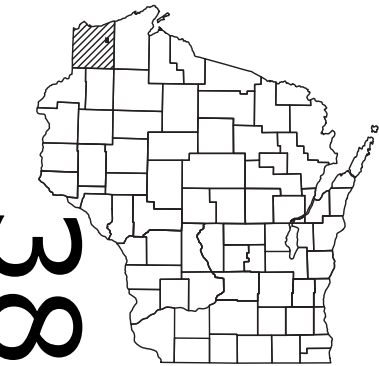


EAU PROJECT ID: 8383-00-70 WITH: N/A COUNTY: DOUGLAS

December 2024
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 = 46



DESIGN DESIGNATION 8383-00-00

| | | | |
|--------------|------|---|--------|
| A.A.D.T. | 2025 | = | 56 |
| A.A.D.T. | 2045 | = | 79 |
| D.H.V. | | = | 8 |
| D.D. | | = | 50/50 |
| T. | | = | 10.0% |
| DESIGN SPEED | | = | 40 MPH |
| ESALS | | = | 22,000 |

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 | |
| EXISTING CULVERT | |
| PROPOSED CULVERT (Box or Pipe) | |
| COMBUSTIBLE FLUIDS | |
| MARSH AREA | |
| WOODED OR SHRUB AREA | |

| | |
|---|--|
| PROFILE | |
| GRADE LINE | |
| ORIGINAL GROUND | |
| MARSH OR ROCK PROFILE (To be noted as such) | |
| SPECIAL DITCH | |
| GRADE ELEVATION | |
| CULVERT (Profile View) | |
| UTILITIES | |
| ELECTRIC | |
| FIBER OPTIC | |
| GAS | |
| SANITARY SEWER | |
| STORM SEWER | |
| TELEPHONE | |
| WATER | |
| UTILITY PEDESTAL | |
| POWER POLE | |
| TELEPHONE POLE | |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

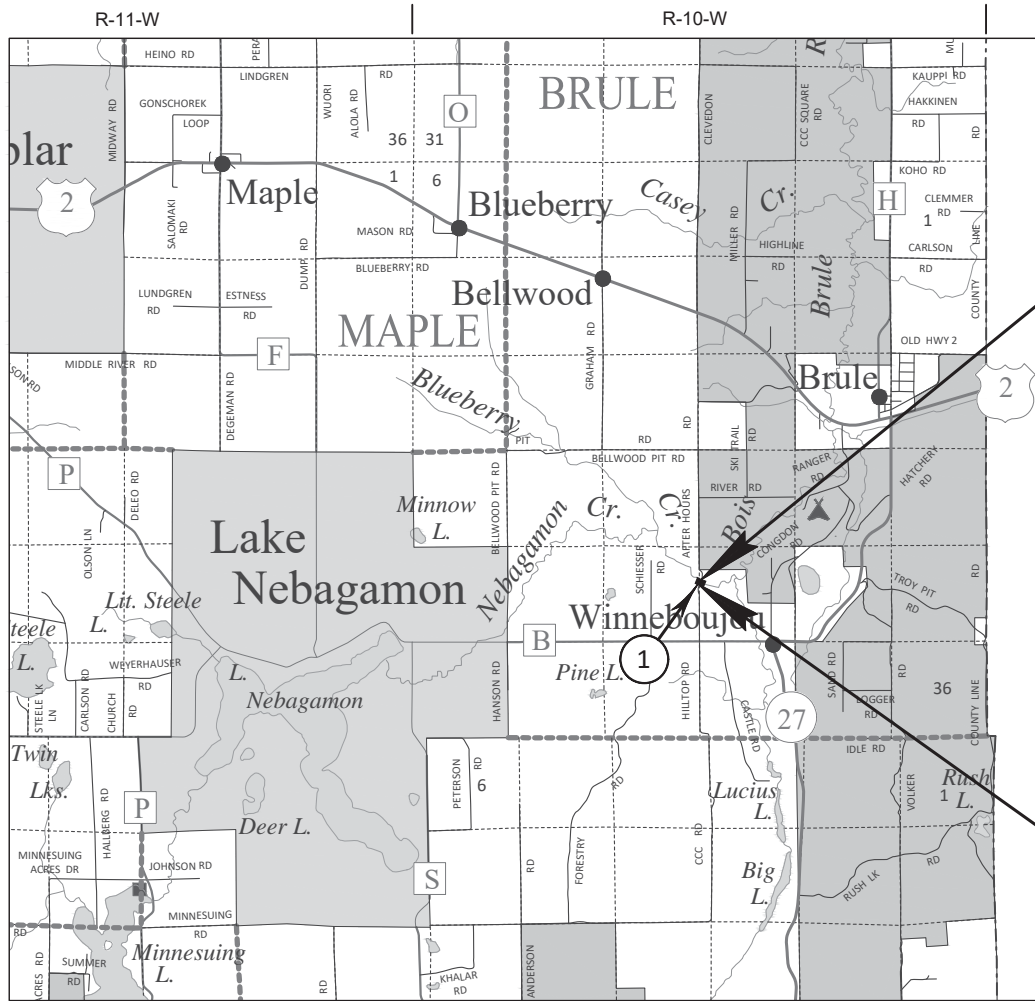
PLAN OF PROPOSED IMPROVEMENT

T BRULE, AFTER HOURS ROAD

NEBAGAMON CREEK BRIDGE B-16-0152

LOC STR
DOUGLAS COUNTY

| |
|----------------------|
| STATE PROJECT NUMBER |
| 8383-00-70 |



1 STRUCTURE B-16-0152

END PROJECT
STA 11+25.00

BEGIN PROJECT
STA 8+75.00
Y=234,458.30
X=269,597.53

LAYOUT
SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 0.047 MI

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

| STATE PROJECT | FEDERAL PROJECT | |
|---------------|-----------------|----------|
| | PROJECT | CONTRACT |
| 8383-00-70 | WISC 2025129 | 1 |
| | | |
| | | |

ACCEPTED FOR
TOWN of BRULE
7/10/24 (Date) (Signature & Title of Official)

ORIGINAL PLANS PREPARED BY
 Short Elliott Hendrickson Inc.
6808 Odana Road, Suite 200
Madison, WI 53719-1137
Building a Better World for All of Us™ 800.620.6199 main | 888.908.8166 fax
800.732.4362 toll free | www.sehinc.com

7/15/2024 (Date) (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
PREPARED BY
Surveyor SEH
Designer SEH
Project Manager PAULA GROOM, PE
Regional Examiner NWR
Regional Supervisor TOU YANG, PE

APPROVED FOR THE DEPARTMENT
DATE: 7/15/2024 (Signature)

E

STANDARD ABBREVIATIONS:

| | | | |
|--------|--|---------|--------------------------------------|
| ABUT | ABUTMENT | ID | INSIDE DIAMETER |
| AC | ACRE | INV | INVERT |
| AGG | AGGREGATE | IP | IRON PIPE ON PIN |
| AECPRC | APRON ENDWALL FOR CULVERT PIPE REINFORCED CONCRETE | LHF | LEFT-HAND FORWARD |
| AECPCS | APRON ENDWALL FOR CULVERT PIPE CORRUGATED STEEL | L | LENGTH OF CURVE |
| ASPH | ASPHALTIC | LF | LINEAR FOOT |
| AVG | AVERAGE | LC | LONG CHORD OF CURVE |
| ADT | AVERAGE DAILY TRAFFIC | LS | LUMP SUM |
| BF | BACK FACE | MH | MANHOLE |
| BM | BENCH MARK | MOR | MID POINT OF RADIUS |
| BR | BRIDGE | NC | NORMAL CROWN |
| CE | COMMERCIAL ENTRANCE | NO | NUMBER |
| C/L | CENTER LINE | OBLIT | OBLITERATE |
| Δ | CENTRAL ANGLE OR DELTA | PAVT | PAVEMENT |
| COB | CENTER OF BARRIER | PE | PRIVATE ENTRANCE |
| CONC | CONCRETE | PVRC | POINT OF VERTICAL REVERSE CURVE |
| CPRC | CULVERT PIPE REINFORCED CONCRETE | QOR | QUARTER POINT OF RADIUS |
| CPRCHE | CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL | R | RADIUS |
| CR | CREEK | REQ'D | REQUIRED |
| CY | CUBIC YARD | RES | RESIDENCE OR RESIDENTIAL |
| C&G | CURB AND GUTTER | RHF | RIGHT-HAND FORWARD |
| D | DEGREE OF CURVE | R/W | RIGHT-OF-WAY |
| DHV | DESIGN HOUR VOLUME | R | RIVER |
| DISCH | DISCHARGE | RDWY | ROADWAY |
| DG | DITCH GRADE | R/L | REFERENCE LINE |
| DWY | DRIVEWAY | SALV | SALVAGED |
| X | EAST GRID COORDINATE | SAN | SANITARY SEWER |
| EAT | STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL | SF | SQUARE FEET |
| EOR | END POINT OF RADIUS | SY | SQUARE YARD |
| EL | ELEVATION | SDD | STANDARD DETAIL DRAWINGS |
| ENT | ENTRANCE | STA | STATION |
| ESALS | EQUIVALENT SINGLE AXLE LOADS | SS | STORM SEWER |
| EXC | EXCAVATION | SSPRC | STORM SEWER PIPE REINFORCED CONCRETE |
| EBS | EXCAVATION BELOW SUBGRADE | SE | SUPERELEVATION RATE |
| EXIST | EXISTING | TC | TOP OF CURB |
| FC | FACE OF CURB | T OR TN | TOWN |
| FF | FACE TO FACE | T | TRUCKS (PERCENT OF) |
| FERT | FERTILIZE | TYP | TYPICAL |
| FE | FIELD ENTRANCE | VAR | VARIABLE |
| FL | FLOW LINE | VC | VERTICAL CURVE |
| FO | FIBER OPTIC | Y | NORTH GRID COORDINATE |
| CWT | HUNDREDWEIGHT | YD | YARD |
| HYD | HYDRANT | | |

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 | .16 | .22 | .12 | .20 | .27 | .15 | .24 | .33 | .19 | .28 | .38 |
| | .22 | .30 | .38 | .26 | .34 | .44 | .30 | .37 | .50 | .34 | .41 | .56 |
| MEDIAN STRIP- TURF | .19 | .20 | .24 | .19 | .22 | .26 | .20 | .23 | .30 | .20 | .25 | .30 |
| | .24 | .26 | .30 | .25 | .28 | .33 | .26 | .30 | .37 | .27 | .32 | .40 |
| SIDE SLOPE- TURF | | | .25 | | | .27 | | | .28 | | | .30 |
| | | | .32 | | | .34 | | | .36 | | | .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 = 0.4 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.3ACRES

DNR AREA LIAISON:

DNR NORTHERN REGION HEADQUARTERS
810 W. MAPLE STREET
SPOONER, WI 54801
TELEPHONE: 715.635.4229
ATTENTION: AMY CRONK
EMAIL: AMY.CRONK@WISCONSIN.GOV

MUNICIPALITY CONTACT:

TOWN OF BRULE
5231 S COUNTY LINE ROAD
BRULE, WI 54820
TELEPHONE: 218.591.0693
ATTENTION: DIANE NELSON
EMAIL: DRTHOMP999@GMAIL.COM

UTILITY CONTACT LIST:

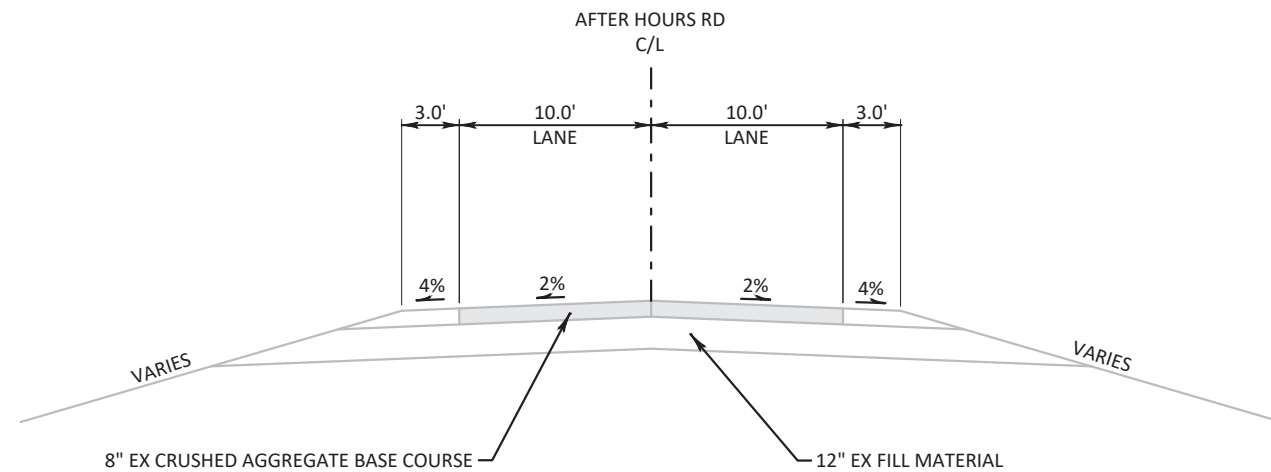
| | |
|---|---|
| DAHLBERG LIGHT & POWER CO 9221 E MAIN STREET SOLON SPRINGS,WI 54873 TELEPHONE: 715.378.2205 ATTENTION: SCOTT SELLWOOD EMAIL: SCOTT@DAHLBERGLIGHTANDPOWER.COM | NORVADO P.O. BOX 67 CABLE, WI 54821 TELEPHONE: 715.580.8123 ATTENTION: GUY FOLSOM EMAIL: GFOLSOM@NORVADO.COM |
|---|---|

DESIGN CONTACT:

SHORT ELLIOTT HENDRICKSON INC
6808 ODANA ROAD, SUITE 200
MADISON, WI 53719-1137
TELEPHONE: 608.620.6192
ATTENTION: CHRISTOPHER BLUM
EMAIL: CBLUM@SEHINC.COM

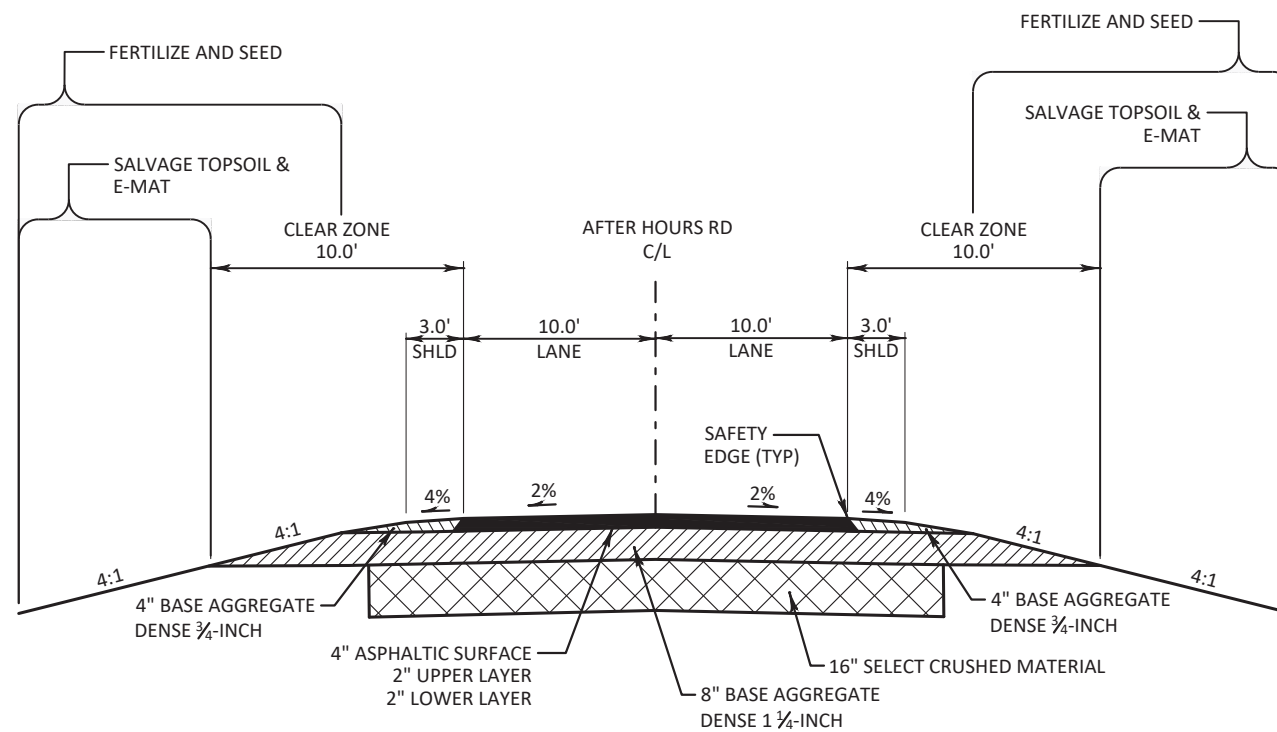
GENERAL NOTES:

- NO TREES OR SHRUBS SHALL BE REMOVED WITHOUT APPROVAL OF THE ENGINEER.
- 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.
- THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY LOCAL MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.
- WETLANDS, WATERWAYS, AND OTHER ENVIRONMENTALLY SENSITIVE AREAS SHALL BE PROTECTED AT ALL TIMES. DO NOT STORE EQUIPMENT OR MATERIALS NEAR THESE SITES UNLESS APPROVED BY THE ENGINEER.
- BROKEN CONCRETE CONTAINING RE-BAR SHALL NOT BE USED AS RIPRAP.
- CROSS SECTIONS SHOWN INCLUDE THE THICKNESS OF TOPSOIL WHERE REQUIRED. TOPSOIL SHALL BE REPLACED WITH 4-INCH TYPICAL DEPTH.
- TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
- REMOVAL OF EROSION CONTROL DEVICES IS INCLUDED IN THE COST OF THEIR RESPECTIVE BID ITEMS.
- THE EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.
- ASPHALTIC SURFACES SHALL BE SAWCUT AT THE MATCH LINE AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.
- DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE SALVAGE TOPSOILED, FERTILIZED, SEEDED, AND EROSION MATTED.
- FERTILIZER SHALL NOT BE USED NEAR NAVIGABLE WATERWAYS OR WETLANDS.
- A CONVERSION FACTOR OF 2.0 TONS/CY IS USED TO ESTIMATE QUANTITIES FOR BASE AGGREGATE DENSE.
- THE BRIDGE APPROACHES SHALL BE PLACED IN TWO LIFTS. THE 4" OF ASPHALTIC SURFACE SHALL CONSIST OF A 2" LOWER LAYER AND A 2" UPPER LAYER.
- APPLY TACK COAT AT A RATE OF 0.05 GA/SY BETWEEN LAYERS OF ASPHALTIC SURFACE.
- ASPHALTIC SURFACE WEIGHT CALCULATIONS ARE BASED ON 112 LB/SY/IN.
- THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN AND TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, PASSING OR PARKING LANE.
- WDNR WATERWAY ACCESS PARKING AREA MUST REMAIN ACCESSIBLE AT ALL TIMES. NO CONSTRUCTION EQUIPMENT MAY BE STORED AT ACCESS.



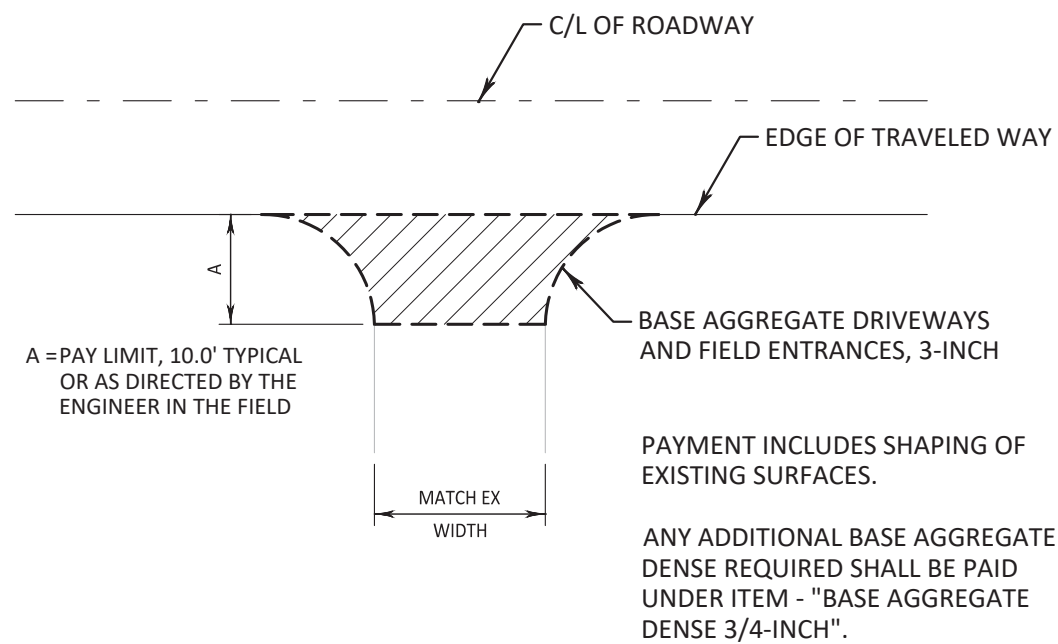
TYPICAL EXISTING SECTION

AFTER HOURS RD
STA 8+75.00 TO STA 11+25.00

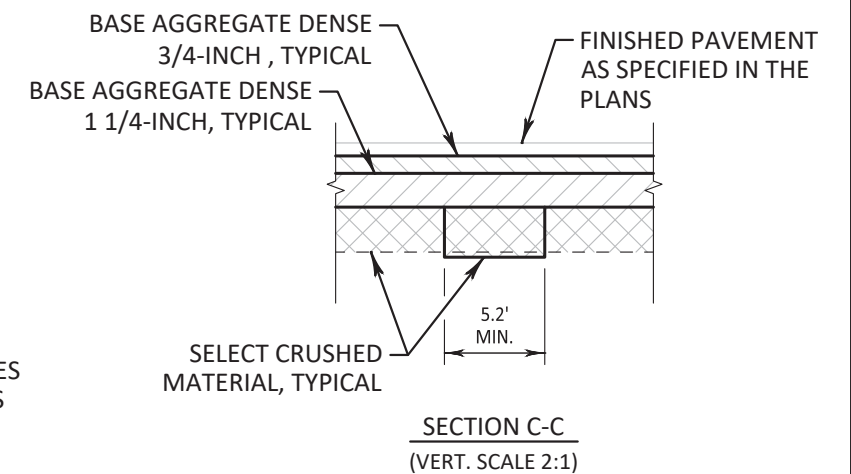
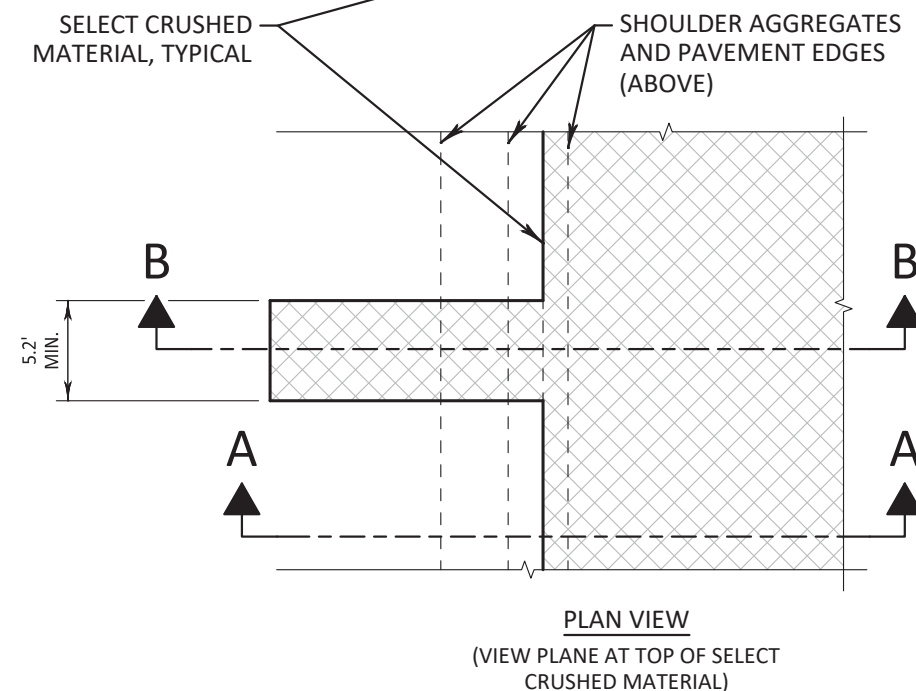
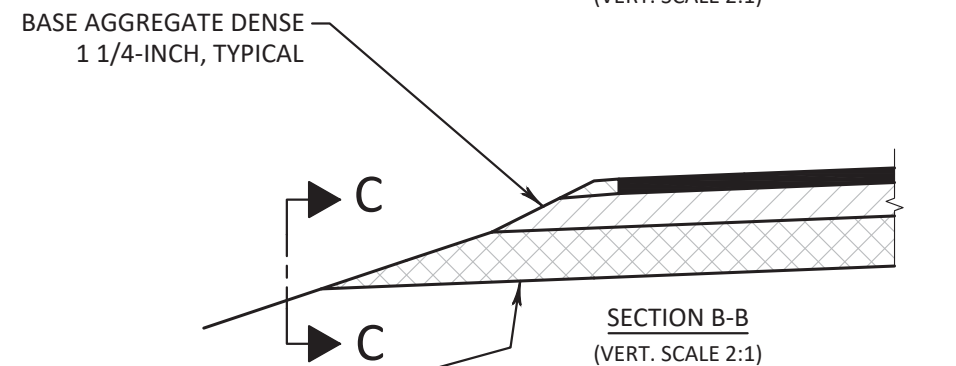
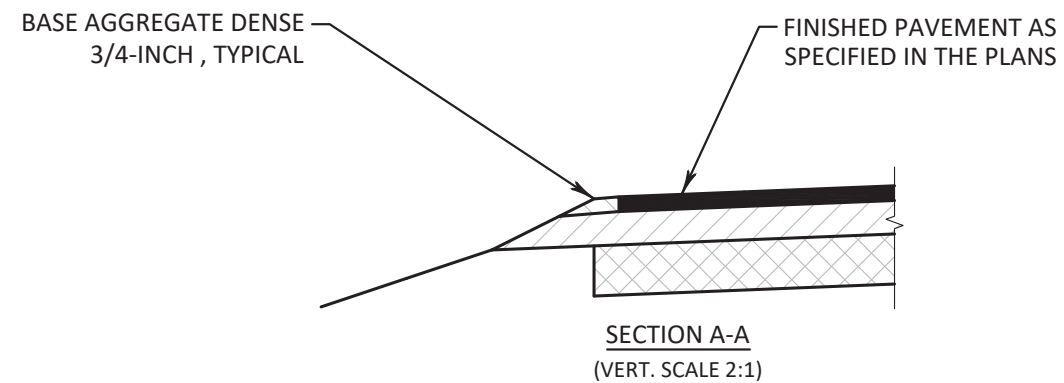


TYPICAL FINISHED SECTION

AFTER HOURS RD
STA 8+75.00 TO STA 11+25.00



BASE AGGREGATE DRIVEWAYS AND FIELD ENTERANCES
(PE, CE, OR FE)



NOTE:

CONSTRUCT RELIEF TRENCHES AT 200'-300' INTERVALS AND AT PROFILE SAG POINTS (LEFT AND RIGHT).

FINAL LOCATIONS TO BE APPROVED OR DETERMINED BY THE ENGINEER IN THE FIELD.

MATERIALS AND LABOR FOR RELIEF TRENCH ARE INCLUDED IN THE SELECT CRUSHED MATERIAL BID ITEM.

Estimate Of Quantities

8383-00-70

| Line | Item | Item Description | Unit | Total | Qty |
|------|----------|--|------|------------|------------|
| 0002 | 203.0260 | Removing Structure Over Waterway Minimal Debris (structure) 01. P-16-091 | EACH | 1.000 | 1.000 |
| 0004 | 205.0100 | Excavation Common | CY | 490.000 | 490.000 |
| 0006 | 206.1001 | Excavation for Structures Bridges (structure) 01. B-16-0152 | EACH | 1.000 | 1.000 |
| 0008 | 210.1500 | Backfill Structure Type A | TON | 455.000 | 455.000 |
| 0010 | 213.0100 | Finishing Roadway (project) 01. 8383-00-70 | EACH | 1.000 | 1.000 |
| 0012 | 305.0110 | Base Aggregate Dense 3/4-Inch | TON | 30.000 | 30.000 |
| 0014 | 305.0120 | Base Aggregate Dense 1 1/4-Inch | TON | 300.000 | 300.000 |
| 0016 | 312.0110 | Select Crushed Material | TON | 500.000 | 500.000 |
| 0018 | 455.0605 | Tack Coat | GAL | 40.000 | 40.000 |
| 0020 | 465.0105 | Asphaltic Surface | TON | 120.000 | 120.000 |
| 0022 | 502.0100 | Concrete Masonry Bridges | CY | 173.000 | 173.000 |
| 0024 | 502.3200 | Protective Surface Treatment | SY | 165.000 | 165.000 |
| 0026 | 502.3210 | Pigmented Surface Sealer | SY | 46.000 | 46.000 |
| 0028 | 505.0400 | Bar Steel Reinforcement HS Structures | LB | 4,220.000 | 4,220.000 |
| 0030 | 505.0600 | Bar Steel Reinforcement HS Coated Structures | LB | 27,400.000 | 27,400.000 |
| 0032 | 516.0500 | Rubberized Membrane Waterproofing | SY | 10.000 | 10.000 |
| 0034 | 550.0500 | Pile Points | EACH | 14.000 | 14.000 |
| 0036 | 550.1100 | Piling Steel HP 10-Inch X 42 Lb | LF | 630.000 | 630.000 |
| 0038 | 606.0300 | Riprap Heavy | CY | 60.000 | 60.000 |
| 0040 | 612.0406 | Pipe Underdrain Wrapped 6-Inch | LF | 142.000 | 142.000 |
| 0042 | 618.0100 | Maintenance and Repair of Haul Roads (project) 01. 8383-00-70 | EACH | 1.000 | 1.000 |
| 0044 | 619.1000 | Mobilization | EACH | 1.000 | 1.000 |
| 0046 | 624.0100 | Water | MGAL | 20.000 | 20.000 |
| 0048 | 625.0500 | Salvaged Topsoil | SY | 640.000 | 640.000 |
| 0050 | 628.1504 | Silt Fence | LF | 487.000 | 487.000 |
| 0052 | 628.1520 | Silt Fence Maintenance | LF | 487.000 | 487.000 |
| 0054 | 628.1905 | Mobilizations Erosion Control | EACH | 4.000 | 4.000 |
| 0056 | 628.1910 | Mobilizations Emergency Erosion Control | EACH | 3.000 | 3.000 |
| 0058 | 628.2027 | Erosion Mat Class II Type C | SY | 640.000 | 640.000 |
| 0060 | 628.6005 | Turbidity Barriers | SY | 220.000 | 220.000 |
| 0062 | 629.0210 | Fertilizer Type B | CWT | 1.000 | 1.000 |
| 0064 | 630.0120 | Seeding Mixture No. 20 | LB | 17.000 | 17.000 |
| 0066 | 630.0200 | Seeding Temporary | LB | 17.000 | 17.000 |
| 0068 | 634.0612 | Posts Wood 4x6-Inch X 12-FT | EACH | 4.000 | 4.000 |
| 0070 | 637.2230 | Signs Type II Reflective F | SF | 12.000 | 12.000 |
| 0072 | 638.2602 | Removing Signs Type II | EACH | 4.000 | 4.000 |
| 0074 | 638.3000 | Removing Small Sign Supports | EACH | 4.000 | 4.000 |
| 0076 | 642.5001 | Field Office Type B | EACH | 1.000 | 1.000 |
| 0078 | 643.0420 | Traffic Control Barricades Type III | DAY | 1,206.000 | 1,206.000 |
| 0080 | 643.0705 | Traffic Control Warning Lights Type A | DAY | 1,876.000 | 1,876.000 |
| 0082 | 643.0900 | Traffic Control Signs | DAY | 938.000 | 938.000 |
| 0084 | 643.5000 | Traffic Control | EACH | 1.000 | 1.000 |
| 0086 | 645.0111 | Geotextile Type DF Schedule A | SY | 90.000 | 90.000 |
| 0088 | 645.0120 | Geotextile Type HR | SY | 130.000 | 130.000 |
| 0090 | 650.4500 | Construction Staking Subgrade | LF | 204.000 | 204.000 |
| 0092 | 650.5000 | Construction Staking Base | LF | 204.000 | 204.000 |
| 0094 | 650.6501 | Construction Staking Structure Layout (structure) 01. B-16-0152 | EACH | 1.000 | 1.000 |
| 0096 | 650.9911 | Construction Staking Supplemental Control (project) 01. 8383-00-70 | EACH | 1.000 | 1.000 |
| 0098 | 650.9920 | Construction Staking Slope Stakes | LF | 204.000 | 204.000 |

Estimate Of Quantities

| 8383-00-70 | | | | | |
|------------|----------|---|------|-----------|-----------|
| Line | Item | Item Description | Unit | Total | Qty |
| 0100 | 715.0502 | Incentive Strength Concrete Structures | DOL | 1,038.000 | 1,038.000 |
| 0102 | ASP.1T0A | On-the-Job Training Apprentice at \$5.00/HR | HRS | 300.000 | 300.000 |
| 0104 | ASP.1T0G | On-the-Job Training Graduate at \$5.00/HR | HRS | 300.000 | 300.000 |
| 0106 | SPV.0195 | Special 01. Select Crushed Material Riprap Filler | TON | 6.000 | 6.000 |

