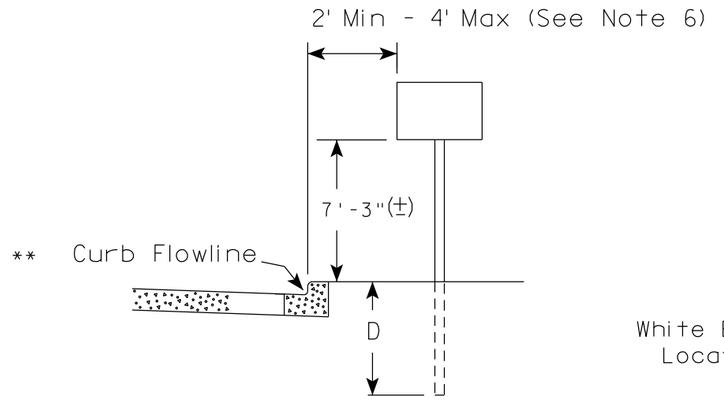
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

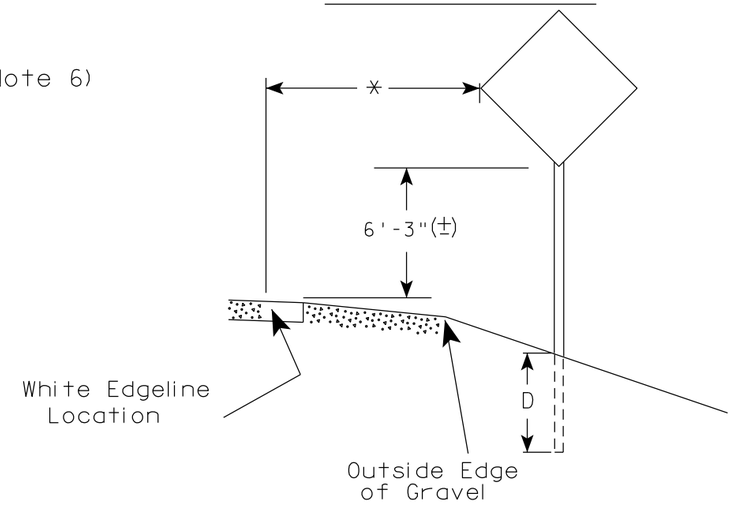
DATE 3/27/97 PLATE NO. A4-11.2

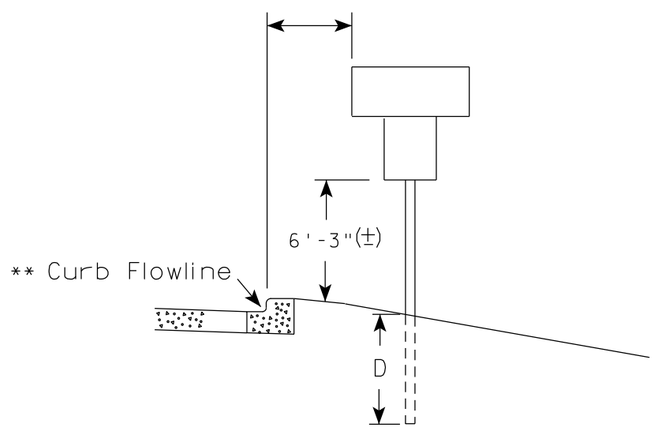
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 16 | E |
|---|---|---|---|---|---|

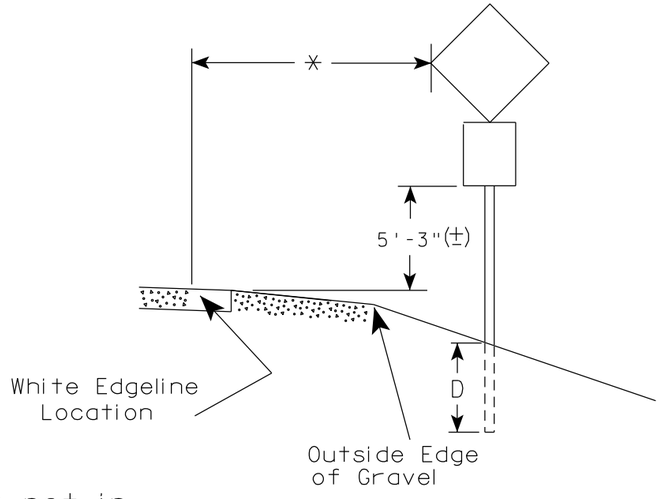
## URBAN AREA




## 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.

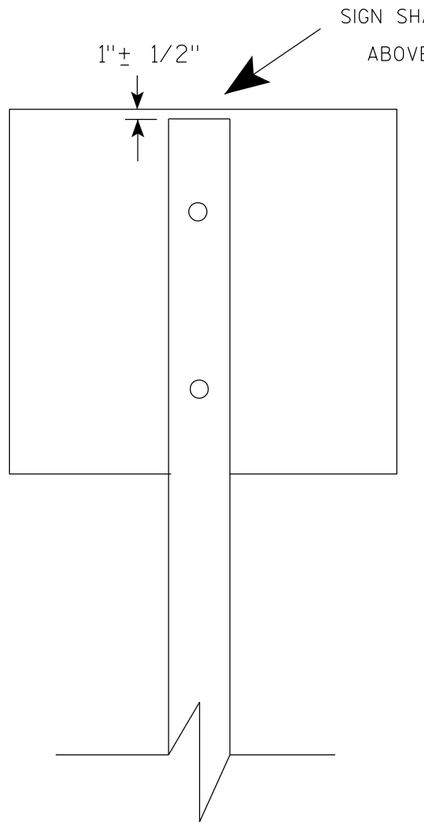
# TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

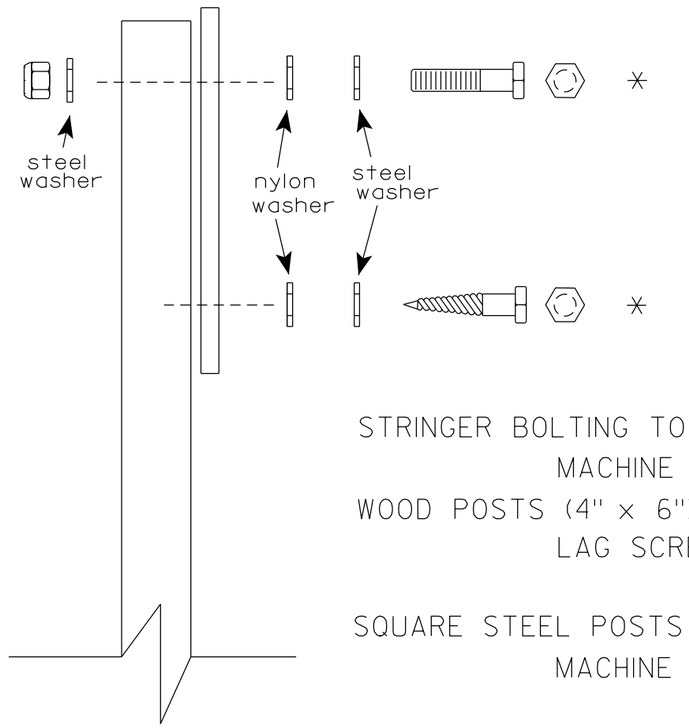
*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

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

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 17 | 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

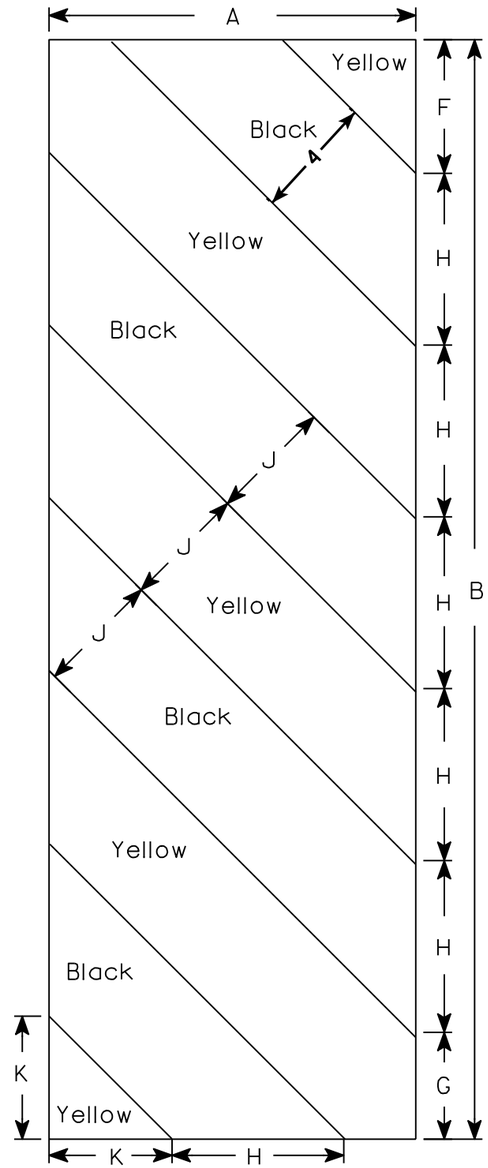
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require the use of 3 fasteners.

# ATTACHMENT OF SIGNS TO POSTS

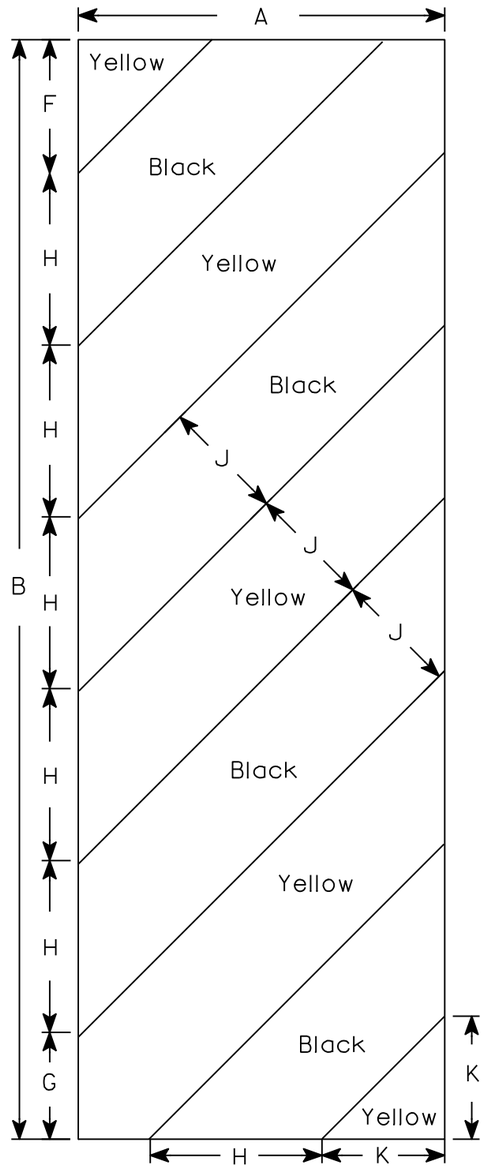
*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

