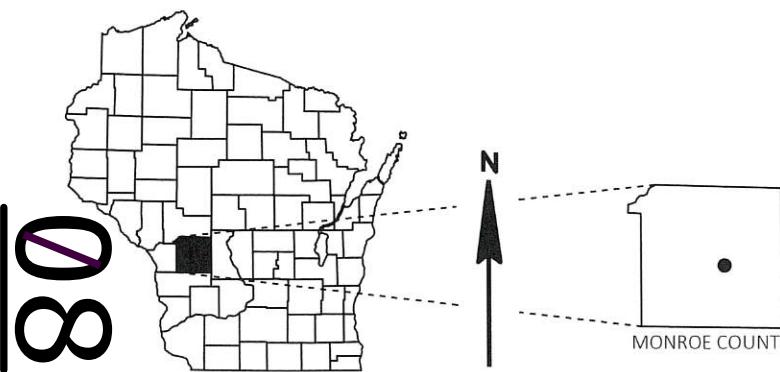


LAX
WITH: N/APROJECT ID:
5025-00-72COUNTY:
MONROEJANUARY 2026
ORDER OF SHEETS

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 Plot
 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 = 44



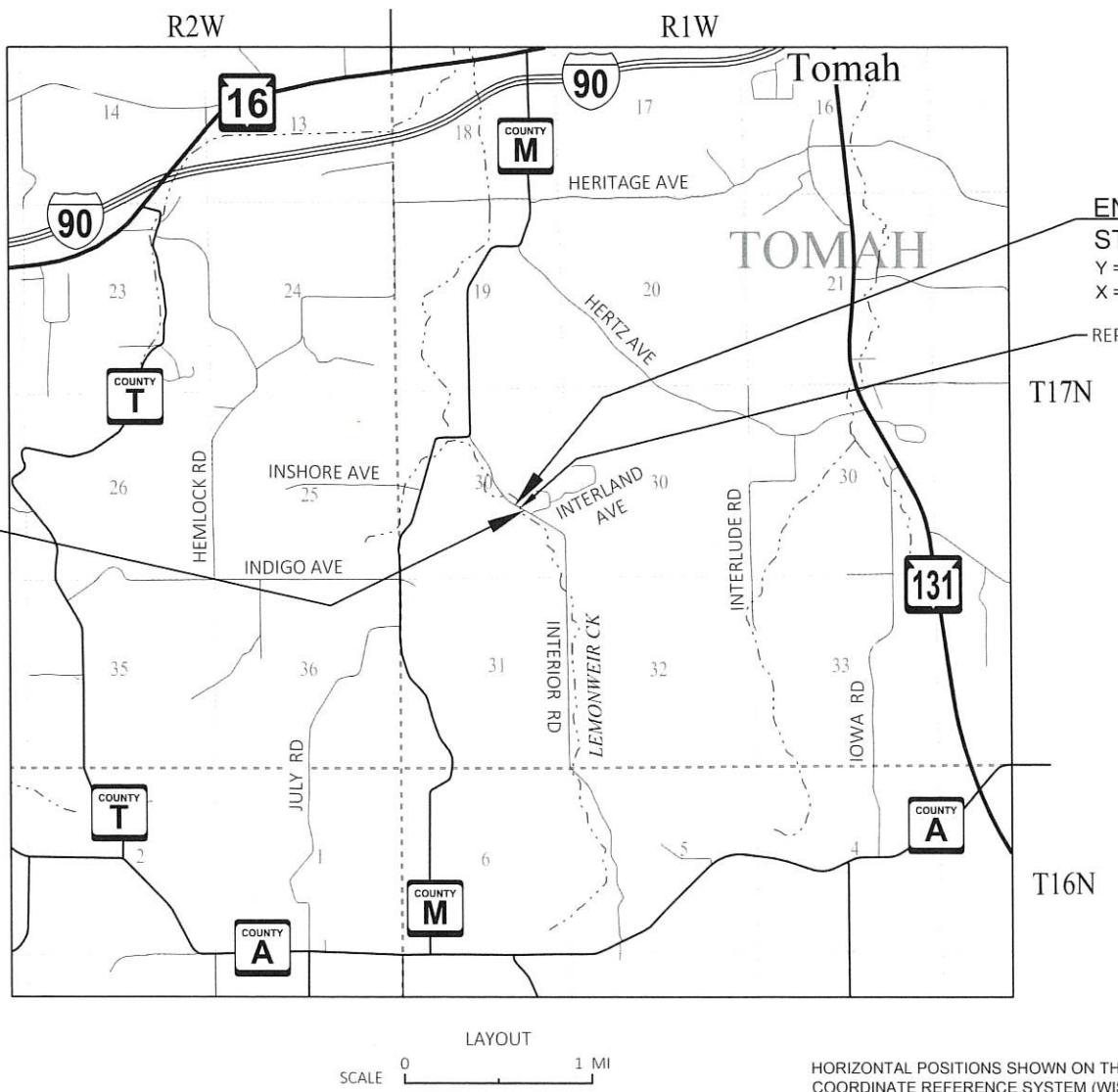
DESIGN DESIGNATION 5025-00-02

A.A.D.T. 2026 = 200
 A.A.D.T. 2046 = 210
 D.H.V. =
 D.D. =
 T. = 19.1%
 DESIGN SPEED = 40 MPH
 ESALS =

CONVENTIONAL SYMBOLS

| PLAN | PROFILE |
|--------------------------------|--|
| CORPORATE LIMITS | GRADE LINE |
| PROPERTY LINE | ORIGINAL GROUND |
| LOT LINE | MARSH OR ROCK PROFILE (To be noted as such) |
| LIMITED HIGHWAY EASEMENT | SPECIAL DITCH |
| EXISTING RIGHT OF WAY | GRADE ELEVATION |
| PROPOSED OR NEW R/W LINE | CULVERT (Profile View) |
| SLOPE INTERCEPT | UTILITIES |
| REFERENCE LINE | ELECTRIC |
| EXISTING CULVERT | FIBER OPTIC |
| PROPOSED CULVERT (Box or Pipe) | GAS |
| COMBUSTIBLE FLUIDS | SANITARY SEWER |
| MARSH AREA | STORM SEWER |
| WOODED OR SHRUB AREA | TELEPHONE |
| | WATER |
| | UTILITY PEDESTAL |
| | POWER POLE |
| | TELEPHONE POLE |

BEGIN PROJECT 5025-00-72
STA 9+00.00'IR'
Y = 370,496.386
X = 698,135.429



HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), MONROE 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 GEOFID 18.

| STATE PROJECT | FEDERAL PROJECT | |
|---------------|-----------------|----------|
| | PROJECT | CONTRACT |
| 5025-00-72 | WISC 2026128 | 1 |
| | | |
| | | |
| | | |

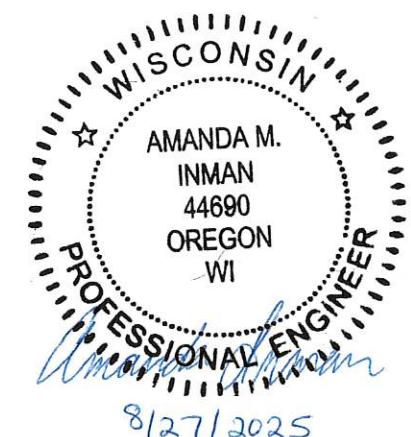
ACCEPTED FOR

TOWN OF TOMAH

Date 2025-06-26
TOWN CHAIRMAN

ORIGINAL PLANS PREPARED BY

AYRES



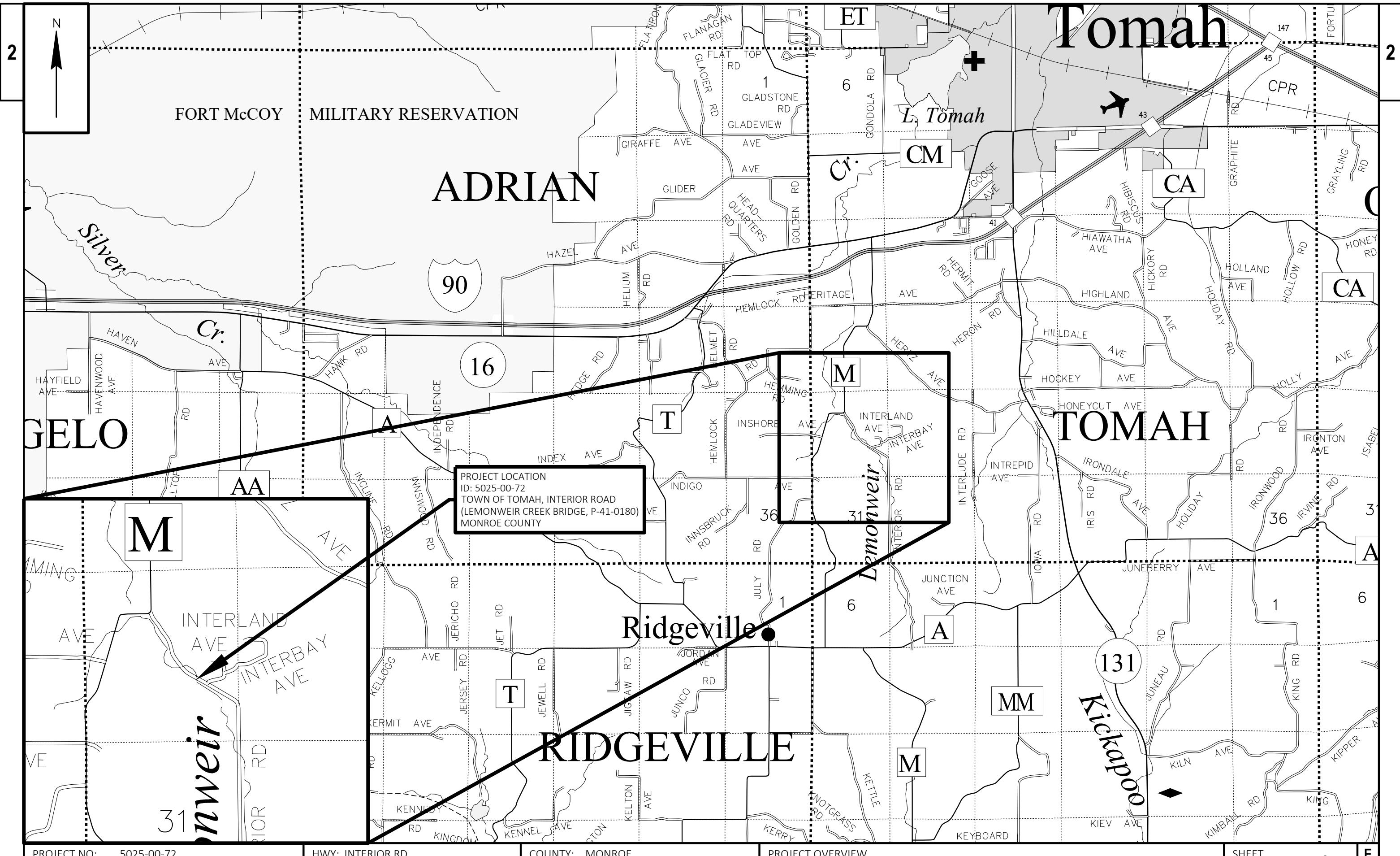
DATE: _____ (Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
 Surveyor AYRES
 Designer AYRES
 Project Manager JOSH SCHOENMANN
 Regional Examiner REGIONAL EXAMINER
 Regional Supervisor KYLE HEMP

APPROVED FOR THE DEPARTMENT
 DATE: 8/12/25 (Signature)

E



GENERAL NOTES

NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY UTILITY WHICH IS NOT A MEMBER OF DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT LOCATION THAT ARE NOT SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR FIELD LOCATING ALL UTILITIES.

A SAWED JOINT WILL BE REQUIRED WHERE NEW PAVEMENT IS TO MEET AN EXISTING PAVED SURFACE.

EXACT TRAFFIC CONTROL LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

ALL SIGN LOCATIONS SHALL BE REVIEWED BY THE ENGINEER PRIOR TO INSTALLATION.

NO TREES OR SHRUBS SHALL BE REMOVED UNLESS DESIGNATED FOR REMOVAL BY THE ENGINEER.

PROTECT FROM DAMAGE AND COMPLETE SHOULDER WORK AROUND ANY EXISTING SIGNS OR MAILBOXES THAT ARE TO REMAIN IN PLACE.

RESTORATION OF EXPOSED SLOPES AND DITCHES SHALL TAKE PLACE WITHIN 7 CALENDAR DAYS AFTER FINISHED GRADING IS COMPLETE.

WETLANDS ARE PRESENT IN THE PROJECT AREA. DO NOT DISTURB WETLANDS OUTSIDE THE PROPOSED SLOPE INTERCEPTS.

IF AN EXISTING SIGN IS TO BE REMOVED AND REPLACED WITH A NEW SIGN, DO NOT REMOVE THE EXISTING SIGN PRIOR TO INSTALLATION OF THE NEW SIGN.

THE LOCATIONS OF EROSION CONTROL ITEMS SHALL BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

HMA UNIT WEIGHT: 112 LB/SY/IN

ABBREVIATIONS

| | |
|--------|------------------------------------|
| A.D.T. | AVERAGE DAILY TRAFFIC |
| ATMS | ARTERIAL TRAFFIC MANAGEMENT SYSTEM |
| BM | BENCHMARK |
| BOC | BACK OF CURB |
| BTWN | BETWEEN |
| C&G | CURB AND GUTTER |
| C.E. | COMMERCIAL ENTRANCE |
| CONST | CONSTRUCTION |
| CP | CONTROL POINT |
| CTR. | CENTER |
| D.D. | DIRECTIONAL DISTRIBUTION |
| D.H.V. | DESIGN HOURLY VOLUME |
| DMS | DYNAMIC MESSAGE SIGN |
| EB | EASTBOUND |
| EXIST | EXISTING |
| GALV. | GALVANIZED |
| HMA | HOT MIX ASPHALT |
| H.S. | HIGH STRENGTH |
| ITS | INTELLIGENT TRAFFIC SYSTEM |
| MAX | MAXIMUM |
| MIN | MINIMUM |
| NB | NORTHBOUND |
| NOR | NORMAL |
| PC | POINT OF CURVATURE |
| PCC | POINT OF COMMON CURVATURE |
| PGL | PROFILE GRADE LINE |
| PI | POINT OF INTERSECTION |
| PRC | POINT OF REVERSE CURVATURE |
| PT | POINT OF TANGENCY |
| PVT | PAVEMENT |
| R/L | REFERENCE LINE |
| REQ'D | REQUIRED |
| SB | SOUTHBOUND |
| SYM | SYMMETRICAL |
| T. | PERCENT TRUCKS |
| TCC | TRAFFIC CONDITION CAMERA |
| TYP | TYPICAL |
| VAR | VARIABLE |
| WB | WESTBOUND |
| Wt. | WEIGHT |
| X-WALK | CROSS WALK |

CONTACTS

MONROE COUNTY HIGHWAY DEPARTMENT
DAVID OHNSTAD
HIGHWAY COMMISSIONER
803 WASHINGTON STREET
SPARTA, WI 54656
P: (608) 269-8740
E: HIGHWAYS@CO.MONROE.WI.US

DESIGNER
AMANDA INMAN, PE
AYRES ASSOCIATES
5201 EAST TERRACE DRIVE, SUITE 200
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P: (608) 443-1239
E: INMANA@AYRESASSOCIATES.COM

UTILITIES
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MATT RIGGS
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OAKDALE, WI 54649
P: (608) 372-8828
C: (608) 343-3669
E: MRIGGS@OAKDALEREC.COOP

TOWN OF TOMAH
TODD SPARKS
CHAIRMAN
17871 HOLBROOK ROAD
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P: (608) 372-4847
E: TOWNOFTOMAH@CENTURYTEL.NET

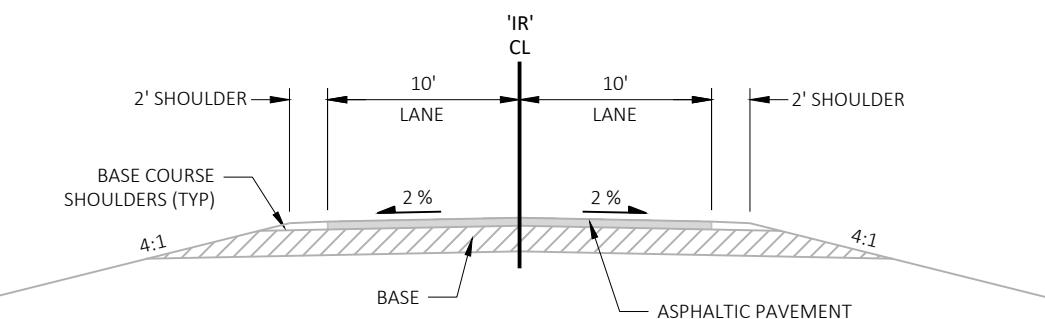
WISCONSIN DEPARTMENT OF TRANSPORTATION
PEGGY WISCHHOFF, PE
2101 WRIGHT ST
MADISON, WI 53704
P: (608) 246-5328
E: PEGGYF.WISCHHOFF@DOT.WI.GOV

BRIGHTSPEED
TOM L. MURRAY
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LA CROSSE, WI 54601
P: 980-376-1555
E: TOM.L.MURRAY@BRIGHTSPEED.COM

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
KAREN KALVELAGE
DNR WEST REGION HEADQUARTERS
3550 MORMON COULEE RD
LA CROSSE, WI 54601
P: (608) 785-9115
E: KAREN.KALVELAGE@WISCONSIN.GOV

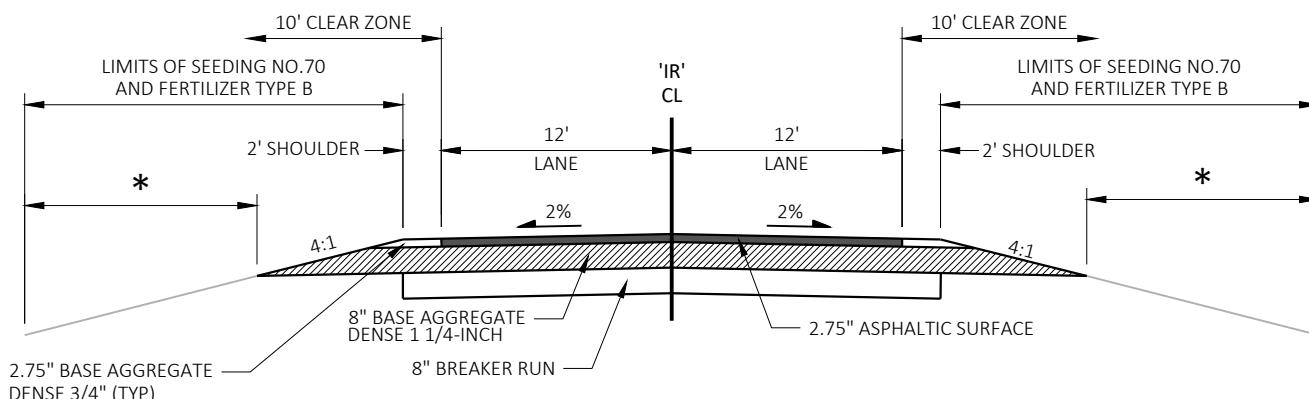
DIGGERS HOTLINE
Dial 800 or (800)242-8511
www.DiggersHotline.com

** DENOTES UTILITIES THAT ARE NOT DIGGERS
HOTLINE MEMBERS



EXISTING TYPICAL SECTION

STA. 9+00'IR' TO STA. 11+00'IR'



FINISHED TYPICAL SECTION

STA. 9+00'IR' TO STA. 11+00'IR'

* LIMITS OF EROSION MAT AND SALVAGED TOPSOIL. SEE PLAN AND PROFILE SHEET FOR EROSION MAT TYPES.

Estimate Of Quantities

5025-00-72

| Line | Item | Item Description | Unit | Total | Qty |
|------|----------|--|------|------------|------------|
| 0002 | 201.0105 | Clearing | STA | 2.000 | 2.000 |
| 0004 | 201.0205 | Grubbing | STA | 2.000 | 2.000 |
| 0006 | 203.0250 | Removing Structure Over Waterway Remove Debris (structure) 01. P-41-0180 | EACH | 1.000 | 1.000 |
| 0008 | 204.0170 | Removing Fence | LF | 200.000 | 200.000 |
| 0010 | 205.0100 | Excavation Common | CY | 184.000 | 184.000 |
| 0012 | 206.1001 | Excavation for Structures Bridges (structure) 01. B-41-0339 | EACH | 1.000 | 1.000 |
| 0014 | 210.1500 | Backfill Structure Type A | TON | 285.000 | 285.000 |
| 0016 | 213.0100 | Finishing Roadway (project) 01. 5025-00-72 | EACH | 1.000 | 1.000 |
| 0018 | 305.0110 | Base Aggregate Dense 3/4-Inch | TON | 13.000 | 13.000 |
| 0020 | 305.0120 | Base Aggregate Dense 1 1/4-Inch | TON | 190.000 | 190.000 |
| 0022 | 311.0110 | Breaker Run | TON | 180.000 | 180.000 |
| 0024 | 415.0410 | Concrete Pavement Approach Slab | SY | 138.000 | 138.000 |
| 0026 | 465.0105 | Asphaltic Surface | TON | 40.000 | 40.000 |
| 0028 | 502.0100 | Concrete Masonry Bridges | CY | 135.000 | 135.000 |
| 0030 | 502.3200 | Protective Surface Treatment | SY | 176.000 | 176.000 |
| 0032 | 505.0400 | Bar Steel Reinforcement HS Structures | LB | 4,500.000 | 4,500.000 |
| 0034 | 505.0600 | Bar Steel Reinforcement HS Coated Structures | LB | 18,160.000 | 18,160.000 |
| 0036 | 513.4061 | Railing Tubular Type M | LF | 88.800 | 88.800 |
| 0038 | 516.0500 | Rubberized Membrane Waterproofing | SY | 12.000 | 12.000 |
| 0040 | 550.0020 | Pre-Boring Rock or Consolidated Materials | LF | 140.000 | 140.000 |
| 0042 | 550.1100 | Piling Steel HP 10-Inch X 42 Lb | LF | 315.000 | 315.000 |
| 0044 | 606.0300 | Riprap Heavy | CY | 130.000 | 130.000 |
| 0046 | 612.0406 | Pipe Underdrain Wrapped 6-Inch | LF | 160.000 | 160.000 |
| 0048 | 618.0100 | Maintenance and Repair of Haul Roads (project) 01. 5025-00-72 | EACH | 1.000 | 1.000 |
| 0050 | 619.1000 | Mobilization | EACH | 1.000 | 1.000 |
| 0052 | 624.0100 | Water | MGAL | 4.000 | 4.000 |
| 0054 | 625.0500 | Salvaged Topsoil | SY | 210.000 | 210.000 |
| 0056 | 628.1504 | Silt Fence | LF | 600.000 | 600.000 |
| 0058 | 628.1520 | Silt Fence Maintenance | LF | 1,190.000 | 1,190.000 |
| 0060 | 628.1905 | Mobilizations Erosion Control | EACH | 4.000 | 4.000 |
| 0062 | 628.1910 | Mobilizations Emergency Erosion Control | EACH | 4.000 | 4.000 |
| 0064 | 628.2008 | Erosion Mat Urban Class I Type B | SY | 260.000 | 260.000 |
| 0066 | 628.6005 | Turbidity Barriers | SY | 350.000 | 350.000 |
| 0068 | 629.0210 | Fertilizer Type B | CWT | 0.300 | 0.300 |
| 0070 | 630.0130 | Seeding Mixture No. 30 | LB | 19.000 | 19.000 |
| 0072 | 630.0200 | Seeding Temporary | LB | 11.000 | 11.000 |
| 0074 | 630.0500 | Seed Water | MGAL | 9.500 | 9.500 |
| 0076 | 634.0612 | Posts Wood 4x6-Inch X 12-FT | EACH | 4.000 | 4.000 |
| 0078 | 637.2230 | Signs Type II Reflective F | SF | 12.000 | 12.000 |
| 0080 | 638.2602 | Removing Signs Type II | EACH | 4.000 | 4.000 |
| 0082 | 638.3000 | Removing Small Sign Supports | EACH | 4.000 | 4.000 |
| 0084 | 642.5001 | Field Office Type B | EACH | 1.000 | 1.000 |
| 0086 | 643.0420 | Traffic Control Barricades Type III | DAY | 1,620.000 | 1,620.000 |
| 0088 | 643.0705 | Traffic Control Warning Lights Type A | DAY | 2,520.000 | 2,520.000 |
| 0090 | 643.0900 | Traffic Control Signs | DAY | 1,260.000 | 1,260.000 |
| 0092 | 643.5000 | Traffic Control | EACH | 1.000 | 1.000 |
| 0094 | 645.0111 | Geotextile Type DF Schedule A | SY | 100.000 | 100.000 |
| 0096 | 645.0120 | Geotextile Type HR | SY | 260.000 | 260.000 |
| 0098 | 650.4500 | Construction Staking Subgrade | LF | 157.000 | 157.000 |

Estimate Of Quantities

5025-00-72

| Line | Item | Item Description | Unit | Total | Qty |
|------|------------|--|------|---------|---------|
| 0100 | 650.5000 | Construction Staking Base | LF | 112.000 | 112.000 |
| 0102 | 650.6501 | Construction Staking Structure Layout (structure) 01. B-41-0339 | EACH | 1.000 | 1.000 |
| 0104 | 650.7000 | Construction Staking Concrete Pavement | LF | 45.000 | 45.000 |
| 0106 | 650.9911 | Construction Staking Supplemental Control (project) 01. 5025-00-72 | EACH | 1.000 | 1.000 |
| 0108 | 650.9920 | Construction Staking Slope Stakes | LF | 157.000 | 157.000 |
| 0110 | 690.0150 | Sawing Asphalt | LF | 38.000 | 38.000 |
| 0112 | 715.0502 | Incentive Strength Concrete Structures | DOL | 810.000 | 810.000 |
| 0114 | 715.0720 | Incentive Compressive Strength Concrete Pavement | DOL | 500.000 | 500.000 |
| 0116 | 999.2000.S | Installing and Maintaining Bird Deterrent System (station) 01. 10+00 | EACH | 1.000 | 1.000 |

INTERIOR ROAD EARTHWORK SUMMARY

| From/To Station | Location | Common Excavation (1) (Item 205.0100) | | Unexpanded Fill | Expanded Fill (2) | Mass Ordinate +/- (3) | Waste | Borrow (Item 208.0100) | Comment: |
|-----------------|-------------|---------------------------------------|----------|-----------------|-------------------|-----------------------|-------|------------------------|--------------------------------------|
| | | Cut | Unusable | | | | | | |
| 9+00 to 11+00 | Interior Rd | 151 | 33 | 88 | 114 | 37 | | 0 | Mass ordinate is positive, no borrow |
| | TOTAL | 184 | | | 114 | | | | |

3

3

1) Common Excavation is the Cut. Unusable excavation is existing pavement. Item number 205.0100.

2) Expanded Fill. Factor = 1.30; Expanded Fill = Unexpanded Fill * Fill Factor

3) The Mass Ordinate + (waste) or - (borrow)

4) All quantities shown in CY.

ASPHALTIC PAVEMENT AND AGGREGATE BASE

| CATEGORY | STATION | TO | STATION | LOCATION | 305.0110 | 305.0120 | 311.0110 | 465.0105 | 624.0100 |
|----------|------------|----|---------|--------------|----------------|------------------|-------------|-----------|----------|
| | | | | | BASE AGGREGATE | BASE AGGREGATE | | ASPHALTIC | |
| | | | | | DENSE 3/4-INCH | DENSE 1 1/4-INCH | BREAKER RUN | SURFACE | WATER |
| | | | | | TON | TON | TON | TON | MGAL |
| 0010 | 9+00 | - | 9+83 | SE of Bridge | 7 | 90 | 90 | 19 | 2.1 |
| 0010 | 10+11 | - | 11+00 | NW of Bridge | 6 | 100 | 90 | 21 | 1.9 |
| | TOTAL 0010 | | | | 13 | 190 | 180 | 40 | 4.0 |

CONCRETE PAVEMENT APPROACH SLABS

415.0410
CONCRETE PAVEMENT
APPROACH SLAB

| CATEGORY | STATION | TO | STATION | LOCATION | SY | REMARKS | 690.0150 SAWING ASPHALT | |
|----------|------------|----|---------|-------------|----|---------|----------------------------|---------|
| | | | | | | | CATEGORY | STATION |
| 0010 | 9+53 | - | 9+83 | SE approach | 69 | | 0010 | 9+00 |
| 0010 | 10+11 | - | 10+41 | NW approach | 69 | | 0010 | 11+00 |
| | TOTAL 0010 | | | | | | TOTAL 0010 | 38 |

TOTAL 0010 138

SAWCUT ASPHALT

REMOVING SIGNS

638.2602 638.3000
REMOVING REMOVING SMALL
SIGNS TYPE II SIGN SUPPORTS

| CATEGORY | LOCATION | EACH | EACH | REMARKS |
|----------|---------------|------|------|-------------------|
| | | | | |
| 0010 | Interior Road | 4 | 4 | BRIDGE HASH MARKS |
| | TOTAL 0010 | 4 | 4 | |

SIGNS

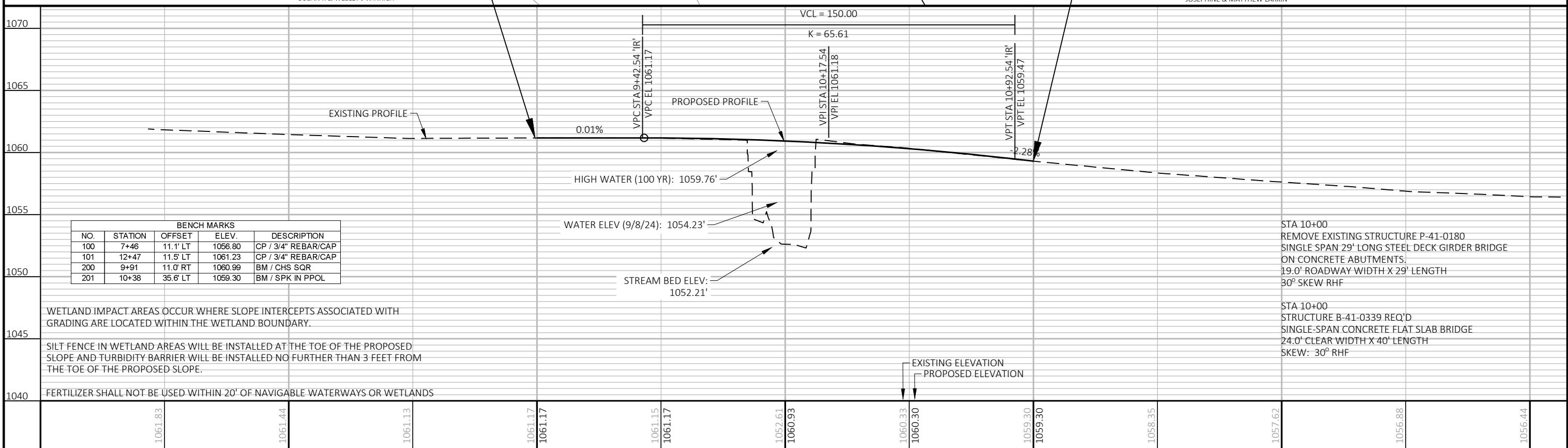
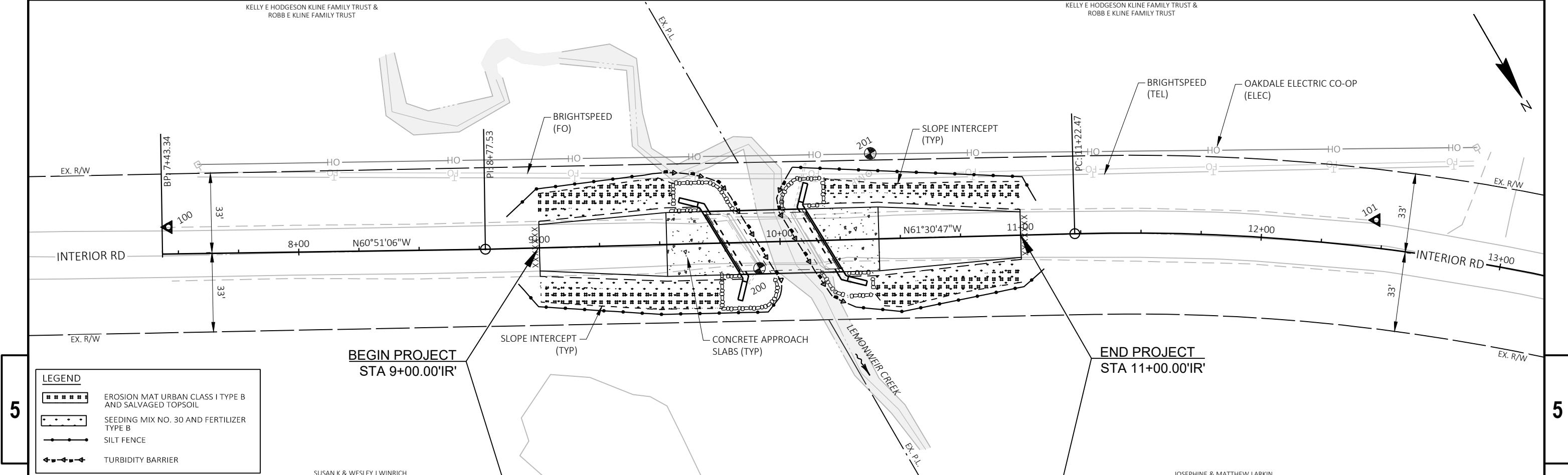
634.0612 637.2230
POSTS WOOD 4X6- SIGNS TYPE II

| CATEGORY | SIGN CODE | SIZE INCH X 12-FT | LOCATION | EACH | SF | REMARKS |
|----------|------------|----------------------|----------|------|----|-------------------|
| | | | | | | |
| 0010 | W5-52L | 12.00 0+36 | LT | 1 | 3 | BRIDGE HASH MARKS |
| 0010 | W5-52R | 12.00 0+36 | RT | 1 | 3 | BRIDGE HASH MARKS |
| 0010 | W5-52R | 12.00 0+36 | LT | 1 | 3 | BRIDGE HASH MARKS |
| 0010 | W5-52L | 12.00 0+36 | RT | 1 | 3 | BRIDGE HASH MARKS |
| | TOTAL 0010 | 4 | | 12 | | |

TRAFFIC CONTROL

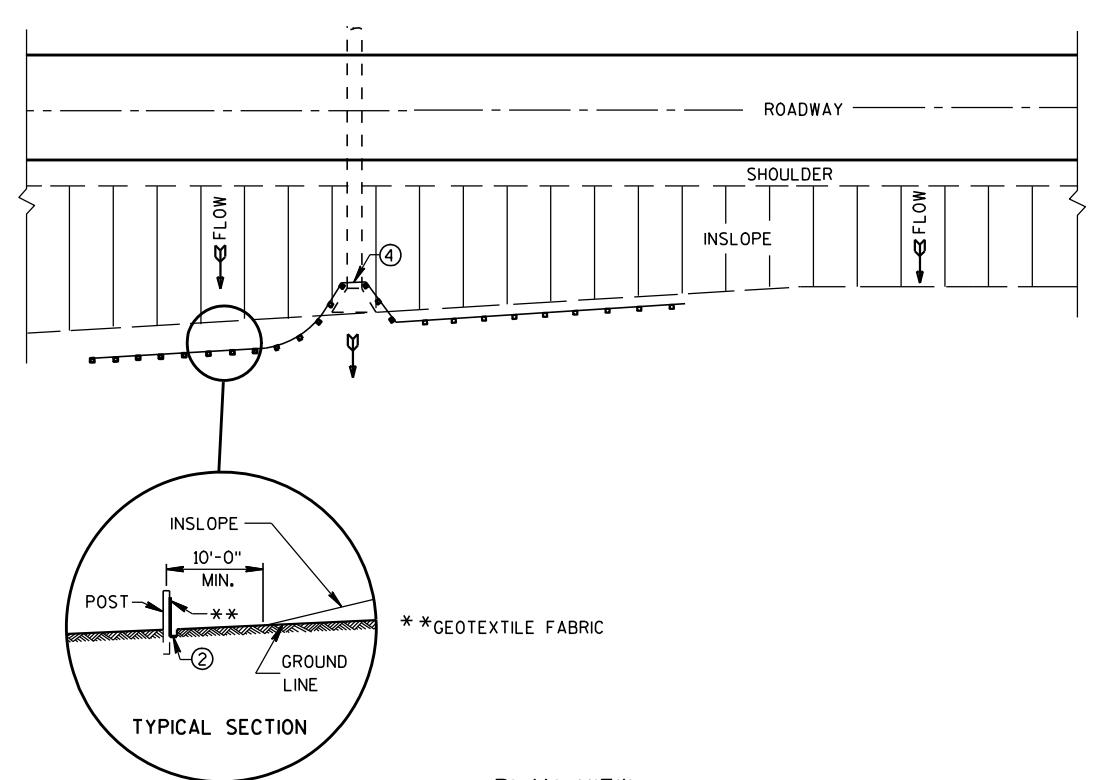
| CATEGORY | LOCATION | DURATION DAYS | NO. | III DAY | 643.0420 TRAFFIC CONTROL BARRICADES TYPE | 643.0705 TRAFFIC CONTROL WARNING LIGHTS | 643.0900 TRAFFIC TYPE A CONTROL SIGNS | 643.5000 TRAFFIC CONTROL CONTROL EACH | REMARKS |
|----------|---------------|------------------|-------|------------|--|---|--|---|---------|
| | | | | | | | | | |
| | | | | | | | | | |
| 0010 | Per SDD 15C2 | 90.00 | 18.00 | 1,620 | 28 | 2,520 | 14 | 1,260 | - |
| 0010 | Interior Road | - | - | - | - | - | - | - | 1 |
| | TOTAL 0010 | | | 1,620 | | 2,520 | | 1,260 | 1 |

