LAX MARCH 2015

PROJECT ID: 5730-01-81

WITH:

COUNTY: VERNON

ORDER OF SHEETS



TOTAL SHEETS = 72


DESIGN DESIGNATION

| | | |
|---|---|---|
| A.A.D.T. | (2015) | = 900 |
| A.A.D.T. | (2035) | = 1100 |
| D.H.V. | | = 123 |
| D.D. | | = 60 - 40 |
| T. | | = 3.0% |
| DESIGN SPEED | | = 60 MPH |
| ESALS | | = 150,000 |

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES

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

# STATE OF WISCONSIN
# DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

| STATE PROJECT | FEDERAL PROJECT | |
|---|---|---|
| | PROJECT | CONTRACT |
| 5730-01-81 | WISC 2015119 | 1 |
| | | |
| | | |
| | | |

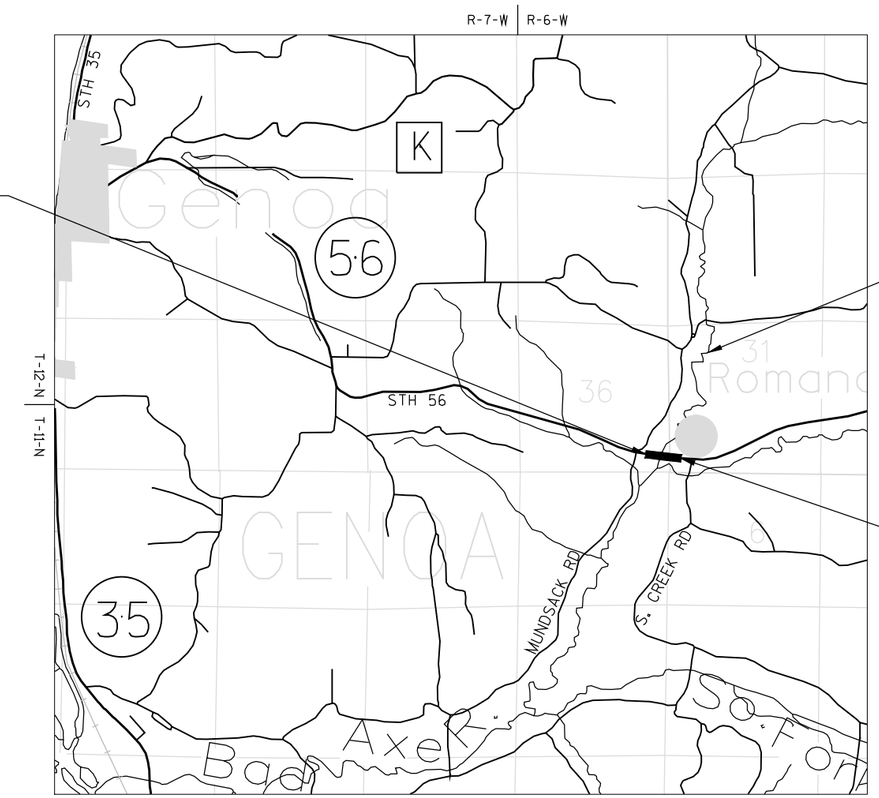
# GENOA - ROMANCE

**N. FORK BAD AXE RIVER BRIDGE B-62-0239**

## STH 56

## VERNON COUNTY

| STATE PROJECT NUMBER |
|---|
| 5730-01-81 |




BEGIN PROJECT
STA 260+31.97
X: 632,553.582
Y: 148,041.869

N. FORK BAD AXE RIVER

END PROJECT
STA 269+98.09
X: 633,494.519
Y: 147,925.610

LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.183 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, VERNON COUNTY, NAD83 (2007), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

| | |
|---|---|
| Surveyor | TIM FINCHER |
| Designer | TOREY LEONARD |
| Project Manager | TODD WALDO |
| Regional Examiner | MICHAEL RUD |
| Regional Supervisor | REINY YAHNKE |

APPROVED FOR THE DEPARTMENT

DATE: 10/13/2014 Todd Waldo (Signature)

E

FILE NAME : \\LAX31FP2\N3PUBLIC\PDS\C3D\57300101\SHEETSPLAN\010101_TI.DWG

PLOT DATE : 9/10/2014 6:55 AM PLOT BY : LEONARD, TOREY R PLOT NAME :

WISDOT/CADDS SHEET 10

## GENERAL NOTES

- THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
- CURVE DATA IS BASED ON ARC DEFINITION.
- D.O.T. BRIDGE BENCHMARK MONUMENT TO BE FURNISHED BY THE STATE AND PLACED BY THE CONTRACTOR AS DIRECTED BY THE ENGINEER.
- PLAN ELEVATIONS = NAVD 07.
- THE CONTRACTOR IS TO WORK WITH UTMOST CARE AND PROTECT ALL SURVEY MARKERS. REMOVAL OF ANY SURVEY MARKER IS TO BE WITH THE APPROVAL OF THE ENGINEER.
- DETAILS OF CONSTRUCTION NOT SHOWN ON THE PLAN SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- RIGHT OF WAY LINES SHOWN ON THE CROSS SECTIONS ARE APPROXIMATE
- WHEN THE QUANTITY OF THE ITEMS OF BASE, SUBBASE OR SURFACE COURSE IS MEASURED FOR PAYMENT BY THE TON OR CUBIC YARD, THE DEPTH OR THICKNESS OF THE COURSES SHOWN ON THE PLAN IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.
- THE FACE OF THE MGS OR STEEL PLATE BEAM GUARD RAIL SHALL BE FLUSH WITH THE FACE OF THE CURB AND GUTTER.
- NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT APPROVAL OF THE ENGINEER
- PAVEMENT REMOVAL WILL BE TO THE NEAREST JOINT OR A SAWED EDGE WILL BE REQUIRED AS DIRECTED BY THE ENGINEER.
- WHEN PORTIONS OF EXISTING ASPHALTIC SURFACES ARE TO BE REMOVED TO ACCOMMODATE NEW CONSTRUCTION, THE LINE OF SUCH REMOVAL SHALL BE NEATLY DELINEATED WITH A SAW CUT JOINT THROUGH THE ASPHALTIC SURFACE SO THAT REMOVAL OF THE ASPHALT SHALL BE ACCOMPLISHED WITHOUT DAMAGE TO REMAINING PORTIONS. THE LOCATION OF SAW JOINTS AND THE AMOUNT REMOVED AT SIDE ROADS WILL BE DETERMINED IN THE FIELD BY THE ENGINEER.
- RAILING REMOVED FROM STRUCTURE B-62-0013, SHALL BE DISPOSED OF BY THE CONTRACTOR.
- THE LOCATION OF THE UNDISTRIBUTED E.B.S. WILL BE DETERMINED BY THE ENGINEER.
- THE EXPANDED FILL, AS SHOWN ON THE PLAN AND PROFILE SHEETS, INCLUDES THE FILL EXPANDED BY 1.35.
- EXCAVATION BELOW SUBGRADE (EBS) IS NOT USED TO BALANCE YARDAGE AND IS NOT SHOWN ON THE CROSS SECTIONS BUT IS MEASURED AND PAID FOR AS COMMON EXCAVATION. THE LOCATION OF EBS WILL BE DETERMINED BY THE ENGINEER.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES EXCEPT WHEN PIPE LAYING OPERATIONS REQUIRE THE DRIVEWAY TO BE CLOSED. ACCESS TO DRIVEWAY SHALL BE RE-ESTABLISHED IMMEDIATELY AFTER PIPE IN DRIVEWAY AREA IS INSTALLED. ACCESS SHALL BE PROVIDED DURING ALL NON-WORKING HOURS.
- PRIOR TO THE PLACEMENT OF STEEL PLATE BEAM GUARD OR MGS GUARDRAIL, THE SHOULDERS SHALL BE IN PLACE, SHAPED AND COMPACTED UNLESS SHOWN OTHERWISE.
- THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, BIKE OR PARKING LANE.
- WHEN THE QUANTITIES OF ASPHALTIC SURFACE IS MEASURED FOR PAYMENT BY THE TON, THE THICKNESS OF THE MATERIAL THAT IS SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.
- ASPHALTIC SURFACE WEIGHT CALCULATIONS ARE BASED ON 112 LB/SY/IN.
- 4.5-INCH ASPHALTIC SURFACE SHALL BE PLACED IN TWO LAYERS.
  THE 12.5 MM GRADATION MAY BE USED FOR BOTH LAYERS.
- A VERTICAL BUTT JOINT IS ACCEPTABLE FOR THE LONGITUDINAL ASPHALTIC SURFACE JOINT.
- IN THE PERFORMANCE OF THE WORK UNDER THE ITEM "MULCHING", ALL AREAS SEEDED AND FERTILIZED SHALL BE MULCHED AS DIRECTED BY THE ENGINEER.
- DISTURBED AREAS WITHIN THE RIGHT OF WAY ARE TO BE TOPSOILED (SALVAGED), FERTILIZED, SEEDED, AND MULCHED OR SODDED AS DIRECTED BY THE ENGINEER.
- SALVAGED TOPSOIL AND MULCH HAS BEEN COMPUTED BY DIRECT MEASUREMENTS ON THE CROSS SECTIONS PLUS 5 FT BEYOND THE TOE OF SLOPE. SEEDING AND FERTILIZER HAS BEEN COMPUTED BY DIRECT MEASUREMENTS ON THE CROSS SECTIONS PLUS 10 FT.
- SALVAGED TOPSOIL WHERE REQUIRED, IS TO BE PLACED ON ALL CUT AND FILL SLOPES (EXCEPT CHANNEL CHANGE AND MARSH DISPOSAL SLOPES) TO AN APPROXIMATE DEPTH OF 4 INCHES AT THE TIME OF PLACING.
- DIMENSIONS OF RIPRAP PLACEMENT SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

## STANDARD ABBREVIATIONS

| | | | | | |
|---|---|---|---|---|---|
| AC | ACRE | EXC. | EXCAVATION | R/L | REFERENCE LINE |
| AGG | AGGREGATE | EXIST | EXISTING | R.C.C.P. | REINFORCED CONCRETE CULVERT PIPE |
| < | ANGLE | F.F. | FACE TO FACE | REQ'D | REQUIRED |
| AE, AEW | APRON ENDWALL | FERT. | FERTILIZER | RT | RIGHT |
| ASPH. | ASPHALTIC | F.E. | FIELD ENTRANCE | R.H.F. | RIGHT HAND FORWARD |
| A.D.T. | AVERAGE DAILY TRAFFIC | F/L, F.L. | FLOW LINE | R/W | RIGHT OF WAY |
| A.A.D.T. | ANNUAL AVERAGE DAILY TRAFFIC | GALV. | GALVANIZE | RD. | ROAD |
| B.F. | BACK FACE | H.S. | HIGH STRENGTH | SHLD. | SHOULDER(S) |
| BM | BENCHMARK | CWT | HUNDRED WEIGHT | SHR. | SHRINKAGE |
| BTWN | BETWEEN | INL | INLET | S | SOUTH |
| CTR. | CENTER | INTER. | INTERSECTION | SB | SOUTHBOUND |
| C/L | CENTER LINE | IH | INTERSTATE HIGHWAY | S.F. | SQUARE FOOT (FEET) |
| Δ | CENTRAL ANGLE OR DELTA | JT. | JOINT | SDD | STANDARD DETAIL DRAWING(S) |
| C.E. | COMMERCIAL ENTRANCE | LT | LEFT | STH | STATE TRUNK HIGHWAY |
| CONST. | CONSTRUCTION | L.H.F. | LEFT HAND FORWARD | STA. | STATION |
| CMCP | CORRUGATED METAL CULVERT PIPE | L. | LENGTH OF CURVE | S.E. | SUPERELEVATION |
| CMP | CORRUGATED METAL PIPE | L.F. | LINEAR FOOT(FEET) | S/L | SURVEY LINE |
| CO. | COUNTY | LC. | LONG CHORD | SYM | SYMMETRICAL |
| CTH | COUNTY TRUNK HIGHWAY | LS | LUMP SUM | T. | PERCENT TRUCKS |
| CR. | CREEK | M.P. | MARKER POST | TEL. | TELEPHONE |
| CABC | CRUSHED AGGREGATE BASE COURSE | MGAL | 1000 GALLONS | TEMP. | TEMPORARY |
| CY | CUBIC YARD | N.C. | NORMAL CROWN | T.L.E. | TEMPORARY LIMITED EASEMENT |
| CP | CONTROL POINT OR CULVERT PIPE | N | NORTH | T.O.C. | TOP OF CURB |
| C&G | CURB AND GUTTER | NB | NORTHBOUND | TYP | TYPICAL |
| D | DEGREE OF CURVE | NOR | NORMAL | UNCL. | UNCLASSIFIED |
| D.H.V. | DESIGN HOURLY VOLUME | NO. | NUMBER | U.G. | UNDERGROUND (CABLE) |
| DIA. | DIAMETER | PAV'T | PAVEMENT | VAR | VARIABLE |
| D.D. | DIRECTIONAL DISTRIBUTION | P.L.E. | PERMANENT LIMITED EASEMENT | V.C. | VERTICAL CURVE |
| DISCH. | DISCHARGE | P.C. | POINT OF CURVATURE | V.P.C. | VERTICAL POINT OF CURVATURE |
| DMS | DYNAMIC MESSAGE SIGN | P.I. | POINT OF INTERSECTION | V.P.I. | VERTICAL POINT OF INTERSECTION |
| EA | EACH | P.T. | POINT OF TANGENCY | V.P.T. | VERTICAL POINT OF TANGENCY |
| E | EAST | PCC | PORTLAND CEMENT CONCRETE | Wt. | WEIGHT |
| EB | EASTBOUND | P.E. | PRIVATE ENTRANCE | W | WEST |
| ELEC. | ELECTRIC(AL), ELEC. CABLE | PGL | PROFILE GRADE LINE | WB | WESTBOUND |
| EL., ELEV. | ELEVATION | P.L. | PROPERTY LINE | | |
| ESALS | EQUIVALENT SINGLE AXLE LOADS | R | RADIUS OR RANGE | | |

2

### DESIGN CONTACTS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### DNR LIAISON


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ENVIRONMENTAL ANALYSIS & REVIEW SPECIALIST
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WEST CENTRAL REGION
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LA CROSSE, WI 54601
608-785-9115


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

### UTILITY CONTACTS


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ttunks@vernontel.com

CRAIG BUROS
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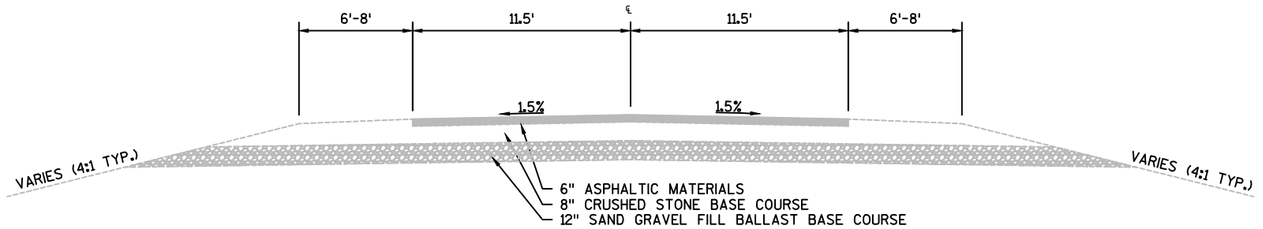
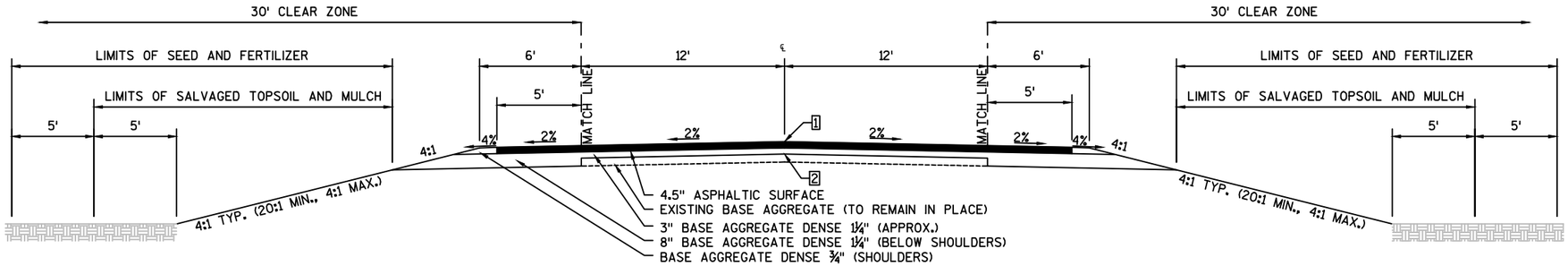
WESTBY, WI 54667-1199
(608)634-3121, W, (P)
(608)632-0060, M, (P)
cburos@vernonelectric.org




## TYPICAL EXISTING SECTION - STH 56

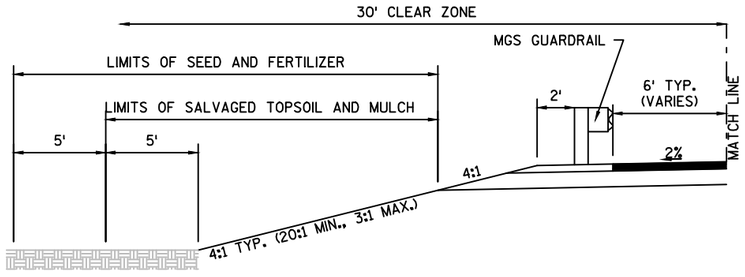
STA 260+32-263+18
STA 266+69-269+80




NOTE:
REMOVAL OF EXISTING ASPHALTIC PAVEMENT PAID FOR AS COMMON EXCAVATION.
PLACE BASE AGGREGATE DENSE 1¼" AT REQUIRED THICKNESS TO MATCH PROFILE WHEN PAVED.

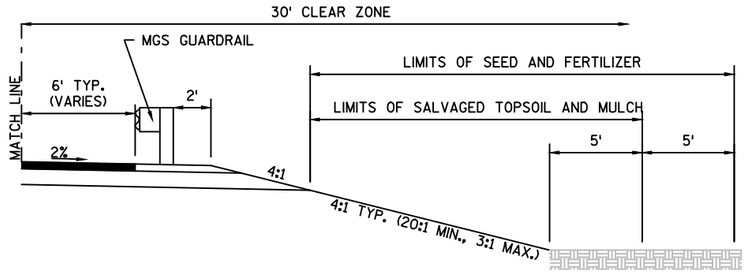
## TYPICAL FINISHED TANGENT SECTION - STH 56

STA 260+32-262+22
STA 267+58-269+80




## TYPICAL FINISHED HALF SECTION WITH MGS GUARDRAIL

STA 267+58-267+97

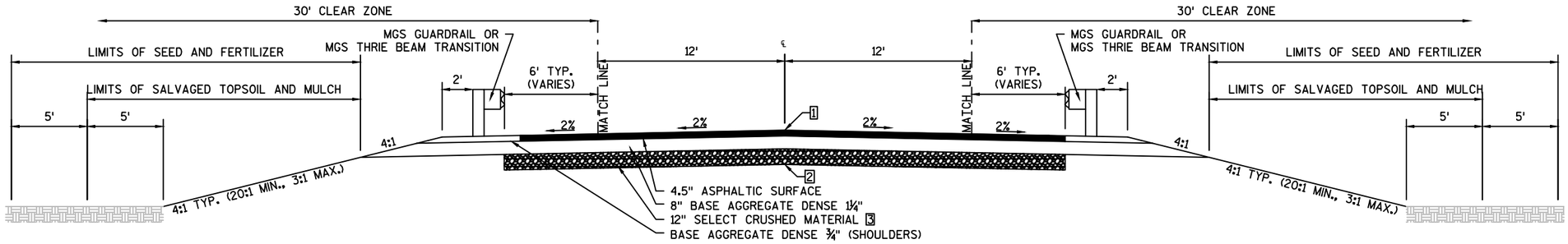



## TYPICAL FINISHED HALF SECTION WITH MGS GUARDRAIL

STA 262+15-262+22
STA 267+58-267+90

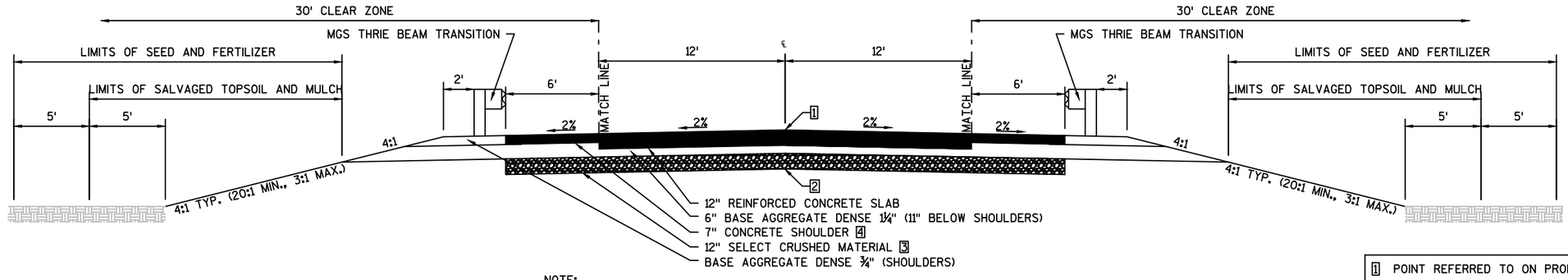
[1] POINT REFERRED TO ON PROFILE
[2] POINT REFERRED TO ON CROSS SECTIONS

| PROJECT NO: 5730-01-81 | HWY: STH 56 | COUNTY: VERNON | TYPICAL SECTIONS | SHEET 3 | E |
|---|---|---|---|---|---|




## TYPICAL FINISHED TANGENT SECTION - STH 56

STA 262+22-263+14
STA 266+99-267+58




NOTE:
APPROACHES TO STRUCTURE WILL CONSIST OF CONCRETE PAVEMENT APPROACH SLAB. SHOULDERS AT EAST WINGS WILL CONSIST OF CONCRETE SURFACE DRAIN FLUME TYPE AT STRUCTURES TYPE A (WITH PIPE). SEE CONSTRUCTION DETAILS.

## TYPICAL FINISHED TANGENT SECTION - STH 56

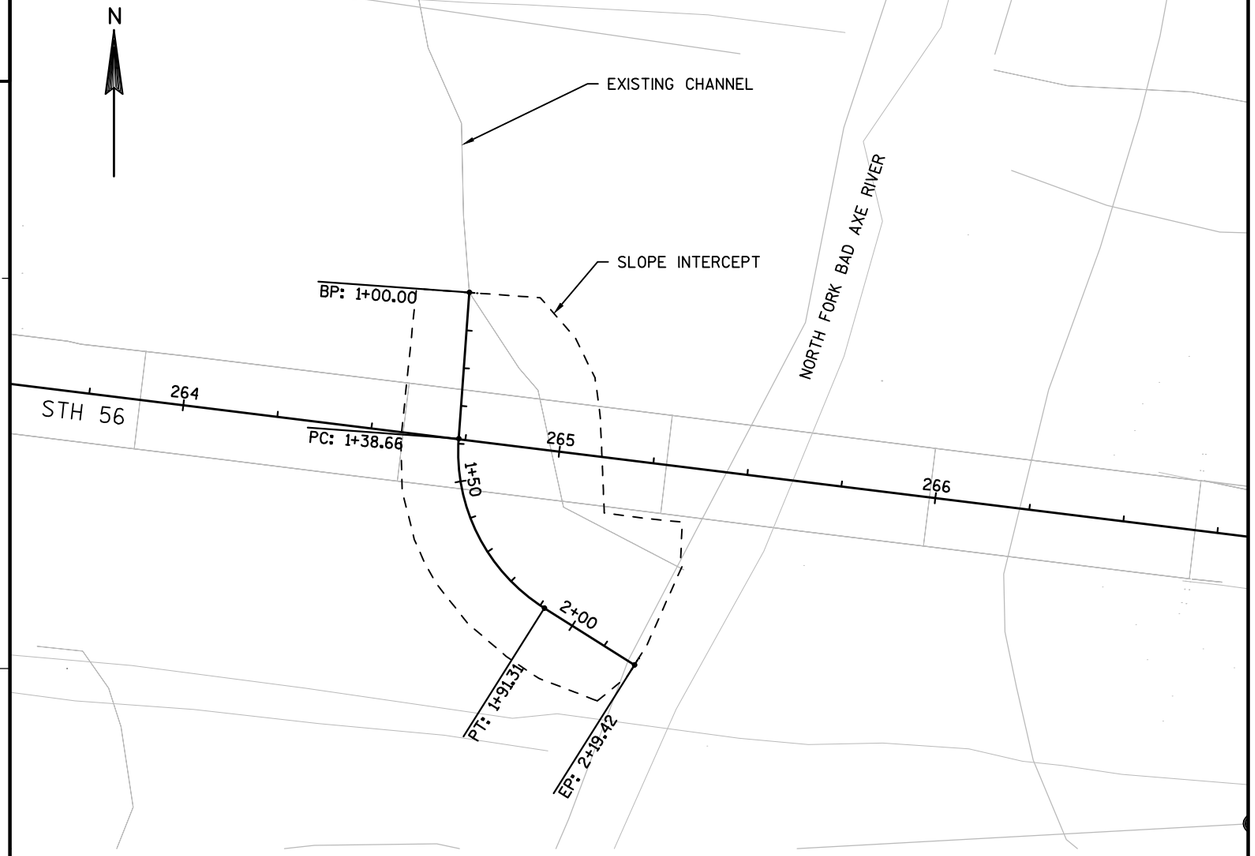
(CONCRETE PAVEMENT APPROACH SLAB)
STA 263+14-263+36
STA 266+76-266+99

1 POINT REFERRED TO ON PROFILE

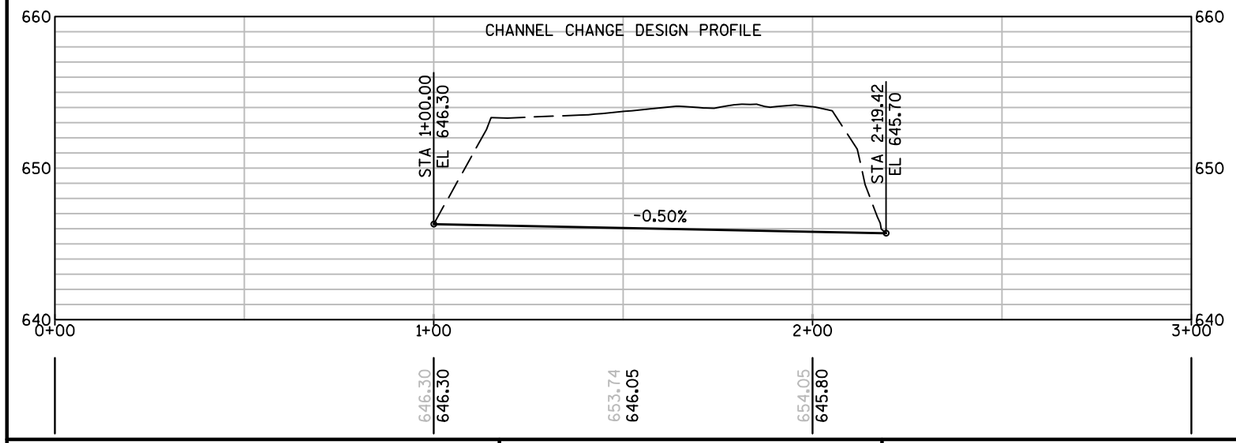
2 POINT REFERRED TO ON CROSS SECTIONS

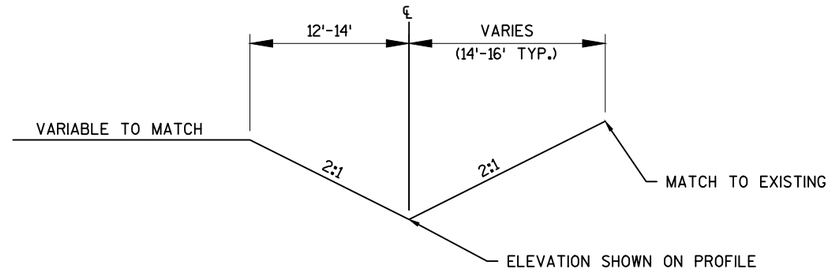
3 A LAYER OF BASE AGGREGATE DENSE 1 1/4-INCH SHALL COVER SELECT CRUSHED MATERIAL PRIOR TO ANY CONSTRUCTION EQUIPMENT DRIVING OVER IT TO PREVENT CONTAMINATION OF THE SELECT CRUSHED MATERIAL

4 PAID FOR AS ITEM 415.0070 OR 416.1010

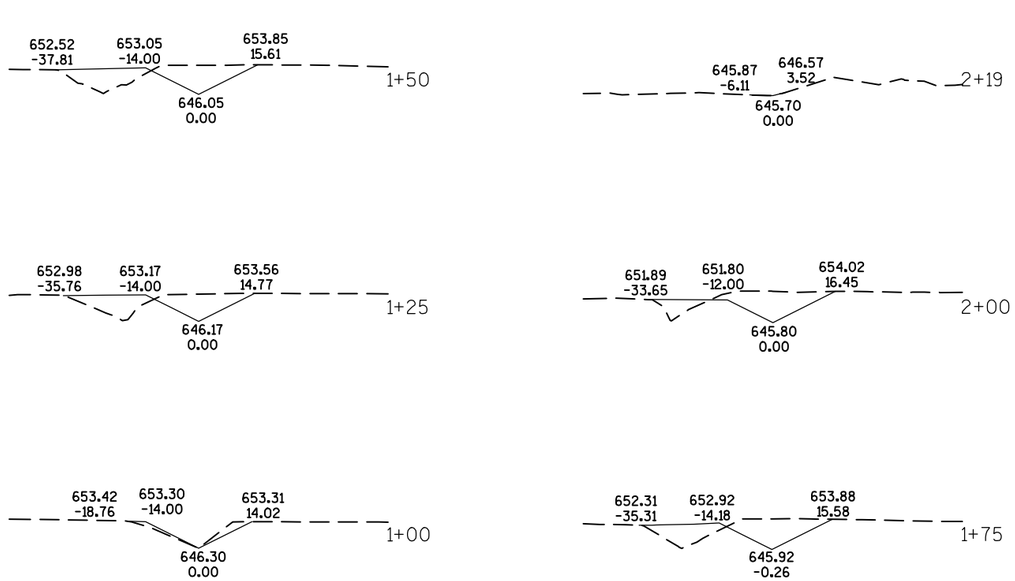



NOTE:
STREAM ALIGNMENT AND ELEVATIONS MUST BE CONFIRMED IN THE FIELD.
FINAL LOCATION AND ADJUSTMENTS TO BE DETERMINED BY THE FIELD ENGINEER.
DO NOT DIVERT WATER FLOW INTO NEW CHANNEL UNTIL NEW STREAM BANKS ARE
WELL ESTABLISHED WITH VEGETATION OR AS FIELD ENGINEER DIRECTS.



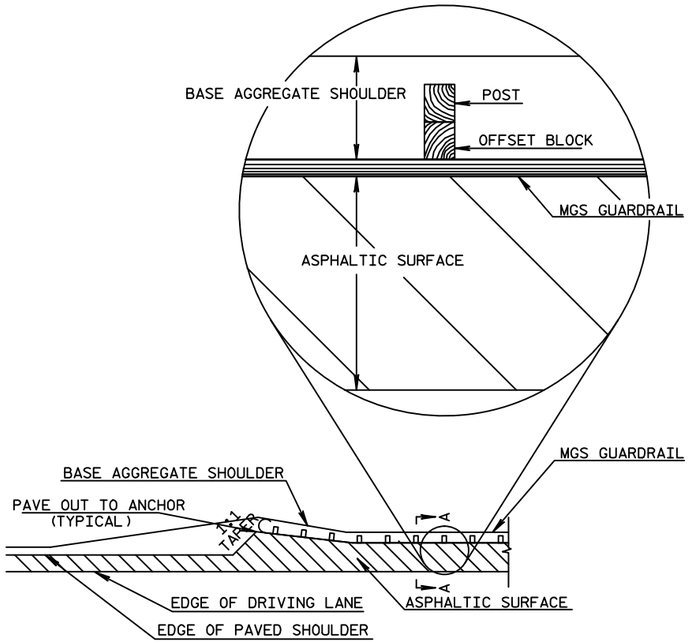




TYPICAL CROSS SECTION
TYPICAL SECTION SHALL MATCH EXISTING CHANNEL

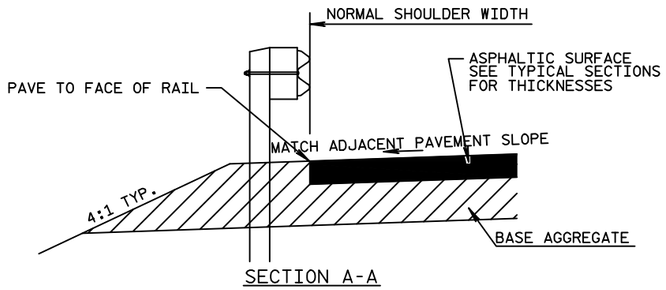



PROPOSED CROSS SECTIONS

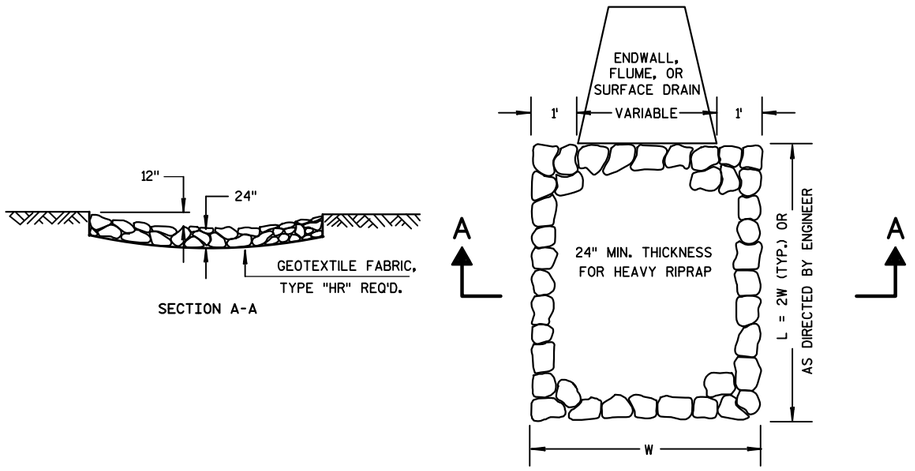
| PROJECT NO: 5730-01-81 | HWY: STH 56 | COUNTY: VERNON | CHANNEL CHANGE DETAILS | SHEET 5 | E |
|---|---|---|---|---|---|




ASPHALTIC PAVING ALONG BEAM GUARD

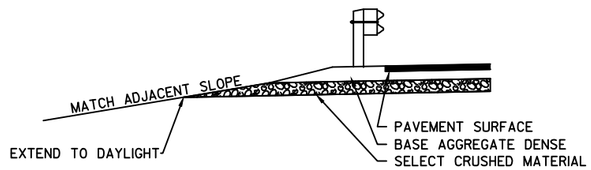


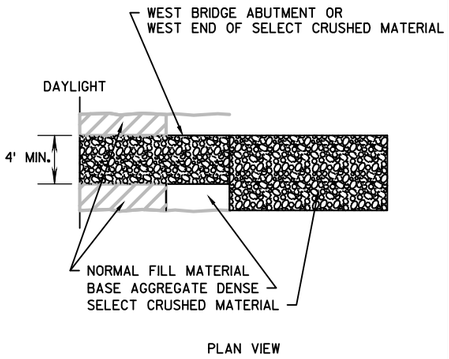

SHOULDER DETAIL AT GUARD RAIL (NO CURB & GUTTER)




HEAVY RIPRAP TREATMENT AT CULVERTS,
ASPHALTIC FLUMES, & CONCRETE SURFACE DRAINS

NOTE: EXCAVATION REQUIRED TO CONSTRUCT RELIEF TRENCH
IS INCIDENTAL TO THE ITEM "SELECT CRUSHED MATERIAL."
DO NOT COVER SELECT CRUSHED WITH TOPSOIL.




RELIEF TRENCH DETAIL
STA 263+36 (WEST BRIDGE ABUTMENT)
STA 267+58 (EAST END OF SELECT CRUSHED MATERIAL)

| PROJECT NO: 5730-01-81 | HWY: STH 56 | COUNTY: VERNON | CONSTRUCTION DETAILS | SHEET 6 E |
|---|---|---|---|---|

2

N

EROSION MAT, CLASS I, TYPE B

PT: 258+91.95

260+00

STH 56

265+00

HEAVY RIPRAP

270+00

HEAVY RIPRAP

EROSION MAT, CLASS I, TYPE B

LEGEND

TYPICAL FOR ALL EROSION CONTROL SHEETS

- - - - - - - SLOPE INTERCEPTS

SILT FENCE

DIRECTION OF FLOW

NOTE: SILT FENCE MUST ENCLOSE ENTIRE WORK AREA DURING CONSTRUCTION.

| PROJECT NO: 5730-01-81 | HWY: STH 56 | COUNTY: VERNON | EROSION CONTROL | SHEET 7 | E |
|---|---|---|---|---|---|

FILE NAME : \\LAX31FP2\N3PUBLIC\PDS\C3D\57300101\SHEETSPLAN\022001_EC.DWG PLOT DATE : 9/15/2014 7:46 AM PLOT BY : LEONARD, TOREY R PLOT NAME : PLOT SCALE : 1 IN:100 FT

2

N

SEE DETOUR DETAIL A2

SEE DETOUR DETAIL A3

SEE DETOUR DETAIL A4

SEE DETOUR DETAIL A5

SEE DETOUR DETAIL A1

M4-8 24"X12" M3-4 24"X12" M1-6 24"X24" DETOUR WEST 56

M4-8 24"X12" M3-2 24"X12" M1-6 24"X24" DETOUR EAST 56

M4-8 36"X18" M3-4 36"X18" M1-6 36"X36" DETOUR WEST 56

M4-8 36"X18" M3-2 36"X18" M1-6 36"X36" DETOUR EAST 56

R11-3-C BRIDGE OUT 12.9 MILES AHEAD TYPE III BARRICADE

R11-3-C BRIDGE OUT 6.2MILES AHEAD TYPE III BARRICADE

R11-3-C BRIDGE OUT 6.7MILES AHEAD TYPE III BARRICADE

PORTABLE CHANGEABLE MESSAGE SIGN
PANEL 1: ROAD CLOSED
PANEL 2: STARTING X/XX/XX

PROJECT LOCATION
PROJECT ID 5730-01-81

LA CROSSE COUNTY
VERNON COUNTY

MONROE COUNTY
VERNON COUNTY

LA CROSSE COUNTY
MONROE COUNTY

SHELBY
GREENFIELD
WASHINGTON
PORTLAND
JEFFE
HAMBURG
CHRISTIANA
COON
BERGEN
GENOA
VIROQUA
WEBS

| PROJECT NO: 5730-01-81 | HWY: STH 56 | COUNTY: VERNON | DETOUR SIGNING | SHEET 8 | E |
|---|---|---|---|---|---|

2

N

MAIN STREET

GENOA

35

56

K

DE SOTO
COVER EXISTING

M4-8A 24"X18"
M3-4 24"X12"
M1-6 24"X24"
END DETOUR WEST 56
COVER EXISTING

SOUTH SOUTH 35
COVER EXISTING

R11-3-C
BRIDGE OUT 4.7MILES AHEAD
TYPE III BARRICADE

DETOUR EAST 56
M4-8 24"X12"
M3-2 24"X12"
M1-6 24"X24"

R11-3-C
BRIDGE OUT 5.1MILES AHEAD
TYPE III BARRICADE

STODDARD VIROQUA

DETOUR EAST 56
M4-8 24"X12"
M06-1 21"X21"
COVER EXISTING

DETOUR EAST
M4-8 24"X12"
M3-2 24"X12"
DETOUR AHEAD
W20-2-A

NORTH NORTH EAST 35 56
DETOUR
M4-8 24"X12"
M06-1 21"X21"
COVER EXISTING

DETOUR EAST
M4-8 24"X12"
M3-2 24"X12"
DETOUR AHEAD
W20-2-A

DETOUR ALTERNATE A1

DETOUR ALTERNATE A2

LA CROSSE

N

14
61
35

DETOUR EAST
M4-8 24"X12"
M3-2 24"X12"
DETOUR AHEAD
W20-2-A

DETOUR EAST 56
M4-8 24"X12"
M3-2 24"X12"
M1-6 24"X24"
M05-1L 21"X21"

DETOUR WEST 56
M4-8 36"X18"
M3-4 36"X18"
M1-6 36"X36"
M06-1 30"X30"

DETOUR EAST 56
M4-8 24"X12"
M3-2 24"X12"
M1-6 24"X24"
M06-1 21"X21"

DETOUR WEST 56
M4-8 36"X18"
M3-4 36"X18"
M1-6 36"X36"
M05-1L 30"X30"

DETOUR EAST 56
M4-8 24"X12"
M3-2 24"X12"
M1-6 24"X24"

DETOUR WEST 56
M4-8 24"X12"
M3-4 24"X12"
M1-6 24"X24"

DETOUR EAST 56
M4-8 24"X12"
M3-2 24"X12"
M1-6 24"X24"
M06-1 21"X21"

DETOUR EAST 56
M4-8 24"X12"
M3-2 24"X12"
M1-6 24"X24"
M05-1R 21"X21"

35

2

| PROJECT NO: 5730-01-81 | HWY: STH 56 | COUNTY: VERNON | DETOUR SIGNING | SHEET 9 | E |
|---|---|---|---|---|---|

N

M4-8 24"X12" M3-4 24"X12" DETOUR WEST 56 M1-6 24"X24"

M4-8 24"X12" M3-2 24"X12" DETOUR EAST 56 M1-6 24"X24" M06-1 21"X21"

M4-8 24"X12" M3-4 24"X12" DETOUR WEST 56 M1-6 24"X24" M06-1 21"X21"

M4-8 24"X12" M3-4 24"X12" DETOUR WEST 56 M1-6 24"X24"

M4-8 24"X12" M3-2 24"X12" DETOUR EAST 56 M1-6 24"X24"

M4-8 24"X12" M3-2 24"X12" DETOUR EAST 56 M1-6 24"X24" M06-1 21"X21"

M4-8 24"X12" M3-2 24"X12" DETOUR EAST 56 M1-6 24"X24"

14 61 162

COON VALLEY

162

DETOUR DETAIL A3



N

M4-8 24"X12" M3-4 24"X12" DETOUR WEST 56 M1-6 24"X24" M05-1R 21"X21"

M4-8 24"X12" M3-4 24"X12" DETOUR WEST 56 M1-6 24"X24" M06-1 21"X21"

M4-8 24"X12" M3-4 24"X12" DETOUR WEST DETOUR AHEAD W20-2-4

M4-8 24"X12" M3-2 24"X12" DETOUR EAST 56 M1-6 24"X24" M05-2R 21"X21"

M4-8 24"X12" M3-4 24"X12" DETOUR WEST 56 M1-6 24"X24" M06-2 21"X21"

M4-8 24"X12" M3-2 24"X12" DETOUR EAST 56 M1-6 24"X24" M06-2 21"X21"

M4-8 24"X12" M3-2 24"X12" DETOUR EAST 56 M1-6 24"X24"

M4-8 24"X12" M3-4 24"X12" DETOUR WEST 56 M1-6 24"X24" M05-2L 21"X21"

14 61 27 P

WESTBY

14 61 27

DETOUR DETAIL A4

| PROJECT NO: 5730-01-81 | HWY: STH 56 | COUNTY: VERNON | DETOUR SIGNING | SHEET 10 | E |
|---|---|---|---|---|---|

FILE NAME : \\LAX31FP2\N3PUBLIC\PDS\C3D\57300101\SHEETSPLAN\027001_DT.DWG
LAYOUT NAME - 027003_DT
PLOT DATE : 9/15/2014 7:58 AM PLOT BY : LEONARD, TOREY R PLOT NAME : PLOT SCALE : 1 IN:1000 FT
WISDOT/CADDS SHEET 42

N

B

R11-3-C
BRIDGE OUT
13.5 MILES AHEAD
TYPE III BARRICADE

EAST 56 EAST 82
COVER EXISTING

MADISON
LA FARGE
COVER EXISTING

M4-8A 24"X18"
END DETOUR
M3-2 24"X12"
EAST
M1-6 24"X24"
56

82 56
M06-6 21"X21"
COVER EXISTING

DETOUR M4-8 24"X12"
WEST M3-4 24"X12"
56 M1-6 24"X24"
M06-1 21"X21"

GENOA
MADISON
LA CROSSE

DETOUR M4-8 24"X12"
WEST WEST
82 56
M06-1 21"X21"
COVER EXISTING

DETOUR M4-8 24"X12"
WEST M3-4 24"X12"
56 M1-6 24"X24"

DETOUR M4-8 24"X12"
WEST M3-4 24"X12"
DETOUR AHEAD
W20-2-A

VIROQUA

R11-3-C
BRIDGE OUT
14.4 MILES AHEAD
TYPE III BARRICADE

DETOUR M4-8 24"X12"
WEST M3-4 24"X12"
56 M1-6 24"X24"
M06-1 21"X21"

56 82
M06-6 21"X21"
COVER EXISTING

DETOUR M4-8 24"X12"
WEST M3-4 24"X12"
DETOUR AHEAD
W20-2-A

M4-8 24"X12" DETOUR
WEST EAST
56 56
M06-1 21"X21"
COVER EXISTING

LA CROSSE
GENOA
LA FARGE

14 61 27 82 56 NN

DETOUR DETAIL A5

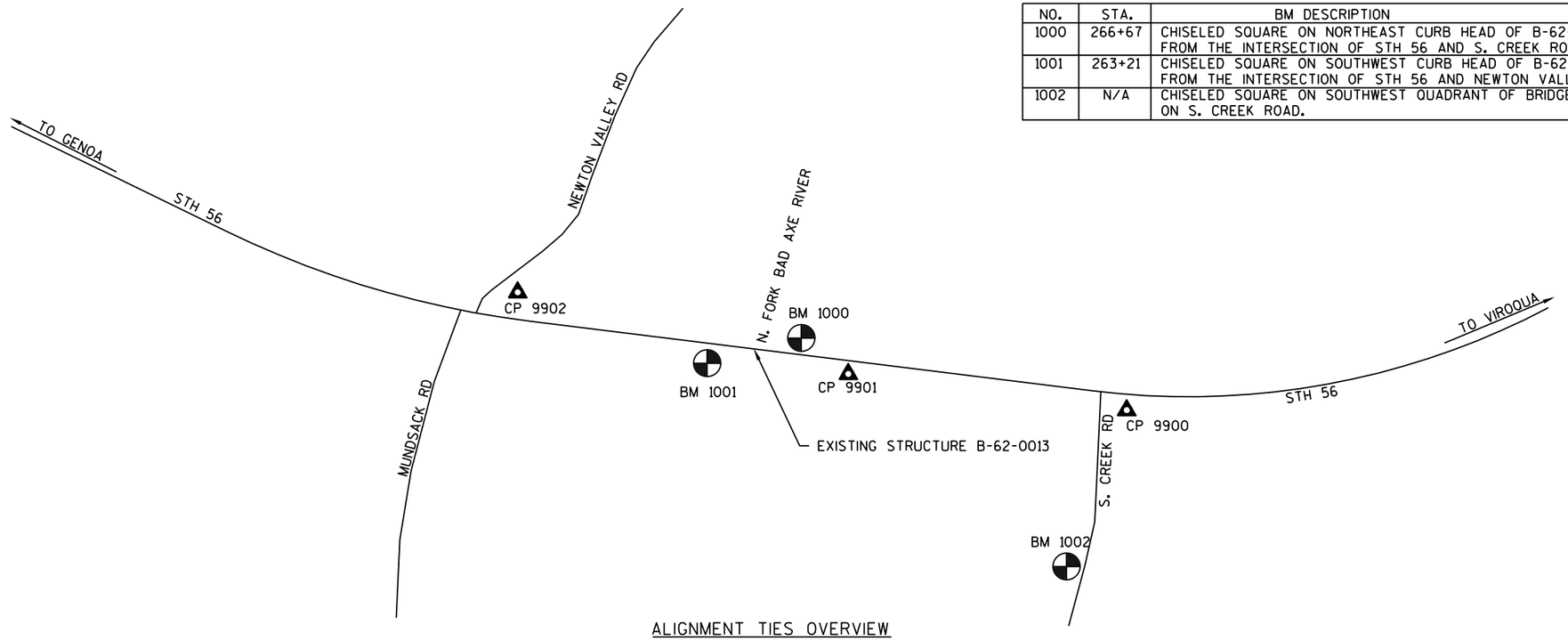
| PROJECT NO: 5730-01-81 | HWY: STH 56 | COUNTY: VERNON | DETOUR SIGNING | SHEET E |
|---|---|---|---|---|



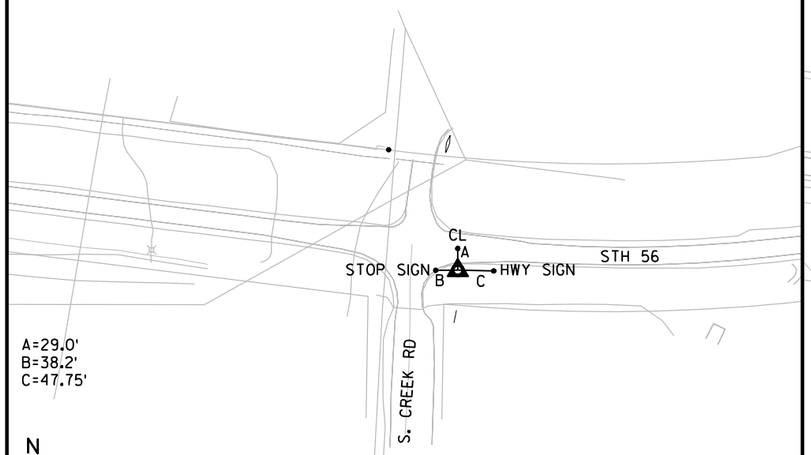
FILE NAME : \\LAX31FP2\N3PUBLIC\PDS\C3D\57300101\SHEETSPLAN\027001_DT.DWG
LAYOUT NAME - 027004_DT