3

| EARTHWORK SUMMARY | | | | | | |
|---|---------------|----------|--------------------------|---------------------------|----------------------|----------------------|
| 205.0100 | | | | | | |
| | | | EXCAVATION COMMON (1) | AVAILABLE MATERIAL (2) | EXPANDED FILL (3) | MASS ORDINATE (4) |
| CATEGORY | STATION | LOCATION | CY | CY | CY | +/- |
| 0010 | | | | | | |
| | 8+75 - 9+77 | LT & RT | 190 | 190 | 52 | 138 |
| | 10+23 - 11+25 | LT & RT | 300 | 300 | 8 | 292 |
| | PROJECT TOTAL | | 490 | 490 | 60 | 430 |
| NOTES: | | | | | | |
| 1) UNUSABLE PAVEMENT MATERIAL IS INCLUDED IN COMMON EXCAVATION. | | | | | | |
| 2) AVAILABLE MATERIAL DOES NOT INCLUDE UNUSABLE PAVEMENT EXCAVATION. | | | | | | |
| 3) EXPANSION FACTOR = 1.3 | | | | | | |
| 4) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION. | | | | | | |

| BASE AGGREGATE ITEMS | | | | | | | |
|--|---------------|--|---------|--|-------------------|-----|------|
| 305.0110 BASE AGGREGATE DENSE 3/4-INCH | | 305.0120 BASE AGGREGATE DENSE 1 1/4-INCH | | 312.0110 SELECT CRUSHED MATERIAL | 624.0100 WATER | | |
| CATEGORY | STATION | TO | STATION | TON | TON | TON | MGAL |
| 0010 | 8+75 | - | 9+77 | 14 | 150 | 250 | 10 |
| | 10+23 | - | 11+25 | 14 | 150 | 250 | 10 |
| | PARKING AREA | | | 2 | - | - | - |
| | PROJECT TOTAL | | | 30 | 300 | 500 | 20 |

3

| ASPHALTIC PAVEMENT | | | |
|---|---------------|-----|-----|
| * 455.0605 TACK COAT 465.0105 ASPHALTIC SURFACE | | | |
| CATEGORY | STATION | GAL | TON |
| 0010 | 8+75 - 9+77 | 20 | 60 |
| | 10+23 - 11+25 | 20 | 60 |
| | ITEM TOTALS | 40 | 120 |
| *TAPER ASPHALT FROM BEGIN/END PROJECT TO BRIDGE CLEAR WIDTH. | | | |

| MAINTENANCE AND REPAIR OF HAUL ROADS (8383-00-70) | | |
|--|----------------|------------------|
| CATEGORY | STATION | 618.0100 EACH |
| 0030 | PROJECT LENGTH | 1 |
| | ITEM TOTAL | 1 |

| TOPSOIL, FERTILIZER AND SEEDING | | | | | | |
|---------------------------------|---------------|----------------------------------|--|----------------------------------|----|----|
| 625.0500 SALVAGED TOPSOIL | | 629.0210 FERTILIZER TYPE B | 630.0120 SEEDING MIXTURE NO. 20 | 630.0200 TEMPORARY SEEDING | | |
| CATEGORY | STATION | LOCATION | SY | CWT | LB | LB |
| 0010 | 8+75 - 9+77 | RT | 121 | 0.2 | 3 | 3 |
| | 8+75 - 9+77 | LT | 109 | 0.2 | 3 | 3 |
| | 10+23 - 11+25 | RT | 191 | 0.2 | 5 | 5 |
| | 10+23 - 11+25 | LT | 90 | 0.1 | 2 | 2 |
| | UNDISTRIBUTED | | 129 | 0.3 | 3 | 3 |
| | ITEM TOTALS | | 640 | 1.0 | 17 | 17 |

| MOBILIZATIONS EROSION CONTROL | | | |
|---|----------------|--|------|
| 628.1905 MOBILIZATIONS EROSION CONTROL | | 628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL | |
| CATEGORY | STATION | EACH | EACH |
| 0010 | PROJECT LENGTH | 4 | 3 |
| | ITEM TOTALS | 4 | 3 |

| EROSION CONTROL ITEMS | | | | | | | |
|------------------------|---------------|---------------------------------------|--|-----------------------------------|-----|-----|-------------------------------------|
| 628.1504 SILT FENCE | | 628.1520 SILT FENCE MAINTENANCE | 628.2027 EROSION MAT CLASS II TYPE C | 628.6005 TURBIDITY BARRIERS | | | |
| CATEGORY | STATION | LOCATION | LF | LF | SY | SY | REMARKS |
| 0010 | 8+75 - 9+77 | RT | 108 | 108 | 121 | 54 | INSTALL TB AFTER EX STRUCT REMOVAL |
| | 8+75 - 9+77 | LT | 108 | 108 | 109 | -- | |
| | 10+00 | LT/RT | - | - | - | 65 | TEMPORARY TB DURING EX PIER REMOVAL |
| | 10+05 - 11+30 | RT | 108 | 108 | 191 | 54 | INSTALL TB AFTER EX STRUCT REMOVAL |
| | 10+16 - 11+30 | LT | 65 | 65 | 90 | -- | |
| | UNDISTRIBUTED | | 98 | 98 | 129 | 47 | |
| | ITEM TOTALS | | 487 | 487 | 640 | 220 | |
| | | | | | | | |

| PERMANENT SIGNING | | | | | | | | |
|-------------------|---------------|----------|--|--------------------------|---|------|----|--|
| | | | 634.0612 POSTS WOOD 4X6-INCH X 12-FT | | 637.2230 SIGNS TYPE II REFLECTIVE F | | | |
| CATEGORY | STATION | LOCATION | SIGN CODE | SIZE (INCH) (INCH) | MESSAGE | EACH | SF | |
| 0010 | 9+70 | RT | W5-52-R | 12 36 | CLEARANCE STRIPER | 1 | 3 | |
| | 9+81 | LT | W5-52-L | 12 36 | CLEARANCE STRIPER | 1 | 3 | |
| | 10+05 | RT | W5-52-L | 12 36 | CLEARANCE STRIPER | 1 | 3 | |
| | 10+16 | LT | W5-52-R | 12 36 | CLEARANCE STRIPER | 1 | 3 | |
| | PROJECT TOTAL | | | | | 4 | 12 | |

| REMOVING SIGNS | | | | | | |
|----------------|---------|----------|---------------------------------------|------|---|--|
| | | | 638.2602 REMOVING SIGNS TYPE II | | 638.3000 REMOVING SMALL SIGN SUPPORTS | |
| CATEGORY | STATION | LOCATION | MESSAGE | EACH | EACH | |
| 0010 | 9+70 | RT | CLEARANCE STRIPER | 1 | 1 | |
| | 9+81 | LT | CLEARANCE STRIPER | 1 | 1 | |
| | 10+05 | RT | CLEARANCE STRIPER | 1 | 1 | |
| | 10+16 | LT | CLEARANCE STRIPER | 1 | 1 | |
| PROJECT TOTAL | | | | 4 | 4 | |

| | | | | | | | | |
|-------------|------------|------|---------|---------|---------|--------------------------|-------|---|
| PROJECT NO: | 8383-00-70 | HWY: | LOC STR | COUNTY: | DOUGLAS | MISCELLANEOUS QUANTITIES | SHEET | E |
|-------------|------------|------|---------|---------|---------|--------------------------|-------|---|

3

| TRAFFIC CONTROL | | | | | | | | | |
|---------------------------------------|-------|------------------|-----------------------------|------|-------|------|-------|------|-----|
| 643.0420 | | | | | | | | | |
| 643.0705 | | | | | | | | | |
| 643.0900 | | | | | | | | | |
| TRAFFIC CONTROL BARRICADES TYPE III | | | | | | | | | |
| TRAFFIC CONTROL WARNING LIGHTS TYPE A | | | | | | | | | |
| TRAFFIC CONTROL SIGNS | | | | | | | | | |
| CATEGORY | STAGE | PROJECT LOCATION | APPROX. SERVICE PERIOD DAYS | QTY. | DAY | QTY. | DAY | QTY. | DAY |
| 0010 | 1 | PROJECT LENGTH | 67 | 18 | 1,206 | 28 | 1,876 | 14 | 938 |
| PROJECT TOTAL | | | | | 1,206 | | 1,876 | | 938 |

3

| | | | | | | |
|----------|----------------|-------------------------------------|----------------------------------|--|--|---|
| | | 650.4500 | CONSTRUCTION STAKING 650.5000 | 650.6501 | 650.9911 | 650.9920 |
| | | CONSTRUCTION STAKING SUBGRADE | CONSTRUCTION STAKING BASE | CONSTRUCTION STAKING STRUCTURE LAYOUT (B-06-0239) | CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (7364-00-70) | CONSTRUCTION STAKING SLOPE STAKES |
| CATEGORY | STATION | LF | LF | EACH | EACH | LF |
| 0010 | PROJECT LENGTH | 204 | 204 | 1 | 1 | 204 |
| | PROJECT TOTAL | 204 | 204 | 1 | 1 | 204 |

| | |
|-------------|------------|
| PROJECT NO: | 8383-00-70 |
|-------------|------------|

HWY: LOC STR

COUNTY: DOUGLAS

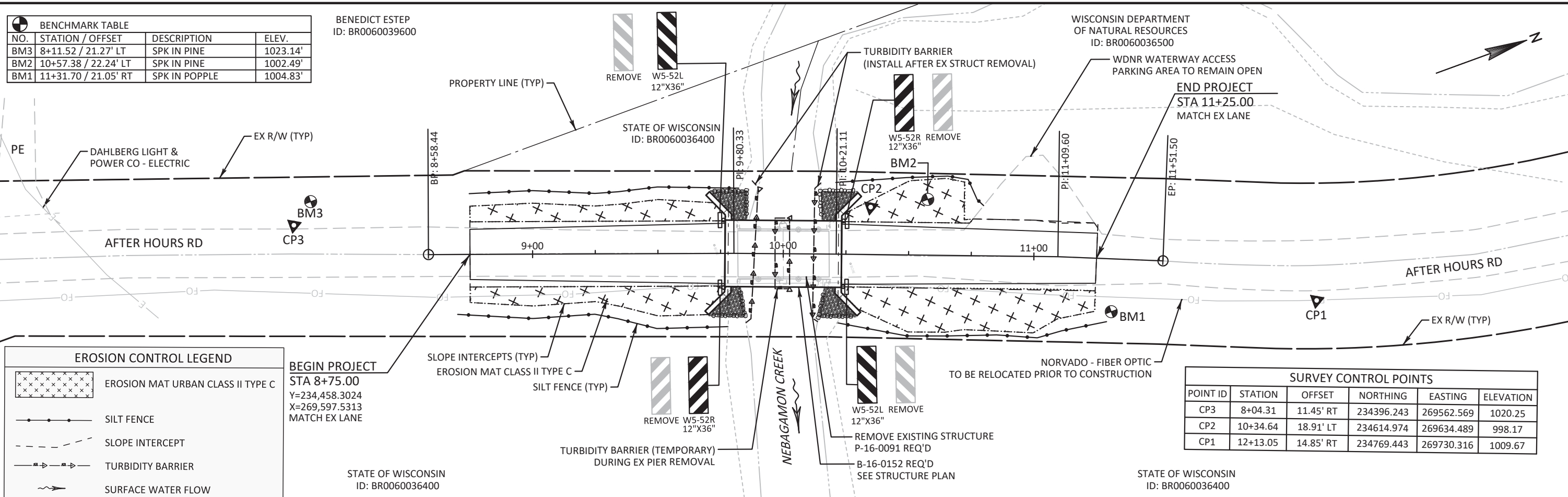
| MISCELLANEOUS QUANTITIES | |
|--------------------------|-----|
| 1 | ... |
| 2 | ... |
| 3 | ... |
| 4 | ... |
| 5 | ... |
| 6 | ... |
| 7 | ... |
| 8 | ... |
| 9 | ... |
| 10 | ... |
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| 93 | ... |
| 94 | ... |
| 95 | ... |
| 96 | ... |
| 97 | ... |
| 98 | ... |
| 99 | ... |
| 100 | ... |

SHEET

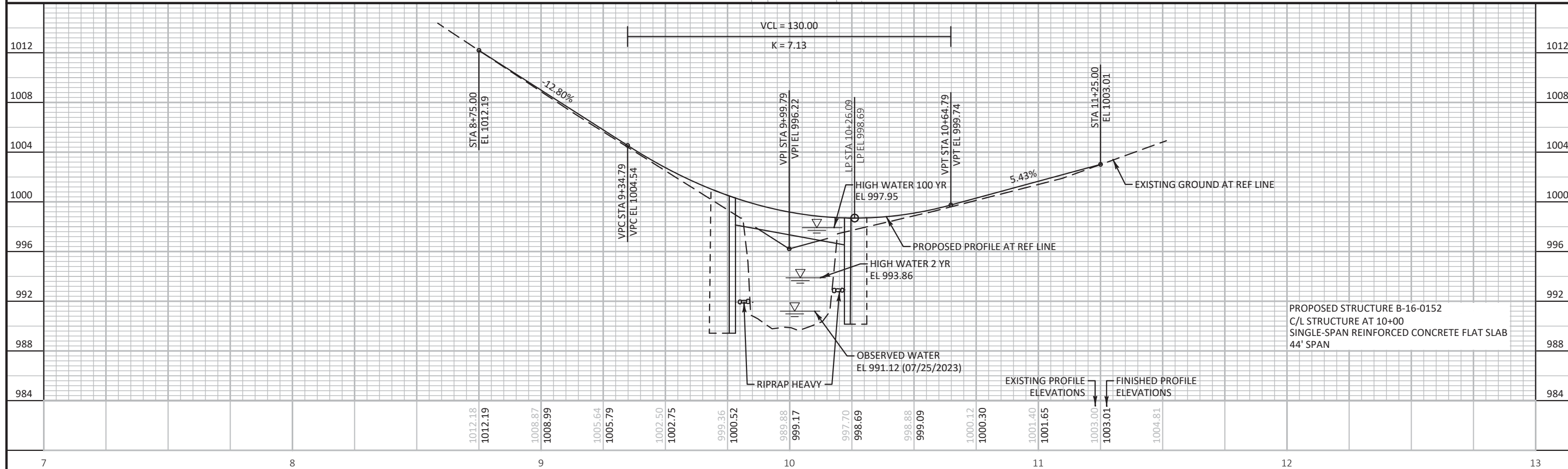
E

| BENCHMARK TABLE | | | |
|-----------------|----------------------|---------------|----------|
| NO. | STATION / OFFSET | DESCRIPTION | ELEV. |
| BM3 | 8+11.52 / 21.27' LT | SPK IN PINE | 1023.14' |
| BM2 | 10+57.38 / 22.24' LT | SPK IN PINE | 1002.49' |
| BM1 | 11+31.70 / 21.05' RT | SPK IN POPLLE | 1004.83' |

BENEDICT ESTEP
ID: BR0060039600



| SURVEY CONTROL POINTS | | | | | |
|-----------------------|----------|-----------|------------|------------|-----------|
| POINT ID | STATION | OFFSET | NORTHING | EASTING | ELEVATION |
| CP3 | 8+04.31 | 11.45' RT | 234396.243 | 269562.569 | 1020.25 |
| CP2 | 10+34.64 | 18.91' LT | 234614.974 | 269634.489 | 998.17 |
| CP1 | 12+13.05 | 14.85' RT | 234769.443 | 269730.316 | 1009.67 |



PROPOSED STRUCTURE B-16-0152
C/L STRUCTURE AT 10+00
SINGLE-SPAN REINFORCED CONCRETE FLAT SLAB
44' SPAN

| | |
|-------------|------------|
| PROJECT NO: | 8383-00-70 |
|-------------|------------|

HWY: LOC STR

COUNTY: DOUGLAS

PLAN AND PROFILE

SHEET

I

FILE NAME : X:\AE\B\BRULT\173697\5-final-dsgn\51-drawings\40-TransHwy\C3D-AfterHoursRd\sheets\SEC 05 Plan & Profile\050101_pp (Plan & Profile).dwg

PLOT DATE : 7/15/2024 8:22 AM

PLOT BY : SEH

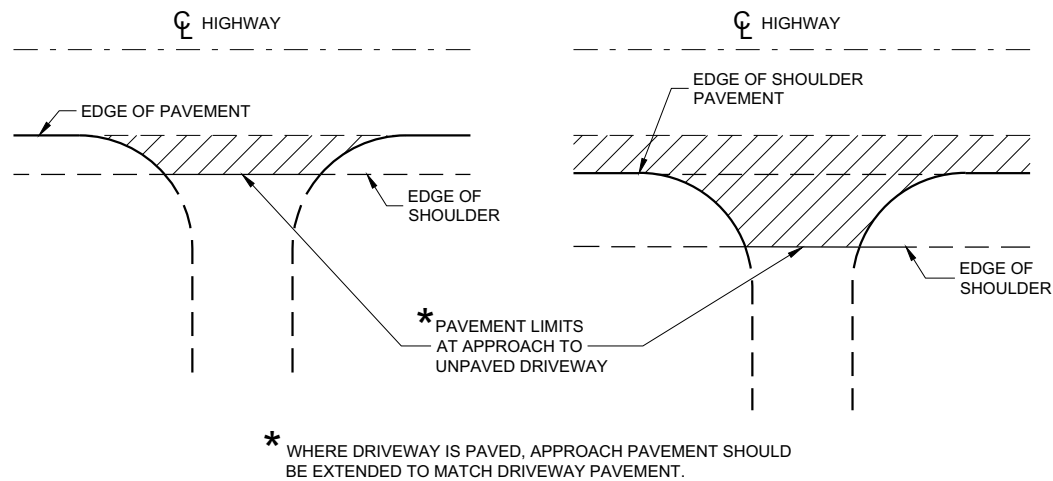
LAYOUT NAME : 01

PLOT SCALE : 1.0 IN = 40.0 FT

WISDOT/CADDS SHEET 44

Standard Detail Drawing List

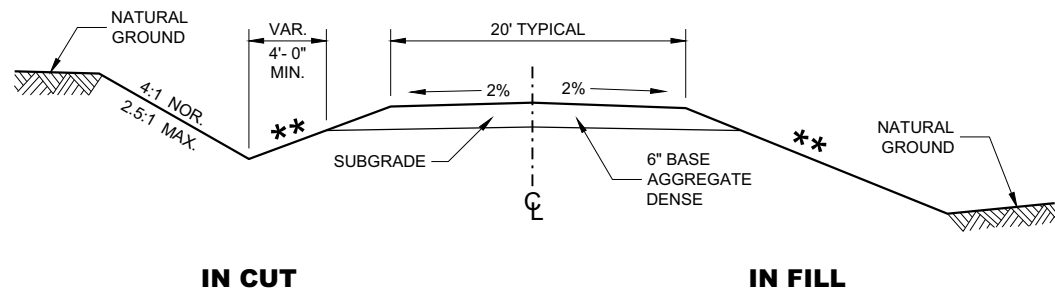
| | |
|-----------|---|
| 08D21-01 | DRIVEWAYS WITHOUT CURB & GUTTER |
| 08E09-06 | SILT FENCE |
| 08E11-02 | TURBIDITY BARRIER |
| 12A03-10 | NAME PLATE (STRUCTURES) |
| 13C19-03 | HMA LONGITUDINAL JOINTS |
| 15C02-09A | BARRICADES AND SIGNS FOR MAINLINE CLOSURES |
| 15C02-09B | BARRICADES AND SIGNS FOR VARIOUS CLOSURES |
| 15C03-05 | BARRICADES AND SIGNS FOR SIDEROAD CLOSURES |
| 15C06-12 | SIGNING & MARKING FOR TWO LANE BRIDGES |
| 15C11-10A | CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST |
| 15C11-10B | CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS |



PLAN VIEW
(UNPAVED SHOULDER ON HIGHWAY)

PLAN VIEW
(PAVED SHOULDER ON HIGHWAY)

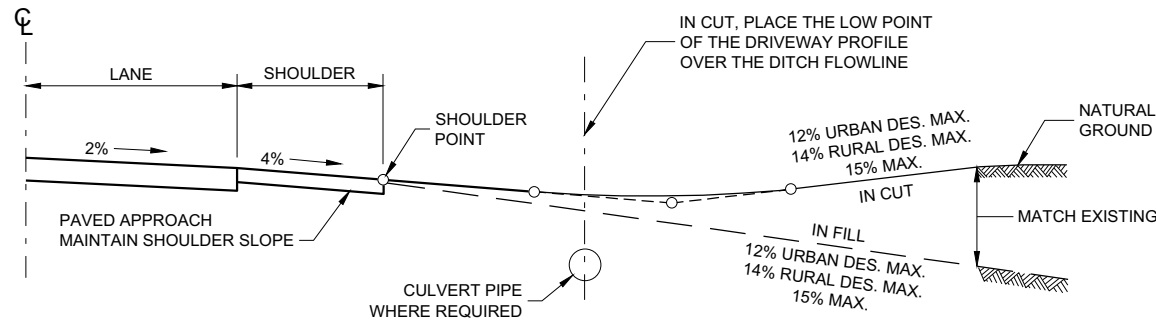
**RURAL DRIVEWAY INTERSECTION DETAIL
(NO CURB AND GUTTER OR SIDEWALK)**



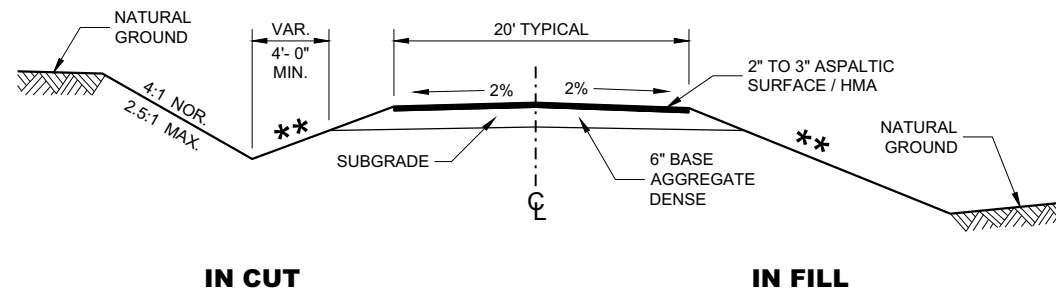
**TYPICAL CROSS SECTION FOR
PRIVATE DRIVE OR FIELD ENTRANCE
AGGREGATE SURFACE**

****** SLOPE CAN VARY WITH
SPEED. SEE 11-45-30.6.2

| POSTED SPEED MPH | MAX. SLOPE |
|------------------------|---------------|
| <35 | 4:1 |
| ≥ 35 TO < 60 | 6:1 |
| ≥60 | 10:1 |



TYPICAL DRIVEWAY PROFILES



**TYPICAL CROSS SECTION FOR
PRIVATE DRIVE OR FIELD ENTRANCE
ASPHALTIC SURFACE**

**DRIVEWAYS WITHOUT
CURB AND GUTTER**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

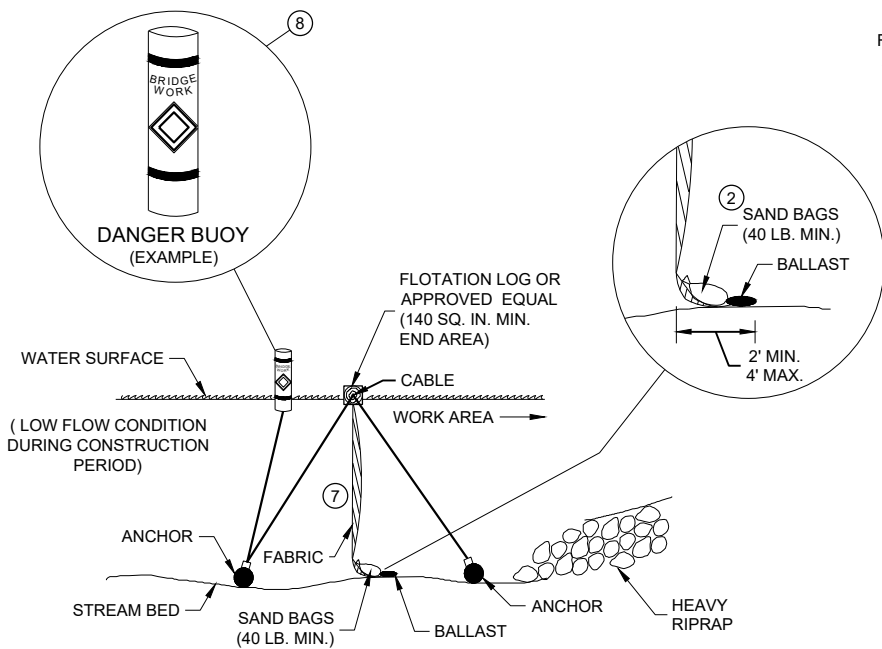
APPROVED
December 2017
DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR
FHWA



- 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 1½" X 1½" 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.

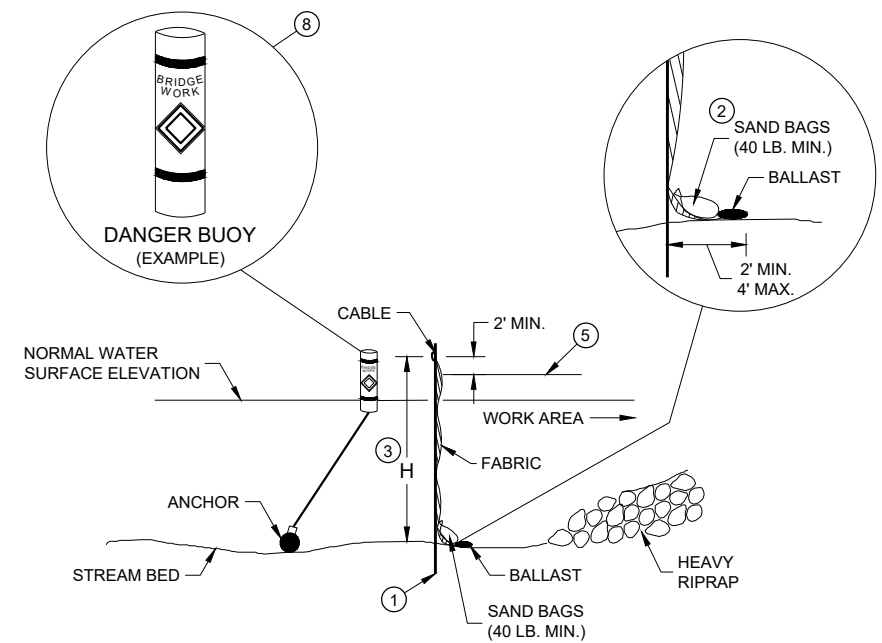


| | |
|--|---|
| <div>SILT FENCE</div> | |
| <div>STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION</div> | |
| <div>APPROVED</div> | |
| <div>4-29-05</div> | <div>/S/ Beth Cannestra</div> |
| <div>DATE</div> | <div>CHIEF ROADWAY DEVELOPMENT ENGINEER</div> |
| <div>FHWA</div> | |



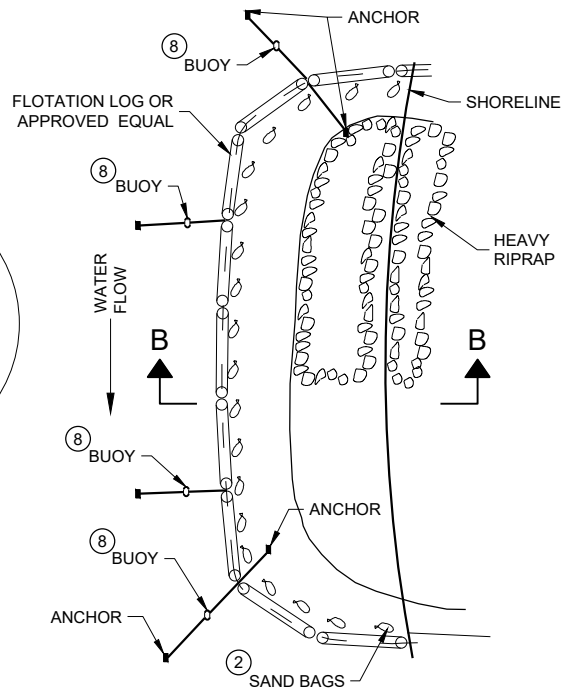
SECTION B - B

TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6

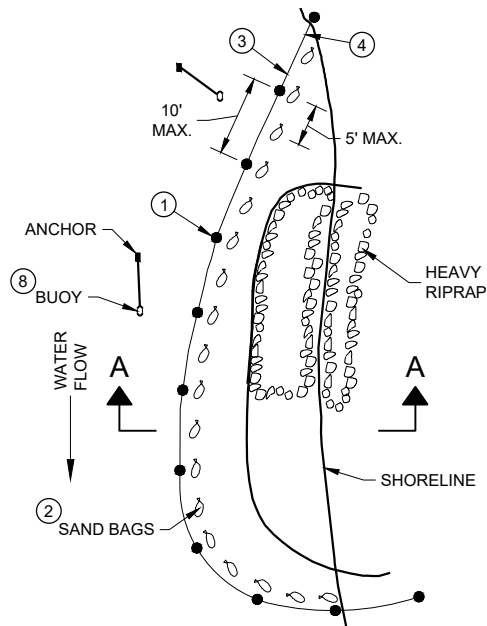


SECTION A - A

TURBIDITY BARRIER - STANDARD POST INSTALLATION



PLAN VIEW



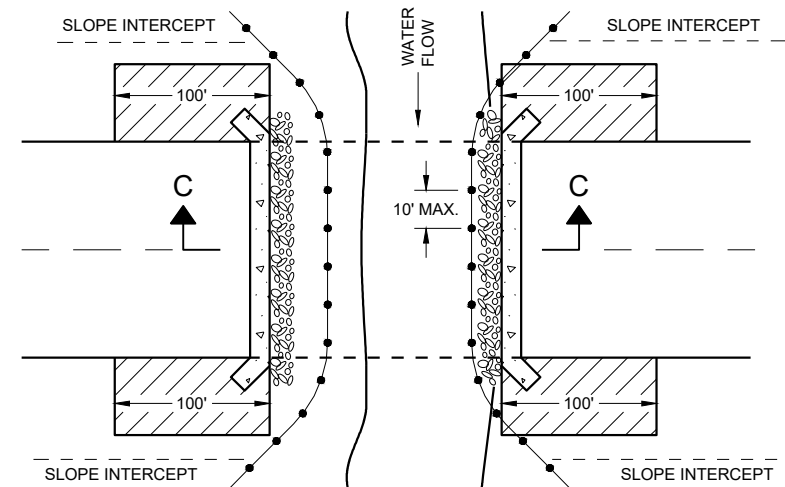
PLAN VIEW

GENERAL NOTES

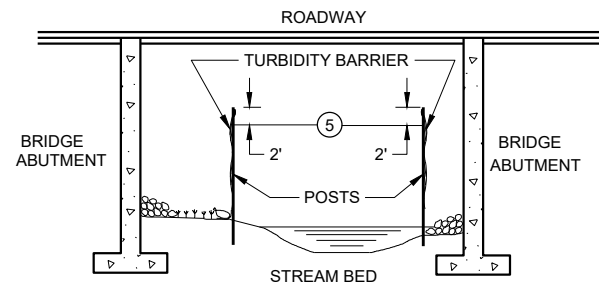
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TURBIDITY BARRIER MAY BE REMOVED AT THE ENGINEERS DISCRETION, WHEN PERMANENT EROSION CONTROL MEASURES HAVE BEEN ESTABLISHED.

1. DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
2. SAND BAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.
3. WHEN BARRIER HEIGHT "H" EXCEEDS 8 FEET, POST SPACING MAY NEED TO BE DECREASED.
4. IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.
5. ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE Q2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.
6. FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.
7. ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
8. USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



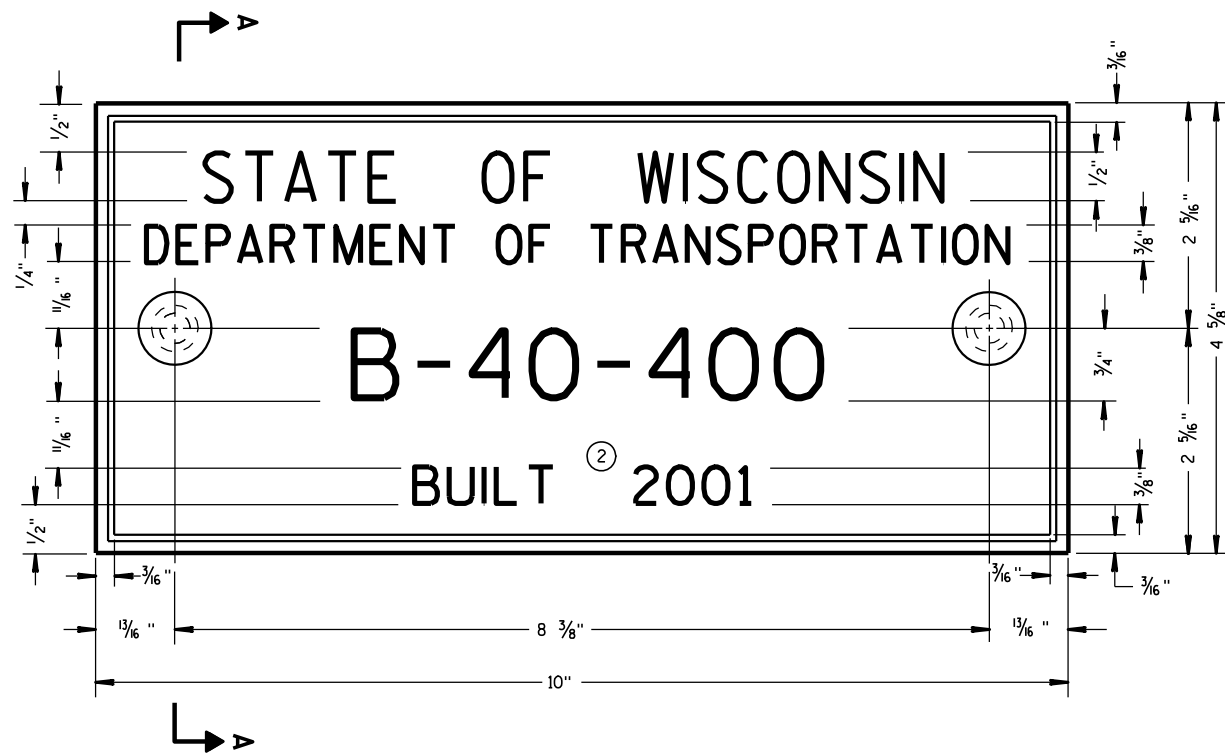
SECTION C - C

TURBIDITY BARRIER DETAIL SHOWING
TYPICAL PLACEMENT AT STRUCTURES

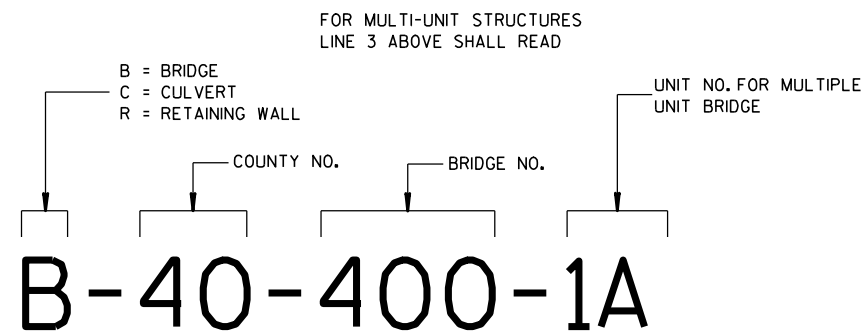
TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)



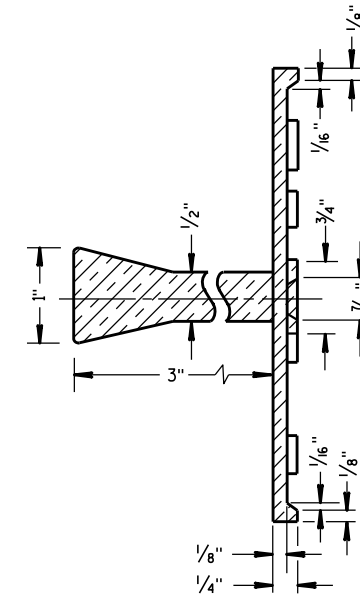
**NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES**

GENERAL NOTES

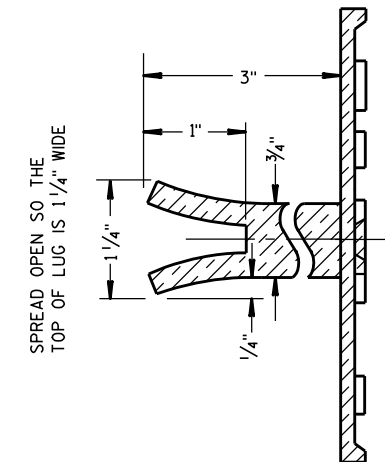
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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.



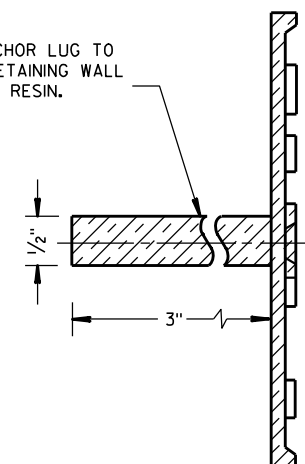
SECTION A-A



SPREAD OPEN SO THE
TOP OF LUG IS 1 1/4" WIDE

ALTERNATE LUG

- ① ADHERE ANCHOR LUG TO PRECAST RETAINING WALL WITH EPOXY RESIN.



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE
(STRUCTURES)**

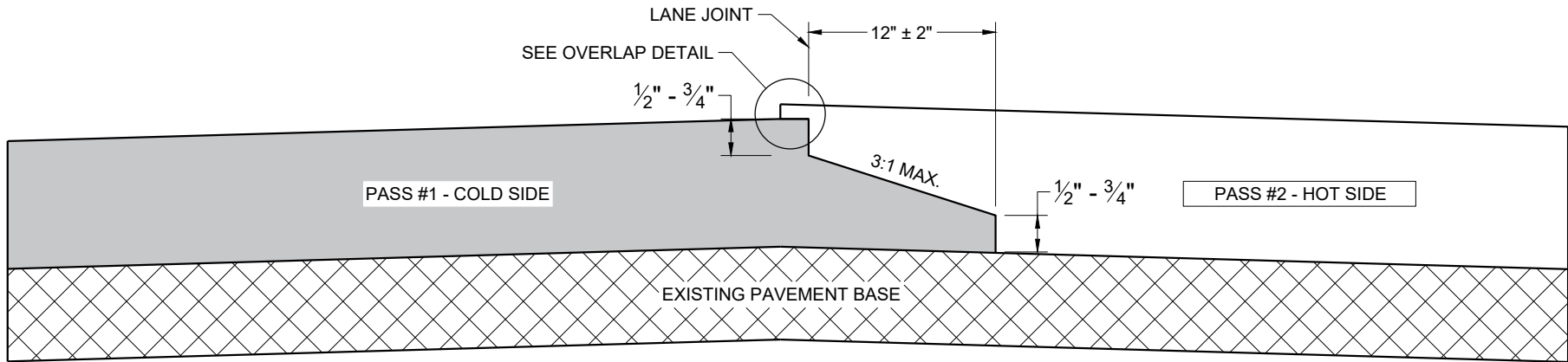
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

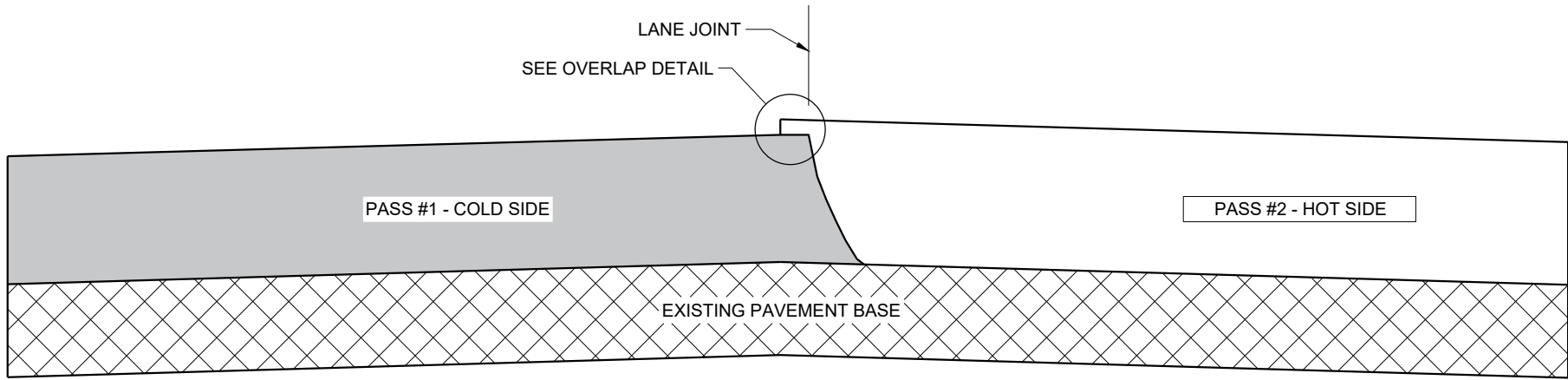
3/26/10
DATE

FHWA

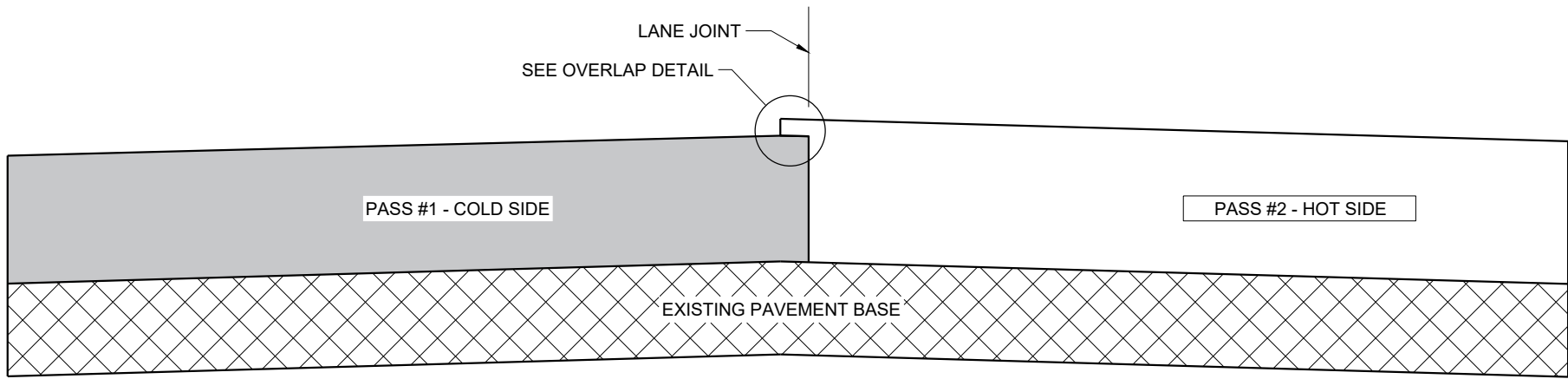
/S/ Scot Becker
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

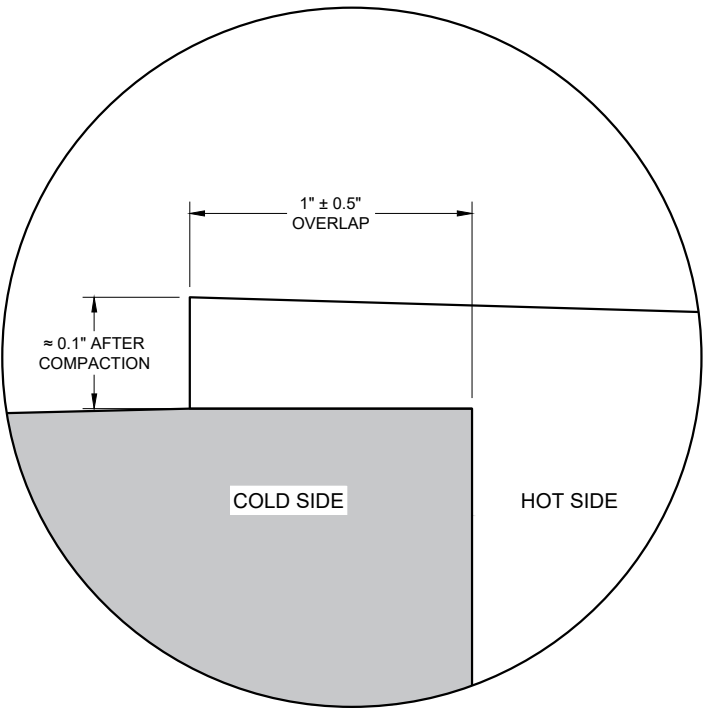
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY $1" \pm 0.5"$ AND THE HOT SIDE OF THE JOINT REMAINS HIGHER THAN THE COLD SIDE BY APPROXIMATELY $0.1"$ AFTER FINAL COMPACTION. (IT WILL BE FLUSH WHEN PAVING IN ECHELON.)

ONLY REMOVE THE LONGITUDINAL NOTCHED WEDGE JOINT FOR SMA PAVEMENT OR AS DIRECTED BY THE ENGINEER TO ADDRESS SPECIFIC LENGTHS OF JOINT DAMAGED BY TRAFFIC.

WHEN MILLING BACK OR REMOVING ANY LONGITUDINAL JOINT, LIMIT THE MATERIAL REMOVED TO $2"$ FROM THE TOP NOTCH OR FROM THE VERTICAL JOINT EDGE ON THE COLD SIDE OF THE JOINT.

USE LONGITUDINAL MILLED JOINT AS PLANS SHOW OR THE AS THE ENGINEER DIRECTS.

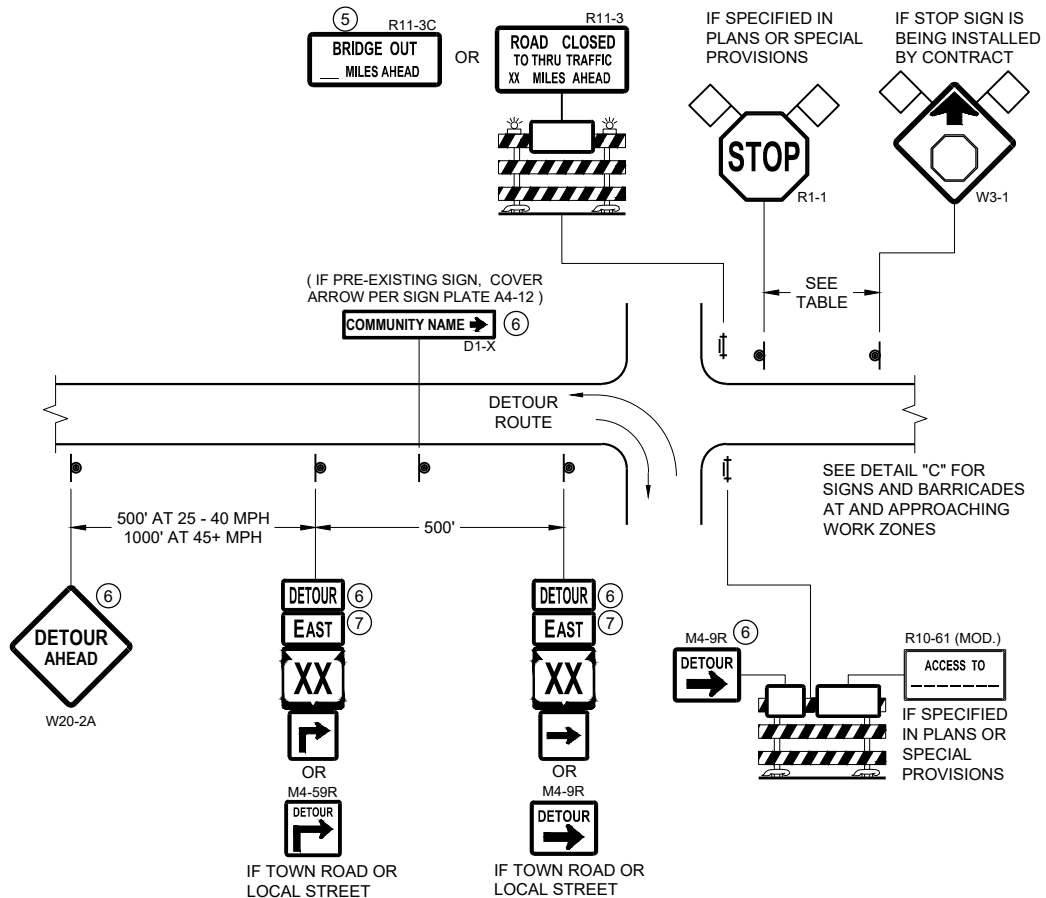


OVERLAP DETAIL (TYPICAL)

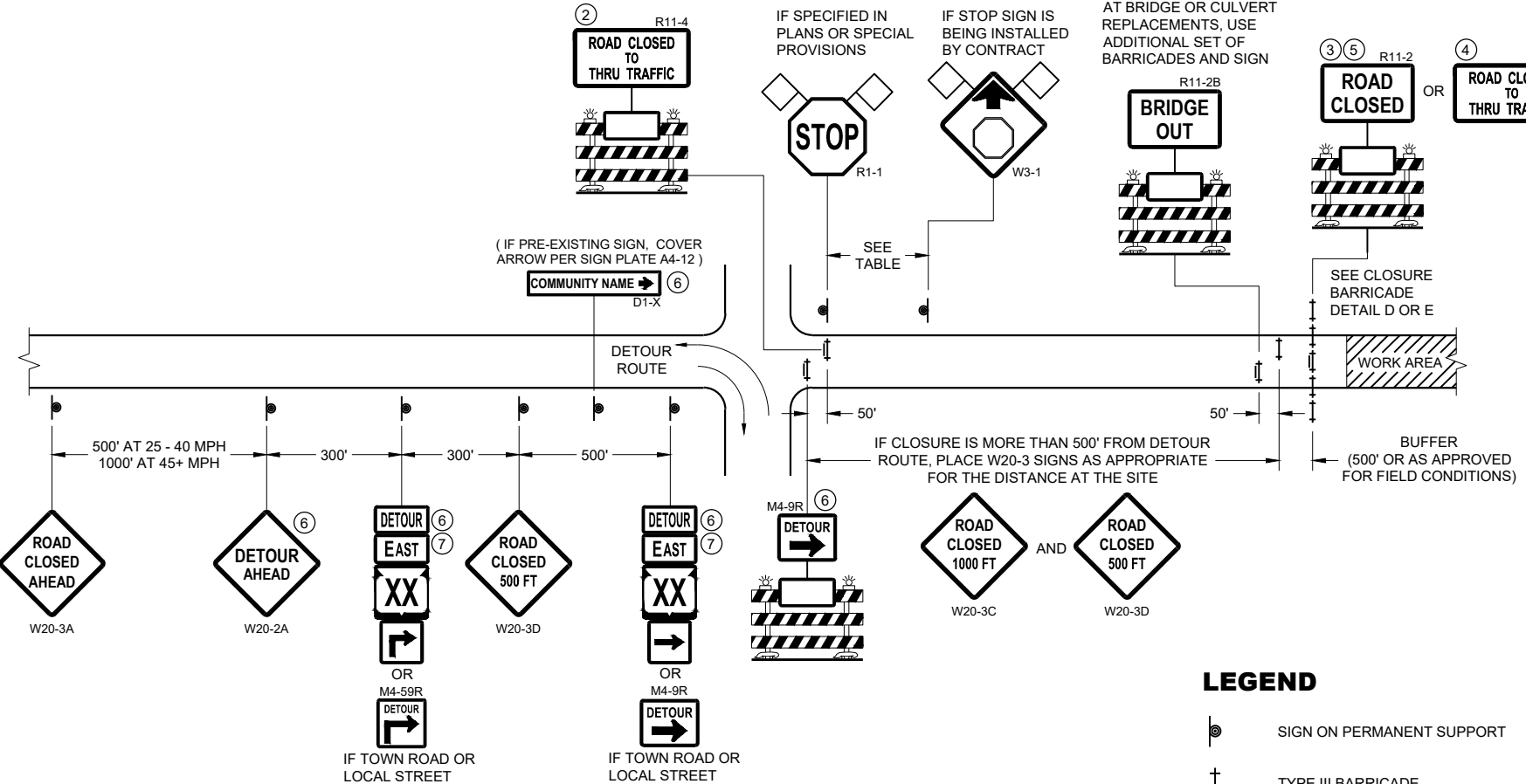
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

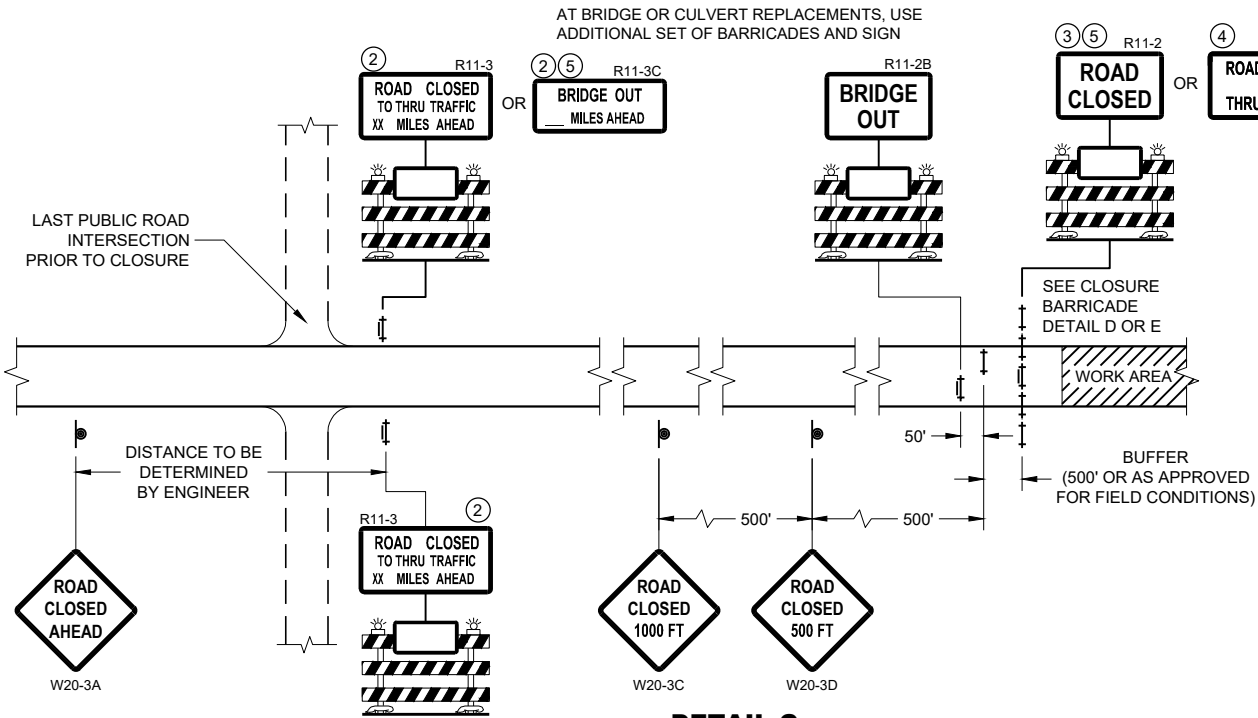
APPROVED
November 2020 /S/ Steven Hefel
DATE HMA PAVEMENT ENGINEER
FHWA



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 M1 - 5A
- OR M05 - 1 OR M06 - 1

**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA



SEE SDD 15C2 - SHEET "a" FOR LEGEND

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:

LESS 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.

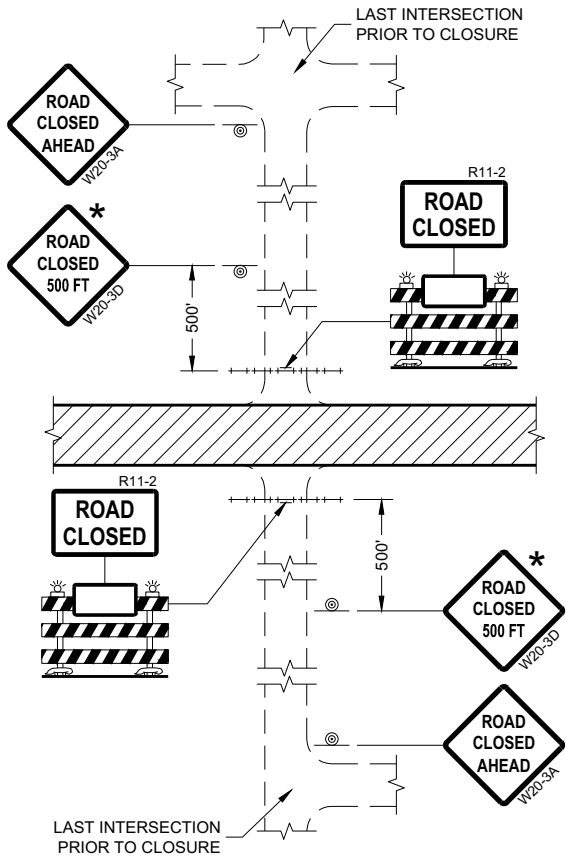
R1 - 1 SHALL BE 36" X 36"

- 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.

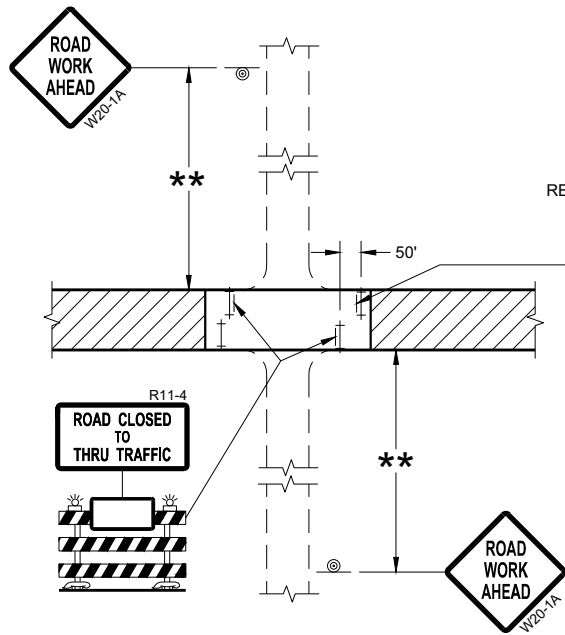
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

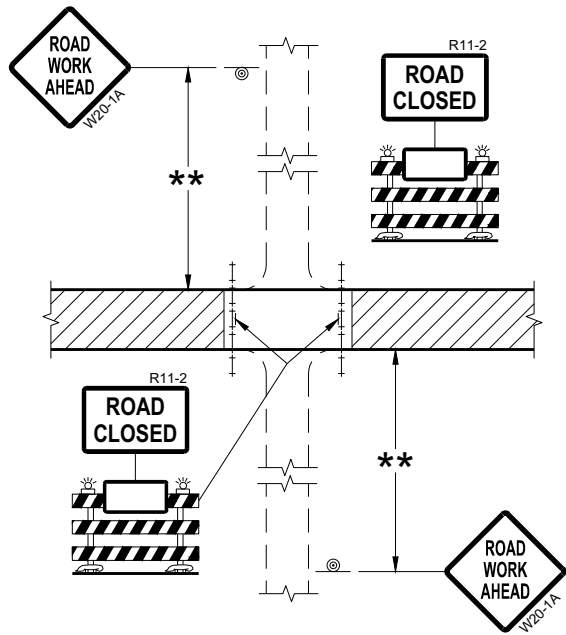
/S/ Andrew Heidtknecht
WORK ZONE ENGINEER



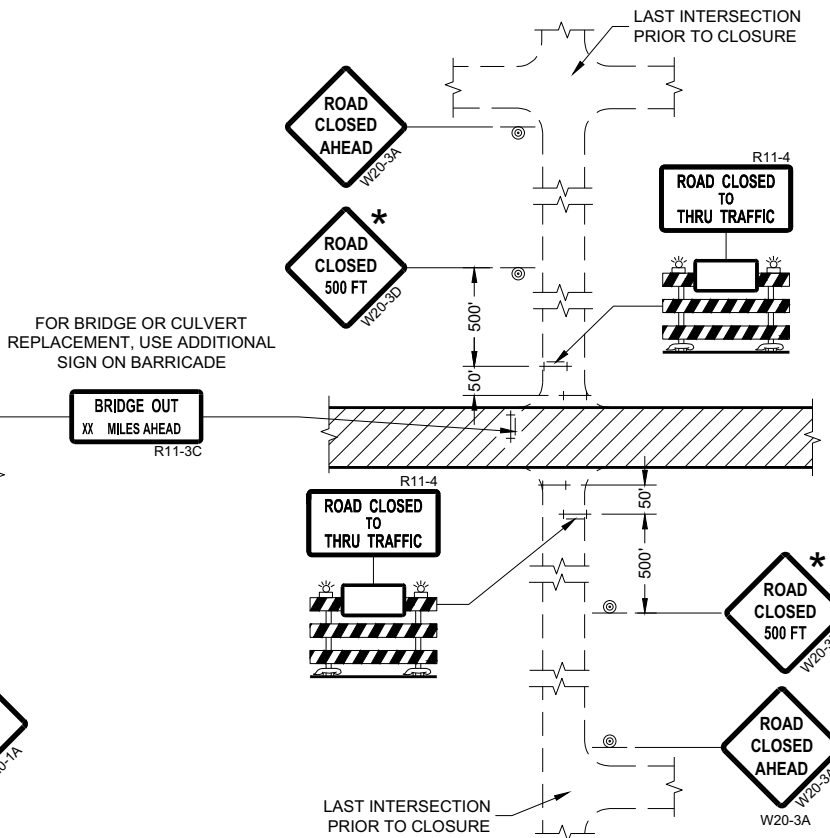
DETAIL 1
(NO ACCESS TO PROJECT)



DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED.
CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)



DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT)



DETAIL 4
(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)

GENERAL NOTES

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

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE (500 FEET DESIRABLE) TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS REESTABLISHED.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL "D" FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3, AND R11-4 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

- * OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FEET OR LESS FROM THE WORK ZONE.
- ** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.

LEGEND

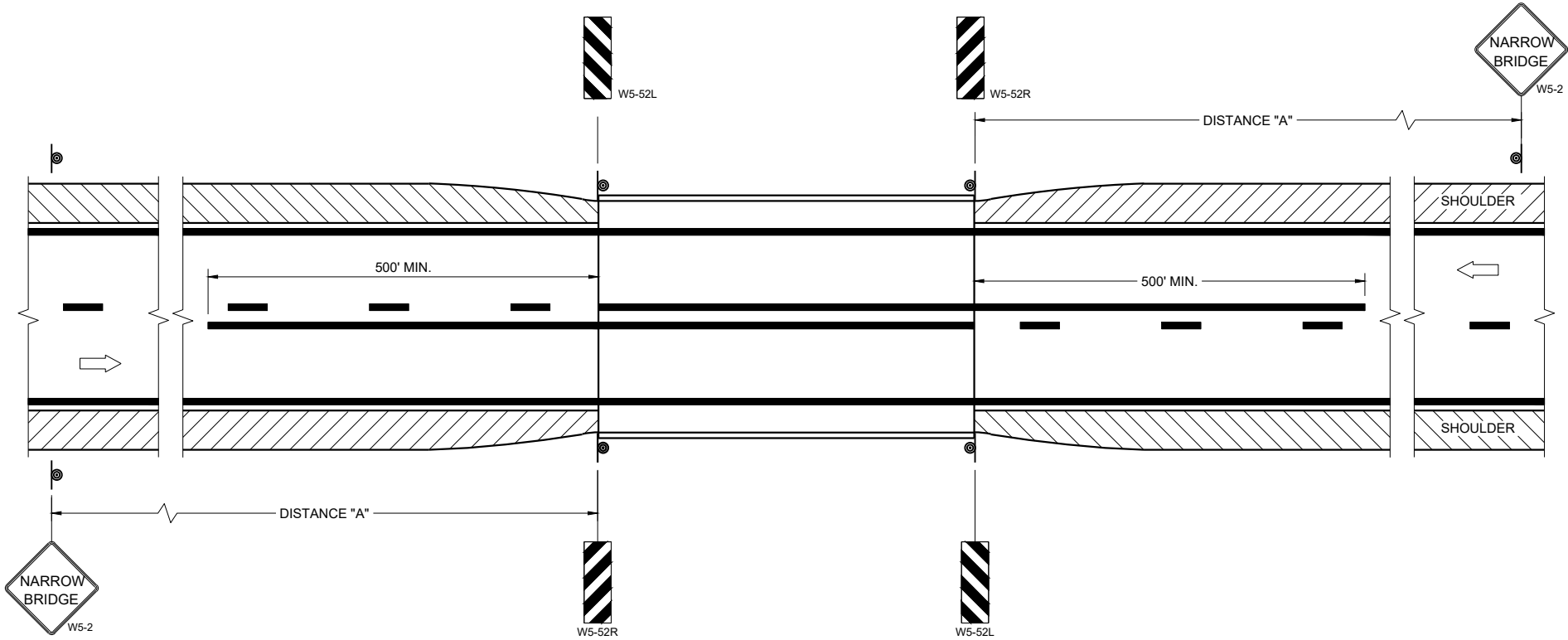
- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

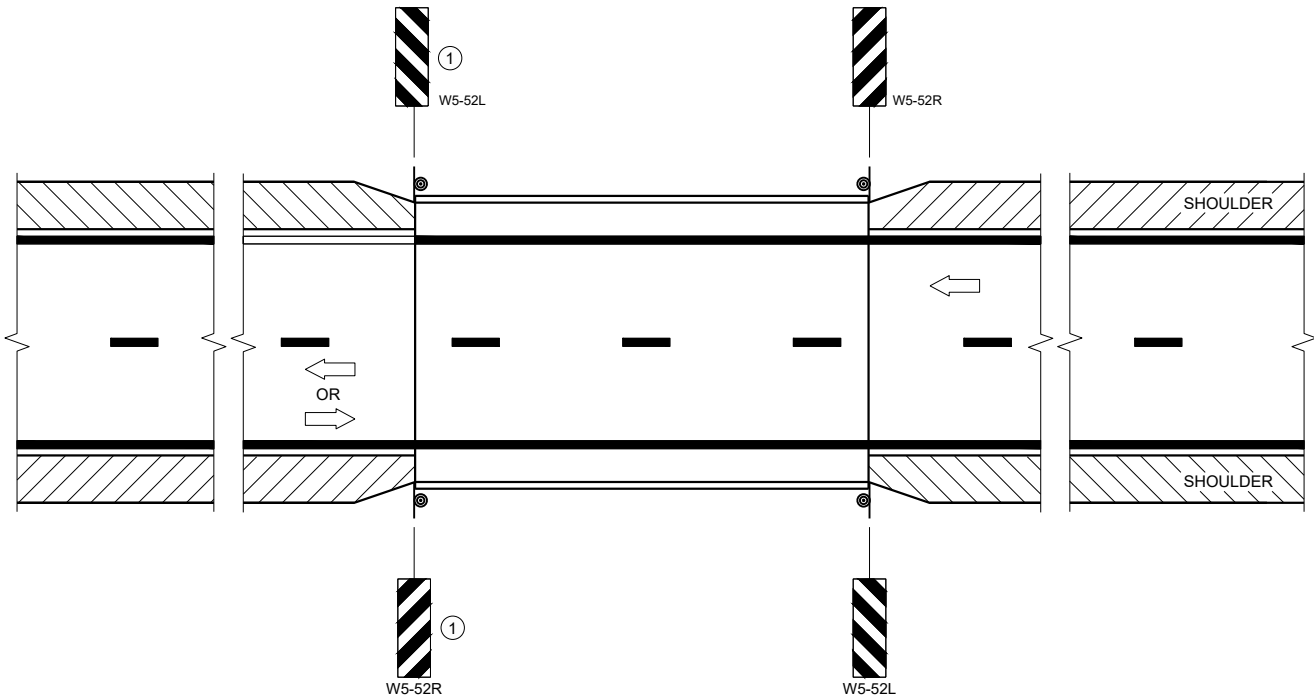
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA



SITUATION 1
WARRANTING CRITERIA:
BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.



