RHI MAY 2017

PROJECT ID: 1058-25-70
WITH: 6580-11-60

COUNTY: SHAWANO

ORDER OF SHEETS


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


TOTAL SHEETS = 472

# STATE OF WISCONSIN
# DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

# SHAWANO - GREEN BAY

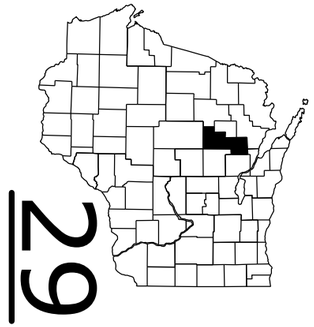
STH 29 & STH 156 INTERSECTION

## STH 29

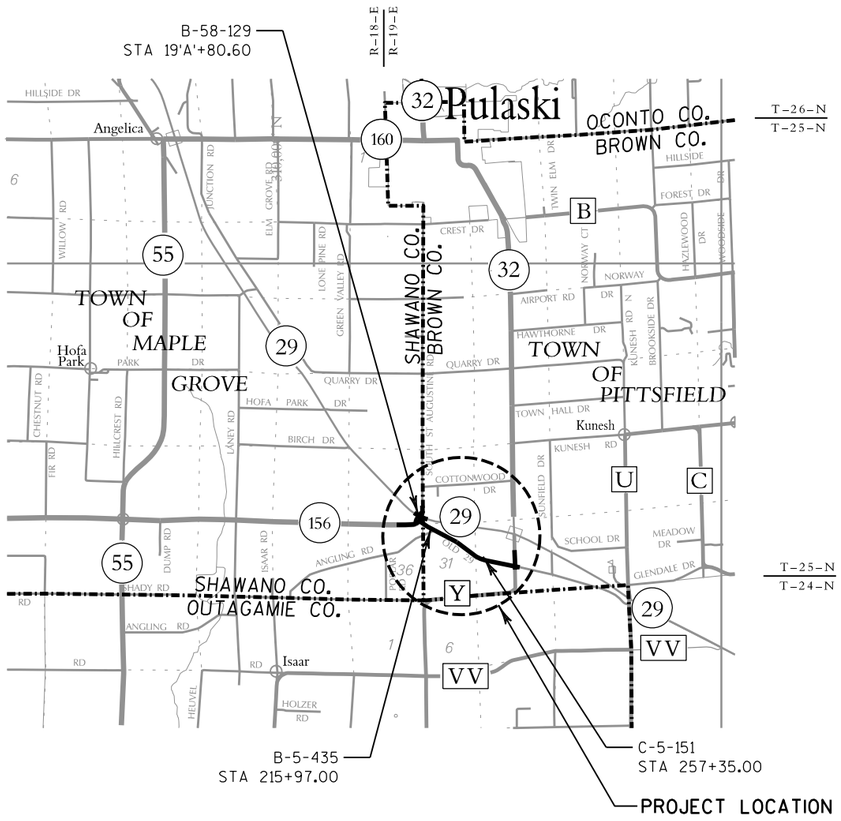
## SHAWANO COUNTY

| STATE PROJECT | FEDERAL PROJECT | |
|---|---|---|
| | PROJECT | CONTRACT |
| 1058-25-70 | WISC 2017284 | 1 |
| | | |
| | | |
| | | |

STATE PROJECT NUMBER
**1058-25-70**



N




| DESIGN DESIGNATION | | STH 29 | STH 156/ OLD 29 DR | STH 156/ CTH Y | ST. AUGUSTINE RD |
|---|---|---|---|---|---|
| A.A.D.T. | (2017) = | 15,300 | 1,900 | 4,700 | 460 |
| A.A.D.T. | (2037) = | 16,800 | 2,500 | 5,300 | 510 |
| D.H.V. | (2037) = | 2,170 | 325 | 685 | 70 |
| D.D. | (2037) = | 60/40 | 60/40 | 60/40 | 60/40 |
| T. | (2037) = | 9.6% | 9.6% | 9.6% | UNKNOWN |
| DESIGN SPEED | = | 70 MPH | 50 MPH | 60 MPH | 45 MPH |
| ESALS | = | N/A | 370,000 | 840,000 | 81,000 |

CONVENTIONAL SYMBOLS

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

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

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

LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE =
STH 29 = 0.352 MILES
STH 156 = 1.740 MILES
ST. AUGUSTINE RD = 0.511 MILES

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), SHAWANO COUNTY, (NAD 83), 1991 ADJUSTMENT

ALL ELEVATIONS ON THIS PROJECT ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)


ORIGINAL PLANS PREPARED BY
emcs.inc
500 North 17th Avenue
Wausau, WI 54401
715.845.1081 Fax 715.845.1099


WISCONSIN
STEPHANIE G. CHRISTENSEN
E35808
WAUSAU, WI
PROFESSIONAL ENGINEER

Stephanie G. Christensen
11-28-2016

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

| | |
|---|---|
| Surveyor | EMCS, INC. |
| Designer | EMCS, INC. |
| Project Manager | JIM VOLKMANN |
| Regional Examiner | CHERYL SIMON |
| Regional Supervisor | MIKE WENDT |

APPROVED FOR THE DEPARTMENT

DATE: 11/30/2016 (Signature)

E

## GENERAL NOTES

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

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

COORDINATE SYSTEM OF THE RIGHT-OF-WAY PLAT VARIES IN WISCONSIN COUNTY COORDINATES, SHAWANO COUNTY, NAD 83, (1991) & WISCONSIN COUNTY COORDINATES, BROWN COUNTY, NAD 83, (1991) DEPENDING ON THE SHEET LOCATION. ENGINEERING PLANS ARE STRICTLY REFERENCED TO WISCONSIN COUNTY COORDINATES, SHAWANO COUNTY, NAD 83, (1991).

## AS-BUILTS USED FOR PLAN DEVELOPMENT

PROJECT NO. 6167-01-71
PROJECT NO. 1059-15-83
PROJECT NO. 9202-02-71

## REFERENCE LINE CALL OUTS

| | |
|---|---|
| 'A' | ST. AUGUSTINE RD OVERPASS |
| 'S' | EXISTING STH 156 & EXISTING ST. AUGUSTINE RD TO BE REMOVED |
| 'T' | EXISTING OLD 29 DR TO BE REMOVED |
| 'EB' | STH 29 (EASTBOUND) |
| 'Y' | STH 156/CTH Y |
| 'W' | STREAM REALIGNMENT ON ST. AUGUSTINE RD |
| 'B' | TEMPORARY BYPASS OF STREAM REALIGNMENT ON ST. AUGUSTINE RD |

## ORDER OF SECTION 2 SHEETS

PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
INTERSECTION DETAILS
CROSS SECTION MATCH LINE DETAILS
EROSION CONTROL
PERMANENT SIGNING
PAVEMENT MARKING
TRAFFIC CONTROL
ALIGNMENT DETAILS

## UTILITIES

### ANR PIPELINE COMPANY
(GAS)
MATTHE HISCHKE
N4956 OAKCREST DRIVE
BONDUEL, WI 54107
(715) 758-3345
(715) 460-4042 (MOBILE)
MATTHEW_HISCHKE@TRANSCANADA.COM

### NORTHEAST TELEPHONE COMPANY, LLC
(COMMUNICATIONS)
RICK VINCENT
5475 GLENDALE AVE
GREEN BAY, WI 54313
(920) 617-7316
RICK.VINCENT@NSIGHT.COM

### WE ENERGIES
(ELECTRIC DISTRIBUTION)
TOM BRAUN
800 SOUTH LYNDALE DRIVE
APPLETON, WI 54911
(920) 380-3452
(920) 428-3114 (MOBILE)
TOM-B.BRAUN@WE-ENERGIES.COM

### WISCONSIN PUBLIC SERVICE
(ELECTRIC DISTRIBUTION)
RANDY D. STEIER
2850 SOUTH ASHLAND AVENUE
PO BOX 19001
GREEN BAY, WI 54307
(920) 617-5167
(920) 655-1596 (MOBILE)
RDSTEIER@WISCONSINPUBLICSERVICE.COM

### ATC MANAGEMENT, INC.
(ELECTRIC TRANSMISSION)
GERALD RHODE
801 OKEEFE ROAD
DE PERE, WI 54115
(920) 338-6523
GHRODE@ATCLLC.COM

### CENTURYLINK COMMUNICATIONS LLC FKA QWEST COMMUNICATIONS
(COMMUNICATIONS)
BOB SAMPSON
1310 EAST MARY STREET
OTTUMWA, IA 52501
(636) 887-5367 (MOBILE)
ROBERT.SAMPSON@CENTURYLINK.COM

### WISCONSIN PUBLIC SERVICE CORPORATION
(GAS)
DAVID CZARNECKI
2850 SOUTH ASHLAND AVENUE
PO BOX 19001
GREEN BAY, WI 54304
(920) 617-5132
DFCZARNECKI@WISCONSINPUBLICSERVICE.COM

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

## OTHER CONTACTS

### DNR LIAISON
JAMES DOPERALSKI JR
2984 SHAWANO AVE
P.O. BOX 10448
GREEN BAY, WI 54307-0448
(920) 662-5119
JAMES.DOPERALSKI@WISCONSIN.GOV

### BROWN COUNTY SURVEYOR
TERRY VAN HOUT
305 EAST WALNUT ST, ROOM 320
PO BOX 23600
GREEN BAY, WI 54307
(920) 448-6493
VANHOUT_TL@CO.BROWN.WI.US

### U.S. ARMY CORPS OF ENGINEERS
RYAN HUBER
211 NORTH BROADWAY, SUITE 221
GREEN BAY, WI 54303
(651) 290-5859
RYAN.J.HUBER@USACE.ARMY.MIL

2

N

END CONSTRUCTION
ST. AUGUSTINE RD
STA 37'A'+00.00

REALIGN UNNAMED TRIBUTARY TO THE WEST BRANCH OF THE SUAMICO RIVER

END CONSTRUCTION
EXISTING ST. AUGUSTINE RD
STA 22'S'+59.51

ST. AUGUSTINE RD

PROPOSED ATC OVERHEAD TRANSMISSION LINE ROUTE (2017/2018)

BEGIN CONSTRUCTION
STH 29
STA 316'EB'+50.00

PROPOSED ST. AUGUSTINE RD OVERPASS
CONSTRUCT STRUCTURE B-58-129
CONSTRUCT MEDIAN GUARDRAIL ON STH 29

TOWN

UNNAMED TRIBUTARY OF THE WEST BRANCH OF THE SUAMICO RIVER (WEST)

BEGIN CONSTRUCTION
ST. AUGUSTINE RD
STA 10'A'+24.00

BEGIN CONSTRUCTION
STH 156
STA 196+50.00

SEE PROJECT 6580-11-60
MILL & HMA OVERLAY

STH 156 PAVEMENT RECONSTRUCTION
STA 196+50 TO
STA 217+50

MAPLE GROVE

ANGLE DR

WEST BRANCH OF THE SUAMICO RIVER

SHAWANO COUNTY
BROWN COUNTY

END RECONSTRUCTION
BEGIN MILL & HMA OVERLAY
STA 217+50

END HMA MILL & OVERLAY
BEGIN RECONSTRUCTION
STA 18'S'+70.00

END RECONSTRUCTION
BEGIN HMA MILL & OVERLAY
STA 13'S'+75.00

CONSTRUCT CUL-DE-SAC

BEGIN CONSTRUCTION
EXISTING ST. AUGUSTINE RD
STA 11'S'+39.00

END CONSTRUCTION
STH 29
STA 335'EB'+09.00

REMOVE C-5-54
CONSTRUCT B-5-435
SALVAGE & REPLACE GUARDRAIL

PITTSFIELD

END RECONSTRUCTION
BEGIN MILL & HMA OVERLAY
STA 260+54

UNNAMED TRIBUTARY OF THE WEST BRANCH OF THE SUAMICO RIVER (EAST)

END MILL & HMA OVERLAY
BEGIN RECONSTRUCTION
STA 253+89

REMOVE EXISTING BOX CULVERT STRUCTURE
CONSTRUCT C-5-151
STH 156 PAVEMENT RECONSTRUCTION
STA 253+89 TO STA 260+54
SALVAGE & REPLACE GUARDRAIL

INTERSECTION RECONSTRUCTION

END MILL & HMA OVERLAY
BEGIN RECONSTRUCTION
STA 276+25

BEGIN CONSTRUCTION
CTH Y
STA 3'Y'+17.00

END CONSTRUCTION
STH 156
STA 12'Y'+92.00

END TURN LANE RECONSTRUCTION
STA 10'Y'+67

END RECONSTRUCTION
BEGIN MILL & HMA OVERLAY
STA 8'Y'+50

END CONSTRUCTION
OLD 29 DR
STA 286+59.26

END RECONSTRUCTION
STA 282+50

ONEIDA NATION PROPERTY
(NO WORK IN THIS AREA)

UNNAMED TRIBUTARY OF THE WEST BRANCH OF THE SUAMICO RIVER (EAST)

WEST BRANCH OF THE SUAMICO RIVER

TOWN

COTTONWOOD DR

EXISTING ST. AUGUSTINE RD

EXISTING STH 156

STH 156

STH 29

STH 32

STH 29/32

STH 156/OLD 29 DR

CTH Y

OH

300'EB'+00
320'EB'+00
340'EB'+00
360'EB'+00
380'EB'+00
400'EB'+00
420'EB'+00
180+00
200+00
220+00
240+00
260+00
280+00
10'T'+00
20'S'+00
40'A'+00
22'Y'+00
12'Y'+00
2'Y'+00

NOTES

WITHIN SHAWANO COUNTY "OLD 29" IS REFERRED TO AS "OLD 29 RD", AND WITHIN BROWN COUNTY IT IS REFERRED TO AS "OLD 29 DR"

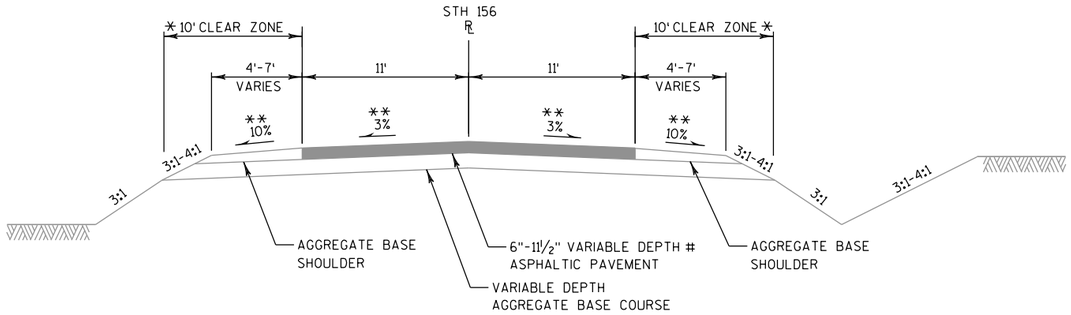
FOR THE PURPOSE OF PLAN DEVELOPMENT, IT WILL BE KNOWN AS "OLD 29 DR"

STH 156 NORTH OF OLD 29 DR AT STH 29/STH 32 IS KNOWN AS CTH Y IN THE EXISTING CONDITION; CTH Y WILL STOP AT THE STH 159/OLD 29 DR INTERSECTION IN THE PROPOSED CONDITION

LEGEND

REMOVE EXISTING ROADWAY CONNECTIONS AT STH 29

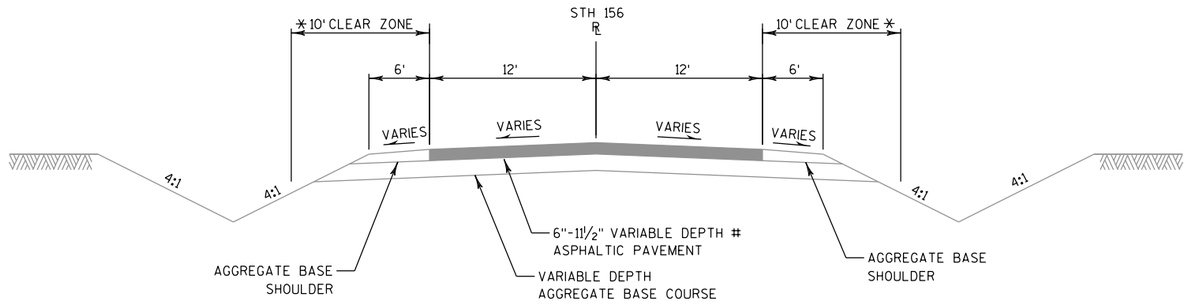
| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | PROJECT OVERVIEW | SHEET 3 | E |
|---|---|---|---|---|---|




## TYPICAL EXISTING SECTION
## STH 156
STA 196+50 - STA 200+19

# PAVEMENT CORES (2004)

| CORE NO. | STATION | LOCATION | ASPH. DEPTH | CONC. DEPTH |
|---|---|---|---|---|
| 2 | 226+52 | 3' LT | 8.5" | 6" |
| 3 | 237+08 | 11' RT | 8.5" | 7" |
| 4 | 247+64 | 11' LT | 9" | 6.5" |
| 5 | 258+20 | 7' RT | 9" | 7" |
| 6 | 268+76 | 7' LT | 8" | 8" |

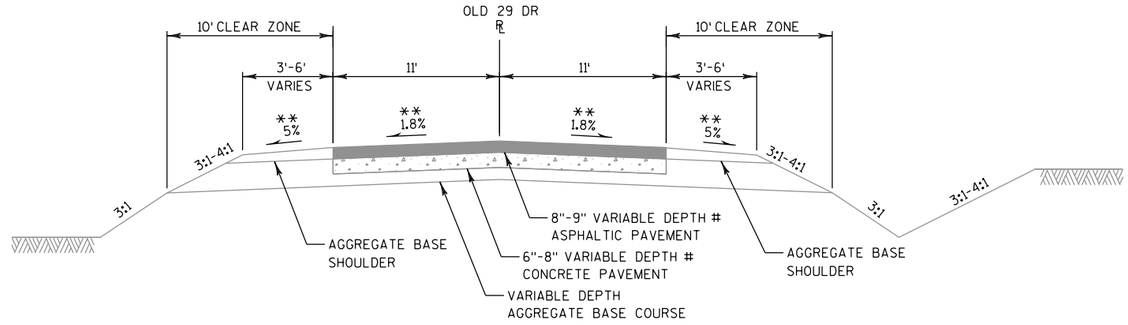



## TYPICAL EXISTING SECTION
## STH 156
STA 200+19 - STA 201+07
STA 1'S'+00 - STA 9'S'+66

NOTES

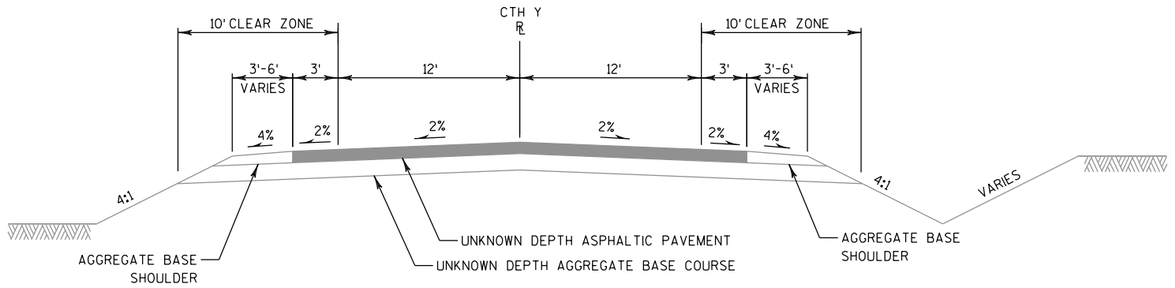
* CLEAR ZONE AS PREVIOUSLY CONSTRUCTED PER AS BUILTS

** CROSS SLOPE VARIES THROUGHOUT PROJECT; AVERAGE CROSS SLOPES SHOWN




## TYPICAL EXISTING SECTION
## OLD 29 DR

STA 5'T'+68 - STA 14'T'+60
STA 214+96 - STA 286+59.26



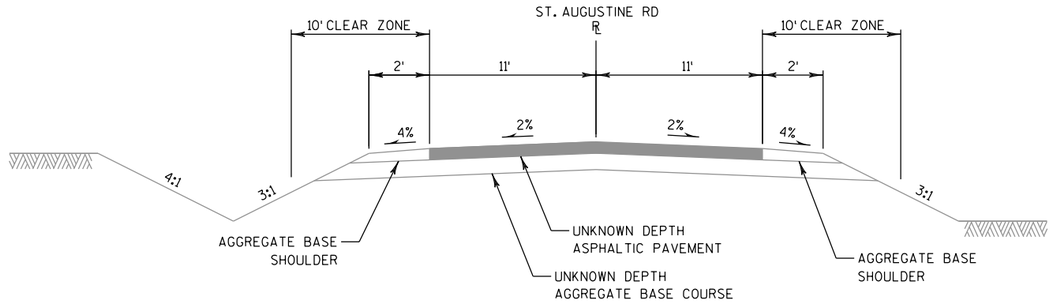

## TYPICAL EXISTING SECTION
## CTH Y

STA 3'Y'+17 - STA 12'Y'+92

NOTE

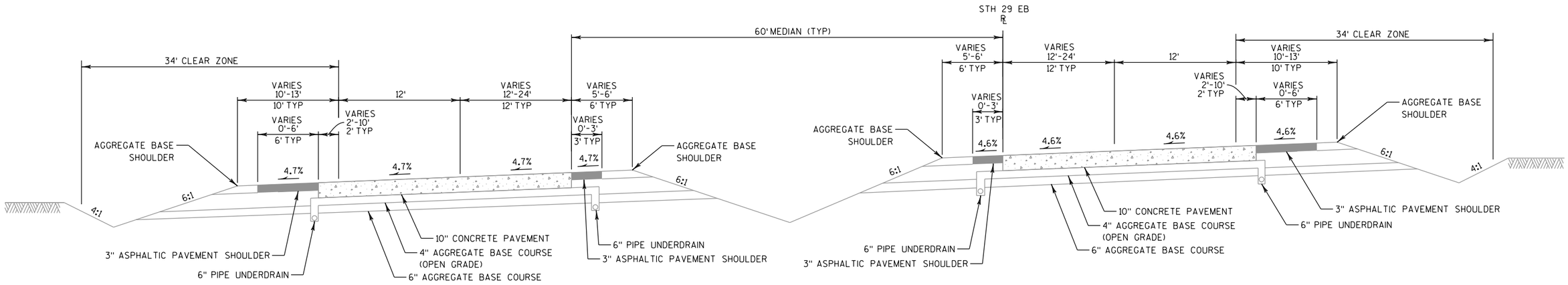
** CROSS SLOPE VARIES THROUGHOUT PROJECT; AVERAGE CROSS SLOPES SHOWN
# SEE PAVEMENT CORE LOG

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | TYPICAL SECTIONS | SHEET 5 | E |
|---|---|---|---|---|---|




## TYPICAL EXISTING SECTION
## ST. AUGUSTINE RD

STA 11'S'+38 - STA 21'S'+00
STA 29'A'+50 - STA 37'A'+00

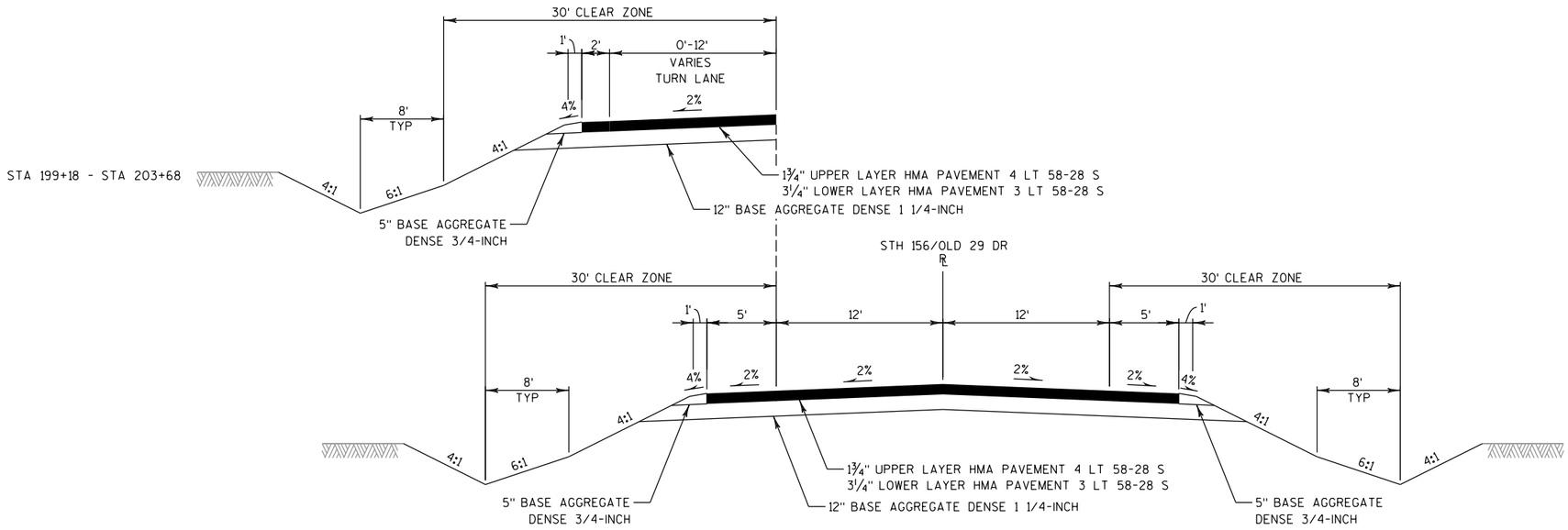



## TYPICAL EXISTING SECTION
## STH 29

STA 316'EB'+50 - STA 335'EB'+09

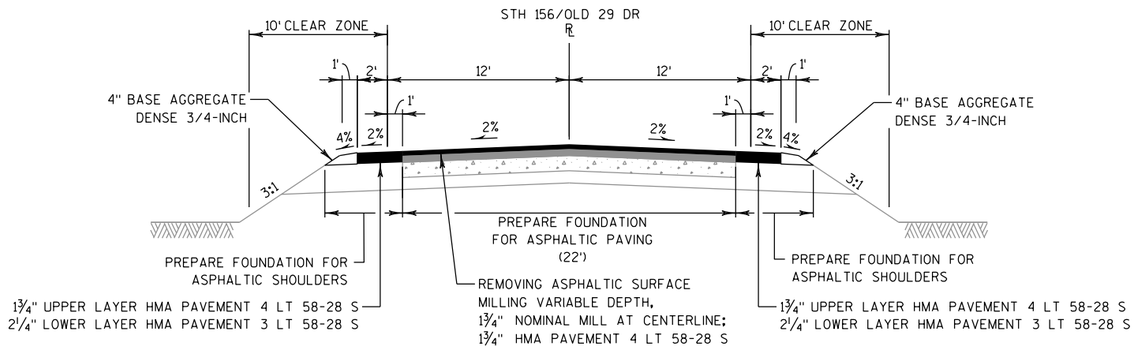
| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | TYPICAL SECTIONS | SHEET 6 | E |
|---|---|---|---|---|---|

2




## TYPICAL FINISHED SECTION
## STH 156/OLD 29 DR

STA 196+50 - STA 217+50
STA 253+89 - STA 260+54




## TYPICAL FINISHED SECTION
## STH 156/OLD 29 DR

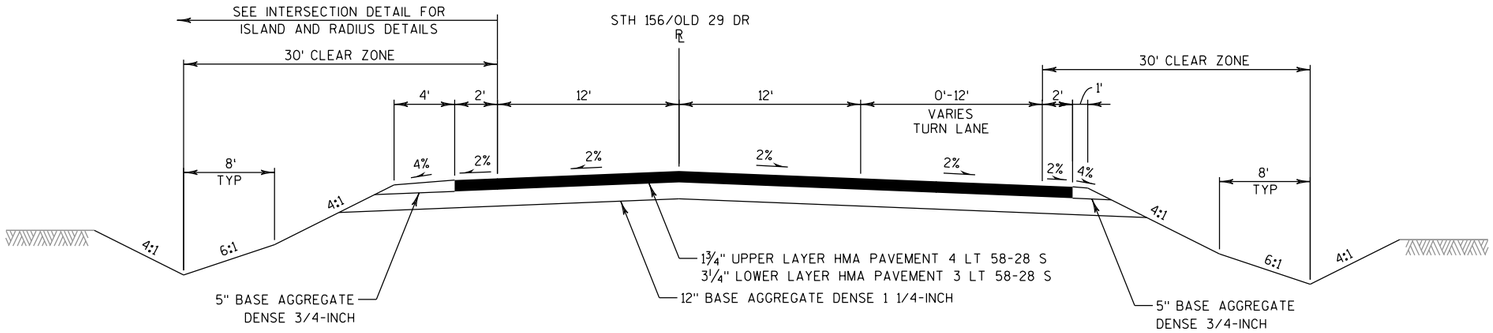
STA 217+50 - STA 253+89
STA 260+54 - STA 276+25

NOTES

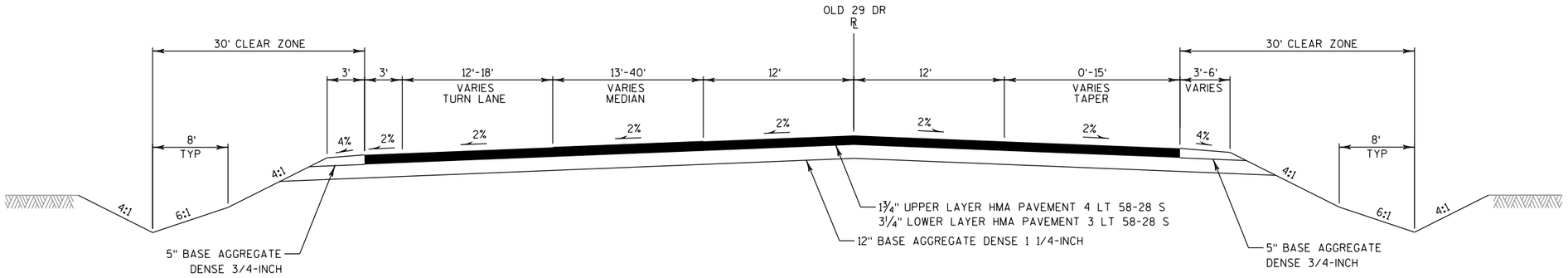
SEE CROSS SECTIONS, CONSTRUCTION DETAILS, AND SDDS FOR SLOPES & SHOULDERS AT GUARDRAIL

PAVEMENT CROSS SLOPE VARIES DUE TO SUPERELEVATION; SEE ALIGNMENT DETAIL SHEETS FOR SUPERELEVATION DATA

INSTALL SAFETY EDGE PER SDD




**TYPICAL FINISHED SECTION**
**STH 156/OLD 29 DR**
STA 276+25 - STA 280+36



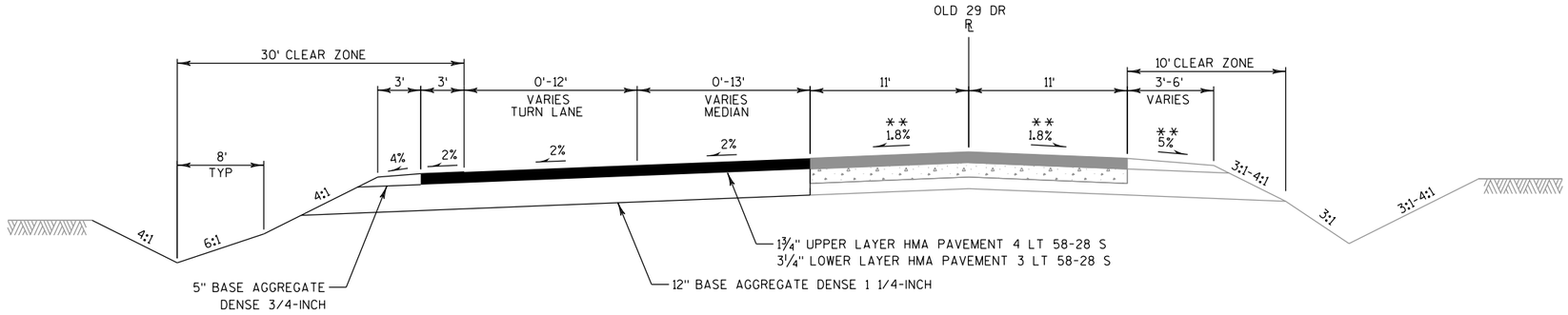

**TYPICAL FINISHED SECTION**
**OLD 29 DR**
STA 280+36 - STA 282+50

**NOTES**

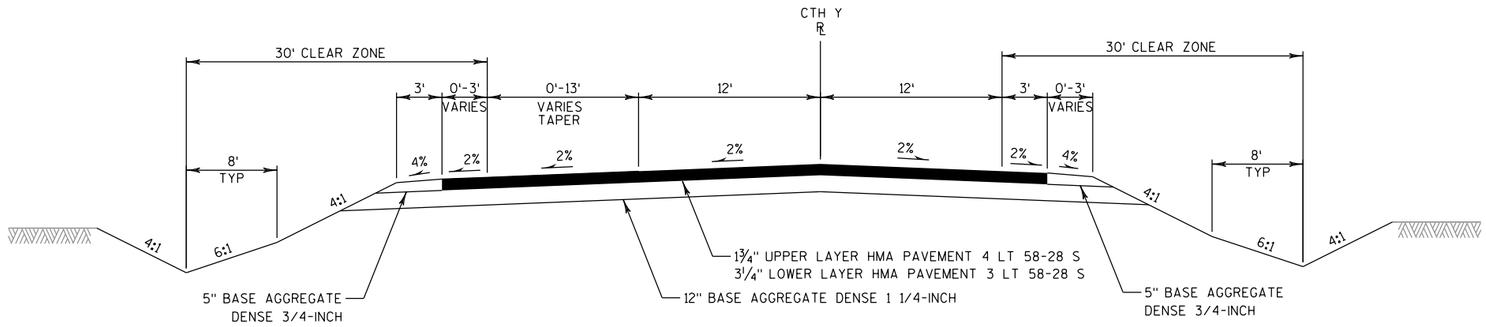
SEE CROSS SECTIONS, CONSTRUCTION DETAILS, AND SDDS FOR SLOPES & SHOULDERS AT GUARDRAIL

PAVEMENT CROSS SLOPE VARIES DUE TO SUPERELEVATION; SEE ALIGNMENT DETAIL SHEETS FOR SUPERELEVATION DATA

INSTALL SAFETY EDGE PER SDD




**TYPICAL FINISHED SECTION**
**OLD 29 DR**
STA 282+50 - STA 286+59

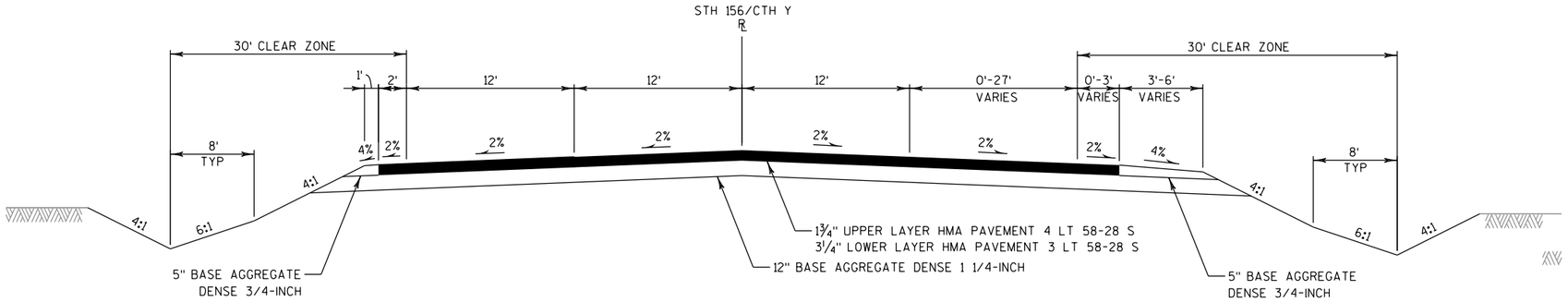



**TYPICAL FINISHED SECTION**
**CTH Y**
STA 3'Y'+17 - STA 4'Y'+89

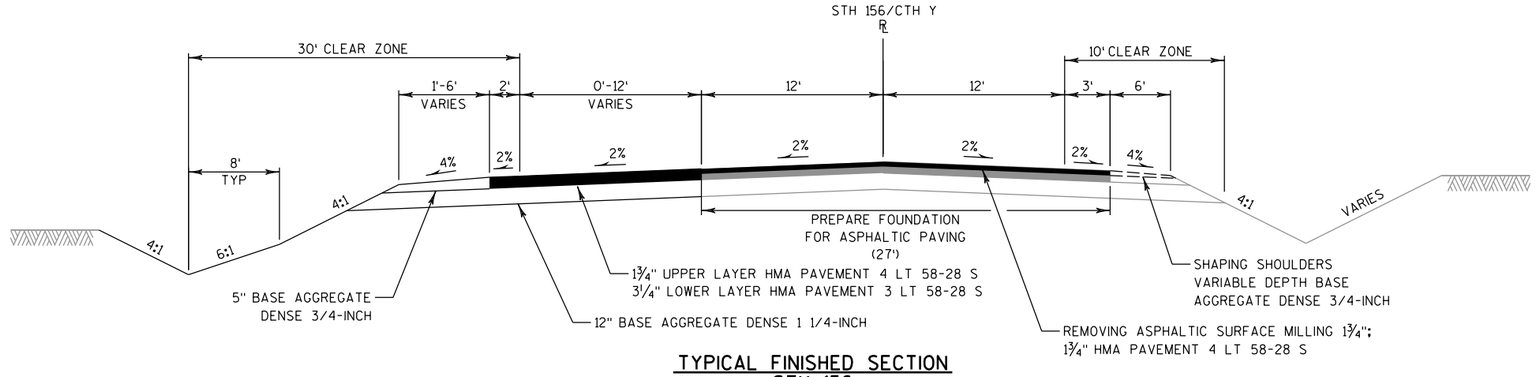
NOTES

** CROSS SLOPE VARIES THROUGHOUT PROJECT; AVERAGE CROSS SLOPES SHOWN

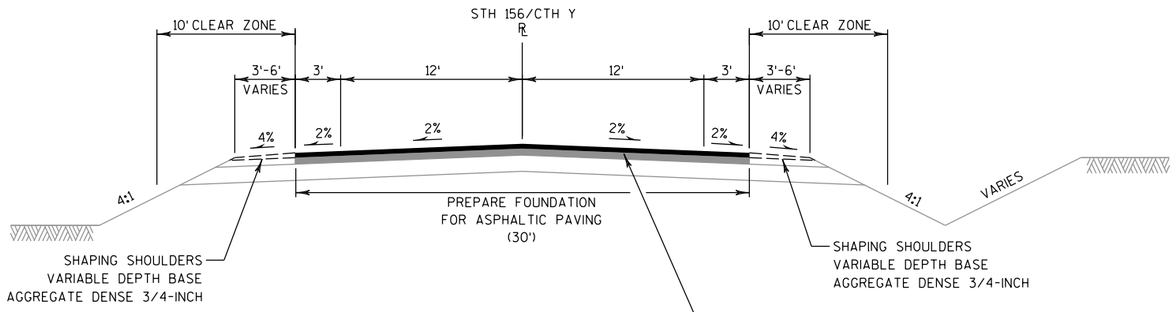
INSTALL SAFETY EDGE PER SDD




## TYPICAL FINISHED SECTION
## STH 156
STA 4'Y'+89 - STA 8'Y'+50




## TYPICAL FINISHED SECTION
## STH 156
STA 8'Y'+50 - STA 10'Y'+67



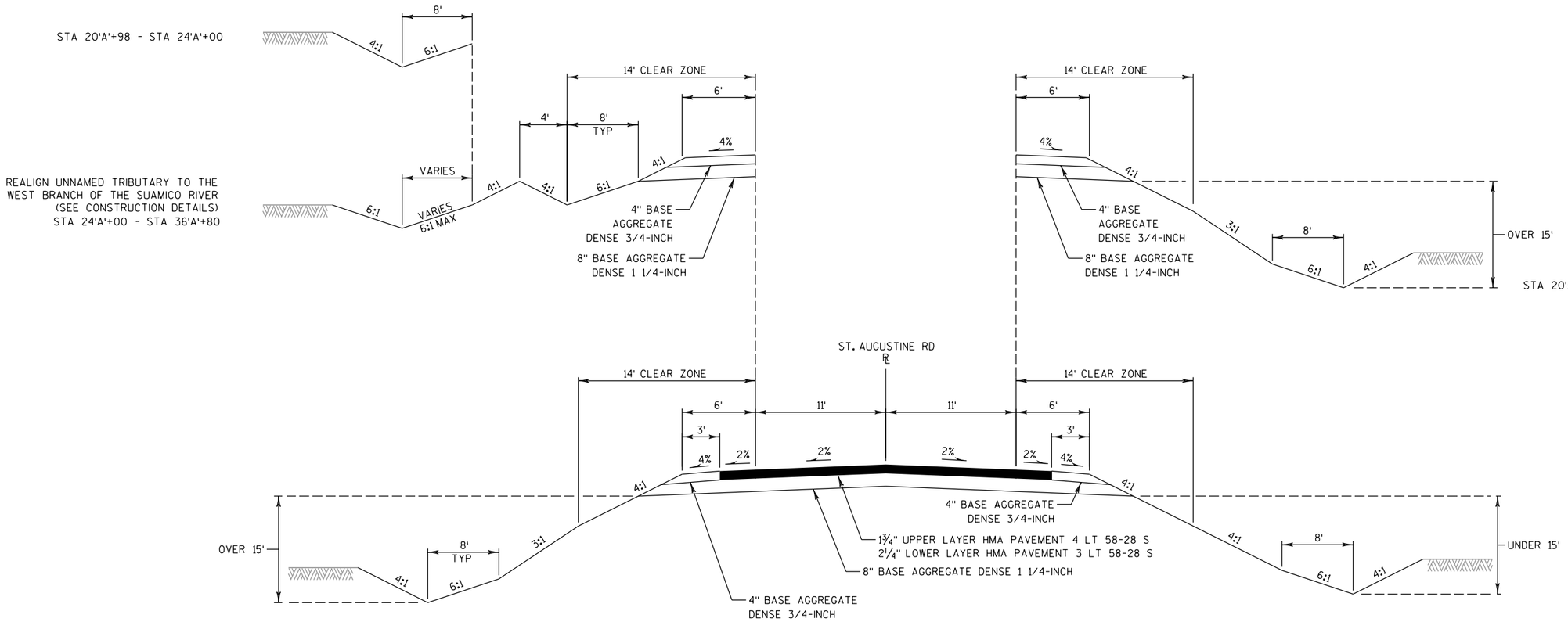

## TYPICAL FINISHED SECTION
## STH 156
STA 10'Y'+67 - STA 12'Y'+92

**NOTE**

INSTALL SAFETY EDGE PER SDD

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | TYPICAL SECTIONS | SHEET 10 | E |
|---|---|---|---|---|---|

2




## TYPICAL FINISHED SECTION
## ST. AUGUSTINE RD

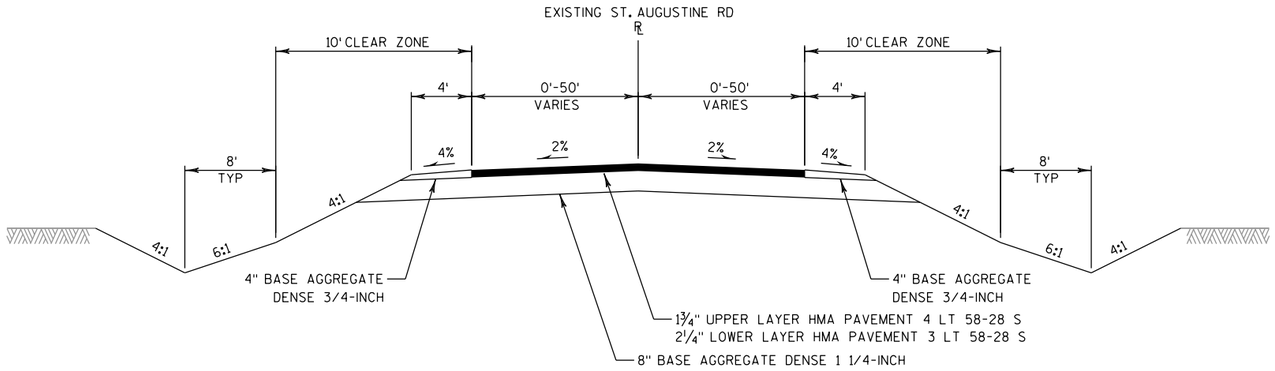
STA 10'A'+24 - STA 18'A'+75 (B-58-129)
(B-58-129) STA 20'A'+92 - STA 37'A'+00

**NOTES**

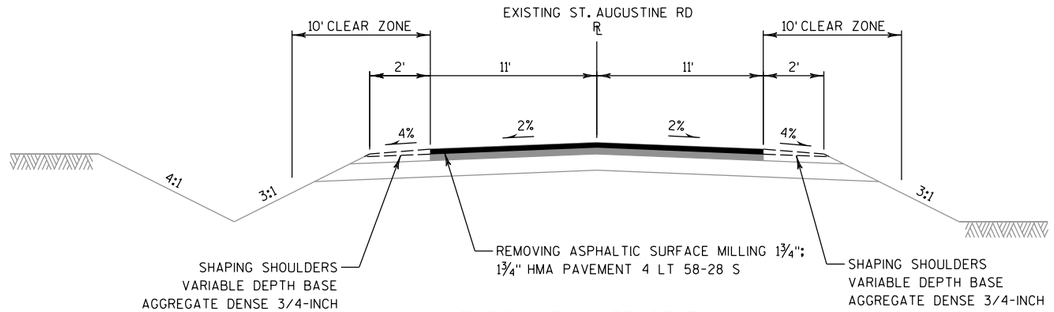
SEE CROSS SECTIONS, CONSTRUCTION DETAILS, AND SDDS FOR SLOPES & SHOULDERS AT GUARDRAIL

PAVEMENT CROSS SLOPE VARIES DUE TO SUPERELEVATION; SEE ALIGNMENT DETAIL SHEETS FOR SUPERELEVATION DATA

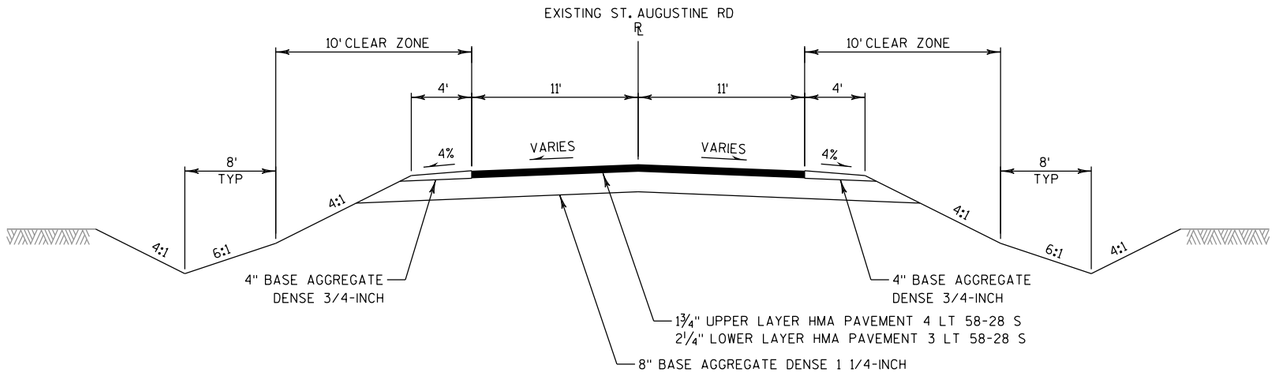
INSTALL SAFETY EDGE PER SDD




**TYPICAL FINISHED SECTION**
**EXISTING ST. AUGUSTINE RD**
**CUL-DE-SAC**
STA 12'S'+50 - STA 13'S'+75




**TYPICAL FINISHED SECTION**
**EXISTING ST. AUGUSTINE RD**
STA 13'S'+75 - STA 18'S'+70



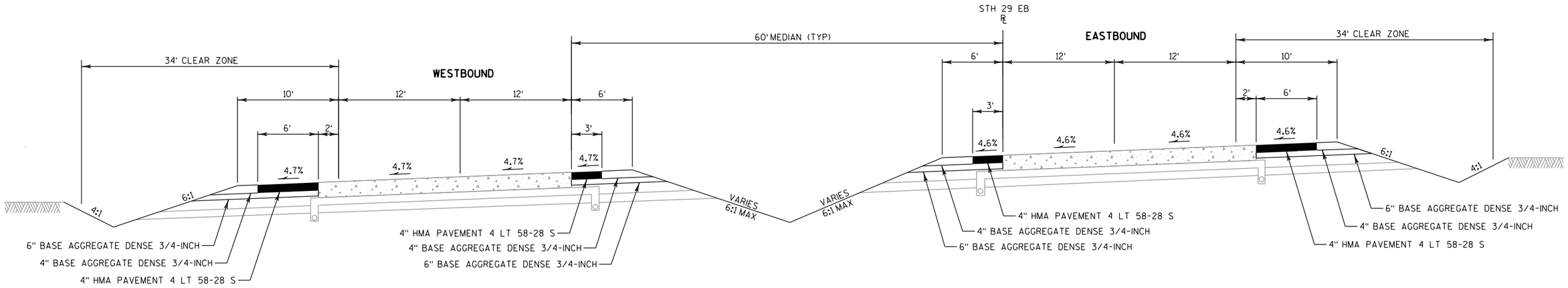

**TYPICAL FINISHED SECTION**
**EXISTING ST. AUGUSTINE RD**
STA 18'S'+70 - STA 22'S'+59

**NOTE**

INSTALL SAFETY EDGE PER SDD

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | TYPICAL SECTIONS | SHEET 12 | E |
|---|---|---|---|---|---|

2




**LT DITCH GRADING**
STA 327'EB'+31 - STA 327'EB'+63
STA 332'EB'+46 - STA 335'EB'+09

**LT SHOULDER RECONSTRUCTION & DITCH GRADING**
STA 327'EB'+63 - STA 332'EB'+46

**MEDIAN SHOULDER & DITCH RECONSTRUCTION**
STA 319'EB'+24 - STA 334'EB'+83 (WESTBOUND)
STA 319'EB'+24 - STA 330'EB'+87 (EASTBOUND)

**RT DITCH GRADING**
STA 316'EB'+50 - STA 323'EB'+52

**RT SHOULDER RECONSTRUCTION & DITCH GRADING**
STA 323'EB'+52 - STA 330'EB'+70

## TYPICAL FINISHED SECTION
## STH 29
STA 316'EB'+50 - STA 335'EB'+09

NOTES

SEE CROSS SECTIONS, CONSTRUCTION DETAILS, AND SDDS FOR SLOPES & SHOULDERS AT GUARDRAIL

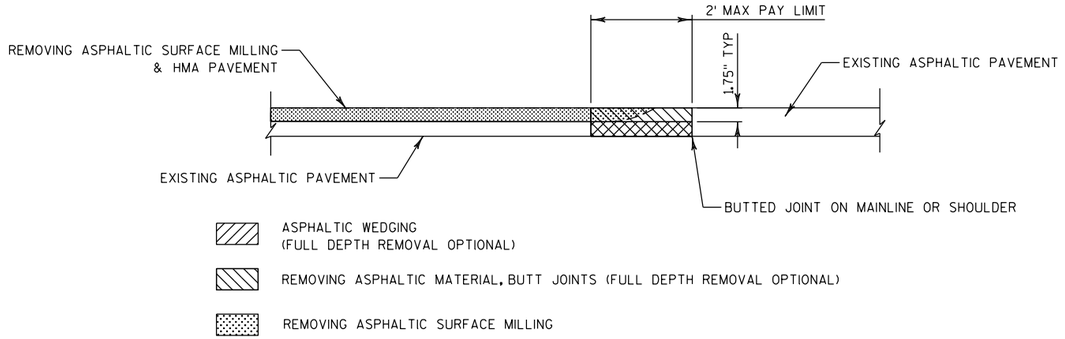
PAVEMENT CROSS SLOPE VARIES DUE TO SUPERELEVATION; SEE ALIGNMENT DETAIL SHEETS FOR SUPERELEVATION DATA

ADJUST/RECONNECT ANY EDGEDRAIN OUTFALLS

INSTALL SAFETY EDGE PER SDD ON INSIDE STH 29 SHOULDERS

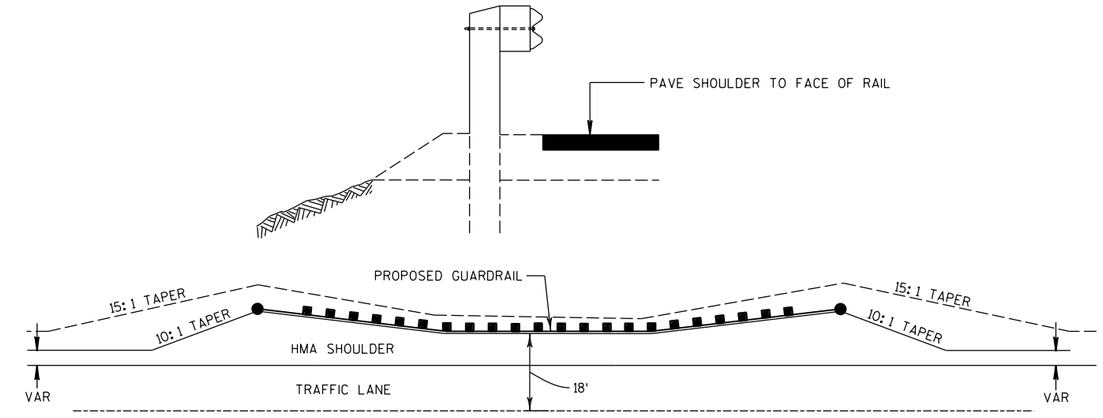
INSTALL ASPHALTIC SHOULDER RUMBLE STRIPS PER SDD

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | TYPICAL SECTIONS | SHEET 13 | E |
|---|---|---|---|---|---|




## DETAIL OF ASPHALTIC BUTT JOINT

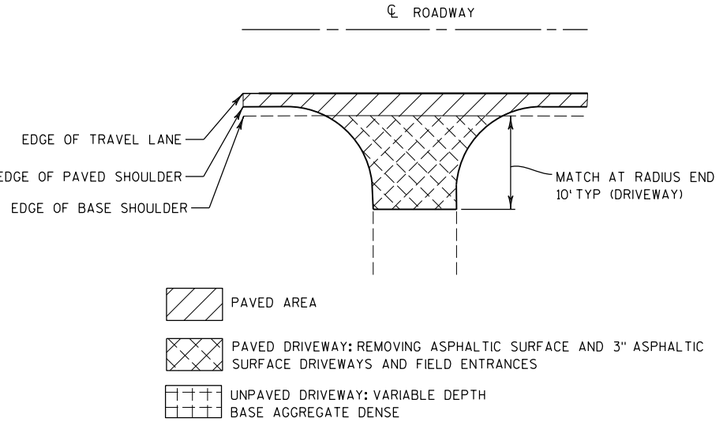
SEE PLAN SHEETS FOR LOCATIONS




## DETAIL FOR ASPHALTIC SHOULDER AT GUARDRAIL

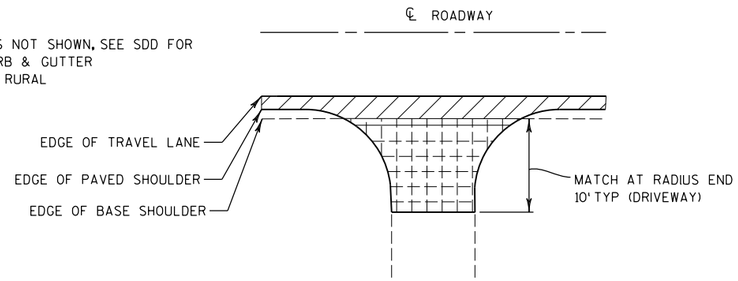
**NOTE**

SEE GUARDRAIL SDDS AND CROSS SECTIONS FOR ADDITIONAL INFORMATION



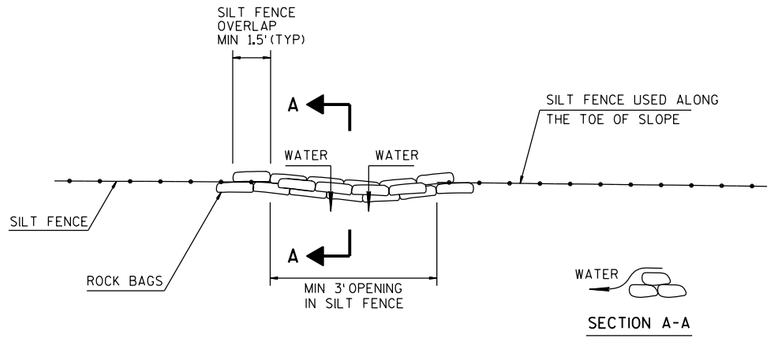

**NOTE**

FOR ADDITIONAL DETAILS NOT SHOWN, SEE SDD FOR
DRIVEWAYS WITHOUT CURB & GUTTER
RESURFACING PROJECTS RURAL




## MATCH LIMITS AT DRIVEWAYS ENTRANCES DETAIL

MILL AND HMA OVERLAY AREAS
DRIVEWAYS AND FIELD ENTRANCES



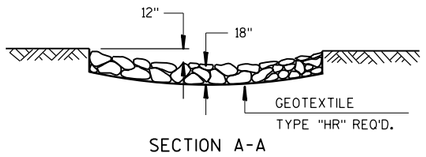

## ROCK BAGS USED FOR SILT FENCE RELIEF DETAIL

PAID AS ROCK BAGS

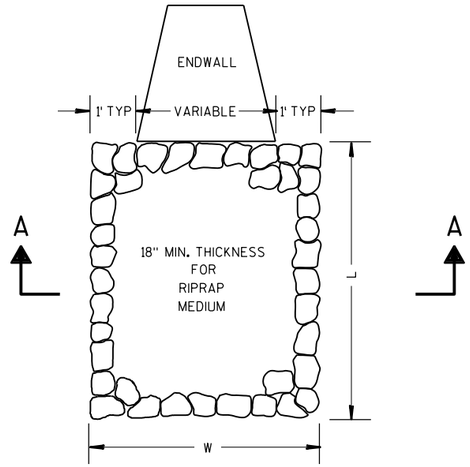
**NOTE**

SEE EROSION CONTROL PLANS FOR
ADDITIONAL INFORMATION

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CONSTRUCTION DETAILS | SHEET 14 | E |
|---|---|---|---|---|---|




SECTION A-A



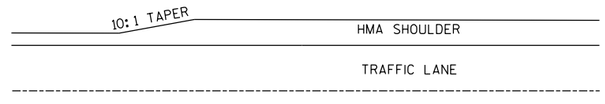

## RIPRAP MEDIUM TREATMENT AT CULVERTS

STA 21'A'+22 LT & RT (6'x12')

## RUNOFF COEFFICIENT TABLE

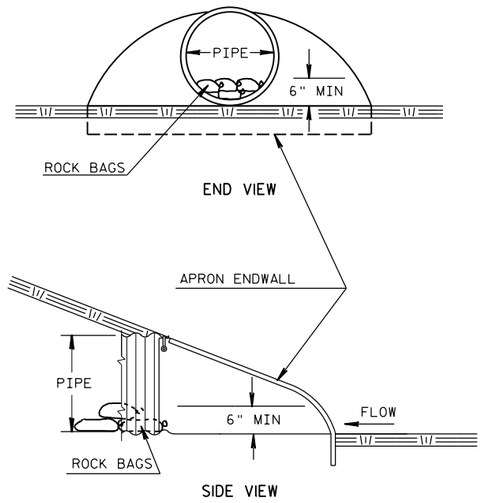
| | HYDROLOGIC SOIL GROUP | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | | | B | | | C | | | D | | |
| | SLOPE RANGE (PERCENT) | | | SLOPE RANGE (PERCENT) | | | SLOPE RANGE (PERCENT) | | | SLOPE RANGE (PERCENT) | | |
| LAND USE: | 0-2 | 2-6 | 6 & OVER | 0-2 | 2-6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

TOTAL PROJECT AREA = 110 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 20 ACRES (GRADING AREA)




## PAVED SHOULDER WIDTH TRANSITION DETAIL

WHERE THERE IS A CHANGE IN SHOULDER WIDTH BETWEEN
RECONSTRUCTION AND OVERLAY AREAS TAPER SHOULDER PER DETAIL

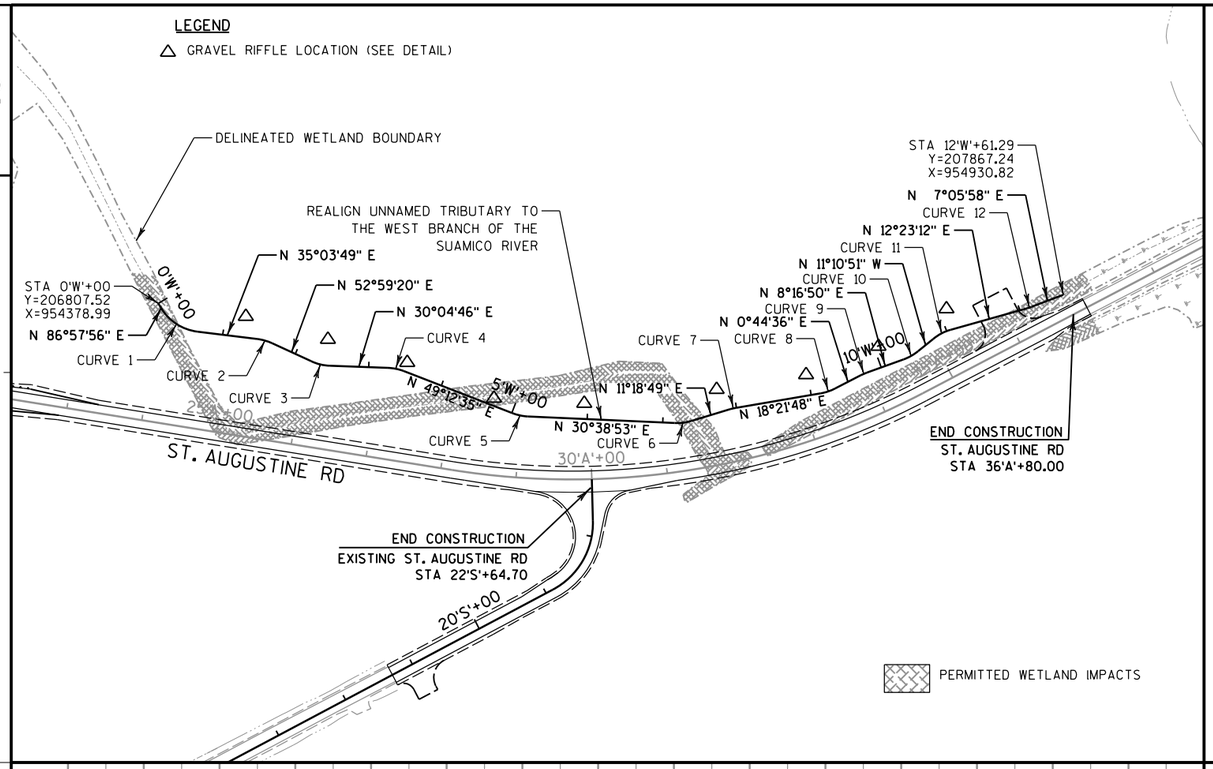



NOTE

SEE EROSION CONTROL PLANS FOR
ADDITIONAL INFORMATION

## CULVERT PIPE CHECKS

INSTALL ON INLET END




**CURVE 1**
PI = STA 0'W'+38.86
Y = 206809.58
X = 954417.79
PC = STA 0'W'+07.22
PT = STA 0'W'+66.11
DELTA = 51°54'06.93" LT.
T = 31.63'
L = 58.88'
R = 65.00'

**CURVE 2**
PI = STA 1'W'+56.36
Y = 206909.35
X = 954487.81
PC = STA 1'W'+46.11
PT = STA 1'W'+66.44
DELTA = 17°55'31.13" RT.
T = 10.25'
L = 20.34'
R = 65.00'

**CURVE 3**
PI = STA 2'W'+36.10
Y = 206957.45
X = 954551.62
PC = STA 2'W'+22.92
PT = STA 2'W'+48.91
DELTA = 22°54'34.77" LT.
T = 13.17'
L = 25.99'
R = 65.00'

**CURVE 4**
PI = STA 3'W'+35.98
Y = 207044.19
X = 954601.86
PC = STA 3'W'+25.03
PT = STA 3'W'+46.73
DELTA = 19°07'49.33" RT.
T = 10.95'
L = 21.70'
R = 65.00'

**CURVE 5**
PI = STA 5'W'+11.26
Y = 207158.83
X = 954734.72
PC = STA 5'W'+00.64
PT = STA 5'W'+21.70
DELTA = 18°33'42.43" LT.
T = 10.62'
L = 21.06'
R = 65.00'

**CURVE 6**
PI = STA 7'W'+26.67
Y = 207344.31
X = 954844.62
PC = STA 7'W'+15.60
PT = STA 7'W'+37.54
DELTA = 19°20'03.99" LT.
T = 11.07'
L = 21.93'
R = 65.00'

**CURVE 7**
PI = STA 7'W'+95.79
Y = 207412.30
X = 954858.22
PC = STA 7'W'+91.79
PT = STA 7'W'+99.79
DELTA = 07°02'59.34" RT.
T = 4.00'
L = 8.00'
R = 65.00'

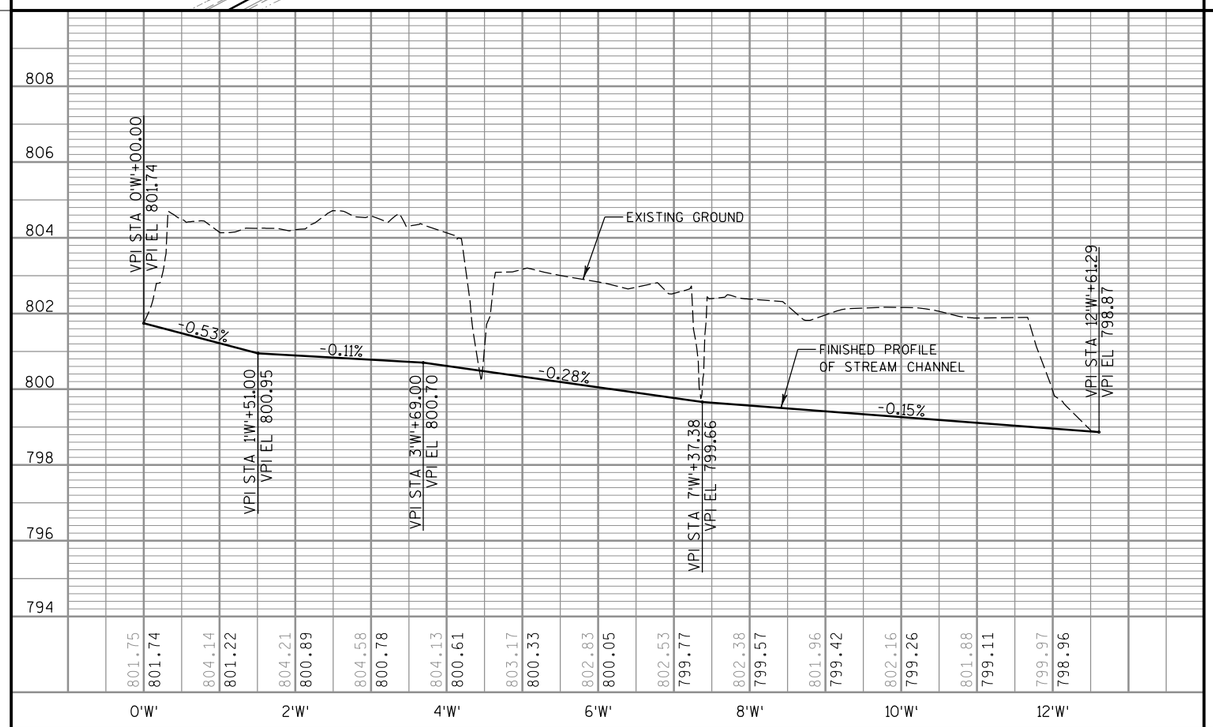
**CURVE 8**
PI = STA 9'W'+23.19
Y = 207533.21
X = 954898.36
PC = STA 9'W'+13.11
PT = STA 9'W'+33.10
DELTA = 17°37'12.30" LT.
T = 10.07'
L = 19.99'
R = 65.00'

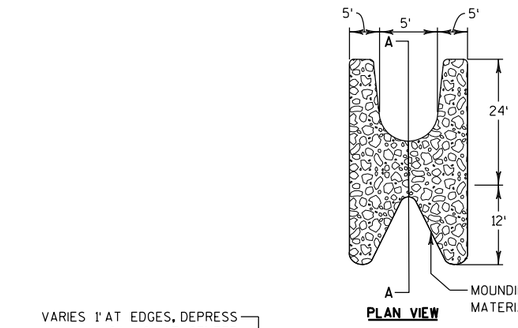
**CURVE 9**
PI = STA 9'W'+75.45
Y = 207585.63
X = 954899.04
PC = STA 9'W'+71.17
PT = STA 9'W'+79.72
DELTA = 7°32'14.65" RT.
T = 4.28'
L = 8.55'
R = 65.00'

**CURVE 10**
PI = STA 10'W'+42.51
Y = 207652.00
X = 954908.70
PC = STA 10'W'+31.36
PT = STA 10'W'+53.44
DELTA = 19°27'40.93" LT.
T = 11.15'
L = 22.08'
R = 65.00'

**CURVE 11**
PI = STA 10'W'+92.70
Y = 207701.45
X = 954898.92
PC = STA 10'W'+79.14
PT = STA 11'W'+05.88
DELTA = 23°34'02.70" RT.
T = 13.56'
L = 26.74'
R = 65.00'

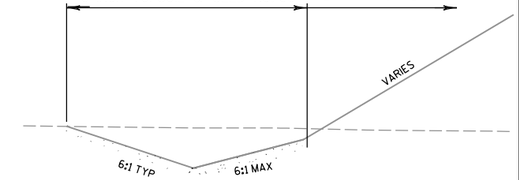
**CURVE 12**
PI = STA 12'W'+13.45
Y = 207819.77
X = 954924.91
PC = STA 12'W'+10.45
PT = STA 12'W'+16.45
DELTA = 5°17'14.25" LT.
T = 3.00'
L = 6.00'
R = 65.00'




NOTES
THE TYPICAL SECTION IS SHOWN PERPENDICULAR TO THE STREAM ALIGNMENT; THE ROADWAY CROSS SECTIONS ARE CUT PERPENDICULAR TO THE ST. AUGUSTINE RD ROADWAY ALIGNMENT AND THEREFORE SLOPES WILL SHOW DIFFERENTLY. COMPLETE SUPPLEMENTAL STREAM CENTERLINE STAKING AS REQUIRED TO CONSTRUCT WATERWAY CROSS SECTION PER CROSS SECTIONS AND THIS DETAIL.

## GRAVEL RIFFLE DETAIL
STA 0'W'+00 - STA 12'W'+61




## TYPICAL FINISHED SECTION STREAM REALIGNMENT
STA 0'W'+00 - STA 12'W'+61

2

## NOTES

TEMPORARY DIVERSION CHANNEL SHOULD BE CAPABLE OF CARRYING THE 2-YEAR FLOOD ELEVATION STREAM FLOW, WITH A FREEBOARD OF 6 TO 12-INCHES DURING THE CONSTRUCTION PERIOD AND MAINTAIN A SUITABLE DEPTH AND VELOCITY TO ALLOW THE PASSAGE OF MIGRATING FISH AND AQUATIC SPECIES. FISH THAT BECOME STRANDED IN DEWATERED AREAS OR TEMPORARY CHANNELS SHOULD BE CAPTURED AND RETURNED TO THE ACTIVE CHANNEL.

THE PROPOSED TEMPORARY DIVERSION CHANNEL IS SHOWN ON THE CROSS SECTIONS.

WORK FOR THE TEMPORARY DIVERSION CHANNEL AT THIS LOCATION WILL BE PAID UNDER ROADWAY BID ITEMS "EXCAVATION COMMON", "RIPRAP LIGHT", AND "POLYETHYLENE SHEETING".

USE SAND BAGS AND PUMPING AS NECESSARY DURING TEMPORARY DIVERSION CONSTRUCTION PARTICULARILY AROUND TIE-IN AREAS. COMPLETE GRADING, POLYETHYLENE SHEETING, AND RIPRAP FOR EACH SEGMENT IN THE SAME OPERATION PRIOR TO ALLOWING FLOW THROUGH THE TEMPORARY DIVERSION.

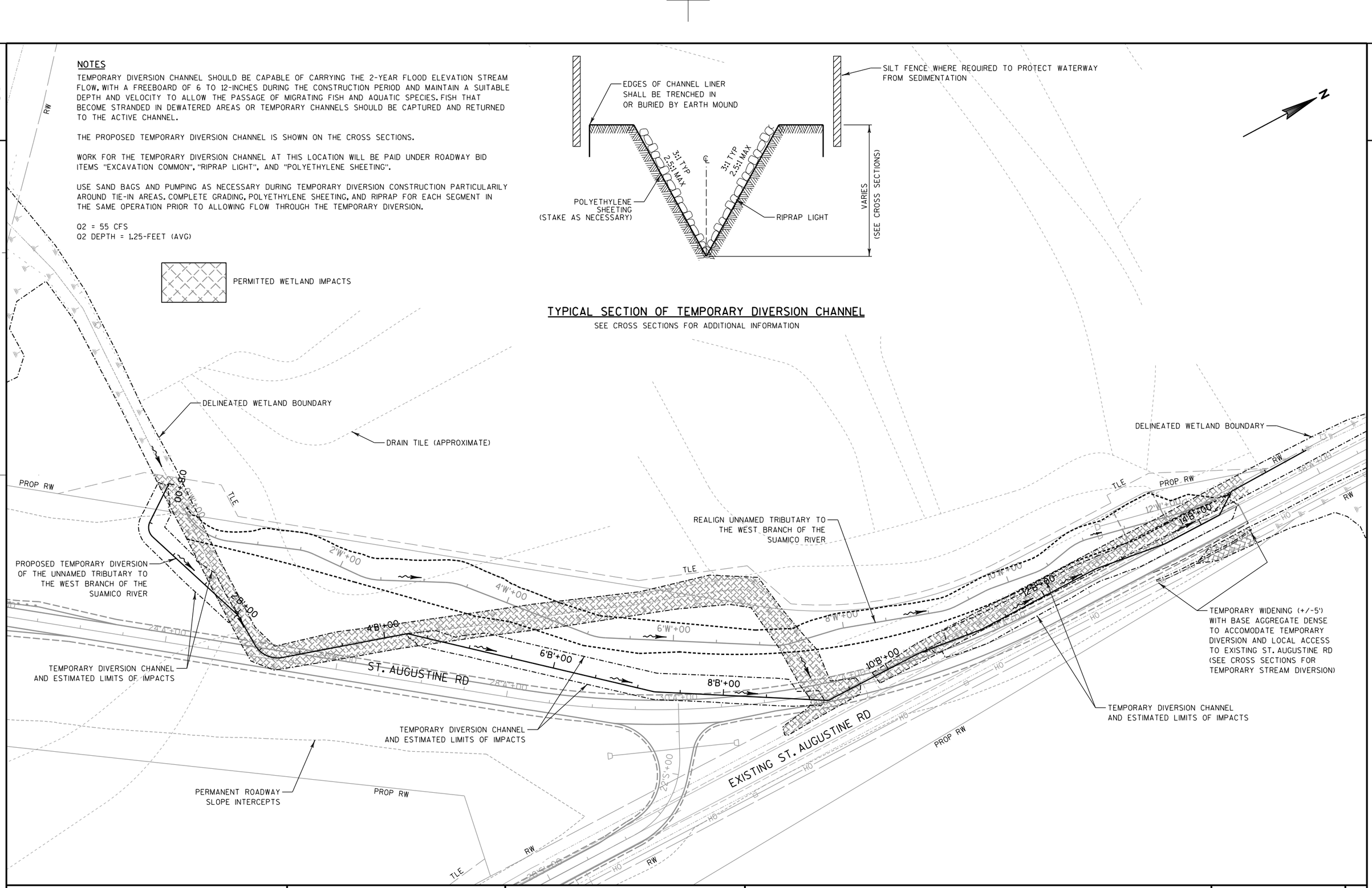
Q2 = 55 CFS
Q2 DEPTH = 1.25-FEET (AVG)

PERMITTED WETLAND IMPACTS




### TYPICAL SECTION OF TEMPORARY DIVERSION CHANNEL

SEE CROSS SECTIONS FOR ADDITIONAL INFORMATION




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CONSTRUCTION DETAIL-TEMP DIVERSION FOR STREAM REALIGNMENT | SHEET 17 | E |
|---|---|---|---|---|---|

2

## NOTES

TEMPORARY DIVERSION CHANNEL SHOULD BE CAPABLE OF CARRYING THE Q2 FLOW, WITH A FREEBOARD OF APPROXIMATELY 9 TO 12-INCHES DURING THE CONSTRUCTION PERIOD AND MAINTAIN A SUITABLE DEPTH AND VELOCITY TO ALLOW THE PASSAGE OF MIGRATING FISH AND AQUATIC SPECIES. FISH THAT BECOME STRANDED IN DEWATERED AREAS OR TEMPORARY CHANNELS SHOULD BE CAPTURED AND RETURNED TO THE ACTIVE CHANNEL.

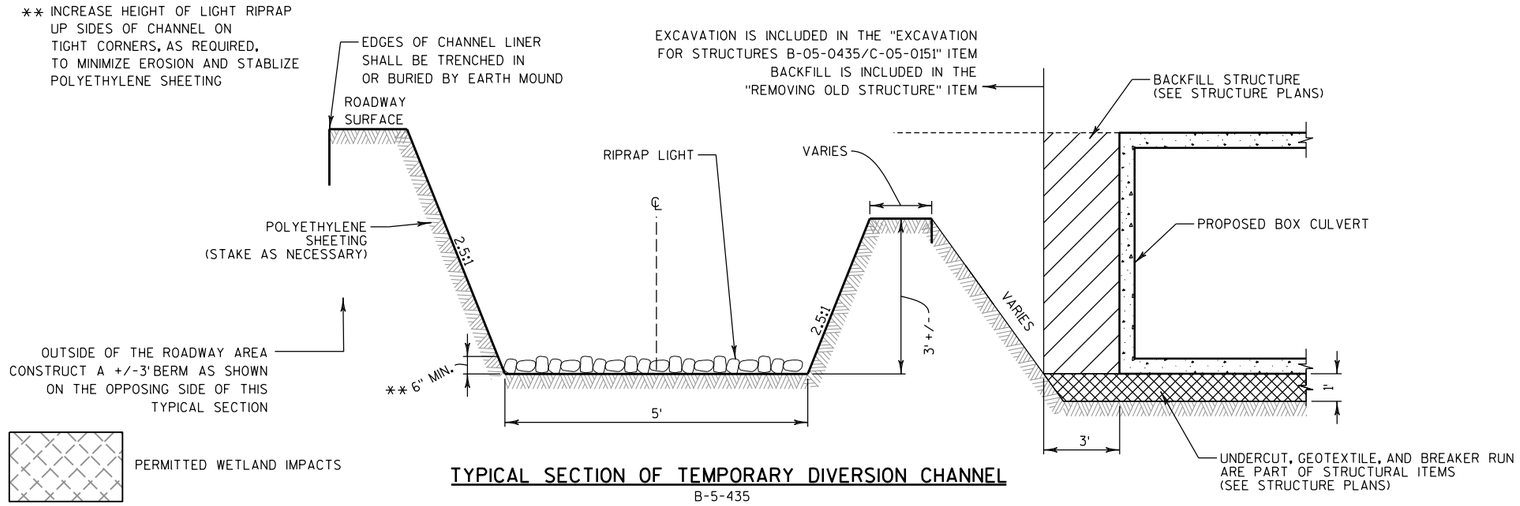
IF PERMANENT RIPRAP CONFLICTS WITH TEMPORARY DIVERSION CHANNEL, PLACE RIPRAP AFTER FLOW HAS BEEN DIVERTED TO NEW CULVERT AND TEMPORARY DIVERSION CHANNEL HAS BEEN BACKFILLED. TEMPORARY SANDBAGS AND STAGING OF RIPRAP PLACEMENT MAY BE REQUIRED.

WORK FOR TEMPORARY DIVERSION CHANNEL AND ANY TEMPORARY SANDBAGS USED AT THE BOX CULVERT OR OTHER DIVERSION TECHNIQUES IMPLEMENTED WILL BE PAID UNDER THE FOLLOWING BID ITEMS:
- ROADWAY BID ITEMS: "RIPRAP LIGHT" AND "POLYETHYLENE SHEETING".
- STRUCTURE BID ITEMS: EXCAVATION OF DIVERSION CHANNEL AND TEMPORARY SANDBAGS OR OTHER DIVERSION TECHNIQUES ARE PAID UNDER "EXCAVATION FOR STRUCTURES CULVERTS B-05-0435/C-05-0151". BACKFILL OF THE DIVERSION CHANNEL IS PAID UNDER STRUCTURAL BID ITEM "REMOVING OLD STRUCTURE". BACKFILL NEXT TO NEW CULVERT IS PAID UNDER "BACKFILL STRUCTURE". SEE STRUCTURE PLANS FOR ADDITIONAL DETAILS.

B-5-435
Q2 = 105 CFS
Q2 ELEVATION = 796.65 AT BOX CULVERT (APPROXIMATE)
Q2 DEPTH = 2-FEET (AVG)
ESTIMATED EXCAVATION VOLUME FOR TEMPORARY DIVERSION CHANNEL = 300 CY (FOR INFORMATION ONLY)

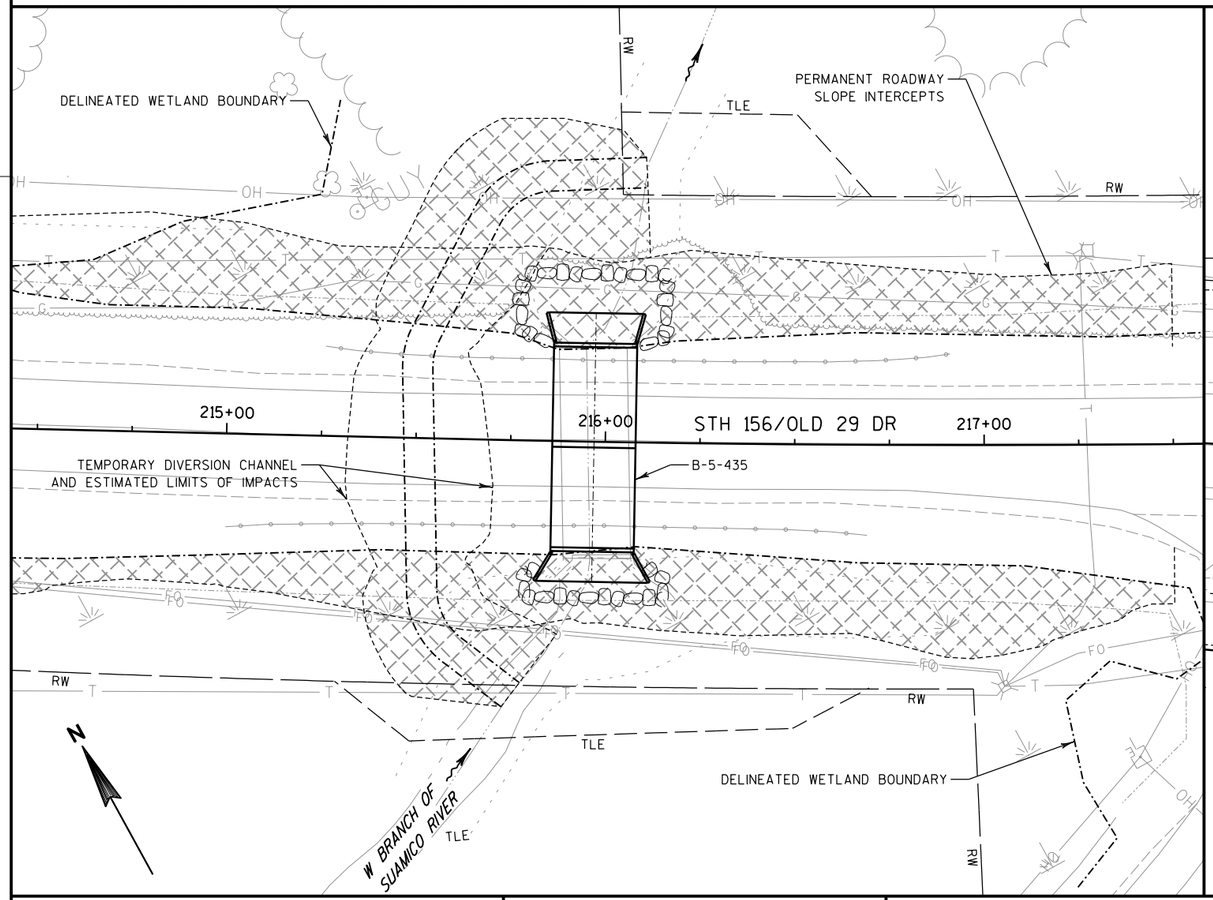
C-5-151
Q2 = 70 CFS
Q2 ELEVATION = 782.28 AT BOX CULVERT (APPROXIMATE)
Q2 DEPTH = 1.6-FEET (AVG)
ESTIMATED EXCAVATION VOLUME FOR TEMPORARY DIVERSION CHANNEL = 400 CY (FOR INFORMATION ONLY)

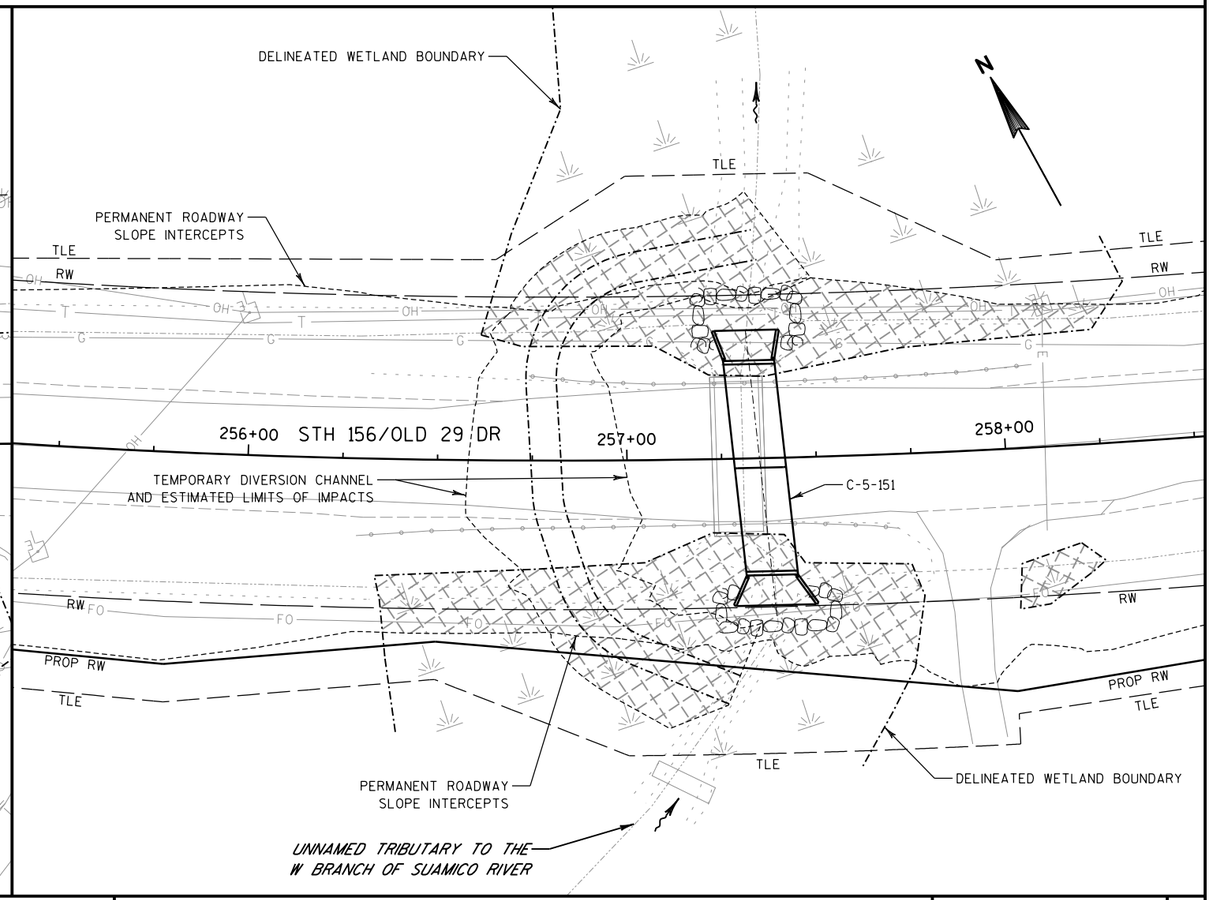
USE AVAILABLE EROSION CONTROL ITEMS IN THE CONTRACT TO IMPLEMENT ANY ADDITIONAL EROSION CONTROL ITEMS NECESSARY TO STABILIZE THE SITE DURING CONSTRUCTION OF THE BOX CULVERT.




## TYPICAL SECTION OF TEMPORARY DIVERSION CHANNEL

B-5-435
C-5-151




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CONSTRUCTION DETAIL-TEMPORARY DIVERSION (B-5-435 & C-5-151 | SHEET 18 | E |
|---|---|---|---|---|---|

2

DATA TABLE

| POINT NO. | STATION | OFFSET | RADIUS |
|---|---|---|---|
| 1 | 10'A'+64.04 | 55.00' LT | 40' R |
| 2 | 10'A'+83.94 | 75.00' RT | 60' R |

LEGEND

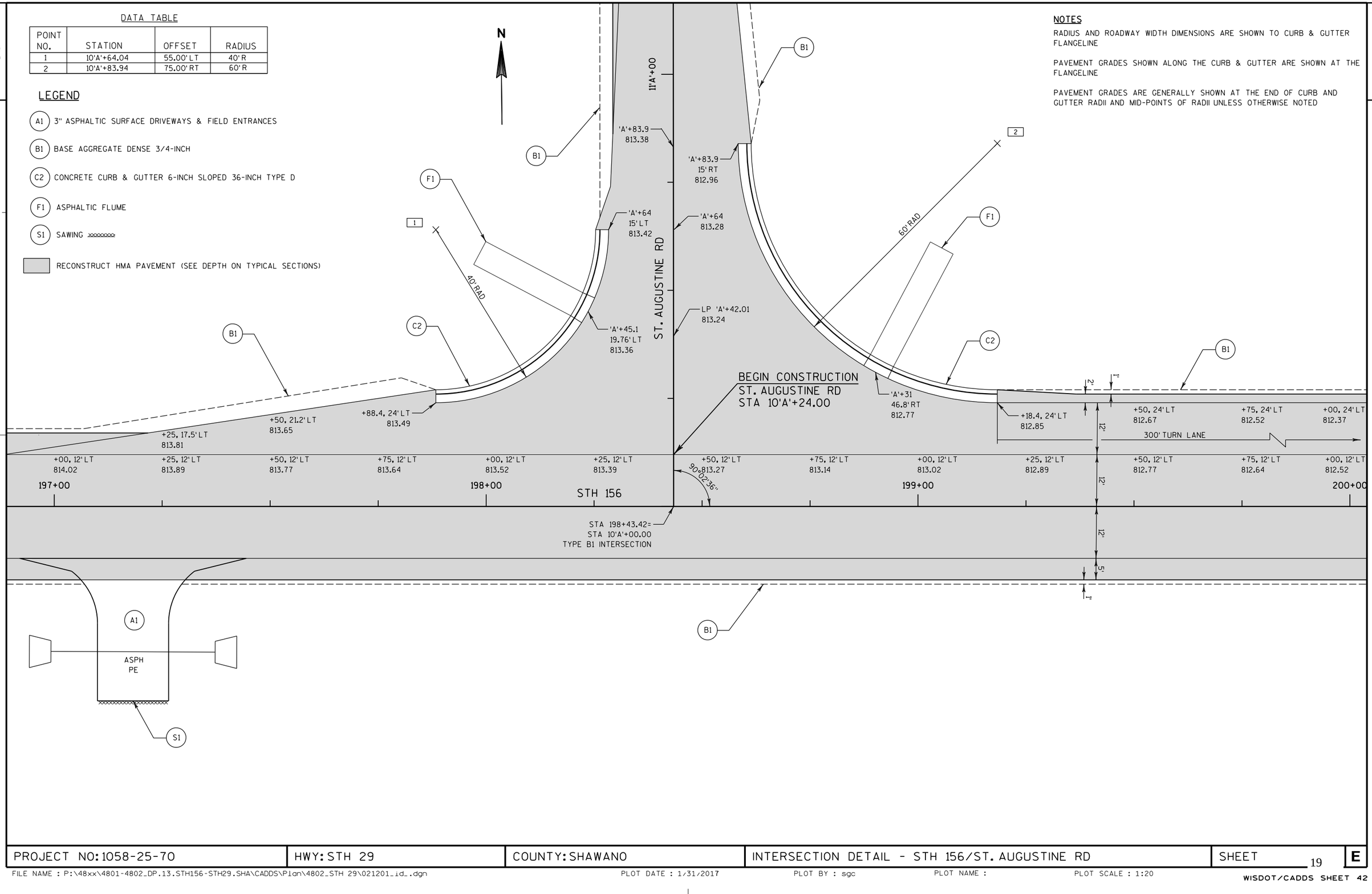
- (A1) 3" ASPHALTIC SURFACE DRIVEWAYS & FIELD ENTRANCES
- (B1) BASE AGGREGATE DENSE 3/4-INCH
- (C2) CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D
- (F1) ASPHALTIC FLUME
- (S1) SAWING xxxxxxx
- RECONSTRUCT HMA PAVEMENT (SEE DEPTH ON TYPICAL SECTIONS)

NOTES

RADIUS AND ROADWAY WIDTH DIMENSIONS ARE SHOWN TO CURB & GUTTER FLANGELINE

PAVEMENT GRADES SHOWN ALONG THE CURB & GUTTER ARE SHOWN AT THE FLANGELINE

PAVEMENT GRADES ARE GENERALLY SHOWN AT THE END OF CURB AND GUTTER RADII AND MID-POINTS OF RADII UNLESS OTHERWISE NOTED




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | INTERSECTION DETAIL - STH 156/ST. AUGUSTINE RD | SHEET 19 | E |
|---|---|---|---|---|---|

## LEGEND

- (B1) BASE AGGREGATE DENSE 3/4-INCH
- (C1) CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE T (SEE DETAIL B)
- (C2) CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D
- (F1) ASPHALTIC FLUME
- (H1) REMOVING ASPHALTIC SURFACE MILLING 1¾"; 1¾" HMA PAVEMENT
- (M) CONCRETE MEDIAN SLOPED NOSE (TYPE 2)
- (S1) SAWING
- RECONSTRUCT HMA PAVEMENT (SEE DEPTH ON TYPICAL SECTIONS)
- COLORING CONCRETE WISDOT RED CONCRETE TRUCK APRON 12-INCH

N

### DATA TABLE

| POINT NO. | STATION | OFFSET | RADIUS |
|---|---|---|---|
| 1 | 279+03.50 | 97.00' LT | 77' R |
| 2 | 278+80.56 | 143.58' LT | 100' R |
| 3 | 279+38.59 | 64.43' LT | 25' R |
| 4 | 279+99.78 | 46.29' LT | 4.75' R |
| 5 | 280+08.14 | 22.64' LT | 4.75' R |
| 6 | 279+87.18 | 21.56' LT | 4.75' R |
| 7 | 280+92.45 | 64.97' LT | 40' R |
| 8 | 281+13.02 | 64.00' RT | 40' R |
| 9 | 279+68.57 | 94.00' RT | 70' R |
| 10 | 280+67.39 | 30.59' LT | 4' R |
| 11 | 280+70.42 | 20.08' LT | 4' R |
| 12 | 282+07.07 | 20.08' LT | 4' R |

### NOTES

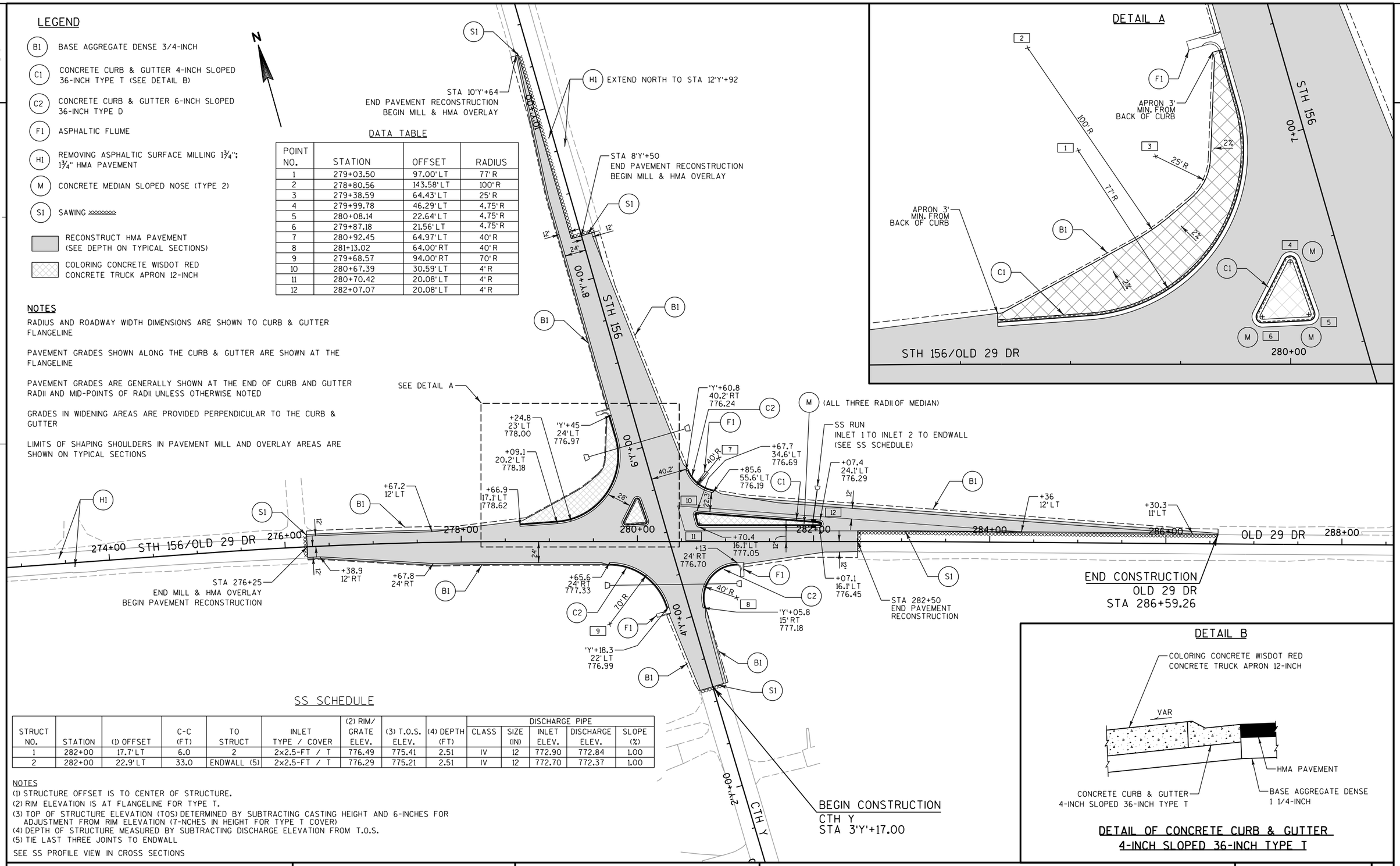
RADIUS AND ROADWAY WIDTH DIMENSIONS ARE SHOWN TO CURB & GUTTER FLANGELINE

PAVEMENT GRADES SHOWN ALONG THE CURB & GUTTER ARE SHOWN AT THE FLANGELINE

PAVEMENT GRADES ARE GENERALLY SHOWN AT THE END OF CURB AND GUTTER RADII AND MID-POINTS OF RADII UNLESS OTHERWISE NOTED

GRADES IN WIDENING AREAS ARE PROVIDED PERPENDICULAR TO THE CURB & GUTTER

LIMITS OF SHAPING SHOULDERS IN PAVEMENT MILL AND OVERLAY AREAS ARE SHOWN ON TYPICAL SECTIONS




### DETAIL A




### SS SCHEDULE

| STRUCT NO. | STATION | (1) OFFSET | C-C (FT) | TO STRUCT | INLET TYPE / COVER | (2) RIM/ GRATE ELEV. | (3) T.O.S. ELEV. | (4) DEPTH (FT) | DISCHARGE PIPE CLASS | SIZE (IN) | INLET ELEV. | DISCHARGE ELEV. | SLOPE (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 282+00 | 17.7' LT | 6.0 | 2 | 2x2.5-FT / T | 776.49 | 775.41 | 2.51 | IV | 12 | 772.90 | 772.84 | 1.00 |
| 2 | 282+00 | 22.9' LT | 33.0 | ENDWALL (5) | 2x2.5-FT / T | 776.29 | 775.21 | 2.51 | IV | 12 | 772.70 | 772.37 | 1.00 |

NOTES
(1) STRUCTURE OFFSET IS TO CENTER OF STRUCTURE.
(2) RIM ELEVATION IS AT FLANGELINE FOR TYPE T.
(3) TOP OF STRUCTURE ELEVATION (TOS) DETERMINED BY SUBTRACTING CASTING HEIGHT AND 6-INCHES FOR ADJUSTMENT FROM RIM ELEVATION (7-NCHES IN HEIGHT FOR TYPE T COVER)
(4) DEPTH OF STRUCTURE MEASURED BY SUBTRACTING DISCHARGE ELEVATION FROM T.O.S.
(5) TIE LAST THREE JOINTS TO ENDWALL

SEE SS PROFILE VIEW IN CROSS SECTIONS

### DETAIL B




DETAIL OF CONCRETE CURB & GUTTER
4-INCH SLOPED 36-INCH TYPE T

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | INTERSECTION DETAIL - STH 156/OLD 29 DR/CTH Y | SHEET 20 | E |
|---|---|---|---|---|---|

DATA TABLE

| POINT NO. | STATION | OFFSET | RADIUS |
|---|---|---|---|
| 1 | 13'S'+00.00 | 0.00'LT | 50'R |
| 2 | 13'S'+61.25 | 31.19'RT | 20'R |
| 3 | 13'S'+62.93 | 33.85'LT | 20'R |

NOTES

LIMITS OF SHAPING SHOULDERS ARE SHOWN ON TYPICAL SECTIONS

ROADWAY REMOVALS ARE SHOWN ON CROSS SECTIONS

LEGEND

- (B1) BASE AGGREGATE DENSE 3/4-INCH
- (H1) REMOVING ASPHALTIC SURFACE MILLING 1¾"; 1¾" HMA PAVEMENT
- (S1) SAWING
- RECONSTRUCT HMA PAVEMENT (SEE DEPTH ON TYPICAL SECTIONS)
- REMOVING ROADWAY

MATCHLINE SEE STH 29 CROSS SECTIONS

END CONSTRUCTION
STH 29, RT
BEGIN CONSTRUCTION
EXISTING ST. AUGUSTINE RD
STA 11'S'+38.75

12'S'+00

+50
℄
804.79

+75
℄
804.99

+00
℄
805.19

13'S'+00

1

50' RAD

EXISTING ST. AUGUSTINE RD

+25
℄
805.40

+50
℄
805.60

VARIES

VARIES

14'S'+00

+00
50' LT
804.19

B1

+44.3
24.8' LT
805.06

R 20'

3

S1

H1

H1

+44.3
21.7' RT
805.12

R 20'

2

STA 13'S'+75
END PAVEMENT RECONSTRUCTION
BEGIN MILL & HMA OVERLAY

+00
50' RT
804.19

4'

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | INTERSECTION DETAIL - EXISTING ST. AUGUSTINE RD CUL-DE-SAC | SHEET 21 | E |
|---|---|---|---|---|---|

LEGEND

---- = MATCHLINE

N

STH 156

10'A'+00

15'A'+00

200+00

15'S'+00

205+00

5'S'+00

EXSTING STH 156

5'T+00

STH 29 EB

STH 29 WB

10'S'+00

320EB+00

325EB+00

330EB+00

335EB+00

20'A'+00

ST. AUGUSTINE RD

25'A'+00

30'A'+00

35'A'+00

ST. AUGUSTINE RD

15'S'+00 EXISTING ST. AUGUSTINE RD 20'S'+00

EXISTING OLD 29 DR

10'T+00

210+00

STH 156/OLD 29 DR

215+00

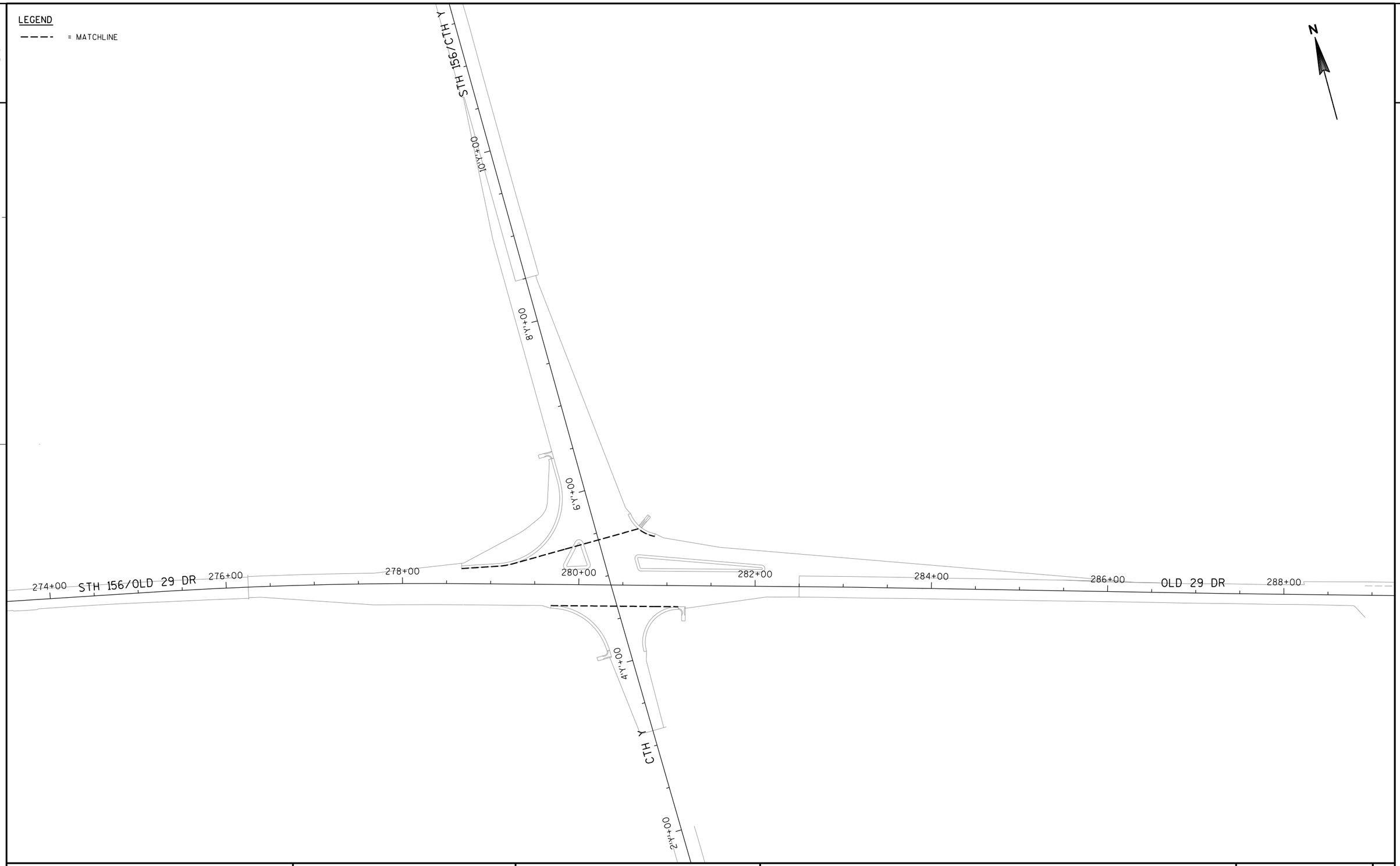
| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTION MATCHLINE DETAIL | SHEET 22 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\021701_xm.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:200

WISDOT/CADDS SHEET 42

LEGEND

---- = MATCHLINE




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTION MATCHLINE DETAIL - CTH Y | SHEET 23 | E |
|---|---|---|---|---|---|

2

## LEGEND

- EROSION MAT CLASS I TYPE B
- EROSION MAT CLASS II TYPE C
- EROSION MAT URBAN CLASS I TYPE B
- SILT FENCE
- SLOPE INTERCEPT
- [F] SILT FENCE RELIEF (ROCK BAGS)
- TEMPORARY DITCH CHECKS
- SURFACE WATER FLOW
- DELINEATED WETLAND BOUNDARY
- CULVERT PIPE CHECK
- INLET PROTECTION TYPE A
- RIPRAP (TYPE)
- (H) HEAVY (SEE STRUCTURE PLANS)
- (F) MEDIUM (SEE CONSTRUCTION DETAILS)
- PERMITTED WETLAND IMPACTS

## NOTES

MULCH ALL DISTURBED AREAS NOT COVERED WITH EROSION MAT
SEED AND FERTILIZE ALL DISTURBED AREAS

N

PROP RW
RW
TLE
14+00
12+00
10+00
ST. AUGUSTINE RD
STH 156
STH 29 EB
SEED, FERTILIZE, AND MULCH ROADWAY REMOVAL AREAS
SITE CLEARING (PARCEL 13)
194+00
196+00
198+00
200+00
202+00
204+00
206+00
208+00

2

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | EROSION CONTROL - STH 156 | SHEET 24 | E |
|---|---|---|---|---|---|

2

STH 29 EB

234+00

RW

WEST BRANCH OF THE SUAMICO RIVER

N

SEPTIC

TANKS

SEPTIC

RW

TLE

RW

RW

210+00

212+00

214+00

216+00

218+00

STH 156

220+00

222+00

224+00

RW

RW

PROP RW

TLE

TLE

TLE

WEST BRANCH OF THE SUAMICO RIVER

ANGLE DR

RW

RW

SEPTIC

SEPTIC

## LEGEND

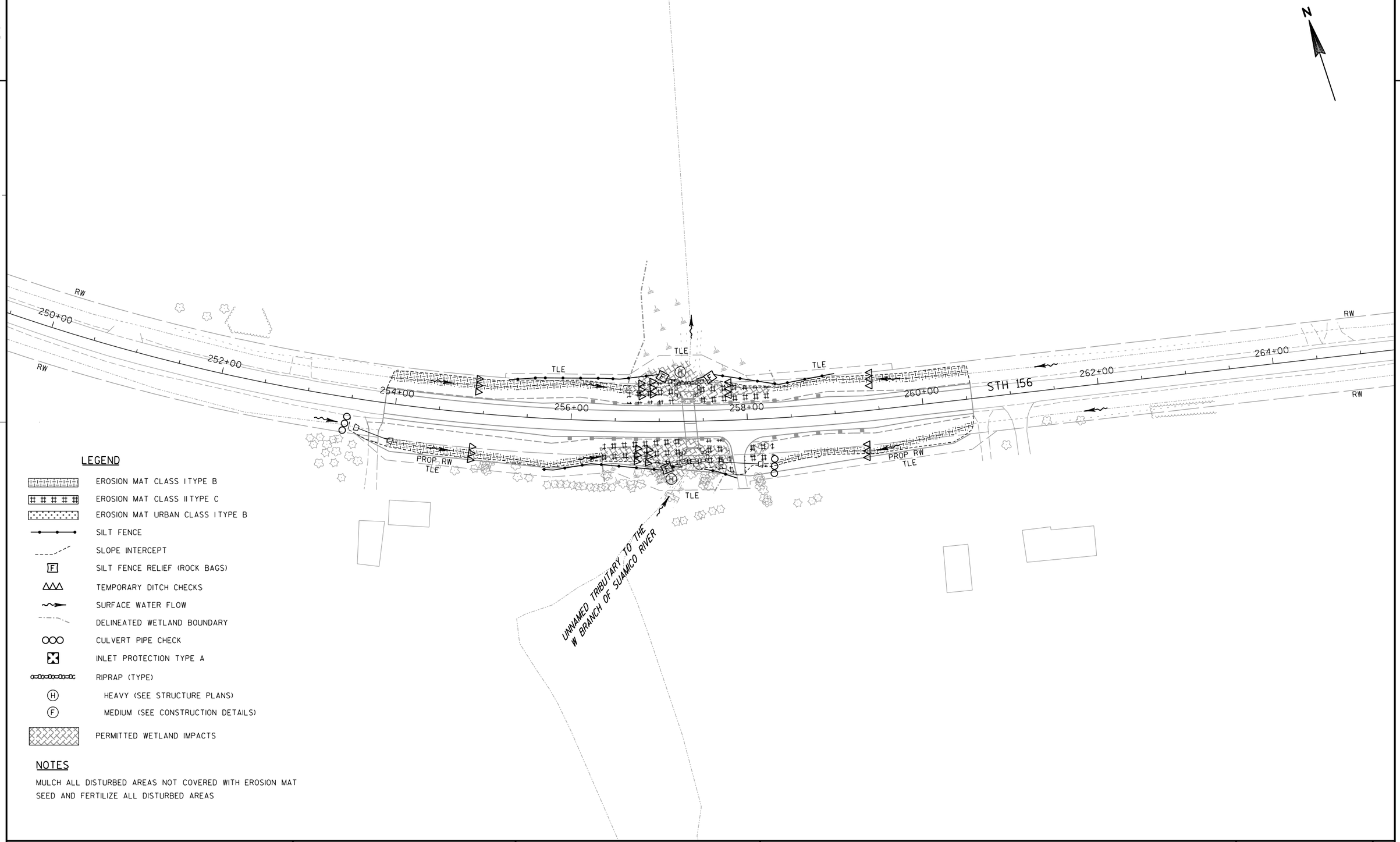
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- EROSION MAT URBAN CLASS I TYPE B
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- (F) SILT FENCE RELIEF (ROCK BAGS)
- TEMPORARY DITCH CHECKS
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- CULVERT PIPE CHECK
- INLET PROTECTION TYPE A
- RIPRAP (TYPE)
- (H) HEAVY (SEE STRUCTURE PLANS)
- (F) MEDIUM (SEE CONSTRUCTION DETAILS)
- PERMITTED WETLAND IMPACTS

## NOTES

MULCH ALL DISTURBED AREAS NOT COVERED WITH EROSION MAT
SEED AND FERTILIZE ALL DISTURBED AREAS

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | EROSION CONTROL - STH 156/OLD 29 DR | SHEET 25 | E |
|---|---|---|---|---|---|

2




## LEGEND

- EROSION MAT CLASS I TYPE B
- EROSION MAT CLASS II TYPE C
- EROSION MAT URBAN CLASS I TYPE B
- SILT FENCE
- SLOPE INTERCEPT
- (F) SILT FENCE RELIEF (ROCK BAGS)
- TEMPORARY DITCH CHECKS
- SURFACE WATER FLOW
- DELINEATED WETLAND BOUNDARY
- CULVERT PIPE CHECK
- INLET PROTECTION TYPE A
- RIPRAP (TYPE)
- (H) HEAVY (SEE STRUCTURE PLANS)
- (F) MEDIUM (SEE CONSTRUCTION DETAILS)
- PERMITTED WETLAND IMPACTS

## NOTES

MULCH ALL DISTURBED AREAS NOT COVERED WITH EROSION MAT
SEED AND FERTILIZE ALL DISTURBED AREAS

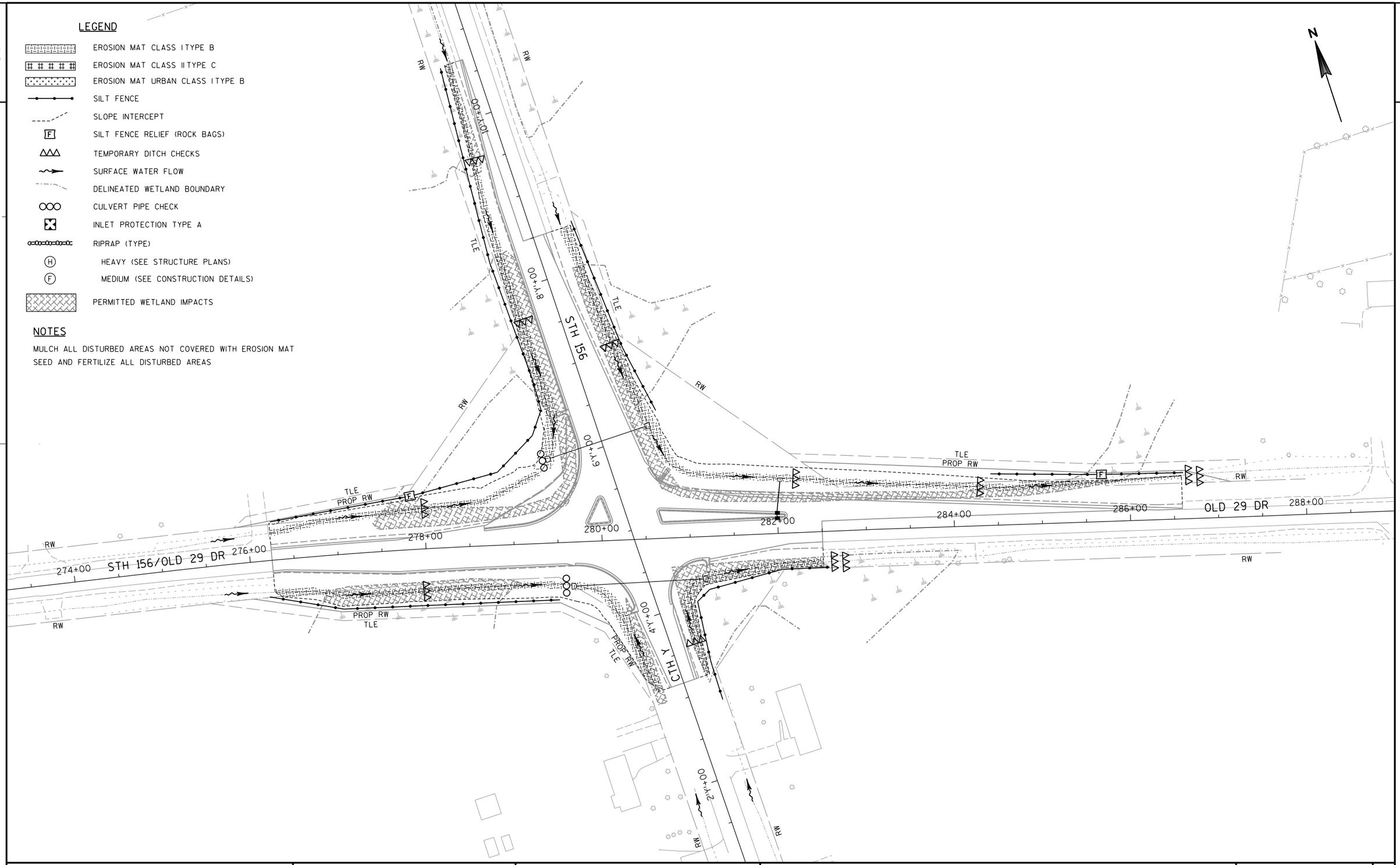
| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | EROSION CONTROL - STH 156/OLD 29 DR | SHEET 26 | E |
|---|---|---|---|---|---|

## LEGEND

- EROSION MAT CLASS I TYPE B
- EROSION MAT CLASS II TYPE C
- EROSION MAT URBAN CLASS I TYPE B
- SILT FENCE
- SLOPE INTERCEPT
- SILT FENCE RELIEF (ROCK BAGS)
- TEMPORARY DITCH CHECKS
- SURFACE WATER FLOW
- DELINEATED WETLAND BOUNDARY
- CULVERT PIPE CHECK
- INLET PROTECTION TYPE A
- RIPRAP (TYPE)
  - (H) HEAVY (SEE STRUCTURE PLANS)
  - (F) MEDIUM (SEE CONSTRUCTION DETAILS)
- PERMITTED WETLAND IMPACTS

## NOTES

MULCH ALL DISTURBED AREAS NOT COVERED WITH EROSION MAT
SEED AND FERTILIZE ALL DISTURBED AREAS




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | EROSION CONTROL - STH 156/OLD 29 DR/CTH Y | SHEET 27 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\022004_ec.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

## LEGEND

- EROSION MAT CLASS I TYPE B
- EROSION MAT CLASS II TYPE C
- EROSION MAT URBAN CLASS I TYPE B
- SILT FENCE
- SLOPE INTERCEPT
- (F) SILT FENCE RELIEF (ROCK BAGS)
- TEMPORARY DITCH CHECKS
- SURFACE WATER FLOW
- DELINEATED WETLAND BOUNDARY
- CULVERT PIPE CHECK
- INLET PROTECTION TYPE A
- RIPRAP (TYPE)
  - (H) HEAVY (SEE STRUCTURE PLANS)
  - (F) MEDIUM (SEE CONSTRUCTION DETAILS)
- PERMITTED WETLAND IMPACTS

## NOTES

MULCH ALL DISTURBED AREAS NOT COVERED WITH EROSION MAT
SEED AND FERTILIZE ALL DISTURBED AREAS

** NON-NETTED EROSION MAT (CLASS II TYPE C OR URBAN CLASS I TYPE B) MAY BE USED AT TIE-IN LOCATIONS IF REQUIRED; OTHERWISE DO NOT PLACE EROSION MAT IN THE RE-ALIGNED WATERWAY AND RESTORE WITH TOPSOIL, SEED, AND GRAVEL RIFFLES PER CONSTRUCTION DETAIL UNLESS OTHERWISE ALLOWED BY THE ENGINEER.

SEE CONSTRUCTION DETAILS FOR RESTORATION OF STREAM REALIGNMENT

UNNAMED TRIBUTARY TO THE W BRANCH OF SUAMICO RIVER

STH 29 EB

STH 29 WB

STH 156

ST. AUGUSTINE RD

PROP RW

RW

TLE

316'EB'+00
318'EB'+00
320'EB'+00
322'EB'+00
324'EB'+00

198+00
0'A'+00
12'A'+00
14'A'+00
16'A'+00
18'A'+00
20'A'+00
22'A'+00
24'A'+00
26'A'+

2

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | EROSION CONTROL - ST. AUGUSTINE RD & STH 29 | SHEET 28 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\022005_ec.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

N

28A+00

ST. AUGUSTINE RD

28A+00

30A+00

32A+00

34A+00

36A+00

38A+00

40A+00

TLE

PROP RW

EXISTING ST. AUGUSTINE RD

SEE CONSTRUCTION DETAILS FOR RESTORATION OF STREAM REALIGNMENT

** NON-NETTED EROSION MAT (CLASS II TYPE C OR URBAN CLASS 1 TYPE B) MAY BE USED AT TIE-IN LOCATIONS IF REQUIRED; OTHERWISE DO NOT PLACE EROSION MAT IN THE RE-ALIGNED WATERWAY AND RESTORE WITH TOPSOIL, SEED, AND GRAVEL RIFFLES PER CONSTRUCTION DETAIL UNLESS OTHERWISE ALLOWED BY THE ENGINEER.

RW

COTTONWOOD DR

## LEGEND

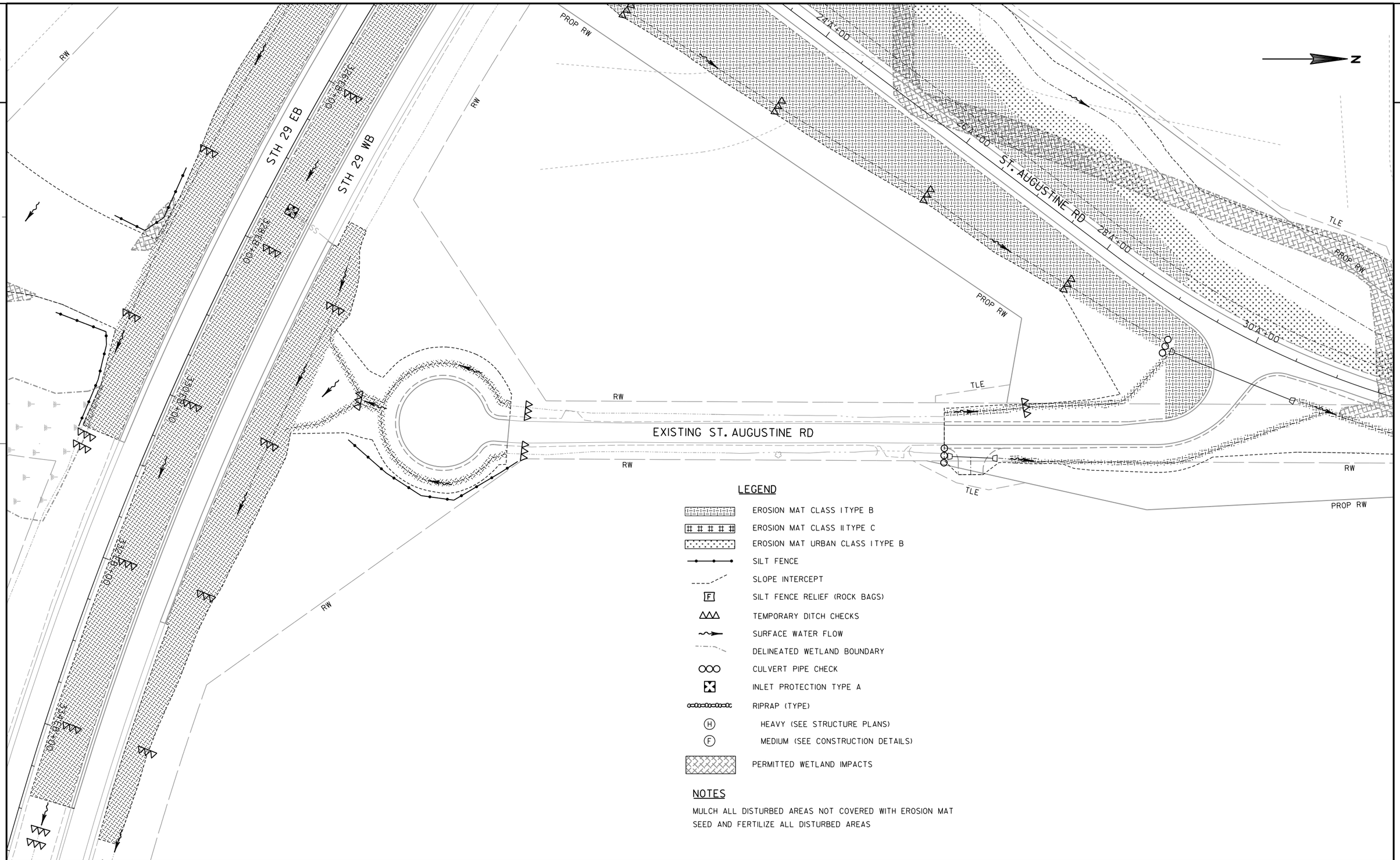
- EROSION MAT CLASS I TYPE B
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- EROSION MAT URBAN CLASS I TYPE B
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- SLOPE INTERCEPT
- (F) SILT FENCE RELIEF (ROCK BAGS)
- TEMPORARY DITCH CHECKS
- SURFACE WATER FLOW
- DELINEATED WETLAND BOUNDARY
- CULVERT PIPE CHECK
- INLET PROTECTION TYPE A
- RIPRAP (TYPE)
  - (H) HEAVY (SEE STRUCTURE PLANS)
  - (F) MEDIUM (SEE CONSTRUCTION DETAILS)
- PERMITTED WETLAND IMPACTS

## NOTES

MULCH ALL DISTURBED AREAS NOT COVERED WITH EROSION MAT

SEED AND FERTILIZE ALL DISTURBED AREAS

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | EROSION CONTROL - ST. AUGUSTINE RD | SHEET 29 | E |
|---|---|---|---|---|---|




NOTES

MULCH ALL DISTURBED AREAS NOT COVERED WITH EROSION MAT
SEED AND FERTILIZE ALL DISTURBED AREAS

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | EROSION CONTROL - EXISTING ST. AUGUSTINE RD & STH 29 | SHEET 30 | E |
|---|---|---|---|---|---|

2

## LEGEND

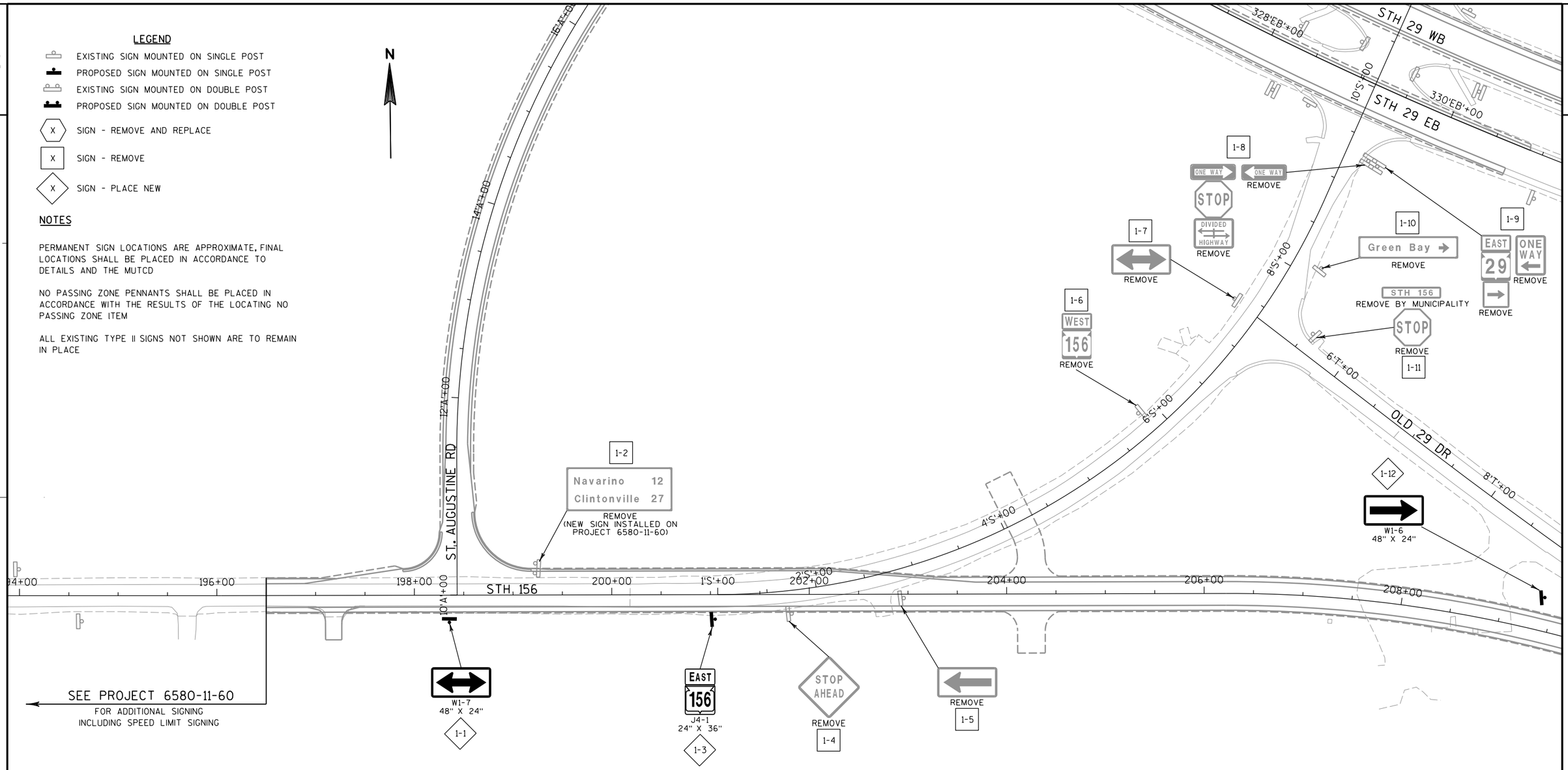
- EXISTING SIGN MOUNTED ON SINGLE POST
- PROPOSED SIGN MOUNTED ON SINGLE POST
- EXISTING SIGN MOUNTED ON DOUBLE POST
- PROPOSED SIGN MOUNTED ON DOUBLE POST
- (X) SIGN - REMOVE AND REPLACE
- [X] SIGN - REMOVE
- ◇X◇ SIGN - PLACE NEW

## NOTES

PERMANENT SIGN LOCATIONS ARE APPROXIMATE, FINAL LOCATIONS SHALL BE PLACED IN ACCORDANCE TO DETAILS AND THE MUTCD

NO PASSING ZONE PENNANTS SHALL BE PLACED IN ACCORDANCE WITH THE RESULTS OF THE LOCATING NO PASSING ZONE ITEM

ALL EXISTING TYPE II SIGNS NOT SHOWN ARE TO REMAIN IN PLACE




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | PERMANENT SIGNING - STH 156 | SHEET 31 | E |
|---|---|---|---|---|---|

STH 29 WB

STH 29 EB

334'EB'+00

336'EB'+00

## LEGEND

- EXISTING SIGN MOUNTED ON SINGLE POST
- PROPOSED SIGN MOUNTED ON SINGLE POST
- EXISTING SIGN MOUNTED ON DOUBLE POST
- PROPOSED SIGN MOUNTED ON DOUBLE POST
- X — SIGN - REMOVE AND REPLACE
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## NOTES

PERMANENT SIGN LOCATIONS ARE APPROXIMATE. FINAL LOCATIONS SHALL BE PLACED IN ACCORDANCE TO DETAILS AND THE MUTCD

NO PASSING ZONE PENNANTS SHALL BE PLACED IN ACCORDANCE WITH THE RESULTS OF THE LOCATING NO PASSING ZONE ITEM

ALL EXISTING TYPE II SIGNS NOT SHOWN ARE TO REMAIN IN PLACE

N

2-10
W1-6
48" X 24"

OLD 29 DR

210+00
212+00
214+00
216+00
218+00
STH 156/OLD 29 DR
220+00
222+00
224+00

SPEED LIMIT 45
REMOVE
2-1

SCHOOL BUS ENTRANCE
REMOVE
2-2

2-3
STOP AHEAD
REMOVE

ANGLE DR

STOP
R1-1
30" X 30"
2-9
ANGLE DR
REMOVAL BY MUNICIPALITY

2-6
SPEED LIMIT 45
R2-1
24" X 30"
2-5

NO PASSING ZONE
W14-3
48" X 36"
2-4

2-8
NO PASSING ZONE
W14-3
48" X 36"

SCHOOL BUS STOP AHEAD
REMOVE
2-7

2

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | PERMANENT SIGNING - STH 156/OLD 29 DR | SHEET 32 | E |
|---|---|---|---|---|---|

2

2

LEGEND

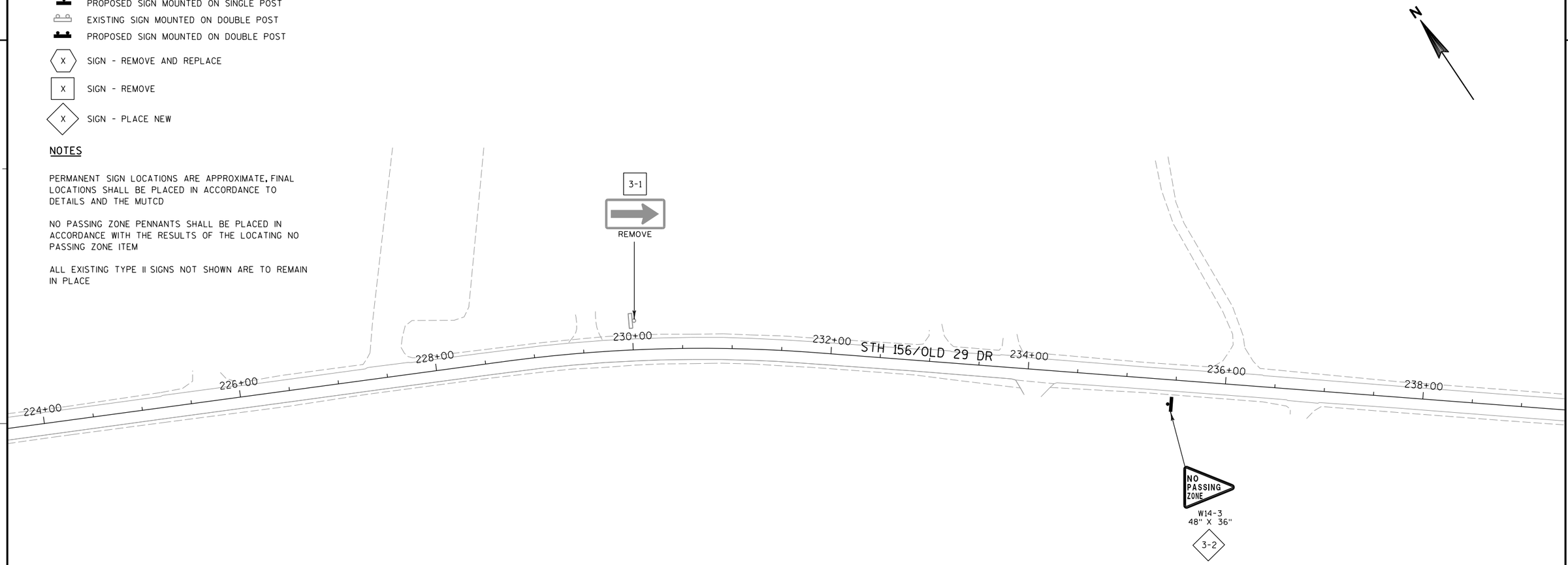
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- X — SIGN - REMOVE
- X — SIGN - PLACE NEW

NOTES

PERMANENT SIGN LOCATIONS ARE APPROXIMATE, FINAL LOCATIONS SHALL BE PLACED IN ACCORDANCE TO DETAILS AND THE MUTCD

NO PASSING ZONE PENNANTS SHALL BE PLACED IN ACCORDANCE WITH THE RESULTS OF THE LOCATING NO PASSING ZONE ITEM

ALL EXISTING TYPE II SIGNS NOT SHOWN ARE TO REMAIN IN PLACE




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | PERMANENT SIGNING - STH 156/OLD 29 DR | SHEET 33 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\023203_ps.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

2

LEGEND

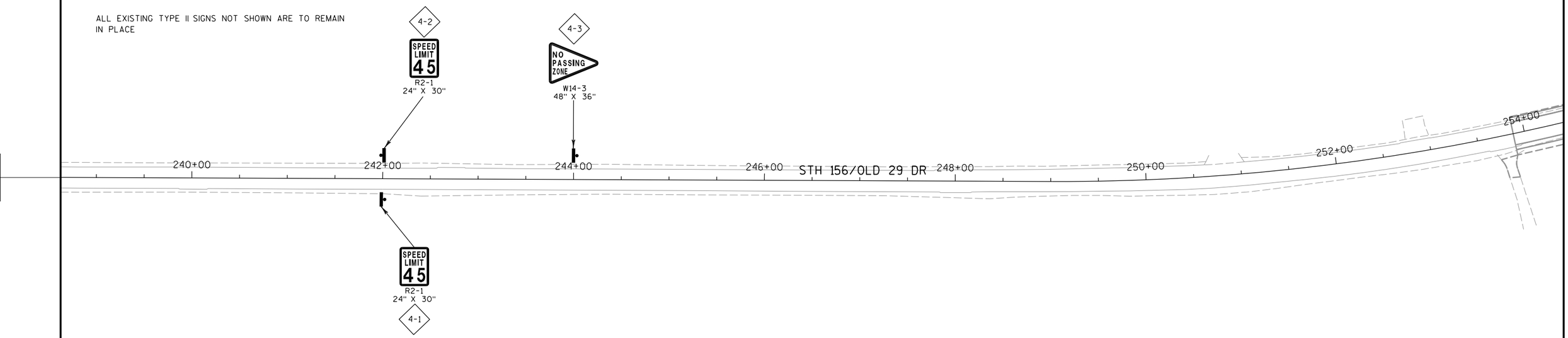
- EXISTING SIGN MOUNTED ON SINGLE POST
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NOTES

PERMANENT SIGN LOCATIONS ARE APPROXIMATE. FINAL LOCATIONS SHALL BE PLACED IN ACCORDANCE TO DETAILS AND THE MUTCD

NO PASSING ZONE PENNANTS SHALL BE PLACED IN ACCORDANCE WITH THE RESULTS OF THE LOCATING NO PASSING ZONE ITEM

ALL EXISTING TYPE II SIGNS NOT SHOWN ARE TO REMAIN IN PLACE




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | PERMANENT SIGNING - STH 156/OLD 29 DR | SHEET 34 | E |
|---|---|---|---|---|---|

2

2

## LEGEND

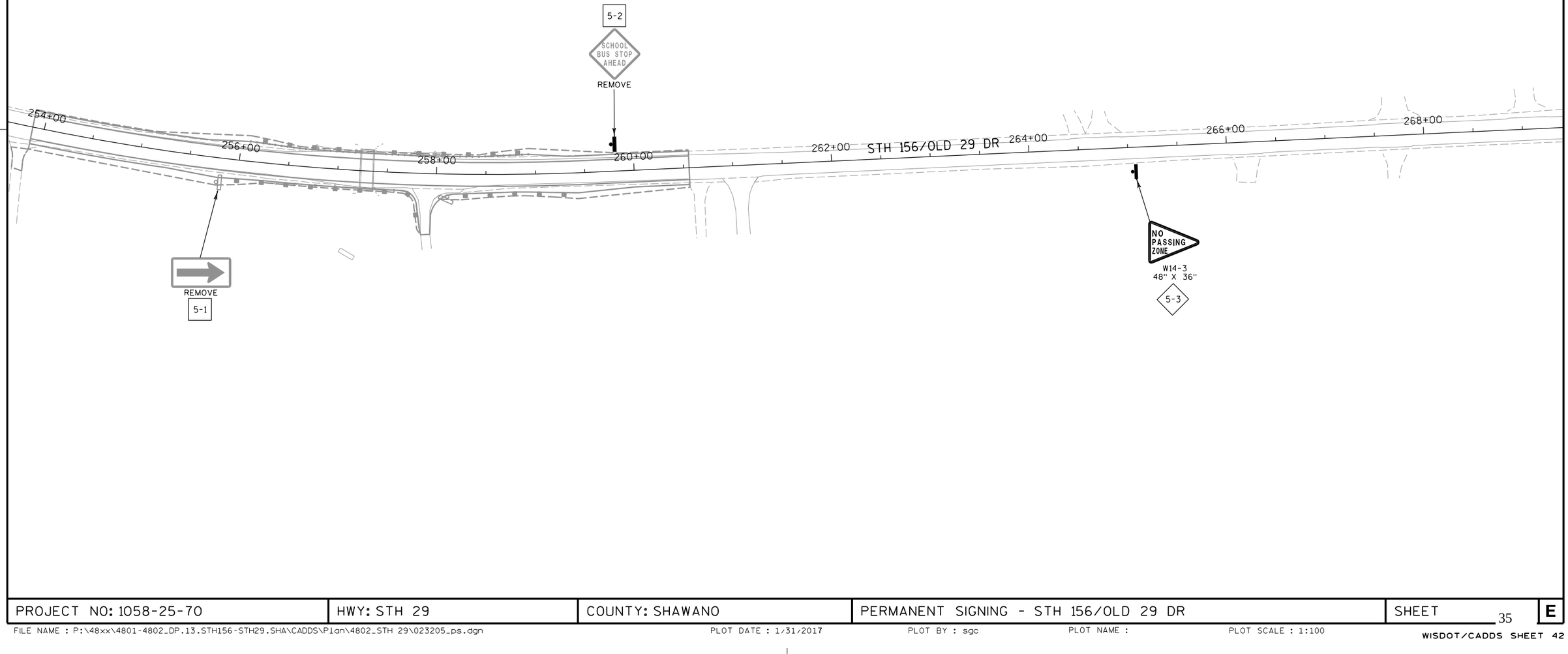
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## NOTES

PERMANENT SIGN LOCATIONS ARE APPROXIMATE. FINAL LOCATIONS SHALL BE PLACED IN ACCORDANCE TO DETAILS AND THE MUTCD

NO PASSING ZONE PENNANTS SHALL BE PLACED IN ACCORDANCE WITH THE RESULTS OF THE LOCATING NO PASSING ZONE ITEM

ALL EXISTING TYPE II SIGNS NOT SHOWN ARE TO REMAIN IN PLACE




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | PERMANENT SIGNING - STH 156/OLD 29 DR | SHEET 35 | E |
|---|---|---|---|---|---|

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WISDOT/CADDS SHEET 42

2

LEGEND

- EXISTING SIGN MOUNTED ON SINGLE POST
- PROPOSED SIGN MOUNTED ON SINGLE POST
- EXISTING SIGN MOUNTED ON DOUBLE POST
- PROPOSED SIGN MOUNTED ON DOUBLE POST
- X — SIGN - REMOVE AND REPLACE
- X — SIGN - REMOVE
- X — SIGN - PLACE NEW

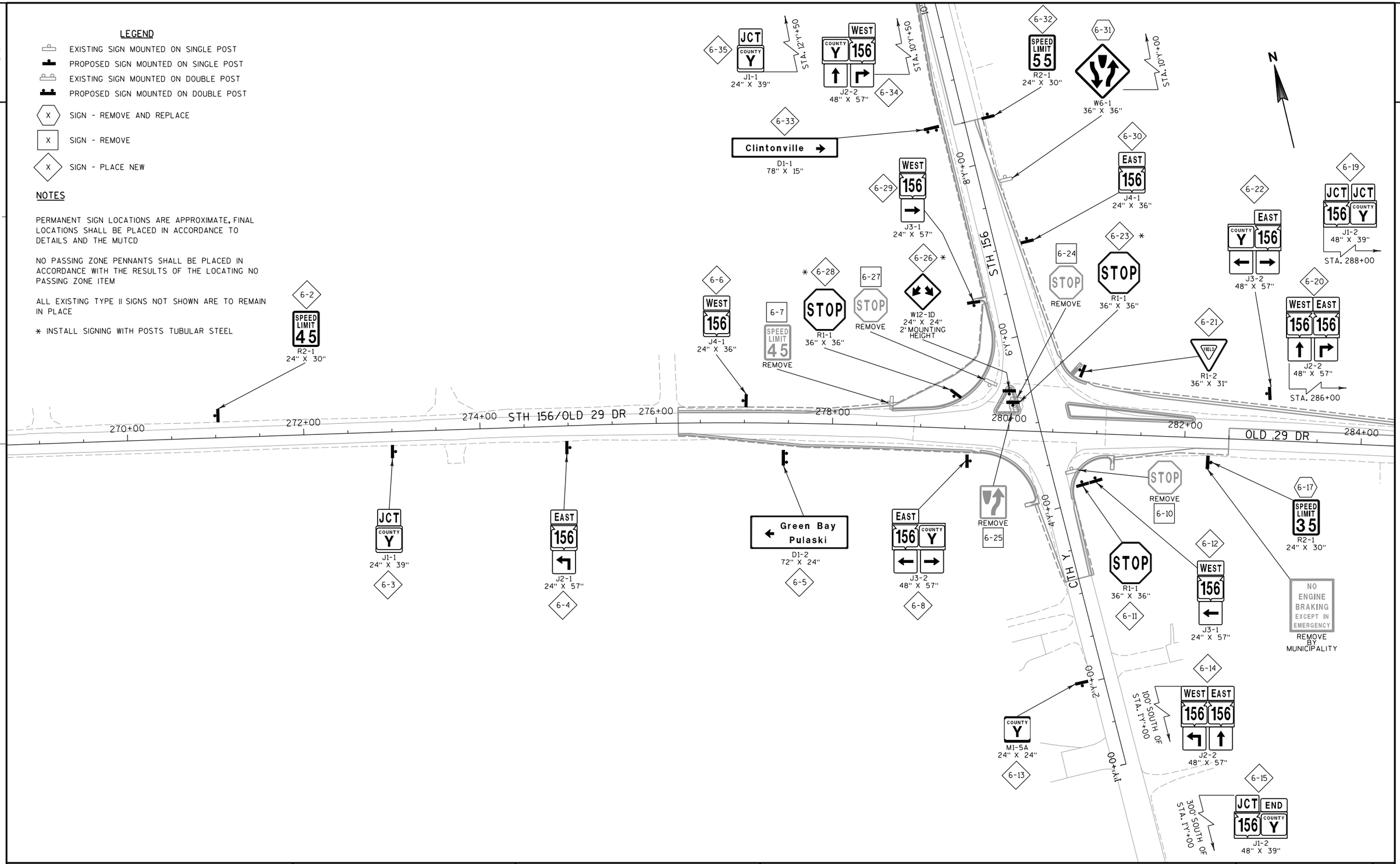
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* INSTALL SIGNING WITH POSTS TUBULAR STEEL




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | PERMANENT SIGNING - STH 156/OLD 29 DR/CTH Y | SHEET 36 | E |
|---|---|---|---|---|---|

