

PROJECT ID: 3632-00-71  
WITH: N/A

COUNTY: JEFFERSON

ORDER OF SHEETS

|             |   |                                                                                  |
|-------------|---|----------------------------------------------------------------------------------|
| Section No. | 1 | Title                                                                            |
| Section No. | 2 | Typical Sections, General Notes, and Details<br>(Includes Erosion Control Plans) |
| Section No. | 3 | Estimate of Quantities                                                           |
| Section No. | 3 | Miscellaneous Quantities                                                         |
| Section No. | 4 | Right of Way Plat                                                                |
| Section No. | 5 | Plan and Profile                                                                 |
| Section No. | 6 | Standard Detail Drawings                                                         |
| Section No. | 7 | Sign Plates                                                                      |
| Section No. | 8 | Structure Plans                                                                  |
| Section No. | 9 | Computer Earthwork Data                                                          |
| Section No. | 9 | Cross Sections                                                                   |

TOTAL SHEETS = 42

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

WEST RIVER ROAD BRIDGE AND APPROACHES

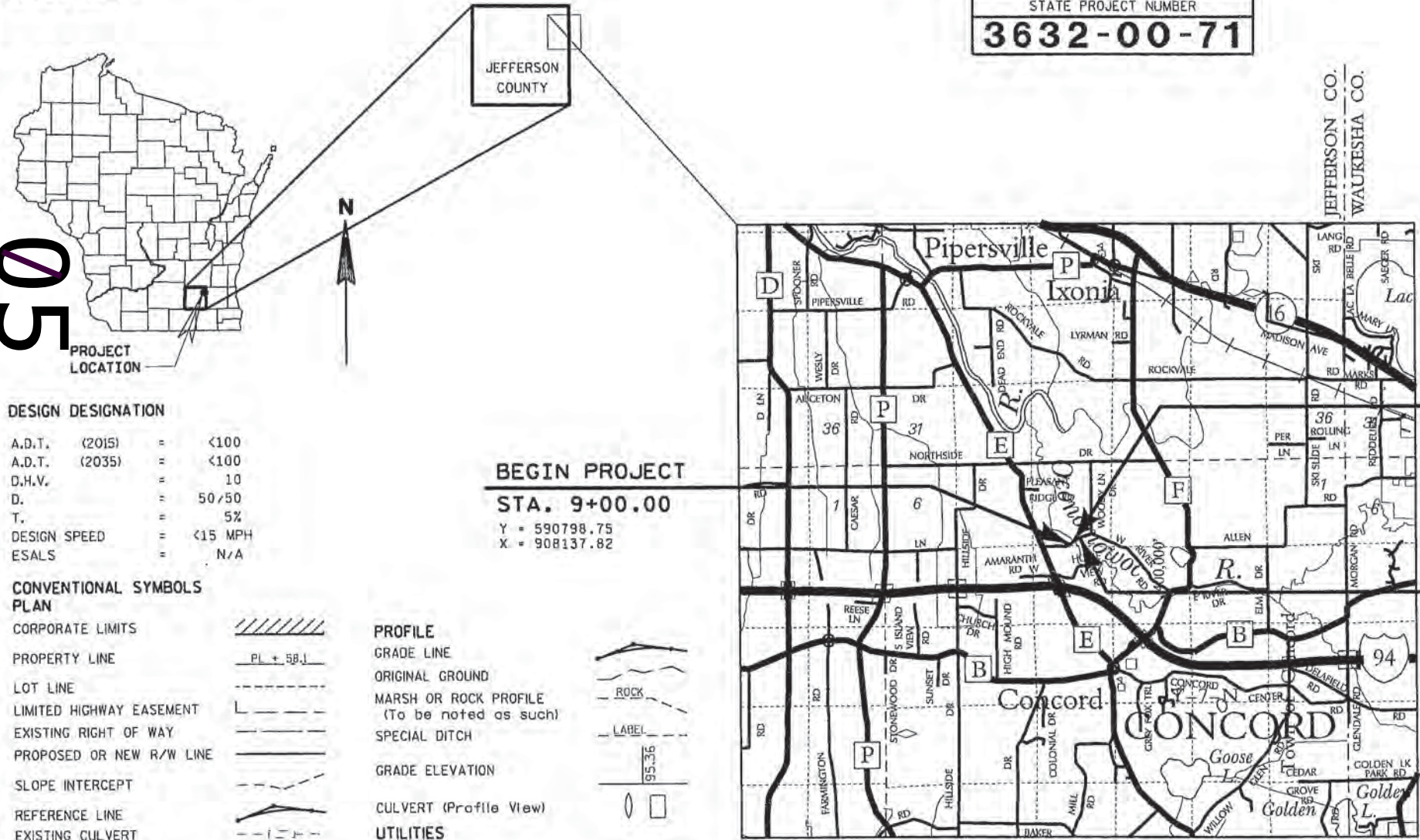
TOWN OF CONCORD

TOWN ROAD

JEFFERSON COUNTY

STATE PROJECT NUMBER  
3632-00-71

| STATE PROJECT | FEDERAL PROJECT |          |
|---------------|-----------------|----------|
|               | PROJECT         | CONTRACT |
| 3632-00-71    |                 |          |
|               |                 |          |
|               |                 |          |
|               |                 |          |



DESIGN DESIGNATION

|               |   |         |
|---------------|---|---------|
| A.D.T. (2015) | = | <100    |
| A.D.T. (2035) | = | <100    |
| D.H.V.        | = | 10      |
| D.            | = | 50/50   |
| T.            | = | 5%      |
| DESIGN SPEED  | = | <15 MPH |
| ESALS         | = | N/A     |

CONVENTIONAL SYMBOLS  
PLAN

|                          |           |
|--------------------------|-----------|
| CORPORATE LIMITS         | PL + 58.1 |
| PROPERTY LINE            |           |
| LOT LINE                 |           |
| LIMITED HIGHWAY EASEMENT |           |
| EXISTING RIGHT OF WAY    |           |
| PROPOSED OR NEW R/W LINE |           |

SLOPE INTERCEPT

|                                   |  |
|-----------------------------------|--|
| REFERENCE LINE                    |  |
| EXISTING CULVERT                  |  |
| PROPOSED CULVERT<br>(Box or Pipe) |  |

COMBUSTIBLE FLUIDS

HIGH VOLTAGE

MARSH AREA

WOODED OR SHRUB AREA

PROFILE

|                                                |  |
|------------------------------------------------|--|
| GRADE LINE                                     |  |
| ORIGINAL GROUND                                |  |
| MARSH OR ROCK PROFILE<br>(To be noted as such) |  |
| SPECIAL DITCH                                  |  |

GRADE ELEVATION

CULVERT (Profile View)

UTILITIES

|                  |  |
|------------------|--|
| OVERHEAD         |  |
| ELECTRIC         |  |
| FIBER OPTIC      |  |
| GAS              |  |
| SANITARY SEWER   |  |
| STORM SEWER      |  |
| TELEPHONE        |  |
| WATER            |  |
| UTILITY PEDESTAL |  |
| POWER POLE       |  |
| TELEPHONE POLE   |  |

BEGIN PROJECT  
STA. 9+00.00  
Y = 590798.75  
X = 908137.82

STRUCTURE B-28-123

T-8-N  
T-7-N

END PROJECT

STA. 11+00.00  
Y = 590886.01  
X = 908317.67

LAYOUT  
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.038 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO  
THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS),  
JEFFERSON COUNTY

ACCEPTED FOR

Town of Concord

Jan 23, 2015  
Date  
Town Chairman

ORIGINAL PLANS PREPARED BY

**AYRES ASSOCIATES**  
3433 Oakwood Hills Parkway  
Eau Claire, WI 54601  
www.AyresAssociates.com

WISCONSIN  
PROFESSIONAL ENGINEER  
CHRISTOPHER B. McMAHON  
E-29454  
EAU CLAIRE, WI

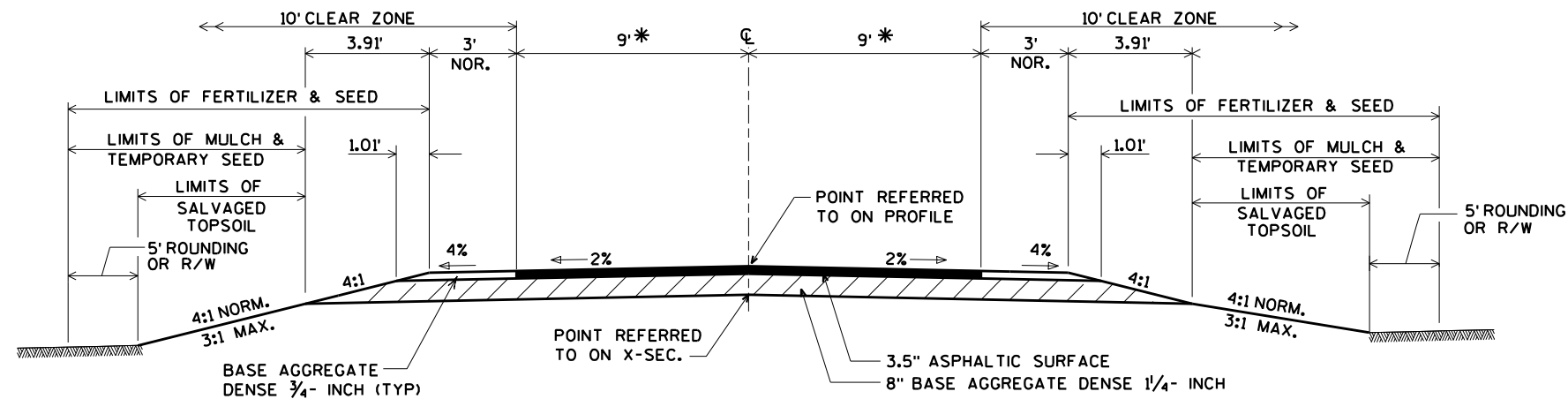
DATE 1/20/15

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

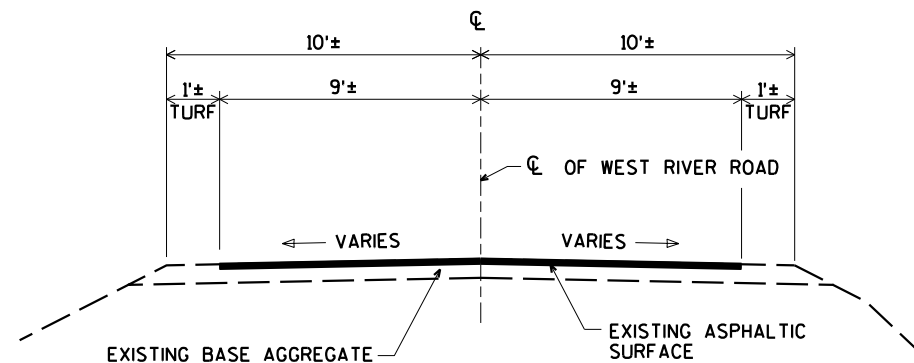
PREPARED BY  
Surveyor AYRES ASSOCIATES INC  
Designer AYRES ASSOCIATES INC

Management Consultant KJOHNSON ENGINEERS INC  
C.O. Examiner

APPROVED FOR THE DEPARTMENT  
DATE 1/28/15  
Management Consultant Signature

**TYPICAL FINISHED SECTION**

\* THE ASPHALTIC SURFACE SHALL BE PLACED 26.5 FEET WIDE AT THE ENDS OF THE BRIDGE AND TAPER TO 18 FEET WIDE AT 50 FEET FROM THE ENDS OF THE BRIDGE.

**TYPICAL EXISTING SECTION****ABBREVIATIONS**

|       |                            |
|-------|----------------------------|
| AC    | ACRES                      |
| CHIS  | CHISELED                   |
| CL    | CENTERLINE                 |
| COR   | CORNER                     |
| CWT   | COUNT                      |
| CY    | CUBIC YARD                 |
| EL    | ELEVATION                  |
| GAL   | GALLON                     |
| H     | HOUSE                      |
| IP    | IRON PIPE                  |
| LB    | POUND                      |
| LF    | LINEAR FEET                |
| LS    | LUMP SUM                   |
| LT    | LEFT                       |
| MAX   | MAXIMUM                    |
| MIN   | MINIMUM                    |
| MON   | MONUMENT                   |
| NORM  | NORMAL                     |
| OAL   | OVERALL LENGTH             |
| PC    | POINT OF CURVATURE         |
| PD    | PEDESTAL                   |
| PI    | POINT OF INTERSECTION      |
| PK    | PARKER-KALON               |
| PL    | PROPERTY LINE              |
| PLE   | PERMANENT LIMITED EASEMENT |
| PP    | POWER POLE                 |
| PT    | POINT OF TANGENCY          |
| R     | RADIUS                     |
| REQ'D | REQUIRED                   |
| RT    | RIGHT                      |
| R/W   | RIGHT-OF-WAY               |
| SF    | SQUARE FEET                |
| SHLDR | SHOULDER                   |
| STA   | STATION                    |
| SY    | SQUARE YARD                |
| TLE   | TEMPORARY LIMITED EASEMENT |
| VAR   | VARIES                     |
| WL    | WELL                       |

**GENERAL NOTES**

EROSION CONTROL ITEMS TO BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER.

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

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

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCLUSIVE OF THE ROADBED, SHALL BE FERTILIZED, SEEDED, AND MULCHED AS DIRECTED BY THE ENGINEER.

SEED MIXTURE NO. 20 AND SEEDING TEMPORARY SHALL BE USED IN THE PROJECT AND SHALL BE PLACED AS SHOWN IN THE PLANS AND/OR AS DIRECTED BY THE ENGINEER.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM (NAVD) 1988.

WETLANDS EXIST IN THE PROJECT AREA. NO DISTURBANCE IS ALLOWED OUTSIDE THE SLOPE INTERCEPTS.

**UTILITIES**

WE ENERGIES  
500 SOUTH 116TH ST.  
WEST ALLIS, WI 53214  
ATTN: BRYAN STOEHR  
414-944-5516  
bryan.stoehr@we-energies.com

AT&T  
2005 PEWAUKEE ROAD  
WAUKESHA, WI 53188  
ATTN: JOEL OSTRENGA  
262-896-6527  
262-408-1496 (cell)  
jo4761@att.com

\*\* DENOTES UTILITIES THAT ARE NOT DIGGERS HOTLINE MEMBERS

**DIGGERS HOTLINE**

Dial **811** or (800)242-8511

www.DiggersHotline.com

**WISCONSIN DEPARTMENT OF  
NATURAL RESOURCES CONTACT:**

LAURA BUB  
3911 FISH HATCHERY ROAD  
FITCHBURG, WI 53711  
608-275-3485  
laura.bub@wisconsin.gov

**DESIGNER**

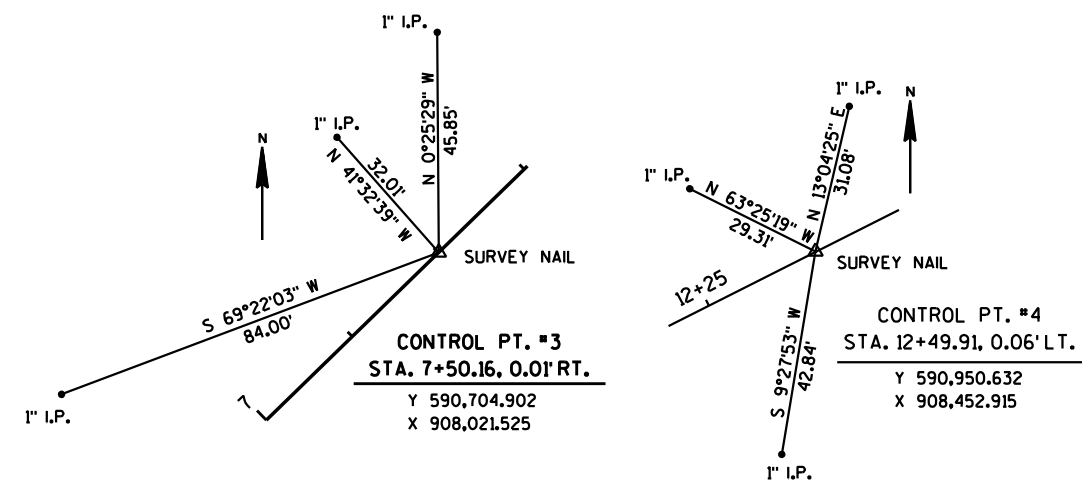
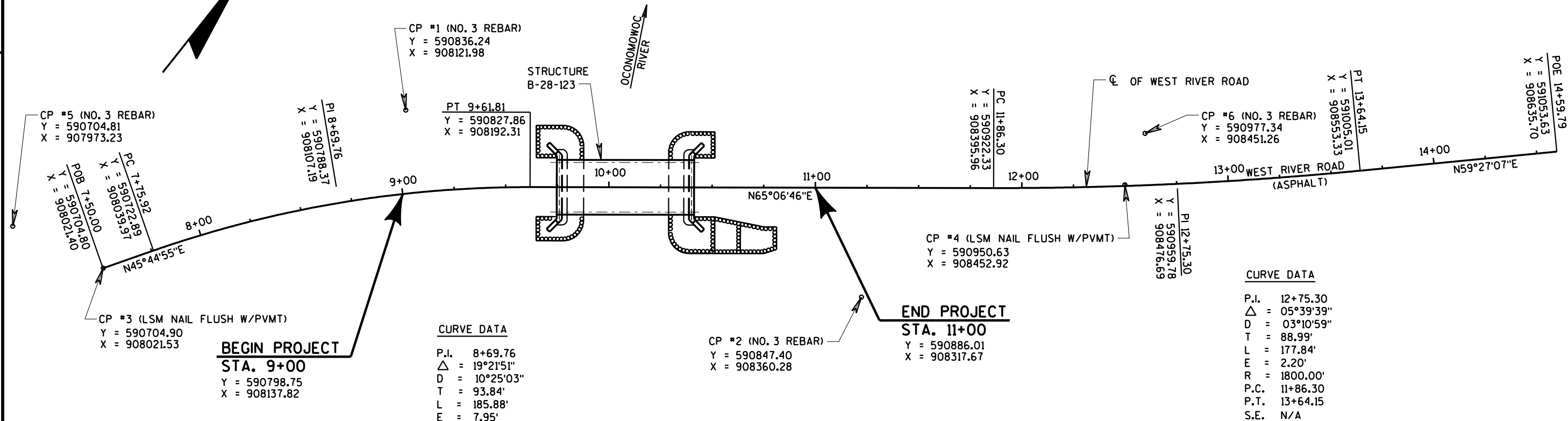
AYRES ASSOCIATES  
3433 OAKWOOD HILLS PARKWAY  
EAU CLAIRE, WI 54701  
ATTN: CHRIS McMAHON  
715-834-3161  
mcmahonc@AyresAssociates.com

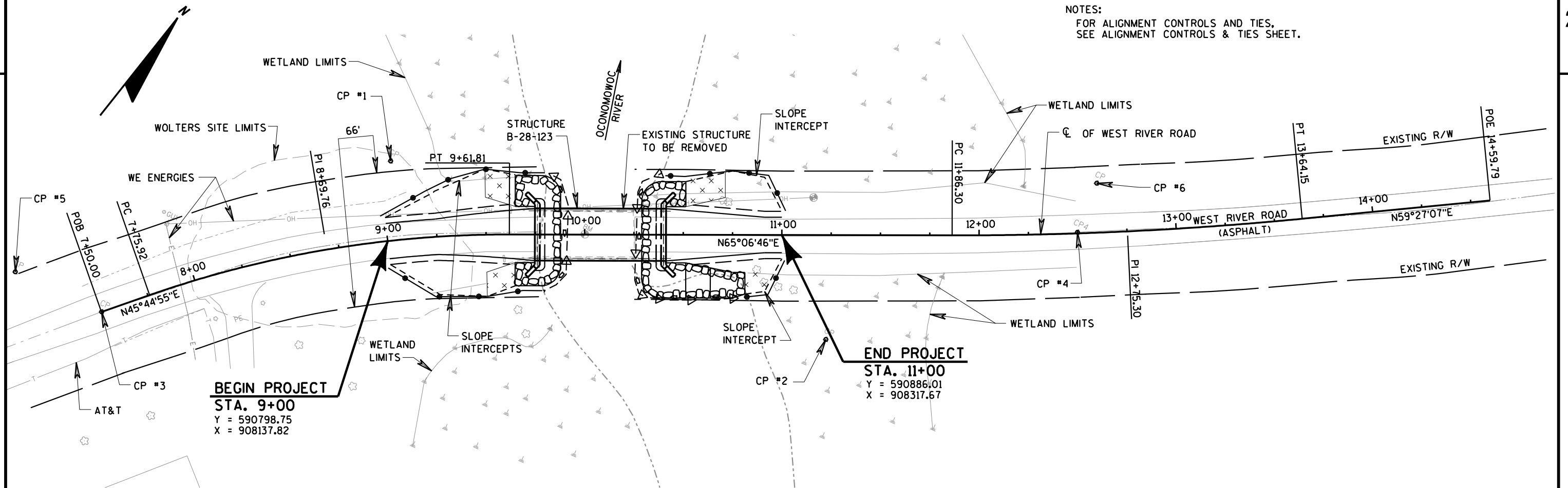
**TOWN CONTACT**

TOWN OF CONCORD  
W1281 SUNNYSIDE DRIVE  
SULLIVAN, WI 53178  
ATTN: WILLIAM INGERSOLL, CHAIRPERSON  
262-593-2621  
bill.ingersoll@centurytel.net

**COUNTY CONTACT**

JEFFERSON COUNTY HIGHWAY DEPT.  
141 WEST WOOLCOCK ST.  
JEFFERSON, WI 53549  
ATTN: BRIAN UDORICH, HIGHWAY OPERATIONS MANAGER  
920-674-7273  
920-723-7273 (cell)  
brianu@jeffersoncountywi.gov





NOTES:  
FOR ALIGNMENT CONTROLS AND TIES,  
SEE ALIGNMENT CONTROLS & TIES SHEET.

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

TOTAL PROJECT AREA = 0.304 ACRES  
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.120 ACRES

HIGH WATER 2 EL. 838.8

- LEGEND
- EROSION MAT CLASS II TYPE C
  - TEMPORARY DITCH CHECKS (UNDISTRIBUTED)
  - SILT FENCE
  - RIPRAP HEAVY
  - TURBIDITY BARRIERS



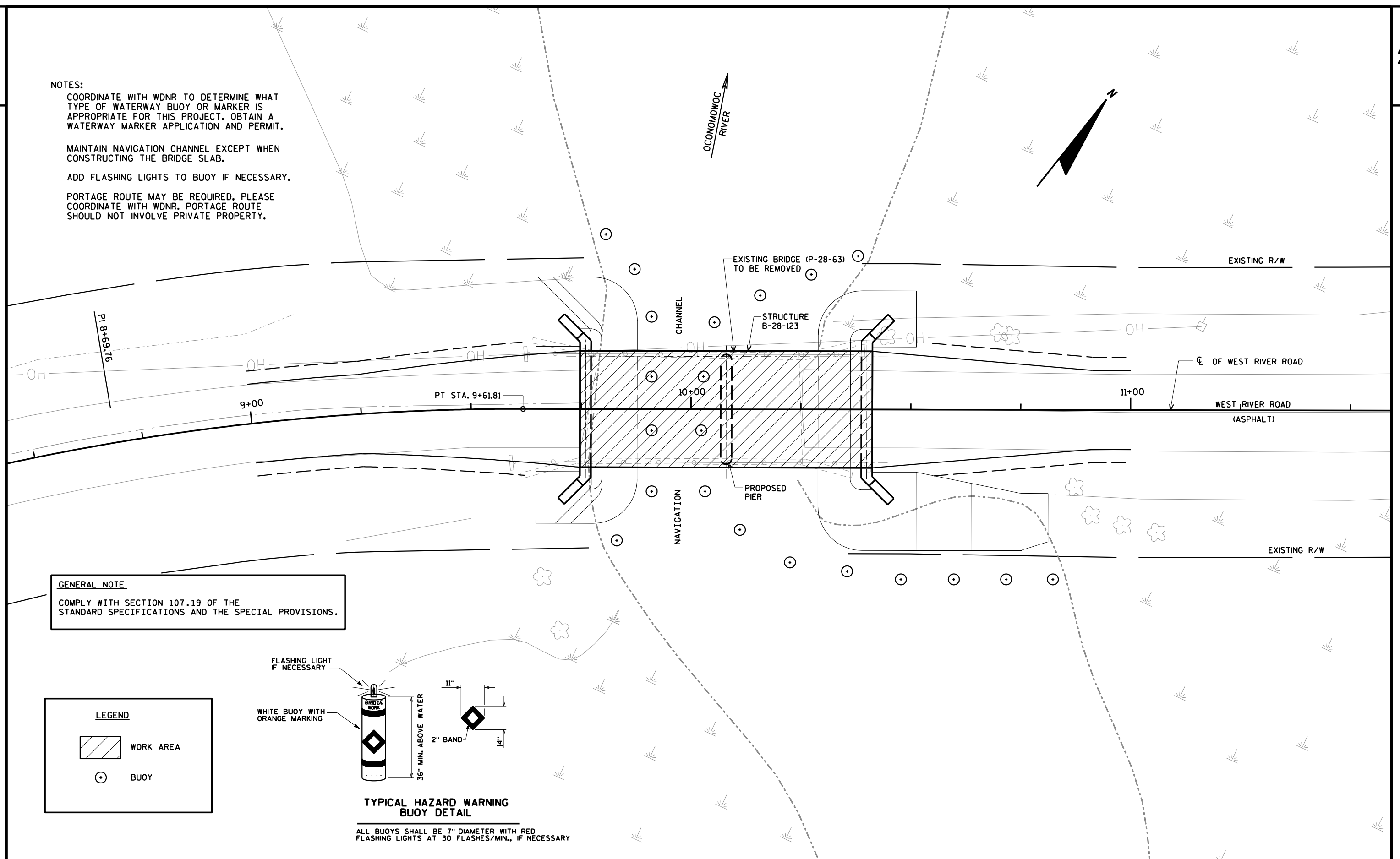
## NOTES:

COORDINATE WITH WDNR TO DETERMINE WHAT TYPE OF WATERWAY BUOY OR MARKER IS APPROPRIATE FOR THIS PROJECT. OBTAIN A WATERWAY MARKER APPLICATION AND PERMIT.

MAINTAIN NAVIGATION CHANNEL EXCEPT WHEN CONSTRUCTING THE BRIDGE SLAB.

ADD FLASHING LIGHTS TO BUOY IF NECESSARY.

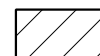
PORTAGE ROUTE MAY BE REQUIRED, PLEASE COORDINATE WITH WDNR. PORTAGE ROUTE SHOULD NOT INVOLVE PRIVATE PROPERTY.



## GENERAL NOTE

COMPLY WITH SECTION 107.19 OF THE STANDARD SPECIFICATIONS AND THE SPECIAL PROVISIONS.