SITUATION 2
WARRANTING CRITERIA:
1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE SHOULDER WIDTH IS LESS THAN 6 FEET

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THE 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.

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

① OMIT ON ONE-WAY TRAVELED WAYS.

LEGEND

⊙ SIGN ON PERMANENT SUPPORT

➡ DIRECTION OF TRAFFIC

DISTANCE TABLE

| POSTED OR 85TH PERCENTILE SPEED | DISTANCE "A" |
|---------------------------------|--------------|
| 25 | 150' |
| 30 | 200' |
| 35 | 250' |
| 40 | 300' |
| 45 | 400' |
| 50 | 550' |
| 55 | 700' |

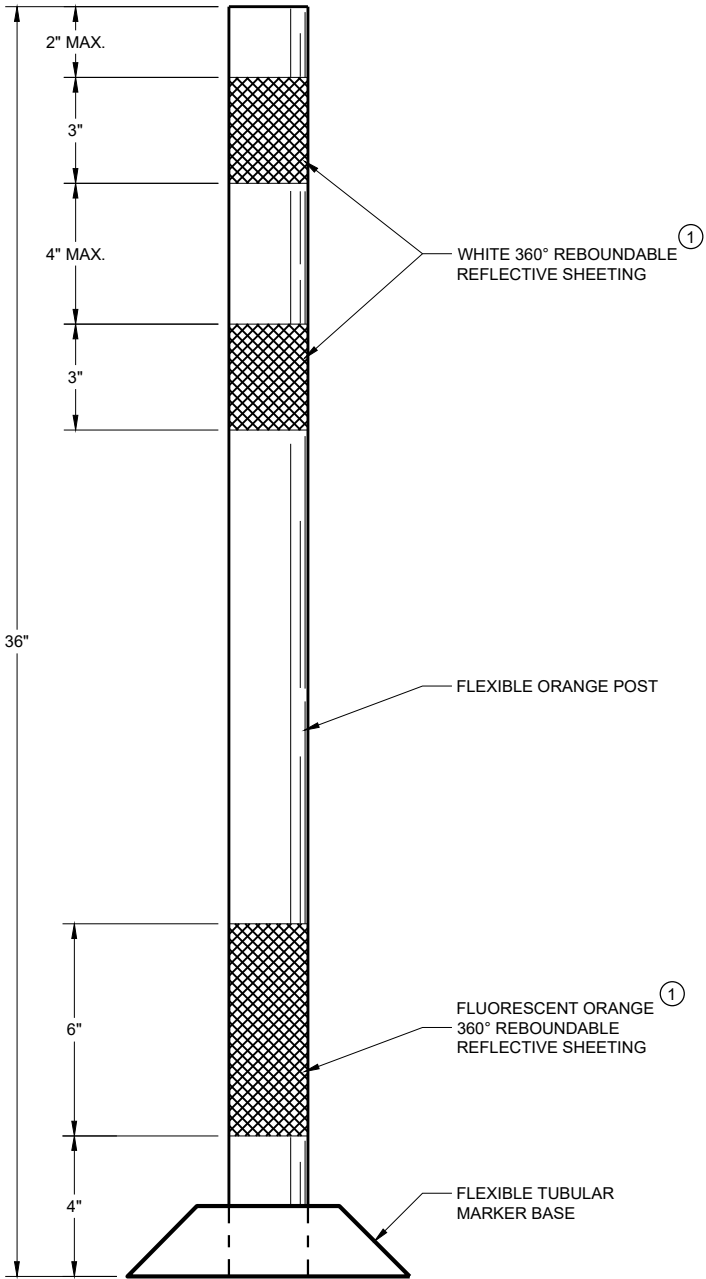
**SIGNING AND MARKING
FOR TWO LANE BRIDGES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE

/S/ Jeannie Silver
Statewide Pavement Marking Engineer

FHWA



FLEXIBLE TUBULAR
MARKER POST
WORK ZONE

GENERAL NOTES

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS, UNLESS DIRECTED BY THE ENGINEER TO USE BOLTS.

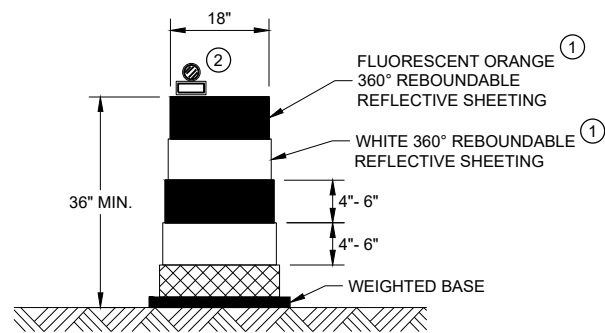
① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

CHANNELIZING DEVICES
FLEXIBLE TUBULAR
MARKER POST

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

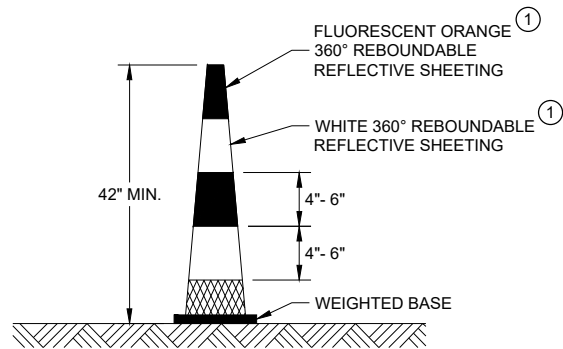
APPROVED
November 2022 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA



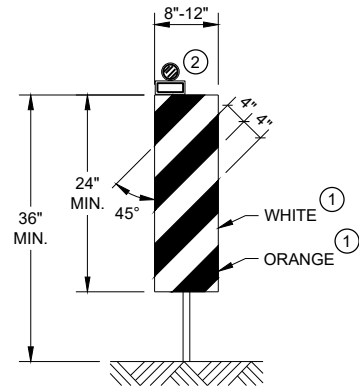
DRUM

BALLAST WIDTHS
RANGE FROM 24"-36"



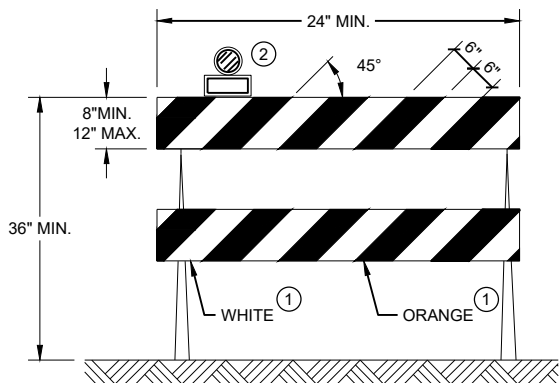
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS
BALLAST WIDTHS
RANGE FROM 14"-20"



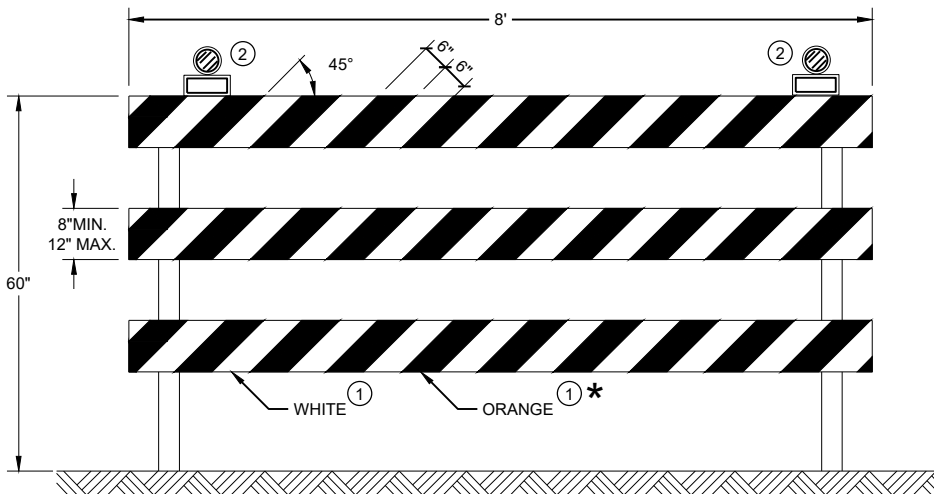
VERTICAL PANEL

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.

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.

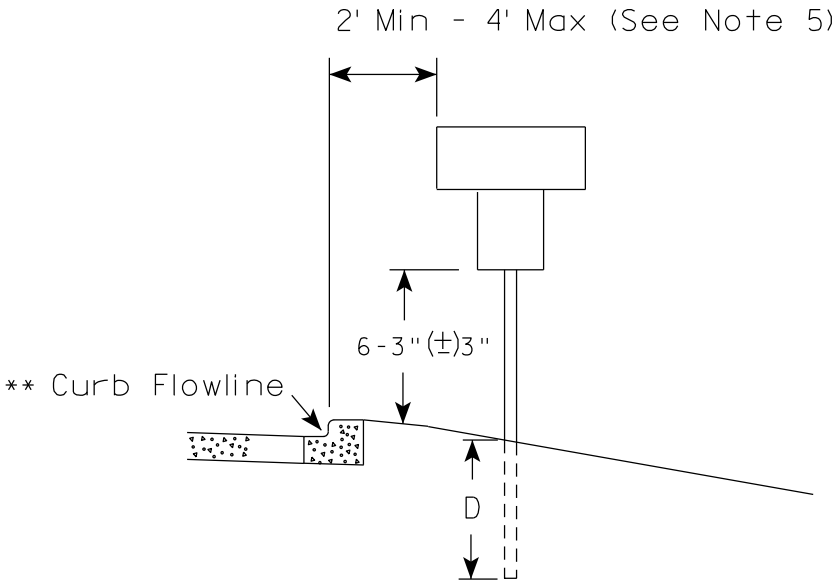
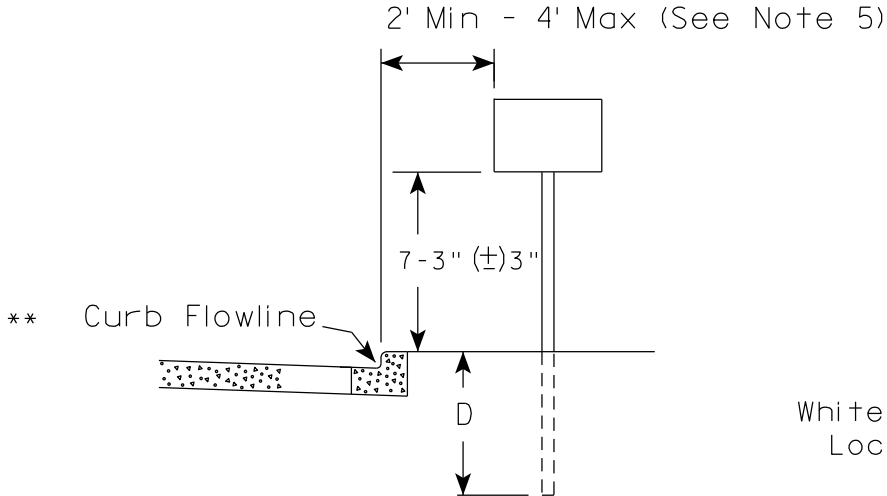
**CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

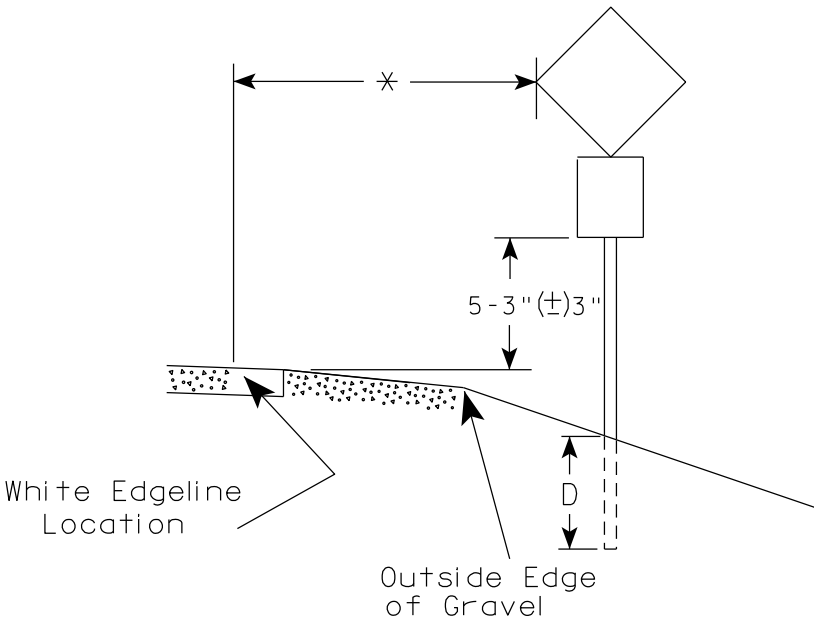
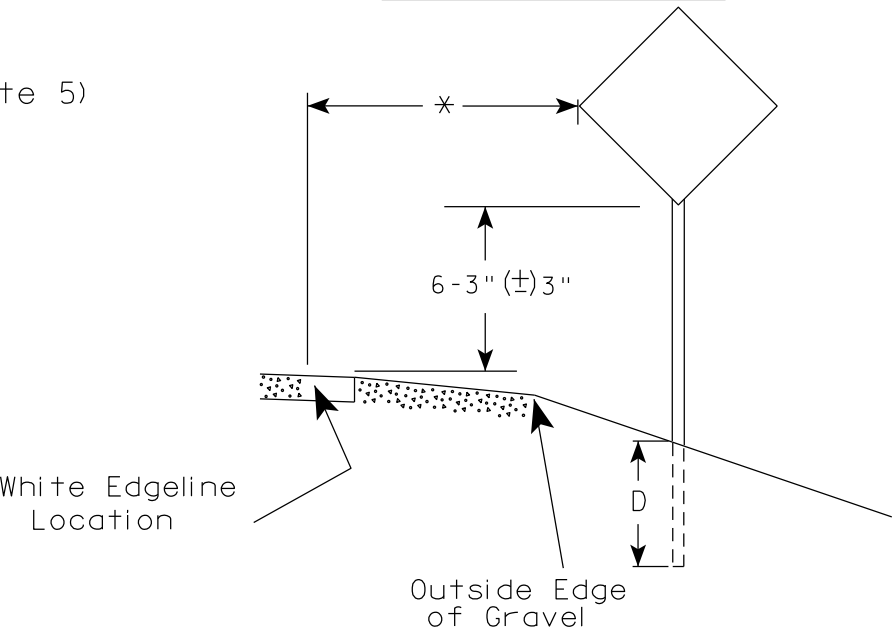
APPROVED
November 2022 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

URBAN AREA



RURAL AREA (See Note 2)



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" (±) 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".
3. For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
4. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
5. Offset distance shall be consistent with existing signs or consistent throughout length of project.
6. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the Engineer.

* * The existence of curb and gutter does not in itself mandate the vertical clearance illustrated. That height is typically measured where there is sidewalk adjacent to the roadway or parking is permitted. In the absence of sidewalk vertical clearance is measured from the top of the curb. Offset of signs is measured from the flow line.

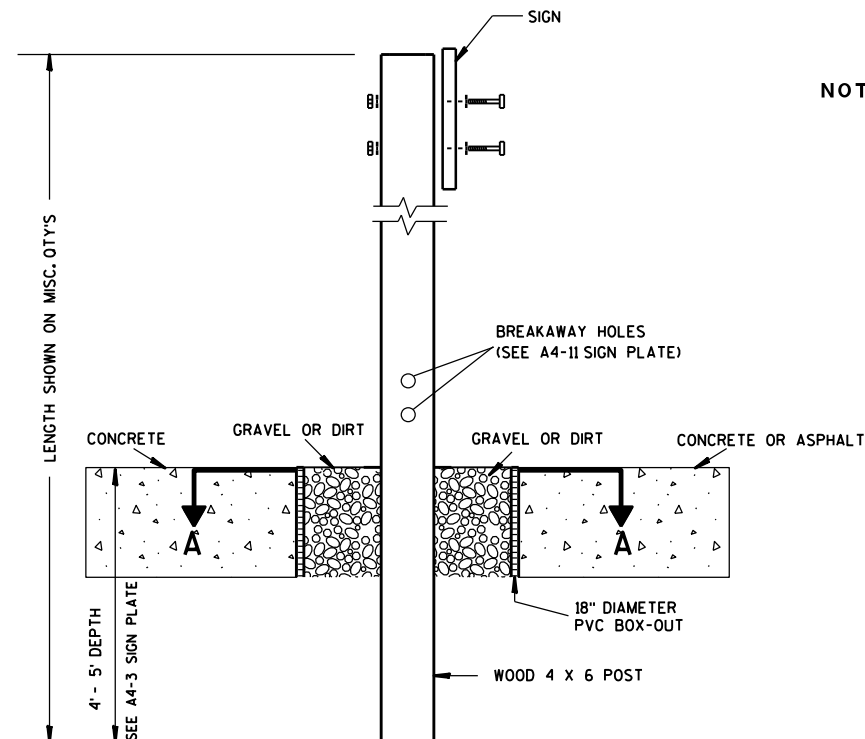
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

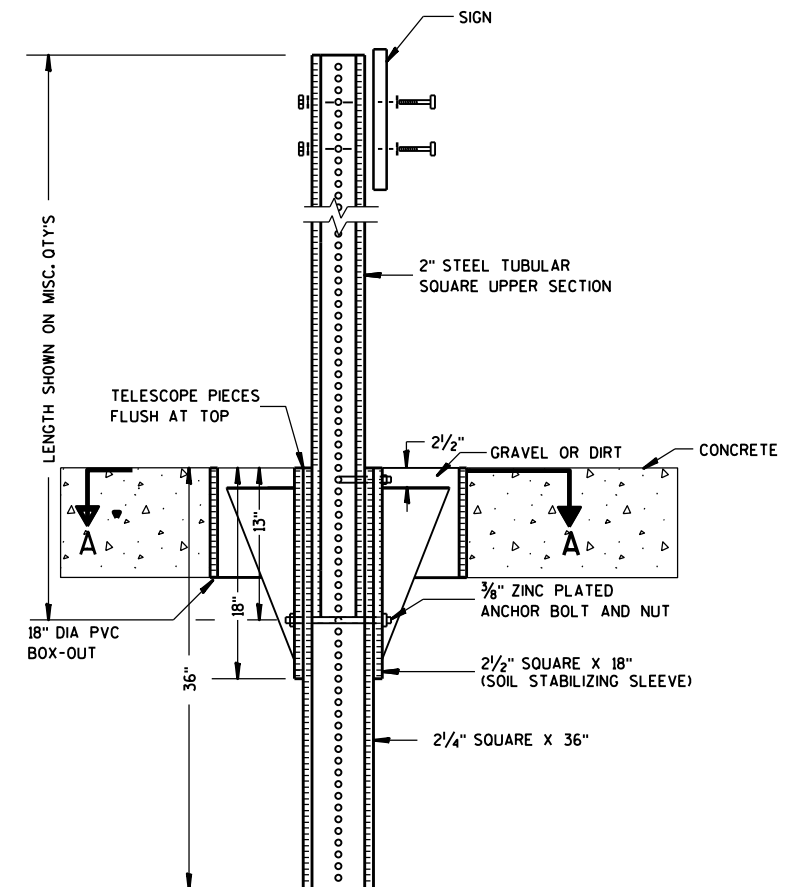
DATE 12/6/23 PLATE NO. A4-3.23



ELEVATION VIEW

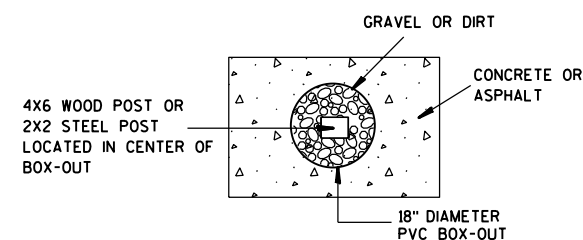
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- NOTES: 1. ALL MATERIAL TO BE APPROVED BY ENGINEER PRIOR TO INSTALLATION
2. SEE SIGN PLATE A4-8 FOR SIGN HARDWARE REQUIREMENTS
3. 18 INCH X 18 INCH SQUARE BOX-OUTS MAY BE USED FOR INSTALLATIONS IN EXISTING CONCRETE OR ASPHALT LOCATIONS.



ELEVATION VIEW

DETAIL OF STEEL 2 X 2 SIGN POST IN BOX-OUT



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST
BOX-OUTS
A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

PROJECT NO:

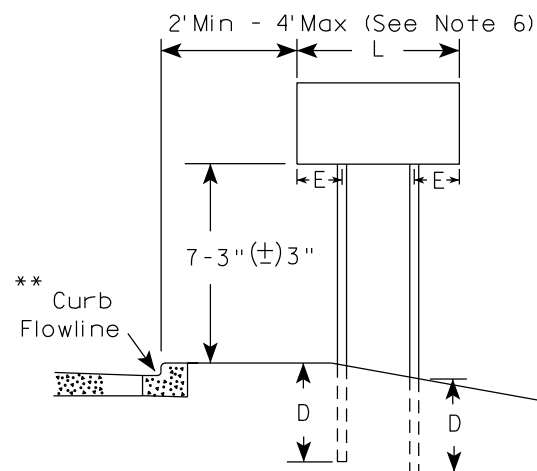
HWY:

COUNTY:

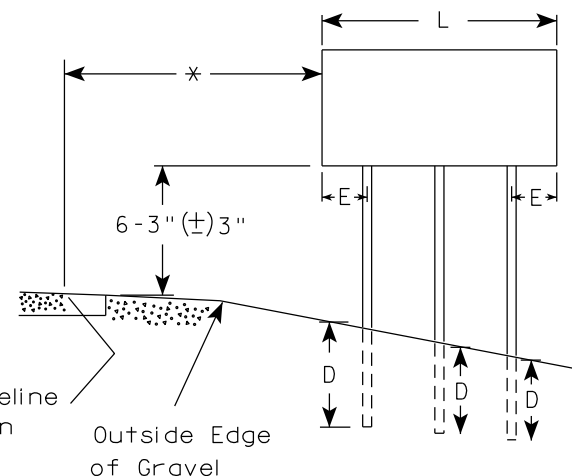
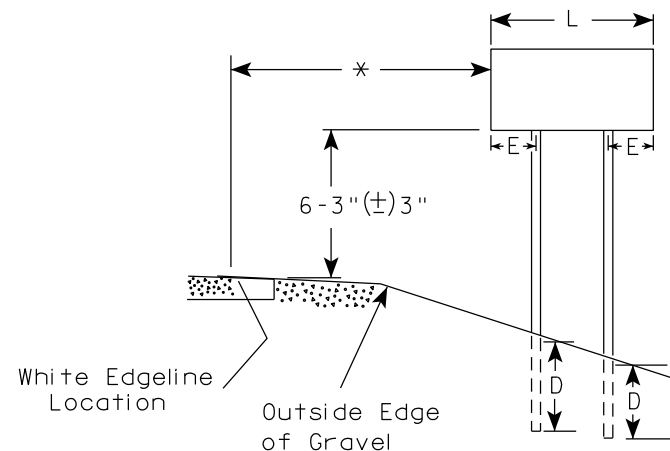
SHEET NO:

E

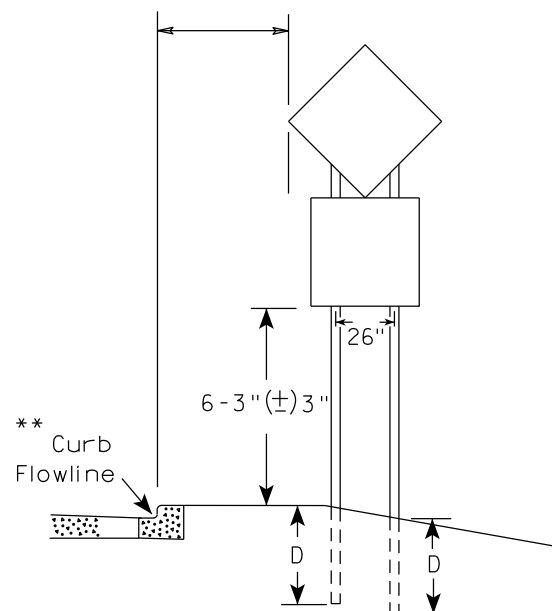
URBAN AREA



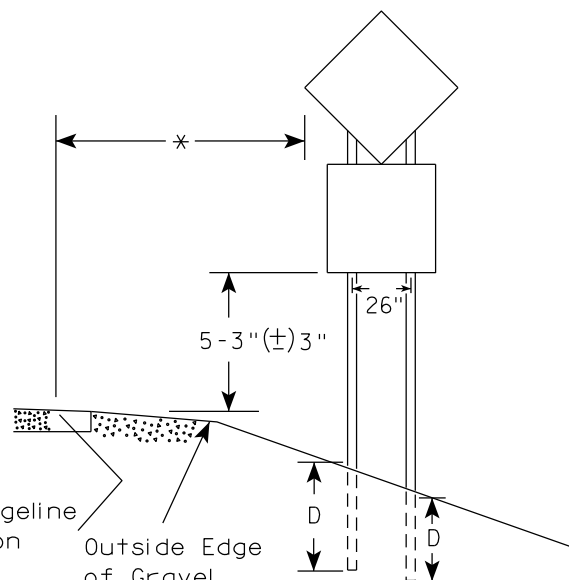
RURAL AREA (See Note 3)



2' Min - 4' Max (See Note 6)



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

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

POST EMBEDMENT DEPTH

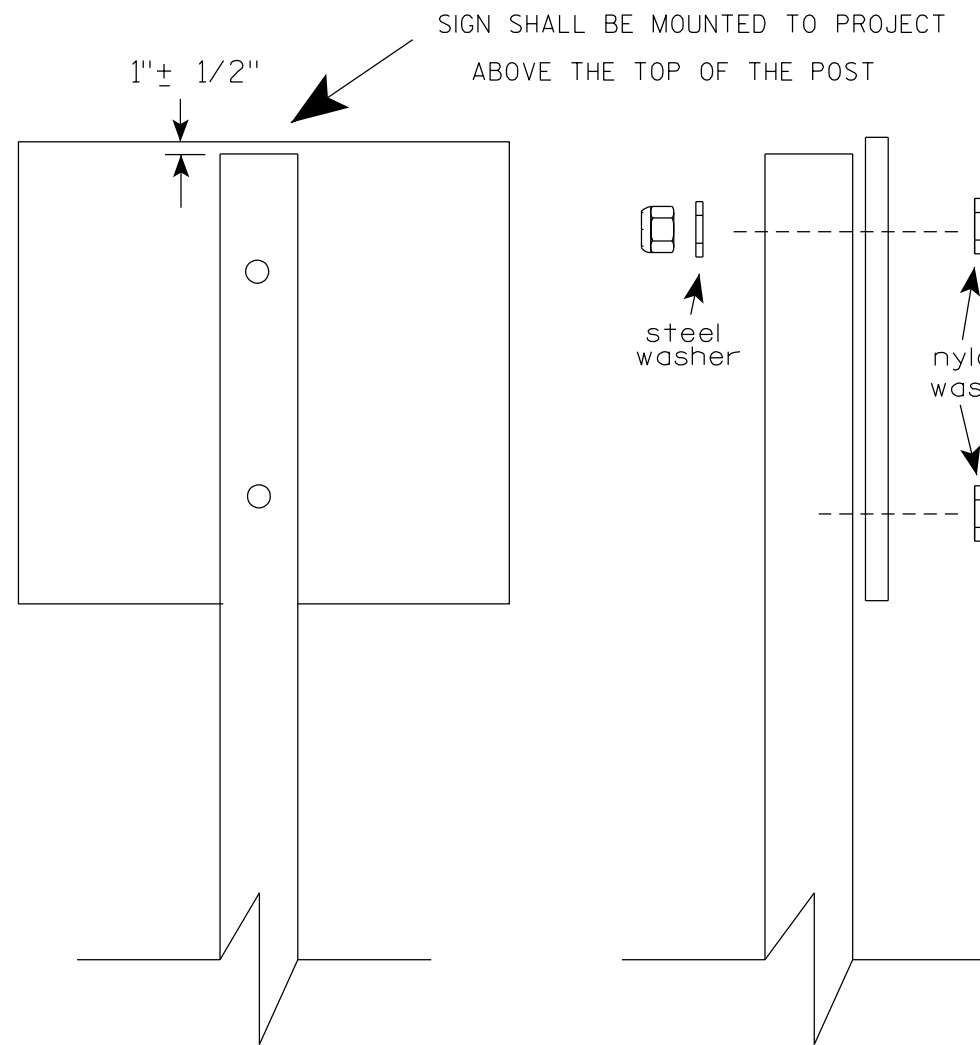
| Area of Sign Installation (Sq.Ft.) | D (Min) |
|--|--------------|
| 20 or Less | 4' |
| Greater than 20 | 5' |

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-4.16



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.