2

## LEGEND

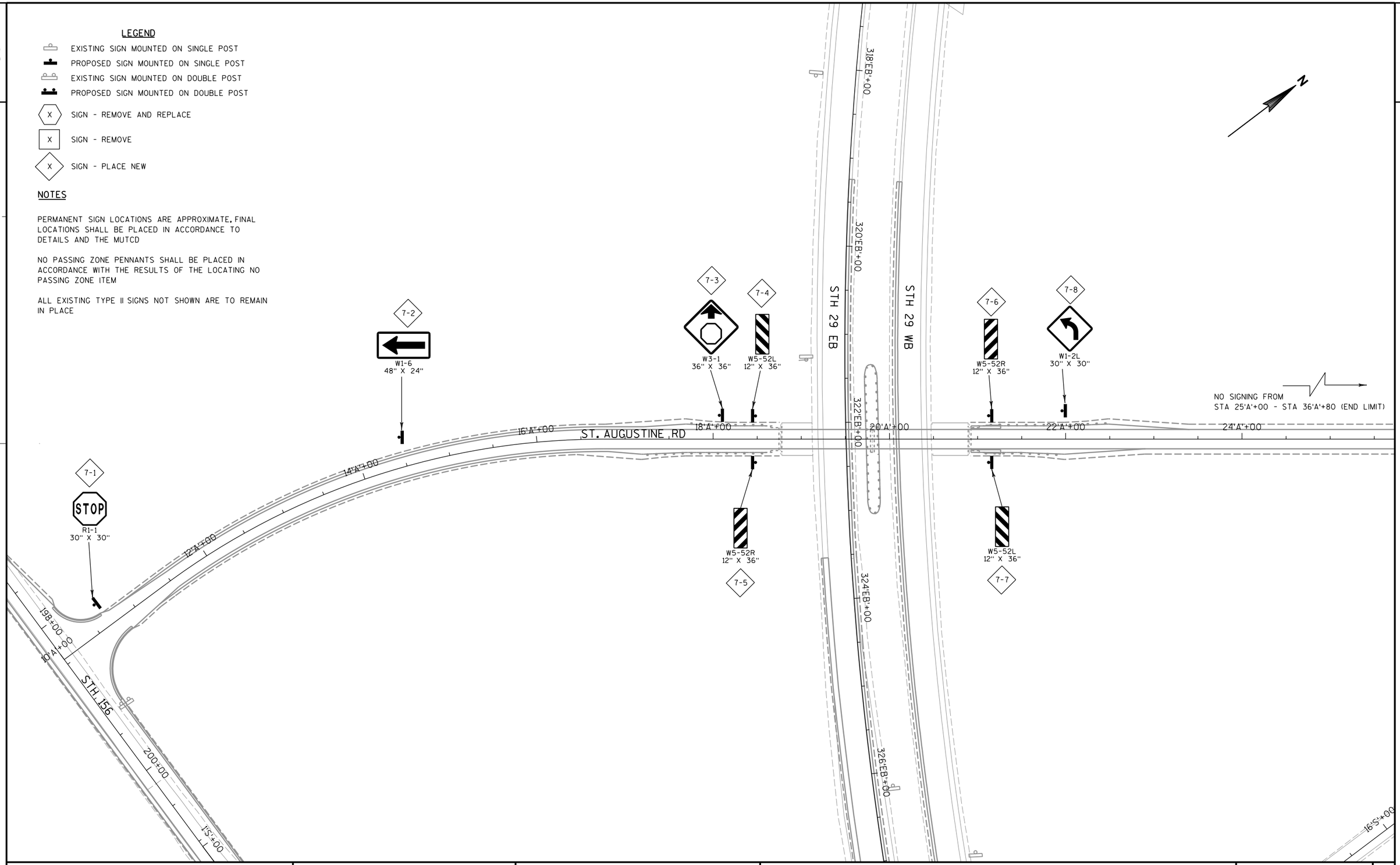
- EXISTING SIGN MOUNTED ON SINGLE POST
- PROPOSED SIGN MOUNTED ON SINGLE POST
- EXISTING SIGN MOUNTED ON DOUBLE POST
- PROPOSED SIGN MOUNTED ON DOUBLE POST
- (X) SIGN - REMOVE AND REPLACE
- [X] SIGN - REMOVE
- ◇X◇ SIGN - PLACE NEW

## NOTES

PERMANENT SIGN LOCATIONS ARE APPROXIMATE, FINAL LOCATIONS SHALL BE PLACED IN ACCORDANCE TO DETAILS AND THE MUTCD

NO PASSING ZONE PENNANTS SHALL BE PLACED IN ACCORDANCE WITH THE RESULTS OF THE LOCATING NO PASSING ZONE ITEM

ALL EXISTING TYPE II SIGNS NOT SHOWN ARE TO REMAIN IN PLACE




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | PERMANENT SIGNING - ST. AUGUSTINE RD | SHEET 37 | E |
|---|---|---|---|---|---|

2

LEGEND

- EXISTING SIGN MOUNTED ON SINGLE POST
- PROPOSED SIGN MOUNTED ON SINGLE POST
- EXISTING SIGN MOUNTED ON DOUBLE POST
- PROPOSED SIGN MOUNTED ON DOUBLE POST
- X — SIGN - REMOVE AND REPLACE
- X — SIGN - REMOVE
- X — SIGN - PLACE NEW

NOTES

PERMANENT SIGN LOCATIONS ARE APPROXIMATE. FINAL LOCATIONS SHALL BE PLACED IN ACCORDANCE TO DETAILS AND THE MUTCD

NO PASSING ZONE PENNANTS SHALL BE PLACED IN ACCORDANCE WITH THE RESULTS OF THE LOCATING NO PASSING ZONE ITEM

ALL EXISTING TYPE II SIGNS NOT SHOWN ARE TO REMAIN IN PLACE

N

STH 29 EB

STH 29 WB

326EB+00

328EB+00

ST. AUGUSTINE RD

24'A'+00

26'A'+00

28'A'+00

30'A'+00

32'A'+00

34

EXISTING ST. AUGUSTINE RD

12'S'+00

14'S'+00

16'S'+00

18'S'+00

20'S'+00

22'S'+00

8-1
WEST 29
REMOVE

8-2
ONE WAY ONE WAY
REMOVE
STOP
DIVIDED HIGHWAY
REMOVE

8-7
STOP AHEAD
REMOVE

8-8
DEAD END
W14-1
30" X 30"

STOP
REMOVE
8-3

W5-56
18" X 18"
(4' MOUNTING HEIGHT)
8-4 8-5 8-6

STOP
R1-1
30" X 30"
8-9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | PERMANENT SIGNING - EXISTING ST. AUGUSTINE RD | SHEET 38 | E |
|---|---|---|---|---|---|

2

## LEGEND

- EXISTING SIGN MOUNTED ON SINGLE POST
- PROPOSED SIGN MOUNTED ON SINGLE POST
- EXISTING SIGN MOUNTED ON DOUBLE POST
- PROPOSED SIGN MOUNTED ON DOUBLE POST
- X — SIGN - REMOVE AND REPLACE
- X — SIGN - REMOVE
- X — SIGN - PLACE NEW

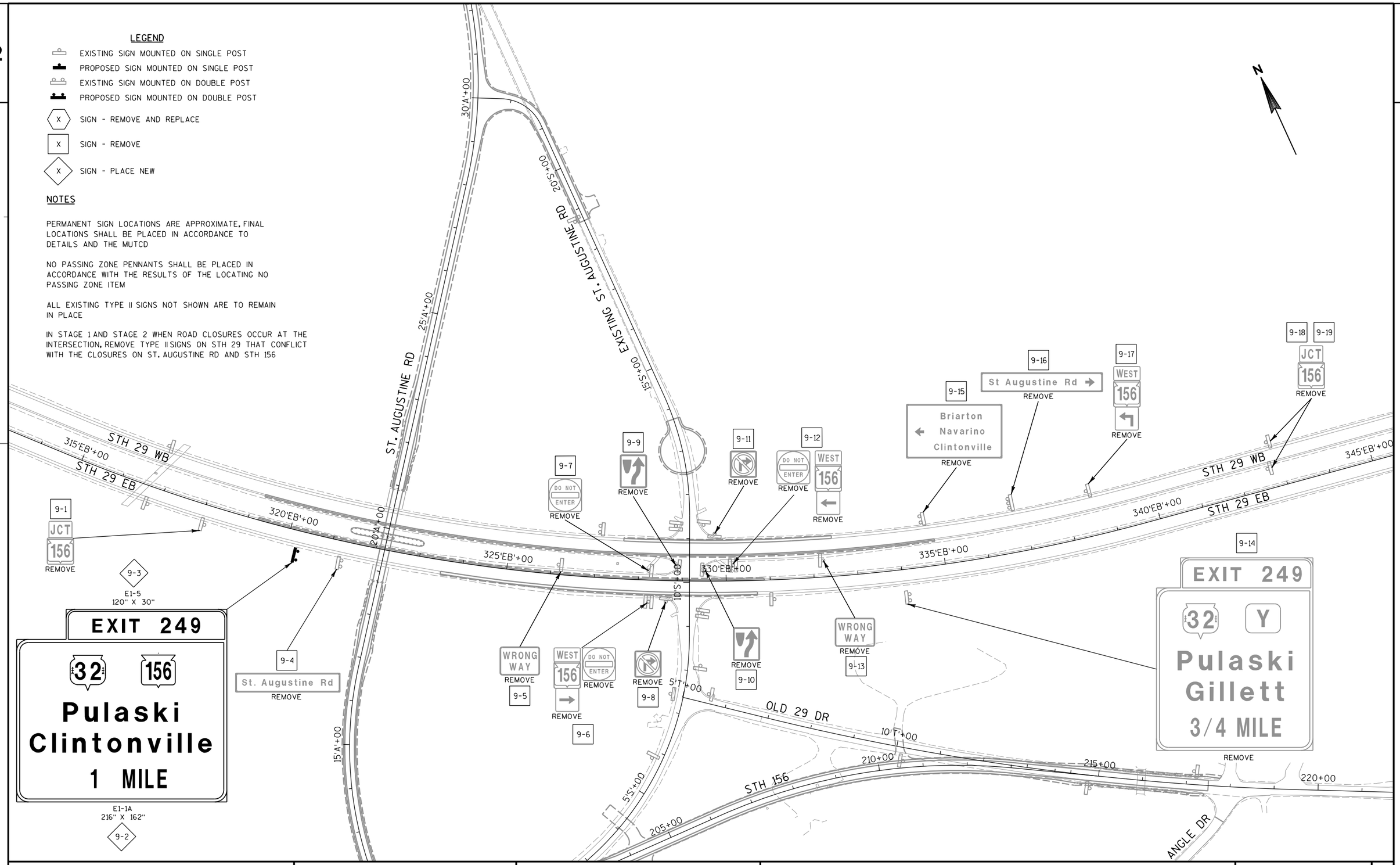
## NOTES

PERMANENT SIGN LOCATIONS ARE APPROXIMATE, FINAL LOCATIONS SHALL BE PLACED IN ACCORDANCE TO DETAILS AND THE MUTCD

NO PASSING ZONE PENNANTS SHALL BE PLACED IN ACCORDANCE WITH THE RESULTS OF THE LOCATING NO PASSING ZONE ITEM

ALL EXISTING TYPE II SIGNS NOT SHOWN ARE TO REMAIN IN PLACE

IN STAGE 1 AND STAGE 2 WHEN ROAD CLOSURES OCCUR AT THE INTERSECTION, REMOVE TYPE II SIGNS ON STH 29 THAT CONFLICT WITH THE CLOSURES ON ST. AUGUSTINE RD AND STH 156




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | PERMANENT SIGNING - STH 29 | SHEET 39 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\023230_ps.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:200

2

2

LEGEND

EXISTING SIGN MOUNTED ON SINGLE POST

PROPOSED SIGN MOUNTED ON SINGLE POST

EXISTING SIGN MOUNTED ON DOUBLE POST

PROPOSED SIGN MOUNTED ON DOUBLE POST

X SIGN - REMOVE AND REPLACE

X SIGN - REMOVE

X SIGN - PLACE NEW

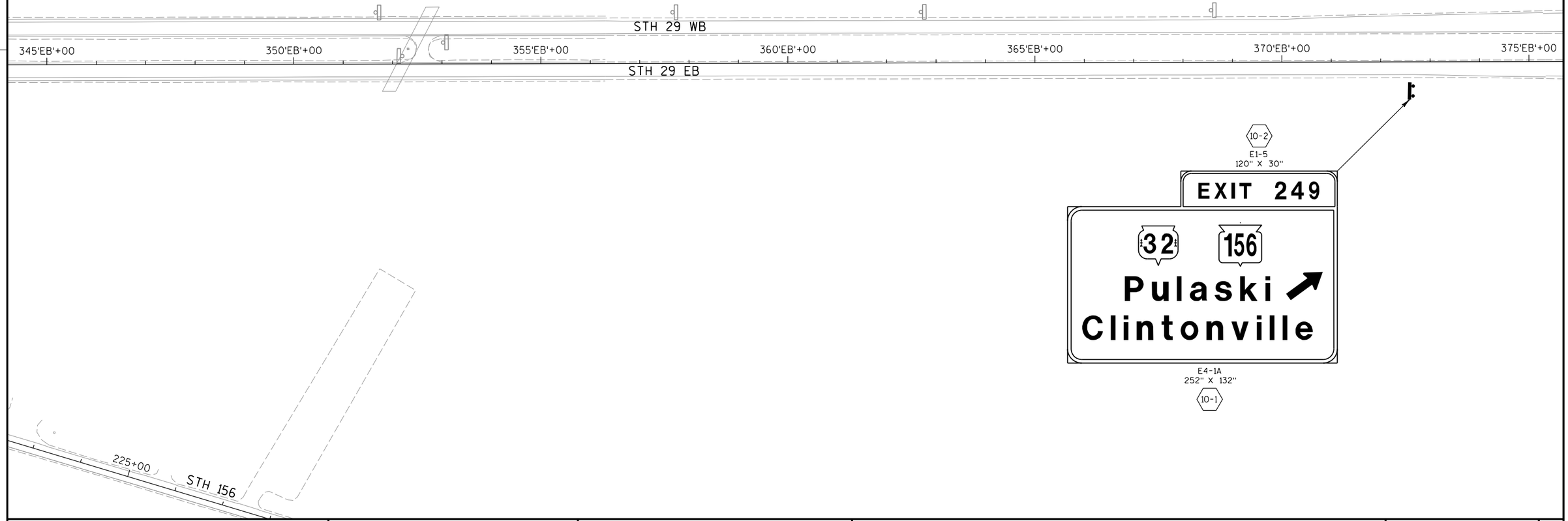
NOTES

PERMANENT SIGN LOCATIONS ARE APPROXIMATE, FINAL LOCATIONS SHALL BE PLACED IN ACCORDANCE TO DETAILS AND THE MUTCD

NO PASSING ZONE PENNANTS SHALL BE PLACED IN ACCORDANCE WITH THE RESULTS OF THE LOCATING NO PASSING ZONE ITEM

ALL EXISTING TYPE II SIGNS NOT SHOWN ARE TO REMAIN IN PLACE

N




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | PERMANENT SIGNING - STH 29 | SHEET 40 | E |
|---|---|---|---|---|---|

## LEGEND

- EXISTING SIGN MOUNTED ON SINGLE POST
- PROPOSED SIGN MOUNTED ON SINGLE POST
- EXISTING SIGN MOUNTED ON DOUBLE POST
- PROPOSED SIGN MOUNTED ON DOUBLE POST
- (X) SIGN - REMOVE AND REPLACE
- [X] SIGN - REMOVE
- ◇X SIGN - PLACE NEW
- (X) SIGN - MOVE

## NOTES

PERMANENT SIGN LOCATIONS ARE APPROXIMATE, FINAL LOCATIONS SHALL BE PLACED IN ACCORDANCE TO DETAILS AND THE MUTCD

NO PASSING ZONE PENNANTS SHALL BE PLACED IN ACCORDANCE WITH THE RESULTS OF THE LOCATING NO PASSING ZONE ITEM

ALL EXISTING TYPE II SIGNS NOT SHOWN ARE TO REMAIN IN PLACE

11-27 JCT JCT 29 COUNTY Y — REMOVE
1,000'+ FROM STH 29 WB ENTRANCE RAMP

11-26 JCT JCT 29 156 — J1-2 48" X 39"

11-25 JCT JCT 29 COUNTY Y — REMOVE
600' MIN. FROM STH 29 WB ENTRANCE RAMP

11-24 Green Bay / Clinton ville / Wausau — D1-3 78" X 36"

11-23 Bonduel / Shawano — REMOVE

200' MIN. FROM STH 29 WB ENTRANCE RAMP

11-24A WRONG WAY — MOVE

11-28 WEST WEST 156 29 — J2-2 48" X 57"
400' MIN. FROM STH 29 WB ENTRANCE RAMP

11-22 WEST 29 — J3-1 24" X 57"

11-21 WEST TO 29 156 — REMOVE

STH 32

WEST 29 — TO REMAIN

11-17 SOUTH NORTH COUNTY Y 32 — REMOVE

11-18 WEST NORTH 156 32 — J3-2 48" X 57"

11-20 Clinton ville / Pulaski — D1-2 78" X 30"

Pulaski / Gillett — REMOVE

11-19

11-22A DO NOT ENTER — MOVE

11-14 Clinton ville / Green Bay — D1-2 78" X 30"

11-13 Howard / Green Bay — REMOVE

EAST SOUTH SOUTH 29 32 COUNTY Y — REMOVE

11-15

EAST SOUTH WEST 29 32 156 — J2-3 72" X 57"

11-16

11-22B RAMP CLOSED USE ALT ROUTE — MOVE

STH 29 WB

STH 29 EB

375'EB'+00 380'EB'+00 385'EB'+00 390'EB'+00 395'EB'+00 400'EB'+00 405'EB'+00

WEST NORTH 29 32 — TO REMAIN

11-1 Pulaski / Clinton ville — D1-2 78" X 30"

11-2 Pulaski / Gillett — REMOVE

Bonduel / Shawano / Wausau — REMOVE — 11-11

Pulaski / Wausau — D1-2 60" X 30" — 11-12

EAST SOUTH 29 32 — TO REMAIN

22'Y+00

Pulaski / Wausau / Green Bay — TO REMAIN

NORTH SOUTH 32 COUNTY Y — REMOVE — 11-3

NORTH WEST 32 156 — J3-2 48" X 57" — 11-4

EAST SOUTH 29 32 — TO REMAIN

EAST SOUTH 29 32 — J2-2 48" X 57" — 11-10

11-6 JCT JCT END 29 32 COUNTY Y — REMOVE

STH 156

WEST 156 — J4-1 24" X 36" — 11-8

COUNTY Y — REMOVE — 11-7

JCT JCT END 29 32 156 — J1-3 72" X 39" — 11-5

11-8A WRONG WAY — MOVE

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | PERMANENT SIGNING - STH 29 | SHEET 41 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\023232_ps.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:200

2

2

LEGEND

- EXISTING SIGN MOUNTED ON SINGLE POST
- PROPOSED SIGN MOUNTED ON SINGLE POST
- EXISTING SIGN MOUNTED ON DOUBLE POST
- PROPOSED SIGN MOUNTED ON DOUBLE POST
- X — SIGN - REMOVE AND REPLACE
- X — SIGN - REMOVE
- X — SIGN - PLACE NEW

NOTES

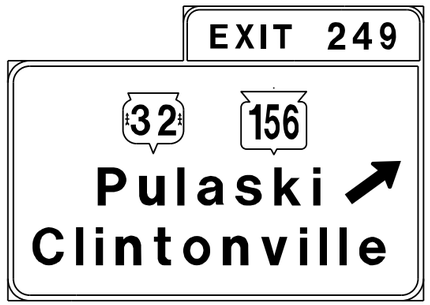
PERMANENT SIGN LOCATIONS ARE APPROXIMATE, FINAL LOCATIONS SHALL BE PLACED IN ACCORDANCE TO DETAILS AND THE MUTCD

NO PASSING ZONE PENNANTS SHALL BE PLACED IN ACCORDANCE WITH THE RESULTS OF THE LOCATING NO PASSING ZONE ITEM

ALL EXISTING TYPE II SIGNS NOT SHOWN ARE TO REMAIN IN PLACE

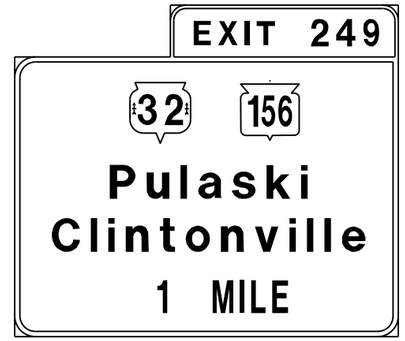
N

12-2
E1-5
120" X 30"




E4-1A
252" X 132"
12-1

12-4
E1-5
120" X 30"




E1-1A
216" X 162"
12-3

STA. 462'EB'+00 (ON WB SIDE ONE MILE FROM THE START OF THE EXIT 249 RAMP)

STH 29 WB

'EB'+00 | 410'EB'+00 | 415'EB'+00 | 420'EB'+00 | 425'EB'+00 | 430'EB'+00 | 435'EB'+00

STH 29 EB

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | PERMANENT SIGNING - STH 29 | SHEET 42 | E |
|---|---|---|---|---|---|

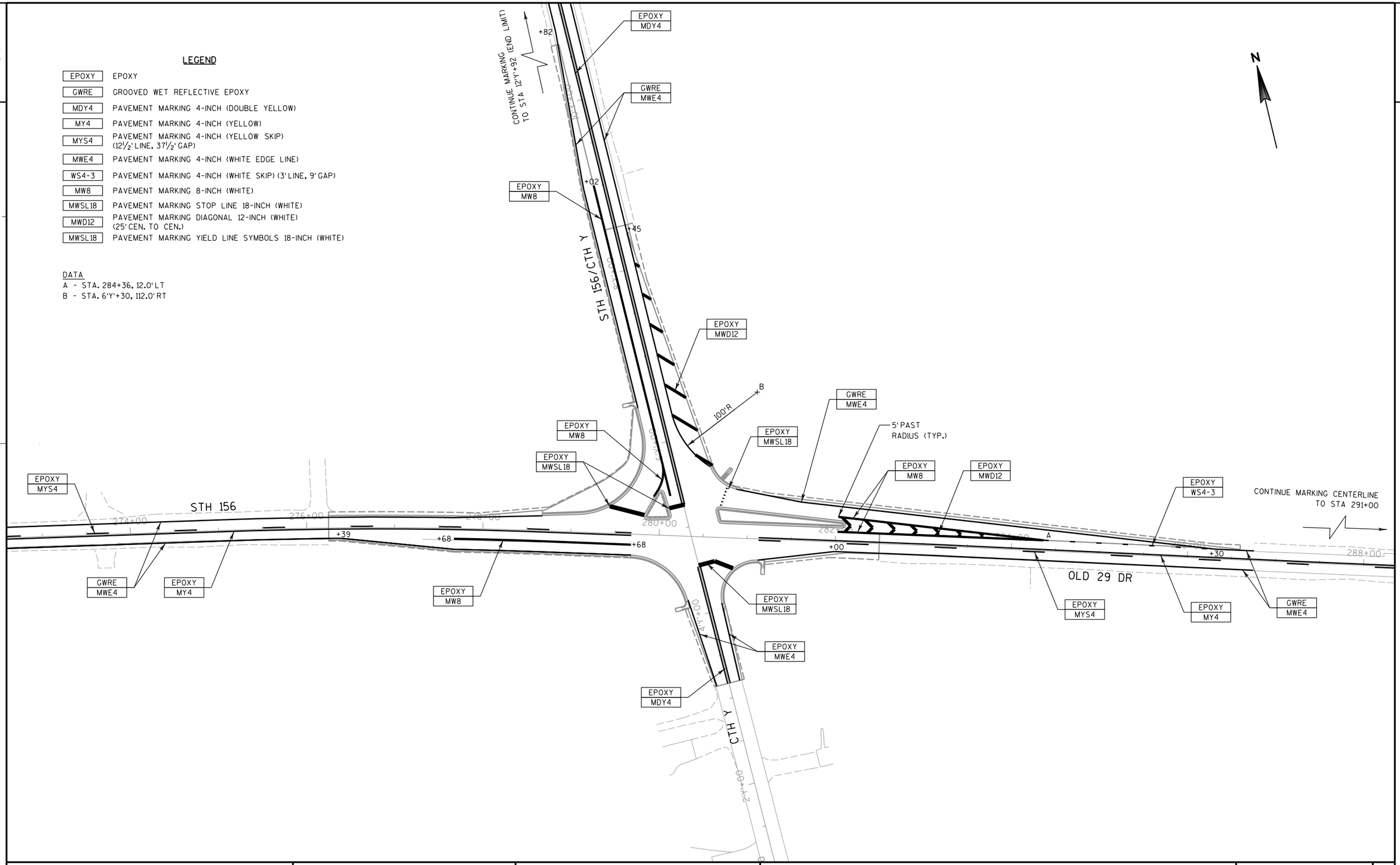
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\023233_ps.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:200

2

## LEGEND

| | |
|---|---|
| EPOXY | EPOXY |
| GWRE | GROOVED WET REFLECTIVE EPOXY |
| MDY4 | PAVEMENT MARKING 4-INCH (DOUBLE YELLOW) |
| MY4 | PAVEMENT MARKING 4-INCH (YELLOW) |
| MYS4 | PAVEMENT MARKING 4-INCH (YELLOW SKIP) (12½' LINE, 37½' GAP) |
| MWE4 | PAVEMENT MARKING 4-INCH (WHITE EDGE LINE) |
| WS4-3 | PAVEMENT MARKING 4-INCH (WHITE SKIP) (3' LINE, 9' GAP) |
| MW8 | PAVEMENT MARKING 8-INCH (WHITE) |
| MWSL18 | PAVEMENT MARKING STOP LINE 18-INCH (WHITE) |
| MWD12 | PAVEMENT MARKING DIAGONAL 12-INCH (WHITE) (25' CEN. TO CEN.) |
| MWSL18 | PAVEMENT MARKING YIELD LINE SYMBOLS 18-INCH (WHITE) |

DATA
A - STA. 284+36, 12.0' LT
B - STA. 6'Y'+30, 112.0' RT




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | PAVEMENT MARKING - STH 156/OLD 29 DR | SHEET 43 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\024501_pm.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

## TRAFFIC CONTROL GENERAL NOTES

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

2) ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

3) "WO" SIGNS ARE THE SAME A "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

4) FOR NIGHTTIME OPERATION ALL DRUMS IN TAPERS SHALL HAVE A TYPE C WARNING LIGHT.

5) ALL TYPE III BARRICADES SHALL BE 8' WIDE, UNLESS OTHERWISE NOTED. EQUIP WITH TYPE "A" (LOW INTENSITY FLASHING) LIGHTS PER SDDS.

6) MAINTAIN ALL EXISTING STOP SIGNS AT ALL TIMES.

7) A FLAGGER MAY BE REQUIRED WHERE CONSTRUCTION VEHICLES ENTER OR LEAVE WORK AREAS IF WARRANTED BY CONDITIONS OR AS DIRECTED BY THE ENGINEER.

8) PLACE BASE AGGREGATE AT A 3:1 MAXIMUM SLOPE FROM THE EDGE OF PAVEMENT DURING NON WORKING HOURS ON ALL OPEN ROADWAYS.

## NOTES

\# ADJUST TRAFFIC CONTROL PCMS MESSAGE AS NEEDED BASED ON WORK ZONE AREAS AND CONSTRUCTION SCHEDULE.

* ADD/REVISE PCM MESSAGES TO WARN TRAFFIC OF UNUSUAL CIRCUMSTANCES DUE TO TRUCKS ENTERING TRAFFIC OR OTHER ACTIVITIES. MAINTAIN STH 29 PCMS FOR THE DURATION FOR INCIDENT MANAGEMENT AND OTHER NEEDS DETERMINED BY THE ENGINEER.

CONSIDER GEOMETRICS WHEN LOCATING MESSAGE BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE BOARD FOR A MINIMUM OF 1000 FEET IN FRONT OF THE MESSAGE BOARD.

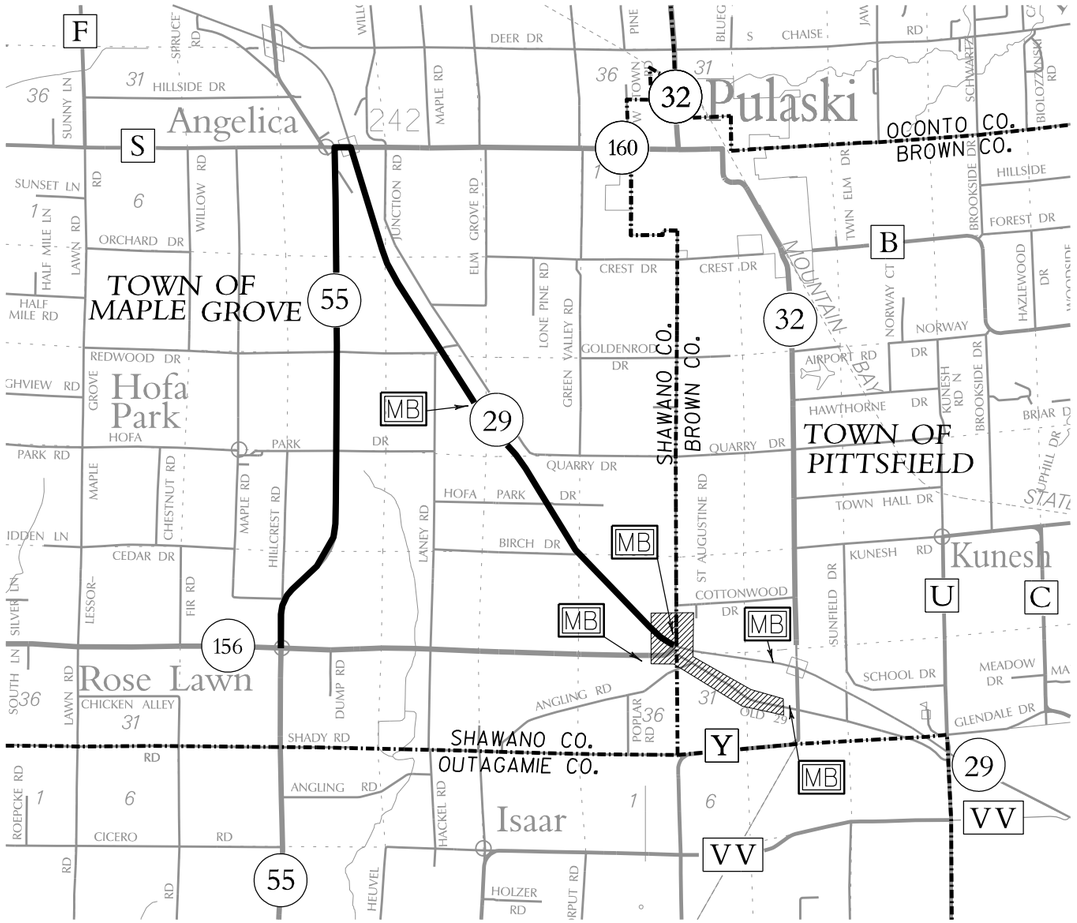
PLACE MESSAGE BOARDS AS FAR AWAY FROM LIVE TRAFFIC LANES AS POSSIBLE WITHOUT HAMPERING VISIBILITY. IN ADVANCE OF FREEWAY CONSTRUCTION PROJECTS THE SIGNS SHOULD BE PLACED ON THE BACKSLOPE BEYOND THE DITCH. THE LOCATION SELECTED SHOULD BE AT OR SLIGHTLY ABOVE THE ELEVATION OF THE ROADWAY. FOR INTERMITTENT WORK SUCH AS FREEWAY LANE CLOSURE, OR WHERE SITE CONDITIONS DO NOT ALLOW OTHERWISE, THE SIGNS MAY BE PLACED ON THE SHOULDER. THE SITE SHOULD BE VISITED TO ASSURE VISIBILITY, SAFETY AND MAINTENANCE CONSIDERATIONS. A TAPER OF REFLECTORIZED DRUMS OR BARRICADES SHOULD BE PLACED AHEAD OF PCMS PLACED ON THE SHOULDER IF IT IS NOT SHIELDED BY A BARRIER.

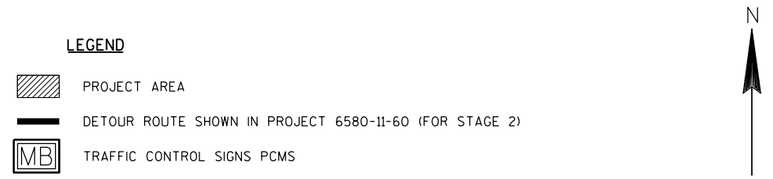
PLACE TRAFFIC CONTROL SIGNS PCMS THAT DISPLAY THE "PRIOR TO CONSTRUCTION" MESSAGE 7 DAYS PRIOR TO THE EXPECTED START OF THE PROPOSED WORK THAT WILL REQUIRE THE DETOUR.

IN STAGE 2 WHEN STH 156 IS CLOSED, REMOVE SIGNS ON STH 29 AS SHOWN ON THE PERMANENT SIGNING PLAN THAT CONFLICT WITH THE STH 156 CLOSURE.

### TRAFFIC CONTROL SIGNS PCMS MESSAGES

| # PCMS SIGN LOCATION | PRIOR TO STAGE 1 CONSTRUCTION | | * DURING STAGE 1 CONSTRUCTION | | PRIOR TO STAGE 2 CONSTRUCTION | | * DURING STAGE 2 CONSTRUCTION | | ROLLING CLOSURE | |
|---|---|---|---|---|---|---|---|---|---|---|
| | PHASE 1 (2 SEC) | PHASE 2 (2 SEC) | PHASE 1 (2 SEC) | PHASE 2 (2 SEC) | PHASE 1 (2 SEC) | PHASE 2 (2 SEC) | PHASE 1 (2 SEC) | PHASE 2 (2 SEC) | PHASE 1 (2 SEC) | PHASE 2 (2 SEC) |
| STH 29 EB | ROAD WORK STARTS | DATE | -- | -- | ROAD WORK STARTS | DATE | -- | -- | EXPECT DELAYS | TRAFFIC STOPPED AHEAD |
| STH 29 WB | ROAD WORK STARTS | DATE | -- | -- | ROAD WORK STARTS | DATE | -- | -- | EXPECT DELAYS | TRAFFIC STOPPED AHEAD |
| STH 156 WEST OF OLD 29 DR | OLD 29 CLOSING | STARTING DATE | -- | -- | HWY 156 CLOSING DATE | FROM HWY 55 - HWY 29 | -- | -- | -- | -- |
| OLD 29 DR WEST OF CTH Y | OLD 29 CLOSING | STARTING DATE | -- | -- | OLD 29 CLOSING DATE | FROM HWY 156 - COUNTY Y | -- | -- | -- | -- |
| ST. AUGUSTINE RD SOUTH OF COTTONWOOD DR | ST. AUG-USTINE CLOSING | STARTING DATE | -- | -- | -- | -- | -- | -- | -- | -- |



2

N

END CONSTRUCTION
ST. AUGUSTINE RD
STA 37'A'+00.00

40'A'+00

COTTONWOOD DR

REALIGN STREAM AND CONSTRUCT GRADING AND NORTH ABUTMENT OF PROPOSED ST. AUGUSTINE RD OVERPASS FOR STRUCTURE B-58-129

300'EB'+00

EXISTING ST. AUGUSTINE RD

ST. AUGUSTINE RD

CLOSE EXISTING ST. AUGUSTINE ROAD BETWEEN COTTONWOOD DR AND STH 29 WHEN WORK REQUIRING TEMPORARY CONCRETE BARRIER ON STH 29 WB BEGINS, MAINTAIN LOCAL ACCESS FROM NORTH

WEST BRANCH OF THE SUAMICO RIVER

BEGIN CONSTRUCTION
STH 29
STA 316'EB'+50.00

CONSTRUCT GRADING AND SOUTH ABUTMENT OF PROPOSED ST. AUGUSTINE RD OVERPASS FOR STRUCTURE B-58-129

UNNAMED TRIBUTARY OF THE WEST BRANCH OF THE SUAMICO RIVER

END CONSTRUCTION
STH 29
STA 335'EB'+09.00

340'EB'+00

360'EB'+00

STH 29

380'EB'+00

400'EB'+00

STH 29/32

420'EB'+0

STH 32

EXISTING STH 156

200+00

10'T'+00

180+00

STH 156

CONSTRUCT CURVE RE-ALIGNMENT (OPTIONAL)

STA 11'T'+75 - STA 13'T'+64
TEMPORARY CONNECTION, SEE DETAIL SHEET

* CONSTRUCT B-5-435 AND RECONSTRUCT APPROACHES

220+00

ANGLE DR

BEGIN CONSTRUCTION
STH 156
STA 196+50.00

SEE PROJECT 6580-11-60
NO WORK PLANNED IN STAGE 1

ITEMS OF WORK (STAGE 1)

SHAWANO COUNTY
BROWN COUNTY

UNNAMED TRIBUTARY OF THE WEST BRANCH OF THE SUAMICO RIVER

240+00

STH 156/OLD 29 DR

MILL & OVERLAY

260+00

22'Y'+00

STH 156

* CONSTRUCT C-5-151 AND RECONSTRUCT APPROACHES

END CONSTRUCTION
STH 156
STA 12'Y'+92.00

12'Y'+00

MILL & OVERLAY

** RECONSTRUCT INTERSECTION

2'Y'+00

CTH Y

OLD 29 DR 300+00

BEGIN CONSTRUCTION
CTH Y
STA 3'Y'+17.00

END CONSTRUCTION
OLD 29 DR
STA 286+59.26

**LEGEND**

1. PLACE TRAFFIC CONTROL DEVICES PER SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES".
2. PLACE TRAFFIC CONTROL DEVICES PER SDD "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES".
3. PLACE TRAFFIC CONTROL DEVICES PER SDD "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION".
4. PLACE TRAFFIC CONTROL DEVICES PER SDD "TRAFFIC CONTROL, LANE CLOSURE" AND "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION."
5. PLACE TRAFFIC CONTROL DEVICES PER SDD "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 M.P.H.".
6. PLACE TRAFFIC CONTROL DEVICES PER SDD "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER, TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC".
7. PLACE TRAFFIC CONTROL DEVICES PER SDD "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS, TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC".

STAGE 1 CONSTRUCTION

STAGE 2 CONSTRUCTION

**NOTES**

* DO NOT CLOSE OLD 29 DR (NEW STH 156) TO LOCAL AND EMERGENCY TRAFFIC AT STRUCTURES B-5-435 AND C-5-151 AT THE SAME TIME.

** MAINTAIN ONE LANE OF TRAFFIC WITH FLAGGING ON THE NORTH, SOUTH, AND EAST LEGS OF THE STH 156/CTH Y/OLD 29 DR INTERSECTION DURING WORKING HOURS AND OPEN TWO LANES DURING NON WORKING HOURS. MAINTAIN TRAFFIC ON A MINIMUM OF BASE AGGREGATE SURFACE.

SEE TRAFFIC CONTROL TYPICAL SECTIONS AND DETAIL SHEETS FOR ADDITIONAL INFORMATION ON STH 29.

EXISTING ST. AUGUSTINE WILL REMAIN CLOSED DURING WINTER SHUTDOWN.

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | TRAFFIC CONTROL - STAGE 1 OVERVIEW | SHEET 45 | E |
|---|---|---|---|---|---|

2

N

LEGEND

1. PLACE TRAFFIC CONTROL DEVICES PER SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES".
2. PLACE TRAFFIC CONTROL DEVICES PER SDD "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES".
3. PLACE TRAFFIC CONTROL DEVICES PER SDD "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION".
4. PLACE TRAFFIC CONTROL DEVICES PER SDD "TRAFFIC CONTROL, LANE CLOSURE" AND "TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION."
5. PLACE TRAFFIC CONTROL DEVICES PER SDD "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 M.P.H.".
6. PLACE TRAFFIC CONTROL DEVICES PER SDD "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER, TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC".
7. PLACE TRAFFIC CONTROL DEVICES PER SDD "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS, TWO WAY UNDIVIDED ROAD OPEN TO TRAFFIC".

STAGE 1 CONSTRUCTION

STAGE 2 CONSTRUCTION

NOTE

SEE TRAFFIC CONTROL TYPICAL SECTIONS AND DETAIL SHEETS FOR ADDITIONAL INFORMATION ON STH 29.

END CONSTRUCTION
ST. AUGUSTINE RD
STA 37'A'+00.00

COMPLETE CONSTRUCTION OF ST. AUGUSTINE RD, REMOVAL OF EXISTING ST. AUGUSTINE RD, AND PROPOSED ST. AUGUSTINE RD OVERPASS STRUCTURE B-58-129

40'A'+00

COTTONWOOD DR

300'EB'+00

ST. AUGUSTINE RD

EXISTING ST. AUGUSTINE RD

BEGIN CONSTRUCTION
STH 29
STA 316'EB'+50.00

COMPLETE CONSTRUCTION OF ST. AUGUSTINE RD AND STH 156, REMOVAL OF EXISTING STH 156/OLD 29 DR, AND PROPOSED ST. AUGUSTINE RD OVERPASS STRUCTURE B-58-129

UNNAMED TRIBUTARY OF THE WEST BRANCH OF THE SUAMICO RIVER

COMPLETE MEDIAN GRADING, SHOULDER WORK, AND PIER FOR STRUCTURE B-58-129

WEST BRANCH OF THE SUAMICO RIVER

END CONSTRUCTION
STH 29
STA 335'EB'+09.00

340'EB'+00

360'EB'+00

STH 29

380'EB'+00

400'EB'+00

STH 29/32

420'EB'+0

STH 32

EXISTING STH 156

200+00

180+00

STH 156

MAINTAIN DRIVEWAY ACCESS ON A MINIMUM OF BASE AGGREGATE DURING CONSTRUCTION

BEGIN CONSTRUCTION
STH 156
STA 196+50.00

SEE PROJECT 6580-11-60

220+00

ANGLE DR

UNNAMED TRIBUTARY OF THE WEST BRANCH OF THE SUAMICO RIVER

240+00

STH 156/OLD 29 DR

260+00

22'Y'+00

STH 156

END CONSTRUCTION
STH 156
STA 12'Y'+92.00

12'Y'+00

SHAWANO COUNTY
BROWN COUNTY

ITEMS OF WORK (STAGE 2)

ITEMS OF WORK (STAGE 3 - NOT SHOWN)

2'Y'+00

CTH Y

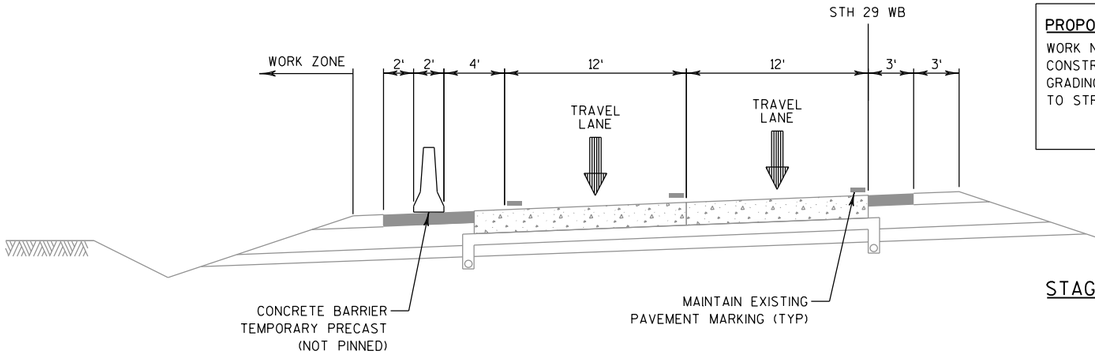
BEGIN CONSTRUCTION
CTH Y
STA 3'Y'+17.00

OLD 29 DR

300+00

END CONSTRUCTION
OLD 29 DR
STA 286+59.26

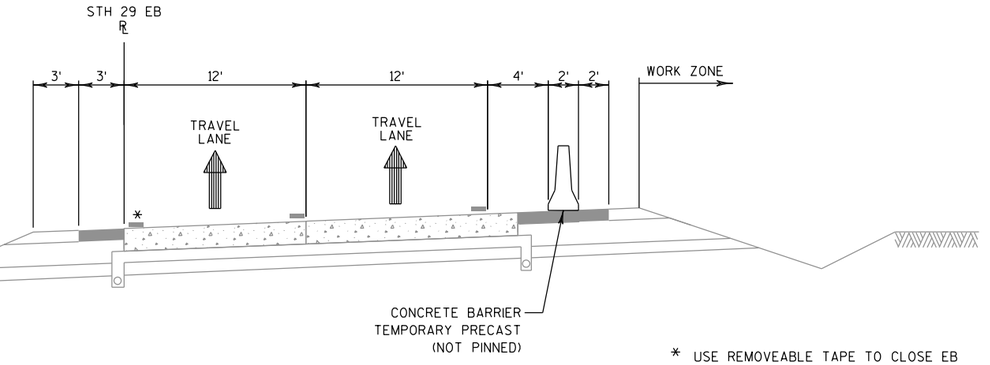
| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | TRAFFIC CONTROL - STAGE 2 OVERVIEW | SHEET 46 | E |
|---|---|---|---|---|---|



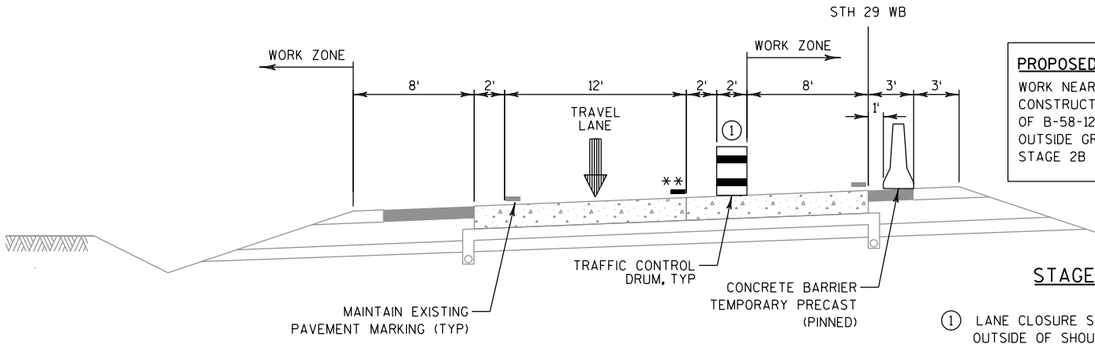

**PROPOSED WORK STAGE 1**

WORK NEAR STH 29:
CONSTRUCT ABUTMENTS AND GRADING FOR ROADWAY APPROACHES TO STRUCTURE B-58-129

STAGE 1 TYPICAL SECTION
STH 29




* USE REMOVEABLE TAPE TO CLOSE EB LEFT TURN LANE AT ST. AUGUSTINE RD

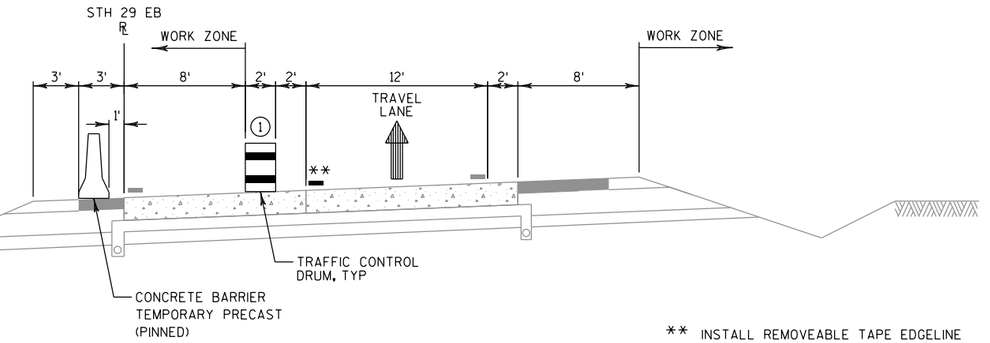



**PROPOSED WORK STAGES 2A & 2B**

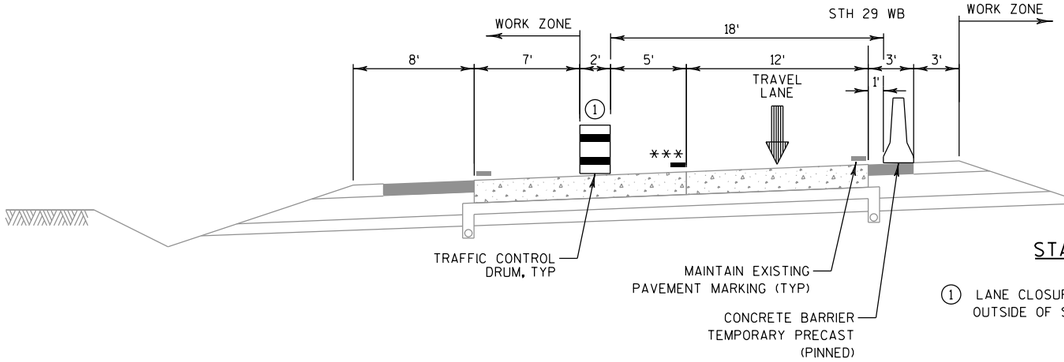
WORK NEAR STH 29:
CONSTRUCT PIER AND SUPER STRUCTURE OF B-58-129, COMPLETE MEDIAN AND OUTSIDE GRADING AND SHOULDER WORK IN STAGE 2B OR 3

STAGE 2A TYPICAL SECTION
STH 29

① LANE CLOSURE SHOWN, PLACE TRAFFIC CONTROL DRUMS OUTSIDE OF SHOULDER WHILE LANE IS OPEN TO TRAFFIC

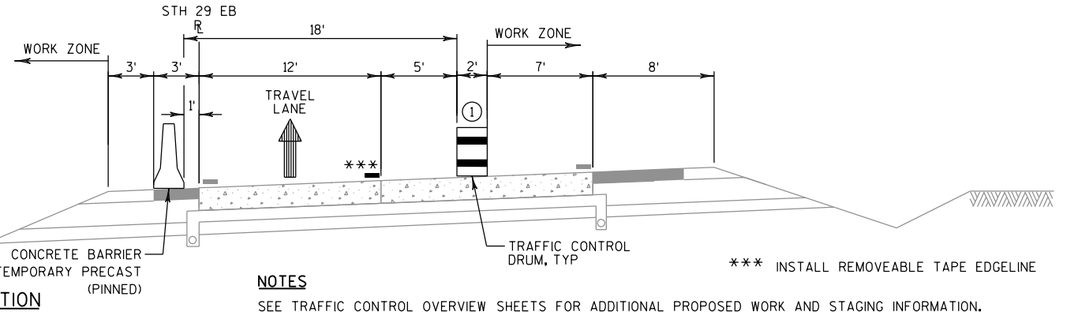



** INSTALL REMOVEABLE TAPE EDGELINE




STAGE 2B TYPICAL SECTION
STH 29

① LANE CLOSURE SHOWN, PLACE TRAFFIC CONTROL DRUMS OUTSIDE OF SHOULDER WHILE LANE IS OPEN TO TRAFFIC




*** INSTALL REMOVEABLE TAPE EDGELINE

**NOTES**

SEE TRAFFIC CONTROL OVERVIEW SHEETS FOR ADDITIONAL PROPOSED WORK AND STAGING INFORMATION.

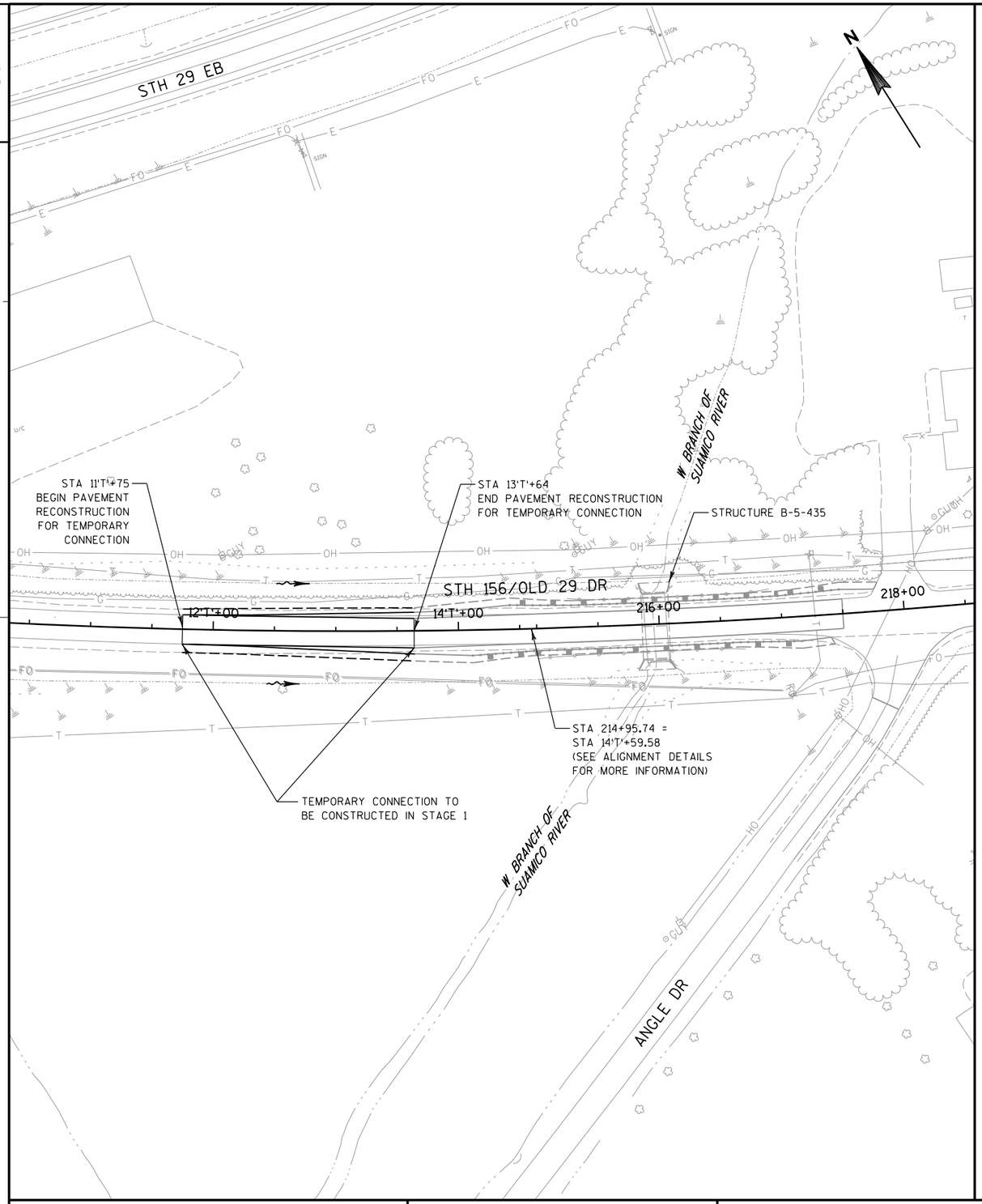
DURING WINTER SHUTDOWN BETWEEN STAGE 1 AND STAGE 2, REMOVE CONCRETE BARRIER TEMPORARY PRECAST FROM STH 29 AND FULLY OPEN OUTSIDE SHOULDERS. ENSURE THE EXISTING CLEAR ZONE (34') ON STH 29 IS CLEAR OF ALL HAZARDS DURING WINTER SHUTDOWN.

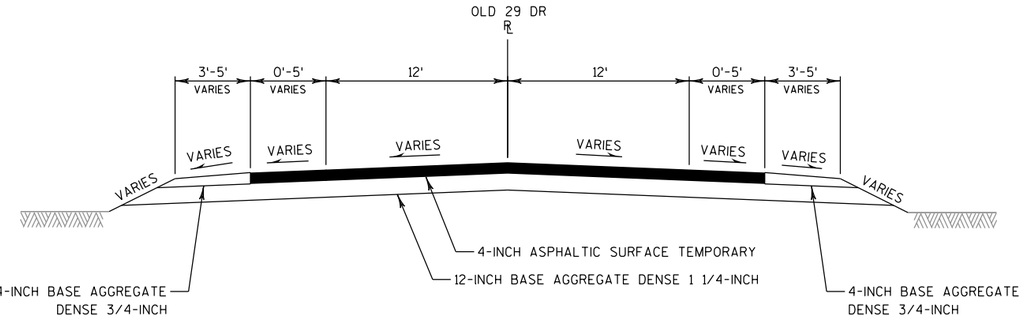
DO NOT REMOVE THE TEMPORARY PRECAST BARRIER IN STAGE 2A/2B UNTIL THE NEW GUARDRAIL IS IN PLACE TO PROTECT THE PIER.

STAGE 3:
UPON COMPLETION OF B-58-129 PIER AND ABUTMENTS, SHOULDER RECONSTRUCTION ON STH 29 MAY BE COMPLETED UNDER LANE CLOSURES AND SHOULDER CLOSURES UTILIZING TRAFFIC CONTROL DRUMS INSTEAD OF TEMPORARY PRECAST CONCRETE BARRIER. SEE SDD "TRAFFIC CONTROL, LANE CLOSURE" AND SDD "TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 M.P.H.".

TYPICAL SECTION FOR STAGE 3 OR OTHER WORK REQUIRING SHORT TERM SINGLE LANE CLOSURES ON STH 29 NOT SHOWN. MAINTAIN AT LEAST ONE LANE IN EACH DIRECTION ON STH 29 WITH 18-FEET CLEAR DURING SHOULDER WORK.

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | TRAFFIC CONTROL - TYPICAL SECTIONS | SHEET 47 | E |
|---|---|---|---|---|---|




TYPICAL FINISHED SECTION
OLD 29 DR
TEMPORARY CONNECTION
STA 11'T'+75 - STA 13'T'+64

NOTES

CONSTRUCT TEMPORARY CONNECTION PRIOR TO OPENING OLD 29 DRIVE THROUGH TO TRAFFIC AFTER STAGE 1 WORK IS COMPLETE

SEE CROSS SECTIONS FOR ADDITIONAL INFORMATION

USE EROSION CONTROL ITEMS PROVIDED IN CONTRACT TO INSTALL EROSION MAT AND DITCH CHECKS AS NECESSARY FOR THIS TEMPORARY CONNECTION

2

2

S.T. AUGUSTINE RD

24'A'+00

22'A'+00

20'A'+00

18'A'+00

16'A'+00

EXISTING ST. AUGUSTINE RD

14'S+00

12'S+00

10'S+00

8'S+00

6'S+00

6'T'+00

EXISTING STH 156

STH 29 WB

STH 29 EB

316'EB'+00

318'EB'+00

320'EB'+00

322'EB'+00

324'EB'+00

326'EB'+00

328'EB'+00

330'EB'+00

+85

+35

+00

+60

50'

ROAD CLOSED
R11-2
48" X 30"

R3-1
36" X 36"

R3-2
36" X 36"

LANE CLOSED
R11-2(MOD)
48" X 30"

DIVIDED HIGHWAY
R6-3A
30" X 24"
(REMOVE OR COVER EXISTING R6-3 WITH R6-3A)

EXISTING OLD 29 DR

ROAD CLOSED TO THRU TRAFFIC
R11-4
60" X 30"

LEGEND

- TRAFFIC FLOW ARROW
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL BARRICADE TYPE III WITH/WITHOUT SIGN
- TRAFFIC CONTROL SIGN
- CONCRETE BARRIER TEMPORARY PRECAST
- CRASH CUSHION TEMPORARY
- WORK ZONE
- SEE TRAFFIC CONTROL - STAGE 1 OVERVIEW FOR ADVANCE WARNING AND ADDITIONAL TRAFFIC CONTROL DEVICES REQ'D

NOTES

REMOVE ANY EXISITNG SIGNING CONFLICTING WITH STAGE CLOSURES

SEE MISC QTYS AND STH 29 TRAFFIC TYPICAL SECTIONS FOR ANY TEMPORARY PAVEMENT MARKING

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | TRAFFIC CONTROL DETAIL - STH 29 - STAGE 1 | SHEET 49 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\025010_tc.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:100

2

2

N

ST. AUGUSTINE RD

EXISTING ST. AUGUSTINE RD

ROAD CLOSED
R11-2
48" X 30"

R3-2
36" X 36"

R3-1
36" X 36"

R3-1
36" X 36"

R3-2
36" X 36"

STH 29 WB

STH 29 EB

EXISTING STH 156

EXISTING OLD 29 DR

316'EB'+00

318'EB'+00

320'EB'+00

322'EB'+00

324'EB'+00

326'EB'+00

328'EB'+00

330'EB'+00

100' TYP

50' TYP

LEGEND

- TRAFFIC FLOW ARROW
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL BARRICADE TYPE III WITH/WITHOUT SIGN
- TRAFFIC CONTROL SIGN
- CONCRETE BARRIER TEMPORARY PRECAST
- CRASH CUSHION TEMPORARY
- WORK ZONE
- SEE TRAFFIC CONTROL - STAGE 2 OVERVIEW FOR ADVANCE WARNING AND ADDITIONAL TRAFFIC CONTROL DEVICES REQ'D

NOTES

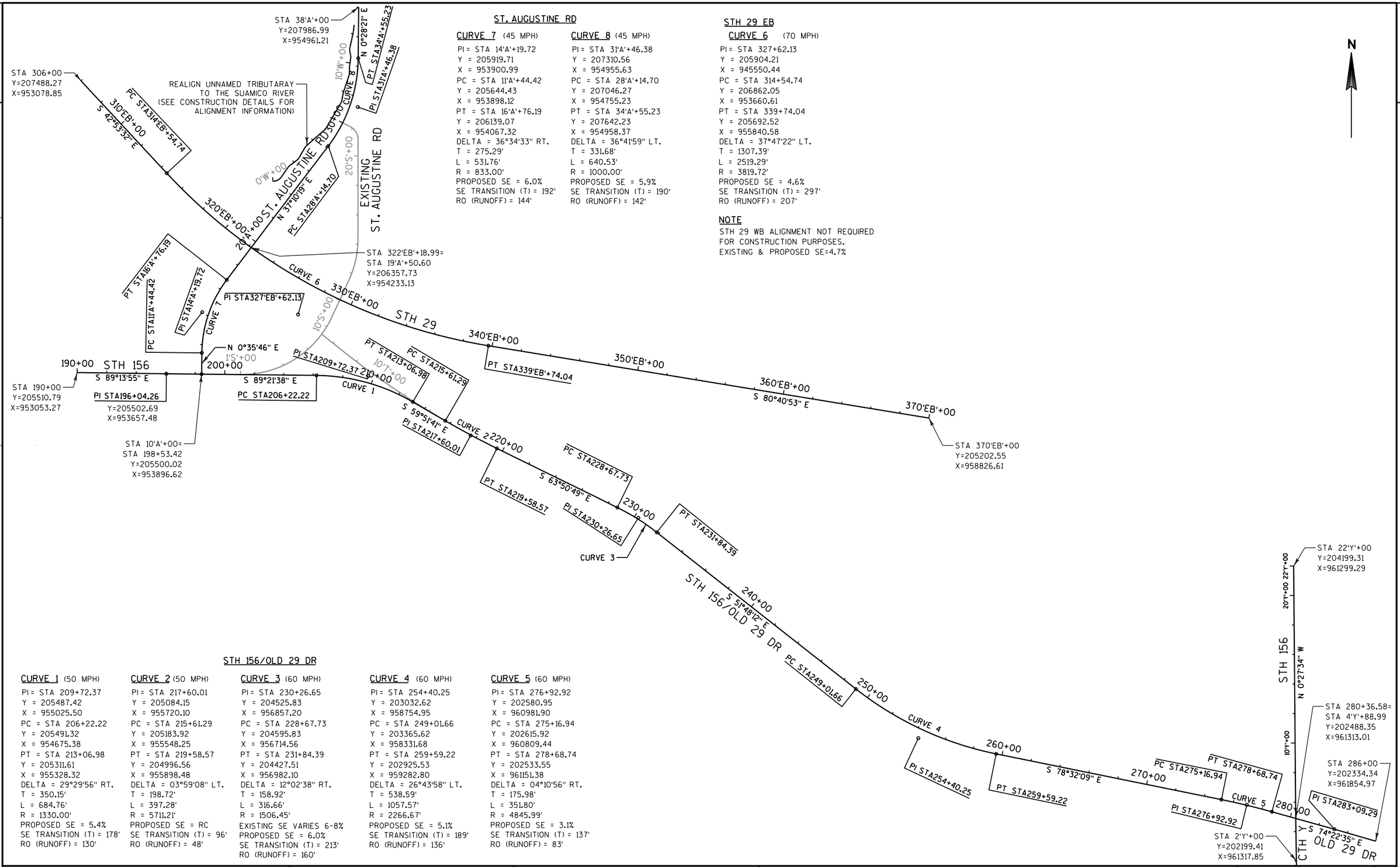
TRAFFIC CONTROL DETAIL FOR STAGE 2B NOT SHOWN. WORK ZONE AND CONCRETE BARRIER TEMPORARY PRECAST LOCATION TO REMAIN AS SHOWN IN STAGE 2A. SEE TRAFFIC CONTROL TYPICAL SECTIONS FOR TRAFFIC LANE, DRUM LOCATION, AND ADDITIONAL STAGE 2B INFORMATION.

MAINTAIN A MINIMUM OF 16' CLEAR WIDTH FOR EACH DIRECTION OF STH 29 TRAFFIC AT ALL TIMES.

REMOVE ANY EXISITNG SIGNING CONFLICTING WITH STAGE CLOSURES

SEE MISC OTYS AND STH 29 TRAFFIC TYPICAL SECTIONS FOR ANY TEMPORARY PAVEMENT MARKING

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | TRAFFIC CONTROL DETAIL - STH 29 - STAGE 2A | SHEET 50 | E |
|---|---|---|---|---|---|




## ST. AUGUSTINE RD

**CURVE 7** (45 MPH)
PI = STA 14'A'+19.72
Y = 205919.71
X = 953900.99
PC = STA 11'A'+44.42
Y = 205644.43
X = 953898.12
PT = STA 16'A'+76.19
Y = 206139.07
X = 954067.32
DELTA = 36°34'33" RT.
T = 275.29'
L = 531.76'
R = 833.00'
PROPOSED SE = 6.0%
SE TRANSITION (T) = 192'
RO (RUNOFF) = 144'

**CURVE 8** (45 MPH)
PI = STA 31'A'+46.38
Y = 207310.56
X = 954955.63
PC = STA 28'A'+14.70
Y = 207046.27
X = 954755.23
PT = STA 34'A'+55.23
Y = 207642.23
X = 954958.37
DELTA = 36°41'59" LT.
T = 331.68'
L = 640.53'
R = 1000.00'
PROPOSED SE = 5.9%
SE TRANSITION (T) = 190'
RO (RUNOFF) = 142'

## STH 29 EB

**CURVE 6** (70 MPH)
PI = STA 327+62.13
Y = 205904.21
X = 945550.44
PC = STA 314+54.74
Y = 206862.05
X = 953660.61
PT = STA 339+74.04
Y = 205692.52
X = 955840.58
DELTA = 37°47'22" LT.
T = 1307.39'
L = 2519.29'
R = 3819.72'
PROPOSED SE = 4.6%
SE TRANSITION (T) = 297'
RO (RUNOFF) = 207'

**NOTE**
STH 29 WB ALIGNMENT NOT REQUIRED
FOR CONSTRUCTION PURPOSES.
EXISTING & PROPOSED SE=4.7%

## STH 156/OLD 29 DR

**CURVE 1** (50 MPH)
PI = STA 209+72.37
Y = 205487.42
X = 955025.50
PC = STA 206+22.22
Y = 205491.32
X = 954675.38
PT = STA 213+06.98
Y = 205311.61
X = 955328.32
DELTA = 29°29'56" RT.
T = 350.15'
L = 684.76'
R = 1330.00'
PROPOSED SE = 5.4%
SE TRANSITION (T) = 178'
RO (RUNOFF) = 130'

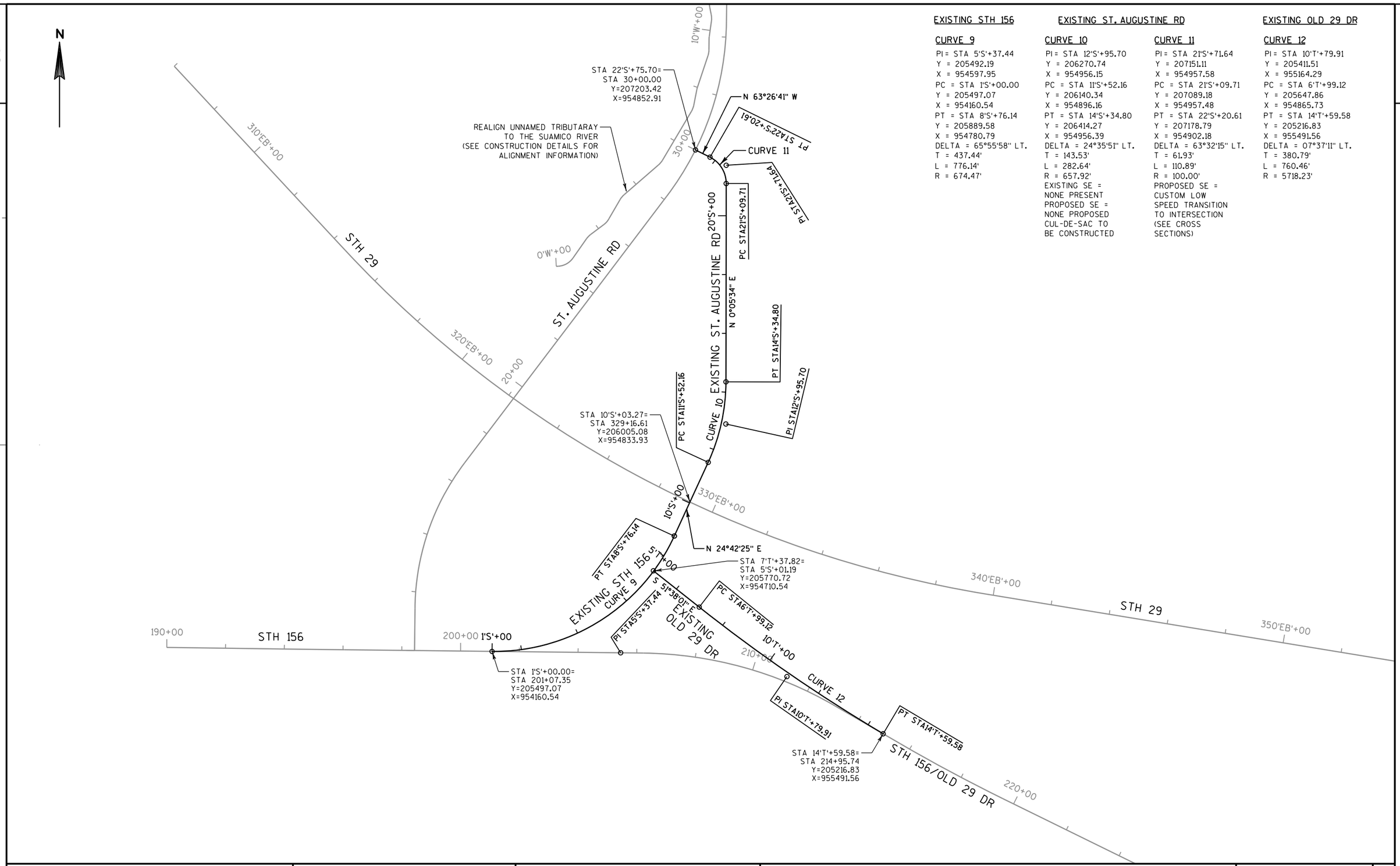
**CURVE 2** (50 MPH)
PI = STA 217+60.01
Y = 205084.15
X = 955720.10
PC = STA 215+61.29
Y = 205183.92
X = 955548.25
PT = STA 219+58.57
Y = 204996.56
X = 955898.48
DELTA = 03°59'08" LT.
T = 198.72'
L = 397.28'
R = 5711.21'
PROPOSED SE = RC
SE TRANSITION (T) = 96'
RO (RUNOFF) = 48'

**CURVE 3** (60 MPH)
PI = STA 230+26.65
Y = 204525.83
X = 956857.20
PC = STA 228+67.73
Y = 204595.83
X = 956714.56
PT = STA 231+84.39
Y = 204427.51
X = 956982.10
DELTA = 12°02'38" RT.
T = 158.92'
L = 316.66'
R = 1506.45'
EXISTING SE VARIES 6-8%
PROPOSED SE = 6.0%
SE TRANSITION (T) = 213'
RO (RUNOFF) = 160'

**CURVE 4** (60 MPH)
PI = STA 254+40.25
Y = 203032.62
X = 958754.95
PC = STA 249+01.66
Y = 203365.62
X = 958331.68
PT = STA 259+59.22
Y = 202925.53
X = 959282.80
DELTA = 26°43'58" LT.
T = 538.59'
L = 1057.57'
R = 2266.67'
PROPOSED SE = 5.1%
SE TRANSITION (T) = 189'
RO (RUNOFF) = 136'

**CURVE 5** (60 MPH)
PI = STA 276+92.92
Y = 202580.95
X = 960981.90
PC = STA 275+16.94
Y = 202615.92
X = 960809.44
PT = STA 278+68.74
Y = 202533.55
X = 961151.38
DELTA = 04°10'56" RT.
T = 175.98'
L = 351.80'
R = 4845.99'
PROPOSED SE = 3.1%
SE TRANSITION (T) = 137'
RO (RUNOFF) = 83'

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | ALIGNMENT DETAIL | SHEET 51 | E |
|---|---|---|---|---|---|




**EXISTING STH 156**

**CURVE 9**

PI = STA 5'S'+37.44
Y = 205492.19
X = 954597.95
PC = STA 1'S'+00.00
Y = 205497.07
X = 954160.54
PT = STA 8'S'+76.14
Y = 205889.58
X = 954780.79
DELTA = 65°55'58" LT.
T = 437.44'
L = 776.14'
R = 674.47'

**EXISTING ST. AUGUSTINE RD**

**CURVE 10**

PI = STA 12'S'+95.70
Y = 206270.74
X = 954956.15
PC = STA 11'S'+52.16
Y = 206140.34
X = 954896.16
PT = STA 14'S'+34.80
Y = 206414.27
X = 954956.39
DELTA = 24°35'51" LT.
T = 143.53'
L = 282.64'
R = 657.92'
EXISTING SE =
NONE PRESENT
PROPOSED SE =
NONE PROPOSED
CUL-DE-SAC TO
BE CONSTRUCTED

**CURVE 11**

PI = STA 21'S'+71.64
Y = 207151.11
X = 954957.58
PC = STA 21'S'+09.71
Y = 207089.18
X = 954957.48
PT = STA 22'S'+20.61
Y = 207178.79
X = 954902.18
DELTA = 63°32'15" LT.
T = 61.93'
L = 110.89'
R = 100.00'
PROPOSED SE =
CUSTOM LOW
SPEED TRANSITION
TO INTERSECTION
(SEE CROSS
SECTIONS)

**EXISTING OLD 29 DR**

**CURVE 12**

PI = STA 10'T'+79.91
Y = 205411.51
X = 955164.29
PC = STA 6'T'+99.12
Y = 205647.86
X = 954865.73
PT = STA 14'T'+59.58
Y = 205216.83
X = 955491.56
DELTA = 07°37'11" LT.
T = 380.79'
L = 760.46'
R = 5718.23'

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | ALIGNMENT DETAIL | SHEET 52 | E |
|---|---|---|---|---|---|

1058-25-70

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 0010 | 201.0105 | Clearing | STA | 18.000 | 18.000 |
| 0020 | 201.0205 | Grubbing | STA | 18.000 | 18.000 |
| 0030 | 203.0100 | Removing Small Pipe Culverts | EACH | 13.000 | 13.000 |
| 0040 | 203.0600.S | Removing Old Structure Over Waterway With Minimal Debris (station) 01. 215+97.00 | LS | 1.000 | 1.000 |
| 0050 | 203.0600.S | Removing Old Structure Over Waterway With Minimal Debris (station) 02. 257+35.00 | LS | 1.000 | 1.000 |
| 0070 | 204.0100 | Removing Pavement | SY | 7,330.000 | 7,330.000 |
| 0080 | 204.0110 | Removing Asphaltic Surface | SY | 300.000 | 300.000 |
| 0090 | 204.0115 | Removing Asphaltic Surface Butt Joints | SY | 12.000 | 12.000 |
| 0100 | 204.0125 | Removing Asphaltic Surface Milling | TON | 1,530.000 | 1,530.000 |
| 0110 | 204.0150 | Removing Curb & Gutter | LF | 415.000 | 415.000 |
| 0120 | 204.0180 | Removing Delineators and Markers | EACH | 8.000 | 8.000 |
| 0130 | 204.0235 | Removing Buildings (parcel) 01. Parcel 13 | LS | 1.000 | 1.000 |
| 0140 | 204.0240 | Site Clearance (parcel) 01. Parcel 13 | LS | 1.000 | 1.000 |
| 0150 | 205.0100 | Excavation Common | CY | 54,292.000 | 54,292.000 |
| 0160 | 206.1000 | Excavation for Structures Bridges (structure) 01. B-58-0129 | LS | 1.000 | 1.000 |
| 0170 | 206.2000 | Excavation for Structures Culverts (structure) 01. B-05-0435 | LS | 1.000 | 1.000 |
| 0180 | 206.2000 | Excavation for Structures Culverts (structure) 02. C-05-0151 | LS | 1.000 | 1.000 |
| 0200 | 208.0100 | Borrow | CY | 125,710.000 | 125,710.000 |
| 0210 | 208.1100 | Select Borrow | CY | 21,633.000 | 21,633.000 |
| 0230 | 210.1500 | Backfill Structure Type A | TON | 1,554.000 | 1,554.000 |
| 0240 | 210.2500 | Backfill Structure Type B | TON | 605.000 | 605.000 |
| 0250 | 211.0100 | Prepare Foundation for Asphaltic Paving (project) 01. 1058-25-70 | LS | 1.000 | 1.000 |
| 0270 | 211.0400 | Prepare Foundation for Asphaltic Shoulders | STA | 108.000 | 108.000 |
| 0280 | 213.0100 | Finishing Roadway (project) 01. 1058-25-70 | EACH | 1.000 | 1.000 |
| 0300 | 305.0110 | Base Aggregate Dense 3/4-Inch | TON | 4,530.000 | 4,530.000 |
| 0310 | 305.0120 | Base Aggregate Dense 1 1/4-Inch | TON | 23,260.000 | 23,260.000 |
| 0320 | 305.0500 | Shaping Shoulders | STA | 18.000 | 18.000 |
| 0330 | 311.0110 | Breaker Run | TON | 260.000 | 260.000 |
| 0340 | 312.0110 | Select Crushed Material | TON | 120.000 | 120.000 |
| 0350 | 405.0100 | Coloring Concrete WisDOT Red | CY | 160.000 | 160.000 |
| 0360 | 416.0512 | Concrete Truck Apron 12-Inch | SY | 480.000 | 480.000 |
| 0370 | 416.0610 | Drilled Tie Bars | EACH | 14.000 | 14.000 |
| 0380 | 416.1010 | Concrete Surface Drains | CY | 6.000 | 6.000 |
| 0390 | 440.4410 | Incentive IRI Ride | DOL | 8,860.000 | 8,860.000 |
| 0400 | 450.4000 | HMA Cold Weather Paving | TON | 5,365.000 | 5,365.000 |

1058-25-70

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 0410 | 455.0605 | Tack Coat | GAL | 4,040.000 | 4,040.000 |
| 0420 | 460.2000 | Incentive Density HMA Pavement | DOL | 6,360.000 | 6,360.000 |
| 0430 | 460.5223 | HMA Pavement 3 LT 58-28 S | TON | 4,845.000 | 4,845.000 |
| 0440 | 460.5224 | HMA Pavement 4 LT 58-28 S | TON | 5,080.000 | 5,080.000 |
| 0460 | 465.0120 | Asphaltic Surface Driveways and Field Entrances | TON | 65.000 | 65.000 |
| 0470 | 465.0125 | Asphaltic Surface Temporary | TON | 150.000 | 150.000 |
| 0480 | 465.0315 | Asphaltic Flumes | SY | 80.000 | 80.000 |
| 0490 | 465.0400 | Asphaltic Shoulder Rumble Strips | LF | 3,895.000 | 3,895.000 |
| 0500 | 502.0100 | Concrete Masonry Bridges | CY | 525.000 | 525.000 |
| 0510 | 502.3200 | Protective Surface Treatment | SY | 733.000 | 733.000 |
| 0520 | 502.3210 | Pigmented Surface Sealer | SY | 209.000 | 209.000 |
| 0530 | 503.0155 | Prestressed Girder Type I 54W-Inch | LF | 860.000 | 860.000 |
| 0540 | 504.0100 | Concrete Masonry Culverts | CY | 230.000 | 230.000 |
| 0550 | 505.0400 | Bar Steel Reinforcement HS Structures | LB | 37,910.000 | 37,910.000 |
| 0560 | 505.0600 | Bar Steel Reinforcement HS Coated Structures | LB | 84,410.000 | 84,410.000 |
| 0570 | 506.2605 | Bearing Pads Elastomeric Non-Laminated | EACH | 16.000 | 16.000 |
| 0580 | 506.4000 | Steel Diaphragms (structure) 01. B-58-0129 | EACH | 12.000 | 12.000 |
| 0590 | 511.1200 | Temporary Shoring (structure) 01. B-58-0129 | SF | 1,720.000 | 1,720.000 |
| 0600 | 516.0500 | Rubberized Membrane Waterproofing | SY | 56.000 | 56.000 |
| 0610 | 521.0118 | Culvert Pipe Corrugated Steel 18-Inch | LF | 74.000 | 74.000 |
| 0620 | 521.0124 | Culvert Pipe Corrugated Steel 24-Inch | LF | 210.000 | 210.000 |
| 0630 | 521.0757 | Pipe Arch Corrugated Steel 57x38-Inch | LF | 200.000 | 200.000 |
| 0640 | 521.1012 | Apron Endwalls for Culvert Pipe Steel 12-Inch | EACH | 2.000 | 2.000 |
| 0650 | 521.1257 | Apron Endwalls for Pipe Arch Steel 57x38-Inch | EACH | 4.000 | 4.000 |
| 0660 | 521.1518 | Apron Endwalls for Culvert Pipe Sloped Side Drains Steel 18-Inch 6 to 1 | EACH | 4.000 | 4.000 |
| 0670 | 521.1524 | Apron Endwalls for Culvert Pipe Sloped Side Drains Steel 24-Inch 6 to 1 | EACH | 10.000 | 10.000 |
| 0680 | 522.0124 | Culvert Pipe Reinforced Concrete Class III 24-Inch | LF | 142.000 | 142.000 |
| 0690 | 522.0324 | Culvert Pipe Reinforced Concrete Class IV 24-Inch | LF | 168.000 | 168.000 |
| 0710 | 522.1012 | Apron Endwalls for Culvert Pipe Reinforced Concrete 12-Inch | EACH | 1.000 | 1.000 |
| 0720 | 522.1024 | Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch | EACH | 4.000 | 4.000 |
| 0740 | 523.0424 | Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 24x38-Inch | LF | 258.000 | 258.000 |
| 0750 | 523.0524 | Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 24x38-Inch | EACH | 4.000 | 4.000 |
| 0760 | 550.0500 | Pile Points | EACH | 16.000 | 16.000 |
| 0770 | 550.1120 | Piling Steel HP 12-Inch X 53 Lb | LF | 560.000 | 560.000 |
| 0780 | 601.0557 | Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D | LF | 351.000 | 351.000 |

1058-25-70

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 0790 | 601.0582 | Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type T | LF | 595.000 | 595.000 |
| 0800 | 603.8000 | Concrete Barrier Temporary Precast Delivered | LF | 2,675.000 | 2,675.000 |
| 0810 | 603.8125 | Concrete Barrier Temporary Precast Installed | LF | 2,675.000 | 2,675.000 |
| 0820 | 604.0500 | Slope Paving Crushed Aggregate | SY | 345.000 | 345.000 |
| 0830 | 606.0100 | Riprap Light | CY | 250.000 | 250.000 |
| 0840 | 606.0200 | Riprap Medium | CY | 10.000 | 10.000 |
| 0850 | 606.0300 | Riprap Heavy | CY | 90.000 | 90.000 |
| 0860 | 608.0412 | Storm Sewer Pipe Reinforced Concrete Class IV 12-Inch | LF | 42.000 | 42.000 |
| 0870 | 611.0652 | Inlet Covers Type T | EACH | 2.000 | 2.000 |
| 0880 | 611.3225 | Inlets 2x2.5-FT | EACH | 2.000 | 2.000 |
| 0890 | 612.0206 | Pipe Underdrain Unperforated 6-Inch | LF | 45.000 | 45.000 |
| 0900 | 612.0212 | Pipe Underdrain Unperforated 12-Inch | LF | 167.000 | 167.000 |
| 0910 | 612.0406 | Pipe Underdrain Wrapped 6-Inch | LF | 190.000 | 190.000 |
| 0920 | 612.0700 | Drain Tile Exploration | LF | 710.000 | 710.000 |
| 0930 | 612.0806 | Apron Endwalls for Underdrain Reinforced Concrete 6-Inch | EACH | 5.000 | 5.000 |
| 0940 | 614.0150 | Anchor Assemblies for Steel Plate Beam Guard | EACH | 4.000 | 4.000 |
| 0950 | 614.0220 | Steel Thrie Beam Bullnose Terminal | EACH | 2.000 | 2.000 |
| 0960 | 614.0230 | Steel Thrie Beam | LF | 125.000 | 125.000 |
| 0970 | 614.0305 | Steel Plate Beam Guard Class A | LF | 37.500 | 37.500 |
| 0980 | 614.0340 | Steel Plate Beam Guard Over Low-Fill Culverts Class A | LF | 100.000 | 100.000 |
| 0990 | 614.0345 | Steel Plate Beam Guard Short Radius | LF | 35.000 | 35.000 |
| 1000 | 614.0370 | Steel Plate Beam Guard Energy Absorbing Terminal | EACH | 1.000 | 1.000 |
| 1010 | 614.0390 | Steel Plate Beam Guard Short Radius Terminal | EACH | 1.000 | 1.000 |
| 1020 | 614.0397 | Guardrail Mow Strip Emulsified Asphalt | SY | 126.000 | 126.000 |
| 1030 | 614.0905 | Crash Cushions Temporary | EACH | 4.000 | 4.000 |
| 1040 | 614.0920 | Salvaged Rail | LF | 615.000 | 615.000 |
| 1050 | 614.0925 | Salvaged Guardrail End Treatments | EACH | 8.000 | 8.000 |
| 1060 | 614.2300 | MGS Guardrail 3 | LF | 275.000 | 275.000 |
| 1070 | 614.2340 | MGS Guardrail 3 L | LF | 337.500 | 337.500 |
| 1080 | 614.2500 | MGS Thrie Beam Transition | LF | 157.600 | 157.600 |
| 1090 | 614.2610 | MGS Guardrail Terminal EAT | EACH | 12.000 | 12.000 |
| 1100 | 616.0700.S | Fence Safety | LF | 150.000 | 150.000 |
| 1110 | 618.0100 | Maintenance And Repair of Haul Roads (project) 01. 1058-25-70 | EACH | 1.000 | 1.000 |
| 1130 | 619.1000 | Mobilization | EACH | 0.850 | 0.850 |
| 1140 | 620.0300 | Concrete Median Sloped Nose | SF | 180.000 | 180.000 |
| 1160 | 623.0200 | Dust Control Surface Treatment | SY | 30,000.000 | 30,000.000 |
| 1170 | 624.0100 | Water | MGAL | 950.000 | 950.000 |

1058-25-70

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 1180 | 625.0100 | Topsoil | SY | 7,450.000 | 7,450.000 |
| 1190 | 625.0500 | Salvaged Topsoil | SY | 111,050.000 | 111,050.000 |
| 1200 | 627.0200 | Mulching | SY | 40,525.000 | 40,525.000 |
| 1210 | 628.1504 | Silt Fence | LF | 11,000.000 | 11,000.000 |
| 1220 | 628.1520 | Silt Fence Maintenance | LF | 11,000.000 | 11,000.000 |
| 1230 | 628.1905 | Mobilizations Erosion Control | EACH | 15.000 | 15.000 |
| 1240 | 628.1910 | Mobilizations Emergency Erosion Control | EACH | 10.000 | 10.000 |
| 1250 | 628.2004 | Erosion Mat Class I Type B | SY | 64,150.000 | 64,150.000 |
| 1260 | 628.2008 | Erosion Mat Urban Class I Type B | SY | 5,025.000 | 5,025.000 |
| 1270 | 628.2027 | Erosion Mat Class II Type C | SY | 3,200.000 | 3,200.000 |
| 1280 | 628.5505 | Polyethylene Sheeting | SY | 9,000.000 | 9,000.000 |
| 1290 | 628.6510 | Soil Stabilizer Type B | ACRE | 9.000 | 9.000 |
| 1300 | 628.7005 | Inlet Protection Type A | EACH | 5.000 | 5.000 |
| 1310 | 628.7020 | Inlet Protection Type D | EACH | 3.000 | 3.000 |
| 1320 | 628.7504 | Temporary Ditch Checks | LF | 1,500.000 | 1,500.000 |
| 1330 | 628.7555 | Culvert Pipe Checks | EACH | 70.000 | 70.000 |
| 1340 | 628.7560 | Tracking Pads | EACH | 4.000 | 4.000 |
| 1350 | 628.7570 | Rock Bags | EACH | 250.000 | 250.000 |
| 1360 | 629.0210 | Fertilizer Type B | CWT | 65.000 | 65.000 |
| 1370 | 630.0120 | Seeding Mixture No. 20 | LB | 1,750.000 | 1,750.000 |
| 1380 | 630.0130 | Seeding Mixture No. 30 | LB | 725.000 | 725.000 |
| 1390 | 630.0140 | Seeding Mixture No. 40 | LB | 20.000 | 20.000 |
| 1400 | 630.0160 | Seeding Mixture No. 60 | LB | 75.000 | 75.000 |
| 1410 | 630.0200 | Seeding Temporary | LB | 300.000 | 300.000 |
| 1420 | 630.0300 | Seeding Borrow Pit | LB | 700.000 | 700.000 |
| 1430 | 631.0300 | Sod Water | MGAL | 400.000 | 400.000 |
| 1440 | 633.0100 | Delineator Posts Steel | EACH | 8.000 | 8.000 |
| 1450 | 633.0500 | Delineator Reflectors | EACH | 8.000 | 8.000 |
| 1460 | 633.5200 | Markers Culvert End | EACH | 12.000 | 12.000 |
| 1470 | 634.0612 | Posts Wood 4x6-Inch X 12-FT | EACH | 3.000 | 3.000 |
| 1480 | 634.0616 | Posts Wood 4x6-Inch X 16-FT | EACH | 15.000 | 15.000 |
| 1490 | 634.0618 | Posts Wood 4x6-Inch X 18-FT | EACH | 37.000 | 37.000 |
| 1500 | 634.0620 | Posts Wood 4x6-Inch X 20-FT | EACH | 17.000 | 17.000 |
| 1510 | 634.0805 | Posts Tubular Steel 2x2-Inch X 5-FT | EACH | 1.000 | 1.000 |
| 1520 | 634.0811 | Posts Tubular Steel 2x2-Inch X 11-FT | EACH | 2.000 | 2.000 |
| 1530 | 635.0200 | Sign Supports Structural Steel HS | LB | 4,550.000 | 4,550.000 |
| 1540 | 636.0100 | Sign Supports Concrete Masonry | CY | 6.400 | 6.400 |
| 1550 | 636.0500 | Sign Supports Steel Reinforcement | LB | 392.000 | 392.000 |
| 1560 | 637.1220 | Signs Type I Reflective SH | SF | 1,048.000 | 1,048.000 |
| 1570 | 637.2210 | Signs Type II Reflective H | SF | 514.680 | 514.680 |

1058-25-70

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 1580 | 637.2220 | Signs Type II Reflective SH | SF | 6.750 | 6.750 |
| 1590 | 637.2230 | Signs Type II Reflective F | SF | 108.500 | 108.500 |
| 1600 | 638.2102 | Moving Signs Type II | EACH | 4.000 | 4.000 |
| 1610 | 638.2601 | Removing Signs Type I | EACH | 4.000 | 4.000 |
| 1620 | 638.2602 | Removing Signs Type II | EACH | 56.000 | 56.000 |
| 1630 | 638.3000 | Removing Small Sign Supports | EACH | 68.000 | 68.000 |
| 1640 | 638.3100 | Removing Structural Steel Sign Supports | EACH | 8.000 | 8.000 |
| 1650 | 642.5201 | Field Office Type C | EACH | 1.000 | 1.000 |
| 1660 | 643.0100 | Traffic Control (project) 01. 1058-25-70 | EACH | 1.000 | 1.000 |
| 1680 | 643.0300 | Traffic Control Drums | DAY | 31,550.000 | 31,550.000 |
| 1690 | 643.0420 | Traffic Control Barricades Type III | DAY | 13,015.000 | 13,015.000 |
| 1700 | 643.0705 | Traffic Control Warning Lights Type A | DAY | 18,190.000 | 18,190.000 |
| 1710 | 643.0715 | Traffic Control Warning Lights Type C | DAY | 5,500.000 | 5,500.000 |
| 1720 | 643.0800 | Traffic Control Arrow Boards | DAY | 880.000 | 880.000 |
| 1730 | 643.0900 | Traffic Control Signs | DAY | 22,090.000 | 22,090.000 |
| 1740 | 643.1050 | Traffic Control Signs PCMS | DAY | 585.000 | 585.000 |
| 1770 | 645.0105 | Geotextile Type C | SY | 382.000 | 382.000 |
| 1780 | 645.0120 | Geotextile Type HR | SY | 155.000 | 155.000 |
| 1790 | 646.0106 | Pavement Marking Epoxy 4-Inch | LF | 19,695.000 | 19,695.000 |
| 1800 | 646.0126 | Pavement Marking Epoxy 8-Inch | LF | 1,375.000 | 1,375.000 |
| 1810 | 646.0600 | Removing Pavement Markings | LF | 225.000 | 225.000 |
| 1820 | 646.0805.S | Pavement Marking Outfall | EACH | 3.000 | 3.000 |
| 1830 | 646.2304.S | Pavement Marking Grooved Wet Reflective Epoxy 4-Inch | LF | 18,810.000 | 18,810.000 |
| 1840 | 647.0526 | Pavement Marking Yield Line Symbols Epoxy 18-Inch | EACH | 12.000 | 12.000 |
| 1850 | 647.0566 | Pavement Marking Stop Line Epoxy 18-Inch | LF | 124.000 | 124.000 |
| 1860 | 647.0726 | Pavement Marking Diagonal Epoxy 12-Inch | LF | 265.000 | 265.000 |
| 1870 | 648.0100 | Locating No-Passing Zones | MI | 1.790 | 1.790 |
| 1880 | 649.0400 | Temporary Pavement Marking Removable Tape 4-Inch | LF | 13,500.000 | 13,500.000 |
| 1890 | 649.0506 | Temporary Pavement Marking Removable Mask-Out Tape 6-Inch | LF | 800.000 | 800.000 |
| 1900 | 650.4500 | Construction Staking Subgrade | LF | 13,890.000 | 13,890.000 |
| 1910 | 650.5000 | Construction Staking Base | LF | 10,380.000 | 10,380.000 |
| 1920 | 650.5500 | Construction Staking Curb Gutter and Curb & Gutter | LF | 946.000 | 946.000 |
| 1930 | 650.6000 | Construction Staking Pipe Culverts | EACH | 4.000 | 4.000 |
| 1940 | 650.6500 | Construction Staking Structure Layout (structure) 01. B-58-0129 | LS | 1.000 | 1.000 |
| 1950 | 650.6500 | Construction Staking Structure Layout (structure) 02. B-05-0435 | LS | 1.000 | 1.000 |
| 1960 | 650.6500 | Construction Staking Structure Layout (structure) 03. C-05-0151 | LS | 1.000 | 1.000 |

1058-25-70

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 1980 | 650.7000 | Construction Staking Concrete Pavement | LF | 175.000 | 175.000 |
| 1990 | 650.8000 | Construction Staking Resurfacing Reference | LF | 6,595.000 | 6,595.000 |
| 2000 | 650.9910 | Construction Staking Supplemental Control (project) 01. 1058-25-70 | LS | 1.000 | 1.000 |
| 2020 | 650.9920 | Construction Staking Slope Stakes | LF | 13,890.000 | 13,890.000 |
| 2030 | 690.0150 | Sawing Asphalt | LF | 2,350.000 | 2,350.000 |
| 2040 | 690.0250 | Sawing Concrete | LF | 2,655.000 | 2,655.000 |
| 2050 | 715.0502 | Incentive Strength Concrete Structures | DOL | 4,530.000 | 4,530.000 |
| 2060 | ASP.1T0A | On-the-Job Training Apprentice at $5.00/HR | HRS | 2,400.000 | 2,400.000 |
| 2070 | ASP.1T0G | On-the-Job Training Graduate at $5.00/HR | HRS | 1,980.000 | 1,980.000 |
| 2080 | SPV.0030 | Special 01. Fertilizer for Lawn Type Turf | CWT | 1.000 | 1.000 |
| 2100 | SPV.0105 | Special 01. Verify and Replace Existing Property Monuments Project 1058-25-70 | LS | 1.000 | 1.000 |
| 2120 | SPV.0105 | Special 03. Research and Locate Existing Property Monuments Project 1058-25-70 | LS | 1.000 | 1.000 |
| 2140 | SPV.0180 | Special 01. Preparing Topsoil for Lawn Type Turf | SY | 1,050.000 | 1,050.000 |

3

## CLEARING AND GRUBBING ITEMS

| STATION - STATION | LOCATION | 201.0105 CLEARING STA | 201.0205 GRUBBING STA |
|---|---|---|---|
| CAT 0010 | | | |
| STH 156/OLD 29 DR | | | |
| 198+00 - 200+00 | RT | 2 | 2 |
| 209+00 - 218+00 | LT & RT | 9 | 9 |
| 254+00 - 261+00 | RT | 5 | 5 |
| ST. AUGUSTINE RD | | | |
| 24'A'+00 - 25'A'+00 | LT | 1 | 1 |
| 31'A'+00 - 32'A'+00 | LT & RT | 1 | 1 |
| TOTALS | | 18 | 18 |

## REMOVING CONCRETE ITEMS

| STATION | LOCATION | 204.0100 PAVEMENT SY | 204.0150 CURB & GUTTER LF | COMMENTS |
|---|---|---|---|---|
| CAT 0010 | | | | |
| STH 156/OLD 29 DR | | | | |
| 214+96 - 217+50 | LT & RT | 624 | -- | UNDERLYING PAVEMENT |
| 253+89 - 260+54 | LT & RT | 1,626 | -- | UNDERLYING PAVEMENT |
| EXISTING ST. AUGUSTINE RD | | | | |
| 10'S'+98 - 11'S'+52 | LT & RT | -- | 155 | EXISTING ST. AUGUSTINE AT STH 29 |
| STH 29 | | | | |
| 323'EB'+50 - 330'EB'+85 (EB) | LT & RT | 1,600 | -- | INCLUDES MEDIAN CURB AND GUTTER |
| 327'EB'+46 - 334'EB'+83 (WB) | LT | 1,300 | -- | INCLUDES MEDIAN CURB AND GUTTER |
| EXISTING STH 156 | | | | |
| 9'S'+21 - 9'S'+67 | LT & RT | -- | 126 | EXISTING STH 156 AT STH 29 |
| EXISTING OLD 29 DR | | | | |
| 5'T'+18 - 5'T'+79 | LT & RT | -- | 134 | EXISTING OLD 29 DR AT EXISTING STH 156 |
| 5'T'+68 - 14'T'+60 | LT & RT | 2,180 | -- | UNDERLYING PAVEMENT |
| TOTALS | | 7,330 | 415 | |

3

## REMOVING SMALL PIPE CULVERTS

| STATION | LOCATION | 203.0100 EACH | FOR INFORMATION ONLY SIZE INCH | MATERIAL | LENGTH FT |
|---|---|---|---|---|---|
| CAT 0010 | | | | | |
| STH 156/OLD 29 DR | | | | | |
| 197+18 | RT | 1 | 18 | STEEL | 24 |
| 202+75 | RT | 1 | 18 | STEEL | 30 |
| 253+80 | RT | 1 | 18 | STEEL | 37 |
| 257+89 | RT | 1 | 12 | STEEL | 27 |
| 5'Y'+49 | LT & RT | 1 | 24X18 | STEEL | 101 |
| CTH Y | | | | | |
| 4'Y'+49 | LT & RT | 1 | 24X18 | STEEL | 60 |
| ST. AUGUSTINE RD | | | | | |
| 32'A'+22 | LT | 1 | 36 | STEEL | 20 |
| 32'A'+22 | LT | 1 | 36 | STEEL | 23 |
| EXISTING ST. AUGUSTINE | | | | | |
| 11'S'+59 | LT & RT | 1 | 18 | STEEL | 68 |
| 20'S'+33 | RT | 1 | 12 | STEEL | 19 |
| EXISTING STH 156 | | | | | |
| 6'S'+73 | LT | 1 | 18 | STEEL | 36 |
| 7'S'+79 | LT & RT | 1 | 24 | STEEL | 86 |
| EXISTING OLD 29 DR | | | | | |
| 8'T'+44 | RT | 1 | 18 | STEEL | 44 |
| TOTAL | | 13 | | | |

## REMOVING ASPHALTIC SURFACE ITEMS

| STATION - STATION | LOCATION | 204.0110 ASPHALTIC SURFACE SY | 204.0115 BUTT JOINTS SY | 204.0125 MILLING TON |
|---|---|---|---|---|
| CAT 0010 | | | | |
| STH 156/OLD 29 DR | | | | |
| 217+50 - 253+89 | LT & RT | -- | -- | 860 |
| 260+54 - 276+25 | LT & RT | -- | -- | 370 |
| 8'Y'+50 - 12'Y'+92 | LT & RT | -- | 7 | 135 |
| EXISTING ST. AUGUSTINE RD | | | | |
| 13'S'+75 - 18'S'+70 | LT & RT | -- | -- | 120 |
| PROJECT | | | | |
| -- | ANGLE DR | -- | 5 | 45 |
| -- | DRIVEWAYS | 300 | -- | -- |
| TOTALS | | 300 | 12 | 1,530 |

## REMOVING DELINEATORS AND MARKERS

| STATION - STATION | LOCATION | 204.0180 EACH |
|---|---|---|
| CAT 0010 | | |
| STH 29 | | |
| 316'EB'+00 - 331'EB'+00 (EB) | RT | 4 |
| 321'EB'+00 - 336'EB'+00 (WB) | LT | 4 |
| TOTAL | | 8 |

## REMOVING BUILDING AND SITE CLEARANCE ITEMS

| STATION | LOCATION | 204.0235.01 REMOVING BUILDING (PARCEL 13) LS | 204.0240.01 SITE CLEARANCE (PARCEL 13) LS | COMMENTS |
|---|---|---|---|---|
| CAT 0010 | | | | |
| STH 156/OLD 29 DR | | | | |
| 208+00 | RT | 1 | 1 | INCLUDES ALL BUILDINGS ON PARCEL 13 |
| TOTALS | | 1 | 1 | |

3

3

## EARTHWORK SUMMARY

| DIVISION | FROM/TO STATION | LOCATION | EXCAVATION COMMON (NOTE 1) | | | SALVAGED / UNUSEABLE PAVEMENT MATERIAL (NOTE 4) | AVAILABLE MATERIAL (NOTE 5) | REDUCED EBS IN FILL (6) | EXPANDED EBS BACKFILL (7) | UNEXPANDED FILL | EXPANDED FILL (NOTE 8) | MASS ORDINATE +/- (NOTE 9) | BORROW |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | CUT (NOTE 2) | EBS (NOTE 3) | | | | FACTOR 0.80 | FACTOR 1.30 | | FACTOR 1.25 | | |
| ID 1058-25-70 | | | | | EXCAVATION COMMON (ITEM 205.0100) | | | | SELECT BORROW (ITEM 208.1100) | | | | BORROW (ITEM 208.0100) |
| 1 | 196+50 - 217+50 | STH 156/OLD 29 DR (CURVE RECONSTRUCTION AND B-05-0435) | 7,437 | 2,361 | 9,798 | 616 | 6,821 | 1,889 | 3,070 | 1,153 | -920 | 7,741 | |
| 1 | 253+89 - 260+54 | STH 156/OLD 29 DR (C-05-0151) | 2,013 | 0 | 2,013 | 361 | 1,652 | 0 | 0 | 642 | 803 | 849 | |
| 1 | 276+25 - 286+59 | STH 156/OLD 29 DR (CTH Y INTERSECTION) | 3,916 | 0 | 3,916 | 562 | 3,354 | 0 | 0 | 81 | 102 | 3,252 | |
| 1 | 3'Y'+17 - 4'Y'+85 | CTH Y (SOUTH OF STH 156) | 756 | 0 | 756 | 80 | 676 | 0 | 0 | 29 | 36 | 640 | |
| 1 | 5'Y'+42 - 10'Y'+67 | STH 156 (NORTH OF CTH Y & OLD 29 DR) | 1,851 | 0 | 1,851 | 285 | 1,566 | 0 | 0 | 270 | 338 | 1,229 | |
| 1 | 10'A'+24 - 18'A'+75 | ST. AUGUSTINE RD OVERPASS (SOUTH OF STH 29) | 645 | 4,748 | 5,393 | 0 | 645 | 3,798 | 6,172 | 40,889 | 46,363 | -45,718 | |
| 1 | 18'A'+75 - 19'A'+10 | FILL IN FRONT OF SOUTH ABUTMENT (B-05-0129) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,025 | 2,531 | -2,531 | |
| 1 | 11'T'+75 - 13'T'+64 | OLD 29 DR (TEMPORARY CONNECTION) | 357 | 0 | 357 | 103 | 254 | 0 | 0 | 8 | 11 | 243 | 34,295 |
| 2 | 20'A'+51 - 20'A'+93 | FILL IN FRONT OF NORTH ABUTMENT (B-05-0129) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,375 | 2,968 | -2,968 | |
| 2 | 20'A'+93 - 37'A'+00 | ST. AUGUSTINE RD OVERPASS (NORTH OF STH 29) | 5,669 | 9,531 | 15,200 | 197 | 5,472 | 7,625 | 12,390 | 82,535 | 93,638 | -88,166 | |
| 2 | 11'S'+39 - 13'S'+75 | EXISTING ST. AUGUSTINE RD (CUL-DE-SAC) | 1,962 | 0 | 1,962 | 64 | 1,898 | 0 | 0 | 56 | 70 | 1,828 | |
| 2 | 18'S'+70 - 22'S'+59 | EXISTING ST. AUGUSTINE RD (TIE TO ST. AUGUSTINE RD) | 603 | 0 | 603 | 106 | 497 | 0 | 0 | 1,252 | 1,566 | -1,068 | |
| 2 | 0'B'+00 - 14'B'+55 | TEMPORARY STREAM BYPASS (CUT BYPASS) | 1,364 | 0 | 1,364 | 88 | 1,276 | 0 | 0 | 489 | 611 | 665 | |
| 2 | 0'B'+00 - 14'B'+55 | TEMPORARY STREAM DIVERSION (BACKFILL CUT AREA) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,364 | 1,705 | -1,705 | 91,415 |
| 3 | 316'EB'50 - 335'EB'+09 | STH 29 (TURN LANE AND MEDIAN REMOVAL) | 5,504 | 0 | 5,504 | 851 | 4,653 | 0 | 0 | 558 | 697 | 3,956 | |
| 3 | 2'S'+59 - 8'S'+92 | EXISTING STH 156 (REMOVAL) | 4,601 | 0 | 4,601 | 344 | 4,257 | 0 | 0 | 345 | 431 | 3,826 | |
| 3 | 5'T'+68 - 9'T'+37 | EXISTING OLD 29 DR (REMOVAL) | 974 | 0 | 974 | 200 | 774 | 0 | 0 | 679 | 849 | -75 | 0 |
| TOTALS | | | 37,652 | 16,640 | 54,292 | 3,857 | 33,795 | 13,312 | 21,633 | 134,751 | 151,798 | -118,003 | 125,710 |

1) COMMON EXCAVATION IS THE SUM OF THE CUT AND EBS EXCAVATION COLUMNS. ITEM NUMBER 205.0100
2) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT.
3) EBS EXCAVATION TO BE BACKFILLED WITH SELECT BORROW MATERIAL.
4) SALVAGED/UNUSABLE PAVEMENT MATERIAL
5) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUABLE PAVEMENT MATERIAL
6) REDUCED EBS IN FILL - EXCAVATED EBS MATERIAL IS USUABLE IN FILLS OUTSIDE THE 1:1 SLOPE. EBS IN FILL REDUCTION FACTOR = 0.8
7) EXPANDED EBS BACKFILL - THIS IS TO BE FILLED WITH SELECT BORROW MATERIAL. EBS BACKFILL FACTOR = 1.3. ITEM NUMBER 208.1100
8) EXPANDED FILL. FACTOR = 1.25; EXPANDED FILL = (UNEXPANDED FILL - REDUCED EBS) * FILL FACTOR
9) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.
10) DIVISION 3 MATERIAL COULD BE USED IN DIVISION 1 OR 2 IF APPROVED BY THE ENGINEER.

## PREPARE FOUNDATION ITEMS

| STATION - STATION | LOCATION | 211.0100.01 ASPHALTIC PAVING (1058-25-70) LS | 211.0400 ASPHALTIC SHOULDERS STA |
|---|---|---|---|
| CAT 0010 | | | |
| STH 156/OLD 29 DR | | | |
| 217+50 - 253+89 | LT & RT | -- | 74 |
| 260+54 - 276+25 | LT & RT | -- | 34 |
| PROJECT | | | |
| PROJECT | LT & RT | 1 | -- |
| TOTALS | | 1 | 108 |

## SHAPING SHOULDERS

| STATION - STATION | LOCATION | 305.0500 STA |
|---|---|---|
| CAT 0010 | | |
| STH 156/OLD 29 DR | | |
| 8'Y'+50 - 10'Y'+67 | RT | 3 |
| 10'Y'+67 - 12'Y'+92 | LT & RT | 5 |
| EXISTING ST. AUGUSTINE RD | | |
| 13'S'+75 - 18'S'+70 | LT & RT | 10 |
| TOTAL | | 18 |

NOTE:
NOT INCLUDED IN PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS AREAS AND RECONSTRUCTION AREAS

## BASE AGGREGATE DENSE ITEMS

| STATION - STATION | LOCATION | 305.0110 3/4-INCH TON | 305.0120 1 1/4-INCH TON |
|---|---|---|---|
| CAT 0010 | | | |
| STH 156/OLD 29 DR | | | |
| 196+50 - 280+37 | LT & RT | 1,010 | 11,150 |
| 4'Y'+89 - 12'Y'+92 | LT & RT | 130 | 2,250 |
| OLD 29 DR | | | |
| 280+37 - 286+59 | LT & RT | 100 | 1,740 |
| CTH Y | | | |
| 3'Y'+17 - 4'Y'+89 | LT & RT | 20 | 620 |
| ST. AUGUSTINE RD | | | |
| 10'A'+24 - 18'A'+75 | LT & RT | 180 | 1,780 |
| 20'A'+92 - 37'A'+00 | LT & RT | 520 | 3,150 |
| EXISTING ST. AUGUSTINE RD | | | |
| 12'S'+50 - 22'S'+60 | LT & RT | 150 | 1,360 |
| STH 29 | | | |
| 319'EB'+24 - 330'EB'+85 (EB) | LT & RT | 950 | -- |
| 319'EB'+24 - 334'EB'+83 (WB) | LT | 1,000 | -- |
| EXISTING OLD 29 DR TEMPORARY CONNECTON | | | |
| 11'T'+75 - 13'T'+64 | LT & RT | 50 | 650 |
| PROJECT | | | |
| DRIVEWAYS | LT & RT | 420 | 60 |
| TEMPORARY LOCAL TRAFFIC MANAGEMENT | LT & RT | -- | 500 |
| TOTALS | | 4,530 | 23,260 |

## SELECT CRUSHED MATERIAL

| STATION - STATION | LOCATION | 312.0110 CY | COMMENTS |
|---|---|---|---|
| CAT 0010 | | | |
| STREAM REALIGNMENT | | | |
| 0'W'0+00 - 12'W'+61 | LT & RT | 120 | GRAVEL RIFFLES |
| TOTAL | | 120 | |

## CONCRETE ITEMS

| STATION - STATION | LOCATION | 405.0100 COLORING CONCRETE WISDOT RED CY | 416.0512 CONCRETE TRUCK APRON 12-INCH SY | 416.1010 CONCRETE SURFACE DRAINS CY | 416.0610 DRILLED TIE BARS EACH | 620.0300 CONCRETE MEDIAN SLOPED NOSE SF | COMMENTS |
|---|---|---|---|---|---|---|---|
| CAT 0010 | | | | | | | |
| STH 156/OLD 29 DR | | | | | | | |
| 5'Y'+14 - 5'Y'+48 | LT | 13 | 38 | -- | -- | 90 | ISLAND |
| 5'Y'+14 - 6'Y'+45 | LT | 108 | 327 | -- | -- | -- | NW CORNER |
| OLD 29 DR | | | | | | | |
| 280+67 - 282+11 | LT | 39 | 115 | -- | -- | 90 | MEDIAN ISLAND |
| ST. AUGUSTINE RD | | | | | | | |
| 21'A'+25 | LT & RT | -- | -- | 6 | 14 | -- | B-58-129 |
| TOTALS | | 160 | 480 | 6 | 14 | 180 | |

## HMA AND ASPHALTIC ITEMS

| STATION - STATION | LOCATION | 450.4000 HMA COLD WEATHER PAVING TON | 455.0605 TACK COAT GAL | 460.5223 HMA PAVEMENT 3 LT 58-28 S TON | 460.5224 HMA PAVEMENT 4 LT 58-28 S TON | 465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON | 465.0125 ASPHALTIC SURFACE TEMPORARY TON | 465.0315 ASPHALTIC FLUMES SY | 465.0400 ASPHALTIC SHOULDER RUMBLE STRIPS LF |
|---|---|---|---|---|---|---|---|---|---|
| CAT 0010 | | | | | | | | | |
| STH 156/OLD 29 DR | | | | | | | | | |
| 196+50 - 280+37 | LT & RT | -- | 2,366 | 2,750 | 2,900 | -- | -- | -- | -- |
| 4'Y'+89 - 12'Y'+92 | LT & RT | -- | 353 | 450 | 400 | -- | -- | 25 | -- |
| OLD 29 DR | | | | | | | | | |
| 280+37 - 286+59 | LT & RT | -- | 194 | 350 | 200 | -- | -- | -- | -- |
| CTH Y | | | | | | | | | |
| 3'Y'+17 - 4'Y'+89 | LT & RT | -- | 80 | 140 | 80 | -- | -- | 25 | -- |
| ST. AUGUSTINE RD | | | | | | | | | |
| 10'A'+00 - 18'A'+75 | LT & RT | -- | 288 | 360 | 290 | -- | -- | 30 | -- |
| 20'A'+92 - 37'A'+00 | LT & RT | -- | 417 | 515 | 425 | -- | -- | -- | -- |
| EXISTING OLD 29 DR TEMPORARY CONNECTION | | | | | | | | | |
| 11'T'+75 - 13'T'+64 | LT & RT | -- | -- | -- | -- | -- | 150 | -- | -- |
| EXISTING ST. AUGUSTINE RD | | | | | | | | | |
| 12'S'+50 - 22'S'+60 | LT & RT | -- | 312 | 280 | 345 | -- | -- | -- | -- |
| STH 29 | | | | | | | | | |
| 319'EB'+24 - 330'EB+85 (EB) | LT & RT | -- | -- | -- | 200 | -- | -- | -- | 1,885 |
| 319'EB'+24 - 334'EB'+83 (WB) | LT | -- | -- | -- | 195 | -- | -- | -- | 2,010 |
| PROJECT | | | | | | | | | |
| -- | ANGLE DR | -- | 30 | -- | 45 | -- | -- | -- | -- |
| -- | DRIVEWAYS | -- | -- | -- | -- | 65 | -- | -- | -- |
| UNDISTRIBUTED | LT & RT | 5,365 | | | | | | | |
| TOTALS | | 5,365 | 4,040 | 4,845 | 5,080 | 65 | 150 | 80 | 3,895 |

3

## DRAINAGE PIPE AND APRON ENDWALL ITEMS

| STATION | LOCATION | STEEL MIN. THICKNESS INCH | 521.0118 CULVERT PIPE CORRUGATED STEEL 18-INCH LF | 521.0124 CULVERT PIPE CORRUGATED STEEL 24-INCH LF | 521.0757 PIPE ARCH CORRUGATED STEEL 57X38-INCH LF | 521.1257 APRON ENDWALLS FOR PIPE ARCH STEEL 57X38-INCH EACH | 521.1518 APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS STEEL 18-INCH 6 TO 1 EACH | 521.1524 APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS STEEL 24-INCH 6 TO 1 EACH | 522.0124 CULVERT PIPE REINFORCED CONCRETE CLASS III 24-INCH LF | 522.0324 CULVERT PIPE REINFORCED CONCRETE CLASS IV 24-INCH LF | 522.1012 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH EACH | 522.1024 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH EACH | 523.0424 CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-IV 24X38-INCH LF | 523.0524 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 24X38-INCH EACH | 608.0412 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 12-INCH LF | **PIPE JOINT TIES EACH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CAT 0010 | | | | | | | | | | | | | | | | |
| STH 156/OLD 29 DR | | | | | | | | | | | | | | | | |
| 197+18 | RT | 0.064 | 38 | -- | -- | -- | 2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 204+27 | LT | 0.064 | -- | 48 | -- | -- | -- | 2 | -- | -- | -- | -- | -- | -- | -- | -- |
| 204+27 | RT | 0.064 | -- | 38 | -- | -- | -- | 2 | -- | -- | -- | -- | -- | -- | -- | -- |
| 210+52 | LT | 0.064 | -- | 38 | -- | -- | -- | 2 | -- | -- | -- | -- | -- | -- | -- | -- |
| 253+80 | RT | 0.064 | 36 | -- | -- | -- | 2 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 257+95 | RT | 0.064 | -- | 40 | -- | -- | -- | 2 | -- | -- | -- | -- | -- | -- | -- | -- |
| 6'Y'+07 | LT & RT | 0.064 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 114 | 2 | -- | 12 |
| OLD 29 DR | | | | | | | | | | | | | | | | |
| 282+00 | LT | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | 42 | 6 |
| CTH Y | | | | | | | | | | | | | | | | |
| 4'Y'+38 | LT & RT | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 144 | 2 | -- | 12 |
| ST. AUGUSTINE RD | | | | | | | | | | | | | | | | |
| 16'A'+50 | LT & RT | -- | -- | -- | -- | -- | -- | -- | -- | 168 | -- | 2 | -- | -- | -- | 12 |
| 36'A'+00 | LT | 0.109 | -- | -- | 200 | 4 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| EXISTING ST. AUGUSTINE RD | | | | | | | | | | | | | | | | |
| 19'S'+00 | RT | 0.064 | -- | 46 | -- | -- | -- | 2 | -- | -- | -- | -- | -- | -- | -- | -- |
| 22'S'+32 | LT & RT | -- | -- | -- | -- | -- | -- | -- | 142 | -- | -- | 2 | -- | -- | -- | 12 |
| TOTALS | | | 74 | 210 | 200 | 4 | 4 | 10 | 142 | 168 | 1 | 4 | 258 | 4 | 42 | 54 |

NOTES:
**NON BID ITEM, FOR INFORMATION ONLY. TIE LAST THREE JOINTS.
ADDITIONAL APRON ENDWALL ITEMS ARE SHOWN ELSEWHERE (SEE PIPE UNDERDRAIN ITEMS)

3

## CONCRETE CURB & GUTTER ITEMS

| STATION - STATION | LOCATION | 601.0557 6-INCH SLOPED 36-INCH TYPE D LF | 601.0582 4-INCH SLOPED 36-INCH TYPE T LF | COMMENTS |
|---|---|---|---|---|
| CAT 0010 | | | | |
| STH 156/OLD 29 DR | | | | |
| 5'Y'+14 - 6'Y'+45 | LT | -- | 92 | ISLAND |
| 5'Y'+14 - 6'Y'+45 | LT | -- | 202 | NW CORNER |
| 5'Y'+29 - 5'Y'+61 | RT | 40 | -- | NE CORNER |
| OLD 29 DR | | | | |
| 280+69 - 282+11 | LT | -- | 301 | MEDIAN ISLAND |
| CTH Y | | | | |
| 4'Y'+06 - 4'Y'+68 | LT & RT | 160 | -- | |
| ST. AUGUSTINE RD | | | | |
| 10'A'+23 - 10'A'+84 | LT & RT | 151 | -- | |
| TOTALS | | 351 | 595 | |

## TEMPORARY DIVERSION CHANNEL ITEMS

| LOCATION | 606.0100 RIPRAP LIGHT CY | 628.5505 POLYETHYLENE SHEETING SY |
|---|---|---|
| CAT 0010 | | |
| STH 156/OLD 29 DR | | |
| STRUCTURE B-5-435 ** | 40 | 1,400 |
| STRUCTURE C-5-151 ** | 40 | 1,400 |
| ST. AUGUSTINE RD | | |
| TEMPORARY BYPASS OF STREAM REALIGNMENT *** | 170 | 6,200 |
| TOTALS | 250 | 9,000 |

NOTES:
** ESTIMATED EXCAVATION IS SHOWN ON THE ROADWAY PLANS AND IS INCIDENTAL TO THE ITEM "EXCAVATION FOR STRUCTURES" (SEE STRUCTURE LANS)
*** EXCAVATION FOR THE TEMPORARY BYPASS OF THE ST. AUGSTINE STREAM REALIGNMENT IS PAID BY CROSS SECTION VOLUME

## CONCRETE BARRIER TEMPORARY PRECAST ITEMS

| STATION - STATION | LOCATION | STAGE | 603.8000 DELIVERED LF | 603.8125 INSTALLED LF |
|---|---|---|---|---|
| CAT 0010 | | | | |
| STH 29 | | | | |
| 316'EB'+85 - 327'EB'+60 (EB & WB) | LT & RT | 1 | 1,400 | 1,400 |
| 316'EB'+90 - 326'EB'+30 (EB & WB) | LT & RT | 2 | 1,275 | 1,275 |
| TOTALS | | | 2,675 | 2,675 |

## RIPRAP AND GEOTEXTILE ITEMS

| STATION | LOCATION | 606.0200 RIPRAP MEDIUM CY | 645.0120* GEOTEXTILE TYPE HR SY |
|---|---|---|---|
| CAT 0010 | | | |
| ST. AUGUSTINE RD | | | |
| 21'A'+25 | LT & RT | 10 | 30 |
| TOTALS | | 10 | 30 |

*ADDITIONAL QUANTITIES SHOWN ON STRUCTURE PLANS

## INLETS AND INLET COVERS

| STATION | LOCATION | 611.0652 INLET COVERS TYPE T EACH | 611.3225 INLETS 2 X 2.5-FT EACH |
|---|---|---|---|
| CAT 0010 | | | |
| OLD 29 DR | | | |
| 282+00 | LT | 2 | 2 |
| TOTALS | | 2 | 2 |

## PIPE UNDERDRAIN ITEMS

| STATION | LOCATION | 521.1012 APRON ENDWALLS FOR CULVERT PIPE STEEL 12-INCH EACH | 612.0206 UNPERFORATED 6-INCH LF | 612.0212 UNPERFORATED 12-INCH LF | 612.0806 APRON ENDWALLS FOR UNDERDRAIN REINFORCED CONCRETE 6-INCH EACH | 646.0805.S PAVEMENT MARKING OUTFALL EACH |
|---|---|---|---|---|---|---|
| CAT 0010 | | | | | | |
| ST. AUGUSTINE RD | | | | | | |
| 21'A'+25 | LT | 1 | -- | 85 | -- | -- |
| 21'A'+25 | RT | 1 | -- | 82 | -- | -- |
| S. ABUTMENT B-05-0129 | LT OR RT | -- | -- | -- | 1 | -- |
| N. ABUTMENT B-05-0129 | LT OR RT | -- | -- | -- | 1 | -- |
| STH 29 | | | | | | |
| 327'EB'+00 (EB) | LT | -- | 15 | -- | 1 | 1 |
| 332'EB'+00 (EB) | LT | -- | 15 | -- | 1 | 1 |
| 333'EB'+00 (WB) | LT | -- | 15 | -- | 1 | 1 |
| TOTALS | | 2 | 45 | 167 | 5 | 3 |

NOTES:
THE 6-INCH UNPERFORATED PIPE UNDERDRAIN IS FOR ADJUSTING ANY OUTFALLS ALONG STH 29
SEE STRUCTURE PLANS FOR ABUTMENT UNDERDRAIN ITEMS

## DRAIN TILE EXPLORATION

| STATION | LOCATION | 612.0700 LF |
|---|---|---|
| CAT 0010 | | |
| STH 156 | | |
| 198+17 | RT | 10 |
| ST. AUGUSTINE RD | | |
| 10'A'+00 - 19'A'+00 | LT & RT | 300 |
| 21'A'+00 - 37'A'+00 | LT & RT | 400 |
| TOTAL | | 710 |

## CRASH CUSHIONS TEMPORARY

| STATION | LOCATION | STAGE | 614.0905 EACH | BACK WIDTH REQUIREMENT FT | CRASH TEST CONDITION | OBJECT MARKING PATTERN | TRAFFIC DIRECTION | CRASH CUSHION SHIELDS |
|---|---|---|---|---|---|---|---|---|
| CAT 1000 | | | | | | | | |
| STH 29 | | | | | | | | |
| 316'EB'+90 (EB) | RT | 1 | 1 | 2 | TL-3 | OM-3R | UNDIRECTIONAL | EB OUTSIDE/SOUTH ABUTMENT B-5-129 |
| 327'EB'+60 (WB) | LT | 1 | 1 | 2 | TL-3 | OM-3R | UNDIRECTIONAL | WB OUTSIDE/NORTH ABUTMENT B-5-129 |
| 316'EB'+90 (EB) | LT | 2 | 1 | 2 | TL-3 | OM-3C | UNDIRECTIONAL | EB MEDIAN/PIER B-5-129 |
| 326'EB'+30 (WB) | LT | 2 | 1 | 2 | TL-3 | OM-3C | UNDIRECTIONAL | WB MEDIAN/PIER B-5-129 |
| TOTAL | | | 4 | | | | | |

## FENCE SAFETY

| STATION | LOCATION | 616.0700.S LF | COMMENTS |
|---|---|---|---|
| CAT 0010 | | | |
| PROJECT | | | |
| 8'S'+00 | LT | 50 | FENCE TO PROTECT NGS MONUMENT |
| UNDISTRIBUTED | LT & RT | 100 | |
| TOTAL | | 150 | |

## STEEL PLATE BEAM GUARD AND GUARDRAIL ITEMS

| STATION - STATION | LOCATION | 614.0220 STEEL THRIE BEAM BULLNOSE TERMINAL EACH | 614.0230 STEEL THRIE BEAM LF | 614.0305 STEEL PLATE BEAM GUARD CLASS A LF | 614.0340 STEEL PLATE BEAM GUARD OVER LOW-FILL CULVERTS CLASS A LF | 614.0345 STEEL PLATE BEAM GUARD SHORT RADIUS LF | 614.0370 STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL EACH | 614.0390 STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL EACH | 614.0397 GUARDRAIL MOW STRIP EMULSIFIED ASPHALT SY | 614.0920 SALVAGED RAIL LF | 614.0925 SALVAGED GUARDRAIL END TREATMENTS EACH | 614.2300 MGS GUARDRAIL 3 LF | 614.2340 MGS GUARDRAIL 3 L LF | 614.2500 MGS THRIE BEAM TRANSITION LF | 614.2610 MGS GUARDRAIL TERMINAL EAT EACH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CAT 0010 | | | | | | | | | | | | | | | |
| STH 156/OLD 29 DR | | | | | | | | | | | | | | | |
| 214+48 - 217+15 | RT | -- | -- | -- | -- | -- | -- | -- | -- | 170 | 2 | 50 | 112.5 | -- | 2 |
| 214+79 - 217+48 | LT | -- | -- | -- | -- | -- | -- | -- | -- | 165 | 2 | 50 | 112.5 | -- | 2 |
| 255+79 - 257+84 | RT | -- | -- | 37.5 | 100 | 35 | 1 | 1 | 126 | 145 | 2 | -- | -- | -- | -- |
| 256+10 - 258+93 | LT | -- | -- | -- | -- | -- | -- | -- | -- | 135 | 2 | 62.5 | 112.5 | -- | 2 |
| 258+25 - 259+42 | RT | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 12.5 | -- | -- | 2 |
| ST. AUGUSTINE RD | | | | | | | | | | | | | | | |
| 17'A'+19 - 18'A'+61 | RT | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 50 | -- | 39.4 | 1 |
| 17'A'+69 - 18'A'+61 | LT | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 39.4 | 1 |
| 21'A'+06 - 22'A'+49 | LT | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 50 | -- | 39.4 | 1 |
| 21'A'+06 - 21'A'+99 | RT | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 39.4 | 1 |
| STH 29 | | | | | | | | | | | | | | | |
| 321'EB'+35 - 323'EB'+05 (MEDIAN) | LT | 2 | 125 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TOTALS | | 2 | 125 | 37.5 | 100 | 35 | 1 | 1 | 126 | 615 | 8 | 275.0 | 337.5 | 157.6 | 12 |

NOTE:
SHORT RADIUS IS INSTALLED AT A 100-DEGREE ANGLE

## MONUMENT ITEMS

| LOCATION | SPV.0105.01 VERIFY AND REPLACE EXISTING PROPERTY MONUMENTS PROJECT 1058-25-70 LS | SPV.0105.03 RESEARCH AND LOCATE EXISTING PROPERTY MONUMENTS PROJECT 1058-25-70 LS |
|---|---|---|
| CAT 0010 | | |
| PROJECT | 1 | 1 |
| TOTALS | 1 | 1 |

## DUST CONTROL AND WATER

| | 623.0200 DUST CONTROL SURFACE TREATMENT SY | 624.0100 WATER MGAL |
|---|---|---|
| CAT 0010 | | |
| PROJECT | 30,000 | 950 |
| TOTALS | 30,000 | 950 |

NOTE:
WATER IS FOR BASE AGGREGATE AND EMBANKMENT COMPACTION AND ADDITIONAL DUST CONTROL

## MOBILIZATIONS EROSION CONTROL

| | 628.1905 EACH | 628.1910 EMERGENCY EACH |
|---|---|---|
| CAT 0010 | | |
| PROJECT | 15 | 10 |
| TOTALS | 15 | 10 |

## EROSION CONTROL ITEMS

| STATION - STATION | LOCATION | 628.1504 SILT FENCE LF | 628.1520 SILT FENCE MAINTENANCE LF | 628.2004 EROSION MAT CLASS I TYPE B SY | 628.2008 EROSION MAT URBAN CLASS I TYPE B SY | 628.2027 EROSION MAT CLASS II TYPE C SY | 628.6510 SOIL STABILIZER TYPE B ACRE | 628.7005 INLET PROTECTION TYPE A EACH | 628.7020 INLET PROTECTION TYPE D EACH | 628.7504 TEMPORARY DITCH CHECKS LF | 628.7555 CULVERT PIPE CHECKS EACH | 628.7560 TRACKING PADS EACH | 628.7570 ROCK BAGS EACH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CAT 0010 | | | | | | | | | | | | | |
| STH 156/OLD 29 DR | | | | | | | | | | | | | |
| 196+50 - 217+50 | LT & RT | 1,900 | 1,900 | 3,010 | -- | 1,625 | -- | -- | -- | 230 | 16 | -- | 60 |
| 253+89 - 260+54 | LT & RT | 600 | 600 | 980 | -- | 905 | -- | -- | -- | 110 | 8 | -- | 45 |
| 276+25 - 280+37 | LT & RT | 575 | 575 | 525 | -- | -- | -- | -- | -- | 25 | -- | -- | 15 |
| 4'Y'+89 - 10'Y'+67 | LT & RT | 730 | 730 | 980 | -- | -- | -- | -- | -- | 40 | 8 | -- | -- |
| OLD 29 DR | | | | | | | | | | | | | |
| 280+37 - 286+59 | LT & RT | 350 | 350 | 630 | -- | -- | -- | 2 | 2 | 75 | -- | -- | 15 |
| CTH Y | | | | | | | | | | | | | |
| 3'Y'+17 - 4'Y'+89 | LT & RT | 135 | 135 | 395 | -- | -- | -- | -- | -- | 15 | 8 | -- | -- |
| ST. AUGUSTINE RD | | | | | | | | | | | | | |
| 10'A'+24 - 19'A'+12 | LT & RT | 350 | 350 | 10,600 | -- | -- | 2.5 | -- | -- | 100 | 4 | -- | -- |
| 20'A'+49 - 37'A'+00 | LT & RT | 300 | 300 | 15,305 | 4,015 | -- | 5.0 | -- | -- | 135 | -- | -- | -- |
| EXISTING ST. AUGUSTINE RD | | | | | | | | | | | | | |
| 11'S'+50 - 13'S'+75 | LT & RT | 350 | 350 | 535 | -- | -- | -- | -- | -- | 40 | -- | -- | -- |
| 18'S'+70 - 22'S'+60 | LT & RT | -- | -- | 270 | -- | -- | -- | -- | -- | 15 | 8 | -- | -- |
| STH 29 | | | | | | | | | | | | | |
| 316'EB+50 - 335'EB'+10 | LT & RT | 450 | 450 | 18,225 | -- | 30 | -- | 2 | -- | 325 | -- | -- | 30 |
| EXISTING STH 156 | | | | | | | | | | | | | |
| 4'S'+00 - 9'S'+00 | LT & RT | -- | -- | -- | -- | -- | -- | -- | -- | 40 | -- | -- | -- |
| EXISTING OLD 29 DR | | | | | | | | | | | | | |
| 5'T'+00 - 10'T'+00 | LT & RT | -- | -- | -- | -- | -- | -- | -- | -- | 50 | 4 | -- | -- |
| TEMPORARY BYPASS OF STREAM REALIGNMENT | | | | | | | | | | | | | |
| 0'B'+00 - 14'B'+00 | LT & RT | 2,800 | 2,800 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| UNDISTRIBUTED | -- | 2,460 | 2,460 | 12,695 | 1,010 | 640 | 1.5 | 1 | 1 | 300 | 14 | 4 | 85 |
| TOTALS | | 11,000 | 11,000 | 64,150 | 5,025 | 3,200 | 9.0 | 5 | 3 | 1,500 | 70 | 4 | 250 |

3

## FINISHING ITEMS

| STATION - STATION | LOCATION | 625.0100 TOPSOIL SY | 625.0500 SALVAGED TOPSOIL SY | 627.0200 MULCHING SY | 629.0210 FERTILIZER TYPE B CWT | 630.0120 SEEDING MIXTURE NO. 20 LB | 630.0130 SEEDING MIXTURE NO. 30 LB | 630.0140 SEEDING MIXTURE NO. 40 LB | 630.0160 SEEDING MIXTURE NO. 60 LB | 630.0200 SEEDING TEMPORARY LB | 630.0300 SEEDING BORROW PIT LB | 631.0300 SOD WATER MGAL | SPV.0030.01 FERTILIZER FOR LAWN TYPE TURF CWT | SPV. 0180.01 PREPARING TOPSOIL FOR LAWN TYPE TURF SY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CAT 0010 | | | | | | | | | | | | | | |
| STH 156/OLD 29 | | | | | | | | | | | | | | |
| 196+50 - 217+50 | LT & RT | -- | 12,340 | 7,705 | 7.8 | 150 | 125 | 8 | -- | -- | -- | 10 | 0.3 | 445 |
| 253+89 - 260+54 | LT & RT | -- | 3,345 | 1,460 | 2.1 | 30 | 40 | 7 | -- | -- | -- | 10 | 0.2 | 390 |
| 276+25 - 280+37 | LT & RT | -- | 2,205 | 1,680 | 1.4 | 35 | 20 | -- | -- | -- | -- | -- | -- | -- |
| 4'Y'+89 - 10'Y'+67 | LT & RT | -- | 2,345 | 1,365 | 1.5 | 25 | 30 | -- | -- | -- | -- | -- | -- | -- |
| OLD 29 DR | | | | | | | | | | | | | | |
| 280+37 - 286+59 | LT & RT | -- | 2,050 | 1,420 | 1.3 | 25 | 20 | -- | -- | -- | -- | -- | -- | -- |
| CTH Y | | | | | | | | | | | | | | |
| 3'Y'+17 - 4'Y'+89 | LT & RT | -- | 880 | 485 | 0.6 | 10 | 10 | -- | -- | -- | -- | -- | -- | -- |
| ST. AUGUSTINE RD | | | | | | | | | | | | | | |
| 10'A'+24 - 19'A'+12 | LT & RT | -- | 12,550 | 1,950 | 7.9 | 225 | 80 | -- | -- | -- | -- | -- | -- | -- |
| 20'A'+49 - 37'A'+00 | LT & RT | -- | 25,230 | 1,380 | 7.6 | 255 | 50 | -- | 60 | -- | -- | 275 | -- | -- |
| EXISTING ST. AUGUSTINE RD | | | | | | | | | | | | | | |
| 11'S'+50 - 13'S'+75 | LT & RT | -- | 2,035 | 1,500 | 1.3 | 40 | 10 | -- | -- | -- | -- | -- | -- | -- |
| 18'S'+70 - 22'S'+60 | LT & RT | -- | 2,475 | 2,355 | 1.6 | 40 | 20 | -- | -- | -- | -- | -- | -- | -- |
| STH 29 | | | | | | | | | | | | | | |
| 316'EB+50 - 335'EB'+10 | LT & RT | -- | 18,225 | -- | 11.5 | 240 | 175 | -- | -- | -- | -- | -- | -- | -- |
| EXISTING STH 156 | | | | | | | | | | | | | | |
| 4'S'+00 - 9'S'+00 | LT & RT | 3,320 | 3,040 | 6,360 | 4.0 | 175 | -- | -- | -- | -- | -- | -- | -- | -- |
| EXISTING OLD 29 DR | | | | | | | | | | | | | | |
| 5'T'+00 - 10'T'+00 | LT & RT | 2,640 | 2,110 | 4,750 | 3.0 | 130 | -- | -- | -- | -- | -- | -- | -- | -- |
| UNDISTRIBUTED | -- | 1,490 | 22,220 | 8,115 | 13.5 | 370 | 145 | 5 | 15 | 300 | 700 | 105 | 0.5 | 215 |
| TOTALS | | 7,450 | 111,050 | 40,525 | 65.0 | 1,750 | 725 | 20 | 75 | 300 | 700 | 400 | 1.0 | 1,050 |

NOTES:
SEEDING MIXTURE NO. 30 USED ON SLOPES WITHIN 15-FEET OF SHOULDER
SEEDING MIXTURE NO. 40 USED FOR LAWN TYPE TURF AREAS FOR RESIDENTIAL AREAS ALONG STH 156/OLD 29 DR
SEEDING MIXTURE NO. 60 USED ON SLOPES IN THE STREAM REALIGNMENT
SOD WATER IS FOR ESTABLISHING LAWN TYPE AREAS, SENSITIVE AREAS REQUIRING IMMEDIATE GROWTH, TEMPORARY DIVERSION CHANNEL, OR OTHERAREAS AS DIRECTED BY THE ENGINEER

## DELINEATOR ITEMS

| STATION - STATION | LOCATION | 633.0100 POSTS STEEL EACH | 633.0500 REFLECTORS EACH |
|---|---|---|---|
| CAT 0010 | | | |
| STH 29 | | | |
| 316'EB'+00 - 331'EB'+00 (EB) | RT | 4 | 4 |
| 321'EB'+00 - 336'EB'+00 (WB) | LT | 4 | 4 |
| TOTALS | | 8 | 8 |

3

## MARKERS ITEMS

| STATION | LOCATION | 633.5200 CULVERT END EACH | COMMENTS |
|---|---|---|---|
| CAT 0010 | | | |
| STH 156 | | | |
| 6'Y'+07 | LT & RT | 2 | |
| CTH Y | | | |
| 4'Y'+38 | LT & RT | 2 | |
| ST. AUGUSTINE RD | | | |
| 16'A'+50 | LT & RT | 2 | |
| 18'A'+65 | RT | 1 | PIPE UNDERDRAIN B-58-129 |
| 21'A'+02 | RT | 1 | PIPE UNDERDRAIN B-58-129 |
| 21'A'+25 | LT & RT | 2 | SURFACE DRAIN OUTFALLS |
| EXISTING ST. AUGUSTINE RD | | | |
| 22'S'+32 | LT & RT | 2 | |
| TOTALS | | 12 | |

## TYPE II SIGNS AND SUPPORTS

| SIGN NO. | SIGN CODE | W | X | H | 637.2210 SIGNS TYPE II REFLECTIVE H SF | 637.2220 SIGNS TYPE II REFLECTIVE SH SF | 637.2230 SIGNS TYPE II REFLECTIVE F SF | 634.0612 POSTS WOOD 4x6x12 EACH | 634.0616 POSTS WOOD 4x6x16 EACH | 634.0618 POSTS WOOD 4x6x18 EACH | 634.0620 POSTS WOOD 4x6x20 EACH | 634.0805 POSTS TUBULAR STEEL 2x2x5 EACH | 634.0811 POSTS TUBULAR STEEL 2x2x11 EACH | 638.2102 MOVING SIGNS TYPE II EACH | 638.2602 REMOVING SIGNS TYPE II EACH | 638.3000 REMOVING SMALL SIGN SUPPORTS EACH | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CAT 0010 | | | | | | | | | | | | | | | | | |
| 1-1 | W1-7 | 48 | X | 24 | -- | -- | 8.00 | -- | -- | 1 | -- | -- | -- | -- | -- | -- | |
| 1-2 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 2 | |
| 1-3 | J4-1 | 24 | X | 36 | 6.00 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | |
| 1-4 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 1-5 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 1-6 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 1-7 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 1-8 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 1-9 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 1-10 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 1-11 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 1-12 | W1-6 | 48 | X | 24 | -- | -- | 8.00 | -- | 1 | -- | -- | -- | -- | -- | -- | -- | |
| 2-1 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 2-2 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 2-3 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 2-4 | W14-3 | 48 | X | 36 | -- | -- | 6.00 | -- | -- | 1 | -- | -- | -- | -- | -- | -- | |
| 2-5 | R2-1 | 24 | X | 30 | 5.00 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 45 MPH, MOUNT ON BACK OF 2-4 |
| 2-6 | R2-1 | 24 | X | 30 | 5.00 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | 45 MPH |
| 2-7 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 2-8 | W14-3 | 48 | X | 36 | -- | -- | 6.00 | -- | -- | 1 | -- | -- | -- | -- | -- | -- | |
| 2-9 | R1-1 | 30 | X | 30 | 5.18 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | 1 | 1 | RD NAME SIGN REMOVAL BY MUNICIPALITY |
| 2-10 | W1-6 | 48 | X | 24 | -- | -- | 8.00 | -- | 1 | -- | -- | -- | -- | -- | -- | -- | |
| 3-1 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 3-2 | W14-3 | 48 | X | 36 | -- | -- | 6.00 | -- | -- | 1 | -- | -- | -- | -- | -- | -- | |
| 4-1 | R2-1 | 24 | X | 30 | 5.00 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | 45 MPH |
| 4-2 | R2-1 | 24 | X | 30 | 5.00 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | 45 MPH |
| 4-3 | W14-3 | 48 | X | 36 | -- | -- | 6.00 | -- | -- | 1 | -- | -- | -- | -- | -- | -- | |
| 5-1 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 5-2 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 5-3 | W14-3 | 48 | X | 36 | -- | -- | 6.00 | -- | -- | 1 | -- | -- | -- | -- | -- | -- | |
| 6-2 | R2-1 | 24 | X | 30 | 5.00 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | 45 MPH |
| 6-3 | J1-1 | 24 | X | 39 | 6.50 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | |
| 6-4 | J2-1 | 24 | X | 57 | 9.50 | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | |
| 6-5 | D1-2 | 72 | X | 24 | 12.00 | -- | -- | -- | 1 | 1 | -- | -- | -- | -- | -- | -- | |
| 6-6 | J4-1 | 24 | X | 36 | 6.00 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | |
| 6-7 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 6-8 | J3-2 | 48 | X | 57 | 19.00 | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | |
| 6-10 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 6-11 | R1-1 | 36 | X | 36 | 7.46 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | |
| 6-12 | J3-1 | 24 | X | 57 | 9.50 | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | |
| 6-13 | M1-5A | 24 | X | 24 | 4.00 | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | -- | |
| 6-14 | J2-2 | 48 | X | 57 | 19.00 | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | |
| 6-15 | J1-2 | 48 | X | 39 | 13.00 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | |
| 6-17 | R2-1 | 24 | X | 30 | 5.00 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | 35 MPH |
| 6-19 | J1-2 | 48 | X | 39 | 13.00 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | |
| 6-20 | J2-2 | 48 | X | 57 | 19.00 | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | |
| 6-21 | R1-2 | 36 | X | 31 | 3.88 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | |
| SUBTOTALS | | | | | 183.02 | 0.00 | 54.00 | 0 | 4 | 20 | 5 | 0 | 0 | 0 | 19 | 20 | |

NOTE: SIGN 6-1, 6-9, 6-16, AND 6-18 NUMBERS NOT USED

## TYPE II SIGNS AND SUPPORTS (CONTINUED)

| SIGN NO. | SIGN CODE | W | X | H | 637.2210 SIGNS TYPE II REFLECTIVE H SF | 637.2220 SIGNS TYPE II REFLECTIVE SH SF | 637.2230 SIGNS TYPE II REFLECTIVE F SF | 634.0612 POSTS WOOD 4x6x12 EACH | 634.0616 POSTS WOOD 4x6x16 EACH | 634.0618 POSTS WOOD 4x6x18 EACH | 634.0620 POSTS WOOD 4x6x20 EACH | 634.0805 POSTS TUBULAR STEEL 2x2x5 EACH | 634.0811 POSTS TUBULAR STEEL 2x2x11 EACH | 638.2102 MOVING SIGNS TYPE II EACH | 638.2602 REMOVING SIGNS TYPE II EACH | 638.3000 REMOVING SMALL SIGN SUPPORTS EACH | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CAT 0010 | | | | | | | | | | | | | | | | | |
| 6-22 | J3-2 | 48 | X | 57 | 19.00 | -- | | -- | -- | -- | 1 | -- | -- | -- | -- | -- | |
| 6-23 | R1-1 | 36 | X | 36 | 7.46 | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | |
| 6-24 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 6-25 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 6-26 | W12-1D | 24 | X | 24 | -- | -- | 4.00 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | 2' MOUNTING HEIGHT |
| 6-27 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 6-28 | R1-1 | 36 | X | 36 | 7.46 | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | -- | |
| 6-29 | J3-1 | 24 | X | 57 | 9.50 | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | |
| 6-30 | J4-1 | 24 | X | 36 | 6.00 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | |
| 6-31 | W6-1 | 36 | X | 36 | -- | -- | 9.00 | -- | -- | 1 | -- | -- | -- | -- | 1 | 1 | |
| 6-32 | R2-1 | 24 | X | 30 | 5.00 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | 55 MPH |
| 6-33 | D1-1 | 78 | X | 15 | 8.13 | -- | -- | -- | 1 | 1 | -- | -- | -- | -- | -- | -- | |
| 6-34 | J2-2 | 48 | X | 57 | 19.00 | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | |
| 6-35 | J1-1 | 24 | X | 39 | 6.50 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | |
| 7-1 | R1-1 | 30 | X | 30 | 5.18 | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | -- | |
| 7-2 | W1-6 | 48 | X | 24 | -- | -- | 8.00 | -- | 1 | -- | -- | -- | -- | -- | -- | -- | |
| 7-3 | W3-1 | 36 | X | 36 | -- | -- | 9.00 | -- | 1 | -- | -- | -- | -- | -- | -- | -- | |
| 7-4 | W5-52L | 12 | X | 36 | -- | -- | 3.00 | -- | 1 | -- | -- | -- | -- | -- | -- | -- | |
| 7-5 | W5-52R | 12 | X | 36 | -- | -- | 3.00 | -- | 1 | -- | -- | -- | -- | -- | -- | -- | |
| 7-6 | W5-52R | 12 | X | 36 | -- | -- | 3.00 | -- | 1 | -- | -- | -- | -- | -- | -- | -- | |
| 7-7 | W5-52L | 12 | X | 36 | -- | -- | 3.00 | -- | 1 | -- | -- | -- | -- | -- | -- | -- | |
| 7-8 | W1-2L | 30 | X | 30 | -- | -- | 6.25 | -- | 1 | -- | -- | -- | -- | -- | -- | -- | |
| 8-1 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 8-2 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 8-3 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 8-4 | W5-56 | 18 | X | 18 | -- | 2.25 | -- | 1 | -- | -- | -- | -- | -- | -- | -- | -- | 4' MOUNTING HEIGHT |
| 8-5 | W5-56 | 18 | X | 18 | -- | 2.25 | -- | 1 | -- | -- | -- | -- | -- | -- | -- | -- | 4' MOUNTING HEIGHT |
| 8-6 | W5-56 | 18 | X | 18 | -- | 2.25 | -- | 1 | -- | -- | -- | -- | -- | -- | -- | -- | 4' MOUNTING HEIGHT |
| 8-7 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 8-8 | W14-1 | 30 | X | 30 | -- | -- | 6.25 | -- | 1 | -- | -- | -- | -- | -- | -- | -- | |
| 8-9 | R1-1 | 30 | X | 30 | 5.18 | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | -- | |
| 9-1 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 9-4 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 9-5 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 9-6 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 9-7 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 9-8 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 9-9 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 9-10 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 9-11 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 9-12 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 9-13 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 9-15 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 2 | |
| 9-16 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 3 | |
| 9-17 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 9-18 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 9-19 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| SUBTOTALS | | | | | 98.41 | 6.75 | 54.50 | 3 | 11 | 5 | 3 | 1 | 2 | 0 | 24 | 27 | |

## TYPE II SIGNS AND SUPPORTS (CONTINUED)

| SIGN NO. | SIGN CODE | W | X | H | 637.2210 SIGNS TYPE II REFLECTIVE H SF | 637.2220 SIGNS TYPE II REFLECTIVE SH SF | 637.2230 SIGNS TYPE II REFLECTIVE F SF | 634.0612 POSTS WOOD 4x6x12 EACH | 634.0616 POSTS WOOD 4x6x16 EACH | 634.0618 POSTS WOOD 4x6x18 EACH | 634.0620 POSTS WOOD 4x6x20 EACH | 634.0805 POSTS TUBULAR STEEL 2x2x5 EACH | 634.0811 POSTS TUBULAR STEEL 2x2x11 EACH | 638.2102 MOVING SIGNS TYPE II EACH | 638.2602 REMOVING SIGNS TYPE II EACH | 638.3000 REMOVING SMALL SIGN SUPPORTS EACH | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CAT 0010 | | | | | | | | | | | | | | | | | |
| 11-1 | D1-2 | 78 | X | 30 | 16.25 | -- | -- | -- | -- | 2 | -- | -- | -- | -- | -- | -- | |
| 11-2 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 2 | |
| 11-3 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 2 | |
| 11-4 | J3-2 | 48 | X | 57 | 19.00 | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | |
| 11-5 | J1-3 | 72 | X | 39 | 19.50 | -- | -- | -- | -- | 1 | 1 | -- | -- | -- | -- | -- | |
| 11-6 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 2 | |
| 11-7 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 11-8 | J4-1 | 24 | X | 36 | 6.00 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | |
| 11-8A | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | MOUNT WITH 11-8 |
| 11-10 | J2-2 | 48 | X | 57 | 19.00 | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | |
| 11-11 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 2 | |
| 11-12 | D1-2 | 60 | X | 30 | 12.50 | -- | -- | -- | -- | 2 | -- | -- | -- | -- | -- | -- | |
| 11-13 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 2 | |
| 11-14 | D1-2 | 78 | X | 30 | 16.25 | -- | -- | -- | -- | 2 | -- | -- | -- | -- | -- | -- | |
| 11-15 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 2 | |
| 11-16 | J2-3 | 72 | X | 57 | 28.50 | -- | -- | -- | -- | -- | 2 | -- | -- | -- | -- | -- | |
| 11-17 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 11-18 | J3-2 | 48 | X | 57 | 19.00 | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | |
| 11-19 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 2 | |
| 11-20 | D1-2 | 78 | X | 30 | 16.25 | -- | -- | -- | -- | 2 | -- | -- | -- | -- | -- | -- | |
| 11-21 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 11-22 | J3-1 | 24 | X | 57 | 9.50 | -- | -- | -- | -- | -- | 1 | -- | -- | | -- | -- | |
| 11-22A | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | MOUNT ON BACK OF 11-22 |
| 11-22B | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | MOUNT WITH 11-22 |
| 11-23 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 2 | |
| 11-24 | D1-3 | 78 | X | 36 | 19.50 | -- | -- | -- | -- | 1 | 1 | -- | -- | -- | -- | -- | |
| 11-24A | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | -- | -- | MOUNT ON BACK OF 11-24 |
| 11-25 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 11-26 | J1-2 | 48 | X | 39 | 13.00 | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | -- | |
| 11-27 | -- | -- | X | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 1 | REMOVE EXISTING DUPLICATE SIGN ASSEMBLY |
| 11-28 | J2-2 | 48 | X | 57 | 19.00 | -- | -- | -- | -- | -- | 1 | -- | -- | -- | -- | -- | |
| SUBTOTALS | | | | | 233.25 | 0.00 | 0.00 | 0 | 0 | 12 | 9 | 0 | 0 | 4 | 13 | 21 | |
| TOTALS | | | | | 514.68 | 6.75 | 108.50 | 3 | 15 | 37 | 17 | 1 | 2 | 4 | 56 | 68 | |

NOTE: SIGN 11-9 NUMBER NOT USED

## TYPE I SIGNS AND SUPPORTS

| SIGN NO. | SIGN CODE | W X H | 635.0200 SIGN SUPPORTS STRUCTURAL STEEL HS LB | 636.0100 SIGN SUPPORTS CONCRETE MASONRY CY | 636.0500 SIGN SUPPORTS STEEL REINFORCEMENT LB | 637.1220 SIGNS TYPE I REFLECTIVE SH SF | 638.2601 REMOVING SIGNS TYPE I EACH | 638.3100 REMOVING STRUCTURAL STEEL SIGN SUPPORTS EACH | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| CAT 0010 | | | | | | | | | |
| STH 29 | | | | | | | | | |
| 9-2 | E1-1A | 216 X 162 | 1,170 | 1.6 | 98 | 243 | -- | -- | |
| 9-3 | E1-5 | 120 X 30 | -- | -- | -- | 25 | -- | -- | MOUNT WITH 9-2 |
| 9-14 | -- | -- X -- | -- | -- | -- | -- | 1 | 2 | |
| 10-1 | E4-1A | 252 X 132 | 1,105 | 1.6 | 98 | 231 | 1 | 2 | |
| 10-2 | E1-5 | 120 X 30 | -- | -- | -- | 25 | -- | -- | MOUNT WITH 10-1 |
| 12-1 | E4-1A | 252 X 132 | 1,105 | 1.6 | 98 | 231 | 1 | 2 | |
| 12-2 | E1-5 | 120 X 30 | -- | -- | -- | 25 | -- | -- | MOUNT WITH 12-1 |
| 12-3 | E1-1A | 216 X 162 | 1,170 | 1.6 | 98 | 243 | 1 | 2 | |
| 12-4 | E1-5 | 120 X 30 | -- | -- | -- | 25 | -- | -- | MOUNT WITH 12-3 |
| TOTALS | | | 4,550 | 6.4 | 392 | 1,048 | 4 | 8 | |

## TRAFFIC CONTROL ITEMS

| LOCATION | DAYS | 643.0100.01 (1058-25-70) EACH | 643.0300 DRUMS NO. | 643.0300 DRUMS DAYS | 643.0420 BARRICADES TYPE III NO. | 643.0420 BARRICADES TYPE III DAYS | 643.0705 WARNING LIGHTS TYPE A NO. | 643.0705 WARNING LIGHTS TYPE A DAYS | 643.0715 WARNING LIGHTS TYPE C NO. | 643.0715 WARNING LIGHTS TYPE C DAYS | 643.0800 ARROW BOARDS NO. | 643.0800 ARROW BOARDS DAYS | 643.0900 SIGNS NO. | 643.0900 SIGNS DAYS | 643.1050 SIGNS PCMS NO. | 643.1050 SIGNS PCMS DAYS | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CAT 0010 | | | | | | | | | | | | | | | | | |
| STAGE 1 | 120 | -- | 45 | 5,400 | 45 | 5,400 | 68 | 8,160 | 20 | 2,400 | 2 | 240 | 57 | 6,840 | 5 | 261 | |
| WINTER SHUTDOWN | 150 | -- | 30 | 4,500 | 21 | 3,150 | 28 | 4,200 | -- | -- | -- | -- | 38 | 5,700 | -- | -- | |
| STAGES 2 & 3 | 155 | -- | 130 | 20,150 | 28 | 4,340 | 36 | 5,580 | 20 | 3,100 | 4 | 620 | 60 | 9,300 | 4 | 324 | |
| PROJECT | -- | 1 | 65 | 1,500 | 5 | 125 | 10 | 250 | -- | -- | 1 | 20 | 10 | 250 | -- | -- | MISC SHOULDER CLOSURES FOR TYPE I SIGNING INSTALLATION ON STH 29, CTH Y INTERSECTION STAGING |
| TOTALS | | 1 | | 31,550 | | 13,015 | | 18,190 | | 5,500 | | 880 | | 22,090 | | 585 | |

## PAVEMENT MARKING ITEMS

| STATION - STATION | LOCATION | 646.0106 EPOXY 4-INCH (YELLOW) (CENTERLINE) LF | 646.0106 EPOXY 4-INCH (YELLOW) (EDGELINE) LF | 646.0106 EPOXY 4-INCH (WHITE) (EDGELINE) LF | 646.0126 EPOXY 8-INCH (WHITE) (CHANNELIZING) LF | 646.0600 REMOVING PAVEMENT MARKINGS LF | 646.2304.S GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE) (EDGELINE) LF | 647.0526 YIELD LINE SYMBOLS EPOXY 18-INCH (WHITE) EACH | 647.0566 STOP LINE EPOXY 18-INCH (WHITE) LF | 647.0726 DIAGONAL EPOXY 12-INCH (WHITE) LF | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| CAT 0010 | | | | | | | | | | | |
| STH 156/OLD 29 DR | | | | | | | | | | | |
| 196+50 - 280+37 | LT & RT | 8,390 | -- | -- | -- | -- | 16,300 | -- | -- | -- | |
| 199+18 - 202+18 | LT | -- | -- | -- | 300 | -- | -- | -- | -- | -- | RT TURN LANE AT ST. AUGUSTINE RD |
| 277+68 - 279+68 | RT | -- | -- | -- | 200 | -- | -- | -- | -- | -- | RT TURN LANE AT CTH Y |
| 4'Y'+89 - 12'Y'+92 | LT & RT | 1,565 | -- | -- | 405 | -- | 1,355 | -- | 60 | 150 | |
| OLD 29 DR | | | | | | | | | | | |
| 280+37 - 291+00 | LT & RT | 1,250 | -- | -- | 470 | 225 | 1,155 | 12 | -- | 115 | REMOVE CENTERLINE WHERE CONFLICTING WITH NEW MARKING |
| CTH Y | | | | | | | | | | | |
| 3'Y'+17 - 4'Y'+89 | LT & RT | 278 | -- | 196 | -- | -- | -- | -- | 42 | -- | |
| ST. AUGUSTINE RD | | | | | | | | | | | |
| 10'A'+24 - 37'A'+00 | LT & RT | 5,326 | -- | -- | -- | -- | -- | -- | 22 | -- | |
| STH 29 | | | | | | | | | | | |
| 319'EB'+24 - 330'EB'+85 (EB) | LT & RT | -- | 740 | 730 | -- | -- | -- | -- | -- | -- | REPLACE EDGELINE THROUGH TURN LANE AND MEDIAN REMOVALS |
| 319'EB'+24 - 334'EB'+83 (WB) | LT | -- | 740 | 480 | -- | -- | -- | -- | -- | -- | REPLACE EDGELINE THROUGH TURN LANE AND MEDIAN REMOVALS |
| TOTALS | | 16,809 | 1,480<br>19,695 | 1,406 | 1,375 | 225 | 18,810 | 12 | 124 | 265 | |

NOTE:
ADDITIONAL PAVEMENT MARKING ITEMS ARE SHOWN WITH PIPE UNDERDRAIN ITEMS (OUTFALL MARKING)

## LOCATING NO-PASSING ZONES

| STATION - STATION | LOCATION | 648.0100 MI |
|---|---|---|
| CAT 0010 | | |
| STH 156/OLD 29 DR | | |
| 196+50 - 291+00 | LT & RT | 1.79 |
| TOTAL | | 1.79 |

## TEMPORARY PAVEMENT MARKING ITEMS

| | 649.0400 REMOVEABLE TAPE 4-INCH (WHITE) LF | 649.0400 REMOVEABLE TAPE 4-INCH (YELLOW) LF | 649.0506 REMOVEABLE MASK-OUT TAPE 6-INCH LF | COMMENTS |
|---|---|---|---|---|
| CAT 0010 | | | | |
| STH 29 | | | | |
| | -- | 450 | -- | EB LEFT TURN LANE CLOSURE STAGE 1 |
| | -- | 6,400 | 400 | LANE CLOSURE STAGE 2A |
| | 6,650 | -- | 400 | LANE CLOSURE STAGE 2B |
| TOTALS | 6,650 | 6,850<br>13,500 | 800 | |

NOTE:
MASK-OUT TAPE TO BE USED IN PLACE OF LANE LINE MARKING REMOVAL

3

## CONSTRUCTION STAKING ITEMS

| STATION - STATION | LOCATION | 650.4500 SUBGRADE LF | 650.5000 BASE LF | 650.5500 CURB GUTTER AND CURB & GUTTER LF | 650.6000 PIPE CULVERTS EACH | 650.7000 CONCRETE PAVEMENT LF | 650.8000 RESURFACING REFERENCE LF | 650.9910.01 SUPPLEMENTAL CONTROL (1058-25-70) LS | 650.9920 SLOPE STAKES LF |
|---|---|---|---|---|---|---|---|---|---|
| CAT 0010 | | | | | | | | | |
| STH 156/OLD 29 DR | | | | | | | | | |
| 196+50 - 217+50 | LT & RT | 2,100 | 2,100 | -- | -- | -- | -- | -- | 2,100 |
| 217+50 - 276+25 | LT & RT | 665 | 665 | -- | -- | -- | 5,875 | -- | 665 |
| 276+25 - 280+37 | LT & RT | 412 | 412 | -- | -- | -- | -- | -- | 412 |
| 4'Y'+89 - 12'Y'+92 | LT & RT | 578 | 578 | 334 | 1 | 175 | 225 | -- | 578 |
| OLD 29 DR | | | | | | | | | |
| 280+37 - 286+59 | LT & RT | 622 | 622 | 301 | -- | -- | -- | -- | 622 |
| CTH Y | | | | | | | | | |
| 3'Y'+17 - 4'Y'+89 | LT & RT | 172 | 172 | 160 | 1 | -- | -- | -- | 172 |
| ST. AUGUSTINE RD | | | | | | | | | |
| 10'A'+00 - 18'A'+75 | LT & RT | 875 | 875 | 151 | 1 | -- | -- | -- | 875 |
| 20'A'+92 - 37'A'+00 | LT & RT | 1,608 | 1,608 | -- | -- | -- | -- | -- | 1,608 |
| EXISTING ST. AUGUSTINE RD | | | | | | | | | |
| 11'S'+39 - 22'S'+60 | LT & RT | 626 | 626 | -- | 1 | -- | 495 | -- | 626 |
| STH 29 | | | | | | | | | |
| 319'EB'+24 - 330'EB'+87 (EB) | LT & RT | 1,163 | 1,163 | -- | -- | -- | -- | -- | 1,163 |
| 319'EB'+24 - 334'EB'+83 (WB) | LT | 1,559 | 1,559 | -- | -- | -- | -- | -- | 1,559 |
| EXISTING STH 156 REMOVAL | | | | | | | | | |
| 3'S'+25 - 8'S'+93 | LT & RT | 568 | -- | -- | -- | -- | -- | -- | 568 |
| EXISTING OLD 29 DR REMOVAL | | | | | | | | | |
| 5'T'+68 - 9'T'+60 | LT & RT | 392 | -- | -- | -- | -- | -- | -- | 392 |
| EXISTING OLD 29 DR TEMPORARY CONNECTION | | | | | | | | | |
| 11'T'+75 - 13'T'+64 | LT & RT | 189 | -- | -- | -- | -- | -- | -- | 189 |
| STREAM REALIGNMENT | | | | | | | | | |
| 0'W'+00 - 12'B'+61 | LT & RT | 1,261 | -- | -- | -- | -- | -- | -- | 1,261 |
| TEMPORARY BYPASS OF STREAM REALIGNMENT | | | | | | | | | |
| 0'B'+00 - 14'B'+55 | LT & RT | 1,100 | -- | -- | -- | -- | -- | -- | 1,100 |
| PROJECT | | | | | | | | | |
| PROJECT | LT & RT | -- | -- | -- | -- | -- | -- | 1 | -- |
| TOTALS | | 13,890 | 10,380 | 946 | 4 | 175 | 6,595 | 1 | 13,890 |

NOTE:
THE SLOPE AND SUBGRADE STAKING FOR THE STREAM REALIGNMENT IS ADDITIONAL STAKING THAT MAY BE REQUIRED TO ENSURE THE DITCH ALONG THE LEFT SIDE OF ST. AUGUSTINE RD MEETS THE REQUIREMENTS OF THE CHANNEL CONFIGURATION SHOWN ON THE CONSTRUCTION DETAILS

## CONSTRUCTION STAKING STRUCTURE LAYOUT

| STATION | LOCATION | 650.6500.01 (B-58-0129) LS | 650.6500.02 (B-05-0435) LS | 650.6500.03 (C-05-0151) LS |
|---|---|---|---|---|
| CAT 0010 | | | | |
| STH 156/OLD 29 DR | | | | |
| 215+97 | LT & RT | -- | 1 | -- |
| 257+35 | LT & RT | -- | -- | 1 |
| ST. AUGUSTINE RD | | | | |
| 19'A'+80.60 | LT & RT | 1 | -- | -- |
| TOTALS | | 1 | 1 | 1 |

## SAWING ITEMS

| STATION - STATION | LOCATION | 690.0150 ASPHALT LF | 690.0250 CONCRETE LF |
|---|---|---|---|
| CAT 0010 | | | |
| STH 156/OLD 29 DR | | | |
| 196+50 - 218+50 | LT & RT | 84 | -- |
| 253+89 - 260+54 | LT & RT | 48 | -- |
| 276+25 - 280+37 | LT & RT | 24 | -- |
| 8'Y'+50 - 10'Y'+67 | LT & RT | 250 | -- |
| OLD 29 DR | | | |
| 282+50 - 286+59 | LT & RT | 364 | -- |
| CTH Y | | | |
| 3'Y'+17 | LT & RT | 30 | -- |
| ST. AUGUSTINE RD | | | |
| 37'A'+00 | LT & RT | 22 | -- |
| EXISTING ST. AUGUSTINE RD | | | |
| 13'S'+75 | LT & RT | 22 | -- |
| 18'S'+70 | LT & RT | 22 | -- |
| STH 29 | | | |
| 319'EB'+24 - 330'EB'+87 (EB) | LT & RT | 430 | 1,455 |
| 319'EB'+24 - 334'EB'+83 (WB) | LT & RT | 825 | 1,200 |
| EXISTING OLD 29 DR TEMPORARY CONNECTION | | | |
| 11'T'+75 | LT & RT | 22 | -- |
| 13'T'+64 | LT & RT | 22 | -- |
| DRIVEWAYS | | | |
| PROJECT | LT & RT | 185 | -- |
| TOTALS | | 2,350 | 2,655 |

DEPARTMENT COMPOSITE ORIGINAL LOCATED AT THE REGISTER OF DEEDS OFFICE

# TRANSPORTATION PROJECT PLAT NO: 1058-25-20-4.01 AMENDMENT NO. 2

AMENDS UTILITY NUMBER 200 SHOWN ON TRANPORTATION PROJECT PLAT 1058-25-20-4.01 RECORDED AS DOCUMENT NO: 712949.