PLOT DATE : 9/15/2014 7:58 AM PLOT BY : LEONARD, TOREY R PLOT NAME : PLOT SCALE : 1 IN:1000 FT

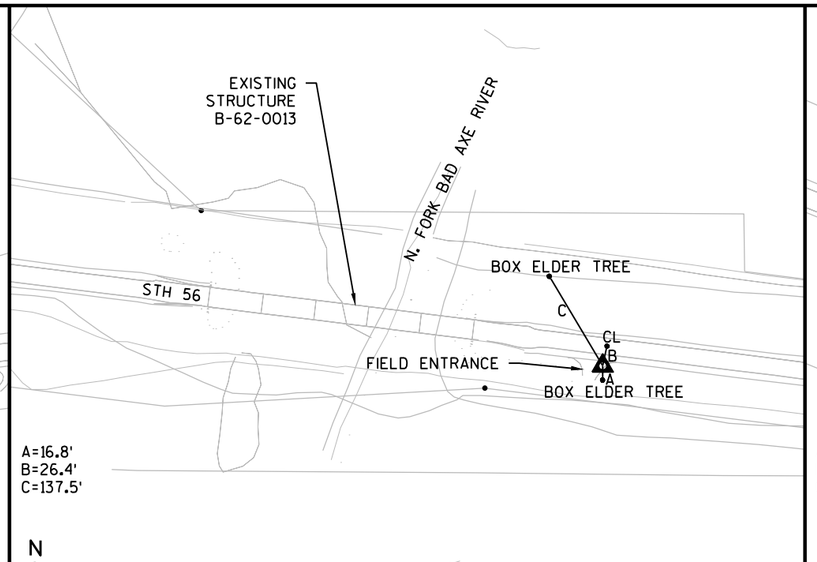
| NO. | STA. | BM DESCRIPTION | ELEV. |
|---|---|---|---|
| 1000 | 266+67 | CHISELED SQUARE ON NORTHEAST CURB HEAD OF B-62-0013 +/- 1000 FEET FROM THE INTERSECTION OF STH 56 AND S. CREEK ROAD. | 667.69 |
| 1001 | 263+21 | CHISELED SQUARE ON SOUTHWEST CURB HEAD OF B-62-0013 +/- 600 FEET FROM THE INTERSECTION OF STH 56 AND NEWTON VALLEY ROAD. | 673.55 |
| 1002 | N/A | CHISELED SQUARE ON SOUTHWEST QUADRANT OF BRIDGE +/- 525 FEET SOUTH ON S. CREEK ROAD. | 664.49 |



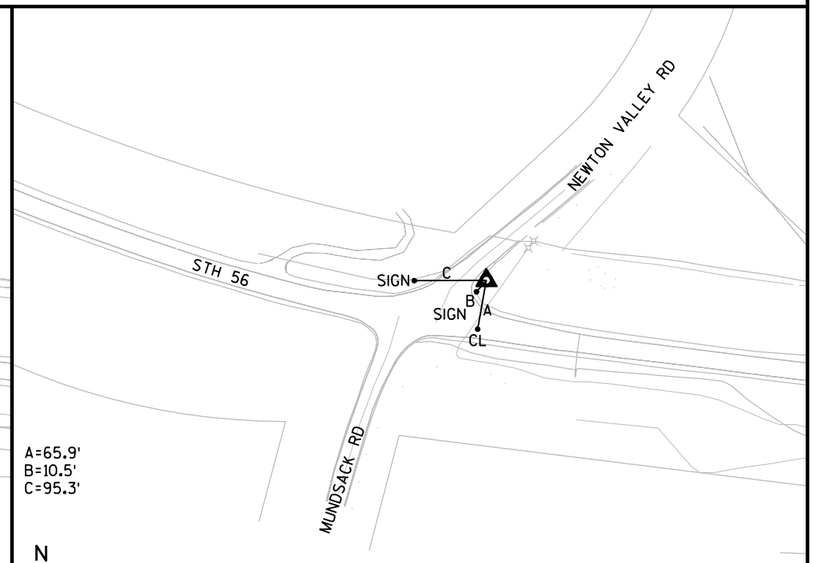

ALIGNMENT TIES OVERVIEW




CP 9900
REBAR WITH RED CAP
E=634166.73
N=147815.88
POINT LOCATED AT
SE QUADRANT OF INTERSECTION
OF STH 56 AND S. CREEK RD




CP 9901
REBAR WITH RED CAP
E=634166.73
N=147815.88
POINT LOCATED AT INTERSECTION OF
STH 56 AND S. CREEK RD. TRAVEL WEST ON STH 56 FOR +/-
500 FT TO A FIELD ENTRANCE ON THE SOUTH SIDE OF STH 56




CP 9902
REBAR WITH RED CAP
E=632321.36
N=148138.33
POINT LOCATED AT
NE QUADRANT OF INTERSECTION
OF STH 56 AND NEWTON VALLEY RD

| PROJECT NO:5730-01-81 | HWY: STH 56 | COUNTY: VERNON | ALIGNMENT TIES | SHEET | E |
|---|---|---|---|---|---|



FILE NAME : N:\PDS\C3D\57300101\SHEETSPLAN\027201_AD.DWG PLOT DATE : 7/21/2014 12:36 PM PLOT BY : LEONARD, TOREY R PLOT NAME : PLOT SCALE : 1 IN:400 FT
WISDOT/CADDS SHEET 42

DATE 05JAN15 E S T I M A T E O F Q U A N T I T I E S

| LINE NUMBER | ITEM | ITEM DESCRIPTION | UNIT | TOTAL | 5730-01-81 QUANTITY |
|---|---|---|---|---|---|
| 0010 | 203.0600.S | Removing Old Structure Over Waterway With Minimal Debris (station) 01. 263+18 | LS | 1.000 | 1.000 |
| 0020 | 204.0165 | Removing Guardrail | LF | 312.000 | 312.000 |
| 0030 | 204.0170 | Removing Fence | LF | 350.000 | 350.000 |
| 0040 | 205.0100 | Excavation Common | CY | 1,588.000 | 1,588.000 |
| 0050 | 206.1000 | Excavation for Structures Bridges (structure) 01. B-62-0239 | LS | 1.000 | 1.000 |
| 0060 | 208.0100 | Borrow | CY | 472.000 | 472.000 |
| 0070 | 210.0100 | Backfill Structure | CY | 260.000 | 260.000 |
| 0080 | 213.0100 | Finishing Roadway (project) 01. 5730-01-81 | EACH | 1.000 | 1.000 |
| 0090 | 305.0110 | Base Aggregate Dense 3/4-Inch | TON | 172.000 | 172.000 |
| 0100 | 305.0120 | Base Aggregate Dense 1 1/4-Inch | TON | 1,143.000 | 1,143.000 |
| 0110 | 312.0110 | Select Crushed Material | TON | 520.000 | 520.000 |
| 0120 | 415.0070 | Concrete Pavement 7-Inch | SY | 31.000 | 31.000 |
| 0130 | 415.0410 | Concrete Pavement Approach Slab | SY | 104.000 | 104.000 |
| 0140 | 416.1010 | Concrete Surface Drains | CY | 16.000 | 16.000 |
| 0150 | 465.0105 | Asphaltic Surface | TON | 536.000 | 536.000 |
| 0160 | 502.0100 | Concrete Masonry Bridges | CY | 817.000 | 817.000 |
| 0170 | 502.3200 | Protective Surface Treatment | SY | 1,690.000 | 1,690.000 |
| 0180 | 503.0137 | Prestressed Girder Type I 36W-Inch | LF | 1,715.000 | 1,715.000 |
| 0190 | 505.0405 | Bar Steel Reinforcement HS Bridges | LB | 15,950.000 | 15,950.000 |
| 0200 | 505.0605 | Bar Steel Reinforcement HS Coated Bridges | LB | 129,320.000 | 129,320.000 |
| 0210 | 506.2605 | Bearing Pads Elastomeric Non-Laminated | EACH | 40.000 | 40.000 |
| 0220 | 506.4000 | Steel Diaphragms (structure) 01. B-62-0239 | EACH | 32.000 | 32.000 |
| 0230 | 514.0450 | Floor Drains Type WF | EACH | 2.000 | 2.000 |
| 0240 | 516.0500 | Rubberized Membrane Waterproofing | SY | 24.000 | 24.000 |
| 0250 | 521.1012 | Apron Endwalls for Culvert Pipe Steel 12-Inch | EACH | 2.000 | 2.000 |
| 0260 | 550.1120 | Piling Steel HP 12-Inch X 53 Lb | LF | 3,920.000 | 3,920.000 |
| 0270 | 606.0300 | Riprap Heavy | CY | 565.000 | 565.000 |
| 0280 | 612.0212 | Pipe Underdrain Unperforated 12-Inch | LF | 114.000 | 114.000 |
| 0290 | 612.0406 | Pipe Underdrain Wrapped 6-Inch | LF | 160.000 | 160.000 |
| 0300 | 614.0150 | Anchor Assemblies for Steel Plate Beam Guard | EACH | 4.000 | 4.000 |
| 0310 | 614.2300 | Mgs Guardrail 3 | LF | 52.000 | 52.000 |
| 0320 | 614.2500 | Mgs Thrie Beam Transition | LF | 160.000 | 160.000 |
| 0330 | 614.2610 | Mgs Guardrail Terminal EAT | EACH | 4.000 | 4.000 |
| 0340 | 618.0100 | Maintenance And Repair of Haul Roads (project) 01. 5731-01-81 | EACH | 1.000 | 1.000 |
| 0350 | 619.1000 | Mobilization | EACH | 1.000 | 1.000 |
| 0360 | 624.0100 | Water | MGAL | 44.000 | 44.000 |
| 0370 | 625.0500 | Salvaged Topsoil | SY | 6,985.000 | 6,985.000 |
| 0380 | 627.0200 | Mulching | SY | 6,460.000 | 6,460.000 |
| 0390 | 628.1504 | Silt Fence | LF | 3,145.000 | 3,145.000 |
| 0400 | 628.1520 | Silt Fence Maintenance | LF | 3,145.000 | 3,145.000 |
| 0410 | 628.1905 | Mobilizations Erosion Control | EACH | 4.000 | 4.000 |
| 0420 | 628.1910 | Mobilizations Emergency Erosion Control | EACH | 3.000 | 3.000 |
| 0430 | 628.2004 | Erosion Mat Class I Type B | SY | 655.000 | 655.000 |
| 0440 | 629.0210 | Fertilizer Type B | CWT | 10.000 | 10.000 |
| 0450 | 630.0110 | Seeding Mixture No. 10 | LB | 82.000 | 82.000 |
| 0460 | 630.0160 | Seeding Mixture No. 60 | LB | 54.000 | 54.000 |
| 0470 | 630.0200 | Seeding Temporary | LB | 270.000 | 270.000 |

3

DATE 05JAN15 E S T I M A T E O F Q U A N T I T I E S

| LINE NUMBER | ITEM | ITEM DESCRIPTION | UNIT | TOTAL | 5730-01-81 QUANTITY |
|---|---|---|---|---|---|
| 0480 | 638.2602 | Removing Signs Type II | EACH | 4.000 | 4.000 |
| 0490 | 638.3000 | Removing Small Sign Supports | EACH | 4.000 | 4.000 |
| 0500 | 642.5001 | Field Office Type B | EACH | 1.000 | 1.000 |
| 0510 | 643.0100 | Traffic Control (project) 01. 5730-01-81 | EACH | 1.000 | 1.000 |
| 0520 | 643.0300 | Traffic Control Drums | DAY | 1,500.000 | 1,500.000 |
| 0530 | 643.0420 | Traffic Control Barricades Type III | DAY | 3,295.000 | 3,295.000 |
| 0540 | 643.0705 | Traffic Control Warning Lights Type A | DAY | 5,190.000 | 5,190.000 |
| 0550 | 643.0900 | Traffic Control Signs | DAY | 1,650.000 | 1,650.000 |
| 0560 | 643.1050 | Traffic Control Signs PCMS | DAY | 14.000 | 14.000 |
| 0570 | 643.2000 | Traffic Control Detour (project) 01. 5730-01-81 | EACH | 1.000 | 1.000 |
| 0580 | 643.3000 | Traffic Control Detour Signs | DAY | 26,460.000 | 26,460.000 |
| 0590 | 645.0120 | Geotextile Fabric Type HR | SY | 984.000 | 984.000 |
| 0600 | 646.0106 | Pavement Marking Epoxy 4-Inch | LF | 2,133.000 | 2,133.000 |
| 0610 | 650.4500 | Construction Staking Subgrade | LF | 608.000 | 608.000 |
| 0620 | 650.5000 | Construction Staking Base | LF | 608.000 | 608.000 |
| 0630 | 650.6500 | Construction Staking Structure Layout (structure) 01. B-62-0239 | LS | 1.000 | 1.000 |
| 0640 | 650.9910 | Construction Staking Supplemental Control (project) 01. 5730-01-81 | LS | 1.000 | 1.000 |
| 0650 | 650.9920 | Construction Staking Slope Stakes | LF | 1,216.000 | 1,216.000 |
| 0660 | 690.0150 | Sawing Asphalt | LF | 46.000 | 46.000 |
| 0670 | 715.0415 | Incentive Strength Concrete Pavement | DOL | 500.000 | 500.000 |
| 0680 | 715.0502 | Incentive Strength Concrete Structures | DOL | 4,902.000 | 4,902.000 |
| 0690 | ASP.1T0A | On-the-Job Training Apprentice at $5. 00/HR | HRS | 1,200.000 | 1,200.000 |
| 0700 | ASP.1T0G | On-the-Job Training Graduate at $5.00/HR | HRS | 900.000 | 900.000 |

3

REMOVING FENCE

| CATEGORY | STATION TO | STATION | LOCATION | 204.0170 LF |
|---|---|---|---|---|
| 0010 | 263+18 | - 266+69 | UNDER STRUCTURE | 350 |
| | | | TOTAL 0010 | 350 |

REMOVING GUARDRAIL

| CATEGORY | STATION TO | STATION | LOCATION | 204.0165 LF |
|---|---|---|---|---|
| 0010 | 262+46 | - 263+20 | RT | 74 |
| 0010 | 262+46 | - 263+29 | LT | 120 |
| 0010 | 266+67 | - 267+40 | RT | 73 |
| 0010 | 266+70 | - 267+14 | LT | 45 |
| | | | TOTAL 0010 | 312 |

BASE AGGREGATE

| CATEGORY | STATION TO | STATION | LOCATION | 305.0110 BASE AGGREGATE DENSE 3/4-INCH TON | 305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON | 312.0110 SELECT CRUSHED MATERIAL TON | 624.0100 WATER MGAL |
|---|---|---|---|---|---|---|---|
| 0010 | 260+32 | - 263+36 | | 84 | 580 | 300 | 16 |
| 0010 | 266+76 | - 269+80 | | 88 | 563 | 220 | 14 |
| 0010 | | UNDISTRIB | | | | | 14 |
| | | | TOTAL 0010 | 172 | 1143 | 520 | 44 |

3

## EARTHWORK SUMMARY

| Division | From/To Station | Location | Common Excavation (1) (16) Cut (2) | Available Material (5) | Unexpanded Fill | Expanded Fill (13) Factor 1.35 | Mass Ordinate +/- (14) | Waste | Borrow (17) (item #208.0100) | Comment: |
|---|---|---|---|---|---|---|---|---|---|---|
| Division 1 | | | | | | | | | | |
| WEST APPROACH | 260+32 - 263+55 | | 572 | 572 | 1,128 | 1,522 | -951 | 0 | 951 | |
| EAST APPROACH | 266+49 - 269+80 | | 588 | 588 | 135 | 183 | 405 | 405 | -405 | |
| CHANNEL CHANGE | 1+00 - 2+20 | | 429 | 429 | 263 | 355 | 74 | 74 | -74 | |
| Division 1 Subtotal | | | 1,588 | 1,588 | 1,526 | 2,060 | 479 | 479 | 472 | |
| Grand Total | | | 1,588 | 1,588 | 1,526 | 2,060 | 479 | 479 | 472 | |
| Total Common Exc | | | | | | | | | | |

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
2) Salvaged/Unsuable Pavement Material is included in Cut.
3) EBS Excavation to be backfilled with Select Borrow material. Note: this is designers choice, can be backfilled with Borrow, or Cut as well.
4) Salvaged/Unusable Pavement Material
5) Available Material = Cut - Salvaged/Unusuable Pavement Material
13) Expanded Fill. Factor = 1.35
Depending on selections: **Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced Marsh - Reduced EBS) * Fill Factor**
Or Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced EBS) * Fill Factor
Or Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced Marsh) * Fill Factor
Or Expanded Fill = (Unexpanded Fill - Rock* Rock Factor) * Fill Factor
14) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.
16) Approximately 67 CY is paid for as "Excavation for Structures Bridges B-62-239" and is not included in item number 205.0100. The quantity is included in the earthwork calculations.
17) The Borrow + or - Qty calculated for the Division. Plus quantity indicates required borrow material within the Division. Minus indicates an excess of material within the Division.

3

CONCRETE PAVEMENT 7-INCH

| CATEGORY | STATION TO STATION | LOCATION | 415.0070 SY |
|---|---|---|---|
| 0010 | 263+14 - 263+30 | RT | 11 |
| 0010 | 263+14 - 263+36 | LT | 15 |
| 0010 | 266+91 - 266+98 | RT | 5 |
| | | TOTAL 0010 | 31 |

CONCRETE PAVEMENT APPROACH SLAB

| CATEGORY | STATION TO STATION | LOCATION | 415.0410 SY |
|---|---|---|---|
| 0010 | 263+13.83 - 263+35.83 | | 52 |
| 0010 | 266+76.15 - 266+98.17 | | 52 |
| | | TOTAL 0010 | 104 |

ASPHALTIC SURFACE

| CATEGORY | STATION TO STATION | LOCATION | 465.0105 TON |
|---|---|---|---|
| 0010 | 260+32 - 263+14 | | 268 |
| 0010 | 266+98 - 269+80 | | 268 |
| | | TOTAL 0010 | 536 |

3

CONCRETE SURFACE DRAIN WITH PIPE

| CATEGORY | STATION | LOCATION | 416.1010 CONCRETE SURFACE DRAIN CY | 521.1012 AEW FOR CULVERT PIPE STEEL 12-INCH EACH | 612.0212 PIPE UNDERDRAIN UNPERFORATED 12-INCH LF | REMARKS |
|---|---|---|---|---|---|---|
| 0010 | 266+90 | RT | 8 | 1 | 32 | SURFACE DRAIN WITH PIPE |
| 0010 | 266+96 | LT | 8 | 1 | 82 | SURFACE DRAIN WITH PIPE |
| | | TOTAL 0010 | 16 | 2 | 114 | |

BEAM GUARD

| CATEGORY | STATION TO STATION | LOCATION | 614.2300 MGS GUARDRAIL 3 LF | 614.2500 MGS THRIE BEAM TRANSITION LF | 614.2610 MGS GUARDRAIL TERMINAL EAT EACH |
|---|---|---|---|---|---|
| 0010 | 262+15.40 | RT | | | 1 |
| 0010 | 262+68.52 - 262+81.02 | RT | 13 | | |
| 0010 | 262+81.02 - 263+20.42 | RT | | 40 | |
| 0010 | 262+21.75 | LT | | | 1 |
| 0010 | 262+74.87 - 262+87.37 | LT | 13 | | |
| 0010 | 262+87.37 - 263+26.77 | LT | | 40 | |
| 0010 | 266+85.23 - 267+24.63 | RT | | 40 | |
| 0010 | 267+24.63 - 267+37.13 | RT | 13 | | |
| 0010 | 267+90.25 | RT | | | 1 |
| 0010 | 266+91.58 - 267+30.98 | LT | | 40 | |
| 0010 | 267+30.98 - 267+43.48 | LT | 13 | | |
| 0010 | 267+96.60 | LT | | | 1 |
| | | TOTAL 0010 | 52 | 160 | 4 |

3

3

## FINISHING ITEMS

| CATEGORY | STATION TO | STATION | LOCATION | 625.0500 SALVAGED TOPSOIL SY | 627.0200 MULCHING SY | 630.0200 SEEDING TEMPORARY LB | 629.0210 FERTILIZER TYPE B CWT | 630.0110 SEEDING MIX NO. 10 LB | 630.0160 SEEDING MIX NO. 60 LB |
|---|---|---|---|---|---|---|---|---|---|
| 0010 | 260+32 - | 263+90 | LT | 1490 | 1065 | 37 | 1 | 19 | |
| 0010 | 266+76 - | 269+80 | RT | 1205 | 1105 | 36 | 1 | 18 | |
| 0010 | 263+50 - | 265+35 | LT & RT | 1730 | 1730 | 55 | 2 | | 28 |
| 0010 | 265+65 - | 266+70 | LT & RT | 870 | 870 | 30 | 1 | | 15 |
| 0010 | 266+50 - | 269+80 | LT | 635 | 635 | 24 | 1 | 12 | |
| 0010 | 266+50 - | 269+80 | RT | 830 | 830 | 28 | 1 | 14 | |
| 0010 | | BORROW SITE | | 225 | 225 | 6 | 1 | 2 | |
| 0010 | | UNDISTRIB | | | | 54 | 2 | 17 | 11 |
| | | | TOTAL 0010 | 6985 | 6460 | 270 | 10 | 82 | 54 |

## RIPRAP

| CATEGORY | STATION | LOCATION | 606.0300 RIPRAP HEAVY CY | 645.0120 GEOTEXTILE FABRIC TYPE HR SY |
|---|---|---|---|---|
| 0010 | 266+90 | RT | 5 | 7 |
| 0010 | 266+96 | LT | 5 | 7 |
| | | TOTAL 0010 | 10 | 14 |

## SILT FENCE

| CATEGORY | STATION TO | STATION | LOCATION | 628.1504 SILT FENCE LF | 628.1520 SILT FENCE MAINTENANCE LF |
|---|---|---|---|---|---|
| 0010 | 260+00 - | 265+40 | LT | 610 | 610 |
| 0010 | 260+00 - | 265+40 | RT | 570 | 570 |
| 0010 | 265+70 - | 270+00 | LT | 515 | 515 |
| 0010 | 265+70 - | 270+00 | RT | 500 | 500 |
| 0010 | | BORROW SITE | | 400 | 400 |
| 0010 | | UNDISTRIB | | 550 | 550 |
| | | | TOTAL 0010 | 3145 | 3145 |

## EROSION MAT CLASS I TYPE B

| CATEGORY | STATION TO | STATION | LOCATION | 628.2004 SY |
|---|---|---|---|---|
| 0010 | 262+00 - | 263+30 | LT | 425 |
| 0010 | 262+75 - | 263+30 | RT | 100 |
| 0010 | | UNDISTRIB | | 130 |
| | | | TOTAL 0010 | 655 |

## MOBILIZATIONS EROSION CONTROL

| CATEGORY | LOCATION | 628.1905 EACH |
|---|---|---|
| 0010 | PROJECT LIMITS | 4 |
| | TOTAL 0010 | 4 |

## MOBILIZATIONS EMERGENCY EROSION CONTROL

| CATEGORY | LOCATION | 628.1910 EACH |
|---|---|---|
| 0010 | PROJECT LIMITS | 3 |
| | TOTAL 0010 | 3 |

3

## SIGNING SUMMARY

| CATEGORY | STATION | LOCATION | 638.2602 REMOVING SIGNS TYPE II EACH | 638.3000 REMOVING SMALL SIGN SUPPORTS EACH | REMARKS |
|---|---|---|---|---|---|
| 0010 | 263+18 | LT | 1 | 1 | W5-52L, CLEARANCE STRIPER DOWN LEFT |
| 0010 | 263+18 | RT | 1 | 1 | W5-52R, CLEARANCE STRIPER DOWN RIGHT |
| 0010 | 266+69 | LT | 1 | 1 | W5-52L, CLEARANCE STRIPER DOWN LEFT |
| 0010 | 266+69 | RT | 1 | 1 | W5-52R, CLEARANCE STRIPER DOWN RIGHT |
| TOTAL 0010 | | | 4 | 4 | |

## PAVEMENT MARKING EPOXY 4-INCH

| CATEGORY | STATION TO STATION | LOCATION | 646.0106 PAVEMENT MARKING EPOXY 4-INCH WHITE LF | 646.0106 PAVEMENT MARKING EPOXY 4-INCH YELLOW LF |
|---|---|---|---|---|
| 0010 | 260+32 - 269+80 | | 1896 | 237 |
| TOTAL 0010 | | | 2133 | |

3

## TRAFFIC CONTROL

| CATEGORY | LOCATION | 643.0300 TRAFFIC CONTROL DRUMS DAY | 643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY | 643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY | 643.0900 TRAFFIC CONTROL SIGNS DAY | 643.1050 TRAFFIC CONTROL SIGNS PCMS DAY | 643.3000 TRAFFIC CONTROL DETOUR SIGNS DAY |
|---|---|---|---|---|---|---|---|
| 0010 | PROJECT LIMITS | 1500 | 3295 | 5190 | 1650 | | |
| 0010 | DETOUR | | | | | 14 | 26460 |
| | TOTAL 0010 | 1500 | 3295 | 5190 | 1650 | 14 | 26460 |

## SAWING ASPHALT

| CATEGORY | STATION | LOCATION | 690.0150 LF |
|---|---|---|---|
| 0010 | 260+32 | | 23 |
| 0010 | 269+80 | | 23 |
| | | TOTAL 0010 | 46 |

## CONSTRUCTION STAKING

| CATEGORY | STATION TO STATION | LOCATION | 650.4500 CONST. STAKING SUBGRADE LF | 650.5000 CONST. STAKING BASE LF | 650.9910 CONST. STAKING SUPPLEMENTAL CONTROL (PROJECT) 01. 5730-01-81 LS | 650.6500 CONST. STAKING STRUCTURE LAYOUT (STRUCTURE)01.B-62-239 LS | 650.9920 CONST. STAKING SLOPE STAKES LF |
|---|---|---|---|---|---|---|---|
| 0010 | 260+32 - 263+36 | | 304 | 304 | | | |
| 0010 | 266+76 - 269+80 | | 304 | 304 | | | |
| 0010 | 263+18 - 266+95 | | | | | 1 | |
| 0010 | 260+32 - 263+36 | LT | | | | | 304 |
| 0010 | 260+32 - 263+36 | RT | | | | | 304 |
| 0010 | 266+76 - 269+80 | LT | | | | | 304 |
| 0010 | 266+76 - 269+80 | RT | | | | | 304 |
| 0010 | | PROJECT | | | 1 | | |
| | | TOTAL 0010 | 608 | 608 | 1 | 1 | 1216 |

BEGIN PROJECT
STA 260+31.97
SAWCUT ASPHALT
X: 632,553.582
Y: 148,041.869

PT: 258+91.95

MGS GUARDRAIL TERMINAL EAT
STA: 262+21.75 OFF: 20.00 LT

MGS THRIE BEAM TRANSITION
MGS GUARDRAIL 3

REMOVE

RELIEF TRENCH

EXISTING RIPRAP (TO REMAIN)

PROPOSED STRUCTURE B-62-0239
REMOVE EXISTING STRUCTURE (B-62-0013)

EXISTING RIPRAP
(TO REMAIN)

REMOVE

RIGHT-OF-WAY

CONCRETE SURFACE DRAIN
FLUME TYPE AT STRUCTURES TYPE A (WITH PIPE)

MGS THRIE BEAM TRANSITION
MGS GUARDRAIL 3

RELIEF TRENCH

MGS GUARDRAIL TERMINAL EAT
STA: 267+96.60 OFF: 20.00 LT

SLOPE INTERCEPT

N

BM 1000

260+00

35'

265+00

270+00

S82° 57' 23"E
1684.10'

STH 56

BM 2001

SLOPE INTERCEPT

MGS GUARDRAIL TERMINAL EAT
STA: 262+15.40 OFF: 20.00 RT

RELIEF TRENCH

MGS GUARDRAIL TERMINAL EAT
STA: 267+90.25 OFF: 20.00 RT

RELIEF TRENCH

MGS THRIE BEAM TRANSITION
MGS GUARDRAIL 3

STA 266+99
END CONCRETE PAVEMENT APPROACH SLAB

CONCRETE SURFACE DRAIN
FLUME TYPE AT STRUCTURES TYPE A (WITH PIPE)

END PROJECT
STA 269+80.05
SAWCUT ASPHALT
X: 633,494.519
Y: 147,925.610

PI STA = 254+23.00
Y = 148117.610
X = 631940.568
DELTA = 18°55'50"
D = 1°59'59"
T = 477.65'
L = 946.60'
R = 2865.00'
PC STA = 249+45.35
PT STA = 258+91.95

MGS THRIE BEAM TRANSITION
MGS GUARDRAIL 3

STA 263+13
BEGIN CONCRETE PAVEMENT APPROACH SLAB

NEW CHANNEL LOCATION
SEE DETAIL

N. FORK BAD AXE RIVER

RIGHT-OF-WAY

VCL = 300.00
K = 185.51

PROPOSED PROFILE

-1.65%

-0.03%

VPT STA 260+57.65
VPT EL 677.17

STA 272+71.32
EL 662.27

℄ WEST BRIDGE ABUTMENT

EXISTING GROUND AFTER
CHANNEL CHANGE

VPC STA 268+04.13
VPC EL 664.85

VPI STA 269+54.13
VPI EL 662.37

VPT STA 271+04.13
VPT EL 662.32

℄ PIER 1

℄ PIER 2

℄ PIER 3

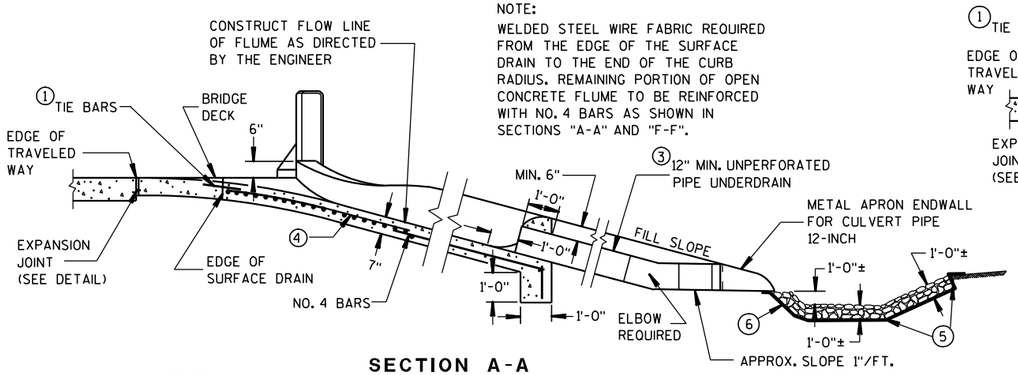
℄ EAST BRIDGE ABUTMENT

| 259 | 260 | 261 | 262 | 263 | 264 | 265 | 266 | 267 | 268 | 269 | 270 | 271 | 272 | 273 | 274 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 679.98 | 680.18 | 679.04 | 679.14 | 677.97 | 678.17 | 677.30 | 677.29 | 676.28 | 676.47 | 675.55 | 675.64 | 674.72 | 674.82 | 674.06 | 673.99 | 673.29 | 673.17 | 672.58 | 672.34 | 671.99 | 671.52 | 670.99 | 670.69 | 670.28 | 669.87 | 669.37 | 669.04 | 668.31 | 668.22 | 667.67 | 667.39 | 666.71 | 666.57 | 665.76 | 665.74 | 664.86 | 664.92 | 664.07 | 664.15 | 663.47 | 663.51 | 663.03 | 663.01 | 662.67 | 662.65 | 662.46 | 662.42 | 662.36 | 662.32 | 662.28 | 662.31 | 662.25 | 662.29 | 662.25 | 662.27 | 662.27 | 662.37 | 662.51 |

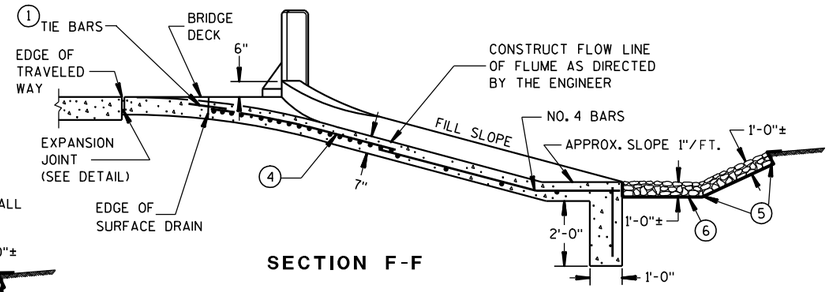
| PROJECT NO: 5730-01-81 | HWY: STH 56 | COUNTY: VERNON | PLAN AND PROFILE: B-62-0239 | SHEET E |
|---|---|---|---|---|

# Standard Detail Drawing List

| | |
|---|---|
| 08D02-06 | CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES |
| 08E09-06 | SILT FENCE |
| 08F01-11 | APRON ENDWALLS FOR CULVERT PIPE |
| 12A03-10 | NAME PLATE (STRUCTURES) |
| 13B02-07A | CONCRETE BRIDGE APPROACH |
| 14B42-03A | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL |
| 14B42-03B | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL |
| 14B44-02A | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS) |
| 14B44-02B | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS) |
| 14B44-02C | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS) |
| 14B45-03A | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-03B | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-03C | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-03D | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-03I | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-03J | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 15C02-05A | BARRICADES AND SIGNS FOR MAINLINE CLOSURES |
| 15C02-05B | BARRICADES AND SIGNS FOR MAINLINE CLOSURES |
| 15C02-05C | DETOUR SIGNING FOR MAINLINE CLOSURES |
| 15C03-02 | BARRICADES AND SIGNS FOR SIDEROAD CLOSURES |
| 15C04-02 | TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC |
| 15C08-16A | PAVEMENT MARKING (MAINLINE) |




SECTION A-A




SECTION F-F

## 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.

ALL STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

(1) NO. 4 X 2'-0" TIE BARS SPACED AT 3'-0" CENTERS TO BE USED ONLY WHEN ADJACENT TO P.C. CONCRETE.

(2) NO. 4 X 2'-0" TIE BARS SPACED AT 12" CENTERS TO BE PLACED BY BRIDGE CONTRACTOR, OR DRILLED TIE BARS PLACED AS DIRECTED BY THE ENGINEER.

(3) PIPE UNDERDRAIN MAY BE ANY OF THE MATERIALS LISTED IN SECTION 612.2 OF THE STANDARD SPECIFICATIONS EXCEPT DRAIN TILE.

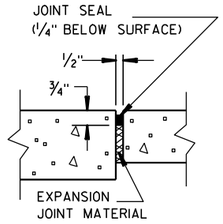
(4) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.

(5) LIMITS OF ADDITIONAL RIPRAP WHEN SPECIAL DITCH IS REQUIRED.

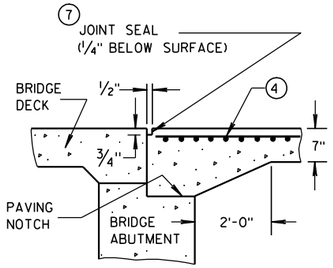
(6) GEOTEXTILE FABRIC, TYPE 'R"

(7) HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.

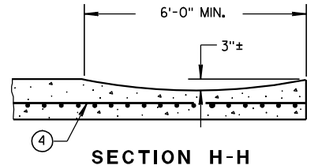
(8) THIS DIMENSION MAY VARY DEPENDING ON THE SPACING OF POSTS FOR THE STEEL PLATE BEAM GUARD. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING WIDENS TO 3'-1½".



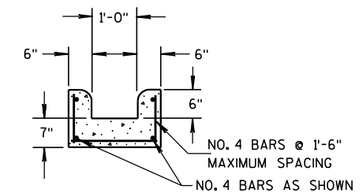

EXPANSION JOINT DETAIL



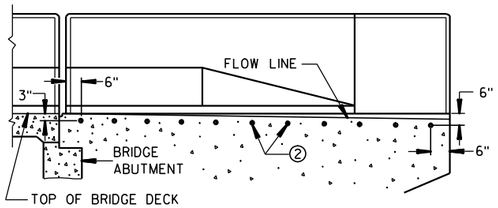

SECTION D-D



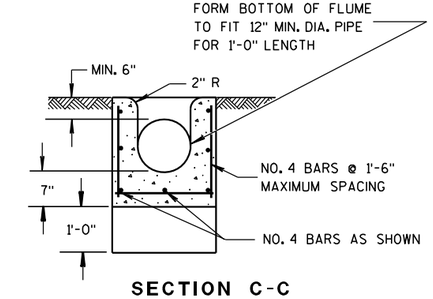

SECTION H-H



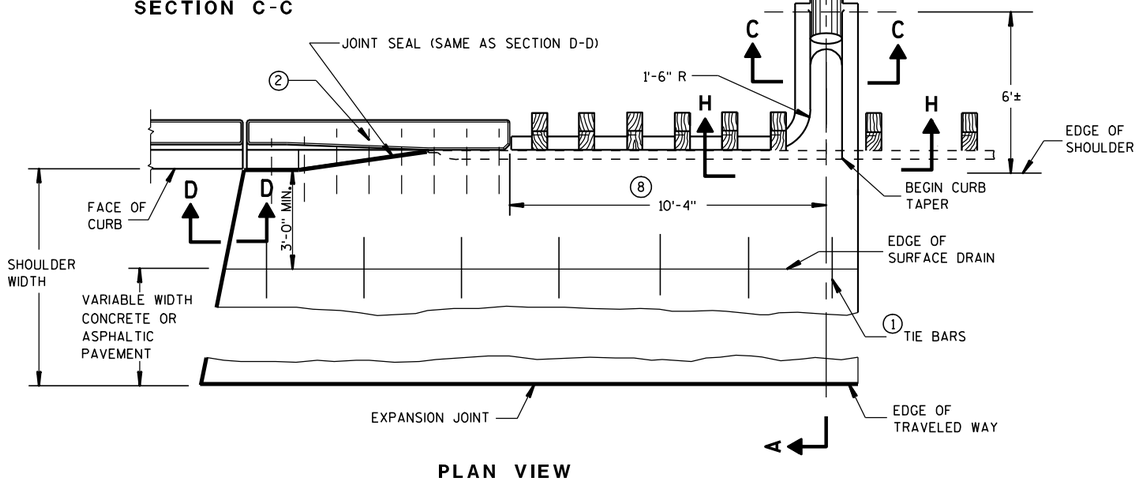

SECTION E-E



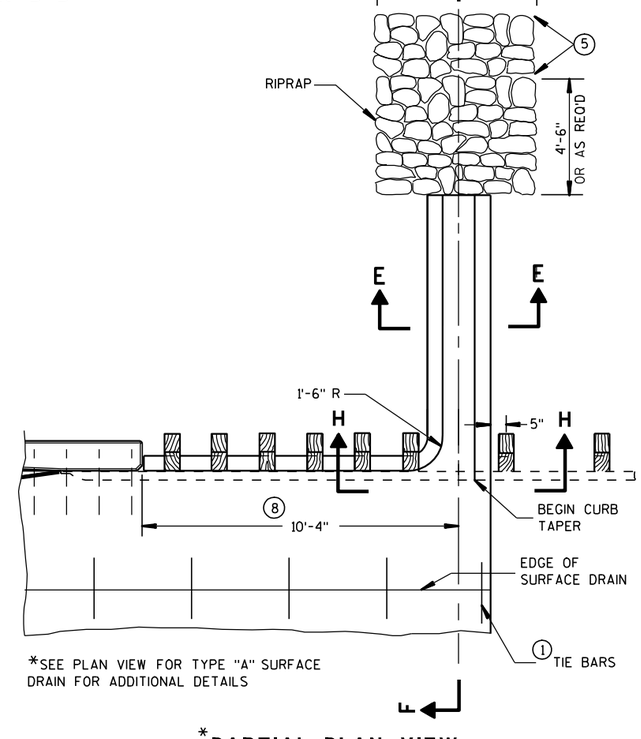

LOCATION OF TIE BARS IN WINGWALL




SECTION C-C




PLAN VIEW
SURFACE DRAIN WITH PIPE
TYPE "A"




*SEE PLAN VIEW FOR TYPE "A" SURFACE DRAIN FOR ADDITIONAL DETAILS

*PARTIAL PLAN VIEW
SURFACE DRAIN WITHOUT PIPE
TYPE "B"

CONCRETE SURFACE DRAINS
FLUME TYPE
AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/4/08 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

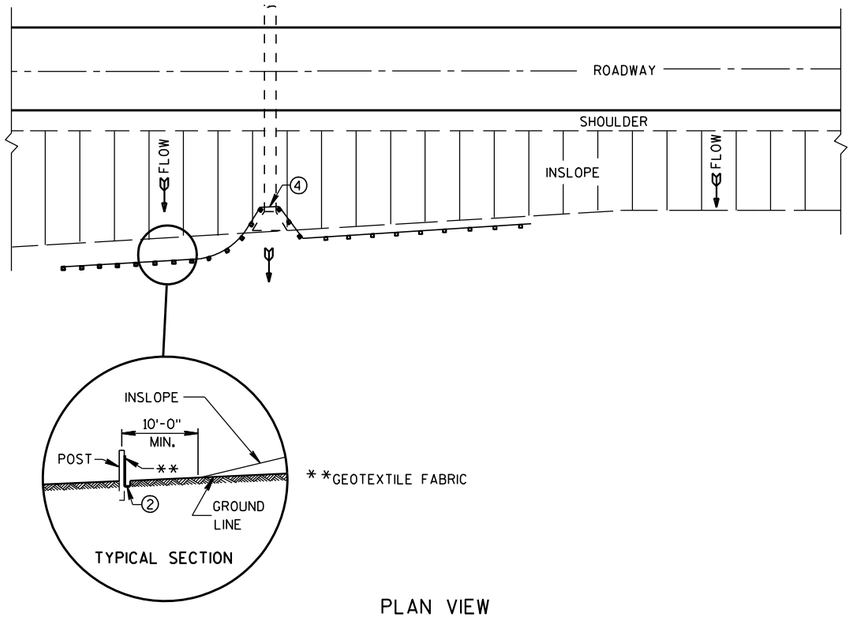


6

S.D.D. 8 D 2-6

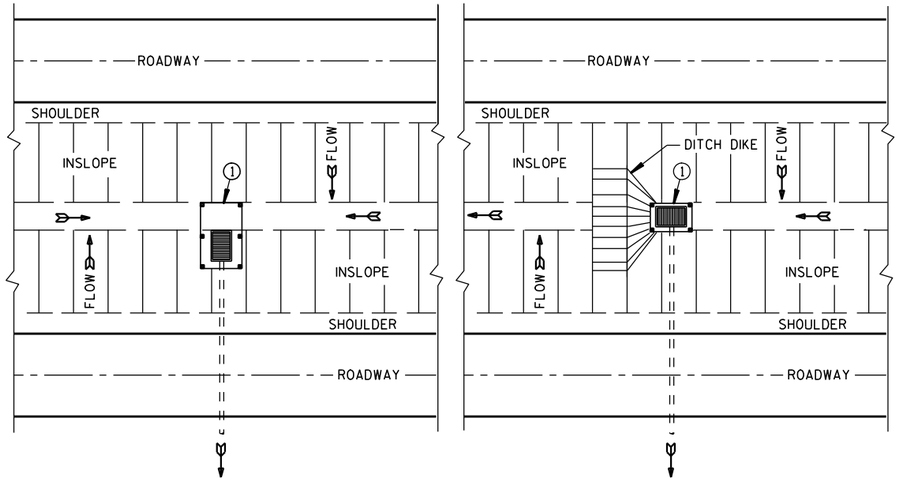
6

S.D.D. 8 D 2-6




PLAN VIEW

## TYPICAL APPLICATION OF SILT FENCE



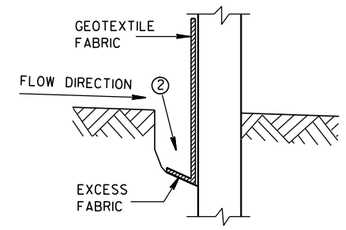

PLAN VIEW

## SILT FENCE AT MEDIAN SURFACE DRAINS

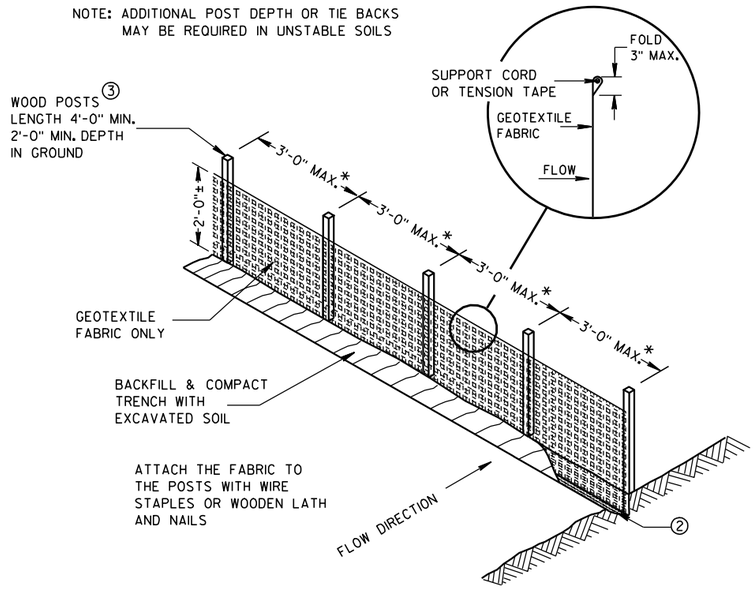
## GENERAL NOTES

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

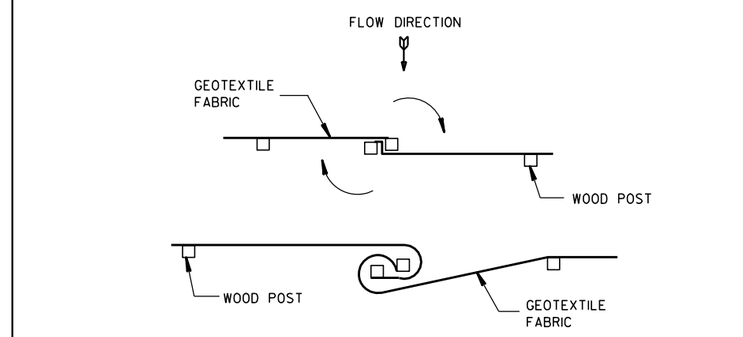
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL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



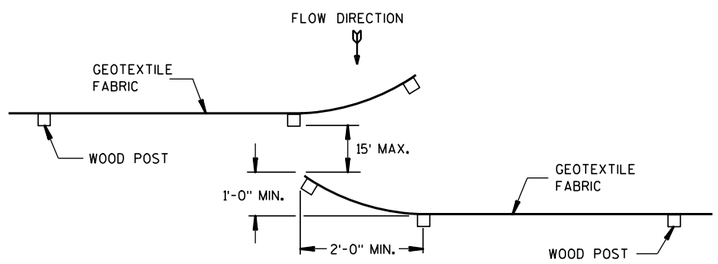

## TRENCH DETAIL




## SILT FENCE

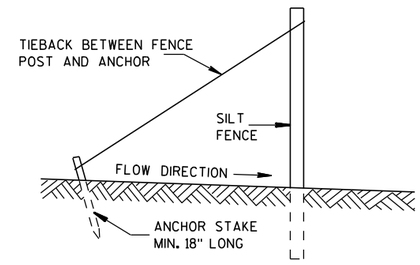



TWIST METHOD




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

## METAL APRON ENDWALLS

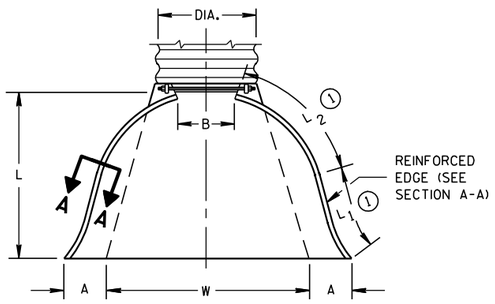
| PIPE DIA. (IN.) | MIN. THICK. (Inches) STEEL | MIN. THICK. (Inches) ALUM. | DIMENSIONS (Inches) A (±1") | B (MAX.) | H (±1") | L (±1 1/2") | L1 ① | L2 ① | W (±2") | APPROX. SLOPE | BODY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | .064 | .060 | 6 | 6 | 6 | 21 | 12 | 17 1/2 | 24 | 2 1/2 to 1 | 1 Pc. |
| 15 | .064 | .060 | 7 | 8 | 6 | 26 | 14 | 21 3/4 | 30 | 2 1/2 to 1 | 1 Pc. |
| 18 | .064 | .060 | 8 | 10 | 6 | 31 | 15 | 28 1/4 | 36 | 2 1/2 to 1 | 1 Pc. |
| 21 | .064 | .060 | 9 | 12 | 6 | 36 | 18 | 29 5/8 | 42 | 2 1/2 to 1 | 1 Pc. |
| 24 | .064 | .075 | 10 | 13 | 6 | 41 | 18 | 37 1/4 | 48 | 2 1/2 to 1 | 1 Pc. |
| 30 | .079 | .075 | 12 | 16 | 8 | 51 | 18 | 52 1/4 | 60 | 2 1/2 to 1 | 1 Pc. |
| 36 | .079 | .105 | 14 | 19 | 9 | 60 | 24 | 59 3/4 | 72 | 2 1/2 to 1 | 2 Pc. |
| 42 | .109 | .105 | 16 | 22 | 11 | 69 | 24 | 75 5/8 | 84 | 2 1/2 to 1 | 2 Pc. |
| 48 | .109 | .105 | 18 | 27 | 12 | 78 | 24 | 81 | 90 | 2 1/4 to 1 | 3 Pc. |
| 54 | .109 | .105 | 18 | 30 | 12 | 84 | 30 | 85 1/2 | 102 | 2 1/4 to 1 | 3 Pc. |
| 60 | .109× | .105× | 18 | 33 | 12 | 87 | — | — | 114 | 2 to 1 | 3 Pc. |
| 66 | .109× | .105× | 18 | 36 | 12 | 87 | — | — | 120 | 2 to 1 | 3 Pc. |
| 72 | .109× | .105× | 18 | 39 | 12 | 87 | — | — | 126 | 2 to 1 | 3 Pc. |
| 78 | .109× | .105× | 18 | 42 | 12 | 87 | — | — | 132 | 1 1/2 to 1 | 3 Pc. |
| 84 | .109× | .105× | 18 | 45 | 12 | 87 | — | — | 138 | 1 1/2 to 1 | 3 Pc. |
| 90 | .109× | .105× | 18 | 37 | 12 | 87 | — | — | 144 | 1 1/2 to 1 | 3 Pc. |
| 96 | .109× | .105× | 18 | 35 | 12 | 87 | — | — | 150 | 1 1/2 to 1 | 3 Pc. |