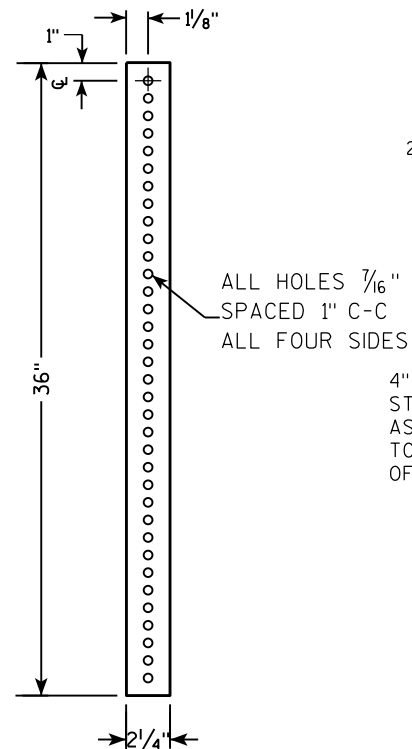
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - $\frac{9}{32}$ " (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 $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
- 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON

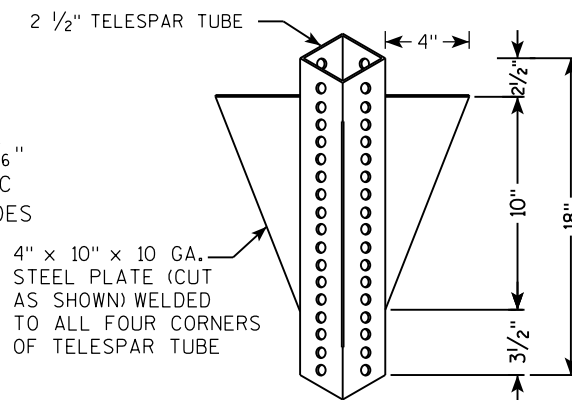
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

| | |
|----------------------------------|---|
| ATTACHMENT OF SIGNS TO POSTS | |
| WISCONSIN DEPT OF TRANSPORTATION | |
| APPROVED | <i>Matthew R. Rauch</i> For State Traffic Engineer |
| DATE 4/1/2020 | PLATE NO. A4-8.9 |

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



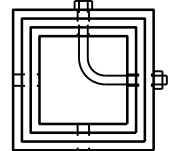
**2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH**



LENGTH SHOWN ON MISC. QTY'S
 18" DIA SCHEDULE 40 PVC BOX-OUT
 TELESCOPE PIECES FLUSH AT TOP
 2" STEEL TUBULAR SQUARE UPPER SECTION
 ALL HOLES $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES
 $\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT
 2" GRAVEL OR DIRT
 $\frac{3}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT
 2" SQUARE X 18" (SOIL STABILIZING SLEEVE)
 2" SQUARE X 36"
 SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL
 SIGN

[illegible]

3/8" ZINC PLATED CORNER
ANCHOR BOLT AND NUT



DIRECTION
OF TRAFFIC

SECTION A-A

| Area of Sign Installation (Sq. Ft.) | Number of Required Posts |
|--|--------------------------|
| 9 or less | 1 |
| Greater than 9 less than or equal to 18 | 2 |
| Greater than 18 less than or equal to 27 | 3 |

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

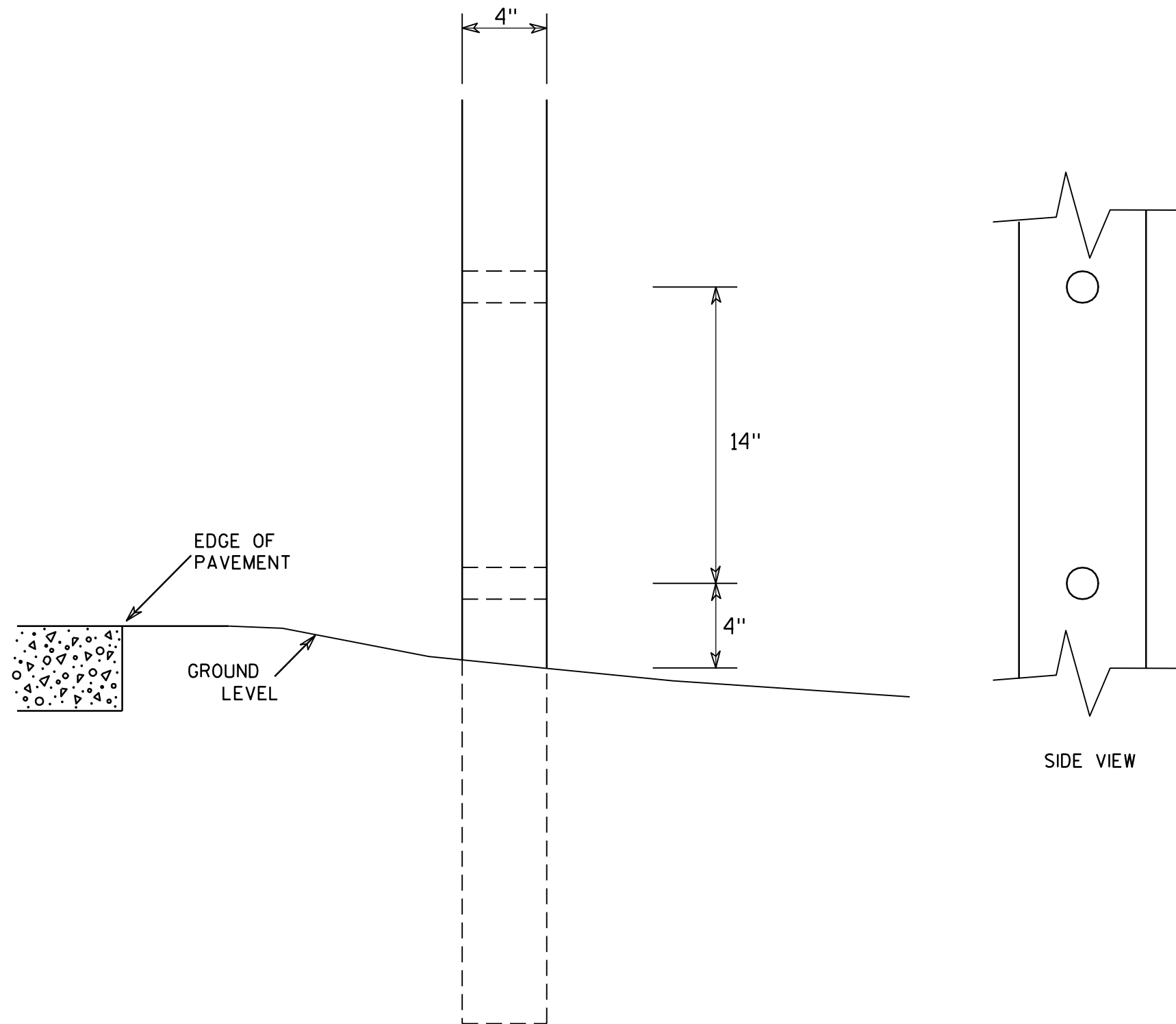
APPROVED Matthieu R. Rauch

for State Traffic Engineer

DATE 2/05/15 PLATE NO. A4-9.9

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

7



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

4 X 6 WOOD POST
MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

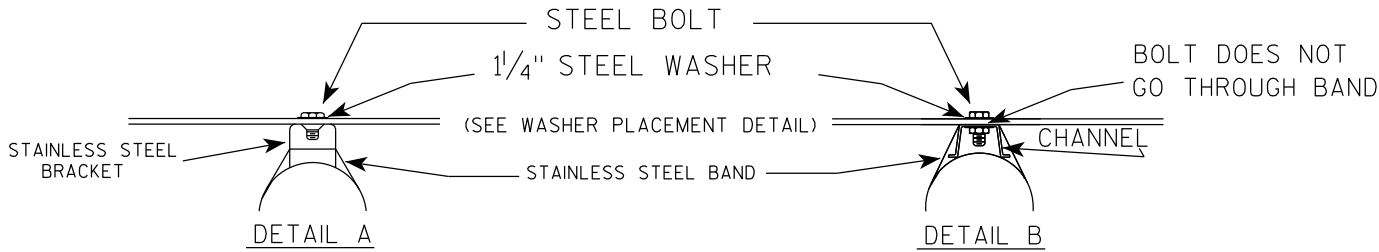
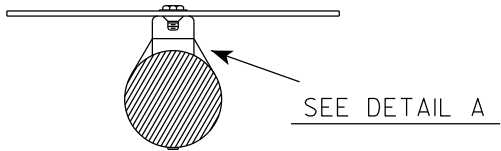
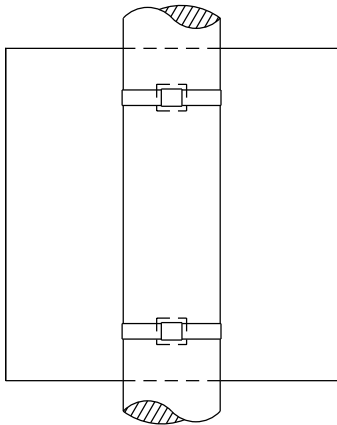
APPROVED *Chester J. Spang*
for State Traffic Engineer

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

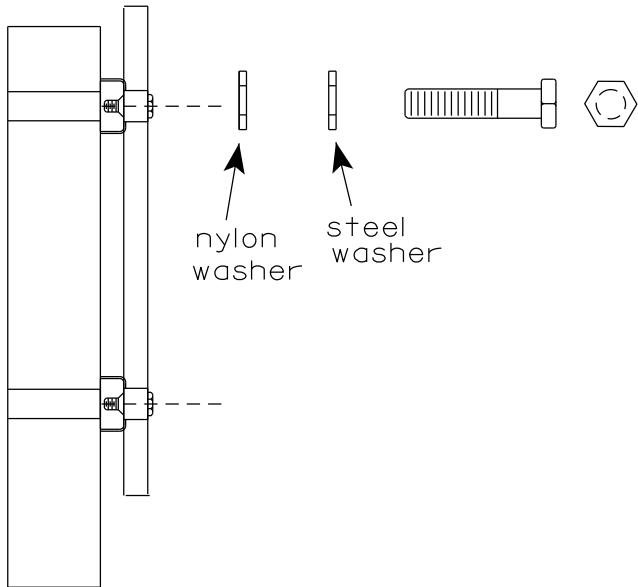
| | | | | |
|-------------|------|---------|-----------|---|
| PROJECT NO: | HWY: | COUNTY: | SHEET NO: | E |
|-------------|------|---------|-----------|---|

BANDING

SINGLE SIGN



WASHER PLACEMENT

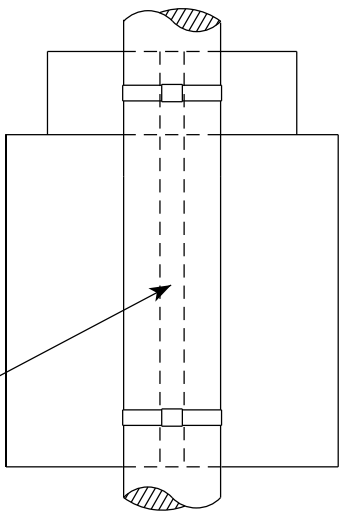


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

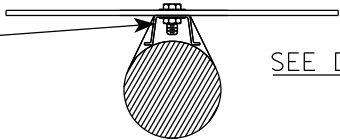
GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 3/4" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET

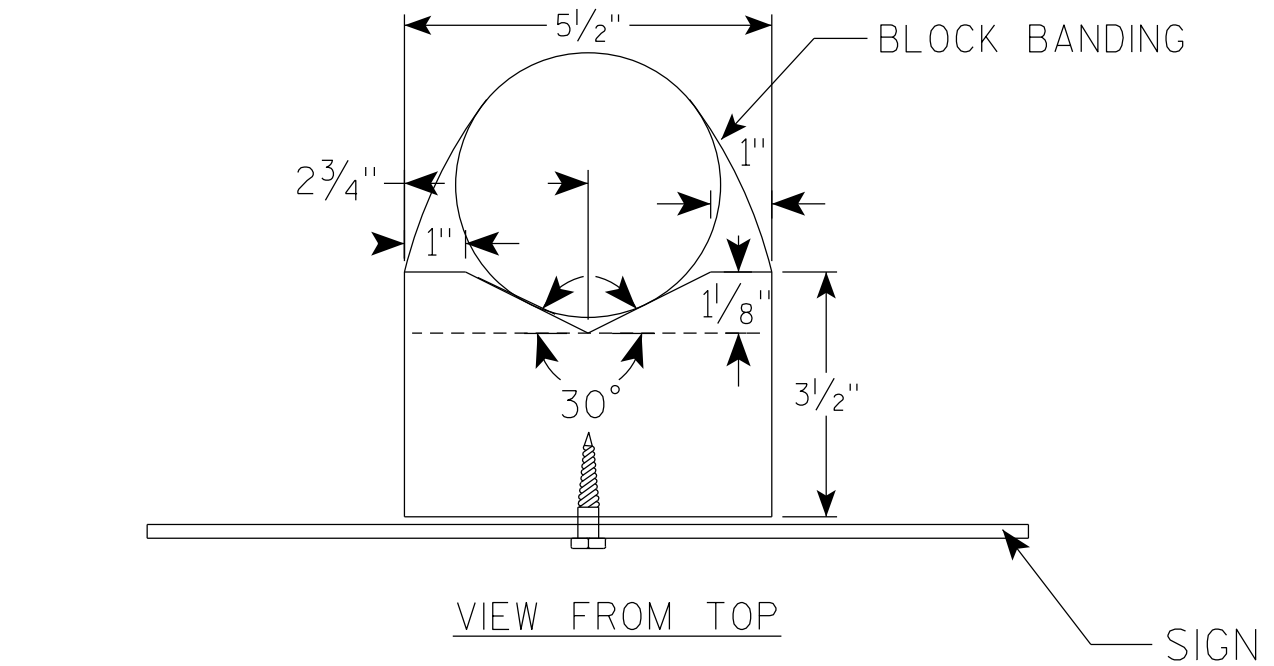
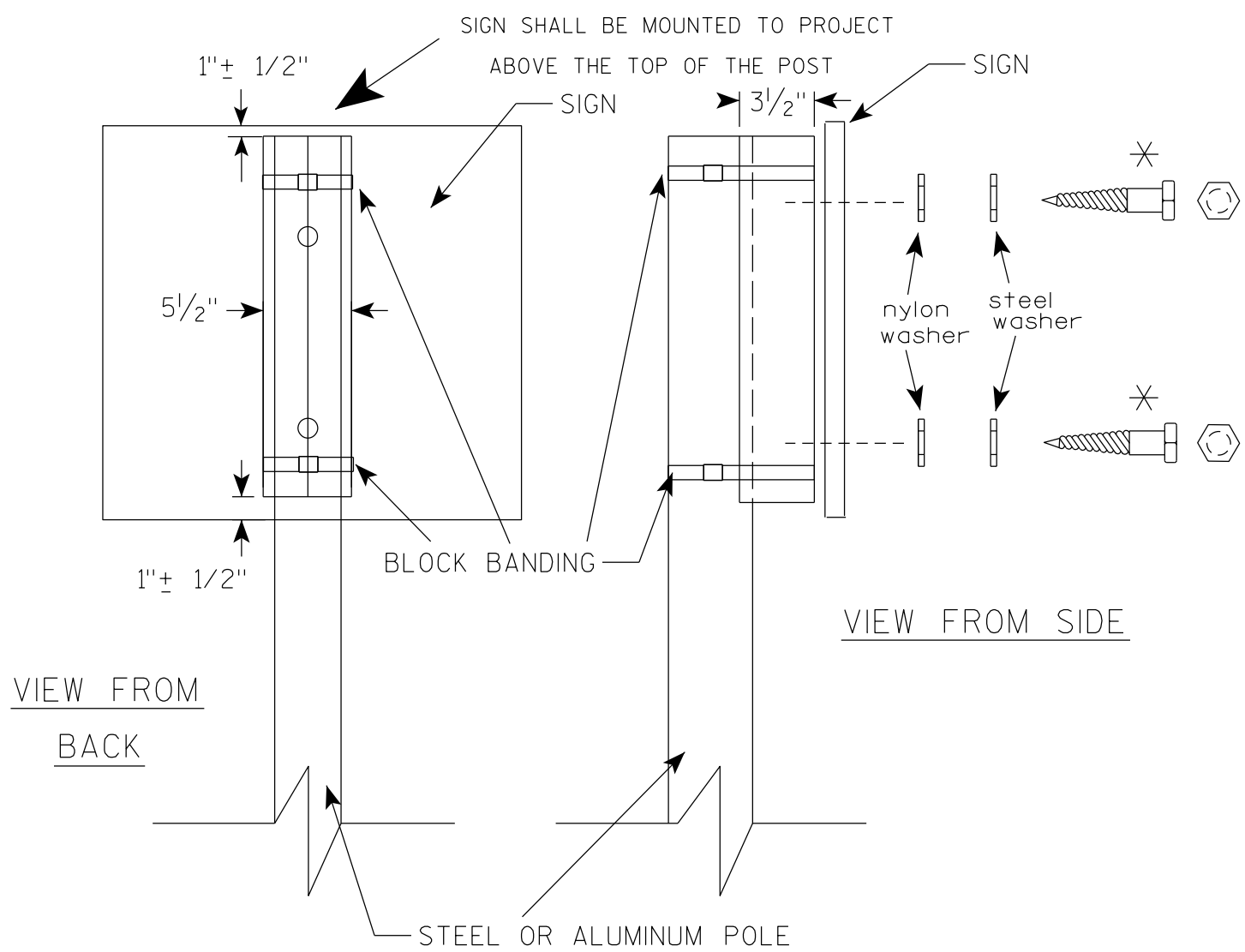


STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/10/19 PLATE NO. A5-9.4

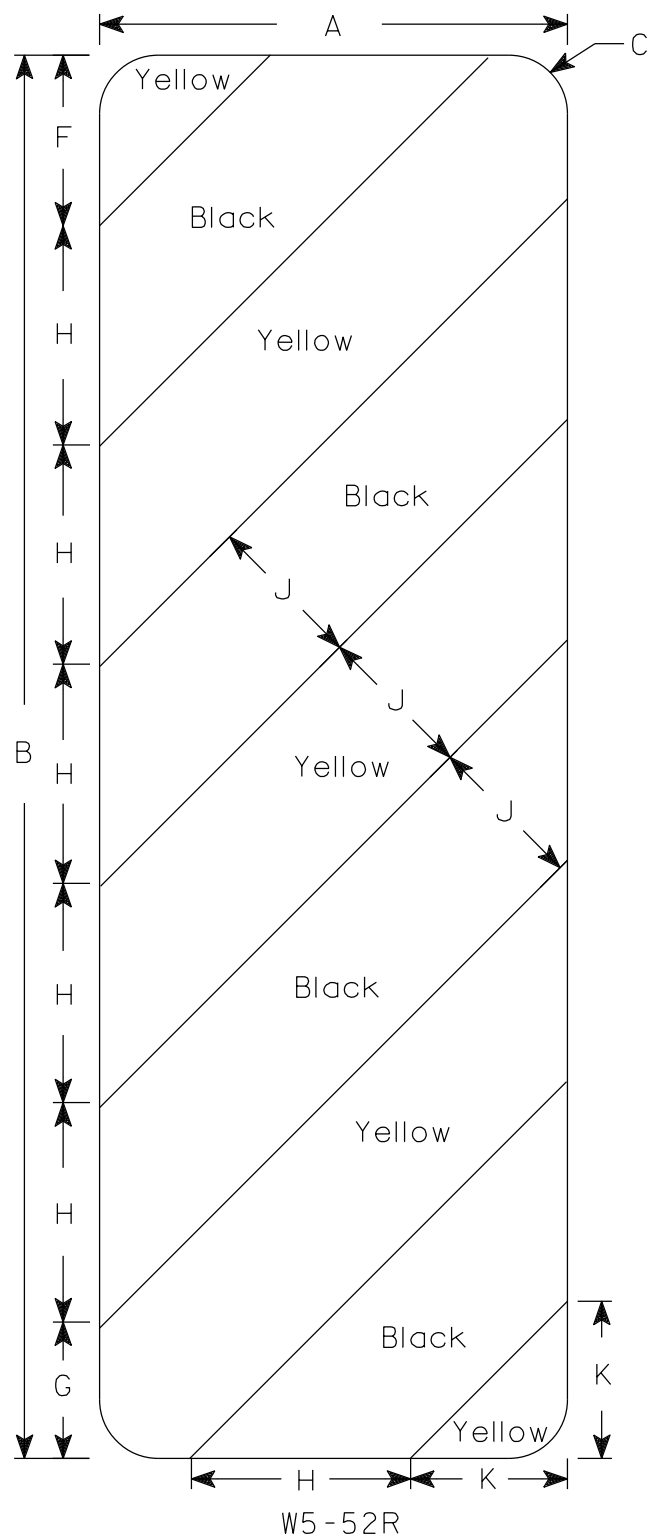
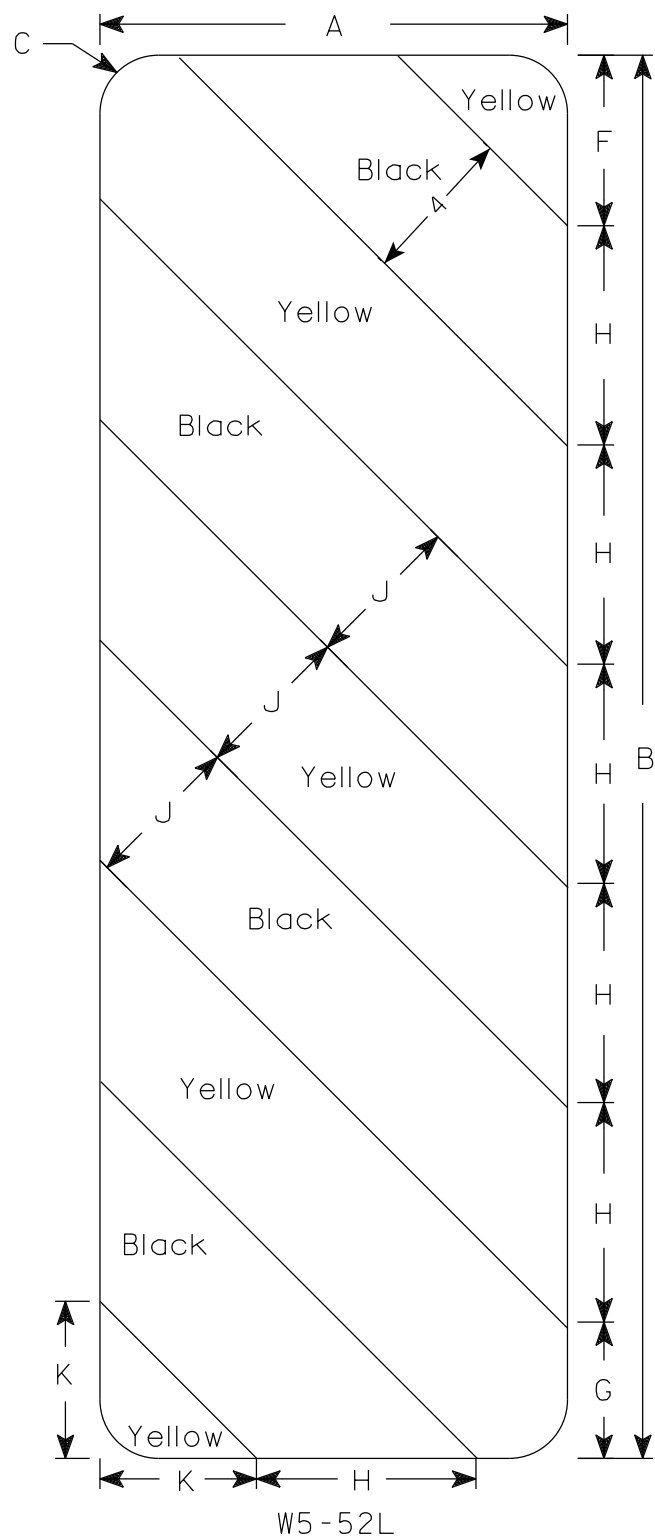


GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WISDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, $\frac{3}{4}$ " WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORMALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
 - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
 - b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ "
8. NYLON WASHERS SHALL BE $\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✱ LAG BOLTS SHALL BE $\frac{3}{8}$ " X $2\frac{1}{2}$ "

| | |
|--|---|
| BLOCK BANDING DETAIL (V-BLOCK OPTION) | |
| WISCONSIN DEPT OF TRANSPORTATION | |
| APPROVED | <i>Matthew R. Rauch</i> for State Traffic Engineer |
| DATE 4/19/2022 | PLATE NO. A5-10.3 |



NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
 - Background - Yellow
 - Message - Black
- 3. 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 | 1 1/2 | | | 4 3/8 | 3 1/2 | 5 5/8 | 45° | 4 | 4 | | | | | | | | | | | | | | | | 3.0 |
| 2M | 12 | 36 | 1 1/2 | | | 4 3/8 | 3 1/2 | 5 5/8 | 45° | 4 | 4 | | | | | | | | | | | | | | | | 3.0 |
| 3 | 18 | 54 | 1 1/2 | | | 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 3/4/2024 PLATE NO. W5-52.10

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING FACTOR: RF = 1.09
OPERATING RATING FACTOR: RF = 1.41
WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 250 (KIPS)

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

MATERIAL PROPERTIES:

CONCRETE MASONRY:
SUPERSTRUCTURE $f'_c = 4,000$ P.S.I.
ALL OTHER $f'_c = 3,500$ P.S.I.

BAR STEEL REINFORCEMENT:
GRADE 60 $f_y = 60,000$ P.S.I.

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 10 x 42 PILING DRIVEN TO A REQUIRED
DRIVING RESISTANCE OF 180 TONS $\dagger\dagger$ PER PILE AS DETERMINED BY THE MODIFIED
GATES DYNAMIC FORMULA.
ESTIMATED 45 FEET LONG. PILE POINTS REQUIRED.

$\dagger\dagger$ THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN
IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF
0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

TRAFFIC VOLUME

FEATURE ON AFTER HOURS RD
ADT = 79 (2045)
R.D.S. = 40 M.P.H.

HYDRAULIC DATA

100 YEAR FREQUENCY

$Q_{100} = 1500$ C.F.S.
VEL. = 5.59 F.P.S.
 $HW_{100} = EL. 997.95$
WATERWAY AREA = 268 SQ. FT.
DRAINAGE AREA = 59.8 SQ. MI.
ROADWAY OVERTOPPING = NA
SCOUR CRITICAL CODE = 5

2 YEAR FREQUENCY

$Q_2 = 413$ C.F.S.
VEL. = 3.67 F.P.S.
 $HW_2 = EL. 993.86$

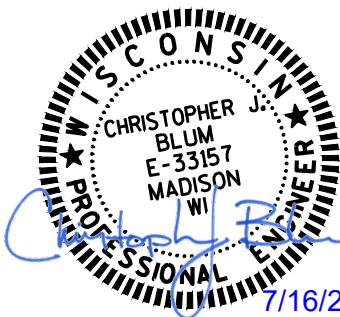
LIST OF DRAWINGS



1. GENERAL PLAN
2. CROSS SECTION & QUANTITIES
3. SUBSURFACE EXPLORATION
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT DETAILS
6. NORTH ABUTMENT
7. NORTH ABUTMENT DETAILS
8. SUPERSTRUCTURE
9. SUPERSTRUCTURE DETAILS
10. SINGLE SLOPE PARAPET 42SS

STRUCTURE DESIGN CONTACTS:

CHRIS BLUM 608-620-6192
AARON BONK 608-261-0261

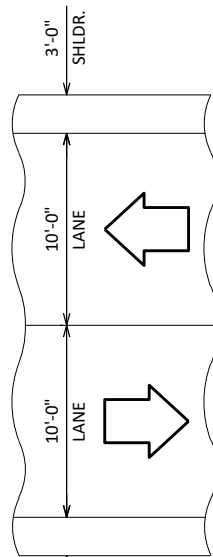
THESE PLANS ARE BASED UPON STANDARD
BRIDGE PLANS DEVELOPED AND MAINTAINED BY
THE WISCONSIN DEPARTMENT OF
TRANSPORTATION THROUGH THE USE OF THE
WISDOT STANDARD BRIDGE DESIGN TOOL. THE
UNDERSIGNED DESIGNER CERTIFIES THE
ACCURACY OF THE BRIDGE TYPE, SIZE AND
LOCATION, HYDRAULICS AND FOUNDATION
SUPPORT, AND INFORMATION IN THE PLANS
THAT IS NOT PART OF THE STANDARD PLANS
SUPPLIED BY THE DEPARTMENT. THE DESIGNER
FURTHER CERTIFIES THAT USE OF THE STANDARD
BRIDGE DESIGN TOOL FOR DEVELOPMENT OF
THIS PLAN IS CONSISTENT WITH THE GUIDANCE
PROVIDED IN THE WISDOT BRIDGE MANUAL.



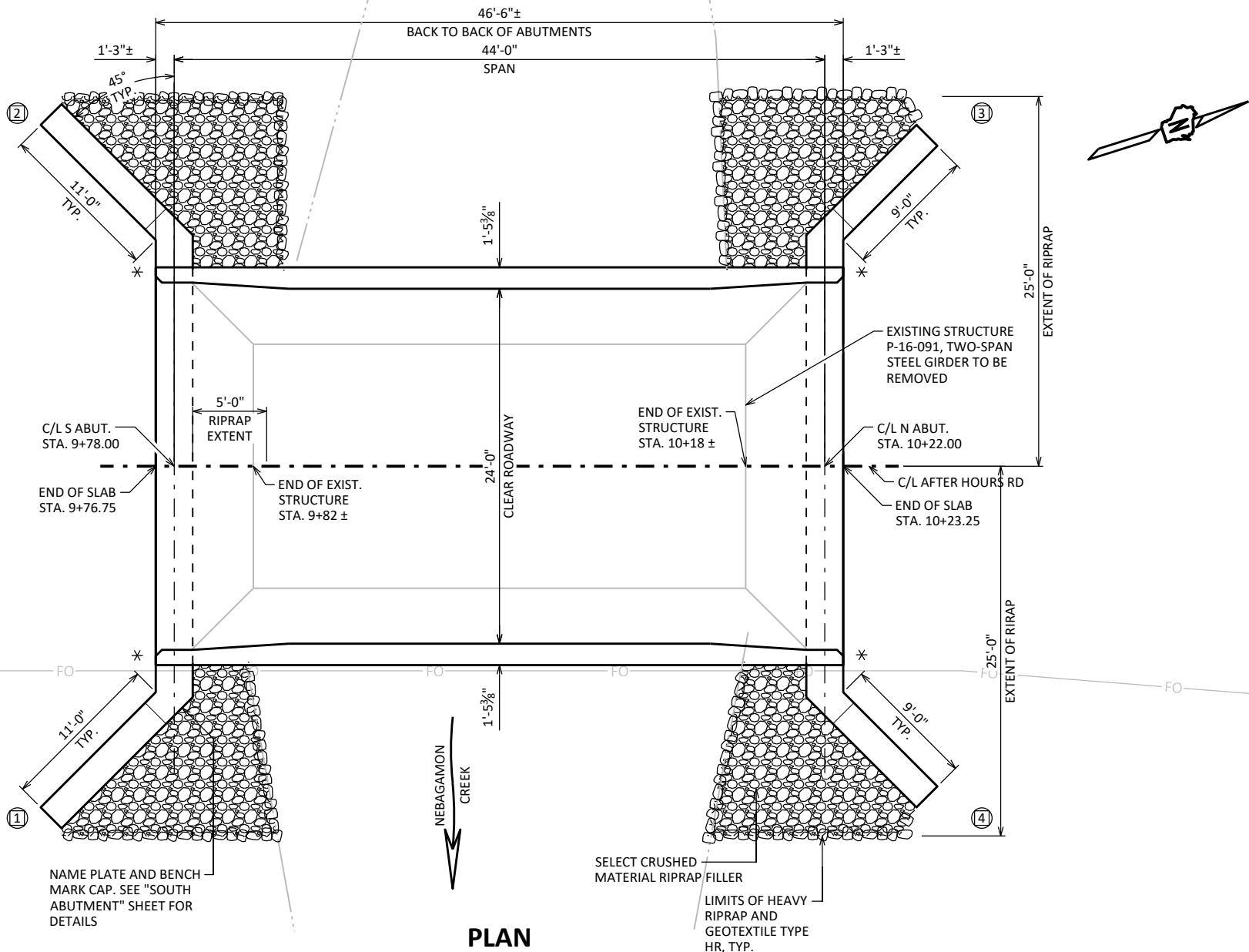
| NO. | DATE | REVISION | BY |
|---|---|---------------|------------------|
|  SHORT ELLIOTT HENDRICKSON INC. | | | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | | | |
| ACCEPTED |  CHIEF STRUCTURES DESIGN ENGINEER | | DATE 08/19/24 |
| STRUCTURE B-16-152 | | | |
| AFTER HOURS RD OVER NEBAGAMON CREEK | | | |
| COUNTY | DOUGLAS | TOWN/VILLAGE | BRULE |
| DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATION | | | |
| DESIGNED BY | CJB | DESIGNED CK'D | JGM |
| DRAWN BY | ALC | PLANS CK'D | JGM |
| GENERAL PLAN | | | SHEET 1 OF 10 |

* PROVIDE FOR THREE BEAM GUARD
RAIL ATTACHMENT.

Ⓢ INDICATES WING NUMBER

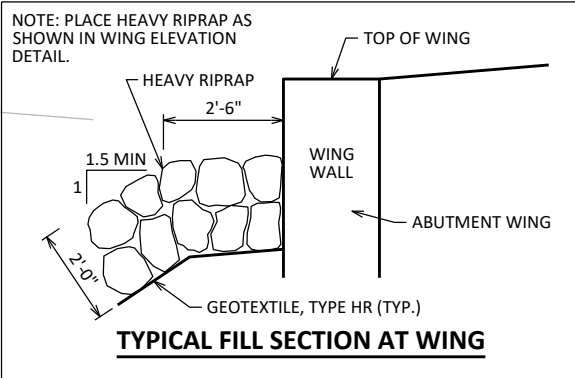


NORVADO - FIBER OPTIC
TO BE RELOCATED PRIOR TO
CONSTRUCTION

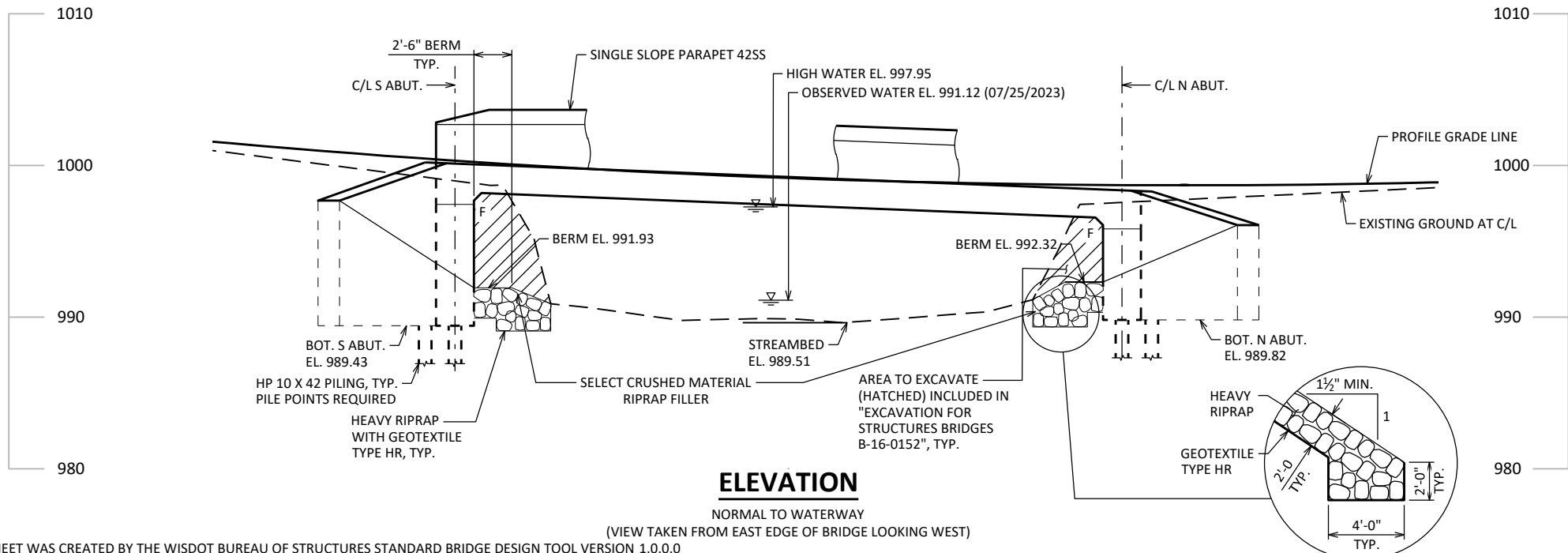


PLAN

SINGLE SPAN FLAT SLAB



TYPICAL FILL SECTION AT WING



ELEVATION

NORMAL TO WATERWAY

(VIEW TAKEN FROM EAST EDGE OF BRIDGE LOOKING WEST)

THIS SHEET WAS CREATED BY THE WISDOT BUREAU OF STRUCTURES STANDARD BRIDGE DESIGN TOOL VERSION 1.0.0.0

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 $\frac{3}{4}$ " UNLESS OTHERWISE NOTED.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES B-16-0152 " SHALL BE THE EXISTING GROUNDLINE.