ALL QUANTITIES CATEGORY 0010 UNLESS OTHERWISE NOTED

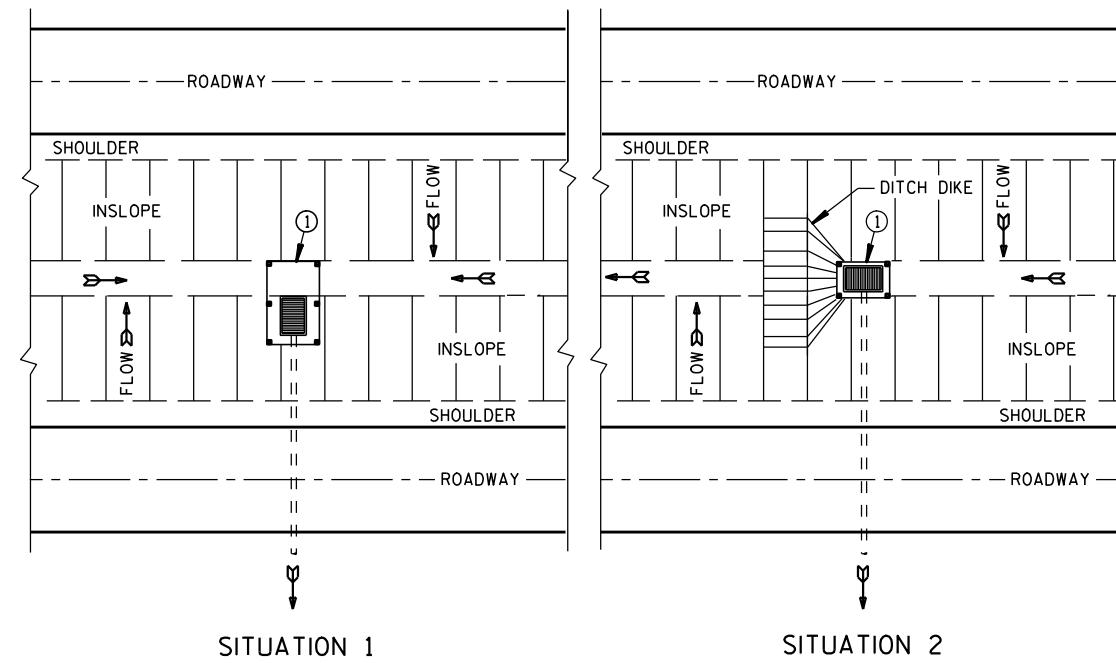


Standard Detail Drawing List

| | |
|-----------|--|
| 08E09-06 | SILT FENCE |
| 08E11-02 | TURBIDITY BARRIER |
| 12A03-10 | NAME PLATE (STRUCTURES) |
| 13B02-09A | CONCRETE PAVEMENT APPROACH SLAB |
| 15C02-09A | BARRICADES AND SIGNS FOR MAINLINE CLOSURES |
| 15C02-09B | BARRICADES AND SIGNS FOR VARIOUS CLOSURES |
| 15C06-12 | SIGNING & MARKING FOR TWO LANE BRIDGES |



PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE

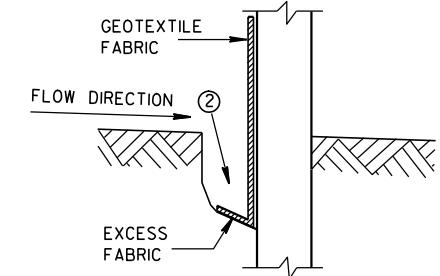


SILT FENCE AT MEDIAN SURFACE DRAINS

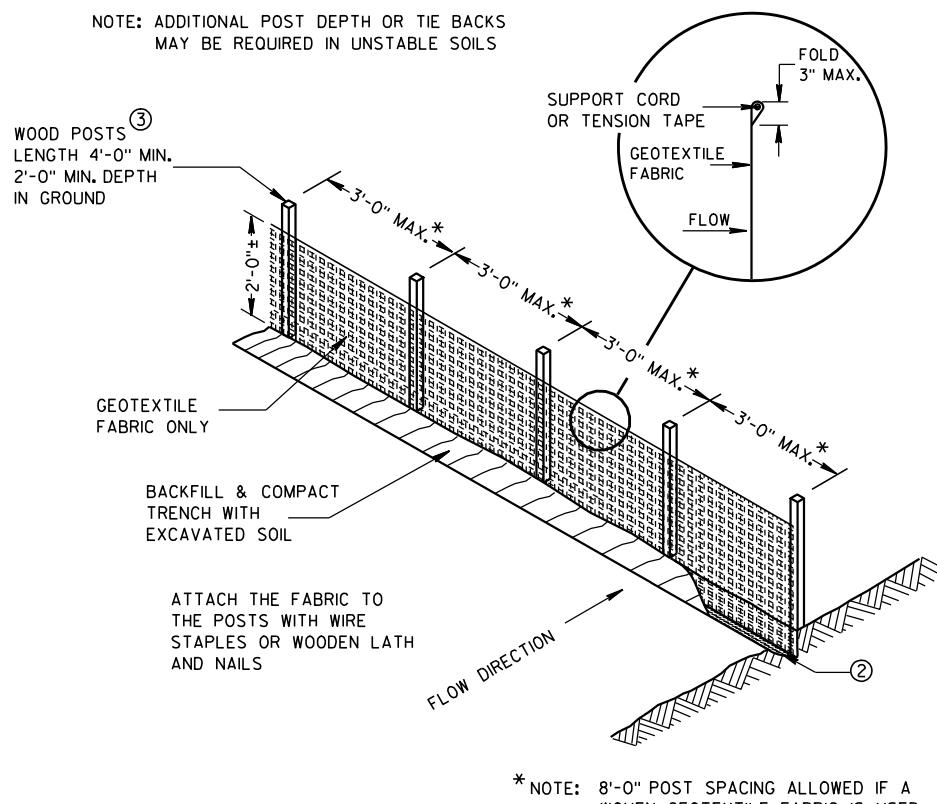
GENERAL NOTES

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

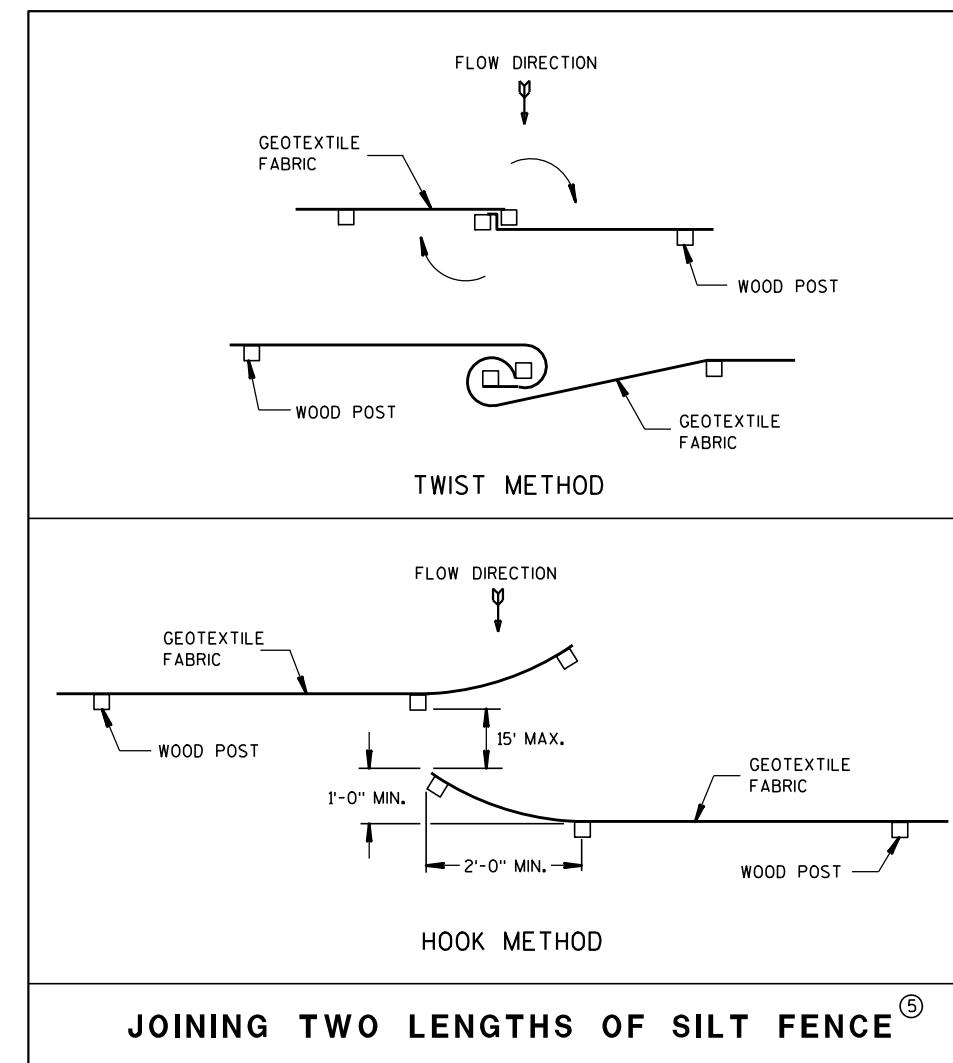
- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1/8" X 1/8" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



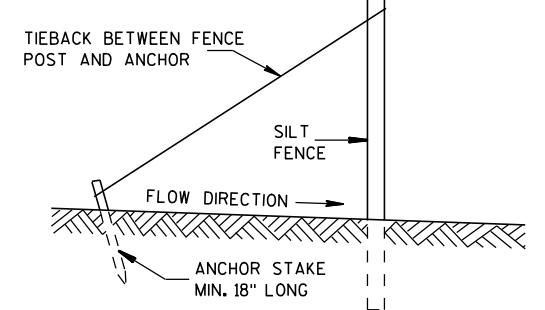
TRENCH DETAIL



SILT FENCE

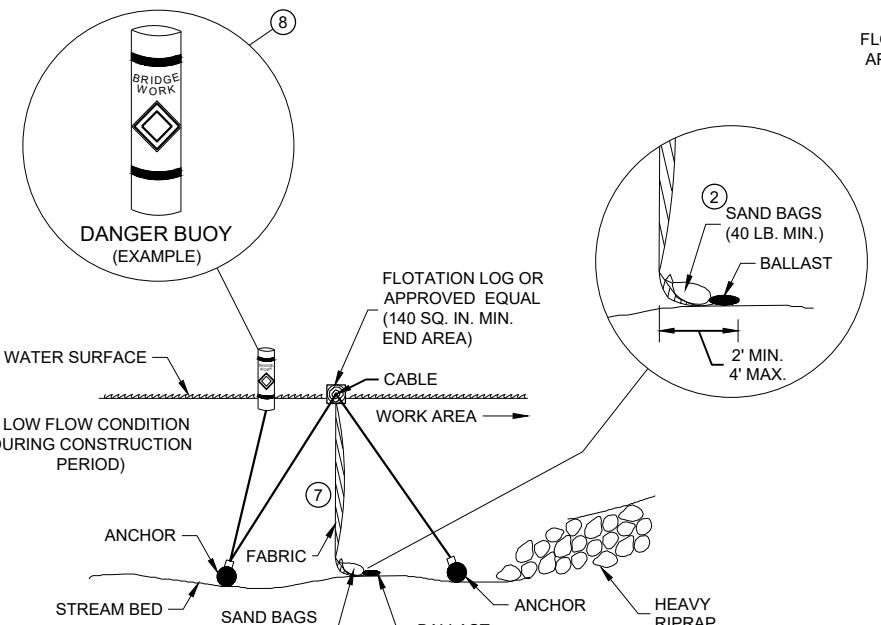


JOINING TWO LENGTHS OF SILT FENCE^⑤

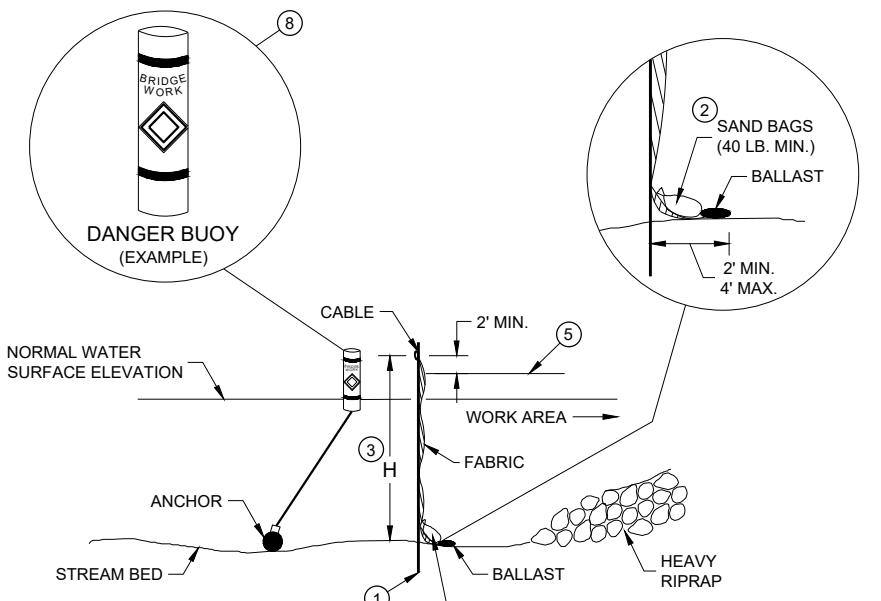


SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

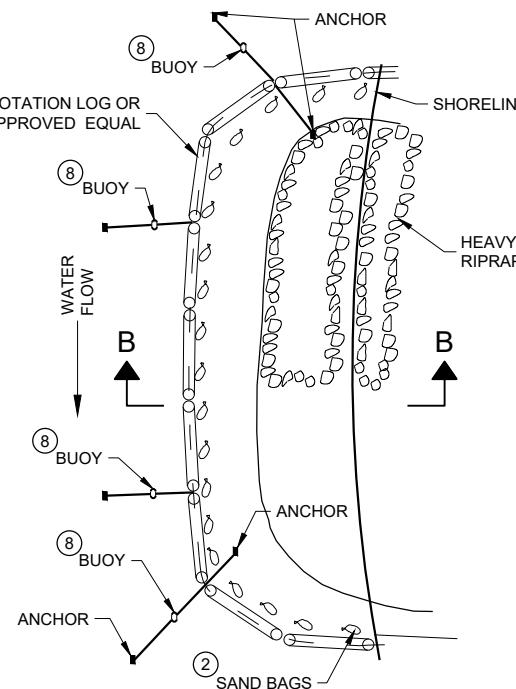
| | |
|--|-----------------|
| SILT FENCE | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | |
| APPROVED | /S/ Beth Cannon |
| 4-29-05 | DATE |
| CHIEF ROADWAY DEVELOP 10 | |
| FHWA | |



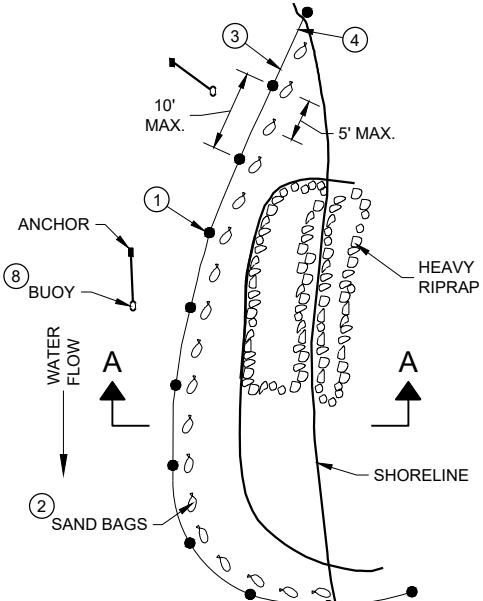
SECTION B - B

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


SECTION A - A

TURBIDITY BARRIER - STANDARD POST INSTALLATION
TURBIDITY BARRIER PLACEMENT DETAILS


PLAN VIEW



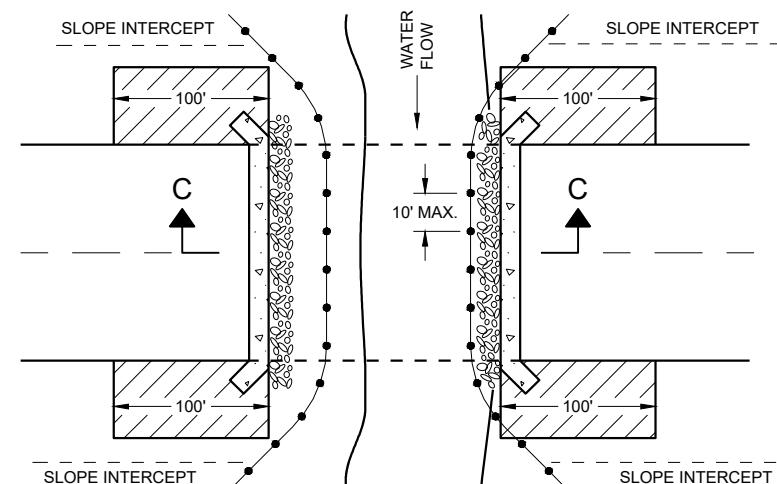
PLAN VIEW

GENERAL NOTES

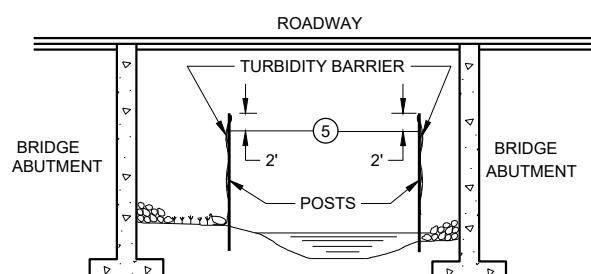
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

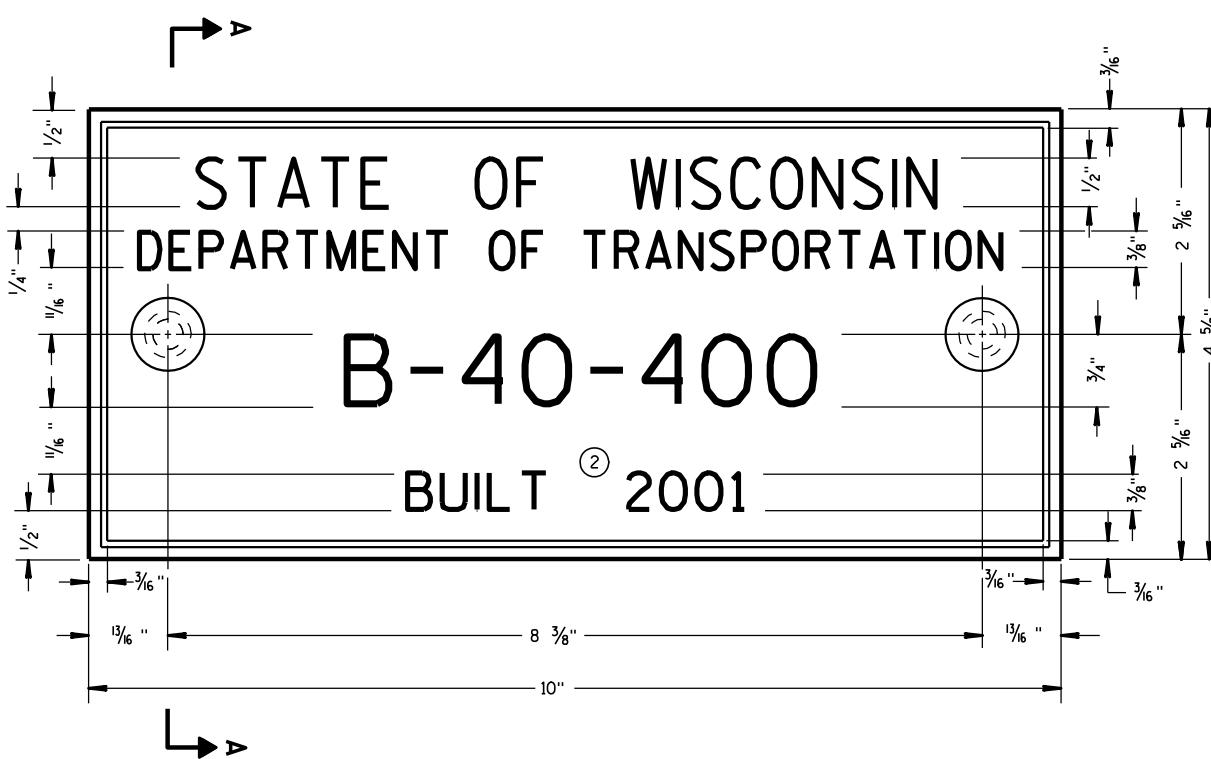


SECTION C - C

**TURBIDITY BARRIER DETAIL SHOWING
TYPICAL PLACEMENT AT STRUCTURES**
TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/4/02 /S/ Beth Cannestra
DATE CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA 11



TYPICAL NAME PLATE

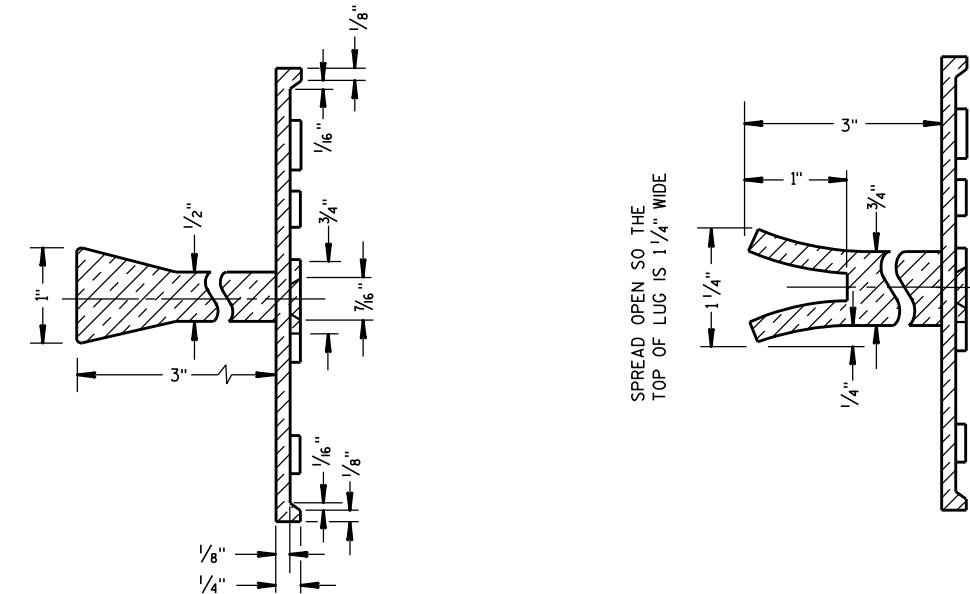
NUMBERING DESIGNATION MULTI-UNIT STRUCTURES

GENERAL NOTES

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

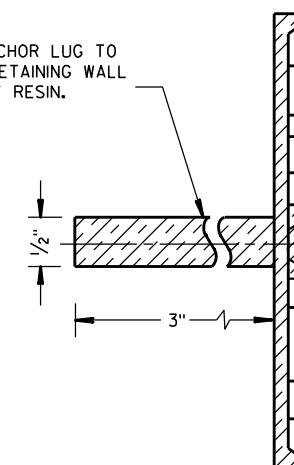
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A

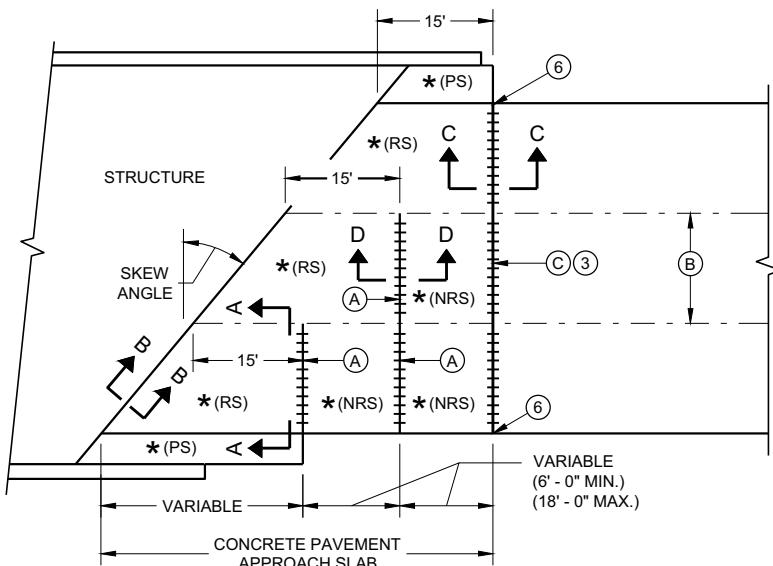
ALTERNATE LUG



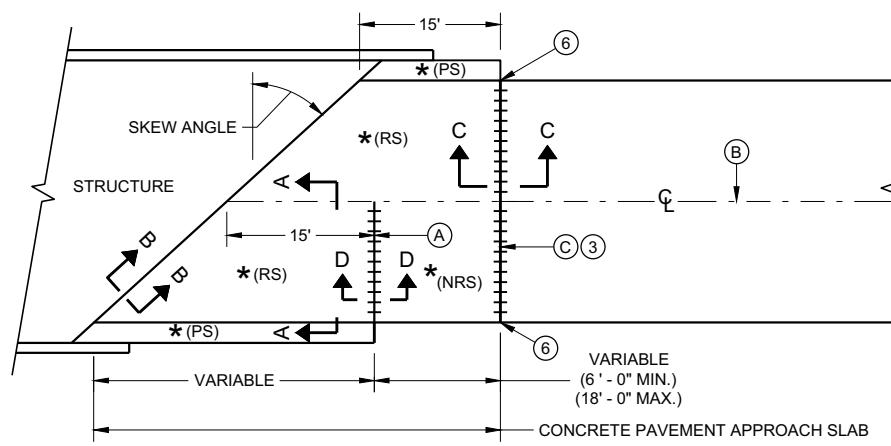
ALTERNATE LUG

**REINFORCED CONCRETE FORMS
(FOR ATTACHMENT TO PRECAST STRUCTURES)**

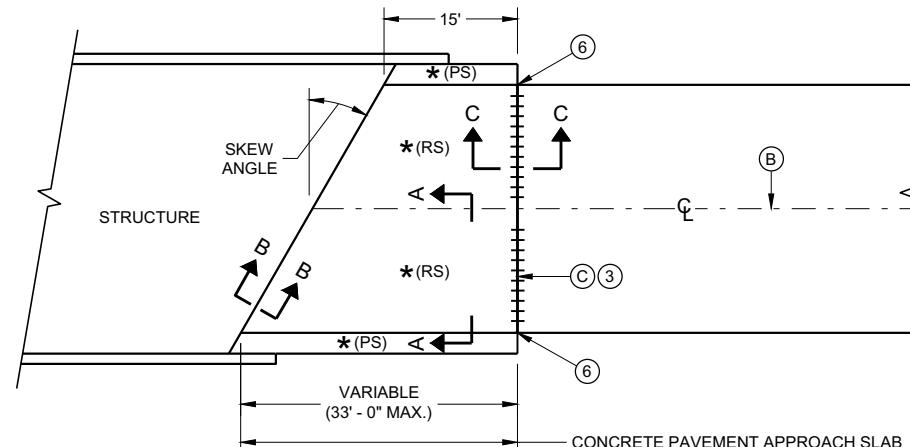
| | |
|--|---|
| NAME PLATE (STRUCTURES) | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | |
| APPROVED | |
| <u>3/26/10</u> <u>DATE</u> | <u>/s/ Scot Beck</u> <u>--</u> <u>CHIEF STRUCTURAL DEVELOP</u> <u>12</u> |
| <u>FEHWA</u> | |



SKEWED APPROACH (PAVEMENT MORE THAN TWO LANES)

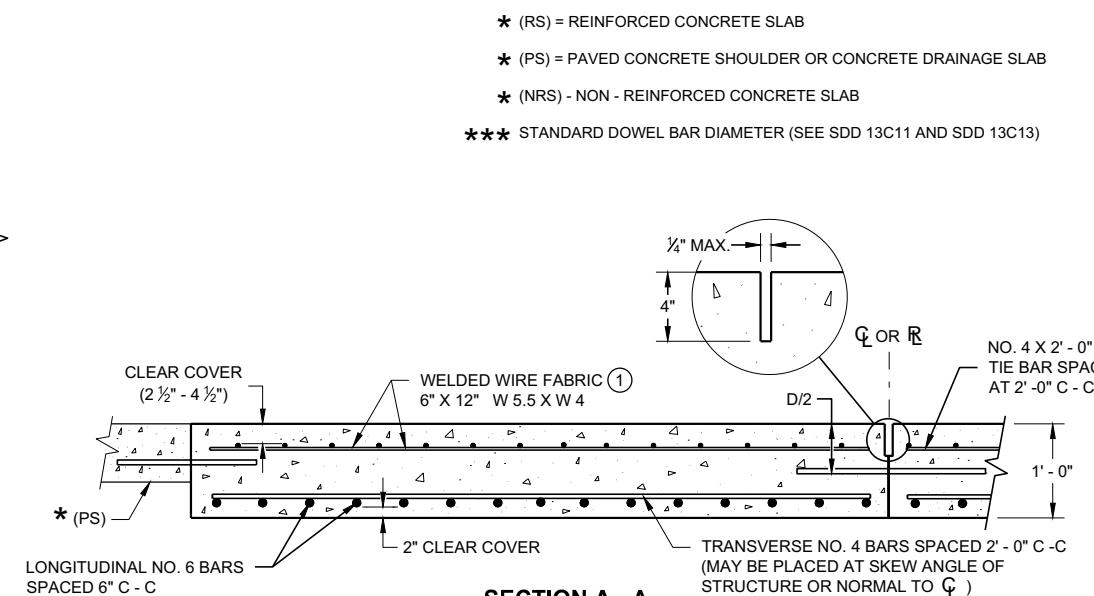


**SKEWS > 20°
(PAVEMENT WIDTH ≤ 30')**

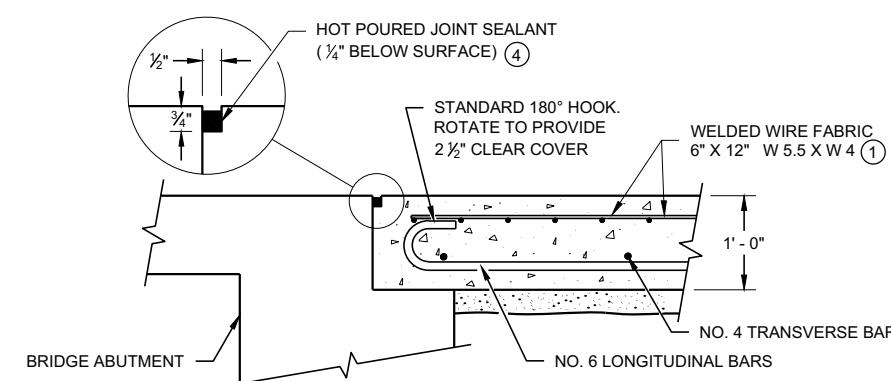


**SKEWS $\leq 20^\circ$
(PAVEMENT WIDTH $\leq 30'$)**

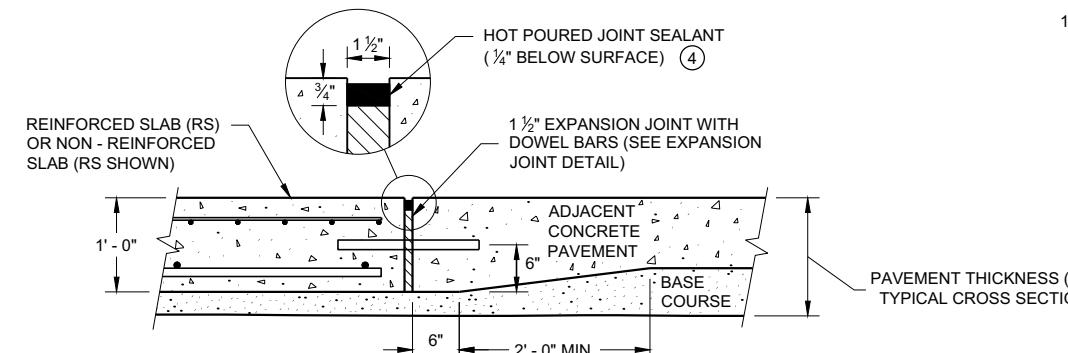
APPROACH SLAB AND ADJACENT PAVEMENT



SECTION A - A
REINFORCEMENT POSITIONING DETAIL



**SECTION B - B
BEND DETAIL
BOTTOM REINFORCEMENT**



**SECTION C - C
TRANSITION DETAIL
APPROACH SLAB TO ADJACENT PAVEMENT**

GENERAL NOTES

THE CONTRACTOR MAY SPLIC NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLIC PER BAR. THE LENGTH OF LAP IS 20 INCHES.

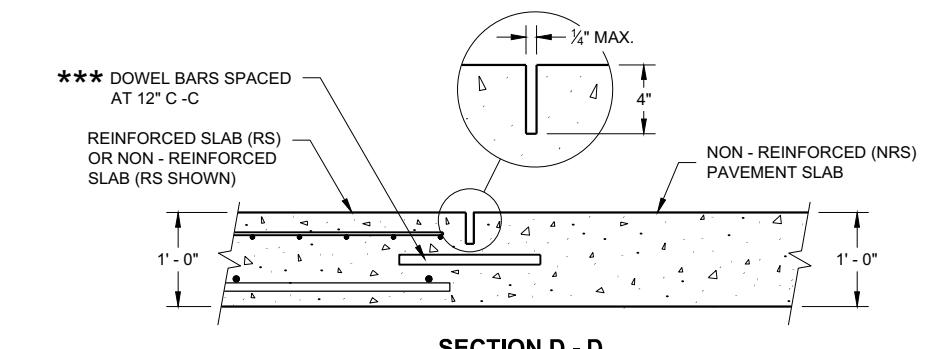
TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

- ① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2' - 0" C - C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.
- ② THE CONTRACTOR MAY OMIT THE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
- ③ DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.
- ④ USE A JOINT SEALANT CONFORMING TO STANDARD SPECIFICATION 4152.6.
- ⑤ PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.
- ⑥ EXTEND EXPANSION JOINT THROUGH ANY ADJACENT TIED CONCRETE.

(A) STANDARD CONTRACTION JOINT NORMAL TO C OR R.

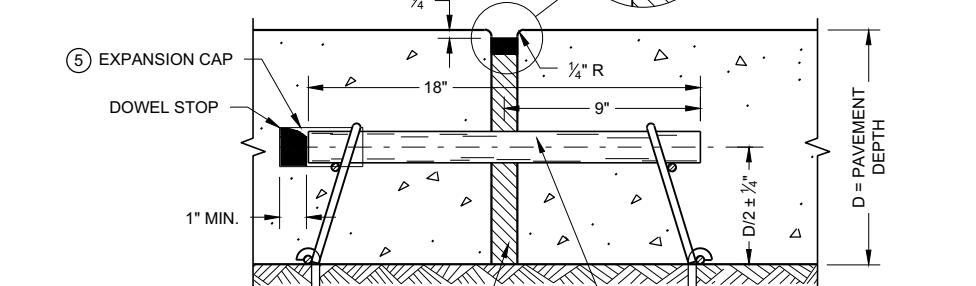
(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.

(C) 1 1/2" EXPANSION JOINT WITH DOWEL BARS NORMAL TO C OR R.



SECTION D - D

CONTRACTION JOINT

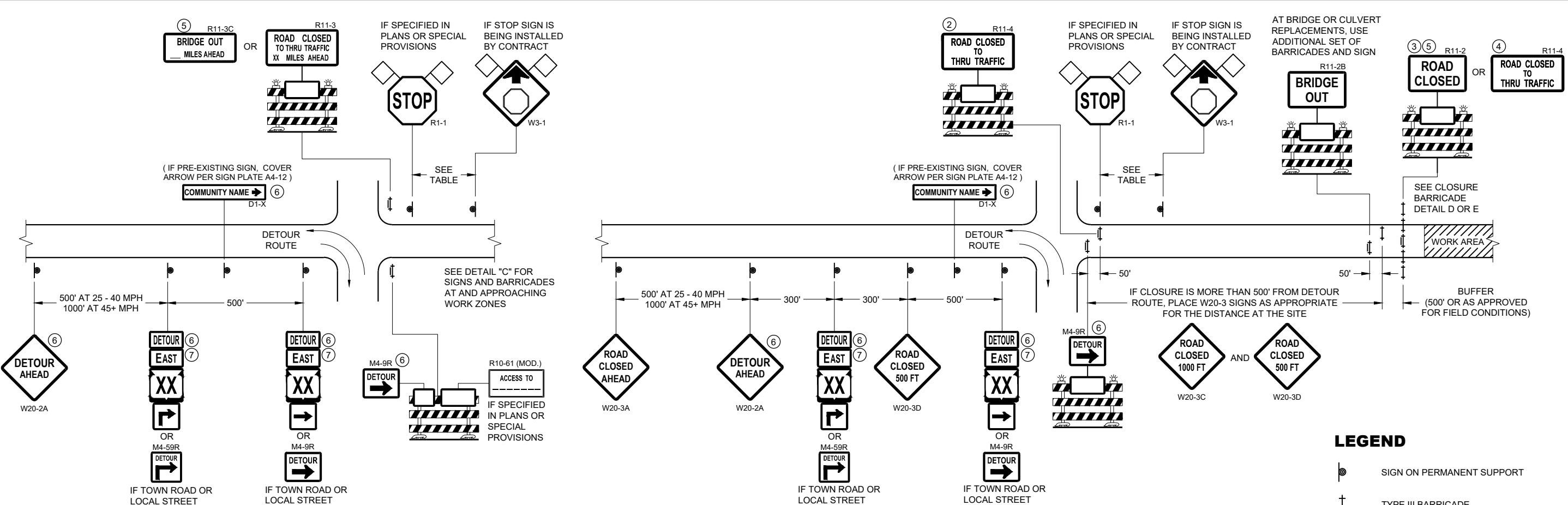


INT FILLER

CONCRETE PAVEMENT APPROACH SLAB

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 /S/ Peter Kemp, P.E.
DATE PAVEMENT SUPERVIS 13



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN $\frac{1}{2}$ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

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



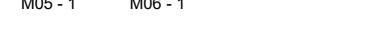
EAST M3 - X



XX M1 - 4



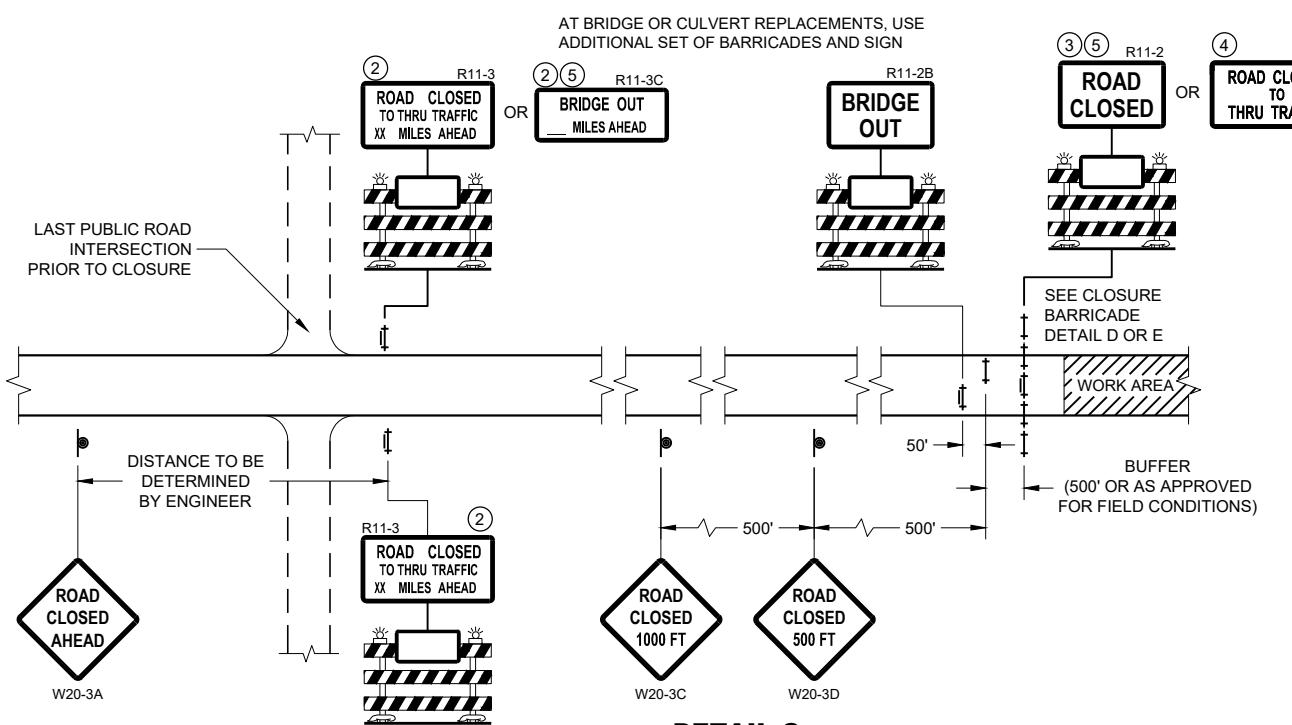
COUNTY X M1 - 6



M05 - 1



M06 - 1



| 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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Andrew Heidke
DATE
FHWA
WORK ZONE ENGINEER 14

GENERAL NOTES

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

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

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

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

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

THE R11 - 2, R11 - 3, M4 - 9, R11 - 4, AND R10 - 61 SIGNS PLACED ON THE BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE RAIL OR BOTTOM RAILS.