## LEGEND



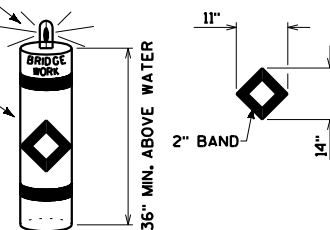
WORK AREA



BUOY

FLASHING LIGHT  
IF NECESSARY

WHITE BUOY WITH  
ORANGE MARKING



**TYPICAL HAZARD WARNING  
BUOY DETAIL**

ALL BUOYS SHALL BE 7" DIAMETER WITH RED  
FLASHING LIGHTS AT 30 FLASHES/MIN., IF NECESSARY

| DATE 10MAR15 |            | E S T I M A T E O F Q U A N T I T I E S                                      |      |            |            |
|--------------|------------|------------------------------------------------------------------------------|------|------------|------------|
| LINE         |            | 3632-00-71                                                                   |      |            |            |
| NUMBER       | ITEM       | ITEM DESCRIPTION                                                             | UNIT | TOTAL      | QUANTITY   |
| 0010         | 201.0105   | Clearing                                                                     | STA  | 1.000      | 1.000      |
| 0020         | 201.0205   | Grubbing                                                                     | STA  | 1.000      | 1.000      |
| 0030         | 203.0600.S | Removing Old Structure Over Waterway With Minimal Debris (station) 01. 10+00 | LS   | 1.000      | 1.000      |
| 0040         | 205.0100   | Excavation Common **P**                                                      | CY   | 98.000     | 98.000     |
| 0050         | 206.1000   | Excavation for Structures Bridges (structure) 01. B-28-0123                  | LS   | 1.000      | 1.000      |
| 0060         | 208.0100   | Borrow                                                                       | CY   | 126.000    | 126.000    |
| 0070         | 210.0100   | Backfill Structure                                                           | CY   | 250.000    | 250.000    |
| 0080         | 213.0100   | Finishing Roadway (project) 01. 3632-00-71                                   | EACH | 1.000      | 1.000      |
| 0090         | 305.0110   | Base Aggregate Dense 3/4-Inch                                                | TON  | 20.000     | 20.000     |
| 0100         | 305.0120   | Base Aggregate Dense 1 1/4-Inch                                              | TON  | 195.000    | 195.000    |
| 0110         | 455.0605   | Tack Coat                                                                    | GAL  | 23.000     | 23.000     |
| 0120         | 465.0105   | Asphaltic Surface                                                            | TON  | 65.000     | 65.000     |
| 0130         | 502.0100   | Concrete Masonry Bridges                                                     | CY   | 167.000    | 167.000    |
| 0140         | 502.3200   | Protective Surface Treatment                                                 | SY   | 230.000    | 230.000    |
| 0150         | 505.0405   | Bar Steel Reinforcement HS Bridges                                           | LB   | 5,200.000  | 5,200.000  |
| 0160         | 505.0605   | Bar Steel Reinforcement HS Coated Bridges                                    | LB   | 21,330.000 | 21,330.000 |
| 0170         | 513.4060   | Railing Tubular Type M (structure) 01. B-28-0123                             | LS   | 1.000      | 1.000      |
| 0180         | 516.0500   | Rubberized Membrane Waterproofing                                            | SY   | 16.000     | 16.000     |
| 0190         | 550.0500   | Pile Points                                                                  | EACH | 16.000     | 16.000     |
| 0200         | 550.2108   | Piling CIP Concrete 10 3/4 X 0.50-Inch                                       | LF   | 590.000    | 590.000    |
| 0210         | 606.0300   | Riprap Heavy                                                                 | CY   | 190.000    | 190.000    |
| 0220         | 612.0406   | Pipe Underdrain Wrapped 6-Inch                                               | LF   | 140.000    | 140.000    |
| 0230         | 619.1000   | Mobilization                                                                 | EACH | 1.000      | 1.000      |
| 0240         | 625.0500   | Salvaged Topsoil **P**                                                       | SY   | 275.000    | 275.000    |
| 0250         | 627.0200   | Mulching **P**                                                               | SY   | 490.000    | 490.000    |
| 0260         | 628.1504   | Silt Fence                                                                   | LF   | 355.000    | 355.000    |
| 0270         | 628.1520   | Silt Fence Maintenance                                                       | LF   | 710.000    | 710.000    |
| 0280         | 628.1905   | Mobilizations Erosion Control                                                | EACH | 4.000      | 4.000      |
| 0290         | 628.1910   | Mobilizations Emergency Erosion Control                                      | EACH | 2.000      | 2.000      |
| 0300         | 628.2027   | Erosion Mat Class II Type C                                                  | SY   | 120.000    | 120.000    |
| 0310         | 628.6005   | Turbidity Barriers                                                           | SY   | 195.000    | 195.000    |
| 0320         | 628.7504   | Temporary Ditch Checks                                                       | LF   | 50.000     | 50.000     |
| 0330         | 629.0210   | Fertilizer Type B                                                            | CWT  | 0.600      | 0.600      |
| 0340         | 630.0120   | Seeding Mixture No. 20 **P**                                                 | LB   | 20.000     | 20.000     |
| 0350         | 630.0200   | Seeding Temporary **P**                                                      | LB   | 20.000     | 20.000     |
| 0360         | 634.0612   | Posts Wood 4x6-Inch X 12-FT                                                  | EACH | 8.000      | 8.000      |
| 0370         | 637.2210   | Signs Type II Reflective H                                                   | SF   | 12.000     | 12.000     |
| 0380         | 637.2230   | Signs Type II Reflective F                                                   | SF   | 12.000     | 12.000     |
| 0390         | 638.2602   | Removing Signs Type II                                                       | EACH | 9.000      | 9.000      |
| 0400         | 638.3000   | Removing Small Sign Supports                                                 | EACH | 8.000      | 8.000      |
| 0410         | 642.5001   | Field Office Type B                                                          | EACH | 1.000      | 1.000      |
| 0420         | 643.0100   | Traffic Control (project) 01. 3632-00-71                                     | EACH | 1.000      | 1.000      |
| 0430         | 645.0120   | Geotextile Fabric Type HR                                                    | SY   | 355.000    | 355.000    |
| 0440         | 650.4500   | Construction Staking Subgrade                                                | LF   | 134.000    | 134.000    |
| 0450         | 650.5000   | Construction Staking Base                                                    | LF   | 134.000    | 134.000    |
| 0460         | 650.6500   | Construction Staking Structure Layout (structure) 01. B-28-0123              | LS   | 1.000      | 1.000      |
| 0470         | 650.9910   | Construction Staking Supplemental Control (project) 01. 3632-00-71           | LS   | 1.000      | 1.000      |
| 0480         | 650.9920   | Construction Staking Slope Stakes                                            | LF   | 134.000    | 134.000    |

|              |          |                                        |                                         |           |           |
|--------------|----------|----------------------------------------|-----------------------------------------|-----------|-----------|
| DATE 10MAR15 |          |                                        | E S T I M A T E O F Q U A N T I T I E S |           |           |
| LINE         |          |                                        | 3632-00-71                              |           |           |
| NUMBER       | ITEM     | ITEM DESCRIPTION                       | UNIT                                    | TOTAL     | QUANTITY  |
| 0490         | 690.0150 | Sawing Asphalt                         | LF                                      | 36.000    | 36.000    |
| 0500         | 715.0502 | Incentive Strength Concrete Structures | DOL                                     | 1,002.000 | 1,002.000 |

CLEARING AND GRUBBING (CATEGORY 0010)

| STATION TO STATION       | 201.0105        | 201.0205        |
|--------------------------|-----------------|-----------------|
|                          | CLEARING<br>STA | GRUBBING<br>STA |
| Sta. 10+00 to Sta. 11+00 | 1               | 1               |

EARTHWORK SUMMARY (CATEGORY 0010)

| DIVISION                | STATION TO STATION       | LOCATION        | **p**             |               | SALVAGED/<br>UNUSEABLE | AVAILABLE<br>MATERIAL<br>(5)<br>CY | UNEXPANDED<br>FILL<br>CY | EXPANDED<br>FILL (7)<br>CY | MASS<br>ORDINATE<br>±(8)<br>CY | WASTE<br>CY  | 208.0100<br>BORROW<br>CY | COMMENTS: |
|-------------------------|--------------------------|-----------------|-------------------|---------------|------------------------|------------------------------------|--------------------------|----------------------------|--------------------------------|--------------|--------------------------|-----------|
|                         |                          |                 | 205.0100          |               | PAVEMENT               |                                    |                          |                            |                                |              |                          |           |
|                         |                          |                 | EXCAVATION COMMON | MATERIAL      |                        |                                    |                          |                            |                                |              |                          |           |
|                         |                          |                 | CUT (2)<br>CY     | EBS (3)<br>CY | (4)<br>CY              |                                    |                          |                            |                                |              |                          |           |
| 1                       | Sta. 8+00 - Sta. 9+75    | West River Road | 53                | 0             | 0                      | 53                                 | 100                      | 130                        | -77                            | 0            | 77                       |           |
|                         | Sta. 10+41 to Sta. 11+00 | West River Road | 45                | 0             | 0                      | 45                                 | 72                       | 94                         | -49                            | 0            | 49                       |           |
| GRANDTOTAL              |                          |                 | 98                | 0             | 0                      | 98                                 | 172                      | 224                        | -126                           | 0            | 126                      |           |
| TOTAL EXCAVATION COMMON |                          |                 | 98                |               |                        |                                    |                          |                            |                                | TOTAL BORROW | 126                      |           |

NOTES:  
1) EXCAVATION COMMON IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100  
2) SALVAGED/UNUSEABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.  
3) EBS EXCAVATION TO BE BACKFILLED WITH BORROW MATERIAL.  
4) SALVAGED/UNUSEABLE PAVEMENT MATERIAL  
5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSEABLE PAVEMENT MATERIAL  
6) NOT USED  
7) EXPANDED FILL FACTOR = 1.30  
EXPANDED FILL = UNEXPANDED FILL \* FILL FACTOR  
8) THE MASS ORDINATE ± QTY CALCULATED FOR THE DIVISION.  
PLUS (+) QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION.  
MINUS (-) QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

BASE AGGREGATE DENSE (CATEGORY 0010)

| STATION TO STATION      | LOCATION                   | 305.0110        | 305.0120          |
|-------------------------|----------------------------|-----------------|-------------------|
|                         |                            | 3/4-INCH<br>TON | 1 1/4-INCH<br>TON |
| Sta. 9+00 to Sta. 11+00 | WEST RIVER ROAD            | --              | 195               |
| Sta. 9+00 to Sta. 11+00 | WEST RIVER ROAD, SHOULDERS | 20              | --                |
| TOTALS                  |                            | 20              | 195               |

455.0605 TACK COAT (CATEGORY 0010)

| STATION TO STATION       | LOCATION | GAL |
|--------------------------|----------|-----|
| Sta. 9+00 to Sta. 9+75   | Mainline | 13  |
| Sta. 10+41 to Sta. 11+00 | Mainline | 10  |
| TOTAL                    |          | 23  |

465.0105 ASPHALTIC SURFACE (CATEGORY 0010)

| STATION TO STATION       | LOCATION | TON |
|--------------------------|----------|-----|
| Sta. 9+00 to Sta. 9+75   | Mainline | 35  |
| Sta. 10+41 to Sta. 11+00 | Mainline | 30  |
| TOTAL                    |          | 65  |

619.1000 MOBILIZATION

| LOCATION                           | EACH |
|------------------------------------|------|
| PROJECT 3632-00-71 (CATEGORY 0010) | 0.2  |
| PROJECT 3632-00-71 (CATEGORY 0020) | 0.8  |
|                                    |      |
| TOTAL                              | 1    |

SALVAGED TOPSOIL, MULCHING, FERTILIZER, SEED & TEMPORARY SEED (CATEGORY 0010)

| STATION TO STATION      | LOCATION | **p**<br>625.0500<br>SALVAGED<br>TOPSOIL | **p**<br>627.0200<br>MULCHING | **p**<br>629.0210<br>FERTILIZER<br>TYPE B | **p**<br>630.0120<br>SEEDING<br>NO. 20 | **p**<br>630.0200<br>SEEDING<br>TEMPORARY |
|-------------------------|----------|------------------------------------------|-------------------------------|-------------------------------------------|----------------------------------------|-------------------------------------------|
|                         |          | SY                                       | SY                            | CWT                                       | LB                                     | LB                                        |
| Sta. 9+00 to Sta. 11+00 | Mainline | 275                                      | 390                           | 0.4                                       | 13                                     | 11                                        |
| Undistributed           |          | ---                                      | 100                           | 0.2                                       | 7                                      | 9                                         |
| TOTALS                  |          | 275                                      | 490                           | 0.6                                       | 20                                     | 20                                        |

SILT FENCE & SILT FENCE MAINTENANCE (CATEGORY 0010)

| STATION TO STATION       | LOCATION | 628.1504 | 628.1520          |
|--------------------------|----------|----------|-------------------|
|                          |          | LF       | MAINTENANCE<br>LF |
| Sta. 9+00 to Sta. 9+80   | LT       | 90       | 180               |
| Sta. 9+00 to Sta. 9+80   | RT       | 85       | 170               |
| Sta. 10+40 to Sta. 11+00 | LT       | 75       | 150               |
| Sta. 10+80 to Sta. 11+00 | RT       | 35       | 70                |
| Undistributed            |          | 70       | 140               |
| TOTALS                   |          | 355      | 710               |

MOBILIZATIONS EROSION CONTROL & EMERGENCY EROSION CONTROL (CATEGORY 0010)

| LOCATION           | 628.1905                                 | 628.1910                                           |
|--------------------|------------------------------------------|----------------------------------------------------|
|                    | MOBILIZATIONS<br>EROSION CONTROL<br>EACH | MOBILIZATIONS EMERGENCY<br>EROSION CONTROL<br>EACH |
| PROJECT 3632-00-71 | 4                                        | 2                                                  |

628.2027 EROSION MAT CLASS II TYPE C (CATEGORY 0010)

| STATION TO STATION       | LOCATION | SY  |
|--------------------------|----------|-----|
| Sta. 9+50 to Sta. 9+64   | LT       | 30  |
| Sta. 9+50 to Sta. 9+65   | RT       | 30  |
| Sta. 10+51 to Sta 10+71  | LT       | 20  |
| Sta. 10+81 to Sta. 10+96 | RT       | 15  |
| Undistributed            |          | 25  |
| TOTAL                    |          | 120 |

628.6005 TURBIDITY BARRIERS

| LOCATION      | LF  |
|---------------|-----|
| West Abutment | 75  |
| East Abutment | 80  |
| Undistributed | 40  |
|               |     |
| TOTAL         | 195 |

628.7504 TEMPORARY DITCH CHECKS (CATEGORY 0010)

| LOCATION      | LF |
|---------------|----|
| UNDISTRIBUTED | 50 |

634.0612 WOOD POSTS 4X6 INCH X 12 FT (CATEGORY 0010)

| STATION    | LOCATION | EACH |
|------------|----------|------|
| Sta. 9+00  | LT       | 1    |
| Sta. 9+00  | RT       | 1    |
| Sta. 9+72  | LT       | 1    |
| Sta. 9+72  | RT       | 1    |
| Sta. 10+44 | LT       | 1    |
| Sta. 10+44 | RT       | 1    |
| Sta. 11+15 | RT       | 1    |
| Sta. 12+50 | LT       | 1    |
| TOTAL      |          | 8    |

637.2210 SIGNS TYPE II REFLECTIVE H (CATEGORY 0010)

| STATION    | LOCATION | DESCRIPTION | SF |
|------------|----------|-------------|----|
| Sta. 9+00  | LT       | R7-53R      | 3  |
| Sta. 9+00  | RT       | R7-53R      | 3  |
| Sta. 11+15 | RT       | R7-53R      | 3  |
| Sta. 12+50 | LT       | R7-53R      | 3  |
| TOTAL      |          |             | 12 |

637.2230 SIGNS TYPE II REFLECTIVE F (CATEGORY 0010)

| STATION    | LOCATION | DESCRIPTION | SF |
|------------|----------|-------------|----|
| Sta. 9+72  | LT       | W5-52L      | 3  |
| Sta. 9+72  | RT       | W5-52R      | 3  |
| Sta. 10+44 | RT       | W5-52L      | 3  |
| Sta. 10+44 | LT       | W5-52R      | 3  |
| TOTAL      |          |             | 12 |

638.2602 REMOVING SIGNS TYPE II

| STATION    | LOCATION | DESCRIPTION          | EACH |
|------------|----------|----------------------|------|
| Sta. 9+25  | LT       | NO PARKING           | 1    |
| Sta. 9+50  | RT       | NO PARKING           | 1    |
| Sta. 9+60  | LT       | W5-52L               | 1    |
| Sta. 9+60  | RT       | W5-52R               | 1    |
| Sta. 9+60  | RT       | TOWN OF CONCORD SIGN | 1    |
| Sta. 10+40 | LT       | W5-52R               | 1    |
| Sta. 10+40 | RT       | W5-52L               | 1    |
| Sta. 11+15 | RT       | NO PARKING           | 1    |
| Sta. 12+50 | LT       | NO PARKING           | 1    |
| TOTAL      |          |                      | 9    |

642.5001 FIELD OFFICE TYPE B (CATEGORY 0010)

| LOCATION                                 | EACH |
|------------------------------------------|------|
| PROJECT 3632-00-71                       | 1    |
| 643.0100 TRAFFIC CONTROL (CATEGORY 0010) |      |
| LOCATION                                 | EACH |
| PROJECT 3632-00-71                       | 1    |

CONSTRUCTION STAKING

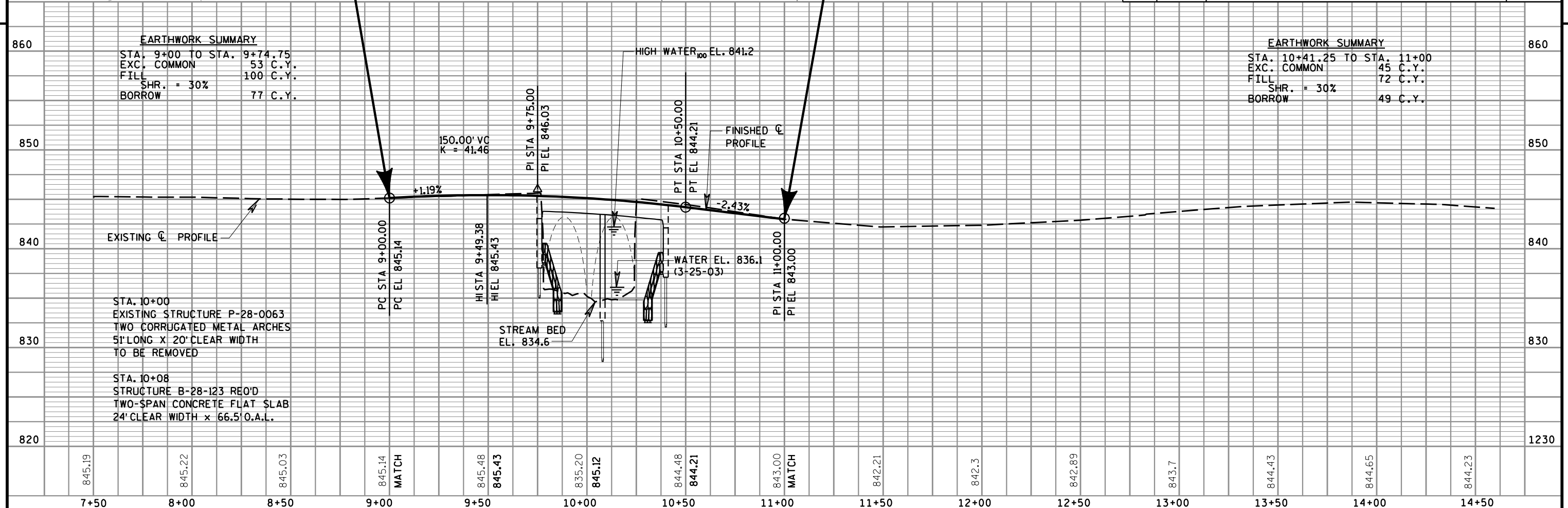
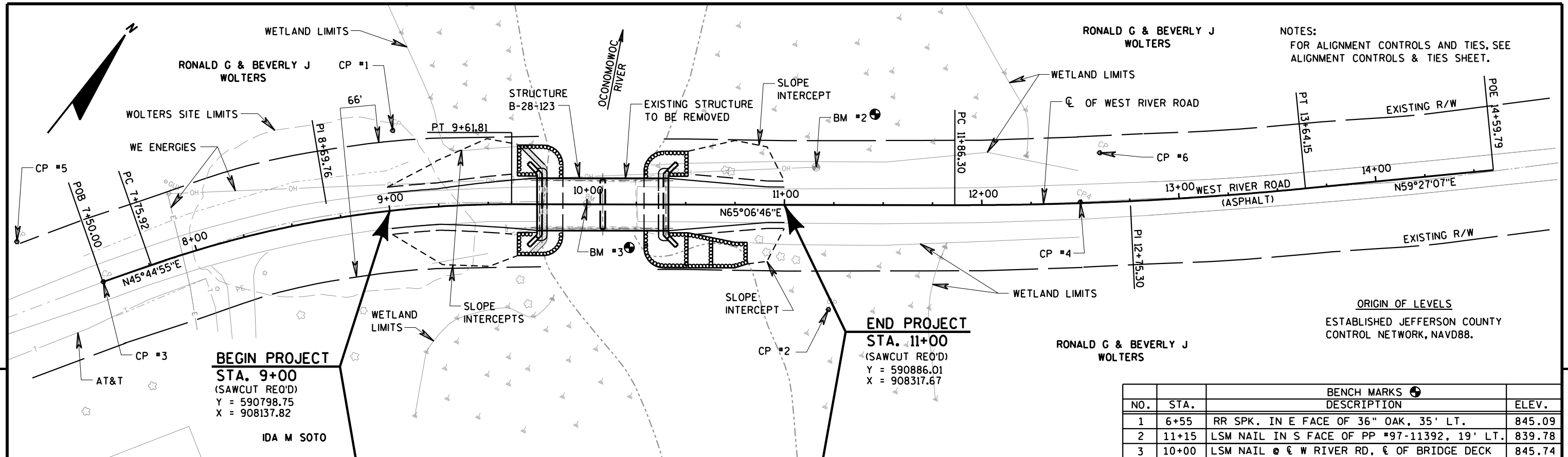
| CATEGORY | LOCATION                   | 650.4500<br>SUBGRADE<br>LF | 650.5000<br>BASE<br>LF | 650.6500<br>STRUCTURE<br>LAYOUT<br>LS | 650.9910<br>SUPPLEMENTARY<br>CONTROL<br>LS | 650.9920<br>SLOPE<br>STAKES<br>LF |
|----------|----------------------------|----------------------------|------------------------|---------------------------------------|--------------------------------------------|-----------------------------------|
| 0010     | Sta. 9+00 to Sta. 11+00.00 | 134                        | 134                    | ---                                   | 1                                          | 134                               |
| 0020     | B-28-0123                  | ---                        | ---                    | 1                                     | ---                                        | ---                               |
| TOTALS   |                            | 134                        | 134                    | 1                                     | 1                                          | 134                               |

638.3000 REMOVING SMALL SIGN SUPPORTS

| STATION    | LOCATION | EACH |
|------------|----------|------|
| Sta. 9+25  | LT       | 1    |
| Sta. 9+50  | RT       | 1    |
| Sta. 9+60  | LT       | 1    |
| Sta. 9+60  | RT       | 1    |
| Sta. 10+40 | LT       | 1    |
| Sta. 10+40 | RT       | 1    |
| Sta. 11+15 | RT       | 1    |
| Sta. 12+50 | LT       | 1    |
| TOTAL      |          | 8    |

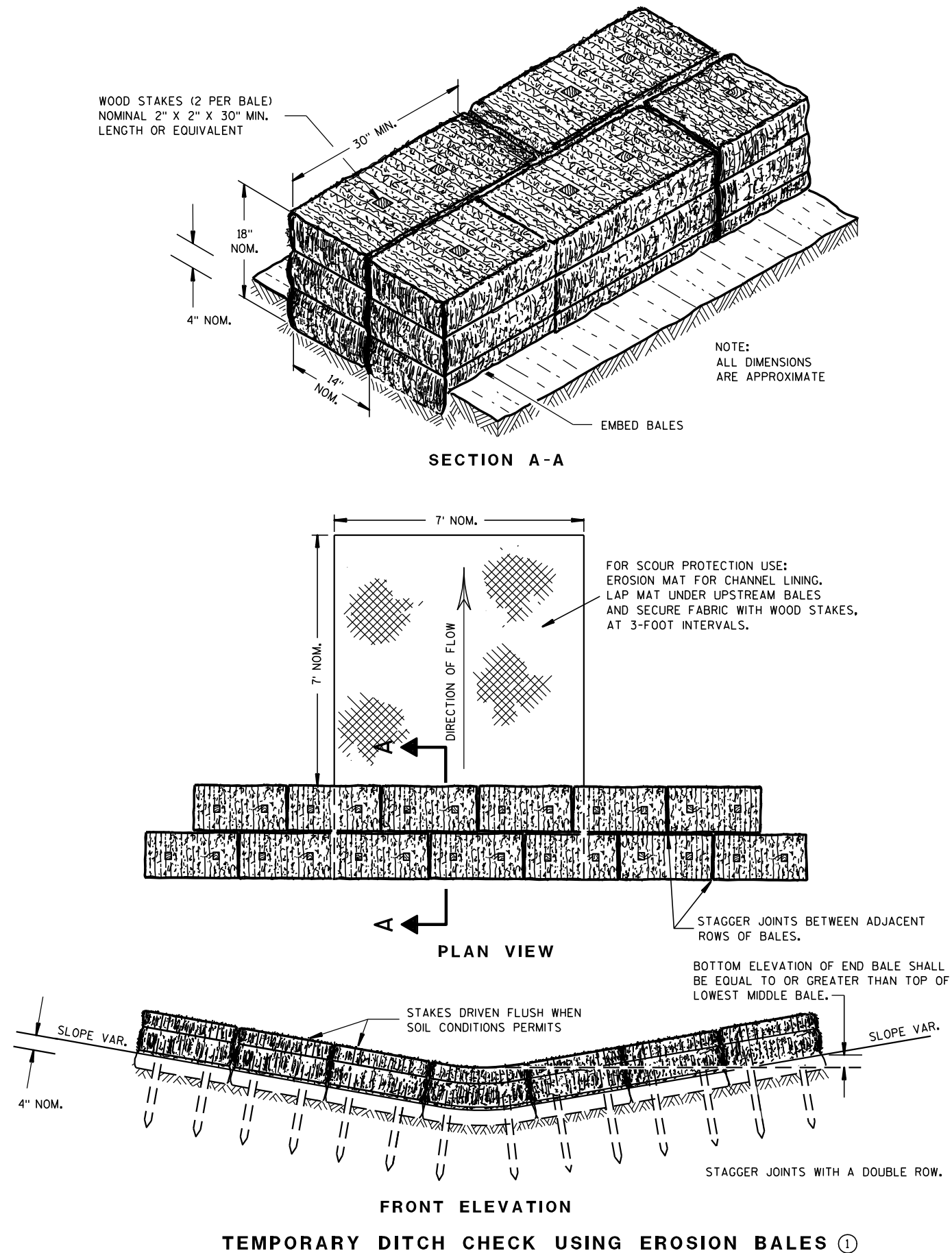
690.0150 SAWING ASPHALT (CATEGORY 0010)

| STATION    | LOCATION | LF |
|------------|----------|----|
| Sta. 9+00  | Mainline | 18 |
| Sta. 11+00 | Mainline | 18 |
| TOTAL      |          | 36 |