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




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

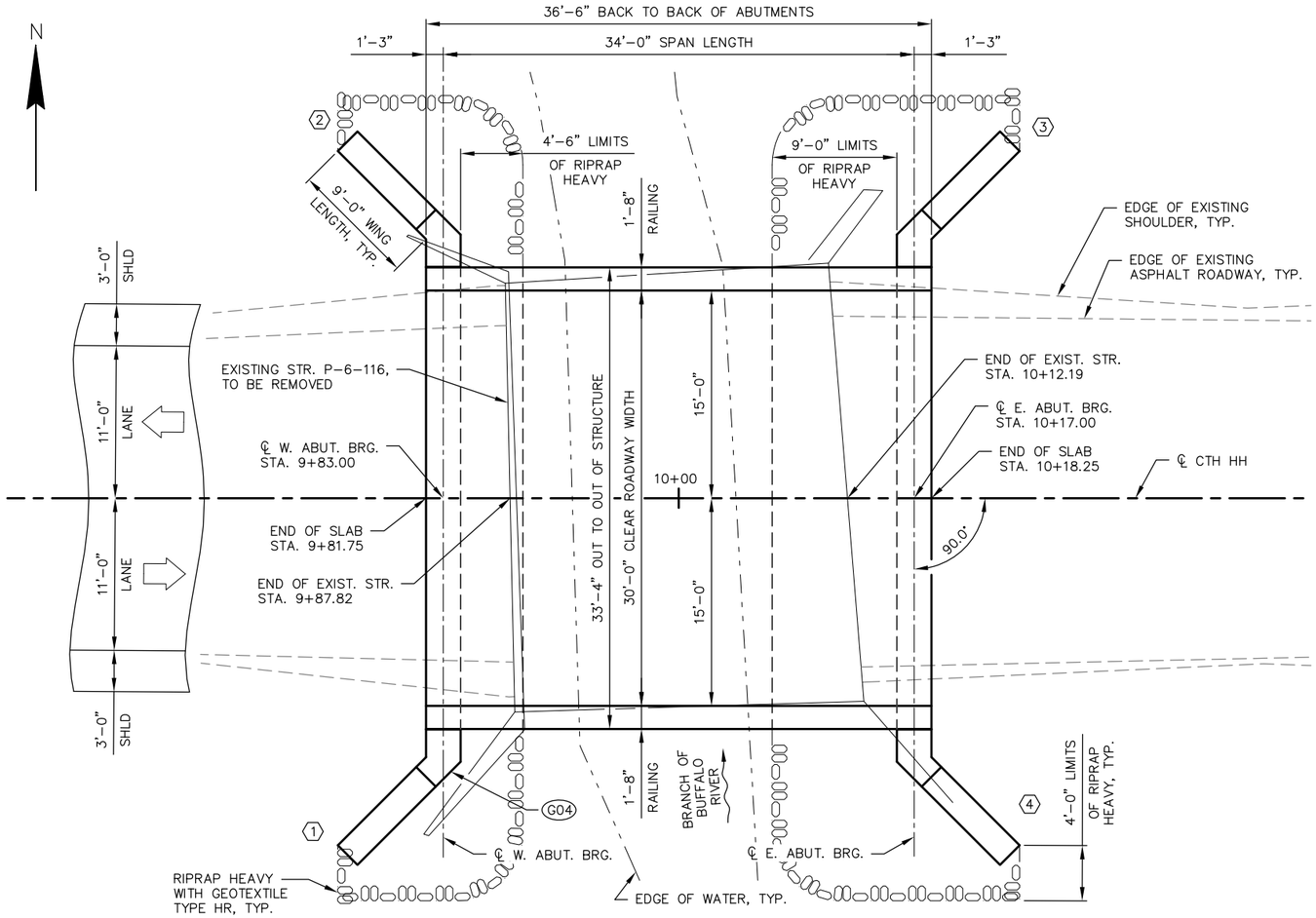
W5-52L & W5-52R

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

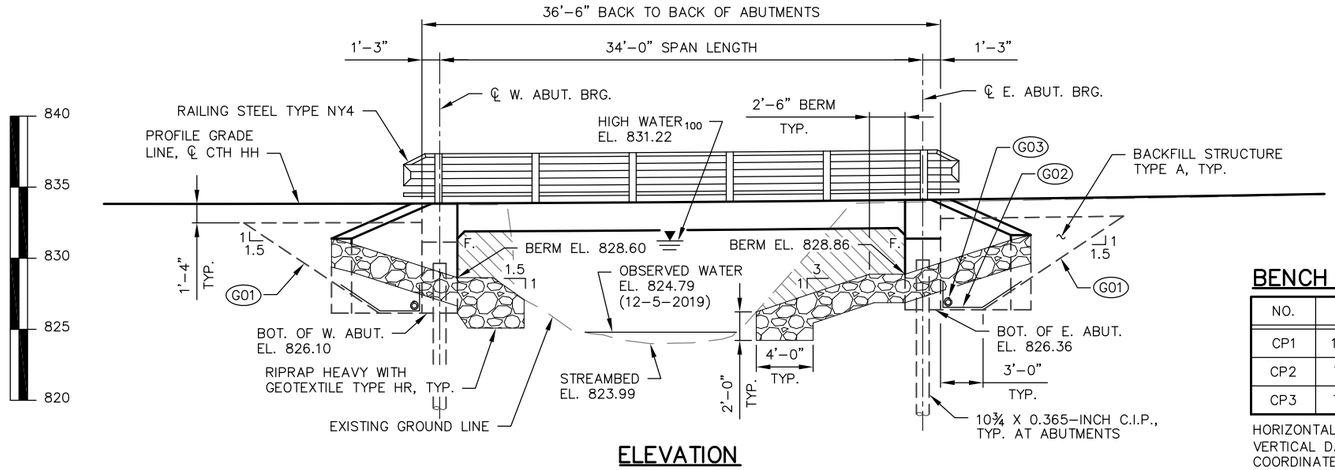
DATE 5/29/12 PLATE NO. W5-52.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 19 | E




## PLAN B-6-196

(SINGLE SPAN CONCRETE FLAT SLAB BRIDGE)




## ELEVATION

(NORMAL TO BRANCH OF BUFFALO RIVER, LOOKING NORTH)

## NOTES

- EXCAVATION AS INDICATED IN THE HATCH AREAS, TO BE INCLUDED IN THE BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-6-196".
- (G01) BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCLUDED WITH THE BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-6-196". 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 "ABUTMENTS" SHEET.
- ⬡ INDICATES WING NUMBER

## LIST OF DRAWINGS


1. GENERAL PLAN
2. CROSS SECTION, GENERAL NOTES & QUANTITIES
3. SUBSURFACE EXPLORATION
4. ABUTMENTS
5. ABUTMENT DETAILS
6. SUPERSTRUCTURE
7. SUPERSTRUCTURE DETAILS
8. RAILING STEEL TYPE NY4 DETAILS #1
9. RAILING STEEL TYPE NY4 DETAILS #2


## BENCH MARKS

| NO. | STATION/OFFSET | DESCRIPTION | ELEVATION |
|---|---|---|---|
| CP1 | 12+86.86, 0.85' LT. | GIN SPIKE | 843.91 |
| CP2 | 7+25.67, 0.52' RT. | GIN SPIKE | 837.64 |
| CP3 | 7+50.11, 16.39' LT. | 3/4" REBAR | 836.34 |

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

WISCONSIN
ANDREW C. KNUTSON
E-34662
SPRING GREEN, WI
10-29-21
PROFESSIONAL ENGINEER

STATE PROJECT NUMBER

7363-00-70

## DESIGN DATA

LIVE LOAD:

DESIGN LOADING — HL-93
INVENTORY RATING FACTOR — RF=1.17
OPERATING RATING FACTOR — RF=1.52
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 10¾ X 0.365-INCH C.I.P. PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 140 TONS PER PILE** AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 90 FT PILE LENGTHS AT W. ABUT. AND 90 FT PILE LENGTHS AT E. ABUT.

** 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:

$Q_{100}$ — 720 C.F.S.
$Q_{100}$ (THRU BRIDGE) — 720 C.F.S.
$Q_{100}$ (ROAD) — N/A
DRAINAGE AREA — 3.3 SQ. MI.
BRIDGE WATER AREA — 101 SQ. FT.
BRIDGE VELOCITY — 7.13 F.P.S.
HIGH WATER$_{100}$ EL. — 831.22 FT.
OVERTOPPING Q — N/A
OVERTOPPING EL. — N/A
OVERTOPPING RDWY FREQ. — N/A
SCOUR CRITICAL CODE — 5
$Q_2$ — 155 C.F.S.
$Q_2$ ELEVATION — 828.29 FT.
$Q_2$ VELOCITY — 3.39 F.P.S.

TRAFFIC DATA:

CTH HH
A.A.D.T. (2022) — 447
A.A.D.T. (2042) — 469
DESIGN SPEED — 60 M.P.H.


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 11/02/21
CHIEF STRUCTURES DESIGN ENGINEER — DATE

# STRUCTURE B-6-196

CTH HH OVER BRANCH OF BUFFALO RIVER

COUNTY: BUFFALO
TOWN/~~CITY/VILLAGE~~: NAPLES
DESIGN SPEC.: AASHTO LRFD DESIGN SPEC.
DESIGNED BY: JDO | DESIGN CK'D.: CDS | DRAWN BY: JDO | PLANS CK'D.: ACK

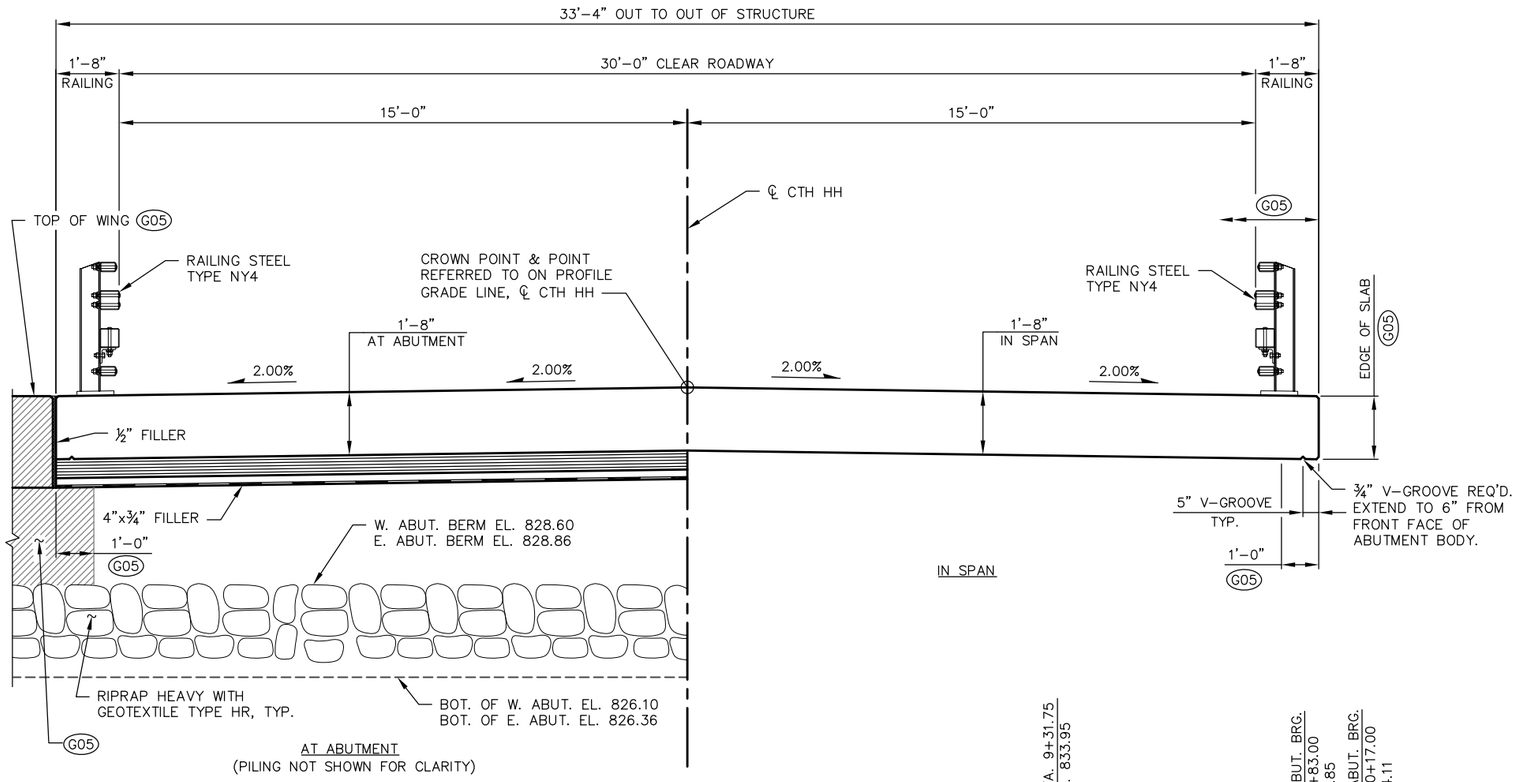
GENERAL PLAN

SHEET 1 OF 9

20

8

8



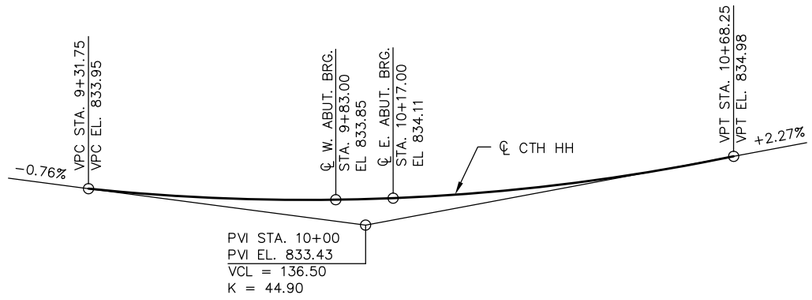

AT ABUTMENT
(PILING NOT SHOWN FOR CLARITY)

## NOTE

(G05) 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 THE ABUTMENTS TO 1'-0" PAST THE EDGE OF SLAB.

## CROSS SECTION THRU ROADWAY

(LOOKING EAST)




## PROFILE GRADE LINE, ℄ CTH HH

## GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

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

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 THE BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-6-196".

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.

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

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-6-196" SHALL BE THE EXISTING GROUND LINE.

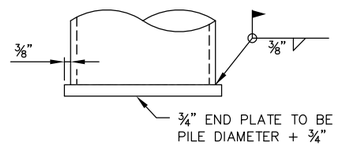
AT ABUTMENTS, CONCRETE POURED UNDER WATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.3.5.3 OF THE STANDARD SPECIFICATIONS.

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

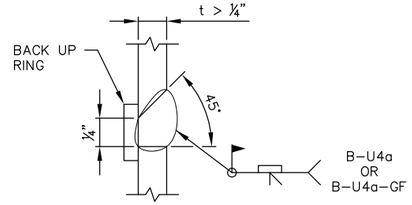
AT THE BACKFACE OF ABUTMENT ALL VOLUME WHICH CANNOT BE PLACED BEFORE ABUTMENT CONSTRUCTION AND IS NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH STRUCTURE BACKFILL TYPE A.

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

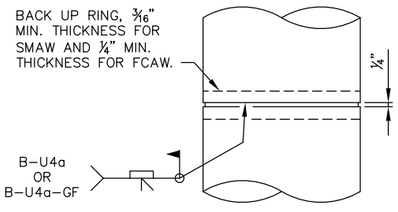
THE EXISTING STRUCTURE (P-6-116) IS A SINGLE SPAN STEEL GIRDER WITH CONCRETE AND TIMBER DECK BRIDGE WITH AN OVERALL LENGTH OF 24.6-FT AND A DECK WIDTH OF 30.8-FT AND IS TO BE REMOVED PER BID ITEM "REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS P-6-116".