"WO" AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

R11 - 2 SHALL BE 48" X 30"

R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60" X 30"

M4 - 9 SHALL BE 30" X 24"

M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)

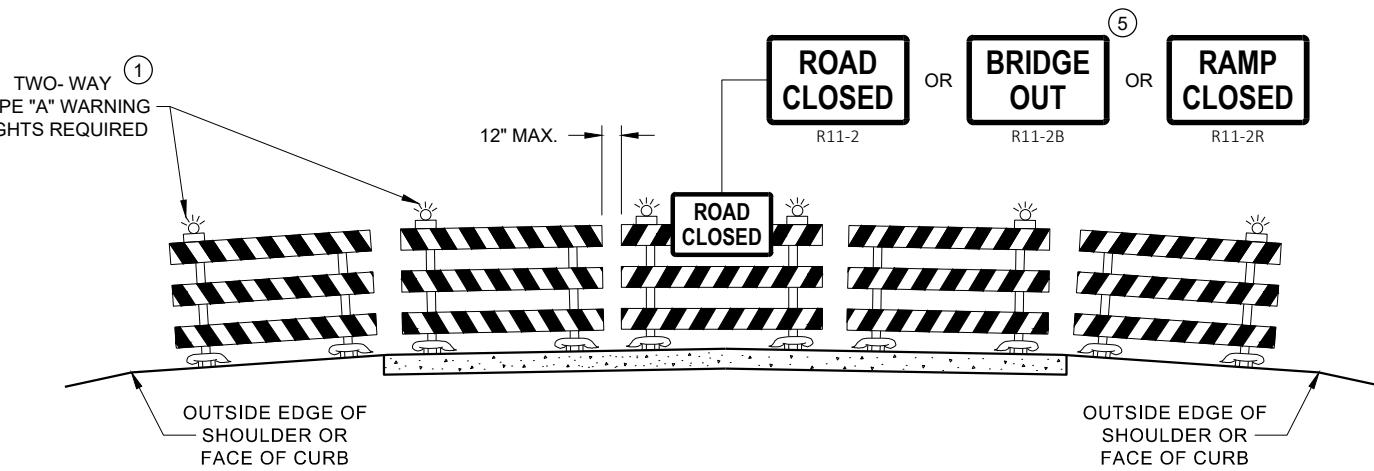
M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)

M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)

M05 - 1 AND M06 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)

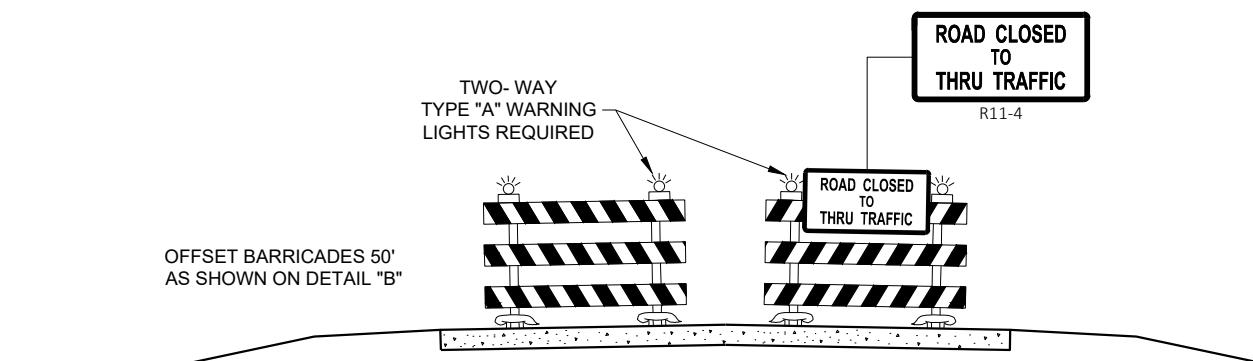
D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

R1 - 1 SHALL BE 36" X 36"



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW

6



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SDD 15C02 - 09b

SEE SDD 15C2 - SHEET "a" FOR LEGEND

- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- ② THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.
- ③ FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".
- ④ FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".
- ⑤ FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.
- ⑥ INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- ⑦ "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

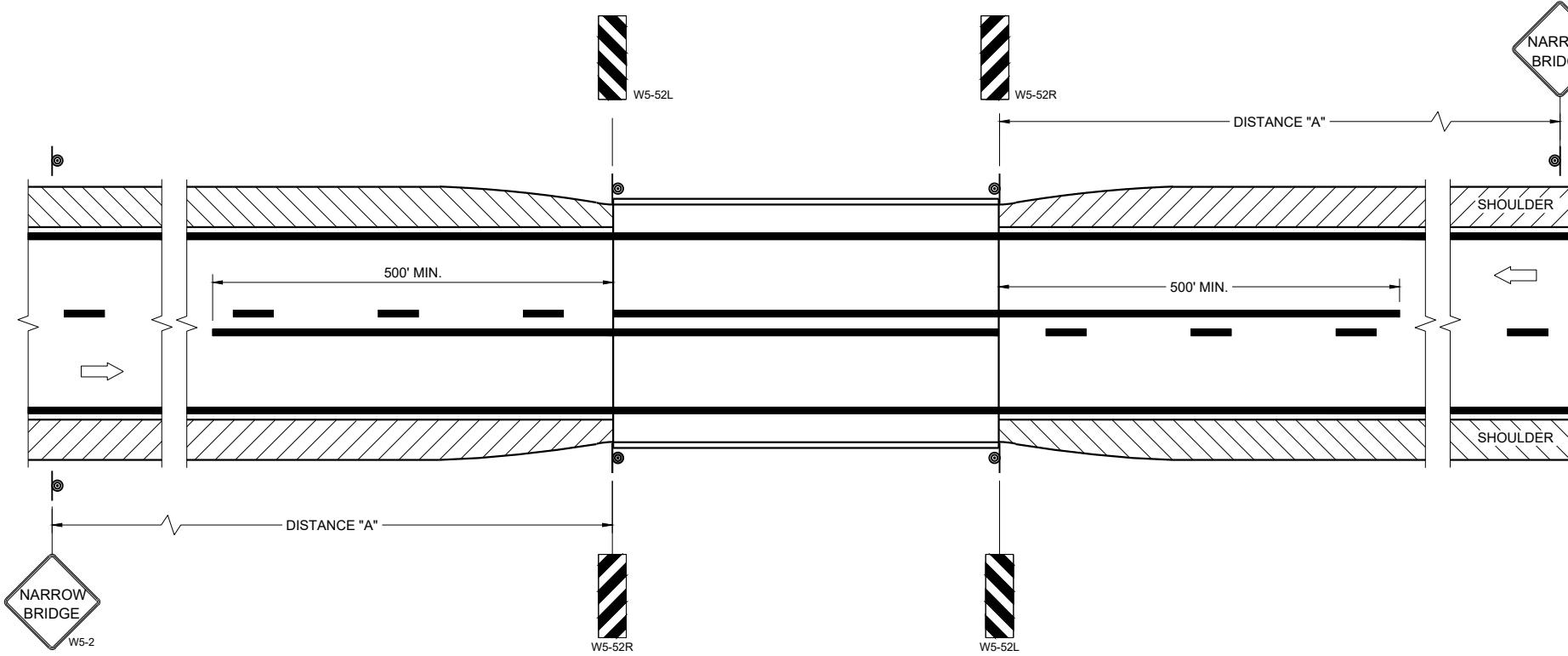
BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
FHWA

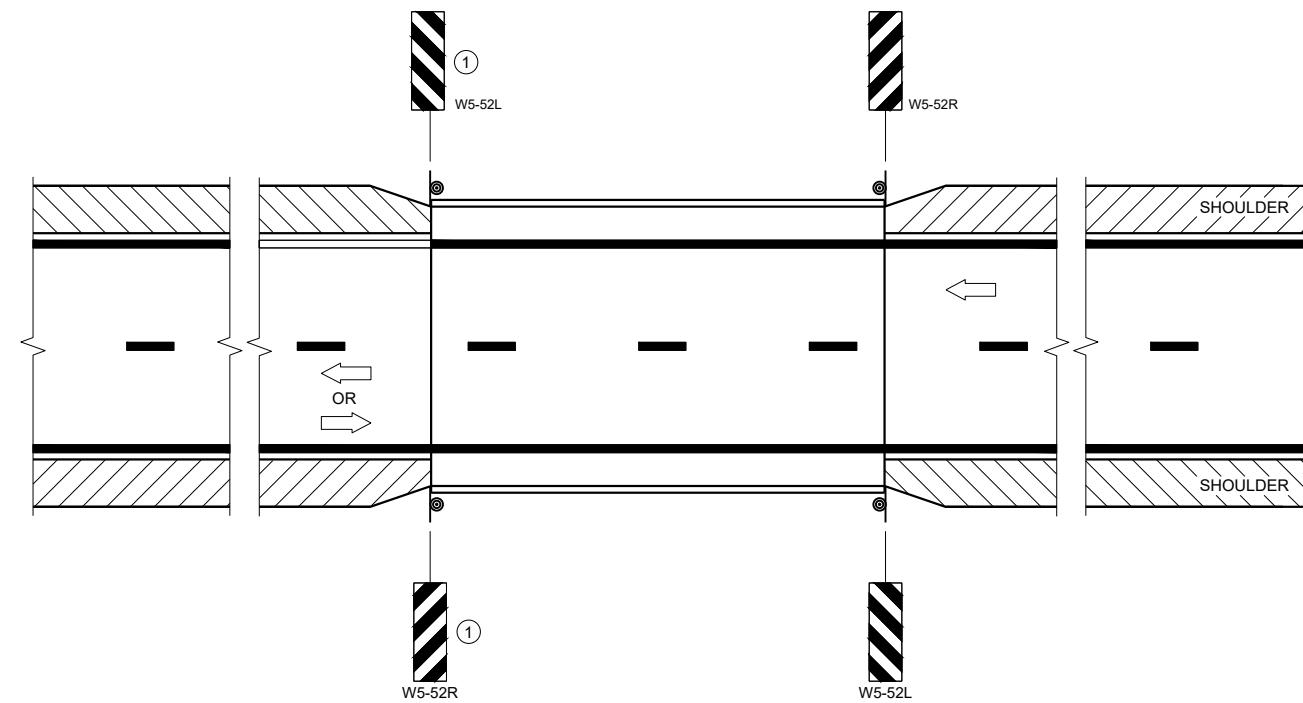
/S/ Andrew Heidke
WORK ZONE ENGINEER 15

SDD 15C02 - 09b



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 W-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

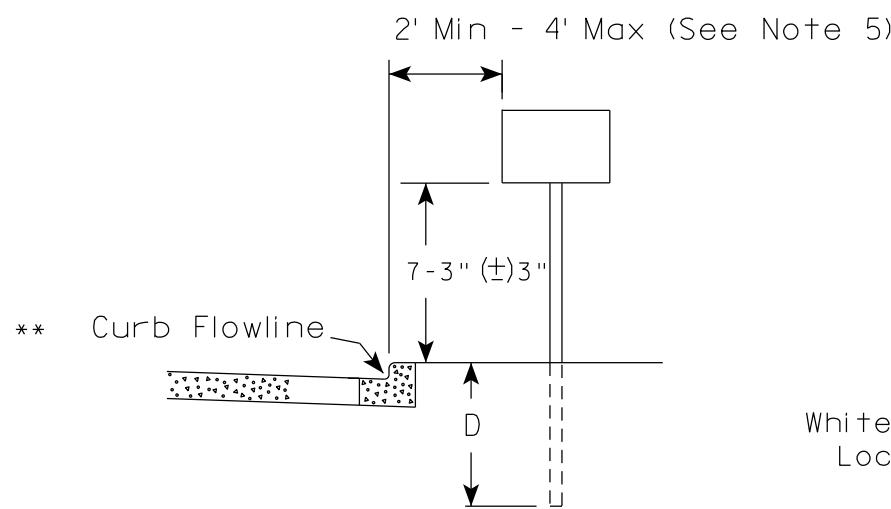
| POSTED OR 85TH PERCENTILE SPEED | DISTANCE "A" |
|---------------------------------|--------------|
| 25 | 150' |
| 30 | 200' |
| 35 | 250' |
| 40 | 300' |
| 45 | 400' |
| 50 | 550' |
| 55 | 700' |

SIGNING AND MARKING FOR TWO LANE BRIDGES

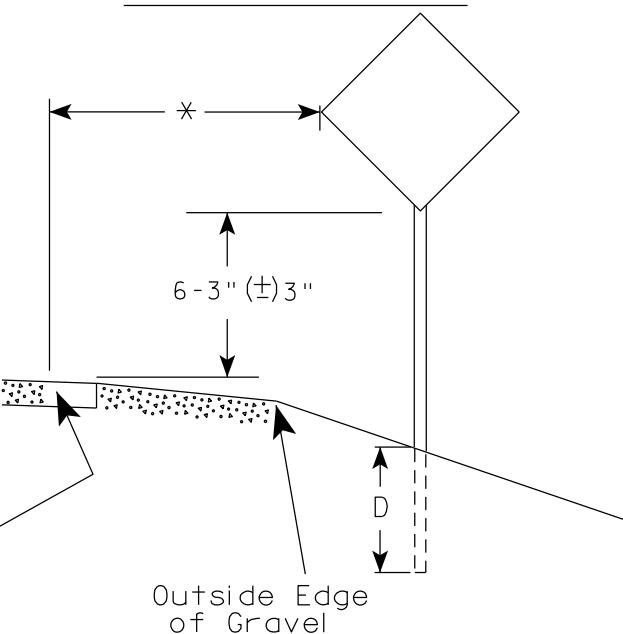
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 /S/ Jeannie Silver
DATE Statewide Pavement Marking Engineer
FHWA

URBAN AREA



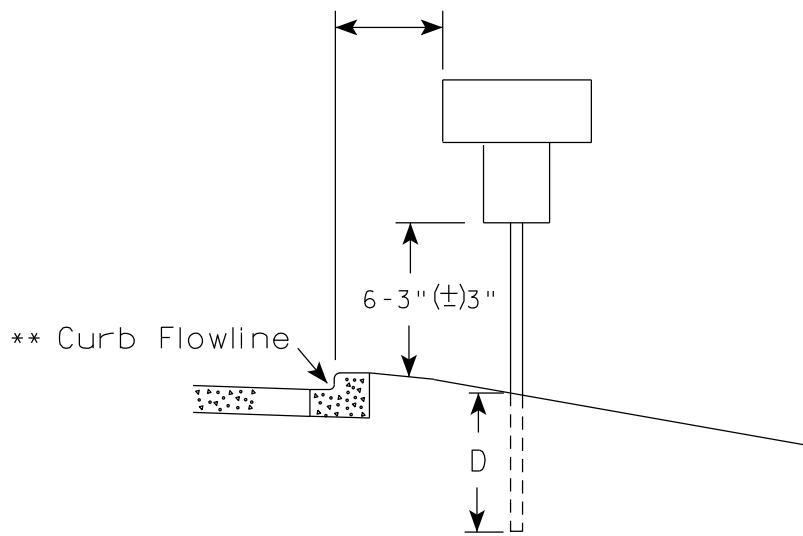
RURAL AREA (See Note 2)



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.
3. The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (\pm) 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" (\pm) 3".
4. For expressways and freeways, mounting height is 7'-3" (\pm) 3" or 6'-3" (\pm) 3" depending upon existence of a sub-sign.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'-3" (\pm) 3".
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (\pm) 3" or as directed by the Engineer.

2' Min - 4' Max (See Note 5)



White Edgeline Location



7

7

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

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

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew P. Rauch*
for State Traffic Engineer

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

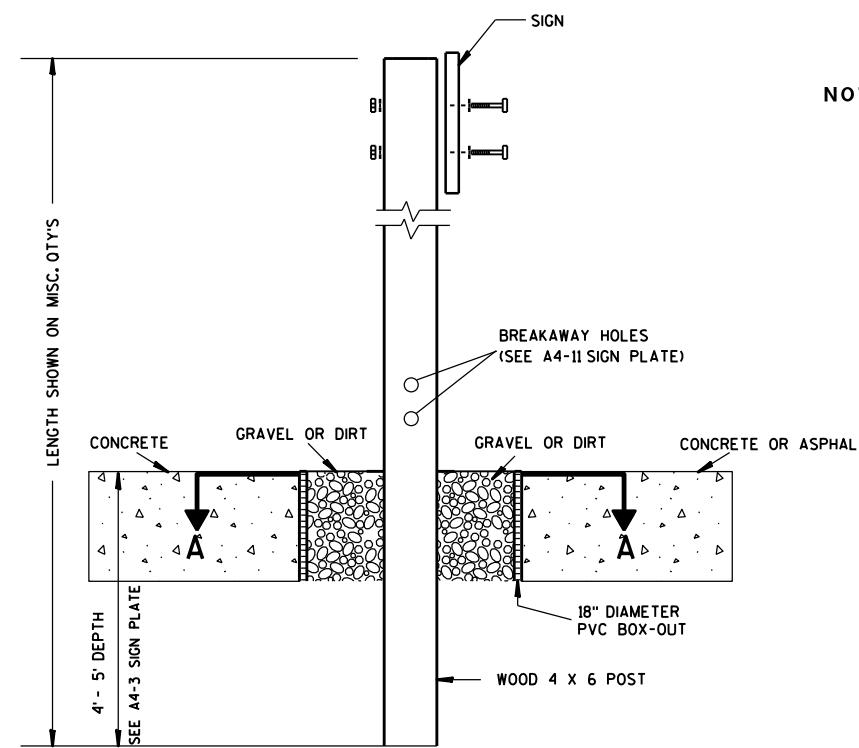
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 17

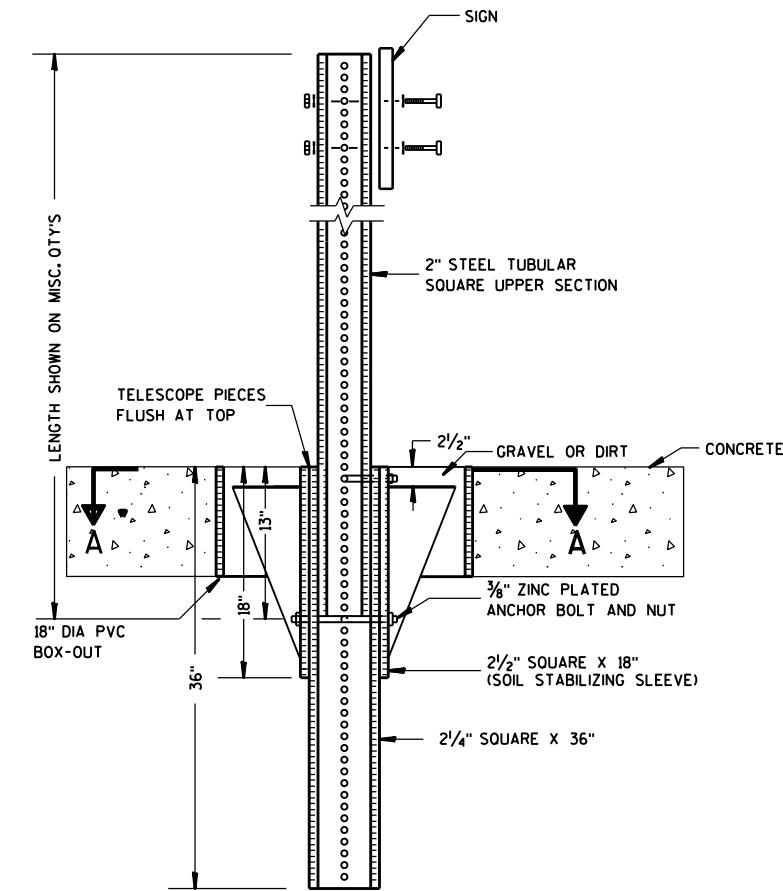
E



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.

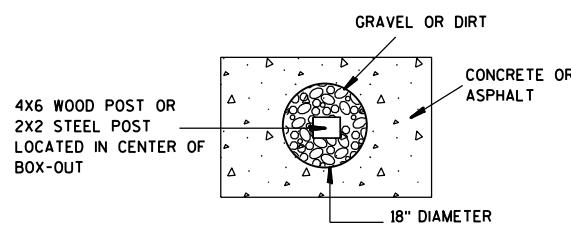
ELEVATION VIEW

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

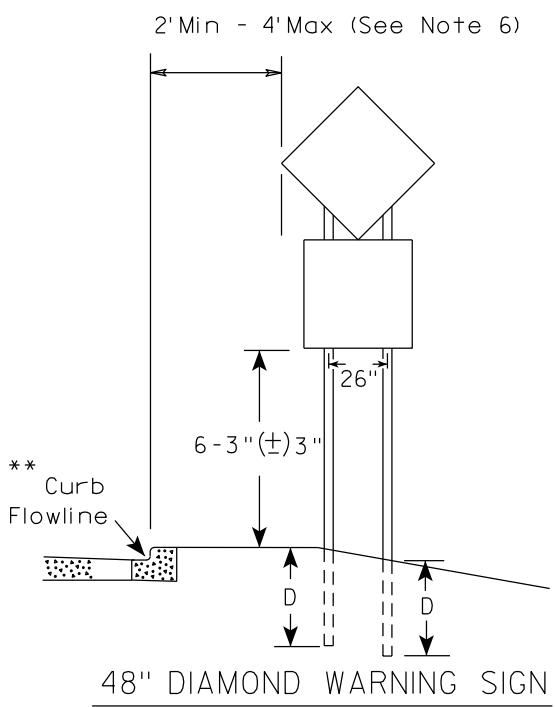
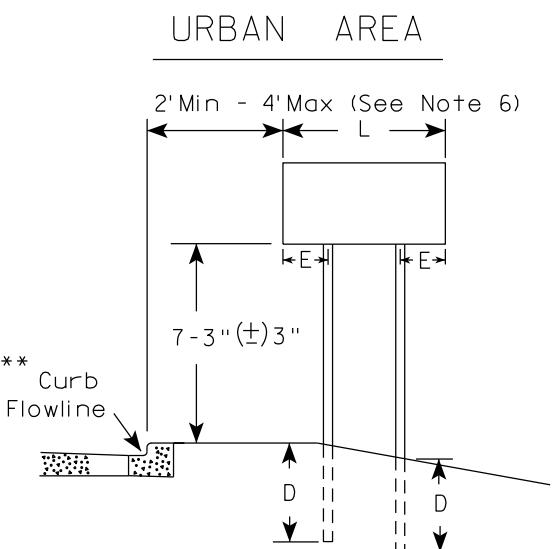
SIGN POST
BOX-OUTS
A4-3B

WISCONSIN DEPT OF TRANSPORTATION

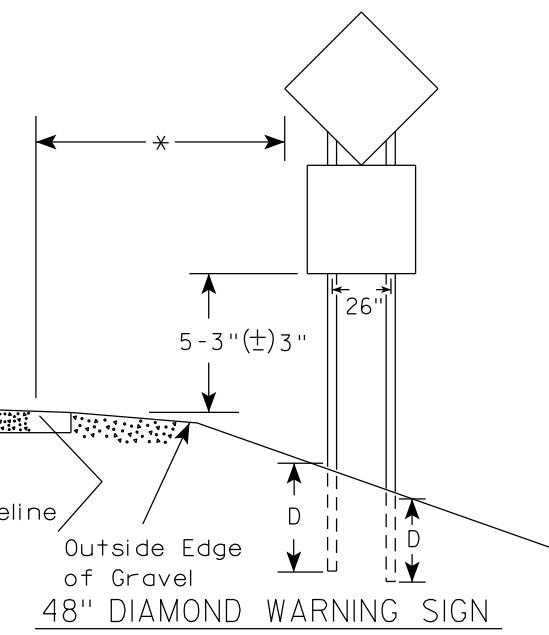
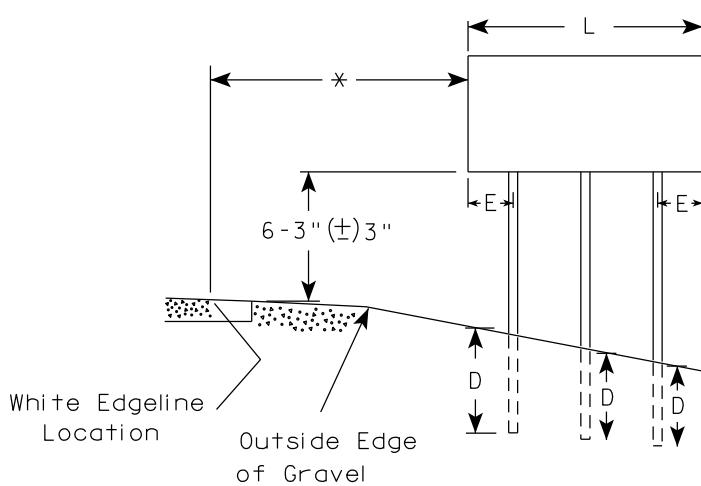
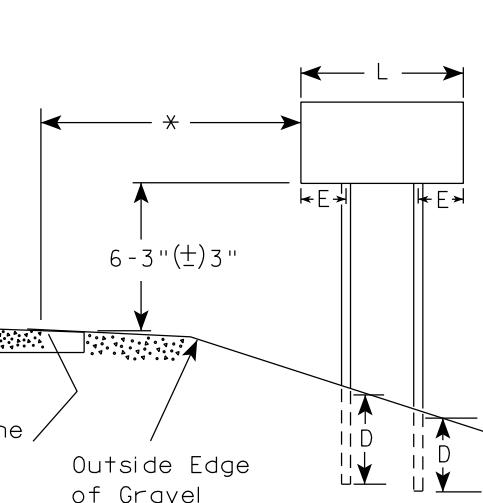
APPROVED
Matthew P. Rauch
 for State Traffic Engineer
 DATE 1/27/14 PLATF 18 A4-3B.1

GENERAL NOTES

- For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
- See tables below for required number of posts.
- For expressways and freeways, mounting height is 7'-3" (\pm 3") or 6'-3" (\pm 3") depending upon existence of sub-sign.
- The (\pm) tolerance for mounting height is 3 inches.
- J-Assemblies are considered to be one sign for mounting height.
- Offset distance shall be consistent with existing signs or consistent throughout length of project.
- Folding signs shall be mounted at a height of 5'-3" (\pm 3") or as directed by the engineer.
- The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (\pm 3"). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (\pm 3").



RURAL AREA (See Note 3)



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

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

*** See A4-3 sign plate for signs 4' or less in width and less than 20 S.F. in area.

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)

| L | E |
|------------------|-----|
| Greater than 48" | 12" |
| Less than 60" | |
| 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

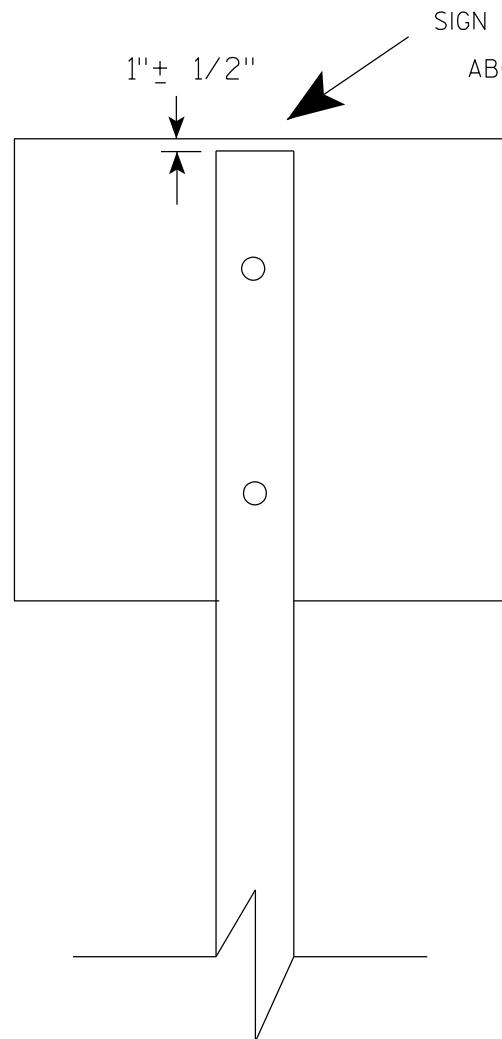
PROJECT NO:

HWY:

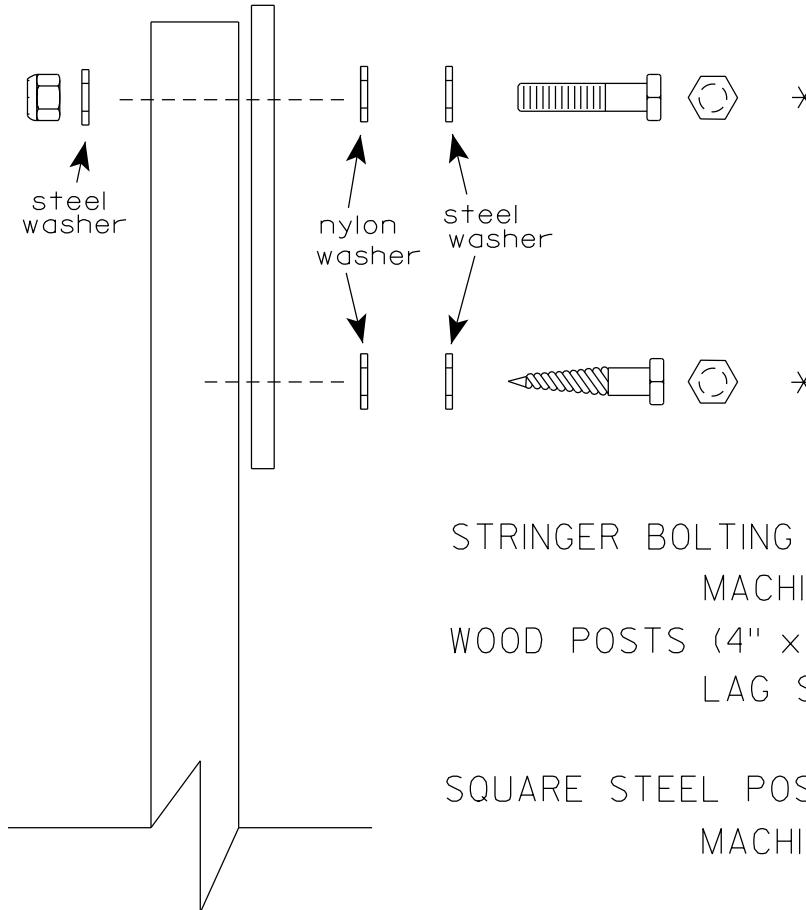
COUNTY:

SHEET NO: 19

E



SIGN SHALL BE MOUNTED TO PROJECT
ABOVE THE TOP OF THE POST



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.