THAT PART OF LOT 1 OF CSM 1766, RECORDED IN V.6, P.303 AS DOC. 512135, LOCATED IN AND PART OF THE SOUTHEAST¼OF THE SOUTHEAST¼OF SECTION 25, ALSO THAT PART OF THE NORTHEAST¼OF THE NORTHEAST¼OF SECTION 36, ALL IN TOWNSHIP 25 NORTH, RANGE 18 EAST, TOWN OF MAPLE GROVE, SHAWANO COUNTY, WISCONSIN.

RELOCATION ORDER STH 29 & STH 156 INTERSECTION, SHAWANO COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

## NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, SHAWANO COUNTY, NAD 83 (1991) IN SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

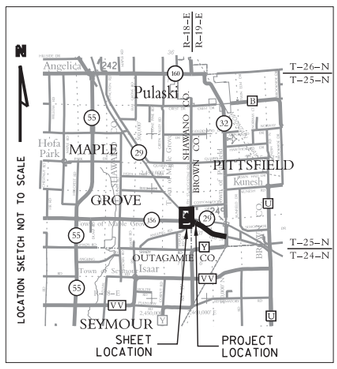
RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS OF PUBLIC RECORD".

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO NEW REFERENCE LINES.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY LINES, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

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

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE:
EXISTING HIGHWAY RIGHT-OF-WAY FOR ST. AUGUSTINE RD ESTABLISHED FROM PREVIOUS PROJECTS F020-3(23), 9202-2-22, 1058-14-00, 9202-10-00, CSM 1766, AND EXISTING CENTERLINE.
EXISTING HIGHWAY RIGHT-OF-WAY FOR STH 29 ESTABLISHED FROM PREVIOUS PROJECTS F020-3(23), 9202-2-22, 1058-14-00, 9202-10-00, AND EXISTING CENTERLINE.
EXISTING ACCESS CONTROL ALONG STH 29 ESTABLISHED FROM PREVIOUS PROJECTS 9202-2-22, 1058-14-00, AND CSM 1766

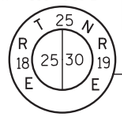



STH 29 EB
CURVE 2 DATA
PI = 327°EB"+62.13
Y = 205904.215
X = 954550.441
T = 1307.39'
L = 2519.29'
R = 3819.72'
DELTA = 37°47'22" LT
D = 01°30'00"
LCH = 2473.88'
LCB = S61°47'12"E
PC = 314"EB"+54.74
DB = N42°53'32"W
PT = 339"EB"+74.04
DA = S80°40'53"E

DOC # 722174
Recorded
March 13, 2017 10:49 AM
AMY DILLENBURG
REGISTER OF DEEDS
SHAWANO WI
Fee Amount: $25.00
Slide 8-313

77

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1058-25-20-4.01
AMENDMENT NO: 2




FOUND
SURVEY NAIL
Y=208121.845
X=954961.958

UTILITY INTERESTS REQUIRED

| UTILITY NUMBER | OWNER(S) | INTEREST REQUIRED |
|---|---|---|
| 200 | WISCONSIN ELECTRIC POWER COMPANY D/B/A WE ENERGIES (ELECTRIC) | RELEASE OF RIGHTS |
| 202 | WISCONSIN PUBLIC SERVICE CORPORATION (GAS) | RELEASE OF RIGHTS |
| 203 | NORTHEAST TELEPHONE COMPANY LLC. | RELEASE OF RIGHTS |

COURSE TABLE

| COURSE | BEARING | DISTANCE |
|---|---|---|
| 100-101 | N 00°38'22" E | 34.33' |
| 101-102 | N 83°31'34" E | 55.99' |
| 102-103 | N 45°44'20" E | 95.68' |
| 103-104 | N 00°35'46" E | 128.87' |
| 104-105 | SEE CURVE DATA ON SHEET | |
| 105-106 | N 37°10'19" E | 68.78' |
| 106-107 | N 42°54'59" W | 202.75' |
| 107-108 | N 56°56'06" W | 103.93' |
| 108-109 | N 47°01'15" W | 144.32' |
| 109-110 | N 06°28'19" W | 19.98' |
| 110-111 | S 81°50'58" E | 183.64' |
| 111-112 | S 81°50'58" E | 314.69' |
| 112-113 | N 37°10'19" E | 296.34' |
| 113-114 | S 88°53'58" E | 185.58' |
| 114-115 | S 88°53'58" E | 159.54' |
| 115-116 | S 34°13'53" W | 507.72' |
| 116-117 | S 43°55'49" W | 152.45' |
| 117-118 | S 43°55'49" W | 178.95' |
| 118-119 | S 37°10'19" W | 227.59' |
| 119-120 | SEE CURVE DATA ON SHEET | |
| 120-121 | S 44°15'40" E | 87.95' |
| 121-122 | S 89°21'38" E | 186.80' |
| 122-123 | SEE CURVE DATA ON SHEET | |
| 123-124 | N 59°07'00" E | 375.23' |
| 124-125 | S 00°22'39" W | 465.28' |
| 125-126 | S 00°34'29" W | 27.80' |
| 126-127 | S 00°34'29" W | 66.04' |
| 127-128 | N 76°49'25" W | 102.55' |
| 128-129 | N 80°52'37" W | 171.69' |
| 129-130 | N 89°21'38" W | 547.47' |
| 130-131 | SEE CURVE DATA ON SHEET | |
| 131-132 | N 89°25'06" W | 168.69' |
| 132-133 | N 00°35'46" E | 7.77' |
| 133-134 | N 89°21'38" W | 160.45' |
| 134-135 | N 00°38'22" E | 6.07' |
| 135-136 | N 00°38'22" E | 36.93' |
| 136-100 | N 00°38'22" E | 0.73' |

STATION & OFFSET TABLE

| POINT NO. | STATION | OFFSET |
|---|---|---|
| 100 | 196+50.00 | -0.73' |
| 101 | 196+50.00 | -35.07' |
| 102 | 197+05.56 | -42.00' |
| 103 | 11'A'+09.59 | -70.00' |
| 104 | 12'A'+30.86 | -74.88' |
| 105 | 17'A'+48.58 | -125.00' |
| 106 | 18'A'+17.35 | -125.00' |
| 107 | 319'EB'+00.00 | 103.33' |
| 108 | 318'EB'+00.00 | 118.00' |
| 109 | 316'EB'+60.00 | 118.00' |
| 110 | 316'EB'+45.00 | 105.32' |
| 111 | 317'EB'+93.41 | 0.00' |
| 112 | 21'A'+15.51 | -150.00' |
| 113 | 24'A'+11.96 | -150.00' |
| 114 | 25'A'+21.23 | 0.00' |
| 115 | 26'A'+15.16 | 128.95' |
| 116 | 21'A'+08.11 | 155.00' |
| 117 | 323'EB'+56.19 | 0.00' |
| 118 | 17'A'+79.01 | 116.00' |
| 119 | 15'A'+32.68 | 105.23' |
| 120 | 11'A'+27.25 | 53.24' |
| 121 | 199+58.64 | -65.00' |
| 122 | 201+45.44 | -65.00' |
| 123 | 205+69.48 | -269.35' |
| 124 | 330'EB'+41.37 | 0.00' |
| 125 | 208+87.83 | -27.23' |
| 126 | 208+93.38 | 0.00' |
| 127 | 209+07.51 | 64.59' |
| 128 | 208+00.00 | 60.00' |
| 129 | 206+21.66 | 46.00' |
| 130 | 200+74.20 | 46.00' |
| 131 | 198+43.42 | 0.00' |
| 132 | 198+10.45 | 50.77' |
| 133 | 198+10.45 | 43.00' |
| 134 | 196+50.00 | 43.00' |
| 135 | 196+50.00 | 36.93' |
| 136 | 196+50.00 | 0.00' |

TLE STATION & OFFSET TABLE

| POINT NO. | STATION | OFFSET |
|---|---|---|
| TLE 150 | 22'A'+50.00 | -150.00' |
| TLE 151 | 23'A'+45.00 | -190.00' |
| TLE 152 | 23'A'+82.82 | -190.00' |
| TLE 153 | 205+51.22 | -286.59' |
| TLE 154 | 205+16.82 | -227.21' |
| TLE 155 | 209+24.44 | 134.00' |
| TLE 156 | 207+65.97 | 157.85' |
| TLE 157 | 207+54.59 | 58.63' |
| TLE 158 | 204+70.00 | 46.00' |
| TLE 159 | 204+70.00 | 75.00' |
| TLE 160 | 203+80.00 | 75.00' |
| TLE 161 | 203+80.00 | 46.00' |
| TLE 162 | 198+10.46 | 57.00' |
| TLE 163 | 196+50.00 | 57.00' |
| TLE 164 | 196+50.00 | -40.10' |
| TLE 165 | 197+11.34 | -47.76' |

CURVE TABLE

| CURVE NUMBER | RADIUS | ARC LENGTH | CHORD LENGTH | CHORD BEARING |
|---|---|---|---|---|
| C5 | 897.76' | 573.10' | 563.42' | N18°53'03"E |
| C6 | 669.56' | 372.61' | 367.82' | S21°13'46"W |
| C7 | 904.93' | 476.19' | 470.71' | N64°54'35"E |
| C8 | 1004.93' | 95.20' | 95.17' | S87°52'04"W |

## CONVENTIONAL UTILITY SYMBOLS

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

## CONVENTIONAL ABBREVIATIONS

| | | | |
|---|---|---|---|
| ACCESS POINT, DRIVEWAY CONNECTION | AP | REFERENCE LINE | R/L |
| ACCESS RIGHTS | AR | RELEASE OF RIGHTS | ROR |
| ACRES | AC. | REMAINING | REM. |
| AND OTHERS | ET.AL. | RIGHT-OF-WAY | R/W |
| CENTERLINE | C/L | SECTION | SEC. |
| CERTIFIED SURVEY MAP | CSM | STATION | STA. |
| CORNER | COR. | TEMPORARY LIMITED EASEMENT | TLE |
| DOCUMENT | DOC. | VOLUME | V. |
| EASEMENT | EASE. | **CURVE DATA** | |
| HIGHWAY EASEMENT | H.E. | LONG CHORD | LCH |
| LAND CONTRACT | LC | LONG CHORD BEARING | LCB |
| MONUMENT | MON. | RADIUS | R |
| PAGE | P. | DEGREE OF CURVE | D |
| PERMANENT LIMITED EASEMENT | PLE | CENTRAL ANGLE OR DELTA | DELTA |
| PROPERTY LINE | PL | LENGTH OF CURVE | L |
| RECORDED AS | (100') | TANGENT | TAN |

## CONVENTIONAL SYMBOLS

| | |
|---|---|
| FOUND IRON PIPE/PIN (1" UNLESS NOTED) | PROPOSED R/W LINE |
| R/W MONUMENT | EXISTING H.E. LINE |
| R/W STANDARD | PROPERTY LINE |
| SIGN | LOT & TIE LINES |
| SECTION CORNER MONUMENT | SLOPE INTERCEPTS |
| SECTION CORNER SYMBOL | CORPORATE LIMITS |
| FEE (HATCH VARIES) | RESTRICTED ACCESS (BY PREVIOUS ACQUISITION/CONTROL) |
| TEMPORARY LIMITED EASEMENT | RESTRICTED ACCESS (BY ACQUISITION) |
| PERMANENT LIMITED EASEMENT | NO ACCESS (BY STATUTORY AUTHORITY) |
| R/W BOUNDARY POINT | SECTION LINE |
| PARCEL NUMBER | QUARTER LINE |
| UTILITY NUMBER | SIXTEENTH LINE |
| SIGN NUMBER (OFF PREMISE) | EXISTING CENTERLINE |
| BUILDING | PROPOSED REFERENCE LINE |
| | PARALLEL OFFSET |

GN

0 100 200
SCALE, FEET

A **TEMPORARY LIMITED EASEMENT** (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS ANDEGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE. ALL TLES EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

SCHEDULE OF LANDS & INTERESTS REQUIRED

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

| PARCEL NUMBER | OWNERS | INTEREST REQUIRED | R/W ACRES REQUIRED NEW | EXISTING | TOTAL | TLE ACRES |
|---|---|---|---|---|---|---|
| 9 | BAUMGART MARITAL TRUST FUNDED JANUARY 24, 2006, SUSAN MIELCAREK TRUSTEE | FEE/TLE | 6.245 | 0.163 | 6.408 | 0.119 |
| 11 | JAMES J. VANDEN ENG AND MARGARET VANDEN | FEE/TLE | 0.023 | 0.178 | 0.201 | 0.052 |
| 12 | MELVIN A. & GERALDINE R. NOOYEN | FEE/TLE | 0.180 | 0.443 | 0.623 | 0.085 |
| 13 | WOZ'S POLISH PICKLE, LLC | FEE/TLE | 0.165 | 0.076 | 0.241 | 0.259 |

EXISTING MONUMENTS

| POINT | Y (NORTHING) | X (EASTING) | DESCRIPTION |
|---|---|---|---|
| 180 | 206613.021 | 953754.876 | 1.25" OD IP |
| 181 | 206629.335 | 953771.984 | 1.25" OD IP |
| 182 | 206806.314 | 953972.385 | 1.00" OD IP |
| 183 | 206247.105 | 954688.913 | 1.25" OD IP |
| 184 | 206397.293 | 954917.606 | 1.00" OD IP |
| 185 | 205761.246 | 954625.650 | 1.25" OD IP |
| 186 | 205618.852 | 954393.493 | 1.25" OD IP |
| 187 | 205547.898 | 954032.786 | 1.25" OD IP |
| 188 | 206198.592 | 954172.486 | 1.25" OD IP |

200 WISCONSIN ELECTRIC POWER COMPANY D/B/A WE ENERGIES (ELECTRIC)
DOC. 229942 - PAR. 11
DOC. 229940 - PAR. 12
DOC. 186290 - PAR. 11
DOC. 186266 - PAR. 12, 13
NO EASEMENT OF RECORD PAR. 9

202 WISCONSIN PUBLIC SERVICE CORPORATION (GAS)
NO EASEMENT OF RECORD PAR. 9

203 NORTHEAST TELEPHONE COMPANY LLC.
NO EASEMENT OF RECORD PAR. 9, 12
DOC. 337364 - PAR. 11
DOC. 337234 - PAR. 12, 13
DOC. 337251 - PAR. 12, 13

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I, KEVIN C. BOYER, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE DEPARTMENT, I HAVE SURVEYED AND MAPPED TRANSPORTATION PROJECT PLAT 1058-25-20-4.01 AMENDMENT NO. 2 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

Kevin C. Boyer DATE: 3/2/2017

KEVIN C. BOYER
PROFESSIONAL LAND SURVEYOR NUMBER 2675

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

Brent L Stella DATE: 3-2-17
(SIGNATURE)
(PRINTED NAME) Brent L Stella

WISCONSIN KEVIN C BOYER S-2675 HEWITT WI LAND SURVEYOR

FILE NAME : P:\48xx\4801-4802_DP.13_STH156-STH29_SHAWCADDS\Plan\TPP\STH 29\040101_A2_rp.dgn
APPRAISAL PLAT DATE :
PLOT SCALE : 1:100
PLOT NAME :
PLOT BY : kcb
PLOT DATE : 3/2/2017

1058-25-20-4.01 A2

4

DEPARTMENT COMPOSITE ORIGINAL LOCATED AT THE REGISTER OF DEEDS OFFICE

4

# TRANSPORTATION PROJECT PLAT NO: 1058-25-20-4.01 AMENDMENT NO. 1

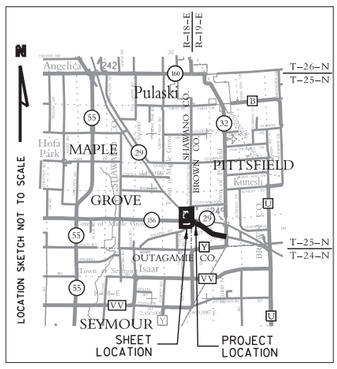
AMENDS THE ACCESS CONTROL SHOWN ON TRANPORTATION PROJECT PLAT 1058-25-20-4.01 RECORDED AS DOCUMENT NO: 712949.

THAT PART OF LOT 1 OF CSM 1766, RECORDED IN V.6, P.303 AS DOC. 512135, LOCATED IN AND PART OF THE SOUTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 25, ALSO THAT PART OF THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 36, ALL IN TOWNSHIP 25 NORTH, RANGE 18 EAST, TOWN OF MAPLE GROVE, SHAWANO COUNTY, WISCONSIN.

RELOCATION ORDER STH 29 & STH 156 INTERSECTION, SHAWANO COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.




STH 29 EB
CURVE 2 DATA
PI = 327°EB'+62.13
Y = 205904.215
X = 954550.441
T = 1307.39'
L = 2519.29'
R = 3819.72'
DELTA = 37°47'22" LT
D = 01°30'00"
LCH = 2473.88'
LCB = S61°47'12"E
PC = 314°EB'+54.74
DB = N42°53'32"W
PT = 339°EB'+74.04
DA = S80°40'53"E

DOC # 720562
Recorded
December 27, 2016 2:34 P
AMY DILLENBURG
REGISTER OF DEEDS
SHAWANO WI
Fee Amount: $30.00
Slide B-312

78

1058-25-20-4.01 A1

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1058-25-20-4.01
AMENDMENT NO: 1

T 25 N
R 18 E | 25 30 | R 19 E

FOUND SURVEY NAIL
Y=208121.845
X=954961.958

## NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, SHAWANO COUNTY, NAD 83 (1991) IN SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

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

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO NEW REFERENCE LINES.

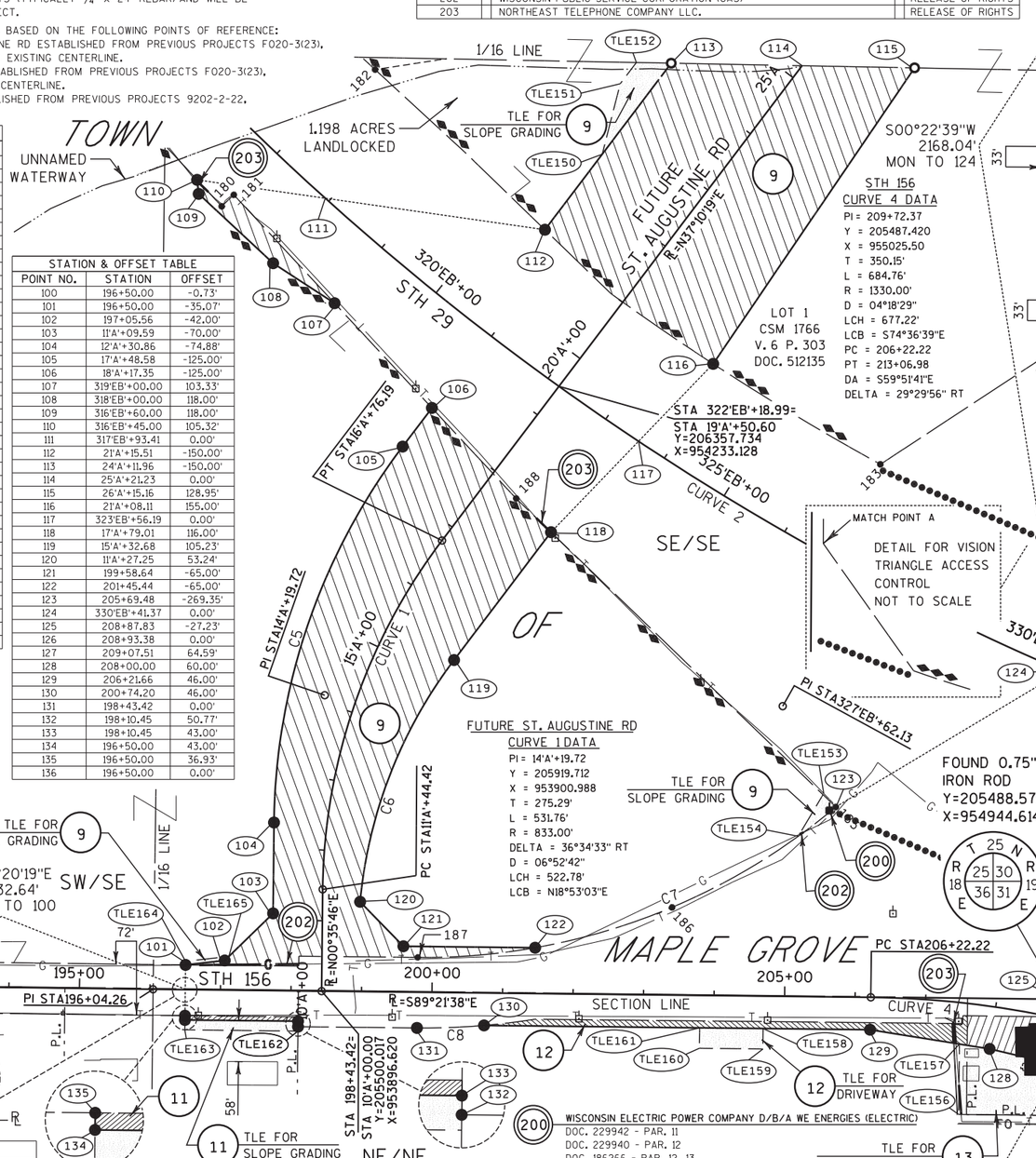
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RIGHT-OF-WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY ¾" x 24" REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE:
EXISTING HIGHWAY RIGHT-OF-WAY FOR ST. AUGUSTINE RD ESTABLISHED FROM PREVIOUS PROJECTS F020-3(23), 9202-2-22, 1058-14-00, 9202-10-00, CSM 1766, AND EXISTING CENTERLINE.
EXISTING HIGHWAY RIGHT-OF-WAY FOR STH 29 ESTABLISHED FROM PREVIOUS PROJECTS F020-3(23), 9202-2-22, 1058-14-00, 9202-10-00, AND EXISTING CENTERLINE.
EXISTING ACCESS CONTROL ALONG STH 29 ESTABLISHED FROM PREVIOUS PROJECTS 9202-2-22, 1058-14-00, AND CSM 1766

UTILITY INTERESTS REQUIRED

| UTILITY NUMBER | OWNER(S) | INTEREST REQUIRED |
|---|---|---|
| 200 | WISCONSIN ELECTRIC POWER COMPANY D/B/A WE ENERGIES (ELECTRIC) | RELEASE OF RIGHTS |
| 202 | WISCONSIN PUBLIC SERVICE CORPORATION (GAS) | RELEASE OF RIGHTS |
| 203 | NORTHEAST TELEPHONE COMPANY LLC. | RELEASE OF RIGHTS |




| COURSE TABLE | | |
|---|---|---|
| COURSE | BEARING | DISTANCE |
| 100-101 | N 00°38'22" E | 34.33' |
| 101-102 | N 83°31'34" E | 55.99' |
| 102-103 | N 45°44'20" E | 95.68' |
| 103-104 | N 00°35'46" E | 128.87' |
| 104-105 | SEE CURVE DATA ON SHEET | |
| 105-106 | N 37°10'19" E | 68.78' |
| 106-107 | N 42°54'59" W | 202.75' |
| 107-108 | N 56°56'06" W | 103.93' |
| 108-109 | N 47°01'15" W | 144.32' |
| 109-110 | N 06°28'19" W | 19.98' |
| 110-111 | S 81°50'58" E | 183.64' |
| 111-112 | S 81°50'58" E | 314.69' |
| 112-113 | N 37°10'19" E | 296.34' |
| 113-114 | S 88°53'58" E | 185.58' |
| 114-115 | S 88°53'58" E | 159.54' |
| 115-116 | S 34°13'53" W | 507.72' |
| 116-117 | S 43°55'49" W | 152.45' |
| 117-118 | S 43°55'49" W | 178.95' |
| 118-119 | S 37°10'19" W | 227.59' |
| 119-120 | SEE CURVE DATA ON SHEET | |
| 120-121 | S 44°15'40" E | 87.95' |
| 121-122 | S 89°21'38" E | 186.80' |
| 122-123 | SEE CURVE DATA ON SHEET | |
| 123-124 | N 59°07'00" E | 375.23' |
| 124-125 | S 00°22'39" W | 465.28' |
| 125-126 | S 00°34'29" W | 27.80' |
| 126-127 | S 00°34'29" W | 66.04' |
| 127-128 | N 76°49'25" W | 102.55' |
| 128-129 | N 80°52'37" W | 171.69' |
| 129-130 | N 89°21'38" W | 547.47' |
| 130-131 | SEE CURVE DATA ON SHEET | |
| 131-132 | N 89°25'06" W | 168.69' |
| 132-133 | N 00°35'46" E | 7.77' |
| 133-134 | N 89°21'38" W | 160.45' |
| 134-135 | N 00°38'22" E | 6.07' |
| 135-136 | N 00°38'22" E | 36.93' |
| 136-100 | N 00°38'22" E | 0.73' |

| STATION & OFFSET TABLE | | |
|---|---|---|
| POINT NO. | STATION | OFFSET |
| 100 | 196+50.00 | -0.73' |
| 101 | 196+50.00 | -35.07' |
| 102 | 197+05.56 | -42.00' |
| 103 | 11'A'+09.59 | -70.00' |
| 104 | 12'A'+30.86 | -74.88' |
| 105 | 17'A'+48.58 | -125.00' |
| 106 | 18'A'+17.35 | -125.00' |
| 107 | 319'EB'+00.00 | 103.33' |
| 108 | 318'EB'+00.00 | 118.00' |
| 109 | 316'EB'+60.00 | 118.00' |
| 110 | 316'EB'+45.00 | 105.32' |
| 111 | 317'EB'+93.41 | 0.00' |
| 112 | 21'A'+15.51 | -150.00' |
| 113 | 24'A'+11.96 | -150.00' |
| 114 | 25'A'+21.23 | 0.00' |
| 115 | 26'A'+15.16 | 128.95' |
| 116 | 21'A'+08.11 | 155.00' |
| 117 | 323'EB'+56.19 | 0.00' |
| 118 | 17'A'+79.01 | 116.00' |
| 119 | 15'A'+32.68 | 105.23' |
| 120 | 11'A'+27.25 | 53.24' |
| 121 | 199+58.64 | -65.00' |
| 122 | 201+45.44 | -65.00' |
| 123 | 205+69.48 | -269.35' |
| 124 | 330'EB'+41.37 | 0.00' |
| 125 | 208+87.83 | -27.23' |
| 126 | 208+93.38 | 0.00' |
| 127 | 209+07.51 | 64.59' |
| 128 | 208+00.00 | 60.00' |
| 129 | 206+21.66 | 46.00' |
| 130 | 200+74.20 | 46.00' |
| 131 | 198+43.42 | 0.00' |
| 132 | 198+10.45 | 50.77' |
| 133 | 198+10.45 | 43.00' |
| 134 | 196+50.00 | 43.00' |
| 135 | 196+50.00 | 36.93' |
| 136 | 196+50.00 | 0.00' |

| TLE STATION & OFFSET TABLE | | |
|---|---|---|
| POINT NO. | STATION | OFFSET |
| TLE 150 | 22'A'+50.00 | -150.00' |
| TLE 151 | 23'A'+45.00 | -190.00' |
| TLE 152 | 23'A'+82.82 | -190.00' |
| TLE 153 | 205+51.22 | -286.59' |
| TLE 154 | 205+16.82 | -227.21' |
| TLE 155 | 209+24.44 | 134.00' |
| TLE 156 | 207+65.97 | 157.85' |
| TLE 157 | 207+54.59 | 58.63' |
| TLE 158 | 204+70.00 | 46.00' |
| TLE 159 | 204+70.00 | 75.00' |
| TLE 160 | 203+80.00 | 75.00' |
| TLE 161 | 203+80.00 | 46.00' |
| TLE 162 | 198+10.46 | 57.00' |
| TLE 163 | 196+50.00 | 57.00' |
| TLE 164 | 196+50.00 | -40.10' |
| TLE 165 | 197+11.34 | -47.76' |

| CURVE TABLE | | | | |
|---|---|---|---|---|
| CURVE NUMBER | RADIUS | ARC LENGTH | CHORD LENGTH | CHORD BEARING |
| C5 | 897.76' | 573.10' | 563.42' | N18°53'03"E |
| C6 | 669.56' | 372.61' | 367.82' | S21°13'46"W |
| C7 | 904.93' | 476.19' | 470.71' | N64°54'35"E |
| C8 | 1004.93' | 95.20' | 95.17' | S87°52'04"W |

A **TEMPORARY LIMITED EASEMENT** (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS ANDEGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE. ALL TLES EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

200 WISCONSIN ELECTRIC POWER COMPANY D/B/A WE ENERGIES (ELECTRIC)
DOC. 229942 - PAR. 11
DOC. 229940 - PAR. 12
DOC. 186266 - PAR. 12, 13
NO EASEMENT OF RECORD PAR. 9

202 WISCONSIN PUBLIC SERVICE CORPORATION (GAS)
NO EASEMENT OF RECORD PAR. 9

203 NORTHEAST TELEPHONE COMPANY LLC.
NO EASEMENT OF RECORD PAR. 9, 12
DOC. 337364 - PAR. 11
DOC. 337234 - PAR. 12, 13
DOC. 337251 - PAR. 12, 13

## CONVENTIONAL UTILITY SYMBOLS

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

| | NON COMPENSABLE | COMPENSABLE |
|---|---|---|
| POWER POLE | | |
| TELEPHONE POLE | | |
| TELEPHONE PEDESTAL | | |
| ELECTRIC TOWER | | |

## CONVENTIONAL ABBREVIATIONS

| | | | |
|---|---|---|---|
| ACCESS POINT/ DRIVEWAY CONNECTION | AP | REFERENCE LINE | R/L |
| ACCESS RIGHTS | AR | RELEASE OF RIGHTS | ROR |
| ACRES | AC. | REMAINING | REM. |
| AND OTHERS | ET.AL. | RIGHT-OF-WAY | R/W |
| CENTERLINE | C/L | SECTION | SEC. |
| CERTIFIED SURVEY MAP | CSM | STATION | STA. |
| CORNER | COR. | TEMPORARY LIMITED EASEMENT | TLE |
| DOCUMENT | DOC. | VOLUME | V. |
| EASEMENT | EASE. | **CURVE DATA** | |
| HIGHWAY EASEMENT | H.E. | LONG CHORD | LCH |
| LAND CONTRACT | LC | LONG CHORD BEARING | LCB |
| MONUMENT | MON. | RADIUS | R |
| PAGE | P. | DEGREE OF CURVE | D |
| PERMANENT LIMITED EASEMENT | PLE | CENTRAL ANGLE OR DELTA | DELTA |
| PROPERTY LINE | PL | LENGTH OF CURVE | L |
| RECORDED AS | (100') | TANGENT | TAN |

## CONVENTIONAL SYMBOLS

| | |
|---|---|
| FOUND IRON PIPE/PIN (1" UNLESS NOTED) | PROPOSED R/W LINE |
| R/W MONUMENT | EXISTING H.E. LINE |
| R/W STANDARD | PROPERTY LINE |
| SIGN | LOT & TIE LINES |
| SECTION CORNER MONUMENT | SLOPE INTERCEPTS |
| SECTION CORNER SYMBOL | CORPORATE LIMITS |
| FEE (HATCH VARIES) | RESTRICTED ACCESS (BY PREVIOUS ACQUISITION/CONTROL) |
| TEMPORARY LIMITED EASEMENT | RESTRICTED ACCESS (BY ACQUISITION) |
| PERMANENT LIMITED EASEMENT | NO ACCESS (BY STATUTORY AUTHORITY) |
| R/W BOUNDARY POINT | SECTION LINE |
| PARCEL NUMBER | QUARTER LINE |
| UTILITY NUMBER | SIXTEENTH LINE |
| SIGN NUMBER (OFF PREMISE) | EXISTING CENTERLINE |
| BUILDING | PROPOSED REFERENCE LINE |
| | PARALLEL OFFSET |

GN

0 100 200
SCALE, FEET

## SCHEDULE OF LANDS & INTERESTS REQUIRED

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

| PARCEL NUMBER | OWNERS | INTEREST REQUIRED | R/W ACRES REQUIRED NEW | EXISTING | TOTAL | TLE ACRES |
|---|---|---|---|---|---|---|
| 9 | BAUMGART MARITAL TRUST FUNDED JANUARY 24, 2006, SUSAN MIELCAREK TRUSTEE | FEE/TLE | 6.245 | 0.163 | 6.408 | 0.119 |
| 11 | JAMES J. VANDEN ENG AND MARGARET VANDEN | FEE/TLE | 0.023 | 0.178 | 0.201 | 0.052 |
| 12 | MELVIN A. & GERALDINE R. NOOYEN | FEE/TLE | 0.180 | 0.443 | 0.623 | 0.085 |
| 13 | WOZ'S POLISH PICKLE, LLC | FEE/TLE | 0.165 | 0.076 | 0.241 | 0.259 |

| EXISTING MONUMENTS | | | |
|---|---|---|---|
| POINT | Y (NORTHING) | X (EASTING) | DESCRIPTION |
| 180 | 206613.021 | 953754.876 | 1.25" OD IP |
| 181 | 206629.335 | 953771.984 | 1.25" OD IP |
| 182 | 206806.314 | 953972.385 | 1.00" OD IP |
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emcs.inc

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Kevin C. Boyer DATE: 11/07/2016

KEVIN C BOYER 5-2675 HEWITT WI — WISCONSIN — LAND SURVEYOR

KEVIN C. BOYER
PROFESSIONAL LAND SURVEYOR NUMBER 2675

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

_____ DATE: _____
(SIGNATURE)
(PRINTED NAME) _____

FILE NAME : P:\48xx\4801-4802_DP.13_STH156-STH29_SHAWCADDS\Plan\TPP\STH 29\040101_A1_rp.dgn
APPRAISAL PLAT DATE :
PLOT SCALE : 1:100
PLOT NAME :
PLOT BY : kcb
PLOT DATE : 10/28/2016

4

DEPARTMENT COMPOSITE ORIGINAL LOCATED AT THE REGISTER OF DEEDS OFFICE

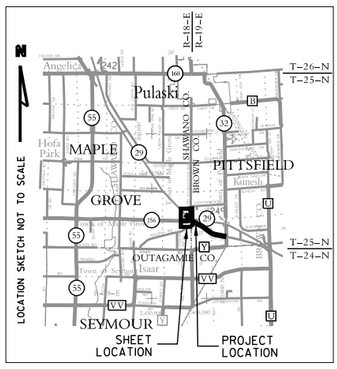
# TRANSPORTATION PROJECT PLAT NO: 1058-25-20-4.01

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RELOCATION ORDER STH 29 & STH 156 INTERSECTION, SHAWANO COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

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LCB = S61°47'12"E
PC = 314"EB"+54.74
DB = N42°53'32"W
PT = 339"EB"+74.04
DA = S80°40'53"E

DOC # 712949
Recorded
January 22, 2015 9:21 AM
AMY DILLENBURG
REGISTER OF DEEDS
SHAWANO WI
Fee Amount: $25.00
Slide B-311

79

1058-25-20-4.01

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1058-25-20-4.01
AMENDMENT NO:

T 25 N
R 18 E | 25 30 | R 19 E

FOUND
SURVEY NAIL
Y=208121.845
X=954961.958

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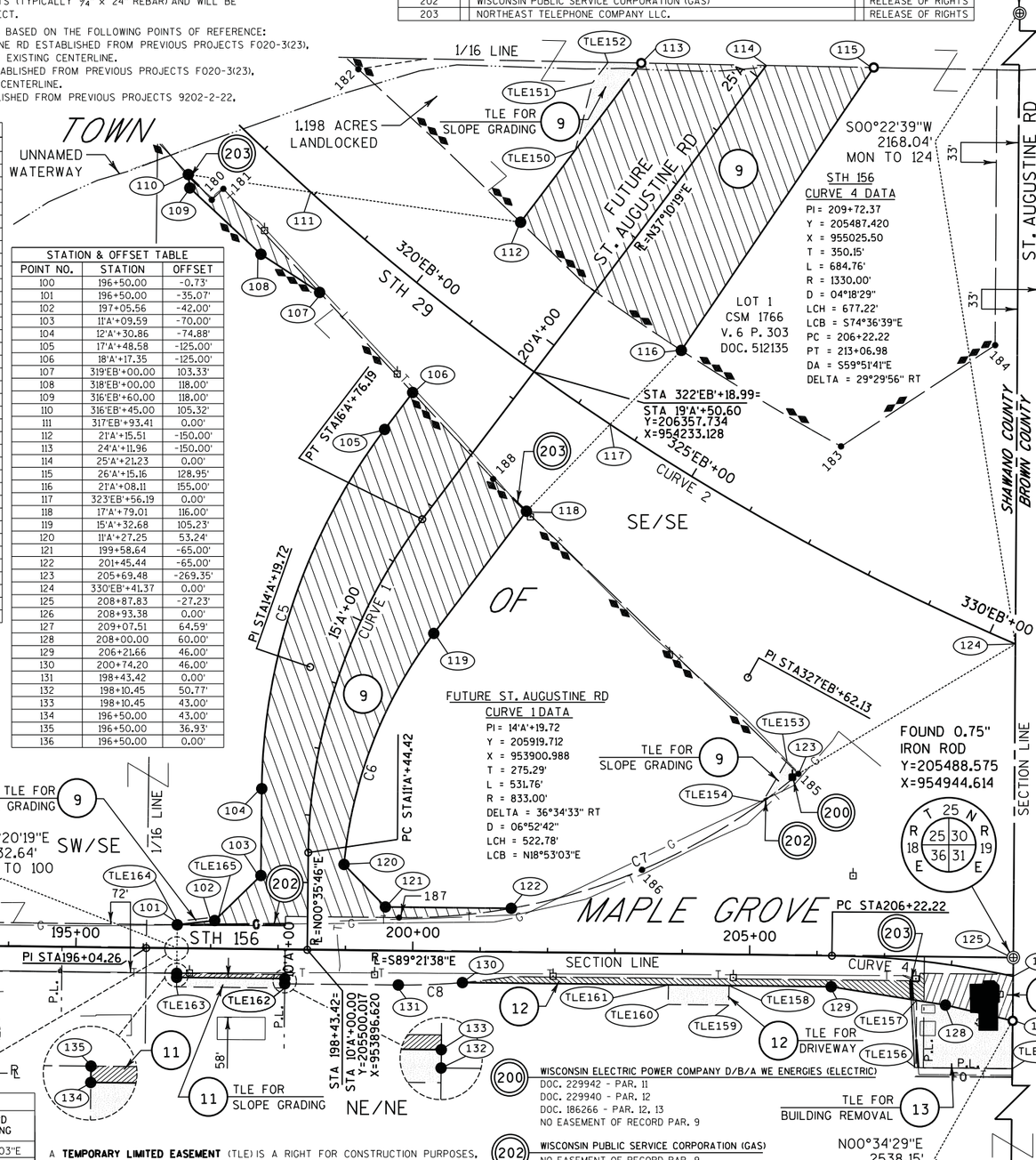
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RIGHT-OF-WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY ¾" x 24" REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE:
EXISTING HIGHWAY RIGHT-OF-WAY FOR ST. AUGUSTINE RD ESTABLISHED FROM PREVIOUS PROJECTS F020-3(23), 9202-2-22, 1058-14-00, 9202-10-00, CSM 1766, AND EXISTING CENTERLINE.
EXISTING HIGHWAY RIGHT-OF-WAY FOR STH 29 ESTABLISHED FROM PREVIOUS PROJECTS F020-3(23), 9202-2-22, 1058-14-00, 9202-10-00, AND EXISTING CENTERLINE.
EXISTING ACCESS CONTROL ALONG STH 29 ESTABLISHED FROM PREVIOUS PROJECTS 9202-2-22, 1058-14-00, AND CSM 1766

UTILITY INTERESTS REQUIRED

| UTILITY NUMBER | OWNER(S) | INTEREST REQUIRED |
|---|---|---|
| 200 | WISCONSIN ELECTRIC POWER COMPANY D/B/A WE ENERGIES (ELECTRIC) | RELEASE OF RIGHTS |
| 202 | WISCONSIN PUBLIC SERVICE CORPORATION (GAS) | RELEASE OF RIGHTS |
| 203 | NORTHEAST TELEPHONE COMPANY LLC. | RELEASE OF RIGHTS |




| STATION & OFFSET TABLE | | |
|---|---|---|
| POINT NO. | STATION | OFFSET |
| 100 | 196+50.00 | -0.73' |
| 101 | 196+50.00 | -35.07' |
| 102 | 197+05.56 | -42.00' |
| 103 | 11'A'+09.59 | -70.00' |
| 104 | 12'A'+30.86 | -74.88' |
| 105 | 17'A'+48.58 | -125.00' |
| 106 | 18'A'+17.35 | -125.00' |
| 107 | 319'EB'+00.00 | 103.33' |
| 108 | 318'EB'+00.00 | 118.00' |
| 109 | 316'EB'+60.00 | 118.00' |
| 110 | 316'EB'+45.00 | 105.32' |
| 111 | 317'EB'+93.41 | 0.00' |
| 112 | 21'A'+15.51 | -150.00' |
| 113 | 24'A'+11.96 | -150.00' |
| 114 | 25'A'+21.23 | 0.00' |
| 115 | 26'A'+15.16 | 128.95' |
| 116 | 21'A'+08.11 | 155.00' |
| 117 | 323'EB'+56.19 | 0.00' |
| 118 | 17'A'+79.01 | 116.00' |
| 119 | 15'A'+32.68 | 105.23' |
| 120 | 11'A'+27.25 | 53.24' |
| 121 | 199+58.64 | -65.00' |
| 122 | 201+45.44 | -65.00' |
| 123 | 205+69.48 | -269.35' |
| 124 | 330'EB'+41.37 | 0.00' |
| 125 | 208+87.83 | -27.23' |
| 126 | 208+93.38 | 0.00' |
| 127 | 209+07.51 | 64.59' |
| 128 | 208+00.00 | 60.00' |
| 129 | 206+21.66 | 46.00' |
| 130 | 200+74.20 | 46.00' |
| 131 | 198+43.42 | 0.00' |
| 132 | 198+10.45 | 50.77' |
| 133 | 198+10.45 | 43.00' |
| 134 | 196+50.00 | 43.00' |
| 135 | 196+50.00 | 36.93' |
| 136 | 196+50.00 | 0.00' |

| COURSE TABLE | | |
|---|---|---|
| COURSE | BEARING | DISTANCE |
| 100-101 | N 00°38'22" E | 34.33' |
| 101-102 | N 83°31'34" E | 55.99' |
| 102-103 | N 45°44'20" E | 95.68' |
| 103-104 | N 00°35'46" E | 128.87' |
| 104-105 | SEE CURVE DATA ON SHEET | |
| 105-106 | N 37°10'19" E | 68.78' |
| 106-107 | N 42°54'59" W | 202.75' |
| 107-108 | N 56°56'06" W | 103.93' |
| 108-109 | N 47°01'15" W | 144.32' |
| 109-110 | N 06°28'19" W | 19.98' |
| 110-111 | S 81°50'58" E | 183.64' |
| 111-112 | S 81°50'58" E | 314.69' |
| 112-113 | N 37°10'19" E | 296.34' |
| 113-114 | S 88°53'58" E | 185.58' |
| 114-115 | S 88°53'58" E | 159.54' |
| 115-116 | S 34°13'53" W | 507.72' |
| 116-117 | S 43°55'49" W | 152.45' |
| 117-118 | S 43°55'49" W | 178.95' |
| 118-119 | S 37°10'19" W | 227.59' |
| 119-120 | SEE CURVE DATA ON SHEET | |
| 120-121 | S 44°15'40" E | 87.95' |
| 121-122 | S 89°21'38" E | 186.80' |
| 122-123 | SEE CURVE DATA ON SHEET | |
| 123-124 | N 59°07'00" E | 375.23' |
| 124-125 | S 00°22'39" W | 465.28' |
| 125-126 | S 00°34'29" W | 27.80' |
| 126-127 | S 00°34'29" W | 66.04' |
| 127-128 | N 76°49'25" W | 102.55' |
| 128-129 | N 80°52'37" W | 171.69' |
| 129-130 | N 89°21'38" W | 547.47' |
| 130-131 | SEE CURVE DATA ON SHEET | |
| 131-132 | N 89°25'06" W | 168.69' |
| 132-133 | N 00°35'46" E | 7.77' |
| 133-134 | N 89°21'38" W | 160.45' |
| 134-135 | N 00°38'22" E | 6.07' |
| 135-136 | N 00°38'22" E | 36.93' |
| 136-100 | N 00°38'22" E | 0.73' |

| TLE STATION & OFFSET TABLE | | |
|---|---|---|
| POINT NO. | STATION | OFFSET |
| TLE 150 | 22'A'+50.00 | -150.00' |
| TLE 151 | 23'A'+45.00 | -190.00' |
| TLE 152 | 23'A'+82.82 | -190.00' |
| TLE 153 | 205+51.22 | -286.59' |
| TLE 154 | 205+16.82 | -227.21' |
| TLE 155 | 209+24.44 | 134.00' |
| TLE 156 | 207+65.97 | 157.85' |
| TLE 157 | 207+54.59 | 58.63' |
| TLE 158 | 204+70.00 | 46.00' |
| TLE 159 | 204+70.00 | 75.00' |
| TLE 160 | 203+80.00 | 75.00' |
| TLE 161 | 203+80.00 | 46.00' |
| TLE 162 | 198+10.46 | 57.00' |
| TLE 163 | 196+50.00 | 57.00' |
| TLE 164 | 196+50.00 | -40.10' |
| TLE 165 | 197+11.34 | -47.76' |

| CURVE TABLE | | | | |
|---|---|---|---|---|
| CURVE NUMBER | RADIUS | ARC LENGTH | CHORD LENGTH | CHORD BEARING |
| C5 | 897.76' | 573.10' | 563.42' | N18°53'03"E |
| C6 | 669.56' | 372.61' | 367.82' | S21°13'46"W |
| C7 | 904.93' | 476.19' | 470.71' | N64°54'35"E |
| C8 | 1004.93' | 95.20' | 95.17' | S87°52'04"W |

A **TEMPORARY LIMITED EASEMENT** (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE. ALL TLES EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

(200) WISCONSIN ELECTRIC POWER COMPANY D/B/A WE ENERGIES (ELECTRIC)
DOC. 229942 - PAR. 11
DOC. 229940 - PAR. 12
DOC. 186266 - PAR. 12, 13
NO EASEMENT OF RECORD PAR. 9

(202) WISCONSIN PUBLIC SERVICE CORPORATION (GAS)
NO EASEMENT OF RECORD PAR. 9

(203) NORTHEAST TELEPHONE COMPANY LLC.
NO EASEMENT OF RECORD PAR. 9, 12
DOC. 337364 - PAR. 11
DOC. 337234 - PAR. 12, 13
DOC. 337251 - PAR. 12, 13

## CONVENTIONAL UTILITY SYMBOLS

| | | |
|---|---|---|
| WATER | —W— | |
| GAS | —G— | |
| TELEPHONE | —T— | |
| OVERHEAD TRANSMISSION LINES | —OH— | |
| ELECTRIC | —E— | |
| CABLE TELEVISION | —TV— | |
| FIBER OPTIC | —FO— | |
| SANITARY SEWER | —SAN— | |
| STORM SEWER | —SS— | |
| | NON COMPENSABLE | COMPENSABLE |
| POWER POLE | | |
| TELEPHONE POLE | | |
| TELEPHONE PEDESTAL | | |
| ELECTRIC TOWER | | |

## CONVENTIONAL ABBREVIATIONS

| | | | |
|---|---|---|---|
| ACCESS POINT/ DRIVEWAY CONNECTION | AP | REFERENCE LINE | R/L |
| ACCESS RIGHTS | AR | RELEASE OF RIGHTS | ROR |
| ACRES | AC. | REMAINING | REM. |
| AND OTHERS | ET.AL. | RIGHT-OF-WAY | R/W |
| CENTERLINE | C/L | SECTION | SEC. |
| CERTIFIED SURVEY MAP | CSM | STATION | STA. |
| CORNER | COR. | TEMPORARY LIMITED EASEMENT | TLE |
| DOCUMENT | DOC. | VOLUME | V. |
| EASEMENT | EASE. | **CURVE DATA** | |
| HIGHWAY EASEMENT | H.E. | LONG CHORD | LCH |
| LAND CONTRACT | LC | LONG CHORD BEARING | LCB |
| MONUMENT | MON. | RADIUS | R |
| PAGE | P. | DEGREE OF CURVE | D |
| PERMANENT LIMITED EASEMENT | PLE | CENTRAL ANGLE OR DELTA | DELTA |
| PROPERTY LINE | PL | LENGTH OF CURVE | L |
| RECORDED AS | (100') | TANGENT | TAN |

## CONVENTIONAL SYMBOLS

| | | | |
|---|---|---|---|
| FOUND IRON PIPE/PIN | ⅝" (1" UNLESS NOTED) | PROPOSED R/W LINE | |
| R/W MONUMENT | ●(SET) | EXISTING H.E. LINE | |
| R/W STANDARD | ▲(SET) | PROPERTY LINE | |
| SIGN | | LOT & TIE LINES | |
| SECTION CORNER MONUMENT | | SLOPE INTERCEPTS | |
| SECTION CORNER SYMBOL | | CORPORATE LIMITS | |
| | | RESTRICTED ACCESS (BY PREVIOUS ACQUISITION/CONTROL) | |
| FEE (HATCH VARIES) | | RESTRICTED ACCESS (BY ACQUISITION) | |
| TEMPORARY LIMITED EASEMENT | | NO ACCESS (BY STATUTORY AUTHORITY) | |
| PERMANENT LIMITED EASEMENT | | SECTION LINE | |
| R/W BOUNDARY POINT | RWB20 | QUARTER LINE | |
| PARCEL NUMBER | 102 | SIXTEENTH LINE | |
| UTILITY NUMBER | 40 | EXISTING CENTERLINE | |
| SIGN NUMBER (OFF PREMISE) | 21 | PROPOSED REFERENCE LINE | |
| BUILDING | | PARALLEL OFFSET | |

GN

0 100 200
SCALE, FEET

## SCHEDULE OF LANDS & INTERESTS REQUIRED

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

| PARCEL NUMBER | OWNERS | INTEREST REQUIRED | R/W ACRES REQUIRED NEW | EXISTING | TOTAL | TLE ACRES |
|---|---|---|---|---|---|---|
| 9 | BAUMGART MARITAL TRUST FUNDED JANUARY 24, 2006, SUSAN MIELCAREK TRUSTEE | FEE/TLE | 6.245 | 0.163 | 6.408 | 0.119 |
| 11 | JAMES J. VANDEN ENG AND MARGARET VANDEN | FEE/TLE | 0.023 | 0.178 | 0.201 | 0.052 |
| 12 | MELVIN A. & GERALDINE R. NOOYEN | FEE/TLE | 0.180 | 0.443 | 0.623 | 0.085 |
| 13 | WOZ'S POLISH PICKLE, LLC | FEE/TLE | 0.165 | 0.076 | 0.241 | 0.259 |

| EXISTING MONUMENTS | | | |
|---|---|---|---|
| POINT | Y (NORTHING) | X (EASTING) | DESCRIPTION |
| 180 | 206613.021 | 953754.876 | 1.25" OD IP |
| 181 | 206629.335 | 953771.984 | 1.25" OD IP |
| 182 | 206806.314 | 953972.385 | 1.00" OD IP |
| 183 | 206247.105 | 954688.913 | 1.25" OD IP |
| 184 | 206397.293 | 954917.606 | 1.00" OD IP |
| 185 | 205761.246 | 954625.650 | 1.25" OD IP |
| 186 | 205618.852 | 954393.493 | 1.25" OD IP |
| 187 | 205547.898 | 954032.786 | 1.25" OD IP |
| 188 | 206198.592 | 954172.486 | 1.25" OD IP |

emcs.inc

I, KEVIN C. BOYER, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE DEPARTMENT, I HAVE SURVEYED AND MAPPED TRANSPORTATION PROJECT PLAT 1058-25-20-4.01 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

DATE: 1-13-2016

KEVIN C. BOYER
PROFESSIONAL LAND SURVEYOR NUMBER 2675

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

DATE: 1-13-16
(SIGNATURE)
(PRINTED NAME) Brent L Stella

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\PlanTPP\STH 29\040101_rp.dgn
PLOT DATE : 1/13/2016
PLOT BY : kcb
PLOT NAME :
PLOT SCALE : 1:100
APPRAISAL PLAT DATE :

DEPARTMENT COMPOSITE ORIGINAL LOCATED AT THE REGISTER OF DEEDS OFFICE

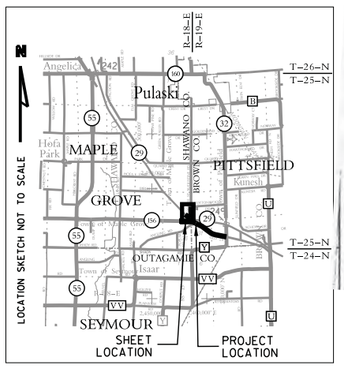
# TRANSPORTATION PROJECT PLAT NO: 1058-25-20-4.02

THAT PART LOT 1 OF CSM 1766, RECORDED IN V.6, P.303 AS DOC. 512135, LOCATED IN AND PART OF THE NORTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 25, TOWNSHIP 25 NORTH, RANGE 18 EAST, TOWN OF MAPLE GROVE, SHAWANO COUNTY, WISCONSIN.

RELOCATION ORDER STH 29 & STH 156 INTERSECTION, SHAWANO COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.




DOC # 712950
Recorded
January 22, 2016 9:21 AM
AMY DILLENBURG
REGISTER OF DEEDS
SHAWANO WI
Fee Amount: $25.00
Slide B-311
80
1058-25-20-4.02
RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1058-25-20-4.02
AMENDMENT NO:

## NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, SHAWANO COUNTY, NAD 83 (1991) IN SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

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

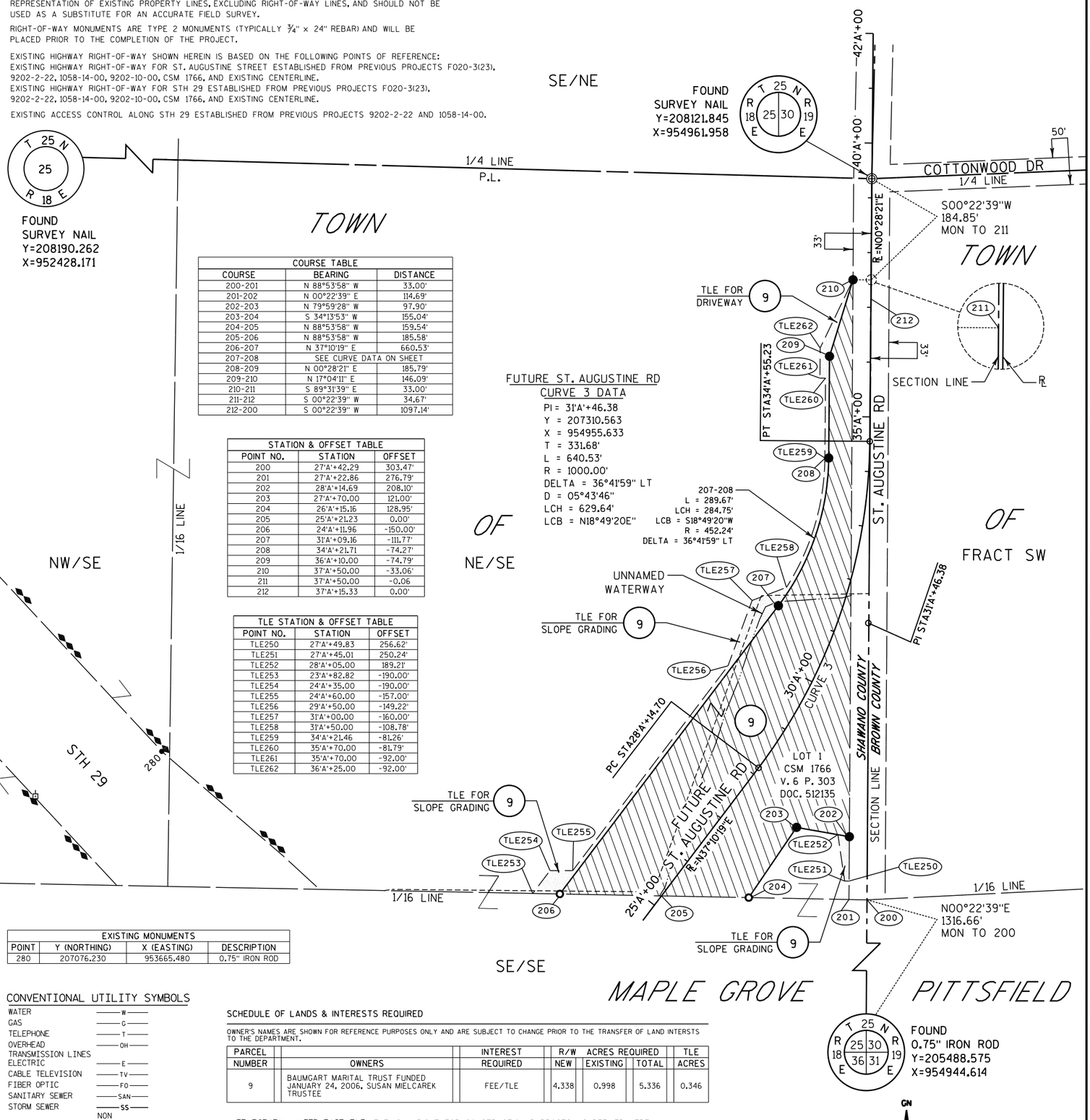
DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO NEW REFERENCE LINES.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY LINES, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

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

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE:
EXISTING HIGHWAY RIGHT-OF-WAY FOR ST. AUGUSTINE STREET ESTABLISHED FROM PREVIOUS PROJECTS F020-3(23), 9202-2-22, 1058-14-00, 9202-10-00, CSM 1766, AND EXISTING CENTERLINE.
EXISTING HIGHWAY RIGHT-OF-WAY FOR STH 29 ESTABLISHED FROM PREVIOUS PROJECTS F020-3(23), 9202-2-22, 1058-14-00, 9202-10-00, CSM 1766, AND EXISTING CENTERLINE.

EXISTING ACCESS CONTROL ALONG STH 29 ESTABLISHED FROM PREVIOUS PROJECTS 9202-2-22 AND 1058-14-00.




| COURSE TABLE | | |
|---|---|---|
| COURSE | BEARING | DISTANCE |
| 200-201 | N 88°53'58" W | 33.00' |
| 201-202 | N 00°22'39" E | 114.69' |
| 202-203 | N 79°59'28" W | 97.90' |
| 203-204 | S 34°13'53" W | 155.04' |
| 204-205 | N 88°53'58" W | 159.54' |
| 205-206 | N 88°53'58" W | 185.58' |
| 206-207 | N 37°10'19" E | 660.53' |
| 207-208 | SEE CURVE DATA ON SHEET | |
| 208-209 | N 00°28'21" E | 185.79' |
| 209-210 | N 17°04'11" E | 146.09' |
| 210-211 | S 89°31'39" E | 33.00' |
| 211-212 | S 00°22'39" W | 34.67' |
| 212-200 | S 00°22'39" W | 1097.14' |

| STATION & OFFSET TABLE | | |
|---|---|---|
| POINT NO. | STATION | OFFSET |
| 200 | 27'A+42.29 | 303.47' |
| 201 | 27'A+22.86 | 276.79' |
| 202 | 28'A+14.69 | 208.10' |
| 203 | 27'A+70.00 | 121.00' |
| 204 | 26'A+15.16 | 128.95' |
| 205 | 25'A+21.23 | 0.00' |
| 206 | 24'A+11.96 | -150.00' |
| 207 | 31'A+09.16 | -111.77' |
| 208 | 34'A+21.71 | -74.27' |
| 209 | 36'A+10.00 | -74.79' |
| 210 | 37'A+50.00 | -33.06' |
| 211 | 37'A+50.00 | -0.06 |
| 212 | 37'A+15.33 | 0.00' |

| TLE STATION & OFFSET TABLE | | |
|---|---|---|
| POINT NO. | STATION | OFFSET |
| TLE250 | 27'A+49.83 | 256.62' |
| TLE251 | 27'A+45.01 | 250.24' |
| TLE252 | 28'A+05.00 | 189.21' |
| TLE253 | 23'A+82.82 | -190.00' |
| TLE254 | 24'A+35.00 | -190.00' |
| TLE255 | 24'A+60.00 | -157.00' |
| TLE256 | 29'A+50.00 | -149.22' |
| TLE257 | 31'A+00.00 | -160.00' |
| TLE258 | 31'A+50.00 | -108.78' |
| TLE259 | 34'A+21.46 | -81.26' |
| TLE260 | 35'A+70.00 | -81.79' |
| TLE261 | 35'A+70.00 | -92.00' |
| TLE262 | 36'A+25.00 | -92.00' |

| EXISTING MONUMENTS | | | |
|---|---|---|---|
| POINT | Y (NORTHING) | X (EASTING) | DESCRIPTION |
| 280 | 207076.230 | 953665.480 | 0.75" IRON ROD |

## CONVENTIONAL UTILITY SYMBOLS

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

## SCHEDULE OF LANDS & INTERESTS REQUIRED

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

| PARCEL NUMBER | OWNERS | INTEREST REQUIRED | R/W ACRES REQUIRED NEW | EXISTING | TOTAL | TLE ACRES |
|---|---|---|---|---|---|---|
| 9 | BAUMGART MARITAL TRUST FUNDED JANUARY 24, 2006, SUSAN MIELCAREK TRUSTEE | FEE/TLE | 4.338 | 0.998 | 5.336 | 0.346 |

A **TEMPORARY LIMITED EASEMENT** (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE. ALL TLES EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

## CONVENTIONAL SYMBOLS

- FOUND IRON PIPE/PIN (1" UNLESS NOTED)
- R/W MONUMENT
- R/W STANDARD
- SIGN
- SECTION CORNER MONUMENT
- SECTION CORNER SYMBOL
- FEE (HATCH VARIES)
- TEMPORARY LIMITED EASEMENT
- PERMANENT LIMITED EASEMENT
- R/W BOUNDARY POINT
- PARCEL NUMBER
- UTILITY NUMBER
- SIGN NUMBER (OFF PREMISE)
- BUILDING
- PROPOSED R/W LINE
- EXISTING H.E. LINE
- PROPERTY LINE
- LOT & TIE LINES
- SLOPE INTERCEPTS
- CORPORATE LIMITS
- RESTRICTED ACCESS (BY PREVIOUS ACQUISITION/CONTROL)
- RESTRICTED ACCESS (BY ACQUISITION)
- NO ACCESS (BY STATUTORY AUTHORITY)
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- EXISTING CENTERLINE
- PROPOSED REFERENCE LINE
- PARALLEL OFFSET

## CONVENTIONAL ABBREVIATIONS

| | | | |
|---|---|---|---|
| ACCESS POINT, DRIVEWAY CONNECTION | AP | REFERENCE LINE | R/L |
| ACCESS RIGHTS | AR | RELEASE OF RIGHTS | ROR |
| ACRES | AC. | REMAINING | REM. |
| AND OTHERS | ET.AL. | RIGHT-OF-WAY | R/W |
| CENTERLINE | C/L | SECTION | SEC. |
| CERTIFIED SURVEY MAP | CSM | STATION | STA. |
| CORNER | COR. | TEMPORARY LIMITED EASEMENT | TLE |
| DOCUMENT | DOC. | VOLUME | V. |
| EASEMENT | EASE. | **CURVE DATA** | |
| HIGHWAY EASEMENT | H.E. | LONG CHORD | LCH |
| LAND CONTRACT | LC | LONG CHORD BEARING | LCB |
| MONUMENT | MON. | RADIUS | R |
| PAGE | P. | DEGREE OF CURVE | D |
| PERMANENT LIMITED EASEMENT | PLE | CENTRAL ANGLE OR DELTA | DELTA |
| PROPERTY LINE | PL | LENGTH OF CURVE | L |
| RECORDED AS | (100') | TANGENT | TAN |

GN

0 100 200

SCALE, FEET

emcs, LLC

I, KEVIN C. BOYER, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE DEPARTMENT, I HAVE SURVEYED AND MAPPED TRANSPORTATION PROJECT PLAT 1058-25-20-4.02 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

WISCONSIN KEVIN C BOYER S-2675 MEWITT WI LAND SURVEYOR

Kevin C. Boyer DATE: 1-13-2016
KEVIN C. BOYER
PROFESSIONAL LAND SURVEYOR NUMBER 2675

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

Brent L Stella DATE: 1-13-16
(SIGNATURE)
(PRINTED NAME) Brent L Stella

FILE NAME : P:\48xx\4801-4802_DP.13_STH156-STH29_SHA\CADDS\PlanTPP\STH 29\040102_rp.dgn
APPRAISAL PLAT DATE :
PLOT DATE : 1/13/2016
PLOT BY : kcb
PLOT SCALE : 1:100
PLOT NAME :

DEPARTMENT COMPOSITE ORIGINAL LOCATED AT THE REGISTER OF DEEDS OFFICE



# TRANSPORTATION PROJECT PLAT NO: 1058-25-20-4.03

THAT PART OF THE FRACTIONAL SOUTHWEST 1/4 OF SECTION 30, TOWNSHIP 25 NORTH, RANGE 19 EAST, TOWN OF PITTSFIELD, BROWN COUNTY, WISCONSIN.

RELOCATION ORDER STH 29 & STH 156 INTERSECTION, BROWN COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

**2732358**
CATHY WILLIQUETTE LINDSAY
BROWN COUNTY RECORDER
GREEN BAY, WI
RECORDED ON
01/26/2016 9:15 AM
REC FEE: 25.00
EXEMPT #
PAGES: 1
**The above recording information verifies that this document has been electronically recorded and returned to the submitter**

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1058-25-20-4.03
AMENDMENT NO:

1058-25-20-4.03

## NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, BROWN COUNTY, NAD 83 (1991) IN SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES. GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

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

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO NEW REFERENCE LINES.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY LINES, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

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

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE: EXISTING HIGHWAY RIGHT-OF-WAY FOR ST. AUGUSTINE STREET ESTABLISHED FROM PREVIOUS PROJECTS F020-3(23), 9202-2-22, 1058-14-00, 9202-10-00, CSM 1766, AND EXISTING CENTERLINE. NO PREVIOUS ACCESS CONTROL EXISTS.

A **TEMPORARY LIMITED EASEMENT** (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE. ALL TLES EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

## SCHEDULE OF LANDS & INTERESTS REQUIRED

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

| PARCEL NUMBER | OWNERS | INTEREST REQUIRED | R/W ACRES REQUIRED NEW | EXISTING | TOTAL | TLE ACRES |
|---|---|---|---|---|---|---|
| 14 | O'CONNOR FAMILY FARM, LLC | FEE/TLE | 0.748 | 0.997 | 1.745 | 0.034 |

## CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN (Ø UNLESS NOTED)
R/W MONUMENT (SET)
R/W STANDARD (SET)
SIGN
SECTION CORNER MONUMENT
SECTION CORNER SYMBOL
FEE (HATCH VARIES)
TEMPORARY LIMITED EASEMENT
PERMANENT LIMITED EASEMENT
R/W BOUNDARY POINT (RWB20)
PARCEL NUMBER (102)
UTILITY NUMBER (40)
SIGN NUMBER (OFF PREMISE) (21)
BUILDING

PROPOSED R/W LINE
EXISTING H.E. LINE
PROPERTY LINE
LOT & TIE LINES
SLOPE INTERCEPTS
CORPORATE LIMITS
RESTRICTED ACCESS (BY PREVIOUS ACQUISITION/CONTROL)
RESTRICTED ACCESS (BY ACQUISITION)
NO ACCESS (BY STATUTORY AUTHORITY)
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
EXISTING CENTERLINE
PROPOSED REFERENCE LINE
PARALLEL OFFSET

## CONVENTIONAL ABBREVIATIONS

| | | | |
|---|---|---|---|
| ACCESS POINT/ DRIVEWAY CONNECTION | AP | REFERENCE LINE | R/L |
| ACCESS RIGHTS | AR | RELEASE OF RIGHTS | ROR |
| ACRES | AC. | REMAINING | REM. |
| AND OTHERS | ET.AL. | RIGHT-OF-WAY | R/W |
| CENTERLINE | C/L | SECTION | SEC. |
| CERTIFIED SURVEY MAP | CSM | STATION | STA. |
| CORNER | COR. | TEMPORARY LIMITED EASEMENT | TLE |
| DOCUMENT | DOC. | VOLUME | V. |
| EASEMENT | EASE. | **CURVE DATA** | |
| HIGHWAY EASEMENT | H.E. | LONG CHORD | LCH |
| LAND CONTRACT | LC | LONG CHORD BEARING | LCB |
| MONUMENT | MON. | RADIUS | R |
| PAGE | P. | DEGREE OF CURVE | D |
| PERMANENT LIMITED EASEMENT | PLE | CENTRAL ANGLE OR DELTA | DELTA |
| PROPERTY LINE | PL | LENGTH OF CURVE | L |
| RECORDED AS | (100') | TANGENT | TAN |

## CONVENTIONAL UTILITY SYMBOLS

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

## FUTURE ST. AUGUSTINE RD CURVE 3 DATA

PI = 31'A'+46.38
Y = 599968.178
X = 39903.765
T = 331.68'
L = 640.53'
R = 1000.00'
DELTA = 36°41'59" LT
D = 05°43'46"
LCH = 629.64'
LCB = N19°14'51"E

(200) WISCONSIN ELECTRIC POWER COMPANY D/B/A WE ENERGIES (ELECTRIC)
DOC. 111824 - PAR. 14

## UTILITY INTERESTS REQUIRED

| UTILITY NUMBER | OWNER(S) | INTEREST REQUIRED |
|---|---|---|
| 200 | WISCONSIN ELECTRIC POWER COMPANY D/B/A WE ENERGIES (ELECTRIC) | RELEASE OF RIGHTS |

FOUND SURVEY NAIL
Y=600779.390
X=39916.110

S00°48'09"W
184.74'
MON TO 306

306 307 SECTION LINE R/L

300 305 301 33' 33'

36'A'+00 R=N00°53'15"E

PT STA34'A'+55.23

34'A'+00

32'A'+00

PI STA31'A'+46.38

30'A'+00 CURVE 3

28'A'+00

PC STA28'A'+14.70

26'A'+00 R=N57°35'50"E

TOWN OF FRACT SW NE/SE PITTSFIELD

ST. AUGUSTINE RD

FUTURE ST. AUGUSTINE RD

SHAWANO COUNTY
BROWN COUNTY

SECTION LINE

LOT 1
CSM 1766
VOL. 6 PG. 303
DOC. 512135

MAPLE GROVE

302 303 304 308 1/16 LINE

TLE354 TLE355 TLE356 TLE357

14 TLE FOR DRIVEWAY

FOUND
0.75" IRON ROD
Y=598146.321
X=39879.226

N00°48'09"E
1316.66'
MON TO 304

GN

0 50 100
SCALE, FEET

LOCATION SKETCH NOT TO SCALE
Pulaski MAPLE GROVE PITTSFIELD OUTAGAMIE CO. SEYMOUR
SHEET LOCATION
PROJECT LOCATION

| STATION & OFFSET TABLE | | |
|---|---|---|
| POINT NO. | STATION | OFFSET |
| 300 | 37'A'+50.11 | 32.94' |
| 301 | 36'A'+99.37 | 42.07' |
| 302 | 29'A'+78.57 | 225.32' |
| 303 | 27'A'+81.62 | 315.26' |
| 304 | 27'A'+42.29 | 303.47' |
| 305 | 37'A'+15.33 | 0.00' |
| 306 | 37'A'+50.11 | -0.06' |
| 307 | 37'A'+50.11 | 0.00' |
| 308 | 27'A'+63.55 | 328.78' |

| TLE STATION & OFFSET TABLE | | |
|---|---|---|
| POINT NO. | STATION | OFFSET |
| TLE 354 | 28+70.92 | 269.60' |
| TLE 355 | 28+47.77 | 299.93' |
| TLE 356 | 28+21.57 | 314.76' |
| TLE 357 | 27+69.00 | 324.70' |

| COURSE TABLE | | |
|---|---|---|
| COURSE | BEARING | DISTANCE |
| 306-307 | S 89°06'09" E | 0.06' |
| 307-300 | S 89°06'09" E | 32.94' |
| 300-301 | S 09°17'43" E | 51.56' |
| 301-302 | S 02°24'53" E | 807.68' |
| 302-303 | S 13°03'33" W | 256.11' |
| 303-308 | S 00°48'09" W | 22.56' |
| 308-304 | S 87°33'43" W | 33.05' |
| 304-305 | N 00°48'09" E | 1097.14' |
| 305-306 | N 00°48'09" E | 34.78' |

emcs.llc

I, KEVIN C. BOYER, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE DEPARTMENT, I HAVE SURVEYED AND MAPPED TRANSPORTATION PROJECT PLAT 1058-25-20-4.03 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

Kevin C Boyer DATE: 1-13-2016

KEVIN C. BOYER
PROFESSIONAL LAND SURVEYOR NUMBER 2675

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

Brent L Stella DATE: 1-13-16
(SIGNATURE)
(PRINTED NAME) Brent L. Stella

PLOT SCALE : 1:150
PLOT NAME :
PLOT BY : kcb
PLOT DATE : 1/13/2016
FILE NAME : P:\48xx\4801-4802_DP_13_STH156-STH29_SHA\CADDS\Plan\TPP\STH 29\040103_rp.dgn
APPRAISAL PLAT DATE :

DEPARTMENT COMPOSITE ORIGINAL LOCATED AT THE REGISTER OF DEEDS OFFICE

# TRANSPORTATION PROJECT PLAT NO: 1058-25-20-4.04 AMENDMENT NO. 1

AMENDS UTILITY INTEREST 200 AND ACCESS CONTROL AS SHOWN ON TRANPORTATION PROJECT PLAT 1058-25-20-4.04 RECORDED AS DOCUMENT NO: 2732359. THAT PART OF THE FRACTIONAL NORTHWEST 1/4 OF SECTION 31, TOWNSHIP 25 NORTH, RANGE 19 EAST, TOWN OF PITTSFIELD, BROWN COUNTY, WISCONSIN.

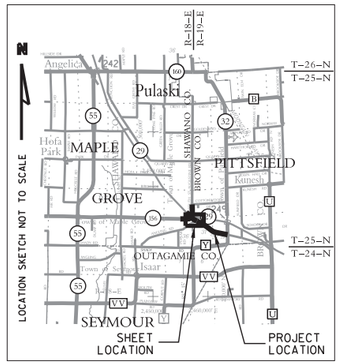
RELOCATION ORDER STH 29 & STH 156 INTERSECTION, BROWN COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

**2768558**
CATHY WILLIQUETTE LINDSAY
BROWN COUNTY RECORDER
GREEN BAY, WI
RECORDED ON
11/30/2016 11:53 AM
REC FEE: 25.00
EXEMPT #
PAGES: 1
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RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1058-25-20-4.04
AMENDMENT NO: 1




FOUND SURVEY NAIL
Y=600779.390
X=39916.110

S00°48'09"W
2280.85'
MON TO 400

L = 53.50'
LCH = 53.50'
LCB = S07°59'41"W
R = 1185.92'
DELTA = 02°35'05" RT

TOWN

SHAWANO COUNTY / BROWN COUNTY

SECTION LINE

SE/SE

FRACT SW

FOUND
0.75" IRON ROD
Y=598146.321
X=39879.226

FOUND BRASS CAP MONUMENT
Y=598203.531
X=40975.283

SCALE, FEET
0 50 100

GN

SCHEDULE OF LANDS & INTERESTS REQUIRED

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

| PARCEL NUMBER | OWNERS | INTEREST REQUIRED | R/W ACRES REQUIRED NEW | EXISTING | TOTAL | TLE ACRES |
|---|---|---|---|---|---|---|
| 12 | MELVIN A. & GERALDINE R. NOOYEN | FEE/TLE | 0.155 | --- | 0.155 | 0.059 |
| 15 | THOMAS M. & CHRISTINE SNIDER | TLE | --- | --- | --- | 0.028 |

UTILITY INTERESTS REQUIRED

| UTILITY NUMBER | OWNER(S) | INTEREST REQUIRED |
|---|---|---|
| 200 | WISCONSIN ELECTRIC POWER COMPANY D/B/A WE ENERGIES (ELECTRIC) | RELEASE OF RIGHTS |
| 203 | NORTHEAST TELEPHONE COMPANY LLC. | RELEASE OF RIGHTS |

200 WISCONSIN ELECTRIC POWER COMPANY D/B/A WE ENERGIES (ELECTRIC)
DOC. 103356 - PAR. 15, WISDOT REMNANT
DOC. 103357 - WISDOT REMNANT
DOC. 610356 - WISDOT REMNANT

203 NORTHEAST TELEPHONE COMPANY LLC.
DOC. 812305 - PAR. 15
NO EASEMENT OF RECORD PAR. 12

PC STA206+22.22
STH 156 206+00
R=S89°56'07"E

SECTION LINE 208+00

PI STA209+72.37
E0 210+00
CURVE 4

MAPLE GROVE

NE/NE

NO1°00'00"E
2538.15'
MON TO 410

P.L.

TLE FOR BUILDING REMOVAL

TLE STATION & OFFSET TABLE

| POINT NO. | STATION | OFFSET |
|---|---|---|
| TLE 450 | 209+23.66 | 64.56' |
| TLE 451 | 209+40.65 | 130.54' |
| TLE 452 | 209+24.44 | 134.00' |
| TLE 454 | 216+50.00 | 75.00' |
| TLE 455 | 215+50.00 | 80.00' |
| TLE 456 | 215+30.00 | 64.72' |
| TLE 457 | 216+03.73 | -65.37' |
| TLE 458 | 216+02.86 | -87.17' |
| TLE 459 | 216+50.00 | -87.00' |

FOUND
BRASS CAP MONUMENT
Y=595514.731
X=39833.292

FRACT NW OF

212+00

PT STA213+06.98

403-405
L = 706.15'
LCH = 705.70'
LCB = S57°05'08"E
R = 5664.58'
DELTA = 07°08'33" LT

OLD 29 DR CURVE 4 DATA
PI = 209+72.37
Y = 598144.56
X = 39960.10
T = 350.15'
L = 684.76'
R = 1330.00'
DELTA = 29°29'56" RT
D = 04°18'29"
LCH = 677.22'
LCB = S74°11'09"E

| COURSE TABLE | | |
|---|---|---|
| COURSE | BEARING | DISTANCE |
| 400-401 | S 89°11'51" E | 37.96' |
| 401-402 | SEE CURVE DATA ON SHEET | |
| 402-403 | S 24°09'15" E | 242.96' |
| 403-405 | SEE CURVE DATA ON SHEET | |
| 405-406 | S 29°28'42" W | 65.53' |
| 406-407 | S 29°28'42" W | 64.47' |
| 407-408 | SEE CURVE DATA ON SHEET | |
| 408-409 | N 62°07'43" W | 175.12' |
| 409-410 | N 76°23'54" W | 185.81' |
| 410-411 | N 01°00'00" E | 66.04' |
| 411-412 | N 01°00'00" E | 2.81' |
| 412-413 | N 01°00'00" E | 24.99' |
| 413-400 | N 00°48'09" E | 352.48' |

REMNANT PARCELS
OWNED BY WISDOT
EASEMENTS OVER WISDOT REMNANT PARCELS HELD BY WISCONSIN ELECTRIC POWER COMPANY D/B/A WE ENERGIES DOC. 103356. DOC. 103357. DOC. 610356

PARCEL 10 OF TPP 1058-25-20-4.04 WAS VACATED BY DOC. 2737712

407-408
L = 385.55'
LCH = 385.48'
LCB = N58°44'51"W
R = 5794.58'
DELTA = 03°48'44" RT

214+00

OLD 29 DR
R=S59°26'11"E
PC STA215+61.29

216+00

15 TLE FOR SLOPE GRADING

STATION & OFFSET TABLE

| POINT NO. | STATION | OFFSET |
|---|---|---|
| 400 | 208+32.00 | -373.88' |
| 401 | 208+61.13 | -380.43' |
| 402 | 208+63.65 | -327.03' |
| 403 | 209+92.19 | -136.37' |
| 405 | 216+69.50 | -65.53' |
| 406 | 216+69.50 | 0.00' |
| 407 | 216+69.50 | 64.47' |
| 408 | 212+84.25 | 58.62' |
| 409 | 211+01.54 | 51.81' |
| 410 | 209+07.51 | 64.59' |
| 411 | 208+93.38 | 0.00' |
| 412 | 208+92.81 | -2.74' |
| 413 | 208+87.83 | -27.23' |

TLE FOR SLOPE GRADING AND TEMPORARY DRAINAGE

PITTSFIELD

ANGLE DR

A **TEMPORARY LIMITED EASEMENT** (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE. ALL TLES EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, BROWN COUNTY, NAD 83 (1991) IN SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES. GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

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

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO NEW REFERENCE LINES.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY LINES, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY 3/4" x 24" REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE:
EXISTING HIGHWAY RIGHT-OF-WAY FOR STH 29 AND OLD 29 DRIVE ESTABLISHED FROM PREVIOUS PROJECTS F020-3(23), 9202-2-22, 1058-14-00, 9202-10-00, AND EXISTING CENTERLINE.
EXISTING HIGHWAY RIGHT-OF-WAY FOR STH 156 ESTABLISHED FROM PREVIOUS PROJECTS S0114(2), F020-3(23), 9202-2-22, 1058-14-00, 9202-10-00, AND EXISTING CENTERLINE.

EXISTING ACCESS CONTROL ALONG OLD 29 DRIVE ESTABLISHED FROM PREVIOUS RIGHT OF WAY PROJECT F020-3(23).

CONVENTIONAL SYMBOLS

| | | | |
|---|---|---|---|
| FOUND IRON PIPE/PIN | LF (1" UNLESS NOTED) | PROPOSED R/W LINE | |
| | | EXISTING H.E. LINE | |
| R/W MONUMENT | ●(SET) | PROPERTY LINE | |
| R/W STANDARD | ▲(SET) | LOT & TIE LINES | |
| SIGN | ISIGN | SLOPE INTERCEPTS | |
| SECTION CORNER MONUMENT | | CORPORATE LIMITS | |
| SECTION CORNER SYMBOL | | RESTRICTED ACCESS (BY PREVIOUS ACQUISITION/CONTROL) | |
| | | RESTRICTED ACCESS (BY ACQUISITION) | |
| FEE (HATCH VARIES) | | NO ACCESS (BY STATUTORY AUTHORITY) | |
| TEMPORARY LIMITED EASEMENT | | SECTION LINE | |
| PERMANENT LIMITED EASEMENT | | QUARTER LINE | |
| R/W BOUNDARY POINT | RWB20 | SIXTEENTH LINE | |
| PARCEL NUMBER | 102 | EXISTING CENTERLINE | |
| UTILITY NUMBER | 40 | PROPOSED REFERENCE LINE | |
| SIGN NUMBER (OFF PREMISE) | 21-1 | PARALLEL OFFSET | |
| BUILDING | | | |

CONVENTIONAL ABBREVIATIONS

| | | | |
|---|---|---|---|
| ACCESS POINT/ DRIVEWAY CONNECTION | AP | REFERENCE LINE | R/L |
| ACCESS RIGHTS | AR | RELEASE OF RIGHTS | ROR |
| ACRES | AC. | REMAINING | REM. |
| AND OTHERS | ET.AL. | RIGHT-OF-WAY | R/W |
| CENTERLINE | C/L | SECTION | SEC. |
| CERTIFIED SURVEY MAP | CSM | STATION | STA. |
| CORNER | COR. | TEMPORARY LIMITED EASEMENT | TLE |
| DOCUMENT | DOC. | VOLUME | V. |
| EASEMENT | EASE. | CURVE DATA | |
| HIGHWAY EASEMENT | H.E. | LONG CHORD | LCH |
| LAND CONTRACT | LC | LONG CHORD BEARING | LCB |
| MONUMENT | MON. | RADIUS | R |
| PAGE | P. | DEGREE OF CURVE | D |
| PERMANENT LIMITED EASEMENT | PLE | CENTRAL ANGLE OR DELTA | DELTA |
| PROPERTY LINE | PL | LENGTH OF CURVE | L |
| RECORDED AS | (100') | TANGENT | TAN |

CONVENTIONAL UTILITY SYMBOLS

| | | |
|---|---|---|
| WATER | W | |
| GAS | G | |
| TELEPHONE | T | |
| OVERHEAD TRANSMISSION LINES | OH | |
| ELECTRIC | E | |
| CABLE TELEVISION | Tv | |
| FIBER OPTIC | FO | |
| SANITARY SEWER | SAN | |
| STORM SEWER | SS | |
| | NON COMPENSABLE | COMPENSABLE |
| POWER POLE | | |
| TELEPHONE POLE | | |
| TELEPHONE PEDESTAL | | |
| ELECTRIC TOWER | | |

EXISTING MONUMENTS

| POINT | Y (NORTHING) | X (EASTING) | DESCRIPTION |
|---|---|---|---|
| IP 482 | 598498.176 | 39922.113 | 1.25" OD IP |
| IP 483 | 598444.927 | 39914.828 | 1.25" OD IP |
| IP 484 | 598223.570 | 40014.097 | 1.25" OD IP |

emcs LLC

I, KEVIN C. BOYER, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE DEPARTMENT, I HAVE SURVEYED AND MAPPED TRANSPORTATION PROJECT PLAT 1058-25-20-4.04 AMENDMENT NO. 1 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

WISCONSIN KEVIN C BOYER S-2675 HEWITT WI LAND SURVEYOR

Kevin C. Boyer DATE: 11/16/2016
KEVIN C. BOYER
PROFESSIONAL LAND SURVEYOR NUMBER 2675

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

Brent L Stella DATE: 11-23-16
(SIGNATURE)
(PRINTED NAME) Brent L Stella

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\TPP\STH 29\040104_A1_rp.dgn PLOT DATE : 11/16/2016 PLOT BY : kcb PLOT NAME : PLOT SCALE : 1:50

APPRAISAL PLAT DATE :



1058-25-20-4.04 A1

DEPARTMENT COMPOSITE ORIGINAL LOCATED AT THE REGISTER OF DEEDS OFFICE

# TRANSPORTATION PROJECT PLAT NO: 1058-25-20-4.04

THAT PART OF THE FRACTIONAL NORTHWEST 1/4 OF SECTION 31, TOWNSHIP 25 NORTH, RANGE 19 EAST, TOWN OF PITTSFIELD, BROWN COUNTY, WISCONSIN.

RELOCATION ORDER STH 29 & STH 156 INTERSECTION, BROWN COUNTY

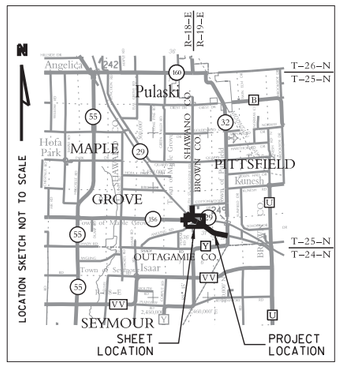
TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

2732359
CATHY WILLIQUETTE LINDSAY
BROWN COUNTY RECORDER
GREEN BAY, WI
RECORDED ON
01/26/2016 9:19 AM
REC FEE: 25.00
EXEMPT #
PAGES: 1
**The above recording information verifies that this document has been electronically recorded and returned to the submitter**

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1058-25-20-4.04
AMENDMENT NO:

LOCATION SKETCH NOT TO SCALE




| TLE STATION & OFFSET TABLE | | |
|---|---|---|
| POINT NO. | STATION | OFFSET |
| TLE 450 | 209+23.66 | 64.56' |
| TLE 451 | 209+40.65 | 130.54' |
| TLE 452 | 209+24.44 | 134.00' |
| TLE 454 | 216+50.00 | 75.00' |
| TLE 455 | 215+50.00 | 80.00' |
| TLE 456 | 215+30.00 | 64.72' |
| TLE 457 | 215+30.00 | -65.28' |
| TLE 458 | 215+61.00 | -87.00' |
| TLE 459 | 216+50.00 | -87.00' |

FOUND
SURVEY NAIL
Y=600779.390
X=39916.110

S00°48'09"W
2280.85'
MON TO 400

L = 53.50'
LCH = 53.50'
LCB = S07°59'41"W
R = 1185.92'
DELTA = 02°35'05" RT

STH 29

TOWN

SHAWANO COUNTY / BROWN COUNTY

SECTION LINE

TOWN

SE/SE

FOUND
0.75" IRON ROD
Y=598146.321
X=39879.226

FRACT SW

FOUND BRASS
CAP MONUMENT
Y=598203.531
X=40975.283

OF

PC STA206+22.22
STH 156 206+00
R=S89°56'07"E

SECTION LINE 208+00

SECTION LINE P.L.

PI STA209+72.37
E0 210+00
CURVE 4

MAPLE GROVE

FRACT NW

OF

NE/NE

P.L.
N01°00'00"E
2538.15'
MON TO 410
P.L.

212+00

PT STA213+06.98

214+00

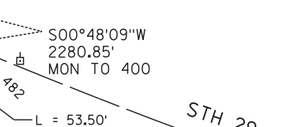
OLD 29 DR
R=S59°26'11"E
PC STA215+61.29

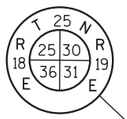
216+00

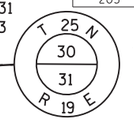
PITTSFIELD

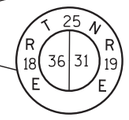
ANGLE DR

130'




| OLD 29 DR CURVE 4 DATA |
|---|
| PI = 209+72.37 |
| Y = 598144.56 |
| X = 39960.10 |
| T = 350.15' |
| L = 684.76' |
| R = 1330.00' |
| DELTA = 29°29'56" RT |
| D = 04°18'29" |
| LCH = 677.22' |
| LCB = S74°11'09"E |

403-405
L = 706.15'
LCH = 705.70'
LCB = S57°05'08"E
R = 5664.58'
DELTA = 07°08'33" LT

407-408
L = 385.55'
LCH = 385.48'
LCB = N58°44'51"W
R = 5794.58'
DELTA = 03°48'44" RT

| COURSE TABLE | | |
|---|---|---|
| COURSE | BEARING | DISTANCE |
| 400-401 | S 89°11'51" E | 37.96' |
| 401-402 | SEE CURVE DATA ON SHEET | |
| 402-403 | S 24°09'15" E | 242.96' |
| 403-405 | SEE CURVE DATA ON SHEET | |
| 405-406 | S 29°28'42" W | 65.53' |
| 406-407 | S 29°28'42" W | 64.47' |
| 407-408 | SEE CURVE DATA ON SHEET | |
| 408-409 | N 62°07'43" W | 175.12' |
| 409-410 | N 76°23'54" W | 185.81' |
| 410-411 | N 01°00'00" E | 66.04' |
| 411-412 | N 01°00'00" E | 2.81' |
| 412-413 | N 01°00'00" E | 24.99' |
| 413-400 | N 00°48'09" E | 352.48' |

| STATION & OFFSET TABLE | | |
|---|---|---|
| POINT NO. | STATION | OFFSET |
| 400 | 208+32.00 | -373.88' |
| 401 | 208+61.13 | -380.43' |
| 402 | 208+63.65 | -327.03' |
| 403 | 209+92.19 | -136.37' |
| 405 | 216+69.50 | -65.53' |
| 406 | 216+69.50 | 0.00' |
| 407 | 216+69.50 | 64.47' |
| 408 | 212+84.25 | 58.62' |
| 409 | 211+01.54 | 51.81' |
| 410 | 209+07.51 | 64.59' |
| 411 | 208+93.38 | 0.00' |
| 412 | 208+92.81 | -2.74' |
| 413 | 208+87.83 | -27.23' |

| EXISTING MONUMENTS | | | |
|---|---|---|---|
| POINT | Y (NORTHING) | X (EASTING) | DESCRIPTION |
| IP 482 | 598498.176 | 39922.113 | 1.25" OD IP |
| IP 483 | 598444.927 | 39914.828 | 1.25" OD IP |
| IP 484 | 598223.570 | 40014.097 | 1.25" OD IP |

0 50 100
SCALE, FEET

GN

## SCHEDULE OF LANDS & INTERESTS REQUIRED

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

| PARCEL NUMBER | OWNERS | INTEREST REQUIRED | R/W ACRES REQUIRED NEW | EXISTING | TOTAL | TLE ACRES |
|---|---|---|---|---|---|---|
| 10 | BROWN COUNTY | TLE | --- | --- | --- | 0.029 |
| 12 | MELVIN A. & GERALDINE R. NOOYEN | FEE/TLE | 0.155 | --- | 0.155 | 0.059 |
| 15 | THOMAS M. & CHRISTINE SNIDER | TLE | --- | --- | --- | 0.028 |

## UTILITY INTERESTS REQUIRED

| UTILITY NUMBER | OWNER(S) | INTEREST REQUIRED |
|---|---|---|
| 200 | WISCONSIN ELECTRIC POWER COMPANY D/B/A WE ENERGIES (ELECTRIC) | RELEASE OF RIGHTS |
| 203 | NORTHEAST TELEPHONE COMPANY LLC. | RELEASE OF RIGHTS |

(200) WISCONSIN ELECTRIC POWER COMPANY D/B/A WE ENERGIES (ELECTRIC)
DOC. 103356 - PAR. ~~10~~. 15 *

(203) NORTHEAST TELEPHONE COMPANY LLC.
DOC. 812305 - PAR. 15
NO EASEMENT OF RECORD - PAR. 12

(12) TLE FOR BUILDING REMOVAL

(10) TLE FOR SLOPE GRADING AND TEMPORARY DRAINAGE *

(12) TLE FOR SLOPE GRADING AND TEMPORARY DRAINAGE

(15) TLE FOR SLOPE GRADING

TLE450 TLE451 TLE452 TLE454 TLE455 TLE456 TLE457 TLE458 TLE459

## NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, BROWN COUNTY, NAD 83 (1991) IN SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

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

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO NEW REFERENCE LINES.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY LINES, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

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

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE:
EXISTING HIGHWAY RIGHT-OF-WAY FOR STH 29 AND OLD 29 DRIVE ESTABLISHED FROM PREVIOUS PROJECTS F020-3(23), 9202-2-22, 1058-14-00, 9202-10-00, AND EXISTING CENTERLINE.
EXISTING HIGHWAY RIGHT-OF-WAY FOR STH 156 ESTABLISHED FROM PREVIOUS PROJECTS S0114(2), F020-3(23), 9202-2-22, 1058-14-00, 9202-10-00, AND EXISTING CENTERLINE.

EXISTING ACCESS CONTROL ALONG OLD 29 DRIVE ESTABLISHED FROM PREVIOUS RIGHT OF WAY PROJECT F020-3(23).

A **TEMPORARY LIMITED EASEMENT** (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE. ALL TLES EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

## CONVENTIONAL SYMBOLS

| | | | |
|---|---|---|---|
| FOUND IRON PIPE/PIN | ⌀ (1" UNLESS NOTED) | PROPOSED R/W LINE | |
| R/W MONUMENT | ○ •(SET) | EXISTING H.E. LINE | |
| R/W STANDARD | △ •(SET) | PROPERTY LINE | |
| SIGN | ISIGN | LOT & TIE LINES | |
| SECTION CORNER MONUMENT | ◍ | SLOPE INTERCEPTS | |
| SECTION CORNER SYMBOL | (SECTION CORNER SYMBOL) | CORPORATE LIMITS | |
| FEE (HATCH VARIES) | | RESTRICTED ACCESS (BY PREVIOUS ACQUISITION/CONTROL) | |
| TEMPORARY LIMITED EASEMENT | | RESTRICTED ACCESS (BY ACQUISITION) | |
| PERMANENT LIMITED EASEMENT | | NO ACCESS (BY STATUTORY AUTHORITY) | |
| R/W BOUNDARY POINT | RWB20 | SECTION LINE | |
| PARCEL NUMBER | 102 | QUARTER LINE | |
| UTILITY NUMBER | 40 | SIXTEENTH LINE | |
| SIGN NUMBER (OFF PREMISE) | 21 | EXISTING CENTERLINE | |
| BUILDING | | PROPOSED REFERENCE LINE | |
| | | PARALLEL OFFSET | |

## CONVENTIONAL ABBREVIATIONS

| | | | |
|---|---|---|---|
| ACCESS POINT/ DRIVEWAY CONNECTION | AP | REFERENCE LINE | R/L |
| ACCESS RIGHTS | AR | RELEASE OF RIGHTS | ROR |
| ACRES | AC. | REMAINING | REM. |
| AND OTHERS | ET. AL. | RIGHT-OF-WAY | R/W |
| CENTERLINE | C/L | SECTION | SEC. |
| CERTIFIED SURVEY MAP | CSM | STATION | STA. |
| CORNER | COR. | TEMPORARY LIMITED EASEMENT | TLE |
| DOCUMENT | DOC. | VOLUME | V. |
| EASEMENT | EASE. | **CURVE DATA** | |
| HIGHWAY EASEMENT | H.E. | LONG CHORD | LCH |
| LAND CONTRACT | LC | LONG CHORD BEARING | LCB |
| MONUMENT | MON. | RADIUS | R |
| PAGE | P. | DEGREE OF CURVE | D |
| PERMANENT LIMITED EASEMENT | PLE | CENTRAL ANGLE OR DELTA | DELTA |
| PROPERTY LINE | PL | LENGTH OF CURVE | L |
| RECORDED AS | (100') | TANGENT | TAN |

## CONVENTIONAL UTILITY SYMBOLS

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

emcs.llc

I, KEVIN C. BOYER, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE DEPARTMENT, I HAVE SURVEYED AND MAPPED TRANSPORTATION PROJECT PLAT 1058-25-20-4.04 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

WISCONSIN KEVIN C BOYER S-2675 HEWITT WI LAND SURVEYOR

Kevin C. Boyer DATE: 1/13/2016
KEVIN C. BOYER
PROFESSIONAL LAND SURVEYOR NUMBER 2675

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION.
Brent L Stella DATE: 1-13-16
(SIGNATURE)
(PRINTED NAME) Brent L Stella

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\TPP\STH 29\040104_rp.dgn PLOT DATE : 1/13/2016 PLOT BY : kcb PLOT NAME : PLOT SCALE : 1:50
APPRAISAL PLAT DATE :

1058-25-20-4.04

DEPARTMENT COMPOSITE ORIGINAL LOCATED AT THE REGISTER OF DEEDS OFFICE

# TRANSPORTATION PROJECT PLAT NO: 1058-25-20-4.05

THAT PART OF THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 32, TOWNSHIP 25 NORTH, RANGE 19 EAST, TOWN OF PITTSFIELD, BROWN COUNTY, WISCONSIN.

RELOCATION ORDER STH 29 & STH 156 INTERSECTION, BROWN COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

## SCHEDULE OF LANDS & INTERESTS REQUIRED

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

| PARCEL NUMBER | OWNERS | INTEREST REQUIRED | R/W ACRES REQUIRED NEW | EXISTING | TOTAL | TLE ACRES |
|---|---|---|---|---|---|---|
| 16 | MARY K. GANSBERG | FEE/TLE | 0.040 | 0.137 | 0.177 | 0.030 |
| 17 | JUSTIN S. STANLEY | FEE/TLE | 0.109 | 0.276 | 0.385 | 0.105 |
| 18 | JOHN J. SCHINKTGEN AND BETTY J. | FEE/TLE | 0.078 | 0.829 | 0.907 | 0.053 |
| 19 | MELVIN A. & GERALDINE R. NOOYEN | TLE | --- | --- | --- | 0.130 |

| STATION & OFFSET TABLE | | |
|---|---|---|
| POINT NO. | STATION | OFFSET |
| 500 | 252+47.90 | -42.42' |
| 502 | 259+57.47 | -43.12' |
| 503 | 260+50.00 | -42.97' |
| 504 | 260+50.00 | 0.00' |
| 505 | 260+50.00 | 39.53' |
| 506 | 260+30.00 | 48.00' |
| 507 | 258+00.00 | 64.00' |
| 508 | 256+50.00 | 48.00' |
| 509 | 255+80.00 | 56.00' |
| 510 | 254+00.00 | 54.00' |
| 512 | 253+60.00 | 39.80' |
| 514 | 252+93.31 | 39.96' |
| 515 | 252+71.75 | 0.00' |

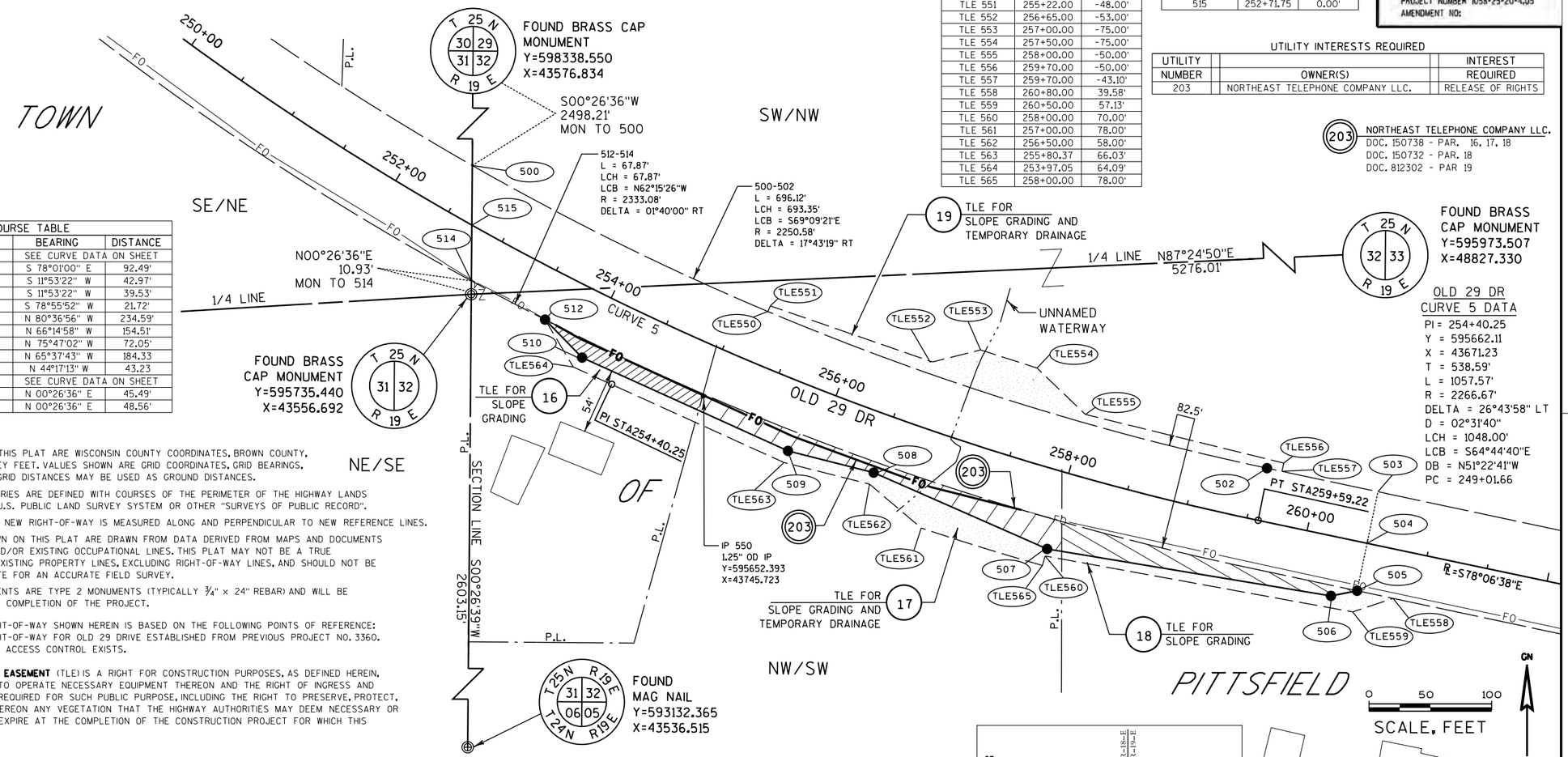
| TLE STATION & OFFSET TABLE | | |
|---|---|---|
| POINT NO. | STATION | OFFSET |
| TLE 550 | 255+22.00 | -43.00' |
| TLE 551 | 255+22.00 | -48.00' |
| TLE 552 | 256+65.00 | -53.00' |
| TLE 553 | 257+00.00 | -75.00' |
| TLE 554 | 257+50.00 | -75.00' |
| TLE 555 | 258+00.00 | -50.00' |
| TLE 556 | 259+70.00 | -50.00' |
| TLE 557 | 259+70.00 | -43.10' |
| TLE 558 | 260+80.00 | 39.58' |
| TLE 559 | 260+50.00 | 57.13' |
| TLE 560 | 258+00.00 | 70.00' |
| TLE 561 | 257+00.00 | 78.00' |
| TLE 562 | 256+50.00 | 58.00' |
| TLE 563 | 255+80.37 | 66.03' |
| TLE 564 | 253+97.05 | 64.09' |
| TLE 565 | 258+00.00 | 78.00' |

2732360
CATHY WILLIQUETTE LINDSAY
BROWN COUNTY RECORDER
GREEN BAY, WI
RECORDED ON
01/26/2016 9:22 AM
REC FEE: 25.00
EXEMPT #
PAGES: 1
**The above recording information verifies that this document has been electronically recorded and returned to the submitter.**

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1058-25-20-4.05
AMENDMENT NO:

## UTILITY INTERESTS REQUIRED

| UTILITY NUMBER | OWNER(S) | INTEREST REQUIRED |
|---|---|---|
| 203 | NORTHEAST TELEPHONE COMPANY LLC. | RELEASE OF RIGHTS |




## OLD 29 DR CURVE 5 DATA

PI = 254+40.25
Y = 595662.11
X = 43671.23
T = 538.59'
L = 1057.57'
R = 2266.67'
DELTA = 26°43'58" LT
D = 02°31'40"
LCH = 1048.00'
LCB = S64°44'40"E
DB = N51°22'41"W
PC = 249+01.66

(203) NORTHEAST TELEPHONE COMPANY LLC.
DOC. 150738 - PAR. 16, 17, 18
DOC. 150732 - PAR. 18
DOC. 812302 - PAR 19

| COURSE TABLE | | |
|---|---|---|
| COURSE | BEARING | DISTANCE |
| 500-502 | SEE CURVE DATA ON SHEET | |
| 502-503 | S 78°01'00" E | 92.49' |
| 503-504 | S 11°53'22" W | 42.97' |
| 504-505 | S 11°53'22" W | 39.53' |
| 505-506 | S 78°55'52" W | 21.72' |
| 506-507 | N 80°36'56" W | 234.59' |
| 507-508 | N 66°14'58" W | 154.51' |
| 508-509 | N 75°47'02" W | 72.05' |
| 509-510 | N 65°37'43" W | 184.33 |
| 510-512 | N 44°17'13" W | 43.23 |
| 512-514 | SEE CURVE DATA ON SHEET | |
| 514-515 | N 00°26'36" E | 45.49' |
| 515-500 | N 00°26'36" E | 48.56' |

## NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, BROWN COUNTY, NAD 83 (1991) IN SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

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

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO NEW REFERENCE LINES.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY LINES, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

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

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE: EXISTING HIGHWAY RIGHT-OF-WAY FOR OLD 29 DRIVE ESTABLISHED FROM PREVIOUS PROJECT NO. 3360. NO PREVIOUS EXISTING ACCESS CONTROL EXISTS.

A **TEMPORARY LIMITED EASEMENT** (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE. ALL TLES EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

## CONVENTIONAL SYMBOLS

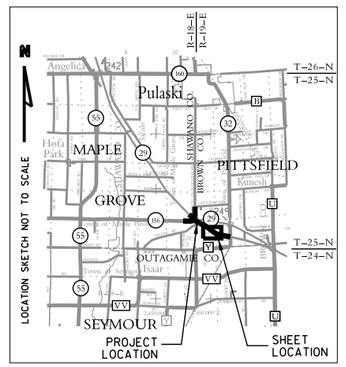
- FOUND IRON PIPE/PIN (1" UNLESS NOTED)
- R/W MONUMENT
- R/W STANDARD
- SIGN
- SECTION CORNER MONUMENT
- SECTION CORNER SYMBOL
- FEE (HATCH VARIES)
- TEMPORARY LIMITED EASEMENT
- PERMANENT LIMITED EASEMENT
- R/W BOUNDARY POINT (RWB20)
- PARCEL NUMBER (102)
- UTILITY NUMBER (40)
- SIGN NUMBER (OFF PREMISE) (21-)
- BUILDING
- PROPOSED R/W LINE
- EXISTING H.E. LINE
- PROPERTY LINE
- LOT & TIE LINES
- SLOPE INTERCEPTS
- CORPORATE LIMITS
- RESTRICTED ACCESS (BY PREVIOUS ACQUISITION/CONTROL)
- RESTRICTED ACCESS (BY ACQUISITION)
- NO ACCESS (BY STATUTORY AUTHORITY)
- SECTION LINE
- QUARTER LINE
- SIXTEENTH LINE
- EXISTING CENTERLINE
- PROPOSED REFERENCE LINE
- PARALLEL OFFSET

## CONVENTIONAL ABBREVIATIONS

| | | | |
|---|---|---|---|
| ACCESS POINT/ DRIVEWAY CONNECTION | AP | REFERENCE LINE | R/L |
| ACCESS RIGHTS | AR | RELEASE OF RIGHTS | ROR |
| ACRES | AC. | REMAINING | REM. |
| AND OTHERS | ET.AL. | RIGHT-OF-WAY | R/W |
| CENTERLINE | C/L | SECTION | SEC. |
| CERTIFIED SURVEY MAP | CSM | STATION | STA. |
| CORNER | COR. | TEMPORARY LIMITED EASEMENT | TLE |
| DOCUMENT | DOC. | VOLUME | V. |
| EASEMENT | EASE. | **CURVE DATA** | |
| HIGHWAY EASEMENT | H.E. | LONG CHORD | LCH |
| LAND CONTRACT | LC | LONG CHORD BEARING | LCB |
| MONUMENT | MON. | RADIUS | R |
| PAGE | P. | DEGREE OF CURVE | D |
| PERMANENT LIMITED EASEMENT | PLE | CENTRAL ANGLE OR DELTA | DELTA |
| PROPERTY LINE | PL | LENGTH OF CURVE | L |
| RECORDED AS | (100') | TANGENT | TAN |

## CONVENTIONAL UTILITY SYMBOLS

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




emcs.llc

I, KEVIN C. BOYER, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE DEPARTMENT, I HAVE SURVEYED AND MAPPED TRANSPORTATION PROJECT PLAT 1058-25-20-4.05 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

WISCONSIN KEVIN C BOYER S-2675 HEWITT WI LAND SURVEYOR

Kevin C. Boyer
KEVIN C. BOYER
PROFESSIONAL LAND SURVEYOR NUMBER 2675
DATE: 1/13/2016

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION
Brent L. Stella
(SIGNATURE)
DATE: 1-13-16
(PRINTED NAME) Brent L Stella

DEPARTMENT COMPOSITE ORIGINAL LOCATED AT THE REGISTER OF DEEDS OFFICE

# TRANSPORTATION PROJECT PLAT NO: 1058-25-20-4.06

THAT PART OF THE NORTHEAST 1/4 OF THE SOUTHWEST 1/4 AND THE NORTHWEST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 32, TOWNSHIP 25 NORTH, RANGE 19 EAST, TOWN OF PITTSFIELD, BROWN COUNTY, WISCONSIN.

RELOCATION ORDER STH 29 & STH 156 INTERSECTION, BROWN COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

## SCHEDULE OF LANDS & INTERESTS REQUIRED

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

| PARCEL NUMBER | OWNERS | INTEREST REQUIRED | R/W ACRES REQUIRED NEW | EXISTING | TOTAL | TLE ACRES |
|---|---|---|---|---|---|---|
| 19 | MELVIN A. & GERALDINE R. NOOYEN | FEE/TLE | 0.090 | --- | 0.090 | 0.133 |
| 21 | HILGENBERG-STURGUL, INC. | FEE/TLE | 0.166 | --- | 0.166 | 0.160 |
| 22 | TOWN OF PITTSFIELD | FEE/TLE | 0.181 | --- | 0.181 | 0.077 |

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, BROWN COUNTY, NAD 83 (1991) IN SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

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

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO NEW REFERENCE LINES.

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

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NO PREVIOUS EXISTING ACCESS CONTROL EXISTS.

A **TEMPORARY LIMITED EASEMENT** (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE. ALL TLES EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

## CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN — LF (1" UNLESS NOTED)
R/W MONUMENT — ●(SET)
R/W STANDARD — ▲(SET)
SIGN — ISIGN
SECTION CORNER MONUMENT
SECTION CORNER SYMBOL
FEE (HATCH VARIES)
TEMPORARY LIMITED EASEMENT
PERMANENT LIMITED EASEMENT
R/W BOUNDARY POINT — RWB20
PARCEL NUMBER — 102
UTILITY NUMBER — 40
SIGN NUMBER (OFF PREMISE) — 21-1
BUILDING

PROPOSED R/W LINE
EXISTING H.E. LINE
PROPERTY LINE
LOT & TIE LINES
SLOPE INTERCEPTS
CORPORATE LIMITS
RESTRICTED ACCESS (BY PREVIOUS ACQUISITION/CONTROL)
RESTRICTED ACCESS (BY ACQUISITION)
NO ACCESS (BY STATUTORY AUTHORITY)
SECTION LINE
QUARTER LINE
SIXTEENTH LINE
EXISTING CENTERLINE
PROPOSED REFERENCE LINE
PARALLEL OFFSET

## CONVENTIONAL ABBREVIATIONS

| | | | |
|---|---|---|---|
| ACCESS POINT/ DRIVEWAY CONNECTION | AP | REFERENCE LINE | R/L |
| ACCESS RIGHTS | AR | RELEASE OF RIGHTS | ROR |
| ACRES | AC. | REMAINING | REM. |
| AND OTHERS | ET.AL. | RIGHT-OF-WAY | R/W |
| CENTERLINE | C/L | SECTION | SEC. |
| CERTIFIED SURVEY MAP | CSM | STATION | STA. |
| CORNER | COR. | TEMPORARY LIMITED EASEMENT | TLE |
| DOCUMENT | DOC. | VOLUME | V. |
| EASEMENT | EASE. | **CURVE DATA** | |
| HIGHWAY EASEMENT | H.E. | LONG CHORD | LCH |
| LAND CONTRACT | LC | LONG CHORD BEARING | LCB |
| MONUMENT | MON. | RADIUS | R |
| PAGE | P. | DEGREE OF CURVE | D |
| PERMANENT LIMITED EASEMENT | PLE | CENTRAL ANGLE OR DELTA | DELTA |
| PROPERTY LINE | PL | LENGTH OF CURVE | L |
| RECORDED AS | (100') | TANGENT | TAN |

## CONVENTIONAL UTILITY SYMBOLS

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

## UTILITY INTERESTS REQUIRED

| UTILITY NUMBER | OWNER(S) | INTEREST REQUIRED |
|---|---|---|
| ~~* 200~~ | ~~WISCONSIN ELECTRIC POWER COMPANY D/B/A WE ENERGIES (ELECTRIC)~~ | ~~RELEASE OF RIGHTS~~ |
| 203 | NORTHEAST TELEPHONE COMPANY LLC. | RELEASE OF RIGHTS |

* ~~200~~ ~~WISCONSIN ELECTRIC POWER COMPANY D/B/A WE ENERGIES (ELECTRIC)~~ ~~DOC. 115886 - PAR. 19~~

203 NORTHEAST TELEPHONE COMPANY LLC. NO EASEMENT OF RECORD - PAR. 21

FOUND ALUM. CAP MONUMENT Y=598454.594 X=46220.199

S00°14'03"E 2884.68' MON TO 600

T 25 N 29 32 R 19 E

* UTILITY NUMBER 200 WAS VACATED PER DOCUMENT # 574841

GOVT LOT 2

OLD 29 DR CURVE 6 DATA
PI= 276+92.92
Y = 595193.970
X = 45894.772
T = 175.98'
L = 351.80'
R = 4845.99'
DELTA = 04°09'34" RT
D = 01°10'56"
LCH = 351.73'
LCB = S76°01'51"E

628-622
L = 35.42'
LCH = 35.42'
LCB = S77°40'22"E
R = 5770.90'
DELTA = 00°21'06" RT

620-627
L = 49.57'
LCH = 49.57'
LCB = N77°36'02"W
R = 5688.40'
DELTA = 00°29'57" RT

STA 4+88.98= STA 280+36.58
Y=595098.921
X=46225.185

16.5' INGRESS/EGRESS EASEMENT
DOC. 1806255
DOC. 1877895
DOC. 1937865
DOC. 2090961

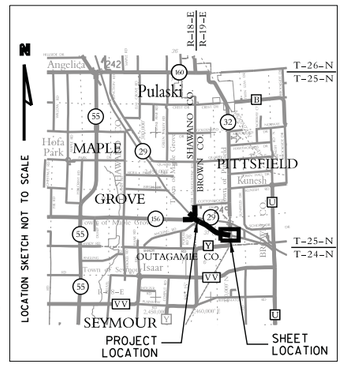
NOO°14'03"W 1596.532 MON TO 613

CORNER ESTABLISHED FROM TIES
Y=593290.781
X=46241.293

T25N R19E 32 05 T24N R19E

0 50 100
SCALE, FEET

LOCATION SKETCH NOT TO SCALE




## TLE STATION & OFFSET TABLE

| POINT NO. | STATION | OFFSET |
|---|---|---|
| TLE 650 | 279+80.46 | -375.15' |
| TLE 651 | 279+94.22 | -363.51' |
| TLE 652 | 280+32.95 | -229.14' |
| TLE 653 | 282+16.30 | -90.00' |
| TLE 654 | 285+73.02 | -65.00' |
| TLE 655 | 287+32.15 | -65.00' |
| TLE 658 | 280+50.57 | 186.76' |
| TLE 659 | 279+98.43 | 103.16' |
| TLE 660 | 279+50.00 | 78.00' |
| TLE 661 | 277+00.00 | 75.00' |
| TLE 663 | 276+00.00 | -52.14' |
| TLE 664 | 277+91.26 | -74.31' |
| TLE 665 | 279+07.85 | -229.88' |
| TLE 666 | 278+52.64 | -426.38' |

## COURSE TABLE

| COURSE | BEARING | DISTANCE |
|---|---|---|
| 600-601 | N 89°57'57" E | 42.93' |
| 601-602 | S 00°01'48" E | 236.43' |
| 602-603 | S 36°45'24" E | 263.43' |
| 603-604 | S 69°26'21" E | 345.05' |
| 604-605 | S 73°29'08" E | 88.98' |
| 605-606 | S 58°13'20" E | 54.94' |
| 606-607 | S 73°29'00" E | 17.56' |
| 607-608 | S 16°30'52" W | 40.54' |
| 608-609 | S 16°30'52" W | 41.96' |
| 609-610 | N 73°29'00" W | 526.92' |
| 610-611 | S 52°58'21" W | 136.66' |
| 611-612 | S 00°34'17" E | 43.16' |
| 612-613 | S 89°57'57" W | 32.52' |
| 613-614 | S 89°57'57" W | 7.48' |
| 614-615 | S 89°57'57" W | 40.00' |
| 615-616 | N 00°34'17" W | 57.30' |
| 616-617 | N 14°04'18" W | 73.03' |
| 617-618 | N 47°23'51" W | 62.19' |
| 618-619 | N 73°55'42" W | 247.70' |
| 619-620 | N 63°18'20" W | 101.59' |
| 620-627 | SEE CURVE DATA ON SHEET | |
| 627-621 | N 12°16'49" E | 41.90' |
| 621-628 | N 12°16'49" E | 40.60' |
| 628-622 | SEE CURVE DATA ON SHEET | |
| 622-623 | S 82°31'28" E | 200.81' |
| 623-624 | N 53°03'50" W | 222.43' |
| 624-625 | N 00°01'48" W | 206.96' |
| 625-626 | N 89°57'57" E | 50.00' |
| 626-600 | N 89°57'57" E | 7.07' |

## STATION & OFFSET TABLE

| POINT NO. | STATION | OFFSET |
|---|---|---|
| 600 | 279+12.89 | -454.54' |
| 601 | 279+54.15 | -466.44' |
| 602 | 280+19.63 | -239.25' |
| 603 | 282+29.48 | -80.00' |
| 604 | 285+73.02 | -55.00' |
| 605 | 286+62.00 | -55.00' |
| 606 | 287+15.00 | -40.54' |
| 607 | 287+32.56 | -40.54' |
| 608 | 287+32.56 | 0.00' |
| 609 | 287+32.56 | 41.96' |
| 610 | 282+05.29 | 41.10' |
| 611 | 281+23.19 | 150.35' |
| 612 | 281+35.54 | 191.71' |
| 613 | 281+04.29 | 200.72' |
| 614 | 280+96.98 | 202.83' |
| 615 | 280+58.67 | 213.88' |
| 616 | 280+42.28 | 158.97' |
| 617 | 280+05.63 | 95.80' |
| 618 | 279+50.00 | 68.00' |
| 619 | 277+00.00 | 65.00' |
| 620 | 276+00.00 | 41.75' |
| 621 | 275+50.00 | 0.00' |
| 622 | 275+85.12 | -40.70' |
| 623 | 277+82.59 | -63.04' |
| 624 | 279+15.38 | -239.87' |
| 625 | 278+58.95 | -438.74' |
| 626 | 279+06.10 | -452.58' |
| 627 | 275+50.00 | 41.90' |
| 628 | 275+50.00 | -40.60' |
| 629 | 280+45.66 | 0.00' |

**2732361**
CATHY WILLIQUETTE LINDSAY
BROWN COUNTY RECORDER
GREEN BAY, WI
RECORDED ON
01/26/2016 9:24 AM
REC FEE: 25.00
EXEMPT #
PAGES: 1
**The above recording information verifies that this document has been electronically recorded and returned to the submitter**

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1058-25-20-4.06
AMENDMENT NO:

emcs.llc

I, KEVIN C. BOYER, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE DEPARTMENT, I HAVE SURVEYED AND MAPPED TRANSPORTATION PROJECT PLAT 1058-25-20-4.06 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

Kevin C. Boyer DATE: 1/13/2016
KEVIN C. BOYER
PROFESSIONAL LAND SURVEYOR NUMBER 2675

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION
Brent L Stella DATE: 1-13-16
(SIGNATURE)
(PRINTED NAME) Brent L Stella

**PROPOSED WORK**
STA 196+50 - STA 209+00
PAVEMENT RECONSTRUCTION

**LEGEND**
- DELINEATED WETLAND BOUNDARY
- X CLEARING & GRUBBING
- SLOPE INTERCEPT
- REMOVE EXISTING ROADWAYS

N

BEGIN CONSTRUCTION
STH 156
STA 196+50.00
MATCH PROJECT 6580-11-60
BEGIN PAVEMENT RECONSTRUCTION
SAWCUT REQ'D

SEE INTERSECTION DETAILS FOR MORE INFORMATION

PROP RW
PC STA11A+44.42
12°A'00"
ST. AUGUSTINE RD
N 0°35'46" E
PROP RW

BEGIN CONSTRUCTION
ST. AUGUSTINE RD
STA 10'A'+24.00
MATCH STH 156

BAUMGART MARITAL TRUST
WISCONSIN PUBLIC SERVICE (GAS)
NORTHEAST TELEPHONE COMPANY, LLC (COMMUNICATIONS)
118' LT
28' WIDE
BASE AGG FE
EXISTING STH 156
EXISTING OLD 29 DR
CAUTION
CAUTION
PROP RW
STA 204+27, LT
1-24" CPCS REQ'D
2-24" AEW REQ'D
T25N R19E
25 30 36 31
LANDMARK REFERENCE MONUMENTS (BY OTHERS)
PC STA206+22.22

194+00 STH 156 196+00 198+00 200+00 202+00 204+00 206+00 208+00
S 89°13'55" E
S 89°21'38" E

BM 603A
PI STA196+04.26
TLE
RW
PROP RW
16.5' WIDE
45' RT
ASPH PE
STA 197+18, RT
REMOVE 1-18" CPCS
STA 197+18, RT
1-18" CPCS REQ'D
2-18" AEW REQ'D
BM 603
CONTROL POINT 503
Y=205464.79
X=953944.45
0.75"X24" IRON REBAR WITH
BLUE EMCS CONTROL CAP
QWEST COMMUNICATIONS (COMMUNICATIONS)
WE ENERGIES (ELECTRIC DISTRIBUTION)
STA 198+43.62= STA 10'A'+00.00
DRAIN TILE EXPLORATION (EXISTING DRAIN TILE SHOULD DRAIN TO PROPOSED DITCH)
TLE
60' RT
28' WIDE
BASE AGG FE
STA 204+27, RT
1-24" CPCS REQ'D
2-24" AEW REQ'D
PROP RW
RW
GUY
MOJO'S POLISH PICKLE, LLC
REMOVING BUILDINGS (PARCEL 13)
SITE CLEARANCE (PARCEL 13)

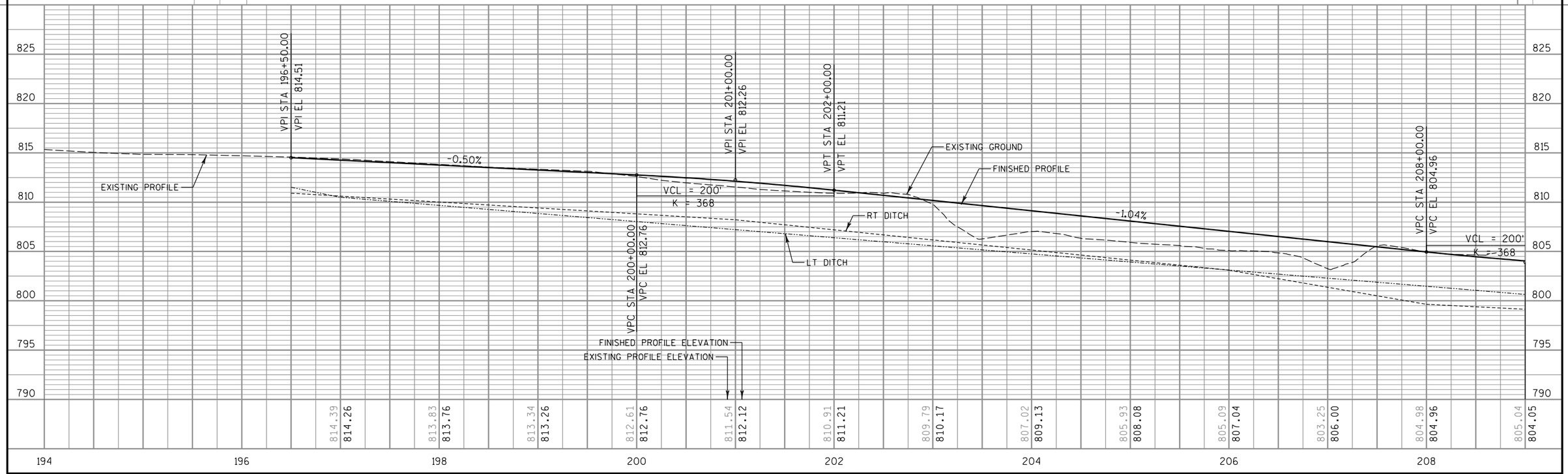
SEE PROJECT 6580-11-60
MILL & HMA OVERLAY

JAMES J & MARGARET VANDEN ENG LIVING TRUST
ALBERT M NOOYEN
SHAWANO COUNTY
BROWN COUNTY

**BENCH MARK**

| NO. | STATION | DESCRIPTION | ELEV. |
|---|---|---|---|
| 603 | 199+44, 36' RT | RR SPK IN POWER POLE | 812.51 |
| 603A | 194+79, 36' RT | RR SPK IN POWER POLE | 813.03 |

PERMITTED WETLAND IMPACTS




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | PLAN & PROFILE - STH 156 | SHEET 86 | E |
|---|---|---|---|---|---|

**PROPOSED WORK**
STA 209+00 - STA 217+50
PAVEMENT RECONSTRUCTION
STA 215+97
CONSTRUCT B-5-435
STA 217+50 - STA 224+00
MILL AND HMA OVERLAY

**LEGEND**
- DELINEATED WETLAND BOUNDARY
- X CLEARING & GRUBBING
- SLOPE INTERCEPT
- REMOVE EXISTING ROADWAYS

N

HUBEN PROPERTIES LLC

BROWN COUNTY STH 29 EXCESS RW

STA 215+97
REMOVING OLD STRUCTURE (C-5-54)
55' OVERALL LENGTH
16' OVERALL WIDTH
STA 215+97
STRUCTURE B-5-435 REQ'D
4'H X 10'W 2-CELL BOX CULVERT
SKEW 0° RHF

THOMAS M & CHRISTINE SNIDER

HOG INVESTMENTS LLP

EXISTING CULVERT TO REMAIN

18' WIDE
89' LT
RW

BASE AGG CE

STA 210+52, LT
1-24" CPCS REQ'D
2-24" AEW REQ'D

WISCONSIN PUBLIC SERVICE (GAS)

STA 214+79 - STA 217+47, LT
STA 214+48 - STA 217+15, RT
MGS GUARDRAIL 3 L
MGS GUARDRAIL 3
MGS GUARDRAIL TERMINAL EAT
(SEE STANDARD DETAIL DRAWINGS)

BM 601
SALVAGED RAIL & SALVAGE GUARDRAIL END TREATMENTS

CONTROL POINT 501
Y=205117.03
X=955719.04
0.75"X24" IRON REBAR WITH BLUE EMCS CONTROL CAP

WE ENERGIES (ELECTRIC DISTRIBUTION)

NORTHEAST TELEPHONE COMPANY, LLC (COMMUNICATIONS)

EXISTING OLD 29 DR

PT STA213+06.98

PC STA215+61.29

PT STA219+58.57

ASPH CE

BASE AGG CE

STH 156

S 59°51'41" E

S 63°50'49" E

STH 156/OLD 29 DR

PROP RW

SALVAGED RAIL & SALVAGE GUARDRAIL END TREATMENTS

NORTHEAST TELEPHONE COMPANY, LLC (COMMUNICATIONS)

BASE AGG PE

BASE AGG FE

STA 217+50
END PAVEMENT RECONSTRUCTION
BEGIN MILL & HMA OVERLAY
SAWCUT REQ'D

END CONSTRUCTION
75' RT
BUTT JOINT REQ'D

DAVID KRUEGER

BAUMGART MARITAL TRUST

ALBERT M NOOYEN

W BRANCH OF SUAMICO RIVER

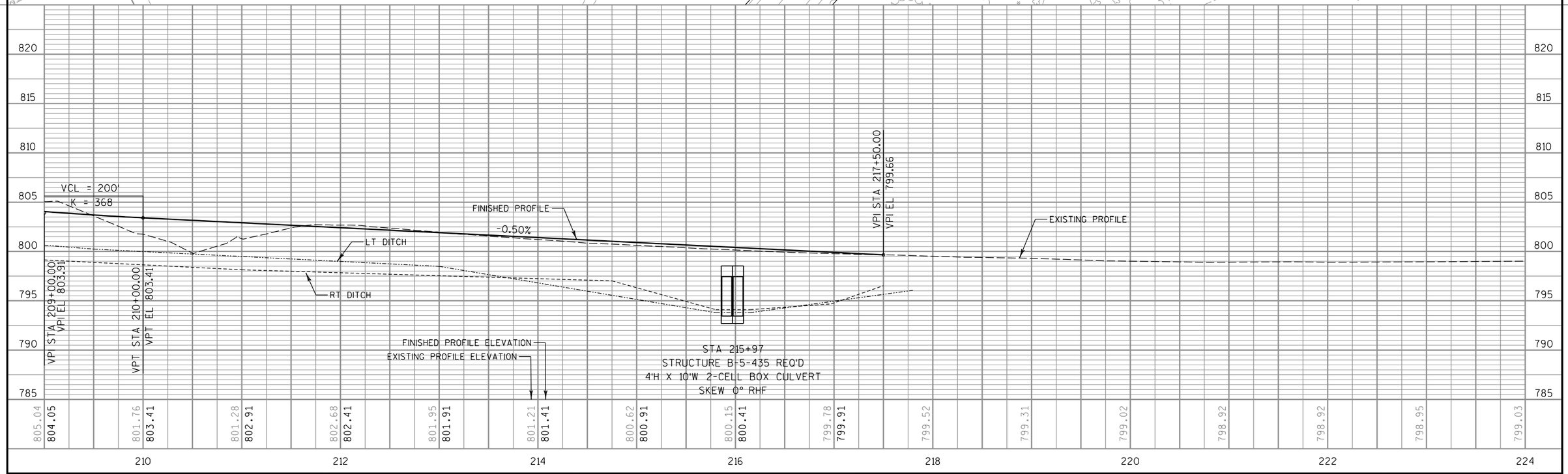
ANGLE DR

BROWN SHAWANO COUNTY

PERMITTED WETLAND IMPACTS

**BENCH MARK**

| NO. | STATION | DESCRIPTION | ELEV. |
|---|---|---|---|
| 601 | 216+05, 25'LT | RR SPK IN POWER POLE | 799.27 |




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | PLAN & PROFILE - STH 156/OLD 29 DR | SHEET 87 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\050102_pp.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 40

**PROPOSED WORK**
STA 224+00 - STA 239+00
MILL AND HMA OVERLAY

**LEGEND**
DELINEATED WETLAND BOUNDARY

N

5

5

STH 156/OLD 29 DR

S 63°50'49" E

S 51°48'12" E

PC STA228+67.73

PT STA231+84.39

224+00 226+00 228+00 230+00 232+00 234+00 236+00 238+00

BASE AGG CE

BASE AGG FE

BASE AGG PE

ASPH PE

RW

WISCONSIN PUBLIC SERVICE (GAS)

NORTHEAST TELEPHONE COMPANY, LLC (COMMUNICATIONS)

WISCONSIN PUBLIC SERVICE (ELECTRIC DISTRIBUTION)

DIEDERICK TRUCK REPAIR INC

RYAN S BUECHNER

WILLBERT & SHARON HOLL

BAUMGART MARITAL TRUST

WILCOX TRUST

WILCOX TRUST

MELVIN NOOYEN

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | PLAN - STH 156/OLD 29 DR | SHEET 88 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\050103_pn.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 44

**PROPOSED WORK**
STA 239+00 - STA 253+89
MILL AND HMA OVERLAY

**LEGEND**
- DELINEATED WETLAND BOUNDARY
- SLOPE INTERCEPT

N

5

5

*WILLBERT & SHARON HOLL*

*COREY C PIERNER*

*TAMMY L & CHRIS A JAMES ETAL*

*RALPH M & DEBRA A DIEDERICH*

*MELVIN NOOYEN*

STA 253+89
END MILL & HMA OVERLAY
BEGIN PAVEMENT RECONSTRUCTION
SAWCUT REQ'D

NORTHEAST TELEPHONE COMPANY, LLC
(COMMUNICATIONS)

WISCONSIN PUBLIC SERVICE
(GAS)

WISCONSIN PUBLIC SERVICE
(ELECTRIC DISTRIBUTION)

BASE AGG FE

ASPH PE

BASE AGG PE

RROP RW TLE

RW

240+00 242+00 244+00 246+00 248+00 250+00 252+00 254+00

S 51°48'12" E

STH 156/OLD 29 DR

PC STA249+01.66

NORTHEAST TELEPHONE COMPANY, LLC
(COMMUNICATIONS)

T 25 N
R 19 E
31 32

DO NOT DISTURB
LANDMARK REFERENCE MONUMENTS
(BY OTHERS)

*MELVIN & GERALDINE NOOYEN*

*MELVIN NOOYEN*

STA 253+80, RT
REMOVE 1-18" CPCS
STA 253+80, RT
1-18" CPCS REQ'D
2-18" AEW REQ'D

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | PLAN - STH 156/OLD 29 DR | SHEET 89 | E |
|---|---|---|---|---|---|

**PROPOSED WORK**
STA 253+89 - STA 260+54
PAVEMENT RECONSTRUCTION
STA 215+35
CONSTRUCT C-5-151 BOX CULVERT
STA 260+54 - STA 269+00
MILL AND HMA OVERLAY

STA 257+25
REMOVING OLD STRUCTURE
42' OVERALL LENGTH
5'8" OVERALL WIDTH

STA 257+35
STRUCTURE C-5-151 REQ'D
4'H X 12'W 1-CELL BOX CULVERT
SKEW 5° RHF

**BENCH MARK**

| NO. | STATION | DESCRIPTION | ELEV. |
|---|---|---|---|
| 600 | 257+22, 21' LT | RR SPK IN POWER POLE | 787.03 |

**LEGEND**
- DELINEATED WETLAND BOUNDARY
- SLOPE INTERCEPT
- X CLEARING & GRUBBING

N

STA 253+89
END MILL & HMA OVERLAY
BEGIN PAVEMENT RECONSTRUCTION
SAWCUT REQ'D

CONTROL POINT 500
Y=203029.97
X=959054.70
0.75"X24" IRON REBAR WITH
BLUE EMCS CONTROL CAP

BM 600

SALVAGED RAIL & SALVAGE GUARDRAIL END TREATMENTS

STA 256+10 - STA 258+93, LT
MGS GUARDRAIL 3 L
MGS GUARDRAIL 3
MGS GUARDRAIL TERMINAL EAT
GUARDRAIL MOW STRIP EMULSIFIED ASPHALT (LT ONLY)
(SEE STANDARD DETAIL DRAWINGS)

WISCONSIN PUBLIC SERVICE (GAS)

ANR PIPELINE COMPANY (GAS)

NORTHEAST TELEPHONE COMPANY, LLC (COMMUNICATIONS)

WISCONSIN PUBLIC SERVICE (ELECTRIC DISTRIBUTION)

PT STA259+59.22

STA 260+54
END PAVEMENT RECONSTRUCTION
BEGIN MILL & HMA OVERLAY
SAWCUT REQ'D

NORTHEAST TELEPHONE COMPANY, LLC (COMMUNICATIONS)

STA 253+80, RT
REMOVE 1-18" CPCS
STA 253+80, RT
1-18" CPCS REQ'D
2-18" AEW REQ'D

SALVAGED RAIL & SALVAGE GUARDRAIL END TREATMENTS

STA 257+89, RT
REMOVE 1-12" CPCS
STA 257+95, RT
1-24" CPCS REQ'D
2-24" AEW REQ'D

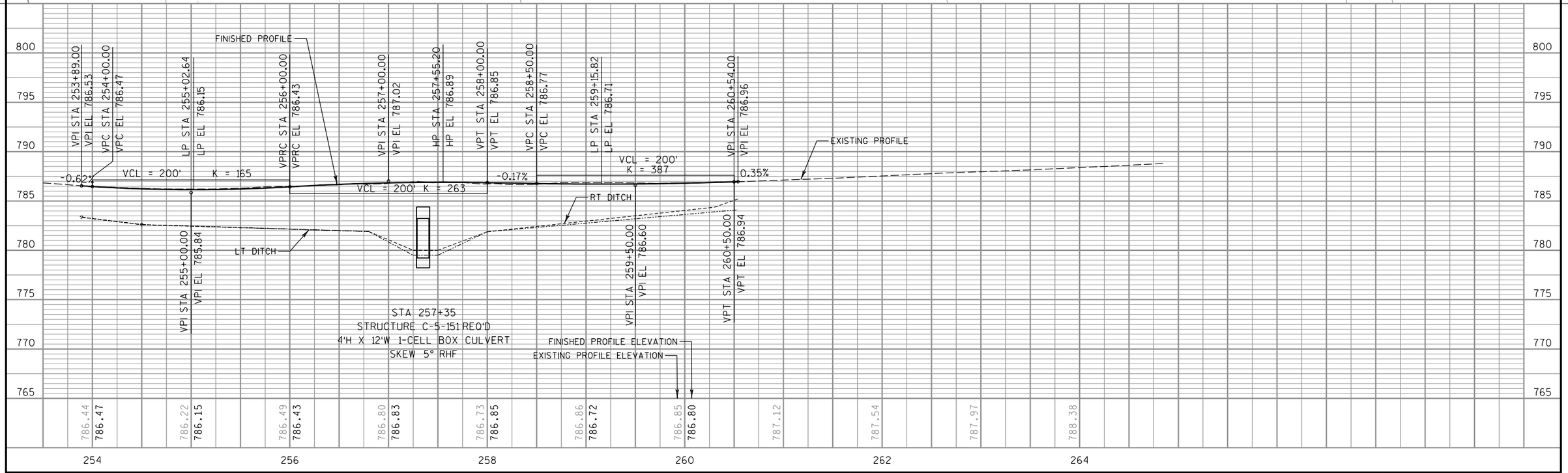
STA 258+25 - STA 259+42, RT
MGS GUARDRAIL 3
MGS GUARDRAIL TERMINAL EAT
(SEE STANDARD DETAIL DRAWINGS)

STA 255+79 - STA 257+84, RT
STEEL PLATE BEAM GUARD OVER LOW FILL CULVERTS CLASS A
STEEL PLATE BEAM GUARD SHORT RADIUS
STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL
STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL
(SEE STANDARD DETAIL DRAWINGS)

PERMITTED WETLAND IMPACTS

MELVIN NOOYEN
TAMMY NOOYEN
TAMMY NOOYEN ETAL
MARY K GANSBERG
DAVID O KLAPPER
JOHN J & BETTY J SCHINKTGEN
RYAN DERKS
UNNAMED TRIBUTARY TO THE W BRANCH OF SUAMICO RIVER

STH 156/OLD 29 DR
S 78°32'09" E




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | PLAN & PROFILE - STH 156/OLD 29 DR | SHEET 90 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\050105_pp.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 40

**PROPOSED WORK**
STA 269+00 - STA 276+25
MILL AND HMA OVERLAY
STA 276+25 - STA 284+00
PAVEMENT RECONSTRUCTION

N

**LEGEND**
-·-·- DELINEATED WETLAND BOUNDARY
----- SLOPE INTERCEPT

**BENCH MARK**

| NO. | STATION | DESCRIPTION | ELEV. |
|---|---|---|---|
| 606 | 277+81, 46'LT | RR SPK IN POWER POLE | 777.81 |

MELVIN & GERALDINE NOOYEN

FENCED MOVED OUT OF R/W PRIOR TO CONSTRUCTION BY OTHERS

NORTHEAST TELEPHONE COMPANY, LLC (COMMUNICATIONS)

WISCONSIN PUBLIC SERVICE (ELECTRIC DISTRIBUTION)

WISCONSIN PUBLIC SERVICE (GAS)

BASE AGG PE

BASE AGG FE

TLE

PROP RW

RW

270+00 272+00 274+00 STH 156/OLD 29 DR 276+00 278+00 280+00 282+00 284+00

S 78°32'09" E

PC STA275+16.94

PT STA278+68.74

STA 280+36.58 = STA 4'Y'+88.99

S 74°22'35" E

S 73°54'38" E

PI STA283+09.29

STA 276+25
END MILL & HMA OVERLAY
BEGIN PAVEMENT RECONSTRUCTION
SAWCUT REQ'D

STA 282+50
END PAVEMENT RECONSTRUCTION
SAWCUT REQ'D

STA 4'Y'+49
REMOVE 1-24"X18" CPCS
STA 4'Y'+38
1-24"x38" CPRCHE
CLASS IV REQ'D
2-24"x38" AEW REQ'D
SKEW 16° LHF
2-MARKERS FOR
CULVERT END REQ'D

STA 5'Y'+49
REMOVE 1-24"X18" CPCS
STA 6'Y'+07
1-24"x38" CPRCHE
CLASS IV REQ'D
2-24"x38" AEW REQ'D
SKEW 0° RHF
2-MARKERS FOR
CULVERT END REQ'D

HILGENBERG STURGUL INC.