## END PLATE DETAIL FOR CIP PILING




## C.I.P. PILE WELD DETAIL

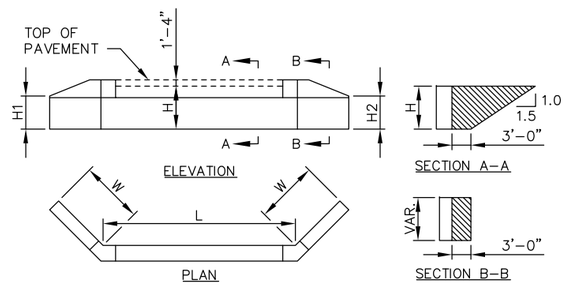



## CAST-IN-PLACE 'PIPE PILE'

NOTE: CAST-IN-PLACE PILE SHELL MATERIAL SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATION.

## TOTAL ESTIMATED QUANTITIES

| ITEM NO. | BID ITEMS | UNIT | W. ABUT. | E. ABUT. | SUPER. | TOTALS |
|---|---|---|---|---|---|---|
| 203.0260 | REMOVING STRUCTURE OVER WATERWAY MINIMAL DEBRIS P-6-116 | EACH | --- | --- | --- | 1 |
| 206.1000 | EXCAVATION FOR STRUCTURES BRIDGES B-6-196 | LS | --- | --- | --- | 1 |
| 210.1500 | BACKFILL STRUCTURE TYPE A | TON | 150 | 150 | --- | 300 |
| 502.0100 | CONCRETE MASONRY BRIDGES | CY | 28 | 28 | 81 | 137 |
| 502.3200 | PROTECTIVE SURFACE TREATMENT | SY | 16 | 16 | 154 | 186 |
| 505.0400 | BAR STEEL REINFORCEMENT HS STRUCTURES | LB | 2,380 | 2,380 | --- | 4,760 |
| 505.0600 | BAR STEEL REINFORCEMENT HS COATED STRUCTURES | LB | 1,395 | 1,395 | 14,320 | 17,110 |
| 513.7084 | RAILING STEEL TYPE NY4 | LF | --- | --- | 78 | 78 |
| 516.0500 | RUBBERIZED MEMBRANE WATERPROOFING | SY | 7 | 7 | --- | 14 |
| 550.2106 | PILING CIP CONCRETE 10 3/4 X 0.365-INCH | LF | 630 | 630 | --- | 1,260 |
| 606.0300 | RIPRAP HEAVY | CY | 42 | 54 | --- | 96 |
| 612.0406 | PIPE UNDERDRAIN WRAPPED 6-INCH | LF | 75 | 75 | --- | 150 |
| 645.0111 | GEOTEXTILE TYPE DF SCHEDULE A | SY | 36 | 36 | --- | 72 |
| 645.0120 | GEOTEXTILE TYPE HR | SY | 74 | 105 | --- | 179 |
| | | | | | | |
| (NON-BID ITEM) | FILLER | SIZE | | | | ½" & ¾" |




## 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)

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

STATE PROJECT NUMBER
7363-00-70

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-6-196

DRAWN BY JDO | PLANS CK'D ACK

CROSS SECTION, GENERAL NOTES & QUANTITIES

SHEET 2 OF 9

21

I.D. 7363-00-70

PLOT DATE: Oct 29, 2021

FILE: B060196_02_qnt.dwg
PLOT SCALE:

8

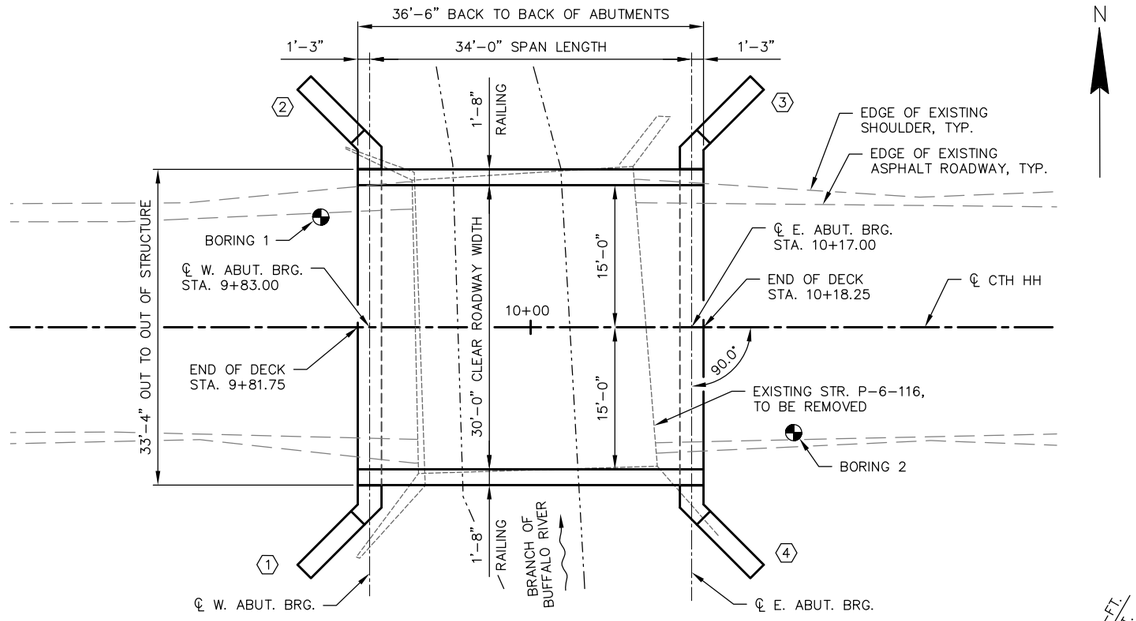
8

## B-06-196 BORINGS

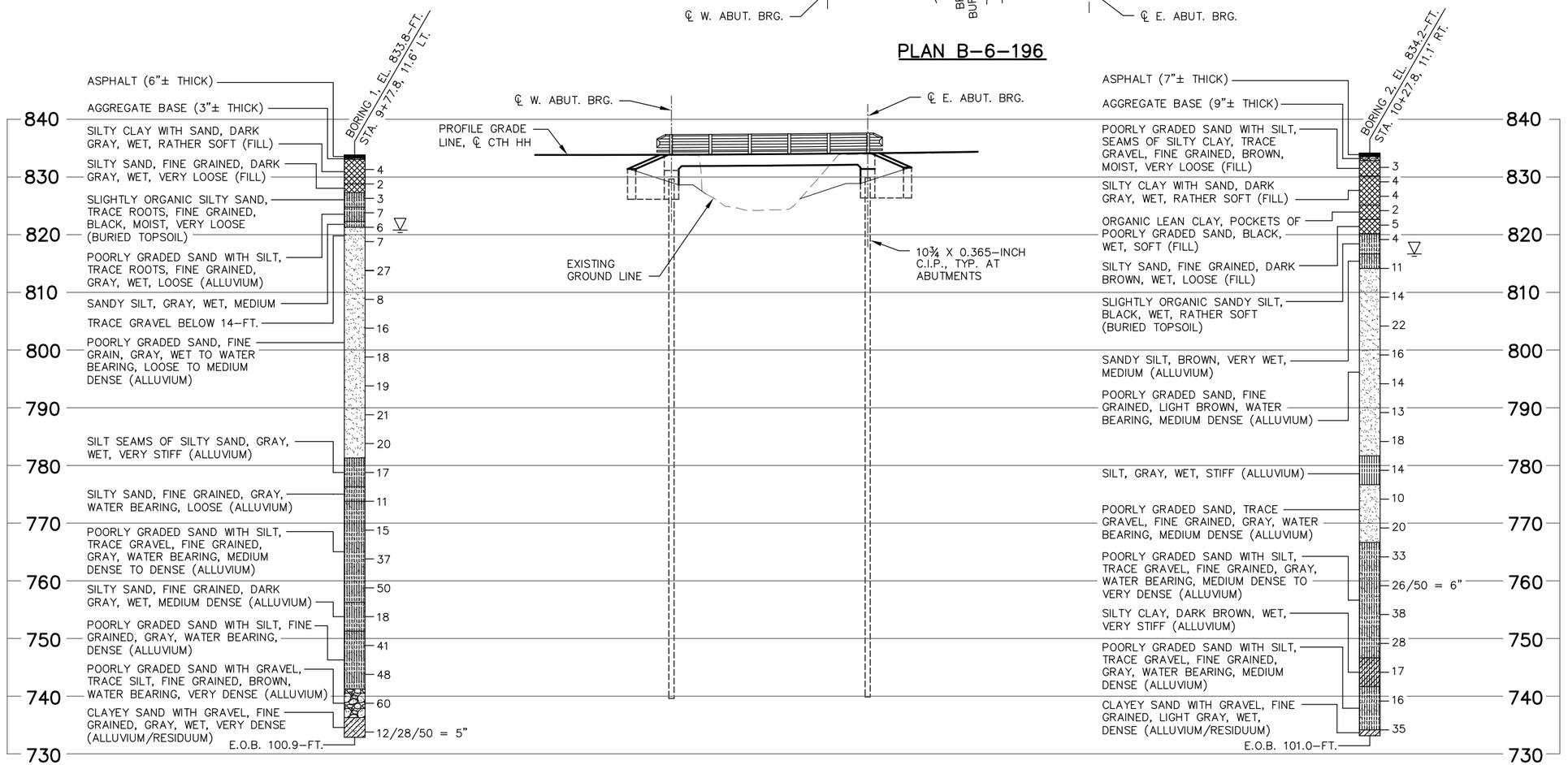
| BORING # | DATE COMPLETED | NORTHING (Y) | EASTING (X) |
|---|---|---|---|
| BORING 1 | 10/28/2019 | 390903.6 | 625458.3 |
| BORING 2 | 10/28/2019 | 390880.9 | 625508.2 |
| BORINGS COMPLETED BY: CHOSEN VALLEY TESTING, INC. | | | |
| SUBSURFACE INVESTIGATION REPORT: CHOSEN VALLEY TESTING, INC. | | | |
| ALL COORDINATES REFERENCED TO WCCS, BUFFALO COUNTY | | | |

**NOTE**

⬡ INDICATES WING NUMBER




## PLAN B-6-196



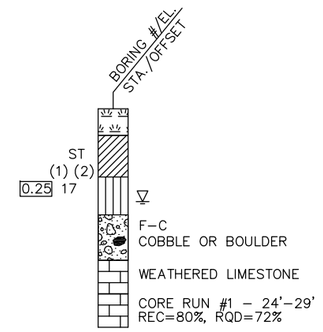

STATE PROJECT NUMBER

**7363-00-70**

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-6-196**

DRAWN BY JDO | PLANS CK'D ACK

**SUBSURFACE EXPLORATION**

SHEET 3 OF 9

22

8

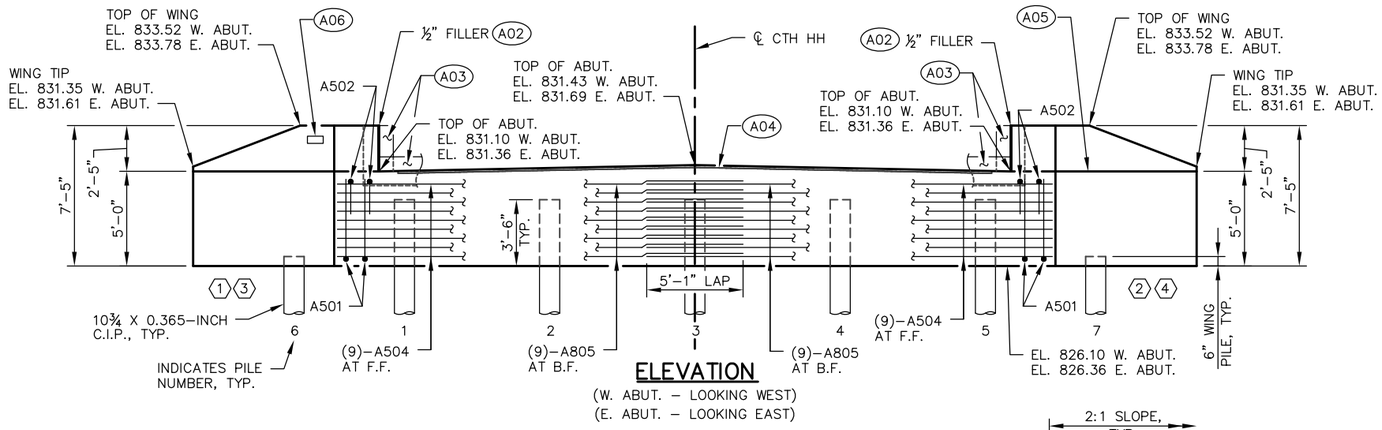
8

I.D. 7363-00-70 PLOT DATE: Oct 29, 2021

FILE: B060196_03_bor.dwg
PLOT SCALE:

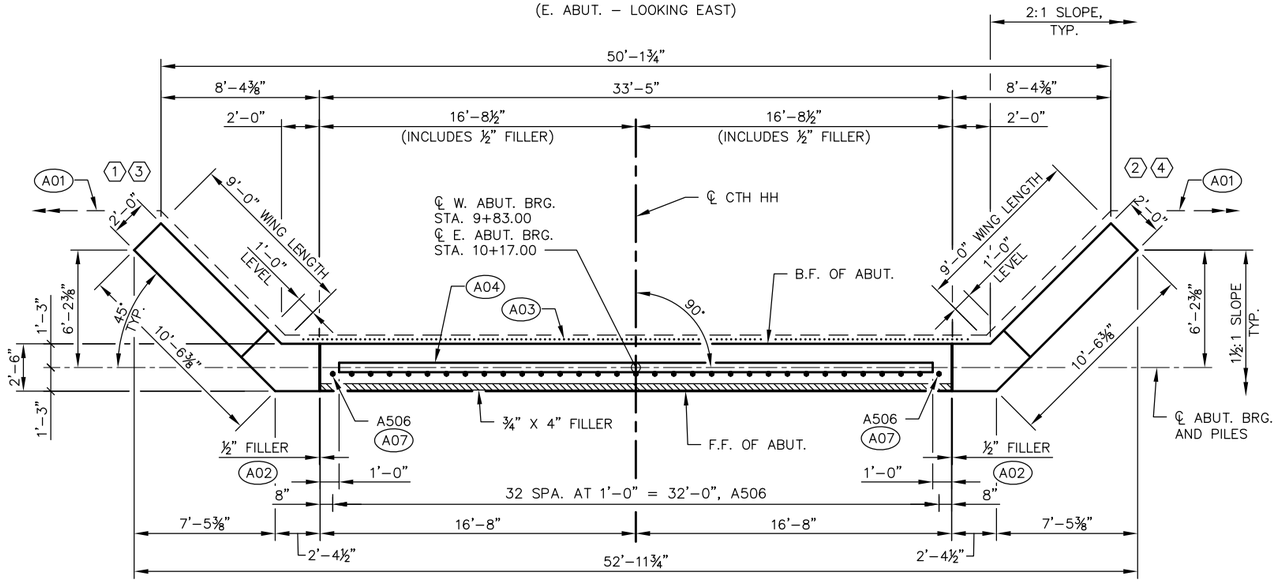
STATE PROJECT NUMBER

7363-00-70

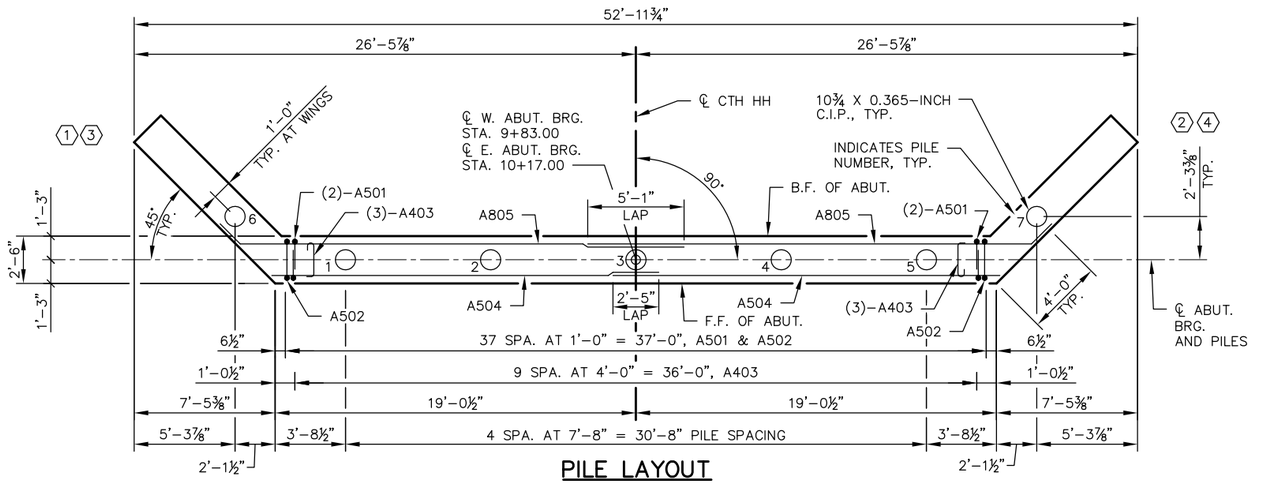



## ELEVATION

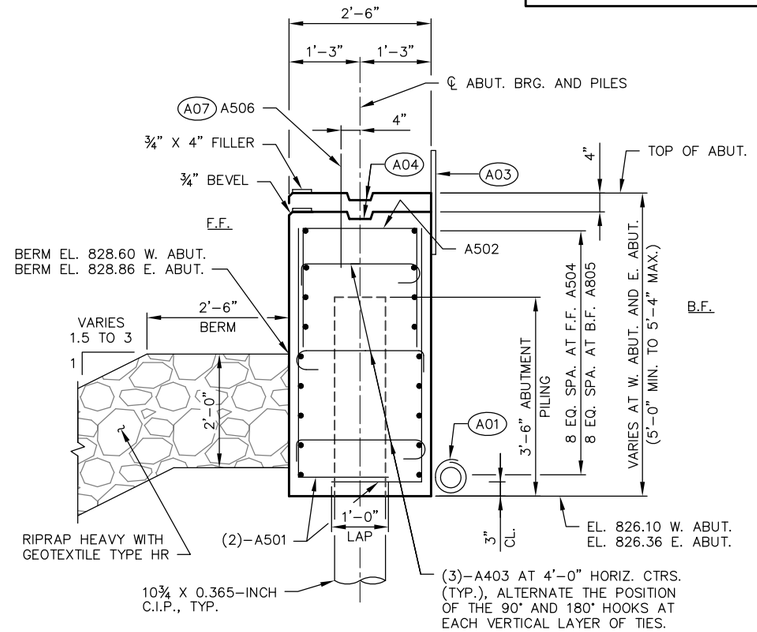
(W. ABUT. – LOOKING WEST)
(E. ABUT. – LOOKING EAST)




## 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.

WEST AND EAST ABUTMENTS TO BE SUPPORTED ON 10¾ X 0.365-INCH C.I.P. PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 140 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 90 FT PILE LENGTHS AT THE WEST ABUTMENT AND 90 FT PILE LENGTHS AT THE EAST ABUTMENT.

SEE "CROSS SECTION, GENERAL NOTES & QUANTITIES" SHEET FOR C.I.P. 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.

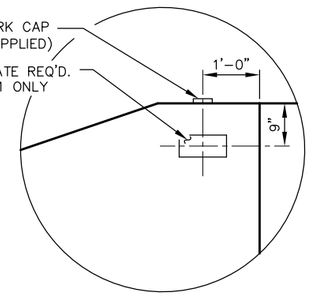
(A04) KEYED CONST. JT. FORMED BY BEVELED 2 X 6

(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-6-196

DRAWN BY JDO | PLANS CK'D ACK

ABUTMENTS

SHEET 4 OF 9

23

8

8

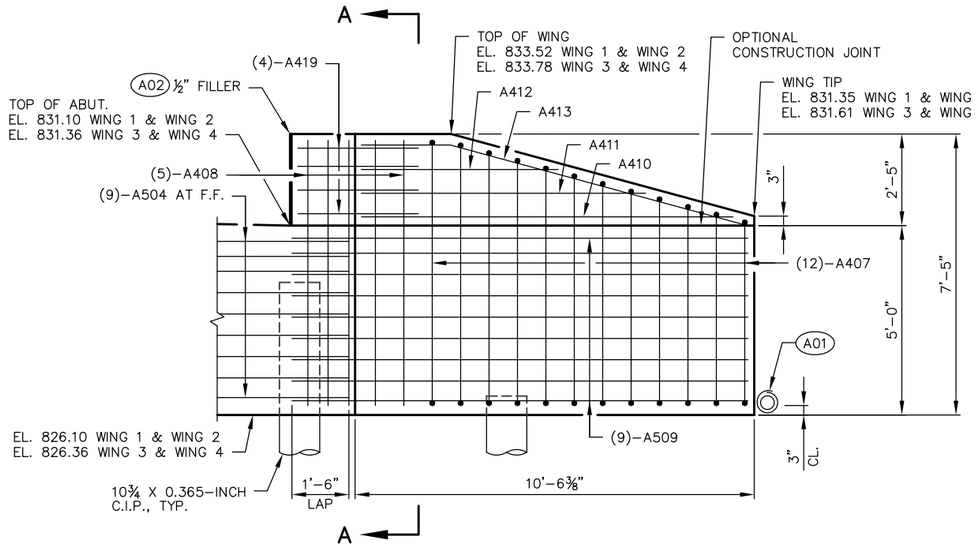
I.D. 7363-00-70

PLOT DATE: Oct 29, 2021

FILE: B060196_04_05_abut.dwg
PLOT SCALE:

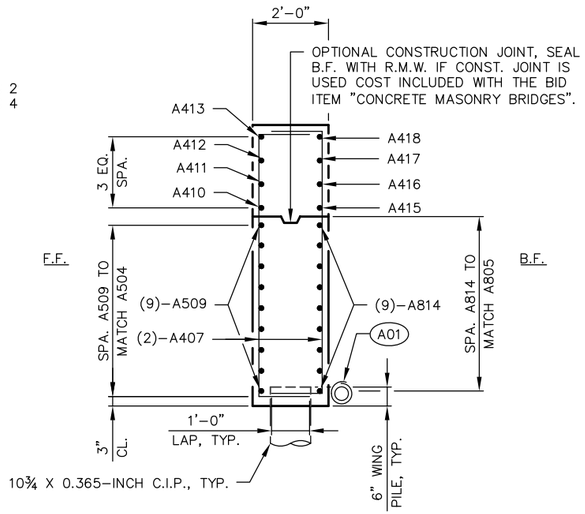
STATE PROJECT NUMBER

7363-00-70

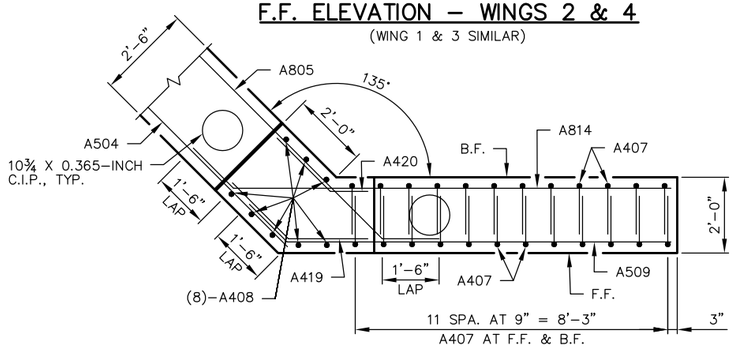



F.F. ELEVATION – WINGS 2 & 4

(WING 1 & 3 SIMILAR)

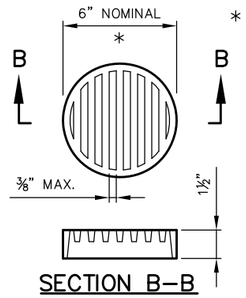



SECTION A–A




PLAN – WINGS 2 & 4

(WING 1 & 3 SIMILAR)



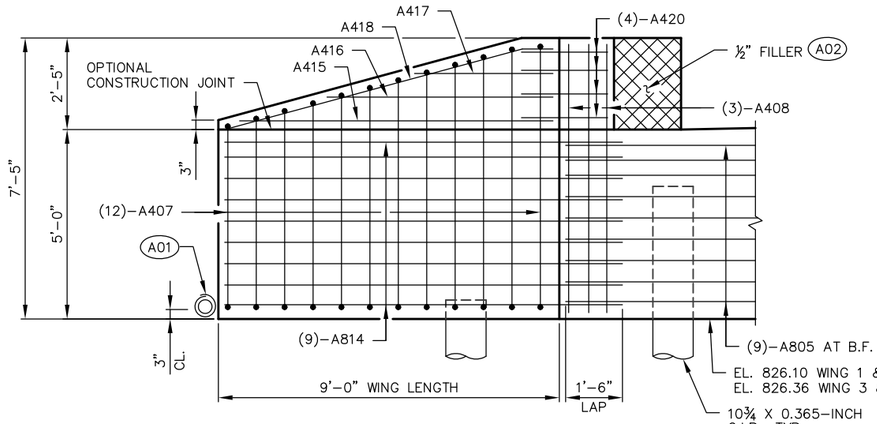

SECTION B–B

* 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.

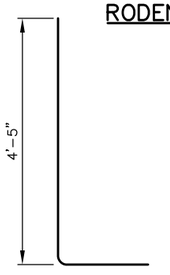
THE RODENT SHIELD. PIPE COUPLING AND SCREWS SHALL BE INCLUDED WITH THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

RODENT SHIELD DETAIL

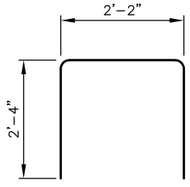



B.F. ELEVATION – WINGS 2 & 4

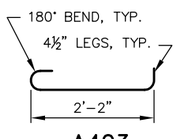
(WING 1 & 3 SIMILAR)



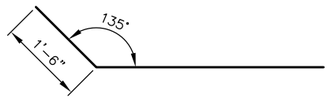

A501



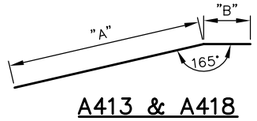

A502




A403



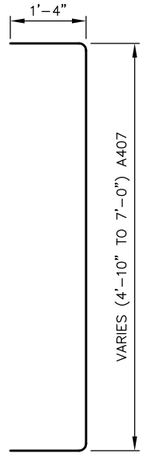

A805, A509 & A814



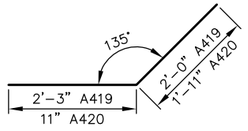

A413 & A418

BAR BEND DIMENSIONS

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




A407




A419 & A420

BAR SERIES TABLE

| MARK | NO. REQ'D | LENGTH |
|---|---|---|
| A407 | 8 SERIES OF 12 | 7'-4" TO 9'-6" |

BUNDLE AND TAG EACH SERIES SEPARATELY.