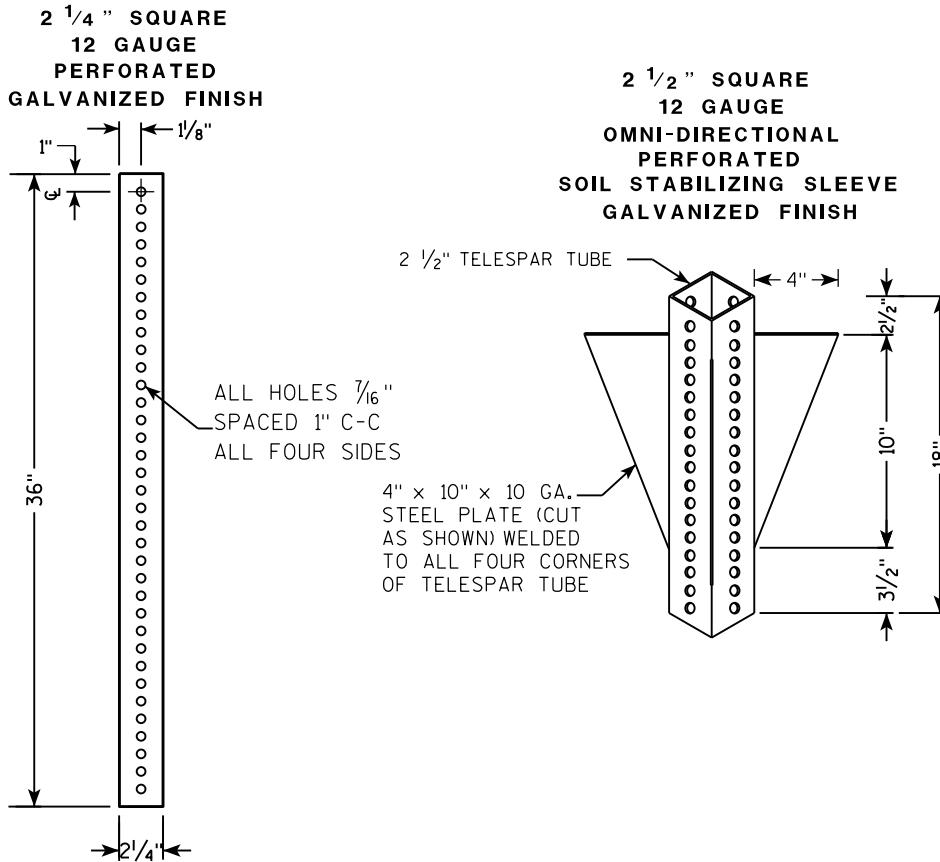
ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*
for State Traffic Engineer

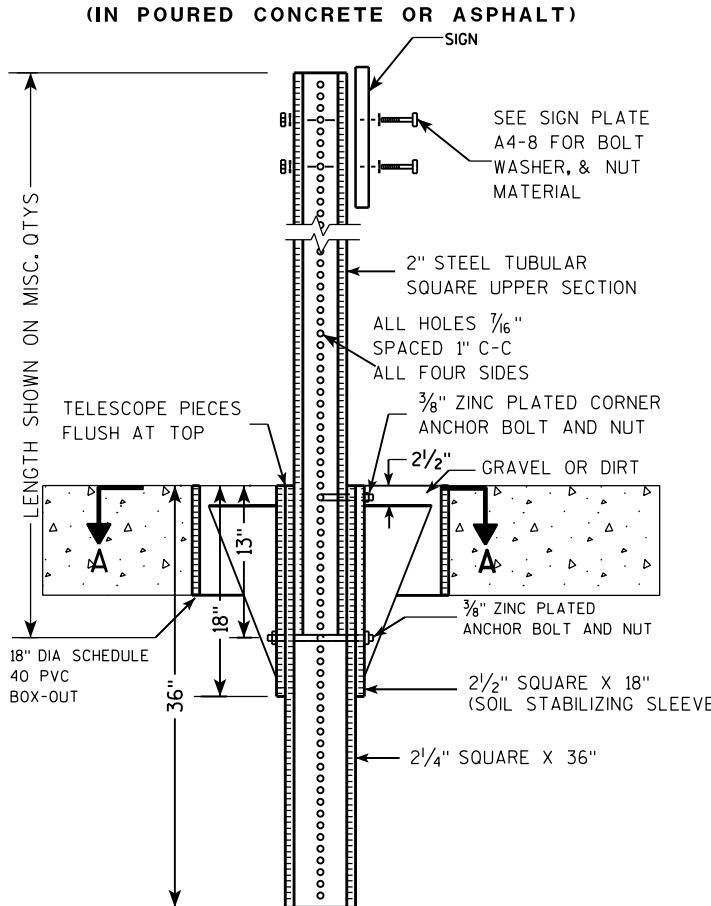
DATE 4/1/2020 PLATE NO. A4-8.9

TELESCOPIC TUBING ANCHORS TWO PIECE SYSTEM



7

DETAIL OF TUBULAR STEEL SIGN POST (IN Poured CONCRETE OR ASPHALT)



LENGTH SHOWN ON MISC. QTY'S

SEE SIGN PLATE
A4-8 FOR BOLT
WASHER, & NUT
MATERIAL

2" STEEL TUBULAR
SQUARE UPPER SECTION

ALL HOLES 7/16"
SPACED 1" C-C
ALL FOUR SIDES

3/8" ZINC PLATED CORNER
ANCHOR BOLT AND NUT

2 1/2" GRAVEL OR DIRT

18" DIA SCHEDULE
40 PVC
BOX-OUT

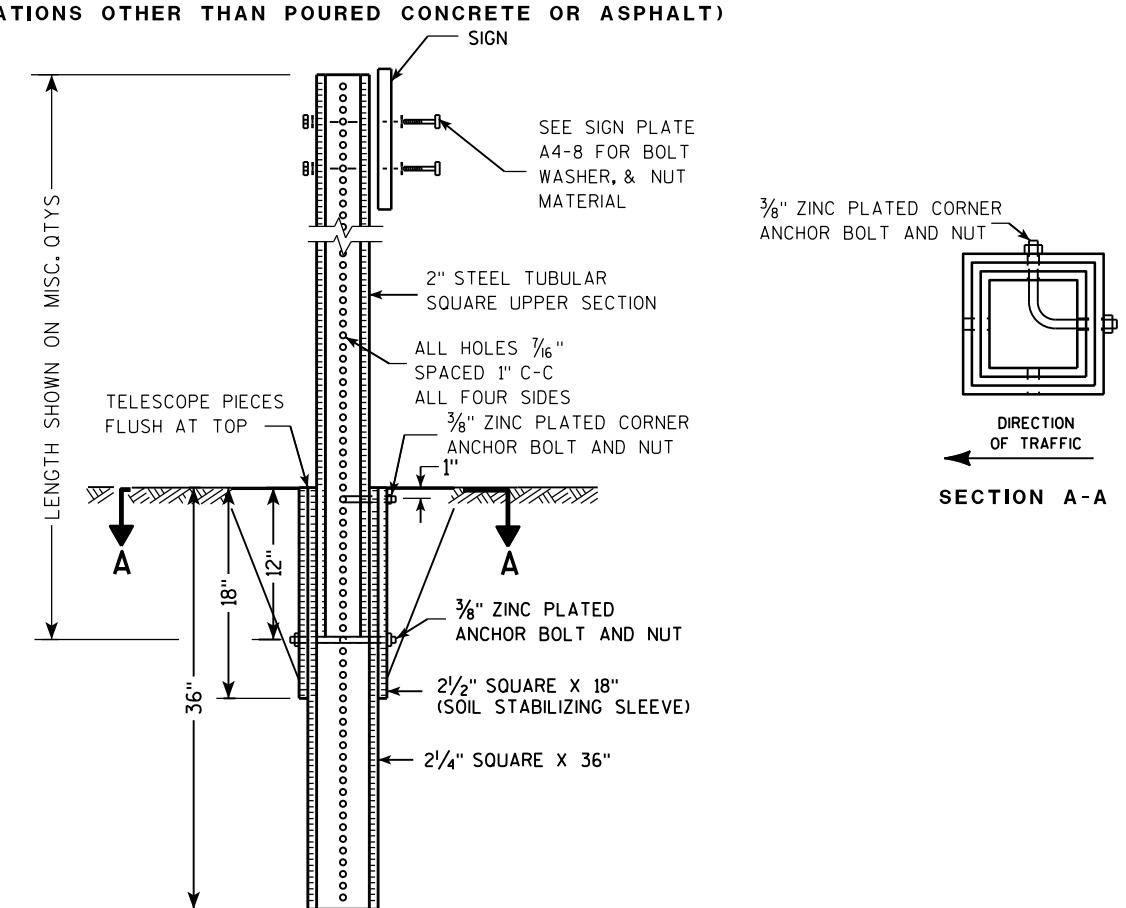
TELESCOPE PIECES
FLUSH AT TOP

3/8" ZINC PLATED
ANCHOR BOLT AND NUT

2 1/2" SQUARE X 18"
(SOIL STABILIZING SLEEVE)

2 1/4" SQUARE X 36"

DETAIL OF TUBULAR STEEL SIGN POST (IN LOCATIONS OTHER THAN Poured CONCRETE OR ASPHALT)



LENGTH SHOWN ON MISC. QTY'S

SEE SIGN PLATE
A4-8 FOR BOLT
WASHER, & NUT
MATERIAL

2" STEEL TUBULAR
SQUARE UPPER SECTION

ALL HOLES 7/16"
SPACED 1" C-C
ALL FOUR SIDES

3/8" ZINC PLATED CORNER
ANCHOR BOLT AND NUT

1" ZINC PLATED
ANCHOR BOLT AND NUT

3/8" ZINC PLATED
ANCHOR BOLT AND NUT

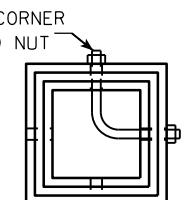
2 1/2" SQUARE X 18"
(SOIL STABILIZING SLEEVE)

2 1/4" SQUARE X 36"

18"

12"

36"



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 |

Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

TUBULAR STEEL SIGN POST

A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew P. Rauch
for State Traffic Engineer

DATE 2/05/15 PLATI 21 14-9.9

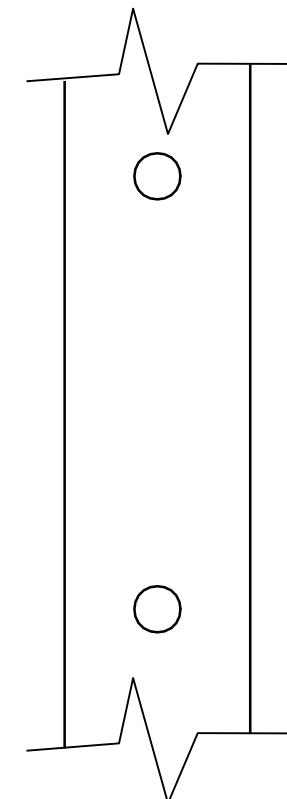
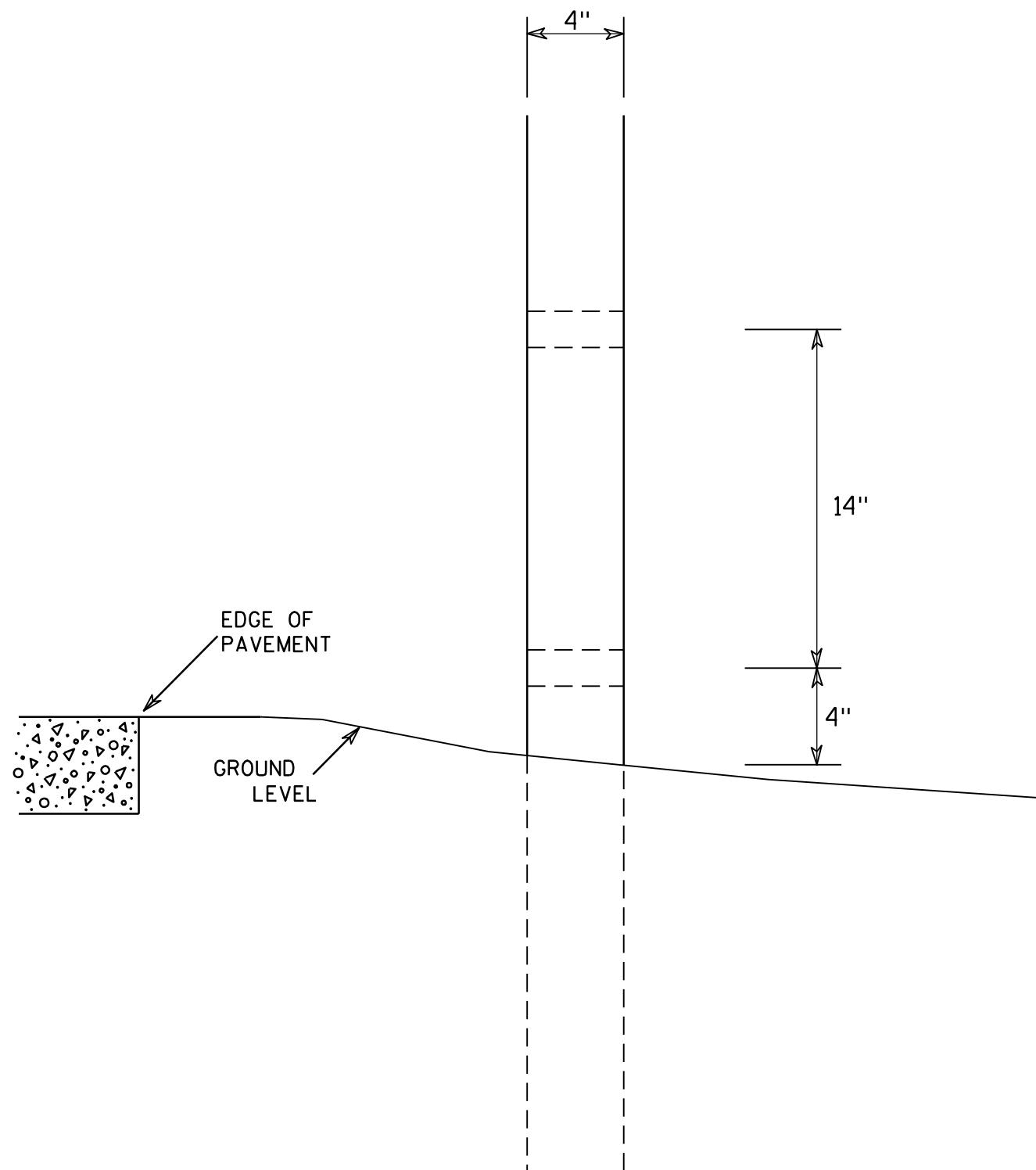
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



GENERAL NOTES

1. All 4 x 6 Wood Posts shall be modified by having two $1\frac{1}{2}$ " diameter holes drilled perpendicular to the roadway centerline.

4 X 6 WOOD POST
MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Cheska J. Spangler
for State Traffic Engineer

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

PROJECT NO:

HWY:

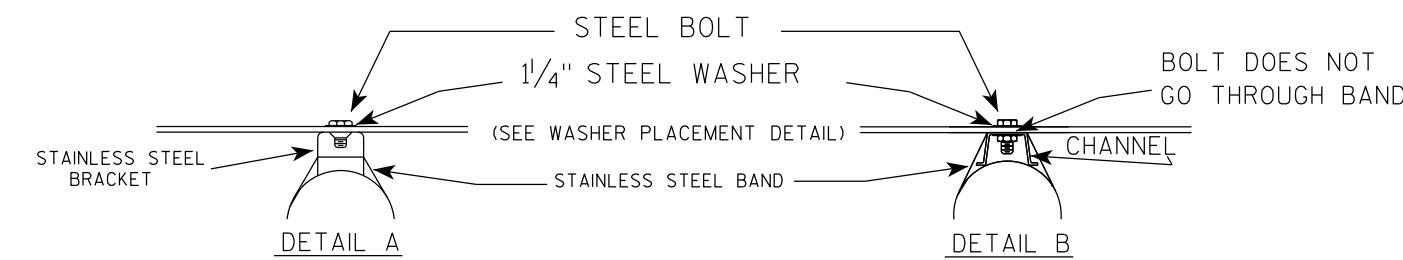
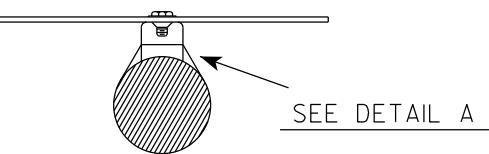
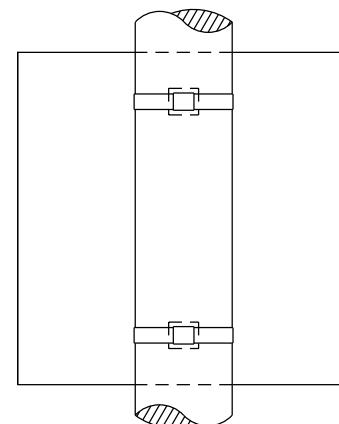
COUNTY:

BANDING

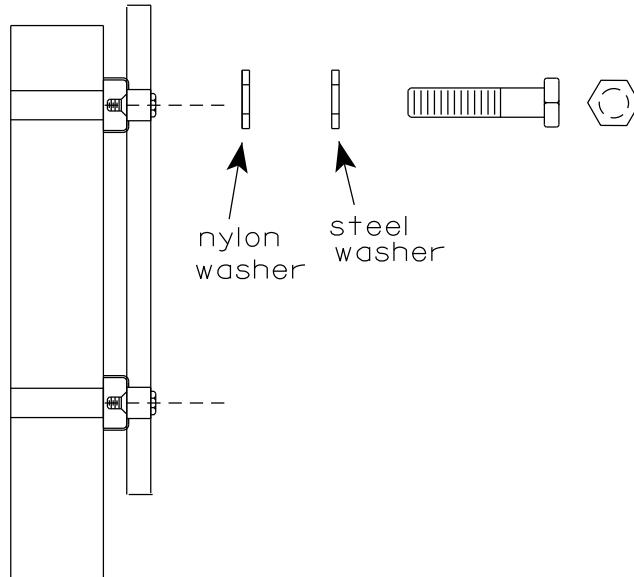
GENERAL NOTES

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 $\frac{3}{4}$ " 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

SINGLE SIGN

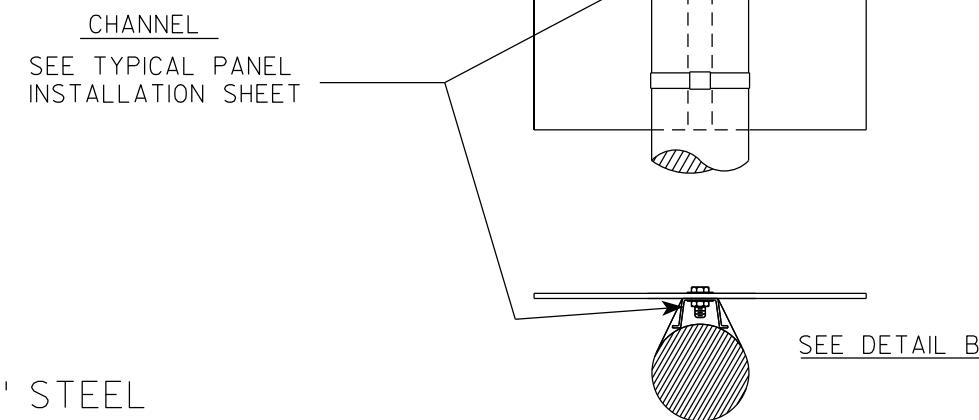


WASHER PLACEMENT



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
FOR ALL TYPE H SIGNS

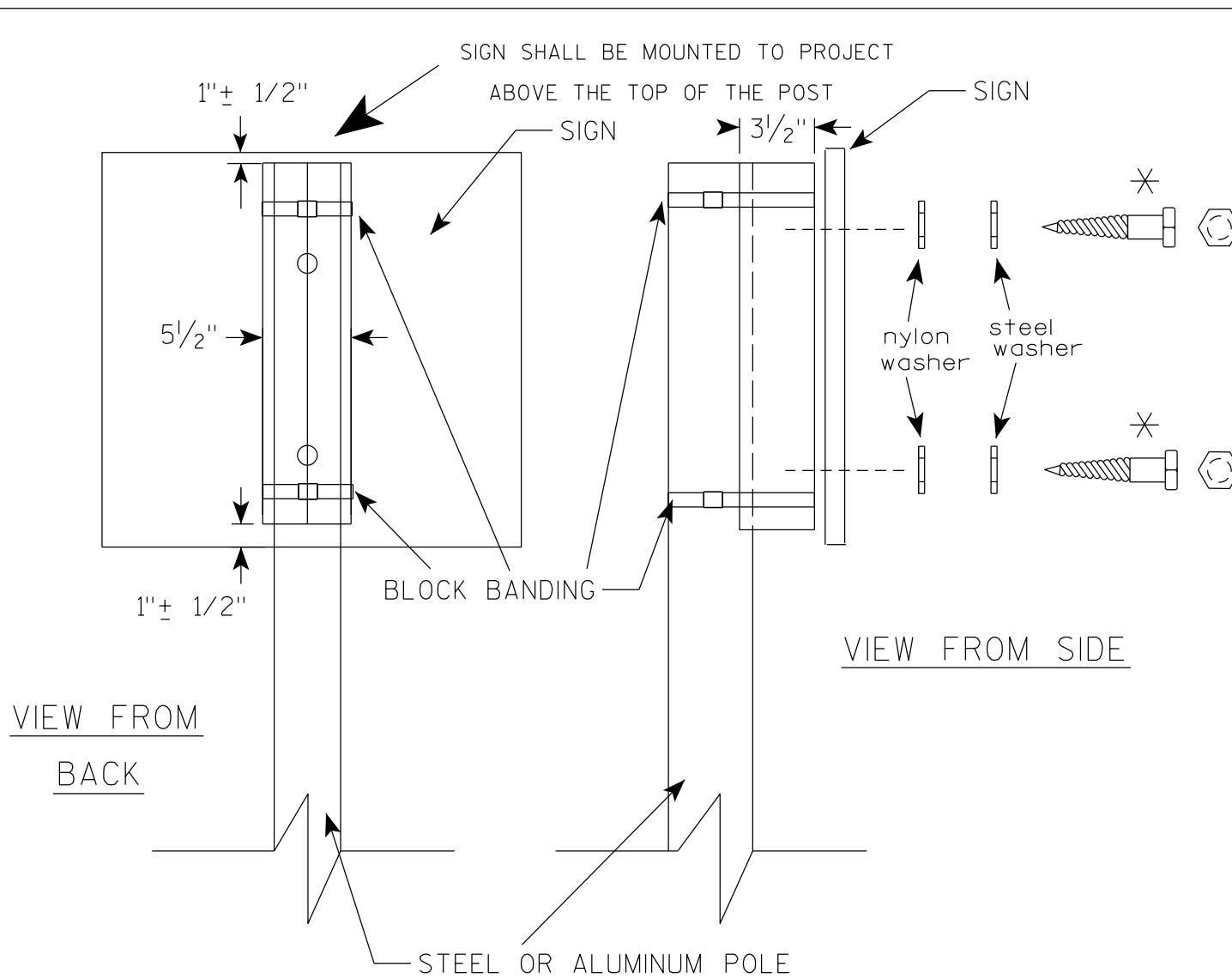
"J" ASSEMBLY



STANDARD SIGN SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

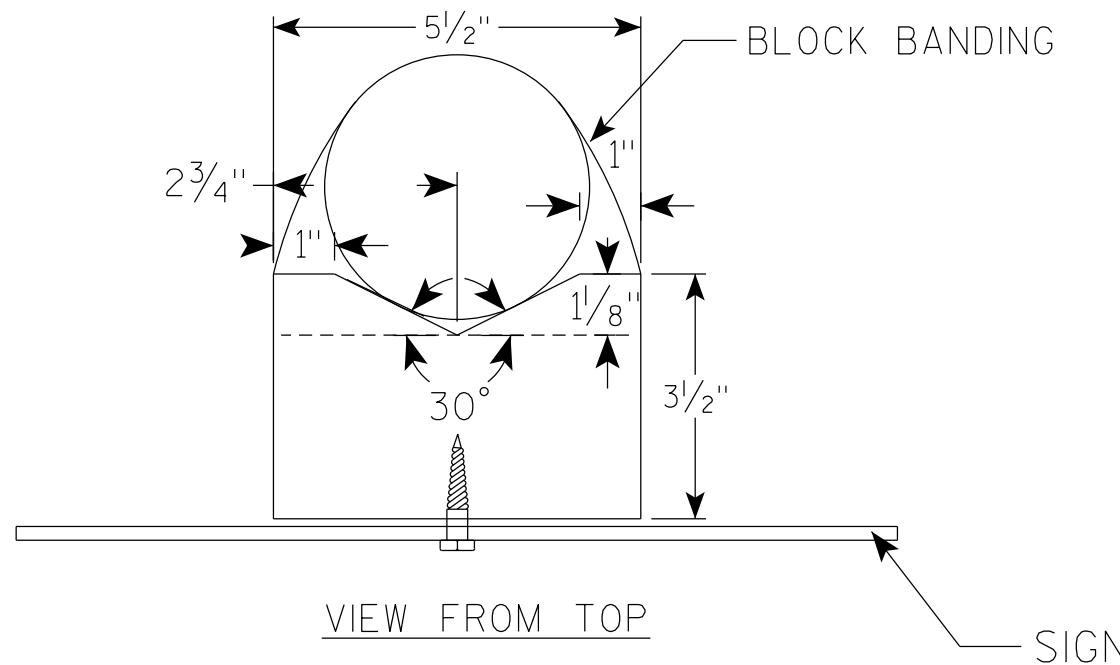
APPROVED
Matthew P. Rauch
for State Traffic Engineer
DATE 6/10/19 PLATE NO. A5-9.4



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 $1\frac{1}{4}$ " O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ "
8. NYLON WASHERS SHALL BE $1\frac{1}{4}$ " 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 $2\frac{1}{2}$ "

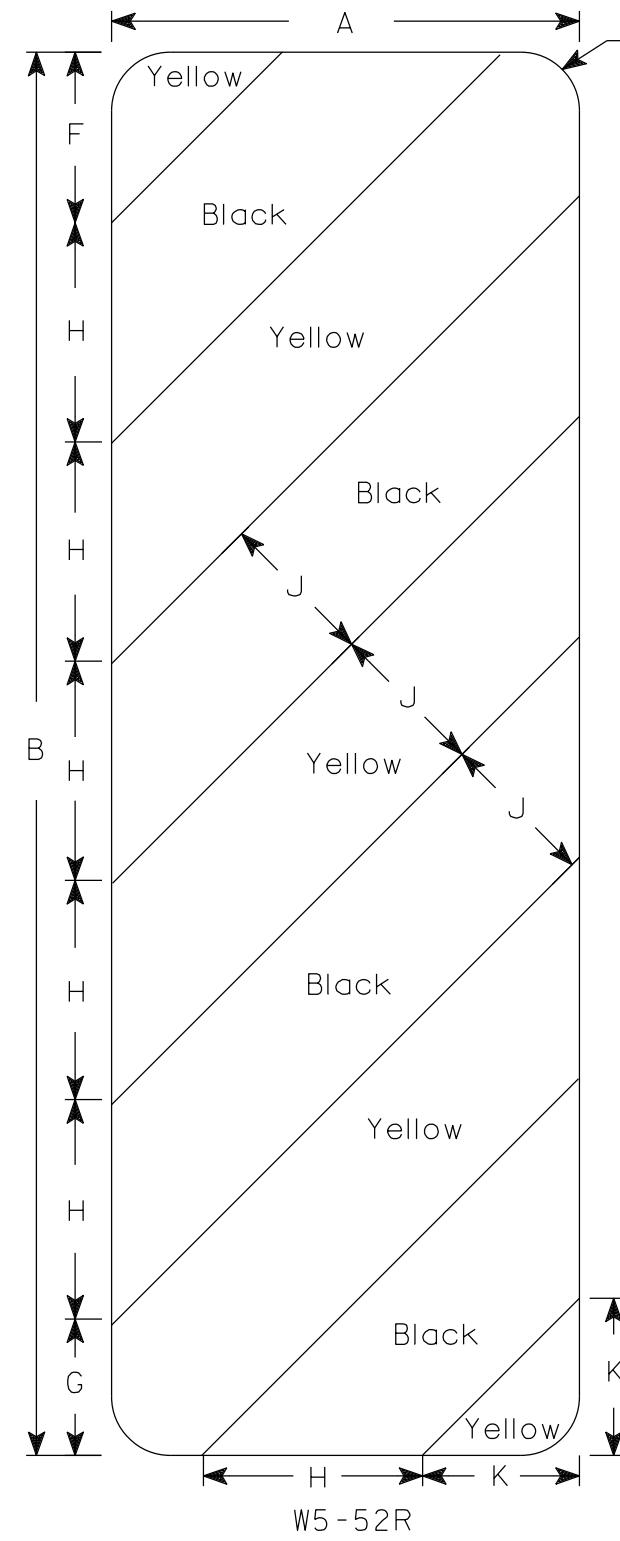
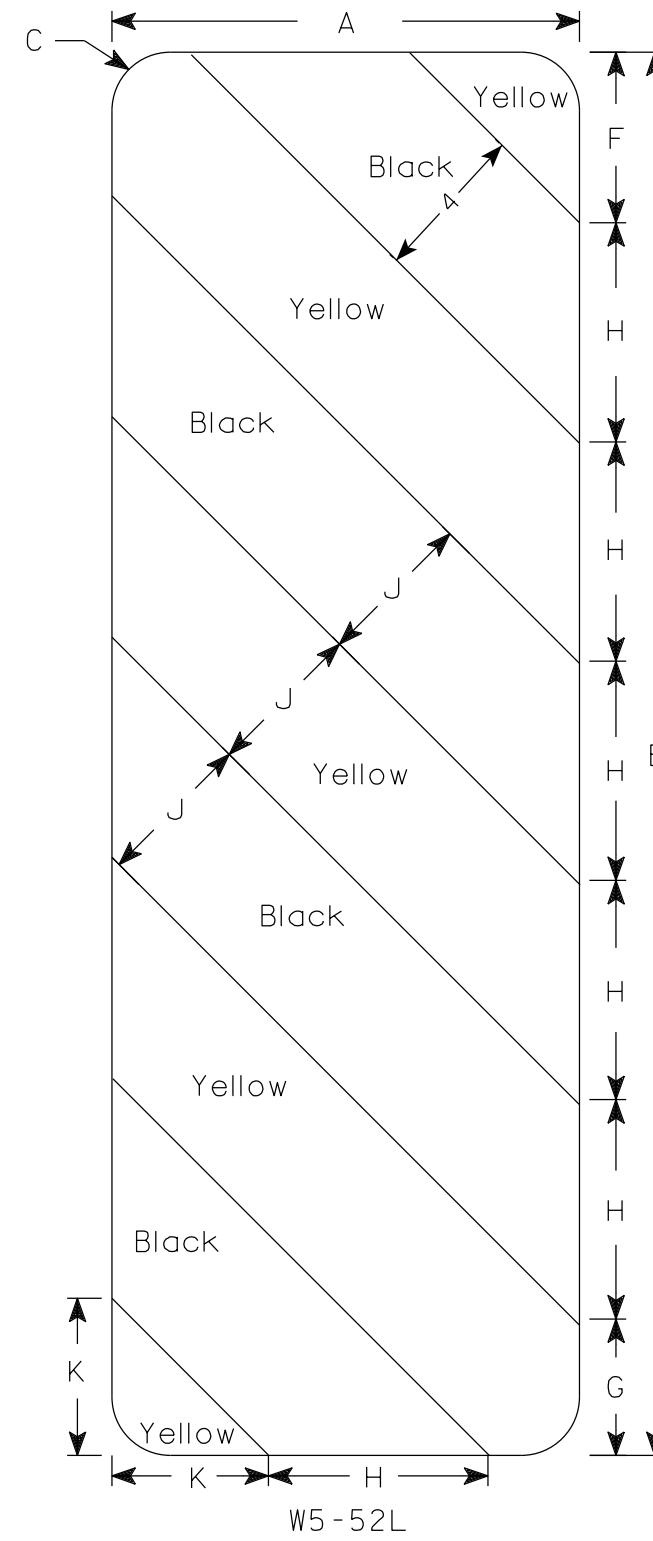


BLOCK BANDING DETAIL
(V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*
for State Traffic Engineer
DATE 4/19/2022 PLATE NO. A5-10.3

7



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 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 25 E

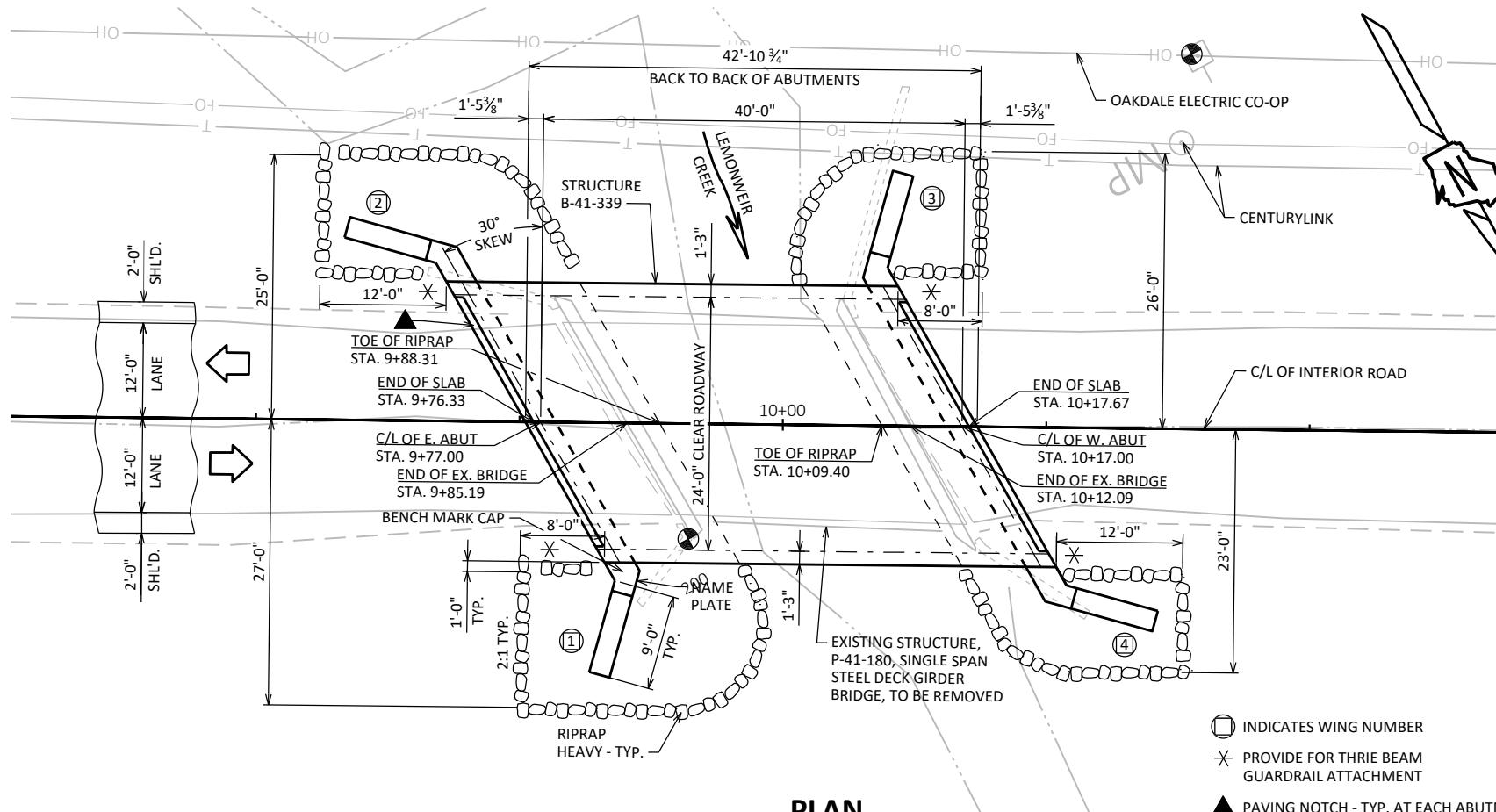
STANDARD SIGN
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

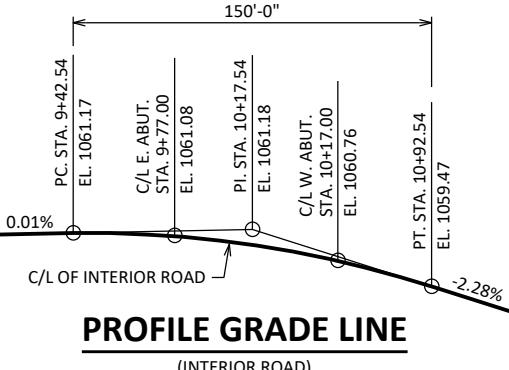
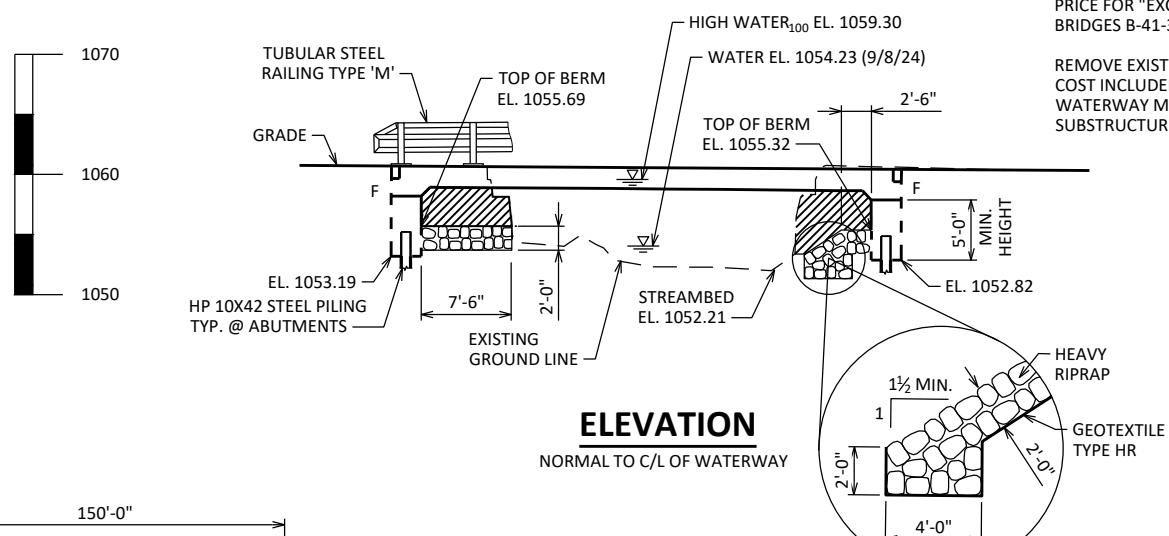
APPROVED *Matthew R Rauch*

for State Traffic Engineer

DATE 3/4/2024 PLATE NO. W5-52.10



- INDICATES WING NUMBER
- * PROVIDE FOR THRIE BEAM GUARDRAIL ATTACHMENT
- ▲ PAVING NOTCH - TYP. AT EACH ABUTMENT



BENCH MARK

| NO. | STATION | DESCRIPTION | ELEV. |
|-----|---------|--------------------------|---------|
| 200 | 9+91 | LHS SQR, 11' RT. C/L | 1060.99 |
| 201 | 10+38 | SPK IN PPOL, 36' LT. C/L | 1059.30 |

LIST OF DRAWINGS:

1. GENERAL PLAN
2. QUANTITIES AND NOTES
3. STRUCTURE DETAILS
4. SUBSURFACE EXPLORATION
5. EAST ABUTMENT
6. EAST ABUTMENT WING 1 DETAILS
7. EAST ABUTMENT WING 2 DETAILS
8. EAST ABUTMENT BILL OF BARS
9. WEST ABUTMENT
10. WEST ABUTMENT WING 3 DETAILS
11. WEST ABUTMENT WING 4 DETAILS
12. WEST ABUTMENT BILL OF BARS
13. SUPERSTRUCTURE
14. SUPERSTRUCTURE PLAN
15. TUBULAR STEEL RAILING TYPE "M"

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HL-93
INVENTORY RATING: RF = 1.11
OPERATING RATING: RF = 1.45
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 & STRUCTURAL APPROACH SLAB $f_c' = 4,000$ PSI
ALL OTHER $f_c' = 3,500$ PSI
BAR STEEL REINFORCEMENT
GRADE 60 $f_y = 60,000$ PSI

FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 10 X 42 STEEL PILING DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 140 TONS. ** PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. TO BE PRE-BORED 10'-0" PRIOR TO DRIVING.
ESTIMATED 25'-0" LONG AT E. ABUT.
ESTIMATED 20'-0" LONG AT W. ABUT.

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

HYDRAULIC DATA

100-YEAR FREQUENCY:

$Q_{100} = 1,090$ C.F.S.
 $Q_{BRIDGE} = 503$ C.F.S.
 $Q_{ROADWAY} = 587$ C.F.S.

$V_{100} = 3.5$ F.P.S.
 $HW_{100} = EL. 1059.30$
WATERWAY AREA = 142 SQ. FT.
DRAINAGE AREA = 3.05 SQ. MI.
SCOUR CRITICAL CODE = 5

2-YEAR FREQUENCY:

$Q_2 = 195$ C.F.S.
 $V_2 = 3.4$ F.P.S.
 $HW_2 = EL. 1056.16$

ROADWAY OVERTOPPING

FREQUENCY = 12 YEARS
 $Q_{12} = 590$ C.F.S.
 $HW_{12} = EL. 1059.3$

TRAFFIC DATA

FEATURE ON: INTERIOR ROAD

ADT = 200 (2026)
ADT = 210 (2046)
R.D.S. = 55 MPH



08/14/2025

| | | | |
|--|---|-------------|-----------|
| NO. | DATE | REVISION | BY |
| ORIGINAL PLANS PREPARED BY | | | |
| AYRES 3433 Oakwood Hills Parkway Eau Claire, WI 54701 www.AyresAssociates.com | | | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | | | |
| ACCEPTED | 08/21/25 JLR CHIEF STRUCTURES DESIGN ENGINEER DATE | | |
| STRUCTURE B-41-339 | | | |
| INTERIOR ROAD OVER LEMONWEIR CREEK | | | |
| COUNTY | MONROE | TOWN | TOMAH |
| DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATION | | | |
| DESIGNED BY | DRS | DESIGN CK'D | DRAWN NBE |
| PLANS CK'D | CLP | DRAWN BY | AEB |
| SHEET 1 OF 15 | | | |
| GENERAL PLAN | | | |

AARON BONK 608-261-0261
ARLEN BEAUDETTE 715-834-3161

I.D.