Standard Detail Drawing List

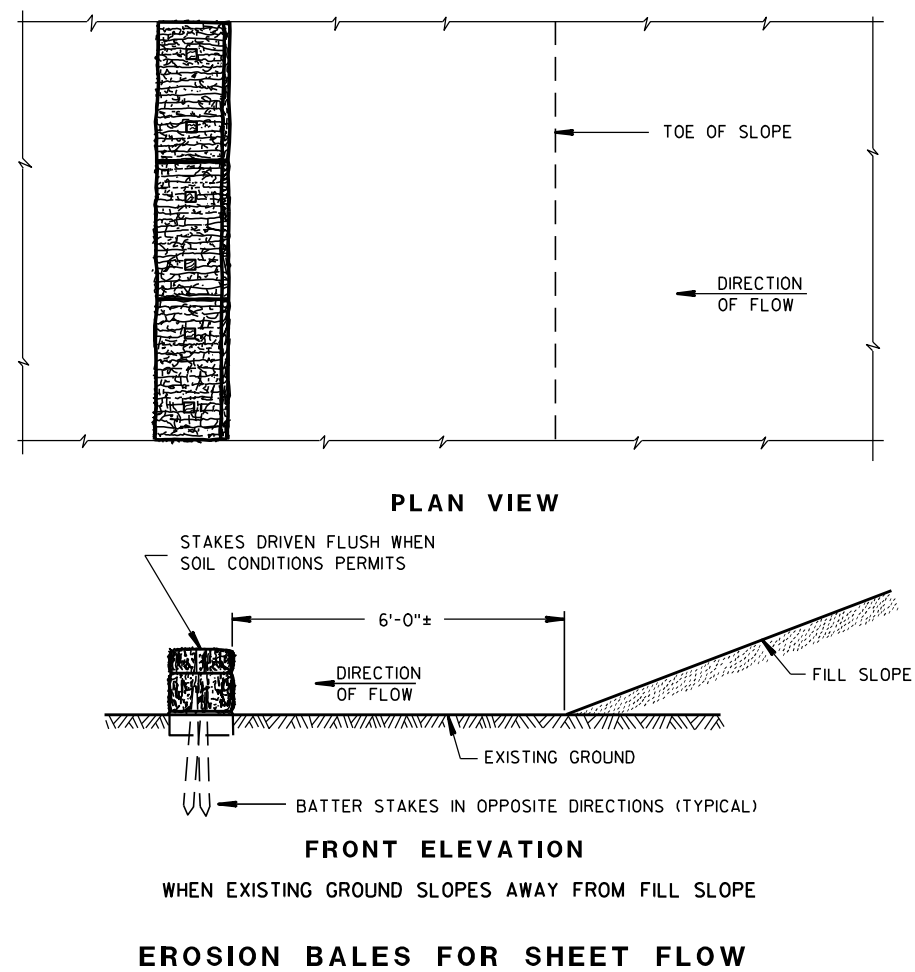
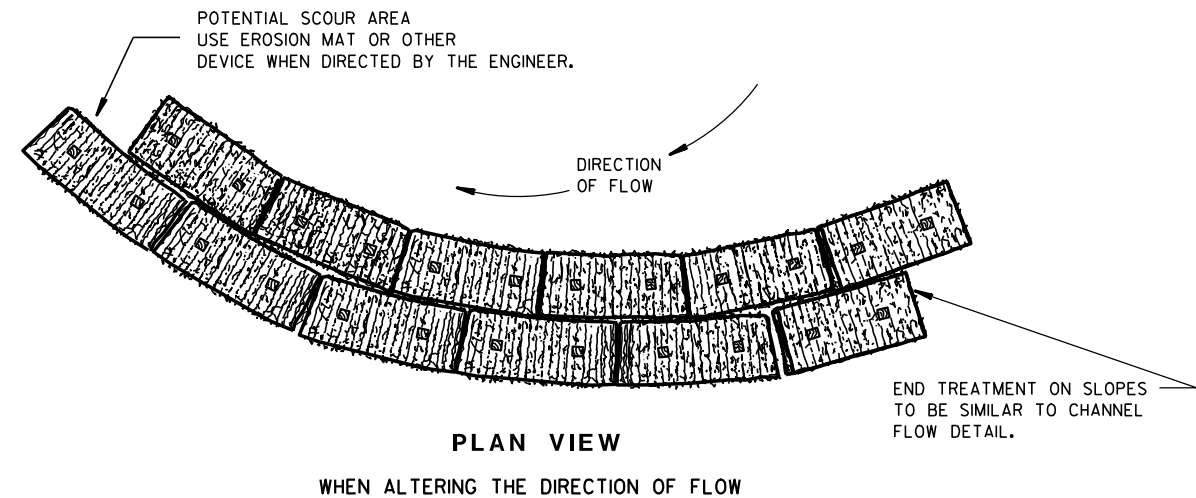
|           |                                                                 |
|-----------|-----------------------------------------------------------------|
| 08E08-03  | TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS |
| 08E09-06  | SILT FENCE                                                      |
| 08E11-02  | TURBIDITY BARRIER                                               |
| 12A03-10  | NAME PLATE (STRUCTURES)                                         |
| 15C02-05A | BARRICADES AND SIGNS FOR MAINLINE CLOSURES                      |
| 15C02-05B | BARRICADES AND SIGNS FOR MAINLINE CLOSURES                      |
| 15C06-07  | SIGNING & MARKING FOR TWO LANE BRIDGES                          |



## GENERAL NOTES

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

- ① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

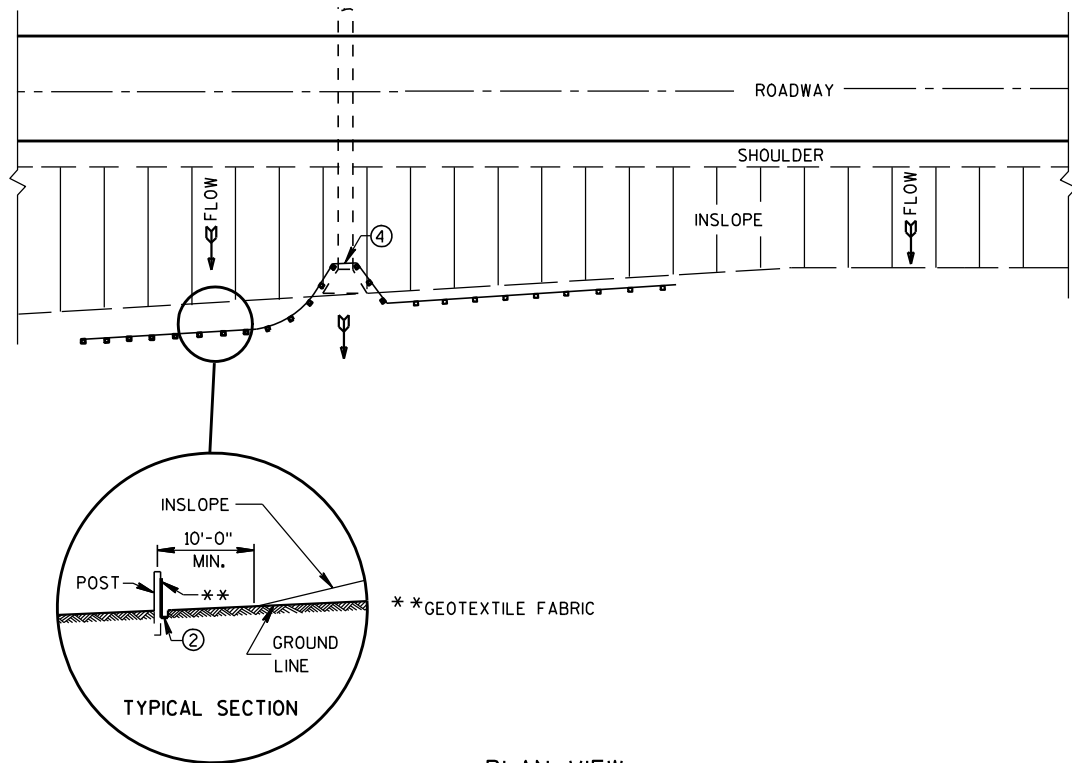
TYPICAL INSTALLATIONS OF  
EROSION BALES / TEMPORARY  
DITCH CHECKS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

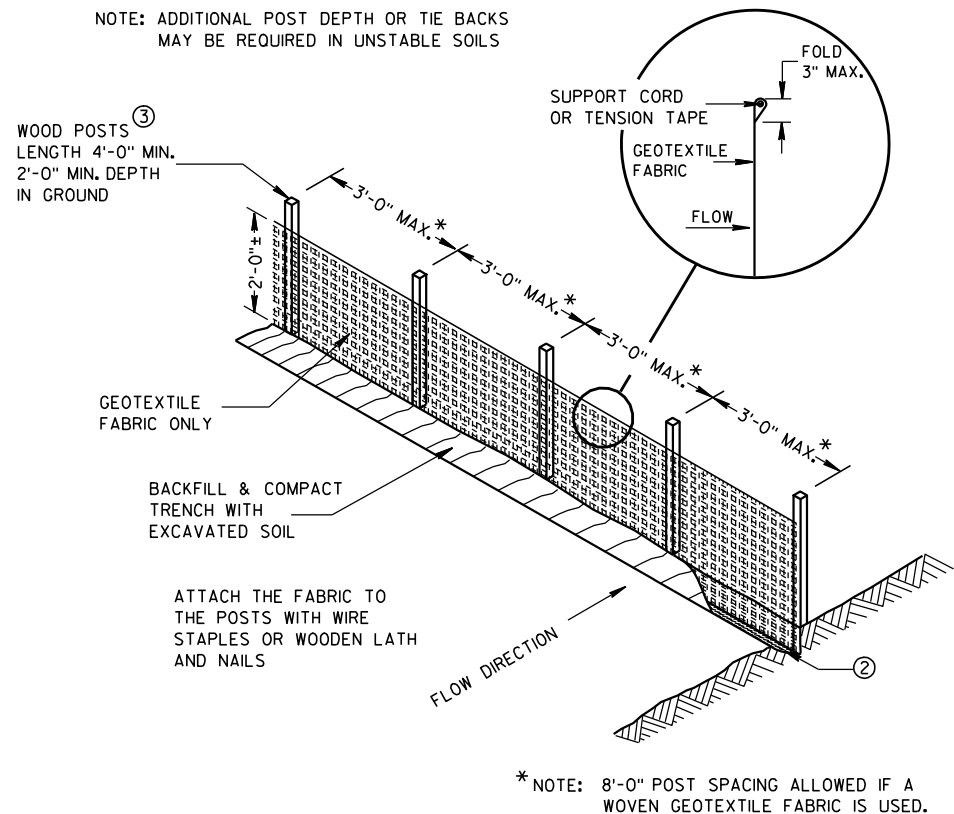
APPROVED

6/04/02  
DATE/S/ Beth Canestra  
CHIEF ROADWAY DEVELOPMENT ENGINEER

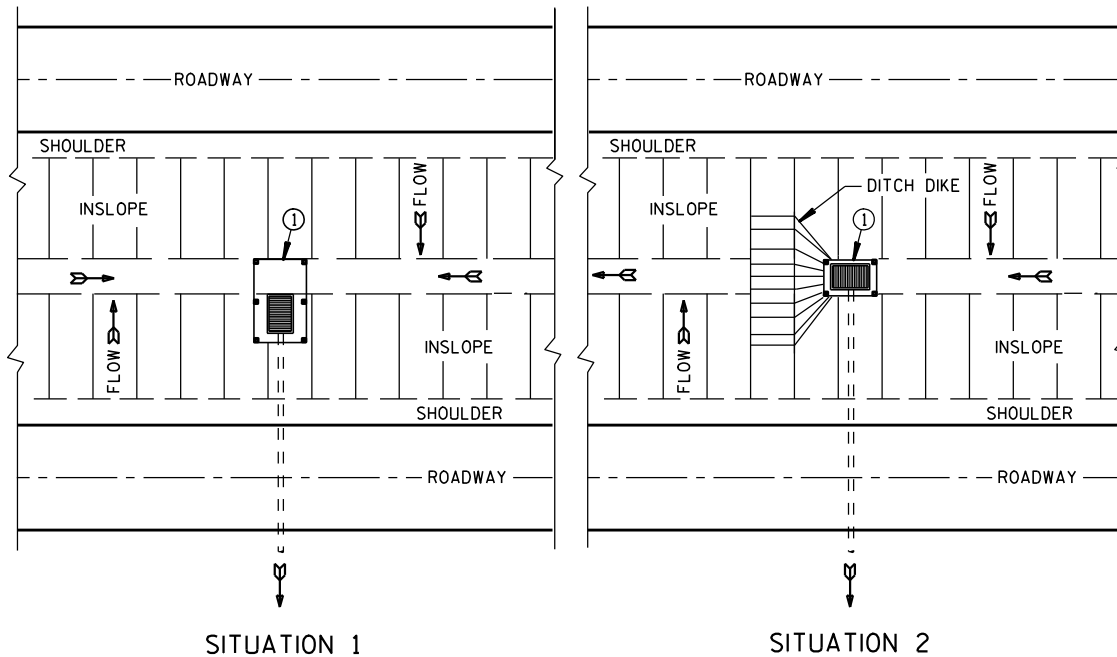
FHWA



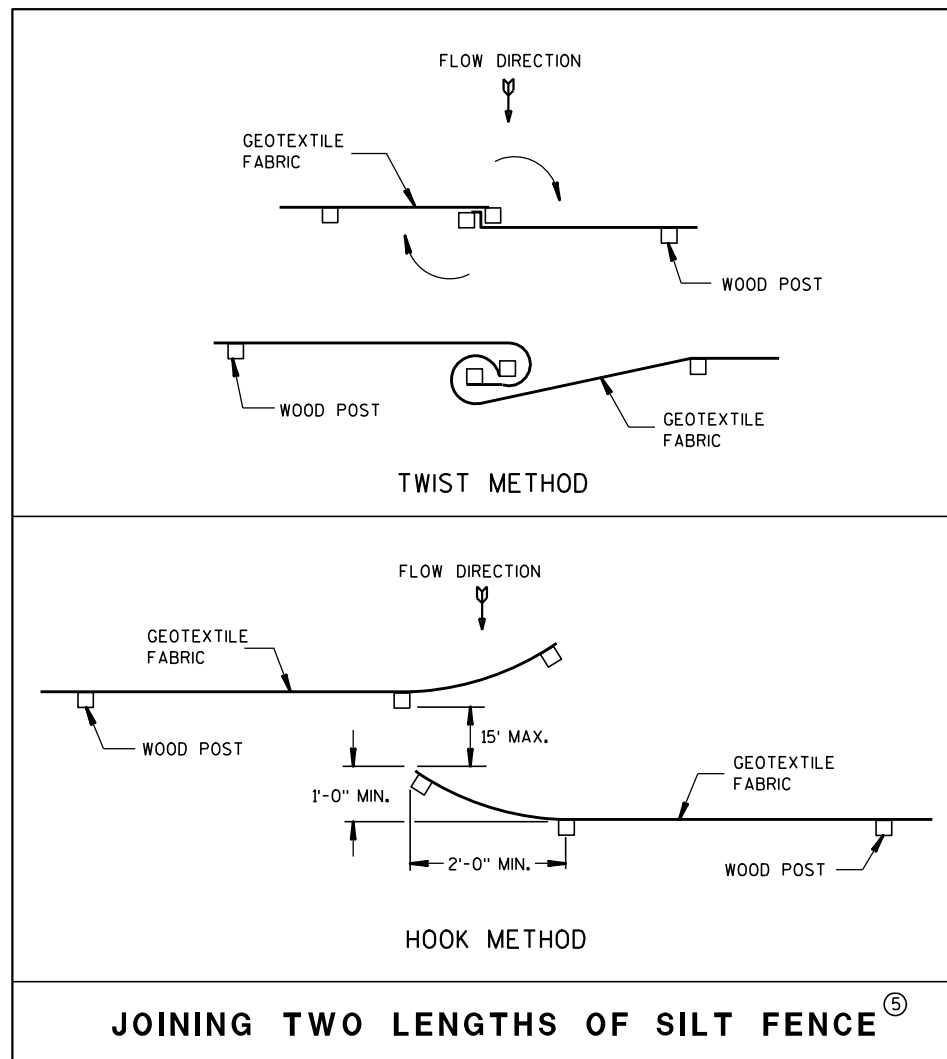
PLAN VIEW  
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



SITUATION 1  
SITUATION 2  
PLAN VIEW  
SILT FENCE AT MEDIAN SURFACE DRAINS

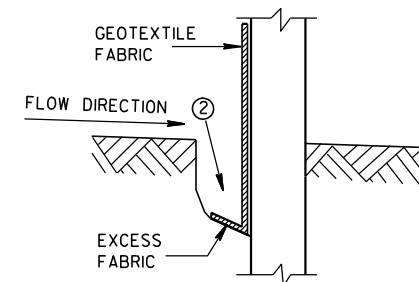


JOINING TWO LENGTHS OF SILT FENCE ⑤

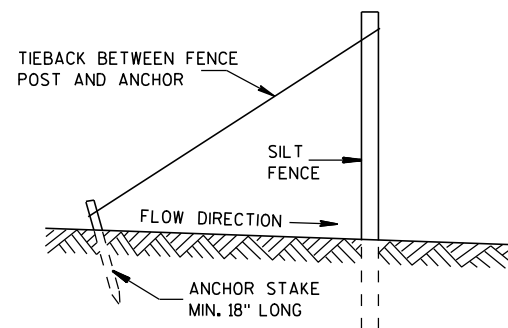
GENERAL NOTES

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 1/8" X 1 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.

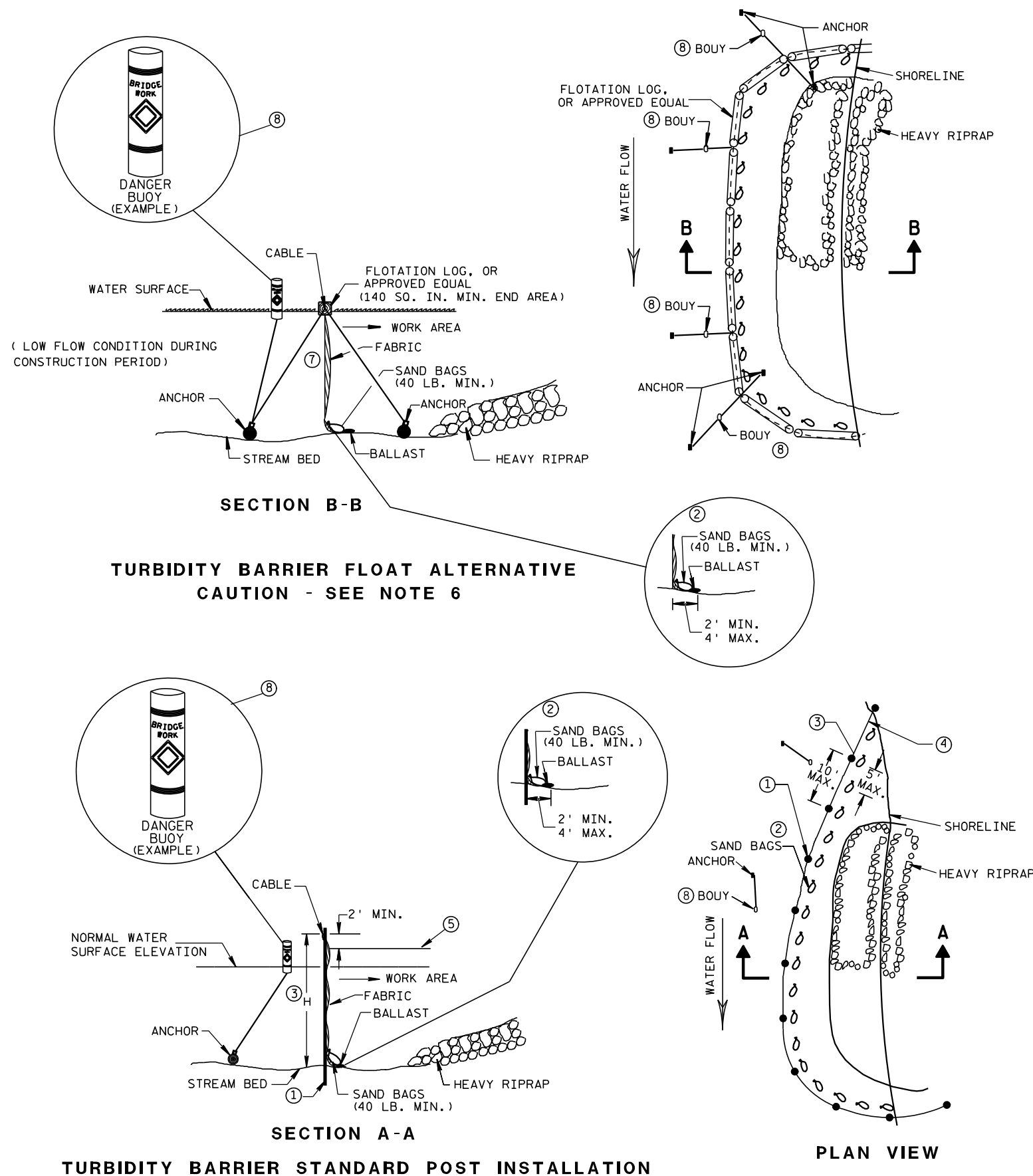


TRENCH DETAIL



SILT FENCE TIE BACK  
(WHEN REQUIRED BY THE ENGINEER)

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

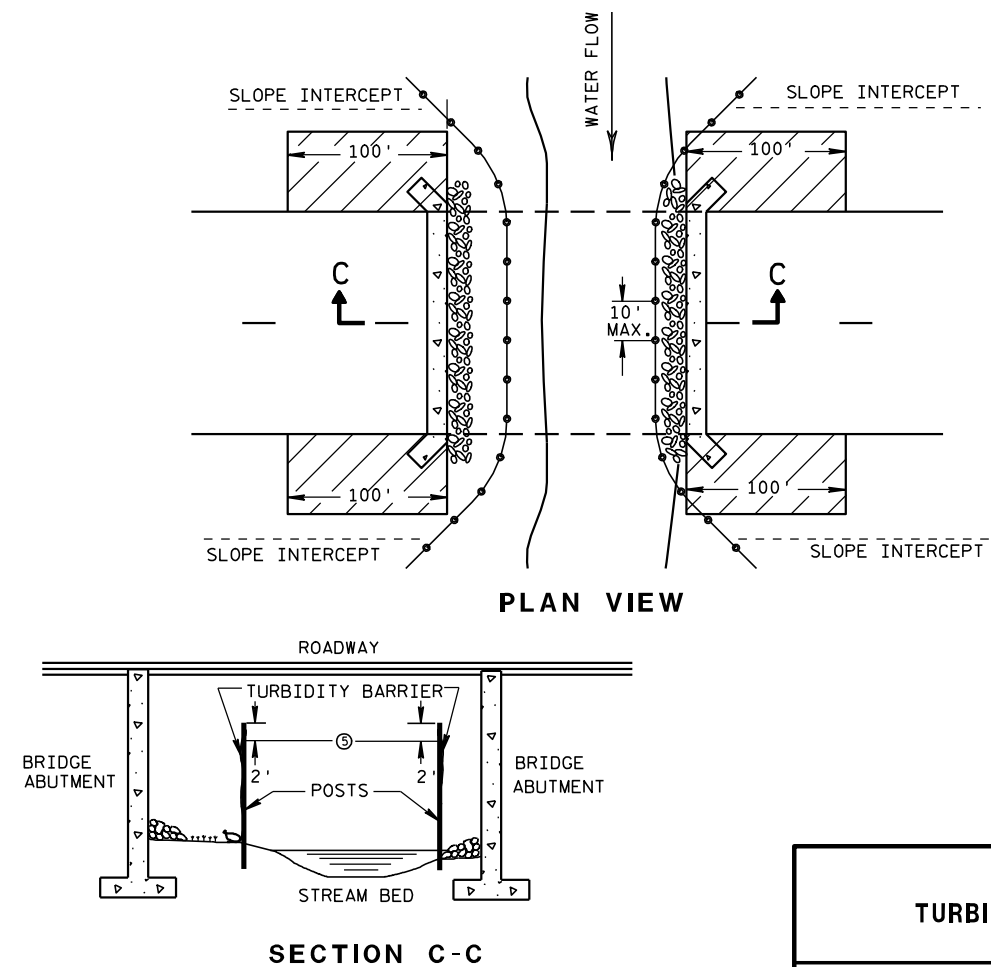


## GENERAL NOTES

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

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

- ① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
- ② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.
- ③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.
- ④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.
- ⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE 02 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 BED ROCK PREVENTS THE INSTALLATION OF POSTS.
- ⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
- ⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



## TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

### TURBIDITY BARRIER

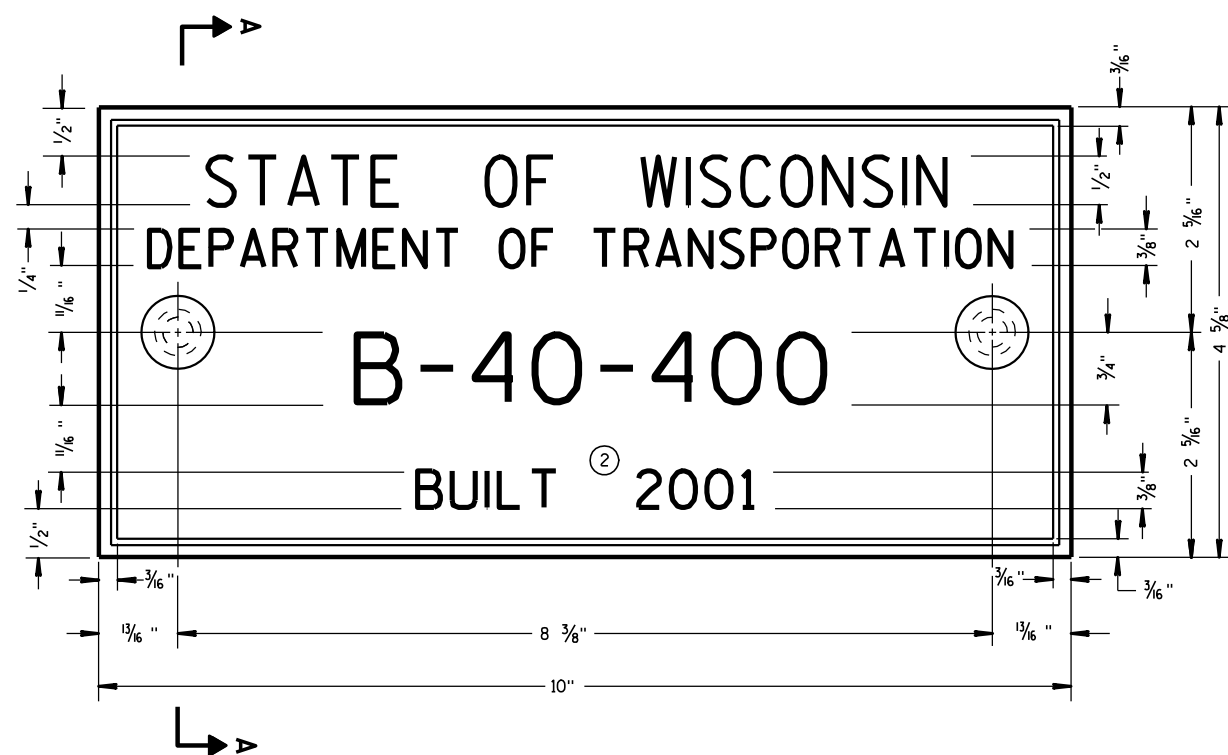
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02  
DATE

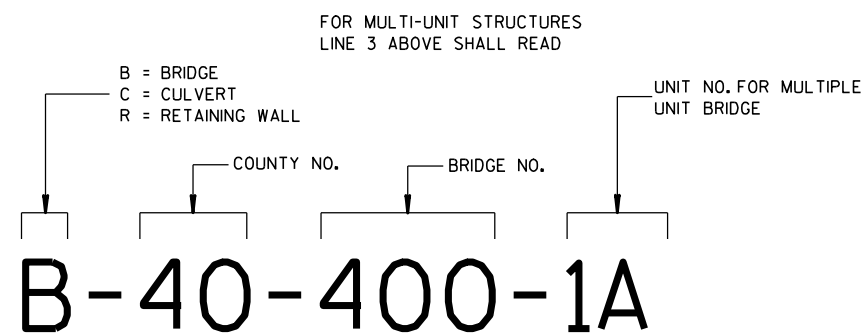
FHWA

/S/ Beth Canestra  
CHIEF ROADWAY DEVELOPMENT ENGINEER



## TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)



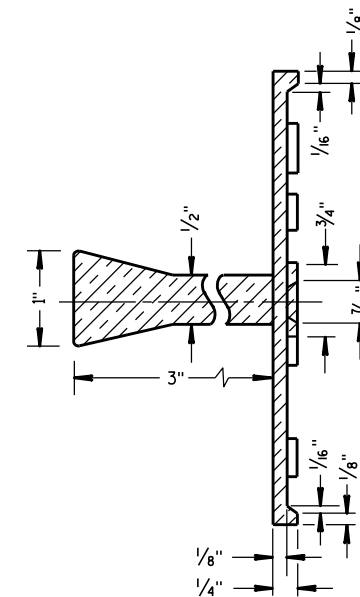
**NUMBERING DESIGNATION**  
**MULTI-UNIT STRUCTURES**

## GENERAL NOTES

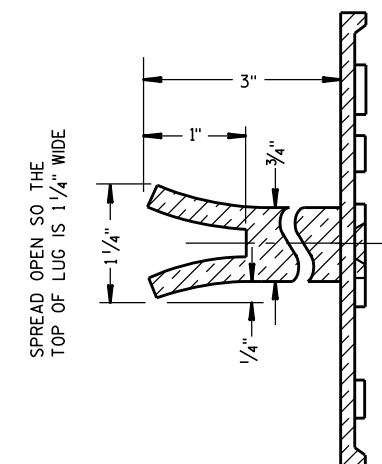
NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