BILL OF BARS
BOTH ABUTMENTS

COATED = 2,790 LBS.
UNCOATED = 4,760 LBS.

| MARK | NUMBER COATED | NUMBER UNCOATED | LENGTH | BENT | BAR SERIES | LOCATION | |
|---|---|---|---|---|---|---|---|
| A501 | | 152 | 5'-11" | X | | BODY – STIRRUP – F.F. & B.F. | VERT. |
| A502 | | 76 | 6'-7" | X | | BODY – STIRRUP – TOP | VERT. |
| A403 | | 60 | 3'-1" | X | | BODY – TIES | HORIZ. |
| A504 | | 36 | 20'-3" | | | BODY – F.F. | HORIZ. |
| A805 | | 36 | 25'-1" | X | | BODY – B.F. | HORIZ. |
| A506 | 66 | | 2'-0" | | | BODY – TOP DOWELS | VERT. |
| A407 | 96 | | 8'-5" | X | ⚠ | WINGS 1 THRU 4 – STIRRUP – F.F. & B.F. | VERT. |
| A408 | 32 | | 7'-0" | | | WINGS 1 THRU 4 – F.F. & B.F. | VERT. |
| A509 | 36 | | 11'-10" | X | | WINGS 1 THRU 4 – F.F. | HORIZ. |
| A410 | 4 | | 9'-9" | | | WINGS 1 THRU 4 – F.F. | HORIZ. |
| A411 | 4 | | 7'-6" | | | WINGS 1 THRU 4 – F.F. | HORIZ. |
| A412 | 4 | | 5'-2" | | | WINGS 1 THRU 4 – F.F. | HORIZ. |
| A413 | 4 | | 10'-4" | X | | WINGS 1 THRU 4 – F.F. – TOP | HORIZ. |
| A814 | 36 | | 13'-4" | X | | WINGS 1 THRU 4 – B.F. | HORIZ. |
| A415 | 4 | | 8'-3" | | | WINGS 1 THRU 4 – B.F. | HORIZ. |
| A416 | 4 | | 5'-11" | | | WINGS 1 THRU 4 – B.F. | HORIZ. |
| A417 | 4 | | 3'-7" | | | WINGS 1 THRU 4 – B.F. | HORIZ. |
| A418 | 4 | | 8'-9" | X | | WINGS 1 THRU 4 – B.F. – TOP | HORIZ. |
| A419 | 16 | | 4'-2" | X | | WINGS 1 THRU 4 – F.F. CORNER | HORIZ. |
| A420 | 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.

WEST AND EAST ABUTMENT TO BE SUPPORTED ON 10¾ X 0.365-INCH C.I.P. PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 140 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED 90 FT PILE LENGTHS AT THE WEST ABUTMENT AND 90 FT PILE LENGTHS AT THE EAST ABUTMENT.

SEE "CROSS SECTION, GENERAL NOTES & QUANTITIES" SHEET FOR C.I.P 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 ½" 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-6-196

DRAWN BY JDO | PLANS CK'D ACK

ABUTMENT DETAILS

SHEET 5 OF 9

24

8

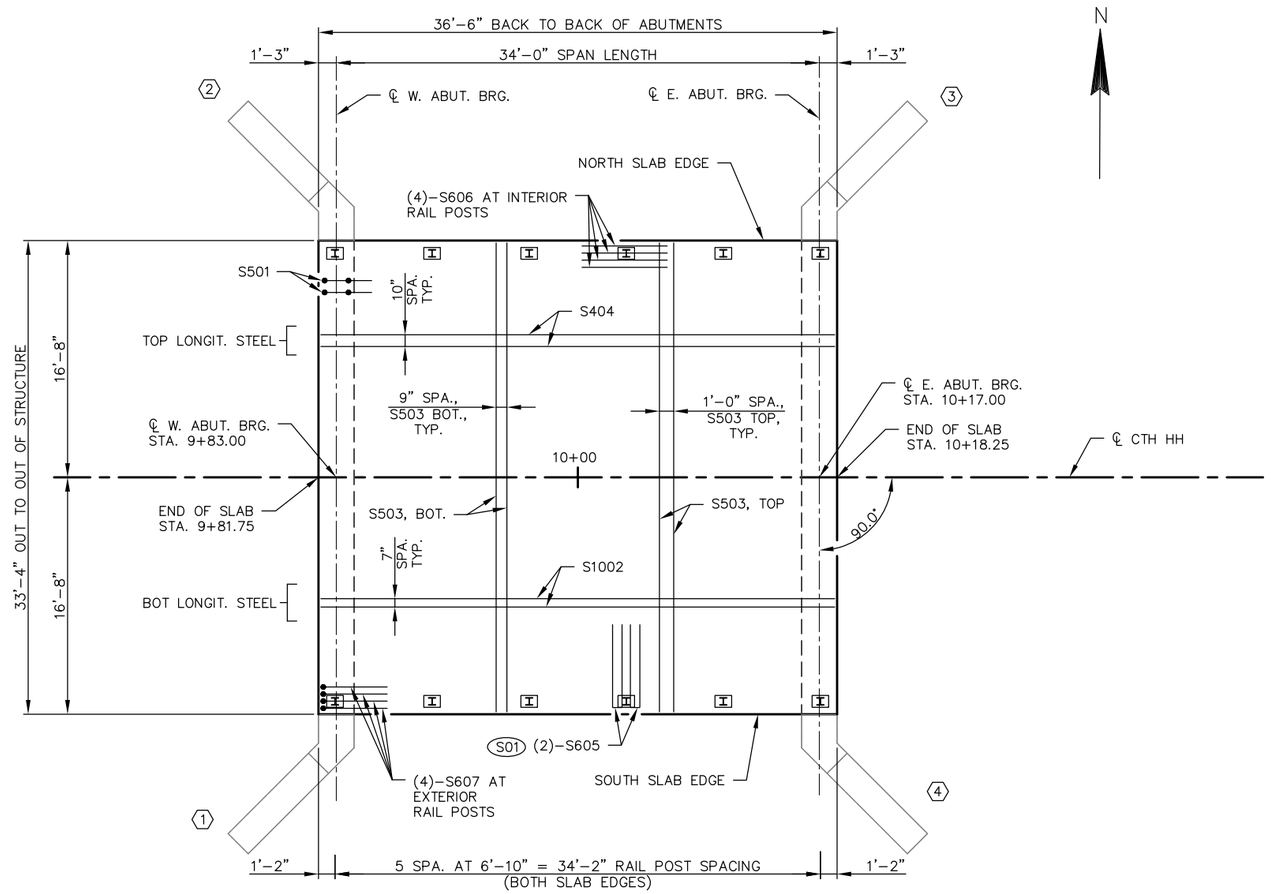
8

I.D. 7363-00-70

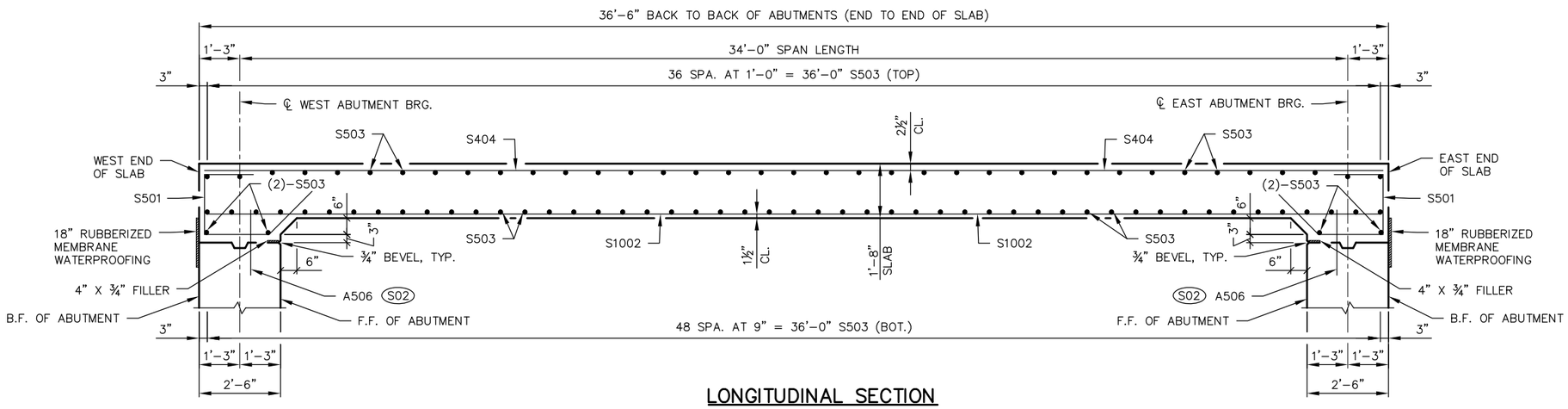
PLOT DATE: Oct 29, 2021

FILE: B060196_04_05_abut.dwg
PLOT SCALE:

| STATE PROJECT NUMBER |
|---|
| 7363-00-70 |




## PLAN VIEW




## LONGITUDINAL SECTION

(LOOKING NORTH)

## 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 S605 BARS AT END POSTS TO ENSURE CLEAR COVER AT END OF SLAB.

(S02) SEE "ABUTMENTS" SHEET FOR PLACEMENT OF A506 BARS.

⬡ INDICATES WING NUMBER

F.F. – FRONT FACE
B.F. – BACK FACE

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

# STRUCTURE B-6-196

DRAWN BY JDO | PLANS CK'D ACK

SUPERSTRUCTURE

SHEET 6 OF 9

25

I.D. 7363-00-70

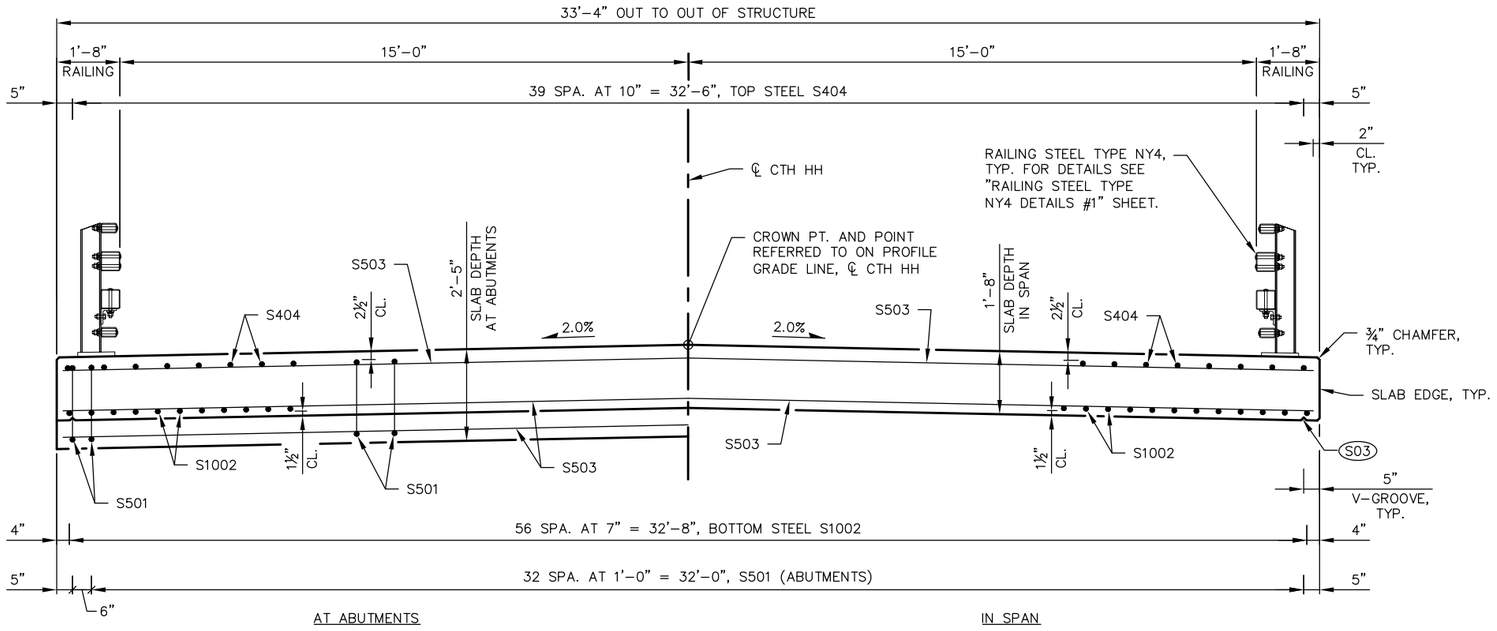
PLOT DATE: Oct 29, 2021

FILE: B060196_06_07_super.dwg
PLOT SCALE:

8

8

| STATE PROJECT NUMBER |
|---|
| 7363–00–70 |



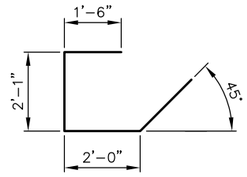

CROSS SECTION THRU ROADWAY
(LOOKING EAST)

## BILL OF BARS
## SUPERSTRUCTURE — COATED = 14,320 LBS.

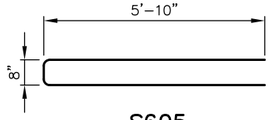
| MARK | NUMBER COATED | NUMBER UNCOATED | LENGTH | BENT | BAR SERIES | LOCATION | |
|---|---|---|---|---|---|---|---|
| S501 | 68 | | 7'–3" | X | | SLAB AT ABUTMENT – TIES | LONGIT. |
| S1002 | 57 | | 36'–2" | | | SLAB – BOTTOM | LONGIT. |
| S503 | 90 | | 33'–0" | | | SLAB – TOP & BOTTOM | TRANS. |
| S404 | 40 | | 36'–2" | | | SLAB – TOP | LONGIT. |
| S605 | 24 | | 12'–0" | X | | SLAB – TOP AT RAIL POSTS | TRANS. |
| S606 | 32 | | 6'–0" | | | SLAB – TOP AT INTERIOR RAIL POSTS | LONGIT. |
| S607 | 16 | | 6'–0" | X | | SLAB – TOP AT EXTERIOR RAIL POSTS | LONGIT. |

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

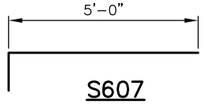
ALL BAR BEND DIMENSIONS ARE OUT TO OUT OF BAR.