DATE:

TOTAL ESTIMATED QUANTITIES

| BID ITEM NUMBER | BID ITEMS | UNIT | SUPER | E. ABUT. | W. ABUT. | TOTALS |
|-----------------|---|------|--------|----------|----------|------------|
| 203.0250 | REMOVING STRUCTURE OVER WATERWAY REMOVE DEBRIS (P-41-180) | EACH | --- | --- | --- | 1 |
| 206.1001 | EXCAVATION FOR STRUCTURES BRIDGES B-41-339 | EACH | --- | --- | --- | 1 |
| 210.1500 | BACKFILL STRUCTURE TYPE A | TON | --- | 140 | 145 | 285 |
| 502.0100 | CONCRETE MASONRY BRIDGES | CY | 80.2 | 27.2 | 27.2 | 135 |
| 502.3200 | PROTECTIVE SURFACE TREATMENT | SY | 152 | 12 | 12 | 176 |
| 505.0400 | BAR STEEL REINFORCEMENT HS STRUCTURES | LB | --- | 2,250 | 2,250 | 4,500 |
| 505.0600 | BAR STEEL REINFORCEMENT HS COATED STRUCTURES | LB | 15,360 | 1,400 | 1,400 | 18,160 |
| 513.4061 | RAILING TUBULAR TYPE M | LF | 88.8 | --- | --- | 88.8 |
| 516.0500 | RUBBERIZED MEMBRANE WATERPROOFING | SY | --- | 6 | 6 | 12 |
| 550.0020 | PRE-BORING ROCK OR CONSOLIDATED MATERIALS | LF | --- | 70 | 70 | 140 |
| 550.1100 | PILING STEEL HP 10-INCH X 42 LB | LF | -- | 175 | 140 | 315 |
| 606.0300 | RIPRAP HEAVY | CY | --- | 70 | 60 | 130 |
| 612.0406 | PIPE UNDERDRAIN WRAPPED 6-INCH | LF | --- | 80 | 80 | 160 |
| 645.0111 | GEOTEXTILE TYPE DF SCHEDULE A | SY | --- | 50 | 50 | 100 |
| 645.0120 | GEOTEXTILE TYPE HR | SY | --- | 140 | 120 | 260 |
| | | | | | | |
| | NON-BID ITEMS | | | | | |
| | FILLER | SIZE | --- | --- | --- | 1/2", 3/4" |

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 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.

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

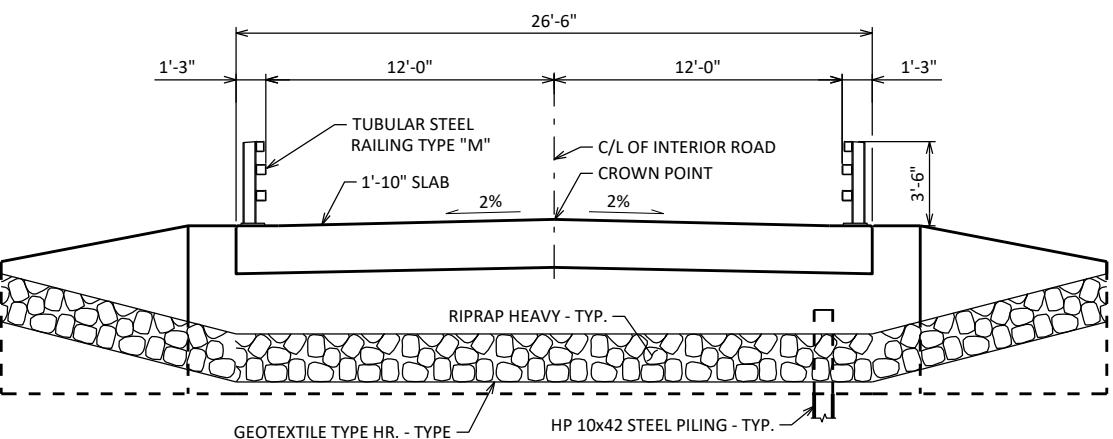
THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES BRIDGES B-41-339 SHALL BE THE EXISTING GROUNDLINE.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED AS SHOWN IN DETAIL ON THIS SHEET AND APPLY TO THE TOP AND EXTERIOR EXPOSED FACE OF WINGS, AND THE END 1'-0" OF

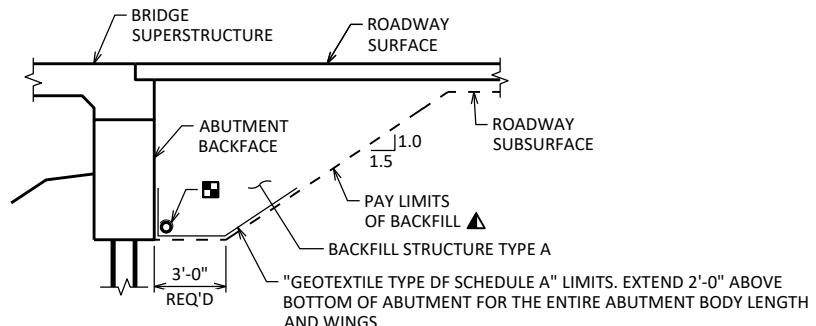
THE FRONT FACE OF ABUTMENTS.

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.

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



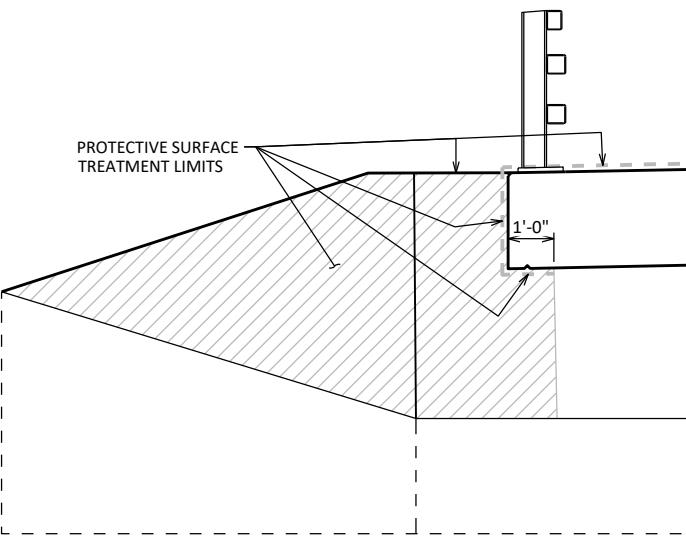
TYPICAL SECTION THRU BRIDGE



TYPICAL SECTION THRU ABUTMENT

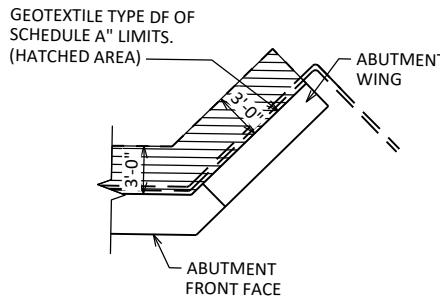
▲ BACKFILL PAY LIMITS. BACKFILL BEYOND PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

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



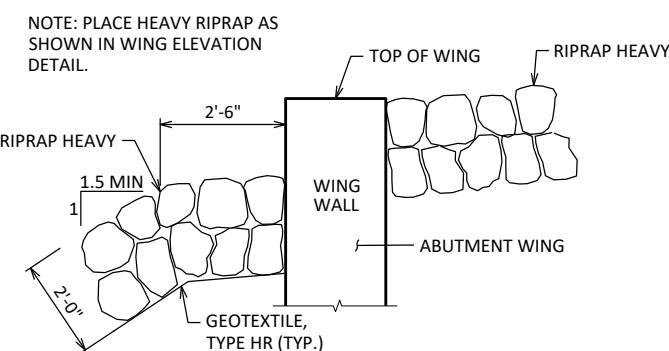
PROTECTIVE SURFACE TREATMENT DETAIL

| | | | |
|--|------|---------------------------|-------------------|
| | | | |
| NO. | DATE | REVISION | BY |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | | | |
| STRUCTURE B-41-339 | | | |
| | | DRAWN BY | PLANS CLP CK'D |
| QUANTITIES AND NOTES | | SHEET 2 of 15 <hr/> 27 | |

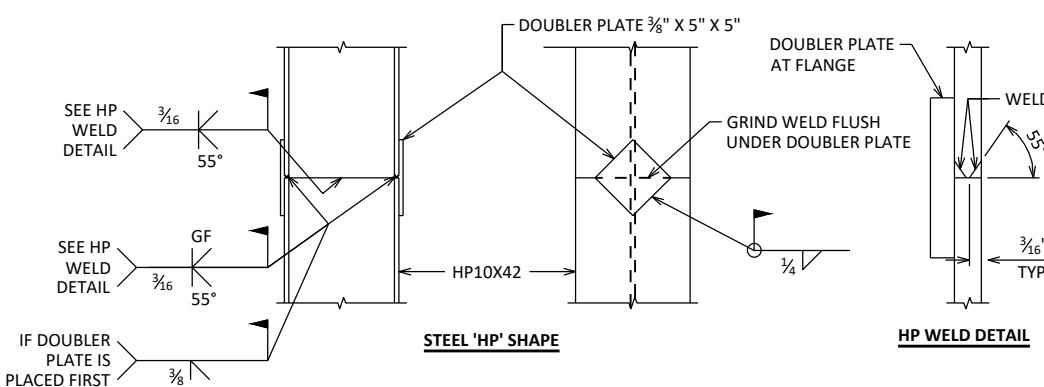


BACKFILL STRUCTURE LIMITS

ABUTMENT PLAN WITH WING

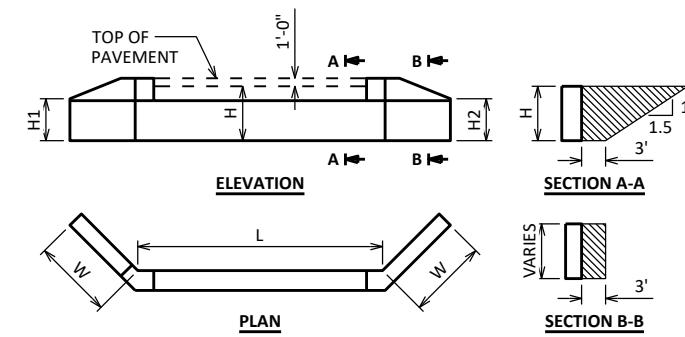


TYPICAL FILL SECTION AT WING



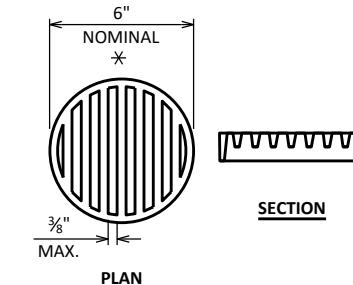
'HP' PILE DETAILS

FLANGE SHOWN, WEB SIMILAR



ABUTMENT BACKFILL DIAGRAM

L = ABUTMENT BODY LENGTH AT BACKFACE (FT)
 H = AVERAGE ABUTMENT FILL HEIGHT (FT)
 H_1 = WING 1 HEIGHT AT TIP (FT)
 H_2 = 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} = $(L)(3.0')(H) + (L)(0.5)(1.5H)(H) + (3')(0.5)(H_1+H_2+H+H)(W)$
 V_{CY} = $V_{CF}(EF)/27$
 V_{TON} = $V_{CY}(2.0)$



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 COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

| NO. | DATE | REVISION | BY |
|--|---------------|----------|----|
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | | | |
| STRUCTURE B-41-339 | | | |
| DRAWN BY CLP PLANS CK'D DRS | | | |
| STRUCTURE DETAILS | SHEET 3 OF 15 | 28 | |

| BORING # | DATE COMPLETED | NORTHING (Y) | EASTING (X) |
|----------|------------------|--------------|-------------|
| 1 | OCTOBER 28, 2024 | 370540.33 | 698064.89 |
| 2 | OCTOBER 29, 2024 | 370545.63 | 698034.15 |

BORINGS COMPLETED BY: ECS MIDWEST, LLC
REPORT COMPLETED BY: ECS MIDWEST, LLC
ALL COORDINATES REFERENCED TO NAVD 88(2012) MONROE COUNTY

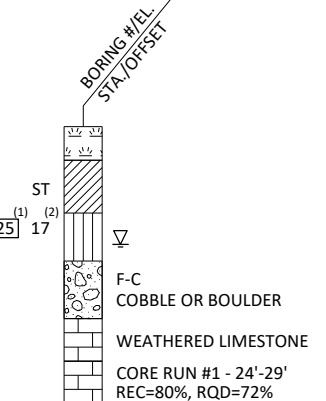
STATE PROJECT NUMBER

5025-00-72

MATERIAL SYMBOLS

| | | |
|---------------------|-----------|-------------------|
| ASPHALT | TOPSOIL | PEAT |
| CONCRETE | FILL | GRAVEL |
| SAND | CLAY | SILT |
| BOULDERS OR COBBLES | LIMESTONE | BEDROCK (UNKNOWN) |
| SHALE | SANDSTONE | IGNEOUS/META |

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- ▽ AT TIME OF DRILLING
- ▼ END OF DRILLING
- AFTER DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

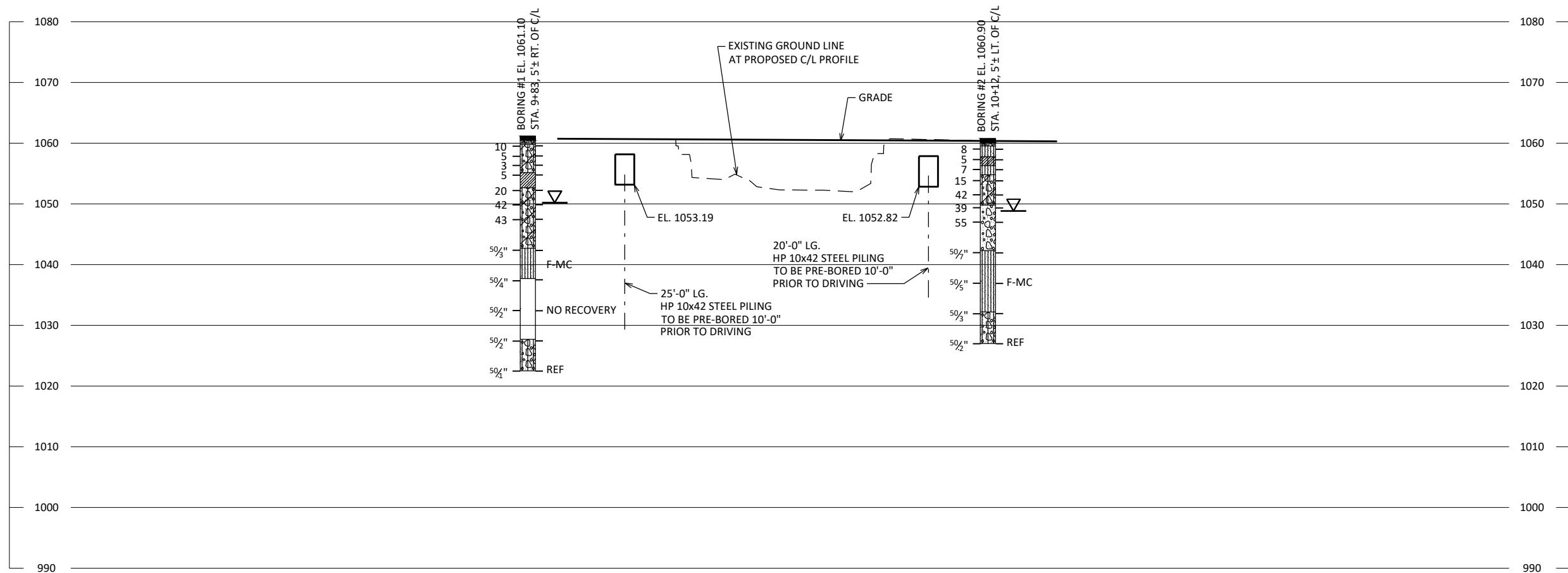
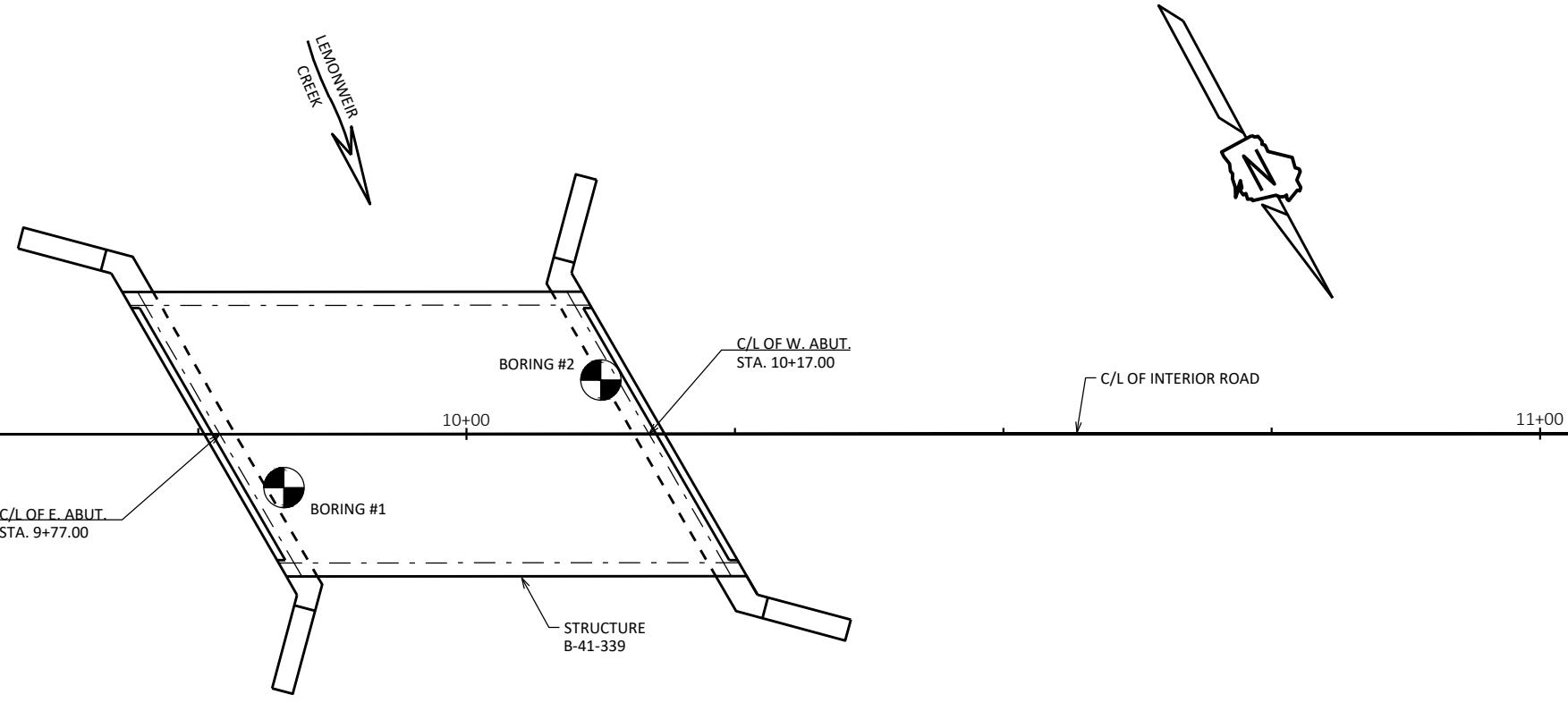
NO. DATE REVISION BY

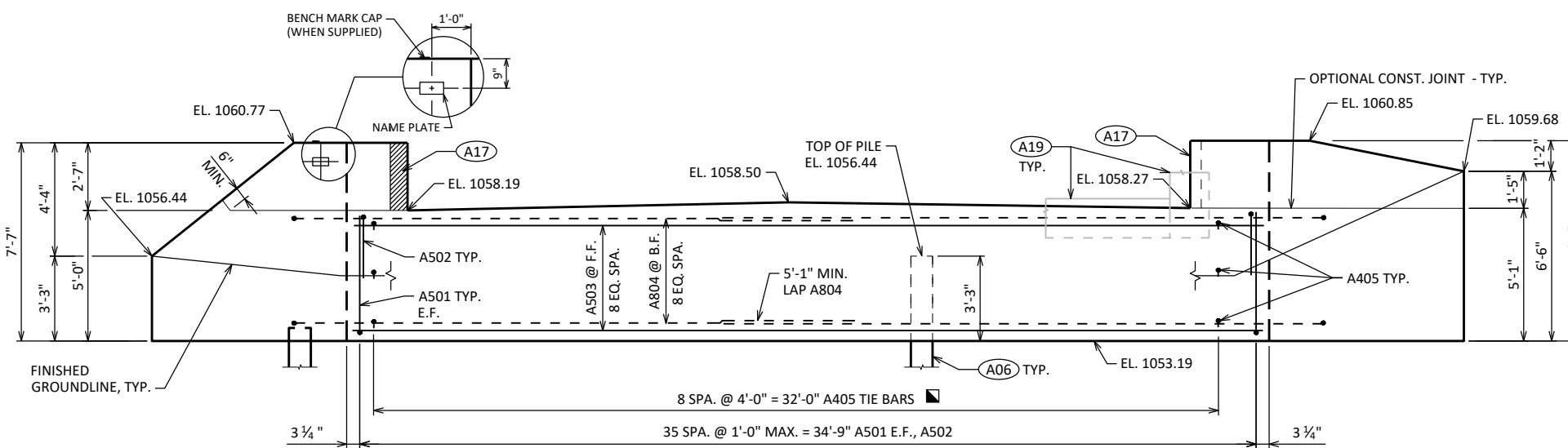
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-41-339

DRAWN BY CLP PLANS CK'D DRS

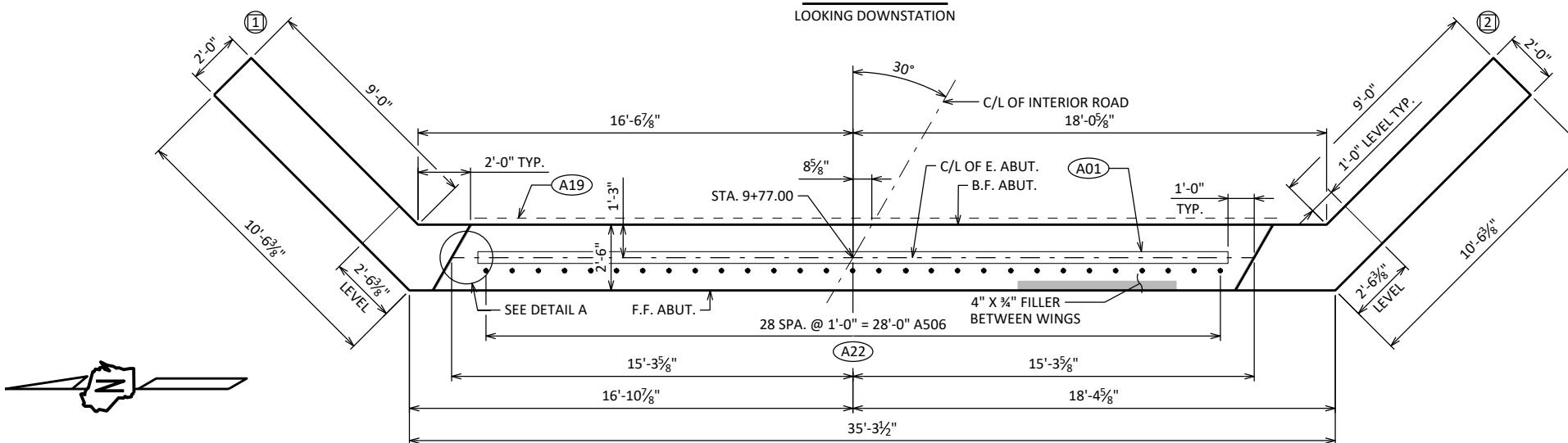
SHEET 4 OF 15
29



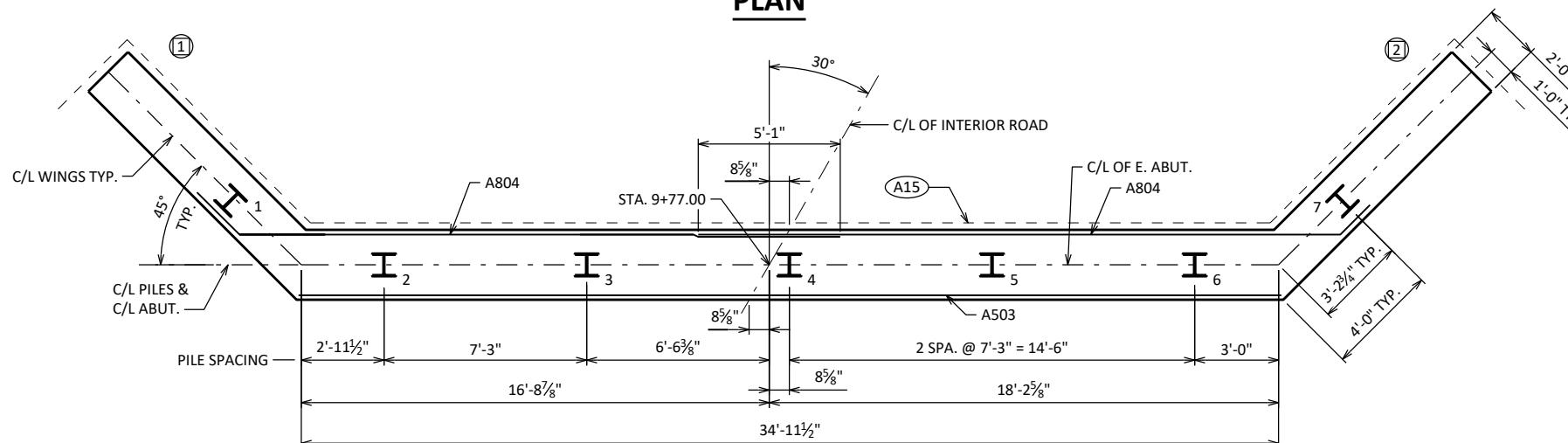


ELEVATION

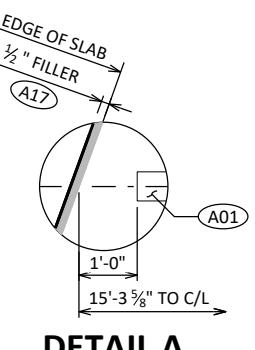
LOOKING DOWNSTATION



PLAN



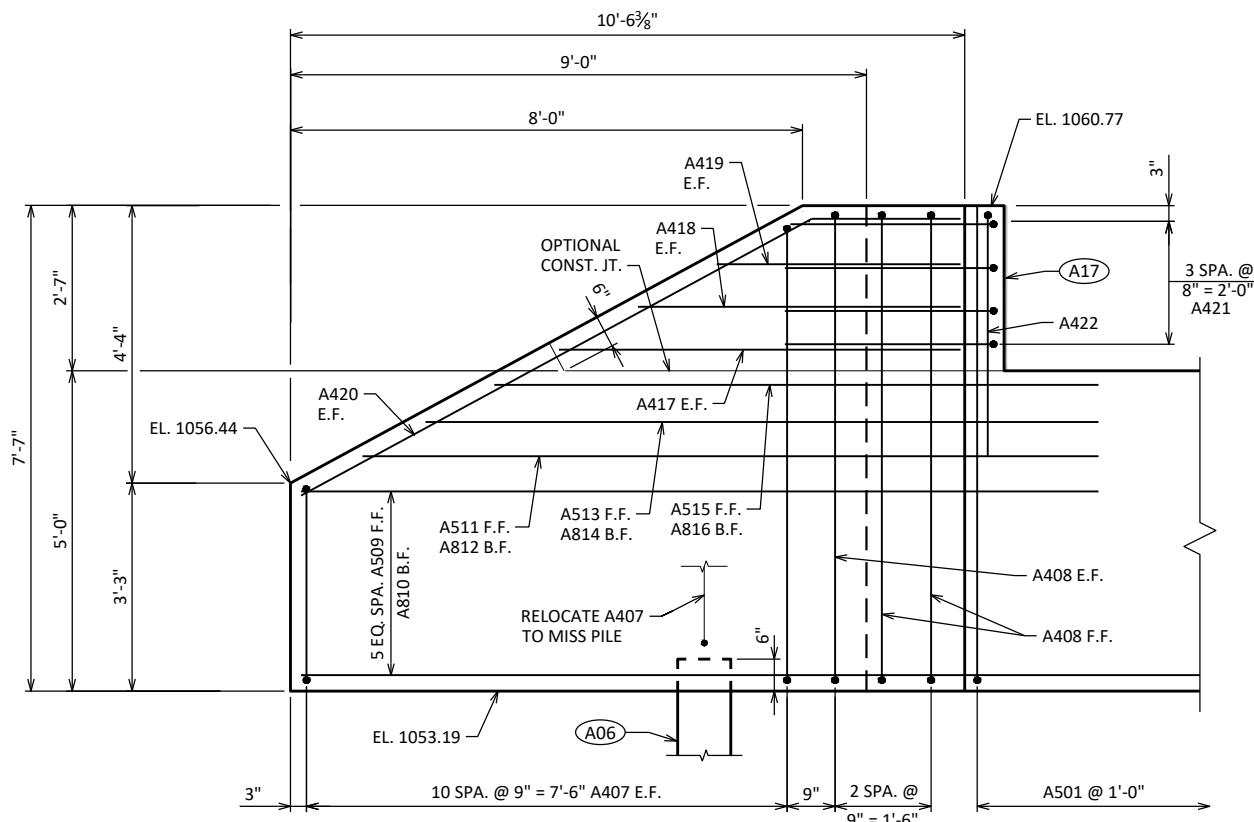
PILE PLAN



DETAIL A

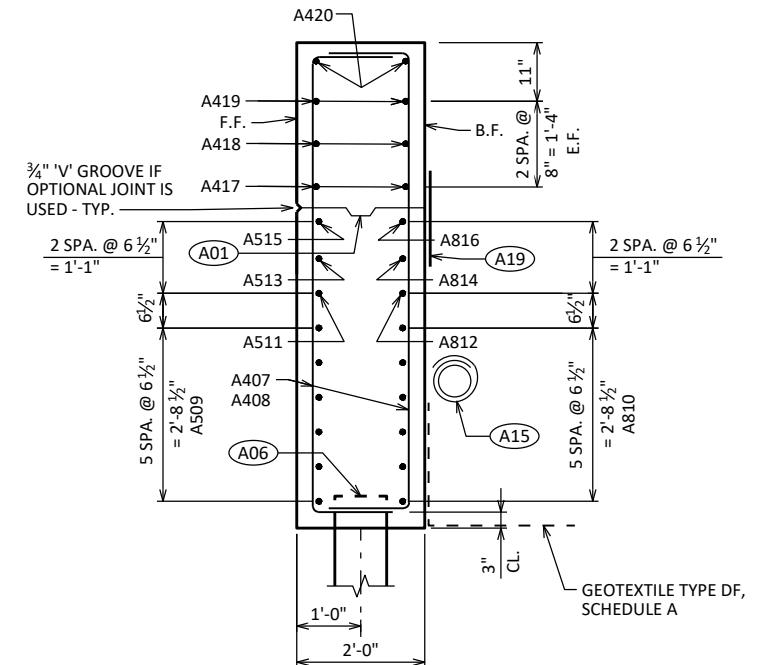
- (A01) CONST. JOINT: KEYWAY FORMED BY A BEVELED 2X6.
- (A06) SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING. ESTIMATED 25' LONG WITH A REQUIRED DRIVING RESISTANCE OF 140 TONS PER PILE. TO BE PRE-BORED 10'-0" PRIOR TO DRIVING.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. 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 1/8" 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) A506 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-41-339 | | | |
| DRAWN BY | CLP | PLANS CK'D | DRS |
| EAST ABUTMENT | | SHEET 5 OF 15 | 30 |

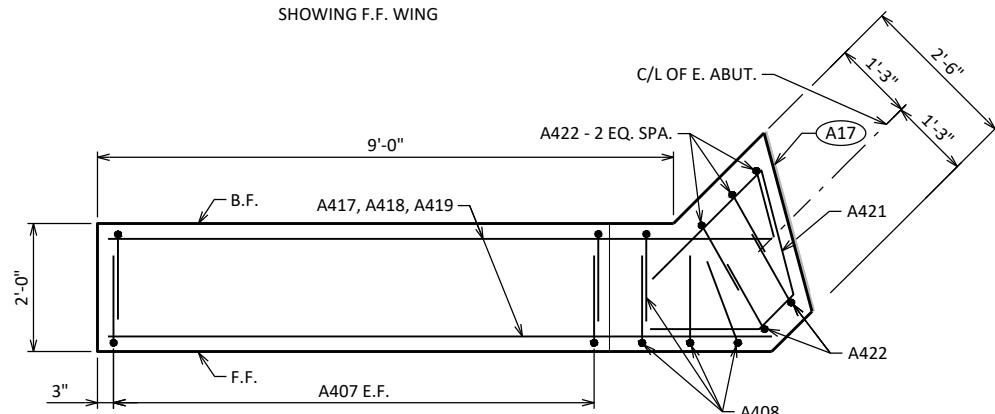


WING 1 ELEVATION

SHOWING F.F. WING

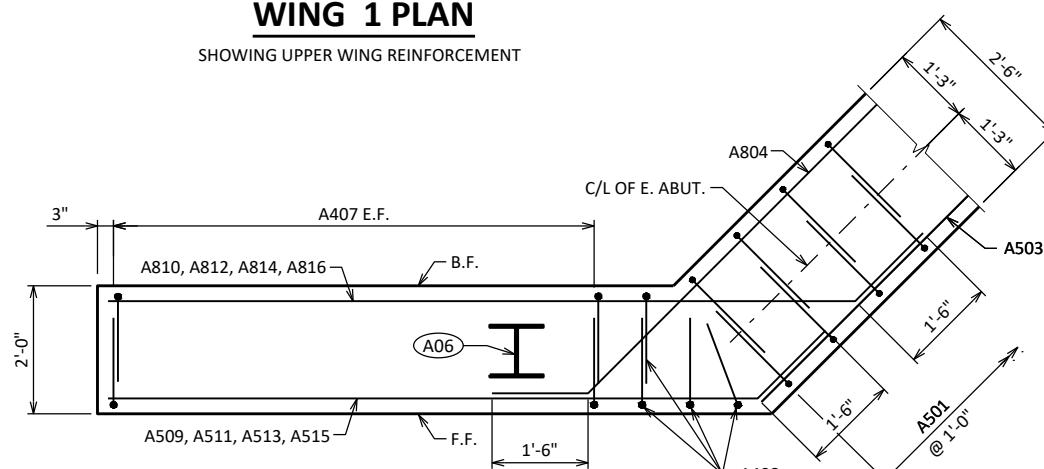


SECTION THRU WING 1



WING 1 PLAN

SHOWING UPPER WING REINFORCEMENT



WING 1 PLAN

SHOWING LOWER WING REINFORCEMENT

(A01) OPTIONAL CONST. JOINT: KEYWAY FORMED BY A BEVELED 2X6. PROVIDE $\frac{3}{4}$ " V GROOVE ON F.F. OF WINGWALL IF JOINT IS USED.

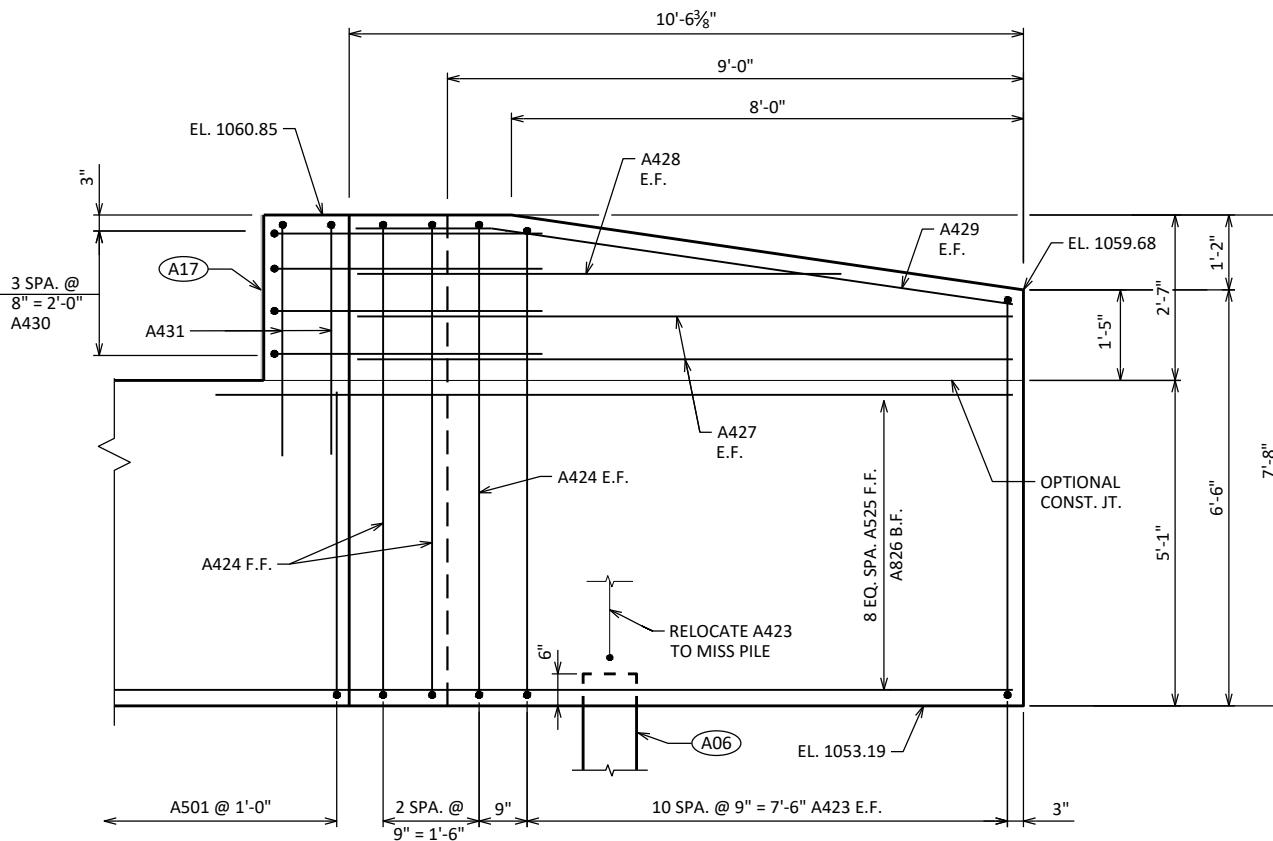
(A06) SUPPORT ABUTMENT ON HP 10 X 42 STEEL PILING. ESTIMATED 25' LONG WITH A REQUIRED DRIVING RESISTANCE OF 140 TONS PER PILE. TO BE PRE-BORED 10'-0" PRIOR TO DRIVING.

(A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.