AT THE BACK FACE 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.

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.

THE QUANTITY FOR BACKFILL STRUCTURE IS CALCULATED BASED ON THE DETAIL SHOWN IN THE PLANS.

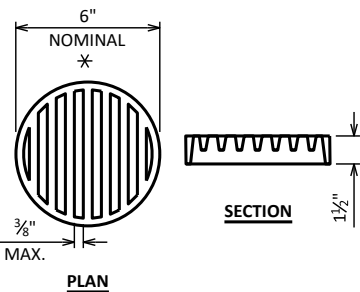
THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON SHEET 1 AND THE ABUTMENT DETAILS.

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.

BENCH MARK

| NO. | STATION/OFFSET | DESCRIPTION | ELEV. |
|-----|----------------------|---------------|----------|
| BM3 | 8+11.52 / 21.27' LT | SPK IN PINE | 1023.14' |
| BM2 | 10+57.38 / 22.24' LT | SPK IN PINE | 1002.49' |
| BM1 | 11+31.70 / 21.05' RT | SPK IN POPPLE | 1004.83' |



RODENT SHIELD DETAIL

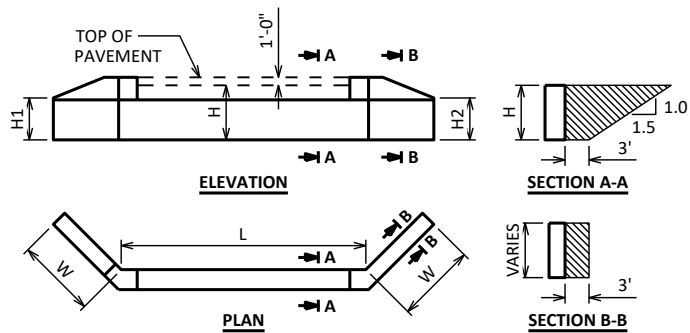
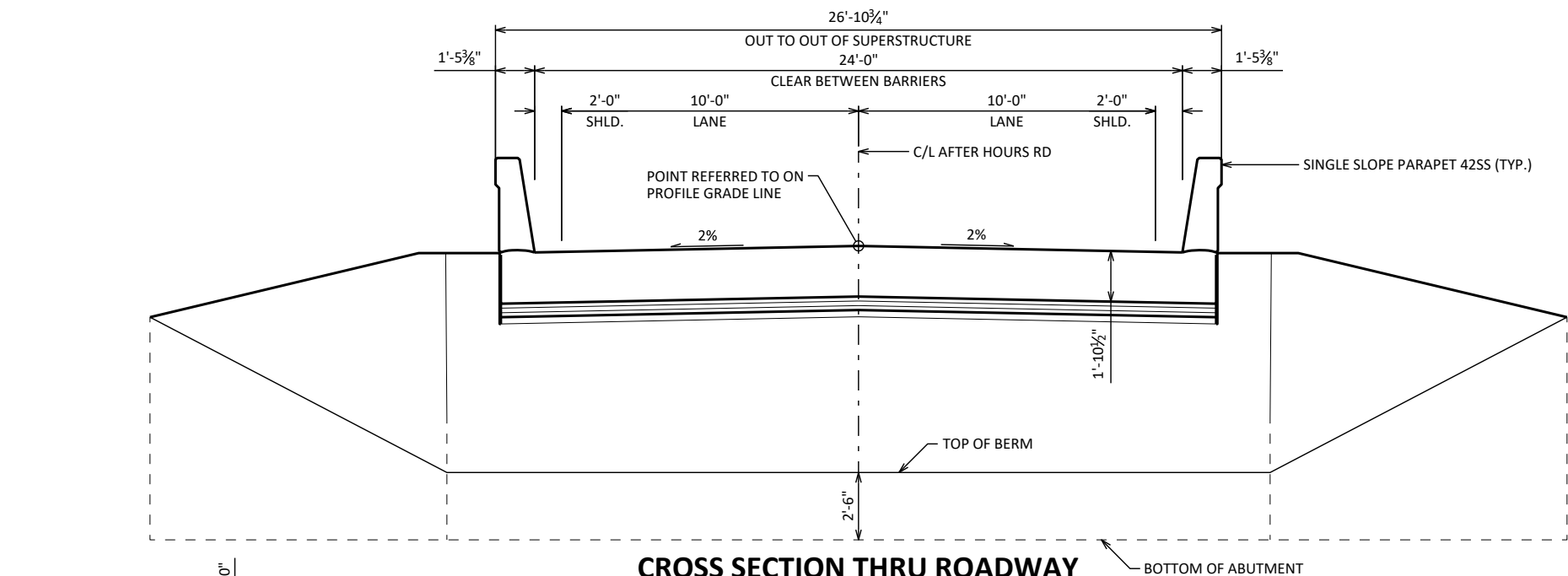
* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY 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.

| NO. | DATE | REVISION | BY |
|--|------|----------|----------------|
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | | | |
| STRUCTURE B-16-152 | | | |
| DRAWN BY | | ALC | PLANS CK'D JGM |
| CROSS SECTION & QUANTITIES | | SHEET 2 | |

SCALE = 6.0



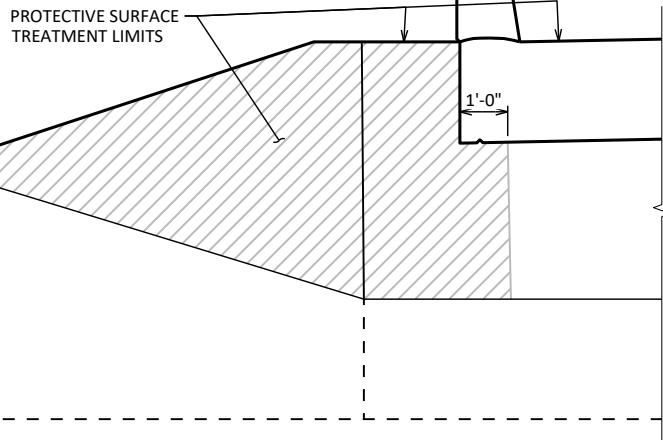
ABUTMENT BACKFILL DIAGRAM

- 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)
 $V_{CF} = (L)(3.0')(H) + (L)(0.5)(1.5H)(H) + (3')(0.5)(H1+H2+H+H)(W)$
 $V_{CY} = V_{CF}(EF)/27$
 $V_{TON} = V_{CY}(2.0)$

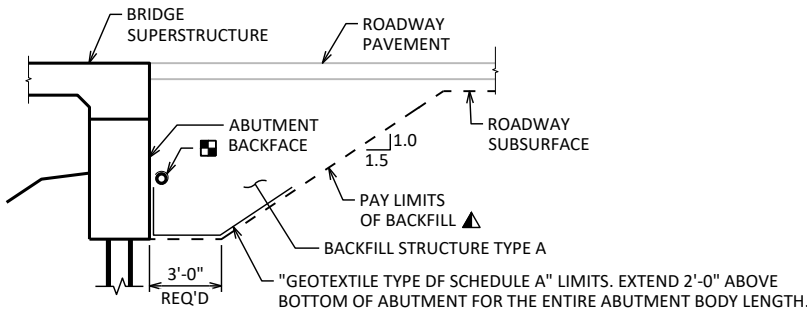
TOTAL ESTIMATED QUANTITIES

| BID ITEM NUMBER | BID ITEMS | UNIT | SUPER | SOUTH ABUT. | NORTH ABUT. | TOTALS |
|-----------------|---|------|--------|-------------|-------------|-----------------------------------|
| 203.0260 | REMOVING STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS P-16-091 | EACH | --- | --- | --- | 1 |
| 206.1001 | EXCAVATION FOR STRUCTURES BRIDGES B-16-0152 | EACH | --- | --- | --- | 1 |
| 210.1500 | BACKFILL STRUCTURE TYPE A | TON | --- | 272 | 183 | 455 |
| 502.0100 | CONCRETE MASONRY BRIDGES | CY | 102 | 41 | 30 | 173 |
| 502.3200 | PROTECTIVE SURFACE TREATMENT | SY | 124 | 24 | 17 | 165 |
| 502.3210 | PIGMENTED SURFACE SEALER | SY | 46 | --- | --- | 46 |
| 505.0400 | BAR STEEL REINFORCEMENT HS STRUCTURES | LB | --- | 2,180 | 2,040 | 4,220 |
| 505.0600 | BAR STEEL REINFORCEMENT HS COATED STRUCTURES | LB | 23,990 | 1,870 | 1,540 | 27,400 |
| 516.0500 | RUBBERIZED MEMBRANE WATERPROOFING | SY | --- | 5 | 5 | 10 |
| 550.0500 | PILE POINTS | EACH | --- | 7 | 7 | 14 |
| 550.1100 | PIILING STEEL HP 10-INCH X 42 LB | LF | --- | 315 | 315 | 630 |
| 606.0300 | RIPRAP HEAVY | CY | --- | 30 | 30 | 60 |
| 612.0406 | PIPE UNDERDRAIN WRAPPED 6-INCH | LF | --- | 73 | 69 | 142 |
| 645.0111 | GEOTEXTILE TYPE DF SCHEDULE A | SY | --- | 48 | 42 | 90 |
| 645.0120 | GEOTEXTILE TYPE HR | SY | --- | 65 | 65 | 130 |
| SPV.0195.01 | SELECT CRUSHED MATERIAL RIPRAP FILLER | TON | --- | 3 | 3 | 6 |
| NON-BID ITEMS | | | | | | |
| | FILLER | SIZE | --- | --- | --- | $\frac{1}{2}$ " , $\frac{3}{4}$ " |
| | NAMEPLATE | EACH | 1 | --- | --- | 1 |
| | BENCHMARK | EACH | 1 | --- | --- | 1 |

THIS SHEET WAS CREATED BY THE WISDOT BUREAU OF STRUCTURES STANDARD BRIDGE DESIGN TOOL VERSION 1.0.0.0



PROTECTIVE SURFACE TREATMENT DETAILS

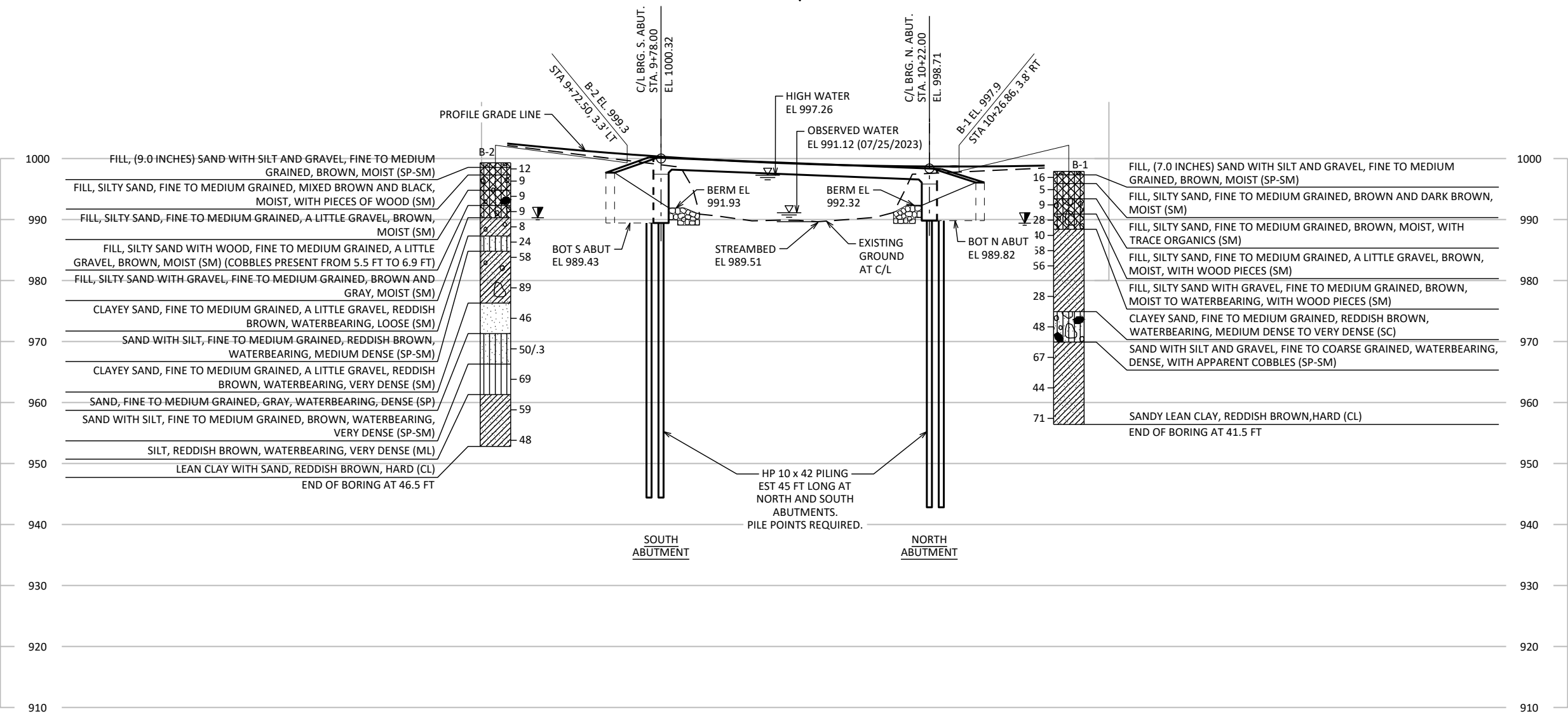
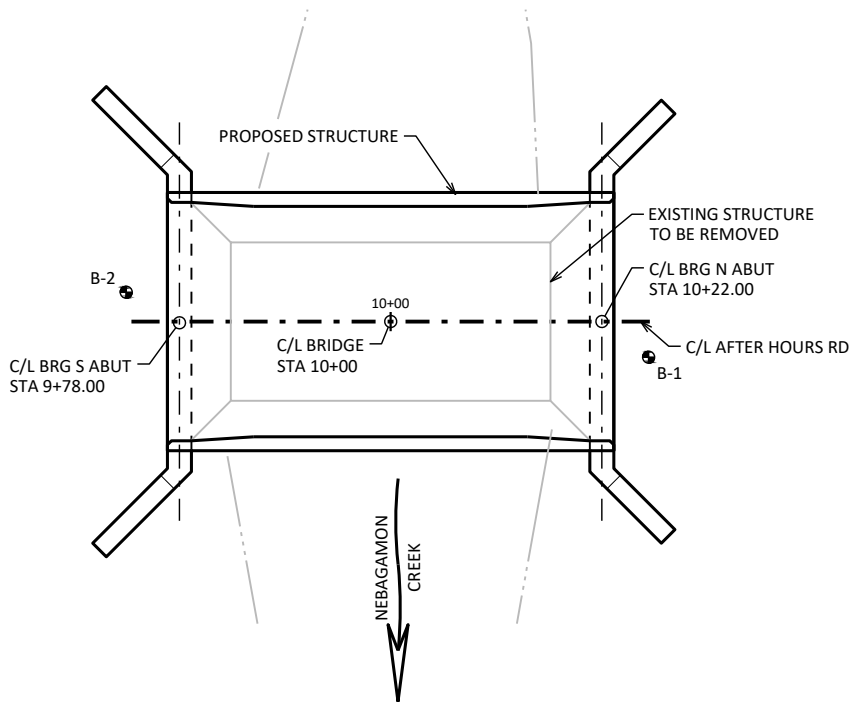


TYPICAL SECTION THRU ABUTMENT

▲ BACKFILL PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

■ PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.

| BORING # | DATE COMPLETED | NORTHING (Y) | EASTING (X) |
|--|----------------|--------------|-------------|
| B-1 | 08/29/2023 | 234599.68 | 269652.99 |
| B-2 | 08/30/2023 | 234551.16 | 269627.440 |
| BORINGS COMPLETED BY: AMERICAN ENGINEERING TESTING, INC 4203 SCHOFIELD AVENUE, SUITE 1 SCHOFIELD, WI 54476 PH: (715) 359-3534 | | | |
| REPORT COMPLETED BY: MATTHEW B. WILLIAMS, P.E. | | | |
| ALL COORDINATES REFERENCED TO WCCS NAD 83(91) DOUGLAS COUNTY | | | |



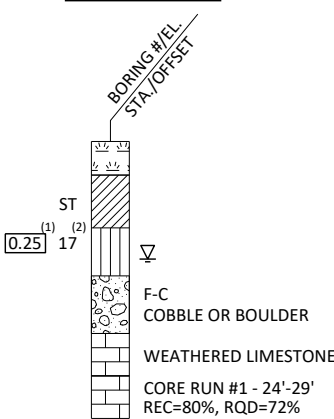
STATE PROJECT NUMBER

8383-00-70

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-16-152 | | | |
| DRAWN BY | | ALC | PLANS CK'D JGM |
| SUBSURFACE EXPLORATION | | SHEET 3 | |

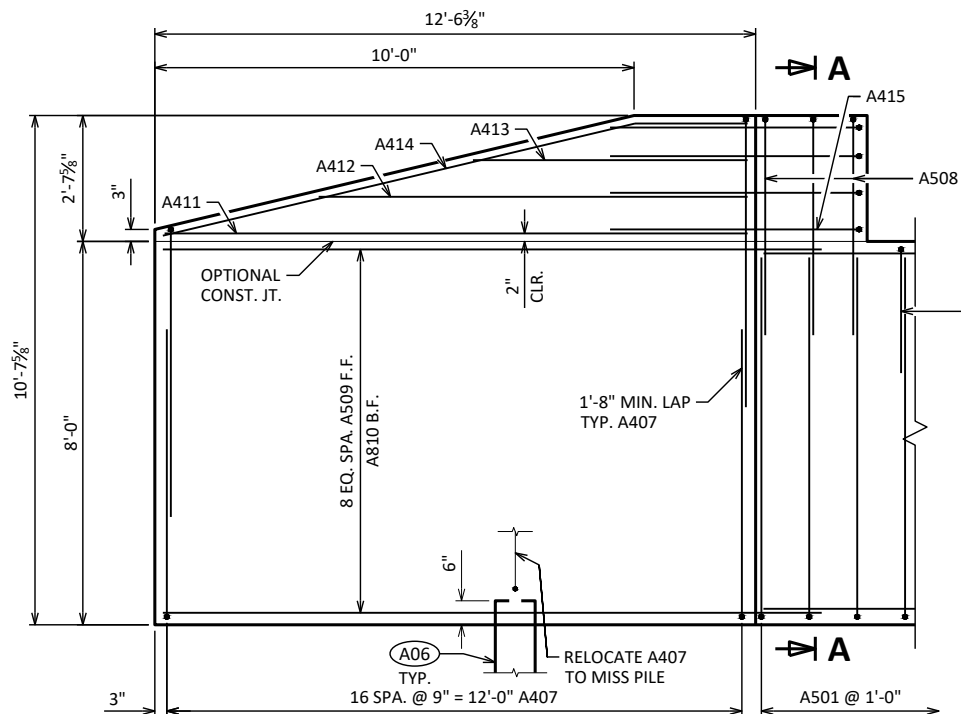


- | | | | |
|--|------|-----------------|---------------|
| | | | |
| NO. | DATE | REVISION | BY |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | | | |
| STRUCTURE | | B-16-152 | |
| | | DRAWN BY | PLANS CK'D |
| | | JGM | CJG |
| SOUTH ABUTMENT | | SHEET 4 | |
| | | | |

BILL OF BARS

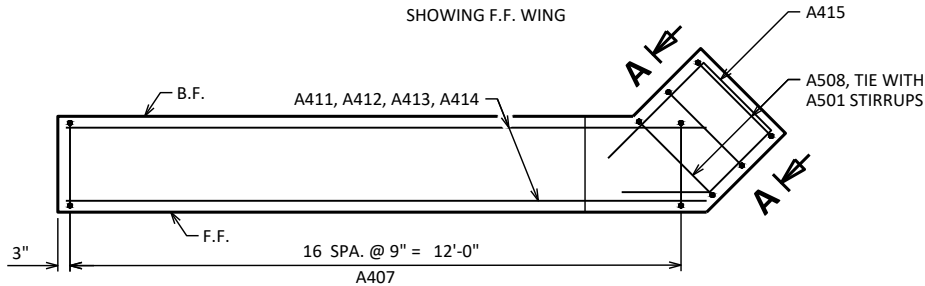
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

| BAR MARK | COAT | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION |
|----------|------|------------|---------|------|------------|--------------------------------|
| A501 | | 64 | 9'-0" | X | | ABUT BODY STIRRUPS |
| A502 | | 26 | 7'-1" | X | | ABUT BODY STIRRUPS - TOP U-BAR |
| A503 | | 9 | 31'-3" | | | ABUT BODY HORIZ. - F.F. |
| A804 | | 18 | 21'-7" | X | | ABUT BODY HORIZ. - B.F. |
| A405 | | 27 | 3'-0" | X | | ABUT BODY TIE BARS |
| A506 | X | 25 | 2'-0" | | | ABUT BODY DOWEL BARS |
| A407 | X | 68 | 13'-6" | X | | WING STIRRUPS |
| A508 | X | 6 | 10'-11" | X | | WING CORNER STIRRUPS |
| A509 | X | 18 | 13'-9" | X | | WING LOWER HORIZ. - F.F. |
| A810 | X | 18 | 15'-3" | X | | WING LOWER HORIZ. - B.F. |
| A411 | X | 4 | 12'-1" | | | WING UPPER HORIZ. |
| A412 | X | 4 | 8'-10" | | | WING UPPER HORIZ. |
| A413 | X | 4 | 5'-8" | | | WING UPPER HORIZ. |
| A414 | X | 4 | 11'-8" | X | | WING TOP HORIZ. |
| A415 | X | 4 | 8'-3" | X | | WING 1 UPPER HORIZ. CORNER |
| A416 | X | 4 | 8'-3" | X | | WING 2 UPPER HORIZ. CORNER |



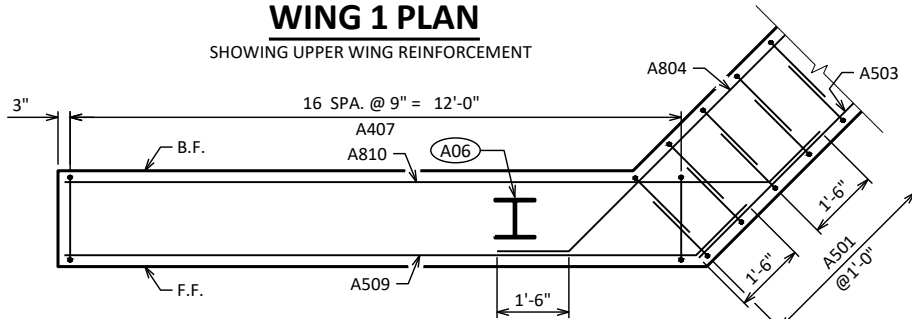
WING 1 ELEVATION

SHOWING F.F. WING

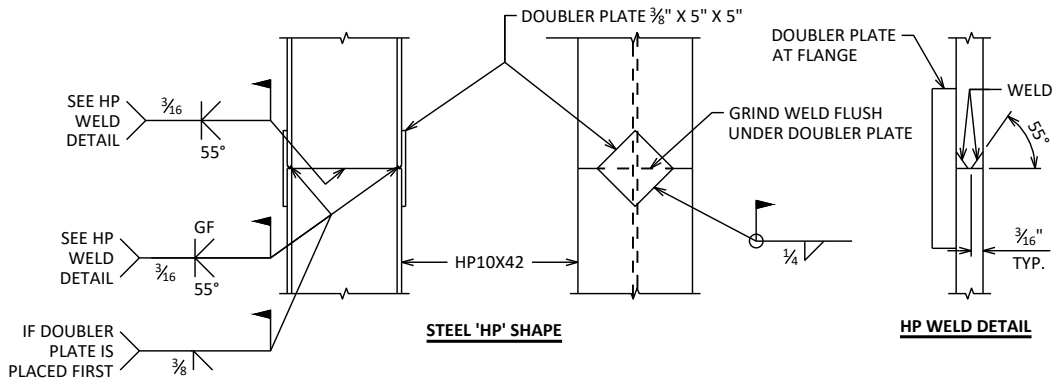


WING 1 PLAN

SHOWING UPPER WING REINFORCEMENT

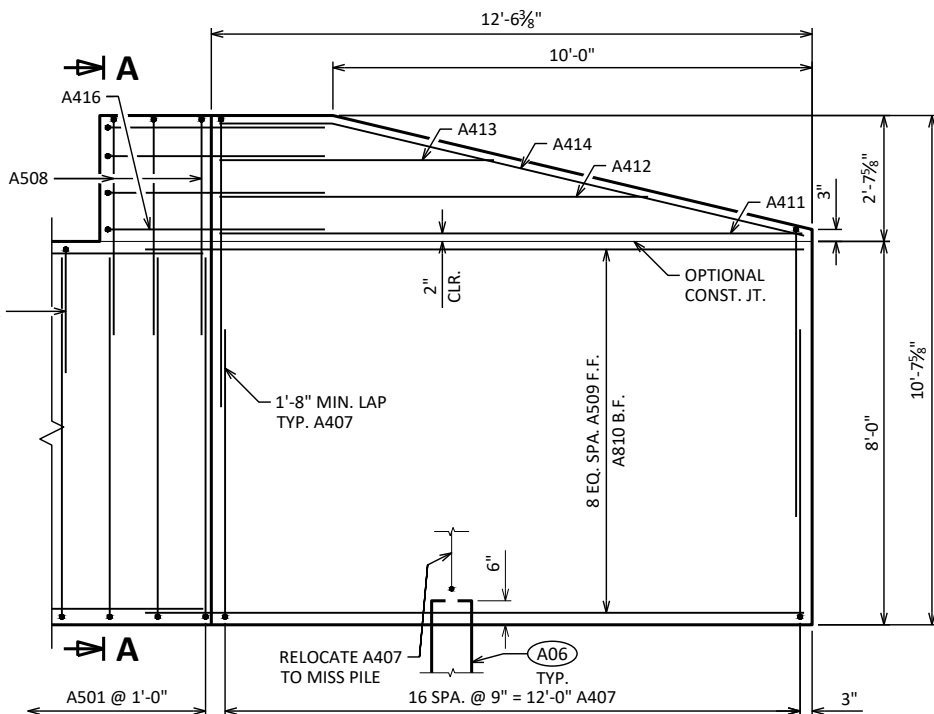


WING 1 PLAN

SHOWING LOWER WING REINFORCEMENT
WING 2 SIMILAR

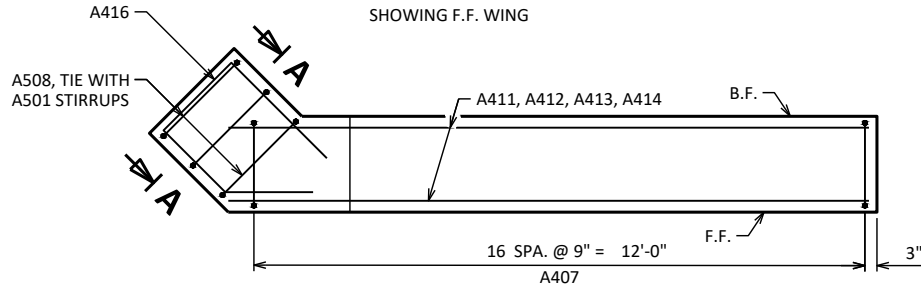
'HP' PILE DETAILS

THIS SHEET WAS CREATED BY THE WISDOT BUREAU OF STRUCTURES STANDARD BRIDGE DESIGN TOOL VERSION 1.0.0.0



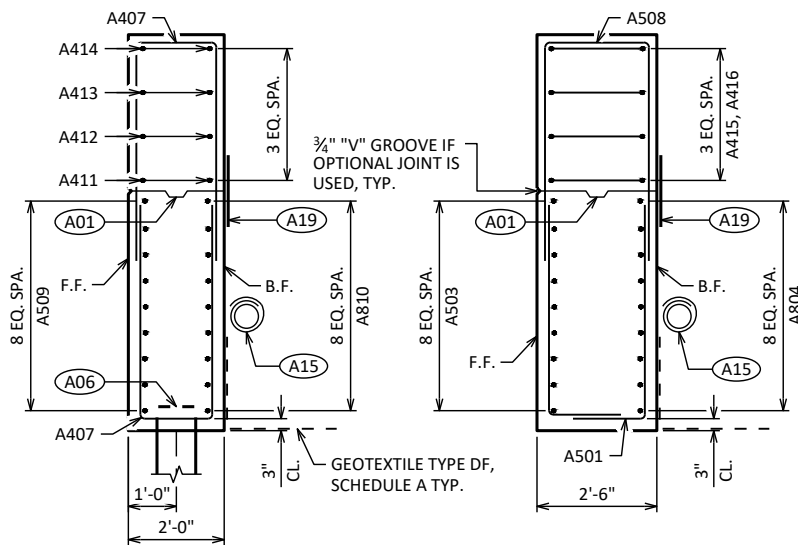
WING 2 ELEVATION

SHOWING F.F. WING



WING 2 PLAN

SHOWING UPPER WING REINFORCEMENT

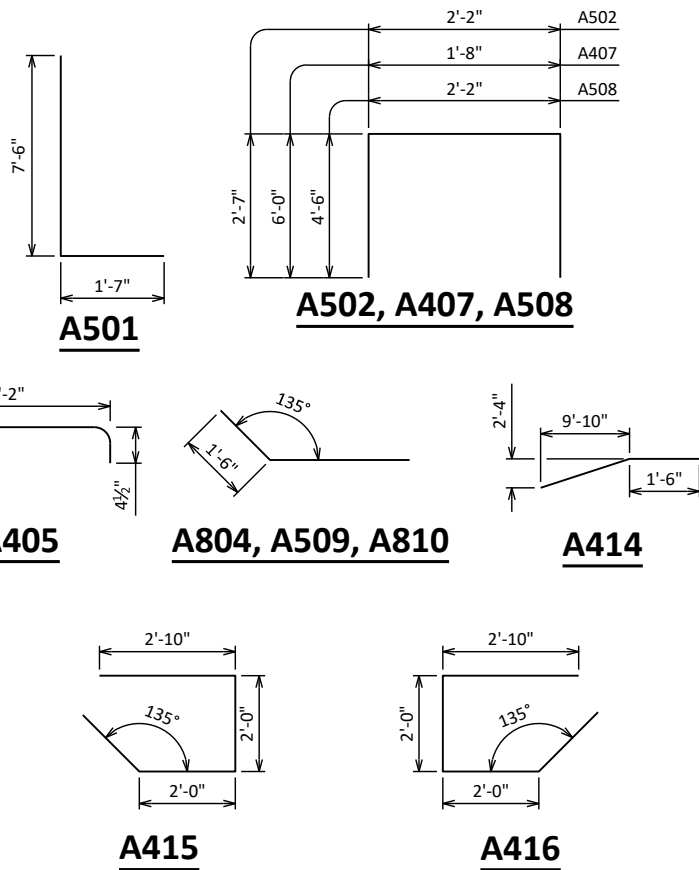


SECTION THRU WING 1

TYPICAL BOTH WINGS

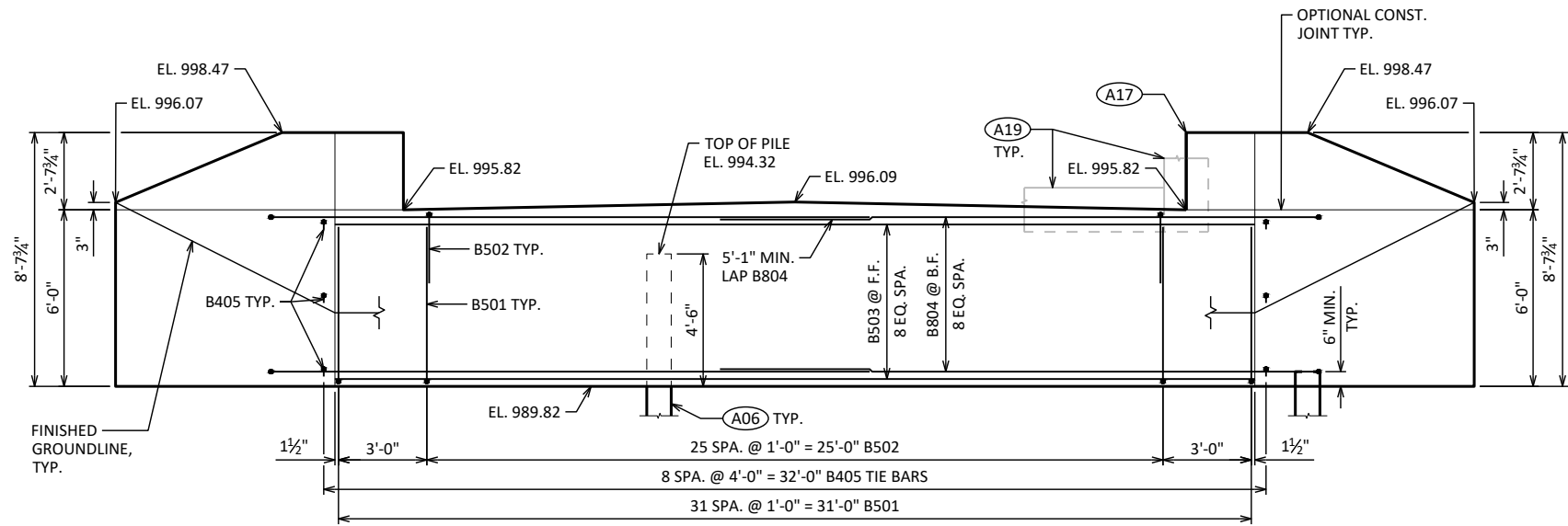
SECTION A-A

- (A01) OPTIONAL CONST. JOINT: KEYWAY FORMED BY A BEVELED 2X6. PROVIDE 3/4" "V" GROOVE ON F.F. OF WINGWALL IF JOINT IS USED.
- (A06) SUPPORT ABUTMENT ON HP 10 x 42 PILING, ESTIMATED 45FT LONG WITH A REQUIRED DRIVING RESISTANCE OF 180TONS PER PILE.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A19) 18" RUBBERIZED MEMBRANE WATERPROOFING, ONLY IF OPTIONAL CONSTRUCTION JOINT IS USED. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY STRUCTURES".