S501




S605

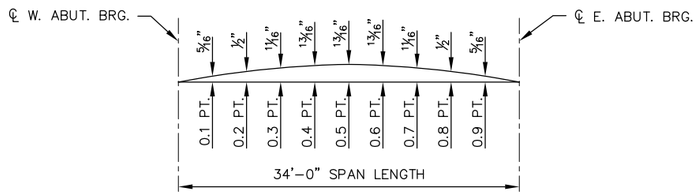



S607

## SURVEY TOP OF SLAB ELEVATIONS

| | ℄ W. ABUT. BRG. | 5/10 PT. | ℄ E. ABUT. BRG. |
|---|---|---|---|
| NORTH SLAB EDGE | | | |
| ℄ CTH HH | | | |
| SOUTH SLAB EDGE | | | |

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE ℄ OF ABUTMENTS 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. |

## TOP OF SLAB ELEVATIONS

| SPAN PT | SOUTH SLAB EDGE | ℄ CTH HH | NORTH SLAB EDGE |
|---|---|---|---|
| ℄ W. ABUT. | 833.52 | 833.85 | 833.52 |
| 0.1 | 833.54 | 833.87 | 833.54 |
| 0.2 | 833.55 | 833.88 | 833.55 |
| 0.3 | 833.57 | 833.90 | 833.57 |
| 0.4 | 833.59 | 833.92 | 833.59 |
| 0.5 | 833.62 | 833.95 | 833.62 |
| 0.6 | 833.64 | 833.97 | 833.64 |
| 0.7 | 833.67 | 834.00 | 833.67 |
| 0.8 | 833.71 | 834.04 | 833.71 |
| 0.9 | 833.74 | 834.07 | 833.74 |
| ℄ E. ABUT. | 833.78 | 834.11 | 833.78 |

## 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.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B–6–196

DRAWN BY JDO | PLANS CK'D ACK

SUPERSTRUCTURE DETAILS

SHEET 7 OF 9

26

8

8

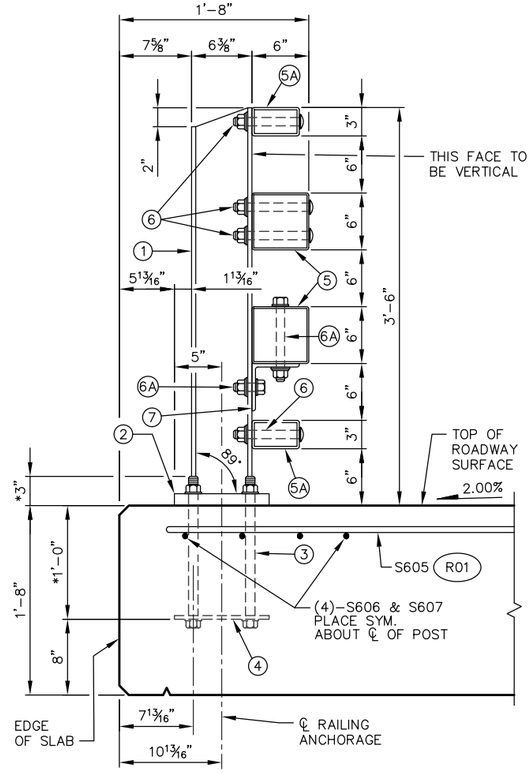
I.D. 7363–00–70

PLOT DATE: Oct 29, 2021

FILE: B060196_06_07_super.dwg
PLOT SCALE:

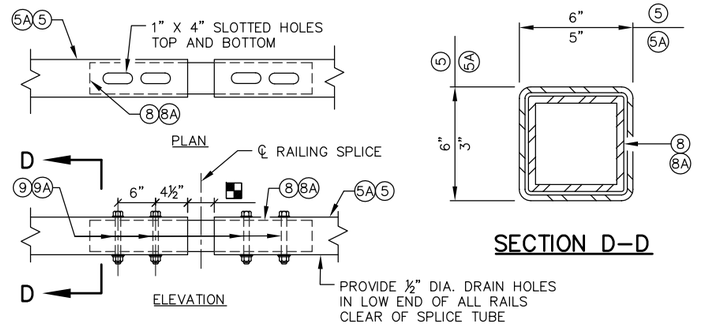
STATE PROJECT NUMBER

7363-00-70




## SECTION THRU RAILING ON SLAB

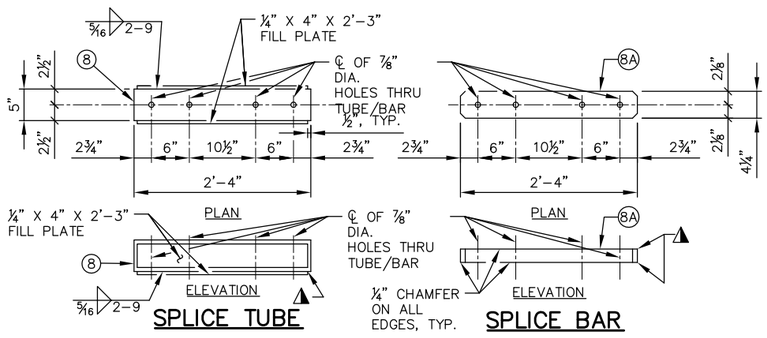
* – NORMAL TO BASE PLATE

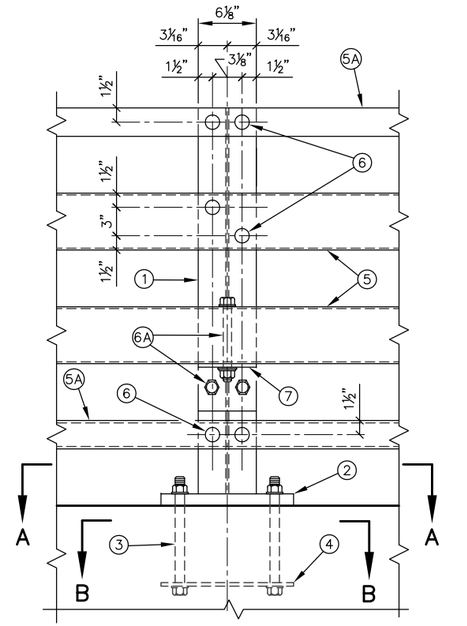



## FIELD ERECTION JOINT DETAIL



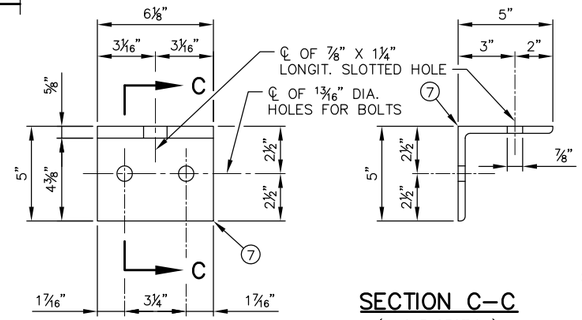

## SECTION D–D




## PART ELEVATION OF RAILING AT POST

(INTERIOR ELEVATION)

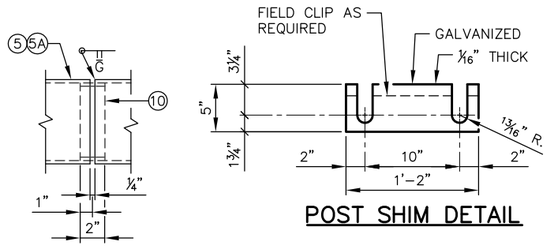



## RAILING ANGLE DETAIL

(INTERIOR ELEVATION)

## SECTION C–C

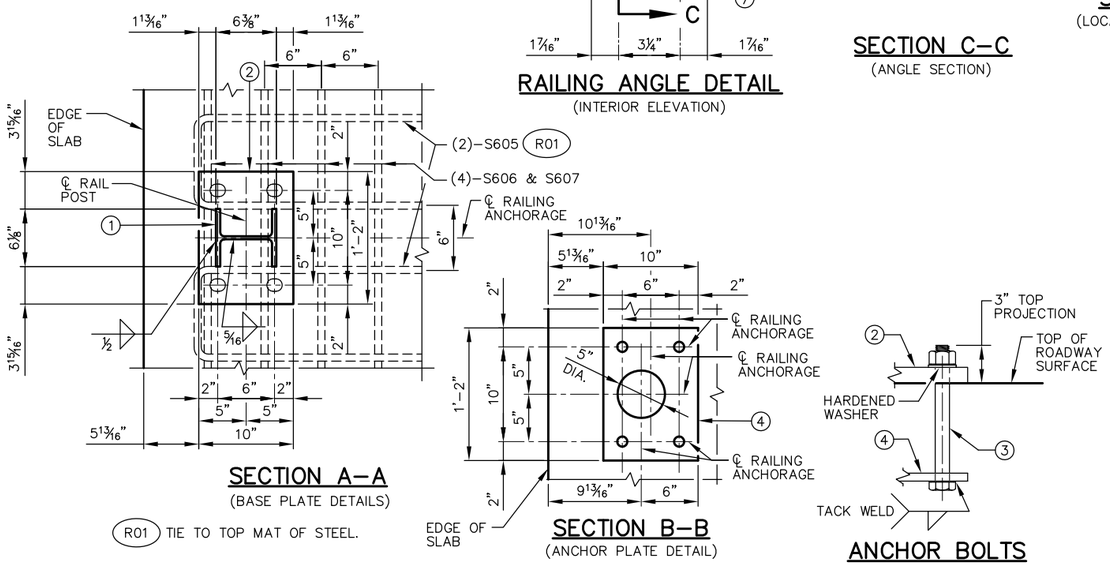
(ANGLE SECTION)




## SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)

## POST SHIM DETAIL




## SECTION A–A

(BASE PLATE DETAILS)

R01 TIE TO TOP MAT OF STEEL.

## SECTION B–B

(ANCHOR PLATE DETAIL)




## ANCHOR BOLTS

## LEGEND

1. W6 X 25 WITH 1⅛" X 1⅜" HORIZONTAL SLOTTED HOLES ON EACH SIDE OF POST FOR BOLT NO. 6 AT TOP TWO RAILS. USE 1" DIA. HOLES FOR BOLT NO. 6 AT BOTTOM NO. 5A & FOR BOLT NO. 6A AT NO. 7. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
2. PLATE 1½" X 10" X 1'-2" WITH 1⅛" X 1 7⁄16" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.
3. ASTM A449 – 1" DIA. ANCHOR BOLTS WITH HEAVY HEX NUT AND 2" O.D. HARDENED WASHER (ALL GALVANIZED). 4 REQUIRED PER POST. THREAD 3" AND PLACE NORMAL TO PLATE, NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. USE 1'-3" LONG BOLT AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16".
4. ⅜" X 10" X 1'-2" ANCHOR PLATE (GALVANIZED) WITH 1 1⁄16" DIA. HOLES FOR ANCHOR BOLTS NO. 3.
5. TS 6 X 6 X ¾16" STRUCTURAL TUBING. USE 1" DIA. HOLES FOR BOLT NO. 6 (FRONT & BACK) & ⅞" DIA. HOLES FOR BOLT NO. 6A (TOP & BOTTOM).
5A. TS 5 X 3 X ¼" STRUCTURAL TUBING. USE 1" DIA. HOLES FOR BOLT NO. 6 IN TOP RAIL (FRONT & BACK). USE 1⅛" X 1⅜" HORIZONTAL SLOTTED HOLES FOR BOLT NO. 6 IN BOTTOM RAIL (FRONT & BACK) AND A 2" O.D. WASHER UNDER BOLT HEAD.
6. ⅞" DIA. A325 SLOTTED ROUND HEAD BOLT WITH HEX NUT, 3⁄16" X 1¾" X 1¾" WASHER, AND SPRING LOCK WASHER (2 REQUIRED AT RAIL TO POST LOCATIONS SHOWN).
6A. ¾" DIA. A325 BOLT WITH HEX NUT AND SPRING LOCK WASHER (1 REQUIRED AT RAIL TO ANGLE AND 2 REQUIRED AT ANGLE TO POST LOCATIONS SHOWN WITH 3⁄16" X 1¾" X 1¾" WASHER).
7. L 5 X 5 X ⅝" STRUCTURAL ANGLE. ATTACH TO NO. 1 AND NO. 5 AS SHOWN.
8. TS 5 X 5 X 5⁄16" X 2'-4" LONG SPLICE TUBE. 1 PER RAIL. USED IN NO. 5.
8A. 4¼" x 2⅛" x 2'-4" LONG SPLICE BAR. 1 PER RAIL. USED IN NO. 5A.
9. ¾" DIA. A325 FULLY THREADED BOLTS, 7½" LONG, WITH 2 WASHERS AND HEAVY HEX NUT ON EACH BOLT. NUT TO BE FINGER TIGHT. (4 REQUIRED PER SPLICE). USE 1" X 4" SLOTTED HOLES IN TOP AND BOTTOM OF NO. 5.
9A. ¾" DIA. A325 FULLY THREADED BOLTS, 4½" LONG, WITH 2 WASHERS AND HEAVY HEX NUT ON EACH BOLT. NUT TO BE FINGER TIGHT. (4 REQUIRED PER SPLICE). USE 1" X 4" SLOTTED HOLES IN TOP AND BOTTOM OF NO. 5A.
10. SPLICE SLEEVE FABRICATED FROM ¼" PLATE. PROVIDE "SLIDING FIT".