(A17) $\frac{1}{2}$ " FILLER: SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF $\frac{1}{2}$ " FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD $\frac{1}{8}$ " BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

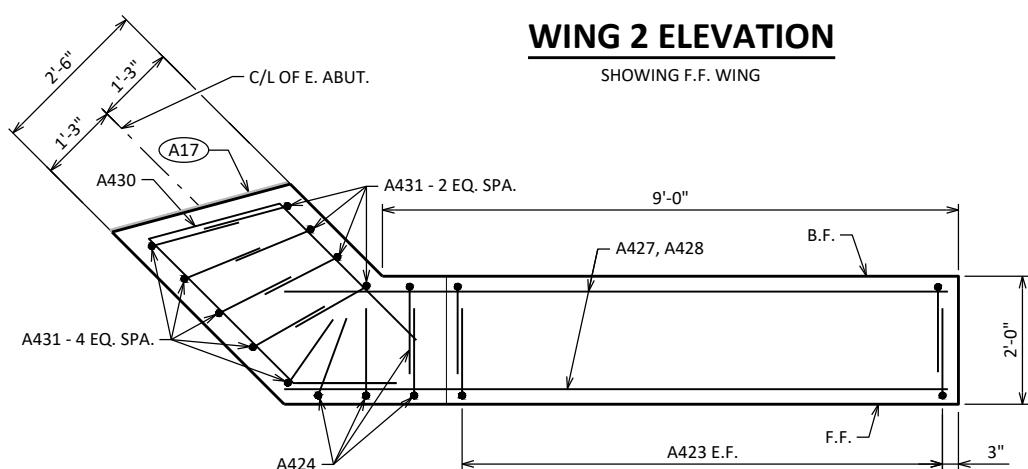
(A19) 18" RUBBERIZED MEMBRANE WATERPROOFING, ONLY IF OPTIONAL CONSTRUCTION JOINT IS USED. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY STRUCTURES".

| NO. | DATE | REVISION | BY |
|--|------|------------|-----|
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | | | |
| STRUCTURE B-41-339 | | | |
| DRAWN BY | CLP | PLANS CK'D | DRS |
| EAST ABUTMENT WING 1 DETAILS | | | |
| SHEET 6 OF 15 | | 31 | |



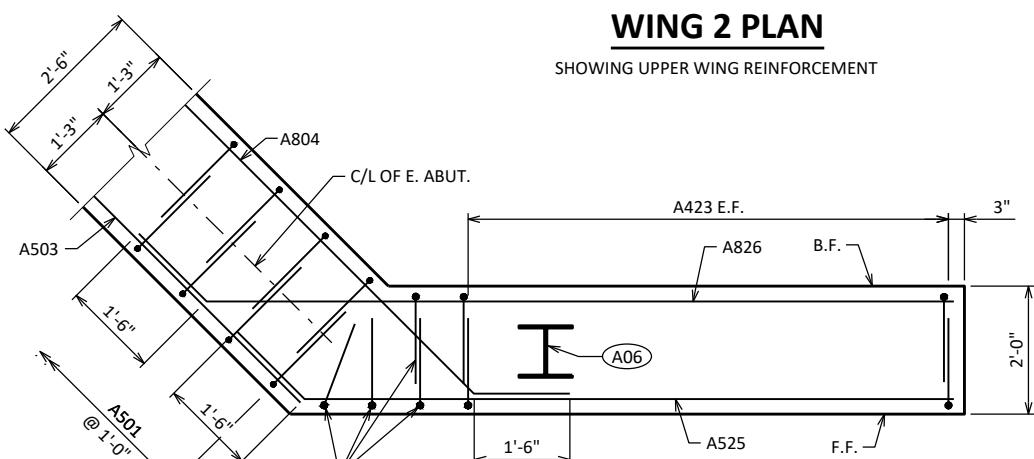
WING 2 ELEVATION

SHOWING F.F. WING



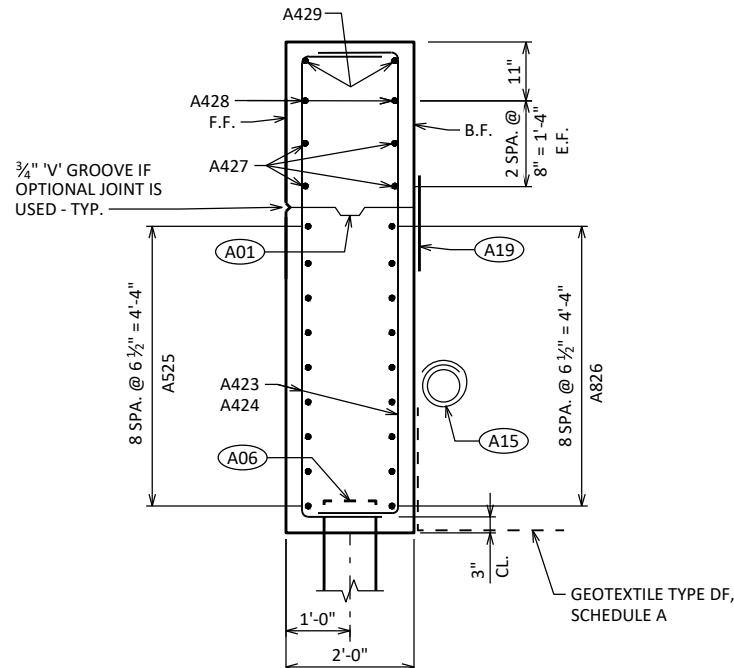
WING 2 PLAN

SHOWING UPPER WING REINFORCEMENT



WING 2 PLAN

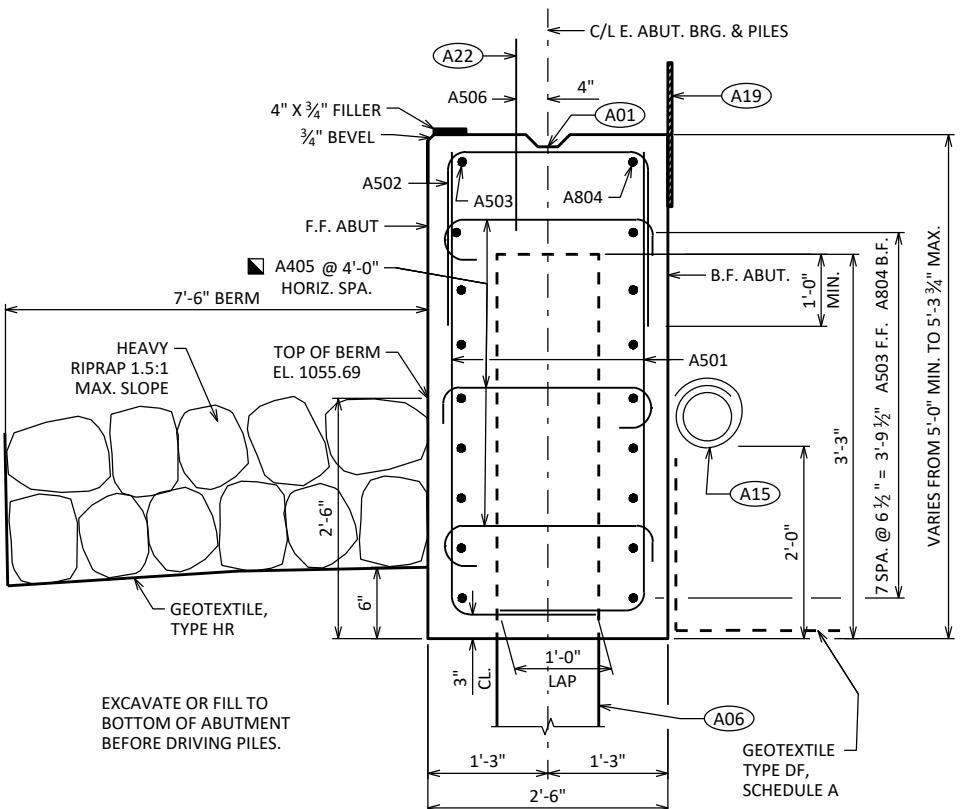
SHOWING LOWER WING REINFORCEMENT



SECTION THRU WING 2

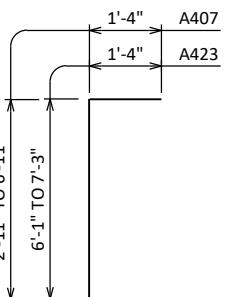
- (A01) OPTIONAL CONST. JOINT: KEYWAY FORMED BY A BEVELED 2X6. PROVIDE $\frac{3}{4}$ " "V" GROOVE ON F.F. OF WINGWALL IF JOINT IS USED.
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- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A17) $\frac{1}{2}$ " FILLER: SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF $\frac{1}{2}$ " FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD $\frac{1}{8}$ " BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
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| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | | | |
| STRUCTURE B-41-339 | | | |
| DRAWN BY | CLP | PLANS CK'D | DRS |
| EAST ABUTMENT WING 2 DETAILS | | | |
| SHEET 7 OF 15 | | 32 | |

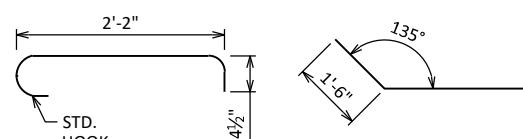


SECTION THRU BODY

- A01 CONST. JOINT: KEYWAY FORMED BY A BEVELED 2X6.
- A06 SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING. ESTIMATED 25' LONG WITH A REQUIRED DRIVING RESISTANCE OF 140 TONS PER PILE. TO BE PRE-BORED 10'-0" PRIOR TO DRIVING.
- A15 PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
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- A22 A506 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.

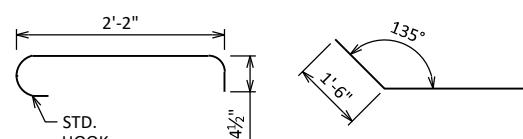


A407, A423



A405

A804, A509, A810
A511, A812, A513, A814
A515, A816, A525, A826



A405

A804, A509, A810
A511, A812, A513, A814
A515, A816, A525, A826

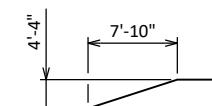
BILL OF BARS

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

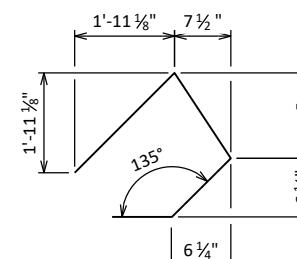
| BAR MARK | COAT | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION |
|----------|------|------------|---------|------|------------|--------------------------------|
| A501 | | 72 | 6'-1" | X | | ABUT BODY STIRRUPS |
| A502 | | 36 | 7'-3" | X | | ABUT BODY STIRRUPS - TOP U-BAR |
| A503 | | 9 | 34'-10" | | | ABUT BODY HORIZ. - F.F. |
| A804 | | 18 | 23'-9" | X | | ABUT BODY HORIZ. - B.F. |
| A405 | | 27 | 2'-11" | X | | ABUT BODY TIE BARS |
| A506 | X | 29 | 2'-0" | | | ABUT BODY DOWEL BARS |
| A407 | X | 22 | 7'-5" | X | ▲ | WING 1 STIRRUPS |
| A408 | X | 4 | 9'-8" | X | | WING 1 STIRRUPS |
| A509 | X | 6 | 11'-9" | X | | WING 1 LOWER HORIZ - F.F. |
| A810 | X | 6 | 13'-5" | X | | WING 1 LOWER HORIZ. - B.F. |
| A511 | X | 1 | 10'-10" | X | | WING 1 LOWER HORIZ - F.F. |
| A812 | X | 1 | 12'-6" | X | | WING 1 LOWER HORIZ. - B.F. |
| A513 | X | 1 | 9'-10" | X | | WING 1 LOWER HORIZ - F.F. |
| A814 | X | 1 | 11'-6" | X | | WING 1 LOWER HORIZ. - B.F. |
| A515 | X | 1 | 8'-9" | X | | WING 1 LOWER HORIZ - F.F. |
| A816 | X | 1 | 10'-5" | X | | WING 1 LOWER HORIZ. - B.F. |
| A417 | X | 2 | 10'-4" | | | WING 1 UPPER HORIZ. |
| A418 | X | 2 | 9'-1" | | | WING 1 UPPER HORIZ. |
| A419 | X | 2 | 7'-10" | | | WING 1 UPPER HORIZ. |
| A420 | X | 2 | 11'-4" | X | | WING 1 UPPER DIAG. |
| A421 | X | 4 | 7'-0" | X | | WING 1 TOP HORIZ. CORNER |
| A422 | X | 5 | 5'-2" | X | | WING 1 TOP VERT. CORNER |
| A423 | X | 22 | 9'-2" | X | ▲ | WING 2 STIRRUPS |
| A424 | X | 4 | 9'-9" | X | | WING 2 STIRRUPS |
| A525 | X | 9 | 11'-9" | X | | WING 2 LOWER HORIZ - F.F. |
| A826 | X | 9 | 13'-5" | X | | WING 2 LOWER HORIZ. - B.F. |
| A427 | X | 4 | 10'-3" | | | WING 2 UPPER HORIZ. |
| A428 | X | 2 | 7'-7" | | | WING 2 UPPER HORIZ. |
| A429 | X | 2 | 10'-3" | X | | WING 2 UPPER DIAG. |
| A430 | X | 4 | 9'-11" | X | | WING 2 TOP HORIZ. CORNER |
| A431 | X | 9 | 5'-2" | X | | WING 2 TOP VERT. CORNER |

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

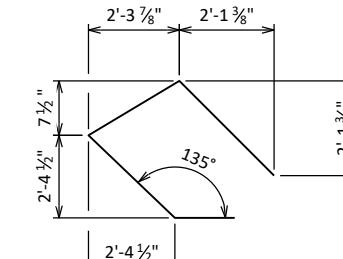
⚠ LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS.



A420



A421



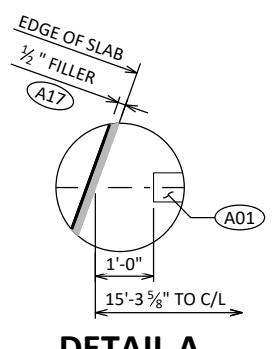
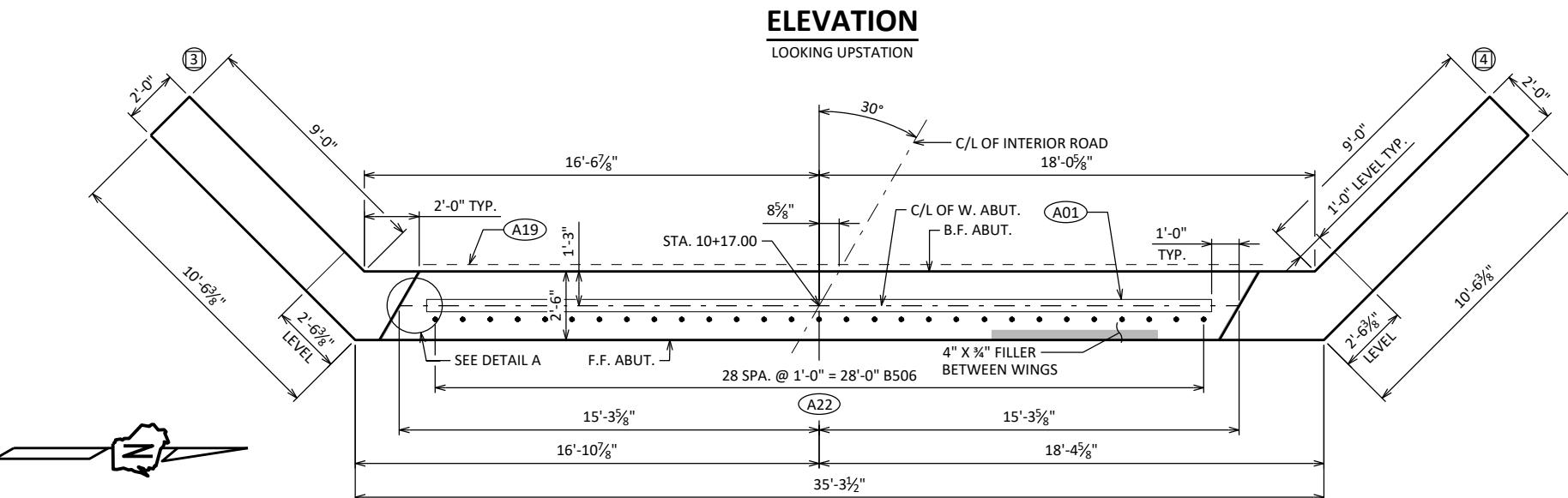
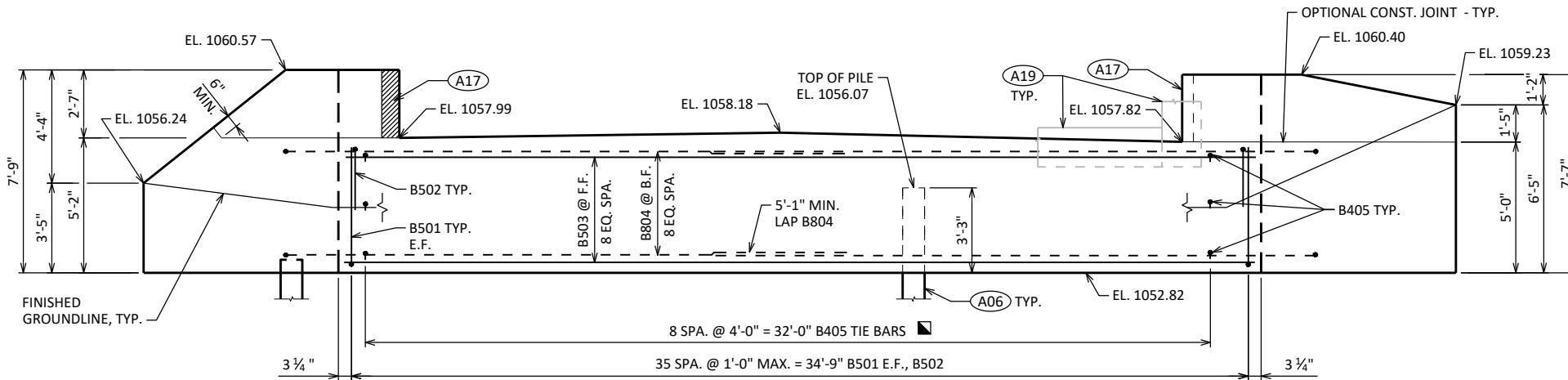
A430

BAR SERIES TABLE

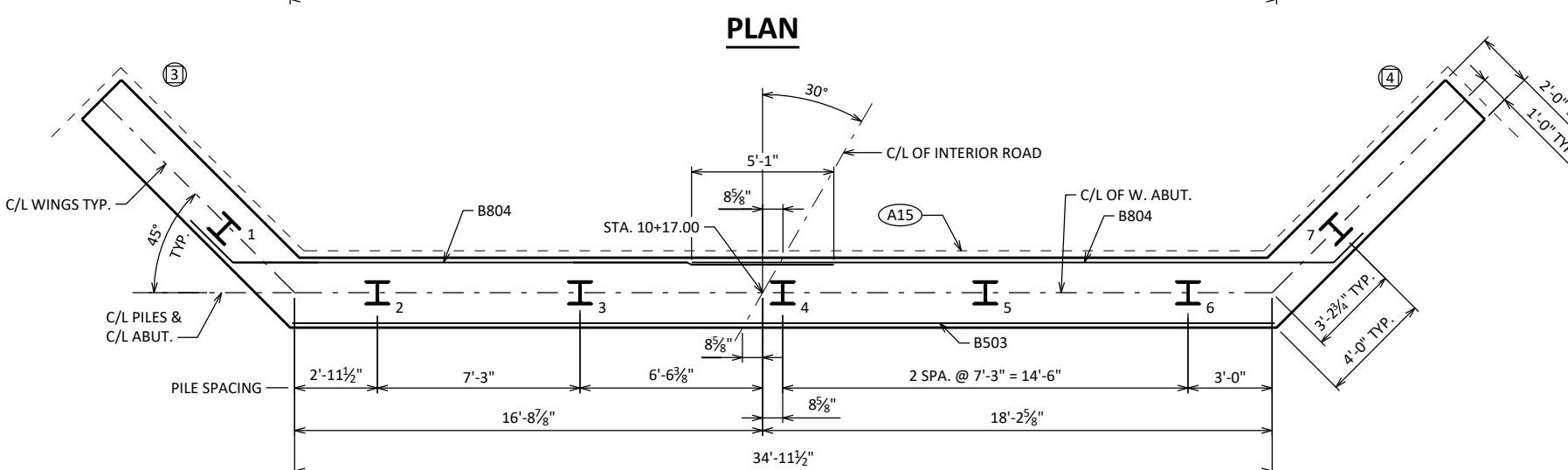
BUNDLE AND TAG EACH SERIES SEPARATELY.

| BAR MARK | NO. REQ'D. | | LENGTH | | |
|-------------|------------|--------------|--------|----|-------|
| A407 | 2 | SERIES OF 11 | 5'-5" | TO | 9'-5" |
| A423 | 2 | SERIES OF 11 | 8'-7" | TO | 9'-9" |

| | | | |
|--|------|---------------------|---------------|
| NO. | DATE | REVISION | BY |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | | | |
| STRUCTURE B-41-339 | | DRAWN BY | PLANS CK'D |
| EAST ABUTMENT BILL OF BARS | | CLP | DRS |
| | | SHEET 8 OF 15 33 | |

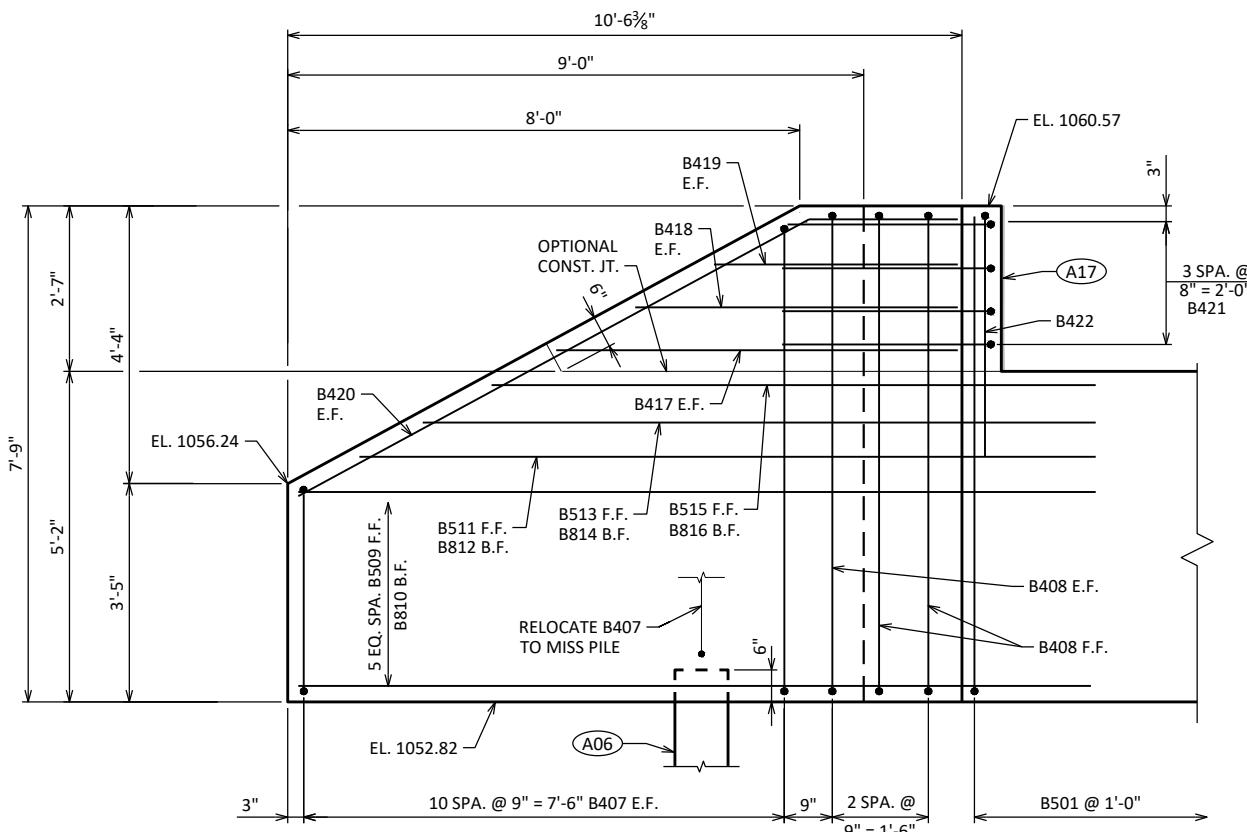


- (A01) CONST. JOINT: KEYWAY FORMED BY A BEVELED 2X6.
- (A06) SUPPORT ABUTMENT ON HP 10 x 42 STEEL PILING. ESTIMATED 20' LONG WITH A REQUIRED DRIVING RESISTANCE OF 140 TONS PER PILE. TO BE PRE-BORED 10'-0" PRIOR TO DRIVING.
- (A15) PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. RODENT SHIELD REQUIRED.
- (A17) $\frac{1}{2}$ " FILLER: SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF $\frac{1}{2}$ " FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD $\frac{1}{2}$ " BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
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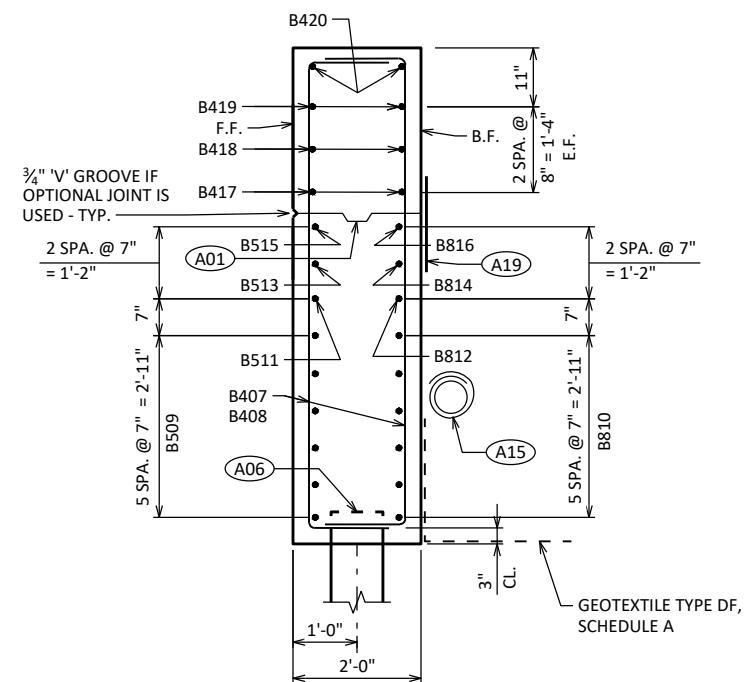
PILE PLAN

| NO. | DATE | REVISION | BY |
|--|------|---------------|-----|
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | | | |
| STRUCTURE B-41-339 | | | |
| DRAWN BY | CLP | PLANS CK'D | DRS |
| WEST ABUTMENT | | SHEET 9 OF 15 | 34 |

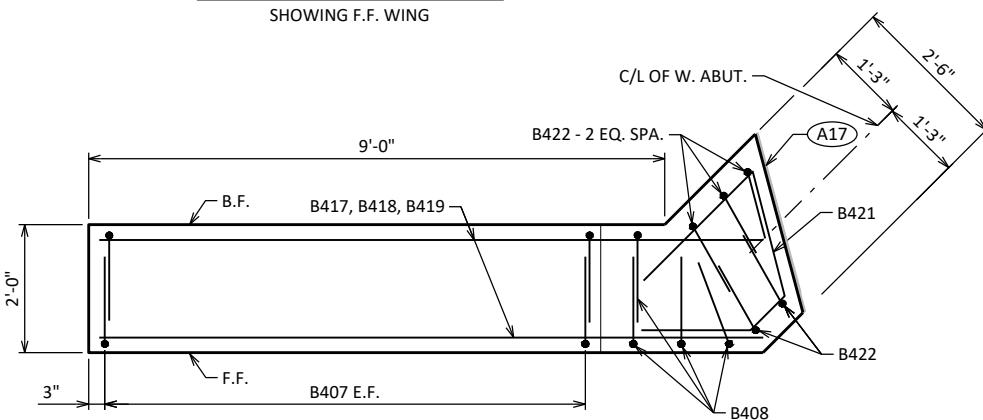


WING 3 ELEVATION

SHOWING F.F. WING

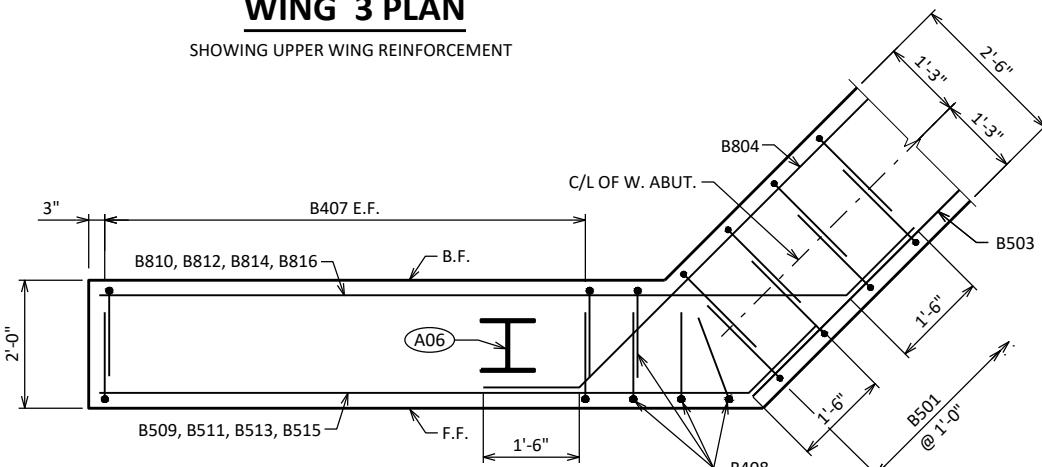


SECTION THRU WING 3



WING 3 PLAN

SHOWING UPPER WING REINFORCEMENT

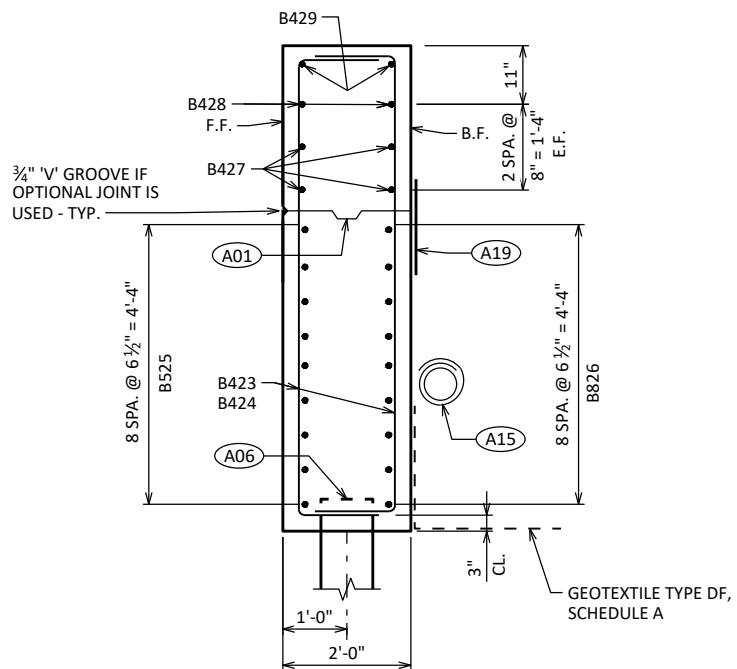
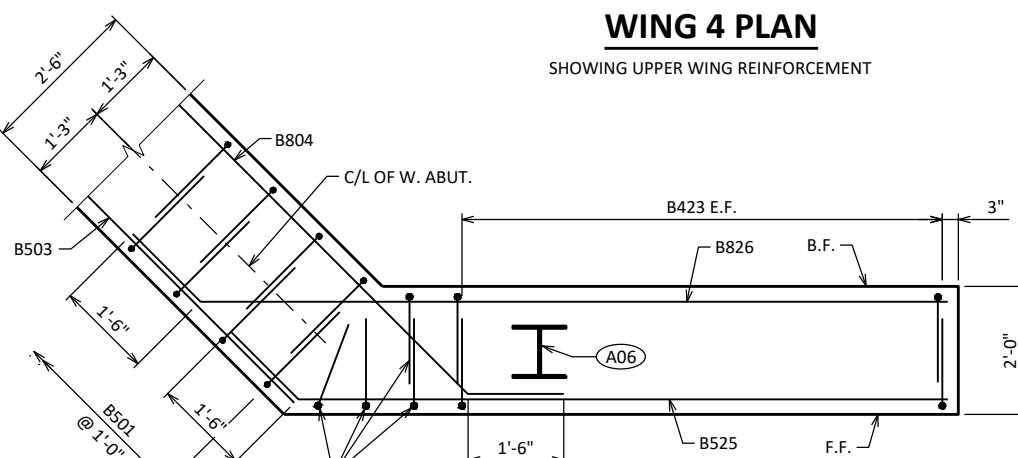
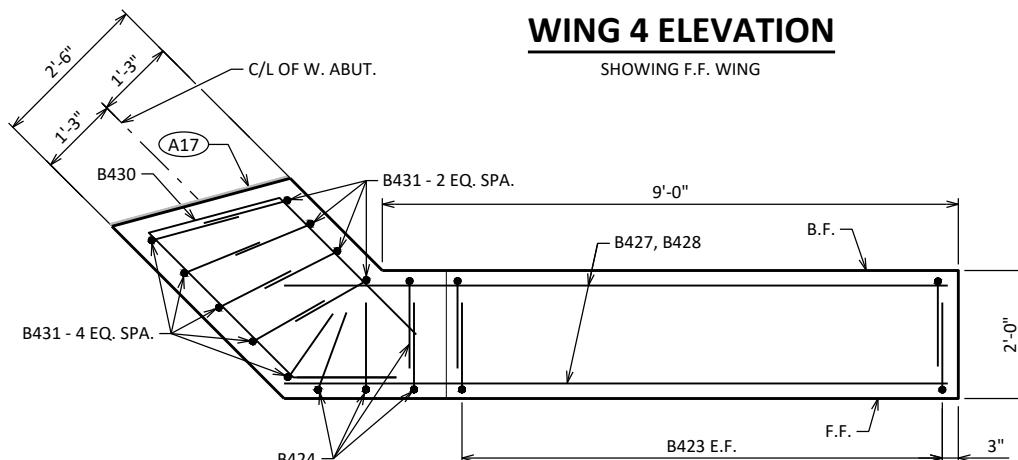
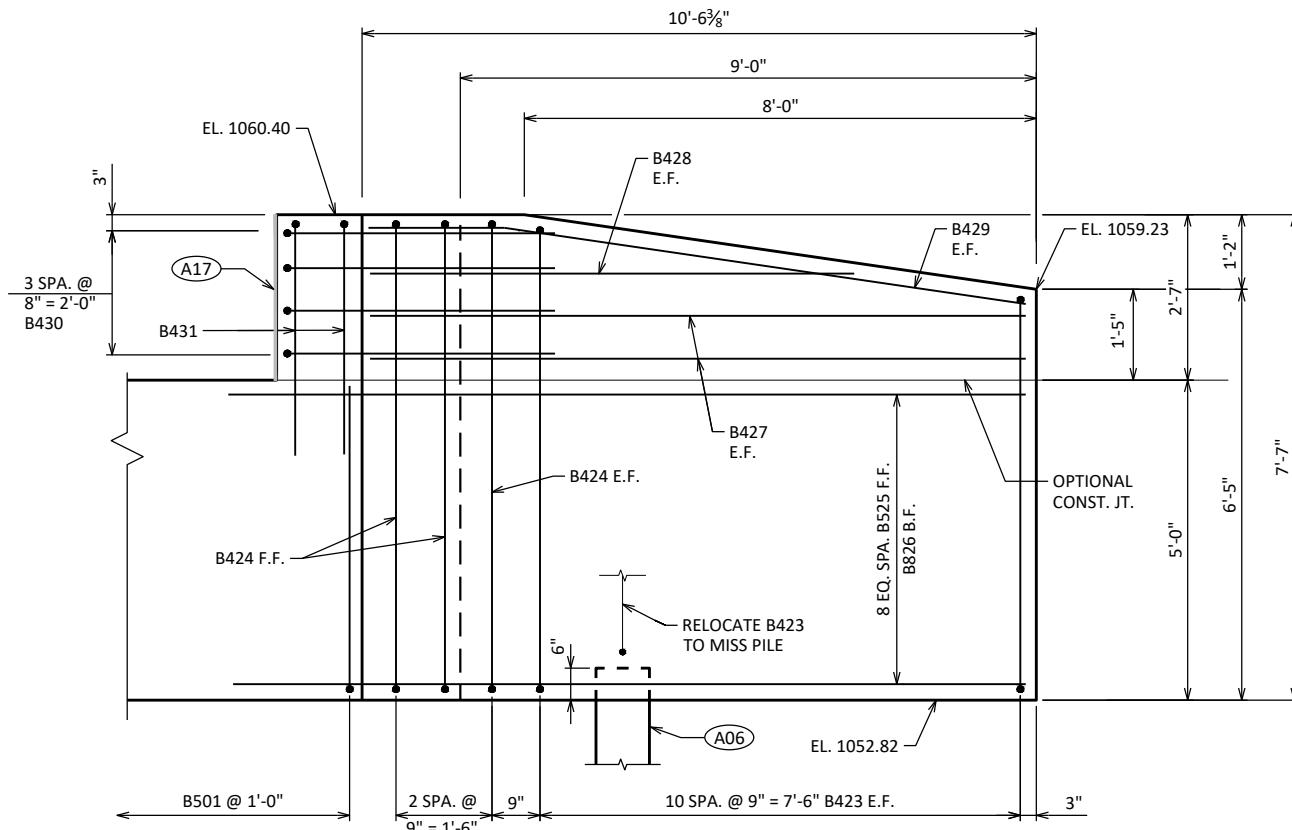


WING 3 PLAN

SHOWING LOWER WING REINFORCEMENT

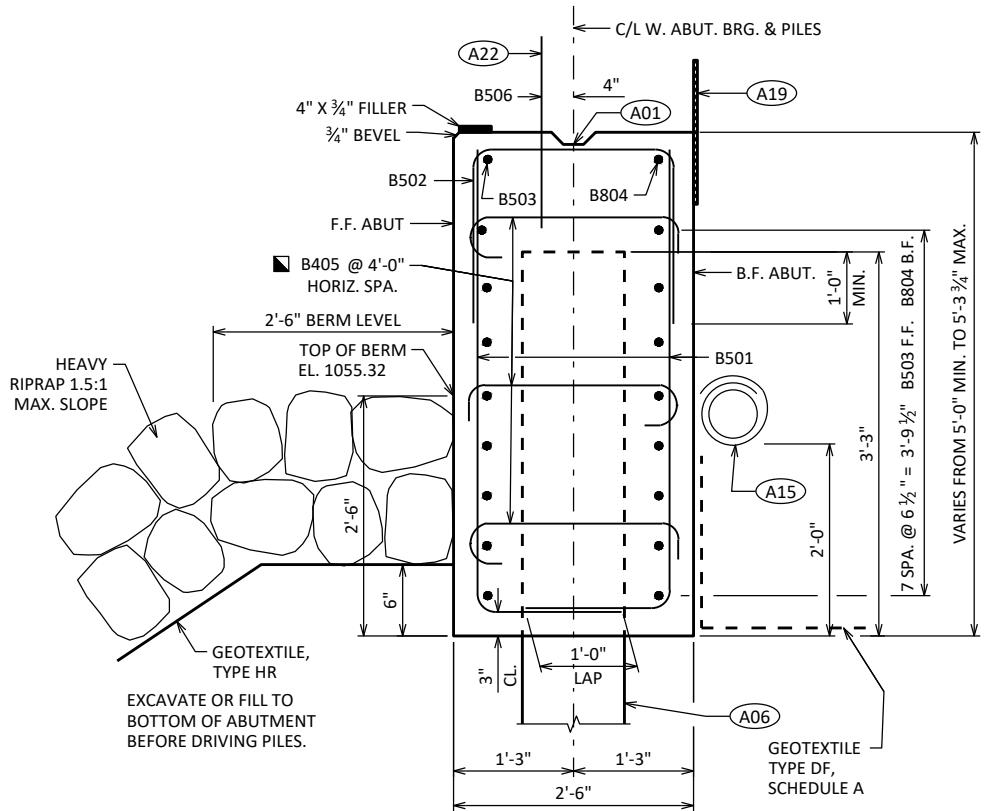
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- (A17) $\frac{1}{2}$ " FILLER: SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF $\frac{1}{2}$ " FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD $\frac{1}{8}$ " BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A19) 18" RUBBERIZED MEMBRANE WATERPROOFING, ONLY IF OPTIONAL CONSTRUCTION JOINT IS USED. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY STRUCTURES".