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

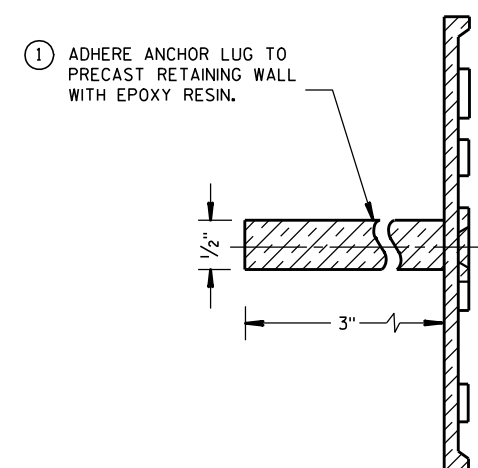
- ① EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ② REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



**SECTION A-A**



### ALTERNATE LUG



### ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE  
(STRUCTURES)

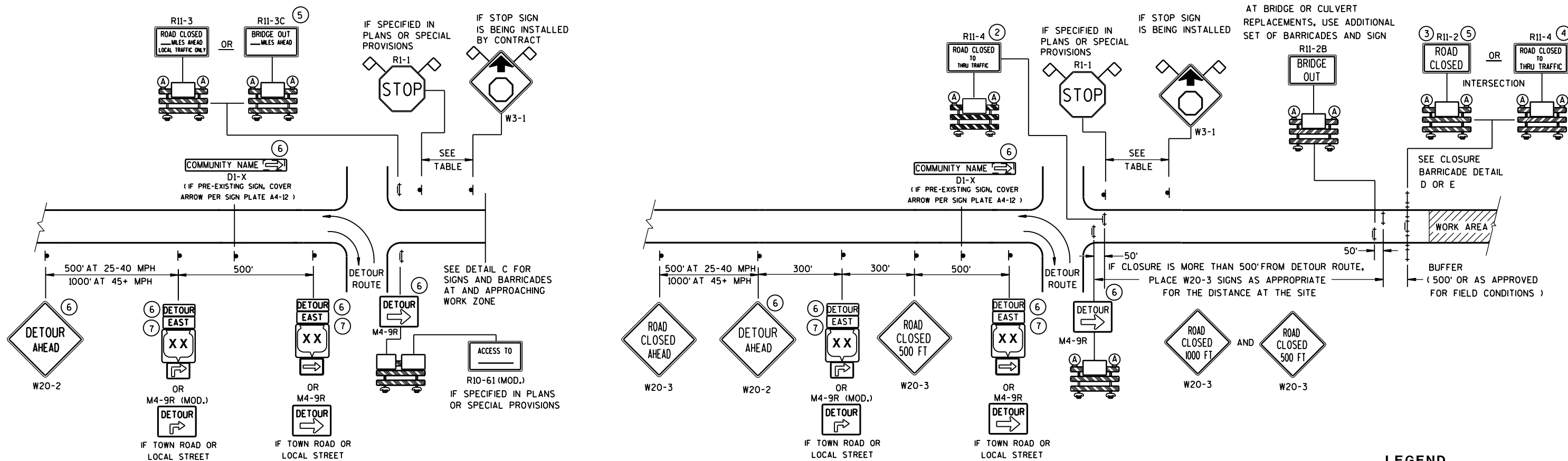
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10  
DATE

FHWA

/S/ Scot Becker  
CHIEF STRUCTURAL DEVELOPMENT ENGINEER



LEGEND

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

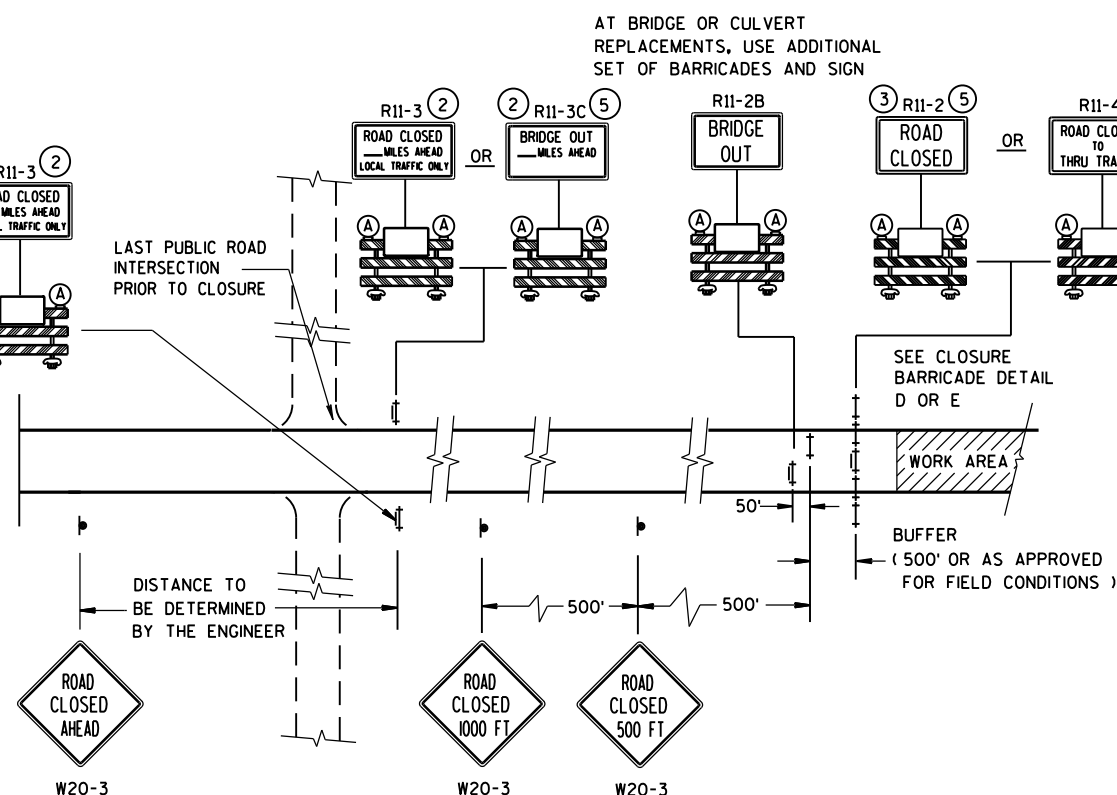
WORK AREA

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

M05-1 OR M06-1

FLAGS, 16" X 16" MIN., (ORANGE)

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

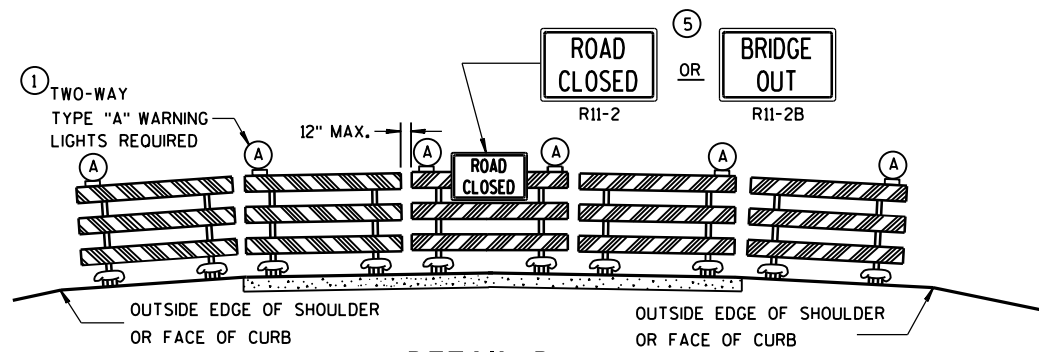


SEE SDD 15C2-SHEET "b"  
FOR GENERAL NOTES  
AND FOOTNOTES ① THROUGH ⑦

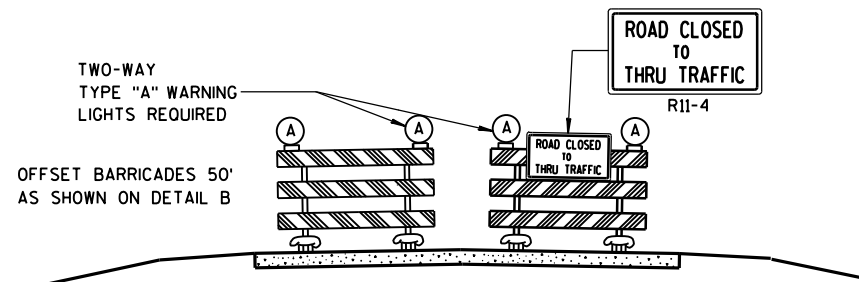
BARRICADES AND SIGNS  
FOR  
MAINLINE CLOSURES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

8/2013 /S/ Travis Feltes  
DATE STATE TRAFFIC ENGINEER OF DESIGN  
FHWA



DETAIL D  
ROAD CLOSURE BARRICADE DETAIL  
APPROACH VIEW



DETAIL E  
LANE CLOSURE BARRICADE DETAIL  
APPROACH VIEW

SEE SDD 15C2-SHEET "a" FOR LEGEND

## GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

R11-2 SHALL BE 48" X 30".

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

M4-9 SHALL BE 30" X 24".

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

M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)

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

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

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

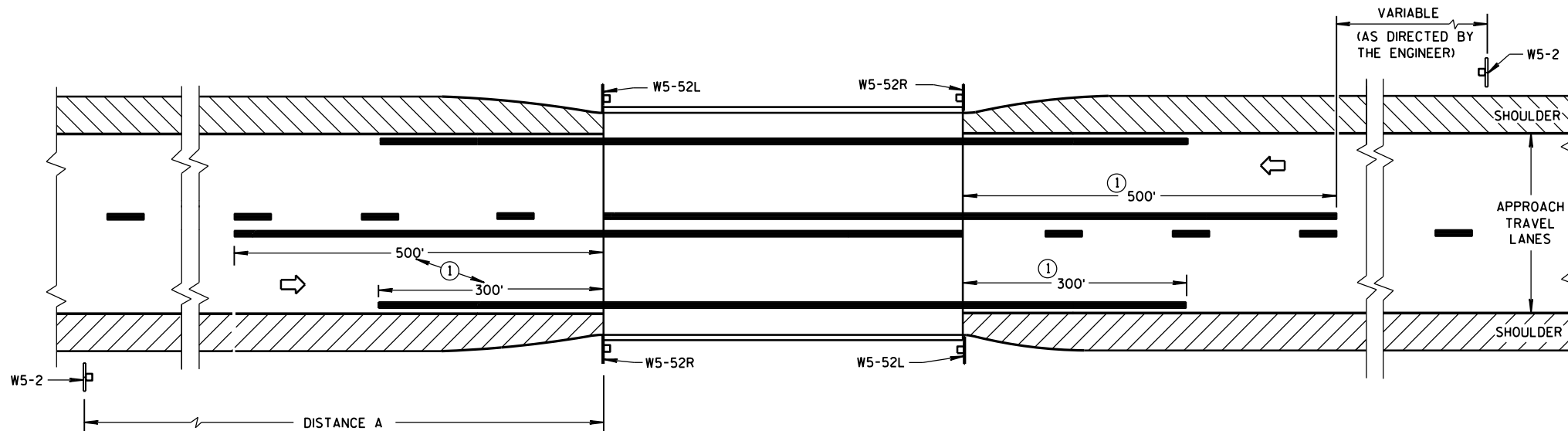
R1-1 SHALL BE 36" X 36".

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

BARRICADES AND SIGNS  
FOR  
MAINLINE CLOSURES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

8/2013 /S/ Travis Feltes  
DATE STATE TRAFFIC ENGINEER OF DESIGN  
FHWA



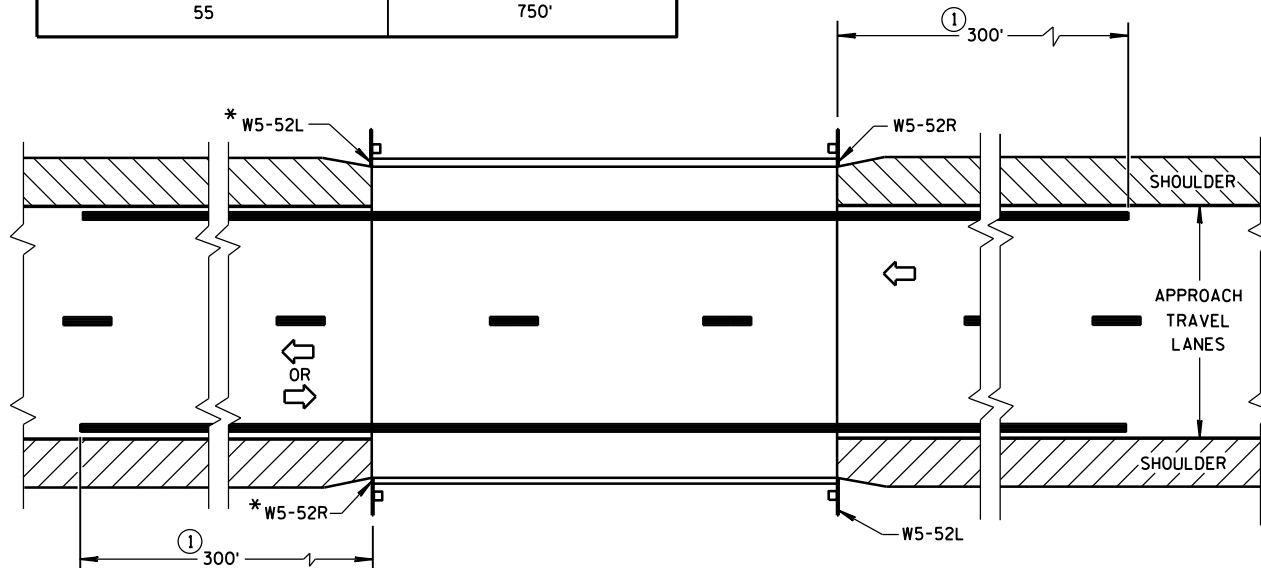
### SITUATION 1

WARRANTING CRITERIA:

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

#### DISTANCE TABLE

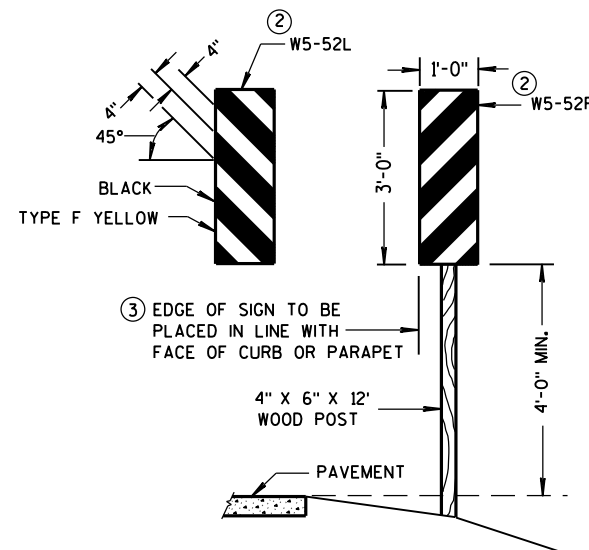
| POSTED OR 85th PERCENTILE SPEED | DISTANCE "A" |
|---------------------------------|--------------|
| 25                              | 150'         |
| 30                              | 200'         |
| 35                              | 250'         |
| 40                              | 300'     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



### SITUATION 2

WARRANTING CRITERIA:

1. BRIDGE WIDTH IS AT LEAST 24 FEET AND
2. BRIDGE IS LESS THAN 6 FEET WIDER (ON EACH SIDE) THAN APPROACH TRAVEL LANES.



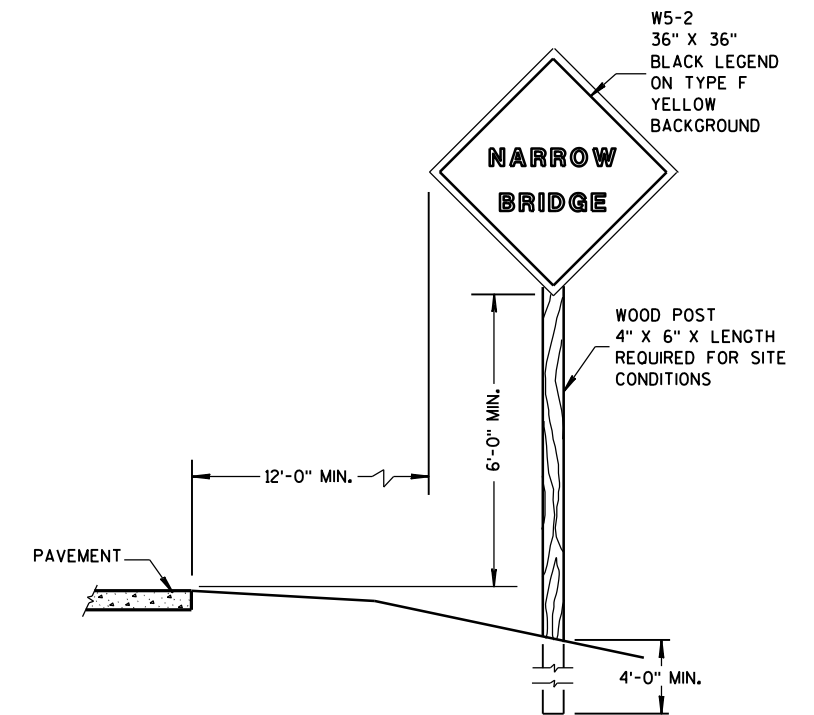
### OBJECT MARKER PLACEMENT

### GENERAL NOTES

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

PAVEMENT MARKING SHOWN ON THIS DRAWING IS NOT REQUIRED UNLESS OTHERWISE SPECIFIED IN THE CONTRACT. WHEN SPECIFIED, PAVEMENT MARKING SHALL CONFORM TO THIS DRAWING AND OTHER CONTRACT REQUIREMENTS.

- ① MINIMUM DISTANCE UNLESS OTHERWISE SHOWN ON THE PLAN.
- ② FACE OF OBJECT MARKERS W5-52R, AND W5-52L SHALL BE COVERED WITH TYPE F REFLECTIVE SHEETING.
- ③ LOCATE OBJECT MARKER POST(S) BEHIND GUARDRAIL WHEN PRESENT.



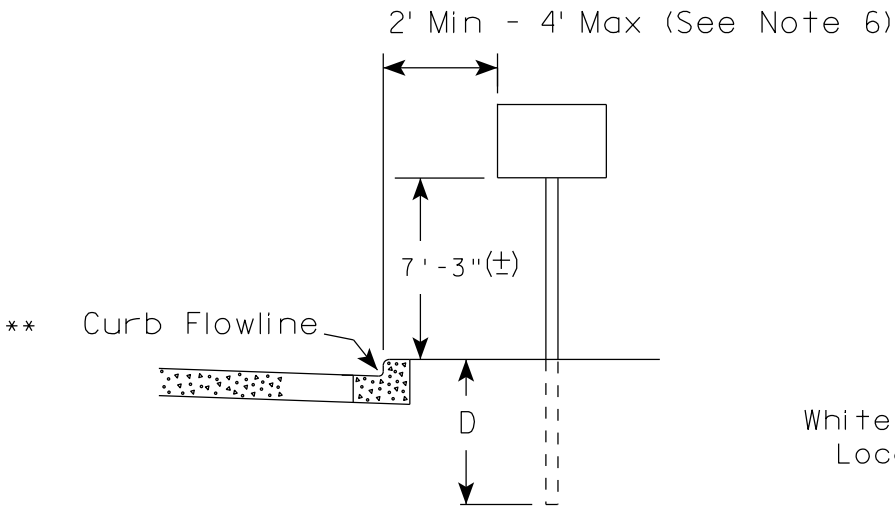
### SIGN PLACEMENT

#### SIGNING & MARKING FOR TWO LANE BRIDGES

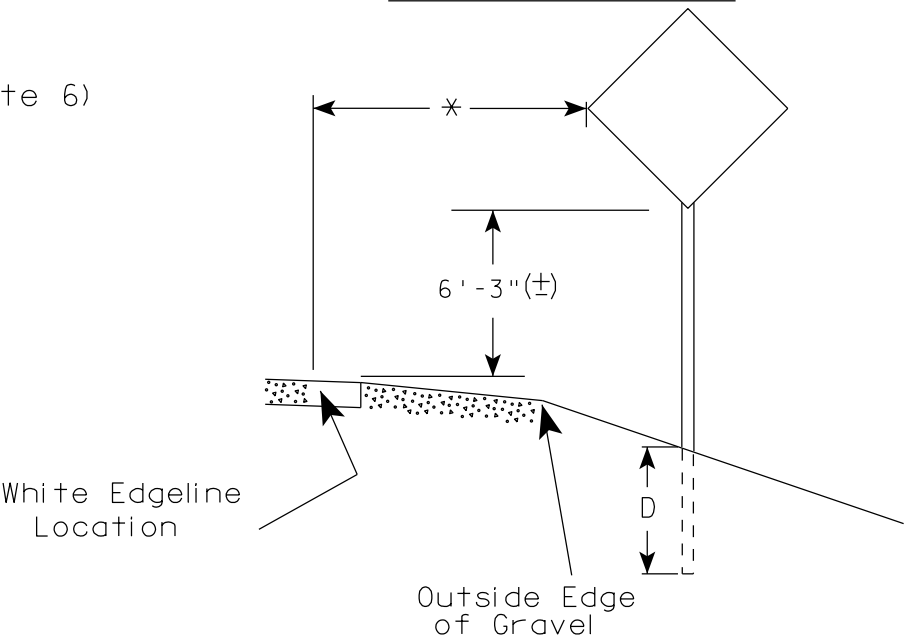
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
3-2014 DATE /S/ Travis Fettes  
STATE TRAFFIC ENGINEER OF DESIGN  
FHWA

URBAN AREA



RURAL AREA (See Note 2)



GENERAL NOTES

1. Signs wider than 4 feet, 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A4-5) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding stop signs (R1-1F) shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series) & End of Rod Markers (W5-56 & W5-56A) shall be mounted at a height of 4'-3" (+).

POST EMBEDMENT DEPTH

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

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

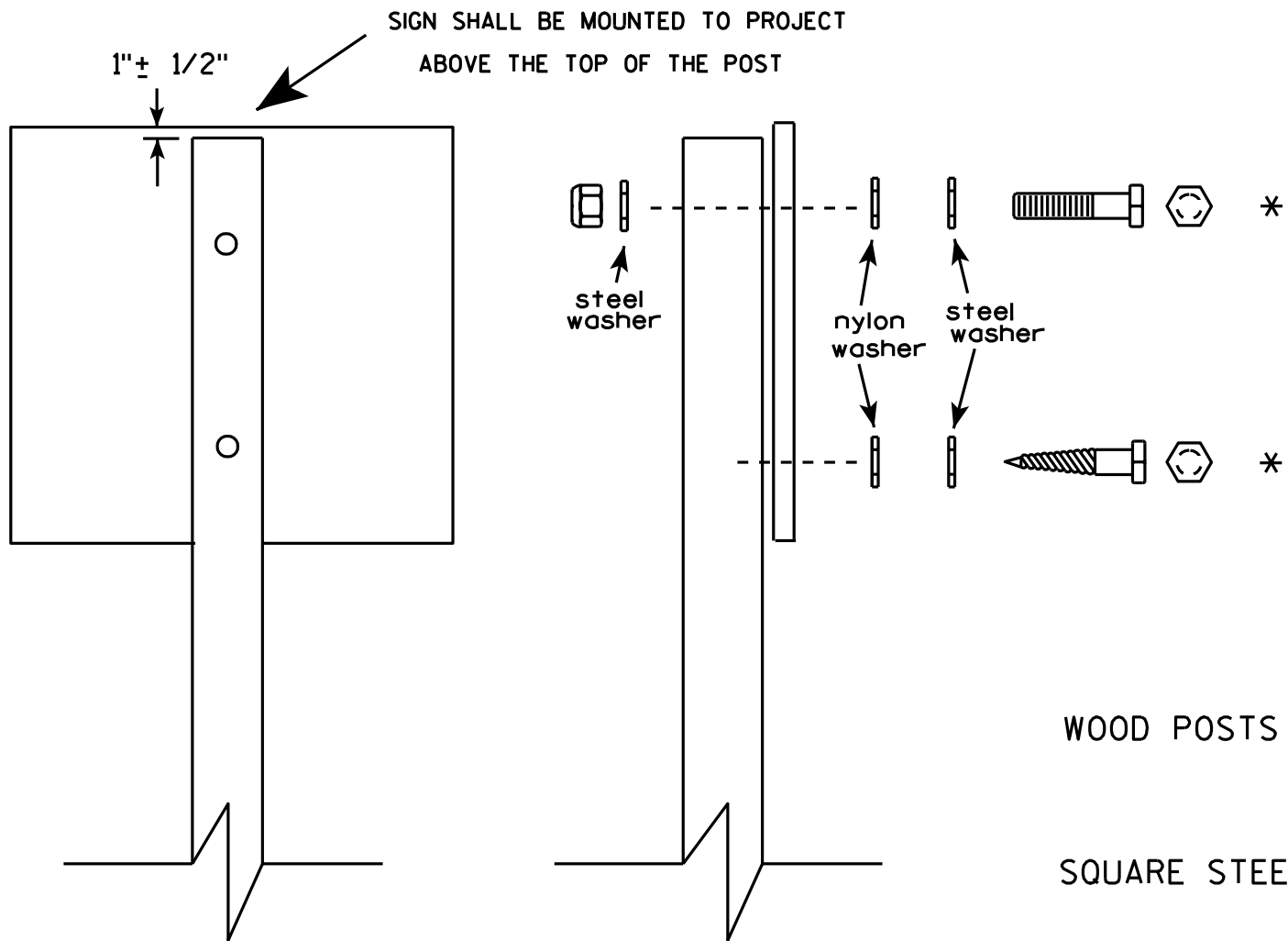
\* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION  
OF PERMANENT TYPE II  
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED  
*Matthew R. Rauch*  
for State Traffic Engineer

DATE 9/30/13 PLATE NO. A4-3.18

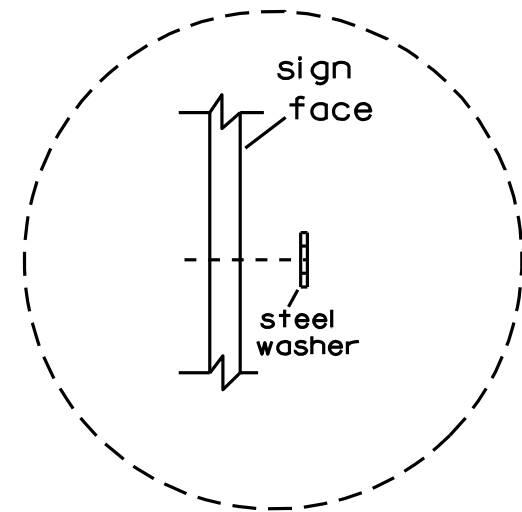


Nuts, bolts and lags used for mounting signs shall have hexagonal heads and shall be either :