× EXCEPT CENTER PANEL SEE GENERAL NOTES

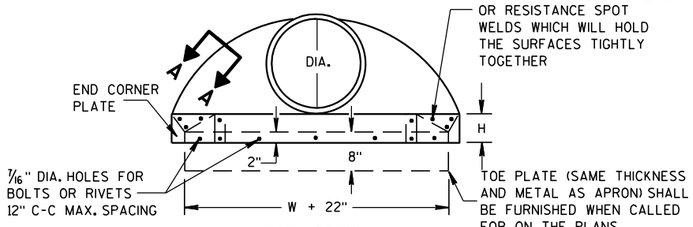
## REINFORCED CONCRETE APRON ENDWALLS

| PIPE DIA. (IN.) | DIMENSIONS (Inches) T | A | B | C | D | E | G | APPROX. SLOPE |
|---|---|---|---|---|---|---|---|---|
| 12 | 2 | 4 | 24 | 48 7/8 | 72 1/8 | 24 | 2 | 3 to 1 |
| 15 | 2 1/4 | 6 | 27 | 46 | 73 | 30 | 2 1/4 | 3 to 1 |
| 18 | 2 1/2 | 9 | 27 | 46 | 73 | 36 | 2 1/2 | 3 to 1 |
| 21 | 2 3/4 | 9 | 36 | 37 1/2 | 73 1/2 | 42 | 2 3/4 | 3 to 1 |
| 24 | 3 | 9 1/2 | 43 1/2 | 30 | 73 1/2 | 48 | 3 | 3 to 1 |
| 27 | 3 1/4 | 10 1/2 | 49 1/2 | 24 | 73 1/2 | 54 | 3 1/4 | 3 to 1 |
| 30 | 3 1/2 | 12 | 54 | 19 3/4 | 73 1/2 | 60 | 3 1/2 | 3 to 1 |
| 36 | 4 | 15 | 63 | 34 3/4 | 97 3/4 | 72 | 4 | 3 to 1 |
| 42 | 4 1/2 | 21 | 63 | 35 | 98 | 78 | 4 1/2 | 3 to 1 |
| 48 | 5 | 24 | 72 | 26 | 98 | 84 | 5 | 3 to 1 |
| 54 | 5 1/2 | 27 | 65 | * 33 1/4 - ** 35 | * 98 1/4 - ** 100 | 90 | 5 1/2 | 2 2/5 to 1 |
| 60 | 6 | * 30 - ** 35 | 60 | 39 | 99 | 96 | 5 | 2 to 1 |
| 66 | 6 1/2 | * 24 - ** 30 | * 72 - ** 78 | * 21 - ** 27 | 99 | 102 | 5 1/2 | 2 to 1 |
| 72 | 7 | * 24 - ** 36 | 78 | 21 | 99 | 108 | 6 | 2 to 1 |
| 78 | 7 1/2 | * 24 - ** 36 | 78 | 21 | 99 | 114 | 6 1/2 | 2 to 1 |
| 84 | 8 | 36 | 90 1/2 | 21 | 111 1/2 | 120 | 6 1/2 | 1 1/2 to 1 |
| 90 | 8 1/2 | 41 | 87 1/2 | 24 | 111 1/2 | 132 | 6 1/2 | 1 1/2 to 1 |

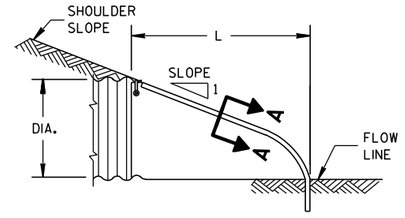
*MINIMUM
**MAXIMUM




PLAN VIEW

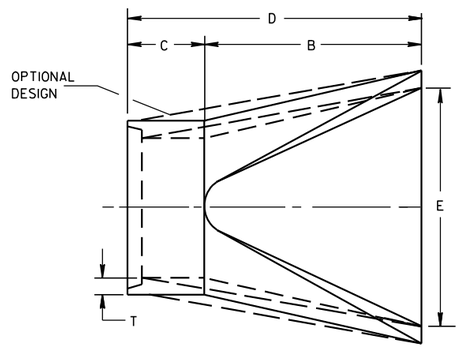



END VIEW

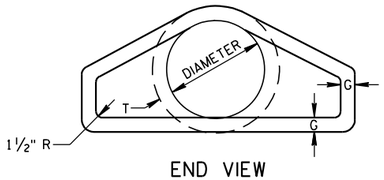



SIDE ELEVATION

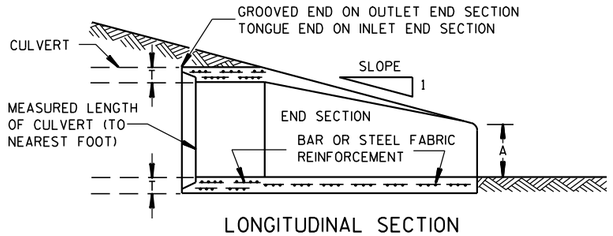
## METAL ENDWALLS




PLAN

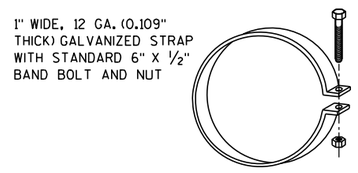



END VIEW



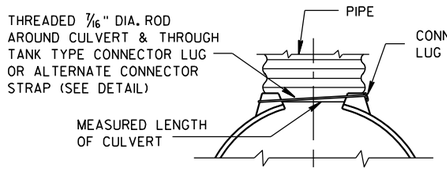

LONGITUDINAL SECTION

## CONCRETE ENDWALLS

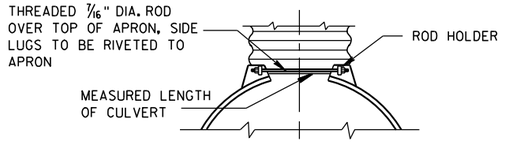



ALTERNATE FOR TYPE 1 CONNECTION

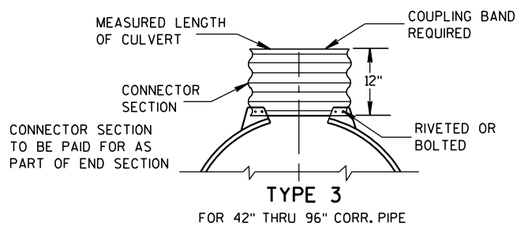
## END SECTION CONNECTOR STRAP



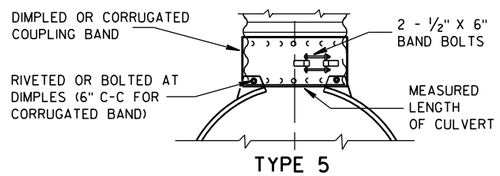

TYPE 1
FOR 12" THRU 24" CORR. PIPE




TYPE 2
FOR 30" THRU 96" CORR. PIPE




TYPE 3
FOR 42" THRU 96" CORR. PIPE




TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

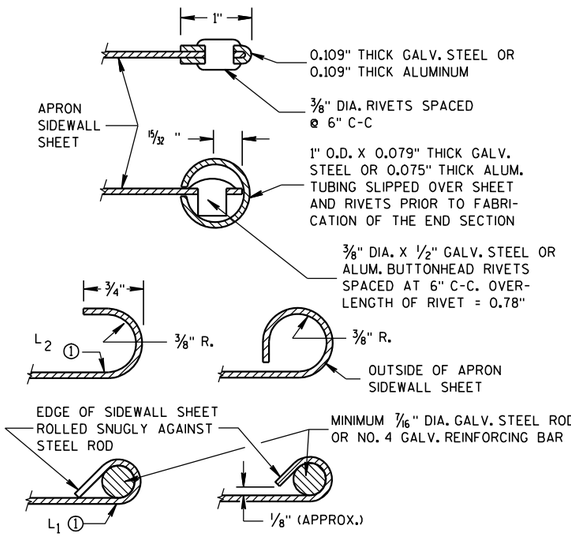
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

## CONNECTION DETAILS




## SECTION A-A

## 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.

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL OR ALUMINUM CULVERT PIPE OR VISE VERSA. GALVANIZED STEEL OR ALUMINUM ENDWALLS SHALL NORMALLY BE INSTALLED ON CULVERT PIPE OF THE SAME METAL.

ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

# APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

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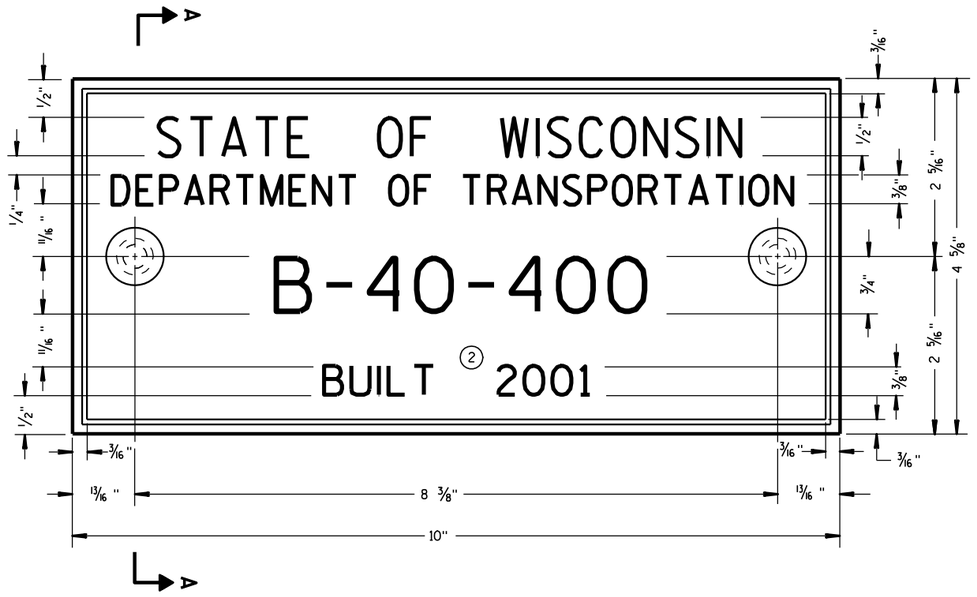
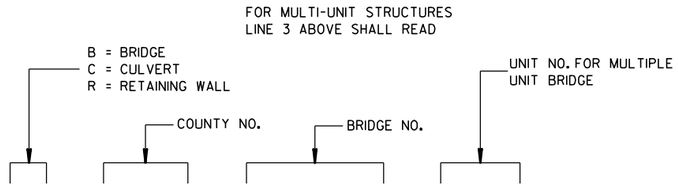
S.D.D. 8 F 1-11




## TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)




## NUMBERING DESIGNATION
## MULTI-UNIT STRUCTURES

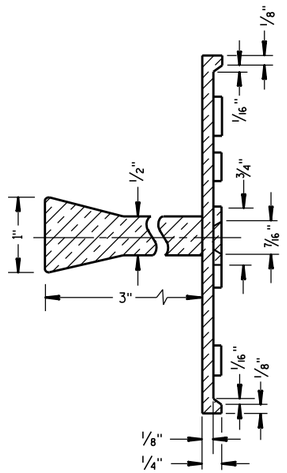
## GENERAL NOTES

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

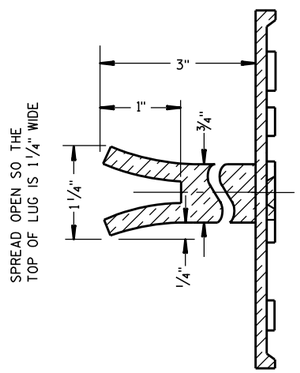
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

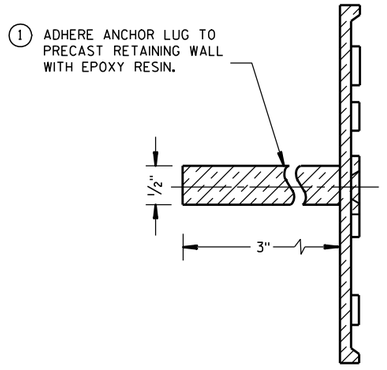
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.




SECTION A-A




ALTERNATE LUG




## ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

| NAME PLATE (STRUCTURES) | |
|---|---|
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | |
| APPROVED | |
| 3/26/10 DATE | /S/ Scot Beck CHIEF STRUCTURAL DEVELOP ENGINEER |
| FHWA | |



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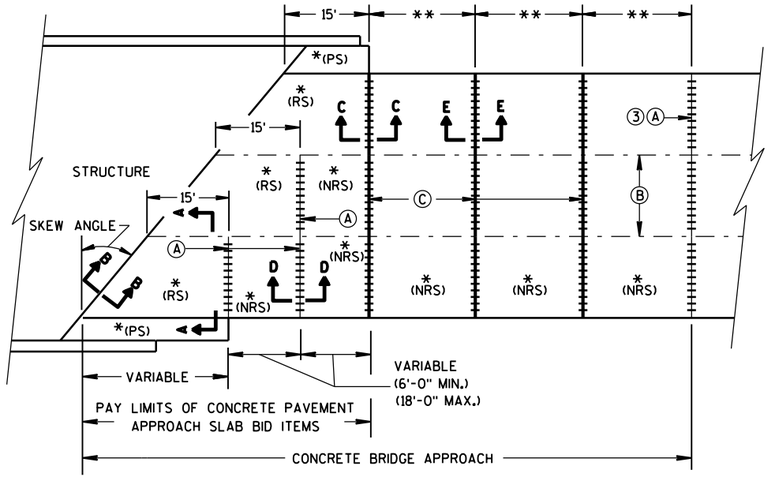
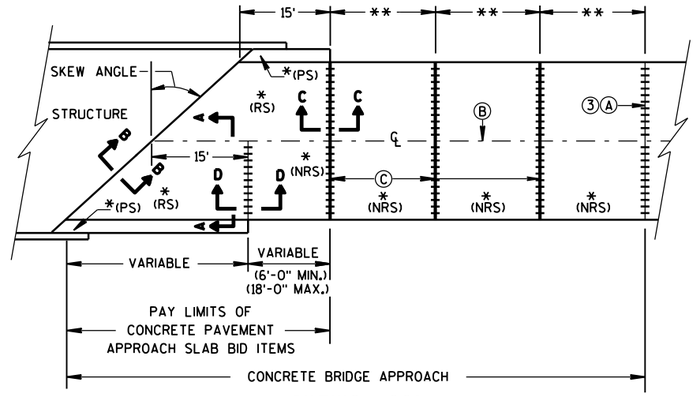
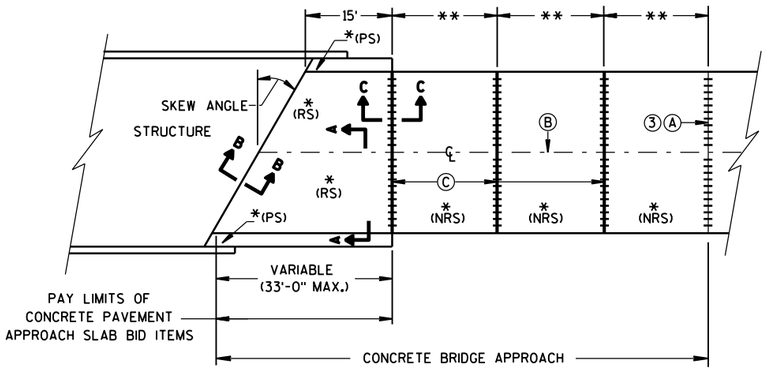
S.D.D. 12 A 3-10




**SKEWED APPROACH**
**(PAVEMENT MORE THAN 2 LANES)**




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



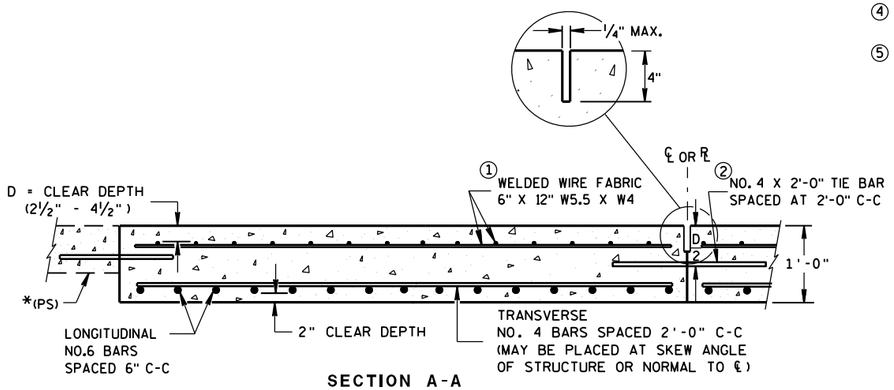

**SKEWS ≤30°**
**(PAVEMENT WIDTH ≤30')**

**APPROACH SLAB AND ADJACENT PAVEMENT**

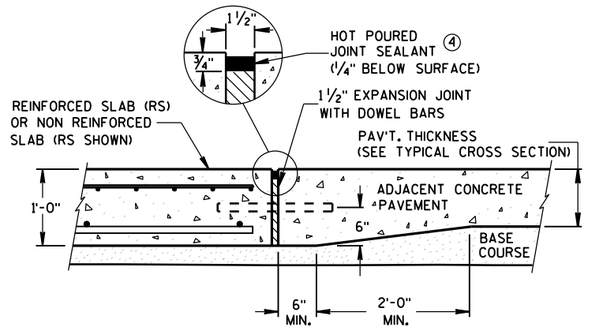
*(RS) = REINFORCED CONCRETE SLAB
*(PS) = PAVED CONCRETE SHOULDER: CONCRETE PAVEMENT, OR CONCRETE SURFACE DRAIN (SEE DETAILS ELSEWHERE IN THE PLAN)
*(NRS) = NON-REINFORCED CONCRETE SLAB

**STANDARD TRANSVERSE JOINT SPACING (SEE SDD 13C4, SDD 13C11, & SDD 13C13)
***STANDARD DOWEL BAR DIAMETER (SEE SDD 13C11, & SDD 13C13)

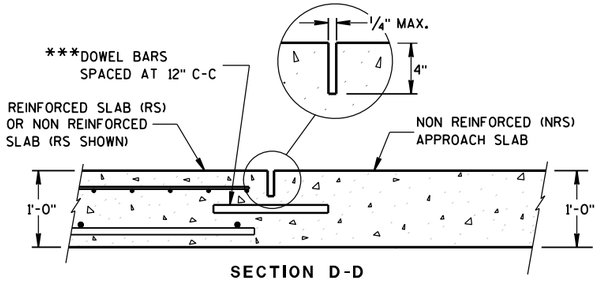
Ⓐ STANDARD CONTRACTION JOINT NORMAL TO ℄ OR ℄
Ⓑ STANDARD LONGITUDINAL JOINT AND TIE BARS.
Ⓒ 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℄ OR ℄




**SECTION A-A**
**REINFORCEMENT POSITIONING DETAIL**




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




**SECTION D-D**
**CONTRACTION JOINT**

## GENERAL NOTES

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

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

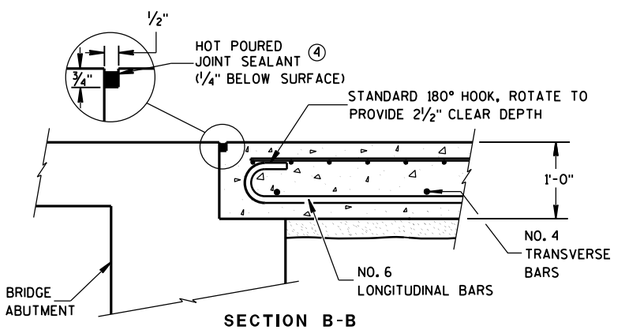
① THE CONTRACTOR MAY USE NO. 4 BARS SPACED AT 2'-0" C-C IN BOTH THE LONGITUDINAL AND TRANSVERSE DIRECTIONS FOR TOP REINFORCEMENT AS AN ALTERNATIVE TO THE WELDED WIRE FABRIC.

② THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.

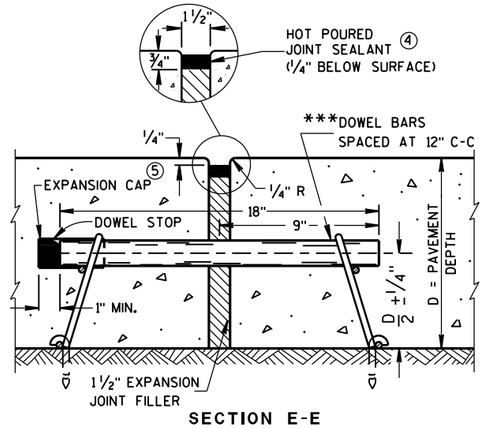
③ DO NOT DOWEL A CONTRACTION JOINT THAT ABUTS AN HMA PAVEMENT.

④ USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.

⑤ PLACE EXPANSION CAP ON THE END OF THE DOWEL THAT IS NOT TACK WELDED TO THE BASKET. DO NOT FORCE DOWEL BAR PAST THE DOWEL STOP.




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




**SECTION E-E**
**EXPANSION JOINT**

**CONCRETE BRIDGE APPROACH**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2014 — DATE
/S/ Deb Bischoff — PAVEMENT POLICY & DE
EER
FHWA

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S.D.D. 13 B 2-7a

## GENERAL NOTES

(1) WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.

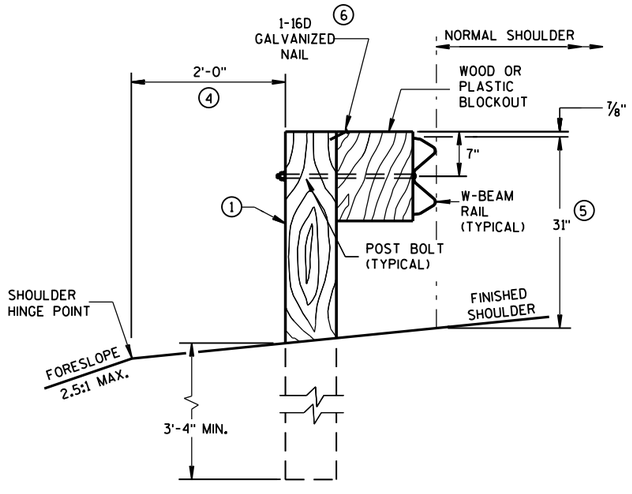
(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

(3) IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2½ INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AMD INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.

(4) WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

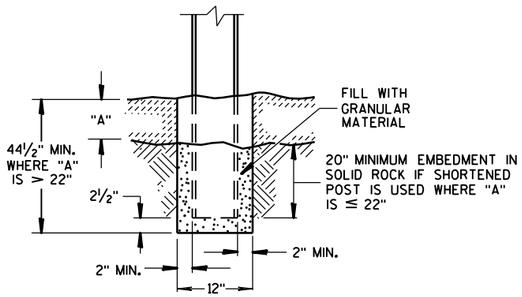
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

(6) WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.



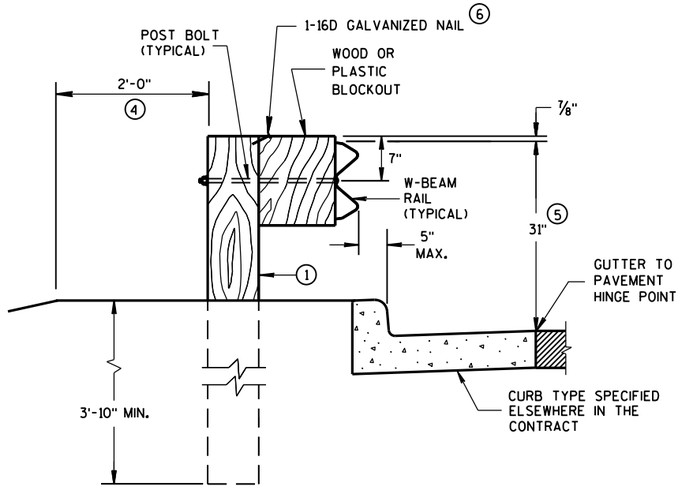

END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



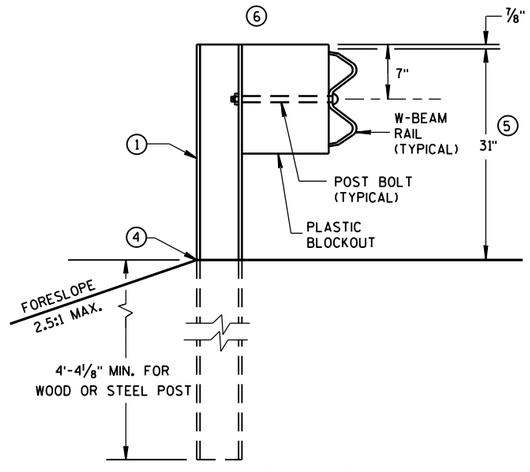

END VIEW

SETTING STEEL OR WOOD POST IN ROCK (3)



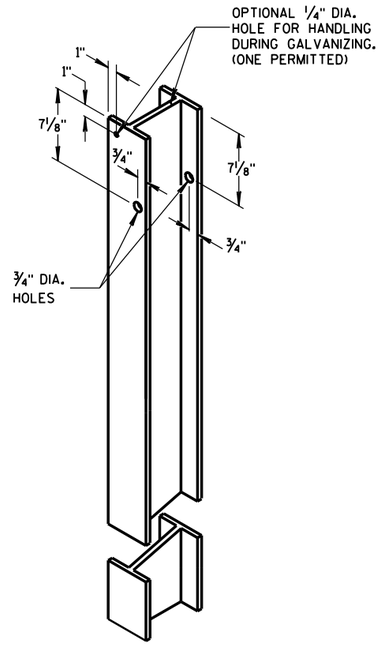

END VIEW

LOCATED ALONG A CURBED ROADWAY

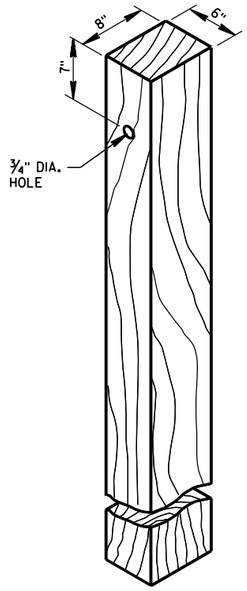



END VIEW

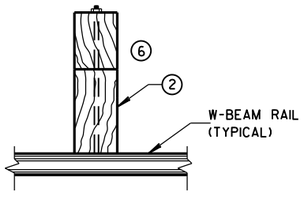
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



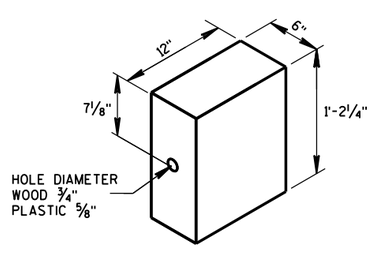

STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) (1)



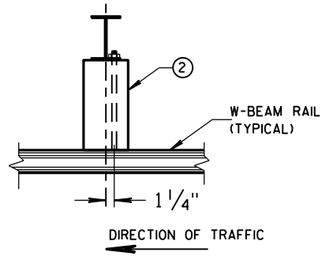

WOOD POST
(6" X 8") NOMINAL (1)




PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM




WOOD OR
PLASTIC BLOCKOUT (2)




PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI





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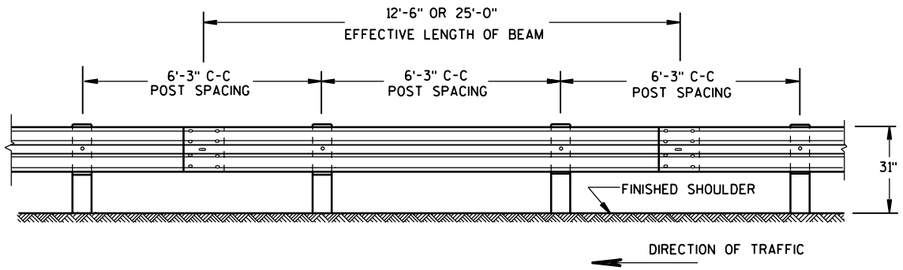
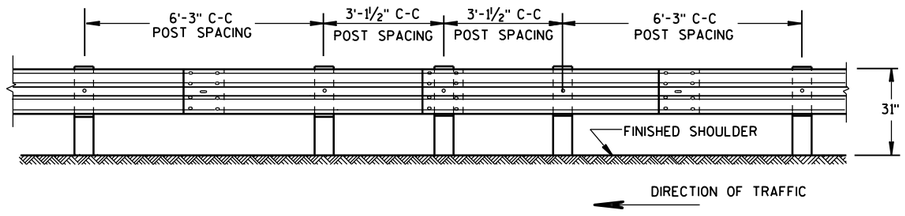
S.D.D. 14 B 42-3a



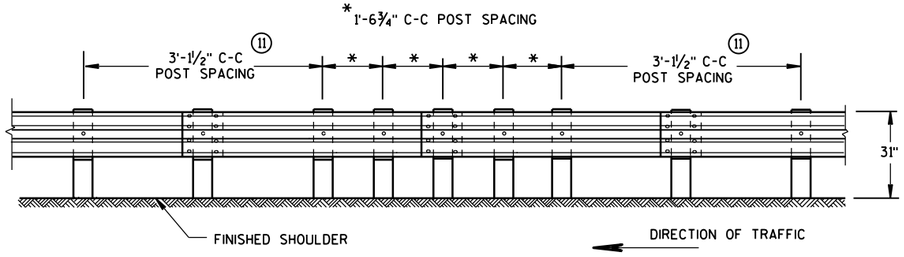

FRONT VIEW

## POST SPACING STANDARD INSTALLATION



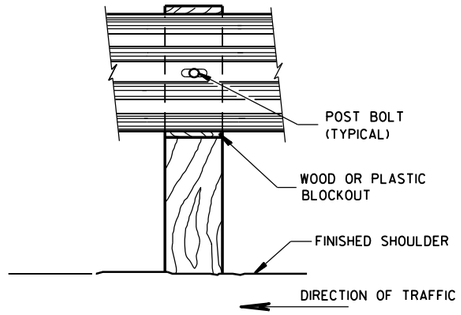

FRONT VIEW

## HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)

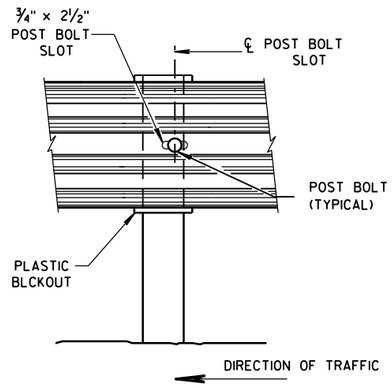



FRONT VIEW

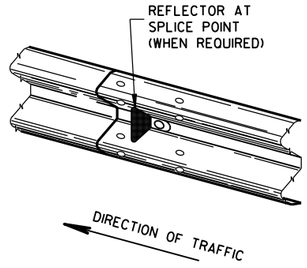
## QUARTER POST SPACING (QS)

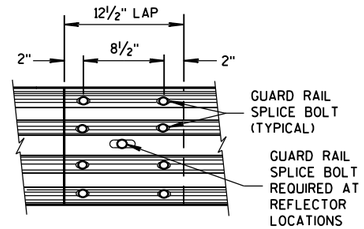



FRONT VIEW AT WOOD POST

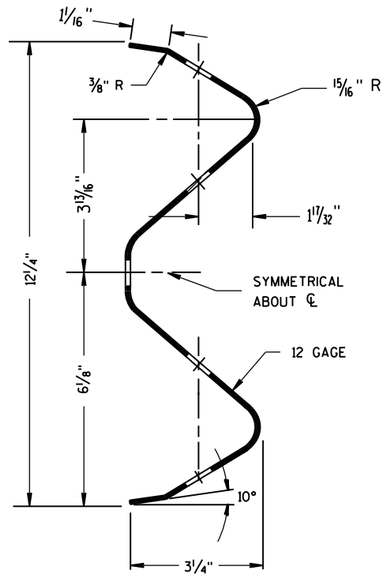



FRONT VIEW AT STEEL POST

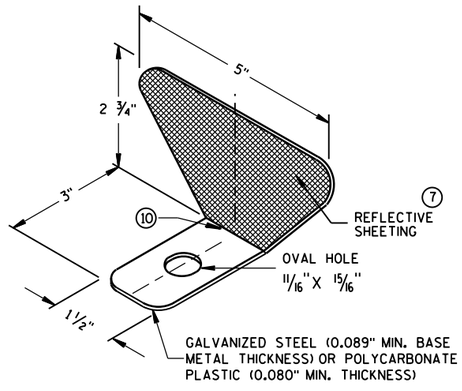



FRONT VIEW
MID-SPAN BEAM SPLICE




SECTION THRU W-BEAM RAIL




## ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION ⑦

## GENERAL NOTES

⑦ PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.

⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.

⑨ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

⑩ PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

⑪ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.

POST BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND ⅝" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A ⅝" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES ⅝" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

### REFLECTOR SPACING ⑧

| | BEAM GUARD LENGTH | REFLECTOR SPACING | NO. SURFACES REFLECTORIZED | MIN. NO. REFLECTORS |
|---|---|---|---|---|
| ONE WAY TRAFFIC | < 200'<br>> 200' | 50' C-C<br>100' C-C | 1<br>1 | 3 |
| TWO WAY TRAFFIC | < 200'<br>> 200' | 25' C-C<br>50' C-C | 1 ⑨<br>1 | 6 |
| TWO WAY TRAFFIC | < 200'<br>> 200' | 50' C-C<br>100' C-C | 2<br>2 ⑩ | 3 |

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO




6


S.D.D. 14 B 42-3b

## GENERAL NOTES

(A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.

(B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.

(C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.

(D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER.

(G) ½" DIAMETER X 3" LONG LAG BOLT AND WASHER.

(H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.

(I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

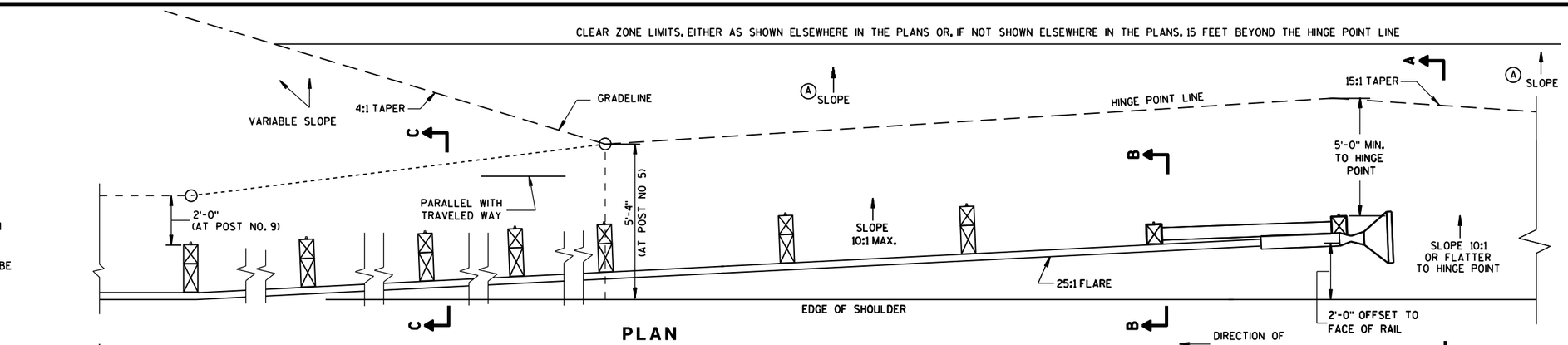
SEE SDD 14B42 FOR MORE INFORMATION.

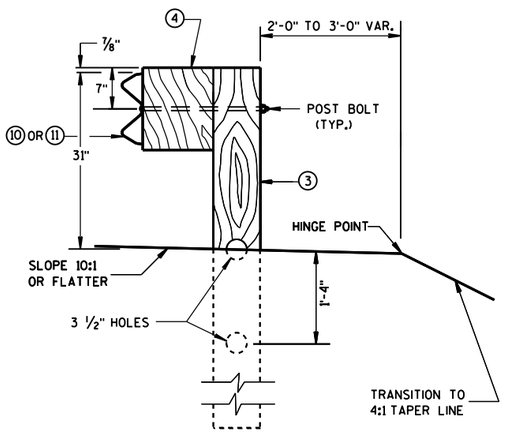
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

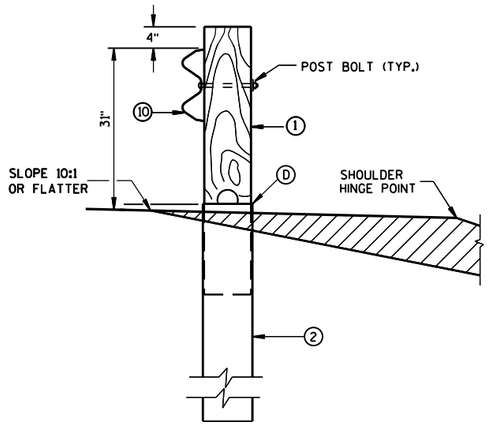
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE.

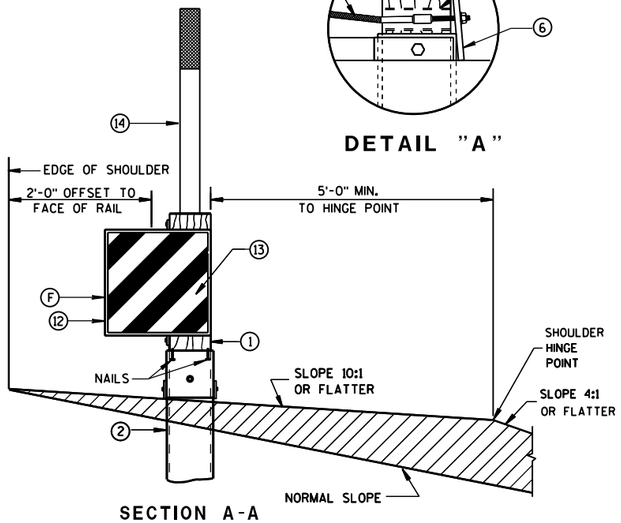


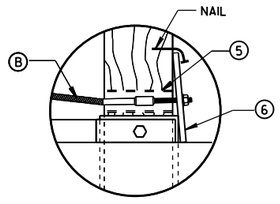

SECTION C-C
TYPICAL AT POST NOS. 3-9



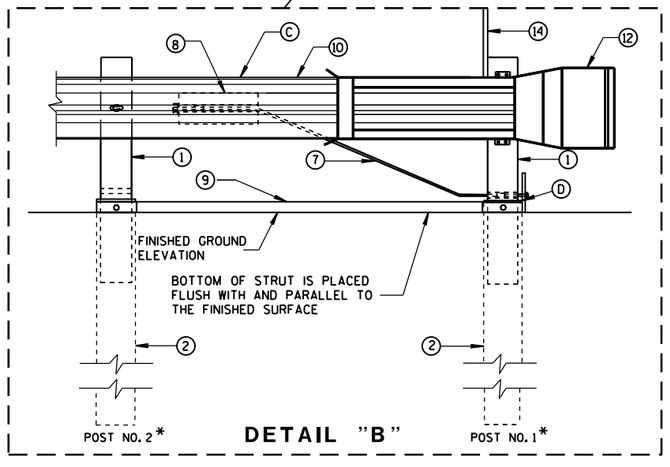

SECTION B-B
TYPICAL AT POST NO. 2*




SECTION A-A
TYPICAL AT POST NO. 1*




DETAIL "A"




DETAIL "B"

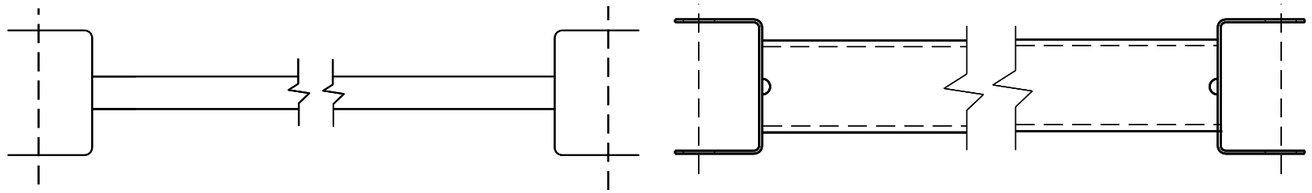
MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO



S.D.D. 14 B 44-2a

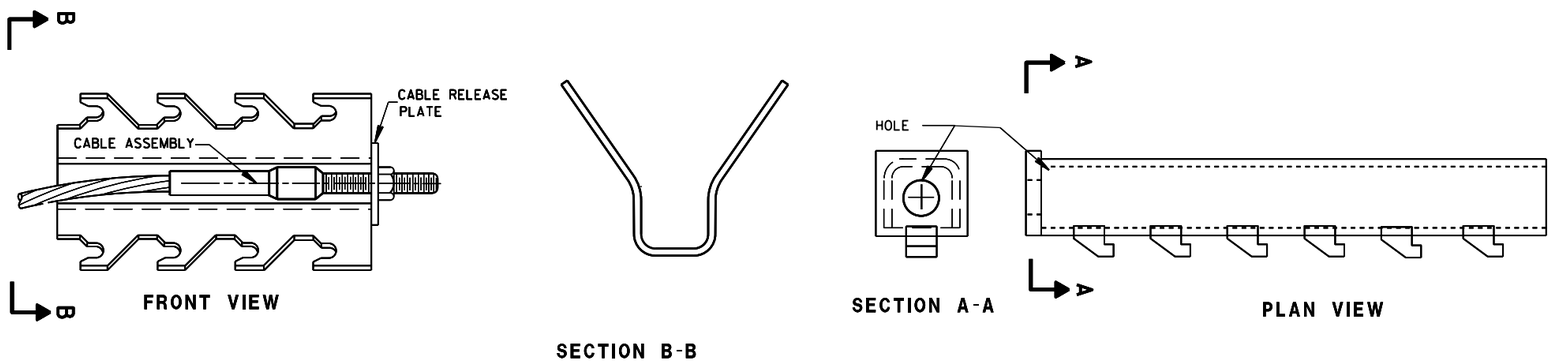
S.D.D. 14 B 44-2a



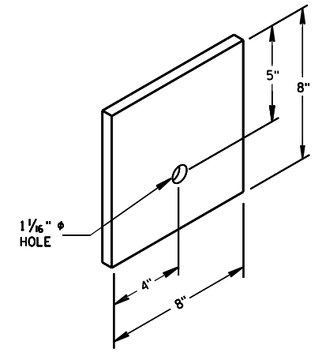
GENERIC GROUND STRUT (9) (H)

## BILL OF MATERIALS

| PART NO. | DESCRIPTION<br>MATERIALS PROVIDED BY MGS EAT MANUFACTURER.<br>SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION. |
|---|---|
| (1) | WOOD BREAKAWAY POST |
| (2) | 6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE<br>AT POSTS 1 AND 2 |
| (3) | WOOD CRT |
| (4) | WOOD BLOCKOUT |
| (5) | PIPE SLEEVE |
| (6) | BEARING PLATE |
| (7) | BCT CABLE ASSEMBLY |
| (8) | ANCHOR CABLE BOX |
| (9) | GROUND STRUT |
| (10) | PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG. |
| (11) | STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED.<br>SECTIONS VARY IN LENGTH. |
| (12) | END SECTION EAT |
| (13) | 0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING<br>TYPE F PER SECTION 637 OF THE STANDARD<br>SPECIFICATIONS |
| (14) | EAT MARKER POST - YELLOW<br>(SEE APPROVED PRODUCTS LIST) |




GENERIC ANCHOR CABLE BOX (8) (H)




BEARING PLATE (6)

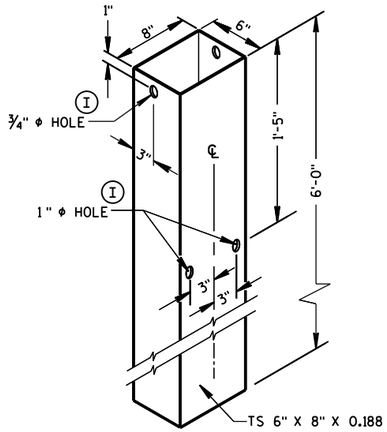
MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

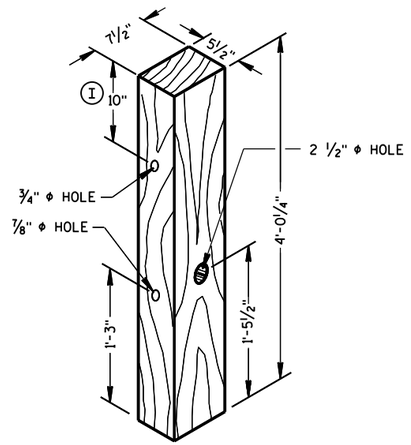



6


S.D.D. 14 B 44-2b

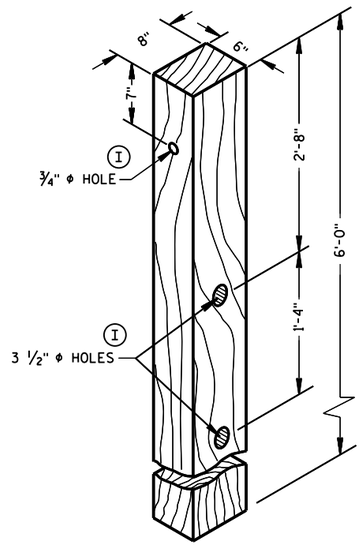



## FOUNDATION TUBE (2)



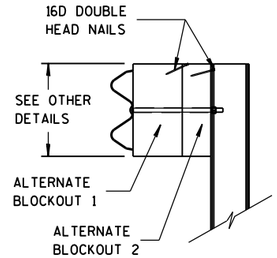

POSTS NUMBER 1 AND 2

## WOOD BREAKAWAY POST (1)

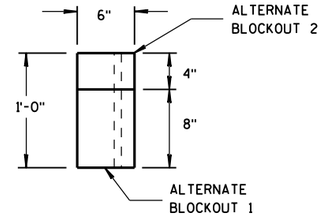



POSTS NUMBER 3-9

## WOOD CRT POST (3)

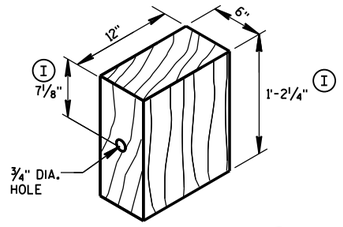



SIDE VIEW



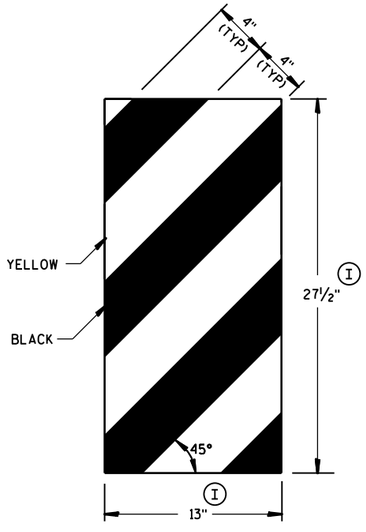

TOP VIEW

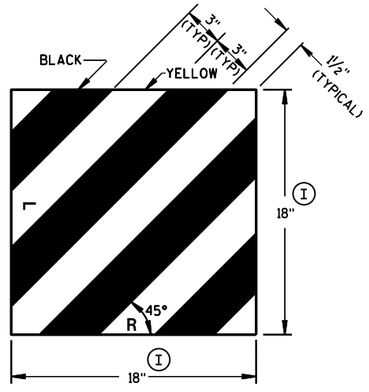
## ALTERNATE WOOD BLOCKOUT DETAIL



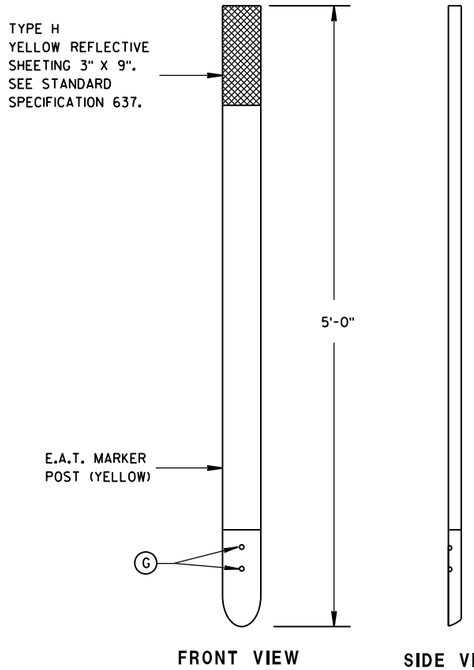

## WOOD BLOCKOUT (4)

REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



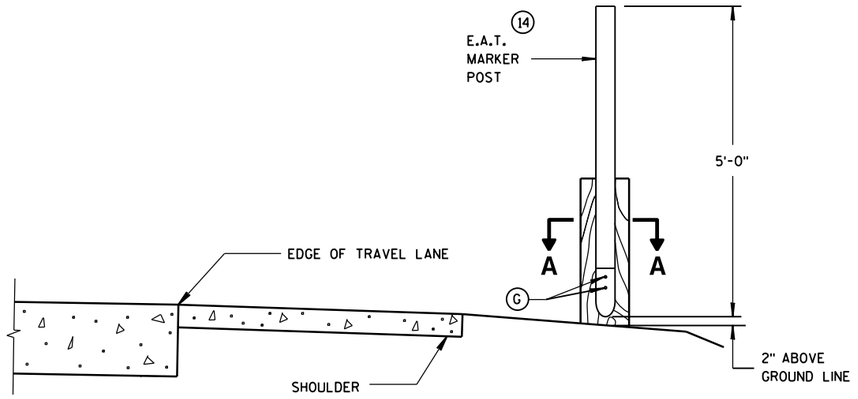

## GENERIC REFLECTIVE SHEETING (13) (H)




FRONT VIEW

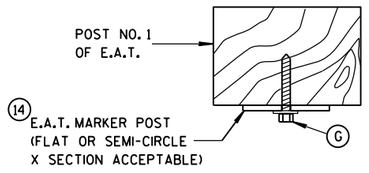
SIDE VIEW

## E.A.T. MARKER POST (14)




## TYPICAL INSTALLATION OF E.A.T. MARKER POST BACKSIDE OF POST NO. 1

(E.A.T. AND RAIL REMOVED FOR CLARITY)




SECTION A-A

**MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

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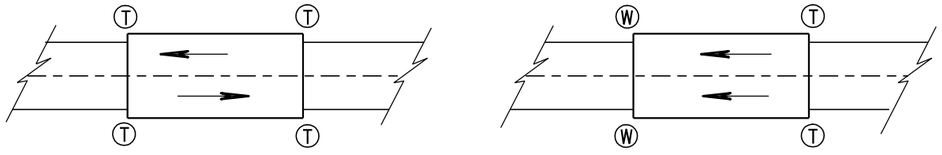
S.D.D. 14 B 44-2c




TWO WAY TRAFFIC




ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

## TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

## GENERAL NOTES

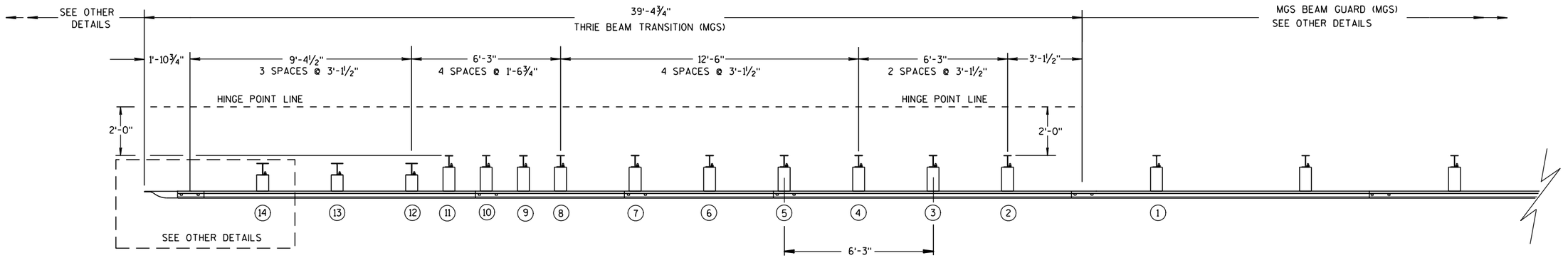
BOLT THE THRIE BEAM TO ALL POSTS AND BLOCKOUTS. DRILL OR PUNCH BOLT HOLES IN THE BEAM IF THE POST SPACING IS LESS THAN 6'-3.