■ ROADWAY OPENING OR 2½" MIN. FOR STRIP SEAL EXP. JOINT & ½" OPENING FOR A1 ABUTMENT, ½" AT FIXED JOINTS. SPLICES ARE REQUIRED IN ANY RAILING SPAN BETWEEN POSTS THAT CONTAINS A SUPERSTRUCTURE EXPANSION JOINT.

▲ PROTRUSIONS CAUSED BY WELDING OR GALVANIZING ARE NOT PERMITTED ON THE ADJOINING SURFACES OF THE RAILS, SPLICE TUBES AND FILL PLATES.

## NOTES

1. BID ITEM SHALL BE "RAILING STEEL TYPE NY4", WHICH INCLUDES ALL ITEMS SHOWN.
2. RAILING SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE.
3. 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.
4. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING. ALL STEEL RAILING POSTS, ANGLES, SPLICE TUBES, SPLICE BARS AND STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING PER SSPC SPECIFICATIONS.
5. RAIL POST, BASE PLATES, SPLICE BAR, ANGLES AND SPLICE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED $f_y$=50 KSI. ANCHOR PLATES & SHIMS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
6. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL ⅛ TURN.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. CAULK AROUND PERIMETER OF NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER.
8. STEEL SHIMS SHALL BE PROVIDED & USED UNDER PLATE NO. 2 WHERE REQUIRED FOR ALIGNMENT, AND SHALL BE GALVANIZED.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-6-196

DRAWN BY JDO | PLANS CK'D ACK

RAILING STEEL TYPE NY4 DETAILS #1

SHEET 8 OF 9

27

I.D. 7363-00-70

PLOT DATE: Oct 29, 2021

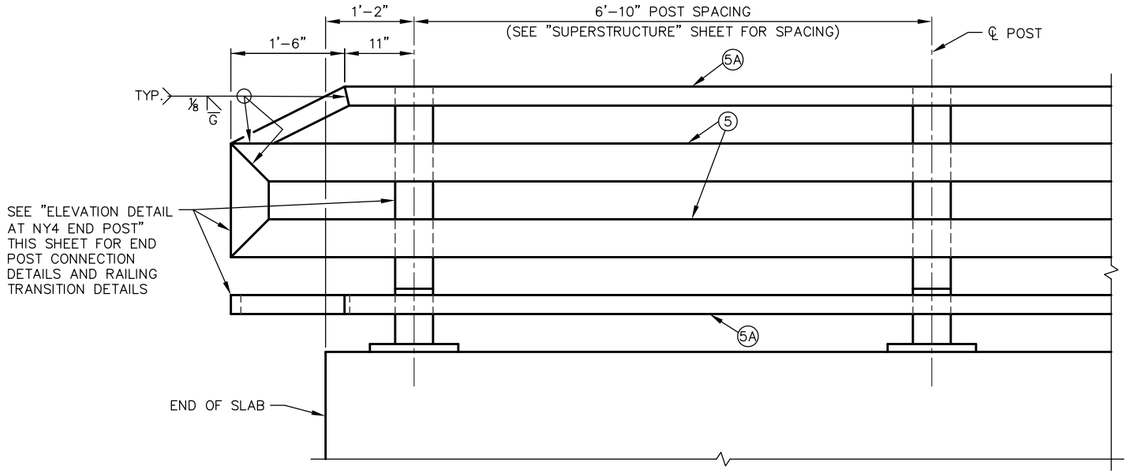
FILE: B060196_08_09_ny4.dwg
PLOT SCALE:

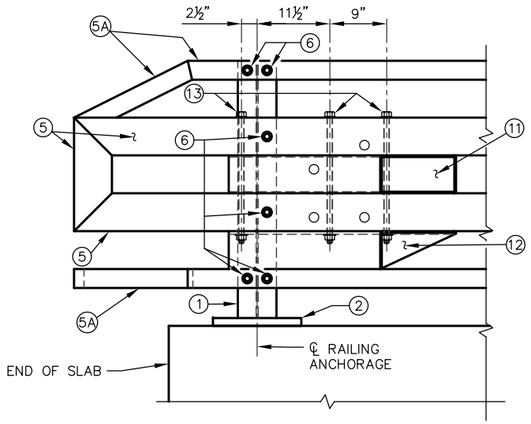
8

8

STATE PROJECT NUMBER

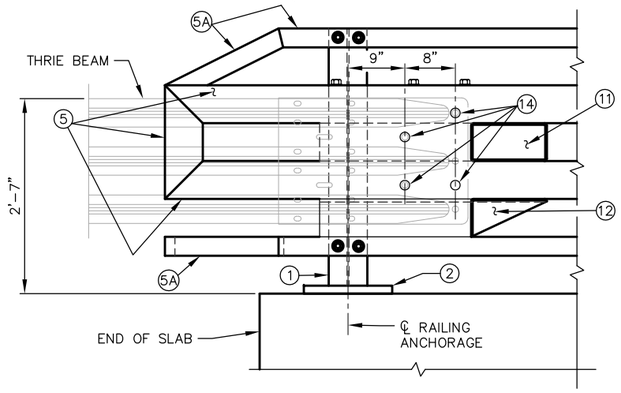
7363-00-70




## ELEVATION DETAIL AT NY4 END POST

(INTERIOR ELEVATION)




## ELEVATION OF DETAIL AT NY4 END POST

(THRIE BEAM RAIL ATTACHMENT)

## LEGEND

(1) W6 X 25 WITH 1⅛" X 1⅜" HORIZONTAL SLOTTED HOLES ON SIDE OF POST FOR BOLT NO. 6 AT NO. 5 AND TOP RAIL. USE 1" DIA. HOLES FOR BOLT NO. 6 AT NO. 5A BOTTOM RAIL. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.

(2) PLATE 1¼" X 10" X 1'-2". SEE "RAILING STEEL TYPE NY4 DETAILS #1" SHEET.

(5) TS 6 X 6 X ⅜" STRUCTURAL TUBING. USE ⅞" DIA. HOLES IN TOP AND BOTTOM OF RAILS FOR BOLT NO. 13 AS SHOWN IN PLAN DETAILS. USE 1" DIA. HOLES IN FRONT AND BACK OF RAILS FOR BOLTS NO. 6 & NO. 14 AS SHOWN IN ELEVATION DETAILS.

(5A) TS 5 X 3 X ¼" STRUCTURAL TUBING. USE 1" DIA. HOLES FOR BOLT NO. 6 IN TOP RAIL (FRONT & BACK). USE 1⅛" X 1⅜" HORIZONTAL SLOTTED HOLES FOR BOLT NO. 6 IN BOTTOM RAIL (FRONT & BACK) AND A 2" O.D. WASHER UNDER BOLT HEAD.

(6) ⅞" DIA. A325 SLOTTED ROUND HEAD BOLT WITH HEX NUT, 3⁄16" X 1¾" X 1¾" WASHER, AND SPRING LOCK WASHER (1 REQUIRED AT RAIL NO. 5 TO POST NO. 1 CONNECTION LOCATIONS SHOWN. 2 REQUIRED AT RAIL NO. 5A TO POST NO. 1 CONNECTION LOCATIONS SHOWN).

(11) TS 6 X 6 X ⅜" STRUCTURAL TUBING. USE 1" DIA. HOLES IN FRONT AND BACK FOR BOLT NO. 14 & ⅞" DIA. HOLES IN TOP & BOTTOM FOR BOLT NO. 13.

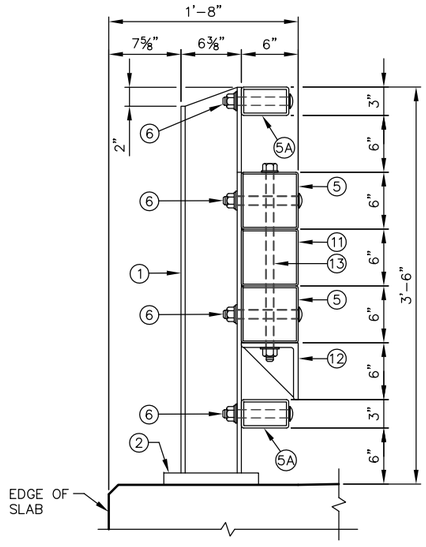
(12) L 6" X 6" X ½" STRUCTURAL ANGLE. USE ⅞" DIA. HOLES IN TOP FLANGE FOR BOLT NO. 13.

(13) ¾" DIA. A325 FULLY THREADED BOLTS, 2 WASHERS AND A HEAVY HEX NUT, ON EACH BOLT. NUT TO BE FINGER TIGHT. 3 BOLTS AT EACH END POST.

(14) ⅞" DIA. A325 SLOTTED ROUND HEAD BOLT WITH HEX NUT AND 3⁄16" X 2" X 2" WASHER FOR CONNECTION OF THRIE BEAM (4 REQUIRED)

## NOTE

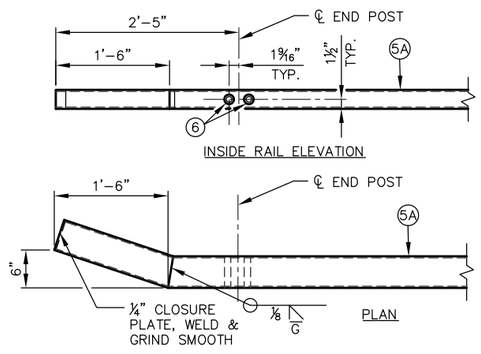
1. STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED $f_y$=50 KSI, STRUCTURAL ANGLE SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50.



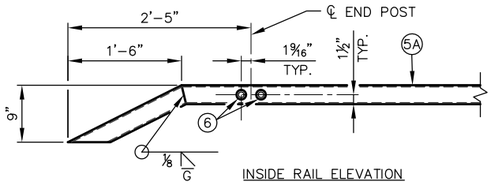

## SECTION THRU NY4 RAILING END POST

## PART ELEVATION OF RAILING

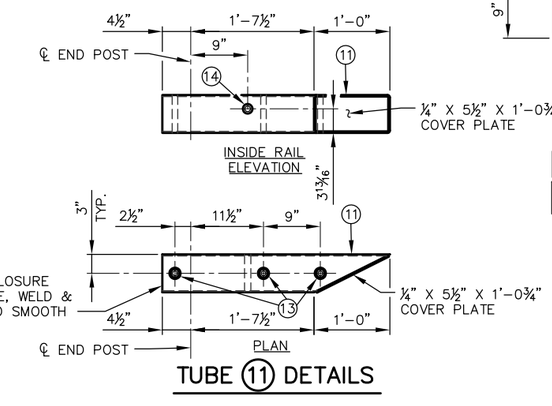
(INTERIOR ELEVATION)



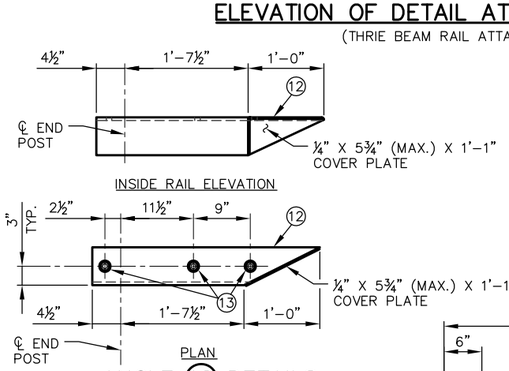

## BOTTOM RAIL (5A) DETAILS



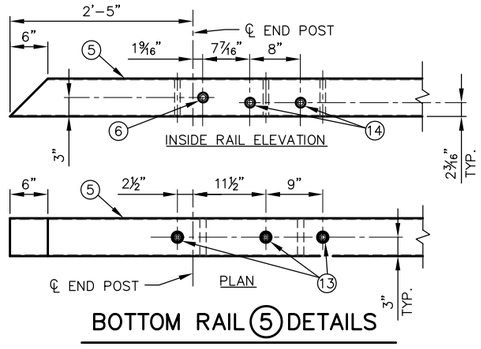

## TOP RAIL (5A) DETAILS



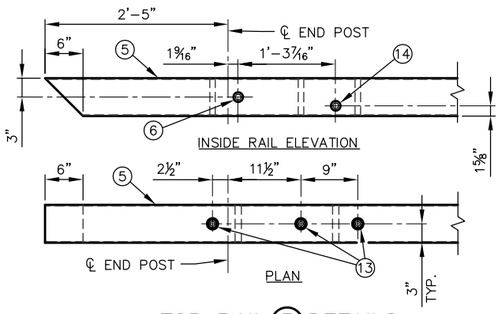

## TUBE (11) DETAILS




## ANGLE (12) DETAILS




## BOTTOM RAIL (5) DETAILS




## TOP RAIL (5) DETAILS

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-6-196

DRAWN BY JDO | PLANS CK'D ACK

RAILING STEEL TYPE NY4 DETAILS #2

SHEET 9 OF 9

28

I.D. 7363-00-70

PLOT DATE: Oct 29, 2021

FILE: B060196_08_09_ny4.dwg
PLOT SCALE:

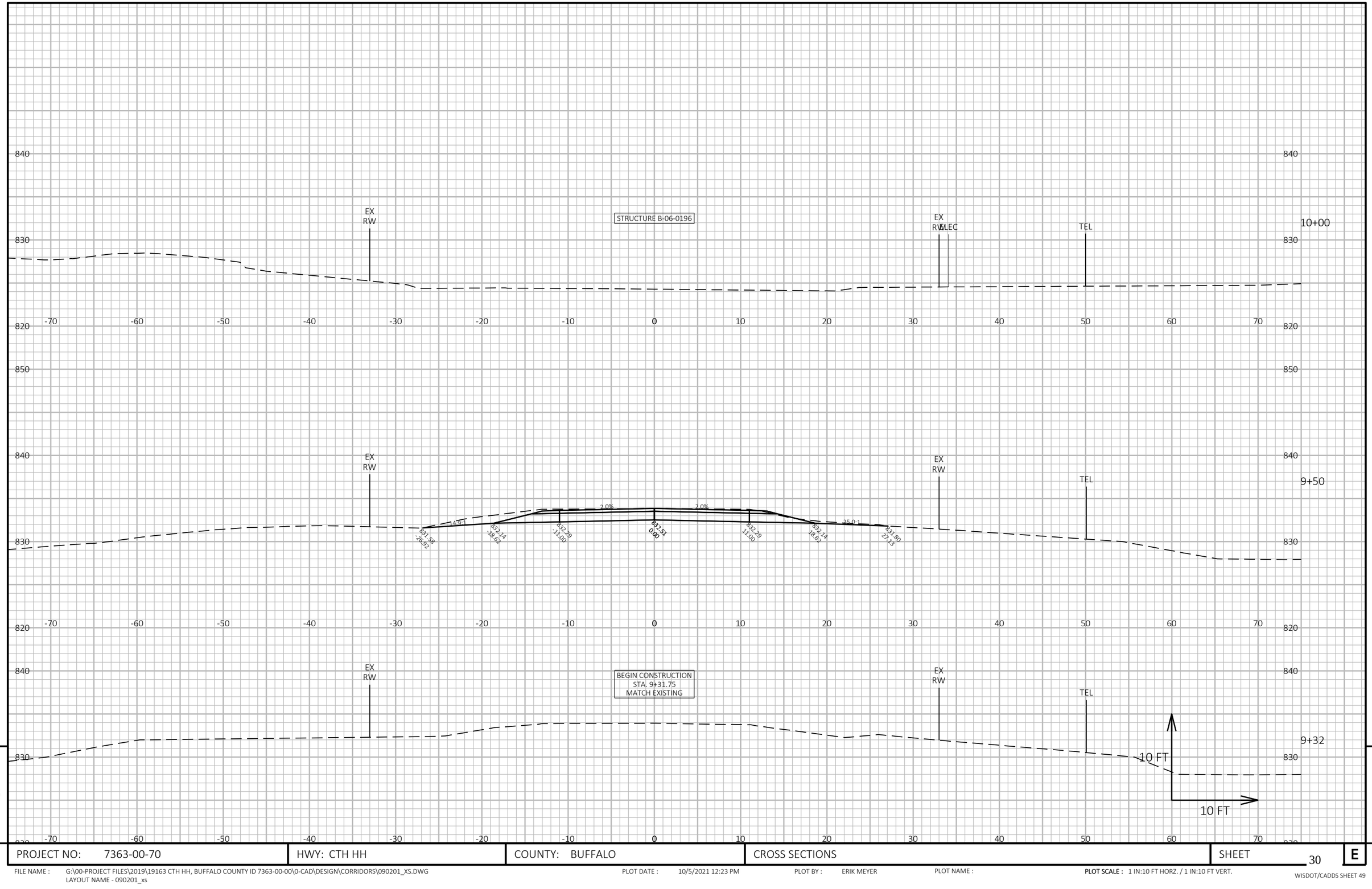
8

8

| STATION | AREA (SF) CUT | SALVAGED/UNUSABLE PAVEMENT MATERIAL | FILL | MARSH EXC | ROCK EXC | EBS | INCREMENTAL VOL (CY) (UNADJUSTED) CUT | SALVAGED/UNUSABLE PAVEMENT MATERIAL | FILL | MARSH EXC | ROCK EXC | EBS | CUMULATIVE VOL (CY) CUT 1.00 | EXPANDED FILL 1.25 | EXPANDED MARSH BACKFILL 1.50 | EXPANDED ROCK 1.10 | EXPANDED EBS BACKFILL 1.30 | REDUCED MARSH IN FILL 0.60 | REDUCED EBS IN FILL 0.80 | MASS ORDINATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Note 1 | Note 2 | Note 3 | | | | Note 1 | | Note 4 | | Note 5 | Note 6 | Note 7 | Note 8 |
| 09+31.75 | 41.84 | 11.15 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 09+50.00 | 43.35 | 11.11 | 0.20 | 0 | 0 | 0 | 29 | 8 | 0 | 0 | 0 | 0 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 21 |
| 09+75.00 | 45.23 | 11.73 | 13.48 | 0 | 0 | 0 | 41 | 11 | 6 | 0 | 0 | 0 | 70 | 8 | 0 | 0 | 0 | 0 | 0 | 43 |
| 09+81.75 | 47.64 | 11.96 | 17.45 | 0 | 0 | 0 | 12 | 3 | 4 | 0 | 0 | 0 | 82 | 13 | 0 | 0 | 0 | 0 | 0 | 46.91 |
| STRUCTURE B-06-0196 | | | | | | | | | | | | | | | | | | | | |
| DIVISION 1 TOTALS | | | | | | | 82 | 22 | 10 | 0 | 0 | 0 | | | | | | | | |

| STATION | AREA (SF) CUT | SALVAGED/UNUSABLE PAVEMENT MATERIAL | FILL | MARSH EXC | ROCK EXC | EBS | INCREMENTAL VOL (CY) (UNADJUSTED) CUT | SALVAGED/UNUSABLE PAVEMENT MATERIAL | FILL | MARSH EXC | ROCK EXC | EBS | CUMULATIVE VOL (CY) CUT 1.00 | EXPANDED FILL 1.25 | EXPANDED MARSH BACKFILL 1.50 | EXPANDED ROCK 1.10 | EXPANDED EBS BACKFILL 1.30 | REDUCED MARSH IN FILL 0.60 | REDUCED EBS IN FILL 0.80 | MASS ORDINATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Note 1 | Note 2 | Note 3 | | | | Note 1 | | Note 4 | | Note 5 | Note 6 | Note 7 | Note 8 |
| STRUCTURE B-06-0196 | | | | | | | | | | | | | | | | | | | | |
| 10+18.25 | 46.02 | 12.48 | 8.06 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10+25.00 | 47.33 | 12.28 | 15.69 | 0 | 0 | 0 | 12 | 3 | 3 | 0 | 0 | 0 | 12 | 4 | 0 | 0 | 0 | 0 | 0 | 5 |
| 10+50.00 | 39.97 | 11.53 | 10.22 | 0 | 0 | 0 | 40 | 11 | 12 | 0 | 0 | 0 | 52 | 19 | 0 | 0 | 0 | 0 | 0 | 19 |
| 10+68.25 | 40.91 | 11.22 | 1.54 | 0 | 0 | 0 | 27 | 8 | 4 | 0 | 0 | 0 | 79 | 24 | 0 | 0 | 0 | 0 | 0 | 33.67 |
| DIVISION 2 TOTALS | | | | | | | 79 | 22 | 19 | 0 | 0 | 0 | | | | | | | | |
| PROJECT TOTALS | | | | | | | 161 | 44 | 29 | 0 | 0 | 0 | | | | | | | | |

| NOTES: | |
|---|---|
| 1 - CUT | CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL |
| 2 - SALVAGED/UNUSABLE PAVEMENT MAT | THIS DOES NOT SHOW UP IN CROSS SECTIONS |
| 3 - FILL | DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME |
| 4 - EXPANDED MARSH BACKFILL | WILL BE BACKFILLED WITH GRANULAR BACKFILL (OR CUT, OR BORROW) |
| 5 - EXPANDED EBS | WILL BE BACKFILLED WITH GRANULAR BACKFILL (OR CUT, OR BORROW) |
| 6 - REDUCED MARSH IN FILL | REDUCED MARSH EXCAVATION THAT CAN BE USED IN FILL |
| 7 - REDUCED EBS IN FILL | REDUCED EBS EXCAVATION THAT CAN BE USED IN FILL |
| 8 - MASS ORDINATE | IF MARSH OR EBS TO BE BACKFILLED WITH CUT OR BORROW: [(CUT + MARSH EXC + EBS) - ((FILL - REDUCED MARSH IN FILL) - (REDUCED EBS IN FILL) - EXPANDED ROCK) * FILL FACTOR)] |
| 8 - MASS ORDINATE | IF MARSH AND EBS TO BE BACKFILLED WITH GRANULAR: [(CUT + EBS + MARSH EXC) - ((FILL - (REDUCED MARSH IN FILL) - (REDUCED EBS IN FILL) - (EXPANDED ROCK)) * FILL FACTOR))] |
| 8 - MASS ORDINATE | IF MARSH AND EBS TO BE BACKFILLED WITH GRANULAR: [(CUT) - ((FILL - EXPANDED ROCK) * FILL FACTOR))] |
| 8 - MASS ORDINATE | IF MARSH AND EBS TO BE BACKFILLED WITH CUT OR BORROW: [(CUT) - ((FILL - EXPANDED ROCK) * FILL FACTOR))] |




9

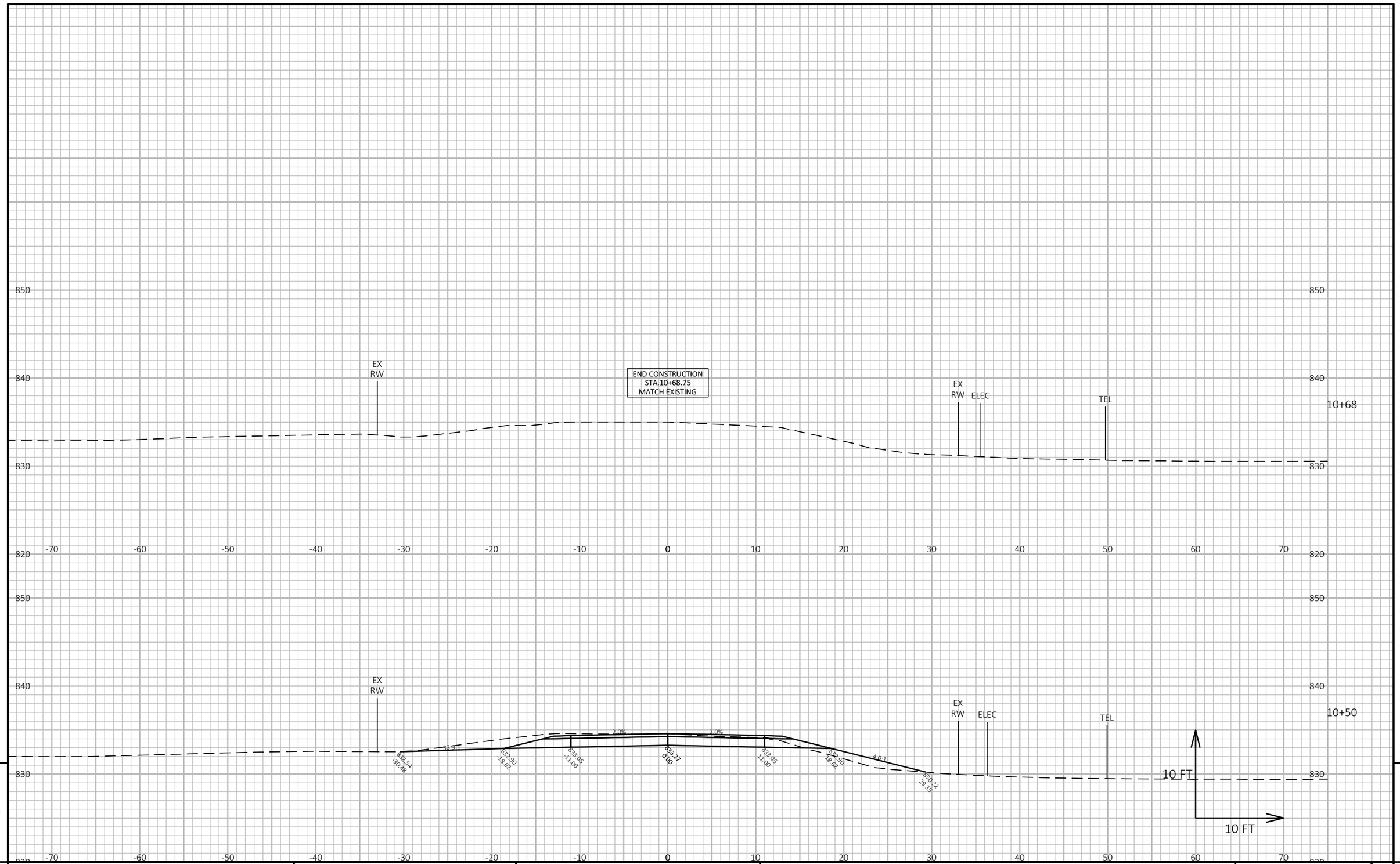
9

| PROJECT NO: 7363-00-70 | HWY: CTH HH | COUNTY: BUFFALO | CROSS SECTIONS | SHEET 30 | E |
|---|---|---|---|---|---|


FILE NAME : G:\00-PROJECT FILES\2019\19163 CTH HH, BUFFALO COUNTY ID 7363-00-00\0-CAD\DESIGN\CORRIDORS\090201_XS.DWG
LAYOUT NAME - 090201_xs

PLOT DATE : 10/5/2021 12:23 PM PLOT BY : ERIK MEYER PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49




9

9

| PROJECT NO: 7363-00-70 | HWY: CTH HH | COUNTY: BUFFALO | CROSS SECTIONS | SHEET 31 | E |
|---|---|---|---|---|---|

FILE NAME : G:\00-PROJECT FILES\2019\19163 CTH HH, BUFFALO COUNTY ID 7363-00-00\0-CAD\DESIGN\CORRIDORS\090201_XS.DWG
LAYOUT NAME - 090202_xs

PLOT DATE : 10/5/2021 12:23 PM PLOT BY : ERIK MEYER PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

**Wisconsin Department of Transportation**

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov