

EAU

WITH:

PROJECT ID:

8610-07-73

COUNTY:

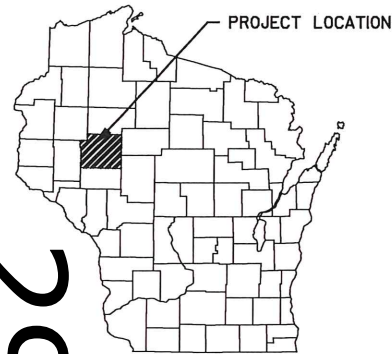
CHIPPEWA

DECEMBER 2017

ORDER OF SHEETS

| | |
|--------------------------|------------------------------------|
| Section No. 1 | Title |
| Section No. 2 | Typical Sections and Details |
| Section No. 3 | Estimate of Quantities |
| Section No. 3 | Miscellaneous Quantities |
| Section No. 4 | Right of Way Plan |
| Section No. 5 | Plan and Profile |
| Section No. 6 | Standard Detail Drawings |
| Section No. 7 | Sign Plates |
| Section No. 8 | Structure Plans |
| Section No. 9 | Computer Earthwork Data |
| Section No. 9 | Cross Sections |

TOTAL SHEETS = 182



DESIGN DESIGNATION

| | | | |
|--------------|------|---------------|------------------------|
| | | <u>B-9-16</u> | <u>B-9-124,125,126</u> |
| A.A.D.T. | 2017 | = 1900 | 3500 |
| A.A.D.T. | 2037 | = 2300 | 4400 |
| D.H.V. | | = 280 | 280 |
| D.D. | | = 60/40 | 60/40 |
| T. | | = 16.6% | 16.6% |
| DESIGN SPEED | | = 60 MPH | 60 MPH |
| ESALS | | = 790,000 | 1,800,000 |

CONVENTIONAL SYMBOLS

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

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

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

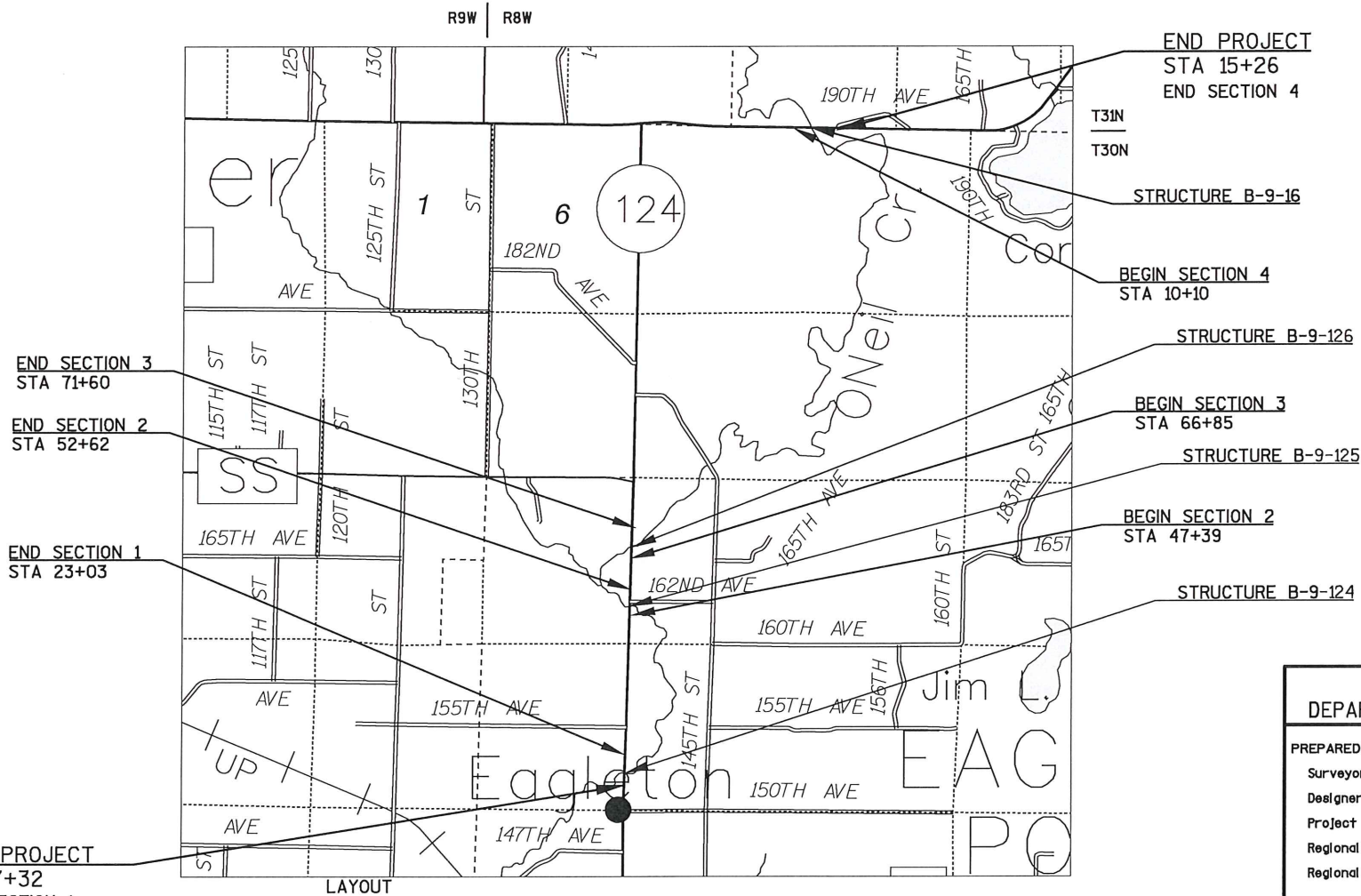
CHIPPEWA FALLS - BLOOMER

ONEILL CR BRG B-09-124, 125, 126, 0016

STH 124
CHIPPEWA COUNTY

STATE PROJECT NUMBER

8610-07-73



BEGIN PROJECT
STA 17+32
BEGIN SECTION 1
Y = 175665.994
X = 172493.143

SCALE 0 1 MILE
TOTAL NET LENGTH OF CENTERLINE = 0.395 MI

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

STATE PROJECT

8610-07-73

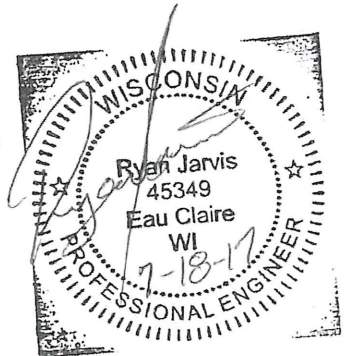
FEDERAL PROJECT

PROJECT

WISC 2018027

CONTRACT

1



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

| | |
|---------------------|--------------------|
| Surveyor | FAA, INC. |
| Designer | FAA, INC. |
| Project Manager | TYLER RONGSTAD |
| Regional Examiner | JENNIFER OLDENBURG |
| Regional Supervisor | TIM MASON |

APPROVED FOR THE DEPARTMENT

DATE: 7/19/17
(Signature)
Tyler Rongstad

E

STANDARD ABBREVIATIONS

| | | | |
|---------|--------------------------------------|---------|-------------------------------------|
| ABUT | ABUTMENT | LT | LEFT |
| AC | ACRE | LN | LANE |
| AGG | AGGREGATE | LS | LUMP SUM |
| ASPH | ASPHALTIC | LT | LEFT |
| AVG | AVERAGE | MAX | MAXIMUM |
| ADT | AVERAGE DAILY TRAFFIC | MH | MANHOLE |
| BAH | BEARING AHEAD | MIN | MINIMUM |
| BBK | BEARING BACK | MI | MILE |
| BF | BACK FACE | ML | MAINLINE |
| BM | BENCH MARK | N | NORTH |
| BR | BRIDGE | NC | NORMAL CROWN |
| C/L | CENTER LINE | NO | NUMBER |
| Δ | CENTRAL ANGLE OR DELTA | NOR | NORMAL |
| CE | COMMERCIAL ENTRANCE | OBLT | OBLITERATE |
| CMP | CORRIGATED METAL PIPE | PAVT | PAVEMENT |
| CONC | CONCRETE | PC | POINT OF CURVATURE |
| CP | CULVERT PIPE | PE | PRIVATE ENTRANCE |
| CP | CONTROL POINT | PI | POINT OF INTERSECTION |
| CPCP | CULVERT PIPE CORRUGATED POLYETHYLENE | POB | POINT OF BEGINNING |
| CPRCHE | CULVERT PIPE REINFORCED CONCRETE | POE | POINT OF ENDING |
| | HORIZONTAL ELLIPTICAL CLASS HE-III | PT | POINT OF TANGENCY |
| CR | CREEK | PVC | POINT OF VERTICAL CURVATURE |
| CWT | HUNDREDWEIGHT | PVI | POINT OF VERTICAL INTERSECTION |
| CY | CUBIC YARD | PVRC | POINT OF VERTICAL REVERSE CURVATURE |
| C & G | CURB AND GUTTER | PVT | POINT OF VERTICAL TANGENCY |
| D | DEGREE OF CURVE/BOX DEPTH | R/RAD | RADIUS |
| DHV | DESIGN HOUR VOLUME | RCCP | REINFORCED CONCRETE CULVERT PIPE |
| DD | DIRECTIONAL DISTRIBUTION | REQ'D | REQUIRED |
| DISCH | DISCHARGE | RES | RESIDENCE OR RESIDENTIAL |
| DG | DITCH GRADE | RHF | RIGHT-HAND FORWARD |
| DWY | DRIVEWAY | R/W | RIGHT OF WAY |
| E | EAST | RD | ROAD |
| EL/ELEV | ELEVATION | RDWY | ROADWAY |
| ENT | ENTRANCE | RR | RAILROAD |
| ESALS | EQUIVALENT SINGLE AXLE LOADS | RT | RIGHT |
| EXC | EXCAVATION | SALV | SALVAGED |
| EBS | EXCAVATION BELOW SUBGRADE | SAN S | SANITARY SEWER |
| EXIST | EXISTING | S | SOUTH |
| FE | FIELD ENTRANCE | SQ | SQUARE |
| FERT | FERTILIZE | SF | SQUARE FEET |
| FF | FACE TO FACE | SY | SQUARE YARD |
| FL | FLOW LINE | SDD | STANDARD DETAIL DRAWNGS |
| FO | FIBER OPTIC | STH | STATE TRUNK HIGHWAYS |
| FS | FULL SUPER ELEVATION | STA | STATION |
| FT | FOOT | SS | STORM SEWER |
| G | GRADE | SE | SUPERELEVATION |
| HMA | HOT MIX ASPHALT | T | TANGENT LENGTH |
| HYD | HYDRANT | T. | TRUCKS (PERCENT OF) |
| ID | INSIDE DIAMETER | TC | TOP OF CURB |
| INV | INVERT | T OR TN | TOWN |
| IP | IRON PIPE OR PIN | TLE | TEMPORARY LIMITED EASEMENT |
| K | RATE OF VERTICAL CURVATURE | t | TON |
| LHF | LEFT-HAND FORWARD | TYP. | TYPICAL |
| L | LENGTH OF CURVE | VAR | VARIABLE |
| LB | POUND | VC | VERTICAL CURVE |
| LF | LINEAR FOOT | W | WEST |
| LCB | LONG CHORD BEARING | X | EAST GRID COORDINATE |
| LC | LONG CHORD | Y | NORTH GRID COORDINATE |
| LN | LANE | YD | YARD |

GENERAL NOTES

ELEVATIONS SHOWN ON THE PLAN ARE REFERENCED TO USGS DATUM.

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

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

THE EXACT LOCATION OF THE EROSION CONTROL DEVICES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE SALVAGED TOPSOILED, FERTILIZED, SEEDED AND MULCHED. SEED MIXTURE NO. 20 SHALL BE USED THROUGHT THE PROJECT. SALVAGED TOPSOILING, FERTILIZING, SEEDING, AND MULCHING ITEMS ARE INCIDENTAL TO BARRIER SYSTEM GRADING SHAPING FINISHING.

BEARINGS SHOWN ON THE PLANS ARE COUNTY BEARINGS TO THE NEAREST SECOND.

SIGN PLATE DETAILS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" UNLESS OTHERWISE PROVIDED FOR IN THE PLAN.

CURVE DATA IS BASED ON THE ARC DEFINITION.

RADIUS DIMENSIONS ARE SHOWN TO FRONT FACE OF GUARDRAIL OR EDGE OF PAVEMENT.

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

ALL PRIVATE DRIVEWAYS AND COMMERCIAL ENTRANCES SHALL BE RESTORED IN KIND. LIMITS TO BE DETERMINED BY THE ENGINEER.

PRIOR TO THE PLACEMENT OF MGS GUARDRAIL, THE SHOULDERS SHALL BE IN PLACE, SHAPED AND COMPACTED UNLESS SHOWN OTHERWISE.

WETLANDS MAY EXIST IN LOCATIONS THAT ARE NOT SHOWN IN THE PLANS. DO NOT STAGE IN OR DISTURB WETLANDS AREAS.

5-INCH ASPHALTIC SURFACE SHALL CONSIST OF TWO 2½-INCH LAYERS.

DESIGN CONTACT

FLEMING, ANDRE & ASSOCIATES, INC.
3615 N. HASTINGS WAY
SUITE 100
EAU CLAIRE, WI. 54703-0474
ATTENTION: MATT GUNDRY
PHONE: 715-832-8400
mjgundry@faa-engineers.com

W.D.N.R. CONTACT

WISCONSIN DNR
1300 WEST CLAIREMONT AVE
EAU CLAIRE, WI 54702
ATTN: CHRIS WILLGER
PHONE: 715-839-1609
christopher.j.willger@wisconsin.gov

UTILITIES


COMMUNICATION

CENTURYLINK
P.O. BOX 78
HAWKINGS, WI 54530
ATTN: BRIAN HUHN
PHONE: 715-532-0023
MOBILE: 715-563-8294
brian.huhn@centurylink.com

ELECTRIC

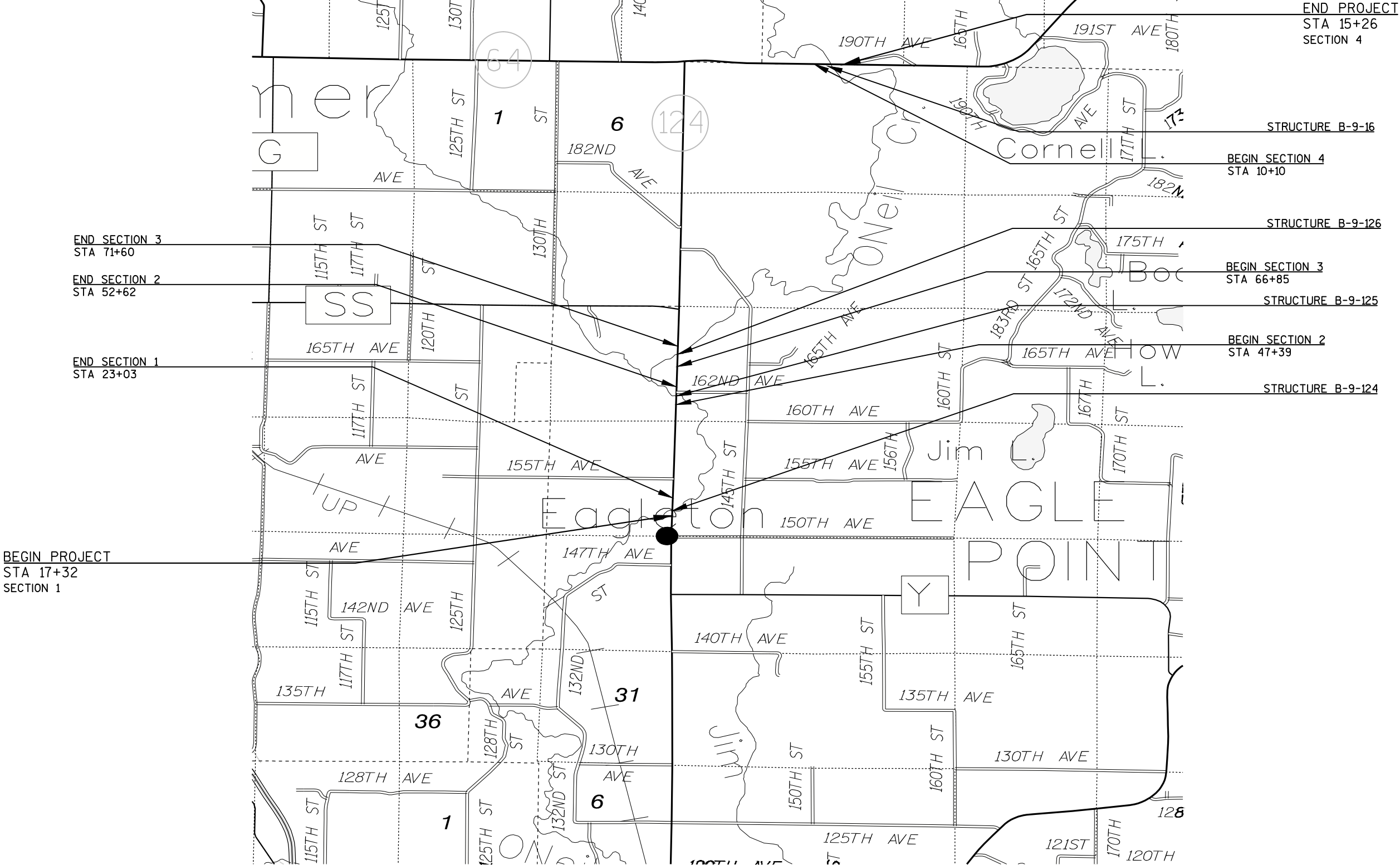
CHIPPEWA VALLEY ELECTRIC COOPERATIVE
317 S 8TH ST
P.O. BOX 575
CORNELL, WI 54732-0575
ATTN: ROD PATTEN
PHONE: 715-239-6800
rpatten@cve.coop



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

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PROJECT NO:8610-07-73

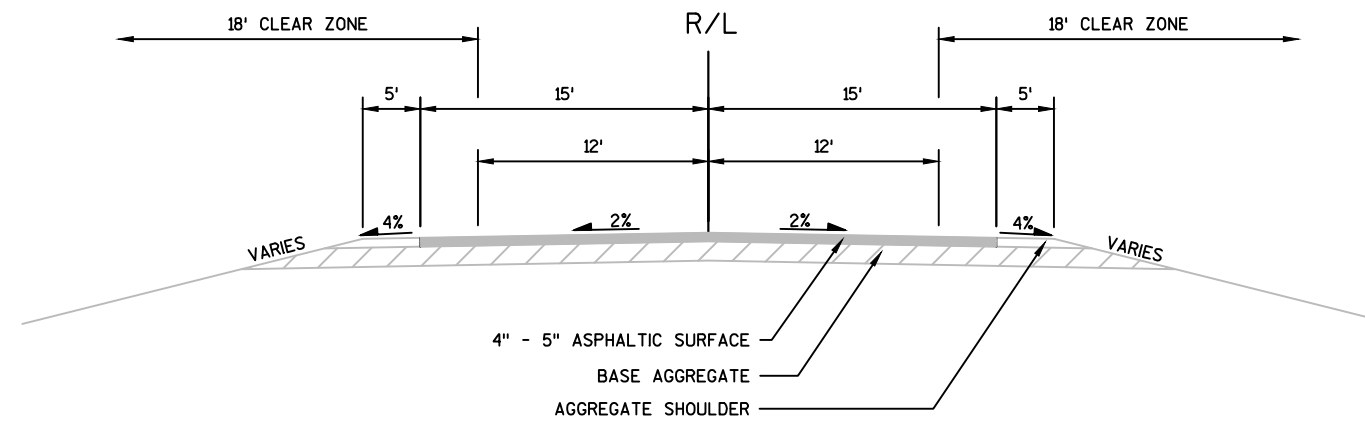
| |
|--------------|
| HWY: STH 124 |
|--------------|

COUNTY: CHIPPEWA

PLAN: PROJECT OVERVIEW

SHEET

E

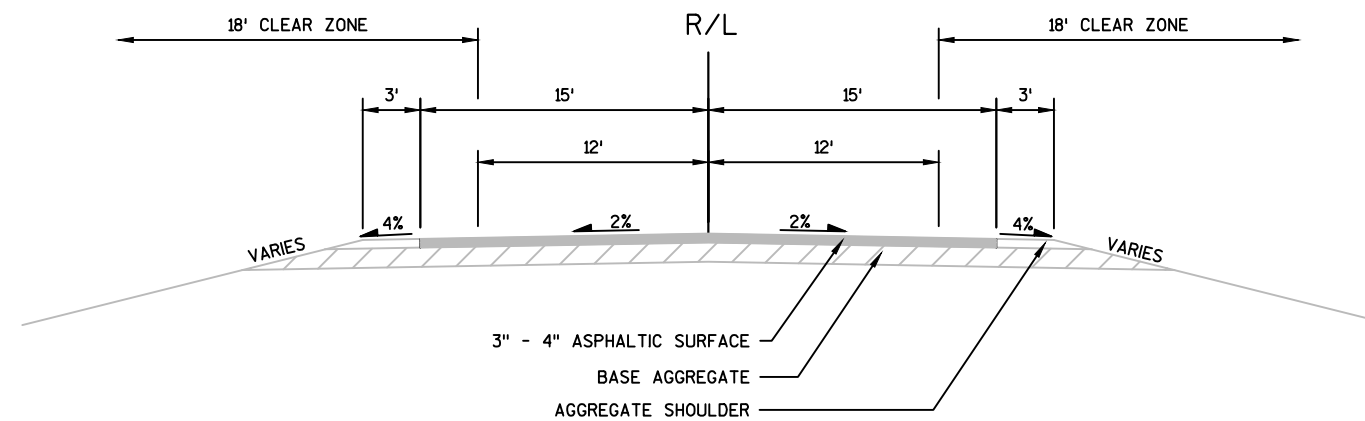


EXISTING TYPICAL SECTION STH 124

STA 17+32 TO STA 19+60
STA 20+40 TO STA 23+03

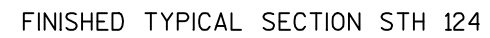
STA 47+39 TO STA 49+65
STA 50+34 TO STA 52+62

STA 66+85 TO STA 69+05
STA 69+60 TO STA 71+60

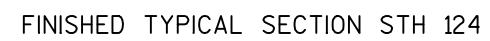


EXISTING TYPICAL SECTION STH 64

STA 10+10 TO STA 12+34
STA 13+02 TO STA 15+26

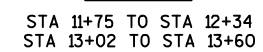


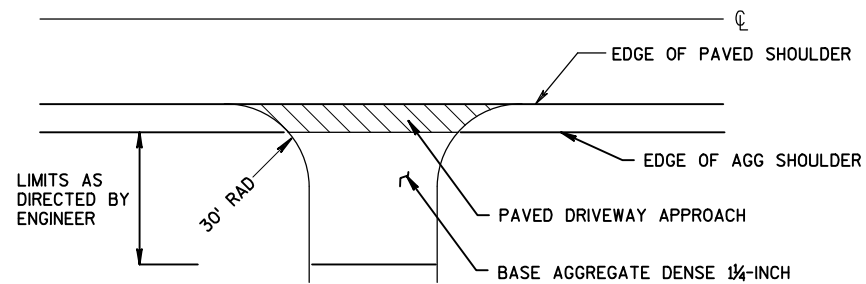
STA 67+50 TO STA 69+05
STA 69+60 TO STA 70+75



STA 66+85 TO STA 67+50
STA 70+75 TO STA 71+60

* ITEMS ARE INCIDENTAL TO BARRIER SYSTEM GRADING SHAPING FINISHING

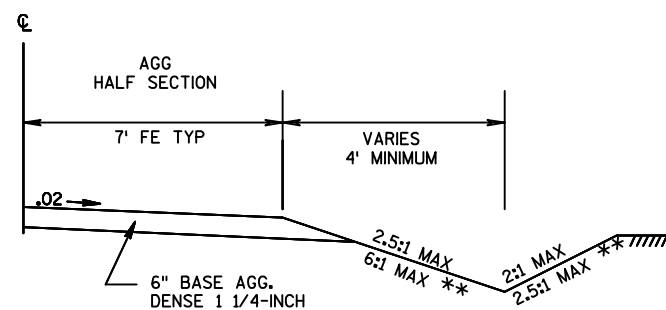




NOTE:

ANY ADDITIONAL BASE AGG. DENSE REQ'D.
SHALL BE PAID UNDER ITEM - "BASE
AGGREGATE DENSE 1 1/4-INCH"

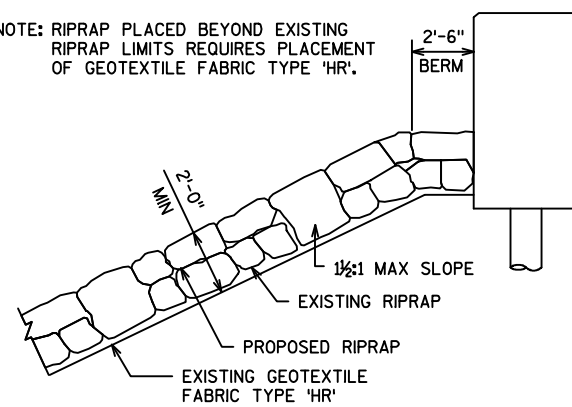
RURAL DRIVEWAY DETAIL - AGG



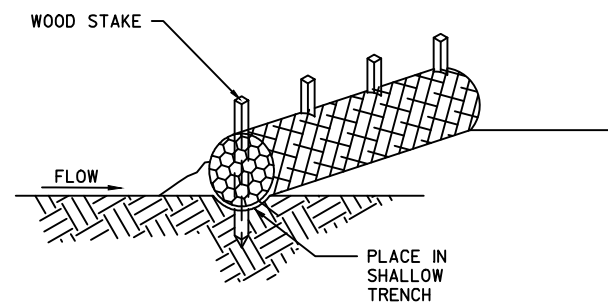
** WITHIN CLEAR ZONE

TYPICAL SECTION
FOR RURAL DRIVEWAYS - AGG

NOTE: RIPRAP PLACED BEYOND EXISTING
RIPRAP LIMITS REQUIRES PLACEMENT
OF GEOTEXTILE FABRIC TYPE 'HR'.

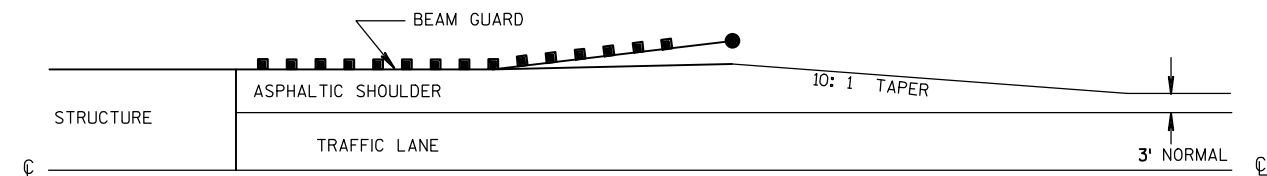


RIPRAP REPAIR DETAIL AT ABUTMENTS

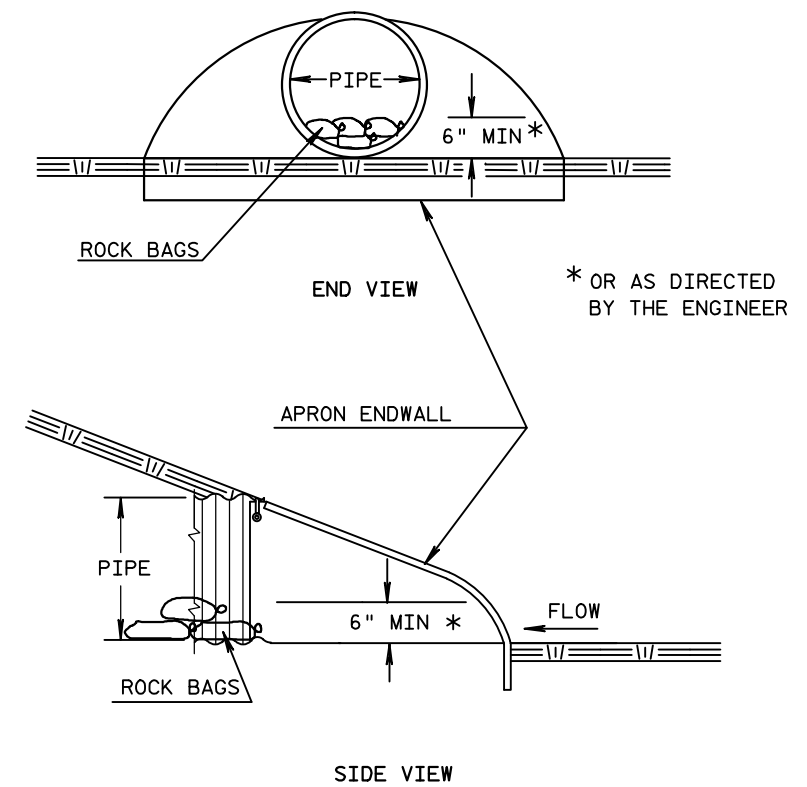


TEMPORARY DITCH CHECKS

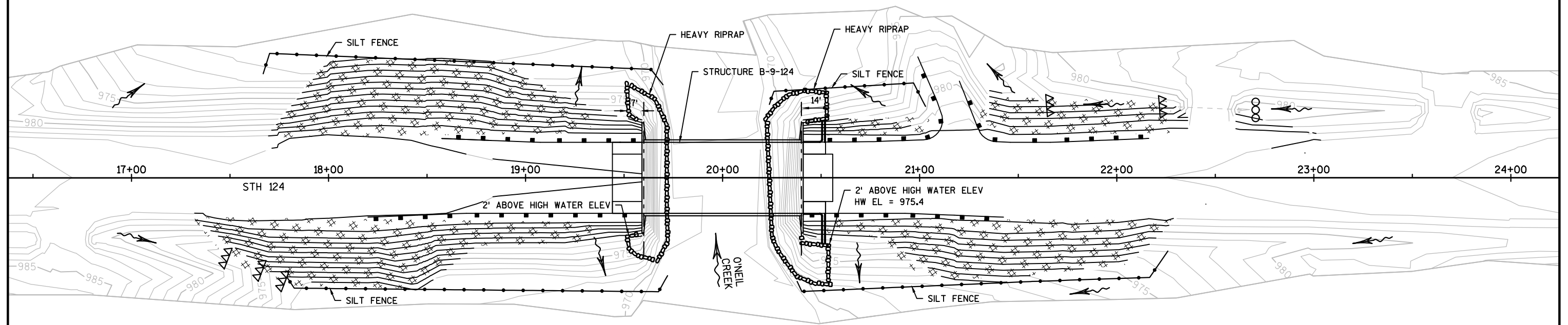
SHOWING TYPICAL SEDIMENT LOG INSTALLATION.
SEE SDD 8E8-3 "TYPICAL INSTALLATIONS OF
EROSION BALES/TEMPORARY DITCH CHECKS" FOR
ADDITIONAL INFORMATION AND ALTERNATIVES



DETAIL FOR ASPHALTIC SHOULDER AT BEAM GUARD



CULVERT PIPE CHECKS

**LEGEND**

- DIRECTION OF FLOW
- EROSION MAT CLASS 1 TYPE B
- RIPRAP HEAVY
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SILT FENCE

PROJECT NO: 8610-07-73

HWY: STH 124

COUNTY: CHIPPEWA

EROSION CONTROL

SHEET

E

FILE NAME : F:\DRAWINGS\2014-114\0001\86100703\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022001_EC

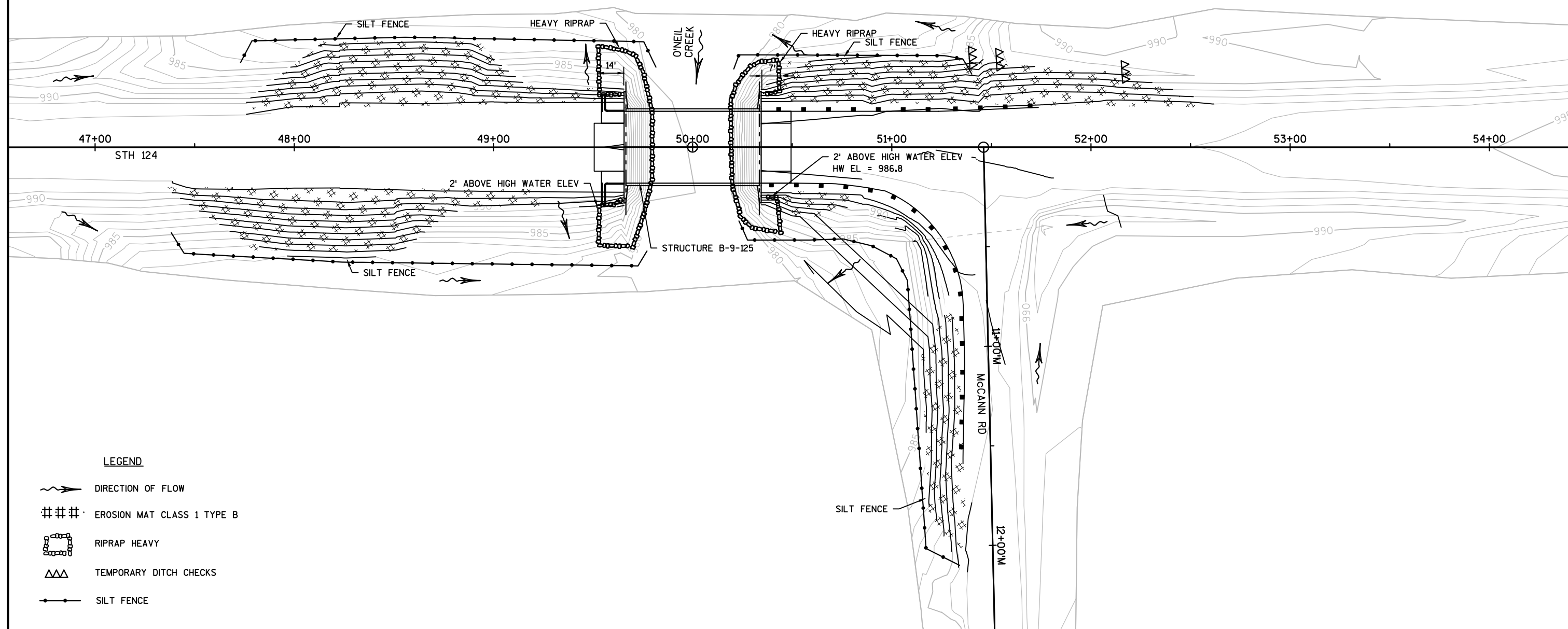
PLOT DATE : 7/13/2017 10:02 AM

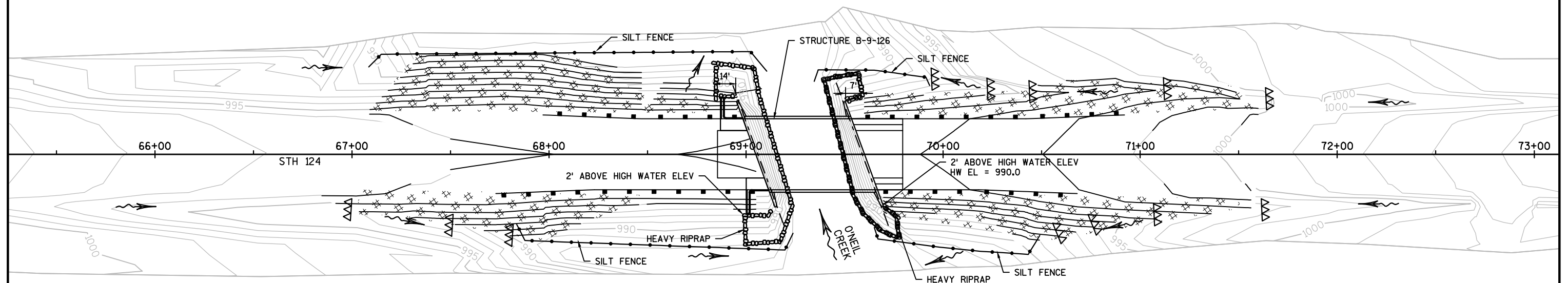
PLOT BY : RYAN JARVIS

PLOT NAME :

PLOT SCALE : 1 IN:50 FT

WISDOT/CADDs SHEET 42



**LEGEND**

- ~> DIRECTION OF FLOW
- ### EROSION MAT CLASS 1 TYPE B
- RIPRAP HEAVY
- △△ TEMPORARY DITCH CHECKS
- SILT FENCE

PROJECT NO: 8610-07-73

HWY: STH 124

COUNTY: CHIPPEWA

EROSION CONTROL

SHEET

E

FILE NAME : F:\DRAWINGS\2014-114\0001\86100703\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022003_EC

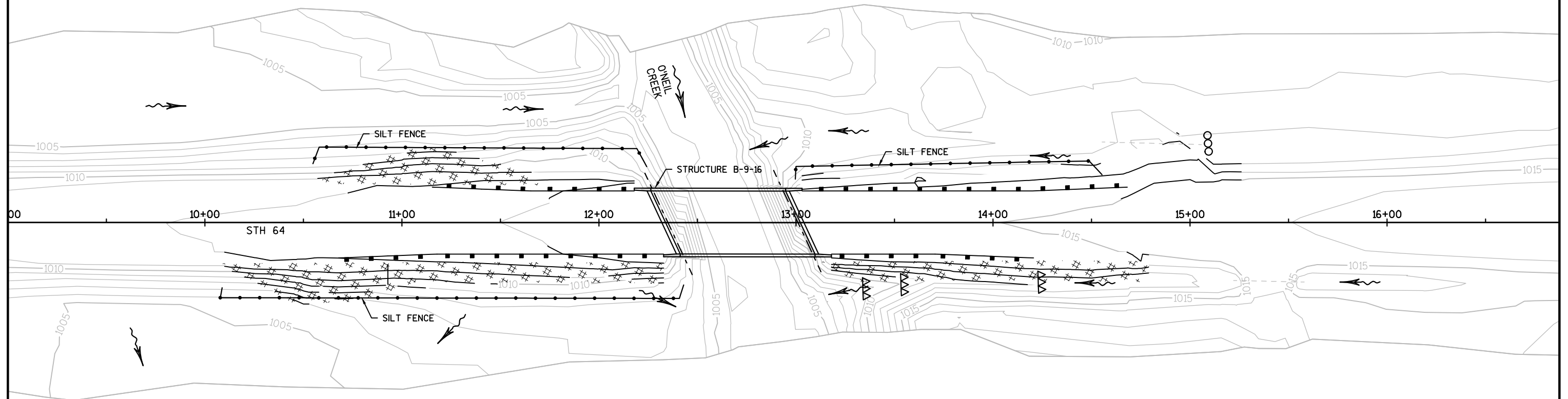
PLOT DATE : 7/13/2017 10:02 AM

PLOT BY : RYAN JARVIS

PLOT NAME :

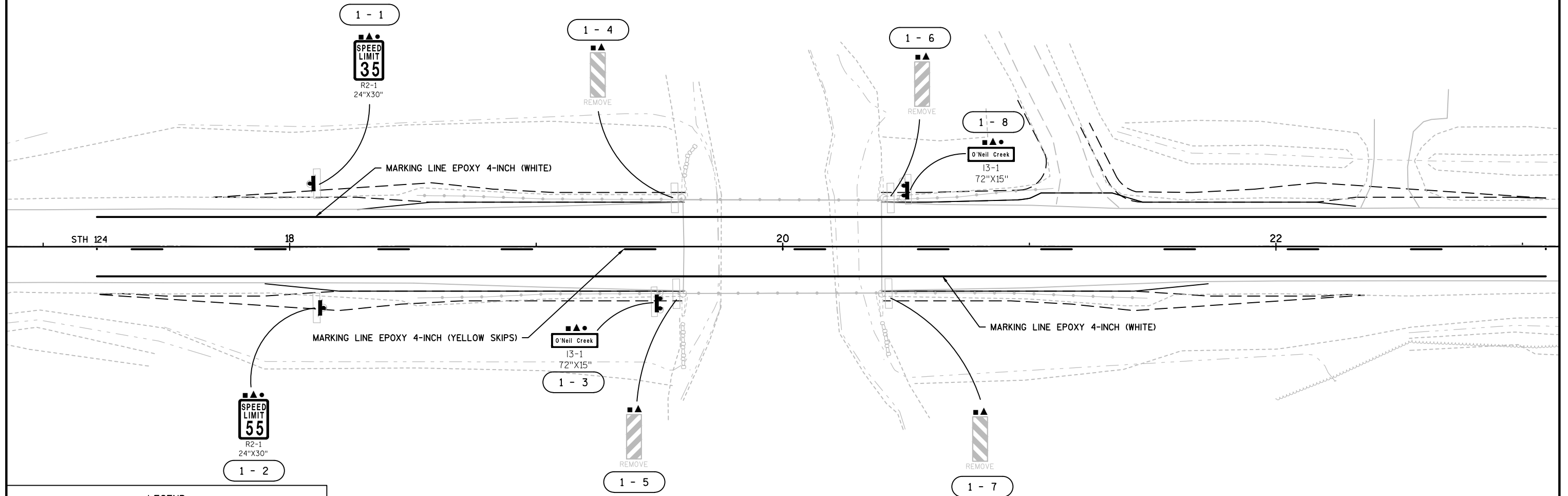
PLOT SCALE : 1 IN:50 FT

WISDOT/CADDs SHEET 42



LEGEND

- DIRECTION OF FLOW
- EROSION MAT CLASS 1 TYPE B
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS
- SILT FENCE

**LEGEND**

- REMOVING SIGNS TYPE II
- ▲ REMOVING SMALL SIGN SUPPORTS
- SIGNS TYPE II REFLECTIVE
- X - X SIGN NUMBER
- ┌ PROPOSED SIGN(S) ON SINGLE SUPPORT
- ┌ PROPOSED SIGN(S) ON DOUBLE SUPPORT
- ┌ EXISTING SIGN(S) ON SINGLE SUPPORT
- ┌ EXISTING SIGN(S) ON DOUBLE SUPPORTS

PROJECT NO: 8610-07-73

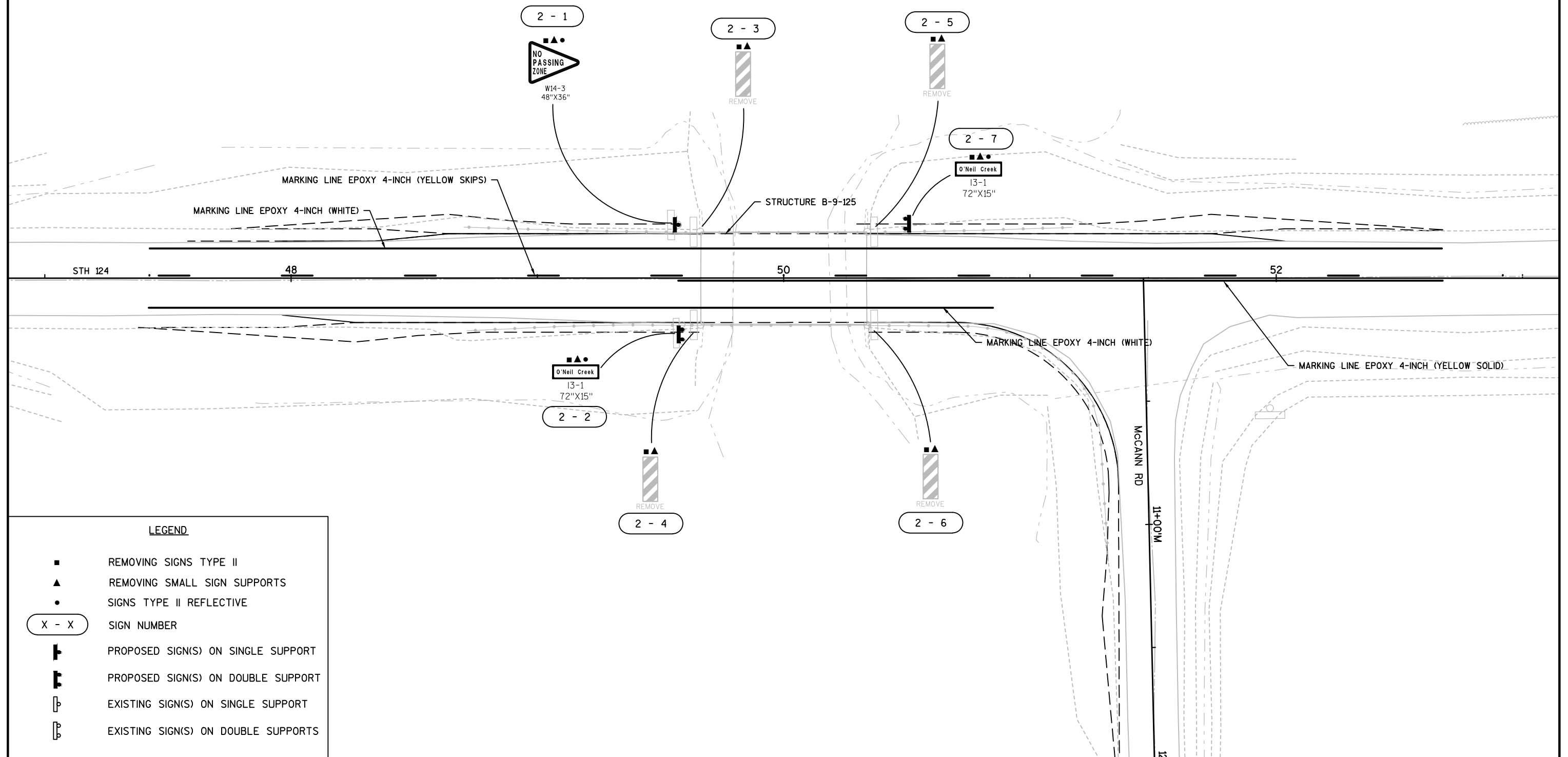
HWY: STH 124

COUNTY: CHIPPEWA

PERMANENT SIGNING AND PAVEMENT MARKING

SHEET

E



PROJECT NO: 8610-07-73

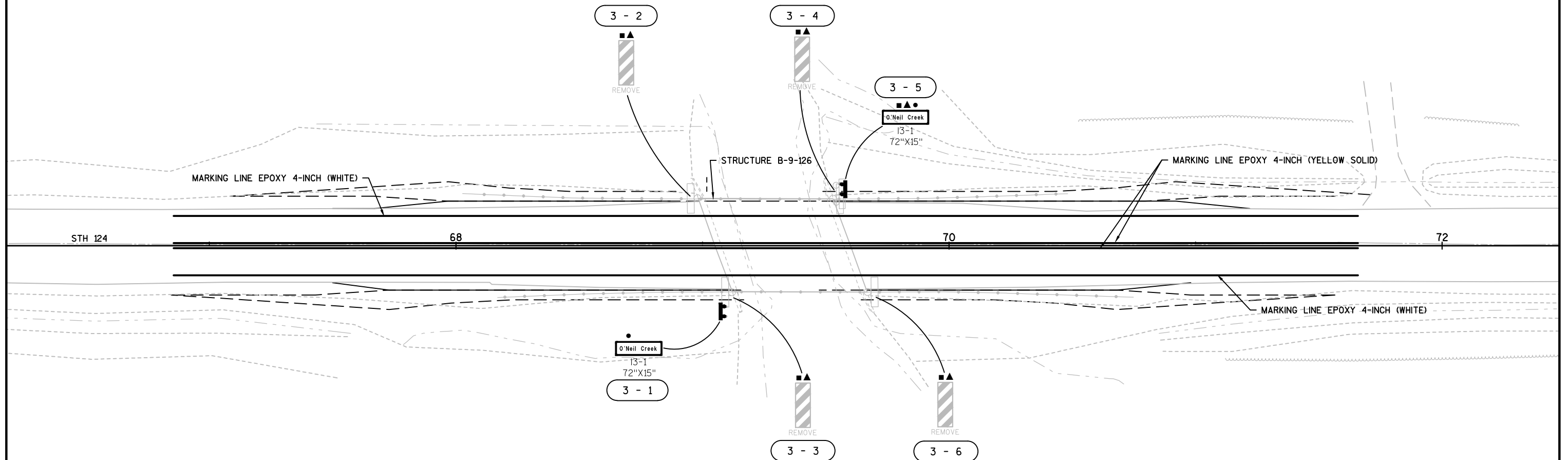
HWY: STH 124

COUNTY: CHIPPEWA

PERMANENT SIGNING AND PAVEMENT MARKING

SHEET

E

**LEGEND**

- REMOVING SIGNS TYPE II
- ▲ REMOVING SMALL SIGN SUPPORTS
- SIGNS TYPE II REFLECTIVE
- (X - X) SIGN NUMBER
- ┌ PROPOSED SIGN(S) ON SINGLE SUPPORT
- └ PROPOSED SIGN(S) ON SINGLE SUPPORT
- ┌ EXISTING SIGN(S) ON SINGLE SUPPORT
- └ EXISTING SIGN(S) ON DOUBLE SUPPORTS

PROJECT NO: 8610-07-73

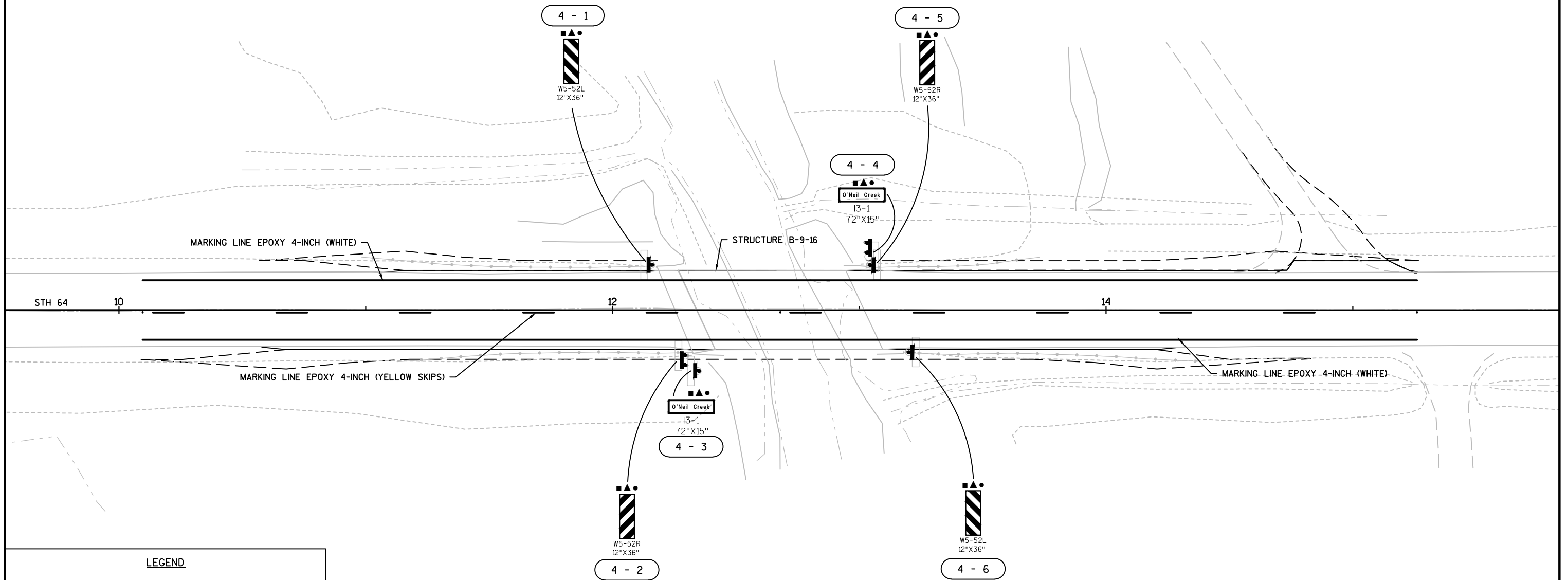
HWY: STH 124

COUNTY: CHIPPEWA

PERMANENT SIGNING AND PAVEMENT MARKING

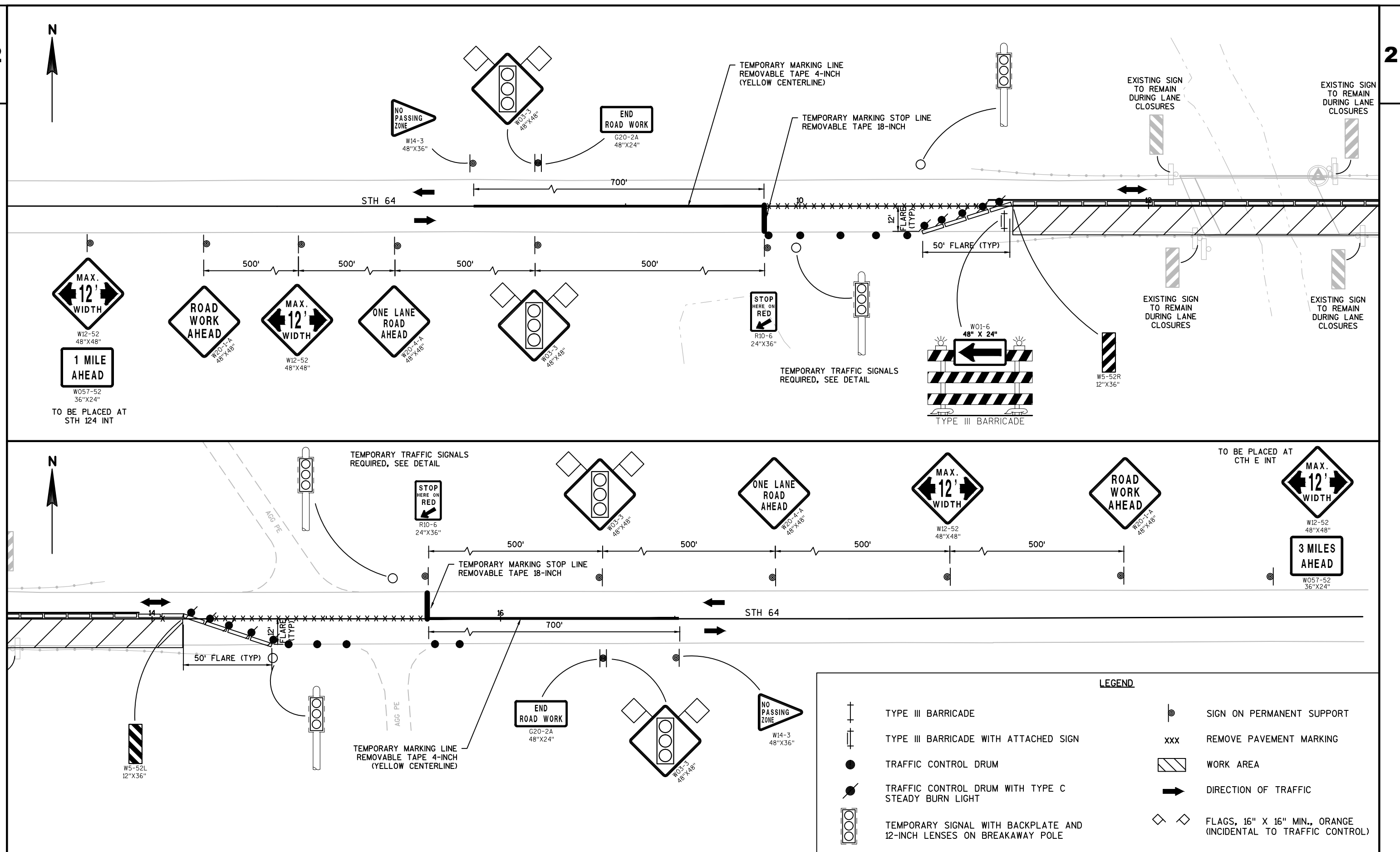
SHEET

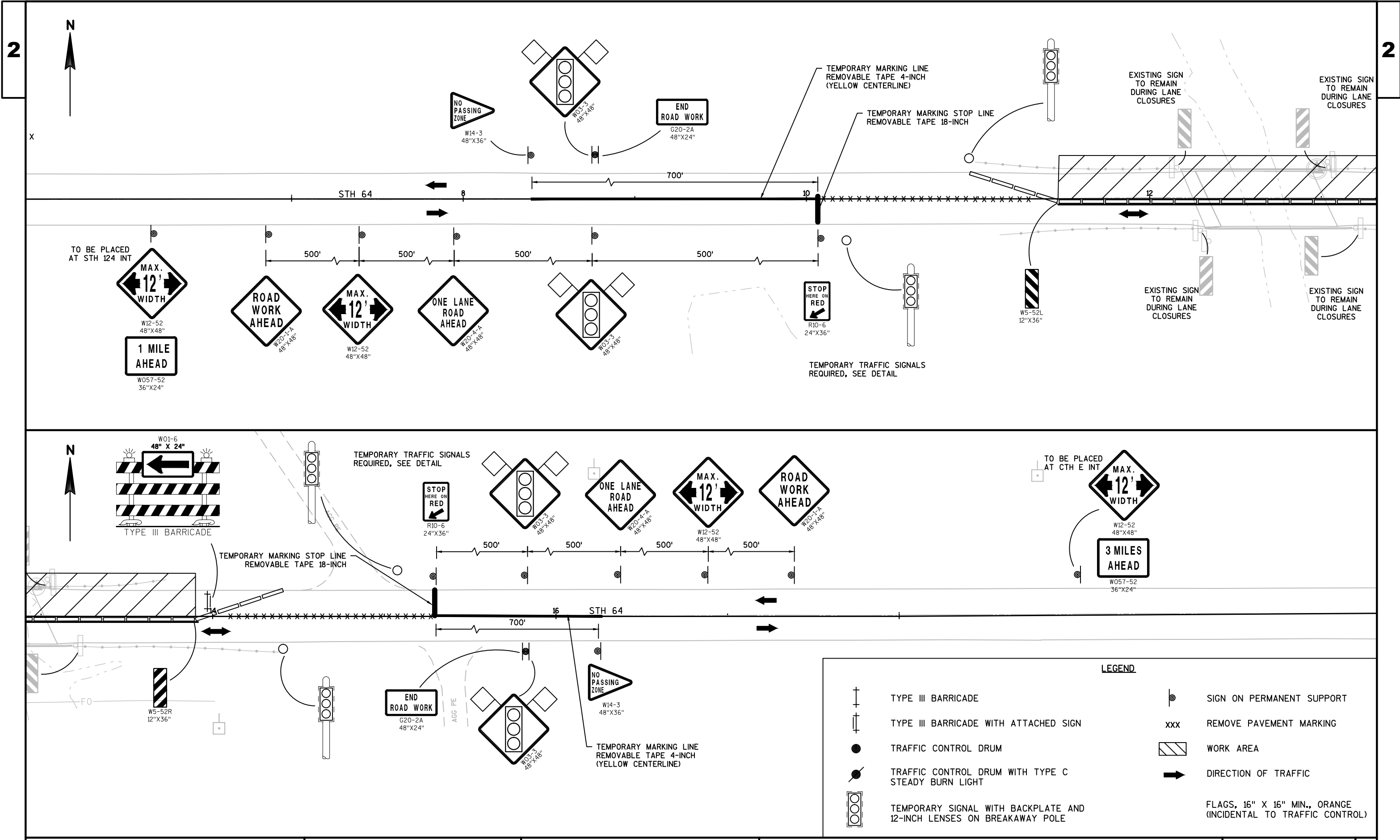
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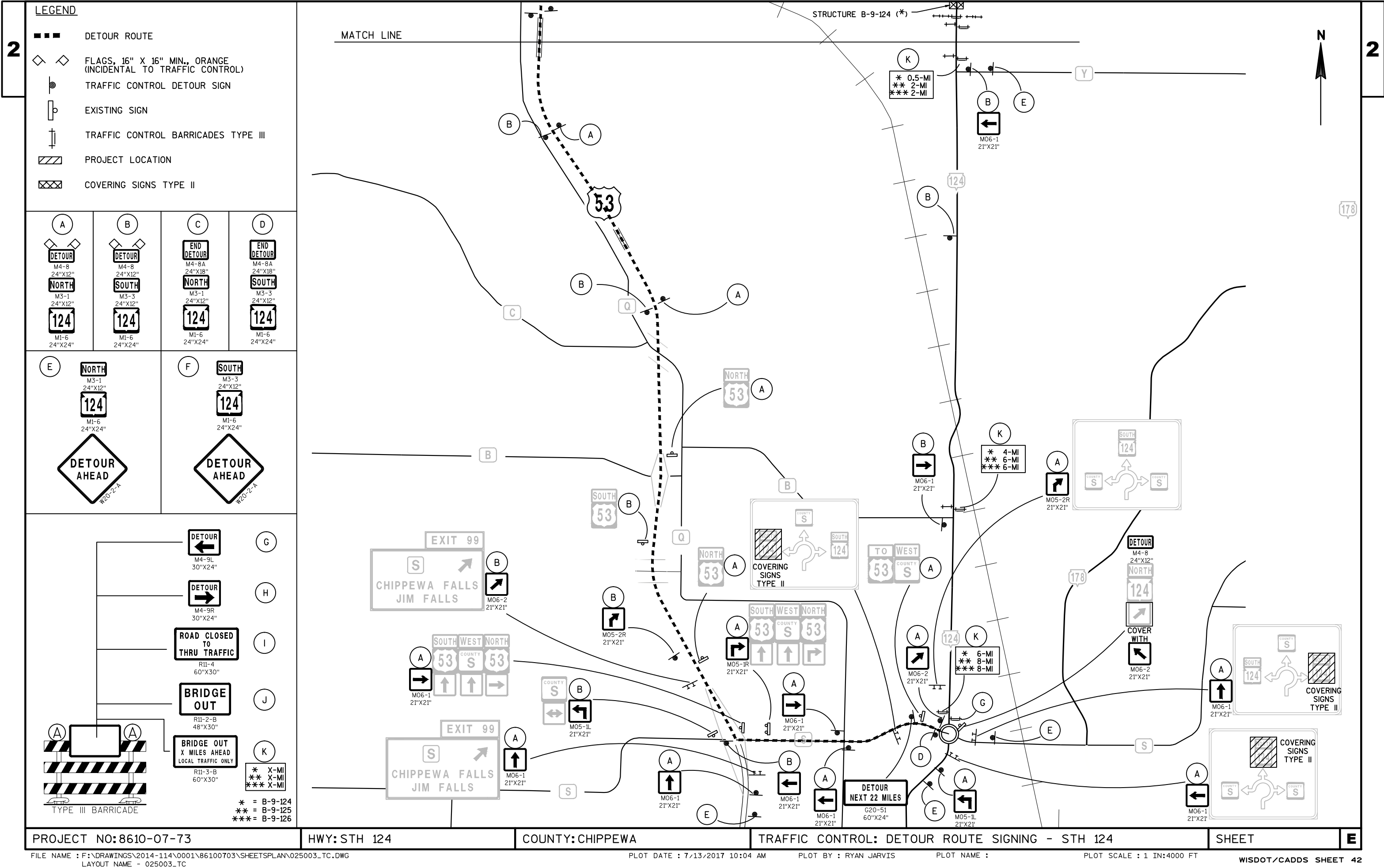


LEGEND








- REMOVING SIGNS TYPE II
- ▲ REMOVING SMALL SIGN SUPPORTS
- SIGNS TYPE II REFLECTIVE
- X - X SIGN NUMBER
- PROPOSED SIGN(S) ON SINGLE SUPPORT
- PROPOSED SIGN(S) ON SINGLE SUPPORT
- EXISTING SIGN(S) ON SINGLE SUPPORT
- EXISTING SIGN(S) ON DOUBLE SUPPORTS

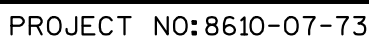
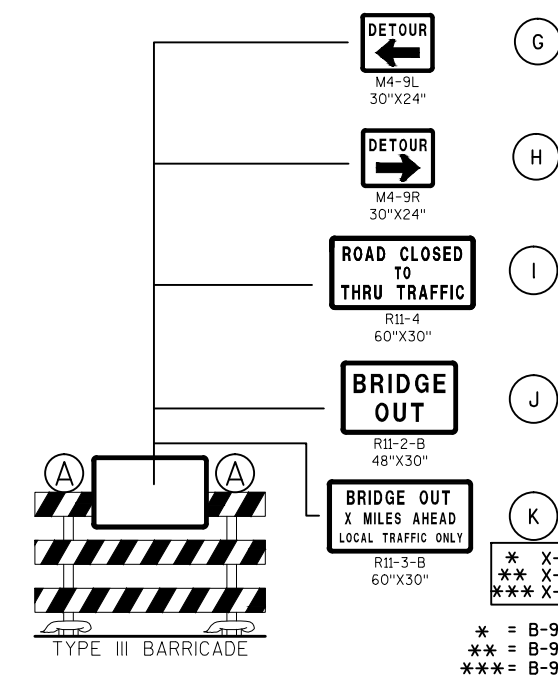
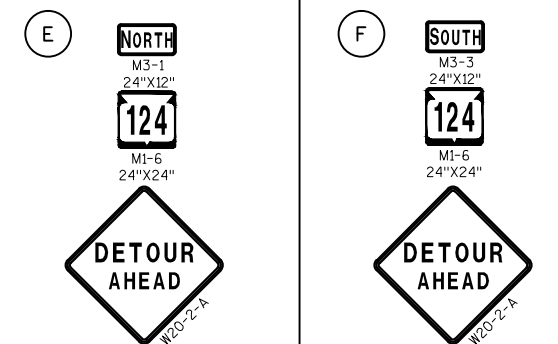
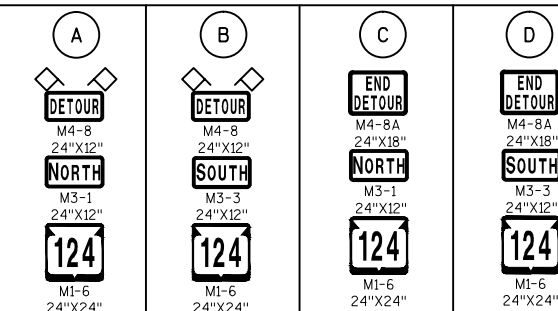






LEGEND

- | | |
|---|--|
|  | DETOUR ROUTE |
|  | FLAGS, 16" X 16" MIN., ORANGE (INCIDENTAL TO TRAFFIC CONTROL) |
|  | TRAFFIC CONTROL DETOUR SIGN |
|  | EXISTING SIGN |
|  | TRAFFIC CONTROL BARRICADES TYPE III |
|  | PROJECT LOCATION |
|  | COVERING SIGNS TYPE II |



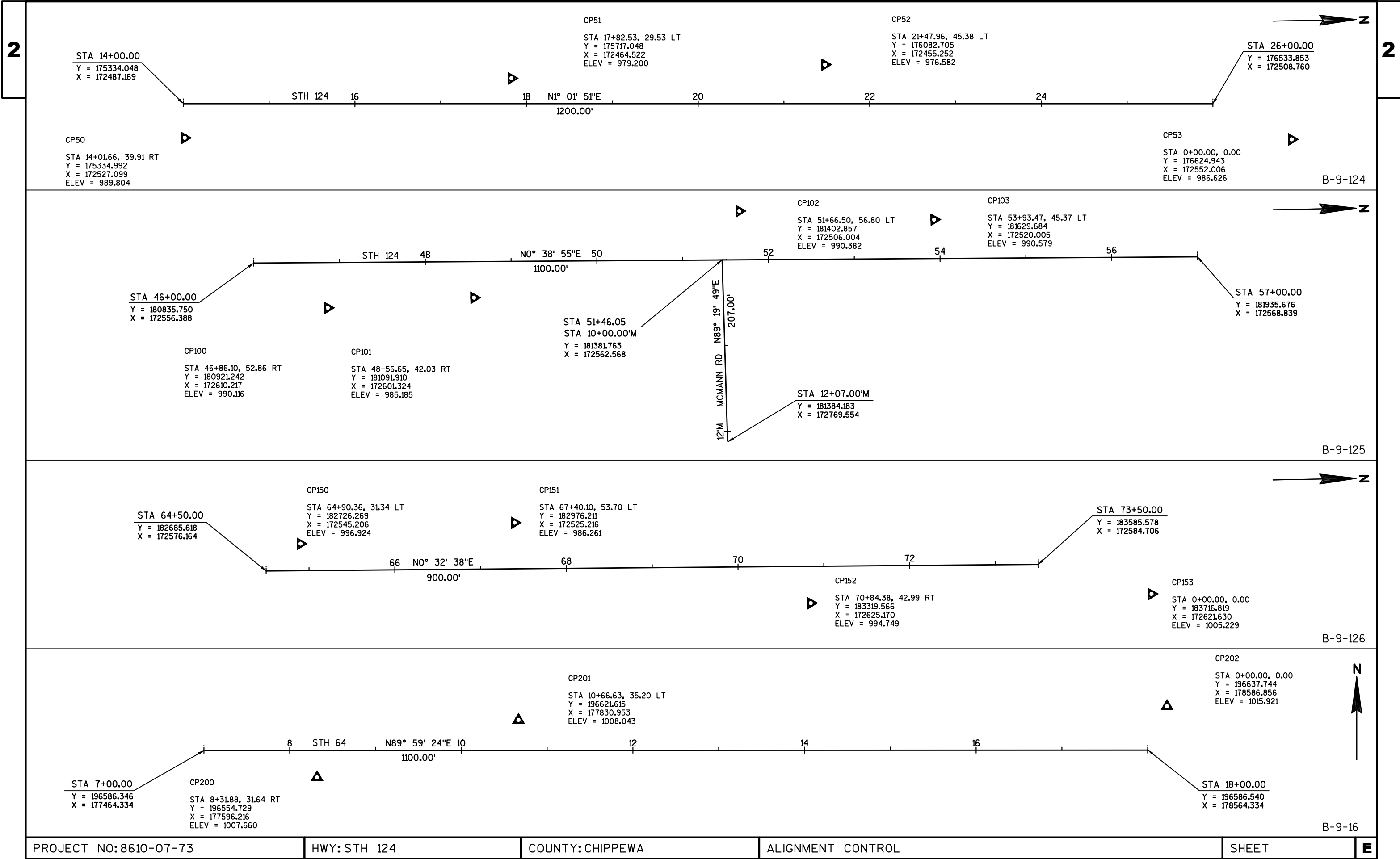
HWY: STH 124

COUNTY: CHIPPEWA

TRAFFIC CONTROL: DETOUR ROUTE SIGNING - STH 124

SHEET

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



Estimate Of Quantities

8610-07-73

| Line | Item | Item Description | Unit | Total | Qty |
|------|------------|---|------|------------|------------|
| 0002 | 203.0600.S | Removing Old Structure Over Waterway With Minimal Debris (station) 01. 20+00 | LS | 1.000 | 1.000 |
| 0004 | 203.0600.S | Removing Old Structure Over Waterway With Minimal Debris (station) 02. 50+00 | LS | 1.000 | 1.000 |
| 0006 | 203.0600.S | Removing Old Structure Over Waterway With Minimal Debris (station) 03. 69+32.50 | LS | 1.000 | 1.000 |
| 0008 | 203.0600.S | Removing Old Structure Over Waterway With Minimal Debris (station) 04. 12+68 | LS | 1.000 | 1.000 |
| 0010 | 204.0110 | Removing Asphaltic Surface | SY | 3,000.000 | 3,000.000 |
| 0012 | 204.0165 | Removing Guardrail | LF | 2,070.000 | 2,070.000 |
| 0014 | 206.1000 | Excavation for Structures Bridges (structure) 01. B-09-0016 | LS | 1.000 | 1.000 |
| 0016 | 211.0100 | Prepare Foundation for Asphaltic Paving (project) 01. 8610-07-73 | LS | 1.000 | 1.000 |
| 0018 | 211.0400 | Prepare Foundation for Asphaltic Shoulders | STA | 18.000 | 18.000 |
| 0020 | 213.0100 | Finishing Roadway (project) 01. 8610-07-73 | EACH | 1.000 | 1.000 |
| 0022 | 305.0110 | Base Aggregate Dense 3/4-Inch | TON | 410.000 | 410.000 |
| 0024 | 305.0120 | Base Aggregate Dense 1 1/4-Inch | TON | 170.000 | 170.000 |
| 0026 | 415.0070 | Concrete Pavement 7-Inch | SY | 66.000 | 66.000 |
| 0028 | 415.0410 | Concrete Pavement Approach Slab | SY | 264.000 | 264.000 |
| 0030 | 416.1010 | Concrete Surface Drains | CY | 16.000 | 16.000 |
| 0032 | 455.0605 | Tack Coat | GAL | 150.000 | 150.000 |
| 0034 | 465.0105 | Asphaltic Surface | TON | 860.000 | 860.000 |
| 0036 | 465.0115 | Asphaltic Surface Detours | TON | 150.000 | 150.000 |
| 0038 | 502.0100 | Concrete Masonry Bridges | CY | 307.000 | 307.000 |
| 0040 | 502.3200 | Protective Surface Treatment | SY | 1,037.000 | 1,037.000 |
| 0042 | 502.3210 | Pigmented Surface Sealer | SY | 177.000 | 177.000 |
| 0044 | 502.4205 | Adhesive Anchors No. 5 Bar | EACH | 24.000 | 24.000 |
| 0046 | 505.0600 | Bar Steel Reinforcement HS Coated Structures | LB | 63,040.000 | 63,040.000 |
| 0048 | 505.0906 | Bar Couplers No. 6 | EACH | 16.000 | 16.000 |
| 0050 | 506.2605 | Bearing Pads Elastomeric Non-Laminated | EACH | 7.000 | 7.000 |
| 0052 | 506.7050.S | Removing Bearings (structure) 01. B-09-0016 | EACH | 7.000 | 7.000 |
| 0054 | 509.0500 | Cleaning Decks | SY | 222.000 | 222.000 |
| 0056 | 509.2500 | Concrete Masonry Overlay Decks | CY | 13.000 | 13.000 |
| 0058 | 516.0500 | Rubberized Membrane Waterproofing | SY | 15.000 | 15.000 |
| 0060 | 603.8000 | Concrete Barrier Temporary Precast Delivered | LF | 400.000 | 400.000 |
| 0062 | 603.8125 | Concrete Barrier Temporary Precast Installed | LF | 400.000 | 400.000 |
| 0064 | 606.0300 | Riprap Heavy | CY | 270.000 | 270.000 |
| 0066 | 612.0406 | Pipe Underdrain Wrapped 6-Inch | LF | 150.000 | 150.000 |
| 0068 | 614.0010 | Barrier System Grading Shaping Finishing | EACH | 16.000 | 16.000 |
| 0070 | 614.0150 | Anchor Assemblies for Steel Plate Beam Guard | EACH | 12.000 | 12.000 |

Estimate Of Quantities

8610-07-73

| Line | Item | Item Description | Unit | Total | Qty |
|------|----------|---|------|------------|------------|
| 0072 | 614.2300 | MGS Guardrail 3 | LF | 638.000 | 638.000 |
| 0074 | 614.2350 | MGS Guardrail Short Radius | LF | 113.000 | 113.000 |
| 0076 | 614.2500 | MGS Thrie Beam Transition | LF | 630.000 | 630.000 |
| 0078 | 614.2610 | MGS Guardrail Terminal EAT | EACH | 16.000 | 16.000 |
| 0080 | 614.2630 | MGS Guardrail Short Radius Terminal | EACH | 3.000 | 3.000 |
| 0082 | 618.0100 | Maintenance And Repair of Haul Roads (project) 01. 8610-07-73 | EACH | 1.000 | 1.000 |
| 0084 | 619.1000 | Mobilization | EACH | 1.000 | 1.000 |
| 0086 | 624.0100 | Water | MGAL | 9.000 | 9.000 |
| 0088 | 628.1504 | Silt Fence | LF | 3,000.000 | 3,000.000 |
| 0090 | 628.1520 | Silt Fence Maintenance | LF | 3,000.000 | 3,000.000 |
| 0092 | 628.1905 | Mobilizations Erosion Control | EACH | 4.000 | 4.000 |
| 0094 | 628.1910 | Mobilizations Emergency Erosion Control | EACH | 2.000 | 2.000 |
| 0096 | 628.2004 | Erosion Mat Class I Type B | SY | 6,000.000 | 6,000.000 |
| 0098 | 628.7504 | Temporary Ditch Checks | LF | 360.000 | 360.000 |
| 0100 | 628.7555 | Culvert Pipe Checks | EACH | 6.000 | 6.000 |
| 0102 | 634.0612 | Posts Wood 4x6-Inch X 12-FT | EACH | 4.000 | 4.000 |
| 0104 | 634.0616 | Posts Wood 4x6-Inch X 16-FT | EACH | 11.000 | 11.000 |
| 0106 | 634.0618 | Posts Wood 4x6-Inch X 18-FT | EACH | 8.000 | 8.000 |
| 0108 | 637.2210 | Signs Type II Reflective H | SF | 76.000 | 76.000 |
| 0110 | 638.2602 | Removing Signs Type II | EACH | 24.000 | 24.000 |
| 0112 | 638.3000 | Removing Small Sign Supports | EACH | 29.000 | 29.000 |
| 0114 | 642.5001 | Field Office Type B | EACH | 1.000 | 1.000 |
| 0116 | 643.0300 | Traffic Control Drums | DAY | 400.000 | 400.000 |
| 0118 | 643.0420 | Traffic Control Barricades Type III | DAY | 1,815.000 | 1,815.000 |
| 0120 | 643.0705 | Traffic Control Warning Lights Type A | DAY | 2,280.000 | 2,280.000 |
| 0122 | 643.0715 | Traffic Control Warning Lights Type C | DAY | 150.000 | 150.000 |
| 0124 | 643.0900 | Traffic Control Signs | DAY | 23,600.000 | 23,600.000 |
| 0126 | 643.0920 | Traffic Control Covering Signs Type II | EACH | 5.000 | 5.000 |
| 0128 | 643.5000 | Traffic Control | EACH | 1.000 | 1.000 |
| 0130 | 645.0120 | Geotextile Type HR | SY | 165.000 | 165.000 |
| 0132 | 646.1020 | Marking Line Epoxy 4-Inch | LF | 5,635.000 | 5,635.000 |
| 0134 | 646.9000 | Marking Removal Line 4-Inch | LF | 280.000 | 280.000 |
| 0136 | 649.0150 | Temporary Marking Line Removable Tape 4-Inch | LF | 1,400.000 | 1,400.000 |
| 0138 | 649.0850 | Temporary Marking Stop Line Removable Tape 18-Inch | LF | 60.000 | 60.000 |
| 0140 | 650.5000 | Construction Staking Base | LF | 717.000 | 717.000 |
| 0142 | 650.6500 | Construction Staking Structure Layout (structure) 01. B-09-0124 | LS | 1.000 | 1.000 |
| 0144 | 650.6500 | Construction Staking Structure Layout (structure) 02. B-09-0125 | LS | 1.000 | 1.000 |

Estimate Of Quantities

| 8610-07-73 | | | | | |
|------------|----------|--|------|-----------|-----------|
| Line | Item | Item Description | Unit | Total | Qty |
| 0146 | 650.6500 | Construction Staking Structure Layout (structure) 03. B-09-0126 | LS | 1.000 | 1.000 |
| 0148 | 650.9910 | Construction Staking Supplemental Control (project) 01. 8610-07-73 | LS | 1.000 | 1.000 |
| 0150 | 650.9920 | Construction Staking Slope Stakes | LF | 1,807.000 | 1,807.000 |
| 0152 | 661.0100 | Temporary Traffic Signals for Bridges (structure) 01. B-09-0016 | LS | 1.000 | 1.000 |
| 0154 | 690.0150 | Sawing Asphalt | LF | 1,230.000 | 1,230.000 |
| 0156 | 715.0415 | Incentive Strength Concrete Pavement | DOL | 500.000 | 500.000 |
| 0158 | 715.0502 | Incentive Strength Concrete Structures | DOL | 2,164.000 | 2,164.000 |
| 0160 | ASP.1T0A | On-the-Job Training Apprentice at \$5.00/HR | HRS | 300.000 | 300.000 |
| 0162 | ASP.1T0G | On-the-Job Training Graduate at \$5.00/HR | HRS | 1,200.000 | 1,200.000 |

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*ALL ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

| REMOVING ASPHALTIC SURFACE | | | | 204.0110 |
|----------------------------|----|---------|--------------------|----------|
| STATION | TO | STATION | LOCATION | SY |
| 17+90 | TO | 19+59 | B-9-124 S APPROACH | 340 |
| 20+41 | TO | 22+33 | B-9-124 N APPROACH | 330 |
| 47+96 | TO | 49+65 | B-9-125 S APPROACH | 540 |
| 50+34 | TO | 52+04 | B-9-125 N APPROACH | 240 |
| 67+43 | TO | 69+05 | B-9-126 S APPROACH | 560 |
| 69+61 | TO | 71+22 | B-9-126 N APPROACH | 440 |
| 10+53 | TO | 12+32 | B-9-16 S APPROACH | 260 |
| 13+05 | TO | 15+47 | B-9-16 N APPROACH | 290 |
| ITEM TOTAL | | | | 3000 |

| REMOVING GUARDRAIL | | | | 204.0165 |
|--------------------|----|---------|----------|----------|
| STATION | TO | STATION | LOCATION | LF |
| 18+52 | TO | 21+10 | B-9-124 | 555 |
| 48+71 | TO | 51+31 | B-9-125 | 575 |
| 68+10 | TO | 70+75 | B-9-126 | 505 |
| 10+98 | TO | 14+38 | B-9-16 | 435 |
| ITEM TOTAL | | | | 2070 |

| | | | |
|--|----------|--|----------|
| PREPARE FOUNDATION FOR ASPHALTIC PAVING (PROJECT) 8610-07-73 | | | 211.0100 |
| STATION TO STATION | LOCATION | | LS |
| PROJECT | MAINLINE | | 1 |
| ITEM TOTAL | | | 1 |

| PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS | | | | 211.0400 |
|--|----|---------|-----------------------|----------|
| STATION | TO | STATION | LOCATION | STA |
| 17+90 | TO | 19+59 | B-9-124 S APPROACH RT | 2 |
| 18+27 | TO | 19+59 | B-9-124 S APPROACH LT | 2 |
| 21+06 | TO | 21+73 | B-9-124 N APPROACH RT | 1 |
| 21+06 | TO | 22+33 | B-9-124 N APPROACH LT | 2 |
| 47+97 | TO | 48+23 | B-9-125 S APPROACH RT | 1 |
| 50+85 | TO | 52+04 | B-9-125 N APPROACH LT | 2 |
| 70+75 | TO | 70+98 | B-9-126 N APPROACH RT | 1 |
| 70+75 | TO | 71+22 | B-9-126 N APPROACH LT | 1 |
| 10+58 | TO | 11+75 | B-9-16 S APPROACH RT | 2 |
| 11+05 | TO | 11+75 | B-9-16 S APPROACH LT | 1 |
| 13+60 | TO | 14+31 | B-9-16 N APPROACH RT | 1 |
| 13+60 | TO | 15+26 | B-9-16 N APPROACH LT | 2 |
| ITEM TOTAL | | | | 18 |

| FINISHING ROADWAY (PROJECT) 8610-07-73 | | | 213.0100 | |
|--|----|---------|----------|------|
| STATION | TO | STATION | LOCATION | EACH |
| PROJECT | | | MAINLINE | 1 |
| ITEM TOTAL | | | | 1 |

| BASE AGGREGATE DENSE 3/4-INCH | | | | 305.0110 |
|-------------------------------|----|---------|----------------|----------|
| STATION | TO | STATION | LOCATION | TON |
| 17+32 | TO | 19+60 | B-9-124 S SHLD | 55 |
| 20+40 | TO | 23+03 | B-9-124 N SHLD | 55 |
| 47+39 | TO | 49+65 | B-9-125 S SHLD | 40 |
| 50+34 | TO | 52+62 | B-9-125 N SHLD | 65 |
| 66+85 | TO | 69+05 | B-9-126 S SHLD | 65 |
| 69+60 | TO | 71+60 | B-9-126 N SHLD | 50 |
| 10+10 | TO | 12+34 | B-9-16 S SHLD | 40 |
| 13+02 | TO | 23+03 | B-9-16 N SHLD | 40 |
| ITEM TOTAL | | | | 410 |

| BASE AGGREGATE DENSE 1 1/4-INCH | | | | 305.0120 |
|---------------------------------|----|------------|--------------------|----------|
| STATION | TO | STATION | LOCATION | TON |
| 18+83 | TO | 19+45 | B-9-124 S APPROACH | 15 |
| 20+55 | TO | 21+06 | B-9-124 N APPROACH | 7 |
| 21+20 LT | | STH 124 PE | | 3 |
| 48+23 | TO | 49+50 | B-9-125 S APPROACH | 55 |
| 50+49 | TO | 50+85 | B-9-125 N APPROACH | 10 |
| 67+50 | TO | 68+86 | B-9-126 S APPROACH | 44 |
| 69+80 | TO | 70+75 | B-9-126 N APPROACH | 26 |
| 14+85 LT | | STH 64 PE | | 10 |
| ITEM TOTAL | | | | 170 |

| CONCRETE PAVEMENT, 7-INCH | | | | 415.0070 |
|---------------------------|----|---------|--------------------|----------|
| STATION | TO | STATION | LOCATION | SY |
| 19+45 | TO | 19+60 | B-9-124 S APPROACH | 20 |
| 50+34 | TO | 50+49 | B-9-125 N APPROACH | 20 |
| 69+60 | TO | 69+79 | B-9-126 N APPROACH | 26 |
| ITEM TOTAL | | | | 66 |

| CONCRETE PAVEMENT APPROACH SLAB | | | | 415.0410 |
|---------------------------------|----|---------|--------------------|----------|
| STATION | TO | STATION | LOCATION | SY |
| 19+45 | TO | 19+60 | B-9-124 S APPROACH | 40 |
| 20+40 | TO | 20+55 | B-9-124 N APPROACH | 40 |
| 49+50 | TO | 49+65 | B-9-125 S APPROACH | 40 |
| 50+34 | TO | 50+49 | B-9-125 N APPROACH | 40 |
| 68+85.5 | TO | 69+05 | B-9-126 S APPROACH | 52 |
| 69+60 | TO | 69+79.5 | B-9-126 N APPROACH | 52 |
| ITEM TOTAL | | | | 264 |

| CONCRETE SURFACE DRAINS | | | | 416.1010 |
|-------------------------|----|---------|--------------------|----------|
| STATION | TO | STATION | LOCATION | CY |
| 20+40 | TO | 20+55 | B-9-124 N APPROACH | 5.5 |
| 49+50 | TO | 49+65 | B-9-125 S APPROACH | 5.0 |
| 68+85.5 | TO | 69+05 | B-9-126 S APPROACH | 5.5 |
| ITEM TOTAL | | | | 16.0 |

| TACK COAT | | | | 455.0605 |
|------------|----|---------|--------------------|----------|
| STATION | TO | STATION | LOCATION | GAL |
| 17+90 | TO | 19+59 | B-9-124 S APPROACH | 17 |
| 20+41 | TO | 22+46 | B-9-124 N APPROACH | 17 |
| 47+96 | TO | 49+65 | B-9-125 S APPROACH | 26 |
| 50+34 | TO | 52+03 | B-9-125 N APPROACH | 11 |
| 67+43 | TO | 69+05 | B-9-126 S APPROACH | 27 |
| 69+61 | TO | 71+22 | B-9-126 N APPROACH | 22 |
| 10+53 | TO | 12+32 | B-9-16 S APPROACH | 14 |
| 13+05 | TO | 15+47 | B-9-16 N APPROACH | 16 |
| ITEM TOTAL | | | | 150 |

| ASPHALTIC SURFACE | | | | 465.0105 |
|-------------------|----|---------|--------------------|----------|
| STATION | TO | STATION | LOCATION | TON |
| 18+83 | TO | 19+45 | B-9-124 S APPROACH | 95 |
| 20+55 | TO | 21+06 | B-9-124 N APPROACH | 100 |
| 48+23 | TO | 49+50 | B-9-125 S APPROACH | 150 |
| 50+49 | TO | 50+85 | B-9-125 N APPROACH | 63 |
| 67+50 | TO | 68+86 | B-9-126 S APPROACH | 155 |
| 69+80 | TO | 70+75 | B-9-126 N APPROACH | 120 |
| 10+58 | TO | 12+34 | B-9-16 S APPROACH | 82 |
| 13+02 | TO | 15+26 | B-9-16 N APPROACH | 95 |
| ITEM TOTAL | | | | 860 |

| ASPHALTIC SURFACE DETOURS | | | 465.0115 | |
|---------------------------|----|---------|---------------|-----|
| STATION | TO | STATION | LOCATION | TON |
| DETOUR ROUTE | | | UNDISTRIBUTED | 150 |
| ITEM TOTAL | | | | 150 |

| RIPRAP HEAVY | | | | 606.0300 | |
|--------------|----|---------|----------------|----------|----------|
| STATION | TO | STATION | LOCATION | CY | CATEGORY |
| 19+60 | | | B-9-124 S ABUT | 35 | 030 |
| 20+40 | | | B-9-124 N ABUT | 55 | 030 |
| 49+65 | | | B-9-125 S ABUT | 70 | 040 |
| 50+34 | | | B-9-125 N ABUT | 60 | 040 |
| 69+05 | | | B-9-126 S ABUT | 30 | 050 |
| 69+60 | | | B-9-126 N ABUT | 20 | 050 |
| ITEM TOTAL | | | | 270 | |

| GEOTEXTILE TYPE HR | | | | 645.0120 | |
|--------------------|----|---------|----------------|----------|----------|
| STATION | TO | STATION | LOCATION | SY | CATEGORY |
| 19+60 | | | B-9-124 S ABUT | 17 | 030 |
| 20+40 | | | B-9-124 N ABUT | 40 | 030 |
| 49+65 | | | B-9-125 S ABUT | 40 | 040 |
| 50+34 | | | B-9-125 N ABUT | 17 | 040 |
| 69+05 | | | B-9-126 S ABUT | 35 | 050 |
| 69+60 | | | B-9-126 N ABUT | 16 | 050 |
| ITEM TOTAL | | | | 165 | |

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*ALL ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

| BARRIER SYSTEM GRADING SHAPING FINISHING | | | | | | | | 614.0010 |
|--|----------|------------------------------|----------------|-----------------------------|------------------|-------------------------------|-----------------------------------|----------|
| APPROACH | LOCATION | * EXCAVATION COMMON CY | * BORROW CY | * SALVAGED TOPSOIL SY | * MULCHING SY | * FERTILIZER TYPE B CWT | * SEEDING MIXTURE NO. 20 LB | EACH |
| B-9-124 | | | | | | | | |
| SOUTH APPROACH | LT & RT | 65 | 550 | 1090 | 1315 | 0.7 | 35 | 2 |
| NORTH APPROACH | LT & RT | 65 | 150 | 620 | 820 | 0.4 | 25 | 2 |
| B-9-125 | | | | | | | | |
| SOUTH APPROACH | LT & RT | 100 | 250 | 900 | 1125 | 0.6 | 30 | 2 |
| NORTH APPROACH | LT & RT | 45 | 100 | 720 | 950 | 0.5 | 25 | 2 |
| B-9-126 | | | | | | | | |
| SOUTH APPROACH | LT & RT | 130 | 40 | 685 | 910 | 0.4 | 25 | 2 |
| NORTH APPROACH | LT & RT | 110 | -- | 485 | 700 | 0.3 | 20 | 2 |
| B-9-16 | | | | | | | | |
| SOUTH APPROACH | LT & RT | 75 | -- | 400 | 615 | 0.3 | 15 | 2 |
| NORTH APPROACH | LT & RT | 60 | -- | 280 | 475 | 0.2 | 15 | 2 |
| ITEM TOTAL | | 650 | 1090 | 5180 | 6910 | 3 | 190 | 16 |

* FOR INFORMATION ONLY

| GUARDRAIL SUMMARY | | | | | | | | |
|-------------------|----|---------|----------|--|---|--------------------------------------|--|---|
| STATION | TO | STATION | LOCATION | 614.2350 MGS GUARDRAIL SHORT RADIUS LF | 614.2630 MGS GUARDRAIL SHORT RADIUS TERMINAL EACH | 614.2300 MGS 3 GUARDRAIL LF | 614.2500 MGS THRIE BEAM TRANSITION LF | 614.2610 MGS GUARDRAIL TERMINAL EAT EACH |
| B-9-124 | | | | | | | | |
| 18+20.0 | TO | 19+60.0 | RT | -- | -- | 50.0 | 39.4 | 1 |
| 18+57.5 | TO | 19+60.0 | LT | -- | -- | 12.5 | 39.4 | 1 |
| 20+40.0 | TO | 21+42.5 | RT | -- | -- | 12.5 | 39.4 | 1 |
| 20+40.0 | TO | 21+11.0 | LT | 25.0 | 1 | 50 | 39.4 | -- |
| 21+35.0 | TO | 22+16.3 | LT | 12.5 | 1 | 50 | -- | 1 |
| B-9-125 | | | | | | | | |
| 48+26.5 | TO | 49+66.5 | RT | -- | -- | 50 | 39.4 | 1 |
| 48+64.0 | TO | 49+66.5 | LT | -- | -- | 12.5 | 39.4 | 1 |
| 50+33.5 | TO | 51+36.1 | RT | 75.0 | -- | 50 | 39 | 1 |
| 50+33.5 | TO | 51+73.5 | LT | -- | -- | 50 | 39.4 | 1 |
| B-9-126 | | | | | | | | |
| 67+73.0 | TO | 69+13.0 | RT | -- | -- | 50 | 39.4 | 1 |
| 67+96.9 | TO | 68+99.4 | LT | -- | -- | 12.5 | 39.4 | 1 |
| 69+52.0 | TO | 70+92.0 | LT | -- | -- | 50 | 39.4 | 1 |
| 69+65.6 | TO | 70+68.1 | RT | -- | -- | 12.5 | 39.4 | 1 |
| B-9-16 | | | | | | | | |
| 10+67.9 | TO | 12+32.9 | RT | -- | -- | 75 | 39.4 | 1 |
| 11+15.4 | TO | 12+18.0 | LT | -- | -- | 12.5 | 39.4 | 1 |
| 13+03.1 | TO | 14+68.1 | LT | -- | 1 | 75 | 39.4 | 1 |
| 13+18.0 | TO | 14+20.6 | RT | -- | -- | 12.5 | 39.4 | 1 |
| ITEM TOTAL | | | | 113 | 3 | 637.5 | 630 | 16 |

*ALL ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

| SILT FENCE | | | | | |
|---------------|----|---------|---------------|------------------------------|---|
| STATION | TO | STATION | LOCATION | 628.1504 SILT FENCE LF | 628.1520 SILT FENCE MAINTENANCE LF |
| 17+32 | TO | 19+60 | B-9-124 SOUTH | 415 | 415 |
| 20+40 | TO | 23+03 | B-9-124 NORTH | 290 | 290 |
| 47+39 | TO | 49+65 | B-9-125 SOUTH | 475 | 475 |
| 50+34 | TO | 52+62 | B-9-125 NORTH | 380 | 380 |
| 66+85 | TO | 69+05 | B-9-126 SOUTH | 360 | 360 |
| 69+60 | TO | 71+60 | B-9-126 NORTH | 160 | 160 |
| 10+10 | TO | 12+34 | B-9-16 SOUTH | 425 | 425 |
| 13+00 | TO | 14+55 | B-9-16 NORTH | 165 | 165 |
| UNDISTRIBUTED | | | | 330 | 330 |
| ITEM TOTAL | | | | 3000 | 3000 |

| MOBILIZATIONS EROSION CONTROL | | | | |
|-------------------------------|----|---------|--|---|
| STATION | TO | STATION | LOCATION | |
| | | | 628.1905 MOBILIZATIONS EROSION CONTROL EACH | 628.1910 MOBILAZIONS EMERGENCY EROSION CONTROL EACH |
| PROJECT LIMITS | | | 8610-07-73 | 4 |
| ITEM TOTAL | | | | 4 |

| WATER | | | | | 624.0100 |
|------------|----|---------|------------|------|----------|
| STATION | TO | STATION | LOCATION | MGAL | |
| 17+32 | TO | 23+03 | APPROACHES | 9 | |
| ITEM TOTAL | | | | 9 | |

| EROSION MAT CLASS I TYPE B | | | | | 628.2004 |
|----------------------------|----|---------|---------------|------|----------|
| STATION | TO | STATION | LOCATION | SY | |
| 17+32 | TO | 19+60 | B-9-124 SOUTH | 1140 | |
| 20+40 | TO | 23+03 | B-9-124 NORTH | 690 | |
| 47+39 | TO | 49+65 | B-9-125 SOUTH | 925 | |
| 50+34 | TO | 52+62 | B-9-125 NORTH | 730 | |
| 66+85 | TO | 69+05 | B-9-126 SOUTH | 690 | |
| 69+60 | TO | 71+60 | B-9-126 NORTH | 620 | |
| 10+10 | TO | 12+34 | B-9-16 SOUTH | 480 | |
| 13+02 | TO | 23+03 | B-9-16 NORTH | 185 | |
| UNDISTRIBUTED | | | | 540 | |
| ITEM TOTAL | | | | 6000 | |

| TEMPORARY DITCH CHECKS | | | | | 628.7504 |
|------------------------|----|---------|--------------------|-----|----------|
| STATION | TO | STATION | LOCATION | LF | |
| 17+02 | TO | 23+35 | B-9-124 APPROACHES | 75 | |
| 47+08 | TO | 52+92 | B-9-125 APPROACHES | 45 | |
| 66+55 | TO | 72+30 | B-9-126 APPROACHES | 120 | |
| 9+48 | TO | 16+50 | B-9-16 APPROACHES | 45 | |
| UNDISTRIBUTED | | | | 75 | |
| ITEM TOTAL | | | | 360 | |

| CULVERT PIPE CHECKS | | | | 628.7555 |
|---------------------|----|---------|----------|----------|
| STATION | TO | STATION | LOCATION | EACH |
| 21+20 LT | | | PE | 3 |
| 14+85 LT | | | PE | 3 |
| ITEM TOTAL | | | | 6 |

| FIELD OFFICE TYPE B | | | | 642.5001 |
|---------------------|----|---------|------------|----------|
| STATION | TO | STATION | LOCATION | EACH |
| PROJECT LIMITS | | | 8610-07-73 | 1 |
| ITEM TOTAL | | | | 1 |

| PERMANENT SIGNING | | | | | | | | | | | | |
|-------------------|---------|----------|--------------|------------------------------|-------------------|--------------------|--|---|---|---|---|---|
| SIGN NUMBER | STATION | LOCATION | SIGN CODE | SIGN DESCRIPTION | WIDTH (INCHES) | HEIGHT (INCHES) | 637.2210 SIGNS, TYPE II, REFLECTIVE H SF | 634.0612 WOOD POSTS, 4X6-INCH X 12 FT EACH | 634.0616 WOOD POSTS, 4X6-INCH X 16 FT EACH | 634.0618 WOOD POSTS, 4X6-INCH X 18 FT EACH | 638.2602 REMOVING SIGNS TYPE II EACH | 638.3000 REMOVING SMALL SIGN SUPPORTS EACH |
| 1 - 1 | 18+07 | LT | R2-1 | SPEED LIMIT | 30 | 24 | 5.00 | -- | 1 | -- | 1 | 1 |
| 1 - 2 | 18+13 | RT | R2-1 | SPEED LIMIT | 30 | 24 | 5.00 | -- | 1 | -- | 1 | 1 |
| 1 - 3 | 19+50 | RT | I3-1 | O'NEIL CREEK | 36 | 24 | 6.00 | -- | 1 | 1 | 1 | 2 |
| 1 - 4 | 19+57 | LT | | CLEARANCE STRIPER DOWN LEFT | -- | -- | -- | -- | -- | -- | 1 | 1 |
| 1 - 5 | 19+57 | RT | | CLEARANCE STRIPER DOWN RIGHT | -- | -- | -- | -- | -- | -- | 1 | 1 |
| 1 - 6 | 20+40 | LT | | CLEARANCE STRIPER DOWN RIGHT | -- | -- | -- | -- | -- | -- | 1 | 1 |
| 1 - 7 | 20+40 | RT | | CLEARANCE STRIPER DOWN LEFT | -- | -- | -- | -- | -- | -- | 1 | 1 |
| 1 - 8 | 20+50 | LT | I3-1 | O'NEIL CREEK | 36 | 24 | 6.00 | -- | 1 | 1 | 1 | 2 |
| 2 - 1 | 49+55 | LT | W14-3 | NO PASSING ZONE | -- | -- | 6.00 | -- | 1 | -- | 1 | 1 |
| 2 - 2 | 49+56 | RT | I3-1 | O'NEIL CREEK | 36 | 24 | 6.00 | -- | 1 | 1 | 1 | 2 |
| 2 - 3 | 49+65 | LT | | CLEARANCE STRIPER DOWN LEFT | -- | -- | -- | -- | -- | -- | 1 | 1 |
| 2 - 4 | 49+65 | RT | | CLEARANCE STRIPER DOWN RIGHT | -- | -- | -- | -- | -- | -- | 1 | 1 |
| 2 - 5 | 50+35 | LT | | CLEARANCE STRIPER DOWN RIGHT | -- | -- | -- | -- | -- | -- | 1 | 1 |
| 2 - 6 | 50+35 | RT | | CLEARANCE STRIPER DOWN LEFT | -- | -- | -- | -- | -- | -- | 1 | 1 |
| 2 - 7 | 50+50 | LT | I3-1 | O'NEIL CREEK | 36 | 24 | 6.00 | -- | 1 | 1 | 1 | 2 |
| 3 - 1 | 68+90 | LT | I3-1 | O'NEIL CREEK | 36 | 24 | 6.00 | -- | 1 | 1 | -- | -- |
| 3 - 2 | 68+98 | LT | | CLEARANCE STRIPER DOWN LEFT | -- | -- | -- | -- | -- | -- | 1 | 1 |
| 3 - 3 | 69+10 | RT | | CLEARANCE STRIPER DOWN RIGHT | -- | -- | -- | -- | -- | -- | 1 | 1 |
| 3 - 4 | 69+55 | LT | | CLEARANCE STRIPER DOWN RIGHT | -- | -- | -- | -- | -- | -- | 1 | 1 |
| 3 - 5 | 69+57 | LT | I3-1 | O'NEIL CREEK | 36 | 24 | 6.00 | -- | 1 | 1 | 1 | 2 |
| 3 - 6 | 69+67 | RT | | CLEARANCE STRIPER DOWN LEFT | -- | -- | -- | -- | -- | -- | 1 | 1 |
| 4 - 1 | 12+15 | LT | W5-52L | CLEARANCE STRIPER DOWN LEFT | 12 | 36 | 3.00 | 1 | -- | -- | 1 | 1 |
| 4 - 2 | 12+29 | RT | W5-52R | CLEARANCE STRIPER DOWN RIGHT | 12 | 36 | 3.00 | 1 | -- | -- | 1 | 1 |
| 4 - 3 | 12+34 | RT | I3-1 | O'NEIL CREEK | 36 | 24 | 6.00 | -- | 1 | 1 | 1 | 1 |
| 4 - 4 | 13+05 | LT | I3-1 | O'NEIL CREEK | 36 | 24 | 6.00 | -- | 1 | 1 | 1 | 1 |
| 4 - 5 | 13+06 | LT | W5-52R | CLEARANCE STRIPER DOWN RIGHT | 12 | 36 | 3.00 | 1 | -- | -- | -- | -- |
| 4 - 6 | 13+20 | RT | W5-52L | CLEARANCE STRIPER DOWN LEFT | 12 | 36 | 3.00 | 1 | -- | -- | -- | -- |
| ITEM TOTAL | | | | | | | 76.00 | 4 | 11 | 8 | 24 | 29 |

PROJECT NO:8610-07-73

HWY:STH 124

COUNTY:CHIPPEWA

MISCELLANEOUS QUANTITIES

SHEET

E

*ALL ITEMS ARE CATEGORY 010 UNLESS OTHERWISE NOTED

| TRAFFIC CONTROL ITEMS | | | | | | | | | | | | | |
|-----------------------|----------------------------|--|--|---|--|--|--|---|---|---|---|--|---|
| | LOCATION | 603.8000 CONCRETE BARRIER TEMPORARY PRECAST DELIVERED LF | 603.8125 CONCRETE BARRIER TEMPORARY PRECAST INSTALLED LF | 643.0300 TRAFFIC CONTROL DRUMS DAY | 643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY | 643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY | 643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY | 643.0900 TRAFFIC CONTROL SIGNS DAY | 643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II COUNT CYC. EACH | | | 643.5000 TRAFFIC CONTROL EACH | 661.0100 TEMPORARY TRAFFIC SIGNAL FOR BRIDGES (STRUCTURE) B-9-16 LS |
| PROJECT | SEE TRAFFIC CONTROL SHEETS | - | - | - | - | - | - | - | - | - | - | 1 | - |
| STH 124 DETOUR | SEE TRAFFIC CONTROL SHEETS | - | - | 0 | 1800 | 2250 | - | 23250 | - | - | - | - | - |
| STH 64 | SEE TRAFFIC CONTROL SHEETS | 400 | 400 | 400 | 15 | 30 | 150 | 350 | 5 | 1 | 5 | - | 1 |
| ITEM TOTAL | | 400 | 400 | 400 | 1815 | 2280 | 150 | 23600 | | | 5 | 1 | 1 |

| MARKING LINE EPOXY 4-INCH 646.1020 | | | | |
|------------------------------------|----|---------|--------------------|------|
| STATION | TO | STATION | LOCATION | LF |
| 17+32 | TO | 23+03 | B-9-124 APPROACHES | 1280 |
| 47+39 | TO | 52+62 | B-9-125 APPROACHES | 1300 |
| 66+85 | TO | 71+60 | B-9-126 APPROACHES | 1900 |
| 10+10 | TO | 15+26 | B-9-16 APPROACHES | 1155 |
| ITEM TOTAL | | | | 5635 |

| MARKING REMOVAL LINE 4-INCH 646.9000 | | | | |
|--------------------------------------|----|---------|----------|-----|
| STATION | TO | STATION | LOCATION | LF |
| 9+80 | TO | 11+20 | STH 64 | 140 |
| 14+20 | TO | 15+60 | STH 64 | 140 |
| ITEM TOTAL | | | | 280 |

| TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH 649.0150 | | | | |
|---|----|---------|----------|------|
| STATION | TO | STATION | LOCATION | LF |
| 2+80 | TO | 9+80 | STH 64 | 700 |
| 15+60 | TO | 22+60 | STH 64 | 700 |
| ITEM TOTAL | | | | 1400 |

| TEMPORARY MARKING STOP LINE REMOVABLE TAPE 18-INCH 649.0850 | | | | |
|---|----|---------|----------|----|
| STATION | TO | STATION | LOCATION | LF |
| 2+80 | TO | 9+80 | STH 64 | 30 |
| 15+60 | TO | 22+60 | STH 64 | 30 |
| ITEM TOTAL | | | | 60 |

| CONSTRUCTION STAKING | | | | | |
|----------------------|----------|------------|--|---|--|
| STATION TO STATION | | LOCATION | 650.5000 CONSTRUCTION STAKING BASE | 650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (8610-07-73) | 650.9920 CONSTRUCTION STAKING SLOPE STAKES |
| | | | LF | LS | LF |
| PROJECT LIMITS | | 8610-07-73 | - | 1 | - |
| 17+32 | TO 23+03 | B-9-124 | 141 | - | 489 |
| 47+39 | TO 52+62 | B-9-125 | 193 | - | 454 |
| 66+85 | TO 71+60 | B-9-126 | 270 | - | 420 |
| 10+10 | TO 15+26 | B-9-16 | 113 | - | 444 |
| ITEM TOTAL | | | 717 | 1 | 1807 |

| CONSTRUCTION STAKING STRUCTURE LAYOUT (STRUCTURE) 650.6500 | | | | |
|--|--|-------------|------|----------|
| STATION TO STATION | | STRUCTURE | EACH | CATEGORY |
| 20+00 | | 01. B-9-124 | 1 | 020 |
| 50+00 | | 02. B-9-125 | 1 | 030 |
| 69+32.5 | | 03. B-9-126 | 1 | 040 |
| ITEM TOTAL | | | 3 | |

| SAWING ASPHALT 690.0150 | | | | |
|-------------------------|----|---------|--------------------|------|
| STATION | TO | STATION | LOCATION | LF |
| 17+90 | TO | 22+60 | B-9-124 APPROACHES | 405 |
| 47+97 | TO | 52+04 | B-9-125 APPROACHES | 210 |
| 67+43 | TO | 71+20 | B-9-126 APPROACHES | 130 |
| 10+58 | TO | 15+42 | B-9-16 APPROACHES | 485 |
| ITEM TOTAL | | | | 1230 |

WETLAND IMPACT SHEET SUMMARY
WETLAND IMPACT: RPF - 0.047 ACRES

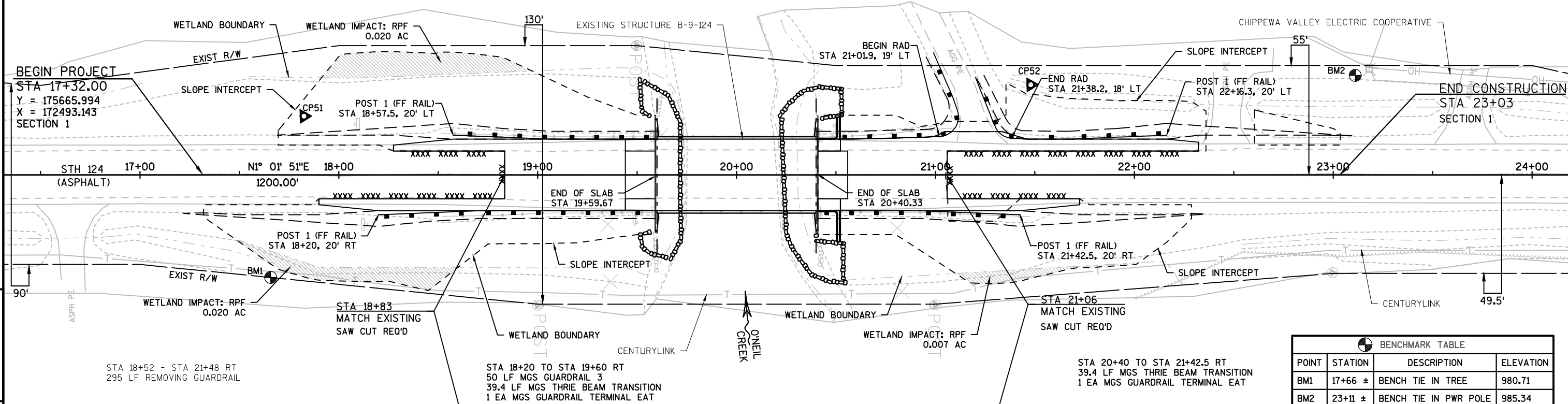
STA 18+57.5 TO STA 19+60 LT
39.4 LF MGS THRIE BEAM TRANSITION
1 EA MGS GUARDRAIL TERMINAL EAT

STA 19+45 TO STA 19+60
CONSTRUCT CONCRETE PAVEMENT
APPROACH SLAB
STA 19+45 TO STA 19+60
CONSTRUCT CONCRETE PAVEMENT SHOULDERS
20 SY CONCRETE PAVEMENT 7-INCH REQ'D

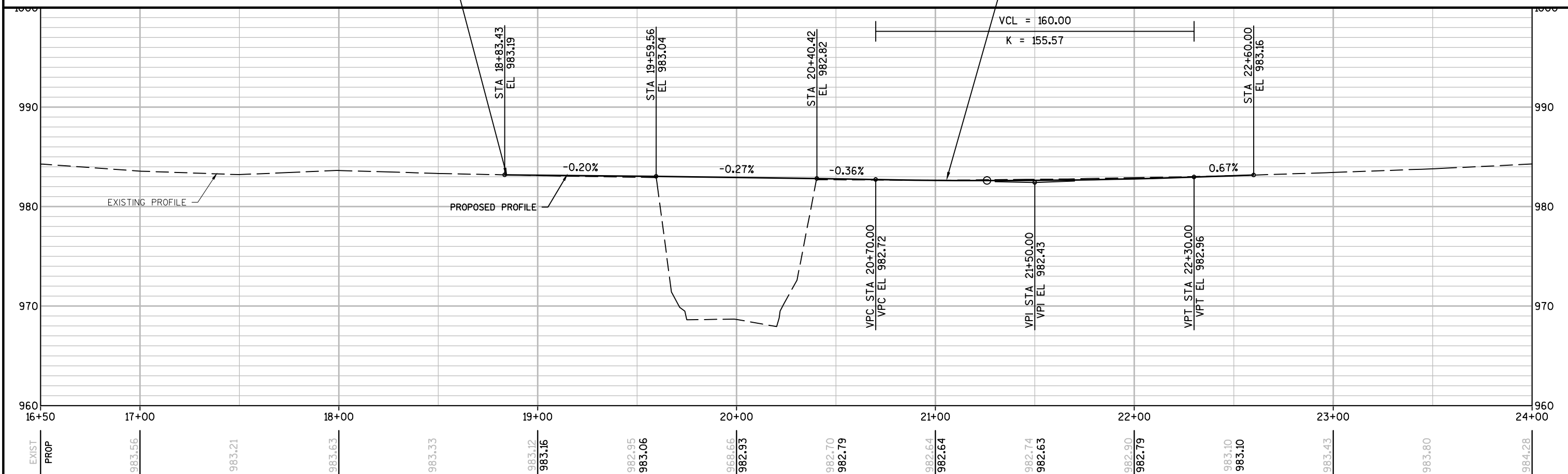
STA 20+40 TO STA 20+55
CONSTRUCT CONCRETE PAVEMENT APPROACH SLAB
CONSTRUCT CONCRETE SURFACE DRAINS
(FLUME TYPE)

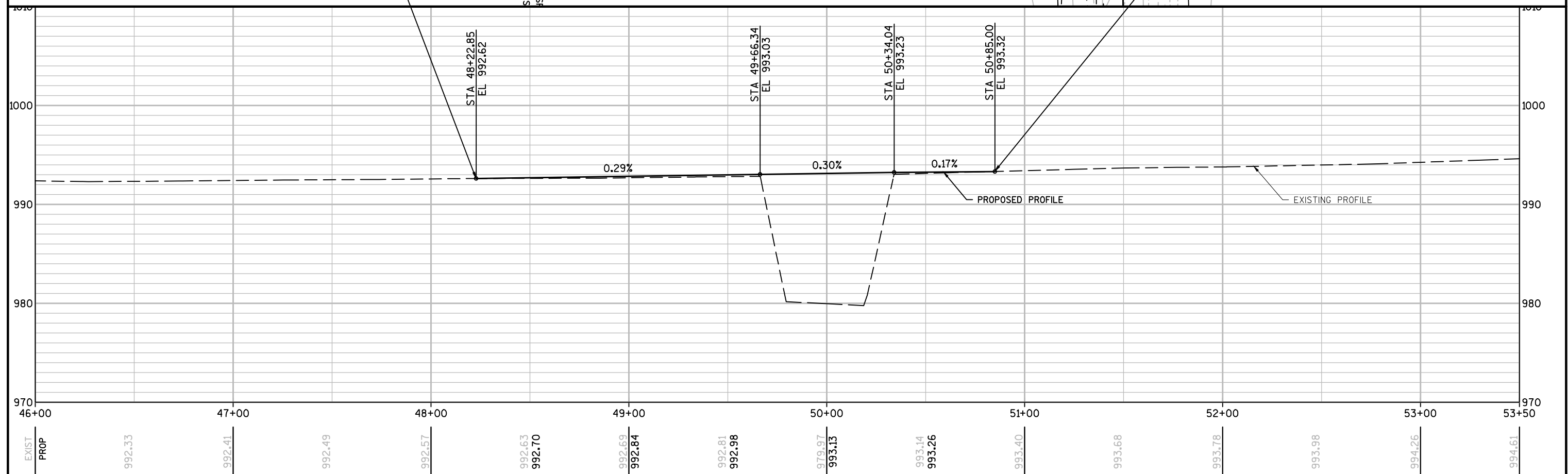
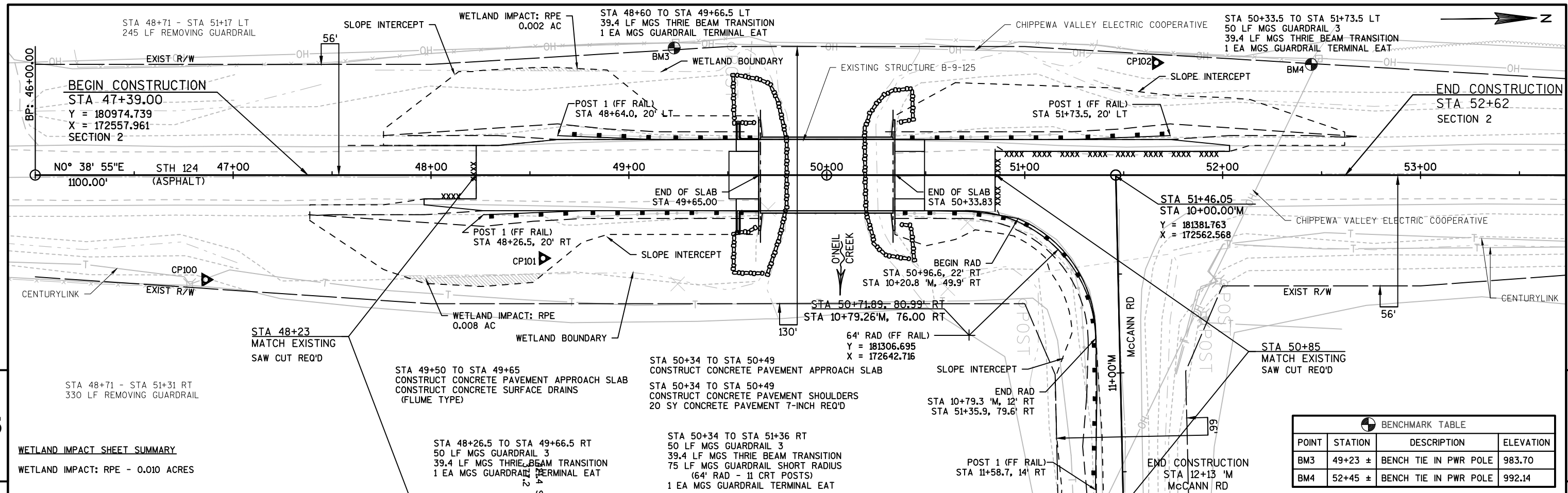
STA 20+40 TO STA 21+11 LT
50 LF MGS GUARDRAIL 3
39.4 LF MGS THRIE BEAM TRANSITION
25 LF MGS GUARDRAIL SHORT RADIUS
(10' RAD - 4 CRT POSTS)
1 EA MGS GUARDRAIL SHORT RADIUS TERMINAL

STA 21+35 TO STA 22+16.3 LT
50 LF MGS GUARDRAIL 3
12.5 LF MGS GUARDRAIL SHORT RADIUS
(10' RAD - 2 CRT POSTS)
1 EA MGS GUARDRAIL SHORT RADIUS TERMINAL
1 EA MGS GUARDRAIL TERMINAL EAT



| BENCHMARK TABLE | | | |
|-----------------|---------|-----------------------|-----------|
| POINT | STATION | DESCRIPTION | ELEVATION |
| BM1 | 17+66 ± | BENCH TIE IN TREE | 980.71 |
| BM2 | 23+11 ± | BENCH TIE IN PWR POLE | 985.34 |





| | | | | | | |
|------------------------|--|--------------|------------------|------------------------------------|-------|---|
| PROJECT NO: 8610-07-73 | | HWY: STH 124 | COUNTY: CHIPPEWA | PLAN AND PROFILE: PLAN AND PROFILE | SHEET | E |
|------------------------|--|--------------|------------------|------------------------------------|-------|---|

| BENCHMARK TABLE | | | |
|-----------------|---------|-----------------------|-----------|
| POINT | STATION | DESCRIPTION | ELEVATION |
| BM5 | 66+96 ± | BENCH TIE IN PWR POLE | 997.82 |
| BM6 | 69+79 ± | BENCH TIE IN PWR POLE | 993.02 |

STA 67+96.9 TO STA 68+99.5 LT
39.4 LF MGS THRIE BEAM TRANSITION
1 EA MGS GUARDRAIL TERMINAL EAT

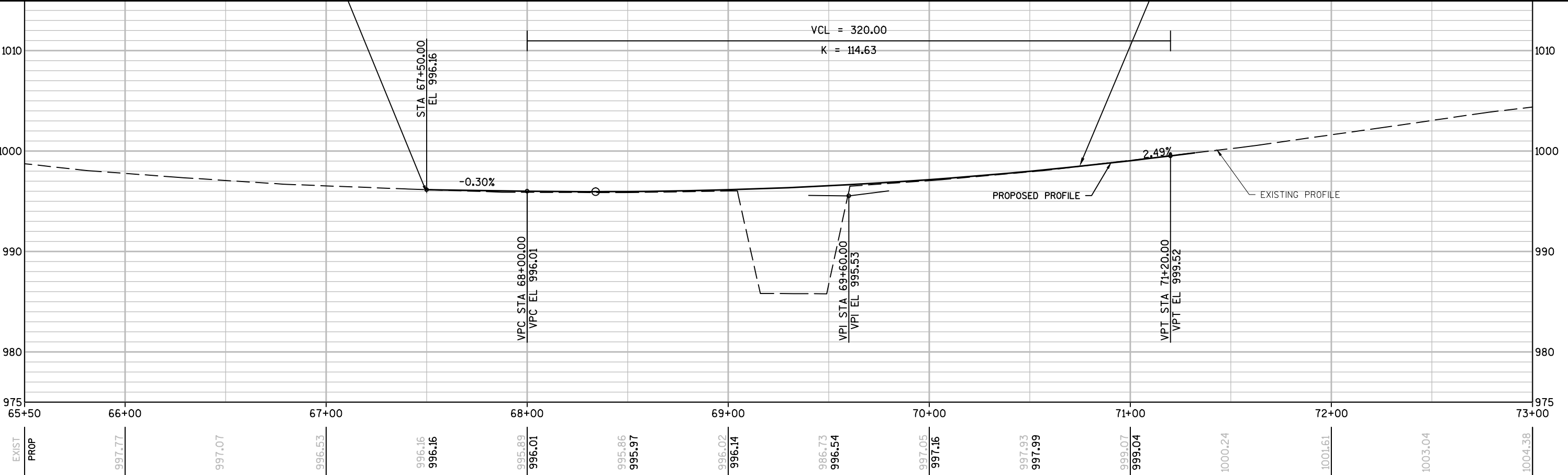
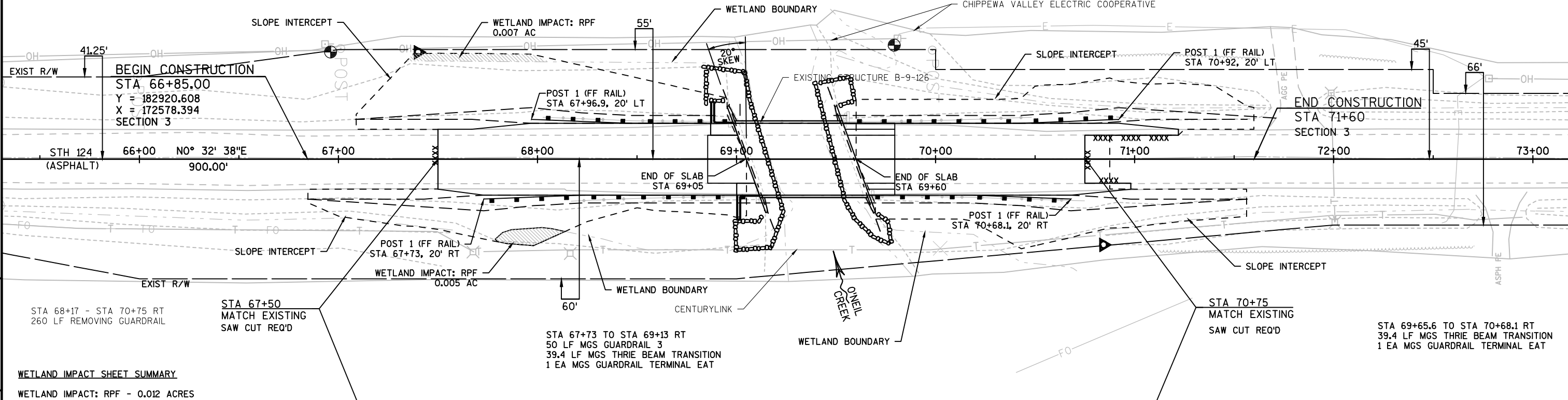
STA 68+03 - STA 70+48 LT
245 LF REMOVING GUARDRAIL

STA 68+85.5 TO STA 69+05
CONSTRUCT CONCRETE PAVEMENT APPROACH SLAB
CONSTRUCT CONCRETE SURFACE DRAINS
(FLUME TYPE)

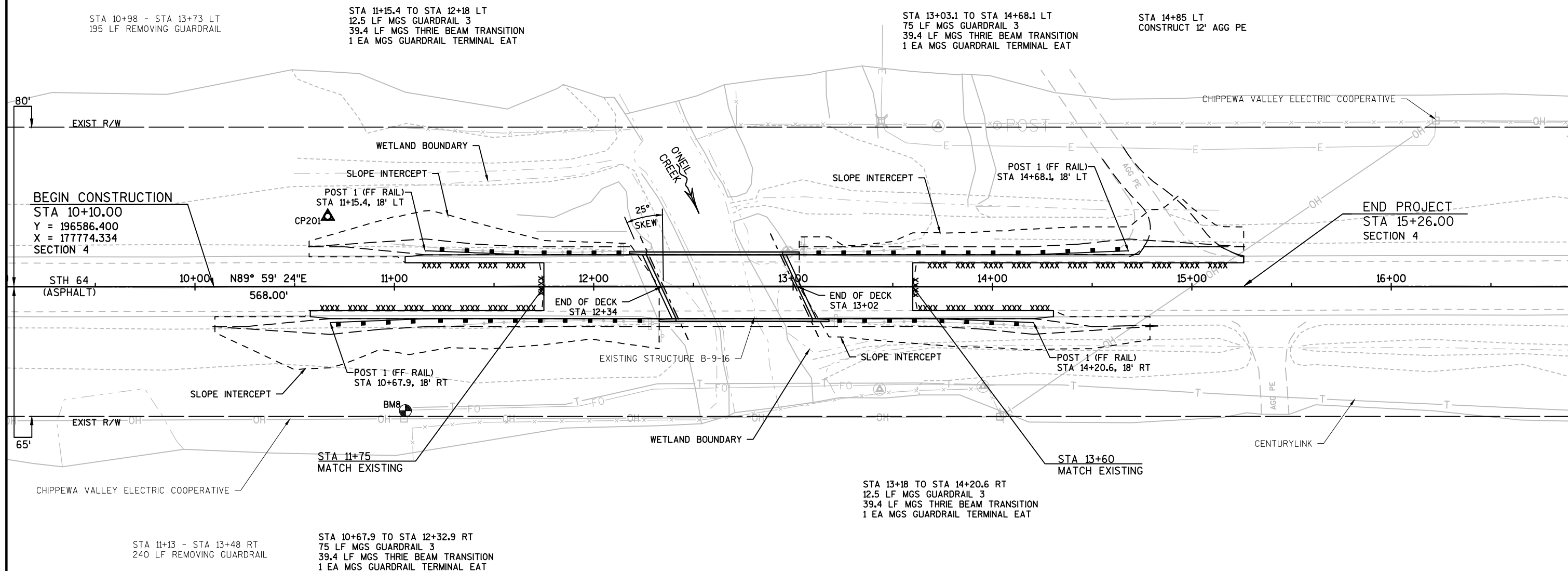
STA 69+60 TO STA 69+79.5
CONSTRUCT CONCRETE PAVEMENT APPROACH SLAB

STA 69+60 TO STA 69+79.5
CONSTRUCT CONCRETE PAVEMENT SHOULDERS
26 SY CONCRETE PAVEMENT 7-INCH REQ'D

STA 69+52 TO STA 70+92 LT
50 LF MGS GUARDRAIL 3
39.4 LF MGS THRIE BEAM TRANSITION
1 EA MGS GUARDRAIL TERMINAL EAT



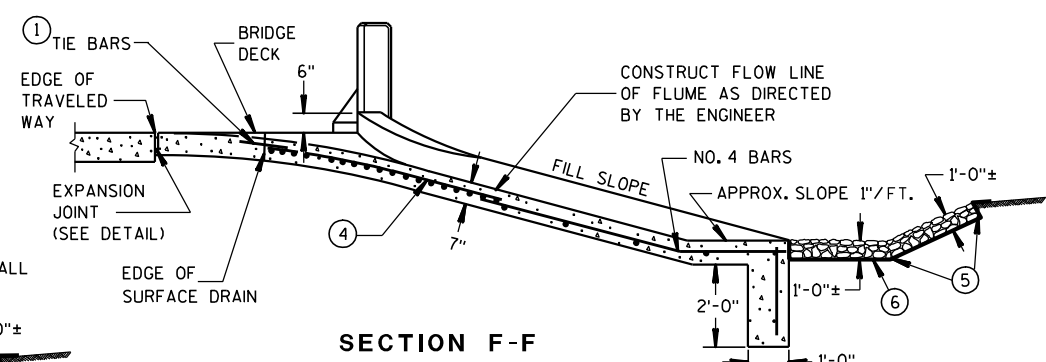
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|------------------------|--------------|------------------|---------------------------|-------|---|
| PROJECT NO: 8610-07-73 | HWY: STH 124 | COUNTY: CHIPPEWA | PLAN AND PROFILE: B-9-126 | SHEET | E |
|------------------------|--------------|------------------|---------------------------|-------|---|



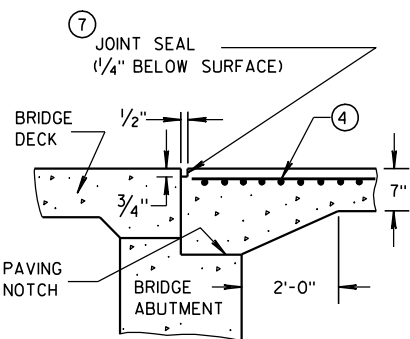
| BENCHMARK TABLE | | | |
|-----------------|---------|-----------------------|-----------|
| POINT | STATION | DESCRIPTION | ELEVATION |
| BM7 | 8+04 ± | BENCH TIE IN PWR POLE | 1009.52 |
| BM8 | 11+06 ± | BENCH TIE IN PWR POLE | 1008.11 |

Standard Detail Drawing List

| | |
|-----------|--|
| 08D02-06 | CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES |
| 08E08-03 | TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS |
| 08E09-06 | SILT FENCE |
| 08E11-02 | TURBIDITY BARRIER |
| 09G02-04A | BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION |
| 09G02-04B | BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION |
| 09G02-04C | BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION |
| 13B02-08A | CONCRETE PAVEMENT APPROACH SLAB |
| 14B07-14A | CONCRETE BARRIER TEMPORARY PRECAST, 12' -6" |
| 14B07-14B | CONCRETE BARRIER TEMPORARY PRECAST, 12' -6" |
| 14B07-14C | CONCRETE BARRIER TEMPORARY PRECAST, 12' -6" |
| 14B07-14D | CONCRETE BARRIER TEMPORARY PRECAST, 12' -6" |
| 14B07-14E | CONCRETE BARRIER TEMPORARY PRECAST, 12' -6" |
| 14B07-14F | CONCRETE BARRIER TEMPORARY PRECAST, 12' -6" |
| 14B07-14G | CONCRETE BARRIER TEMPORARY PRECAST, 12' -6" |
| 14B07-14H | CONCRETE BARRIER TEMPORARY PRECAST, 12' -6" |
| 14B42-04A | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL |
| 14B42-04B | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL |
| 14B42-04C | 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) |
| 14B45-04A | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-04B | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-04C | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-04D | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-04F | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 15C02-06A | BARRICADES AND SIGNS FOR MAINLINE CLOSURES |
| 15C02-06B | BARRICADES AND SIGNS FOR MAINLINE CLOSURES |
| 15C02-06C | DETOUR SIGNING FOR MAINLINE CLOSURES |
| 15C03-03 | BARRICADES AND SIGNS FOR SIDEROAD CLOSURES |
| 15C04-03 | TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M. P. H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC |
| 15C06-08 | SIGNING & MARKING FOR TWO LANE BRIDGES |
| 15C08-17A | LONGITUDINAL MARKING (MAINLINE) |
| 15D33-04 | TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS |

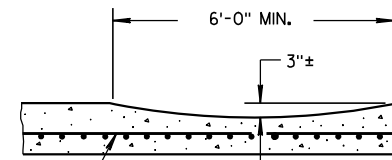


SECTION F-F

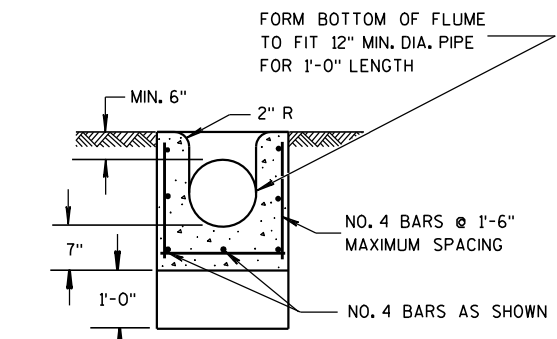


EXPANSION JOINT DETAIL

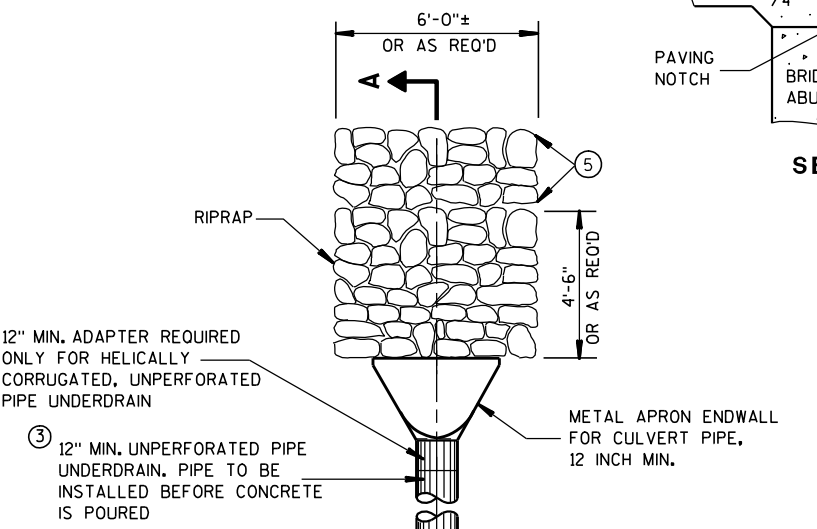
SECTION H-H



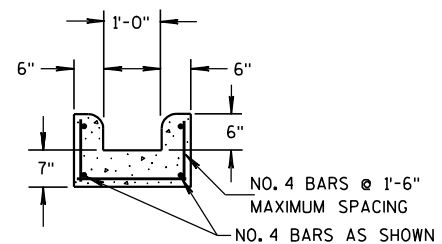
SECTION D-D



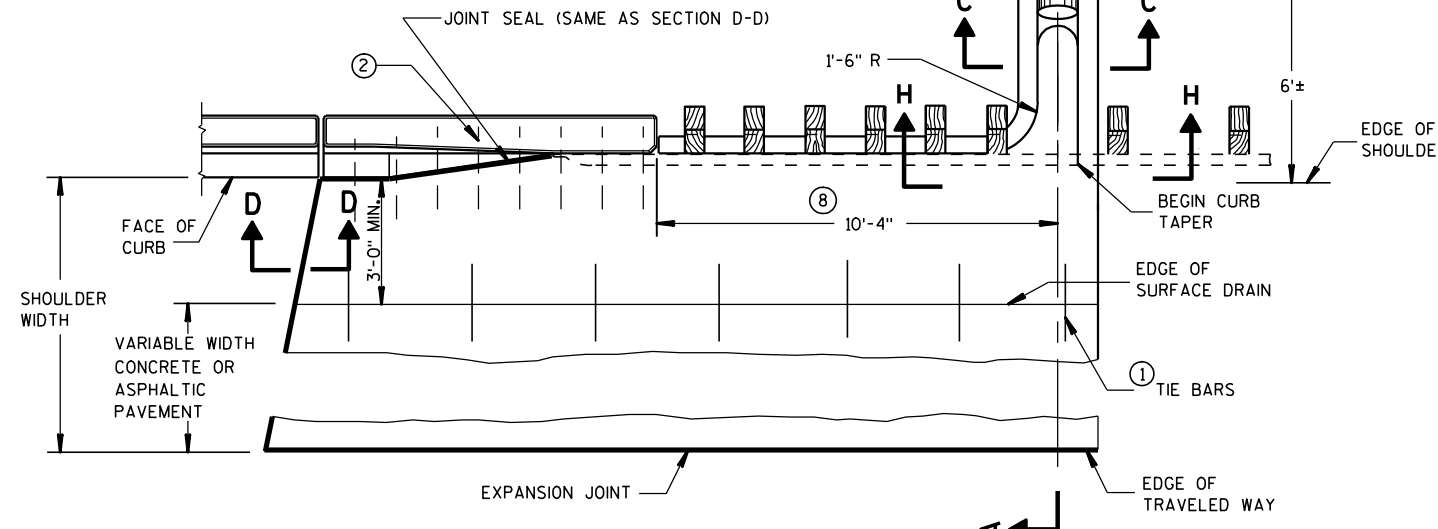
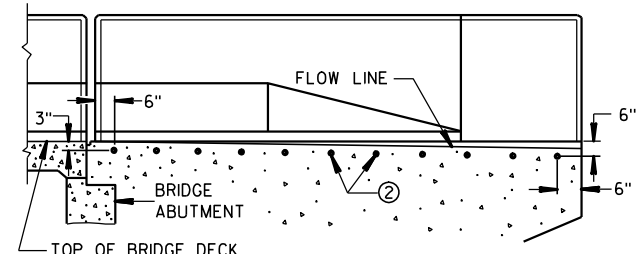
SECTION C-C



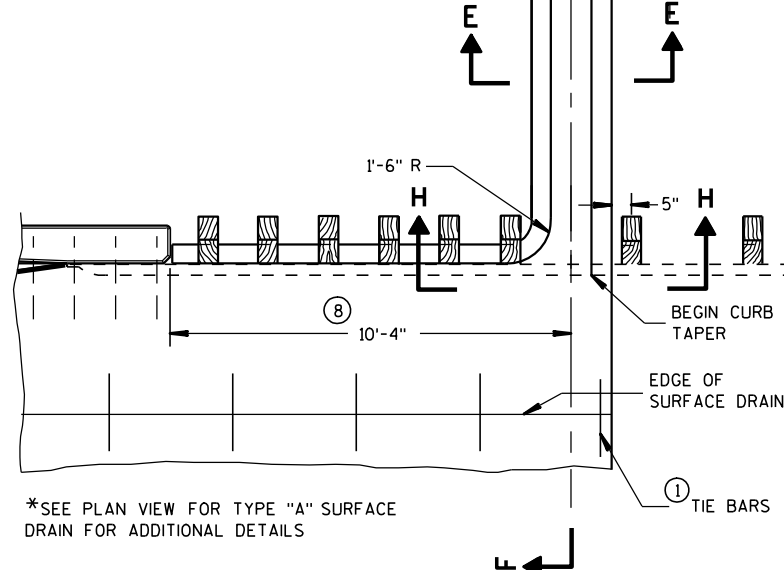
SECTION E-E



LOCATION OF TIE BARS IN WINGWALL



PLAN VIEW
SURFACE DRAIN WITH PIPE
TYPE "A"



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

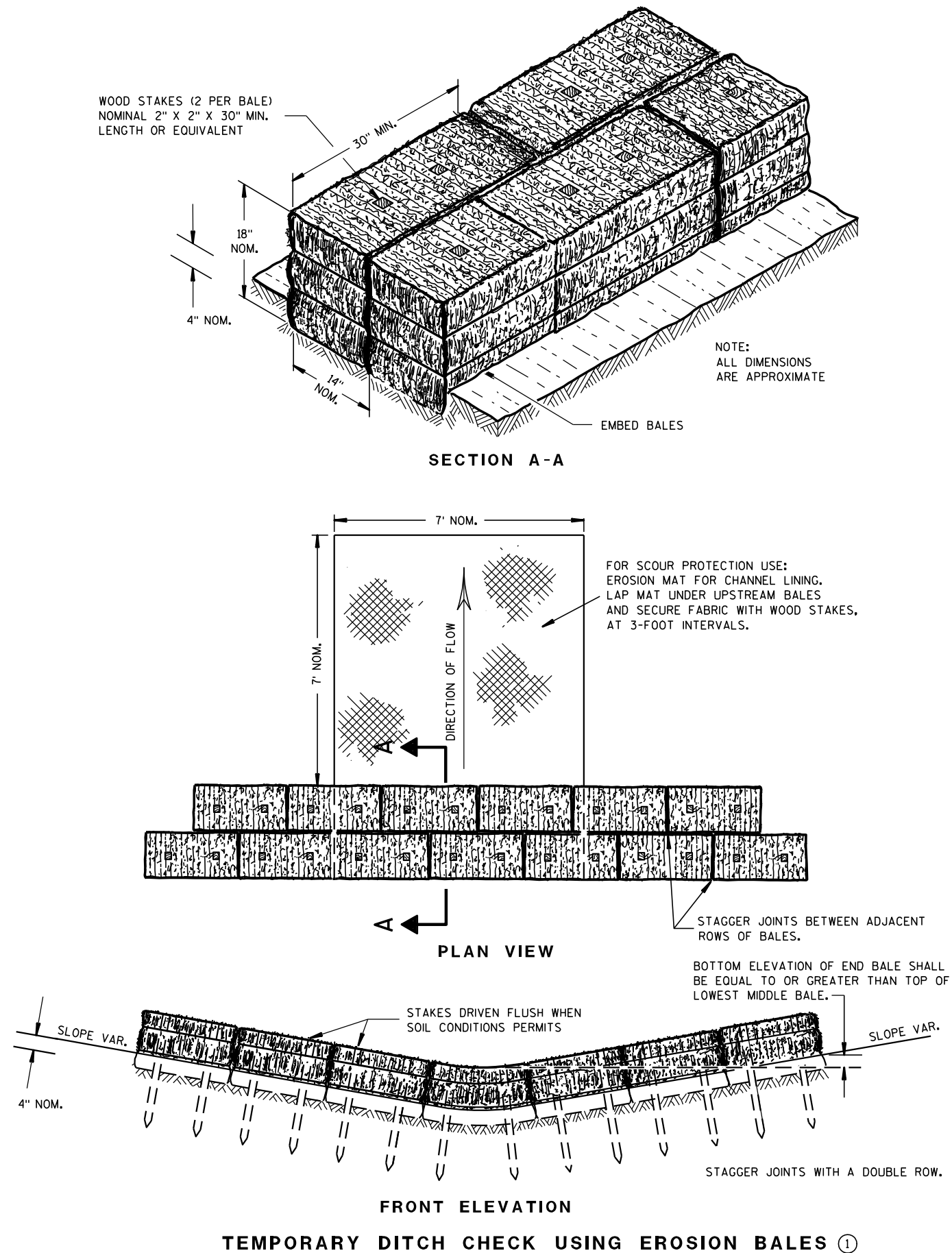
* PARTIAL PLAN VIEW
SURFACE DRAIN WITHOUT PIPE
TYPE "B"

- ## 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 DEPENDENT 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'-1/2".

CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

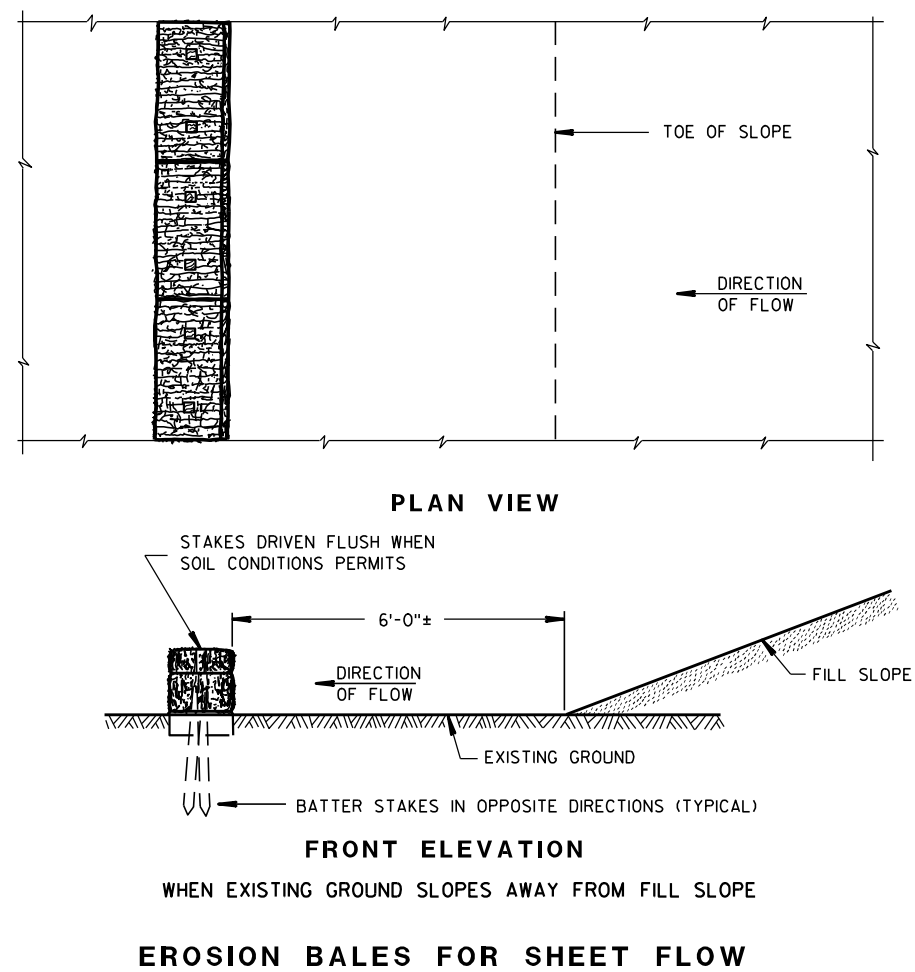
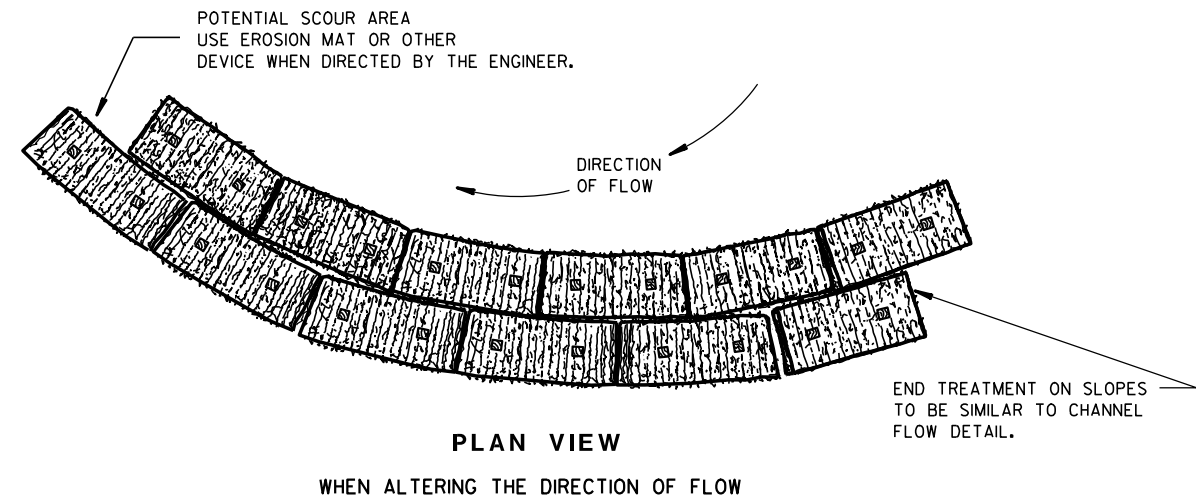
APPROVED
9/4/08 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS DEVELOPMENT
ENGINEER



GENERAL NOTES

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

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

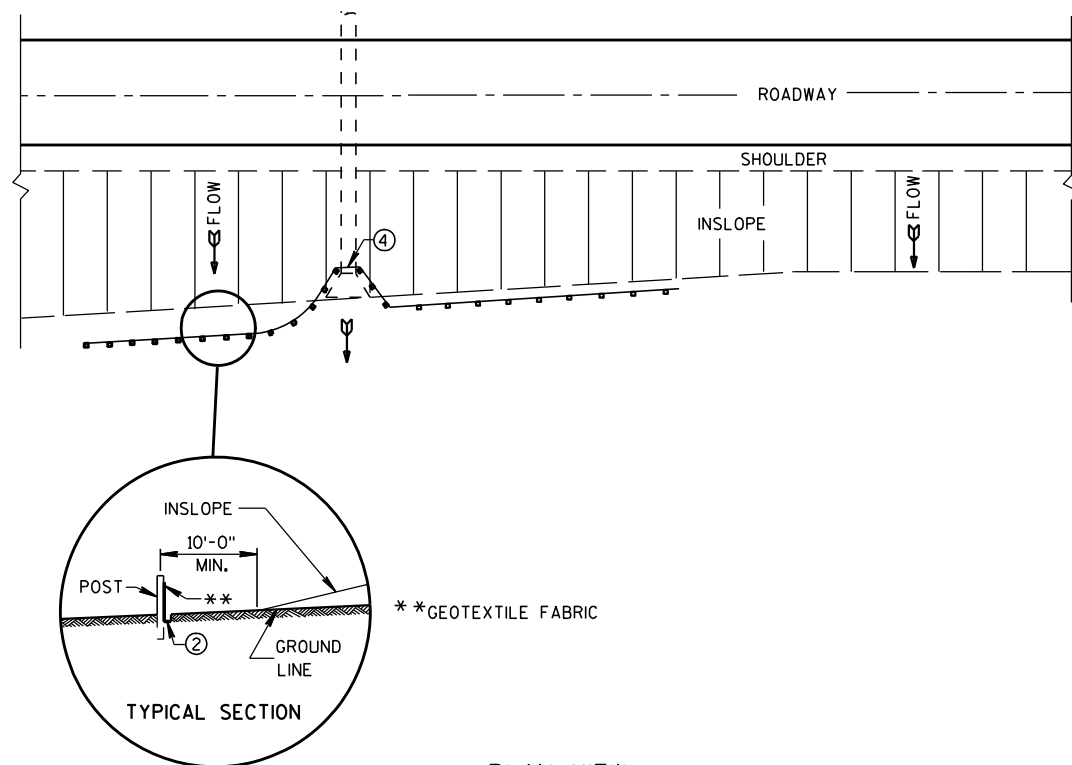
TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

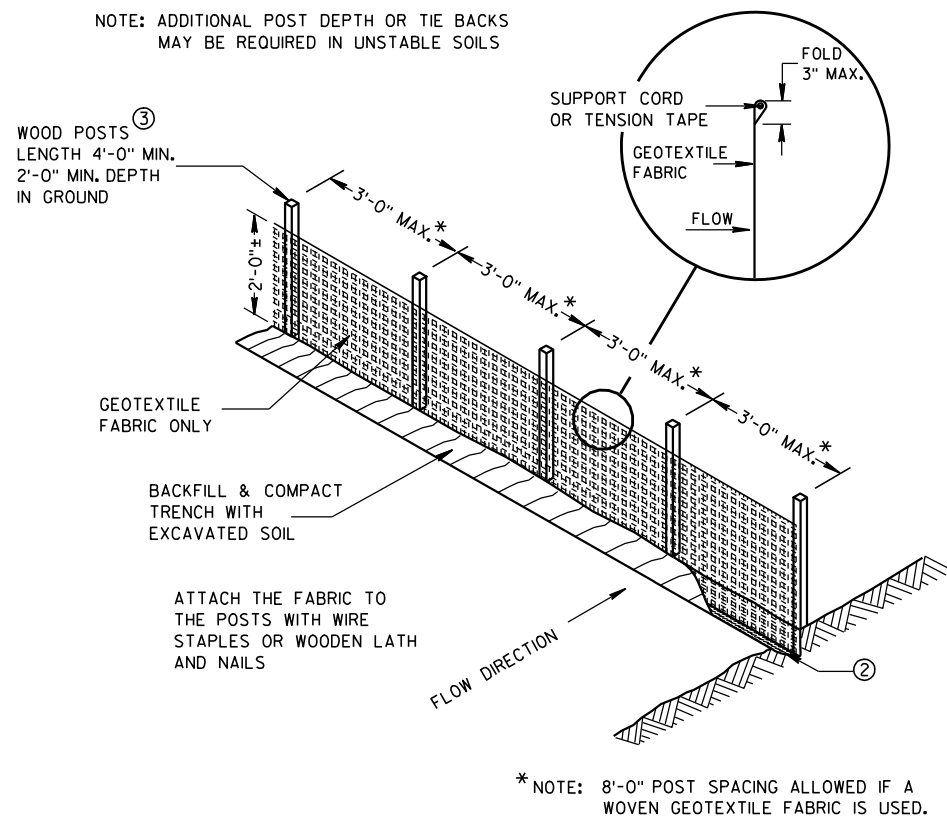
6/04/02
DATE/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

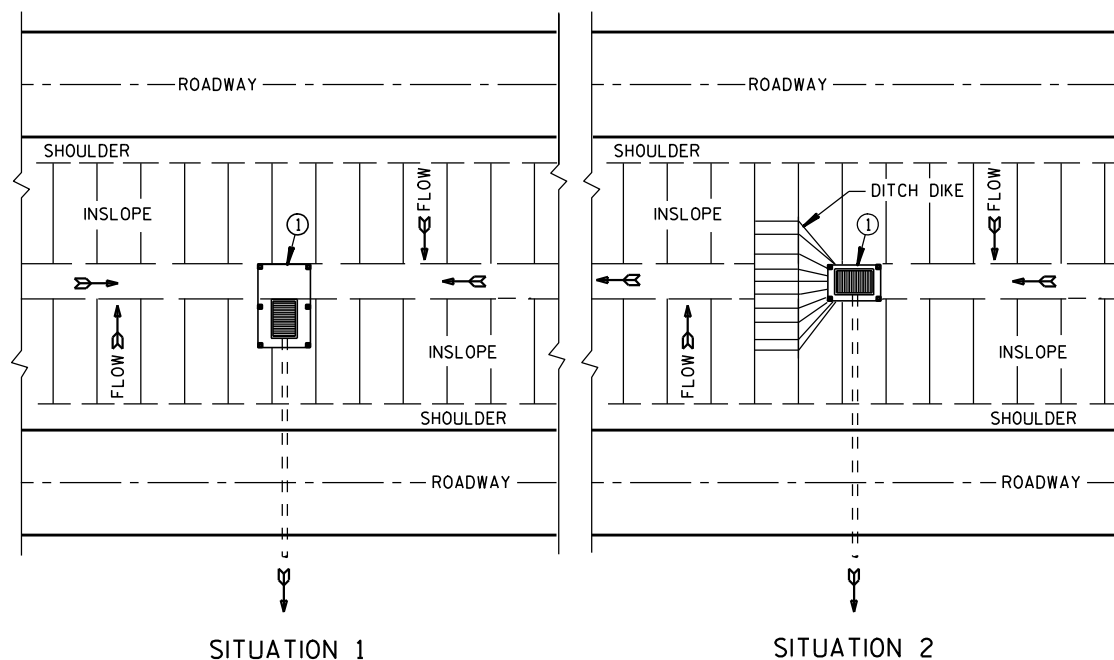


PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE

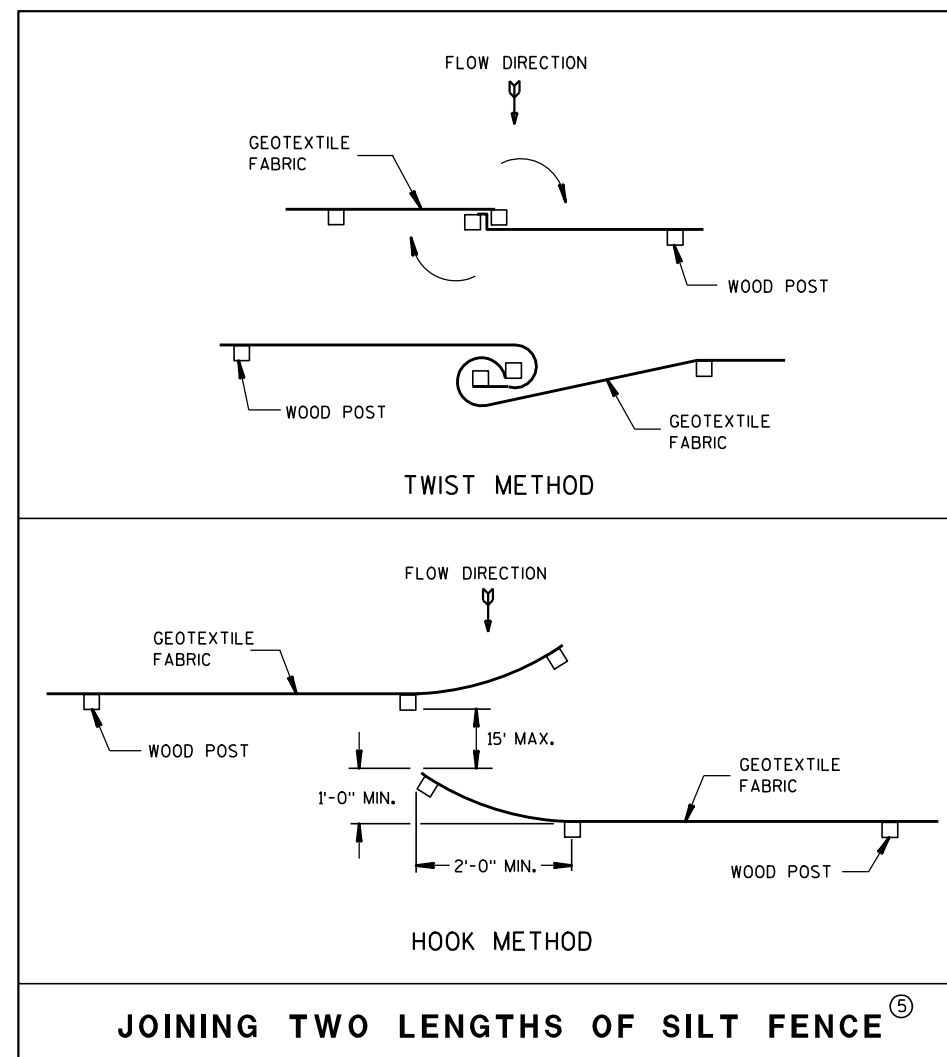
NOTE: ADDITIONAL POST DEPTH OR TIE BACKS
MAY BE REQUIRED IN UNSTABLE SOILS



SILT FENCE



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

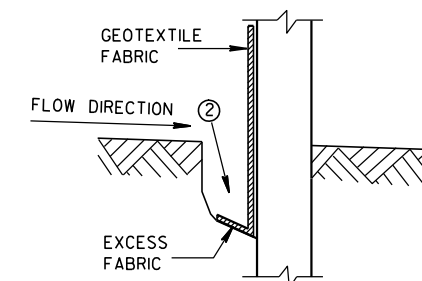


JOINING TWO LENGTHS OF SILT FENCE^⑤

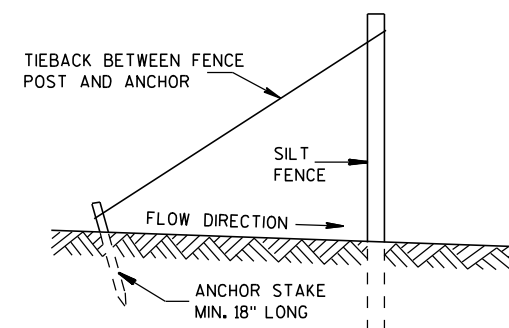
GENERAL NOTES

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

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



TRENCH DETAIL



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

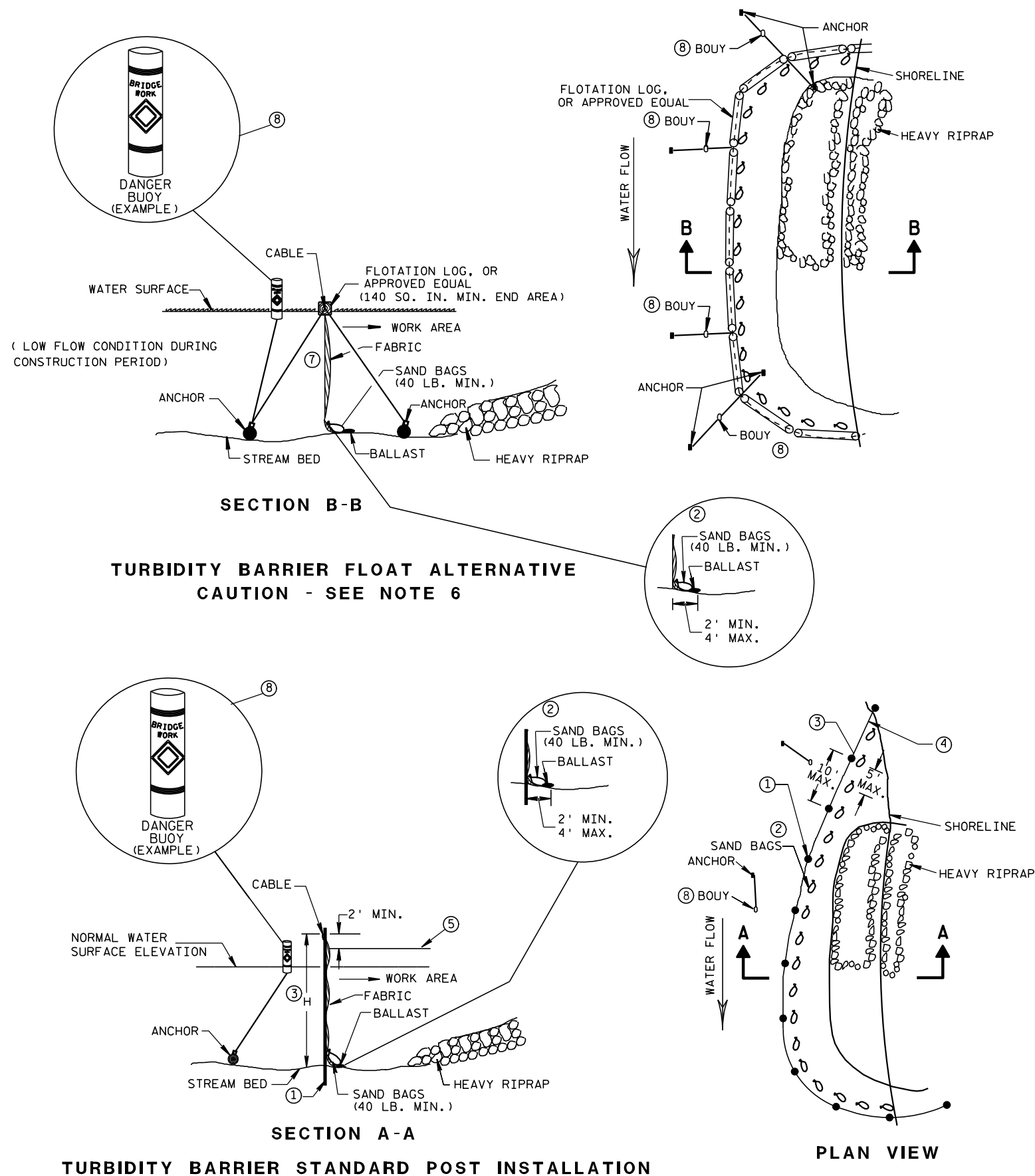
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4-29-05
DATE

FHWA

/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

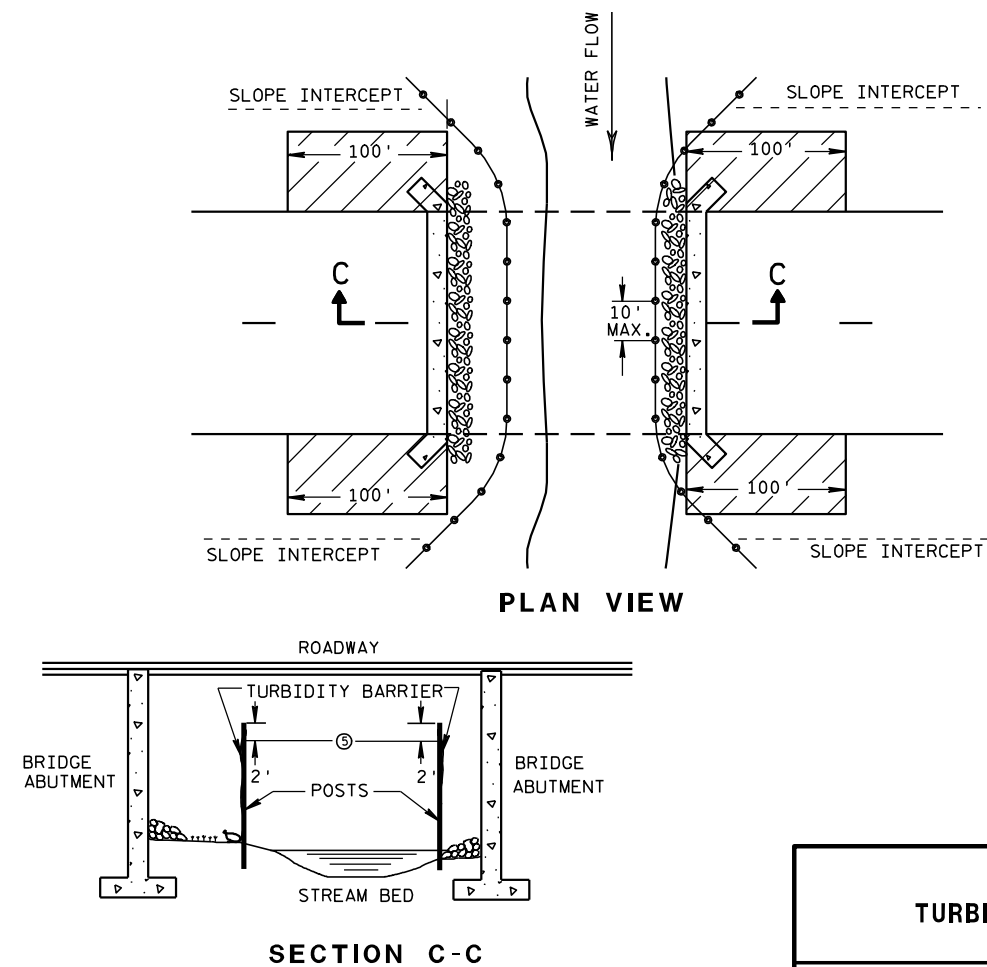


GENERAL NOTES

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

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

- ① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
- ② SANDBAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.
- ③ WHEN BARRIER HEIGHT, H, EXCEEDS 8 FT., POST SPACING MAY NEED TO BE DECREASED.
- ④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.
- ⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE 02 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.
- ⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BED ROCK PREVENTS THE INSTALLATION OF POSTS.
- ⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
- ⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

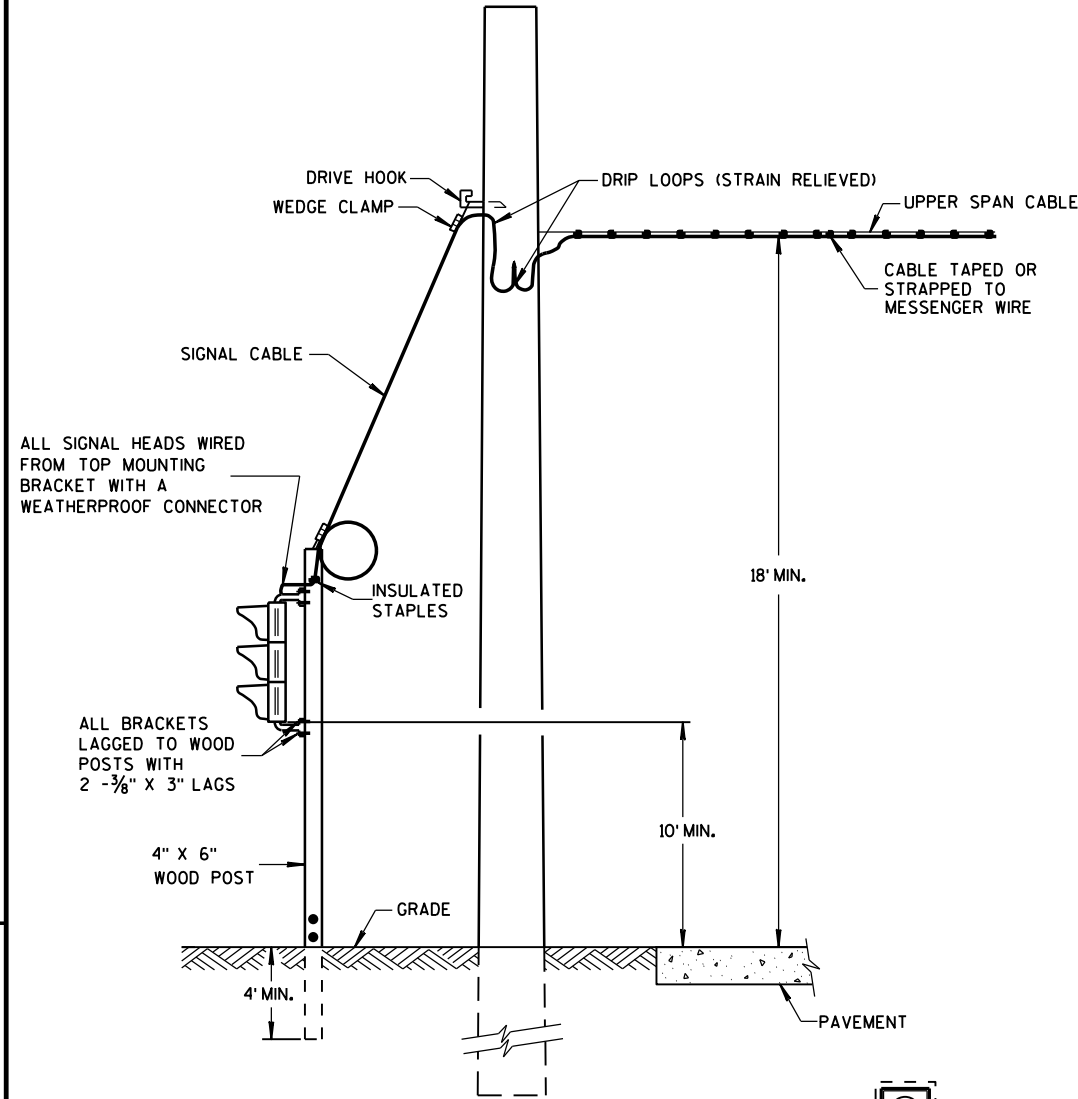
APPROVED

6/04/02
DATE

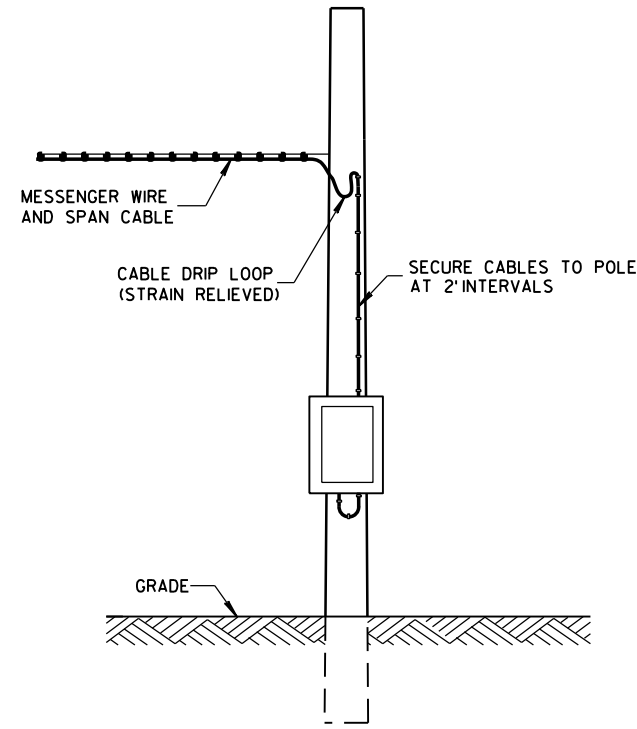
FHWA

/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER

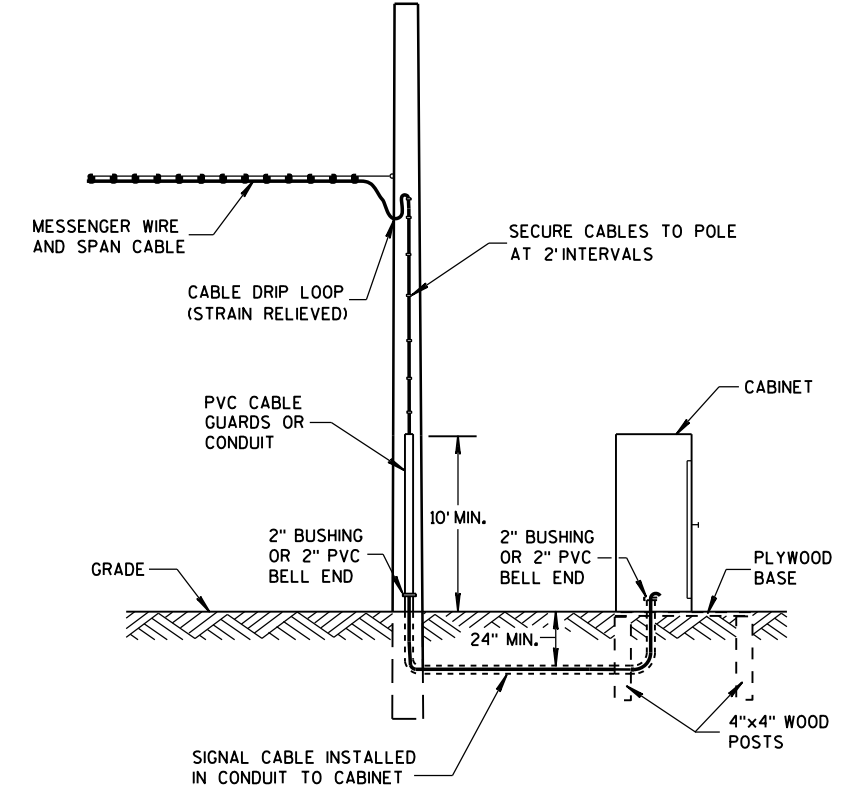
TYPICAL DROP TO TRAFFIC SIGNAL FACE



POLE MOUNT CABINET INSTALLATION



GROUND MOUNT CABINET INSTALLATION

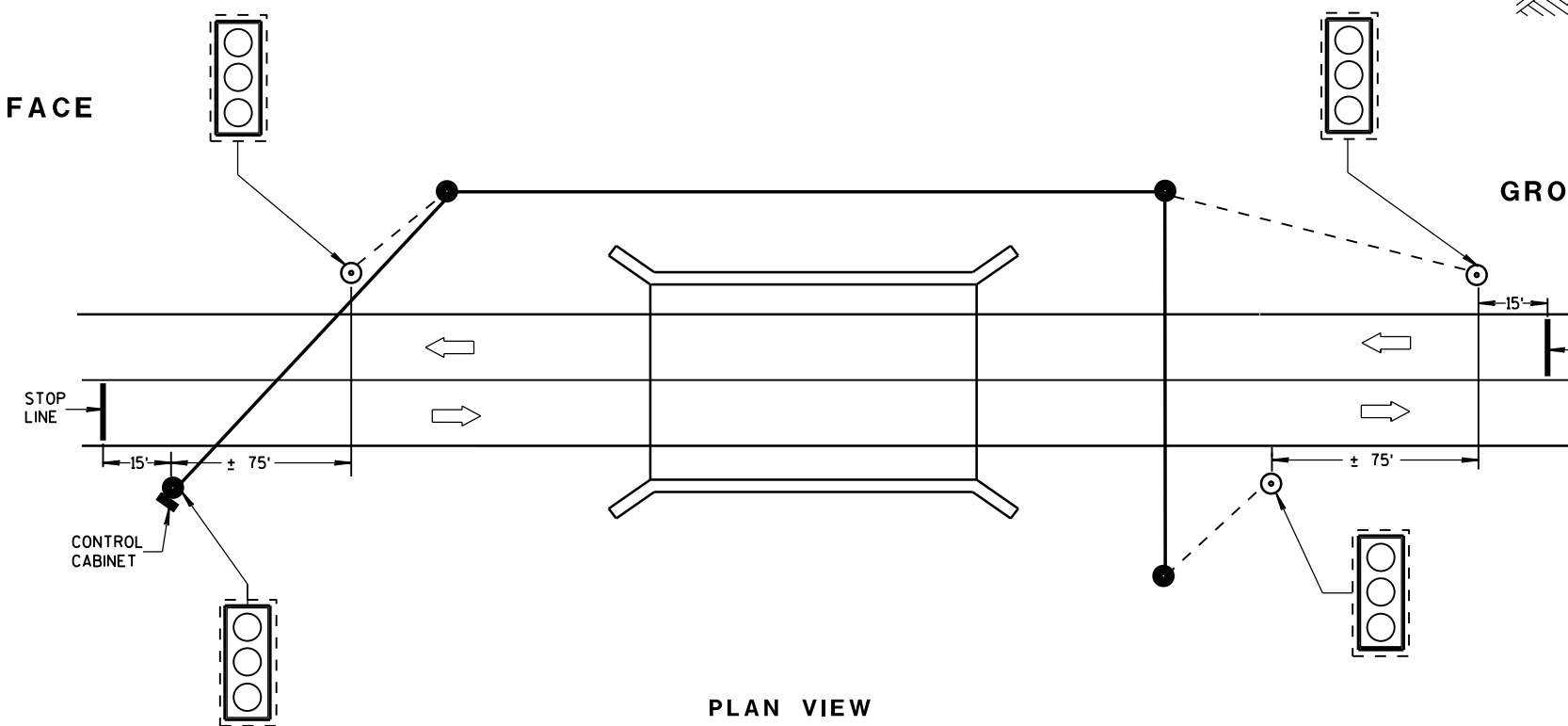


LEGEND

- WOOD POLE (NON-BREAKAWAY)
- WOOD POST (BREAKAWAY)
- SIGNAL CABLE
- SIGNAL CABLE W/MESSENGER
- LED TRAFFIC SIGNAL FACE WITH BACKPLATE
- 3-12"
- DIRECTION OF TRAFFIC

PLAN VIEW

TYPICAL BRIDGE TEMPORARY TRAFFIC SIGNAL LOCATION



| OFFSET DISTANCES FOR TEMPORARY NON-BREAKAWAY POLES | |
|---|-------------------|
| SPEED LIMIT | OFFSET DISTANCE** |
| GREATER THAN 45 MPH | 18 FT |
| 45 MPH OR LESS | 12 FT |
| 45 MPH OR LESS W/ CURBS | 2 FT |
| **NOTE: OFFSET MEASURED FROM OUTER EDGE OF OUTSIDE THRU LANE. | |

| MINIMUM POLE LENGTHS | CLASS | MINIMUM BURIAL DEPTHS |
|----------------------|-------|-----------------------|
| 25 FEET | V | 5 FEET |
| 30 FEET | V | 6 FEET |
| 35 FEET | IV | 7 FEET |
| 40 FEET | IV | 8 FEET |
| 45 FEET | IV | 9 FEET |

BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE: Sept., 2016
DATE: /S/ Ahmet Demirbilek
STATE ELECTRICAL ENGINEER
FHWA

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

POLE MOUNTED TRAFFIC SIGNAL CONTROL CABINET MAYBE MOUNTED ON THE SERVICE POLE IF THE ELECTRICAL UTILITY ALLOWS THE INSTALLATION.

WHEN UTILITY POLES ARE USED TO SPAN THE TEMPORARY OVERHEAD CABLE, WRITTEN PERMISSION MUST BE OBTAINED FROM THE OWNER OF THE POLES AND GIVEN TO THE PROJECT MANAGER. ALL PERTINENT UTILITY AND CODE CLEARANCES SHALL BE MAINTAINED.

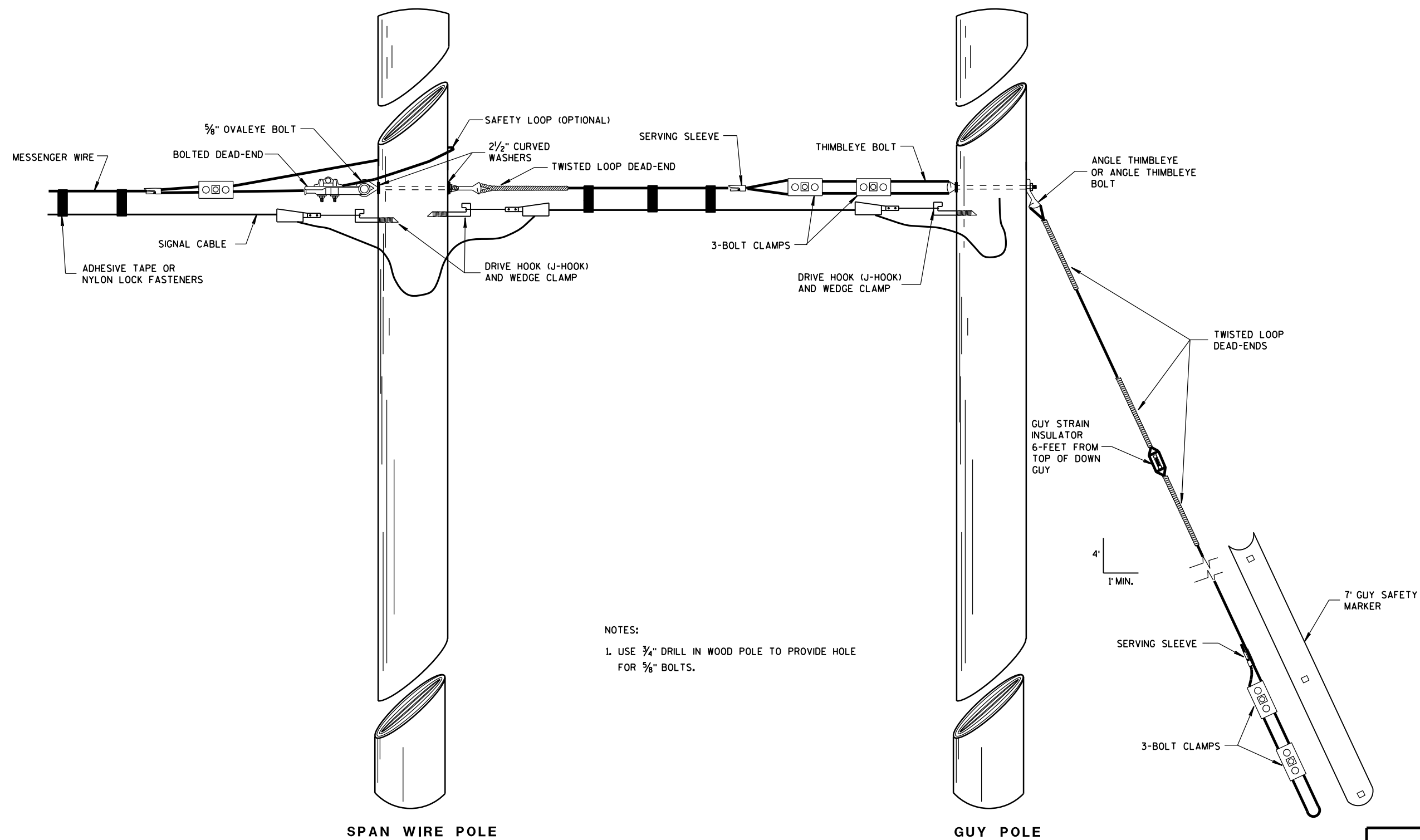
WOOD POLES (NONBREAKAWAY) SHALL BE NO CLOSER TO EDGE OF PAVEMENT THAN OFFSET DISTANCE CHART ALLOWS OR 4 FEET BEHIND PROTECTIVE BARRIER (BEAM GUARD, ETC.).

WOOD POSTS (BREAKAWAY) SHALL BE NO CLOSER THAN 2 FEET OUTSIDE OF SHOULDER.

VERTICAL CLEARANCE ETC. PER NEC.

TRAFFIC SIGNAL FACES SHALL BE TYPICALLY PLACED 12 FEET FROM EDGE OF PAVEMENT.

EACH TRAFFIC SIGNAL FACE SHALL HAVE A BACKPLATE.



TYPICAL DEAD-ENDINGS OR GUYING

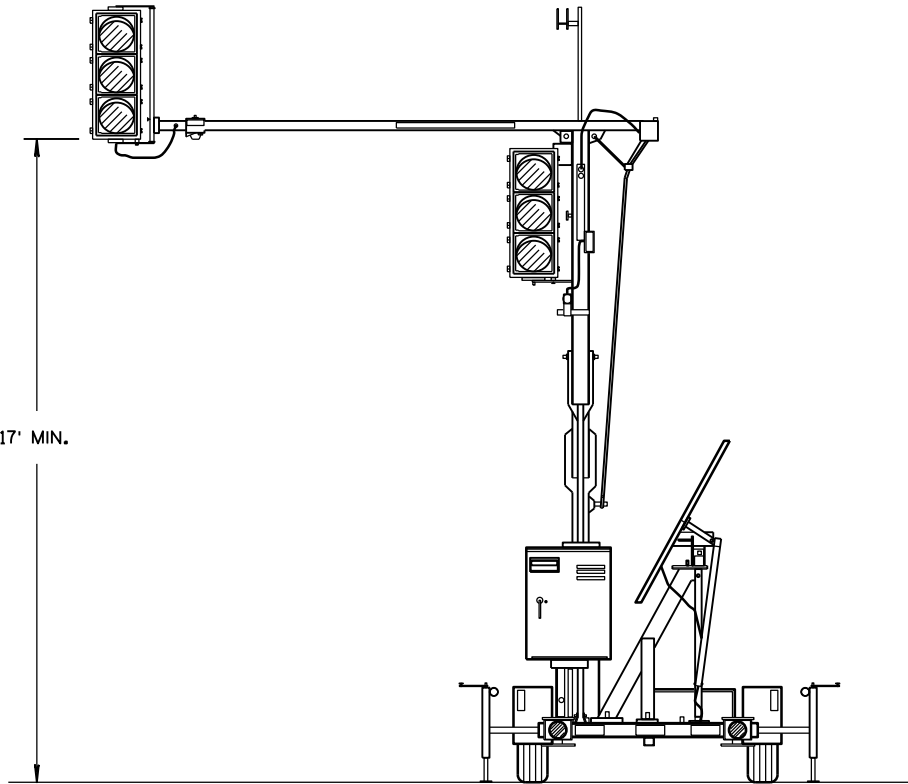
BRIDGE TEMPORARY
TRAFFIC SIGNAL INSTALLATIONSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept., 2016
DATE

FHWA

/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGINEER

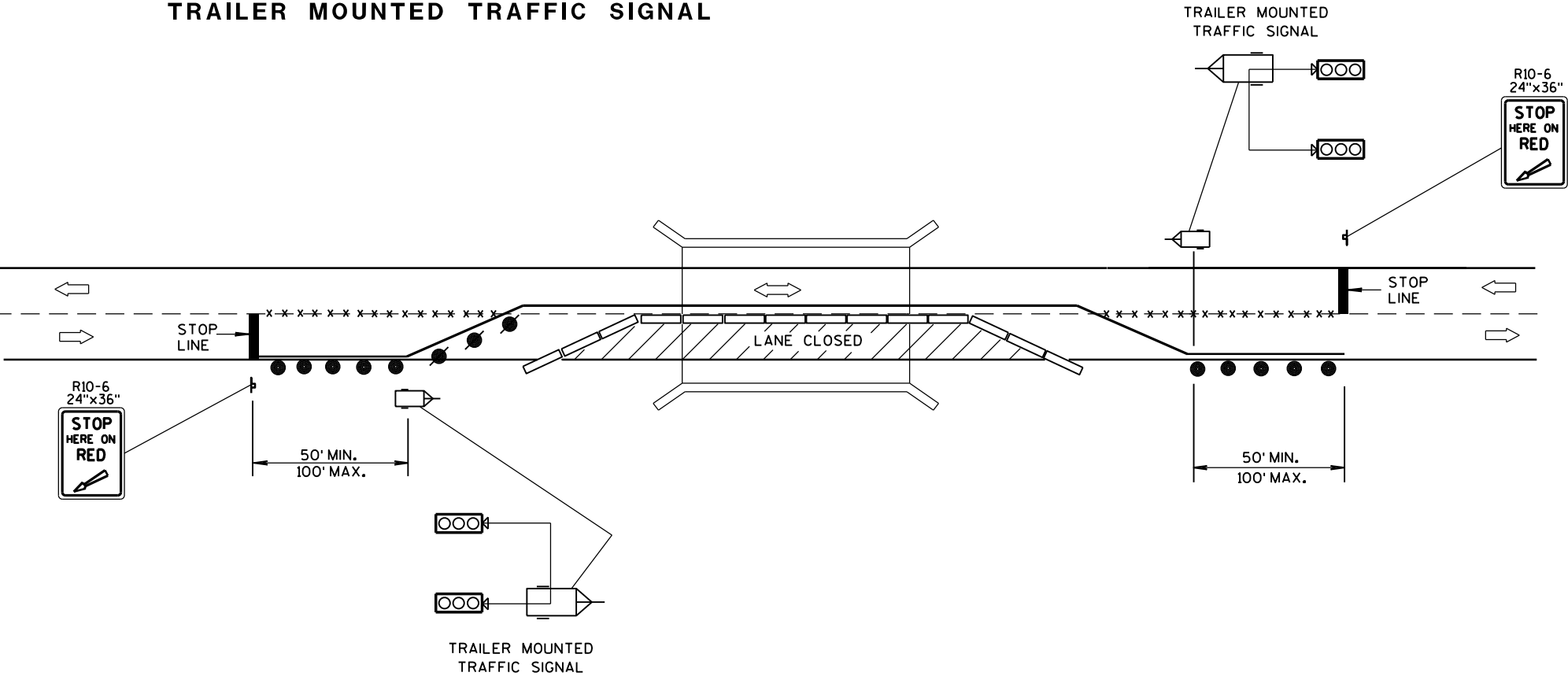


TRAILER MOUNTED TRAFFIC SIGNAL

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

SIGNING, PAVEMENT MARKING AND LANE CONTROL REQUIREMENTS SHALL CONFORM TO STANDARD DETAIL DRAWING 15 D 33.



TYPICAL TRAILER MOUNTED TRAFFIC SIGNAL LOCATION

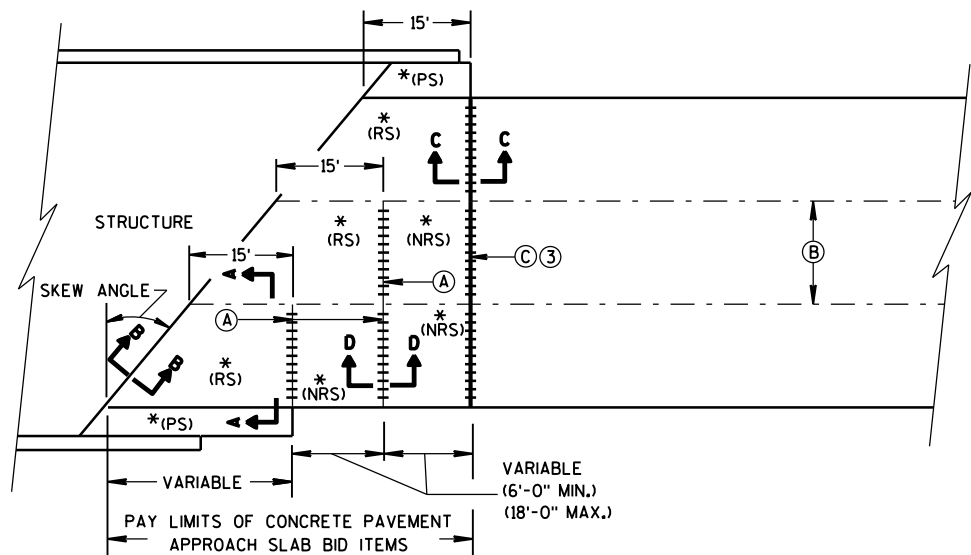
LEGEND

- POST MOUNTED SIGN
- REMOVING PAVEMENT MARKING
- DRUM WITH/WITHOUT WARNING LIGHT, TYPE C (STEADY-BURN)
- TEMPORARY PRECAST CONCRETE BARRIER
- TRAILER MOUNTED TRAFFIC SIGNAL
- DIRECTION OF TRAFFIC FLOW

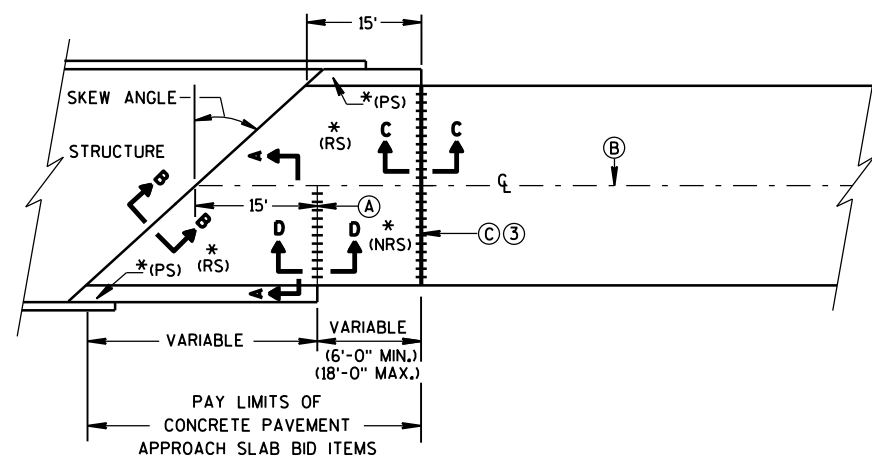
BRIDGE TEMPORARY TRAFFIC SIGNAL INSTALLATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

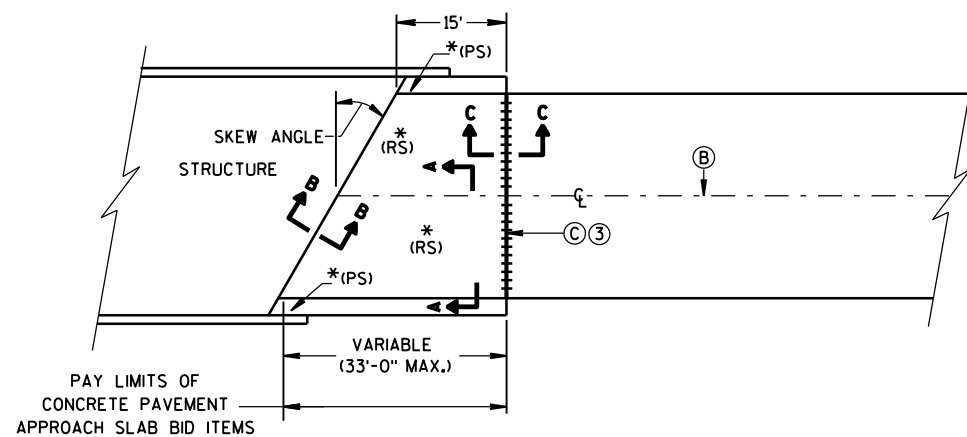
APPROVED
Sept., 2016 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL ENGINEER
FHWA



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



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

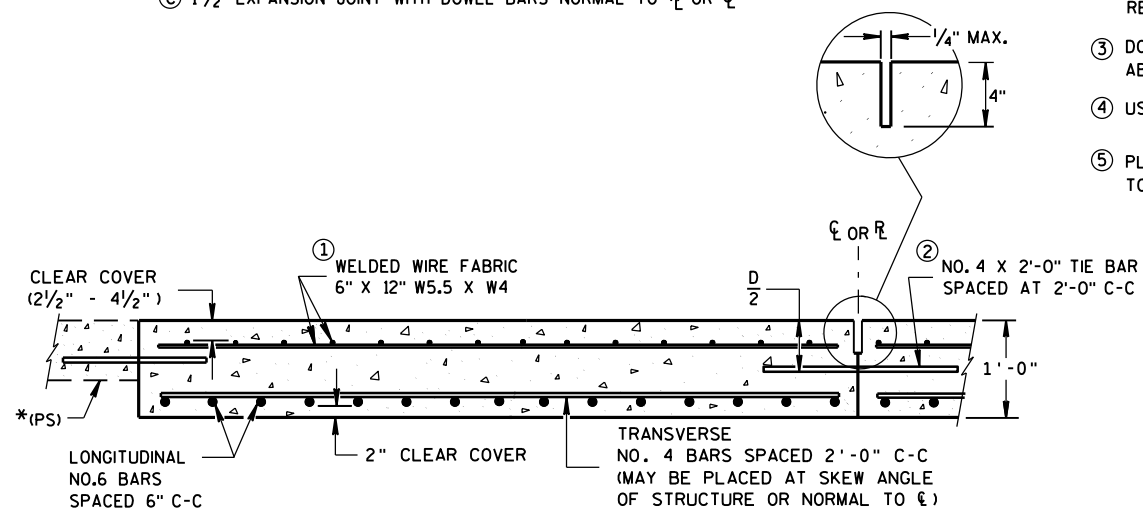


**SKews ≤ 20°
(PAVEMENT WIDTH ≤ 30')
APPROACH SLAB AND ADJACENT PAVEMENT**

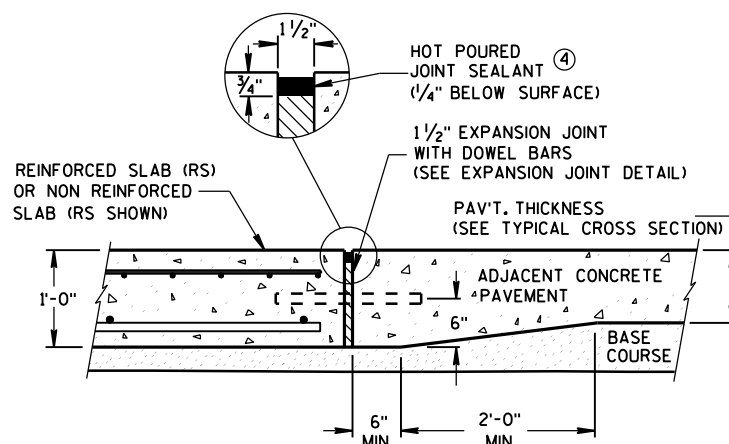
* (RS) = REINFORCED CONCRETE SLAB
* (PS) = PAVED CONCRETE SHOULDER OR CONCRETE DRAINAGE SLAB
(SEE DETAILS ELSEWHERE IN THE PLAN)
* (NRS) = NON-REINFORCED CONCRETE SLAB

*** STANDARD DOWEL BAR DIAMETER
(SEE SDD 13C11, & SDD 13C13)

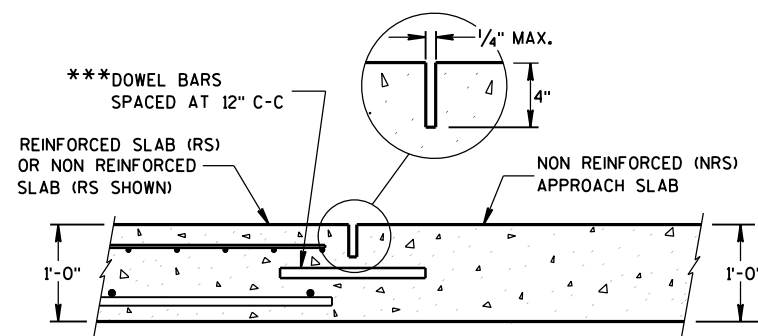
- (A) STANDARD CONTRACTION JOINT NORMAL TO ℓ OR ℓ_c
(B) STANDARD LONGITUDINAL JOINT WITH TIE BARS.
(C) 1½" EXPANSION JOINT WITH DOWEL BARS NORMAL TO ℓ OR ℓ_c



**SECTION A-A
REINFORCEMENT POSITIONING DETAIL**



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



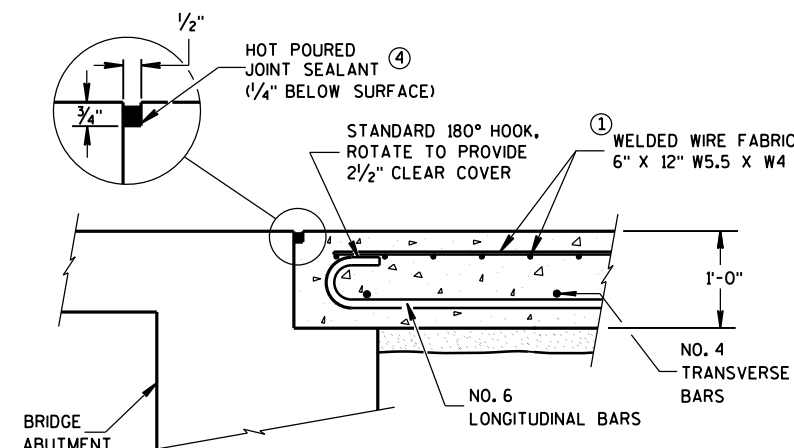
**SECTION D-D
CONTRACTION JOINT**

GENERAL NOTES

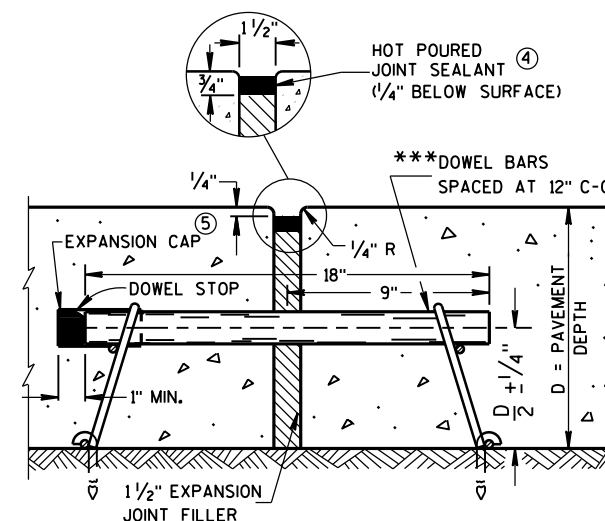
THE CONTRACTOR MAY SPLICE NO. 6 BARS IN THE APPROACH SLAB FOR SKEWED STRUCTURES ONLY. STAGGER SPLICES WITH A MAXIMUM OF ONE SPLICE PER BAR. THE LENGTH OF LAP IS 20 INCHES.

TACK WELD DOWEL BARS TO THE BASKETS ON ALTERNATE ENDS.

- 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.
- THE CONTRACTOR MAY OMIT TIE BARS BETWEEN REINFORCED SLABS WHERE SLAB REINFORCEMENT BARS EXTEND ACROSS THE CENTERLINE OR REFERENCE LINE.
- DO NOT CONSTRUCT AN EXPANSION JOINT OR INSTALL DOWEL BARS WHEN ABUTTING AN HMA PAVEMENT.
- USE A JOINT SEALANT MEETING THE REQUIREMENTS OF ASTM D6690.
- 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**



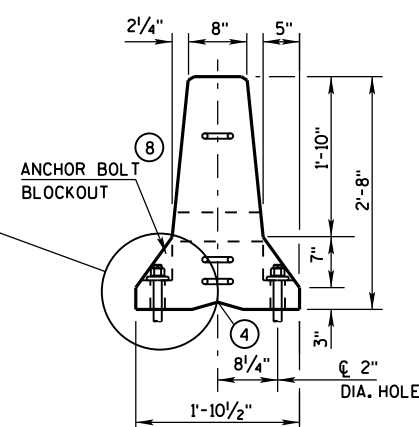
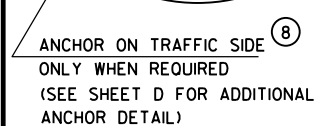
EXPANSION JOINT DETAIL

CONCRETE PAVEMENT APPROACH SLAB

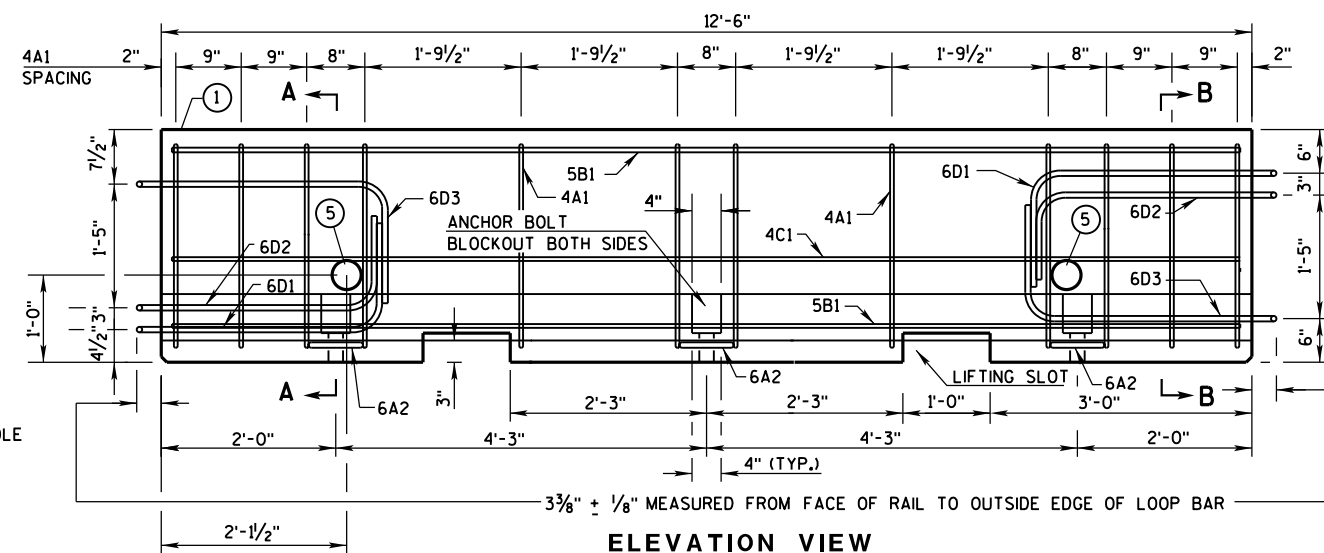
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE
FWHA

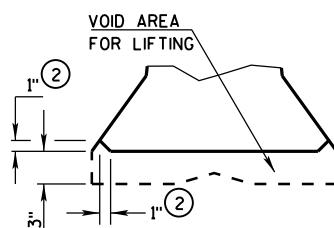
/S/ Peter Kemp, P.E.
PAVEMENT SUPERVISOR



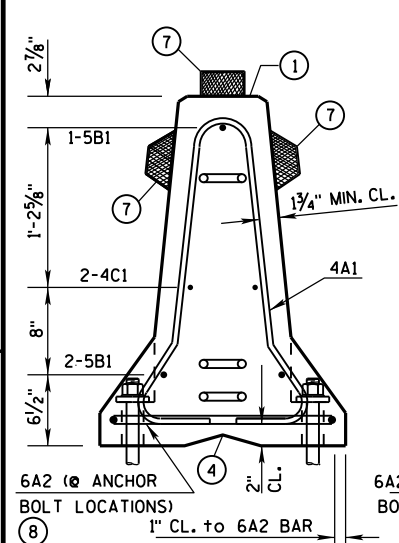
END VIEW



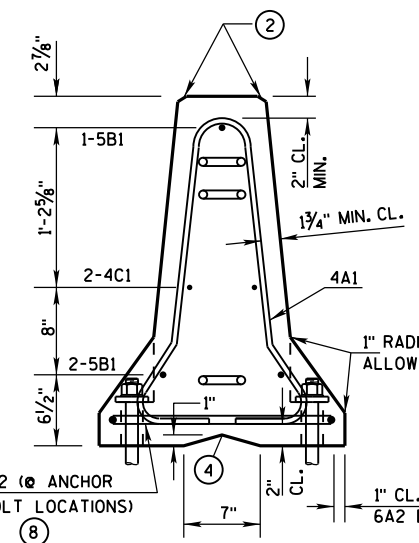
ELEVATION VIEW



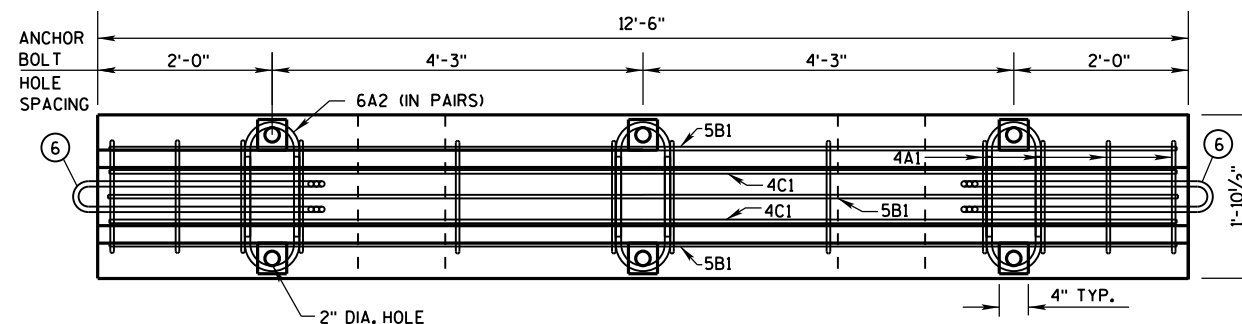
DETAIL "B"
LIFTING SLOT DETAIL



SECTION A-A
(STIRRUP PLACEMENT)

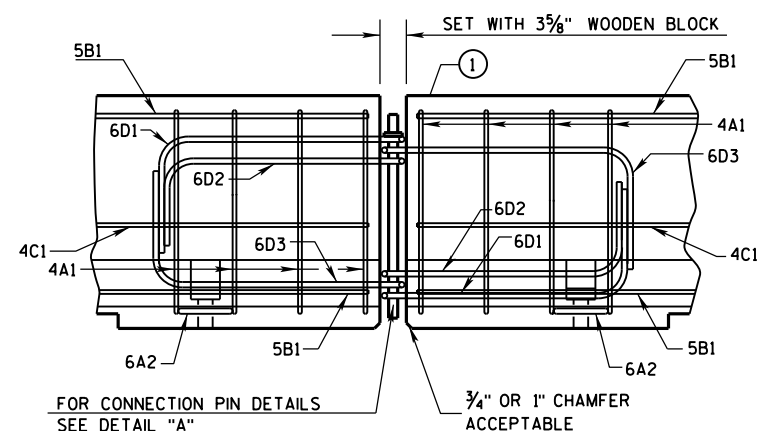


SECTION B-B
(STIRRUP PLACEMENT)

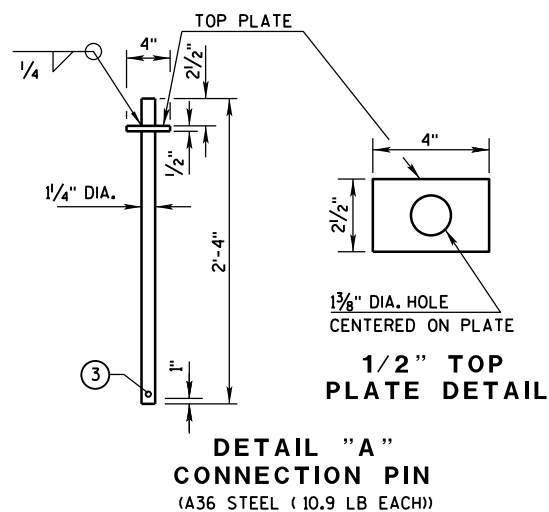


PLAN VIEW

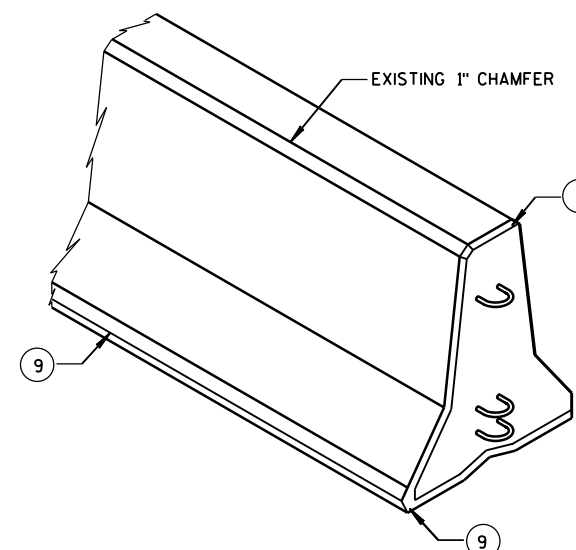
DETAILS OF BARRIER SECTION



DETAILS OF BARRIER CONNECTION



DETAIL "A"
CONNECTION PIN
(A36 STEEL (10.9 LB EACH))



GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-14(d) THRU 14B7-14(h).

DO NOT INTERMIX CONCRETE BARRIER TEMPORARY PRCAST, 12'-6" (CBTP12.5) WITH OTHER TEMPORARY CONCRETE BARRIERS.

USE ASTM A-615, GRADE 60, DEFORMED STEEL BARS FOR BARS 4A1, 6A2, 5B1 AND 4C1 IN THE BARRIER SECTION AND FOR 4V1, 4V2, 4V3, 4V4, 4V5, 4V6, 4F1, 4F2 AND 5F3 IN THE BARRIER TAPER SECTION.

LOOP BARS 6D1, 6D2 AND 6D3 SHALL BE $\frac{3}{4}$ " SMOOTH STEEL BARS WITH A MINIMUM YIELD STRENGTH OF 60 KSI, A TENSILE STRENGTH OF NOT LESS THAN 1.25 TIMES THE YIELD STRENGTH BUT A MINIMUM OF 80 KSI, A MINIMUM 14% ELONGATION IN 8 INCHES AND PASSING A 180 DEGREE BEND TEST USING A $3\frac{1}{2}$ " PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN $\frac{1}{8}$ " OF THE PLAN DIMENSION.

CONSTRUCT LIFTING SLOTS AS SPECIFIED ON THE PLANS TO FACILITATE THE DRAINAGE OF WATER AFTER INSTALLATION.

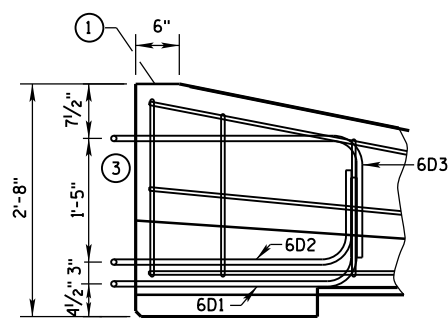
PLACE BARRIER ON A PAVED SURFACE. REMOVE ALL LOOSE DIRT AND SAND FROM THE ROADWAY SURFACE PRIOR TO PLACEMENT OF THE BARRIER.

INSTALL MECHANICAL OR ADHESIVE ANCHORS PER MANUFACTURER'S RECOMMENDATIONS.
PROVIDE MANUFACTURER'S INFORMATION TO PROJECT ENGINEER.

- ① MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
 - a. TYPE: WICBTP
 - b. MANUFACTURER
 - c. DATE MANUFACTURED (MONTH AND YEAR)
- ② 1" CHAMFER TO PREVENT SPALLING.
- ③ A $\frac{3}{8}$ " HOLE IN THE CONNECTION PIN, AT THE LOCATION SHOWN, IS ACCEPTABLE, BUT NOT REQUIRED..
- ④ "V" NOTCH IS OPTIONAL.
- ⑤ THE 4" DIAMETER, 11 GAUGE STEEL, ROUND MECHANICAL TUBING SLEEVE FOR LIFTING (OPTIONAL).
- ⑥ NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.
- ⑦ USE DELINEATORS CONFORMING TO SECTION 633 OF THE STANDARD SPECIFICATIONS. CONTRACTOR MAY USE ALTERNATE SHAPES AND HOUSING. INSTALL DELINEATORS ACCORDING TO MANUFACTURES INSTRUCTION. INSTALL YELLOW REFLECTORS WHEN BARRIER IS LOCATED TO THE LEFT OF TRAFFIC AND WHITE REFLECTORS WHEN BARRIER IS LOCATED TO THE RIGHT OF TRAFFIC. SPACE DELINEATORS A MAXIMUM OF 25 FEET APART. PROVIDE TOP MOUNTED DELINEATORS IN ADDITION TO THE SIDE MOUNTED DELINEATORS ON ALL BARRIER INSTALLATIONS LOCATED ON A CURVED ALIGNMENT LONGER THAN 200 FEET AND ON BARRIERS USED TO SEPARATE OPPOSING TRAFFIC.
- ⑧ SEE SHEET D FOR ANCHORING CRITERIA.
- ⑨ 1" CHAMFER OPTIONAL.

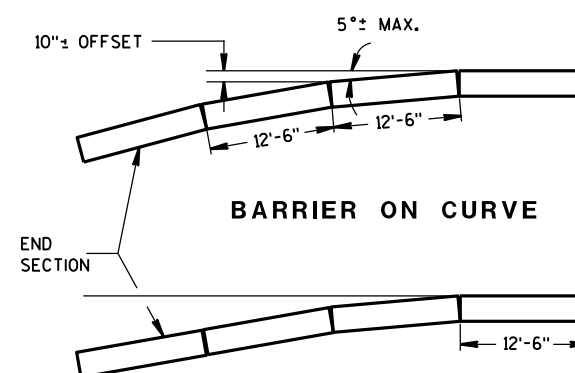
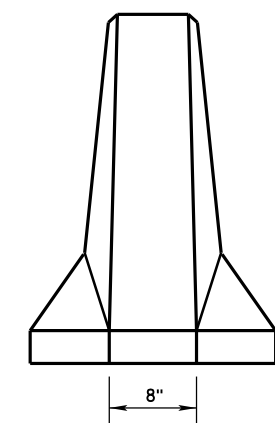
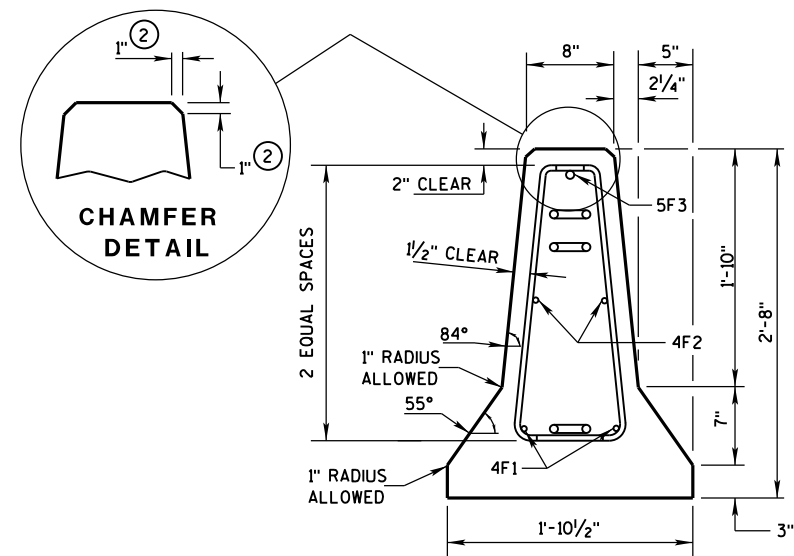
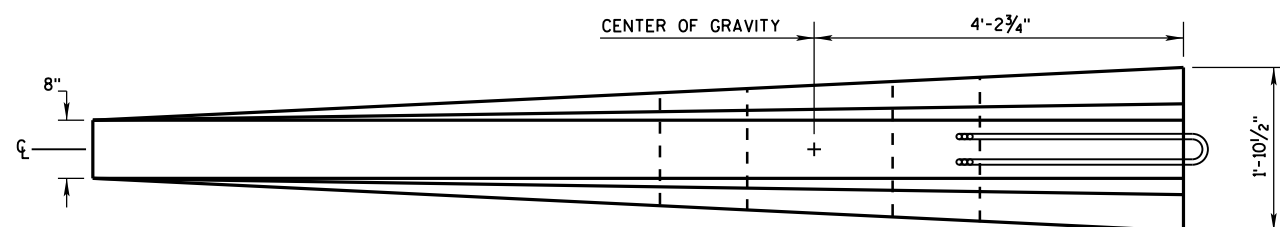
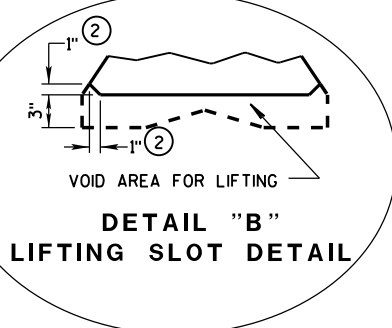
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



- ① MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
 - a. TYPE WICBTP
 - b. MANUFACTURER
 - c. DATE MANUFACTURED (MONTH AND YEAR)
- ② 1" CHAMFER TO PREVENT SPALLING.
- ③ NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)



FLARE AT BARRIER END

| POSTED SPEED, (MPH) | FLARE RATE |
|------------------------|---------------|
| 40 OR LESS | 6:1 |
| 45 OR GREATER | 8:1 |

DETAILS OF BARRIER TAPER SECTION

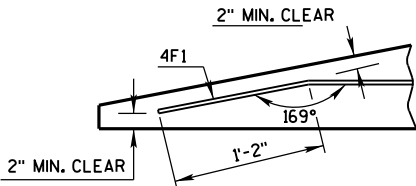
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

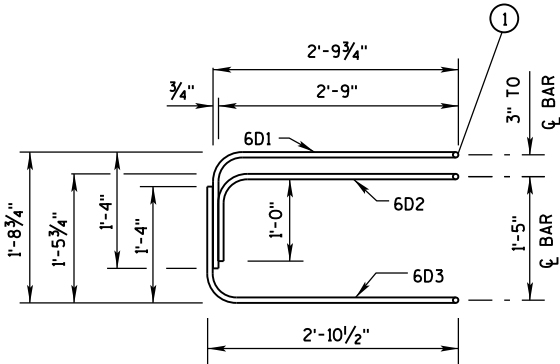
BARRIER TAPER SECTION
BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

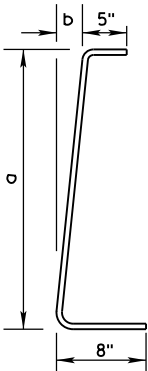
| BAR | BAR SIZE | NO. OF BARS | LENGTH FT. |
|---------------|----------|-------------|------------|
| 4V1 | 4 | 2 | 1'-11" |
| 4V2 | 4 | 2 | 2'-2" |
| 4V3 | 4 | 2 | 2'-6" |
| 4V4 | 4 | 2 | 2'-9" |
| 4V5 | 4 | 2 | 3'-2" |
| 4V6 | 4 | 2 | 3'-4" |
| 4F1 | 4 | 2 | 12'-0" |
| 4F2 | 4 | 2 | 7'-6" |
| 5F3 | 5 | 1 | 11'-9" |
| LOOP ASSEMBLY | | | |
| 6D1 | 6 | 1 | 8'-5" |
| 6D2 | 6 | 1 | 7'-7" |
| 6D3 | 6 | 1 | 8'-6" |



DETAIL "C"
BENT BAR DETAIL



ELEVATION
LOOP BAR ASSEMBLY



4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

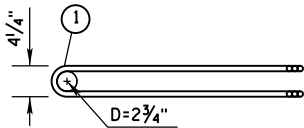
| BAR | a | b |
|-----|-----------|--------|
| V1 | 10" | 1" |
| V2 | 1'-1" | 1 1/4" |
| V3 | 1'-5" | 1 5/8" |
| V4 | 1'-8" | 1 7/8" |
| V5 | 2'-0 1/2" | 2 3/8" |
| V6 | 2'-3" | 2 3/4" |

TAPER BARRIER SECTION

BARRIER SECTION
BILL OF MATERIALS

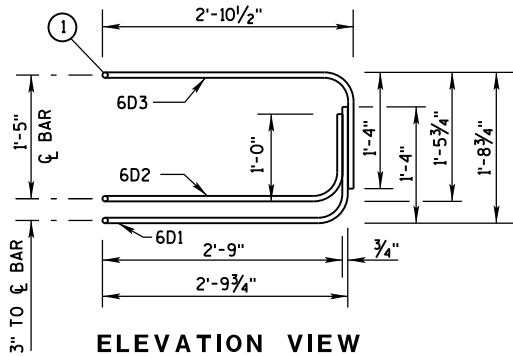
(PER 12'-6" BARRIER SECTION)

| BAR | BAR SIZE | NO. OF BARS | LENGTH FT. |
|---------------|----------|-------------|------------|
| 4A1 | 4 | 12 | 6'-0" |
| 6A2 | 6 | 6 | 2'-11" |
| 5B1 | 5 | 3 | 12'-2" |
| 4C1 | 4 | 2 | 12'-2" |
| LOOP ASSEMBLY | | | |
| 6D1 | 6 | 2 | 8'-5" |
| 6D2 | 6 | 2 | 7'-7" |
| 6D3 | 6 | 2 | 8'-6" |

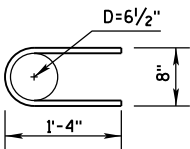


PLAN VIEW
LOOP BAR ASSEMBLY

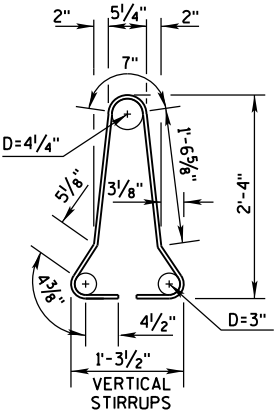
(MARKED END SHOWN, INVERT FOR OTHER END)



ELEVATION VIEW



6A2

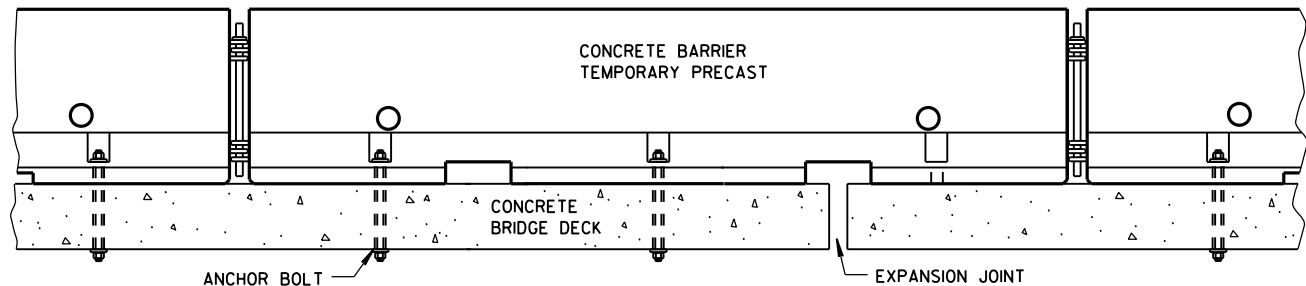
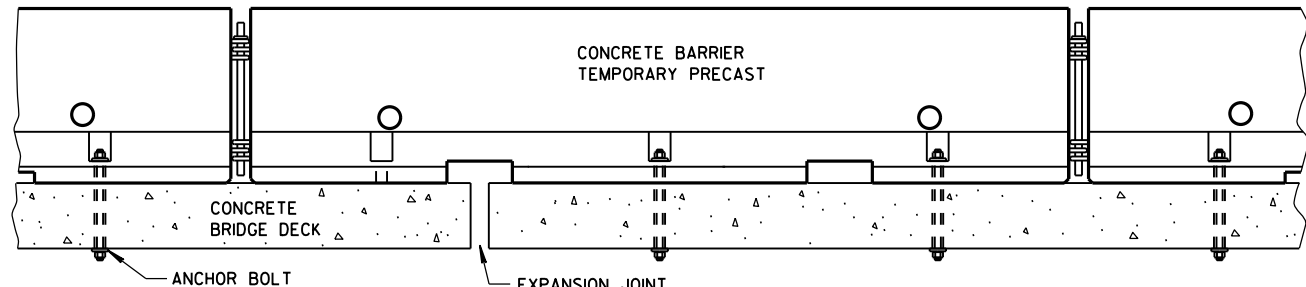


4A1

BARRIER SECTION

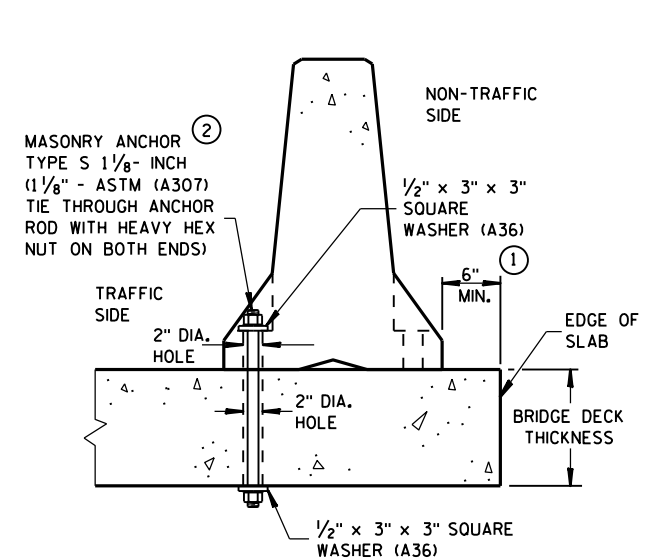
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



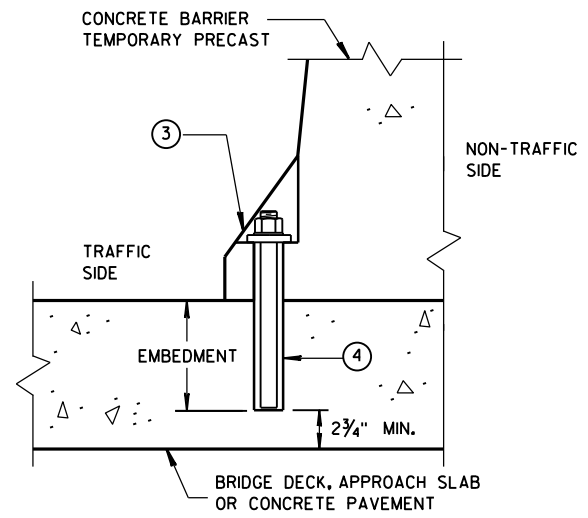
TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(NO SINGLE CONCRETE BARRIER SECTION SHALL BE ANCHORED TO BOTH THE BRIDGE DECK AND THE APPROACH SLAB. ALL ANCHOR BOLT LOCATIONS SHALL BE ANCHORED TO THE DECK IN ACCORDANCE WITH THE DETAIL. NO MORE THAN ONE ANCHOR BOLT SHALL BE ELIMINATED FROM A BARRIER SECTION WHEN SPANNING AN EXPANSION JOINT.)



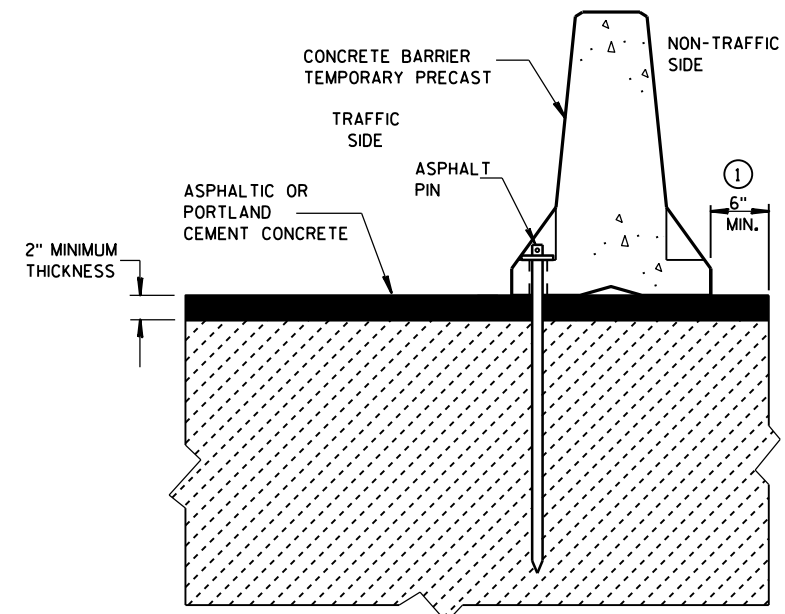
THROUGH BOLTED ANCHOR INSTALLATION ON BRIDGE DECK

(DO NOT USE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)



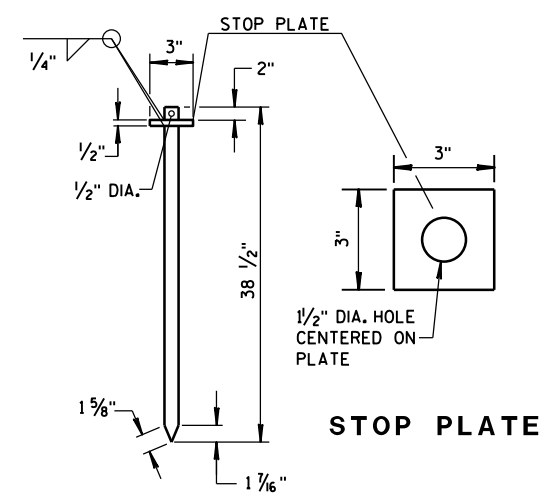
REMOVABLE ADHESIVE BONDED ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

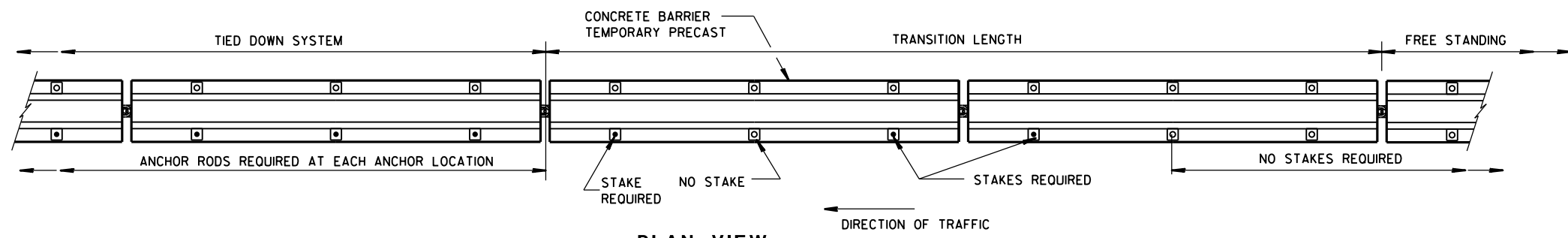


STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)



ASPHALT PIN
(ASTM A36 STEEL)



PLAN VIEW FREE STANDING TRANSITION TO TIED-DOWN SYSTEM

(PLACE TRANSITION IN A TANGENT SECTION OF BARRIER PARALLEL TO THE ROADWAY. IF TRANSITION OCCURS ON STRUCTURAL SLAB, ANCHOR AS SHOWN.)

GENERAL NOTES

- ① CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" SHALL BE ANCHORED IF:
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V,
FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT,
IS LESS THAN 4 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF
AND THE POSTED SPEED IS 45 MPH OR GREATER, OR

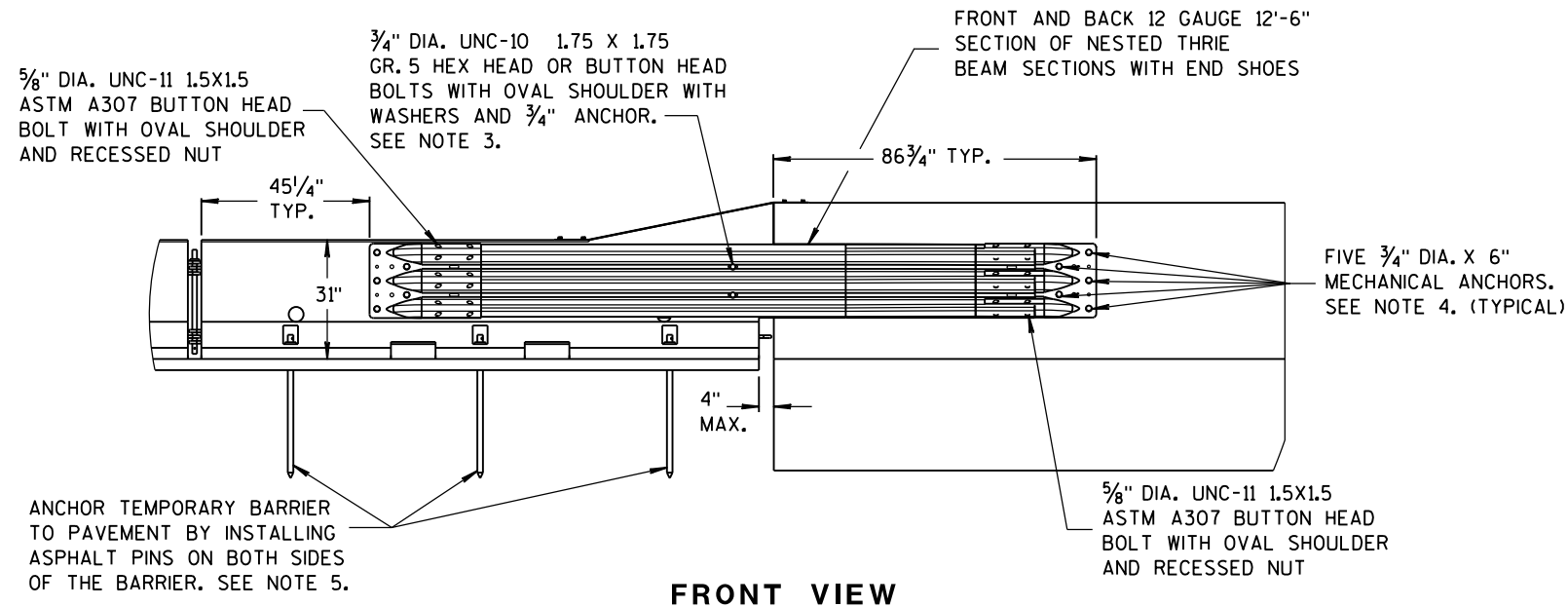
THE DISTANCE TO A 2 FOOT OR GREATER DROPOFF THAT IS STEEPER THAN 3H : 1V,
FOR EXAMPLE THE EDGE OF A BRIDGE DECK OR A DROPOFF AT THE EDGE OF PAVEMENT,
IS LESS THAN 2 FEET FROM THE SIDE OF THE BARRIER CLOSEST TO THE DROPOFF
AND THE POSTED SPEED IS 40 MPH OR LESS.
- ② ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

WITH THE APPROVAL OF THE ENGINEER, REMOVABLE ADHESIVE BONDED ANCHOR BOLT
INSTALLATION MAY BE USED IN LIEU OF THROUGH BOLTED ANCHOR INSTALLATION. THE ADHESIVE
BONDED ANCHOR BOLT MUST BE REMOVABLE. USE ASTM (A307) MASONRY ANCHORS TYPE
S 1 1/8"-INCH, EMBEDDED TO A DEPTH SUFFICIENT TO DEVELOP THE ULTIMATE CAPACITY OF THE
ANCHOR BOLT AND PROVIDE DOCUMENTATION TO CONFIRM THIS.

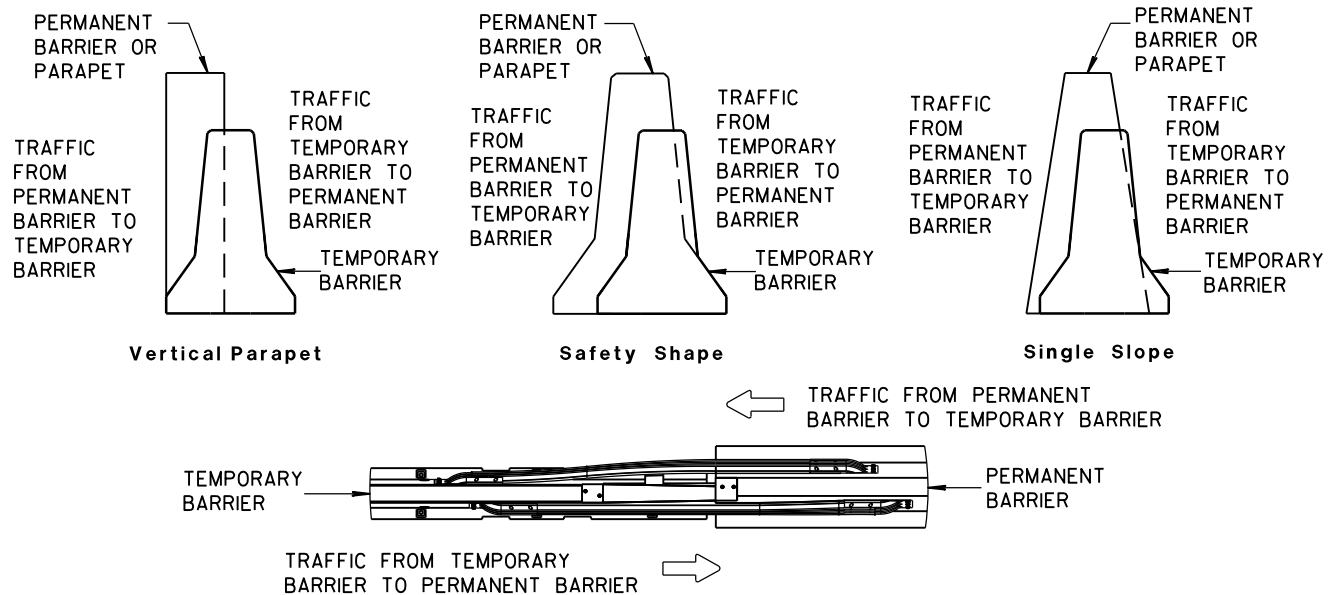
UPON REMOVAL OR RELOCATION OF THE BARRIER UNITS, REMOVE ALL ANCHOR BOLTS AND COMPLETELY
FILL IN THE REMAINING HOLES IN CONCRETE BRIDGE DECKS, CONCRETE APPROACH SLABS AND CON-
CRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERCIAL GROUT OR MATERIAL
IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.
- ③ 1/8" DIAMETER A307 THREADED ROD, 1/2" x 3" x 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL,
ASTM A563A HEAVY HEX NUT.
- ④ ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5/4" EMBEDMENT. SEE 603.2
AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



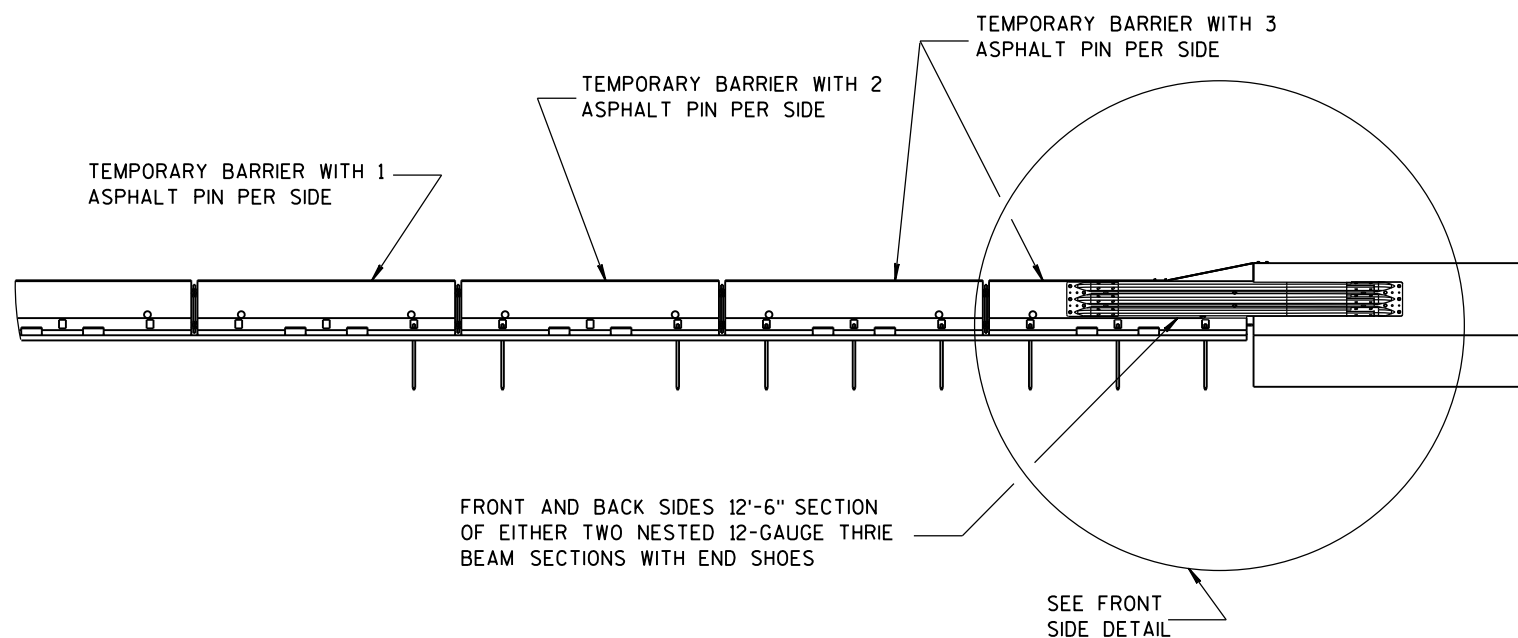
FRONT VIEW



TEMPORARY BARRIER PLACEMENT FOR BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM

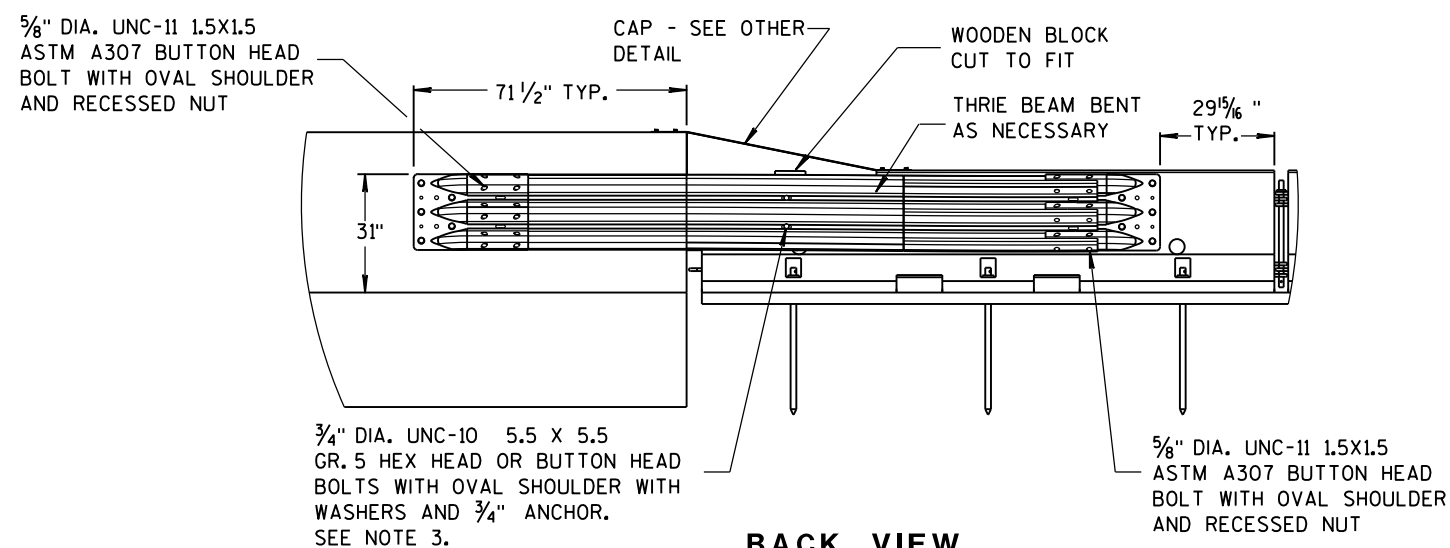
NOTES

1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 10.48 KIPS.
4. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 17.9 KIPS AND ULTIMATE SHEAR LOAD 21.96 KIPS.
5. MAY BE USED ON CONCRETE OR ASPHALT PAVEMENTS. ASPHALT OPTION SHOWN. FOR CONCRETE OPTION SEE OTHER DETAILS.
6. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 12.14 KIPS AND ULTIMATE SHEAR LOAD 17.5 KIPS.

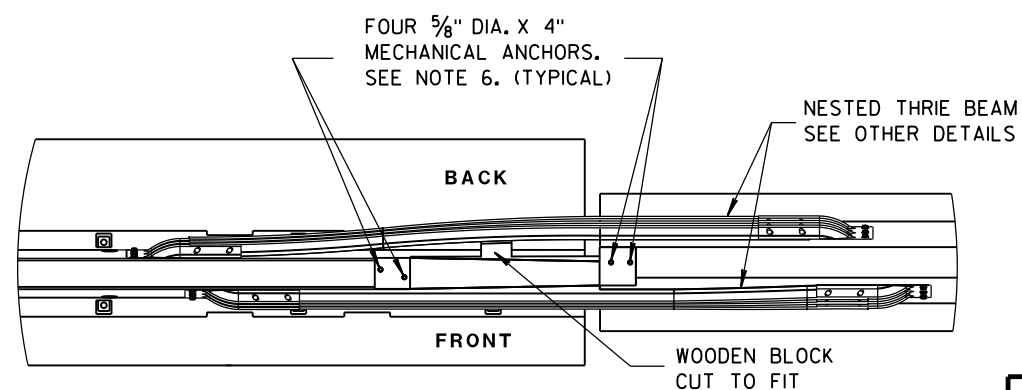


FRONT VIEW

BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM



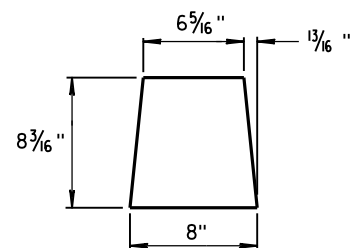
BACK VIEW



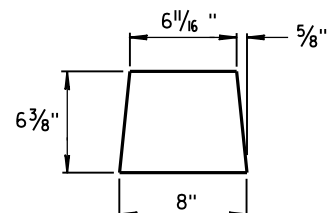
PLAN VIEW

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

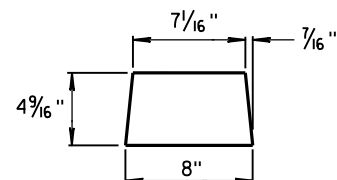
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



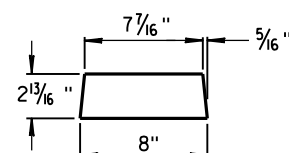
GUSSET 1



GUSSET 2

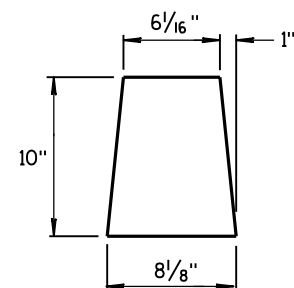


GUSSET 3

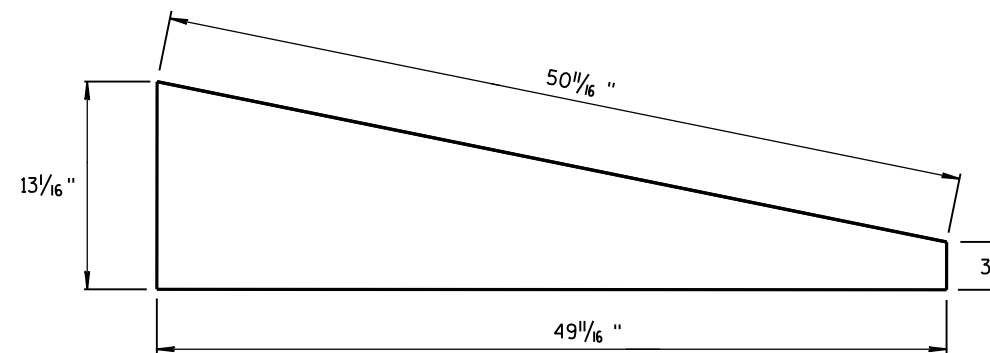


GUSSET 4

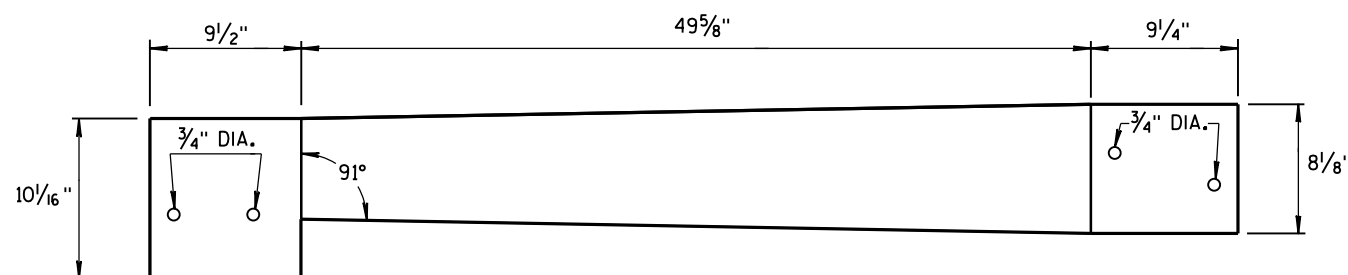
GUSSETS



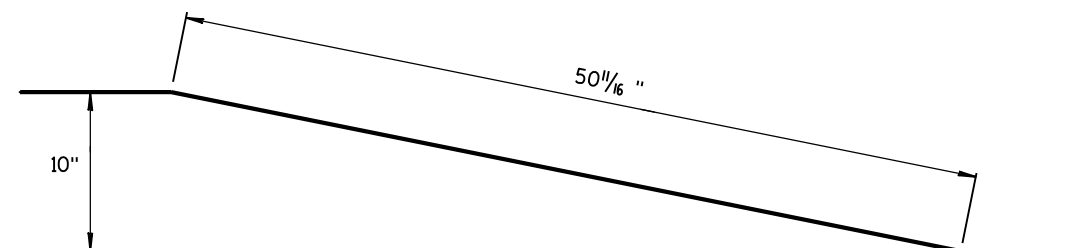
END PLATE



SIDE PLATE

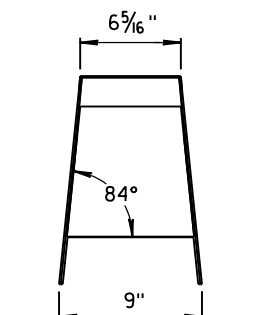


TOP PLATE

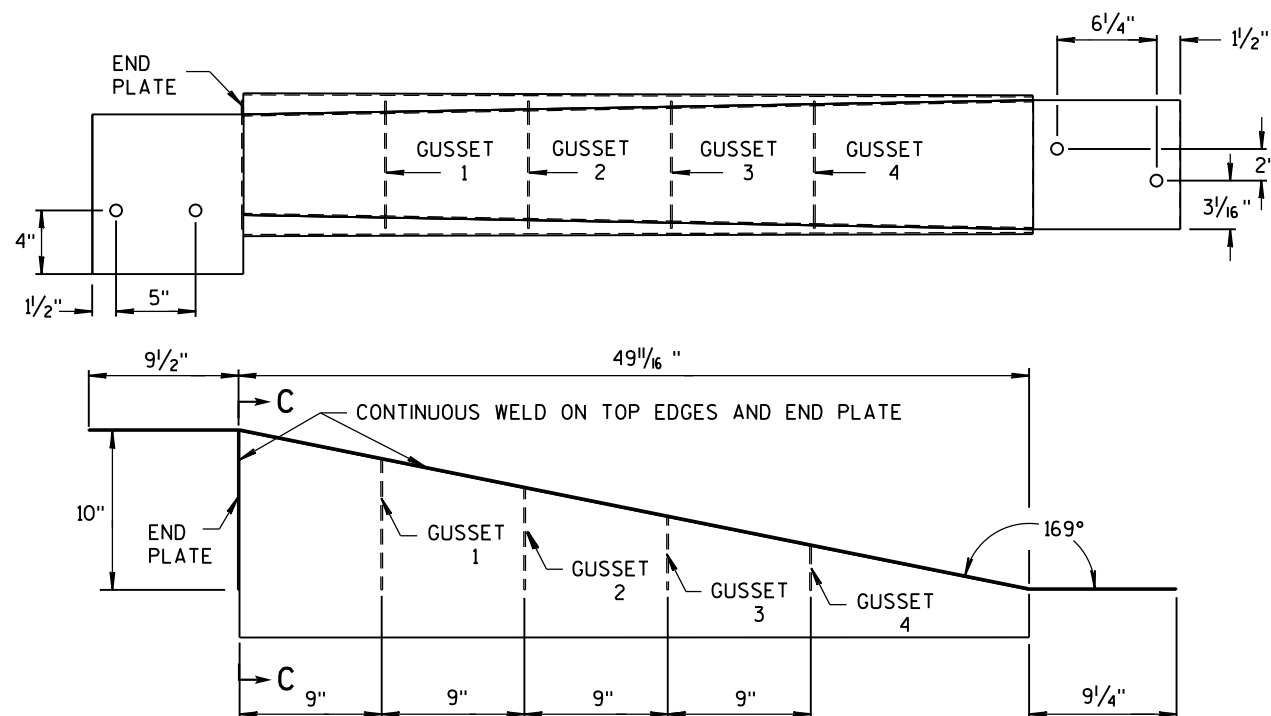


**SIDE, TOP AND END PLATES FOR CAP
FROM TEMPORARY CONCRETE BARRIER
TO 42" PERMANENT CONCRETE BARRIER**

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 GALVANIZED STEEL.



SECTION C-C



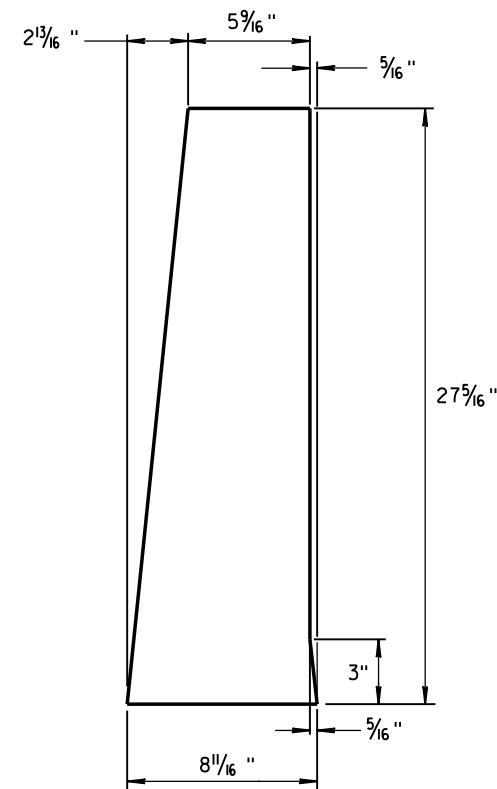
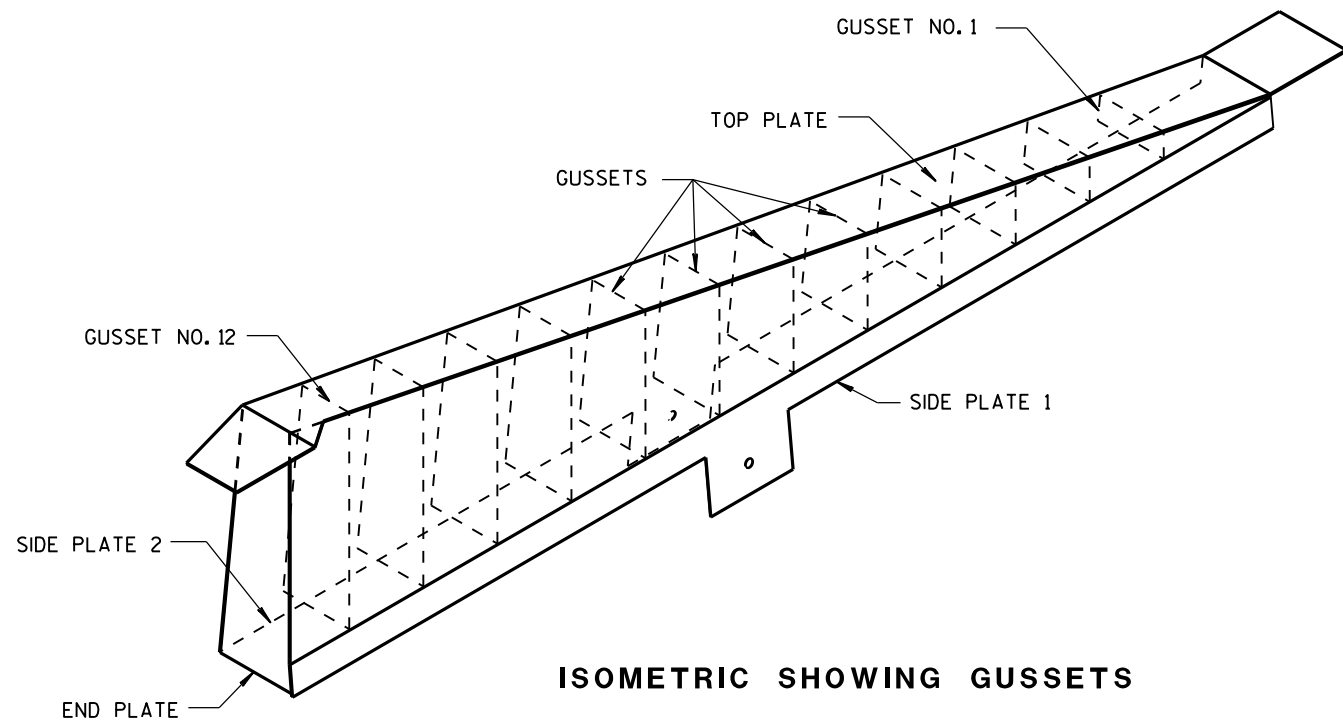
NOTES

1. FOUR GUSSETS AND END PLATE ARE STITCH WELDED ON THREE SIDES.
2. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE, AND GUSSETS.

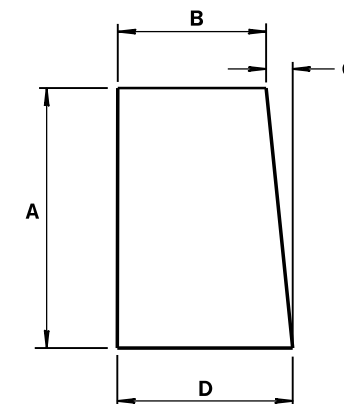
**CAP DETAILS FOR TEMPORARY CONCRETE
BARRIER TO 42" PERMANENT CONCRETE BARRIER**

**CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



END PLATE
1/8" STEEL PLATE

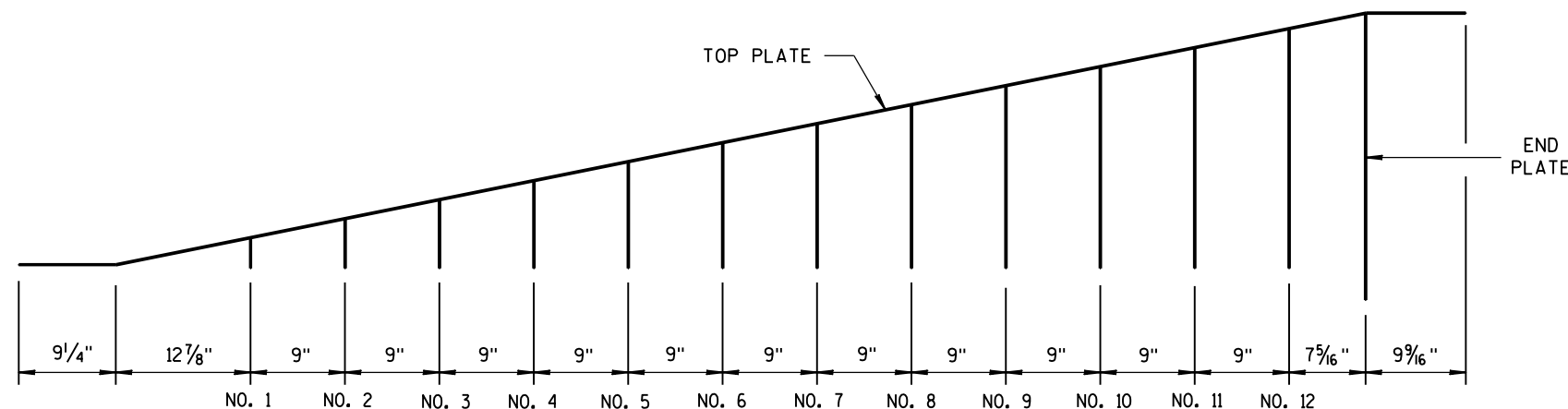


GUSSETS 1 - 12
ALL GUSSETS 1/8" STEEL PLATE

| GUSSET DIMENSIONS | | | | |
|-------------------|------------|-----------|-----------|----------|
| GUSSET NO. | A | B | C | D |
| 1 | 2 7/8" | 7 3/4" | 1/4" | 8 |
| 2 | 4 1/16 " | 7 9/16 " | 1/2" | 8 |
| 3 | 6 1/2" | 7 3/8" | 1 1/16 " | 8 1/16 " |
| 4 | 8 5/16" | 7 3/16" | 7/8" | 8 1/16 " |
| 5 | 10 1/8" | 7" | 1 1/16 " | 8 1/16 " |
| 6 | 11 5/16 " | 6 13/16 " | 1 1/4" | 8 1/16 " |
| 7 | 13 3/4" | 6 5/8" | 1 7/16 " | 8 1/16 " |
| 8 | 15 9/16 " | 6 7/16 " | 1 9/16 " | 8 1/16 " |
| 9 | 17 3/8" | 6 1/4" | 1 13/16 " | 8 1/16 " |
| 10 | 19 3/16" | 6 1/16" | 1 15/16 " | 8 1/16 " |
| 11 | 21" | 5 7/8" | 2 3/16" | 8 1/16 " |
| 12 | 22 13/16 " | 5 11/16 " | 2 5/16" | 8 1/16 " |

SIDE PLATES, TOP PLATE, END PLATE AND GUSSETS ARE 12 GAUGE ASTM A36 STEEL AND GALVANIZED.

GUSSETS AND END PLATE ARE STITCH WELDED ON 3 SIDES. TWO TRIANGULAR SIDE PLATES ARE STITCH WELDED TO TOP PLATE, END PLATE AND GUSSETS.

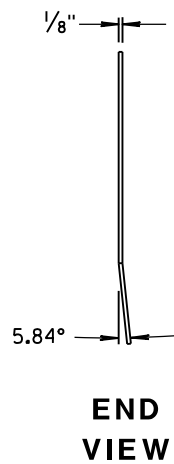
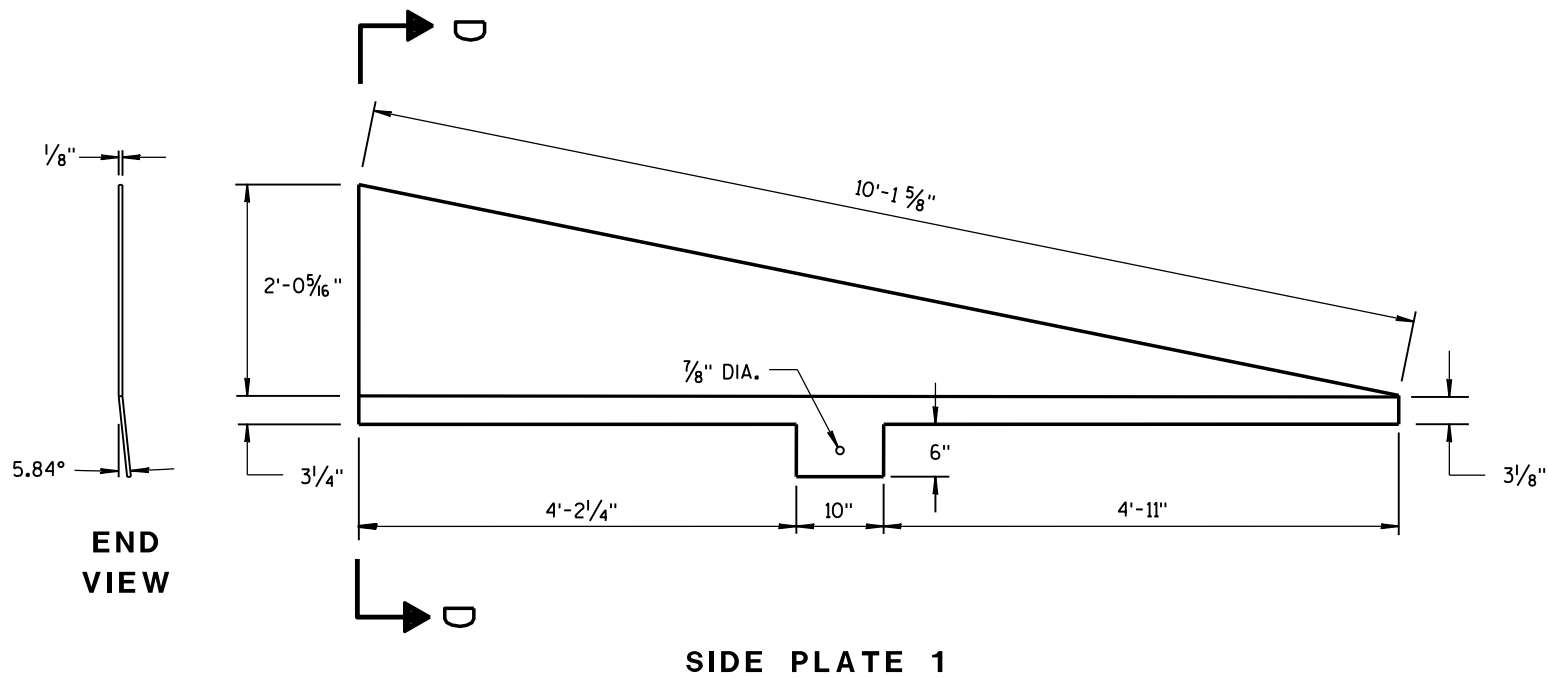
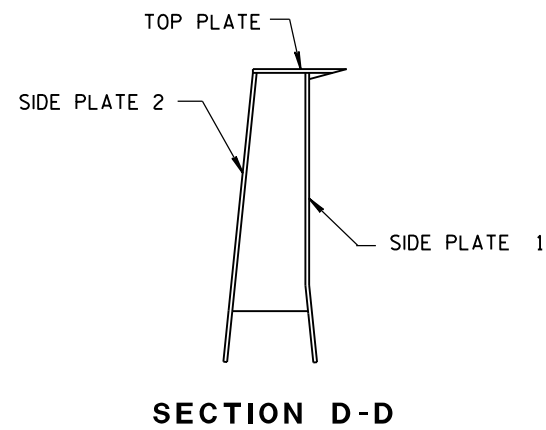
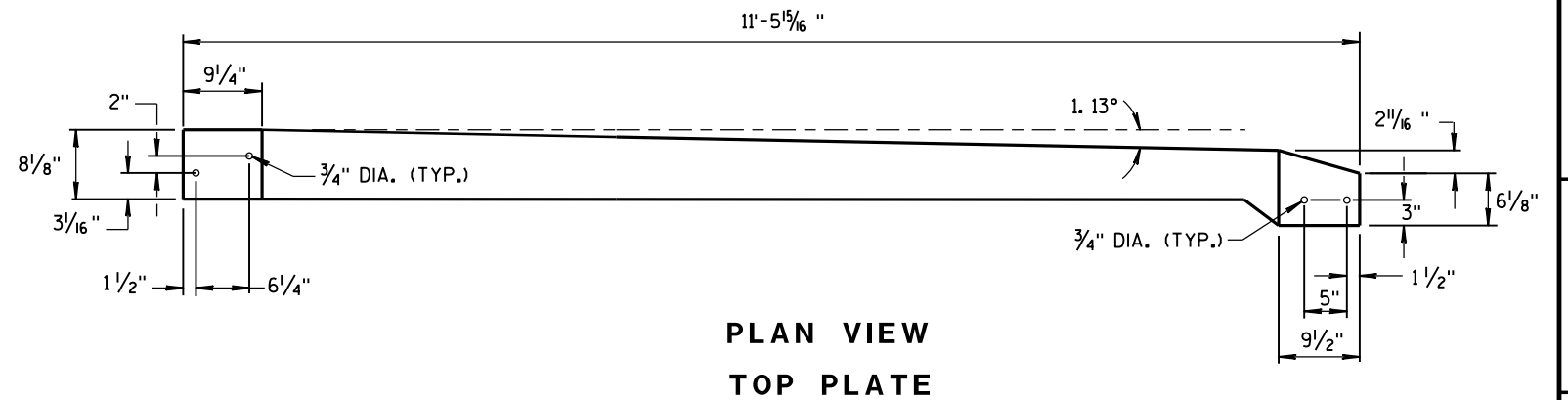
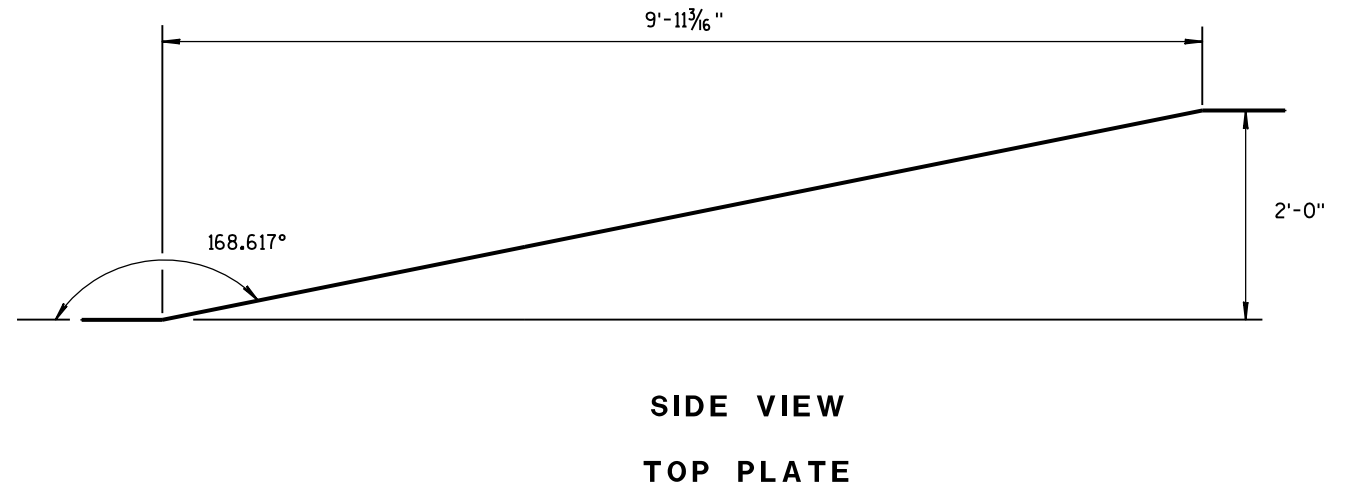
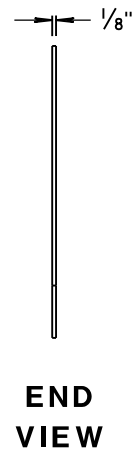
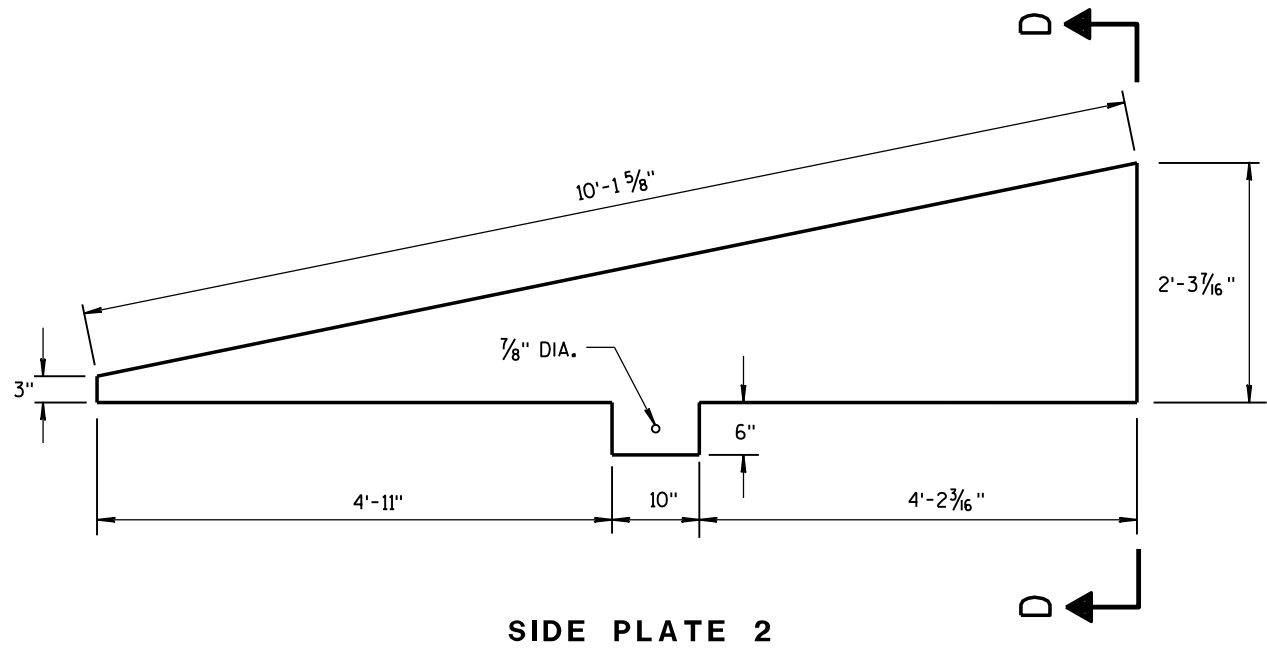


GUSSET LOCATION

CAP DETAILS FOR TEMPORARY CONCRETE
BARRIER TO 56" PERMANENT CONCRETE BARRIER

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

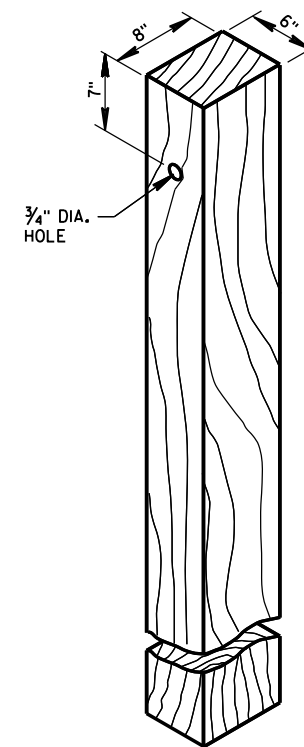
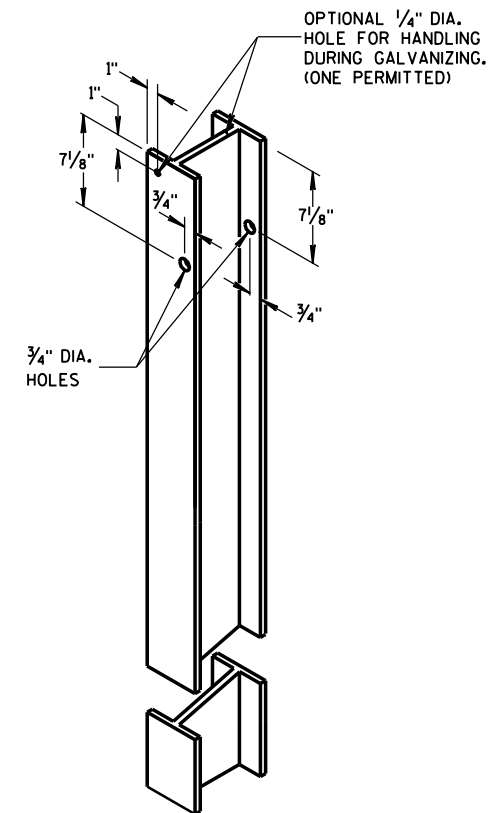
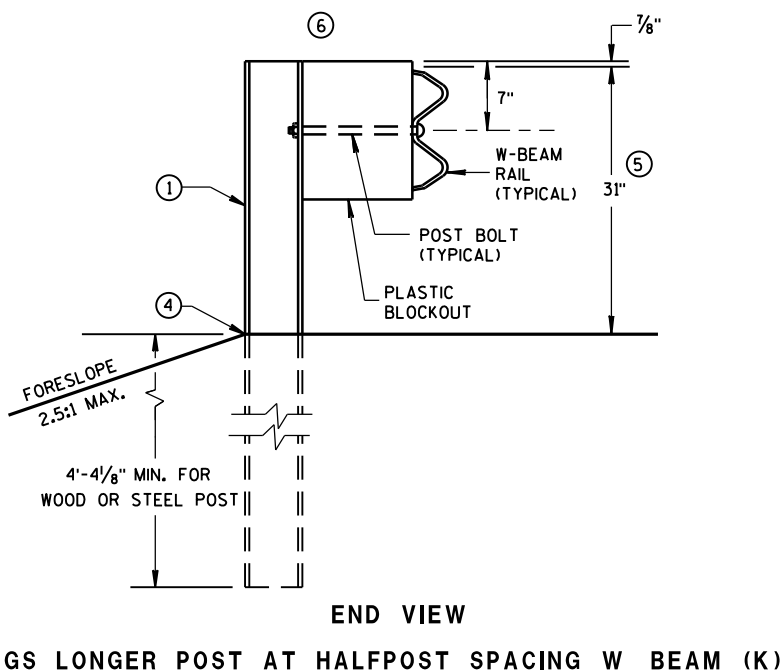
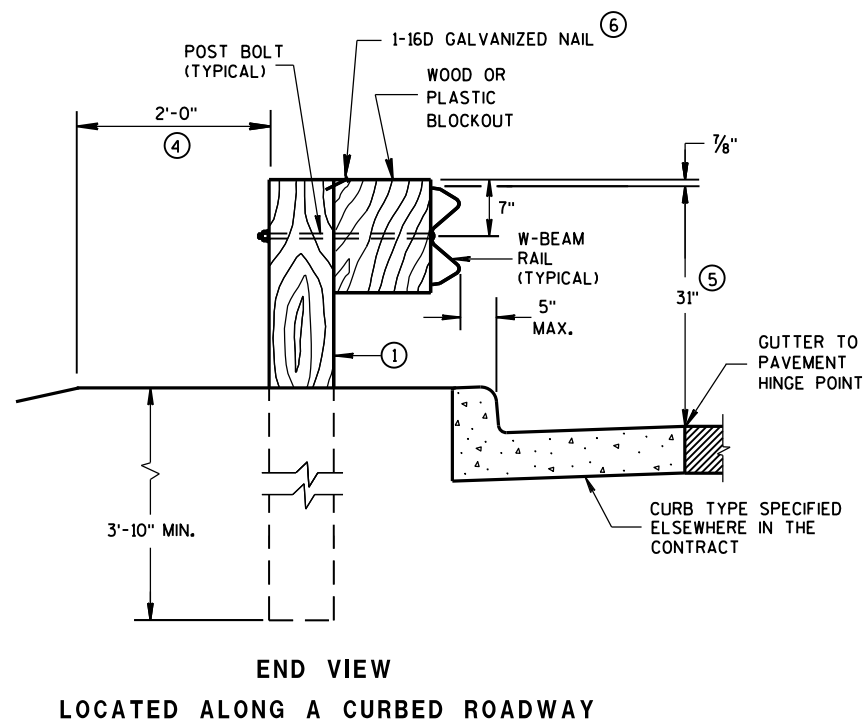
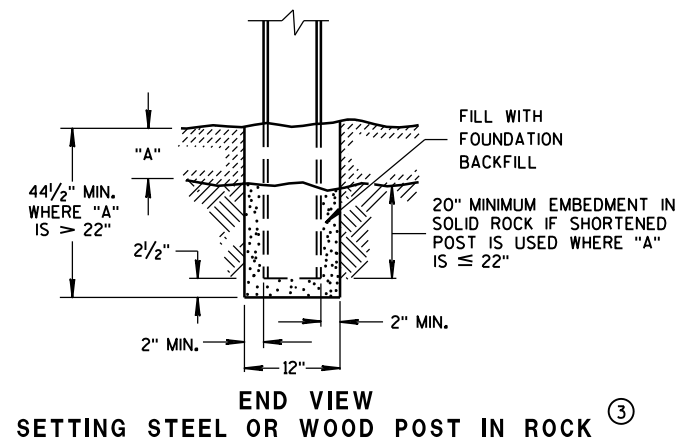
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CAP DETAILS FOR TEMPORARY CONCRETE
BARRIER TO 56" PERMANENT CONCRETE BARRIER

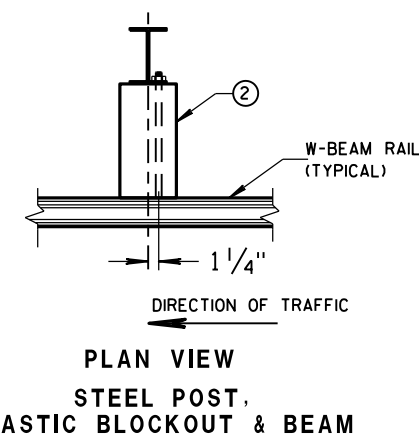
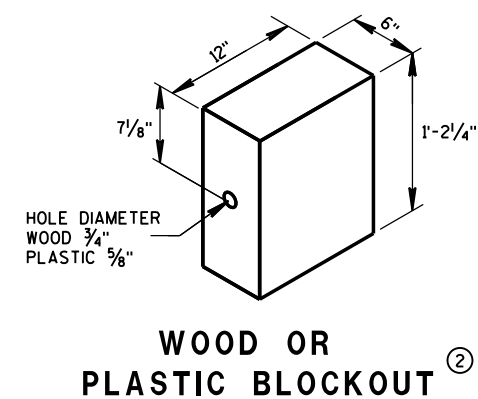
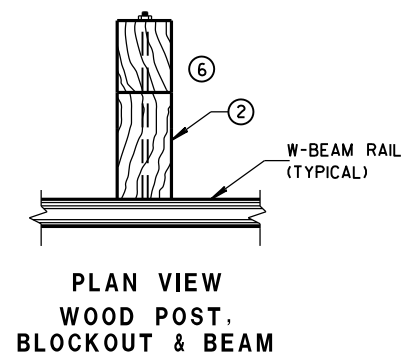
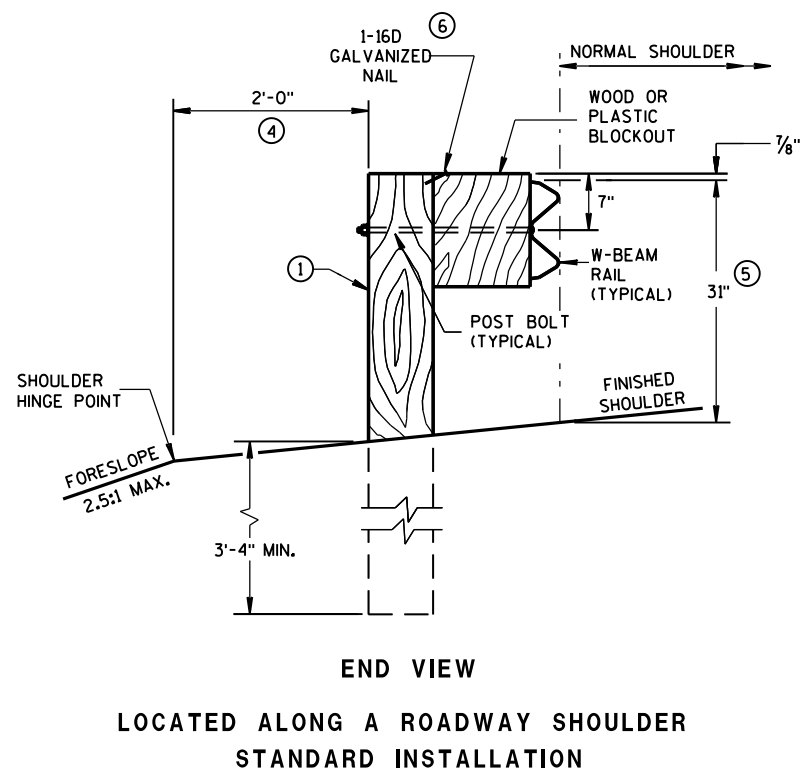
| | |
|--|---|
| CONCRETE BARRIER TEMPORARY PRECAST, 12'-6" | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | |
| APPROVED June 2014 DATE | /S/ Jerry H. Zogg ROADWAY STANDARD DEVELOPMENT ENGINEER |
| FHWA | |

- 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 2 1/2 INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AND 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 $\pm 1"$. FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 3/4" 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.



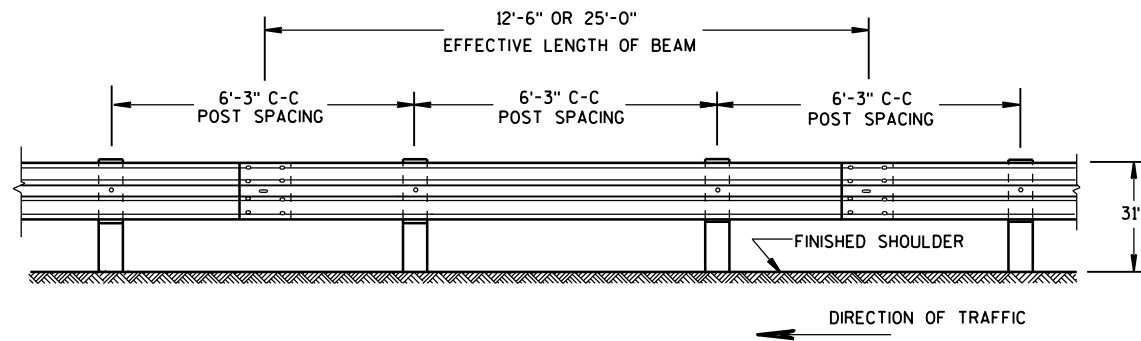
STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) ①

WOOD POST
(6" X 8") NOMINAL ①



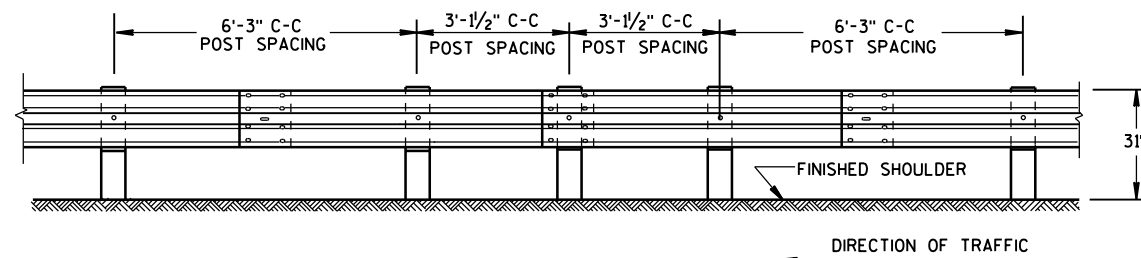
MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



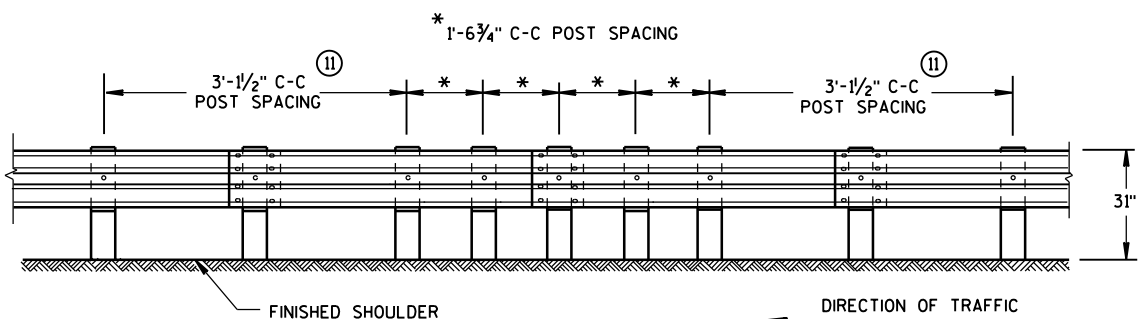
FRONT VIEW

POST SPACING STANDARD INSTALLATION



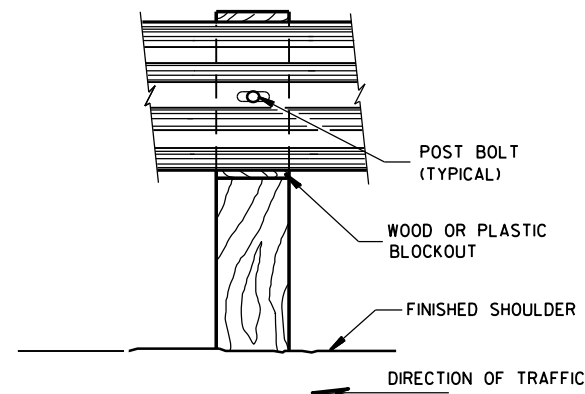
FRONT VIEW

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

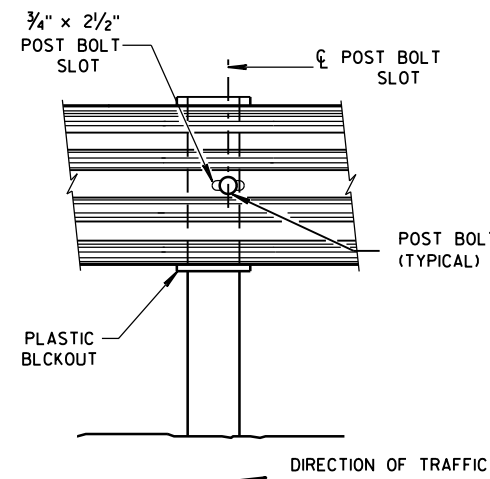


FRONT VIEW

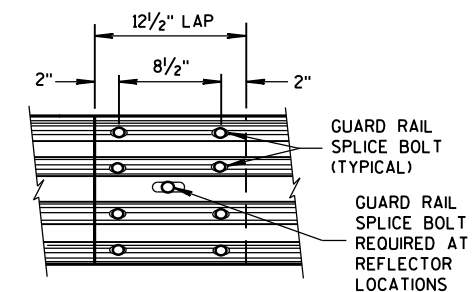
QUARTER POST SPACING (QS)



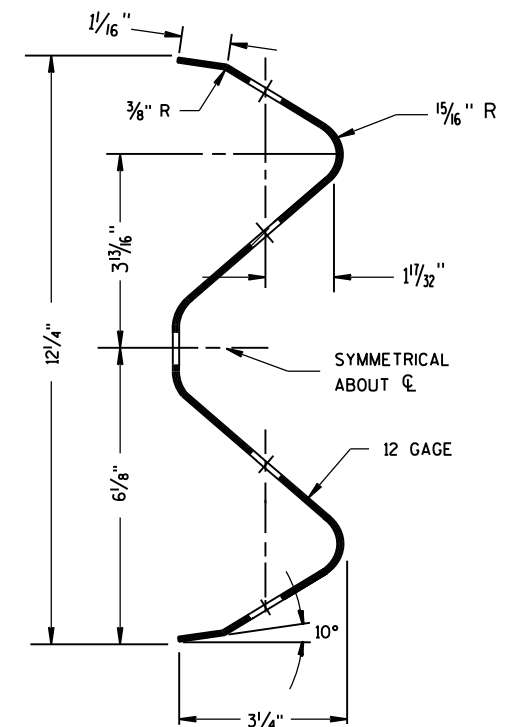
FRONT VIEW AT WOOD POST



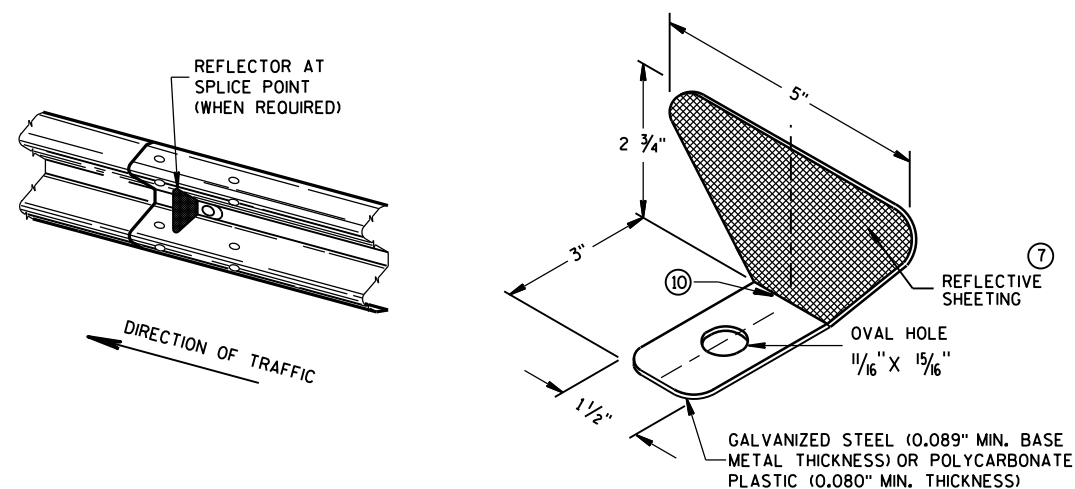
FRONT VIEW AT STEEL POST



FRONT VIEW
MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

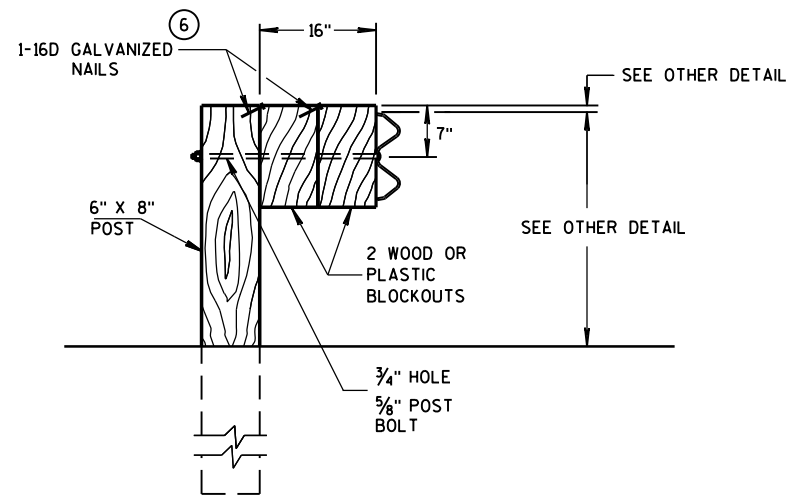
- ⑦ PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.
 - ⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF 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 $90^\circ \pm 1^\circ$ 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 $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND $\frac{5}{8}$ " DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.
- GUARD RAIL SPLICE BOLTS ARE A $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

REFLECTOR SPACING

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

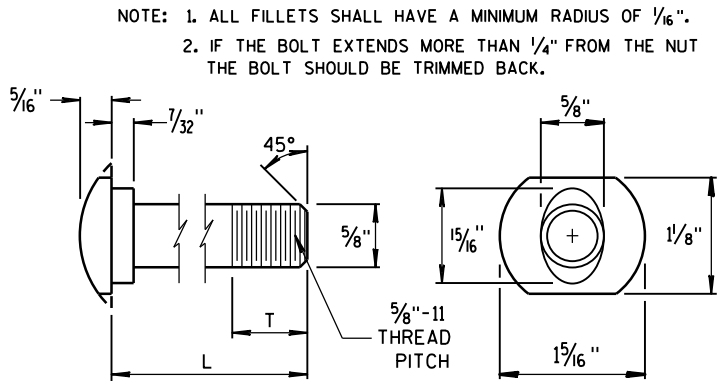
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

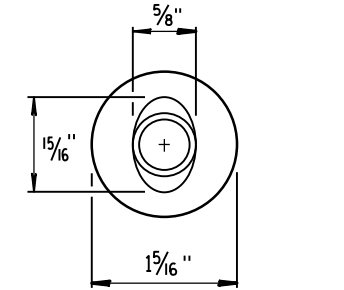


DETAIL FOR 16" BLOCKOUT DEPTH

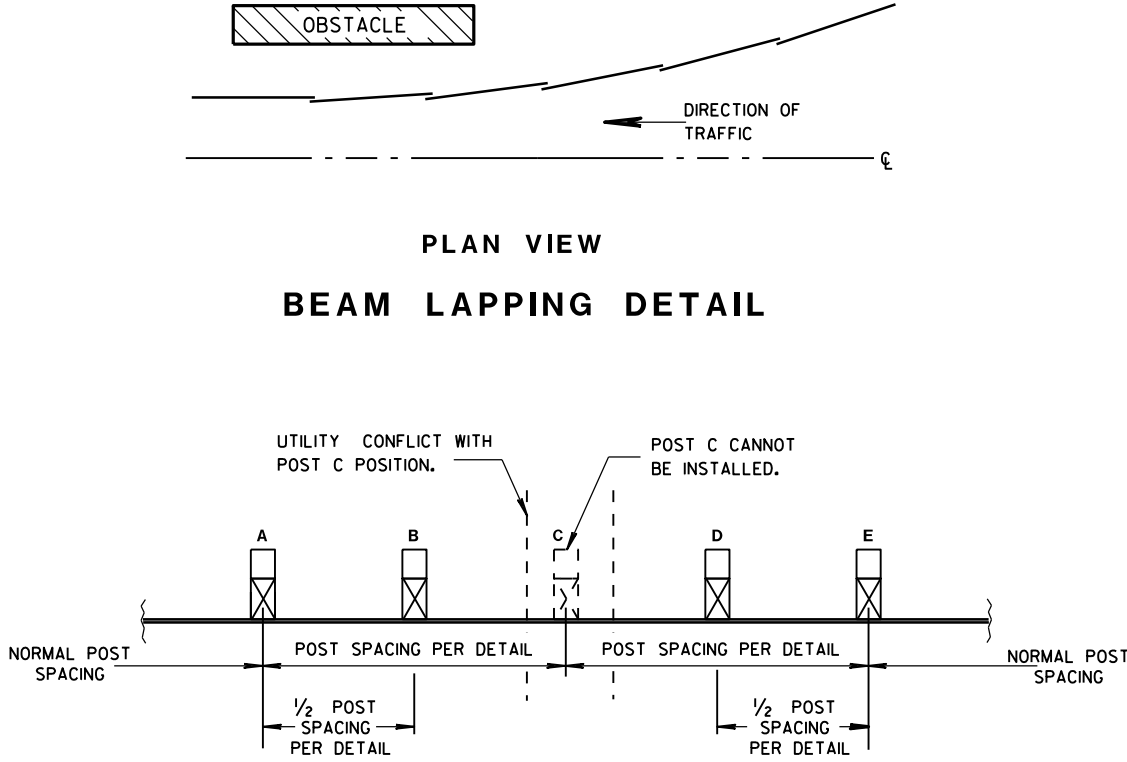
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



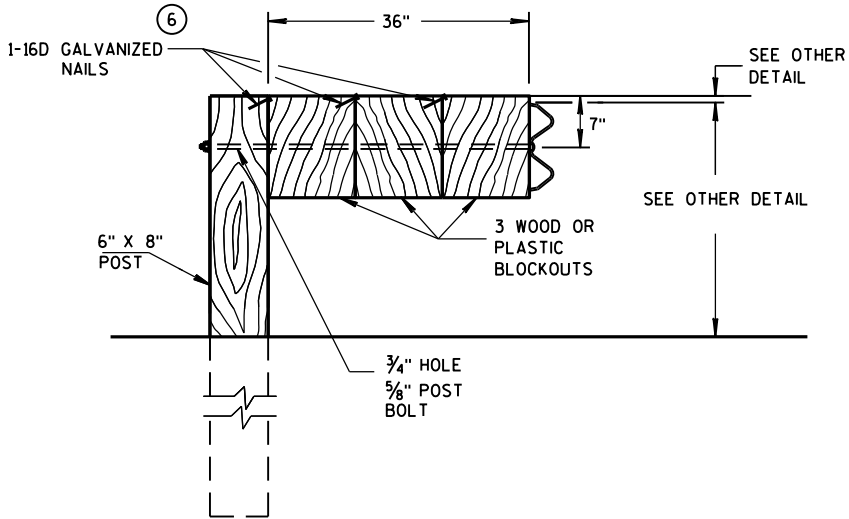
POST BOLT TABLE



ALTERNATE BOLT HEAD



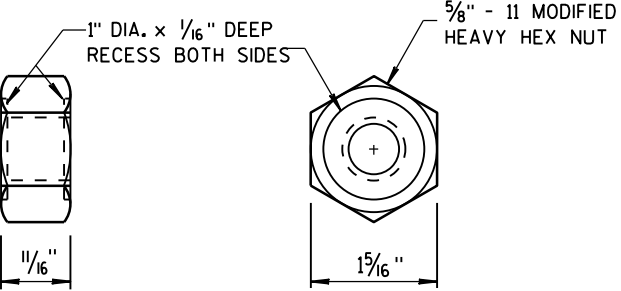
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



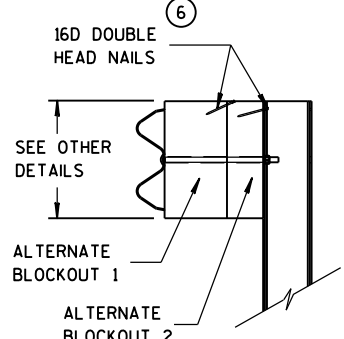
DETAIL FOR 36" BLOCKOUT DEPTH

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

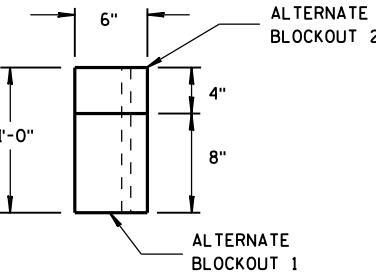
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.



POST BOLT, SPLICE BOLT AND RECESS NUT



SIDE VIEW



TOP VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

| | |
|--|--|
| MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | |
| APPROVED June 2016 DATE | /S/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER |
| FHWA | |

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.
- (E) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS, ONE SCREW PER CORNER.
- (G) 1/2" 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.

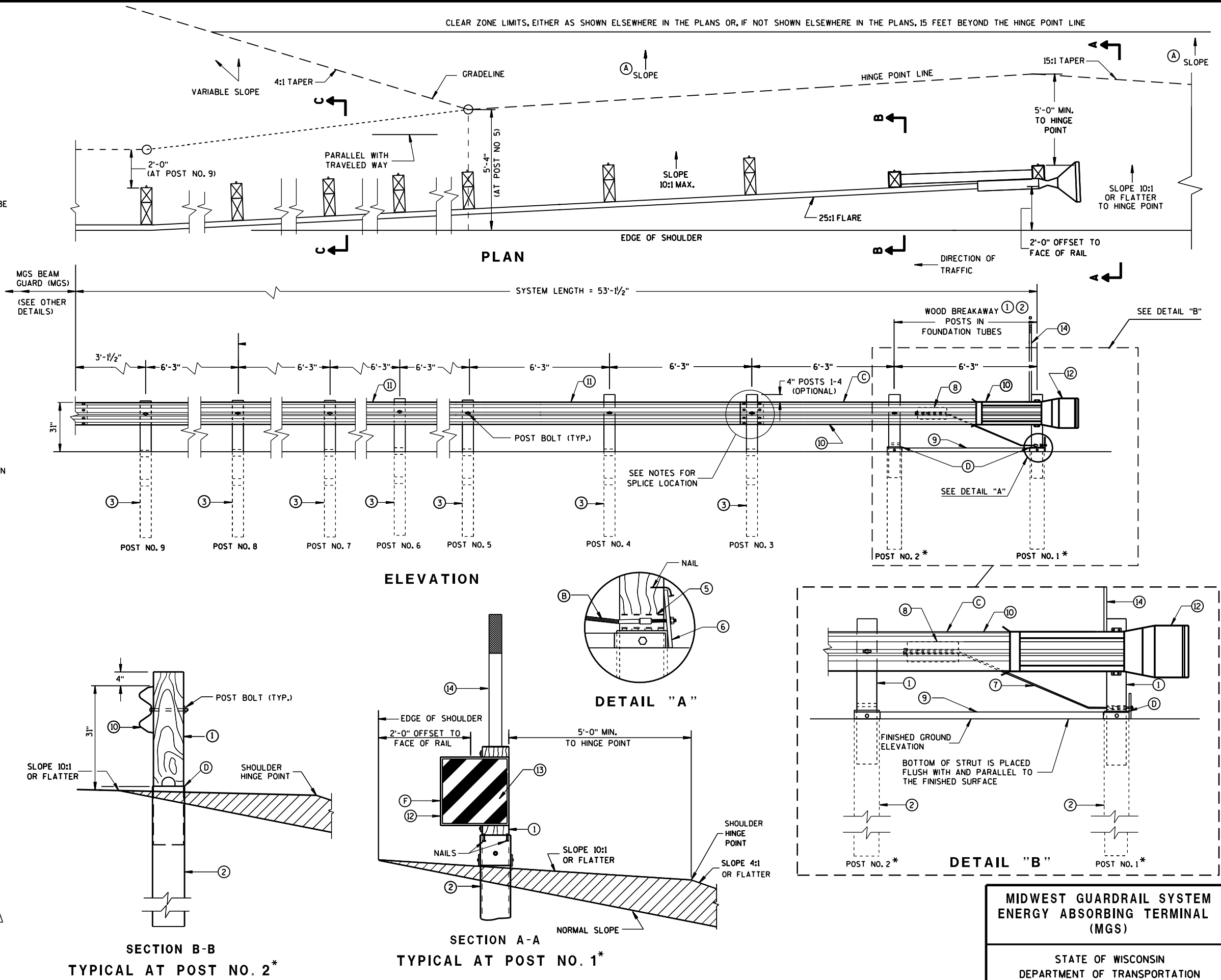
SEE SDD 14B42 FOR MORE INFORMATION.

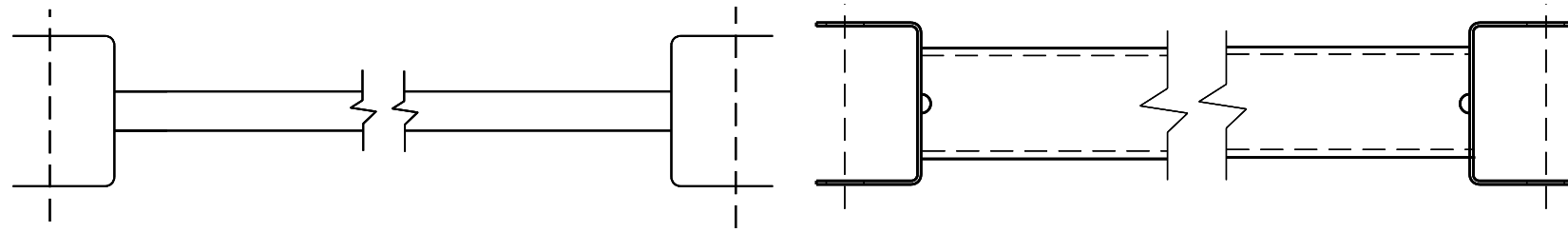
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

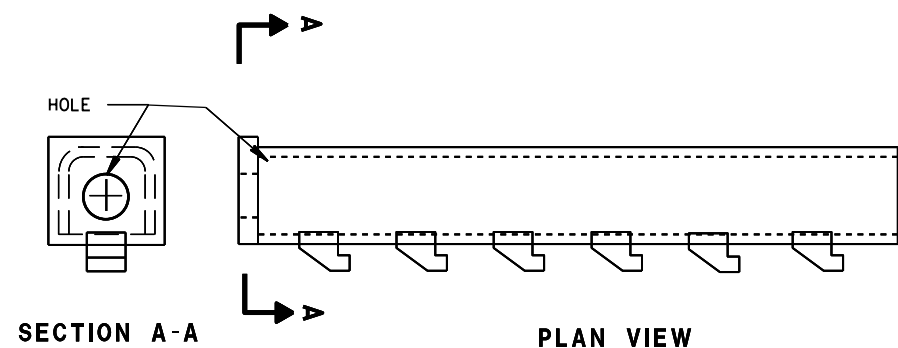
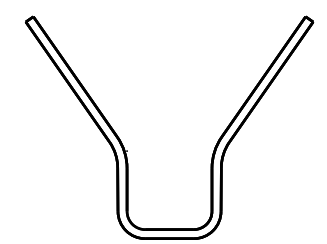
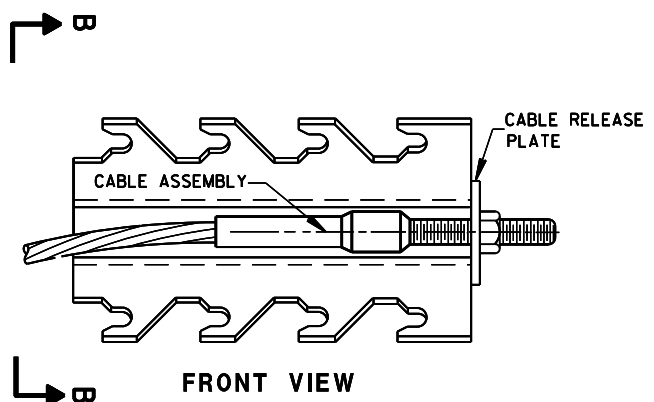
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

THE CENTER OF THE UPPER 3/2" 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.





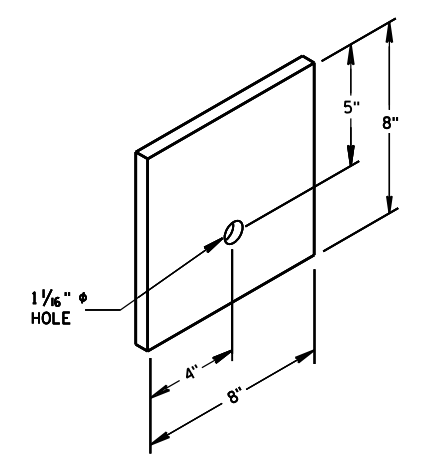
9 H
GENERIC GROUND STRUT



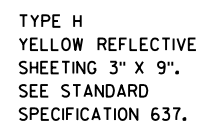
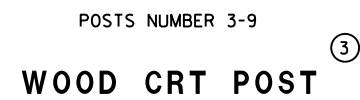
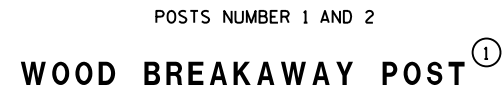
8 H
GENERIC ANCHOR CABLE BOX

BILL OF MATERIALS

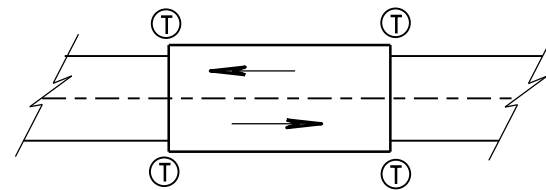
| PART NO. | DESCRIPTION |
|--|--|
| MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION. | |
| ① | WOOD BREAKAWAY POST |
| ② | 6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2 |
| ③ | WOOD CRT |
| ④ | WOOD BLOCKOUT |
| ⑤ | PIPE SLEEVE |
| ⑥ | BEARING 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. SECTIONS VARY IN LENGTH. |
| ⑫ | END SECTION EAT |
| ⑬ | 0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS |
| ⑭ | EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST) |



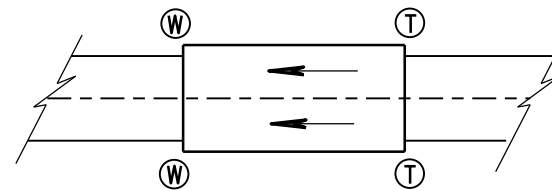
⑥
BEARING PLATE



| | |
|--|---|
| MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS) | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | |
| APPROVED June 2014 | /S/ Jerry H. Zogg |
| DATE | ROADWAY STANDARDS DEVELOPMENT ENGINEER |
| FHWA | |



TWO WAY TRAFFIC



ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

GENERAL NOTES

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

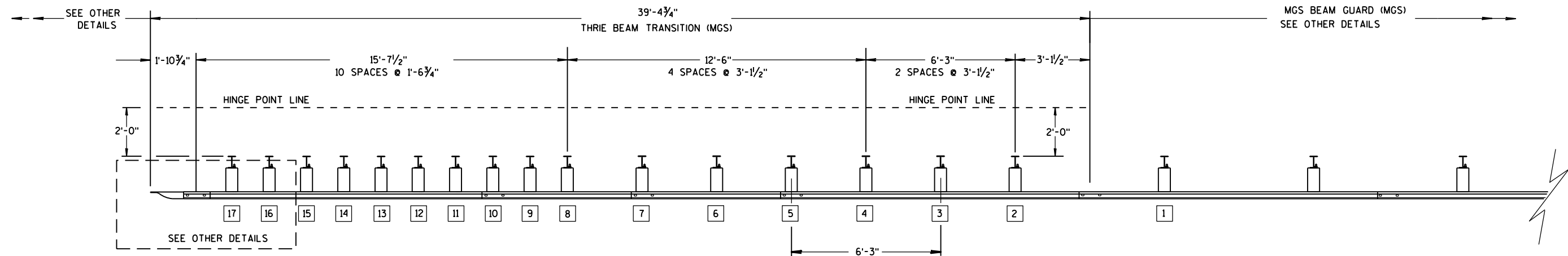
TRANSITION USES STEEL POSTS ONLY.

SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

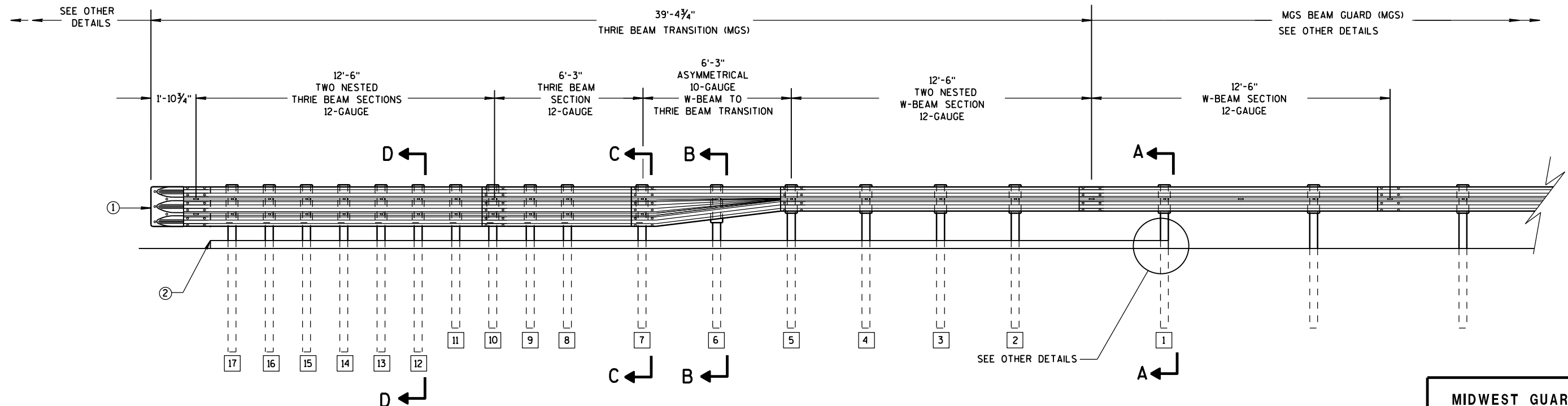
① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

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



PLAN VIEW



ELEVATION VIEW

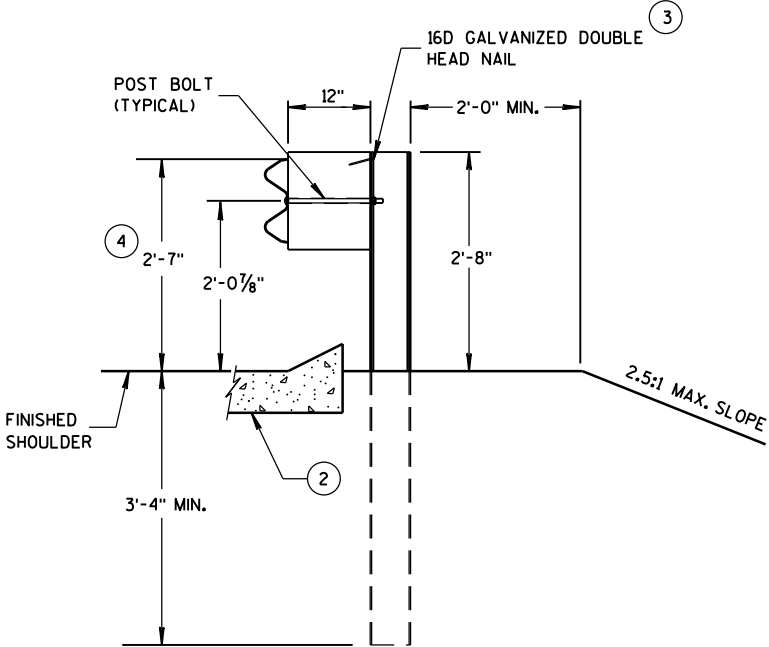
MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

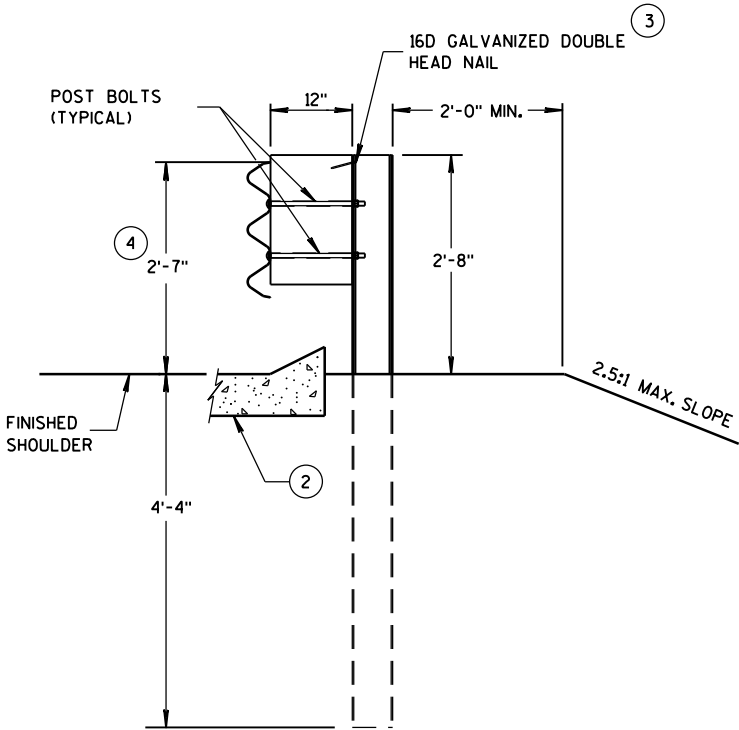
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

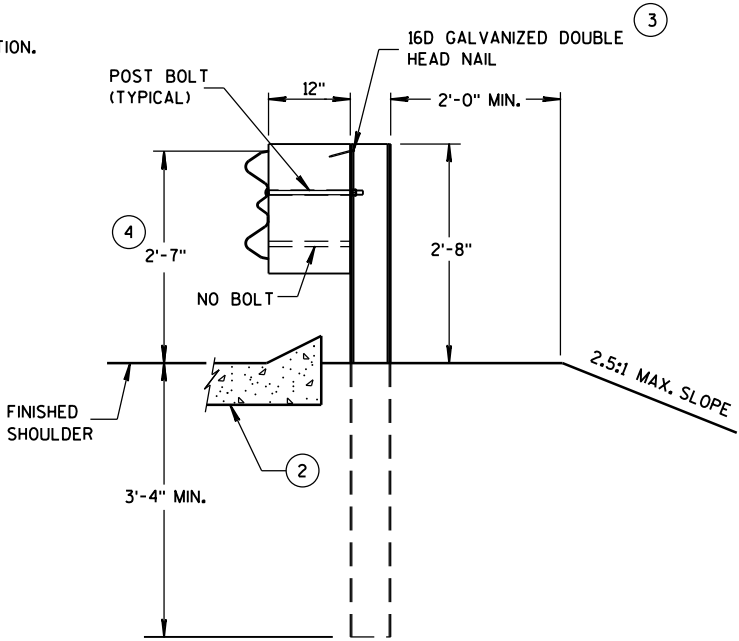
- 2 OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- 3 WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- 4 TOLERANCE FOR TOP OF W-BEAM RAIL IS $\pm 1"$.



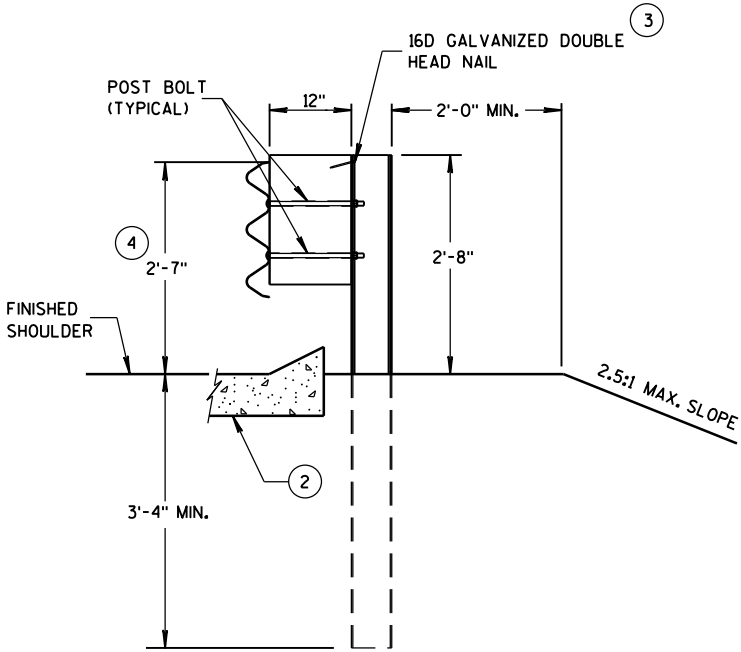
SECTION A-A
POSTS 1-5



SECTION D-D
POSTS 12-17



SECTION B-B
POST 6



SECTION C-C
POSTS 7-11

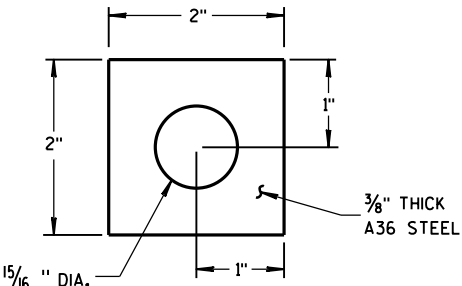
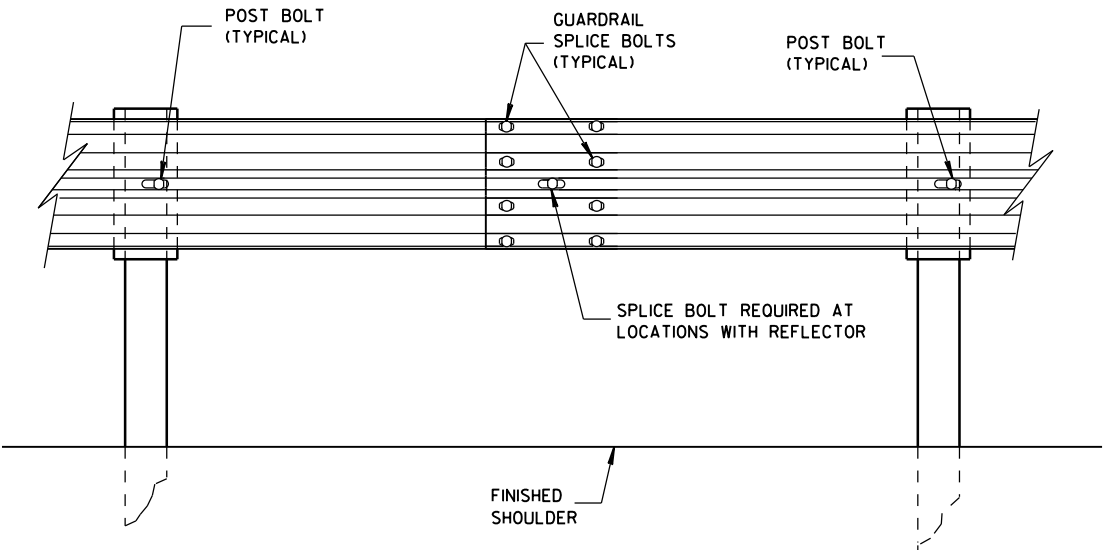
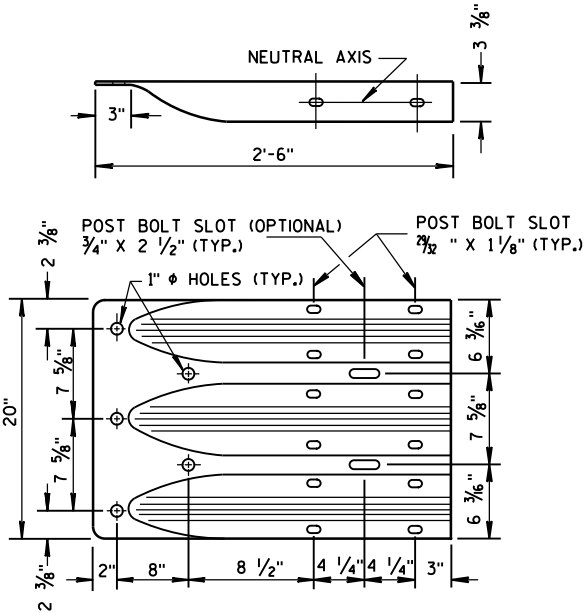


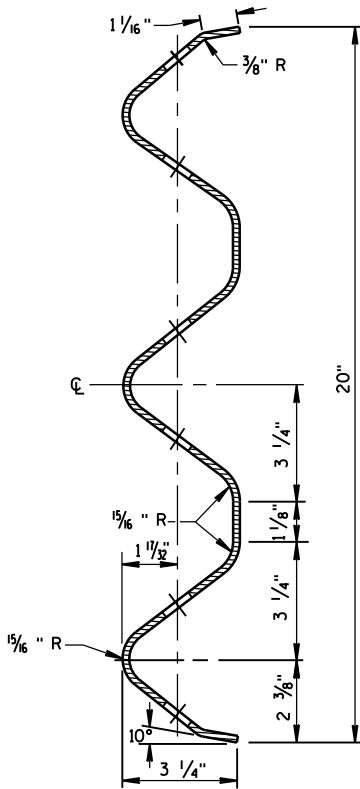
PLATE WASHER DETAIL



SPlice DETAIL



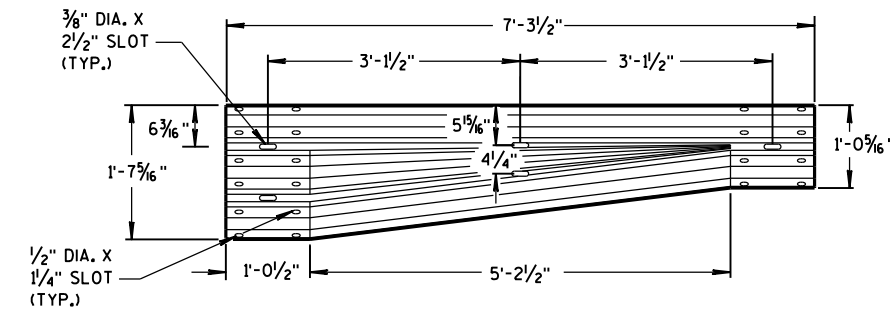
THRIE BEAM
TERMINAL CONNECTOR



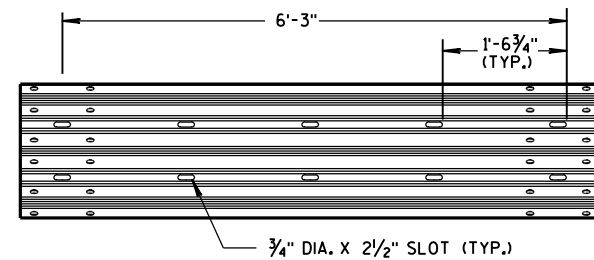
SECTION THRU THRIE
BEAM RAIL ELEMENT

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

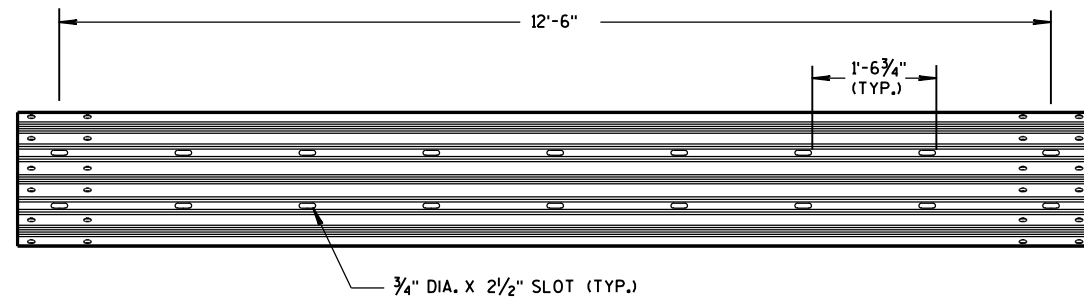
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



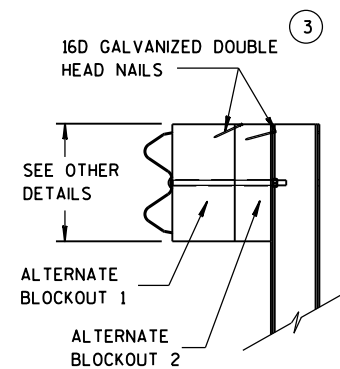
W-BEAM TO THRIE BEAM TRANSITION SECTION



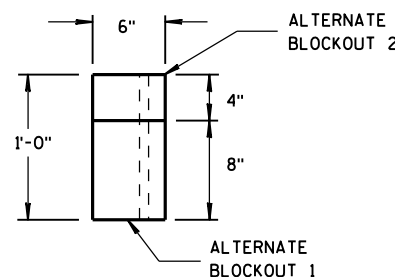
6'-3" THRIE BEAM SECTION



12'-6" THRIE BEAM SECTION

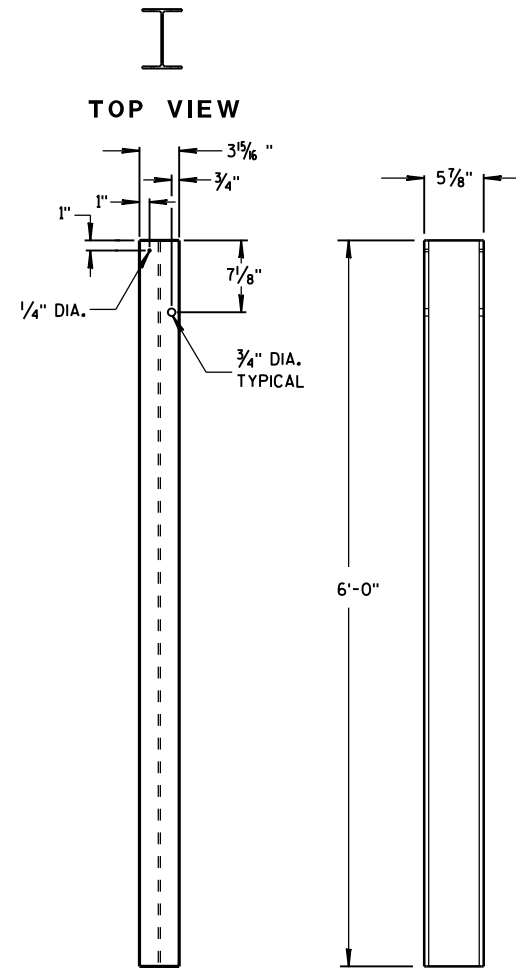


SIDE VIEW



TOP VIEW

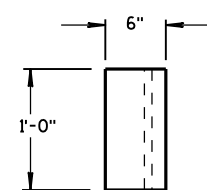
ALTERNATE WOOD BLOCKOUT DETAIL



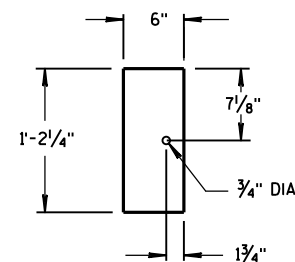
FRONT VIEW

SIDE VIEW

STEEL POSTS 1-5

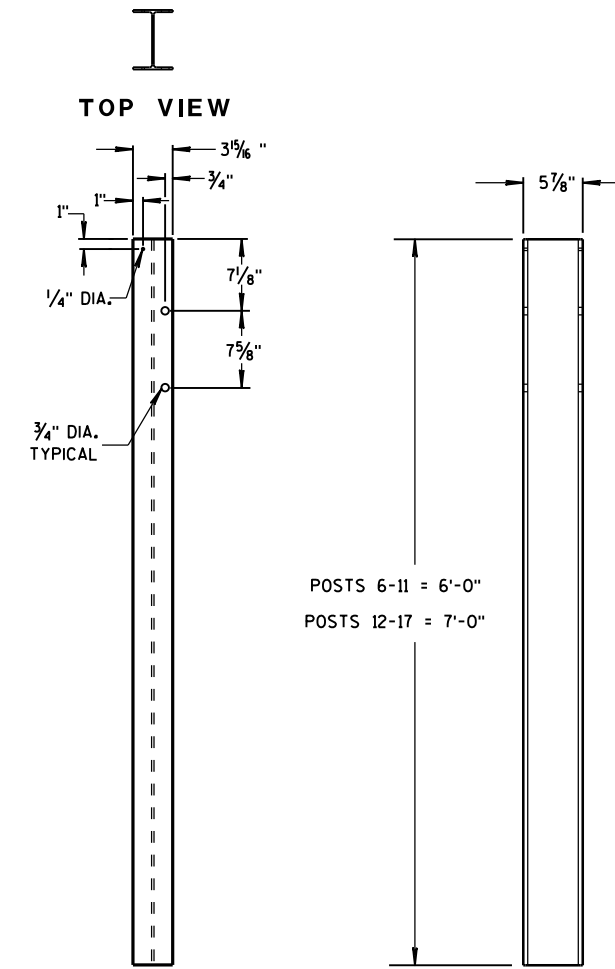


TOP VIEW



FRONT VIEW

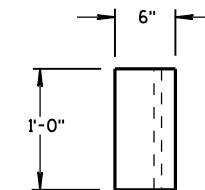
BLOCKOUT
POSTS 1-5



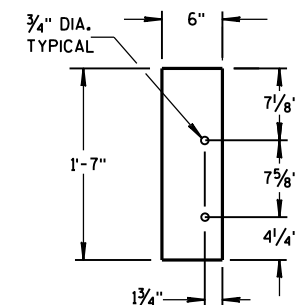
FRONT VIEW

SIDE VIEW

STEEL POSTS 6-17



TOP VIEW



FRONT VIEW

BLOCKOUT
POSTS 6-17

GENERAL NOTES

STEEL POSTS ARE W6X9 OR W6X8.5.

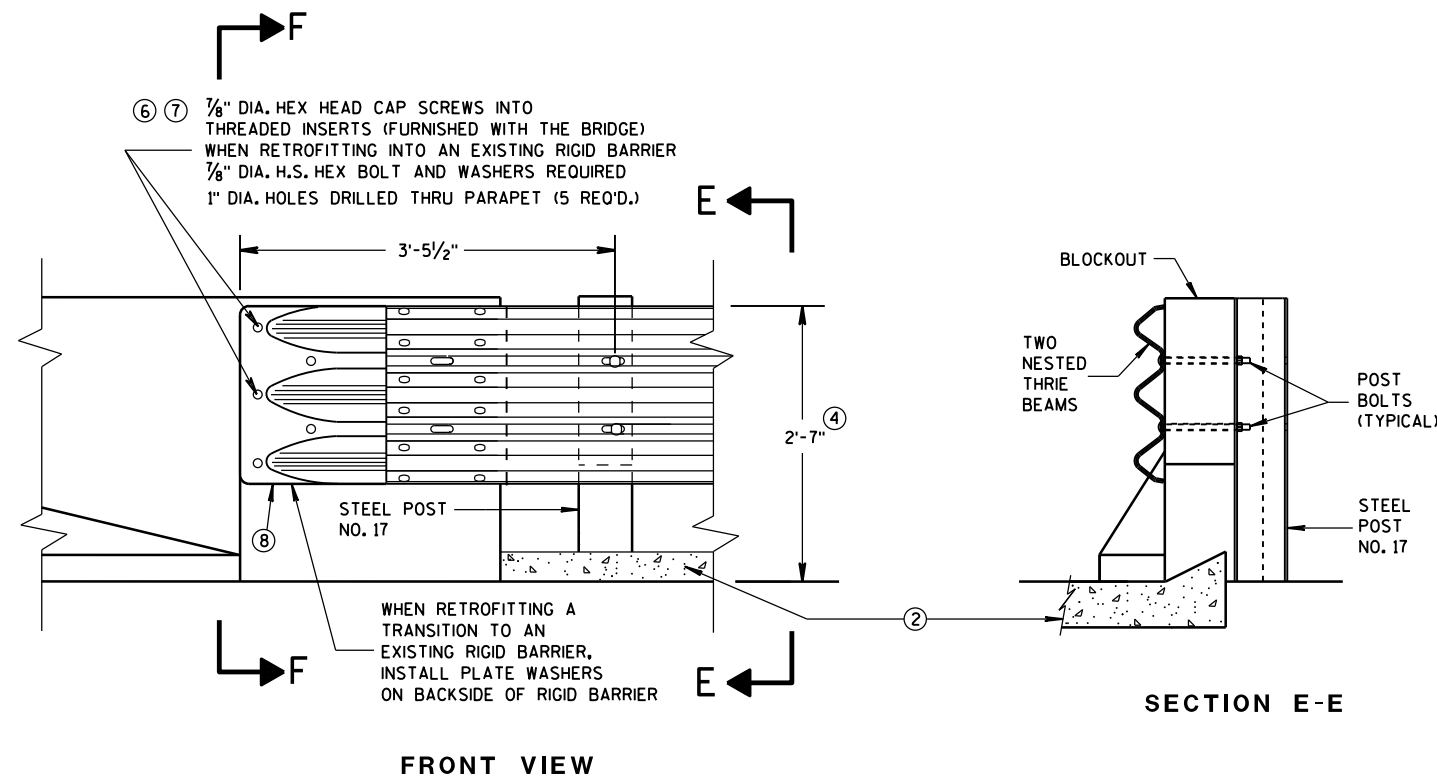
BOLT HOLES FOR POST ARE ON FRONT AND OF SIDE OF POST.

(3) WHEN USING STEEL POSTS 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.

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



GENERAL NOTES

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

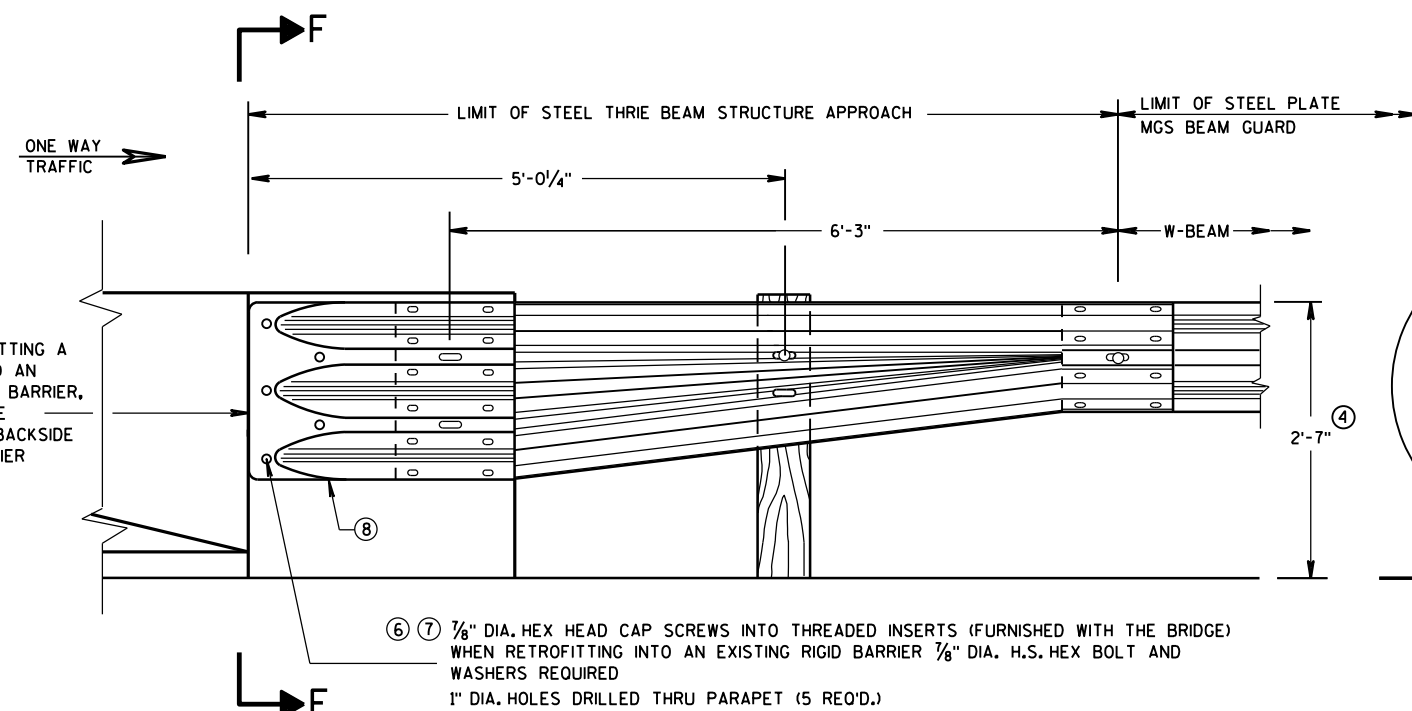
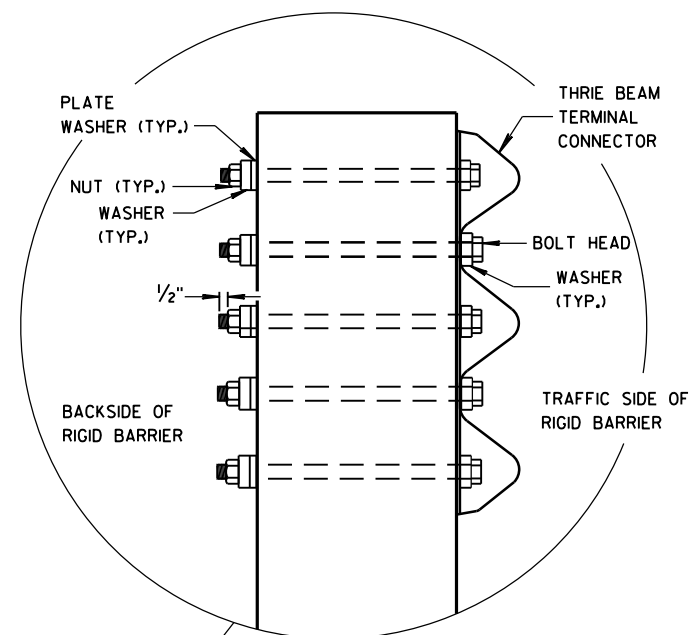
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.

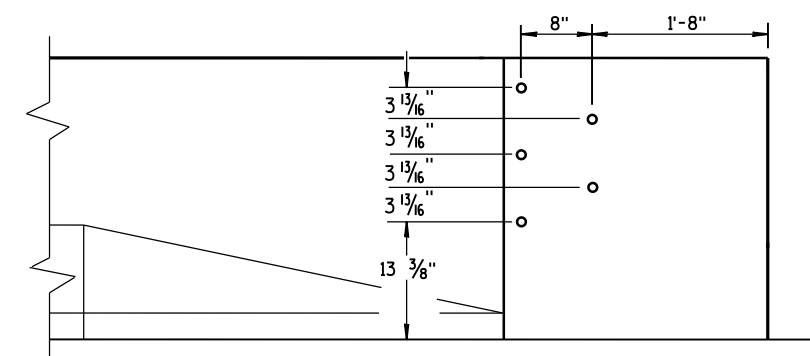
⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

⑦ 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.

⑧ 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".



SECTION F-F



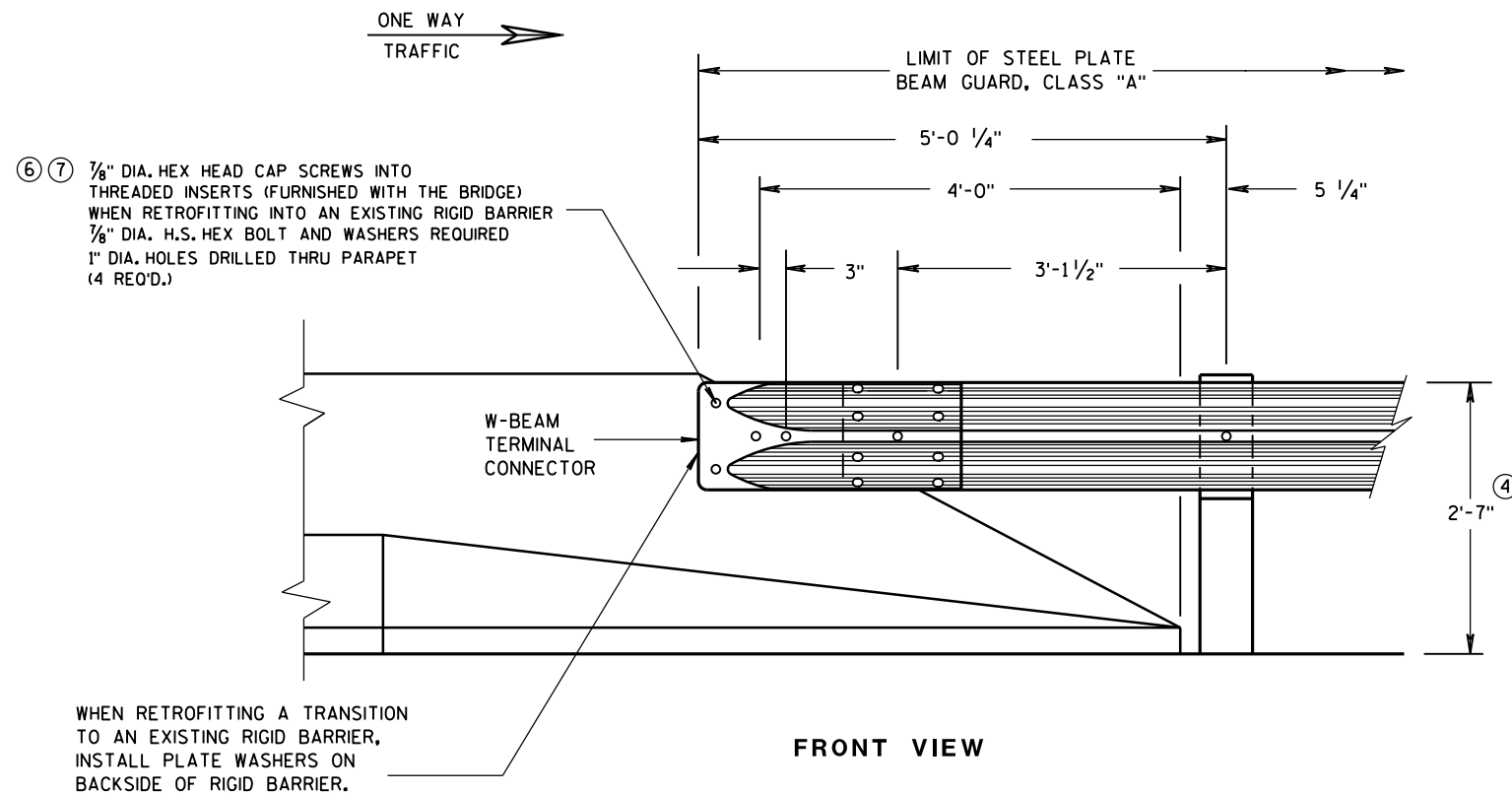
DRILL HOLE LOCATION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

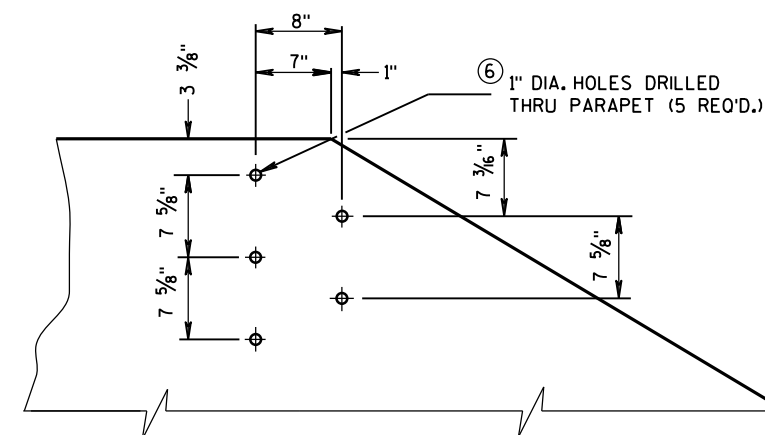
APPROVED
June, 2015
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

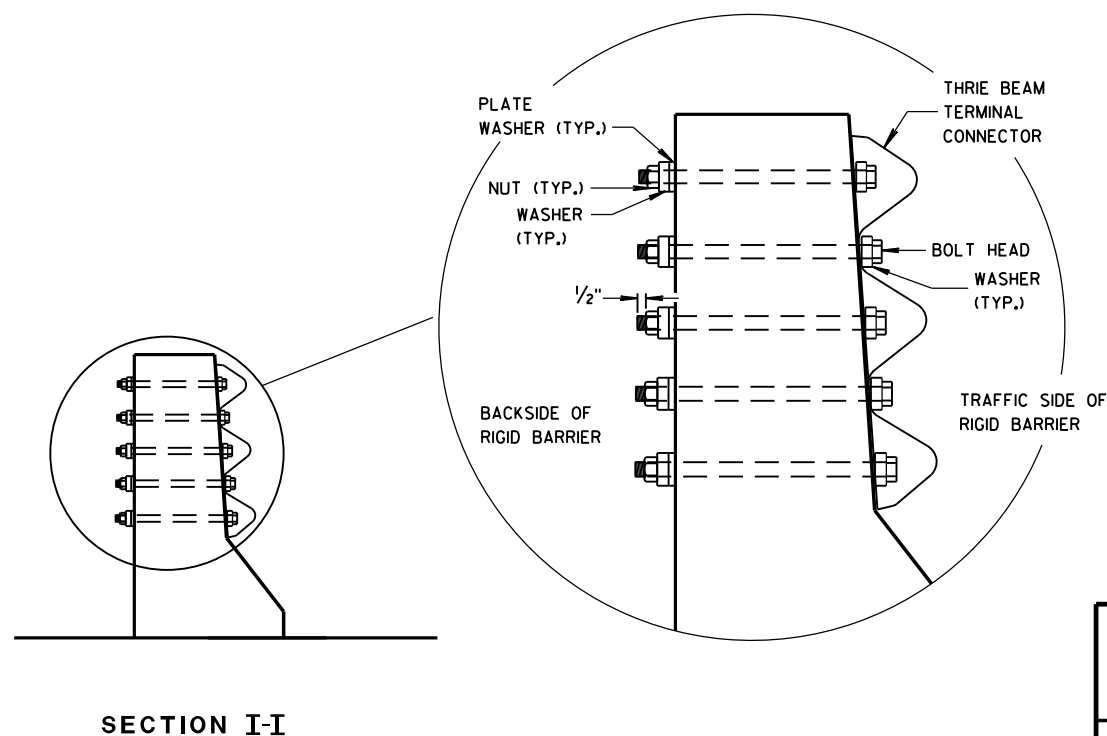
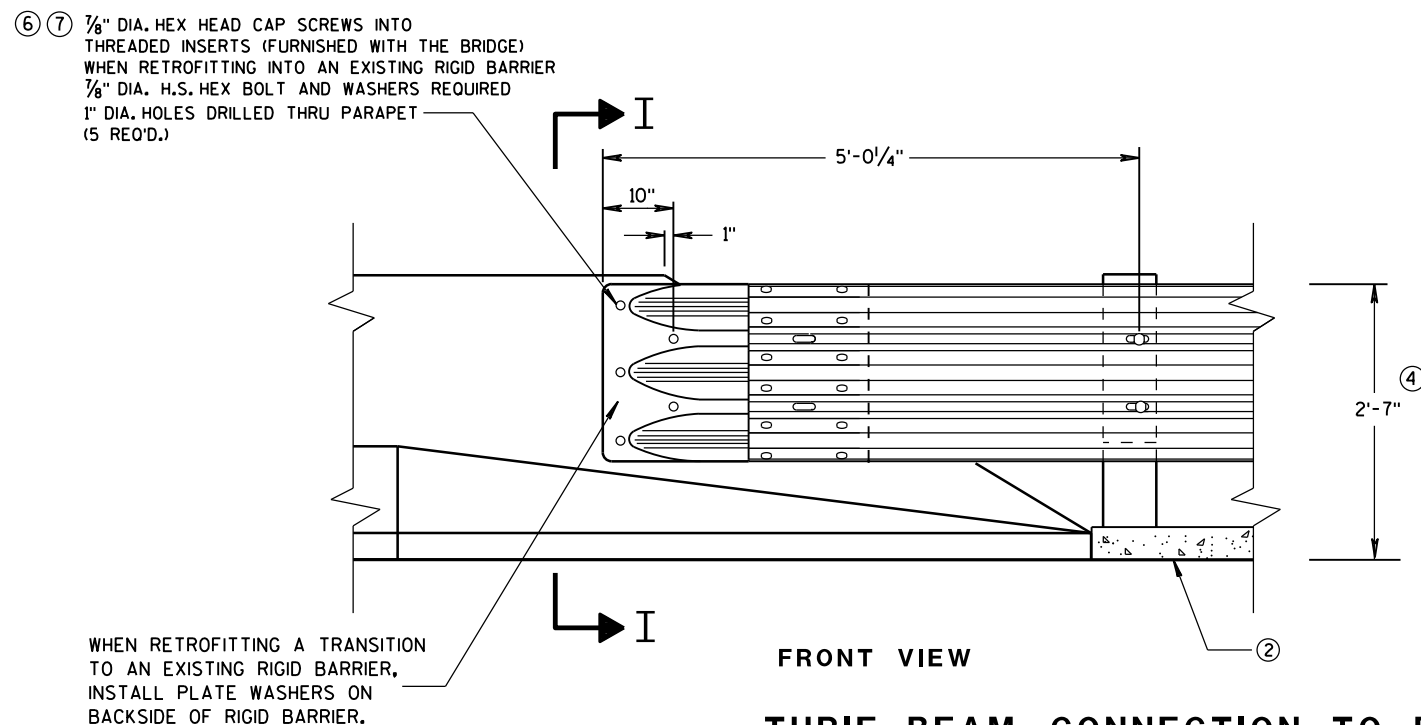


GENERAL NOTES

- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS $\pm 1"$.
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦ 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.



DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION

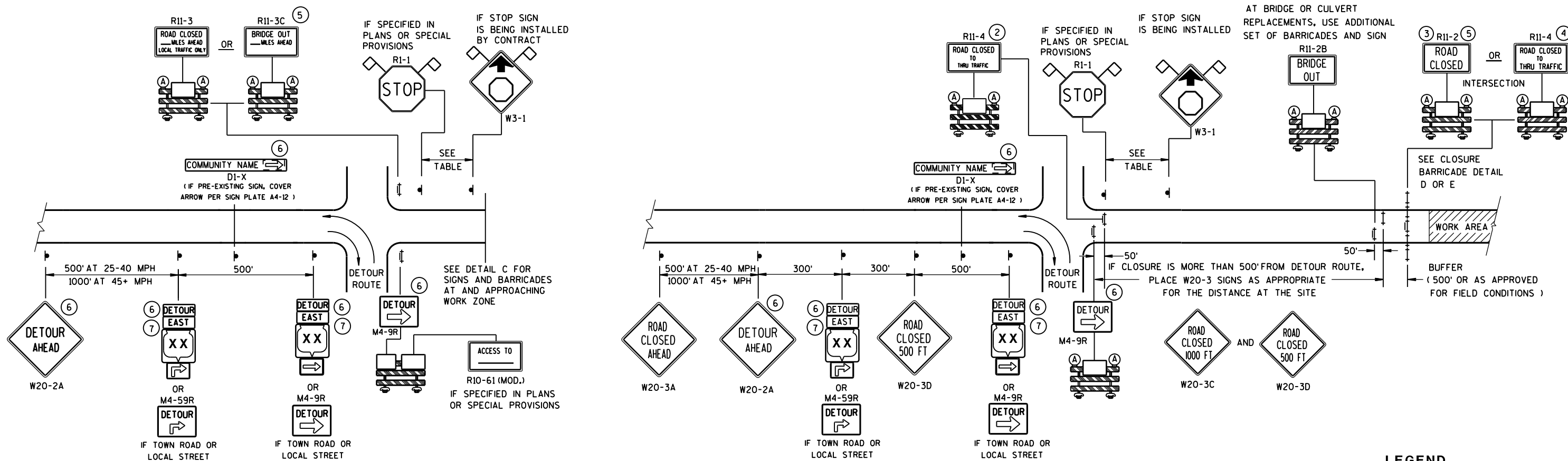


MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN 1/2 MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)

LEGEND

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

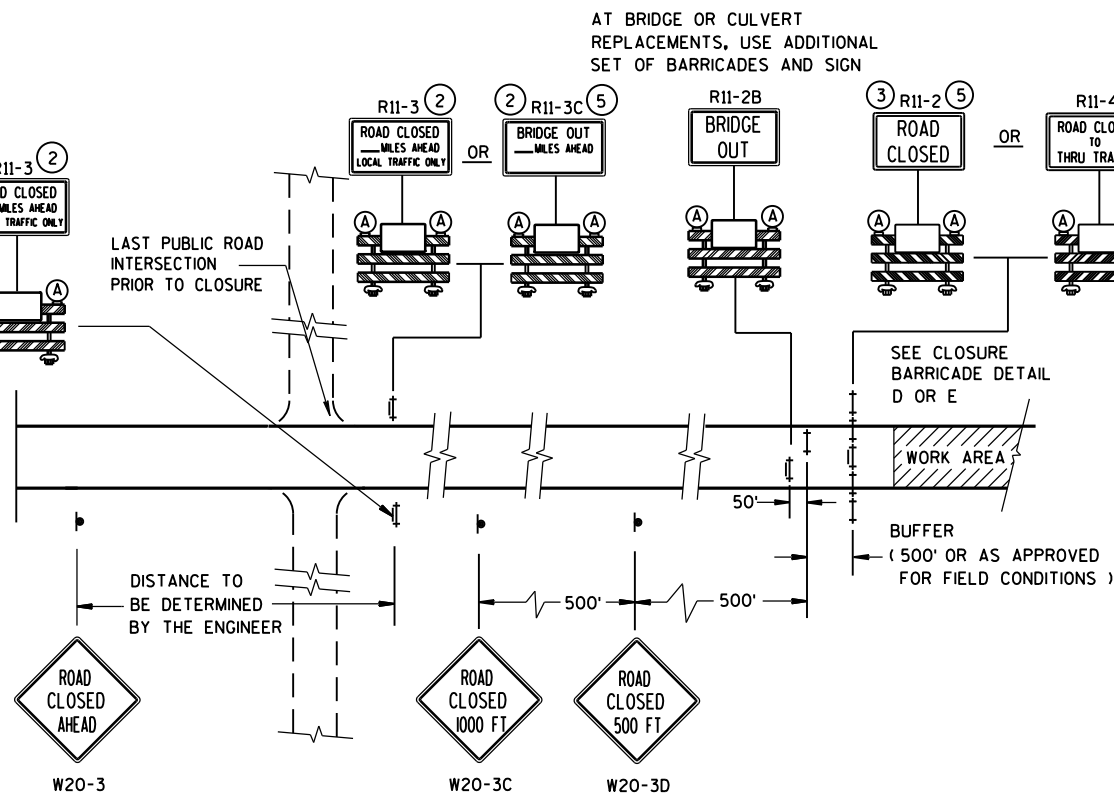
WORK AREA

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

M05-1 OR M06-1

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

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



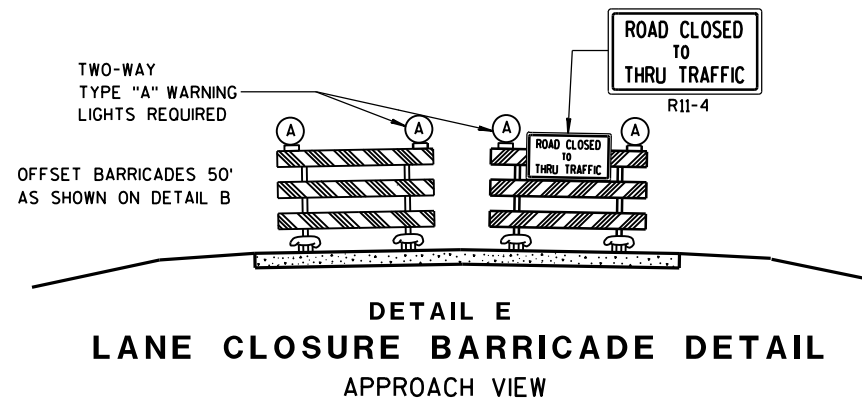
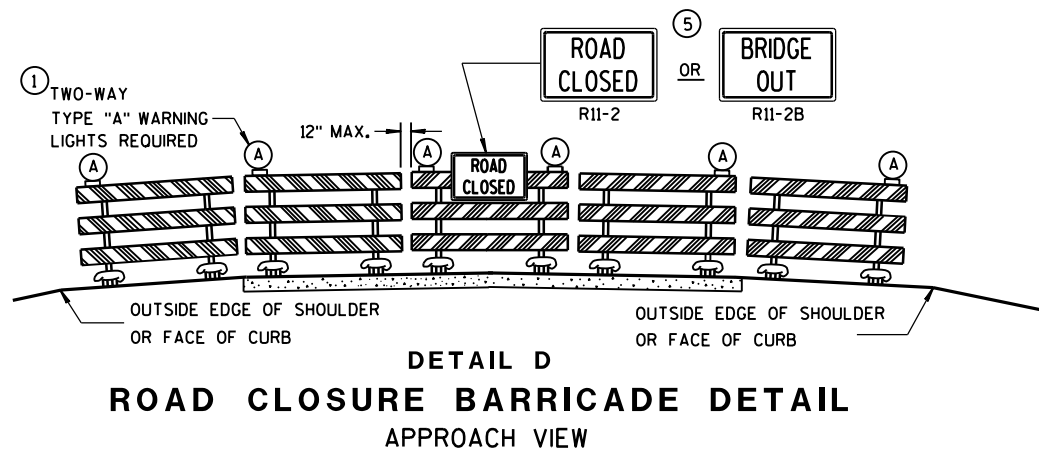
DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

**BARRICADES AND SIGNS
FOR
MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



SEE SDD 15C2-SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

R11-2 SHALL BE 48" X 30".

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

M4-9 SHALL BE 30" X 24".

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

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

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

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

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

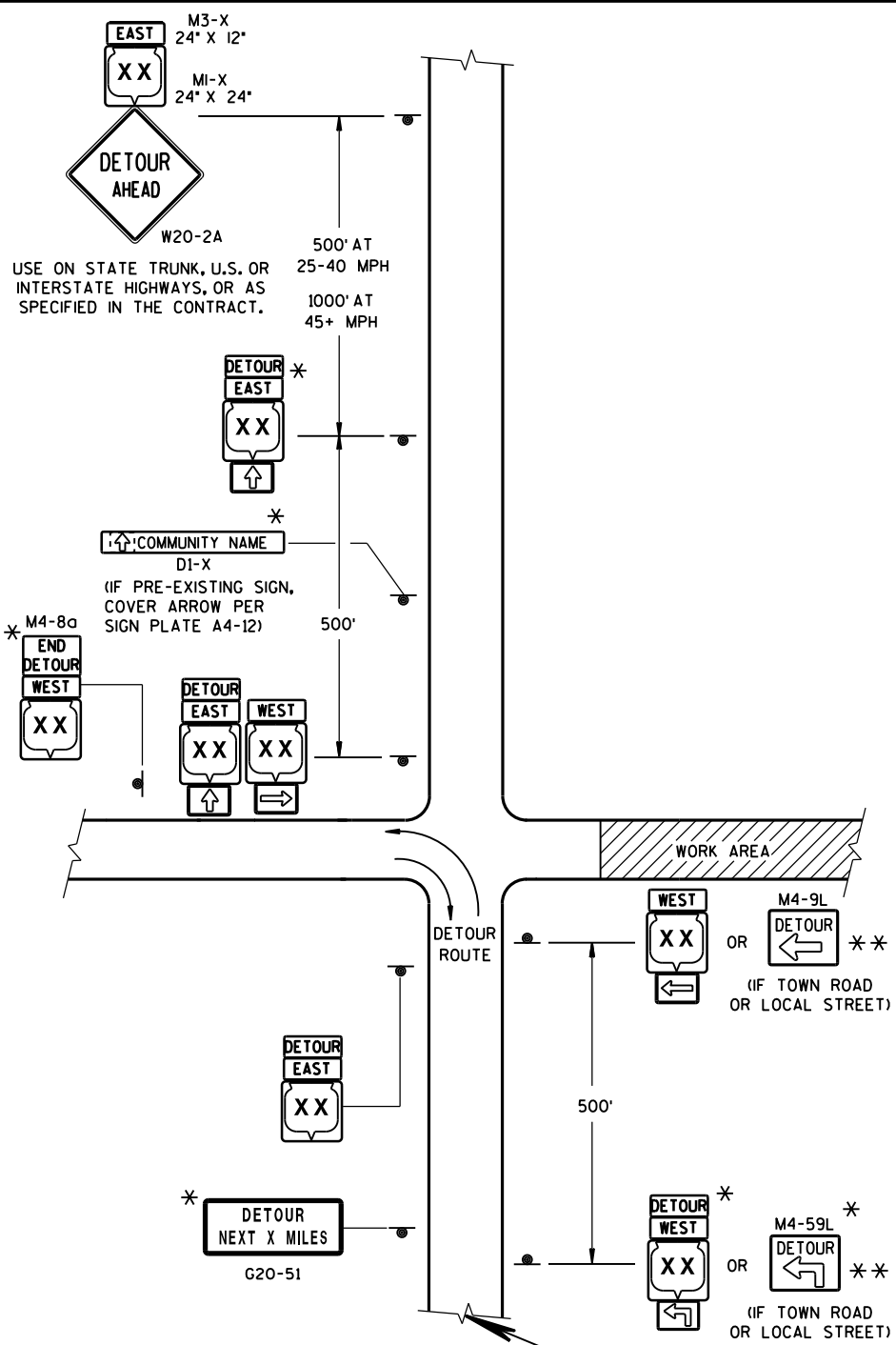
R1-1 SHALL BE 36" X 36".

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



LEGEND

SIGN ON PERMANENT SUPPORT

WORK AREA

M4-8
M3-X

MI-4 MI-5A MI-6

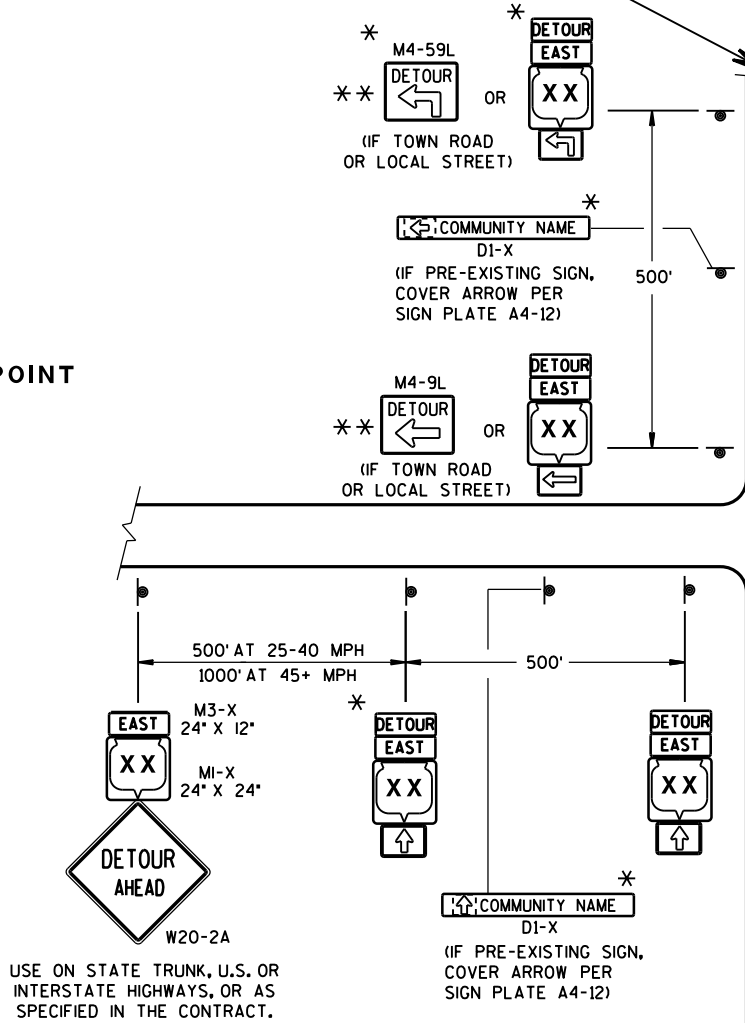
M05-1 M06-1 M06-1

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

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

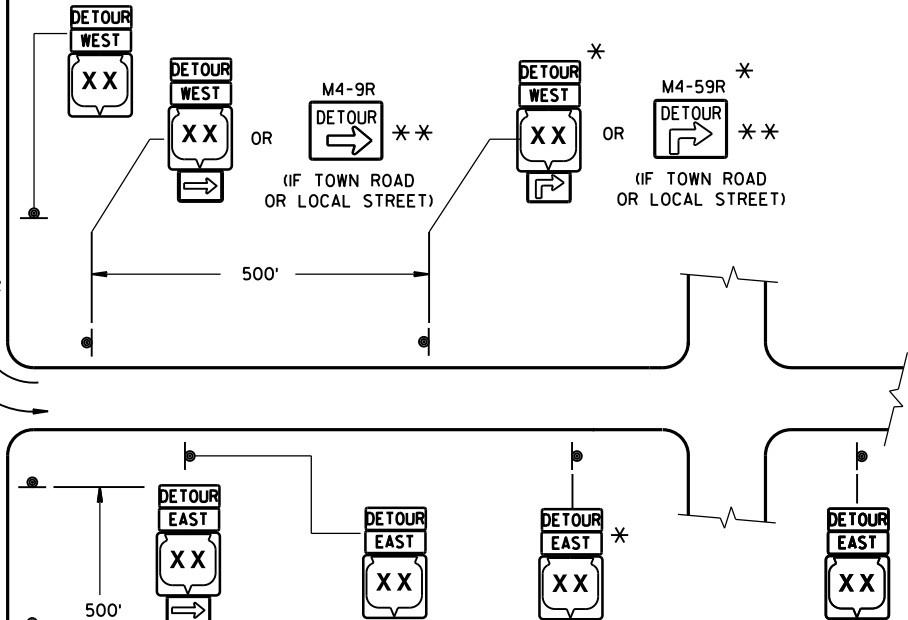
MATCH POINT

DETAIL F
DETOUR SIGNING



GENERAL NOTES

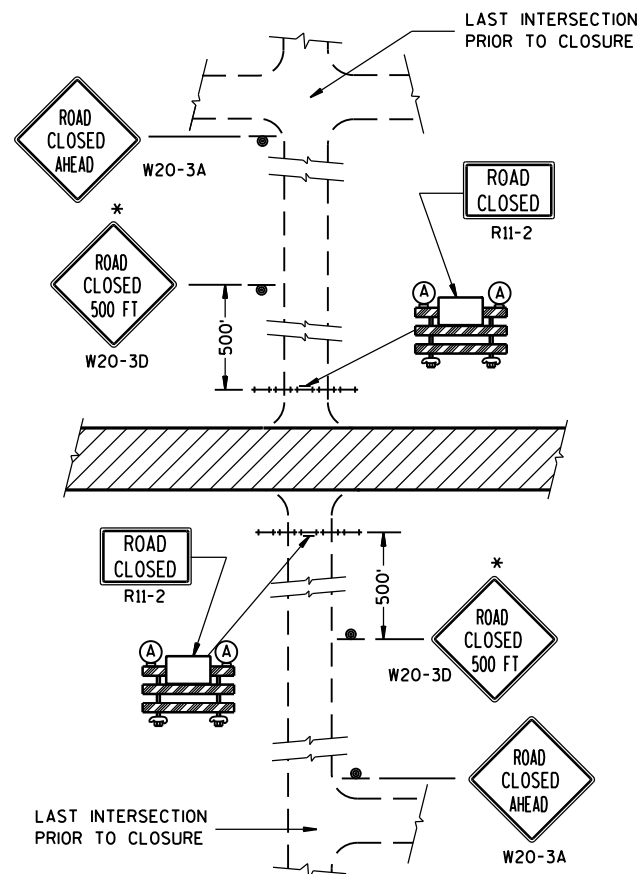
- THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC 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.)
 - M05-1 AND M06-1 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.



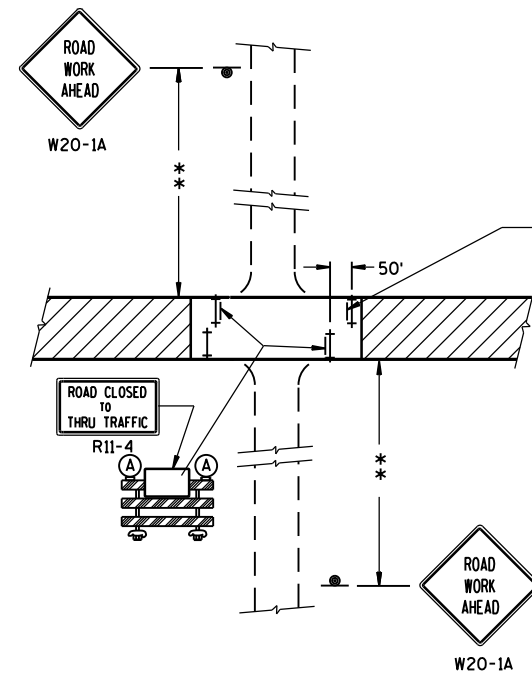
DETOUR SIGNING FOR
MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

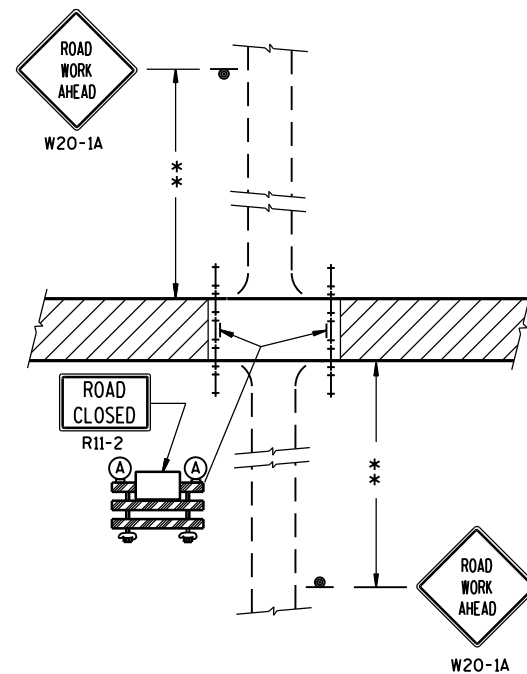
APPROVED
DATE Sept. 2015 /S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC
SAFETY ENGINEER
FHWA



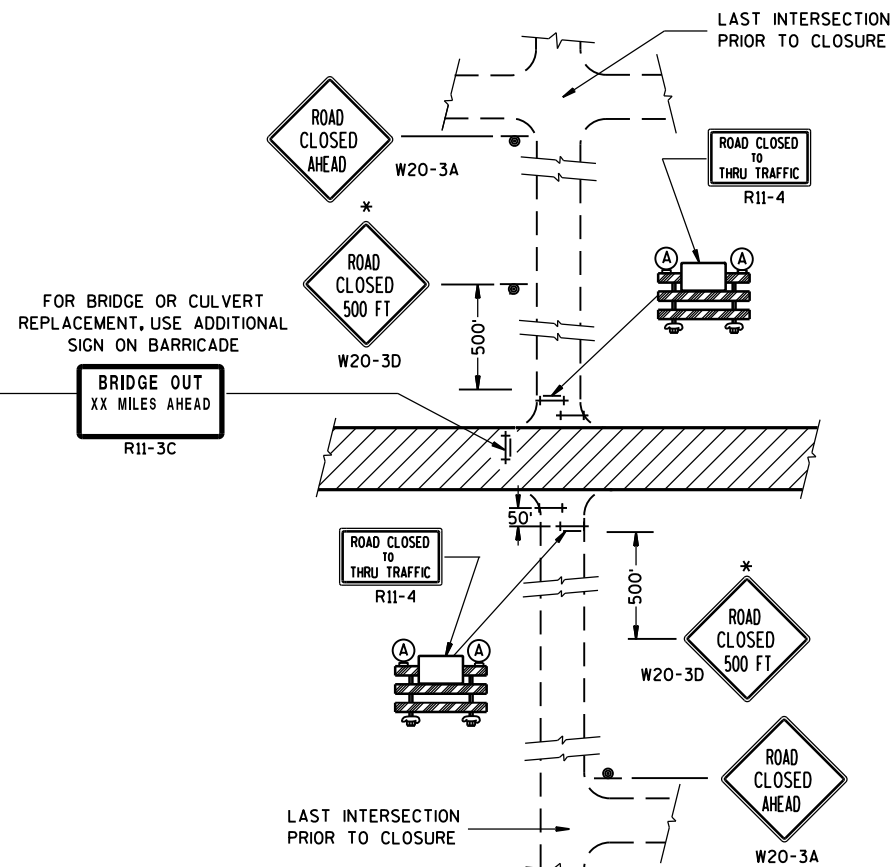
DETAIL 1
(NO ACCESS TO PROJECT)



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



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



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

GENERAL NOTES

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

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE 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

Sept. 2015

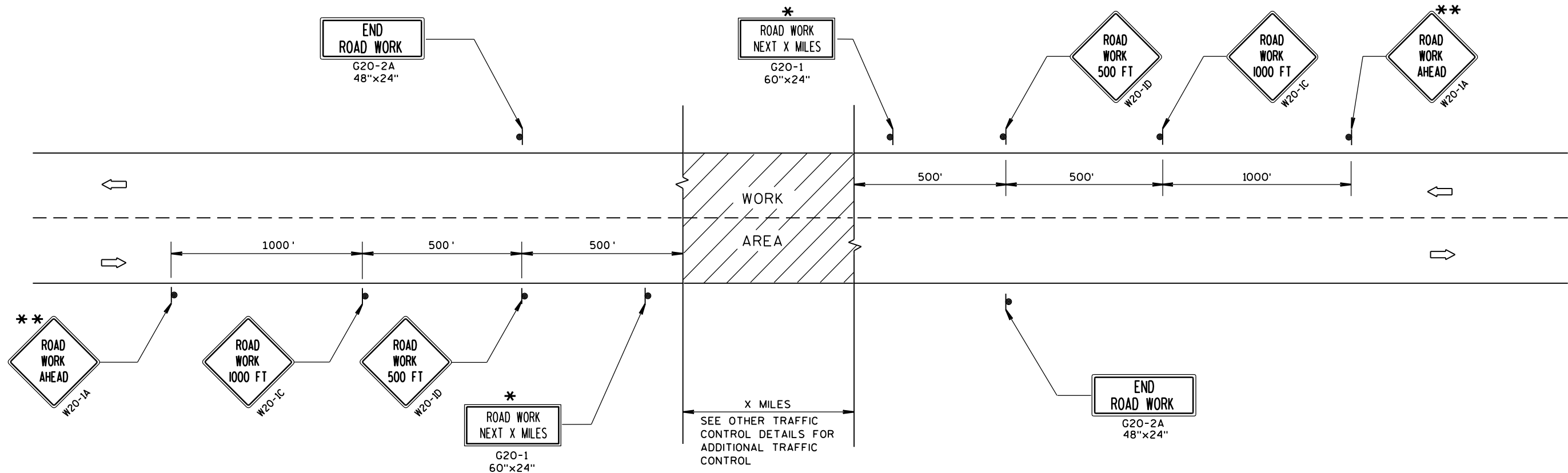
DATE

FHWA

/S/ Peter Amakobe Atepe

STATEWIDE WORK ZONE TRAFFIC

SAFETY ENGINEER



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.

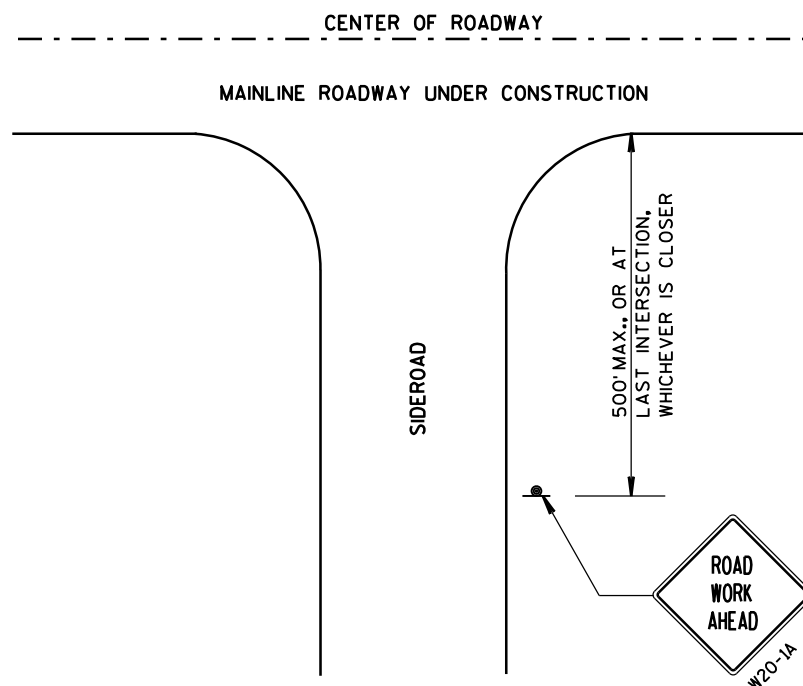
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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



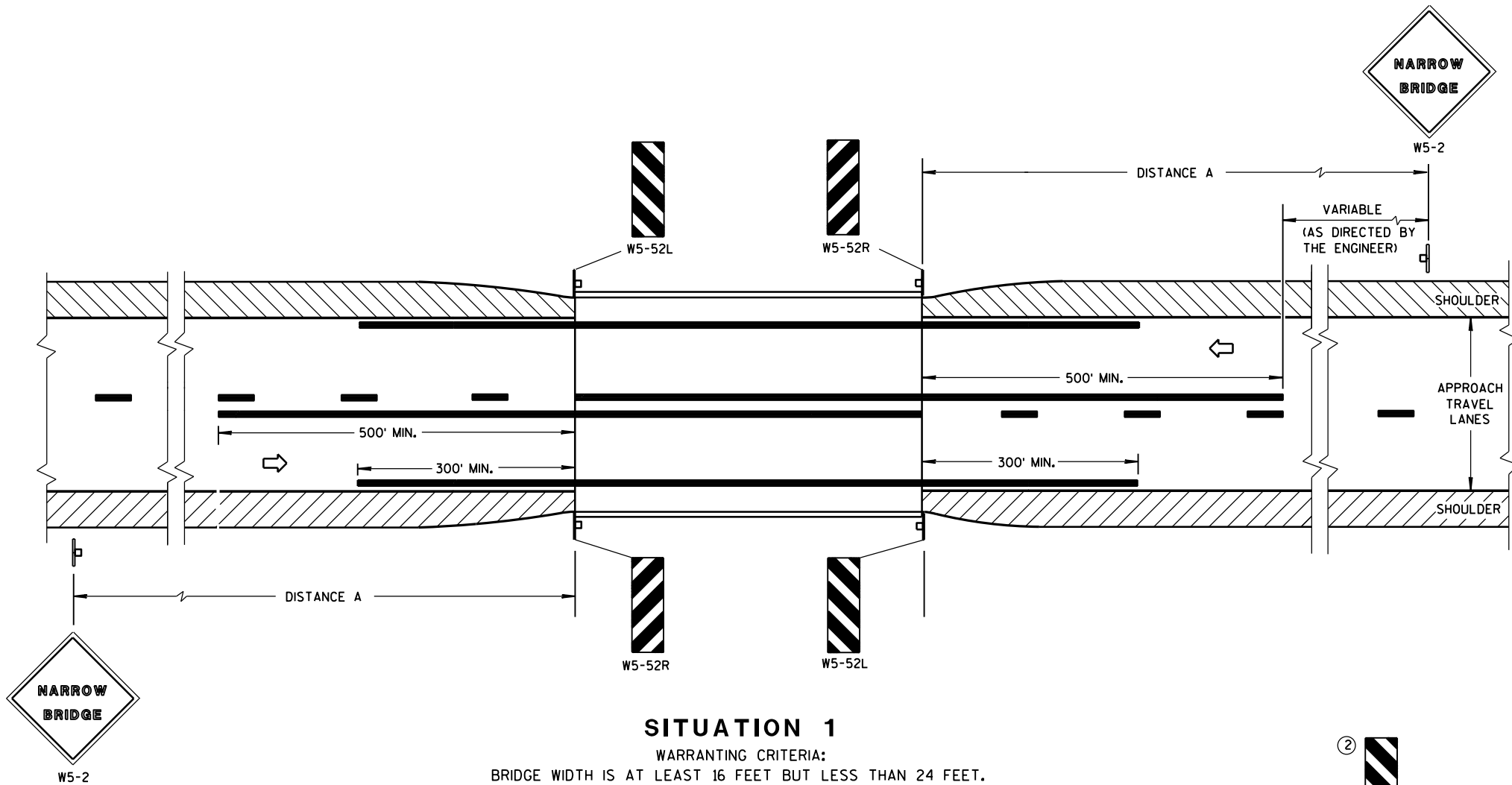
LEGEND

- 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
Sept. 2015 /S/ Peter Amokobe Atepe
DATE STATEWIDE WORK ZONE TRAFFIC
FHWA SAFETY ENGINEER



SITUATION 1

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

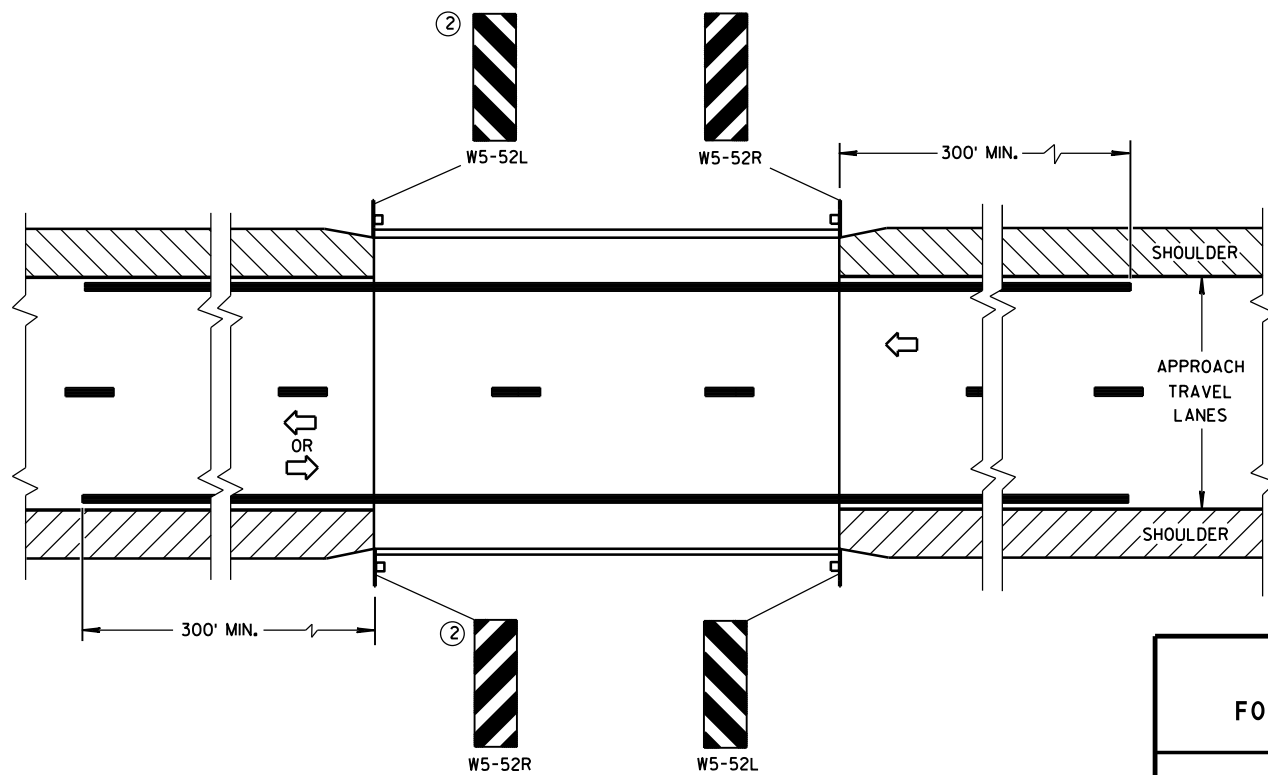
DISTANCE TABLE

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

GENERAL NOTES

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

- ① LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.
- ② OMIT ON ONE-WAY TRAVELLED WAYS.
- ③ EDGE OF W5-52 SIGN SHALL BE PLACED IN LINE WITH FACE OF CURB OR PARAPET.



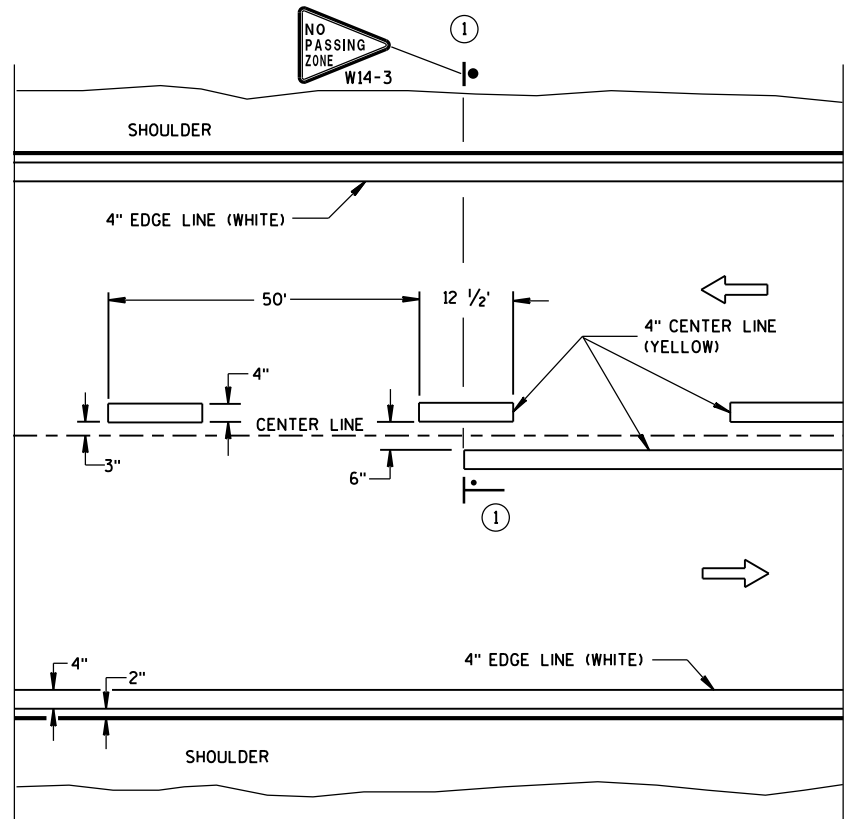
SITUATION 2

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

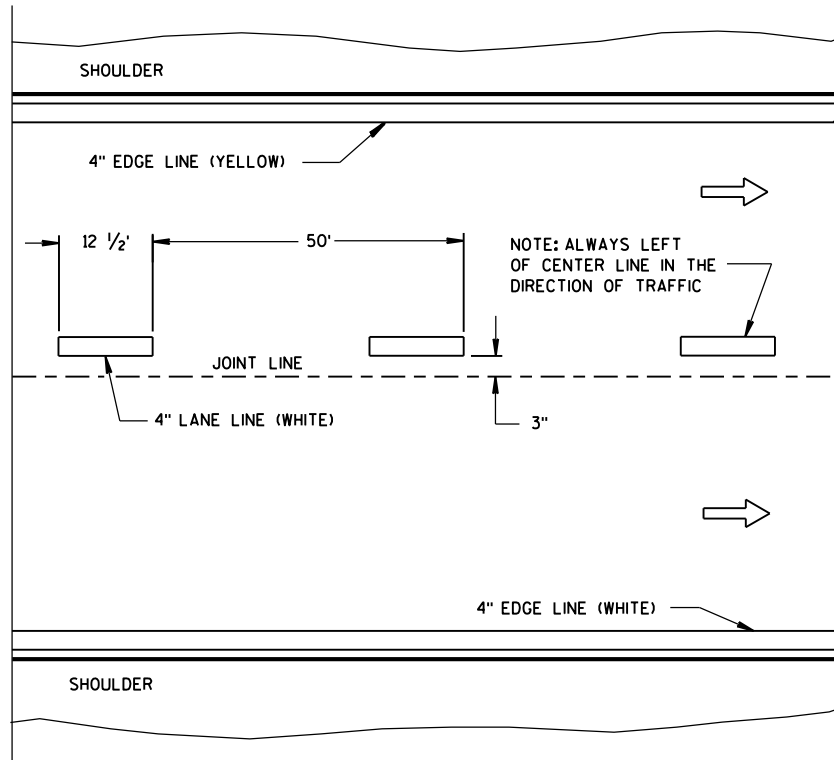
SIGNING & MARKING FOR TWO LANE BRIDGES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-18-16 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA

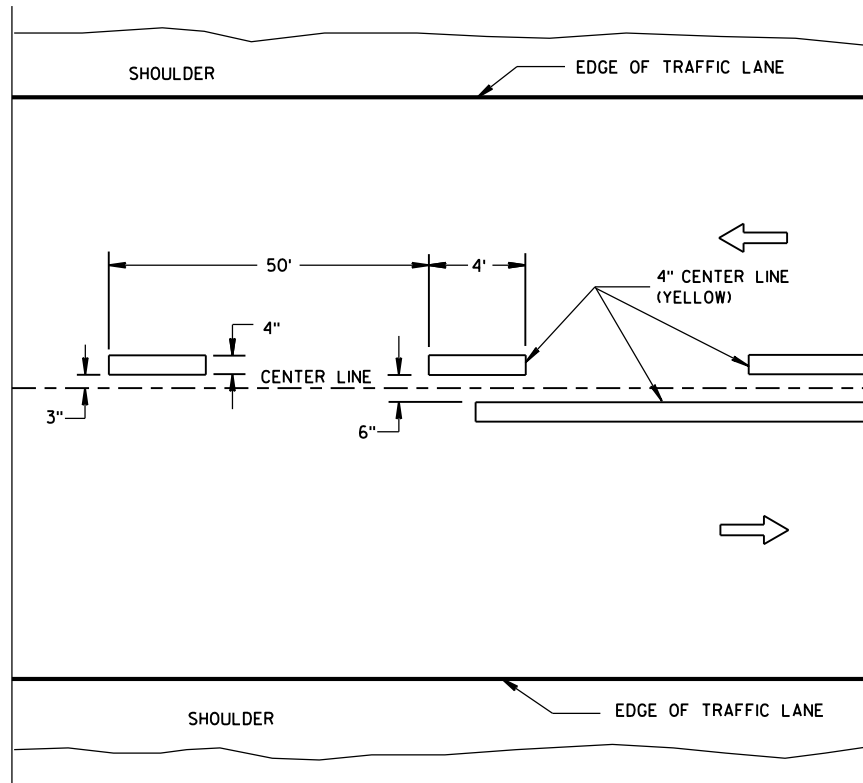


TWO WAY TRAFFIC

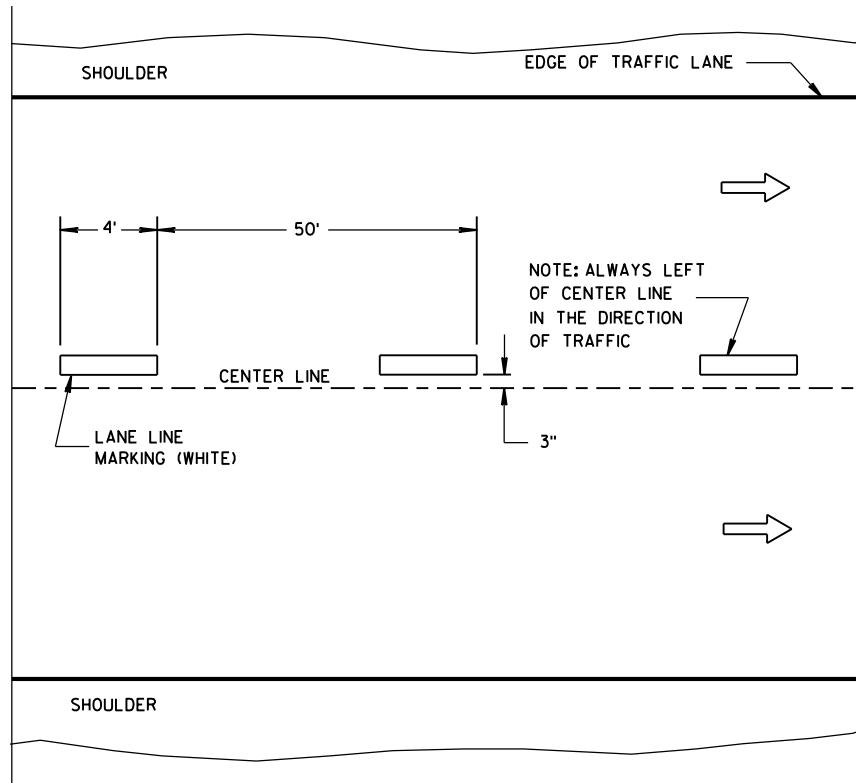


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

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

① NO PASSING ZONE W14-3 SIGN SHALL BE LOCATED WITHIN 50 FEET OF THE "T" MARKING.

NOTE

ARROW SYMBOL (→) SHOWS DIRECTION OF TRAVEL

LEGEND

—●—"T" MARKING

● POST MOUNTED SIGN

LONGITUDINAL MARKING
(MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 /S/ Matthew R. Rauch
DATE STATE SIGNING AND MARKING ENGINEER
FHWA

LEGEND

- SIGN ON PERMANENT SUPPORT
- REMOVING PAVEMENT MARKING
- TYPE III BARRICADE WITH ATTACHED SIGN
- CONCRETE BARRIER TEMPORARY PRECAST
- FLAGS, 16" x 16" MIN., (ORANGE)
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- ASPHALTIC PAVEMENT WIDENING
- DIRECTION OF TRAFFIC
- 4" X 6" WOOD POST
- TEMPORARY SIGNAL WITH BACKPLATE AND 12-INCH LENSES ON BREAKAWAY POLE

INSTALL ON EACH APPROACH AT THE CLOSEST INTERSECTION WITH A STATE OR COUNTY TRUNK HIGHWAY, OR AS DIRECTED BY THE ENGINEER. WIDTH ON SIGN TO BE APPROX. 1-FOOT LESS THAN AVAILABLE WIDTH. (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET.)

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.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

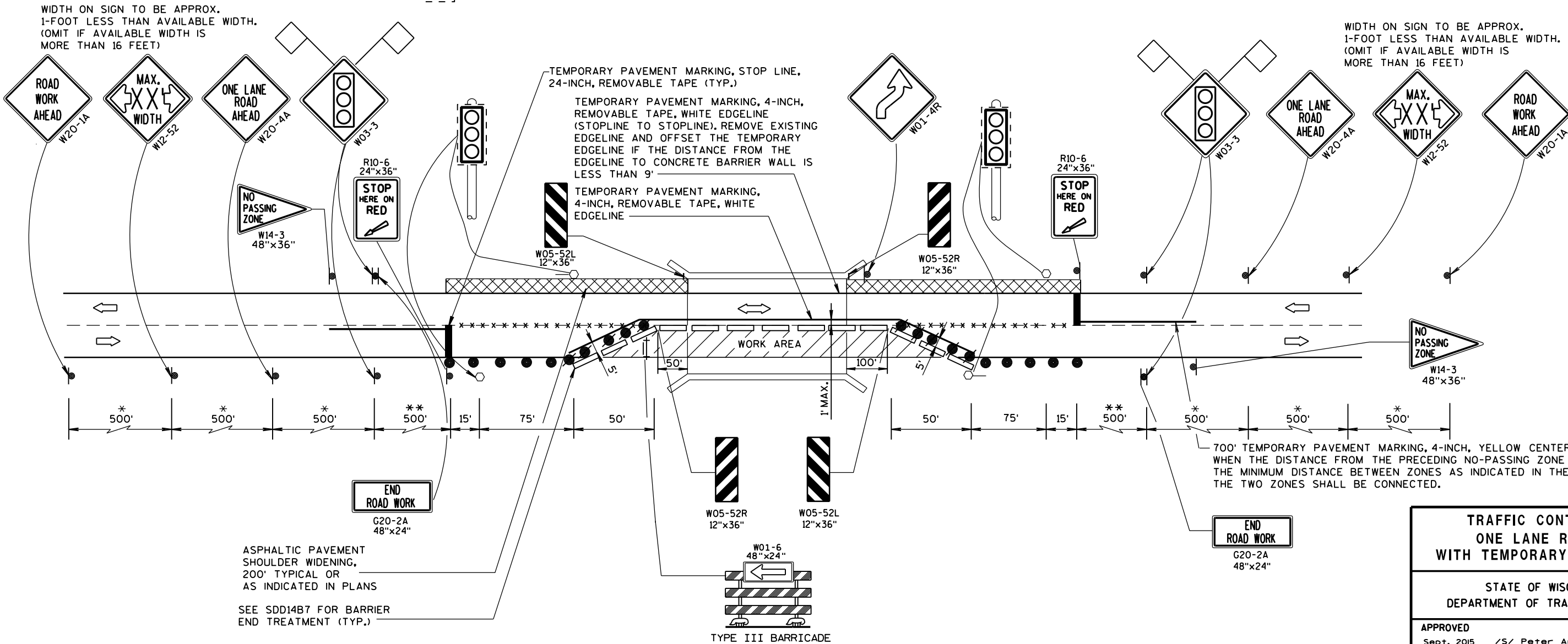
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

PLACE TEMPORARY PAVEMENT MARKING EDGELINE AND CENTERLINE, AND REMOVE EXISTING PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS OR AS NOTED ON DETAIL.

* 500-FOOT SPACING SHOWN IS FOR ROADWAYS WITH A PRE-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350-FOOT TYPICAL SPACING. FOR 25-30 MPH, USE 200-FOOT TYPICAL SPACING.

** USE 300' SPACING IF PRE-CONSTRUCTION REGULATORY SPEED LIMIT IS 35 MPH OR LESS.

6

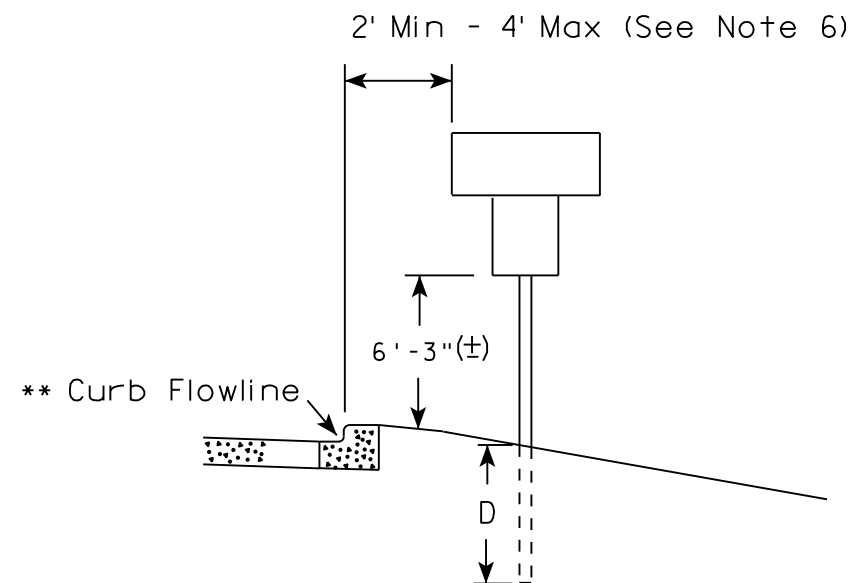
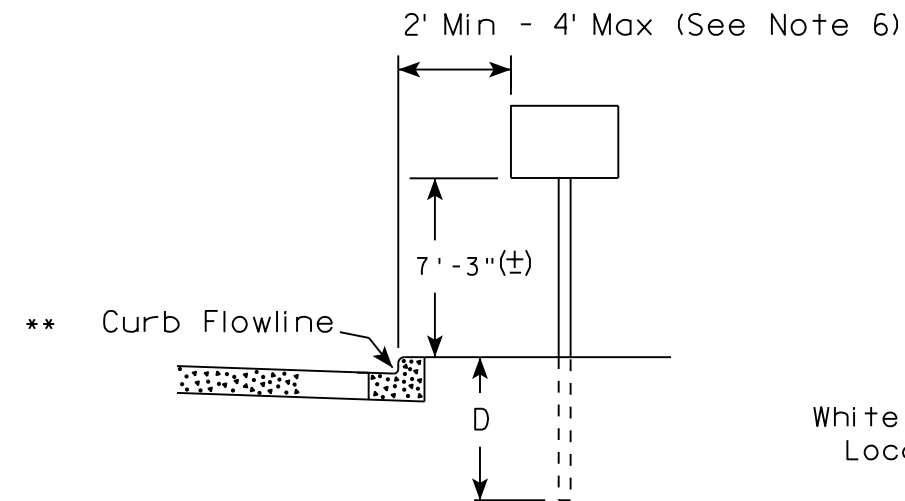


S.D.D. 15 D 33-4

| | |
|---|---|
| TRAFFIC CONTROL, ONE LANE ROAD WITH TEMPORARY SIGNALS | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | |
| APPROVED Sept. 2015 DATE | /S/ Peter Amakobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER |
| FHWA | |

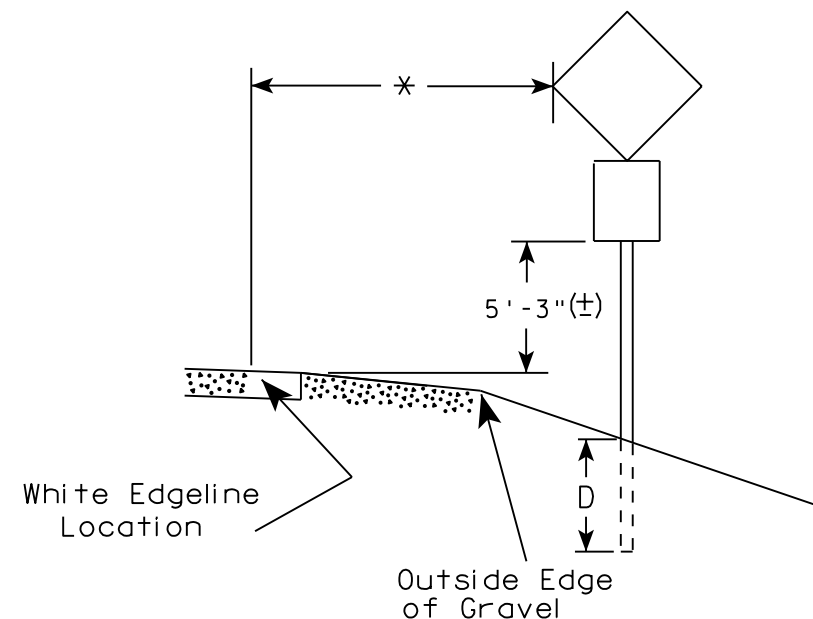
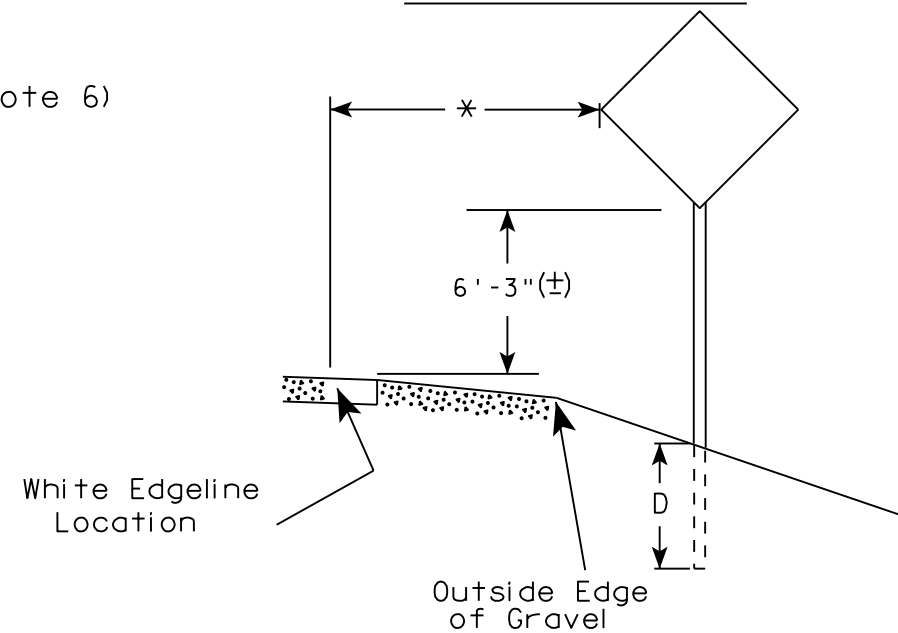
S.D.D. 15 D 33-4

URBAN AREA



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

RURAL AREA (See Note 2)



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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. J-Assemblies are considered to be one sign for mounting height.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-3.21



ELEVATION VIEW

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

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

**SIGN POST
BOX-OUTS
A4-3B**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

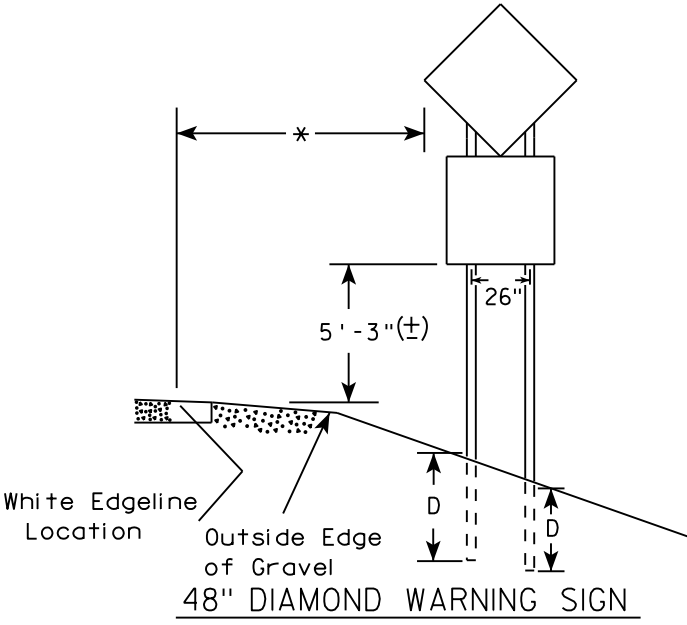
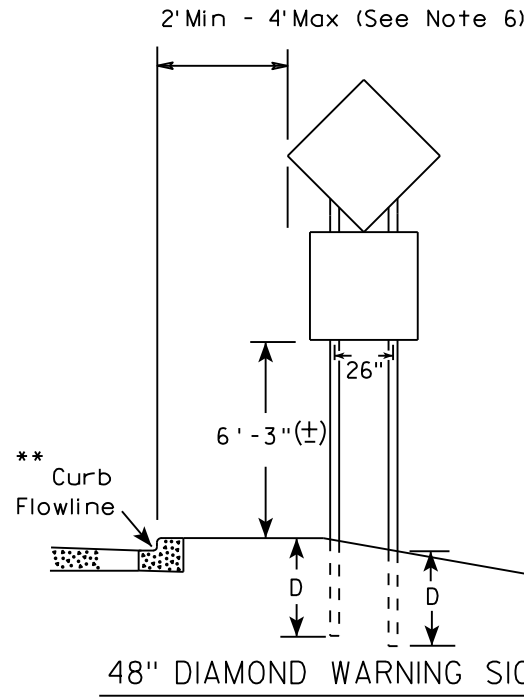
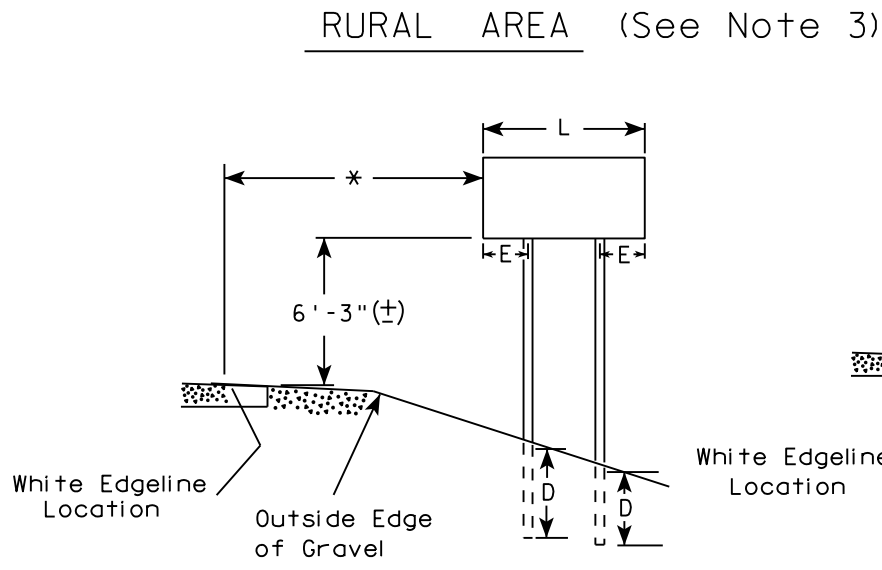
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



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

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

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

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

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

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

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION
OF TYPE II SIGNS
ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15



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

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

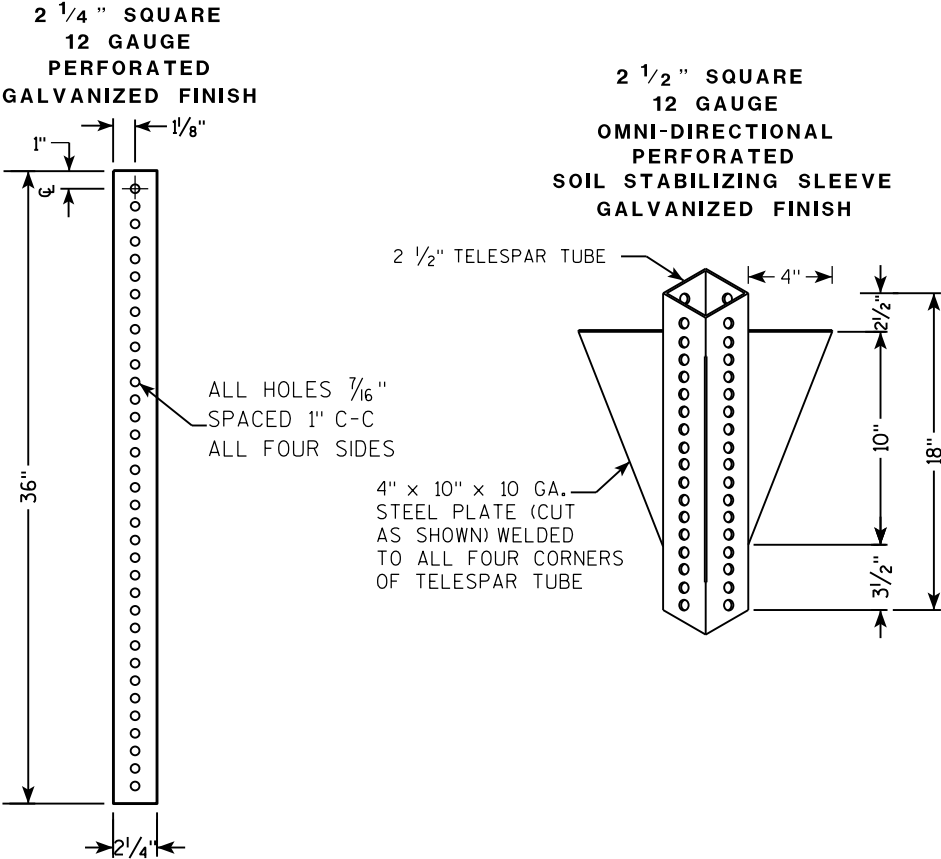
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 - $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - $\frac{3}{8}$ " X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
 - $\frac{3}{8}$ " X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)
- RIVETS - $\frac{9}{32}$ " (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
- O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
 - 1-1/4" O.D. X $\frac{3}{8}$ " I.D. X .080 NYLON

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

| | |
|----------------------------------|---|
| ATTACHMENT OF SIGNS TO POSTS | |
| WISCONSIN DEPT OF TRANSPORTATION | |
| APPROVED | <i>Matthew R. Rauch</i> For State Traffic Engineer |
| DATE <u>8/11/16</u> | PLATE NO. <u>A4-8.8</u> |

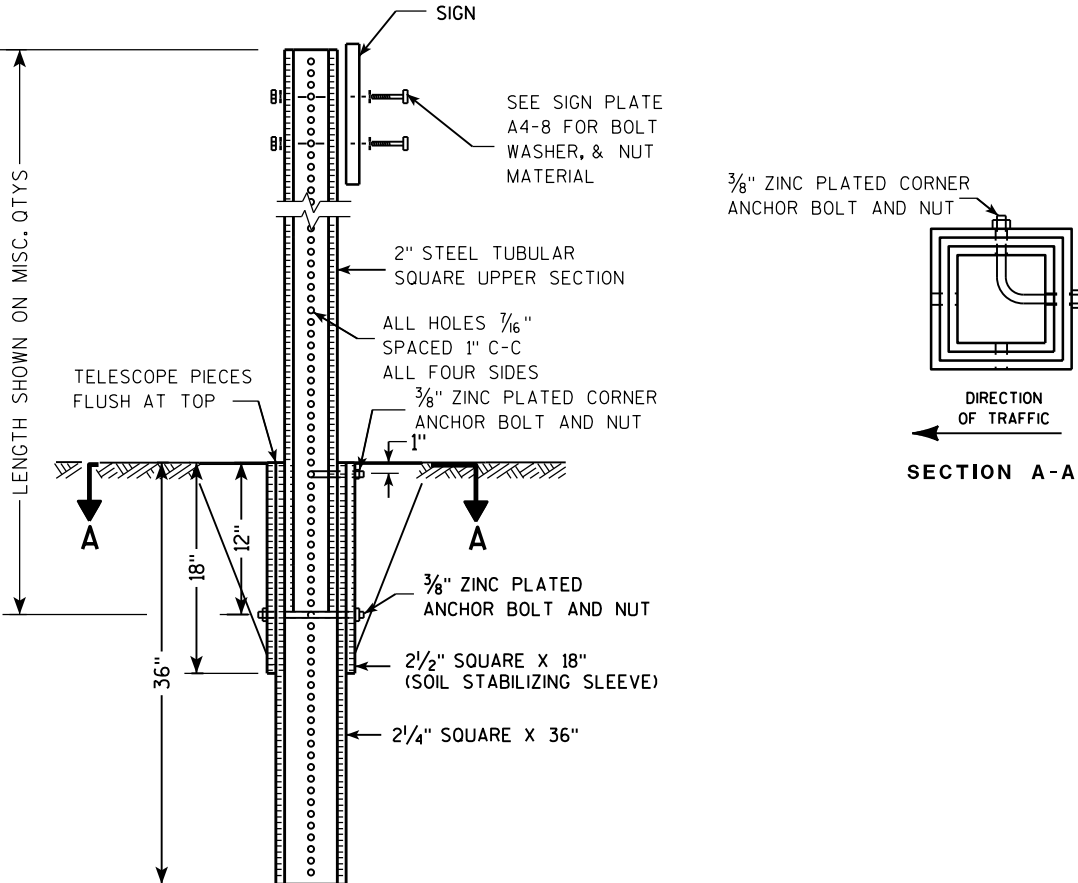
TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM



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



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



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

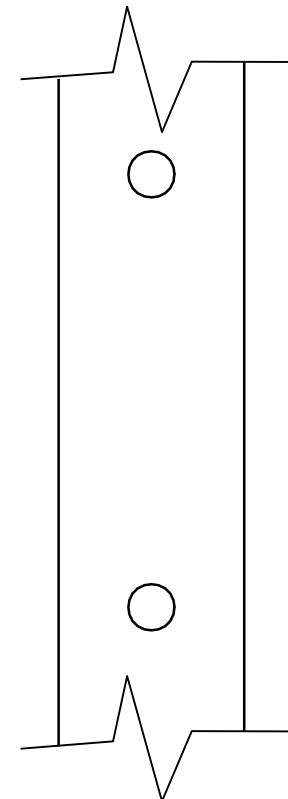
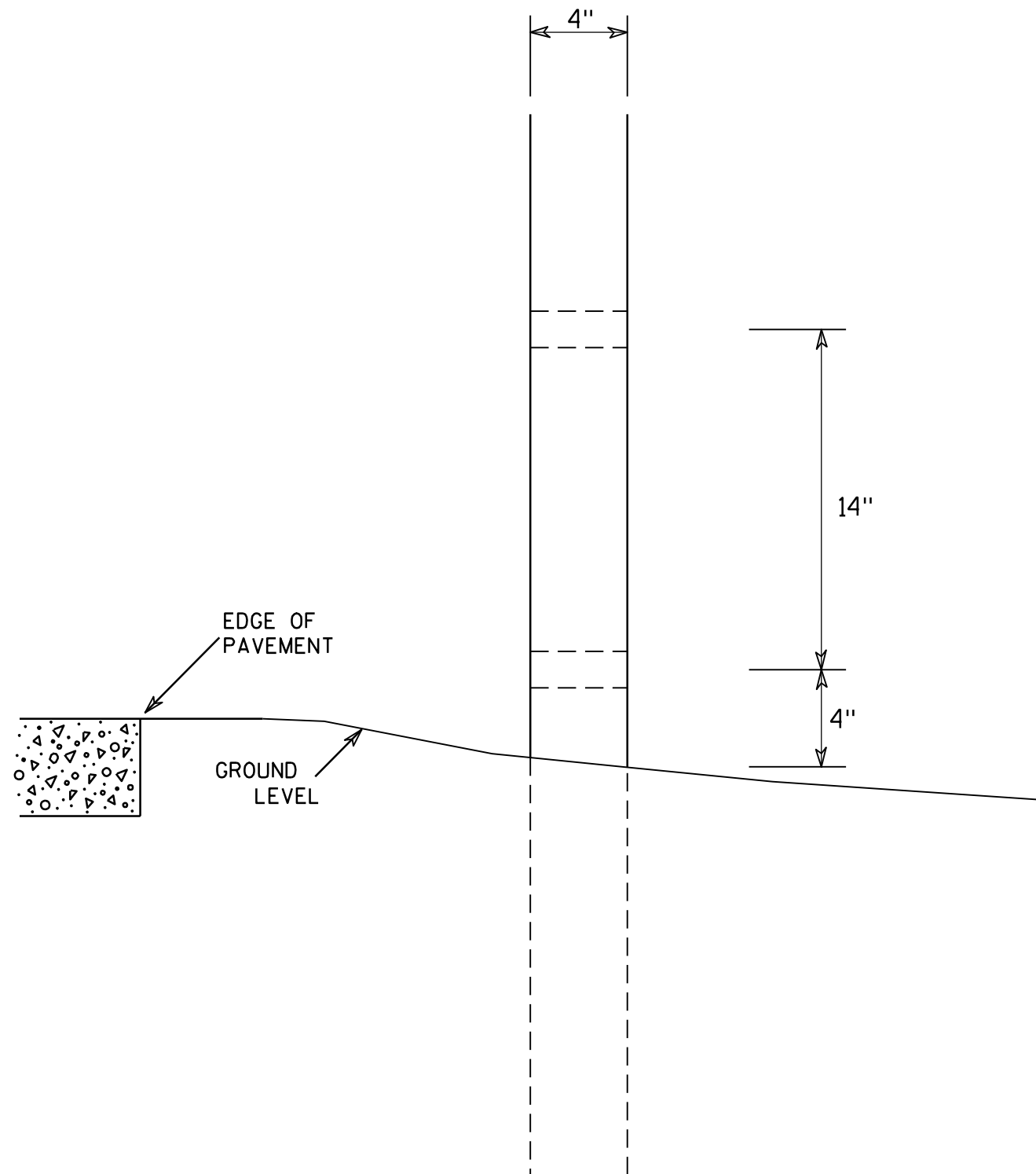
Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

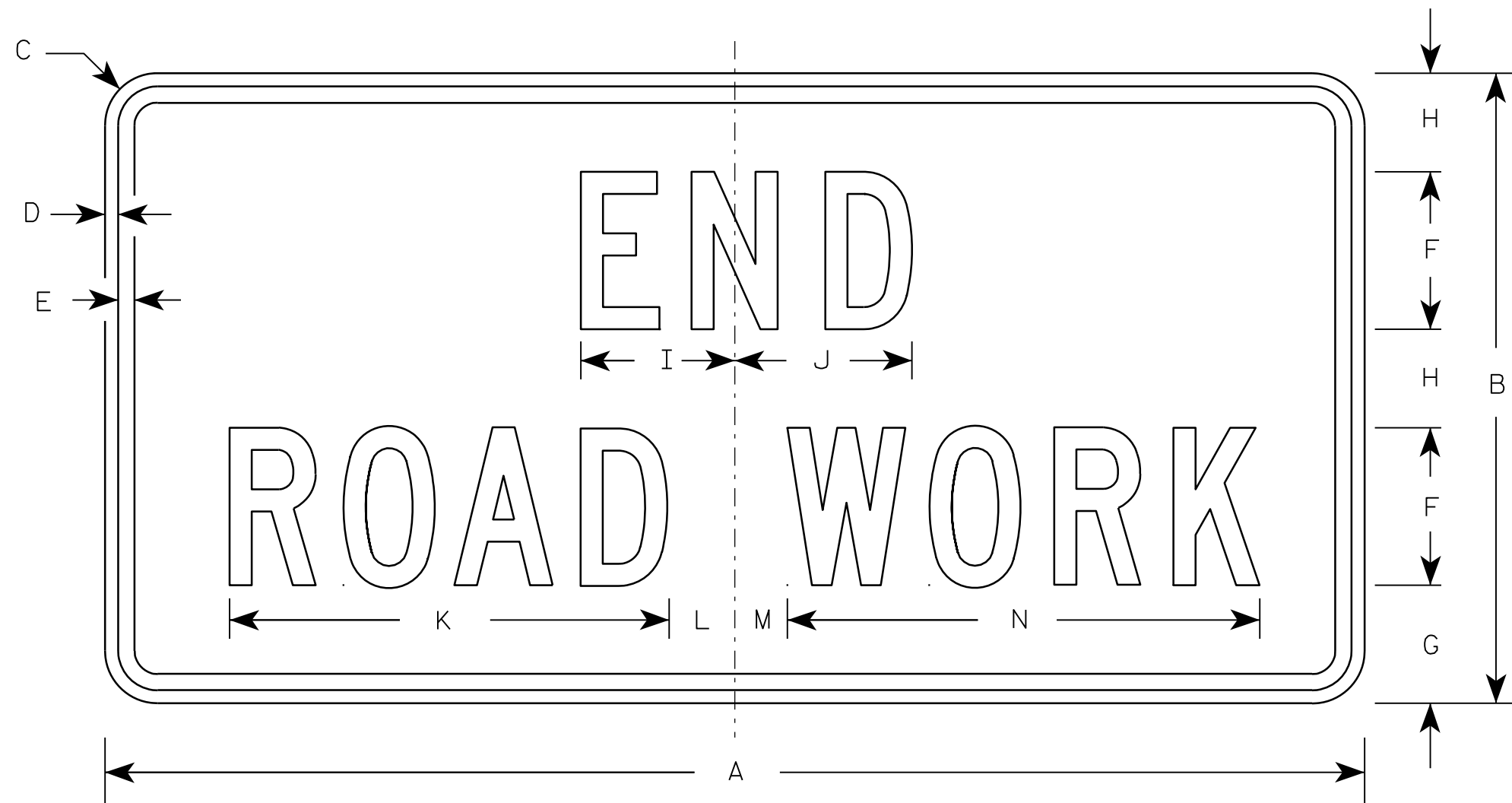
HWY:

COUNTY:

SHEET NO:

E

7



G20-2A

Metric equivalent
for this sign is:

| SIZE | |
|------|------------------|
| 1 | 900 mm X 450 mm |
| 2 | 1200 mm X 600 mm |
| 3 | 1200 mm X 600 mm |
| 4 | 1200 mm X 600 mm |
| 5 | 1200 mm X 600 mm |

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. | Area sq. m. |
|------|----|----|-------|-----|-----|---|-------|-------|-------|-------|--------|-------|-------|--------|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|----------------|
| 1 | 36 | 18 | 1 1/8 | 3/8 | 1/2 | 4 | 3 3/4 | 2 1/2 | 4 1/8 | 4 1/8 | 11 1/8 | 2 | 1 | 12 1/8 | | | | | | | | | | | | | 4.5 | 0.41 |
| 2 | 48 | 24 | 1 1/2 | 1/2 | 5/8 | 6 | 4 1/2 | 3 3/4 | 5 7/8 | 6 3/4 | 16 3/4 | 2 1/2 | 1 3/4 | 18 1/2 | | | | | | | | | | | | | 8.0 | 0.72 |
| 3 | 48 | 24 | 1 1/2 | 1/2 | 5/8 | 6 | 4 1/2 | 3 3/4 | 5 7/8 | 6 3/4 | 16 3/4 | 2 1/2 | 1 3/4 | 18 1/2 | | | | | | | | | | | | | 8.0 | 0.72 |
| 4 | 48 | 24 | 1 1/2 | 1/2 | 5/8 | 6 | 4 1/2 | 3 3/4 | 5 7/8 | 6 3/4 | 16 3/4 | 2 1/2 | 1 3/4 | 18 1/2 | | | | | | | | | | | | | 8.0 | 0.72 |
| 5 | 48 | 24 | 1 1/2 | 1/2 | 5/8 | 6 | 4 1/2 | 3 3/4 | 5 7/8 | 6 3/4 | 16 3/4 | 2 1/2 | 1 3/4 | 18 1/2 | | | | | | | | | | | | | 8.0 | 0.72 |

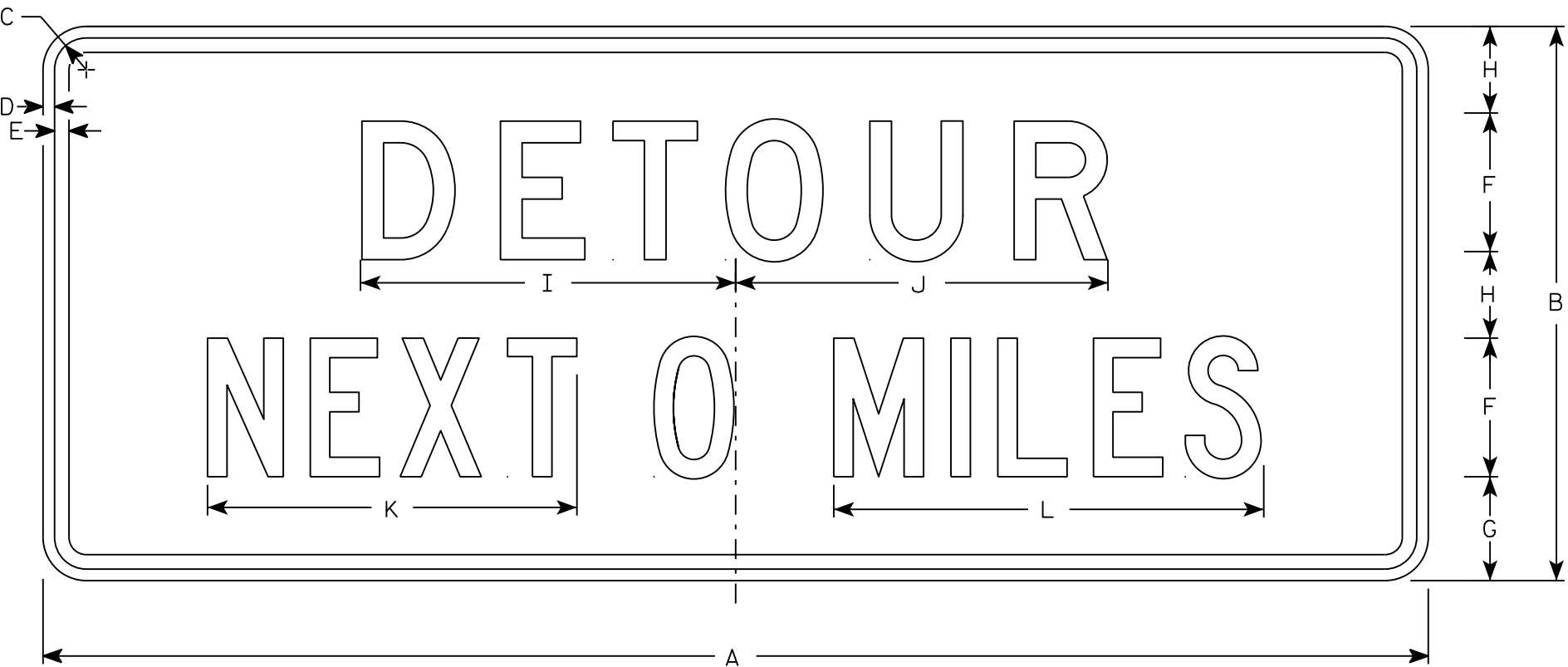
NOTES

- Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - Orange
Message - Black
- Message Series - C
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

7

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Message Series - Line 1 is D and Line 2 is C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. Round distance to nearest whole Mile and substitute appropriate numerals and optically adjust spacing to achieve proper balance



G20-51

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|------|----|----|-------|-----|-----|---|-------|-------|--------|--------|----|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 60 | 24 | 1 3⁄8 | 1⁄2 | 5⁄8 | 6 | 4 1⁄2 | 3 3⁄4 | 16 1⁄4 | 16 1⁄8 | 16 | 18 5⁄8 | | | | | | | | | | | | | | | 10 |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 60 | 24 | 1 3⁄8 | 1⁄2 | 5⁄8 | 6 | 4 1⁄2 | 3 3⁄4 | 16 1⁄4 | 16 1⁄8 | 16 | 18 5⁄8 | | | | | | | | | | | | | | | 10 |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

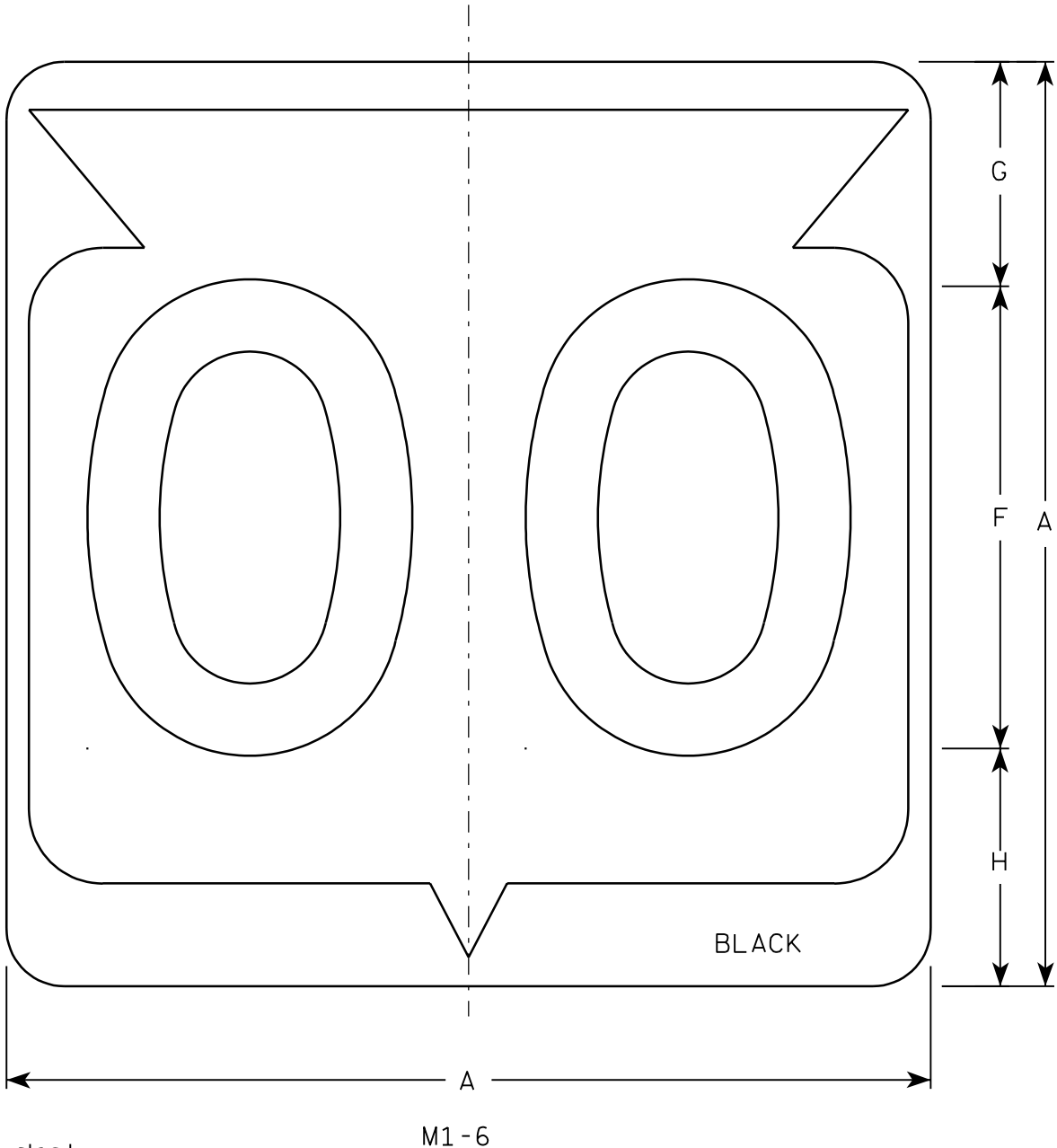
STANDARD SIGN
G20-51

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 3/14/17 PLATE NO. G20-51.2

7



Metric equivalent
for this sign is:

| SIZE | |
|------|-----------------|
| 1 | |
| 2 | 600 mm X 600 mm |
| 3 | 900 mm X 900 mm |
| 4 | 900 mm X 900 mm |
| 5 | 900 mm X 900 mm |

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. | Area m ² |
|------|----|---|-------|---|---|----|-------|-------|--------|-------|--------|--------|-------|-------|--------|--------|---|---|---|---|---|---|---|---|---|---|-----------------|------------------------|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 24 | | 1 1/2 | | | 12 | 5 1/2 | 6 1/2 | 10 1/4 | 2 1/2 | 8 7/8 | 11 1/2 | 1 | 1 7/8 | 11 1/4 | 21 7/8 | | | | | | | | | | | 4.0 | .36 |
| 3 | 36 | | 2 1/4 | | | 18 | 8 3/4 | 9 1/4 | 15 3/8 | 5 3/8 | 12 5/8 | 17 1/8 | 1 1/2 | 2 7/8 | 16 7/8 | 33 | | | | | | | | | | | 9.0 | .81 |
| 4 | 36 | | 2 1/4 | | | 18 | 8 3/4 | 9 1/4 | 15 3/8 | 5 3/8 | 12 5/8 | 17 1/8 | 1 1/2 | 2 7/8 | 16 7/8 | 33 | | | | | | | | | | | 9.0 | .81 |
| 5 | 36 | | 2 1/4 | | | 18 | 8 3/4 | 9 1/4 | 15 3/8 | 5 3/8 | 12 5/8 | 17 1/8 | 1 1/2 | 2 7/8 | 16 7/8 | 33 | | | | | | | | | | | 9.0 | .81 |

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

FILE NAME : C:\Users\Projects\tr_stdp\late\M16.DGN

PLOT DATE : 13-OCT-2005 14:55

PLOT BY : DITJPH

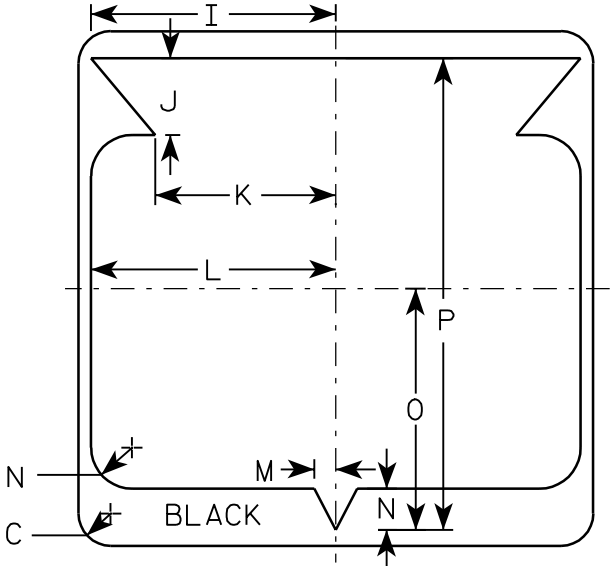
PLOT NAME :

PLOT SCALE : 6.715871:1.000000

WISDOT/CADDs SHEET 42

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White & Black - See Note 6
Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate Series numerals and adjust spacing as per plate A10-1.
6. Permanent Signs
Background - Type H Reflective
Detour or temporary Signs
Background - Reflective



STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

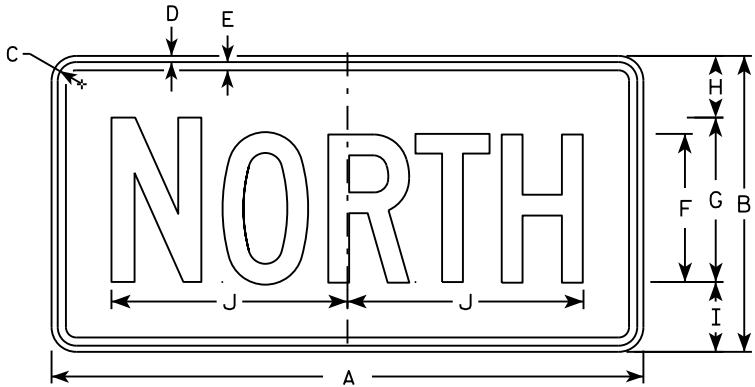
WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/20/02

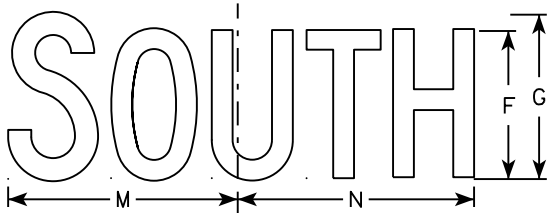
PLATE NO. M1-6.9



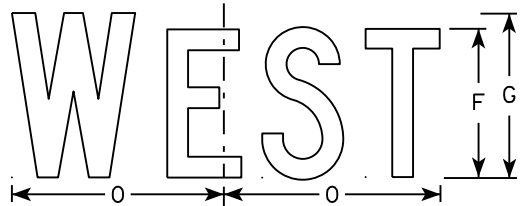
M3-1
MM3-1
MP3-1



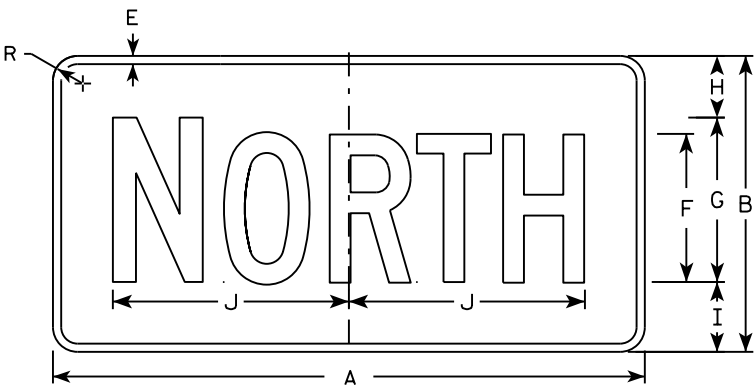
M3-2
MM3-2
MP3-2



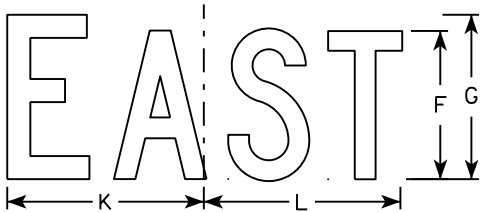
M3-3
MM3-3
MP3-3



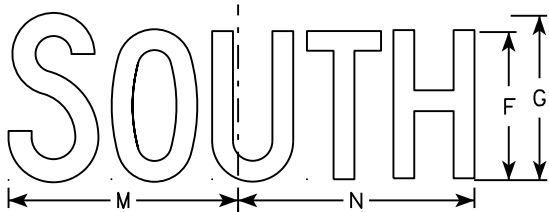
M3-4
MM3-4
MP3-4



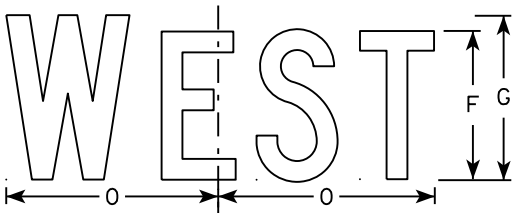
MB3-1
MK3-1
MN3-1



MB3-2
MK3-2
MN3-2



MB3-3
MK3-3
MN3-3



MB3-4
MK3-4
MN3-4

NOTES

1. All Signs Type II - Type H
2. Color:
Background - See note 5
Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
Message - Black
MB3-1 thru MB3-4 Background - Blue
Message - White
MK3-1 thru MK3-4 Background - Green
Message - White
MM3-1 thru MM3-4 Background - White
Message - Green
MN3-1 thru MN3-4 Background - Brown
Message - White
MP3-1 thru MP3-4 Background - White
Message - Blue
6. Note the first letter of each direction is larger than the remainder of the message.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|------|----|----|-------|-----|-----|---|----|-------|-------|--------|-------|--------|--------|--------|-------|---|---|-------|---|---|---|---|---|---|---|---|-----------------|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 24 | 12 | 1 1/8 | 3/8 | 3/8 | 6 | 7 | 2 1/4 | 2 3/4 | 10 1/4 | 7 7/8 | 8 3/8 | 10 1/4 | 9 3/4 | 8 3/4 | | | 1 1/2 | | | | | | | | | 2.00 |
| 3 | 36 | 18 | 1 1/8 | 3/8 | 1/2 | 9 | 10 | 3 3/4 | 4 1/4 | 14 3/8 | 12 | 12 1/8 | 14 | 14 1/8 | 13 | | | 1 1/2 | | | | | | | | | 4.5 |
| 4 | 36 | 18 | 1 1/8 | 3/8 | 1/2 | 9 | 10 | 3 3/4 | 4 1/4 | 14 3/8 | 12 | 12 1/8 | 14 | 14 1/8 | 13 | | | 1 1/2 | | | | | | | | | 4.5 |
| 5 | 36 | 18 | 1 1/8 | 3/8 | 1/2 | 9 | 10 | 3 3/4 | 4 1/4 | 14 3/8 | 12 | 12 1/8 | 14 | 14 1/8 | 13 | | | 1 1/2 | | | | | | | | | 4.5 |

STANDARD SIGNS
M3-1 thru M3-4
SERIES

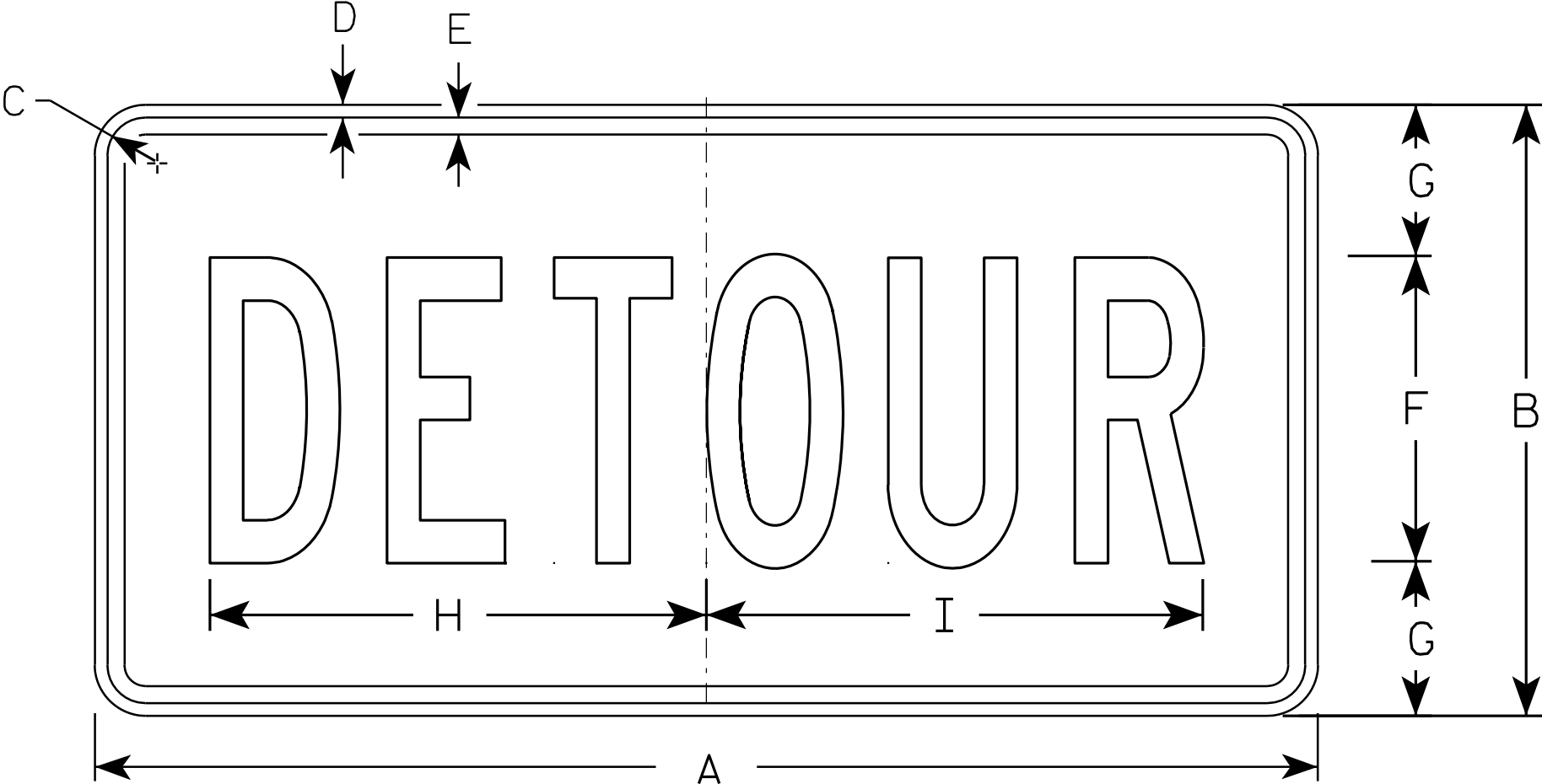
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M3-1.14

NOTES

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



M4 - 8

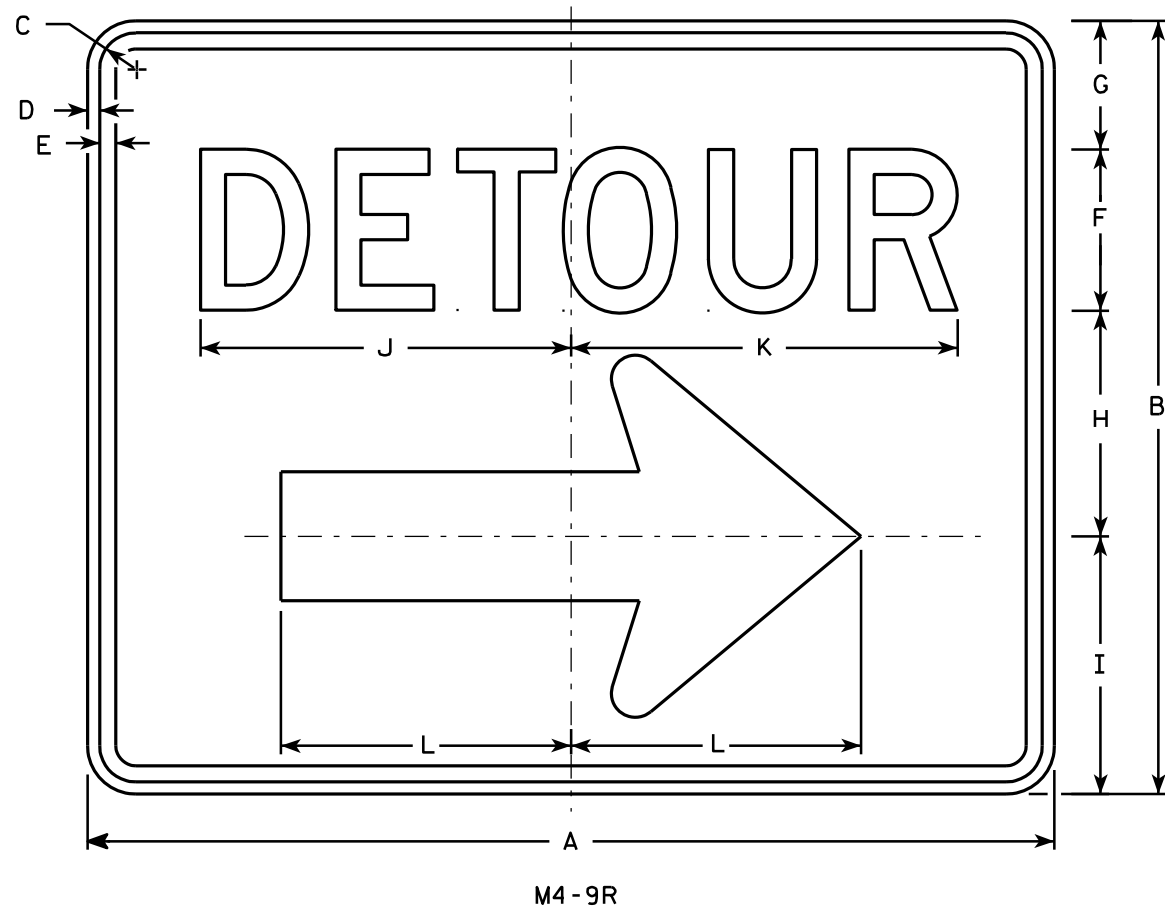
| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|------|----|----|-------|-----|-----|---|-------|--------|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 24 | 12 | 1 1/8 | 3/8 | 3/8 | 6 | 3 | 10 | 10 1/4 | | | | | | | | | | | | | | | | | | 2.0 |
| 3 | 36 | 18 | 1 1/8 | 3/8 | 1/2 | 9 | 4 1/2 | 14 5/8 | 14 1/2 | | | | | | | | | | | | | | | | | | 4.5 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

STANDARD SIGN
M4 - 8

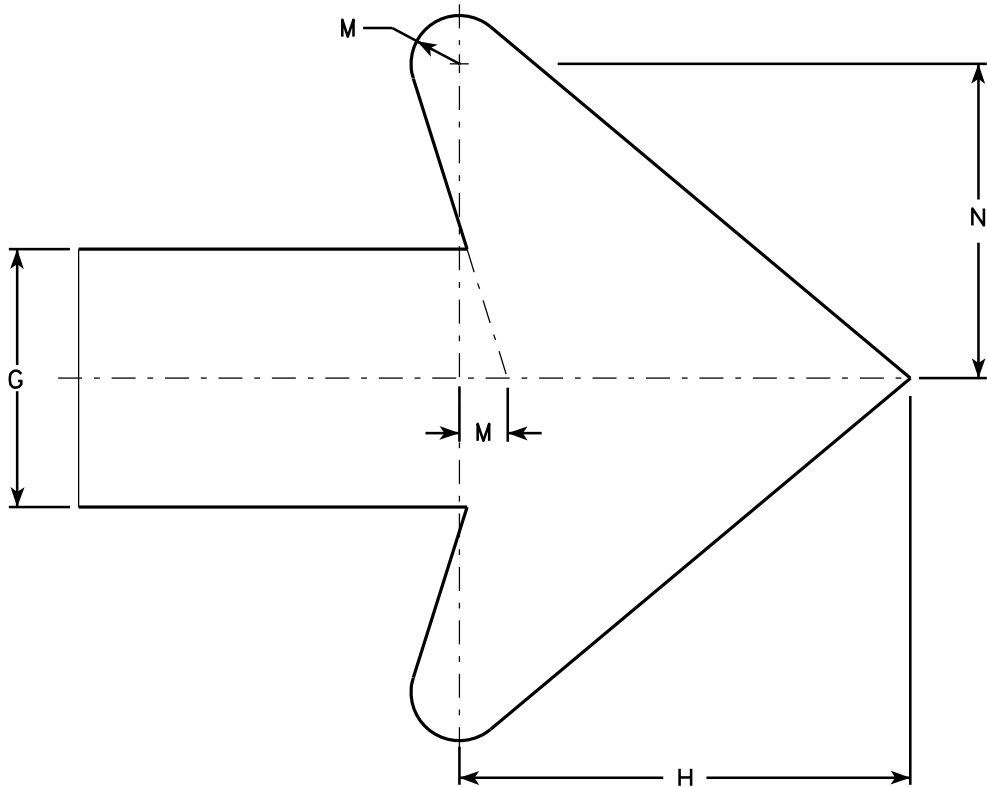
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2



- NOTES**
1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
 2. Color:
Background - Orange
Message - Black
 3. Message Series - D
 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
 5. M4-9L is the same as M4-9R except the arrow is reversed.



| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|------|----|----|-------|-----|-----|---|---|--------|--------|--------|--------|--------|-------|-------|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 30 | 24 | 1 1/8 | 3/8 | 1/2 | 5 | 4 | 7 | 8 | 11 1/2 | 12 | 9 | 3/4 | 4 7/8 | | | | | | | | | | | | | 5.00 |
| 3 | 30 | 24 | 1 1/8 | 3/8 | 1/2 | 5 | 4 | 7 | 8 | 11 1/2 | 12 | 9 | 3/4 | 4 7/8 | | | | | | | | | | | | | 5.00 |
| 4 | 48 | 36 | 1 3/8 | 1/2 | 5/8 | 8 | 6 | 10 1/2 | 11 5/8 | 20 5/8 | 20 1/2 | 13 1/4 | 1 1/8 | 6 7/8 | | | | | | | | | | | | | 12.0 |
| 5 | 48 | 36 | 1 3/8 | 1/2 | 5/8 | 8 | 6 | 10 1/2 | 11 5/8 | 20 5/8 | 20 1/2 | 13 1/4 | 1 1/8 | 6 7/8 | | | | | | | | | | | | | 12.0 |

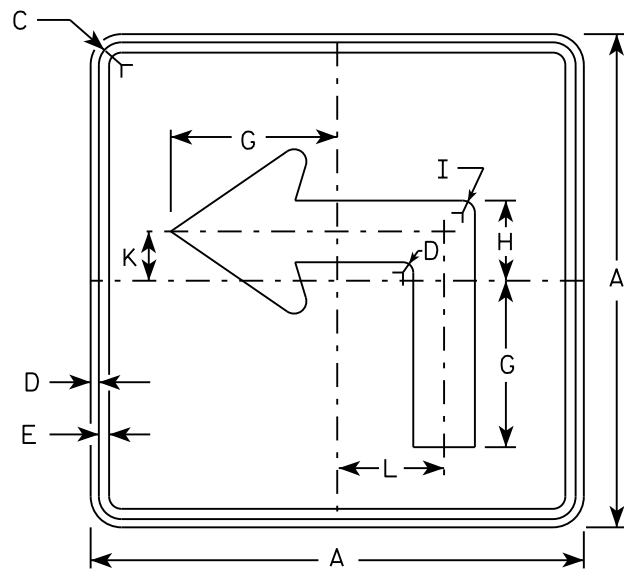
| | | | | |
|-------------|------|---------|-----------|---|
| PROJECT NO: | HWY: | COUNTY: | SHEET NO: | E |
|-------------|------|---------|-----------|---|

STANDARD SIGN
M4-9 R & L

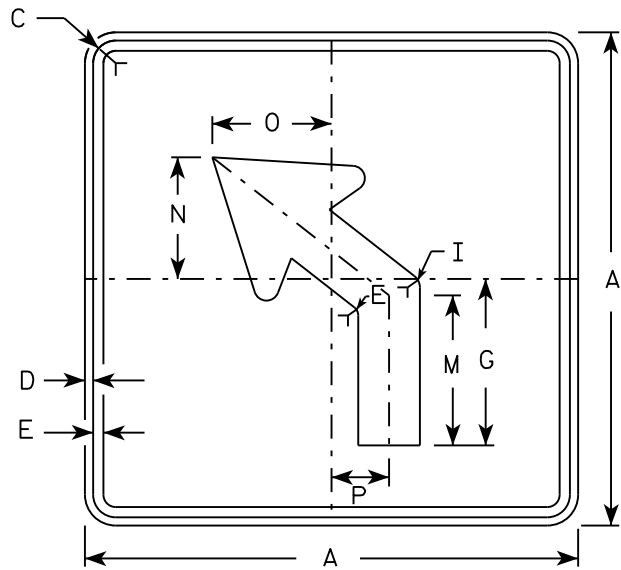
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

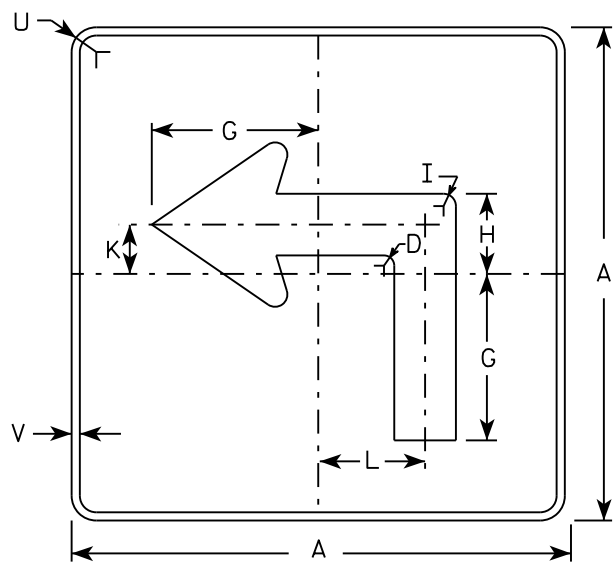
DATE 3/9/11 PLATE NO. M4-9R.4



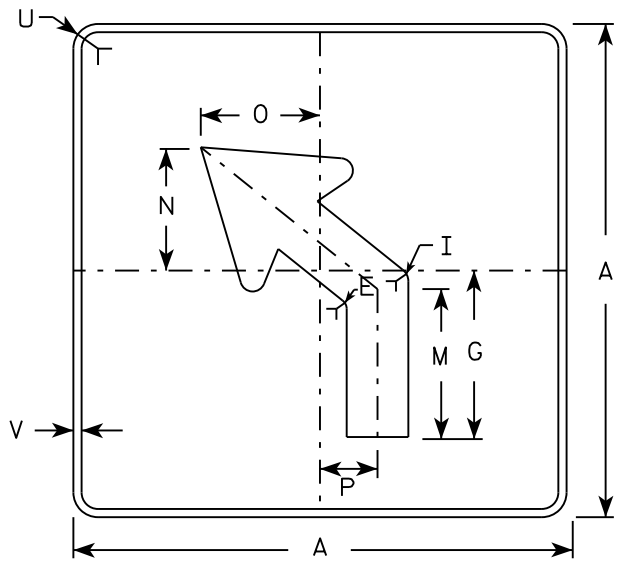
M5-1L
MM5-1L
M05-1L
MP5-1L



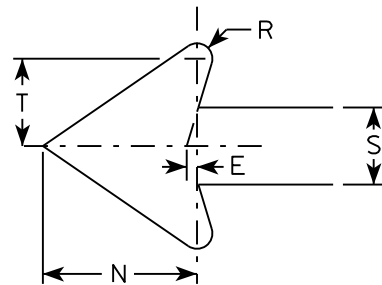
M5-2L
MM5-2L
M05-2L
MP5-2L



MB5-1L
MK5-1L
MN5-1L
MR5-1L



MB5-2L
MK5-2L
MN5-2L
MR5-2L



NOTES

- Signs are Type II - Type H reflective except as shown
- Color:
Background - See note 4
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- | | |
|-----------------|---|
| M5-1 and M5-2 | Background - White |
| | Message - Black |
| MB5-1 and MB5-2 | Background - Blue |
| | Message - White |
| MK5-1 and MK5-2 | Background - Green |
| | Message - White |
| MM5-1 and MM5-2 | Background - White |
| | Message - Green |
| MN5-1 and MN5-2 | Background - Brown |
| | Message - White |
| M05-1 and M05-2 | Background - Orange - Type F Reflective |
| | Message - Black |
| MP5-1 and MP5-2 | Background - White - Type H Reflective |
| | Message - Blue |
| MR5-1 and MR5-2 | Background - Brown |
| | Message - Yellow |
- M5-1R same as M5-1L except arrow points right.
- M5-2R same as M5-2L except arrow tilts right.

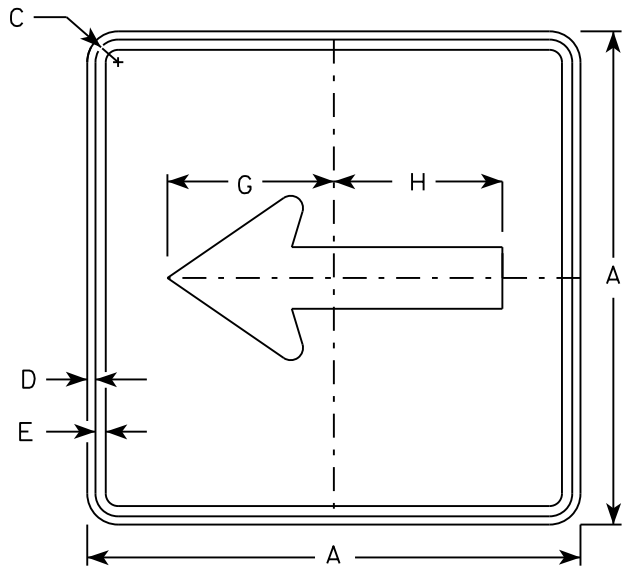
| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|------|----|---|-------|-----|-----|---|--------|-------|-----|---|-------|-------|-------|-------|-------|-------|---|-----|-------|-------|-------|-----|---|---|---|---|-----------------|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 21 | | 1 1/8 | 3/8 | 3/8 | | 7 | 3 3/8 | 5/8 | | 2 1/8 | 4 1/2 | 6 3/8 | 5 1/4 | 5 | 2 1/2 | | 1/2 | 2 5/8 | 3 | 1 1/2 | 1/2 | | | | | 3.06 |
| 3 | 30 | | 1 3/8 | 1/2 | 5/8 | | 10 1/8 | 4 7/8 | 7/8 | | 3 | 6 1/2 | 9 1/8 | 7 1/2 | 7 1/4 | 3 1/2 | | 3/4 | 3 3/4 | 4 1/4 | 1 7/8 | 1/2 | | | | | 6.25 |
| 4 | 30 | | 1 3/8 | 1/2 | 5/8 | | 10 1/8 | 4 7/8 | 7/8 | | 3 | 6 1/2 | 9 1/8 | 7 1/2 | 7 1/4 | 3 1/2 | | 3/4 | 3 3/4 | 4 1/4 | 1 7/8 | 1/2 | | | | | 6.25 |
| 5 | 30 | | 1 3/8 | 1/2 | 5/8 | | 10 1/8 | 4 7/8 | 7/8 | | 3 | 6 1/2 | 9 1/8 | 7 1/2 | 7 1/4 | 3 1/2 | | 3/4 | 3 3/4 | 4 1/4 | 1 7/8 | 1/2 | | | | | 6.25 |

STANDARD SIGN
M5-1 & M5-2

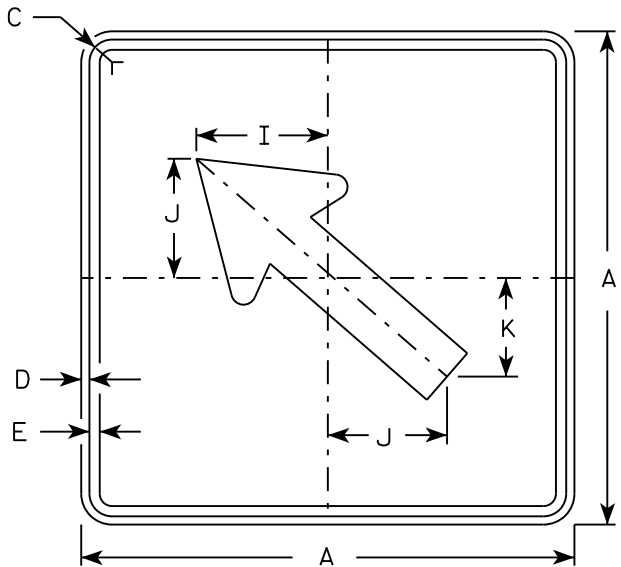
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

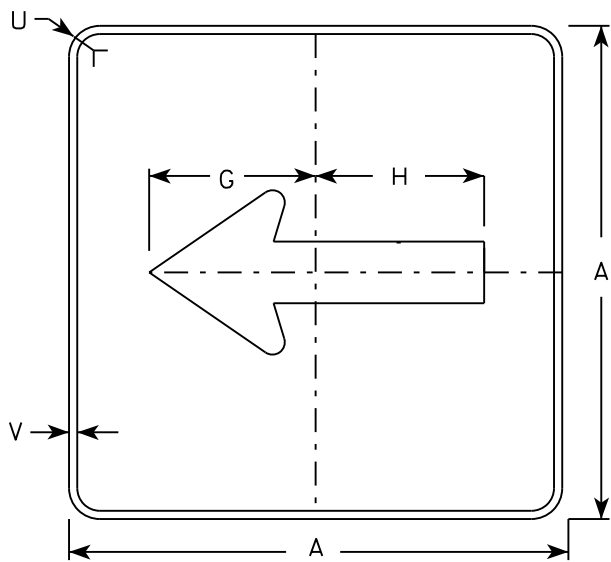
DATE 10/15/15 PLATE NO. M5-1.13



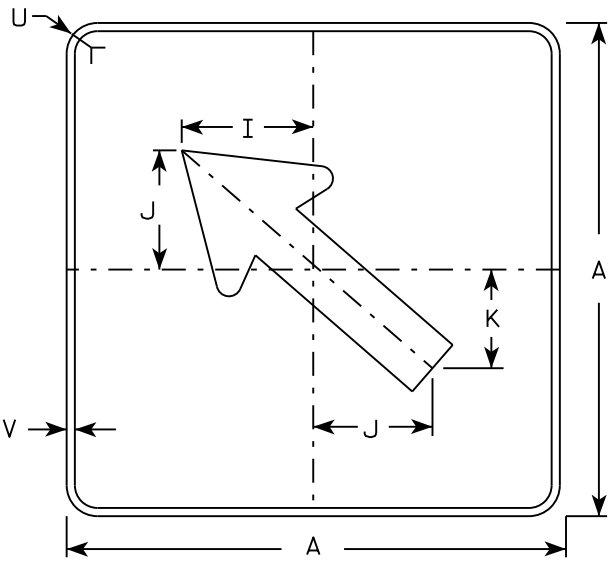
M6 - 1
MM6 - 1
M06 - 1
MP6 - 1



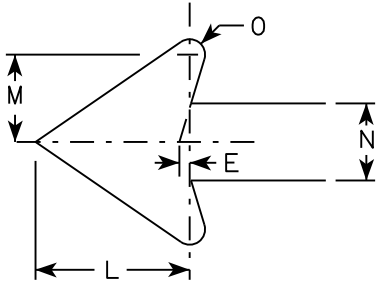
M6 - 2
MM6 - 2
M06 - 2
MP6 - 2



MB6 - 1
MK6 - 1
MN6 - 1
MR6 - 1



MB6 - 2
MK6 - 2
MN6 - 2
MR6 - 2



NOTES

- 1. Signs are Type II - Type H except as Shown
- 2. Color:
 - Background - See note 4
 - Message - See note 4
- 3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 4. M6-1 and M6-2 Background - White
Message - Black
MB6-1 and MB6-2 Background - Blue
Message - White
MK6-1 and MK6-2 Background - Green
Message - White
MM6-1 and MM6-2 Background - White
Message - Green
MN6-1 and MN6-2 Background - Brown
Message - White
M06-1 and M06-2 Background - Orange - Type F Reflective
Message - Black
MP6-1 and MP6-2 Background - White
Message - Blue
MR6-1 and MR6-2 Background - Brown
Message - Yellow

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|------|----|---|-------|-----|-----|---|--------|--------|-------|-------|-------|-------|-------|-------|-----|---|---|---|---|---|-------|-----|---|---|---|---|-----------------|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 21 | | 1 1/8 | 3/8 | 3/8 | | 7 1/2 | 7 1/8 | 5 5/8 | 5 | 4 1/4 | 5 1/4 | 3 | 2 5/8 | 1/2 | | | | | | 1 1/2 | 1/2 | | | | | 3.06 |
| 3 | 30 | | 1 3/8 | 1/2 | 5/8 | | 10 3/4 | 10 1/4 | 8 | 7 1/4 | 6 | 7 1/2 | 4 1/4 | 3 3/4 | 3/4 | | | | | | 1 7/8 | 1/2 | | | | | 6.25 |
| 4 | 30 | | 1 3/8 | 1/2 | 5/8 | | 10 3/4 | 10 1/4 | 8 | 7 1/4 | 6 | 7 1/2 | 4 1/4 | 3 3/4 | 3/4 | | | | | | 1 7/8 | 1/2 | | | | | 6.25 |
| 5 | 30 | | 1 3/8 | 1/2 | 5/8 | | 10 3/4 | 10 1/4 | 8 | 7 1/4 | 6 | 7 1/2 | 4 1/4 | 3 3/4 | 3/4 | | | | | | 1 7/8 | 1/2 | | | | | 6.25 |

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

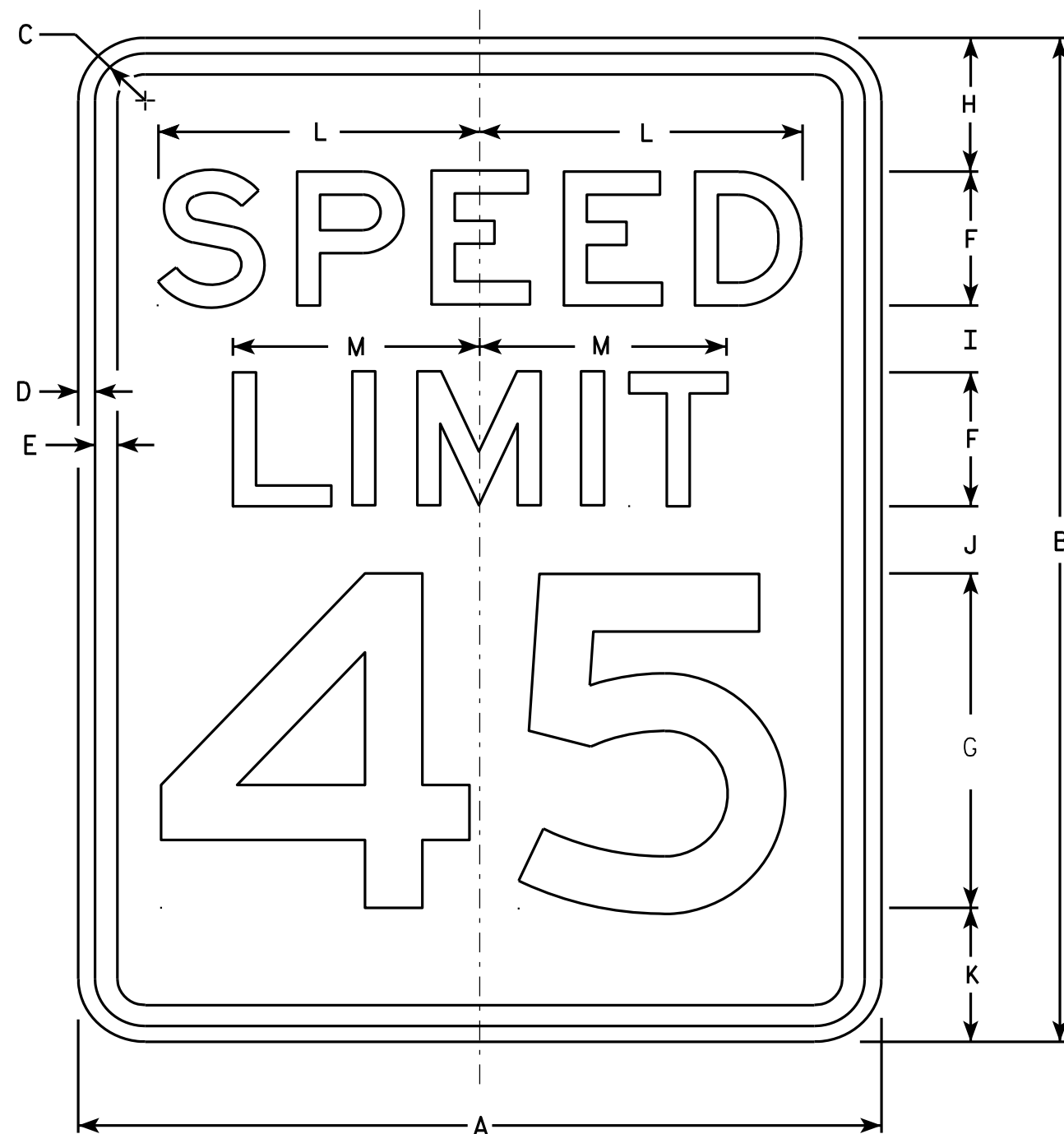
E

STANDARD SIGN
M6 - 1 & M6 - 2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M6-1.15



R2-1

NOTES

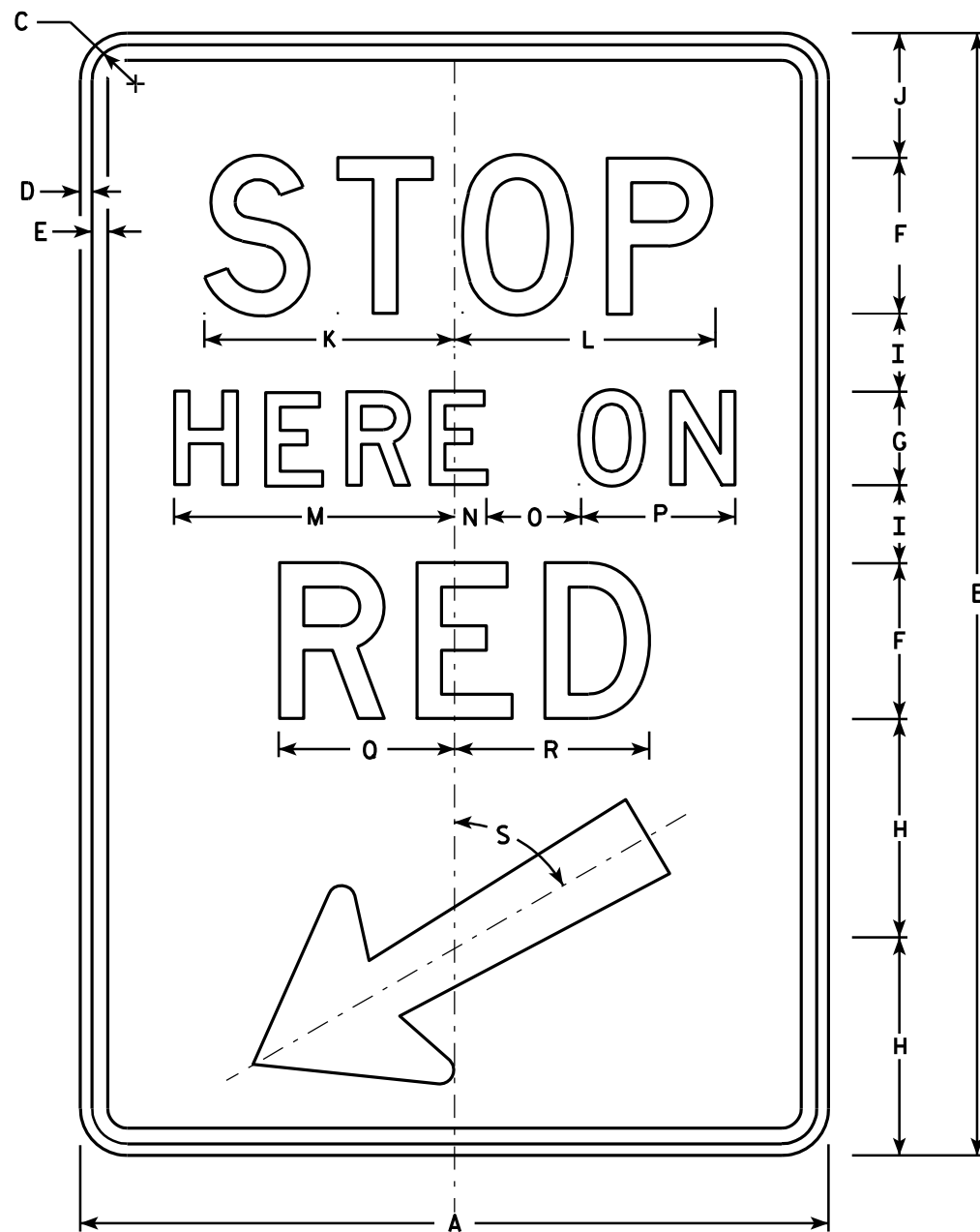
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and optically adjust spacing to achieve proper balance.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|------|----|----|-------|-----|-----|---|----|---|-------|-------|-------|--------|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1 | 18 | 24 | 1 1/8 | 3/8 | 1/2 | 3 | 8 | 3 | 2 | 2 | 3 | 7 1/4 | 5 1/2 | | | | | | | | | | | | | | 3.0 |
| 2S | 24 | 30 | 1 1/8 | 3/8 | 1/2 | 4 | 10 | 3 | 2 1/4 | 3 3/8 | 3 3/8 | 9 5/8 | 7 3/8 | | | | | | | | | | | | | | 5.0 |
| 2M | 30 | 36 | 1 3/8 | 1/2 | 5/8 | 5 | 12 | 5 | 2 1/2 | 2 1/2 | 4 | 12 | 9 1/4 | | | | | | | | | | | | | | 7.5 |
| 3 | 36 | 48 | 1 3/8 | 1/2 | 5/8 | 6 | 14 | 6 | 5 | 5 | 6 | 14 3/8 | 11 | | | | | | | | | | | | | | 12.0 |
| 4 | 36 | 48 | 1 3/8 | 1/2 | 5/8 | 6 | 14 | 6 | 5 | 5 | 6 | 14 3/8 | 11 | | | | | | | | | | | | | | 12.0 |
| 5 | 48 | 60 | 2 1/4 | 3/4 | 1 | 8 | 20 | 6 | 4 1/2 | 6 3/4 | 6 3/4 | 19 1/4 | 14 5/8 | | | | | | | | | | | | | | 20.0 |

STANDARD SIGN R2-1

WISCONSIN DEPT OF TRANSPORTATION
APPROVED *Matthew R. Rauch*
For State Traffic Engineer
DATE 5/26/10 PLATE NO. R2-1.13

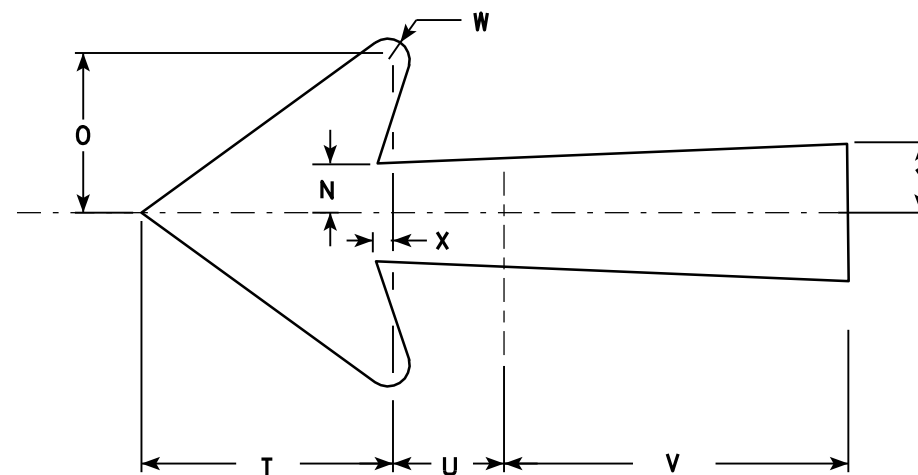
PROJECT NO: HWY: COUNTY: SHEET NO: E



R10-6

NOTES

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



Arrow Detail

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|------|----|----|-------|-----|-----|---|---|---|-------|---|---|-------|---|---|---|---|-------|-------|-----|-------|-------|-------|-----|-----|-------|---|-----------------|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 24 | 36 | 1 1/8 | 3/8 | 1/2 | 5 | 3 | 7 | 2 1/2 | 4 | 8 | 8 3/8 | 9 | 1 | 3 | 5 | 5 5/8 | 6 1/4 | 60° | 5 1/4 | 2 1/4 | 7 1/8 | 1/2 | 3/8 | 1 3/8 | | 6.0 |
| 2M | 24 | 36 | 1 1/8 | 3/8 | 1/2 | 5 | 3 | 7 | 2 1/2 | 4 | 8 | 8 3/8 | 9 | 1 | 3 | 5 | 5 5/8 | 6 1/4 | 60° | 5 1/4 | 2 1/4 | 7 1/8 | 1/2 | 3/8 | 1 3/8 | | 6.0 |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

STANDARD SIGN R10-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/5/11 PLATE NO. R10-6.6

PROJECT NO:

HWY:

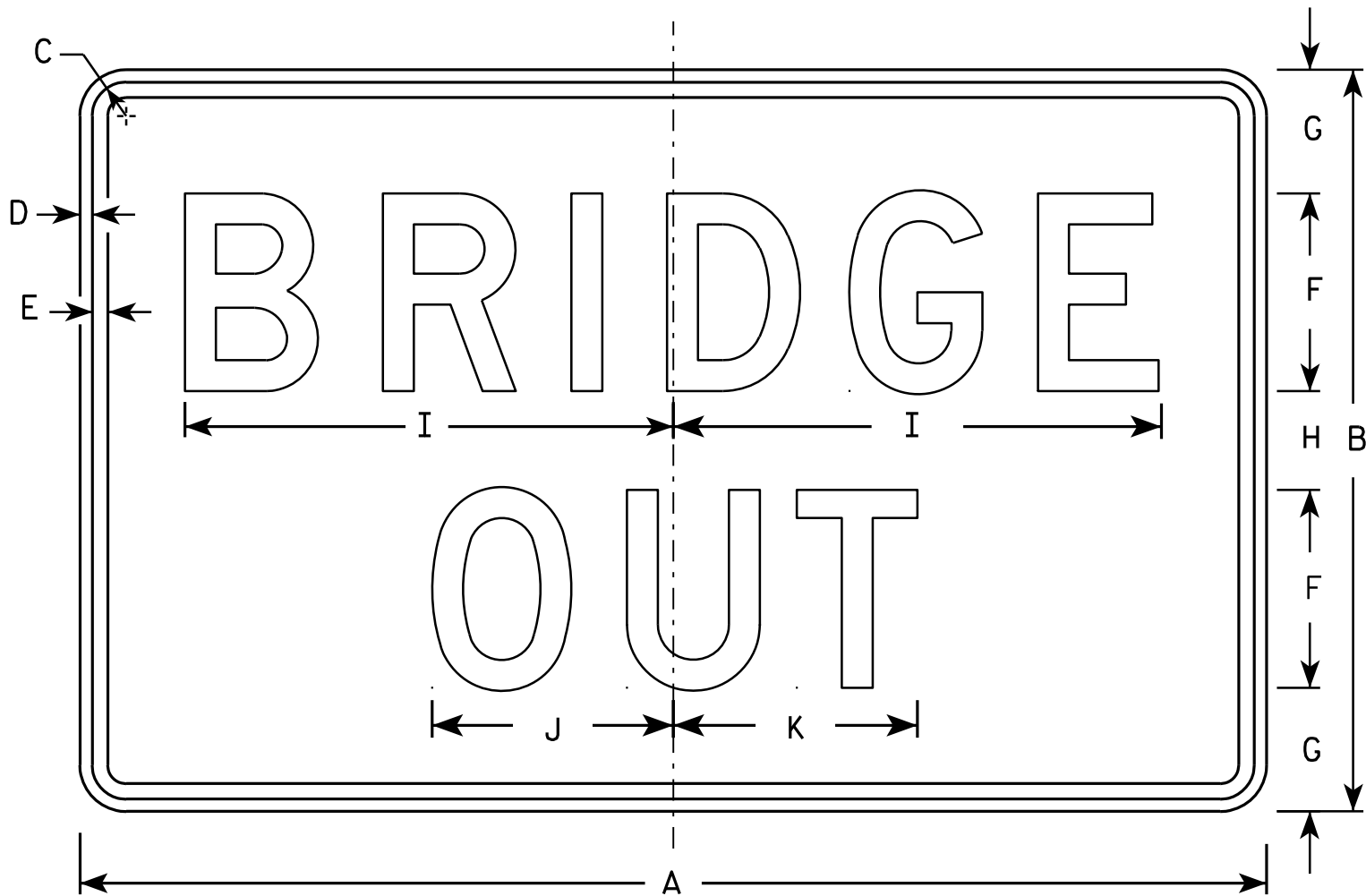
COUNTY:

SHEET NO:

E

NOTES

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



R11-2B

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|------|----|----|-------|-----|-----|---|---|---|--------|-------|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 48 | 30 | 1 3/8 | 1/2 | 5/8 | 8 | 5 | 4 | 19 3/4 | 9 3/4 | 9 7/8 | | | | | | | | | | | | | | | | 10.0 |
| 2M | 48 | 30 | 1 3/8 | 1/2 | 5/8 | 8 | 5 | 4 | 19 3/4 | 9 3/4 | 9 7/8 | | | | | | | | | | | | | | | | 10.0 |
| 3 | 48 | 30 | 1 3/8 | 1/2 | 5/8 | 8 | 5 | 4 | 19 3/4 | 9 3/4 | 9 7/8 | | | | | | | | | | | | | | | | 10.0 |
| 4 | 48 | 30 | 1 3/8 | 1/2 | 5/8 | 8 | 5 | 4 | 19 3/4 | 9 3/4 | 9 7/8 | | | | | | | | | | | | | | | | 10.0 |
| 5 | 48 | 30 | 1 3/8 | 1/2 | 5/8 | 8 | 5 | 4 | 19 3/4 | 9 3/4 | 9 7/8 | | | | | | | | | | | | | | | | 10.0 |

PROJECT NO:

STANDARD SIGN
R11-2B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
For State Traffic Engineer

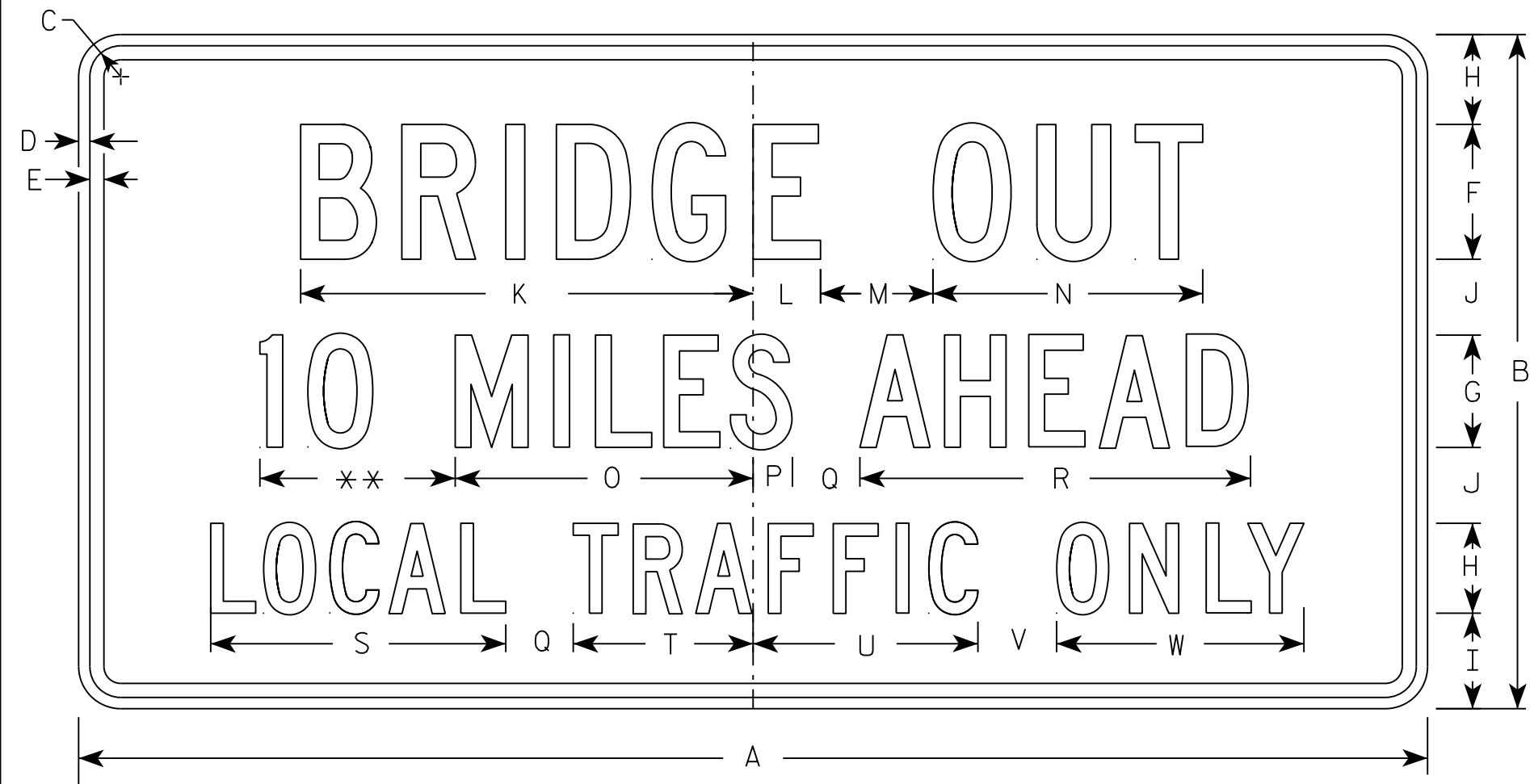
DATE 4/1/11 PLATE NO. R11-2B.2

SHEET NO:

E

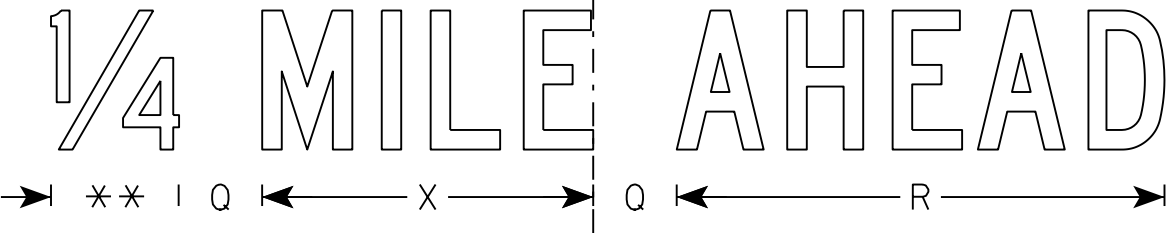
NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
 - Background - White
 - Message - Black
- 3. Message Series - C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.



** See Note 5

R11-3B



| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|------|----|----|-------|-----|-----|---|---|-------|-------|-------|--------|-------|---|----|--------|-------|---|--------|--------|-------|-------|-------|-------|--------|---|---|-----------------|
| 1 | 36 | 18 | 1 3/8 | 1/2 | 5/8 | 4 | 3 | 2 1/2 | 2 | 2 | 13 1/4 | 2 1/4 | 3 | 8 | 8 | 1 1/2 | 2 | 10 3/4 | 8 3/8 | 4 3/4 | 6 1/2 | 2 | 6 3/4 | 7 1/8 | | | 4.5 |
| 2S | 60 | 30 | 1 3/8 | 1/2 | 5/8 | 6 | 5 | 4 | 4 1/4 | 3 3/8 | 20 1/8 | 3 | 5 | 12 | 13 1/4 | 1 3/4 | 3 | 17 3/8 | 13 1/8 | 8 | 10 | 3 1/2 | 11 | 11 7/8 | | | 12.5 |
| 2M | 60 | 30 | 1 3/8 | 1/2 | 5/8 | 6 | 5 | 4 | 4 1/4 | 3 3/8 | 20 1/8 | 3 | 5 | 12 | 13 1/4 | 1 3/4 | 3 | 17 3/8 | 13 1/8 | 8 | 10 | 3 1/2 | 11 | 11 7/8 | | | 12.5 |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

STANDARD SIGN
R11-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

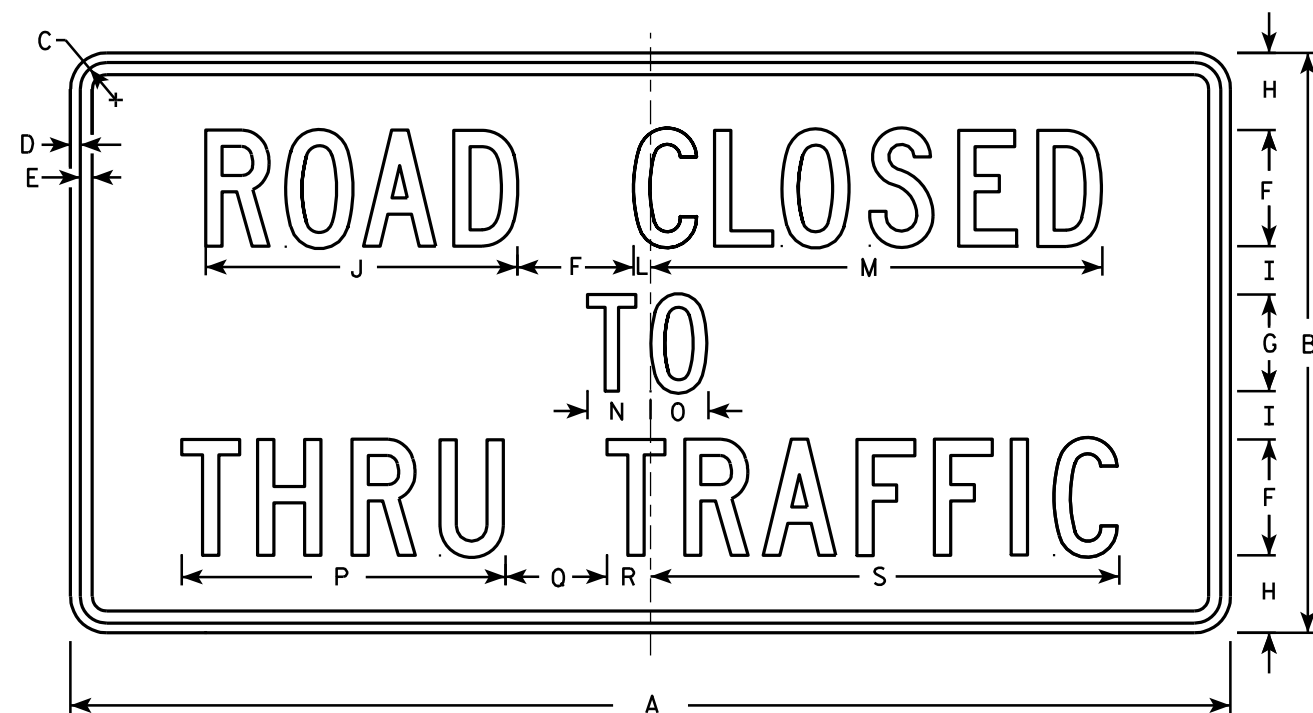
DATE 3/21/17 PLATE NO. R11-3B.3

PROJECT NO:

HWY:

COUNTY:

SHEET NO: E



R11-4

NOTES

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

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|------|----|----|-------|-----|-----|---|---|---|-------|--------|---|-----|--------|-------|---|--------|-------|-------|--------|---|---|---|---|---|---|---|-----------------|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 60 | 30 | 1 3⁄8 | 1⁄2 | 5⁄8 | 6 | 5 | 4 | 2 1⁄2 | 16 1⁄8 | | 7⁄8 | 23 3⁄8 | 3 1⁄4 | 3 | 16 3⁄4 | 5 1⁄4 | 2 1⁄4 | 24 1⁄4 | | | | | | | | 12.5 |
| 2M | 60 | 30 | 1 3⁄8 | 1⁄2 | 5⁄8 | 6 | 5 | 4 | 2 1⁄2 | 16 1⁄8 | | 7⁄8 | 23 3⁄8 | 3 1⁄4 | 3 | 16 3⁄4 | 5 1⁄4 | 2 1⁄4 | 24 1⁄4 | | | | | | | | 12.5 |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

STANDARD SIGN
R11 - 4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-4.3

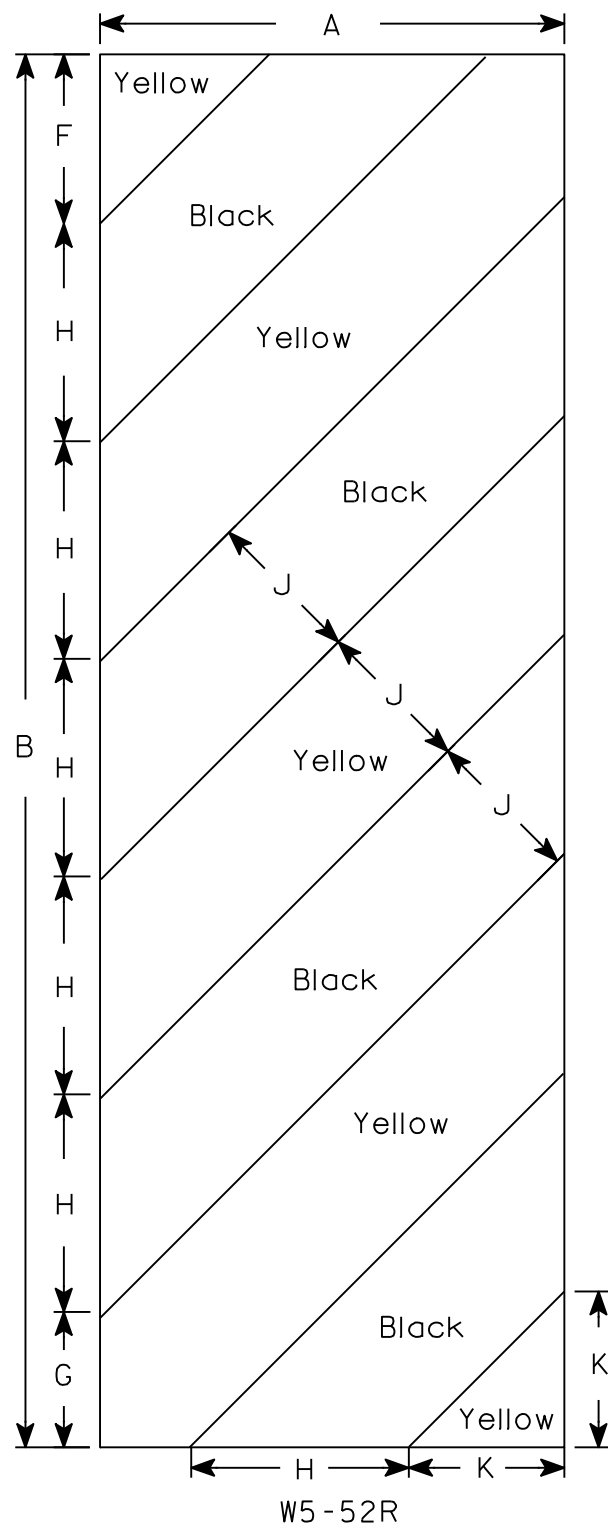
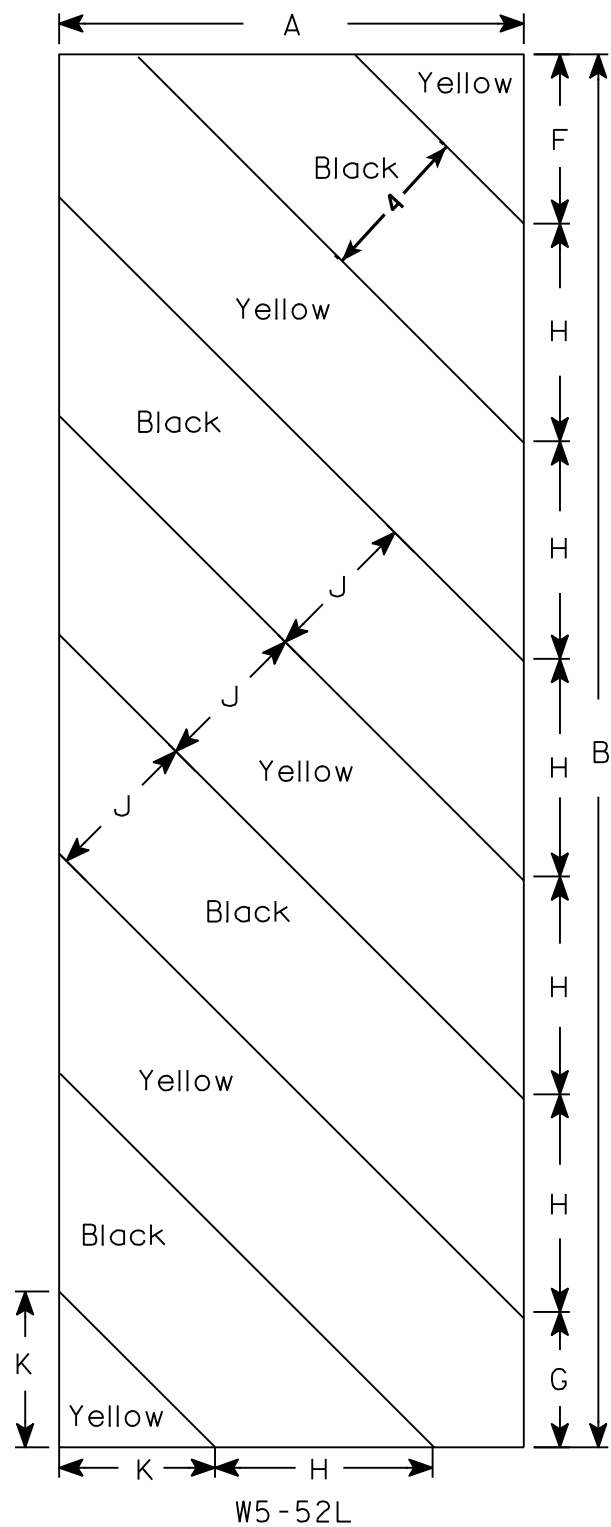
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



NOTES

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

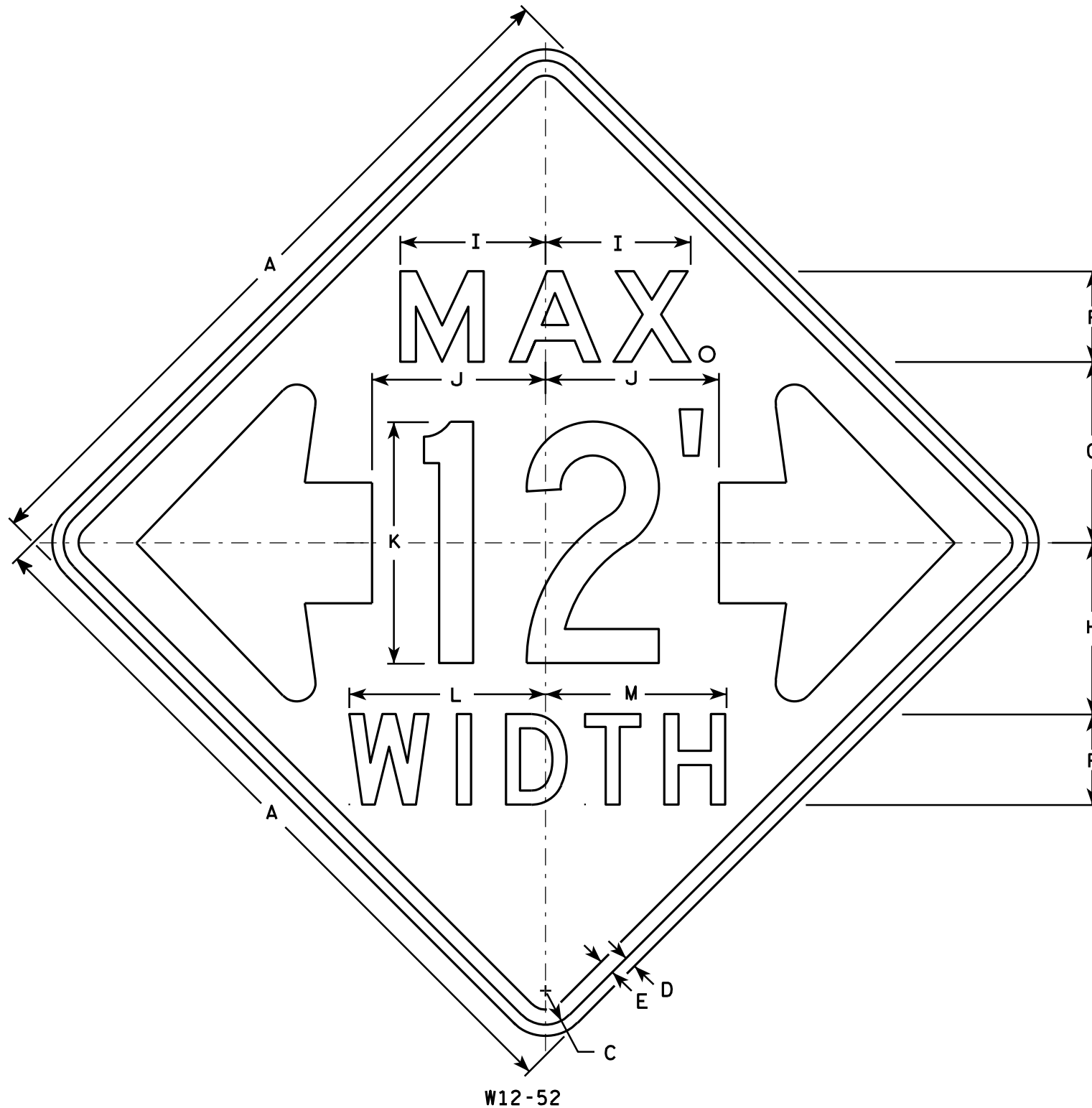
| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|------|----|----|---|---|---|-------|-------|-------|-----|---|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1 | | | | | | | | |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

STANDARD SIGN
W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

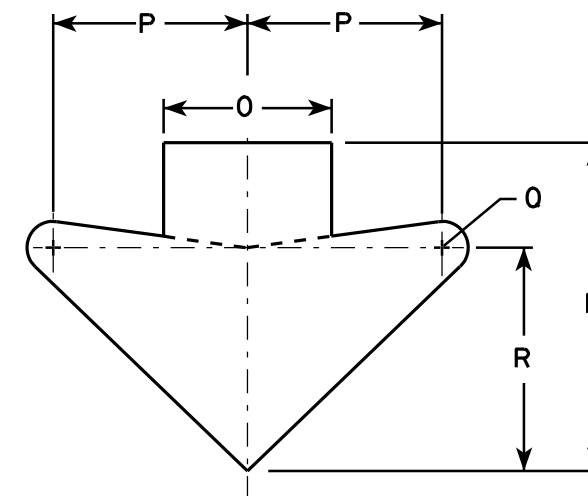
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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



NOTES

- Sign Is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- Color:
Background - Orange
Message - Black
- Message Series - See note 5
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- The top line is series E, the numerals are series C, and the bottom line is series D.
- Substitute appropriate numerals and adjust spacing as required.



ARROW DETAIL

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|------|----|---|-------|-----|---|---|----|--------|-------|--------|----|----|----|--------|---|-------|-------|--------|---|---|---|---|---|---|---|---|-----------------|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 48 | | 2 1/4 | 3/4 | 1 | 6 | 12 | 11 3/8 | 9 5/8 | 11 1/2 | 16 | 13 | 12 | 15 5/8 | 8 | 9 1/4 | 1 1/4 | 10 5/8 | | | | | | | | | 16.0 |
| 2M | 48 | | 2 1/4 | 3/4 | 1 | 6 | 12 | 11 3/8 | 9 5/8 | 11 1/2 | 16 | 13 | 12 | 15 5/8 | 8 | 9 1/4 | 1 1/4 | 10 5/8 | | | | | | | | | 16.0 |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

STANDARD SIGN W12-52

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/16/11 PLATE NO. W12-52.7

PROJECT NO:

HWY:

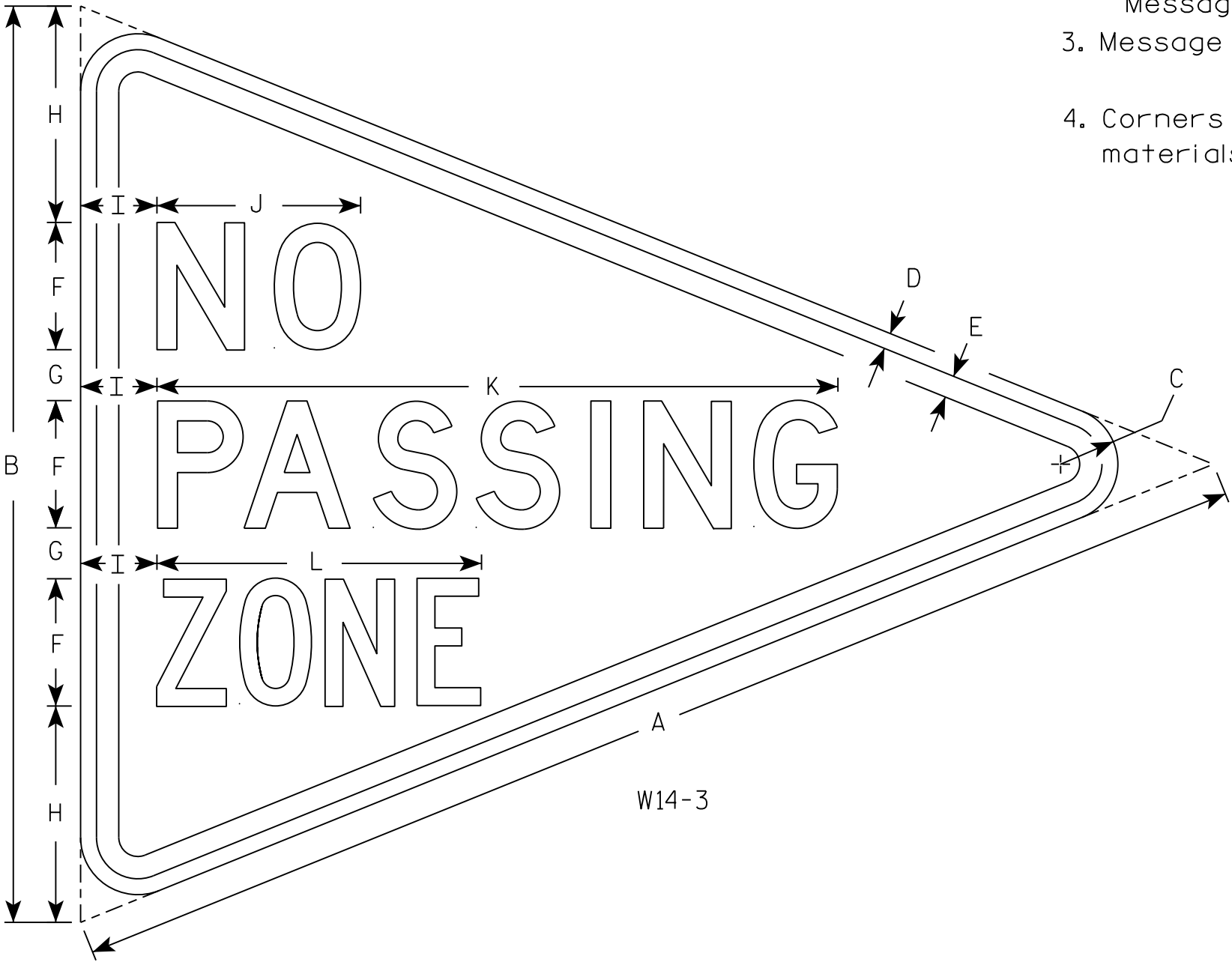
COUNTY:

SHEET NO:

E

NOTES

- 1. Sign is Type II- Type F Reflective
- 2. Color:
Background - Yellow
Message - Black
- 3. Message Series - Lines 1 and 2 are Series D.
Line 3 is series C.
- 4. Corners and borders shall be rounded on all base materials for this sign.



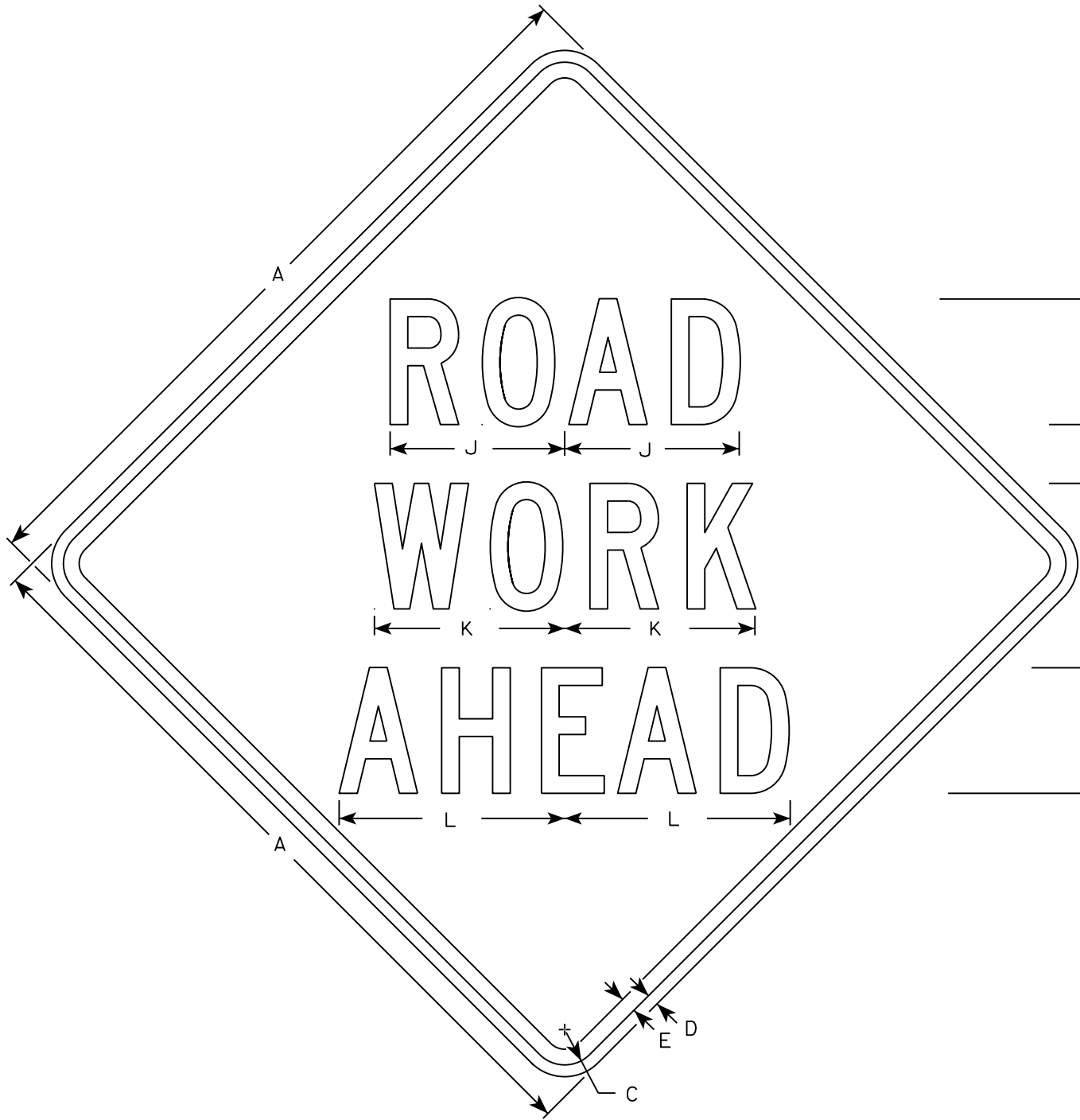
| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|------|----|----|-------|-----|-----|---|---|-------|---|---|--------|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 48 | 36 | 2 1/4 | 5/8 | 7/8 | 5 | 2 | 8 1/2 | 3 | 8 | 26 3/4 | 12 3/4 | | | | | | | | | | | | | | | 5.56 |
| 2M | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

STANDARD SIGN
W14-3

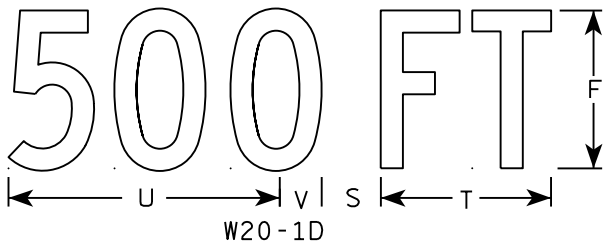
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

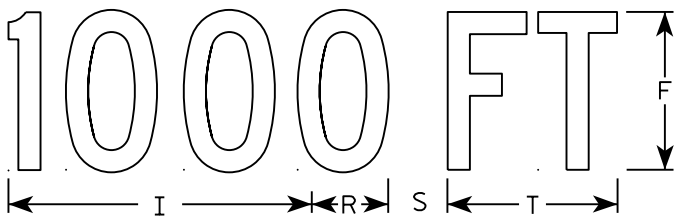
DATE 3/21/17 PLATE NO. W14-3.10



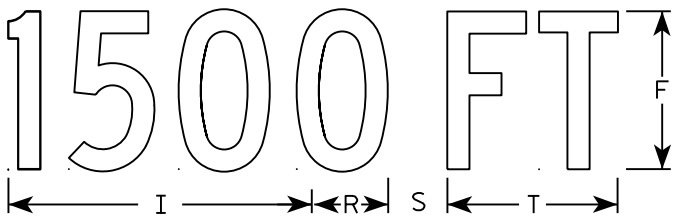
W20-1A



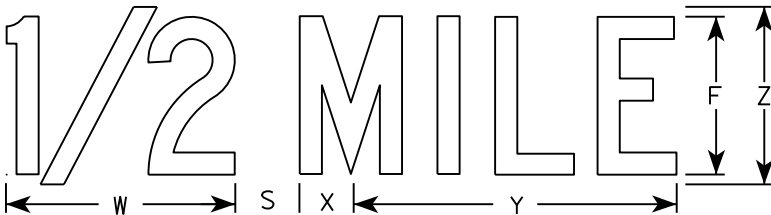
W20-1D



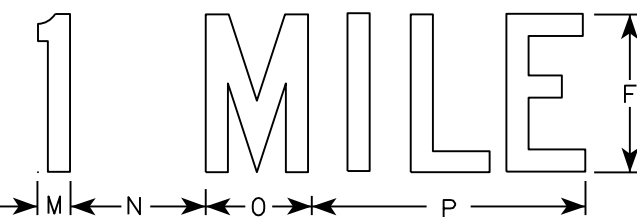
W20-1C



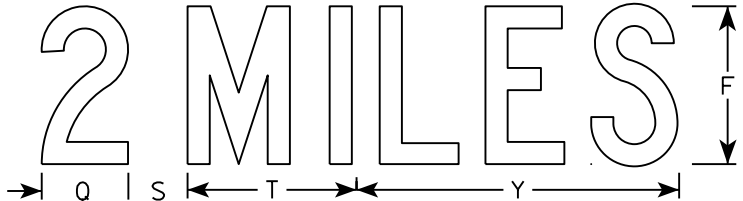
W20-1B



W20-1G



W20-1F



W20-1E

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Message Series - C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|------|----|---|-------|-----|-----|---|-------|-------|--------|--------|--------|--------|-------|-------|-------|--------|-------|-------|-------|-------|--------|-------|--------|-------|--------|---|-----------------|
| 1 | 36 | | 1 3/8 | 1/2 | 5/8 | 5 | 2 5/8 | 3 1/4 | 10 1/8 | 7 | 7 5/8 | 8 7/8 | 1 1/8 | 4 1/2 | 3 1/2 | 9 | | 2 1/2 | 2 1/4 | 5 5/8 | 9 | 1 3/8 | 8 | 1 3/4 | 10 3/4 | 6 | 9.0 |
| 2S | 48 | | 2 1/4 | 3/4 | 1 | 8 | 3 3/4 | 5 1/8 | 15 3/8 | 11 1/8 | 12 1/8 | 14 3/8 | 1 5/8 | 6 7/8 | 5 3/8 | 13 7/8 | 4 3/8 | 3 7/8 | 3 | 8 5/8 | 13 3/4 | 2 1/8 | 11 7/8 | 2 3/4 | 16 3/8 | 9 | 16.0 |
| 2M | 48 | | 2 1/4 | 3/4 | 1 | 8 | 3 3/4 | 5 1/8 | 15 3/8 | 11 1/8 | 12 1/8 | 14 3/8 | 1 5/8 | 6 7/8 | 5 3/8 | 13 7/8 | 4 3/8 | 3 7/8 | 3 | 8 5/8 | 13 3/4 | 2 1/8 | 11 7/8 | 2 3/4 | 16 3/8 | 9 | 16.0 |
| 3 | 48 | | 2 1/4 | 3/4 | 1 | 8 | 3 3/4 | 5 1/8 | 15 3/8 | 11 1/8 | 12 1/8 | 14 3/8 | 1 5/8 | 6 7/8 | 5 3/8 | 13 7/8 | 4 3/8 | 3 7/8 | 3 | 8 5/8 | 13 3/4 | 2 1/8 | 11 7/8 | 2 3/4 | 16 3/8 | 9 | 16.0 |
| 4 | 48 | | 2 1/4 | 3/4 | 1 | 8 | 3 3/4 | 5 1/8 | 15 3/8 | 11 1/8 | 12 1/8 | 14 3/8 | 1 5/8 | 6 7/8 | 5 3/8 | 13 7/8 | 4 3/8 | 3 7/8 | 3 | 8 5/8 | 13 3/4 | 2 1/8 | 11 7/8 | 2 3/4 | 16 3/8 | 9 | 16.0 |
| 5 | 48 | | 2 1/4 | 3/4 | 1 | 8 | 3 3/4 | 5 1/8 | 15 3/8 | 11 1/8 | 12 1/8 | 14 3/8 | 1 5/8 | 6 7/8 | 5 3/8 | 13 7/8 | 4 3/8 | 3 7/8 | 3 | 8 5/8 | 13 3/4 | 2 1/8 | 11 7/8 | 2 3/4 | 16 3/8 | 9 | 16.0 |

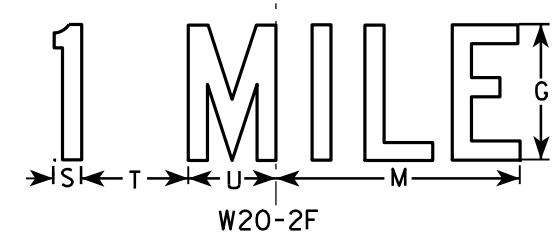
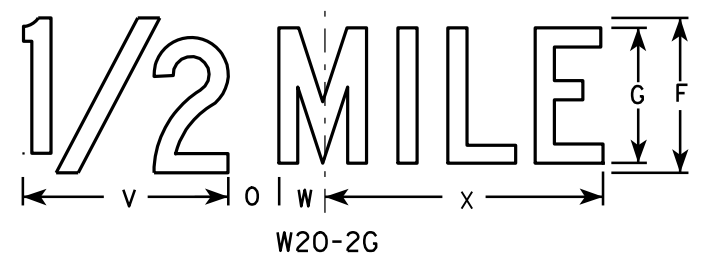
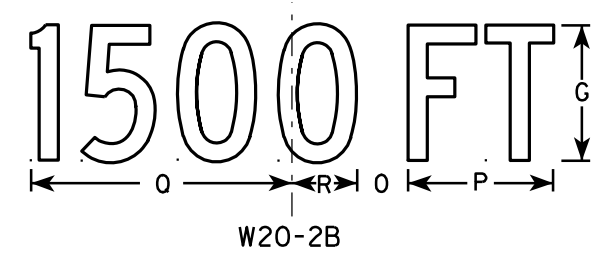
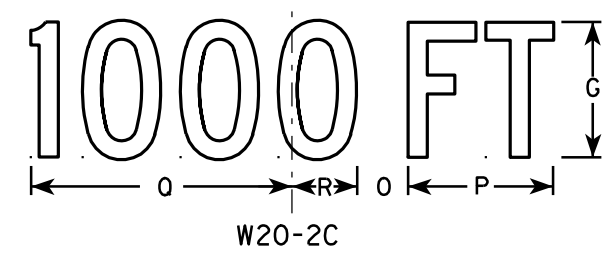
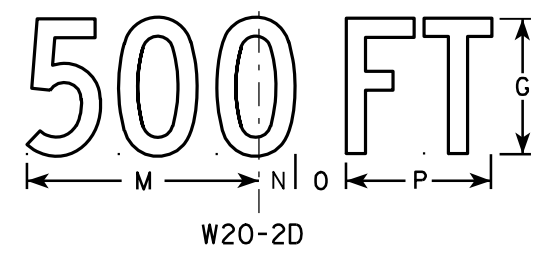
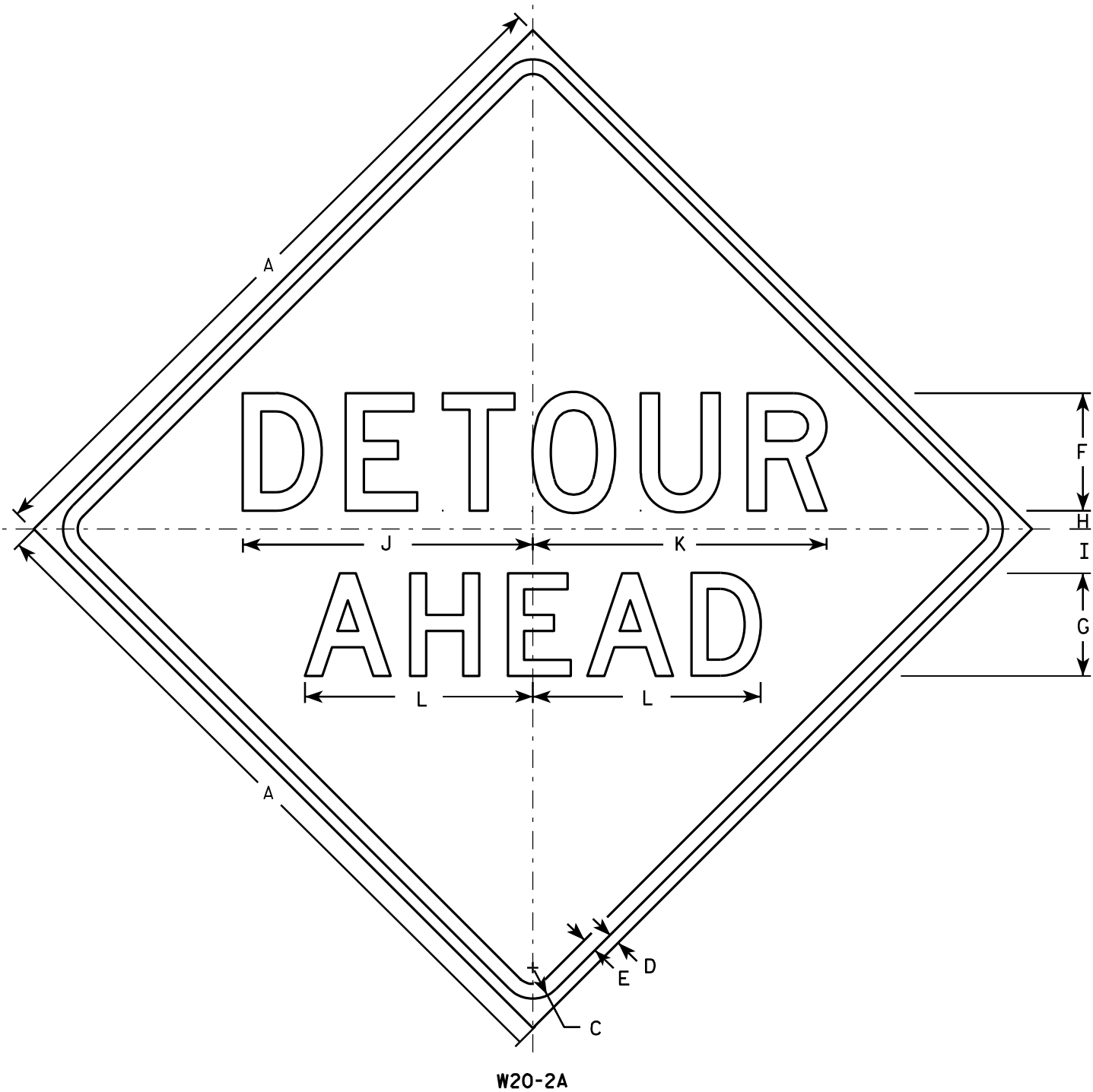
STANDARD SIGN

W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/07/15 PLATE NO. W20-1.10



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series D.
Line 2 is Series D for AHEAD and Series C for all other distances.

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|------|----|---|-------|-----|-----|---|---|-------|-------|--------|----|--------|----|-------|-------|-------|--------|-------|-------|-------|-------|--------|-------|--------|---|---|-----------------|
| 1 | 36 | | 1 5/8 | 5/8 | 3/4 | 6 | 5 | 1 | 2 1/4 | 14 3/4 | 15 | 11 5/8 | 9 | 1 3/8 | 1 7/8 | 5 5/8 | 10 1/8 | 2 1/2 | 1 1/8 | 4 1/2 | 3 1/2 | 8 | 1 3/4 | 10 3/4 | | | 9.0 |
| 2S | 48 | | 2 1/4 | 3/4 | 1 | 8 | 7 | 1 1/4 | 3 | 19 3/4 | 20 | 15 1/2 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6 | 4 5/8 | 10 5/8 | 2 3/8 | 14 3/8 | | | 16.0 |
| 2M | 48 | | 2 1/4 | 3/4 | 1 | 8 | 7 | 1 1/4 | 3 | 19 3/4 | 20 | 15 1/2 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6 | 4 5/8 | 10 5/8 | 2 3/8 | 14 3/8 | | | 16.0 |
| 3 | 48 | | 2 1/4 | 3/4 | 1 | 8 | 7 | 1 1/4 | 3 | 19 3/4 | 20 | 15 1/2 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6 | 4 5/8 | 10 5/8 | 2 3/8 | 14 3/8 | | | 16.0 |
| 4 | 48 | | 2 1/4 | 3/4 | 1 | 8 | 7 | 1 1/4 | 3 | 19 3/4 | 20 | 15 1/2 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6 | 4 5/8 | 10 5/8 | 2 3/8 | 14 3/8 | | | 16.0 |
| 5 | 48 | | 2 1/4 | 3/4 | 1 | 8 | 7 | 1 1/4 | 3 | 19 3/4 | 20 | 15 1/2 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6 | 4 5/8 | 10 5/8 | 2 3/8 | 14 3/8 | | | 16.0 |

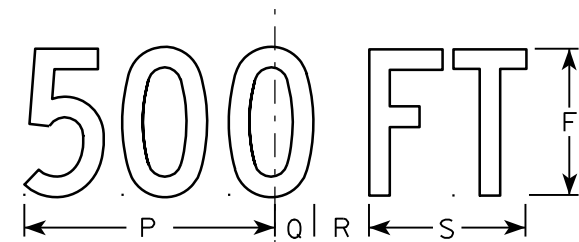
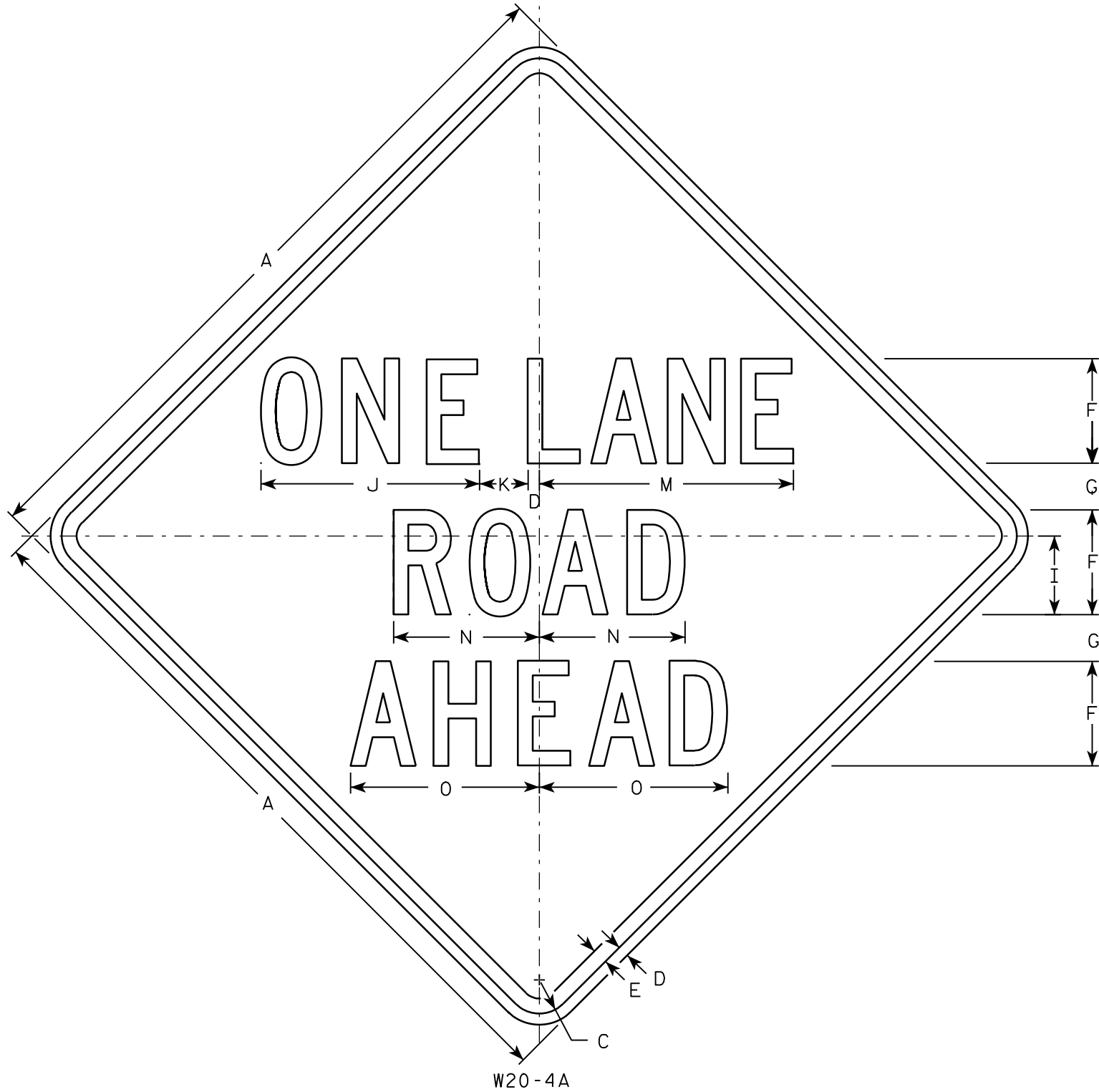
STANDARD SIGN
W20-2A,B,C,D,F & G

WISCONSIN DEPT OF TRANSPORTATION

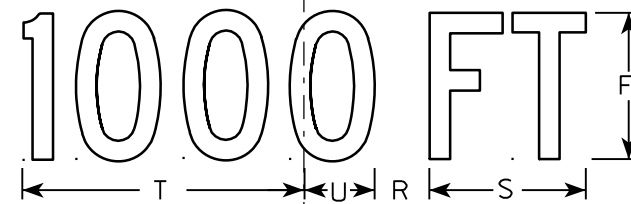
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-2.6

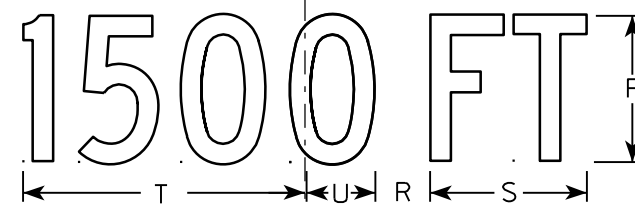
PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**



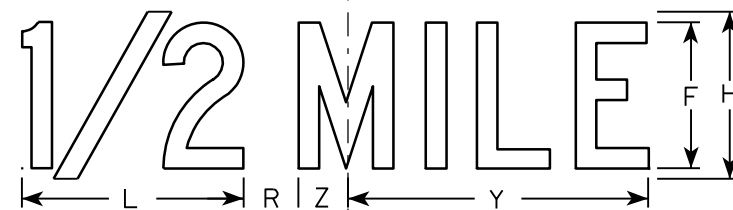
W20-4D



W20-4C



W20-4B



W20-4G



W20-4F

NOTES

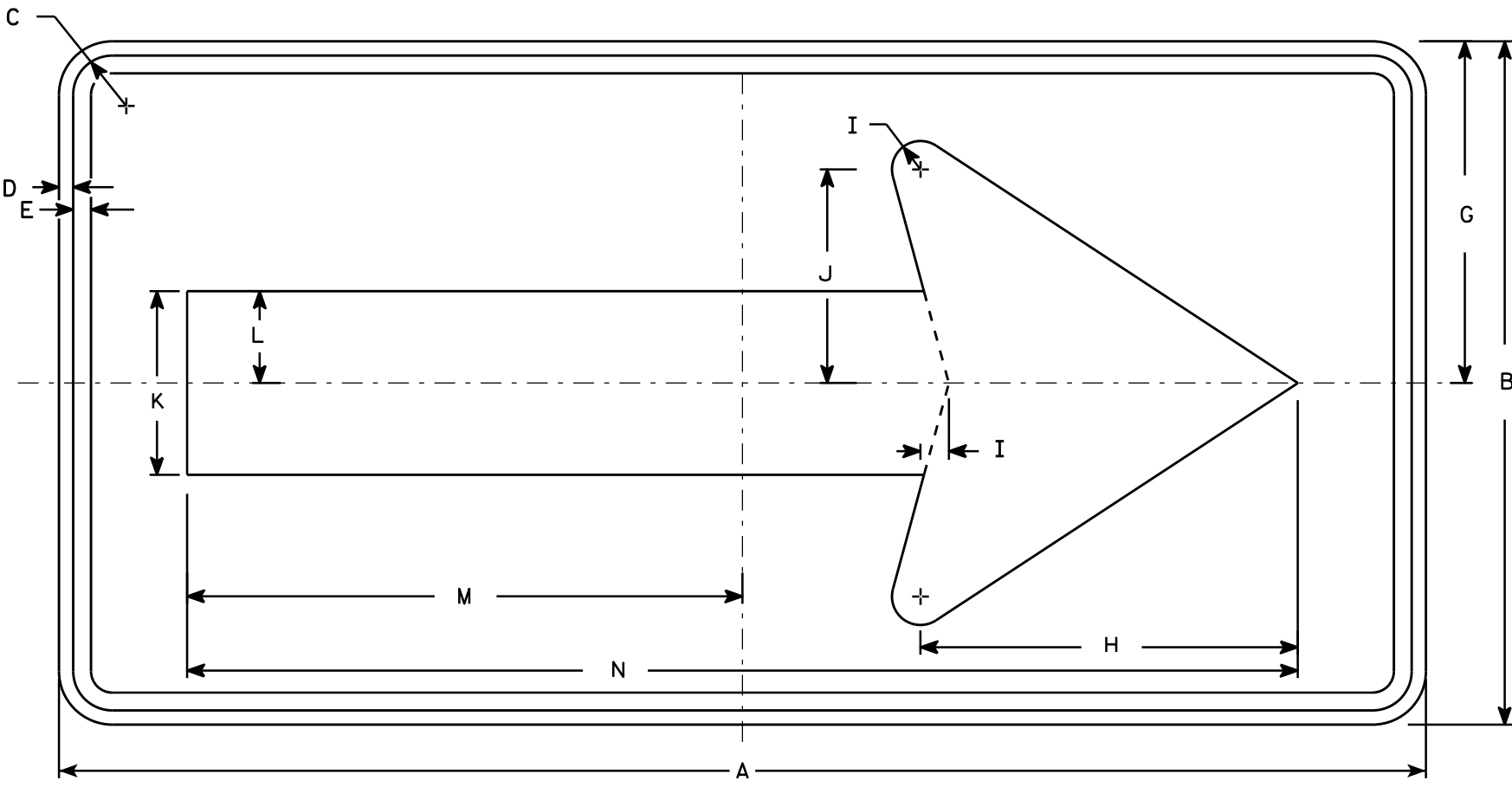
1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as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

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|------|----|---|-------|-----|-----|---|-------|---|-------|--------|-------|--------|--------|-------|--------|----|-------|-------|-------|--------|-------|-------|-------|-------|--------|-------|-----------------|
| 1 | 36 | | 1 5/8 | 5/8 | 3/4 | 5 | 2 3/8 | 6 | 3 3/4 | 10 3/8 | 2 3/8 | 8 | 13 1/2 | 7 | 8 7/8 | 9 | 1 3/8 | 1 7/8 | 5 5/8 | 10 1/8 | 2 1/2 | 1 1/8 | 4 1/2 | 3 1/2 | 10 3/4 | 1 3/4 | 9.0 |
| 2S | 48 | | 2 1/4 | 3/4 | 1 | 7 | 3 1/8 | 8 | 5 1/4 | 14 5/8 | 3 1/4 | 10 5/8 | 17 3/4 | 9 3/4 | 12 5/8 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6 | 4 5/8 | 14 3/8 | 2 3/8 | 16.0 |
| 2M | 48 | | 2 1/4 | 3/4 | 1 | 7 | 3 1/8 | 8 | 5 1/4 | 14 5/8 | 3 1/4 | 10 5/8 | 17 3/4 | 9 3/4 | 12 5/8 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6 | 4 5/8 | 14 3/8 | 2 3/8 | 16.0 |
| 3 | 48 | | 2 1/4 | 3/4 | 1 | 7 | 3 1/8 | 8 | 5 1/4 | 14 5/8 | 3 1/4 | 10 5/8 | 17 3/4 | 9 3/4 | 12 5/8 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6 | 4 5/8 | 14 3/8 | 2 3/8 | 16.0 |
| 4 | 48 | | 2 1/4 | 3/4 | 1 | 7 | 3 1/8 | 8 | 5 1/4 | 14 5/8 | 3 1/4 | 10 5/8 | 17 3/4 | 9 3/4 | 12 5/8 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6 | 4 5/8 | 14 3/8 | 2 3/8 | 16.0 |
| 5 | 48 | | 2 1/4 | 3/4 | 1 | 7 | 3 1/8 | 8 | 5 1/4 | 14 5/8 | 3 1/4 | 10 5/8 | 17 3/4 | 9 3/4 | 12 5/8 | 12 | 1 7/8 | 2 5/8 | 7 1/2 | 13 1/2 | 3 3/8 | 1 1/2 | 6 | 4 5/8 | 14 3/8 | 2 3/8 | 16.0 |

| | |
|----------------------------------|---|
| STANDARD SIGN | |
| W20-4A, B, C, D, F & G | |
| WISCONSIN DEPT OF TRANSPORTATION | |
| APPROVED | <i>Matthew R. Rauch</i> for State Traffic Engineer |
| DATE 3/18/11 | PLATE NO. W20-4.9 |

NOTES

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



W01-6

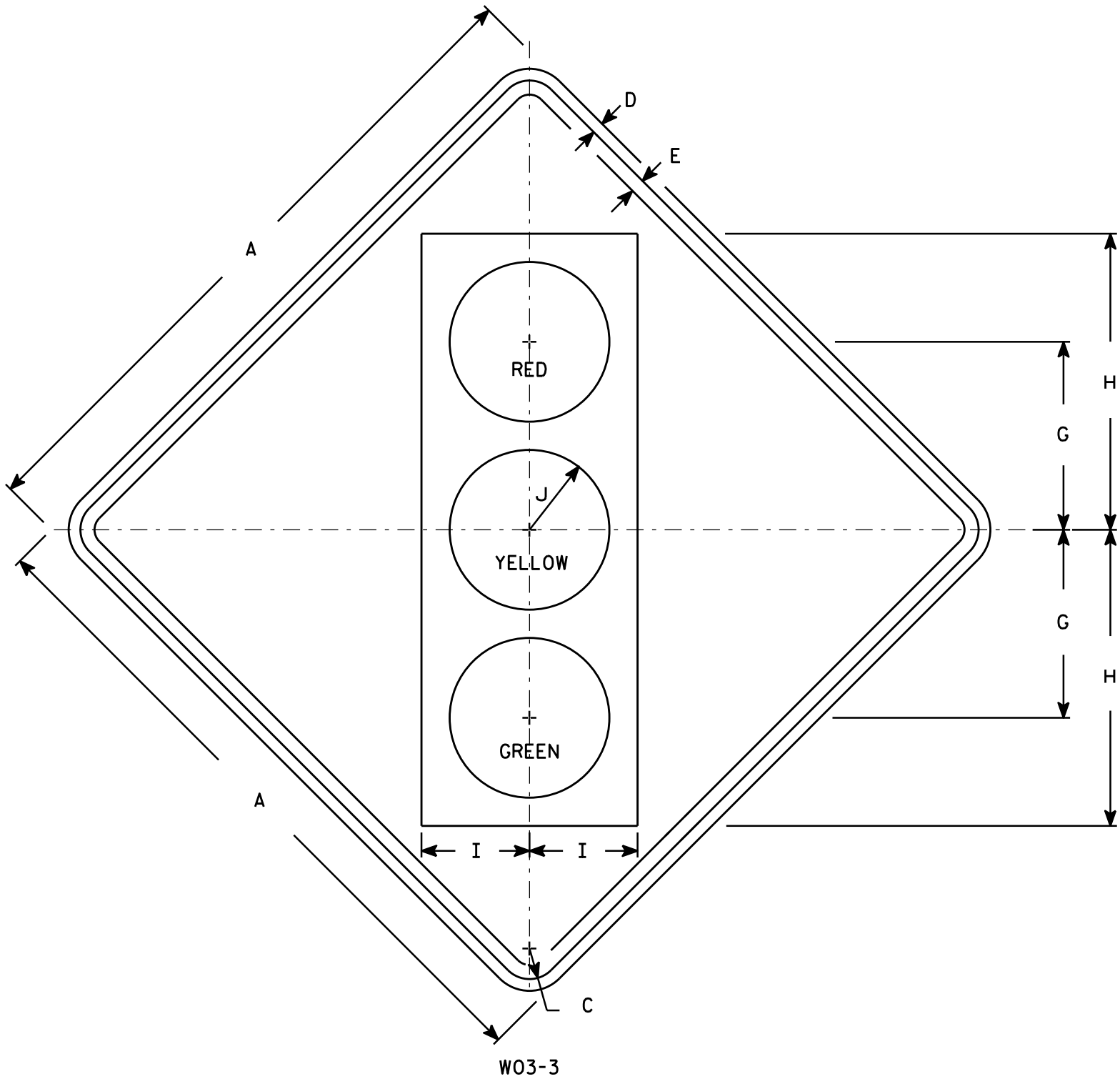
| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|------|----|----|-------|-----|-----|---|----|--------|-------|-------|-------|-------|--------|--------|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 48 | 24 | 1 3/8 | 1/2 | 5/8 | | 12 | 13 1/4 | 1 | 7 1/2 | 6 1/2 | 3 1/4 | 19 1/2 | 39 | | | | | | | | | | | | | 8.0 |
| 2M | 48 | 24 | 1 3/8 | 1/2 | 5/8 | | 12 | 13 1/4 | 1 | 7 1/2 | 6 1/2 | 3 1/4 | 19 1/2 | 39 | | | | | | | | | | | | | 8.0 |
| 3 | 60 | 30 | 1 3/8 | 1/2 | 5/8 | | 15 | 16 1/4 | 1 1/4 | 9 1/4 | 8 | 4 | 24 3/8 | 48 3/4 | | | | | | | | | | | | | 12.5 |
| 4 | 60 | 30 | 1 3/8 | 1/2 | 5/8 | | 15 | 16 1/4 | 1 1/4 | 9 1/4 | 8 | 4 | 24 3/8 | 48 3/4 | | | | | | | | | | | | | 12.5 |
| 5 | 60 | 30 | 1 3/8 | 1/2 | 5/8 | | 15 | 16 1/4 | 1 1/4 | 9 1/4 | 8 | 4 | 24 3/8 | 48 3/4 | | | | | | | | | | | | | 12.5 |

STANDARD SIGN
W01-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 11/18/13 PLATE NO. W01-6.1



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - See Note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Symbol and border are non-reflective black.
Top circle - Type H ReflectORIZED Red
Center circle - Same as background
Bottom circle - Type H ReflectORIZED Green

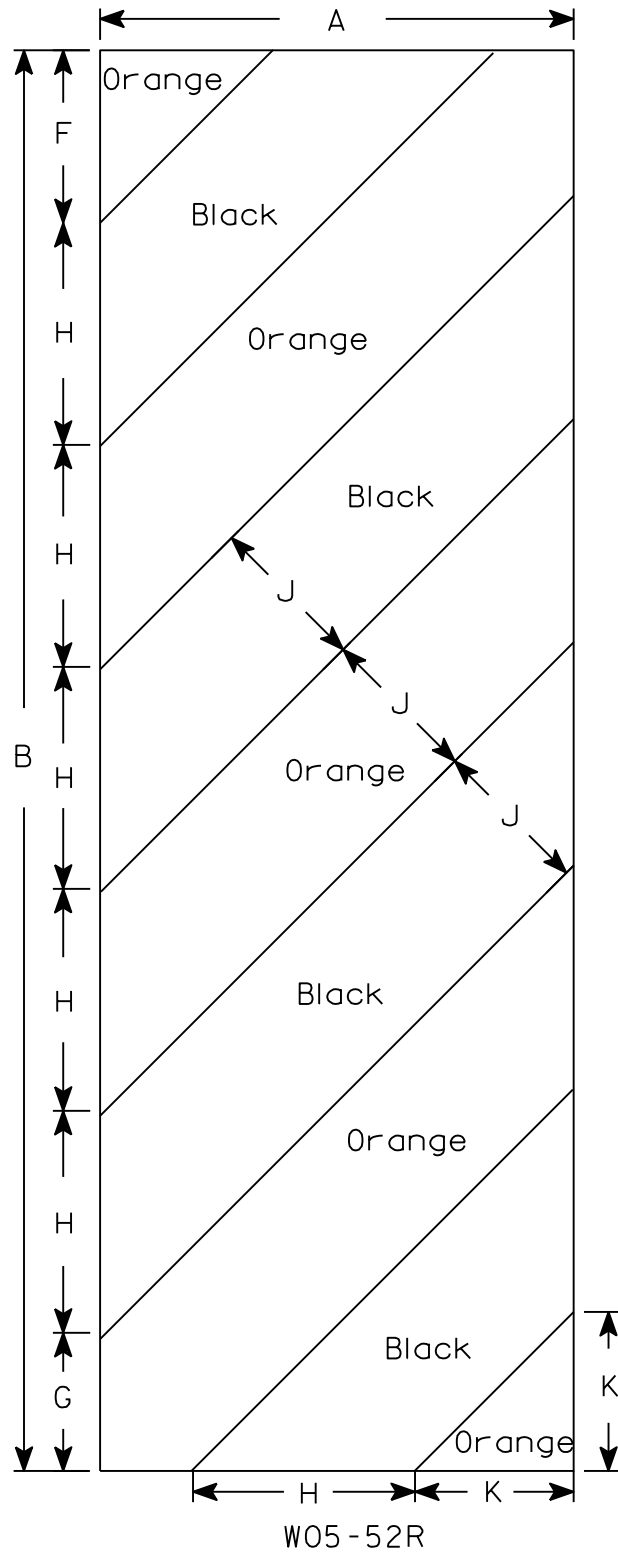
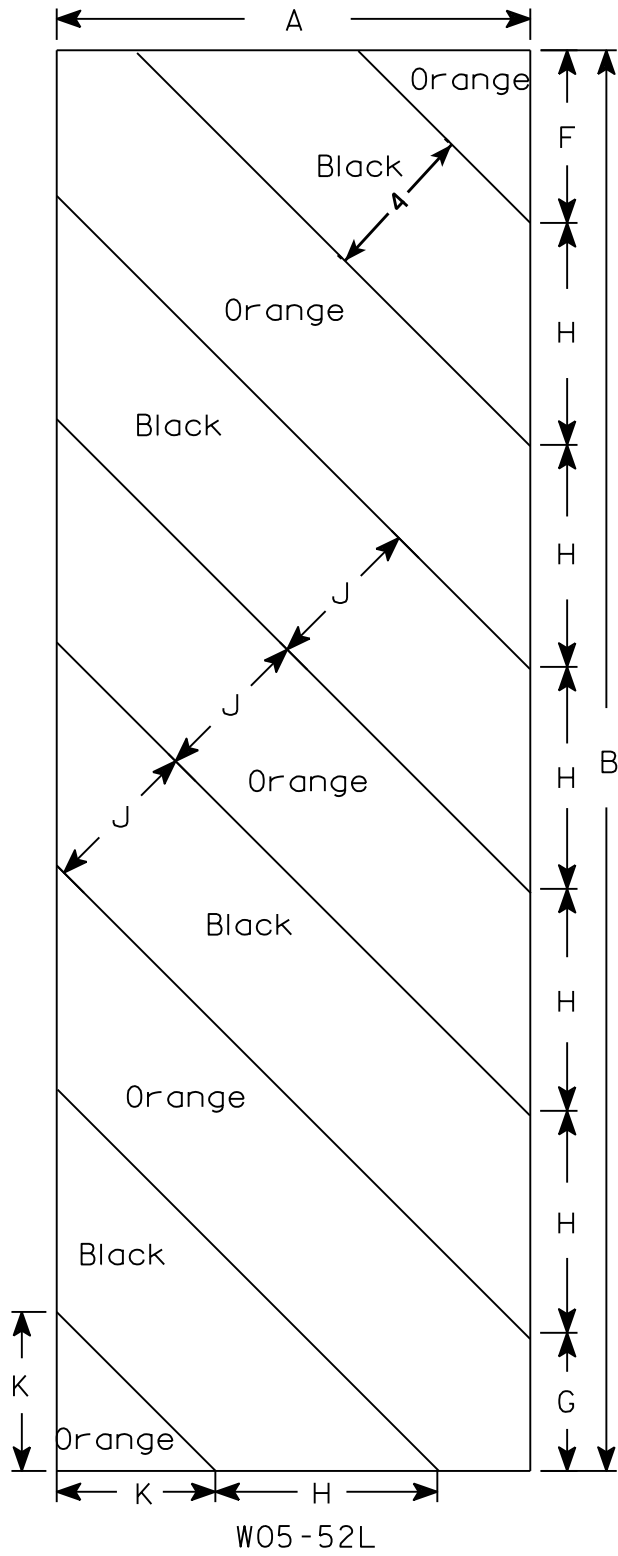
| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|------|----|---|-------|-----|-----|---|--------|--------|-------|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1 | 36 | | 1 5/8 | 5/8 | 3/4 | | 10 | 15 3/4 | 5 3/4 | 4 1/4 | | | | | | | | | | | | | | | | | 9.0 |
| 2S | 48 | | 2 1/4 | 3/4 | 1 | | 12 1/2 | 20 | 7 1/2 | 5 | | | | | | | | | | | | | | | | | 16.0 |
| 2M | 48 | | 2 1/4 | 3/4 | 1 | | 12 1/2 | 20 | 7 1/2 | 5 | | | | | | | | | | | | | | | | | 16.0 |
| 3 | 48 | | 2 1/4 | 3/4 | 1 | | 12 1/2 | 20 | 7 1/2 | 5 | | | | | | | | | | | | | | | | | 16.0 |
| 4 | 48 | | 2 1/4 | 3/4 | 1 | | 12 1/2 | 20 | 7 1/2 | 5 | | | | | | | | | | | | | | | | | 16.0 |
| 5 | 48 | | 2 1/4 | 3/4 | 1 | | 12 1/2 | 20 | 7 1/2 | 5 | | | | | | | | | | | | | | | | | 16.0 |

STANDARD SIGN
W03-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/20/13 PLATE NO. W03-3.1



NOTES

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

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

STANDARD SIGN

W05-52L & W05-52R

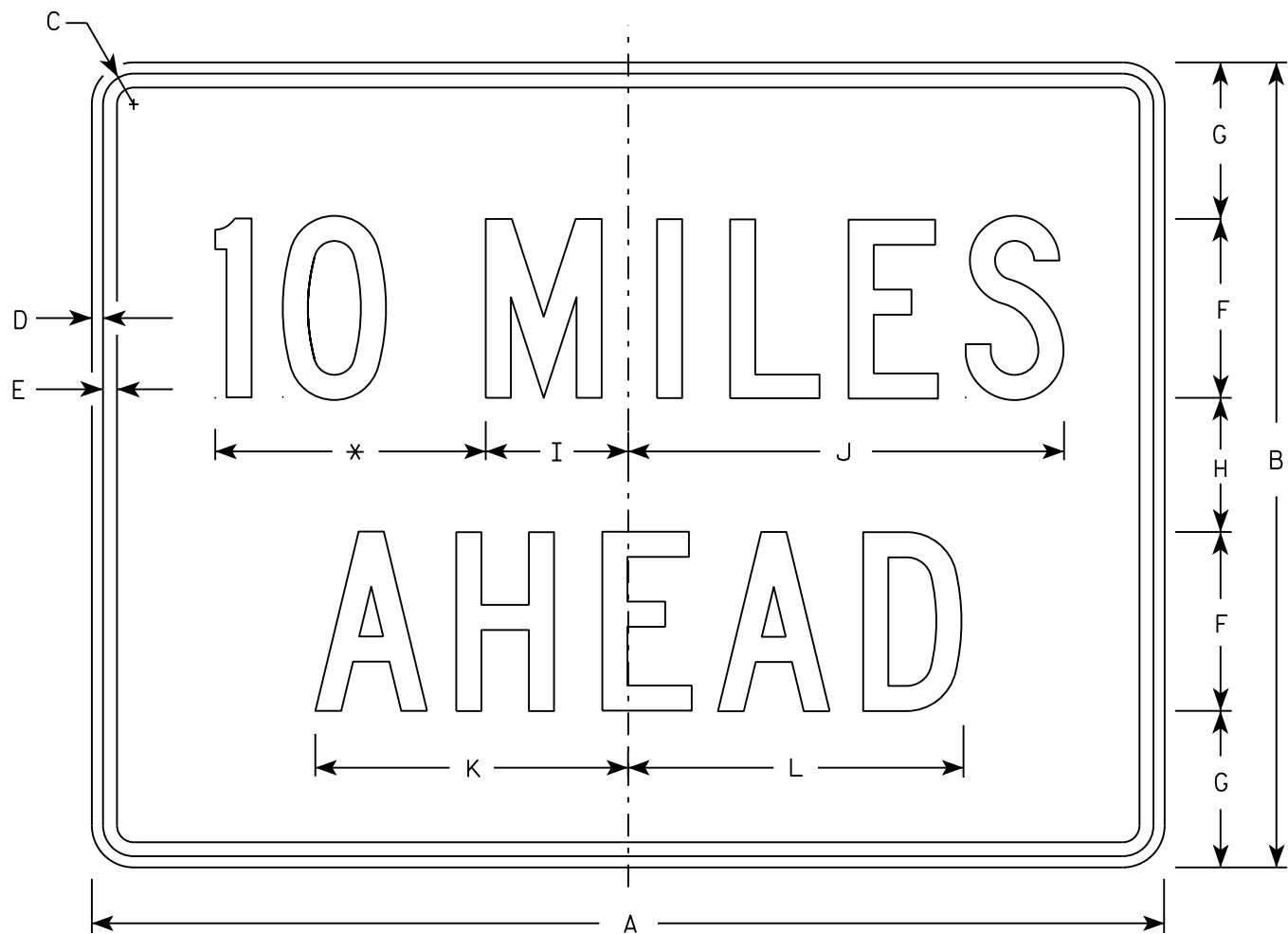
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

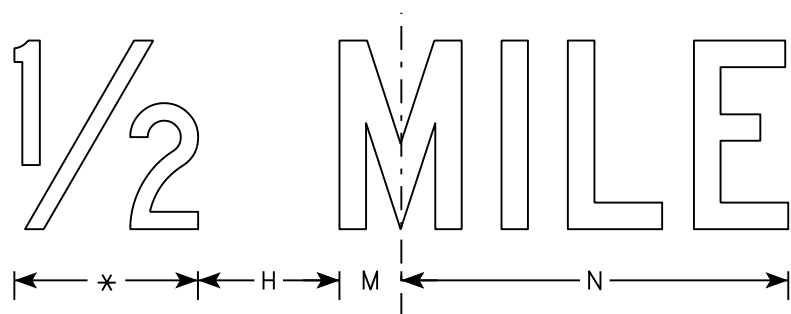
DATE 11/20/13 PLATE NO. W05-52.1

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Message Series - C
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 5. Substitute appropriate numerals to the nearest quarter mile and optically adjust spacing to achieve proper balance.



W057-52



* See note 5

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|------|----|----|-------|-----|-----|---|-------|---|-------|--------|--------|--------|-------|--------|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1 | 36 | 24 | 1 1/8 | 3/8 | 1/2 | 6 | 4 1/2 | 3 | 4 3/4 | 14 5/8 | 10 5/8 | 11 3/8 | 2 | 12 | | | | | | | | | | | | | 6.0 |
| 2S | 48 | 36 | 1 3/8 | 1/2 | 5/8 | 8 | 7 | 6 | 6 3/8 | 19 1/2 | 14 | 15 | 2 3/4 | 16 3/8 | | | | | | | | | | | | | 12.0 |
| 2M | 48 | 36 | 1 3/8 | 1/2 | 5/8 | 8 | 7 | 6 | 6 3/8 | 19 1/2 | 14 | 15 | 2 3/4 | 16 3/8 | | | | | | | | | | | | | 12.0 |
| 3 | 48 | 36 | 1 3/8 | 1/2 | 5/8 | 8 | 7 | 6 | 6 3/8 | 19 1/2 | 14 | 15 | 2 3/4 | 16 3/8 | | | | | | | | | | | | | 12.0 |
| 4 | 48 | 36 | 1 3/8 | 1/2 | 5/8 | 8 | 7 | 6 | 6 3/8 | 19 1/2 | 14 | 15 | 2 3/4 | 16 3/8 | | | | | | | | | | | | | 12.0 |
| 5 | 48 | 36 | 1 3/8 | 1/2 | 5/8 | 8 | 7 | 6 | 6 3/8 | 19 1/2 | 14 | 15 | 2 3/4 | 16 3/8 | | | | | | | | | | | | | 12.0 |

STANDARD SIGN

W057-52

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

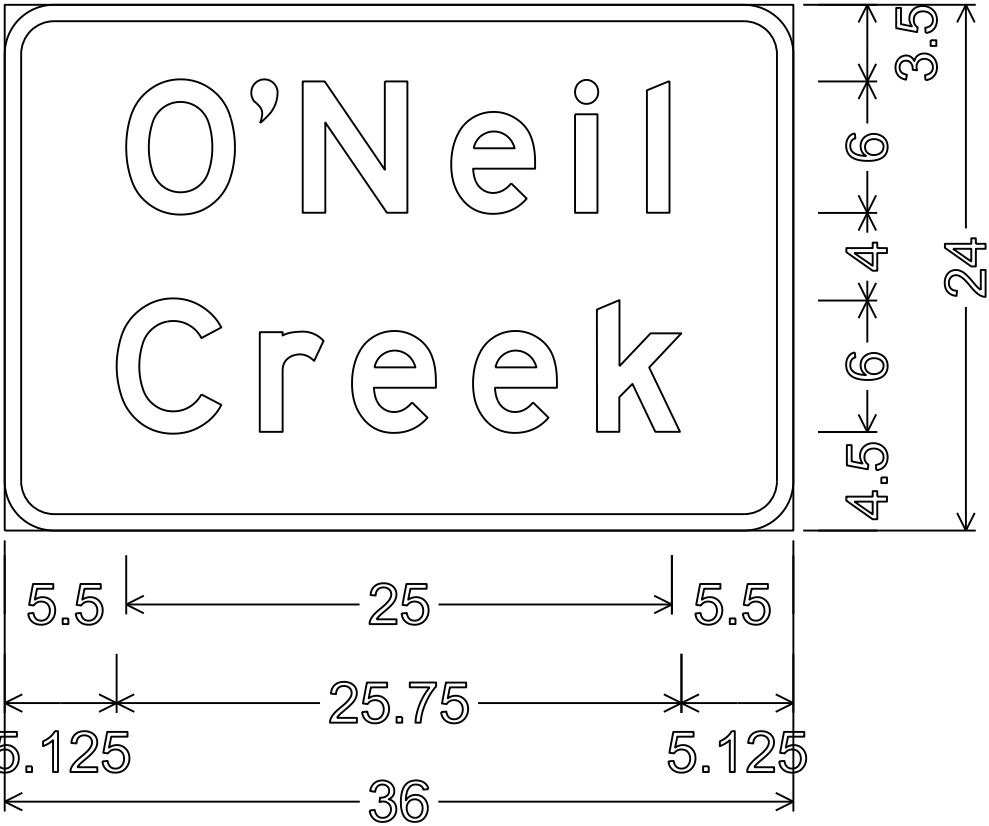
Matthew R. Rauch
for State Traffic Engineer

DATE 3/21/17

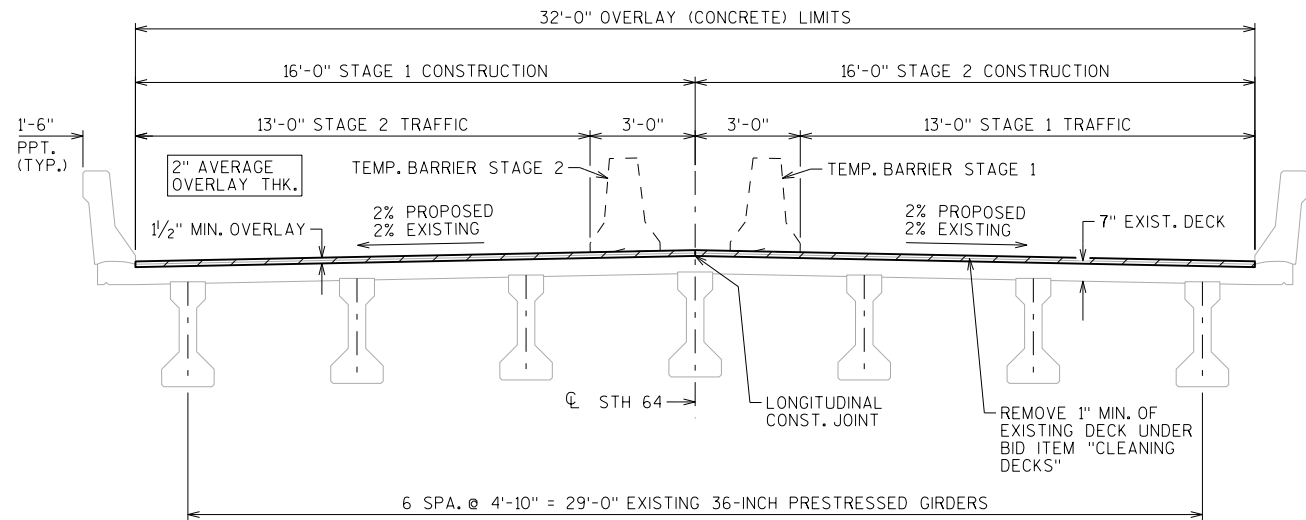
PLATE NO. W057-52.2

NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
 - Background - Green except as noted
 - Message - White
- 3. Message Series - E

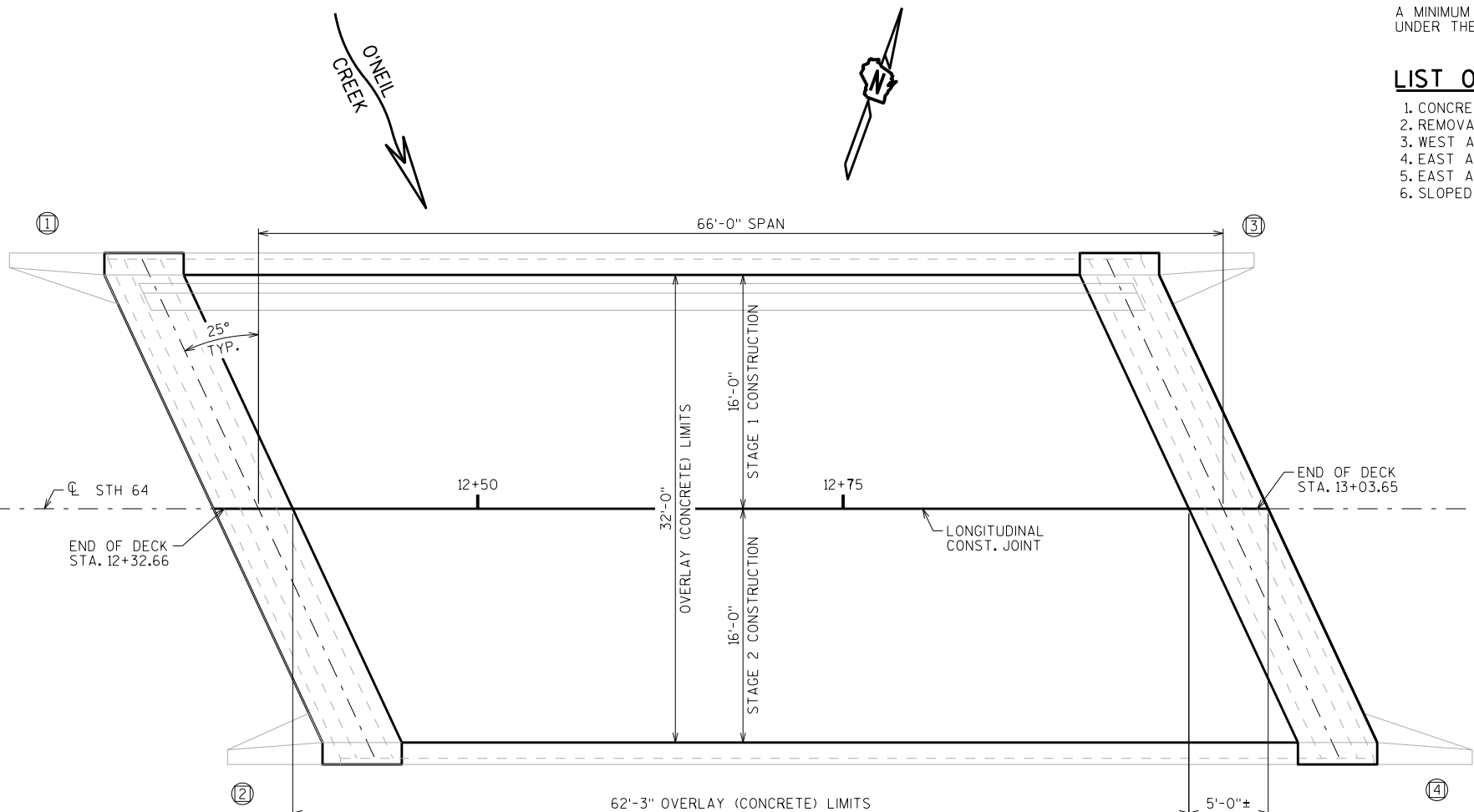
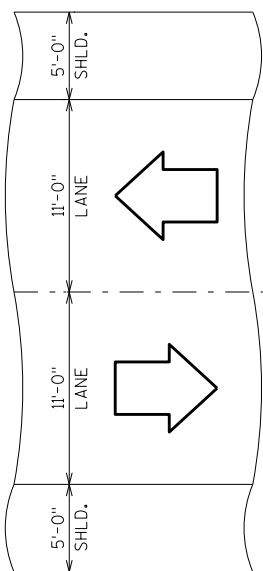


I3-1;
2.250" Radius, 0.750" Border



CROSS SECTION THRU ROADWAY
LOOKING EAST

INDICATES WING NUMBER



PLAN

DESIGN DATA

LIVE LOAD:
DESIGN LOADING: HS-20
INVENTORY RATING: HS-15
OPERATING RATING: HS-36
WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 230 (KIPS)

MATERIAL PROPERTIES:
CONCRETE MASONRY:
DECK OVERLAY 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.

TRAFFIC VOLUME

STH 64
ADT = 2,300 (2037)
R.D.S. = 60 M.P.H.


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.
- PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF NEW OVERLAY.
- PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND TOP OF NEW PARAPET SECTIONS.
- DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS. FIELD VERIFY DIMENSIONS PRIOR TO BEGINNING CONSTRUCTION OR ORDERING MATERIALS.
- PROFILE GRADE LINE SHALL BE DETERMINED IN THE FIELD BASED ON A MINIMUM OVERLAY THICKNESS OF 1/2" PLACED ABOVE THE DECK SURFACE AFTER SURFACE PREPARATION. EXPECTED AVERAGE OVERLAY THICKNESS IS 2". CONTACT THE BUREAU OF STRUCTURES BEFORE PLACEMENT OF OVERLAY IF THE AVERAGE THICKNESS OF THE NEW OVERLAY WILL EXCEED THE AVERAGE OVERLAY BY MORE THAN 1/2".
- A MINIMUM OF 1-INCH OF CONCRETE SHALL BE REMOVED FROM THE ENTIRE BRIDGE DECK UNDER THE BID ITEM "CLEANING DECKS".

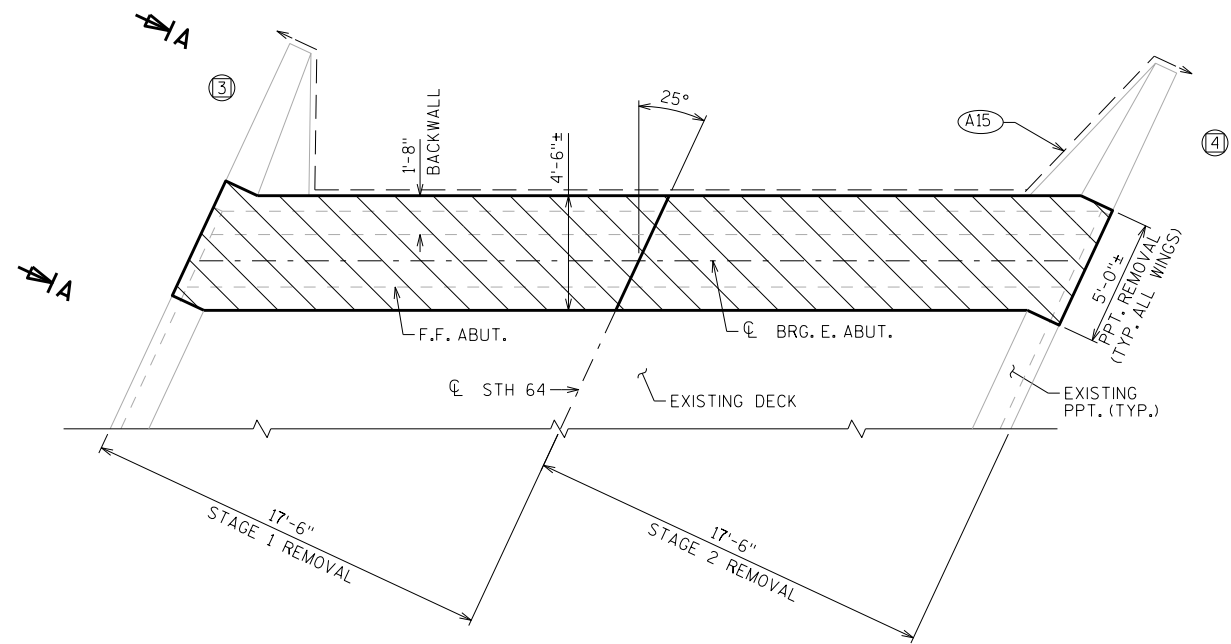
LIST OF DRAWINGS

1. CONCRETE OVERLAY
2. REMOVAL LIMITS & QUANTITIES
3. WEST ABUTMENT DIAPHRAGM DETAILS
4. EAST ABUTMENT BEARING MODIFICATIONS
5. EAST ABUTMENT DIAPHRAGM DETAILS
6. SLOPED FACE PARAPET "B"

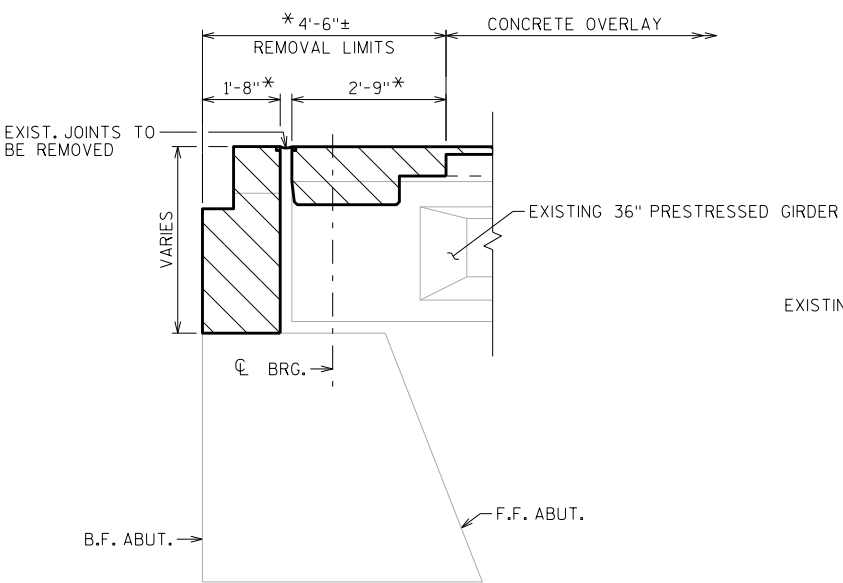
STRUCTURE DESIGN CONTACTS:
MICAH BROOKS (608) 266-5080
LAURA SHADEWALD (608) 267-9592

| | | | |
|---|----------|----------------------------------|-------------|
| NO. | DATE | REVISION | BY |
|  BUREAU OF STRUCTURES | | | |
| ACCEPTED | | CHIEF STRUCTURES DESIGN ENGINEER | |
| DESIGNED BY | | DESIGNED CK'D. | DRAWN BY |
| MWB | | DMB | MWB |
| REHABILITATION N/A | | PLANS CK'D. | |
| STRUCTURE B-9-16 | | DATE | |
| STH 64 OVER O'NEIL CREEK | | | |
| COUNTY | CHIPPEWA | TOWN | EAGLE POINT |
| DESIGN SPEC. | | | |
| REHABILITATION N/A | | | |
| CONCRETE OVERLAY | | | |
| SHEET 1 OF | | 6 | |

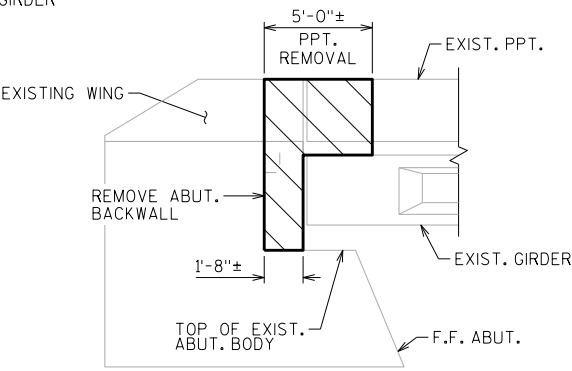
SCALE = 5.33



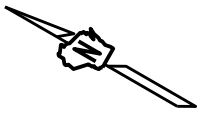
REMOVAL PLAN - EAST ABUTMENT



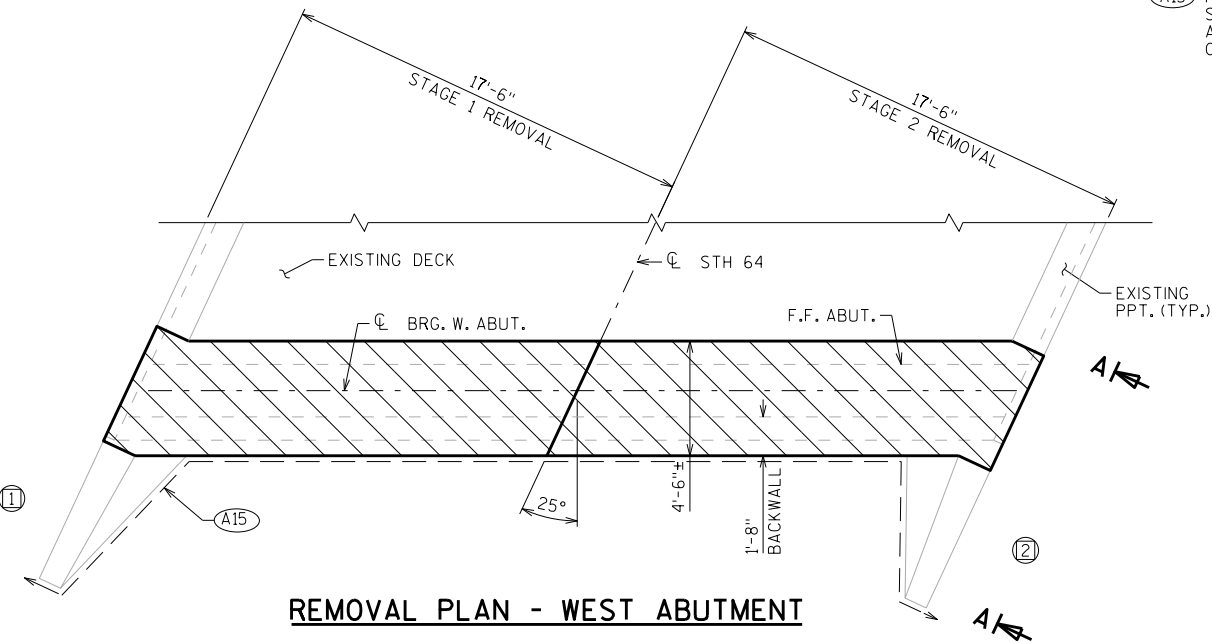
BACKWALL & JOINT REMOVAL SECTION
TYP. BOTH ABUTMENTS



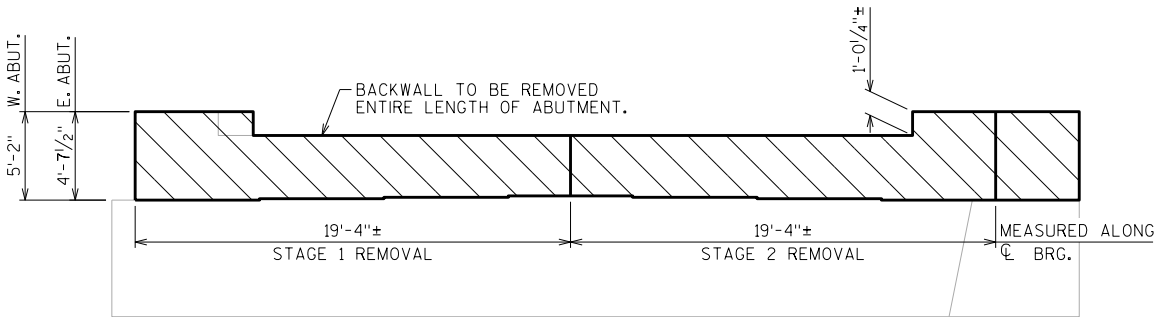
VIEW A
TYP. ALL WINGS



- Ⓢ INDICATES WING NUMBER
- ▨ INDICATES REMOVAL LIMITS
- * MEASURED NORMAL TO CL BRG.
- (A15) PIPE UNDERDRAIN WRAPPED 6-INCH, SLOPE 0.5% TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.



REMOVAL PLAN - WEST ABUTMENT

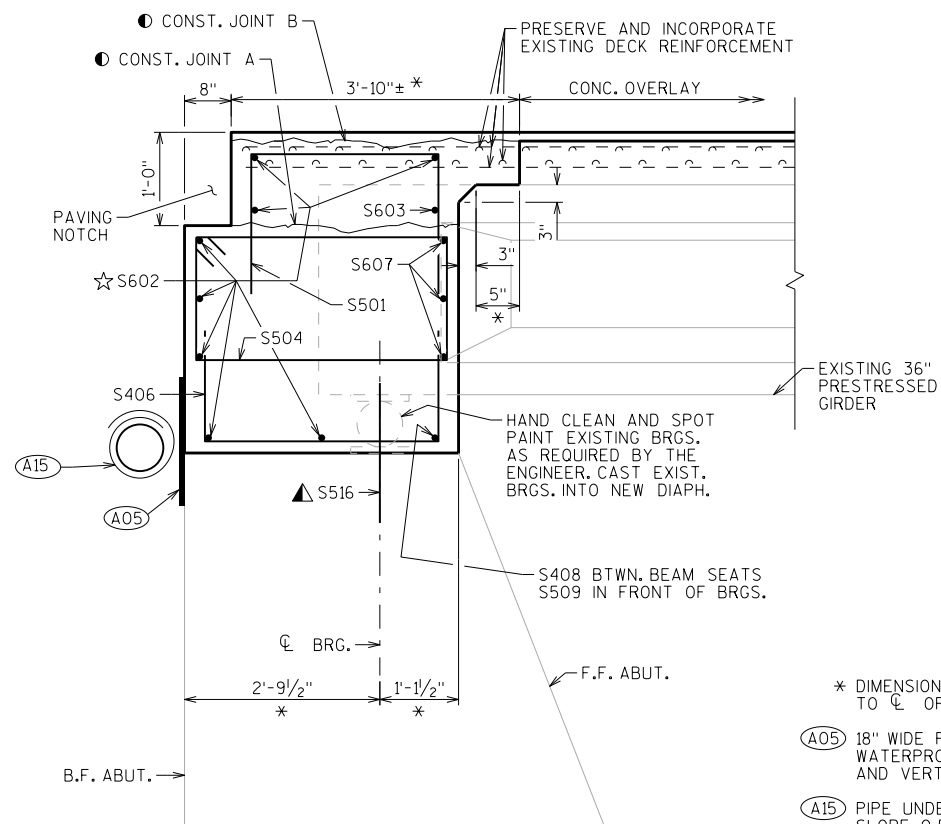


BACKWALL REMOVAL ELEVATION
TYP. BOTH ABUTMENTS

TOTAL ESTIMATED QUANTITIES

| BID ITEM NUMBER | BID ITEMS | UNIT | TOTALS |
|-----------------|---|------|--------|
| 203.0600.S | REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 12+68 | LS | 1 |
| 206.1000 | EXCAVATION FOR STRUCTURES BRIDGES B-9-16 | LS | 1 |
| 502.0100 | CONCRETE MASONRY BRIDGES | CY | 45 |
| 502.3200 | PROTECTIVE SURFACE TREATMENT | SY | 222 |
| 502.3210 | PIGMENTED SURFACE SEALER | SY | 8 |
| 502.4205 | ADHESIVE ANCHORS NO. 5 BAR | EACH | 24 |
| 505.0600 | BAR STEEL REINFORCEMENT HS COATED STRUCTURES | LB | 3,740 |
| 505.0906 | BAR COUPLERS NO. 6 | EACH | 16 |
| 506.2605 | BEARING PADS ELASTOMERIC NON-LAMINATED | EACH | 7 |
| 506.7050.S | REMOVING BEARINGS B-9-16 | EACH | 7 |
| 509.0500 | CLEANING DECKS | SY | 222 |
| 509.2500 | CONCRETE MASONRY OVERLAY DECKS | CY | 13 |
| 516.0500 | RUBBERIZED MEMBRANE WATERPROOFING | SY | 15 |
| 612.0406 | PIPE UNDERDRAIN WRAPPED 6-INCH | LF | 150 |

| | | | |
|---|------|----------|-----------------|
| NO. | DATE | REVISION | BY |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION | | | |
| STRUCTURE B-9-16 | | | |
| DRAWN BY | | MWB | PLANS CK'D. DMB |
| REMOVAL LIMITS & QUANTITIES | | SHEET 2 | |



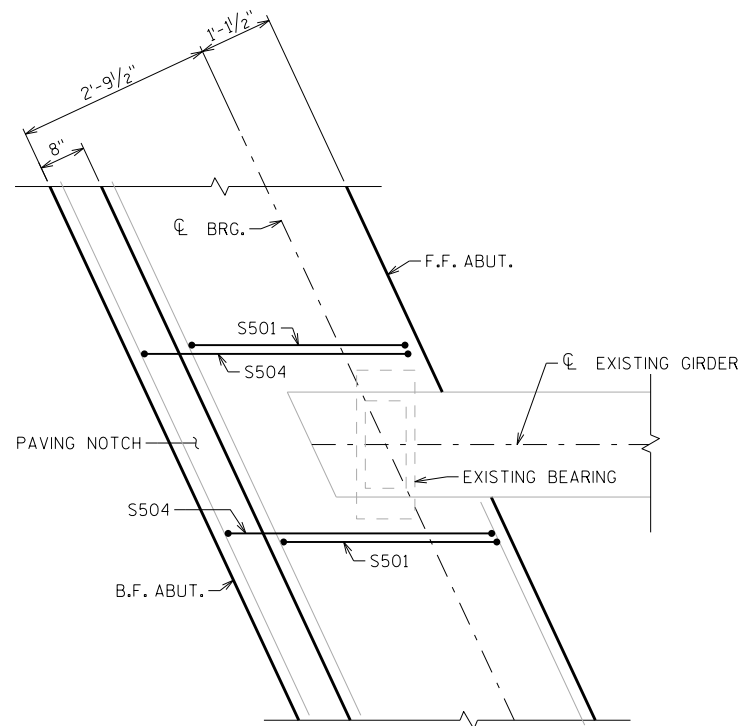
SECTION THRU WEST ABUTMENT DIAPHRAGM

* DIMENSION MEASURED NORMAL TO ϕ OF SUBSTRUCTURE

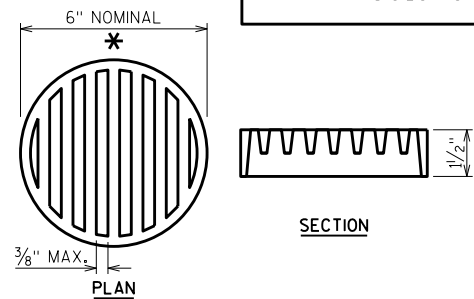
(A05) 18" WIDE RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS AT BACK FACE.

(A15) PIPE UNDERDRAIN WRAPPED 6-INCH, SLOPE 0.5% TO SUITABLE DRAINAGE. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN.

● EITHER CONSTRUCTION JOINT A OR CONSTRUCTION JOINT B IS REQUIRED. CHOICE OF JOINT IS AT THE DISCRETION OF THE CONTRACTOR.



WEST ABUTMENT DIAPHRAGM PLAN

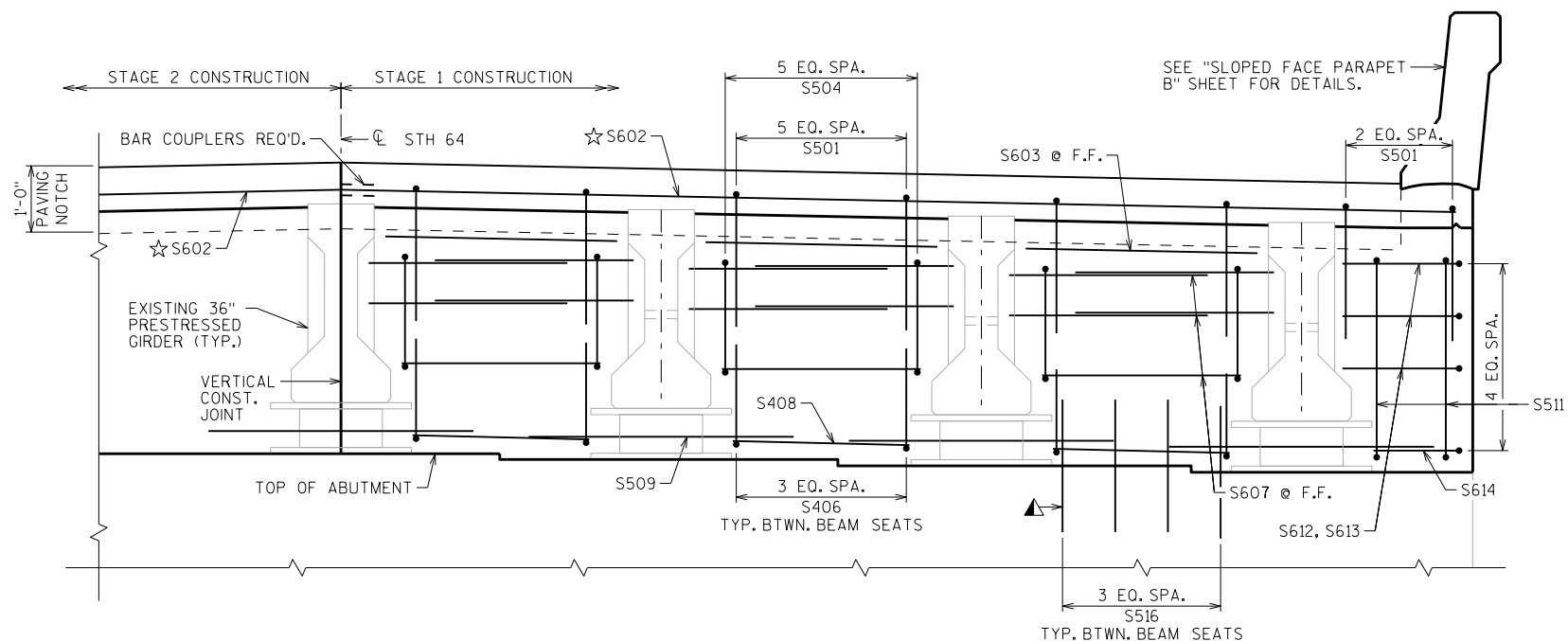


RODENT SHIELD DETAIL

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

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

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



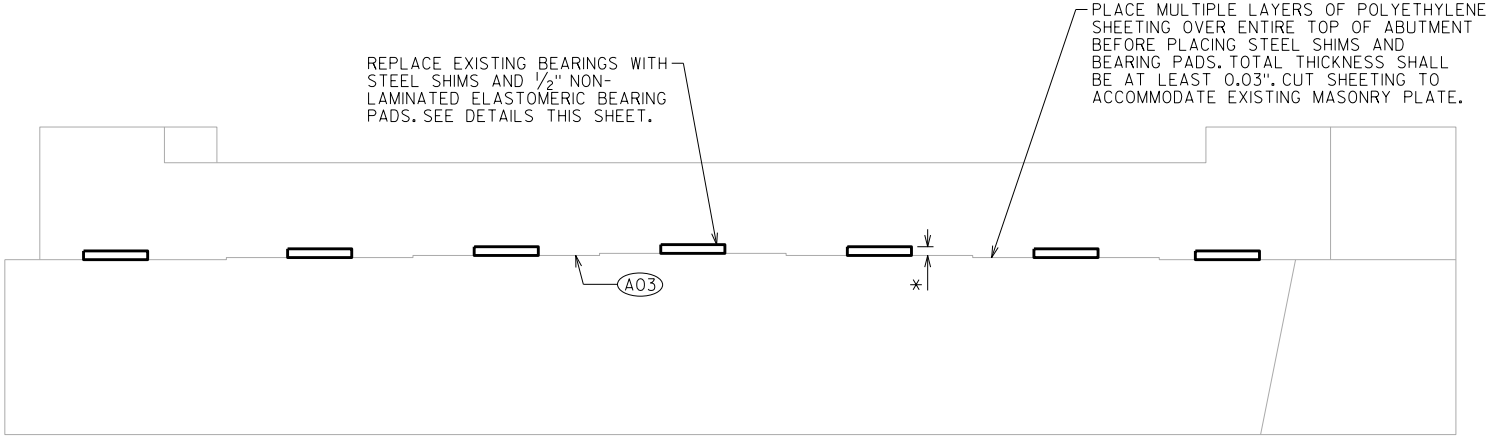
WEST ABUTMENT DIAPHRAGM DETAILS

(LOOKING WEST)

☆ BAR COUPLERS REQUIRED IN STAGE 1 CONSTRUCTION. BAR LENGTH SHOWN IS TO VERTICAL CONSTRUCTION JOINT. ADJUST AS REQUIRED BY MANUFACTURER'S INSTRUCTIONS TO ACCOMMODATE BAR COUPLERS.

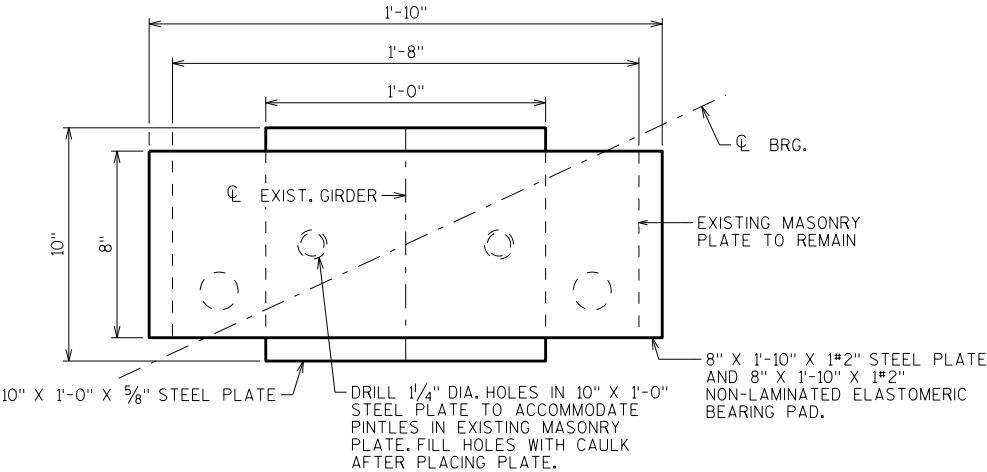
▲ ADHESIVE ANCHORS NO. 5 BAR. EMBED 1'-0" INTO EXISTING CONCRETE BETWEEN GIRDERS.

| NO. | DATE | REVISION | BY |
|---|------|----------|-----------------|
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION | | | |
| STRUCTURE B-9-16 | | | |
| DRAWN BY | | MWB | PLANS CK'D. DMB |
| WEST ABUTMENT DIAPHRAGM DETAILS | | SHEET 3 | |

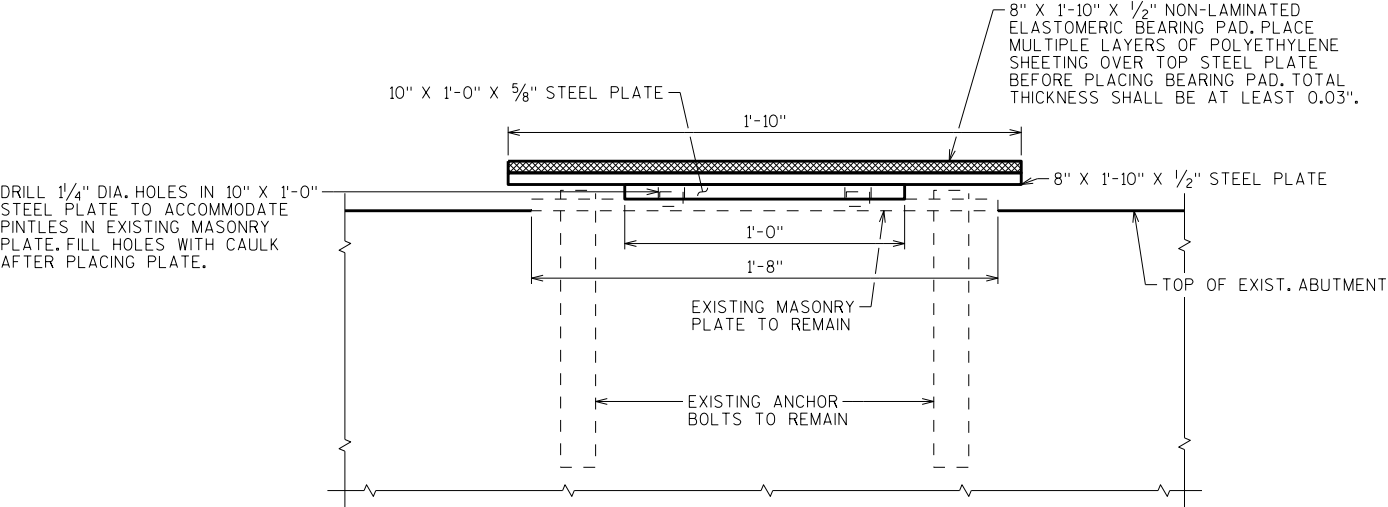


* PLACE ONE 10" X 1'-0" X 5/8" STEEL PLATE AND ONE 8" X 1'-10" X 1/2" STEEL PLATE ON EXISTING MASONRY PLATE. PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETING OVER TOP STEEL PLATE BEFORE PLACING BEARING PAD. TOTAL THICKNESS SHALL BE AT LEAST 0.03".

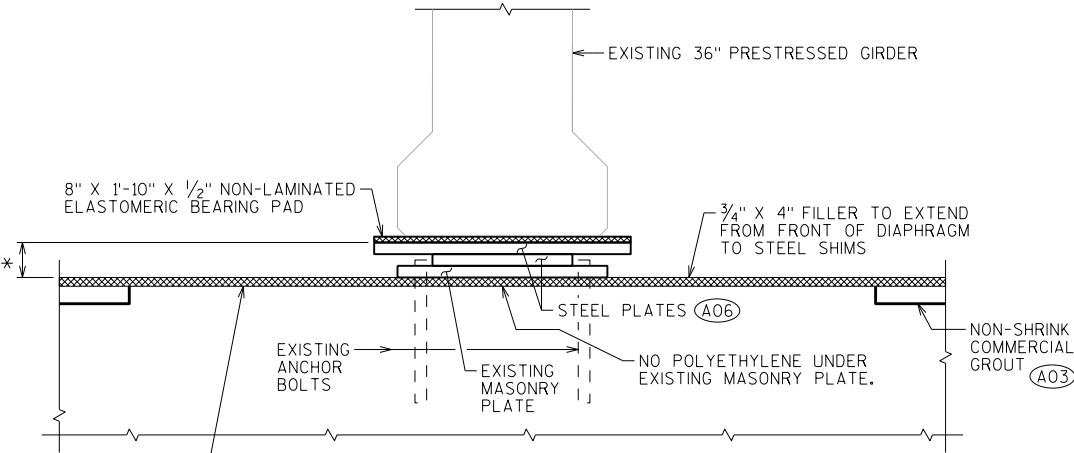
MODIFIED ELEVATION - EAST ABUTMENT



NEW BEARING PLAN DETAIL



NEW BEARING ELEVATION DETAIL



PLACE MULTIPLE LAYERS OF POLYETHYLENE SHEETING OVER ENTIRE TOP OF ABUTMENT BEFORE PLACING STEEL SHIMS AND BEARING PADS. TOTAL THICKNESS SHALL BE AT LEAST 0.03". CUT SHEETING TO FIT AROUND EXISTING MASONRY PLATE.

MODIFIED BEARING ELEVATION

- (A03) PLACE A DEPARTMENT APPROVED NON-SHRINK COMMERCIAL GROUT OVER THE WIDTH OF THE ABUTMENT TOP BETWEEN EXISTING BEAM SEATS PRIOR TO PLACING POLYETHYLENE SHEETS. PLACE GROUT AS REQUIRED TO PRODUCE A SMOOTH SLIDING SURFACE FREE OF PROTRUSIONS. REMOVE DELAMINATED OR LOOSE CONCRETE AND CLEAN THE SURFACE PRIOR TO PLACING GROUT. ADDITIONAL SURFACE PREPARATION MAY BE REQUIRED PER THE MANUFACTURER'S INSTRUCTIONS. MIX, PLACE, AND CURE GROUT PER THE MANUFACTURER'S RECOMMENDATIONS AND AS DIRECTED BY THE ENGINEER. DO NOT APPLY LOADS TO THE GROUT UNTIL A MINIMUM COMPRESSIVE STRENGTH OF 3,500 P.S.I. IS ACHIEVED. NON-SHRINK COMMERCIAL GROUT AND SURFACE PREPARATION ARE INCLUDED WITH THE BID ITEM "CONCRETE MASONRY BRIDGES".
- (A06) STEEL PLATES SHALL BE ASTM A709 GRADE 50. PLATES SHALL BE CONNECTED USING (2) - 1/2" ϕ PINTLES OR OTHER ENGINEER APPROVED METHOD. STEEL PINTLES SHALL CONFORM TO ASTM A449 OR MATERIALS OF EQUIVALENT YIELD STRENGTH AND ELONGATION. STEEL PLATES ARE INCLUDED WITH BID ITEM "BEARING PADS ELASTOMERIC NON-LAMINATED".

| | | | |
|---|------|----------|-----------------|
| NO. | DATE | REVISION | BY |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION | | | |
| STRUCTURE B-9-16 | | | |
| DRAWN BY | | MWB | PLANS CK'D. DMB |
| EAST ABUTMENT BEARING MODIFICATIONS | | SHEET 4 | |

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

☆ BAR COUPLERS REQUIRED IN STAGE 1 CONSTRUCTION. BAR LENGTH SHOWN IS TO VERTICAL CONSTRUCTION JOINT. ADJUST AS REQUIRED BY MANUFACTURER'S INSTRUCTIONS TO ACCOMMODATE BAR COUPLERS.

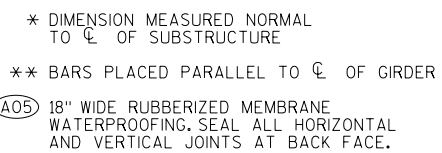
The diagram shows a bent pipe with a horizontal run of 4'-0" and a vertical rise of 1'-3". The bend angle is 15°. The second leg of the pipe is 2'-0" long. At the end of the second leg, there is an offset of 11" from the vertical line.

A diagram of a bent pipe with the following dimensions: a 2" radius for the first bend, a 16° angle for the first bend, a vertical height of 1'-5" for the first section, a length of 1'-8 1/2" for the second section, and a 28° angle for the second bend.

Diagram of a bent pipe with dimensions: 2'-0" for the angled section, 205° for the bend angle, 11" for the vertical offset, and 4'-0" for the horizontal offset.

Diagram of a bent plate with dimensions: 4'-0" horizontal length, 1'-0" vertical height, 2'-0" inclined length at 15 degrees, and 1/4" thickness.

| | | | |
|---|------|-------------|---------------------------|
| | | | |
| NO. | DATE | REVISION | BY |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION | | | |
| STRUCTURE B-9-16 | | | |
| | | DRAWN BY | PLANS CK'D. DMB |
| EAST ABUTMENT DIAPHRAGM DETAILS | | SHEET 5 | |



● EITHER CONSTRUCTION JOINT A OR CONSTRUCTION JOINT B IS REQUIRED. CHOICE OF JOINT IS AT THE DISCRETION OF THE CONTRACTOR.



Diagram showing a wall section with dimensions and labels:

- Vertical dimension: 2'-0"
- Vertical dimension: 1'-6"
- Horizontal dimension: 3'-3"
- Horizontal dimension: 4'-0"
- Labels: S501, S405

Diagram showing a vertical break in a wall. The wall is divided into two sections. The left section is labeled S504 and has a height of 1'-9". The right section is labeled S510 and has a height of 2'-7". The wall is 4'-0" wide. The break is indicated by two parallel diagonal lines.

A diagram showing a rectangular area. The vertical dimension on the left is labeled 2'-0". The horizontal dimension on the top is labeled 4'-0".

Diagram of a bent pipe with dimensions: horizontal run 4'-0", vertical rise 1'-3", and a 15° bend angle. The second leg is 2'-0" long and has a 11" offset at the end.

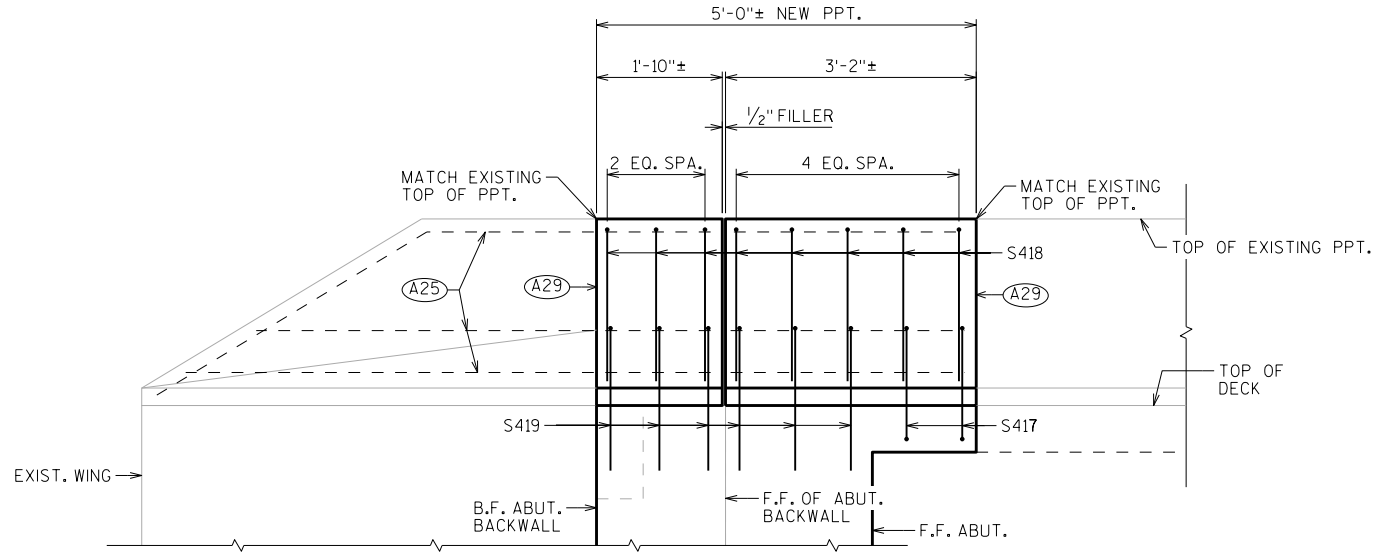
A diagram of a bent pipe with the following dimensions: a 2" radius (R) for the first bend, an angle of 16° between the first and second pipe segments, a vertical height of 1'-5" for the first segment, a vertical height of 1'-8 1/2" for the second segment, and an angle of 28° between the second and third pipe segments.

Diagram of a bent pipe with dimensions: 2'-0" for the angled section, 205° for the bend angle, 11" for the vertical offset, and 4'-0" for the horizontal offset.

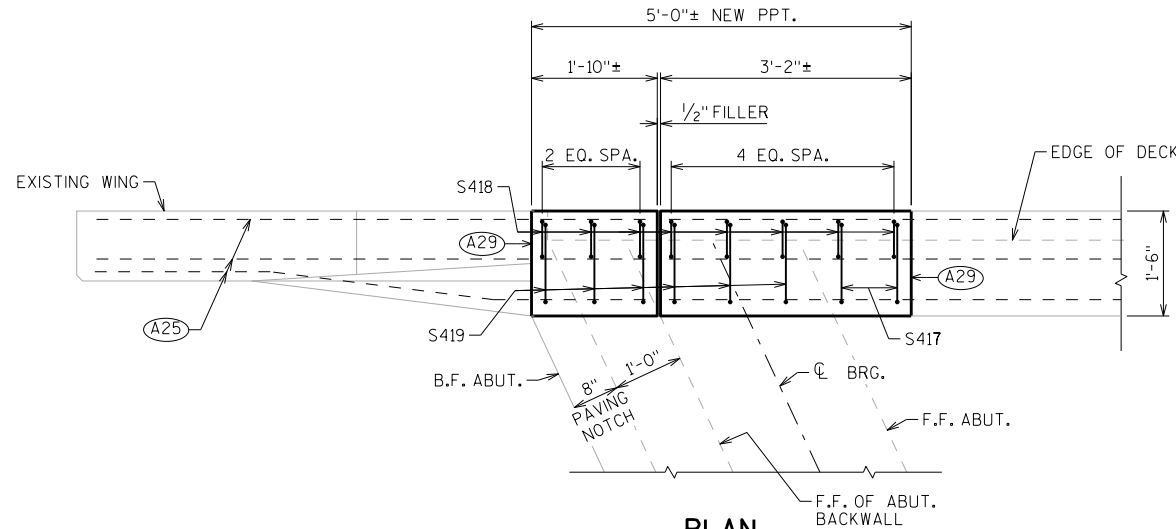
Diagram of a bent plate with dimensions: 4'-0" horizontal length, 1'-0" vertical height, 2'-0" inclined length at 15 degrees, and 1/4" thickness.

| | | | |
|---|------|-------------|---------------------------|
| | | | |
| NO. | DATE | REVISION | BY |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION | | | |
| STRUCTURE B-9-16 | | | |
| | | DRAWN BY | PLANS CK'D. DMB |
| EAST ABUTMENT DIAPHRAGM DETAILS | | SHEET 5 | |

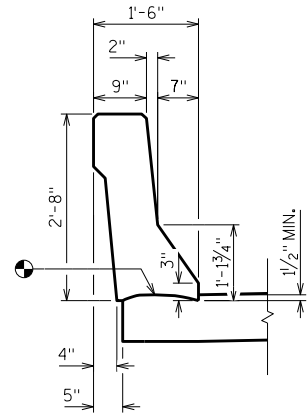




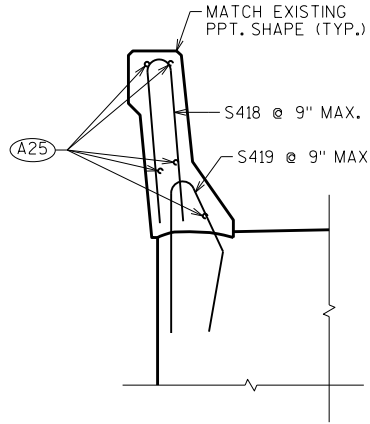
ELEVATION
TYP. ALL WINGS



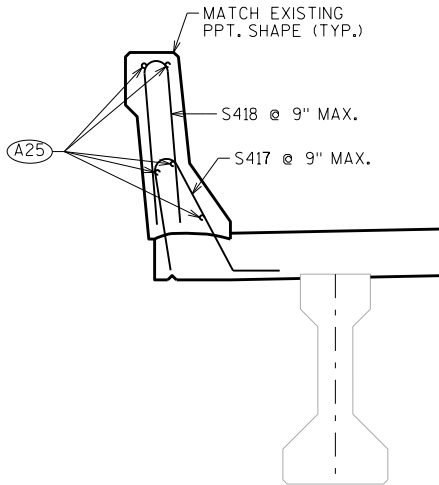
PLAN
TYP. ALL WINGS



PARAPET DETAILS
MATCH EXISTING PPT. SECTION



SECTION THRU PARAPET AT DIAPHRAGM



SECTION THRU PARAPET ON DECK

- CONSTRUCTION JOINT, STRIKE OFF AND LEAVE ROUGH AS SHOWN.
- A25 SALVAGE EXIST. REINF. & EXTEND FULL LENGTH INTO NEW WORK. TRIM REBAR AS NECESSARY TO ACCOMMODATE NEW CONSTRUCTION.
- A29 ROUGHEN SURFACE OF CONCRETE 1/4" DEEP MINIMUM AT ALL AREAS OF NEW TO EXISTING CONCRETE CONTACT.

| | | | |
|---|------|----------|----------------|
| NO. | DATE | REVISION | BY |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION | | | |
| STRUCTURE B-9-16 | | | |
| DRAWN BY | | MWB | PLANS CKD. DMB |
| SLOPED FACE PARAPET "B" | | SHEET 6 | |

8610-07-73

LIVE LOAD:

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

MATERIAL PROPERTIES:

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

FEATURE ON

ADT = 4,400 (2037)
R.D.S. = 60 M.P.H.

Diagram illustrating the cross-section of a bridge deck with dimensions and construction details:

- Overall width: 37'-10 1/2" EDGE TO EDGE OF EXISTING DECK
- Deck width (excluding rail): 18'-11 1/4"
- Deck thickness: 7 1/2"
- Deck slope: 2.0% (both sides)
- Centerline: CL STH 124
- Abutment wing width: 1'-0" ±
- Abutment wing height: 4 1/4"
- Construction notes:
 - REMOVE EXISTING 7 1/2" DECK
 - REMOVE EXISTING 'W' RAIL
 - REMOVE CORNER OF EXISTING ABUTMENT WINGS TO LIMITS SHOWN (TYP. BOTH SIDES). SEE DETAIL A.
 - EXISTING SHEAR STIRRUPS TO REMAIN (TYP.)

SHOWING REMOVAL LIMITS

⊖ INDICATES WING NUMBER

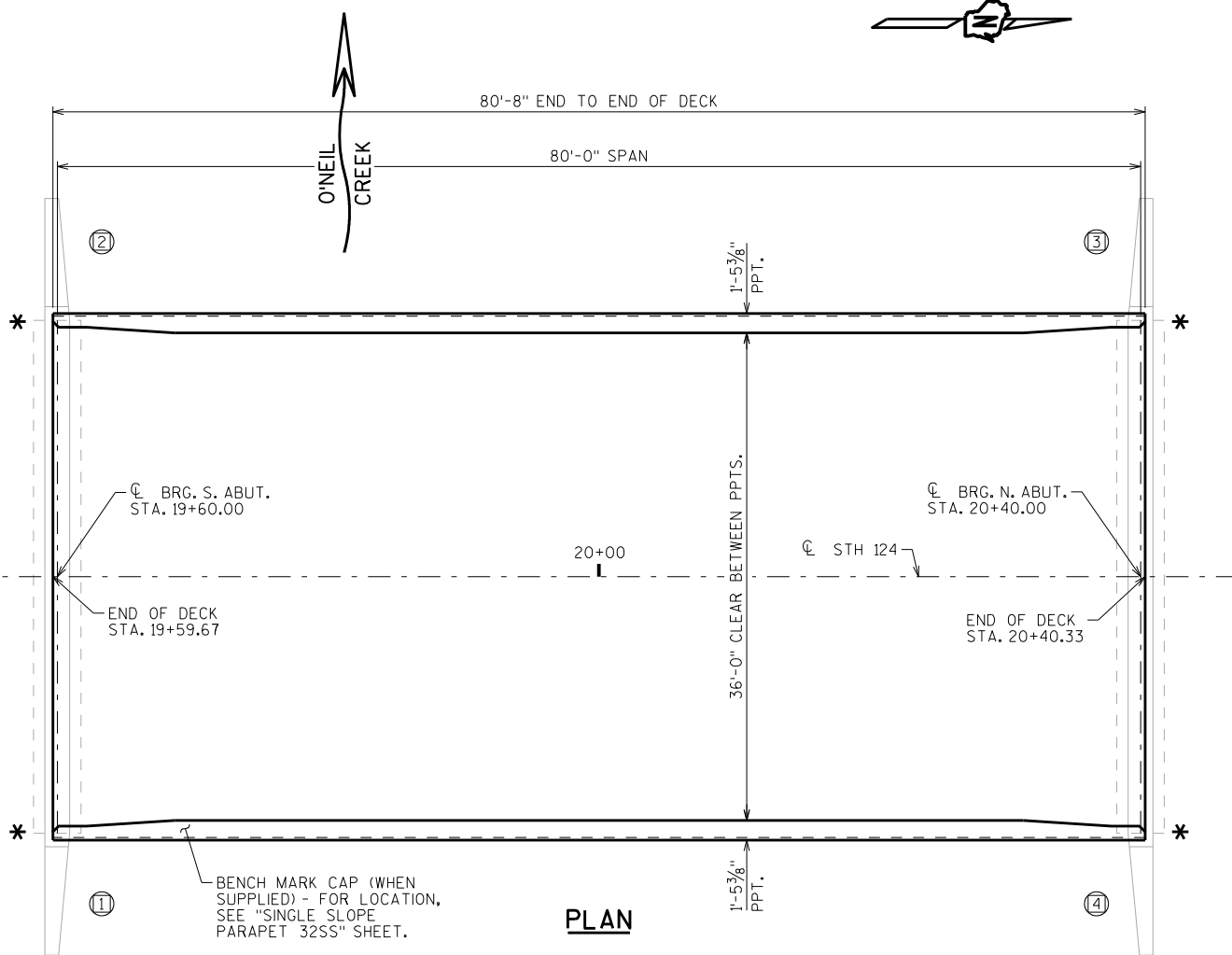
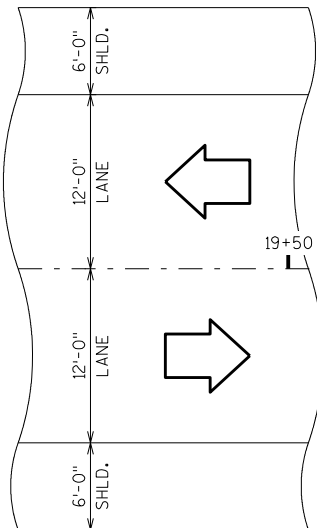


Diagram illustrating the cross-section of a bridge deck repair, showing the removal of an abutment diaphragm and the placement of a new deck.


Labels and Dimensions:

- TOP OF EXISTING DECK
- TOP OF NEW DECK
- EXIST. WING
- NEW DECK
- EXIST. DECK
- BURN OFF ALL STEEL REINFORCEMENT EXPOSED BY CONCRETE REMOVAL. COAT EXPOSED ENDS WITH EPOXY BEFORE PLACING FILLER.
- 1'-0"
- 1/2" FILLER
- 4 1/4"
- ABUTMENT DIAPHRAGM REMOVAL LIMIT. SEE "SUPERSTRUCTURE DETAILS" SHEET FOR DETAILS.

1. DECK REPLACEMENT
2. CROSS SECTION & QUANTITIES
3. SUPERSTRUCTURE CROSS SECTION
4. SUPERSTRUCTURE PLAN
5. SUPERSTRUCTURE DETAILS
6. SINGLE SLOPE PARAPET 32SS

STRUCTURE DESIGN CONTACTS:

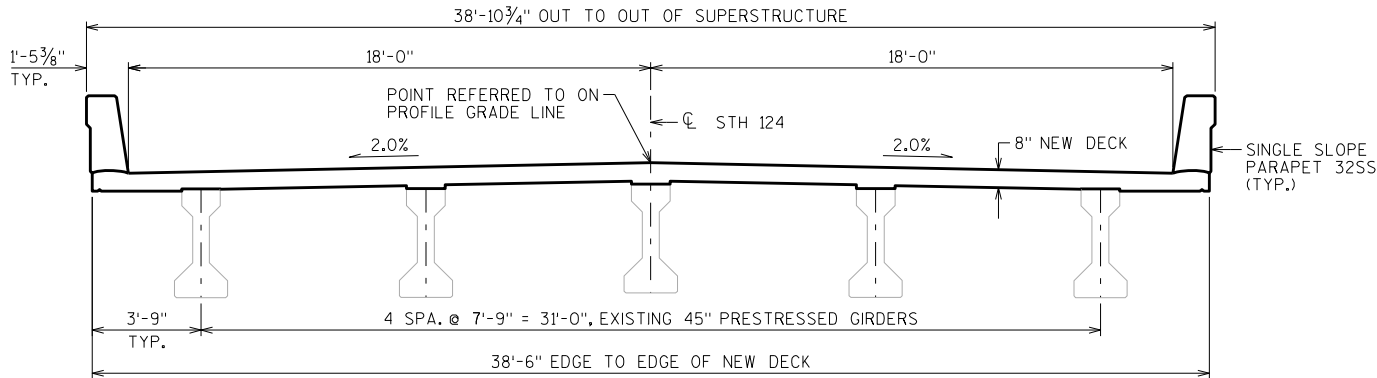
MICAH BROOKS (608) 266-5080
LAURA SHADEWALD (608) 267-9592

| | | | |
|--|----------|---|-----------------|
| NO. | DATE | REVISION | BY |
|  <div style="display: inline-block; vertical-align: middle;"> <p>BUREAU OF</p> <p>STRUCTURES</p> </div> | | | |
| ACCEPTED | | <i>William C. Decher</i> ^{LLS} CHIEF STRUCTURES DESIGN ENGINEER | 8/4/17 DATE |
| STRUCTURE B-9-124 | | | |
| STH 124 OVER O'NEIL CREEK | | | |
| COUNTY | CHIPPEWA | TOWN | EAGLE POINT |
| DESIGN SPEC. REHABILITATION N/A | | | |
| DESIGNED BY | MWB | DESIGNED CK'D. | MJL |
| DRAWN BY | | MWB | PLANS CK'D. MJL |
| DECK REPLACEMENT | | SHEET 1 OF 6 | |
| | | | |

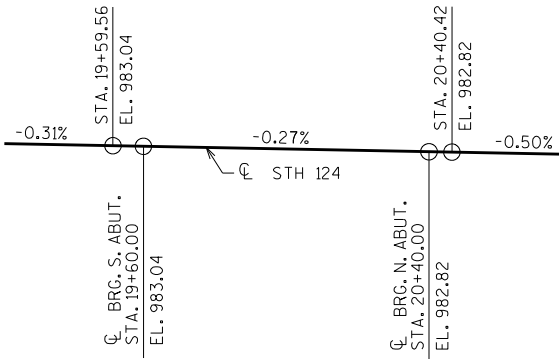
I.D. 8610-07-03A

DATE: APR. 2017

SCALE = 6.40



CROSS SECTION THRU ROADWAY
LOOKING NORTH



PROFILE GRADE LINE - STH 124

TOTAL ESTIMATED QUANTITIES

| BID ITEM NUMBER | BID ITEMS | UNIT | TOTALS |
|-----------------|---|------|--------|
| 203.0600 | REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 20+00 | LS | 1 |
| 502.0100 | CONCRETE MASONRY BRIDGES | CY | 101 |
| 502.3200 | PROTECTIVE SURFACE TREATMENT | SY | 323 |
| 502.3210 | PIGMENTED SURFACE SEALER | SY | 67 |
| 505.0600 | BAR STEEL REINFORCEMENT HS COATED STRUCTURES | LB | 22,930 |
| 614.0150 | ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD | EACH | 4 |
| | NON-BID ITEMS | | |
| | FILLER | SIZE | 1/2" |
| | | | |

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.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1" DEEP SAW CUT.

BEVEL EXPOSED EDGES OF CONCRETE ³/₄" UNLESS OTHERWISE NOTED.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE "SUPERSTRUCTURE CROSS SECTION" SHEET.

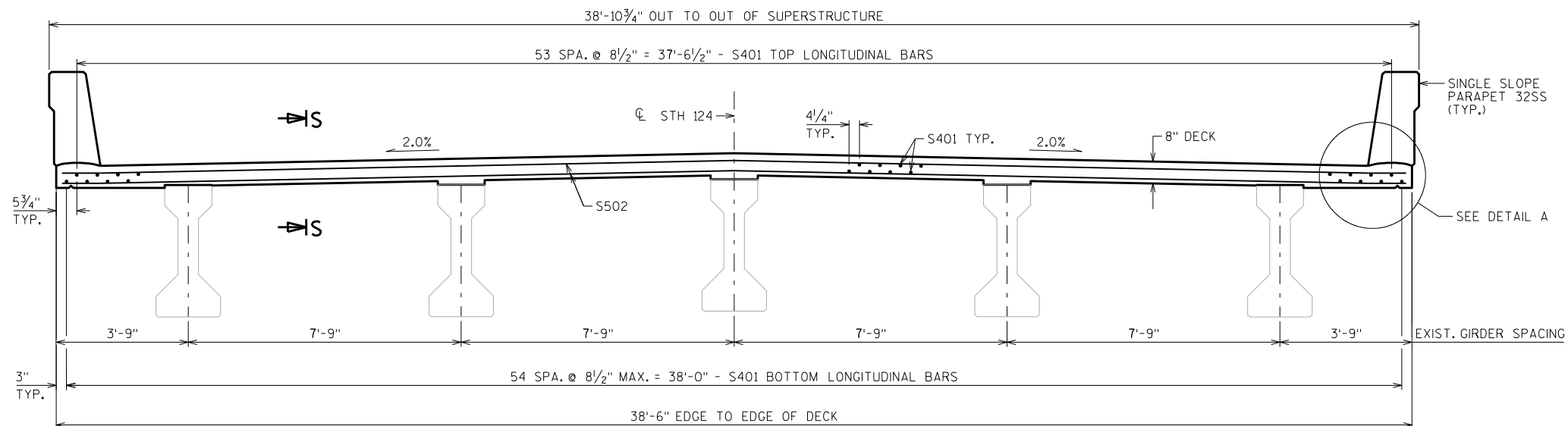
PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK.

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND THE TOP OF THE PARAPETS.

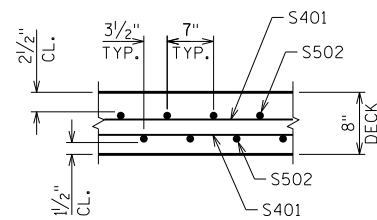
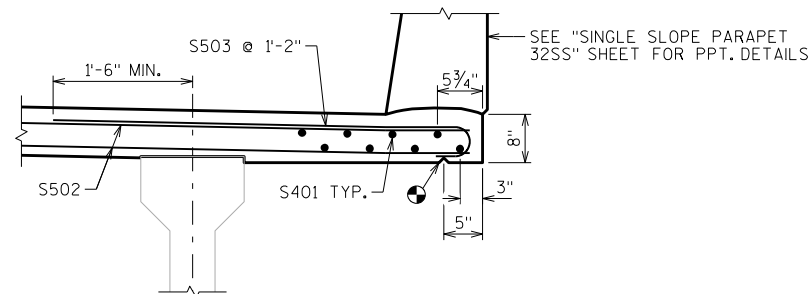
ANY EXCAVATION NECESSARY TO COMPLETE THE CONSTRUCTION OF THE NEW DECK SHALL BE CONSIDERED INCIDENTAL TO "REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 20+00."

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

| | | | |
|---|------|--------------|-----------------|
| | | | |
| NO. | DATE | REVISION | BY |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION | | | |
| STRUCTURE B-9-124 | | | |
| | | DRAWN BY MWB | PLANS CK'D. MJL |
| CROSS SECTION & QUANTITIES | | | SHEET 2 |

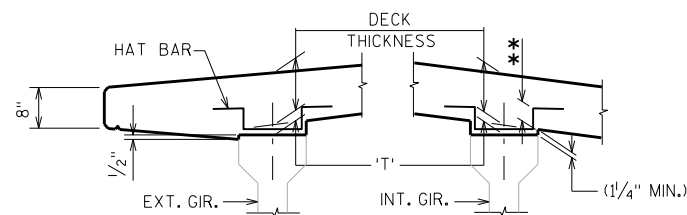
**CROSS SECTION THRU ROADWAY**

LOOKING NORTH

**SECTION S-S****DETAIL A**

TYP. BOTH EDGES OF DECK

3/4" V-GROOVE (TYP.) TERMINATE 6" FROM F.F. OF ABUTMENT DIAPHRAGMS.

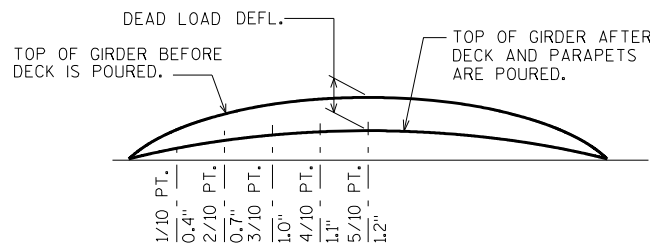
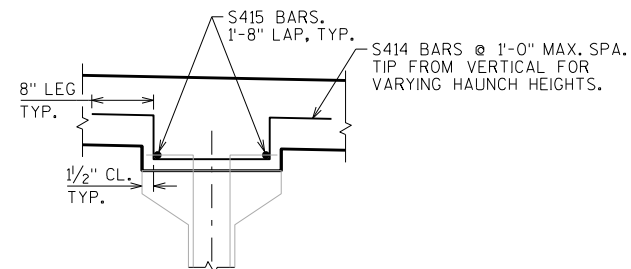
**DECK HAUNCH DETAIL**

IF 1/4" 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 DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN 1/2" OR, ** IF 3" MINIMUM DECK EMBEDMENT OF HAT BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT CL. 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
 - DECK THICKNESS
 = HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 2 7/8" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

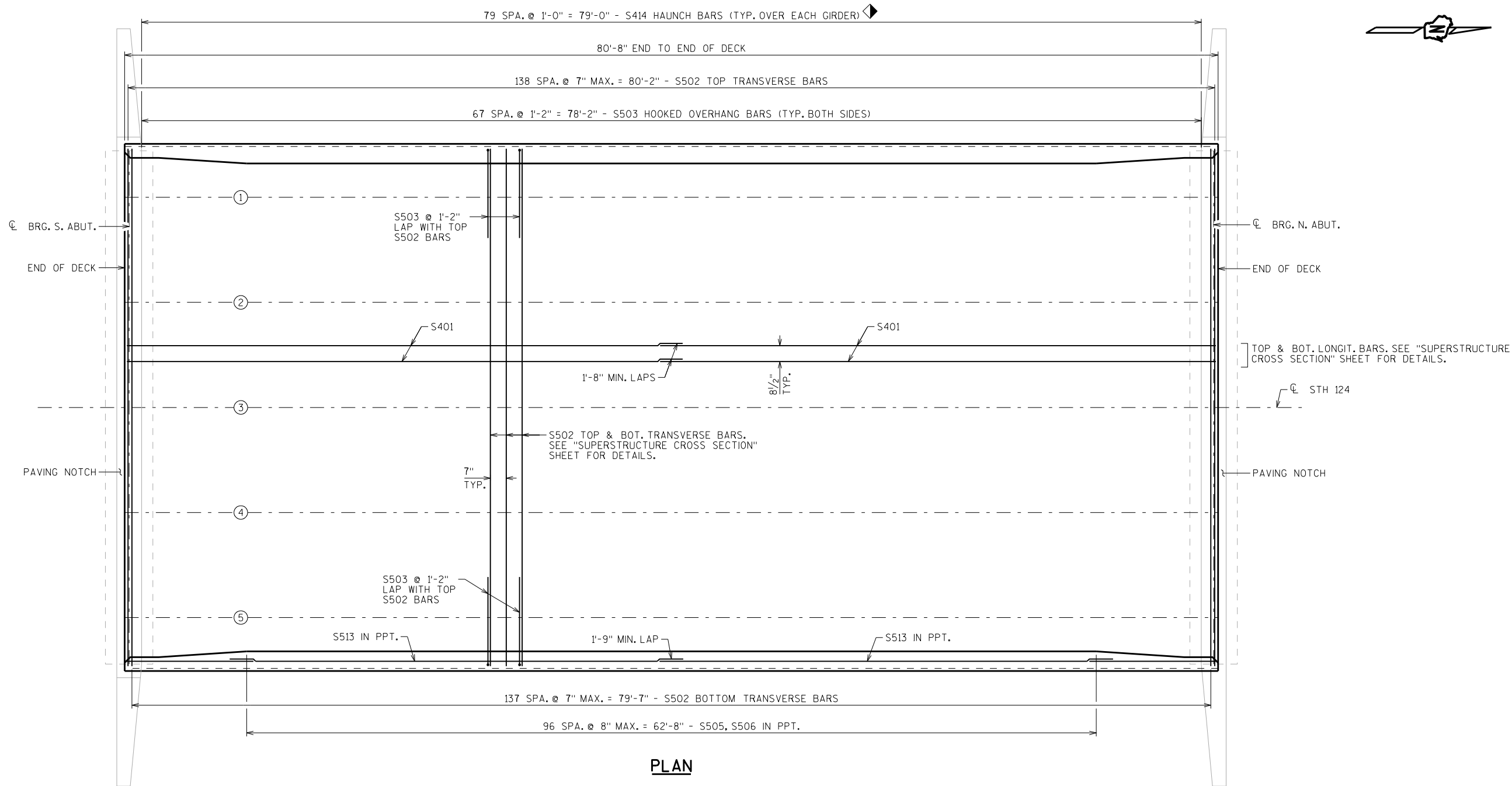
**DEAD LOAD DEFLECTION DIAGRAM****GIRDER HAUNCH DETAIL**

| NO. | DATE | REVISION | BY |
|---|------|-----------------|----|
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION | | | |
| STRUCTURE B-9-124 | | | |
| DRAWN BY MWB | | PLANS CK'D. MJL | |
| SUPERSTRUCTURE CROSS SECTION | | SHEET 3 | |

○ INDICATES GIRDER NUMBER

◀ 3" MIN. DECK EMBEDMENT REQUIRED.

* MEASURED FROM END OF GIRDER

**TOP OF DECK ELEVATIONS**

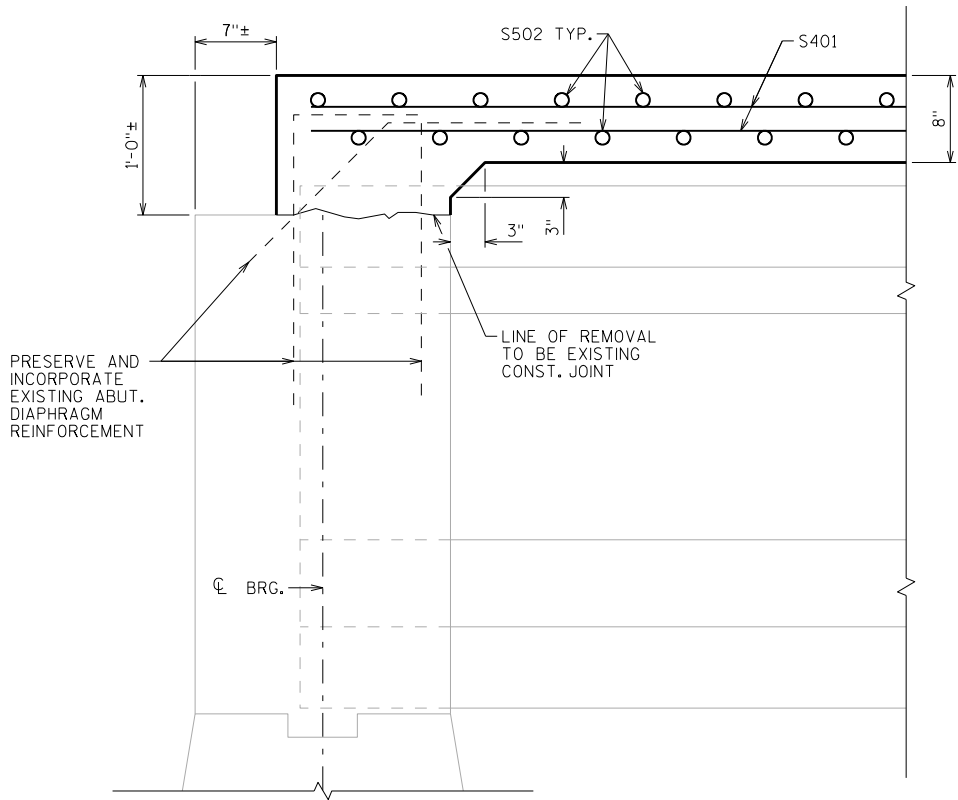
| | CL BRG. S. ABUT. | 1/10 | 2/10 | 3/10 | 4/10 | 5/10 | 6/10 | 7/10 | 8/10 | 9/10 | CL BRG. N. ABUT. |
|----------|------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------------------|
| L EOD | 982.68 | 982.66 | 982.63 | 982.61 | 982.59 | 982.57 | 982.55 | 982.53 | 982.51 | 982.48 | 982.46 |
| GIRDER 1 | 982.73 | 982.71 | 982.68 | 982.66 | 982.64 | 982.62 | 982.60 | 982.58 | 982.56 | 982.53 | 982.51 |
| GIRDER 2 | 982.88 | 982.86 | 982.84 | 982.82 | 982.80 | 982.77 | 982.75 | 982.73 | 982.71 | 982.69 | 982.67 |
| GIRDER 3 | 983.04 | 983.02 | 982.99 | 982.97 | 982.95 | 982.93 | 982.91 | 982.89 | 982.87 | 982.84 | 982.82 |
| GIRDER 4 | 982.88 | 982.86 | 982.84 | 982.82 | 982.80 | 982.77 | 982.75 | 982.73 | 982.71 | 982.69 | 982.67 |
| GIRDER 5 | 982.73 | 982.71 | 982.68 | 982.66 | 982.64 | 982.62 | 982.60 | 982.58 | 982.56 | 982.53 | 982.51 |
| R EOD | 982.68 | 982.66 | 982.63 | 982.61 | 982.59 | 982.57 | 982.55 | 982.53 | 982.51 | 982.48 | 982.46 |

| NO. | DATE | REVISION | BY |
|---|------|----------|-----------------|
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION | | | |
| STRUCTURE B-9-124 | | | |
| DRAWN BY | | MWB | PLANS CK'D. MJL |
| SUPERSTRUCTURE PLAN | | SHEET 4 | |

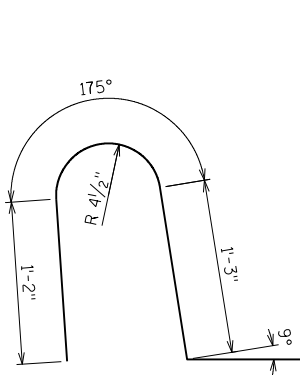
BILL OF BARS

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

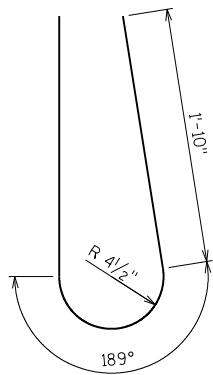
| BAR MARK | COAT | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION |
|----------|------|------------|--------|------|------------|------------------------------------|
| S401 | X | 218 | 41'-0" | | | DECK - TOP & BOT. - HORIZ. LONGIT. |
| S502 | X | 277 | 38'-2" | | | DECK - TOP & BOT. - HORIZ. TRANS. |
| S503 | X | 136 | 5'-8" | X | | DECK - OVERHANG - TRANS. |
| S404 | | NOT USED | | | | |
| S505 | X | 194 | 4'-5" | X | | PPT. & DECK - VERT. |
| S506 | X | 194 | 5'-0" | X | | PPT. - VERT |
| S507 | X | 48 | 2'-9" | X | | PPT. & DECK - TRANSITION - VERT. |
| S508 | X | 68 | 4'-4" | X | | PPT. & DECK - TRANSITION - VERT. |
| S509 | X | 44 | 4'-9" | X | | PPT. - TRANSITION - VERT. |
| S510 | X | 24 | 4'-10" | X | | PPT. - TRANSITION - VERT. |
| S511 | X | 4 | 10'-6" | X | | PPT. - TRANSITION - HORIZ. LONGIT. |
| S512 | X | 20 | 10'-6" | | | PPT. - TRANSITION - HORIZ. LONGIT. |
| S513 | X | 24 | 32'-4" | | | PPT. - IN SPAN - HORIZ. LONGIT. |
| S414 | X | 400 | 3'-1" | X | | HAUNCHES & DECK - VERT. |
| S415 | X | 20 | 41'-0" | | | HAUNCHES - LONGIT. |



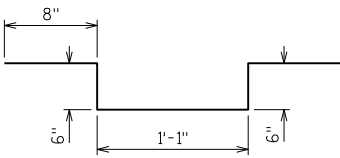
PART LONGIT. SECTION AT ABUTMENT



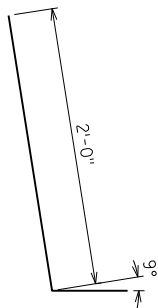
S505



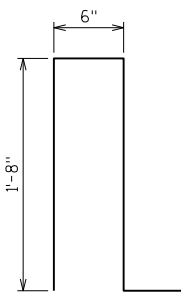
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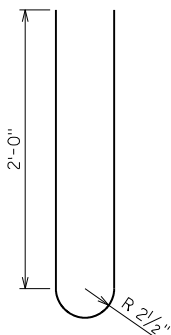
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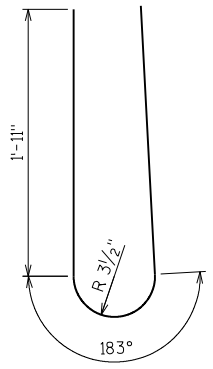
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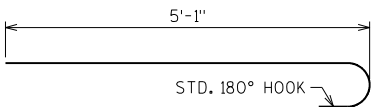
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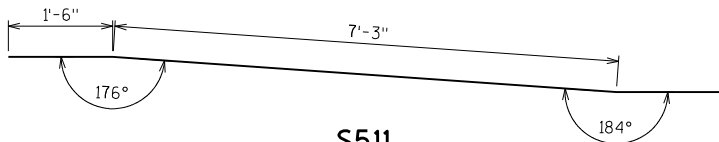
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S510

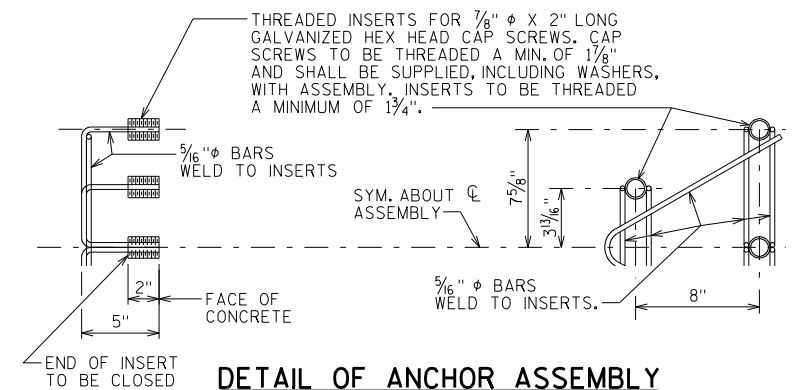
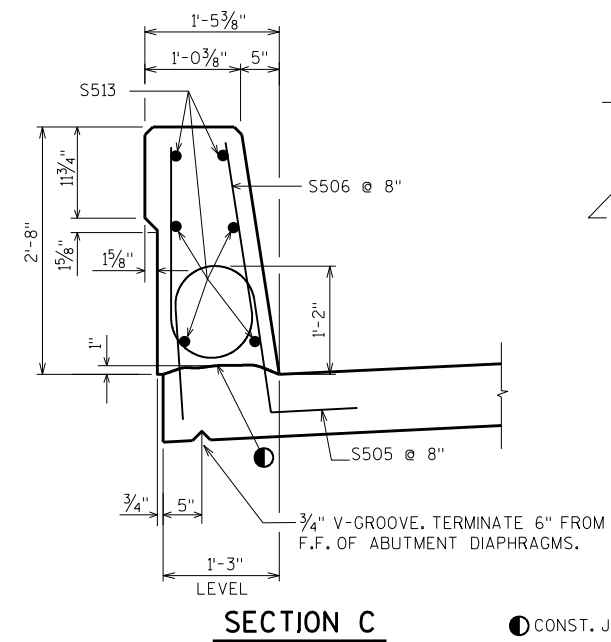
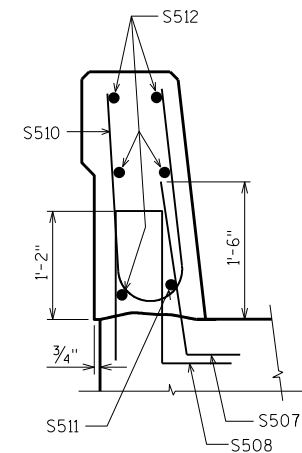
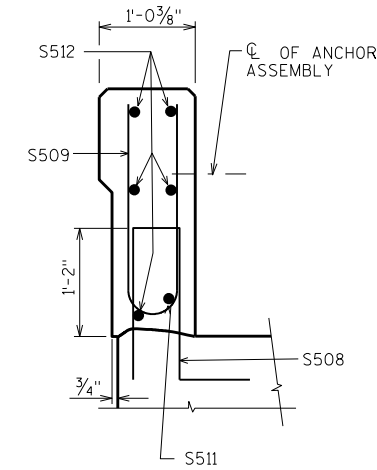
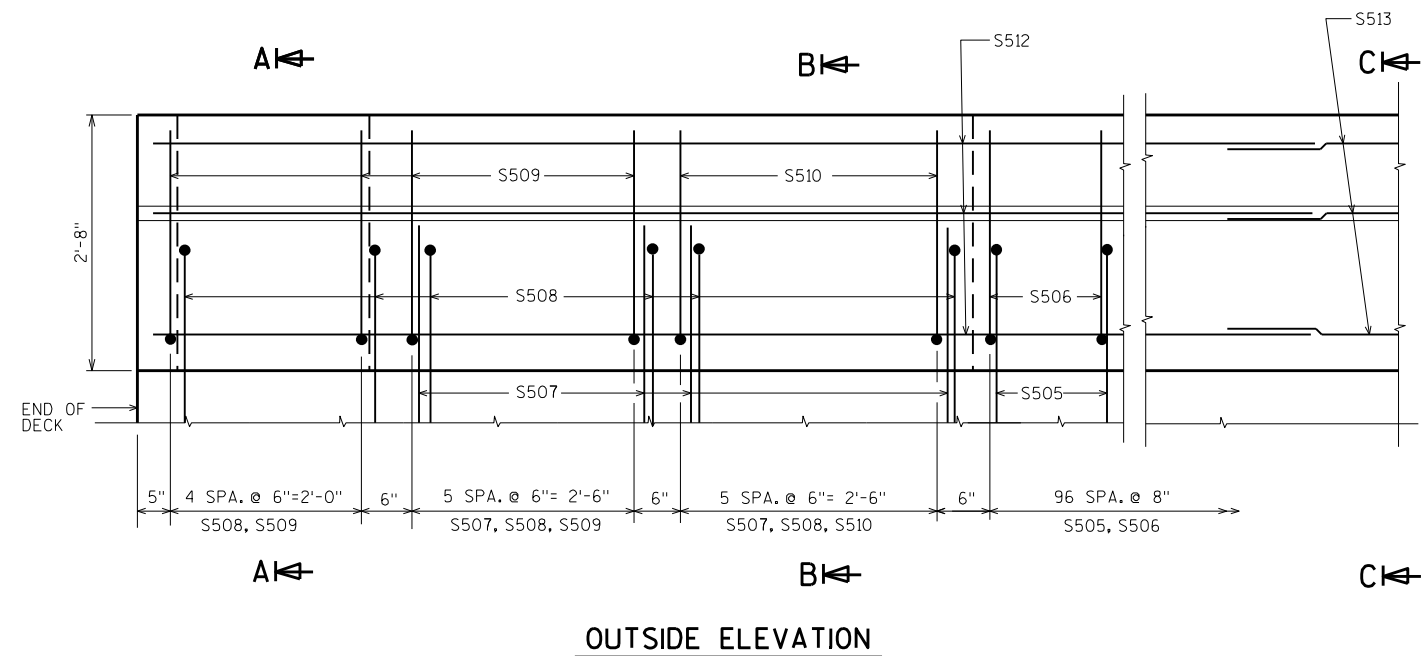
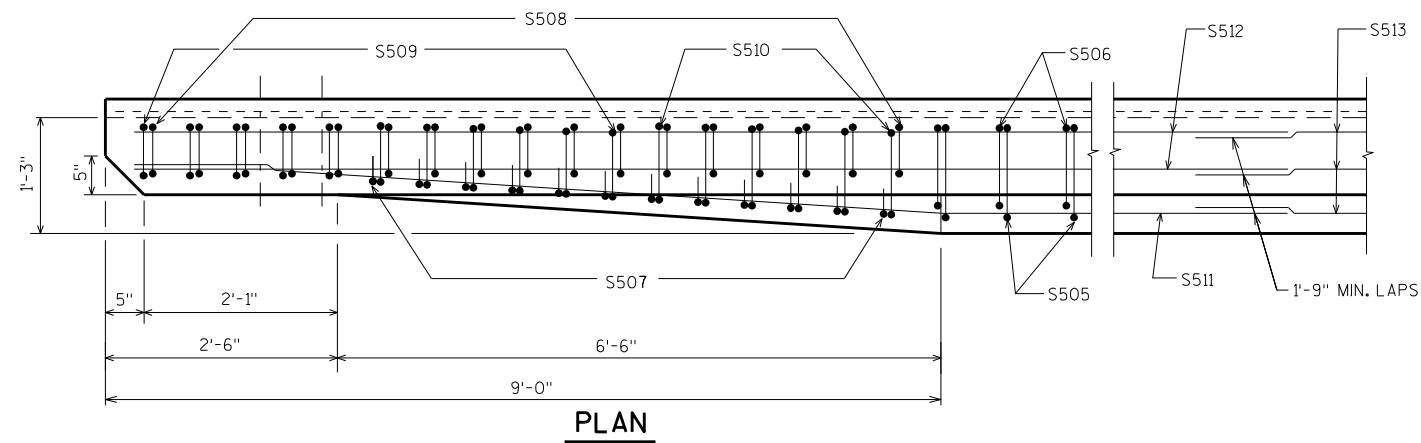
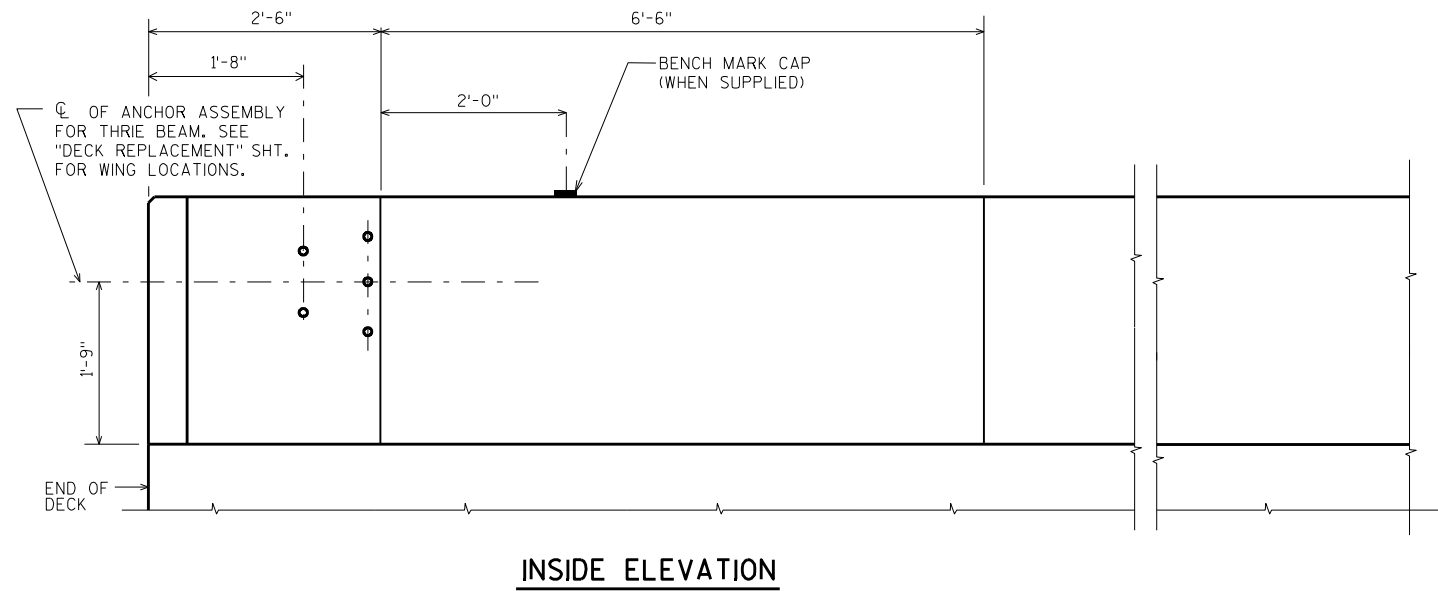


S503



S511

| | | | |
|---|------|----------|-----------------|
| NO. | DATE | REVISION | BY |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION | | | |
| STRUCTURE B-9-124 | | | |
| DRAWN BY | | MWB | PLANS CK'D. MJL |
| SUPERSTRUCTURE DETAILS | | SHEET 5 | |



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.

| NO. | DATE | REVISION | BY |
|---|------|----------|-----------------|
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION | | | |
| STRUCTURE B-9-124 | | | |
| DRAWN BY | | MWB | PLANS CK'D. MJL |
| SINGLE SLOPE PARAPET 32SS | | | SHEET 6 |

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: HS-20
INVENTORY RATING FACTOR: HS-20
OPERATING RATING FACTOR: HS-37
WISCONSIN STANDARD PERMIT VEHICLE (WIS.-SPV): 250 (KIPS)

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

MATERIAL PROPERTIES:

CONCRETE MASONRY: _____ $f'_c = 4,000$ P.S.I.
DECK & PPTS. _____

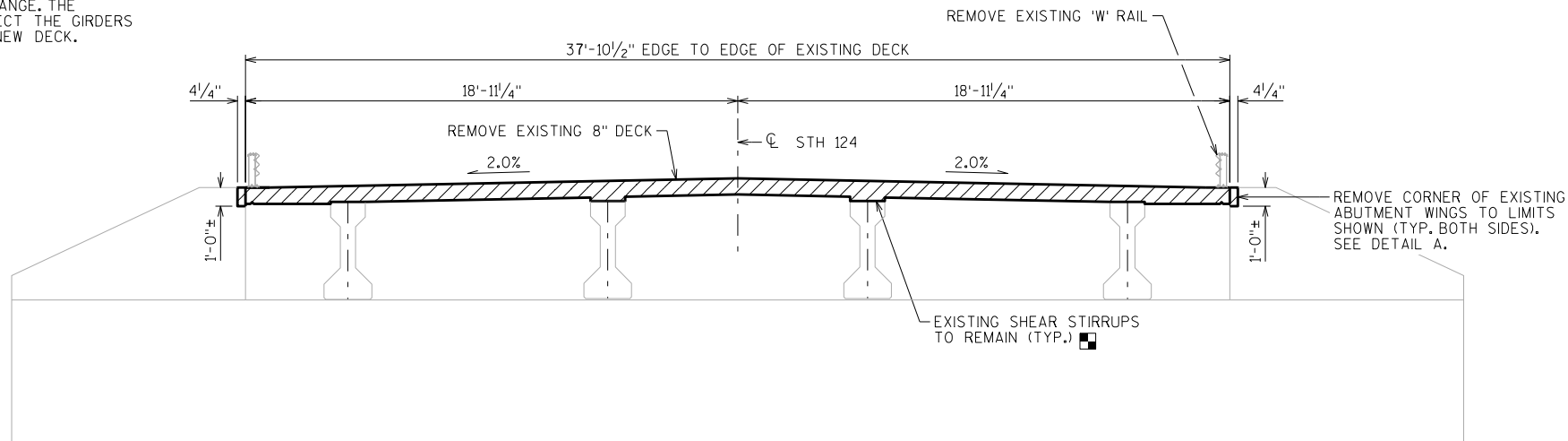
BAR STEEL REINFORCEMENT: _____ $f_y = 60,000$ P.S.I.
GRADE 60 _____

TRAFFIC VOLUME

FEATURE ON

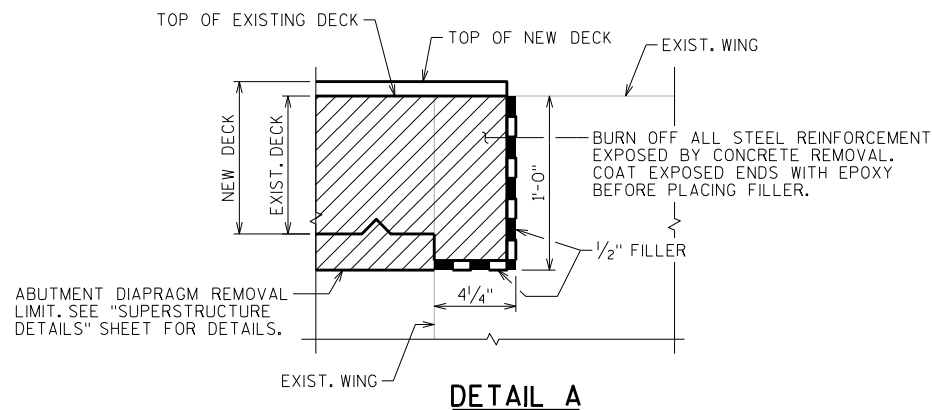
ADT = 4,400 (2037)
R.D.S. = 60 M.P.H.

CARE SHALL BE TAKEN TO AVOID DAMAGE TO THE SHEAR STIRRUPS AND TOP GIRDER FLANGE. THE ENGINEER WILL INSPECT THE GIRDERS PRIOR TO PLACING NEW DECK.



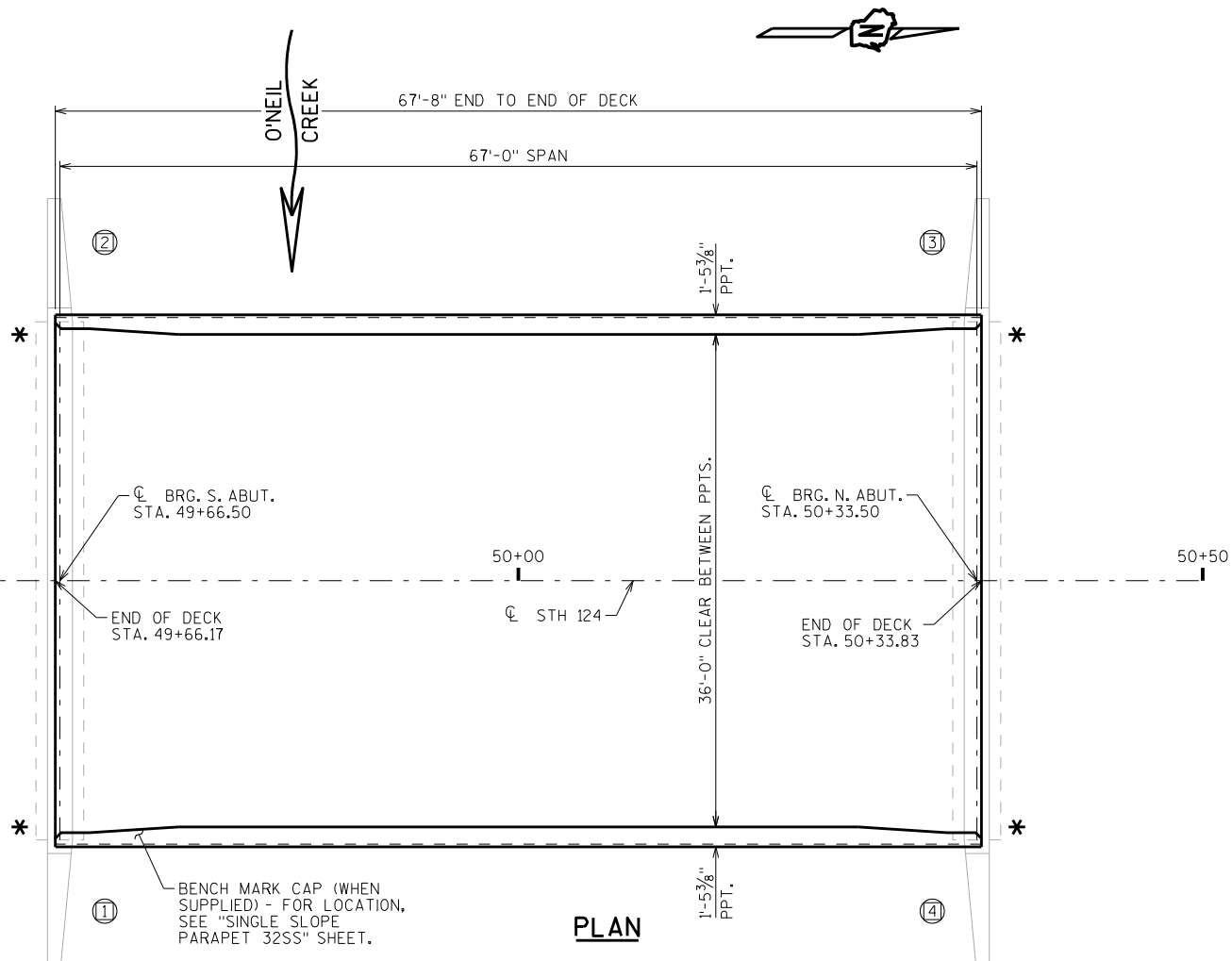
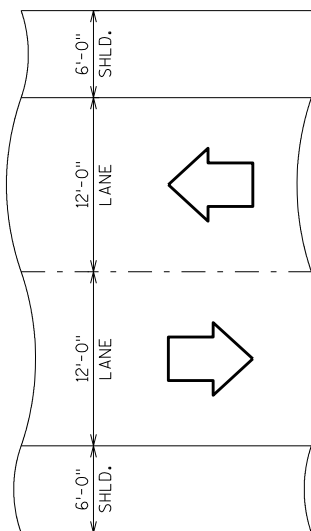
CROSS SECTION THRU ROADWAY

SHOWING REMOVAL LIMITS



* PROVIDE FOR THREE BEAM GUARD RAIL ATTACHMENT. AT UNUSED ANCHOR ASSEMBLIES CAULK HOLES SHUT WITH "100% SILICONE CAULK".

Ⓢ INDICATES WING NUMBER



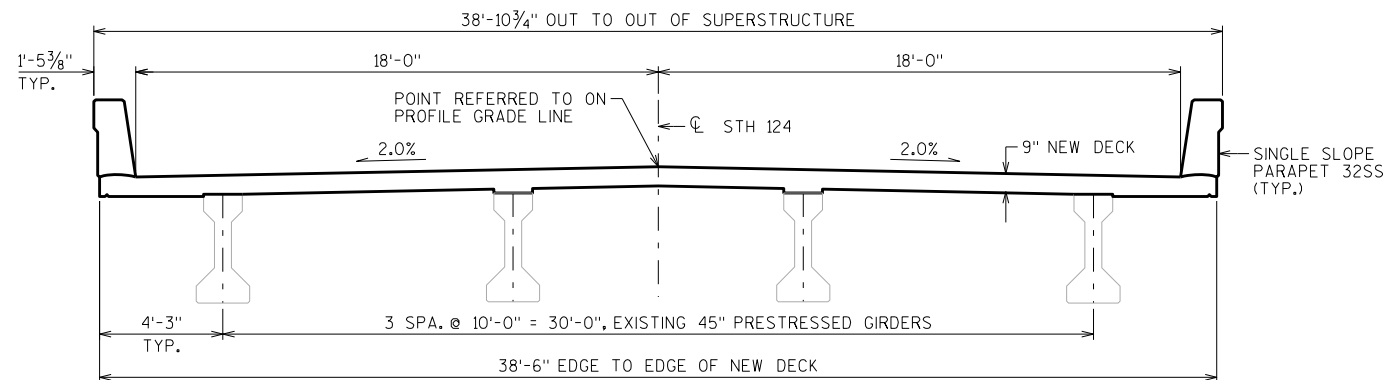
LIST OF DRAWINGS

1. DECK REPLACEMENT
2. CROSS SECTION & QUANTITIES
3. SUPERSTRUCTURE CROSS SECTION
4. SUPERSTRUCTURE PLAN
5. SUPERSTRUCTURE DETAILS
6. SINGLE SLOPE PARAPET 32SS

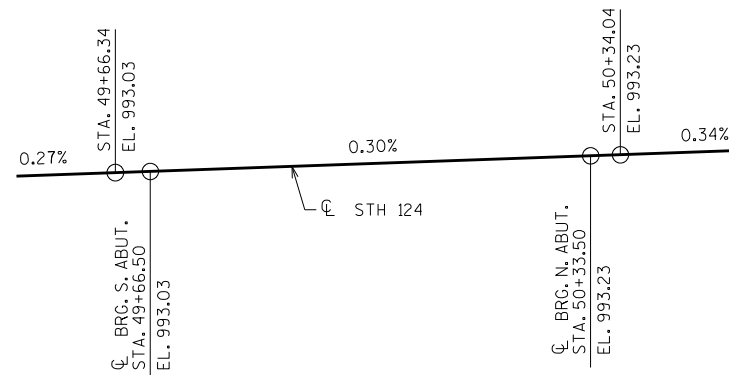
STRUCTURE DESIGN CONTACTS:

MICAH BROOKS (608) 266-5080
LAURA SHADEWALD (608) 267-9592

| NO. | DATE | REVISION | BY |
|---|--------------------|----------------|--------------|
| BUREAU OF STRUCTURES | | | |
| ACCEPTED <i>William C. Dreher</i> 8/4/17 CHIEF STRUCTURES DESIGN ENGINEER DATE | | | |
| STRUCTURE B-9-125 | | | |
| STH 124 OVER O'NEIL CREEK | | | |
| COUNTY | CHIPPewa | TOWN | EAGLE POINT |
| DESIGN SPEC. | REHABILITATION N/A | | |
| DESIGNED BY | MWB | DESIGNED CK'D. | MJL |
| DRAWN BY | MWB | PLANS CK'D. | MJL |
| DECK REPLACEMENT | | | SHEET 1 OF 6 |

**CROSS SECTION THRU ROADWAY**

LOOKING NORTH

**PROFILE GRADE LINE - STH 124****TOTAL ESTIMATED QUANTITIES**

| BID ITEM NUMBER | BID ITEMS | UNIT | TOTALS |
|-----------------|---|------|--------|
| 203.0600 | REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 50+00 | LS | 1 |
| 502.0100 | CONCRETE MASONRY BRIDGES | CY | 93 |
| 502.3200 | PROTECTIVE SURFACE TREATMENT | SY | 271 |
| 502.3210 | PIGMENTED SURFACE SEALER | SY | 56 |
| 505.0600 | BAR STEEL REINFORCEMENT HS COATED STRUCTURES | LB | 19,840 |
| 614.0150 | ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD | EACH | 4 |
| | NON-BID ITEMS | | |
| | FILLER | SIZE | 1/2" |
| | | | |

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.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1" DEEP SAW CUT.

BEVEL EXPOSED EDGES OF CONCRETE $\frac{3}{4}$ " UNLESS OTHERWISE NOTED.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE "SUPERSTRUCTURE CROSS SECTION" SHEET.

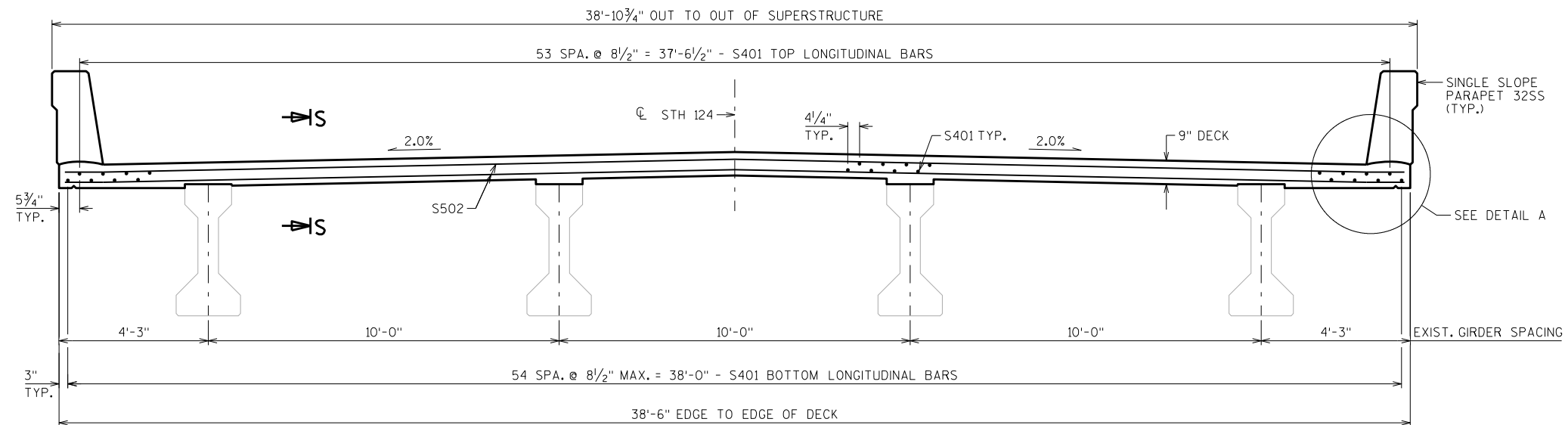
PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK.

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND THE TOP OF THE PARAPETS.

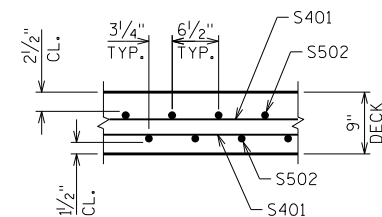
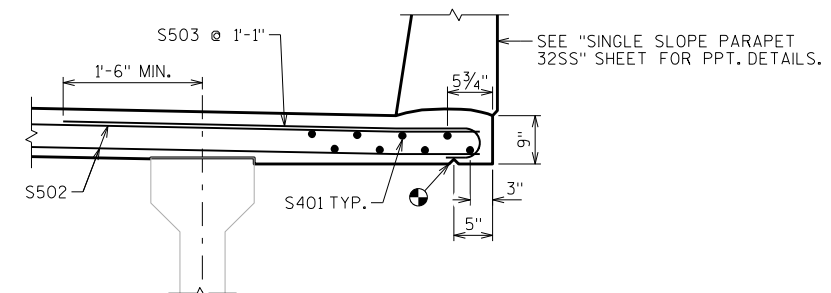
ANY EXCAVATION NECESSARY TO COMPLETE THE CONSTRUCTION OF THE NEW DECK SHALL BE CONSIDERED INCIDENTAL TO "REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 50+00."

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

| | | | |
|---|------|----------|-----------------|
| NO. | DATE | REVISION | BY |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION | | | |
| STRUCTURE B-9-125 | | | |
| DRAWN BY | | MWB | PLANS CK'D. MJL |
| CROSS SECTION & QUANTITIES | | | SHEET 2 |

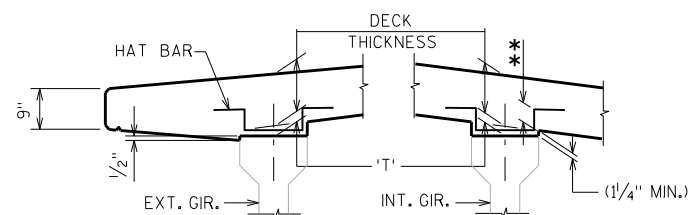
**CROSS SECTION THRU ROADWAY**

LOOKING NORTH

**SECTION S-S****DETAIL A**

(TYP. BOTH EDGES OF DECK)

3/4" V-GROOVE (TYP.) TERMINATE 6" FROM F.F. OF ABUTMENT DIAPHRAGMS.

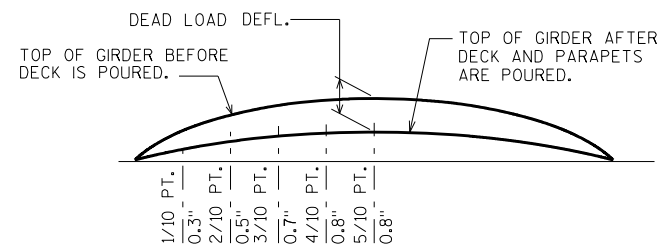
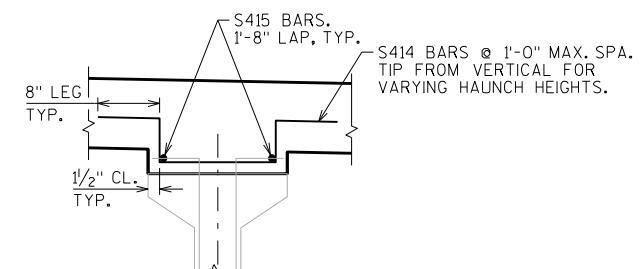
**DECK HAUNCH DETAIL**

IF 1/4" 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 DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN 1/2" OR, ** IF 3" MINIMUM DECK EMBEDMENT OF HAT BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT C. 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
 - DECK THICKNESS
 = HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 2 3/4" WAS USED IN THE QUANTITY "CONCRETE MASONRY BRIDGES".

**DEAD LOAD DEFLECTION DIAGRAM****GIRDER HAUNCH DETAIL**

| NO. | DATE | REVISION | BY |
|---|------|-----------------|----|
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION | | | |
| STRUCTURE B-9-125 | | | |
| DRAWN BY MWB | | PLANS CK'D. MJL | |
| SUPERSTRUCTURE CROSS SECTION | | SHEET 3 | |

* MEASURED FROM END OF GIRDER



| | ℄ BRG. S. ABUT. | 1/10 | 2/10 | 3/10 | 4/10 | 5/10 | 6/10 | 7/10 | 8/10 | 9/10 | ℄ BRG. N. ABUT. |
|----------|--------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------------------|
| L EOD | 992.67 | 992.69 | 992.71 | 992.73 | 992.75 | 992.77 | 992.79 | 992.81 | 992.83 | 992.85 | 992.87 |
| GIRDER 1 | 992.73 | 992.75 | 992.77 | 992.79 | 992.81 | 992.83 | 992.85 | 992.87 | 992.89 | 992.91 | 992.93 |
| GIRDER 2 | 992.93 | 992.95 | 992.97 | 992.99 | 993.01 | 993.03 | 993.05 | 993.07 | 993.09 | 993.11 | 993.13 |
| GIRDER 3 | 992.93 | 992.95 | 992.97 | 992.99 | 993.01 | 993.03 | 993.05 | 993.07 | 993.09 | 993.11 | 993.13 |
| GIRDER 4 | 992.73 | 992.75 | 992.77 | 992.79 | 992.81 | 992.83 | 992.85 | 992.87 | 992.89 | 992.91 | 992.93 |
| R EOD | 992.67 | 992.69 | 992.71 | 992.73 | 992.75 | 992.77 | 992.79 | 992.81 | 992.83 | 992.85 | 992.87 |

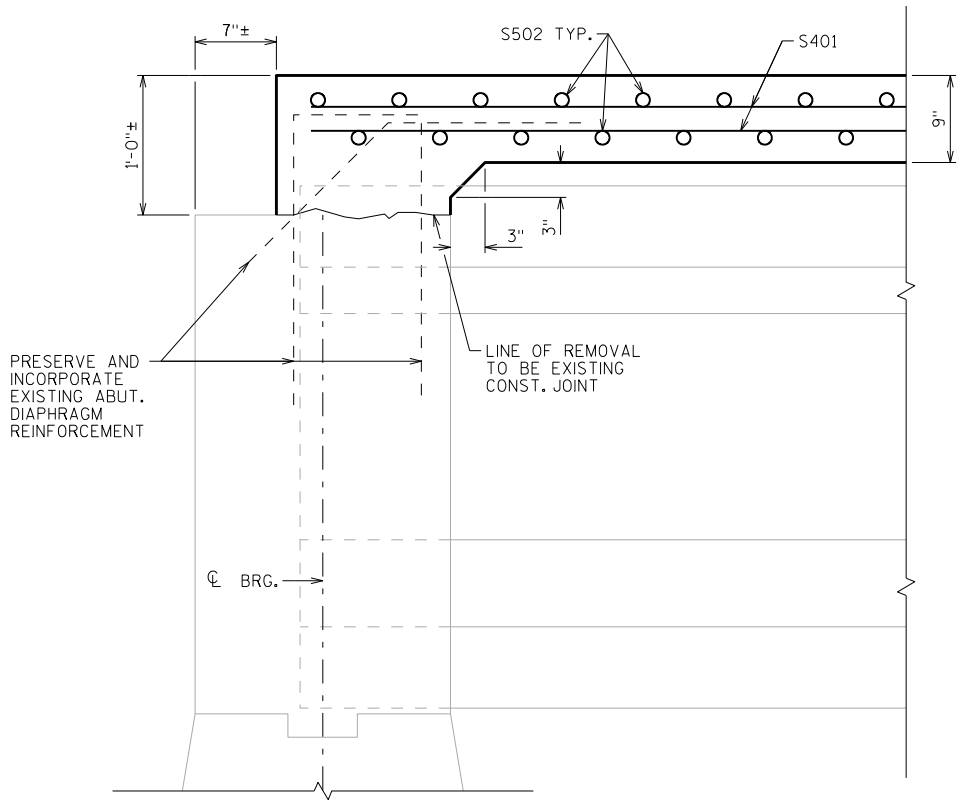
| | | | |
|---|------|----------|-----------------|
| NO. | DATE | REVISION | BY |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION | | | |
| STRUCTURE B-9-125 | | | |
| DRAWN BY | | MWB | PLANS CK'D. MJL |
| SUPERSTRUCTURE PLAN | | SHEET 4 | |
| | | | |

SCALE = 4.00

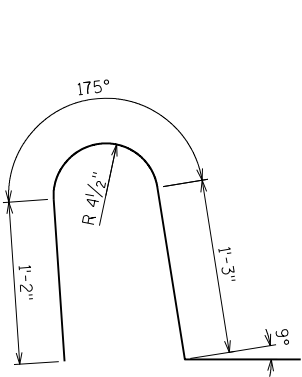
BILL OF BARS

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

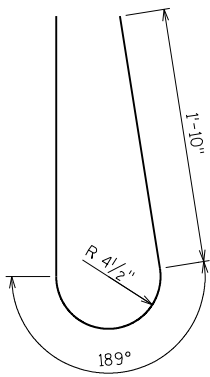
| BAR MARK | COAT | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION |
|----------|------|------------|--------|------|------------|------------------------------------|
| S401 | X | 218 | 34'-6" | | | DECK - TOP & BOT. - HORIZ. LONGIT. |
| S502 | X | 249 | 38'-2" | | | DECK - TOP & BOT. - HORIZ. TRANS. |
| S503 | X | 124 | 6'-2" | X | | DECK - OVERHANG - TRANS. |
| S404 | | NOT USED | | | | |
| S505 | X | 154 | 4'-5" | X | | PPT. & DECK - VERT. |
| S506 | X | 154 | 5'-0" | X | | PPT. - VERT |
| S507 | X | 48 | 2'-9" | X | | PPT. & DECK - TRANSITION - VERT. |
| S508 | X | 68 | 4'-4" | X | | PPT. & DECK - TRANSITION - VERT. |
| S509 | X | 44 | 4'-9" | X | | PPT. - TRANSITION - VERT. |
| S510 | X | 24 | 4'-10" | X | | PPT. - TRANSITION - VERT. |
| S511 | X | 4 | 10'-6" | X | | PPT. - TRANSITION - HORIZ. LONGIT. |
| S512 | X | 20 | 10'-6" | | | PPT. - TRANSITION - HORIZ. LONGIT. |
| S513 | X | 12 | 49'-8" | | | PPT. - HORIZ. LONGIT. |
| S414 | X | 268 | 3'-1" | X | | HAUNCHES & DECK - VERT. |
| S415 | X | 16 | 34'-6" | | | HAUNCHES - LONGIT. |



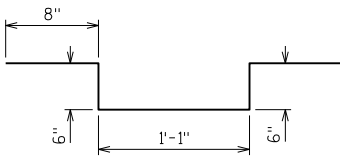
PART LONGIT. SECTION AT ABUTMENT



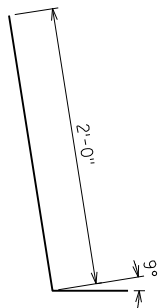
S505



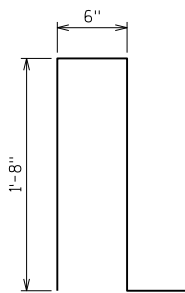
S506



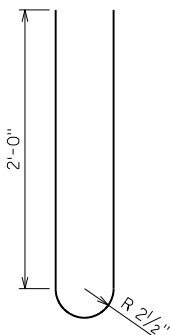
S414



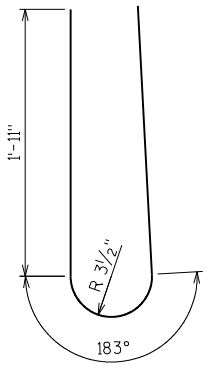
S507



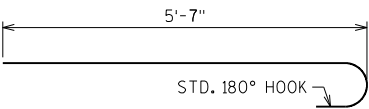
S508



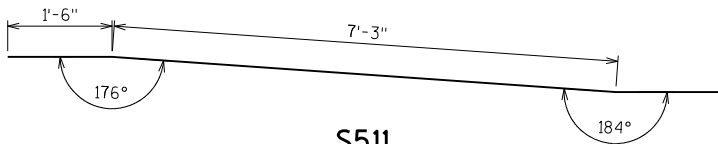
S509



S510

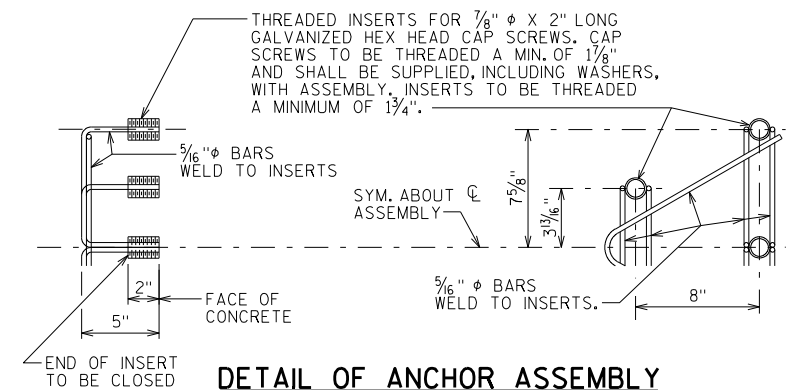
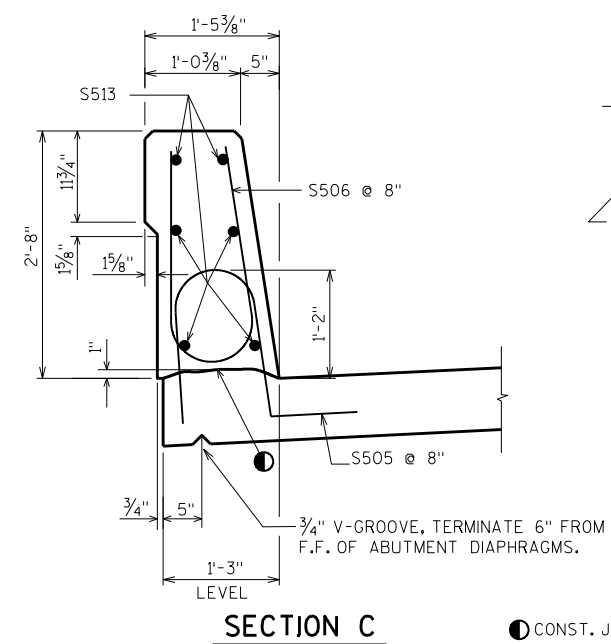
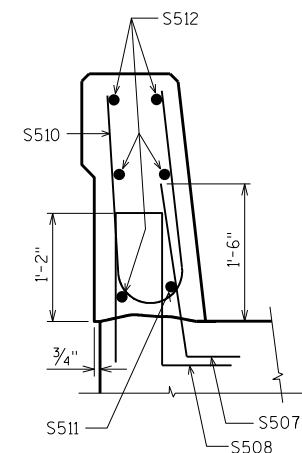
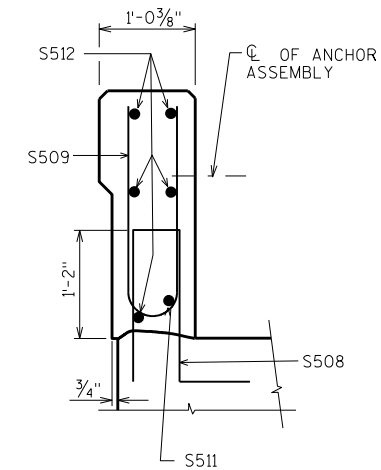
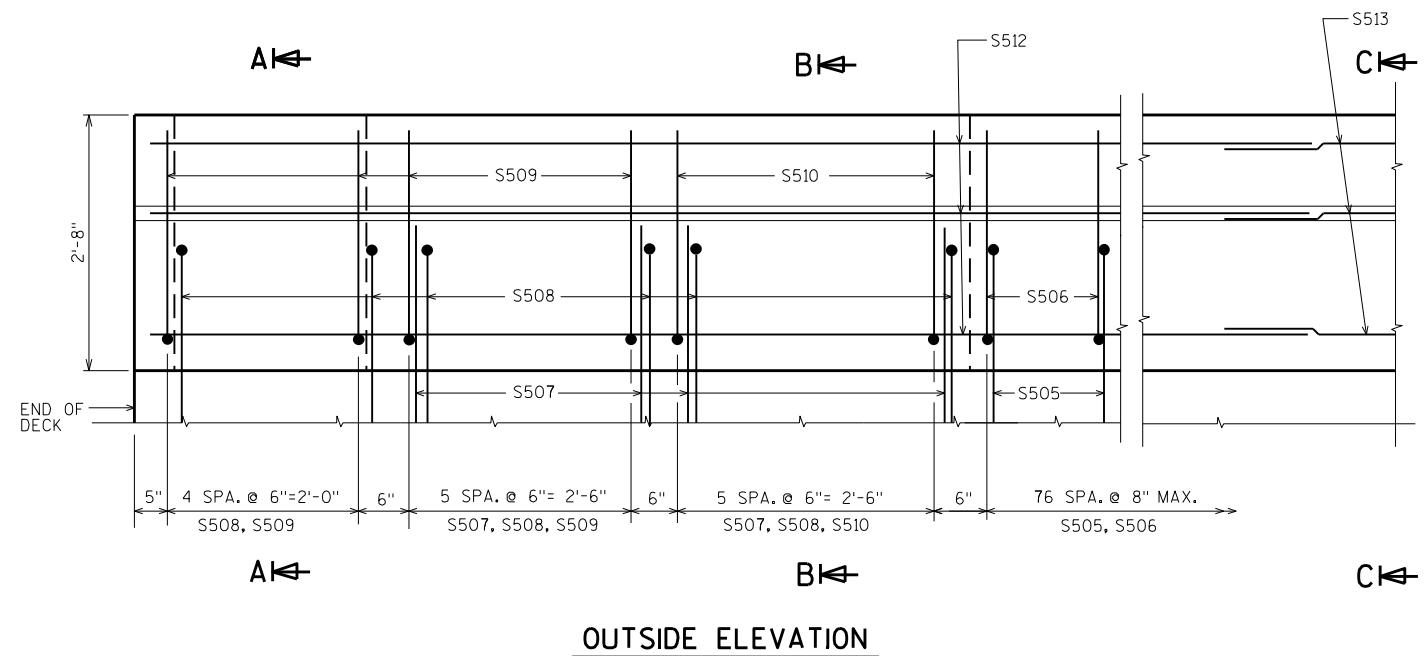
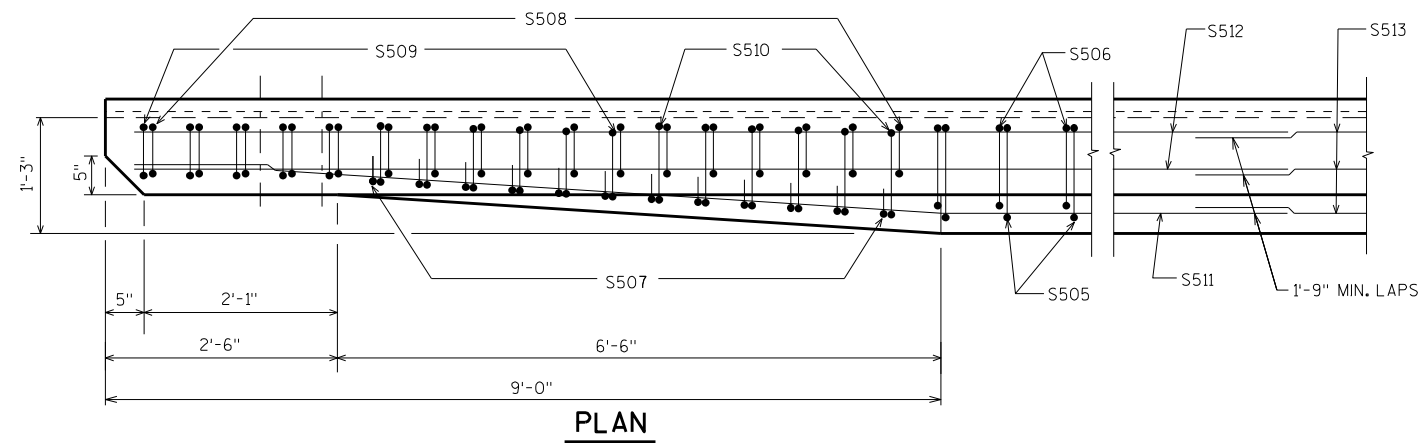
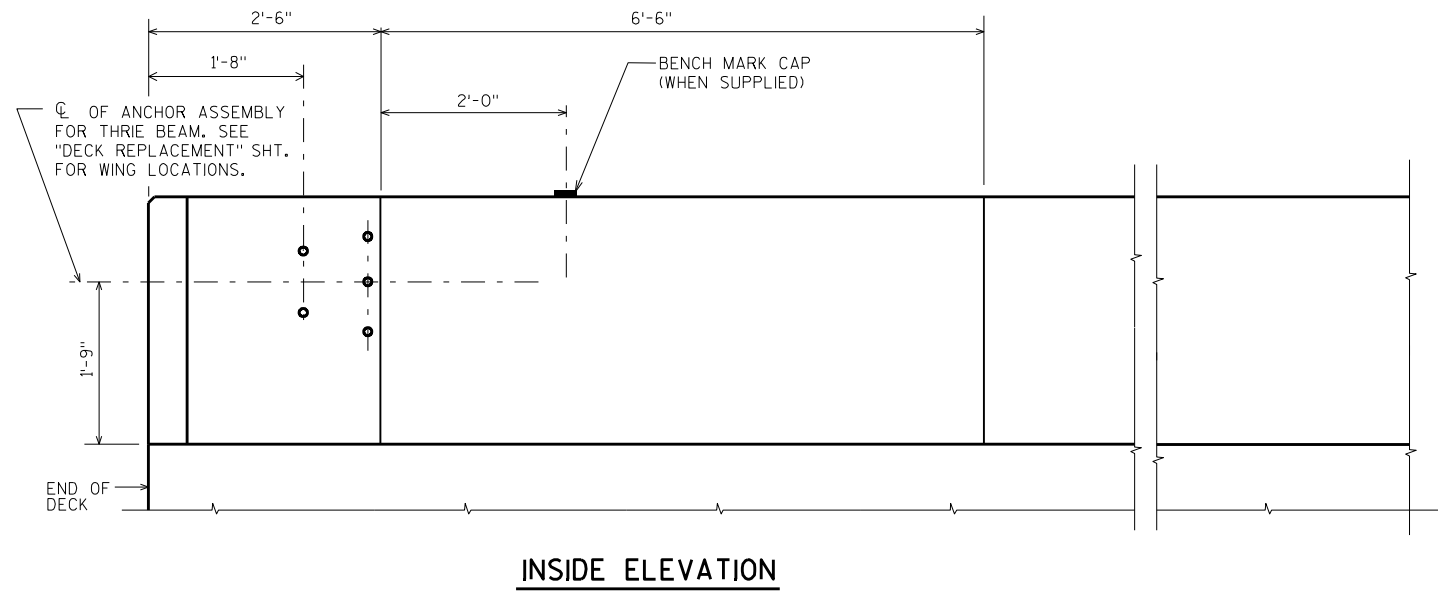


S503



S511

| | | | |
|---|------|----------|-----------------|
| NO. | DATE | REVISION | BY |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION | | | |
| STRUCTURE B-9-125 | | | |
| DRAWN BY | | MWB | PLANS CK'D. MJL |
| SUPERSTRUCTURE DETAILS | | | SHEET 5 |



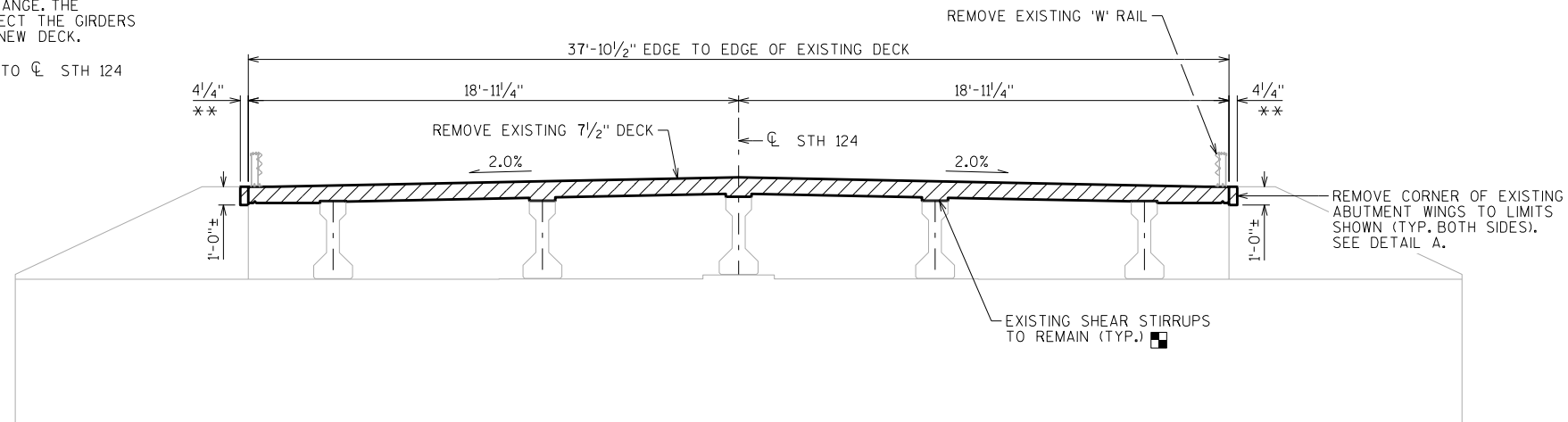
NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

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

| NO. | DATE | REVISION | BY |
|---|------|----------|-----------------|
| | | | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION | | | |
| STRUCTURE B-9-125 | | | |
| DRAWN BY | | MWB | PLANS CK'D. MJL |
| SINGLE SLOPE PARAPET 32SS | | | SHEET 6 |

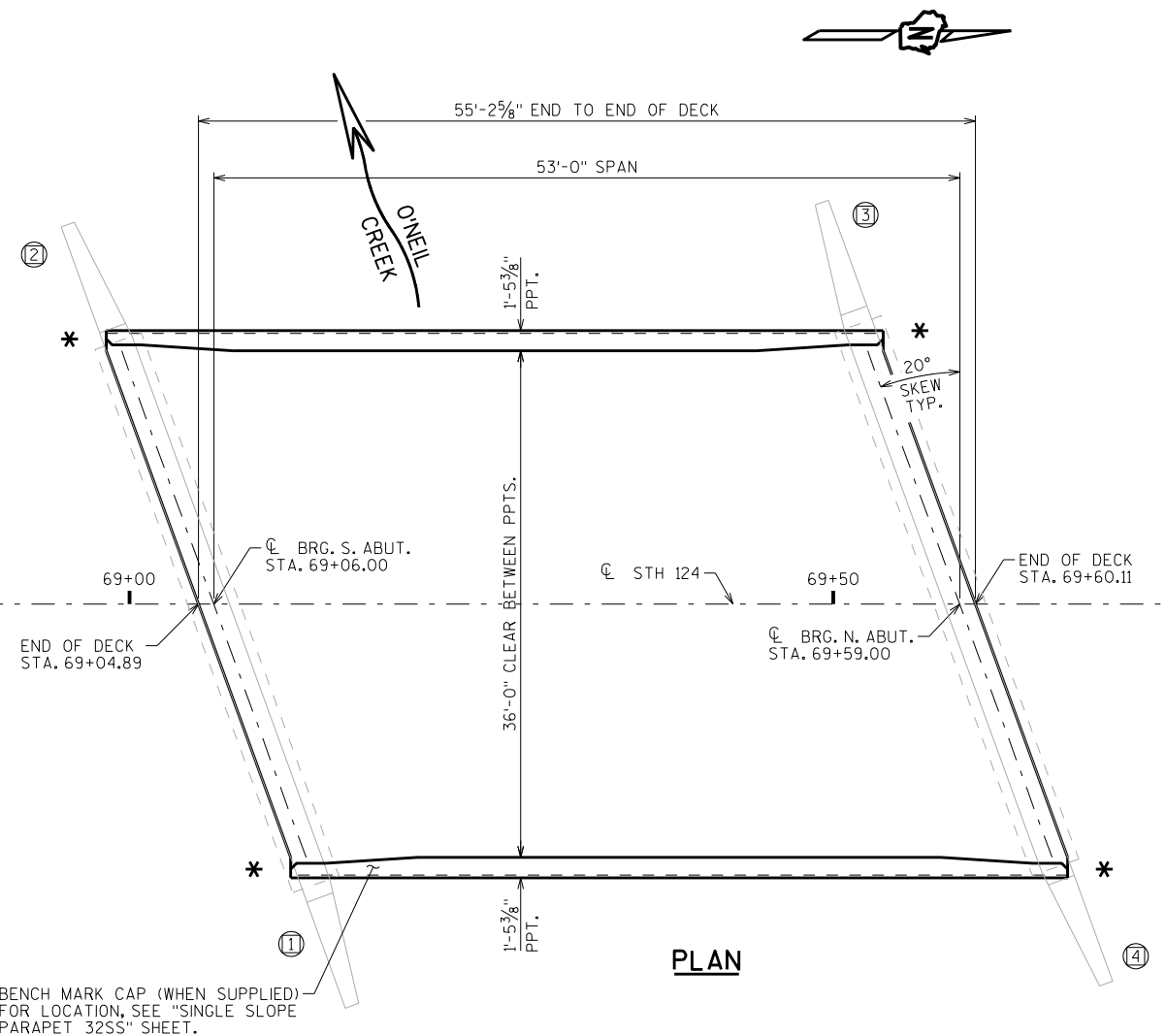
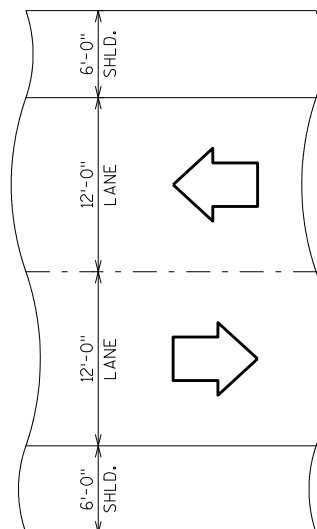
CONST. JOINT - STRIKE OFF AS SHOWN.

** MEASURED NORMAL TO \odot STH 124

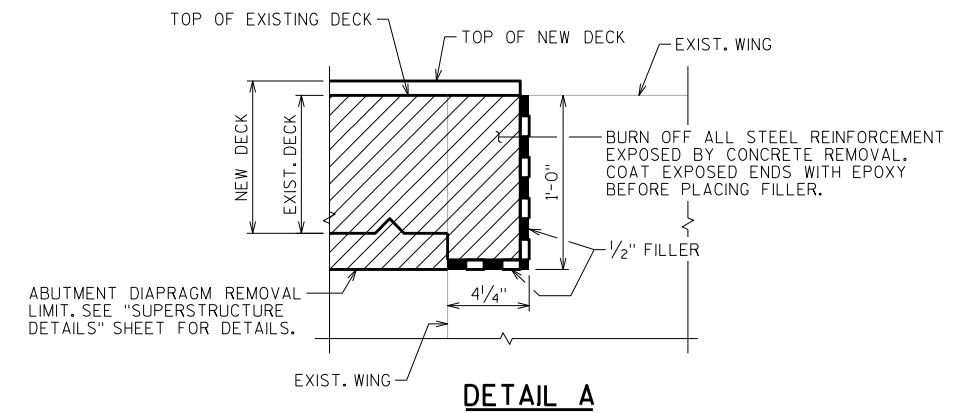


CROSS SECTION THRU ROADWAY
SHOWING REMOVAL LIMITS

INDICATES WING NUMBER




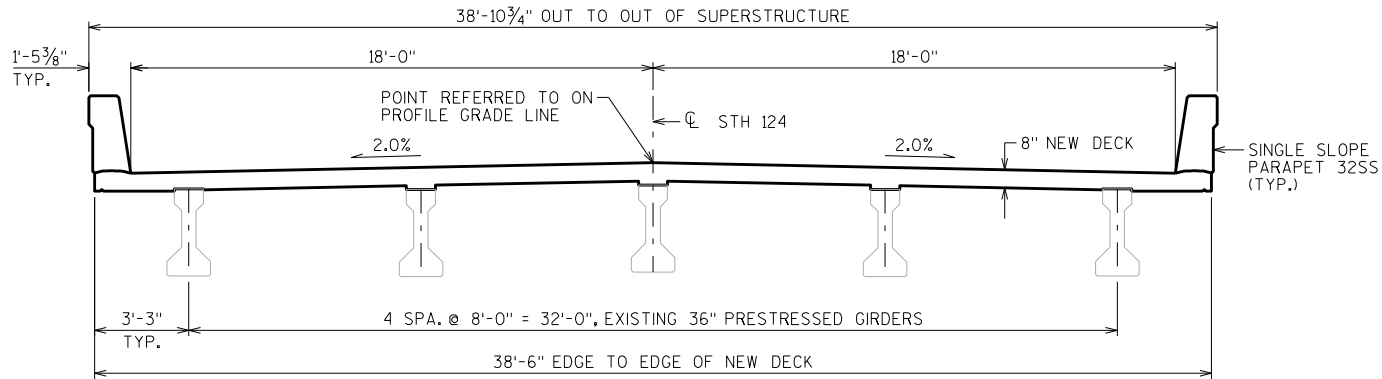
ADT = 4,400 (2037)
R.D.S. = 60 M.P.H.



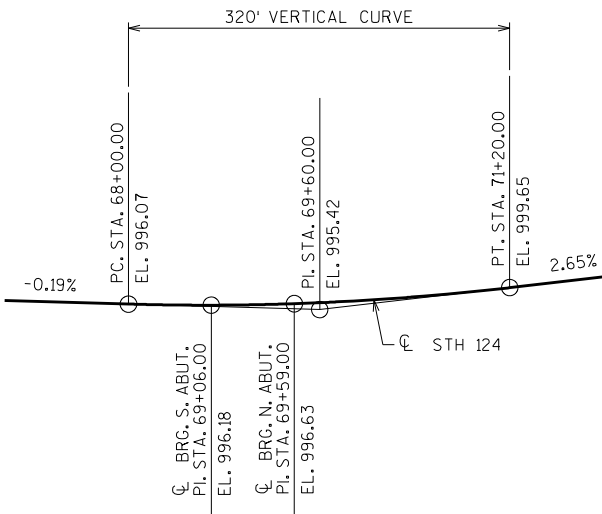
1. DECK REPLACEMENT
2. CROSS SECTION & QUANTITIES
3. SUPERSTRUCTURE CROSS SECTION
4. SUPERSTRUCTURE PLAN
5. SUPERSTRUCTURE DETAILS
6. SINGLE SLOPE PARAPET 32SS

MICAH BROOKS (608) 266-5080
LAURA SHADEWALD (608) 267-9592

| | | | |
|---|--------------------|---------------------------------------|-----------------|
| | | | |
| NO. | DATE | REVISION | BY |
|  | | BUREAU OF STRUCTURES | |
| ACCEPTED <u>William C. Decker^{LS}</u> | | <u>8/4/17</u> | |
| CHIEF STRUCTURES DESIGN ENGINEER | | DATE | |
| STRUCTURE B-9-126 | | | |
| STH 124 OVER O'NEIL CREEK | | | |
| COUNTY CHIPPewa | | TOWN Eagle Point | |
| DESIGN SPEC. REHABILITATION N/A | | | |
| DESIGNED BY MWB | DESIGNED CK'D. MJL | DRAWN BY MWB | PLANS CK'D. MJL |
| DECK REPLACEMENT | | SHEET 1 OF 6 | |



CROSS SECTION THRU ROADWAY
LOOKING NORTH



PROFILE GRADE LINE - STH 124

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.

ALL CONCRETE REMOVAL SHALL BE DEFINED BY A 1" DEEP SAW CUT.

BEVEL EXPOSED EDGES OF CONCRETE 3/4" UNLESS OTHERWISE NOTED.

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE "SUPERSTRUCTURE CROSS SECTION" SHEET.

PROTECTIVE SURFACE TREATMENT TO BE APPLIED TO THE ENTIRE TOP OF DECK.

PIGMENTED SURFACE SEALER TO BE APPLIED TO THE FRONT FACE AND THE TOP OF THE PARAPETS.

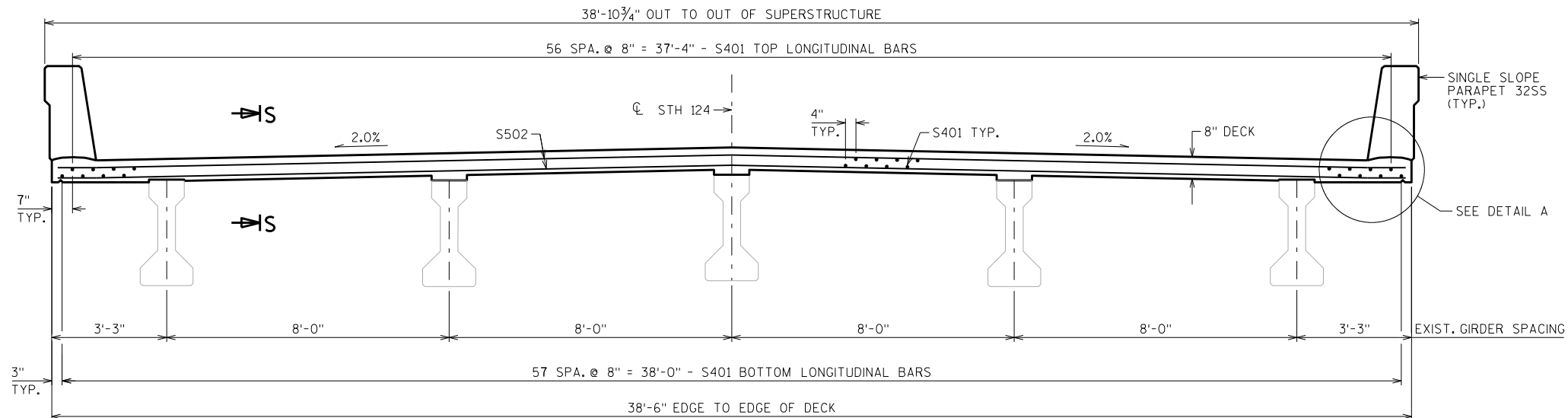
ANY EXCAVATION NECESSARY TO COMPLETE THE CONSTRUCTION OF THE NEW DECK SHALL BE CONSIDERED INCIDENTAL TO "REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 69+32.50."

DIMENSIONS SHOWN ARE BASED ON THE ORIGINAL STRUCTURE PLANS.

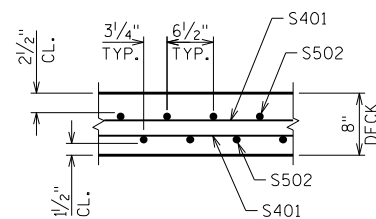
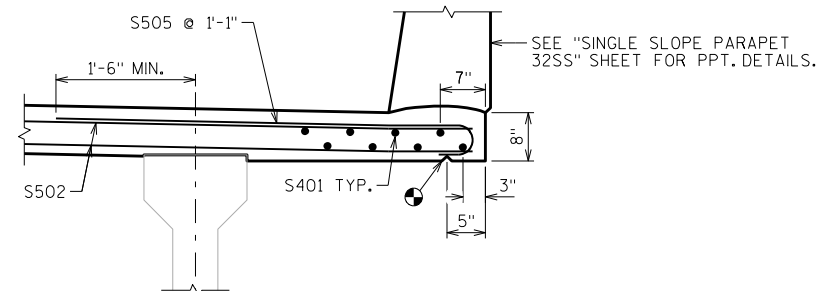
TOTAL ESTIMATED QUANTITIES

| BID ITEM NUMBER | BID ITEMS | UNIT | TOTALS |
|-----------------|--|------|--------|
| 203.0600 | REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 69+32.50 | LS | 1 |
| 502.0100 | CONCRETE MASONRY BRIDGES | CY | 68 |
| 502.3200 | PROTECTIVE SURFACE TREATMENT | SY | 221 |
| 502.3210 | PIGMENTED SURFACE SEALER | SY | 46 |
| 505.0600 | BAR STEEL REINFORCEMENT HS COATED STRUCTURES | LB | 16,530 |
| 614.0150 | ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD | EACH | 4 |
| | NON-BID ITEMS | | |
| | FILLER | SIZE | 1/2" |

| | | | |
|---|------|----------|-----------------|
| NO. | DATE | REVISION | BY |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION | | | |
| STRUCTURE B-9-126 | | | |
| DRAWN BY | | MWB | PLANS CK'D. MJL |
| CROSS SECTION & QUANTITIES | | | SHEET 2 |

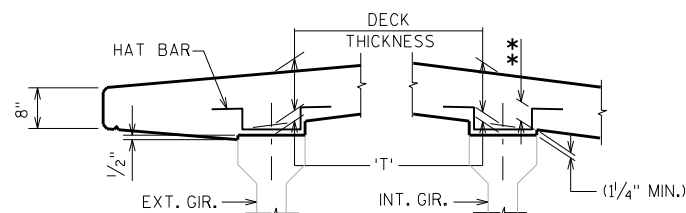
**CROSS SECTION THRU ROADWAY**

LOOKING NORTH

**SECTION S-S****DETAIL A**

(TYP. BOTH EDGES OF DECK)

3/4\" V-GROOVE (TYP.) TERMINATE 6\" FROM F.F. OF ABUTMENT DIAPHRAGMS.

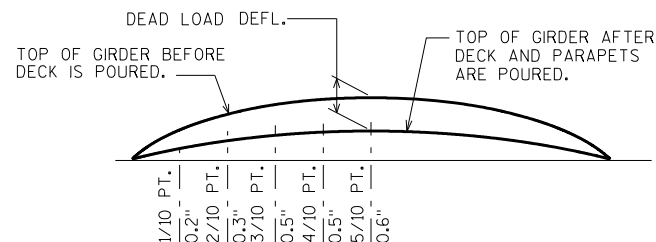
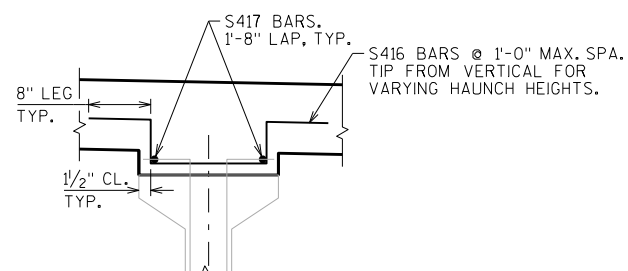
**DECK HAUNCH DETAIL**

IF 1/4\" 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 DECK THICKNESS SHALL BE HELD. NOTIFY THE STRUCTURES SECTION IF THE GRADE LINE IS RAISED FROM THE PLAN PROFILE BY MORE THAN 1/2\" OR, ** IF 3\" MINIMUM DECK EMBEDMENT OF HAT BAR CANNOT BE OBTAINED.

TO DETERMINE 'T', ELEV. OF TOP OF GIR'S. AT C 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
- DECK THICKNESS
- = HAUNCH HEIGHT 'T'

NOTE: AN AVERAGE HAUNCH ('T') OF 2 5/8\" WAS USED IN THE QUANTITY \"CONCRETE MASONRY BRIDGES\".

**DEAD LOAD DEFLECTION DIAGRAM****GIRDER HAUNCH DETAIL**

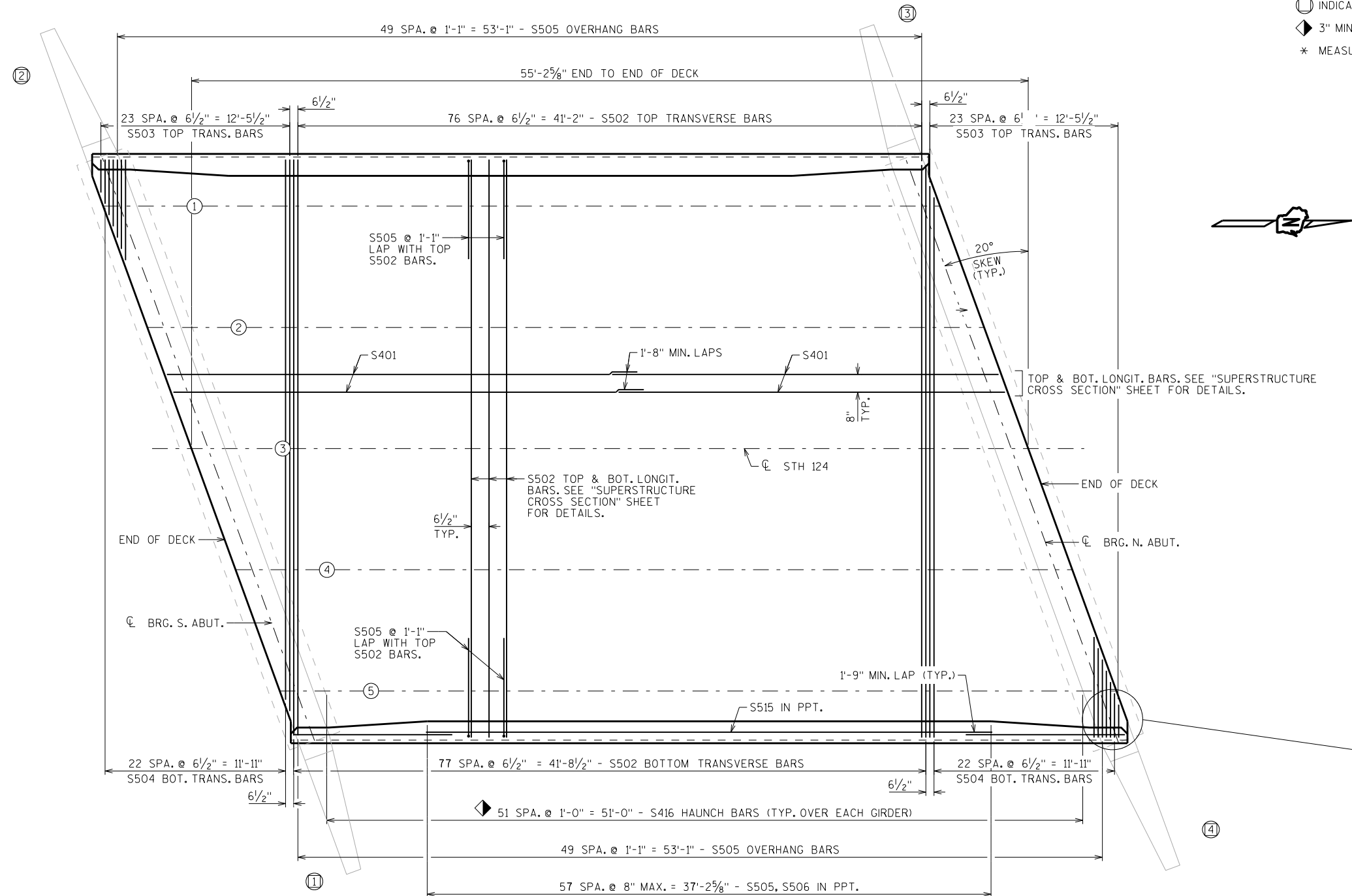
| NO. | DATE | REVISION | BY |
|---|------|----------|-----------------|
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION | | | |
| STRUCTURE B-9-126 | | | |
| DRAWN BY | | MWB | PLANS CK'D. MJL |
| SUPERSTRUCTURE CROSS SECTION | | | SHEET 3 |

○ INDICATES GIRDER NUMBER

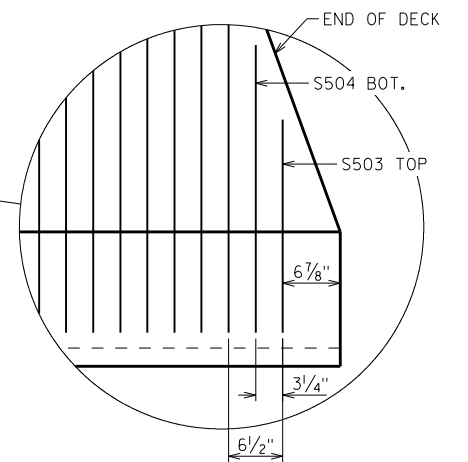
□ INDICATES WING NUMBER

◆ 3" MIN. DECK EMBEDMENT REQUIRED.

* MEASURED FROM END OF GIRDER



PLAN



CORNER DETAIL

TYP. WINGS 2 AND 4

TOP OF DECK ELEVATIONS

| | CL BRG. S. ABUT. | 1/10 | 2/10 | 3/10 | 4/10 | 5/10 | 6/10 | 7/10 | 8/10 | 9/10 | CL BRG. N. ABUT. |
|----------|------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------------------|
| L EOD | 995.78 | 995.81 | 995.84 | 995.88 | 995.91 | 995.95 | 996.00 | 996.04 | 996.09 | 996.14 | 996.20 |
| GIRDER 1 | 995.83 | 995.86 | 995.89 | 995.92 | 995.96 | 996.00 | 996.05 | 996.09 | 996.14 | 996.20 | 996.25 |
| GIRDER 2 | 996.00 | 996.03 | 996.07 | 996.11 | 996.15 | 996.19 | 996.23 | 996.28 | 996.33 | 996.38 | 996.44 |
| GIRDER 3 | 996.18 | 996.21 | 996.25 | 996.29 | 996.33 | 996.37 | 996.42 | 996.47 | 996.52 | 996.58 | 996.63 |
| GIRDER 4 | 996.04 | 996.07 | 996.11 | 996.15 | 996.19 | 996.24 | 996.29 | 996.34 | 996.39 | 996.45 | 996.51 |
| GIRDER 5 | 995.90 | 995.93 | 995.97 | 996.01 | 996.06 | 996.10 | 996.15 | 996.21 | 996.26 | 996.32 | 996.38 |
| R EOD | 995.86 | 995.90 | 995.94 | 995.98 | 996.03 | 996.07 | 996.12 | 996.18 | 996.23 | 996.29 | 996.35 |

| NO. | DATE | REVISION | BY |
|---|------|-----------------|---------|
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION | | | |
| STRUCTURE B-9-126 | | | |
| DRAWN BY MWB | | PLANS CK'D. MJL | |
| SUPERSTRUCTURE PLAN | | | SHEET 4 |

BILL OF BARS

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

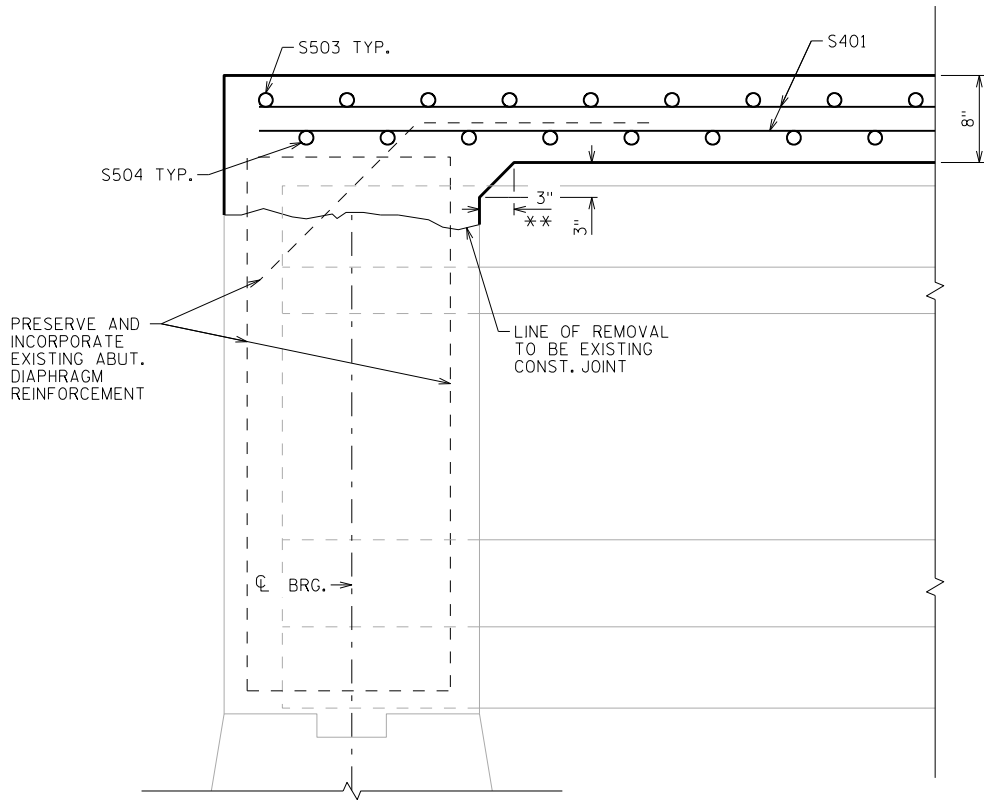
| BAR MARK | COAT | NO. REQ'D. | LENGTH | BENT | BAR SERIES | LOCATION |
|----------|------|------------|--------|------|------------|---------------------------------------|
| S401 | X | 230 | 28'-4" | | | DECK - TOP & BOT. - HORIZ. LONGIT. |
| S502 | X | 155 | 38'-2" | | | DECK - TOP & BOT. - HORIZ. TRANS. |
| S503 | X | 48 | 19'-4" | | ▲ | DECK - TOP - CORNERS - HORIZ. TRANS. |
| S504 | X | 46 | 19'-4" | | ▲ | DECK - BOT. - CORNERS - HORIZ. TRANS. |
| S505 | X | 100 | 5'-2" | X | | DECK - OVERHANG - TRANS. |
| S406 | — | NOT | USED | — | | |
| S507 | X | 116 | 4'-5" | X | | PPT. & DECK - VERT. |
| S508 | X | 116 | 5'-0" | X | | PPT. - VERT |
| S509 | X | 48 | 2'-9" | X | | PPT. & DECK - TRANSITION - VERT. |
| S510 | X | 68 | 4'-4" | X | | PPT. & DECK - TRANSITION - VERT. |
| S511 | X | 44 | 4'-9" | X | | PPT. - TRANSITION - VERT. |
| S512 | X | 24 | 4'-10" | X | | PPT. - TRANSITION - VERT. |
| S513 | X | 4 | 10'-6" | X | | PPT. - TRANSITION - HORIZ. LONGIT. |
| S514 | X | 20 | 10'-6" | | | PPT. - TRANSITION - HORIZ. LONGIT. |
| S515 | X | 12 | 37'-5" | | | PPT. - HORIZ. LONGIT. |
| S416 | X | 260 | 3'-1" | X | | HAUNCHES & DECK - VERT. |
| S417 | X | 20 | 28'-4" | | | HAUNCHES - LONGIT. |

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

BAR SERIES TABLE

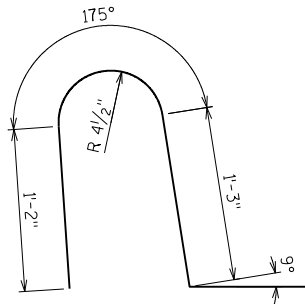
| BAR MARK | NO. REQ'D. | LENGTH |
|----------|----------------|------------------|
| S503 | 2 SERIES OF 24 | 2'-2" TO 36'-5" |
| S504 | 2 SERIES OF 23 | 2'-11" TO 35'-8" |

BUNDLE AND TAG EACH SERIES SEPARATELY.

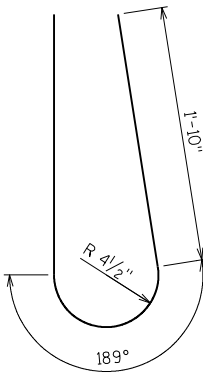


PART LONGIT. SECTION AT ABUTMENT

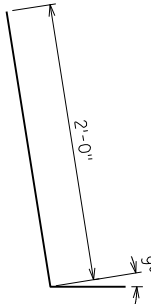
** DIMENSION IS TAKEN NORMAL TO CL SUBSTRUCTURE UNITS



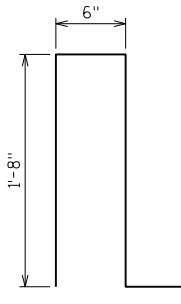
S507



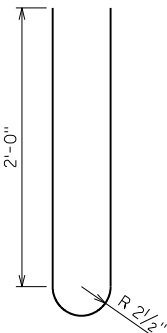
S508



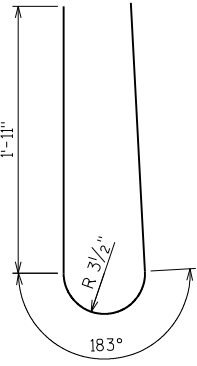
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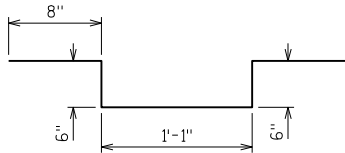
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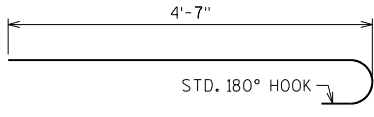
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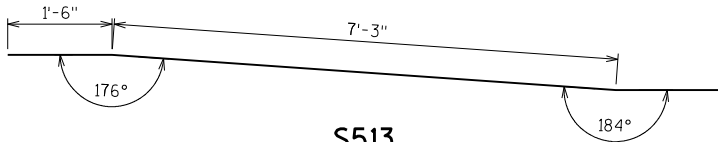
S512



S416

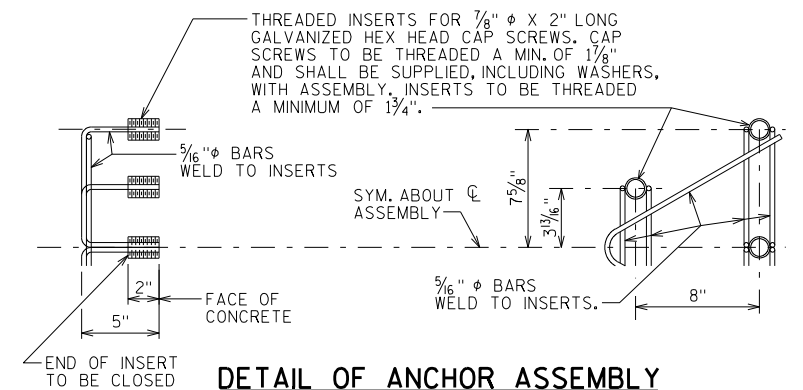
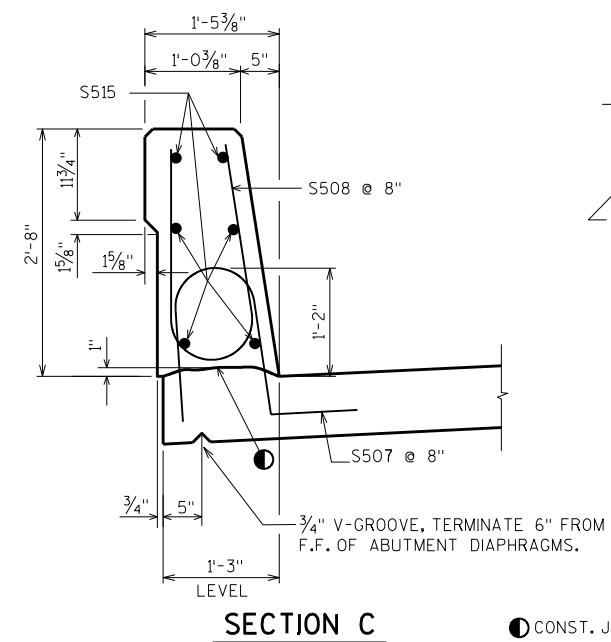
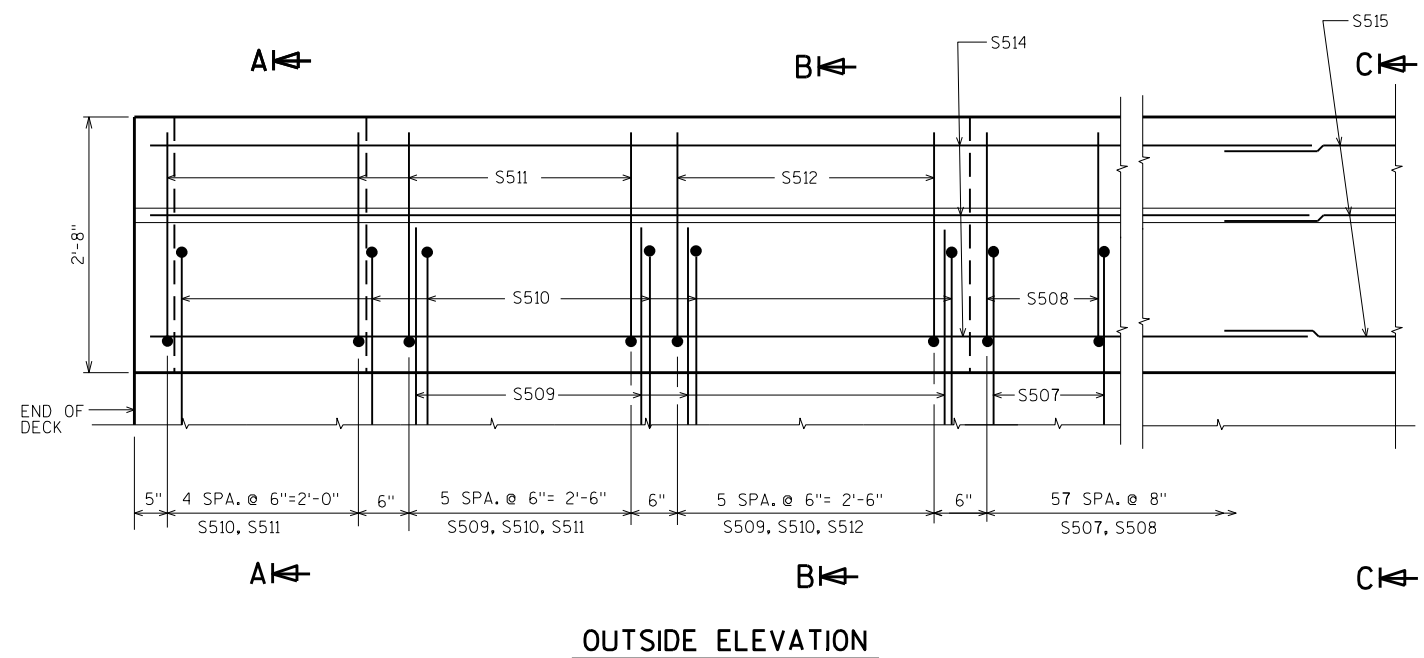
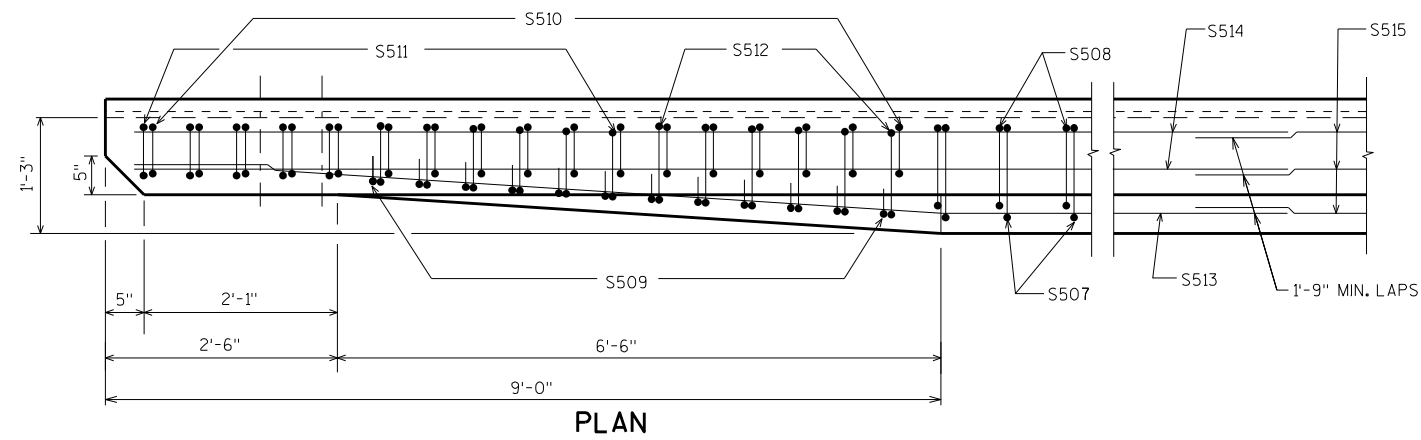
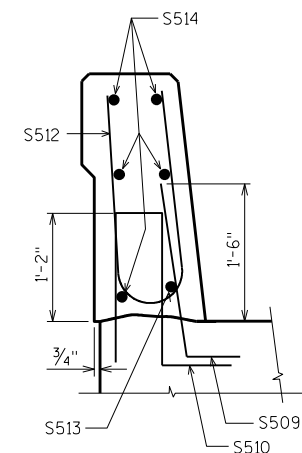
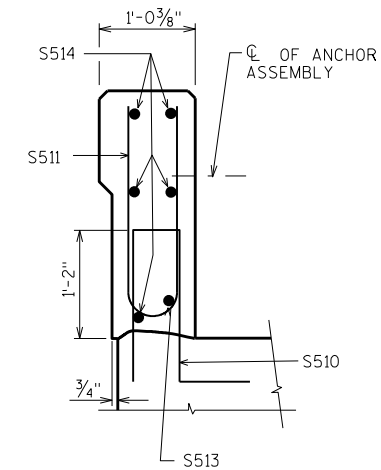
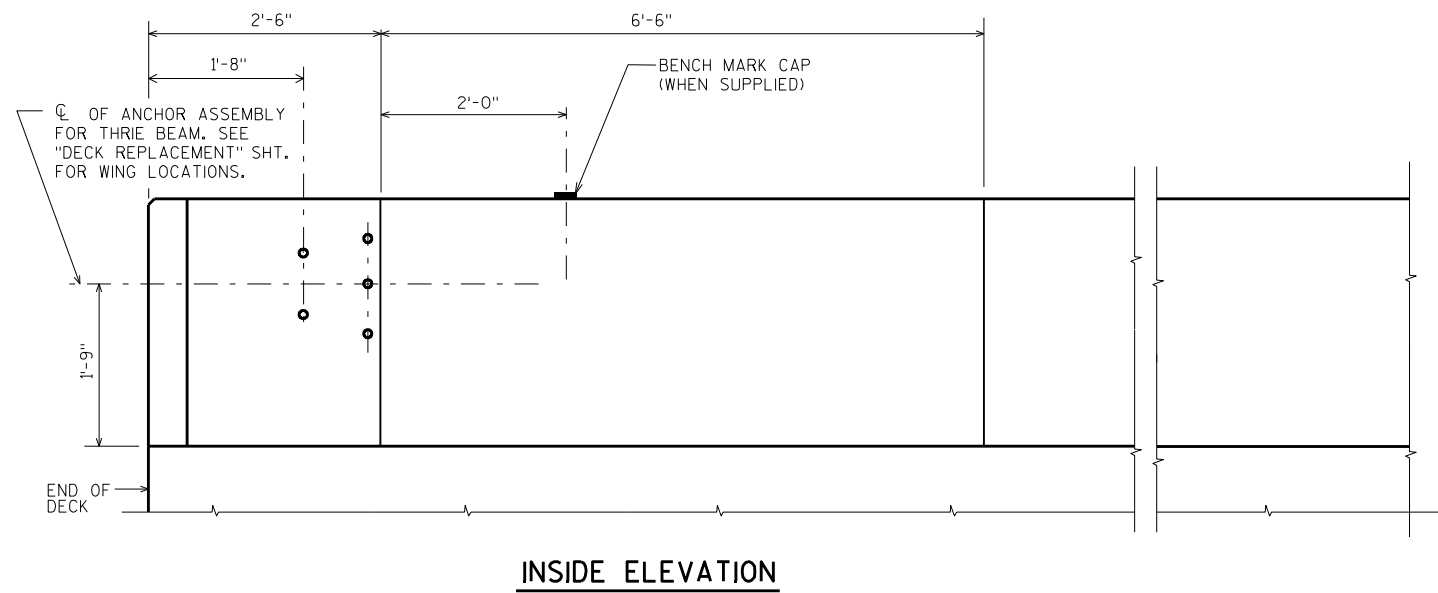


S505



S513

| | | | |
|---|------|----------|-----------------|
| NO. | DATE | REVISION | BY |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION | | | |
| STRUCTURE B-9-126 | | | |
| DRAWN BY | | MWB | PLANS CK'D. MJL |
| SUPERSTRUCTURE DETAILS | | SHEET 5 | |

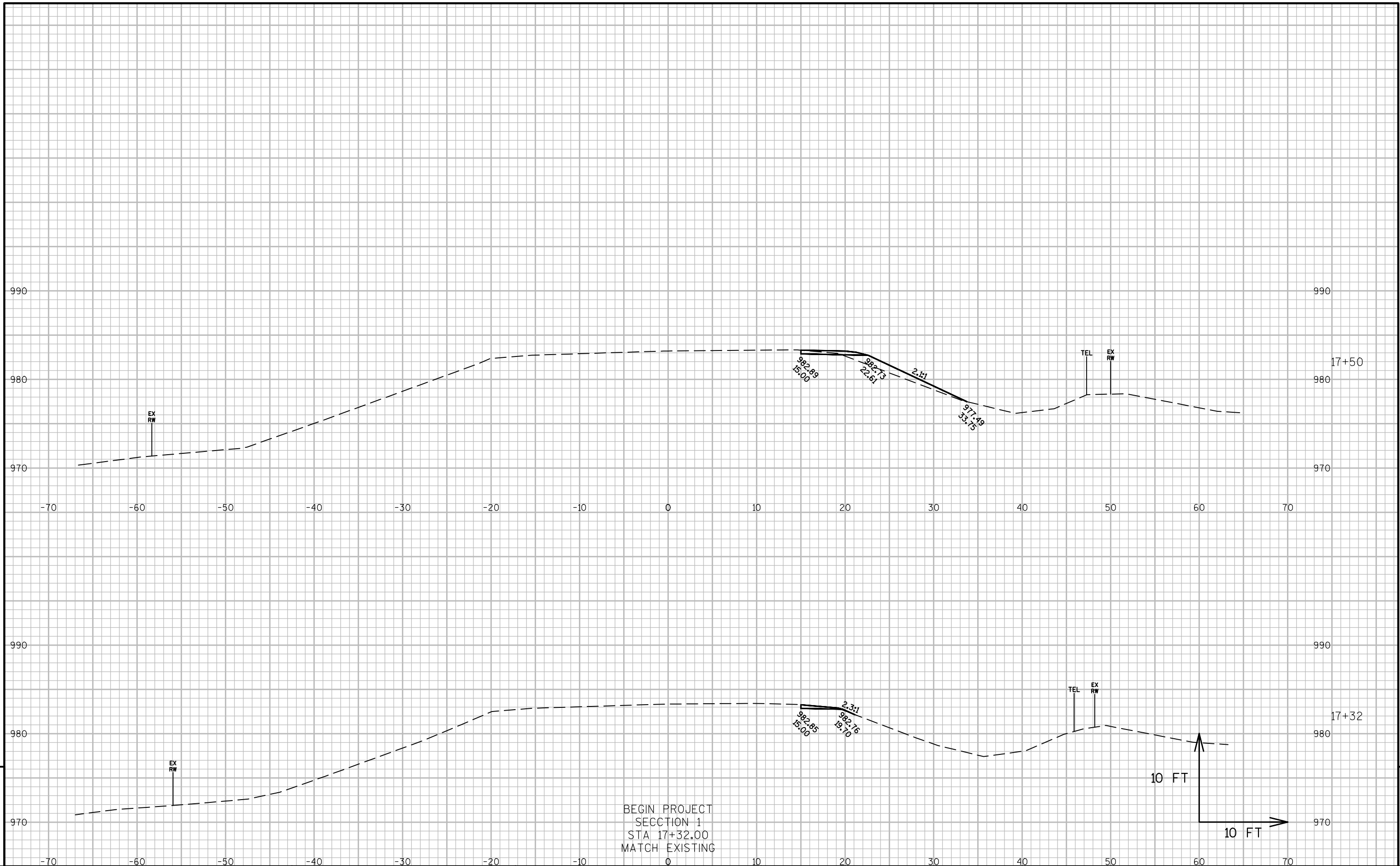


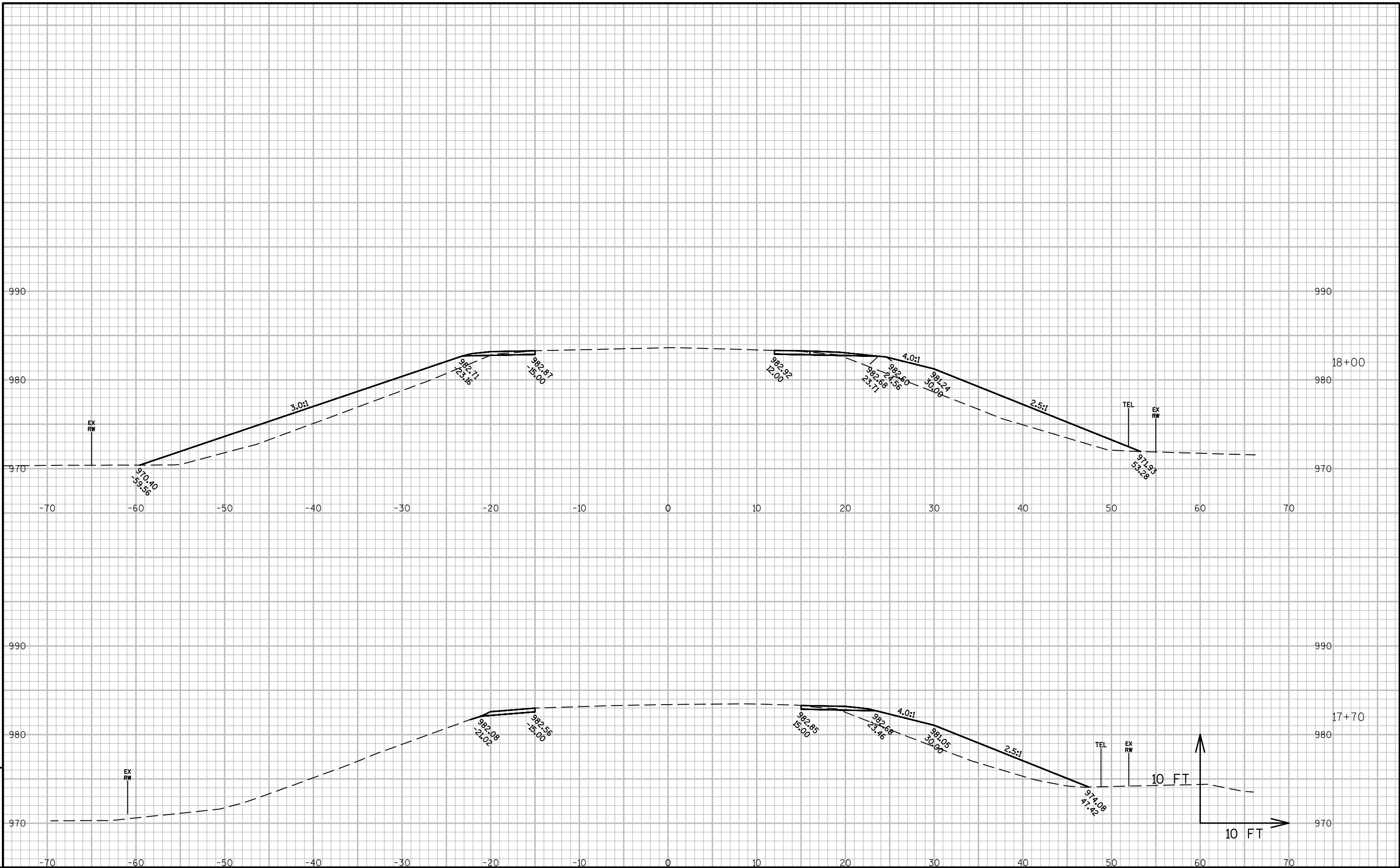
NOTE: HEX HEAD CAP SCREWS & WASHERS TO BE GALVANIZED IN ACCORDANCE WITH AASHTO M232 CLASS C.

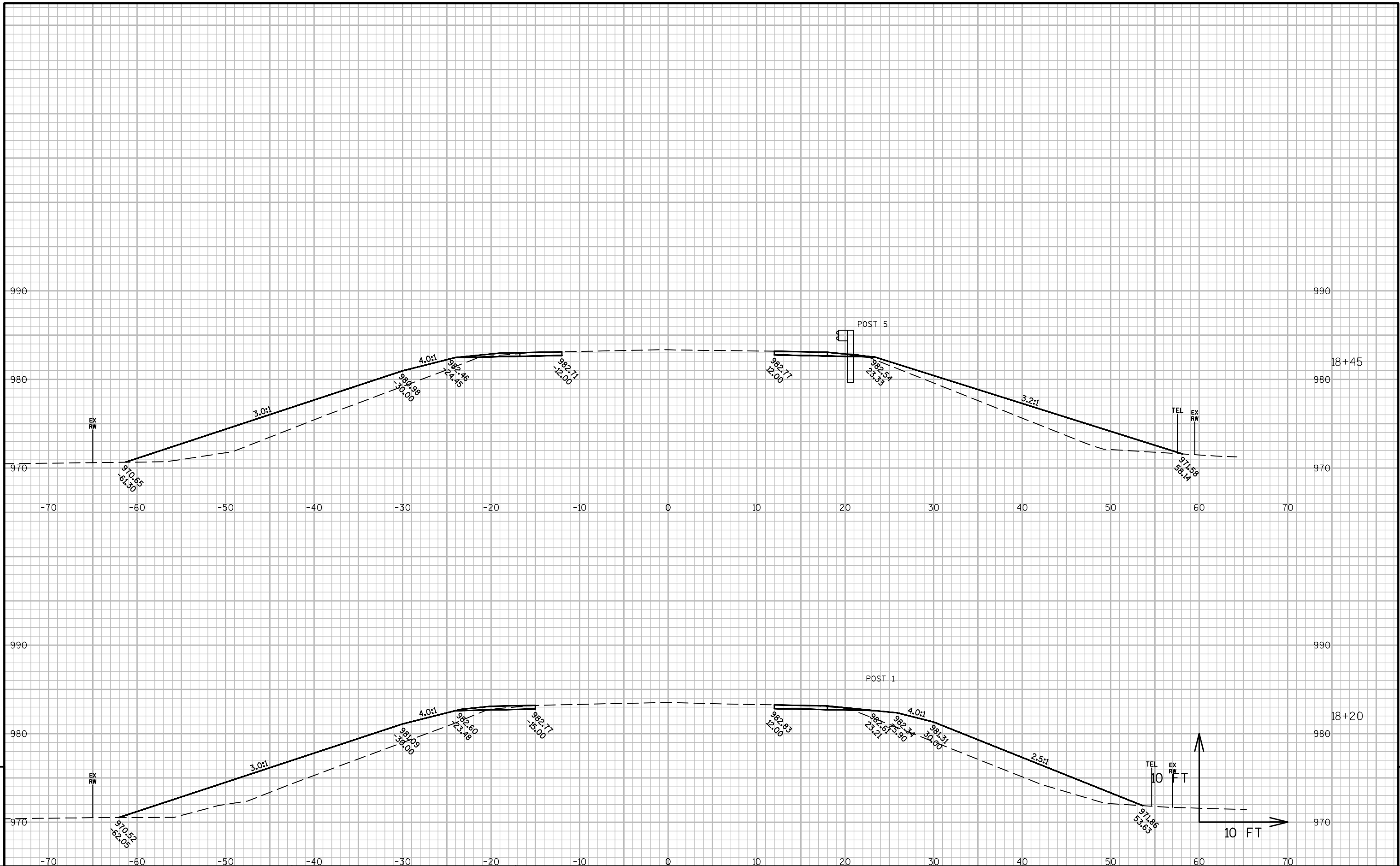
ASSEMBLY SHALL BE BID ITEM "ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD", EACH.

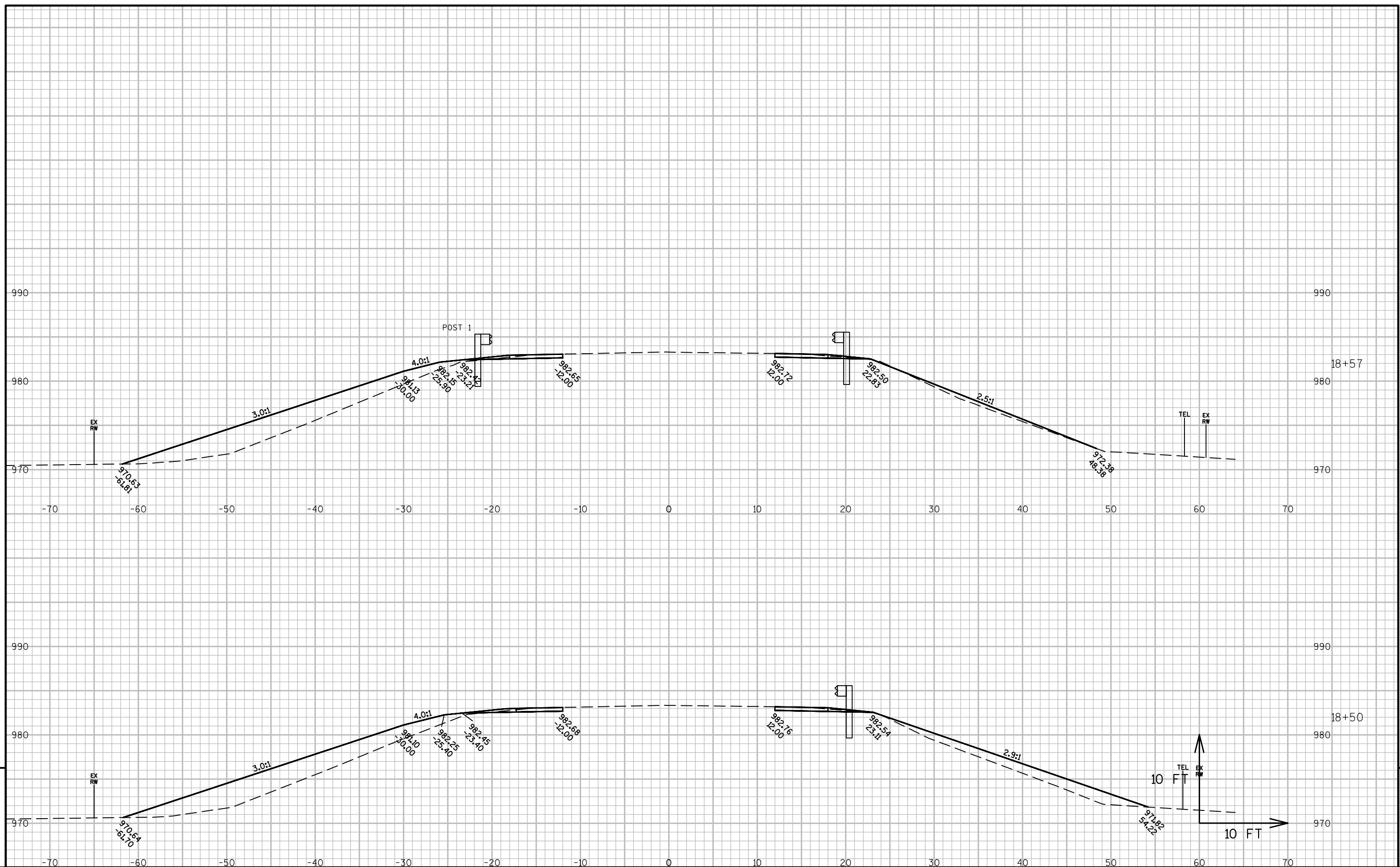
| NO. | DATE | REVISION | BY |
|---|------|----------|-----------------|
| | | | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION STRUCTURES DESIGN SECTION | | | |
| STRUCTURE B-9-126 | | | |
| DRAWN BY | | MWB | PLANS CK'D. MJL |
| SINGLE SLOPE PARAPET 32SS | | | SHEET 6 |

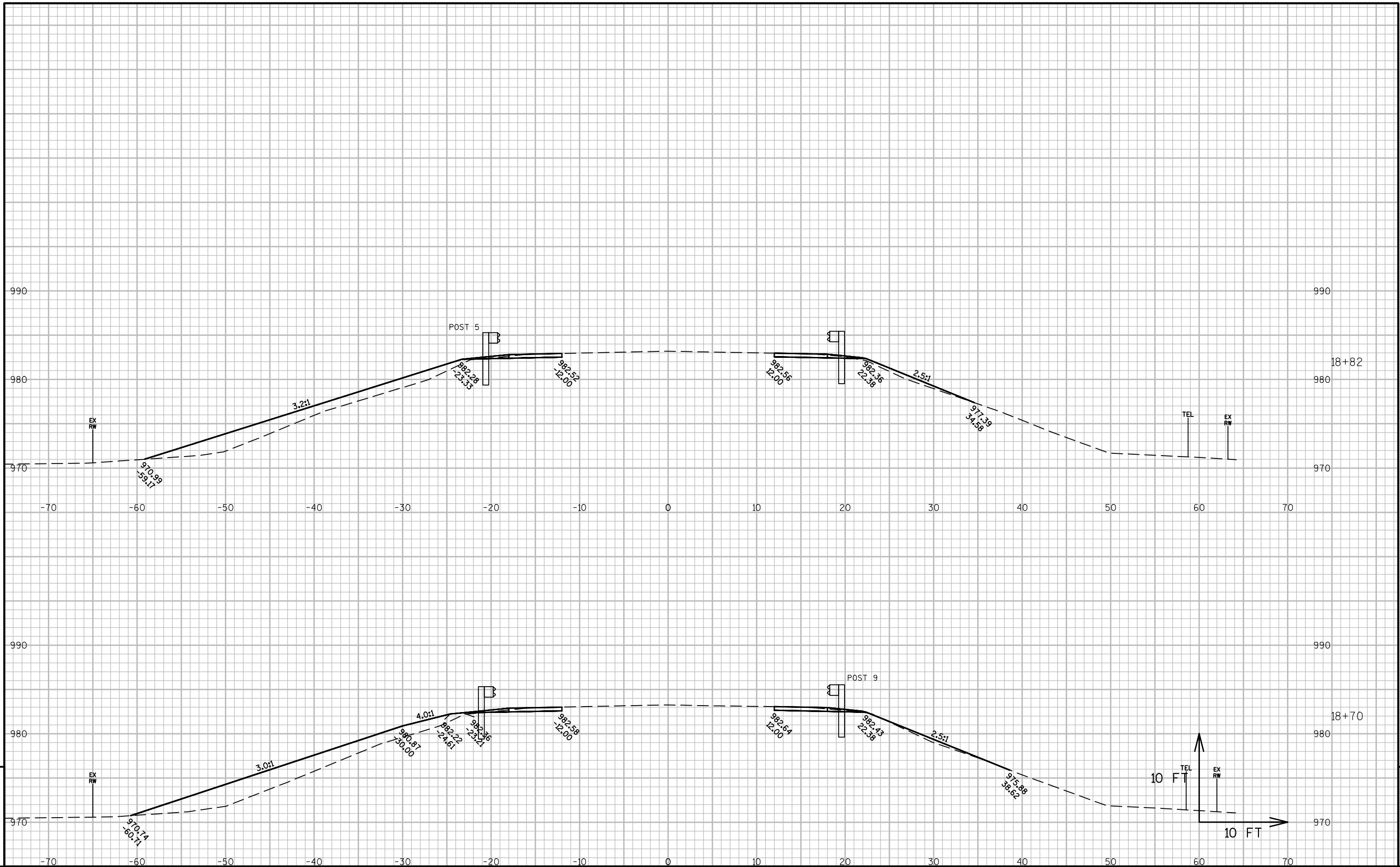
● CONST. JOINT - STRIKE OFF AS SHOWN.

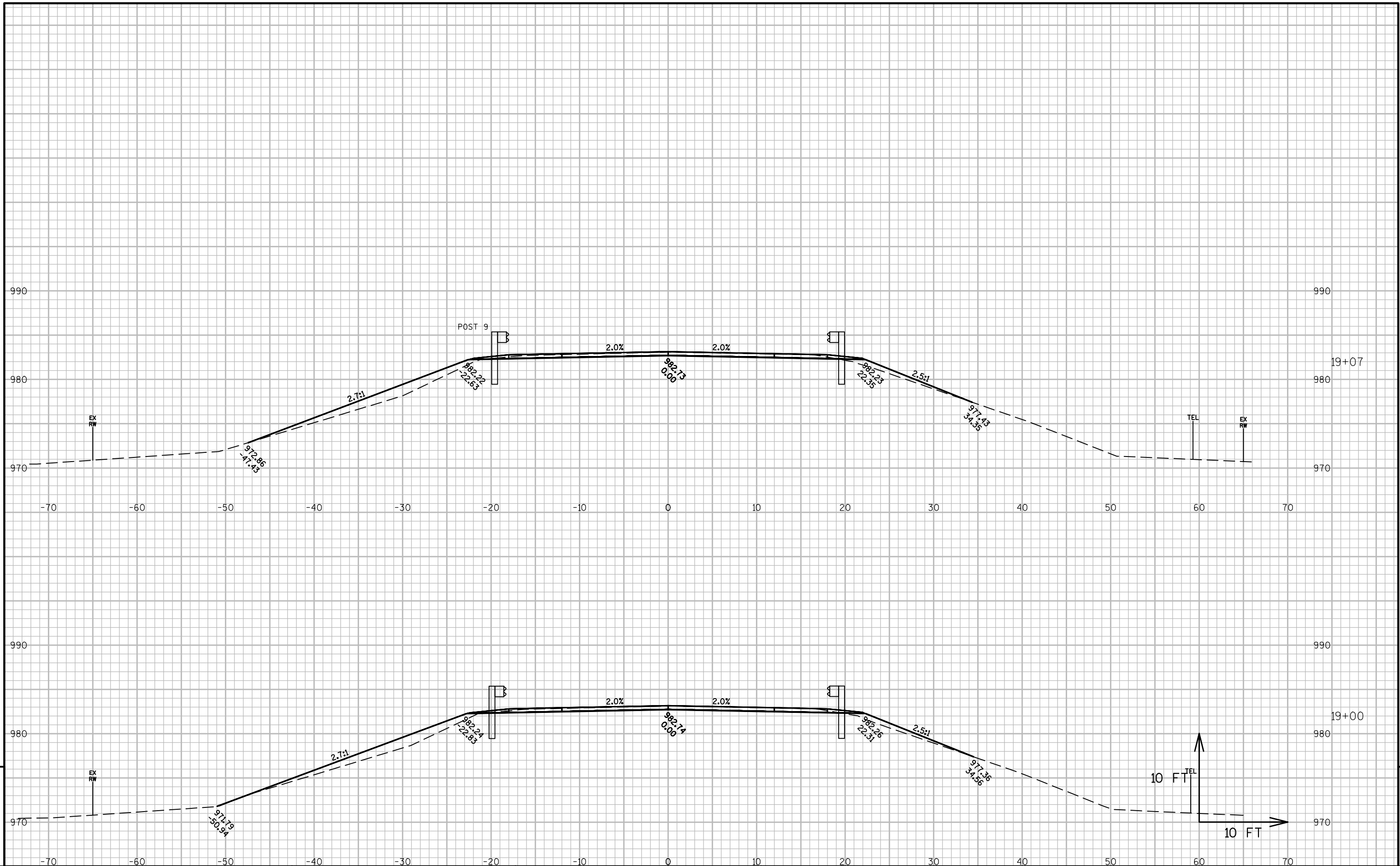


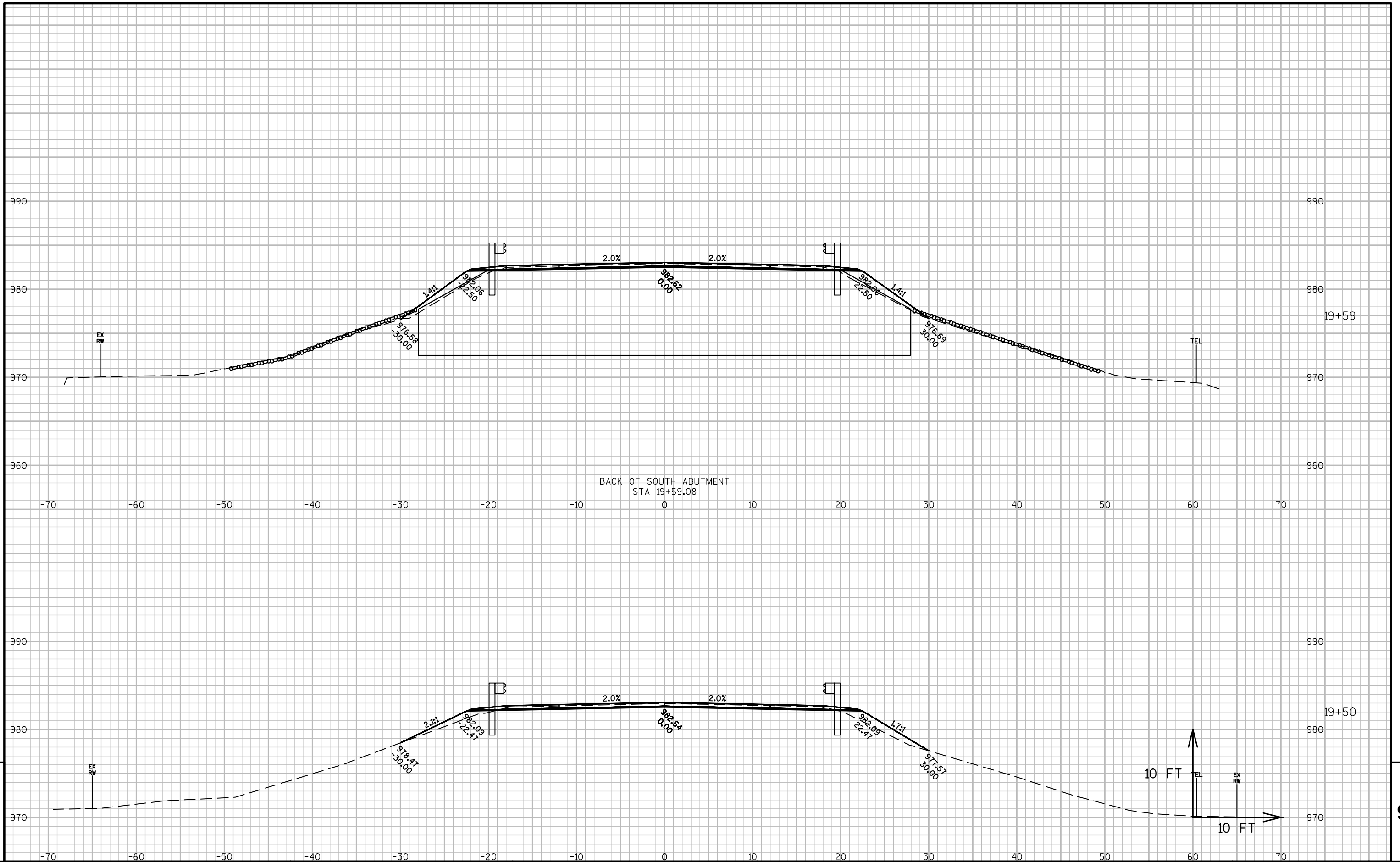


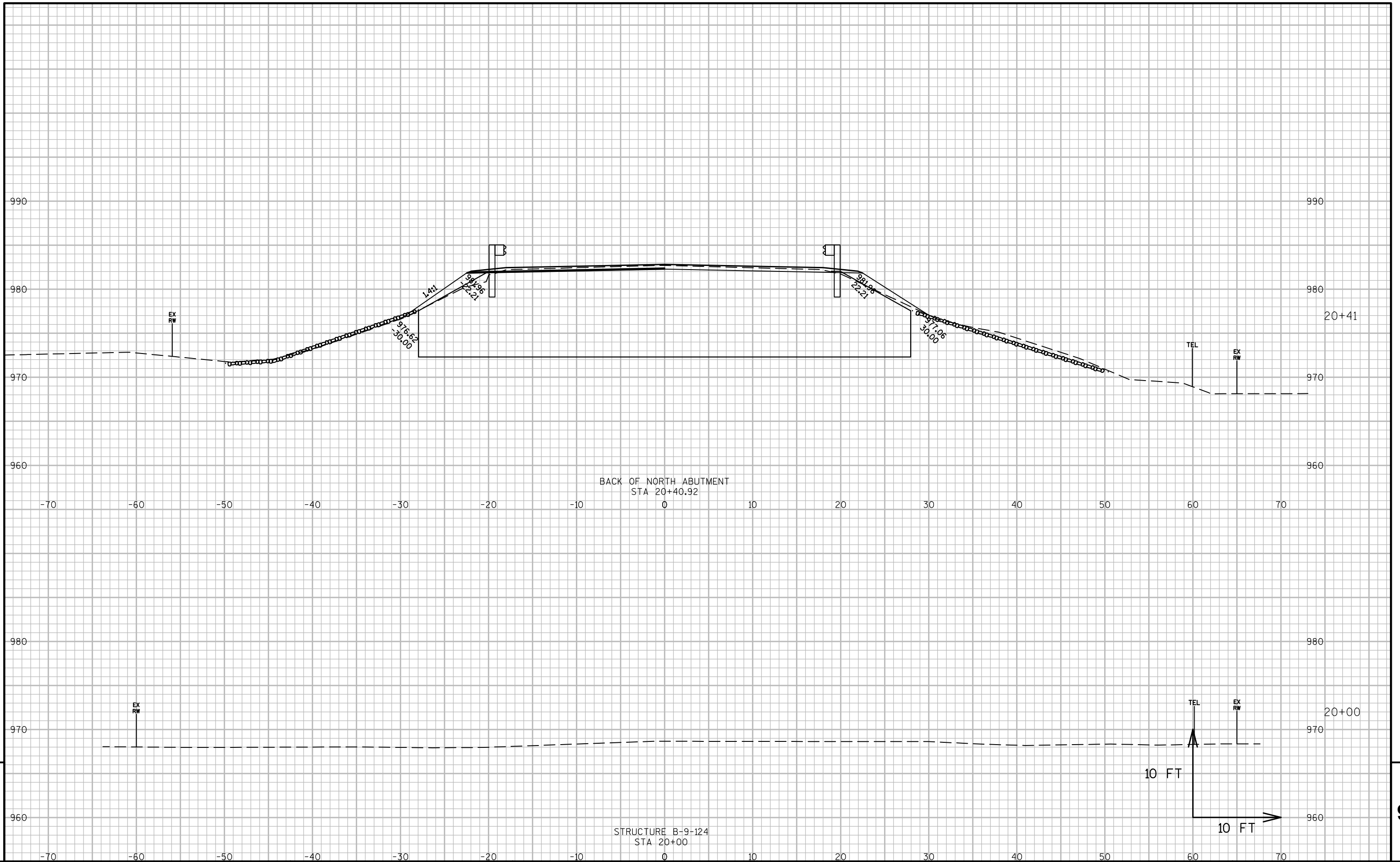


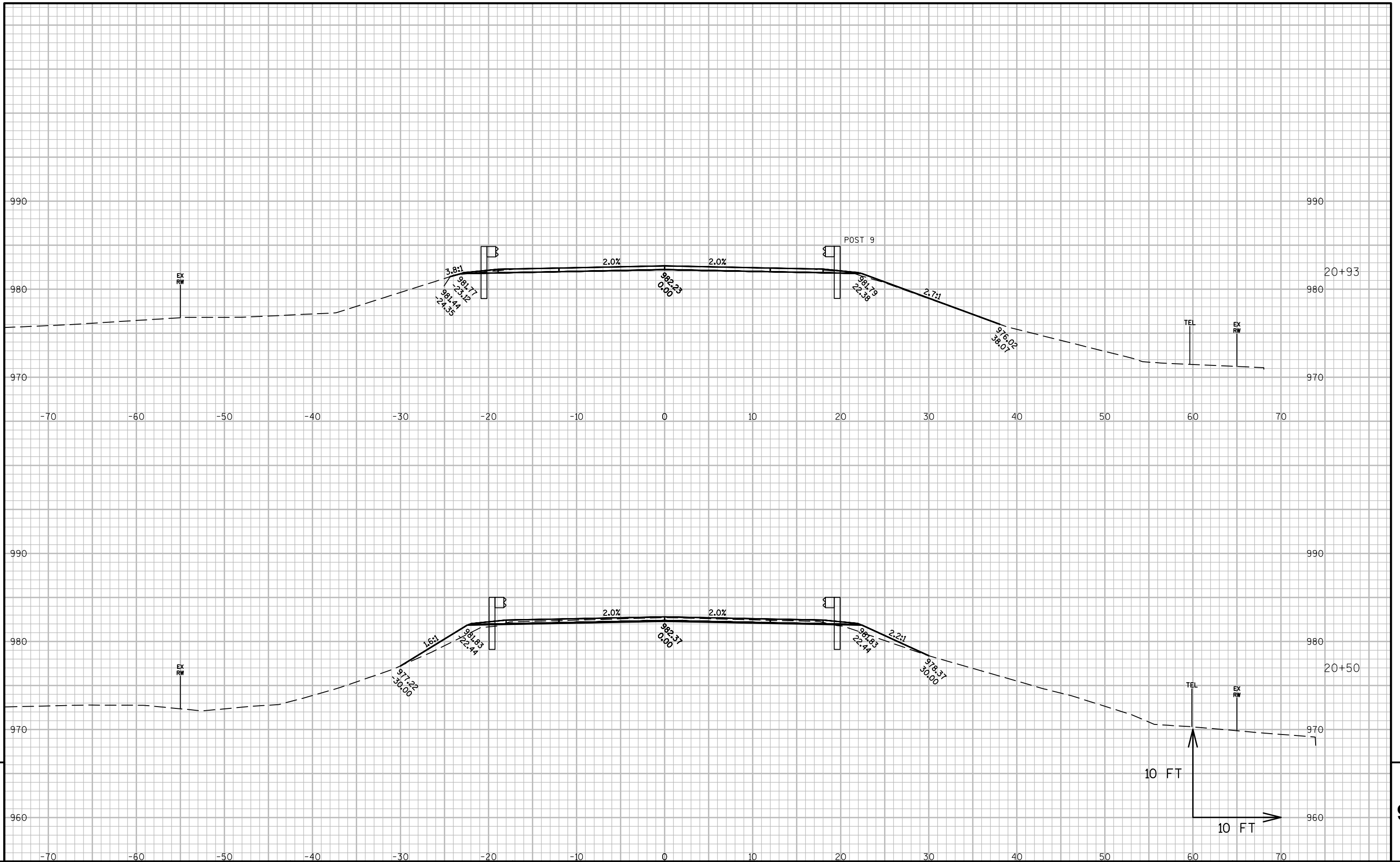


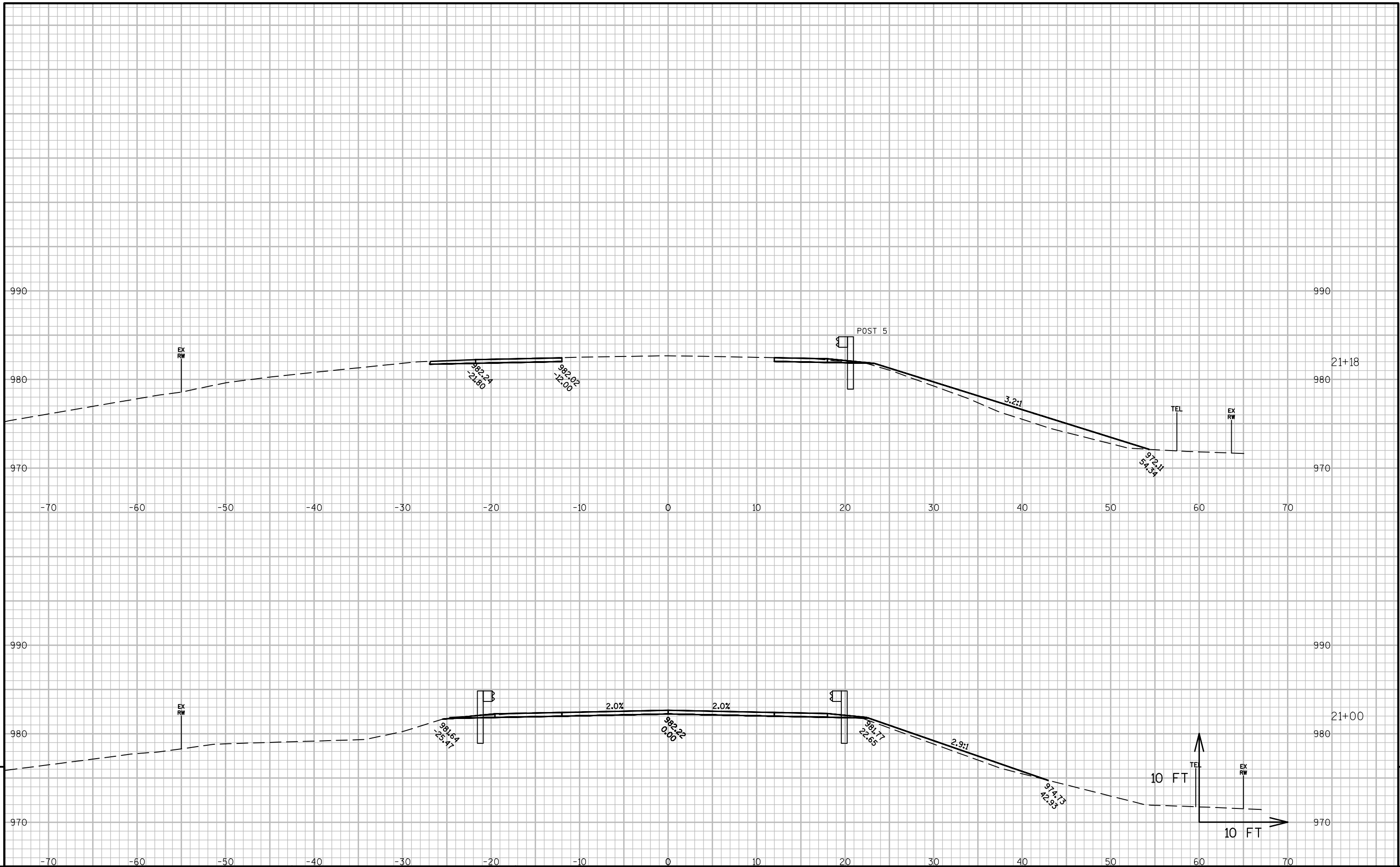


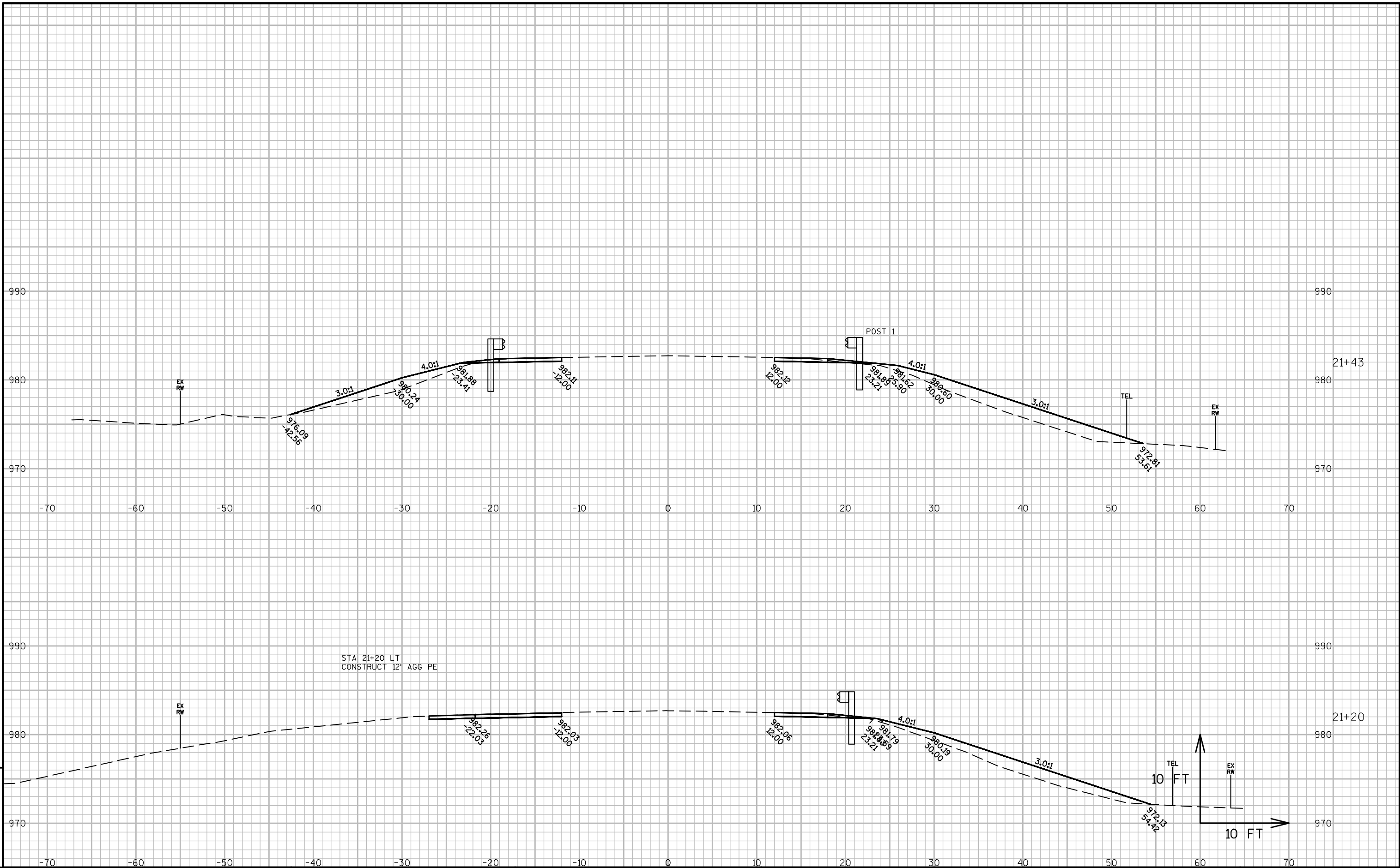


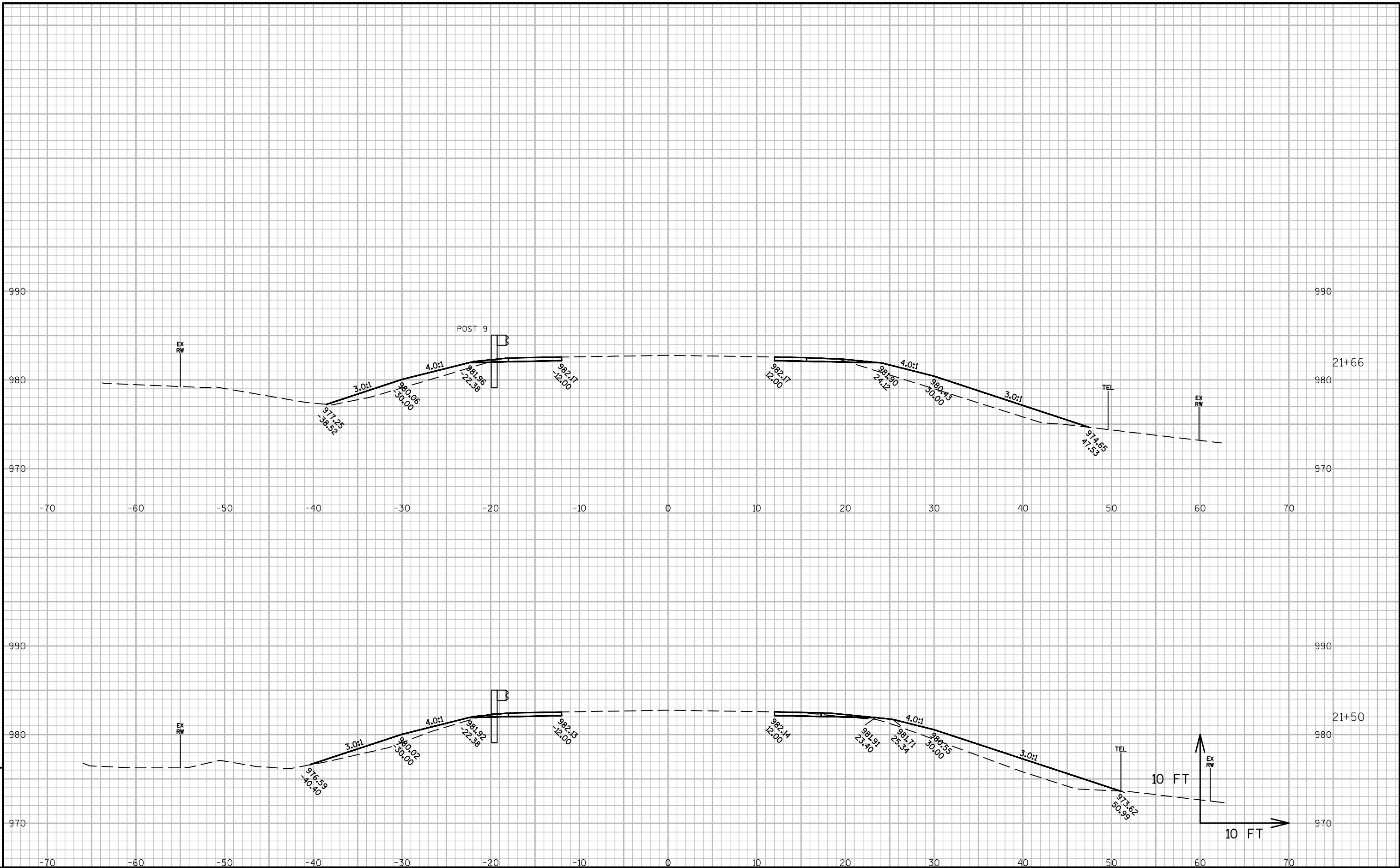


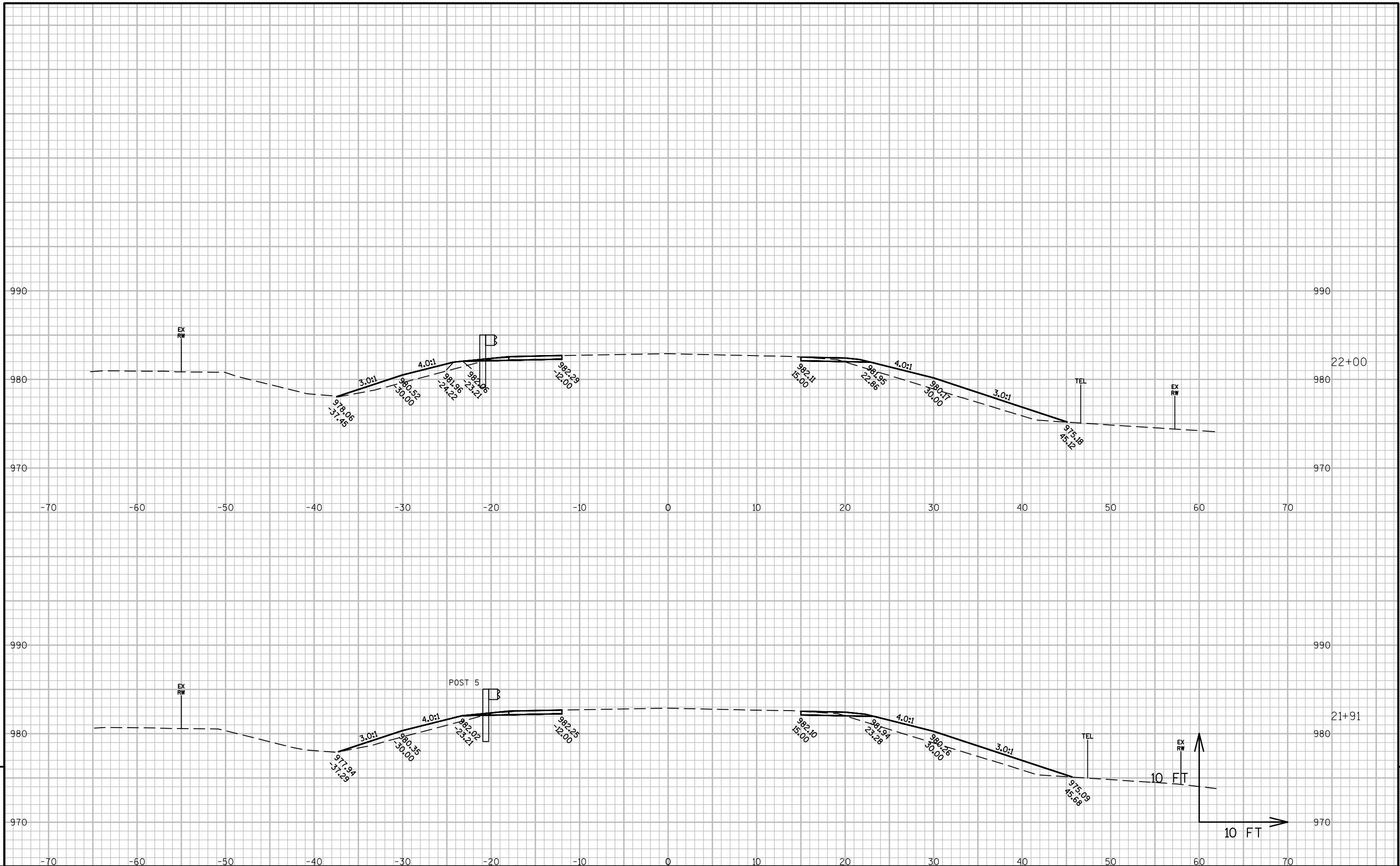


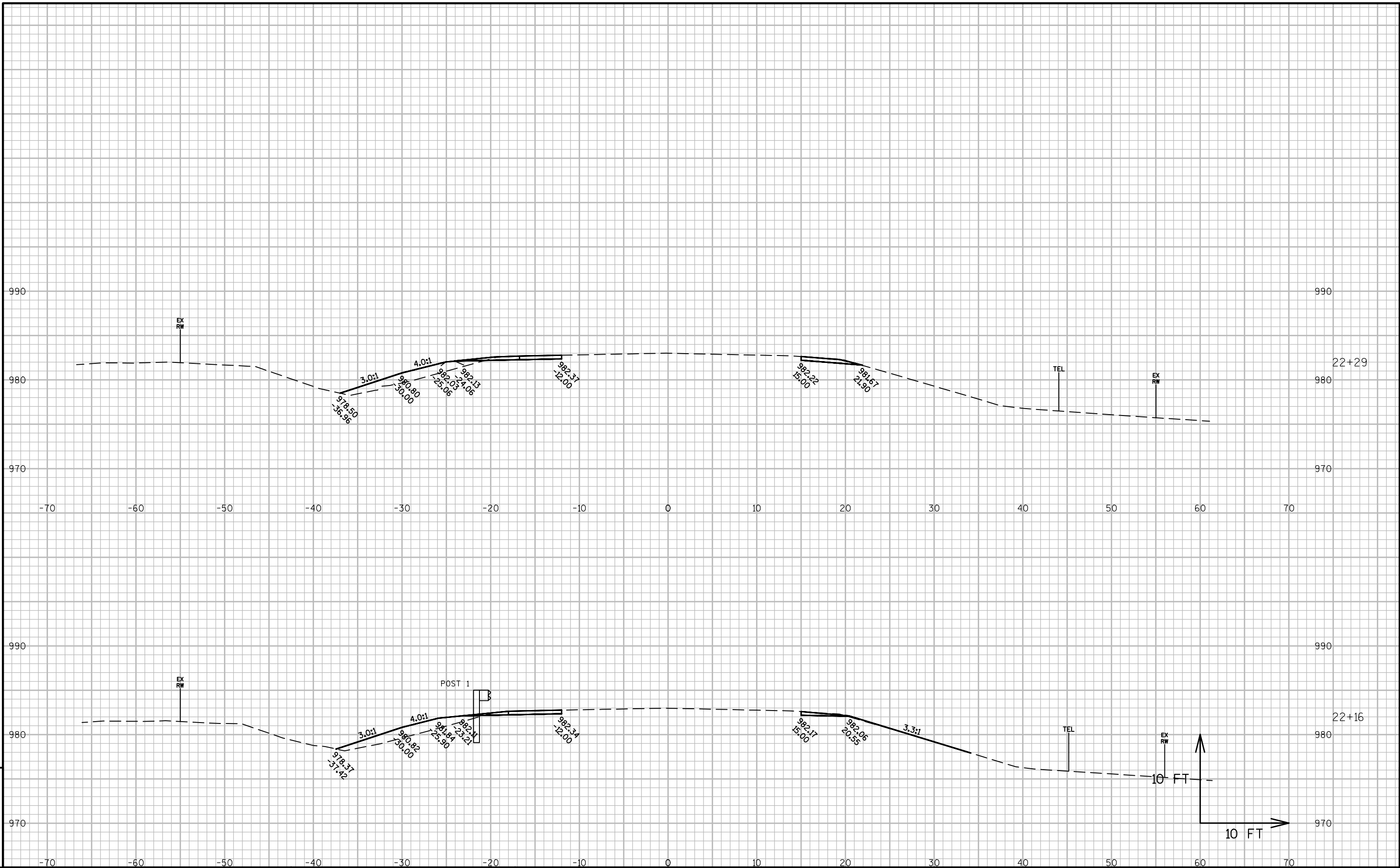


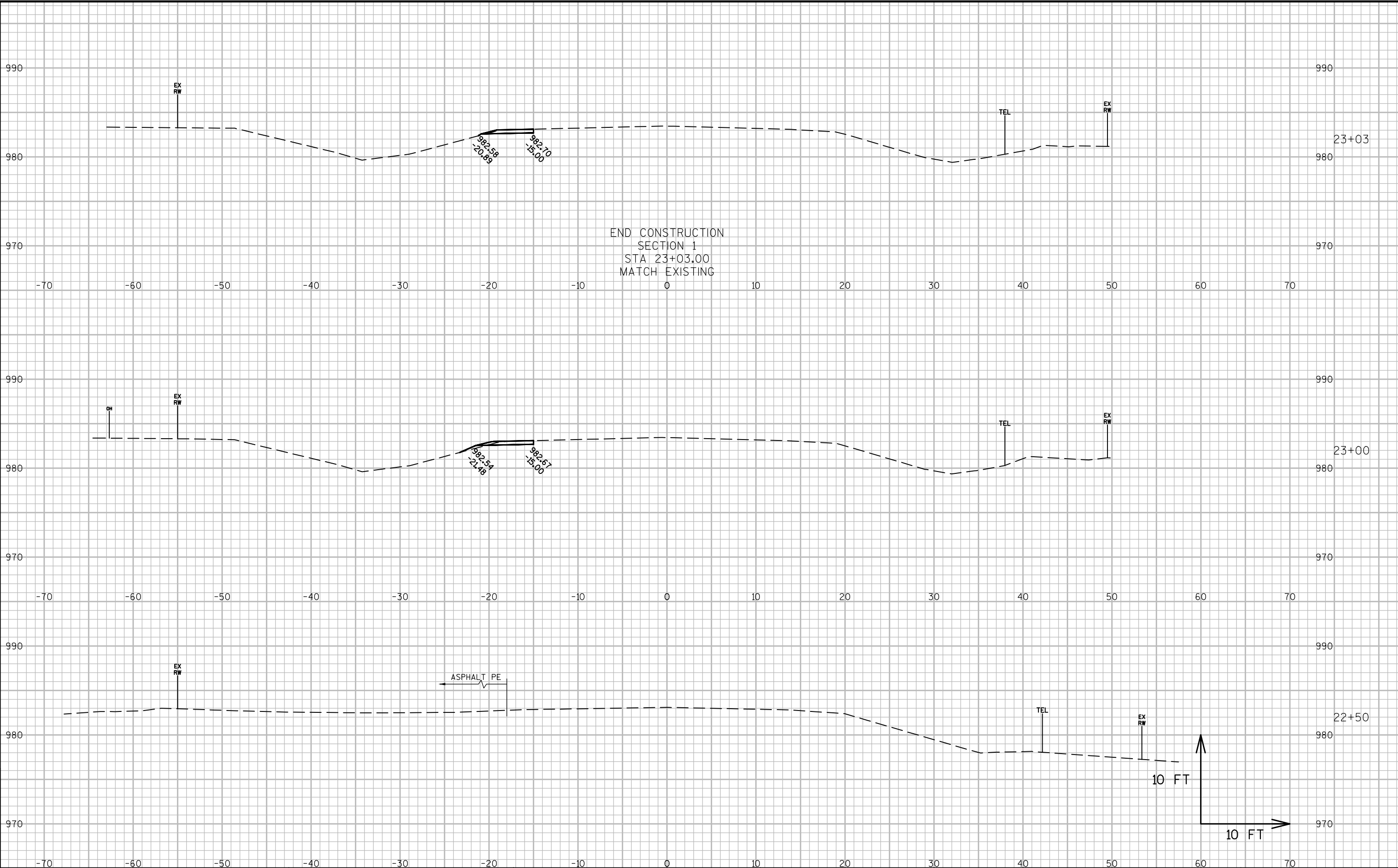


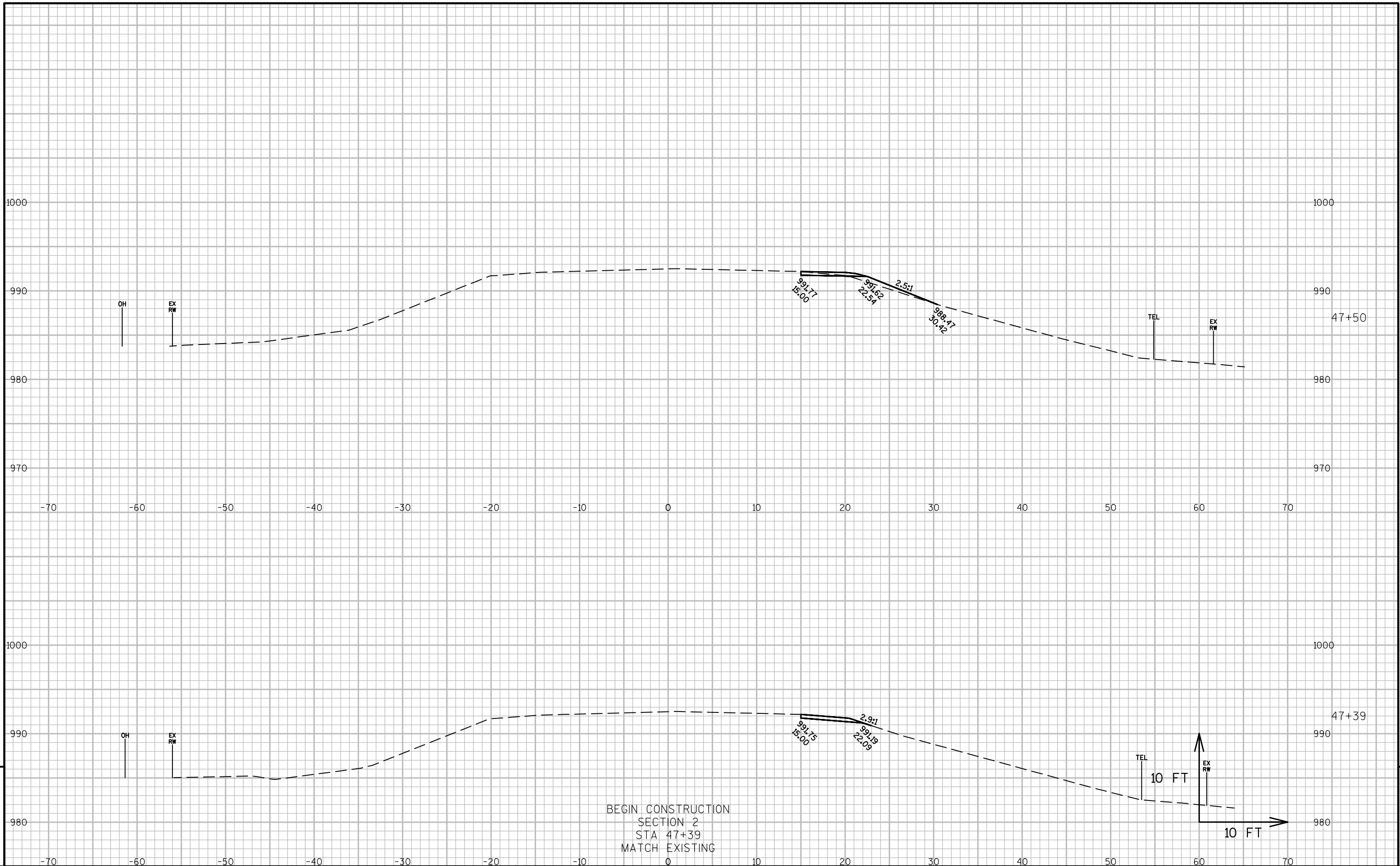


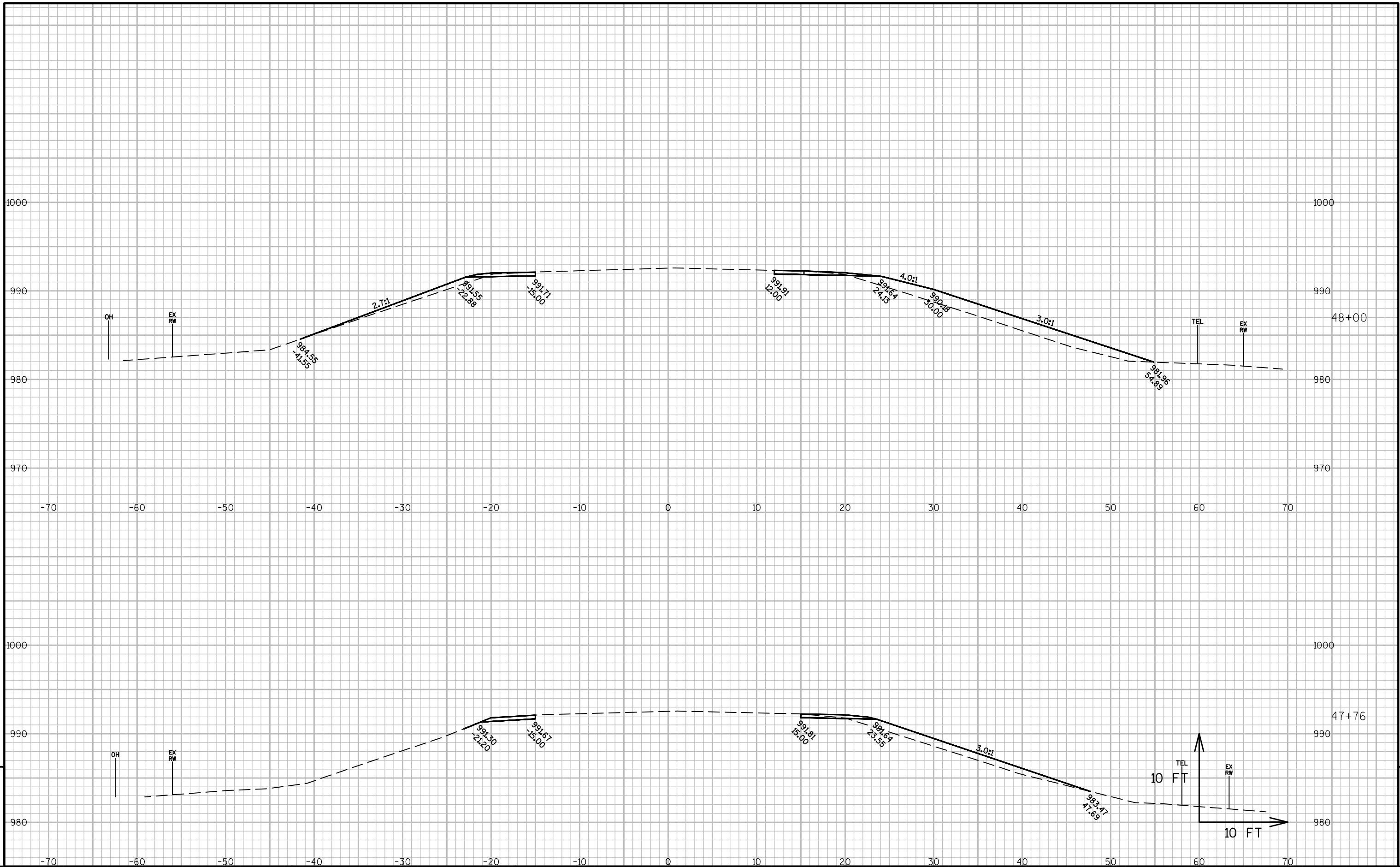


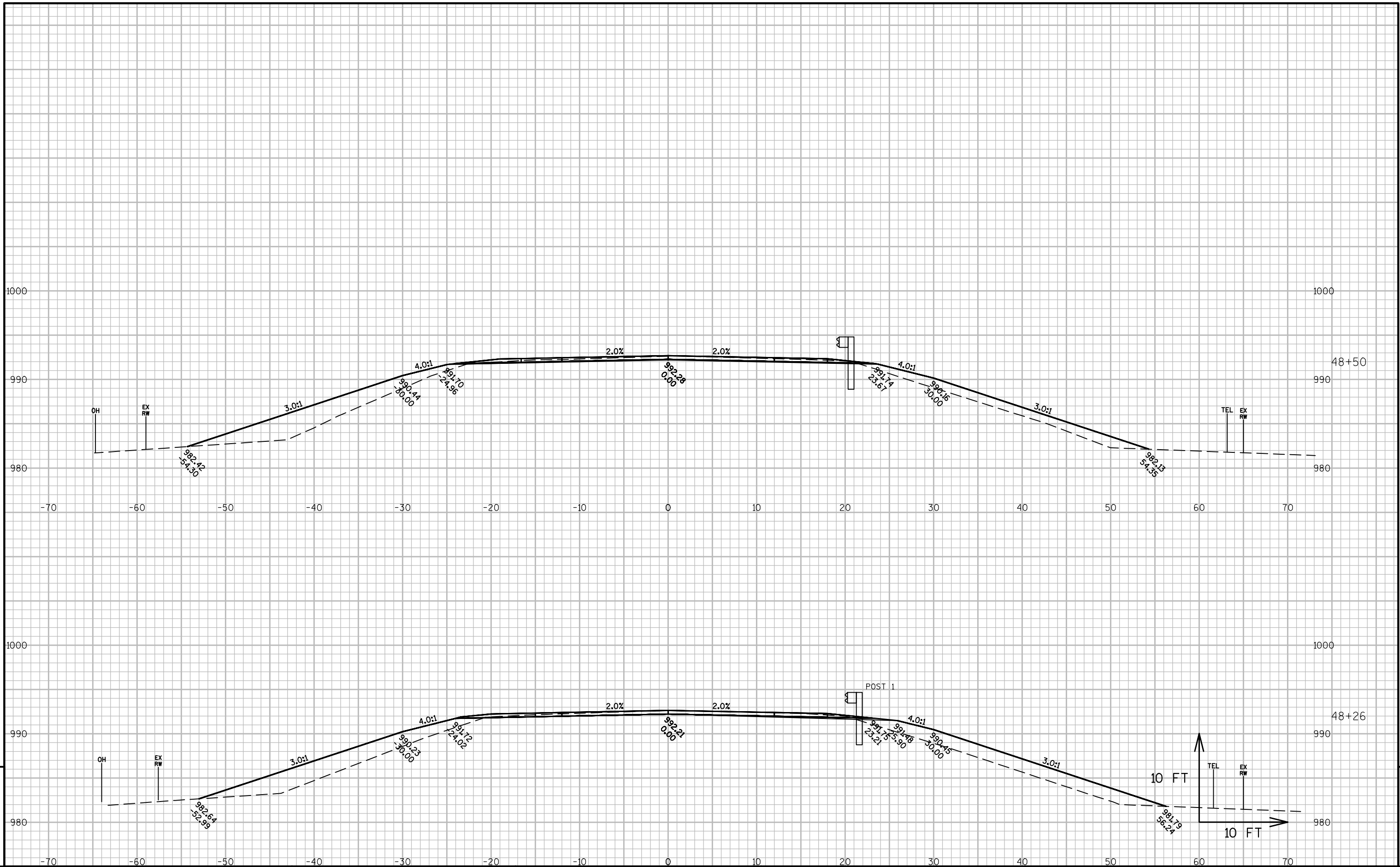


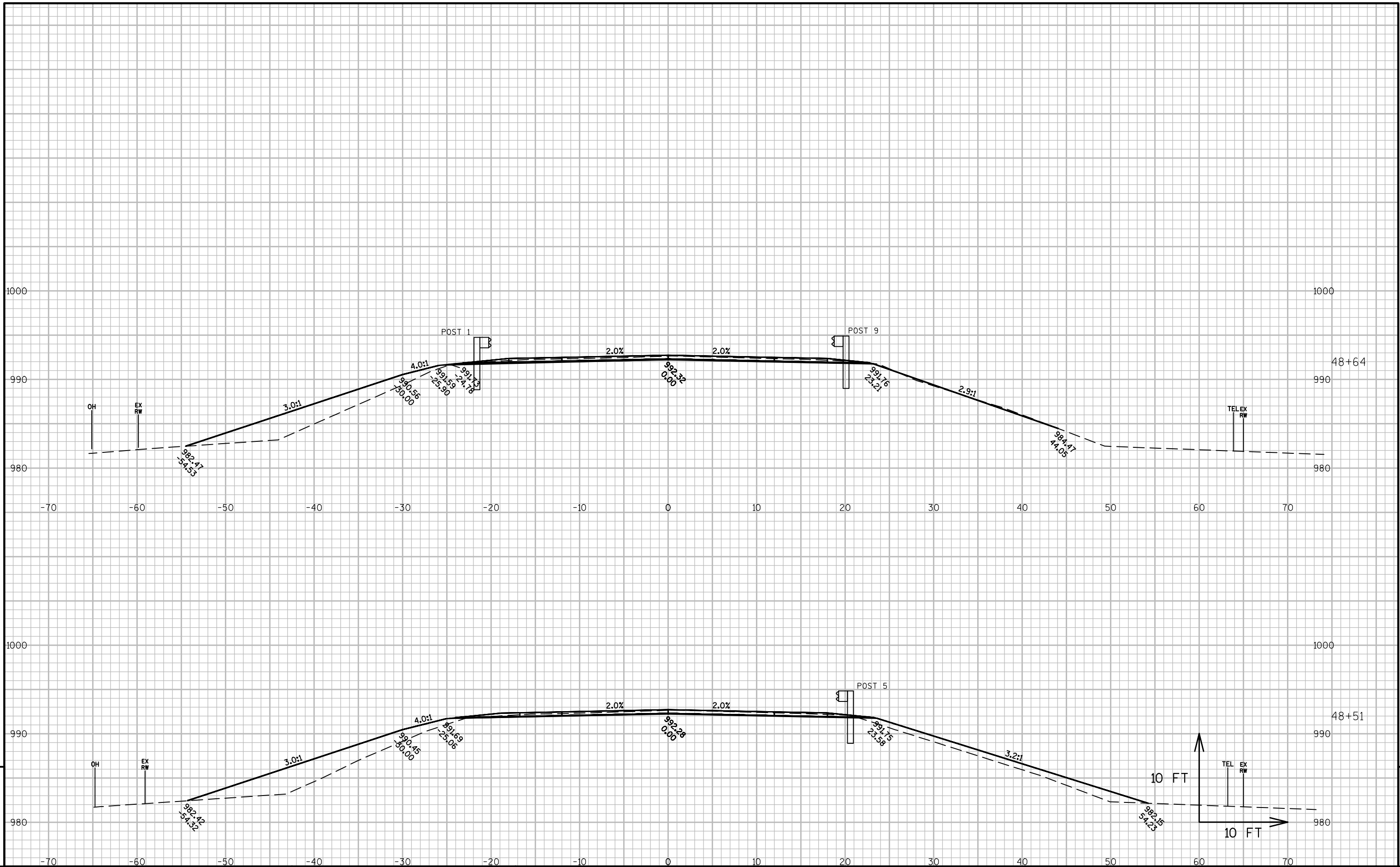


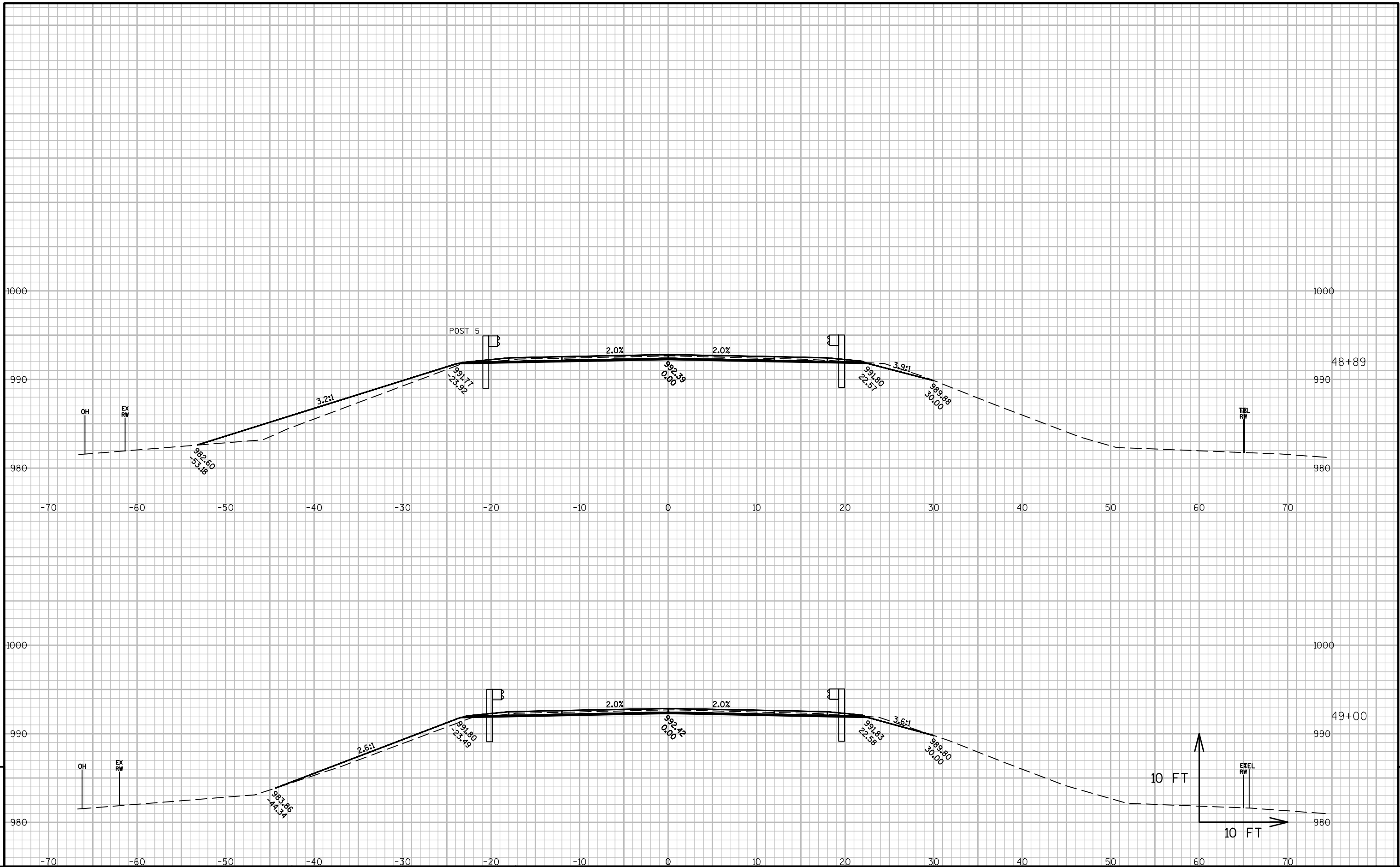


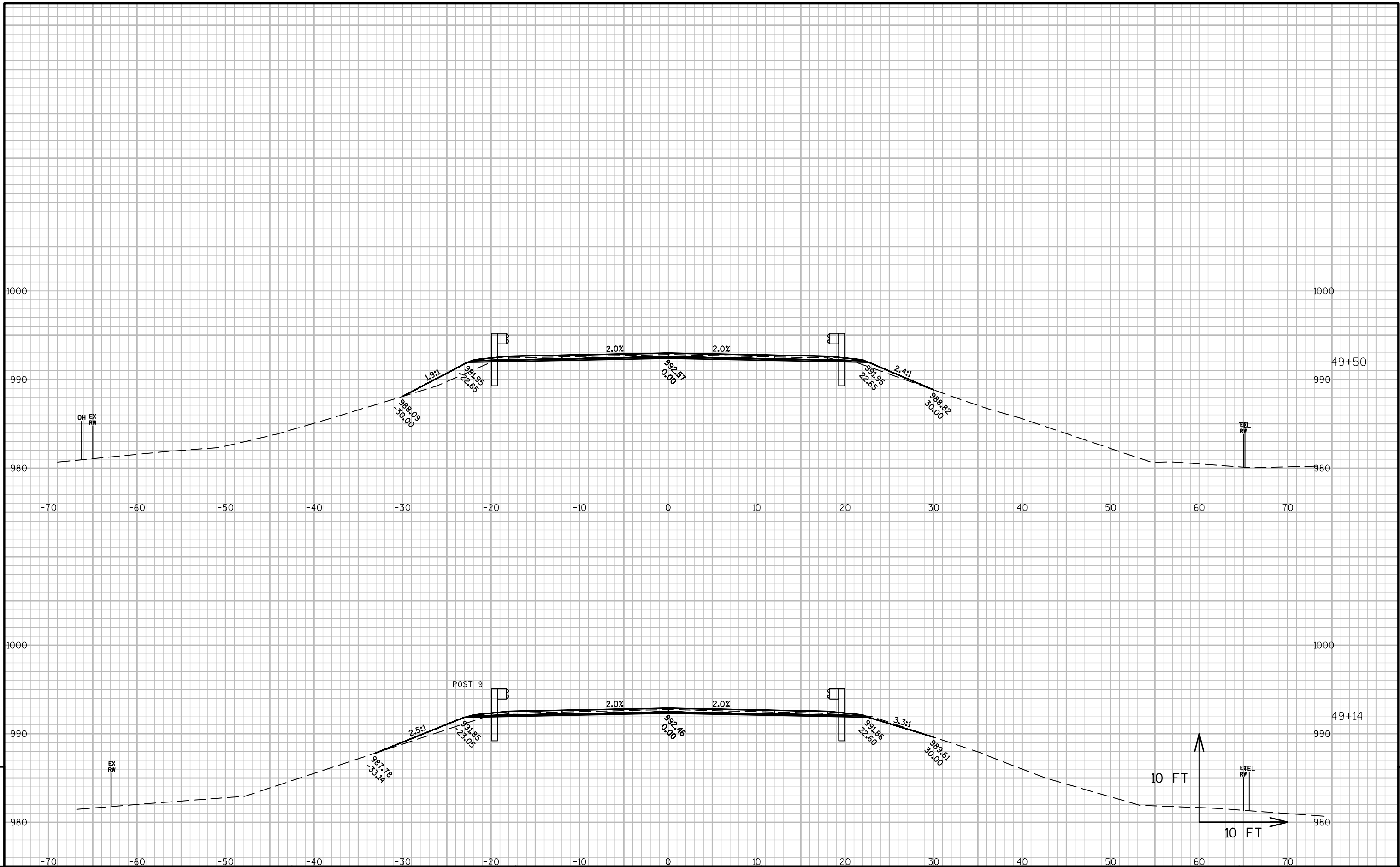


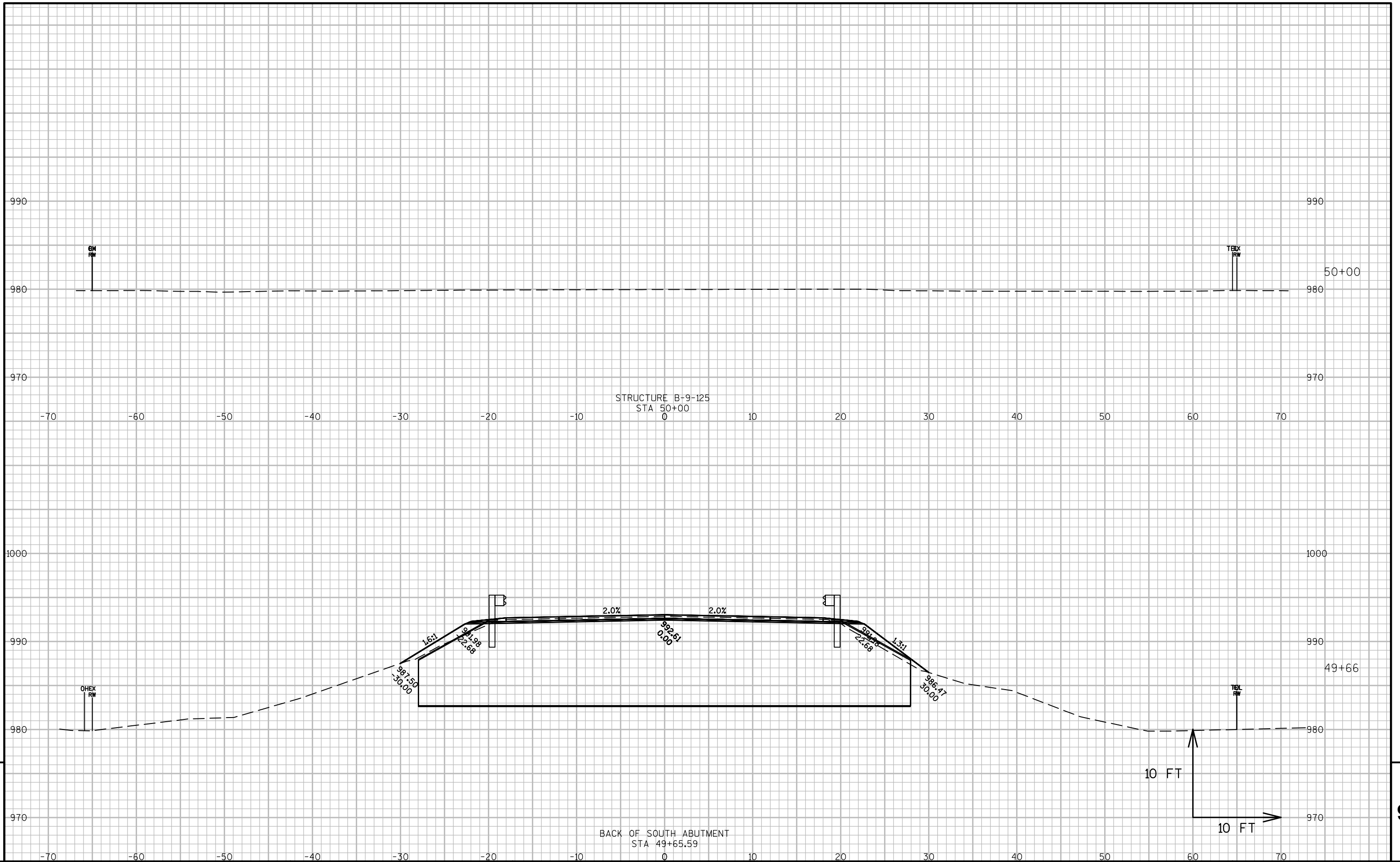


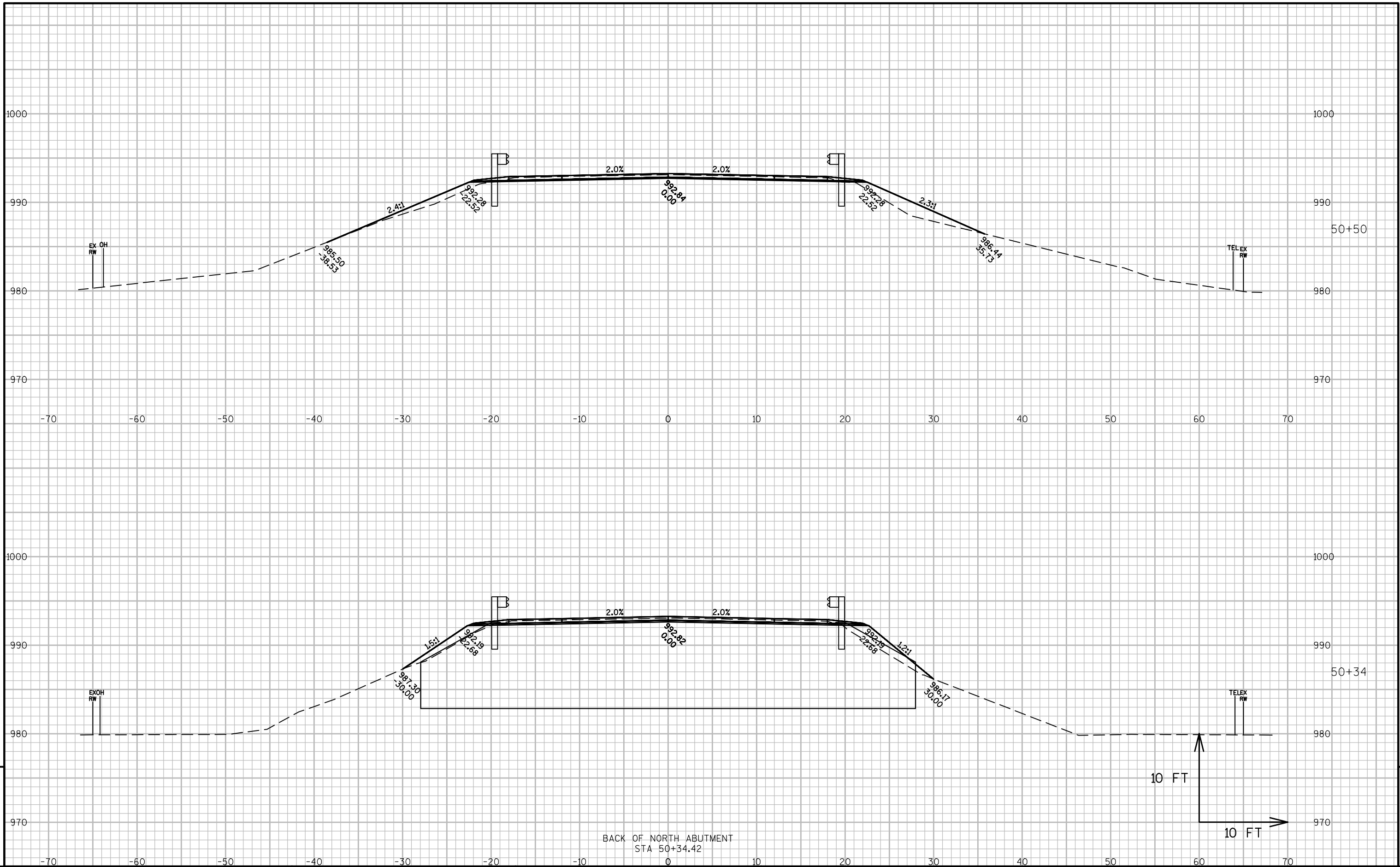


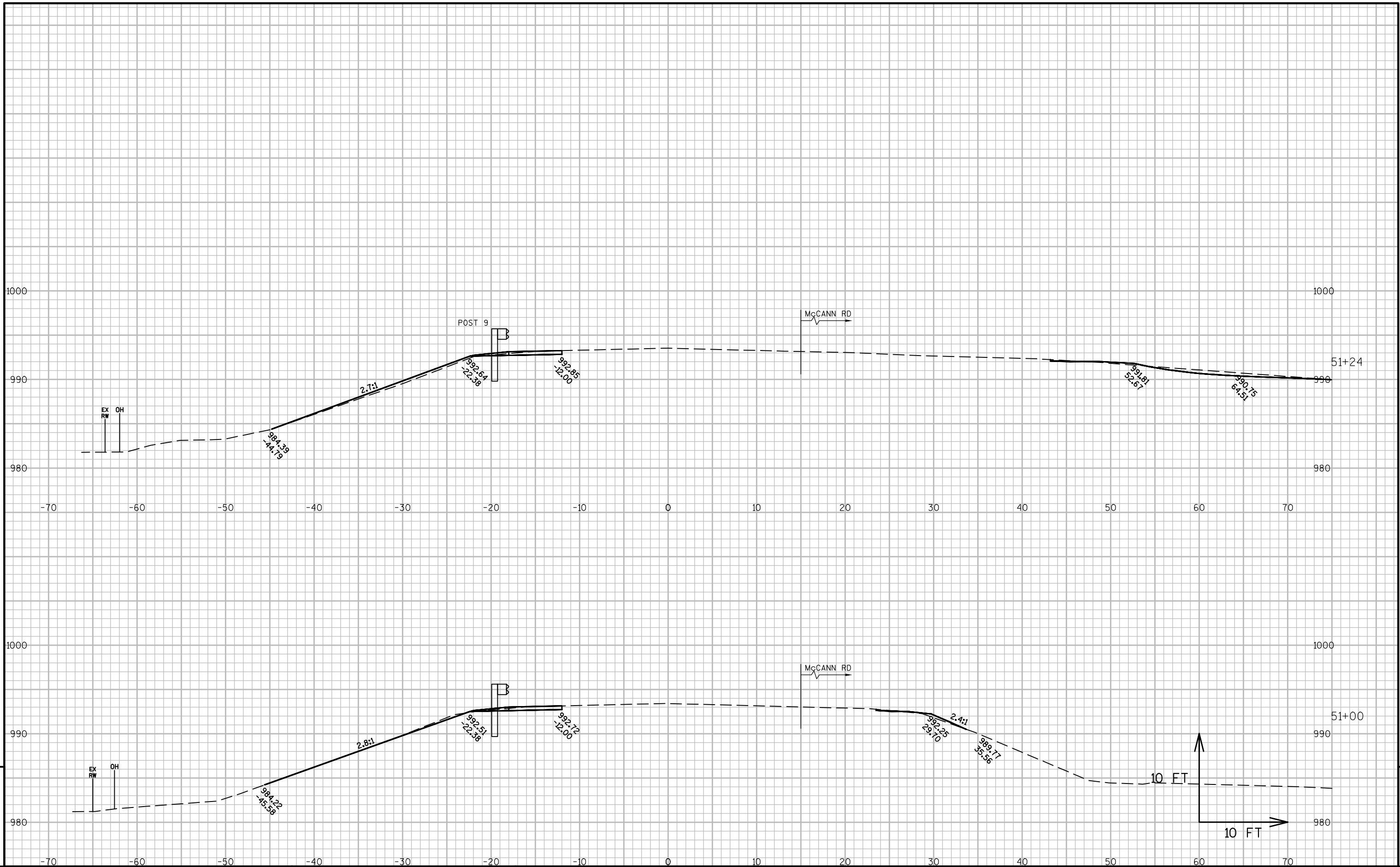


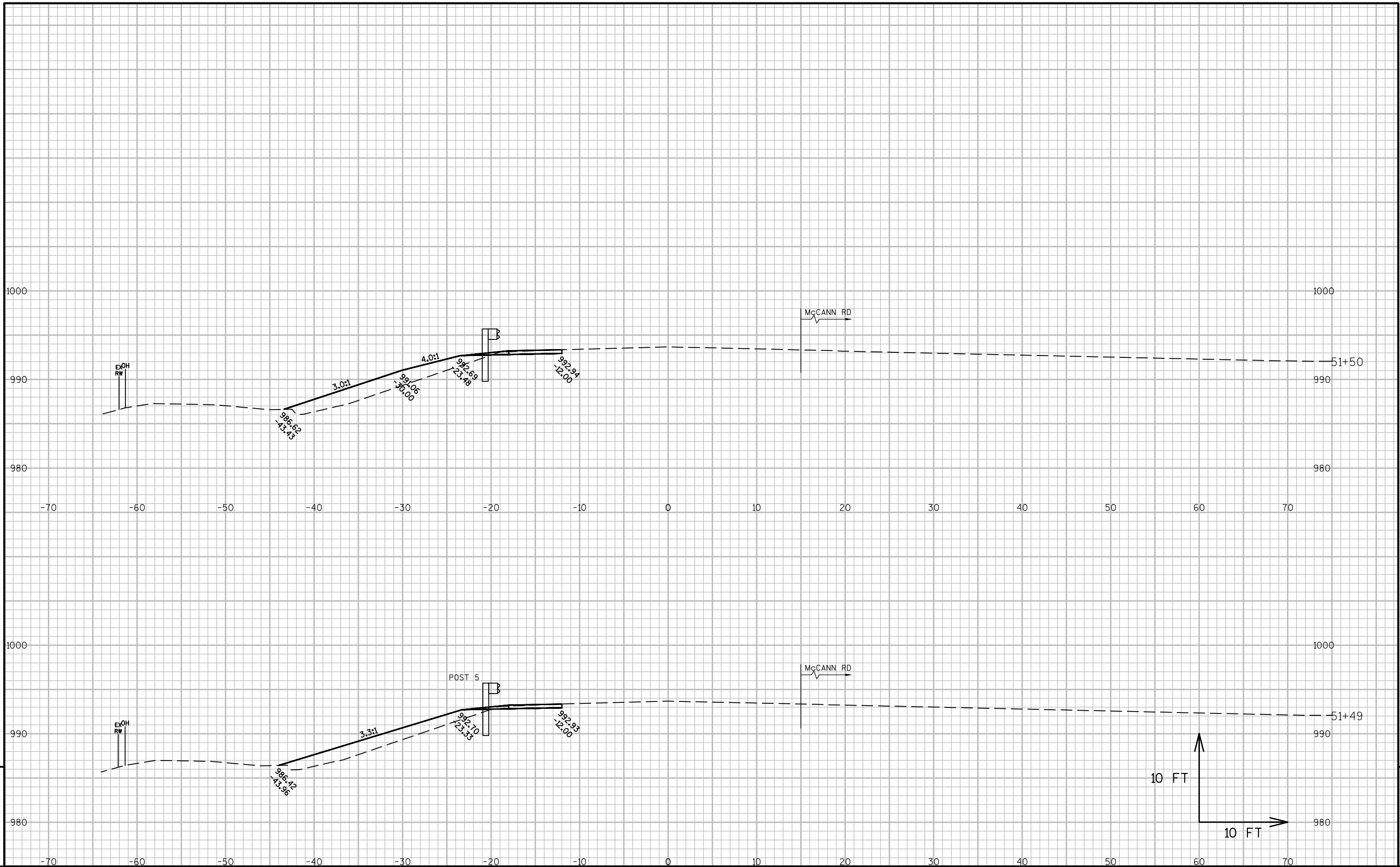


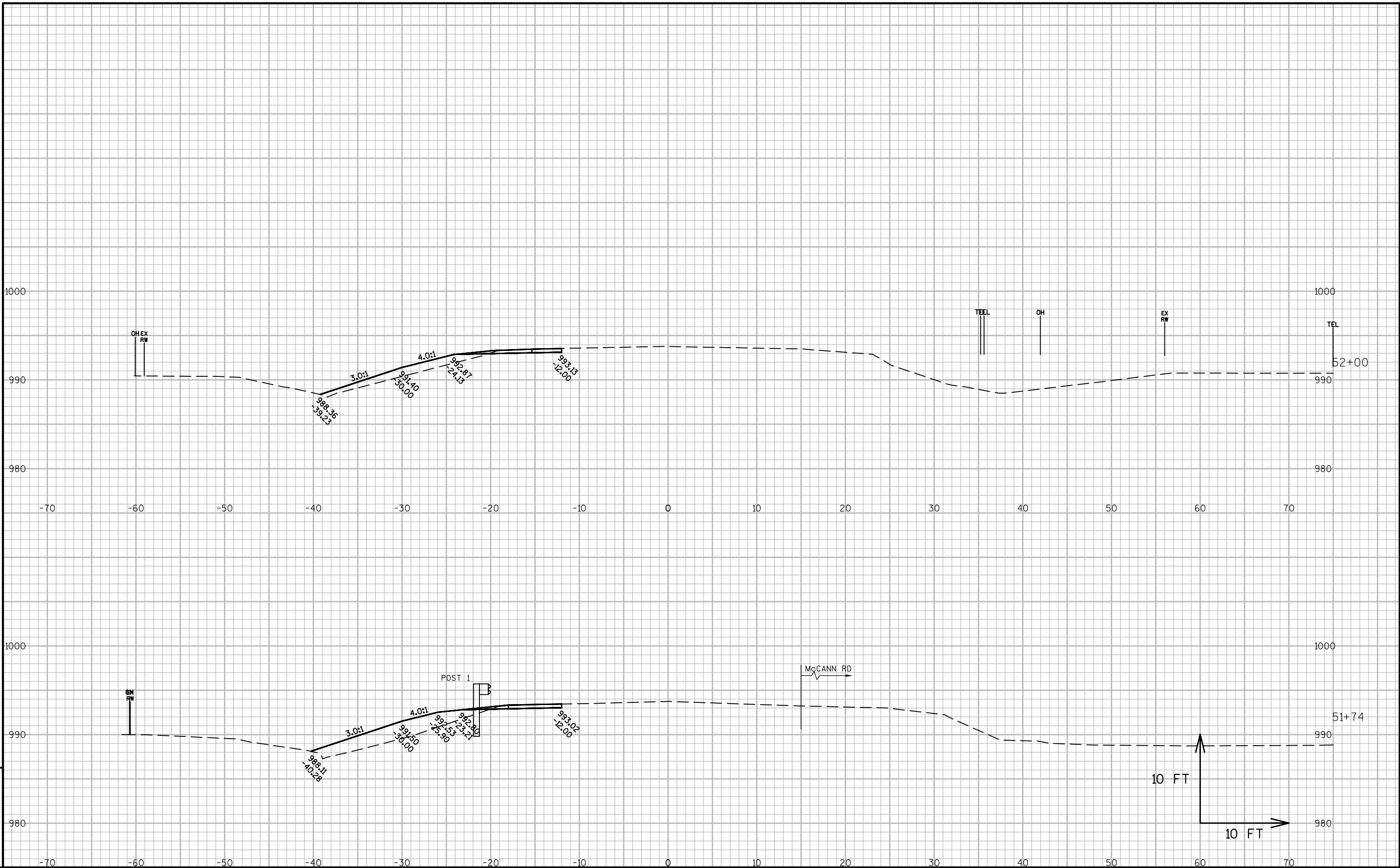


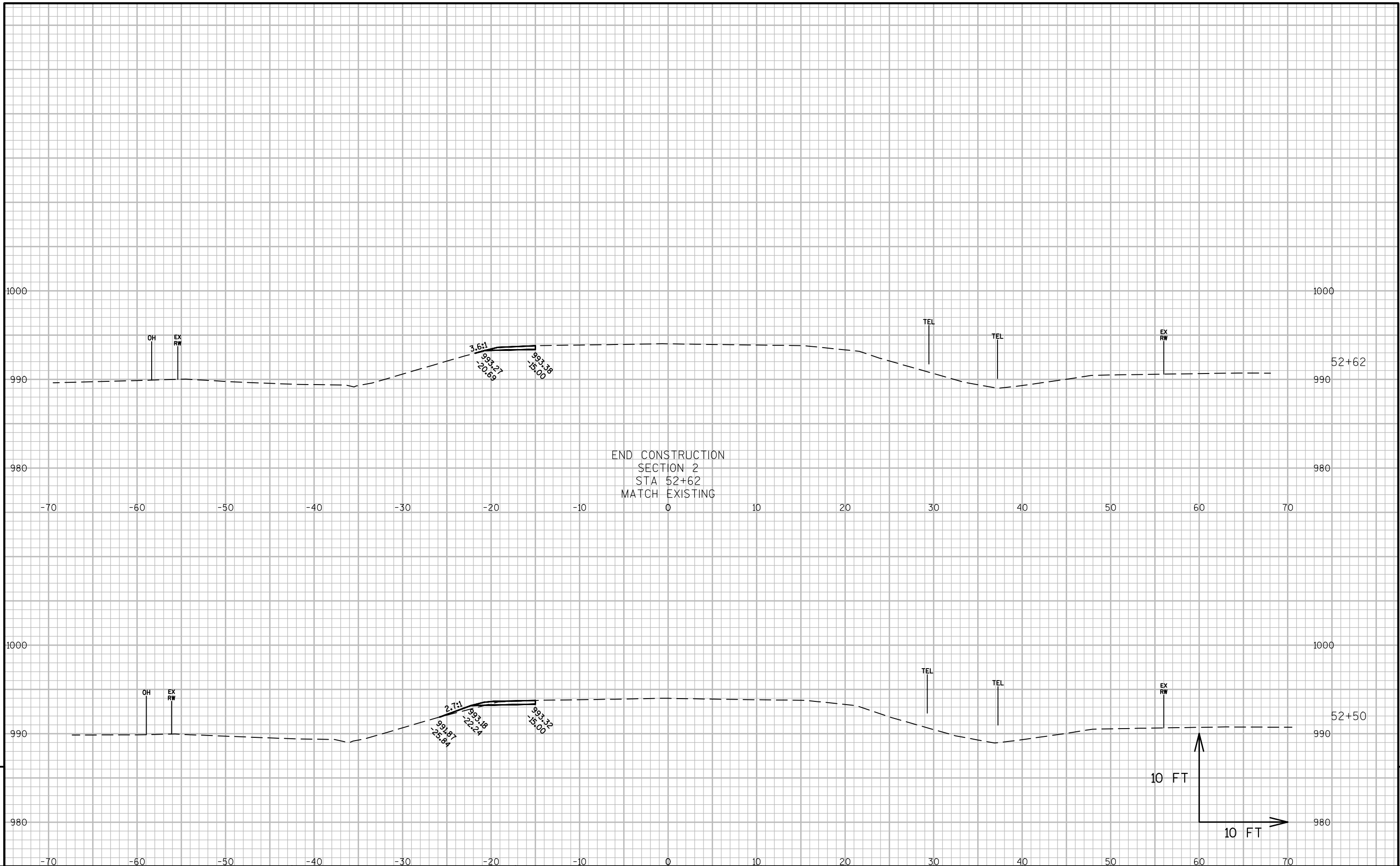


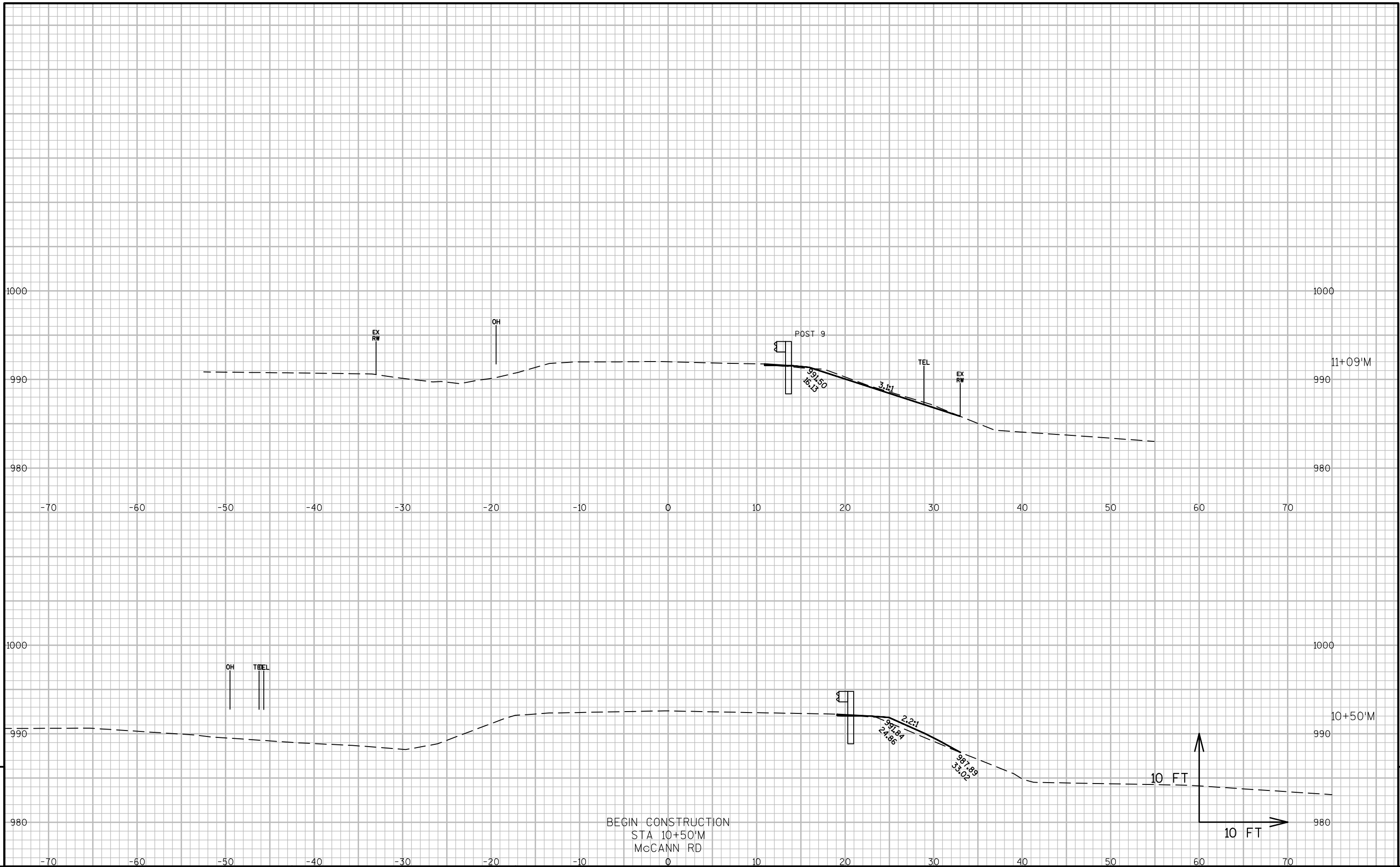


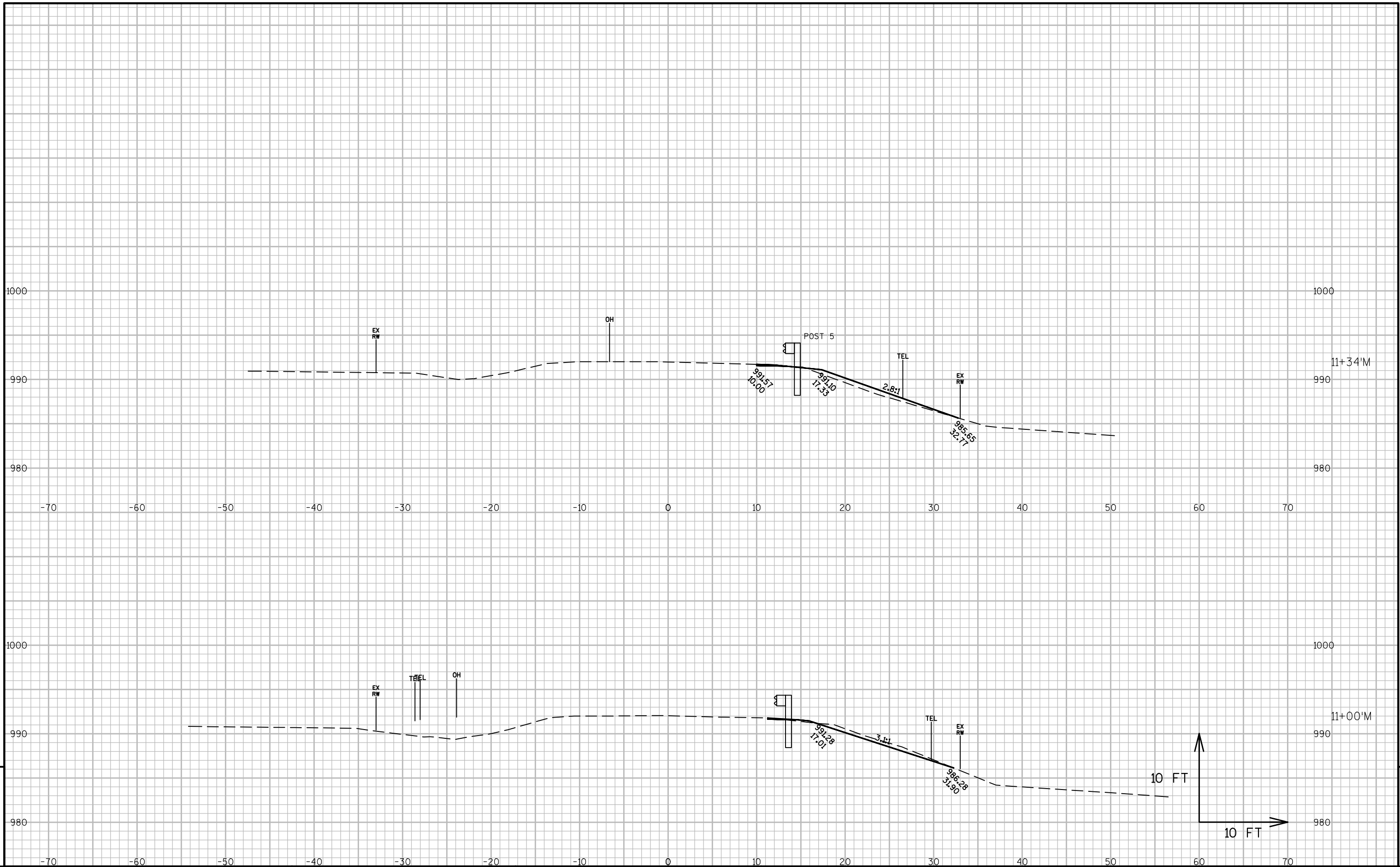


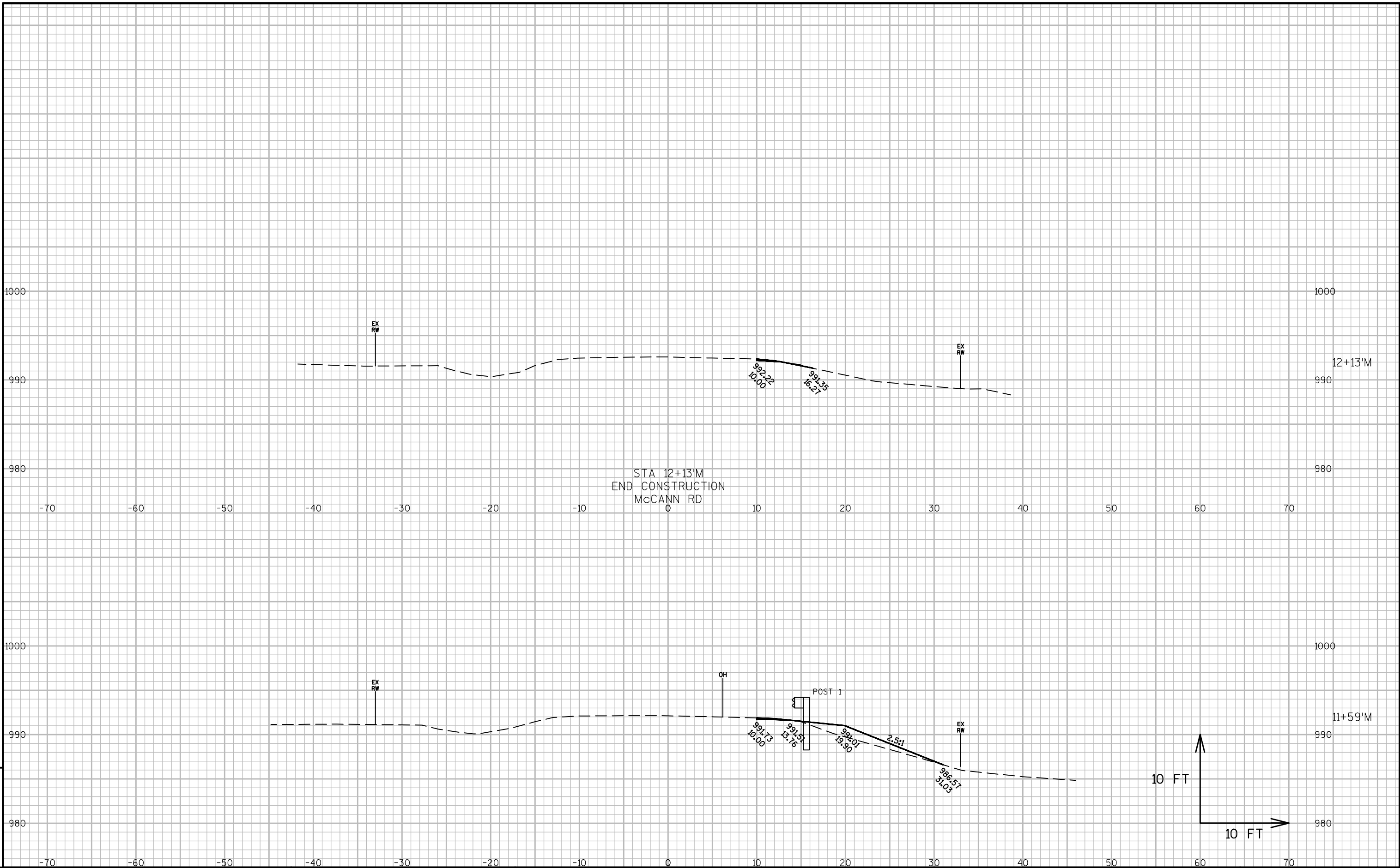


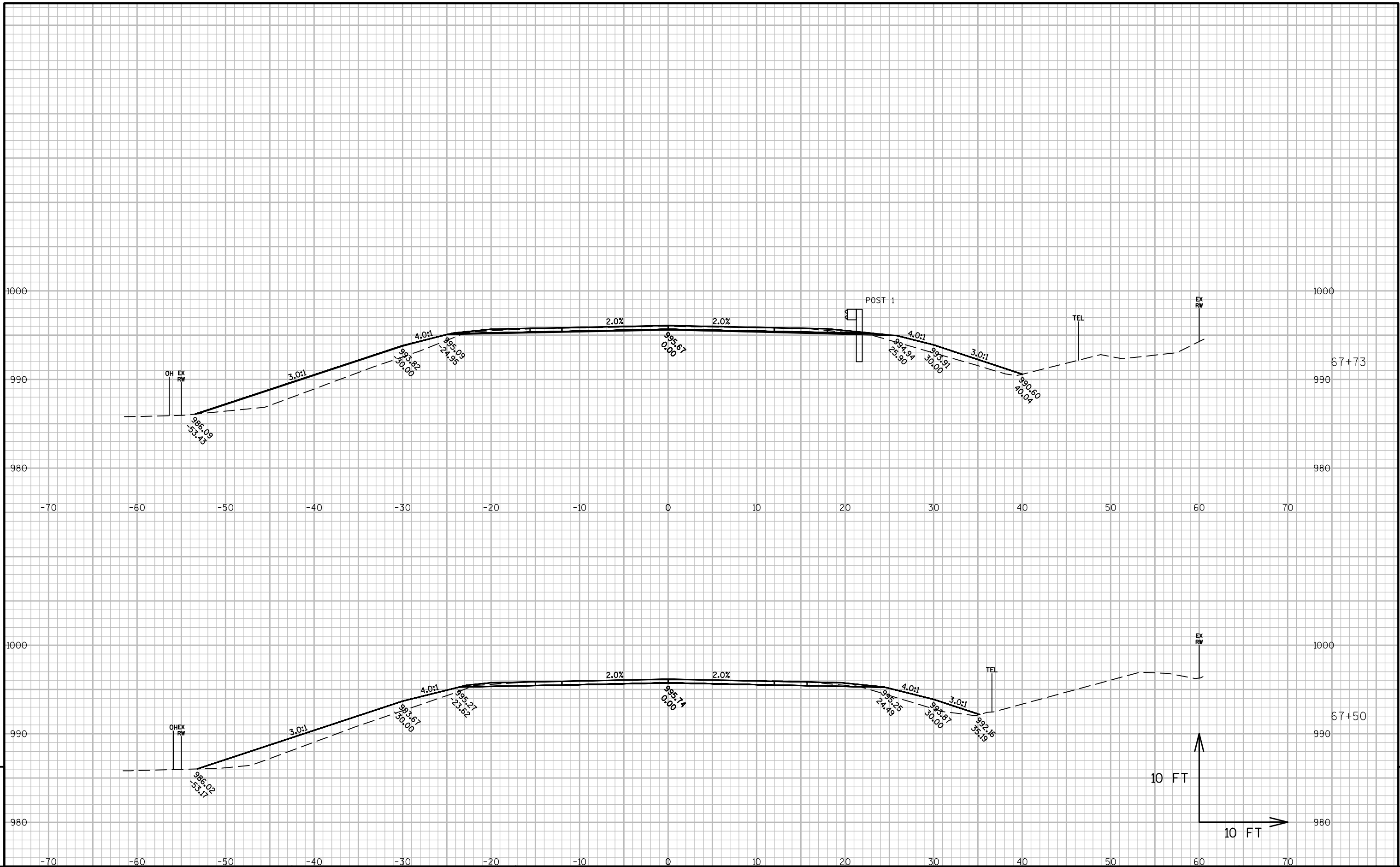


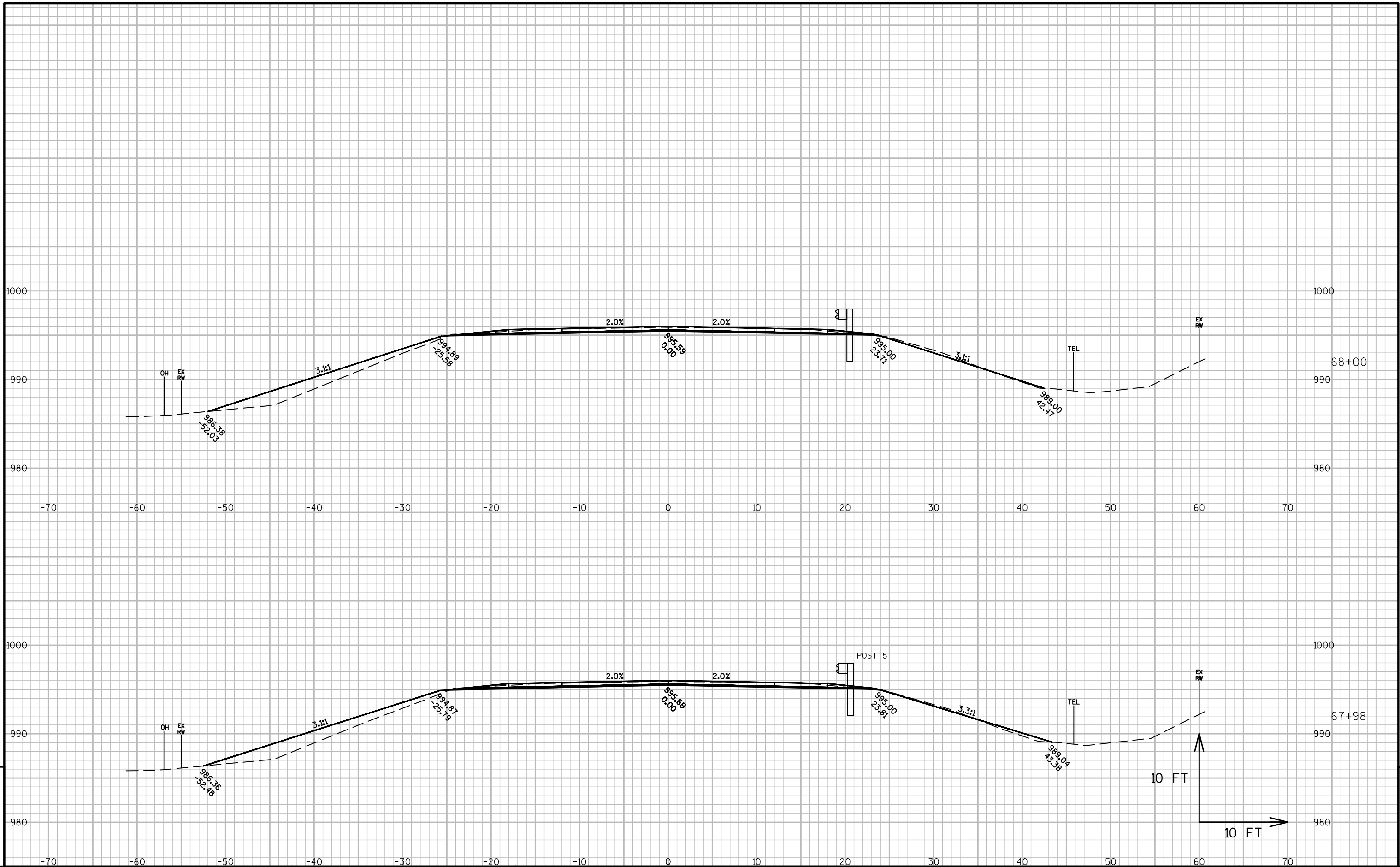


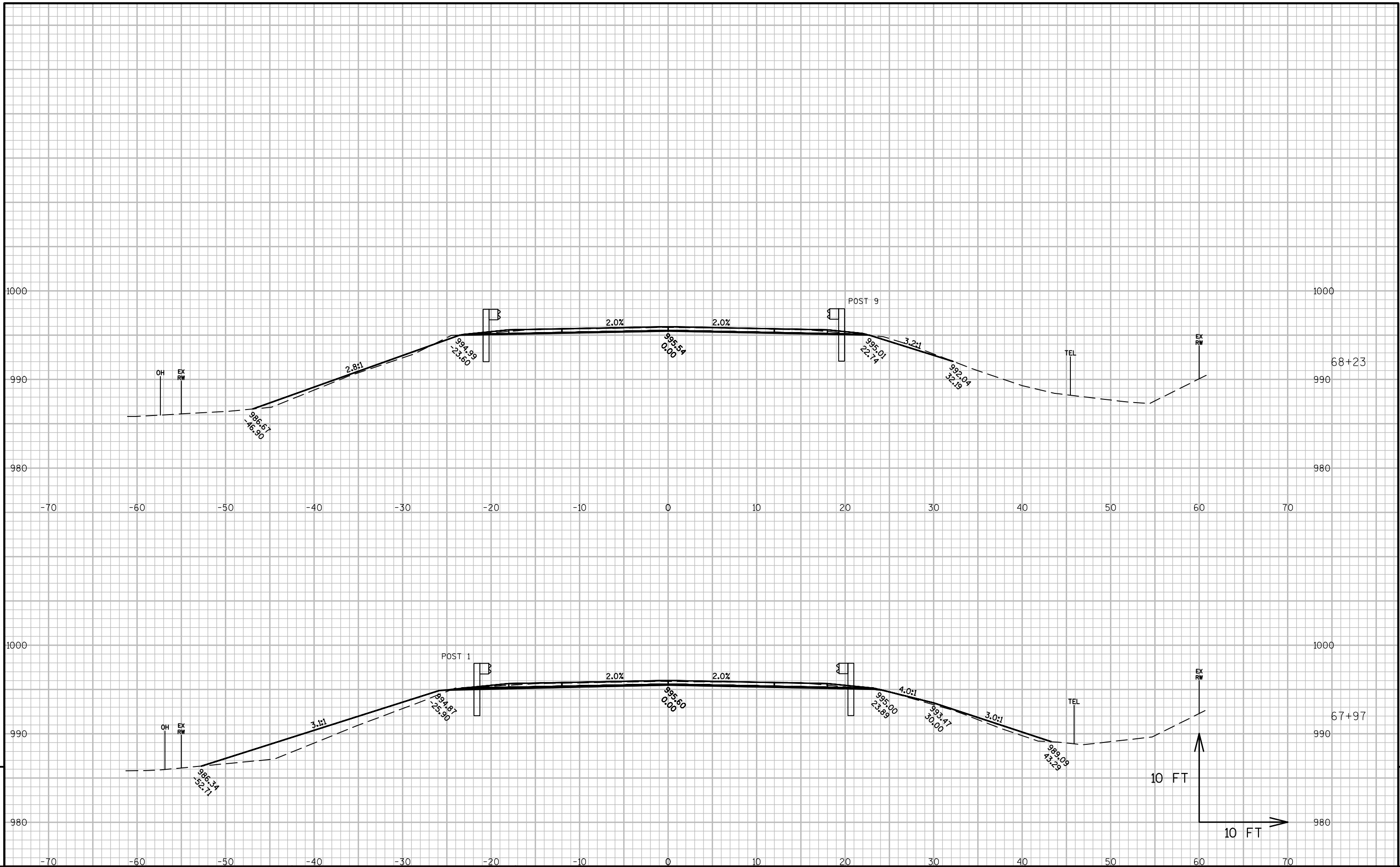


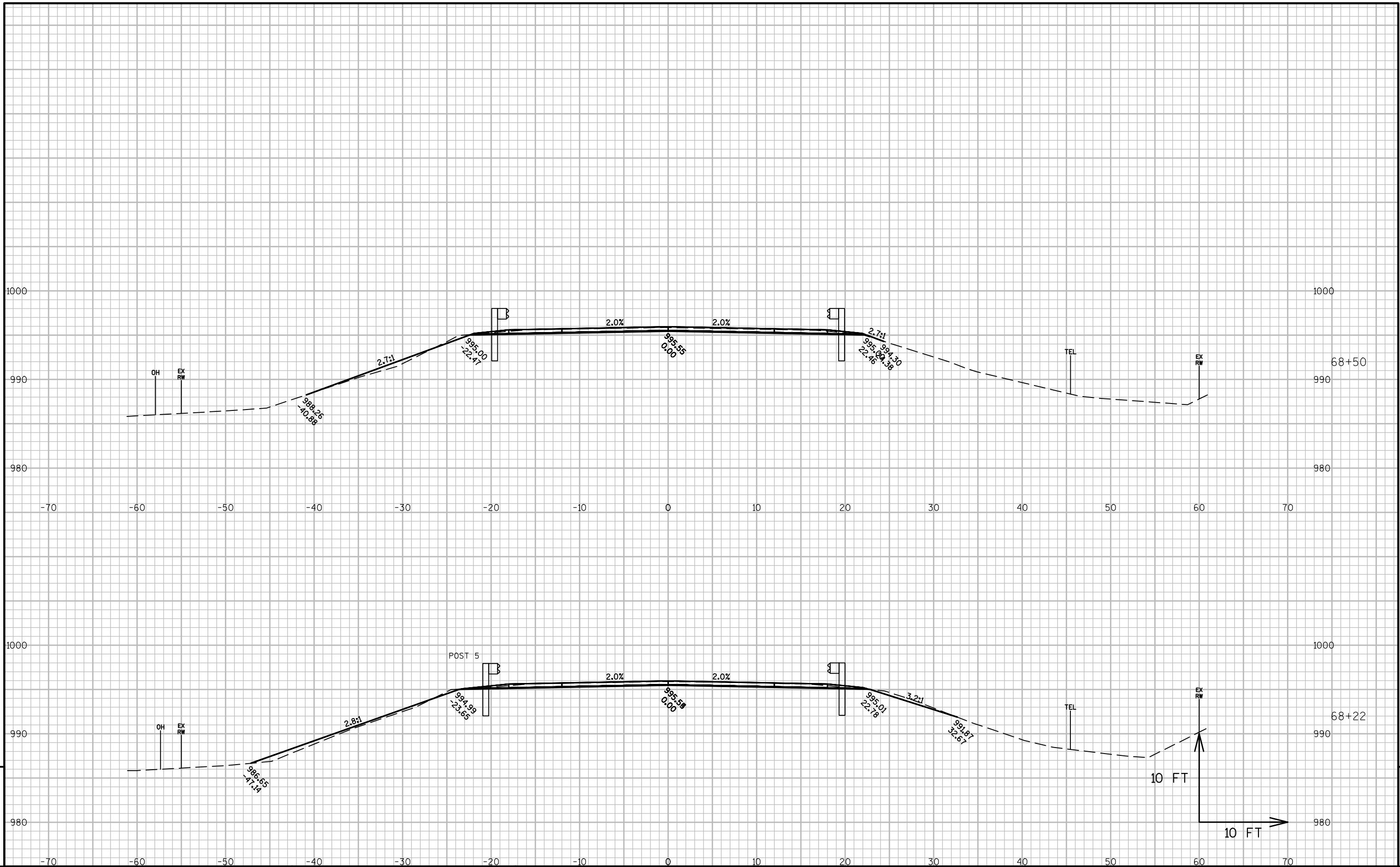


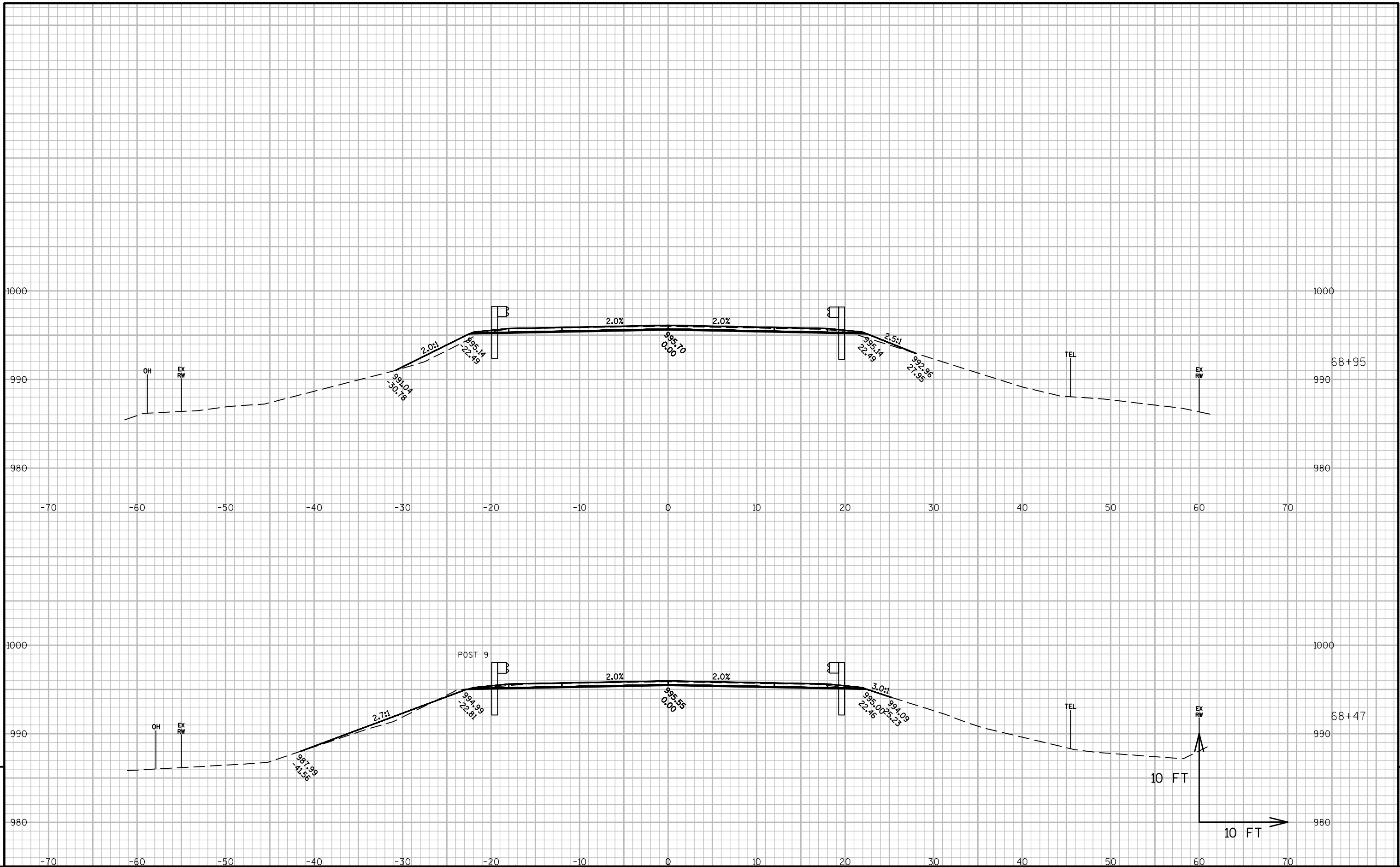


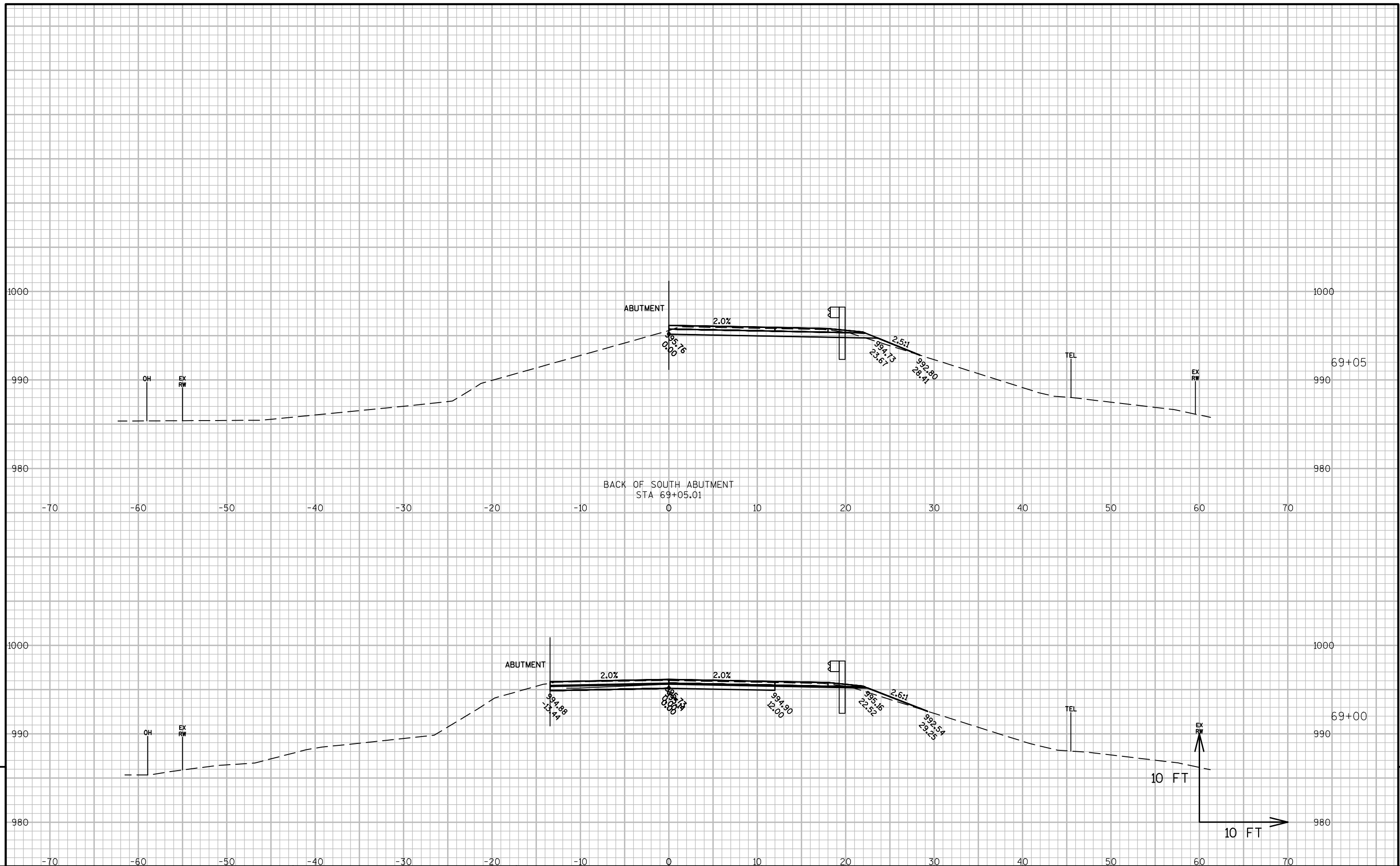


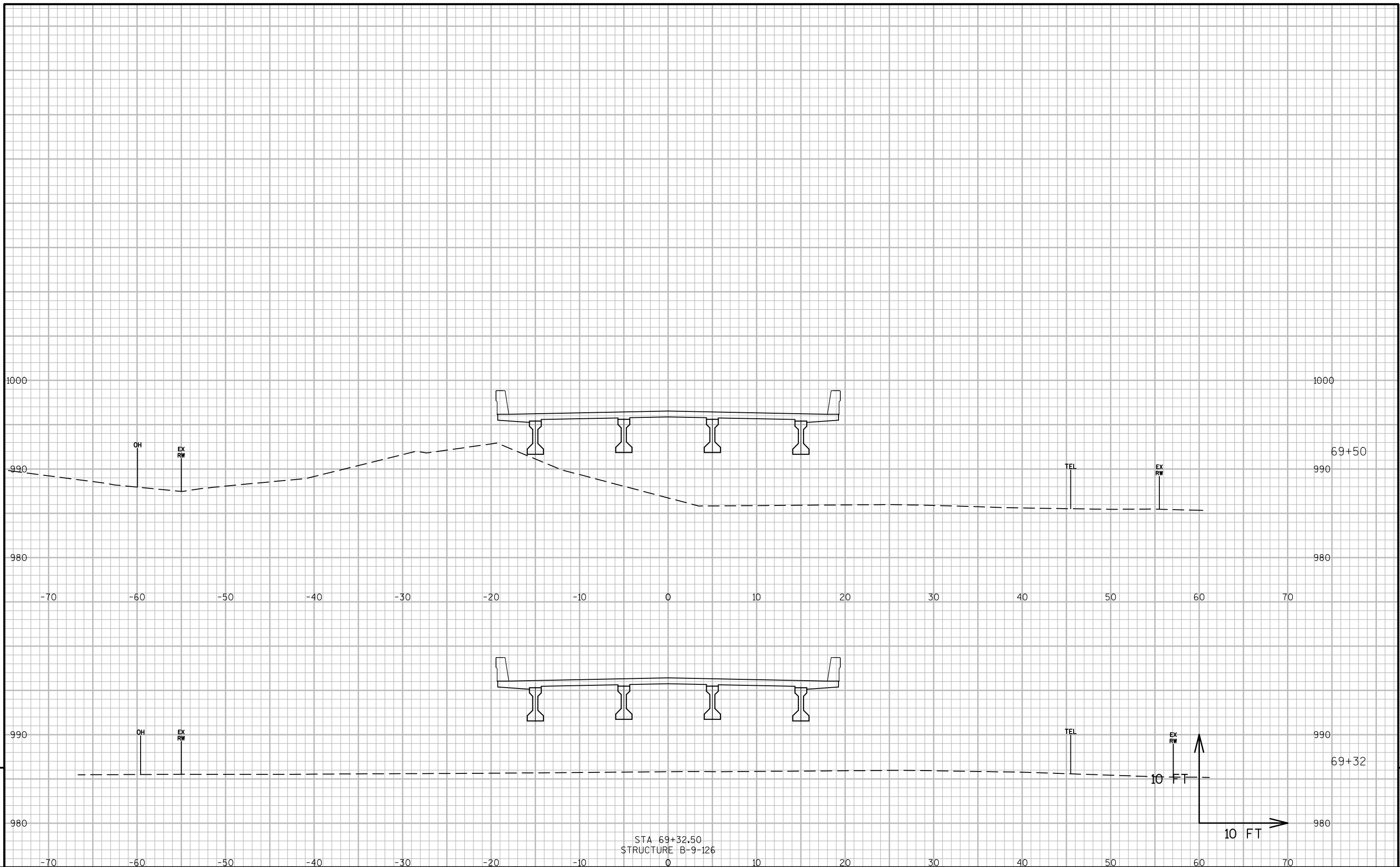


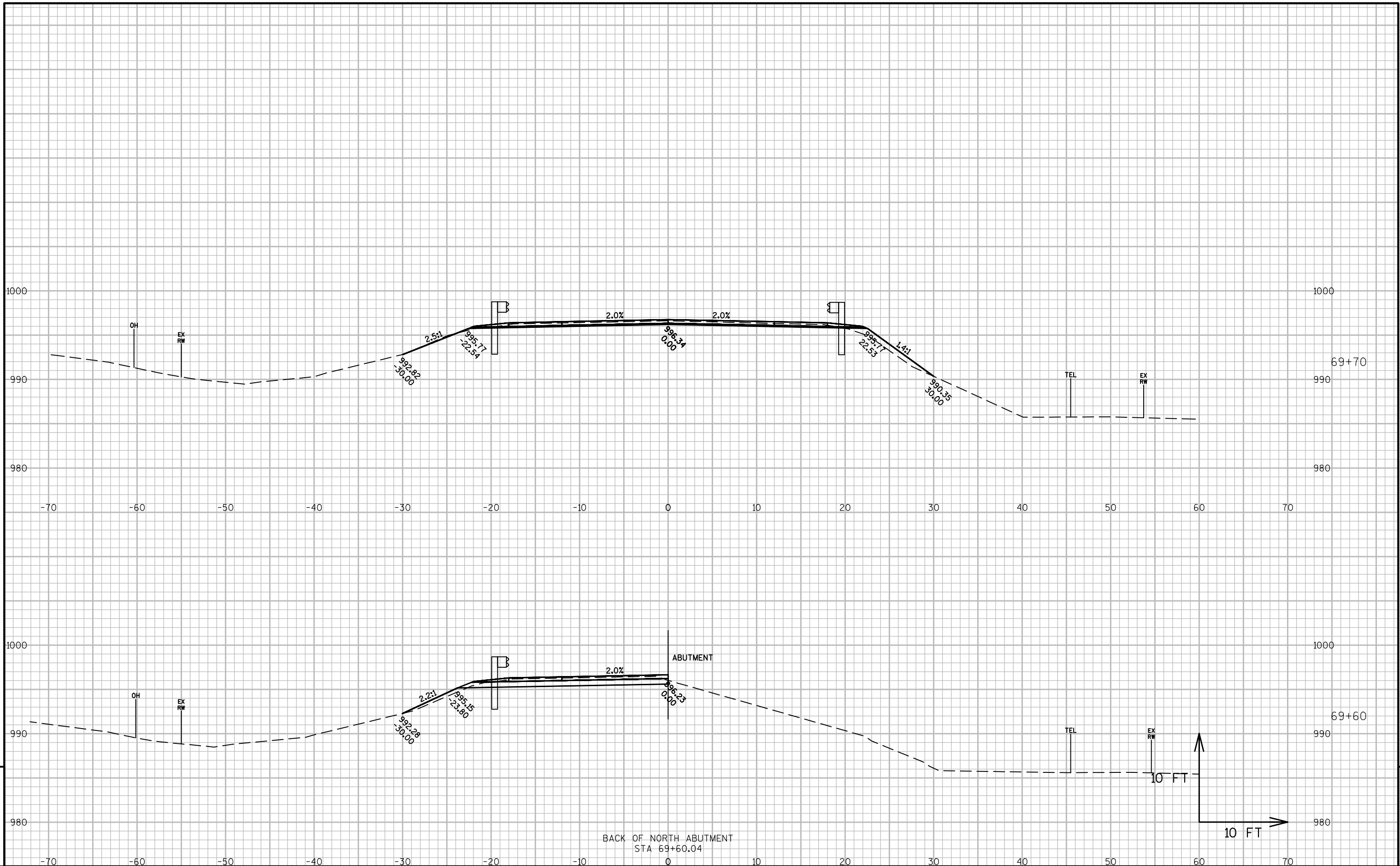


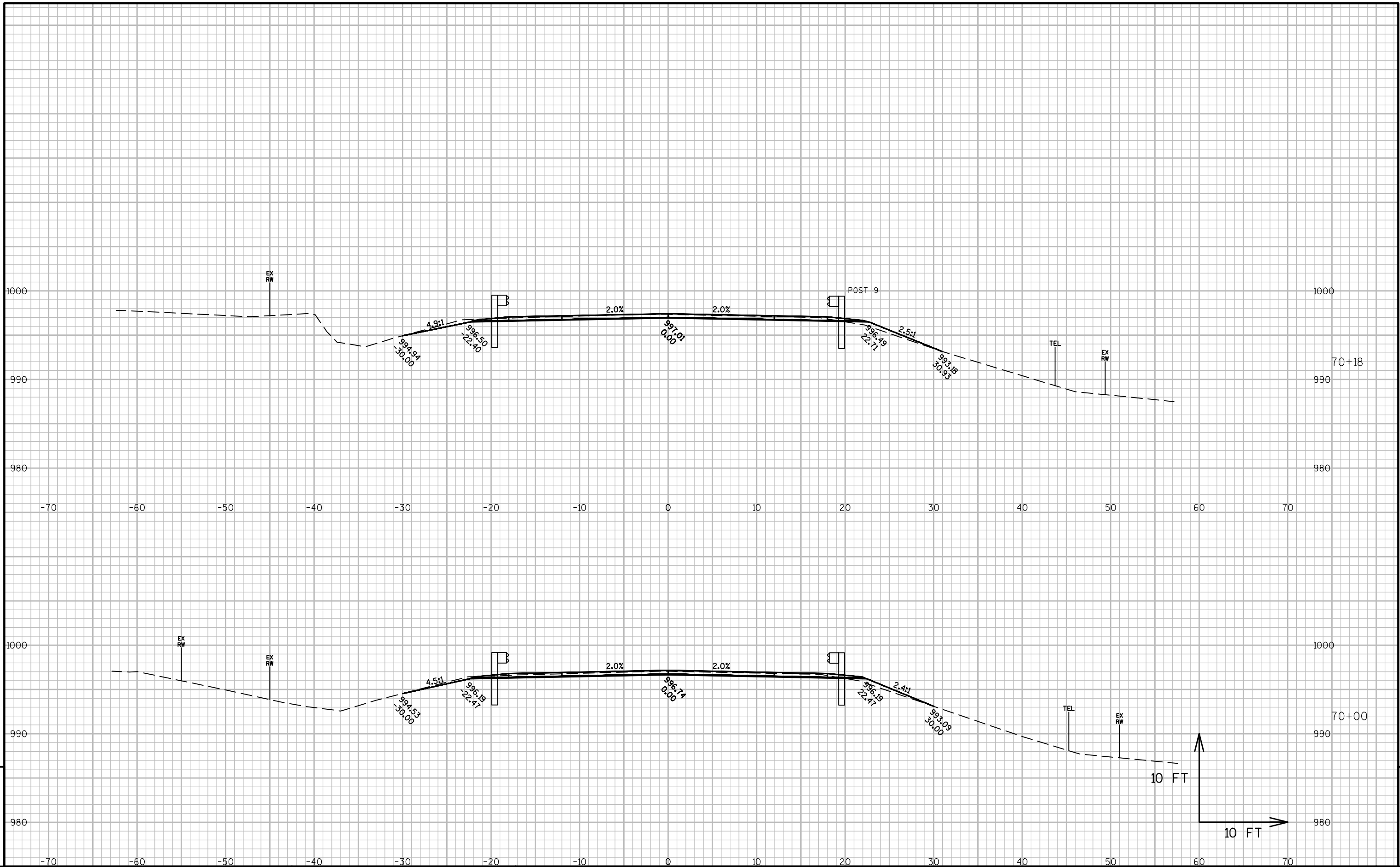


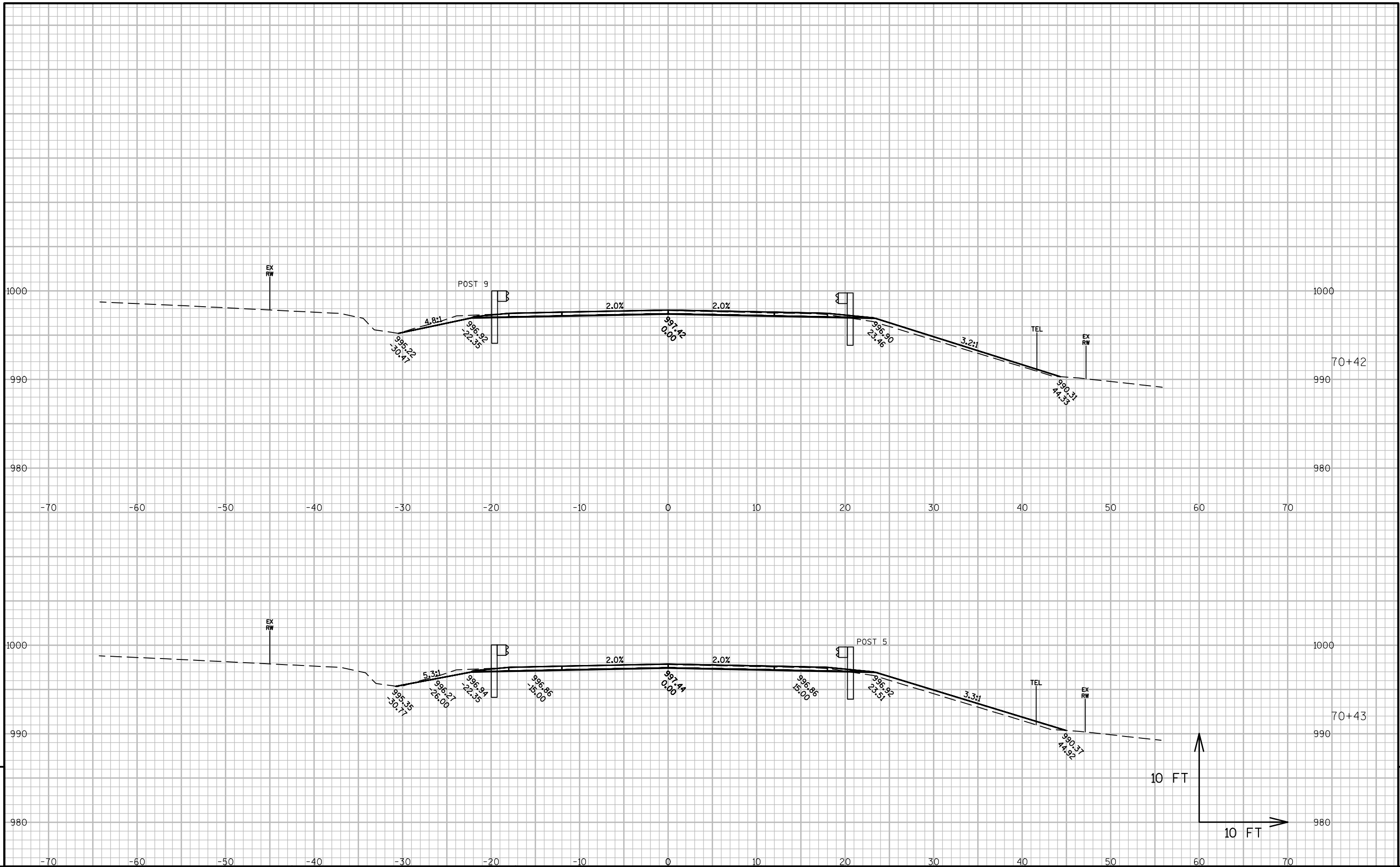


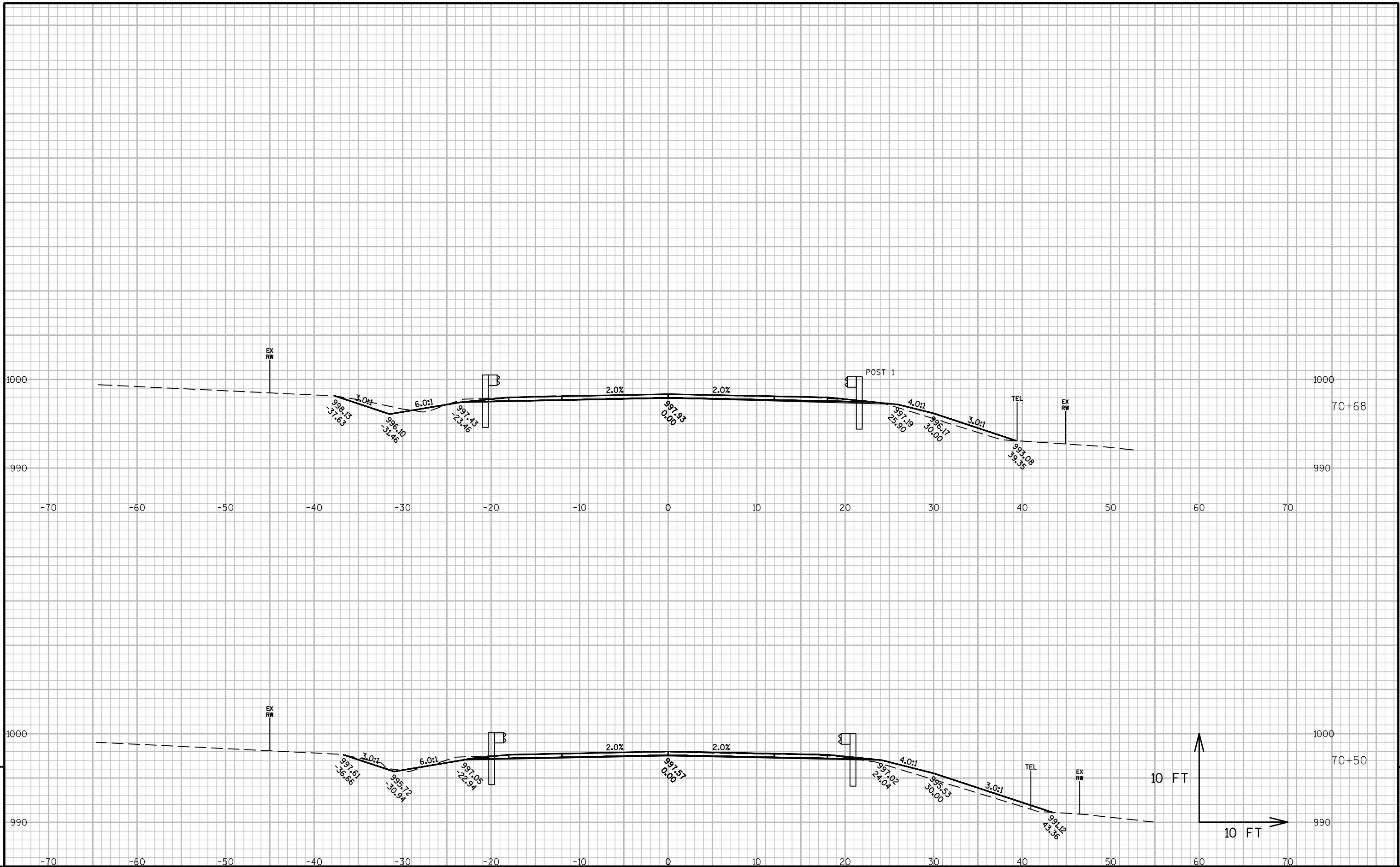


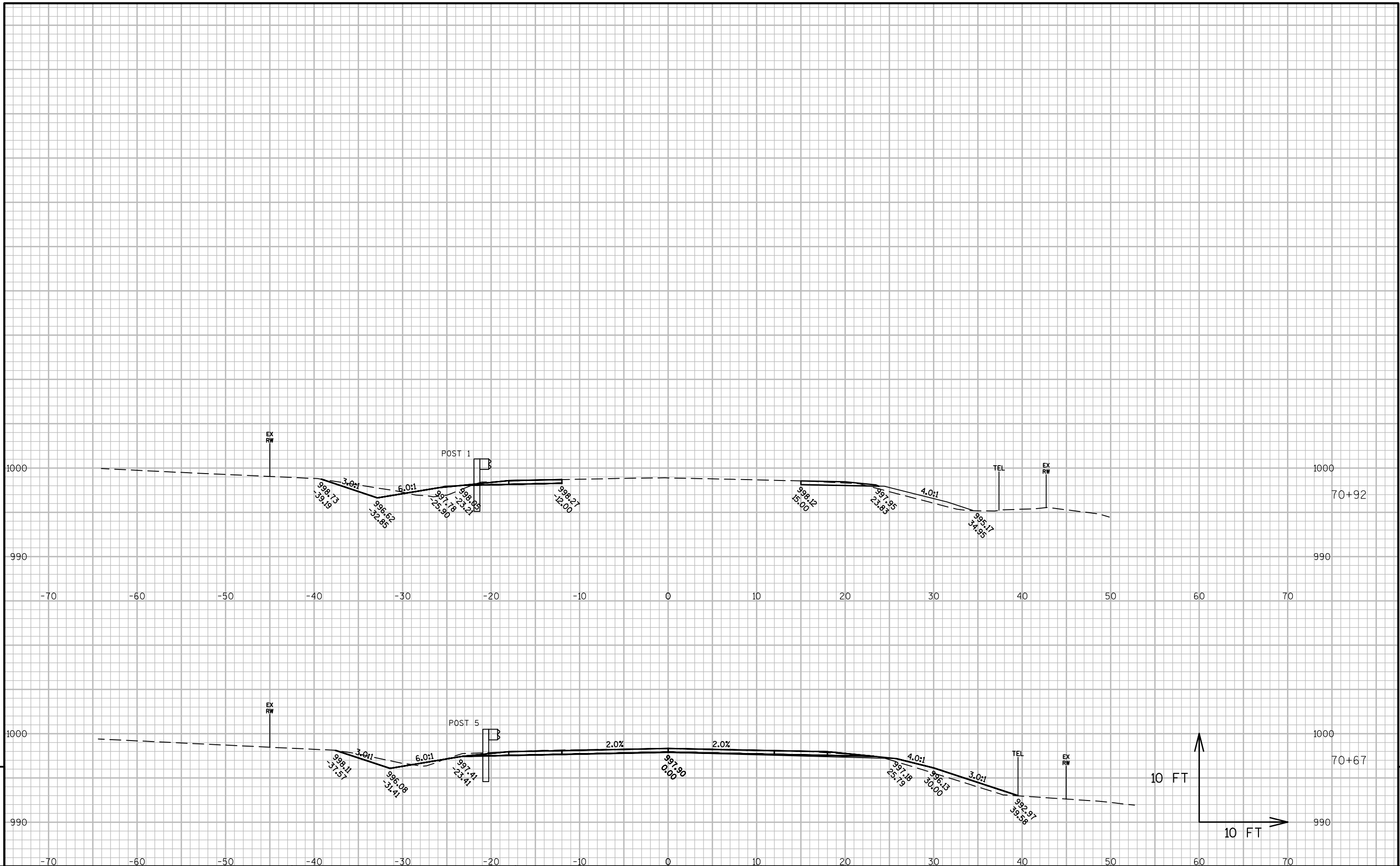


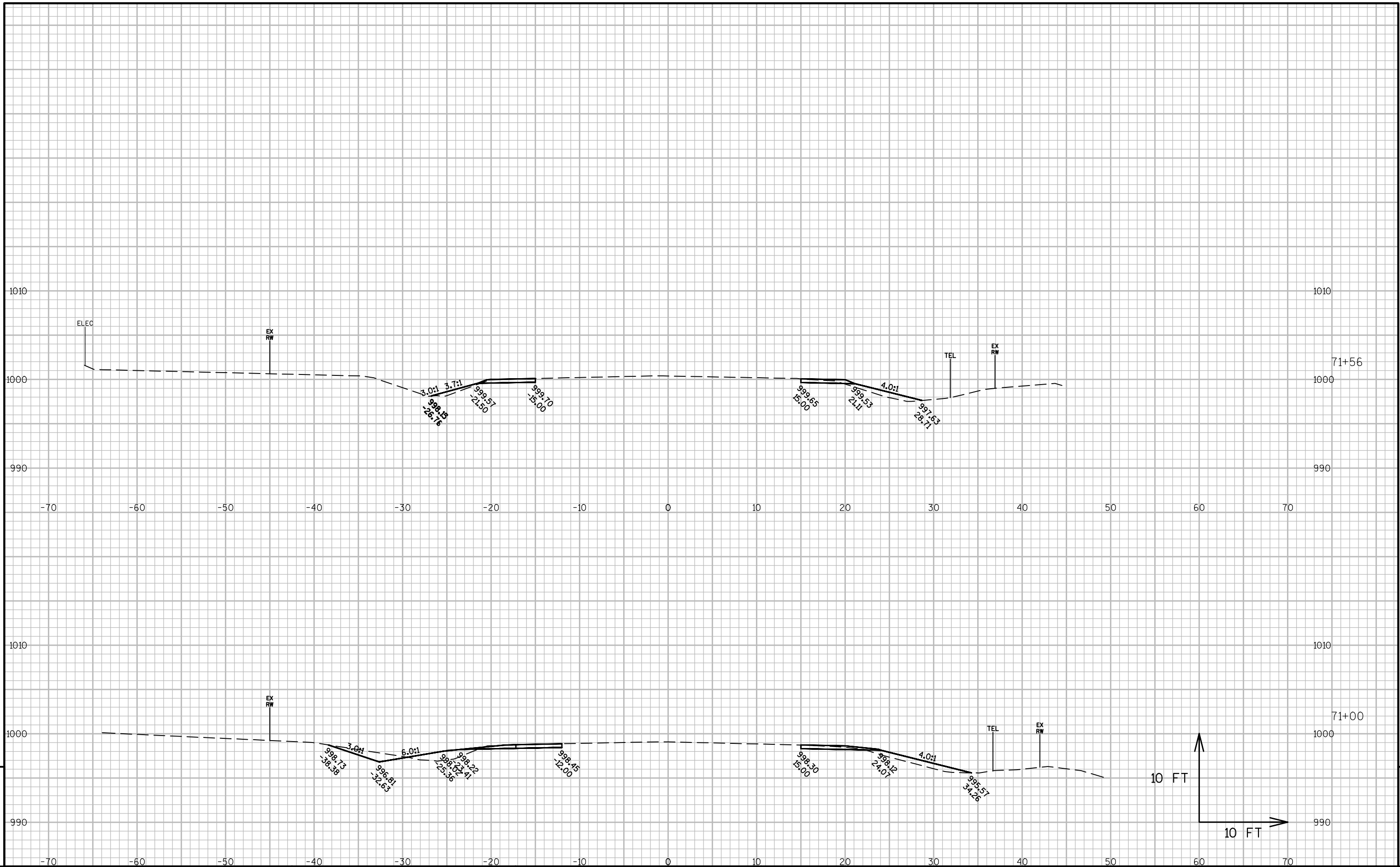


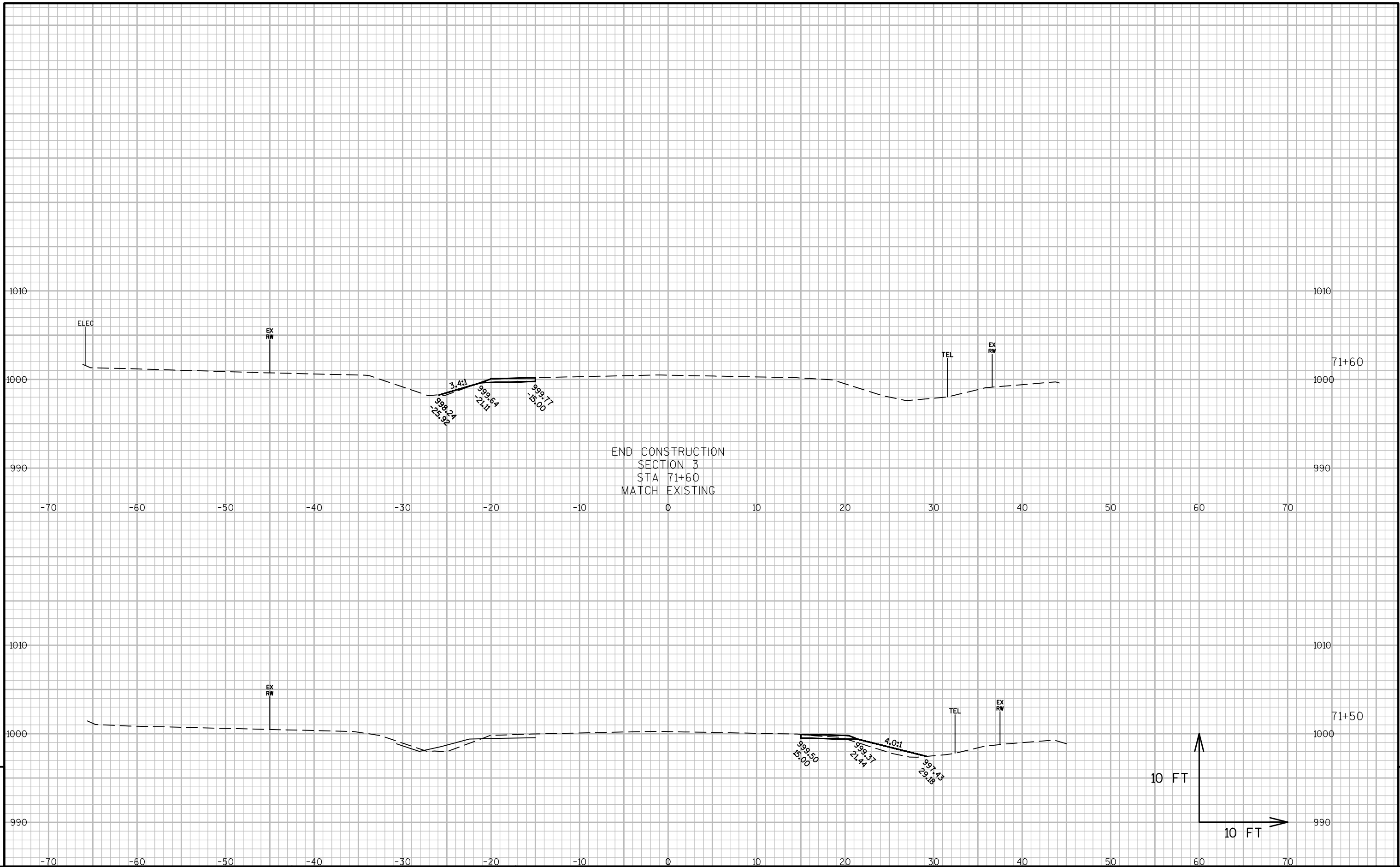


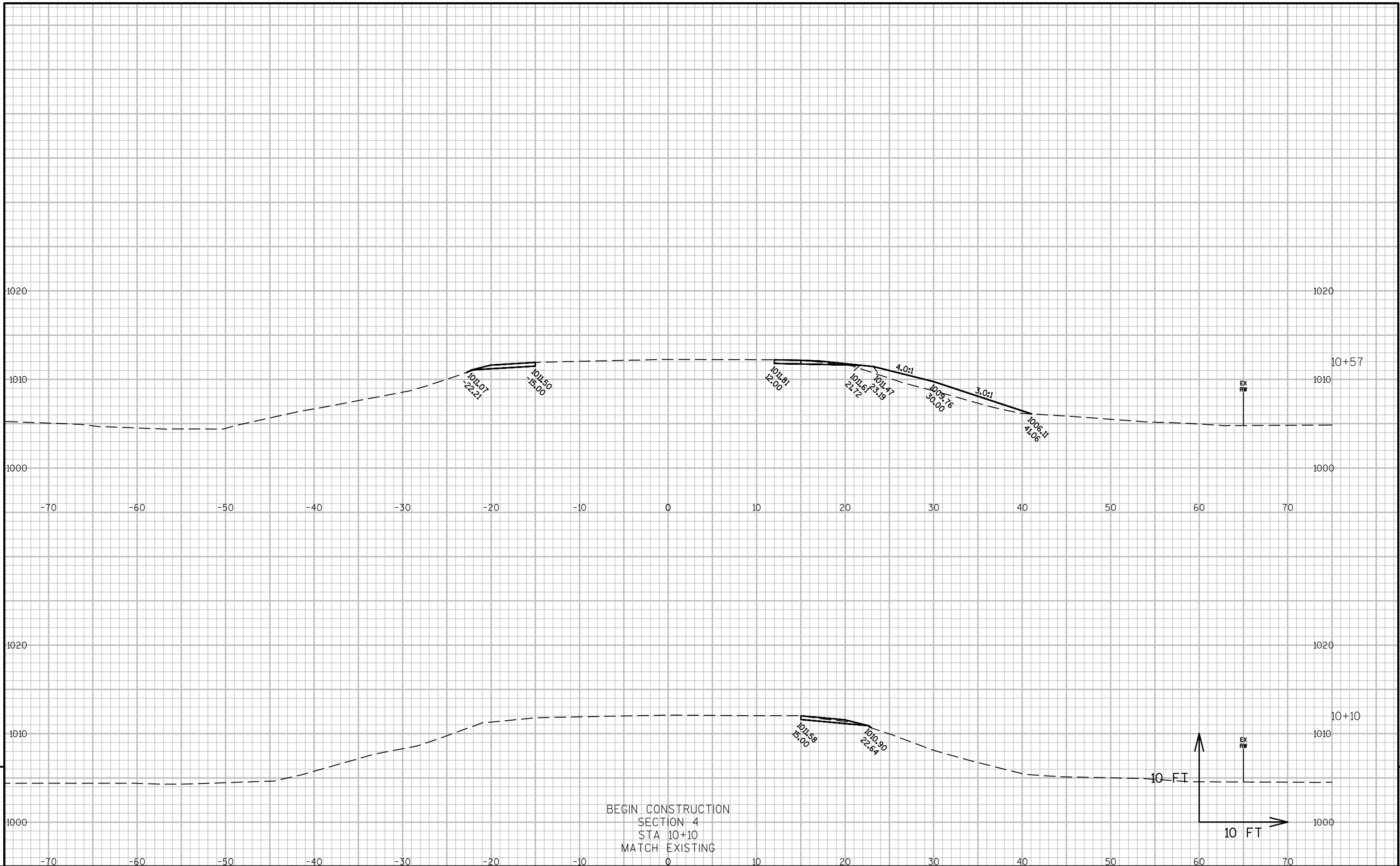


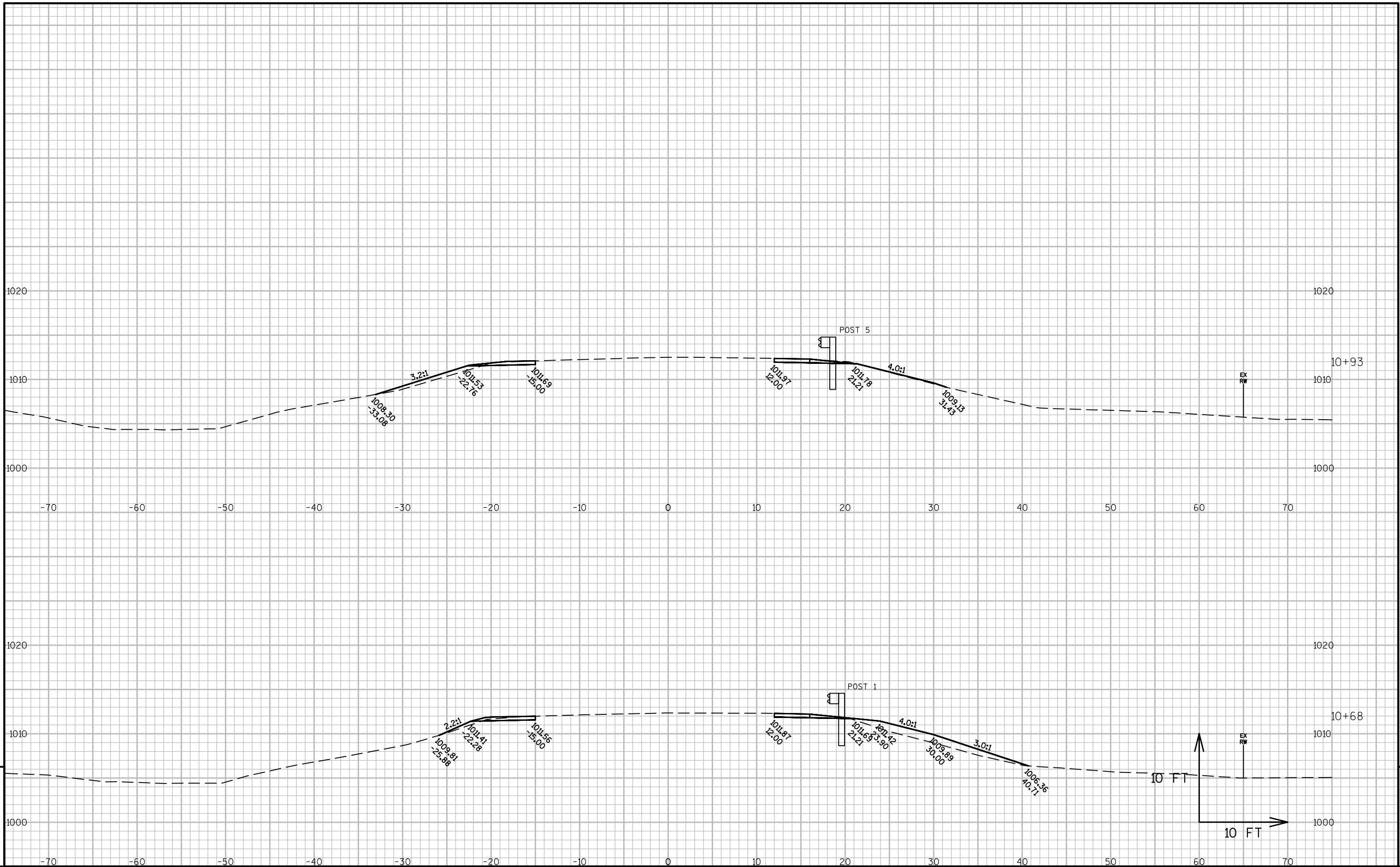


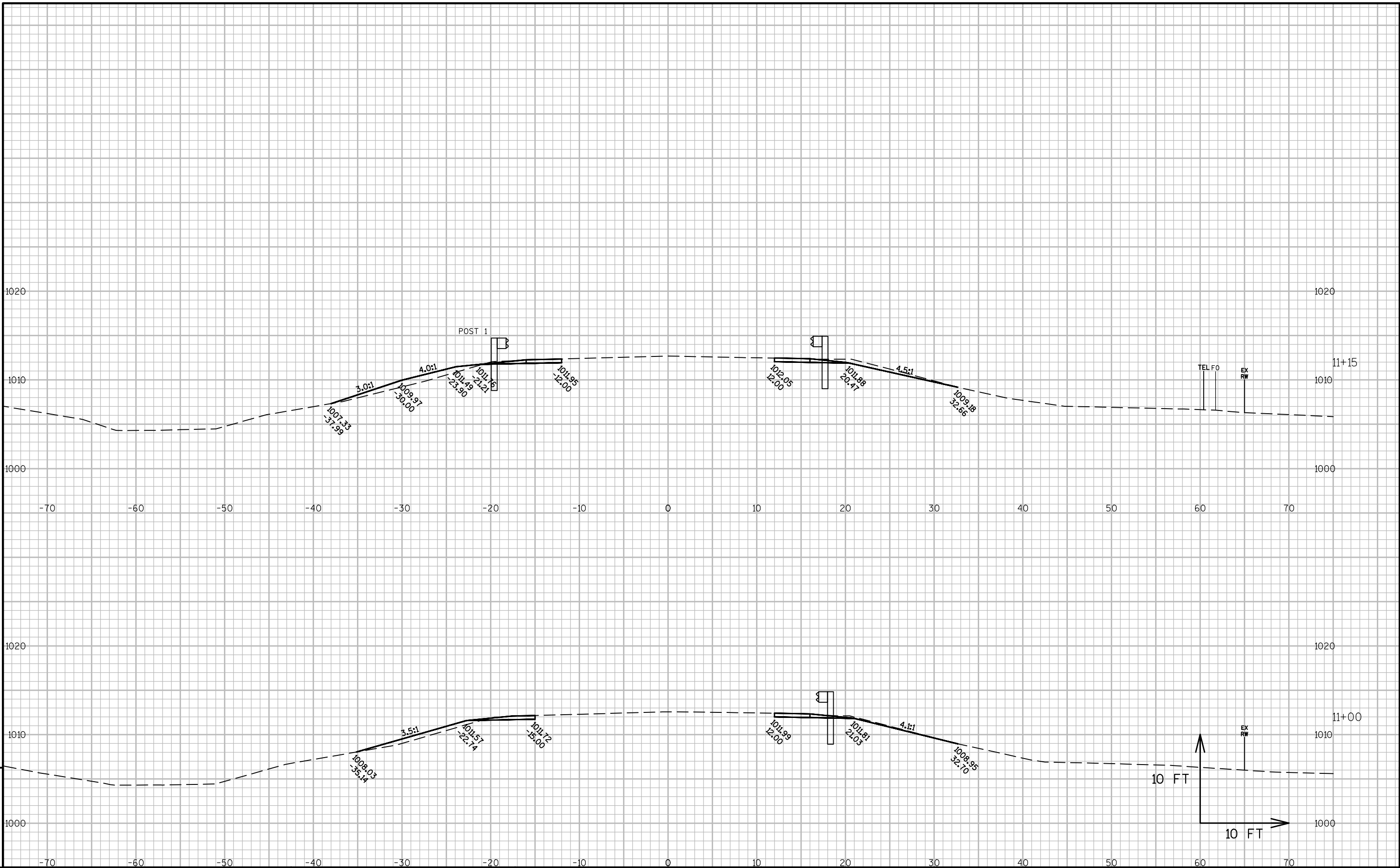


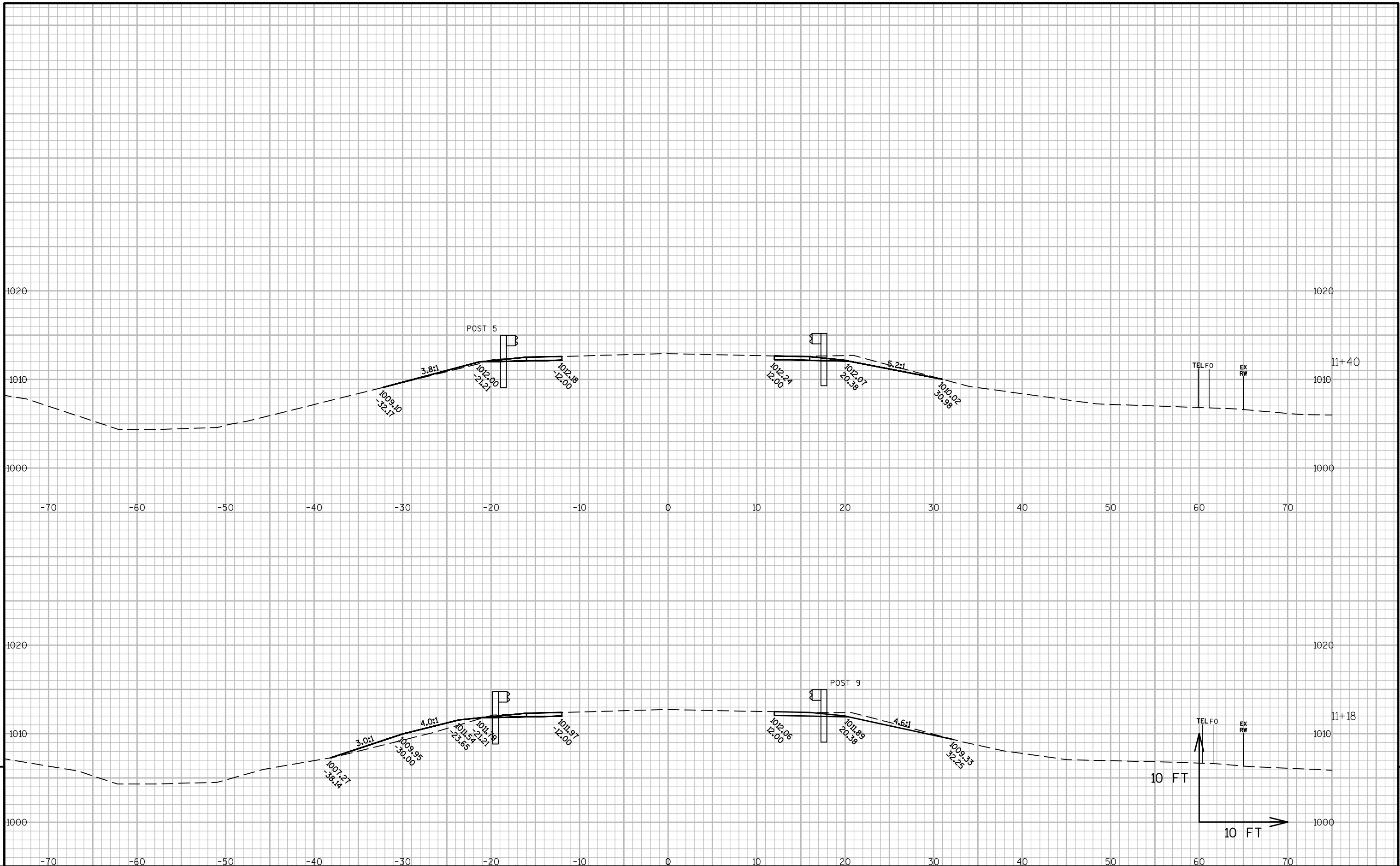


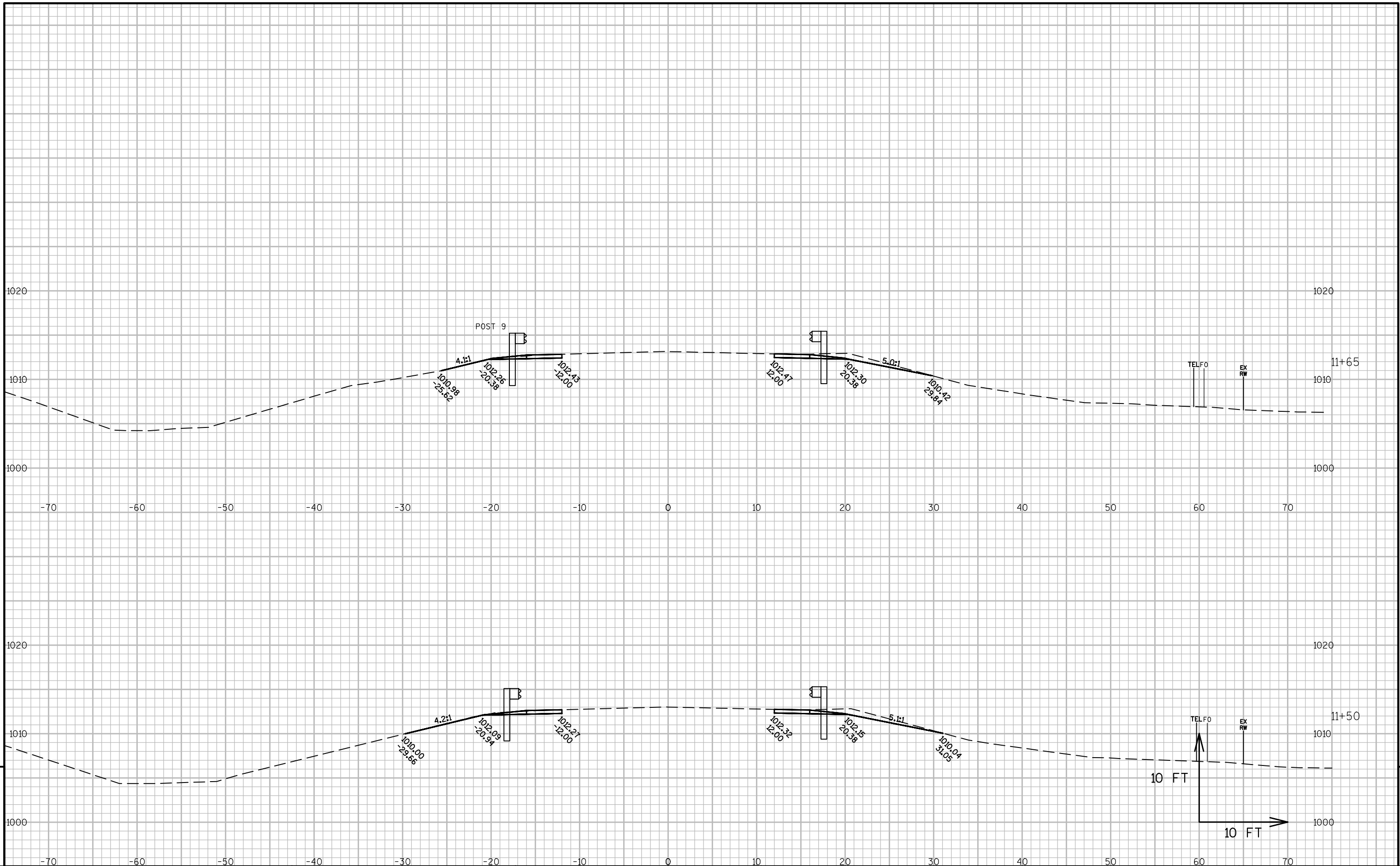


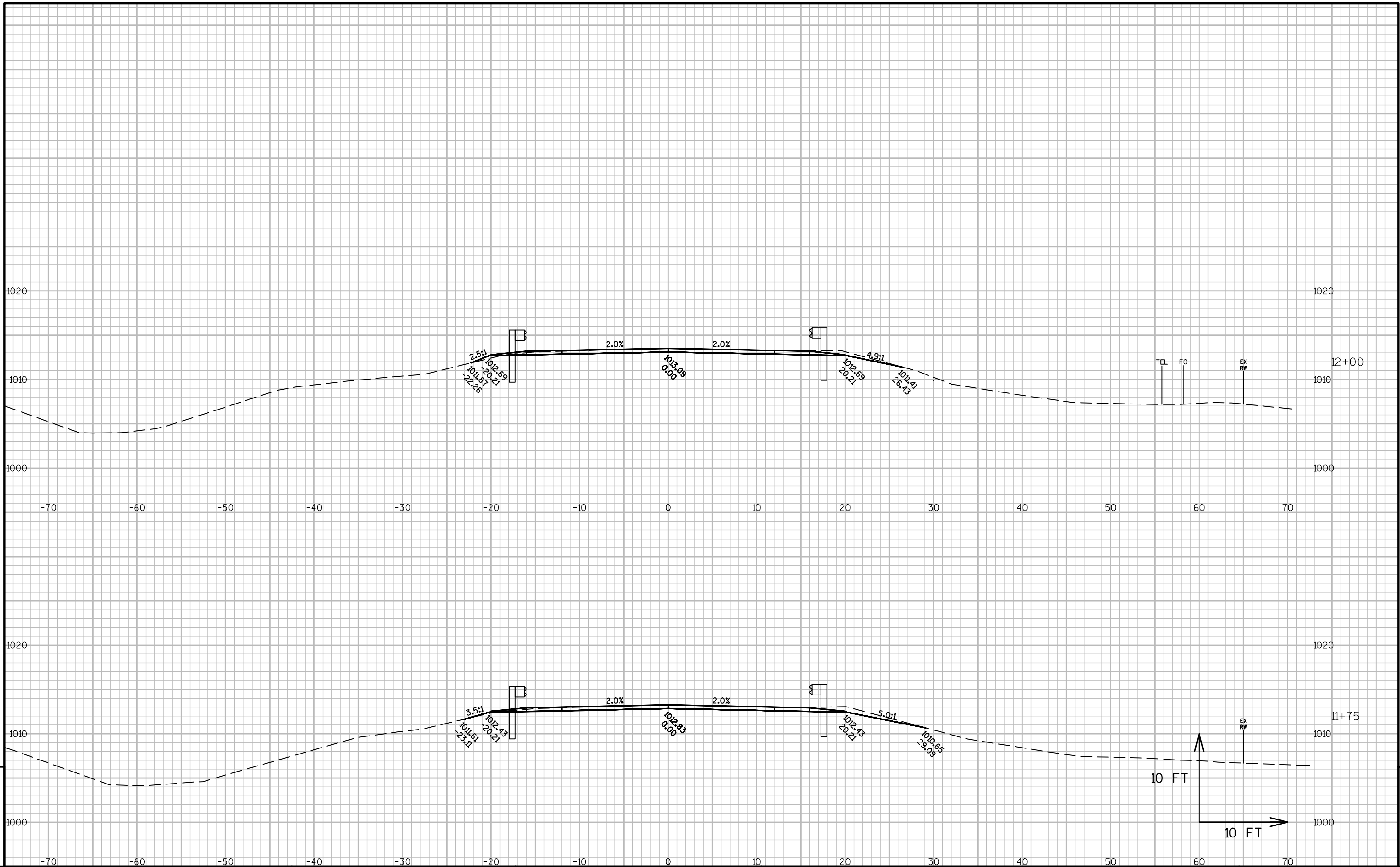


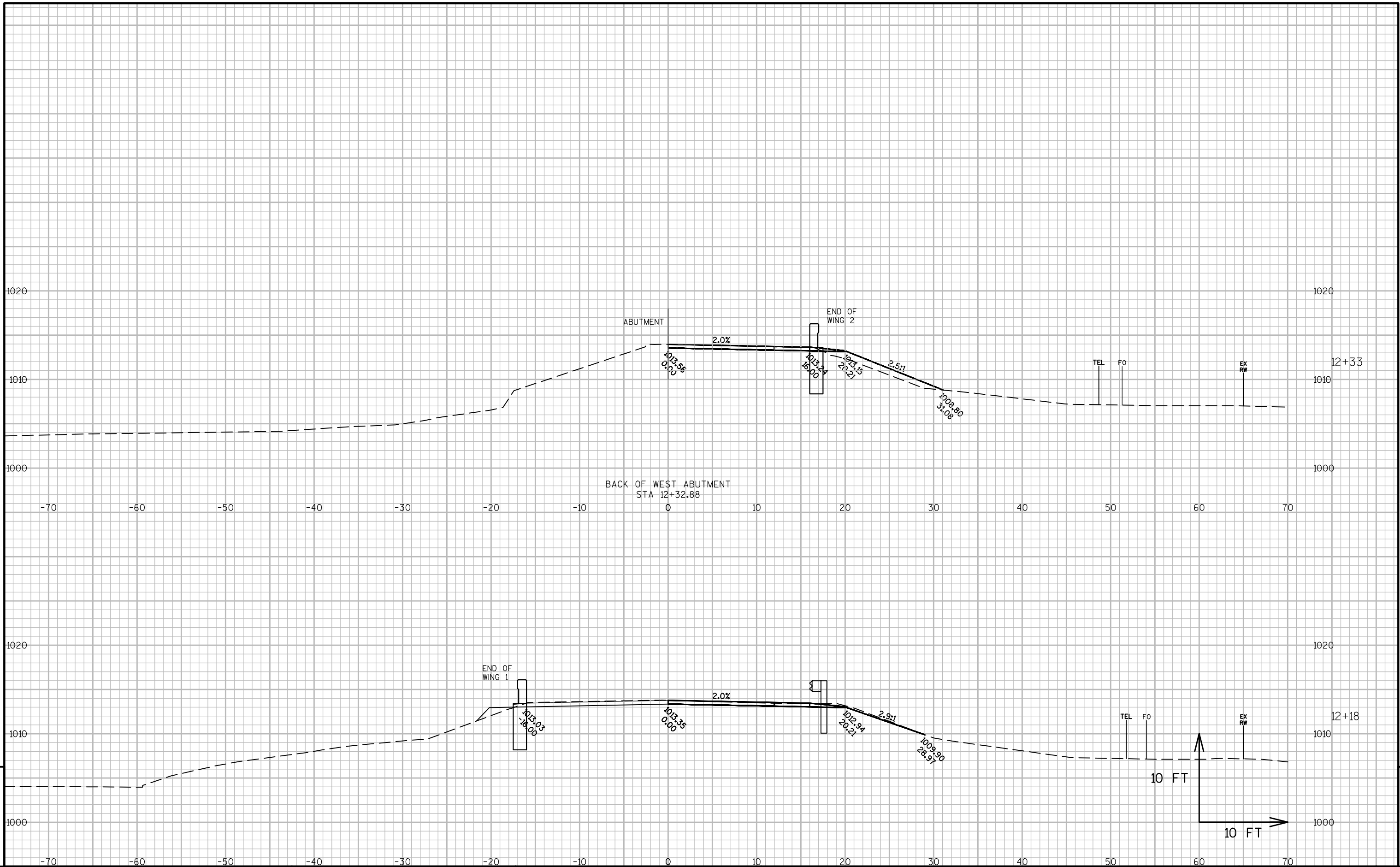


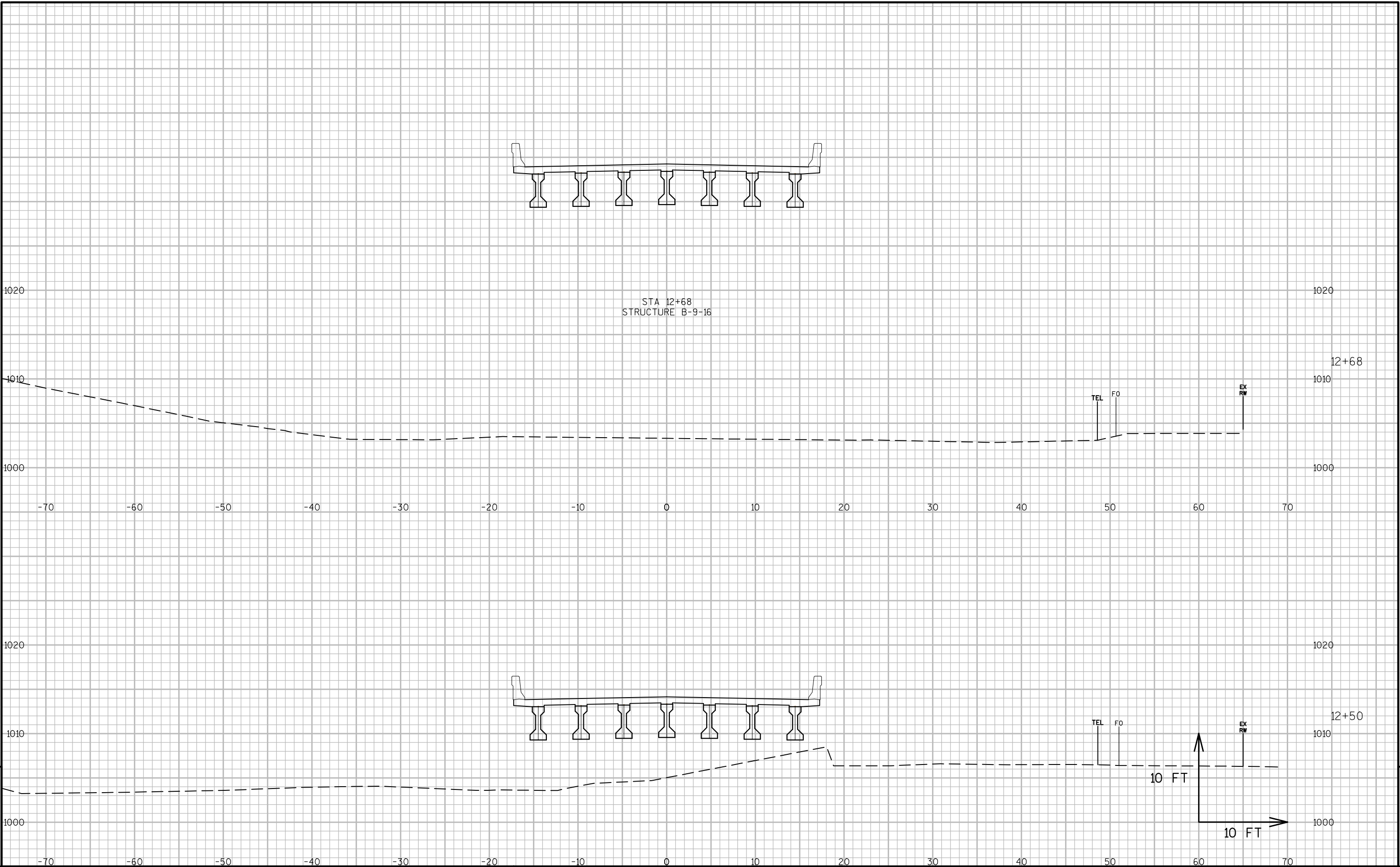


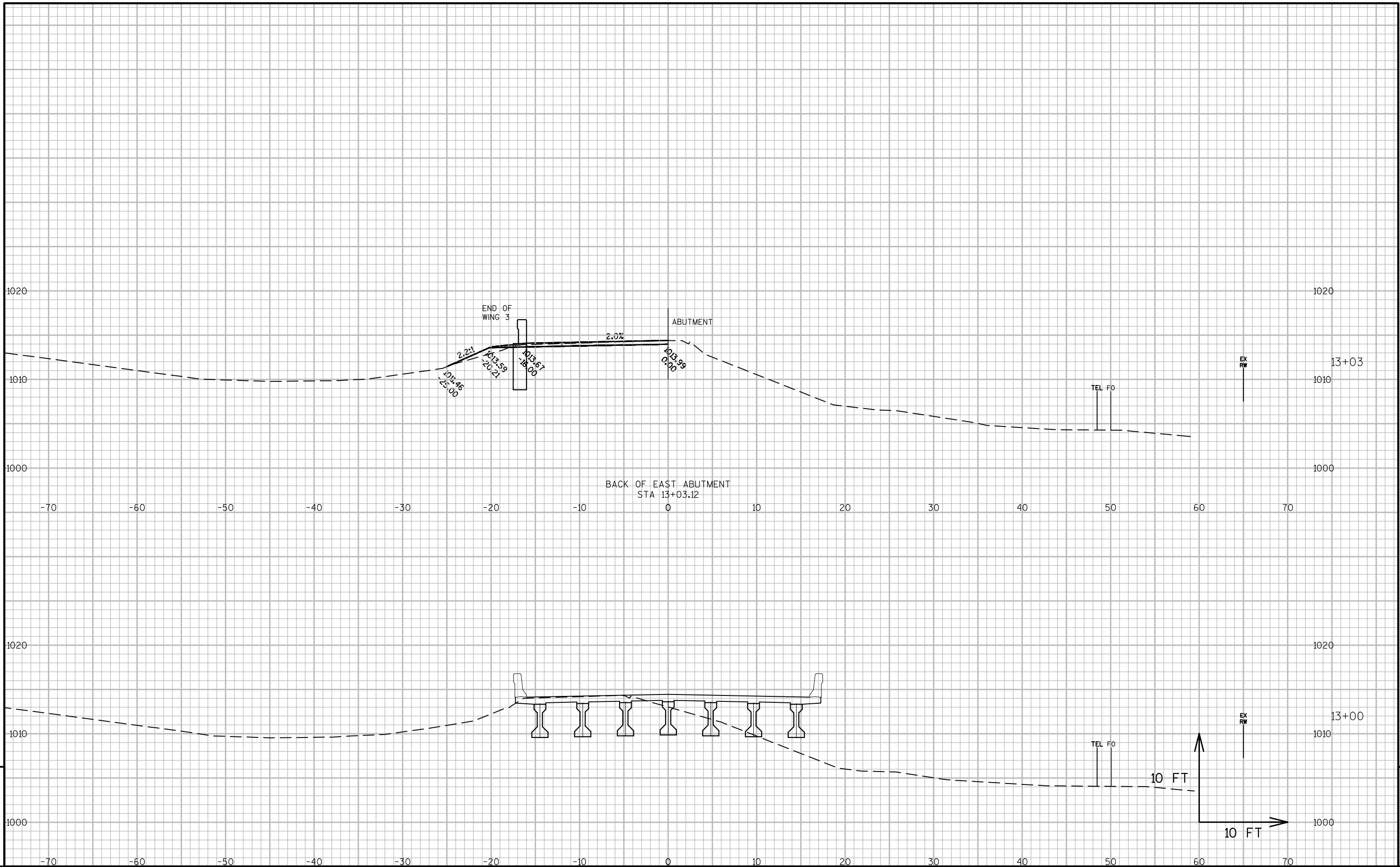








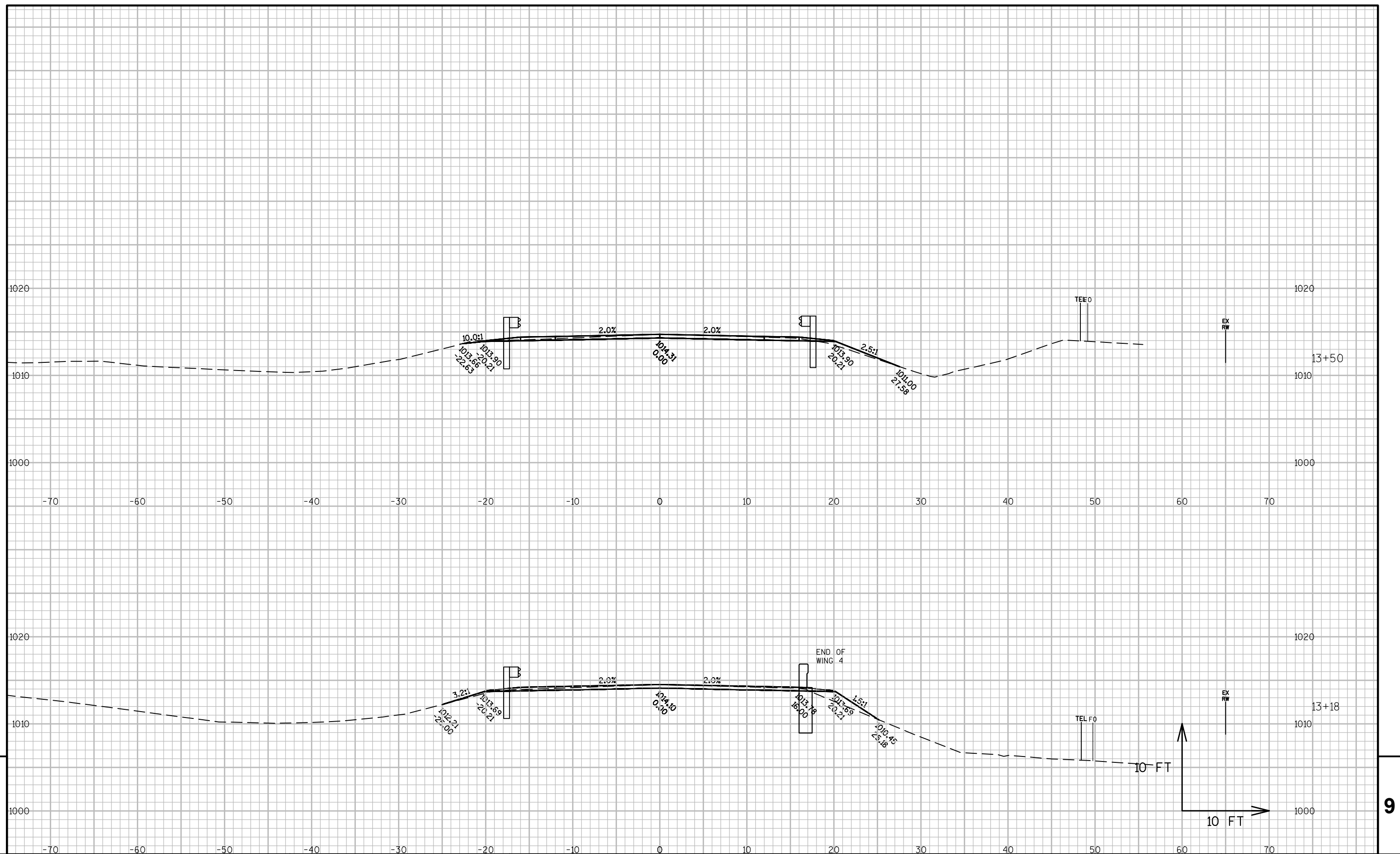


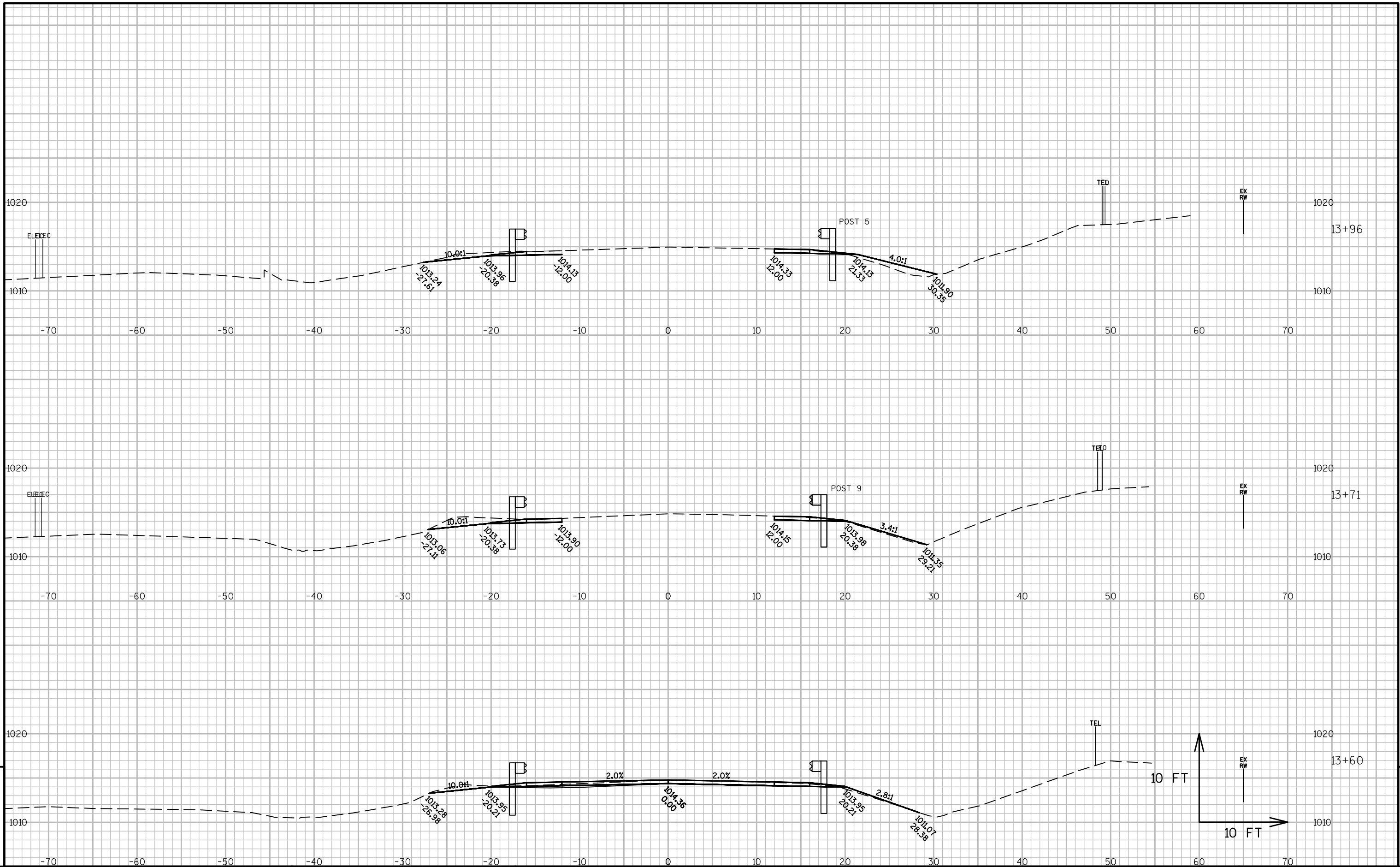


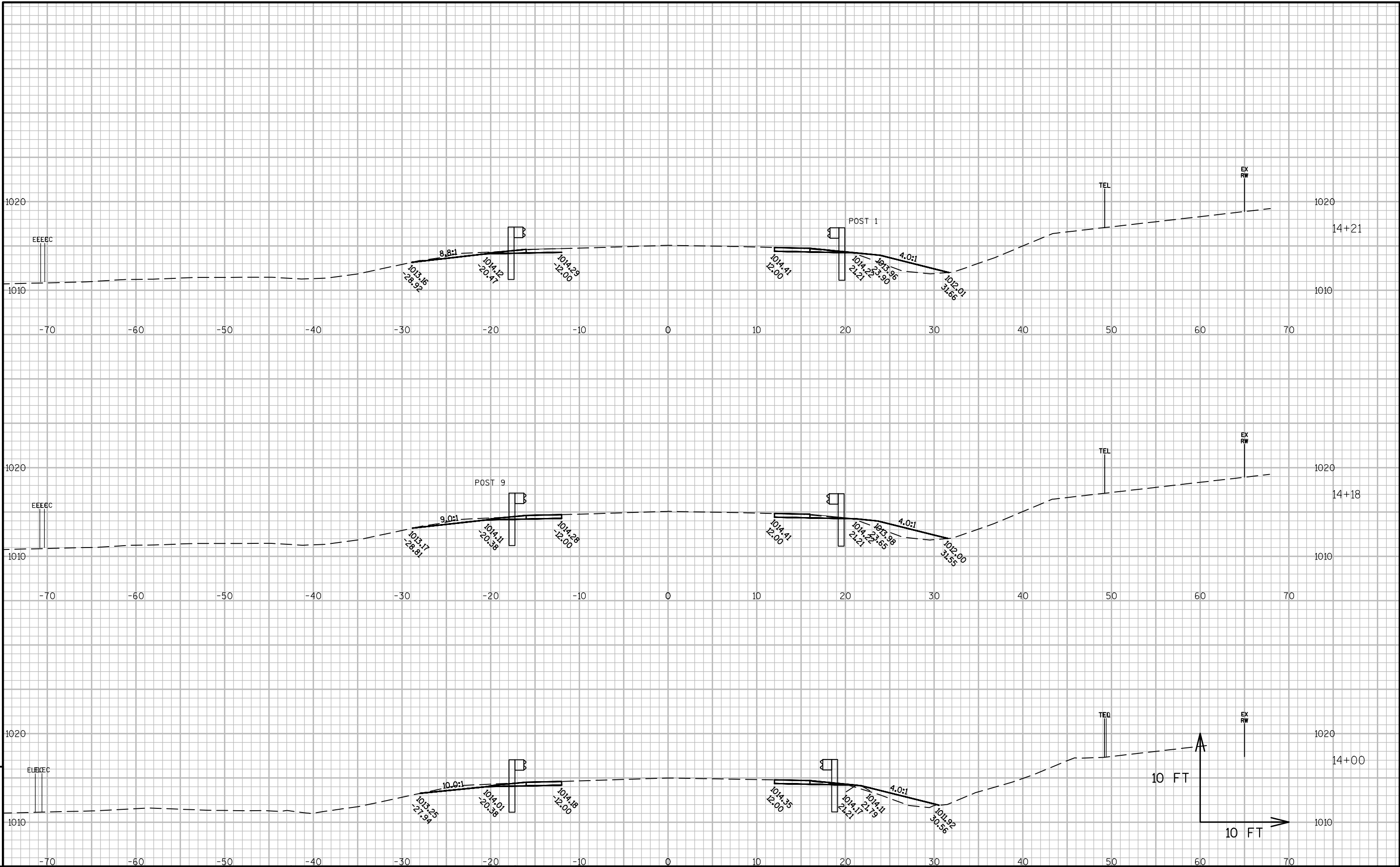
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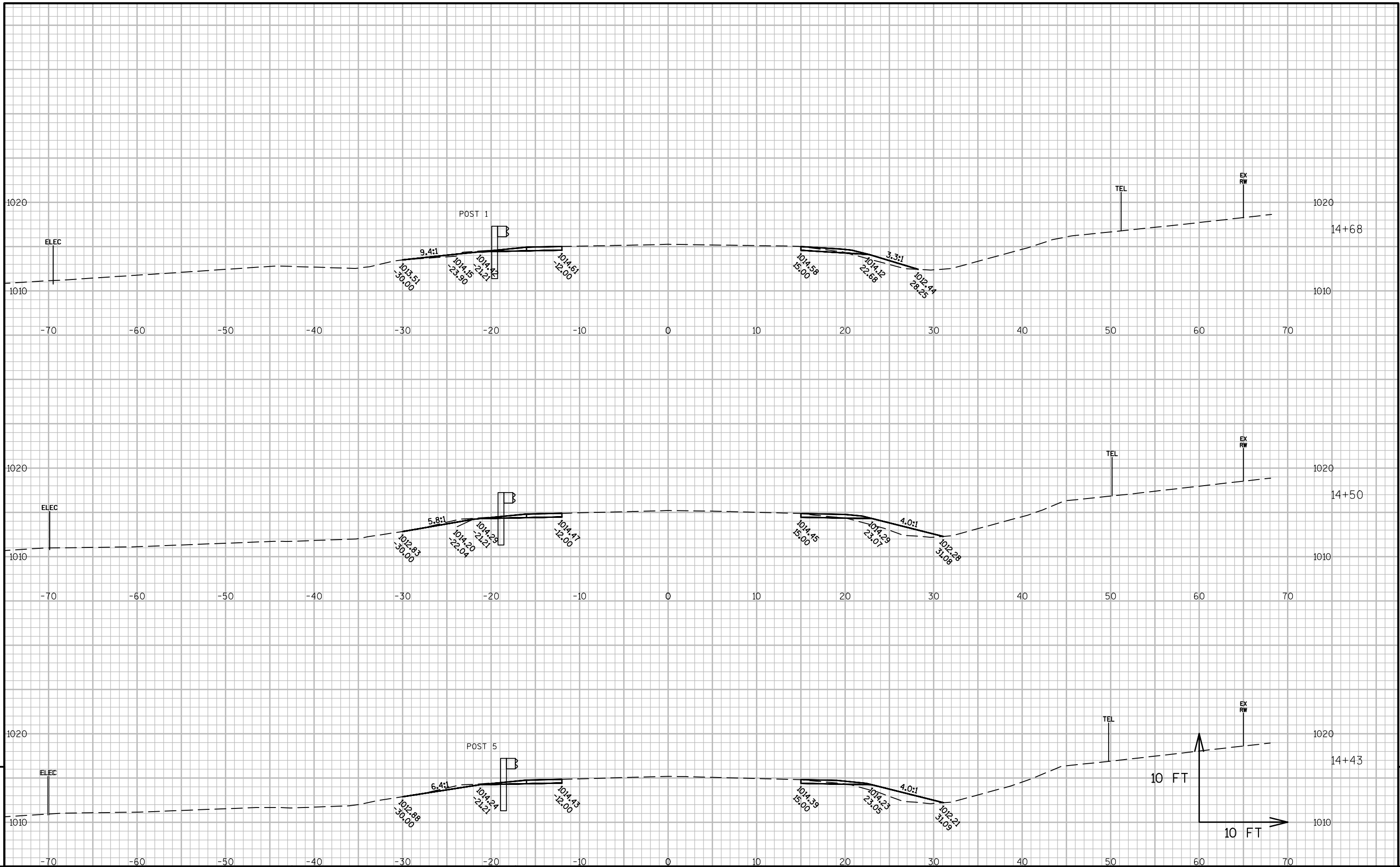
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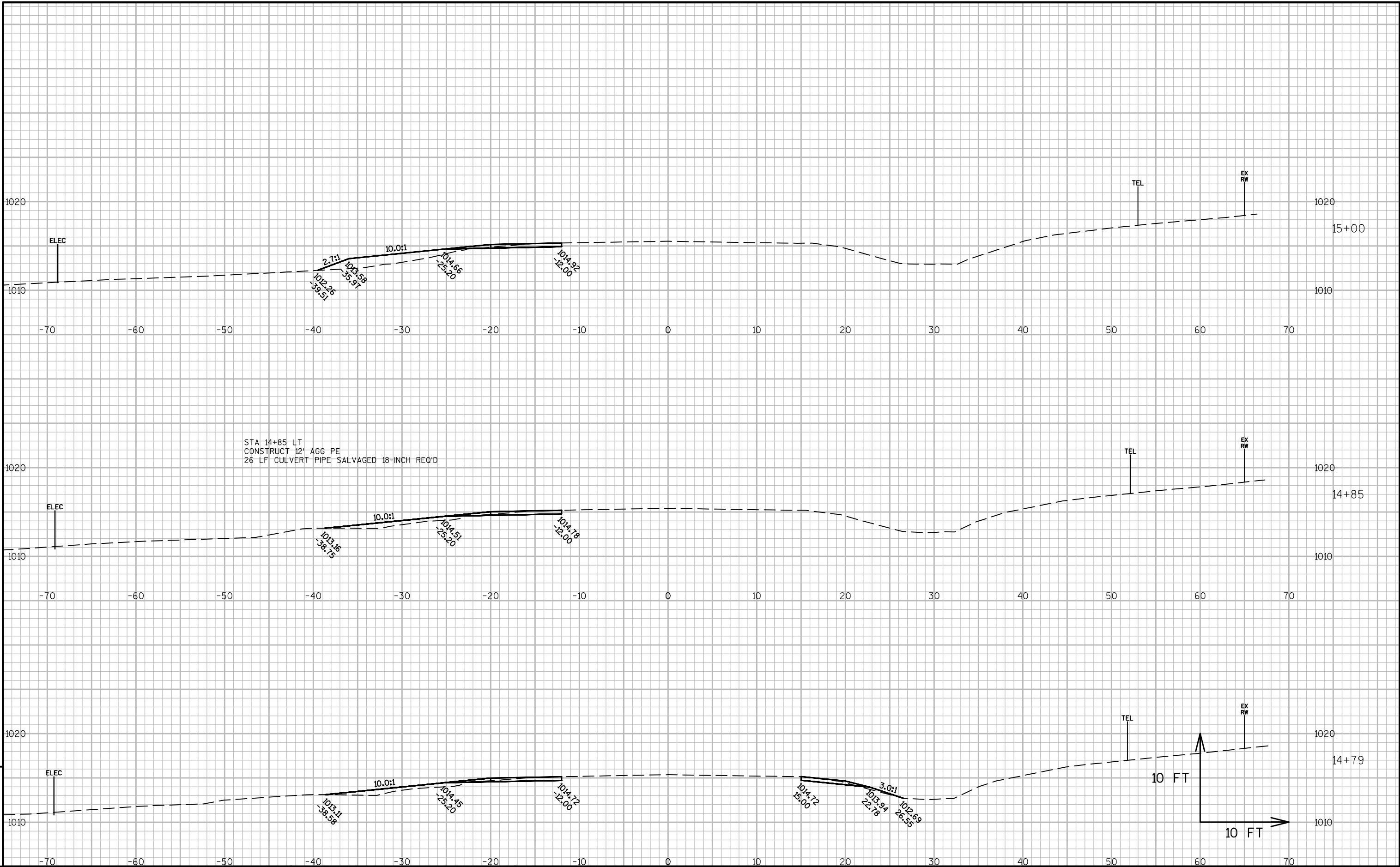
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| PROJECT NO: 8610-07-73 | HWY: STH 64 | COUNTY: CHIPPEWA | CROSS SECTIONS: B-9-16 | SHEET | E |
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Notes



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