UPLAND AREA

BM 606

STORM SEWER (SEE INTERSECTION DETAIL)

STH 156 N 02°17'32" W

CTH Y N 05°45'01" W

47Y+00

67Y+00

CONTROL POINT 506
Y=202473.41
X=961247.41
0.75"X24" IRON REBAR WITH
BLUE EMCS CONTROL CAP

RYAN DERKS

MELVIN & GERALDINE NOOYEN

TOWN OF PITTSFIELD

LESTER F & BONNIE KRANING

ONEIDA NATION PROPERTY (NO WORK IN THIS AREA)

PERMITTED WETLAND IMPACTS

5

5

795 790 785 780 775 770 765 760

VPC STA 276+25.00
VPC EL 780.75

VCL = 250'
K = 217

VPT STA 278+75.00
VPT EL 778.22

VPI STA 277+50.00
VPI EL 778.77

VPI STA 282+50.00
VPI EL 776.58

EXISTING PROFILE

FINISHED PROFILE

-0.44%

RT DITCH

LT DITCH

FINISHED PROFILE ELEVATION
EXISTING PROFILE ELEVATION

| | | |

**PROPOSED WORK**
STA 284+00 - STA 286+59.26
PAVEMENT RECONSTRUCTION
FOR RIGHT TURN LANE

HILGENBERG STURGUL INC.

NORTHEAST TELEPHONE COMPANY, LLC
(COMMUNICATIONS)

WISCONSIN PUBLIC SERVICE
(GAS)

WISCONSIN PUBLIC SERVICE
(ELECTRIC DISTRIBUTION)

TLE
PROP RW
RW
HO
CAUTION
BASE
AGG
FE

284+00
286+00
288+00
290+00
292+00
294+00
296+00
298+00

S 73°54'38" E
OLD 29 DR
S 74°09'50" E
S 78°18'27" E

PI STA287+33.22
Y=202297.42
X=961982.97

Y=202207.642
X=962299.476
PC STA290+62.21

PT STA296+85.05

END CONSTRUCTION
OLD 29 DR
STA 286+59.26
SAWCUT REQ'D
MATCH EXISTING

*ONEIDA NATION PROPERTY (NO WORK IN THIS AREA)*

N

**LEGEND**
DELINEATED WETLAND BOUNDARY
SLOPE INTERCEPT

PERMITTED WETLAND IMPACTS

5

5

790
785
780
775
770
765
760
755

EXISTING PROFILE
LT DITCH
EXISTING PROFILE ELEVATION

776.01
775.51
775.08
774.71
774.39

284
286
288
290

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | PLAN & PROFILE - OLD 29 DR | SHEET 92 | E |
|---|---|---|---|---|---|

**PROPOSED WORK**
STA 3'Y'+17 - STA 10'Y'+67
PAVEMENT RECONSTRUCTION
STA 8'Y'+50 - STA 12'Y'+92
MILL AND HMA OVERLAY

BM 606

STA 5'Y'+49
REMOVE 1-24"X18" CPCS
STA 6'Y'+07
1-24"x38" CPRCHE
CLASS IV REQ'D
2-24"x38" AEW REQ'D
SKEW 0° RHF
2-MARKERS FOR
CULVERT END REQ'D

**BENCH MARK**

| NO. | STATION | DESCRIPTION | ELEV. |
|---|---|---|---|
| 606 | 277+81.46'LT | RR SPK IN POWER POLE | 777.81 |
| 607 | 13'Y'+76.60'RT | SET CHISELED SQUARE ON OLD SIGN FOOTING | 779.00 |

**LEGEND**
- DELINEATED WETLAND BOUNDARY
- SLOPE INTERCEPT

N

TOWN OF PITTSFIELD

CASEY B CORNELIUS

CONTROL POINT 506
Y=202473.41
X=961247.41
0.75"X24" IRON REBAR WITH
BLUE EMCS CONTROL CAP

STH 156/OLD 29 DR
280+00
S 14°22'35" E

MELVIN & GERALDINE NOOYEN

FENCED MOVED
OUT OF R/W PRIOR TO
CONSTRUCTION BY
OTHERS

NORTHEAST TELEPHONE COMPANY, LLC
(COMMUNICATIONS)

STA 10'Y'+67
END PAVEMENT RECONSTRUCTION
BEGIN MILL & HMA OVERLAY
SAWCUT REQ'D

MELVIN & GERALDINE NOOYEN

**END CONSTRUCTION**
STH 156
STA 12'Y'+92.00
END MILL & HMA OVERLAY
BUTTJOINT REQ'D
MATCH EXISTING

1'Y'+00 CTH Y 2'Y'+00 4'Y'+00 6'Y'+00 8'Y'+00 10'Y'+00 12'Y'+00 14'Y'+00 STH 156 16'Y'+00

N 0°57'32" W N 0°27'34" W

STA 4'Y'+88.99=
STA 280+36.58

**BEGIN CONSTRUCTION**
CTH Y
STA 3'Y'+17.00
BEGIN PAVEMENT RECONSTRUCTION
SAWCUT REQ'D
MATCH EXISTING

LESTER F & BONNIE KRANING

OLD 29 DR
280+00
S 14°22'35" E

BASE AGG FE

WISCONSIN PUBLIC SERVICE
(GAS)

STA 8'Y'+50
END PAVEMENT RECONSTRUCTION
BEGIN MILL & HMA OVERLAY
SAWCUT REQ'D

BASE AGG PE
BASE AGG CE
BASE AGG CE

CONTROL POINT 507
Y=203382.09
X=961351.32
0.75"X24" IRON REBAR WITH
BLUE EMCS CONTROL CAP

BM 607

NORTHEAST TELEPHONE
COMPANY, LLC
(COMMUNICATIONS)

WISCONSIN PUBLIC SERVICE
(ELECTRIC DISTRIBUTION)

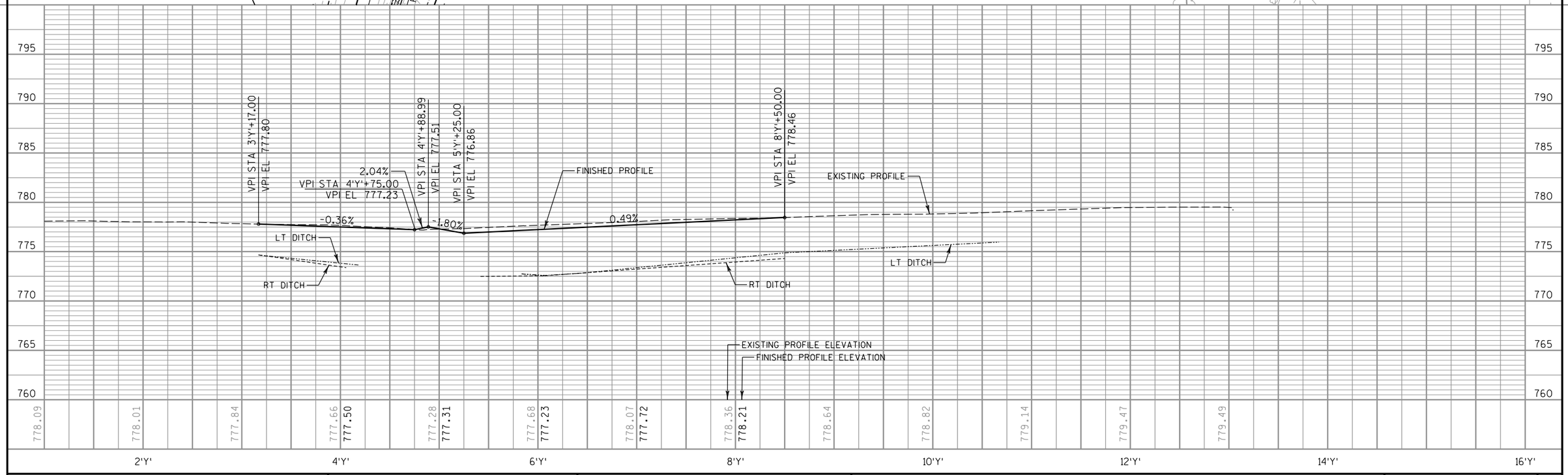
STORM SEWER
(SEE INTERSECTION DETAIL)

HILGENBERG STURGUL INC.

BEVERLY M. ARNDT ETAL

JOHN F. & KAREN BINKOWSKI

PERMITTED WETLAND IMPACTS




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | PLAN & PROFILE - STH 156/CTH Y | SHEET 93 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\050108_pp.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 40

**PROPOSED WORK**
STA 10'A'+24 - STA 25'A'+00
PAVEMENT RECONSTRUCTION
STA 19'A'+80.60
CONSTRUCT B-58-129 STRUCTURE
STA 17'A'+73 - STA 22'A'+26, LT
STA 17'A'+48 - STA 22'A'+01, RT
CONSTRUCT GUARDRAIL

**LEGEND**
- DELINEATED WETLAND BOUNDARY
- SLOPE INTERCEPT
- X CLEARING & GRUBBING

N

BAUMGART MARITAL TRUST

STA 16'A'+50
1-24" CPRC CLASS IV REQ'D
2-24" AEW REQ'D
0° RHF
2-MARKERS FOR CULVERT END REQ'D

STA 17'A'+69 - STA 18'A'+61, LT
MGS THRIE BEAM TRANSITION
MGS GUARDRAIL TERMINAL EAT
(SEE STANDARD DETAIL DRAWINGS)

PROP RW

PT STA16'A'+76.19

STH 29 EB

STH 29 WB

324EB+00

322EB+00

B-58-129

N 37°10'19" E

BAUMGART MARITAL TRUST

PROP RW

REALIGN UNNAMED TRIBUTARAY TO THE WEST BRANCH OF THE SUAMICO RIVER (SEE CONSTRUCTION DETAILS)

ST. AUGUSTINE RD

16'A'+00 18'A'+00 22'A'+00 24'A'+00

+78 +69 +94 +19 +45 +19 +44 +69 +99 +24 +49 +41 +49 +74 +99 +91

STA 21'A'+06 - STA 22'A'+49, LT
MGS THRIE BEAM TRANSITION
MGS GUARDRAIL 3
MGS GUARDRAIL TERMINAL EAT
(SEE STANDARD DETAIL DRAWINGS)

STA 21'A'+06 - STA 21A'+99, RT
MGS THRIE BEAM TRANSITION
MGS GUARDRAIL TERMINAL EAT
(SEE STANDARD DETAIL DRAWINGS)

WISCONSIN PUBLIC SERVICE (GAS)

TLE

PROP RW

PC STA11'A'+44.42
12'A'+00

14'A'+00

STA 17'A'+19 - STA 18'A'+61, RT
MGS THRIE BEAM TRANSITION
MGS GUARDRAIL 3
MGS GUARDRAIL TERMINAL EAT
(SEE STANDARD DETAIL DRAWINGS)

PROP RW

STA 19'A'+80.60
STRUCTURE B-58-129 REQ'D
2 SPAN 54" PRESTRESSED GIRDER BRIDGE
30' CLEAR ROADWAY
SKEW 0° RHF

STH 156

198+00 04+00

CAUTION

N 0°35'46" E

BEGIN CONSTRUCTION
ST. AUGUSTINE RD
STA 10'A'+24.00
MATCH STH 156
NORTHEAST TELEPHONE COMPANY, LLC (COMMUNICATIONS)
SEE INTERSECTION DETAILS FOR MORE INFORMATION

NORTHEAST TELEPHONE COMPANY, LLC (COMMUNICATIONS)

WE ENERGIES (ELECTRIC DISTRIBUTION)

BAUMGART MARITAL TRUST

PERMITTED WETLAND IMPACTS

VPI STA 16+59.15
VPI EL 837.58

VPT STA 19+12.65
VPT EL 836.31

VPC STA 20+19.00
VPC EL 835.78

VPI STA 23+25.00
VPI EL 834.25

-0.50%

HP STA 18+70.60
HP EL 836.42

FINISHED PROFILE

5.53%

VCL = 370'
K = 64

VCL = 507'
K = 84

VCL = 612'
K = 136

VPC STA 10+26.00
VPC EL 813.26

-0.25%

LP STA 10+42.01
LP EL 813.24

VPT STA 13+96.00
VPT EL 823.03

VPC STA 14+05.65
VPC EL 823.57

MATCH STH 156 EDGE OF LANE

VPI STA 10+12.00
VPI EL 813.30

VPI STA 12+11.00
VPI EL 812.80

RT DITCH

LT DITCH

EXISTING GROUND

STA 16'A'+50
1-24" CPRC CLASS IV REQ'D
0° RHF

FINISHED PROFILE ELEVATION
EXISTING GROUND ELEVATION

| 10'A' | 12'A' | 14'A' | 16'A' | 18'A' | 20'A' | 22'A' | 24'A' |
|---|---|---|---|---|---|---|---|
| 813.59 | 810.60 / 813.51 | 811.00 / 815.19 | 810.64 / 818.44 | 810.36 / 823.25 | 810.76 / 828.25 | 809.45 / 832.07 | 809.15 / 834.69 | 807.86 / 836.12 | 810.88 / 836.37 | 810.90 / 835.88 | 807.32 / 835.14 | 806.52 / 833.67 | 805.64 / 831.47 | 805.36 / 828.54 | 805.48 / 824.87 |

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | PLAN & PROFILE - ST. AUGUSTINE RD | SHEET 94 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\050109_pp.dgn
PLOT DATE : 1/31/2017
PLOT BY : sgc
PLOT NAME :
PLOT SCALE : 1:100

WISDOT/CADDS SHEET 40

PERMITTED WETLAND IMPACTS

**BENCH MARK**

| NO. | STATION | DESCRIPTION | ELEV. |
|---|---|---|---|
| 602 | 40'A'+03, 26'RT | RR SPK IN POWER POLE | 801.84 |
| 602A | 35'A'+82, 26'RT | RR SPK IN POWER POLE | 803.12 |

REALIGN UNNAMED TRIBUTARAY TO THE WEST BRANCH OF THE SUAMICO RIVER (SEE CONSTRUCTION DETAILS)

BAUMGART MARITAL TRUST

STA 36'A'+00
2-57"X38" CPPACS REQ'D
4-57"X38" AEW REQ'D

BASE AGG FE

50' WIDE
74' LT

TLE

PROP RW

SHAWANO COUNTY

ST. AUGUSTINE RD

2'W'+00
4'W'+00
6'W'+00
8'W'+00
10'W'+00
12'W'+00

26'A'+00
28'A'+00
30'A'+00
32'A'+00
34'A'+00
36'A'+00
38'A'+00
40'A'+00

N 37°10'19" E

PC STA28'A'+14.70

STA 32'A'+22
REMOVE 2-36" CPCS

PI STA34'A'+55.23

N 0°28'21" E

BM 602A

BM 602

END CONSTRUCTION
ST. AUGUSTINE RD
STA 37'A'+00.00
SAWCUT REQ'D
MATCH EXISTING

CONTROL POINT 502
Y=208075.77
X=954998.91
0.75" IRON REBAR WITH
YELLOW CAP STAMPED "COUNTY
SURVEYOR"

T 25 N
R 18 E | 25 | 30 | R 19 E

DO NOT DISTURB

COTTONWOOD DR

END CONSTRUCTION
EXISTING ST. AUGUSTINE RD
STA 22'S'+59.51
MATCH ST. AUGUSTINE RD

N 63°26'41" W

PT STA22'S'+20.61

22'S'+00
20'S'+00

PC STA21'S'+09.71

EXISTING ST. AUGUSTINE RD

PI STA21'S'+71.64

BROWN COUNTY

OCONOR FAMILY FARM LLC

WE ENERGIES
(ELECTRIC DISTRIBUTION)

**PROPOSED WORK**
STA 25'A'+00 - STA 36'A'+80
PAVEMENT RECONSTRUCTION

**LEGEND**
- DELINEATED WETLAND BOUNDARY
- SLOPE INTERCEPT
- X CLEARING & GRUBBING
- REMOVE EXISTING ROADWAYS

N

5

5

825
820
815
810
805
800
795
790

VPT STA 26+31.00
VPT EL 818.95
-5.00%
VPC STA 26+61.29
VPC EL 817.44
VCL = 452'
K = 96
VPT STA 31+13.29
VPT EL 805.46
FINISHED PROFILE
EXISTING GROUND
VPI STA 28+87.29
VPI EL 806.14
-0.30%
VPI STA 36+80.00
VPI EL 803.76
RT DITCH
LT DITCH
FINISHED PROFILE ELEVATION
EXISTING GROUND ELEVATION

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 805.48 | 824.87 | 805.36 | 820.47 | 804.75 | 815.58 | 804.20 | 811.50 | 803.70 | 808.47 | 803.30 | 806.47 | 803.13 | 805.51 | 800.18 | 805.20 | 804.58 | 804.90 | 804.70 | 804.60 | 804.20 | 804.30 | 804.25 | 804.00 |

26'A' 28'A' 30'A' 32'A' 34'A' 36'A' 38'A'

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | PLAN & PROFILE - ST. AUGUSTINE RD | SHEET 95 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\050110_pp.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 40

**PROPOSED WORK**
STA 11'S'+38.75 - STA 13'S'+75.00
STA 18'S'+70.00 - STA 22'S'+59.51
PAVEMENT RECONSTRUCTION
STA 13'S'+75.00 - STA 18'S'+70.00
MILL AND HMA OVERLAY

**LEGEND**
- DELINEATED WETLAND BOUNDARY
- SLOPE INTERCEPT
- REMOVE EXISTING ROADWAYS
- PERMITTED WETLAND IMPACTS

N

END CONSTRUCTION
STH 29, LT
BEGIN CONSTRUCTION
EXISTING ST. AUGUSTINE RD
STA 11'S'+38.75

STH 29 WB

10'S'+00

12'S'+00

MAINTAIN FIELD ENTRANCE

END RECONSTRUCTION
BEGIN MILL & HMA OVERLAY
EXISTING ST. AUGUSTINE RD
STA 13'S'+75.00
SAWCUT REQ'D

CONSTRUCT NEW CUL-DE-SAC
(SEE INTERSECTION DETAIL)

END MILL & HMA OVERLAY
BEGIN CONSTRUCTION
EXISTING ST. AUGUSTINE RD
STA 18'S'+70.00
SAWCUT REQ'D

MAINTAIN FIELD ENTRANCE

WE ENERGIES
(ELECTRIC DISTRIBUTION)

END CONSTRUCTION
EXISTING ST. AUGUSTINE RD
STA 22'S'+58.70
MATCH PROPOSED
ST. AUGUSTINE RD

ST. AUGUSTINE RD

28'A'+00

30'A'+00

6'W'+00

8'W'+00

6'A'+00

22'S'+00

14'S'+00

16'S'+00

18'S'+00

20'S'+00

EXISTING ST. AUGUSTINE RD

SHAWANO COUNTY

BROWN COUNTY

BAUMGART MARITAL TRUST

BAUMGART MARITAL TRUST

LARDINOIS FARMS INC

OCONOR FAMILY FARM LLC

PROP RW

RW

TLE

HO

BASE
AGG
FE

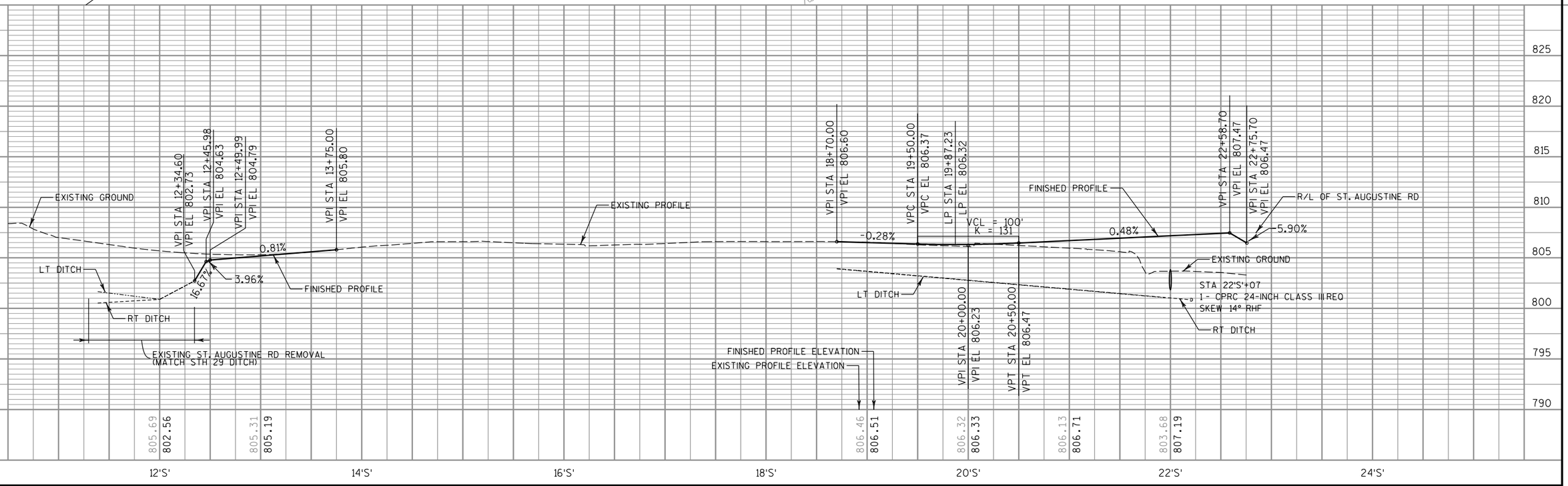
28' WIDE
45' RT

REALIGN UNNAMED
TRIBUTARAY
TO THE WEST BRANCH OF
THE SUAMICO RIVER
(SEE CONSTRUCTION DETAILS)

STA 19'S'+00, RT
1-24" CPCS REQ'D
2-24" AEW REQ'D

STA 20'S'+33
REMOVE 1-18" CPCS

STA 22'S'+32
1-24" CPRC REQ'D
2-24" AEW REQ'D
SKEW 14° RHF
2-MARKERS FOR CULVERT END REQ'D




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | PLAN & PROFILE - EXISTING ST. AUGUSTINE RD | SHEET 96 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\050111_pn.dgn
PLOT DATE : 1/31/2017
PLOT BY : sgc
PLOT NAME :
PLOT SCALE : 1:100

WISDOT/CADDS SHEET 40

**PROPOSED WORK**
STA 316'EB'+50 - STA 325'EB'+00
TURN LANE REMOVAL, SHOULDER CONSTRUCTION & DITCH GRADING
STA 321'EB'+35 - STA 323'EB'+05
CONSTRUCT MEDIAN GUARDRAIL

**LEGEND**

DELINEATED WETLAND BOUNDARY

SLOPE INTERCEPT

N

PERMITTED WETLAND IMPACTS

REALIGN UNNAMED TRIBUTARAY TO THE WEST BRANCH OF THE SUAMICO RIVER (SEE CONSTRUCTION DETAILS)

BAUMGART MARITAL TRUST

BAUMGART MARITAL TRUST

BAUMGART MARITAL TRUST

BAUMGART MARITAL TRUST

ST. AUGUSTINE RD

N 37°10'19" E

TLE

BW+00

PROP RW

PROP RW

PROP RW

RW

RW

RW

STA 321'EB'+35 - STA 323'EB'+05 LT
STEEL THRIE BEAM
STEEL THRIE BEAM BULLNOSE TERMINAL
(SEE STANDARD DETAIL DRAWINGS)

STA 319'EB'+24
BEGIN SHOULDER RECONSTRUCTION

STH 29 WB

STH 29 EB

310'EB'+00

312'EB'+00

S 42°53'32" E

314'EB'+00

PC STA314'EB'+54.74

316'EB'+00

318'EB'+00

320'EB'+00

322'EB'+00

324'EB'+00

+38 +50

+35

+89 +02

+05

22A+00

20A+00

18A+00

16A+00

STA 323'EB'+52
BEGIN SHOULDER RECONSTRUCTION

BEGIN CONSTRUCTION
STH 29
STA 316'EB'+50.00

PROP RW

NORTHEAST TELEPHONE COMPANY, LLC
(COMMUNICATIONS)

WE ENERGIES
(ELECTRIC DISTRIBUTION)

PT STA16A+76.19

UNNAMED TRIBUTARY OF THE WEST BRANCH OF THE SUAMICO RIVER (WEST)

OH

T

SIGN

5

5

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | PLAN - STH 29 | SHEET 97 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\050112_pn.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 44

PERMITTED WETLAND IMPACTS

**NOTE**
ROADWAY REMOVALS ARE SHOWN ON CROSS SECTIONS

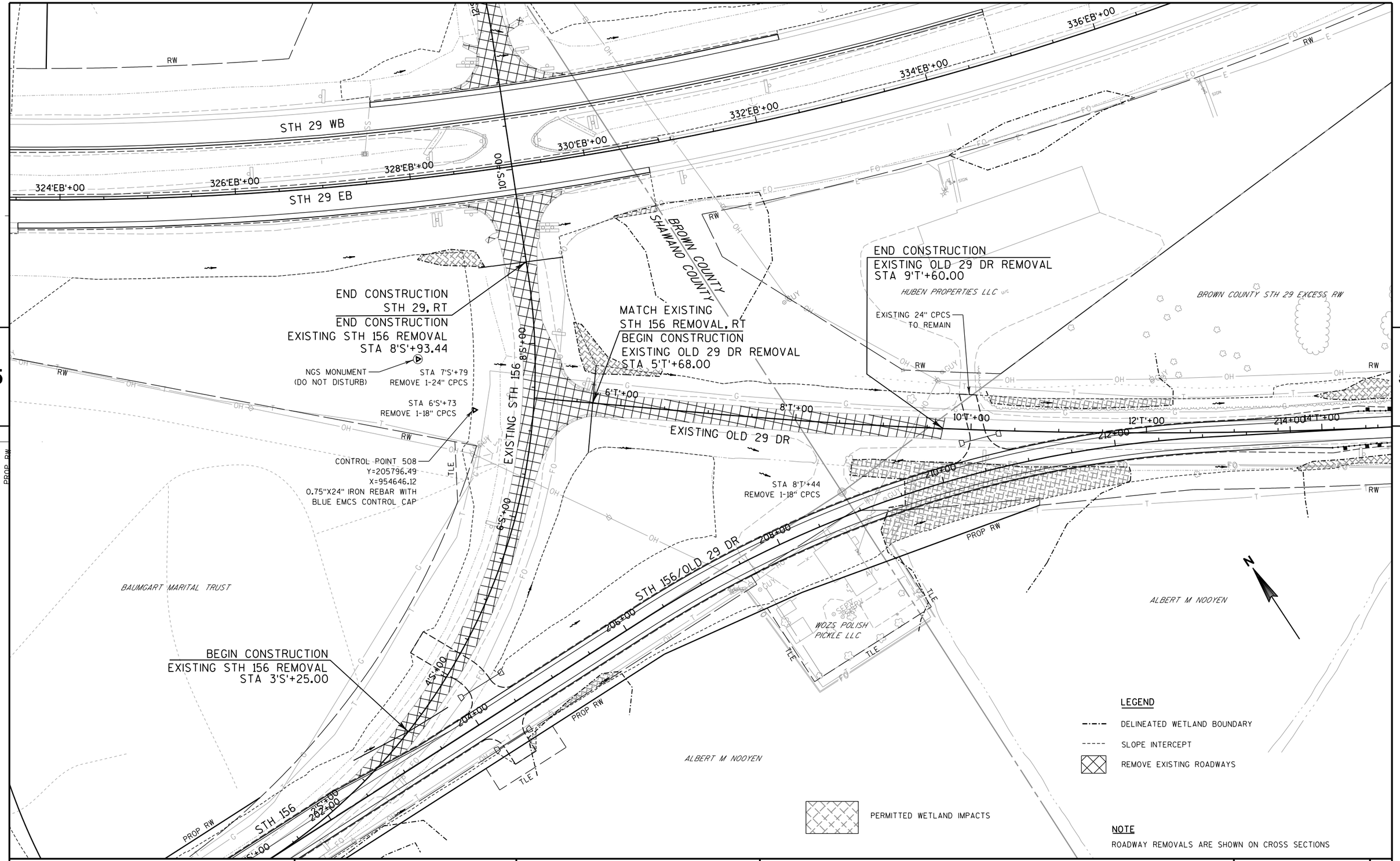
**PROPOSED WORK**
STA 325'EB'+00 - STA 335'EB'+09
TURN LANE REMOVAL, SHOULDER CONSTRUCTION & DITCH GRADING

**LEGEND**
- DELINEATED WETLAND BOUNDARY
- SLOPE INTERCEPT
- REMOVE EXISTING ROADWAYS

ST. AUGUSTINE RD
N 37°10'19" E
247+00
PROP RW
RW
BAUMGART MARITAL TRUST
EXISTING ST. AUGUSTINE RD
16'S+00
PT STA16'S+34.80
14'S+00
LARDINOIS FARMS INC
PI STA12'S+95.10
END CONSTRUCTION
STH 29, LT
BEGIN CONSTRUCTION
EXISTING ST. AUGUSTINE RD
STA 11'S'+38.75
STA 11'S'+59
REMOVE 1-18" CPCS
PC STA11'S'+52.16
12'S'+00
STA 332'EB'+46
END SHOULDER
RECONSTRUCTION
STA 334'EB'+83
END SHOULDER
RECONSTRUCTION
+09
+31
STA 327'EB'+63
BEGIN SHOULDER
RECONSTRUCTION
STH 29 WB
N 24°42'25" E
10'S'+00
324'EB'+00
326'EB'+00
328'EB'+00
330'EB'+00
332'EB'+00
334'EB'+00
336'EB'+00
338'EB'+00
END CONSTRUCTION
STH 29
STA 335'EB'+09.00
STH 29 EB
STA 323'EB'+52
BEGIN SHOULDER
RECONSTRUCTION
STA 330'EB'+87
END SHOULDER
RECONSTRUCTION
STA 330'EB'+70
END SHOULDER
RECONSTRUCTION
WE ENERGIES
(ELECTRIC DISTRIBUTION)
QWEST COMMUNICATIONS
(COMMUNICATONS)
END CONSTRUCTION
STH 29, RT
END CONSTRUCTION
EXISTING STH 156 REMOVAL
STA 8'S'+93.44
PT STA8'S'+76.14
8'S'+00
NORTHEAST TELEPHONE COMPANY, LLC
(COMMUNICATIONS)
PI STA327'EB'+62.13
NGS MONUMENT
(DO NOT DISTURB)
HUBEN PROPERTIES LLC
PC STA6'T'+99.12
6'T'+00
S 51°38'01" E
8'T'+00
EXISTING OLD 29 DR
10'T'+00
12'T'+00
14'T'+00
EXISTING STH 156
BAUMGART MARITAL TRUST
WE ENERGIES
(ELECTRIC DISTRIBUTION)
CONTROL POINT 508
Y=205796.49
X=954646.12
0.75"X24" IRON REBAR WITH
BLUE EMCS CONTROL CAP

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | PLAN - STH 29 | SHEET 98 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\050113_pn.dgn
PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:100




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | PLAN - EXISTING STH 156 & OLD 29 DR REMOVALS | SHEET 99 E |
|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\050114_pn.dgn | PLOT DATE : 1/31/2017 | PLOT BY : sgc | PLOT NAME : | PLOT SCALE : 1:100

WISDOT/CADDS SHEET 44

# Standard Detail Drawing List

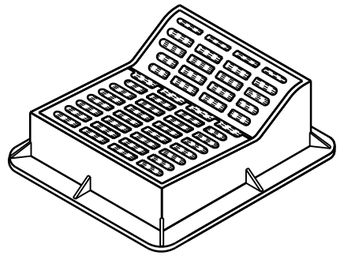
| | |
|---|---|
| 08A05-19C | INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S |
| 08C07-02 | INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT |
| 08D01-19 | CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES |
| 08D02-06 | CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES |
| 08D04-05 | CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES |
| 08D15-05A | EDGEDRAIN OUTLET AND OUTFALL MARKERS |
| 08D15-05B | EDGEDRAIN AND BASE AGGREGATE OPEN  GRADED |
| 08D15-05C | EDGEDRAIN AND BASE AGGREGATE OPEN  GRADED |
| 08D21-01 | DRIVEWAYS WITHOUT CURB & GUTTER |
| 08D22-01 | DRIVEWAYS WITHOUT CURB & GUTTER RESURFACING PROJECTS RURAL |
| 08E08-03 | TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS |
| 08E09-06 | SILT FENCE |
| 08E10-02 | INLET PROTECTION TYPE A, B, C AND D |
| 08E14-01 | TRACKING PAD |
| 08F01-11 | APRON ENDWALLS FOR CULVERT PIPE |
| 08F02-01 | APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE |
| 08F04-07 | JOINT TIES FOR CONCRETE PIPE  AND CONCRETE COLLAR DETAIL |
| 08F06-04 | REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN |
| 08F07-05 | STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE FRAINS |
| 11B02-02 | CONCRETE MEDIAN NOSE |
| 12A03-10 | NAME PLATE (STRUCTURES) |
| 13A05-05A | SHOULDER RUMBLE STRIP, MILLING |
| 13A05-05B | SHOULDER RUMBLE STRIP, MILLING |
| 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" |
| 14B08-02A | CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS |
| 14B08-02B | CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS |
| 14B08-02C | CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS |
| 14B08-02D | CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS |
| 14B08-02E | CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS |
| 14B15-09A | STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS |
| 14B15-09B | STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS |
| 14B15-09C | STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS |
| 14B20-11A | STEEL THRIE BEAM STRUCTURE APPROACH |
| 14B20-11B | STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO  SQUARE END PARAPETS |
| 14B20-11C | STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO VERTICAL FACED PARAPETS |
| 14B20-11D | STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS |
| 14B20-11E | STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE  RAILING TYPES "F" AND "W" |
| 14B20-11F | STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPE "M" |
| 14B20-11G | STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL |
| 14B20-11H | STEEL THRIE BEAM STRUCTURE APPROACH, SINGLE SLOPE ATTACHMENT |
| 14B24-08A | STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL |
| 14B24-08B | STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL |
| 14B24-08C | STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL |
| 14B25-01 | STEEL PLATE BEAM GUARD, CLASS "A", OVER LOW FILL CULVERTS |
| 14B26-03A | STEEL THRIE BEAM BULLNOSE TERMINAL |
| 14B26-03B | STEEL THRIE BEAM BULLNOSE TERMINAL |
| 14B26-03C | STEEL THRIE BEAM BULLNOSE TERMINAL |
| 14B26-03D | STEEL THRIE BEAM BULLNOSE TERMINAL |
| 14B26-03E | STEEL THRIE BEAM BULLNOSE TERMINAL |
| 14B27-01A | STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL |
| 14B27-01B | STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL |
| 14B27-01C | STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL |
| 14B28-03 | GUARDRAIL MOW STRIP |
| 14B29-01 | SAFETY EDGE |
| 14B42-04A | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL |
| 14B42-04B | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL |
| 14B42-04C | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL |
| 14B43-03A | MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) |
| 14B43-03B | MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) |
| 14B43-03C | MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) |

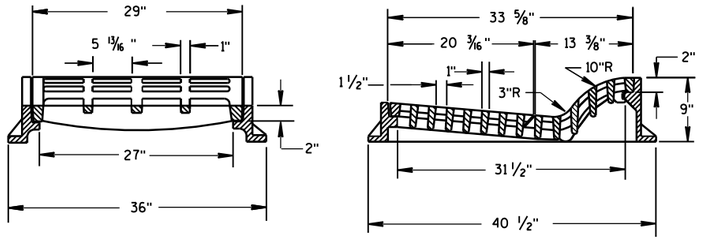
6

# Standard Detail Drawing List

| | |
|---|---|
| 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) |
| 14B45-04E | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-04F | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-04G | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-04H | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-04I | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-04J | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-04K | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 14B45-04L | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS) |
| 15A01-13A | MARKER POST FOR RIGHT-OF-WAY |
| 15A01-13B | FLEXIBLE MARKER POST FOR RIGHT-OF-WAY |
| 15A02-09 | DELINEATOR POST, DELINEATOR REFLECTOR AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING |
| 15A03-02A | FLEXIBLE MARKER POST FOR CULVERT END |
| 15A03-02B | FLEXIBLE MARKER POST FOR CULVERT END |
| 15A06-02 | DELINEATOR LAYOUT |
| 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 |
| 15C05-03 | TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS |
| 15C06-08 | SIGNING & MARKING FOR TWO LANE BRIDGES |
| 15C08-17A | LONGITUDINAL MARKING (MAINLINE) |
| 15C08-17B | PAVEMENT MARKING (TURN LANES) |
| 15C08-17C | PAVEMENT MARKING (ISLANDS) |
| 15C12-05 | TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION |
| 15C19-04A | MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY |
| 15C19-04C | MOVING PAVEMENT MARKING OPERATION MULTI-LANE DIVIDED ROADWAY |
| 15C20-02 | YIELD MARKING |
| 15C21-07 | SIGNING AND MARKING FOR TWO LANE TO FOUR LANE DIVIDED TRANSITIONS |
| 15C26-02 | END-OF-ROADWAY SIGNING |
| 15C27-01 | DOUBLE ARROW WARNING SIGN PLACEMENT |
| 15C33-02 | STOP LINE AND CROSSWALK PAVEMENT MARKING |
| 15D03-04 | TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER |
| 15D12-06A | TRAFFIC CONTROL, LANE CLOSURE |
| 15D12-06B | TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION |
| 15D15-02 | TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE |
| 15D27-03 | TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH |
| 15D28-03 | TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY |
| 15D29-04 | TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD |

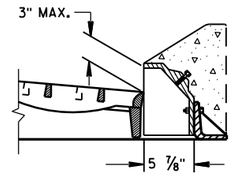
6






## TYPE "F"

USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.




## ALTERNATIVE CURB BOX FOR TYPE "HM" COVER

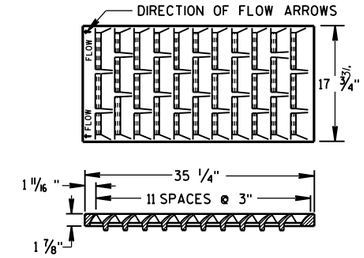
USE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLE

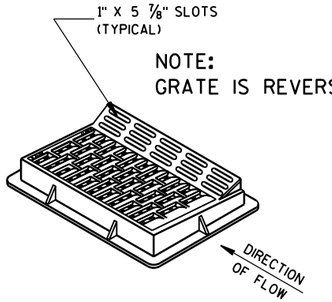
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

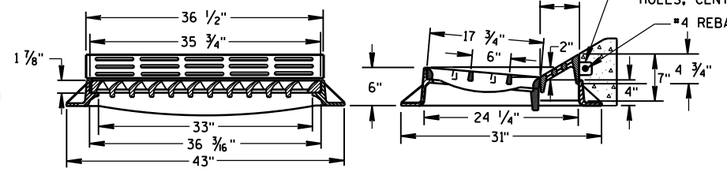
## GENERAL NOTES

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.

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.



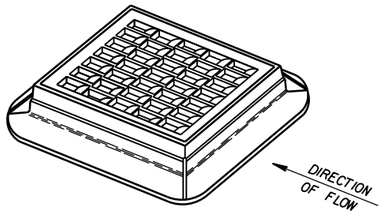



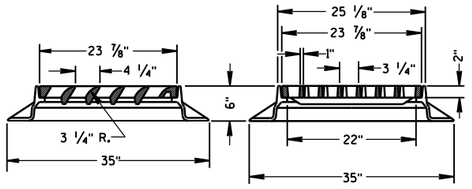




## TYPE "HM"

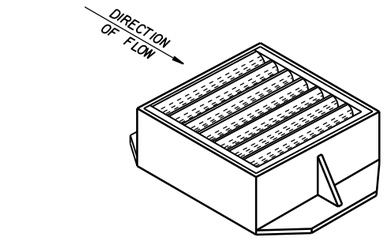
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.

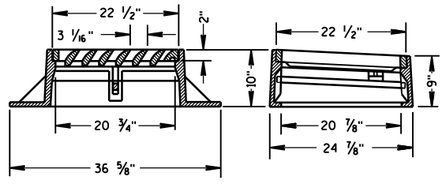
NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE



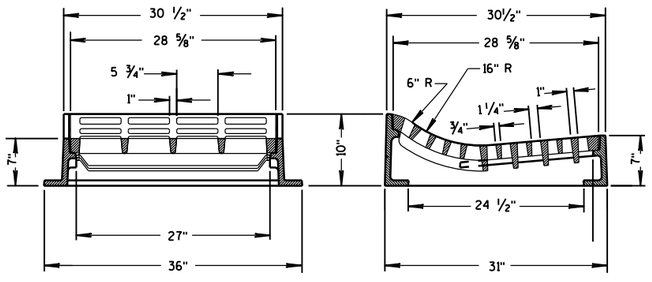



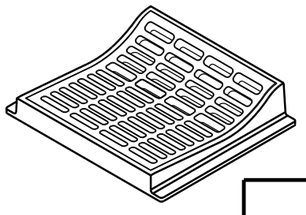

## TYPE "S"




## TYPE "V"



## TYPE "T"

USE WITH TYPES R & T CONCRETE CURB & GUTTER, 36 INCH.

## INLET COVERS
## TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/27/2013
DATE

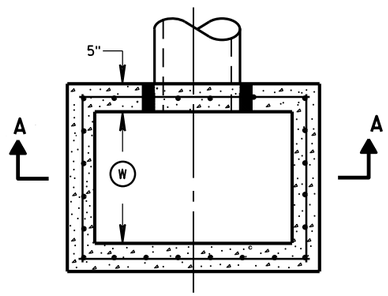
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA

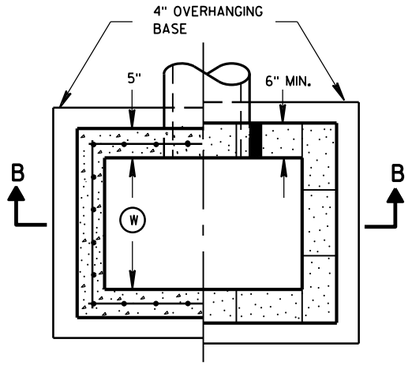



6

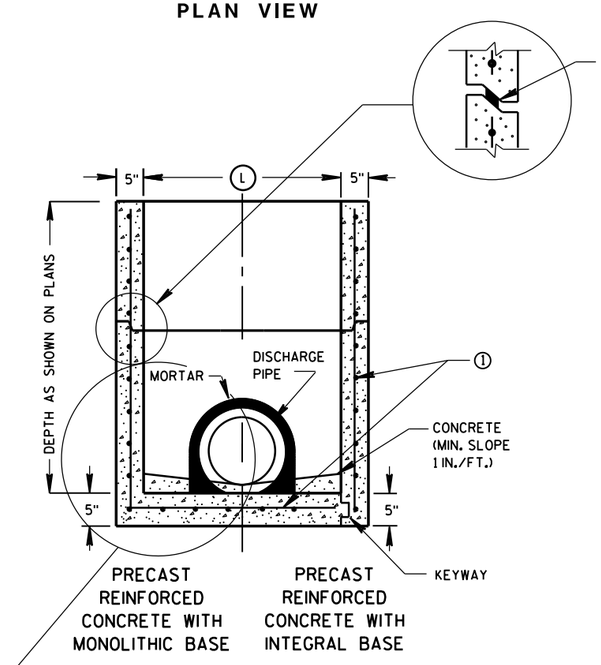

S.D.D. 8 A 5-19c



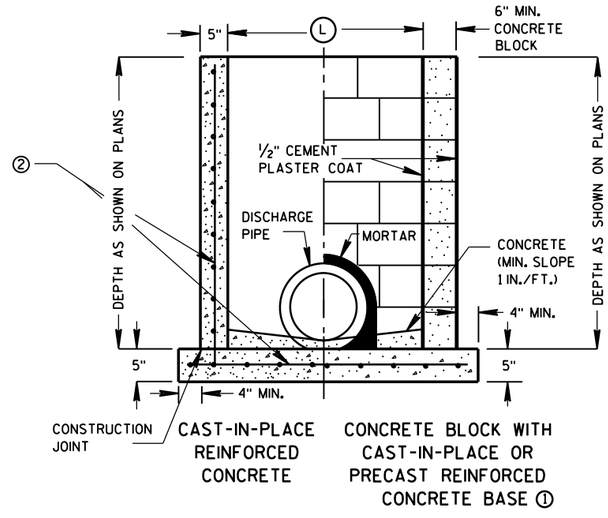

PLAN VIEW



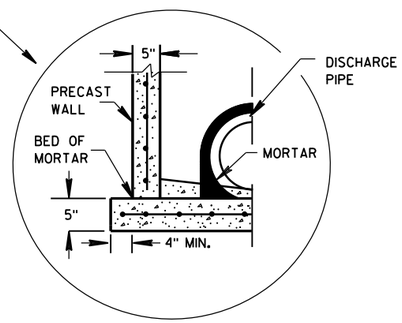

PLAN VIEW




SECTION A-A




SECTION B-B




SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

## 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.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS.
4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED.
OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

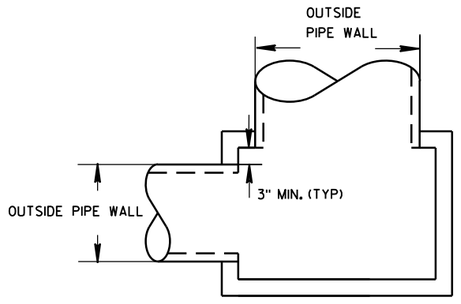
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

## INLET COVER MATRIX

| INLET SIZE | | INLET COVER TYPE | ALL A'S | ALL B'S | BW | F | ALL H'S | S | T | V | WM |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | WIDTH (W) (FT) | LENGTH (L) (FT) | | | | | | | | | |
| 2X2-FT | 2 | 2 | X | X | | | | X | | X | |
| 2X2.5-FT | 2 | 2.5 | | | X | | | X | X | X | X |
| 2X3-FT | 2 | 3 | | | | | X | | | | |
| 2.5X3-FT | 2.5 | 3 | | | | X | | | | | |

## PIPE MATRIX

| INLET SIZE | MAXIMUM INSIDE PIPE DIAMETER | |
|---|---|---|
| | WIDTH (IN) | LENGTH (IN) |
| 2X2-FT | 12 | 12 |
| 2X2.5-FT | 12 | 18 |
| 2X3-FT | 12 | 24 |
| 2.5X3-FT | 18 | 24 |



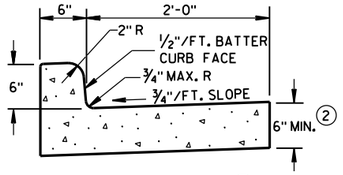

DETAIL "A"

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

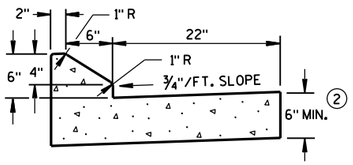
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS D IT
UNIT SUPERVIS
FHWA

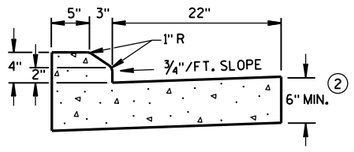
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT




TYPES A & D ①

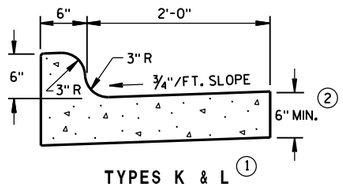



6" SLOPED CURB TYPES G & J ①

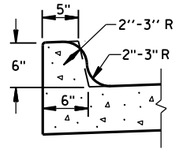



4" SLOPED CURB TYPES G & J ①

## CONCRETE CURB & GUTTER 30"

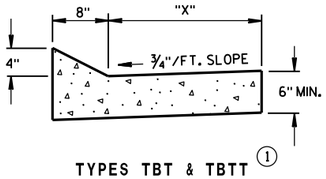



TYPES K & L ①




OPTIONAL CURB SHAPE FOR TYPES K & L ①

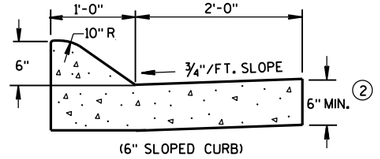
## CONCRETE CURB & GUTTER 30"



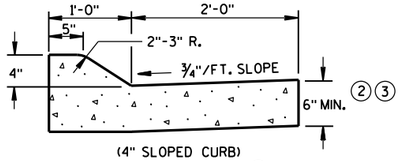

TYPES TBT & TBTT ①

## CONCRETE CURB & GUTTER

| TBT & TBTT | "X" |
|---|---|
| 30" | 22" |
| 36" | 28" |

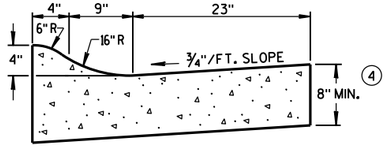



(6" SLOPED CURB)




(4" SLOPED CURB)

TYPES A & D ①




4" SLOPED CURB TYPES R & T ①⑤

## CONCRETE CURB & GUTTER 36"

## GENERAL NOTES

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

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB & GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB & GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.

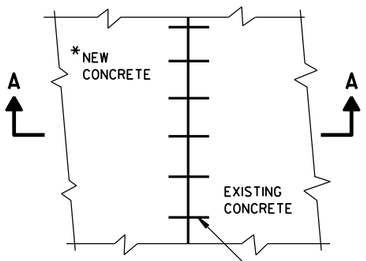
② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.

④ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

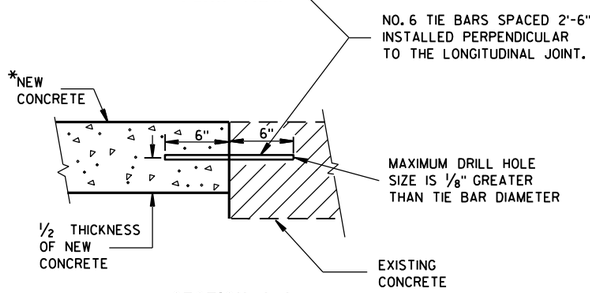
⑤ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.



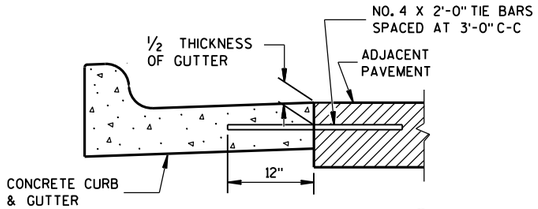

PLAN VIEW

*NEW CURB & GUTTER, SURFACE DRAINS, CONCRETE PAVEMENT OR OTHER NEW CONCRETE.

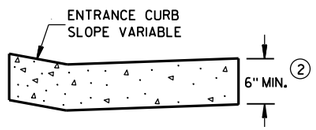



SECTION A-A

## TIE BARS DRILLED INTO EXISTING PAVEMENT

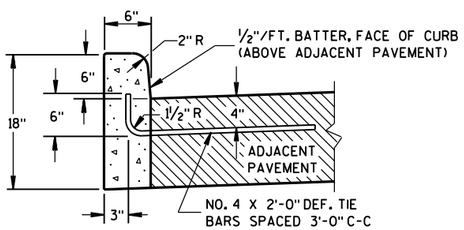



TYPICAL TIE BAR LOCATION ①

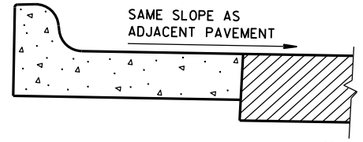



## DRIVEWAY ENTRANCE CURB

(WHEN DIRECTED BY THE ENGINEER)

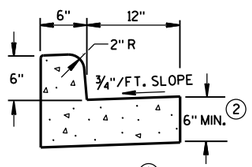



① TYPES A & D



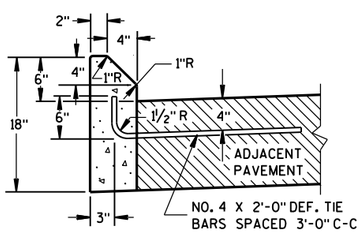

⑥ REVERSE SLOPE GUTTER

(TYPICAL FOR ALL CURB & GUTTER TYPES)



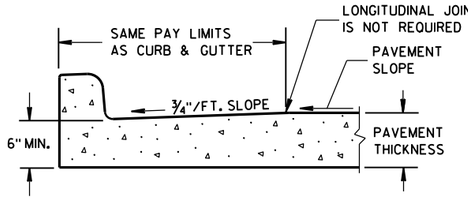

① TYPES A & D

## CONCRETE CURB & GUTTER 18"

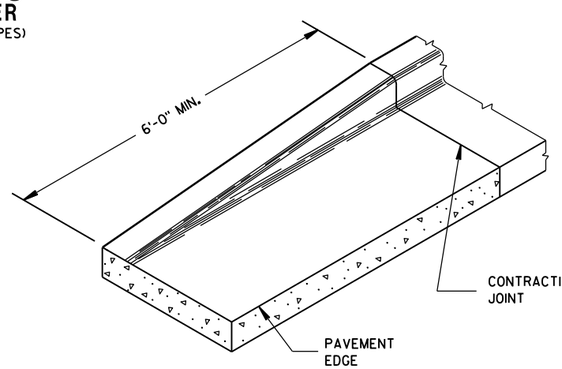



① TYPES G & J

## CONCRETE CURB




## PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER




## END SECTION CURB & GUTTER

# CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June, 2016 — DATE

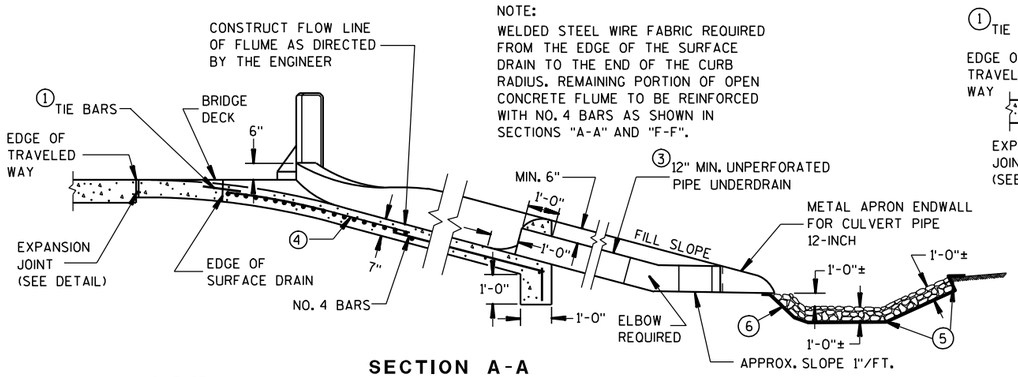
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

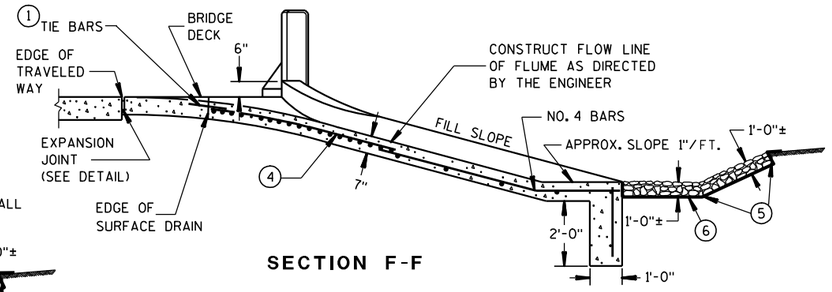


6

S.D.D. 8 D 1-19




SECTION A-A




SECTION F-F

## GENERAL NOTES

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

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

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

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

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

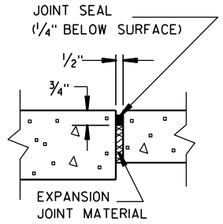
(4) MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE SPACING 12" C-C.

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

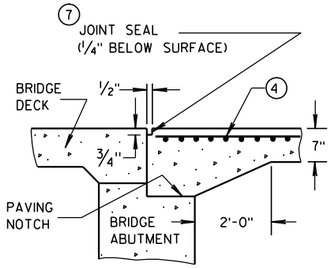
(6) GEOTEXTILE FABRIC, TYPE 'R"

(7) HOT POURED SEALANT UNLESS OTHERWISE SPECIFIED.

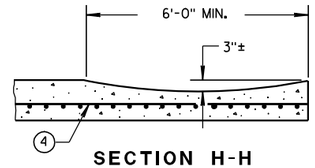
(8) THIS DIMENSION MAY VARY DEPENDING ON THE SPACING OF POSTS FOR THE STEEL PLATE BEAM GUARD. THE TYPICAL LOCATION FOR THE SURFACE DRAIN IS WHERE THE POST SPACING WIDENS TO 3'-1½".



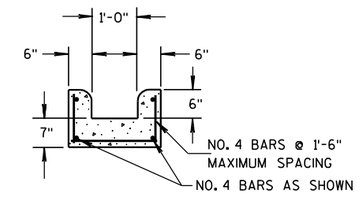

EXPANSION JOINT DETAIL



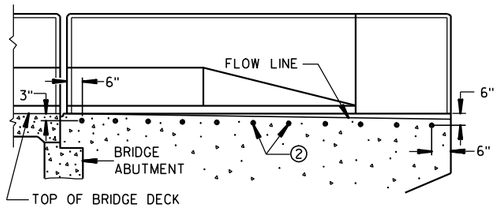

SECTION D-D



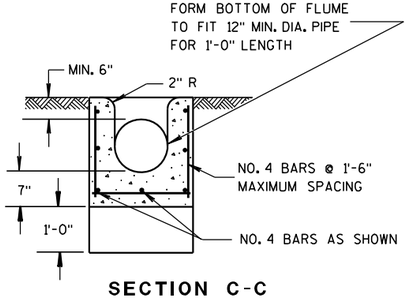

SECTION H-H



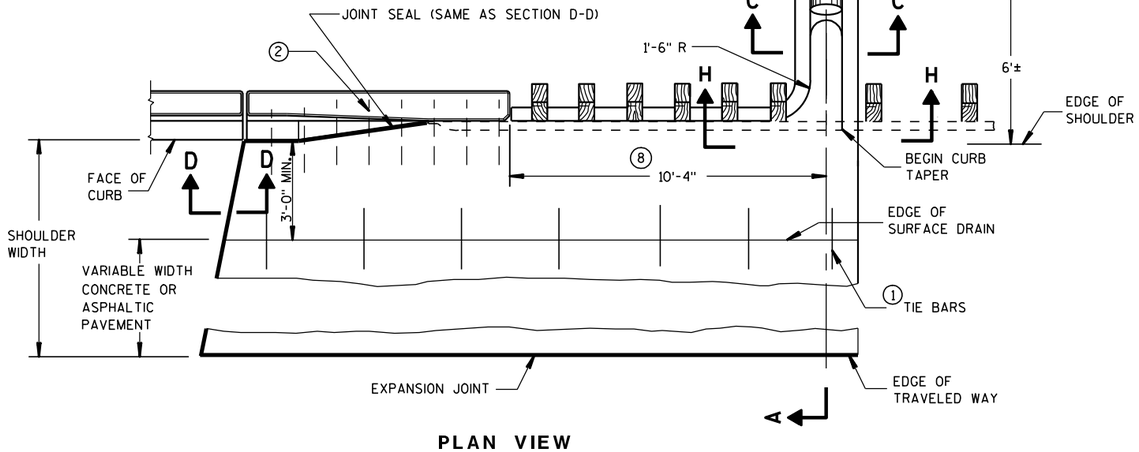

SECTION E-E



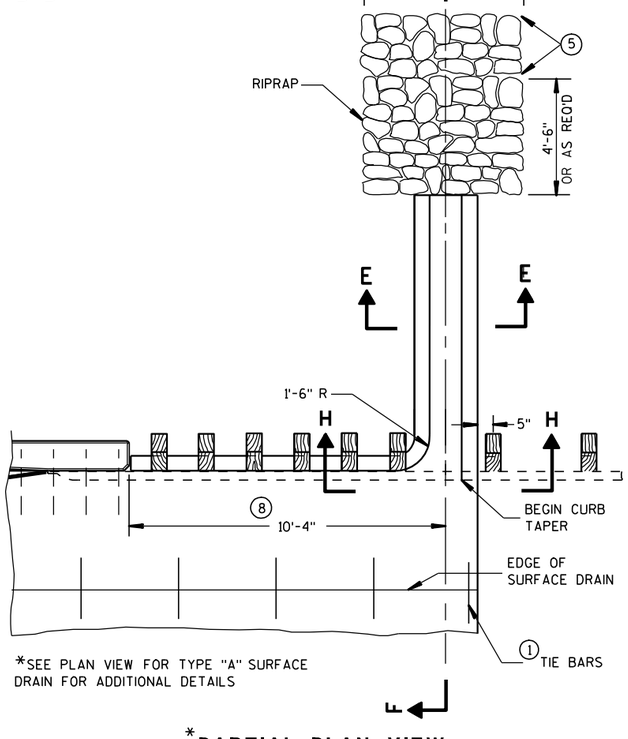

LOCATION OF TIE BARS IN WINGWALL




SECTION C-C




PLAN VIEW
SURFACE DRAIN WITH PIPE
TYPE "A"




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

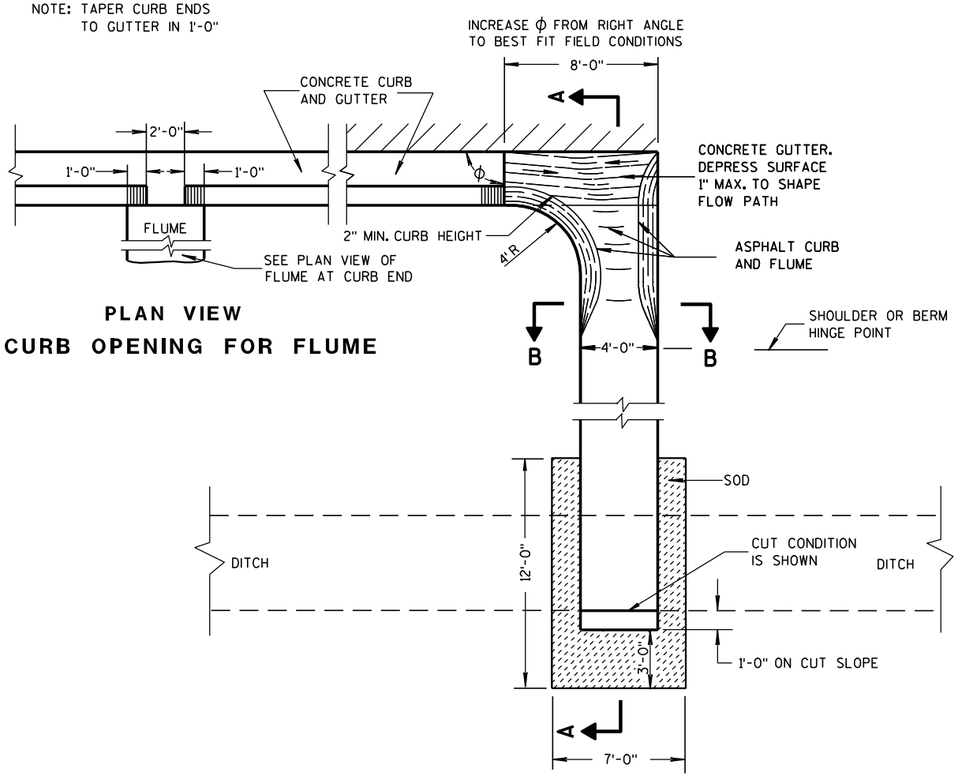
*PARTIAL PLAN VIEW
SURFACE DRAIN WITHOUT PIPE
TYPE "B"

| CONCRETE SURFACE DRAINS FLUME TYPE AT STRUCTURES | |
|---|---|
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | |
| APPROVED 9/4/08 DATE FHWA | /S/ Jerry H. Zogg ROADWAY STANDARDS ENGINEER |



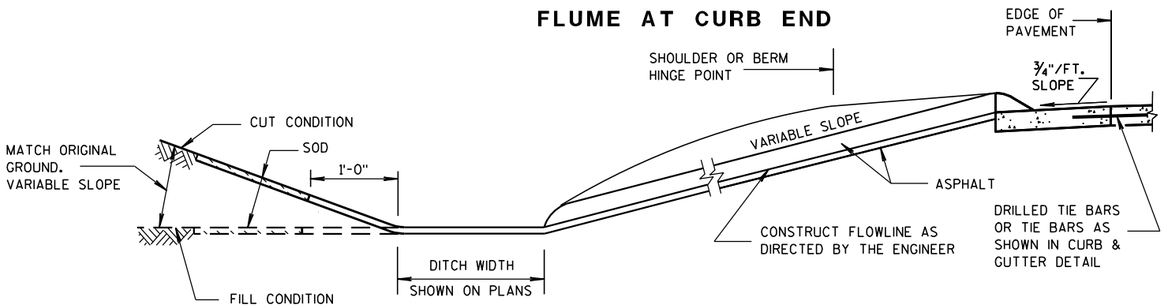

6
S.D.D. 8 D 2-6

## ASPHALTIC FLUME

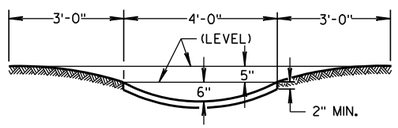



PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END




SECTION A-A




SECTION B-B

## GENERAL NOTES

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

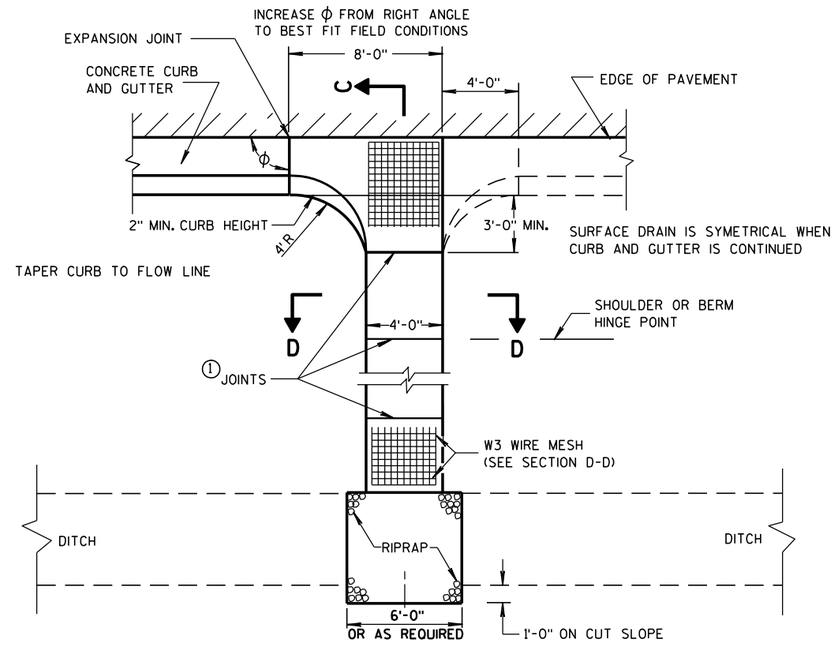
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

① JOINTS SHALL BE $\frac{1}{8}$ TO $\frac{1}{4}$ INCH WIDE BY $1\frac{1}{2}$ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.

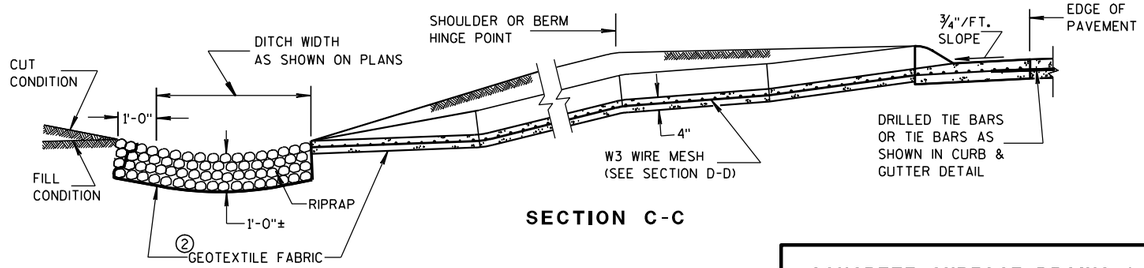
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

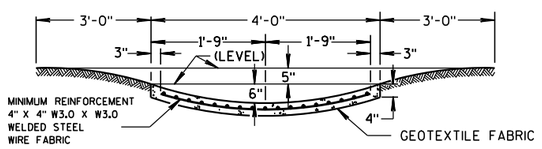
## ③ CONCRETE SURFACE DRAIN




PLAN VIEW




SECTION C-C




SECTION D-D

## CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



6

S.D.D. 8 D 4-5

6

S.D.D. 8 D 4-5

# 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) UNPERFORATED PIPE UNDERDRAIN AND FITTINGS FURNISHED FOR OUTFALL PIPE SHALL MEET THE REQUIREMENTS OF ONE OF THE FOLLOWING SPECIFICATIONS:

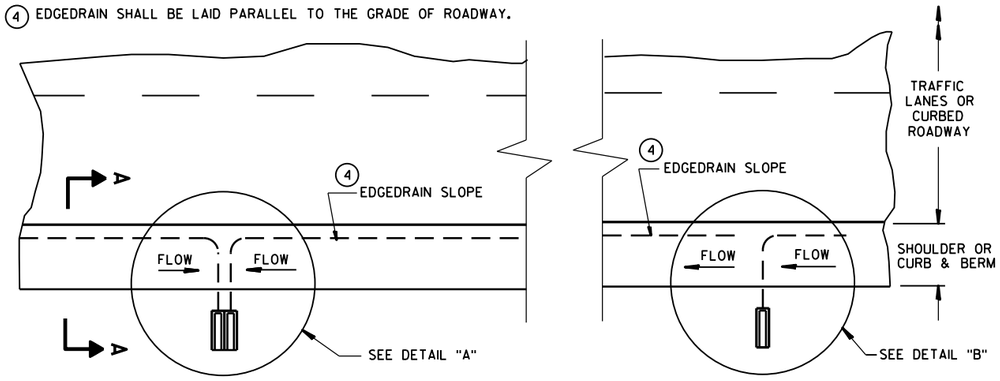
POLYVINYL CHLORIDE (PVC) PLASTIC DRAIN, WASTE, AND VENT PIPE AND FITTINGS, ASTM D 2665, SCHEDULE 40 PVC.

TYPE PSM POLYVINYL CHLORIDE (PVC) SEWER PIPE AND FITTINGS, ASTM D 3034, SDR 23.5 PVC SEWER PIPE.

(2) MAXIMUM SPACING OF EDGEDRAIN OUTLETS SHALL BE 250 FEET UNLESS OTHERWISE SPECIFIED IN THE CONTRACT OR DIRECTED BY THE ENGINEER.

(3) EDGEDRAIN SHALL BE CONNECTED TO INLETS REGARDLESS OF FLOW DIRECTION FOR DRAINAGE AND MAINTENANCE ACCESS.

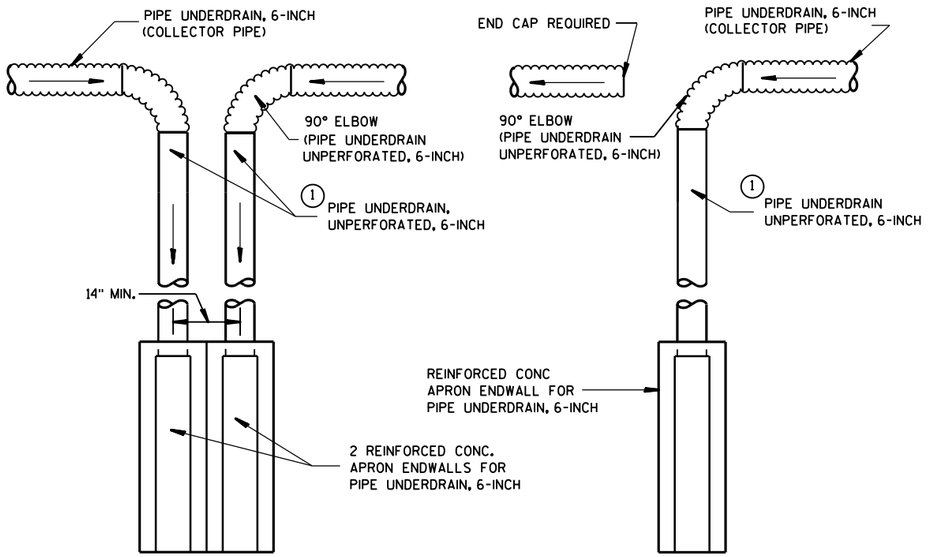
(4) EDGEDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF ROADWAY.




PLAN VIEW

## ROADWAY WITH SHOULDERS OR CURBS

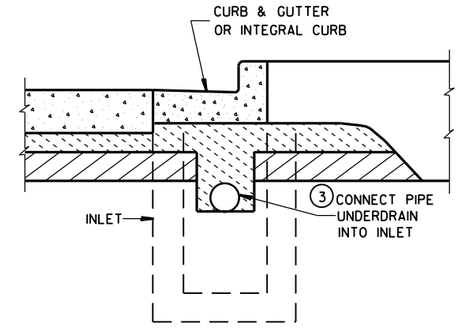
(EDGEDRAIN OUTLETS TO ROADSIDE)(2)




DETAIL "A"
TO BE USED AT LOW POINT LOCATIONS

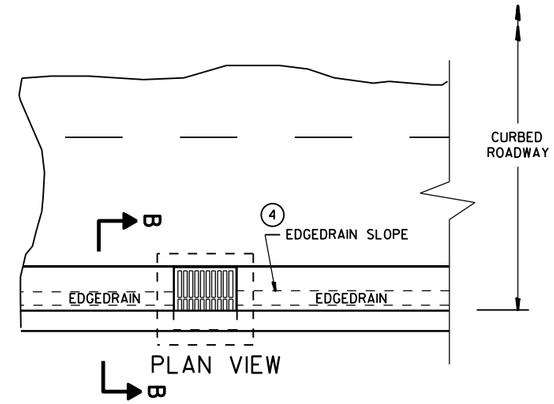
DETAIL "B"
TO BE USED AT INTERMEDIATE LOCATIONS

## TYPICAL DRAIN OUT DETAILS




SECTION B-B

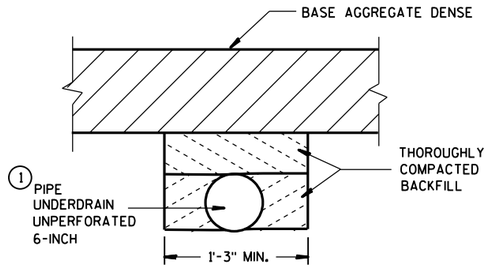
## URBAN CROSS SECTION




PLAN VIEW

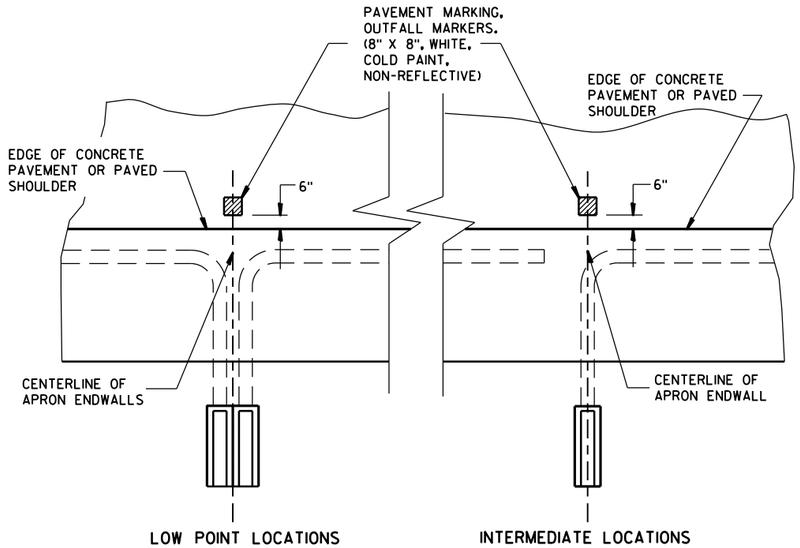
## ROADWAY WITH CURBS

(EDGEDRAIN CONNECTS INTO INLET STRUCTURE)



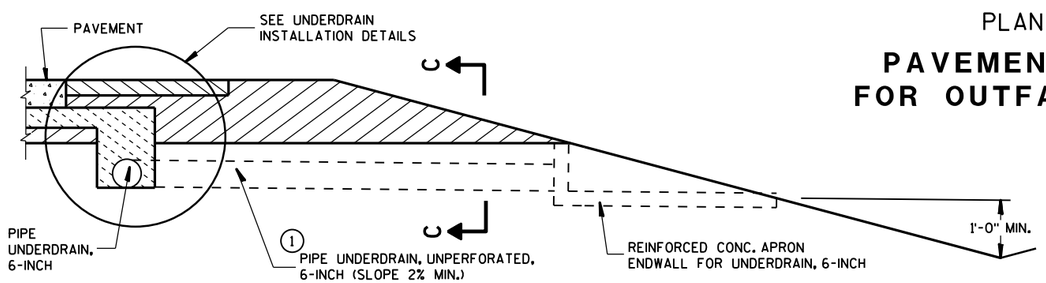

SECTION C-C

## (TRENCH FOR OUTFALL PIPE)




PLAN VIEW

## PAVEMENT MARKING FOR OUTFALL MARKERS




SECTION A-A

## RURAL CROSS SECTION

**EDGEDRAIN OUTLET AND OUTFALL MARKERS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

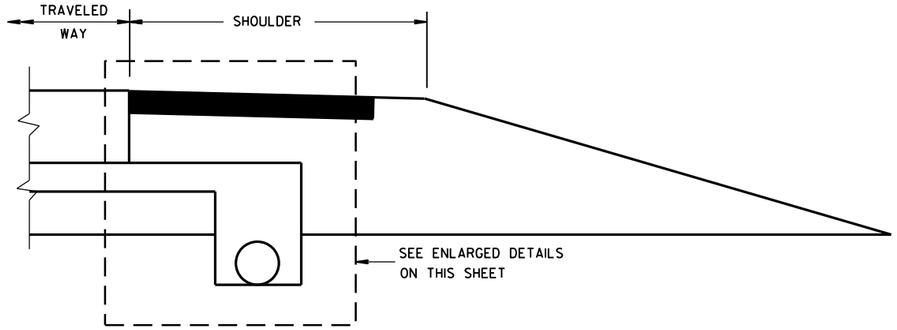


6

S.D.D. 8 D 15-5a

6

S.D.D. 8 D 15-5a




## RURAL CROSS SECTION

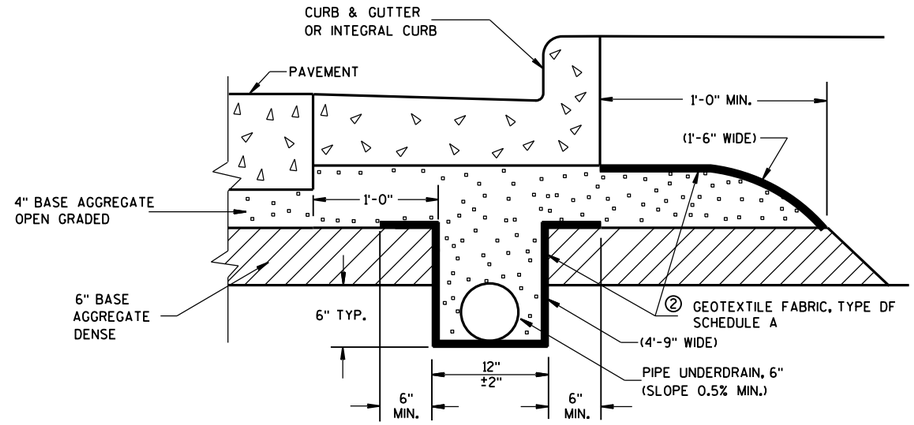
## GENERAL NOTES

THE DIMENSIONS SHOWN ON THE TYPICAL CROSS SECTIONS WILL GOVERN IN THE EVENT THERE IS A CONFLICT WITH THE DETAILS SHOWN ON THIS DRAWING.

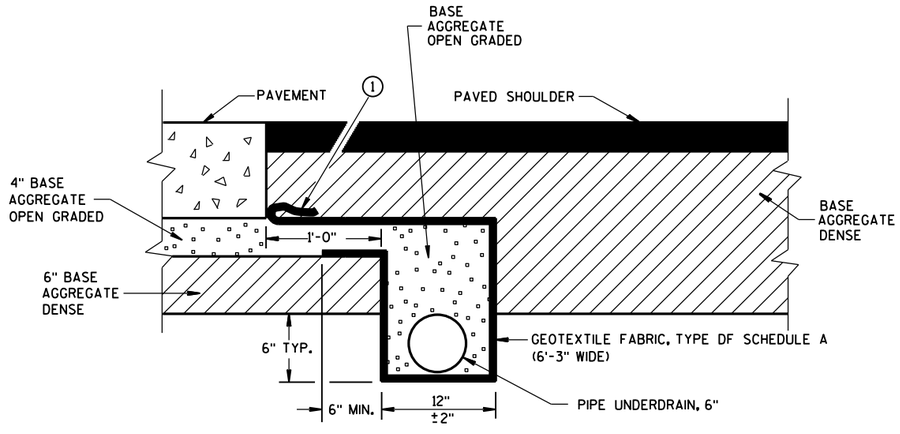
PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF THE ROADWAY.

① FOLD OVER EXCESS GEOTEXTILE FABRIC AT THIS LOCATION.

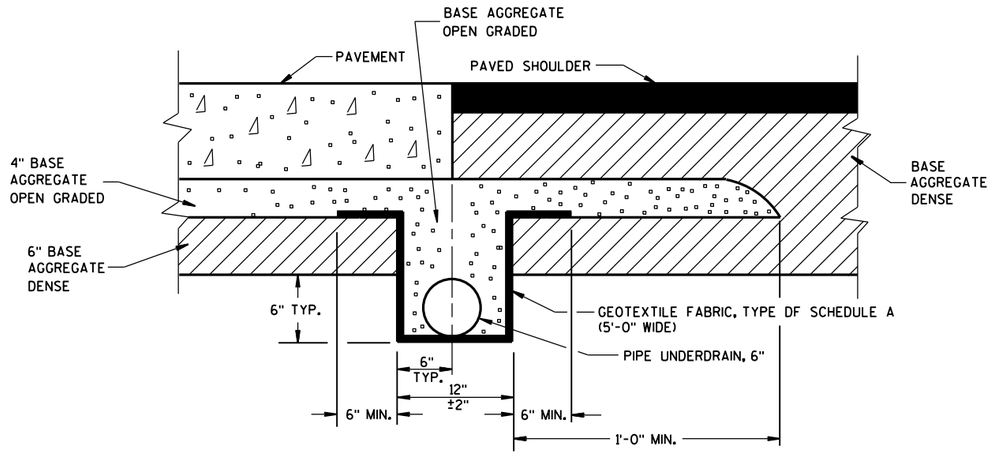
② TOTAL FABRIC WIDTH IS 6'-3" FOR PAYMENT.




## EDGEDRAIN IN URBAN ROADWAY




**POST PAVING INSTALLATION**
(QUANTITIES ARE BASED ON THIS DETAIL)




**PRE-PAVING INSTALLATION ALTERNATE**

## EDGEDRAIN IN RURAL ROADWAY

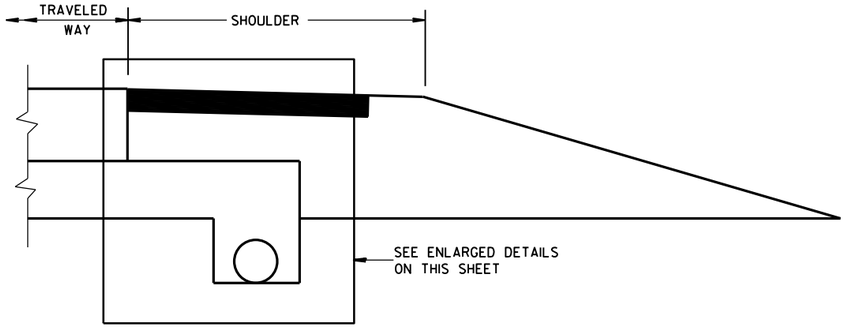
**EDGEDRAIN AND BASE AGGREGATE OPEN GRADED**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPE
FHWA




6
S.D.D. 8 D 15-5b

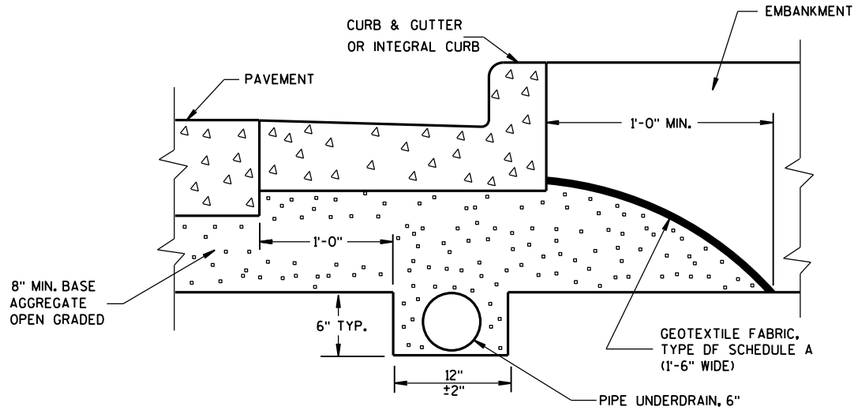



RURAL CROSS SECTION

## GENERAL NOTES

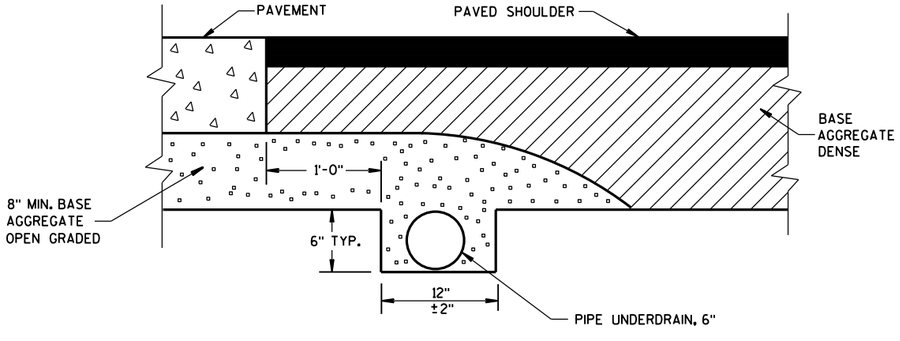
THE DIMENSIONS SHOWN ON THE TYPICAL CROSS SECTIONS WILL GOVERN IN THE EVENT THERE IS A CONFLICT WITH THE DETAILS SHOWN ON THIS DRAWING.

PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF THE ROADWAY.

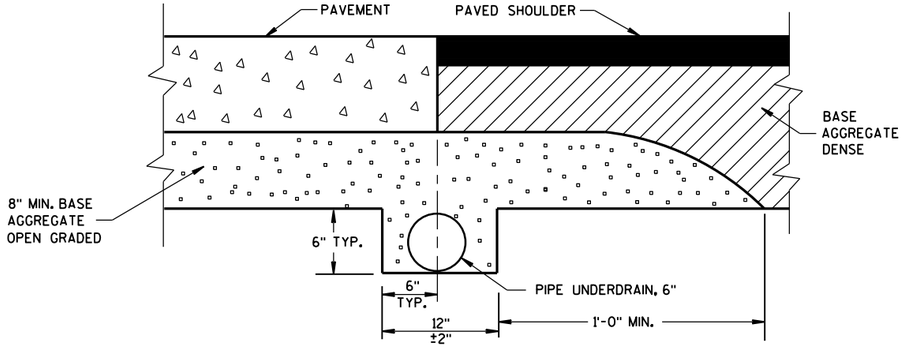



## EDGEDRAIN IN URBAN ROADWAY






**POST PAVING INSTALLATION**
(QUANTITIES ARE BASED ON THIS DETAIL)




**PRE-PAVING INSTALLATION ALTERNATIVE**

## EDGEDRAIN IN RURAL ROADWAY

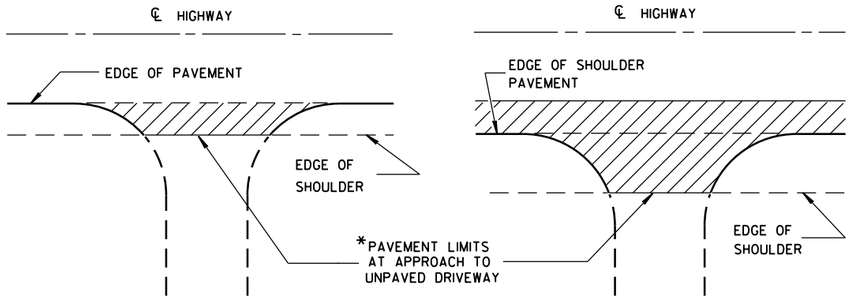
6

| EDGEDRAIN AND BASE AGGREGATE OPEN GRADED | |
|---|---|
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | |
| APPROVED | |
| Sept. 2015 | /S/ Peter Kemp, P.E. |
| DATE | PAVEMENT SUPE |
| FHWA | |





S.D.D. 8 D 15-5c

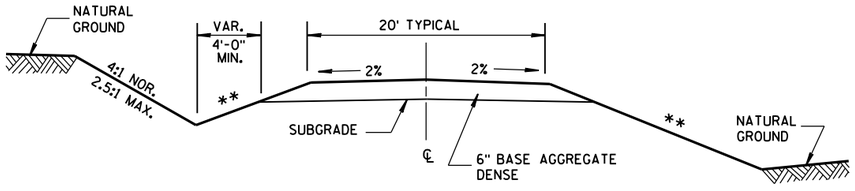



*WHERE DRIVEWAY IS PAVED, APPROACH PAVEMENT SHOULD BE EXTENDED TO MATCH DRIVEWAY PAVEMENT.

**PLAN VIEW**
(UNPAVED SHOULDER ON HIGHWAY)

**PLAN VIEW**
(PAVED SHOULDER ON HIGHWAY)

## RURAL DRIVEWAY INTERSECTION DETAIL
### (NO CURB & GUTTER OR SIDEWALK)

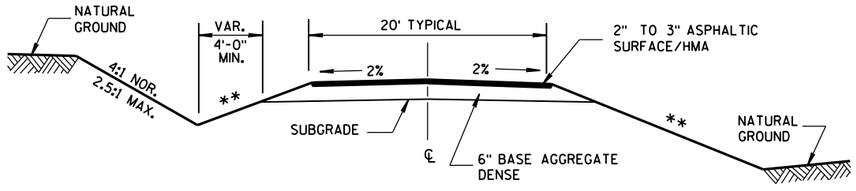



**IN CUT** **IN FILL**

## TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE AGGREGATE SURFACE

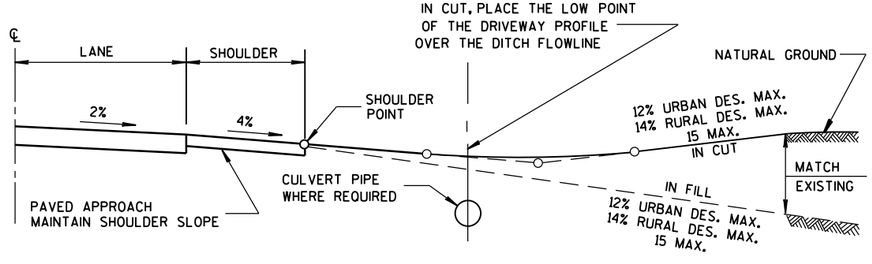
** SLOPE CAN VARY WITH SPEED. SEE 11-45-2.6.2.

| POSTED SPEED MPH | MAX. SLOPE |
|---|---|
| <35 | 4:1 |
| ≥35 TO <60 | 6:1 |
| ≥60 | 10:1 |




**IN CUT** **IN FILL**

## TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE ASPHALTIC SURFACE




## TYPICAL DRIVEWAY PROFILES

**DRIVEWAYS WITHOUT CURB & GUTTER**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December, 2016 /S/ Rodney Taylor
DATE ROADWAY STANDARDS UNIT SUPERV
FHWA

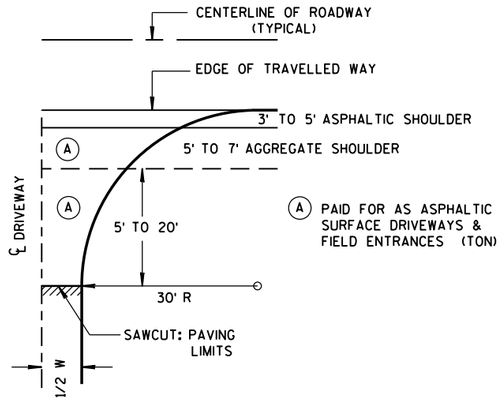


6

S.D.D. 8 D 21-1

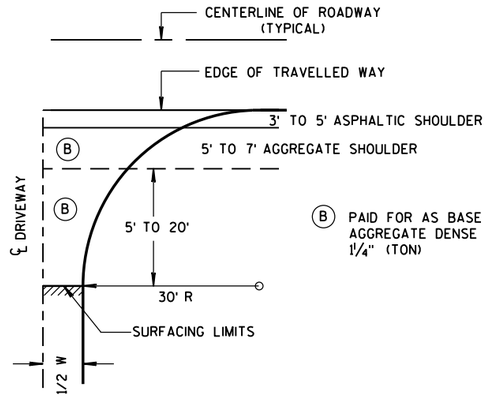
6

S.D.D. 8 D 21-1




PLAN VIEW
HALF SECTION

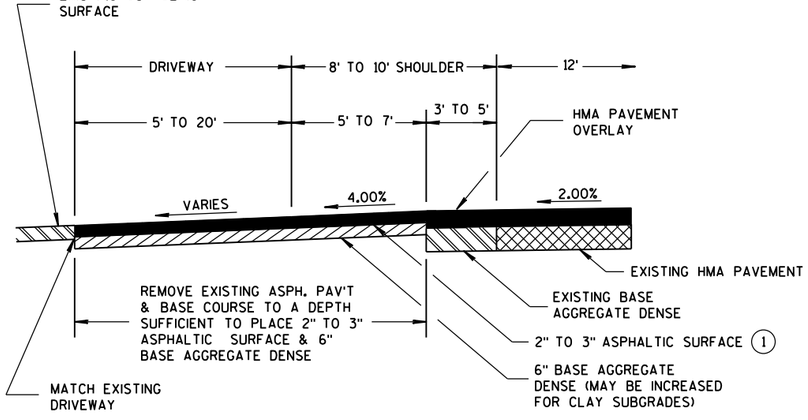
W MIN. = 16'
W MAX. = 24'




PLAN VIEW
HALF SECTION

## GENERAL NOTES

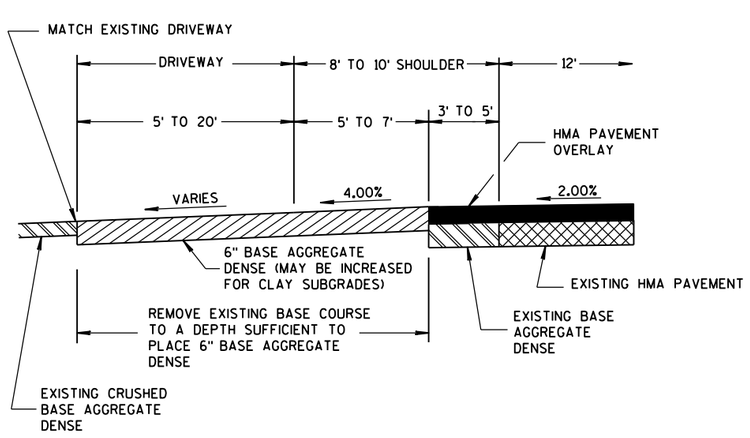
(1) DESIGN WILL DETERMINE FINAL DRIVEWAY ASPHALTIC THICKNESS BASED ON TYPE OF USAGE AND LOADINGS.




PROFILE VIEW

## RURAL ENTRANCE WITH ASPHALTIC SURFACE

RESURFACING PROJECTS




PROFILE VIEW

## RURAL ENTRANCE WITH AGGREGATE SURFACE

6" BASE AGGREGATE DENSE
RESURFACING PROJECTS

## DRIVEWAYS WITHOUT CURB & GUTTER RESURFACING PROJECTS RURAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December, 2016 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERV
ENT
FHWA

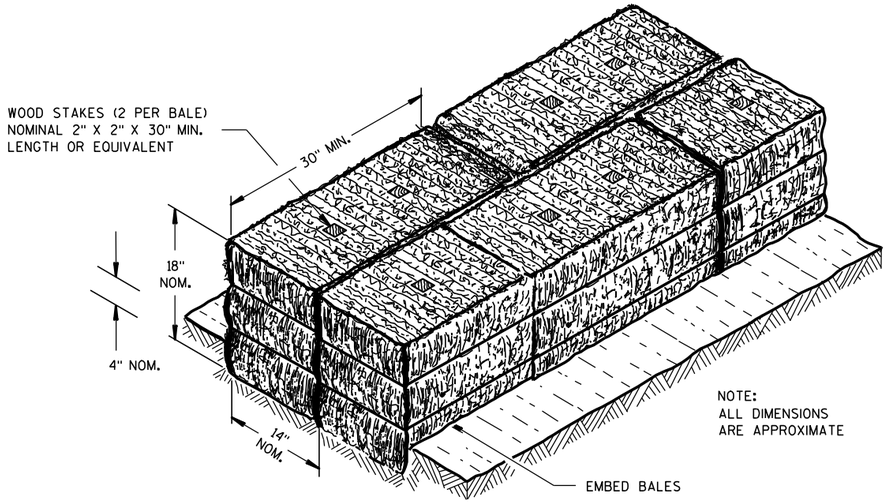


6

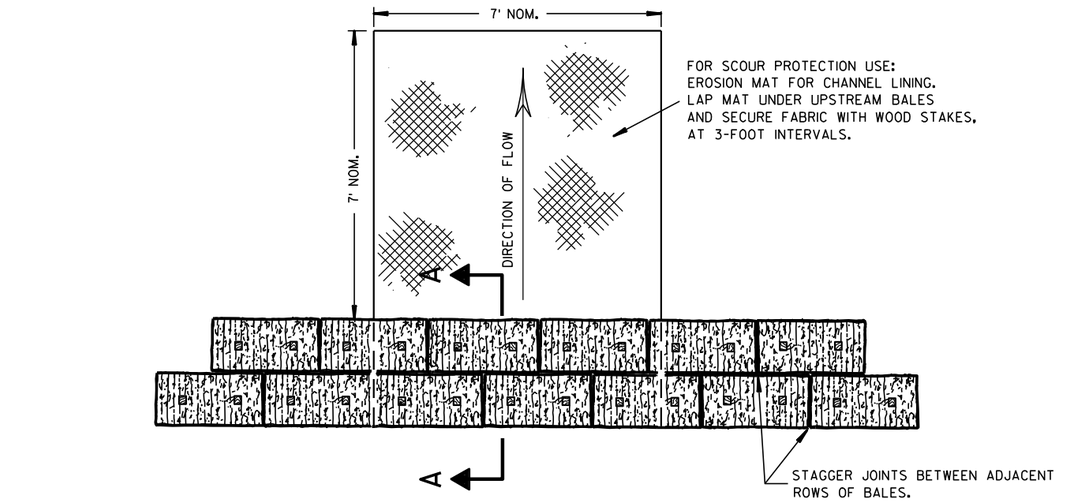
S.D.D. 8 D 22-1

6

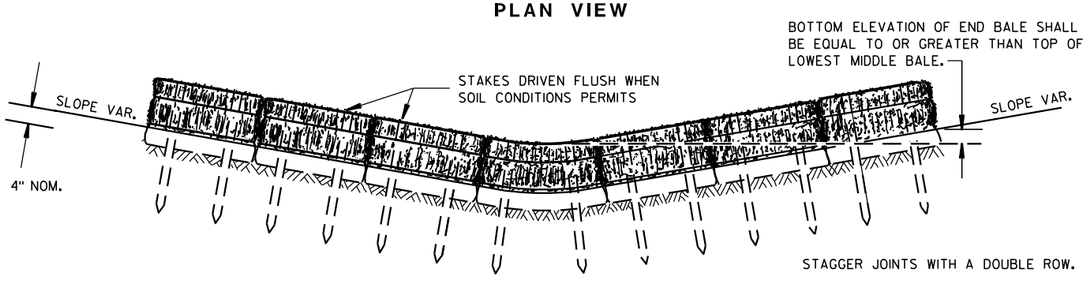
S.D.D. 8 D 22-1




**SECTION A-A**




**PLAN VIEW**



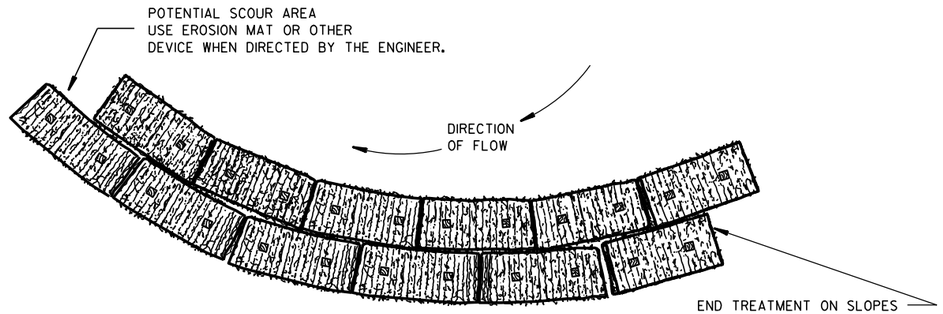

**FRONT ELEVATION**

## TEMPORARY DITCH CHECK USING EROSION BALES (1)

## GENERAL NOTES

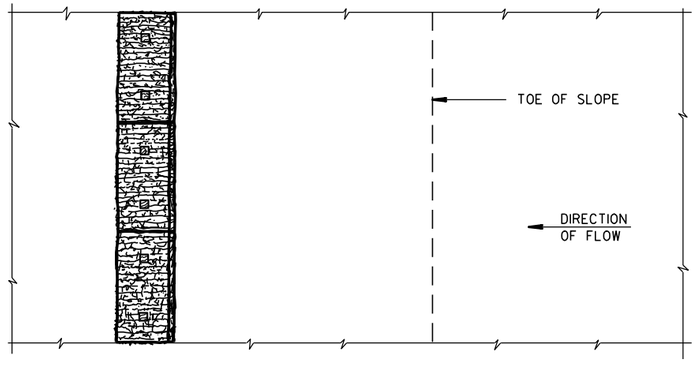
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

(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.

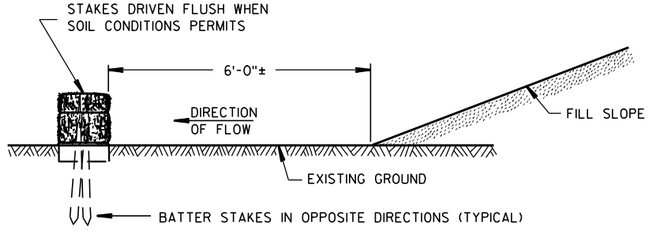



**PLAN VIEW**

WHEN ALTERING THE DIRECTION OF FLOW




**PLAN VIEW**




**FRONT ELEVATION**

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

## EROSION BALES FOR SHEET FLOW

## TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02 — DATE

/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

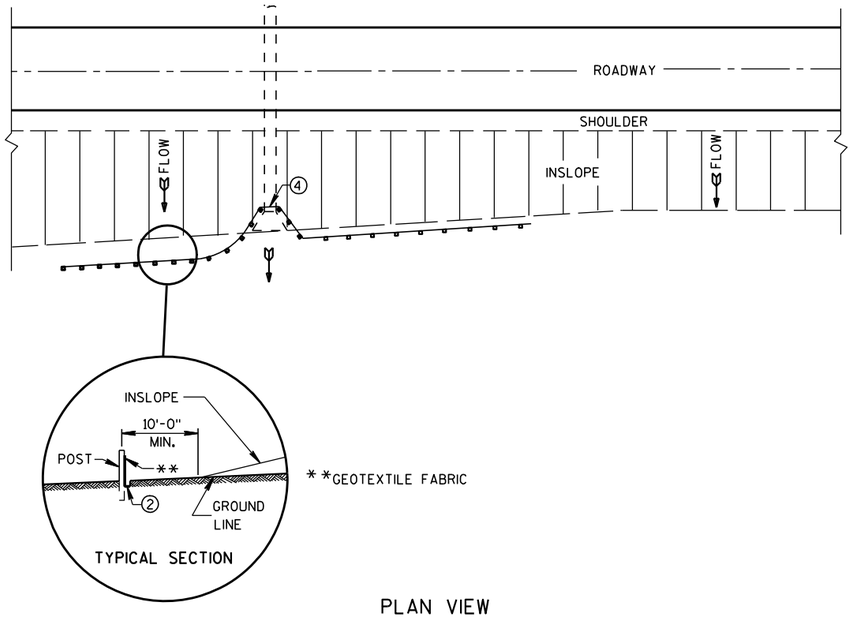


6

S.D.D. 8 E 8-3

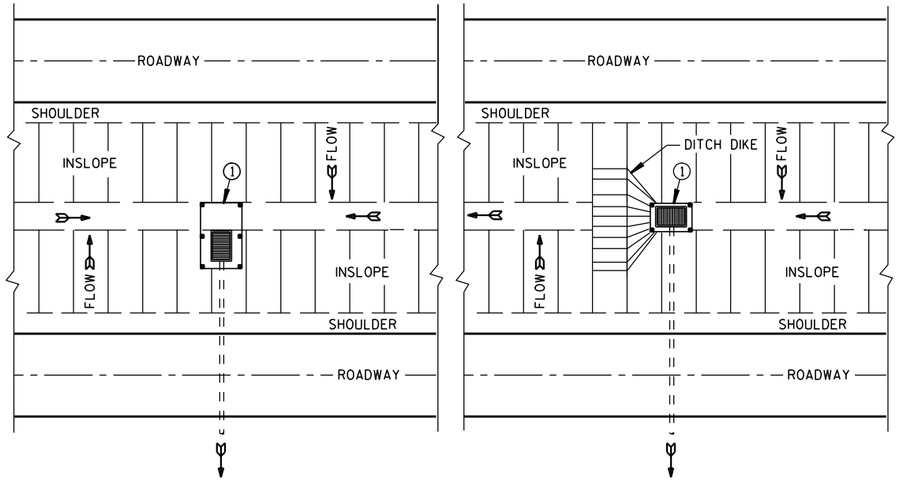
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S.D.D. 8 E 8-3




PLAN VIEW

## TYPICAL APPLICATION OF SILT FENCE



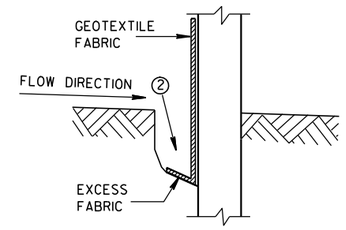

PLAN VIEW

## SILT FENCE AT MEDIAN SURFACE DRAINS

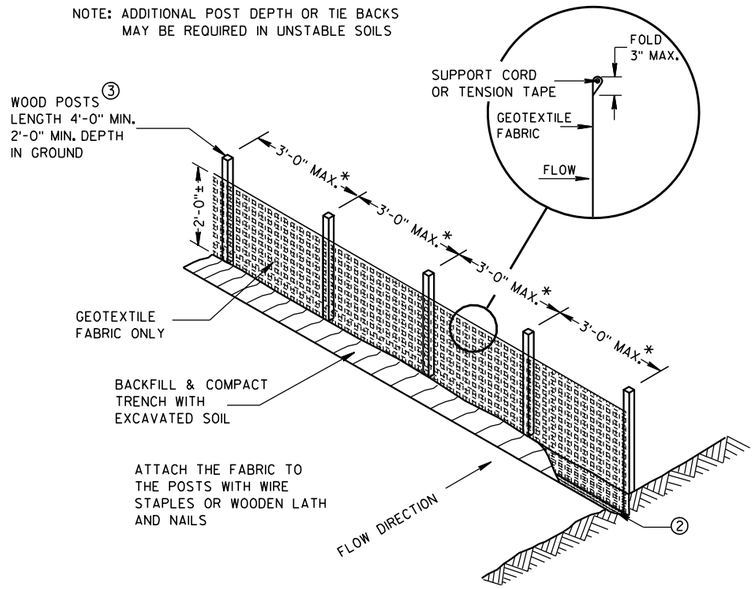
## GENERAL NOTES

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

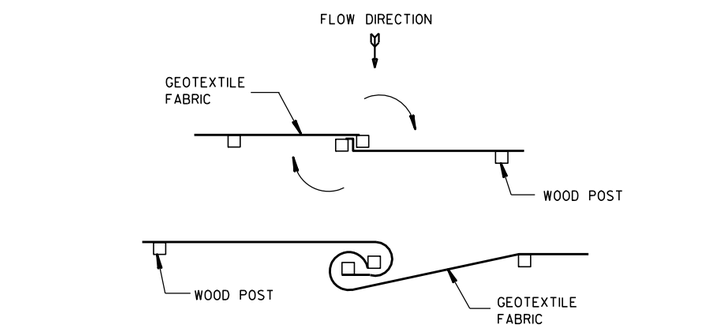
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



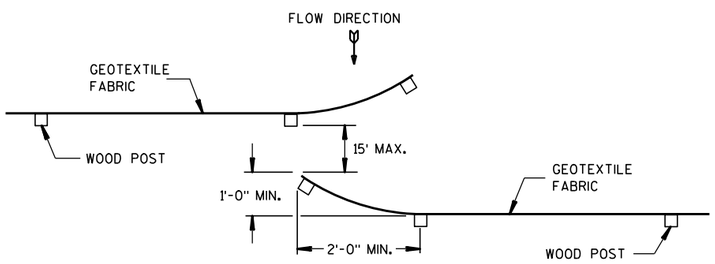

## TRENCH DETAIL




## SILT FENCE

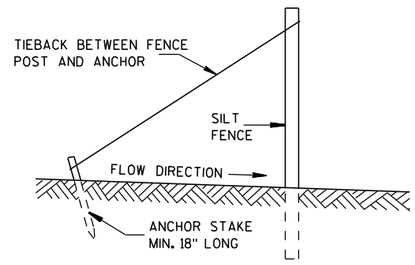



TWIST METHOD




HOOK METHOD

## JOINING TWO LENGTHS OF SILT FENCE 5




## SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

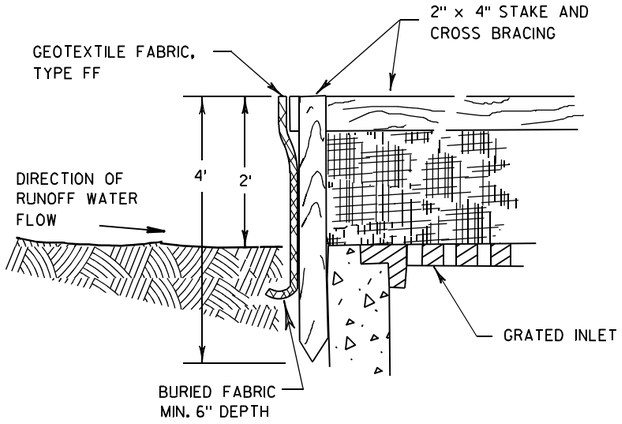


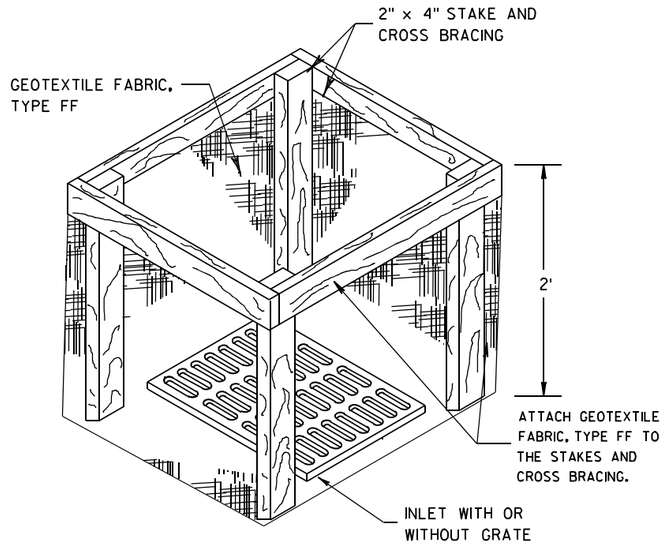
6

S.D.D. 8 E 9-6

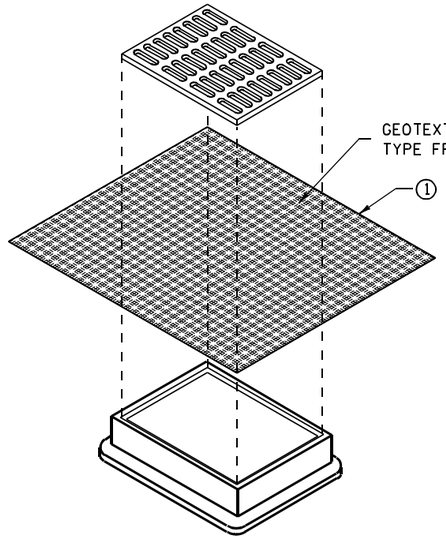
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S.D.D. 8 E 9-6



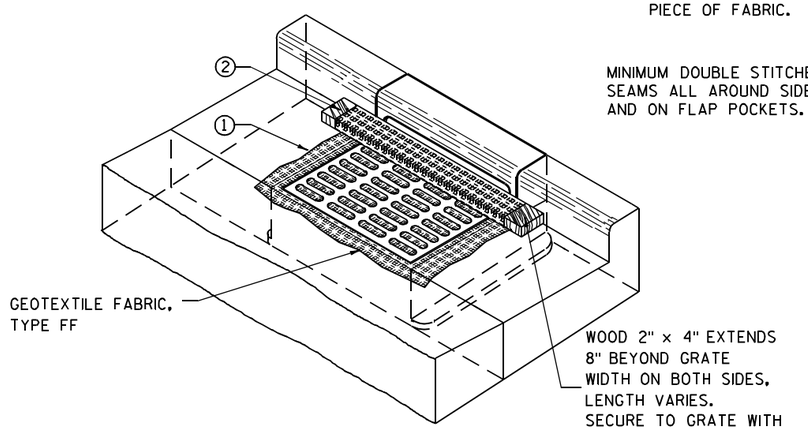




## INLET PROTECTION, TYPE A

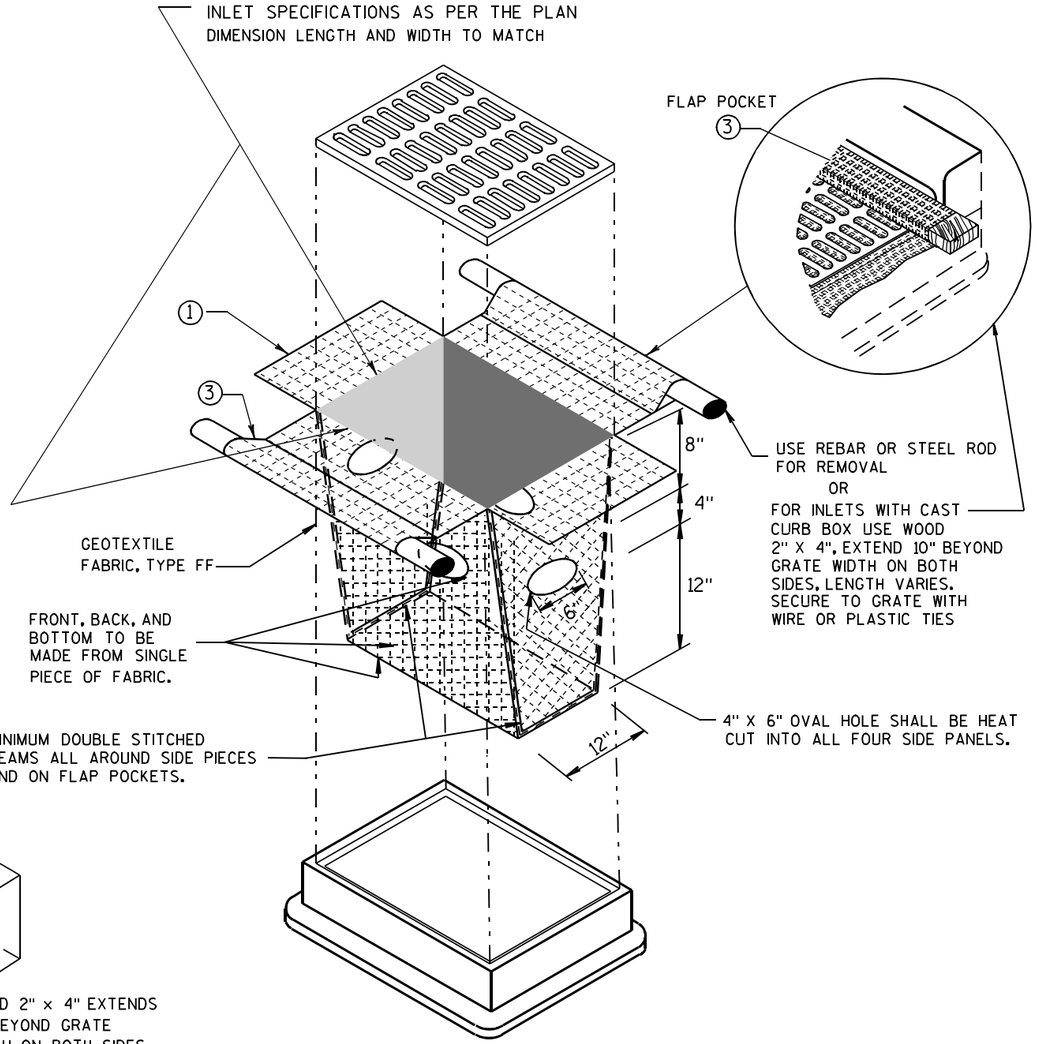



## INLET PROTECTION, TYPE B
## (WITHOUT CURB BOX)

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)




## INLET PROTECTION, TYPE C (WITH CURB BOX)




## INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH
OR WITHOUT A CURB BOX AS PER NOTE ② )

## GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

## INSTALLATION NOTES

### TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

### TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

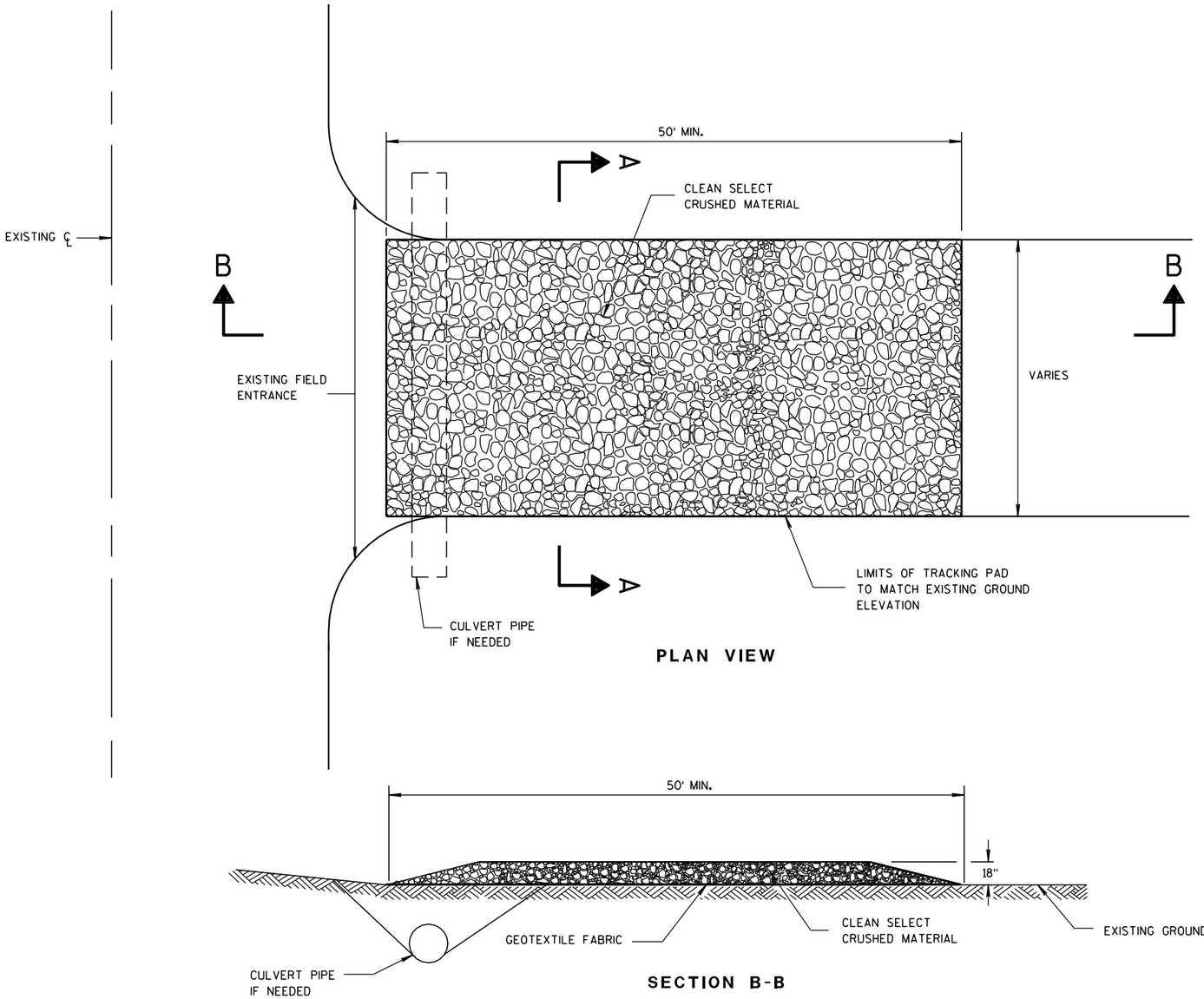
**INLET PROTECTION**
**TYPE A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/16/02
DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA




6
S.D.D. 8 E 10-2




PLAN VIEW




SECTION B-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.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

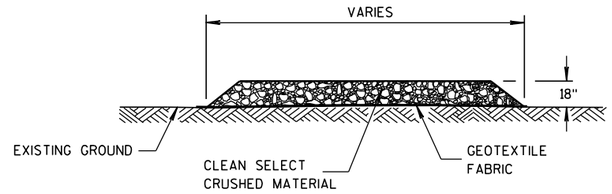
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.




SECTION A-A

# TRACKING PAD

| TRACKING PAD | |
|---|---|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION | |
| APPROVED<br>3/24/2011<br>DATE<br>FHWA | /S/ Jerry H. Zoda<br>ROADWAY STANDARDS ENGINEER |



6

S.D.D. 8 E 14-1

6

S.D.D. 8 E 14-1

## METAL APRON ENDWALLS

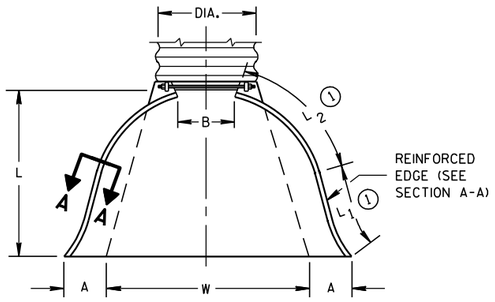
| PIPE DIA. (IN.) | MIN. THICK. (Inches) STEEL | MIN. THICK. (Inches) ALUM. | DIMENSIONS (Inches) A (±1") | B (MAX.) | H (±1") | L (±1 1/2") | L1 ① | L2 ① | W (±2") | APPROX. SLOPE | BODY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | .064 | .060 | 6 | 6 | 6 | 21 | 12 | 17 1/2 | 24 | 2 1/2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

× EXCEPT CENTER PANEL SEE GENERAL NOTES

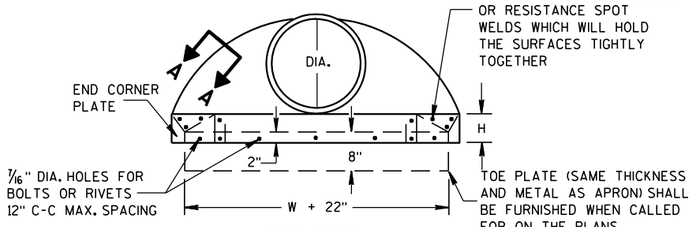
## REINFORCED CONCRETE APRON ENDWALLS

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

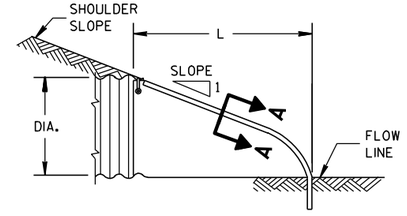
*MINIMUM
**MAXIMUM




PLAN VIEW

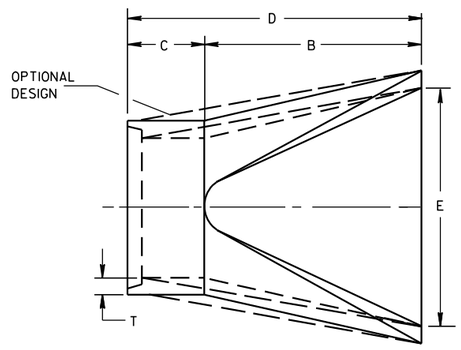



END VIEW

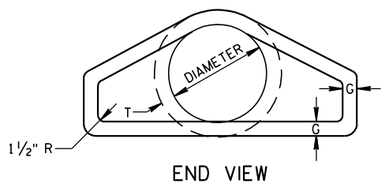



SIDE ELEVATION

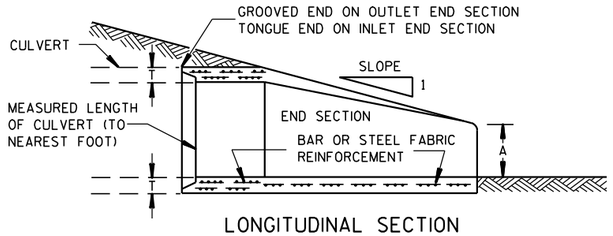
## METAL ENDWALLS




PLAN

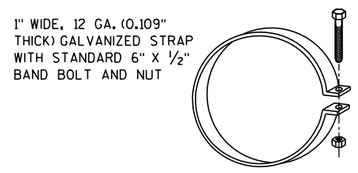



END VIEW



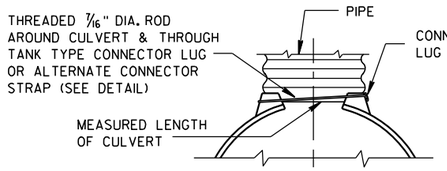

LONGITUDINAL SECTION

## CONCRETE ENDWALLS

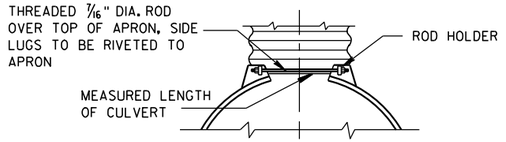



ALTERNATE FOR TYPE 1 CONNECTION

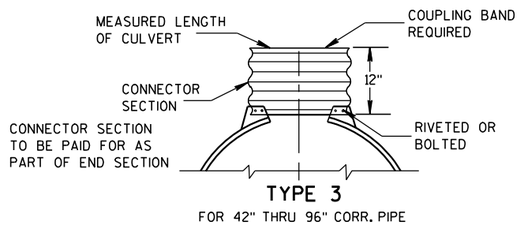
## END SECTION CONNECTOR STRAP



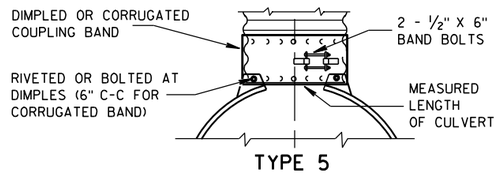

TYPE 1
FOR 12" THRU 24" CORR. PIPE




TYPE 2
FOR 30" THRU 96" CORR. PIPE




TYPE 3
FOR 42" THRU 96" CORR. PIPE




TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

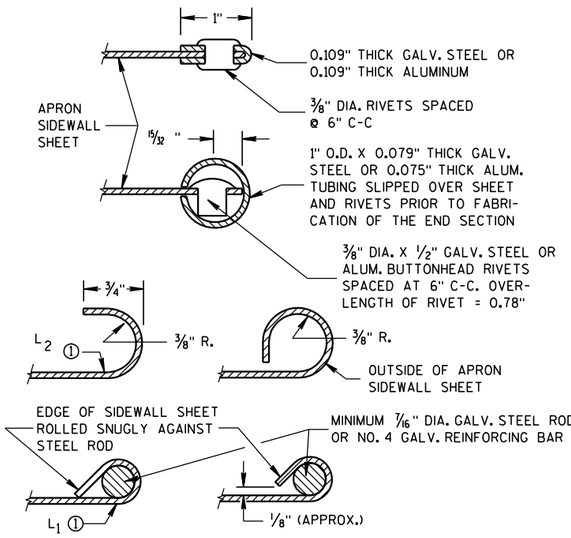
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

## CONNECTION DETAILS




## SECTION A-A

## GENERAL NOTES

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

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

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

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

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

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

# APRON ENDWALLS FOR CULVERT PIPE

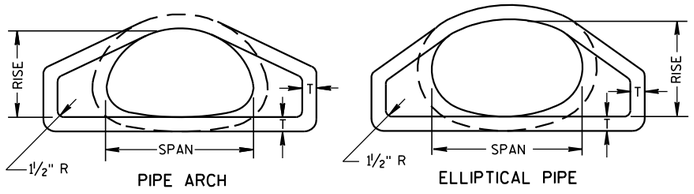
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

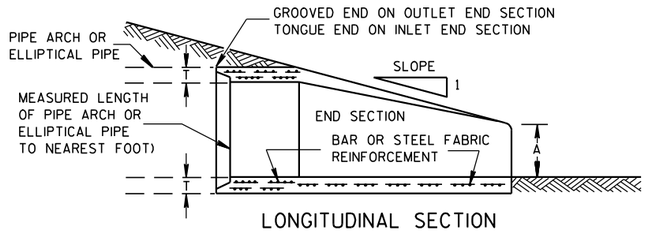



6

S.D.D. 8 F 1-11




END VIEW

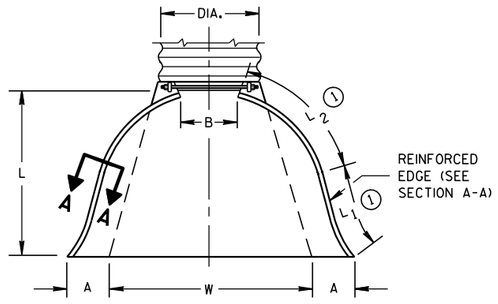



LONGITUDINAL SECTION

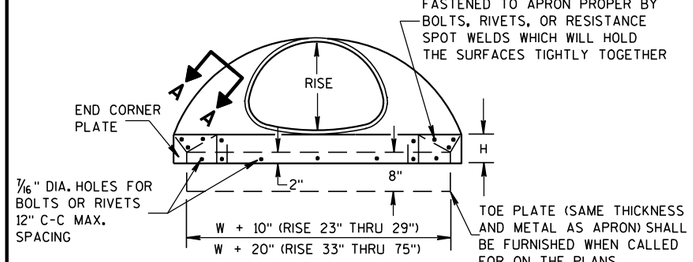



PLAN VIEW

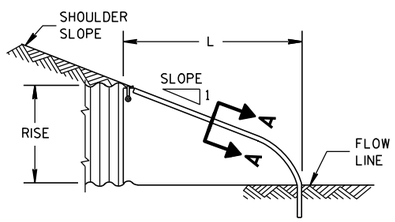
# CONCRETE ENDWALLS




PLAN VIEW

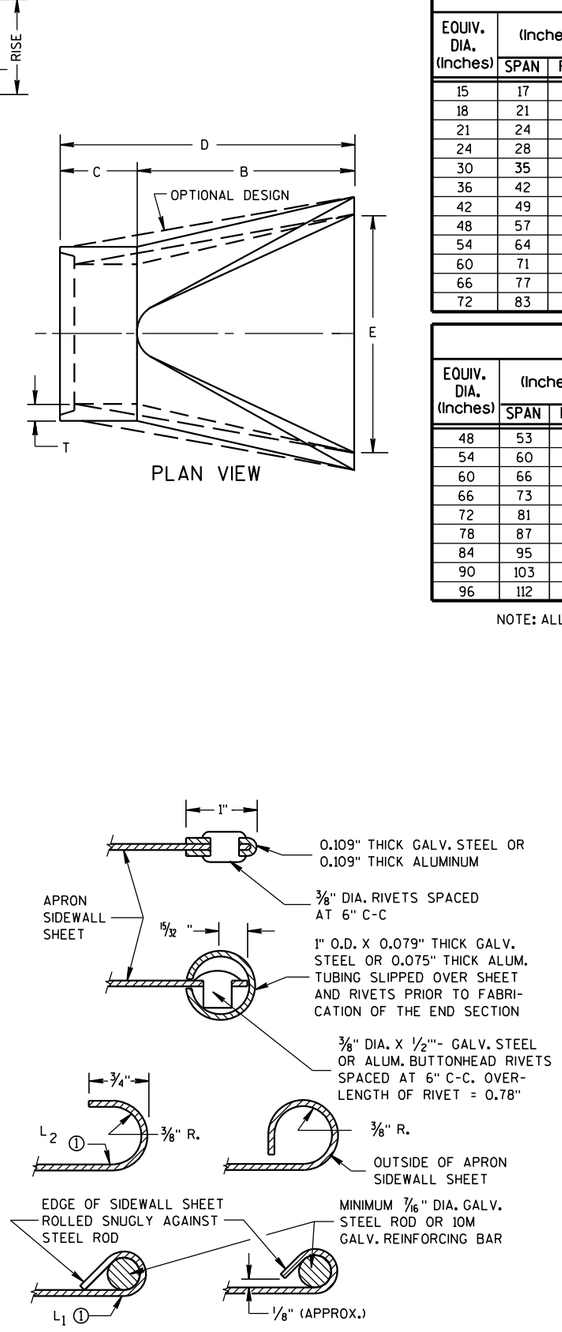



END VIEW




SIDE ELEVATION

# METAL ENDWALLS




# SECTION A-A

## 2- 2/3" X 1/2" CORRUGATIONS

| EQUIV. DIA. (Inches) | (Inches) SPAN | (Inches) RISE | MIN. THICK. (Inches) STEEL | MIN. THICK. (Inches) ALUM. | DIMENSIONS (Inches) A (±1") | B (MAX.) | H (±1") | L (±1 1/2") | L1 ① | L2 ① | W (±2") | APPROX. SLOPE | BODY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 | 17 | 13 | .064 | .060 | 7 | 9 | 6 | 19 | 14 | 16 | 30 | 2½ to 1 | 1 Pc. |
| 18 | 21 | 15 | .064 | .060 | 7 | 10 | 6 | 23 | 14 | 19⅜ | 36 | 2½ to 1 | 1 Pc. |
| 21 | 24 | 18 | .064 | .060 | 8 | 12 | 6 | 28 | 18 | 21¾ | 42 | 2½ to 1 | 1 Pc. |
| 24 | 28 | 20 | .064 | .060 | 9 | 14 | 6 | 32 | 18 | 27½ | 48 | 2½ to 1 | 1 Pc. |
| 30 | 35 | 24 | .079 | .075 | 10 | 16 | 6 | 39 | 18 | 37⅝ | 60 | 2½ to 1 | 1 Pc. |
| 36 | 42 | 29 | .079 | .075 | 12 | 18 | 8 | 46 | 24 | 45⅜ | 75 | 2½ to 1 | 1 Pc. |
| 42 | 49 | 33 | .109 | .105 | 13 | 21 | 9 | 53 | 24 | 54¾ | 85 | 2½ to 1 | 2 Pc. |
| 48 | 57 | 38 | .109 | .105 | 18 | 26 | 12 | 63 | 24 | 68 | 90 | 2½ to 1 | 3 Pc. |
| 54 | 64 | 43 | .109 | .105 | 18 | 30 | 12 | 70 | 24 | 72¾ | 102 | 2¼ to 1 | 3 Pc. |
| 60 | 71 | 47 | .109* | .105* | 18 | 33 | 12 | 77 | 30 | 82¼ | 114 | 2¼ to 1 | 3 Pc. |
| 66 | 77 | 52 | .109* | .105* | 18 | 36 | 12 | 77 | — | — | 126 | 2 to 1 | 3 Pc. |
| 72 | 83 | 57 | .109* | .105* | 18 | 39 | 12 | 77 | — | — | 138 | 2 to 1 | 3 Pc. |

## 3" X 1" CORRUGATIONS

| EQUIV. DIA. (Inches) | (Inches) SPAN | (Inches) RISE | MIN. THICK. (Inches) STEEL | MIN. THICK. (Inches) ALUM. | DIMENSIONS (Inches) A (±1") | B (MAX.) | H (±1") | L (±1 1/2") | L1 ① | L2 ① | W (±2") | APPROX. SLOPE | BODY |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 48 | 53 | 41 | .109 | .105 | 18 | 26 | 12 | 63 | 24 | 72¾ | 90 | 2½ to 1 | 2 Pc. |
| 54 | 60 | 46 | .109 | .105 | 18 | 30 | 12 | 70 | 30 | 82¼ | 102 | 2 to 1 | 2 Pc. |
| 60 | 66 | 51 | .109* | .105* | 18 | 33 | 12 | 77 | — | — | 114 | 1½ to 1 | 3 Pc. |
| 66 | 73 | 55 | .109* | .105* | 18 | 36 | 12 | 77 | — | — | 126 | 1½ to 1 | 3 Pc. |
| 72 | 81 | 59 | .109* | .105* | 18 | 39 | 12 | 77 | — | — | 138 | 2 to 1 | 3 Pc. |
| 78 | 87 | 63 | .109* | .105* | 22 | 38 | 12 | 77 | — | — | 148 | 1½ to 1 | 3 Pc. |
| 84 | 95 | 67 | .109* | .105* | 22 | 34 | 12 | 77 | — | — | 162 | 1½ to 1 | 3 Pc. |
| 90 | 103 | 71 | .109* | .105* | 22 | 38 | 12 | 77 | — | — | 174 | 1½ to 1 | 3 Pc. |
| 96 | 112 | 75 | .109* | .105* | 24 | 40 | 12 | 77 | — | — | 174 | 1½ to 1 | 3 Pc. |

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED.

* EXCEPT CENTER PANEL SEE GENERAL NOTES

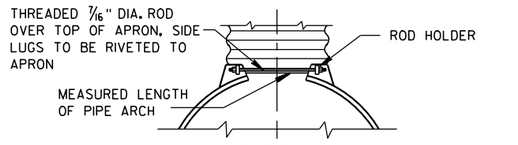
## REINFORCED CONCRETE PIPE ARCH

| EQUIV. DIA. (Inches) | DIMENSIONS (Inches) ** SPAN | ** RISE | T | A | B | C | D | E | APPROX. SLOPE |
|---|---|---|---|---|---|---|---|---|---|
| 24 | 29 | 18 | 3 | 8½ | 39 | 33 | 72 | 48 | 3 to 1 |
| 30 | 36 | 22 | 3½ | 9½ | 50 | 46 | 96 | 60 | 3 to 1 |
| 36 | 44 | 27 | 4 | 11⅛ | 60 | 36 | 96 | 72 | 3 to 1 |
| 42 | 51 | 31 | 4½ | 15 13/16 | 60 | 36 | 96 | 78 | 3 to 1 |
| 48 | 58 | 36 | 5 | 21 | 60 | 36 | 96 | 84 | 3 to 1 |
| 54 | 65 | 40 | 5½ | 25½ | 60 | 36 | 96 | 90 | 3 to 1 |
| 60 | 73 | 45 | 6 | 31 | 60 | 36 | 96 | 96 | 3 to 1 |
| 72 | 88 | 54 | 7 | 31 | 60 | 39 | 99 | 120 | 2 to 1 |
| 84 | 102 | 62 | 8 | 28½ | 83 | 19 | 102 | 144 | 2 to 1 |

## REINFORCED CONCRETE ELLIPTICAL PIPE

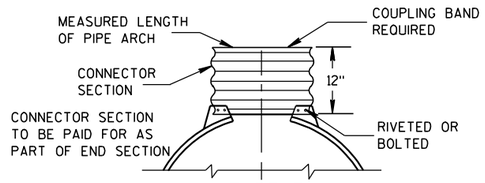
| EQUIV. DIA. (Inches) | DIMENSIONS (Inches) ** SPAN | ** RISE | T | A | B | C | D | E | APPROX. SLOPE |
|---|---|---|---|---|---|---|---|---|---|
| 24 | 30 | 19 | 3¼ | 8½ | 39 | 33 | 72 | 48 | 3 to 1 |
| 30 | 38 | 24 | 3¾ | 9½ | 54 | 18 | 72 | 60 | 3 to 1 |
| 36 | 45 | 29 | 4½ | 11⅛ | 60 | 24 | 84 | 72 | 2½ to 1 |
| 42 | 53 | 34 | 5 | 15¾ | 60 | 36 | 96 | 78 | 2½ to 1 |
| 48 | 60 | 38 | 5½ | 21 | 60 | 36 | 96 | 84 | 2½ to 1 |
| 54 | 68 | 43 | 6 | 25½ | 60 | 36 | 96 | 90 | 2½ to 1 |
| 60 | 76 | 48 | 6½ | 30 | 60 | 36 | 96 | 96 | 2½ to 1 |

**NOMINAL SIZE



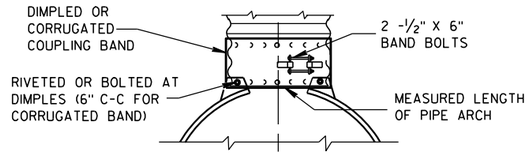

TYPE 2

FOR 17" X 13" THRU 112" X 75" PIPE ARCH




TYPE 3

FOR 64" X 43" THRU 112" X 75" PIPE ARCH




TYPE 5

ALTERNATE FOR:

ALL SIZES CORRUGATED PIPE ARCHES

NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL.

# CONNECTION DETAILS

# GENERAL NOTES

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

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

ALL THREE PIECE STEEL APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE ARCH PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 77" X 52" THROUGH 112" X 75" APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

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

① FOR PIPE ARCH SIZES UP TO 73" X 55" A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

**APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/94 — DATE

/S/ Rory L. Rhinesmith — CHIEF ROADWAY DEVELOPMENT ENGINEER

FHWA

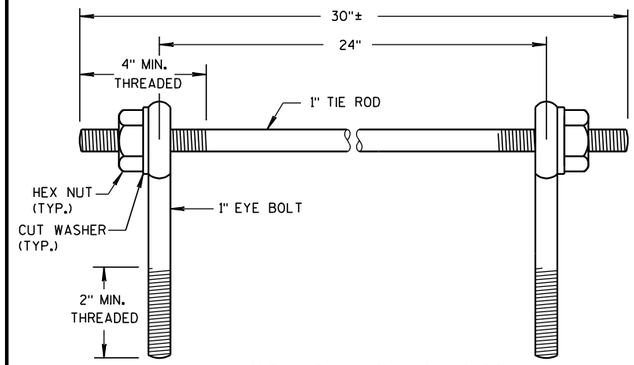


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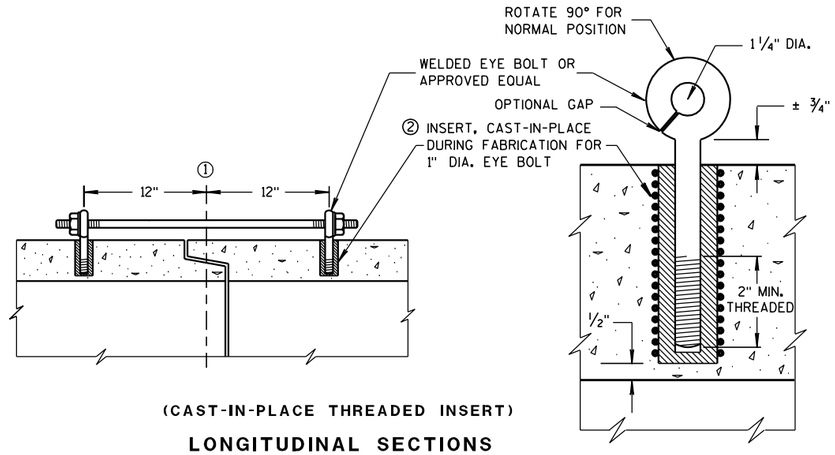
S.D.D. 8 F 2-1

6

S.D.D. 8 F 2-1




EYE BOLTS AND TIE ROD




(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

# EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)

## GENERAL NOTES

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

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

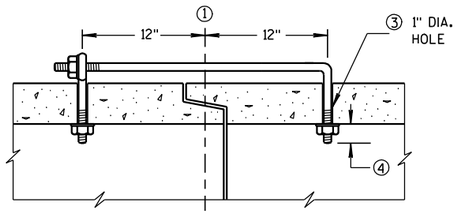
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ℄ OF TONGUE AND GROOVE.

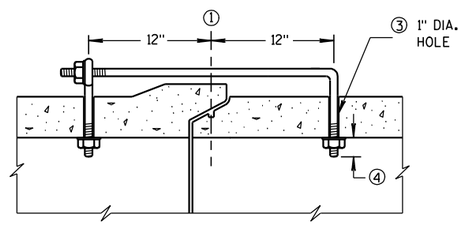
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.




(TONGUE & GROOVE PIPE)

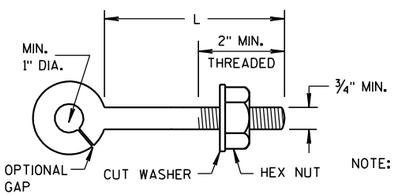



(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

**EYE BOLT DIMENSION TABLE**

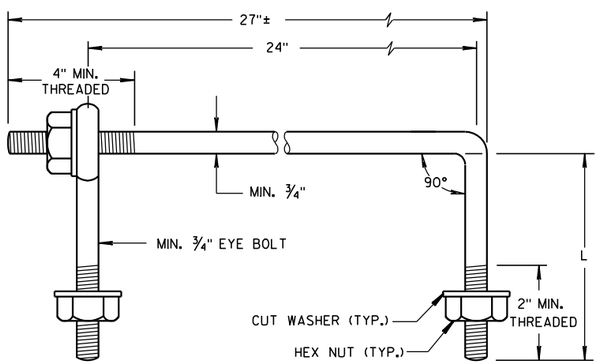
| PIPE SIZE | L = LENGTH | |
|---|---|---|
| | TONGUE & GROOVE PIPE | MODIFIED BELL PIPE |
| 18" TO 24" | 4 1/2" | 6 1/4" |
| 30" | 5" | 7" |
| 36" | 5 1/2" | 7" |
| 42" | 6" | |
| 48" | 6 1/2" | |
| 60" | 7 1/2" | |
| 66" | 8" | |




NOTE:

EYE BOLT

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.




EYE BOLT AND TIE ROD

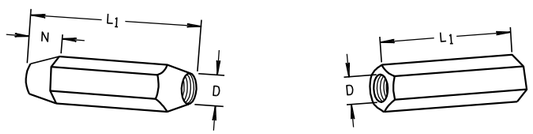
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

# EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

**ADJUSTABLE TIE ROD TABLE**

| PIPE DIAMETER | TIE ROD DIAMETER | D | $L_1$ | N |
|---|---|---|---|---|
| 12-60 | 5/8 | 5/8 | 5 | 1/2 |
| 66-84 | 3/4 | 3/4 | 5 | 1/2 |
| 90-108 | 1 | 1 | 7 | 1 1/16 |

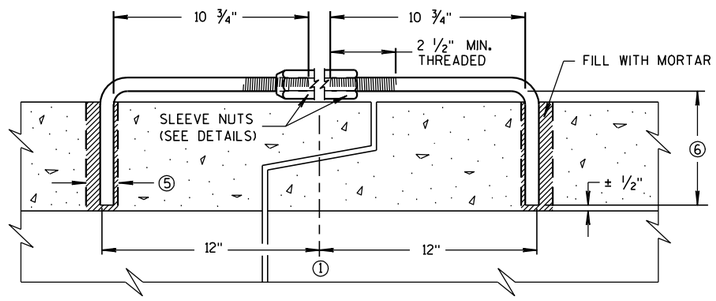
DIMENSIONS SHOWN ARE IN INCHES




TAPERED PLAIN

RIGHT AND LEFT THREADS

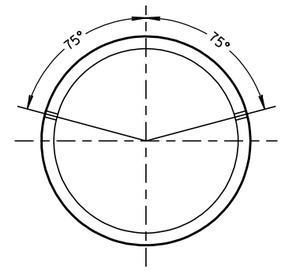
SLEEVE NUTS




LONGITUDINAL SECTION

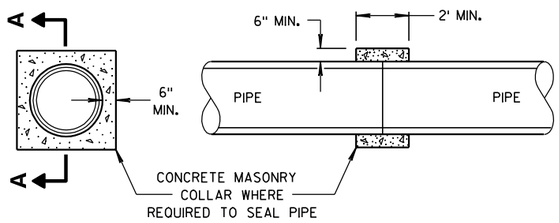
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

# ADJUSTABLE TIE ROD (ALTERNATE NO. 3)




PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION




SECTION A-A

# CONCRETE COLLAR DETAIL

**JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA



6

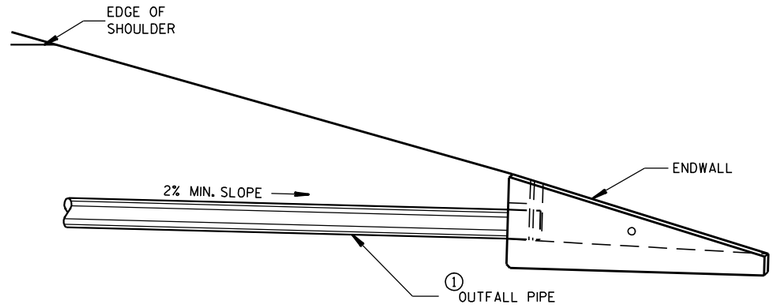
S.D.D. 8 F 4-7

6

S.D.D. 8 F 4-7

| DIMENSIONS IN INCHES | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| PIPE DIA. | A | B | C | D | E | F | G | H | J | L | Z |
| **4 | 6 | 12 | 5 1/4 | 9 | 8 | 32 | 36 | 11 | 2 3/8 | 6 1/2 | 4 |
| 6 | 8 | 14 | 7 1/4 | 11 | 10 | 42 | 44 | 13 | 3 5/8 | 8 1/2 | 6 |

**APRON ENDWALL FOR 6 INCH DIAMETER PIPE MAY BE SUBSTITUTED FOR THIS SIZE PROVIDED THE HOLE IN THE HEADWALL IS SIZED AND LOCATED TO CONFORM TO THE 4 INCH DIAMETER PIPE DIMENSIONS (C & J)




INSTALLATION DETAIL

## 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.

ALTERNATIVE DESIGNS WHICH PROVIDE EQUIVALENT CAPACITY AND STRENGTH MAY BE USED WHEN APPROVED BY THE ENGINEER. ENDWALL MAY BE EITHER PRECAST OR CAST-IN-PLACE CONCRETE.

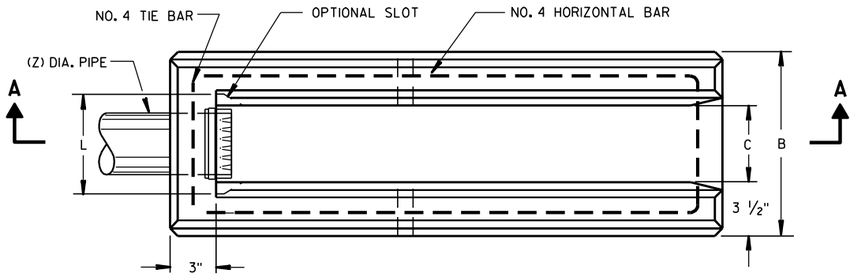
THE UNDERDRAIN PIPE SHALL BE FULLY INSERTED AND SEALED INTO THE ENDWALL WITH CEMENT MORTAR PRIOR TO BACKFILLING AROUND THE STRUCTURE.

THE UPPERMOST POINT OF THE ENDWALL SHALL BE PLACED FLUSH WITH THE ROADWAY SLOPE. ADJACENT EMBANKMENT SLOPES SHALL BE SHAPED TO FIT THE SIDES AND TOE OF THE ENDWALL. EXACT PLACEMENT OF THE OUTFALL PIPE AND ENDWALL SHALL BE DETERMINED BY THE ENGINEER TO MATCH THE ELEVATIONS AND FLOW DIRECTION OF THE ROADSIDE DITCH.

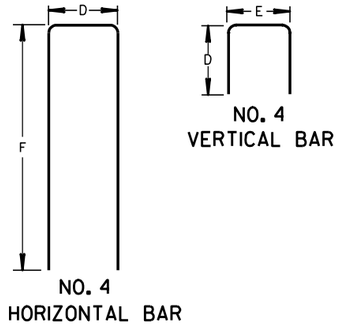
① THE OUTFALL PIPE UNDERDRAIN AND FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFICATION FOR POLY (VINYL CHORIDE) (PVC) PLASTIC DRAIN, WASTE AND VENT PIPE AND FITTINGS, ASTM DESIGNATION: D 2665, SCHEDULE 40 PVC OR THE STANDARD SPECIFICATION FOR TYPE PSM POLY (VINYL CHORIDE) (PVC) SEWER PIPE AND FITTINGS, ASTM DESIGNATION: D 3034, TYPE PSM SDR 23.5 PVC SEWER PIPE, ALL JOINTS SHALL BE SOLVENT WELDED.

THE OUTFALL PIPE INCLUDING ALL FITTINGS AND THE RODENT SHIELD SHALL BE MEASURED AND PAID FOR AS PIPE UNDERDRAIN UNPERFORATED.

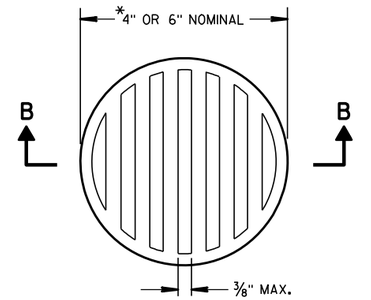
② THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

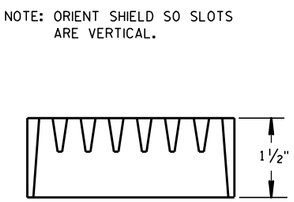



PLAN VIEW




BAR STEEL REINFORCEMENT DETAILS

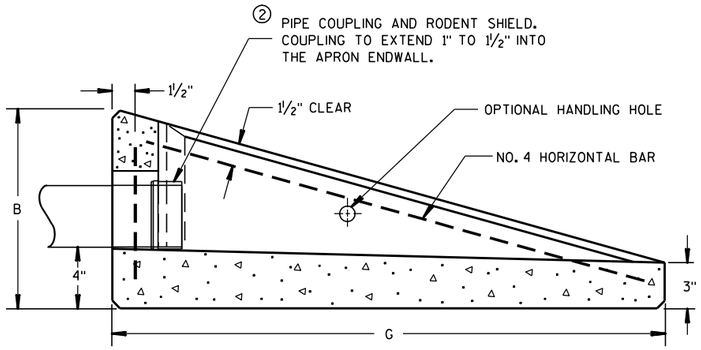


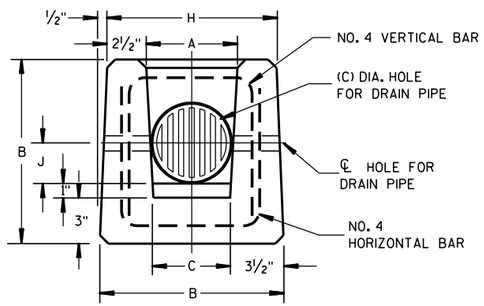

SECTION B-B

② RODENT SHIELD

*NOTE: DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.




SECTION A-A




END VIEW

CONCRETE APRON ENDWALL FOR UNDERDRAIN

**REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN**

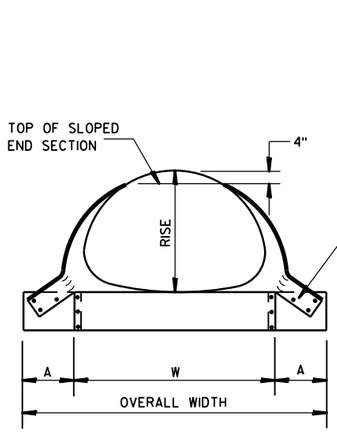
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
3/10/98 DATE
/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

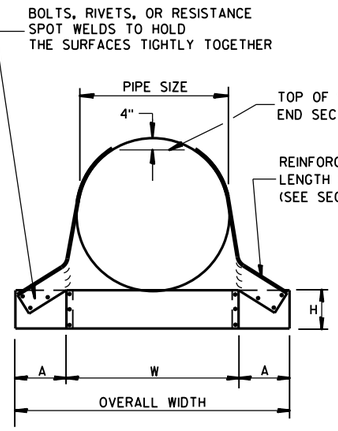



6

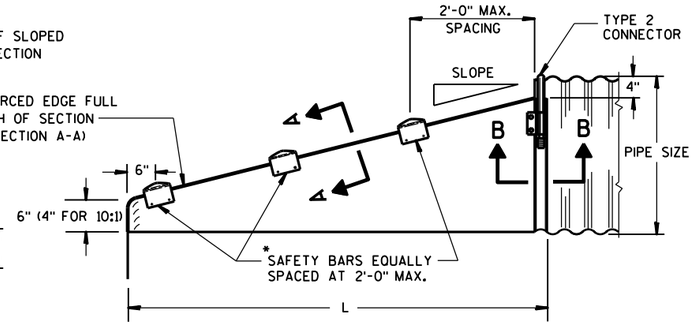
S.D.D. 8 F 6-4




FRONT VIEW




FRONT VIEW




SIDE VIEW

## GENERAL NOTES

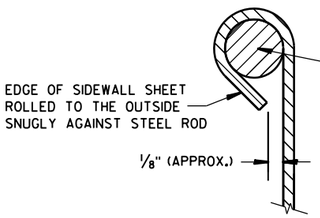
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

SLOPED END SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS, SECTION 521 FOR STEEL APRON ENDWALLS.

SAFETY BARS SHALL BE FABRICATED FROM GALVANIZED STEEL PIPE MEETING THE REQUIREMENTS OF ASTM A-53, GRADE B, SCHEDULE 40 OR APPROVED EQUAL.

**STEEL APRON ENDWALLS FOR CULVERT PIPE**
**SLOPED SIDE DRAINS**

| PIPE DIA. (IN.) | MIN. THICK. (Inches) | DIMENSIONS (Inches) | | | | L DIMENSIONS | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | H | W | OVERALL WIDTH | SLOPE | LENGTH INCHES | SLOPE | LENGTH INCHES | SLOPE | LENGTH INCHES |
| 15 | .064 | 8 | 6 | 21 | 37 | 4:1 | 20 | 6:1 | 30 | 10:1 | 70 |
| 18 | .064 | 8 | 6 | 24 | 40 | 4:1 | 32 | 6:1 | 48 | 10:1 | 100 |
| 21 | .064 | 8 | 6 | 27 | 43 | 4:1 | 44 | 6:1 | 66 | 10:1 | 130 |
| 24 | .064 | 8 | 6 | 30 | 46 | 4:1 | 56 | 6:1 | 84 | 10:1 | 160 |
| 30 | .109 | 12 | 9 | 36 | 60 | 4:1 | 80 | 6:1 | 120 | 10:1 | 220 |
| 36 | .109 | 12 | 9 | 42 | 66 | 4:1 | 104 | 6:1 | 156 | 10:1 | 280 |
| 42 | .109 | 16 | 12 | 48 | 80 | 4:1 | 128 | 6:1 | 192 | —— | —— |
| 48 | .109 | 16 | 12 | 54 | 86 | 4:1 | 152 | 6:1 | 228 | —— | —— |
| 54 | .109 | 16 | 12 | 60 | 92 | 4:1 | 176 | 6:1 | 264 | —— | —— |
| 60 | .109 | 16 | 12 | 66 | 98 | 4:1 | 200 | 6:1 | 300 | —— | —— |




SECTION A-A

*NOTE:
THREE SAFETY BARS ARE SHOWN. ACTUAL NUMBER OF BARS REQUIRED AT A 2'-0" C-C MAX. SPACING WILL VARY DEPENDING ON THE LENGTH OF THE END SECTION.

3" GALVANIZED PIPE. FLATTEN ENDS, THEN BEND OUTSIDE 4" TO MATCH END SECTION SIDES.

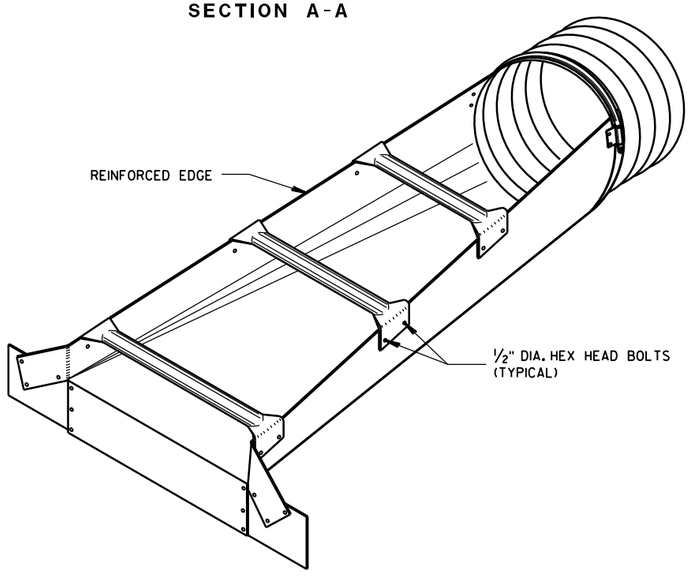



DETAIL OF SAFETY BAR

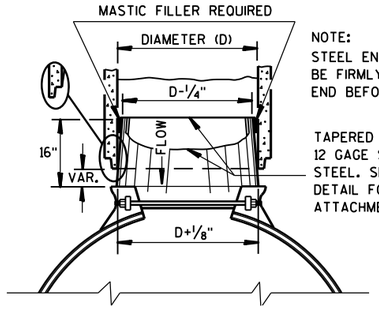
**STEEL APRON ENDWALLS FOR PIPE ARCH**
**SLOPED SIDE DRAINS**

| EQUIV. DIA. (Inches) | (Inches) SPAN | (Inches) RISE | MIN. THICK. (Inches) ① | DIMENSIONS (Inches) A | H | W | OVERALL WIDTH | L DIMENSIONS SLOPE | LENGTH INCHES | SLOPE | LENGTH INCHES | SLOPE | LENGTH INCHES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 | 17 | 13 | .064 * | 7 | 6 | 30 | 44 | 4:1 | 19 | 6:1 | 30 | 10:1 ② | 70 |
| 18 | 21 | 15 | .064 * | 8 | 6 | 27 | 43 | 4:1 | 20 | 6:1 | 30 | 10:1 | 70 |
| 21 | 24 | 18 | .064 * | 8 | 6 | 30 | 46 | 4:1 | 32 | 6:1 | 48 | 10:1 | 100 |
| 24 | 28 | 20 | .064 * | 8 | 6 | 34 | 50 | 4:1 | 40 | 6:1 | 60 | 10:1 | 120 |
| 30 | 35 | 24 | .079 * | 12 | 9 | 41 | 65 | 4:1 | 56 | 6:1 | 84 | 10:1 | 160 |
| 36 | 42 | 29 | .109 * | 12 | 9 | 48 | 72 | 4:1 | 76 | 6:1 | 114 | 10:1 | 210 |
| 42 | 49 | 33 | .109 | 16 | 12 | 55 | 87 | 4:1 | 92 | 6:1 | 138 | —— | —— |
| 48 | 57 | 38 | .109 | 16 | 12 | 63 | 95 | 4:1 | 112 | 6:1 | 168 | —— | —— |
| 54 | 64 | 43 | .109 | 16 | 12 | 70 | 102 | 4:1 | 132 | 6:1 | 198 | —— | —— |

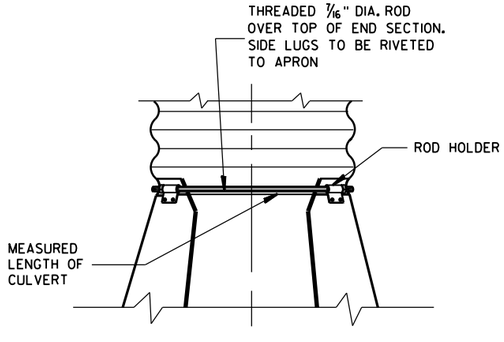
① * MINIMUM THICKNESS OF ALL 10:1 SLOPED SIDE DRAINS IS 0.109".
② ACTUAL SLOPE GREATER THAN 10:1.



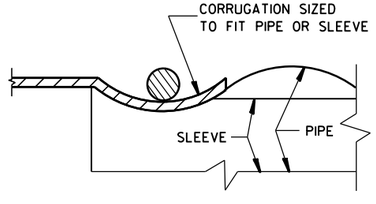

ISOMETRIC VIEW




STEEL ADAPTER SLEEVE FOR CONCRETE PIPE




TYPE 2
CONNECTION DETAIL




SECTION B-B

**STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE DRAINS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/14/2012 — DATE
/S/ Jerry H. Zoda — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

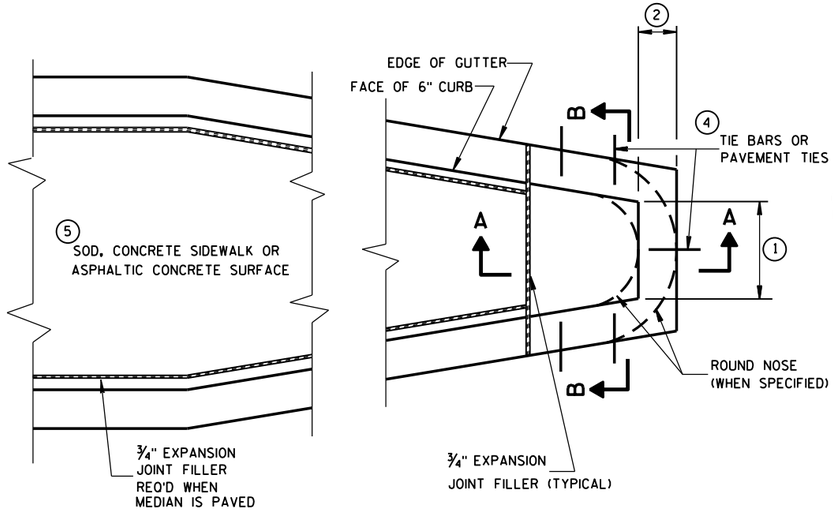


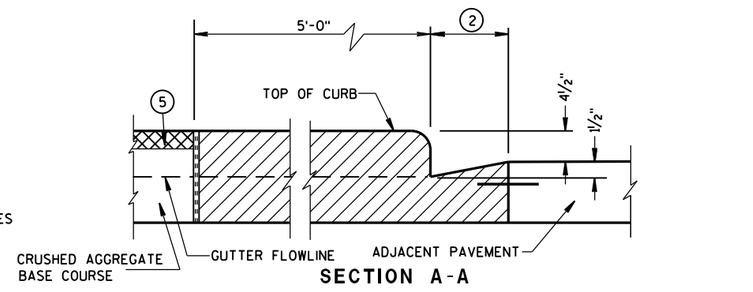
6

S.D.D. 8 F 7-5

6

S.D.D. 8 F 7-5




## CONCRETE MEDIAN BLUNT NOSE DETAIL

## 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) SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).

(2) WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.

(3) DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:

(1) NEW OR EXISTING CONCRETE PAVEMENT.

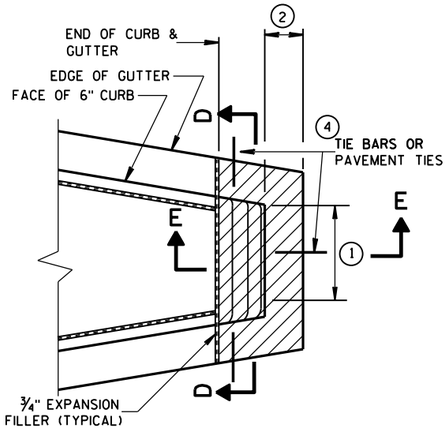
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

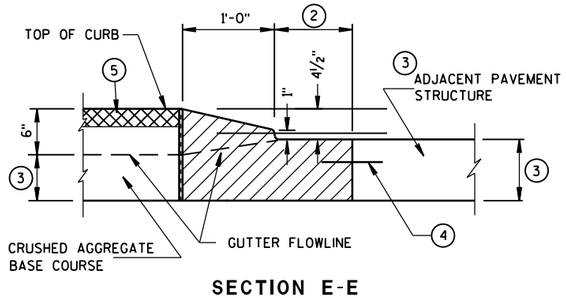
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

(4) TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

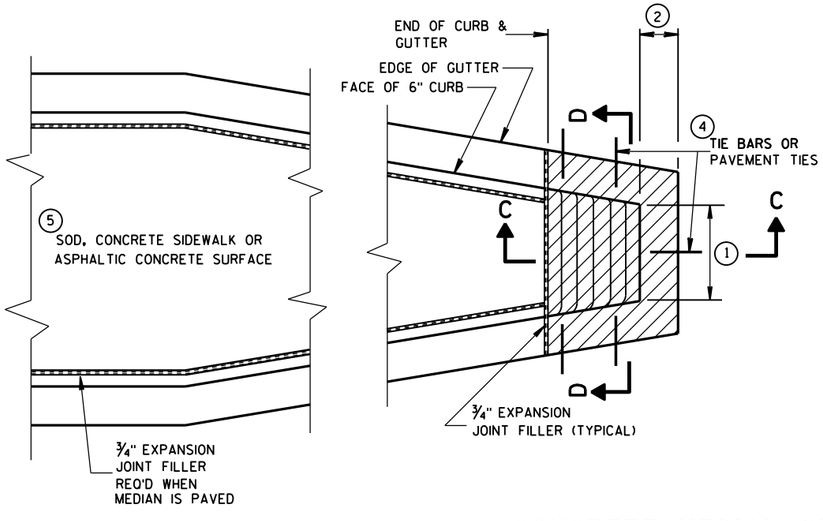
PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

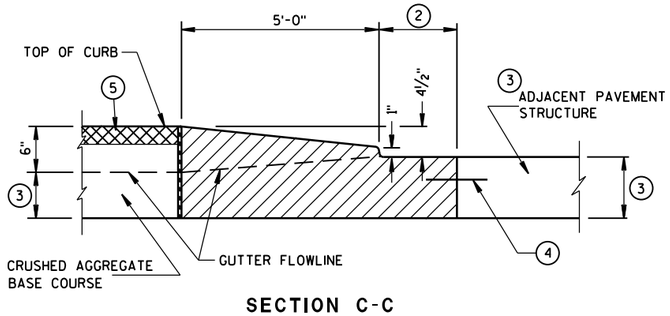
(5) SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.



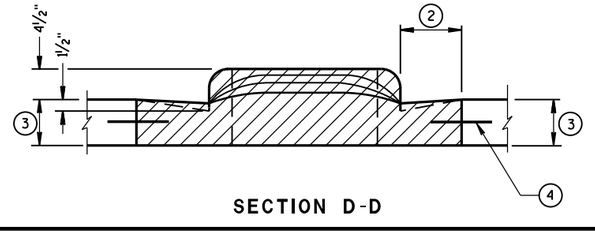




## CONCRETE MEDIAN SLOPED NOSE TYPE 2




## CONCRETE MEDIAN SLOPED NOSE TYPE 1




CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/8/2006 — DATE

/S/ Jerry H. Zogg — ROADWAY STANDARDS D ENGINEER

FHWA

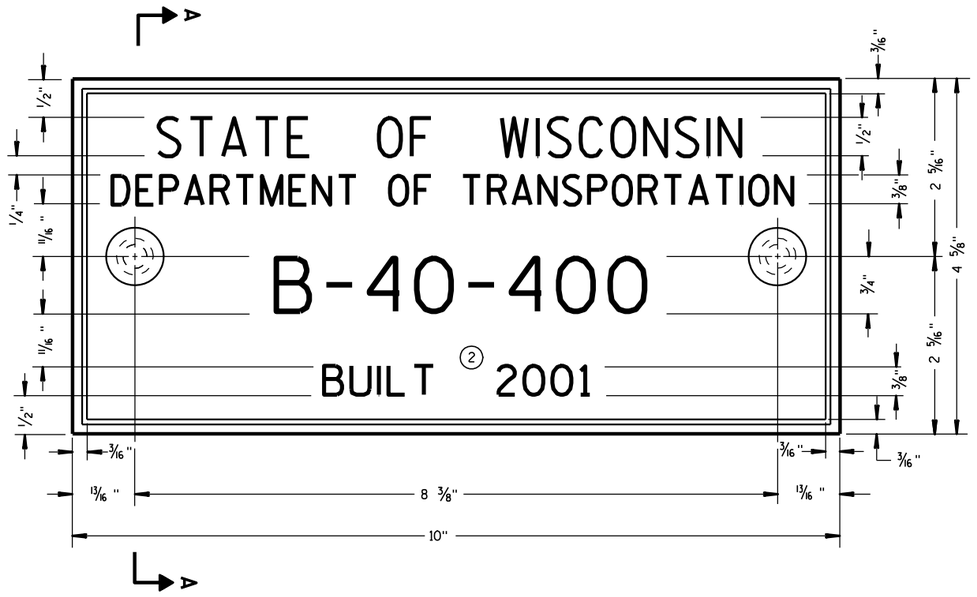


6

S.D.D. 11 B 2-2

6

S.D.D. 11 B 2-2




## TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

## NUMBERING DESIGNATION MULTI-UNIT STRUCTURES

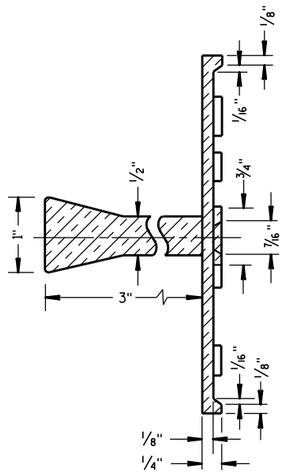
## GENERAL NOTES

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

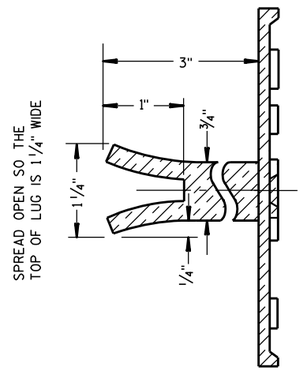
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

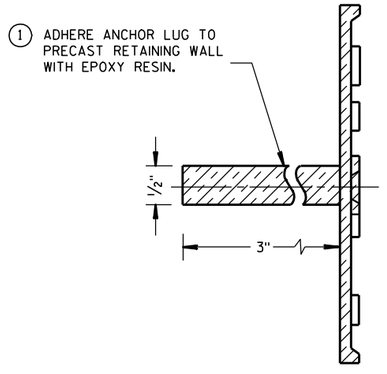
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.




SECTION A-A




ALTERNATE LUG




## ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

## NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE

/S/ Scot Beck -- CHIEF STRUCTURAL DEVELOP ENGINEER

FHWA

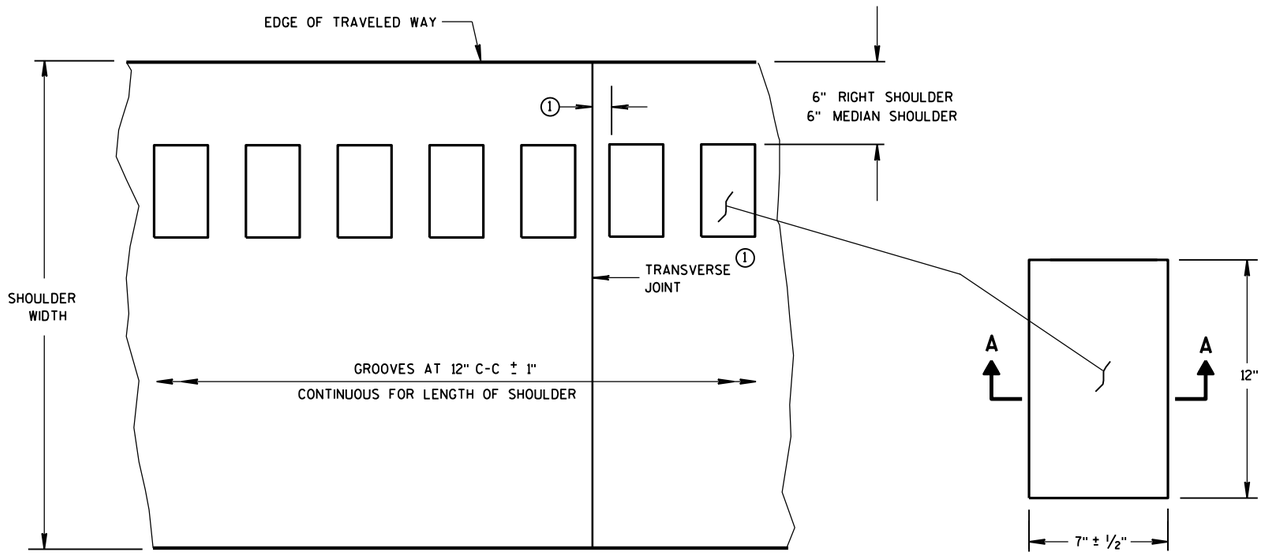


6

S.D.D. 12 A 3-10

6

S.D.D. 12 A 3-10




PLAN VIEW
SHOULDER WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

## PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

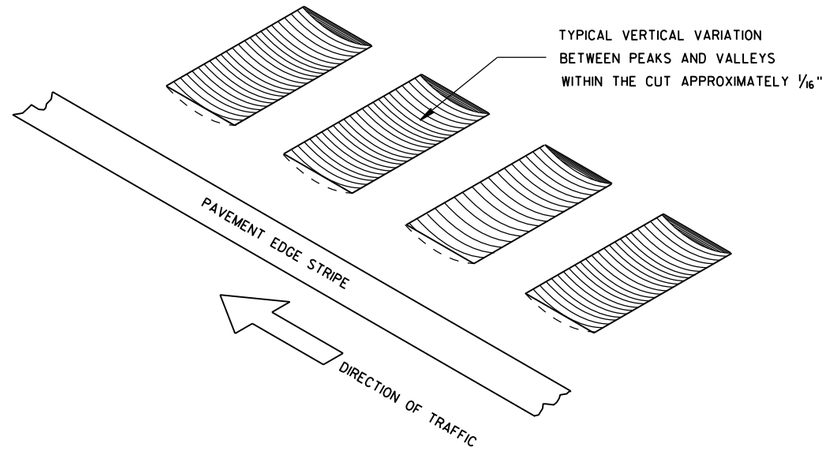
## GENERAL NOTES

DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

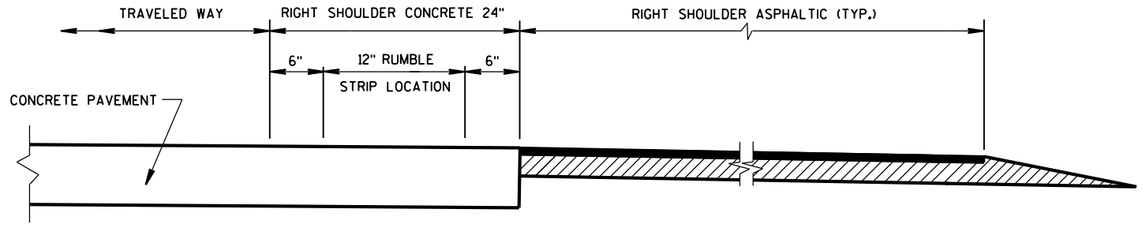
RUMBLE STRIPS ON EXPRESSWAYS

DO NOT INSTALL RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL DRIVEWAYS, PRIVATE DRIVEWAYS OR ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, BRIDGE DECKS, BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSING. THE ATTACHED STANDARD DETAIL DRAWING SHOWS THE LOCATION OF THE RUMBLE STRIPS AT INTERCHANGE AREAS.

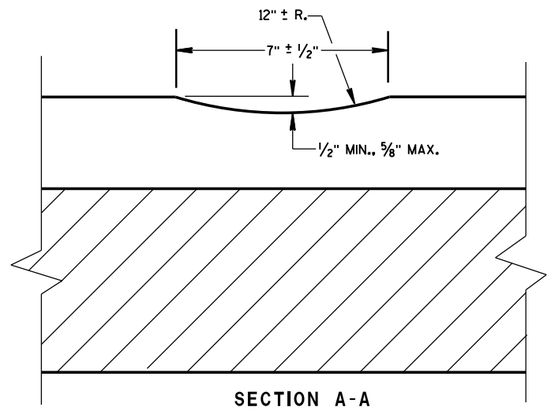
(1) CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.



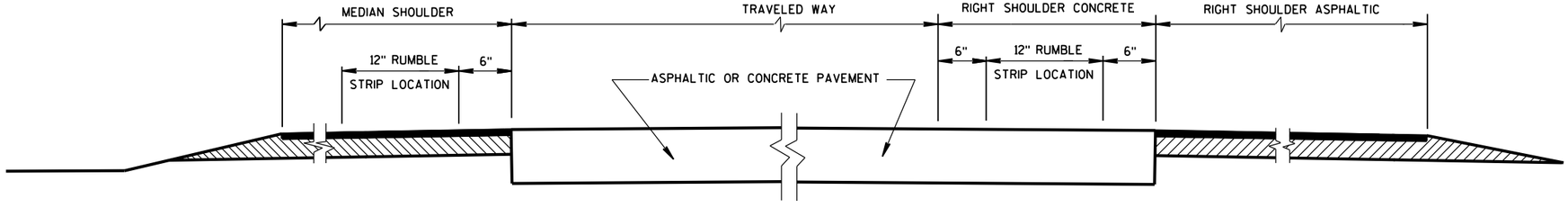

ISOMETRIC




SECTION VIEW
CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)




SECTION A-A




SECTION VIEW

## TYPICAL LOCATIONS OF SHOULDER RUMBLE STRIPS IN RURAL DIVIDED HIGHWAYS

(ONE ROADWAY IS SHOWN)

SHOULDER RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

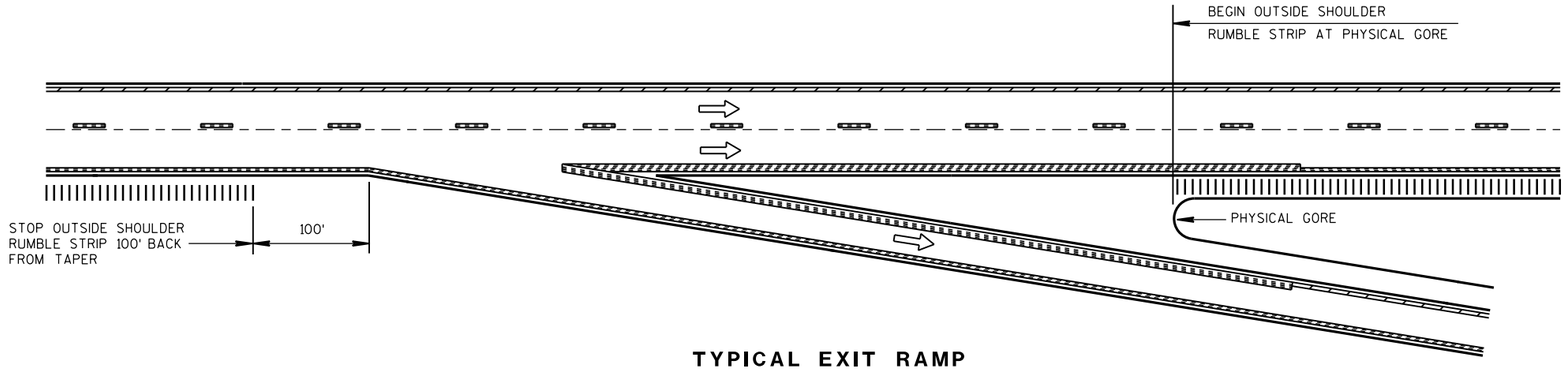


6

S.D.D. 13 A 5-5a

6

S.D.D. 13 A 5-5a



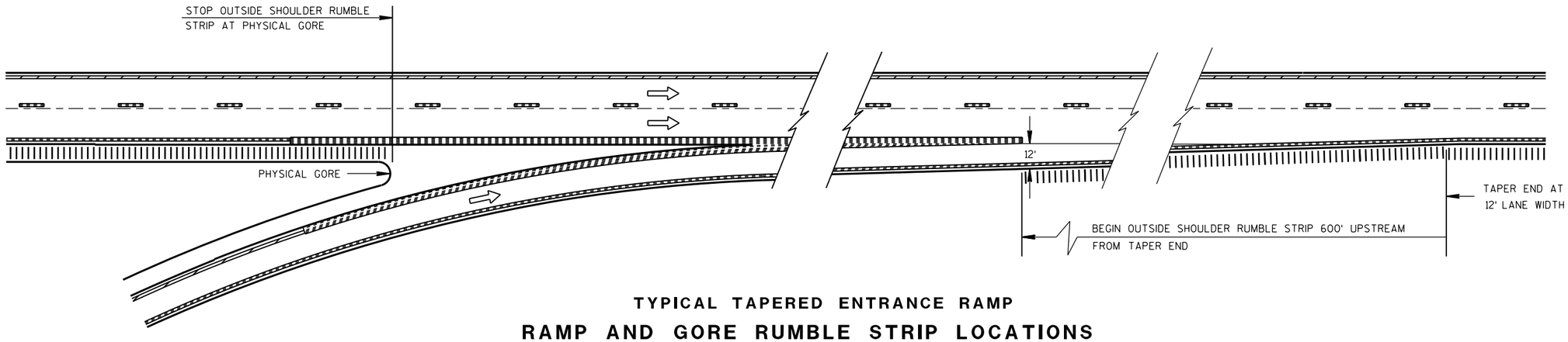

**TYPICAL EXIT RAMP**

## NOTES:

NO RUMBLE STRIP ON EXIT, DIRECTIONAL, OR ENTRANCE RAMPS, EXCEPT NEAR THE ENTRANCE TAPER END AND ALONG THE PARALLEL RAMP AREA AS SHOWN.

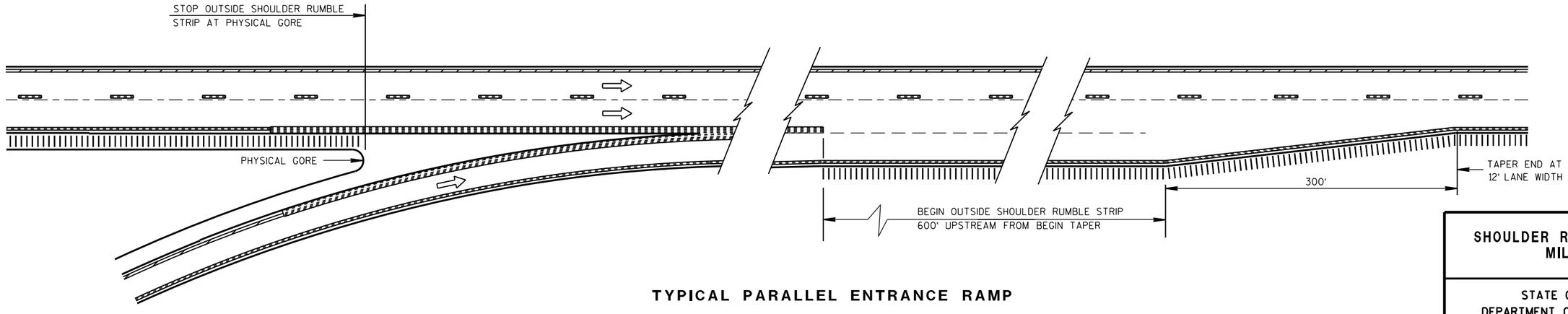
PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

NOTE:
ARROW SYMBOL ( ⇨ )
SHOWS DIRECTION OF TRAVEL




**TYPICAL TAPERED ENTRANCE RAMP**

## RAMP AND GORE RUMBLE STRIP LOCATIONS




**TYPICAL PARALLEL ENTRANCE RAMP**

## RAMP AND GORE RUMBLE STRIP LOCATIONS

**SHOULDER RUMBLE STRIP, MILLING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12/17/2012
DATE

/S/ Jerry H. Zoga
ROADWAY STANDARDS ENGINEER

FHWA

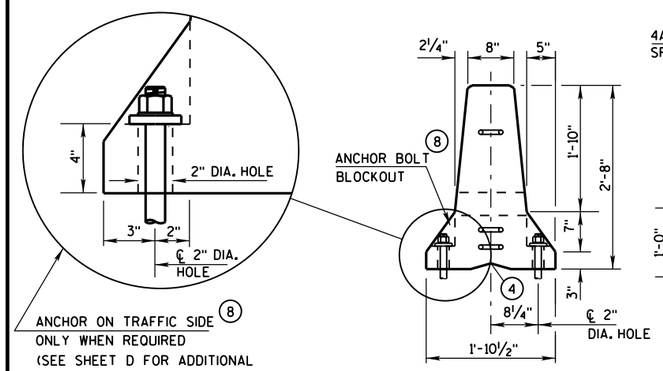


6

S.D.D. 13 A 5-5b

6

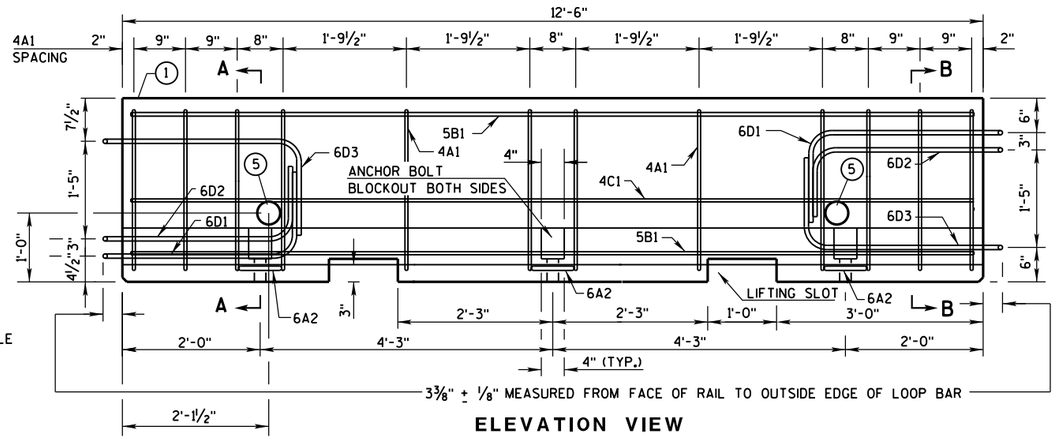
S.D.D. 13 A 5-5b



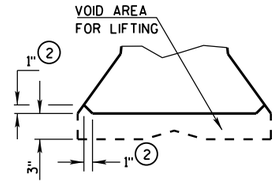




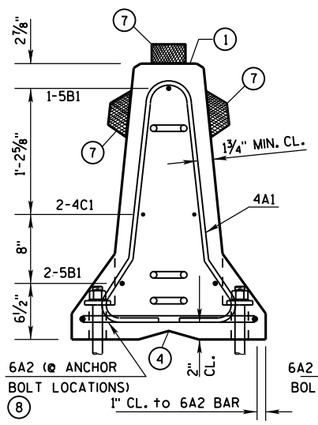
END VIEW



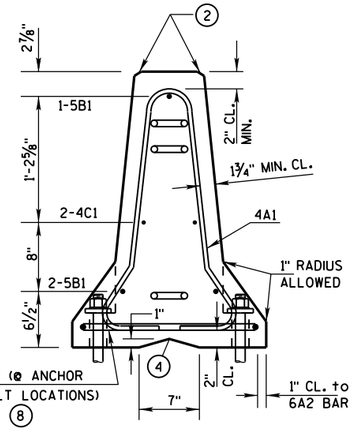

ELEVATION VIEW



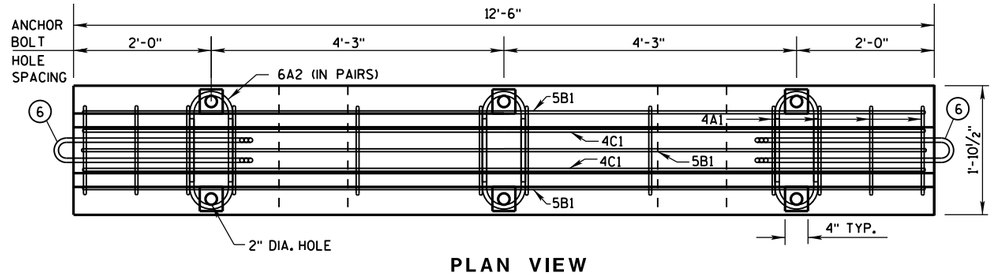

DETAIL "B"
LIFTING SLOT DETAIL




SECTION A-A
(STIRRUP PLACEMENT)

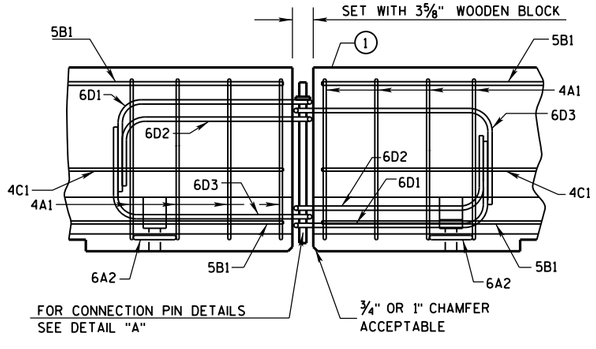



SECTION B-B
(STIRRUP PLACEMENT)

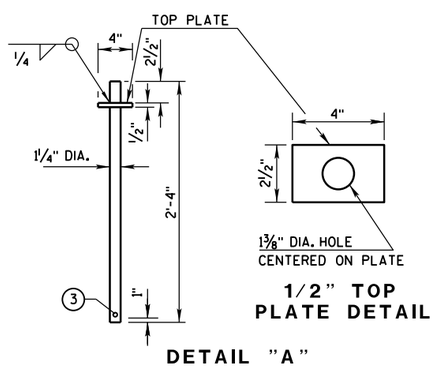



PLAN VIEW

## DETAILS OF BARRIER SECTION

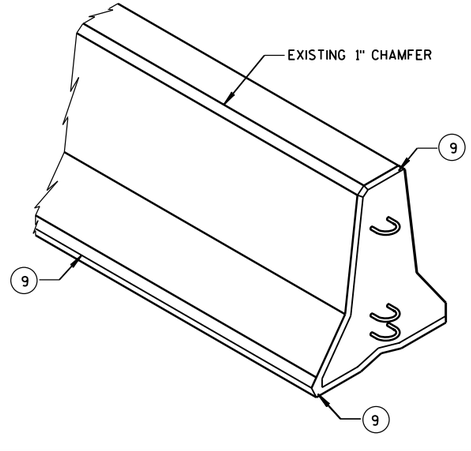



## DETAILS OF BARRIER CONNECTION




1/2" TOP
PLATE DETAIL

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




## GENERAL NOTES

THESE GENERAL NOTES APPLY TO SHEETS 14B7-14(a) 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 ¾" 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 3-½" PIN BEND DIAMETER FOR BEND TESTS. THE LOOPS SHALL BE INSTALLED WITHIN ⅛" 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: WI CBTP
- b. MANUFACTURER
- c. DATE MANUFACTURED (MONTH AND YEAR)

(2) 1" CHAMFER TO PREVENT SPALLING.

(3) A ⅜" 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.

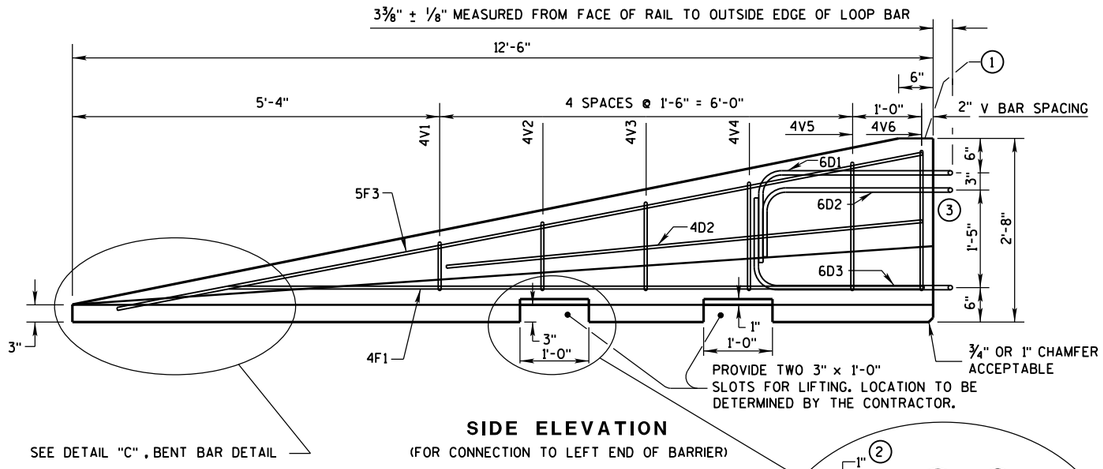
**CONCRETE BARRIER TEMPORARY PRECAST, 12'-6"**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

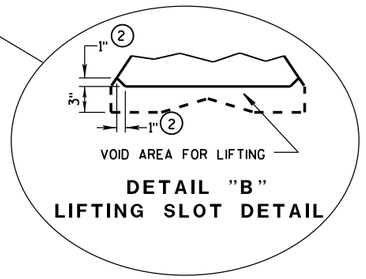



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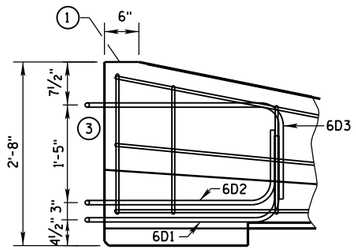
S.D.D. 14 B 7-14a




**SIDE ELEVATION**
(FOR CONNECTION TO LEFT END OF BARRIER)



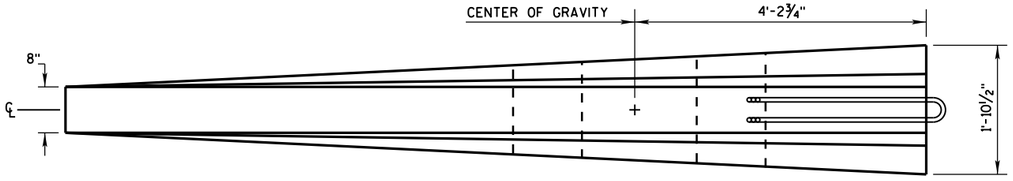

**DETAIL "B"**
**LIFTING SLOT DETAIL**



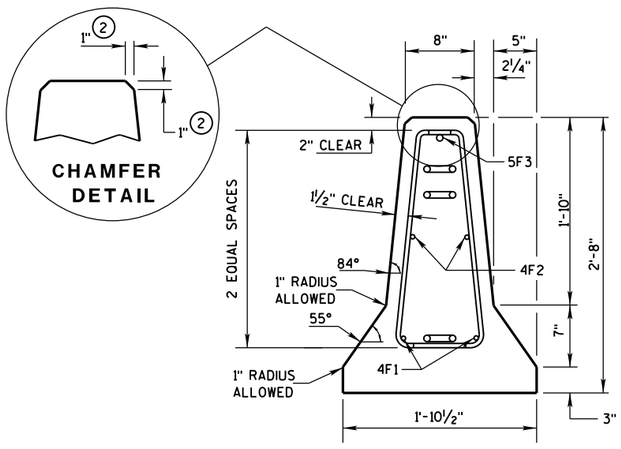

**SIDE ELEVATION**
LOOP BAR ASSEMBLY INVERTED
FOR OPPOSITE END.
(FOR CONNECTION TO RIGHT END OF BARRIER)

## GENERAL NOTES

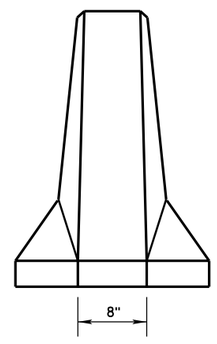
1. MARK ONE END OF EACH BARRIER PERMANENTLY BY FORMING INTO THE BARRIER THE FOLLOWING INFORMATION:
   a. TYPE WICBTP
   b. MANUFACTURER
   c. DATE MANUFACTURED (MONTH AND YEAR)
2. 1" CHAMFER TO PREVENT SPALLING.
3. NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.



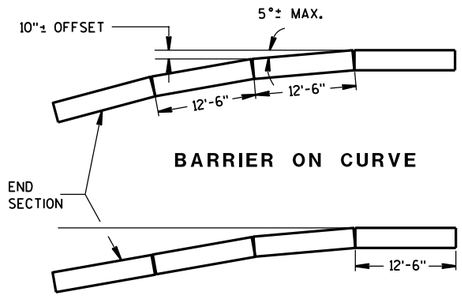

**PLAN VIEW**




**END SECTION**




**FRONT ELEVATION**




**BARRIER ON CURVE**

**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 TRANSPOI

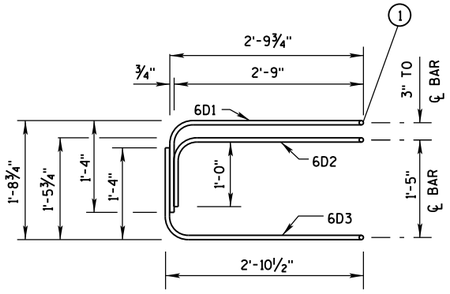



6
S.D.D. 14 B 7-14b

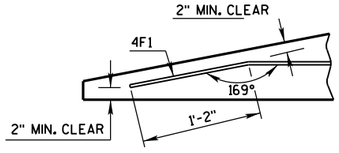
## BARRIER TAPER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER TAPER SECTION)

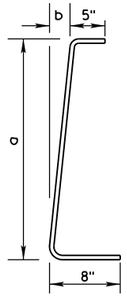
| BAR | BAR SIZE | NO. OF BARS | LENGTH FT. |
|---|---|---|---|
| 4V1 | 4 | 2 | 1'-11" |
| 4V2 | 4 | 2 | 2'-2" |
| 4V3 | 4 | 2 | 2'-6" |
| 4V4 | 4 | 2 | 2'-9" |
| 4V5 | 4 | 2 | 3'-2" |
| 4V6 | 4 | 2 | 3'-4" |
| 4F1 | 4 | 2 | 12'-0" |
| 4F2 | 4 | 2 | 7'-6" |
| 5F3 | 5 | 1 | 11'-9" |
| **LOOP ASSEMBLY**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




ELEVATION
LOOP BAR ASSEMBLY




DETAIL "C"
BENT BAR DETAIL




| BAR | a | b |
|---|---|---|
| V1 | 10" | 1" |
| V2 | 1'-1" | 1¼" |
| V3 | 1'-5" | 1⅝" |
| V4 | 1'-8" | 1⅞" |
| V5 | 2'-0½" | 2⅜" |
| V6 | 2'-3" | 2¾" |

4V BARS
2 AT EACH SIZE REQUIRED
FOR STIRRUP ASSEMBLY

TAPER BARRIER SECTION

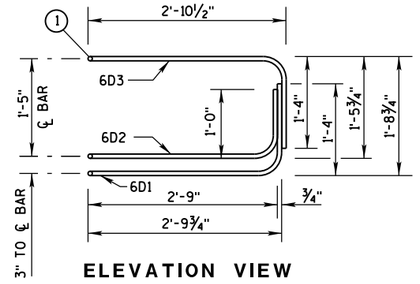
## GENERAL NOTES

(1) NEVER USE LOOP BARS (6D1, 6D2 OR 6D3) TO LIFT, MOVE OR REPOSITION THE BARRIER.

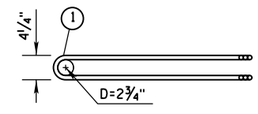
## BARRIER SECTION BILL OF MATERIALS

(PER 12'-6" BARRIER SECTION)

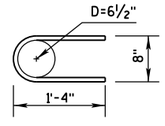
| BAR | BAR SIZE | NO. OF BARS | LENGTH FT. |
|---|---|---|---|
| 4A1 | 4 | 12 | 6'-0" |
| 6A2 | 6 | 6 | 2'-11" |
| 5B1 | 5 | 3 | 12'-2" |
| 4C1 | 4 | 2 | 12'-2" |
| **LOOP ASSEMBLY** | | | |
| 6D1 | 6 | 2 | 8'-5" |
| 6D2 | 6 | 2 | 7'-7" |
| 6D3 | 6 | 2 | 8'-6" |



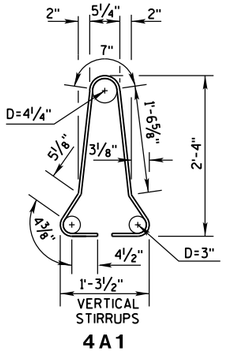

ELEVATION VIEW




PLAN VIEW
LOOP BAR ASSEMBLY
(MARKED END SHOWN, INVERT FOR OTHER END)




6A2




4A1

BARRIER SECTION

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

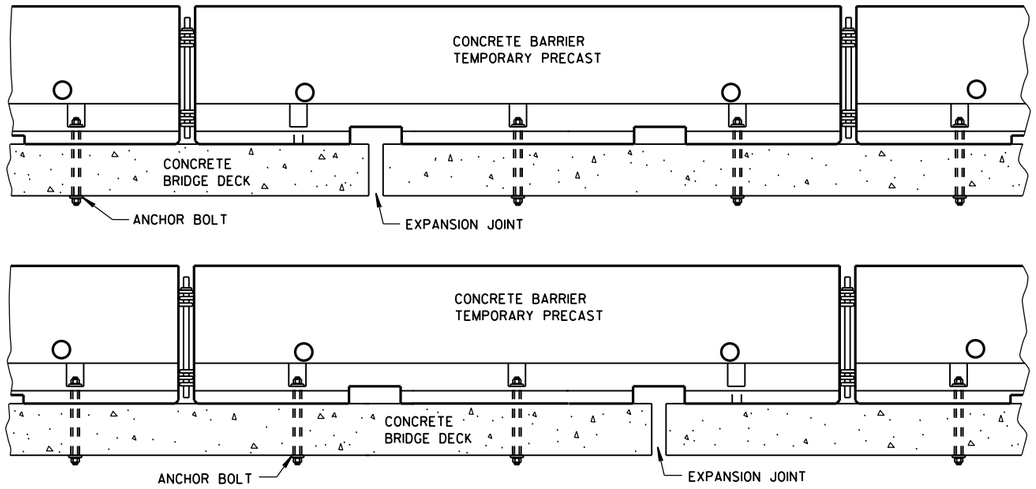






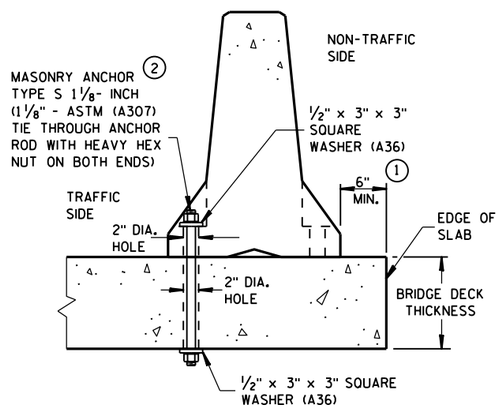
6

S.D.D. 14 B 7-14c



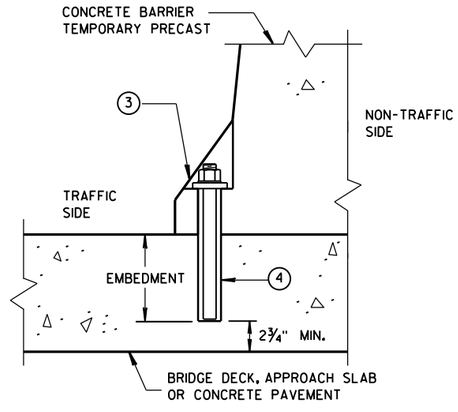

## TREATMENT AT BRIDGE DECK EXPANSION JOINTS

(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 NOTUSE ON CONCRETE BRIDGE DECK WITH ASPHALT OVERLAY)




## REMOVABLE ADHESIVE BONDED ANCHOR INSTALLATION ON CONCRETE BRIDGE DECK, CONCRETE APPROACH SLAB, OR CONCRETE PAVEMENT ②

(DO NOT USE ON CONCRETE WITH AN ASPHALTIC OVERLAY)

## 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.

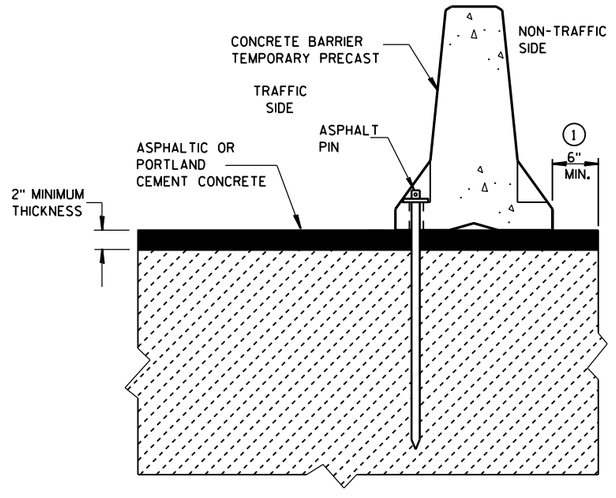
② ANCHORING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST.

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 1⅛-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 CONCRETE PAVEMENTS THAT ARE TO REMAIN, WITH A NON-SHRINK COMMERICAL GROUT OR MATERIAL IDENTIFIED ON THE CURRENT WISDOT APPROVED PRODUCTS LIST.

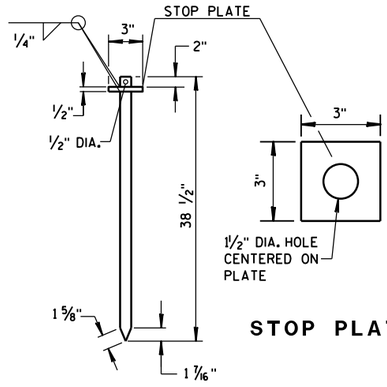
③ 1⅛" DIAMENTER A307 THREADED ROD, ½" X 3" X 3" SQUARE PLATE WASHER WITH ASTM A36 STEEL, ASTM A563A HEAVY HEX NUT.

④ ADHESIVE ANCHORS WITH A MINIMUM BOND STRENGTH OF 1,800 PSI AND 5¼" EMBEDMENT. SEE 603.2 AND 603.3.1.2 OF THE WISCONSIN STANDARD SPECIFICATIONS FOR MORE INFORMATION ON ADHESIVE ANCHORS.




## STAKE DOWN INSTALLATION FOR ASPHALTIC OR PORTLAND CEMENT CONCRETE SURFACE

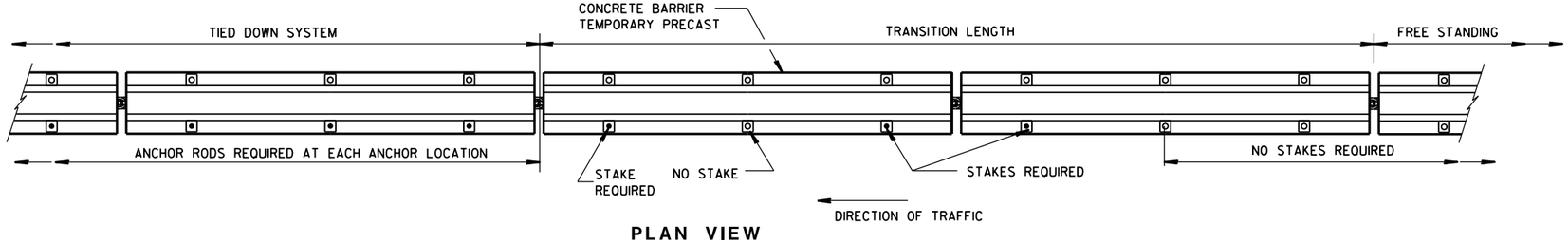
(STAKING IS INCIDENTAL TO CONCRETE BARRIER TEMPORARY PRECAST)




### STOP PLATE

### 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.)

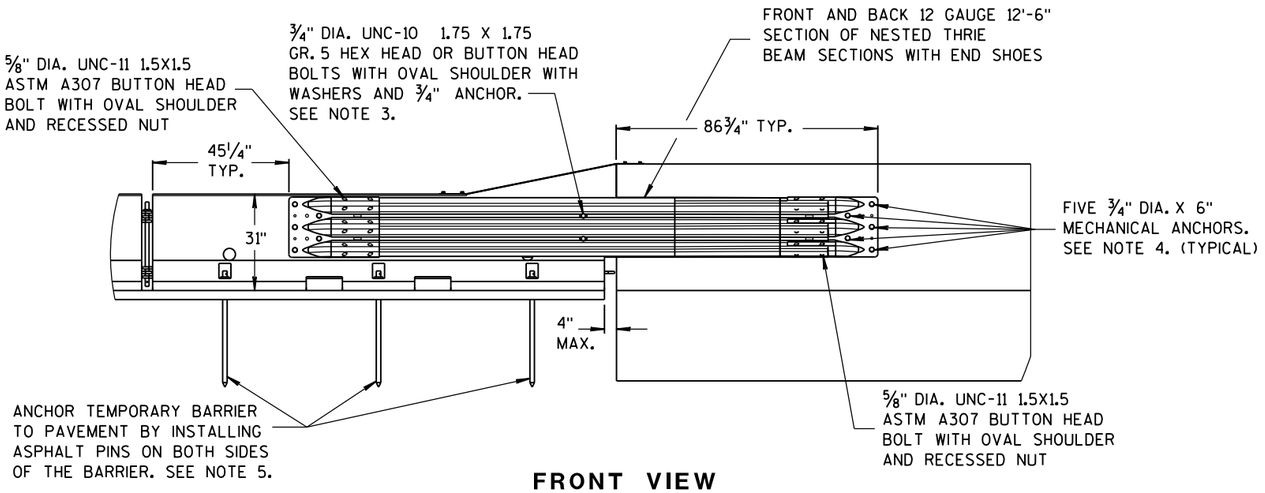
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

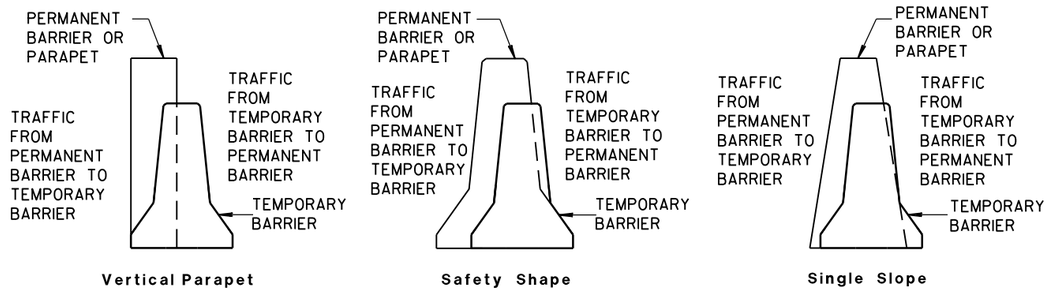



6

S.D.D. 14 B 7-14d




**FRONT VIEW**




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

## NOTES

NESTED THRIE BEAM IS REQUIRED ON BOTH SIDES OF THE TEMPORARY BARRIER FOR ALL INSTALLATIONS.

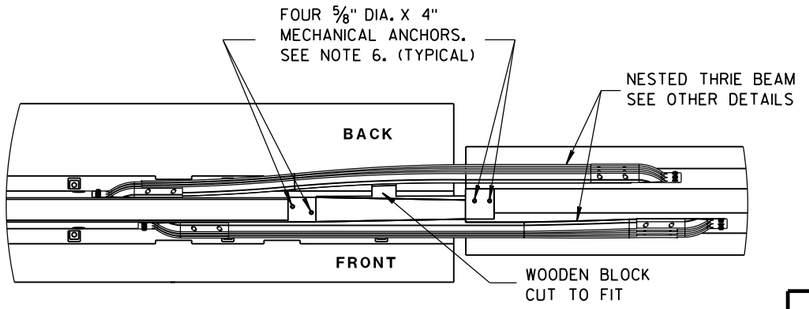
1. CAP END PLATE PLACED FLUSH WITH UPSTREAM END OF PERMANENT BARRIER OR PARAPET.
2. THRIE BEAM PIECES ARE OFFSET 15 1/4" TO PREVENT INTERFERENCE FROM THE ANCHORS ON OPPOSING SIDES.
3. MINIMUM MECHANICAL OR ADHESIVE ANCHOR STRENGTH REQUIREMENTS: ULTIMATE TENSILE LOAD 9.48 KIPS AND ULTIMATE SHEAR LOAD 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.




**BACK VIEW**




**FRONT VIEW**




**PLAN VIEW**

**BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM**

CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO





6
S.D.D. 14 B 7-14e

GUSSET 1




GUSSET 2

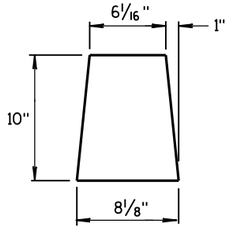



GUSSET 3

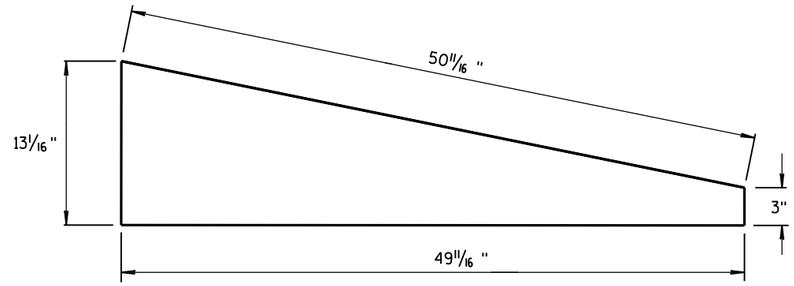



GUSSET 4

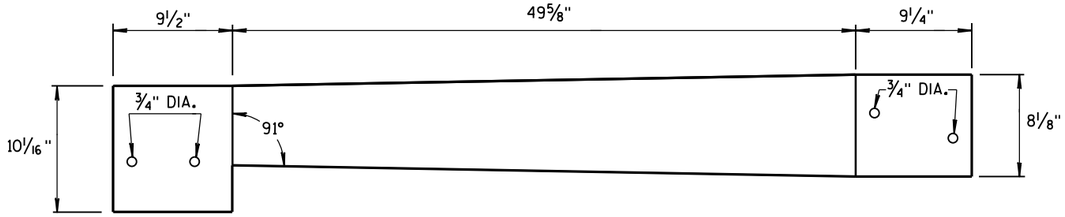
GUSSETS

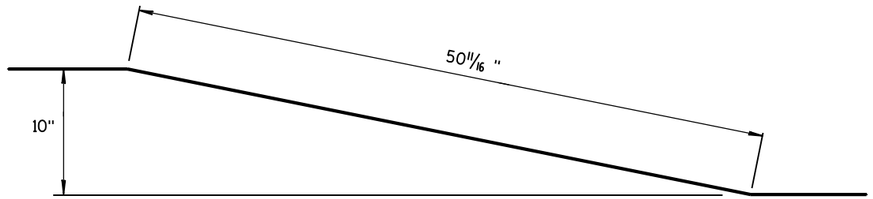



END PLATE

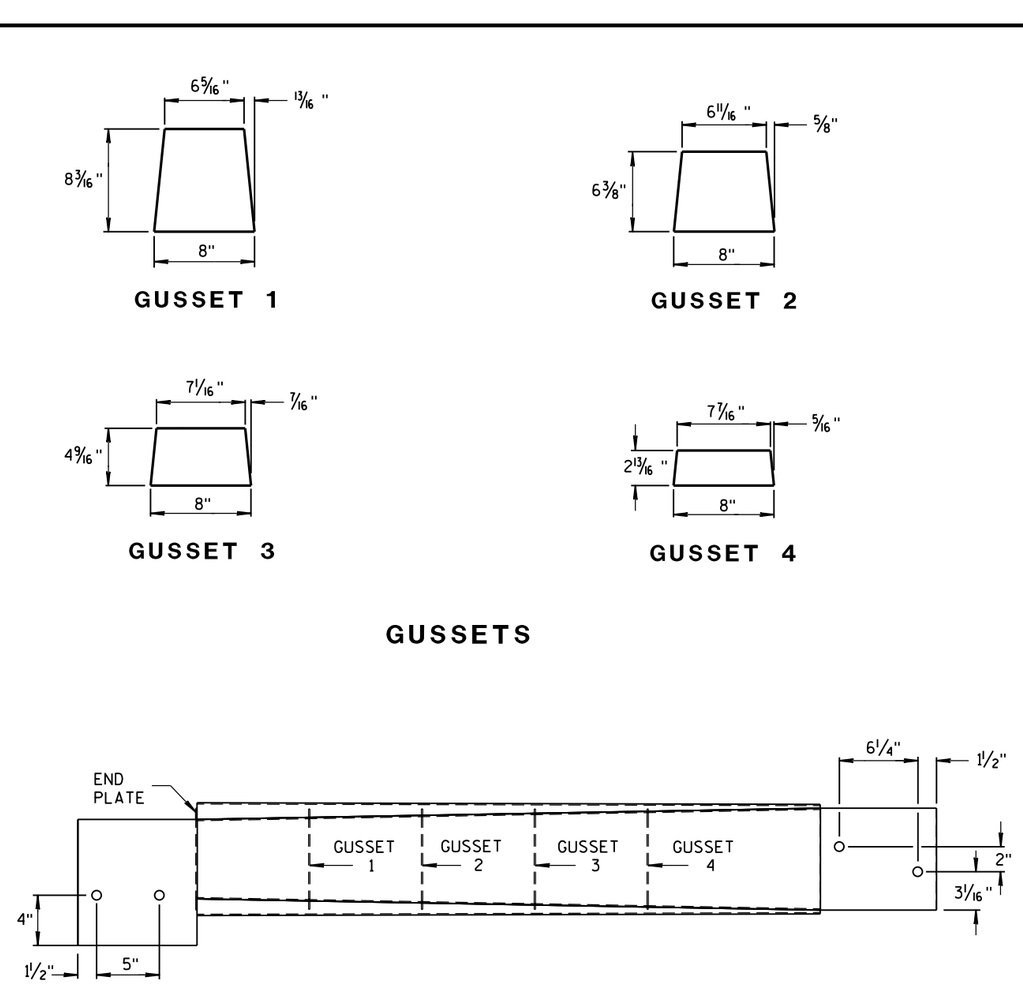


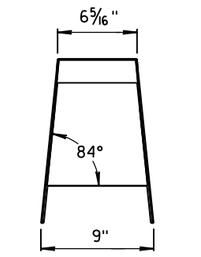

SIDE PLATE




TOP PLATE




SECTION C-C

## 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.

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

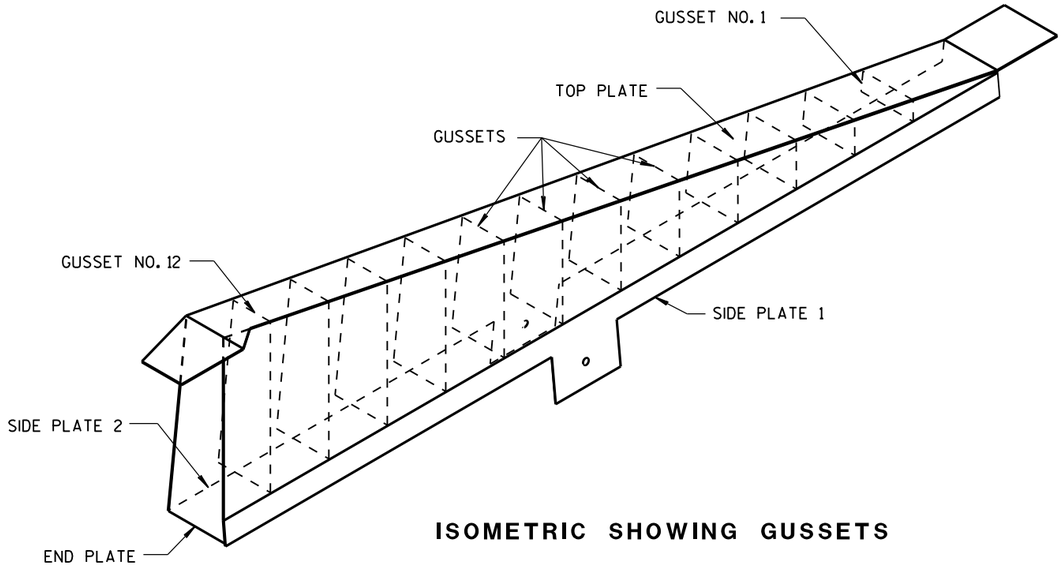
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

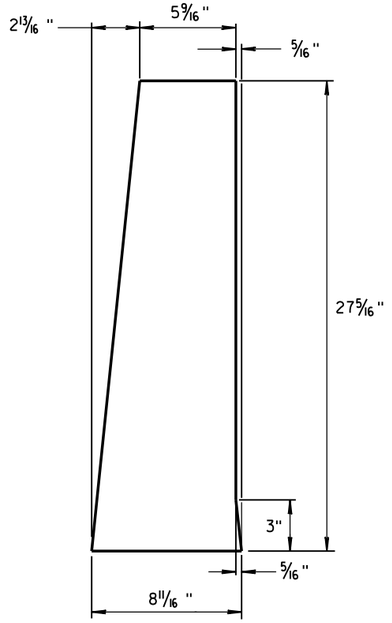



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S.D.D. 14 B 7-14f

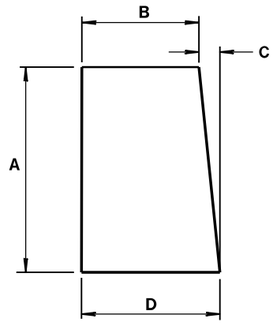



**ISOMETRIC SHOWING GUSSETS**




**END PLATE**

1/8" STEEL PLATE



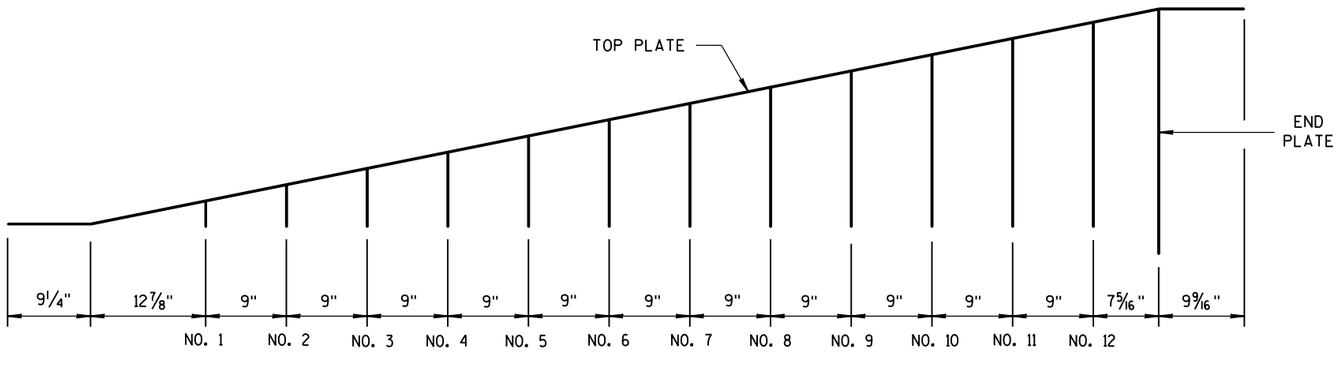

**GUSSETS 1 - 12**

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 11/16 " | 7 9/16 " | 1/2" | 8 |
| 3 | 6 1/2" | 7 3/8" | 11/16 " | 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 15/16 " | 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

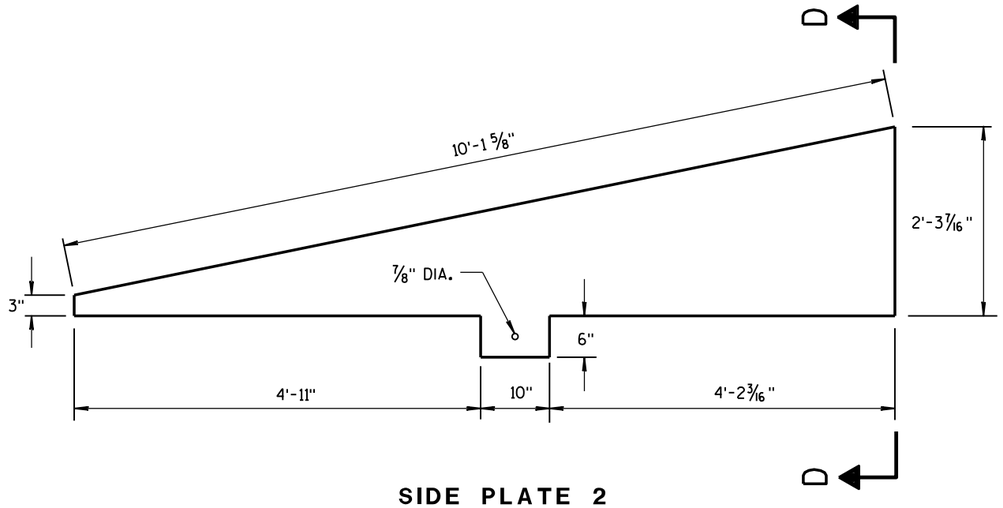
CONCRETE BARRIER
TEMPORARY PRECAST, 12'-6"

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

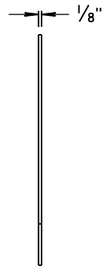



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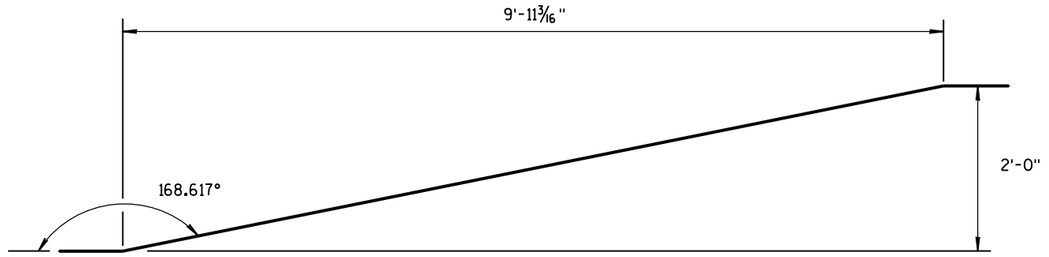

S.D.D. 14 B 7-14g




SIDE PLATE 2

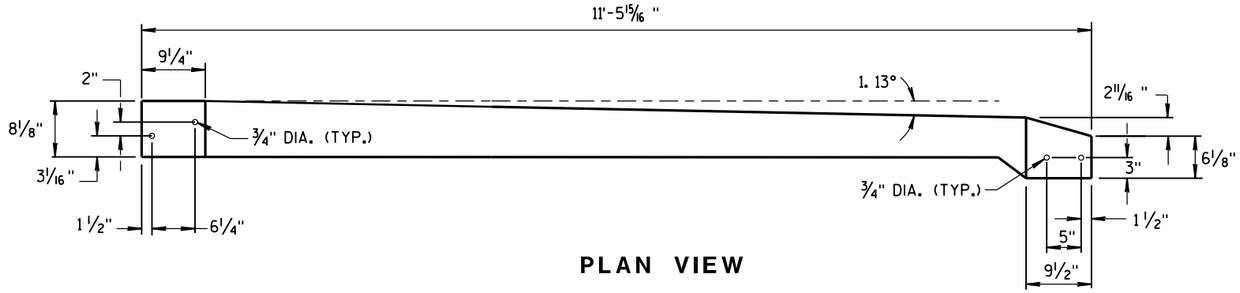



END VIEW



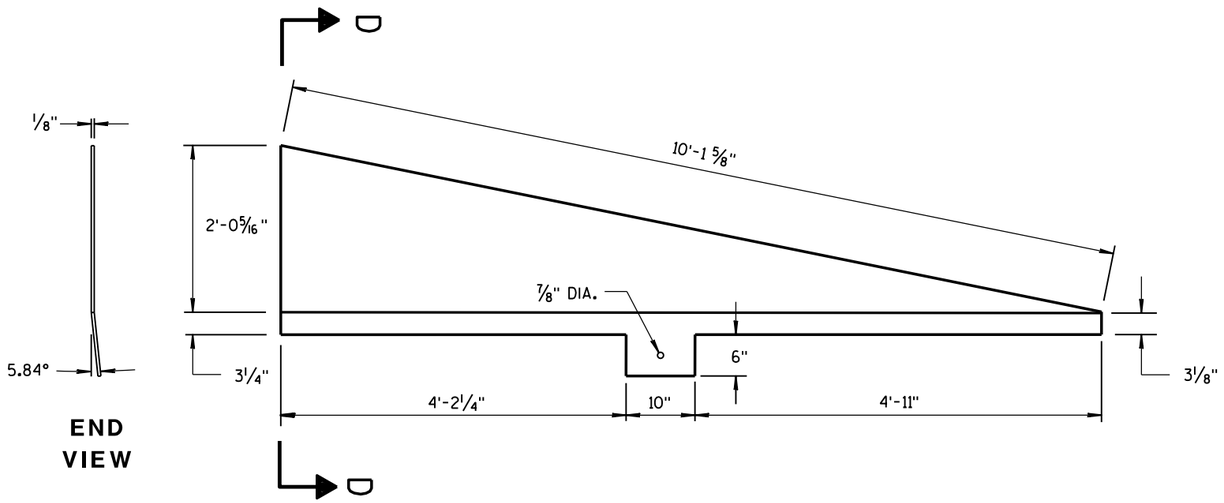

SIDE VIEW

TOP PLATE



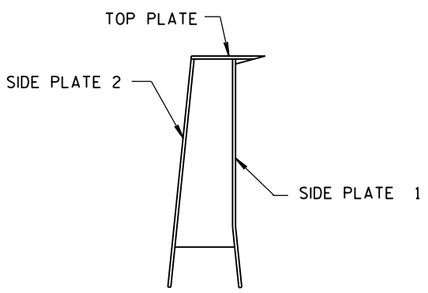

PLAN VIEW

TOP PLATE




END VIEW

SIDE PLATE 1




SECTION D-D

## 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. Zoda — ROADWAY STANDARD DEVELOPMENT ENGINEER
FHWA

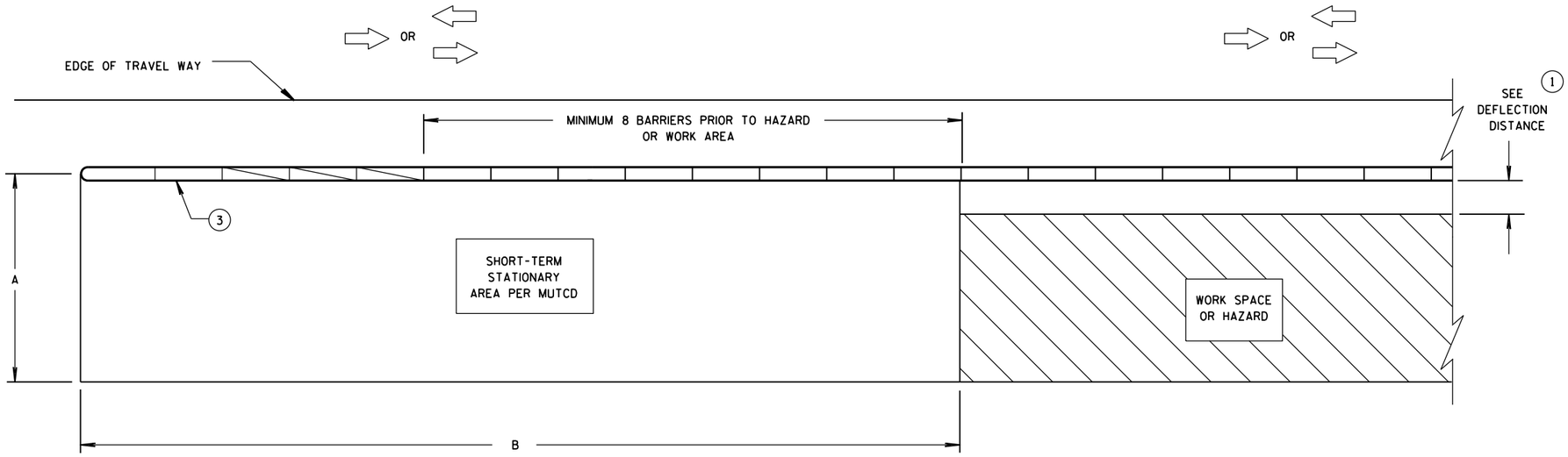


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S.D.D. 14 B 7-14h

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S.D.D. 14 B 7-14h



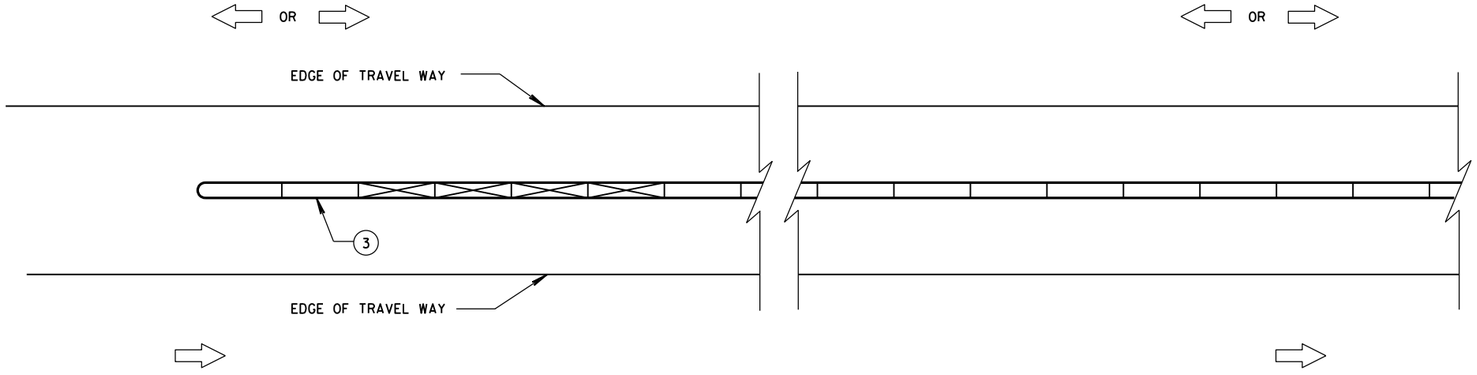

## CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE OF BARRIER

### DIMENSION A TABLE (2)

| FACILITY | POSTED SPEED MPH | DIMENSION A | |
|---|---|---|---|
| | | MIN. FT | MAX. FT |
| FREEWAY/EXPRESSWAY | ALL | 15 | 20 |
| NON-FREEWAY/EXPRESSWAY | GREATER THAN OR EQUAL TO 45 | 10 | 15 |
| NON-FREEWAY/EXPRESSWAY | LESS THAN 45 | 8 | 10 |
| AADT LESS THAN 1,500 | ALL | 8 | 10 |

### DIMENSION B TABLE (2)

| POSTED SPEEDS MPH | DIMENSION B FT |
|---|---|
| 20 | 115 |
| 25 | 155 |
| 30 | 200 |
| 35 | 250 |
| 40 | 305 |
| 45 | 360 |
| 50 | 425 |
| 55 | 495 |
| 60 | 570 |
| 65 | 645 |




## CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON BOTH SIDES OF BARRIER

### LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

## GENERAL NOTES

SEE STANDARD DETAIL DRAWING 14B7 FOR MORE INFORMATION.

DETAILS PROVIDE A GENERAL LAYOUT OF TEMPORARY CONCRETE BARRIER, CRASH CUSHIONS, SAND BARREL ARRAYS AND TIE DOWN TRANSITIONS. DETAILS PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

ADDITIONAL TEMPORARY BARRIER MAY BE REQUIRED TO PROTECT TRAVELING PUBLIC FROM HAZARDS, CONTRACTOR'S OPERATIONS OR TO CONTROL TRAFFIC.

TEMPORARY BARRIER MAY BE REQUIRED TO BE ANCHORED TO PAVEMENT OR BRIDGE DECK.

FOR DETAILS ON CRASH CUSHION OR SAND BARREL ARRAYS SEE OTHER SECTIONS OF THE PLAN AND MANUFACTURE'S DETAILS.

SLOPES LEADING TO TEMPORARY BARRIER, CRASH CUSHION OR SAND BARREL ARRAY ARE 10:1 OR LESS.

(1) FOR DEFLECTION INFORMATION SEE STANDARD DETAIL DRAWING 14B7.

(2) VALUES PROVIDED MAY NOT FIT ALL POSSIBLE SITUATIONS OR SITE CONDITIONS. SEE OTHER SECTIONS OF THE CONTRACT OR PROJECT ENGINEER FOR MORE DETAILS.

(3) ANCHOR TEMPORARY BARRIER ACCORDING TO CRASH CUSHION OR SAND BARREL MANUFACTURER'S RECOMMENDATIONS. IF MANUFACTURER'S RECOMMENDATIONS ARE NOT PROVIDED, ANCHOR 3 PINS ON TRAFFIC SIDE.

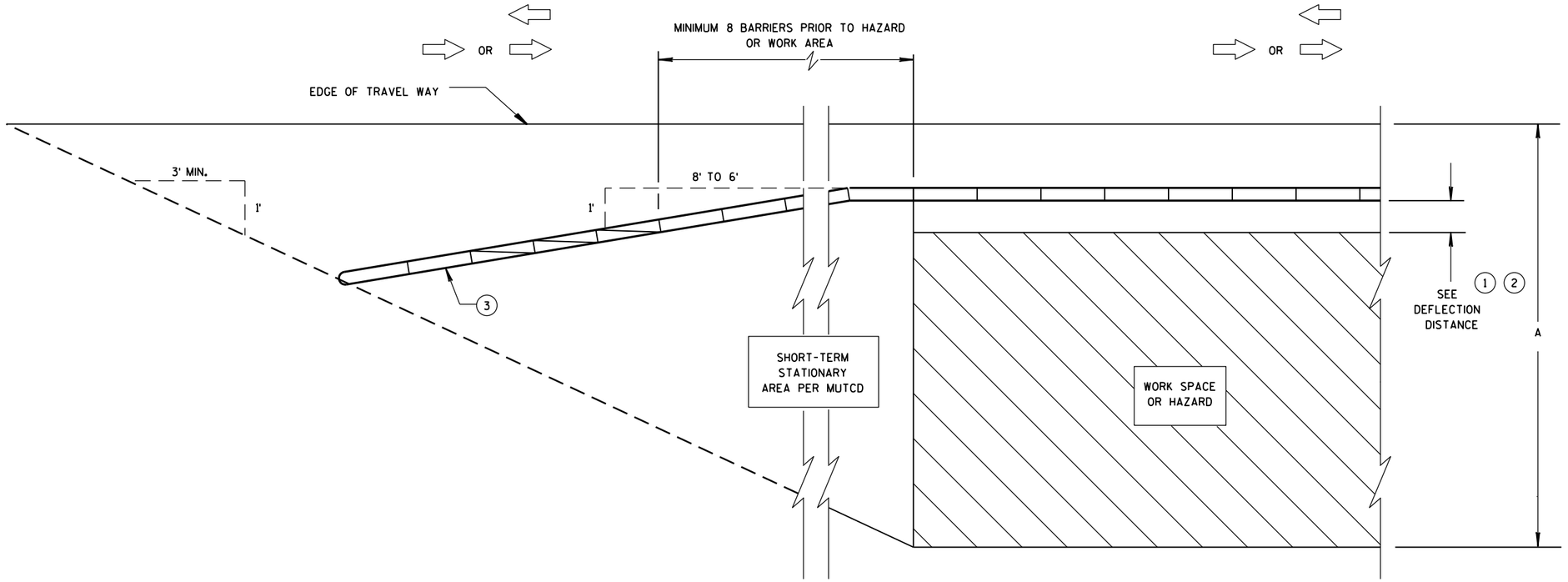
**CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

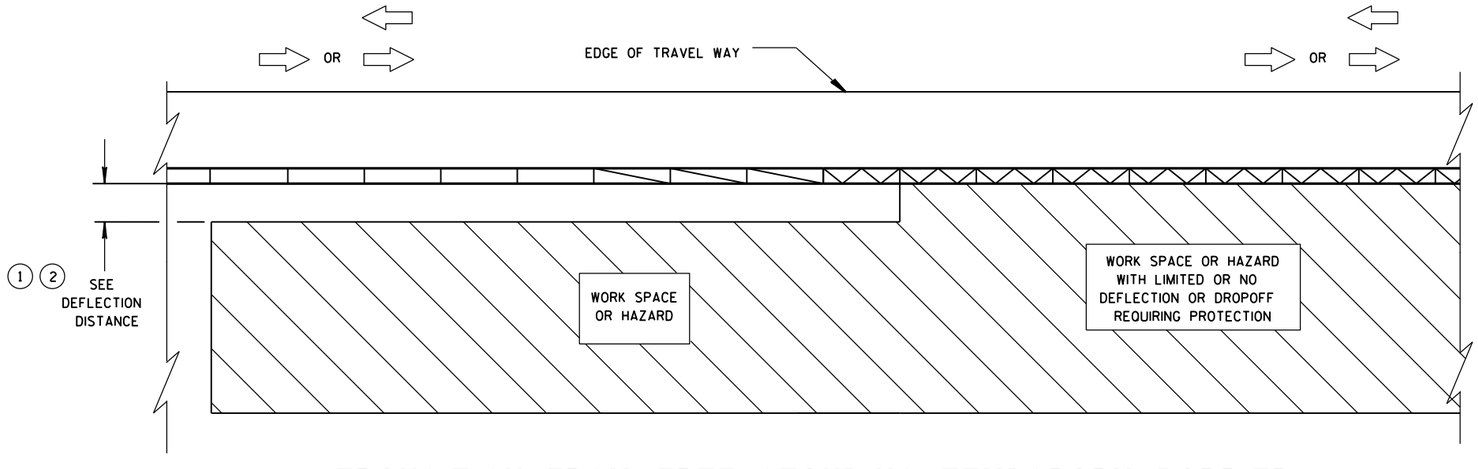



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S.D.D. 14 B 8-2a




## CRASH CUSHION/SAND BARREL ARRAY AND TEMPORARY BARRIER INSTALLATION FOR TRAFFIC ON ONE SIDE - FLARED INSTALLATION




## TRANSITION FROM FREE STANDING TEMPORARY BARRIER TO ANCHORED BARRIER

**LEGEND**

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

**CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

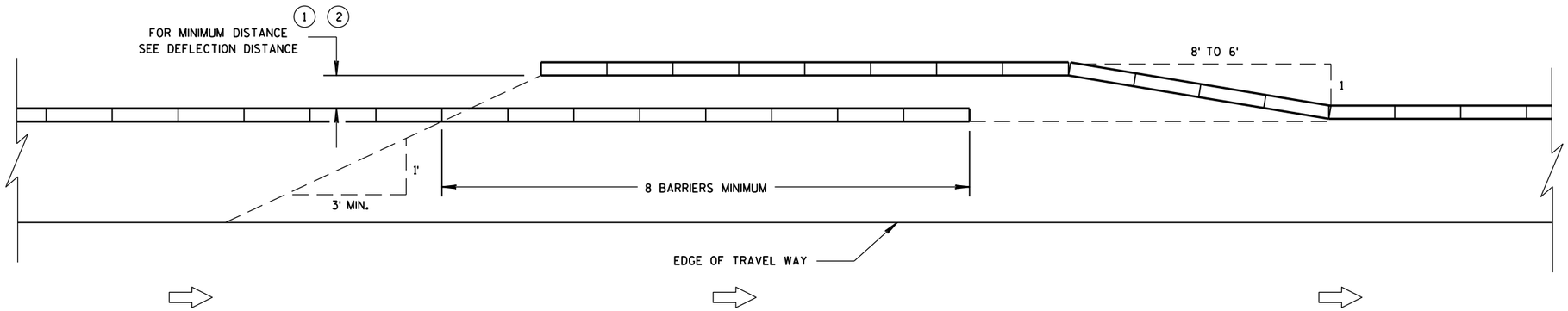


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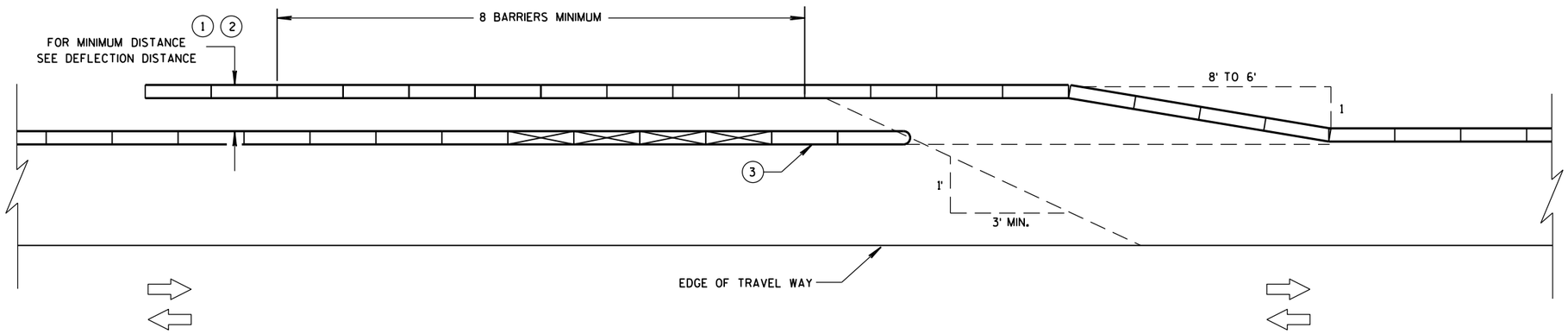
S.D.D. 14 B 8-2b

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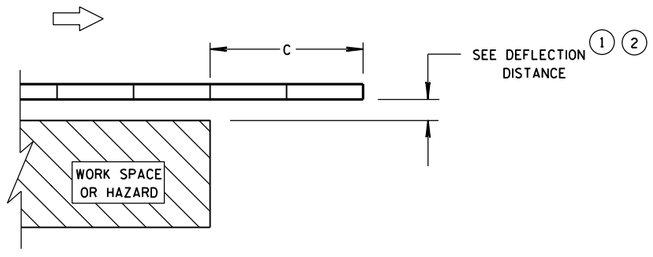
S.D.D. 14 B 8-2b



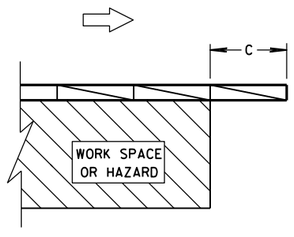

## TEMPORARY BARRIER OVERLAP - ONE-WAY TRAFFIC




## TEMPORARY BARRIER OVERLAP - TWO-WAY TRAFFIC




## ENDING TEMPORARY BARRIER DOWNSTREAM - UNANCHORED




## ENDING TEMPORARY BARRIER DOWNSTREAM - ANCHORED

### LEGEND

- DIRECTION OF TRAVEL
- CRASH CUSHION OR SAND BARREL ARRAY
- SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS
- SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS
- 3 PINS PLACED ON TRAFFIC SIDE OF BARRIER
- PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET
- FREE STANDING TEMPORARY BARRIER

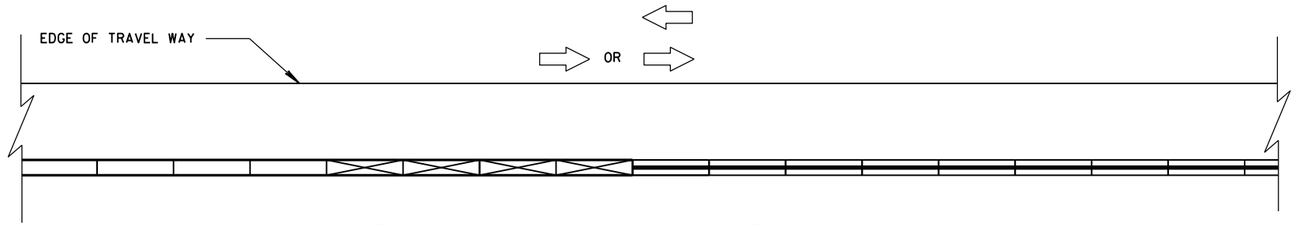
**CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

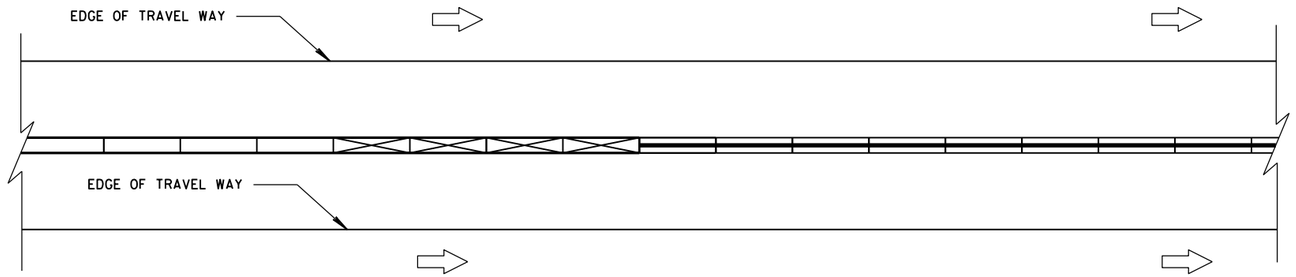



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S.D.D. 14 B 8-2c




CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON ONE SIDE




CONNECTING TEMPORARY BARRIER TO PERMANENT
CONCRETE BARRIER-TRAFFIC ON BOTH SIDES

**LEGEND**

DIRECTION OF TRAVEL

CRASH CUSHION OR
SAND BARREL ARRAY

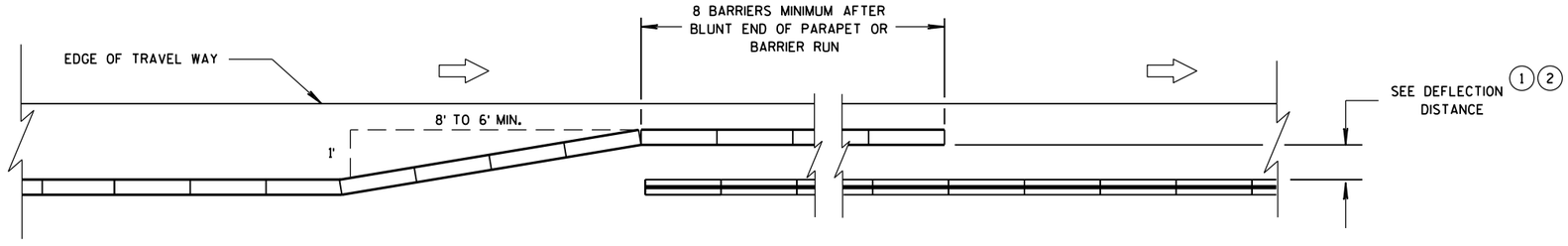
SEE FREE STANDING TRANSITION
TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION
TO TIED-DOWN SYSTEM DETAILS

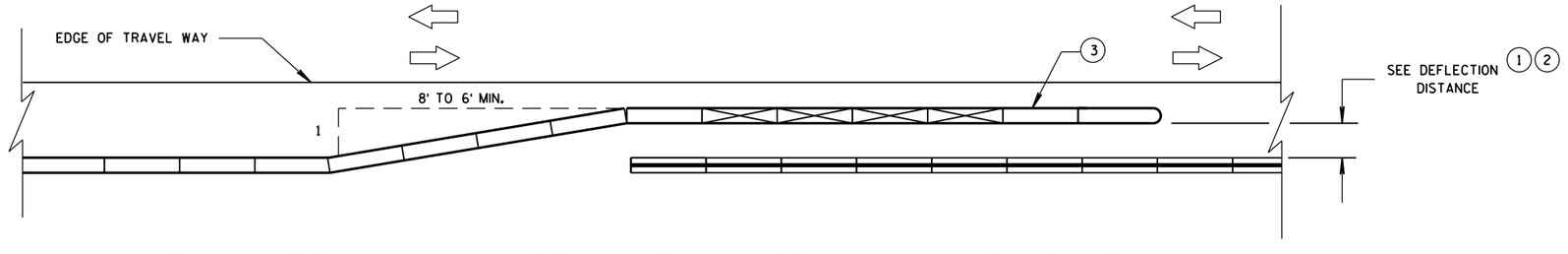
3 PINS PLACED ON
TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER
OR CONCRETE PARAPET

FREE STANDING TEMPORARY
BARRIER




OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
ONE WAY TRAFFIC




OVERLAPPING TEMPORARY BARRIER AND PERMANENT BARRIER -
TWO WAY TRAFFIC

CRASH CUSHION/SAND BARREL
ARRAY AND OTHER TEMPORARY
BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI




6

S.D.D. 14 B 8-2d

## LEGEND

DIRECTION OF TRAVEL

CRASH CUSHION OR SAND BARREL ARRAY

SEE FREE STANDING TRANSITION TO TIED-DOWN SYSTEM DETAILS

SEE BI-DIRECTIONAL TRANSITION TO TIED-DOWN SYSTEM DETAILS

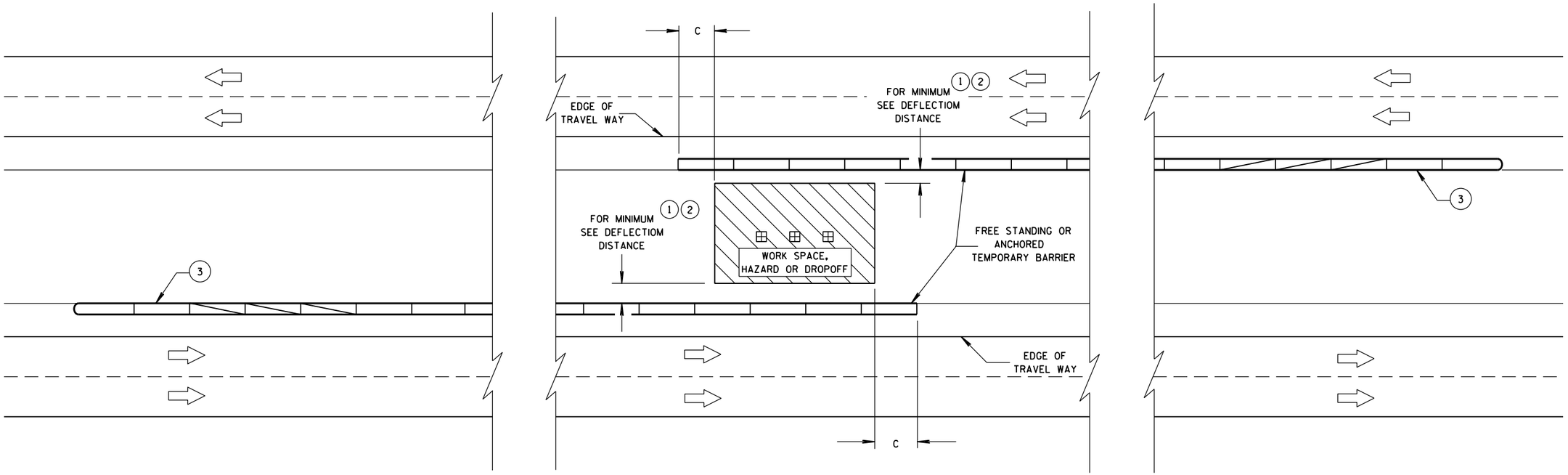
3 PINS PLACED ON TRAFFIC SIDE OF BARRIER

PERMANENT CONCRETE BARRIER OR CONCRETE PARAPET

FREE STANDING TEMPORARY BARRIER

## DIMENSION C TABLE (2)

| AVAILABLE DEFLECTION DISTANCE | MINIMUM LENGTH OF BARRIER BEYOND HAZARD FT |
|---|---|
| GREATER THAN 8' | 12.5 |
| LESS THAN OR EQUAL TO 8' BUT GREATER THAN 4' | 50 |
| LESS THAN OR EQUAL TO 4' | 100 |




CRASH CUSHION/SAND BARREL ARRAY AND OTHER TEMPORARY BARRIER LAYOUT DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINNER
FHWA



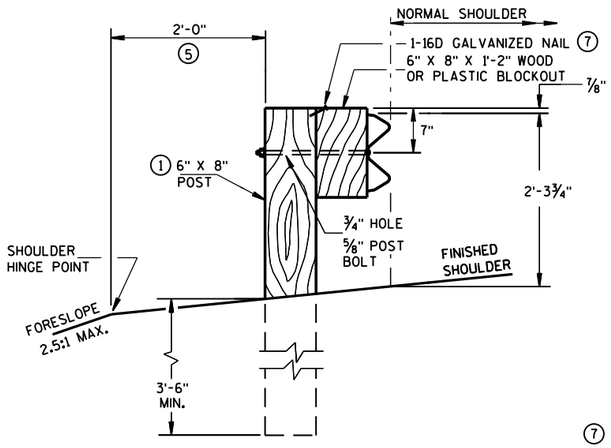

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S.D.D. 14 B 8-2e

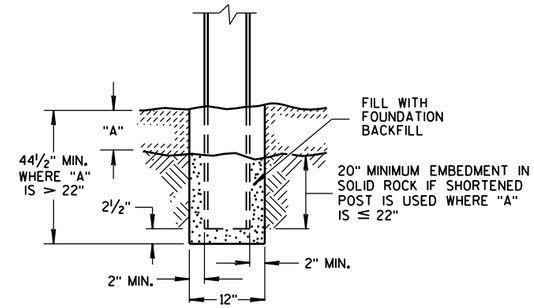
## GENERAL NOTES

1. W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS.
   DO NOT MIX STEEL POSTS AND WOOD POSTS IN A SINGLE INSTALLATION.
2. USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGED SPELTER COATING ON GALVANIZED POSTS.
3. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
4. USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.
5. IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).
6. IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCH DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE APPROXIMATELY 2½ INCHES DEEP. CUT THE POSTS TO LENGTH AND PLACE IN YHE HOLE. BACKFILL WITH MATERIAL EXCAVATED FROM THE HOLE AND COMPACT ADEQUATEY.
7. 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.

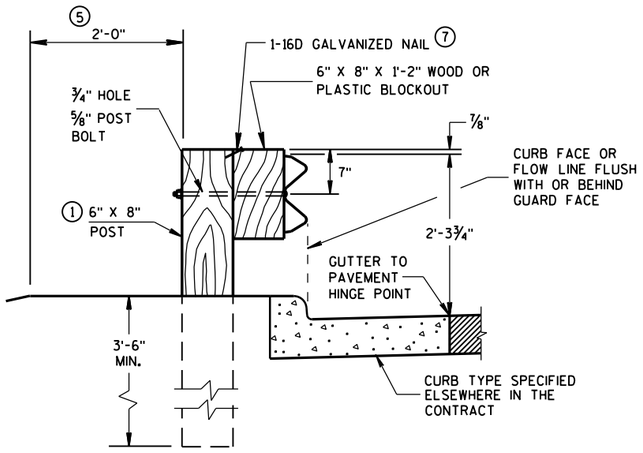
INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS.
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



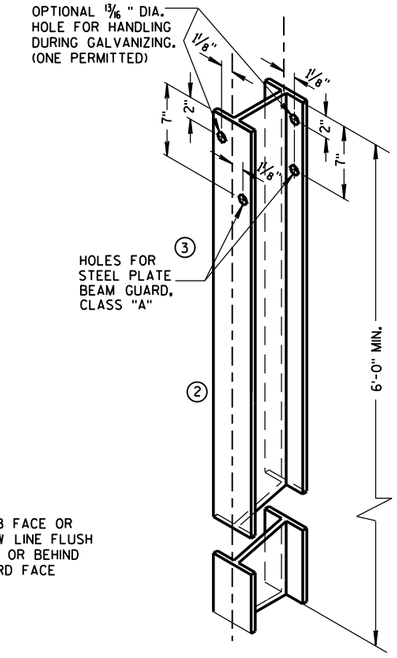

END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



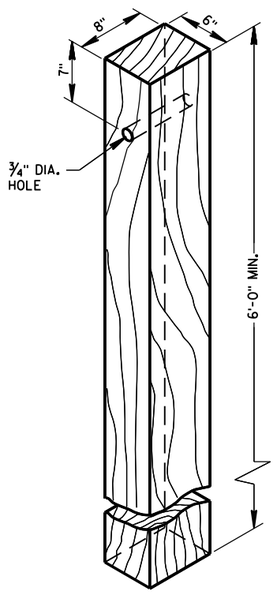

END VIEW
SETTING STEEL OR WOOD POST IN ROCK ⑥



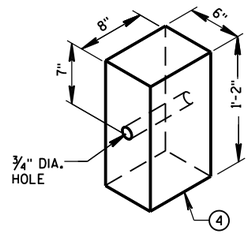

END VIEW
LOCATED ALONG A CURBED ROADWAY



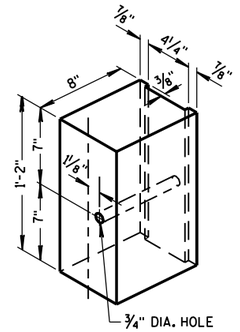

STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) ①
ALL HOLES 13/16" DIAMETER EXCEPT AS NOTED



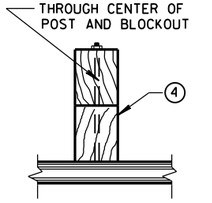

WOOD POST
(6"X8") NOMINAL



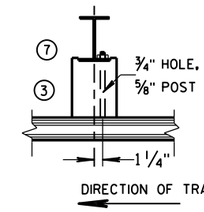

WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



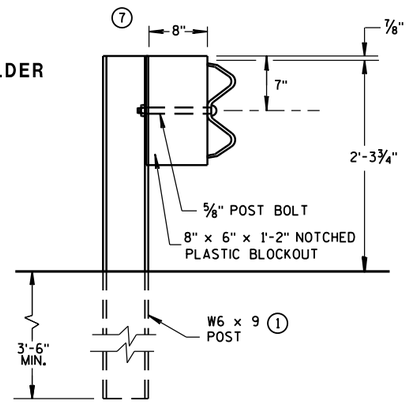

TYPICAL NOTCHED ①
PLASTIC BLOCKOUT
FOR STEEL POSTS



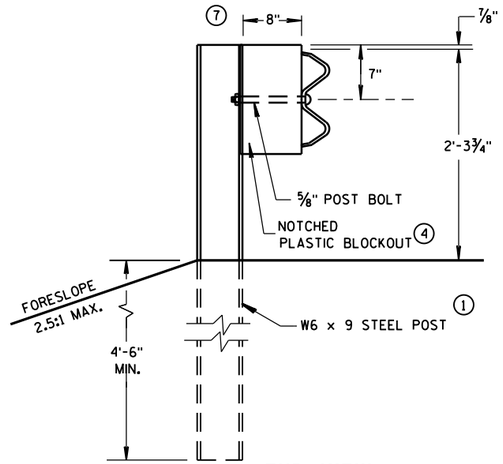

PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



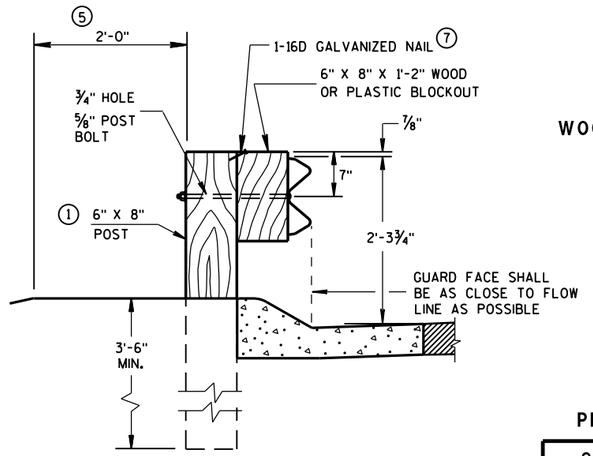

PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM




END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION




END VIEW
LONGER POST AT HALF
POST SPACING W BEAM
(LHW)




END VIEW
LOCATED ALONG A
MOUNTABLE CURBED ROADWAY

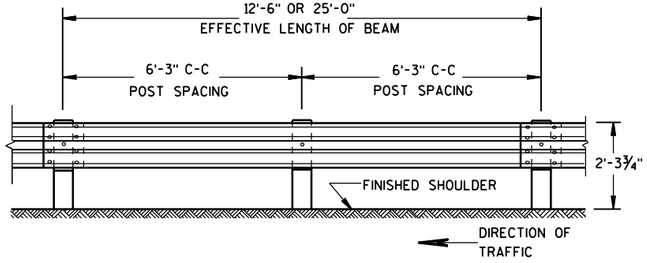
## TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

STEEL PLATE BEAM GUARD,
CLASS "A"
INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

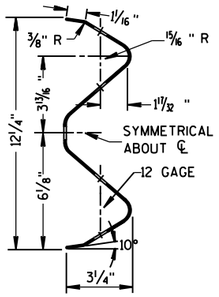



6
S.D.D. 14 B 15-9a

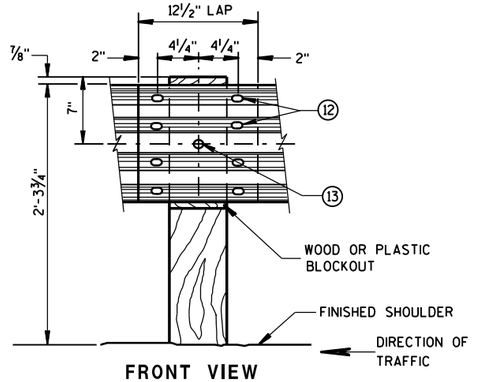



FRONT VIEW

## POST SPACING STANDARD INSTALLATION




## SECTION THRU W BEAM




FRONT VIEW

## BEAM SPLICE AT WOOD POST AND POST MOUNTING DETAIL

## GENERAL NOTES

(8) 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.

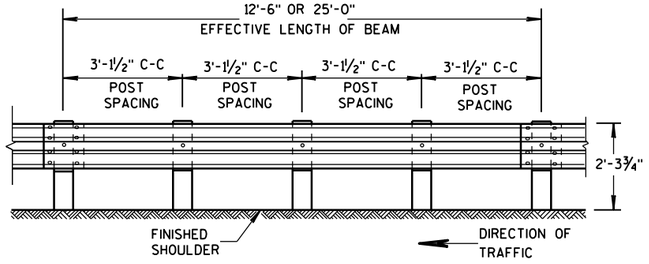
(9) DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

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

(11) PROVIDE AN ANGLE OF BEND OF 90° ± 1° FOR TWO-SIDED REFLECTORS.

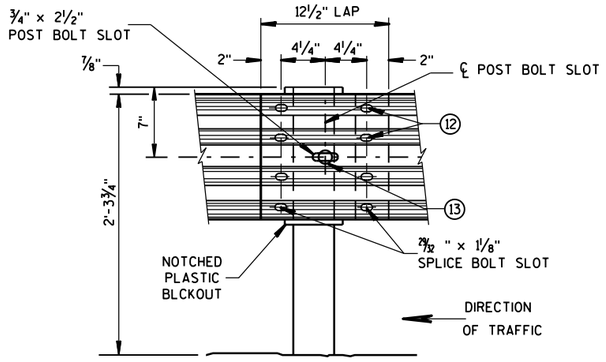
(12) 8 -⅝" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.

(13) ⅝" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH ⅝" DIA. F844 FLAT WASHER UNDER NUT.




FRONT VIEW

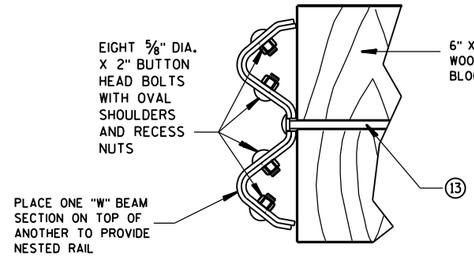
## POST SPACING FOR LONGER POST AT HALF POST SPACING W BEAM (LHW)




FRONT VIEW

## BEAM SPLICE AT STEEL POST

## TYPICAL SPLICING DETAILS OF STEEL PLATE BEAM GUARD

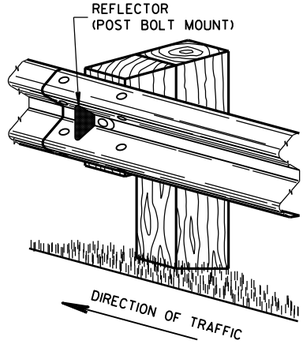


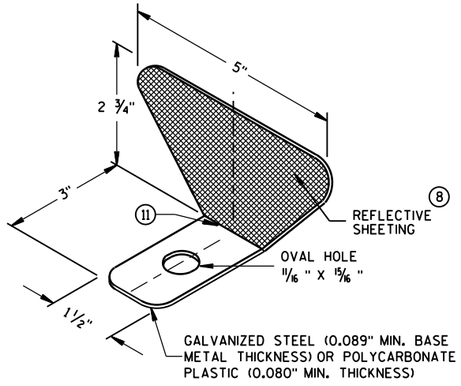

## NESTED W BEAM (NW)

USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR CONSTRUCTING NESTED W BEAM (NW)

REFLECTOR SPACING (9)

| | 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 (10) | 6 |
| | > 200' | 50' C-C | 1 | |
| TWO WAY TRAFFIC | < 200' | 50' C-C | 2 (11) | 3 |
| | > 200' | 100' C-C | 2 | |




## ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (8)

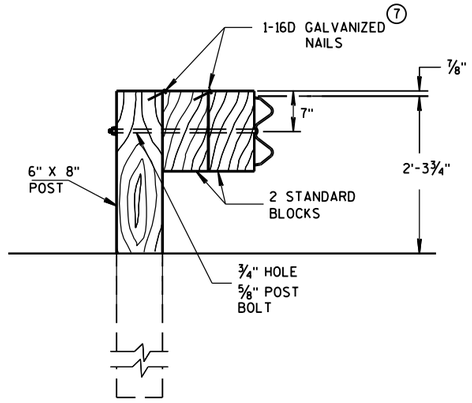
STEEL PLATE BEAM GUARD,
CLASS "A",
INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI



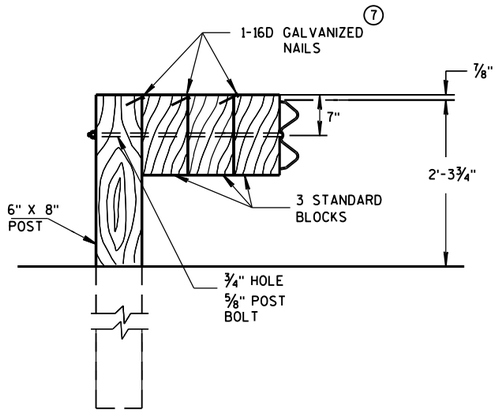


6
S.D.D. 14 B 15-9b




**DETAIL FOR DOUBLE BLOCKS**

THE NUMBER OF DOUBLE BLOCK POSTS WITHIN A BARRIER RUN IS UNLIMITED

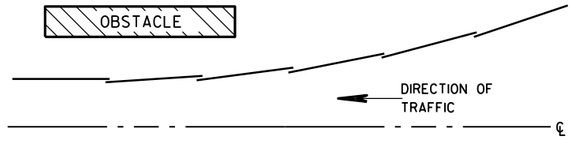



**DETAIL FOR TRIPLE BLOCKS**

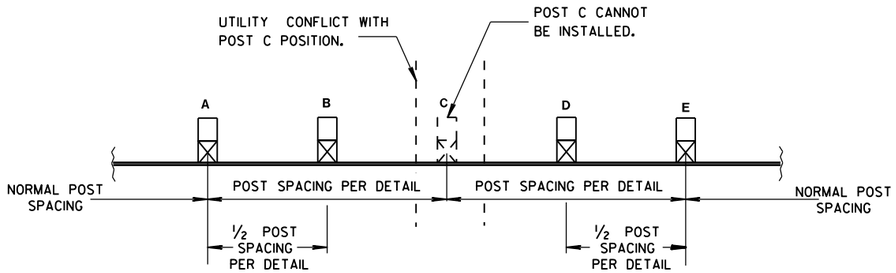
TRIPLE BLOCK DETAIL IS LIMITED TO ONE LOCATION WITHIN A BEAM GUARD RUN.

NOTES: USE DOUBLE OR TRIPLE BLOCKS WHEN UNDERGROUND OBSTACLES PREVENT THE POST FROM BEING INSTALLED.

DO NOT USE EXTRA 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.




**PLAN VIEW**
**BEAM LAPPING DETAIL**




**POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION**

**STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2016
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

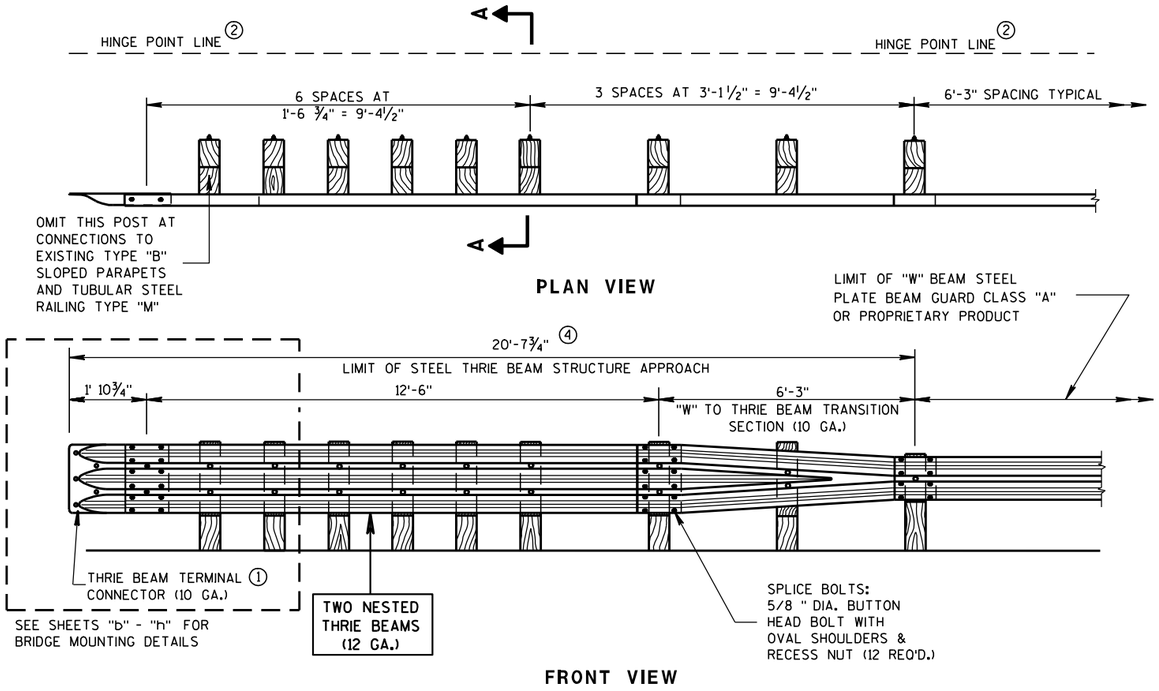


6

S.D.D. 14 B 15-9c

6

S.D.D. 14 B 15-9c



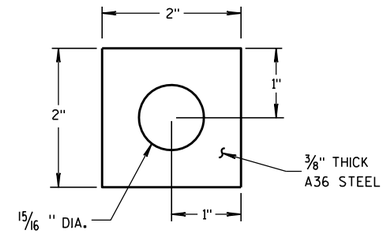




PLATE WASHER DETAIL

## GENERAL NOTES

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

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.

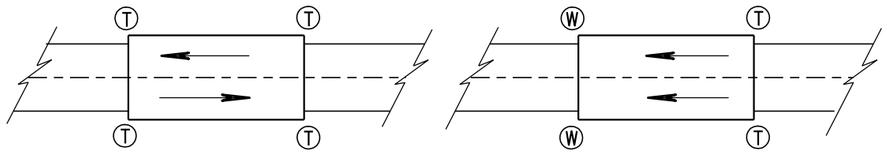
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2" , AND 12" DIAMETER AROUND POST. SEE 14B15 FOR MORE DETAILS.

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

② MINIMUM EMBEDMENT SHALL BE 4'-0". WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK SHOWN ON THE PLAN TYPICAL SECTIONS OR DETAILS, THE ENGINEER MAY ALLOW THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. OTHERWISE BUILD AS THE PLAN SHOWS OR AS THE ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST EMBEDMENT DEPTH TO 4'-6" OR MORE.

③ POST BOLTS ARE 5/8" DIAMETER ASTM A307 BUTTON HEAD BOLT. A POST BOLT REQUIRES A 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX AND A 5/8" DIAMETER F844 FLAT WASHER. LENGTH OF POST BOLT MAY VARY.

④ ALL WOOD POSTS MUST BE 6" X 8" AND AT LEAST 7'-0" LONG.



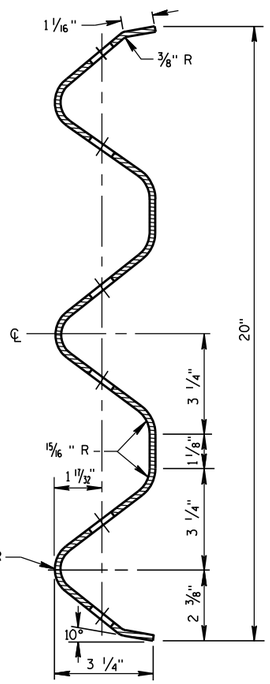

TWO WAY TRAFFIC

ONE WAY TRAFFIC

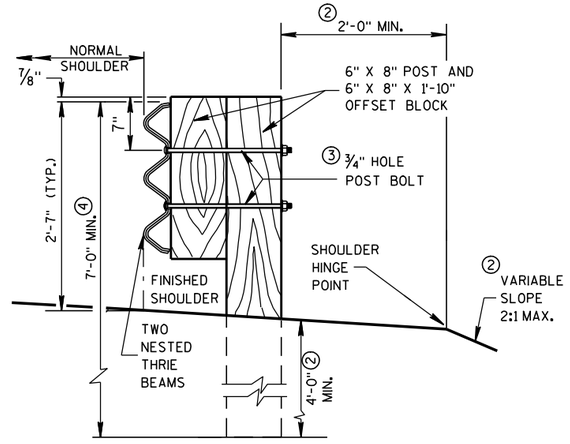
T THRIE BEAM CONNECTION

W W-BEAM CONNECTION WHEN REQUIRED

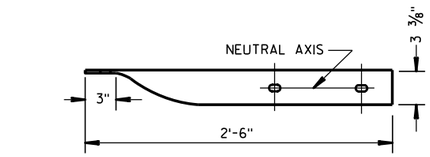
TYPICAL LOCATIONS OF THRIE BEAM AND W-BEAM CONNECTIONS TO BRIDGE

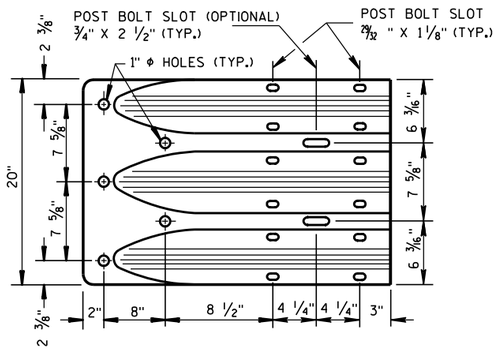



SECTION THRU THRIE BEAM RAIL ELEMENT

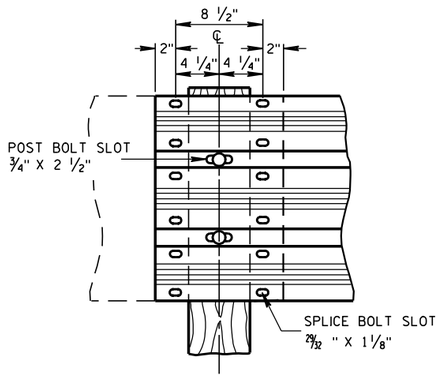



SECTION A-A




THRIE BEAM TERMINAL CONNECTOR




THRIE BEAM SPLICE

# STEEL THRIE BEAM STRUCTURE APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

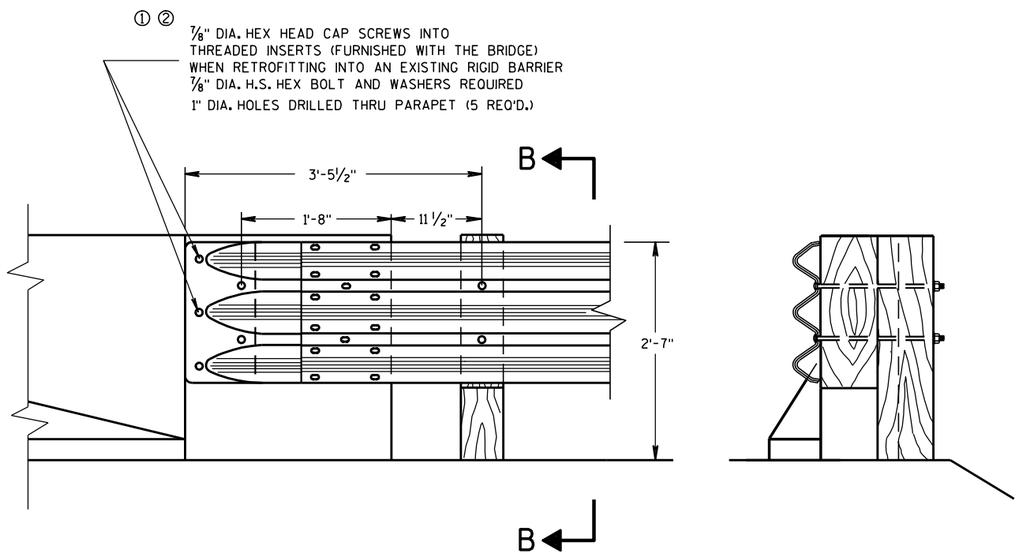
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA





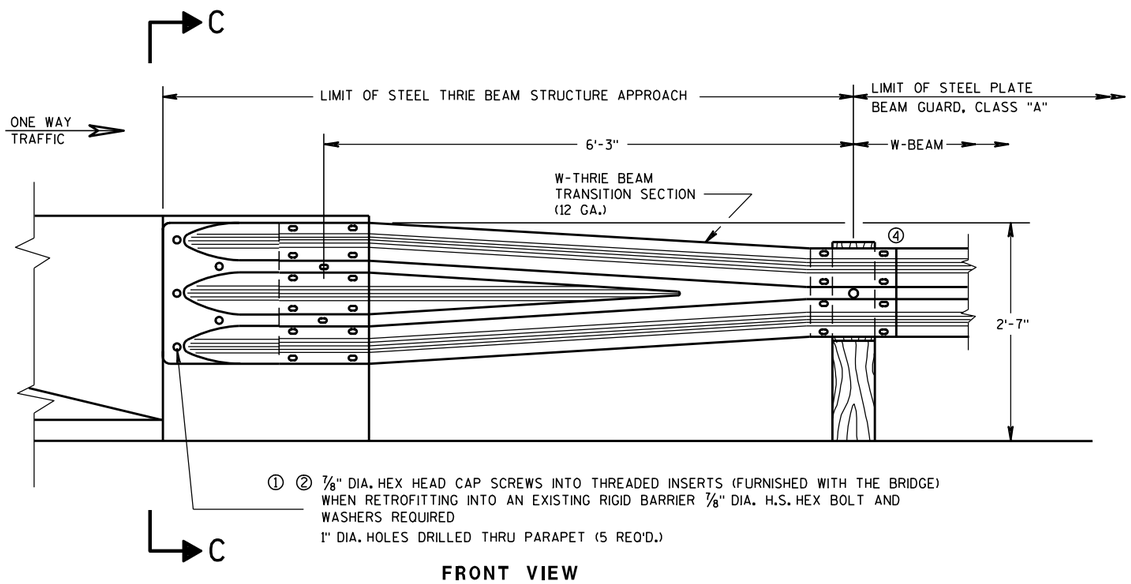
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S.D.D. 14 B 20-11a




FRONT VIEW

SECTION B-B

## THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS




① ② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER ⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED
1" DIA. HOLES DRILLED THRU PARAPET (5 REQ'D.)

FRONT VIEW

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

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

## GENERAL NOTES

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

BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

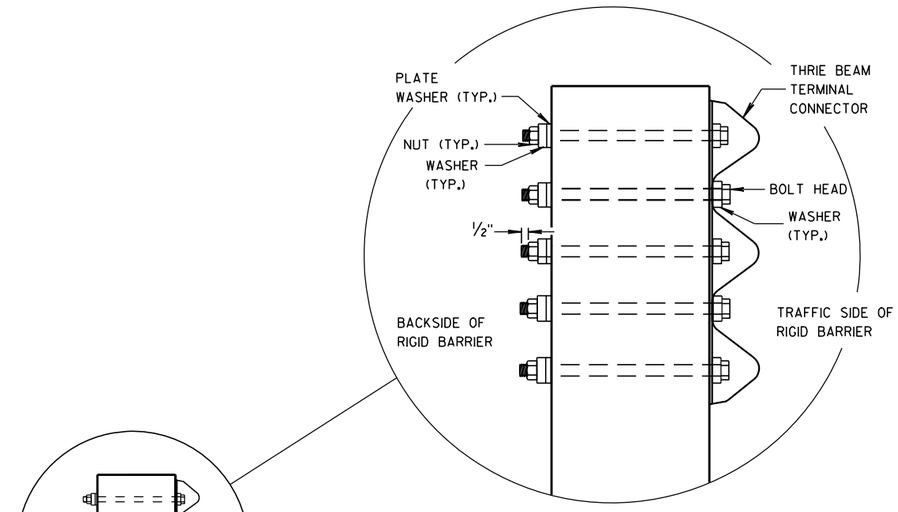
① DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

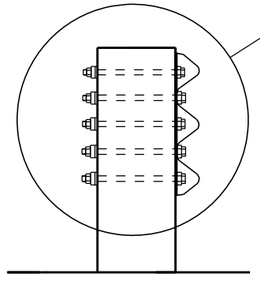
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X ⅝" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



SECTION C-C

## STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SQUARE END PARAPETS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012
DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS [illegible]
ENGINEER
FHWA



6

S.D.D. 14 B 20-11b

6

S.D.D. 14 B 20-11b

## GENERAL NOTES

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

BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

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

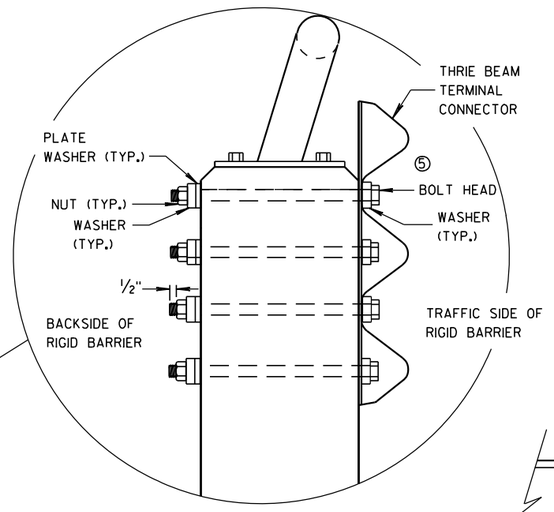
② BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X ⅝" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.

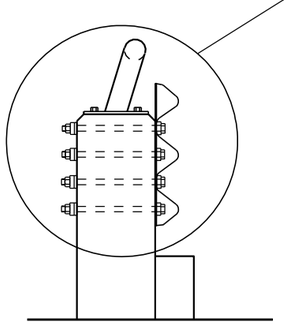
③ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 ½".

④ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

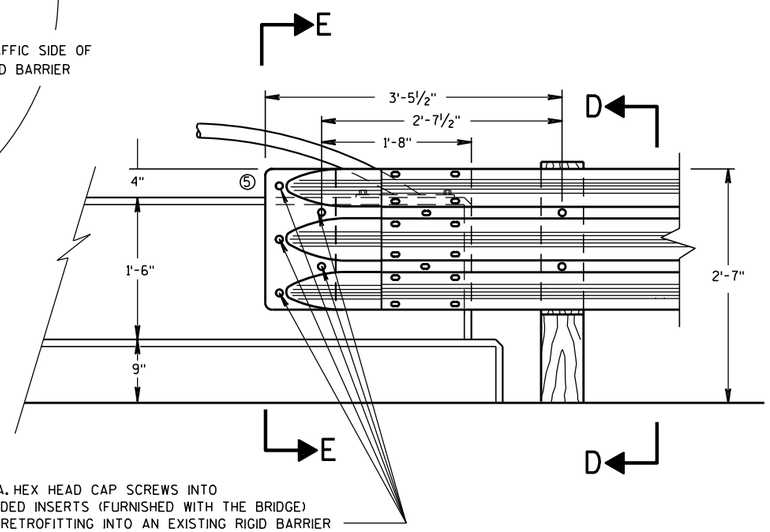
⑤ BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.

DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



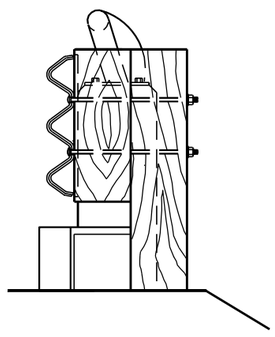
SECTION E-E




①② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER
⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED

1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)

FRONT VIEW

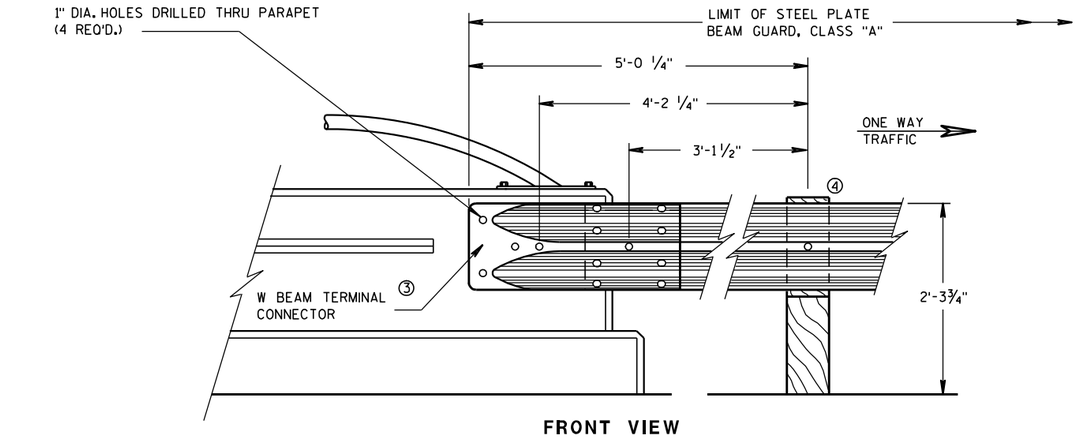


SECTION D-D

## THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS

①② ⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER
⅞" DIA. HEX HEAD CAP SCREWS INTO THREADED INSERTS (FURNISHED WITH THE BRIDGE) WHEN RETROFITTING INTO AN EXISTING RIGID BARRIER
⅞" DIA. H.S. HEX BOLT AND WASHERS REQUIRED

1" DIA. HOLES DRILLED THRU PARAPET (4 REQ'D.)




FRONT VIEW

## W BEAM CONNECTION TO VERTICAL FACE PARAPET
## (USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)

**STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO VERTICAL FACED PARAPETS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
8/31/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

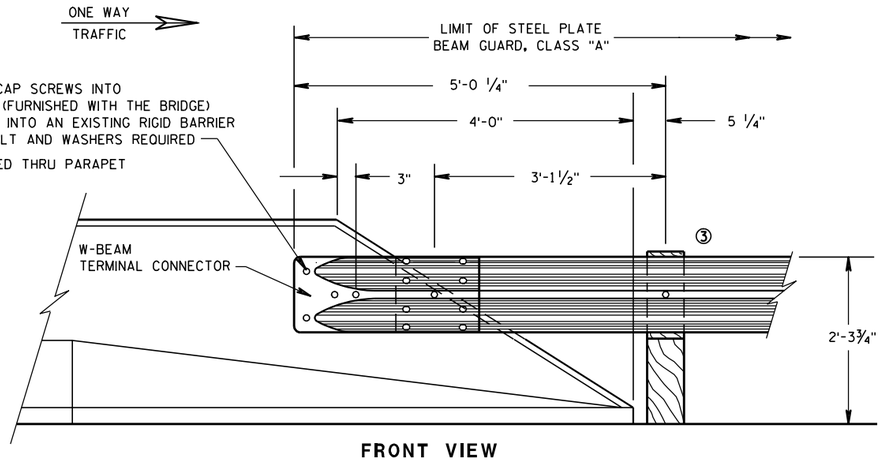


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S.D.D. 14 B 20-11c

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S.D.D. 14 B 20-11c




**FRONT VIEW**

## W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

**(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)**

## GENERAL NOTES

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

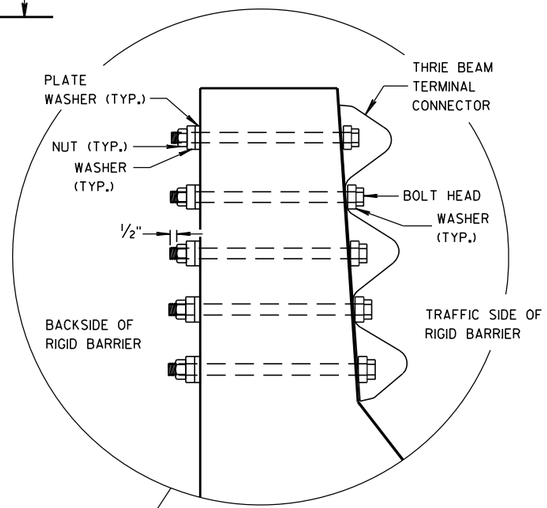
BOLTS, NUTS AND WASHERS SHALL CONFORM TO ASTM A325, A449 AND GALVANIZED PER STANDARD SPECIFICATIONS 614.

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

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

③ W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POST WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS.

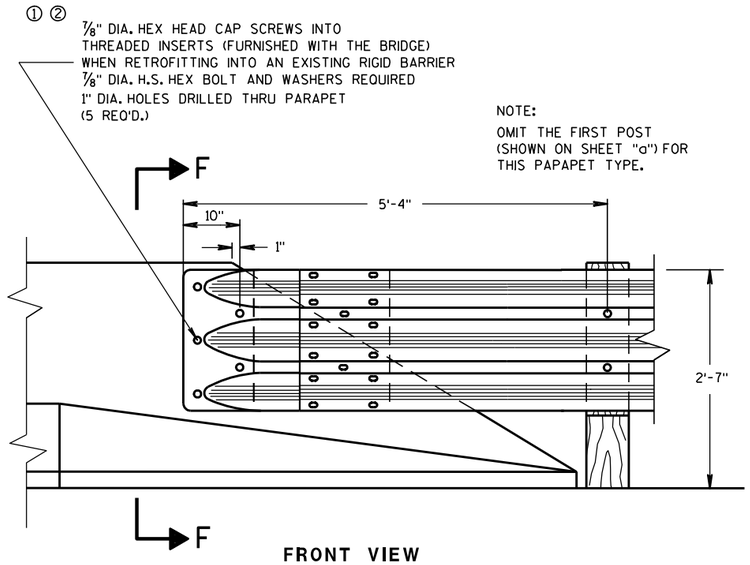
DO NOT USE STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS IN THE STEEL THRIE BEAM STRUCTURAL APPROACH AND THE TRANSITION SECTION OF STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATIONS.



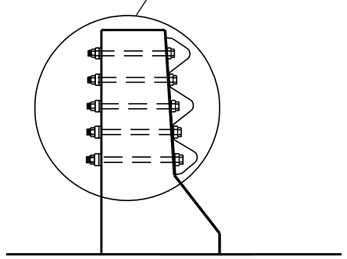




**DRILL HOLE LOCATION AND PATTERN FOR THRIE BEAM CONNECTION**




**FRONT VIEW**



**SECTION F-F**

## THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

**STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO SLOPED END PARAPETS**

STATE OF WISCONSIN
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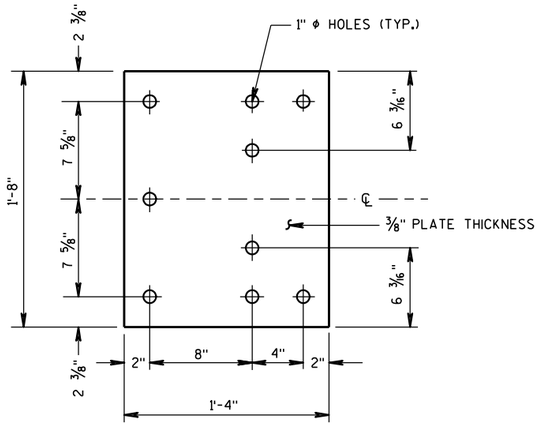
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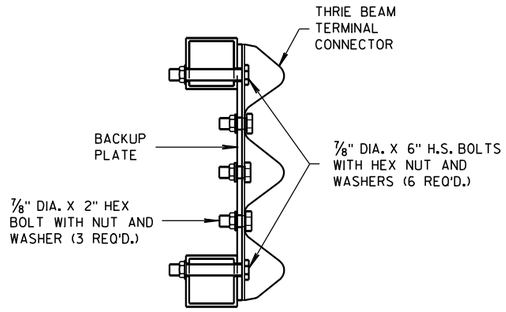


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S.D.D. 14 B 20-11d




**BACK-UP PLATE DETAIL**



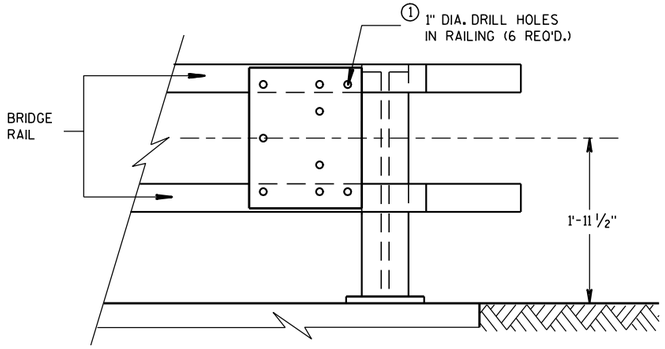

**SECTION G-G**

## GENERAL NOTES

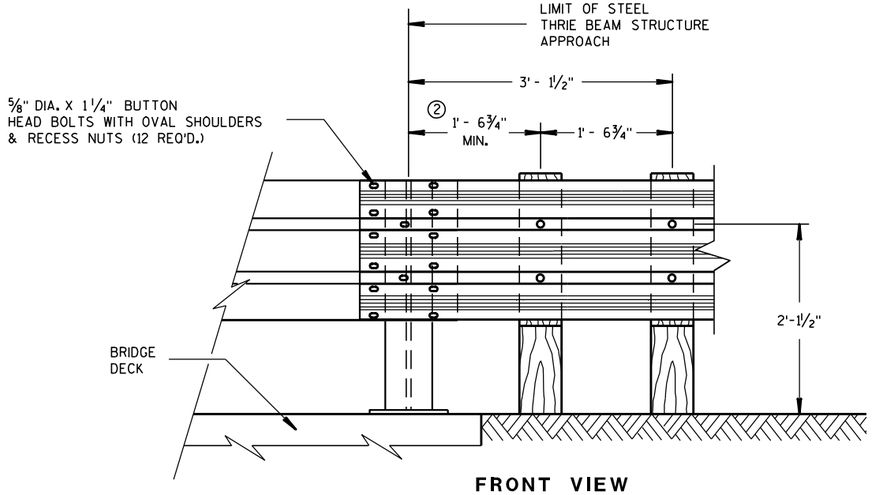
BOLTS, PLATES, NUTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION A 325 AND BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.

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

② VARY THIS DIMENSION DEPENDING ON ABUTMENT TYPE, WINGWALL DETAILS, AND ANGLE OF SKEW. PLACE THE FIRST WOOD POST OFF THE BRIDGE SHALL AS CLOSE AS FEASIBLE TO THE STEEL END POST.

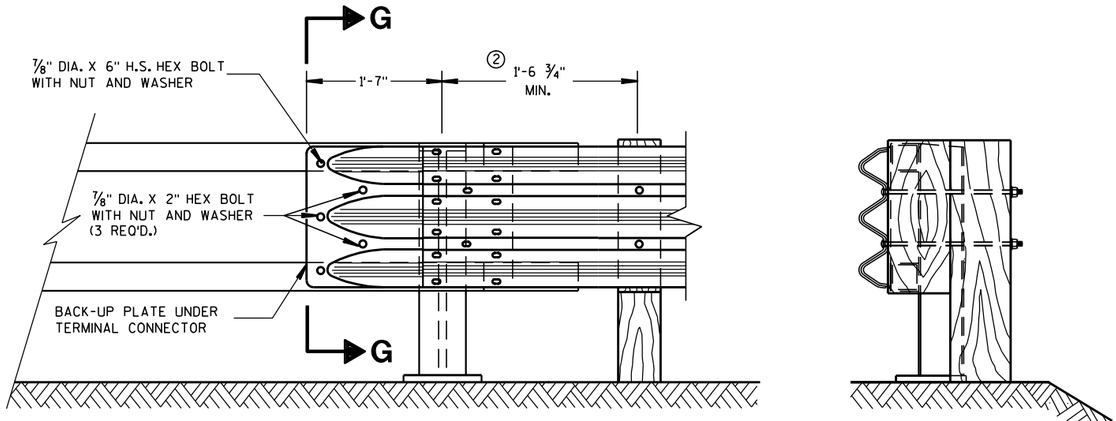



**BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING**




**FRONT VIEW**

**THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"**




**FRONT VIEW**



**END VIEW**

**THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"**

**STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPES "F" AND "W"**

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DATE

/S/ Jerry H ...
ROADWAY STANDARDS ENGINEER

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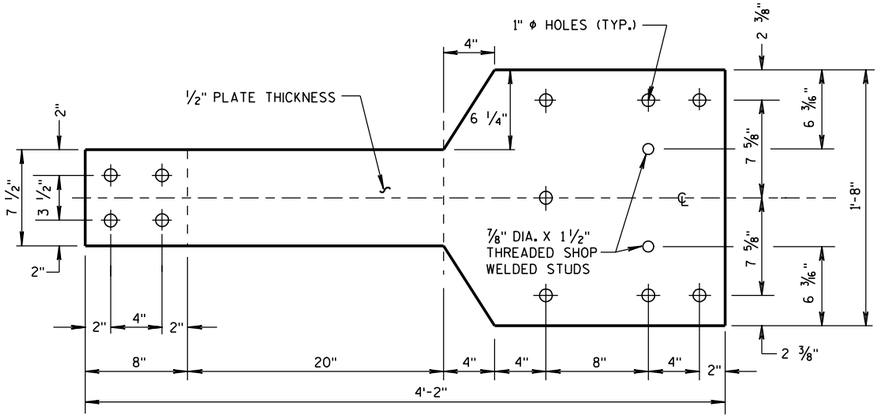
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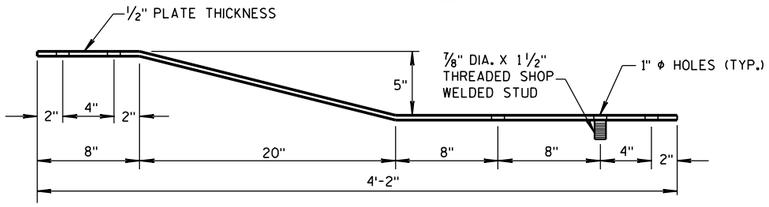
S.D.D. 14 B 20-11e

## GENERAL NOTES

① VARY THIS DIMENSION DEPENDING ON ABUTMENT TYPE, WINGWALL DETAILS, AND ANGLE OF SKEW. PLACE THE FIRST WOOD POST OFF THE BRIDGE SHALL BE AS CLOSE AS FEASIBLE TO THE STEEL END POST.

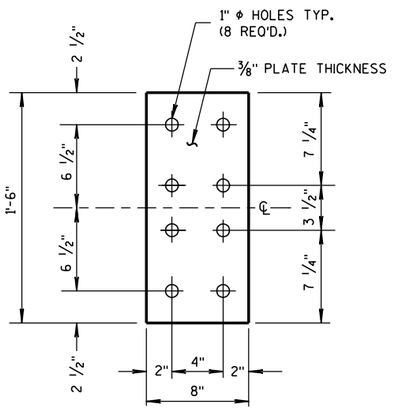



FRONT VIEW



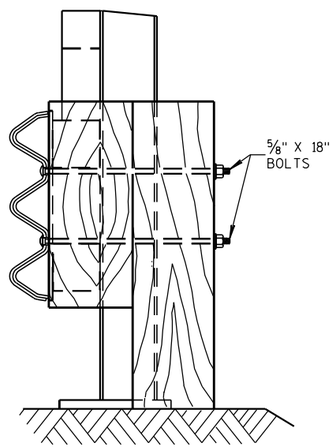

PLAN VIEW

**BACK-UP PLATE DETAIL, TYPE "M"**

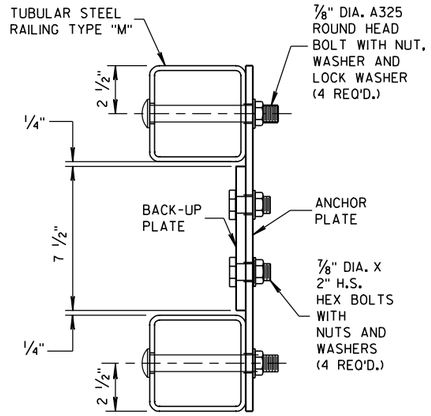



FRONT VIEW

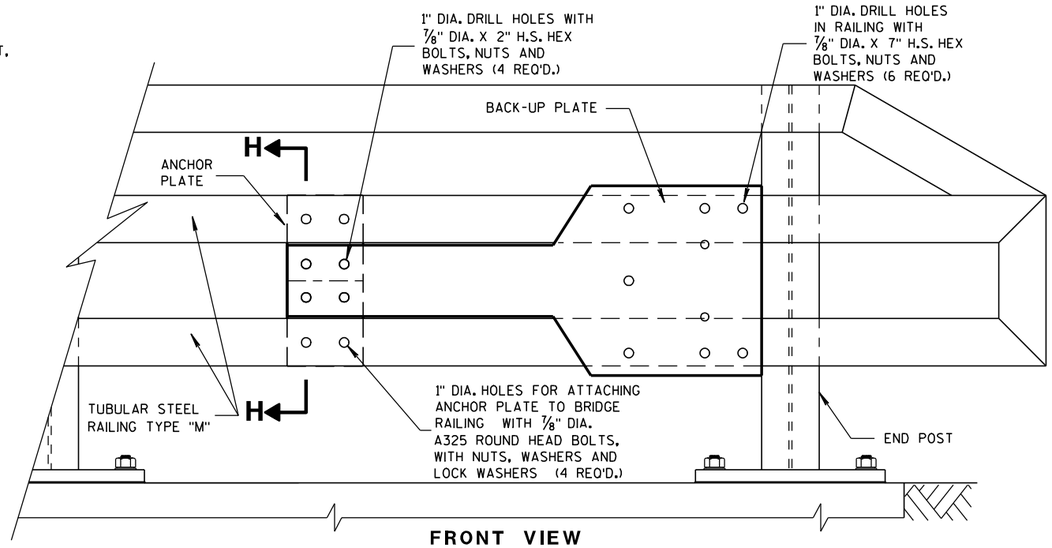
**ANCHOR PLATE DETAIL, TYPE "M"**




SECTION I-I

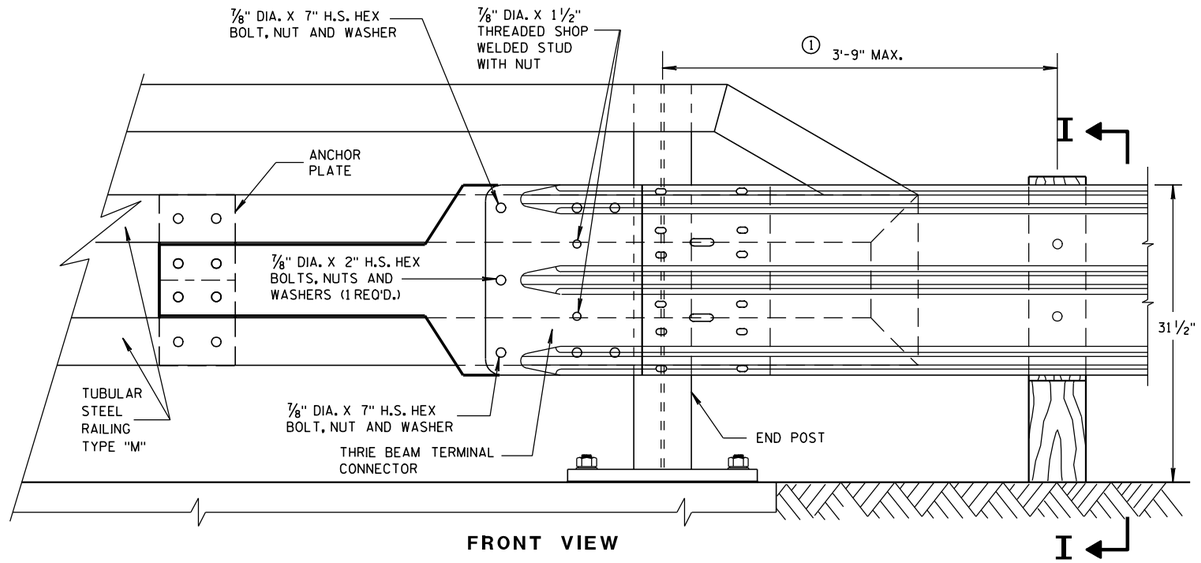



SECTION H-H

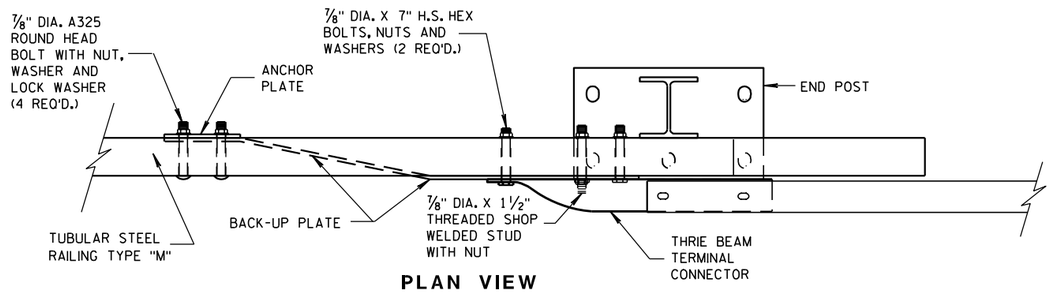



FRONT VIEW

**ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"**




FRONT VIEW




PLAN VIEW

**THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"**

**STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTION TO BRIDGE RAILING TYPE "M"**

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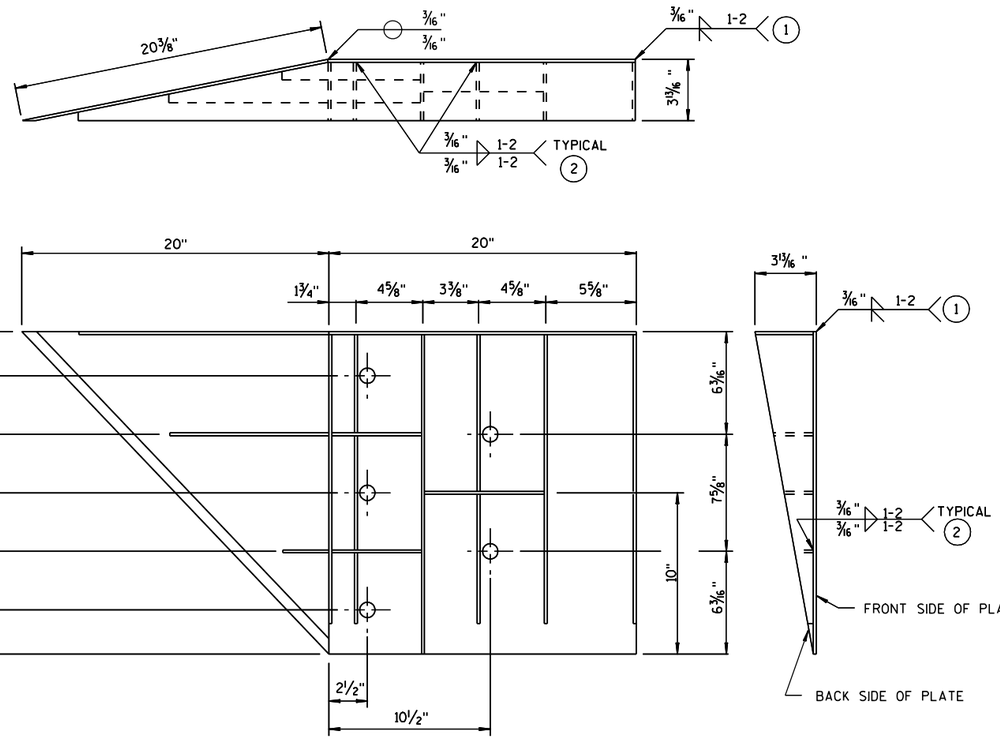
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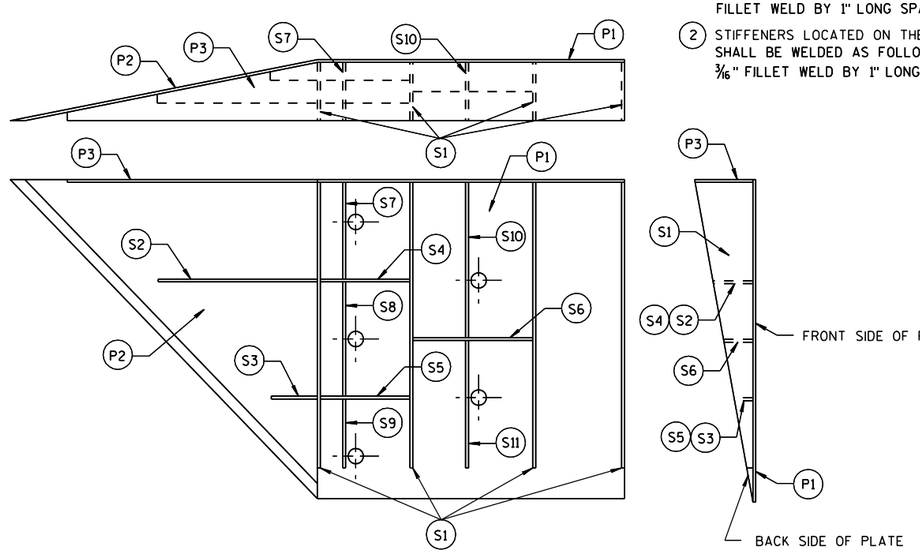






## WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)




## PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

## GENERAL NOTES

COVER PLATE PANELS ARE ⅜" THICK.

ALL STIFFENERS ARE ¼" THICK.

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

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

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

(1) STIFFENERS LOCATED AT THE OUTSIDE EDGES OF THE COVER PLATES SHALL BE WELDED AS FOLLOWS:
SINGLE BEVEL GROOVE WELD ON EXTERNAL SIDES AND ⅜" FILLET WELD BY 1" LONG SPACED AT 2" ON INTERNAL SIDES.

(2) STIFFENERS LOCATED ON THE INSIDE OF THE COVER PLATE SHALL BE WELDED AS FOLLOWS:
⅜" FILLET WELD BY 1" LONG SPACED AT 2".

**CONNECTOR PLATE DIMENSION (PER ASSEMBLY)**

| PLATE | QUANTITY | SHAPE | SIZE (A x B x C x D) | THICKNESS |
|---|---|---|---|---|
| P1 | 1 | | 20" x 20" | ⅜" |
| P2 | 1 | | 20" x 20" x 28⁹⁄₁₆" | ⅜" |
| P3 | 1 | | 39" x 3⅝" x 20" x 19⁵⁄₁₆" | ⅜" |
| S1 | 4 | | 18⁷⁄₁₆" x 3⅝" x 18¾" | ¼" |
| S2 | 1 | | 10¼" x 2⁷⁄₁₆" x 10⅜" x ½" | ¼" |
| S3 | 1 | | 3" x 1¹⁄₁₆" x 3⅛" x ½" | ¼" |
| S4 | 1 | | 6⅛" x 2⁷⁄₁₆" | ¼" |
| S5 | 1 | | 6⅛" x 1¹⁄₁₆" | ¼" |
| S6 | 1 | | 7¾" x 1¾" | ¼" |
| S7 | 1 | | 2⁹⁄₁₆" x 6" x 3⅝" x 5⅞" | ¼" |
| S8 | 1 | | 1³²⁄₃₂" x 7½" x 2½" x 7⅜" | ¼" |
| S9 | 1 | | 6¹⁄₁₆" x 6³⁄₁₆" x 1³²⁄₃₂" | ¼" |
| S10 | 1 | | 1⅞" x 9⅞" x 3⅝" x 9¹¹⁄₁₆" | ¼" |
| S11 | 1 | | 8½" x 8¾" x 1¹³⁄₁₆" | ¼" |

# STEEL THRIE BEAM STRUCTURE APPROACH

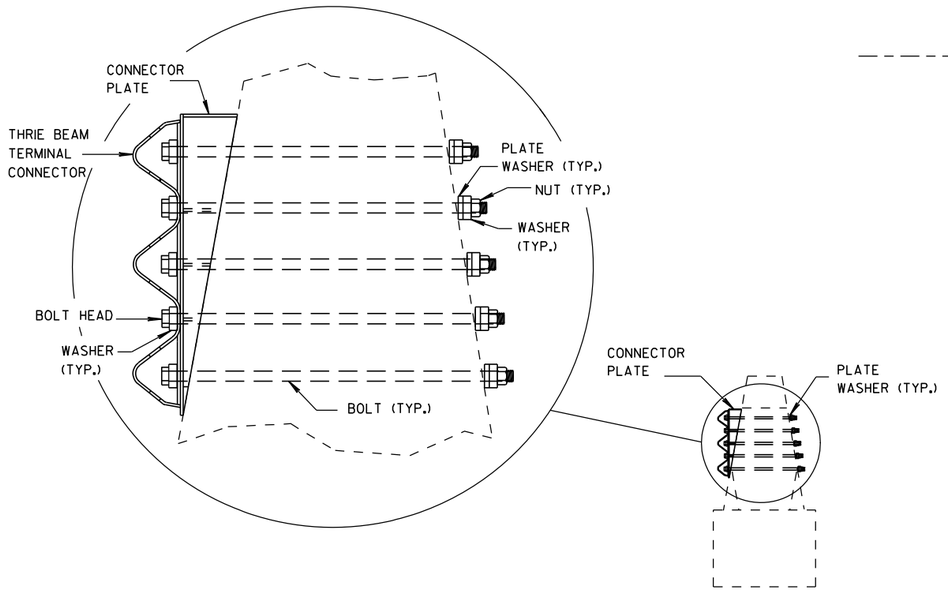
**STEEL THRIE BEAM STRUCTURE APPROACH, CONNECTOR PLATE DETAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

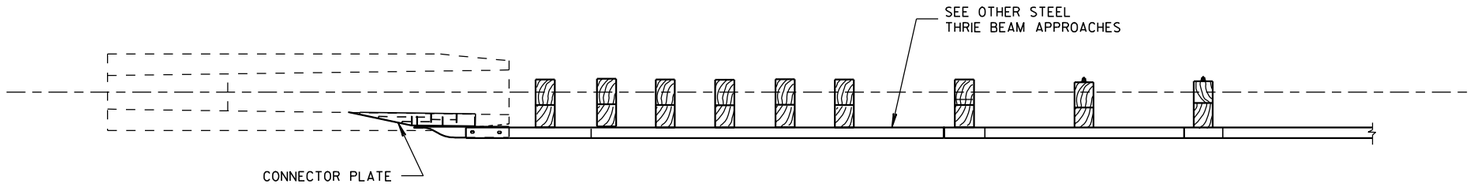
APPROVED
8/31/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA



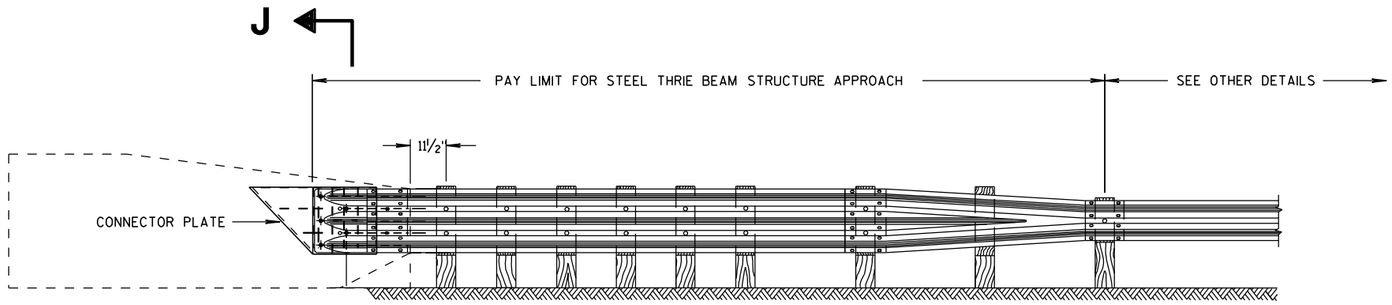

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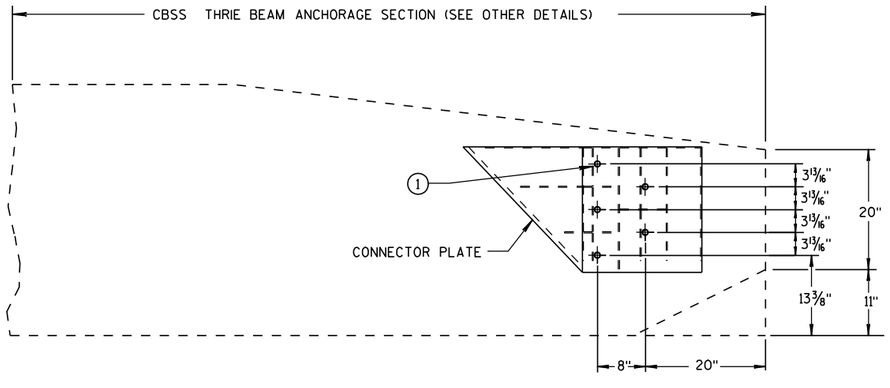

SECTION J-J




PLAN VIEW




FRONT VIEW




CONNECTOR PLATE LOCATION

## GENERAL NOTES

CONSTRUCT PER STANDARD SPECIFICATION 614.

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

(1) BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM TERMINAL CONNECTOR. 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.

# STEEL THRIE BEAM STRUCTURE APPROACH

**STEEL THRIE BEAM STRUCTURE APPROACH, SINGLE SLOPE ATTACHMENT**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/31/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

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S.D.D. 14 B 20-11h

## BILL OF MATERIALS

| NOTE NO. | QTY. | DESCRIPTION |
|---|---|---|
| (1) | 4 | WOOD BREAKAWAY TERMINAL POST: 5½" X 7½" X 3'-9" |
| (2) | ** | STEEL TUBE: OPTION 1 - QUANITY OF 4 TS 8" X 6" X 0.188", 4'-6" LONG OR OPTION 2 - QUANITY OF 2 TS 8" X 6" X 0.188", 6'-0" AND 2 TS 8" X 6" X 0.188", 4'-6" LONG |
| (3) | 2 | SOIL PLATE: 2'-0" X 1'-6" X ¼" ** |
| (4) | 4 | WOOD BREAKAWAY CRT POST: 6" X 8" X 6'-0" |
| (5) | 6 | WOOD OFFSET BLOCKS: 6' X 8" X 1'-2" |
| (6) | 1 | PIPE SLEEVE: 2" X 5 ½" STANDARD PIPE |
| (7) | 1 | BEARING PLATE |
| (8) | 1 | BCT CABLE ASSEMBLY |
| (9) | 1 | CABLE ANCHOR BOX |
| (10) | 1 | STRUT & YOKE |
| (11) | 1 | STEEL PLATE BEAM, END PANEL 12 GA. 13'-6½" LONG FOR SKT-350, ET-2000 AND ET-2000 PLUS |
| (12) | 3 | STEEL PLATE BEAM: 12 GA. 13'-6½" |
| (13) | 1 | ET-2000/ET-2000 PLUS GUARDRAIL EXTRUDER OR SKT-350 IMPACT HEAD: AS FURNISHED BY MANUFACTURER |
| (14) | 1 | 0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS |
| (15) | 1 | E.A.T. MARKER POST |

## GENERAL NOTES

FOLLOW MANUFACTURE'S BOLTING RECOMMENDATIONS. IF NONE ARE AVAILABLE, INSTALL ⅝" ø X 1'-6" BUTTON HEAD BOLTS AT ALL POSTS EXCEPT FOR POST 1.

(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) THE 13 SLOT FIRST RAIL PANEL MAY BE USED IN LIEU OF THE 3 SLOT RAIL PANEL ON SKT-350 ONLY.

(D) THE TOP OF THE STEEL TUBE ON POSTS 1 THROUGH 4 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.

(E) THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST 5 THROUGH 8 SHALL BE ¾" ABOVE THE FINISHED GROUND LINE.

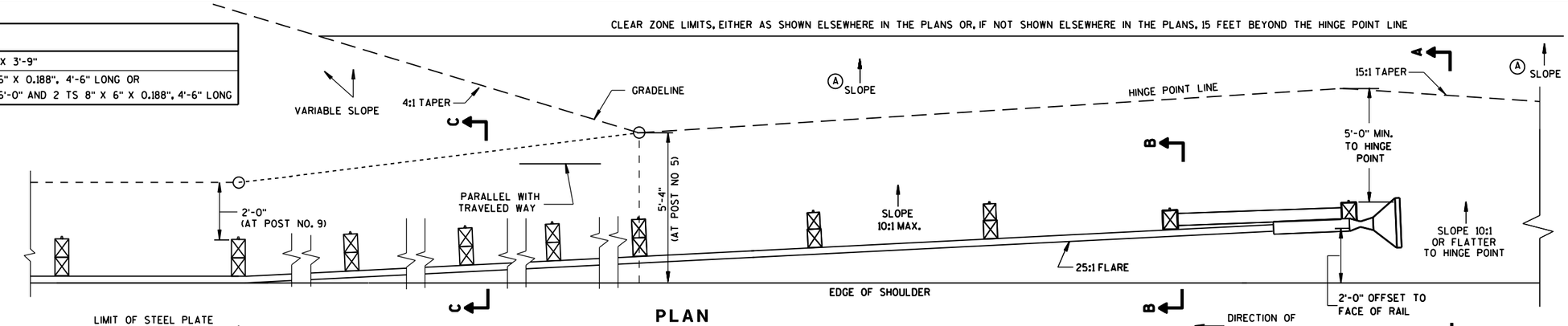
(F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS. ONE SCREW PER CORNER.

STEEL POSTS SHALL NOT BE ALLOWED FOR USE WITH ENERGY ABSORBING TERMINALS.

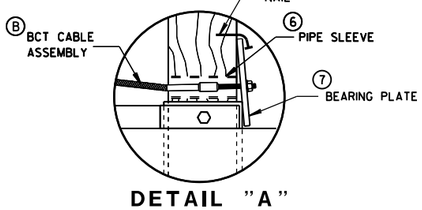
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

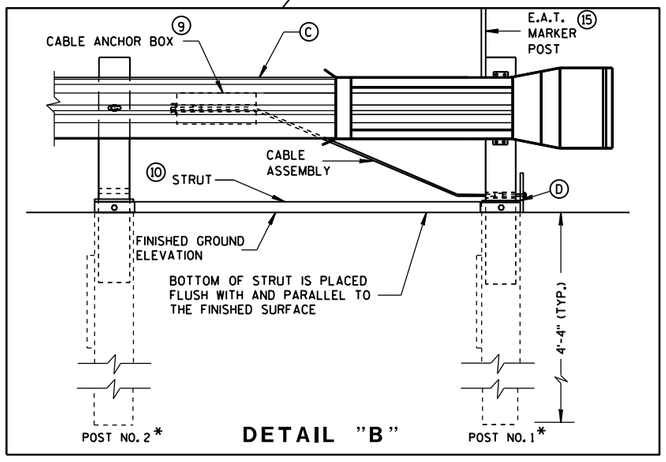
** SDD SHOWS 4 - 54 INCH STEEL TUBES WITH SOIL PLATES INSTALLED ON POST 1 AND POST 2. POST 3 AND 4 DO NOT NEED SOIL PLATES. AN ALTERNATIVE INSTALLATION WOULD CONSIST OF 2 - 72 INCH STEEL TUBES ON POST 1 AND POST 2 AND 54 INCH SOIL TUBES ON POSTS 3 AND 4. THE ALTERNATIVE INSTALLATION DOES NOT REQUIRE SOIL PLATES.



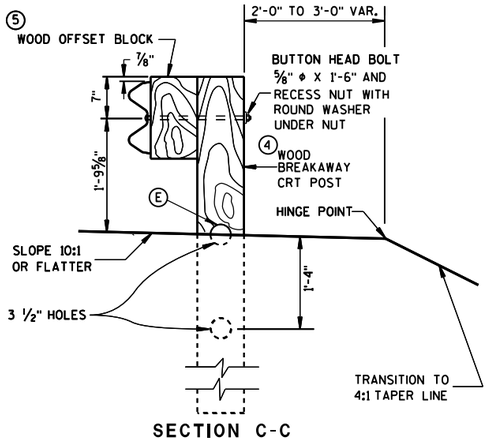

ELEVATION



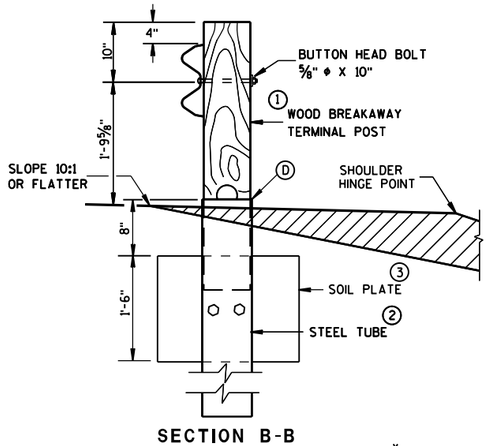

DETAIL "A"



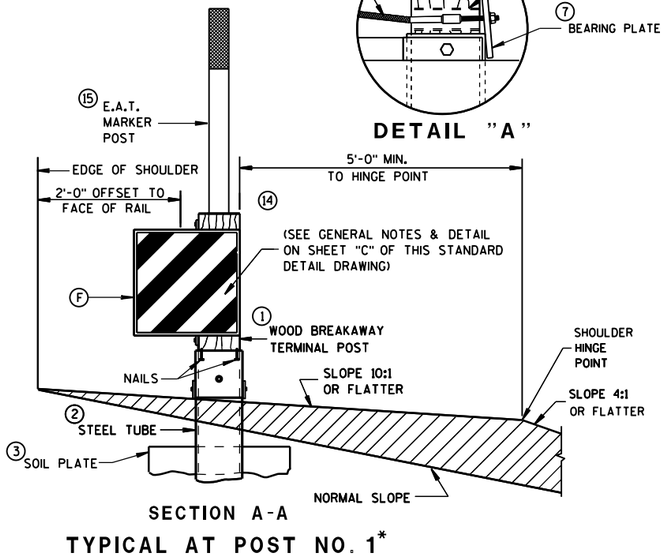

DETAIL "B"




SECTION C-C
TYPICAL AT POST NOS. 6, 8




SECTION B-B
TYPICAL AT POST NO. 2*



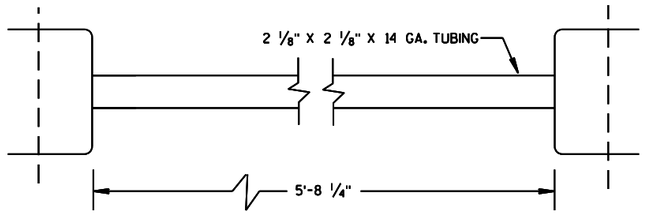

SECTION A-A
TYPICAL AT POST NO. 1*

**STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL**

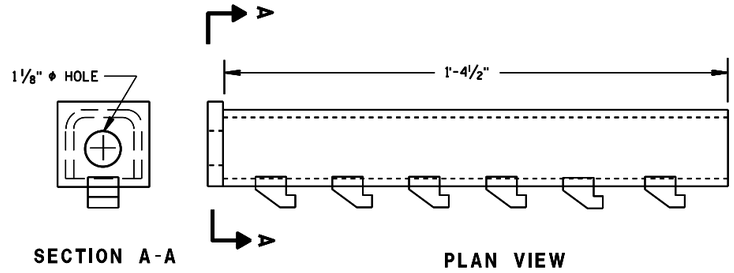
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO



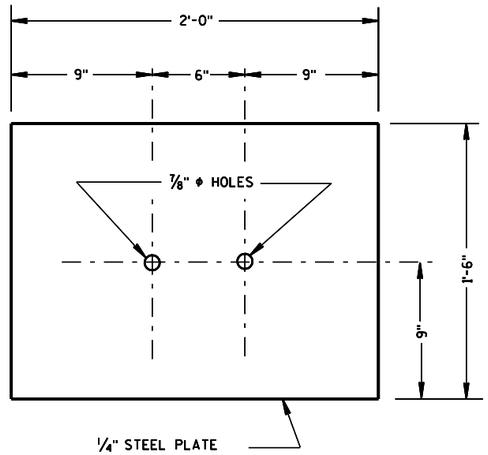

6
S.D.D. 14 B 24-8a




⑩ STRUT DETAIL (SKT-350)

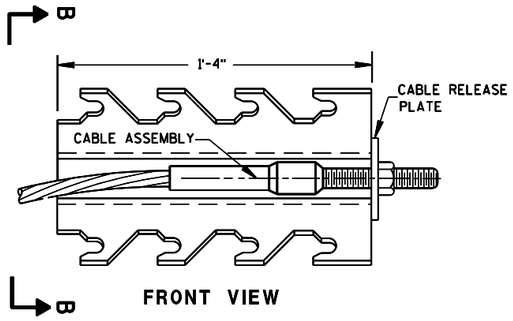


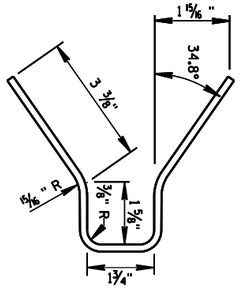

⑨ CABLE ANCHOR BOX (ET-2000/ET-2000 PLUS)




③ SOIL PLATE

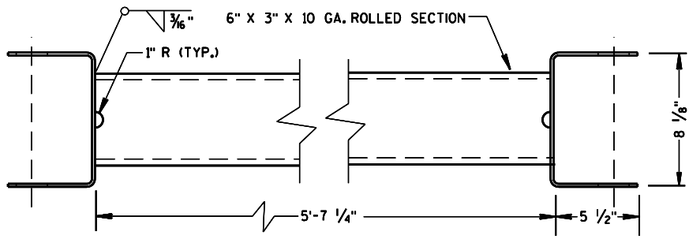
(SKT-350, ET-2000/ET-2000 PLUS)



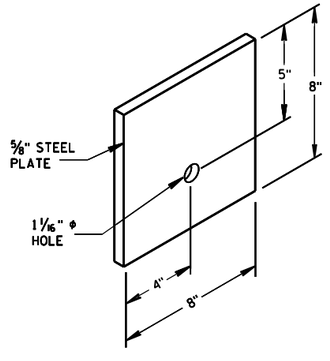

⑨ CABLE ANCHOR BOX (SKT-350)

(SKT-350)




⑩ STRUT DETAIL (ET-2000/ET-2000 PLUS)

(ET-2000/ET-2000 PLUS)




⑦ STEEL BEARING PLATE

(SKT-350, ET-2000/ET-2000 PLUS)

6

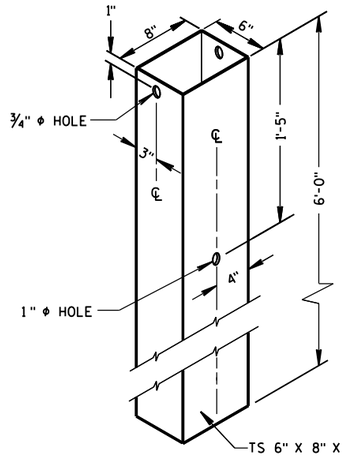
6

S.D.D. 14 B 24-8b

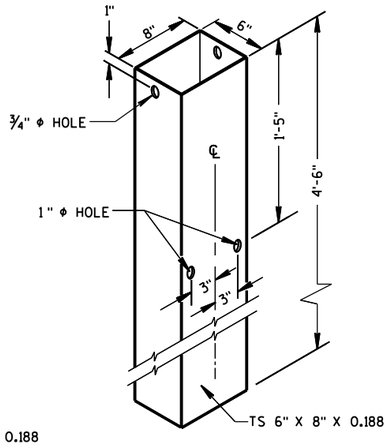
S.D.D. 14 B 24-8b

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

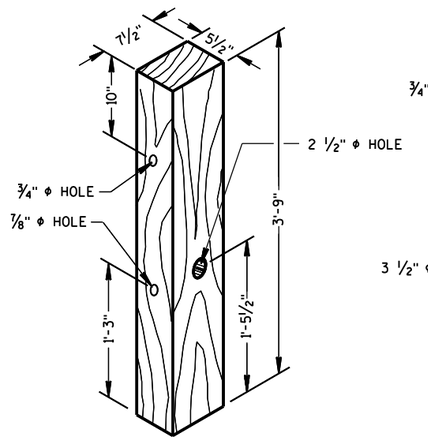
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI



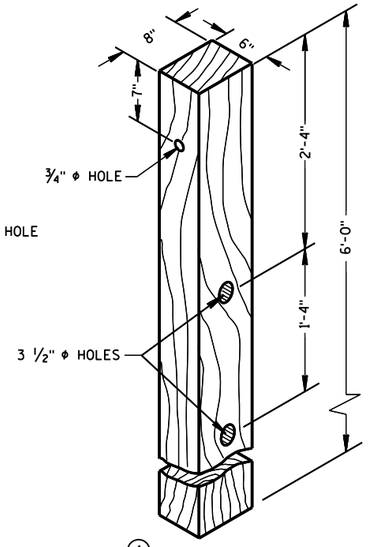

② 72" STEEL TUBE
(POSTS NO. 1-4




② 54" STEEL TUBE
(POSTS NO. 1-4




① TERMINAL POST
(POSTS NO. 1-4




④ CRT POST
(POSTS NO'S 5-8

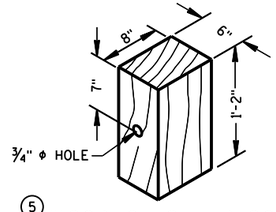
## WOOD BREAKAWAY POSTS

## GENERAL NOTES

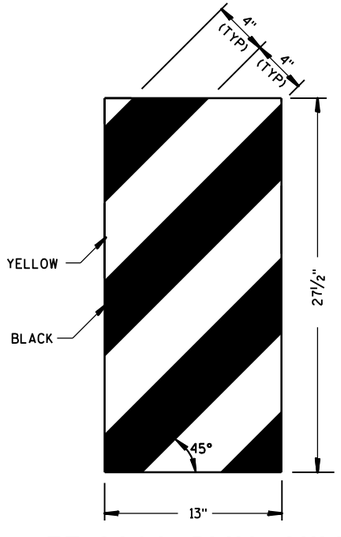
WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12 INCH DIA. POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL SHALL BE PLACED IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 ½" INCHES DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES SHALL BE FIELD CUT TO LENGTH, PLACED IN THE HOLE AND BACKFILLED WITH ADEQUATELY COMPACTED MATERIAL EXCAVATED FROM THE HOLE.

SEE APPROVED PRODUCTS LIST FOR ACCEPTABLE E. A. T. MARKER POST.

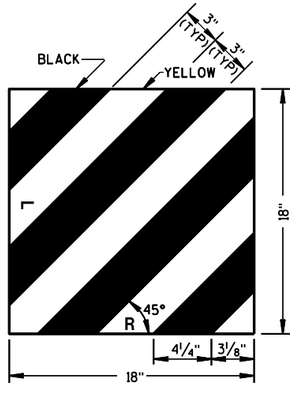
(G) ½" DIA. X 3" LAG BOLT WITH WASHER.




⑤ WOOD OFFSET BLOCK
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

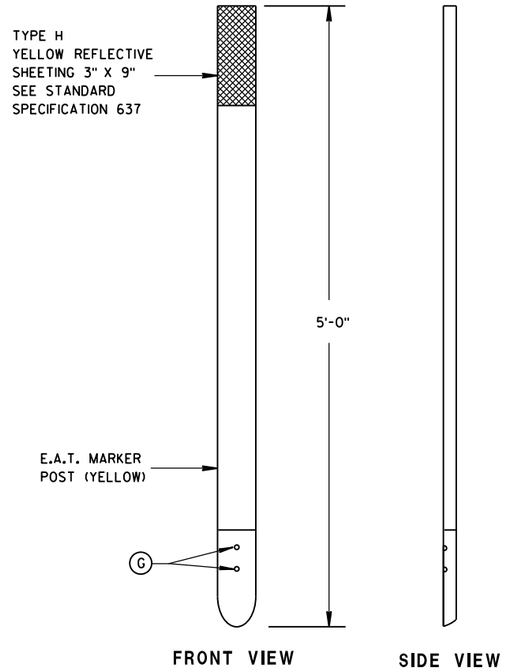



ET-2000 PLUS ONLY

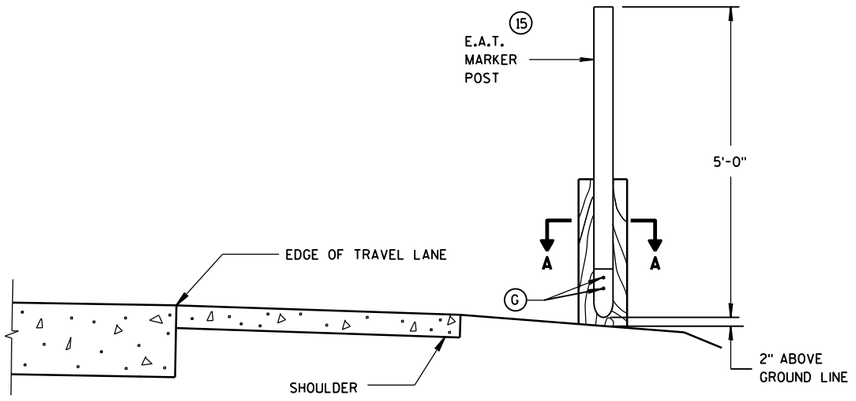



ET-2000 AND SKT-350

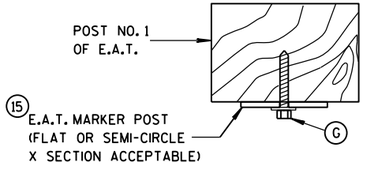
⑭ REFLECTIVE SHEETING DETAILS




⑮ E.A.T. MARKER POST




TYPICAL INSTALLATION OF E.A.T.
MARKER POST BACKSIDE OF POST NO. 1
(E.A.T. AND RAIL REMOVED FOR CLARITY)




SECTION A-A

STEEL PLATE BEAM GUARD
ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

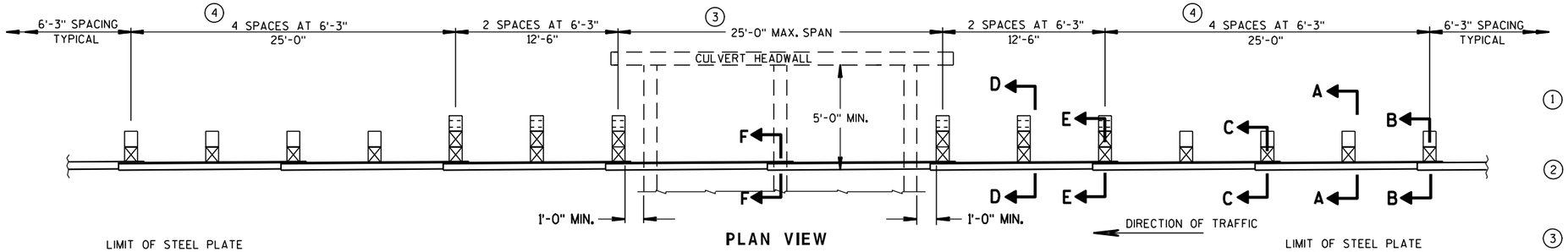


6

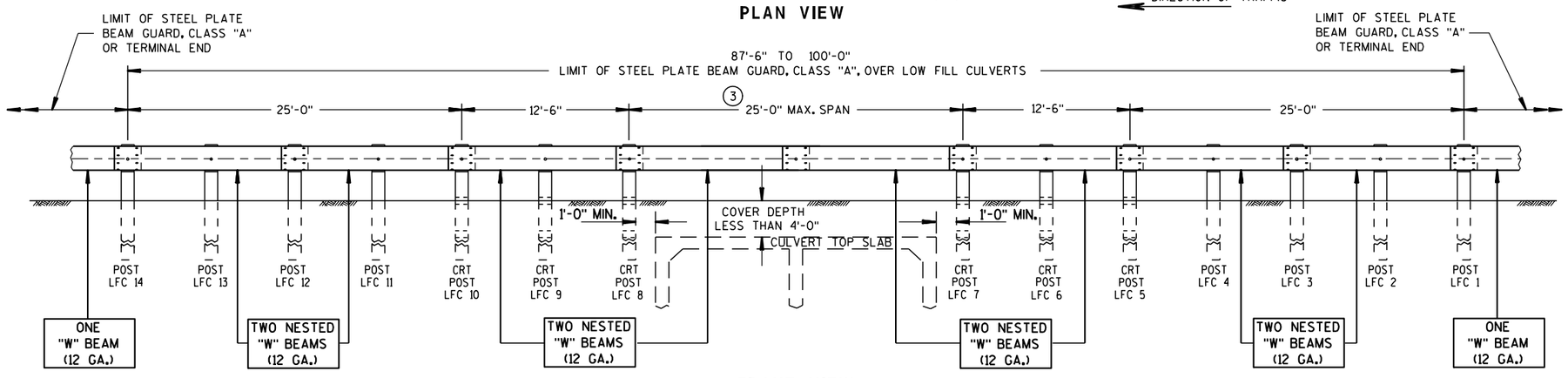
S.D.D. 14 B 24-8c

6

S.D.D. 14 B 24-8c




PLAN VIEW




FRONT VIEW

# TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD OVER LOW FILL CULVERTS

## 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.

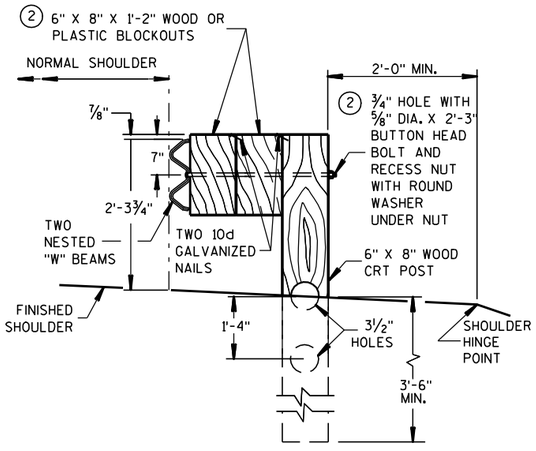
(1) MAINTAIN THE NESTING OF EACH NESTED PAIR OF "W" BEAM SECTIONS THROUGH SPLICES. ORIENTATE NESTED "W" BEAM SPLICES IN THE DIRECTION OF TRAFFIC AS THE PLAN VIEW SHOWS. SEE S.D.D. 14 B 15 FOR SPLICE INSTALLATION.

(2) THE CONTRACTOR MAY USE APPROVED PLASTIC BLOCKOUTS IN LIEU OF WOOD BLOCKOUTS. SEE S.D.D. 14 B 15 FOR TYPICAL BLOCKOUT, SPLICE AND REFLECTOR INSTALLATIONS. USE BOLT SIZES AND LENGTHS AS SHOWN ON THIS DETAIL.

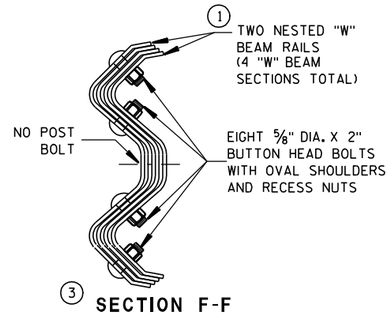
(3) PROVIDE 12'-6", 18'-9" AND 25'-0" SPANS ONLY. USE A MAXIMUM OF ONE SPLICE LOCATED ANYWHERE WITHIN THE SPAN SECTION. LOCATE ALL OTHER SPLICES AT BEAM GUARD POSTS.

(4) IN THE FIRST AND LAST 25 FOOT SECTIONS (POSTS LFC 1-4 & LFC 11-14), THE CONTRACTOR MAY USE W6 X 9 OR W6 X 8.5 STEEL POSTS WITH NOTCHED PLASTIC BLOCKOUTS OR 6" X 8" WOOD POSTS WITH EITHER WOOD OR PLASTIC BLOCKOUTS. DO NOT MIX STEEL POSTS WITH NOTCHED PLASTIC BLOCKOUTS AND WOOD POSTS WITH EITHER WOOD OR PLASTIC BLOCKOUTS IN THE SAME INSTALLATION.

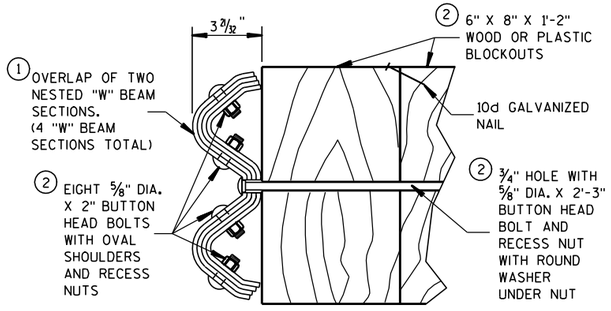
(5) WHERE EXISTING CONDITIONS DO NOT PERMIT THE APPROPRIATE EARTHWORK, THE PLAN TYPICAL SECTIONS OR DETAILS MAY SHOW, OR THE ENGINEER MAY ALLOW, THE REDUCTION OR ELIMINATION OF THE 2 FOOT DISTANCE TO THE HINGE POINT. BUILD AS THE PLAN SHOWS OR ENGINEER DIRECTS. IF THE 2 FOOT DISTANCE TO THE HINGE POINT IS REDUCED OR ELIMINATED, INCREASE THE POST SOIL DEPTH TO 4'-6" OR MORE.



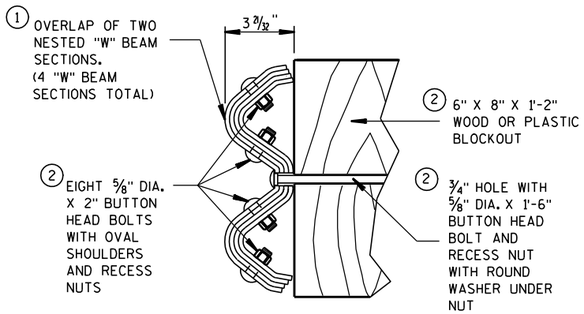

SECTION D-D
TYPICAL CRT POST LFC 6 AND 9



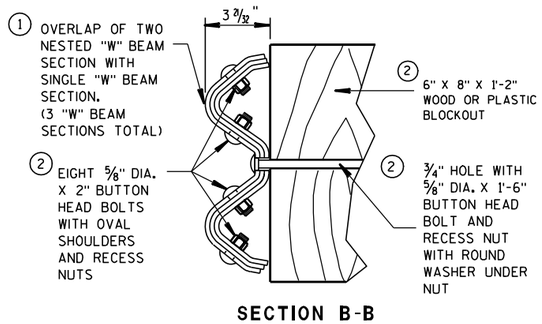

(3) SECTION F-F
BEAM SPLICE IN SPAN OVER CULVERT



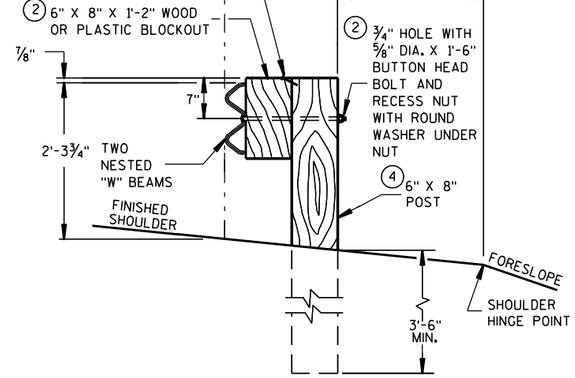

SECTION E-E
TYPICAL CRT POST LFC 5, 7, 8 AND 10




SECTION C-C
TYPICAL AT POSTS LFC 3 AND 12




SECTION B-B
TYPICAL AT POSTS LFC 1 AND 14




SECTION A-A
TYPICAL AT POST LFC 2,4,11,13

**STEEL PLATE BEAM GUARD, CLASS "A", OVER LOW FILL CULVERTS**

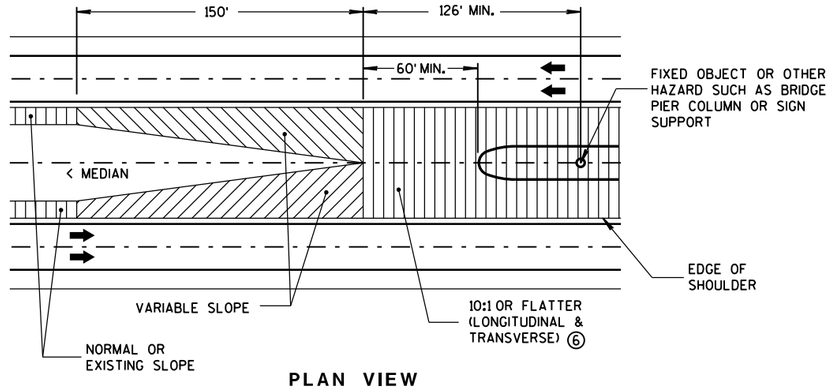
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/8/00 DATE
/S/ John Have... CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



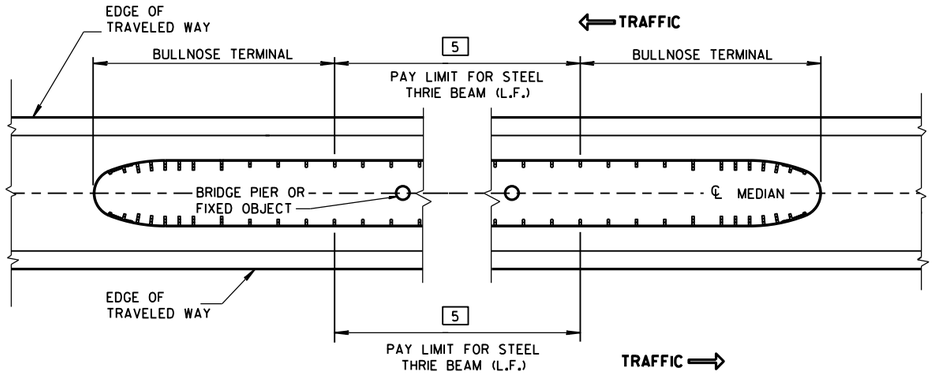

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S.D.D. 14 B 25-1

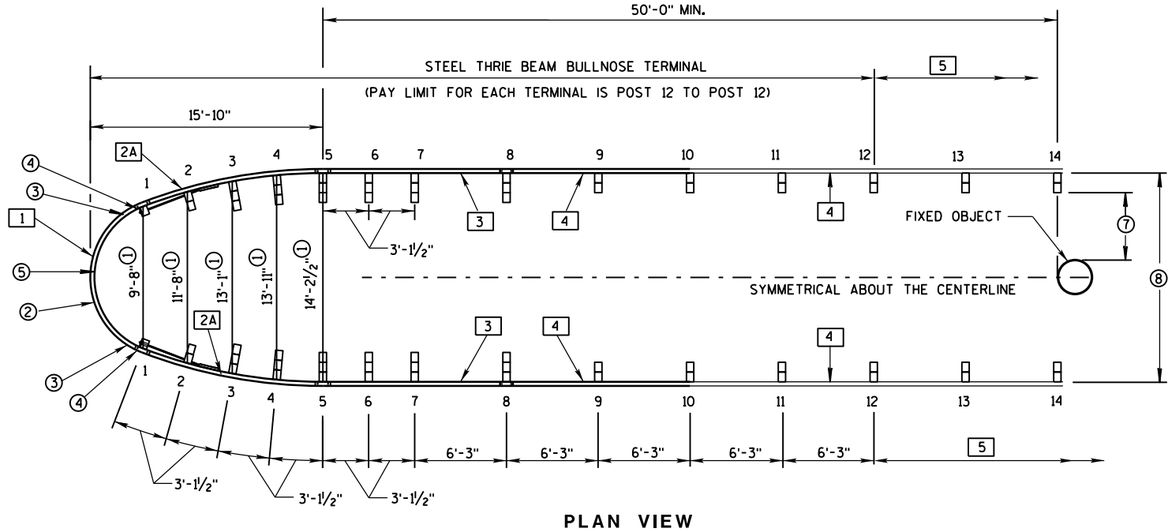



PLAN VIEW

## GRADING AT BULLNOSE
(ALL INSTALLATIONS)

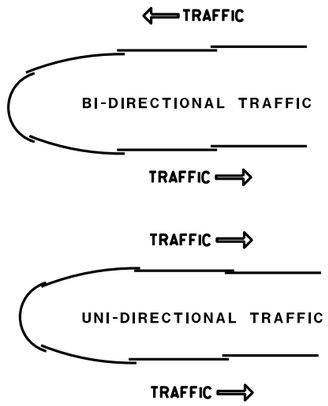



## MEDIAN HAZARD PROTECTION PAY LIMITS




PLAN VIEW

## TYPICAL BULLNOSE LAYOUT




## LAPPING DETAIL
(ALL INSTALLATIONS)

## GENERAL NOTES

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.

PUNCHING, DRILLING, CUTTING OR WELDING IS NOT PERMITTED ON ANY GALVANIZED THRIE BEAM ACCESSORY OR TERMINAL ACCESSORY.

OTHER ANCHOR CABLE ASSEMBLIES HAVING 40,000 LBS. MIN. BREAKING STRENGTH MAY BE USED.

FOR POSTS 2 THROUGH 14, IF POST CANNOT BE INSTALLED AT SPECIFIED LOCATION 1 EXTRA STANDARD WOOD BLOCK MAY BE ADDED.

THE USE OF STEEL POSTS ON THE BULLNOSE IS NOT ALLOWED.

BOLTS AND ALL NECESSARY HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 153.

ALL THRIE BEAM SHALL BE 12-GAUGE.

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½" AND 12" DIAMETER AROUND POST. SEE SDD 14B15 OR SDD 14B42 FOR MORE INFORMATION.

[1] SLOTTED THRIE BEAM RAIL NO. 1. ( POST 1 TO POST 1 )

[2A] SLOTTED THRIE BEAM RAIL NO. 2A. ( POST 1 TO POST 5 )

[3] SLOTTED THRIE BEAM RAIL NO. 3. ( POST 5 TO POST 8 )

[4] UNBENT STANDARD THRIE-BEAM RAIL NO.4. ( POST 8 TO POST 10 & POST 10 TO POST 12 )

[5] BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD THRIE BEAM RAIL NO. 5.

① DIMENSIONS ARE FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO POST OR BLOCK.

② U-BOLT CABLE CLIPS (3 PER CABLE) SPACED OUT ON NOSE, TO HOLD CABLE TO BACKSIDE OF THE RAIL.

③ NOSE CABLE W/SWAGGED END BUTTONS.

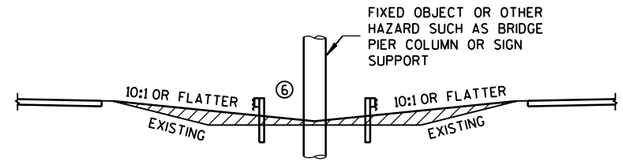
④ NOSE CABLE ANCHOR PLATE (BACKSIDE OF SPLICE).

⑤ THE SLACK IN THE NOSE CABLES SHALL BE EVENLY DISTRIBUTED BETWEEN THE CABLE CLIP FASTENERS AND POST NO. 1 ON EITHER SIDE OF THE NOSE.

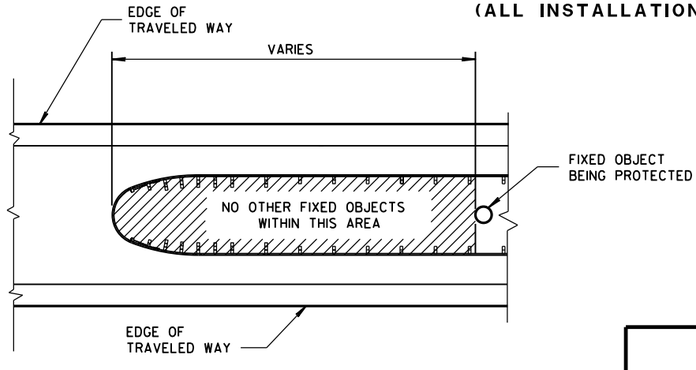
⑥ PROVIDE SUITABLE DRAINAGE WHEN MEDIAN GRADING IMPEDES NORMAL FLOW.

⑦ 2'-6" MINIMUM LATERAL DISTANCE BETWEEN BACK OF POST AND FACE OF FIXED OBJECT.

⑧ MAXIMUM WIDTH OF SYSTEM IS 14'-2½" MEASURED FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO A POST OR BLOCK.




## MEDIAN GRADING SECTION
(ALL INSTALLATIONS)



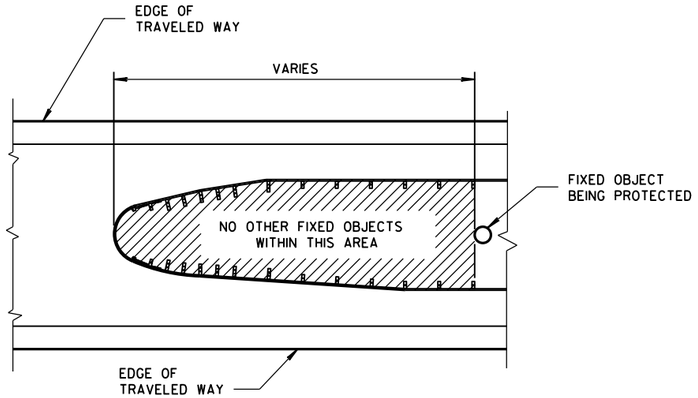

## HAZARD FREE AREA INSIDE BULLNOSE

STEEL THRIE BEAM BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO




6
S.D.D. 14 B 26-3a




## HAZARD FREE
## AREA INSIDE BULLNOSE

## GENERAL NOTES

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.

FOR POSTS 2 THROUGH 14, IF POST CANNOT BE INSTALLED AT SPECIFIED LOCATION 1 EXTRA STANDARD WOOD BLOCK MAY BE ADDED.

[1] SLOTTED THRIE BEAM RAIL NO. 1. ( POST 1 TO POST 1 )

[2A] SLOTTED THRIE BEAM RAIL NO. 2A, ( POST 1 TO POST 5 )

[2B] SLOTTED THRIE BEAM RAIL NO. 2B, ( POST 1 TO POST 5 )

[3] SLOTTED THRIE BEAM RAIL NO. 3. ( POST 5 TO POST 8 )

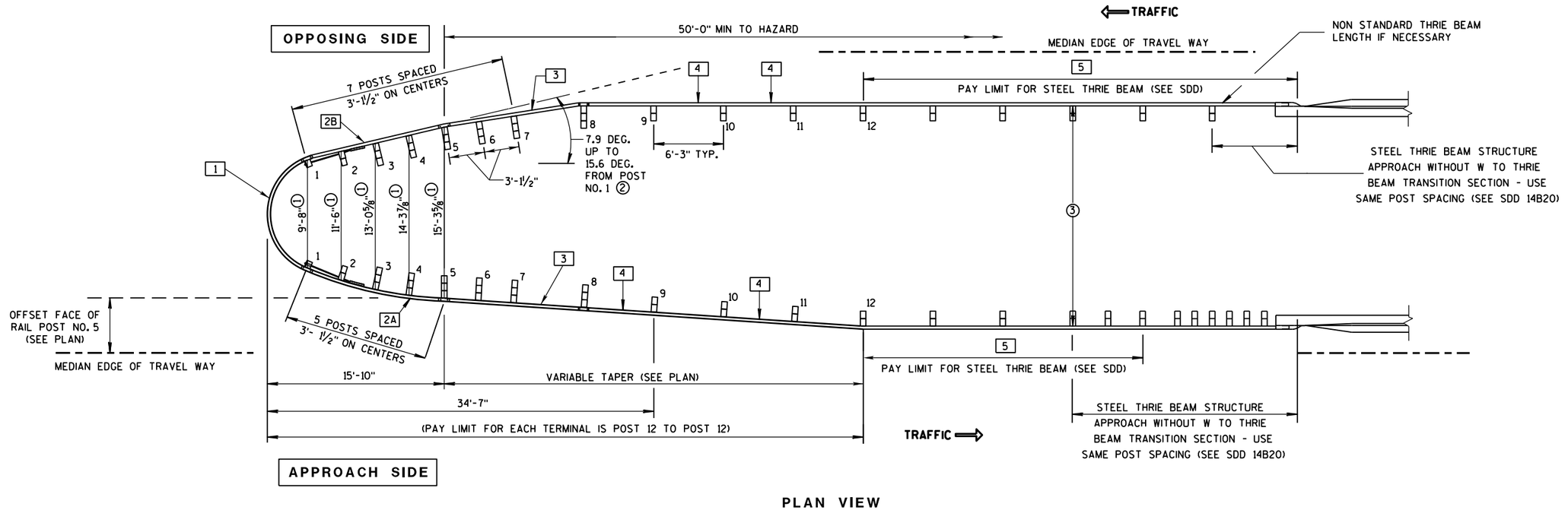
[4] UNBENT STANDARD THRIE-BEAM RAIL NO. 4, ( POST 8 TO POST 10 & POST 10 TO POST 12 )

[5] BEYOND POST 12: CONSTRUCT STEEL THRIE BEAM - USE UNBENT STANDARD THRIE BEAM RAIL NO. 5.

① DIMENSIONS ARE FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO POST.

② TAPER BEGINNING AT POST NO. 1 MUST CONTINUE TO POST NO. 5. PAST POST NO. 5 TAPER MAY END OR BE EXTENDED UP TO 15.6 DEGREES TO FIT VARIABLE MEDIAN WIDTHS. (SEE PLAN)

③ FOR MEDIANS WIDER THAN 14'-2½" MEASURED FROM BACK OF RAIL TO BACK OF RAIL WHERE RAIL IS BOLTED TO A POST OR BLOCK.




PLAN VIEW

## WIDENED BULLNOSE DESIGN

( INSTALLATION AT TWIN BRIDGES WITH BI-DIRECTIONAL TRAFFIC SHOWN )

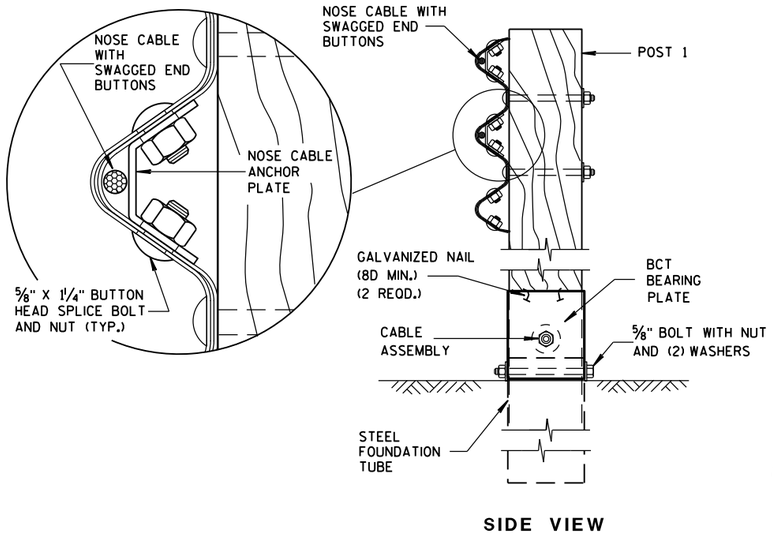
STEEL THRIE BEAM
BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI



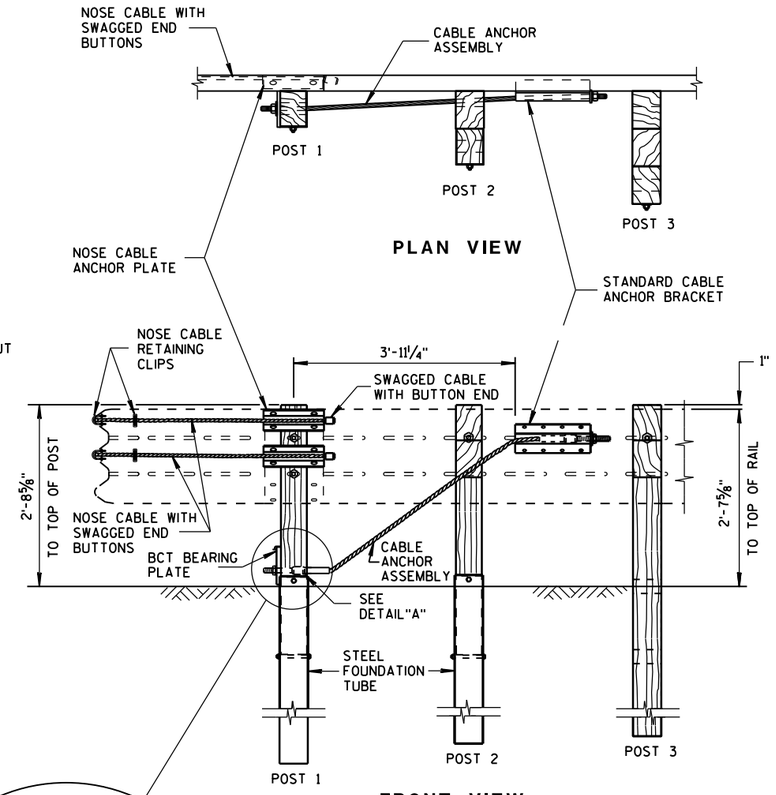

6

S.D.D. 14 B 26-3b




SIDE VIEW

## NOSE CABLE ASSEMBLY AT POST NO. 1




PLAN VIEW

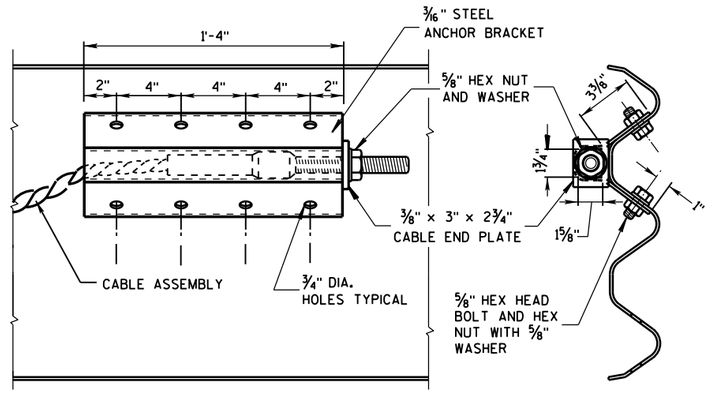



FRONT VIEW

## NOSE CABLE ANCHOR AND STANDARD BRACKET ASSEMBLY

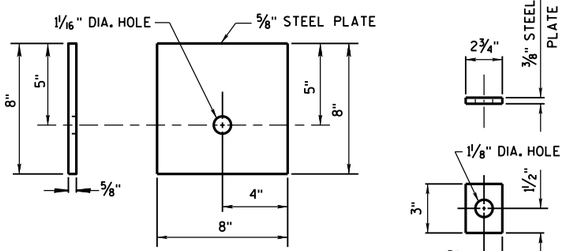
## GENERAL NOTES

SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.



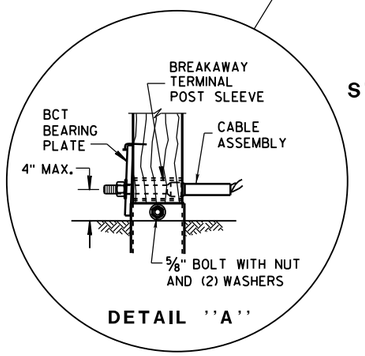

FRONT VIEW END VIEW

## DETAILS OF CABLE ANCHOR BRACKET

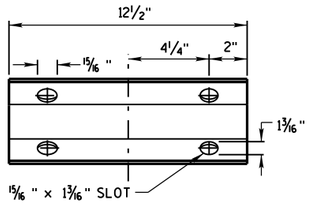



## BCT BEARING PLATE

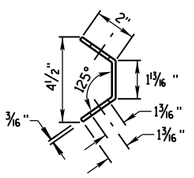
## CABLE END PLATE




DETAIL ''A''



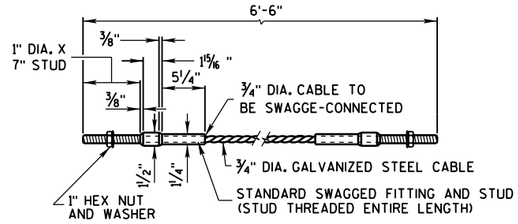

ELEVATION VIEW



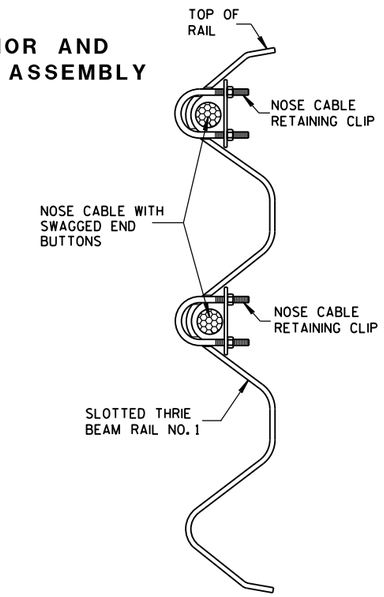

END VIEW

## NOSE CABLE ANCHOR PLATE

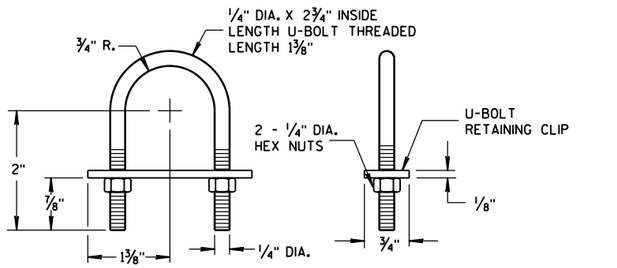
NOTE: 12 1/2" x 5 13/16" x 3/16" STEEL PLATE (A306)



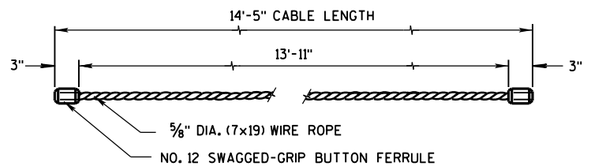

## DETAILS OF CABLE ANCHOR ASSEMBLY




## PLACEMENT OF NOSE CABLE RETAINING CLIP




## NOSE CABLE RETAINING CLIP




## NOSE CABLE WITH SWAGGED END BUTTONS

TO PULL OFF SWAGGED GRIP BUTTON FERRULE FROM WIRE ROPE REQUIRES A FORCE EQUAL TO 98% OF THE WIRE ROPE'S BREAKING STRENGHT.

STEEL THRIE BEAM BULLNOSE TERMINAL

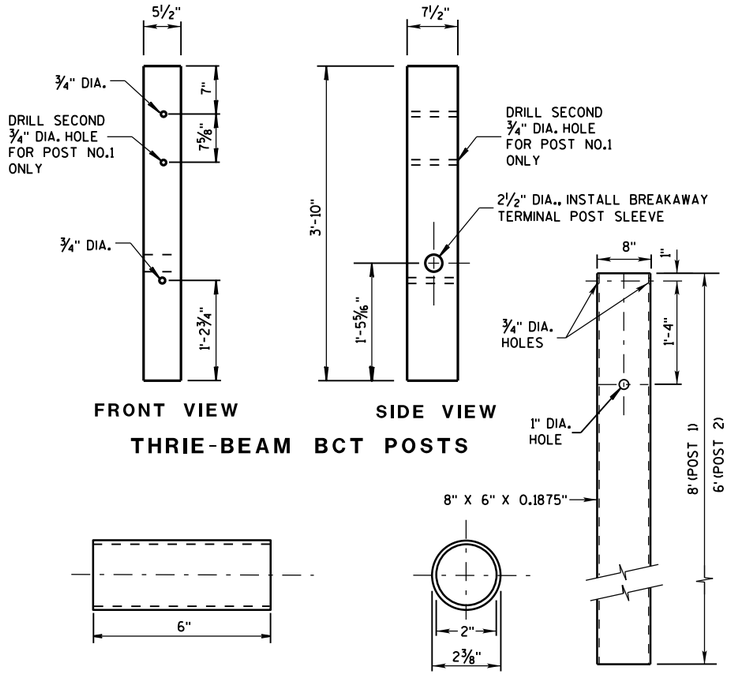
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI





6

S.D.D. 14 B 26-3c



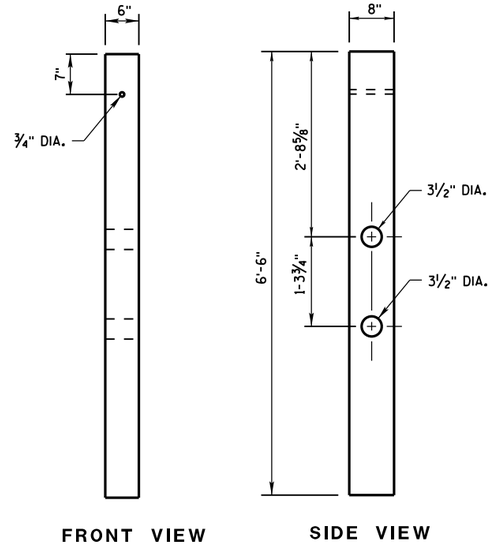

## THRIE-BEAM BCT POSTS




## BREAKAWAY TERMINAL POST SLEEVE



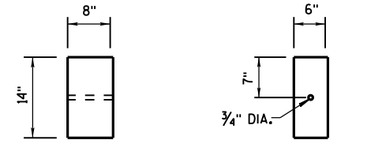

## STEEL FOUNDATION TUBE



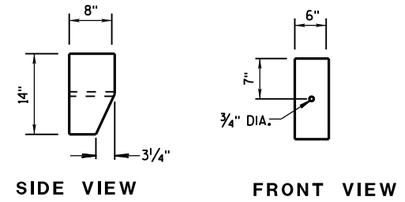

## THRIE-BEAM CRT WOOD POSTS

## GENERAL NOTES

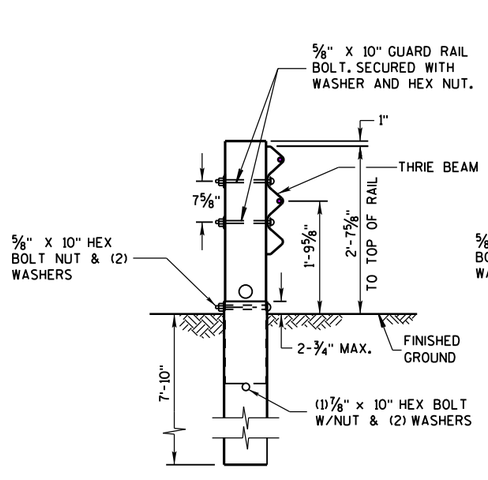
SEE STANDARD DETAIL DRAWINGS 14 B 26a-e.




## STANDARD WOOD BLOCK

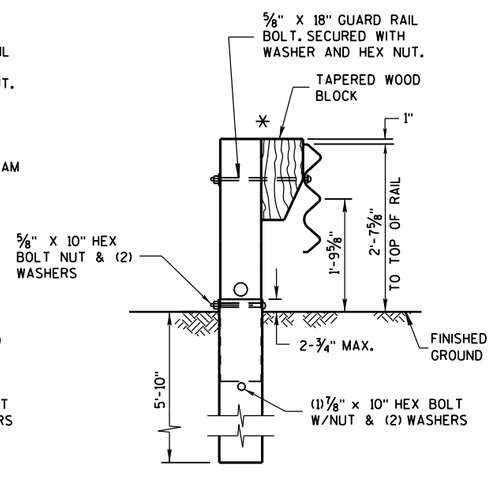



## TAPERED WOOD BLOCK



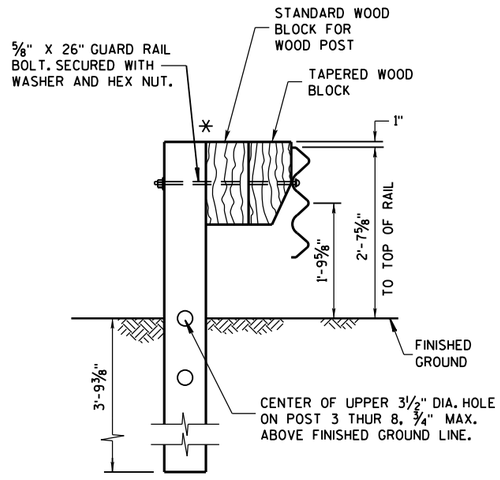

## THRIE-BEAM BCT POST
### (WITH 8'-0" FOUNDATION TUBE)

POST NO. 1



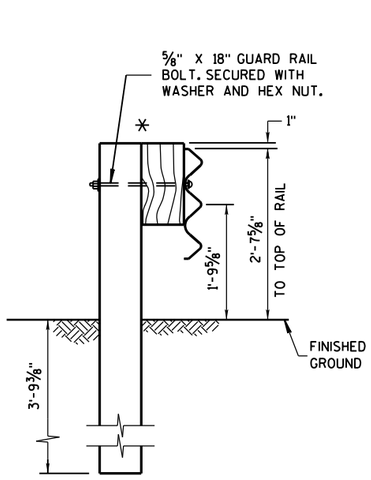

## THRIE-BEAM BCT POST
### (WITH 6'-0" FOUNDATION TUBE AND 1'-2" TAPERED BLOCK)

POST NO. 2




## THRIE-BEAM CRT POST
### (6'-6" LONG POST WITH 1'-2" BLOCK AND 1'-2" TAPERED BLOCK)

POST NO. 3,4,5,6,7, & 8




## THRIE-BEAM POST
### (6'-6" LONG POST WITH 1'-2" BLOCK)

POST NO. 9,10,11,& 12

(ALSO USE FOR STEEL THRIE BEAM BEYOND POST 12)

* IF NEEDED DUE TO AN UNDERGROUND OBSTACLE ADD 1 ADDITIONAL STANDARD BLOCKOUT TO POST.

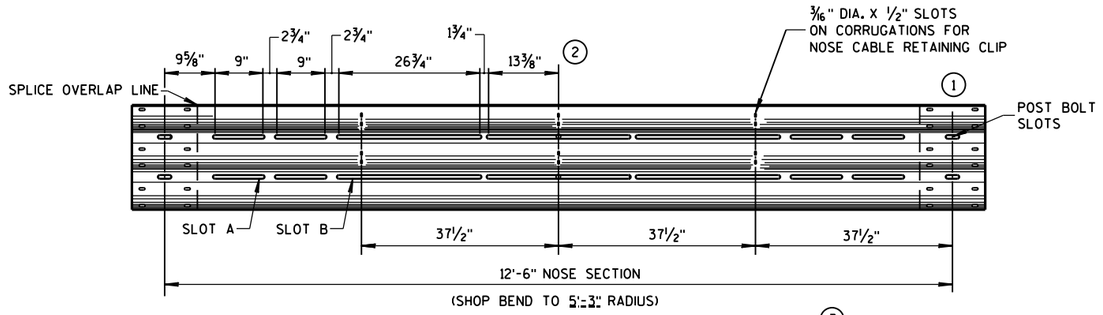
**STEEL THRIE BEAM BULLNOSE TERMINAL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

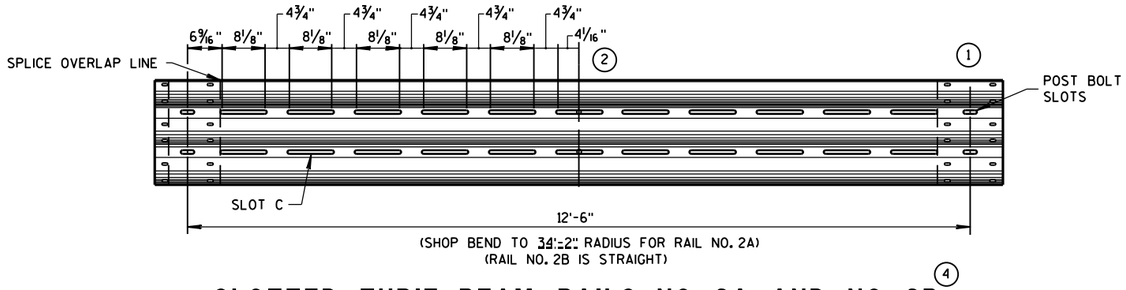



6

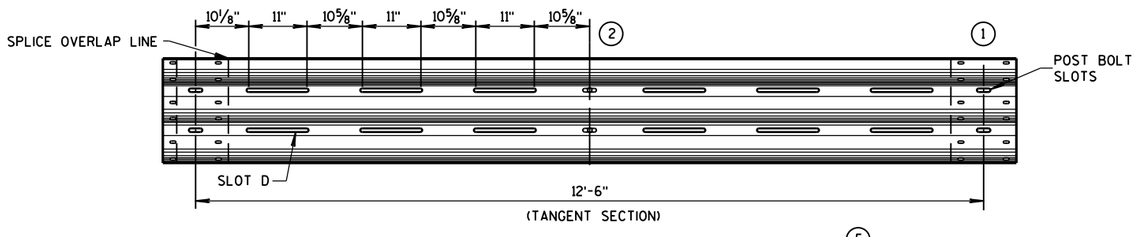

S.D.D. 14 B 26-3d



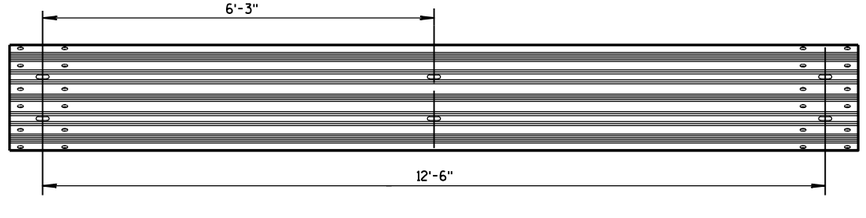

## SLOTTED THRIE BEAM RAIL NO. 1 (3)




## SLOTTED THRIE BEAM RAILS NO. 2A AND NO. 2B (4)




## SLOTTED THRIE BEAM RAIL NO. 3 (5)




## UNBENT STANDARD THRIE BEAM RAIL NO. 4 AND NO. 5

## GENERAL NOTES

SEE STANADRD DETAIL DRAWINGS 14 B 26a-e.

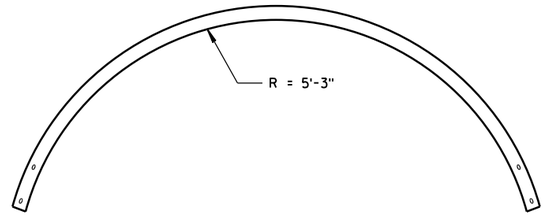
(1) SLOTTED THRIE BEAM RAIL DIMENSIONS SHOWN ARE BEFORE BENDING TO THE RADIUS SHOWN.

(2) SLOT SIZE AND SPACING SYMMETRIC.

(3) SLOTTED THRIE BEAM RAIL NO. 1, 12'-6", SHOP BEND TO R=5'-3".

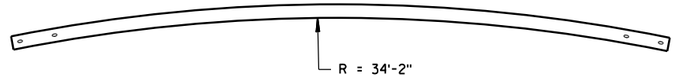
(4) SLOTTED THRIE BEAM RAIL NO. 2A, 12'-6", SHOP BEND TO R=34'-2".
SLOTTED THRIE BEAM RAIL NO. 2B, 12'-6", RAIL IS STRAIGHT.

(5) SLOTTED THRIE BEAM RAIL NO. 3, 12'-6", TANGENT.



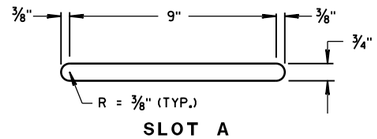

PLAN VIEW

## SLOTTED THRIE BEAM RAIL NO. 1

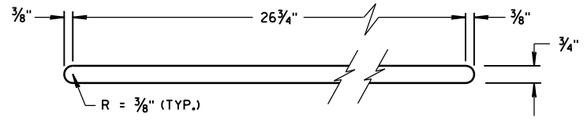



PLAN VIEW

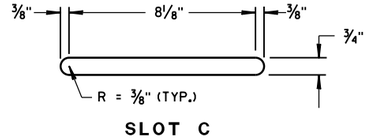
## SLOTTED THRIE BEAM RAIL NO. 2A



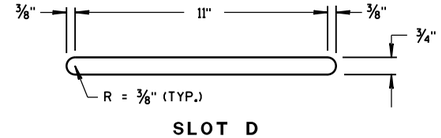

SLOT A




SLOT B




SLOT C




SLOT D

## SLOT DETAILS

STEEL THRIE BEAM
BULLNOSE TERMINAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



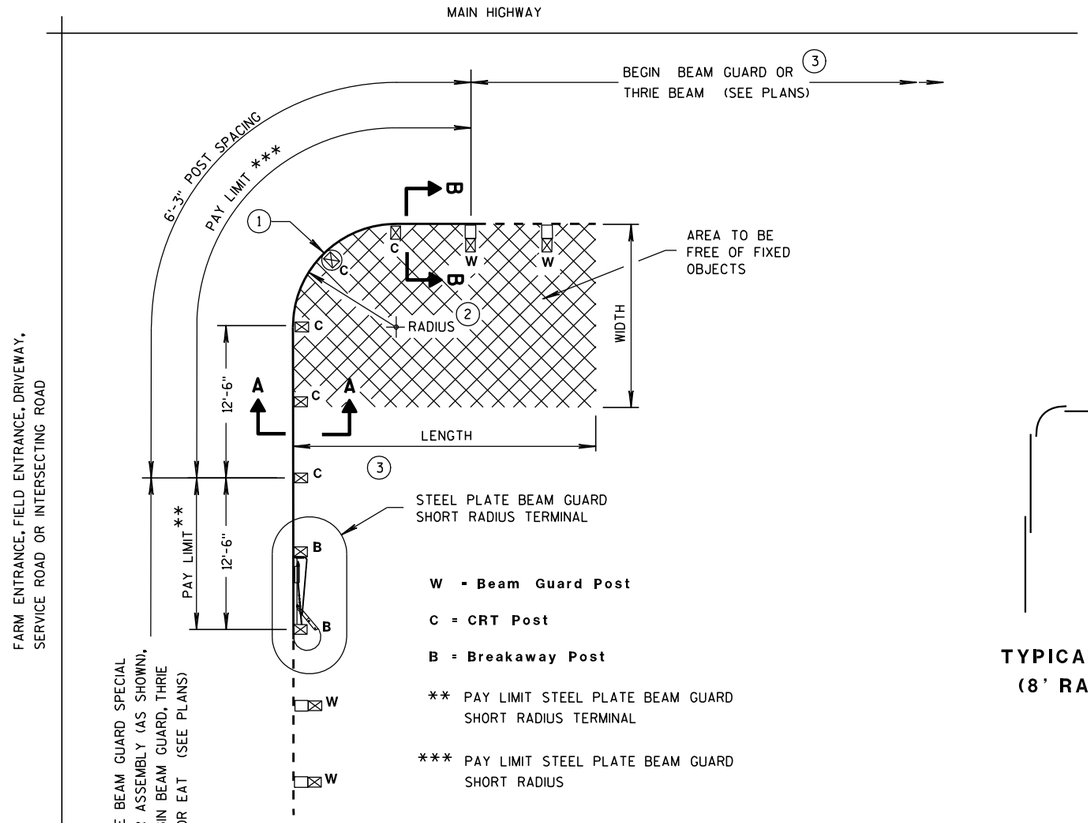
NT

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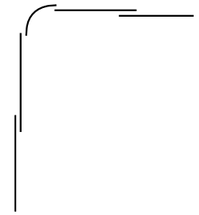
S.D.D. 14 B 26-3e

6

S.D.D. 14 B 26-3e




**TYPICAL LAYOUT**
**(8' RADIUS SHOWN)**



**TYPICAL LAP SPLICES**
**(8' RADIUS SHOWN)**

## GENERAL NOTES

ALL ANGLES, CHANNELS, AND PLATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM A36 AND THE STRUCTURAL TUBING SHALL CONFORM TO ASTM A 500. WELDING SHALL MEET THE CURRENT REQUIREMENTS OF THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE ANSI/AWS D1.1. ALL STRUCTURAL STEEL SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A 123. PUNCHING, DRILLING, CUTTING, OR WELDING WILL NOT BE PERMITTED AFTER GALVANIZING. FURNISH AND INSTALL HARDWARE PER STANDARD SPECIFICATION 614.2. UNLESS NOTED OTHERWISE.

SHOP BEND CURVED RAIL SECTIONS.

SEE STANDARD DETAIL DRAWING 14 B 15 FOR OTHER DETAIL.

(1) ON THE 8 FOOT RADIUS INSTALLATION, DO NOT INSTALL BUTTON HEAD BOLT AT CENTER CRT POST.

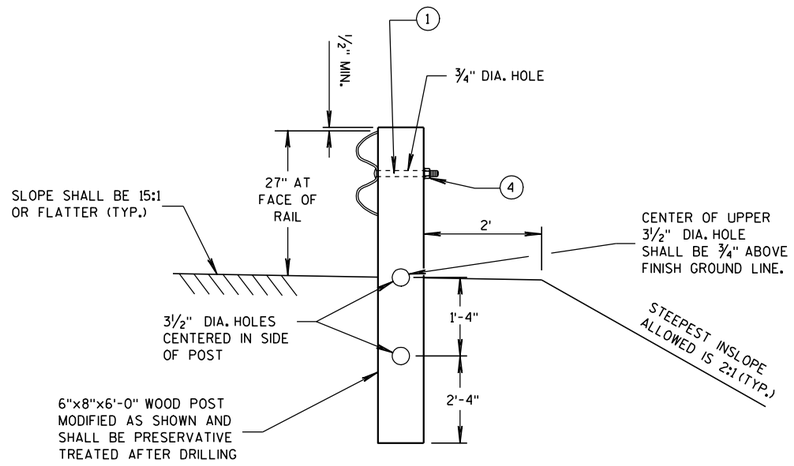
(2) RADIUS FROM 8' - 36'. SEE PLAN.

(3) HEIGHT TRANSITION MAY BE REQUIRED. SEE PLAN OR PROJECT ENGINEER.

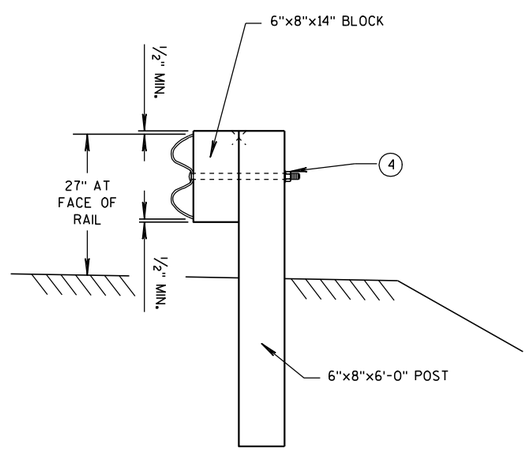
(4) 5/8" ø X 1'-6" BUTTON HEAD BOLT AND RECESS NUT WITH ROUND WASHER UNDER NUT.

| RADIUS | NUMBER OF CRT POSTS | *NUMBER AND LENGTH OF CURVED RAILS | REQUIRED AREA FREE OF FIXED OBJECTS (LENGTH x WIDTH) |
|---|---|---|---|
| 8' | 5 | 1 at 12.5' | 25' x 15' |
| 16' | 7 | 1 at 25' | 30' x 15' |
| 24' | 9 | 1 at 25' and 1 at 12.5' | 40' x 20' |
| 32' | 11 | 2 at 25' | 50' x 20' |

* THE NUMBER OF RAILS IS BASED ON A 90° INTERSECTION. SEE PLAN FOR NON 90° INSTALLATIONS.




**SECTION A-A**
**(CRT POST)**



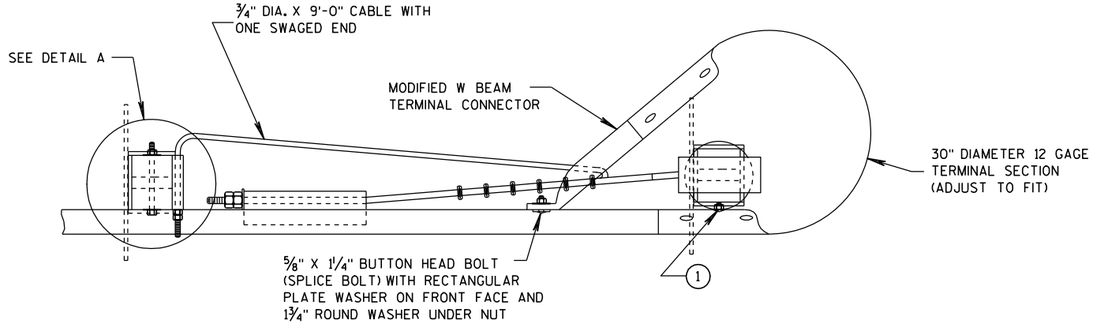

**SECTION B-B**
**(BEAM GUARD POST)**

# STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

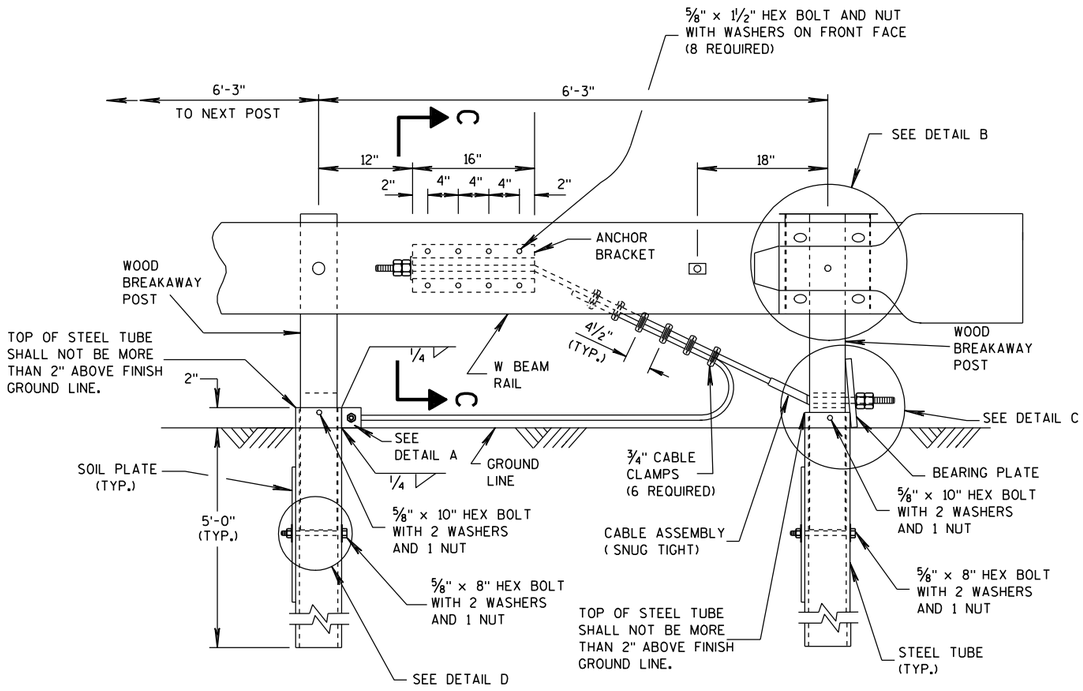
| STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL |
|---|
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION |




6
S.D.D. 14 B 27-1a




**PLAN VIEW**



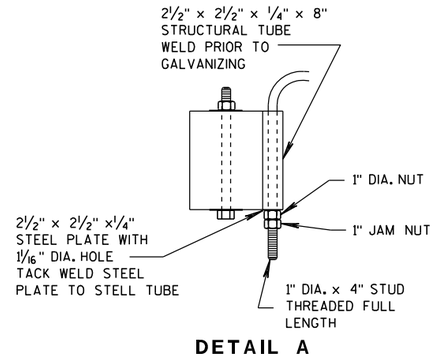

**ELEVATION VIEW**

# STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL

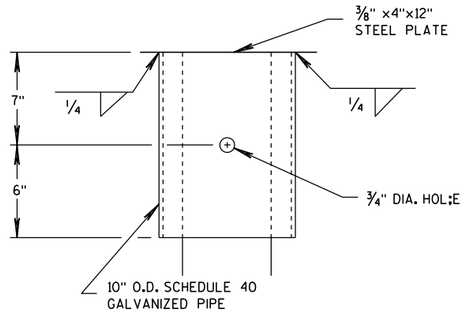
## GENERAL NOTES

(1) ATTACH W BEAM RAIL TO THE STEEL PIPE WITH A ⅝" X 2" BUTTON HEAD BOLT WITH NO WASHER. CONNECTION TO THE POST IS NOT REQUIRED.

INSTALL GALVANIZED ¾" (6X19) PREFORMED WIRE OR INDEPENDENT WIRE ROPE CORE CONFORMING TO AASHTO M 30. MANUFACTURE WIRE ROPE OUT OF IMPROVED PLOW STEEL WITH A MINIMUM BREAKING STRENGTH OF 42,800 PSI.




**DETAIL A**




**DETAIL B**

(BEAM GUARD AND TERMINAL SECTION NOT SHOWN)

**STEEL PLATE BEAM GUARD SHORT RADIUS TERMINAL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

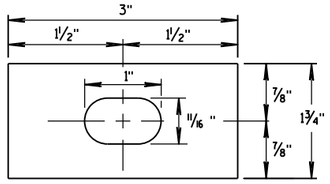


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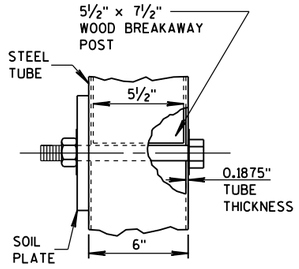
S.D.D. 14 B 27-1b

6

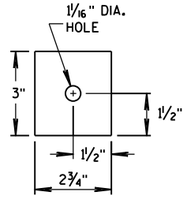
S.D.D. 14 B 27-1b



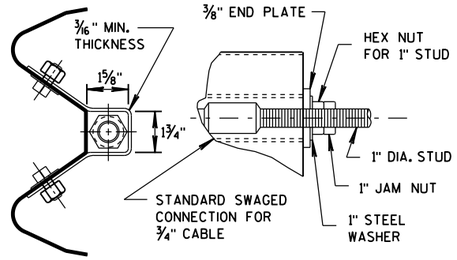

**RECTANGULAR PLATE WASHER**



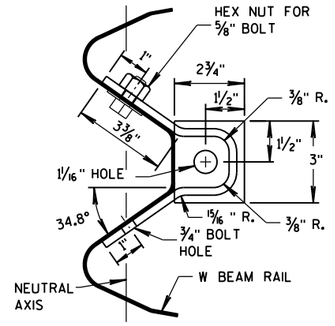

**DETAIL D**



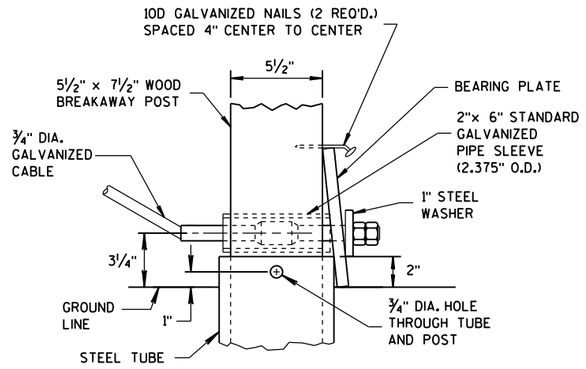

**END PLATE**



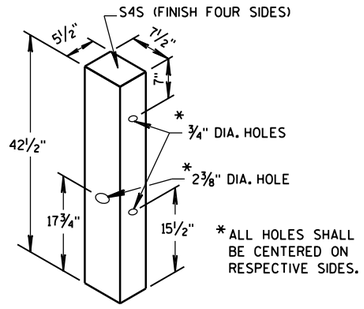

**SECTION C-C**
**(END PLATE REMOVED)**



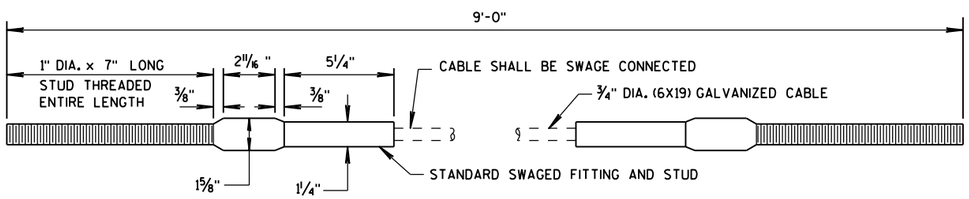

**ANCHOR BRACKET**



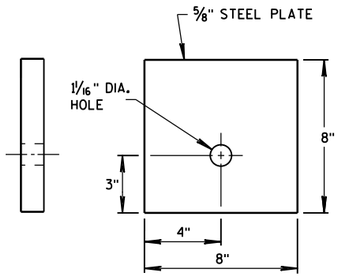

**DETAIL C**



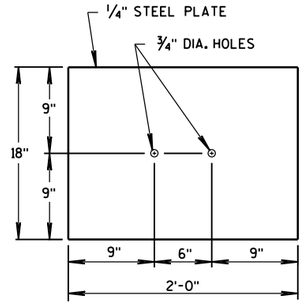

**WOOD BREAKAWAY POST**



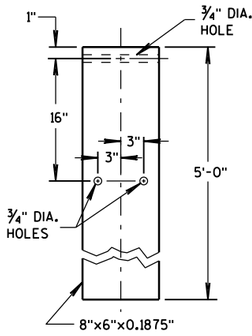

**CABLE ASSEMBLY**




**BEARING PLATE**




**SOIL PLATE**




**STEEL TUBE**

**STEEL PLATE BEAM GUARD**
**SHORT RADIUS TERMINAL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/18/08 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

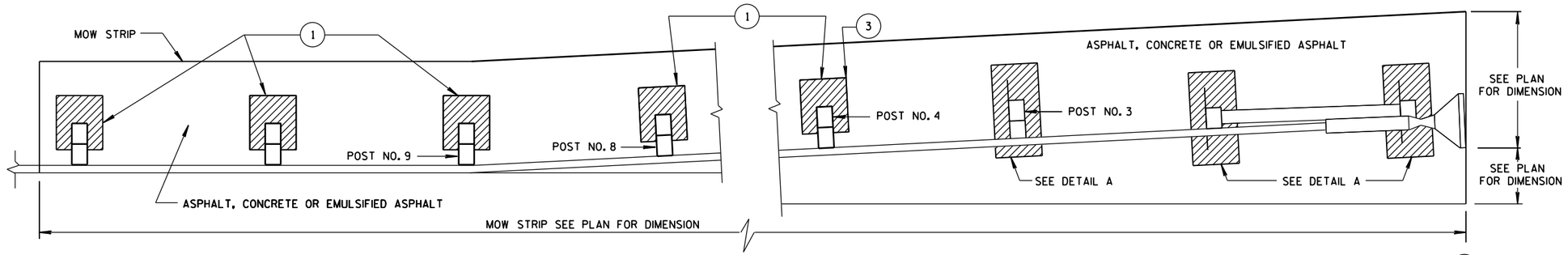


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S.D.D. 14 B 27-1c

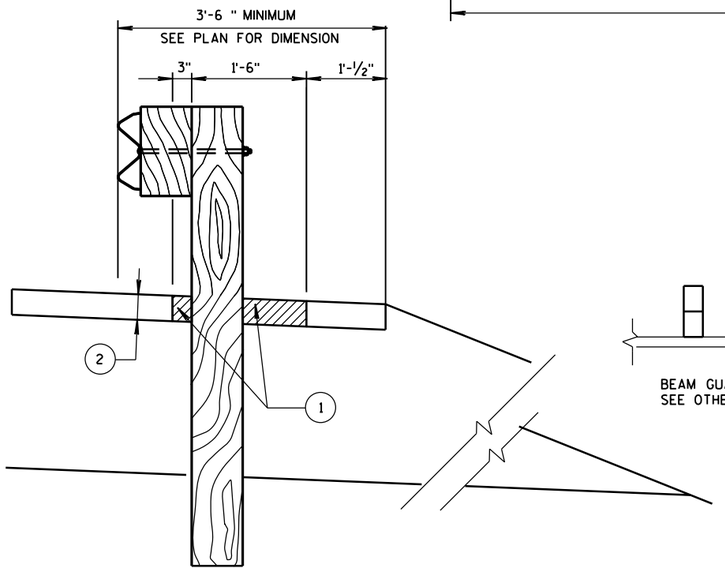
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S.D.D. 14 B 27-1c

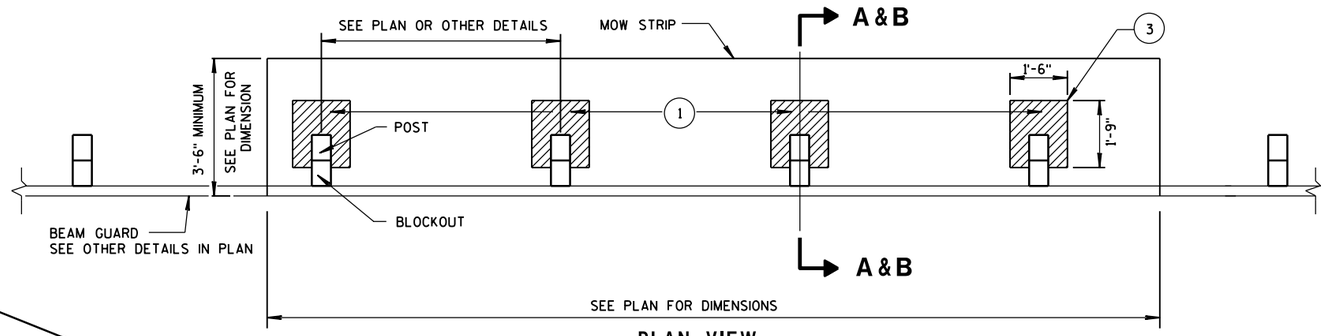



PLAN VIEW

## MOW STRIP LAYOUT FOR ENERGY ABORBING TERMINAL

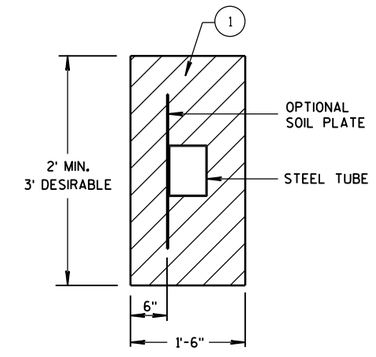



SECTION A-A

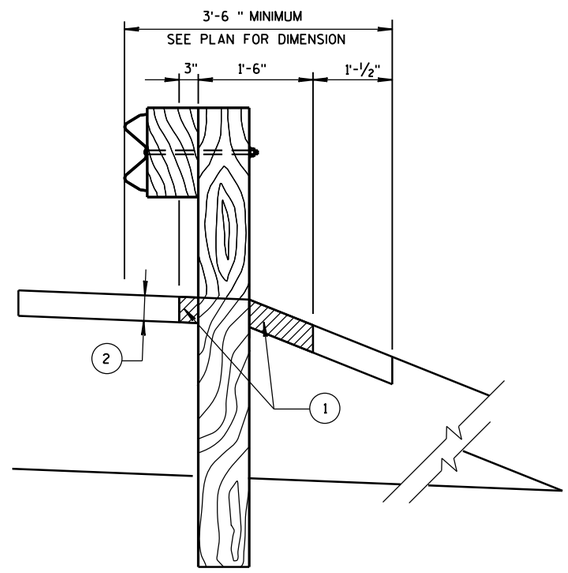



PLAN VIEW

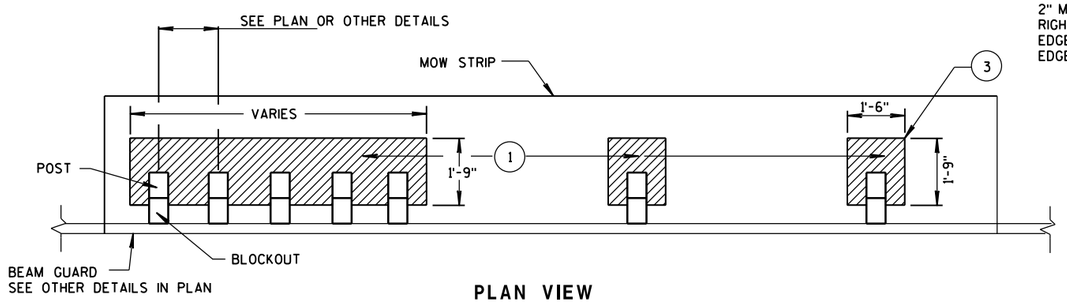
## MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT




DETAIL A

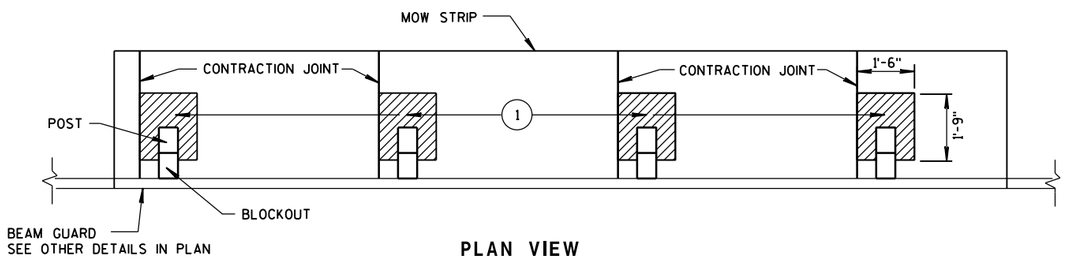



SECTION B-B



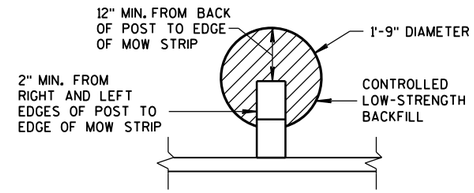

PLAN VIEW

## MOW STRIP FOR TIGHT SPACING LAYOUT




PLAN VIEW

## JOINT PLACEMENT FOR CONCRETE MOW STRIP




ALTERNATIVE HMA
MOW STRIP DESIGN

(1) CONTROLLED LOW-STRENGTH BACKFILL OR EMULSIFIED ASPHALT.

(2) DEPTH OF MOW STRIP:
ASPHALT - 4"
CONCRETE - 4"
EMULSIFIED ASPHALT - 1" OR LESS

(3) FOR EMULSIFIED ASPHALT MOW STRIP LEAVE OUTS NOT REQUIRED. (TYPICAL FOR ALL POSTS.)

# GUARDRAIL MOW STRIP

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

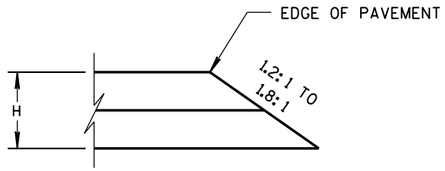


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S.D.D. 14 B 28-3

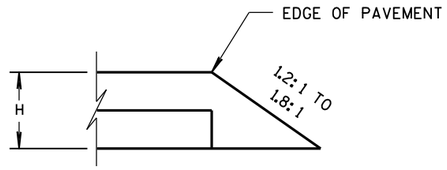
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S.D.D. 14 B 28-3



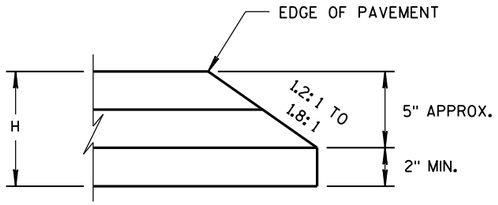

**CONSTRUCTED WITH FINAL TWO LAYERS**

**FOR H 5" OR LESS**



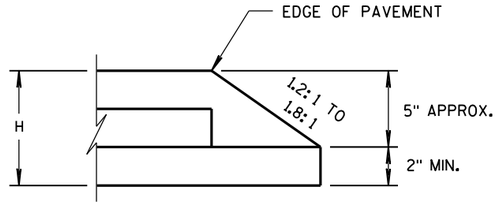

**CONSTRUCTED WITH FINAL LAYER**

**FOR H 5" OR LESS**




**CONSTRUCTED WITH FINAL TWO LAYERS**

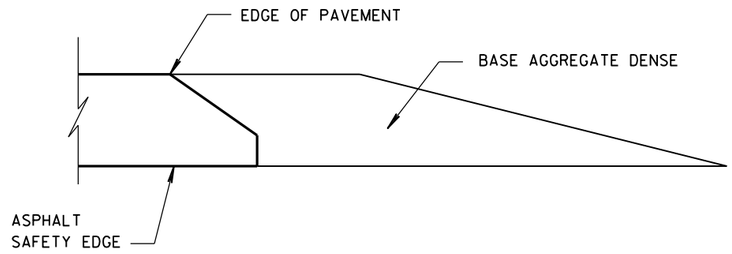
**FOR H GREATER THAN 5"**




**CONSTRUCTED WITH FINAL LAYER**

**FOR H GREATER THAN 5"**

## HMA PAVEMENT AND HMA OVERLAYS




## FINISHED SHOULDER AGGREGATE PLACEMENT

6

6

S.D.D. 14 B 29-1

S.D.D. 14 B 29-1

SAFETY EDGE SM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/2012
DATE

/S/ Jerry H. Zoda
ROADWAY STANDARDS 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.

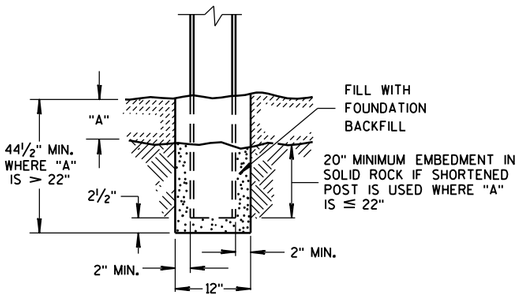
② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

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

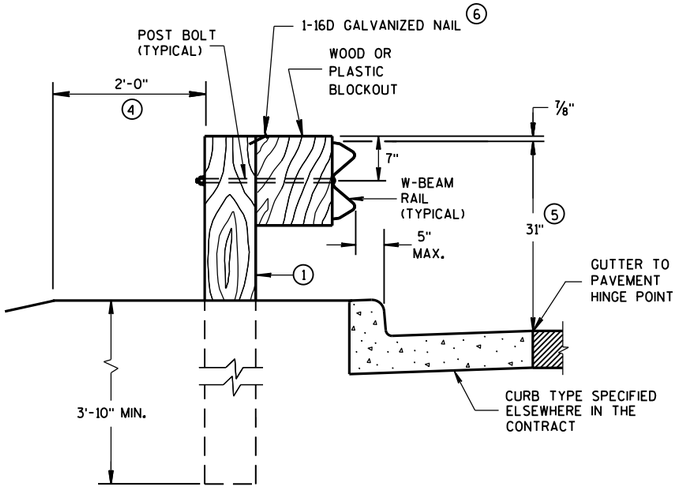
④ WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).

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

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




END VIEW
SETTING STEEL OR WOOD POST IN ROCK ③



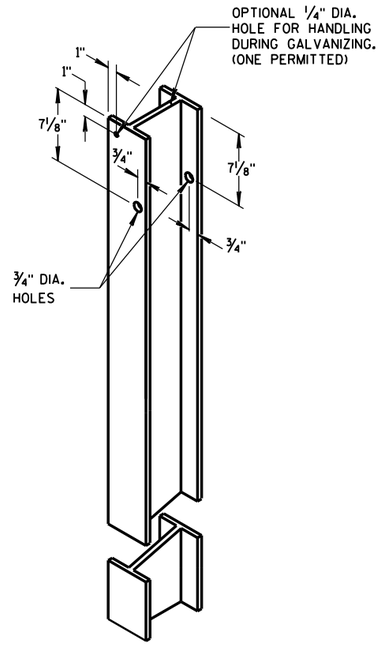

END VIEW
LOCATED ALONG A CURBED ROADWAY



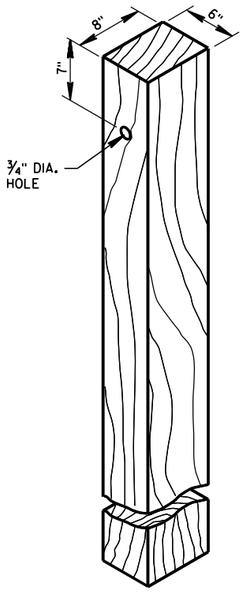

END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



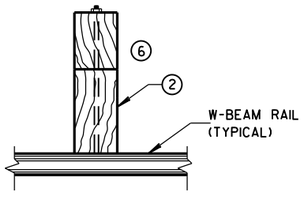

END VIEW
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



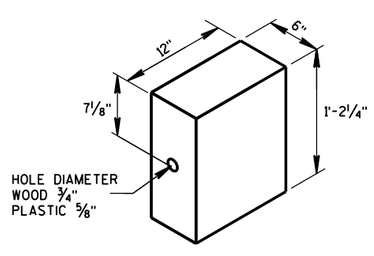

STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) ①



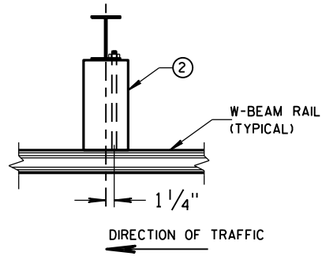

WOOD POST
(6" X 8") NOMINAL ①




PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM




WOOD OR
PLASTIC BLOCKOUT ②



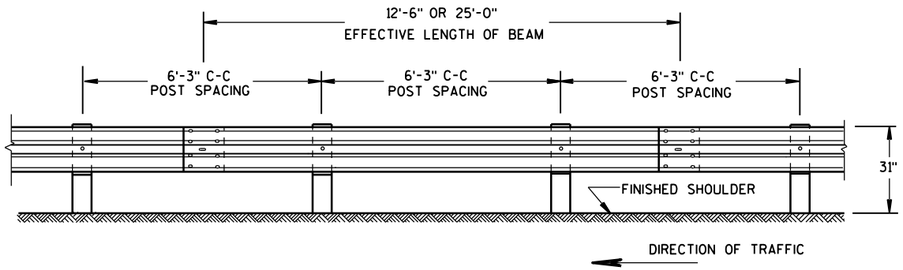

PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

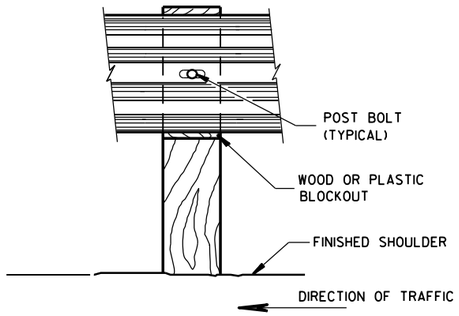



6
S.D.D. 14 B 42-4a




FRONT VIEW

## POST SPACING STANDARD INSTALLATION




FRONT VIEW AT WOOD POST

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

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

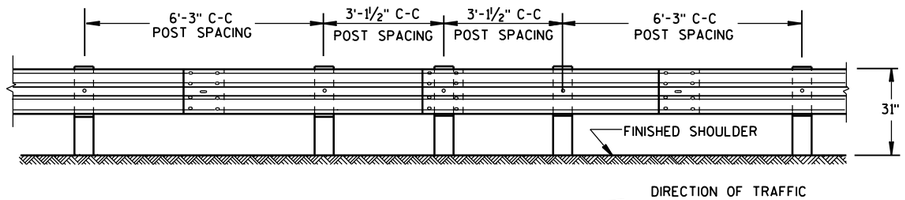
9. REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

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

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

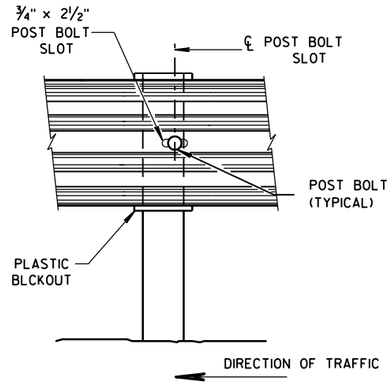
POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

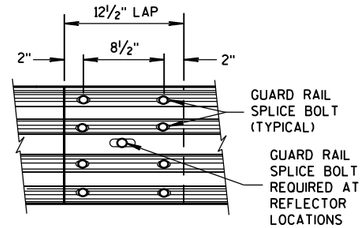



FRONT VIEW

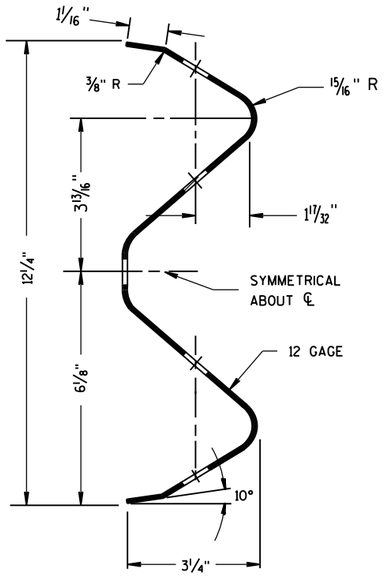
## HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



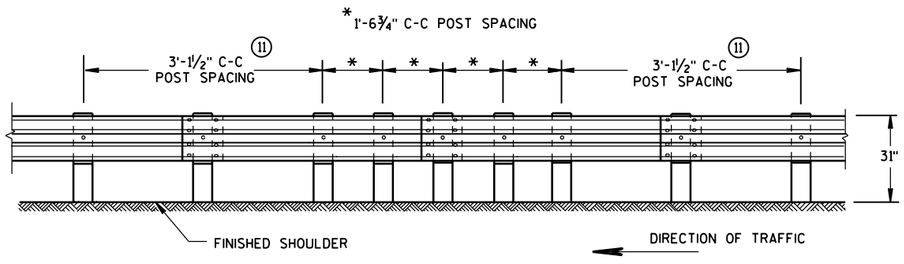

FRONT VIEW AT STEEL POST




FRONT VIEW
MID-SPAN BEAM SPLICE

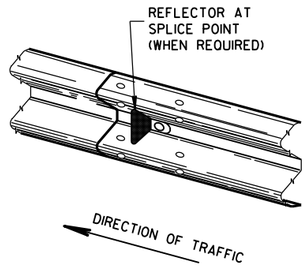


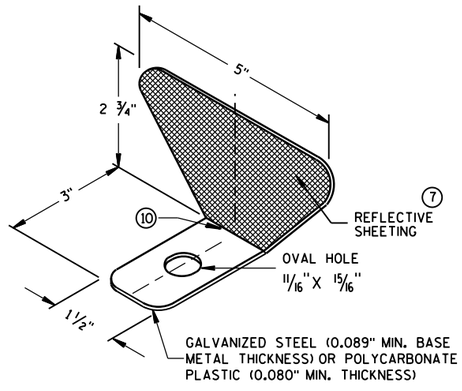

SECTION THRU W-BEAM RAIL




FRONT VIEW

## QUARTER POST SPACING (QS)




## ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (7)

### REFLECTOR SPACING (8)

| | 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 | 3 |
| | > 200' | 100' C-C | 2 (10) | |

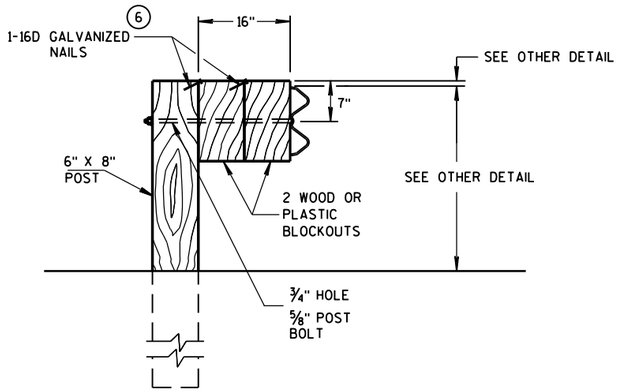
MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO



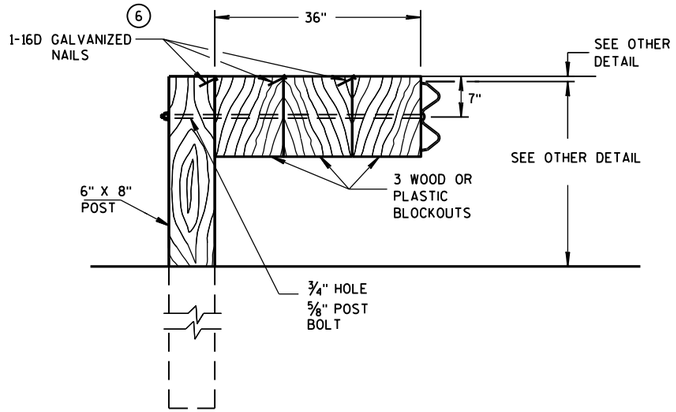

6


S.D.D. 14 B 42-4b




## 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.

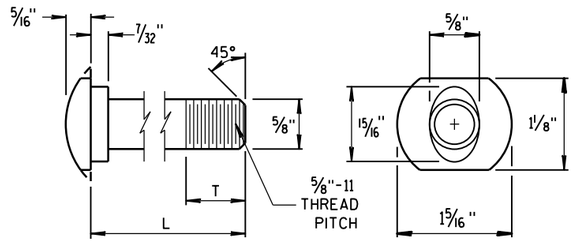



## DETAIL FOR 36" BLOCKOUT DEPTH

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.

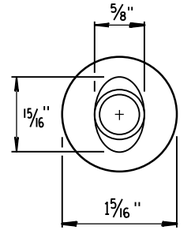
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

NOTE: 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 1/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

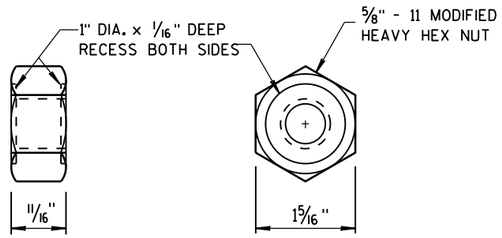



### POST BOLT TABLE

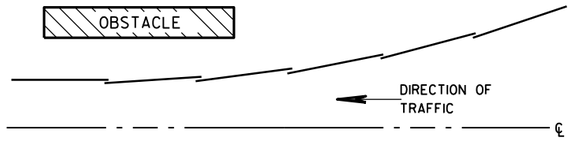
| L | T (MIN.) |
|---|---|
| 1 1/4" | 1 1/8" |
| 2" | 1 3/4" |
| 10" | 4" |
| 14" | 4 1/16" |
| 18" | 4" |
| 21" | 4 1/16" |
| 25" | 4" |




ALTERNATE BOLT HEAD

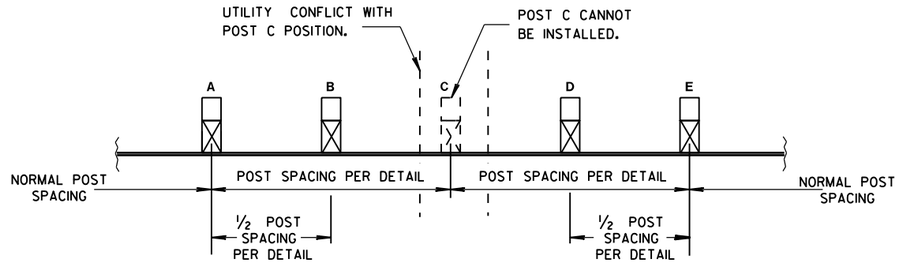



## POST BOLT, SPLICE BOLT AND RECESS NUT

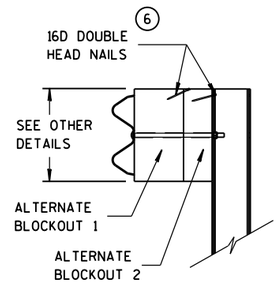



PLAN VIEW

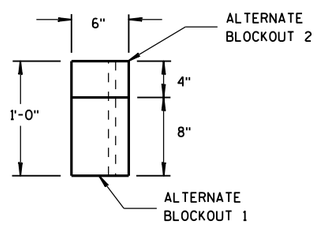
## BEAM LAPPING DETAIL




## POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION




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 ENGINEER
FHWA




6
S.D.D. 14 B 42-4c

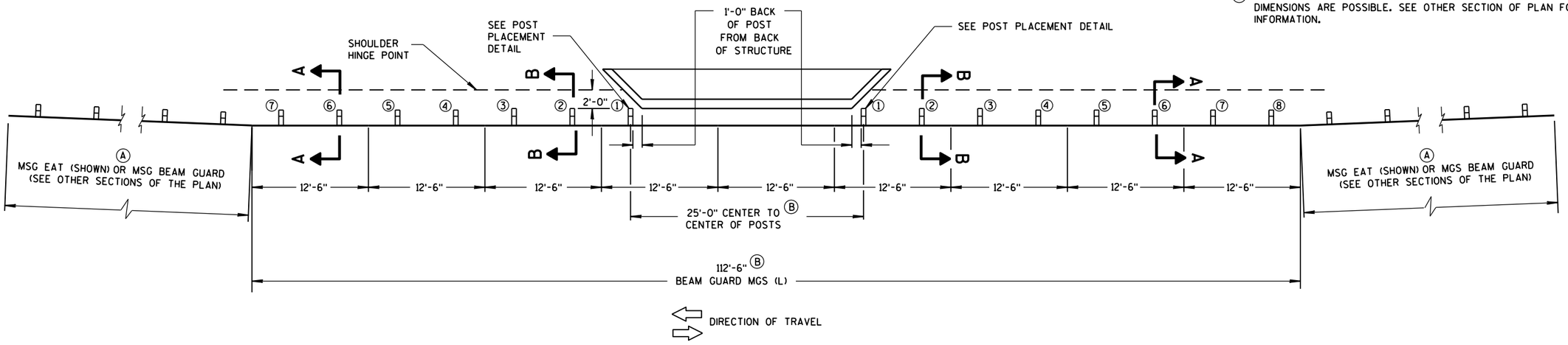
## GENERAL NOTES

POSTS 1 THROUGH 3 ARE CRT POSTS.
ALL OTHER POSTS SHALL BE WOOD OR STEEL.

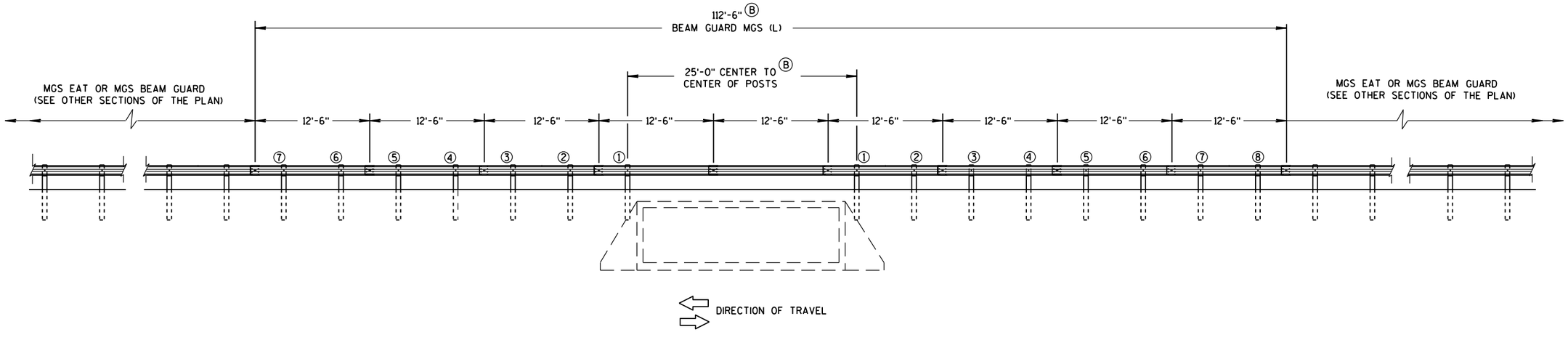
SEE SDD 14 B 42 FOR MORE DETAILS.

(A) FLARE FOR MGS EAT SHOWN. IF INSTALLING MGS NO FLARE NEEDED.

(B) VALUES SHOWN ON DRAWING REPRESENT THE MAXIMUM LENGTH. SHORTER DIMENSIONS ARE POSSIBLE. SEE OTHER SECTION OF PLAN FOR MORE INFORMATION.




PLAN VIEW




ELEVATION VIEW

# MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) TWO-WAY TRAFFIC

| |
|---|
| MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPOI |




6

S.D.D. 14 B 43-3a

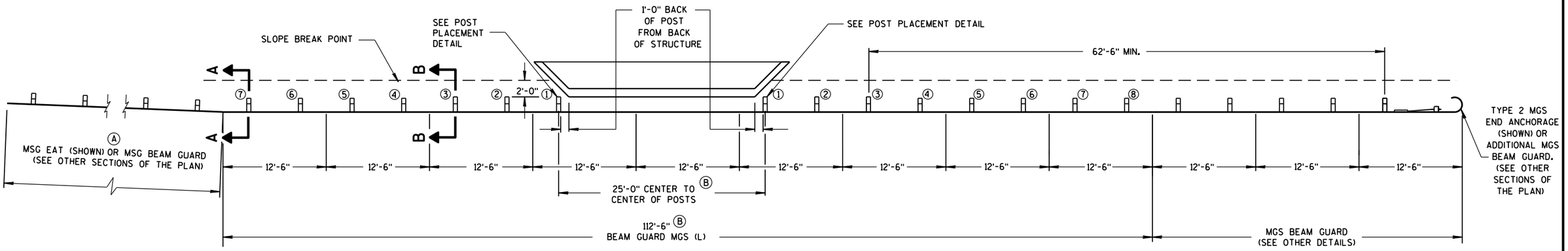
## GENERAL NOTES

POSTS 1 THROUGH 3 ARE CRT POSTS.
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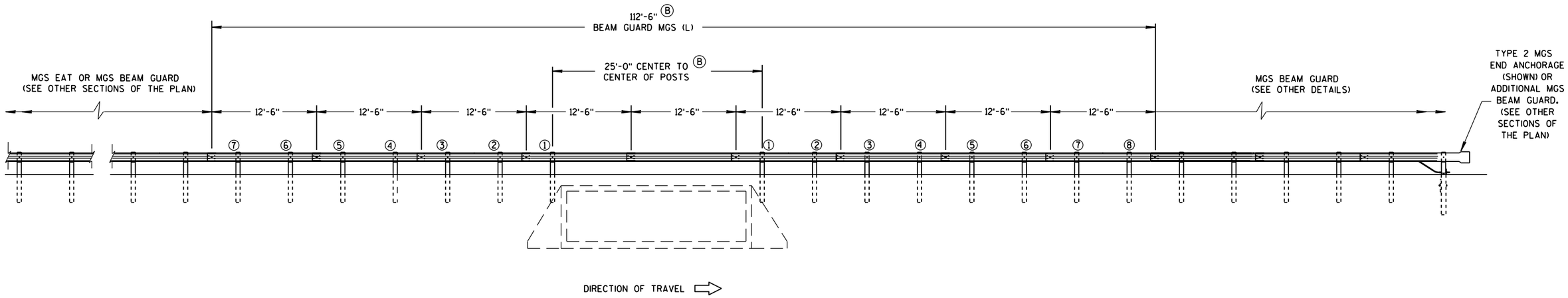
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(A) FLARE FOR MGS EAT SHOWN. IF INSTALLING MGS NO FLARE NEEDED.

(B) VALUES SHOWN ON DRAWING REPRESENT THE MAXIMUM LENGTH. SHORTER DIMENSIONS ARE POSSIBLE. SEE OTHER SECTION OF PLAN FOR MORE INFORMATION.