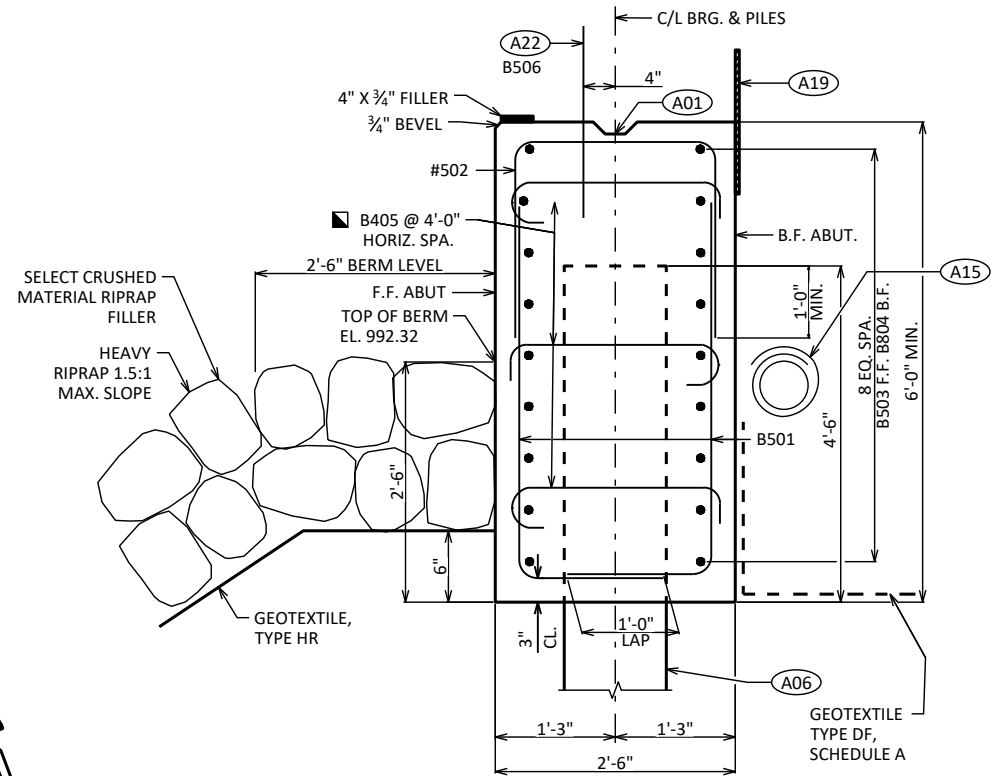


| NO. | DATE | REVISION | BY |
|--|------|----------------|----|
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | | | |
| STRUCTURE B-16-152 | | | |
| DRAWN BY JGM | | PLANS CK'D CJB | |
| SOUTH ABUTMENT DETAILS | | SHEET 5 | |

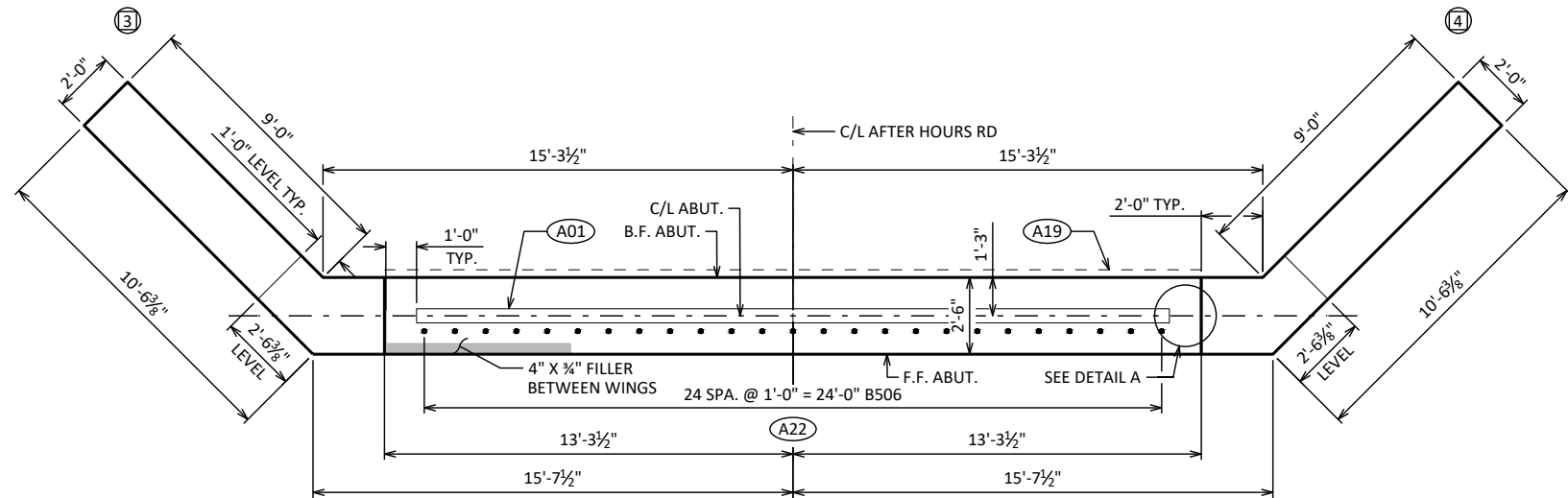
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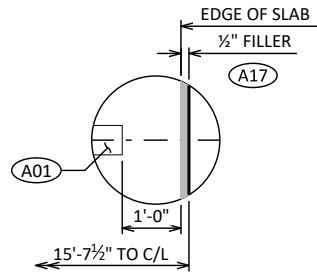
ELEVATION
LOOKING UPSTATION



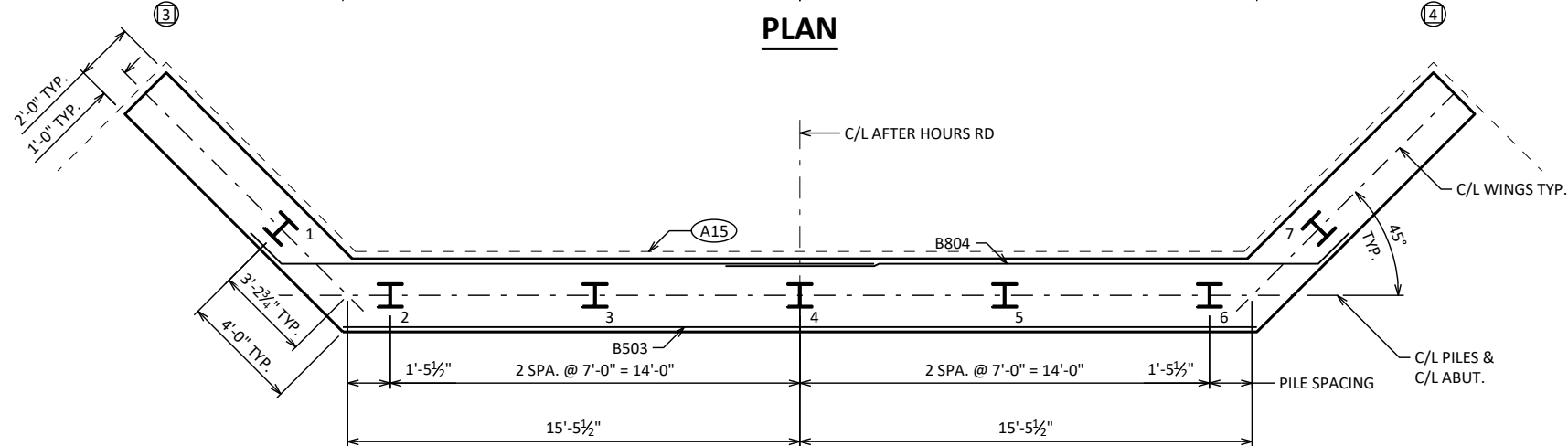
SECTION THRU BODY



PLAN



DETAIL A



PILE PLAN

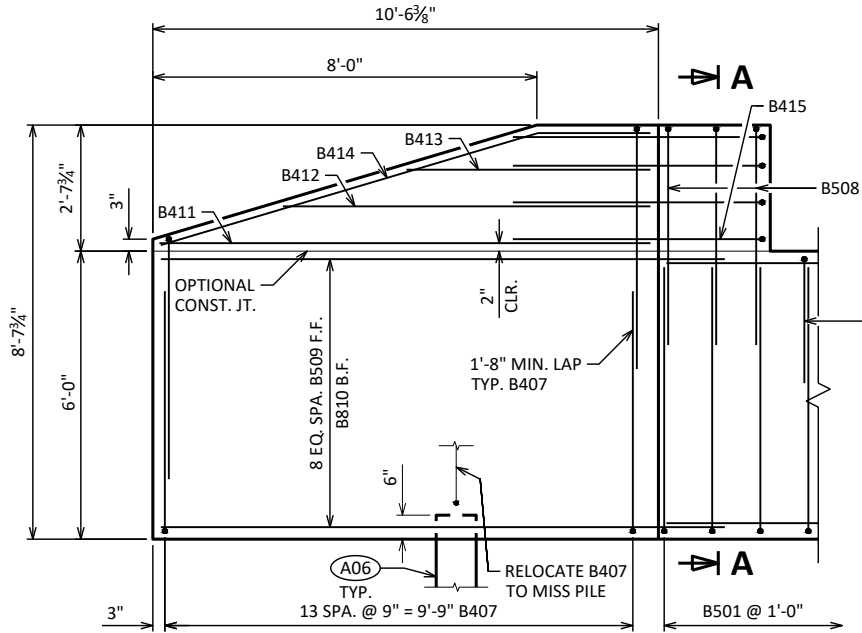
- (A01)** CONST. JOINT: KEYWAY FORMED BY A BEVELED 2X6.
- (A06)** SUPPORT ABUTMENT ON HP 10 x 42 PILING, ESTIMATED 45FT LONG WITH A REQUIRED DRIVING RESISTANCE OF 180TONS PER PILE.
- (A15)** PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A17)** 1/2" FILLER: SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 3/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A19)** 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.
- (A22)** B506 BARS SPACED @ 1'-0" CNTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)
- ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.

| NO. | DATE | REVISION | BY |
|--|------|----------------|----|
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | | | |
| STRUCTURE B-16-152 | | | |
| DRAWN BY JGM | | PLANS CK'D CJB | |
| NORTH ABUTMENT | | SHEET 6 | |

BILL OF BARS

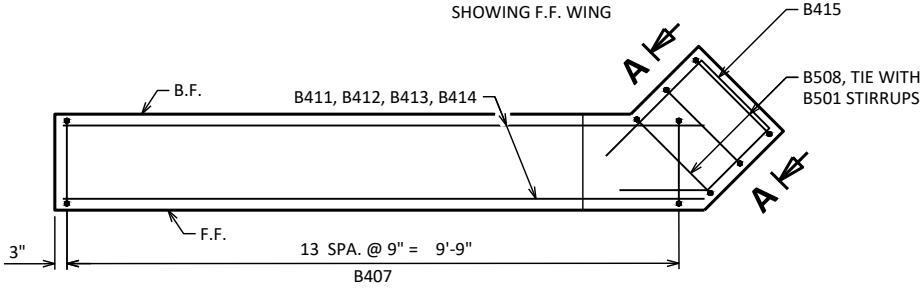
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

| BAR MARK | COAT | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION |
|----------|------|------------|---------|------|------------|--------------------------------|
| B501 | | 64 | 7'-0" | X | | ABUT BODY STIRRUPS |
| B502 | | 26 | 7'-1" | X | | ABUT BODY STIRRUPS - TOP U-BAR |
| B503 | | 9 | 31'-3" | | | ABUT BODY HORIZ. - F.F. |
| B804 | | 18 | 21'-7" | X | | ABUT BODY HORIZ. - B.F. |
| B405 | | 27 | 3'-0" | X | | ABUT BODY TIE BARS |
| B506 | X | 25 | 2'-0" | | | ABUT BODY DOWEL BARS |
| B407 | X | 56 | 11'-6" | X | | WING STIRRUPS |
| B508 | X | 6 | 10'-11" | X | | WING CORNER STIRRUPS |
| B509 | X | 18 | 11'-9" | X | | WING LOWER HORIZ. - F.F. |
| B810 | X | 18 | 13'-3" | X | | WING LOWER HORIZ. - B.F. |
| B411 | X | 4 | 10'-2" | | | WING UPPER HORIZ. |
| B412 | X | 4 | 7'-7" | | | WING UPPER HORIZ. |
| B413 | X | 4 | 5'-0" | | | WING UPPER HORIZ. |
| B414 | X | 4 | 9'-9" | X | | WING TOP HORIZ. |
| B415 | X | 4 | 8'-3" | X | | WING 3 UPPER HORIZ. CORNER |
| B416 | X | 4 | 8'-3" | X | | WING 4 UPPER HORIZ. CORNER |



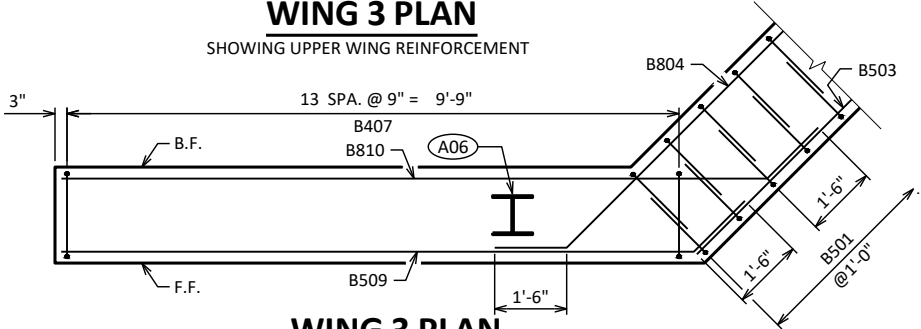
WING 3 ELEVATION

SHOWING F.F. WING



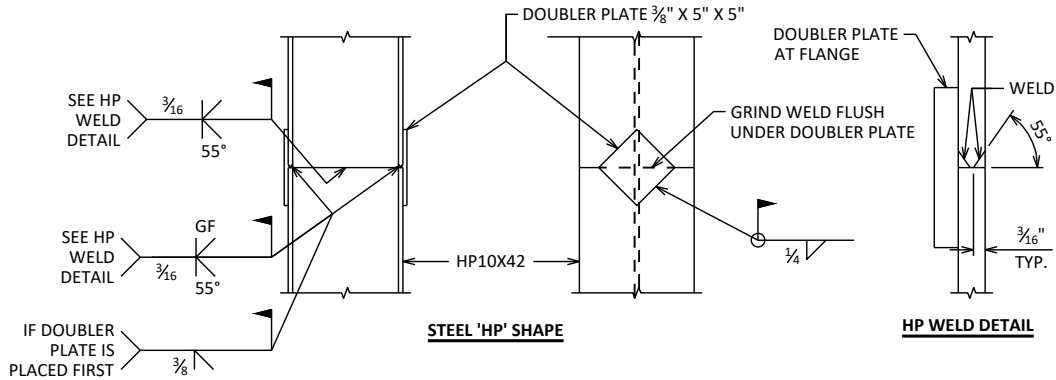
WING 3 PLAN

SHOWING UPPER WING REINFORCEMENT



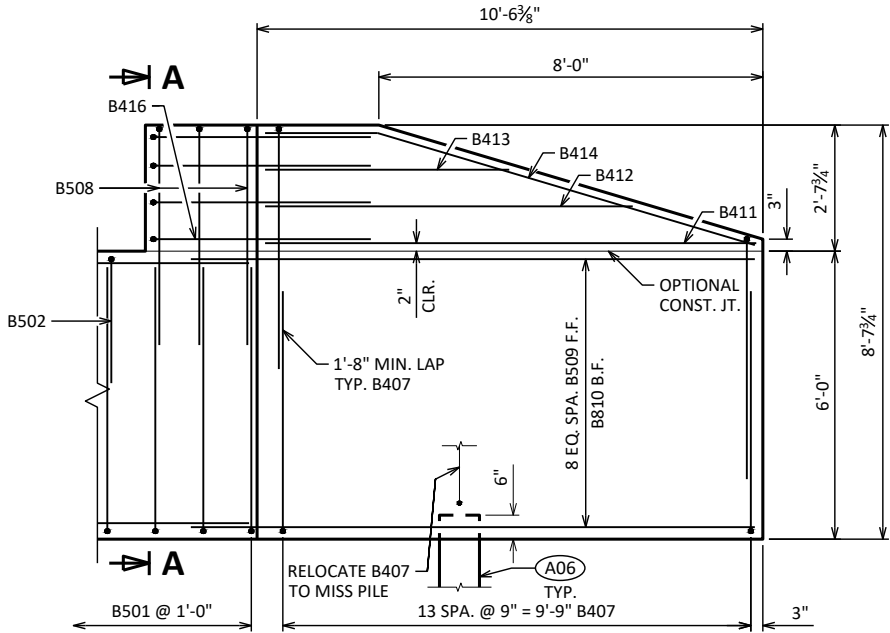
WING 3 PLAN

SHOWING LOWER WING REINFORCEMENT
WING 4 SIMILAR



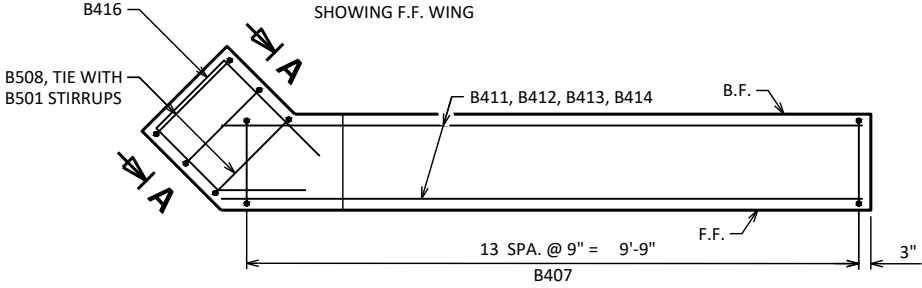
'HP' PILE DETAILS

THIS SHEET WAS CREATED BY THE WISDOT BUREAU OF STRUCTURES STANDARD BRIDGE DESIGN TOOL VERSION 1.0.0.0



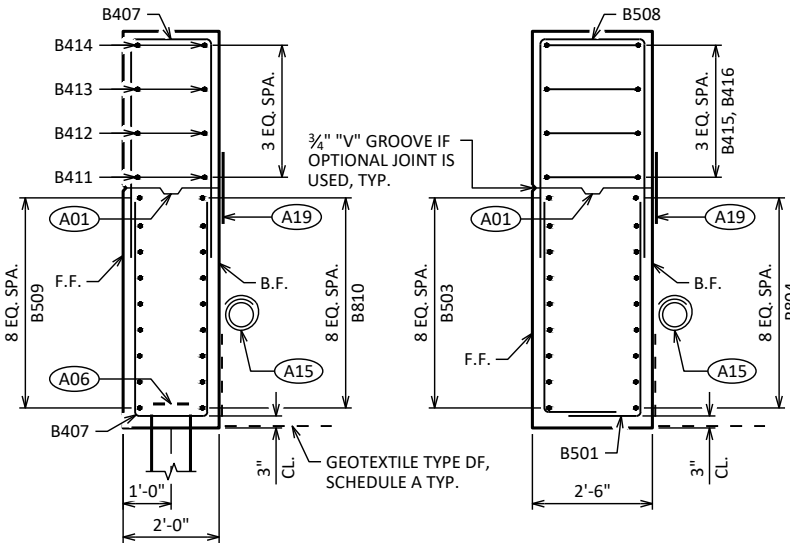
WING 4 ELEVATION

SHOWING F.F. WING



WING 4 PLAN

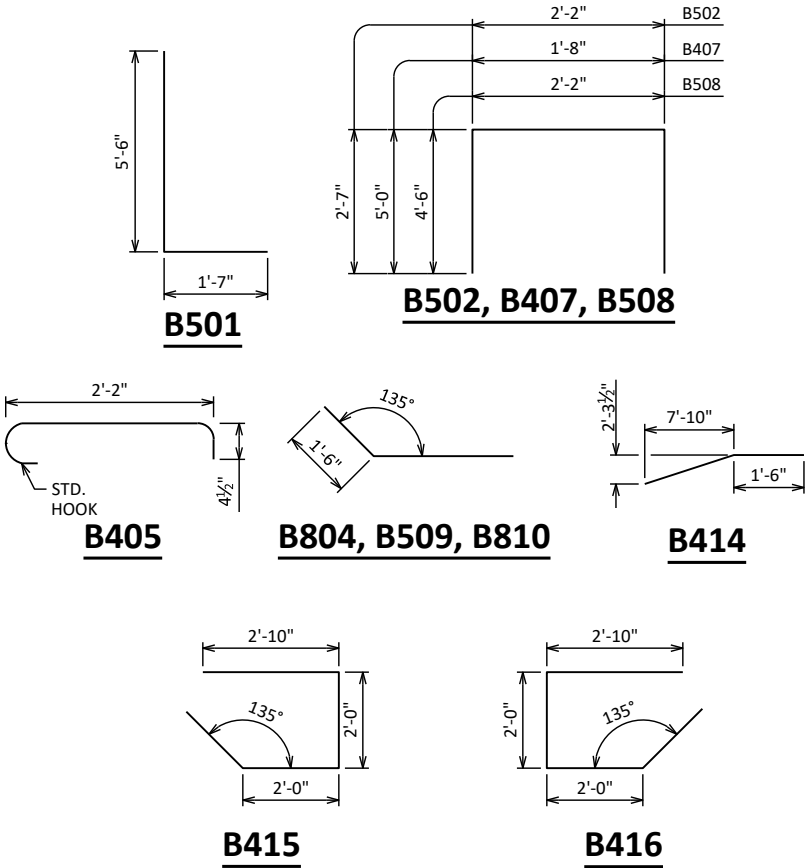
SHOWING UPPER WING REINFORCEMENT



SECTION THRU WING 3

TYPICAL BOTH WINGS

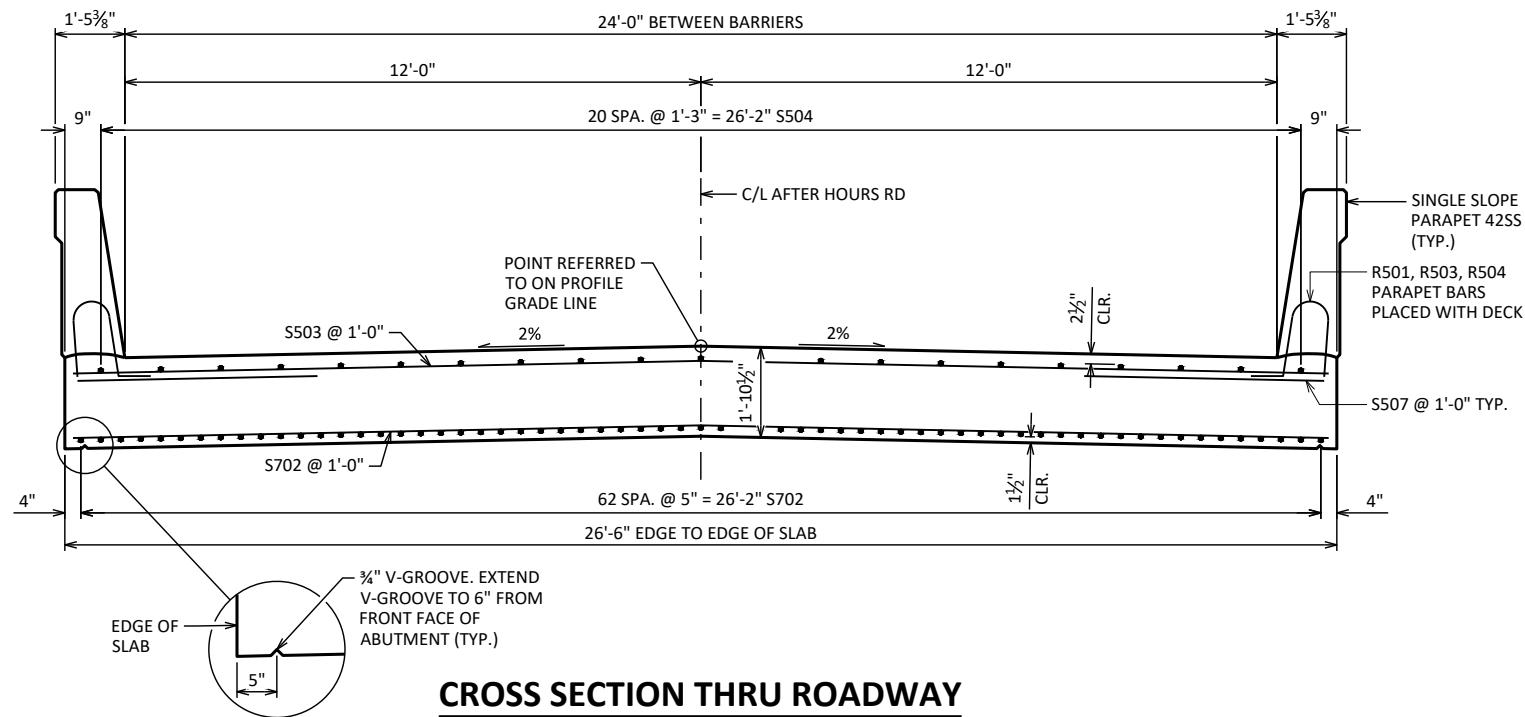
SECTION A-A



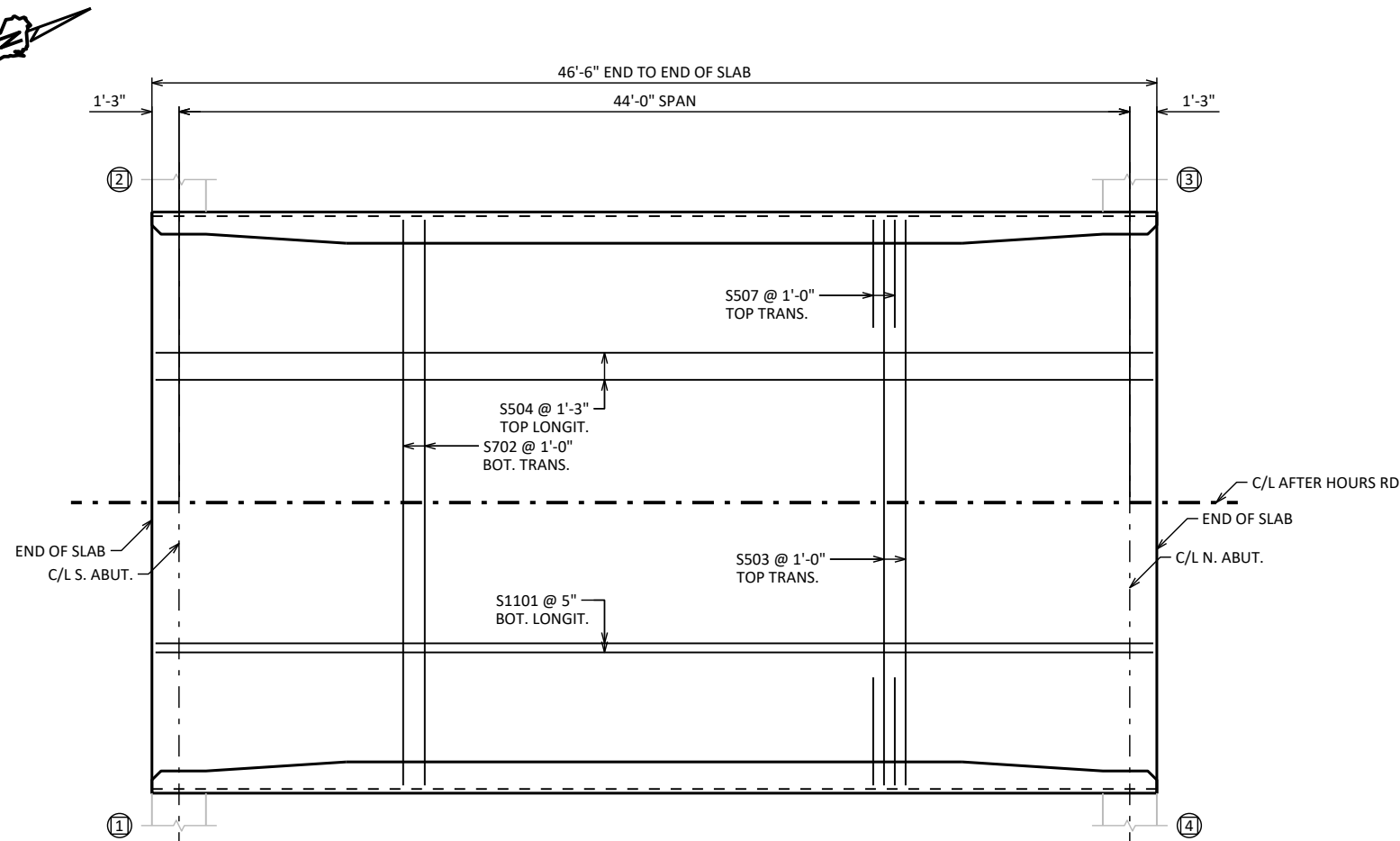
- A01 OPTIONAL CONST. JOINT: KEYWAY FORMED BY A BEVELED 2X6. PROVIDE 3/4" "V" GROOVE ON F.F. OF WINGWALL IF JOINT IS USED.
- A06 SUPPORT ABUTMENT ON HP 10 x 42 PILING, ESTIMATED 45FT LONG WITH A REQUIRED DRIVING RESISTANCE OF 180TONS PER PILE.
- A15 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- A19 18" RUBBERIZED MEMBRANE WATERPROOFING, ONLY IF OPTIONAL CONSTRUCTION JOINT IS USED. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY STRUCTURES".

| NO. | DATE | REVISION | BY |
|--|------|----------------|----|
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | | | |
| STRUCTURE B-16-152 | | | |
| DRAWN BY JGM | | PLANS CK'D CJB | |
| NORTH ABUTMENT DETAILS | | SHEET 7 | |

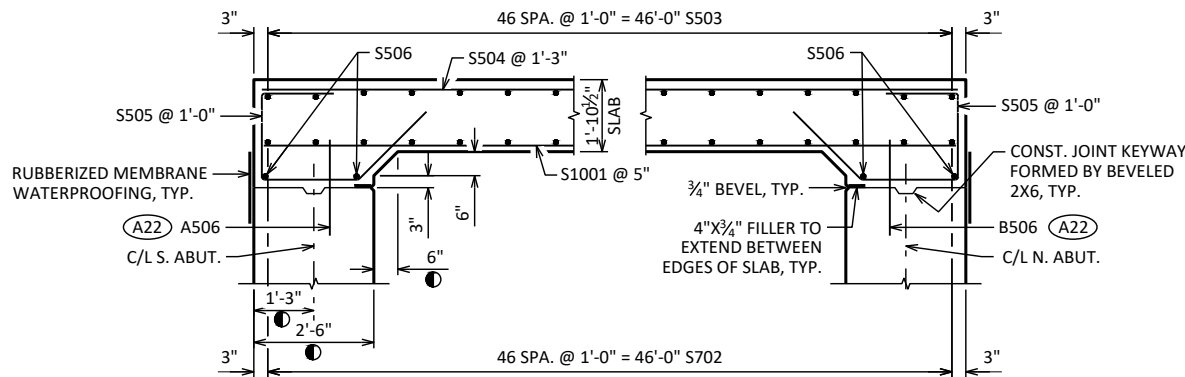
SCALE =



CROSS SECTION THRU ROADWAY



PLAN



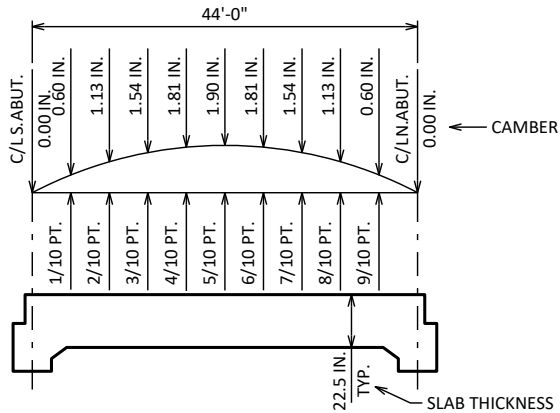
LONGITUDINAL SECTION

DIMENSIONS ARE GIVEN PARALLEL TO ϵ ROADWAY UNLESS OTHERWISE NOTED.

