SWL

JANUARY 2017

PROJECT ID: 5367-00-70

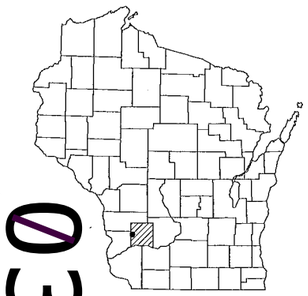
WITH: N/A

COUNTY: RICHLAND

ORDER OF SHEETS



TOTAL SHEETS = 38



03

N

DESIGN DESIGNATION

| | | | |
|---|---|---|---|
| A.A.D.T. | 2017 | = | 20 |
| A.A.D.T. | 2037 | = | 30 |
| D.H.V. | | = | 6 |
| D.D. | | = | 50/50 |
| T. | | = | 15.0% |
| DESIGN SPEED | | = | < 25 MPH |
| ESALS | | = | N/A |

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (995.36)
- CULVERT (Profile View)

UTILITIES

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

STATE OF WISCONSIN

# DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

# TOWN OF SYLVAN, FISH SCHOOL ROAD

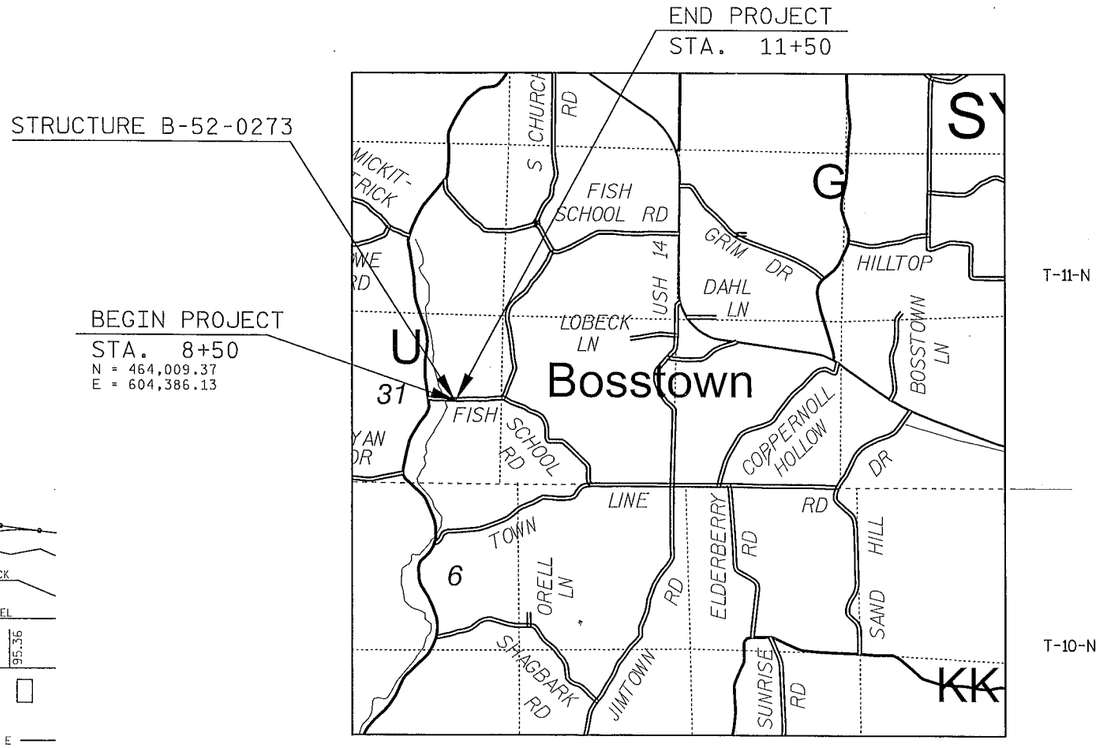
(BRANCH KNAPP CREEK BRIDGE B-52-0273)

## TOWN ROAD

RICHLAND COUNTY

| STATE PROJECT NUMBER |
|---|
| 5367-00-70 |

| STATE PROJECT | FEDERAL PROJECT | |
|---|---|---|
| | PROJECT | CONTRACT |
| 5367-00-70 | WISC 2017002 | 1 |
| | | |
| | | |
| | | |




LAYOUT

SCALE 0 — 1 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.057 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, RICHLAND COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ACCEPTED FOR TOWN OF SYLVAN

7-18-16 (Date) Patricia M. Marshall (Signature)

ACCEPTED FOR COUNTY OF RICHLAND

7/13/2016 (Date) Jim Chitwood (Signature)

ORIGINAL PLANS PREPARED BY

MSA PROFESSIONAL SERVICES
TRANSPORTATION • MUNICIPAL
DEVELOPMENT • ENVIRONMENTAL
1230 South Boulevard Baraboo, WI 53913
608-356-2771 1-800-362-4505 Fax: 608-356-2770

WISCONSIN LEAH J. RHODES E-41726 BARABOO WI PROFESSIONAL ENGINEER

DATE: 7/11/16 Leah J. Rhodes (Professional Engineer)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor: MSA PROFESSIONAL SERVICES, INC.

Designer: MSA PROFESSIONAL SERVICES, INC.

Management Consultant: KL ENGINEERING, INC.

APPROVED FOR THE DEPARTMENT

DATE: 7/27/16 (Regional Program Manager / Consultant Project Leader)

E

FILE NAME : P:\11500S\11510S\11514\11514001\CADD\SHEETSPLAN\010101_TI.DWG

PLOT DATE : 4/29/2016 2:51 PM PLOT BY : JOLIE SNYDER PLOT NAME :

WISDOT/CADDS SHEET 10

## STANDARD ABBREVIATIONS

| | |
|---|---|
| AC | ACRE |
| AGG | AGGREGATE |
| < | ANGLE |
| ASPH | ASPHALTIC |
| AC | ASPHALT CEMENT |
| ADT | AVERAGE DAILY TRAFFIC |
| B & B | BALLED AND BURLAPPED |
| BM | BENCH MARK |
| CB | CATCH BASIN |
| ℄ OR C/L | CENTER LINE |
| C-C | CENTER TO CENTER |
| CONC | CONCRETE |
| CO | COUNTY |
| CTH | COUNTY TRUNK HIGHWAY |
| CY | CUBIC YARD |
| CULV | CULVERT |
| CP | CULVERT PIPE |
| CPRC | CULVERT PIPE REINFORCED CONCRETE |
| C & G | CURB AND GUTTER |
| D | DEGREE OF CURVE |
| DHV | DESIGN HOUR VOLUME |
| DIA OR ϕ | DIAMETER |
| DIST | DISTRICT |
| DWY | DRIVEWAY |
| E | EAST |
| X | EAST GRID COORDINATE |
| EB | EASTBOUND |
| ELEC | ELECTRIC |
| EL OR ELEV | ELEVATION |
| EMB | EMBANKMENT |
| EW | ENDWALL |
| ESALS | EQUIVALENT SINGLE AXLE LOADS |
| EXC | EXCAVATION |
| EBS | EXCAVATION BELOW SUBGRADE |
| EXIST | EXISTING |
| EXP | EXPANSION |
| F-F | FACE TO FACE |
| FERT | FERTILIZER |
| FE | FIELD ENTRANCE |
| F/L | FLOW LINE |
| FT | FOOT |
| GN | GRID NORTH |
| HR | HANDICAP RAMP |
| HT | HEIGHT |
| CWT | HUNDREDWEIGHT |
| HYD | HYDRANT |
| IN DIA | INCH DIAMETER |
| INL | INLET |
| ID | INSIDE DIAMETER |
| I | INTERSECTION ANGLE |
| IE | INVERT ELEVATION |
| IP | IRON PIPE OR PIN |
| JCT | JUNCTION |
| L | LENGTH OF CURVE |
| LF | LINEAR FOOT |
| LC | LONG CHORD OF CURVE |
| LCB | LONG CHORD BEARING |
| LS | LUMP SUM |
| MH | MANHOLE |
| N | NORTH |
| Y | NORTH GRID COORDINATE |
| OE | OUTLET ELEVATION |
| OL | OUT LOT |
| OD | OUTSIDE DIAMETER |
| OH | OVERHEAD LINES |
| PAVT | PAVEMENT |
| PLE | PERMANENT LIMITED EASEMENT |
| PC | POINT OF CURVATURE |
| PI | POINT OF INTERSECTION |
| PT | POINT OF TANGENCY |
| PCC | PORTLAND CEMENT CONCRETE |
| LB | POUND |
| PE | PRIVATE ENTRANCE |
| R OR RAD | RADIUS |
| RR | RAILROAD |
| R | RANGE |
| ℄ OR R/L | REFERENCE LINE |
| REQD | REQUIRED |
| RT | RIGHT |
| R/W | RIGHT-OF-WAY |
| RD | ROAD |
| SALV | SALVAGED |
| SAN | SANITARY SEWER |
| SECT | SECTION |
| SHLDR | SHOULDER |
| SW | SIDEWALK |
| S | SOUTH |
| SB | SOUTHBOUND |
| SPECS | SPECIFICATIONS |
| SQ | SQUARE |
| SF OR SQ FT | SQUARE FEET |
| SY | SQUARE YARD |
| SSPRC | STORM SEWER PIPE REINFORCED CONCRETE |
| STD | STANDARD |
| SDD | STANDARD DETAIL DRAWINGS |
| STH | STATE TRUNK HIGHWAYS |
| STA | STATION |
| SS | STORM SEWER |
| T | TANGENT |
| TEL | TELEPHONE |
| TEMP | TEMPORARY |
| TLE | TEMPORARY LIMITED EASEMENT |
| T | TON |
| TC | TOP OF CURB |
| TN | TOWN |
| TRANS | TRANSITION |
| T | TRUCKS (percent of) |
| TYP | TYPICAL |
| UNCL | UNCLASSIFIED |
| USH | UNITED STATES HIGHWAY |
| VAR | VARIABLE |
| VERT | VERTICAL |
| VC | VERTICAL CURVE |
| VOL | VOLUME |
| WM | WATER MAIN |
| WV | WATER VALVE |
| W | WEST |
| WB | WESTBOUND |
| YD | YARD |

## RUNOFF COEFFICIENT TABLE

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

TOTAL PROJECT AREA = _____ ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = _____ACRES

## DESIGN CONTACT

MSA PROFESSIONAL SERVICES, INC.
ATTN: LEAH RHODES, PE
1230 SOUTH BOULEVARD
BARABOO, WI 53913
608-355-8945
LRHODES@MSA-PS.COM

## COUNTY CONTACT

RICHLAND COUNTY
ATTN: JIM CHITWOOD, COMMISSIONER
120 BOWEN CIRCLE
RICHLAND CENTER, WI 53581
608-647-4707
JIM.CHITWOOD@CO.RICHLAND.WI.US

## DNR LIAISON

WISCONSIN DEPARTMENT OF
NATURAL RESOURCES
ATTN: ANDY BARTA
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
608-275-3308
ANDREW.BARTA@WISCONSIN.GOV

## UTILITIES

COMMUNICATION:
RICHLAND GRANT TELEPHONE
COOPERATIVE
ATTN: JOHN BARTZ
202 N EAST STREET
P.O. BOX 67
BLUE RIVER, WI 53518
608-537-2461
JBARTZ@MWT.NET

* NOT A MEMBER OF
DIGGERS HOTLINE

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

## GENERAL NOTES

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED AND MULCHED AS DIRECTED BY THE ENGINEER. OVERSOW PERMANENT SEEDING AREAS WITH TEMPORARY SEED AT 3 LBS. PER 1000 SQUARE FEET.

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

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

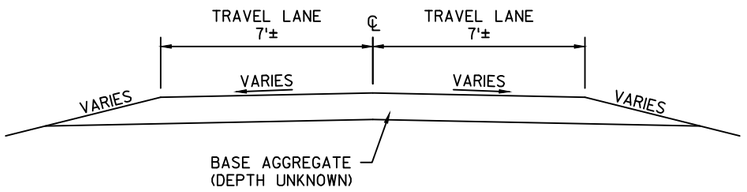
ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO USGS NAVD 88 (1996 ADJUSTED). BENCHMARKS WERE LOCATED IN THE FIELD USING GPS TECHNOLOGY.

THE 3½" ASPHALTIC SURFACE SHALL CONSIST OF A 1¾" UPPER LAYER WITH 12.5MM NOMINAL SIZE AGGREGATE AND A 1¾" LOWER LAYER 12.5MM NOMINAL SIZE AGGREGATE.

SILT FENCE TO BE PLACED AS SHOWN ON THE PLAN OR AS DIRECTED BY THE ENGINEER AND IN PLACE PRIOR TO CONSTRUCTION OR BRIDGE REMOVAL.

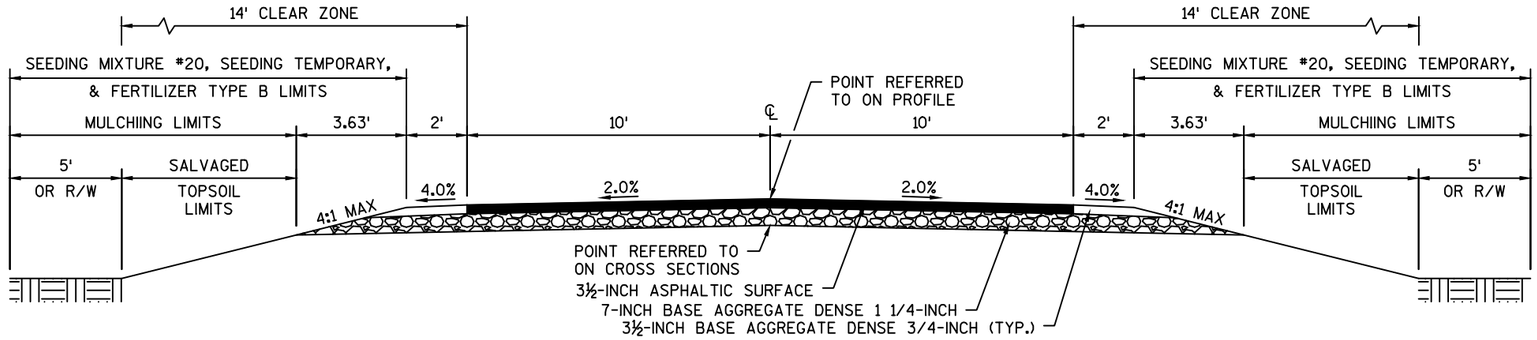
THE ASPHALTIC SURFACE WIDTH SHALL TAPER FROM 26.5 FEET AT THE ENDS OF THE BRIDGE TO 20.0 FEET AT ±30 FEET FROM THE BRIDGE ENDS.

WETLANDS ARE PRESENT ON THE STREAM BANKS. AREAS OUTSIDE THE SLOPE INTERCEPTS SHALL NOT BE DISTURBED IN THIS AREA.



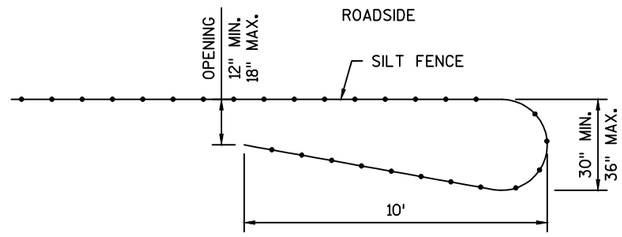

EXISTING TYPICAL SECTION

FISH SCHOOL ROAD




FINISHED TYPICAL SECTION

FISH SCHOOL ROAD



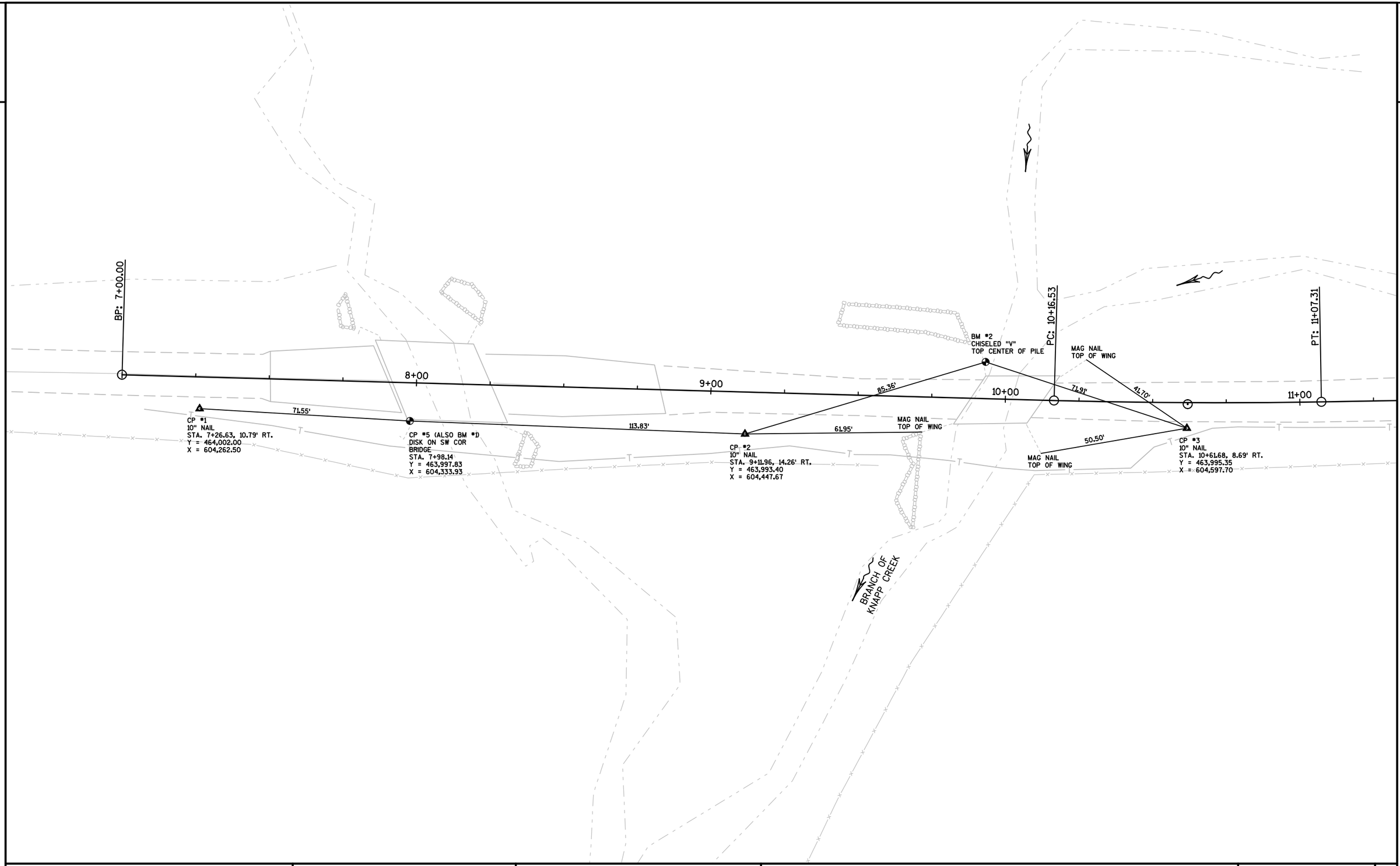

NOTE:
THE PURPOSE OF THE TURTLE TURN-AROUNDS ARE TO REDIRECT THE TURTLES AWAY FROM THE CONSTRUCTION ZONE. DESIGN SHOULD ALSO INCLUDE TRENCHED-IN SEDIMENT FENCING AND FENCING SUPPORTS ON THE UPSLOPE SIDE OF FENCE. SILT FENCE POSTS FOR THE TURN-AROUND SHOULD BE ON THE OUTSIDE OF THE TURN-AROUND.

TEMPORARY TURTLE TURN-AROUND DETAIL

SEE PLAN & PROFILE SHEET FOR LOCATIONS

| PROJECT NO:5367-00-70 | HWY:FISH SCHOOL ROAD | COUNTY:RICHLAND | TYPICAL SECTIONS / CONSTRUCTION DETAILS | SHEET 3 | E |
|---|---|---|---|---|---|

2




| PROJECT NO:5367-00-70 | HWY:FISH SCHOOL ROAD | COUNTY:RICHLAND | CONTROL POINT TIES | SHEET 4 | E |
|---|---|---|---|---|---|

5367-00-70

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 0010 | 201.0105 | Clearing | STA | 2.000 | 2.000 |
| 0020 | 201.0205 | Grubbing | STA | 2.000 | 2.000 |
| 0030 | 203.0600.S | Removing Old Structure Over Waterway With Minimal Debris (station) 01. Sta. 10+00 | LS | 1.000 | 1.000 |
| 0040 | 205.0100 | Excavation Common **P** | CY | 424.000 | 424.000 |
| 0050 | 206.1000 | Excavation for Structures Bridges (structure) 01. B-52-273 | LS | 1.000 | 1.000 |
| 0060 | 210.1500 | Backfill Structure Type A | TON | 480.000 | 480.000 |
| 0070 | 213.0100 | Finishing Roadway (project) 01. 5367-00-70 | EACH | 1.000 | 1.000 |
| 0080 | 305.0110 | Base Aggregate Dense 3/4-Inch | TON | 28.000 | 28.000 |
| 0090 | 305.0120 | Base Aggregate Dense 1 1/4-Inch | TON | 330.000 | 330.000 |
| 0100 | 455.0605 | Tack Coat | GAL | 30.500 | 30.500 |
| 0110 | 465.0105 | Asphaltic Surface | TON | 116.000 | 116.000 |
| 0120 | 502.0100 | Concrete Masonry Bridges | CY | 132.000 | 132.000 |
| 0130 | 502.3200 | Protective Surface Treatment | SY | 170.000 | 170.000 |
| 0140 | 505.0400 | Bar Steel Reinforcement HS Structures | LB | 4,330.000 | 4,330.000 |
| 0150 | 505.0600 | Bar Steel Reinforcement HS Coated Structures | LB | 14,610.000 | 14,610.000 |
| 0160 | 513.4061 | Railing Tubular Type M (structure) 01. B-52-273 | LF | 77.000 | 77.000 |
| 0170 | 516.0500 | Rubberized Membrane Waterproofing | SY | 13.000 | 13.000 |
| 0180 | 550.1100 | Piling Steel HP 10-Inch X 42 Lb | LF | 260.000 | 260.000 |
| 0190 | 606.0300 | Riprap Heavy | CY | 155.000 | 155.000 |
| 0200 | 612.0406 | Pipe Underdrain Wrapped 6-Inch | LF | 180.000 | 180.000 |
| 0210 | 619.1000 | Mobilization | EACH | 1.000 | 1.000 |
| 0220 | 624.0100 | Water | MGAL | 33.000 | 33.000 |
| 0230 | 625.0500 | Salvaged Topsoil | SY | 480.000 | 480.000 |
| 0240 | 627.0200 | Mulching | SY | 820.000 | 820.000 |
| 0250 | 628.1504 | Silt Fence | LF | 770.000 | 770.000 |
| 0260 | 628.1520 | Silt Fence Maintenance | LF | 770.000 | 770.000 |
| 0270 | 628.1905 | Mobilizations Erosion Control | EACH | 2.000 | 2.000 |
| 0280 | 628.1910 | Mobilizations Emergency Erosion Control | EACH | 2.000 | 2.000 |
| 0290 | 628.6005 | Turbidity Barriers | SY | 220.000 | 220.000 |
| 0300 | 629.0210 | Fertilizer Type B | CWT | 1.000 | 1.000 |
| 0310 | 630.0120 | Seeding Mixture No. 20 | LB | 30.000 | 30.000 |
| 0320 | 630.0200 | Seeding Temporary | LB | 30.000 | 30.000 |
| 0330 | 633.5100 | Markers Row | EACH | 8.000 | 8.000 |
| 0340 | 634.0612 | Posts Wood 4x6-Inch X 12-FT | EACH | 4.000 | 4.000 |
| 0350 | 637.2230 | Signs Type II Reflective F | SF | 12.000 | 12.000 |
| 0360 | 638.2602 | Removing Signs Type II | EACH | 4.000 | 4.000 |
| 0370 | 638.3000 | Removing Small Sign Supports | EACH | 4.000 | 4.000 |
| 0380 | 642.5001 | Field Office Type B | EACH | 1.000 | 1.000 |

5367-00-70

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 0390 | 643.0100 | Traffic Control (project) 01. 5367-00-70 | EACH | 1.000 | 1.000 |
| 0400 | 645.0120 | Geotextile Type HR | SY | 285.000 | 285.000 |
| 0410 | 650.4500 | Construction Staking Subgrade | LF | 264.000 | 264.000 |
| 0420 | 650.5000 | Construction Staking Base | LF | 264.000 | 264.000 |
| 0430 | 650.6500 | Construction Staking Structure Layout (structure) 01. B-52-273 | LS | 1.000 | 1.000 |
| 0440 | 650.9910 | Construction Staking Supplemental Control (project) 01. 5367-00-70 | LS | 1.000 | 1.000 |
| 0450 | 650.9920 | Construction Staking Slope Stakes | LF | 264.000 | 264.000 |
| 0460 | 690.0150 | Sawing Asphalt | LF | 20.000 | 20.000 |
| 0470 | 715.0502 | Incentive Strength Concrete Structures | DOL | 1,320.000 | 1,320.000 |

**P** - PAY PLAN QUANTITY

201.0105 CLEARING
201.0205 GRUBBING

| STATION | - | STATION | LOCATION | CLEARING STA | GRUBBING STA |
|---|---|---|---|---|---|
| 9+00 | - | 11+00 | LT & RT | 2 | 2 |
| | | TOTALS: | | 2 | 2 |

205.0100 EXCAVATION COMMON **P**

| LOCATION | EXC. COMMON CY | FILL CY (1) | EXPANDED FILL CY (2) | WASTE CY |
|---|---|---|---|---|
| STA 8+50 - STA 9+78.62 | 211 | 0 | 0 | 211 |
| STA 10+15.38 - STA 11+50 | 213 | 0 | 0 | 213 |
| TOTALS: | 424 | 0 | 0 | 424 |

(1) - NOT A BID ITEM - FOR INFORMATIONAL PURPOSES ONLY.
(2) - FILL EXPANSION 30%

305.0110 BASE AGGREGATE DENSE 3/4-INCH
305.0120 BASE AGGREGATE DENSE 1 1/4-INCH
624.0100 WATER

| STATION | - | STATION | 3/4-INCH TON | 1 1/4-INCH TON | WATER* MGAL |
|---|---|---|---|---|---|
| 8+50.00 | - | 9+78.62 | 15 | 165 | 4 |
| 10+15.38 | - | 11+50.00 | 13 | 165 | 4 |
| | | TOTALS: | 28 | 330 | 8 |

*ADDITIONAL QUANTITY INCLUDED WITH EROSION CONTROL ITEMS

455.0605 TACK COAT
465.0105 ASPHALTIC SURFACE

| STATION | - | STATION | TACK COAT GAL | ASPHALTIC SURFACE TON |
|---|---|---|---|---|
| 8+50.00 | - | 9+78.62 | 15 | 57 |
| 10+15.38 | - | 11+50.00 | 15.5 | 59 |
| | | TOTALS: | 30.5 | 116 |

625.0500 SALVAGED TOPSOIL
627.0200 MULCHING
629.0210 FERTILIZER TYPE B
630.0120 SEEDING MIXTURE NO. 20
630.0200 SEEDING TEMPORARY
624.0100 WATER

| STATION | - | STATION | LOCATION | SALVAGED TOPSOIL SY | MULCHING SY | FERTILIZER CWT | SEEDING #20 LB | SEEDING TEMPORARY LB | WATER* MGAL |
|---|---|---|---|---|---|---|---|---|---|
| 8+50 | - | 11+50 | LT | 245 | 390 | 0.30 | 13 | 13 | 11 |
| 8+50 | - | 11+50 | RT | 195 | 360 | 0.30 | 13 | 13 | 10 |
| UNDISTRIBUTED | | | | 40 | 70 | 0.40 | 4 | 4 | 4 |
| TOTALS: | | | | 480 | 820 | 1 | 30 | 30 | 25 |

*ADDITIONAL QUANTITY INCLUDED WITH BASE AGGREGATE ITEMS.

628.1504 SILT FENCE
628.1520 SILT FENCE MAINTENANCE

| STATION | - | STATION | LOCATION | FENCE LF | MAINT. LF |
|---|---|---|---|---|---|
| 8+40.00 | - | 9+92.00 | LT | 170 | 170 |
| 8+40.00 | - | 9+70.00 | RT | 145 | 145 |
| 10+50.00 | - | 11+60.00 | LT | 125 | 125 |
| 9+98.00 | - | 11+60.00 | RT | 180 | 180 |
| UNDISTRIBUTED | | | - | 150 | 150 |
| | | | TOTALS: | 770 | 770 |

628.6005 TURBIDITY BARRIERS

| LOCATION | SY |
|---|---|
| WEST ABUTMENT | 100 |
| EAST ABUTMENT | 120 |
| TOTALS: | 220 |

628.1905 MOBILIZATIONS EROSION CONTROL
628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL

| DESCRIPTION | MOBILIZATION EACH | EMERGENCY MOB. EACH |
|---|---|---|
| PROJECT 5367-00-70 | 2 | 2 |
| TOTALS: | 2 | 2 |

633.5100 MARKERS ROW

| STATION | OFFSET | LOCATION | EACH |
|---|---|---|---|
| 8+50.00 | 24.75' | LT | 1 |
| 8+50.00 | 24.75' | RT | 1 |
| 9+50.00 | 40.00' | LT | 1 |
| 9+50.00 | 40.00' | RT | 1 |
| 10+50.00 | 40.00' | RT | 1 |
| 11+00.00 | 40.00' | LT | 1 |
| 11+50.00 | 24.75' | LT | 1 |
| 11+50.00 | 24.75' | RT | 1 |
| | | TOTAL: | 8 |

634.0612 POSTS WOOD 4x6-INCH x 12-FT
637.2230 SIGNS TYPE II REFLECTIVE F
638.2602 REMOVING SIGNS TYPE II
638.3000 REMOVING SMALL SIGN SUPPORTS

| STATION | LOCATION | SIGN CODE | SIZE | SIGNS TYPIE II REFLECTIVE F SF | WOOD POSTS EACH | REMOVING SIGNS TYPE II EACH | REMOVING SMALL SIGN SUPPORTS EACH | COMMENTS |
|---|---|---|---|---|---|---|---|---|
| 9+60 | RT | - | - | - | - | - | - | WEIGHT LIMIT POSTING (REMOVED BY COUNTY) |
| 9+72 | RT | W5-52R | 12"x36" | 3 | 1 | - | - | OBJECT MARKER |
| 9+77 | RT | - | - | - | - | 1 | 1 | EXISTING OBJECT MARKER |
| 9+84 | LT | W5-52L | 12"x36" | 3 | 1 | - | - | OBJECT MARKER |
| 9+88 | LT | - | - | - | - | 1 | 1 | EXISTING OBJECT MARKER |
| 10+10 | RT | W5-52L | 12"x36" | 3 | 1 | - | - | OBJECT MARKER |
| 10+13 | RT | - | - | - | - | 1 | 1 | EXISTING OBJECT MARKER |
| 10+22 | LT | W5-52R | 12"x36" | 3 | 1 | - | - | OBJECT MARKER |
| 10+23 | LT | - | - | - | - | 1 | 1 | EXISTING OBJECT MARKER |
| 10+35 | LT | - | - | - | - | - | - | WEIGHT LIMIT POSTING (REMOVED BY COUNTY) |
| | | TOTALS: | | 12 | 4 | 4 | 4 | |

650.4500 CONSTRUCTION STAKING SUBGRADE
650.5000 CONSTRUCTION STAKING BASE
650.9920 CONSTRUCTION STAKING SLOPE STAKES
650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL 5367-00-70

| STATION | - | STATION | SUBGRADE LF | BASE LF | SLOPE STAKES LF | SUPPLEMENTAL CONTROL LS |
|---|---|---|---|---|---|---|
| 8+50 | - | 9+78.62 | 129 | 129 | 129 | - |
| 10+15.38 | - | 11+50 | 135 | 135 | 135 | - |
| | | TOTALS: | 264 | 264 | 264 | 1 |

690.0150 SAWING ASPHALT

| STATION | LF |
|---|---|
| 8+50 | 20 |
| TOTAL: | 20 |

## CONVENTIONAL SYMBOLS

SECTION LINE
QUARTER LINE
SIXTEENTH LINE
NEW REFERENCE LINE
NEW R/W LINE
EXISTING R/W OR HE LINE
PROPERTY LINE
LOT, TIE & OTHER MINOR LINES
SLOPE INTERCEPT
CORPORATE LIMITS
UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC) — W (TYPE)
NEW R/W (FEE OR HE) (HATCHING VARIES BY OWNER)
TEMPORARY LIMITED EASEMENT AREA
EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT)
TRANSMISSION STRUCTURES
BUILDING — TO BE REMOVED
BRIDGE

SECTION CORNER SYMBOL
SECTION CORNER MONUMENT
R/W MONUMENT (TO BE SET)
NON-MONUMENTED R/W POINT
FOUND IRON PIN (1-INCH UNLESS NOTED) IP
GEODETIC SURVEY MONUMENT
SIXTEENTH CORNER MONUMENT
SIGN — SIGN
OFF-PREMISE SIGN — I-25 — SIGN

| | COMPENSABLE | NON-COMPENSABLE |
|---|---|---|
| ELECTRIC POLE | | |
| TELEPHONE POLE | | |
| PEDESTAL (LABEL TYPE) (TV, TEL, ELEC, ETC.) | | |

ACCESS RESTRICTED BY ACQUISITION
NO ACCESS (BY STATUTORY AUTHORITY)
ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL)
NO ACCESS (NEW HIGHWAY)
PARCEL NUMBER 25 — UTILITY NUMBER 40
PARALLEL OFFSETS

## CONVENTIONAL ABBREVIATIONS

| | | | |
|---|---|---|---|
| ACCESS RIGHTS | AR | POINT OF INTERSECTION | PI |
| ACRES | AC | PROPERTY LINE | PL |
| AHEAD | AH | RECORDED AS | (100') |
| ALUMINUM | ALUM | REEL / IMAGE | R/I |
| AND OTHERS | ET AL | REFERENCE LINE | R/L |
| BACK | BK | REMAINING | REM |
| BLOCK | BLK | RESTICTIVE DEVELOPMENT EASEMENT | RDE |
| CENTERLINE | C/L | RIGHT | RT |
| CERTIFIED SURVEY MAP | CSM | RIGHT OF WAY | R/W |
| CONCRETE | CONC | SECTION | SEC |
| COUNTY | CO | SEPTIC VENT | SEPV |
| COUNTY TRUNK HIGHWAY | CTH | SQUARE FEET | SF |
| DISTANCE | DIST | STATE TRUNK HIGHWAY | STH |
| CORNER | COR | STATION | STA |
| DOCUMENT NUMBER | DOC | TELEPHONE PEDESTAL | TP |
| EASEMENT | EASE | TEMPORARY LIMITED EASEMENT | TLE |
| EXISTING | EX | TRANSPORTATION PROJECT PLAT | TPP |
| GAS VALVE | GV | UNITED STATES HIGHWAY | USH |
| GRID NORTH | GN | VOLUME | V |
| HIGHWAY EASEMENT | HE | | |
| IDENTIFICATION | ID | | |
| LAND CONTRACT | LC | | |
| LEFT | LT | | |
| MONUMENT | MON | | |
| NATIONAL GEODETIC SURVEY | NGS | | |
| NUMBER | NO | | |
| OUTLOT | OL | | |
| PAGE | P | | |
| POINT OF TANGENCY | PT | | |
| PERMANENT LIMITED EASEMENT | PLE | | |
| POINT OF BEGINNING | POB | | |
| POINT OF CURVATURE | PC | | |
| POINT OF COMPOUND CURVE | PCC | | |

## CURVE DATA

| | |
|---|---|
| LONG CHORD | LCH |
| LONG CHORD BEARING | LCB |
| RADIUS | R |
| DEGREE OF CURVE | D |
| CENTRAL ANGLE | Δ/DELTA |
| LENGTH OF CURVE | L |
| TANGENT | T |
| DIRECTION AHEAD | DA |
| DIRECTION BACK | DB |

## NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, RICHLAND COUNTY, NAD 83 (2011) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

RIGHT OF WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY ¾" X 24" REBAR) AND ARE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY OR OTHER SURVEYS OF PUBLIC RECORD.

## CONVENTIONAL UTILITY SYMBOLS

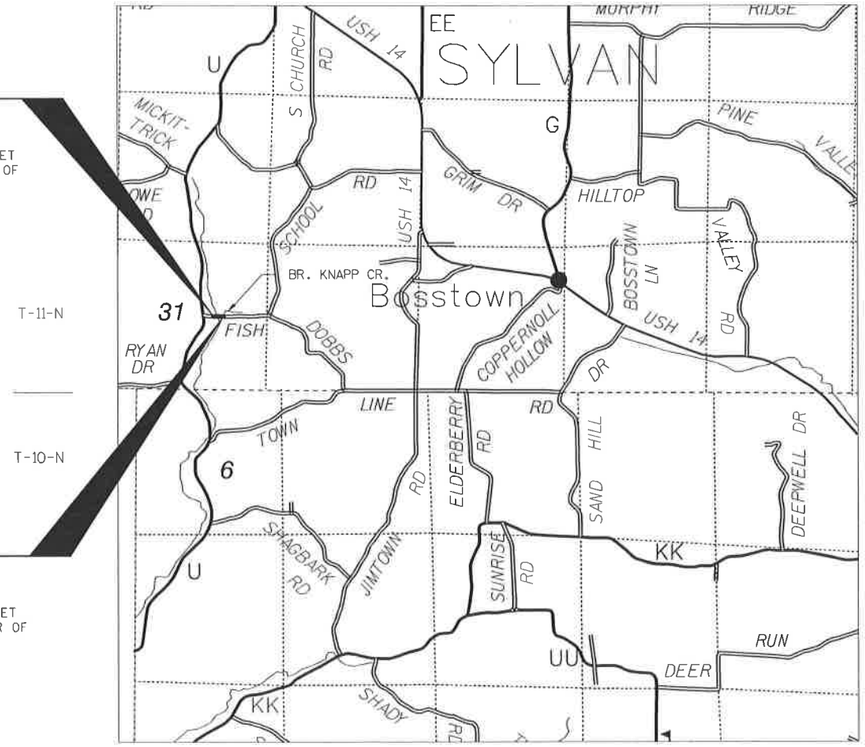
| | |
|---|---|
| WATER | W |
| GAS | G |
| TELEPHONE | T |
| OVERHEAD TRANSMISSION LINES | OH |
| ELECTRIC | E |
| CABLE TELEVISION | TV |
| FIBER OPTIC | FO |
| SANITARY SEWER | SAN |
| STORM SEWER | SS |

N

CAUTION
THIS PLAT IS FOR ILLUSTRATIVE PURPOSES ONLY. DEEDS MUST BE CHECKED TO DETERMINE PROPERTY BOUNDARIES.

BEGIN RELOCATION ORDER STA. 8+50
Y = 464,009.37
X = 604,386.13
3.03 FEET NORTH OF AND 1,840.53 FEET WEST OF THE EAST QUARTER CORNER OF SECTION 31, T-11-N, R-2-W, TOWN OF SYLVAN, RICHLAND COUNTY, WI

END RELOCATION ORDER STA.11+50
Y = 464,005.08
X = 604,686.05
1.26 FEET SOUTH OF AND 1,540.61 FEET WEST OF THE EAST QUARTER CORNER OF SECTION 31, T-11-N, R-2-W, TOWN OF SYLVAN, RICHLAND COUNTY, WI




LAYOUT
SCALE 0 — 1 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.057

| R/W PROJECT NUMBER 5367-00-00 | SHEET NUMBER | TOTAL SHEETS |
|---|---|---|
| FED PROJECT NUMBER | 4.01 | 2 |

PLAT OF RIGHT OF WAY REQUIRED FOR

# TOWN OF SYLVAN, FISH SCHOOL RD BR KNAPP CR BRIDGE B-52-0273

TOWN ROAD — RICHLAND COUNTY

CONSTRUCTION PROJECT NUMBER: 5367-00-70

ORIGINAL PLAT PREPARED BY


MSA PROFESSIONAL SERVICES
TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL
1230 South Boulevard Baraboo, WI 53913
608-356-2771 1-800-362-4505 Fax: 608-356-2770
Web Address: www.msa-ps.com



WISCONSIN
GREGORY P. RHINEHART
S-1478
FRIENDSHIP, WI
LAND SURVEYOR

3/16/2016 (Date)
Gregory P. Rhinehart (Professional Land Surveyor)

REVISION DATE

APPROVED FOR TOWN OF SYLVAN

DATE: 8-22-16 Patrick Marshall (Signature)

## SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNER'S NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE TOWN.

ALL AREAS SHOWN IN ACRES UNLESS OTHERWISE NOTED.

| PARCEL NUMBER | OWNER(S) NAME | INTEREST REQUIRED | HIGHWAY EASEMENT | EXISTING R/W | TOTAL AREA |
|---|---|---|---|---|---|
| 1 | HILLCREST ORCHARD AND LAND COMPANY, LLC | HE | 0.08 | 0.10 | 0.18 |
| 2 | THOMAS M. & SHERRY L. BROWN | HE | 0.07 | 0.24 | 0.31 |
| 98 | RICHLAND GRANT TELEPHONE COOPERATIVE | RELEASE OF RIGHTS | - | - | - |
| 99 | WISCONSIN DEPARTMENT OF NATURAL RESOURCES | RELEASE OF RIGHTS | - | - | - |

EXISTING HIGHWAY RIGHT OF WAY SHOWN IS BASED ON THE CENTERLINE OF EXISTING ROADWAY, PLATS OF SURVEY AND RECORDED CSMS IN THE AREA.

PI = 7+00.00
Y = 464,013.52
X = 604,236.19

CL ALIGNMENT DATA
PI = 10+61.93
Y = 464,003.51
X = 604,597.97
Δ = 02°36'02" L
D = 02°51'53"
T = 45.40'
L = 90.78'
R = 2,000.00'
PC = 10+16.53
PT = 11+07.31

PI = 12+00.00
Y = 464,005.96
X = 604,736.04

| PT. | STATION | OFFSET | Y | X |
|---|---|---|---|---|
| * 10 | 8+50.00 | 0.00' | 464,009.37 | 604,386.13 |
| 100 | 8+50.00 | 24.75' LT. | 464,034.11 | 604,386.81 |
| 101 | 9+50.00 | 40.00' LT. | 464,046.59 | 604,487.20 |
| 102 | 11+00.00 | 40.00' LT. | 464,044.20 | 604,635.49 |
| 103 | 11+50.00 | 24.75' LT. | 464,029.82 | 604,685.61 |
| * 11 | 11+50.00 | 0.00' | 464,005.08 | 604,686.05 |
| 203 | 11+50.00 | 24.75' RT. | 463,980.33 | 604,686.49 |
| 202 | 10+50.00 | 40.00' RT. | 463,964.13 | 604,585.62 |
| 201 | 9+50.00 | 40.00' RT. | 463,966.62 | 604,484.98 |
| 200 | 8+50.00 | 24.75' RT. | 463,984.63 | 604,385.44 |

* - NON-MONUMENTED POINT

CAST IRON MONUMENT (FOUND)
Y = 466,641.35
X = 606,254.51

GN

TOWN

SW-NE
31-11-2

HILLCREST ORCHARD & LAND COMPANY LLC (1)

N82° 54' 49"E 101.16'

S89° 04' 29"E 148.32'

S73° 59' 37"E 52.14'

N30° 45' 02"E 3,067.58'

N00° 36' 19"E 2,635.17'

RC: 10+16.53

PT: 11+07.31

EP: 12+00.00

N01° 35' 04" E 24.75'

P.L.

8+00

9+00

10+00

11+00

S88° 24' 56"E

N88° 59' 02"E

S01° 00' 58"E 24.75'

QUARTER LINE

N89° 41' 11"W 2,650.50' (TO COMPUTED CENTER OF SECT.)

S89° 57' 11"W 1,540.61'

CAST IRON MONUMENT (FOUND)
Y = 464,006.34
X = 606,226.66

FISH SCHOOL ROAD

BEGIN RELOCATION ORDER STA. 8+50
Y = 464,009.37
X = 604,386.13

END RELOCATION ORDER STA. 11+50
Y = 464,005.08
X = 604,686.05

N79° 44' 41"W 101.16'

N88° 34' 41"W 100.67'

S80° 52' 25"W 102.16'

SLOPE INTERCEPT (TYP.)

FISHING EASEMENT

BRANCH KNAPP CREEK

98 RICHLAND GRANT TELEPHONE COOPERATIVE

TELEPHONE EASEMENTS
V.3, P.221
V.3, P.206, D.94100
V.53, P.535, D.171285

2 THOMAS M. & SHERRY L. BROWN

NW-SE
31-11-2

99 WISCONSIN DEPT. OF NATURAL RESOURCES

DNR FISHING EASEMENT
V.30, P.291, D.131667

SYLVAN

P.L.

| | | | | | |
|---|---|---|---|---|---|
| REVISION DATE | DATE: 3/16/2016 | SCALE, FEET 0 20 40 | HWY: TOWN ROAD | STATE R/W PROJECT NUMBER 5367-00-00 | PLAT SHEET 4.02 |
| | GRID FACTOR N/A | | COUNTY: RICHLAND | CONSTRUCTION PROJECT NUMBER 5367-00-70 | PS&E SHEET 10 E |

FILE NAME : PLINE & RW.DWG
SHEET 4.02

PLOT DATE : 3/16/2016 3:45 PM PLOT BY : BARB HALLEY PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 75

LEGEND
SILT FENCE
RIPRAP
TURBIDITY BARRIER

N

PI = 7+00.00
Y = 464,013.52
X = 604,236.19

REMOVE EXISTING BRIDGE P-52-0933
STA. 10+00, CL
SINGLE SPAN STEEL DECK GIRDER BRIDGE
16-FT CLEAR ROADWAY WIDTH
26-FT OVERALL LENGTH
30.0° SKEW LHF

HILLCREST ORCHARD AND LAND COMPANY LLC.

PI = 10+61.93
Y = 464,003.51
X = 604,597.97
Δ = 02°36'02" L
D = 02°51'53"
T = 45.40'
L = 90.78'
R = 2,000.00'
PC = 10+16.53
PT = 11+07.31

PI = 12+00.00
Y = 464,005.96
X = 604,736.04

TAPER ASPHALTIC SURFACE WIDTH FROM 20-FT AT STA. 11+40 TO 16-FT AT STA. 11+50

TEMPORARY TURTLE TURN-AROUND (TYP.)

SILT FENCE (TYP.)

SLOPE INTERCEPT

TURBIDITY BARRIER (TYP.)

(WOODED)

BP: 7+00.00

EXISTING R/W

R/W

SAWCUT

40' NOR. VARIES

PC: 10+16.53

PT: 11+07.31

EP: 12+00.00

24.75'

24.75'

S88°-24'-56"E

8+00

9+00

FISH SCHOOL ROAD

10+00

11+00

N88°-59'-02"E

BM

BM 1

EXISTING R/W

PI: 10+61.93

R/W

(WOODED)

BEGIN PROJECT
STA 8+50
Y = 464,009.37
X = 604,386.13

(CULTIVATED FIELD)

EXISTING FENCE (TYP)
(TO BE REMOVED BY OTHERS
PRIOR TO CONSTRUCTION)

SLOPE INTERCEPT

BURIED TELEPHONE
RICHLAND GRANT
TELEPHONE COOPERATIVE
(TO BE DISCONTINUED)

(CULTIVATED FIELD)

END PROJECT
STA 11+50
Y = 464,005.08
X = 604,686.05

THOMAS M. & SHERRY L. BROWN

BRANCH
KNAPP CREEK

STA 9+97, STRUCTURE B-52-0273
SINGLE SPAN FLAT CONCRETE SLAB
24-FT CLEAR ROADWAY WIDTH
25.0° SKEW LHF

CONSERVATION EASEMENT
V.30, P.291, D.131667

BENCH MARKS

| NO. | STATION | DESCRIPTION | ELEV. |
|---|---|---|---|
| 1 | 7+98.14, 13.0' RT | DISK ON SW COR BRIDGE | 881.15 |
| 2 | 9+92.99, 12.4' LT | CHIS V TOP OF H PILE NW COR BR | 883.81 |

HIGH WATER 100
ELEV. 879.60

-0.10%

0.65%

0.55%

EXISTING ℄ PROFILE

FINISHED ℄ PROFILE

STA 8+50.00
EL 881.68

STA 8+80.00
EL 881.87

VPC STA 10+20.00
VPC EL 882.64

VPI STA 10+85.00
VPI EL 883.00

VPT STA 11+50.00
VPT EL 882.93
STA 11+50.95
EL 882.93

880

870

OBSERVED WATER
ELEV. 873.78±
(04-01-15)

VCL = 130.00

K = 200.34

STREAMBED
ELEV. 870.97±

EARTHWORK SUMMARY
STA. 8+50 - 11+50
COMMON EXCAVATION: 424 C.Y.
FILL: 0 C.Y.
FILL EXPANSION: 30%
WASTE: 424 C.Y.

6+50 7+00 8+00 9+00 10+00 11+00 12+00 12+50

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 880.43 | | 880.82 | | 881.29 | | 881.68 | 881.68 | 882.09 | 881.98 | 883.23 | 882.26 | 883.37 | 882.53 | 883.79 | 882.78 | 883.21 | 882.92 | 882.94 | 882.93 | 882.85 | | | |

| PROJECT NO: 5367-00-70 | HWY: FISH SCHOOL ROAD | COUNTY: RICHLAND | PLAN AND PROFILE: | SHEET 11 E |
|---|---|---|---|---|

FILE NAME : P:\11500S\11510S\11514\11514001\CADD\SHEETSPLAN\050101_PP.DWG
LAYOUT NAME - 050101_PP

PLOT DATE : 7/20/2016 2:19 PM PLOT BY : JOLIE SNYDER PLOT NAME : PLOT SCALE : 1 IN:40 FT

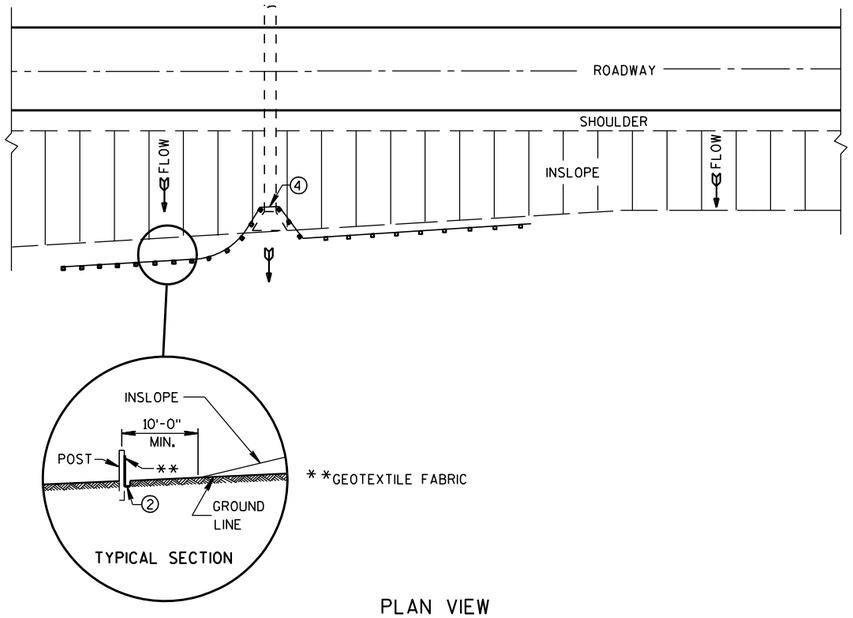
WISDOT/CADDS SHEET 44

# Standard Detail Drawing List

| | |
|---|---|
| 08E09-06 | SILT FENCE |
| 08E11-02 | TURBIDITY BARRIER |
| 12A03-10 | NAME PLATE (STRUCTURES) |
| 15A01-12A | MARKER POST FOR RIGHT-OF-WAY |
| 15C02-06A | BARRICADES AND SIGNS FOR MAINLINE CLOSURES |
| 15C02-06B | BARRICADES AND SIGNS FOR MAINLINE CLOSURES |
| 15C06-07 | SIGNING & MARKING FOR TWO LANE BRIDGES |

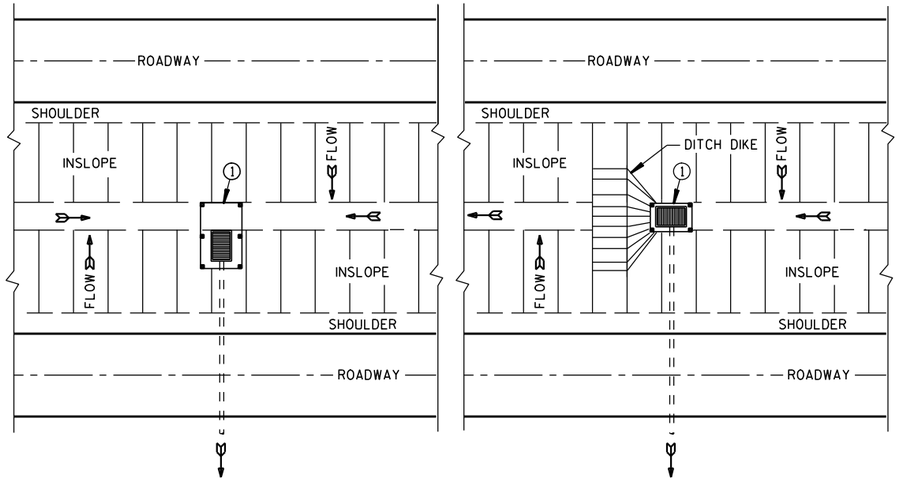
6

6




PLAN VIEW

## TYPICAL APPLICATION OF SILT FENCE




PLAN VIEW

## SILT FENCE AT MEDIAN SURFACE DRAINS

## GENERAL NOTES

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

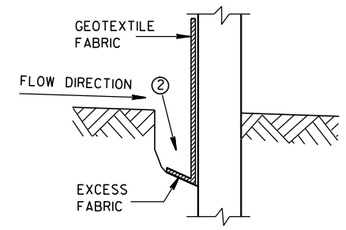
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.

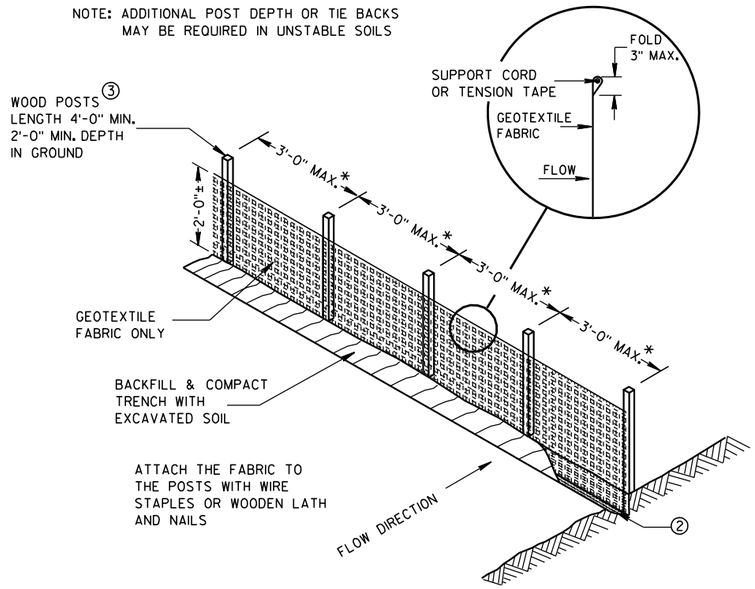
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.

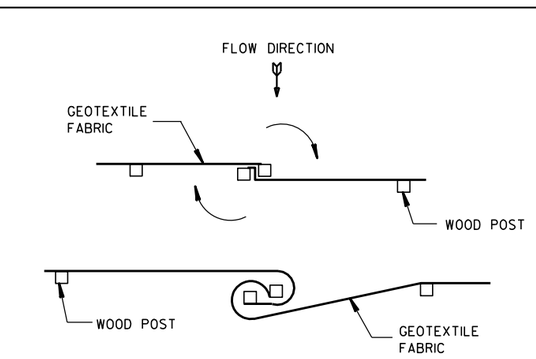
⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



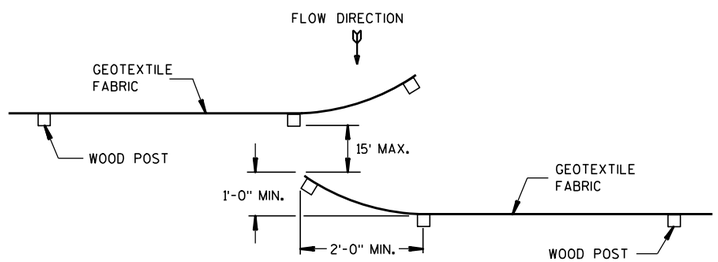

## TRENCH DETAIL




## SILT FENCE

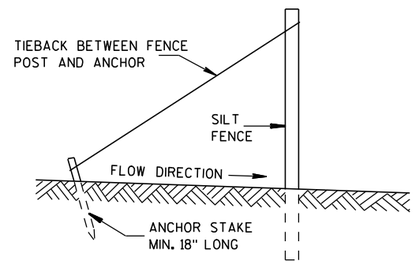



TWIST METHOD




HOOK METHOD

## JOINING TWO LENGTHS OF SILT FENCE ⑤




## SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

**SILT FENCE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

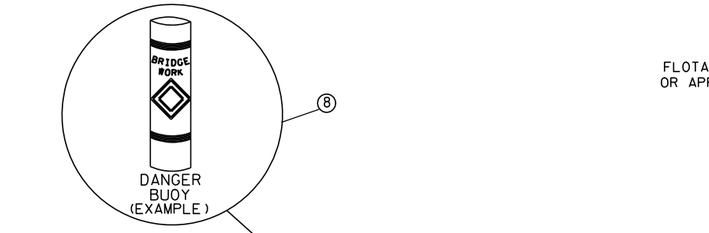


6

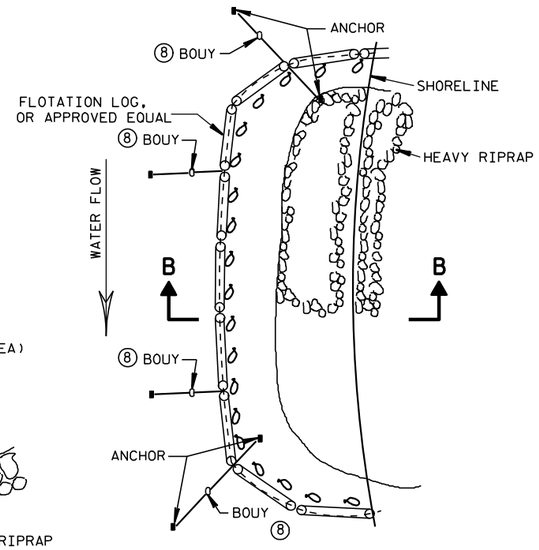
S.D.D. 8 E 9-6

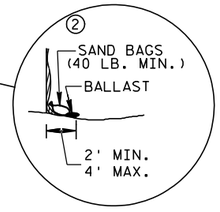
6

S.D.D. 8 E 9-6

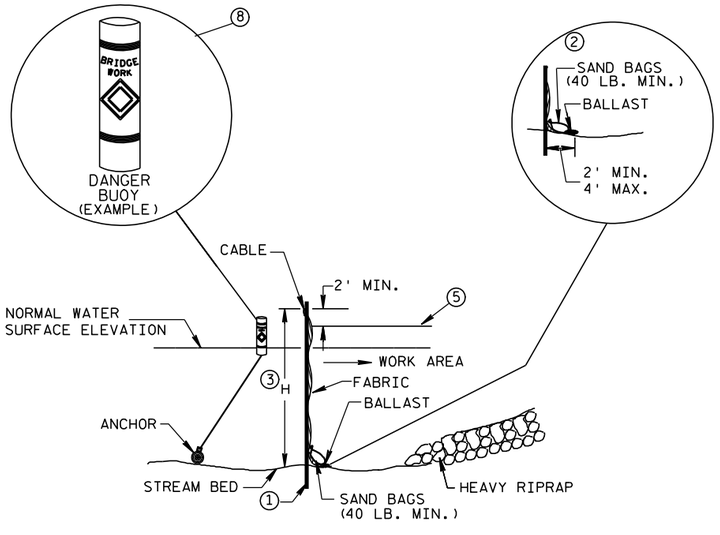



SECTION B-B



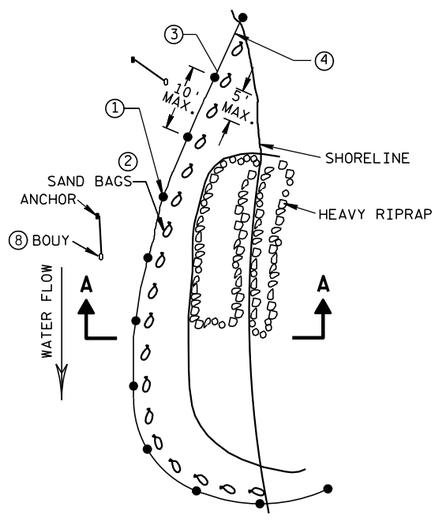




**TURBIDITY BARRIER FLOAT ALTERNATIVE**
**CAUTION - SEE NOTE 6**




SECTION A-A




PLAN VIEW

**TURBIDITY BARRIER STANDARD POST INSTALLATION**

**TURBIDITY BARRIER PLACEMENT DETAILS**

## GENERAL NOTES

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

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

① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.

② 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.

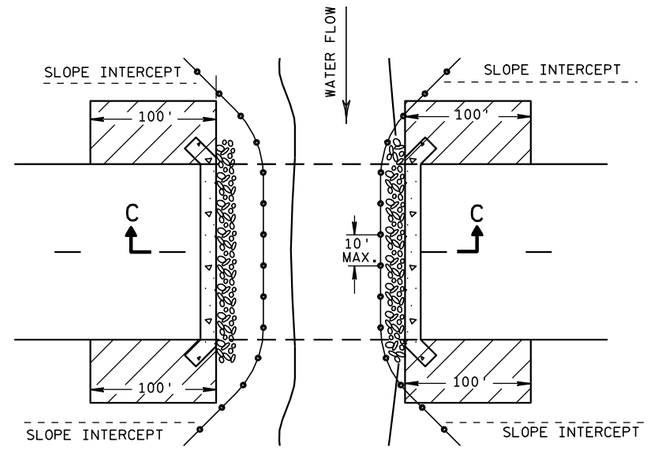
④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MIMIMUM BARRIER HEIGHT SHALL BE 2'GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WICHEVER IS GREATER.

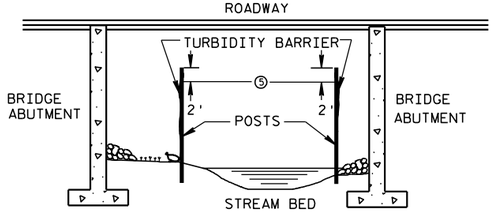
⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.

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.




PLAN VIEW




SECTION C-C

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

**TURBIDITY BARRIER**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/04/02 — DATE
/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

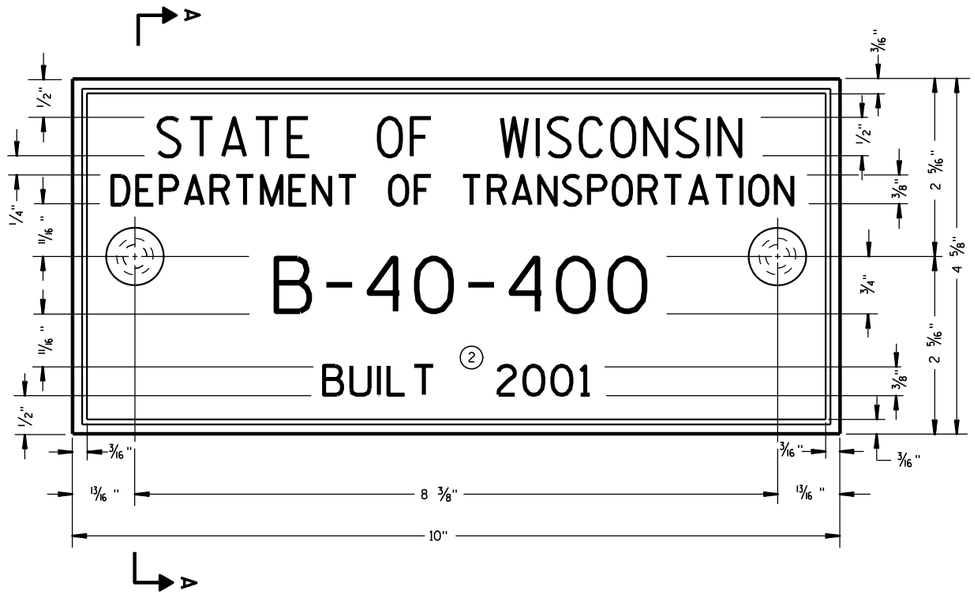


6

S.D.D. 8 E 11-2

6

S.D.D. 8 E 11-2




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

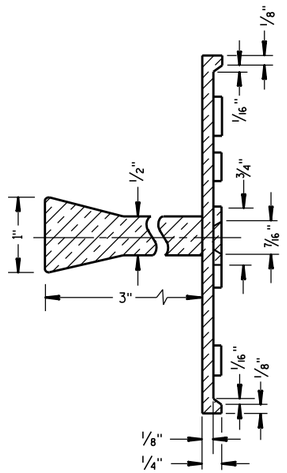
## GENERAL NOTES

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.

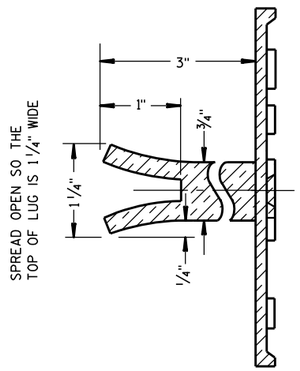
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

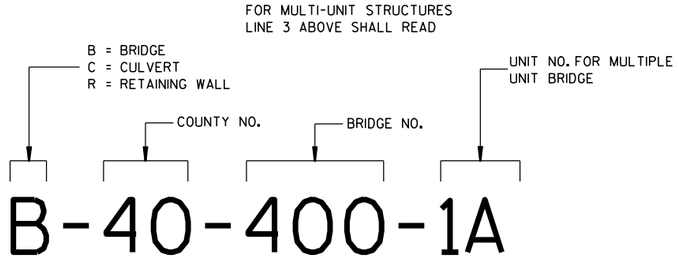
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



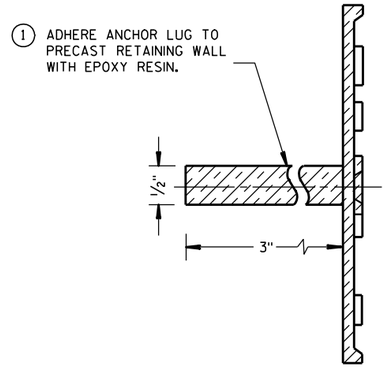

**SECTION A-A**




**ALTERNATE LUG**




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




**ALTERNATE LUG**
(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE (STRUCTURES)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE

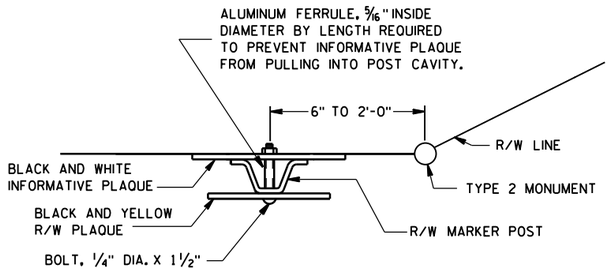
/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOPMENT ENGINEER

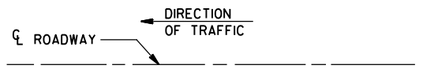
FHWA



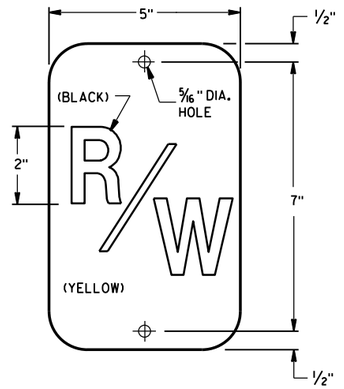
6

S.D.D. 12 A 3-10



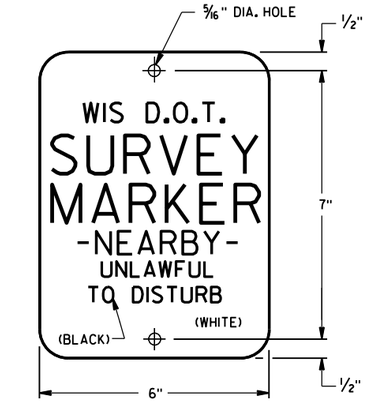




**PLAN VIEW**




**R/W PLAQUE**

THE RIGHT-OF-WAY PLAQUE AND INFORMATIVE PLAQUE WILL BE FURNISHED BY THE WISCONSIN DEPARTMENT OF TRANSPORTATION.




**INFORMATIVE PLAQUE**

## GENERAL NOTES

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

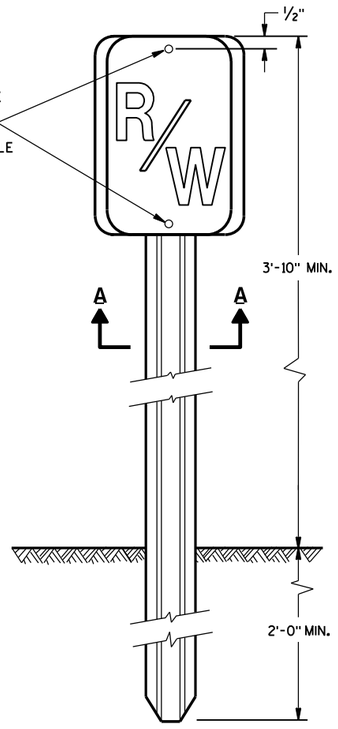
A STEEL MARKER POST FOR RIGHT-OF-WAY SHALL BE PLACED IN THE RIGHT-OF-WAY, WITH THE BACK OF THE POST ON THE LONGER RIGHT-OF-WAY TANGENT, 6 INCHES TO 24 INCHES FROM EACH TYPE 2 MONUMENT TO SERVE AS A GUARD POST, AND AT OTHER LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

THE "R/W" PLAQUE SHALL FACE THE ROADWAY AND THE INFORMATIVE PLAQUE SHALL FACE AWAY FROM THE ROADWAY. R/W AND INFORMATIVE PLAQUES WILL BE FURNISHED BY THE DEPARTMENT OF TRANSPORTATION.

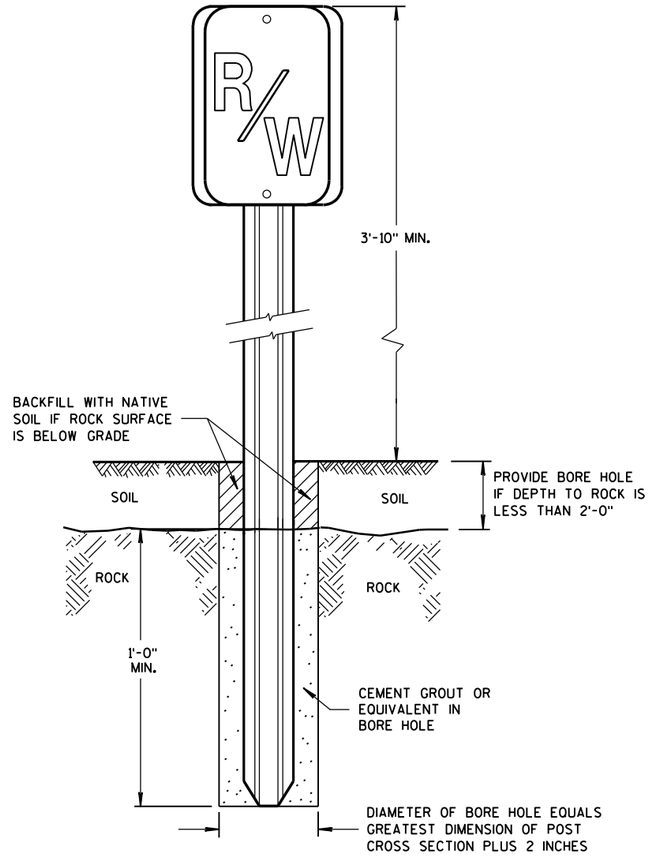
STEEL MARKER POSTS SHALL MEET THE MINIMUM MATERIAL REQUIREMENTS FOR STEEL DELINEATOR POSTS; EXCEPT POSTS PAINTED WITH FEDERAL YELLOW ENAMEL NEED NOT BE ZINC COATED.

(1) IN AREAS OF SOLID ROCK, DRILL A BORE HOLE 2" GREATER THAN THE WIDEST DIMENSION OF THE POST CROSS SECTION INTO THE ROCK TO A MINIMUM DEPTH OF 12 INCHES. CUT OR SPLICE THE POST SO THAT A MINIMUM LENGTH OF 3'10" PROTRUDES ABOVE THE GROUND. BLOW OUT THE BORE HOLE IN THE ROCK USING COMPRESSED AIR.

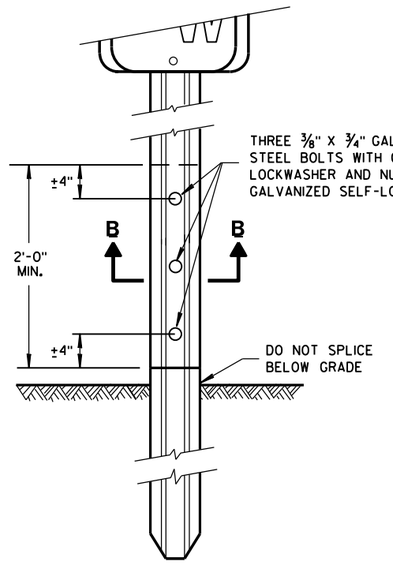
FILL THE BORE HOLE WITH CEMENT GROUT, OR EQUIVALENT. DEPENDING ON THE STABILITY OF THE ROCK.



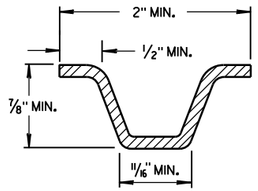

**FRONT VIEW**
**STEEL MARKER POST**




**FRONT VIEW**
**ROCK INSTALLATION (1)**

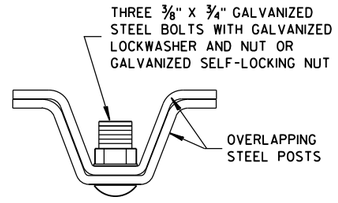



**FRONT VIEW**
**SPLICE DETAIL**




MIN. WEIGHT 1.12 LB./FT.

**SECTION A-A**




**SECTION B-B**

# MARKER POST FOR RIGHT-OF-WAY

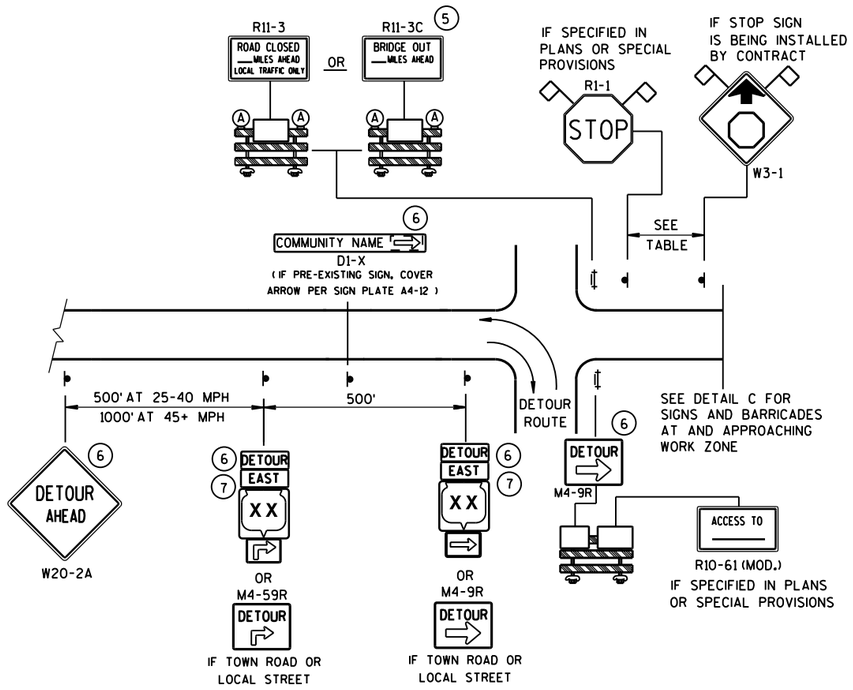
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Ray Kumapayi — CHIEF SURVEYING AND MAPPING ENGINEER
FHWA



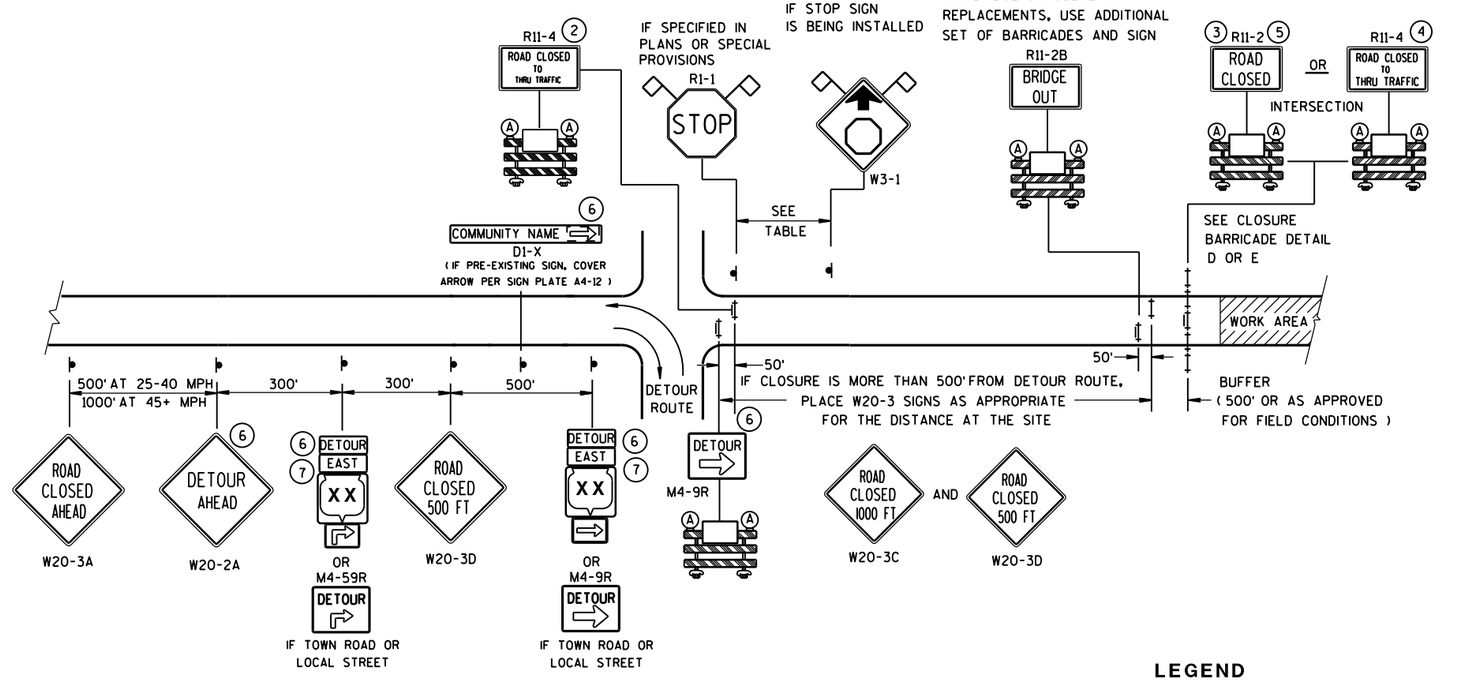

6

S.D.D. 15 A 1-12a



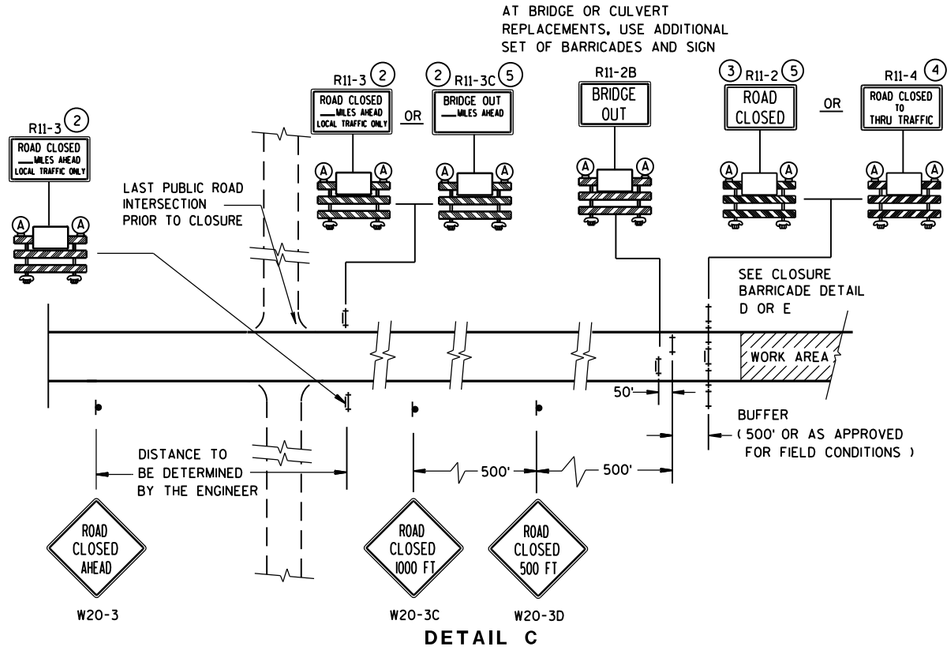

## DETAIL A
## MAINLINE CLOSURE WITH POSTED DETOUR

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




## DETAIL B
## MAINLINE CLOSURE WITH POSTED DETOUR

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




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

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

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

### LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- DETOUR / EAST — M4-8 / M3-X
- XX — M1-4; COUNTY XX — M1-5A; XX — M1-6
- M05-1 OR M06-1
- FLAGS, 16" X 16" MIN., (ORANGE)

**BARRICADES AND SIGNS FOR MAINLINE CLOSURES**

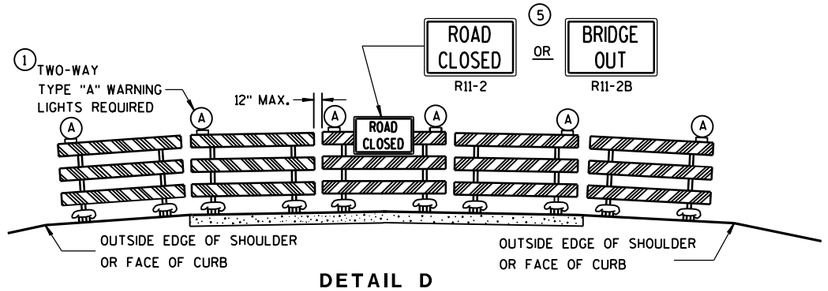
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA



S.D.D. 15 C 2-6a

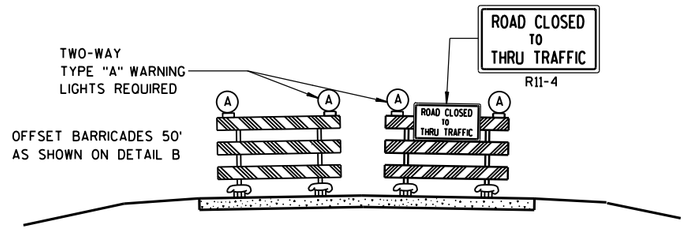
S.D.D. 15 C 2-6a




**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**

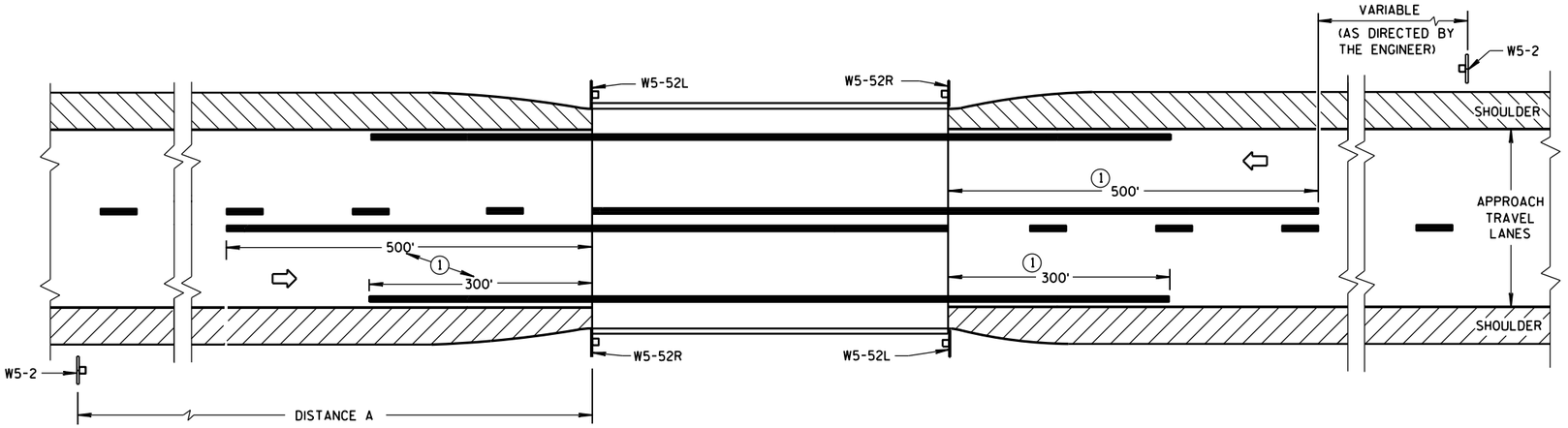
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

| Sept. 2015 | /S/ Peter Amakobe Atepe | |
|---|---|---|
| DATE | STATEWIDE WORK ZO SAFETY ENGI | FIC |
| FHWA | | |




6


S.D.D. 15 C 2-6b




## 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.

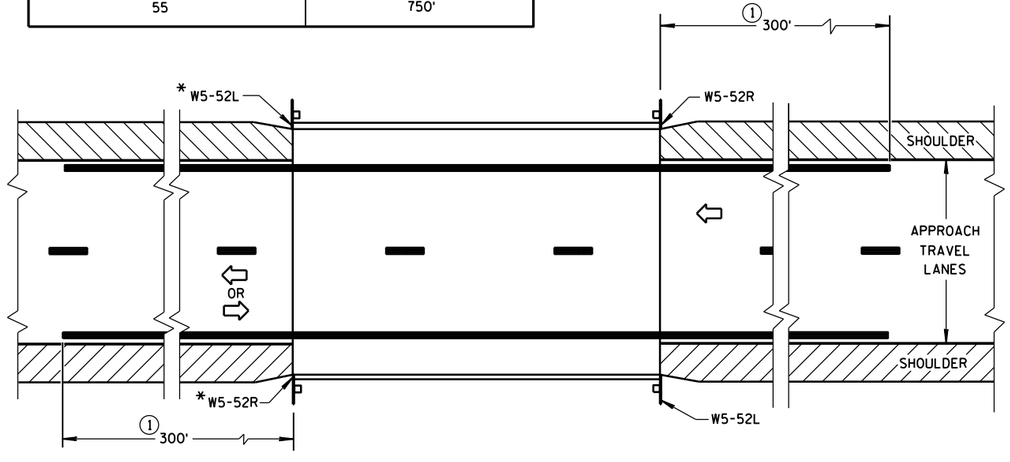
### DISTANCE TABLE

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

## SITUATION 1

WARRANTING CRITERIA:

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



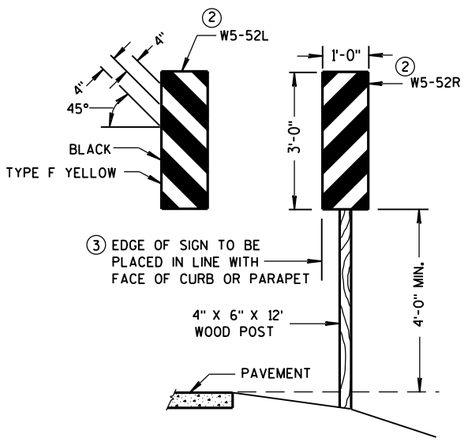

*OMIT ON ONE-WAY TRAVELLED WAYS

## SITUATION 2

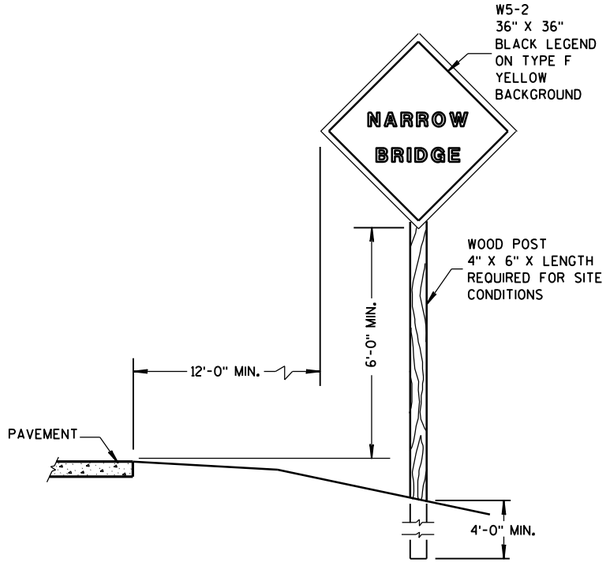
WARRANTING CRITERIA:

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




SIGN PLACEMENT

SIGNING & MARKING
FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3-2014 DATE

/S/ Travis Feltes STATE TRAFFIC ENGINEER

FHWA



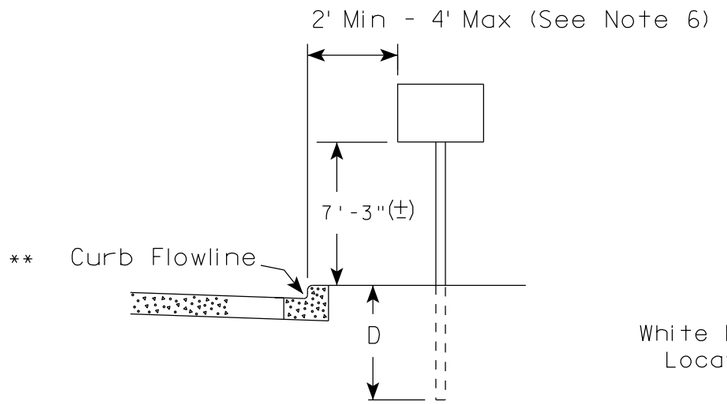


6

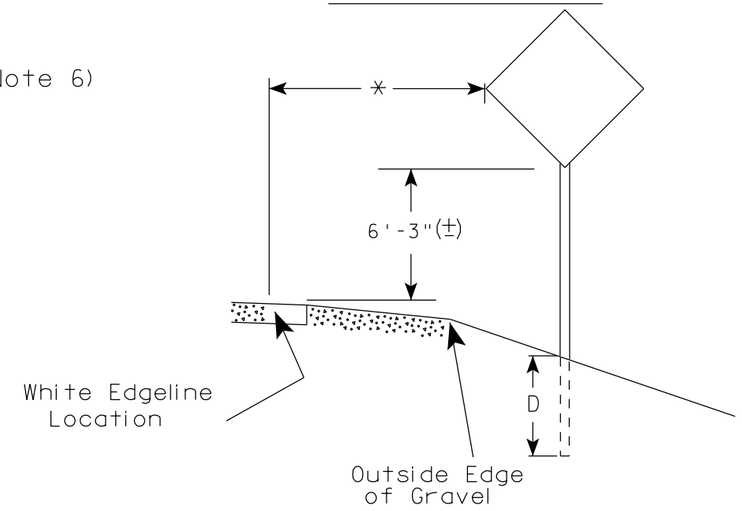


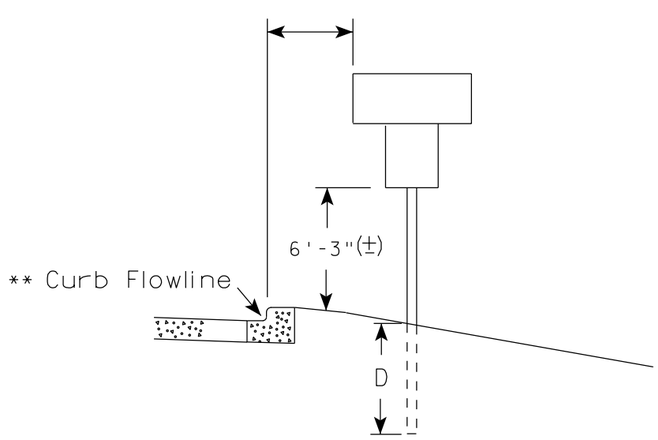
S.D.D. 15 C 6-7

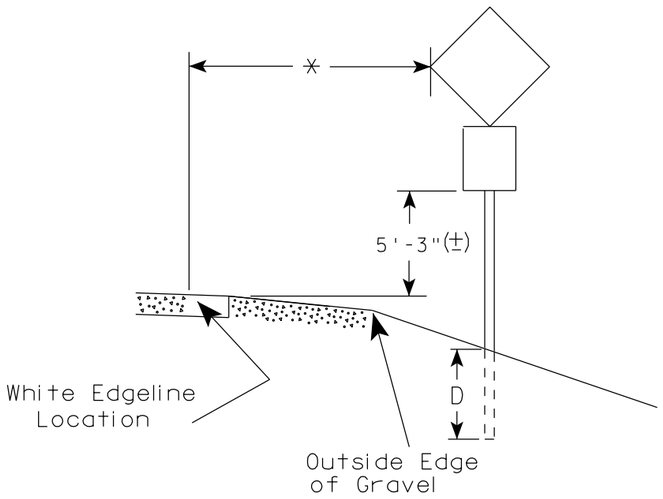
## URBAN AREA




## RURAL AREA (See Note 2)




## GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on 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 (A2-1S) 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 signs shall be mounted at a height of 5'-3" (±) or as directd 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), In Road Object Markers (W5-54) & End of Road Markers (W5-56) 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

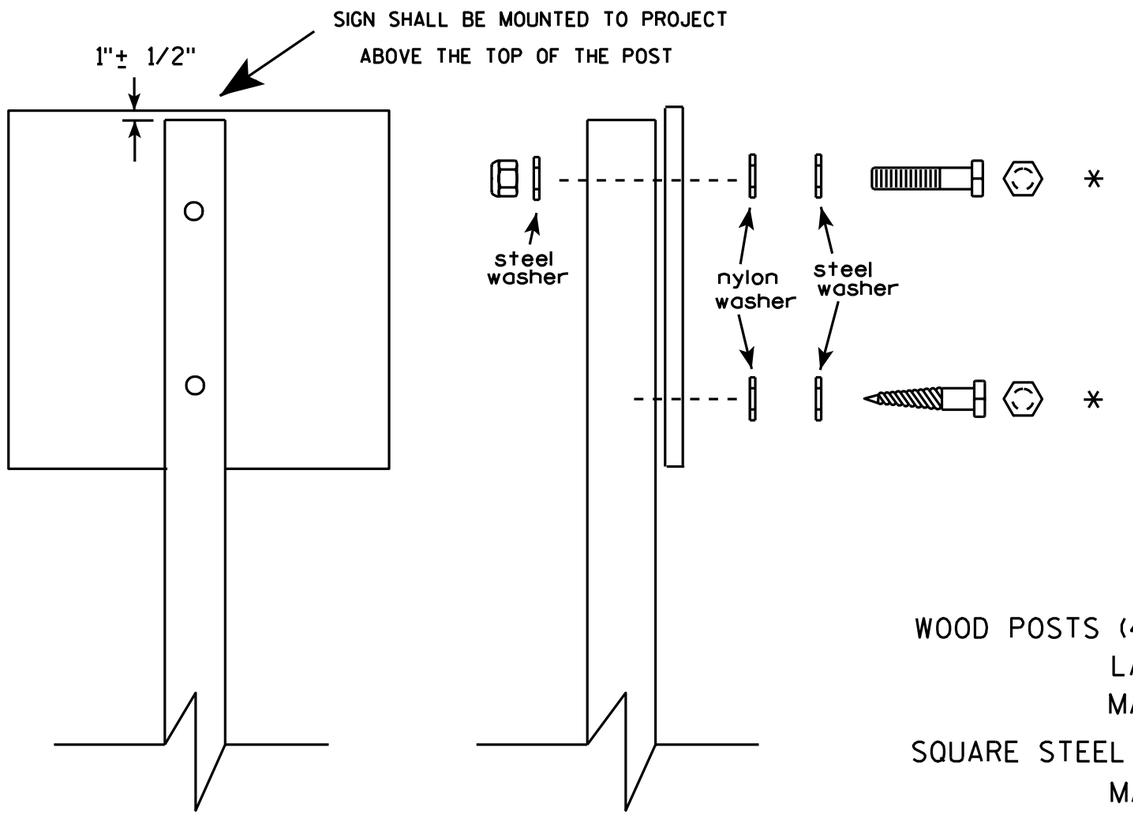
*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-3.20



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




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

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

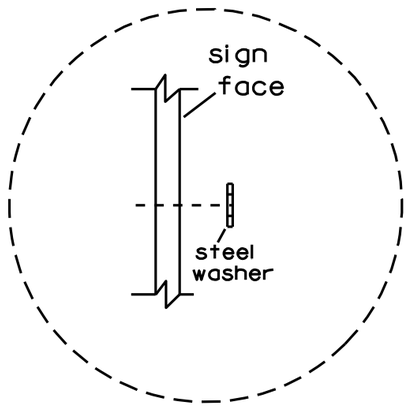
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

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 TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

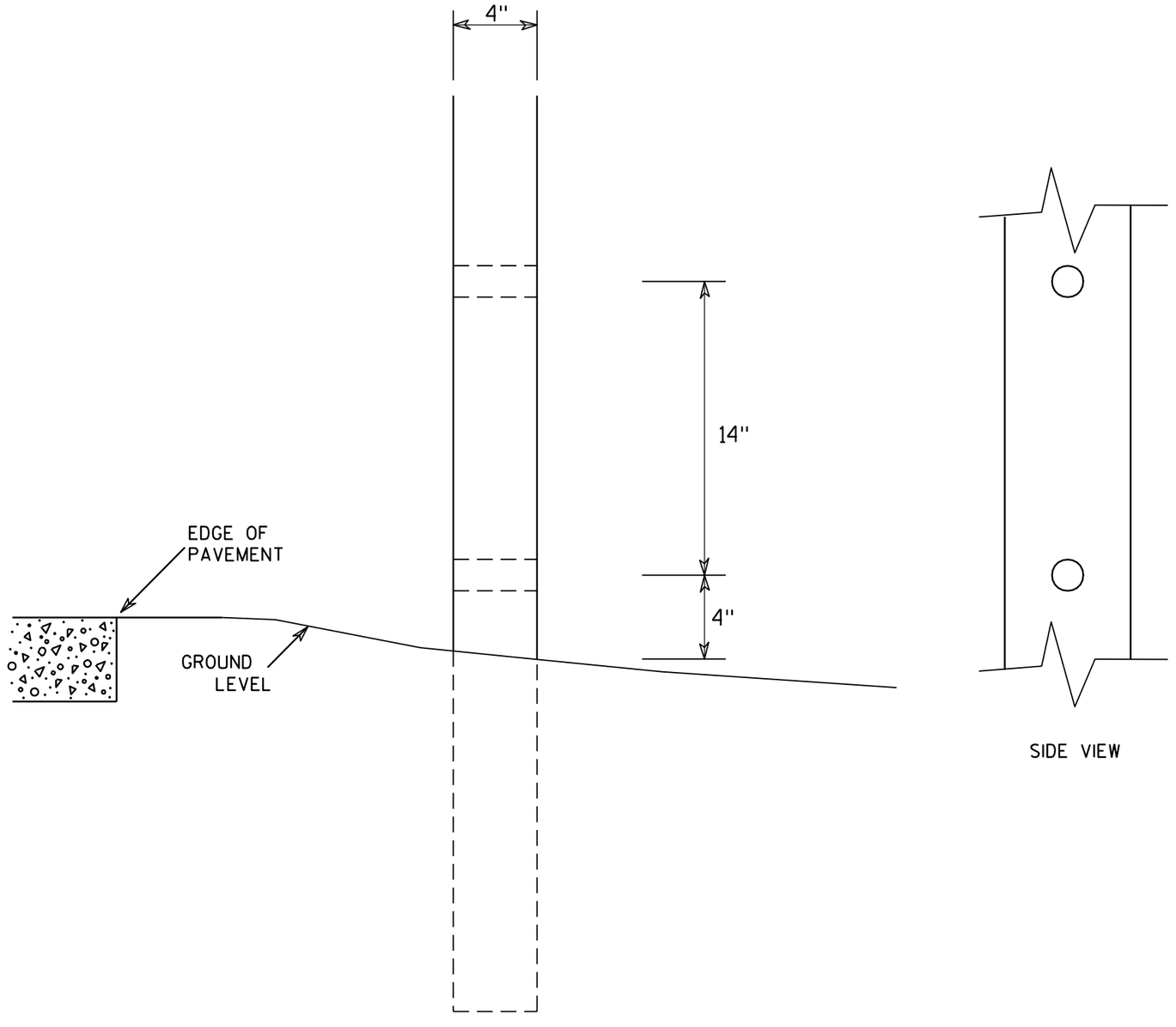
DATE 3/23/10 PLATE NO. A4-8.7

7

7

PROJECT NO:

SHEET NO: 21 E






SIDE VIEW

GENERAL NOTES

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

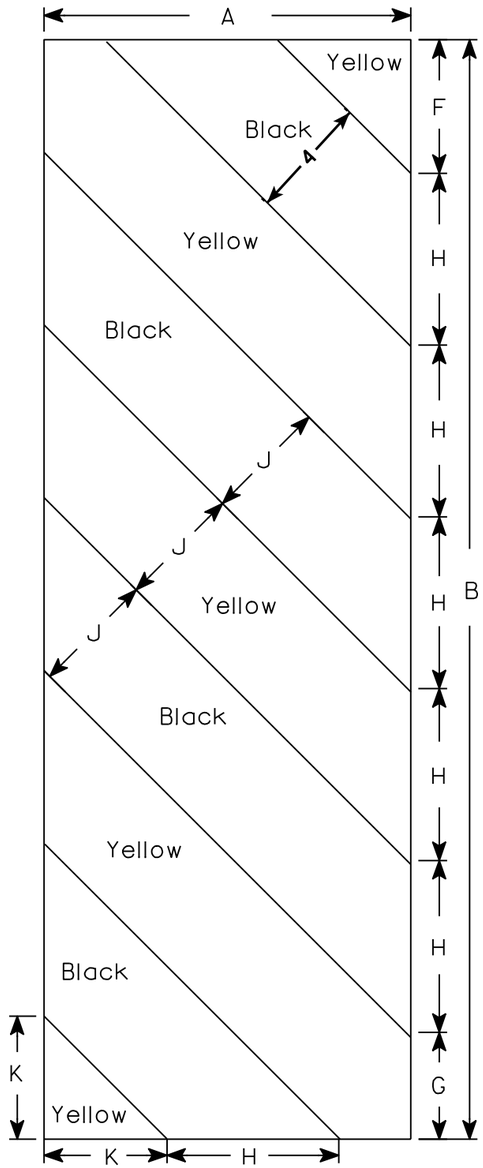
# 4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

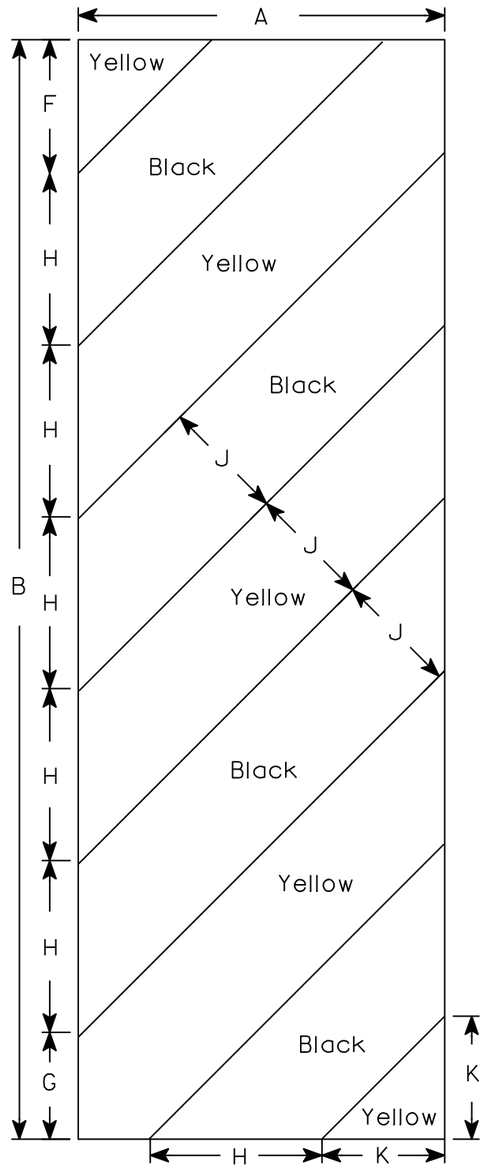
APPROVED Chester J Spang for State Traffic Engineer

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

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 22 | E |
|---|---|---|---|---|---|




W5-52L




W5-52R

NOTES

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

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 12 | 36 | | | | 4 3/8 | 3 1/2 | 5 5/8 | 45° | 4 | 4 | | | | | | | | | | | | | | | | 3.0 |
| 2M | 12 | 36 | | | | 4 3/8 | 3 1/2 | 5 5/8 | 45° | 4 | 4 | | | | | | | | | | | | | | | | 3.0 |
| 3 | 18 | 54 | | | | 6 | 5 1/2 | 8 1/2 | 45° | 6 | 6 9/16 | | | | | | | | | | | | | | | | 6.75 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

STANDARD SIGN

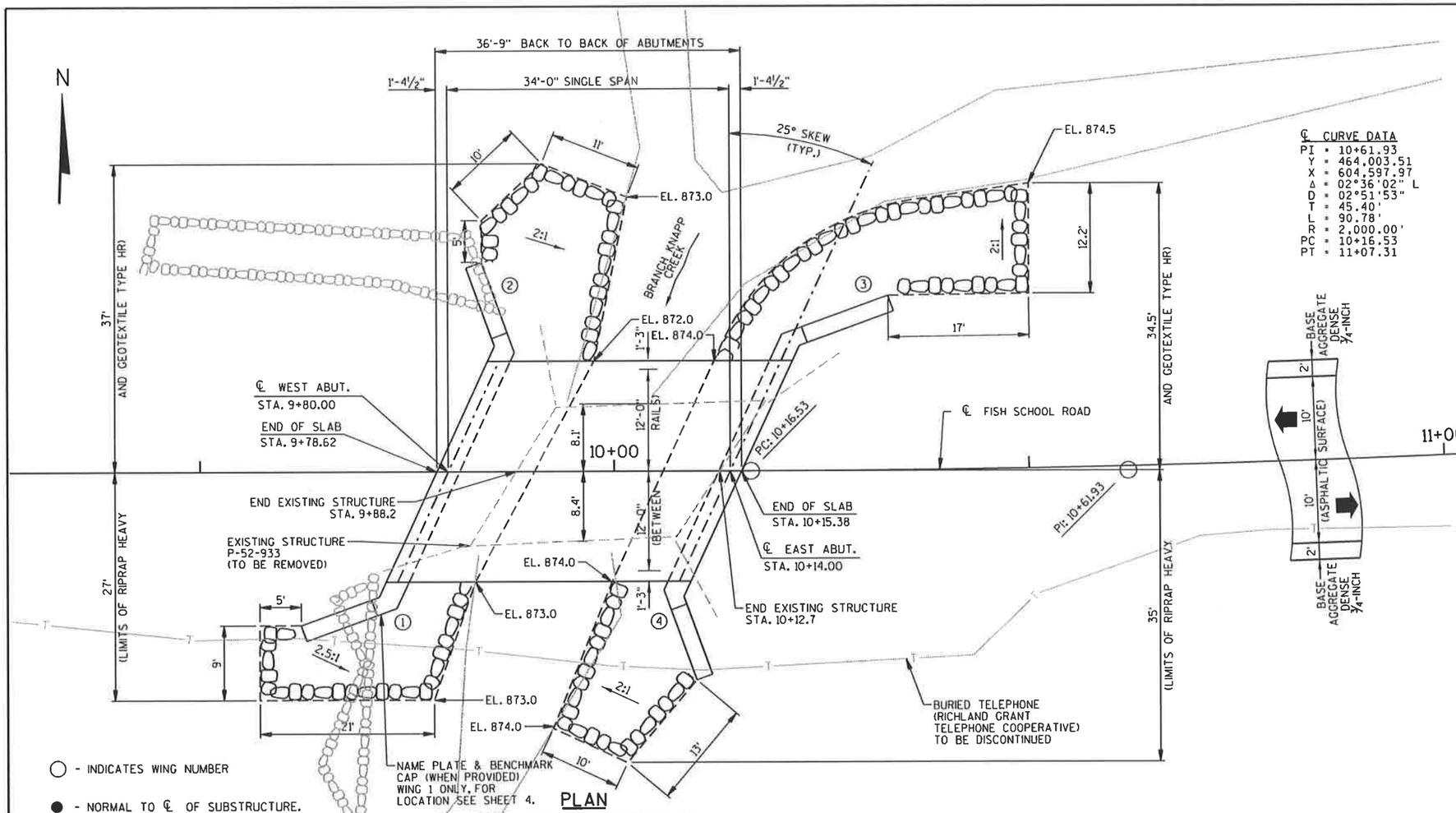
W5-52L & W5-52R

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 23 | E



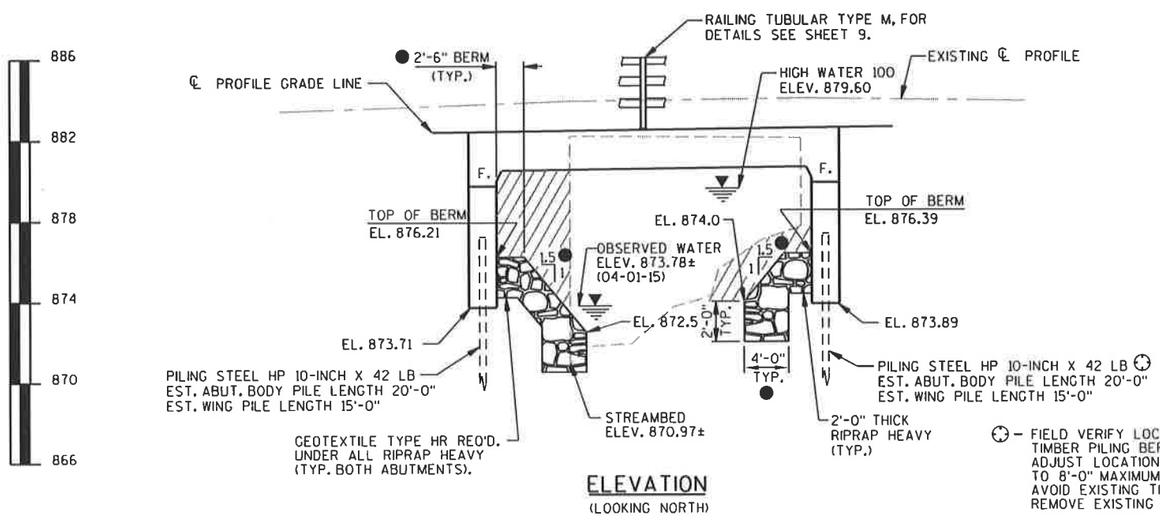

## PLAN
(SINGLE SPAN FLAT CONCRETE SLAB)

℄ CURVE DATA
PI = 10+61.93
Y = 464,003.51
X = 604,597.97
Δ = 02°36'02" L
D = 02°51'53"
T = 45.40'
L = 90.78'
R = 2,000.00'
PC = 10+16.53
PT = 11+07.31

○ - INDICATES WING NUMBER

● - NORMAL TO ℄ OF SUBSTRUCTURE.

▨ - REMOVAL OF THIS MATERIAL IS INCLUDED IN THE BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-52-273".




## ELEVATION
(LOOKING NORTH)

⊕ - FIELD VERIFY LOCATION OF EXISTING TIMBER PILING BEFORE DRIVING PILES. ADJUST LOCATION OF NEW PILES UP TO 8'-0" MAXIMUM PILE SPACING TO AVOID EXISTING TIMBER PILING OR REMOVE EXISTING CONFLICTING PILING.

## LIST OF DRAWINGS
1. GENERAL PLAN
2. CROSS SECTION, QUANTITIES & NOTES
3. SUBSURFACE EXPLORATION
4. WEST ABUTMENT
5. WEST ABUTMENT DETAILS
6. EAST ABUTMENT
7. EAST ABUTMENT DETAILS
8. SUPERSTRUCTURE
9. RAILING TUBULAR TYPE M

STATE PROJECT NUMBER
5367-00-70

BENCHMARKS ⊕ NAVD 88

| NO. | STA./OFFSET | DESCRIPTION | ELEV. |
|---|---|---|---|
| 1 | 7+98.14, 13.0' RT | DISK ON SW COR BRIDGE | 881.15 |
| 2 | 9+92.99, 12.4' LT | CHIS V TOP OF H PILE NW COR BR | 883.81 |

## DESIGN DATA

LIVE LOAD:
DESIGN LOADING : HL-93
INVENTORY RATING FACTOR : 1.17
OPERATIONAL RATING FACTOR : 1.52
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV) = 250 KIPS.
STRUCTURE IS DESIGNED FOR A FUTURE WEARING SURFACE OF 20 POUNDS PER SQUARE FOOT.

TRAFFIC DATA:
A.A.D.T. (2017) = 20
A.A.D.T. (2037) = 30

MATERIAL PROPERTIES:
CONCRETE MASONRY, SLAB — $f'_c$ = 4,000 P.S.I.
ALL OTHER — $f'_c$ = 3,500 P.S.I.
HIGH-STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 — $f_y$ = 60,000 P.S.I.
PILING STEEL HP — $f_y$ = 50,000 P.S.I.

FOUNDATION DATA:
ABUTMENTS TO BE SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB. DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 100 TONS ✳ PER PILE AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA. ESTIMATED PILE LENGTHS ARE 20'-0" IN THE ABUTMENT BODIES AND 15'-0" IN THE ABUTMENT WINGS.

✳ 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.

HYDRAULIC DATA:
100 YEAR FREQUENCY
DRAINAGE AREA — 3.0 SQ. MI.
$Q_{100}$ — 1010 C.F.S.
VELOCITY — 10.58 FT./SEC.
WATERWAY AREA — 96 SQ. FT.
SCOUR CRITICAL CODE — 8
HIGH WATER $_{100}$ ELEVATION — 879.60
$Q_2$ ELEVATION (150 C.F.S.) — 875.43
ROADWAY OVERFLOW DESIGN FREQUENCY
OVERTOPPING FREQUENCY — > 100 YEARS

CONSULTANT DESIGN CONTACT:
LEAH RHODES
(608) 355-8945

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

WISCONSIN
LEAH J. RHODES
E-41726
BARABOO
WI
PROFESSIONAL ENGINEER
Leah J. Rhodes
7/20/16

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

MSA PROFESSIONAL SERVICES
TRANSPORTATION • MUNICIPAL DEVELOPMENT • ENVIRONMENTAL
1230 South Boulevard Baraboo, WI 53913
608-356-2771 1-800-362-4505 Fax: 608-356-2770

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher SCR — 08/09/16
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE B-52-273
FISH SCHOOL ROAD OVER BRANCH KNAPP CREEK
COUNTY: RICHLAND — TOWN/~~CITY/VILLAGE~~: SYLVAN
DESIGN SPEC.: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

| DESIGNED BY | DESIGN CK'D. | DRAWN BY | PLANS CK'D. |
|---|---|---|---|
| JAS | LJR | RLR | JAS |

GENERAL PLAN
SHEET 1 OF 9
24

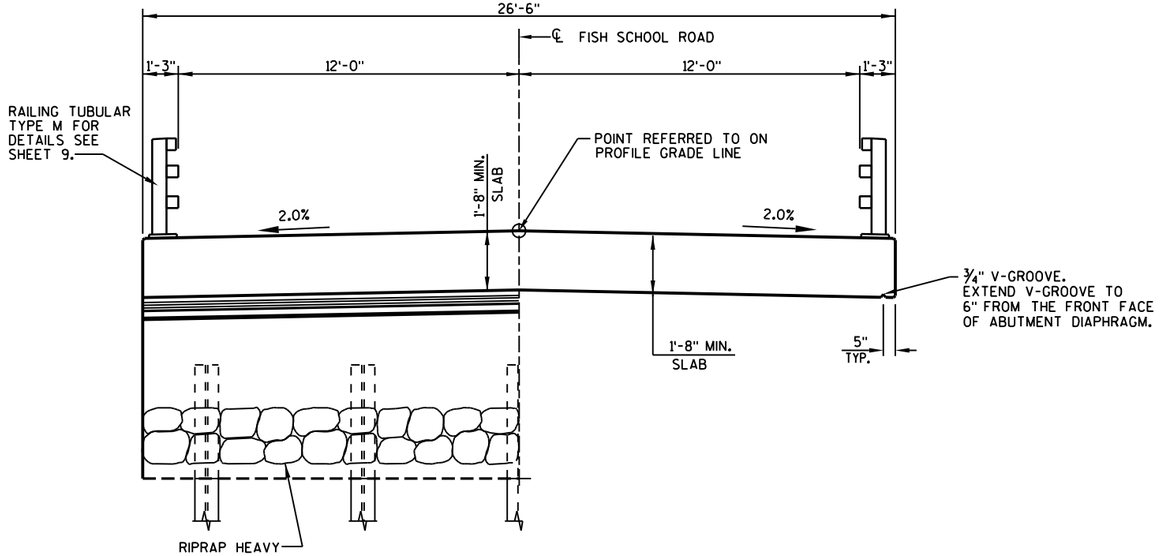
FILE= 11514001_01.DGN
DATE= 7/20/2016

8

8

STATE PROJECT NUMBER

5367-00-70




AT ABUTMENTS IN SPAN

## CROSS SECTION THRU BRIDGE

(LOOKING EAST)

## 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 MARK AND THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFY THE BAR SIZE.

THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH RIPRAP HEAVY AND GEOTEXTILE TYPE HR TO THE LIMITS SHOWN ON SHEET 1 AND ON THE ABUTMENT SHEETS OR AS DIRECTED BY THE ENGINEER.

THE EXISTING GROUNDLINE SHALL BE THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES" FOR THE ABUTMENTS.

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

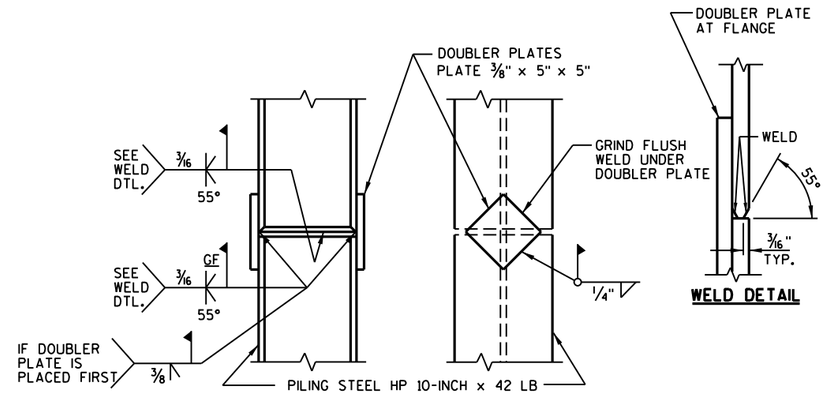
THIS STRUCTURE WILL REPLACE EXISTING STRUCTURE P-52-933, A 17' WIDE BY 24.5 FT. LONG STEEL DECK GIRDER BRIDGE WITH TIMBER DECK SUPPORTED ON TIMBER BACKED TIMBER PILE ABUTMENTS.

AT THE BACKFACE OF ABUTMENTS ALL EXCAVATED VOLUME NOT OCCUPIED BY THE NEW STRUCTURE SHALL BE BACKFILLED WITH BACKFILL STRUCTURE TYPE A. THE QUANTITY FOR "BACKFILL STRUCTURE TYPE A" IS CALCULATED BASED ON FIGURE 12.6-1 IN THE WISDOT BRIDGE MANUAL.

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

PROTECTIVE SURFACE TREATMENT SHALL BE APPLIED TO THE TOP AND EDGES OF SLAB, TO THE OUTSIDE 1'-0" OF THE UNDERSIDE OF SLAB, TO THE TOPS OF WINGS, AND TO THE EXPOSED FRONT FACES OF WINGS.

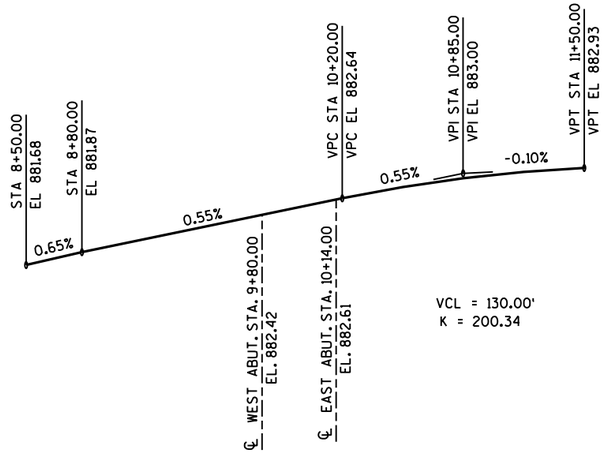
ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO USGS NAVD 88 (96 ADJUSTED). BENCHMARK REFERENCES AT THE PROJECT SITE WERE SET BY THE CONSULTANT USING GPS TECHNOLOGY.




## TOTAL ESTIMATED QUANTITIES

| ITEM NUMBER | BID ITEM | UNIT | WEST ABUT. | EAST ABUT. | SUPER | TOTAL |
|---|---|---|---|---|---|---|
| 203.0600.S.01 | REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STATION 10+00 | LS | - | - | - | 1 |
| 206.1000.01 | EXCAVATION FOR STRUCTURES BRIDGES B-52-273 | LS | - | - | - | 1 |
| 210.1500 | BACKFILL STRUCTURE TYPE A | TON | 240 | 240 | - | 480 |
| 502.0100 | CONCRETE MASONRY BRIDGES | CY | 33 | 34 | 65 | 132 |
| 502.3200 | PROTECTIVE SURFACE TREATMENT | SY | 20 | 20 | 130 | 170 |
| 505.0400 | BAR STEEL REINFORCEMENT HS STRUCTURES | LB | 2165 | 2165 | - | 4330 |
| 505.0600 | BAR STEEL REINFORCEMENT HS COATED STRUCTURES | LB | 1610 | 1730 | 11270 | 14610 |
| 513.4061.01 | RAILING TUBULAR TYPE M B-52-273 | LF | - | - | 77 | 77 |
| 516.0500 | RUBBERIZED MEMBRANE WATERPROOFING | SY | 6.5 | 6.5 | - | 13 |
| 550.1100 | PILING STEEL HP 10-INCH x 42 LB | LF | 130 | 130 | - | 260 |
| 606.0300 | RIPRAP HEAVY | CY | 75 | 80 | - | 155 |
| 612.0406 | PIPE UNDERDRAIN WRAPPED 6-INCH | LF | 90 | 90 | - | 180 |
| 645.0120 | GEOTEXTILE TYPE HR | SY | 135 | 150 | - | 285 |
| | | | | | | |
| | **NON-BID ITEMS** | | | | | |
| | PREFORMED FILLER | SIZE | - | - | - | ½", ¾" |

## PILE SPLICE DETAILS




## PROFILE GRADE LINE - FISH SCHOOL ROAD

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-52-273

DRAWN BY RLR | PLANS CK'D. LJR

CROSS SECTION, QUANTITIES & NOTES

SHEET 2 OF 9

25

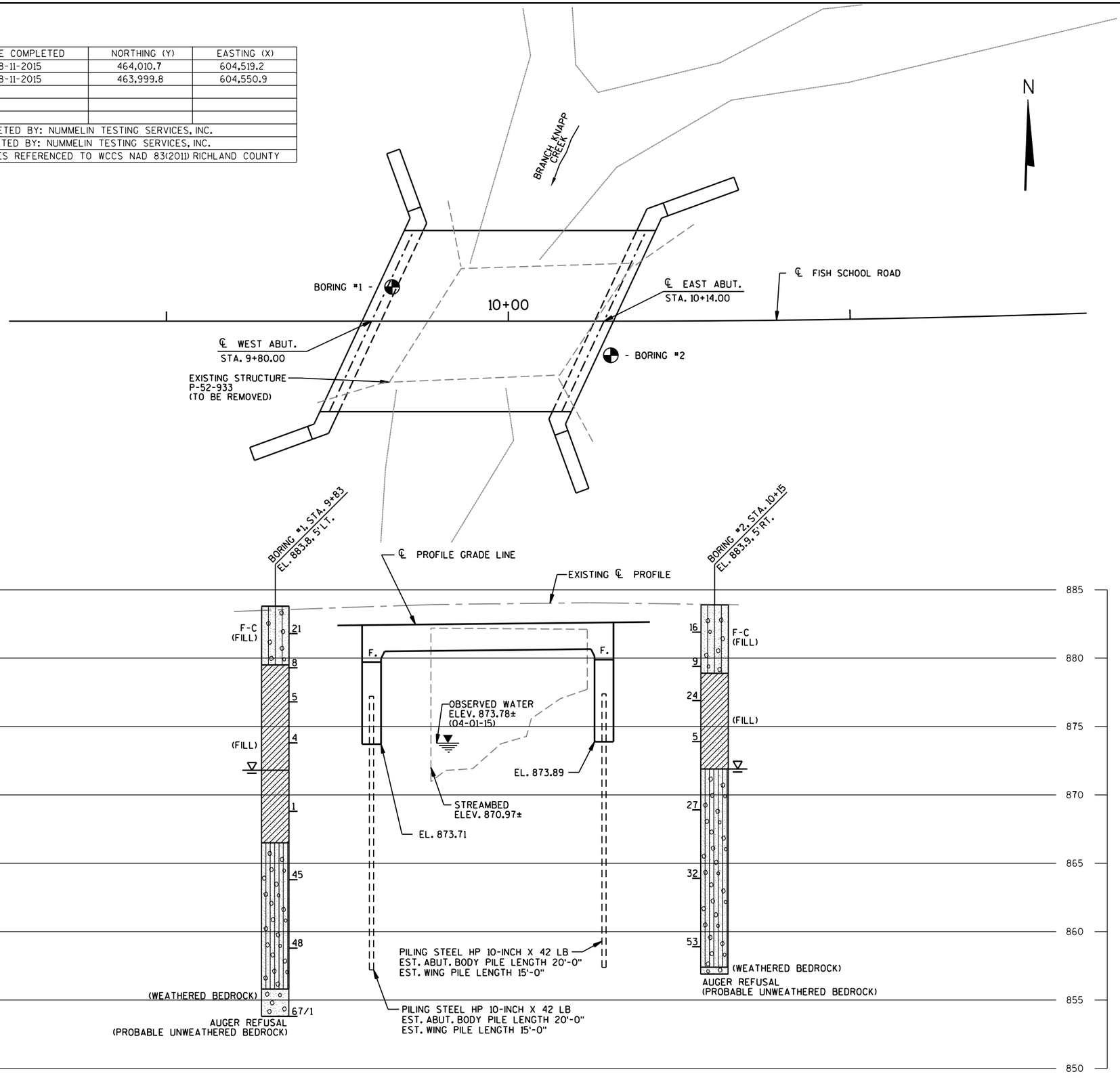
8

8

FILE= 11514001_02.DGN
DATE= 7/20/2016

11514001_02.dgn 7/20/2016 12:47:29 PM rrabska

| BORING # | DATE COMPLETED | NORTHING (Y) | EASTING (X) |
|---|---|---|---|
| 1 | 8-11-2015 | 464,010.7 | 604,519.2 |
| 2 | 8-11-2015 | 463,999.8 | 604,550.9 |
| | | | |
| | | | |
| | | | |
| BORINGS COMPLETED BY: NUMMELIN TESTING SERVICES, INC. | | | |
| REPORT COMPLETED BY: NUMMELIN TESTING SERVICES, INC. | | | |
| ALL COORDINATES REFERENCED TO WCCS NAD 83(2011) RICHLAND COUNTY | | | |



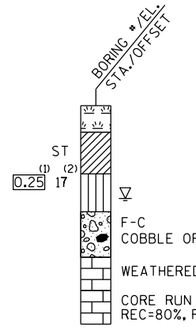

STATE PROJECT NUMBER

**5367-00-70**

MATERIAL SYMBOLS

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

LEGEND OF BORING




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

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

GROUND WATER ELEVATION

- AT TIME OF DRILLING
- END OF DRILLING
- AFTER DRILLING

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-52-273

DRAWN BY RLR | PLANS CK'D. LJR

SUBSURFACE EXPLORATION

SHEET 3 OF 9
26

8

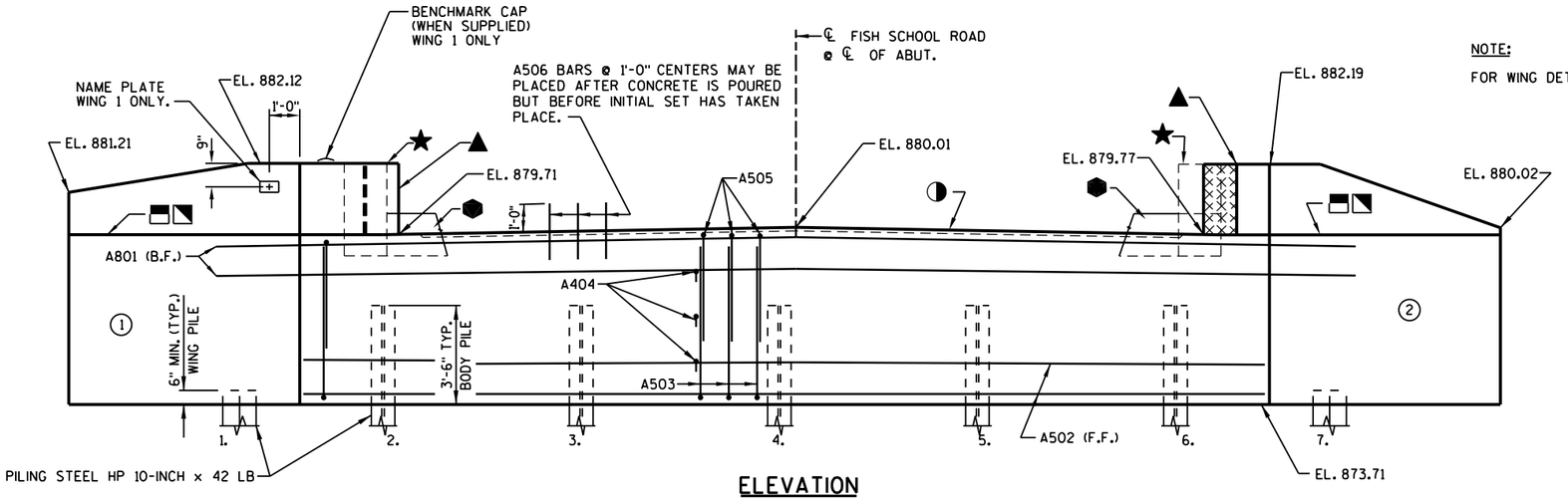
8

FILE= 11514001_03.DGN

11514001_03.dgn 5/6/2016 8:57:20 AM rrabska

STATE PROJECT NUMBER

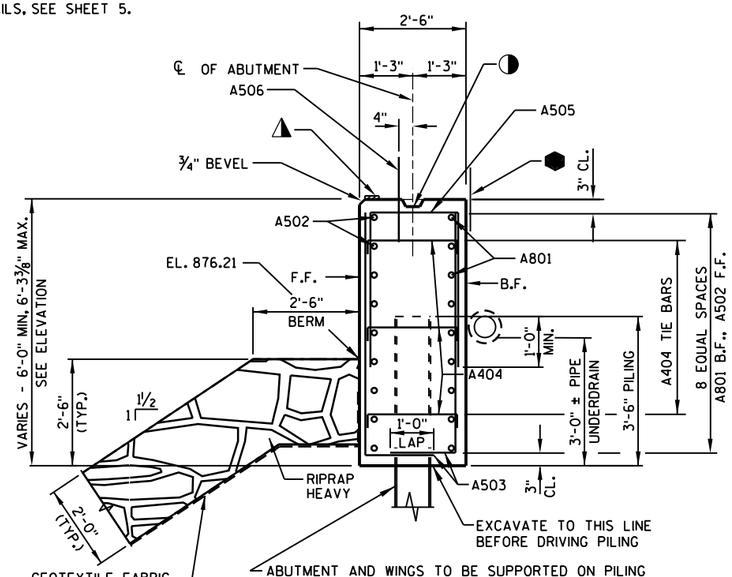
5367-00-70




ELEVATION
(LOOKING WEST)

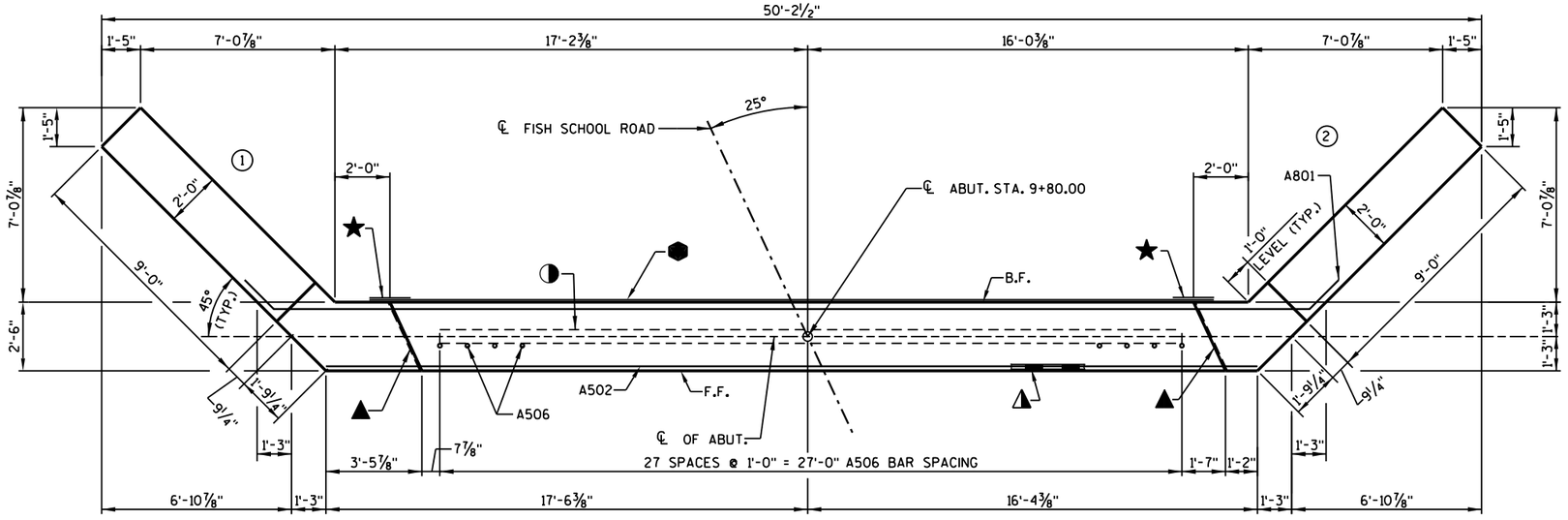
NOTE:

FOR WING DETAILS, SEE SHEET 5.




ABUTMENT AND WINGS TO BE SUPPORTED ON PILING STEEL HP 10-INCH x 42 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 100 TONS PER PILE. ESTIMATED PILE LENGTHS ARE 20'-0" AT THE ABUTMENT BODY AND 15'-0" AT THE WING PILES (1 & 7). SEE SHEET 2 FOR PILE SPLICE DETAILS.

## TYPICAL SECTION THRU ABUTMENT




PLAN

## LEGEND

◑ — KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2x6.

▲ — ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE).

◭ — 4"x ¾" FILLER, EXTEND FULL LENGTH OF ABUTMENT BETWEEN EDGES OF SLAB.

★ — VERTICAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM 9" BELOW BRIDGE SEAT TO TOP OF WINGS.

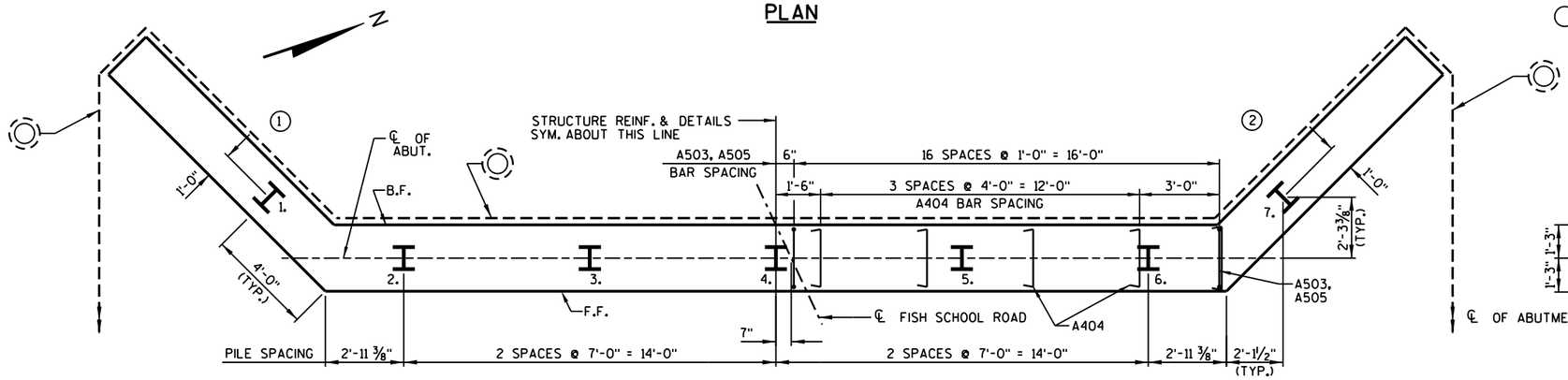
⬢ — HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND BETWEEN WINGS.

◧ — OPTIONAL KEYED CONST. JOINT ON WING FORMED BY BEVELED 2 X 6. IF JOINT IS USED, PLACE ⬢ ON B.F. OF WING. COST OF ⬢ IS INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES".

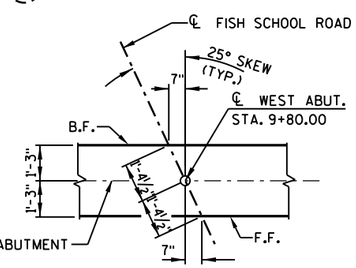
◹ — ¾" "V" GROOVE ON FRONT FACE OF WING WALL, REQUIRED ONLY WHERE CONSTRUCTION JOINT IS USED.

◎ — PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU GEOTEXTILE FABRIC AT FACE OF RIPRAP HEAVY. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT SHIELD AT ENDS OF PIPE. FOR RODENT DETAILS, SEE SHEET 5.

○ — INDICATES WING NUMBER F.F.— FRONT FACE B.F.—BACK FACE CL.—CLEAR




PILE PLAN




LAYOUT DETAIL

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-52-273

DRAWN BY RLR | PLANS CK'D. JAS

WEST ABUTMENT

SHEET 4 OF 9
27

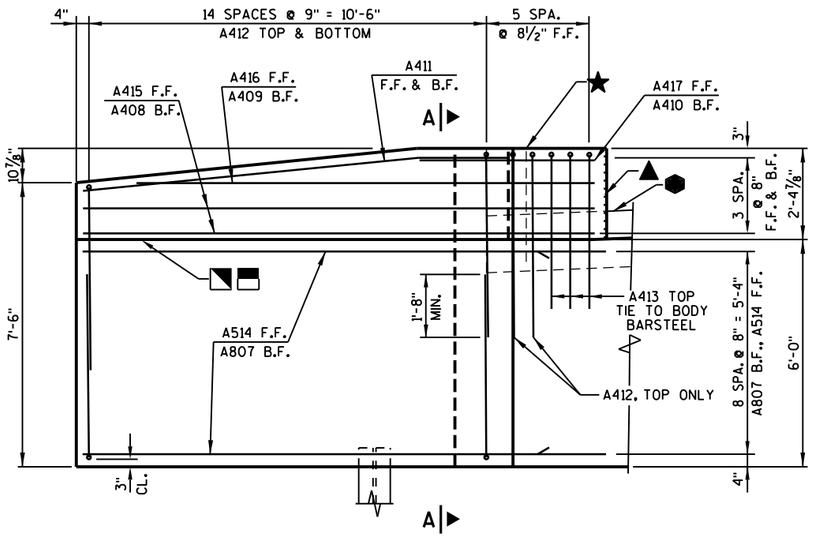
FILE= 11514001_04.DGN
DATE= 7/20/2016

8

8

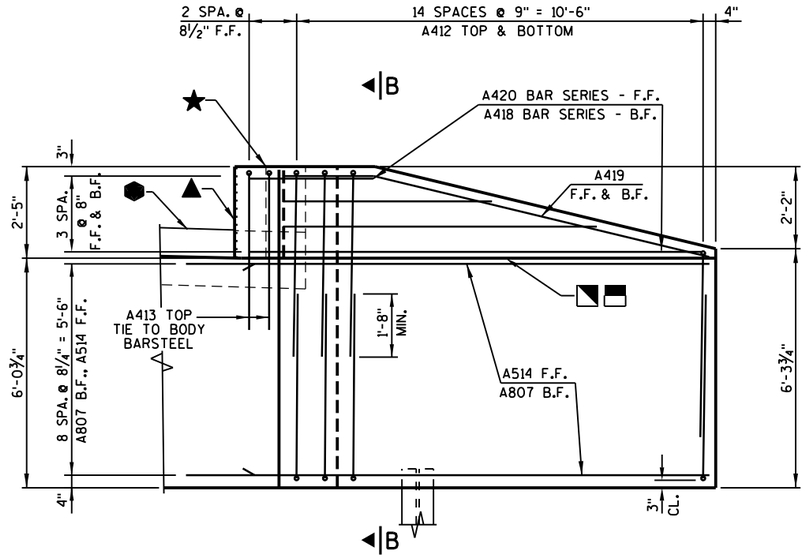
STATE PROJECT NUMBER

5367-00-70



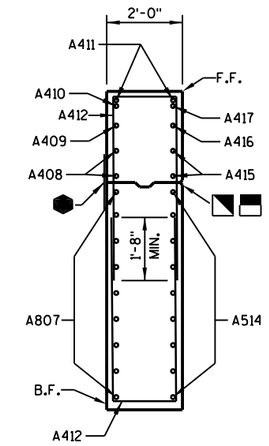

ELEVATION - WING 1

(LOOKING AT F.F. OF WING)

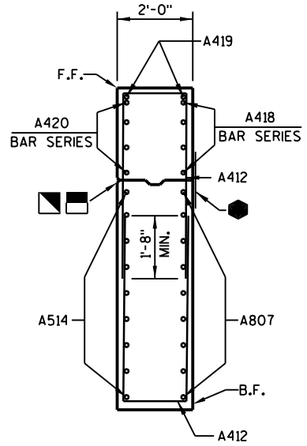



ELEVATION - WING 2

(LOOKING AT F.F. OF WING)




SECTION A-A
THRU WING 1




SECTION B-B
THRU WING 2

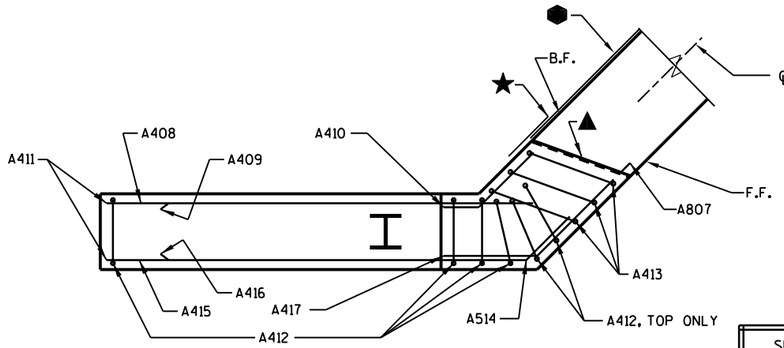
UNCOATED 2165 LBS.
COATED 1610 LBS.

BILL OF BARS (1 ABUTMENT)

| MARK | NUMBER REQUIRED COATED | NUMBER REQUIRED UNCOATED | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| A801 | - | 9 | 40'-5" | X | | ABUTMENT BODY - B.F. - HORIZ. |
| A502 | - | 9 | 33'-10" | | | ABUTMENT BODY - F.F. - HORIZ. |
| A503 | - | 68 | 7'-0" | X | | ABUTMENT BODY - F.F. & B.F. - VERT. |
| A404 | - | 30 | 2'-9" | X | | ABUTMENT BODY - TIES - HORIZ. |
| A505 | - | 34 | 9'-1" | X | | ABUTMENT BODY - TOP - VERT. |
| A506 | 28 | - | 2'-0" | | | ABUTMENT BODY - TOP DOWELS - VERT. |
| A807 | 18 | - | 14'-2" | X | | WINGS - B.F. - HORIZ. |
| A408 | 2 | - | 11'-9" | X | | WING 1 - B.F. - HORIZ. |
| A409 | 1 | - | 10'-4" | X | | WING 1 - B.F. - HORIZ. |
| A410 | 1 | - | 2'-10" | X | | WING 1 - B.F. - HORIZ. |
| A411 | 2 | - | 11'-3" | X | | WING 1 - F.F. & B.F. - TOP - HORIZ. |
| A412 | 62 | - | 11'-4" | X | | WINGS - TOP & BOTTOM - VERT. |
| A413 | 5 | - | 10'-6" | X | | WINGS - TOP - VERT. |
| A514 | 18 | - | 12'-8" | X | | WINGS - F.F. - HORIZ. |
| A415 | 2 | - | 14'-2" | X | | WING 1 - F.F. - HORIZ. |
| A416 | 1 | - | 12'-9" | X | | WING 1 - F.F. - HORIZ. |
| A417 | 1 | - | 5'-4" | X | | WING 1 - F.F. - HORIZ. |
| A418 | 4 | - | 7'-1" | X | Ⓢ | WING 2 - B.F. - HORIZ. |
| A419 | 2 | - | 11'-6" | X | | WING 2 - F.F. & B.F. - TOP - HORIZ. |
| A420 | 4 | - | 7'-8" | X | Ⓢ | WING 2 - F.F. - HORIZ. |

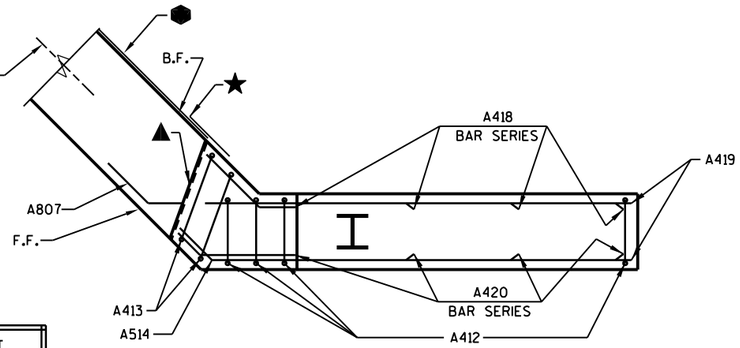
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

Ⓢ - LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS. BENT BARS USED IN BAR SERIES TABLE SHALL BE BENT AFTER CUTTING.




PLAN - WING 1

SEE LEGEND ON SHEET 4 FOR DESCRIPTION OF ★ ⬢ ◪ ⬒ ▲



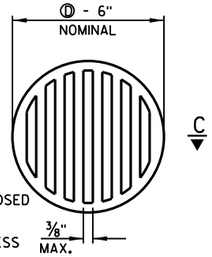

PLAN - WING 2

RODENT SHIELD NOTES:

ORIENT SHIELD SO SLOTS ARE VERTICAL.

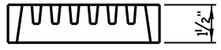
THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER.

A PIPE COUPLING IS REQUIRED FOR THE ATTACHEMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 x 1-INCH STAINLESS STEEL SHEET METAL SCREWS. THE RODENT SHIELD, PIPE COUPLING AND SCREWS, SHALL BE INCLUDED IN THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

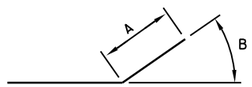



RODENT SHIELD

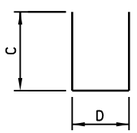
Ⓓ - DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.




SECTION C-C




| MARK | A | B |
|---|---|---|
| A807 A514 | 1'-6" | 45° |
| A408 A409 A410 | 1'-10" | 45° |
| A411 | 2'-5" | 6° |
| A415 A416 A417 | 3'-0" | 45° |
| A418 | 1'-9" | 45° |
| A419 | 2'-5" | 14° |
| A420 | 1'-0" | 45° |



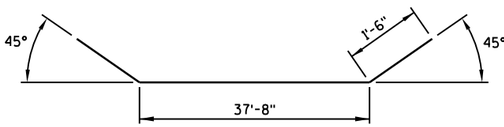

STIRRUPS AND TIES

| MARK | C | D |
|---|---|---|
| A404 | 4½" | 2'-2" |
| A505 | 3'-7" | 2'-2" |
| A412 | 4'-11" | 1'-8" |
| A413 | 4'-2" | 2'-4" |


A503

| BAR MARK | NO. REQ'D. | LENGTH |
|---|---|---|
| A418 | 1 SERIES OF 4 | 2'-9" TO 11'-5" |
| A420 | 1 SERIES OF 4 | 3'-4" TO 12'-0" |

BAR SERIES TABLE




A801

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-52-273

DRAWN BY RLR | PLANS CK'D. JAS

WEST ABUTMENT DETAILS

SHEET 5 OF 9
28

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DATE= 5/6/2016

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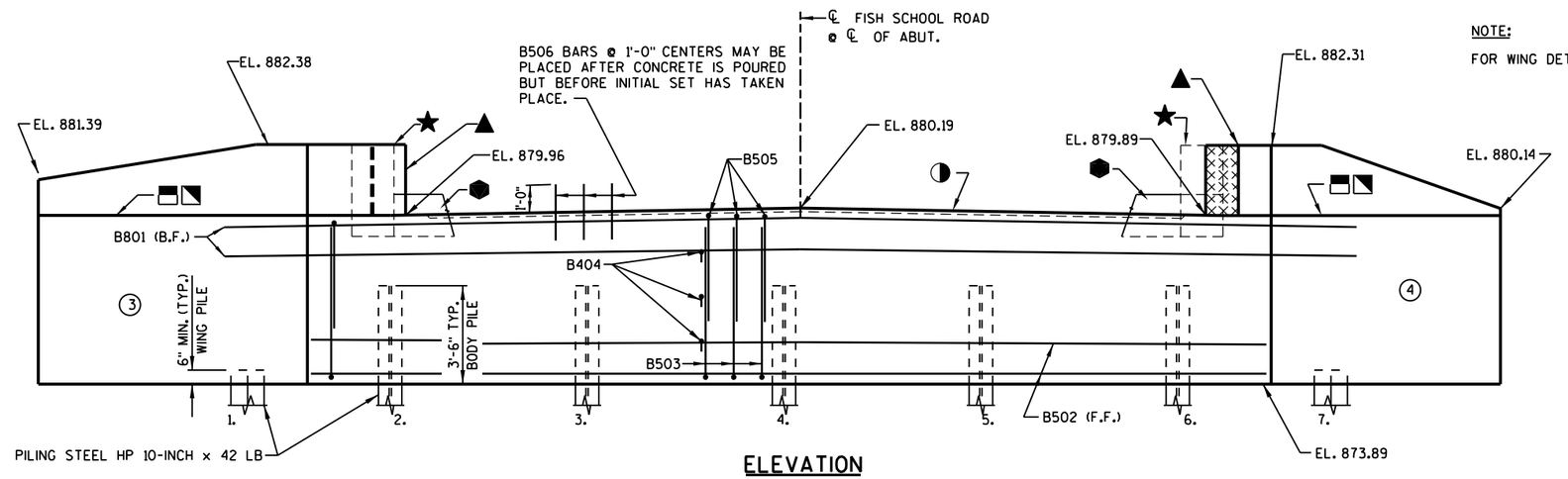
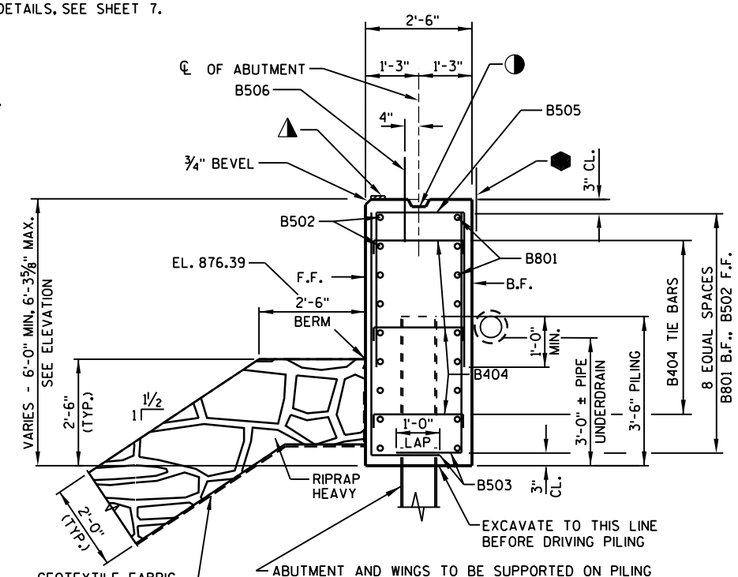
STATE PROJECT NUMBER

5367-00-70



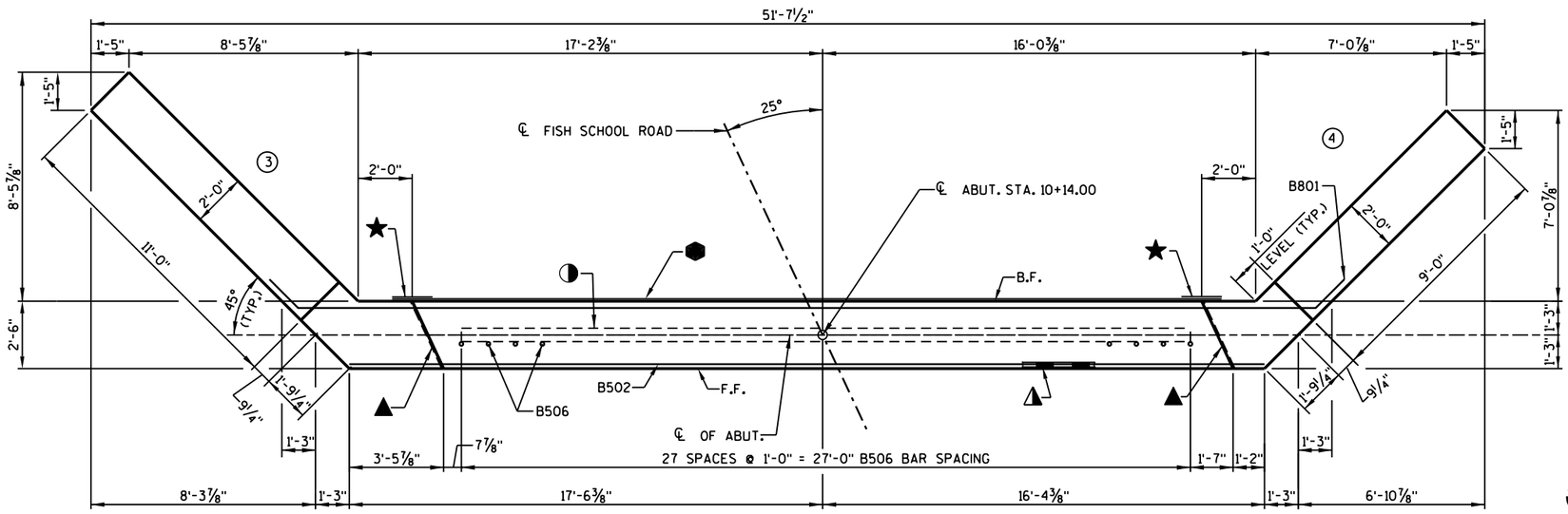

ELEVATION
(LOOKING EAST)

NOTE:
FOR WING DETAILS, SEE SHEET 7.




ABUTMENT AND WINGS TO BE SUPPORTED ON PILING STEEL HP 10-INCH x 42 LB DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 100 TONS PER PILE. ESTIMATED PILE LENGTHS ARE 20'-0" AT THE ABUTMENT BODY AND 15'-0" AT THE WING PILES (1 & 7). SEE SHEET 2 FOR PILE SPLICE DETAILS.

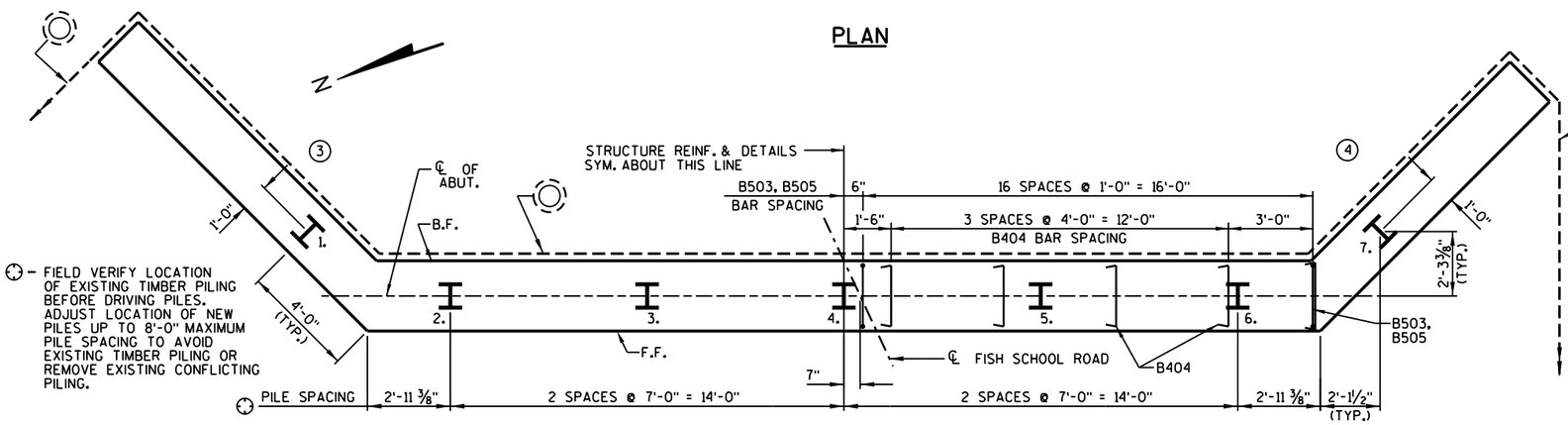
## TYPICAL SECTION THRU ABUTMENT




PLAN

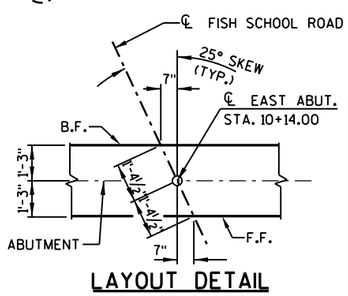
## LEGEND

- ◑ — KEYED CONSTRUCTION JOINT FORMED BY BEVELED 2x6.
- ▲ — ½" FILLER EXTEND AS SHOWN. SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF FILLER WITH NON-STAINING GRAY, NON-BITUMINOUS JOINT SEALER. (1" DEEP & HOLD ⅛" BELOW SURFACE OF CONCRETE).
- ◭ — 4"x ¾" FILLER, EXTEND FULL LENGTH OF ABUTMENT BETWEEN EDGES OF SLAB.
- ★ — VERTICAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND FROM 9" BELOW BRIDGE SEAT TO TOP OF WINGS.
- ⬢ — HORIZONTAL 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. EXTEND BETWEEN WINGS.
- ◓ — OPTIONAL KEYED CONST. JOINT ON WING FORMED BY BEVELED 2 X 6. IF JOINT IS USED, PLACE ⬢ ON B.F. OF WING. COST OF ⬢ IS INCIDENTAL TO BID ITEM "CONCRETE MASONRY BRIDGES".
- ◥ — ¾" "V" GROOVE ON FRONT FACE OF WING WALL, REQUIRED ONLY WHERE CONSTRUCTION JOINT IS USED.
- ◎ — PIPE UNDERDRAIN WRAPPED 6-INCH. EXTEND THRU GEOTEXTILE FABRIC AT FACE OF RIPRAP HEAVY. SLOPE 0.5% MIN. TO SUITABLE DRAINAGE. PROVIDE RODENT SHIELD AT ENDS OF PIPE. FOR RODENT DETAILS, SEE SHEET 5.
- ○ — INDICATES WING NUMBER  F.F.— FRONT FACE  B.F.—BACK FACE  CL.—CLEAR




PILE PLAN

○ — FIELD VERIFY LOCATION OF EXISTING TIMBER PILING BEFORE DRIVING PILES. ADJUST LOCATION OF NEW PILES UP TO 8'-0" MAXIMUM PILE SPACING TO AVOID EXISTING TIMBER PILING OR REMOVE EXISTING CONFLICTING PILING.




LAYOUT DETAIL

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-52-273

| DRAWN BY | PLANS CK'D. |
|---|---|
| RLR | JAS |

EAST ABUTMENT

SHEET 6 OF 9
29

FILE= 11514001_06.DGN
DATE= 7/20/2016

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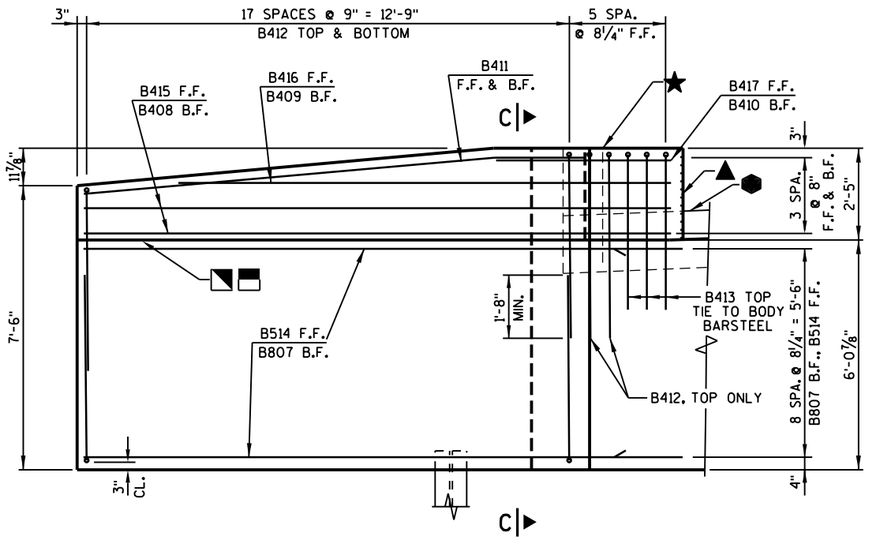
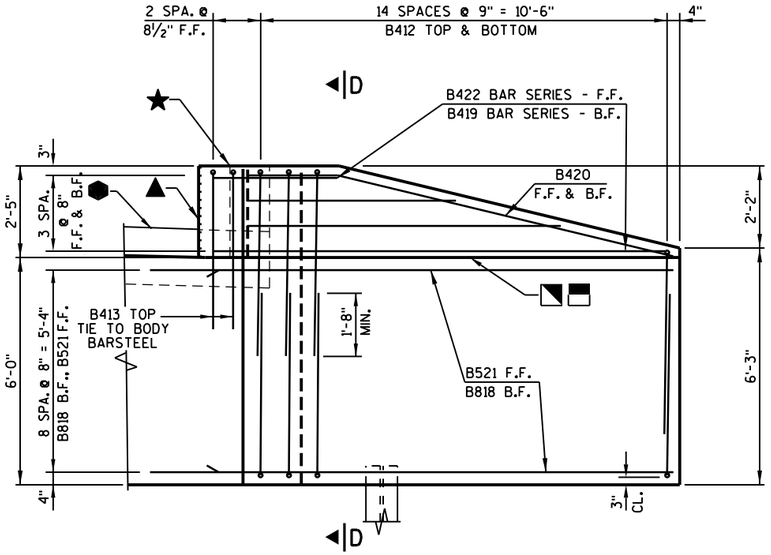
STATE PROJECT NUMBER

5367-00-70



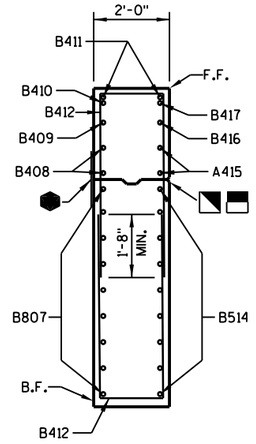

ELEVATION - WING 3

(LOOKING AT F.F. OF WING)

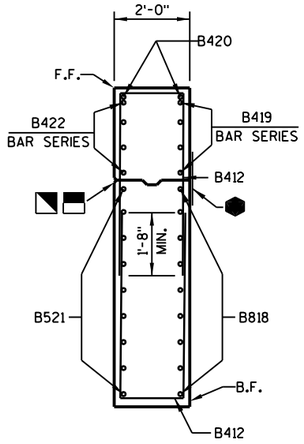



ELEVATION - WING 4

(LOOKING AT F.F. OF WING)




SECTION C-C
THRU WING 3




SECTION D-D
THRU WING 4

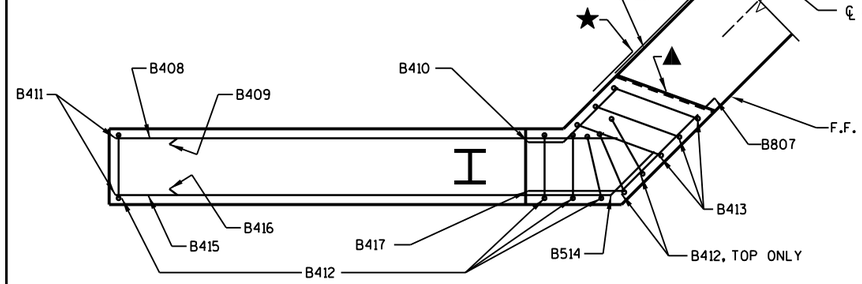
UNCOATED 2165 LBS.
COATED 1730 LBS.

BILL OF BARS (1 ABUTMENT)

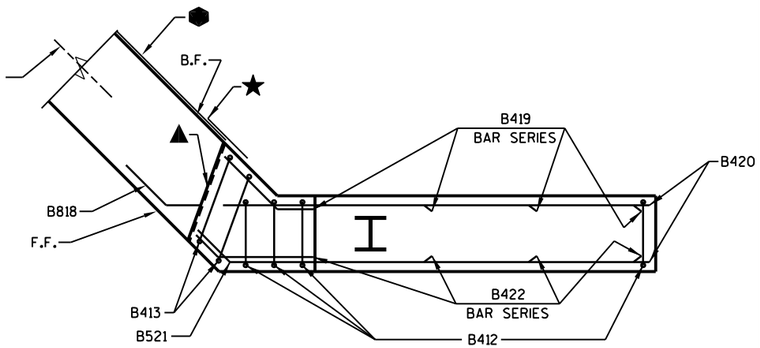
| MARK | NUMBER REQUIRED COATED | NUMBER REQUIRED UNCOATED | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| B801 | - | 9 | 40'-5" | X | | ABUTMENT BODY - B.F. - HORIZ. |
| B502 | - | 9 | 33'-10" | | | ABUTMENT BODY - F.F. - HORIZ. |
| B503 | - | 68 | 7'-0" | X | | ABUTMENT BODY - F.F. & B.F. - VERT. |
| B404 | - | 30 | 2'-9" | X | | ABUTMENT BODY - TIES - HORIZ. |
| B505 | - | 34 | 9'-1" | X | | ABUTMENT BODY - TOP - VERT. |
| B506 | 28 | - | 2'-0" | | | ABUTMENT BODY - TOP DOWELS - VERT. |
| B807 | 9 | - | 16'-2" | X | | WING 3 - B.F. - HORIZ. |
| B408 | 2 | - | 13'-9" | X | | WING 3 - B.F. - HORIZ. |
| B409 | 1 | - | 11'-3" | X | | WING 3 - B.F. - HORIZ. |
| B410 | 1 | - | 2'-10" | X | | WING 3 - B.F. - HORIZ. |
| B411 | 2 | - | 13'-3" | X | | WING 3 - F.F. & B.F. - TOP - HORIZ. |
| B412 | 68 | - | 11'-4" | X | | WINGS - TOP & BOTTOM - VERT. |
| B413 | 5 | - | 10'-6" | X | | WINGS - TOP - VERT. |
| B514 | 9 | - | 14'-8" | X | | WING 3 - F.F. - HORIZ. |
| B415 | 2 | - | 16'-2" | X | | WING 3 - F.F. - HORIZ. |
| B416 | 1 | - | 13'-8" | X | | WING 3 - F.F. - HORIZ. |
| B417 | 1 | - | 5'-4" | X | | WING 3 - F.F. - HORIZ. |
| B818 | 9 | - | 14'-2" | X | | WING 4 - B.F. - HORIZ. |
| B419 | 4 | - | 7'-1" | X | Ⓢ | WING 4 - B.F. - HORIZ. |
| B420 | 2 | - | 11'-6" | X | | WING 4 - F.F. & B.F. - TOP - HORIZ. |
| B521 | 9 | - | 12'-8" | X | | WING 4 - F.F. - HORIZ. |
| B422 | 4 | - | 7'-8" | X | Ⓢ | WING 4 - F.F. - HORIZ. |

DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.

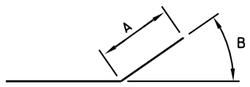
Ⓢ - LENGTH SHOWN FOR BAR IS AN AVERAGE AND SHOULD ONLY BE USED FOR BAR WEIGHT CALCULATIONS. SEE BAR SERIES TABLE FOR ACTUAL LENGTHS. BENT BARS USED IN BAR SERIES TABLE SHALL BE BENT AFTER CUTTING.



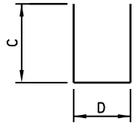

PLAN - WING 3




PLAN - WING 4



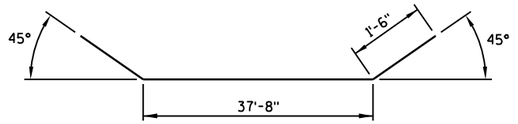

| MARK | A | B |
|---|---|---|
| B807 B514 B818 B521 | 1'-6" | 45° |
| B408 B409 B410 | 1'-10" | 45° |
| B411 | 2'-5" | 5° |
| B415 B416 B417 | 3'-0" | 45° |
| B419 | 1'-9" | 45° |
| B420 | 2'-5" | 14° |
| B422 | 1'-0" | 45° |




STIRRUPS AND TIES

| MARK | C | D |
|---|---|---|
| B404 | 4½" | 2'-2" |
| B505 | 3'-7" | 2'-2" |
| B412 | 4'-11" | 1'-8" |
| B413 | 4'-2" | 2'-4" |


B503




B801

| BAR MARK | NO. REQ'D. | LENGTH |
|---|---|---|
| B419 | 1 SERIES OF 4 | 2'-9" TO 11'-5" |
| B422 | 1 SERIES OF 4 | 3'-4" TO 12'-0" |

BAR SERIES TABLE

SEE LEGEND ON SHEET 6 FOR DESCRIPTION OF ★ ⬢ ◹ ⬒ ▲

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-52-273

DRAWN BY RLR | PLANS CK'D. JAS

EAST ABUTMENT DETAILS

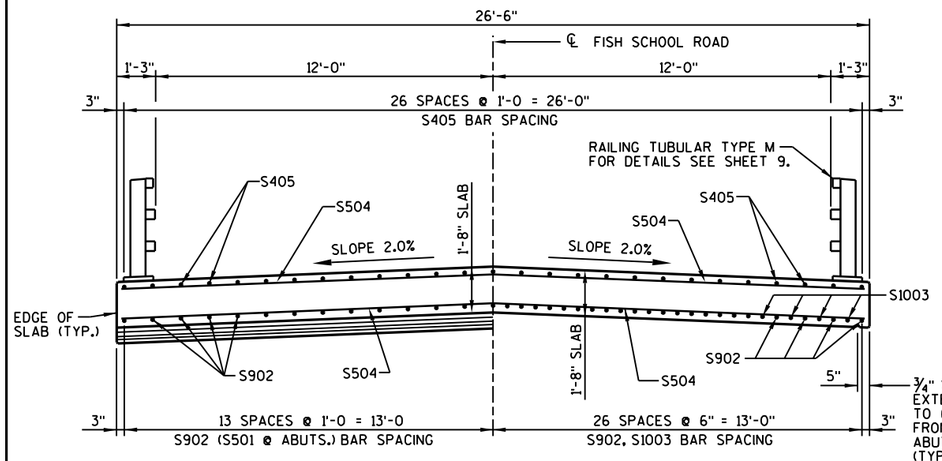
SHEET 7 OF 9
30

FILE= 11514001_07.DGN
DATE= 5/10/2016

11514001_07.dgn 5/10/2016 2:21:56 PM rrabska

STATE PROJECT NUMBER

5367-00-70




AT ABUTMENTS IN SPAN

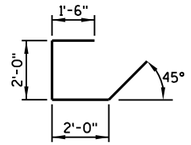
## CROSS SECTION THRU BRIDGE

(LOOKING EAST)

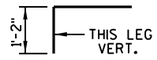
## BILL OF BARS (COATED) 11,270 LBS.

| MARK | NO. REQ'D. | LENGTH | BENT | LOCATION |
|---|---|---|---|---|
| S501 | 54 | 7'-2" | X | DIAPHRAGM @ ABUTS. - LONGIT. |
| S902 | 27 | 36'-4" | | SLAB BOTTOM - LONGIT. |
| S1003 | 26 | 28'-3" | | SLAB BOTTOM - LONGIT. |
| S504 | 90 | 28'-10" | | SLAB TOP & BOTTOM - TRANS. |
| S405 | 27 | 36'-4" | | SLAB TOP - LONGIT. |
| S606 | 28 | 12'-0" | X | SLAB TOP @ RAIL POST, 2 PER POST |
| S607 | 40 | 6'-0" | | SLAB TOP @ RAIL POST, 4 PER POST |
| S608 | 16 | 6'-0" | X | SLAB TOP @ RAIL END POST AS NOTED |

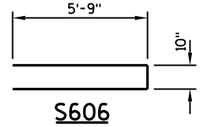
DIMENSIONS IN BENDING DETAILS ARE OUT TO OUT OF BAR.
EPOXY COAT ALL SUPERSTRUCTURE BAR STEEL REINFORCEMENT.



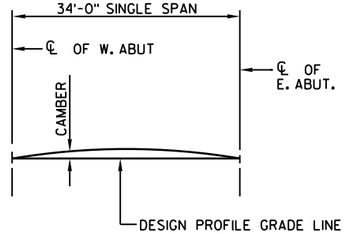

S501




S608




S606




## CAMBER DIAGRAM

CAMBER SPANS AS SHOWN ABOVE AND IN THE TABLE OF VALUES TO PROVIDE FOR DEAD LOAD DEFLECTION AND FUTURE CREEP. CAMBER DOES NOT INCLUDE ALLOWANCE FOR FORM SETTLEMENT. DEAD LOAD DEFLECTION APPROXIMATES 1/3 OF CAMBER VALUES SHOWN.

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

TOP OF SLAB ELEVATION AT FINAL GRADE

- SLAB THICKNESS

+ CAMBER

+ FORM SETTLEMENT/DEFLECTION DUE TO PLACEMENT OF SLAB CONCRETE (TO BE COMPUTED BY THE CONTRACTOR)

= TOP OF SLAB FALSEWORK ELEVATION

## GENERAL NOTES

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

TOP TRANSVERSE BARS IN SLAB SHALL BE SUPPORTED BY INDIVIDUAL BAR CHAIRS AT APPROXIMATELY 3'-0" CENTERS EACH WAY. BOTTOM LONGITUDINAL BARS SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS AT APPROXIMATELY 4'-0" CENTERS.

PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE ℄ OF ABUTMENTS AND AT THE 5/10 POINT TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGES OF SLAB AND STRUCTURE ℄.

ALL TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE PLACED ON THE SKEW.

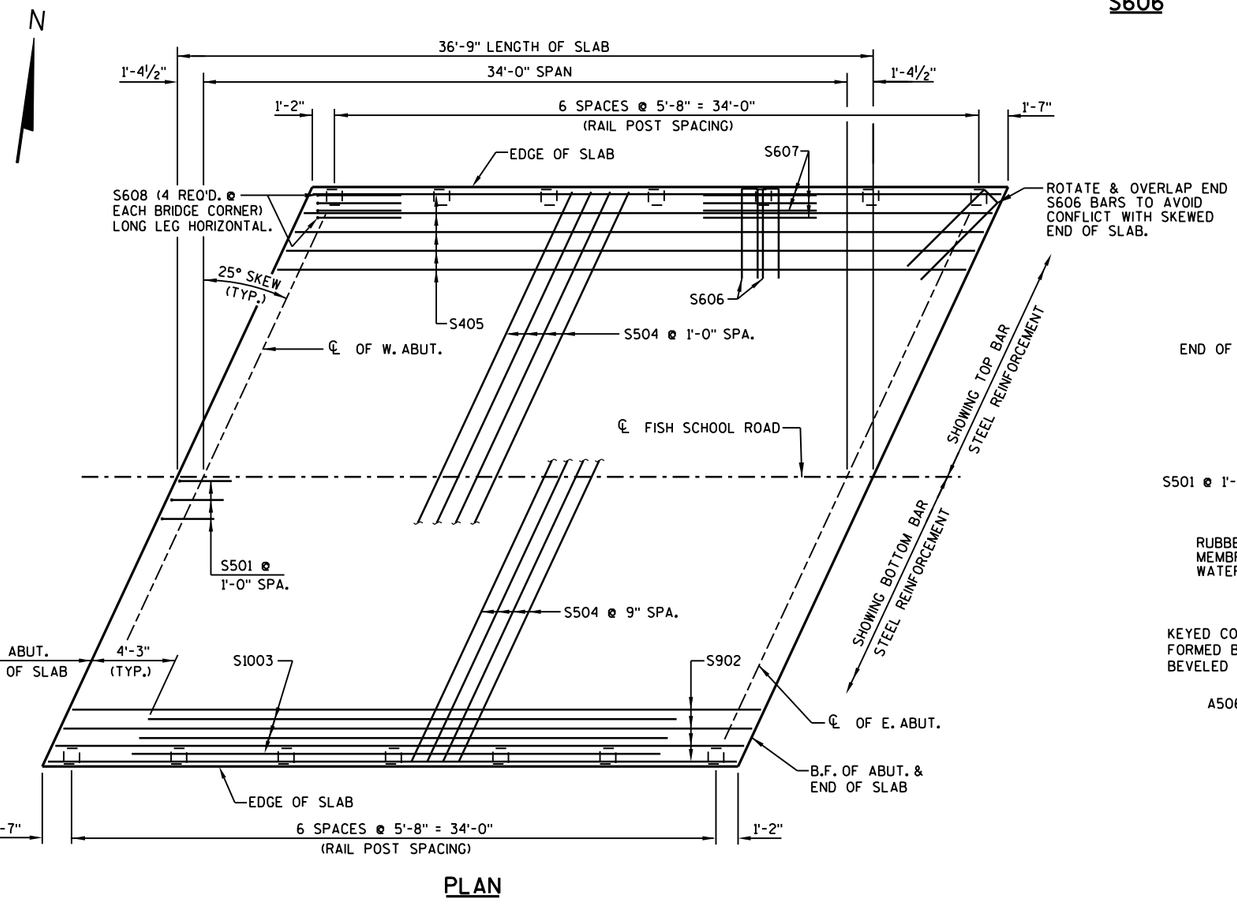
## SURVEY TOP OF SLAB ELEVATIONS

| LOCATION | SPAN POINT | SOUTH SLAB EDGE | C/L FISH SCHOOL ROAD | NORTH SLAB EDGE |
|---|---|---|---|---|
| WEST ABUT. | 1.0 | | | |
| | 1.5 | | | |
| EAST ABUT. | 2.0 | | | |

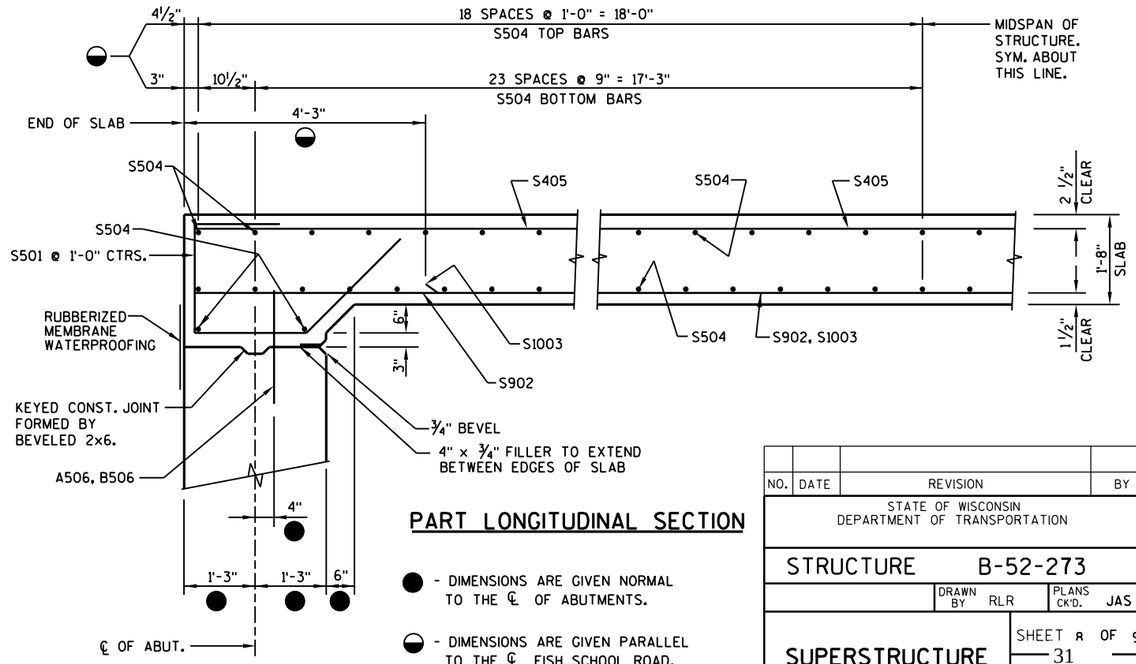
PRIOR TO RELEASING SLAB FALSEWORK, TAKE TOP OF SLAB ELEVATIONS AT THE ℄ OF ABUTMENTS AND AT THE 0.5 PTS. TO VERIFY CAMBER. TAKE ELEVATIONS ALONG EDGE OF SLAB AND CROWN OR ℄. RECORD THE ELEVATIONS IN THE ABOVE TABLE FOR THE "AS BUILT" PLANS.

## TOP OF SLAB ELEVATIONS AND CAMBER VALUES

| LOCATION | SPAN POINT | SOUTH SLAB EDGE | C/L FISH SCHOOL ROAD | NORTH SLAB EDGE | CAMBER VALUE (INCHES) |
|---|---|---|---|---|---|
| WEST ABUT. | 1.0 | 882.12 | 882.42 | 882.19 | 0.0 |
| | 1.1 | 882.14 | 882.44 | 882.21 | 0.3 |
| | 1.2 | 882.16 | 882.46 | 882.23 | 0.5 |
| | 1.3 | 882.18 | 882.48 | 882.25 | 0.7 |
| | 1.4 | 882.20 | 882.50 | 882.27 | 0.8 |
| | 1.5 | 882.22 | 882.52 | 882.28 | 0.8 |
| | 1.6 | 882.24 | 882.53 | 882.30 | 0.8 |
| | 1.7 | 882.25 | 882.55 | 882.32 | 0.7 |
| | 1.8 | 882.27 | 882.57 | 882.34 | 0.5 |
| | 1.9 | 882.29 | 882.59 | 882.36 | 0.3 |
| EAST ABUT. | 2.0 | 882.31 | 882.61 | 882.38 | 0.0 |




PLAN




## PART LONGITUDINAL SECTION

● - DIMENSIONS ARE GIVEN NORMAL TO THE ℄ OF ABUTMENTS.

◒ - DIMENSIONS ARE GIVEN PARALLEL TO THE ℄ FISH SCHOOL ROAD.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-52-273

DRAWN BY RLR | PLANS CK'D. JAS

SUPERSTRUCTURE

SHEET 8 OF 9
31

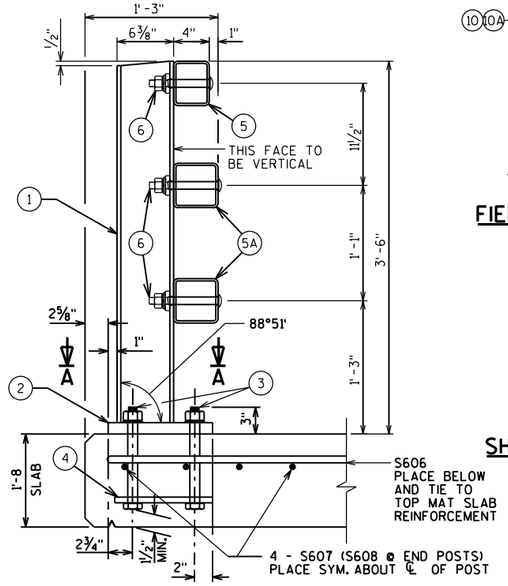
FILE= 11514001_08.DGN
DATE= 7/20/2016

8

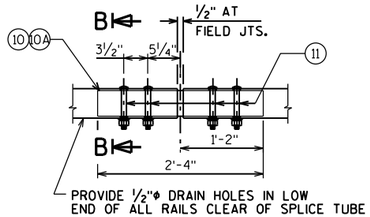
8

STATE PROJECT NUMBER

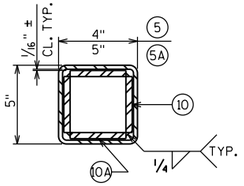
5367-00-70



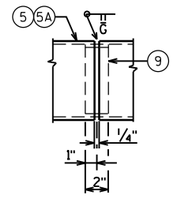

SECTION THRU RAILING ON SLAB




FIELD ERECTION JOINT DETAIL

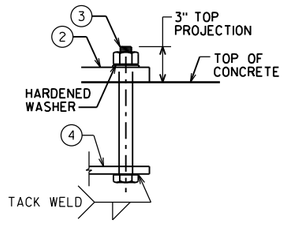



SECTION B-B

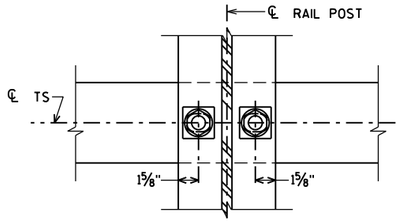



SHOP RAIL SPLICE DETAIL

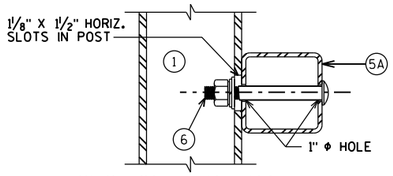
(LOCATION MUST BE SHOWN ON SHOP DRAWINGS)




ANCHOR BOLTS



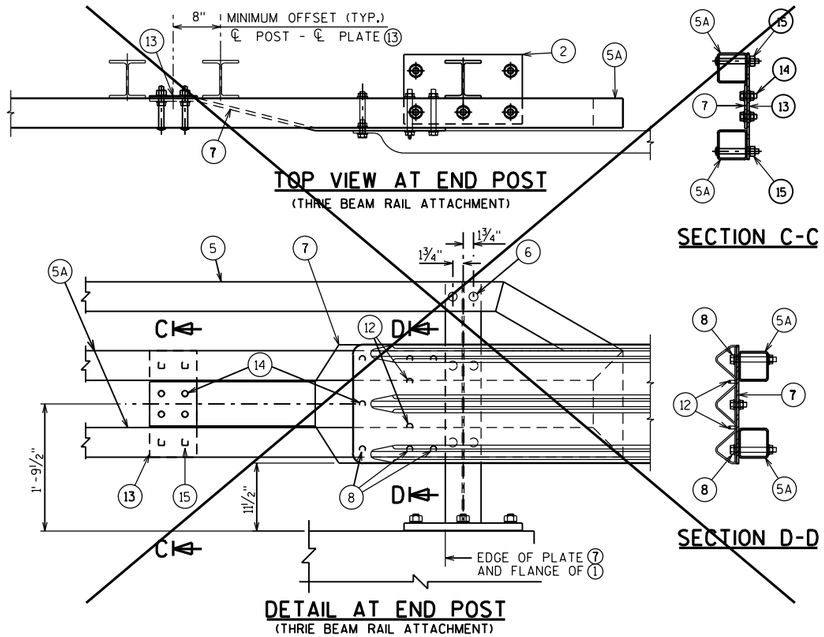

SECTION THRU POST WEB




SECTION THRU RAIL

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

TYPICAL RAIL TO POST CONNECTIONS




TOP VIEW AT END POST

(THRIE BEAM RAIL ATTACHMENT)

DETAIL AT END POST

(THRIE BEAM RAIL ATTACHMENT)



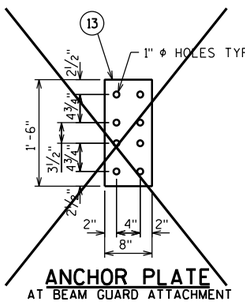
SECTION C-C



SECTION D-D




SECTION A-A




ANCHOR PLATE

AT BEAM GUARD ATTACHMENT

## LEGEND

(1) W6 x 25 WITH 1 1/8" X 1 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 1/4" x 11 3/4" x 1'-8" WITH 1 5/16" X 1 5/8" SLOTTED HOLES FOR ANCHOR BOLTS NO. 3. WELD TO NO. 1 AS SHOWN. SLOTS PARALLEL TO SHORT SIDE OF PLATE.

(3) ASTM A449 - 1 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'-3" LONG.

(4) 5/8" x 11" x 1'-8" ANCHOR PLATE (GALVANIZED) WITH 1 3/16" DIA. HOLES FOR ANCHOR BOLTS NO. 3

(5) TS 5 x 4 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.

(5A) TS 5 x 5 x 0.25 STRUCTURAL TUBING. ATTACH TO NO. 1 WITH NO. 6.

(6) 7/8" DIA. A325 SLOTTED ROUND HEAD BOLT WITH NUT, 3/16" X 1 5/8" X 1 5/8" WASHER, AND LOCK WASHER (2 REQ'D. AT EACH RAIL TO POST LOCATION.)

✳ (7) 1/2" THK. BACK-UP PLATE WITH 2 - 7/8" X 1 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 7/8" DIA. A325 BOLTS WITH HEX NUTS AND WASHERS. 6 HOLES IN TUBES AND PLATE NO. 7.

(9) SPLICE SLEEVE FABRICATED FROM 1/4" PLATE. PROVIDE "SLIDING FIT".

(10) 3/8" X 3 5/8" X 2'-4" PLATE. 2 PER RAIL. USED IN NO. 5 & 5A.

(10A) 3/8" X 2 5/8" X 2'-4" PLATE USED IN NO. 5, 3/8" X 3 5/8" X 2'-4" PLATE USED IN NO. 5A. 2 PER RAIL.

(11) 7/8" ϕ A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER. USE 5/8 " X 1 1/4" LONGIT. SLOTTED HOLES AT FIELD JOINTS IN PLATE NO. 10A.

✳ (12) 7/8" DIA. X 1 1/2" LONG THREADED SHOP WELDED STUDS (2 REQ'D).

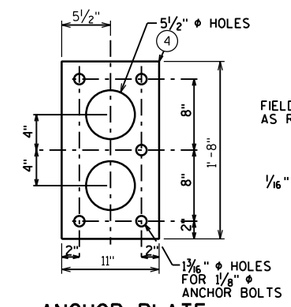
✳ (13) 3/8" X 8" X 1'-6" ANCHOR PLATE. BOLT TO RAIL AS SHOWN IN DETAIL. REQ'D. AT THRIE BEAM GUARD RAIL ATTACHMENTS ONLY. PLACE SYM. ABOUT TUBES NO. 5A.

✳ (14) 7/8" DIA. X 2" LONG A325 HEX BOLT WITH NUT AND WASHER (5 REQUIRED).

✳ (15) 1" ϕ HOLES IN TUBES NO. 5A FOR 7/8" DIA. A325 ROUND HEAD BOLT WITH NUT, WASHER, AND LOCK WASHER (4 REQ'D.). 4 HOLES IN TUBES.

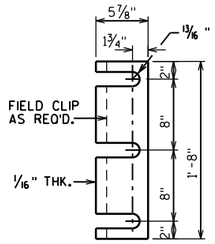
## GENERAL NOTES

1. BID ITEM SHALL BE "RAILING TUBULAR TYPE M B-52-273" WHICH INCLUDES ALL ITEMS SHOWN.
2. RAIL POST AND BASE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 50. HOLLOW RAILING STRUCTURAL TUBING SHALL CONFORM TO THE REQUIREMENTS OF ASTM A500 GRADE B OR C WITH A CERTIFIED FY = 50 KSI. ANCHOR PLATES, AND SPLICE TUBE PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A709 GRADE 36.
3. THE NUT SECURING THE POST BASE PLATE TO THE CONCRETE SHALL BE TIGHTENED TO A SNUG FIT AND GIVEN AN ADDITIONAL 1/8 TURN.
4. RAILS SHALL BE CONTINUOUS OVER A MINIMUM OF THREE (3) POSTS WITHOUT SPLICES WHERE POSSIBLE.
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. PAINTING IS NOT REQUIRED.
11. THIS RAILING MEETS NCHRP REPORT 350 EVALUATION CRITERIA FOR TEST LEVEL 4 (TL-4).
12. ✳ DO NOT FURNISH ITEMS 7, 8, 12, 13, 14 AND 15. THRIE BEAM RAIL ATTACHMENT IS NOT INCLUDED.

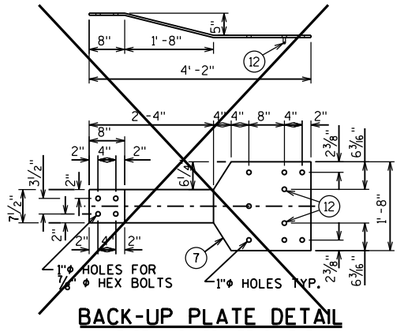



ANCHOR PLATE

AT RAIL TO DECK ATTACHMENT

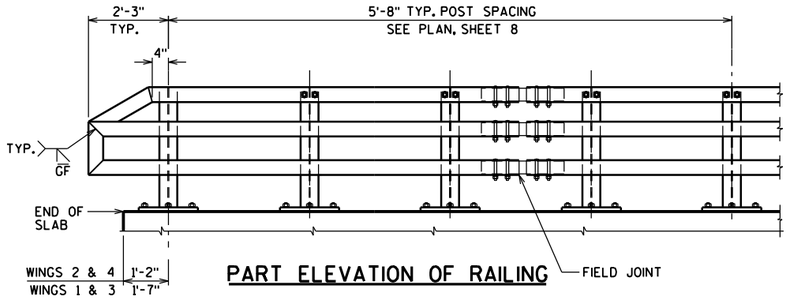



POST SHIM DETAIL




BACK-UP PLATE DETAIL

AT BEAM GUARD ATTACHMENT




PART ELEVATION OF RAILING

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-52-273

DRAWN BY RLR | PLANS CK'D. JAS

RAILING TUBULAR TYPE M

SHEET 9 OF 9
32

FILE= 11514001_09.DGN
DATE= 5/6/2016

11514001_09.dgn 5/6/2016 9:43:04 AM rrabska

## PROJECT I.D. 5367-00-70 EARTHWORK SUMMARY

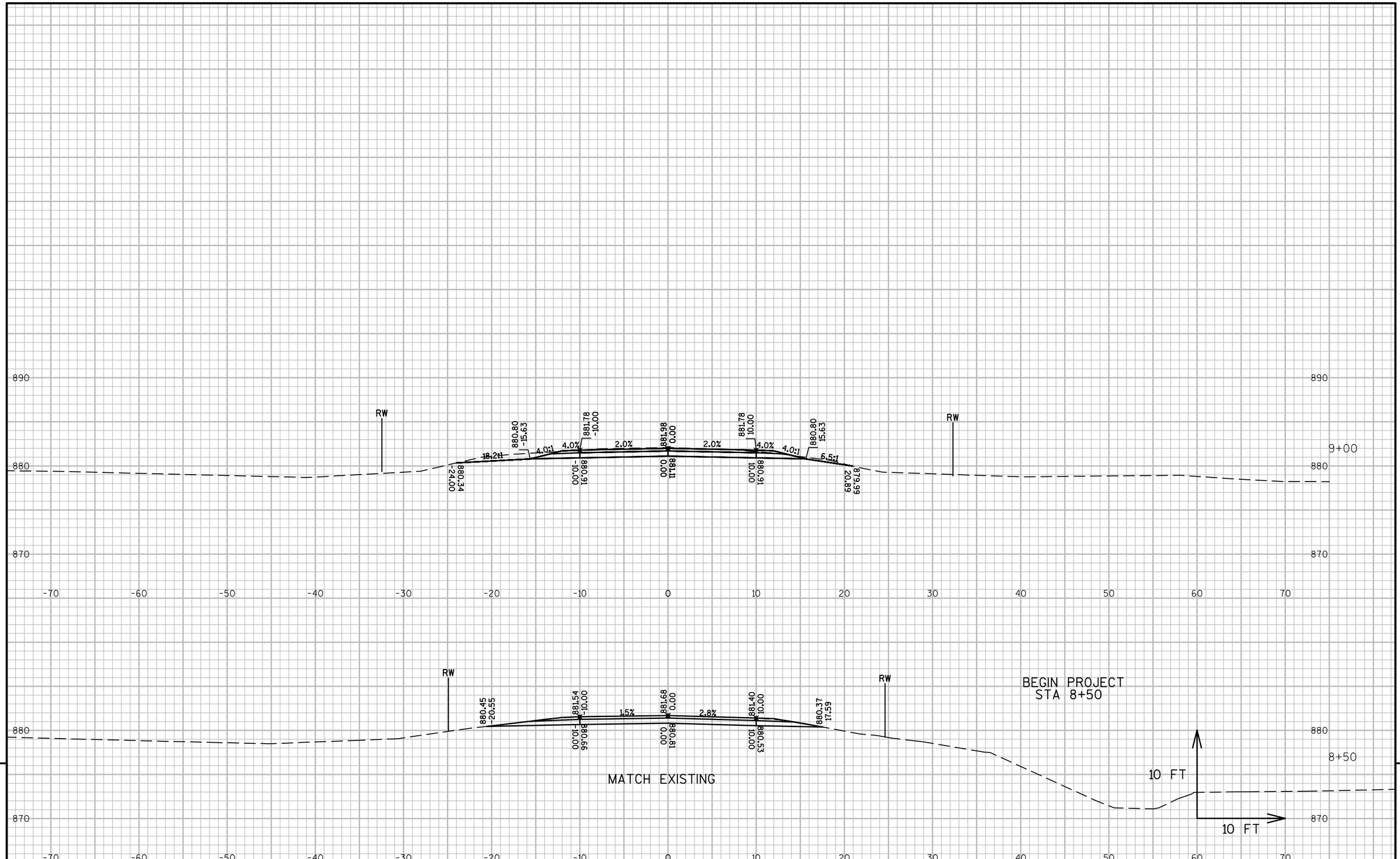
| STA | EXCAVATION COMMON CY | EXCAVATION ROCK CY | FILL (1) CY | EXPANDED FILL (2) CY | WASTE CY | BORROW CY |
|---|---|---|---|---|---|---|
| **8+50.00** | | | | | | |
| | 52 | 0 | 0 | 0 | 52 | -52 |
| **9+00.00** | | | | | | |
| | 89 | 0 | 0 | 0 | 89 | -89 |
| **9+50.00** | | | | | | |
| | 70 | 0 | 0 | 0 | 70 | -70 |
| **9+78.62** | | | | | | |
| STRUCTURE B-52-0273 | | | | | | |
| **10+15.38** | | | | | | |
| | 81 | 0 | 0 | 0 | 81 | -81 |
| **10+50.00** | | | | | | |
| | 85 | 0 | 0 | 0 | 85 | -85 |
| **11+00.00** | | | | | | |
| | 47 | 0 | 0 | 0 | 47 | -47 |
| **11+50.00** | | | | | | |
| **SUBTOTALS** | | | | | | |
| WEST APPROACH | 211 | 0 | 0 | 0 | 211 | -211 |
| EAST APPROACH | 213 | 0 | 0 | 0 | 213 | -213 |
| **TOTALS** | **424** | **0** | **0** | **0** | **424** | **-424** |

(1) - NOT A BID ITEM - FOR INFORMATIONAL PURPOSES ONLY.
(2) - FILL EXPANSION 30%

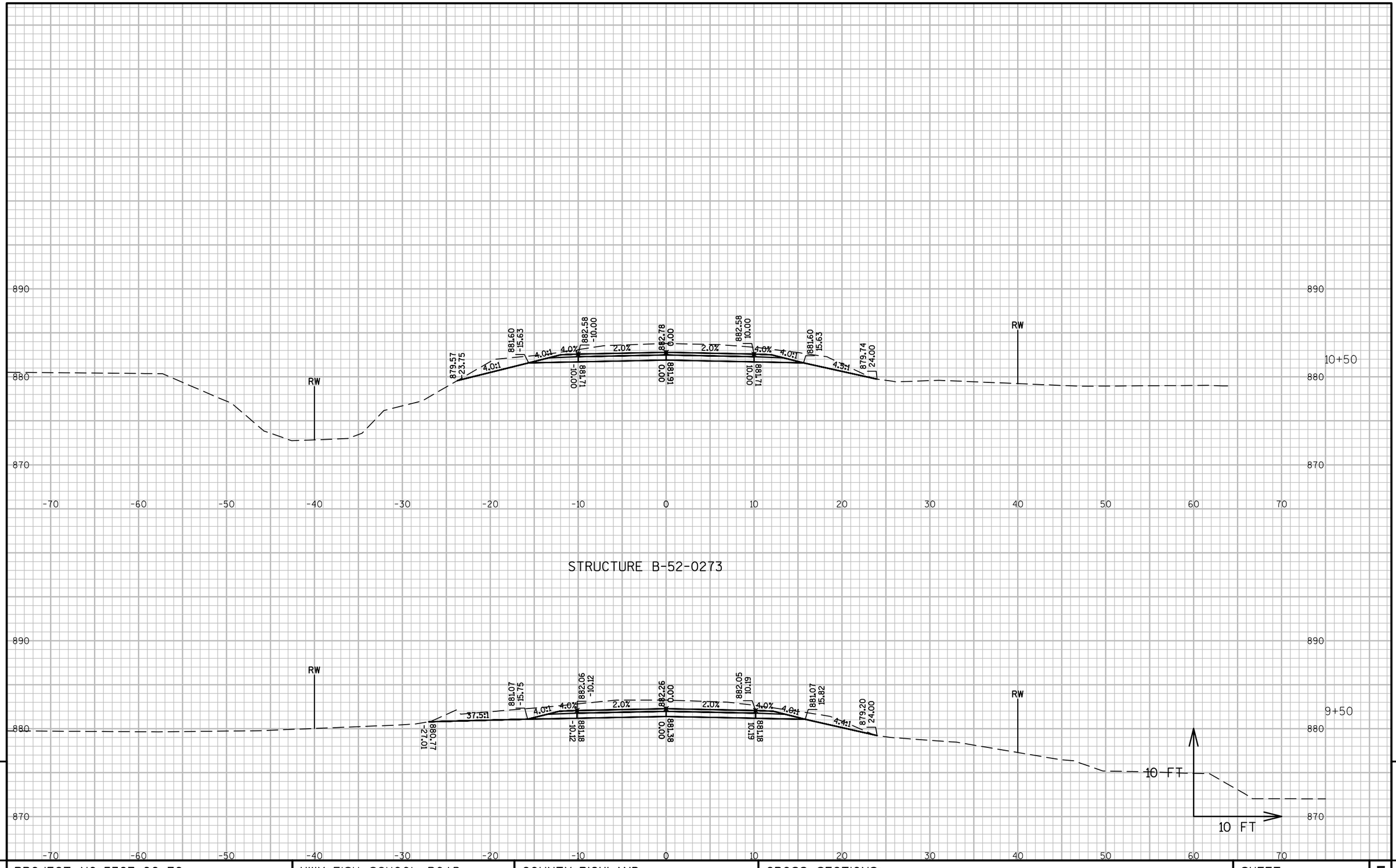
9

9

PROJECT NO: 5367-00-70 | HWY: FISH SCHOOL ROAD | COUNTY: RICHLAND | EARTHWORK | SHEET E




| PROJECT NO: 5367-00-70 | HWY: FISH SCHOOL ROAD | COUNTY: RICHLAND | CROSS SECTIONS: | SHEET 34 | E |
|---|---|---|---|---|---|

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|---|---|---|---|---|---|

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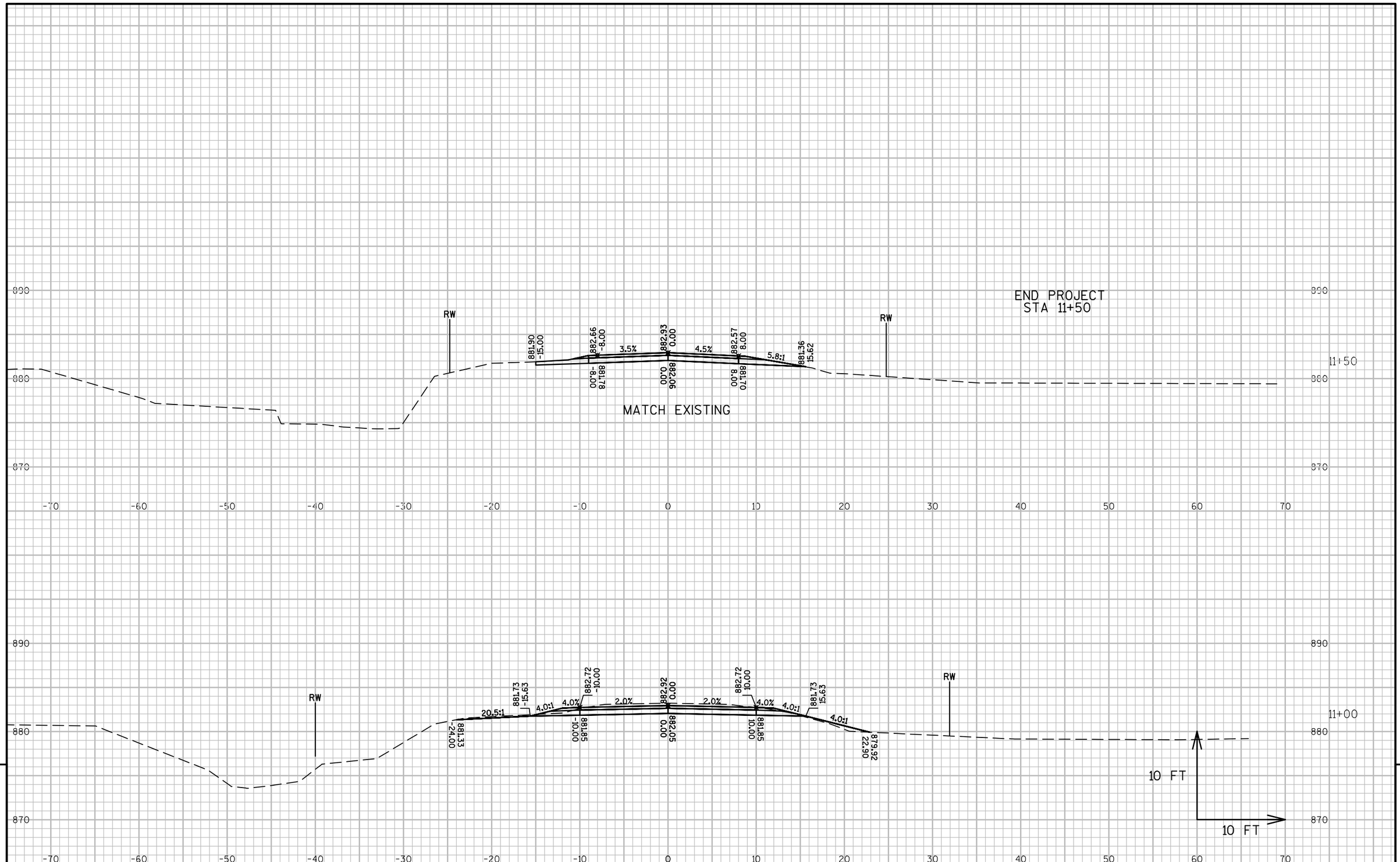
LAYOUT NAME - 090202_XS

PLOT DATE : 3/18/2016 8:52 AM PLOT BY : JOLIE SNYDER PLOT NAME : PLOT SCALE : 1 IN:10 FT

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LAYOUT NAME - 090203_XS

PLOT DATE : 5/11/2016 8:04 AM PLOT BY : JOLIE SNYDER PLOT NAME : PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 49

Notes

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