PLAN VIEW




ELEVATION VIEW

# MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) ONE-WAY TRAFFIC

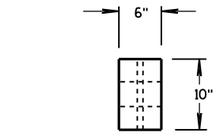
MIDWEST GUARDRAIL SYSTEM
LONG SPAN MGS (L)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

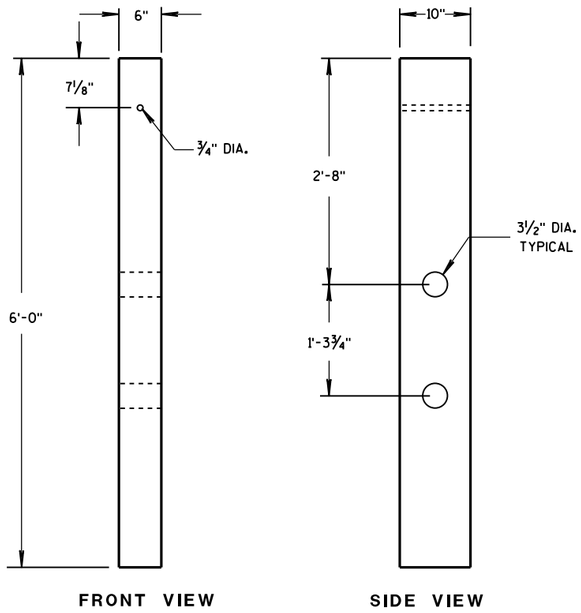



6


S.D.D. 14 B 43-3b

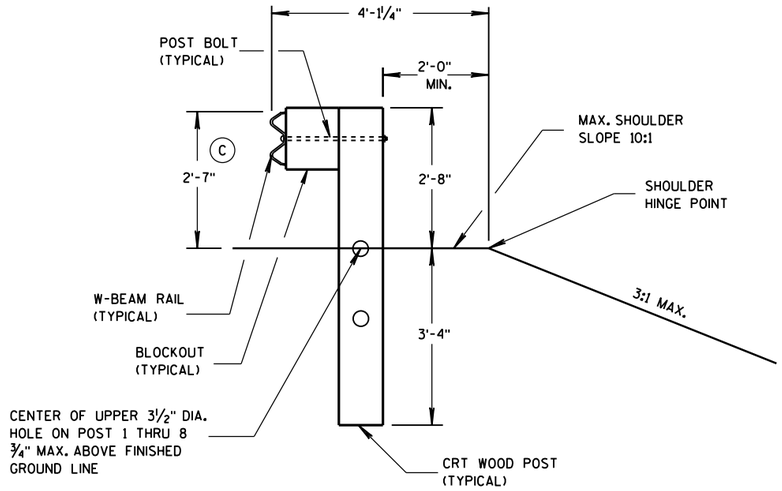



PLAN VIEW




FRONT VIEW SIDE VIEW

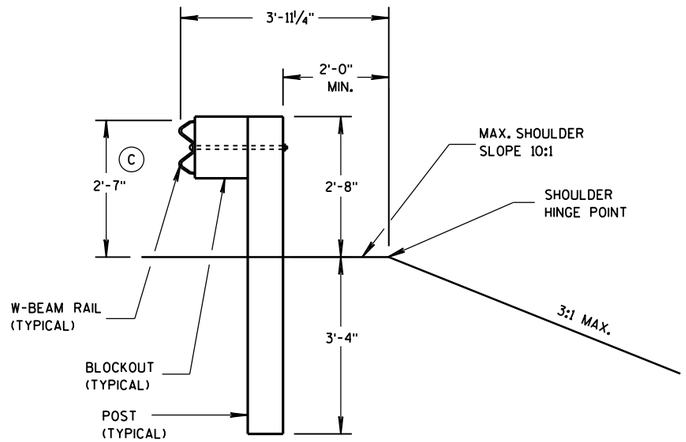
CRT WOOD POST




SECTION B-B

**POSTS NO. 1-3**

SEE OTHER DETAILS



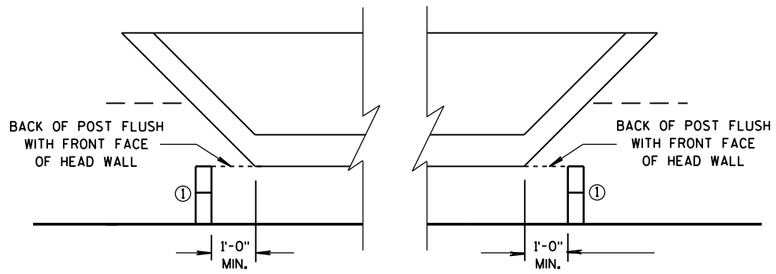

SECTION A-A

**POSTS NO. 4-8**

SEE OTHER DETAILS

## GENERAL NOTES

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




POST PLACEMENT DETAIL

**MIDWEST GUARDRAIL SYSTEM**
**LONG SPAN MGS (L)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/10/2013
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA



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S.D.D. 14 B 43-3c

6

S.D.D. 14 B 43-3c

## GENERAL NOTES

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

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

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

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

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

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

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

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

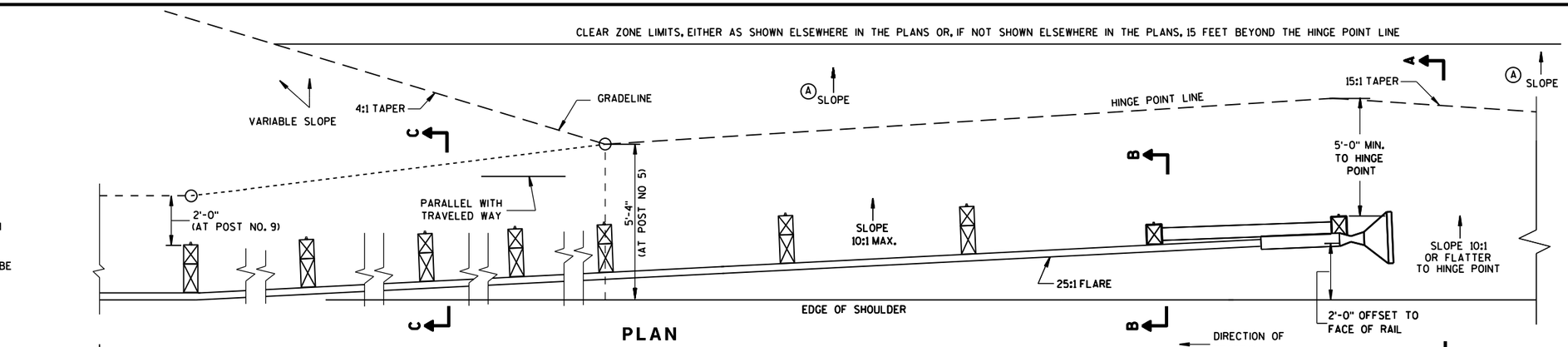
SEE SDD 14B42 FOR MORE INFORMATION.

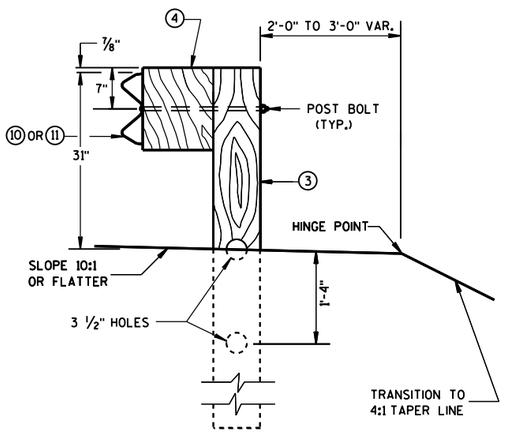
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

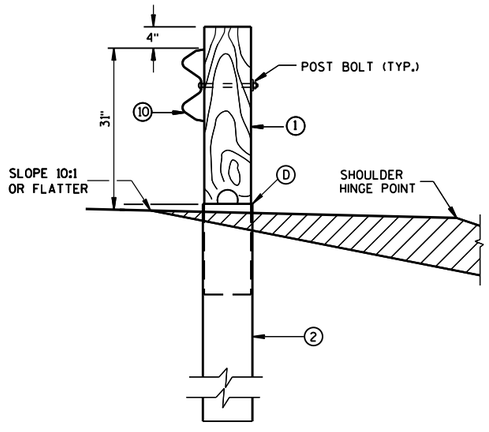
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

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

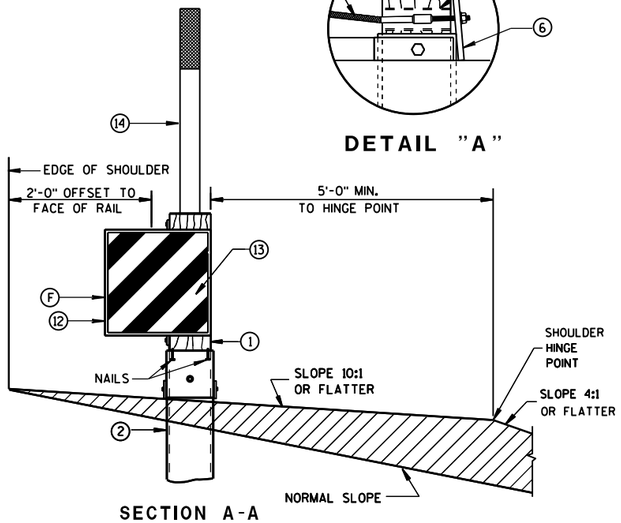


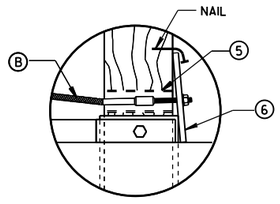

SECTION C-C
TYPICAL AT POST NOS. 3-9



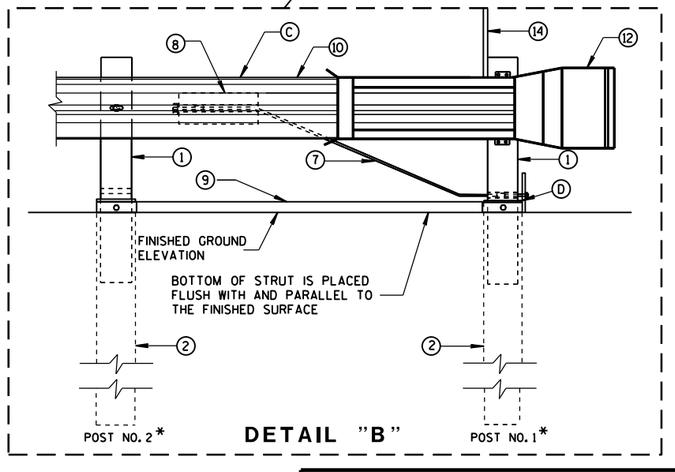

SECTION B-B
TYPICAL AT POST NO. 2*




SECTION A-A
TYPICAL AT POST NO. 1*




DETAIL "A"




DETAIL "B"

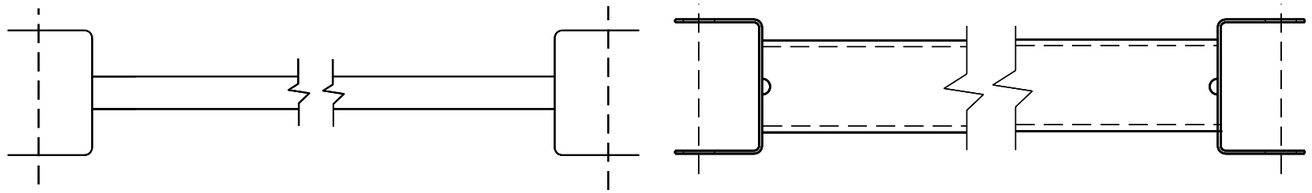
MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO



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

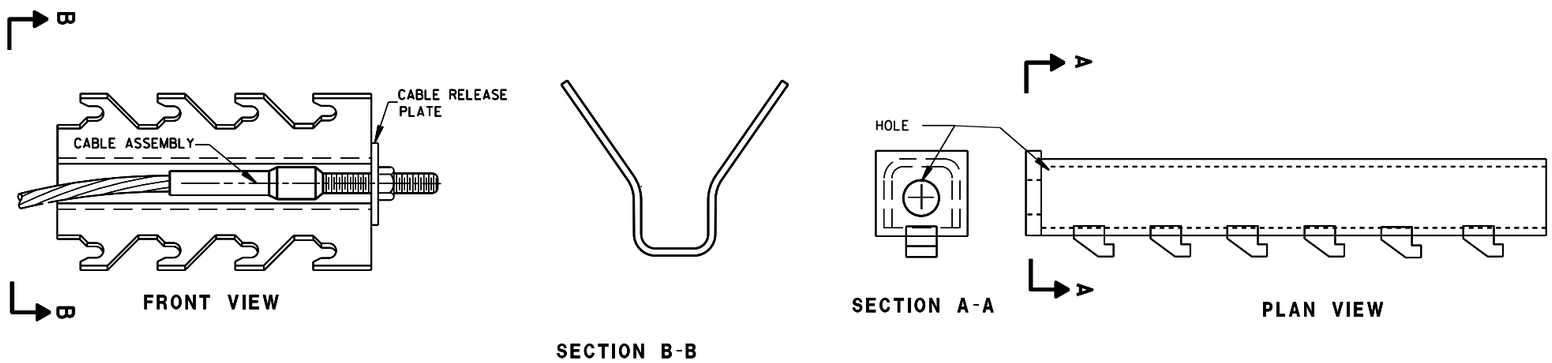
S.D.D. 14 B 44-2a



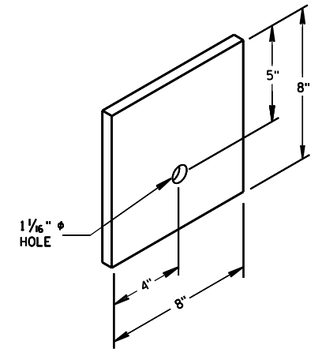
GENERIC GROUND STRUT (9) (H)

## BILL OF MATERIALS

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




GENERIC ANCHOR CABLE BOX (8) (H)




BEARING PLATE (6)

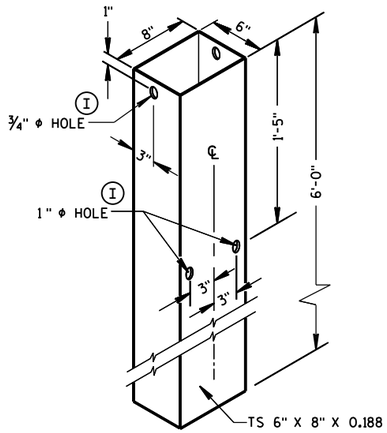
MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

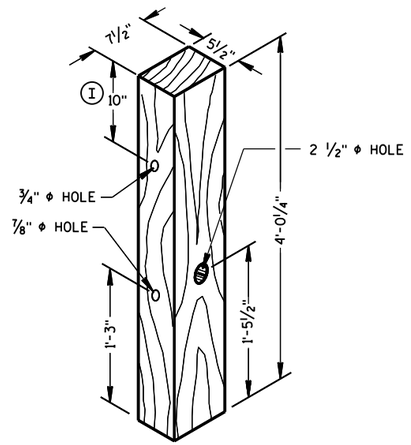




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S.D.D. 14 B 44-2b

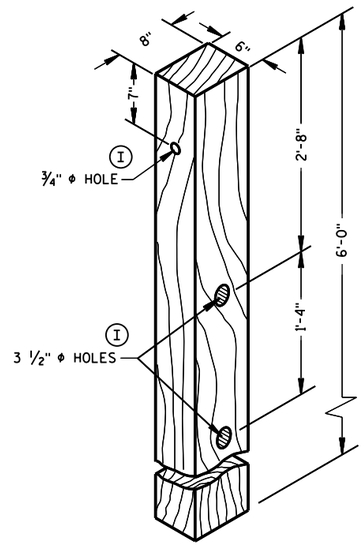



FOUNDATION TUBE (2)



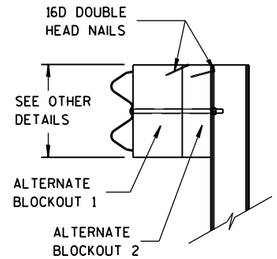

POSTS NUMBER 1 AND 2

WOOD BREAKAWAY POST (1)

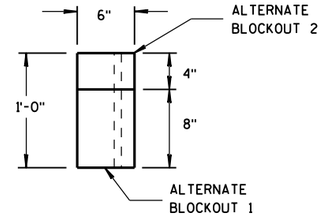



POSTS NUMBER 3-9

WOOD CRT POST (3)

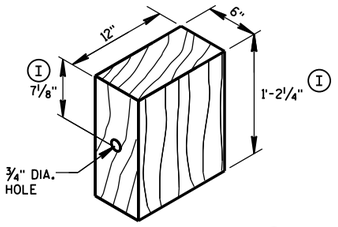



SIDE VIEW



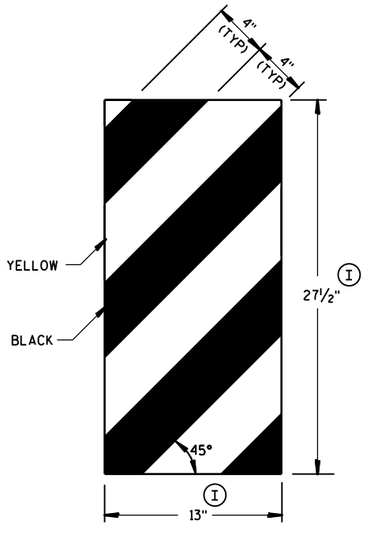

TOP VIEW

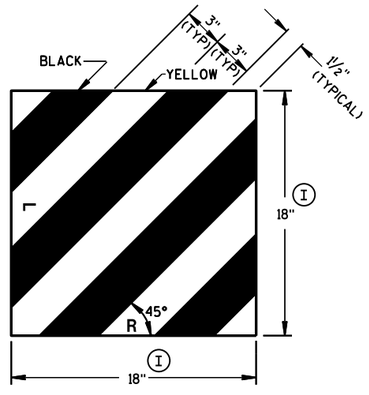
ALTERNATE WOOD BLOCKOUT DETAIL



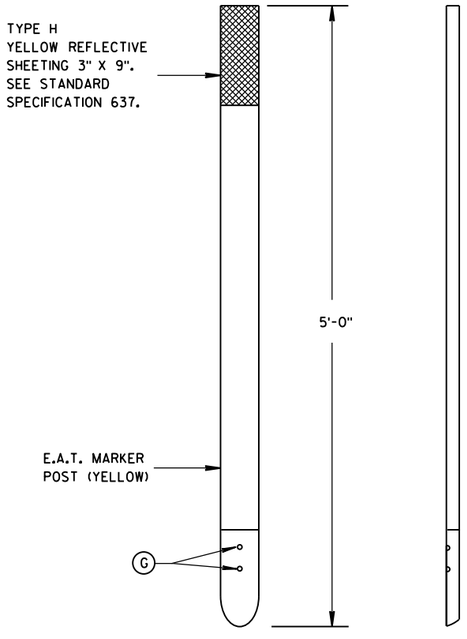

WOOD BLOCKOUT (4)

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



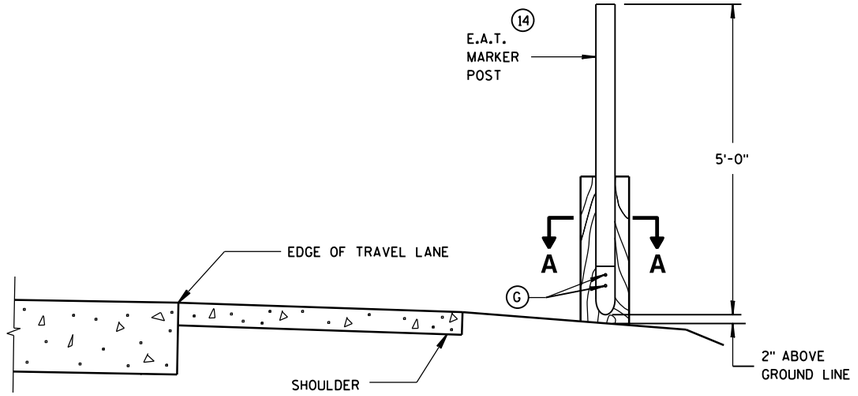

GENERIC REFLECTIVE SHEETING (13) (H)




FRONT VIEW

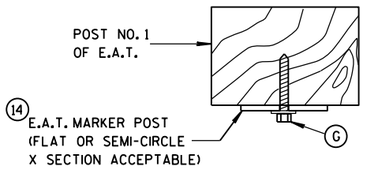
SIDE VIEW

E.A.T. MARKER POST (14)




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

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




SECTION A-A

MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

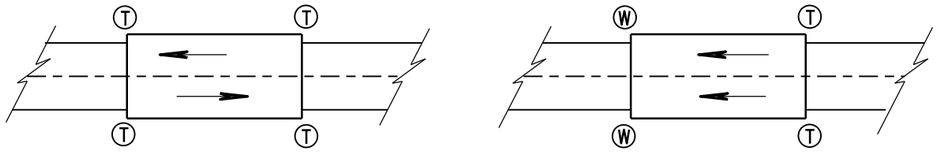
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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




6

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




TWO WAY TRAFFIC

ONE WAY TRAFFIC

Ⓣ THRIE BEAM CONNECTION

Ⓦ W-BEAM CONNECTION WHEN REQUIRED

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

## GENERAL NOTES

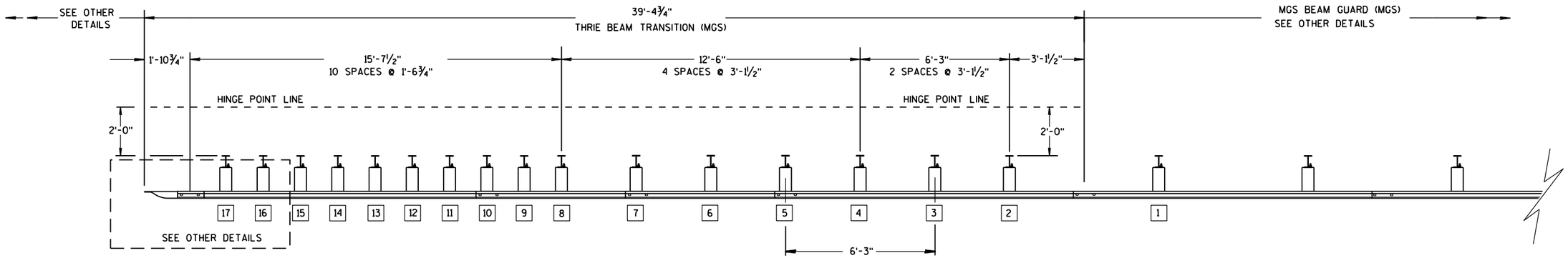
IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2½", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

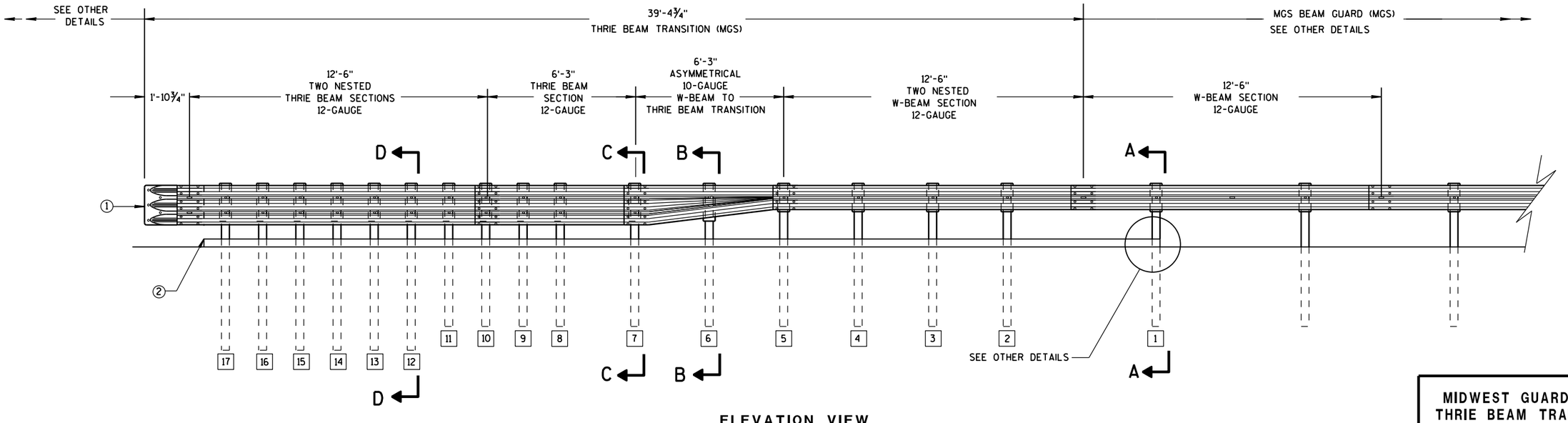
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

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

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




PLAN VIEW




ELEVATION VIEW

## MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI



6

S.D.D. 14 B 45-4a

6

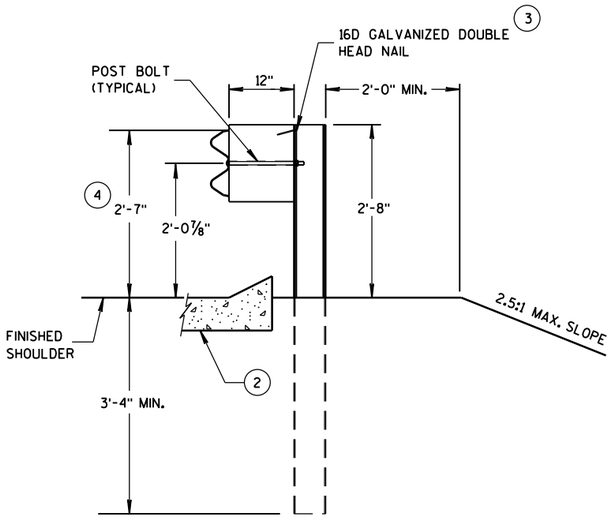
S.D.D. 14 B 45-4a

## GENERAL NOTES

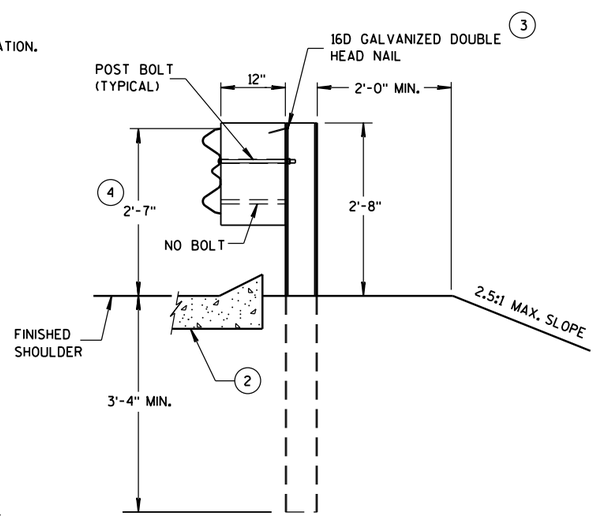
(2) OPTIONAL CURB AND GUTTER OR DRAINAGE_FEATURE SEE PLAN FOR INFORMATION.

(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.

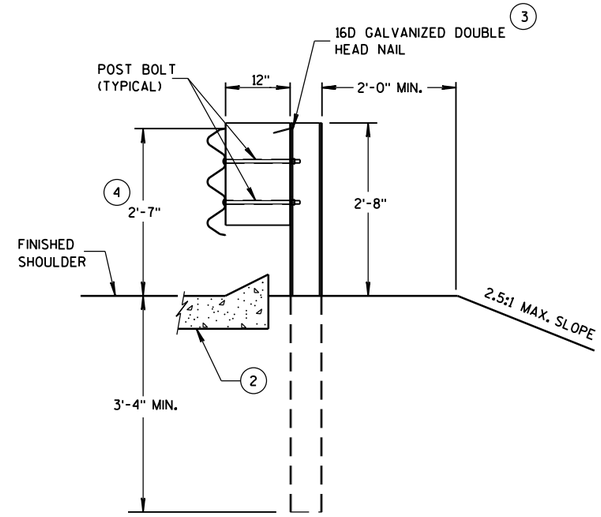
(4) TOLERANCE FOR TOP OF W-BEAM RAIL IS ± 1".



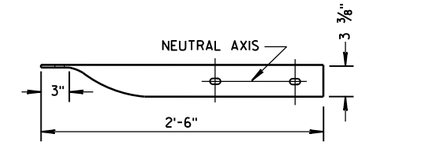

SECTION A-A
**POSTS 1-5**

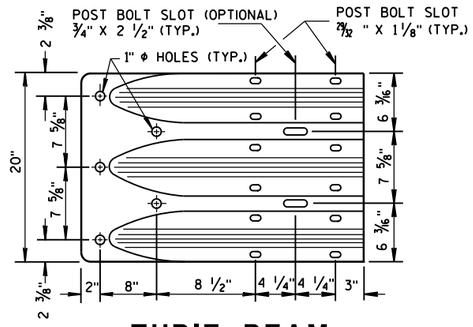



SECTION B-B
**POST 6**




SECTION C-C
**POSTS 7-11**




**THRIE BEAM TERMINAL CONNECTOR**

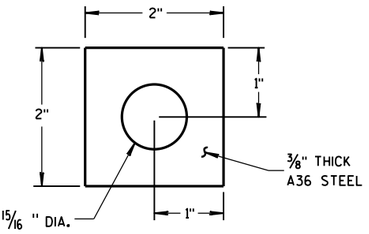
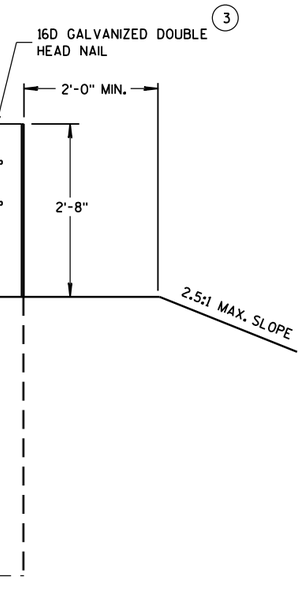
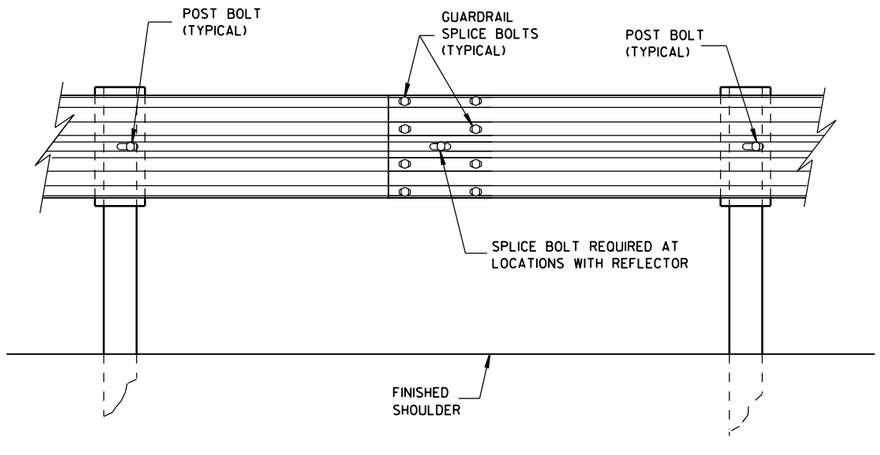


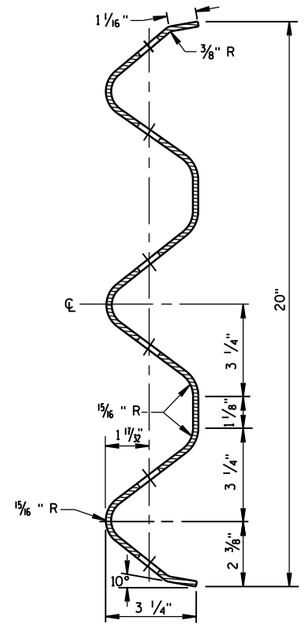

**PLATE WASHER DETAIL**




SECTION D-D
**POSTS 12-17**




**SPLICE DETAIL**




**SECTION THRU THRIE BEAM RAIL ELEMENT**

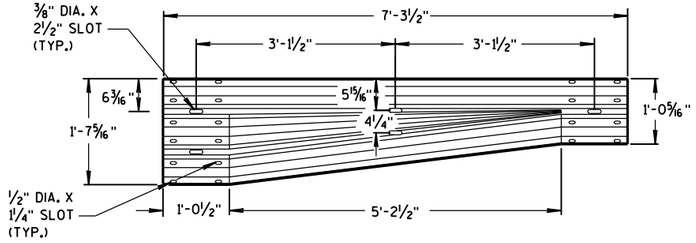
**MIDWEST GUARDRAIL SYSTEM**
**THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

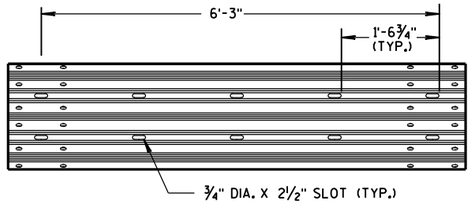



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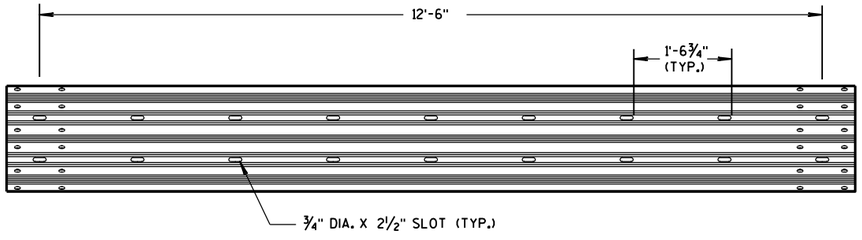
S.D.D. 14 B 45-4b



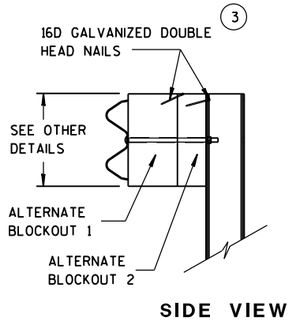

## W-BEAM TO THRIE BEAM TRANSITION SECTION



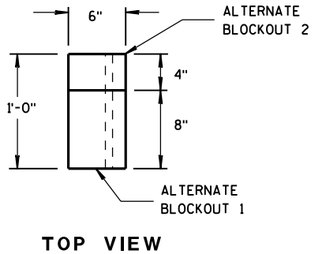

## 6'-3" THRIE BEAM SECTION




## 12'-6" THRIE BEAM SECTION

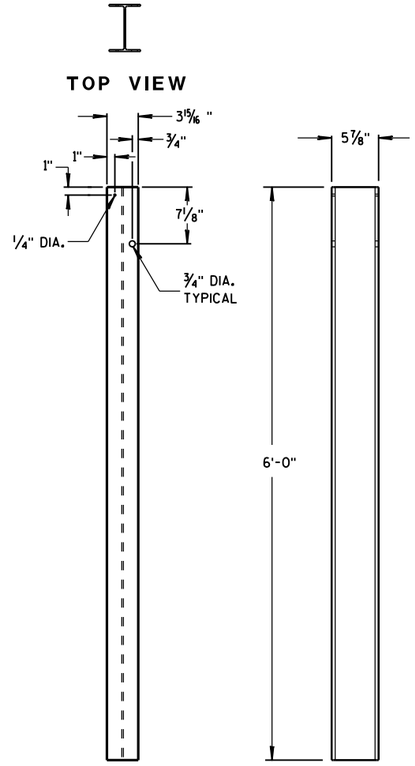



SIDE VIEW

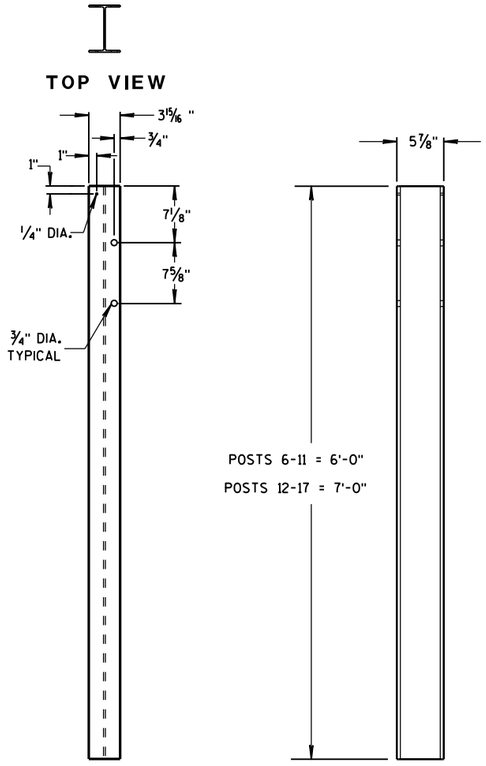



TOP VIEW

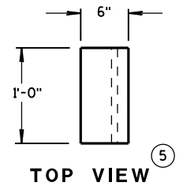
## ALTERNATE WOOD BLOCKOUT DETAIL



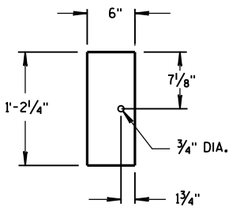

## STEEL POSTS 1-5




## STEEL POSTS 6-17

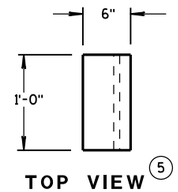



TOP VIEW (5)

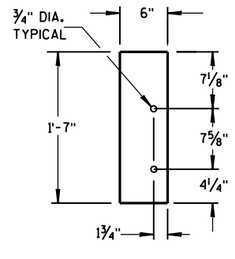



FRONT VIEW

## BLOCKOUT POSTS 1-5




TOP VIEW (5)




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 TRANSPOI

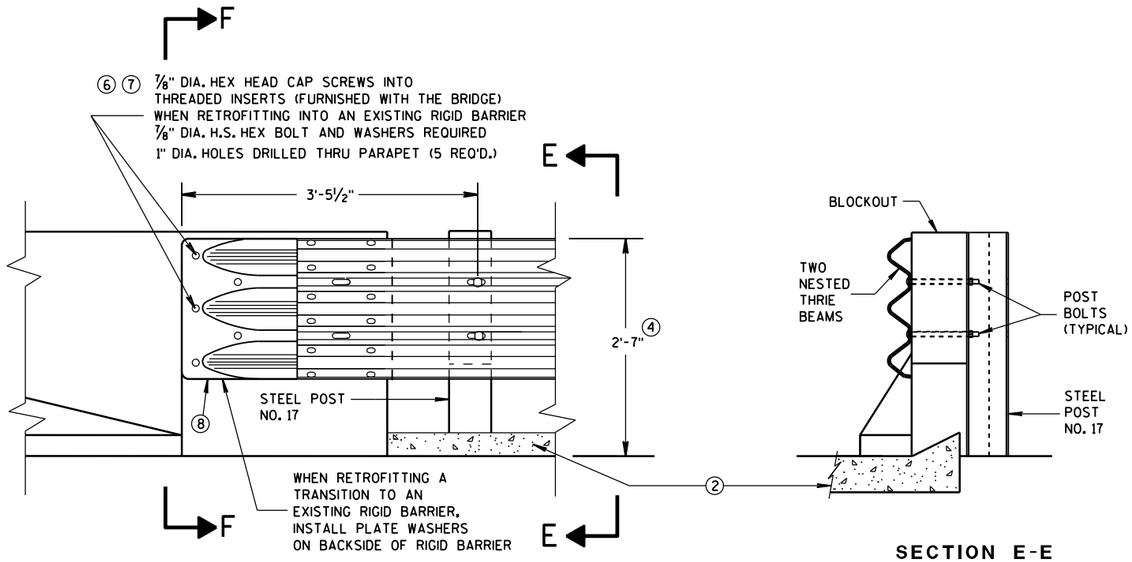


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S.D.D. 14 B 45-4c

6

S.D.D. 14 B 45-4c




FRONT VIEW

SECTION E-E

# THRIE BEAM CONNECTION TO BRIDGE PARAPET WITH SQUARE ENDS

## GENERAL NOTES

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

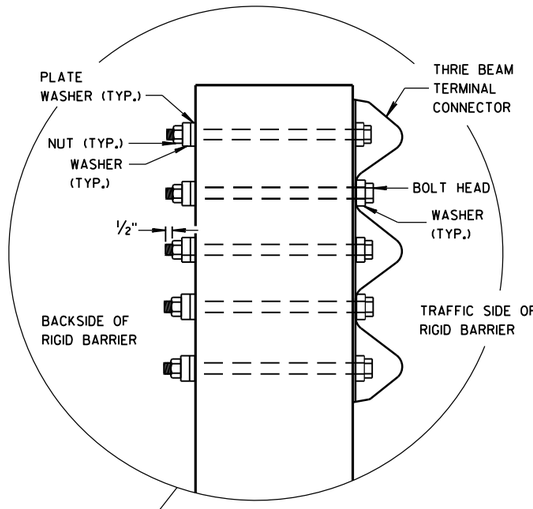
② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.

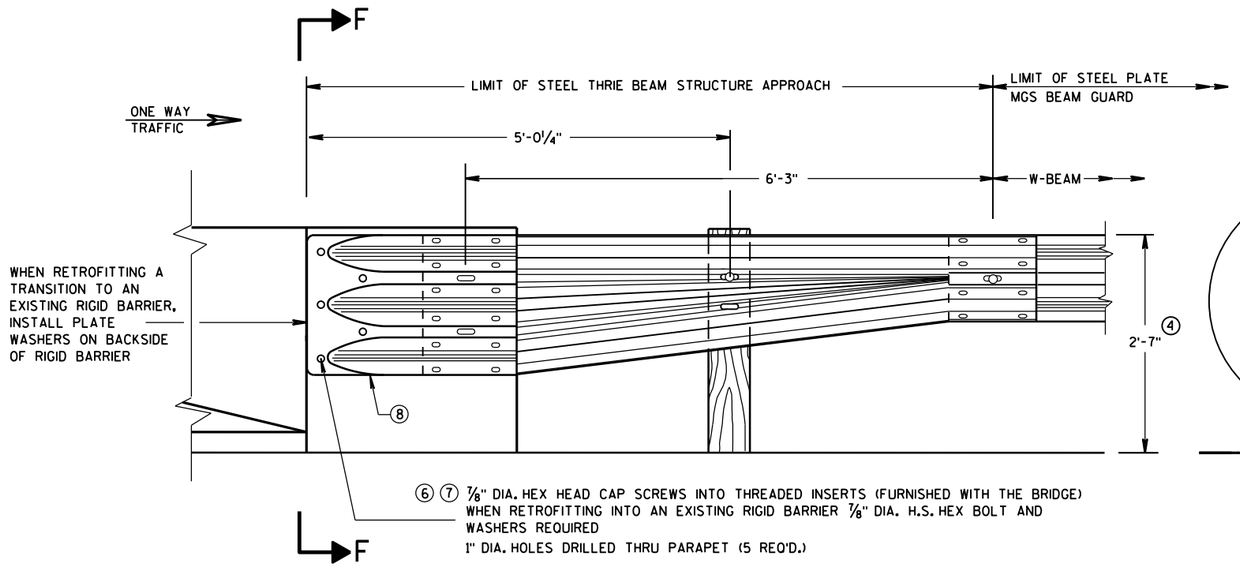
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

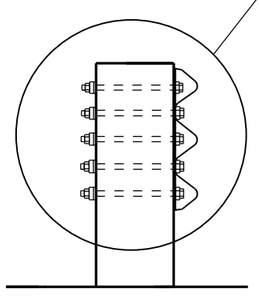
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. 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".

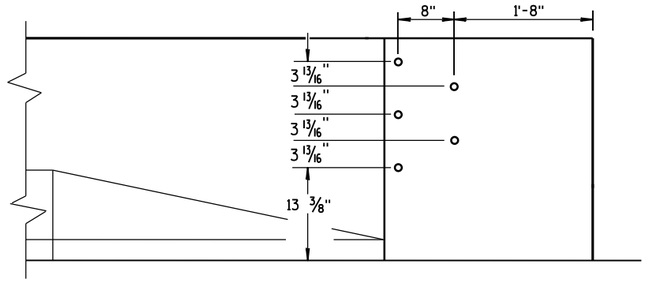



FRONT VIEW



SECTION F-F




DRILL HOLE LOCATION

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

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE
FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS D ENGINEER



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S.D.D. 14 B 45-4d

6

S.D.D. 14 B 45-4d

## GENERAL NOTES

THESE ARE TYPICAL CONNECTION DETAILS. ADJUST THE POSTION 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.

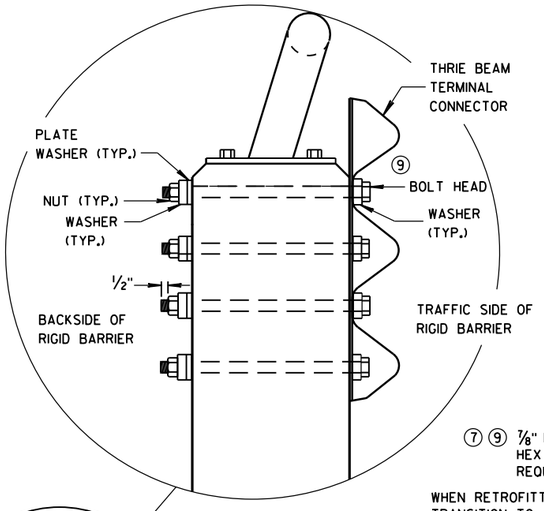
(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

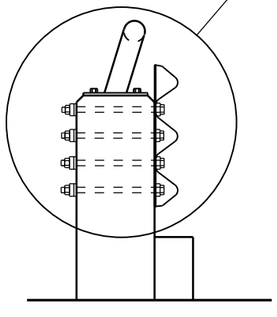
(6) DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(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.

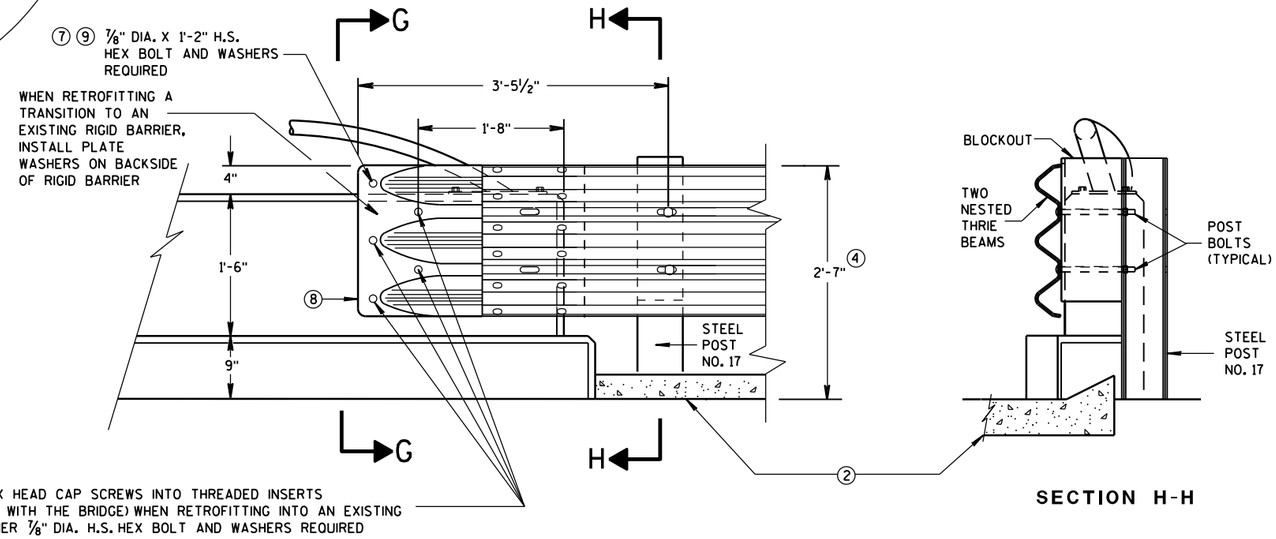
(8) THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".

(9) BOLT, NUT AND WASHERS NOT REQUIRED FOR THIS LOCATION WHEN RETROFITTING AN EXISTING PAPAPET AND THE HOLE IS EITHER ABOVE PARAPET OR WITHIN 4 INCHES OF THE EDGE OF PARAPET.



SECTION G-G

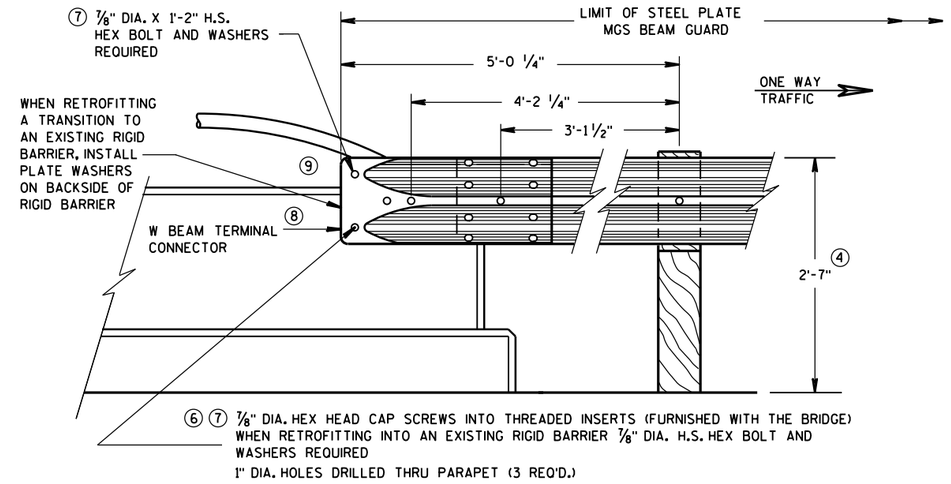



FRONT VIEW




SECTION H-H

## THRIE BEAM CONNECTION TO VERTICAL FACED PARAPETS




FRONT VIEW

## W BEAM CONNECTION TO VERTICAL FACE PARAPET

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

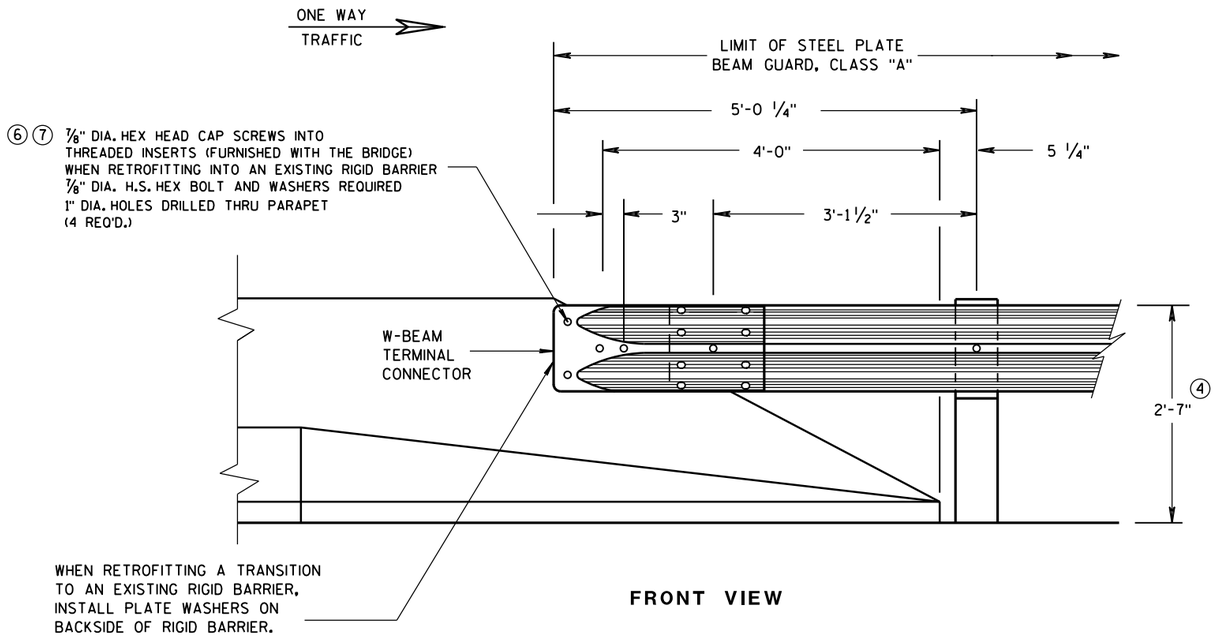


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S.D.D. 14 B 45-4e

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S.D.D. 14 B 45-4e




FRONT VIEW

## W BEAM CONNECTION TO PARAPETS WITH SLOPED ENDS

(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

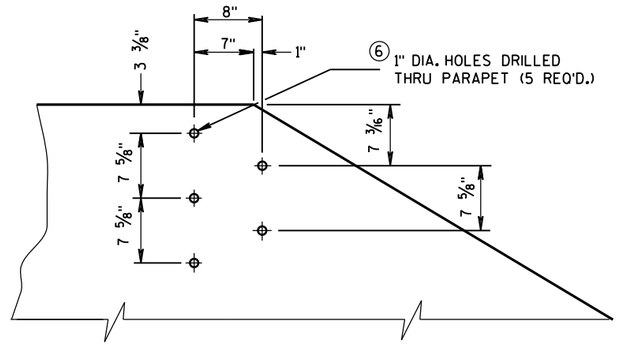
## GENERAL NOTES

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

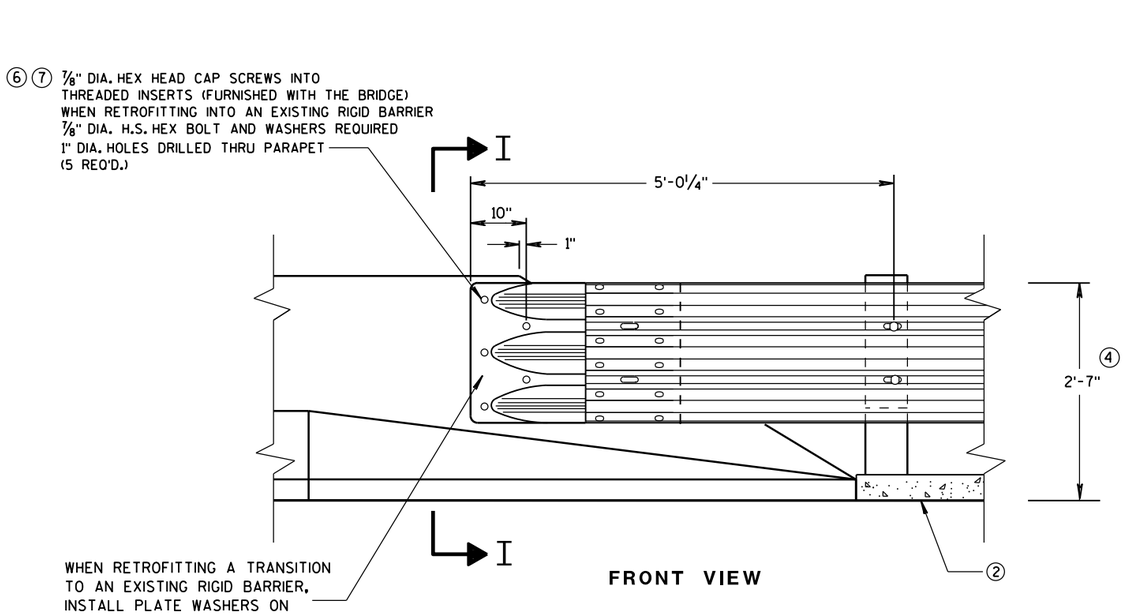
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

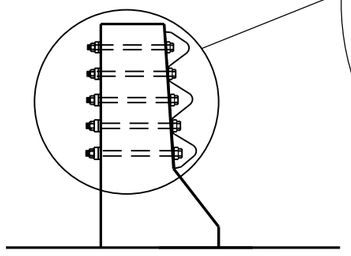
⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. 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.



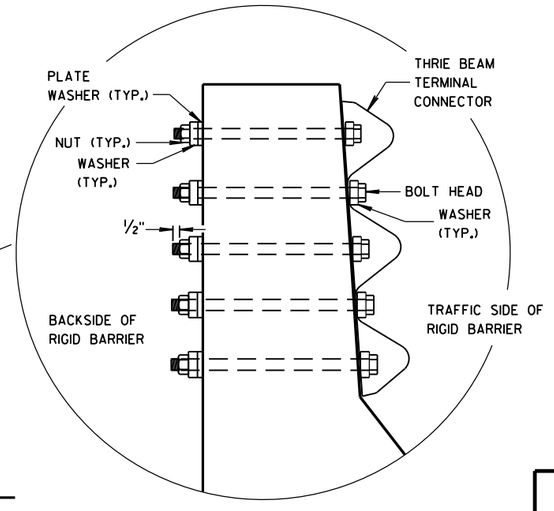

DRILL HOLE LOCATION AND PATTERN
FOR THRIE BEAM CONNECTION




FRONT VIEW



SECTION I-I




## THRIE BEAM CONNECTION TO BRIDGE PARAPETS WITH SLOPED ENDS

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

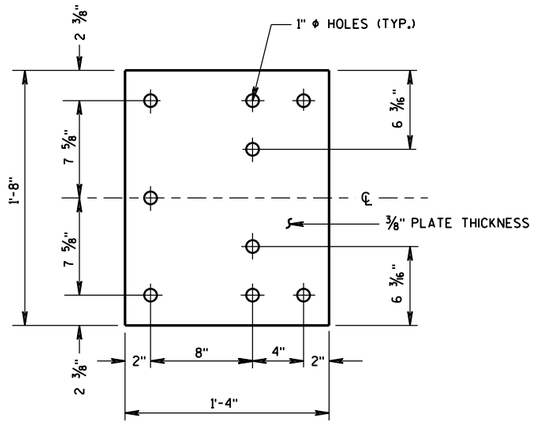


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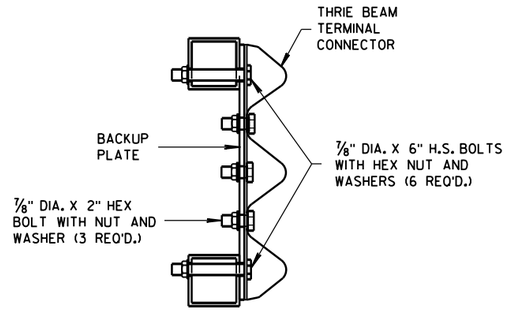
S.D.D. 14 B 45-4f

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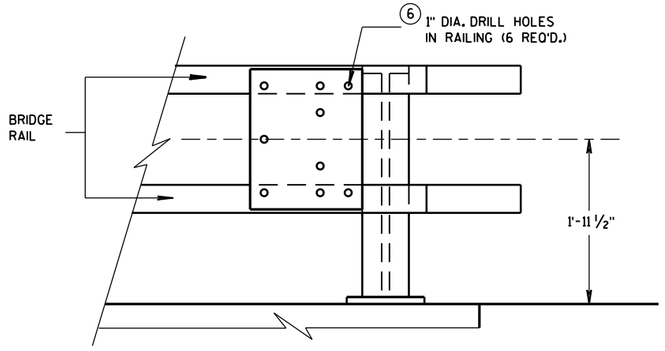
S.D.D. 14 B 45-4f




## BACK-UP PLATE DETAIL




## SECTION J-J

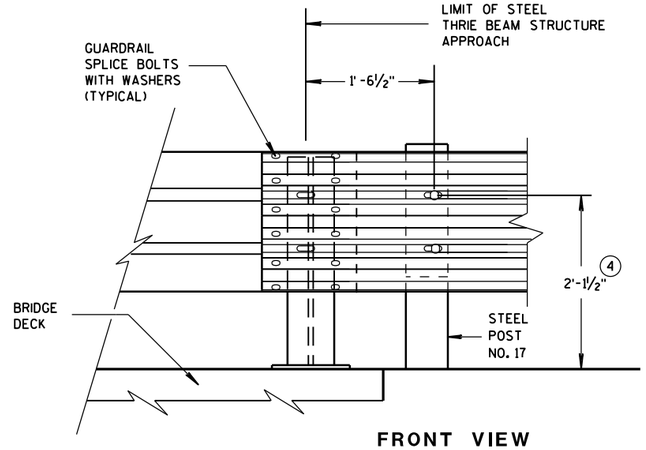



## BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING

## GENERAL NOTES

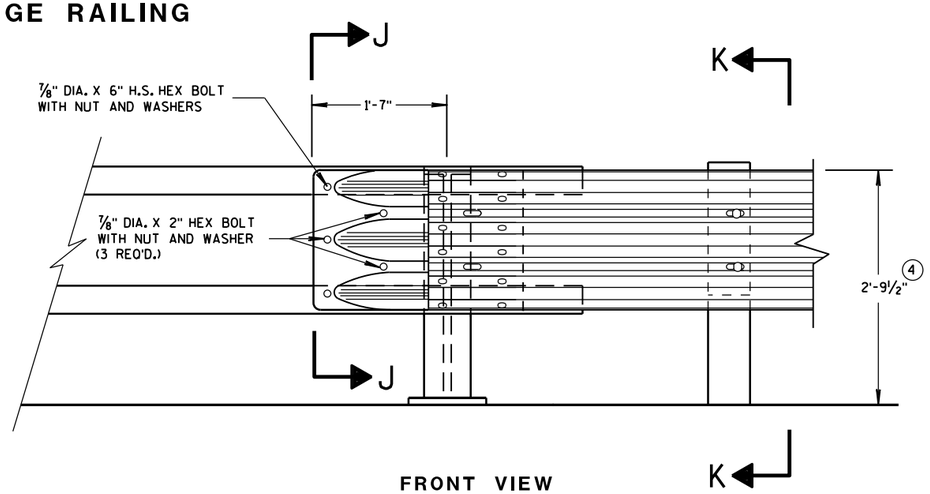
④ TOLERANCE FOR TOP OF BEAM IS ± 1".

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

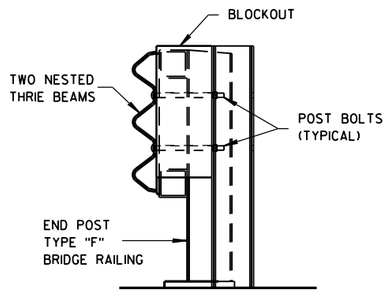



FRONT VIEW

## THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"




FRONT VIEW




SECTION K-K

## THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA



6

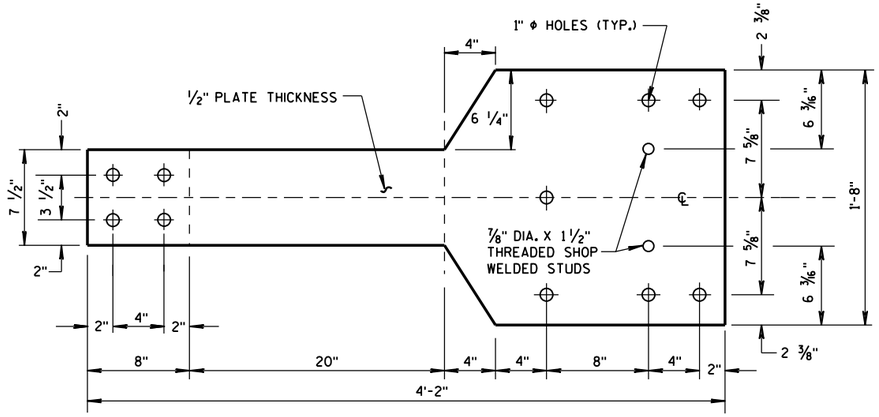
S.D.D. 14 B 45-4g

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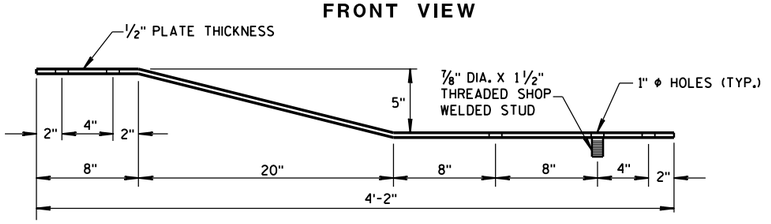
S.D.D. 14 B 45-4g

## GENERAL NOTES

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

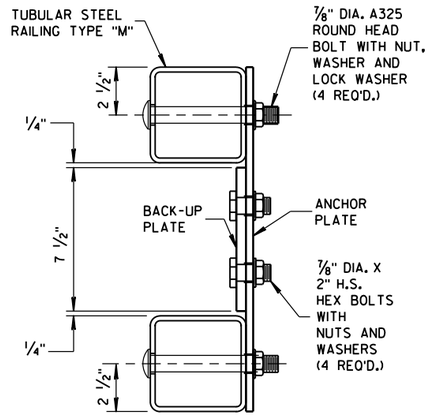



FRONT VIEW

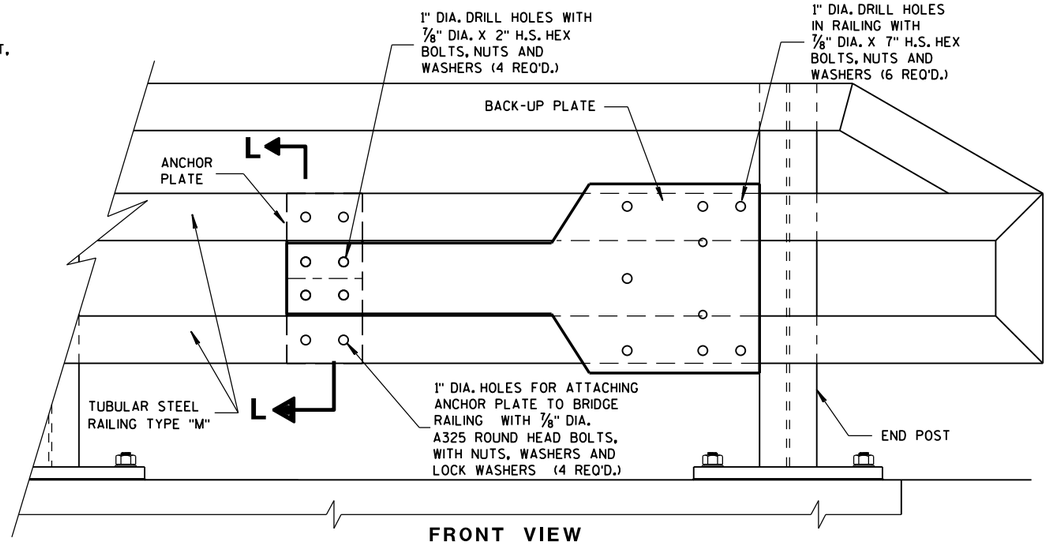



PLAN VIEW

## BACK-UP PLATE DETAIL, TYPE "M"




SECTION L-L



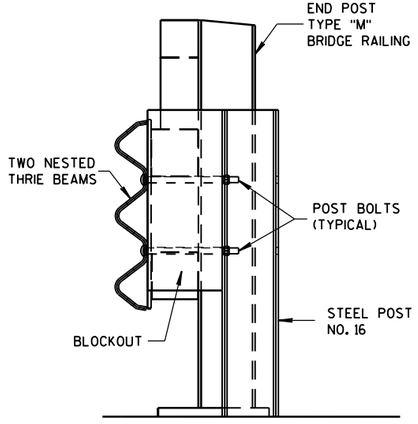

FRONT VIEW

## ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"

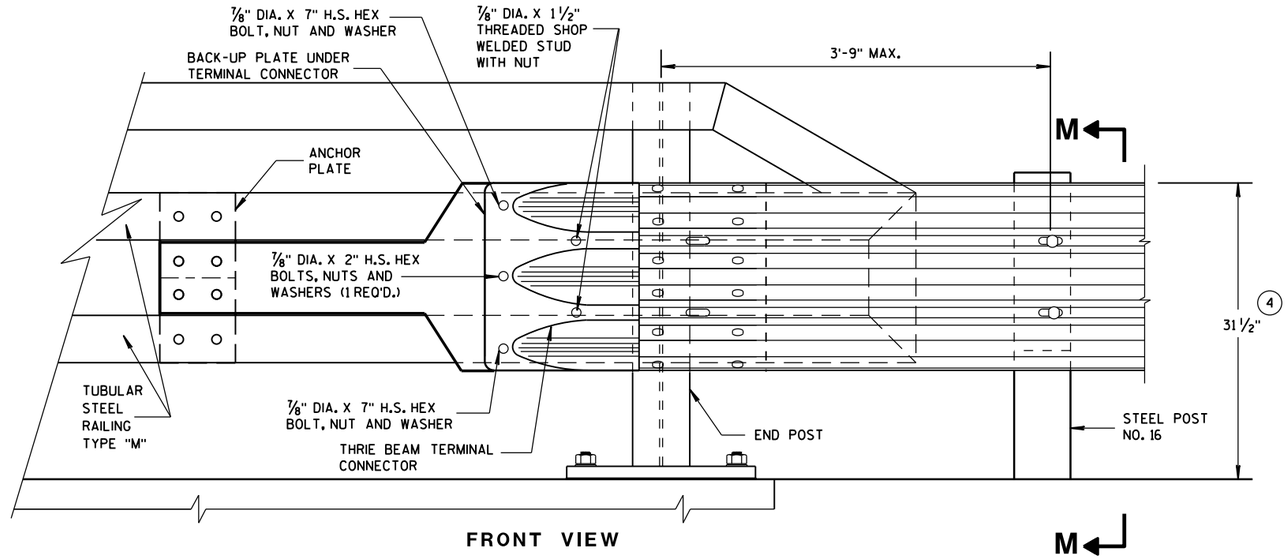



FRONT VIEW

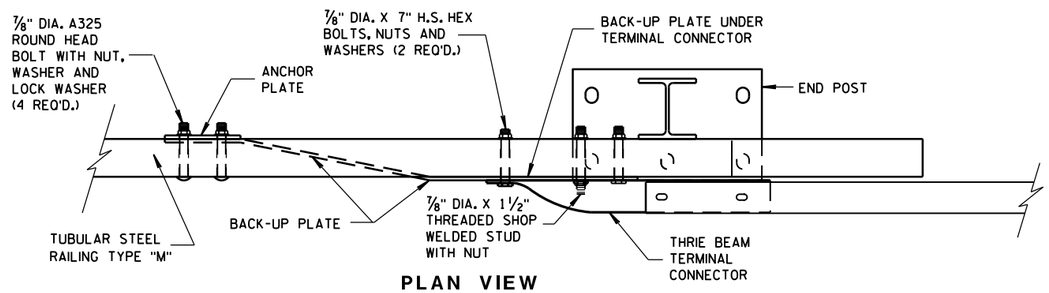
## ANCHOR PLATE DETAIL, TYPE "M"




SECTION M-M




FRONT VIEW




PLAN VIEW

## THRIE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

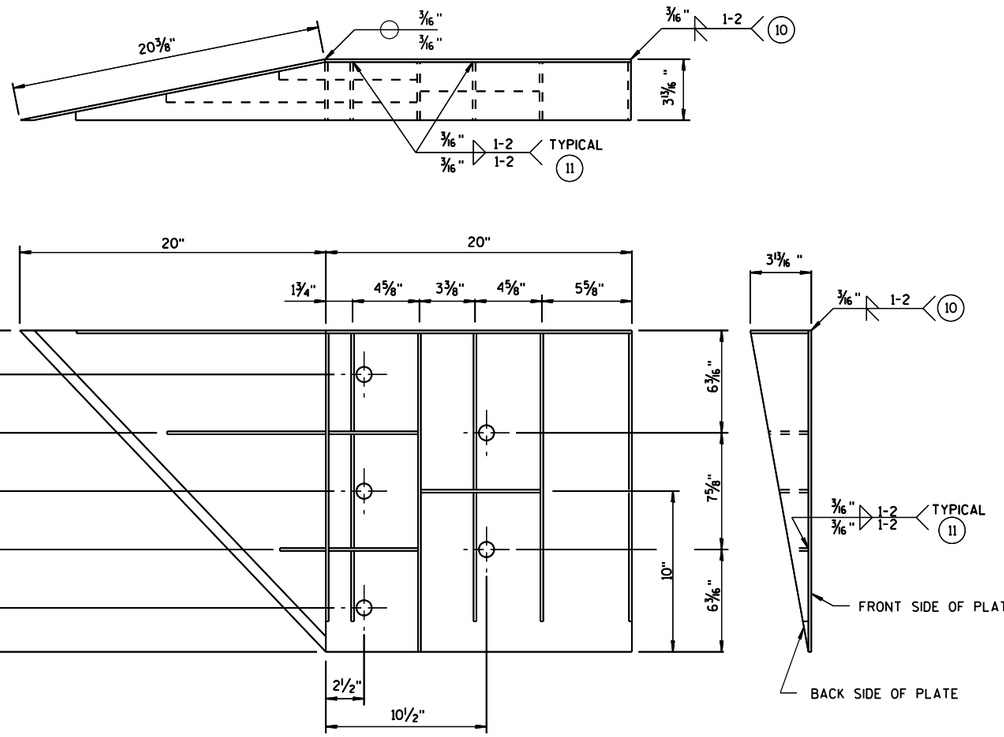


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S.D.D. 14 B 45-4h

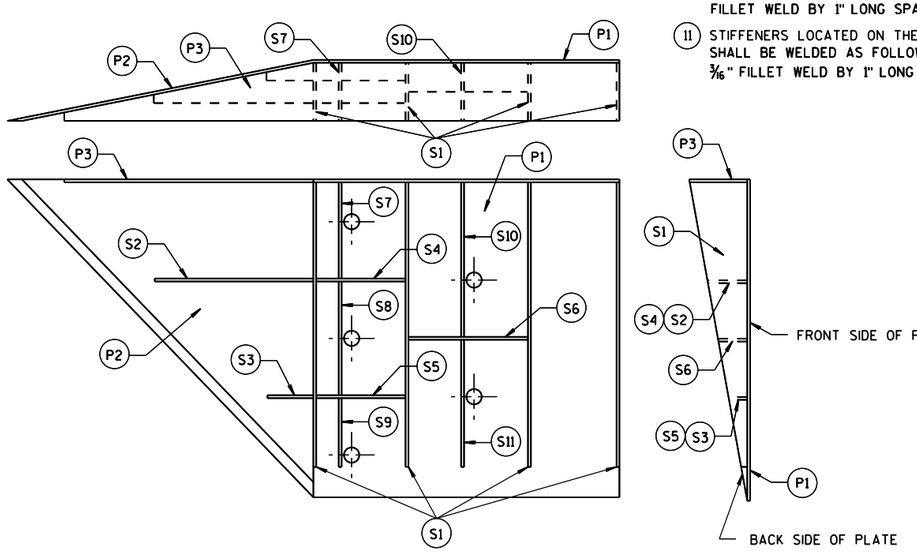
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S.D.D. 14 B 45-4h




## WELDING INSTRUCTION

(VIEWED FROM BACK SIDE OF PLATE)




## PLATE AND STIFFENER IDENTIFICATION

(VIEWED FROM BACK SIDE OF PLATE)

## GENERAL NOTES

COVER PLATE PANELS ARE 3/16" THICK.

ALL STIFFENERS ARE 1/4" THICK.

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

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

ALL HOLE DIAMETERS SHALL BE 1".

FOR OPPOSITE SIDE INSTALLATION MIRROR DRAWINGS.

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

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

**CONNECTOR PLATE DIMENSION (PER ASSEMBLY)**

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

## SINGLE SLOPE CONNECTION PLATE

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

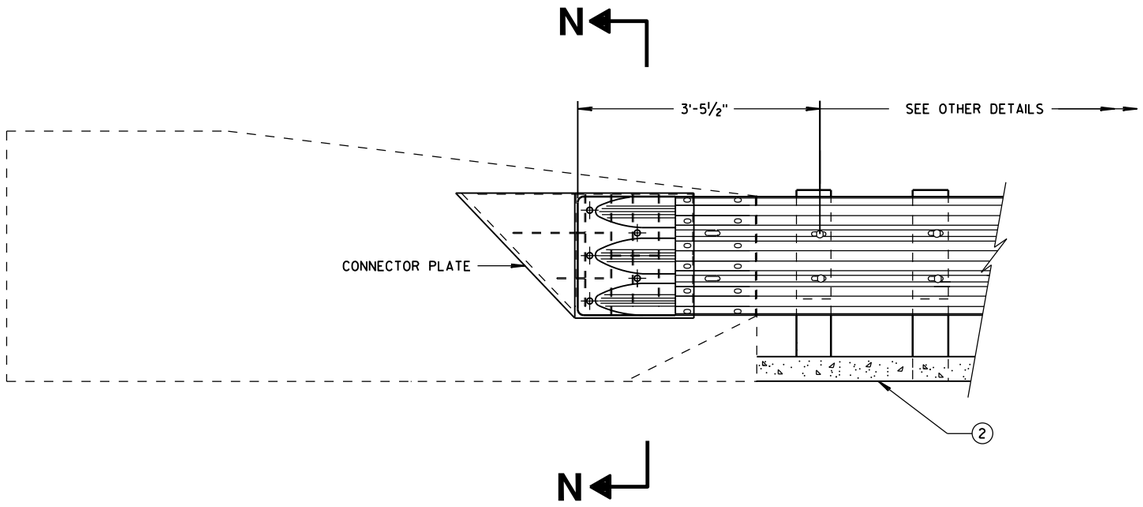


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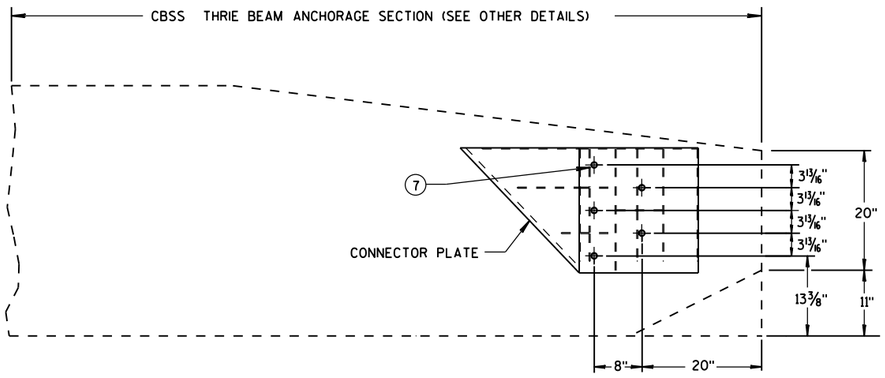
S.D.D. 14 B 45-4i

6

S.D.D. 14 B 45-4i




## THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



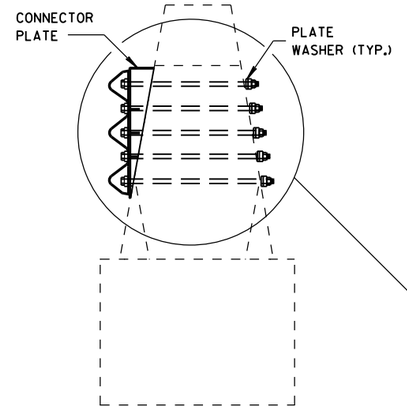

## SINGLE SLOPE CONNECTION PLATE PLACEMENT

## GENERAL NOTES

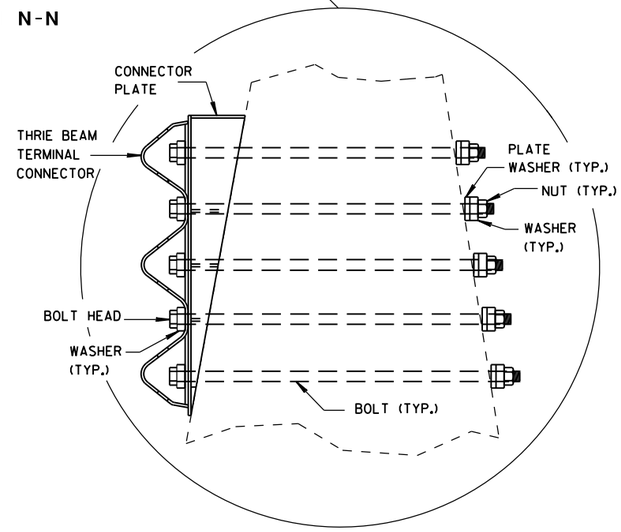
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

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

(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.




SECTION N-N




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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Jerry H. Zoga — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

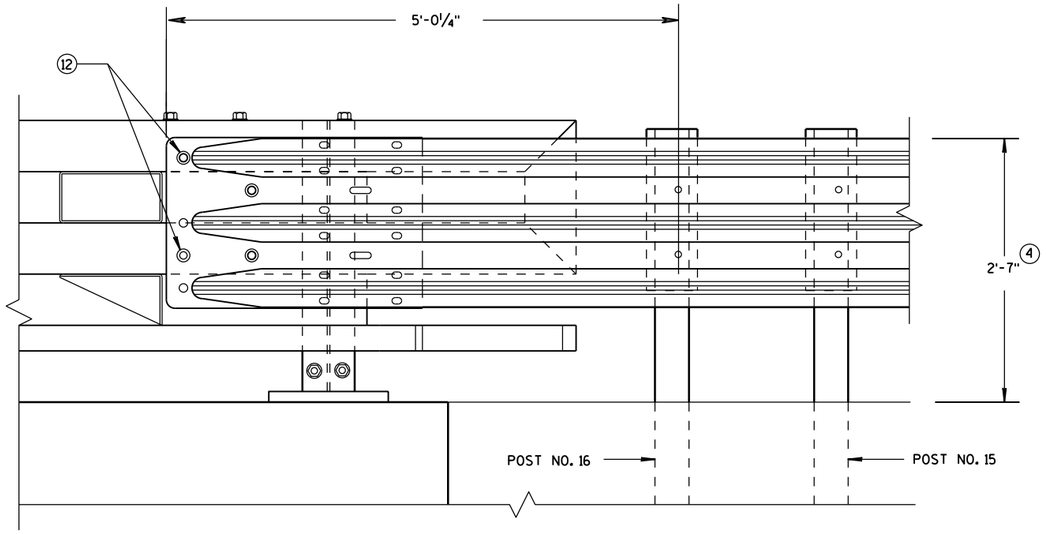


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S.D.D. 14 B 45-4j

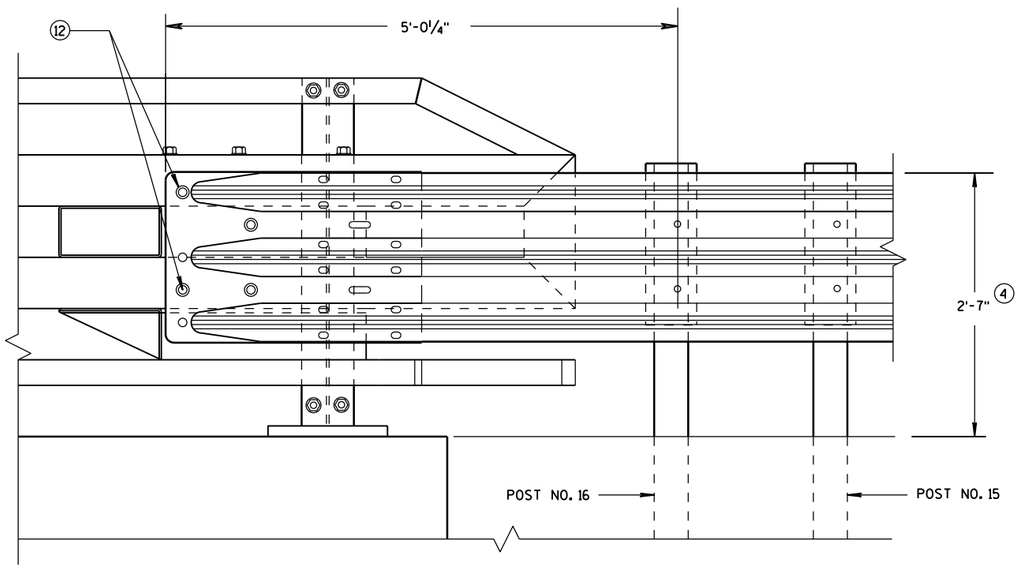
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S.D.D. 14 B 45-4j




## ELEVATION OF DETAIL AT NY3 END POST

### THRIE BEAM RAIL ATTACHMENT




## ELEVATION OF DETAIL AT NY4 END POST

### THRIE BEAM RAIL ATTACHMENT

## GENERAL NOTES

(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

(12) 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. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND ½-INCH BEYOND NUT.

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS D ENGINEER

FHWA



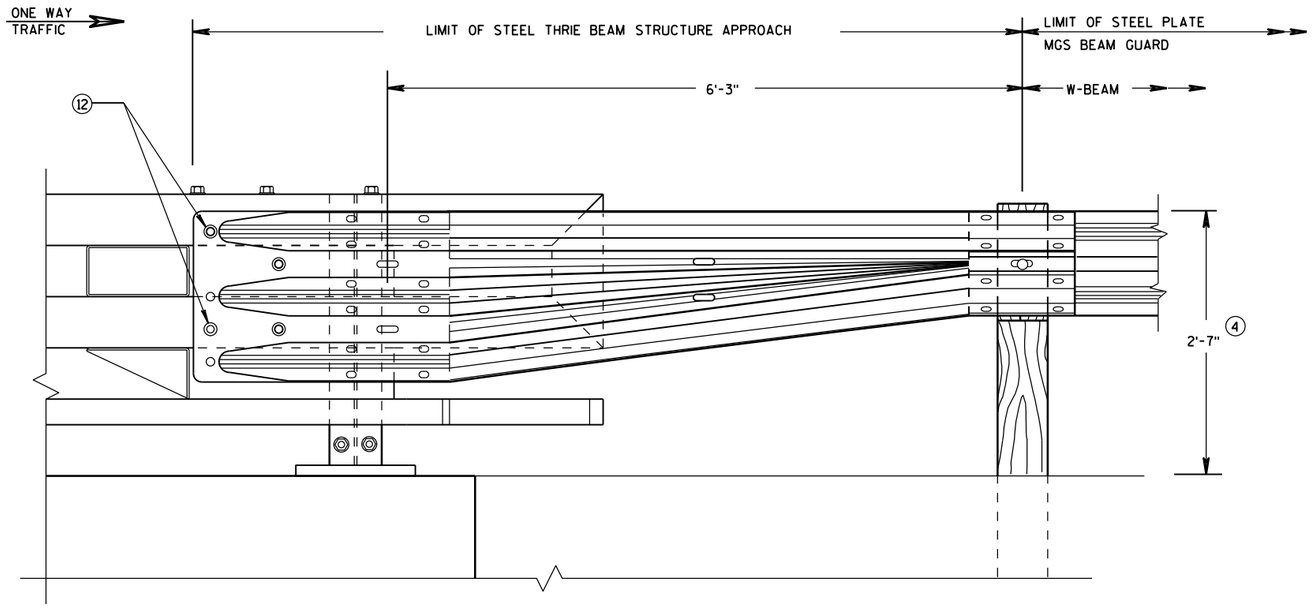
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S.D.D. 14 B 45-4k

6

S.D.D. 14 B 45-4k




FRONT VIEW

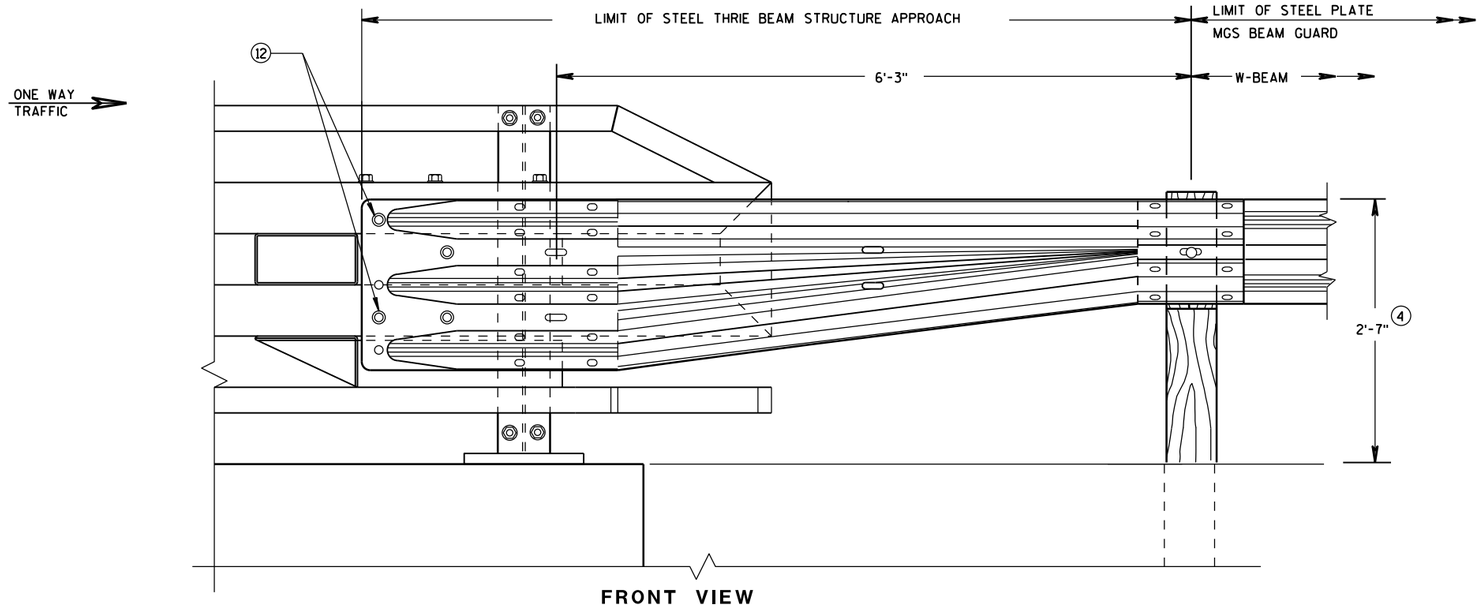
## W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3"

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

## GENERAL NOTES

(4) TOLERANCE FOR TOP OF BEAM IS ± 1".

(12) 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. ON BACKSIDE OF PARAPET ONE ROUND WASHER, AND NUT REQUIRED. BOLT THREAD IS TO EXTEND ½-INCH BEYOND NUT.




FRONT VIEW

## W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY4"

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

MIDWEST GUARDRAIL SYSTEM
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

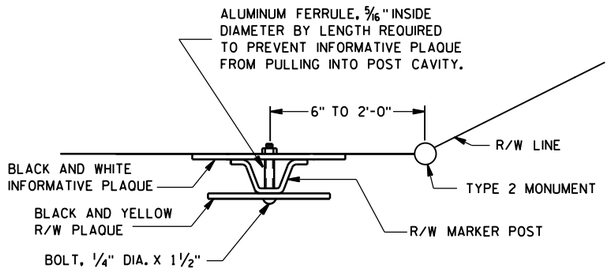


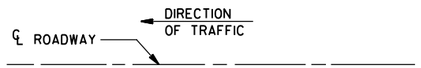
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S.D.D. 14 B 45-4L

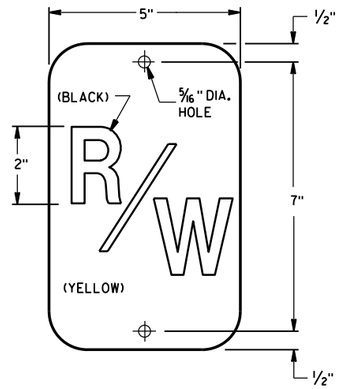
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S.D.D. 14 B 45-4L



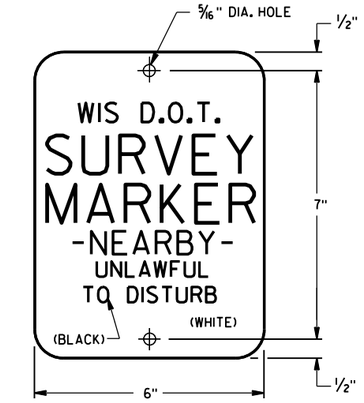




**PLAN VIEW**




**R/W PLAQUE**

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




**INFORMATIVE PLAQUE**

## GENERAL NOTES

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

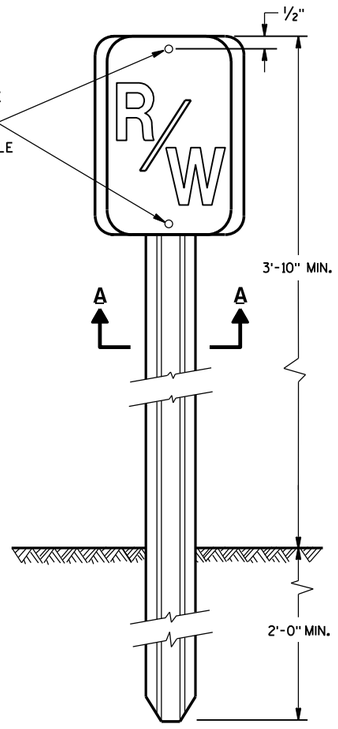
A STEEL MARKER POST FOR RIGHT-OF-WAY SHALL BE PLACED IN THE RIGHT-OF-WAY, WITH THE BACK OF THE POST ON THE LONGER RIGHT-OF-WAY TANGENT, 6 INCHES TO 24 INCHES FROM EACH TYPE 2 MONUMENT TO SERVE AS A GUARD POST, AND AT OTHER LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

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

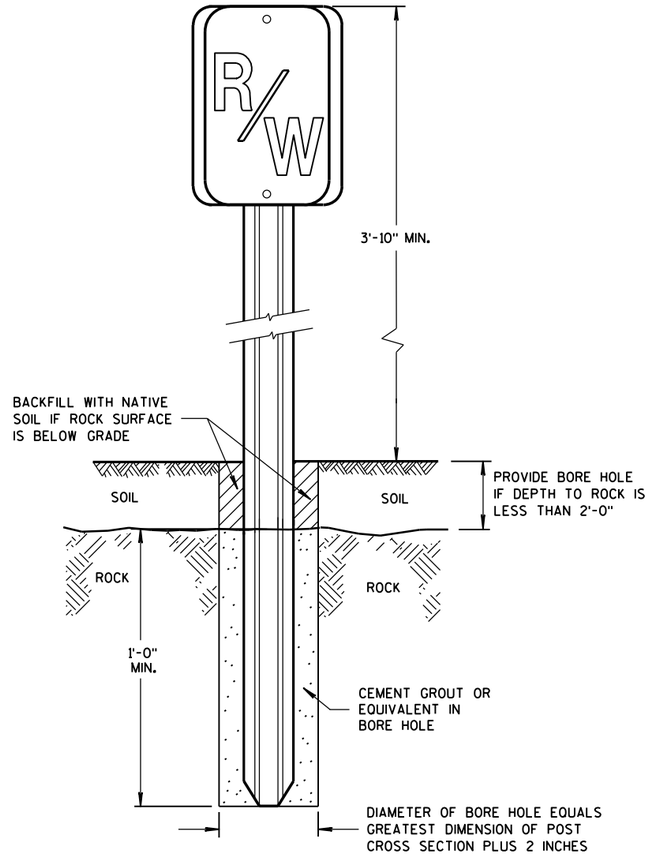
STEEL MARKER POSTS SHALL MEET THE MINIMUM MATERIAL REQUIREMENTS FOR STEEL DELINEATOR POSTS; EXCEPT POSTS PAINTED WITH FEDERAL YELLOW ENAMEL NEED NOT BE ZINC COATED.

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

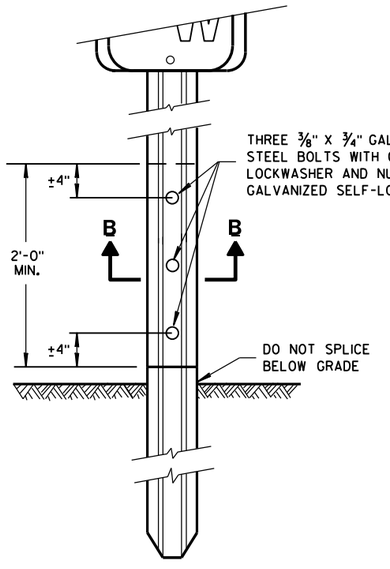
FILL THE BORE HOLE WITH CEMENT GROUT, OR EQUIVALENT. DEPENDING ON THE STABILITY OF THE ROCK.



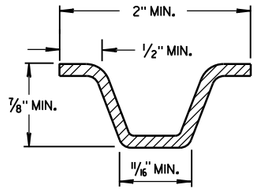

**FRONT VIEW**
**STEEL MARKER POST**




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

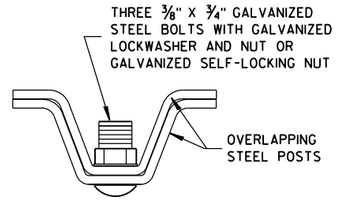



**FRONT VIEW**
**SPLICE DETAIL**




MIN. WEIGHT 1.12 LB./FT.

**SECTION A-A**




**SECTION B-B**

# MARKER POST FOR RIGHT-OF-WAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/18/2016 — DATE
/S/ Ray Kumapayi — CHIEF SURVEYING AND MA[illegible]INEER
FHWA

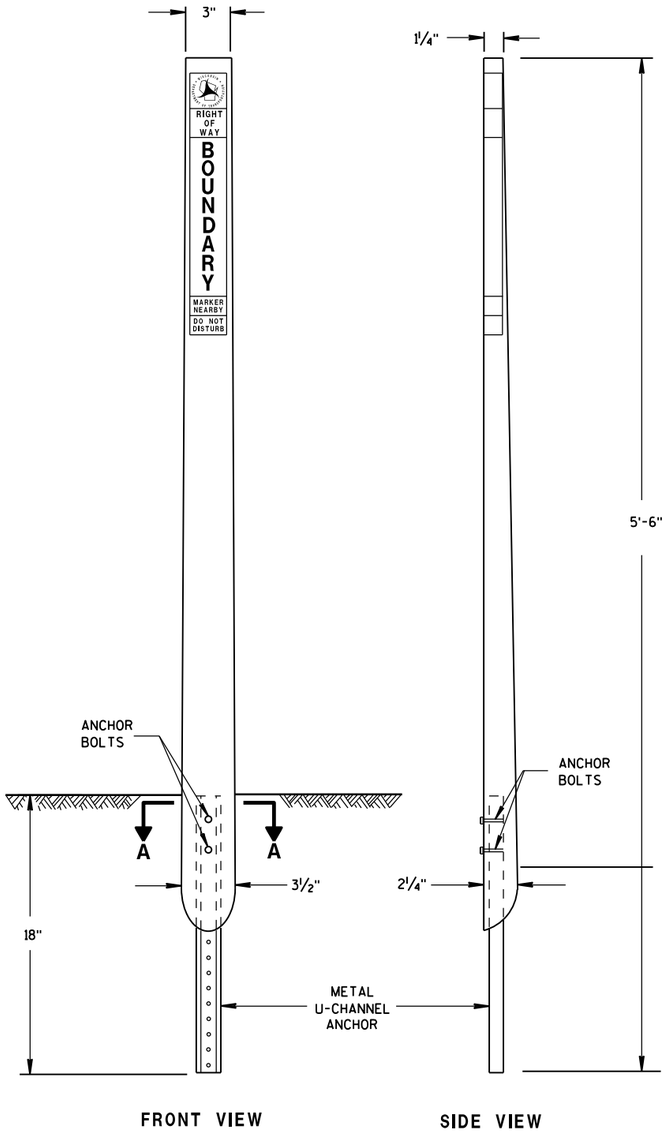


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S.D.D. 15 A 1-13a

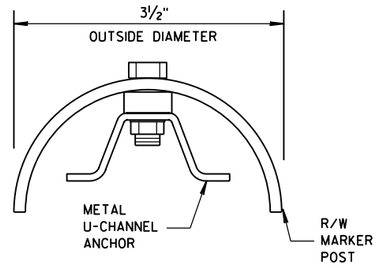
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S.D.D. 15 A 1-13a

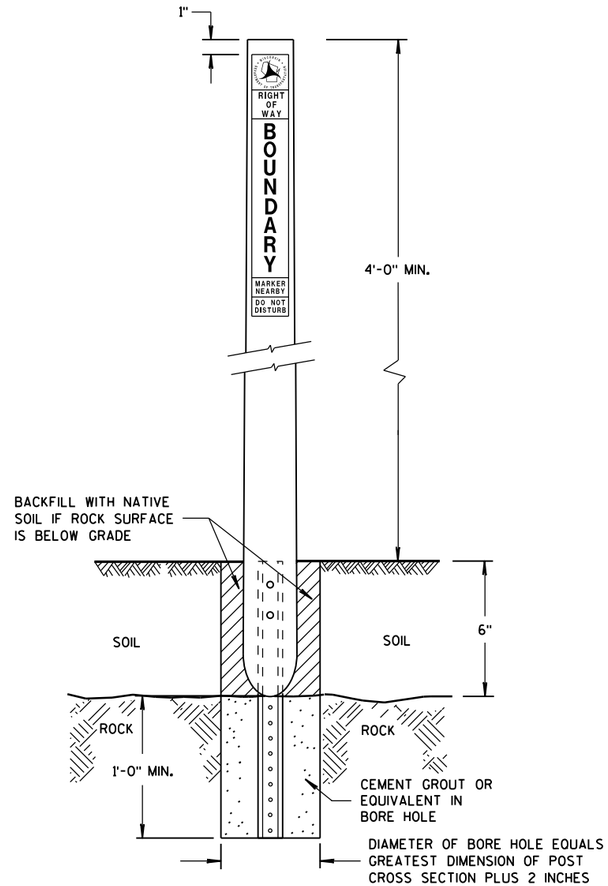



FRONT VIEW SIDE VIEW

**FLEXIBLE MARKER POST FOR RIGHT-OF-WAY** ①

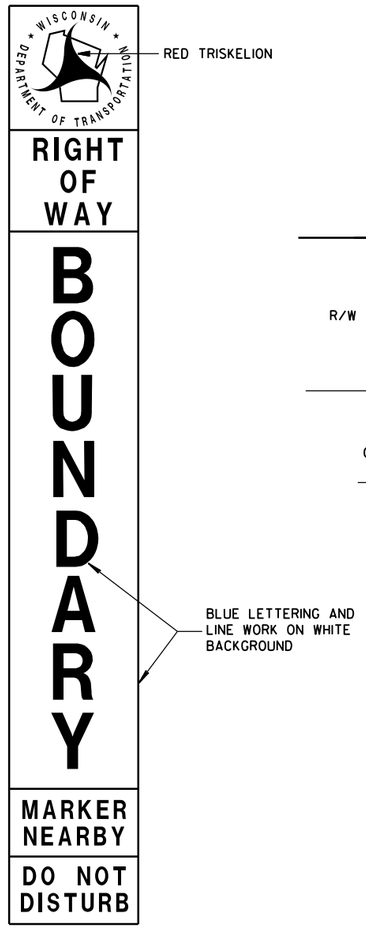



**SECTION A-A**




FRONT VIEW

**ROCK INSTALLATION** ①②




**RIGHT-OF-WAY STICKER**

THE RIGHT-OF-WAY STICKER SHALL BE ATTACHED 1" FROM THE TOP OF THE RIGHT-OF-WAY POST PRIOR TO DELIVERY.

## GENERAL NOTES

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

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

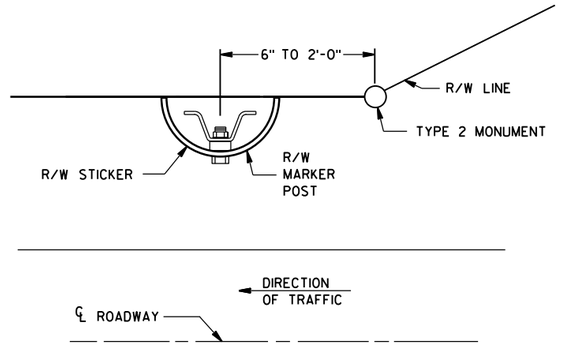
THE RIGHT-OF-WAY STICKER DIMENSIONS SHALL BE 2¼" X 17" AND THE STICKER SHALL BE MADE OF A NON-REFLECTIVE VINYL MATERIAL. THE RIGHT-OF-WAY STICKER SHALL FACE THE ROADWAY.

INSTALL PER DEPTH OF MANUFACTURER'S RECOMMENDATIONS BUT NOT LESS THAN 18 INCHES BELOW GRADE FROM THE BOTTOM OF THE METAL U-CHANNEL ANCHOR.

① FLEXIBLE MARKER POSTS SHALL BE INCLUDED IN THE APPROVED PRODUCTS LIST FOR MARKER POSTS AND SHALL BE FEDERAL YELLOW IN COLOR.

② IN AREAS OF SOLID ROCK, DRILL A BORE HOLE 2" GREATER THAN THE WIDEST DIMENSION OF THE POST CROSS SECTION INTO THE ROCK TO A MINIMUM DEPTH OF 12 INCHES. CUT OR SPLICE THE POST SO THAT A MINIMUM LENGTH OF 4'-0" PROTRUDES ABOVE THE GROUND. BLOW OUT THE BORE HOLE IN THE ROCK USING COMPRESSED AIR.

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




**PLAN VIEW**

**FLEXIBLE MARKER POST FOR RIGHT-OF-WAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/18/2016 — DATE
/S/ Ray Kumapayi — CHIEF SURVEYING AND MAPPING ENGINEER
FHWA

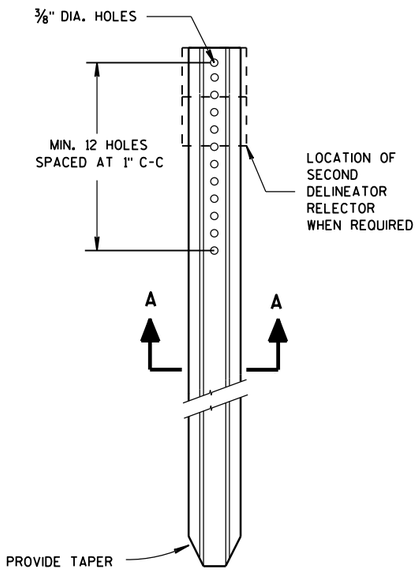


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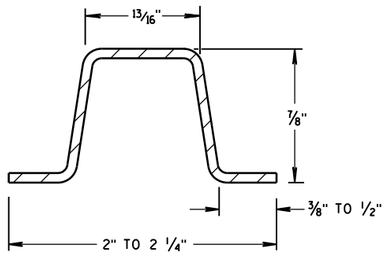
S.D.D. 15 A 1-13b

6

S.D.D. 15 A 1-13b

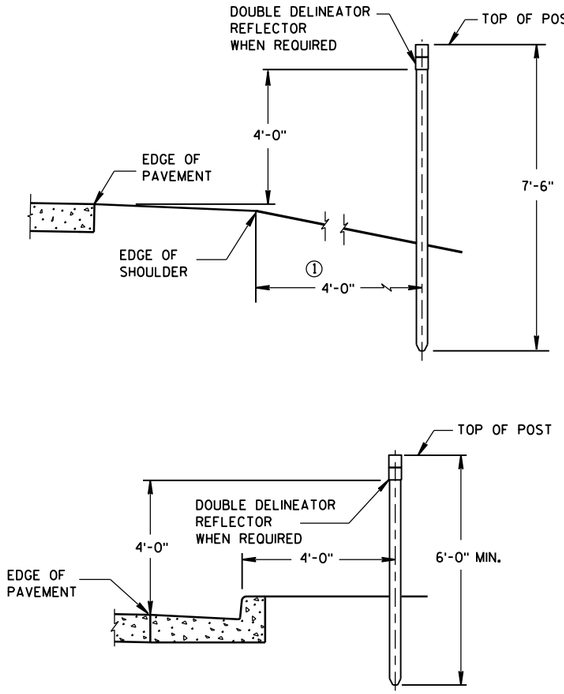



**DELINEATOR POST**




**SECTION A-A**

WEIGHT 1.12 LBS PER FT. ± 0.1 LB.

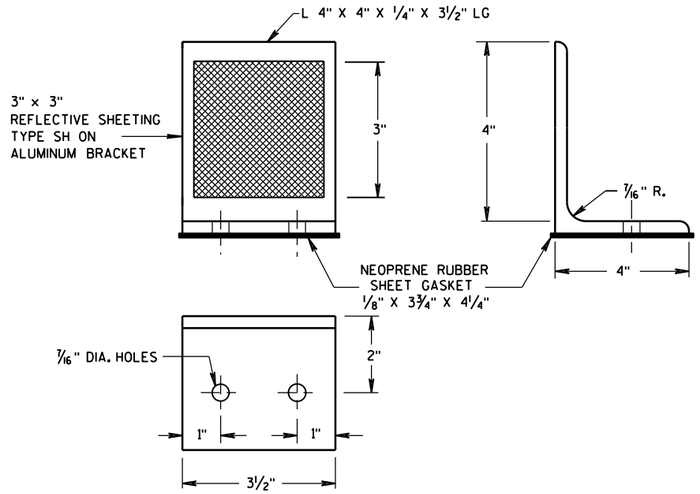



**TYPICAL INSTALLATIONS OF DELINEATOR POSTS**

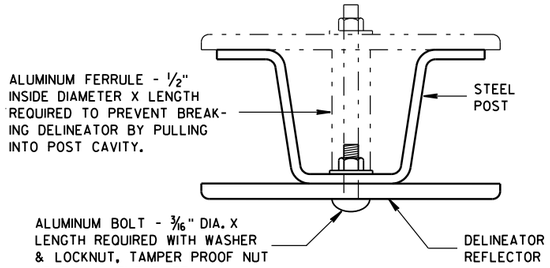
## GENERAL NOTES

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

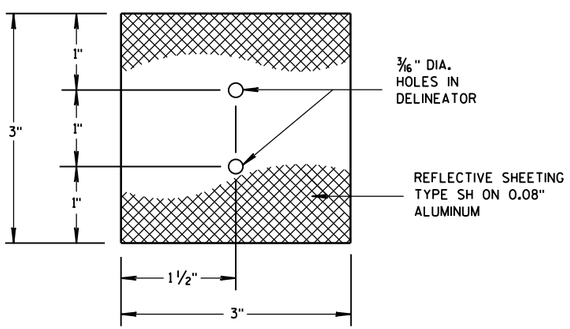
① DELINEATORS SHALL BE PLACED AT A CONSTANT DISTANCE FROM THE EDGE OF THE SHOULDER FOR THE LENGTH OF THE INSTALLATION.



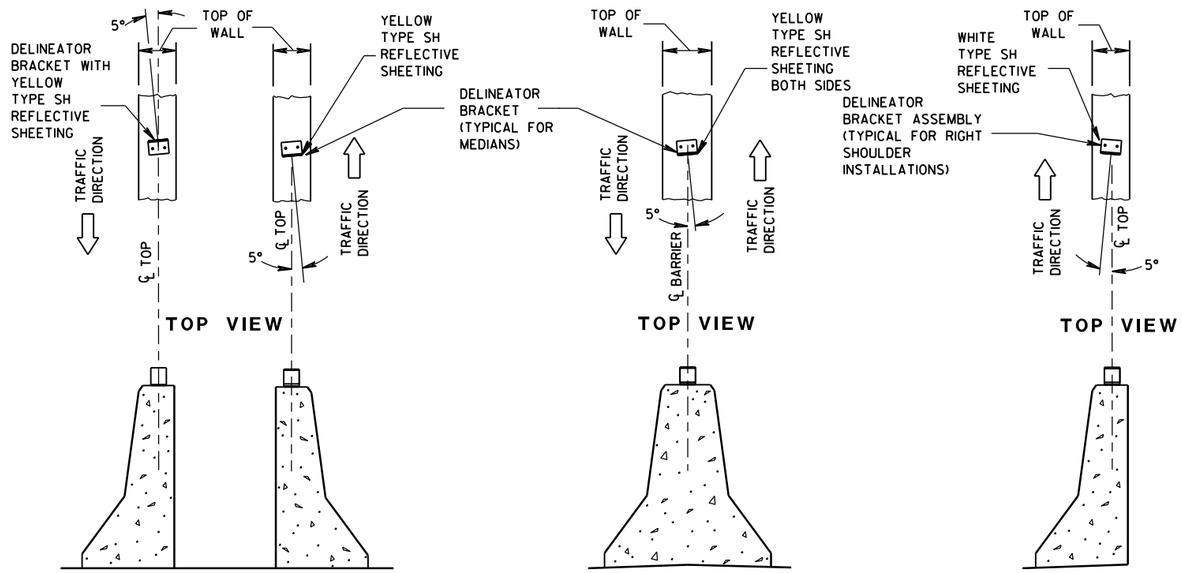

**DELINEATOR BRACKET**




**MOUNTING DETAIL FOR DELINEATOR REFLECTOR**

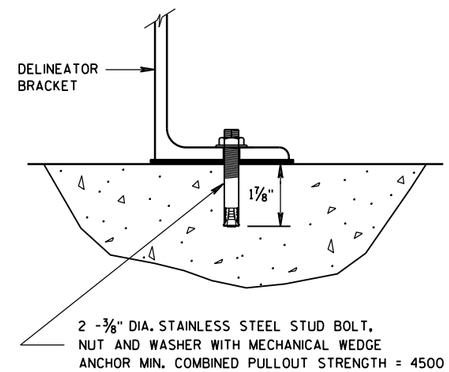



**3"x 3" DELINEATOR REFLECTOR**




**DOUBLE BARRIERS IN MEDIAN** | **MEDIAN BARRIER** | **BARRIER LOCATED TO RT. OF TRAFFIC FLOW**

**LOCATION AND AIMING DETAILS FOR DELINEATOR BRACKETS MOUNTED ON CONCRETE BARRIERS**




**DELINEATOR BRACKET MOUNTING DETAIL**

**DELINEATOR POST, DELINEATOR REFLECTOR AND DELINEATOR BRACKET WITH REFLECTIVE SHEETING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-18-16 DATE
/S/ Matthew R. Rauch
STATE SIGNING AND MAR[illegible] GINEER
FHWA

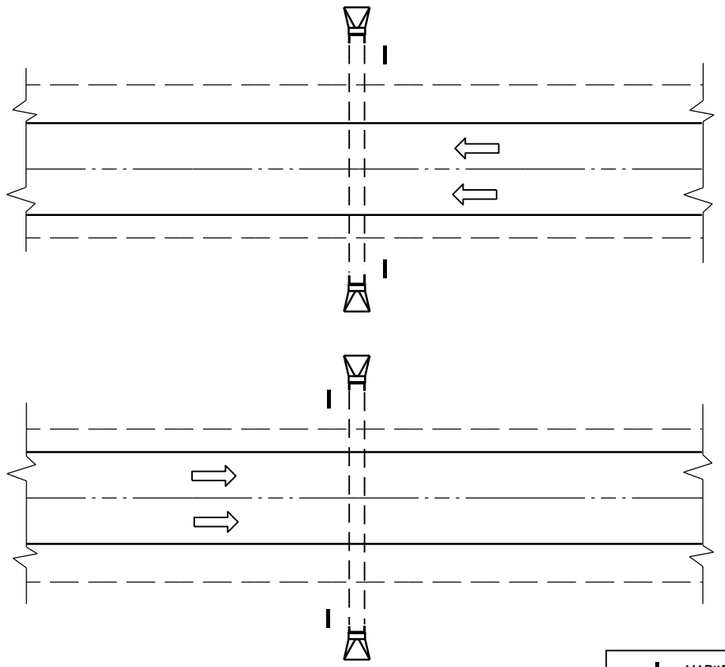


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S.D.D. 15 A 2-9

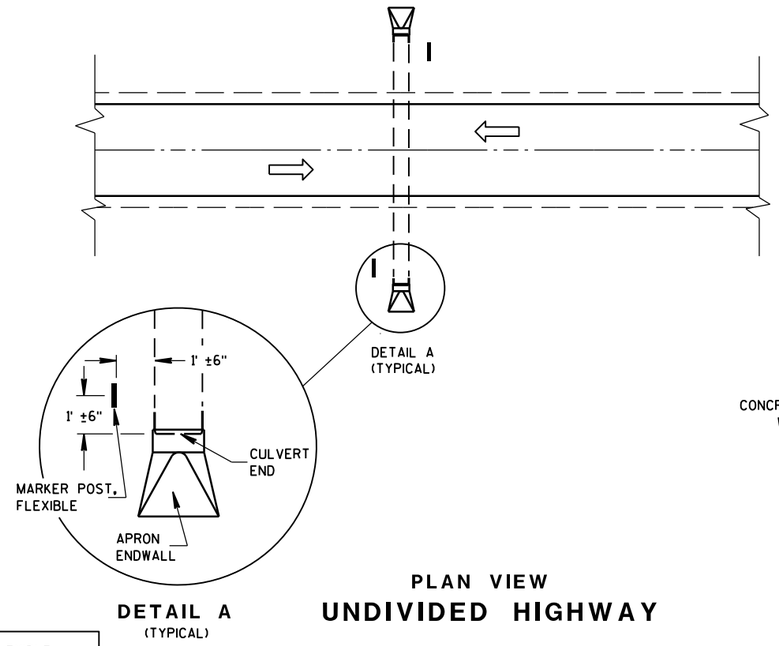
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S.D.D. 15 A 2-9



PLAN VIEW

**DIVIDED HIGHWAY**




DETAIL A
(TYPICAL)

PLAN VIEW

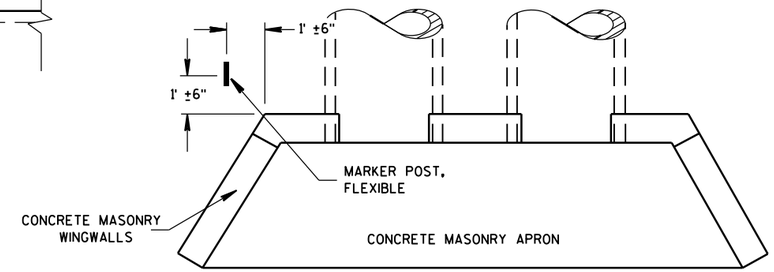
**UNDIVIDED HIGHWAY**

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

## GENERAL NOTES

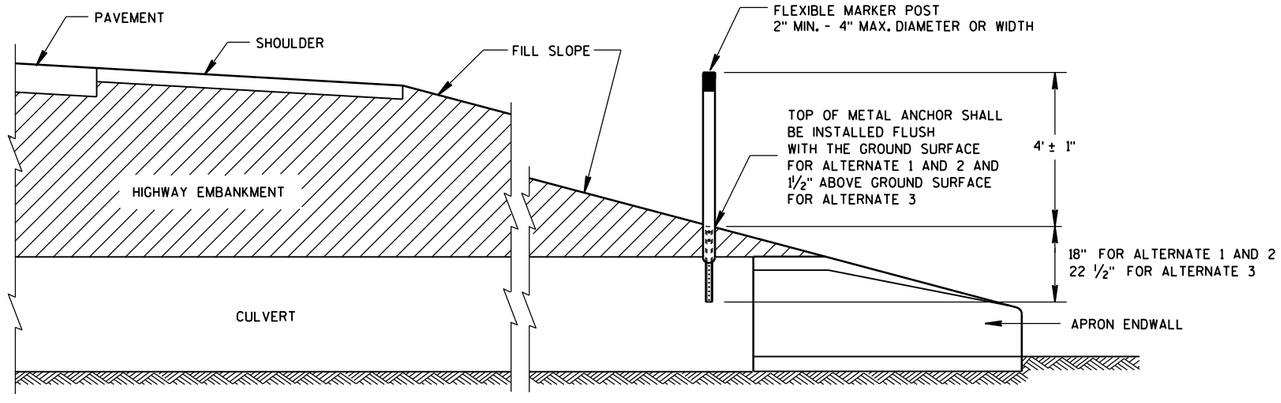
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.




PLAN VIEW

**CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH**

## FLEXIBLE MARKER POST LOCATION




CROSS SECTION

**FLEXIBLE MARKER POST**

**FLEXIBLE MARKER POST FOR CULVERT END**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

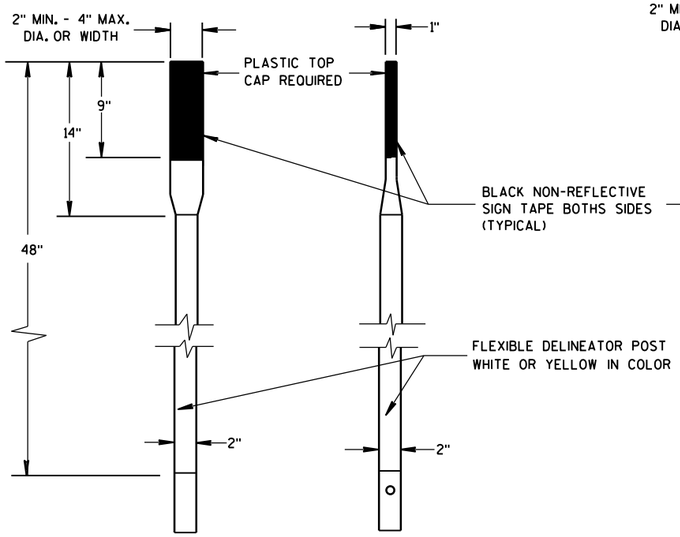


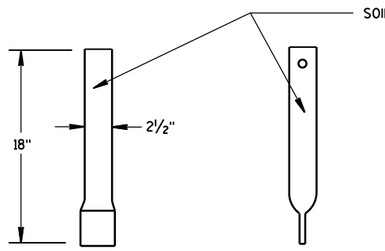
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S.D.D. 15 A 3-2a

6

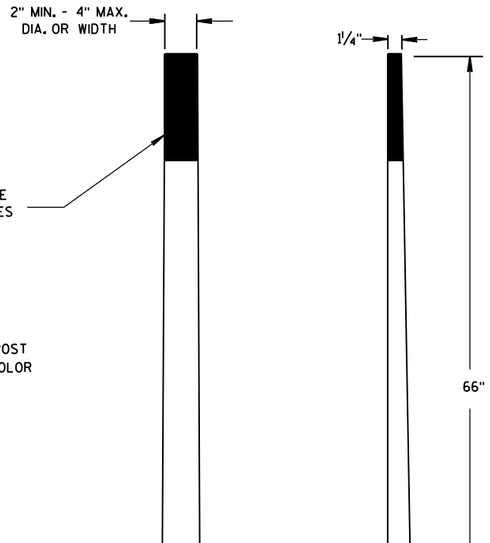
S.D.D. 15 A 3-2a



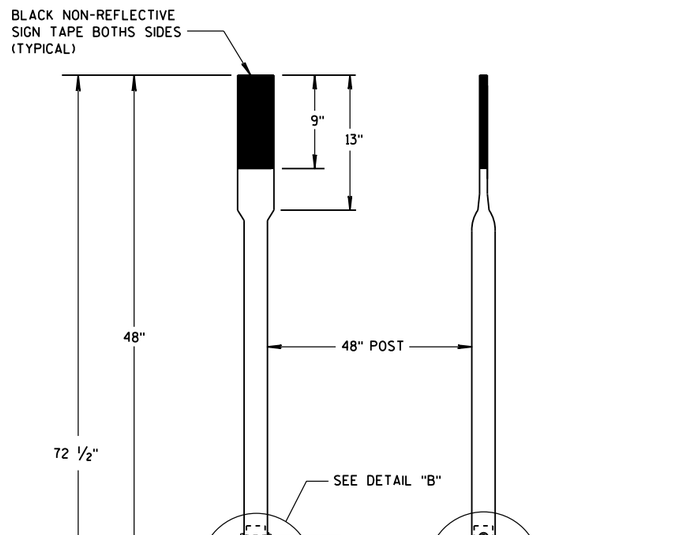

FRONT VIEW SIDE VIEW

ALTERNATE 1




FRONT VIEW SIDE VIEW

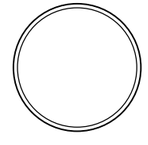
ALTERNATE 2



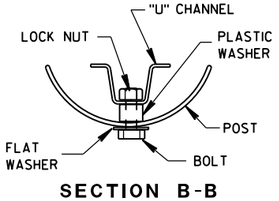

FRONT VIEW SIDE VIEW

ALTERNATE 3

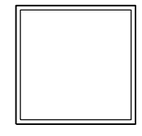
## FLEXIBLE MARKER POSTS



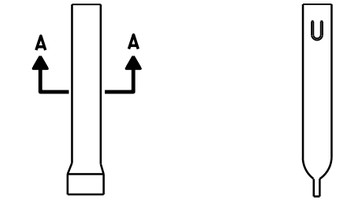
SECTION A-A




SECTION B-B

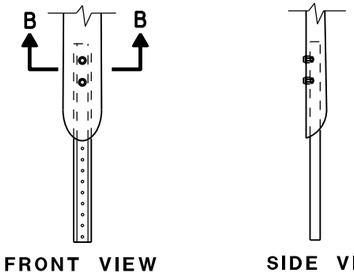


SECTION C-C



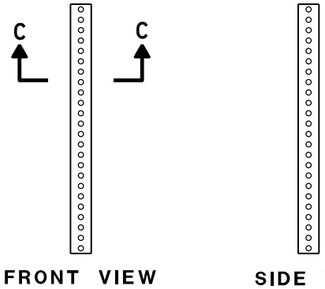

FRONT VIEW SIDE VIEW

ALTERNATE 1




FRONT VIEW SIDE VIEW

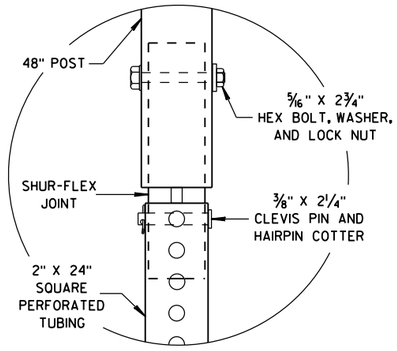
ALTERNATE 2



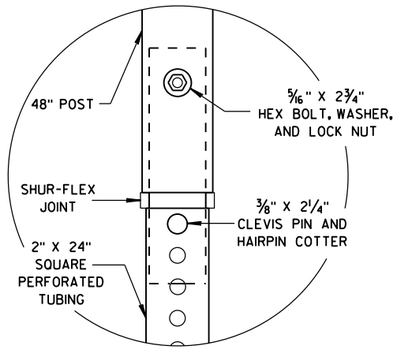

FRONT VIEW SIDE VIEW

ALTERNATE 3

## FLEXIBLE MARKER POST ANCHORS




DETAIL B




DETAIL C

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/1/2012
DATE
/S/ Travis Feltes
STATE TRAFFIC ENGINEER
FHWA



6

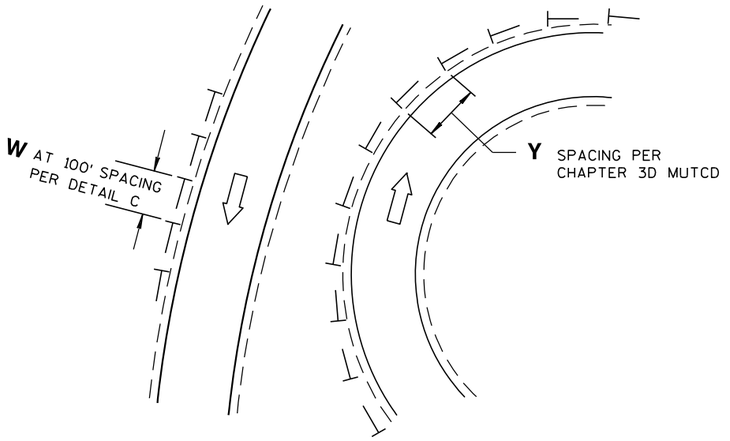
S.D.D. 15 A 3-2b

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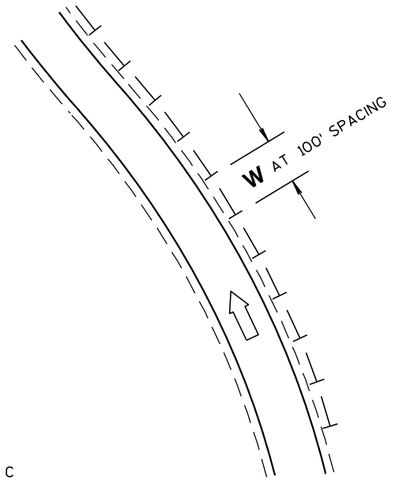
S.D.D. 15 A 3-2b

## GENERAL NOTES

* USE DOUBLE DELINEATOR ALONG ACCELERATION-DECELERATION LANES AND TAPERS. USE SINGLE DELINEATOR WHEN RAMP PAVEMENT IS FULL WIDTH.



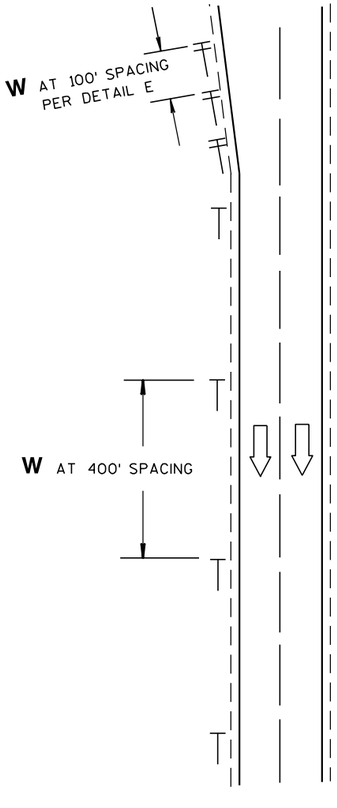

**DETAIL A**
**DELINEATOR LAYOUT AT CURVED RAMP**



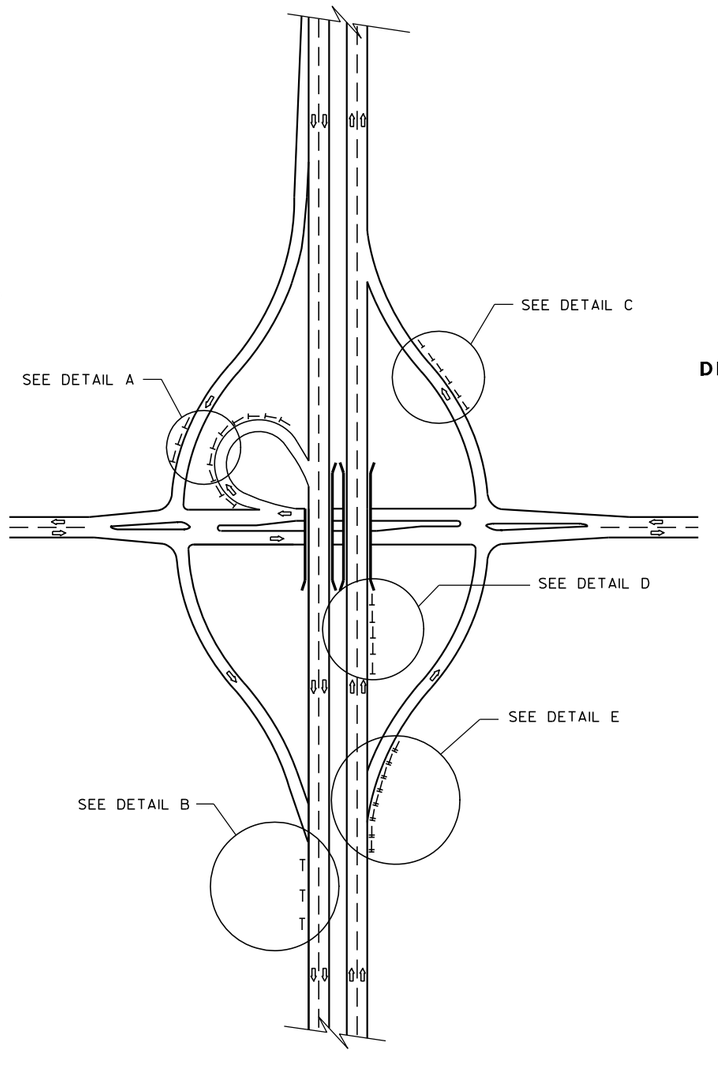

**DETAIL C**
**DELINEATOR LAYOUT ALONG RAMP**

**LEGEND**

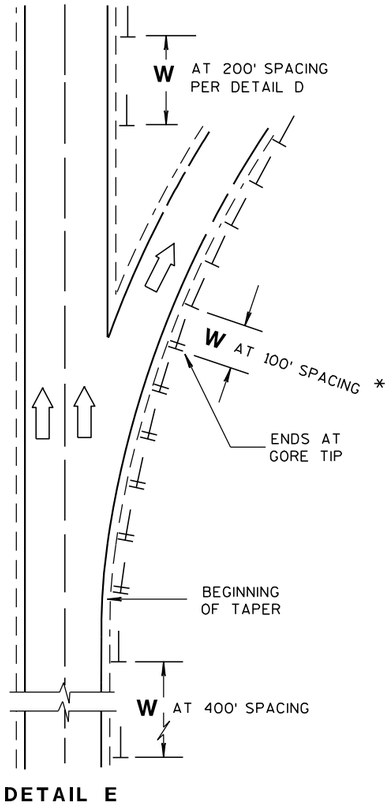
- DIRECTION OF TRAFFIC FLOW
- SINGLE DELINEATOR
- DOUBLE DELINEATOR
- W — WHITE
- Y — YELLOW



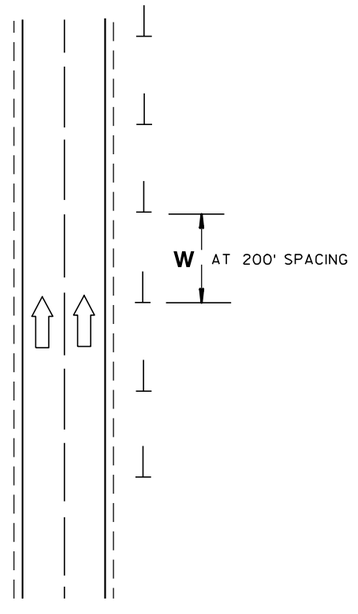

**DETAIL B**
**DELINEATOR LAYOUT ALONG MAINLINE**




**DELINEATOR LAYOUT**




**DETAIL E**
**DELINEATOR LAYOUT FOR ACCELERATION - DECELERATION LANES AND TAPERS AT RAMPS**




**DETAIL D**
**DELINEATOR LAYOUT BETWEEN INTERCHANGE RAMPS**

**DELINEATOR LAYOUT**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/5/09 DATE
/S/ Thomas N. Nothohm STATE TRAFFIC ENGINEER
FHWA

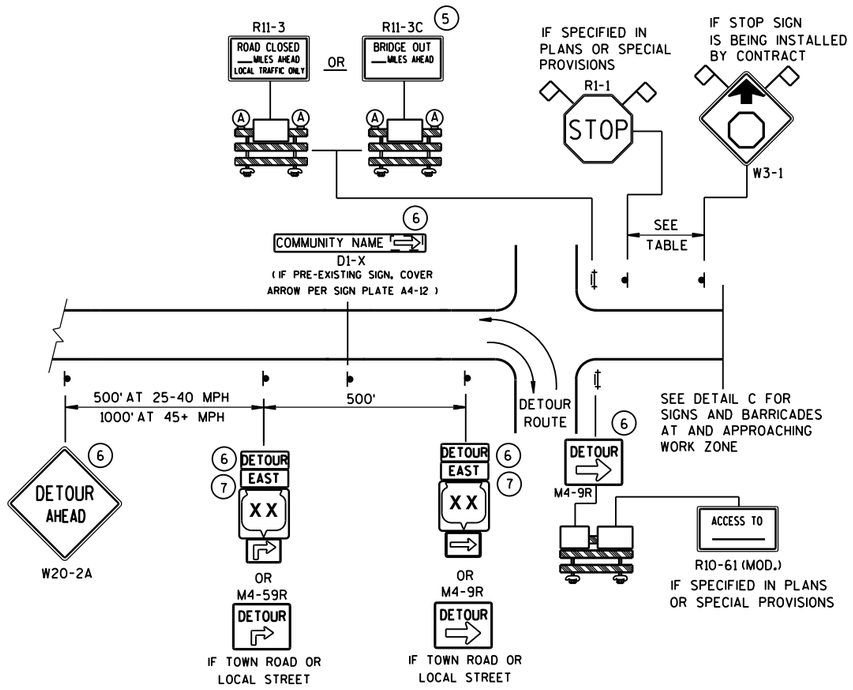


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S.D.D. 15 A 6-2

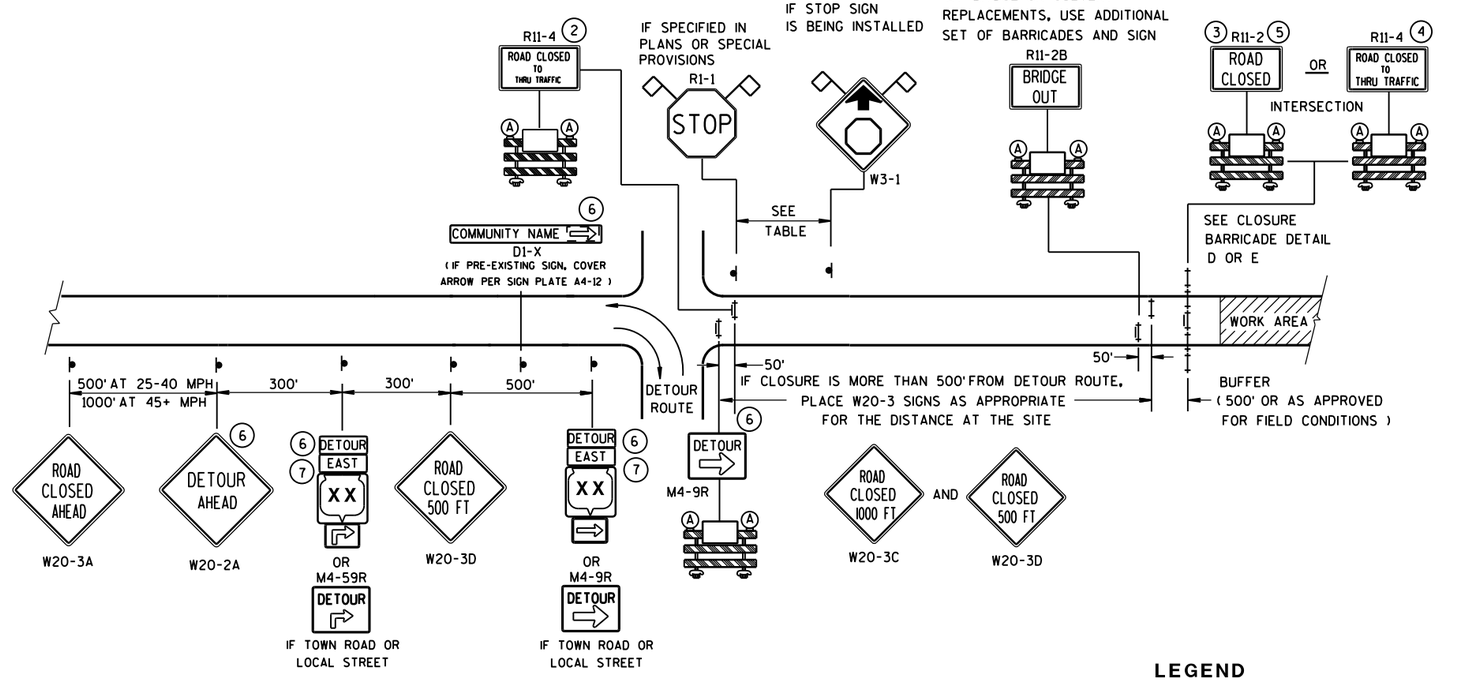
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S.D.D. 15 A 6-2



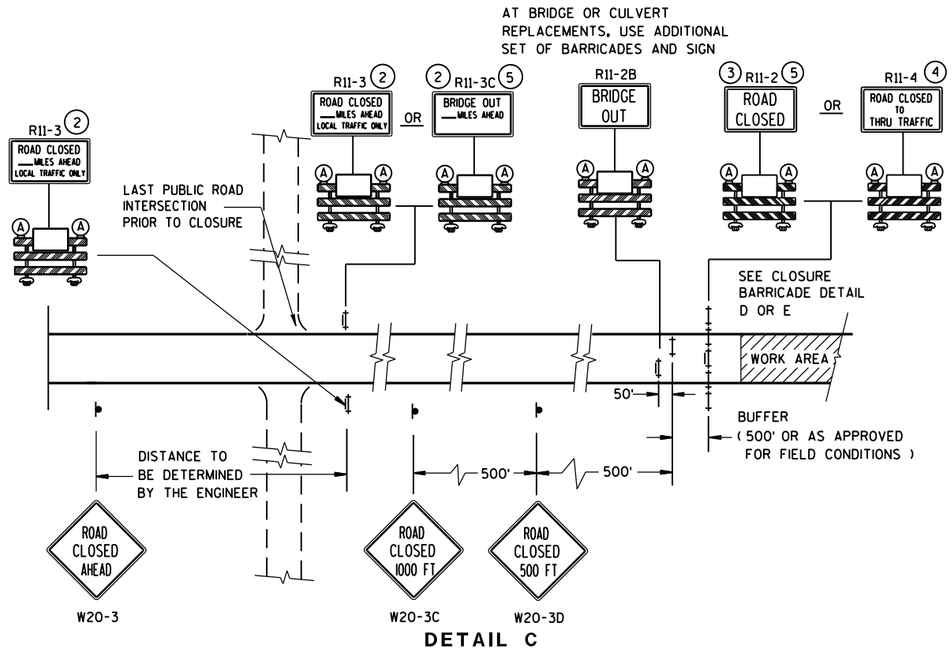

## DETAIL A
## MAINLINE CLOSURE WITH POSTED DETOUR

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




## DETAIL B
## MAINLINE CLOSURE WITH POSTED DETOUR

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




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

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

### LEGEND

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

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

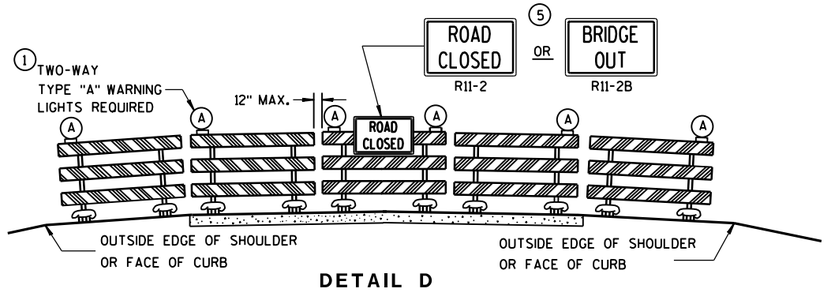


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S.D.D. 15 C 2-6a

6

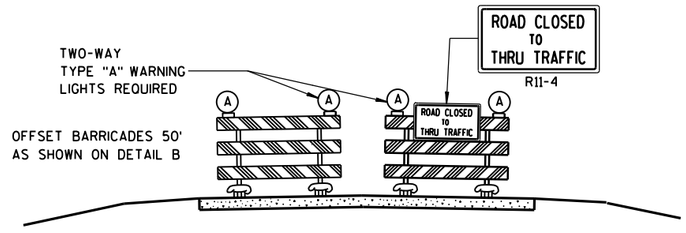
S.D.D. 15 C 2-6a




**DETAIL D**

## ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW




**DETAIL E**

## LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

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

## GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**BARRICADES AND SIGNS FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE
/S/ Peter Amakobe Atepe — STATEWIDE WORK ZO SAFETY ENGI
FHWA




6


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

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

## GENERAL NOTES

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

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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

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

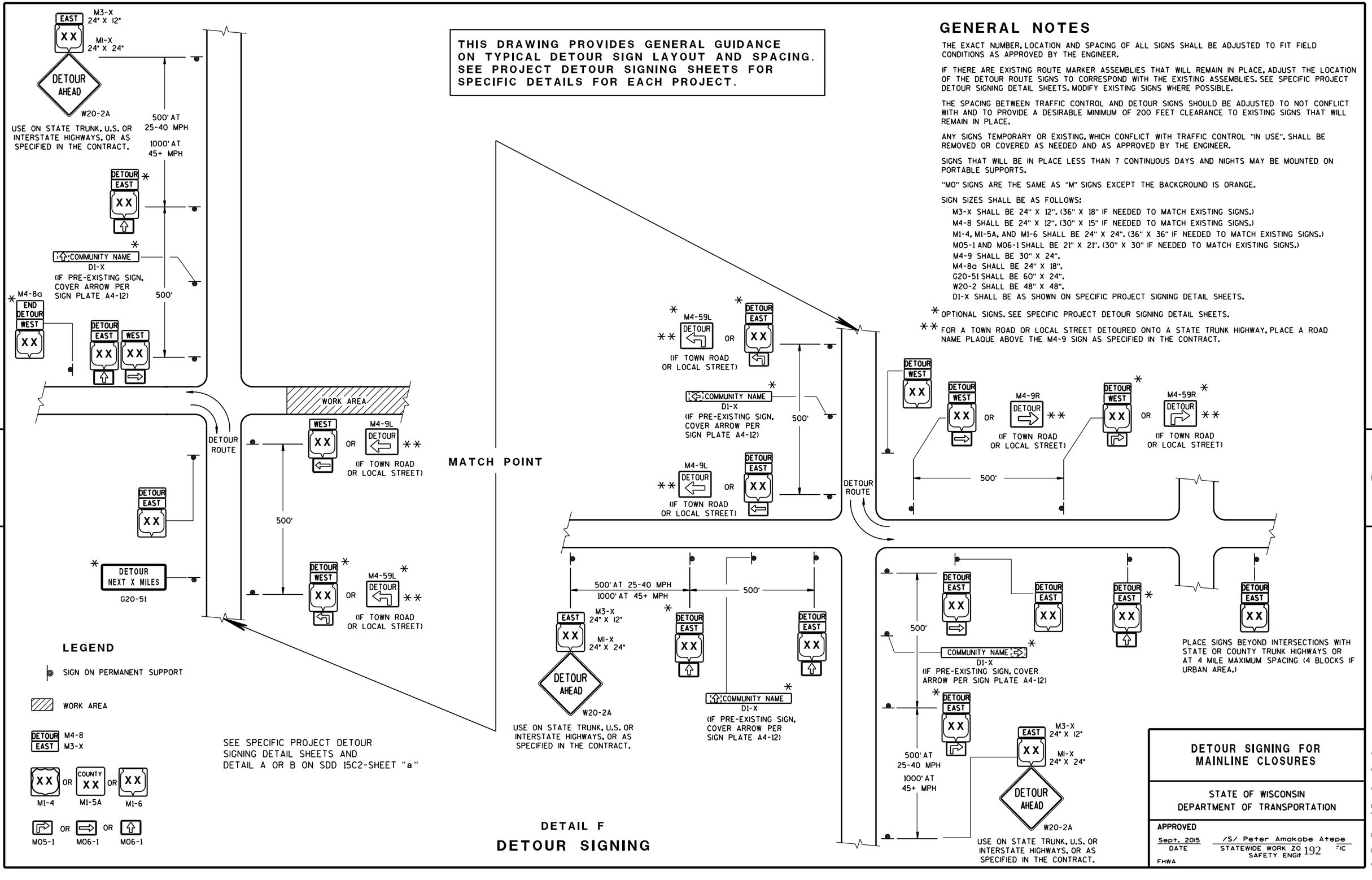
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- MO5-1 AND MO6-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-9 SHALL BE 30" X 24".
- M4-8a SHALL BE 24" X 18".
- G20-51 SHALL BE 60" X 24".
- W20-2 SHALL BE 48" X 48".
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

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

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




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

**DETAIL F**

**DETOUR SIGNING**

**DETOUR SIGNING FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2015 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO[illegible] FIC
SAFETY ENGI[illegible]

FHWA

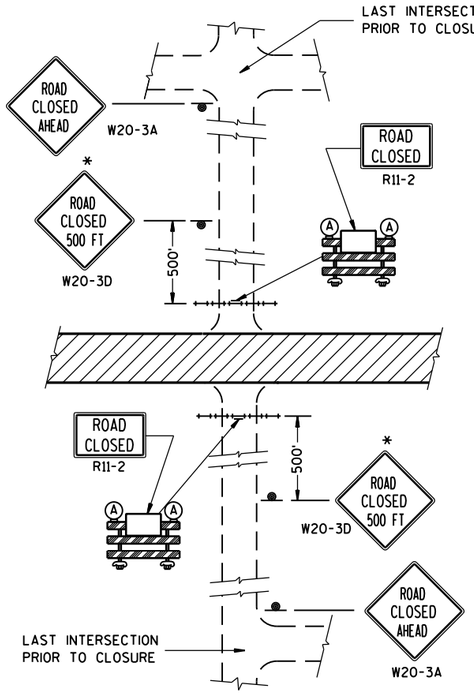


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S.D.D. 15 C 2-6c

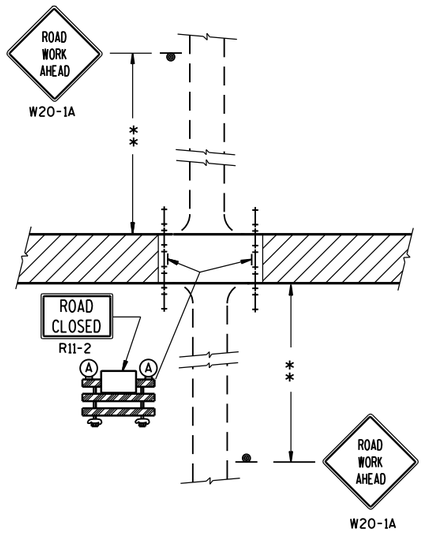
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S.D.D. 15 C 2-6c



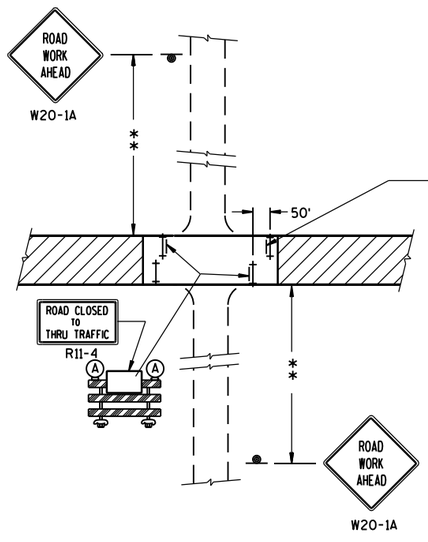

**DETAIL 1**

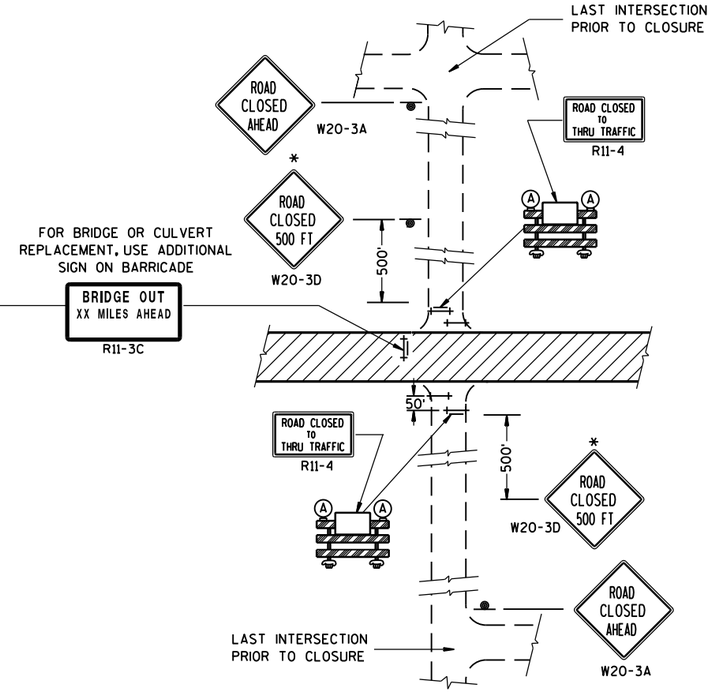
(NO ACCESS TO PROJECT)




**DETAIL 2**

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




**DETAIL 3**

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

**DETAIL 4**

(CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT)

## GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

## LEGEND

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

**BARRICADES AND SIGNS FOR SIDEROAD CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO[illegible]FIC SAFETY ENGI[illegible]
FHWA

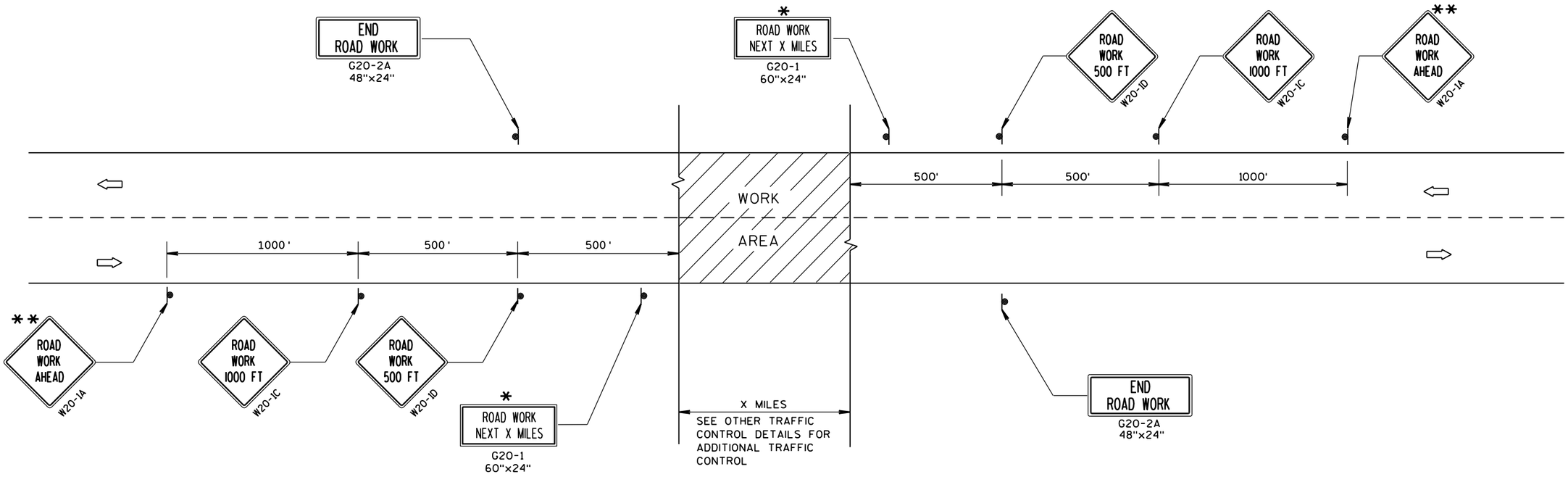


6

S.D.D. 15 C 3-3

6

S.D.D. 15 C 3-3




# 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.

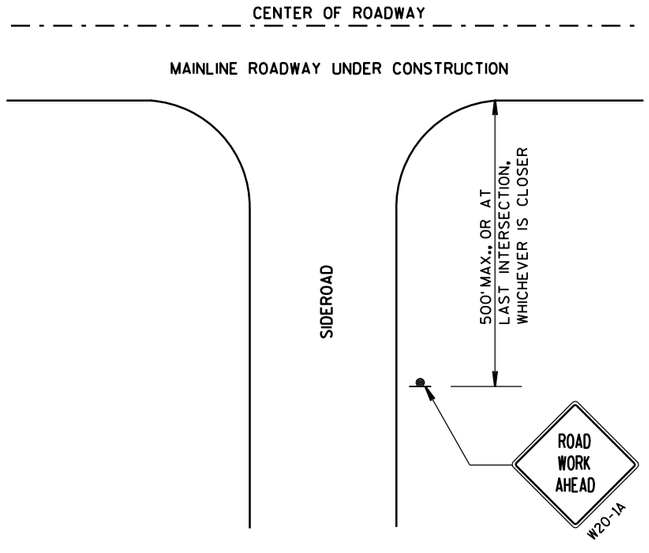
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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 Amakobe Atepe |
|---|---|
| DATE | STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER |

FHWA

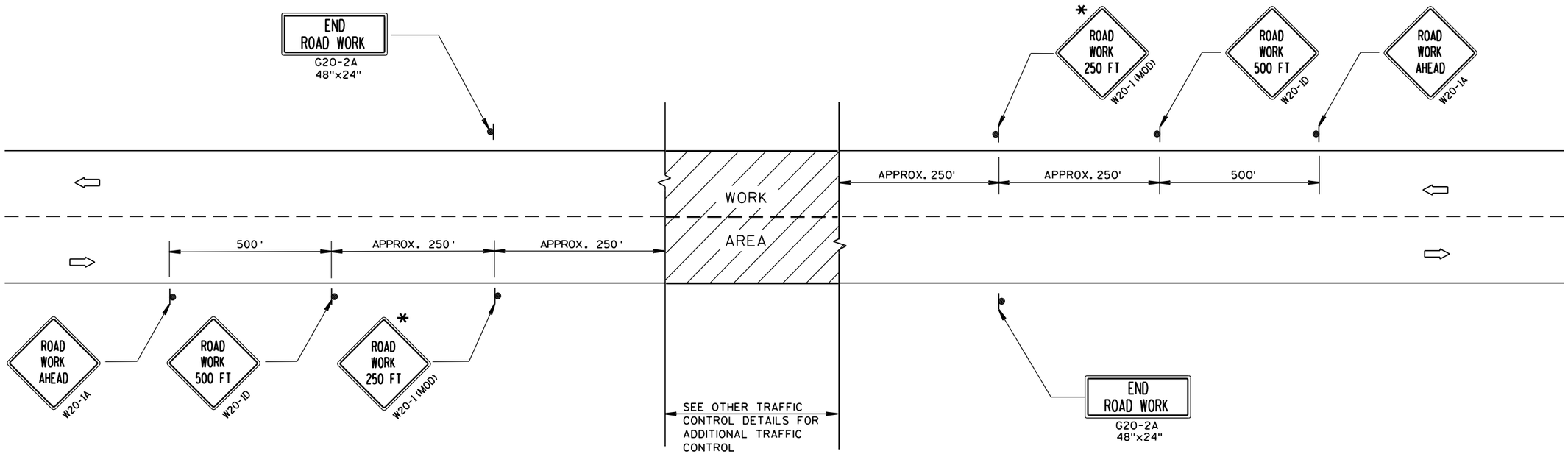


6

S.D.D. 15 C 4-3

6

S.D.D. 15 C 4-3




# 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.

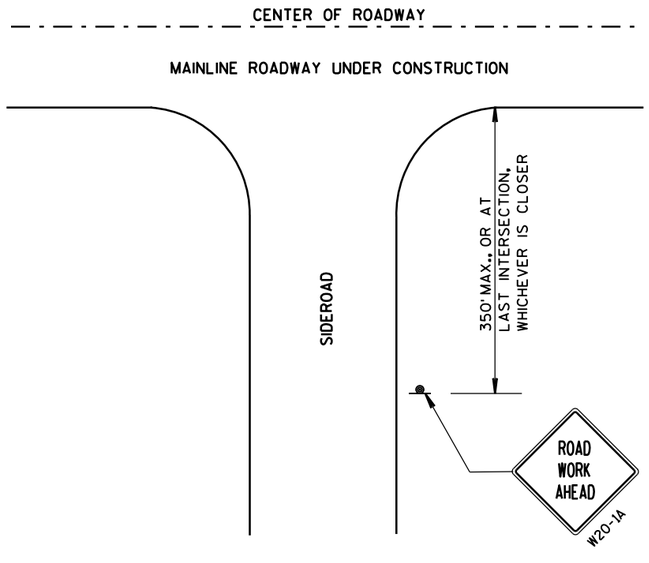
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS.