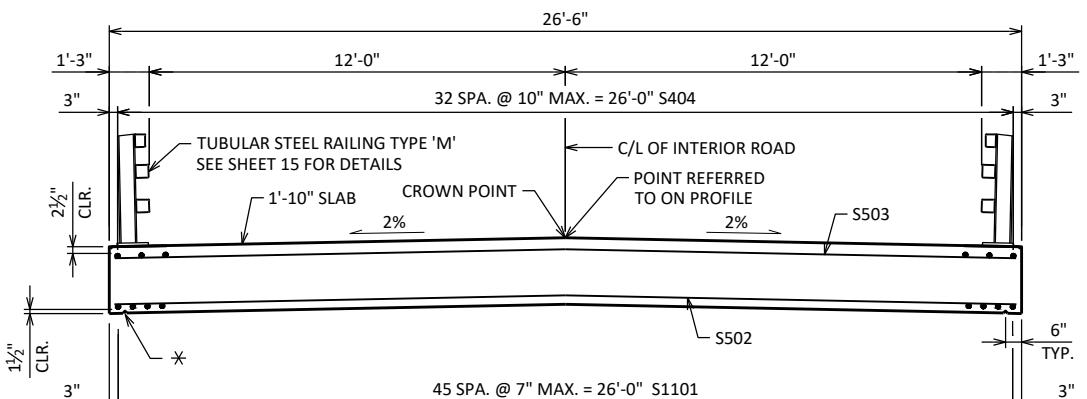
| NO. | DATE | REVISION | BY |
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| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | | | |
| STRUCTURE B-41-339 | | | |
| DRAWN BY | CLP | PLANS CK'D | DRS |
| WEST ABUTMENT WING 3 DETAILS | | | |
| SHEET 10 OF 15 | | 35 | |



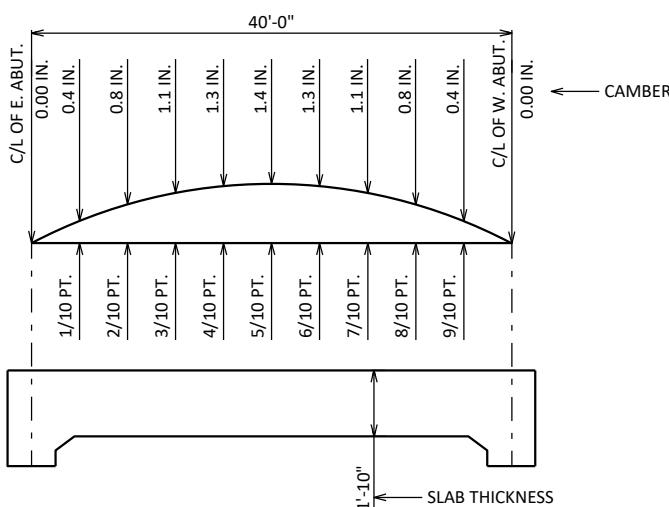
- (A01) OPTIONAL CONST. JOINT: KEYWAY FORMED BY A BEVELED 2X6. PROVIDE 3/4" "V" GROOVE ON F.F. OF WINGWALL IF JOINT IS USED.
- (A06) SUPPORT ABUTMENT ON HP 10 X 42 STEEL PILING. ESTIMATED 20' LONG WITH A REQUIRED DRIVING RESISTANCE OF 140 TONS PER PILE. TO BE PRE-BORED 10'-0" PRIOR TO DRIVING.
- (A15) 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 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.
- (A19) 18" RUBBERIZED MEMBRANE WATERPROOFING, ONLY IF OPTIONAL CONSTRUCTION JOINT IS USED. COST INCIDENTAL TO BID ITEM "CONCRETE MASONRY STRUCTURES".

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| WEST ABUTMENT WING 4 DETAILS | | | |
| SHEET 11 OF 15 | | 36 | |





TYPICAL SECTION THRU BRIDGE



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.

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 |
| EQUALS | FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR) |
| | TOP OF SLAB FALSEWORK ELEVATION |

TOP OF SLAB ELEVATIONS

| LOCATION | C/L E. 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 W. ABUT. |
|--------------------|--------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|--------------|
| N. EDGE OF SLAB | 1060.85 | 1060.84 | 1060.82 | 1060.79 | 1060.77 | 1060.74 | 1060.71 | 1060.68 | 1060.65 | 1060.61 | 1060.57 |
| C/L OF INTERIOR RD | 1061.08 | 1061.06 | 1061.04 | 1061.01 | 1060.98 | 1060.95 | 1060.92 | 1060.88 | 1060.84 | 1060.80 | 1060.76 |
| S. EDGE OF SLAB | 1060.77 | 1060.75 | 1060.72 | 1060.69 | 1060.65 | 1060.62 | 1060.58 | 1060.54 | 1060.49 | 1060.45 | 1060.40 |

TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT 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 TOLERANCE NECESSARY TO CORRECT CONSTRUCTION DISCREPANCIES ARE TO BE PLUS (+).

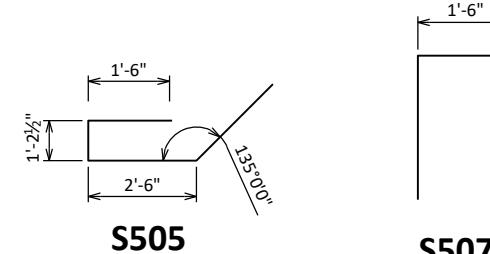
* 3/4" V-GROOVE. EXTEND V-GROOVE TO 6" FROM F.F. OF ABUT.

BILL OF BARS

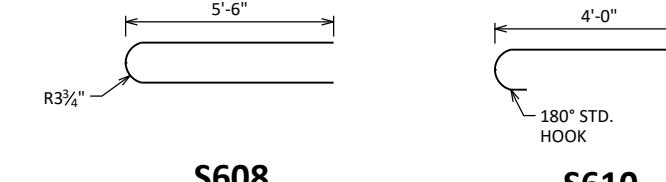
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

| BAR MARK | COAT | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION |
|----------|------|------------|---------|------|------------|---------------------------------|
| S1101 | x | 46 | 36'-11" | | | SLAB LONG. BOT. |
| S502 | x | 58 | 30'-2" | | | SLAB TRANS. BOT. |
| S503 | x | 56 | 30'-2" | | | SLAB TRANS. TOP |
| S404 | x | 33 | 40'-11" | | | SLAB LONG. TOP |
| S505 | x | 54 | 6'-10" | x | | SLAB @ ABUT. DIAPHRAGM STIRRUPS |
| S506 | x | 6 | 30'-2" | | | SLAB @ ABUT. DIAPHRAGM TRANS. |
| S507 | x | 54 | 3'-4" | x | | SLAB @ ABUT. |
| S608 | x | 32 | 11'-3" | x | | SLAB @ RAIL POSTS |
| S609 | x | 48 | 6'-0" | | | SLAB @ INT. RAIL POSTS |
| S610 | x | 16 | 4'-8" | x | | SLAB @ END RAIL POSTS |

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.



S505



S507



S608



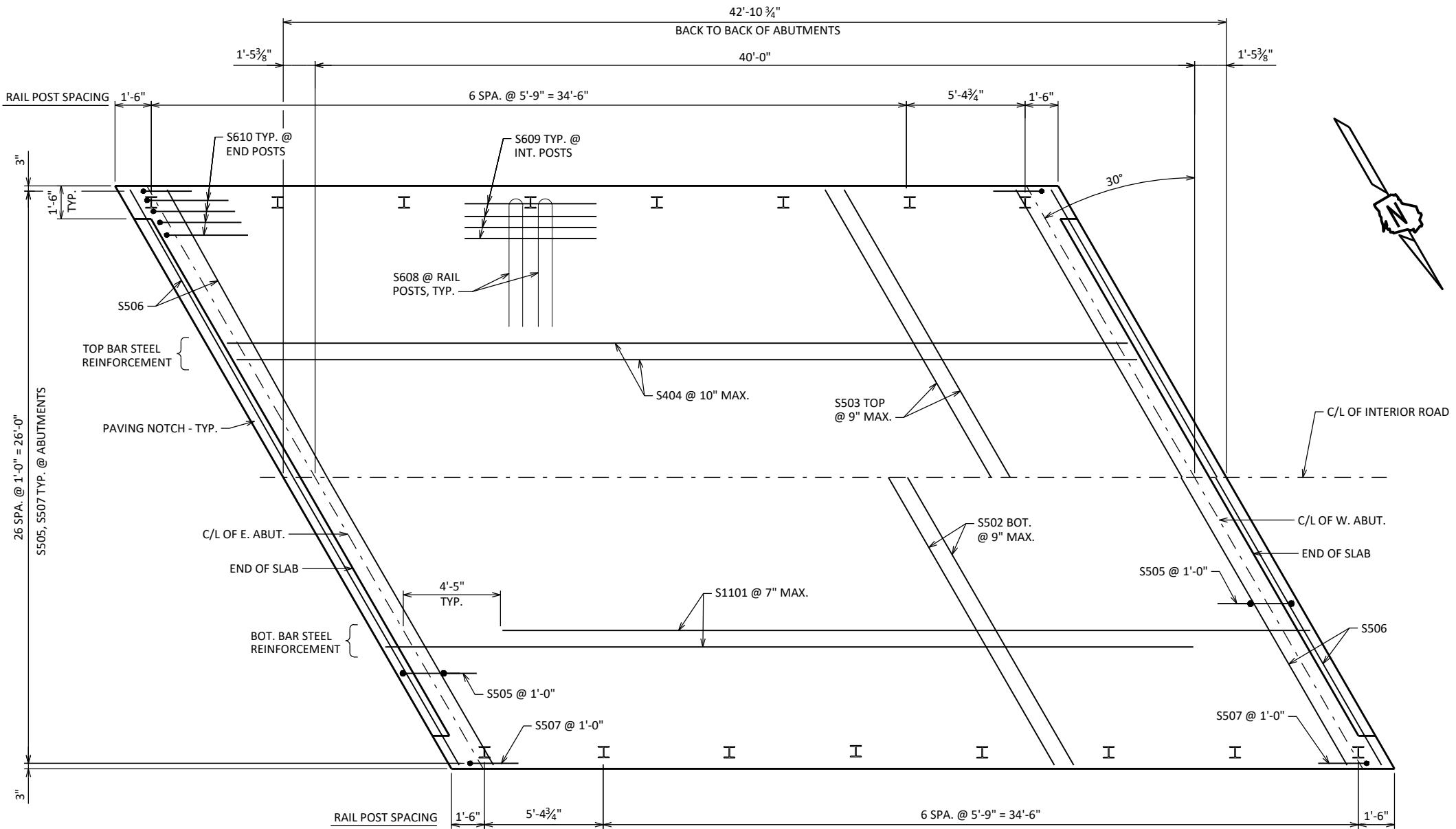
S610

SURVEY TOP OF SLAB ELEVATIONS

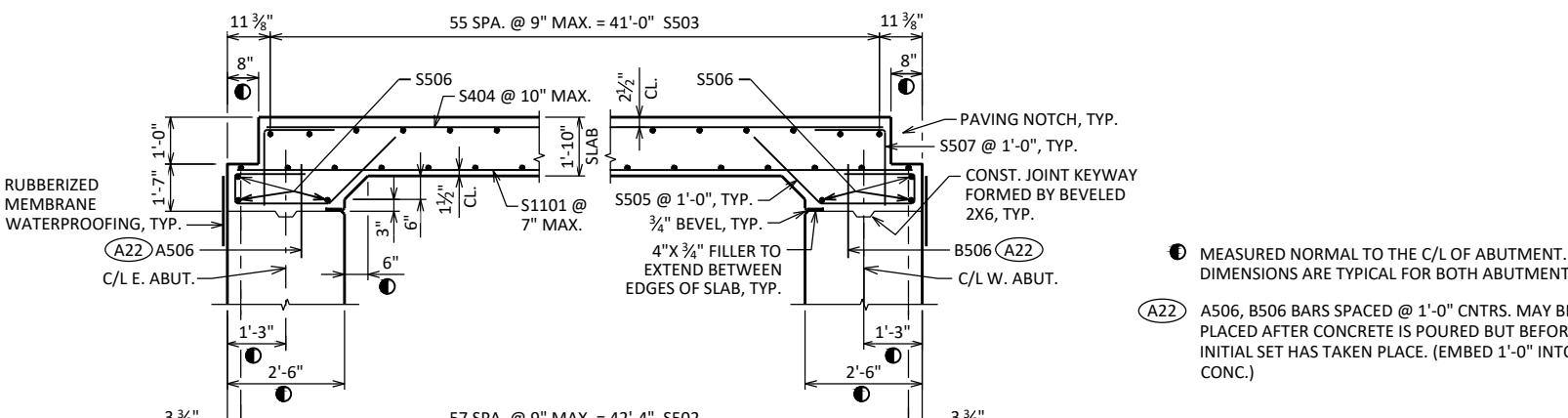
| | ABUTMENT | 5/10 PT. | ABUTMENT |
|--------------------|----------|----------|----------|
| N. EDGE OF SLAB | | | |
| C/L OF INTERIOR RD | | | |
| S. EDGE OF SLAB | | | |

PRIOR TO RELEASING SLAB FORMWORK, TAKE TOP OF SLAB ELEVATIONS AT THE C/L OF SUBSTRUCTURES, AND AT 5/10 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF SLAB AND C/L. RECORD ELEVATIONS IN THE TABLE ABOVE FOR THE "AS BUILT" PLANS.

| | | | |
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| DRAWN BY | CLP | PLANS CK'D | DRS |
| SUPERSTRUCTURE | | SHEET 13 OF 15 | |
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PLAN



LONGITUDINAL SECTION

DIMENSIONS ARE GIVEN PARALLEL TO C/L
ROADWAY UNLESS OTHERWISE NOTED.

MEASURED NORMAL TO THE C/L OF ABUTMENT
DIMENSIONS ARE TYPICAL FOR BOTH ABUTMENT

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.)

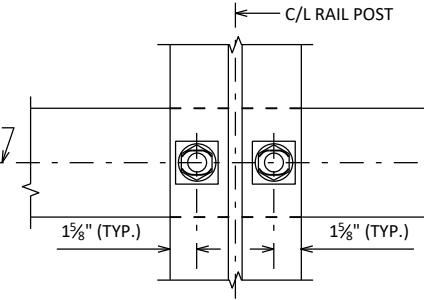
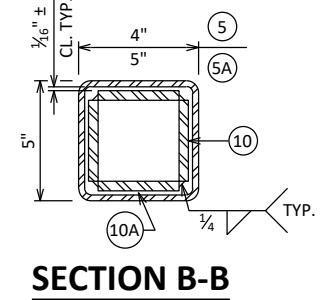
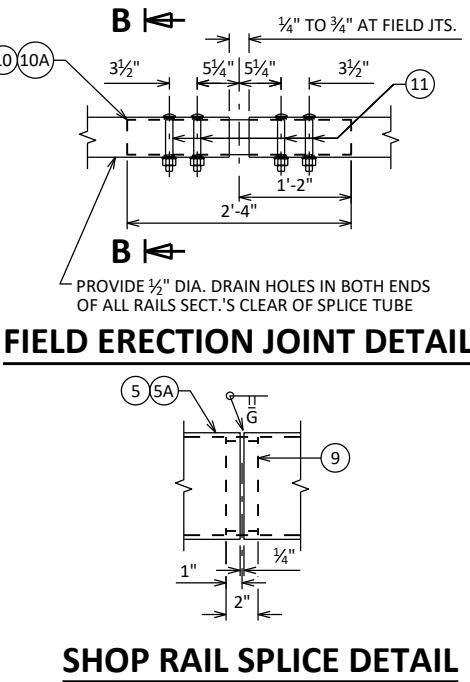
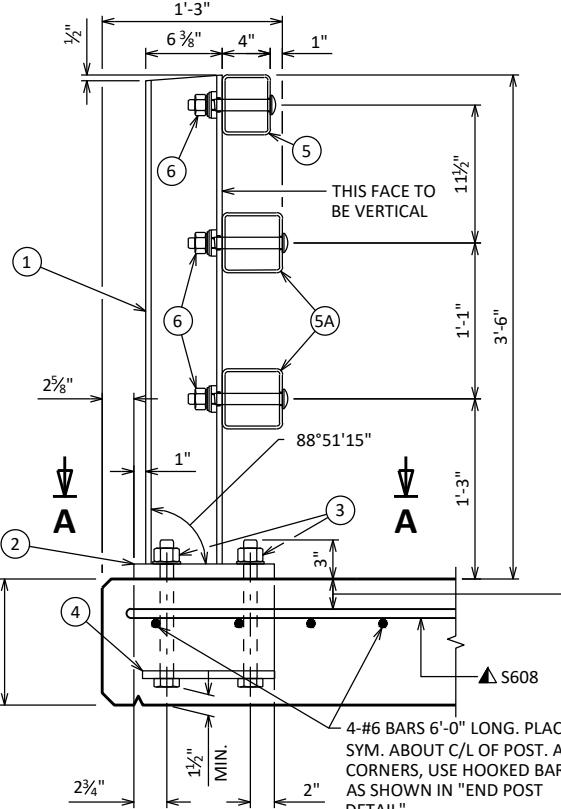
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| STRUCTURE B-41-339 | | | |
| | | DRAWN BY | PLANS CLP CK'D DRS |
| SUPERSTRUCTURE PLAN | | SHEET 14 OF 15 | |
| | | 39 | |

LEGEND

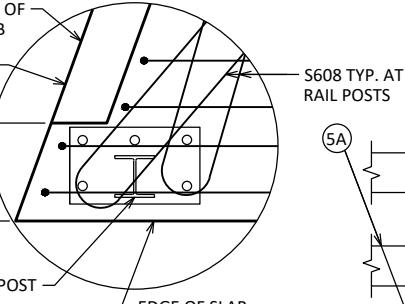
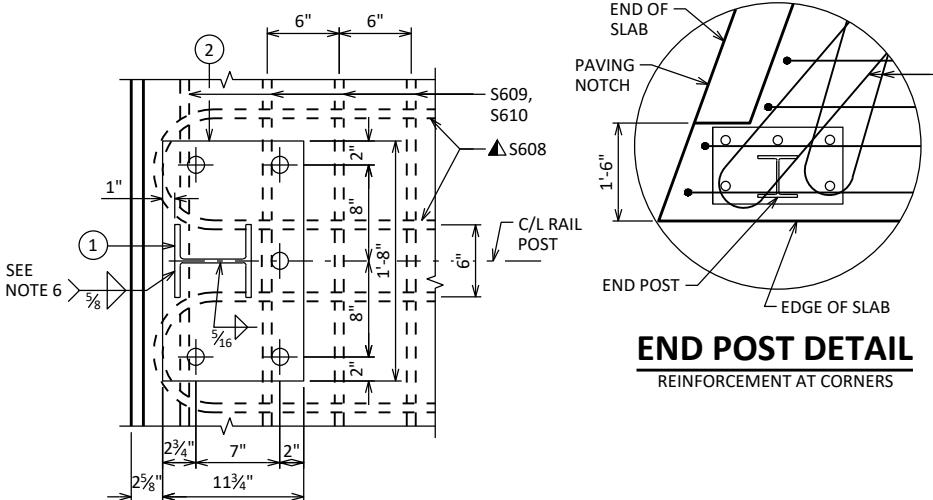
- W6 X 25 WITH $1\frac{1}{8}$ " X $1\frac{1}{2}$ " HORIZ. SLOTS ON EACH SIDE OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- PLATE $1\frac{1}{4}$ " X $1\frac{3}{4}$ " X $1\frac{1}{8}$ " WITH $1\frac{1}{16}$ " DIA. OVERRSIZED HOLES FOR ANCHOR BOLTS NO.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

GENERAL NOTES

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

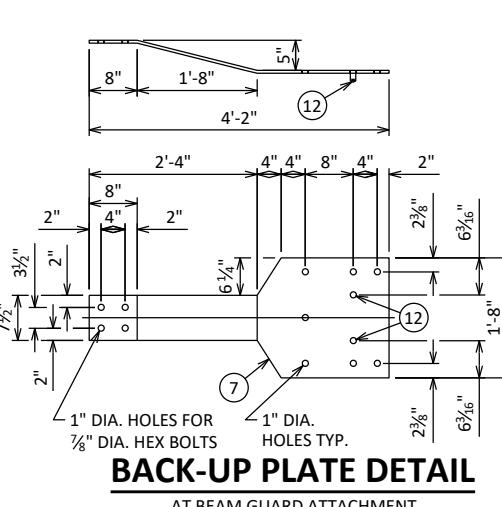
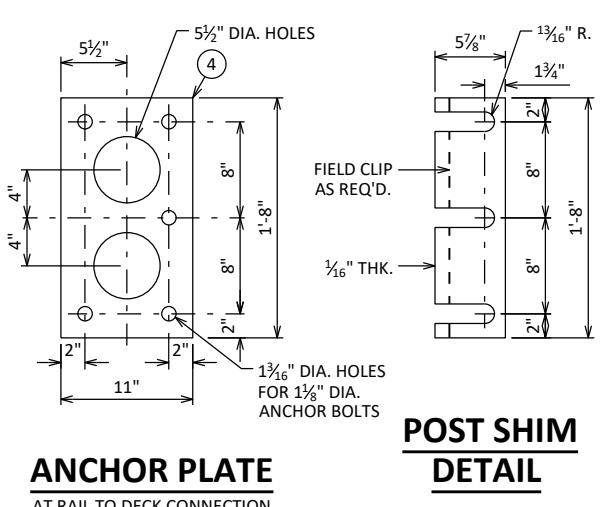


SECTION THRU RAILING ON DECK



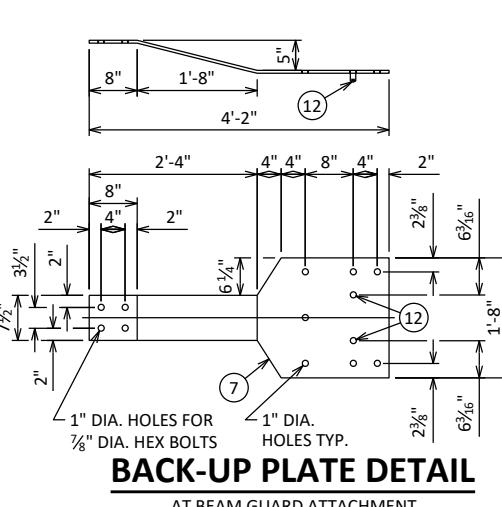
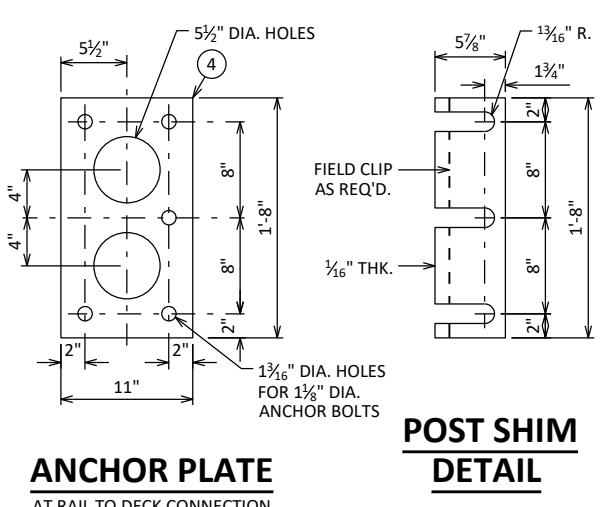
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REINFORCEMENT AT CORNERS



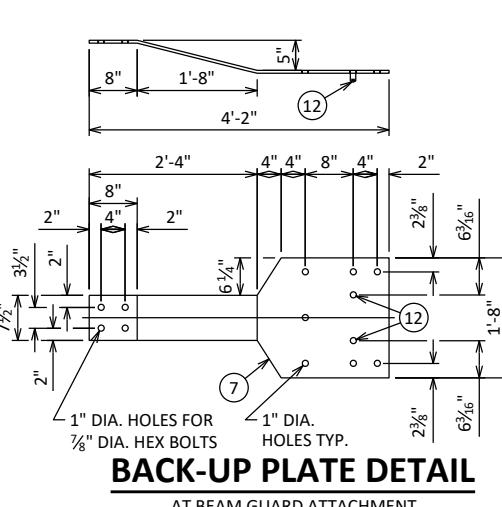
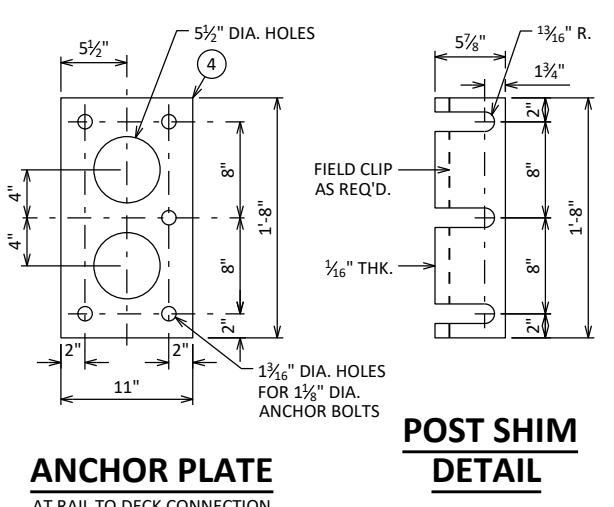
ANCHOR PLATE