- a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3
- b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

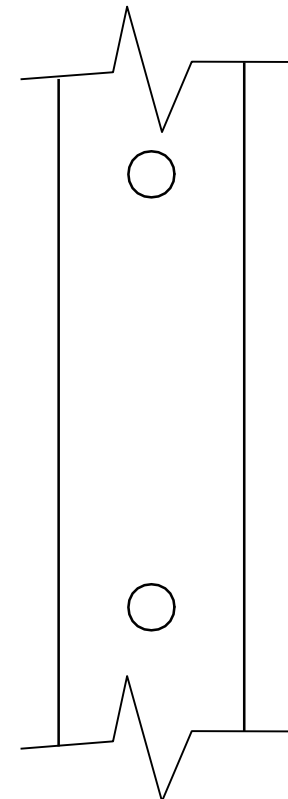
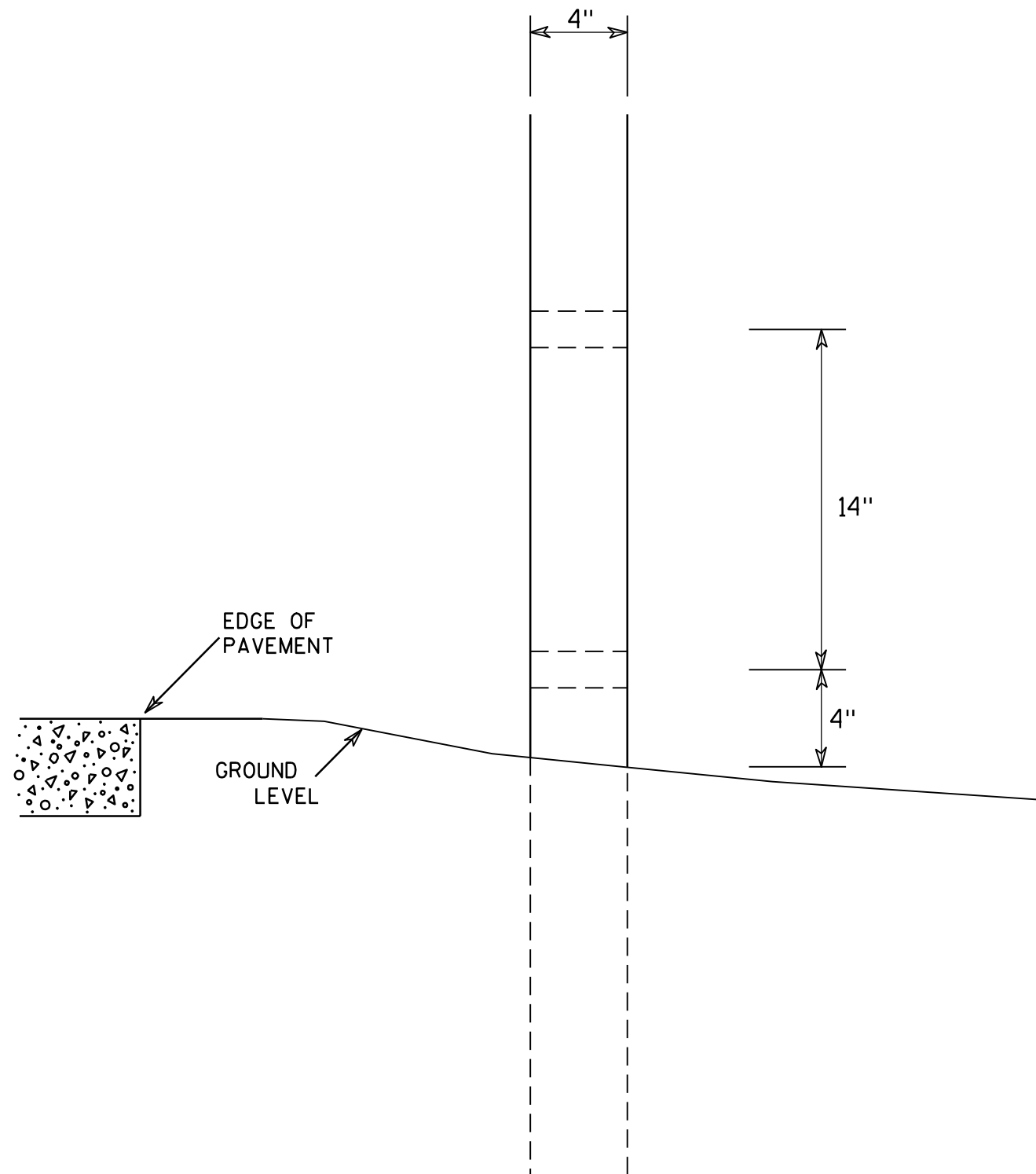
- WOOD POSTS (4" x 4" or 4" x 6")  
LAG SCREWS - 3/8" X 3"  
MACHINE BOLTS - 5/16" X 6-1/2" or 7" Length w/ nuts
- SQUARE STEEL POSTS (2" x 2")  
MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts  
RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL  
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -  
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL  
1-1/4" O.D. X 3/8" I.D. X .080 NYLON for all Type H signs.



Washer Placement when Sign Has Other Than Type H or Type F Face

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

|                                  |                                                       |
|----------------------------------|-------------------------------------------------------|
| ATTACHMENT OF SIGNS<br>TO POSTS  |                                                       |
| WISCONSIN DEPT OF TRANSPORTATION |                                                       |
| APPROVED                         | <i>Matthew R. Rauch</i><br>For State Traffic Engineer |
| DATE 3/23/10                     | PLATE NO. A4-8.7                                      |



SIDE VIEW

# GENERAL NOTES

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

## 4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

*Chester J. Spang*  
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO: 3632-00-71

HWY: WEST RIVER ROAD

COUNTY: JEFFERSON

SHEET NO:

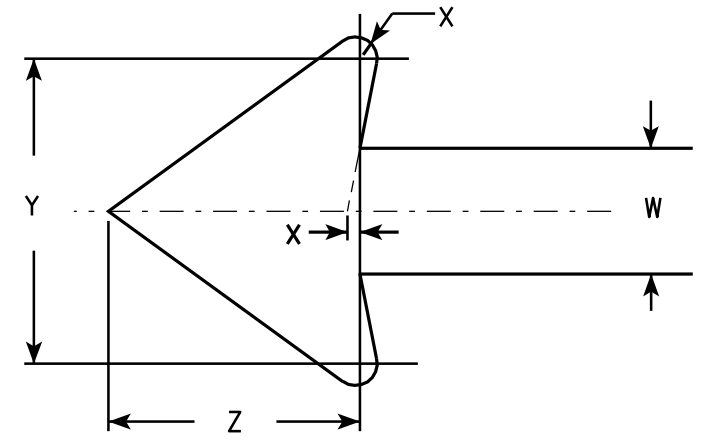
E



R7-53

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White  
Message - Red
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1, 3 and 4 are series C, line 2 is series B.
6. R7-53D (double arrow)  
R7-53L (left arrow)  
R7-53R (right arrow)



ARROW DETAIL

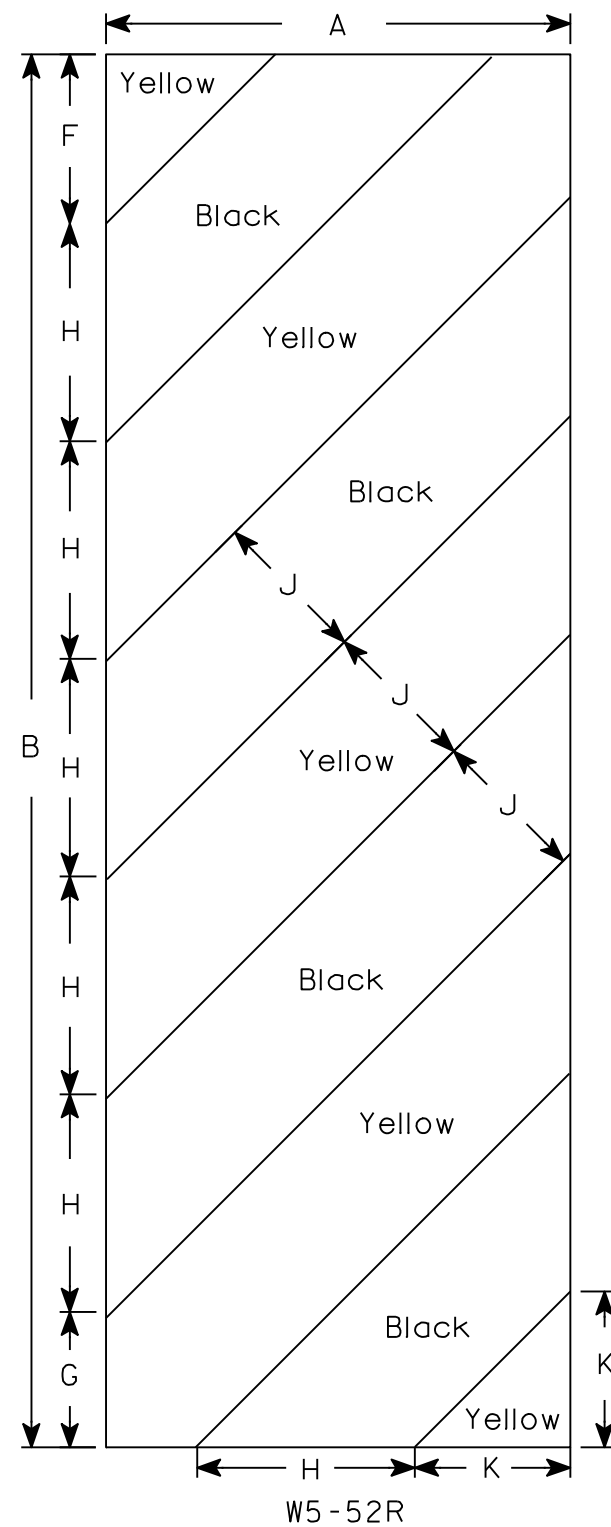
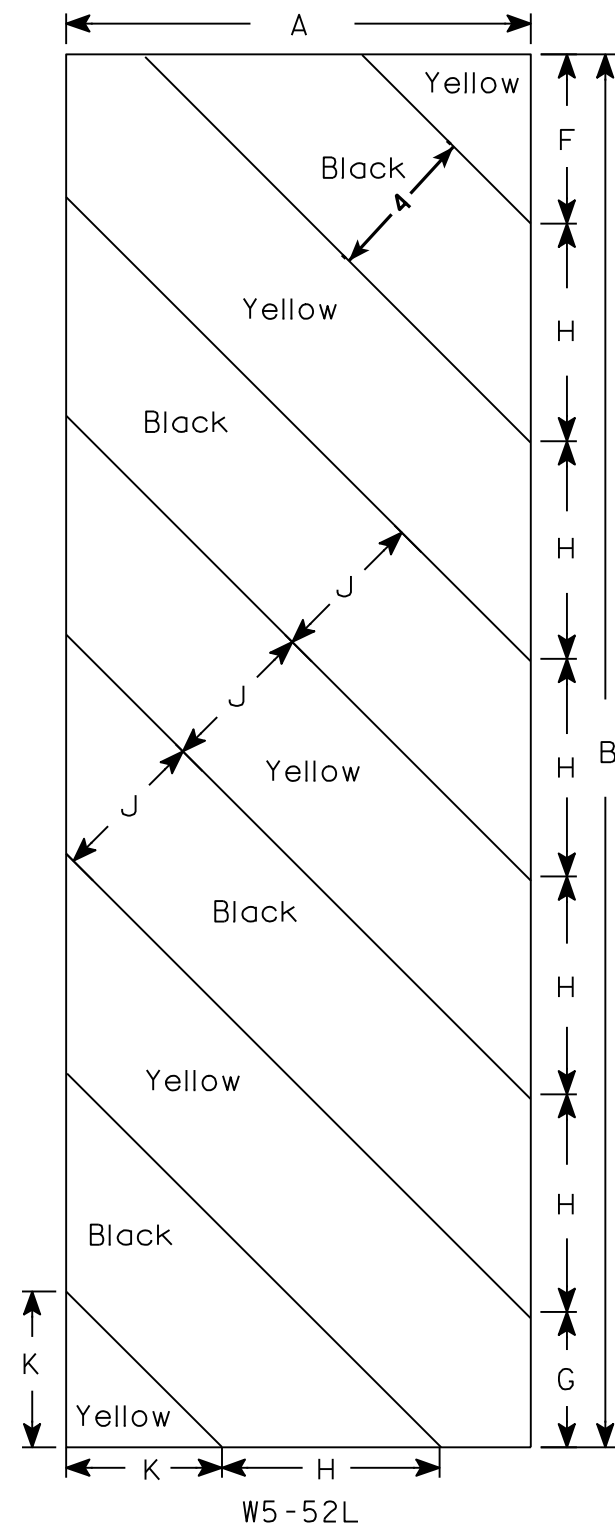
| SIZE | A  | B  | C     | D   | E   | F | G     | H     | I     | J     | K     | L     | M     | N     | O     | P     | Q     | R     | S   | T     | U     | V     | W     | X   | Y     | Z     | Area<br>sq. ft. |
|------|----|----|-------|-----|-----|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|-------|-------|-------|-------|-----|-------|-------|-----------------|
| 1    | 12 | 18 | 1 1/8 | 3/8 | 3/8 | 3 | 1 7/8 | 2     | 7/8   | 5/8   | 1 1/2 | 2 1/2 | 2     | 2     | 4 7/8 | 4 7/8 | 2 5/8 | 1 3/4 | 1/4 | 4 1/2 | 2 3/8 | 3 7/8 | 3/4   | 1/8 | 1 3/4 | 1 1/2 | 1.5             |
| 2S   | 18 | 24 | 1 1/8 | 3/8 | 1/2 | 4 | 2 1/2 | 2 1/2 | 1 1/4 | 1     | 2     | 3 1/4 | 2 3/4 | 2 5/8 | 7 1/8 | 7     | 3 3/8 | 1 1/2 | 5/8 | 5 3/8 | 3     | 5 7/8 | 1 1/8 | 1/4 | 2 5/8 | 2 1/4 | 3.0             |
| 2M   | 24 | 30 | 1 1/8 | 3/8 | 1/2 | 5 | 3     | 3     | 2     | 1 1/4 | 2 1/2 | 4     | 3 1/4 | 3 3/8 | 9 1/4 | 9 1/4 | 4     | 2     | 5/8 | 6 5/8 | 3 5/8 | 7 3/4 | 1 1/2 | 1/4 | 3 1/2 | 3     | 5.0             |
| 3    | 24 | 30 | 1 1/8 | 3/8 | 1/2 | 5 | 3     | 3     | 2     | 1 1/4 | 2 1/2 | 4     | 3 1/4 | 3 3/8 | 9 1/4 | 9 1/4 | 4     | 2     | 5/8 | 6 5/8 | 3 5/8 | 7 3/4 | 1 1/2 | 1/4 | 3 1/2 | 3     | 5.0             |
| 4    |    |    |       |     |     |   |       |       |       |       |       |       |       |       |       |       |       |       |     |       |       |       |       |     |       |       |                 |
| 5    |    |    |       |     |     |   |       |       |       |       |       |       |       |       |       |       |       |       |     |       |       |       |       |     |       |       |                 |

STANDARD SIGN  
R7-53

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-53.6



NOTES

- 1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:  
Background - Yellow  
Message - Black
- 3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 4. Alternate colors of stripes as shown.

| SIZE | A  | B  | C | D | E | F     | G     | H     | I   | J | K      | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|---|---|---|-------|-------|-------|-----|---|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    |    |    |   |   |   |       |       |       |     |   |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 2S   | 12 | 36 |   |   |   | 4 3⁄8 | 3 1⁄2 | 5 5⁄8 | 45° | 4 | 4      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.0             |
| 2M   | 12 | 36 |   |   |   | 4 3⁄8 | 3 1⁄2 | 5 5⁄8 | 45° | 4 | 4      |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.0             |
| 3    | 18 | 54 |   |   |   | 6     | 5 1⁄2 | 8 1⁄2 | 45° | 6 | 6 5⁄16 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 6.75            |
| 4    |    |    |   |   |   |       |       |       |     |   |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 5    |    |    |   |   |   |       |       |       |     |   |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |

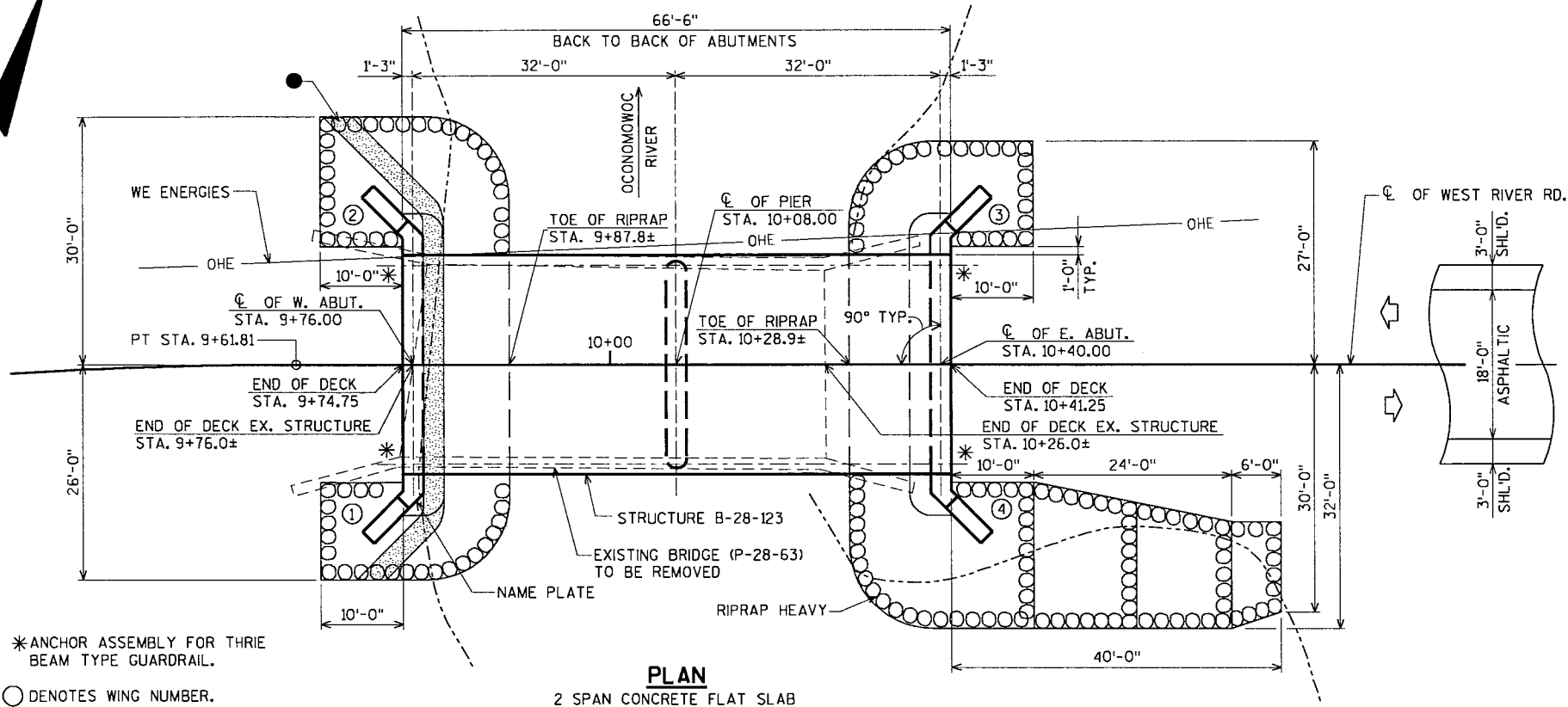
STANDARD SIGN

W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

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



CROSS SECTION THRU ROADWAY

DESIGN DATA

LIVE LOAD:  
DESIGN LOADING: HL-93  
INVENTORY RATING FACTOR: 1.11  
OPERATING RATING FACTOR: 1.44  
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 230 KIPS

STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 \*S.F.

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY { SUPERSTRUCTURE  $f'_c = 4,000$  p.s.i.  
ALL OTHER  $f'_c = 3,500$  p.s.i.  
HIGH STRENGTH BAR STEEL REINFORCEMENT (GRADE 60)  $f_y = 60,000$  p.s.i.

HYDRAULIC DATA:

100 YEAR FLOOD  
DRAINAGE AREA = 122 sq. mi.  
WATERWAY AREA = 263 sq. ft.  
 $V = 4.4$  f.p.s.  
 $Q_{100} = 1,150$  c.f.s.  
HIGH WATER<sub>100</sub> EL. 841.1  
HIGH WATER<sub>2</sub> EL. 838.8  
RDWY. OVERFLOW = N/A  
SCOUR CRITICAL CODE = 5  
NAVD 88 DATUM  
REGULATORY HIGH WATER<sub>100</sub> EL. 842.2

FOUNDATION DATA:

ABUTMENTS TO BE SUPPORTED ON 10 3/4"  $\phi$  x 0.5" CIP CONCRETE PILING (WITH PILE POINTS) DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 100 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 35'-0".  
PIER TO BE SUPPORTED ON 10 3/4"  $\phi$  x 0.5" CIP CONCRETE PILING (WITH PILE POINTS) DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 140 TONS PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED LENGTH 40'-0".

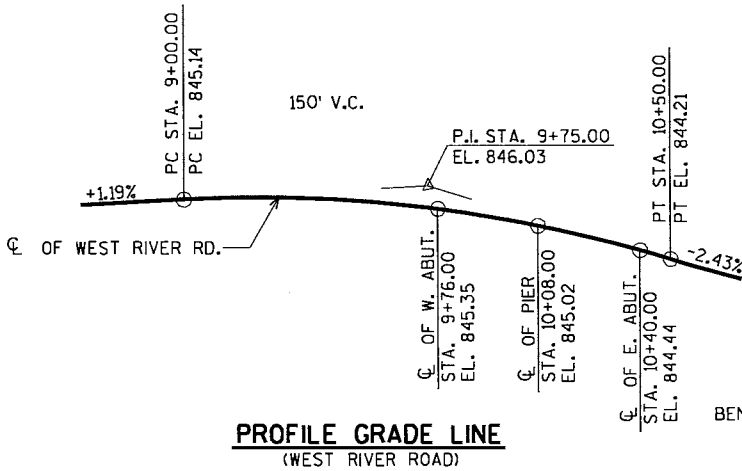
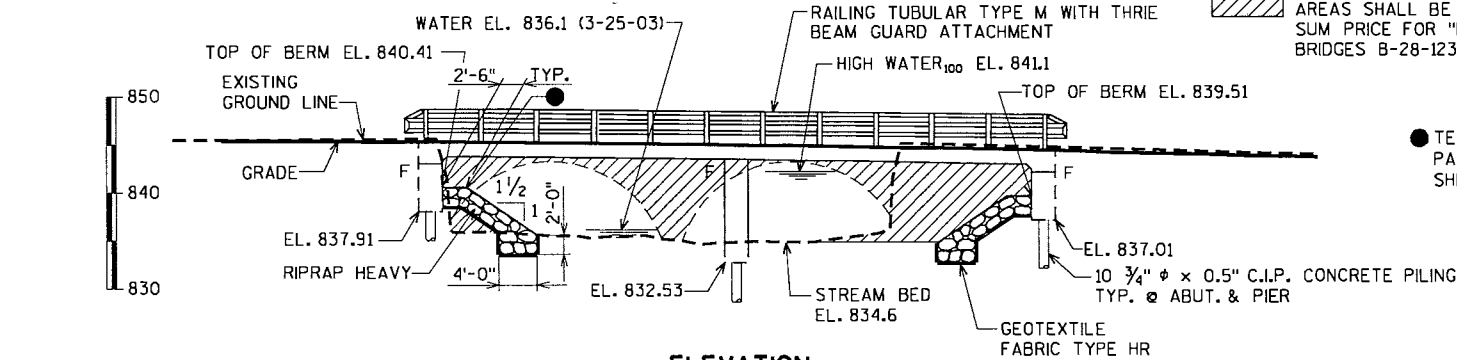
\*THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.5 USING MODIFIED GATES TO DETERMINE DRIVEN PILE CAPACITY.

TRAFFIC DATA:

A.D.T. = <100 (2015)  
A.D.T. = <100 (2035)  
R.D.S. = <15 M.P.H.