MEASURED NORMAL TO THE ϵ OF ABUTMENT. DIMENSIONS ARE TYPICAL FOR BOTH ABUTMENTS.

A22 A506, B506 BARS SPACED @ 1'-0" CNTRS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

| | | | |
|--|------|----------------|---------|
| NO. | DATE | REVISION | BY |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | | | |
| STRUCTURE B-16-152 | | | |
| DRAWN BY JGM | | PLANS CK'D CJB | |
| SUPERSTRUCTURE | | | SHEET 8 |



CAMBER AND SLAB THICKNESS DIAGRAM

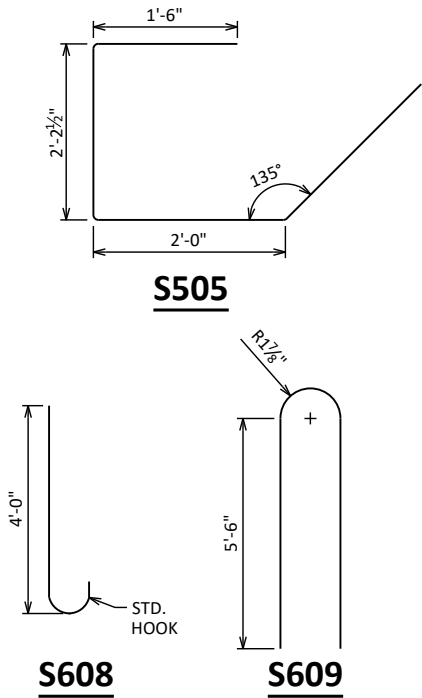
CAMBER SHOWN IS BASED ON 3 TIMES DEAD LOAD DEFLECTIONS. CAMBER SPANS AS SHOWN TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. PARAPETS PLACED ON TOP OF THE SLAB SHALL BE POURED AFTER FALSEWORK HAS BEEN RELEASED, EXCEPT FOR STAGED CONSTRUCTION.

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

| | |
|--------|---|
| LESS | TOP OF SLAB ELEVATION AT FINAL GRADE |
| PLUS | 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

| LOCATION | C/L BRG. S. ABUT. | 1/10 PT. | 2/10 PT. | 3/10 PT. | 4/10 PT. | 5/10 PT. | 6/10 PT. | 7/10 PT. | 8/10 PT. | 9/10 PT. | C/L BRG. N. ABUT. |
|----------------------------------|-------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-------------------|
| W. EDGE OF DECK AT FF OF PARAPET | 1000.08 | 999.79 | 999.54 | 999.31 | 999.11 | 998.93 | 998.78 | 998.66 | 998.57 | 998.50 | 998.47 |
| CROWN OR R/L | 1000.32 | 1000.03 | 999.78 | 999.55 | 999.35 | 999.17 | 999.02 | 998.90 | 998.81 | 998.74 | 998.71 |
| E. EDGE OF DECK AT FF OF PARAPET | 1000.08 | 999.79 | 999.54 | 999.31 | 999.11 | 998.93 | 998.78 | 998.66 | 998.57 | 998.50 | 998.47 |



BILL OF BARS

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

| BAR MARK | COAT | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION |
|----------|------|------------|--------|------|------------|---------------------------------------|
| S1001 | X | 63 | 46'-2" | | | SLAB BOTTOM LONGITUDINAL |
| S702 | X | 47 | 26'-2" | | | SLAB BOTTOM TRANSVERSE |
| S503 | X | 47 | 26'-2" | | | SLAB TOP TRANSVERSE |
| S504 | X | 21 | 46'-2" | | | SLAB TOP LONGITUDINAL |
| S505 | X | 54 | 7'-6" | X | | ABUTMENT DIAPHRAGM STIRRUPS |
| S506 | X | 4 | 26'-2" | | | ABUTMENT DIAPHRAGM LONGITUDINAL |
| S607 | X | 48 | 6'-0" | | | SLAB TOP LONGIT. UNDER RAIL POSTS |
| S608 | X | 16 | 4'-8" | X | | SLAB TOP LONGIT. UNDER RAIL END POSTS |
| S609 | X | 32 | 12'-0" | X | | SLAB TOP HOOKS UNDER RAIL POSTS |
| | | | | | | |

SURVEY TOP OF SLAB ELEVATIONS

| LOCATION | ABUTMENT | 5/10 PT. | ABUTMENT |
|--------------|----------|----------|----------|
| W. GUTTER | | | |
| CROWN OR R/L | | | |
| E. GUTTER | | | |

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE C/L OF ABUTMENTS, THE C/L OF PIERS AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG GUTTER LINES AND CROWN OR R/L. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.

NOTES

FILL IN THE TABLE OF "SURVEY TOP OF SLAB ELEVATIONS" FOR EACH SPAN ON AS BUILT PLANS.

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 (+).

| | | | |
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| | | | |
| NO. | DATE | REVISION | BY |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | | | |
| STRUCTURE B-16-152 | | | |
| DRAWN BY JGM | | PLANS CK'D CIB | |
| SUPERSTRUCTURE DETAILS | | SHEET 9 | |

BILL OF BARS

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

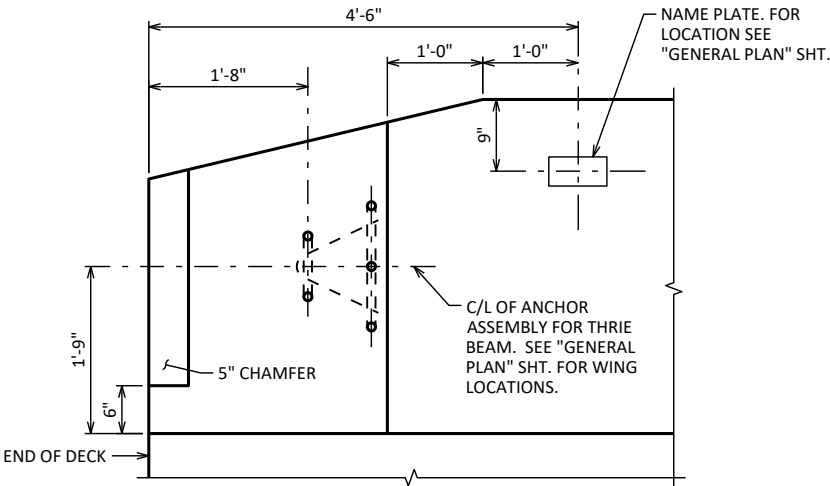
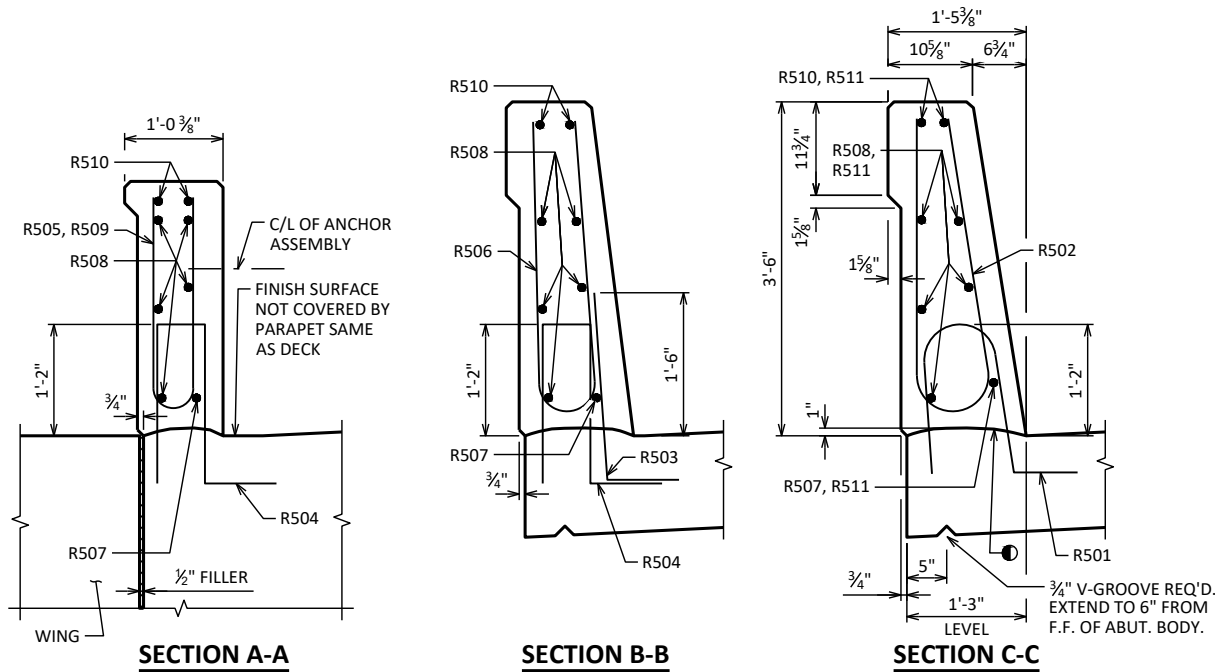
| BAR MARK | COAT | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION |
|----------|------|------------|--------|------|------------|----------------|
| R501 | X | 88 | 4'-5" | X | | PARAPET VERT. |
| R502 | X | 88 | 6'-8" | X | | PARAPET VERT. |
| R503 | X | 48 | 2'-9" | X | | PARAPET VERT. |
| R504 | X | 68 | 4'-4" | X | | PARAPET VERT. |
| R505 | X | 20 | 6'-5" | X | | PARAPET VERT. |
| R506 | X | 24 | 6'-6" | X | | PARAPET VERT. |
| R507 | X | 4 | 17'-3" | X | | PARAPET HORIZ. |
| R508 | X | 20 | 17'-3" | | | PARAPET HORIZ. |
| R509 | X | 24 | 5'-5" | X | ▲ | PARAPET VERT. |
| R510 | X | 8 | 5'-5" | X | | PARAPET HORIZ. |
| R511 | X | 16 | 17'-3" | | | PARAPET HORIZ. |

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

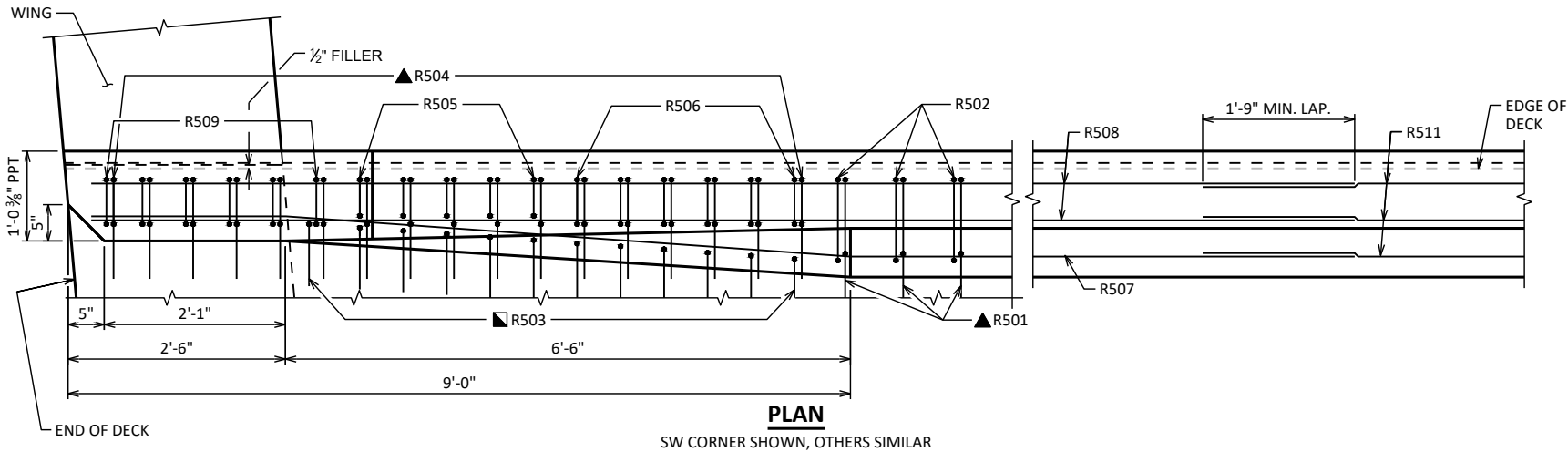
BAR SERIES TABLE

BUNDLE AND TAG EACH SERIES SEPARATELY.

| BAR MARK | NO. REQ'D. | LENGTH |
|----------|---------------|----------------|
| R509 | 4 SERIES OF 6 | 4'-9" TO 6'-1" |

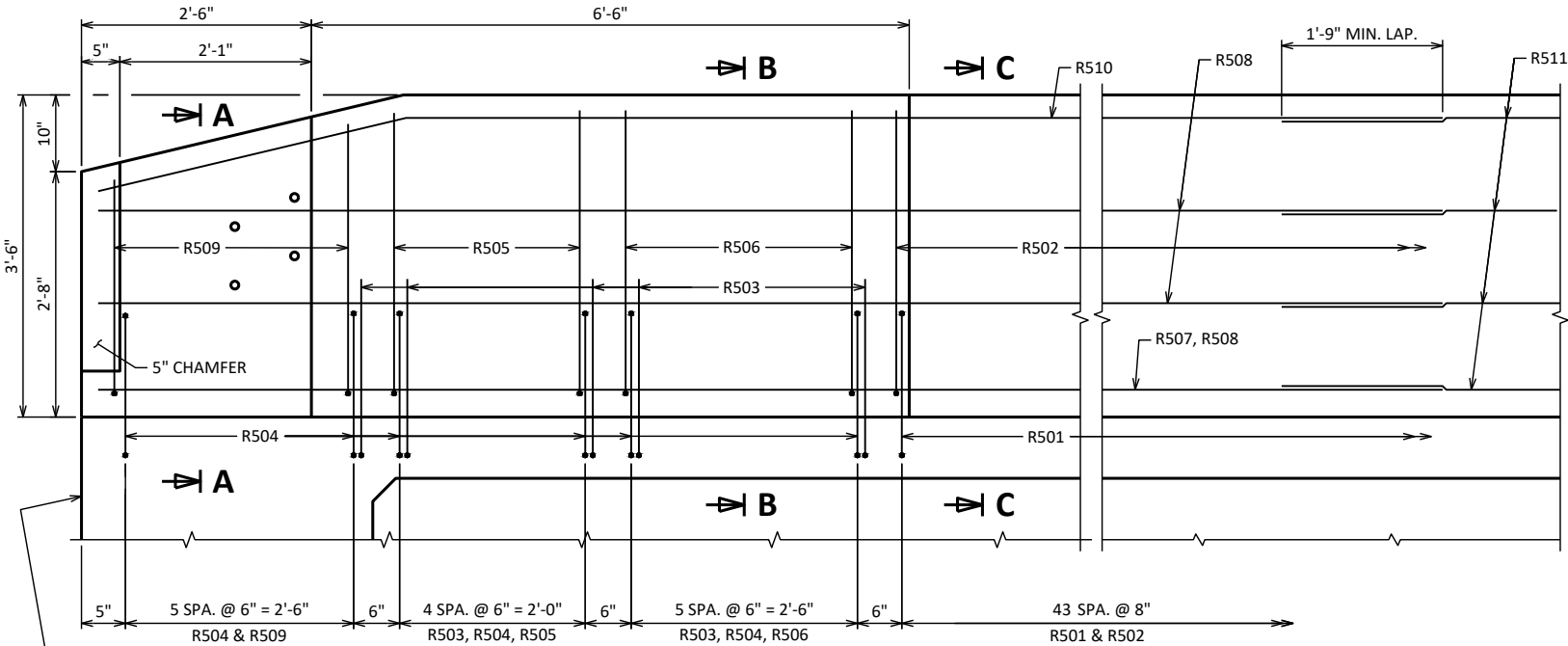


PARAPET END TREATMENT DETAIL
LOOKING AT INSIDE FACE OF PARAPET



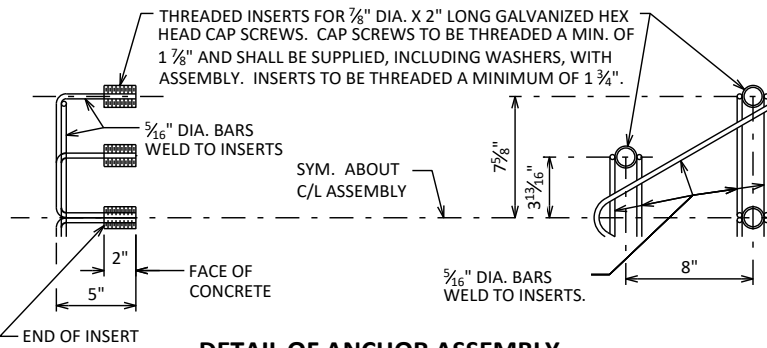
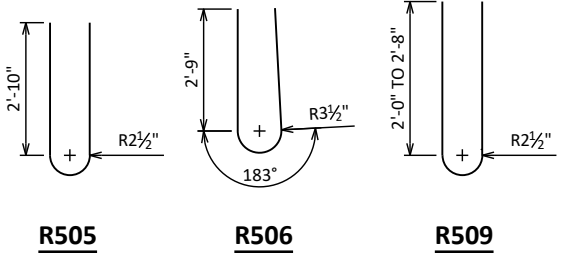
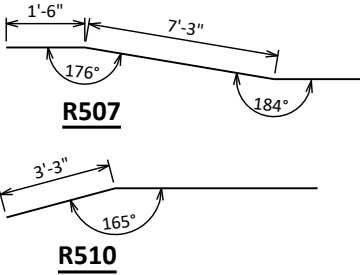
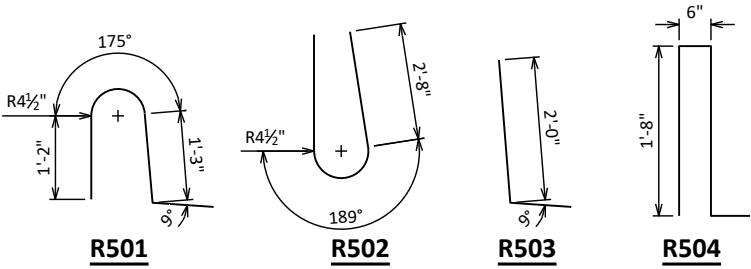
PLAN

SW CORNER SHOWN, OTHERS SIMILAR



INSIDE ELEVATION

SW CORNER SHOWN, OTHERS SIMILAR



DETAIL OF ANCHOR ASSEMBLY

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

ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

- CONST. JOINT - STRIKE OFF AS SHOWN
- USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.
- ▲ R501, R503, AND R504 BARS TO BE TIED TO SUPERSTRUCTURE STEEL BEFORE SUPERSTRUCTURE IS POURED.

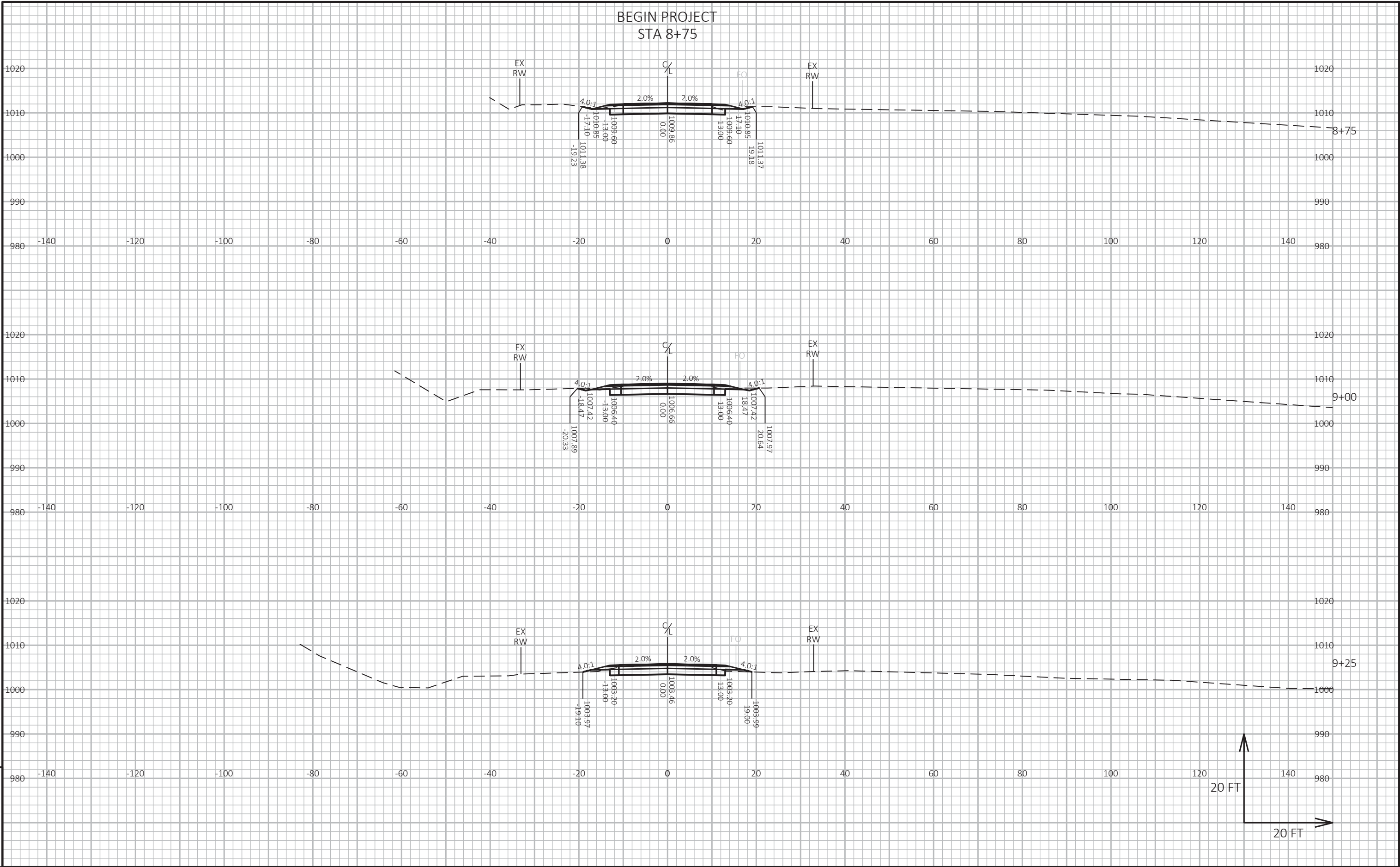
| NO. | DATE | REVISION | BY |
|--|------|----------------|----|
| | | | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | | | |
| STRUCTURE B-16-152 | | | |
| DRAWN BY JGM | | PLANS CK'D CJB | |
| SINGLE SLOPE PARAPET 42SS | | SHEET 10 | |

BRIDGE B-16-0152
EARTHWORK SUMMARY

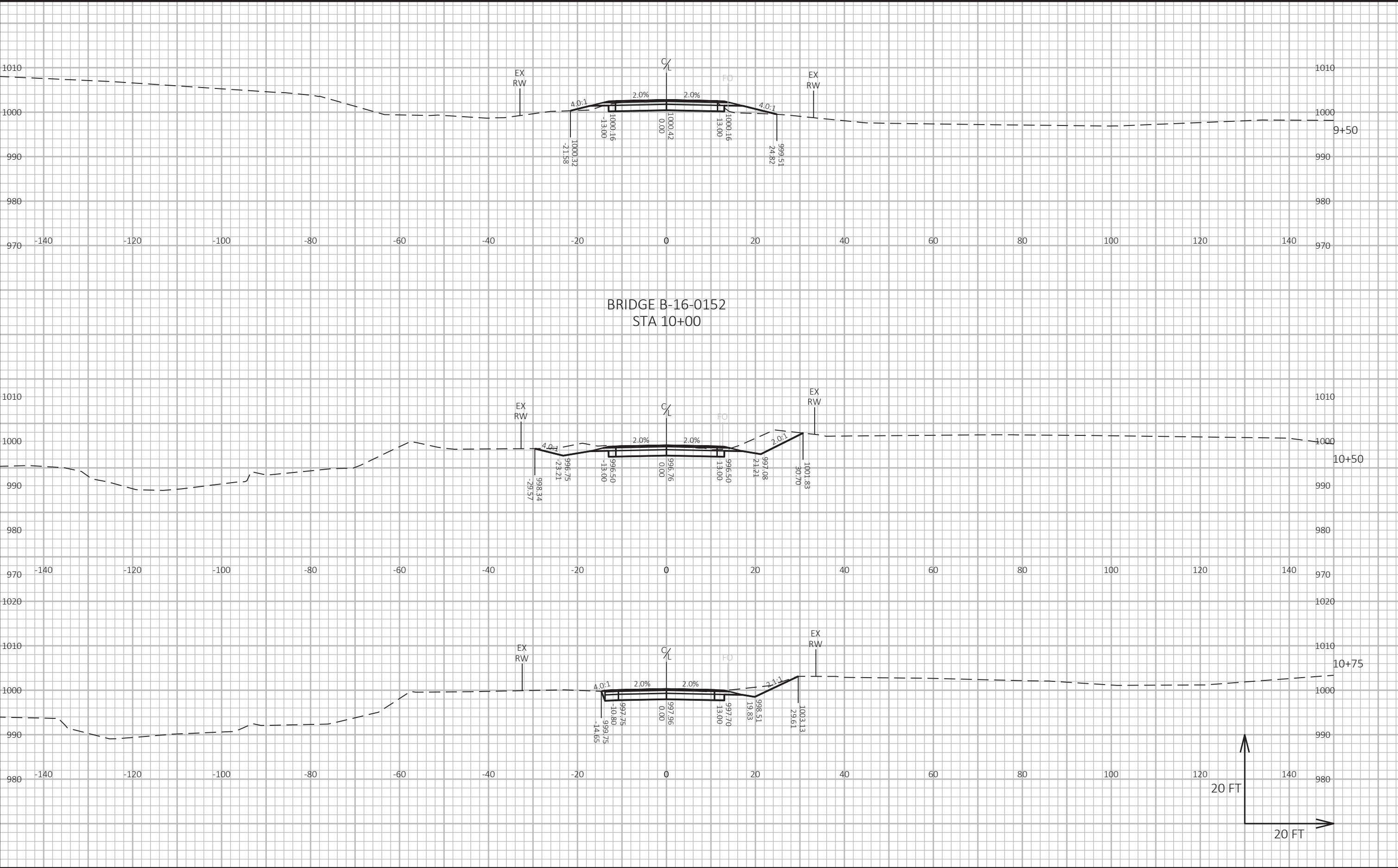
| STATION | REAL STATION | DISTANCE | AREA (SF) | | INCREMENTAL VOL (CY) | | CUMULATIVE VOL (CY) | | MASS ORDINATE |
|---------------------|--------------|----------|-----------|--------|----------------------|-----------------|---------------------|-------------|------------------|
| | | | CUT | FILL | CUT (3) | FILL (1) (2) | CUT 1.00 | FILL (2) | |
| 8+75 | BK | 875.00 | 0.00 | 55.80 | 0.14 | 0.00 | 0.00 | 0.00 | 0.00 |
| 9+00 | | 900.00 | 25.00 | 55.42 | 0.15 | 51.49 | 0.17 | 51.49 | 51.32 |
| 9+25 | | 925.00 | 25.00 | 51.56 | 3.20 | 49.53 | 2.02 | 101.02 | 98.83 |
| 9+50 | | 950.00 | 25.00 | 52.36 | 15.45 | 48.11 | 11.22 | 149.13 | 135.71 |
| 9+77 | | 977.00 | 27.00 | 29.12 | 43.64 | 40.74 | 38.41 | 189.87 | 51.82 |
| STRUCTURE B-16-0152 | | | | | | | | | |
| 10+23 | AH | 1023.00 | 0.00 | 33.14 | 12.57 | 0.00 | 0.00 | 149.13 | 13.42 |
| 10+50 | | 1050.00 | 27.00 | 116.60 | 0.00 | 74.87 | 8.17 | 224.00 | 21.59 |
| 10+75 | | 1075.00 | 25.00 | 73.66 | 0.00 | 90.08 | 0.00 | 314.08 | 21.59 |
| 11+00 | | 1100.00 | 25.00 | 70.70 | 0.00 | 68.83 | 0.00 | 382.92 | 21.59 |
| 11+25 | BK | 1125.00 | 25.00 | 65.30 | 0.00 | 65.96 | 0.00 | 448.88 | 21.59 |

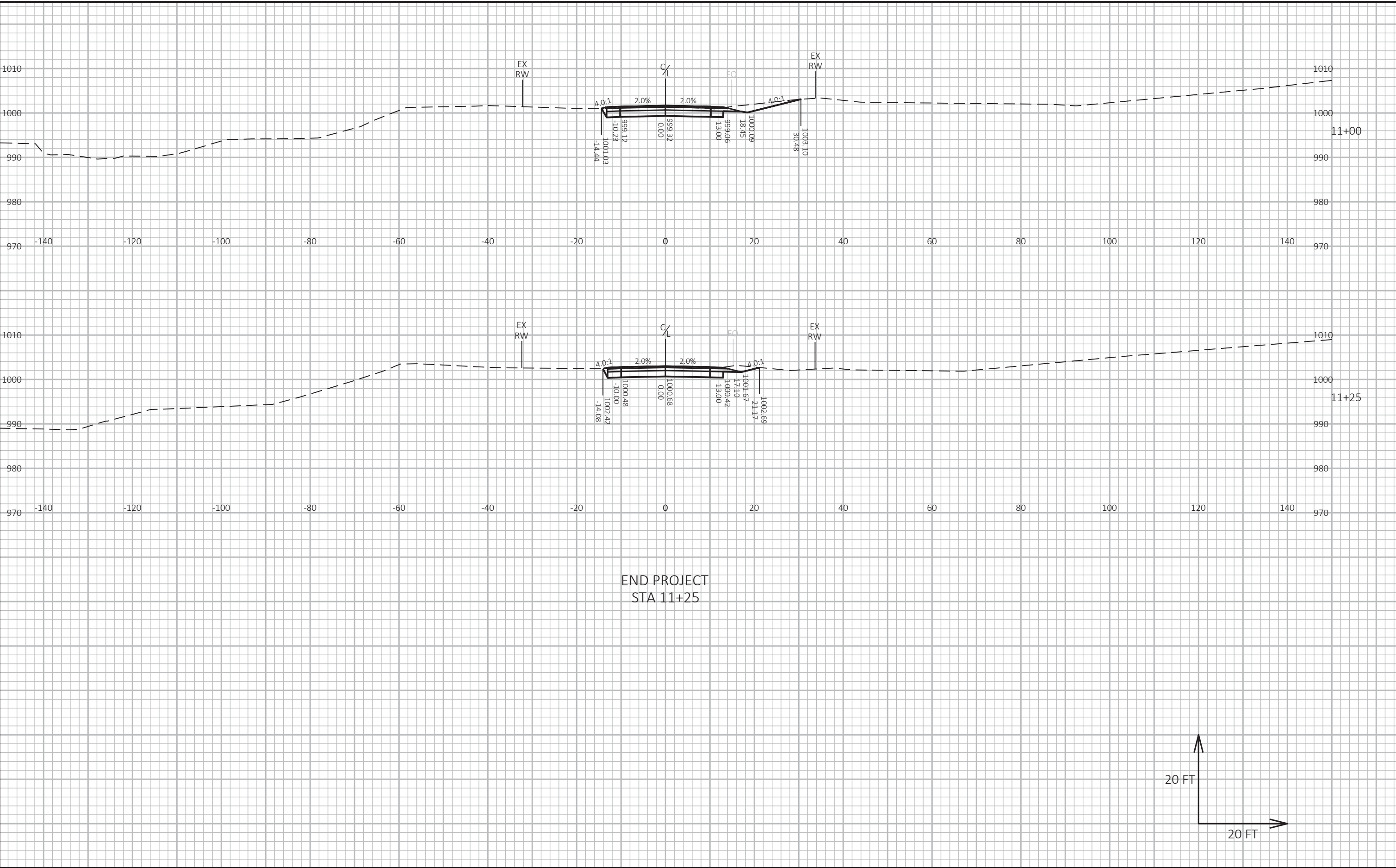
TOTALS 490 60

- (1) - NOT A BID ITEM - FOR INFORMATIONAL PURPOSES ONLY
- (2) - FILL EXPANSION 30%
- (3) - EXISTING ASPHALTIC PAVEMENT IS INCLUDED IN COMMON EXCAVATION TOTALS



| | | | | |
|------------------------|--------------|-----------------|----------------------------------|---------|
| PROJECT NO: 8383-00-70 | HWY: LOC STR | COUNTY: DOUGLAS | CROSS SECTIONS: AFTER HOURS ROAD | SHEET E |
|------------------------|--------------|-----------------|----------------------------------|---------|





Notes



Wisconsin Department of Transportation

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