AT RAIL TO DECK CONNECTION



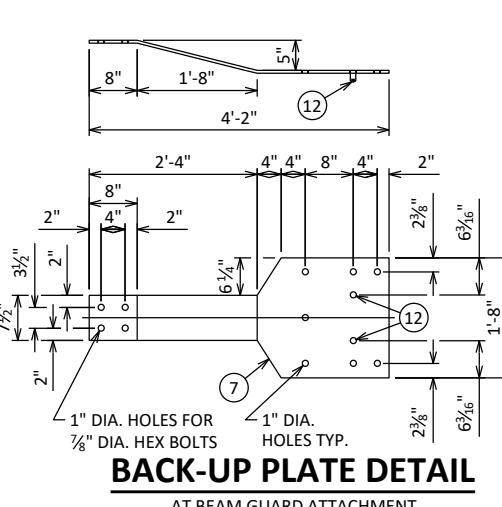
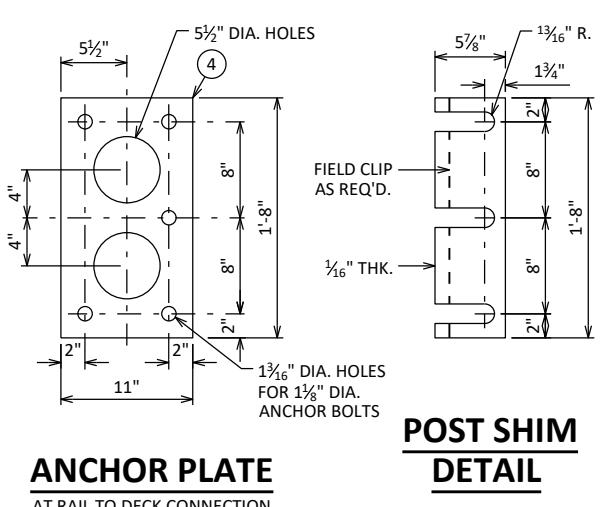
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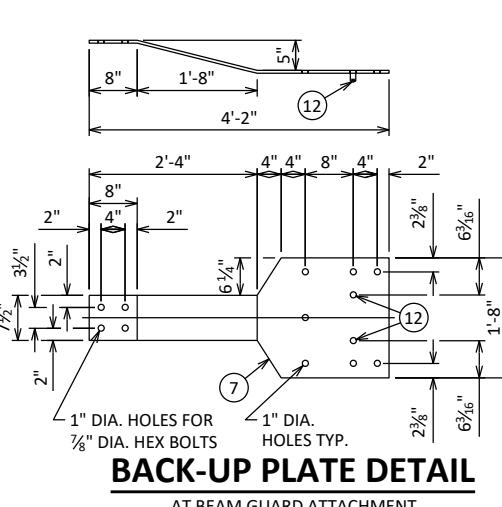
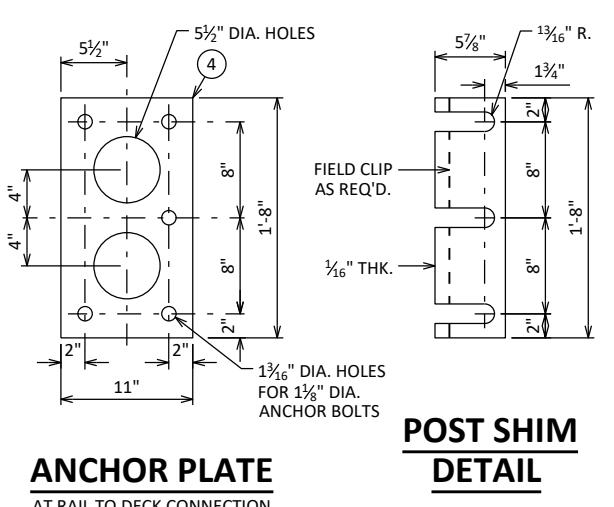
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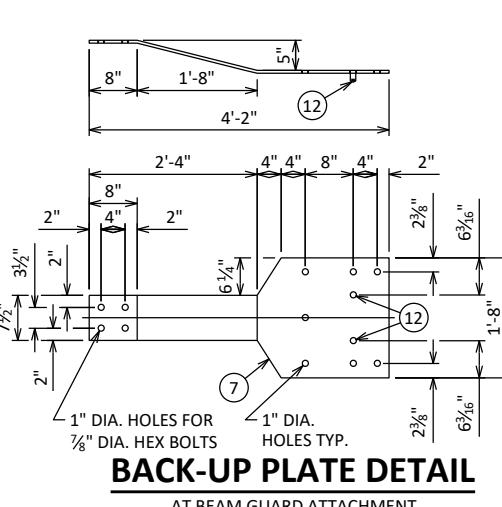
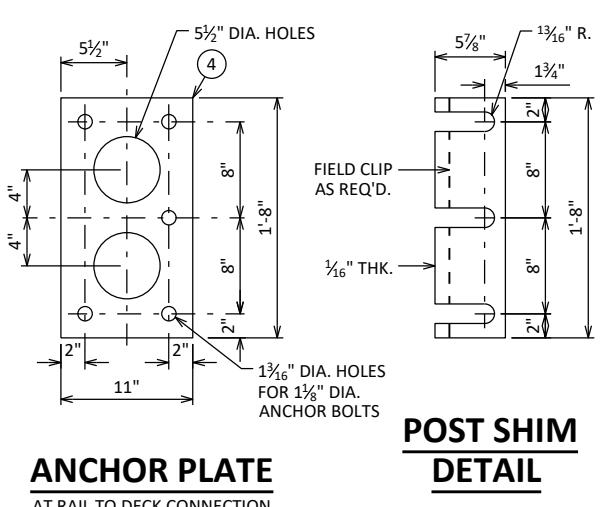
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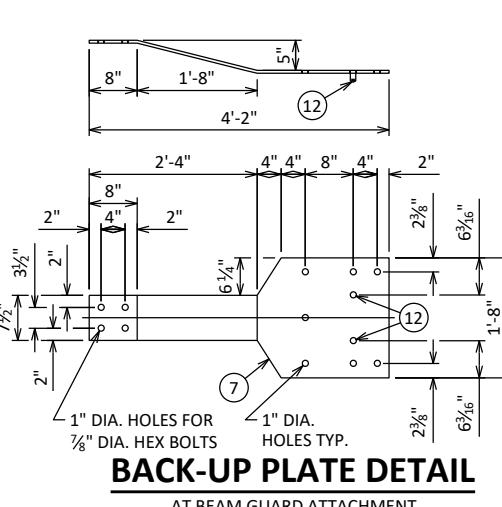
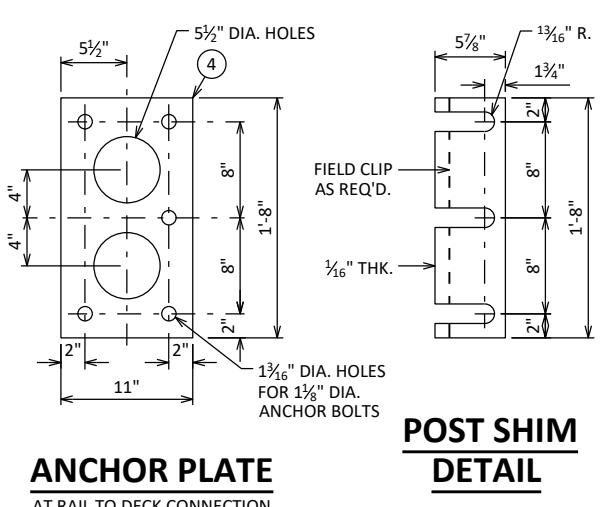
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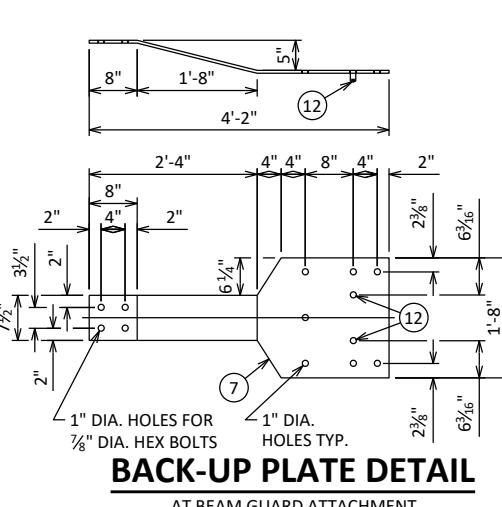
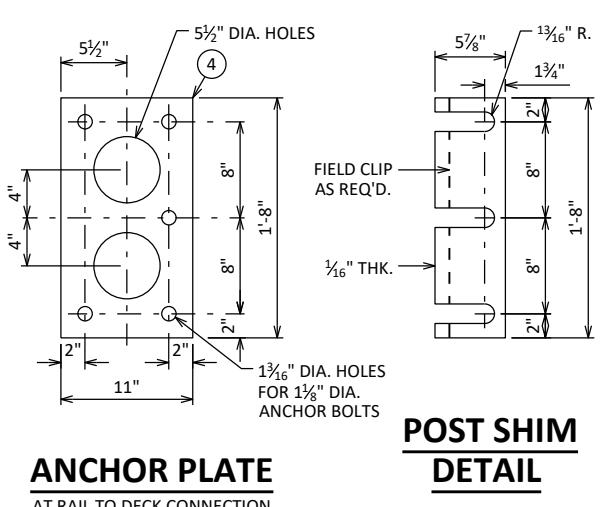
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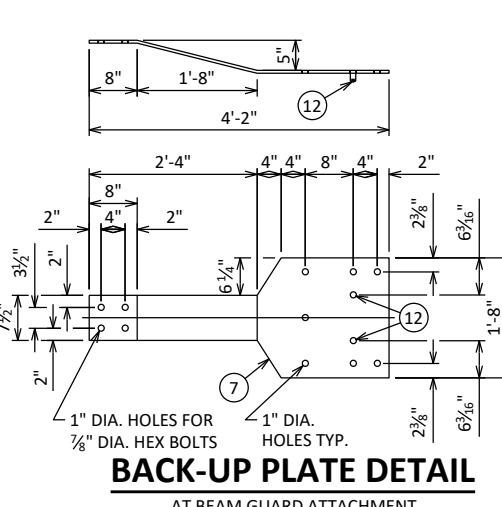
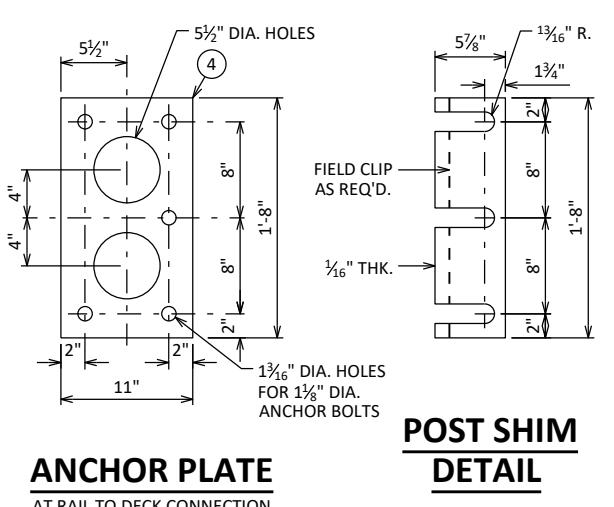
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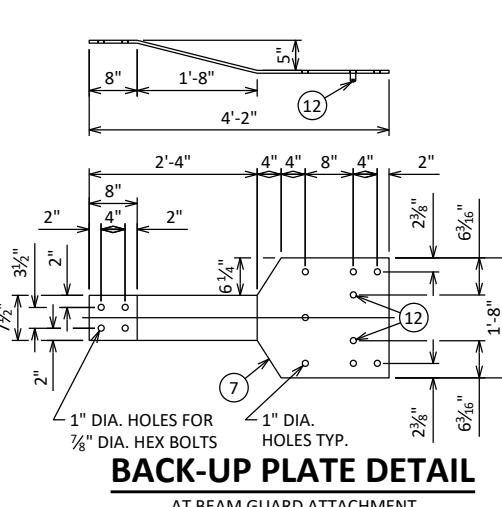
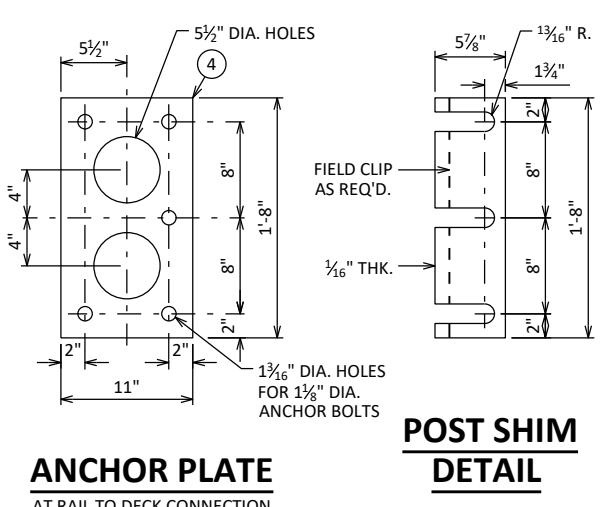
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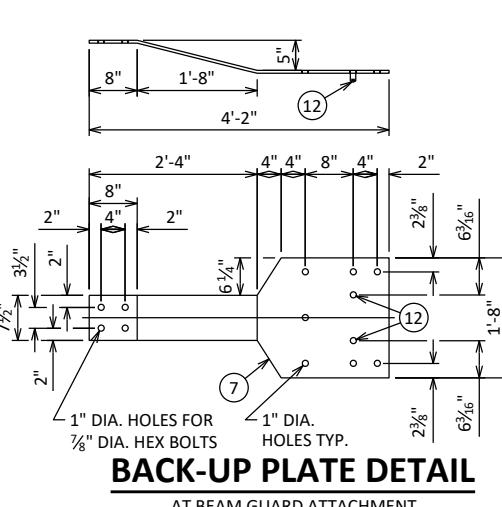
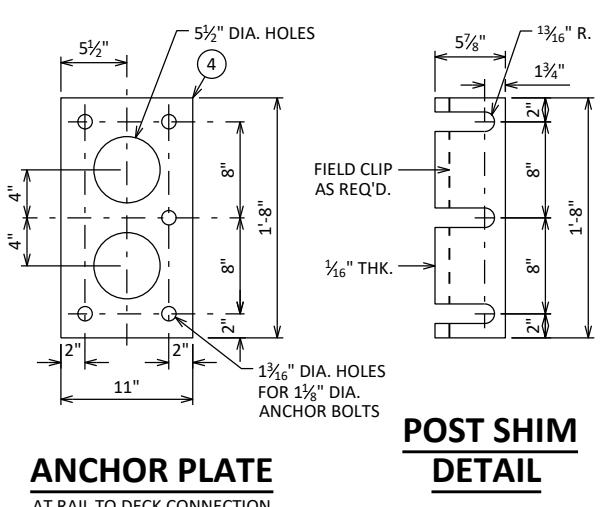
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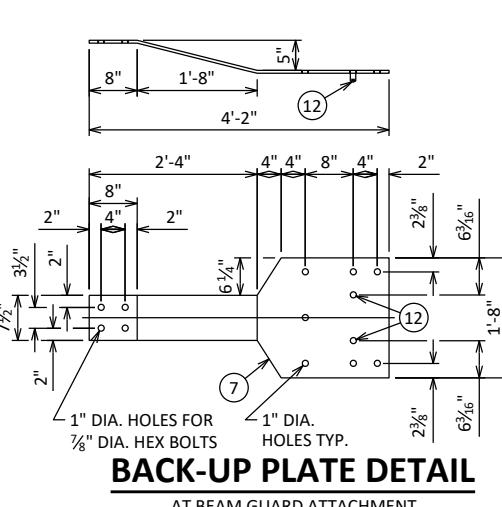
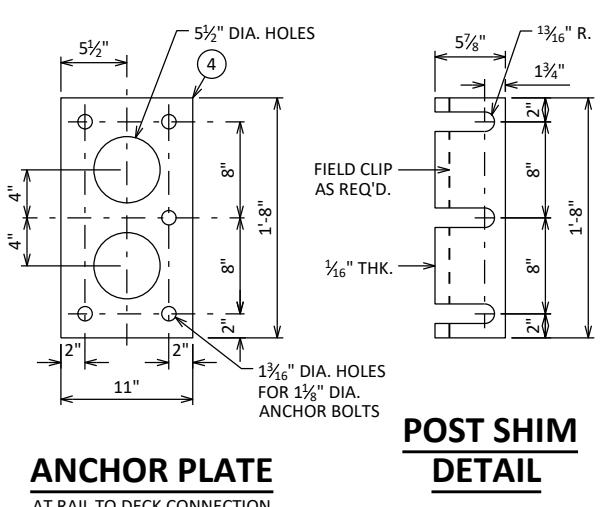
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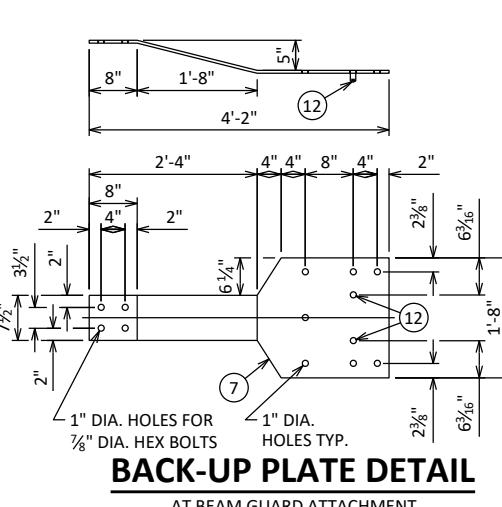
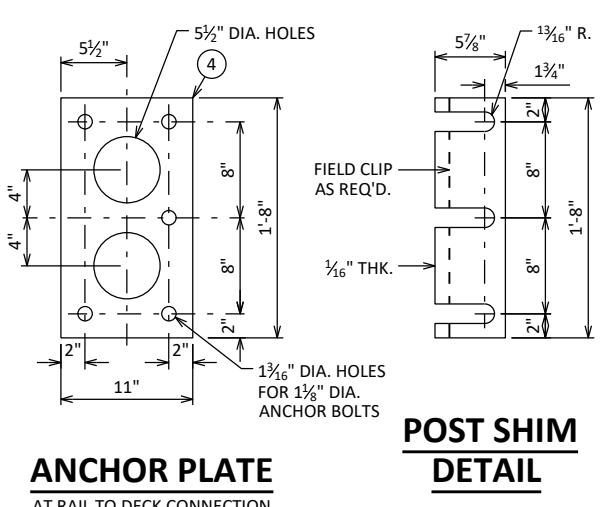
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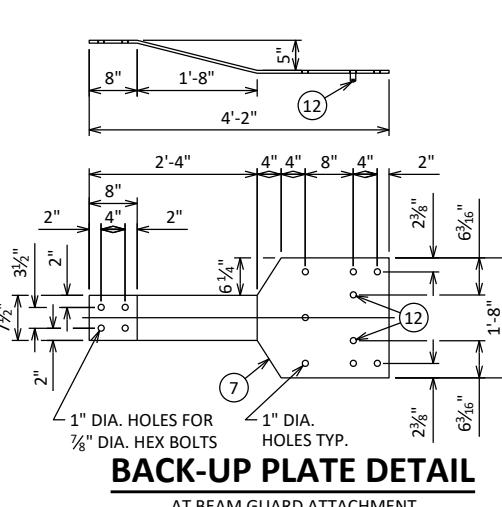
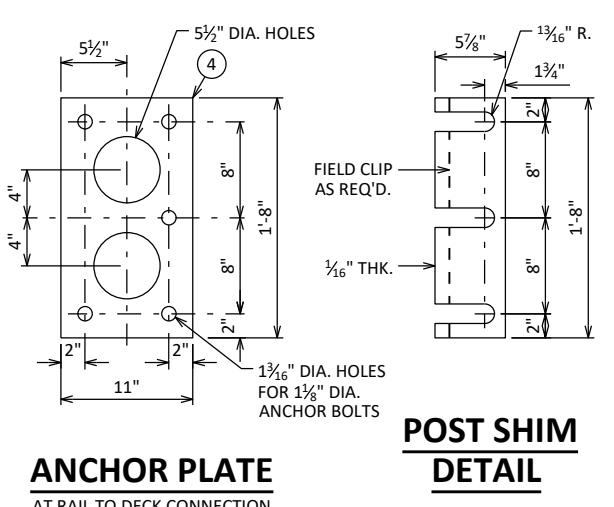
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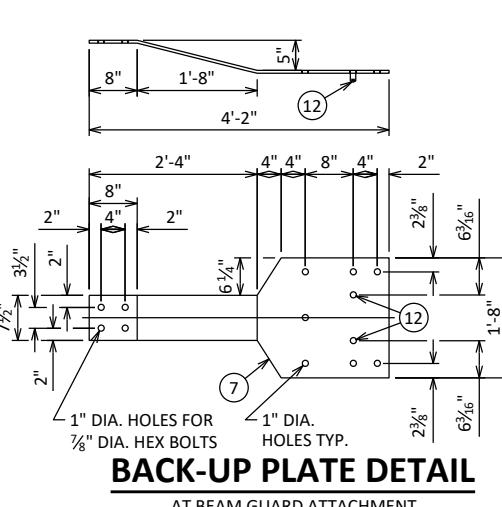
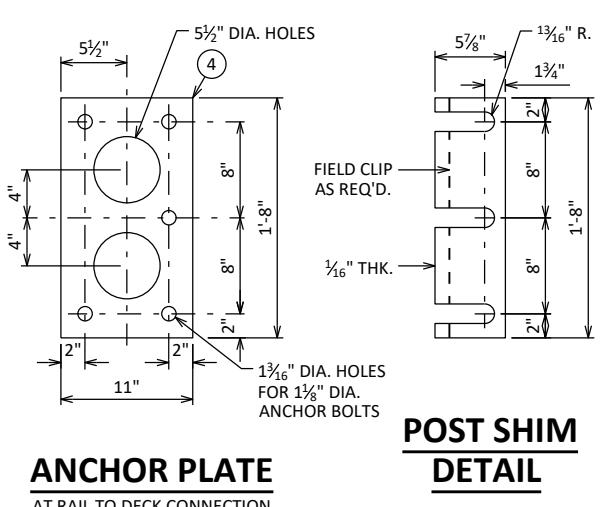
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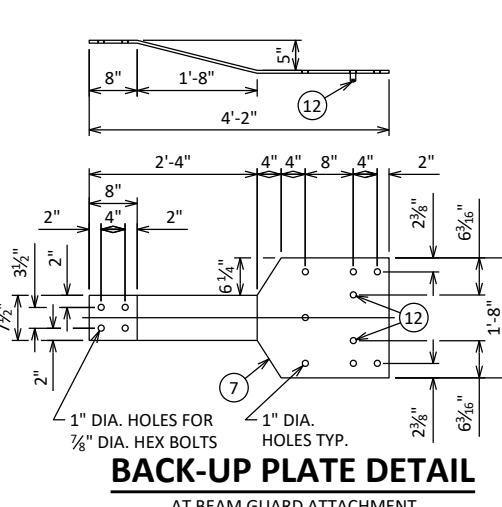
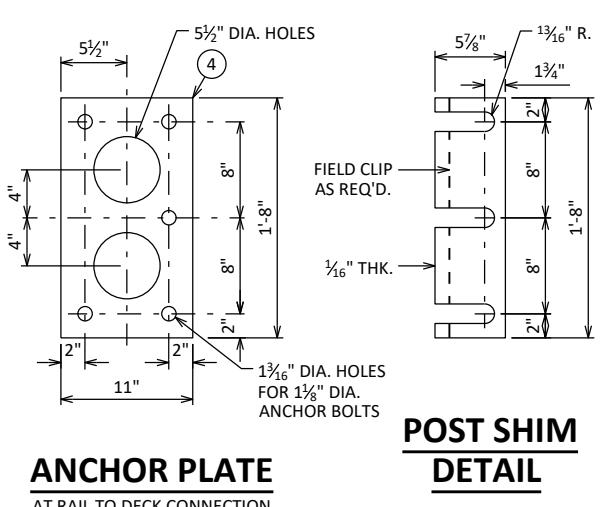
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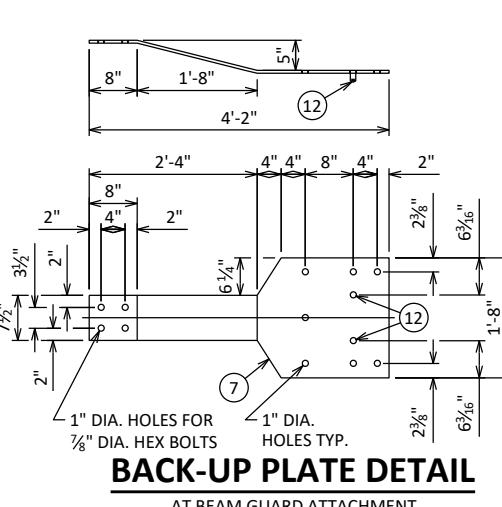
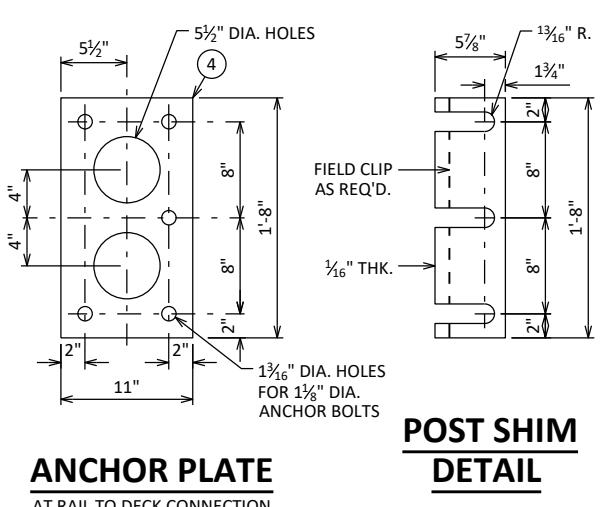
ANCHOR PLATE

DETAIL



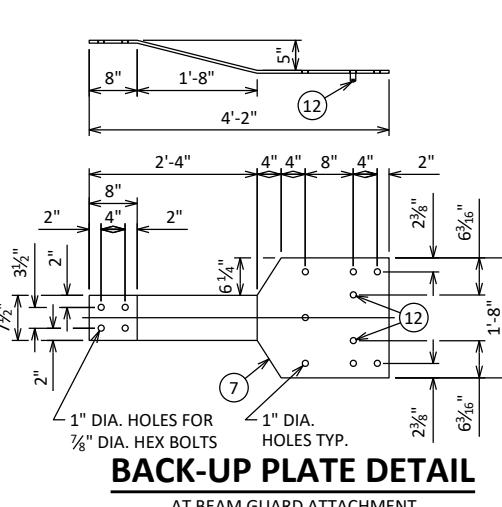
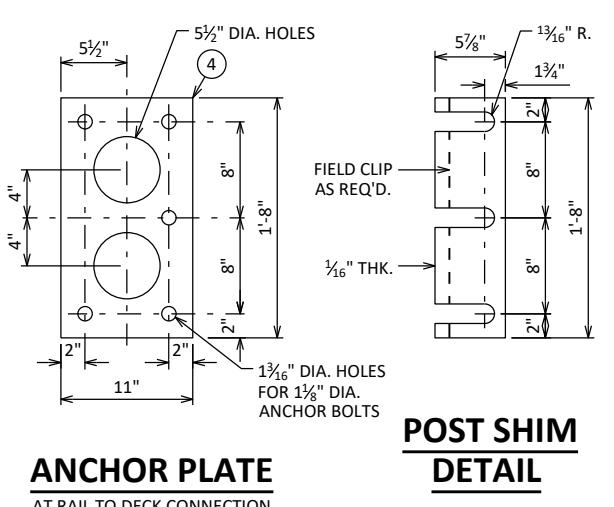
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DETAIL



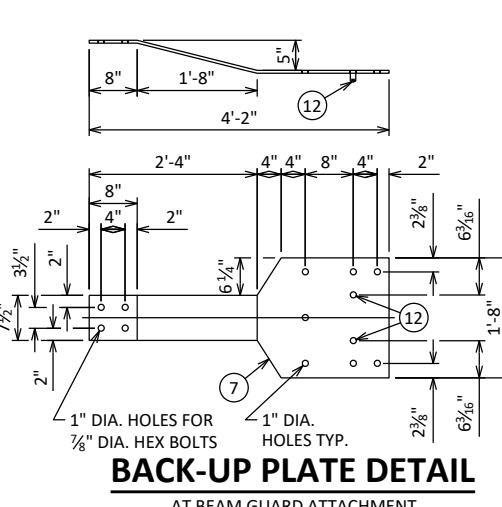
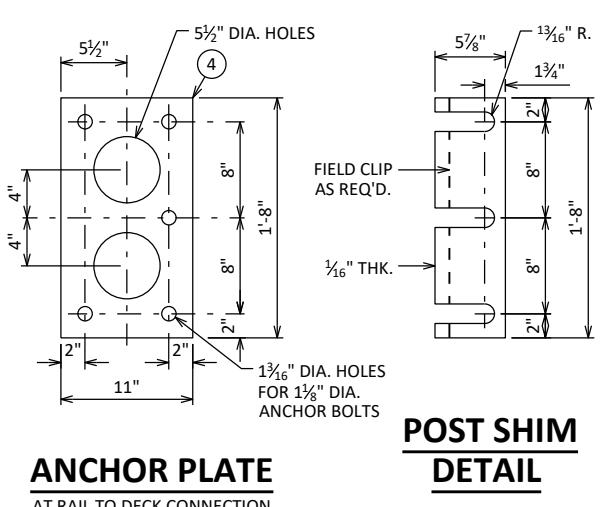
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DETAIL



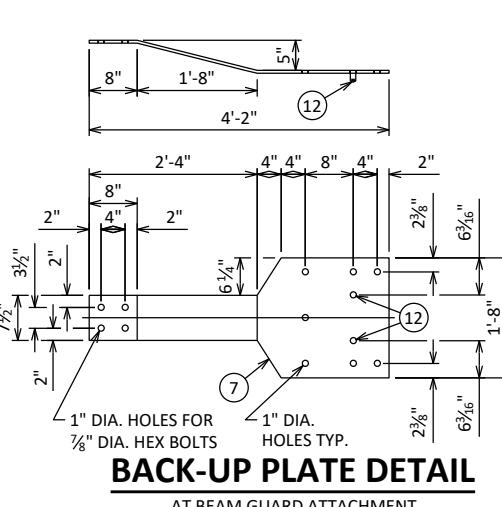
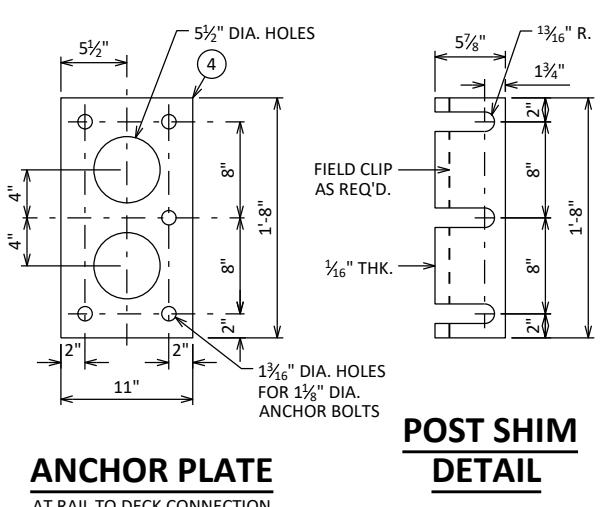
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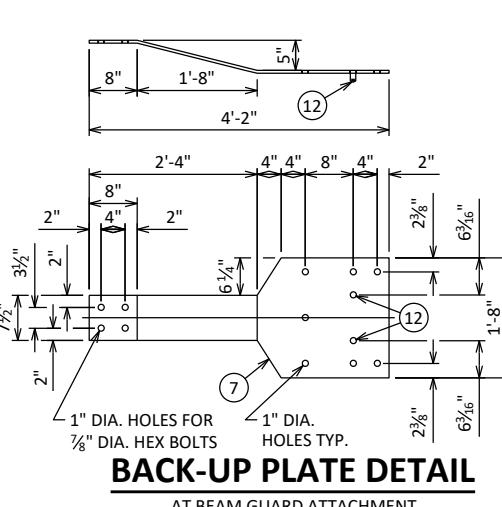
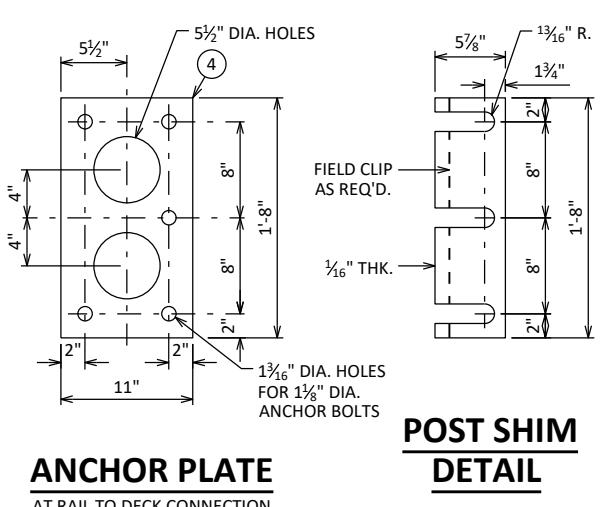
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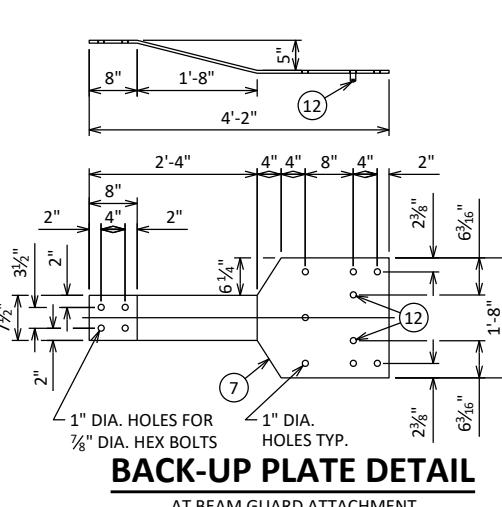
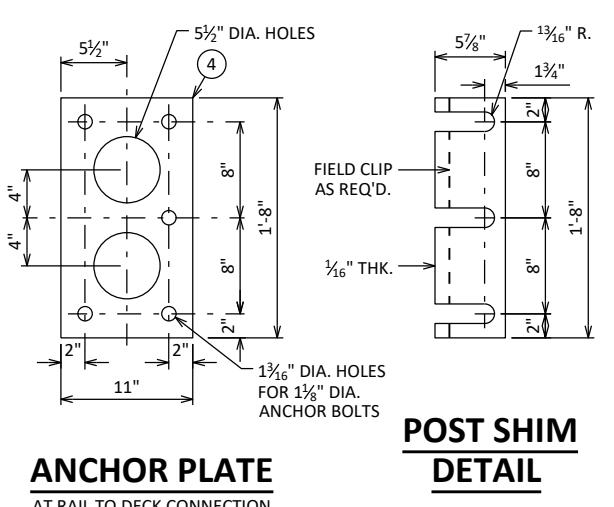
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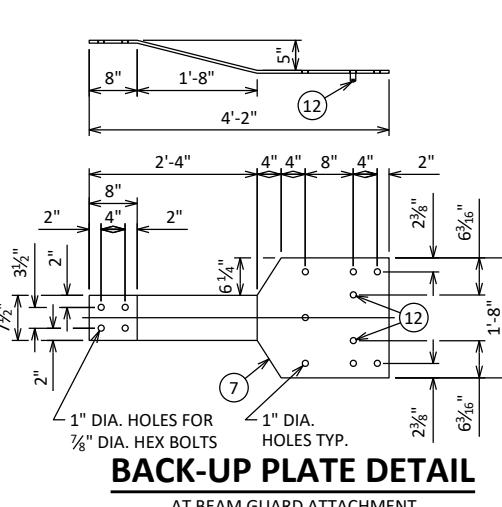
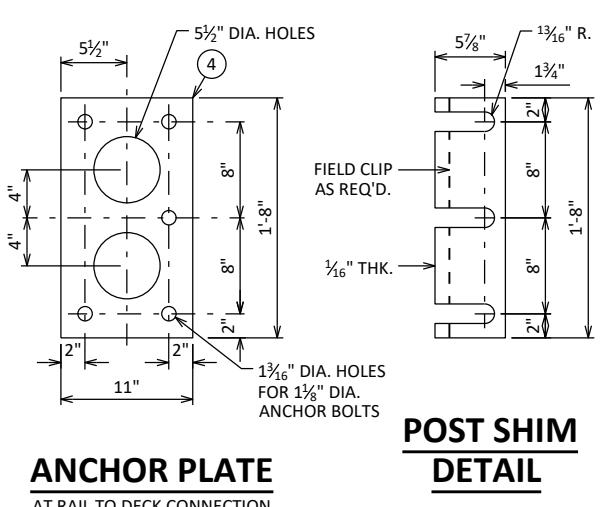
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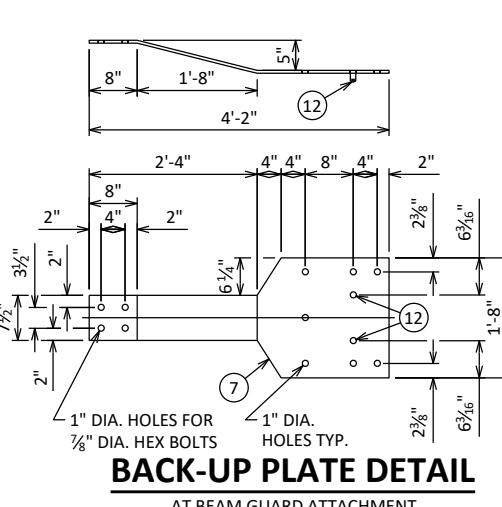
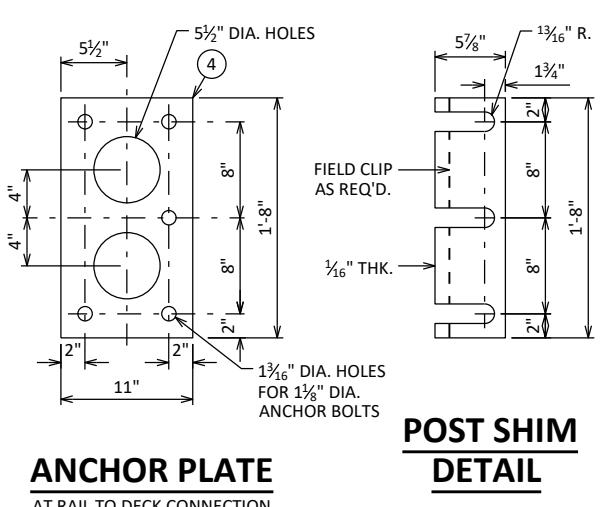
ANCHOR PLATE

DETAIL



ANCHOR PLATE

DETAIL



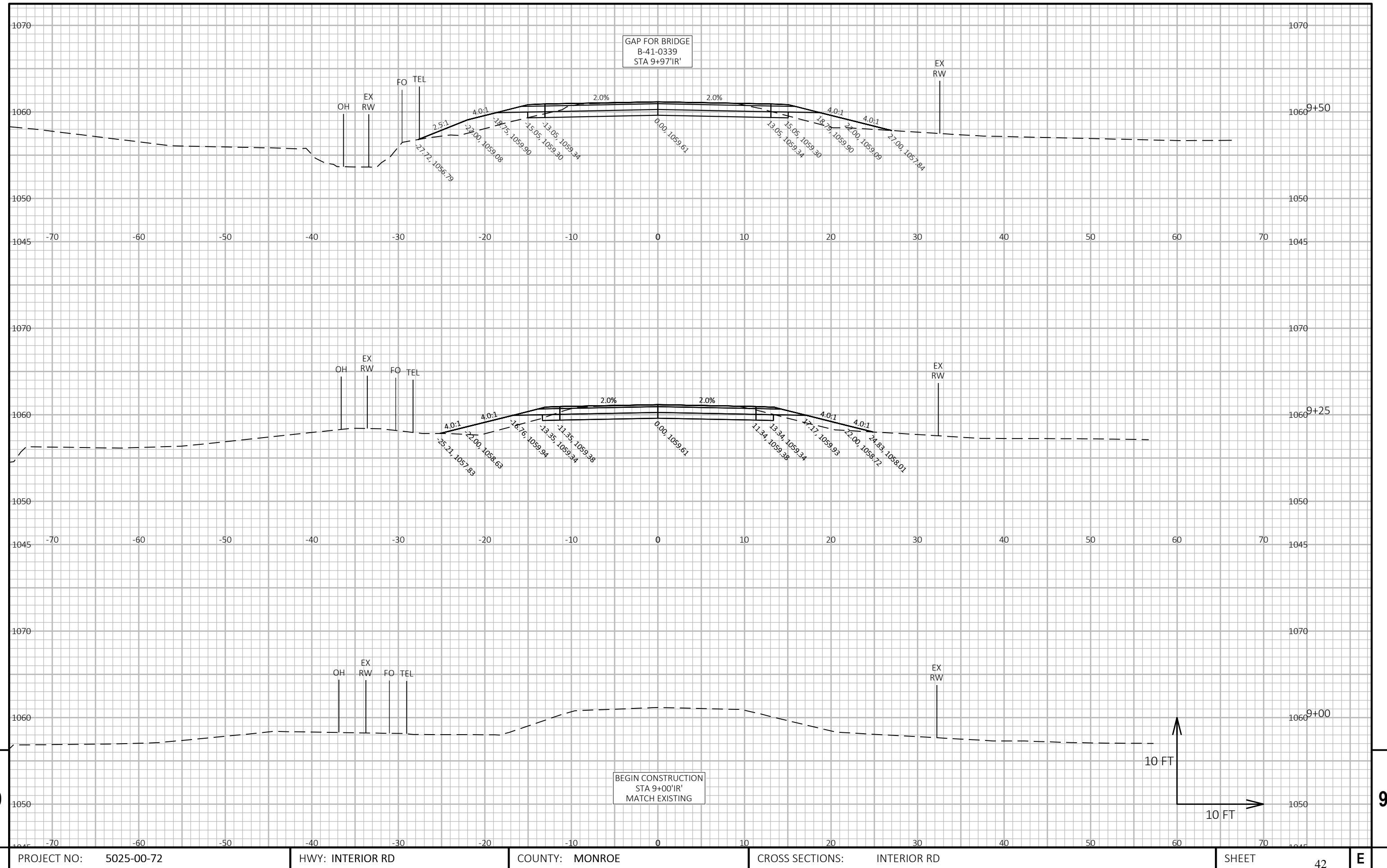
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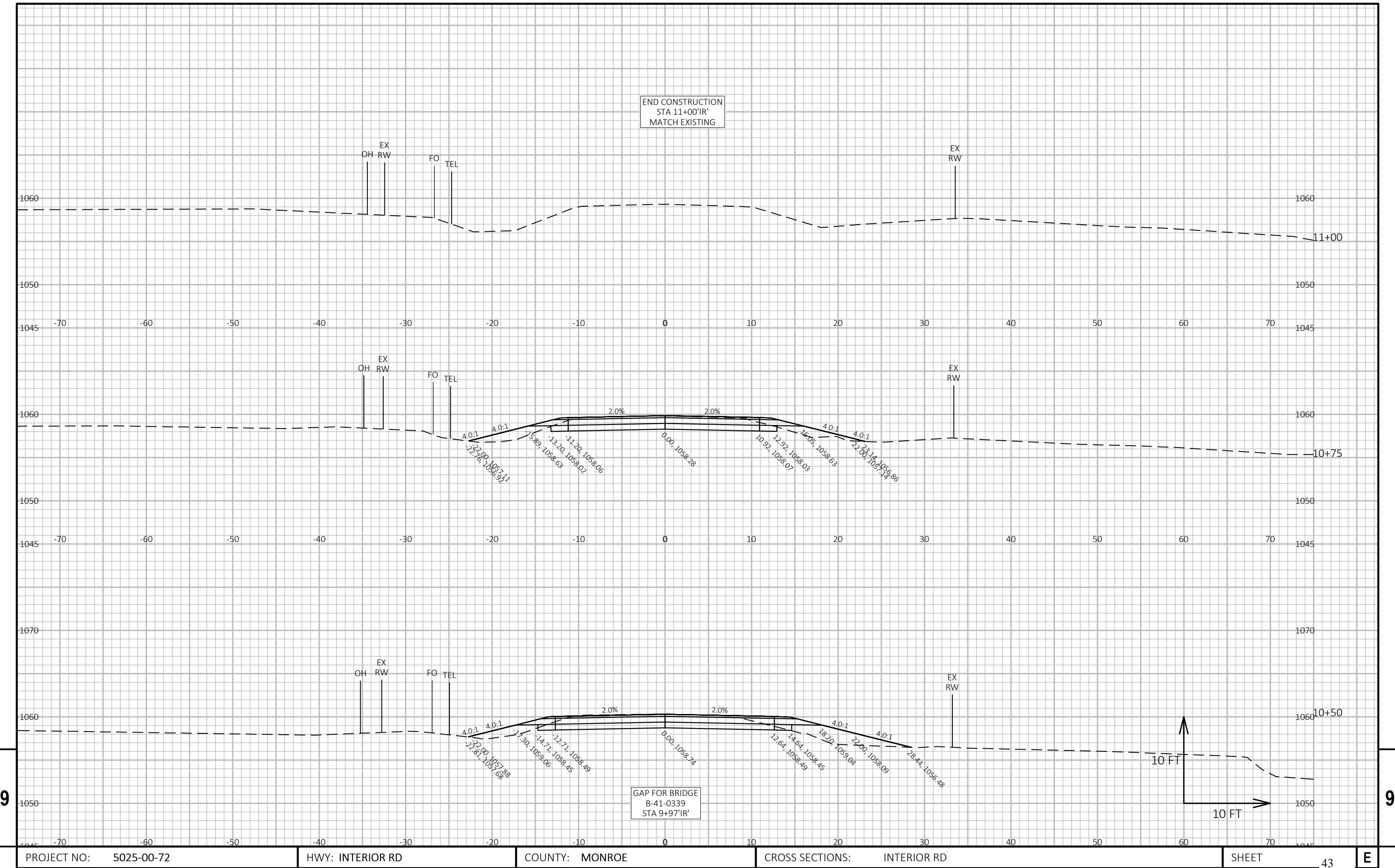
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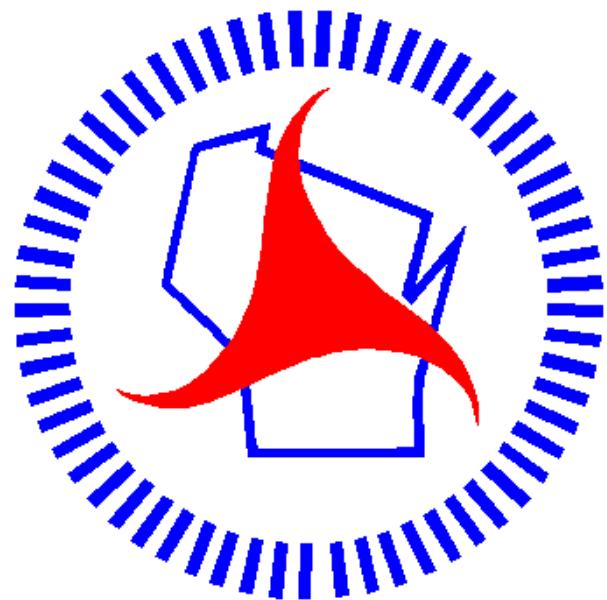
INTERIOR ROAD COMPUTER EARTHWORK

| Station | Distance | Area (SF) | | | Volume (CY) (Unadjusted) | | | Cumulative Vol (CY) | | | Mass Ordinate |
|-----------|----------|-----------|-----|------|--------------------------|--------|------|---------------------|----------|--------|---------------|
| | | Unusable | | | Unusable | | | Unusable | Expanded | | |
| | | Cut | Cut | Fill | Cut | Cut | Fill | Cut | Cut | Fill | |
| | | | | | Note 1 | Note 2 | | Note 1 | Note 2 | Note 3 | Note 4 |
| 9+00 | -- | 0.0 | 0.0 | 0.0 | -- | -- | -- | | | | |
| 9+25 | 25 | 30.3 | 6.7 | 17.2 | 14 | 3 | 8 | 14 | 3 | 10 | 4 |
| 9+76 | 51 | 30.9 | 6.7 | 23.0 | 58 | 13 | 38 | 72 | 16 | 60 | 12 |
| Structure | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 10+18 | -- | 31.9 | 6.7 | 20.9 | -- | -- | -- | -- | -- | -- | -- |
| 10+75 | 57 | 29.7 | 6.7 | 12.7 | 65 | 14 | 36 | 137 | 30 | 107 | 30 |
| 11+00 | 25 | 0.0 | 0.0 | 0.0 | 14 | 3 | 6 | 151 | 33 | 114 | 37 |
| | | | | | 151 | 33 | 88 | | | | |

| | |
|------------------------|--|
| Note 1 - Cut | Usable cut only |
| Note 2 - Unusable Cut | Existing asphalt pavement. Not to be used inside the 1:1 road core |
| Note 3 - Expanded Fill | Volume needed to be filled = Fill * 1.30 |
| Note 4 - Mass Ordinate | (Cut - Unusable Cut) - (Expanded Fill) |







Wisconsin Department of Transportation

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Place Sheet Numbers