LIST OF DRAWINGS

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



PROFILE GRADE LINE  
(WEST RIVER ROAD)

BENCH MARK:  
LSM NAIL IN SOUTH FACE OF PP #97-11392  
STA. 11+15, 19' LT. OF  $\phi$   
EL. 839.78

ORIGINAL PLANS PREPARED BY  
**AYRES ASSOCIATES**  
3433 Oakwood Hills Parkway  
Eau Claire, WI 54701  
www.AyresAssociates.com

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION  
ACCEPTED *William C. Dreher* **02/09/15**  
CHIEF STRUCTURES DESIGN ENGINEER DATE

**STRUCTURE B-28-123**

WEST RIVER ROAD OVER OCONOMOWOC RIVER

COUNTY JEFFERSON TOWN/CITY/VILLAGE CONCORD

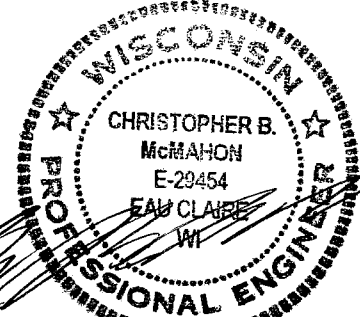
DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY AEB CK'D. CJM DRAWN BY CLS PLANS CK'D. CBM

GENERAL PLAN SHEET 1 OF 12

BRIDGE OFFICE CONTACT:  
WILLIAM DREHER  
(608)-266-8489

CONSULTANT CONTACT:  
CHRIS MCMAHON  
(715)-834-3161



\$PRNAME\$  
U:\42-0487.00 - Jefferson Co. W. River Road\BRIDGE\420487 GP.dgn

CHECKED BY:  
BACK CHECKED BY:  
DATE:  
DATE:  
DATE:

\$PRNAME\$  
U:\42-0487.00 - Jefferson Co. W. River Road\BRIDGE\420487 GP.dgn

STATE PROJECT NUMBER

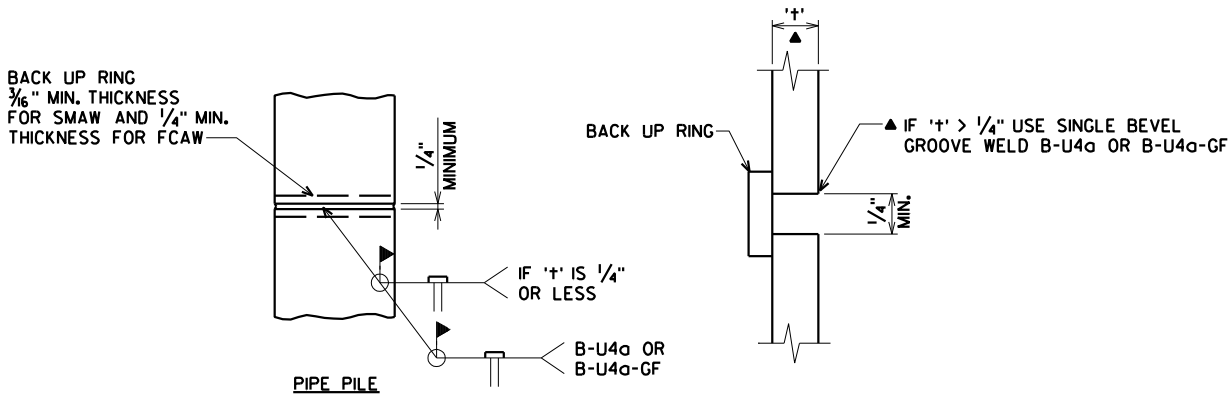
3632-00-71

TOTAL ESTIMATED QUANTITIES

| BID ITEM NUMBER | BID ITEMS                                                              | UNIT | W. ABUT. | PIER  | E. ABUT. | SUPER. | TOTAL     |
|-----------------|------------------------------------------------------------------------|------|----------|-------|----------|--------|-----------|
| 203.0600.S      | REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 10+00 | LS   | -----    | ----- | -----    | -----  | 1         |
| 206.1000        | EXCAVATION FOR STRUCTURES BRIDGES B-28-123                             | LS   | -----    | ----- | -----    | -----  | 1         |
| 210.0100        | BACKFILL STRUCTURE                                                     | CY   | 125      | ----- | 125      | -----  | 250       |
| 502.0100        | CONCRETE MASONRY BRIDGES                                               | CY   | 22       | 26    | 22       | 97     | 167       |
| 502.3200        | PROTECTIVE SURFACE TREATMENT                                           | SY   | -----    | ----- | -----    | 230    | 230       |
| 505.0405        | BAR STEEL REINFORCEMENT HS BRIDGES                                     | LB   | 2,020    | 1,160 | 2,020    | -----  | 5,200     |
| 505.0605        | BAR STEEL REINFORCEMENT HS COATED BRIDGES                              | LB   | 670      | 50    | 670      | 19,940 | 21,330    |
| 513.4060        | RAILING TUBULAR TYPE M B-28-123                                        | LS   | -----    | ----- | -----    | -----  | 1         |
| 516.0500        | RUBBERIZED MEMBRANE WATERPROOFING                                      | SY   | 8        | ----- | 8        | -----  | 16        |
| 550.0500        | PILE POINTS                                                            | EACH | 5        | 6     | 5        | -----  | 16        |
| 550.2108        | PILING CIP CONCRETE 10¾ x 0.5-INCH                                     | LF   | 175      | 240   | 175      | -----  | 590       |
| 606.0300        | RIPRAP HEAVY                                                           | CY   | 75       | ----- | 115      | -----  | 190       |
| 612.0406        | PIPE UNDERDRAIN WRAPPED 6-INCH                                         | LF   | 70       | ----- | 70       | -----  | 140       |
| 645.0120        | GEOTEXTILE FABRIC TYPE HR                                              | SY   | 140      | ----- | 215      | -----  | 355       |
|                 |                                                                        |      |          |       |          |        |           |
|                 |                                                                        |      |          |       |          |        |           |
|                 | NON-BID ITEMS                                                          |      |          |       |          |        |           |
|                 | FILLER                                                                 | SIZE | -----    | ----- | -----    | -----  | 1/2" & ¾" |
|                 |                                                                        |      |          |       |          |        |           |
|                 |                                                                        |      |          |       |          |        |           |

GENERAL NOTES

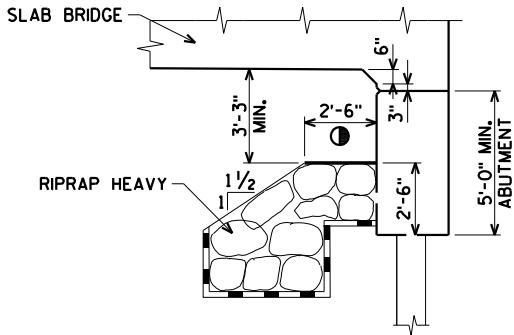
DRAWINGS SHALL NOT BE SCALED.  
BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2" CLEAR UNLESS SHOWN OR NOTED OTHERWISE.  
THE FIRST DIGIT OF A THREE DIGIT BAR NO. AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR NO. SIGNIFIES THE BAR SIZE.  
JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF A.A.S.H.T.O. DESIGNATION M 153, TYPE I, II OR III OR A.A.S.H.T.O. DESIGNATION M 213.  
THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE EXTENT SHOWN ON THE GENERAL PLAN SHEET AND IN THE ABUTMENT DETAILS.  
SLAB FALSEWORK SHALL BE SUPPORTED ON PILES OR THE SUBSTRUCTURE UNLESS OTHERWISE APPROVED BY THE ENGINEER.  
THE EXISTING GROUND LINE SHALL BE THE UPPER LIMIT FOR EXCAVATION FOR STRUCTURES.  
THE EXISTING STRUCTURES, P-28-0063, TO BE REMOVED, ARE TWO CORRUGATED METAL ARCHES, 51.0 FT. LONG WITH A 20.0 FT. CLEAR ROADWAY WIDTH.  
AT BACKFACE OF ABUTMENTS ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE.  
PROTECTIVE SURFACE TREATMENT IS TO BE APPLIED AS SHOWN IN DETAIL ON THIS SHEET.



PILE SPLICE DETAIL

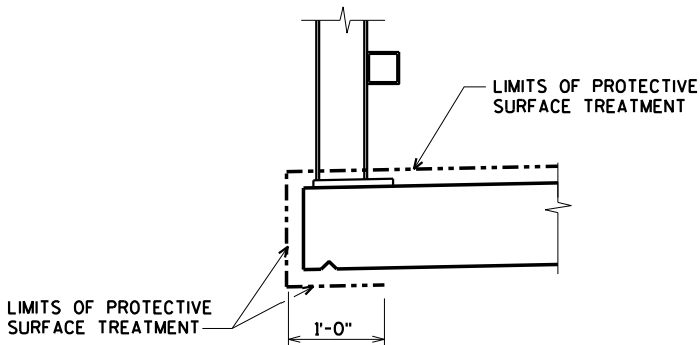
CAST-IN-PLACE PILE SHELL MATERIAL SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.  
GRINDING MAY BE USED IN LIEU OF BACKGOUGING.

CIP PILE WELD DETAIL



TERRESTRIAL WILDLIFE PASSAGE DETAIL

1. FILL VOIDS IN RIPRAP HEAVY WITH TRAFFIC BOND LIMESTONE SCREENINGS 3/8-INCH TO FULLY FILL ALL VOIDS AND LEAVE, ON AVERAGE, TWO INCHES ABOVE THE LOWEST ROCK POINTS WHERE THEY ABUT EACH OTHER, PROVIDE LEVEL SURFACE OF THE TERRESTRIAL WILDLIFE PASSAGE. TRAFFIC BOND LIMESTONE TO BE INCIDENTAL IN THE BID ITEM "RIPRAP HEAVY".



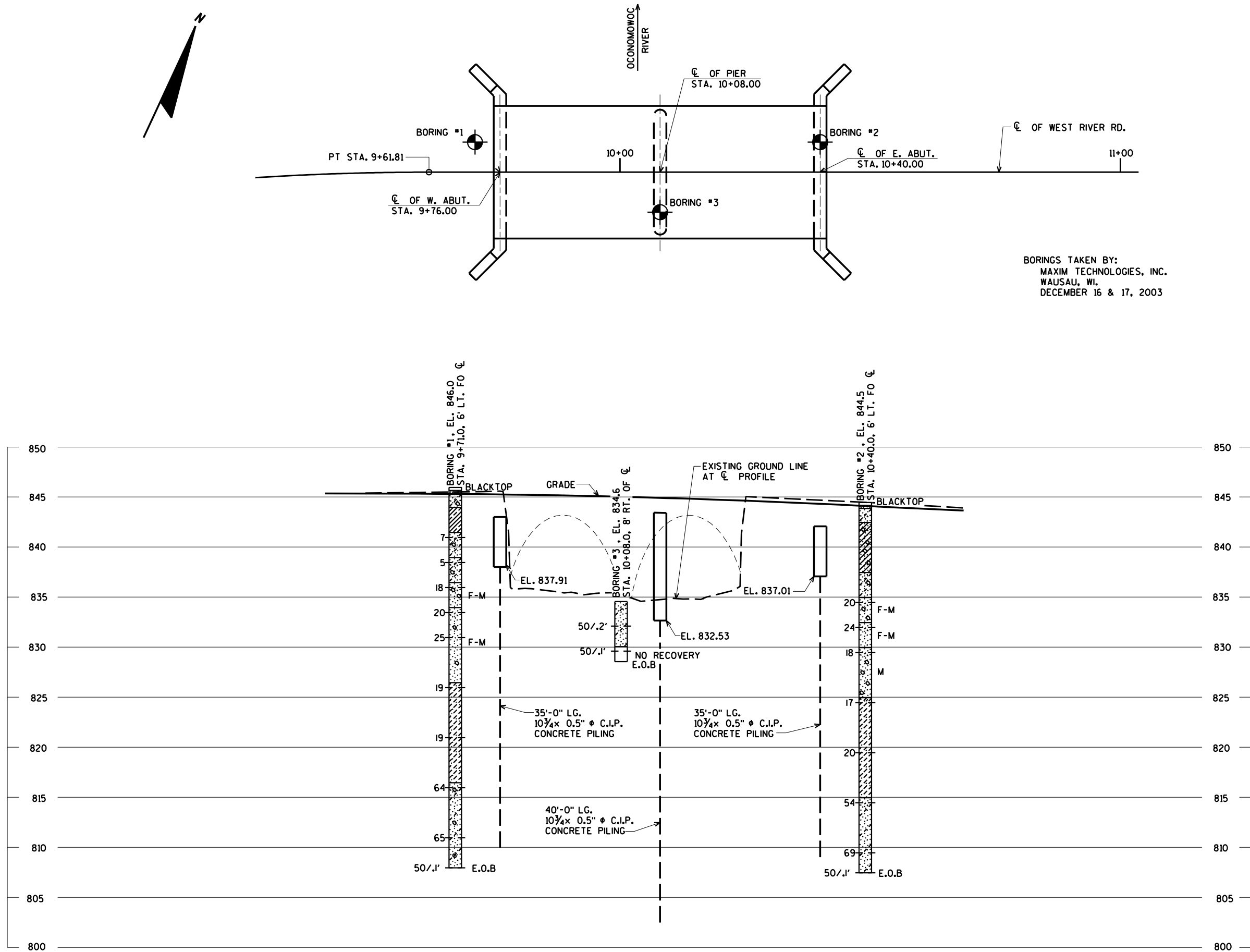
PROTECTIVE SURFACE TREATMENT DETAIL

|                                                    |      |          |                 |
|----------------------------------------------------|------|----------|-----------------|
| NO.                                                | DATE | REVISION | BY              |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |          |                 |
| STRUCTURE B-28-123                                 |      |          |                 |
| DRAWN BY                                           |      | CLS      | PLANS CK'D. AEB |
| QUANTITIES AND NOTES                               |      |          | SHEET 2 OF 12   |

ORIGINAL PLANS PREPARED BY  
**AYRES ASSOCIATES**  
3433 Oakwood Hills Parkway  
Eau Claire, WI 54701  
www.AyresAssociates.com

\$PRNAME\$  
U:\42-0487.00 - Jefferson Co. W. River Road\BRIDGE\420487 soils.dgn

8



BORINGS TAKEN BY:  
MAXIM TECHNOLOGIES, INC.  
WAUSAU, WI.  
DECEMBER 16 & 17, 2003

STATE PROJECT NUMBER

3632-00-71

ABBREVIATIONS

F — FINE M — MEDIUM C — COARSE  
WS — WEATHERED SO — SOUND

MATERIAL SYMBOLS

TOPSOIL SILT SANDSTONE  
SAND PEAT LIMESTONE  
GRAVEL CLAY IGNEOUS ROCK

LEGEND OF PROBING

PROBING NO.  
STA.  
ELEVATION  
95/6=95 BLOWS FOR 6"  
PENETRATION  
PROBING TAKEN WITH  
A 350# WT.  
FALLING 18" ON A 2"  
O.D. POINT.  
7 AVERAGE BLOWS PER FOOT  
REFUSAL 95/6

LEGEND OF BORING

ELEV. BORING NO.  
STA.  
UNCONFINED STRENGTH 7.7  
BLOWS PER FT. USING 140# WT. FALLING 30"  
WASH SAMPLE  
SHELBY TUBE — S.T.  
GROUND WATER ELEVATION  
NO GROUND WATER OBSERVED ABOVE THIS ELEVATION  
SANDY GRAVEL  
F. BOULDERS OR COBBLES  
SAND  
SILTY CLAY  
SO  
LIMESTONE

UNLESS OTHERWISE SPECIFIED, THE BLOWS PER FOOT AT THE LOCATIONS INDICATED ARE BASED ON DRIVING A 2" O.D. X 1.4" I.D. SPLIT SPOON SAMPLER WITH A 140# HAMMER HAVING A FREE FALL OF 30". THE BLOW COUNT IS TAKEN IN UNDISTURBED SOIL IMMEDIATELY BELOW A Cased OR OPEN HOLE ELIMINATING SIDE FRICTION ON THE DRIVE PIPE.

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

TO OBTAIN RELATIVE DATA CONCERNING THE CHARACTER OF MATERIAL IN AND UPON WHICH THE FOUNDATION MIGHT BE BUILT, BORINGS AND/OR SOUNDINGS WERE MADE AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING. THE DATA PRESENTED HEREIN REPRESENTS THE FINDINGS OF THE SUBSURFACE EXPLORATIONS MADE. HOWEVER, BECAUSE THE DEPTHS INVESTIGATED ARE LIMITED AND THE AREA OF THE BORINGS AND/OR SOUNDINGS IS VERY SMALL IN RELATION TO THE ENTIRE AREA, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT CONDITIONS BELOW THE DEPTHS INVESTIGATED OR THAT THE CLASSIFICATION OF MATERIAL ENCOUNTERED IN THESE INVESTIGATIONS IS NECESSARILY TYPICAL OF THE ENTIRE SITE.

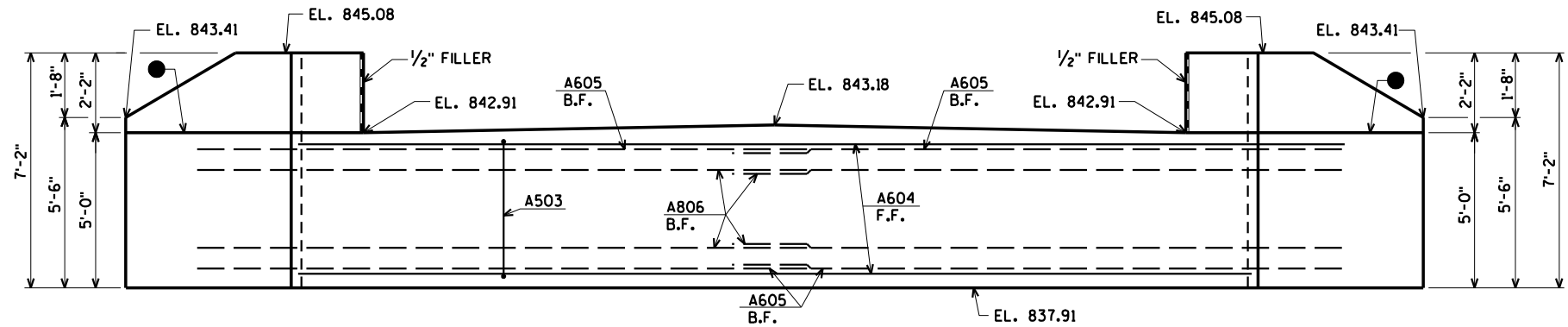
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| NO.                                                | DATE | REVISION      | BY              |
|----------------------------------------------------|------|---------------|-----------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |               |                 |
| STRUCTURE B-28-123                                 |      |               |                 |
| DRAWN BY                                           |      | CLS           | PLANS CK'D. AEB |
| SUBSURFACE EXPLORATION                             |      | SHEET 3 OF 12 |                 |

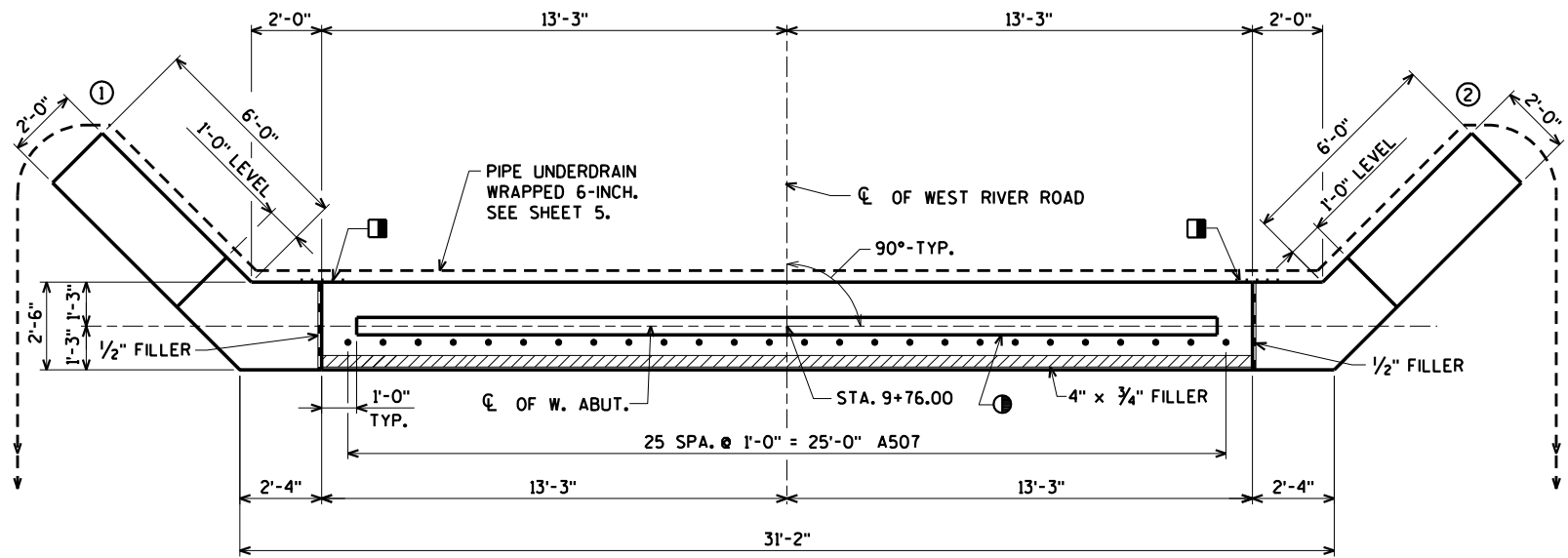
NOTE: SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF  
1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT  
SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE.)

STATE PROJECT NUMBER

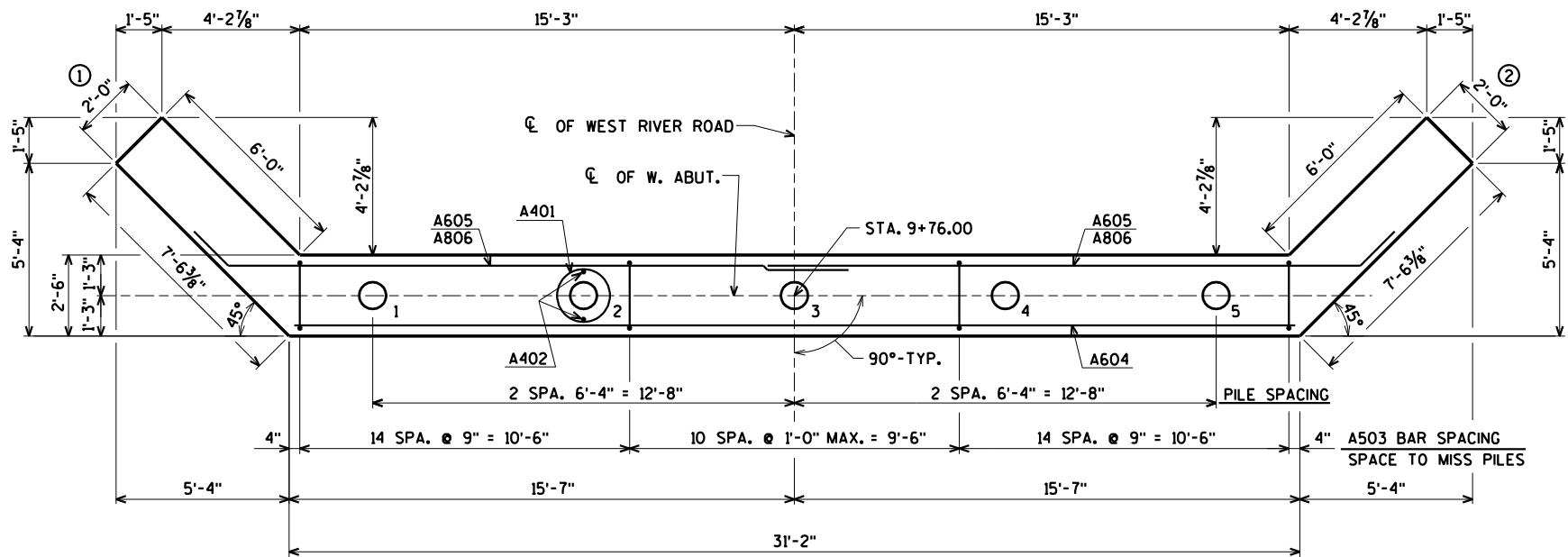
3632-00-71



**ELEVATION**  
(LOOKING WEST)



**PLAN**



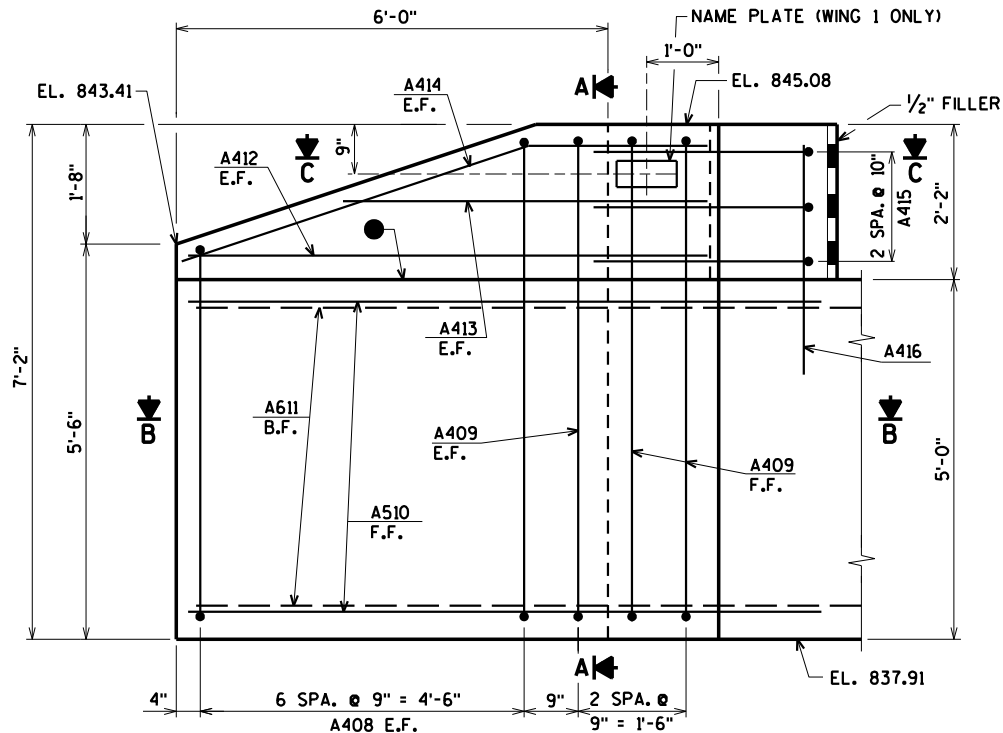
**PILE LAYOUT**

- OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6" WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F.
  - ① KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".
  - VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.
- FOR PILE SPICE DETAIL SEE SHEET 2.
- B.F. DENOTES BACK FACE  
F.F. DENOTES FRONT FACE

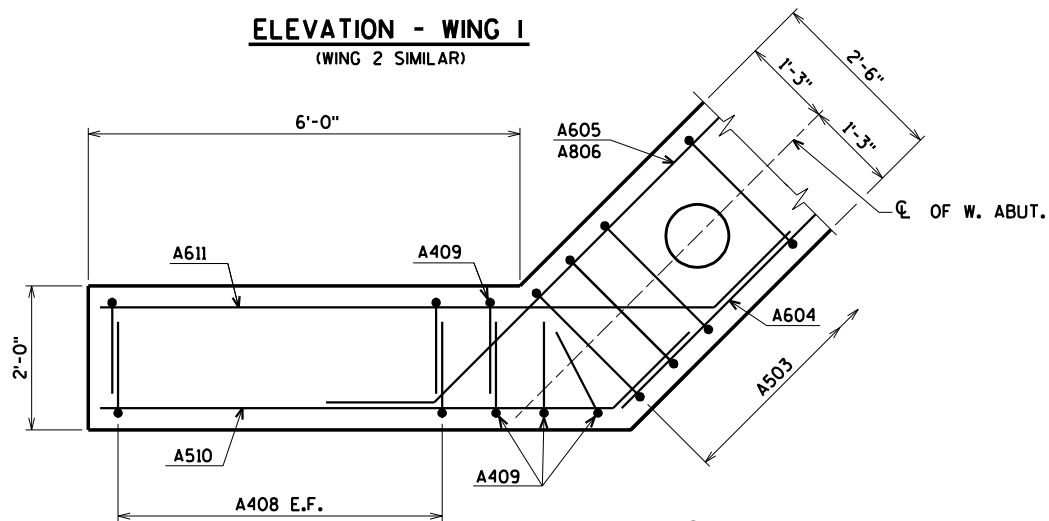
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| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |               |                 |
| STRUCTURE B-28-123                                 |      |               |                 |
| DRAWN BY                                           |      | CLS           | PLANS CK'D. AEB |
| WEST ABUTMENT                                      |      | SHEET 4 OF 12 |                 |

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**AYRES ASSOCIATES**  
3433 Oakwood Hills Parkway  
Eau Claire, WI 54701  
www.AyresAssociates.com

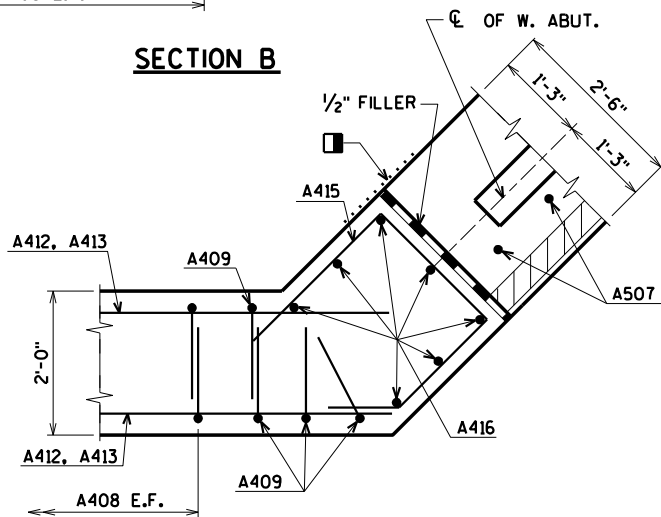
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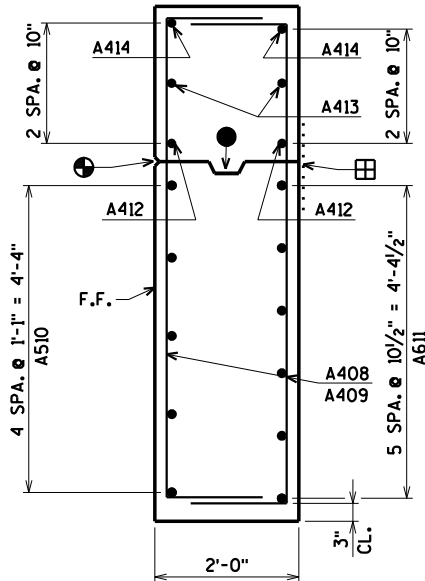
**ELEVATION - WING 1**  
(WING 2 SIMILAR)



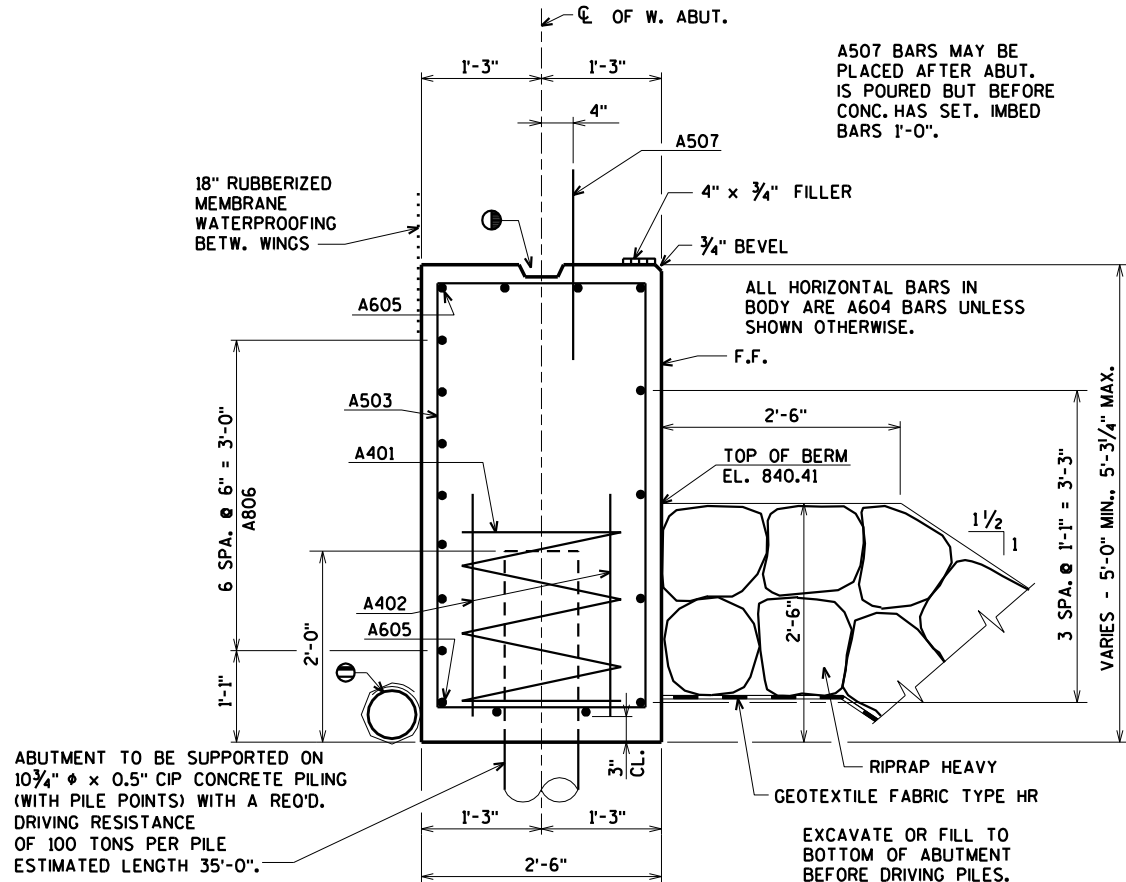
**SECTION B**



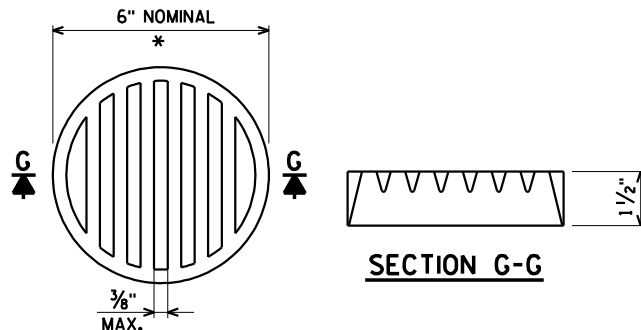
**SECTION C**



**SECTION A**



**TYPICAL SECTION THRU BODY**



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

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

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

**RODENT SHIELD DETAIL**

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

KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".

18" RUBBERIZED MEMBRANE WATERPROOFING ON BACK FACE. NOT REQUIRED IF CONST. JT. IS NOT USED.

OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6" WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F.

3/4" V-GROOVE ON F.F. OF WING WALL NOT REQUIRED IF CONST. JT. IS NOT USED.

VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.

FOR PILE SPlice DETAIL SEE SHEET 2.

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE

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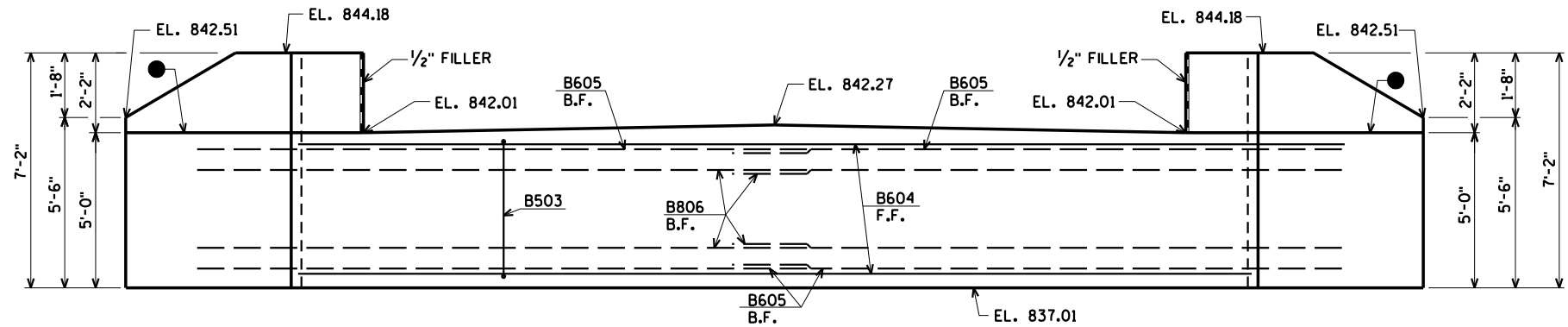
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|                                                    |      |               |                 |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |               |                 |
| STRUCTURE B-28-123                                 |      |               |                 |
| DRAWN BY                                           |      | CLS           | PLANS CK'D. AEB |
| WEST ABUTMENT WING DETAILS                         |      | SHEET 5 OF 12 |                 |

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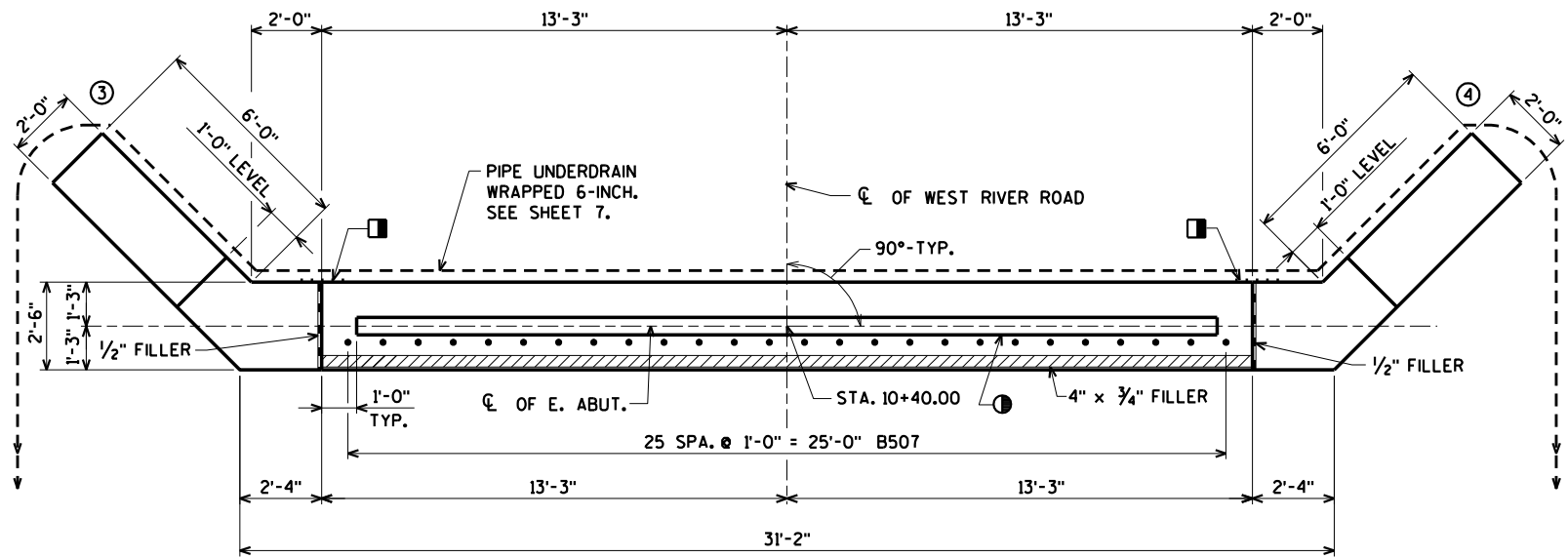
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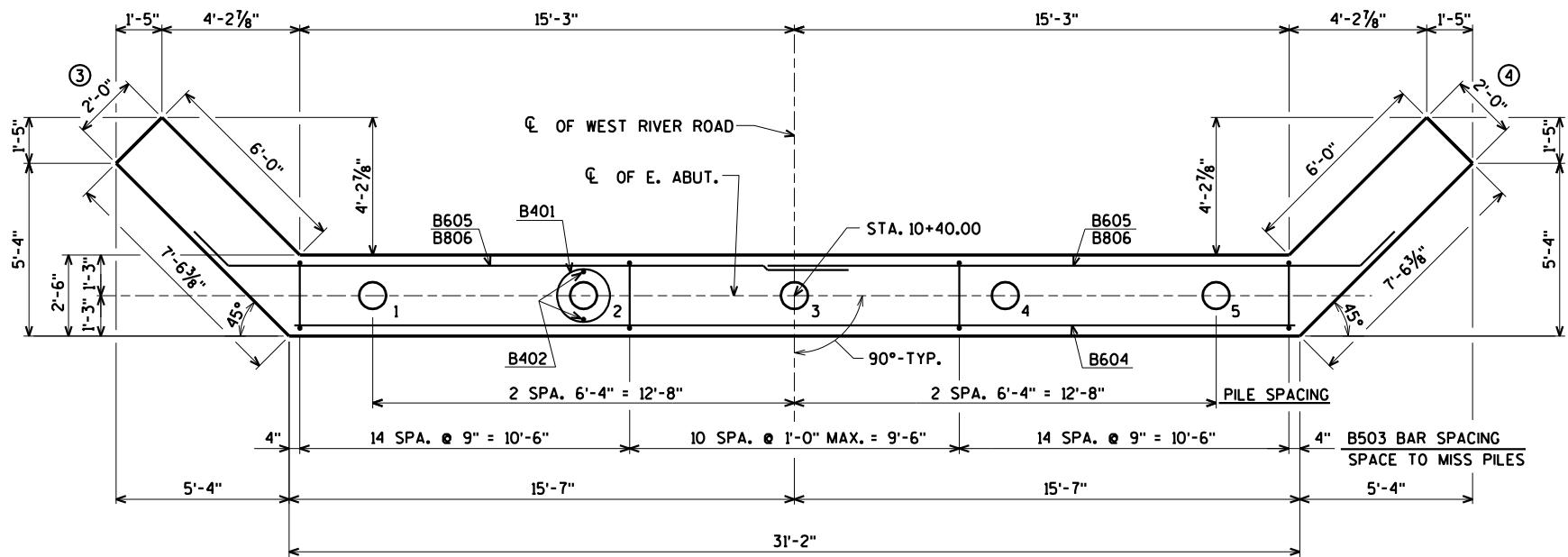
3632-00-71



**ELEVATION**  
(LOOKING EAST)



**PLAN**



**PILE LAYOUT**

- OPT. KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6" WITH RUBBERIZED MEMBRANE WATERPROOFING ON B.F.
  - ① KEYED CONST. JOINT - FORMED BY A BEVELED 2" x 6".
  - VERTICAL 18" RUBBERIZED MEMBRANE WATERPROOFING TO EXTEND FROM BRIDGE SEAT TO TOP OF WING WALL.
- FOR PILE SPlice DETAIL SEE SHEET 2.
- B.F. DENOTES BACK FACE  
F.F. DENOTES FRONT FACE

| NO.                                                | DATE | REVISION | BY              |
|----------------------------------------------------|------|----------|-----------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |      |          |                 |
| STRUCTURE B-28-123                                 |      |          |                 |
| DRAWN BY                                           |      | CLS      | PLANS CK'D. AEB |
| EAST ABUTMENT                                      |      |          | SHEET 6 OF 12   |

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3433 Oakwood Hills Parkway  
Eau Claire, WI 54701  
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THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

### RODENT SHIELD DETAIL

- F.F. DENOTES FRONT FACE

|                                                    |             |               |                    |
|----------------------------------------------------|-------------|---------------|--------------------|
|                                                    |             |               |                    |
| NO.                                                | DATE        | REVISION      | BY                 |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |             |               |                    |
| STRUCTURE B-28-123                                 |             |               |                    |
|                                                    | DRAWN<br>BY | CLS           | PLANS<br>CK'D. AEB |
| EAST<br>ABUTMENT<br>WING DETAILS                   |             | SHEET 7 OF 12 |                    |

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BILL OF BARS - WEST ABUTMENT

| BAR NO. | COATED BAR | NO. REQ'D. | LENGTH | BENT BAR | BUNDLED | BAR SERIES | 2,020# UNCOATED<br>670# COATED |
|---------|------------|------------|--------|----------|---------|------------|--------------------------------|
|         |            |            |        |          |         |            | LOCATION                       |
| A401    |            | 5          | 28-0   | X        |         |            | BODY @ PILES                   |
| A402    |            | 10         | 2-3    |          |         |            | BODY @ PILES                   |
| A503    |            | 39         | 13-10  | X        |         |            | BODY VERT.                     |
| A604    |            | 9          | 30-11  |          |         |            | BODY HORIZ. F.F.               |
| A605    |            | 4          | 20-6   | X        |         |            | BODY HORIZ. B.F.               |
| A806    |            | 14         | 21-7   | X        |         |            | BODY HORIZ. B.F.               |
| A507    | X          | 26         | 2-0    |          |         |            | BODY DOWELS                    |
| A408    | X          | 28         | 8-5    | X        |         | ⊗          | WINGS 1 & 2 VERT. E.F.         |
| A409    | X          | 8          | 9-3    | X        |         |            | WINGS 1 & 2 VERT. E.F.         |
| A510    | X          | 10         | 8-6    | X        |         |            | WINGS 1 & 2 HORIZ. F.F.        |
| A611    | X          | 12         | 10-2   | X        |         |            | WINGS 1 & 2 HORIZ. B.F.        |
| A412    | X          | 4          | 7-3    |          |         |            | WINGS 1 & 2 HORIZ. E.F.        |
| A413    | X          | 4          | 9-4    |          |         |            | WINGS 1 & 2 HORIZ. E.F.        |
| A414    | X          | 4          | 7-5    | X        |         |            | WINGS 1 & 2 DIAG. E.F.         |
| A415    | X          | 6          | 8-5    | X        |         |            | WINGS 1 & 2 HORIZ.             |
| A416    | X          | 14         | 3-8    |          |         |            | WINGS 1 & 2 VERT.              |
|         |            |            |        |          |         |            |                                |
|         |            |            |        |          |         |            |                                |
|         |            |            |        |          |         |            |                                |

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

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

B.F. DENOTES BACK FACE

E.F. DENOTES EACH FACE

F.F. DENOTES FRONT FACE

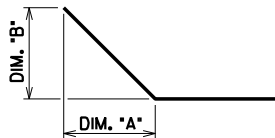
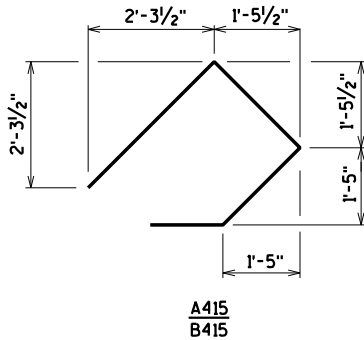
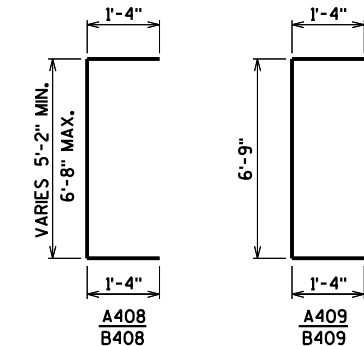
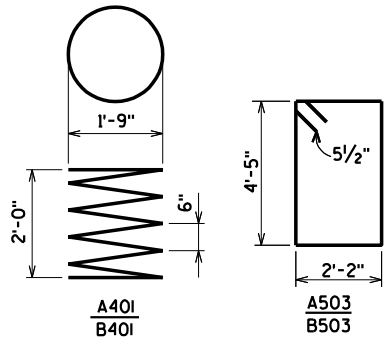
BAR SERIES TABLE

| BAR MARK | NO REQ'D.     | LENGTH         |
|----------|---------------|----------------|
| A408     | 4 SERIES OF 7 | 7'-8" TO 9'-2" |
| B408     | 4 SERIES OF 7 | 7'-8" TO 9'-2" |

BUNDLE AND TAG EACH SERIES SEPARATELY.

BILL OF BARS - EAST ABUTMENT

| BAR NO. | COATED BAR | NO. REQ'D. | LENGTH | BENT BAR | BUNDLED | BAR SERIES | 2,020# UNCOATED<br>670# COATED |
|---------|------------|------------|--------|----------|---------|------------|--------------------------------|
|         |            |            |        |          |         |            | LOCATION                       |
| B401    |            | 5          | 28-0   | X        |         |            | BODY @ PILES                   |
| B402    |            | 10         | 2-3    |          |         |            | BODY @ PILES                   |
| B503    |            | 39         | 13-10  | X        |         |            | BODY VERT.                     |
| B604    |            | 9          | 30-11  |          |         |            | BODY HORIZ. F.F.               |
| B605    |            | 4          | 20-6   | X        |         |            | BODY HORIZ. B.F.               |
| B806    |            | 14         | 21-7   | X        |         |            | BODY HORIZ. B.F.               |
| B507    | X          | 26         | 2-0    |          |         |            | BODY DOWELS                    |
| B408    | X          | 28         | 8-5    | X        |         | ⊗          | WINGS 3 & 4 VERT. E.F.         |
| B409    | X          | 8          | 9-3    | X        |         |            | WINGS 3 & 4 VERT. E.F.         |
| B510    | X          | 10         | 8-6    | X        |         |            | WINGS 3 & 4 HORIZ. F.F.        |
| B611    | X          | 12         | 10-2   | X        |         |            | WINGS 3 & 4 HORIZ. B.F.        |
| B412    | X          | 4          | 7-3    |          |         |            | WINGS 3 & 4 HORIZ. E.F.        |
| B413    | X          | 4          | 9-4    |          |         |            | WINGS 3 & 4 HORIZ. E.F.        |
| B414    | X          | 4          | 7-5    | X        |         |            | WINGS 3 & 4 DIAG. E.F.         |
| B415    | X          | 6          | 8-5    | X        |         |            | WINGS 3 & 4 HORIZ.             |
| B416    | X          | 14         | 3-8    |          |         |            | WINGS 3 & 4 VERT.              |
|         |            |            |        |          |         |            |                                |
|         |            |            |        |          |         |            |                                |
|         |            |            |        |          |         |            |                                |

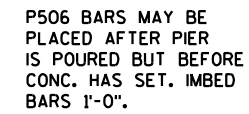


| BAR NO. | DIM. "A"  | DIM. "B"  |
|---------|-----------|-----------|
| A605    | 1'-0 3/4" | 1'-0 3/4" |
| A806    | 1'-0 3/4" | 1'-0 3/4" |
| A510    | 1'-0 3/4" | 1'-0 3/4" |
| A611    | 1'-0 3/4" | 1'-0 3/4" |
| A414    | 4'-9"     | 1'-7"     |
| B605    | 1'-0 3/4" | 1'-0 3/4" |
| B806    | 1'-0 3/4" | 1'-0 3/4" |
| B510    | 1'-0 3/4" | 1'-0 3/4" |
| B611    | 1'-0 3/4" | 1'-0 3/4" |
| B414    | 4'-9"     | 1'-7"     |

8

|                                                    |      |          |                 |
|----------------------------------------------------|------|----------|-----------------|
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| STRUCTURE B-28-123                                 |      |          |                 |
| DRAWN BY                                           |      | CLS      | PLANS CK'D. AEB |
| ABUTMENT<br>BILL OF BARS                           |      |          | SHEET 8 OF 12   |

ORIGINAL PLANS PREPARED BY  
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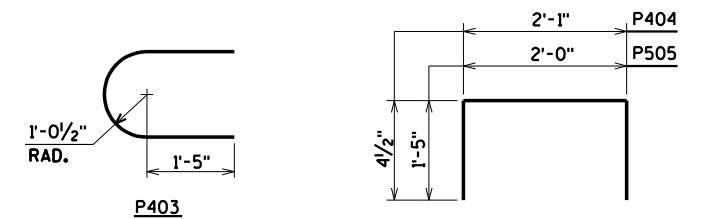
**SECTION A**

[illegible]

BENDING DIMENSIONS ARE OUT TO OUT OF BARS.

## PLAN

### PILE LAYOUT



ORIGINAL PLANS PREPARED BY

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**ASSOCIATES**

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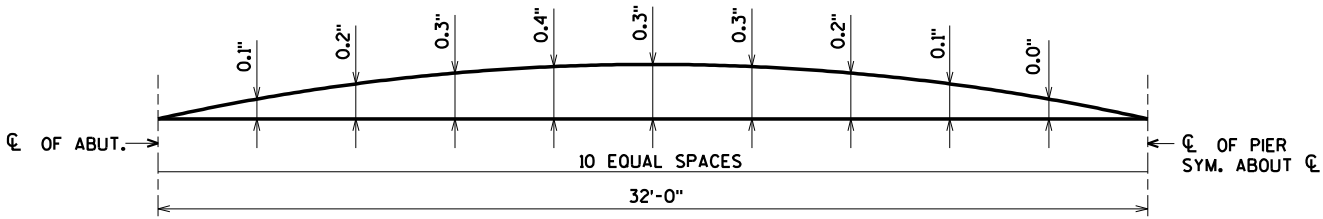
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| STRUCTURE B-28-123                                 |      |               |                 |
| DRAWN BY                                           |      | CLS           | PLANS CK'D. AEB |
| PIER                                               |      | SHEET 9 OF 12 |                 |
|                                                    |      |               |                 |

[illegible]

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

ELEVATIONS SHOWN ARE FINISHED DECK AND DO NOT INCLUDE ALLOWANCES OF DEAD LOAD DEFLECTION AND FUTURE CREEP.

| LOCATION        | £ OF<br>W. ABUT. | 0.1    | 0.2    | 0.3    | 0.4    | 0.5    | 0.6    | 0.7    | 0.8    | 0.9    | £ OF<br>PIER | 0.1    | 0.2    | 0.3    | 0.4    | 0.5    | 0.6    | 0.7    | 0.8    | 0.9    | £ OF<br>E. ABUT. |
|-----------------|------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------------------|
| N. EDGE OF SLAB | 845.08           | 845.06 | 845.04 | 845.01 | 844.98 | 844.95 | 844.91 | 844.88 | 844.84 | 844.80 | 844.75       | 844.71 | 844.66 | 844.60 | 844.55 | 844.49 | 844.44 | 844.37 | 844.31 | 844.24 | 844.18           |
| £ OF STRUCTURE  | 845.35           | 845.32 | 845.30 | 845.27 | 845.24 | 845.21 | 845.18 | 845.14 | 845.10 | 845.06 | 845.02       | 844.97 | 844.92 | 844.87 | 844.82 | 844.76 | 844.70 | 844.64 | 844.58 | 844.51 | 844.44           |
| S. EDGE OF SLAB | 845.08           | 845.06 | 845.04 | 845.01 | 844.98 | 844.95 | 844.91 | 844.88 | 844.84 | 844.80 | 844.75       | 844.71 | 844.66 | 844.60 | 844.55 | 844.49 | 844.44 | 844.37 | 844.31 | 844.24 | 844.18           |



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

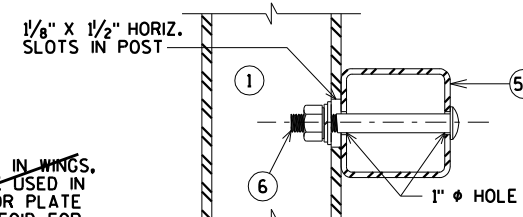
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| STRUCTURE B-28-123                                 |      |                |                    |
| DRAWN<br>BY                                        |      | CLS            | PLANS<br>CK'D. AEB |
| SUPERSTRUCTURE                                     |      | SHEET 10 OF 12 |                    |



|                                                    |      |                |                        |
|----------------------------------------------------|------|----------------|------------------------|
|                                                    |      |                |                        |
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| STRUCTURE B-28-123                                 |      |                |                        |
|                                                    |      | DRAWN<br>BY    | CLS PLANS<br>CK'D. AEB |
| SUPERSTRUCTURE<br>DETAILS                          |      | SHEET 11 OF 12 |                        |

- ① W6 x 25 WITH  $1\frac{1}{8}$ " x  $1\frac{1}{2}$ " HORIZ. SLOTS ON EACH SIDE OF POST FOR BOLT NO. 6. CUT BOTTOM OF POST TO MATCH CROSS SLOPE OF ROADWAY. PLACE POST VERTICAL. PLACE POSTS NORMAL TO GRADE LINE.
- ② PLATE  $1\frac{1}{4}$ " x  $11\frac{3}{4}$ " x 1'-8" WITH  $1\frac{1}{8}$ " x  $1\frac{1}{8}$ " SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.
- ③ ASTM A449 -  $1\frac{1}{8}$ " DIA. ANCHOR BOLTS WITH NUT AND HARDENED WASHER (ALL GALVANIZED), 5 REQ'D. PER POST. THREAD 3" AND PLACE NORMAL TO PLATE NO. 2. CHAMFER TOP OF BOLTS BEFORE THREADING. ~~USE 1'-9" LONG IN ABUTMENT WINGS. AT POSTS ON CONCRETE SLAB SUPERSTRUCTURES WHERE THE SLAB THICKNESS IS > 16" USE 1'-3" LONG. USE 10 3/4" 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 CONSTRUCTIBILITY.)
- ④  $\frac{5}{8}$ " x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH  $1\frac{3}{8}$ " DIA. HOLES FOR ANCHOR BOLTS NO. 3
- ⑤ TS 5 x 4 x .025 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- ⑤A TS 5 x 5 x .025 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.
- ⑥  $\frac{7}{8}$ " DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT,  $\frac{3}{8}$ " x  $1\frac{5}{8}$ " x  $1\frac{5}{8}$ " WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)
- ⑦  $\frac{1}{2}$ " 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.
- ⑧ 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.
- ⑨ SPLICE SLEEVE FABRICATED FROM  $\frac{1}{4}$ " PLATE. PROVIDE "SLIDING FIT".
- ⑩  $\frac{3}{8}$ " x  $3\frac{5}{8}$ " x 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.
- ⑩A  $\frac{3}{8}$ " x  $2\frac{5}{8}$ " x 2'-4" PLATE USED IN NO. 5.  $\frac{3}{8}$ " x  $3\frac{5}{8}$ " x 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.
- ⑪  ~~$\frac{7}{8}$ "  $\phi$  A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE  $1\frac{1}{2}$ " x  $1\frac{1}{4}$ " LONGIT. SLOTTED HOLES AT FIELD JOINTS AND  $1\frac{1}{2}$ " x  $2\frac{1}{4}$ " MIN. LONGIT. SLOTTED HOLES AT EXP. JOINTS IN PLATE NO. 10A.~~
- ⑫  $\frac{7}{8}$ " DIA. x  $1\frac{1}{2}$ " LONG THREADED SHOP WELDED STUDS (2 REQ'D).
- ⑬  $\frac{3}{8}$ " x 8" x 1'-6" PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.
- ⑭  $\frac{7}{8}$ " DIA. x 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQ'D.).
- ⑮ 1"  $\phi$  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.

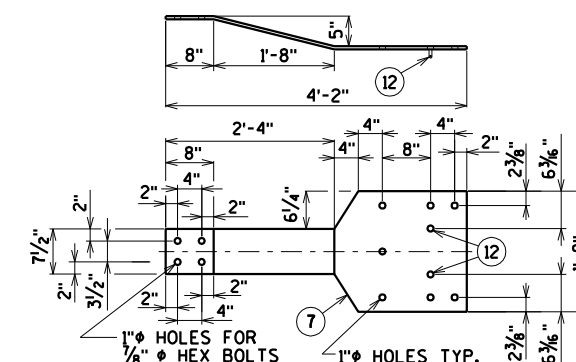
1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-28-123" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL  $\frac{1}{8}$  TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE. ~~RAILS SHALL BE SPLICED IN A PANEL OVER EXPANSION JOINTS.~~
5. ENDS OF TUBE SECTIONS SHALL BE SAWED. GRIND SMOOTH EXPOSED EDGES. ALL CUT ENDS SHALL BE TRUE AND SMOOTH.
6. WELD IS THE SAME ON BOTH FLANGES. FLANGE WELD DOES NOT REQUIRE MAGNETIC PARTICLE TESTING.
7. FILL BOLT SLOT OPENINGS IN POST SHIMS AND PLATE NO. 2 AND CAULK AROUND PERIMETER OF PLATE NO. 2 WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. STEEL POST SHIMS MAY BE USED UNDER POSTS WHERE REQ'D. FOR ALIGNMENT.
8. POST BASE PLATES SHALL BE FLAT WITH ALL SURFACES SMOOTH AND FREE FROM WARP AND ALL EDGES SMOOTH, STRAIGHT AND VERTICAL. ALL PLATE CUTS SHALL BE MACHINE OR MACHINE FLAME CUT.
9. ALL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION. PRIOR TO GALVANIZING, ALL STEEL RAILING POSTS & STEEL TUBING SHALL BE GIVEN A NO. 6 BLAST CLEANING BY S.S.P.C. SPECIFICATIONS.
10. ~~WHEN PAINTING IS REQUIRED, ALL MATERIAL EXCEPT ANCHORAGE DETAIL (NO. 3 & 4) SHALL BE PAINTED OVER GALVANIZING WITH APPROVED TIE COAT AND TOP COAT.~~
11. THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).
12. PLACE FIRST BOTTOM LONGITUDINAL BAR CLEAR OF DRIP GROOVE.



## SECTION THRU RAIL

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

## TYPICAL RAIL TO POST CONNECTIONS



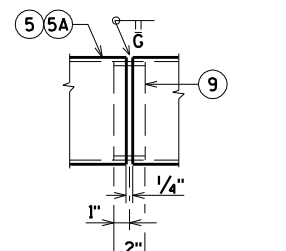
### BACK-UP PLATE DETAIL

(AT BEAM GUARD ATTACHMENT

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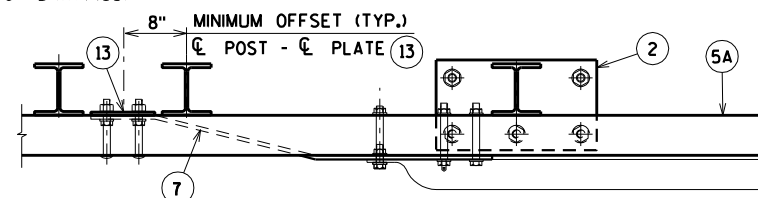


**FIELD ERECTION JOINT DETAIL**



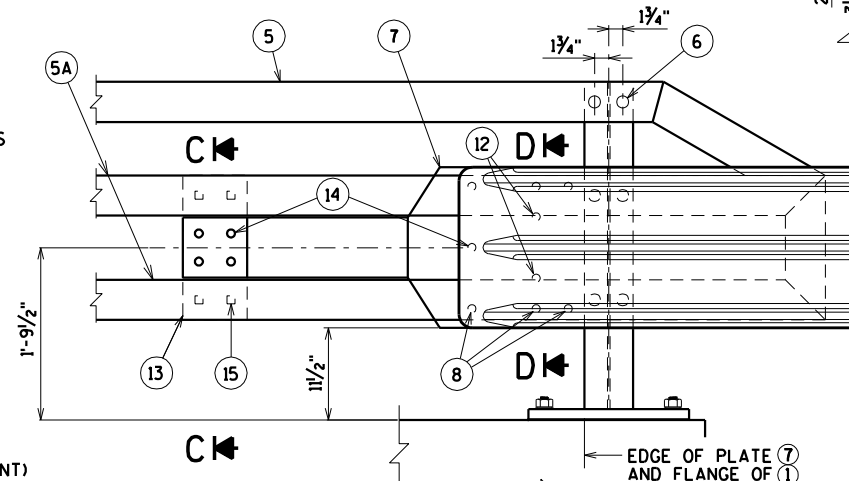
### SHOP RAIL SPLICE DETAIL

(LOCATION MUST BE SHOWN  
ON THE SHOP DRAWINGS)



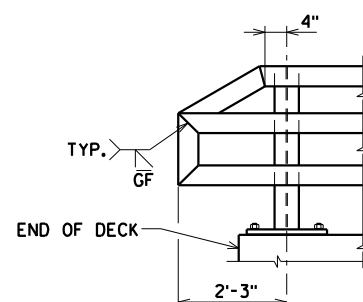
TOP VIEW AT END POST

(THREE BEAM RAIL ATTACHMENT)

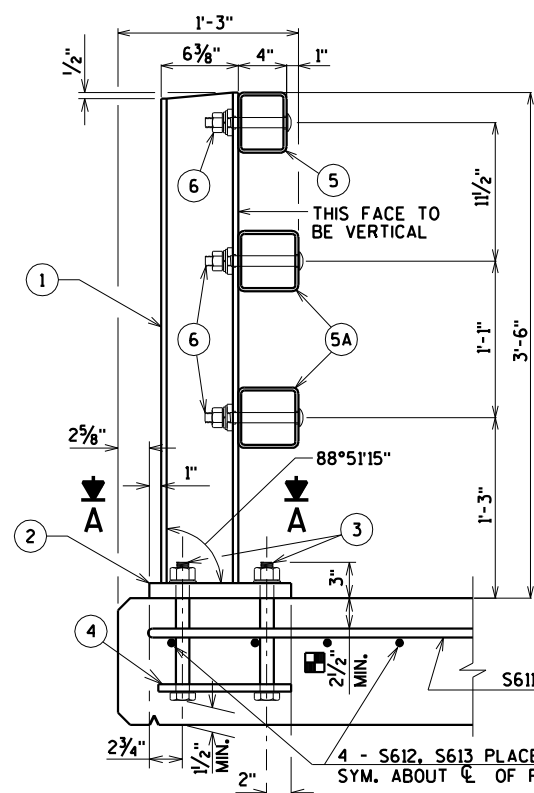


DETAIL AT END POST

(THREE BEAM RAIL ATTACHMENT)

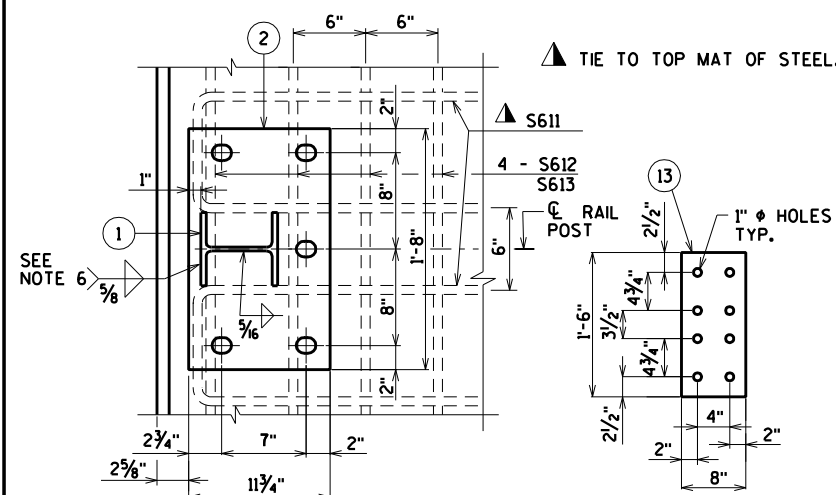


PART VIEW OF RAILING



SECTION THRU RAILING ON DECK

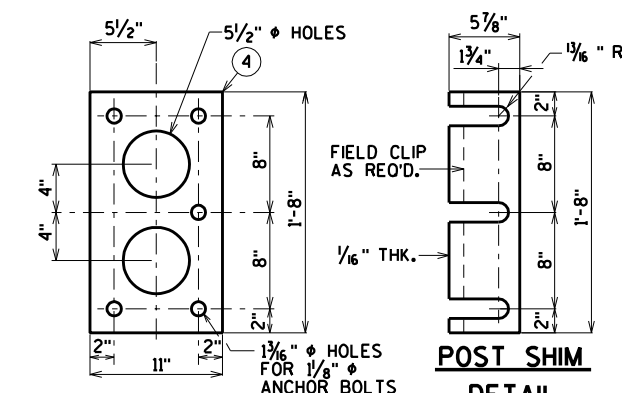
☐ PLACE BELOW TOP MAT  
SLAB REINFORCEMENT.



## SECTION A

## ANCHOR PLATE

(AT BEAM GUARD ATTACHMENT)



**ANCHOR PLATE**

(AT RAIL TO DECK CONNECTION)

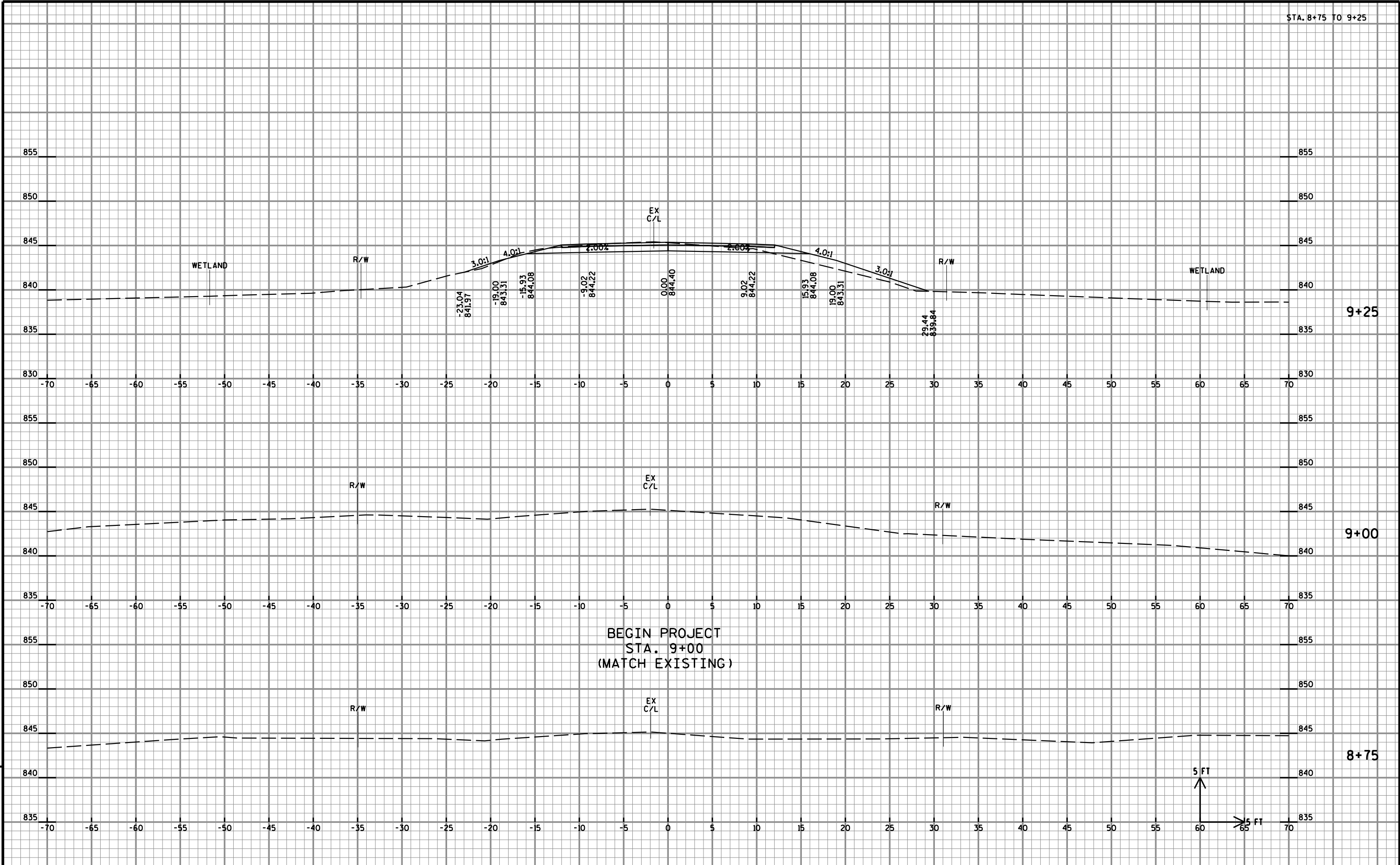
**POST SHIM**

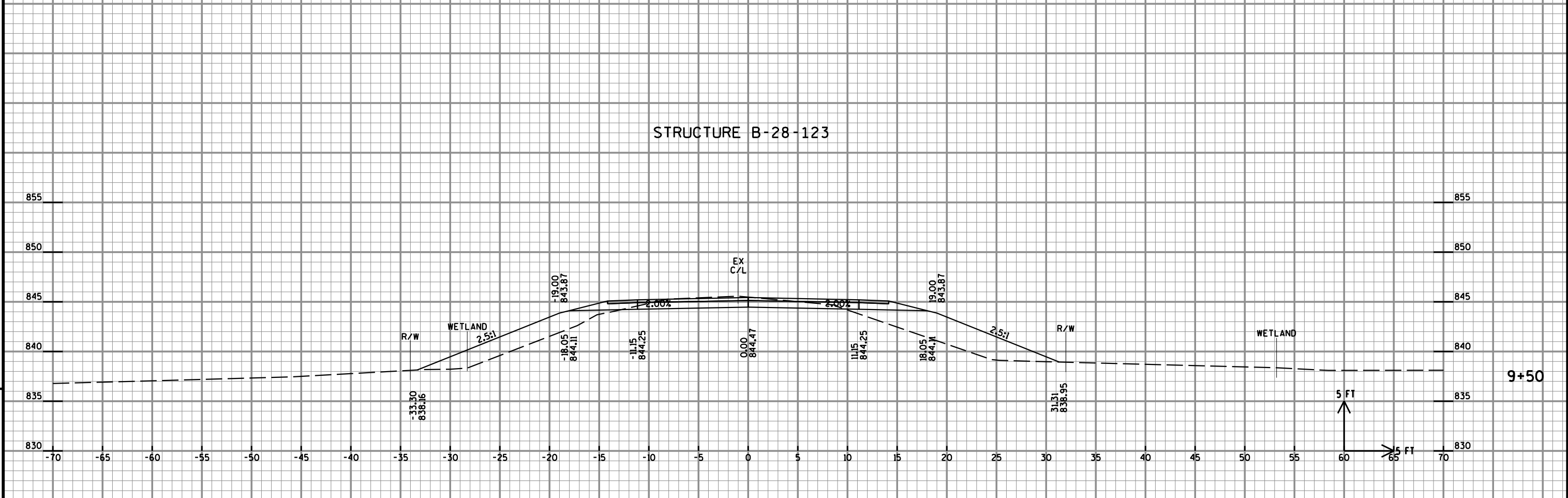
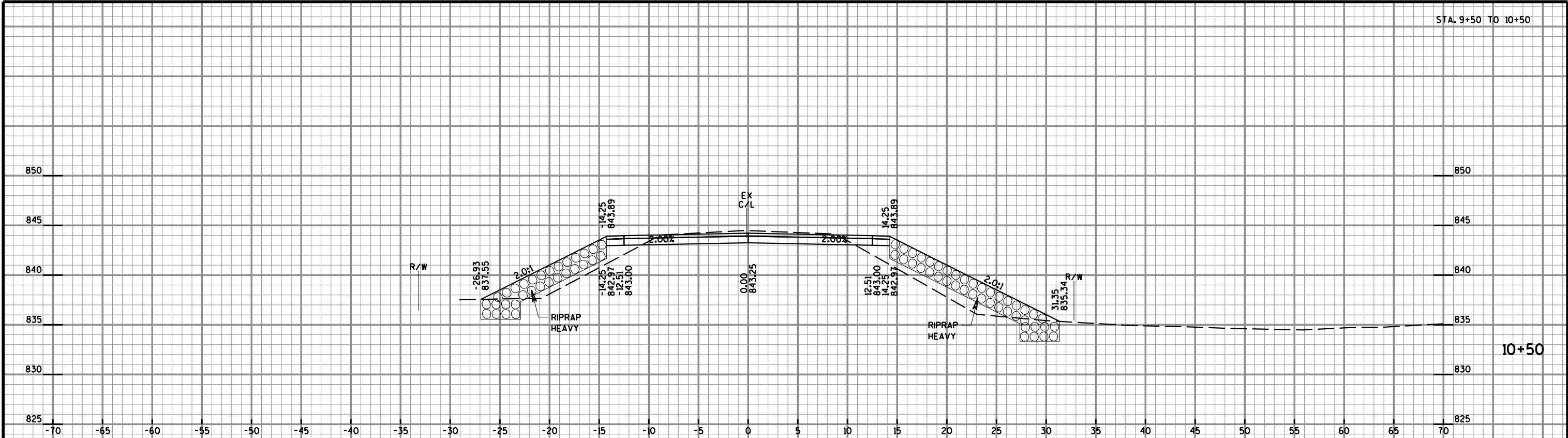
## DETAIL

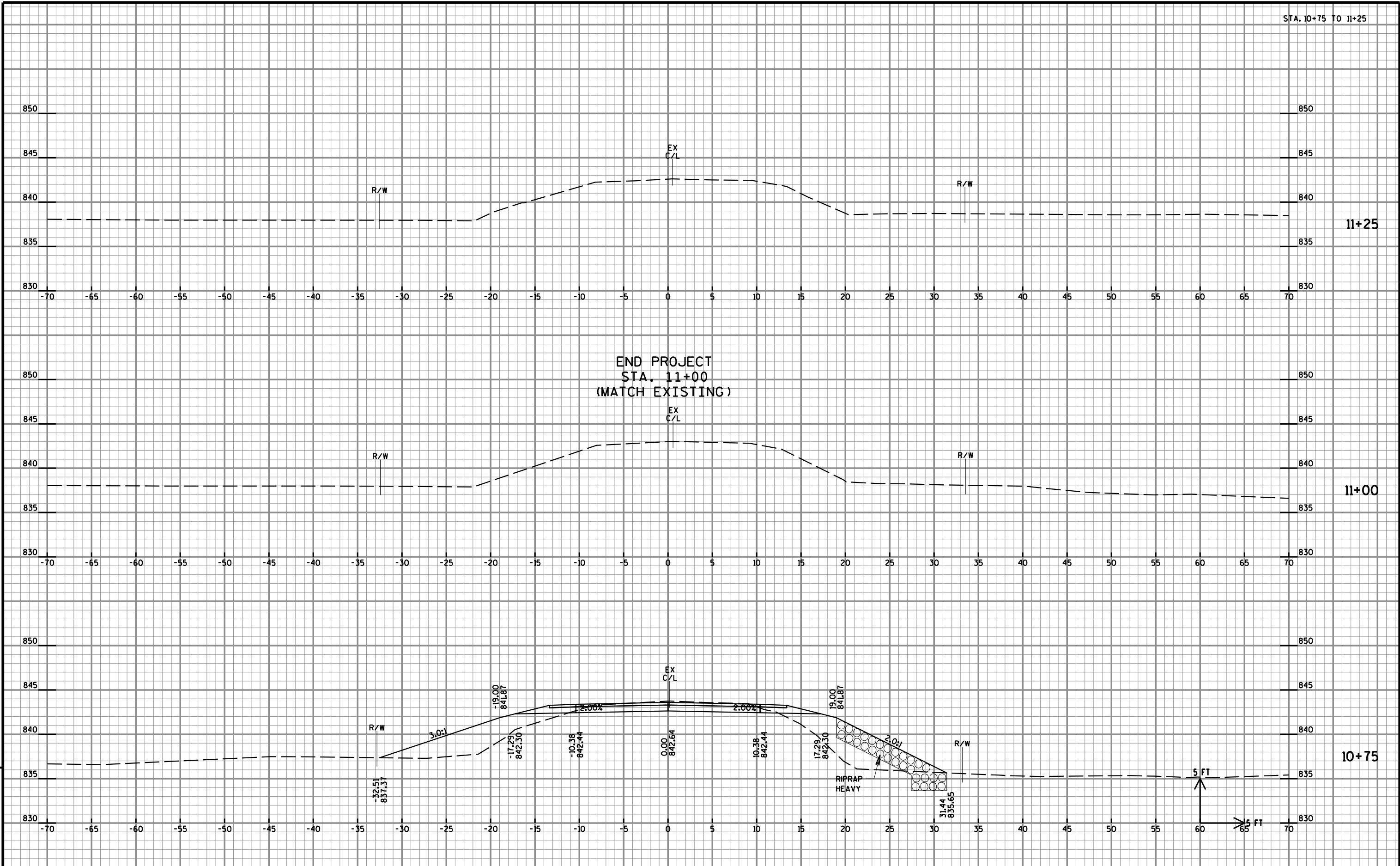
PART VIEW OF RAILING

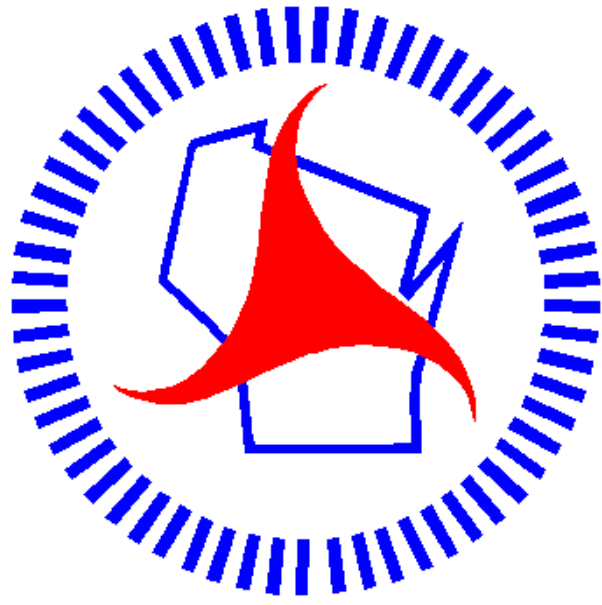
| EARTHWORK SUMMARY (CATEGORY 0010)                                            |                      |           |                                                      |            |                              |                                                          |                |                       |                        |                          |  |
|------------------------------------------------------------------------------|----------------------|-----------|------------------------------------------------------|------------|------------------------------|----------------------------------------------------------|----------------|-----------------------|------------------------|--------------------------|--|
| DIVISION                                                                     | STATION              | CUT<br>SF | AREA                                                 | FILL<br>SF | CUT (1)<br>CY                | INCREMENTAL VOLUME                                       | FILL (3)<br>CY | CUT (1)<br>1.00<br>CY | EXPANDED               | MASS ORDINATE ±(5)<br>CY |  |
|                                                                              |                      |           | SALVAGED/<br>UNUSEABLE<br>PAVEMENT<br>MATERIAL<br>SF |            |                              | SALVAGED/<br>UNUSEABLE<br>PAVEMENT<br>MATERIAL (2)<br>CY |                |                       | FILL (4)<br>1.30<br>CY |                          |  |
| 1<br><br>West River Road                                                     | 9+00                 | 23        | 0                                                    | 0          |                              |                                                          |                |                       |                        |                          |  |
|                                                                              | 9+25                 | 20        | 0                                                    | 12         | 20                           | 0                                                        | 5              | 20                    | 7                      | 14                       |  |
|                                                                              | 9+50                 | 17        | 0                                                    | 65         | 17                           | 0                                                        | 35             | 37                    | 52                     | -15                      |  |
|                                                                              | 9+75                 | 17        | 0                                                    | 65         | 16                           | 0                                                        | 60             | 53                    | 130                    | -77                      |  |
|                                                                              | STRUCTURE (B-28-123) |           |                                                      |            |                              |                                                          |                |                       |                        |                          |  |
|                                                                              | 10+41                | 22        | 0                                                    | 21         |                              |                                                          |                |                       |                        |                          |  |
|                                                                              | 10+50                | 22        | 0                                                    | 21         | 7                            | 0                                                        | 7              | 7                     | 9                      | -2                       |  |
|                                                                              | 10+75                | 20        | 0                                                    | 60         | 19                           | 0                                                        | 37             | 26                    | 57                     | -31                      |  |
|                                                                              | 11+00                | 21        | 0                                                    | 0          | 19                           | 0                                                        | 28             | 45                    | 94                     | -49                      |  |
| TOTALS                                                                       |                      |           |                                                      |            |                              | 98                                                       | 0              | 172                   |                        | -126                     |  |
|                                                                              |                      |           |                                                      |            | 205.0100 EXCAVATION COMMON = | 98                                                       |                | 208.0100 BORROW       |                        | 126                      |  |
| NOTES:                                                                       |                      |           |                                                      |            |                              |                                                          |                |                       |                        |                          |  |
| 1) EXCAVATION COMMON IS THE SUM OF THE CUT COLUMN. ITEM NUMBER 205.0100      |                      |           |                                                      |            |                              |                                                          |                |                       |                        |                          |  |
| 2) SALVAGED/UNUSEABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.                  |                      |           |                                                      |            |                              |                                                          |                |                       |                        |                          |  |
| 3) DOES NOT INCLUDE UNUSABLE PAVEMENT EXCAVATION VOLUME.                     |                      |           |                                                      |            |                              |                                                          |                |                       |                        |                          |  |
| 4) EXPANDED FILL FACTOR = 1.30 EXPANDED FILL = UNEXPANDED FILL * FILL FACTOR |                      |           |                                                      |            |                              |                                                          |                |                       |                        |                          |  |
| 5) THE MASS ORDINATE ± QTY CALCULATED FOR THE DIVISION.                      |                      |           |                                                      |            |                              |                                                          |                |                       |                        |                          |  |
| PLUS (+) QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION.       |                      |           |                                                      |            |                              |                                                          |                |                       |                        |                          |  |
| MINUS (-) QUANTITY INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.     |                      |           |                                                      |            |                              |                                                          |                |                       |                        |                          |  |

|                        |                      |                   |                   |       |   |
|------------------------|----------------------|-------------------|-------------------|-------|---|
| PROJECT NO: 3632-00-71 | HWY: WEST RIVER ROAD | COUNTY: JEFFERSON | EARTHWORK SUMMARY | SHEET | E |
|------------------------|----------------------|-------------------|-------------------|-------|---|









## ***Wisconsin Department of Transportation***

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through innovation and exceptional service.

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