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

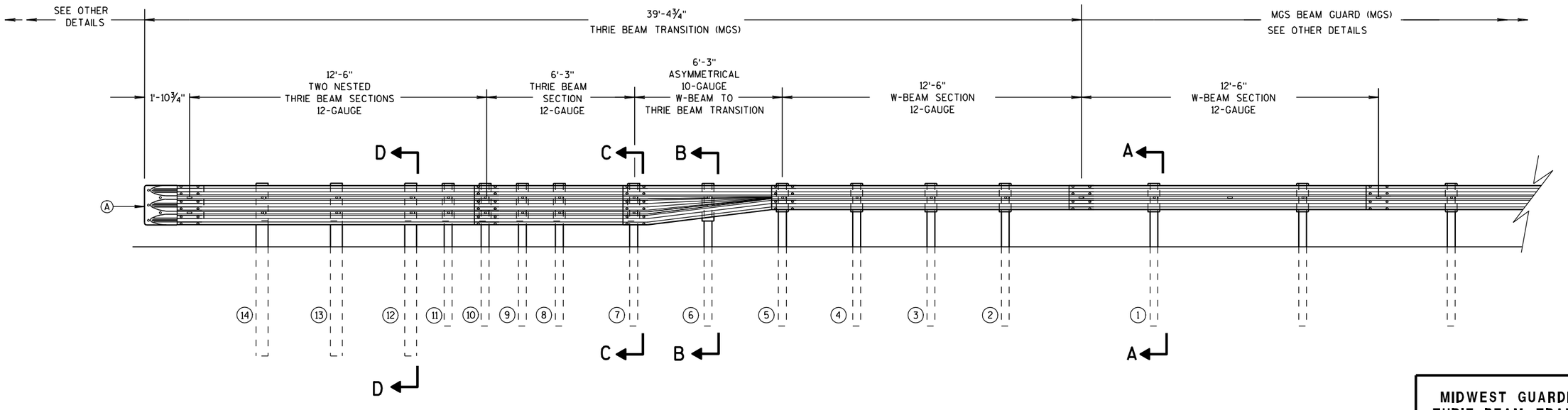
TRANSITION USES STEEL POSTS ONLY.

SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

Ⓐ BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.




PLAN VIEW




ELEVATION VIEW

## MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

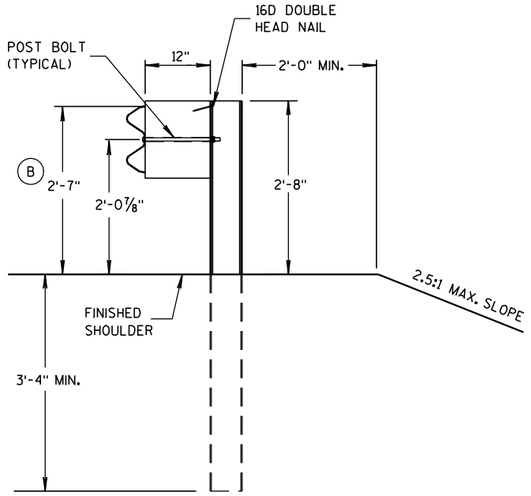




6
S.D.D. 14 B 45-3a

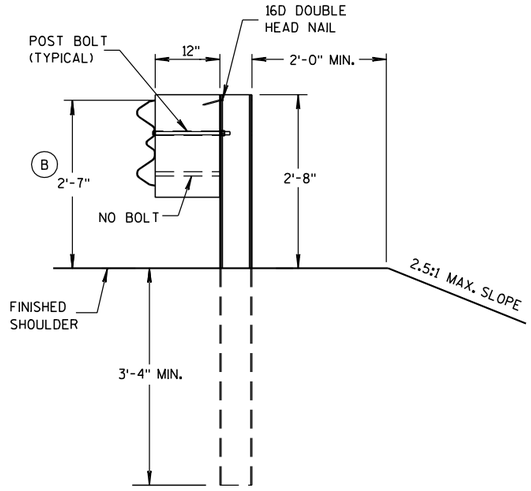
## GENERAL NOTES

(B) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



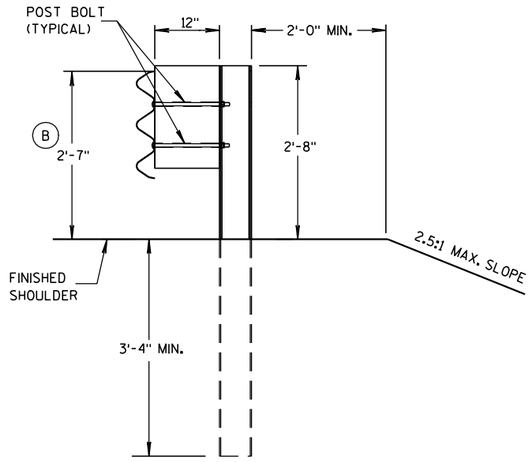

SECTION A-A

**POSTS 1-5**



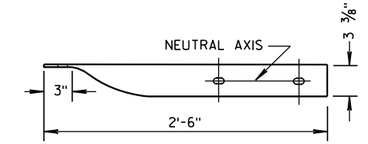

SECTION B-B

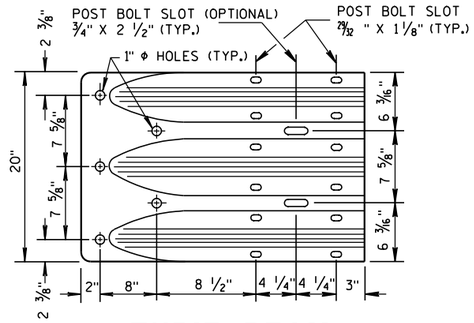
**POST 6**



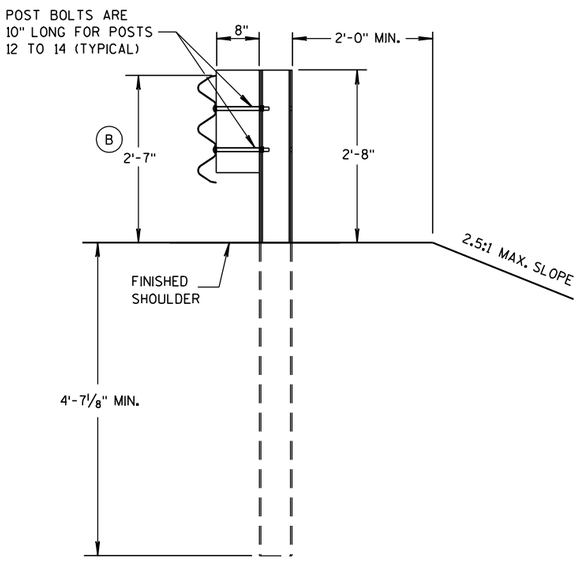

SECTION C-C

**POSTS 7-11**



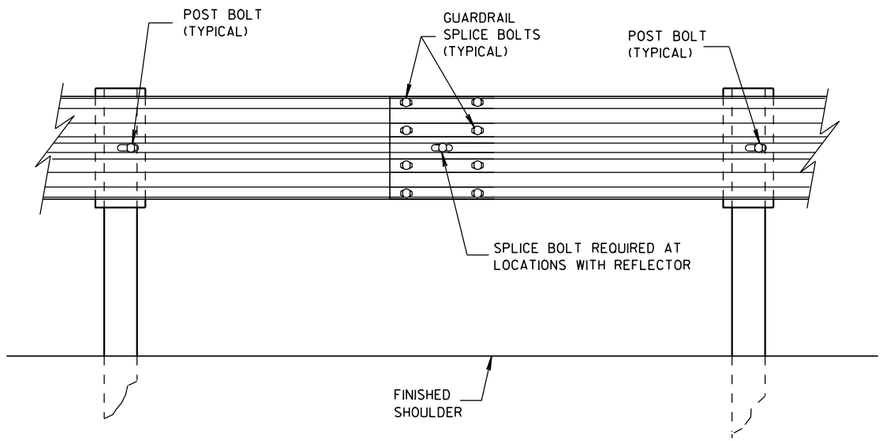




**THRIE BEAM TERMINAL CONNECTOR**




SECTION D-D

**POSTS 12-14**




**SPLICE DETAIL**

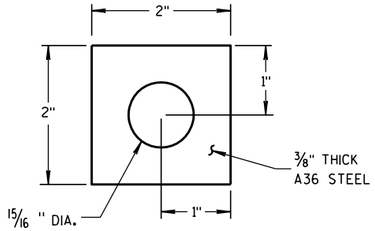
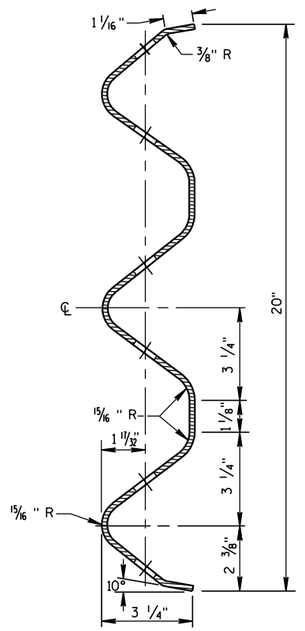



**PLATE WASHER DETAIL**




**SECTION THRU THRIE BEAM RAIL ELEMENT**

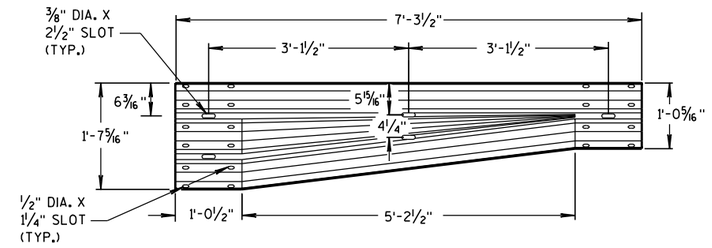
**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

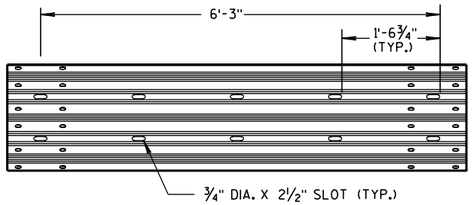




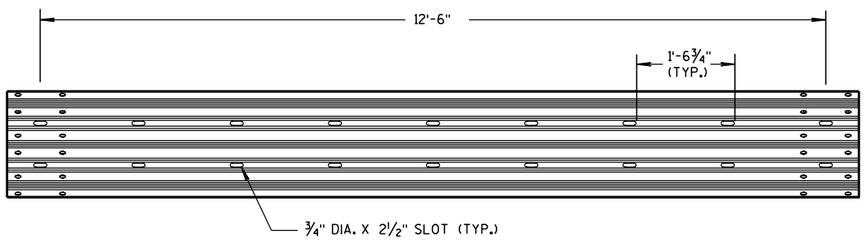
6
S.D.D. 14 B 45-3b



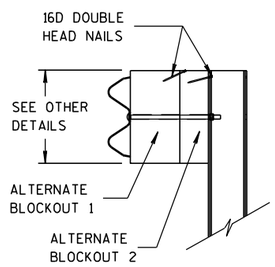

## W-BEAM TO THRIE BEAM TRANSITION SECTION



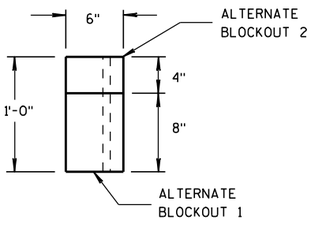

## 6'-3" THRIE BEAM SECTION




## 12'-6" THRIE BEAM SECTION

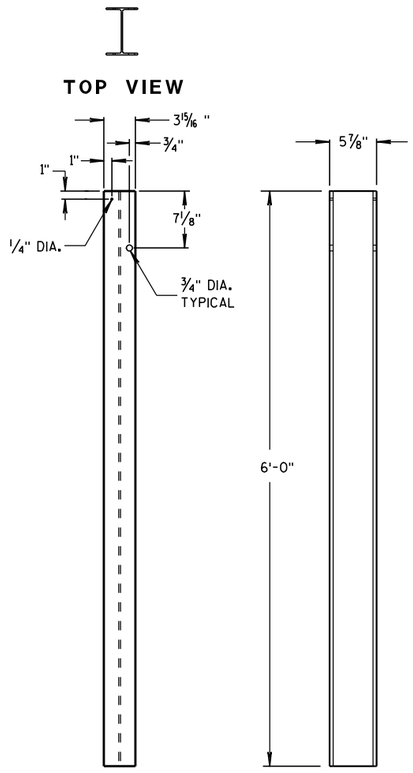



SIDE VIEW



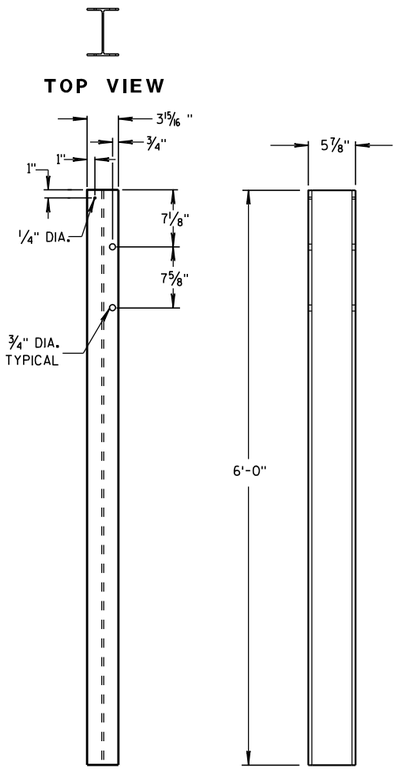

TOP VIEW

## ALTERNATE WOOD BLOCKOUT DETAIL



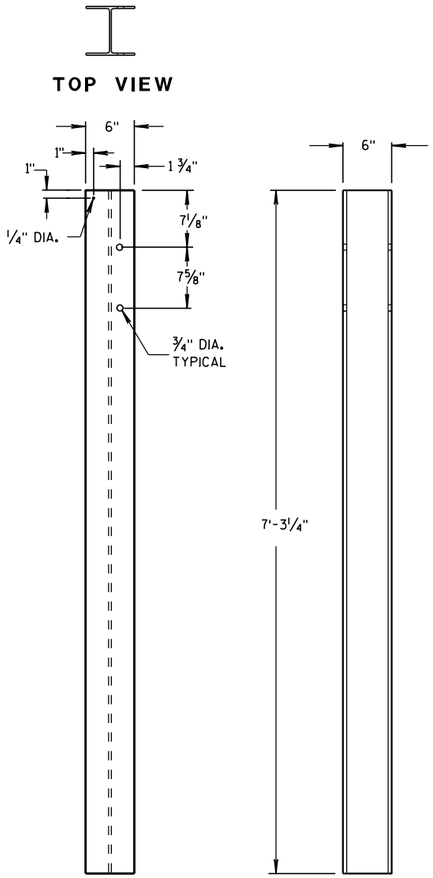

FRONT VIEW SIDE VIEW

## STEEL POSTS 1-5




FRONT VIEW SIDE VIEW

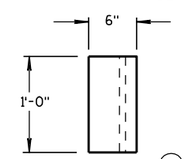
## STEEL POSTS 6-11



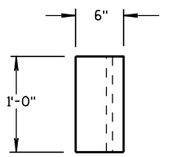

FRONT VIEW SIDE VIEW

## STEEL POSTS 12-14

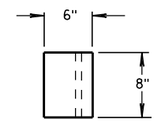
(1) WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.



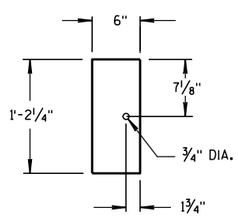

TOP VIEW (1)




TOP VIEW (1)

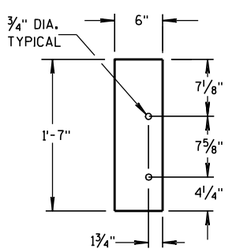



TOP VIEW



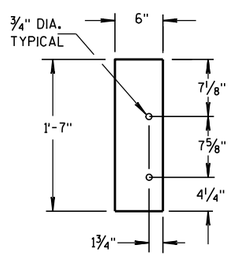

FRONT VIEW

## BLOCKOUT POSTS 1-5




FRONT VIEW

## BLOCKOUT POSTS 6-11




FRONT VIEW

## BLOCKOUT POSTS 12-14

### STEEL POST SIZES

| POST NUMBER | SECTION TYPE | LENGTH |
|---|---|---|
| 1 | W6x9 | 72" |
| 2 | W6x9 | 72" |
| 3 | W6x9 | 72" |
| 4 | W6x9 | 72" |
| 5 | W6x9 | 72" |
| 6 | W6x9 | 72" |
| 7 | W6x9 | 72" |
| 8 | W6x9 | 72" |
| 9 | W6x9 | 72" |
| 10 | W6x9 | 72" |
| 11 | W6x9 | 72" |
| 12 | W6x15 | 87 1/8" |
| 13 | W6x15 | 87 1/8" |
| 14 | W6x15 | 87 1/8" |

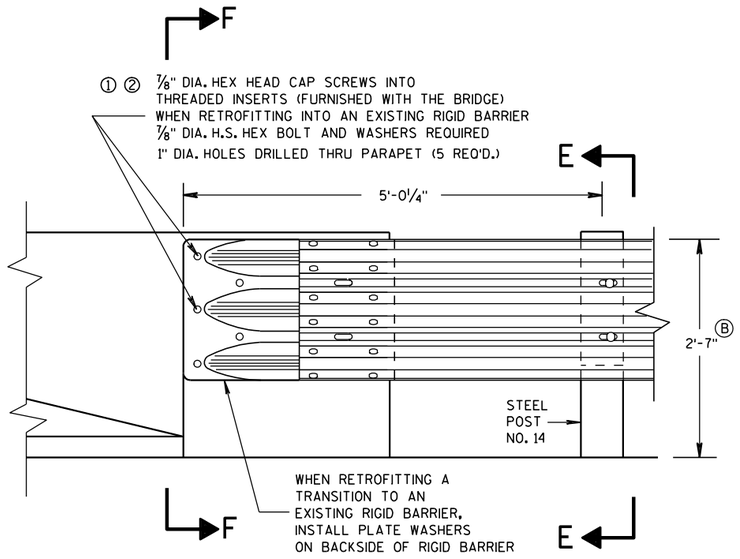
**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

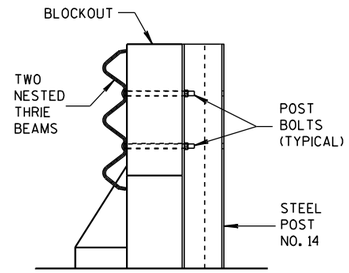




6
S.D.D. 14 B 45-3c




FRONT VIEW




SECTION E-E

## GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION OF CONNECTIONS TO EXISTING BRIDGES TO FIT THE ACTUAL BRIDGE AND SITE DIMENSIONS.

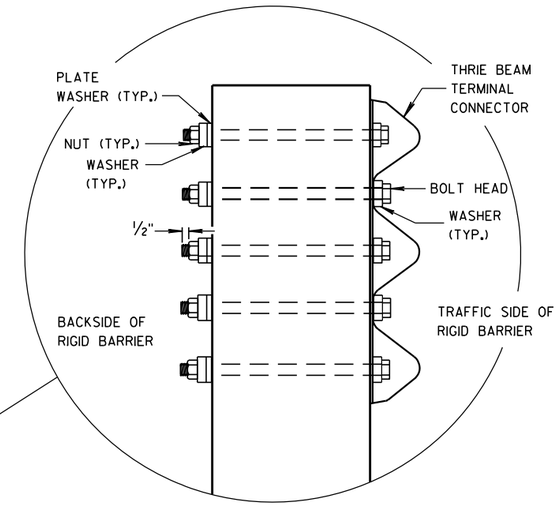
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

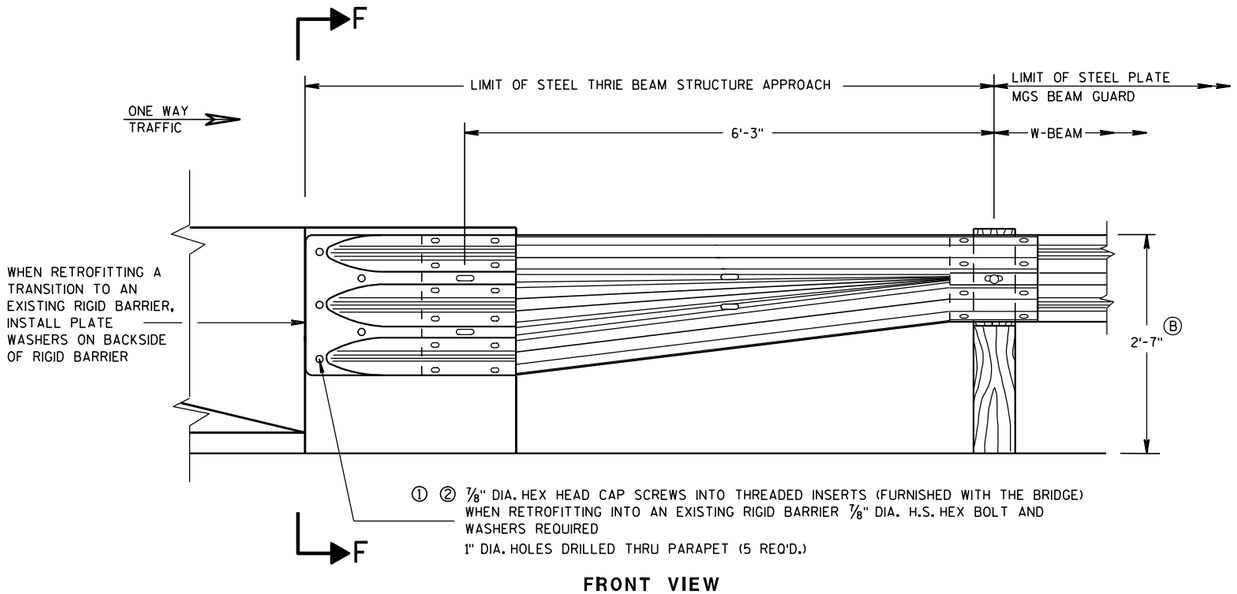
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

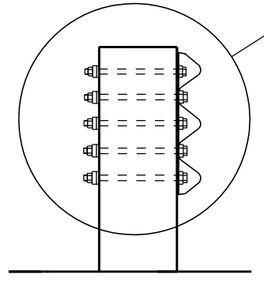
Ⓑ TOLERANCE FOR TOP OF BEAM IS ± 1".

# THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS




FRONT VIEW



SECTION F-F

# W BEAM TRANSITION AND CONNECTION TO BRIDGE PARAPETS WITH SQUARE ENDS

(USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

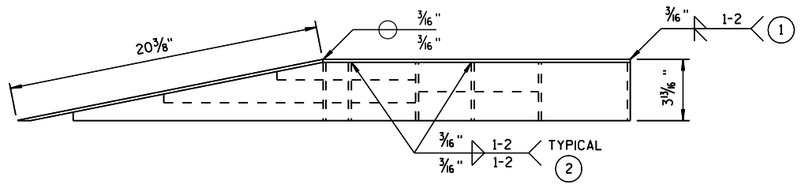
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

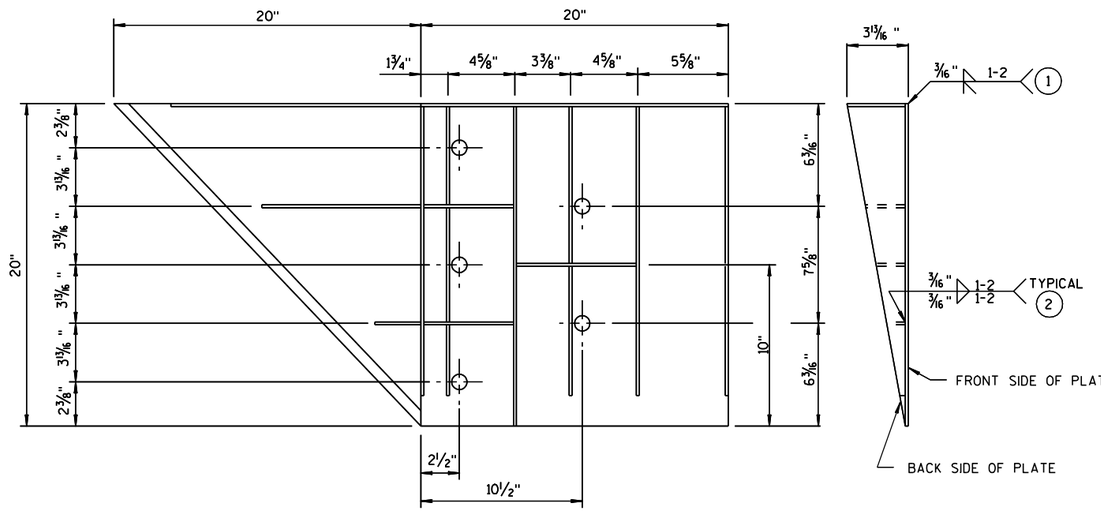
APPROVED

8/31/2012 — DATE

/S/ Jerry H. [illegible] — ROADWAY STANDARDS ENGINEER

FHWA




## WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)

## GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

CONNECTOR PLATE SHALL BE FABRICATED FROM ASTM GRADE A36 STEEL AND GALVANIZED.

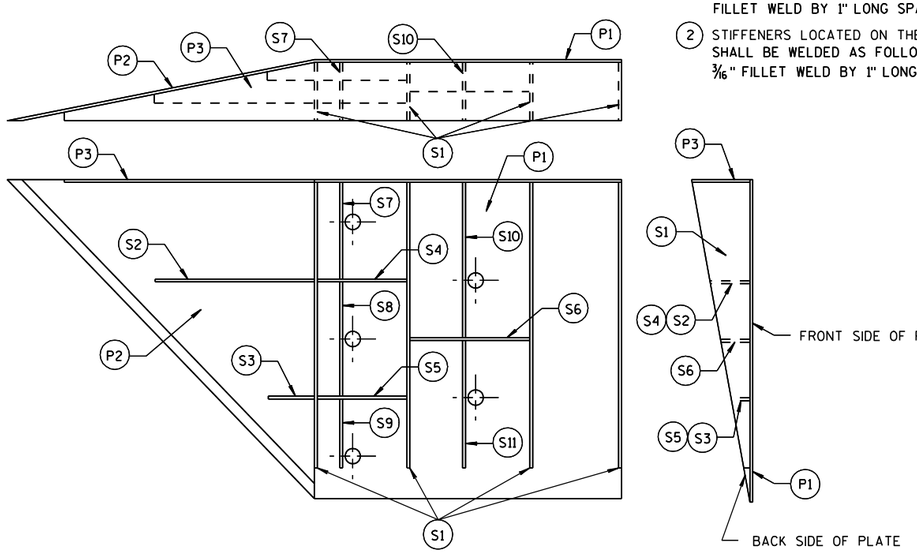
FOR GALVANIZED REQUIREMENTS, SEE SECTION 614 OF THE STANDARD SPECIFICATIONS.

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(1) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND 3/16" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(2) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
3/16" FILLET WELD BY 1" LONG SPACED AT 2".




## PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

| CONNECTOR PLATE DIMENSION (PER ASSEMBLY) | | | | |
|---|---|---|---|---|
| PLATE | QUANTITY | SHAPE | SIZE (A x B x C x D) | THICKNESS |
| P1 | 1 | | 20" x 20" | 3/16" |
| P2 | 1 | | 20" x 20" x 28 9/16" | 3/16" |
| P3 | 1 | | 39" x 3 5/8" x 20" x 19 5/16" | 3/16" |
| S1 | 4 | | 18 7/16" x 3 5/8" x 18 3/4" | 1/4" |
| S2 | 1 | | 10 1/4" x 2 7/16" x 10 3/8" x 1/2" | 1/4" |
| S3 | 1 | | 3" x 1 1/16" x 3 1/8" x 1/2" | 1/4" |
| S4 | 1 | | 6 1/8" x 2 7/16" | 1/4" |
| S5 | 1 | | 6 1/8" x 1 1/16" | 1/4" |
| S6 | 1 | | 7 3/4" x 1 3/4" | 1/4" |
| S7 | 1 | | 2 9/16" x 6" x 3 5/8" x 5 7/8" | 1/4" |
| S8 | 1 | | 1 5/32" x 7 1/2" x 2 1/2" x 7 3/8" | 1/4" |
| S9 | 1 | | 6 1/16" x 6 3/16" x 1 3/32" | 1/4" |
| S10 | 1 | | 1 7/8" x 9 7/8" x 3 5/8" x 9 11/16" | 1/4" |
| S11 | 1 | | 8 1/2" x 8 3/4" x 1 13/16" | 1/4" |

## SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012
DATE
/S/ Jerry H ----
ROADWAY STANDARDS ENGINEER
FHWA

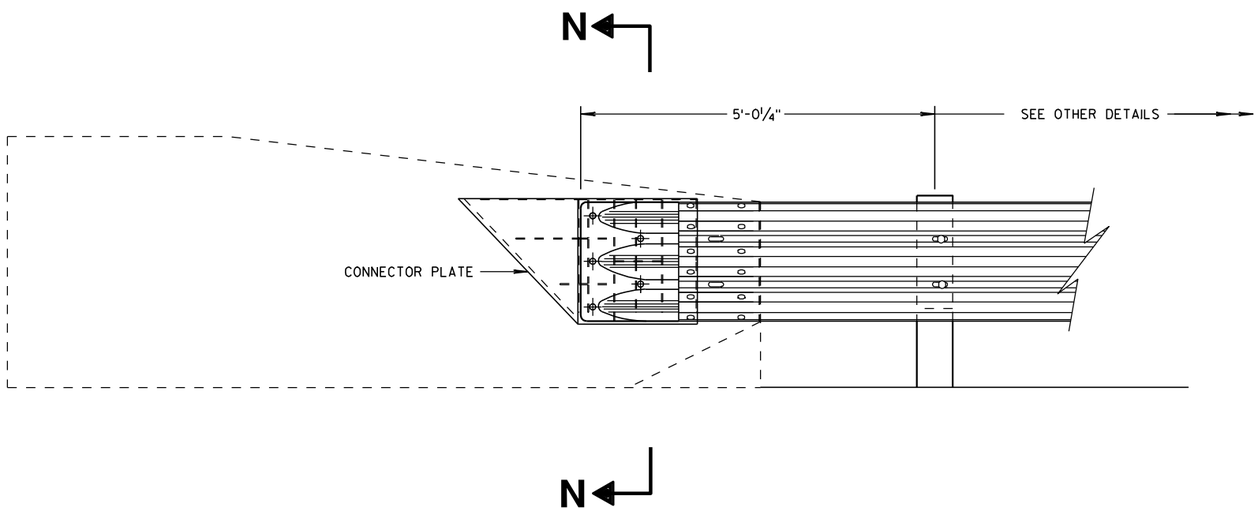


6

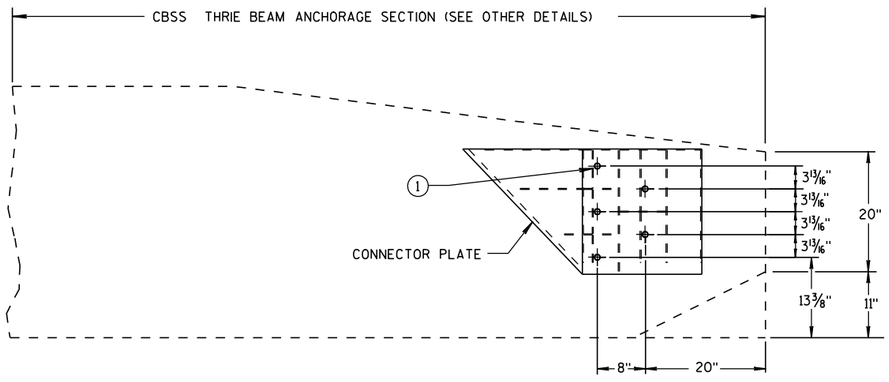
S.D.D. 14 B 45-3i

6

S.D.D. 14 B 45-3i




## THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER

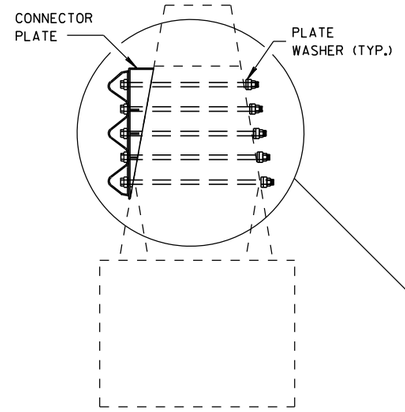



## SINGLE SLOPE CONNECTION PLATE PLACEMENT

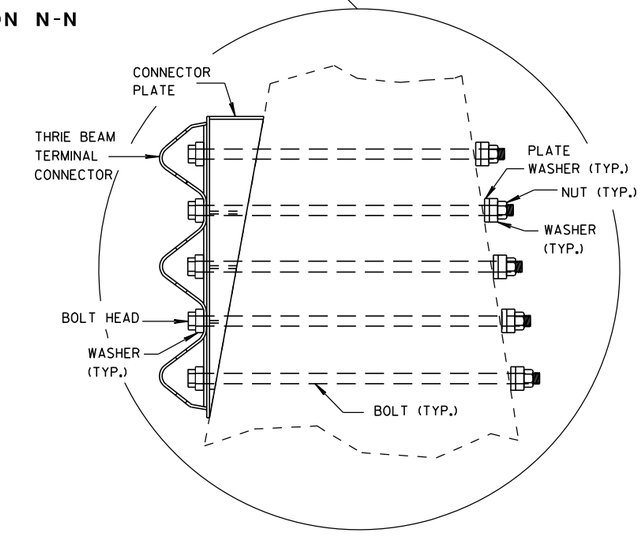
## GENERAL NOTES

CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(1) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/8" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.




SECTION N-N




**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012 — DATE

/S/ Jerry H. [illegible] — ROADWAY STANDARDS ENGINEER

FHWA



6

S.D.D. 14 B 45-3j

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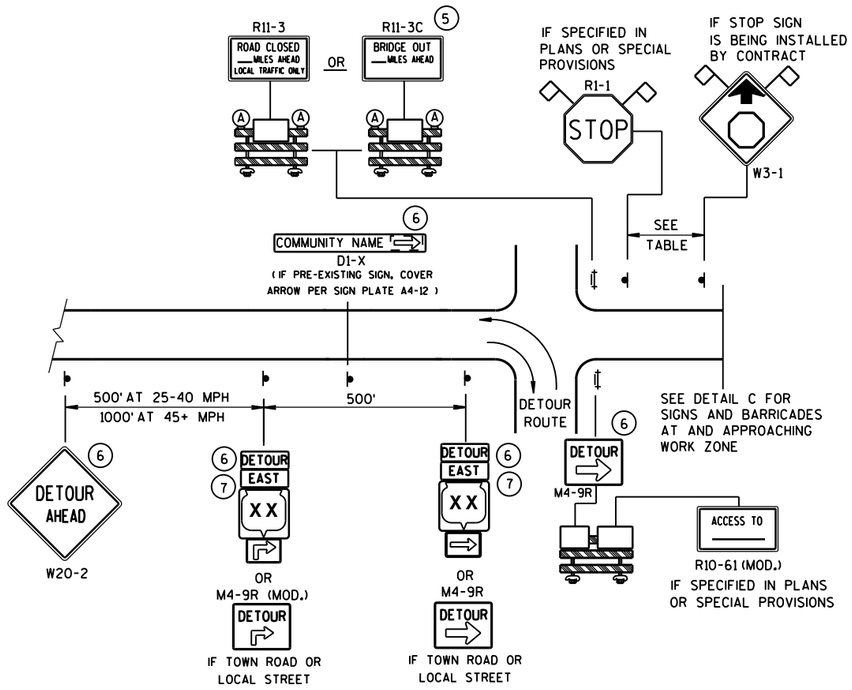
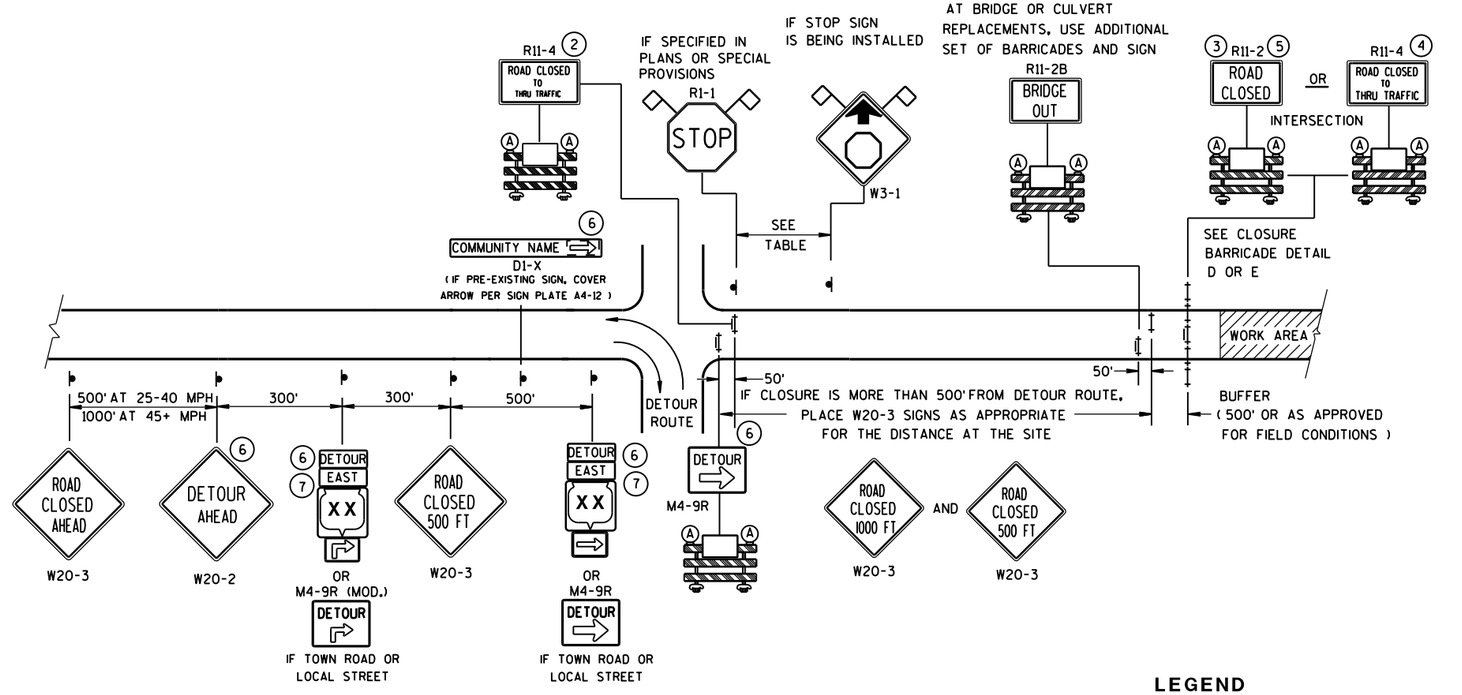
S.D.D. 14 B 45-3j



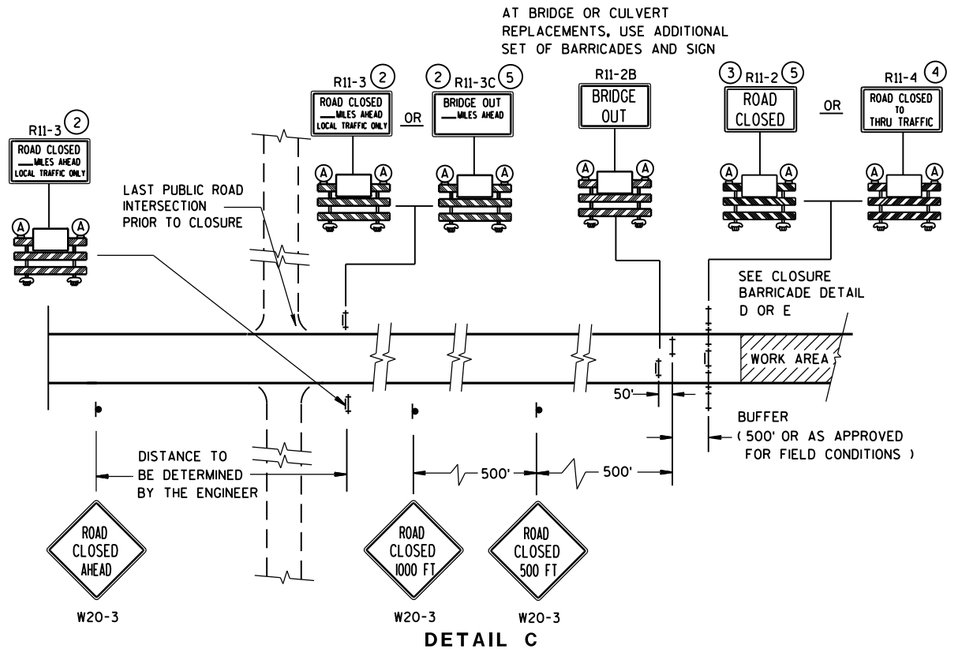

## DETAIL A
## MAINLINE CLOSURE WITH POSTED DETOUR

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

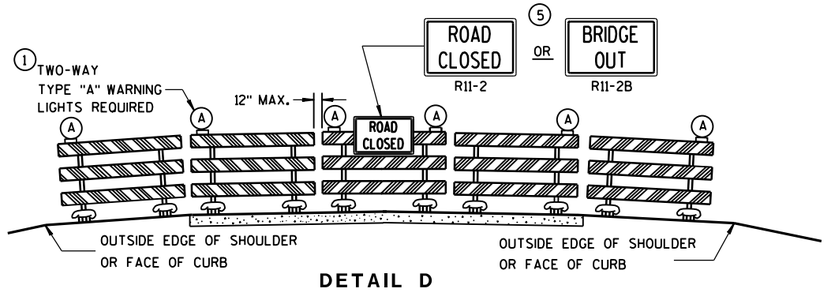
8/2013 DATE — /S/ Travis Feltes STATE TRAFFIC ENGINEER — DESIGN

FHWA




6

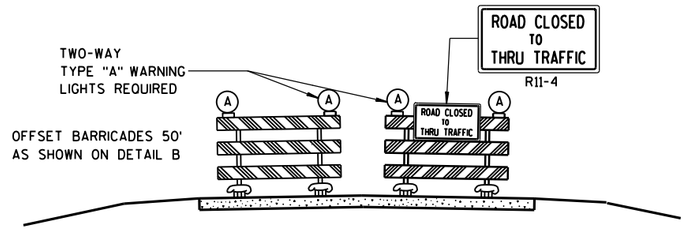
S.D.D. 15 C 2-5a




**DETAIL D**

## ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW




**DETAIL E**

## LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-SHEET "**a**" FOR LEGEND

## GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

(1) TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

**BARRICADES AND SIGNS FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

DESIGN

FHWA





6



S.D.D. 15 C 2-5b

**THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.**

## GENERAL NOTES

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

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. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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.

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

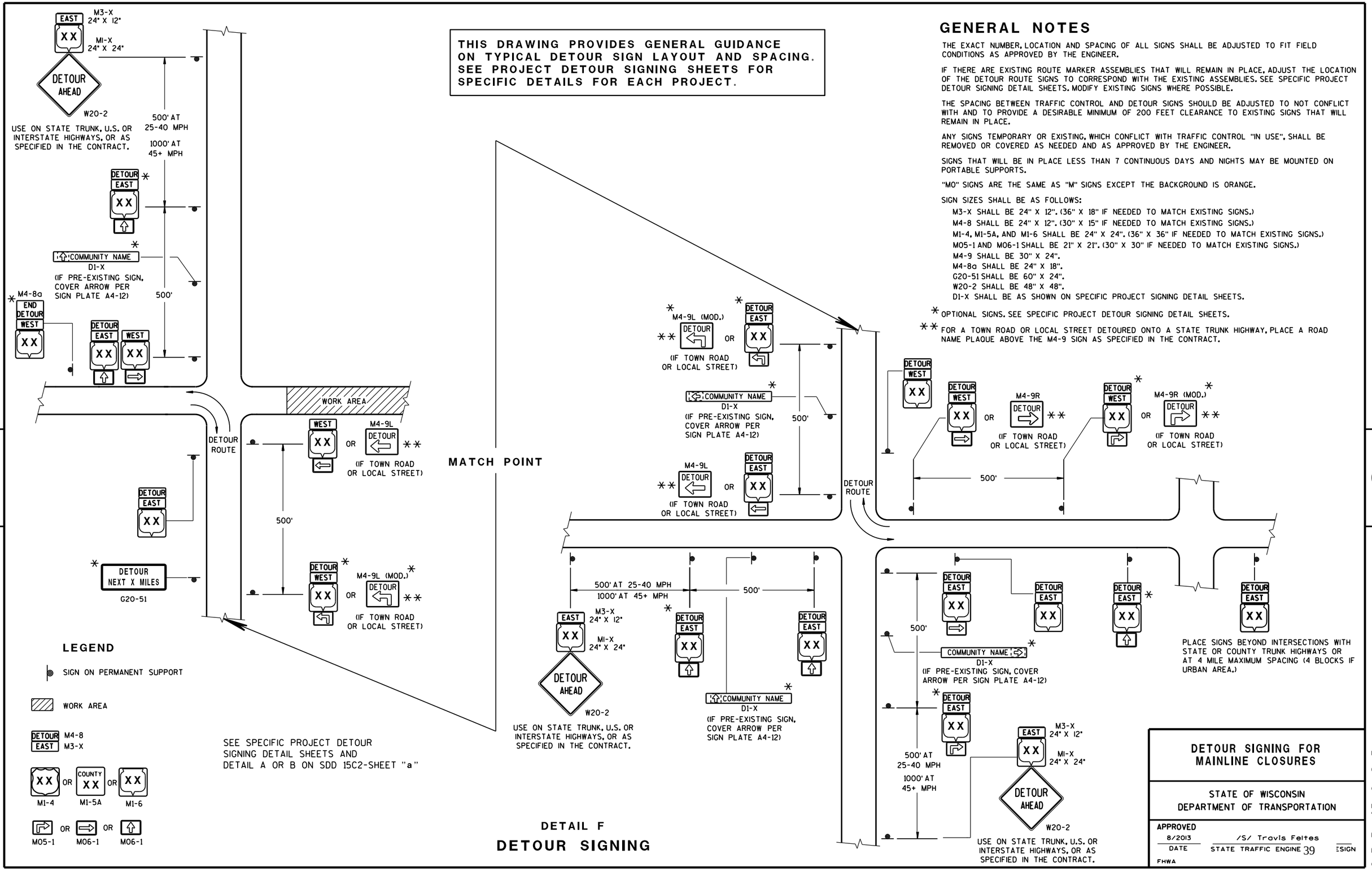
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

- 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.)
- MO5-1 AND MO6-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-9 SHALL BE 30" X 24".
- M4-8a SHALL BE 24" X 18".
- G20-51 SHALL BE 60" X 24".
- W20-2 SHALL BE 48" X 48".
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.




### LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR EAST — M4-8 / M3-X
- XX OR COUNTY XX OR XX — M1-4 / M1-5A / M1-6
- MO5-1 OR MO6-1 OR MO6-1

SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD 15C2-SHEET "a"

**DETAIL F**

**DETOUR SIGNING**

**DETOUR SIGNING FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

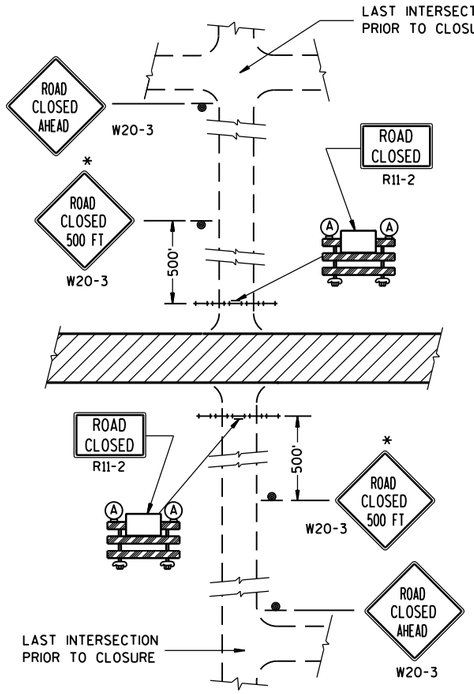
APPROVED
8/2013 DATE
/S/ Travis Feltes
STATE TRAFFIC ENGINEER

FHWA



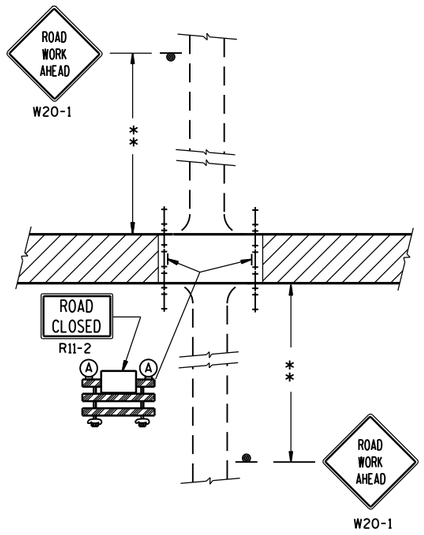
S.D.D. 15 C 2-5c

S.D.D. 15 C 2-5c



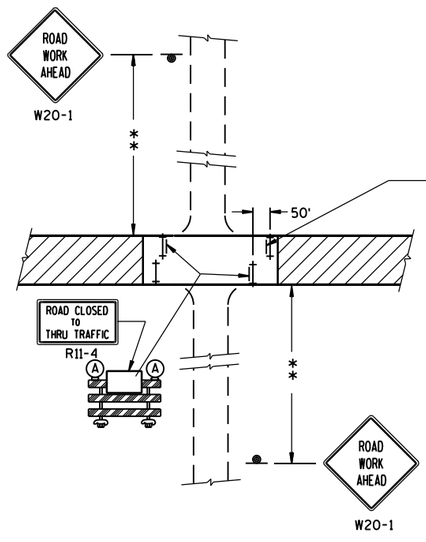

**DETAIL 1**

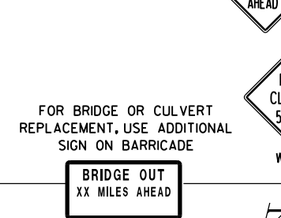
(NO ACCESS TO PROJECT)




**DETAIL 2**

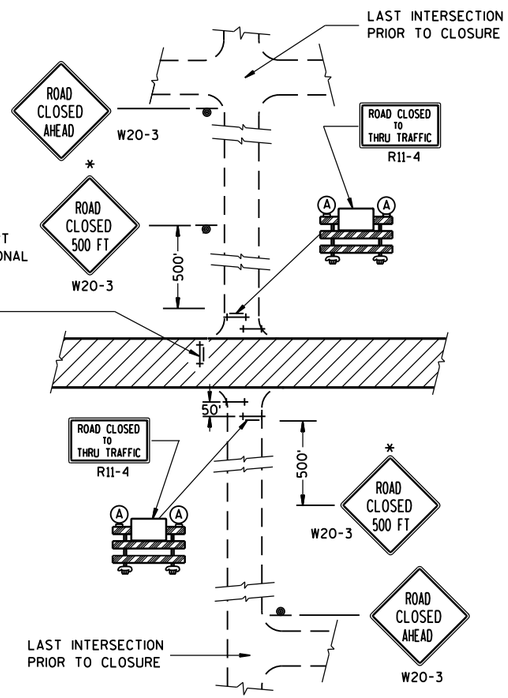
(PUBLIC CROSS-TRAFFIC MAINTAINED. NO ACCESS TO PROJECT).




**DETAIL 3**

(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS).




**DETAIL 4**

(CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT)

## GENERAL NOTES

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

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

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

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

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

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

*OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FT. OR LESS FROM THE WORK ZONE.

**500' MAX. OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

## LEGEND

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

**BARRICADES AND SIGNS FOR SIDEROAD CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

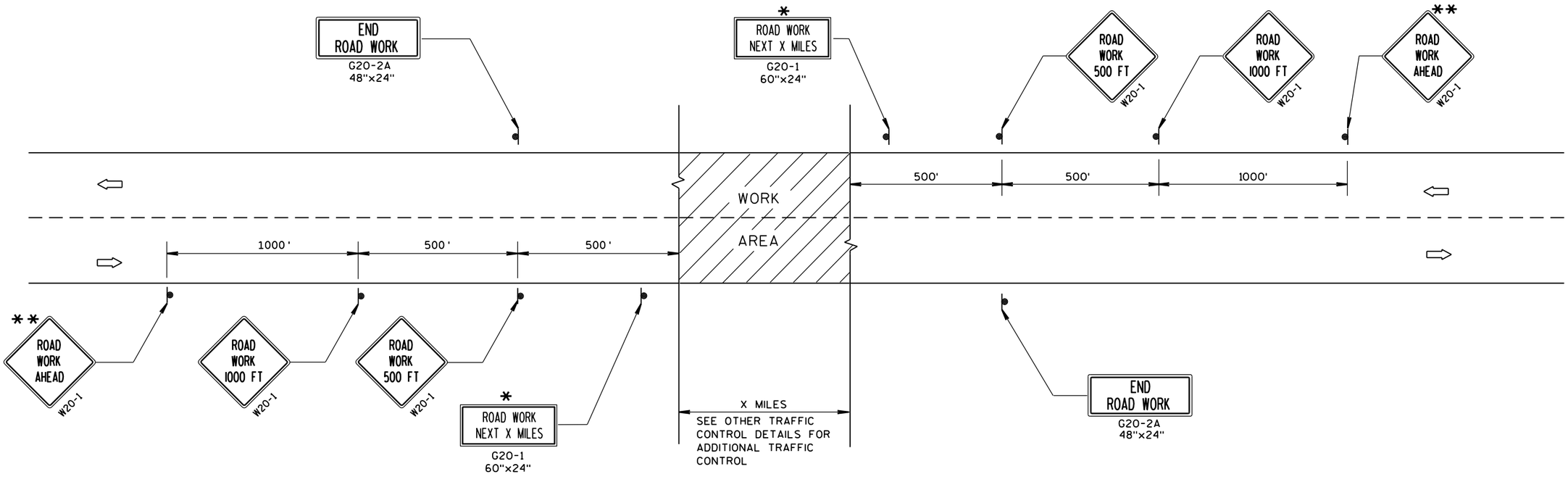


6

S.D.D. 15 C 3-2

6

S.D.D. 15 C 3-2






# TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

## GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

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

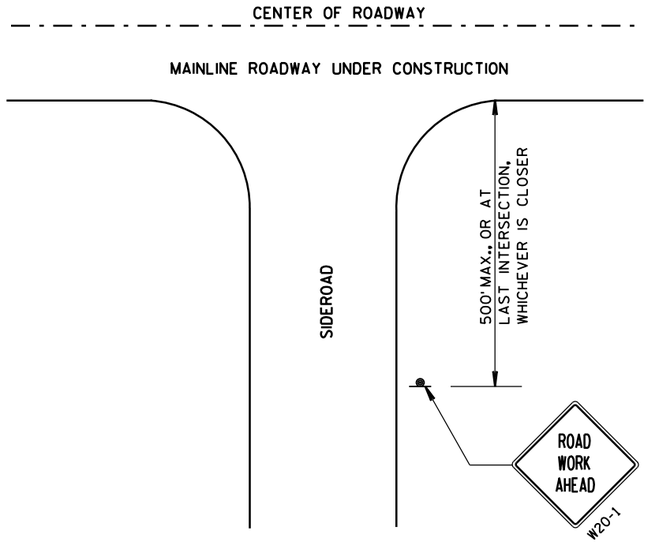
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.

** PLACE ADDITIONAL W20-1 "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.




### LEGEND

- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA

**TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

FHWA

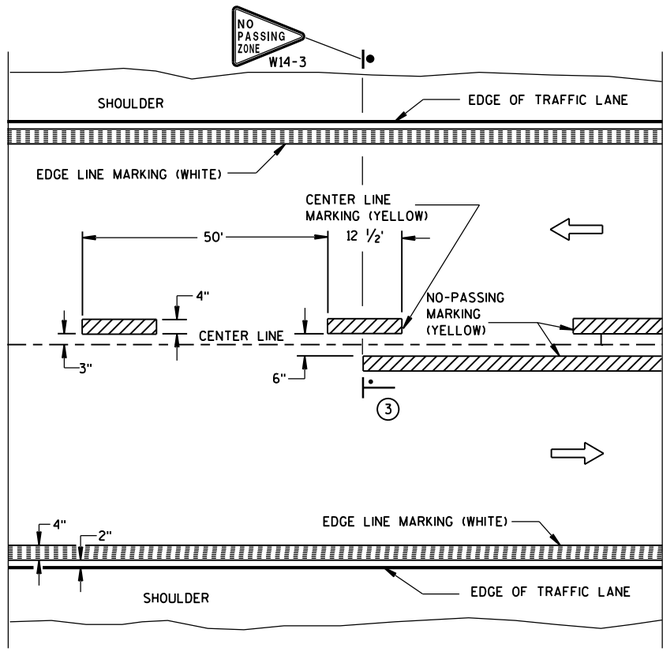
SIGN



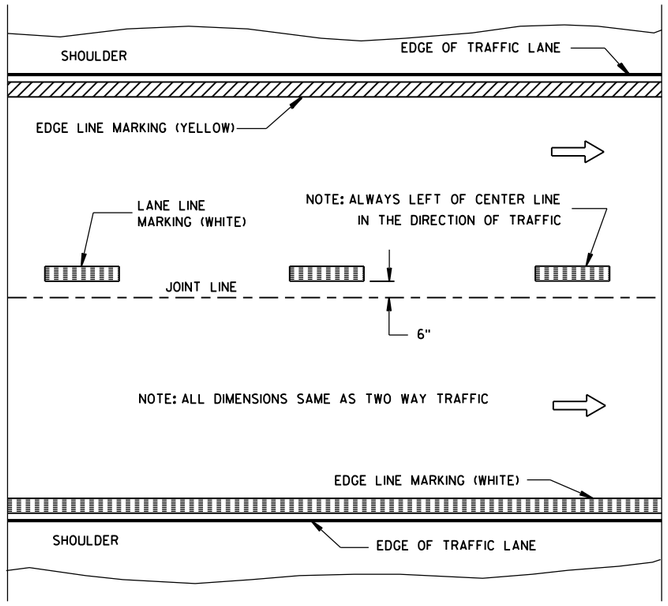


6

S.D.D. 15 C 4-2

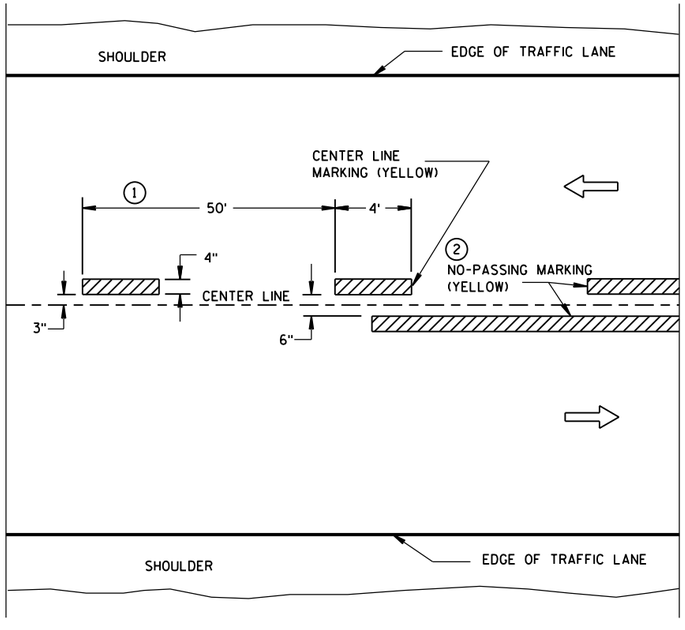



TWO WAY TRAFFIC

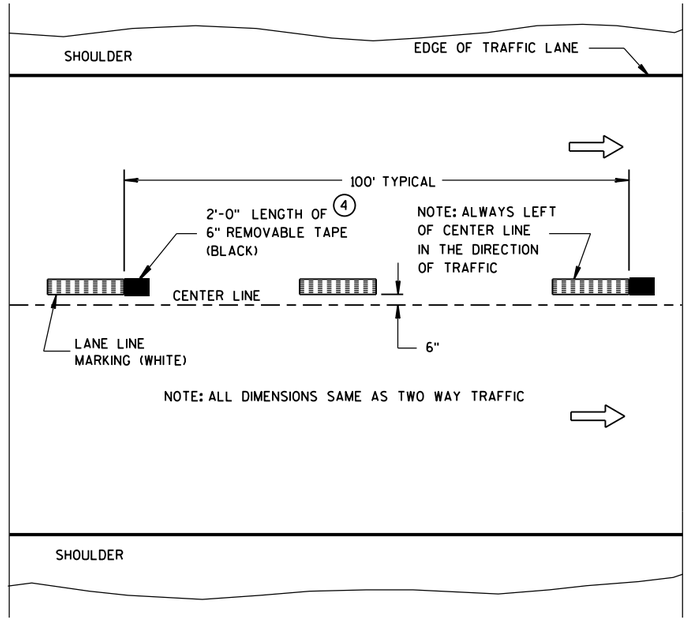



ONE WAY TRAFFIC

## PERMANENT PAVEMENT MARKING




TWO WAY TRAFFIC




ONE WAY TRAFFIC

## TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

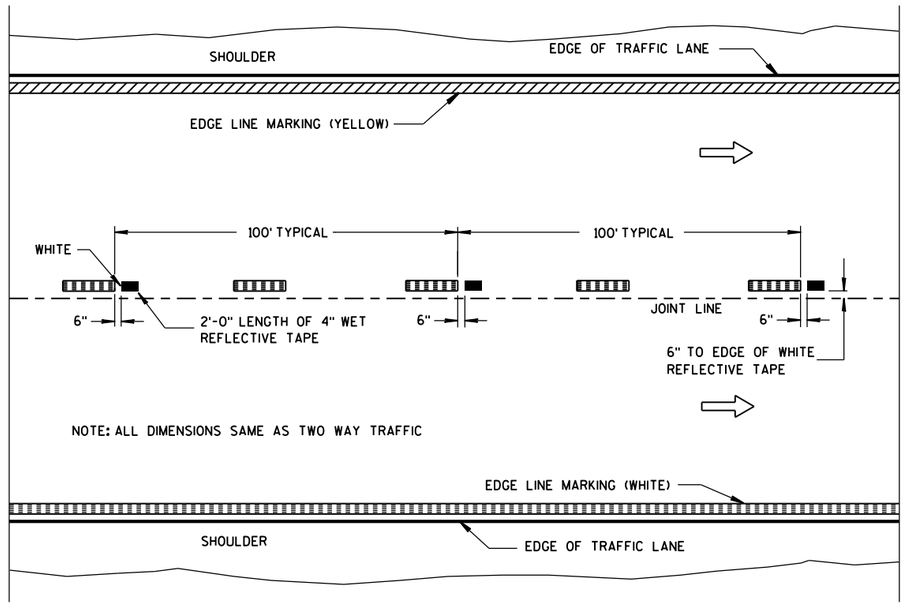
## GENERAL NOTES

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

1. HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
2. NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
3. NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
4. CONCRETE ONLY.

## NOTE

ARROW SYMBOL ( ⇨ ) SHOWS DIRECTION OF TRAVEL




WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

**LEGEND**

"T" MARKING

POST MOUNTED SIGN

**PAVEMENT MARKING (MAINLINE)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-13-2013
DATE

/S/ Travis Feltes
STATE TRAFFIC E

FHWA



6

S.D.D. 15 C 8-16a

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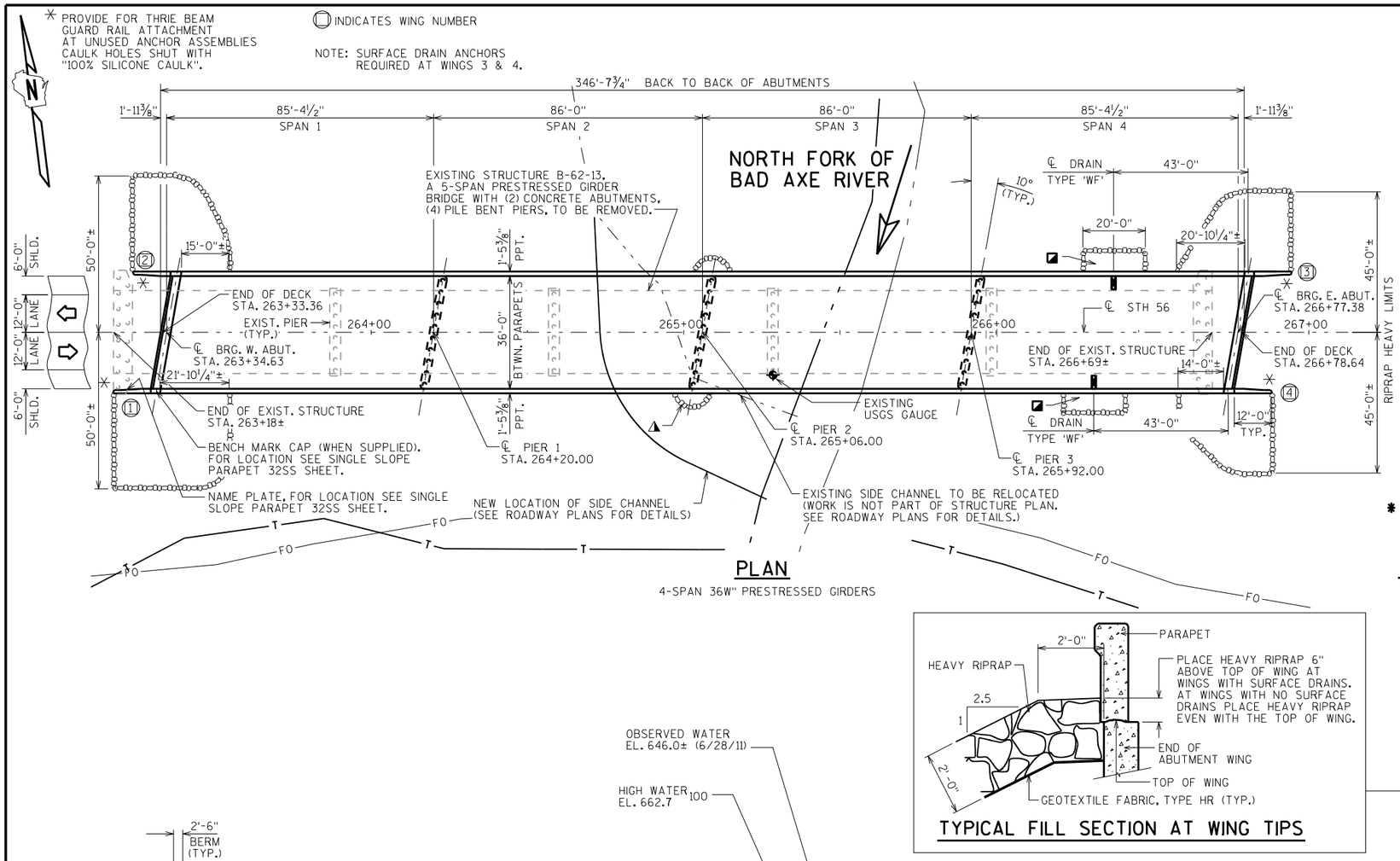
S.D.D. 15 C 8-16a

STATE PROJECT NUMBER

5730-01-81

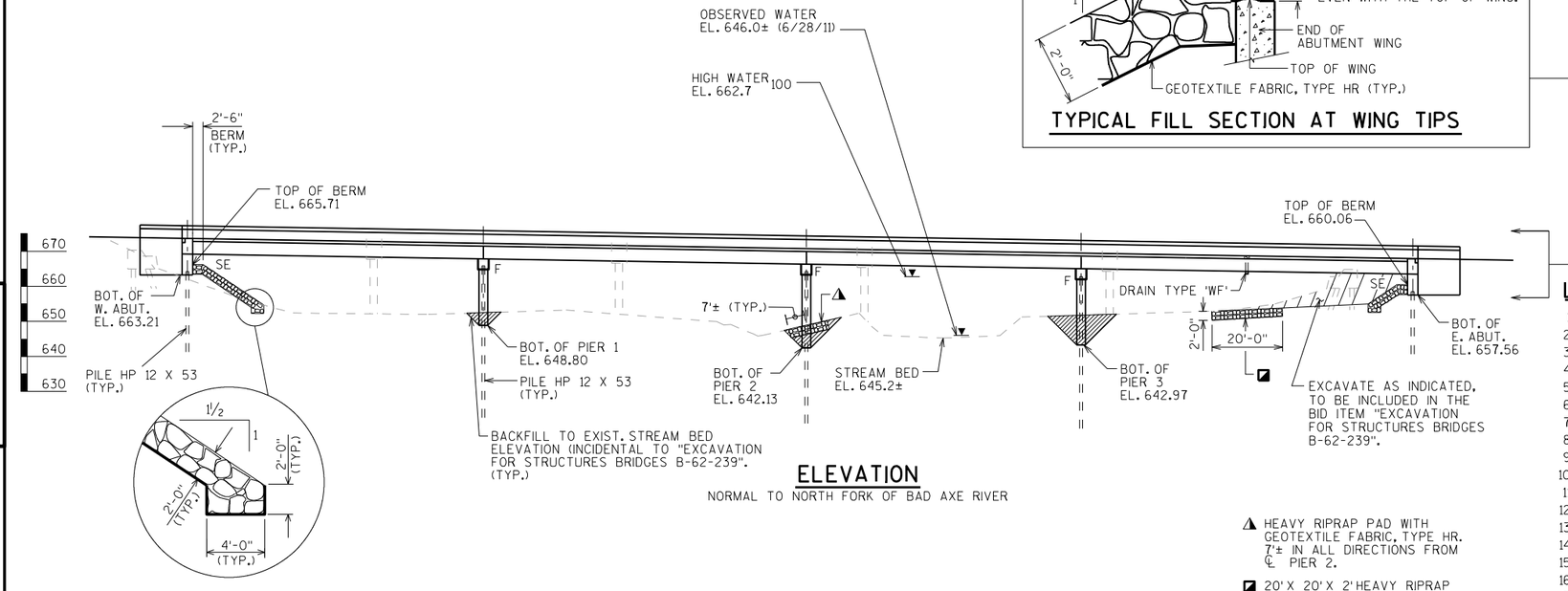



## PLAN

4-SPAN 36W" PRESTRESSED GIRDERS




## TYPICAL FILL SECTION AT WING TIPS




## ELEVATION

NORMAL TO NORTH FORK OF BAD AXE RIVER

⚠ HEAVY RIPRAP PAD WITH GEOTEXTILE FABRIC, TYPE HR. 7'± IN ALL DIRECTIONS FROM ℄ PIER 2.

◪ 20' X 20' X 2' HEAVY RIPRAP PAD WITH GEOTEXTILE FABRIC, TYPE HR. CENTERED BELOW DRAIN TYPE 'WF' (TYP.)

## DESIGN DATA

LIVE LOAD:

DESIGN LOADING; HL-93
INVENTORY RATING FACTOR: RF=1.06
OPERATING RATING FACTOR: RF=1.37
WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 250 (KIPS)

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

ULTIMATE DESIGN STRESSES:

CONCRETE MASONRY DECK — f'c = 4,000 P.S.I. ALL OTHER — f'c = 3,500 P.S.I.
BAR STEEL REINFORCEMENT, GRADE 60 — fy = 60,000 P.S.I.
36W" PRESTRESSED GIRDERS, CONCRETE MASONRY — f'c = 8,000 P.S.I.
STRANDS- 0.6" DIA. WITH ULTIMATE TENSILE STRENGTH OF 270,000 P.S.I.

## FOUNDATION DATA

ABUTMENTS TO BE SUPPORTED ON HP 12X53 PILING
DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS ** PER PILE
AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
W. ABUT. ESTIMATED 85'LONG.
E. ABUT. ESTIMATED 80'LONG.

PIERS TO BE SUPPORTED ON HP 12X53 PILING
DRIVEN TO A REQUIRED DRIVING RESISTANCE OF 220 TONS ** PER PILE
AS DETERMINED BY THE MODIFIED GATES DYNAMIC FORMULA.
PIER 1 ESTIMATED 90'LONG.
PIER 2 ESTIMATED 85'LONG.
PIER 3 ESTIMATED 85'LONG.

** 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

$Q_{100}$ =9,380 C.F.S.
VEL. =2.5 F.P.S.
HW.= EL. 662.72 FT.
WATERWAY AREA= 3,752 SQ. FT.
DRAINAGE AREA= 81 SQ. MI.
ROAD OVERTOPPING = NA
SCOUR CRITICAL CODE = 5

2 YEAR FREQUENCY

$Q_2$ =1,360 C.F.S.
$HW._2$= EL. 656.0 FT.

## TRAFFIC VOLUME

STH 56
A.D.T.=1300 (2035)
R.D.S.=60 M.P.H.

STRUCTURE DESIGN CONTACTS:

TIM BOROWSKI (608) 266-4547
LAURA SHADEWALD (608) 267-9592

## LIST OF DRAWINGS



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

Plans Prepared By WISDOT
BUREAU OF STRUCTURES

ACCEPTED William C. Dreher LLS 11/10/14
CHIEF STRUCTURES DESIGN ENGINEER DATE

# STRUCTURE B-62-239

STH 56 OVER NORTH FORK OF BAD AXE RIVER

| COUNTY | TOWN ~~CITY/VILLAGE~~ |
|---|---|
| VERNON | GENOA |

DESIGN SPEC. AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

| DESIGNED BY | DESIGN CK'D. | DRAWN BY | PLANS CK'D. |
|---|---|---|---|
| TAB | BLB | TAB | BLB |

GENERAL PLAN

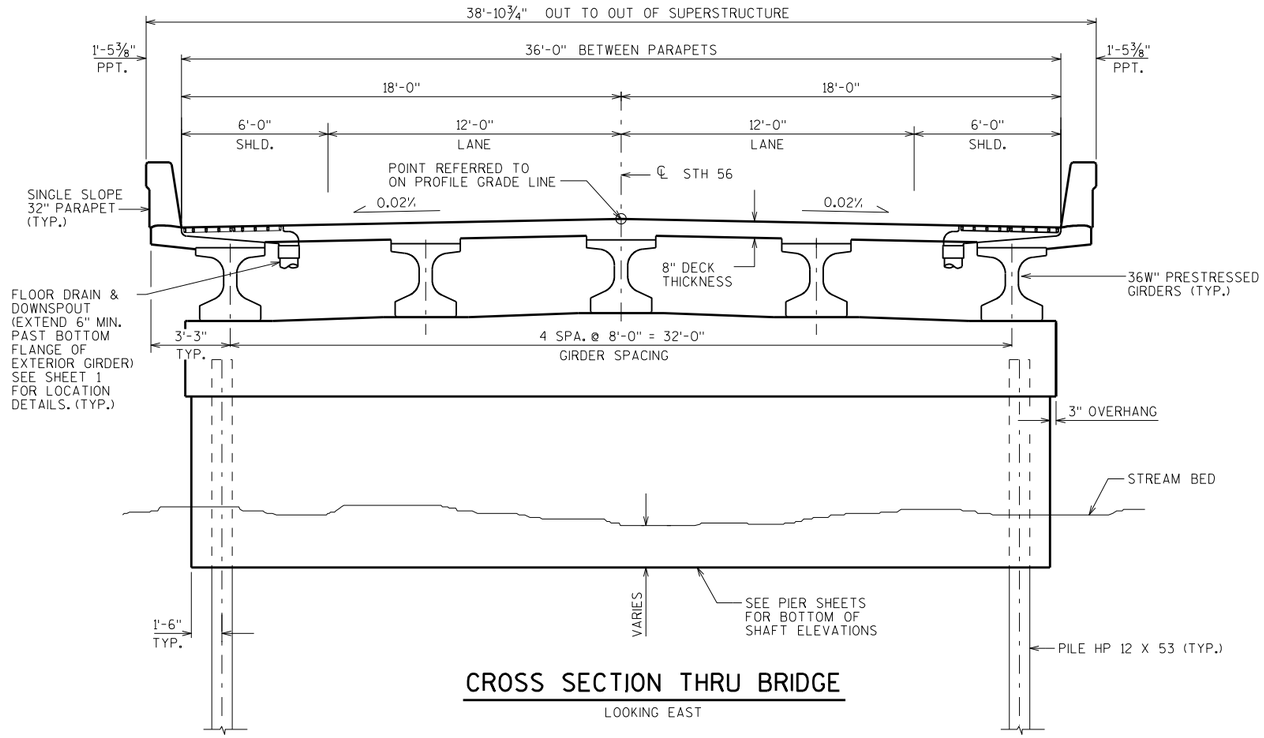
SHEET 1 OF 19

43

SCALE = 20

I.D. 5730-01-01

DATE: JUL. 2014

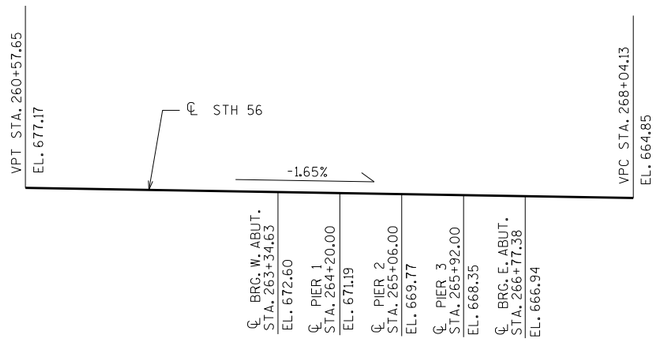



## CROSS SECTION THRU BRIDGE

LOOKING EAST

## TOTAL ESTIMATED QUANTITIES

| BID ITEM NUMBER | BID ITEMS | UNIT | SUPER. | WEST ABUT. | EAST ABUT. | PIER 1 | PIER 2 | PIER 3 | TOTALS |
|---|---|---|---|---|---|---|---|---|---|
| 203.0600.S | REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 263+18 | LS | —— | —— | —— | —— | —— | —— | 1 |
| 206.1000 | EXCAVATION FOR STRUCTURES BRIDGES B-62-239 | LS | —— | —— | —— | —— | —— | —— | 1 |
| 210.0100 | BACKFILL STRUCTURE | CY | —— | 130 | 130 | —— | —— | —— | 260 |
| 502.0100 | CONCRETE MASONRY BRIDGES | CY | 512 | 46 | 46 | 62 | 79 | 72 | 817 |
| 502.3200 | PROTECTIVE SURFACE TREATMENT | SY | 1,670 | 10 | 10 | —— | —— | —— | 1,690 |
| 503.0137 | PRESTRESSED GIRDER TYPE I 36W-INCH | LF | 1,715 | —— | —— | —— | —— | —— | 1,715 |
| 505.0405 | BAR STEEL REINFORCEMENT HS BRIDGES | LB | —— | 2,230 | 2,230 | 3,420 | 4,200 | 3,870 | 15,950 |
| 505.0605 | BAR STEEL REINFORCEMENT HS COATED BRIDGES | LB | 124,850 | 2,220 | 2,250 | —— | —— | —— | 129,320 |
| 506.2605 | BEARING PADS ELASTOMERIC NON-LAMINATED | EACH | —— | 5 | 5 | 10 | 10 | 10 | 40 |
| 506.4000 | STEEL DIAPHRAGMS B-62-239 | EACH | 32 | —— | —— | —— | —— | —— | 32 |
| 514.0450 | FLOOR DRAINS TYPE WF | EACH | 2 | —— | —— | —— | —— | —— | 2 |
| 516.0500 | RUBBERIZED MEMBRANE WATERPROOFING | SY | —— | 12 | 12 | —— | —— | —— | 24 |
| 550.1120 | PILING STEEL HP 12-INCH X 53 LB | LF | —— | 680 | 640 | 900 | 850 | 850 | 3,920 |
| 606.0300 | RIPRAP HEAVY | CY | —— | 255 | 255 | —— | 45 | —— | 555 |
| 612.0406 | PIPE UNDERDRAIN WRAPPED 6-INCH | LF | —— | 75 | 85 | —— | —— | —— | 160 |
| 614.0150 | ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD | EACH | —— | 2 | 2 | —— | —— | —— | 4 |
| 645.0120 | GEOTEXTILE FABRIC TYPE HR | SY | —— | 420 | 445 | —— | 105 | —— | 970 |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | NON-BID ITEMS | | | | | | | | |
| | FILLER | SIZE | —— | —— | —— | —— | —— | —— | ½" & ¾" |
| | | | | | | | | | |
| | | | | | | | | | |




## PROFILE GRADE LINE STH 56

## GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

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

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

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

ELASTOMERIC BEARING PADS NEED NOT BE INDIVIDUALLY MOLDED PROVIDED THE CUT EDGES ARE SMOOTH AND TRUE.

THE GRADATION OF THE STRUCTURE BACKFILL SHALL MEET THE REQUIREMENTS OF SECTION 209.2.2 OF THE STANDARD SPECIFICATIONS FOR GRADE 1 MATERIAL.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK SURFACE AND THE FRONT FACE AND THE TOP OF THE PARAPET, INCLUDING PARAPETS ON ABUTMENT WINGS.

THE EXISTING STREAM BED SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE PIERS.

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

AT PIERS, CONCRETE POURED UNDER WATER WILL BE ALLOWED AND SHALL BE DONE IN ACCORDANCE WITH SECTION 502.5.3 OF THE STANDARD SPECIFICATIONS.

STATE PROJECT NUMBER

5730-01-81

8

8

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-239

DRAWN BY TAB | PLANS CK'D. BLB

CROSS SECTION & QUANTITIES

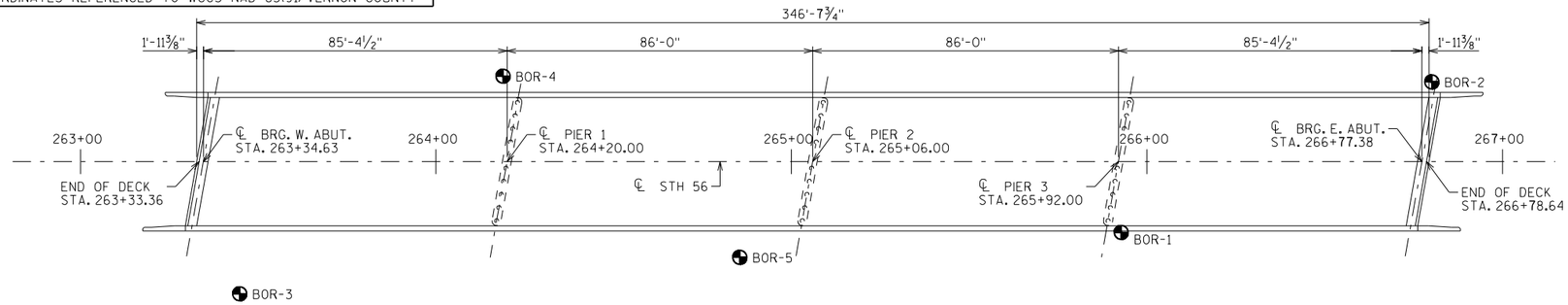
SHEET 2

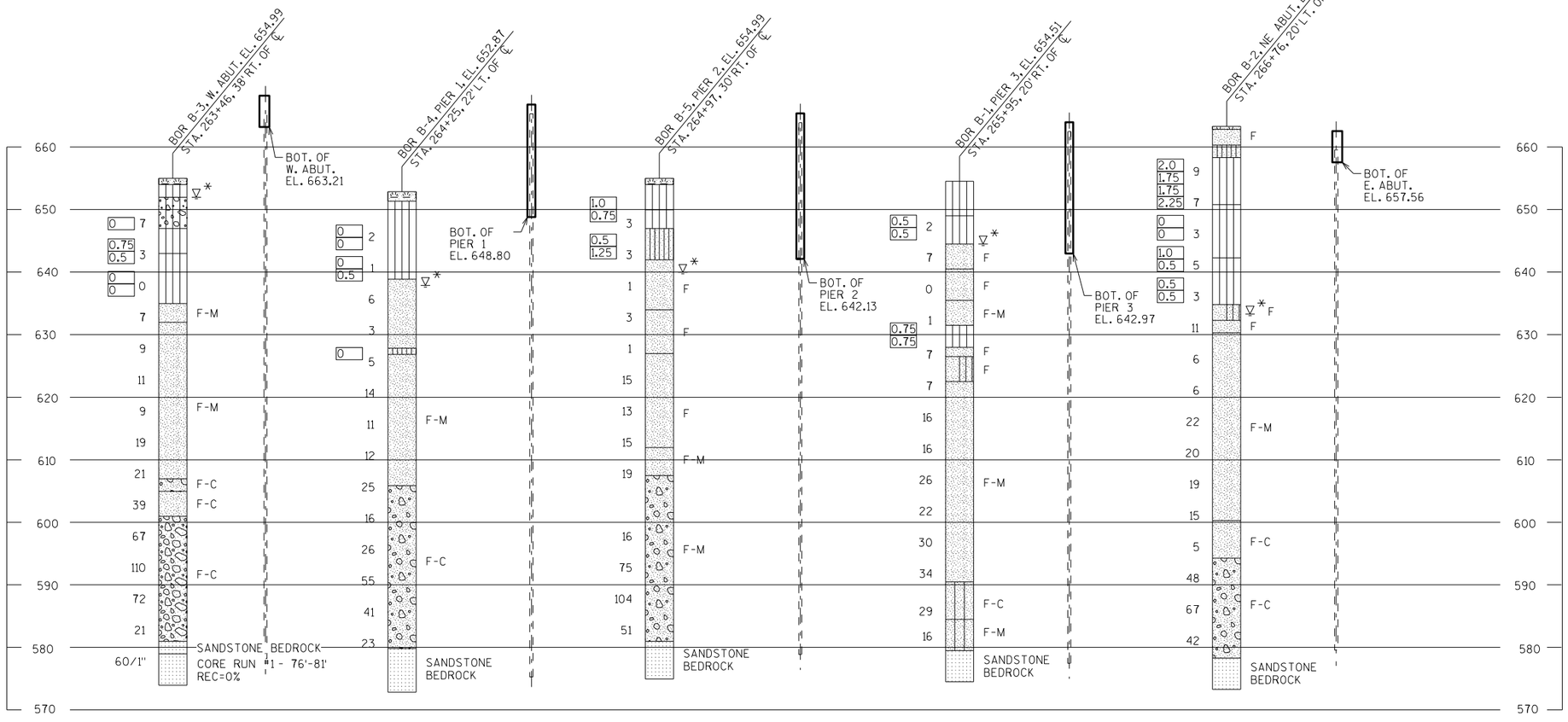
44

SCALE = 3.0

GENOA - ROMANCE
N FORK OF THE BAD AX RIVER

| BORING # | DATE COMPLETED | NORTHING (Y) | EASTING (X) |
|---|---|---|---|
| 1 | 10/25/2013 | 147953.6656 | 633108.9654 |
| 2 | 11/19/2013 | 147984.9136 | 633200.8745 |
| 3 | 11/20/2013 | 147966.9636 | 632860.7709 |
| 4 | 11/21/2013 | 148018.5464 | 632941.7822 |
| 5 | 12/18/2013 | 147959.8687 | 633001.6421 |
| BORINGS COMPLETED BY: WISDOT | | | |
| REPORT COMPLETED BY: WISDOT | | | |
| ALL COORDINATES REFERENCED TO WCCS NAD 83(91) VERNON COUNTY | | | |




* THE GROUND WATER ELEVATION WAS DETERMINED FROM WHERE THE SOIL SAMPLE WAS DESCRIBED AS WET.

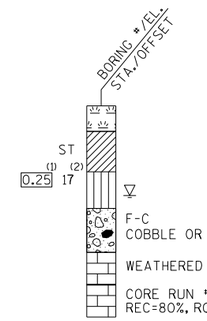
STATE PROJECT NUMBER

**5730-01-81**

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
STRUCTURES DESIGN SECTION

STRUCTURE B-62-239

DRAWN BY PR | PLANS CK'D. BLB

SUBSURFACE EXPLORATION

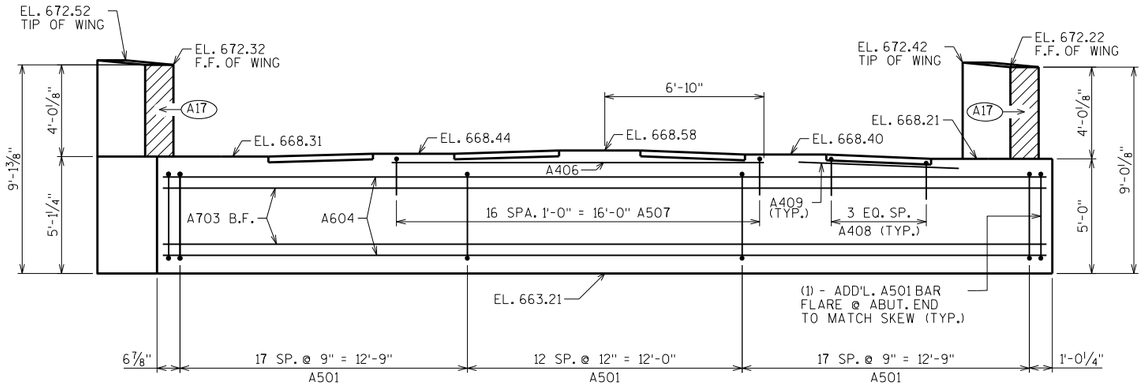
SHEET 3

45

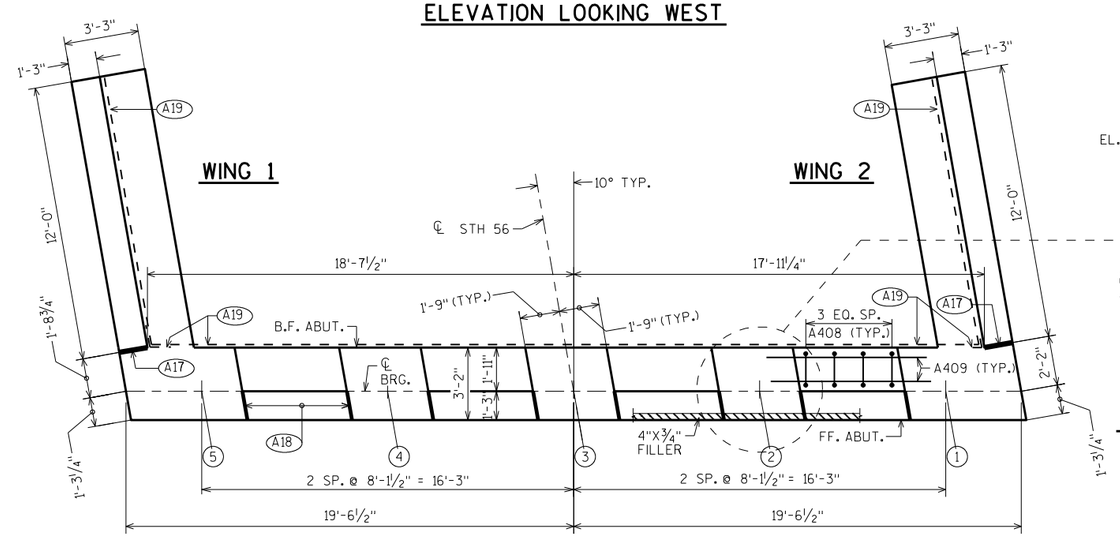
SCALE = 20

STATE PROJECT NUMBER

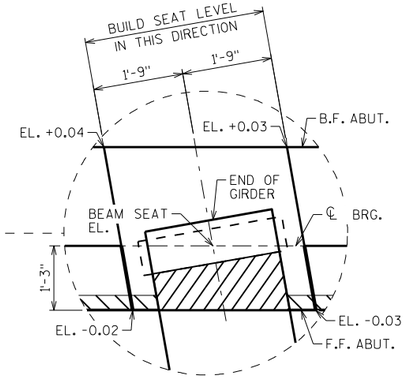
5730-01-81



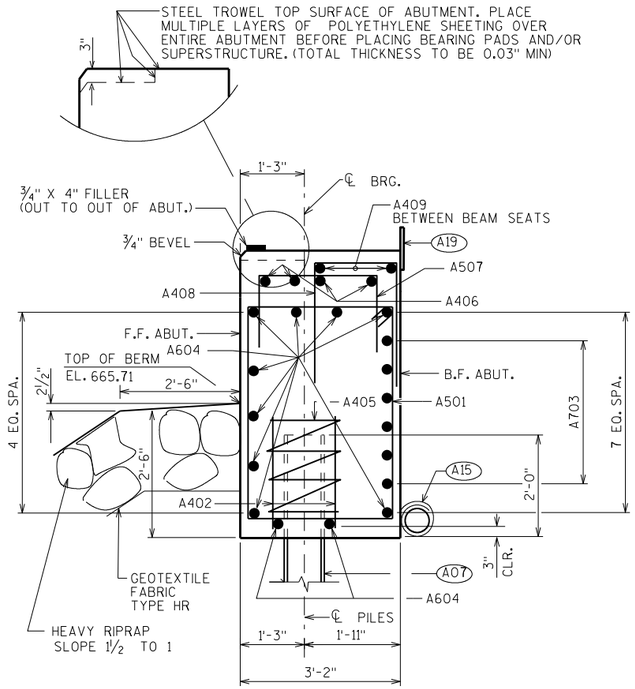

ELEVATION LOOKING WEST



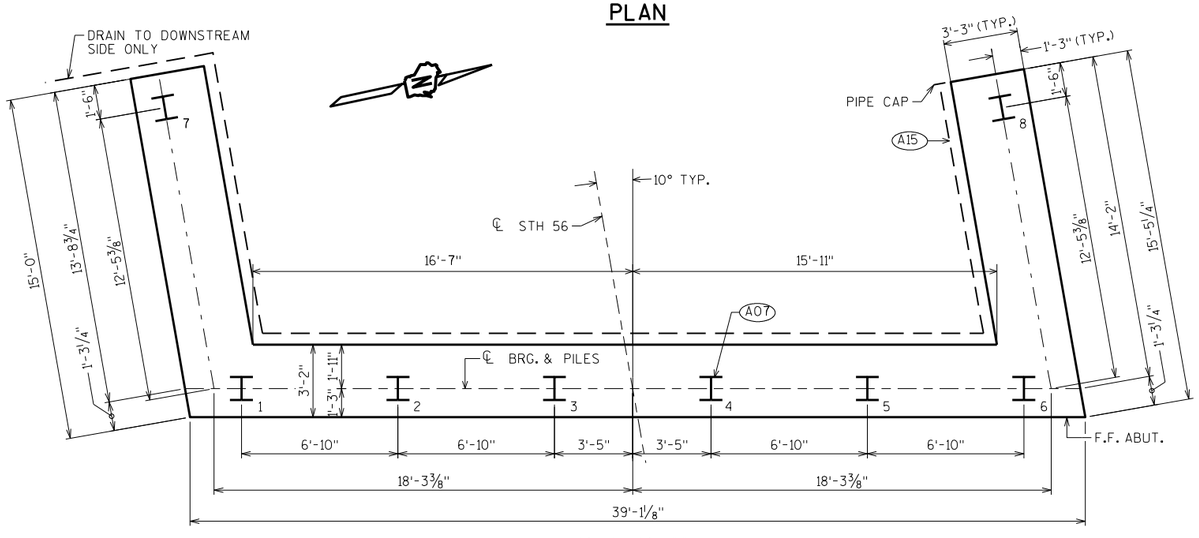

PLAN



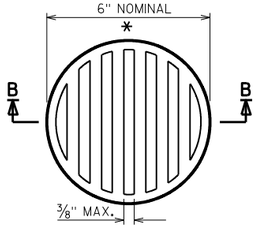

TYPICAL BEAM SEAT DETAIL



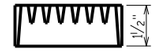

SECTION THRU BODY




PILE PLAN




RODENT SHIELD DETAIL




SECTION B-B

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

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

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

(A07) SUPPORT ABUTMENT ON HP 12 x 53 STEEL PILING, ESTIMATED 85' LONG WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE.

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

(A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

(A18) 3/4" CORK FILLER UP VERT. BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-239

| DRAWN BY | TAB | PLANS CK'D. | BLB |
|---|---|---|---|

WEST ABUTMENT

SHEET 4

46

SCALE = 3.16667

TUE APR 29 14:12:37 2014*

8

8

| STATE PROJECT NUMBER |
|---|
| 5730-01-81 |

(A03) OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 × 6. (18" R.M.W. @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).

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

(A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

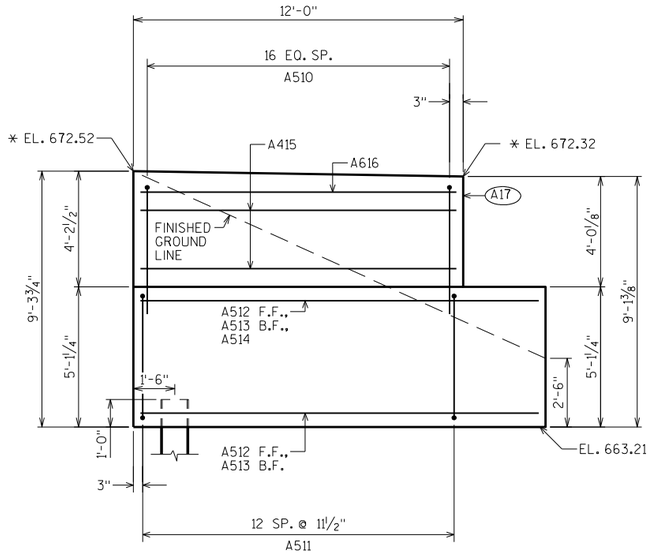
(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

(A21) FOR PPT. BARS & DIMENSION SEE PARAPET SHT.

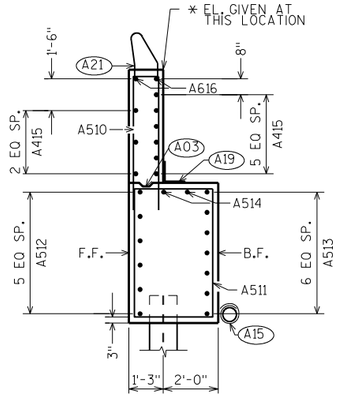
## BILL OF BARS

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

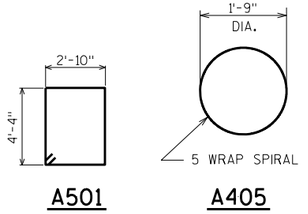
| BAR MARK | COAT | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| A501 | | 49 | 15'-0" | X | | BODY - STIRRUPS |
| A402 | | 12 | 2'-3" | | | PILES - 2 PER PILE |
| A703 | | 6 | 38'-9" | | | BODY - HORIZ. - B.F. |
| A604 | | 11 | 38'-9" | | | BODY - HORIZ. |
| A405 | | 6 | 28'-0" | X | | PILES - 1 PER BODY PILE |
| A406 | | 4 | 16'-3" | | | BODY - HORZ. - TOP |
| A507 | | 17 | 5'-4" | X | | BODY - VERT. - TOP |
| A408 | | 16 | 3'-10" | X | | BODY - VERT. - TOP - BTWN. GIRDERS |
| A409 | | 8 | 6'-9" | | | BODY - HORIZ. - TOP - BTWN. GIRDERS |
| A510 | X | 17 | 12'-7" | X | | WING 1 - VERT. - UPPER WING |
| A511 | X | 13 | 15'-10" | X | | WING 1 - STIRRUP |
| A512 | X | 6 | 13'-9" | | | WING 1 - HORIZ. - F.F. - LOWER WING |
| A513 | X | 7 | 14'-0" | | | WING 1 - HORIZ. - B.F. - LOWER WING |
| A514 | X | 2 | 14'-0" | | | WING 1 - HORIZ. - TOP - LOWER WING |
| A415 | X | 9 | 11'-8" | | | WING 1 - HORIZ. - UPPER WING |
| A616 | X | 2 | 11'-8" | | | WING 1 - HORIZ. - TOP - UPPER WING |
| A517 | X | 17 | 12'-7" | X | | WING 2 - VERT. - UPPER WING |
| A518 | X | 13 | 15'-8" | X | | WING 2 - STIRRUP |
| A519 | X | 6 | 13'-9" | | | WING 2 - HORIZ. - F.F. - LOWER WING |
| A520 | X | 7 | 14'-0" | | | WING 2 - HORIZ. - B.F. - LOWER WING |
| A521 | X | 2 | 14'-0" | | | WING 2 - HORIZ. - TOP - LOWER WING |
| A422 | X | 9 | 11'-8" | | | WING 2 - HORIZ. - UPPER WING |
| A623 | X | 2 | 11'-8" | | | WING 2 - HORIZ. - TOP - UPPER WING |

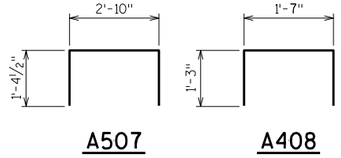


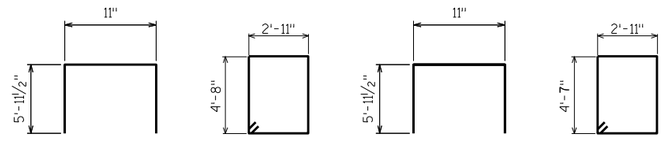

WING 1 ELEVATION

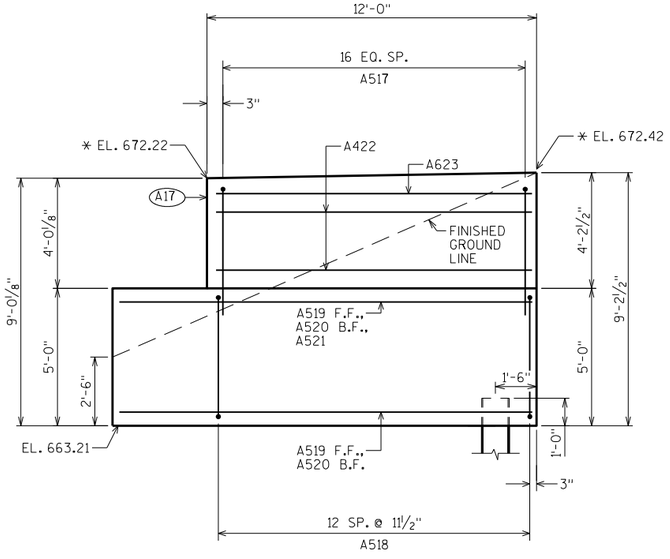



WING 1 SECTION

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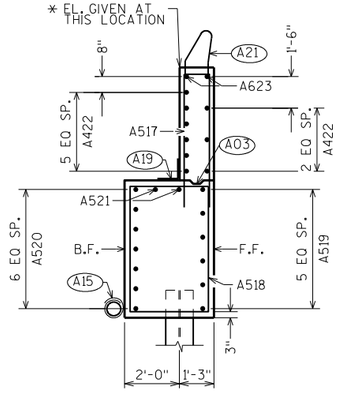
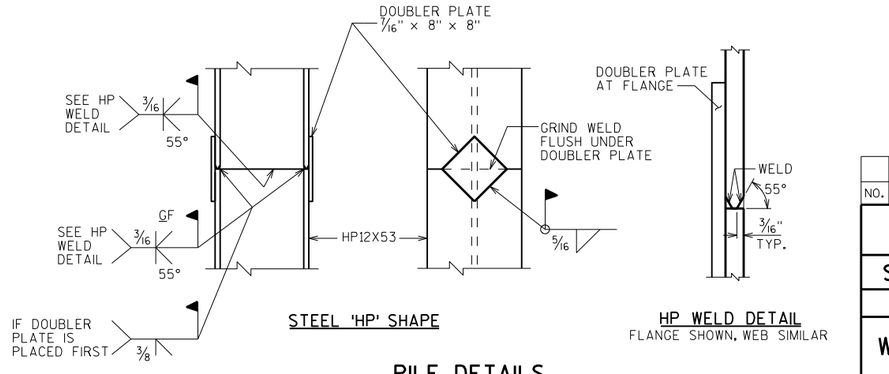



WING 2 SECTION




PILE DETAILS

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-239

DRAWN BY: TAB | PLANS CK'D.: BLB

WEST ABUTMENT DETAILS

SHEET 5
47

TUE APR 29 14:12:42 2014*

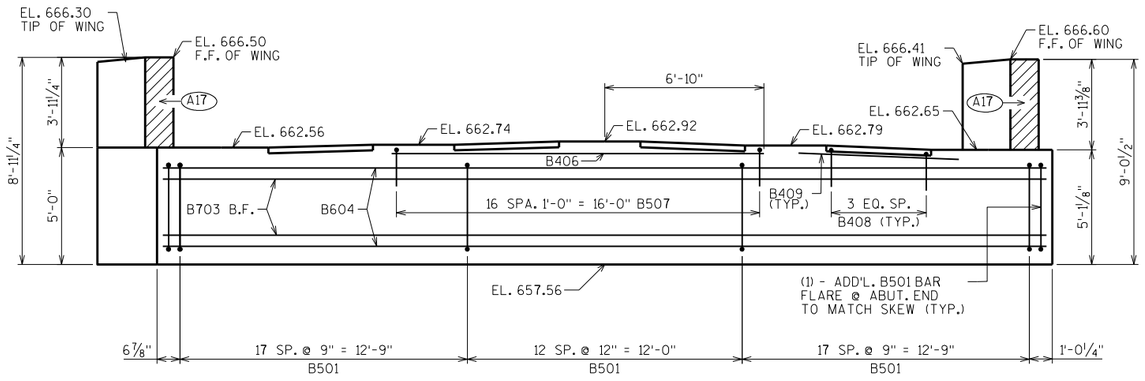
SCALE = 2.6667

8

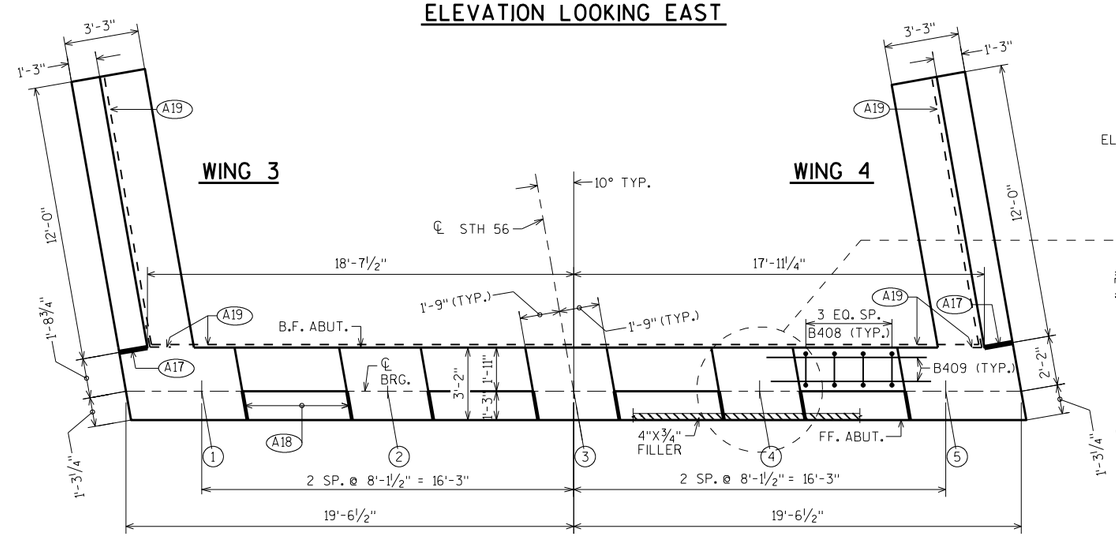
8

STATE PROJECT NUMBER

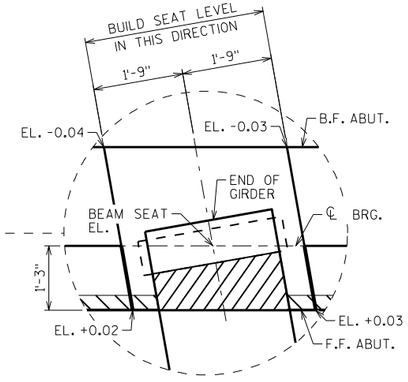
5730-01-81



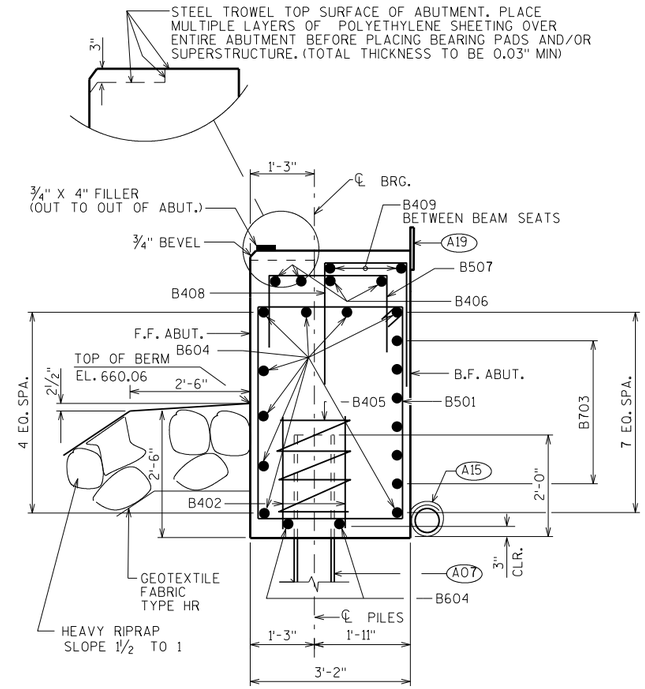

ELEVATION LOOKING EAST



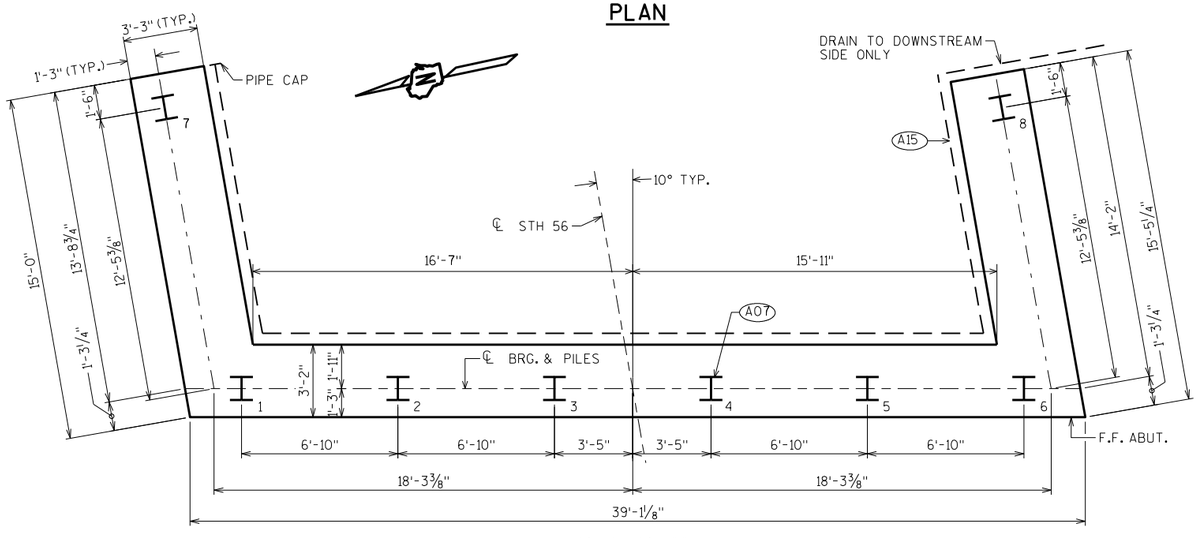

PLAN



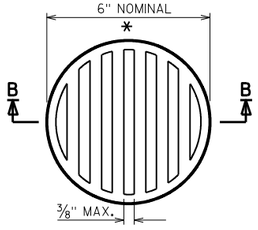

TYPICAL BEAM SEAT DETAIL



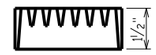

SECTION THRU BODY




PILE PLAN




RODENT SHIELD DETAIL




SECTION B-B

(A07) SUPPORT ABUTMENT ON HP 12 x 53 STEEL PILING. ESTIMATED 80' LONG WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE.

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

(A17) 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

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(A19) 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-239

| DRAWN BY | TAB | PLANS CK'D. | BLB |
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EAST ABUTMENT

SHEET 6

48

SCALE = 3.16667

TUE APR 29 14:12:37 2014*

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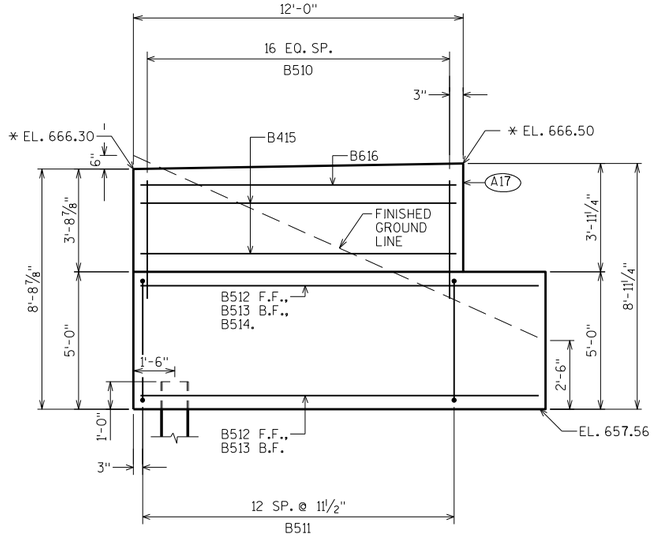
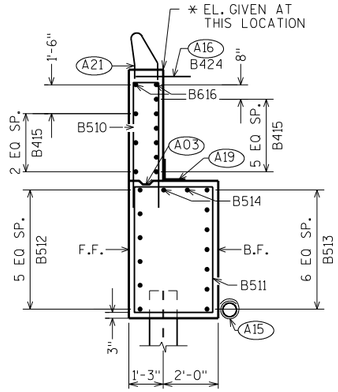
STATE PROJECT NUMBER

5730-01-81




WING 3 ELEVATION




WING 3 SECTION

A03 OPTIONAL CONST. JOINT: KEYWAY FORMED BY BEVELED 2 × 6. (18" R.M.W. @ B.F. & 3/4" "V" GROOVE @ F.F. IF JOINT IS USED).

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

A16 A424 BARS SPACED @ 1'-0" CTRS. EMBED 1'-0" INTO WING CONC. LOCATE 3" DOWN FROM TOP OF WING @ BACKFACE TO 6" DOWN @ WING TIP. (DRILLED IN EPOXY ANCHORED #4 BARS 2'-0" LONG MAY BE USED.) COST INCIDENTAL TO BID ITEM "BAR STEEL REINFORCEMENT HS COATED BRIDGES".

A17 1/2" FILLER (INCLUDED IN WING LENGTH): SEAL ALL EXPOSED HORIZ. & VERT. SURFACES OF 1/2" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD 1/8" BELOW SURFACE OF CONCRETE). EXTEND SEALER 3" BELOW GUTTER LINE AT INSIDE FACE.

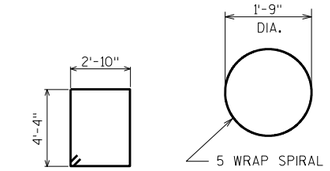
A19 18" (RMW) RUBBERIZED MEMBRANE WATERPROOFING SEAL ALL HORIZ. & VERT. JOINTS AT BACKFACE.

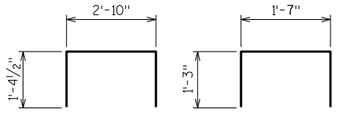
A21 FOR PPT. BARS & DIMENSION SEE PARAPET SHT.

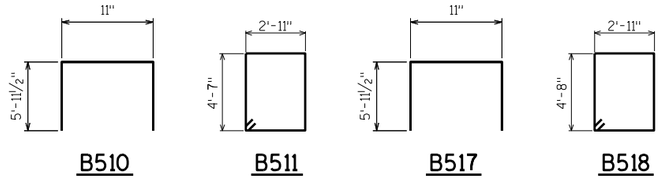
## BILL OF BARS

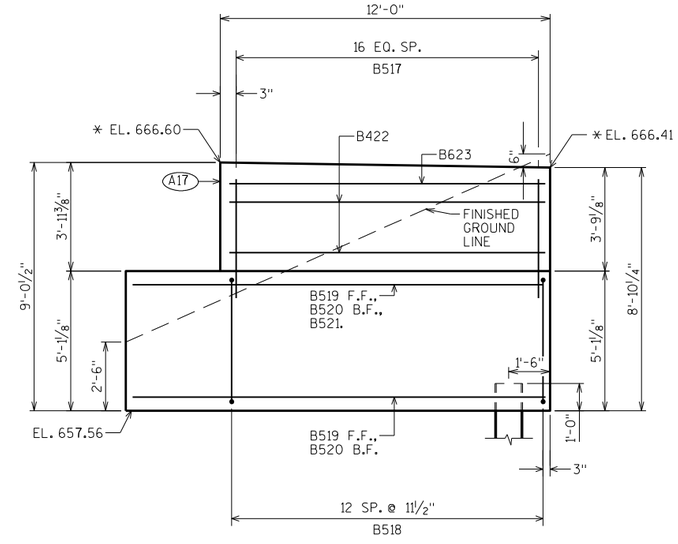
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

| BAR MARK | COAT | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| B501 | | 49 | 15'-0" | X | | BODY - STIRRUPS |
| B402 | | 12 | 2'-3" | | | PILES - 2 PER PILE |
| B703 | | 6 | 38'-9" | | | BODY - HORIZ. - B.F. |
| B604 | | 11 | 38'-9" | | | BODY - HORIZ. |
| B405 | | 6 | 28'-0" | X | | PILES - 1 PER BODY PILE |
| B406 | | 4 | 16'-3" | | | BODY - HORZ. - TOP |
| B507 | | 17 | 5'-4" | X | | BODY - VERT. - TOP |
| B408 | | 16 | 3'-10" | X | | BODY - VERT. - TOP - BTWN. GIRDERS |
| B409 | | 8 | 6'-9" | | | BODY - HORZ. - TOP - BTWN. GIRDERS |
| B510 | X | 17 | 12'-7" | X | | WING 3 - VERT. - UPPER WING |
| B511 | X | 13 | 15'-8" | X | | WING 3 - STIRRUP |
| B512 | X | 6 | 13'-9" | | | WING 3 - HORIZ. - F.F. - LOWER WING |
| B513 | X | 7 | 14'-0" | | | WING 3 - HORIZ. - B.F. - LOWER WING |
| B514 | X | 2 | 14'-0" | | | WING 3 - HORIZ. - TOP - LOWER WING |
| B415 | X | 9 | 11'-8" | | | WING 3 - HORIZ. - UPPER WING |
| B616 | X | 2 | 11'-8" | | | WING 3 - HORIZ. - TOP - UPPER WING |
| B517 | X | 17 | 12'-7" | X | | WING 4 - VERT. - UPPER WING |
| B518 | X | 13 | 15'-10" | X | | WING 4 - STIRRUP |
| B519 | X | 6 | 13'-9" | | | WING 4 - HORIZ. - F.F. - LOWER WING |
| B520 | X | 7 | 14'-0" | | | WING 4 - HORIZ. - B.F. - LOWER WING |
| B521 | X | 2 | 14'-0" | | | WING 4 - HORIZ. - TOP - LOWER WING |
| B422 | X | 9 | 11'-8" | | | WING 4 - HORIZ. - UPPER WING |
| B623 | X | 2 | 11'-8" | | | WING 4 - HORIZ. - TOP - UPPER WING |
| B424 | X | 26 | 2'-0" | | | WINGS 3&4 - TOP - B.F. - HORIZ. |

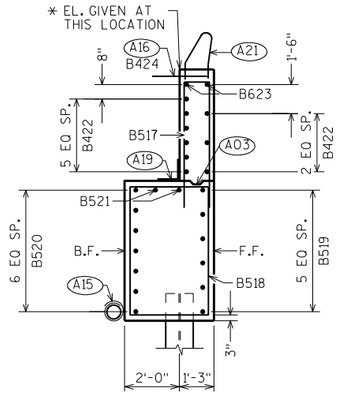


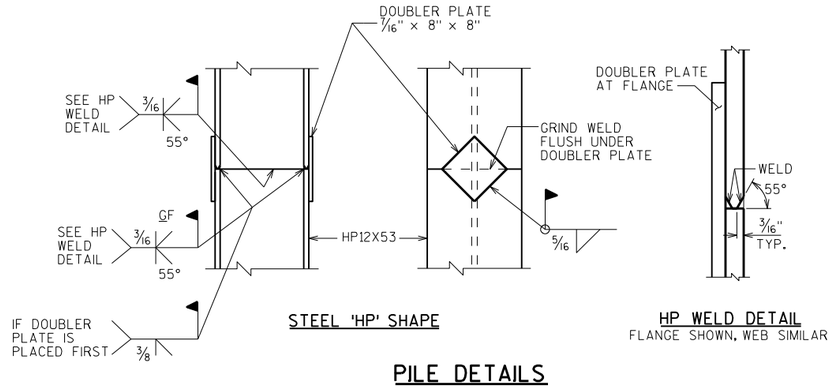




WING 4 ELEVATION




WING 4 SECTION




PILE DETAILS

| NO. | DATE | REVISION | BY |
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-239

DRAWN BY TAB | PLANS CK'D. BLB

EAST ABUTMENT DETAILS

SHEET 7

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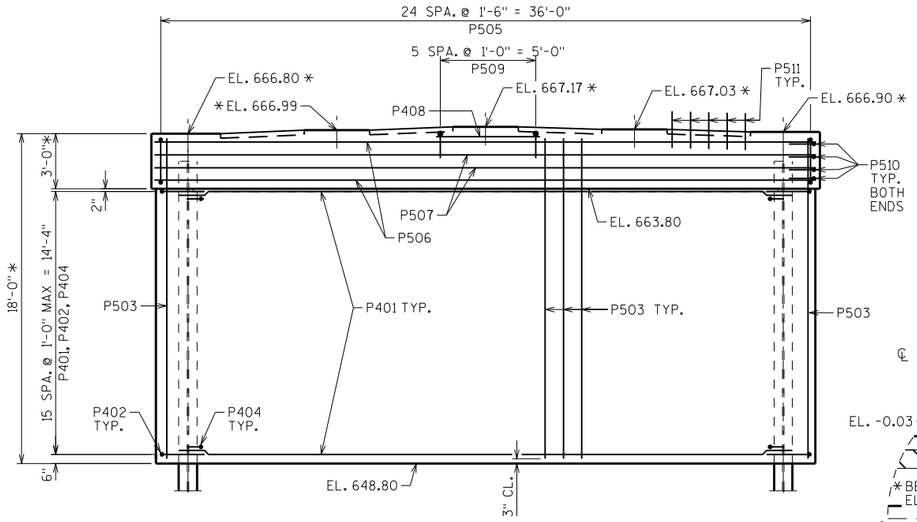
SCALE = 2.667

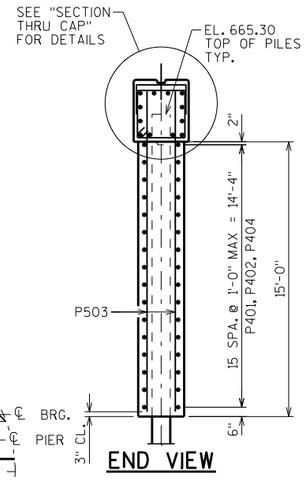
TUE APR 29 14:12:51 2014*

| STATE PROJECT NUMBER |
|---|
| 5730-01-81 |

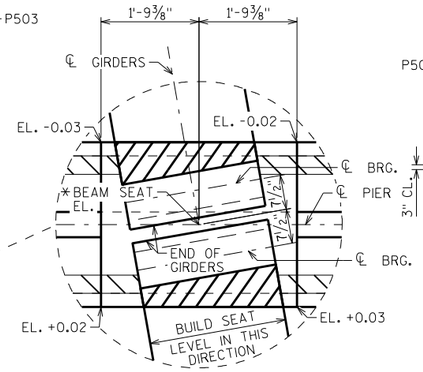



## ELEVATION - LOOKING EAST

* AT ℄ PIER




## END VIEW

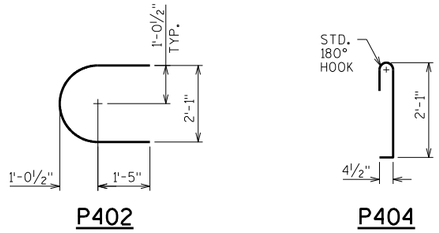



## TYPICAL BEAM SEAT DETAIL

## BILL OF BARS

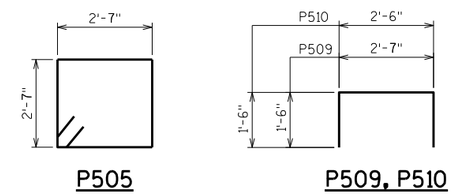
NOTE: THE FIRST OR FIRST TWO DIGITS OF THE BAR MARK SIGNIFIES THE BAR SIZE.

| BAR MARK | COAT | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| P401 | | 32 | 33'-6" | | | SHAFT - HORIZ. |
| P402 | | 32 | 6'-1" | X | | SHAFT - HORIZ. - ENDS |
| P503 | | 76 | 17'-6" | | | SHAFT - VERT. |
| P404 | | 160 | 2'-11" | X | | SHAFT - HORIZ. - TIE BARS AT PILES |
| P505 | | 25 | 11'-0" | X | | CAP - STIRRUP |
| P506 | | 8 | 36'-1" | | | CAP - HORIZ. - TOP & BOTTOM |
| P507 | | 4 | 36'-1" | | | CAP - HORIZ. - SIDES |
| P408 | | 4 | 5'-9" | | | CAP - HORIZ. - TOP |
| P509 | | 6 | 5'-4" | X | | CAP - VERT. - TOP |
| P510 | | 8 | 5'-3" | X | | CAP - HORIZ. - ENDS |
| P511 | | 20 | 2'-0" | | | CAP - DOWEL BARS |
| | | | | | | |
| | | | | | | |



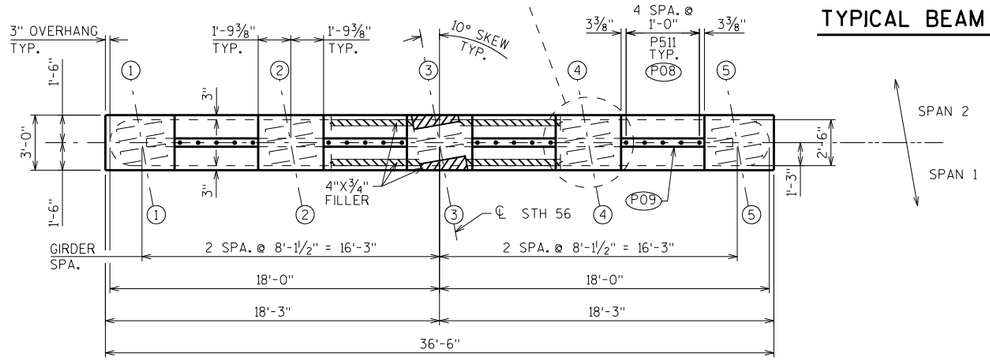

## P402

## P404

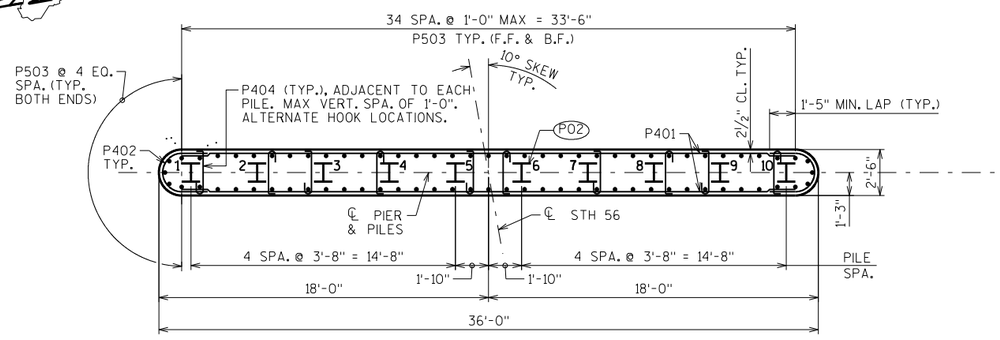



## P505

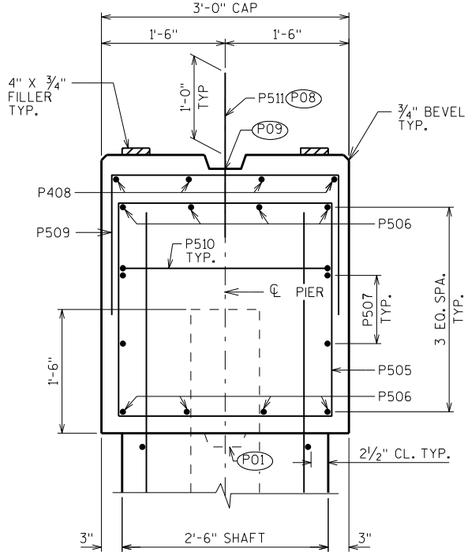
## P509, P510




## PLAN




## PILE PLAN




## SECTION THRU CAP

(P01) OPTIONAL CONSTRUCTION JOINT WITH KEYWAY FORMED BY BEVELED 2 X 6. EXTEND TO 2'-0" FROM PIER EDGE.

(P02) SUPPORT PIER ON HP 12 x 53 STEEL PILING, ESTIMATED 90' LONG WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE.

(P08) BARS @ 1'-0" CTRS. BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

(P09) KEYED CONSTRUCTION JOINT-FORMED BY BEVELED 2 x 6 BETWEEN BEAM SEATS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-239

DRAWN BY TAB | PLANS CK'D. BLB

PIER 1

SHEET 8

50

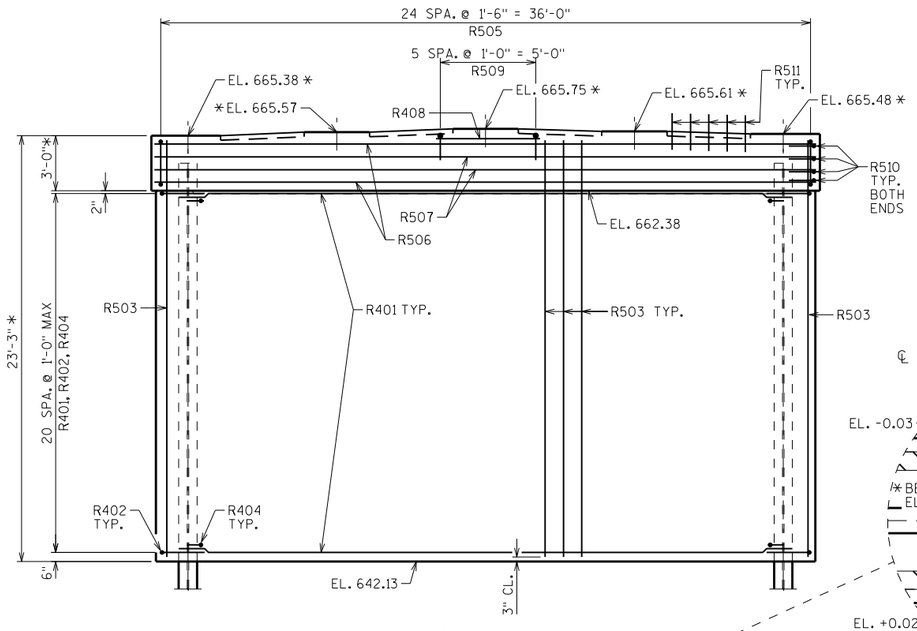
SCALE = 4

8

8

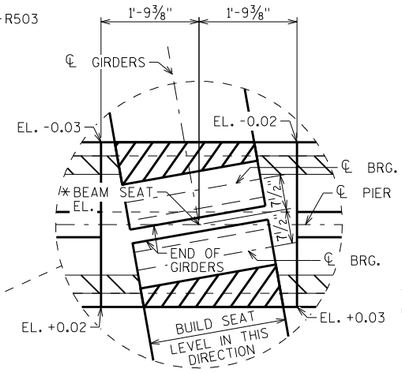
STATE PROJECT NUMBER

5730-01-81

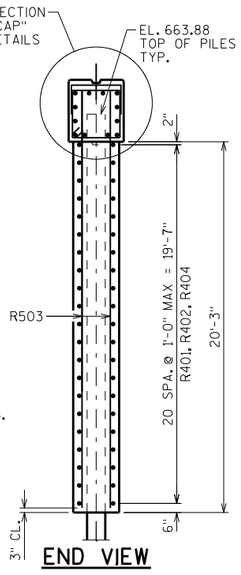



## ELEVATION - LOOKING EAST

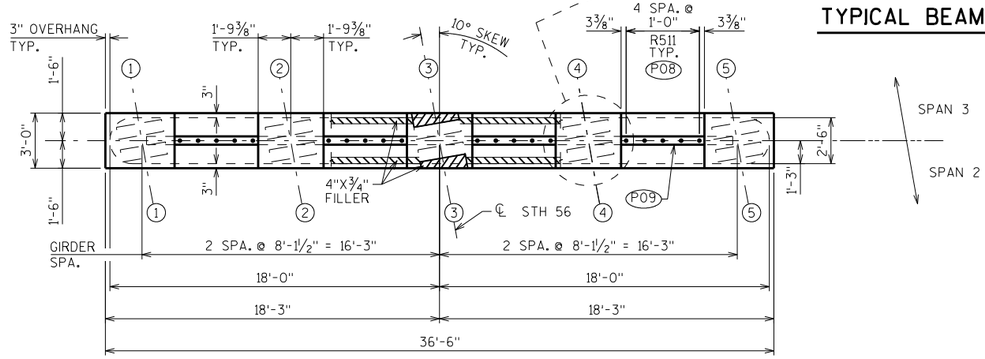
* AT ℄ PIER



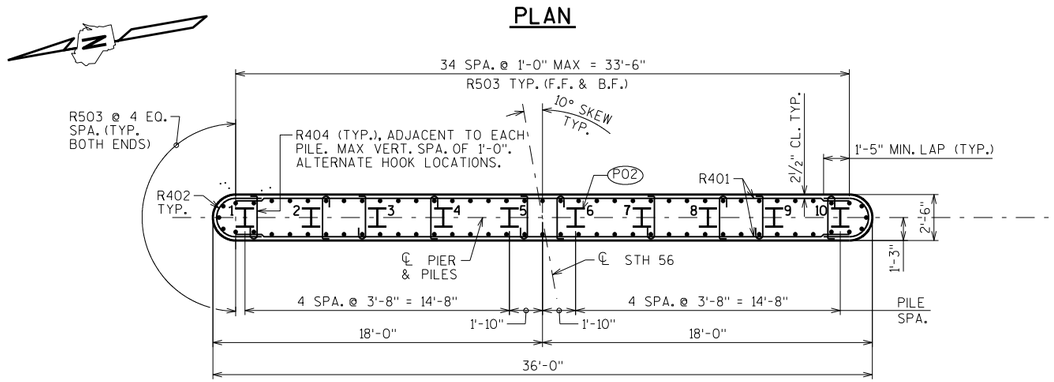

## TYPICAL BEAM SEAT DETAIL



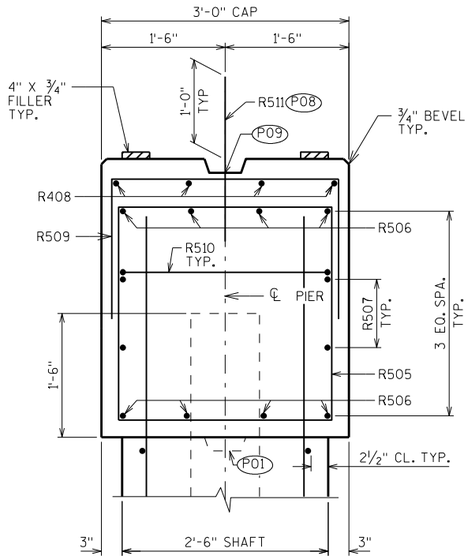

## END VIEW




## PLAN




## PILE PLAN

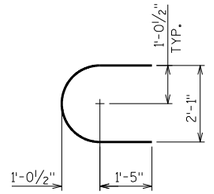



## SECTION THRU CAP

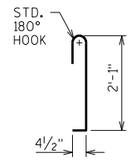
## BILL OF BARS

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

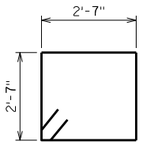
| BAR MARK | COAT | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| R401 | | 42 | 33'-6" | | | SHAFT - HORIZ. |
| R402 | | 42 | 6'-1" | X | | SHAFT - HORIZ. - ENDS |
| R503 | | 76 | 22'-9" | | | SHAFT - VERT. |
| R404 | | 210 | 2'-11" | X | | SHAFT - HORIZ. - TIE BARS AT PILES |
| R505 | | 25 | 11'-0" | X | | CAP - STIRRUP |
| R506 | | 8 | 36'-1" | | | CAP - HORIZ. - TOP & BOTTOM |
| R507 | | 4 | 36'-1" | | | CAP - HORIZ. - SIDES |
| R408 | | 4 | 5'-9" | | | CAP - HORIZ. - TOP |
| R509 | | 6 | 5'-4" | X | | CAP - VERT. - TOP |
| R510 | | 8 | 5'-3" | X | | CAP - HORIZ. - ENDS |
| R511 | | 20 | 2'-0" | | | CAP - DOWEL BARS |
| | | | | | | |
| | | | | | | |



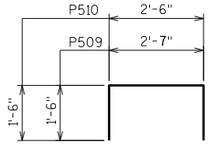

## R402




## R404




## R505




## R509, R510

(P01) OPTIONAL CONSTRUCTION JOINT WITH KEYWAY FORMED BY BEVELED 2 X 6. EXTEND TO 2'-0" FROM PIER EDGE.

(P02) SUPPORT PIER ON HP 12 x 53 STEEL PILING, ESTIMATED 85' LONG WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE.

(P08) BARS @ 1'-0" CTRS. BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

(P09) KEYED CONSTRUCTION JOINT-FORMED BY BEVELED 2 x 6 BETWEEN BEAM SEATS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-239

DRAWN BY TAB | PLANS CK'D. BLB

PIER 2

SHEET 9

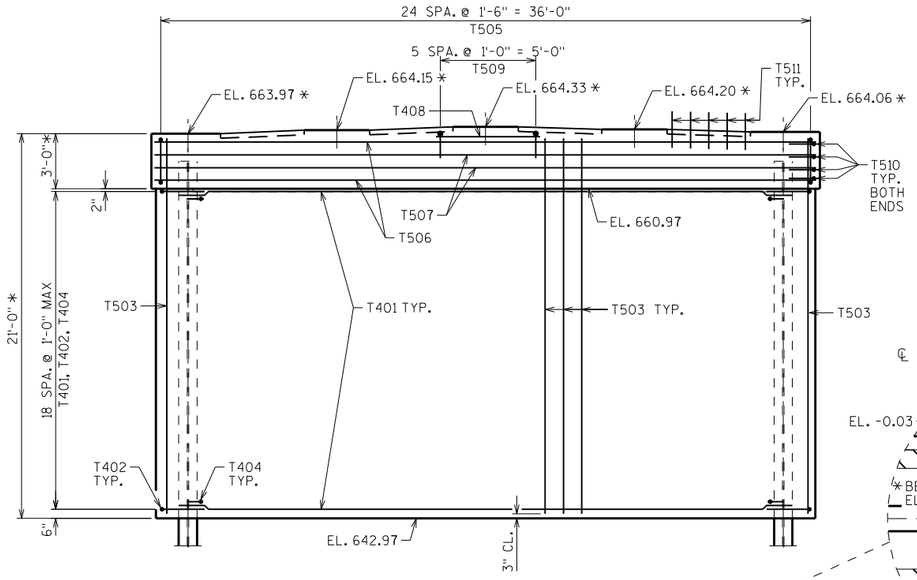
51

SCALE = 4

8

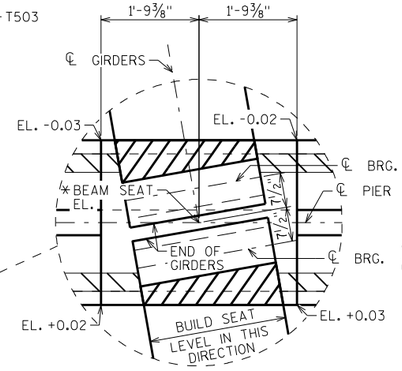
8

| STATE PROJECT NUMBER |
|---|
| 5730-01-81 |

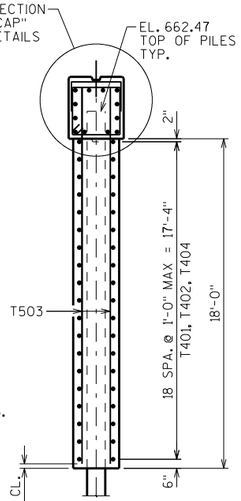



## ELEVATION - LOOKING EAST

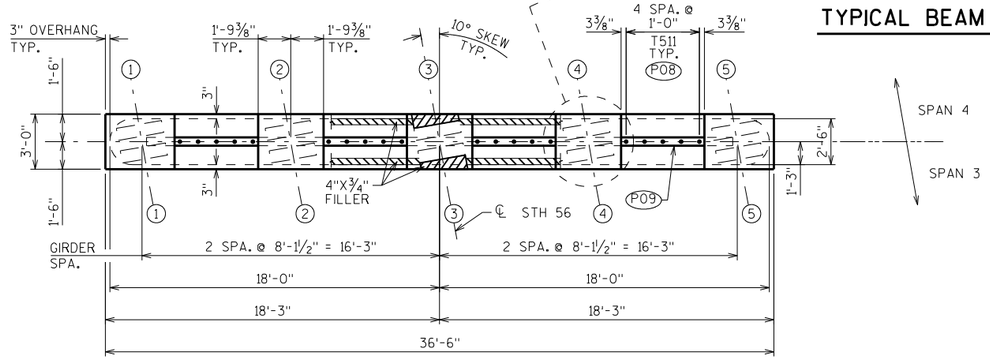
* AT ℄ PIER



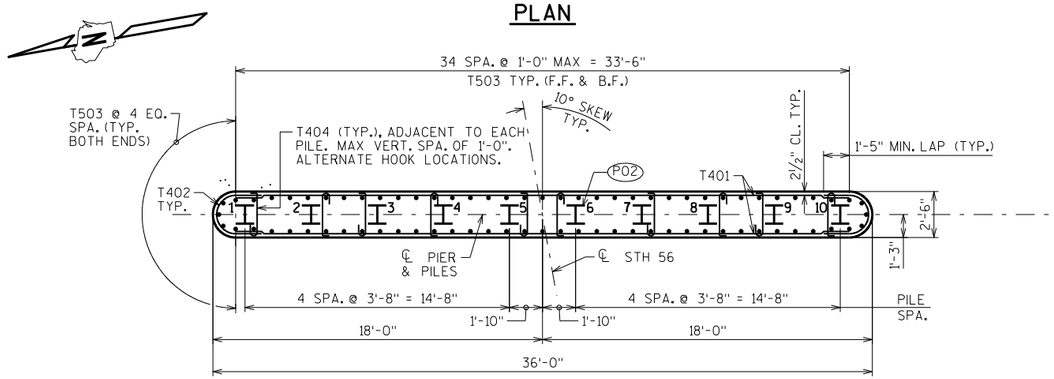

## TYPICAL BEAM SEAT DETAIL



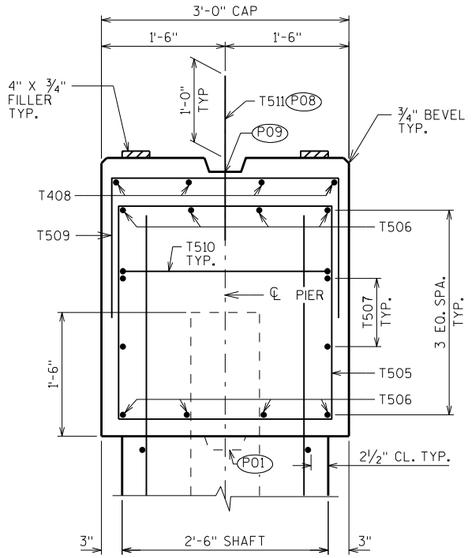

## END VIEW




## PLAN




## PILE PLAN

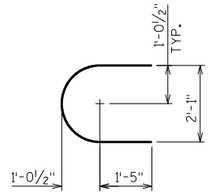



## SECTION THRU CAP

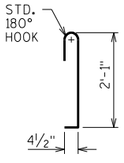
## BILL OF BARS

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

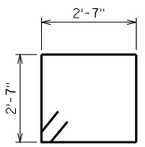
| BAR MARK | COAT | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| T401 | | 38 | 33'-6" | | | SHAFT - HORIZ. |
| T402 | | 38 | 6'-1" | X | | SHAFT - HORIZ. - ENDS |
| T503 | | 76 | 20'-6" | | | SHAFT - VERT. |
| T404 | | 190 | 2'-11" | X | | SHAFT - HORIZ. - TIE BARS AT PILES |
| T505 | | 25 | 11'-0" | X | | CAP - STIRRUP |
| T506 | | 8 | 36'-1" | | | CAP - HORIZ. - TOP & BOTTOM |
| T507 | | 4 | 36'-1" | | | CAP - HORIZ. - SIDES |
| T408 | | 4 | 5'-9" | | | CAP - HORIZ. - TOP |
| T509 | | 6 | 5'-4" | X | | CAP - VERT. - TOP |
| T510 | | 8 | 5'-3" | X | | CAP - HORIZ. - ENDS |
| T511 | | 20 | 2'-0" | | | CAP - DOWEL BARS |
| | | | | | | |
| | | | | | | |



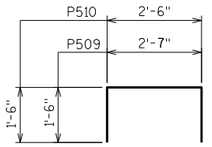

## T402




## T404




## T505




## T509, T510

(P01) OPTIONAL CONSTRUCTION JOINT WITH KEYWAY FORMED BY BEVELED 2 X 6. EXTEND TO 2'-0" FROM PIER EDGE.

(P02) SUPPORT PIER ON HP 12 x 53 STEEL PILING, ESTIMATED 85' LONG WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE.

(P08) BARS @ 1'-0" CTRS. BETWEEN BEAM SEATS. MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. (EMBED 1'-0" INTO CONC.)

(P09) KEYED CONSTRUCTION JOINT-FORMED BY BEVELED 2 x 6 BETWEEN BEAM SEATS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-239

DRAWN BY TAB | PLANS CK'D. BLB

PIER 3

SHEET 10

52

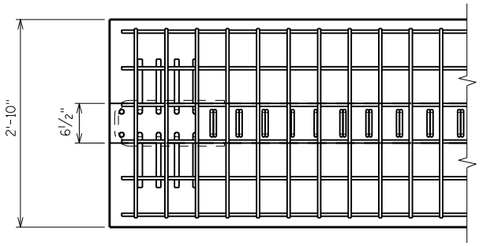
SCALE = 4

8

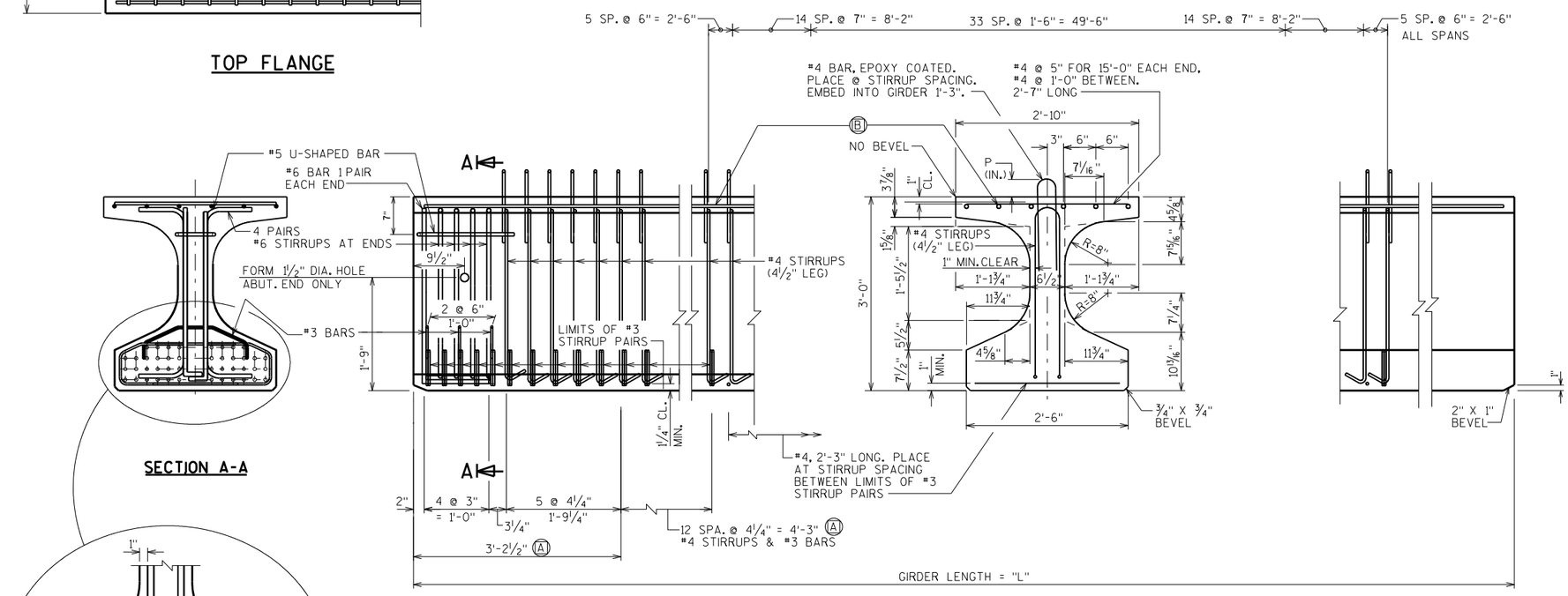
8

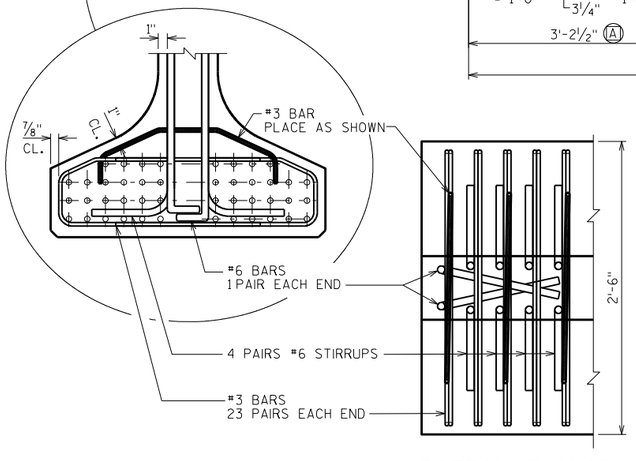
STATE PROJECT NUMBER

5730-01-81




TOP FLANGE



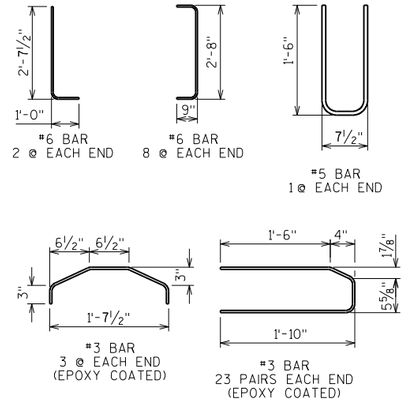




BOTTOM FLANGE

## SIDE VIEW & TYP. SECTION IN SPAN

Ⓐ DETAIL TYP. AT EACH END

Ⓑ 6 #4 BARS, FULL LENGTH, MIN. LAP = 1'-11"




## NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE THE OUTSIDE 8" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 8" OF THE TOP FLANGE.

DO NOT APPLY CONCRETE SEALER TO SURFACES RECEIVING APPLICATION OF CONCRETE STAINING.

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS.

STRANDS SHALL BE FLUSH WITH THE END OF GIRDER. FOR GIRDER ENDS EMBEDDED COMPLETELY IN CONCRETE, ENDS OF STRANDS SHALL BE COATED WITH NON-BITUMINOUS JOINT SEALER. FOR GIRDER ENDS THAT ARE FINALLY EXPOSED, COAT THE GIRDER ENDS, EXPOSED STRAND ENDS AND ALL NON-BONDING SURFACES WITHIN 2 FEET OF THE GIRDER ENDS WITH A NON-PIGMENTED EPOXY CONFORMING TO AASHTO M-235 TYPE III, GRADE 2, CLASS B OR C. THE EPOXY SHALL BE APPLIED AT LEAST 3 DAYS AFTER MOIST CURING HAS CEASED AND PRIOR TO APPLICATION OF THE SEALER.

ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT. IF THE FABRICATOR WANTS TO BUILD A BAR STEEL CAGE BY WELDING LONGITUDINAL REINFORCEMENT TO THE #4 STIRRUPS, ONE OPTION IS AVAILABLE:

USE ASTM A706, GRADE 60 REINFORCEMENT AND THE STIRRUP SPACING AS SHOWN ON THE PLANS.

AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

PRESTRESSING STRANDS SHALL BE 0.6" DIA. -7 WIRE LOW-RELAXATION STRANDS WITH AN ULTIMATE STRENGTH OF 270,000 psi.

FOR DIAPHRAGM INSERT & CONNECTION DETAILS SEE "STEEL DIAPHRAGMS" SHEET.

* MINIMUM CYLINDER STRENGTH OF CONCRETE @ TIME OF TRANSFER OF PRESTRESS FORCE.

## GIRDER DATA

| SPAN | GIRDER | GIRDER LENGTH "L" | DEAD LOAD DEFL. (IN.) | | | | | | | | | CONC. STRGTH. f'c (p.s.i.) | "P" IST ⅓ OF GIRDER | "P" MID ⅓ OF GIRDER | "P" END ⅓ OF GIRDER | DIA. OF STRAND (IN.) | DRAPED PATTERN | | | | | | UNDRAPED PATTERN | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1/10 | 2/10 | 3/10 | 4/10 | 5/10 | 6/10 | 7/10 | 8/10 | 9/10 | | | | | | TOTAL NO. OF STRANDS | f'ci (P.S.I.) * | ( IN.) "A" | "B" MIN. | "B" MAX. | "C" | TOTAL NO. OF STRANDS | f'ci (P.S.I.) |
| 1 | ALL | 85.75 | 0.6 | 1.1 | 1.5 | 1.7 | 1.8 | 1.7 | 1.4 | 1.0 | 0.5 | 8000 | 7 | 7 | 7 | 0.60 | 28 | 6400 | 32.0 | 11.0 | 14.0 | 4.0 | | |
| 2 | ALL | 85.75 | 0.6 | 1.1 | 1.4 | 1.7 | 1.8 | 1.7 | 1.5 | 1.1 | 0.6 | 8000 | 7 | 7 | 7 | 0.60 | 28 | 6400 | 32.0 | 11.0 | 14.0 | 4.0 | | |
| 3 | ALL | 85.75 | 0.6 | 1.1 | 1.5 | 1.7 | 1.8 | 1.7 | 1.4 | 1.1 | 0.6 | 8000 | 7 | 7 | 7 | 0.60 | 28 | 6400 | 32.0 | 11.0 | 14.0 | 4.0 | | |
| 4 | ALL | 85.75 | 0.5 | 1.0 | 1.4 | 1.7 | 1.8 | 1.7 | 1.5 | 1.1 | 0.6 | 8000 | 7 | 7 | 7 | 0.60 | 28 | 6400 | 32.0 | 11.0 | 14.0 | 4.0 | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-239

DRAWN BY: TAB | PLANS CK'D.: BLB

36W" PRESTRESSED GIRDER DETAILS 1

SHEET 11

53

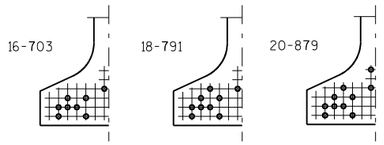
8

SCALE = 1.0

TUE APR 29 14:12:19 2014 *1-13 G36W

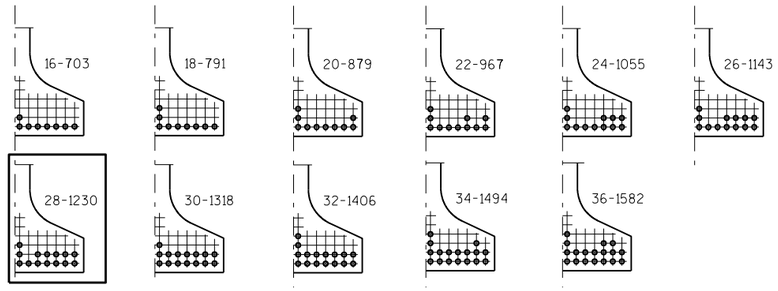
STATE PROJECT NUMBER

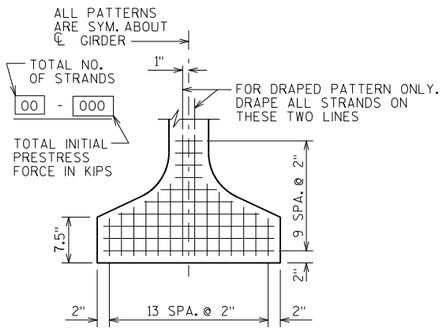
5730-01-81



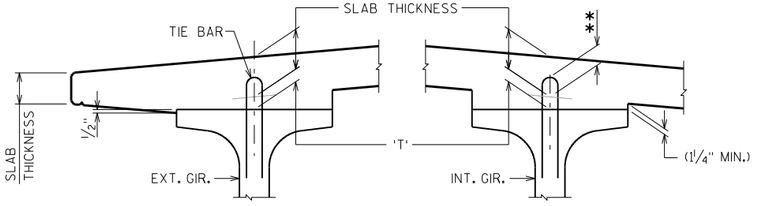

## STANDARD ARRANGEMENTS TO RAISE CENTER OF GRAVITY TO AVOID DRAPING OF STRANDS

0.6"Φ STRANDS




## TYP. STRAND PATTERN




## SLAB HAUNCH DETAIL

IF 1¼" MINIMUM HAUNCH HEIGHT AT EDGE OF GIRDER CANNOT BE MAINTAINED, THE GRADE LINE MAY BE REVISED BY THE ENGINEER AT THE OPTION OF THE CONTRACTOR. THE PLAN SLAB THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN ½" OR,

** IF 3" MINIMUM DECK EMBEDMENT OF TIE BAR CANNOT BE OBTAINED.

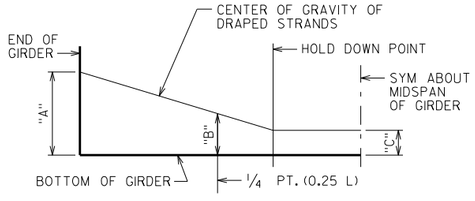
TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

TOP OF DECK ELEV. AT FINAL GRADE
- TOP OF GIRDER ELEVATION
+ DEAD LOAD DEFLECTION
- SLAB THICKNESS
= HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 3" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

## ARRANGEMENT AT ℄ SPAN - FOR GIRDERS WITH DRAPED STRANDS

0.6"Φ STRANDS



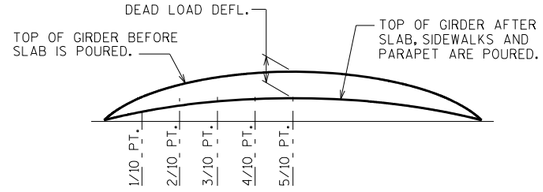

## DRAPED STRAND PROFILE

*THE THEORETICAL INITIAL CAMBER VALUE AT THE TIME OF STRAND RELEASE AT MIDSPAN MULTIPLIED BY A FACTOR OF 1.4 TO ACCOUNT FOR CAMBER GROWTH FROM THE TIME OF STRAND RELEASE TO JOBSITE PLACEMENT.

| SPAN | CAMBER (IN.)* |
|---|---|
| 1 | 3.02 |
| 2 | 3.02 |
| 3 | 3.02 |
| 4 | 3.02 |
| | |

**THESE VALUES ARE NOT TO BE USED IN DETERMINING 'T', USE ACTUAL GIRDER SHOTS.**

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.




## DEAD LOAD DEFLECTION DIAGRAM

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-239

DRAWN BY TAB | PLANS CK'D. BLB

36W" PRESTRESSED GIRDER DETAILS 2

SHEET 12

54

TUE APR 29 14:12:22 2014 C:36W

SCALE = 1.0

8

8

| STATE PROJECT NUMBER |
|---|
| 5730-01-81 |

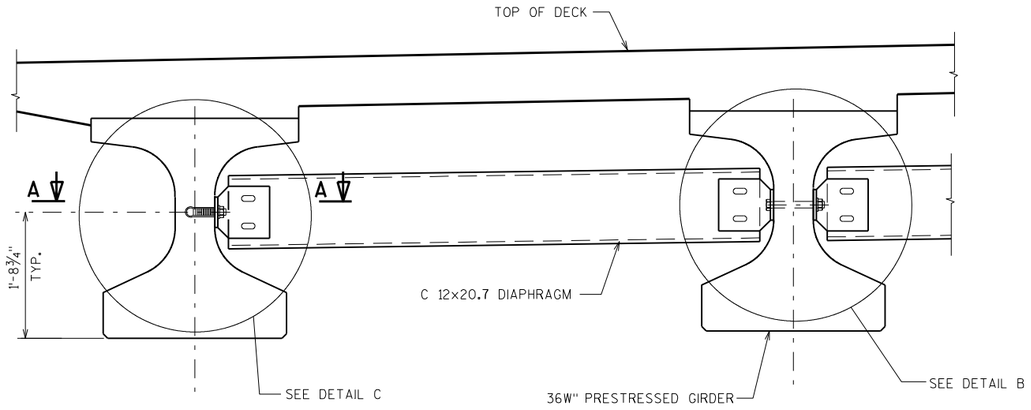
## NOTES

ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-62-239", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36. ALL BOLTS, NUTS AND WASHERS SHALL BE ASTM A325 TYPE 1.

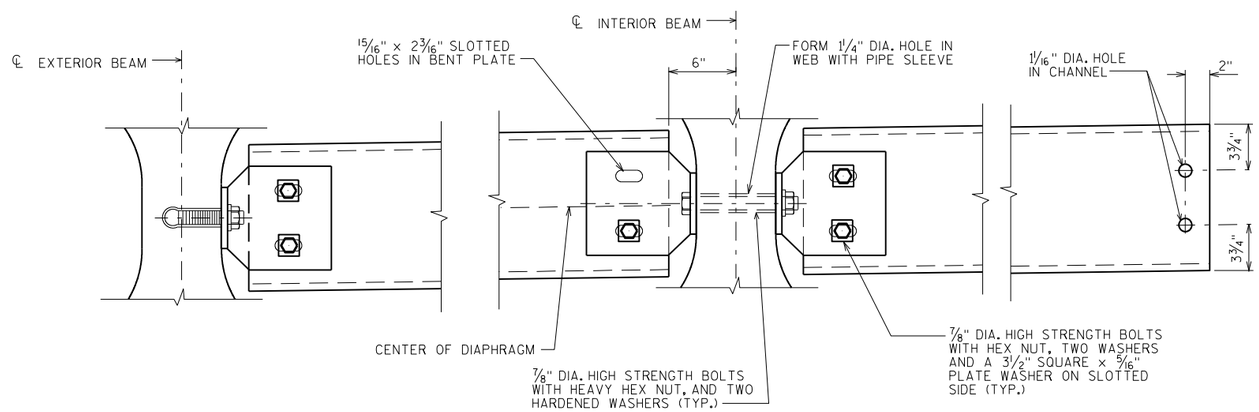
ALL DIAPHRAGM STRUCTURAL STEEL SHOWN SHALL BE HOT-DIPPED GALVANIZED. ALL BOLTS, NUTS AND WASHERS SHALL BE HOT-DIPPED GALVANIZED IN ACCORDANCE WITH ASTM A153 CLASS C. GALVANIZED NUTS SHALL BE TAPPED OVERSIZE IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A563 AND SHALL MEET THE REQUIREMENTS OF SUPPLEMENTARY REQUIREMENT S1 OF ASTM A563, LUBRICANT AND TEST FOR COATED NUTS.




EXTERIOR GIRDER

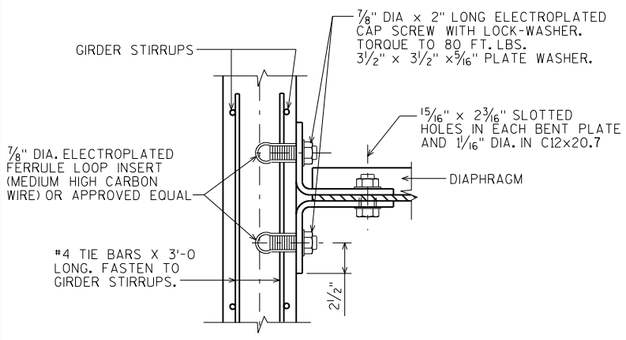
INTERIOR GIRDER

## PART TRANSVERSE SECTION AT DIAPHRAGM

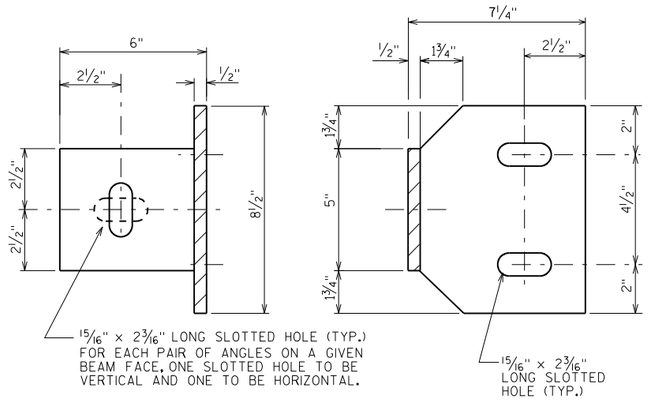



DETAIL C

DETAIL B



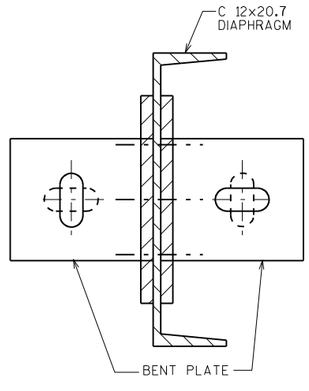

SECTION A-A
(FOR EXTERIOR ATTACHMENT)




BEAM FACE




DIAPHRAGM FACE




ATTACHMENT TO CHANNEL

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-239

| DRAWN BY | TAB | PLANS CK'D. | BLB |
|---|---|---|---|

STEEL DIAPHRAGMS

SHEET 13

55

SCALE = 1.0

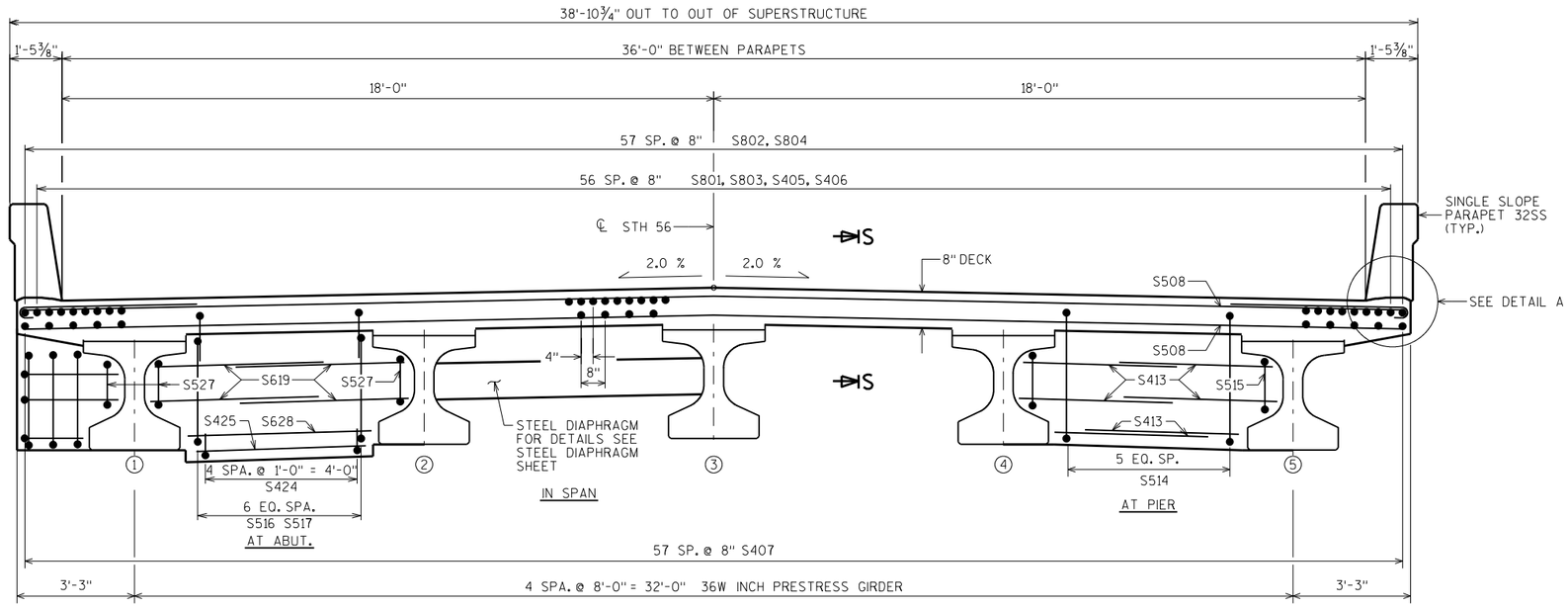
GSTDIA36W
1-13

8

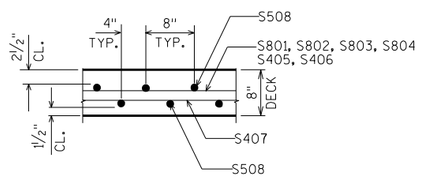
8

CALE = 5F *

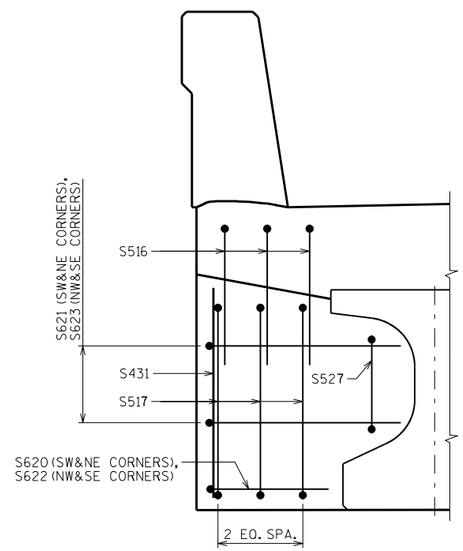
| STATE PROJECT NUMBER |
|---|
| 5730-01-81 |



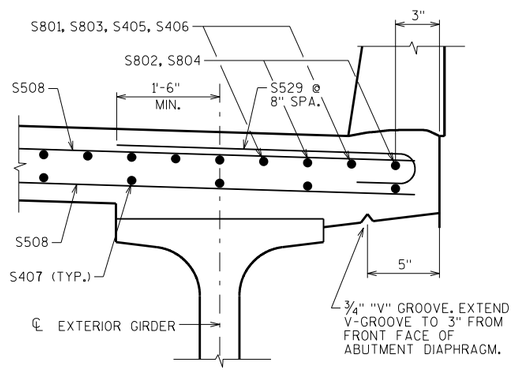

## CROSS SECTION THRU ROADWAY
(LOOKING EAST)



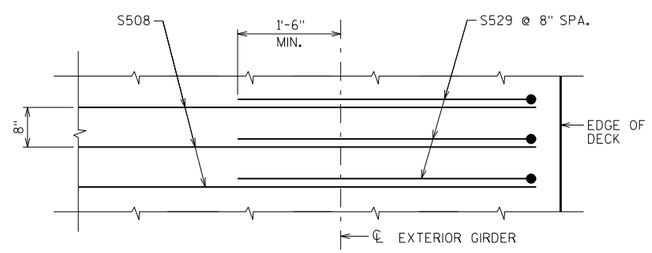

## SECTION S-S




## ABUT. DIAPH. END DETAILS




## SECTION




## PLAN

## DETAIL A

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-239

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SUPERSTRUCTURE CROSS SECTION

SHEET 14

56

8

8

SCALE = 2.0

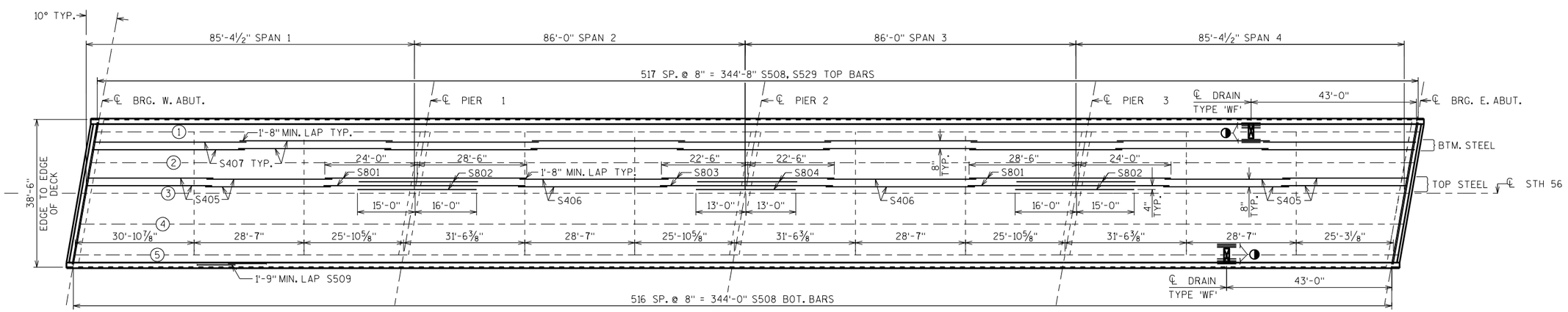
STATE PROJECT NUMBER

5730-01-81

## TOP OF DECK ELEVATIONS

| | W. ABUT. | 1/10 | 2/10 | 3/10 | 4/10 | 5/10 | 6/10 | 7/10 | 8/10 | 9/10 | PIER 1 | 1/10 | 2/10 | 3/10 | 4/10 | 5/10 | 6/10 | 7/10 | 8/10 | 9/10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EOD | 672.18 | 672.04 | 671.90 | 671.76 | 671.62 | 671.48 | 671.34 | 671.20 | 671.06 | 670.92 | 670.78 | 670.63 | 670.49 | 670.35 | 670.21 | 670.07 | 669.92 | 669.78 | 669.64 | 669.50 |
| GIR. 1 | 672.23 | 672.09 | 671.95 | 671.81 | 671.67 | 671.53 | 671.39 | 671.25 | 671.11 | 670.97 | 670.82 | 670.68 | 670.54 | 670.40 | 670.26 | 670.12 | 669.97 | 669.83 | 669.69 | 669.55 |
| GIR. 2 | 672.42 | 672.28 | 672.13 | 671.99 | 671.85 | 671.71 | 671.57 | 671.43 | 671.29 | 671.15 | 671.01 | 670.87 | 670.72 | 670.58 | 670.44 | 670.30 | 670.16 | 670.01 | 669.87 | 669.73 |
| GIR. 3 | 672.60 | 672.46 | 672.32 | 672.18 | 672.04 | 671.90 | 671.75 | 671.61 | 671.47 | 671.33 | 671.19 | 671.05 | 670.91 | 670.77 | 670.62 | 670.48 | 670.34 | 670.20 | 670.06 | 669.91 |
| GIR. 4 | 672.46 | 672.32 | 672.18 | 672.04 | 671.90 | 671.76 | 671.62 | 671.48 | 671.34 | 671.20 | 671.05 | 670.91 | 670.77 | 670.63 | 670.49 | 670.35 | 670.20 | 670.06 | 669.92 | 669.78 |
| GIR. 5 | 672.33 | 672.19 | 672.04 | 671.90 | 671.76 | 671.62 | 671.48 | 671.34 | 671.20 | 671.06 | 670.92 | 670.78 | 670.63 | 670.49 | 670.35 | 670.21 | 670.07 | 669.92 | 669.78 | 669.64 |
| EOD | 672.30 | 672.15 | 672.01 | 671.87 | 671.73 | 671.59 | 671.45 | 671.31 | 671.17 | 671.03 | 670.89 | 670.75 | 670.60 | 670.46 | 670.32 | 670.18 | 670.04 | 669.89 | 669.75 | 669.61 |

| | PIER 2 | 1/10 | 2/10 | 3/10 | 4/10 | 5/10 | 6/10 | 7/10 | 8/10 | 9/10 | PIER 3 | 1/10 | 2/10 | 3/10 | 4/10 | 5/10 | 6/10 | 7/10 | 8/10 | 9/10 | E. ABUT. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EOD | 669.36 | 669.21 | 669.07 | 668.93 | 668.79 | 668.65 | 668.50 | 668.36 | 668.22 | 668.08 | 667.94 | 667.80 | 667.66 | 667.51 | 667.37 | 667.23 | 667.09 | 666.95 | 666.81 | 666.67 | 666.53 |
| GIR. 1 | 669.41 | 669.26 | 669.12 | 668.98 | 668.84 | 668.70 | 668.55 | 668.41 | 668.27 | 668.13 | 667.99 | 667.85 | 667.70 | 667.56 | 667.42 | 667.28 | 667.14 | 667.00 | 666.86 | 666.72 | 666.58 |
| GIR. 2 | 669.59 | 669.45 | 669.31 | 669.16 | 669.02 | 668.88 | 668.74 | 668.60 | 668.45 | 668.31 | 668.17 | 668.03 | 667.89 | 667.75 | 667.61 | 667.47 | 667.32 | 667.18 | 667.04 | 666.90 | 666.76 |
| GIR. 3 | 669.77 | 669.63 | 669.49 | 669.35 | 669.20 | 669.06 | 668.92 | 668.78 | 668.64 | 668.50 | 668.35 | 668.21 | 668.07 | 667.93 | 667.79 | 667.65 | 667.51 | 667.37 | 667.23 | 667.09 | 666.94 |
| GIR. 4 | 669.64 | 669.49 | 669.35 | 669.21 | 669.07 | 668.93 | 668.78 | 668.64 | 668.50 | 668.36 | 668.22 | 668.08 | 667.93 | 667.79 | 667.65 | 667.51 | 667.37 | 667.23 | 667.09 | 666.95 | 666.81 |
| GIR. 5 | 669.50 | 669.36 | 669.21 | 669.07 | 668.93 | 668.79 | 668.65 | 668.51 | 668.36 | 668.22 | 668.08 | 667.94 | 667.80 | 667.66 | 667.52 | 667.38 | 667.23 | 667.09 | 666.95 | 666.81 | 666.67 |
| EOD | 669.47 | 669.33 | 669.18 | 669.04 | 668.90 | 668.76 | 668.62 | 668.47 | 668.33 | 668.19 | 668.05 | 667.91 | 667.77 | 667.63 | 667.49 | 667.34 | 667.20 | 667.06 | 666.92 | 666.78 | 666.64 |




PLAN

◑ S530 FOR DETAILS SEE FLOOR DRAIN TYPE "WF" SHEET.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-239

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SUPERSTRUCTURE

SHEET 15

57

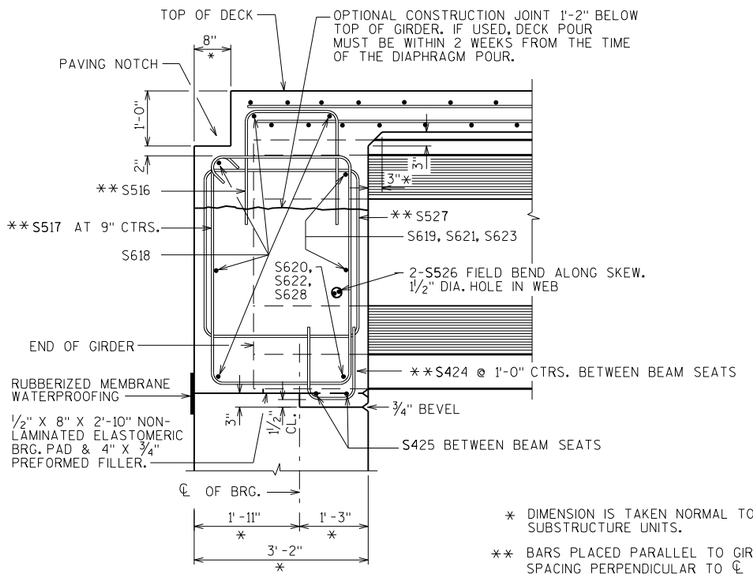
SCALE = 14

8

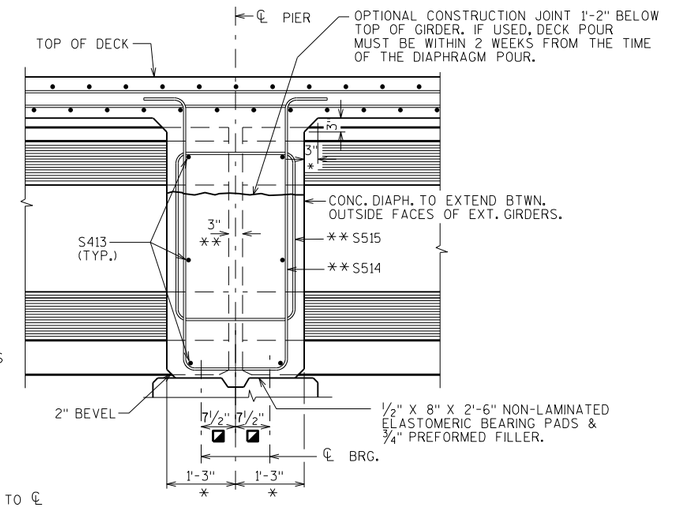
8

STATE PROJECT NUMBER

5730-01-81




AT ABUTMENTS



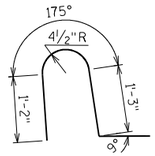

AT PIER DIAPHRAGM

* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

** BARS PLACED PARALLEL TO GIRDERS SPACING PERPENDICULAR TO ℄ GIRDERS

◪ DIMENSION IS TAKEN PARALLEL TO ℄ GIRDER.

## PART LONGIT. SECTION

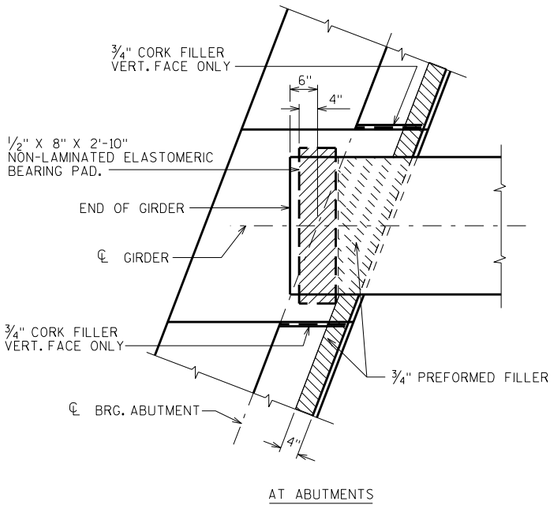



S510

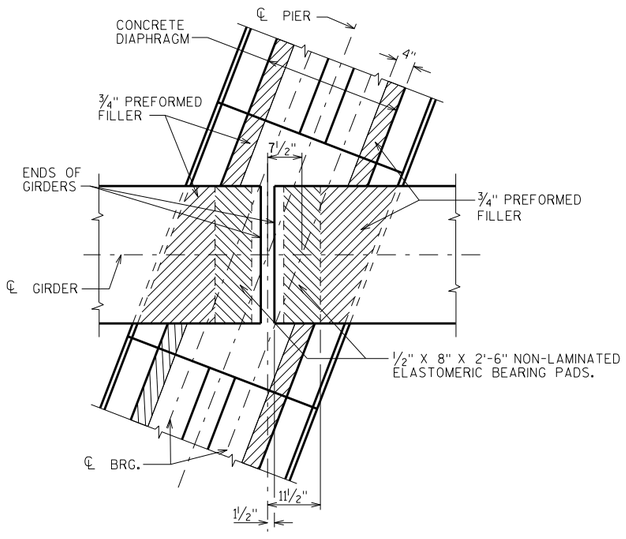
## BILL OF BARS

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

| BAR MARK | COAT | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| S801 | X | 114 | 52'-6" | | | LONGITUDINAL - CONTINUITY - PIERS 1&3 |
| S802 | X | 116 | 31'-0" | | | LONGITUDINAL - CONTINUITY - PIERS 1&3 |
| S803 | X | 57 | 45'-0" | | | LONGITUDINAL - CONTINUITY - PIER 2 |
| S804 | X | 58 | 26'-0" | | | LONGITUDINAL - CONTINUITY - PIER 2 |
| S405 | X | 228 | 33'-0" | | | LONGITUDINAL - TOP - SPANS 1&4 |
| S406 | X | 114 | 38'-10" | | | LONGITUDINAL - TOP - SPANS 2&3 |
| S407 | X | 522 | 40'-0" | | | LONGITUDINAL - BOTTOM |
| S508 | X | 1035 | 38'-9" | | | TRANSVERSE - TOP AND BOTTOM |
| S509 | X | 108 | 40'-1" | | | PARAPET - HORIZ. |
| S510 | X | 1036 | 4'-5" | X | | PARAPET - VERT. |
| S511 | X | 4 | 5'-10" | X | | PARAPET - VERT. AT PAVING NOTCH |
| S512 | X | 1040 | 5'-0" | X | | PARAPET - VERT. |
| S413 | X | 144 | 4'-3" | | | PIER DIAPH. - HORIZ. |
| S514 | X | 72 | 10'-0" | X | | PIER DIAPH. - VERT. |
| S515 | X | 24 | 7'-9" | X | | PIER DIAPH. - STIRRUPS AT GIRDERS |
| S516 | X | 68 | 5'-9" | X | | ABUT. DIAPH. - VERT. |
| S517 | X | 68 | 11'-9" | X | | ABUT. DIAPH. - STIRRUPS |
| S618 | X | 10 | 38'-9" | | | ABUT. DIAPH. - HORIZ. - B.F. |
| S619 | X | 32 | 4'-10" | | | ABUT. DIAPH. - HORIZ. - BTWN. GIRDERS |
| S620 | X | 2 | 5'-7" | X | | ABUT. DIAPH. - HORIZ. - SW & NE CORNERS |
| S621 | X | 4 | 7'-7" | X | | ABUT. DIAPH. - HORIZ. - SW & NE CORNERS |
| S622 | X | 2 | 6'-0" | X | | ABUT. DIAPH. - HORIZ. - NW & SE CORNERS |
| S623 | X | 4 | 8'-0" | X | | ABUT. DIAPH. - HORIZ. - NW & SE CORNERS |
| S424 | X | 40 | 3'-3" | X | | ABUT. DIAPH. - VERT. - BTWN. BEAM SEATS |
| S425 | X | 16 | 4'-2" | | | ABUT. DIAPH. - HORIZ. - BTWN. BEAM SEATS |
| S526 | X | 20 | 6'-0" | | | ABUT. DIAPH. - HORIZ. - THRU GIRDERS |
| S527 | X | 20 | 9'-1" | X | | ABUT. DIAPH. - STIRRUPS AT GIRDERS |
| S628 | X | 8 | 5'-1" | | | ABUT. DIAPH. - HORIZ. - BTWN. GIRDERS |
| S529 | X | 1036 | 5'-4" | X | | TRANSVERSE - TOP - EDGE OF DECK |
| S530 | X | 14 | 5'-0" | | | LONGITUDINAL AT FLOOR DRAINS |
| S431 | X | 8 | 2'-8" | | | ABUT. DIAPH. - VERT. - ENDS |

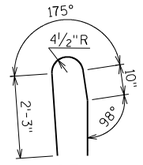



AT ABUTMENTS

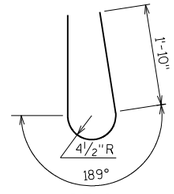



AT PIERS

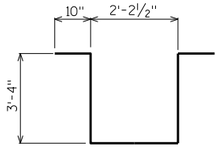
## BEARING PAD DETAIL



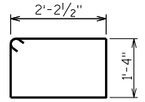

S511



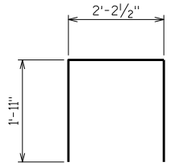

S512



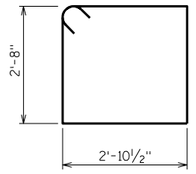

S514



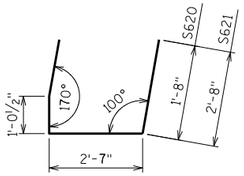

S515



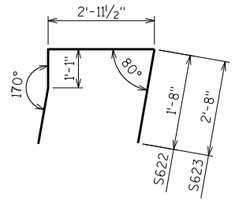

S516



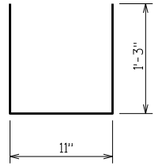

S517



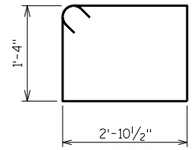

S620, S621



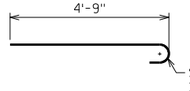

S622, S623




S424




S527




S529

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-239

DRAWN BY TAB | PLANS CK'D. BLB

SUPERSTRUCTURE DETAILS

SHEET 16

58

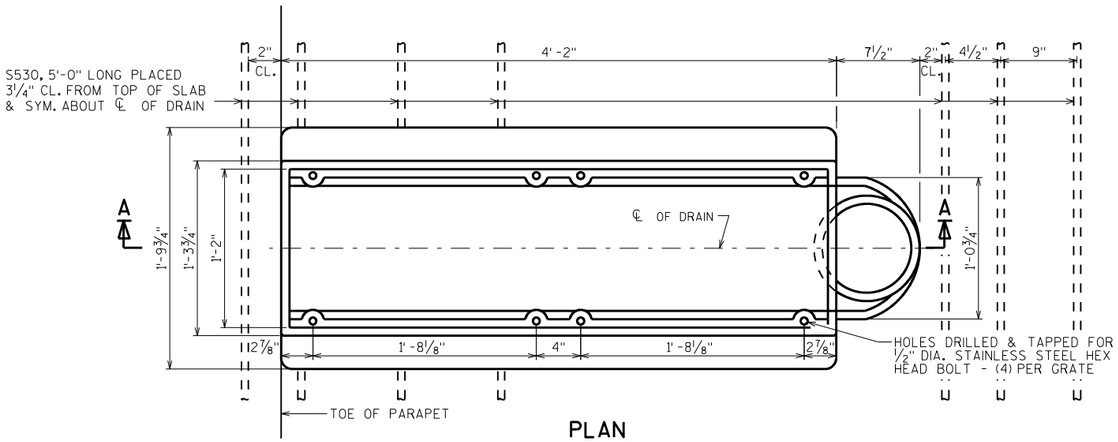
SCALE = 1.3333

8

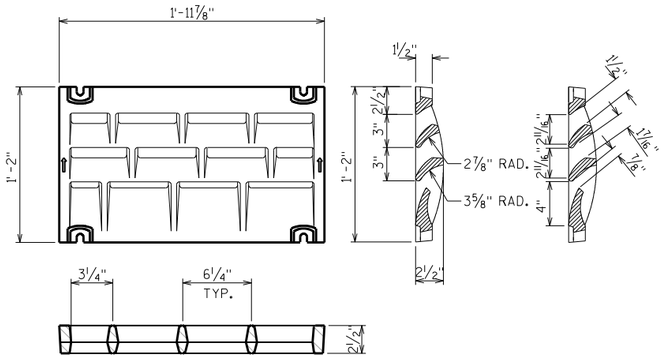
8

STATE PROJECT NUMBER

5730-01-81




PLAN




GRATE CASTING DETAILS

ATTACH GRATES TO FRAME FOR SHIPMENT

## GENERAL NOTES

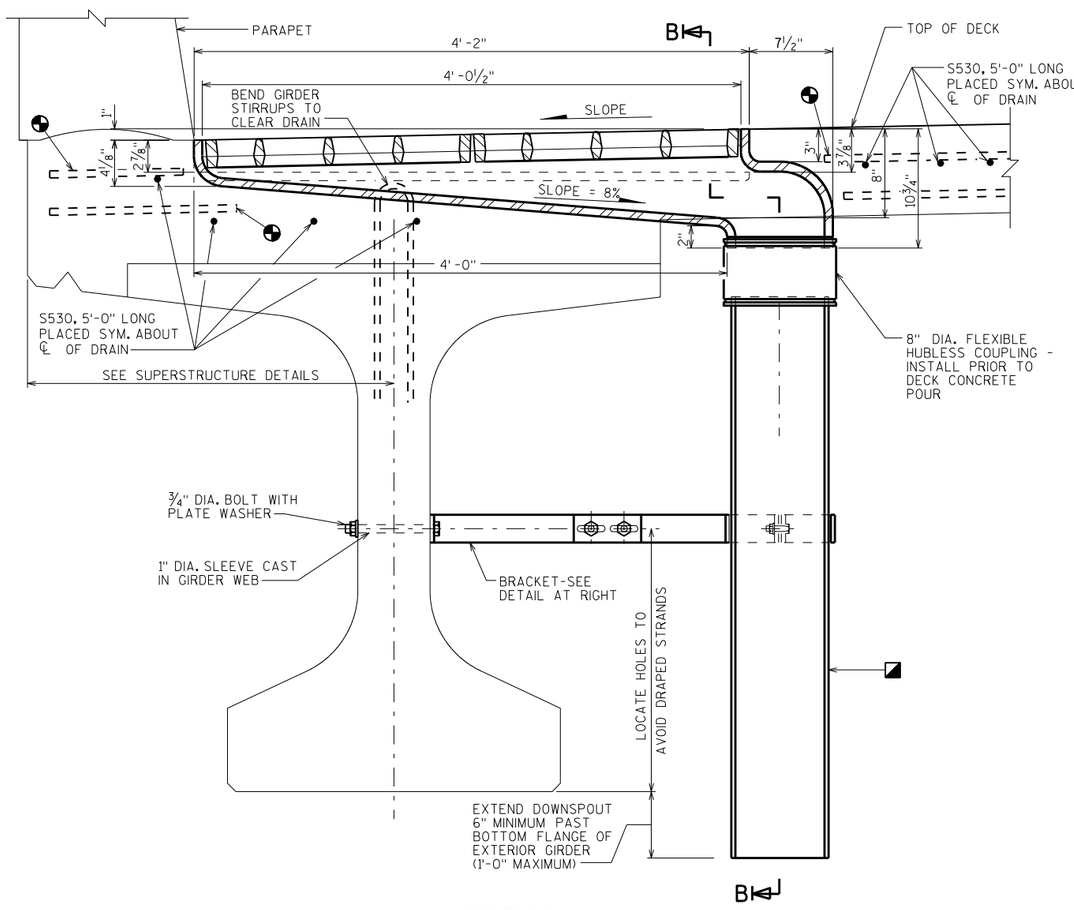
ALL MATERIAL FOR TYPE "WF" CASTING AND 8" DIA. CONNECTION PIPE, EXCLUDING GRATE HOLD DOWN SCREWS, SHALL BE GRAY IRON CONFORMING TO ASTM A48, CLASS 30.

MATERIAL FOR BRACKETS SHALL CONFORM TO ASTM A36.

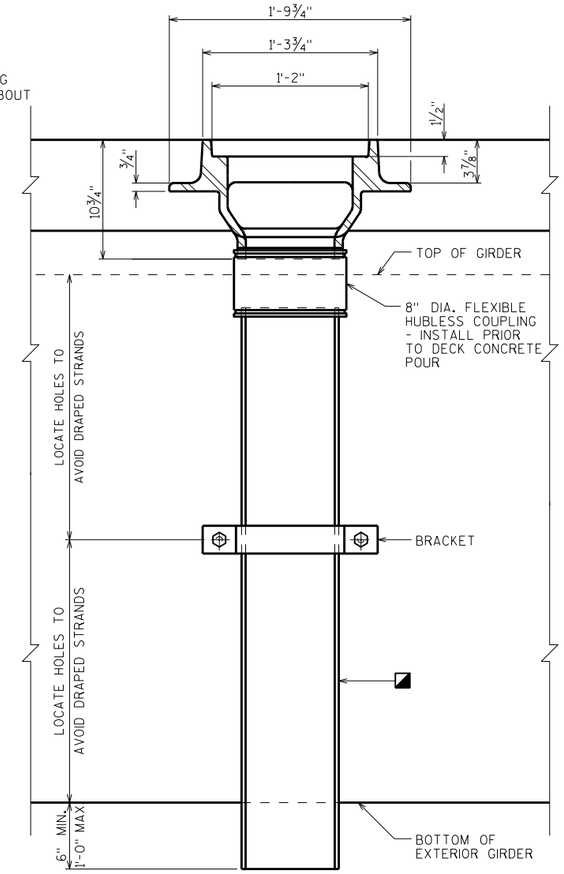
THE CONTRACTOR MAY PROPOSE AN ALTERNATE TYPE OF BRACKET. THE PROPOSED ALTERNATE DETAILS SHALL BE SUBMITTED AND SUBJECT TO THE APPROVAL OF THE ENGINEER.

◪ 8" DIA. DOWNSPOUTS SHALL BE REINFORCED THERMOSETTING RESIN PIPE CONFORMING TO SECTION 514 OF THE STANDARD SPECIFICATIONS.

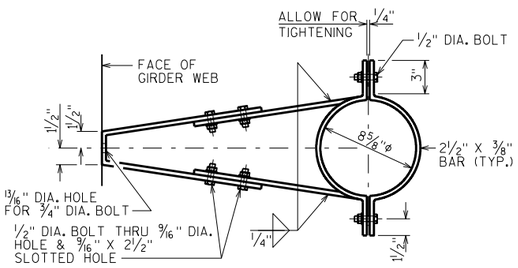
⊕ TRANSVERSE & LONGITUDINAL SLAB BAR REINFORCEMENT TO BE CUT A MAXIMUM OF 1" CLEAR FROM DRAIN FRAME. DISPLACE BARS WHERE POSSIBLE.




SECTION A-A




SECTION B-B




BRACKET DETAIL

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-239

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FLOOR DRAIN TYPE "WF"

SHEET 17

59

DRAINWF
1-14

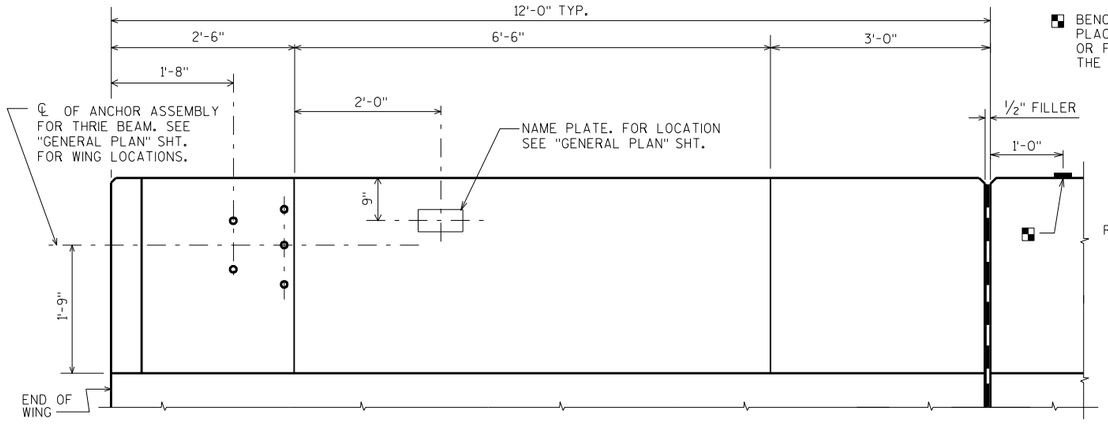
SCALE = 0.55

8

8

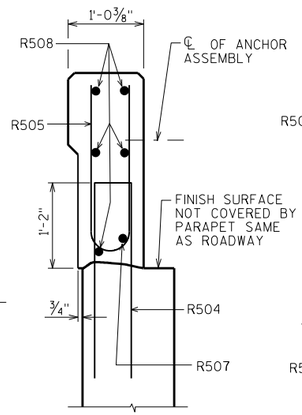
STATE PROJECT NUMBER

5730-01-81

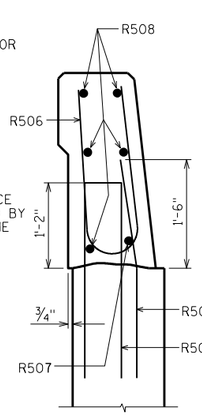



INSIDE ELEVATION

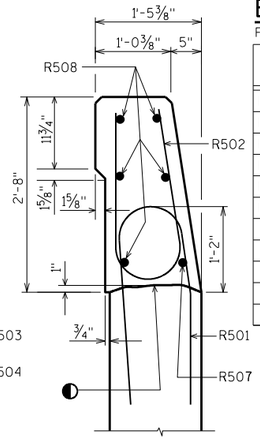
BENCH MARK CAP (WHEN SUPPLIED). AVOID PLACING A BENCH MARK CAP BELOW A RAIL OR FENCE SYSTEM THAT IS ATTACHED TO THE TOP OF THE PARAPET.




SECTION A




SECTION B

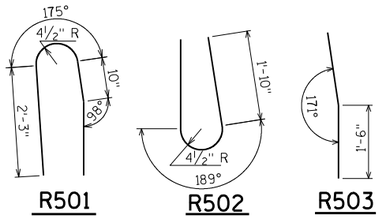


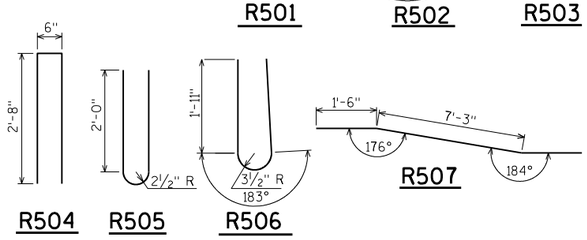

SECTION C

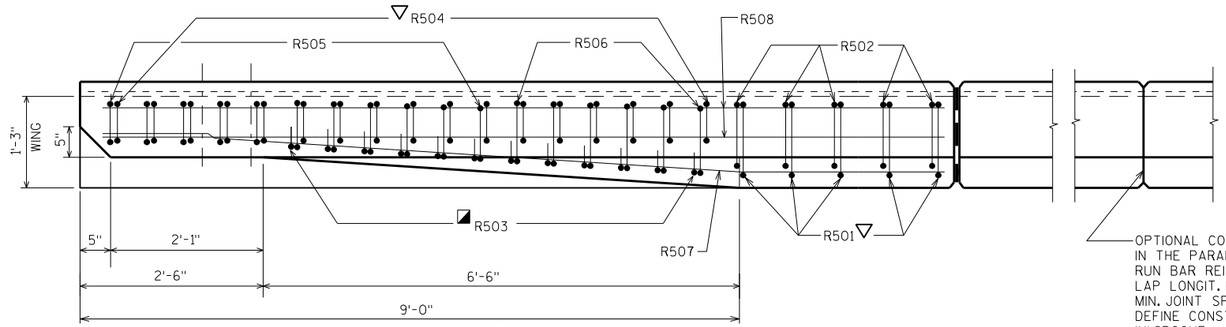
## BILL OF BARS

FOR ABUTMENT PARAPETS

| BAR MARK | COAT | W. ABUT. | E. ABUT. | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|---|
| R501 | X | 10 | 10 | 5-10 | X | | PARAPET VERT. |
| R502 | X | 10 | 10 | 5-0 | X | | PARAPET VERT. |
| R503 | X | 24 | 24 | 3-0 | X | | PARAPET VERT. |
| R504 | X | 34 | 34 | 5-7 | X | | PARAPET VERT. |
| R505 | X | 22 | 22 | 4-9 | X | | PARAPET VERT. |
| R506 | X | 12 | 12 | 4-10 | X | | PARAPET VERT. |
| R507 | X | 2 | 2 | 11'-7" | X | | PARAPET HORIZ. |
| R508 | X | 10 | 10 | 11'-7" | | | PARAPET HORIZ. |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

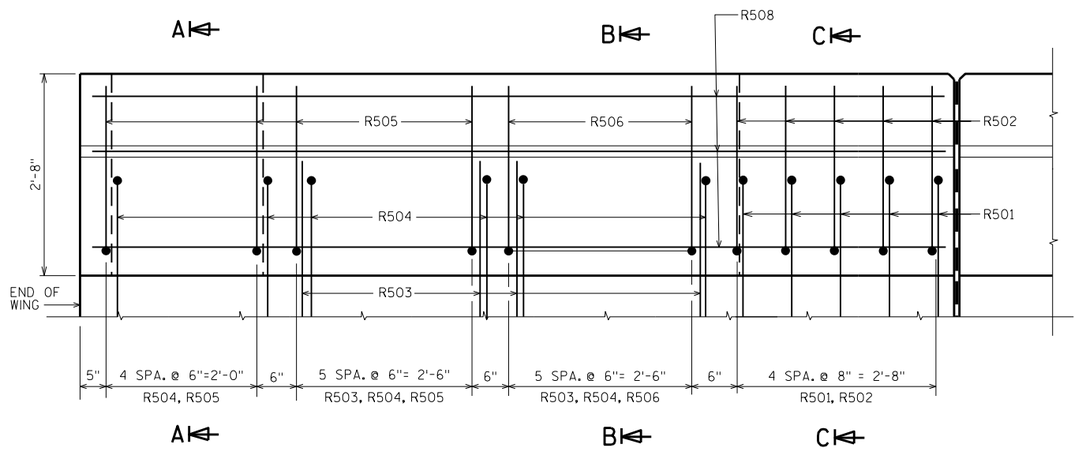


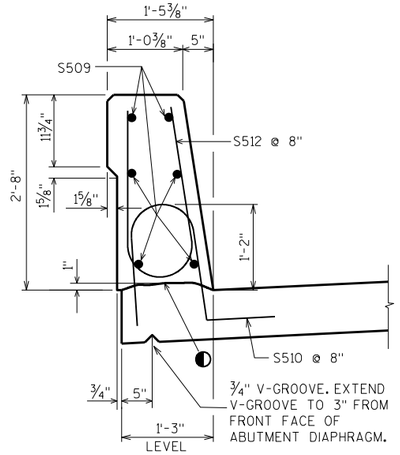




PLAN

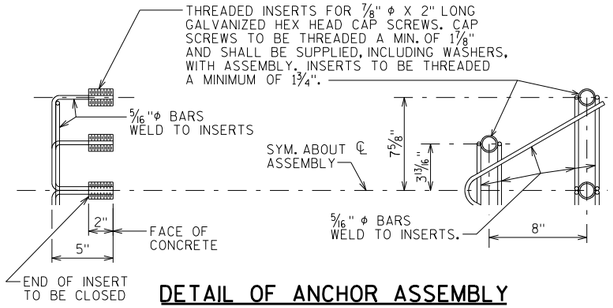
OPTIONAL CONSTRUCTION JOINTS IN THE PARAPETS MAY BE USED. RUN BAR REINF. THRU THE JOINT. LAP LONGIT. BARS A MIN. OF 1'-9". MIN. JOINT SPACING OF 80'-0". DEFINE CONST. JOINT WITH A ¾" - 'V' GROOVE.




OUTSIDE ELEVATION




SECTION THRU PARAPET ON BRIDGE




## DETAIL OF ANCHOR ASSEMBLY

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

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

◐ CONST. JOINT - STRIKE OFF AS SHOWN.

◪ R503 BARS MAY BE PLACED AFTER CONCRETE IS POURED BUT BEFORE INITIAL SET HAS TAKEN PLACE. USE CARE TO PLACE R503 BARS CORRECTLY ALONG TRANSITION OF PARAPET.

▽ R501 AND R504 BARS TO BE TIED TO WING STEEL BEFORE WING IS POURED.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-239

DRAWN BY TAB | PLANS CK'D. BLB

SINGLE SLOPE PARAPET 32SS

SHEET 18

60

SCALE = 1

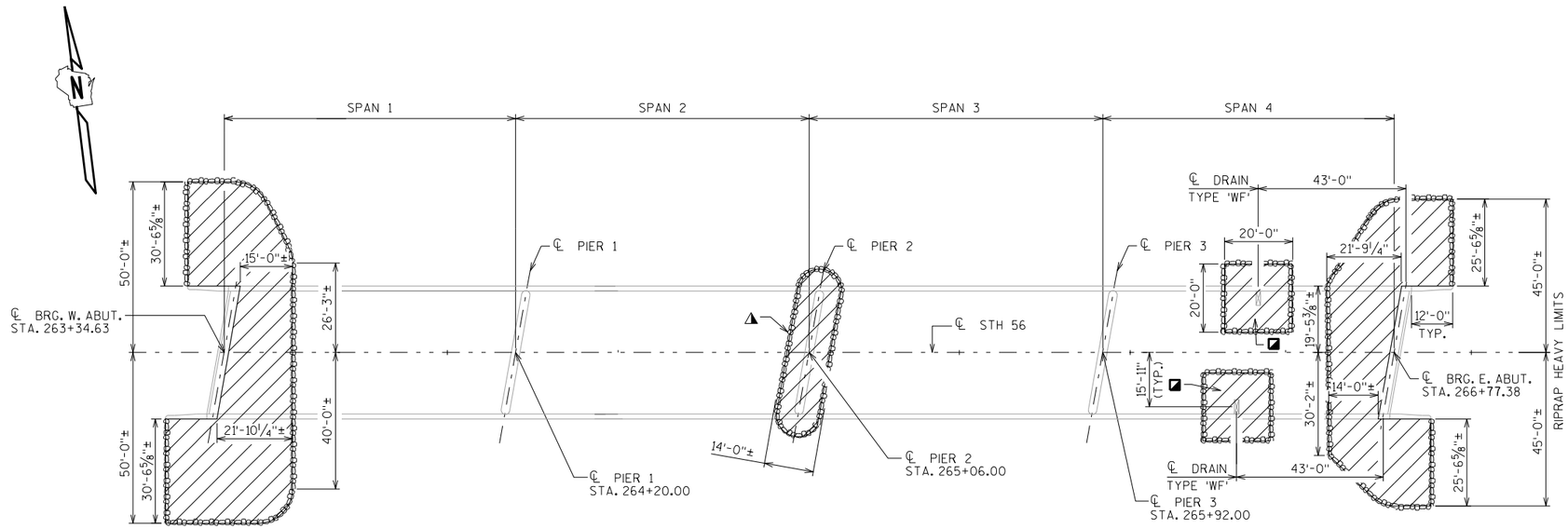
32SSWIN
1-14

8

12 7 1 2 3 4

STATE PROJECT NUMBER

5730-01-81




## HEAVY RIPRAP LAYOUT PLAN

◭ HEAVY RIPRAP PAD WITH GEOTEXTILE FABRIC, TYPE HR. 7'± IN ALL DIRECTIONS FROM ℄ PIER 2.

◪ 20'X 20'X 2'HEAVY RIPRAP PAD WITH GEOTEXTILE FABRIC, TYPE HR. CENTERED BELOW DRAIN TYPE 'WF'(TYP.)

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
STRUCTURES DESIGN SECTION

STRUCTURE B-62-239

DRAWN BY TAB | PLANS CK'D. BLB

HEAVY RIPRAP LAYOUT PLAN

SHEET 19

61

FILE= 19-239HEAVYRIPRAP.DGN
SCALE = 20

8

8

WEST APPROACH

| STATION | Real Station | Distance | AREA (SF) Cut | AREA (SF) Fill | Incr. Vol (CY) (Unadj.) Cut Note 1 | Incr. Vol (CY) (Unadj.) Fill Note 3 | Cumulative Vol (CY) Cut 1.00 Note 1 | Cumulative Vol (CY) Expanded Fill 1.35 | Mass Ordinate Note 8 |
|---|---|---|---|---|---|---|---|---|---|
| 260+31.97 | 26031.97 | 0.00 | 50 | 0 | 0 | 0 | 0 | 0 | 0 |
| 260+50 | 26050.00 | 18.03 | 53 | 0 | 34 | 0 | 34 | 0 | 34 |
| 261+00 | 26100.00 | 50.00 | 44 | 0 | 91 | 0 | 125 | 1 | 124 |
| 261+50 | 26150.00 | 50.00 | 44 | 2 | 82 | 3 | 207 | 4 | 203 |
| 262+00 | 26200.00 | 50.00 | 36 | 8 | 74 | 10 | 281 | 17 | 264 |
| 262+15.4 | 26215.40 | 15.40 | 35 | 18 | 20 | 7 | 301 | 27 | 274 |
| 262+21.75 | 26221.75 | 6.35 | 39 | 26 | 9 | 5 | 310 | 34 | 276 |
| 262+40.4 | 26240.40 | 18.65 | 81 | 36 | 42 | 21 | 352 | 63 | 289 |
| 262+50 | 26250.00 | 9.60 | 81 | 33 | 29 | 12 | 380 | 79 | 301 |
| 262+71.8 | 26271.80 | 21.80 | 80 | 47 | 65 | 32 | 445 | 123 | 323 |
| 263+00 | 26300.00 | 28.20 | 79 | 178 | 83 | 117 | 529 | 281 | 247 |
| 263+29.5 | 26329.50 | 29.50 | 0 | 856 | 43 | 565 | 572 | 1043 | -472 |
| 263+37 | 26337.00 | 7.50 | 0 | 495 | 0 | 187 | 572 | 1296 | -725 |
| 263+55 | 26355.00 | 18.00 | 0 | 7 | 0 | 167 | 572 | 1522 | -951 |

EAST APPROACH

| STATION | Real Station | Distance | AREA (SF) Cut | AREA (SF) Fill | Incr. Vol (CY) (Unadj.) Cut Note 1 | Incr. Vol (CY) (Unadj.) Fill Note 3 | Cumulative Vol (CY) Cut 1.00 Note 1 | Cumulative Vol (CY) Expanded Fill 1.35 | Mass Ordinate Note 8 |
|---|---|---|---|---|---|---|---|---|---|
| 266+49 | 26649.00 | 0.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 266+82.5 | 26682.50 | 33.50 | 91 | 74 | 57 | 46 | 57 | 62 | -5 |
| 267+00 | 26700.00 | 17.50 | 84 | 26 | 57 | 33 | 114 | 106 | 8 |
| 267+50 | 26750.00 | 50.00 | 82 | 5 | 154 | 29 | 268 | 145 | 123 |
| 267+90.25 | 26790.25 | 40.25 | 31 | 16 | 84 | 16 | 352 | 166 | 185 |
| 267+96.6 | 26796.60 | 6.35 | 30 | 10 | 7 | 3 | 359 | 170 | 188 |
| 268+00 | 26800.00 | 3.40 | 30 | 9 | 4 | 1 | 363 | 172 | 191 |
| 268+50 | 26850.00 | 50.00 | 32 | 0 | 58 | 8 | 420 | 183 | 238 |
| 269+00 | 26900.00 | 50.00 | 35 | 0 | 62 | 0 | 482 | 183 | 300 |
| 269+23.68 | 26923.68 | 23.68 | 35 | 0 | 31 | 0 | 513 | 183 | 330 |
| 269+50 | 26950.00 | 26.32 | 36 | 0 | 35 | 0 | 548 | 183 | 365 |
| 269+80.05 | 26980.05 | 30.05 | 35 | 0 | 40 | 0 | 588 | 183 | 405 |

CHANNEL CHANGE

| STATION | Real Station | Distance | AREA (SF) Cut | AREA (SF) Fill | Incr. Vol (CY) (Unadj.) Cut Note 1 | Incr. Vol (CY) (Unadj.) Fill Note 3 | Cumulative Vol (CY) Cut 1.00 Note 1 | Cumulative Vol (CY) Expanded Fill 1.35 | Mass Ordinate Note 8 |
|---|---|---|---|---|---|---|---|---|---|
| 01+00 | 100.00 | 0.00 | 17 | 10 | 0 | 0 | 0 | 0 | 0 |
| 01+25 | 125.00 | 25.00 | 101 | 81 | 55 | 42 | 55 | 57 | -2 |
| 01+50 | 150.00 | 25.00 | 115 | 89 | 100 | 79 | 155 | 163 | -9 |
| 01+75 | 175.00 | 25.00 | 121 | 76 | 109 | 76 | 264 | 266 | -2 |
| 02+00 | 200.00 | 25.00 | 133 | 37 | 117 | 52 | 381 | 337 | 44 |
| 02+19.42 | 219.42 | 19.42 | 0 | 0 | 48 | 14 | 429 | 355 | 74 |

9

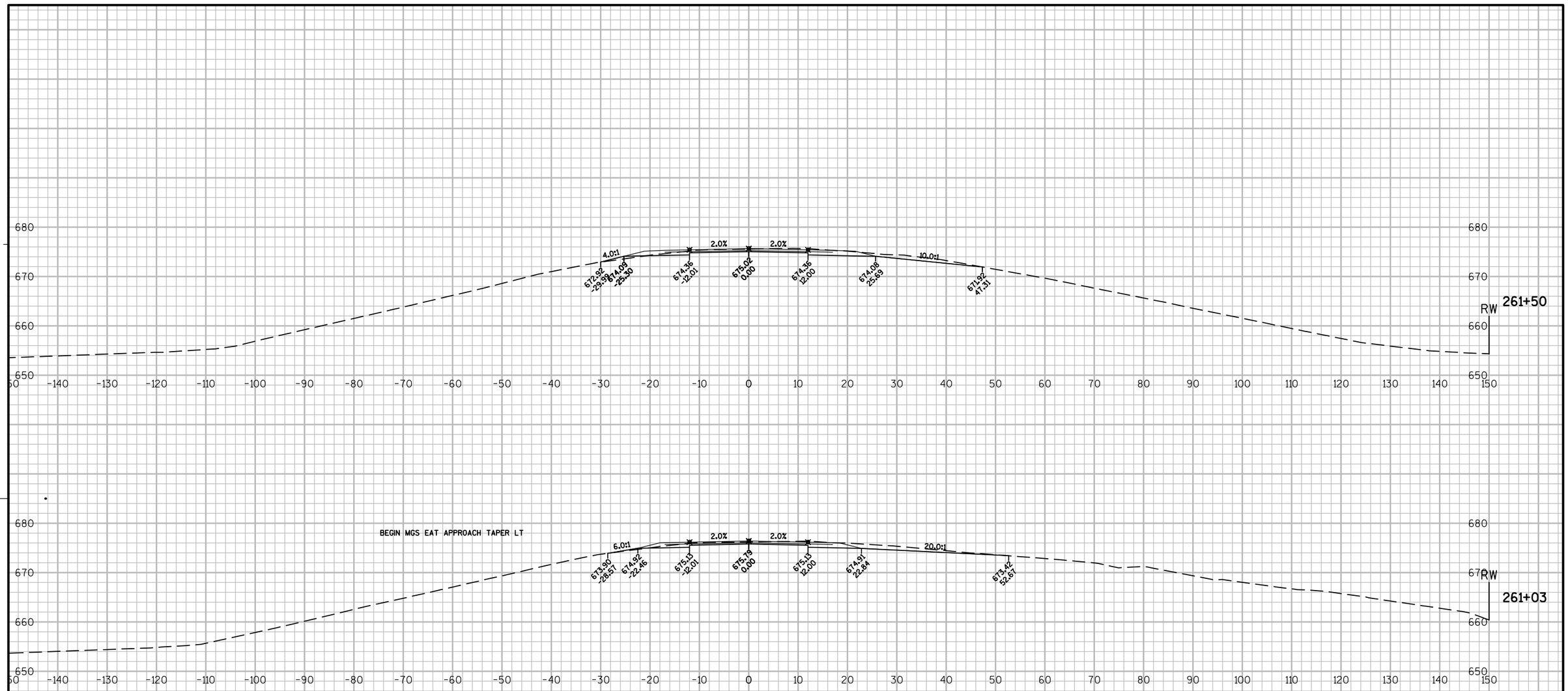
9

PROJECT NO: 5730-01-81 | HWY: STH 56 | COUNTY: VERNON | EARTHWORK SUMMARY | SHEET NO: 62 | E

FILE NAME : _____ PLOT DATE : _____ PLOT BY : _____ PLOT NAME : _____ ORG DATE : _____ ORIGINATOR : DIST _ PLOT SCALE : 1:1

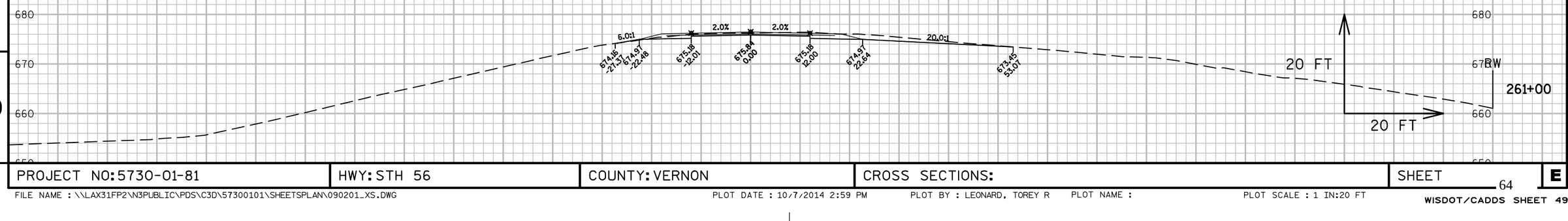
| PROJECT NO: 5730-01-81 | HWY: STH 56 | COUNTY: VERNON | CROSS SECTIONS: | SHEET | E |
|---|---|---|---|---|---|

FILE NAME : \\LAX31FP2\N3PUBLIC\PDS\C3D\57300101\SHEETSPLAN\090201_XS.DWG PLOT DATE : 10/7/2014 2:59 PM PLOT BY : LEONARD, TOREY R PLOT NAME : PLOT SCALE : 1 IN:20 FT







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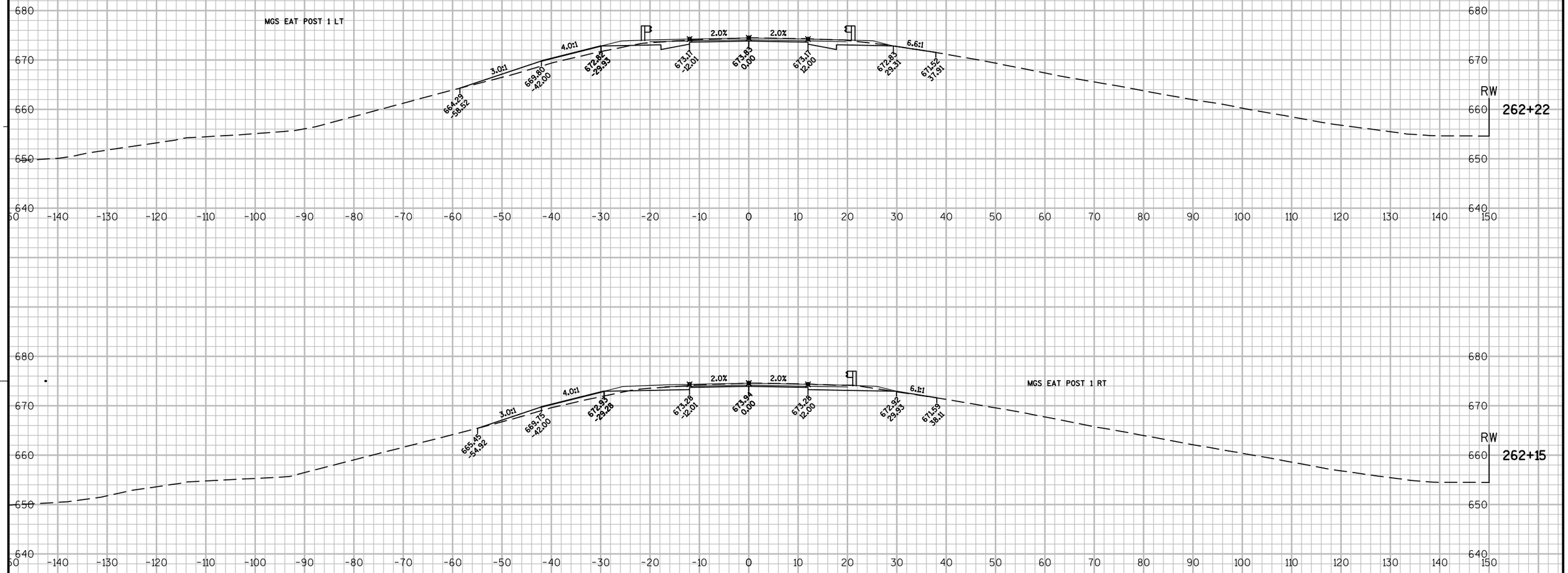
| PROJECT NO: 5730-01-81 | HWY: STH 56 | COUNTY: VERNON | CROSS SECTIONS: | SHEET | E |
|---|---|---|---|---|---|

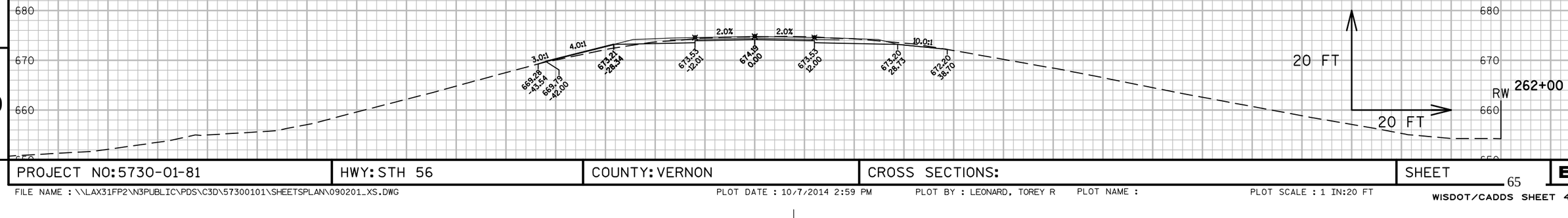


FILE NAME : \\LAX31FP2\N3PUBLIC\PDS\C3D\57300101\SHEETSPLAN\090201_XS.DWG PLOT DATE : 10/7/2014 2:59 PM PLOT BY : LEONARD, TOREY R PLOT NAME : PLOT SCALE : 1 IN:20 FT







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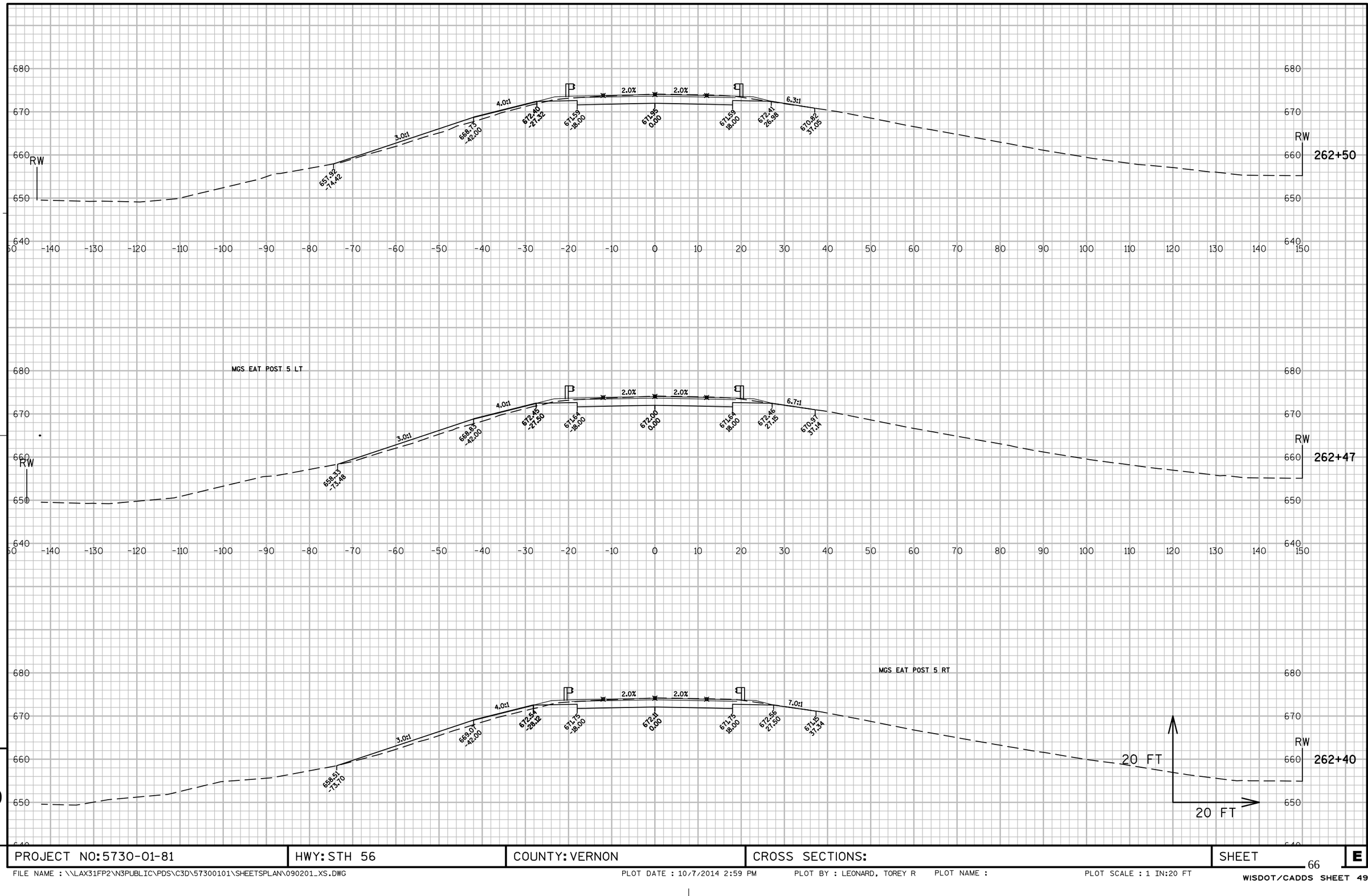
9

| PROJECT NO: 5730-01-81 | HWY: STH 56 | COUNTY: VERNON | CROSS SECTIONS: | SHEET | E |
|---|---|---|---|---|---|



FILE NAME : \\LAX31FP2\N3PUBLIC\PDS\C3D\57300101\SHEETSPLAN\090201_XS.DWG PLOT DATE : 10/7/2014 2:59 PM PLOT BY : LEONARD, TOREY R PLOT NAME : PLOT SCALE : 1 IN:20 FT
WISDOT/CADDS SHEET 49

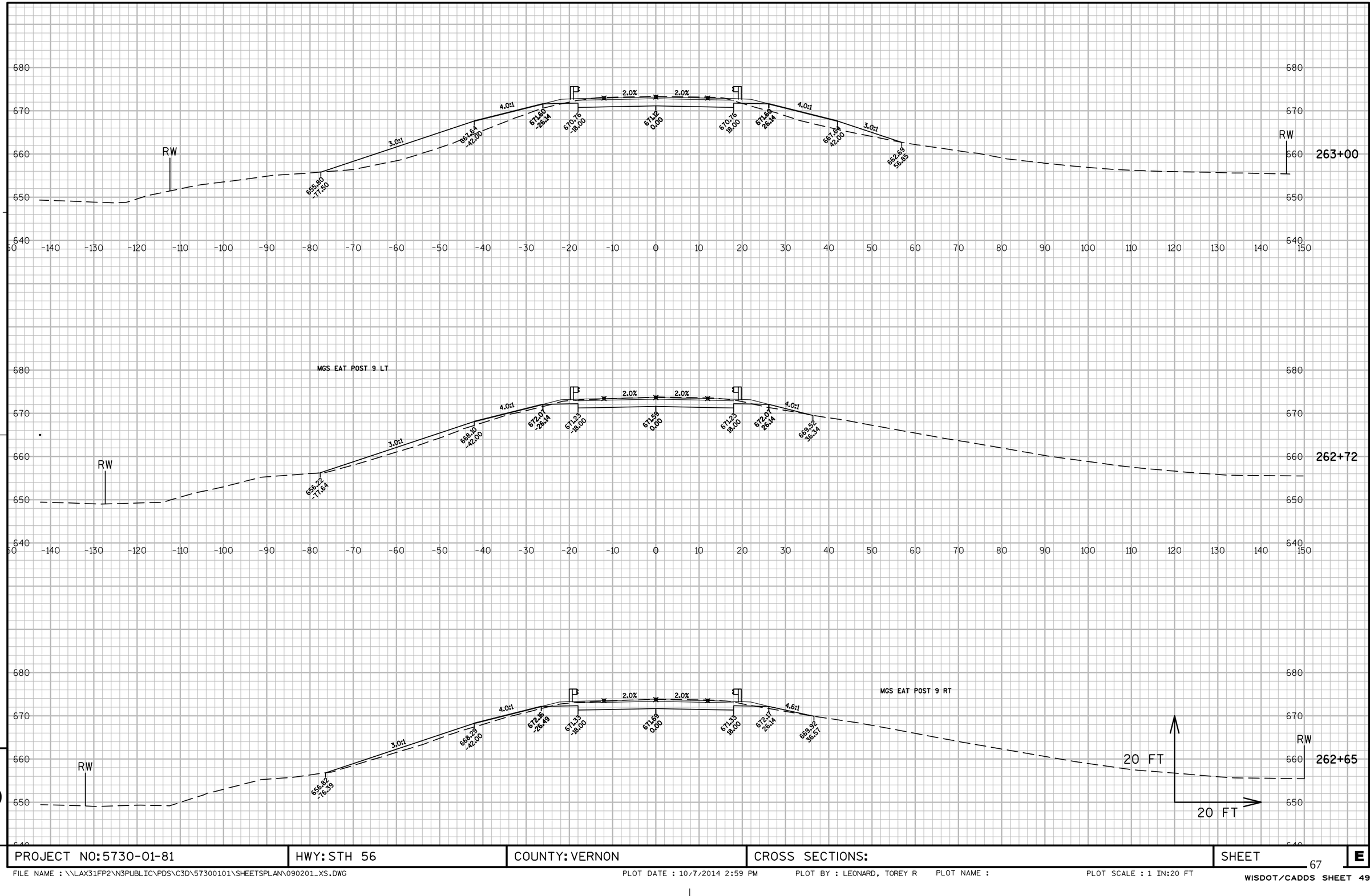



| PROJECT NO: 5730-01-81 | HWY: STH 56 | COUNTY: VERNON | CROSS SECTIONS: | SHEET | E |
|---|---|---|---|---|---|



FILE NAME : \\LAX31FP2\N3PUBLIC\PDS\C3D\57300101\SHEETSPLAN\090201_XS.DWG PLOT DATE : 10/7/2014 2:59 PM PLOT BY : LEONARD, TOREY R PLOT NAME : PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 49

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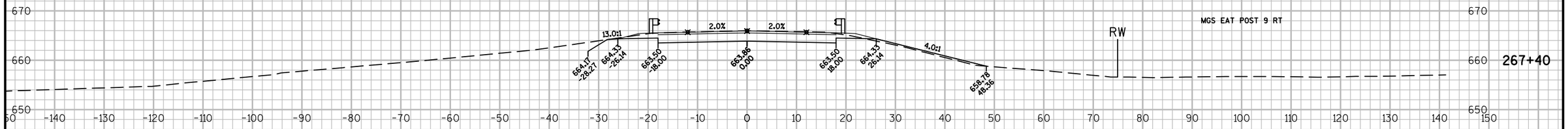
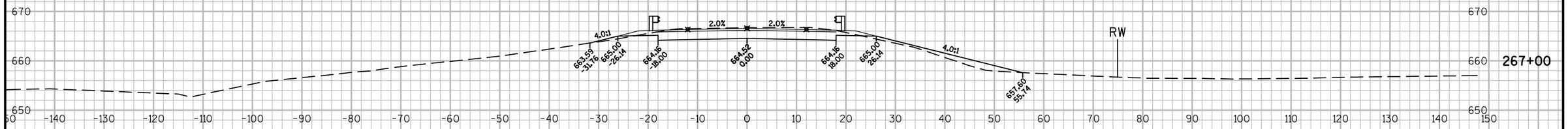
| PROJECT NO: 5730-01-81 | HWY: STH 56 | COUNTY: VERNON | CROSS SECTIONS: | SHEET | E |
|---|---|---|---|---|---|

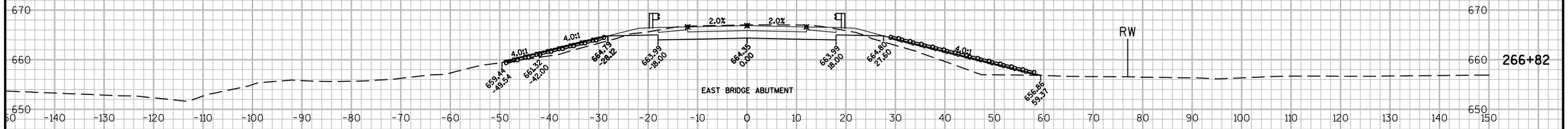


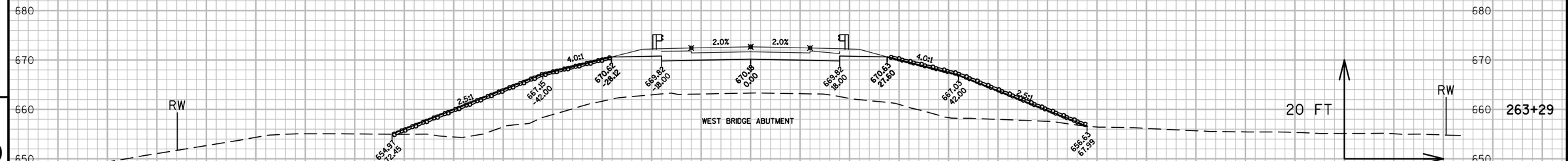
FILE NAME : \\LAX31FP2\N3PUBLIC\PDS\C3D\57300101\SHEETSPLAN\090201_XS.DWG PLOT DATE : 10/7/2014 2:59 PM PLOT BY : LEONARD, TOREY R PLOT NAME : PLOT SCALE : 1 IN:20 FT

MGS EAT POST 9 RT

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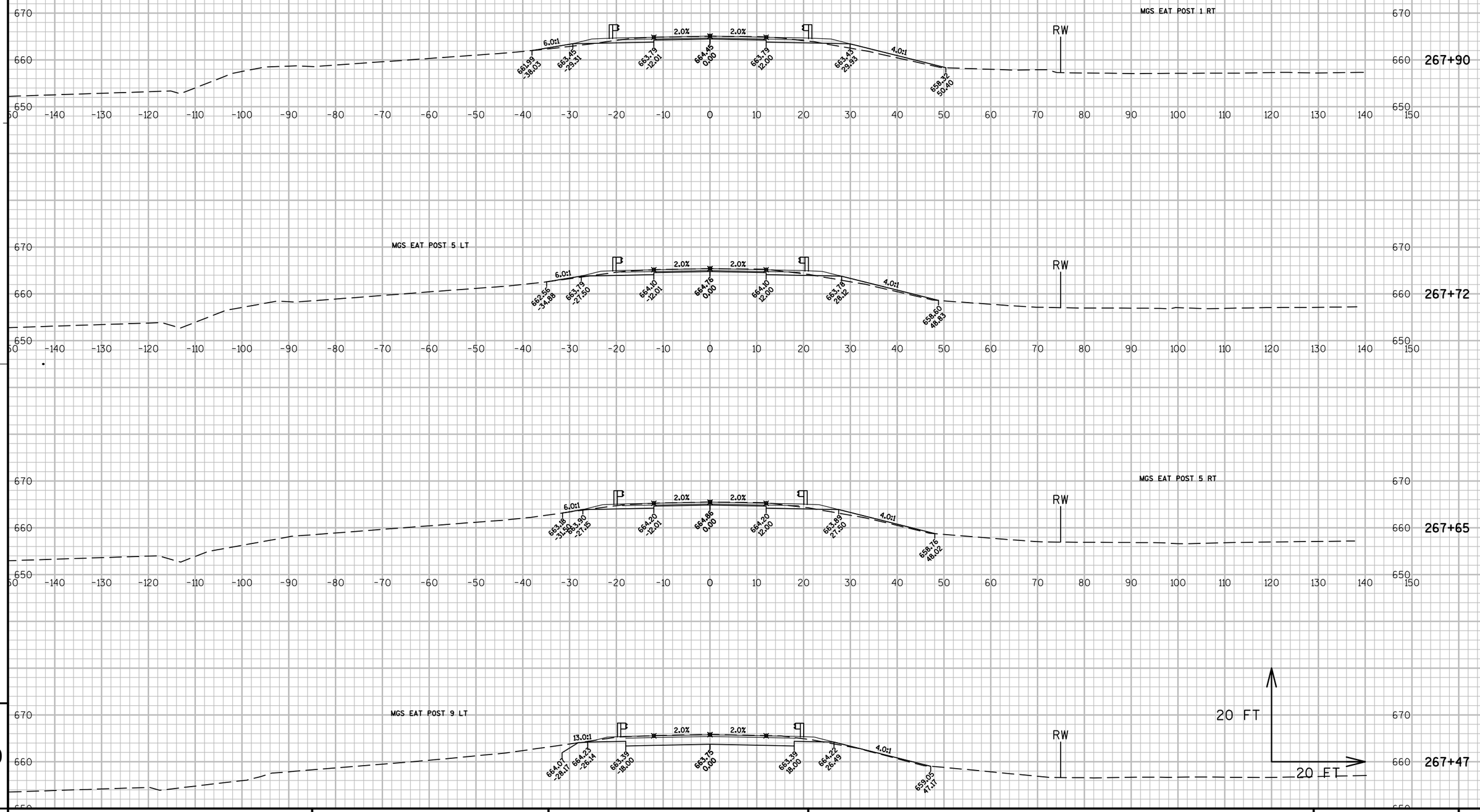
| PROJECT NO: 5730-01-81 | HWY: STH 56 | COUNTY: VERNON | CROSS SECTIONS: | SHEET | E |
|---|---|---|---|---|---|

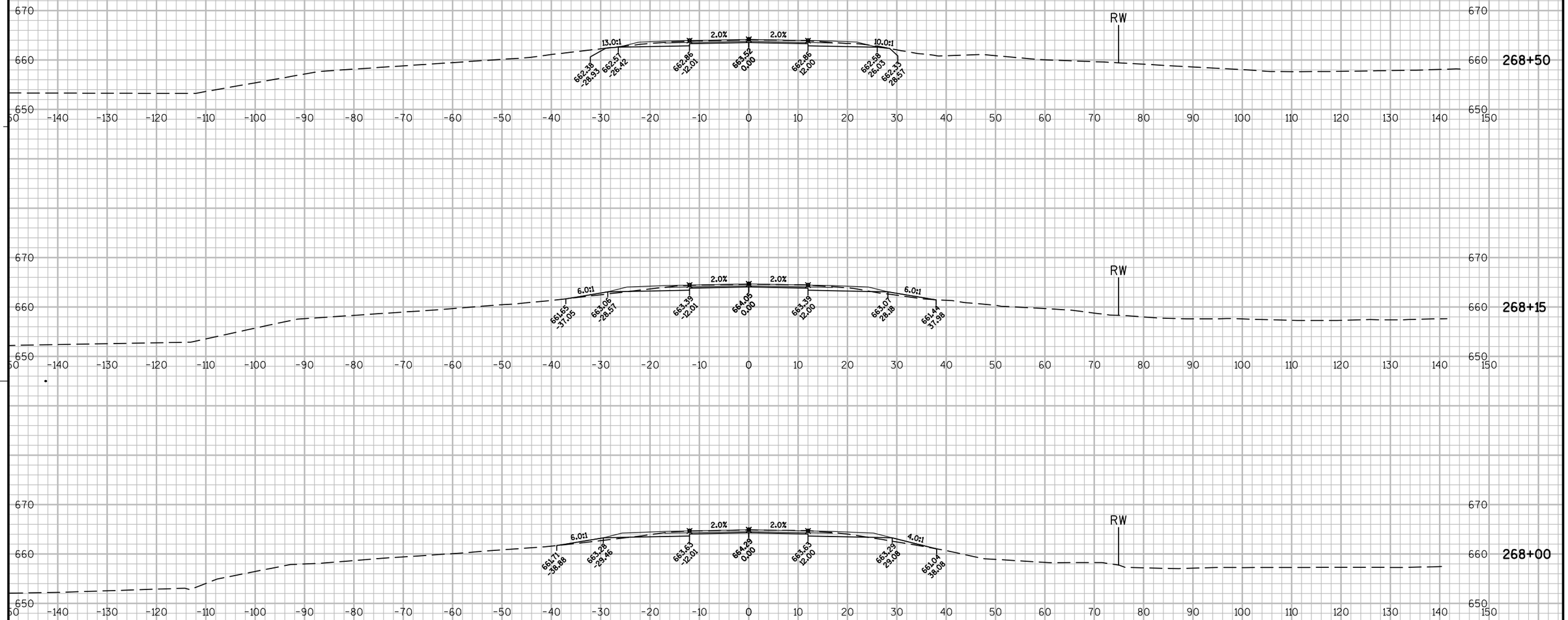


FILE NAME : \\LAX31FP2\N3PUBLIC\PDS\C3D\57300101\SHEETSPLAN\090201_XS.DWG PLOT DATE : 10/7/2014 2:59 PM PLOT BY : LEONARD, TOREY R PLOT NAME : PLOT SCALE : 1 IN:20 FT

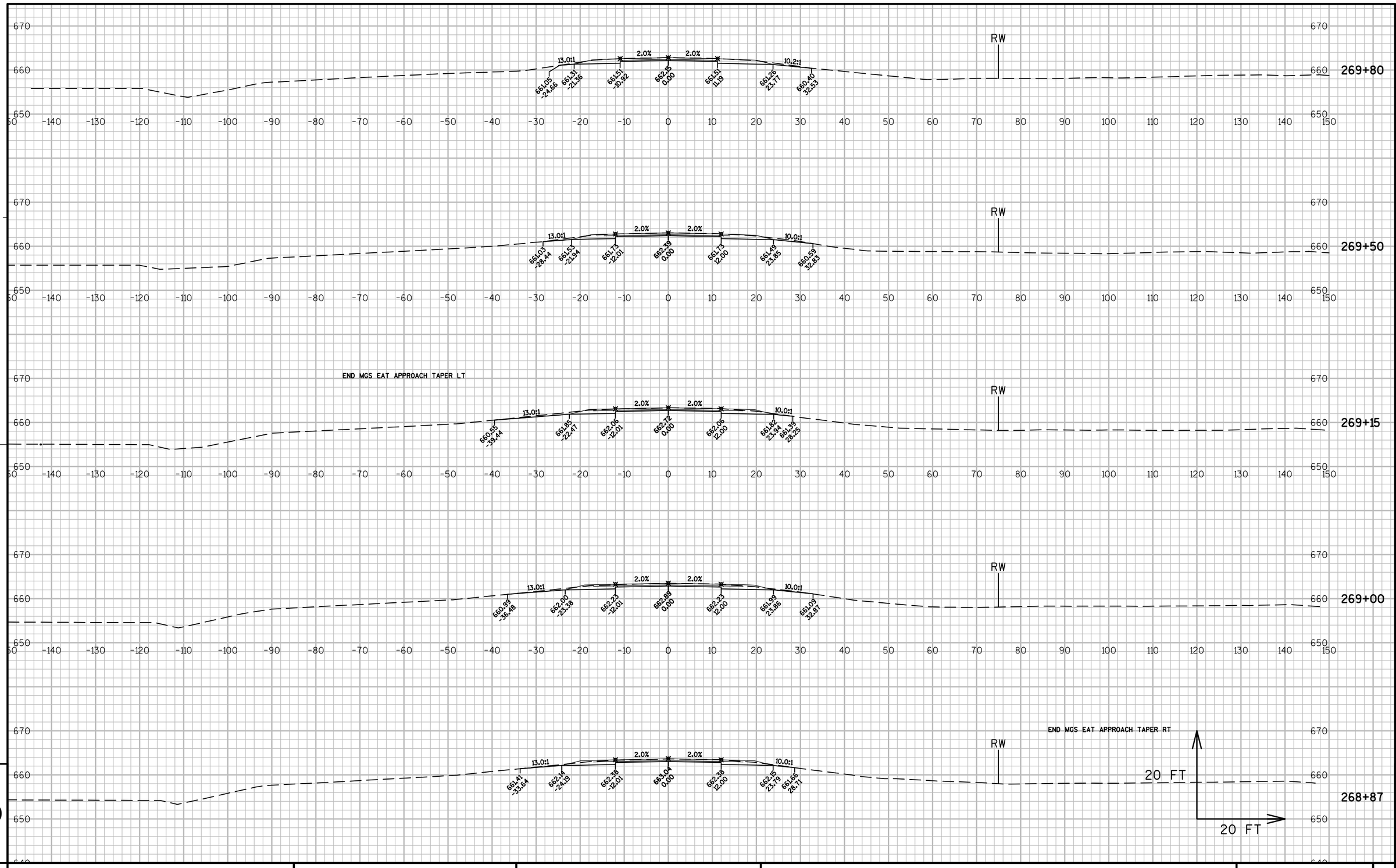



| PROJECT NO: 5730-01-81 | HWY: STH 56 | COUNTY: VERNON | CROSS SECTIONS: | SHEET | E |
|---|---|---|---|---|---|

FILE NAME : \\LAX31FP2\N3PUBLIC\PDS\C3D\57300101\SHEETSPLAN\090201_XS.DWG PLOT DATE : 10/7/2014 2:59 PM PLOT BY : LEONARD, TOREY R PLOT NAME : PLOT SCALE : 1 IN:20 FT




| PROJECT NO: 5730-01-81 | HWY: STH 56 | COUNTY: VERNON | CROSS SECTIONS: | SHEET | E |
|---|---|---|---|---|---|

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| PROJECT NO: 5730-01-81 | HWY: STH 56 | COUNTY: VERNON | CROSS SECTIONS: | SHEET | E |
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FILE NAME : \\LAX31FP2\N3PUBLIC\PDS\C3D\57300101\SHEETSPLAN\090201_XS.DWG PLOT DATE : 10/7/2014 2:59 PM PLOT BY : LEONARD, TOREY R PLOT NAME : PLOT SCALE : 1 IN:20 FT

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