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.

* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FT" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.




## LEGEND

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

**TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

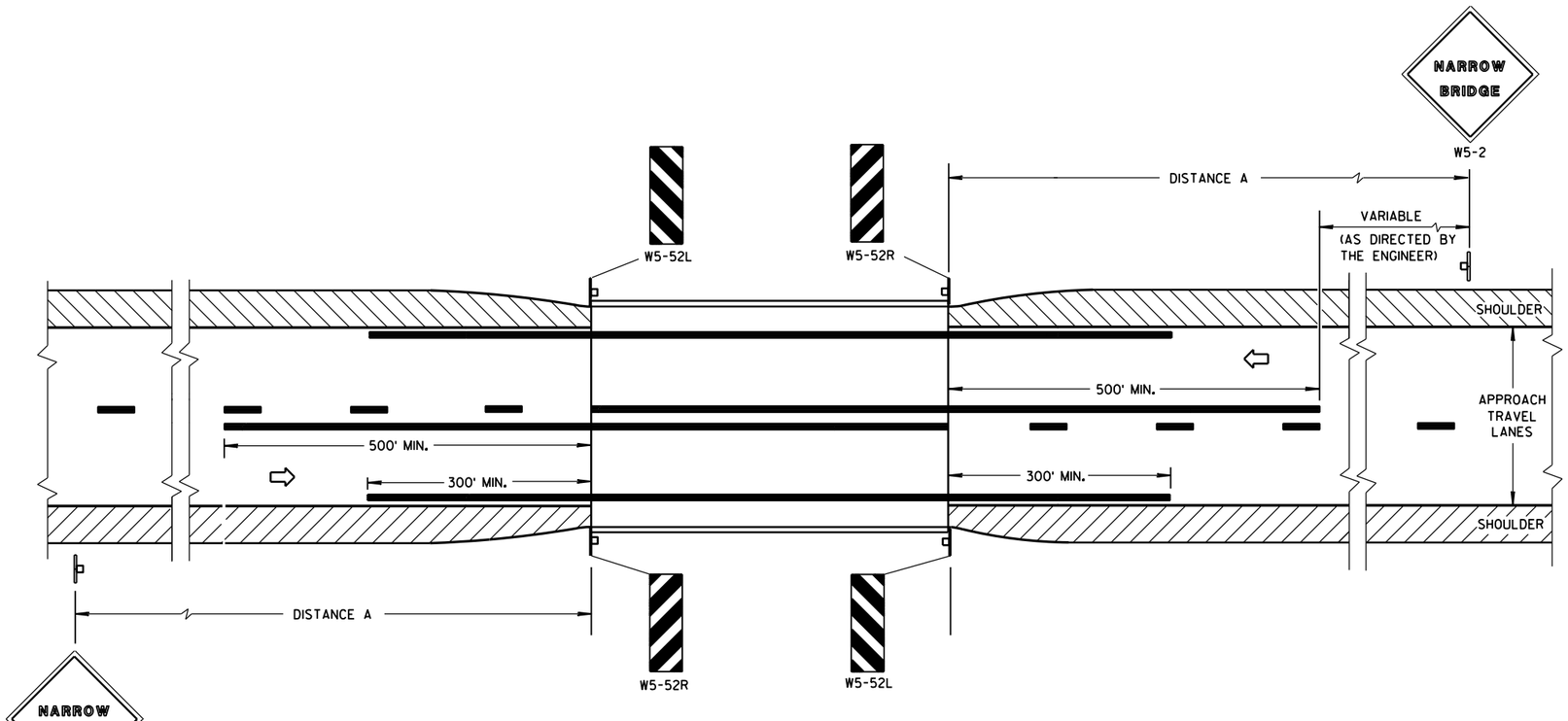
APPROVED
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZOI SAFETY ENGIN — IC
FHWA





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S.D.D. 15 C 5-3

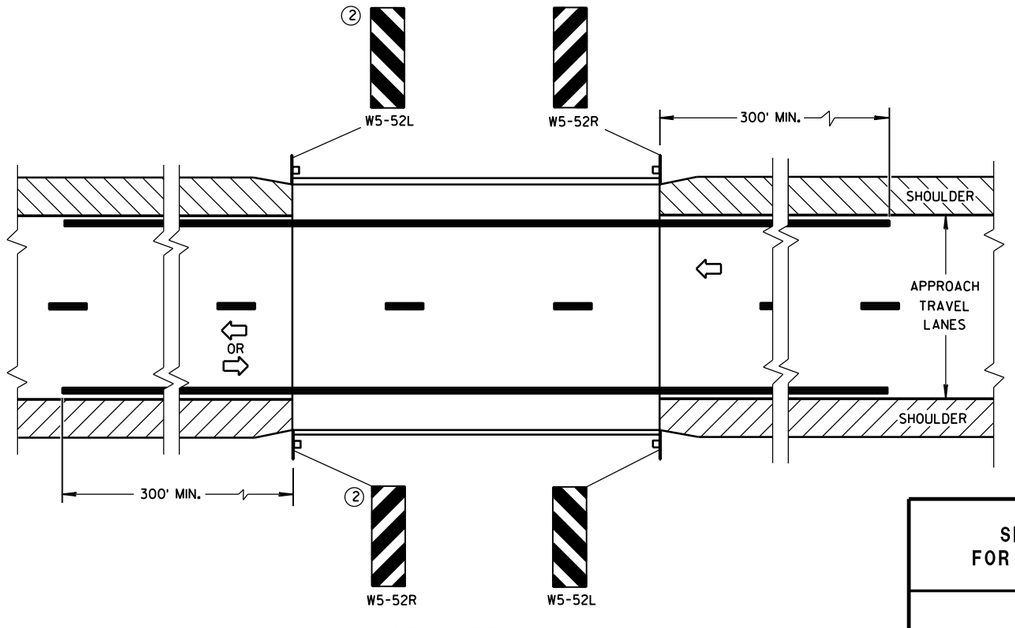



## SITUATION 1

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

### DISTANCE TABLE

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




## SITUATION 2

WARRANTING CRITERIA:

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

## 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.

**SIGNING & MARKING FOR TWO LANE BRIDGES**

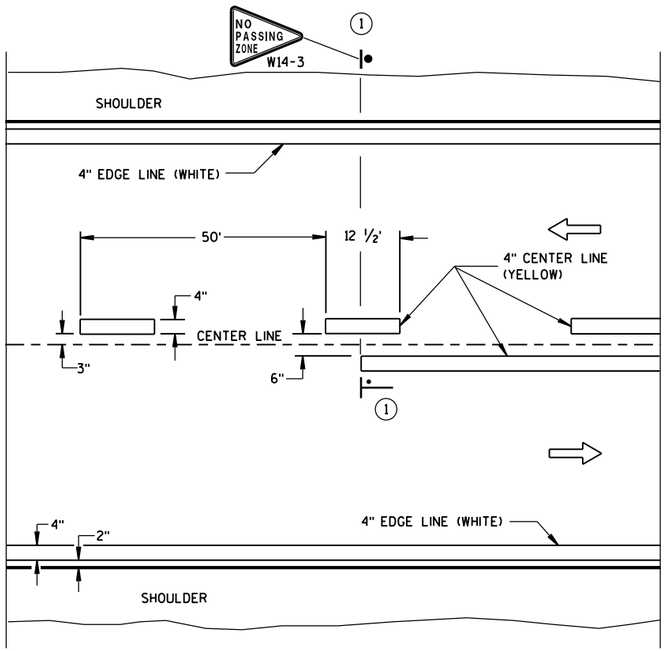
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-18-16 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MAR ...EER
FHWA

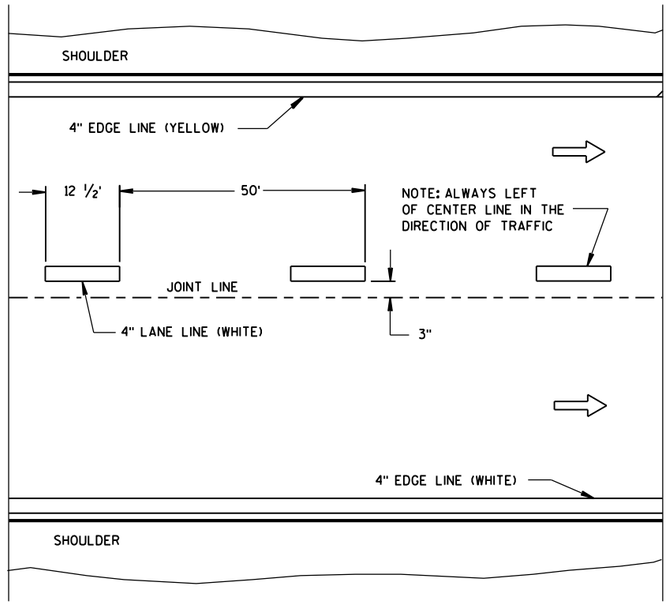


6

S.D.D. 15 C 6-8




TWO WAY TRAFFIC




ONE WAY TRAFFIC

## PERMANENT 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.

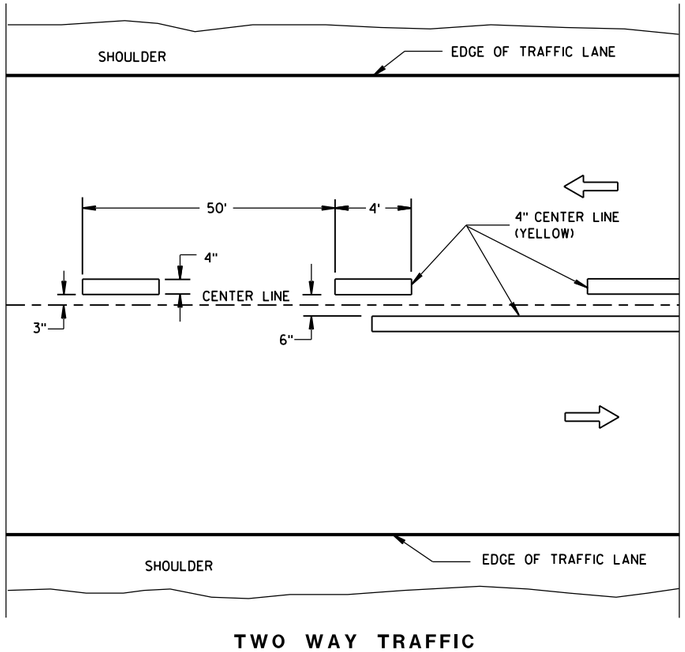
## NOTE

ARROW SYMBOL ( ⇨ ) SHOWS DIRECTION OF TRAVEL

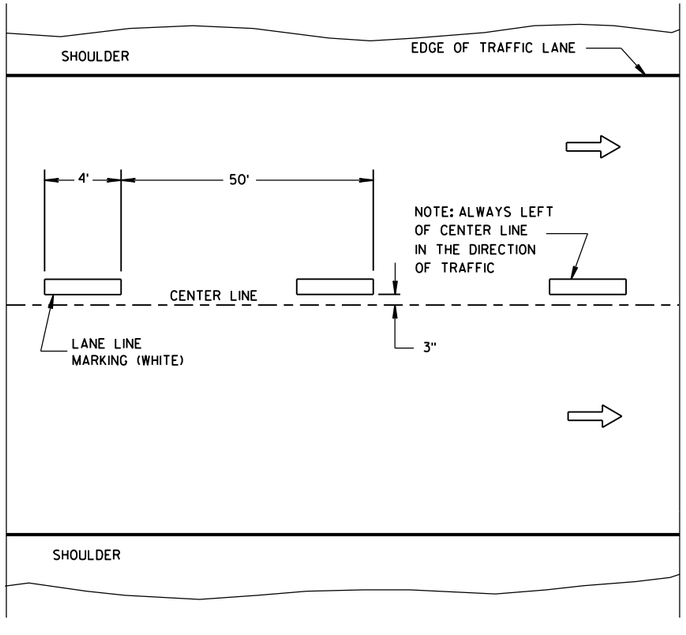
## LEGEND

"T" MARKING

POST MOUNTED SIGN




TWO WAY TRAFFIC




ONE WAY TRAFFIC

## TEMPORARY PAVEMENT MARKING

| LONGITUDINAL MARKING (MAINLINE) | |
|---|---|
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | |
| APPROVED | |
| Sept., 2016 | /S/ Matthew R. Rauch |
| DATE | STATE SIGNING AND MAR[illegible]INEER |
| FHWA | |

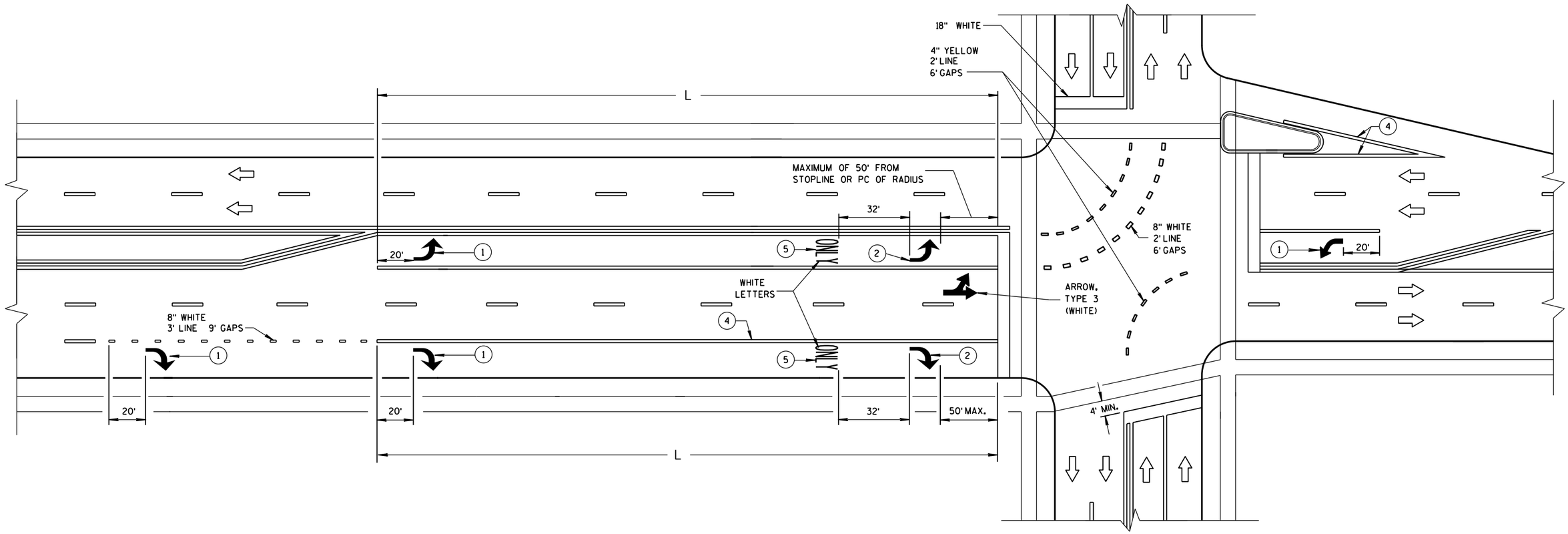


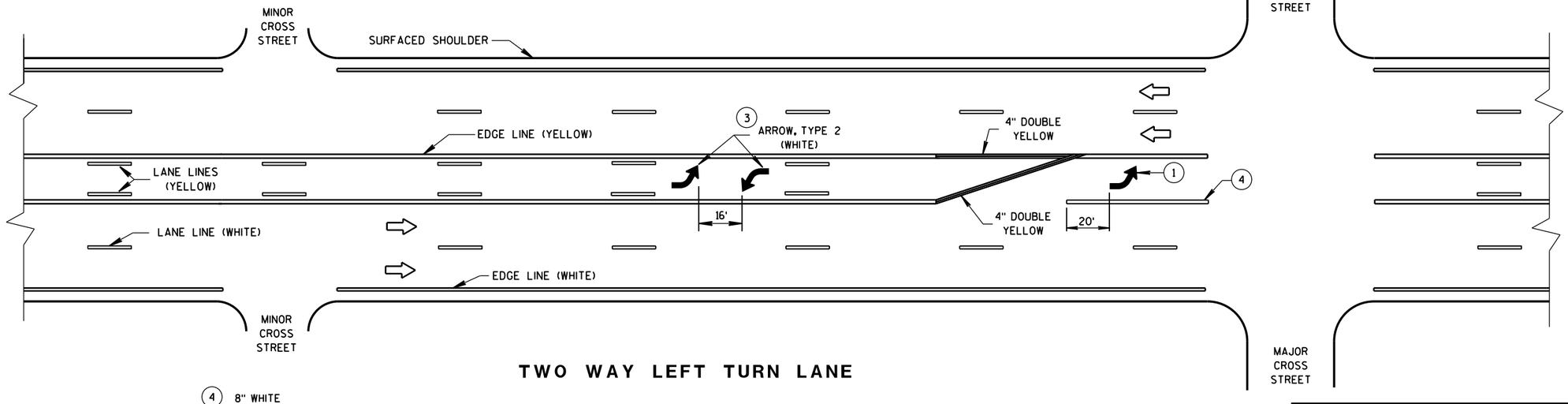
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S.D.D. 15 C 8-17a

6

S.D.D. 15 C 8-17a




## TWO WAY LEFT TURN LANE

### GENERAL NOTES

(1) REQUIRED ARROW, TYPE 2 (WHITE).

(2) REQUIRED ARROW, TYPE 2 (WHITE) WHEN L IS GREATER THAN 78 FEET AND LESS THAN OR EQUAL TO 166 FEET.

(3) A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.

(4) 8" WHITE

(5) REQUIRED WORD ONLY WHEN L IS GREATER THAN 166 FEET.

NOTE:
ARROW SYMBOL ( ⇨ )
SHOWS DIRECTION OF TRAVEL

L = LENGTH OF TURN BAY

**PAVEMENT MARKING (TURN LANES)**

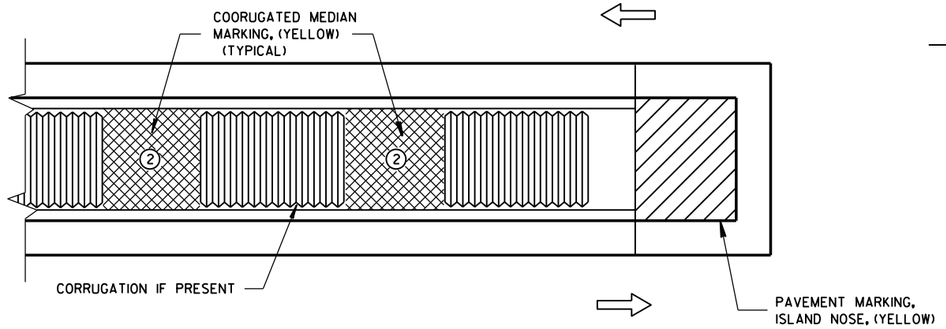
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI



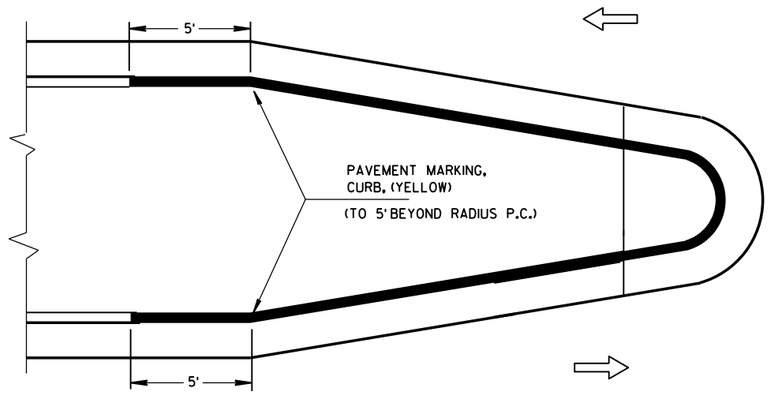
6



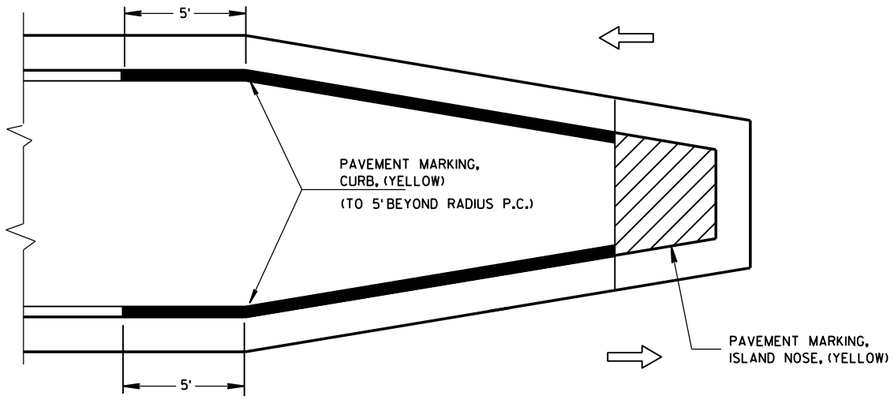
S.D.D. 15 C 8-17b




MEDIAN ISLAND WITH SQUARE BLUNT NOSE

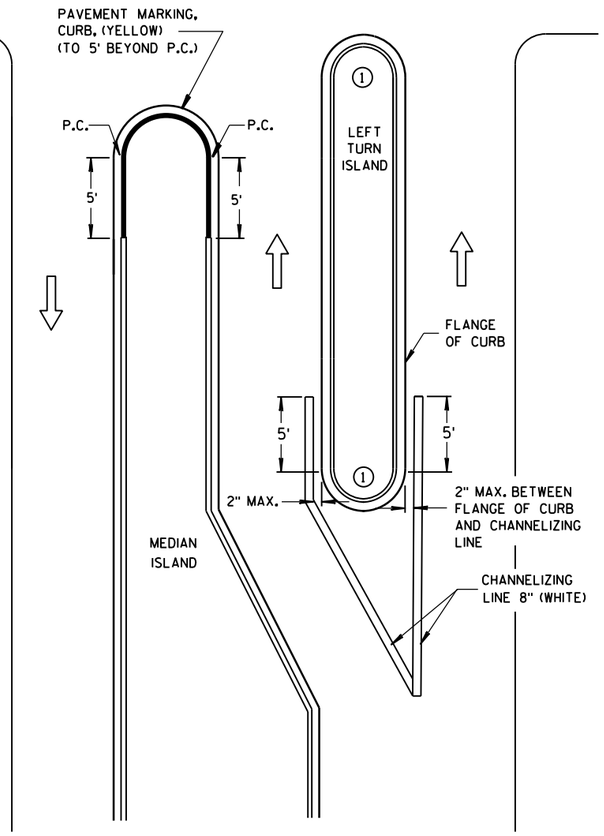



MEDIAN ISLAND WITH ROUND BLUNT NOSE




MEDIAN ISLAND WITH SLOPED NOSE

## TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

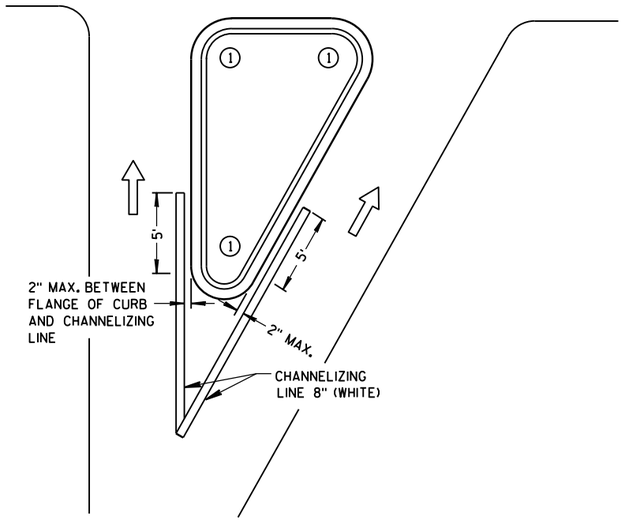



LEFT TURN & MEDIAN ISLAND

## GENERAL NOTES

1. DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.

2. WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.




RIGHT TURN ISLAND

### LEGEND

- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL

PAVEMENT MARKING
(ISLANDS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR



6

S.D.D. 15 C 8-17c

6

S.D.D. 15 C 8-17c

## LEGEND

- SIGN ON PORTABLE OR PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

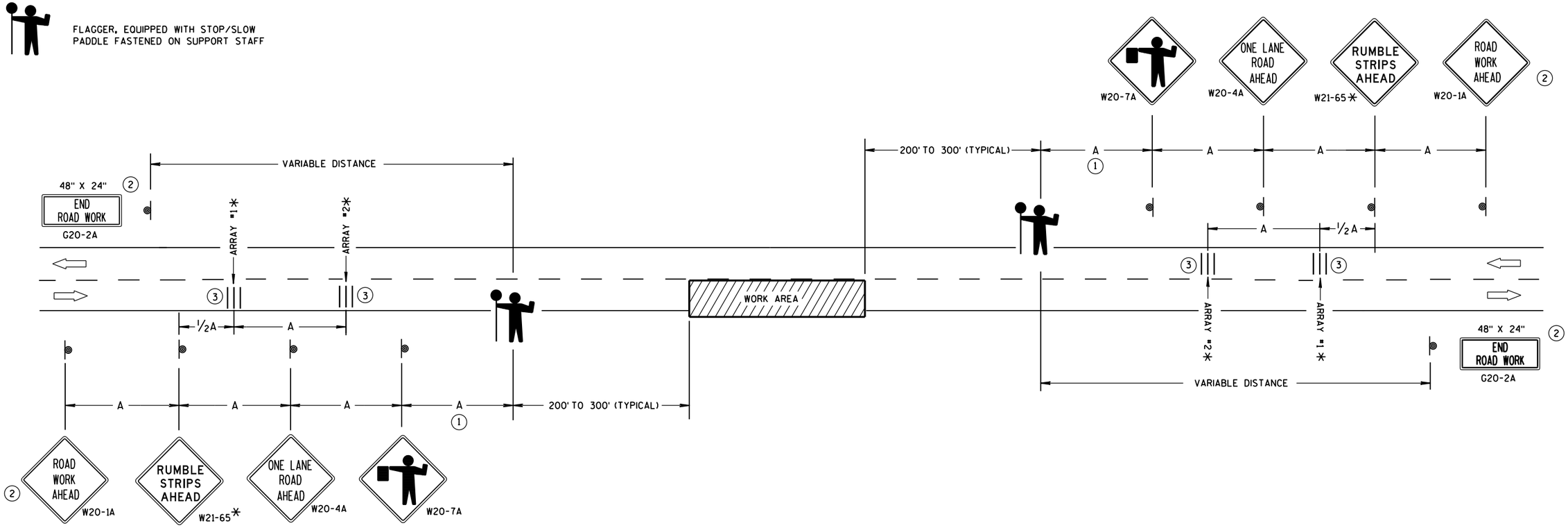
## SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

| SPEED LIMIT | SPACING A |
|---|---|
| 25-35 MPH | 200' |
| 35-40 MPH | 350' |
| 45-55 MPH | 500' |




W03-4

USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING A.




# TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

## 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.

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

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

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, REMOVE TEMPORARY RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

* UTILIZE TEMPORARY RUMBLE STRIPS WHEN FLAGGING OPERATION IS ANTICIPATED TO BE STATIONARY IN EXCESS OF TWO HOURS.

(1) FOR A MOVING WORK OPERATION, SIGNING AND TEMPORARY RUMBLE STRIPS (IF USED) SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3,500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

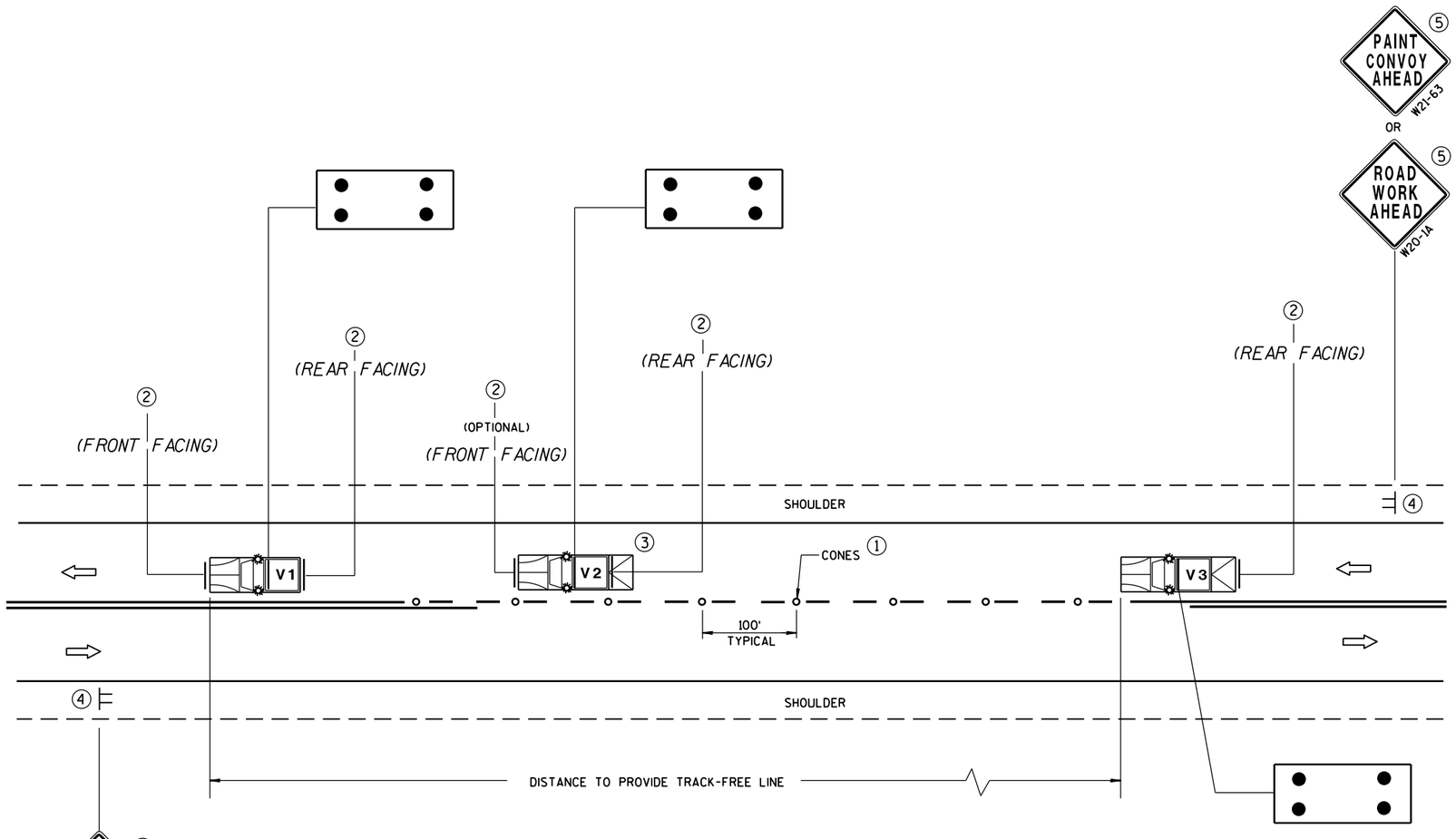
(3) EACH TEMPORARY RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

**TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December, 2016 — /S/ Andrew Heldtke
DATE — WORK ZONE ENG
FHWA


6
S.D.D. 15 C 12-5




# MOVING PAVEMENT MARKING OPERATIONS
# TWO-LANE TWO-WAY ROADWAY

## GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.

IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.

ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGELINE MARKING.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.

(1) CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

(2) USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.

WET PAINT W21-64 OR WET PAINT W21-64

(3) OPTIONAL TRUCK-MOUNTED ATTENUATOR.

(4) SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.

(5) IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

### LEGEND

| | |
|---|---|
| **V1** | LEAD VEHICLE |
| **V2** | SHADOW VEHICLE |
| **V3** | TRAIL VEHICLE WITH TMA |
| **TMA** | TRUCK-MOUNTED ATTENUATOR |
| ⊢ | SIGN ON TEMPORARY SUPPORT |
| ⇨ | DIRECTION OF TRAFFIC |
| o | CONES |
| ⁘ | FLASHING ARROW PANEL ( CAUTION ) |

**MOVING PAVEMENT MARKING OPERATION**
**TWO-LANE TWO-WAY ROADWAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 — DATE
/S/ Peter Amakobe Atepe — STATEWIDE WORK ZON SAFETY ENGINE
FHWA

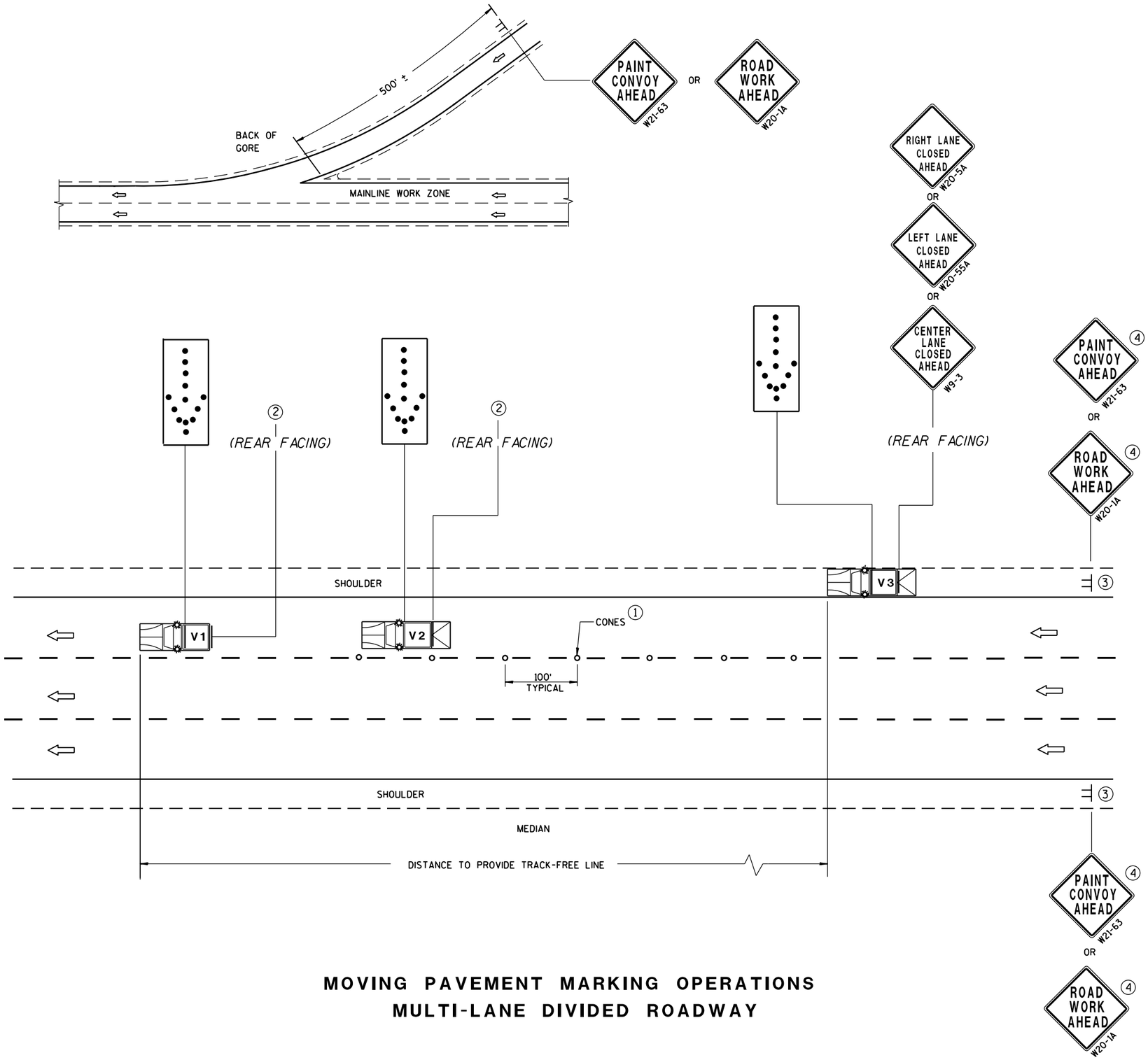


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S.D.D. 15 C 19-4a

6

S.D.D. 15 C 19-4a




## MOVING PAVEMENT MARKING OPERATIONS
## MULTI-LANE DIVIDED ROADWAY

## GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.

IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.

ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

WHEN WORK ACTIVITY BLOCKS THE LEFT LANE, REVERSE TRAFFIC CONTROL.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE CONTRACT OR AS APPROVED BY THE ENGINEER.

USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.

FOR EDGELINE MARKING OR IF CONES ARE NOT USED, POSITION THE REARMOST SHADOW VEHICLE ON THE SHOULDER AS SHOWN IN THE MUTCD IF THE SHOULDER HAS ADEQUATE WIDTH. USE DOUBLE ARROWS WHEN CONVOY IS IN CENTER LANE ONLY.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.

THIS DRAWING SHALL BE USED FOR EDGELINE OR LANELINE MARKING FOR MULTILANE DIVIDED ROADWAYS.

(1) CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

(2) USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.

WET PAINT W21-64 OR WET PAINT W21-64

(3) SIGNS SHALL BE REPEATED AFTER EVERY ON RAMP OR EVERY THREE MILES.

(4) IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

### LEGEND

| | |
|---|---|
| V1 | LEAD VEHICLE |
| V2 | SHADOW VEHICLE |
| V3 | TRAIL VEHICLE WITH TMA |
| TMA | TRUCK-MOUNTED ATTENUATOR |
| | SIGN ON TEMPORARY SUPPORT |
| | DIRECTION OF TRAFFIC |
| | CONES |
| | FLASHING ARROW PANEL ( MERGE ) |

**MOVING PAVEMENT MARKING OPERATION**
**MULTI-LANE DIVIDED ROADWAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZON SAFETY ENGINI
FHWA

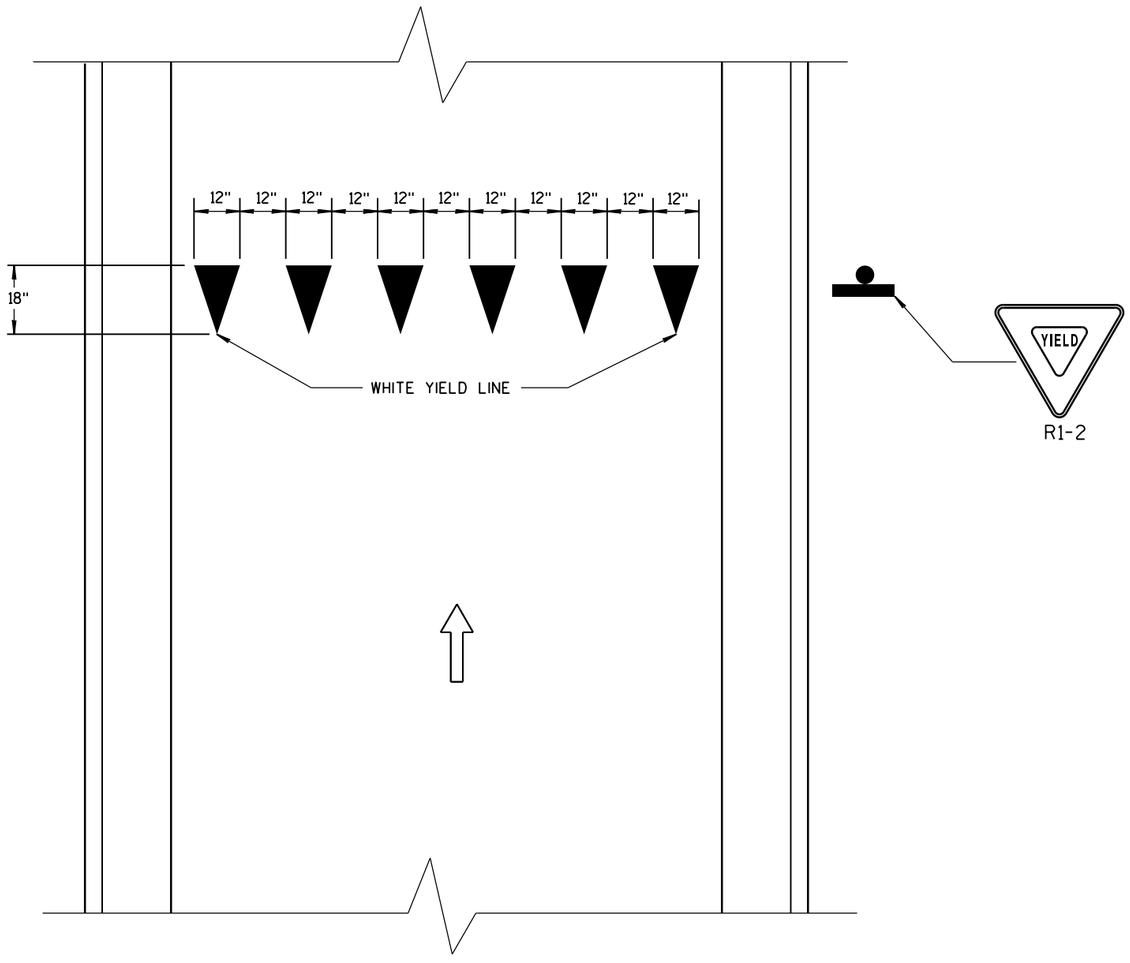


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S.D.D. 15 C 19-4c

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S.D.D. 15 C 19-4c







R1-2

DIRECTION OF TRAVEL

**YIELD LINE**

6

6

S.D.D. 15 C 20-2

S.D.D. 15 C 20-2

YIELD MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4-18-2016
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MARI 203 IEER

FHWA

## GENERAL NOTES

SIGNING AND MARKING IS SHOWN AS TYPICAL PLACEMENT. FIELD CONDITIONS MAY DICTATE CHANGES IN SIGNING AND MARKING PLACEMENT.

**A** DISTANCE DEPENDENT ON SPEED (SEE TABLE)

(1) WRONG WAY PREVENTION SIGNS ARE DISCUSSED IN T G M 2-15-12

(2) USED ONLY WHEN APPROVED BY REGION TRAFFIC ENGINEER.

### SYMBOLS

* SIGNS MAY BE OMITTED IF SPACE DOES NOT PERMIT

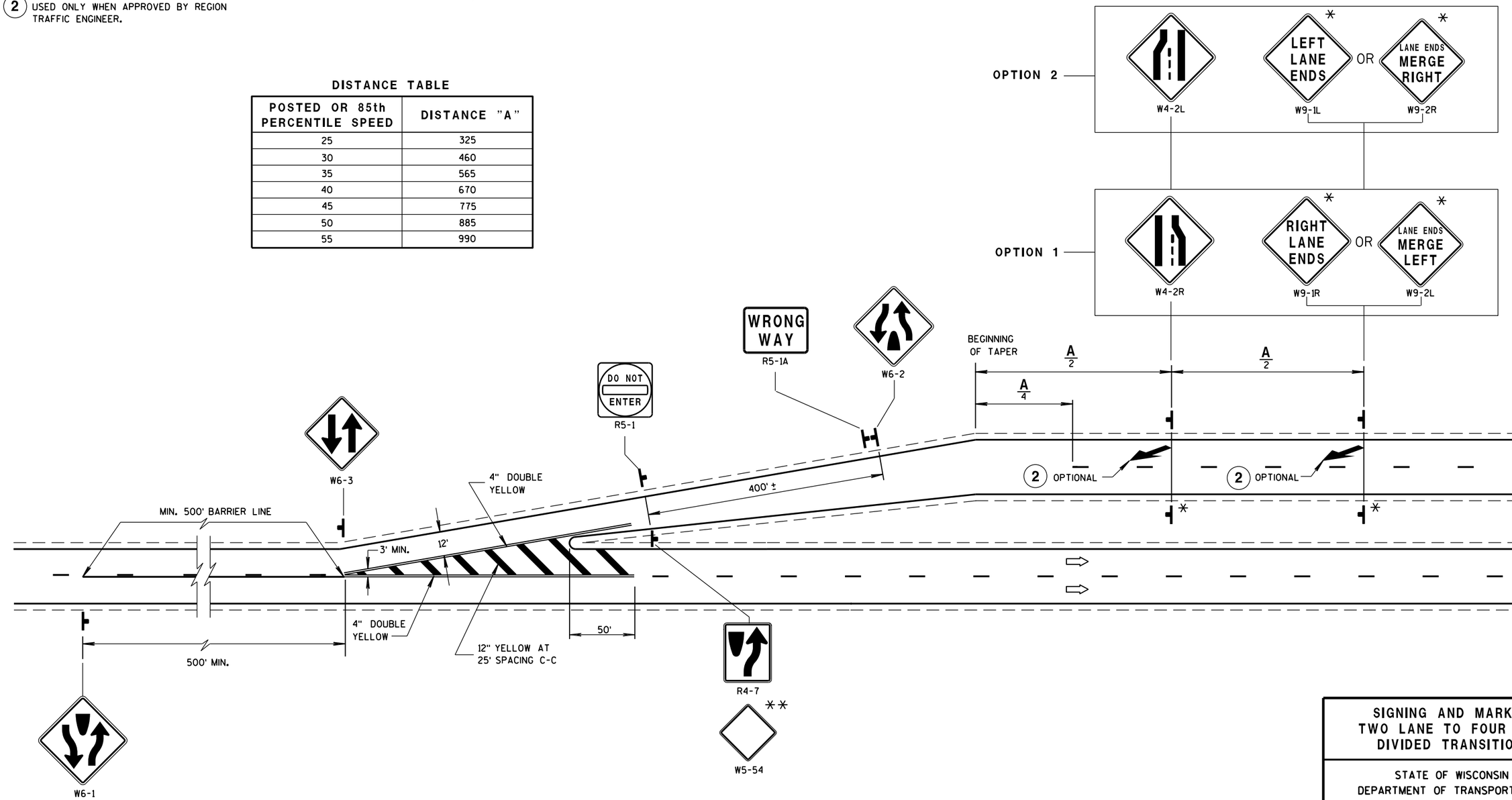
** IF POSTED SPEED 45 MPH OR GREATER, PLACE W5-54 SIGN UNDER R4-7 SIGN. MOUNT W5-54 SIGN AT 4' MOUNTING HEIGHT (TOP OF ROADWAY TO BOTTOM OF SIGN)

POST MOUNTED SIGN

DIRECTION OF TRAFFIC FLOW

### DISTANCE TABLE

| POSTED OR 85th PERCENTILE SPEED | DISTANCE "A" |
|---|---|
| 25 | 325 |
| 30 | 460 |
| 35 | 565 |
| 40 | 670 |
| 45 | 775 |
| 50 | 885 |
| 55 | 990 |




**SIGNING AND MARKING**
**TWO LANE TO FOUR LANE**
**DIVIDED TRANSITIONS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-18-2016 DATE
/S/ Matthew R. Rauch
STATE SIGNING AND MARKING ENGINEER
FHWA




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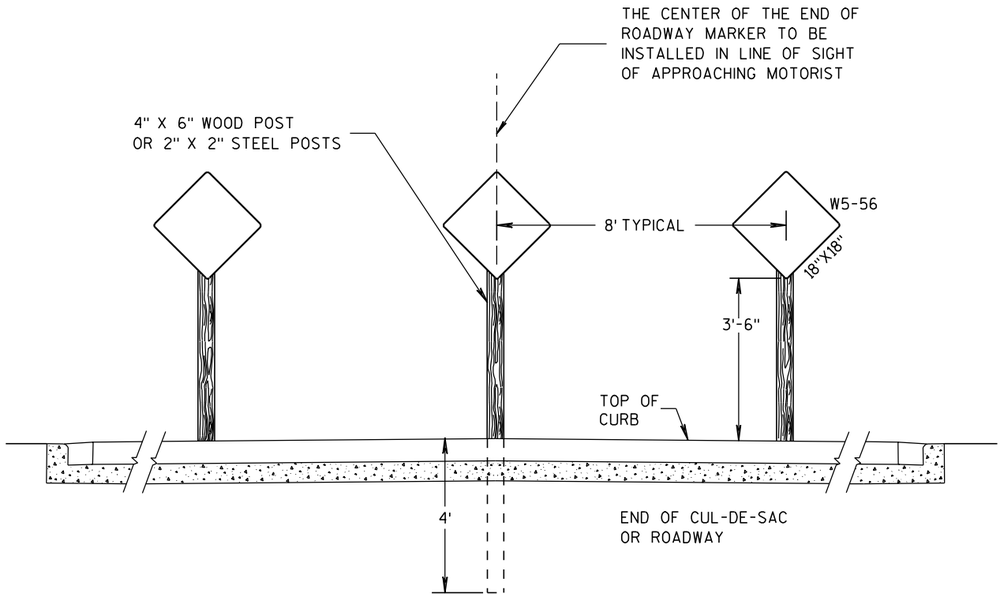
S.D.D. 15 C 21-7

## GENERAL NOTES

SIGN LOCATIONS SHOWN ARE TYPICAL PLACEMENT AND MAY BE ADJUSTED BY THE ENGINEER AS FIELD CONDITIONS DICTATE.

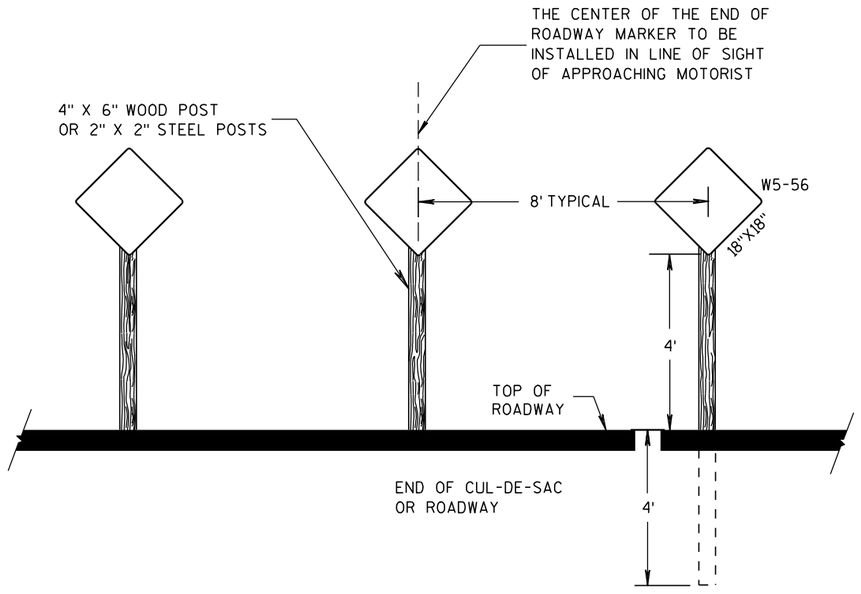
THE MINIMUM NUMBER OF END-OF-ROADWAY SIGNS ARE THREE (AS SHOWN). ADDITIONAL END-OF-ROADWAY SIGNS MAY BE INSTALLED AS FIELD CONDITIONS DICTATE. (SEE SIGNING PLAN).

WHEN BEAMGUARD IS REQUIRED, PLACE END-OF-ROADWAY SIGNING BEHIND BEAMGUARD.




**TYPICAL URBAN SIGN INSTALLATION**

**(WITH CURB & GUTTER)**




**TYPICAL RURAL SIGN INSTALLATION**

**(WITHOUT CURB & GUTTER)**

| END-OF-ROADWAY SIGNING | |
|---|---|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION | |
| APPROVED<br>8/1/2011<br>DATE | /S/ Thomas N. Nothohm<br>STATE TRAFFIC ENGINEER |
| FHWA | |



6

S.D.D. 15 C 26-2

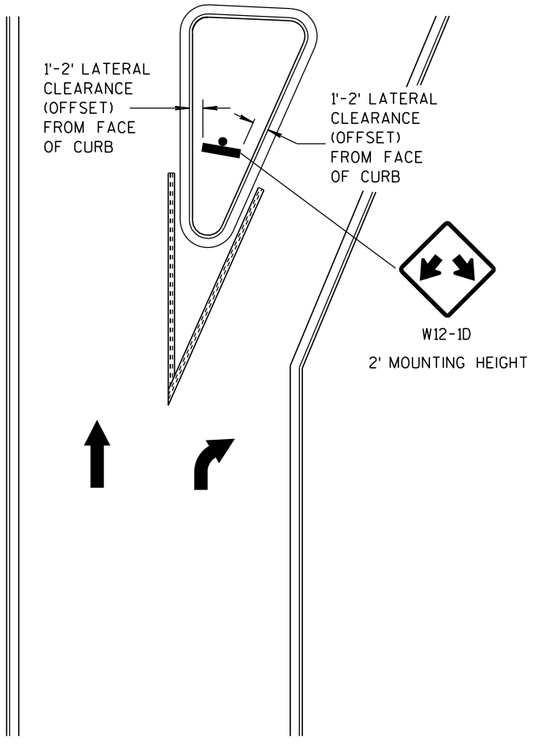
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S.D.D. 15 C 26-2

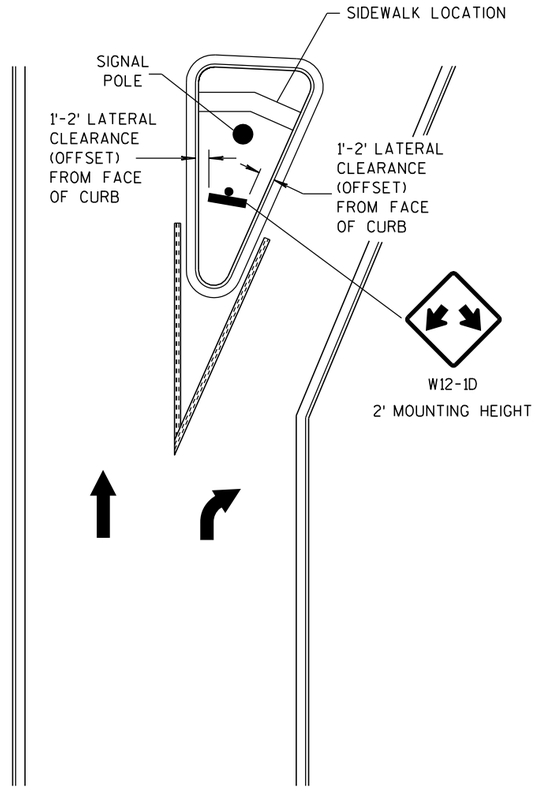
## GENERAL NOTE

APPLIES TO ISLANDS AT LEFT TURNS AT ONE WAY ROADWAYS AS WELL.

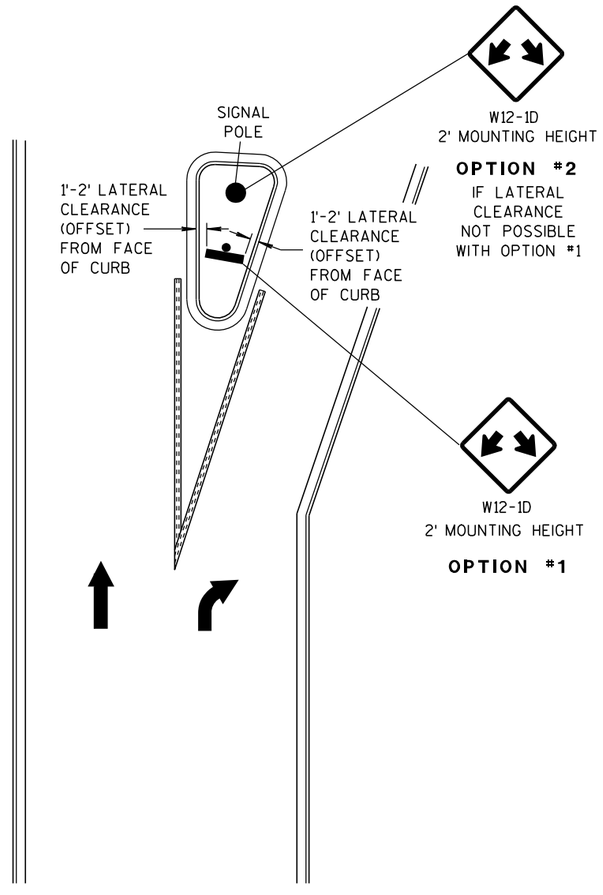
SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZE.




LARGE RIGHT TURN ISLAND



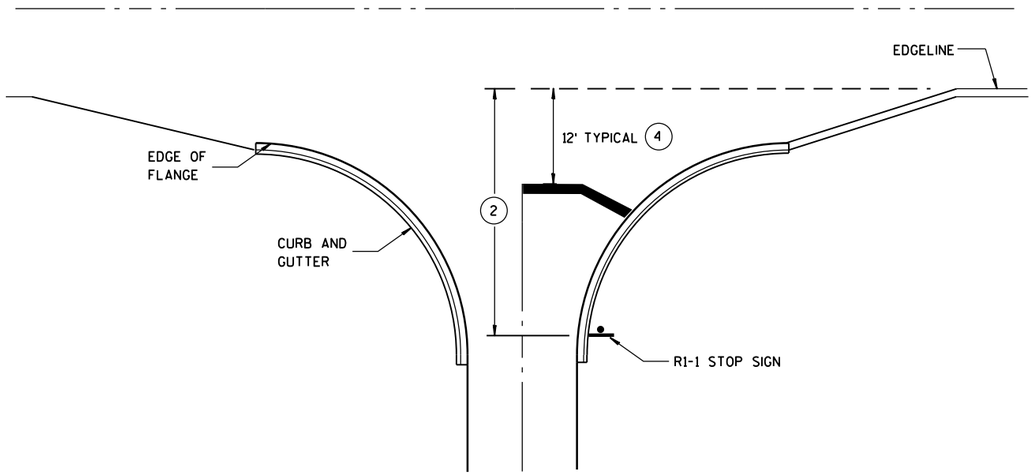

LARGE RIGHT TURN ISLAND
WITH SIGNAL POLE



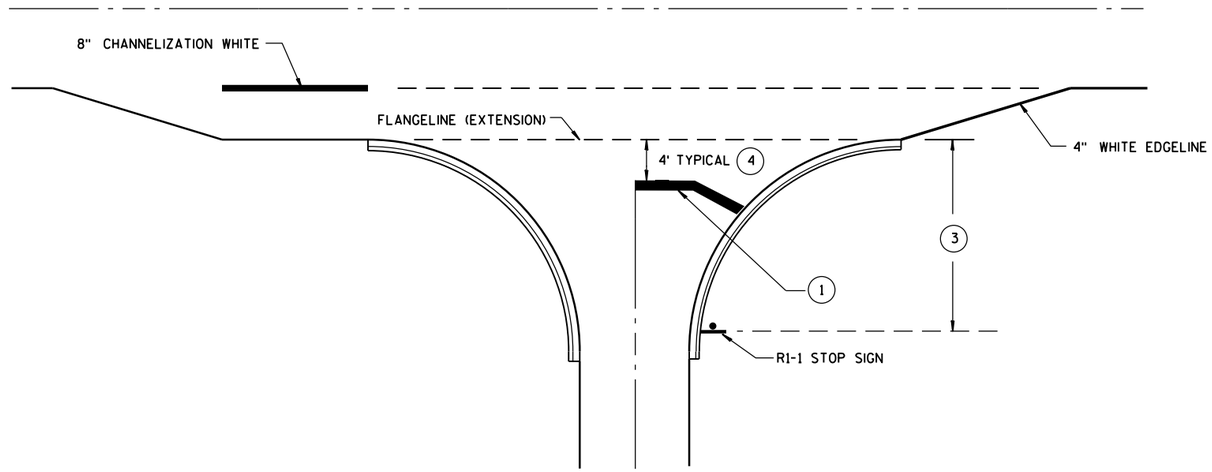

SMALL RIGHT TURN ISLAND

## DOUBLE ARROW WARNING SIGN PLACEMENT

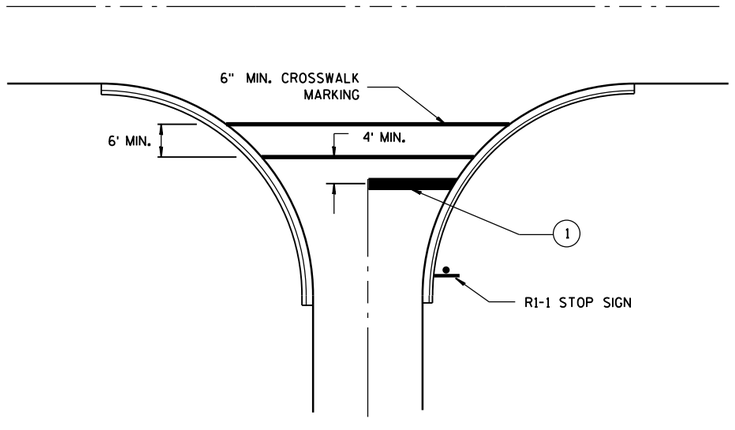
| DOUBLE ARROW WARNING SIGN PLACEMENT | |
|---|---|
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | |
| APPROVED | |
| 10-22-08 DATE | /S/ Thomas N. Nothem STATE TRAFFIC ENGINEER |
| FHWA | 206 IGN |



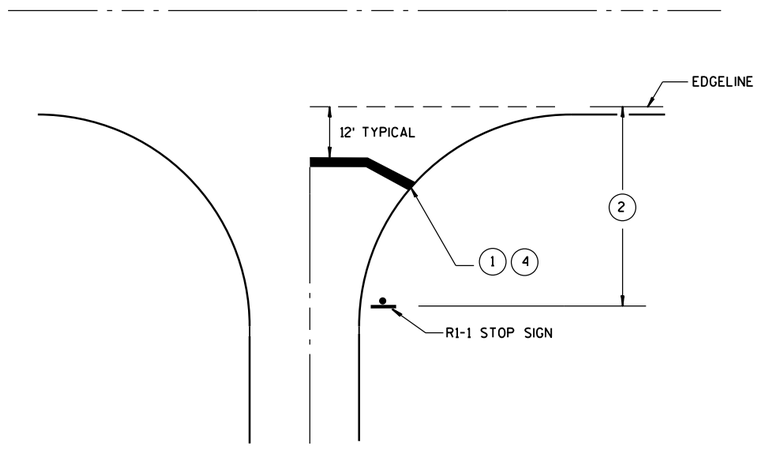

**TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER**




**TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE**




**TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING**




**TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER**

## GENERAL NOTES

1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE THAN NO STOP LINE IS REQUIRED.
3. IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.
4. MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES. (NO CLOSER THAN 4 FEET).

**STOP LINE AND CROSSWALK PAVEMENT MARKING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4-18-2016
DATE

/S/ Matthew R. Rauch
STATE SIGNING AND MAR 207 NEER

FHWA



6
S.D.D. 15 C 33-2

## LEGEND

- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- REMOVING PAVEMENT MARKING
- CONCRETE BARRIER TEMPORARY PRECAST
- DIRECTION OF TRAFFIC
- WORK AREA

| L, TAPER LENGTH (MPH) | | | | | | | |
|---|---|---|---|---|---|---|---|
| SPEED (MPH) | W, LATERAL OFFSET (FT) | | | | | | |
| | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| 45 | 450 | 495 | 540 | 585 | 630 | 675 | 720 |
| 50 | 500 | 550 | 600 | 650 | 700 | 750 | 800 |
| 55 | 550 | 605 | 660 | 715 | 770 | 825 | 880 |
| 60 | 600 | 660 | 720 | 780 | 840 | 900 | 960 |
| 65 | 650 | 715 | 780 | 845 | 910 | 975 | 1040 |
| 70 | 700 | 770 | 840 | 910 | 980 | 1050 | 1120 |




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).




OR




LOCATED 2600 FEET IN ADVANCE OF R2-1 SIGN AND 500 FEET BEYOND THE "ROAD WORK 1 MILE" SIGN.




OR




R2-1
48"x60"
(BLACK AND WHITE)
LOCATED 500 FEET BEYOND W20-5G SIGN.

IF THE REGULATORY SPEED HAS BEEN REDUCED, A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES.

* INCLUDE RESUME SPEED LIMIT SIGN A MINIMUM OF 200 FEET (500 FEET DESIRABLE) AFTER END ROAD WORK SIGNS.

## GENERAL NOTES

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET ( 500 FEET DESIRABLE ) CLEARANCE TO EXISTING SIGNS.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

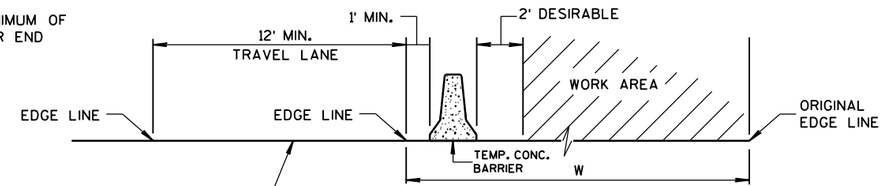
(1) CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUM TAPER.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

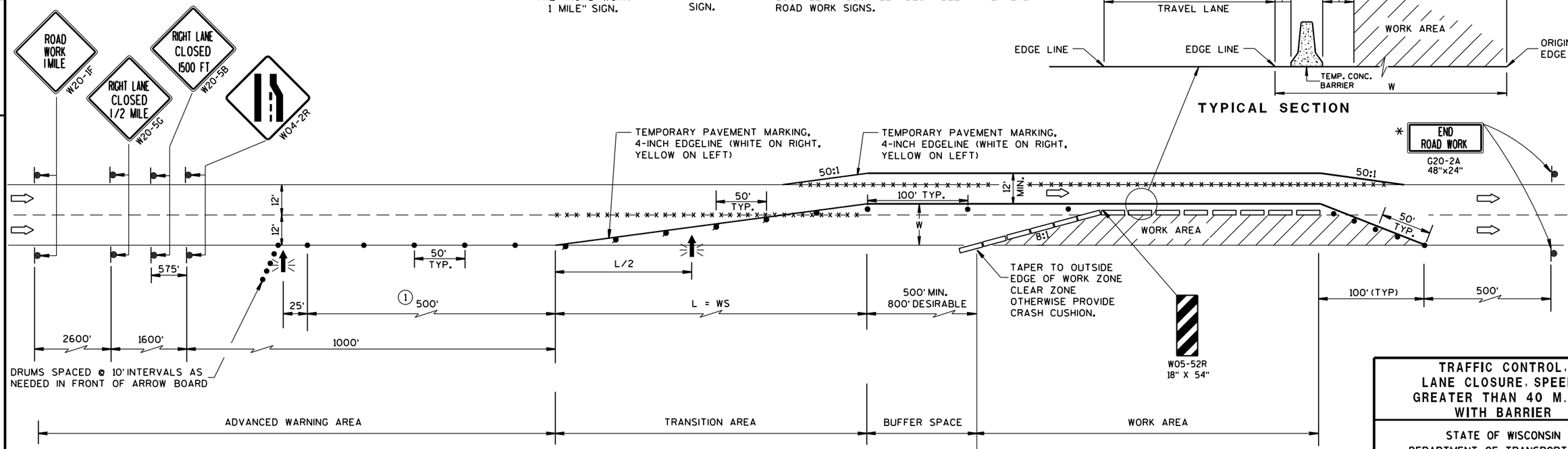
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.




TYPICAL SECTION




**TRAFFIC CONTROL, LANE CLOSURE, SPEEDS GREATER THAN 40 M.P.H. WITH BARRIER**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZOI SAFETY ENGIN
FHWA



6

S.D.D. 15 D 3-4

6

S.D.D. 15 D 3-4

## LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMENENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- WORK AREA

# GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIREABLE) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

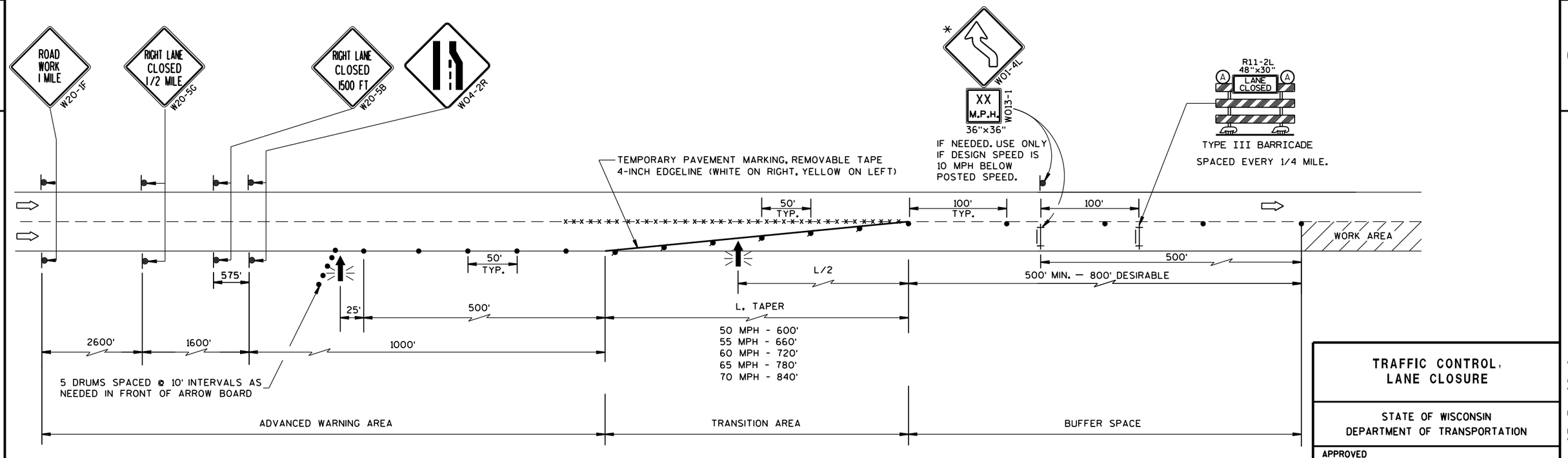
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

* THE LEFT REVERSE CURVE SIGN (WO1-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.




## TRAFFIC CONTROL, LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2016 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE SAFETY ENGINEER
FHWA



6

S.D.D. 15 D 12-6a

6

S.D.D. 15 D 12-6a

## LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMENENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- WORK AREA

## GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIREABLE) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48"×48" UNLESS OTHERWISE NOTED.

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

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. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

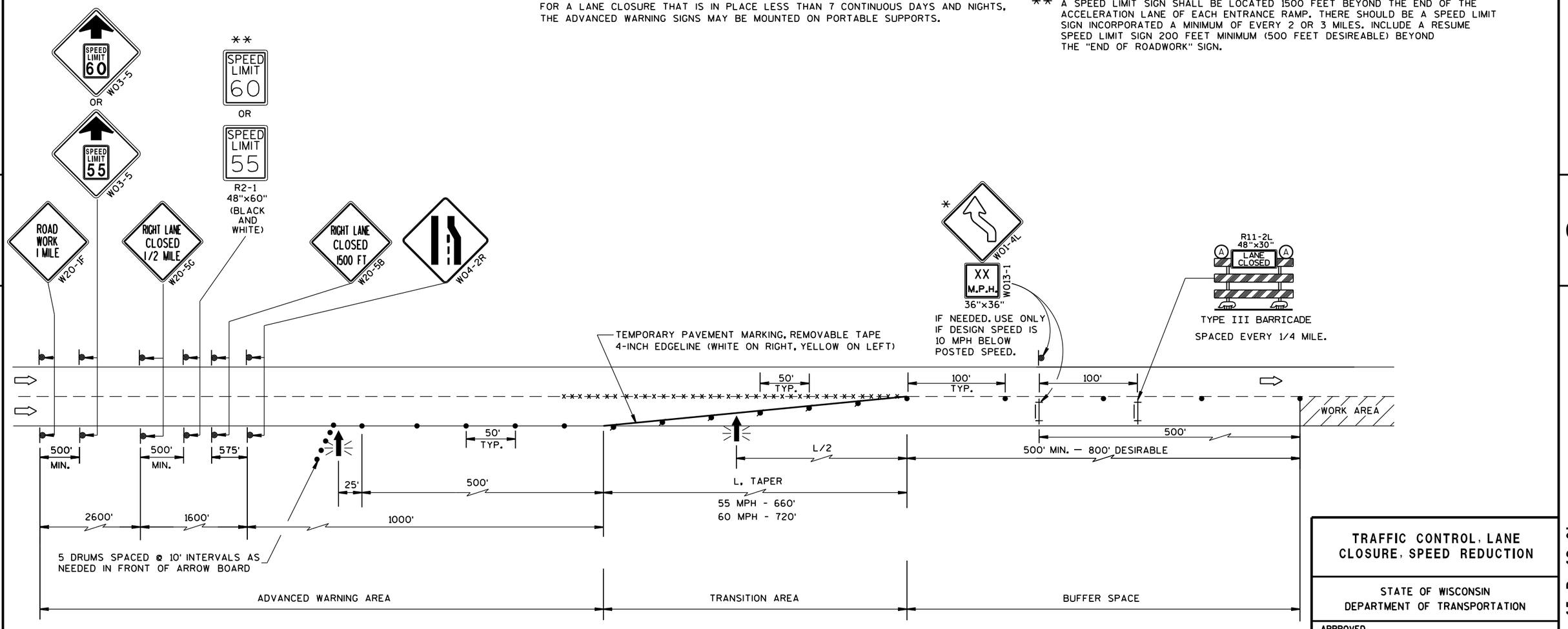
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

* THE LEFT REVERSE CURVE SIGN (W01-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.

** A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES. INCLUDE A RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIREABLE) BEYOND THE "END OF ROADWORK" SIGN.




# TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2016 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE SAFETY ENGINEER
FHWA

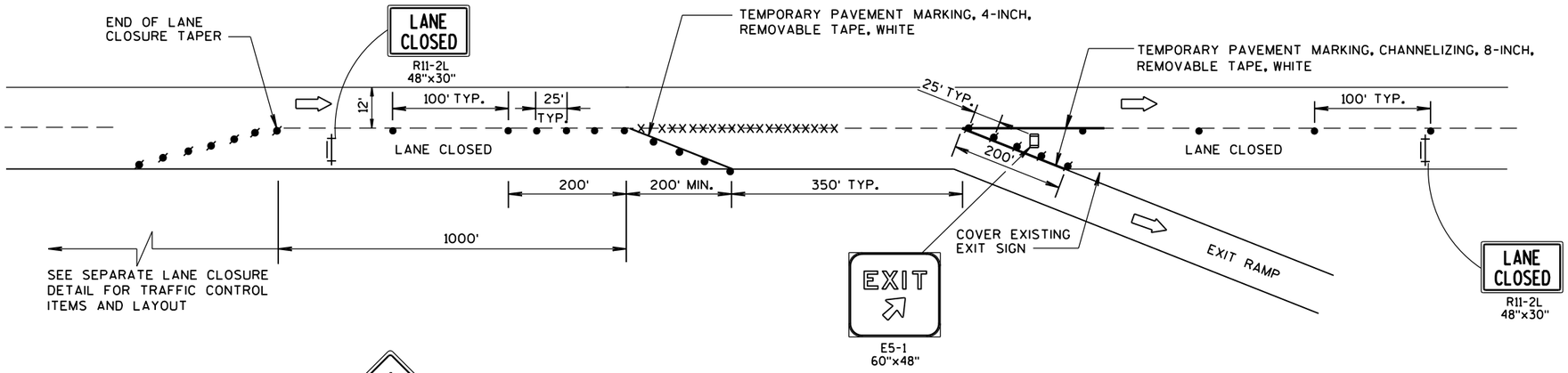


6

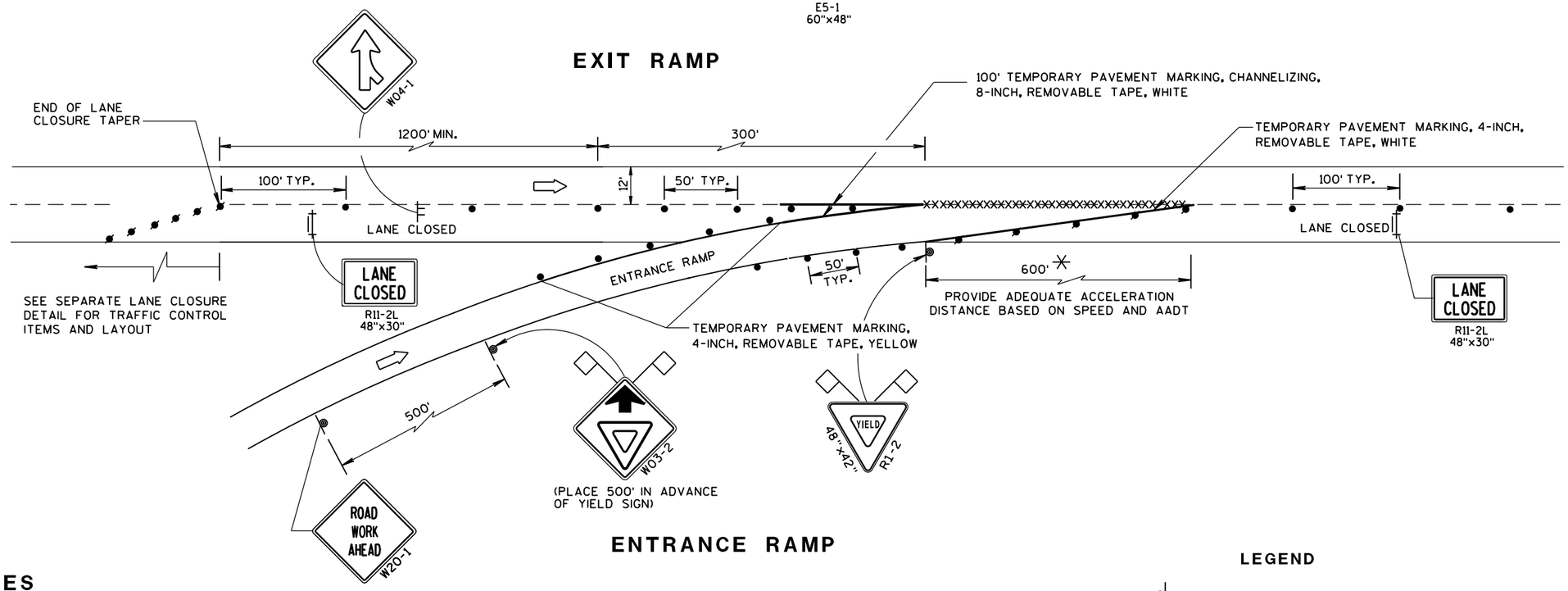
S.D.D. 15 D 12-6b

6

S.D.D. 15 D 12-6b




## EXIT RAMP




## ENTRANCE RAMP

## GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

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

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.

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

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.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 7 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

* LENGTH OF OPENING MAY BE REDUCED TO 150 FEET DURING STAGING OF WORK IN IMMEDIATE AREA OF RAMP TAPER.

### LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
- TYPE III BARRICADE WITH ATTACHED SIGN
- FLAGS, 16" x 16" MIN., (ORANGE)
- DIRECTION OF TRAFFIC

**TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



S.D.D. 15 D 15-2

S.D.D. 15 D 15-2

## LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- FLASHING ARROW BOARD
- WORK AREA

## GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

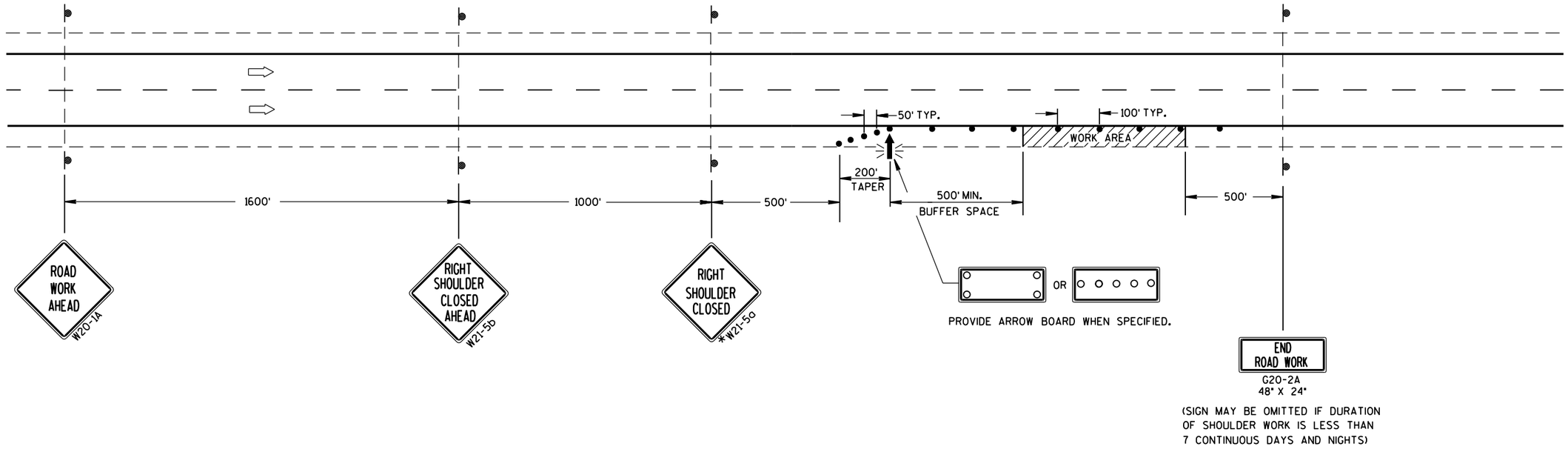
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.




# TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2016 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO[illegible] SAFETY ENGI[illegible]

FHWA




6


S.D.D. 15 D 27-3

## GENERAL NOTES

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

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

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.

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

## TABLE A

| SHOULDER TAPER LENGTH (FEET) | | | | | BUFFER SPACE (FEET) |
|---|---|---|---|---|---|
| S \ W | 4 | 6 | 8 | 10 | |
| 30 | 20 | 30 | 40 | 50 | 200 |
| 35 | 30 | 45 | 55 | 70 | 250 |
| 40 | 40 | 55 | 75 | 90 | 305 |
| 45 | 60 | 90 | 120 | 150 | 360 |
| 50 | 70 | 100 | 135 | 170 | 425 |
| 55 | 75 | 110 | 150 | 185 | 495 |

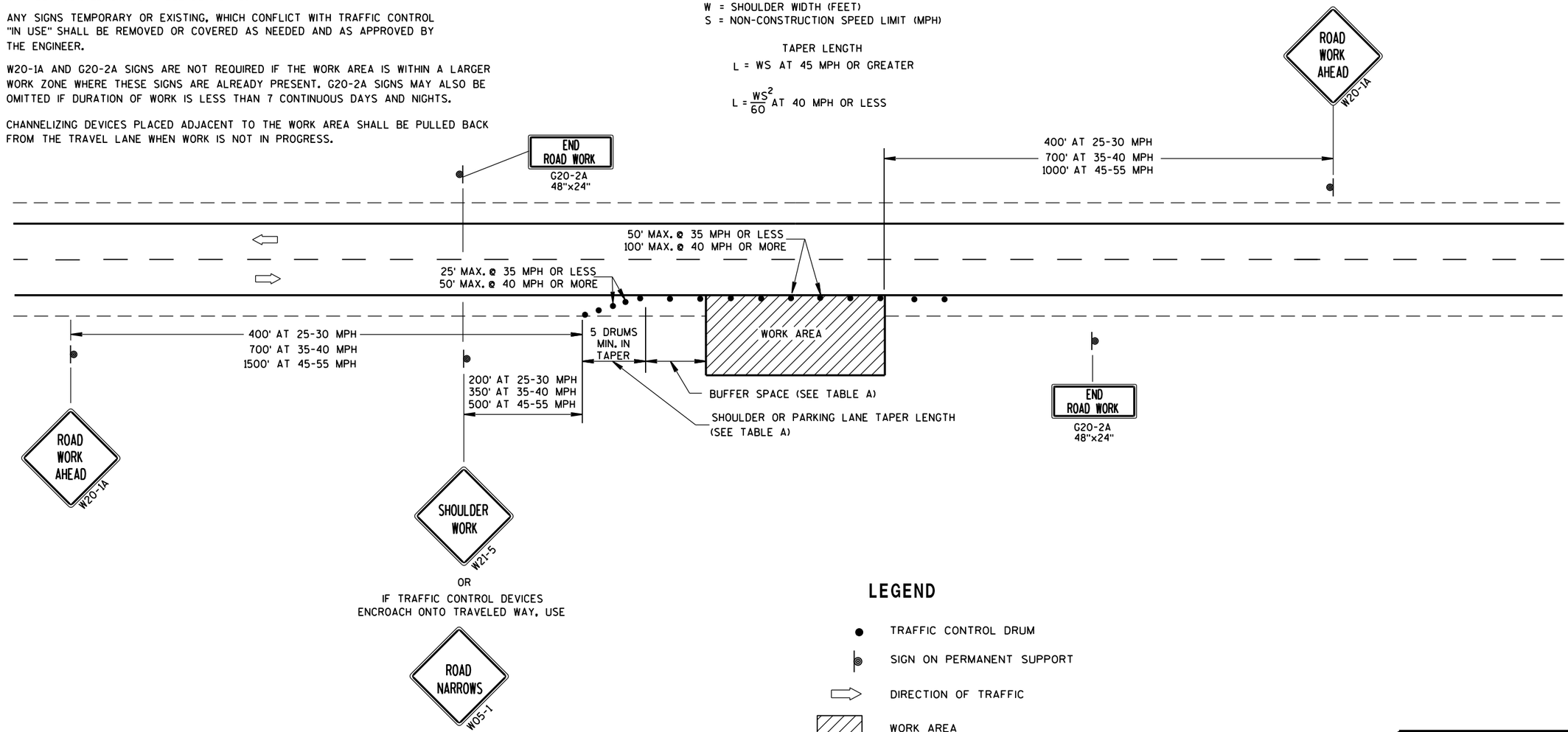
W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

TAPER LENGTH

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

SHOULDER TAPER LENGTH = $\frac{1}{3}L$




## LEGEND

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

**TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

July 14, 2015 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO[illegible] SAFETY ENGI[illegible]

FHWA

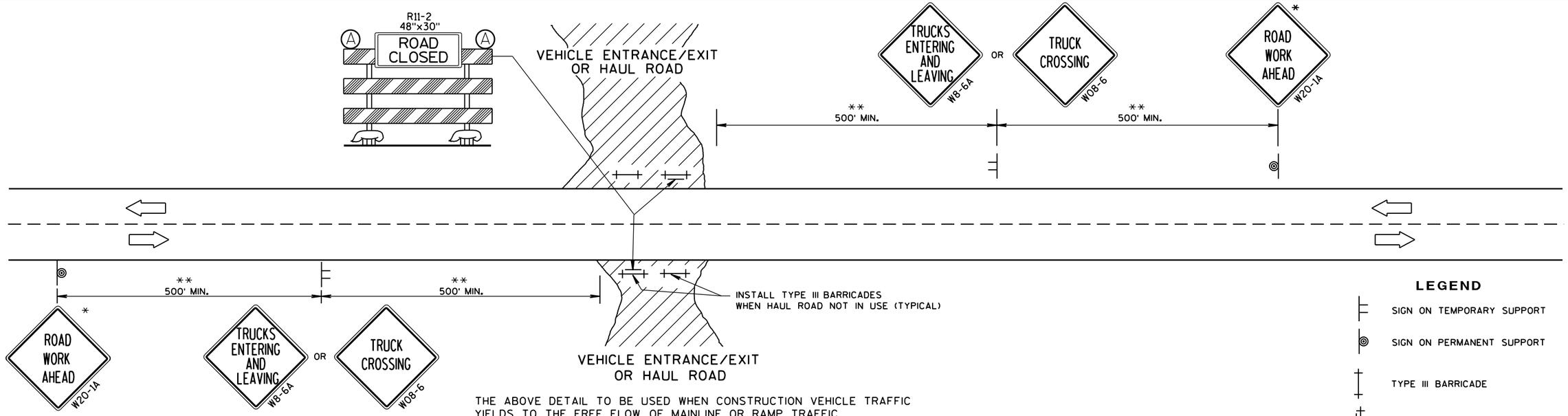


6

S.D.D. 15 D 28-3

6

S.D.D. 15 D 28-3




THE ABOVE DETAIL TO BE USED WHEN CONSTRUCTION VEHICLE TRAFFIC YIELDS TO THE FREE FLOW OF MAINLINE OR RAMP TRAFFIC

## LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC

## GENERAL NOTES

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

WHEN ACTIVITY REFLECTED BY THE SIGN IS NOT CURRENTLY TAKING PLACE, THE HIGHWAY SHALL BE RESTORED TO NORMAL CONDITION AND THE SIGNS SHALL BE REMOVED, COVERED OR TURNED AWAY FROM TRAFFIC.

WHEN A SIDE ROAD OR RAMP INTERSECTS WITHIN THE ADVANCE SIGNING AREA, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

* THESE SIGNS ARE TO BE USED ONLY WHEN VEHICLE **ENTRANCE/EXIT CONDITIONS ARE SEPARATED BY MORE THAN 2 MILES** FROM PREVIOUS WORK AREA OR SIGNING OR AS DIRECTED BY THE ENGINEER.

** 500 FEET SHOWN IS FOR ROADWAYS WITH A NON-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350 FEET. FOR 25-30 MPH, USE 200 FEET. USE 1000 FEET/1500 FEET FOR EXPRESSWAY/FREEWAY.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

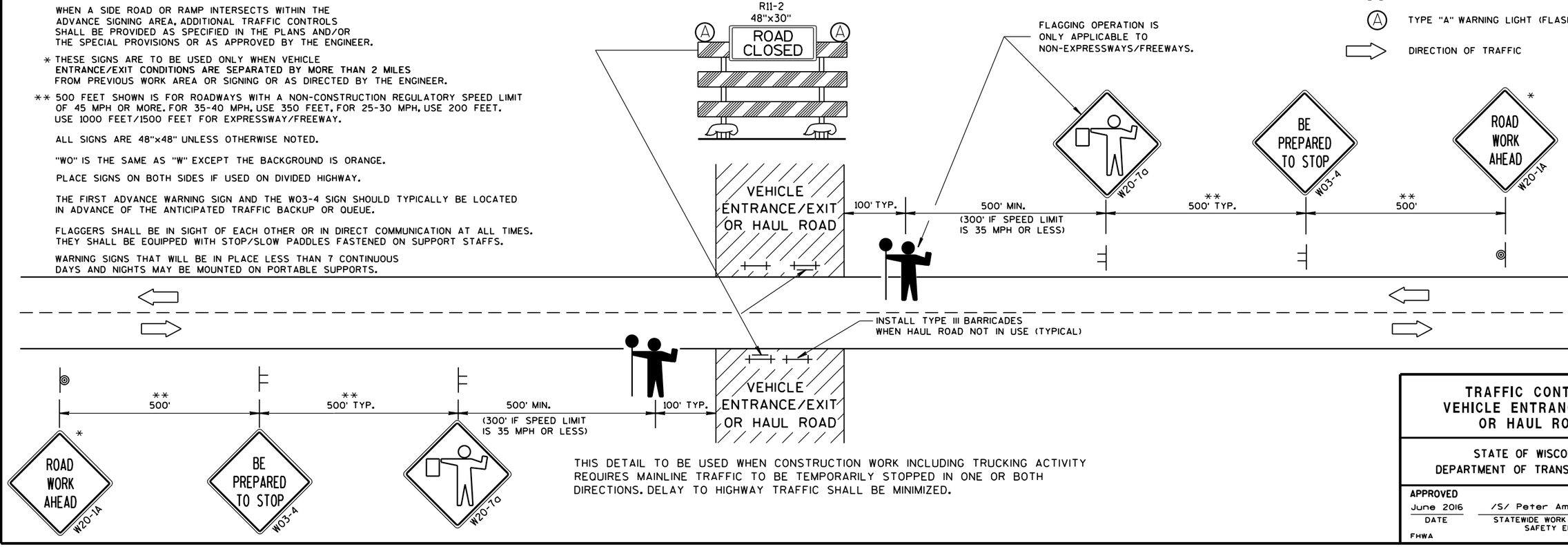
"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

PLACE SIGNS ON BOTH SIDES IF USED ON DIVIDED HIGHWAY.

THE FIRST ADVANCE WARNING SIGN AND THE W03-4 SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS.

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




THIS DETAIL TO BE USED WHEN CONSTRUCTION WORK INCLUDING TRUCKING ACTIVITY REQUIRES MAINLINE TRAFFIC TO BE TEMPORARILY STOPPED IN ONE OR BOTH DIRECTIONS. DELAY TO HIGHWAY TRAFFIC SHALL BE MINIMIZED.

# TRAFFIC CONTROL, VEHICLE ENTRANCE/EXIT OR HAUL ROAD

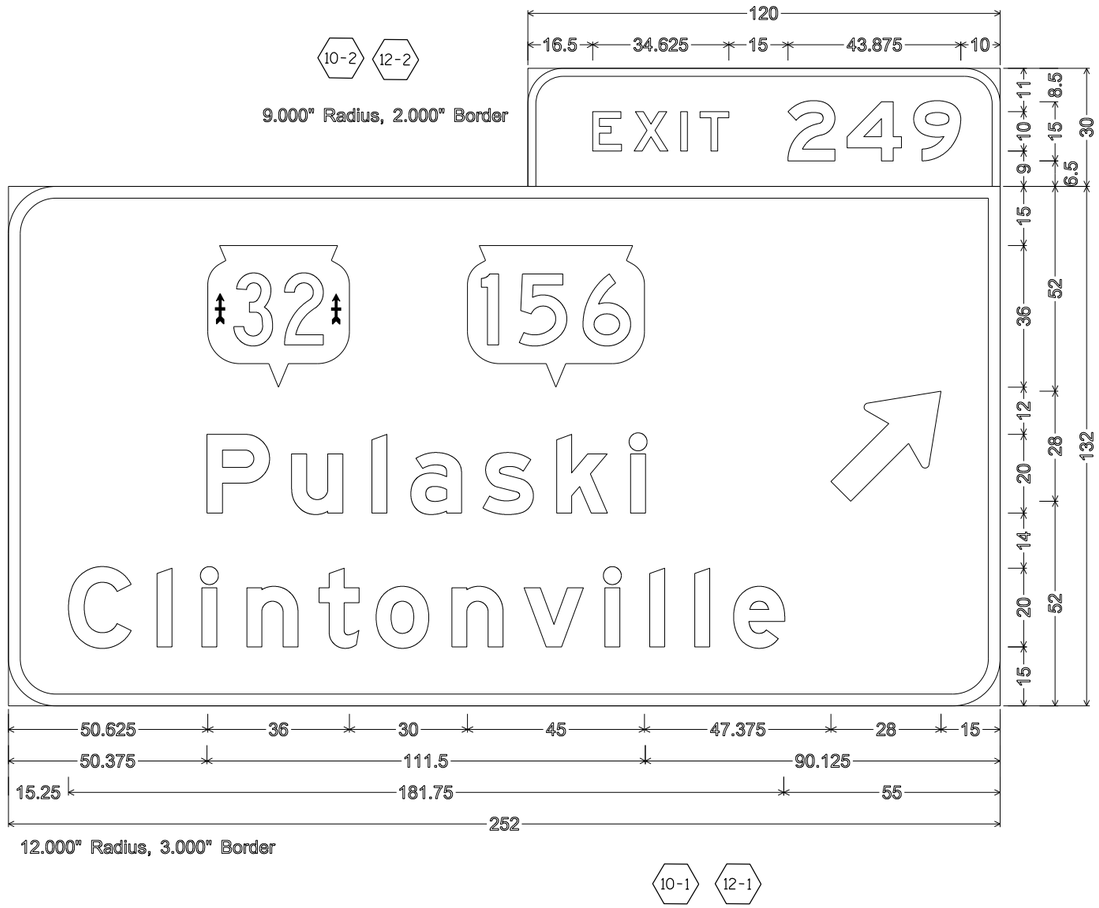
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 — DATE
/S/ Peter Amakobe Atepe — STATEWIDE WORK ZONE SAFETY ENGINEER
FHWA



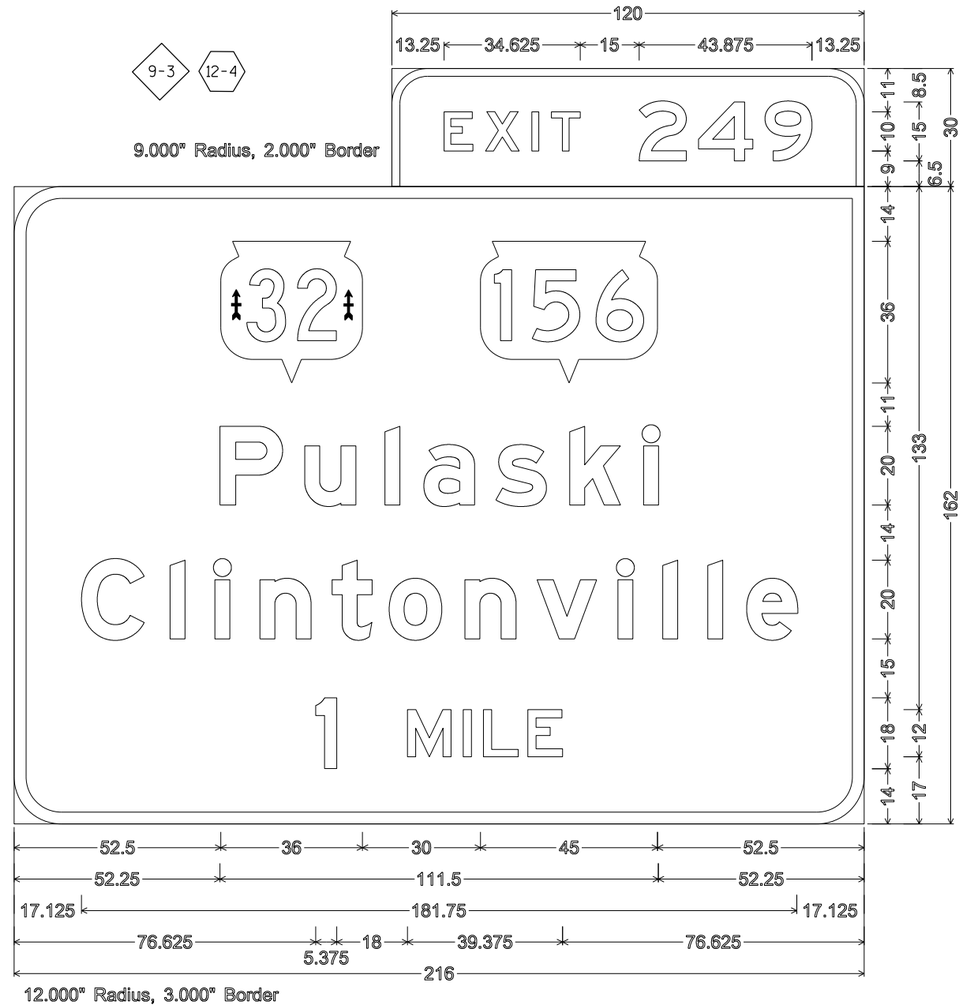
6

S.D.D. 15 D 29-4




NOTES

1. Signs are Type I - Type SH Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E Modified except all CAP words Series E



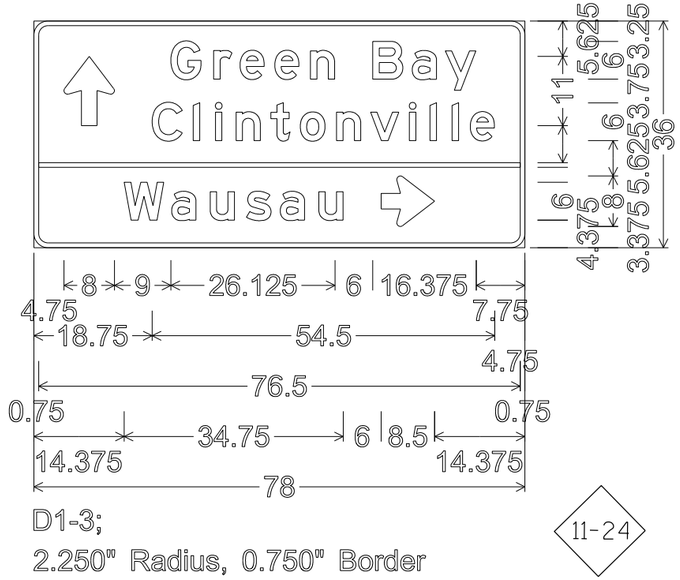

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7

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | SIGN DETAILS | SCALE: 0 ½" 1" | SHEET 215 | E |
|---|---|---|---|---|---|---|

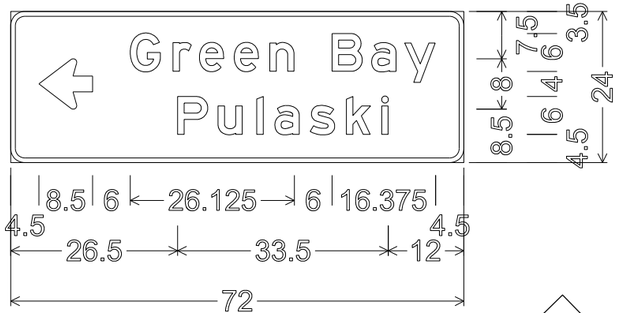
NOTES

1. Signs are Type II- Type H Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E



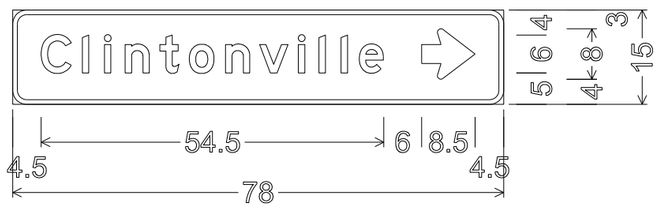

D1-3;
2.250" Radius, 0.750" Border

11-24




D1-2;
2.250" Radius, 0.750" Border

6-5




D1-1;
2.250" Radius, 0.750" Border

6-33

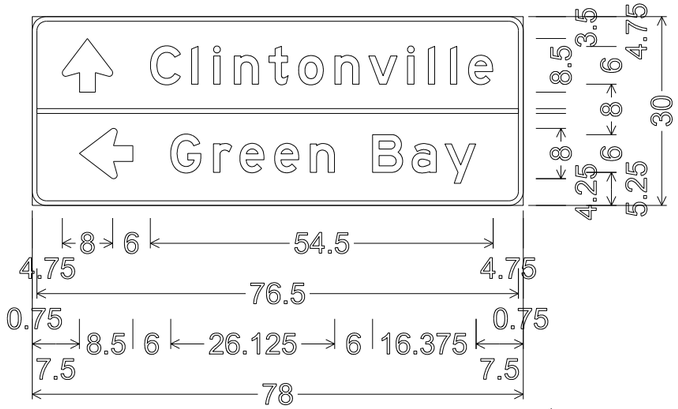
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7

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | SIGN DETAILS | SCALE: 0 1/2" 1" | SHEET 216 | E |
|---|---|---|---|---|---|---|

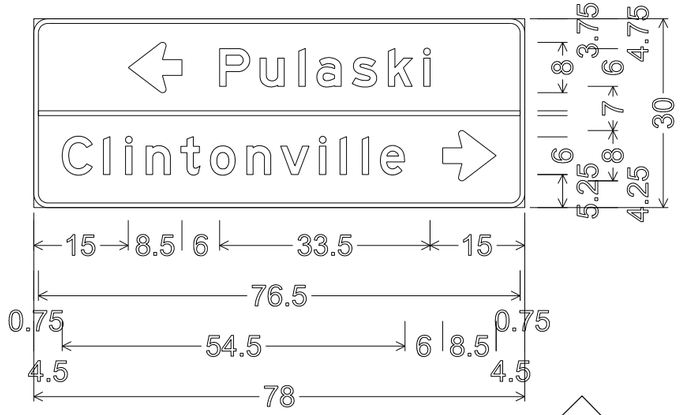
NOTES

1. Signs are Type II- Type H Reflective
2. Color:
   Background - Green
   Message - White
3. Message Series - E



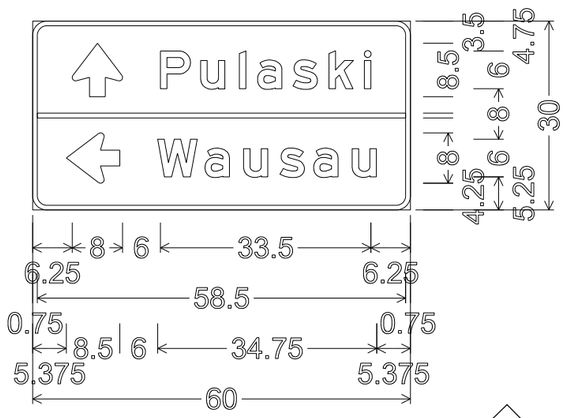

D1-2;
2.250" Radius, 0.750" Border

11-14



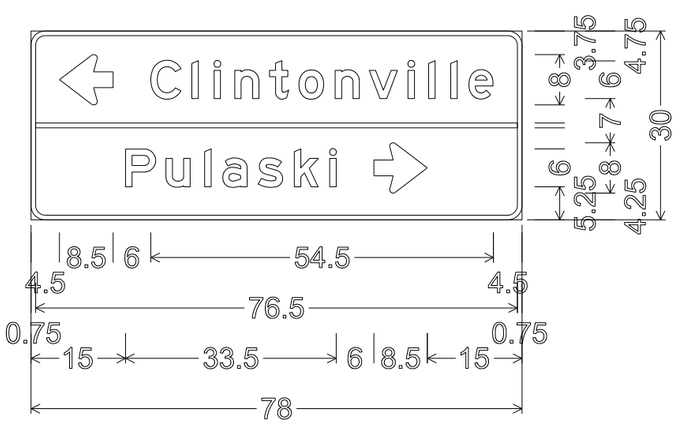

D1-2;
2.250" Radius, 0.750" Border,

11-1




D1-2;
2.250" Radius, 0.750" Border

11-12




D1-2;
2.250" Radius, 0.750" Border,

11-20

7

7

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | SIGN DETAILS | SCALE: 0 1/2" 1" | SHEET 217 | E |
|---|---|---|---|---|---|---|

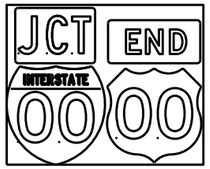
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WISDOT/CADDS SHEET 47

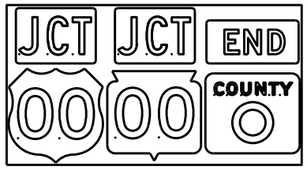
## TYPICAL ASSEMBLIES



J1-1



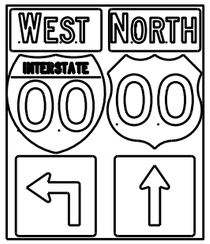
J1-2



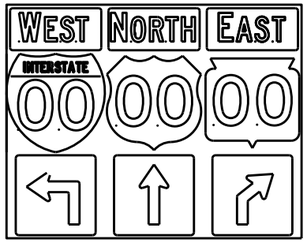
J1-3



J2-1



J2-2

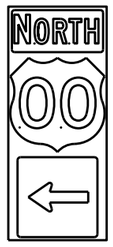


J2-3

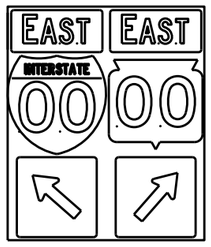


JV

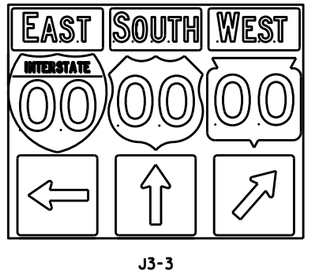
( Typical Vertical J-Assembly
See Note 10 and 11 )



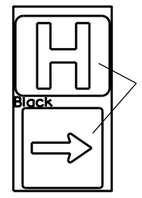
J3-1



J3-2



J3-3

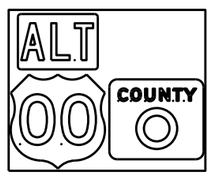


Blue Background

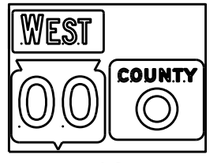
JH-1



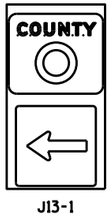
J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1

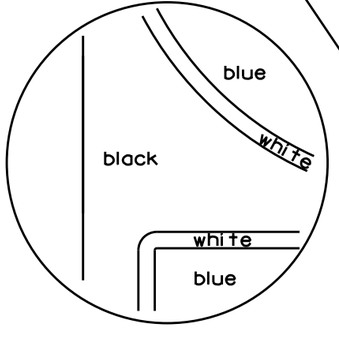


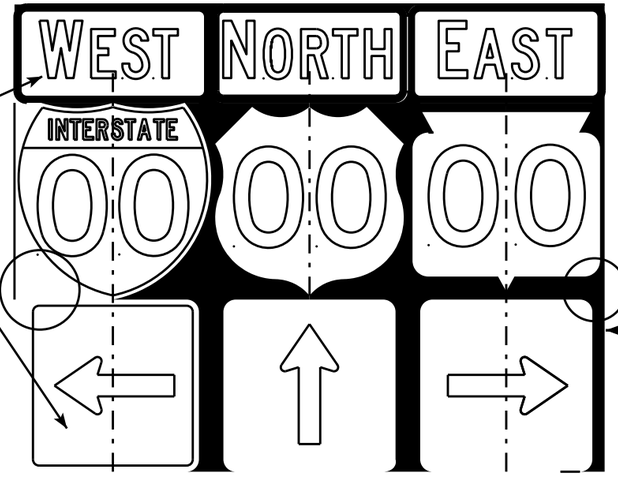
J23-1

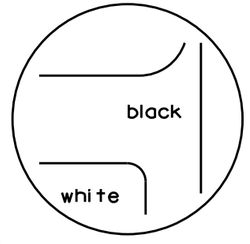


J22-1

[blue background with interstate]




[black background]

### NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Black Non-reflective
   Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inchs (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

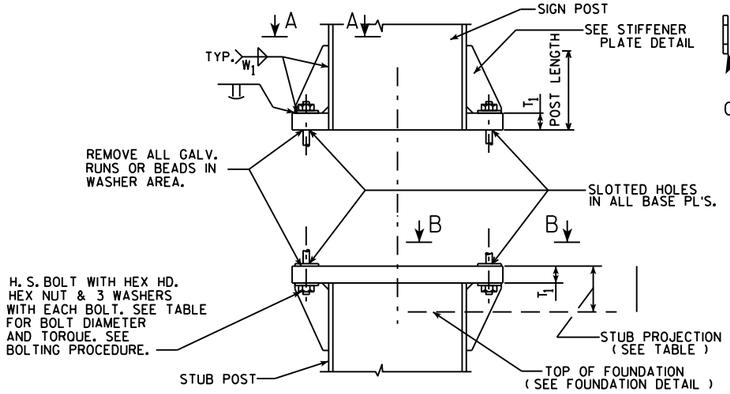
DATE 2/06/14 PL... A2-1S.8



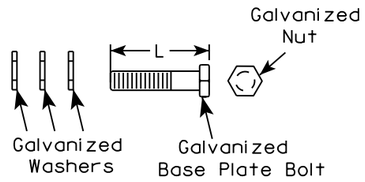
PROJECT NO: | SHEET NO: E

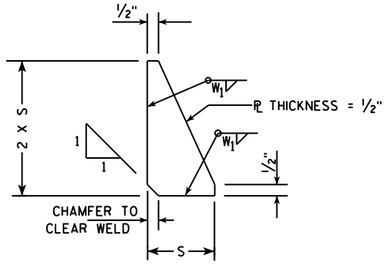


FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A21S.DGN PLOT DATE : 06-FEB-2014 14:10 PLOT BY : mscsja PLOT NAME :
WISDOT/CADDS SHEET 42



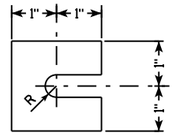

SIGN POST AND STUB POST ELEVATION



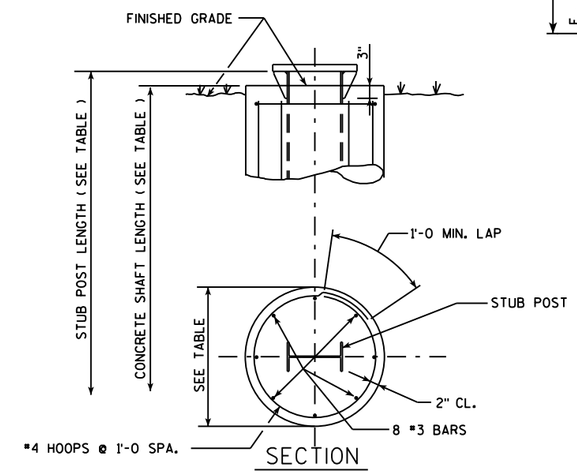

STIFFENER PLATE DETAIL

( SEE TABLE FOR DIMENSIONS )

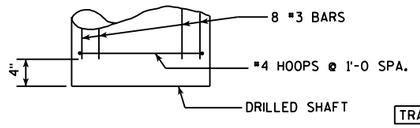



FURNISH 2 @ .012" ± THICK AND 2 @ .032" ± THICK SHIMS PER POST. SHIMS SHALL BE FABRICATED FROM BRASS SHIM STOCK OR STRIP CONFORMING TO A.S.T.M.- B36.

SHIM DETAIL



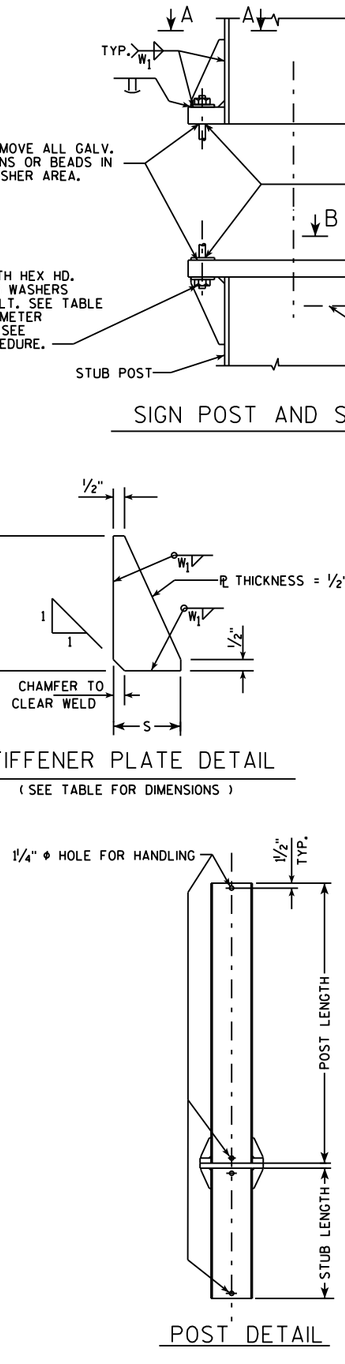

SECTION



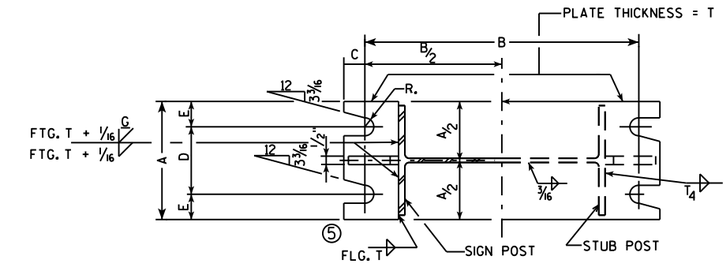

FOUNDATION DETAIL

| QUANTITIES FOR 1 FOOTING | | |
|---|---|---|
| | CONC. MASONRY C.Y. | REINF. STEEL LBS. |
| A | 0.6 | 34 |
| B | 0.8 | 49 |
| C | 0.9 | 50 |
| D | 0.9 | 56 |
| ⑦ E | 1.0 | 62 |
| | | |

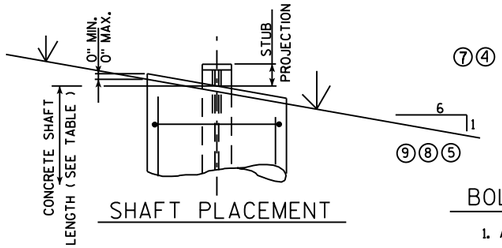
| | TYPE | #3 | #4 |
|---|---|---|---|
| ⑦ REINF. | A | 8 @ 4'-5 | 5 @ 6'-3 |
| | B | 8 @ 6'-5 | 7 @ 6'-3 |
| | C | 8 @ 6'-11 | 7 @ 6'-3 |
| | D | 8 @ 7'-5 | 8 @ 6'-3 |
| | E | 8 @ 7'-11 | 9 @ 6'-3 |




POST DETAIL




SECTION A-A SECTION B-B




⑦④

SHAFT PLACEMENT

## DESIGN DATA

WIND PRESSURE = 75 M.P.H.
WIND COMPONENTS - NORMAL = 1.0 TRANSVERSE = 0.0
ICE LOAD = 3 P.S.F.

| GROUP LOADS | PERCENT OF ALLOWABLE STRESS |
|---|---|
| 1. DEAD | 100 |
| 2. DEAD & WIND | 140 |
| 3. DEAD, ICE & ½ WIND[4] | 140 |

[4]25 P.S.F. MIN.

ALLOWABLE SOIL PRESSURE = 1½T / SQ. FT.
WIND LOAD WAS APPLIED TO THE AREA OF THE SIGN AND TO THE SUPPORTING MEMBERS.
ICE LOAD WAS APPLIED TO ONE FACE OF THE SIGN AND AROUND THE SURFACE OF THE SUPPORTING MEMBERS.

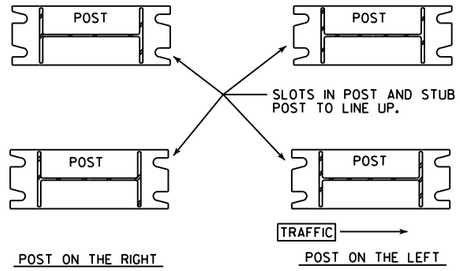
## GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.
DESIGN CONFORMS WITH A.A.S.H.T.O. SPECIFICATIONS 1985.
ALL POSTS, POST STUBS & ATTACHMENTS SHALL BE A.S.T.M. A709 GRADE 50, GALVANIZED IN ACCORDANCE WITH ASTM A123. ⑨
THE POST, BASE PLATES, UPPER SIX INCHES OF STUB POST FLANGE SPLICE PLATE AND FUSE PLATE SHALL BE GALVANIZED AFTER FABRICATION.
FURNISH STEEL BOLTS, NUTS, AND WASHERS IN ACCORDANCE WITH SECTION 635 OF THE STANDARD SPECIFICATIONS.

## BOLTING PROCEDURE - BASE CONNECTION

1. ASSEMBLE SIGN POST TO STUB POST WITH BOLTS AND ONE OF THE FLAT WASHERS ON EACH BOLT BETW. PLATES.
2. SHIM AS REQ'D. TO PLUMB POST.
3. PRIOR TO BOLT TIGHTENING LUBRICATE BASE CONNECTION BOLTS WITH BEESWAX OR OTHER HIGH-WAX LUBRICANT.
4. TIGHTEN ALL BOLTS THE MAXIMUM POSSIBLE WITH 12" OR 15" WRENCH TO BED WASHERS & SHIMS AND TO CLEAN BOLT THREADS, THEN LOOSEN EACH BOLT IN TURN AND RETIGHTEN IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE. ( SEE TABLE )
5. BURR THREADS AT JUNCTION WITH NUT USING A CENTER PUNCH TO PREVENT NUT LOOSENING.

NOTE:
TIGHTEN THE HIGH STRENGTH BOLTS TO THE TORQUE SHOWN. DO NOT OVERTIGHTEN.




POST SLOT ORIENTATION ⑦

| L | X | TYPE | POST SIZE \ DIMENSION | BOLT SIZE & TORQUE | A | B | C | D | E | $T_1$ | $T_4$ | $W_1$ | R | S | STUB LENGTH | STUB PROJECTION | SHAFT DIAMETER | SHAFT LENGTH | K |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 ¾ | ④ | A | W10"X12.0 #/FT. | ¾" ϕ @ 75#-FT. | 5¼" | 1'-0⅜" | ⅞" | 3½" | ⅞" | 1" | 3/16" | 5/16" | 13/32" | 2⅛" | 3'-6 | 3" | 2'-0 ϕ | 5'-0 | 76.0# ④ |
| 4 ¾ | ④ | B | W12"X16.0 #/FT. | ⅞" ϕ @ 85#-FT. | 5½" | 1'-4¼" | 1" | 3½" | 1" | 1¼" | ¼" | 5/16" | 13/32" | 3" | 5'-6 | 3" | 2'-0 ϕ | 7'-0 | 146.5# ④ |
| 5 | | C | W12"X19.0 #/FT. | ⅞" ϕ @ 85#-FT. | 5½" | 1'-4¼" | 1" | 3½" | 1" | 1½" | 5/16" | 5/16" | 13/32" | 3" | 6'-0 | 3" | 2'-0 ϕ | 7'-6 | 182.1# |
| 5 | | D | W12"X22.0 #/FT. | ⅞" ϕ @ 85#-FT. | 5½" | 1'-4¼" | 1" | 3½" | 1" | 1½" | ⅜" | 5/16" | 13/32" | 3" | 6'-6 | 3" | 2'-0 ϕ | 8'-0 | 210.5# |
| 5 | ③ | E | W12"X26.0 #/FT. | 1" ϕ @ 90#-FT. | 7" | 1'-4¼" | 1¼" | 4" | 1½" | 1½" | ⅜" | 5/16" | 11/32" | 3" | 7'-0 | 3" | 2'-0 ϕ | 8'-6 | 293.0# ③ |
| | | | | | | | | | | | | | | | | | | | |

BASE CONNECTION DATA TABLE ① ⑥ ①
FOUNDATION DATA ②

STRUCTURAL CARBON STEEL PAY WTS. ( 1 POST ) = K+ ( POST LENGTH X POST WT. )
" K " INCLUDES STUB, BASE PLATES, STIFFS., BOLTS, AND WASHERS.

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 11/12/15 PLATE NO. A3-1.16

| | | |
|---|---|---|
| ⑩ | 1-21-14 | LUBRICATION OF BASE BOLTS |
| ⑨ | 4-26-11 | REMOVE NON-GALVANIZED |
| ⑧ | 10-30-96 | NOT GALVANIZED/GALVANIZED |
| ⑦ | 10-30-92 | QUANT., A588 EXCEPT., ADD SLOT VIEW |
| ⑥ | 8-24-87 | BASE CONN. WELD |
| ⑤ | 10-13-81 | BASE CONN. WELD & FUSE PL WASHERS |
| ④ | 10-19-79 | POST A & B, A572 GR. 50, & K |
| ② | 11-28-78 | "K" ③ 4-23-79 TYPE "E" |
| ① | 5-4-78 | $T_1$ , $T_2$ & $W_1$ |
| NO. | DATE | REVISION |

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

TYPE A, B, C, D, & E

| CONST. SPEC. | DRAWN BY | PLANS CK'D. |
|---|---|---|
| 2011 | JPH | |

FTG. & SIGN SUPPORT DETAILS GROUND MOUNT BREAK-AWAY SIGNS

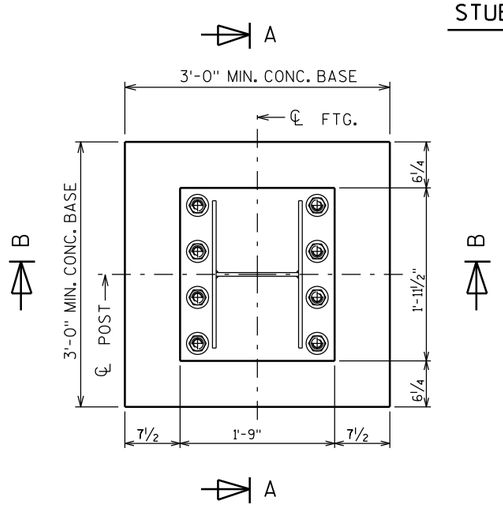
SHEET



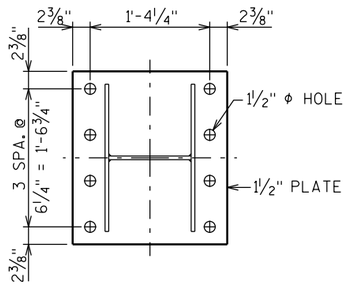
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|

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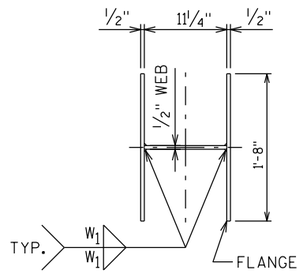
## STUB AND MASONRY ANCHOR DETAILS




STUB SECTION



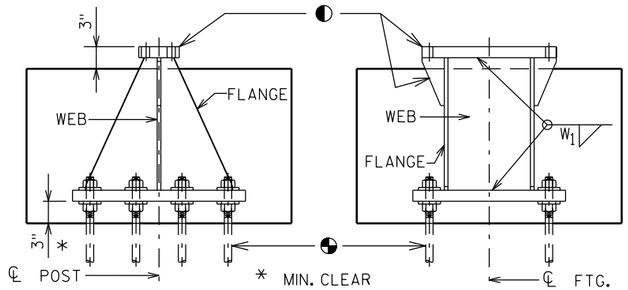

BASE PLATE



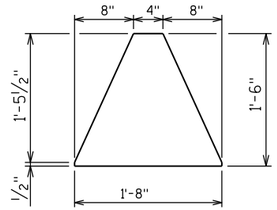

STUB

◐ SEE PLATE NO. A3-1 FOR DETAILS

◒ MASONRY ANCHORS TYPE S 1¼-INCHES (ADHESIVE). ALLOWABLE PULL OUT CAPACITY 14,995 KIPS. EMBED 1'-3" IN ROCK.




SECTION A SECTION B



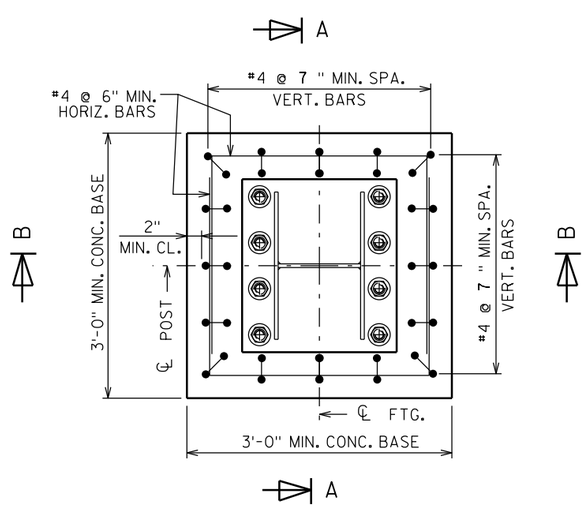

FLANGE

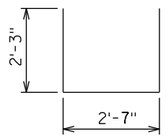
### GENERAL NOTES

1. Quantities per Base:
   - REINFORCING BAR STEEL = 62 LBS
   - CONCRETE = 0.6 C.Y.
   - STEEL WEIGHT = 335 LBS
2. All materials, except anchor rod, nuts and washers, are to be A.S.T.M. A709 grade 50. All materials to be galvanized after fabrication.
3. If the contractor encounters rock before reaching the footing depth, per the A3-1 Sign Detail, determine the pull-out capacity of a test adhesive anchor installed in the rock. If the test result equals or exceeds the pull-out capacity of 14,995 KIPS, the contractor may install the breakaway stub for rock, according to this detail.

## CONCRETE BASE AND REINFORCING STEEL DETAILS

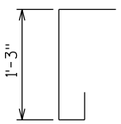
### CONCRETE BASE SECTION



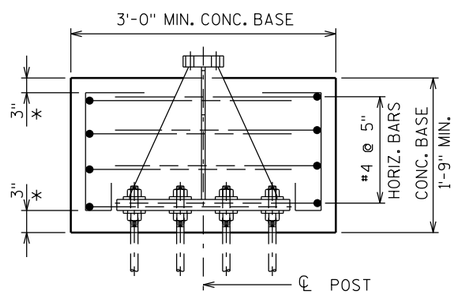

HORIZONTAL BAR

8 BARS @ 6'-11" LENGTH



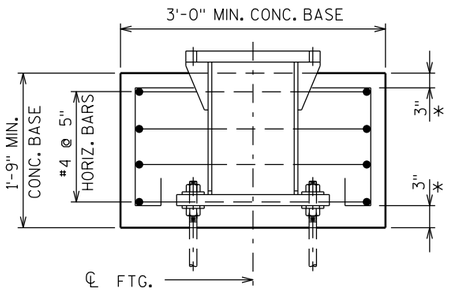

VERTICAL BARS

16 BARS @ 2'-4" LENGTH
MAY BE PLACED IN SKEW
FOR CLEARANCE NEED




SECTION A

* MIN. CLEAR




SECTION B

**ALTERNATE BREAK-AWAY BASE ON ROCK**
**A3-1M**

WISCONSIN DEPT OF TRANSPORTATION

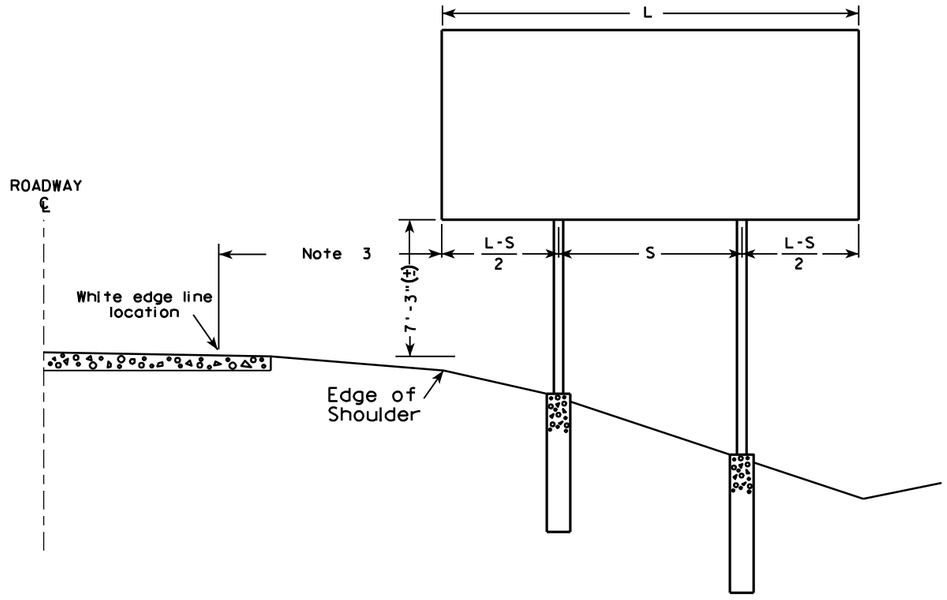
APPROVED Matthew R Rauch for State Traffic Engineer

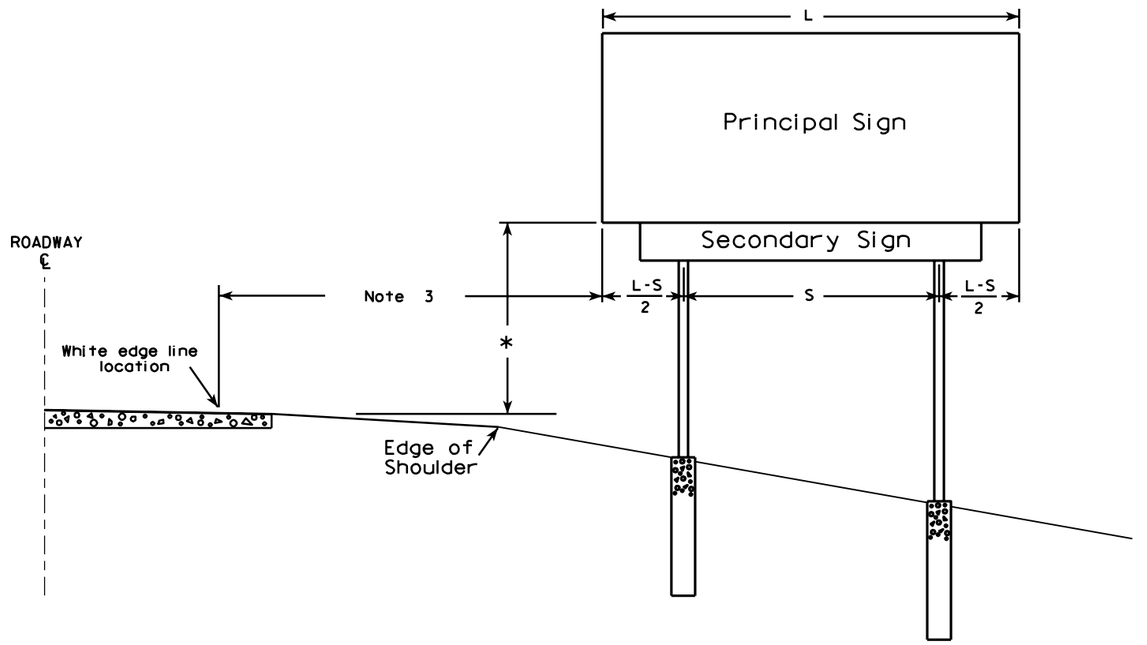
DATE 2/06/2014 PLATE A3-1M.1

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



FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A31M.DGN PLOT DATE : 10-MAR-2014 15:16 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 1.556674:1.000000 WISDOT/CADDS SHEET 42




## GENERAL NOTES

1. For a 2 post installation, S equals 3L/5, but shall not be less than 9 ft.
2. For a 3 post installation, S equals 5L/7, but shall not be less than 18 ft., and the space between any two posts shall not be less than 9 ft.
3. Unless noted in the plan, the sign offset distance shall be a minimum of 17'-6", desirable 30'-0".
4. The (±) tolerance shown on this sheet is 3 in.
5. The vertical sign height clearance detailed is measured from the bottom of the sign to the near edge of pavement.
6. Post lengths shown in the miscellaneous quantities are estimated lengths. The contractor shall verify post lengths at the time of final grading.
7. Refer to the Traffic Guidelines Manual for further guidance on minimum vertical clearance requirements.

* Clearance is 8'-3"(±) when the secondary sign is 3 ft. or less in height. For secondary signs larger than 3 ft., the clearance to the bottom of the secondary sign shall be 5'-3"(±).

7

7

TYPICAL INSTALLATION
OF TYPE I SIGNS

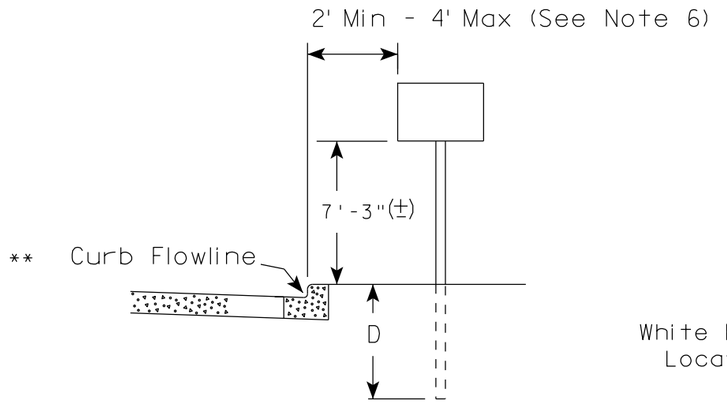
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

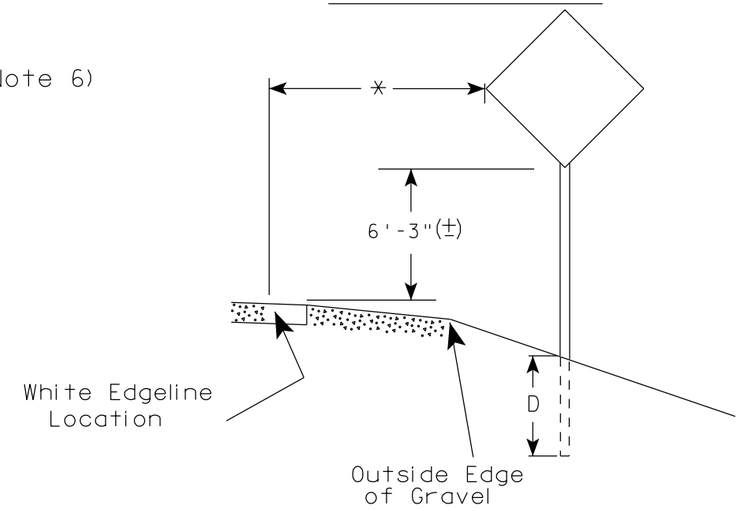
DATE 4/02/08 PLATE NO. A4-1.9

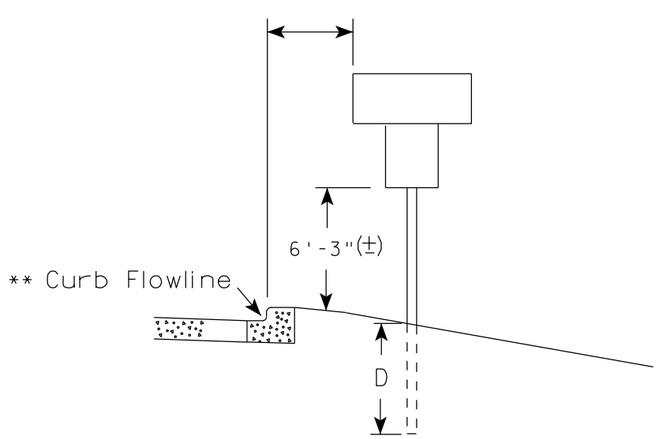
| PROJECT NO: | | | | SHEET NO: 221 | E |
|---|---|---|---|---|---|

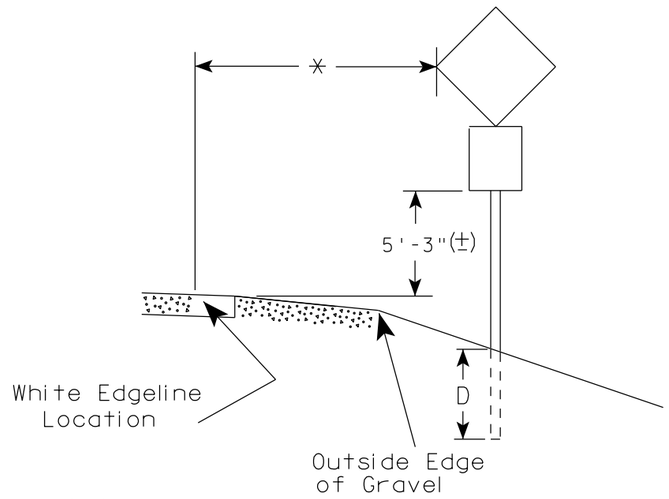
## URBAN AREA




## RURAL AREA (See Note 2)




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

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

POST EMBEDMENT DEPTH

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

## GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

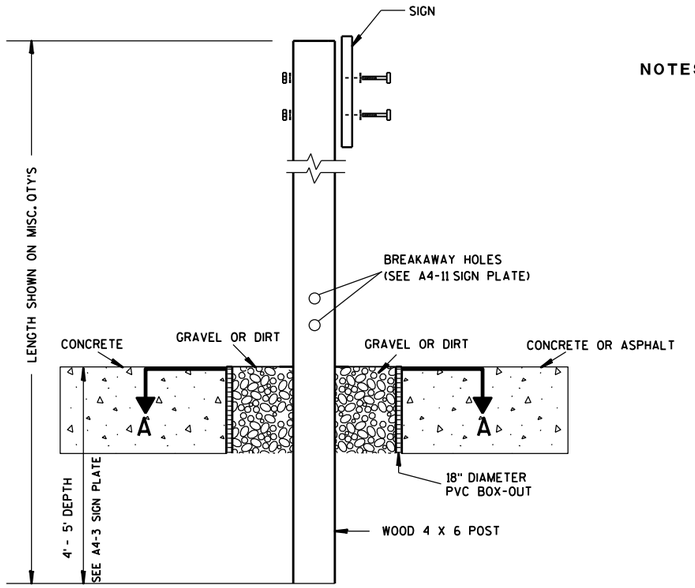
DATE 7/23/15 PLATE NO. A4-3.20



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



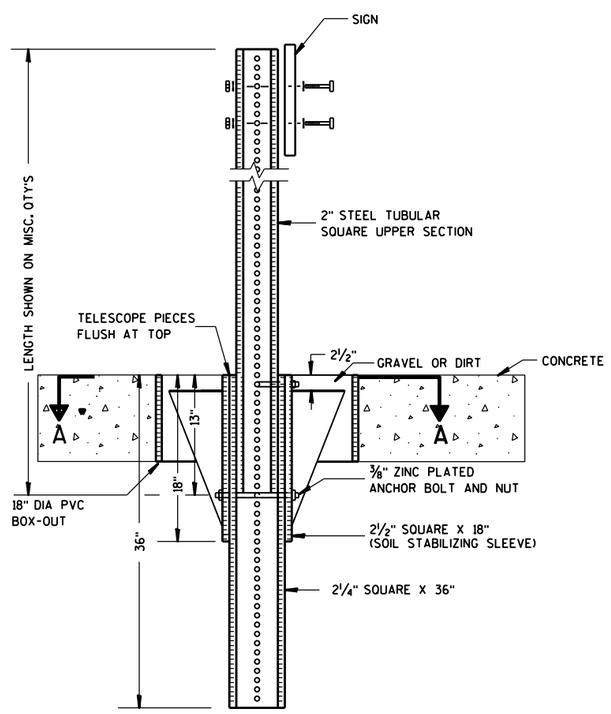

7




**ELEVATION VIEW**

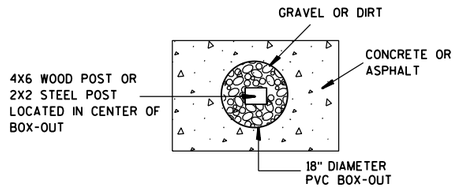
**DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT**

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

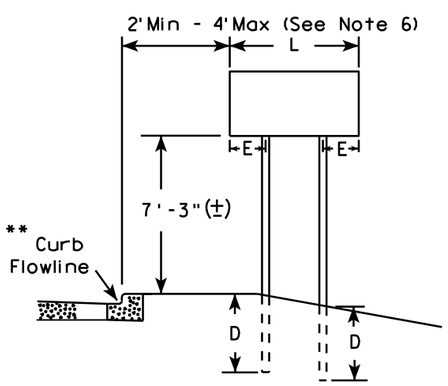
DATE 1/27/14 PLATE NO. A4-3B.1



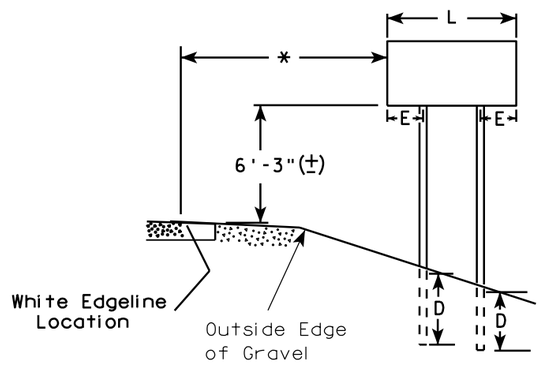
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|

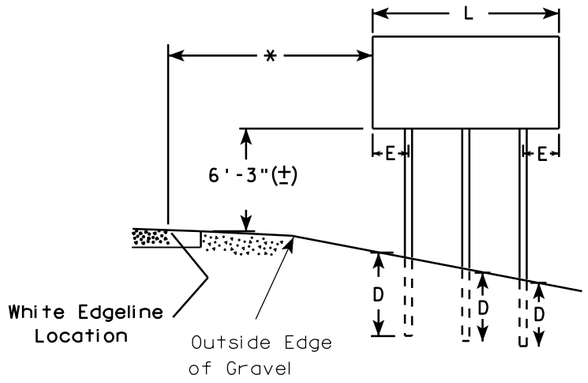
FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

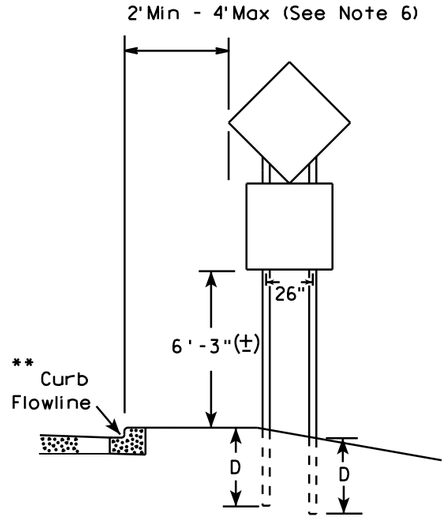
## URBAN AREA



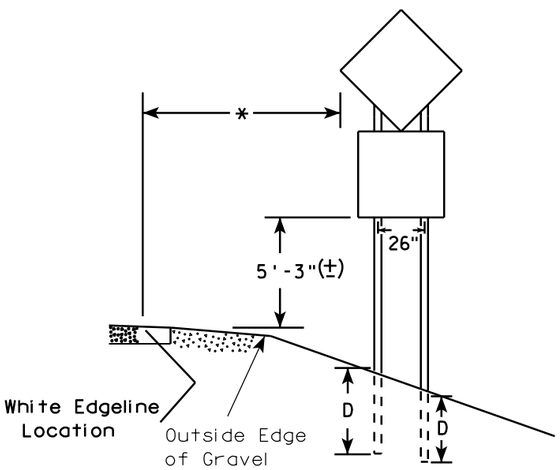

## RURAL AREA (See Note 3)




48" DIAMOND WARNING SIGN




48" DIAMOND WARNING SIGN

### 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. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
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 120" | L/5 |

***

| SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED) | |
|---|---|
| L | E |
| Greater than 120" less than 168" | 12" |

| SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED) | |
|---|---|
| L | E |
| 168" and greater | 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

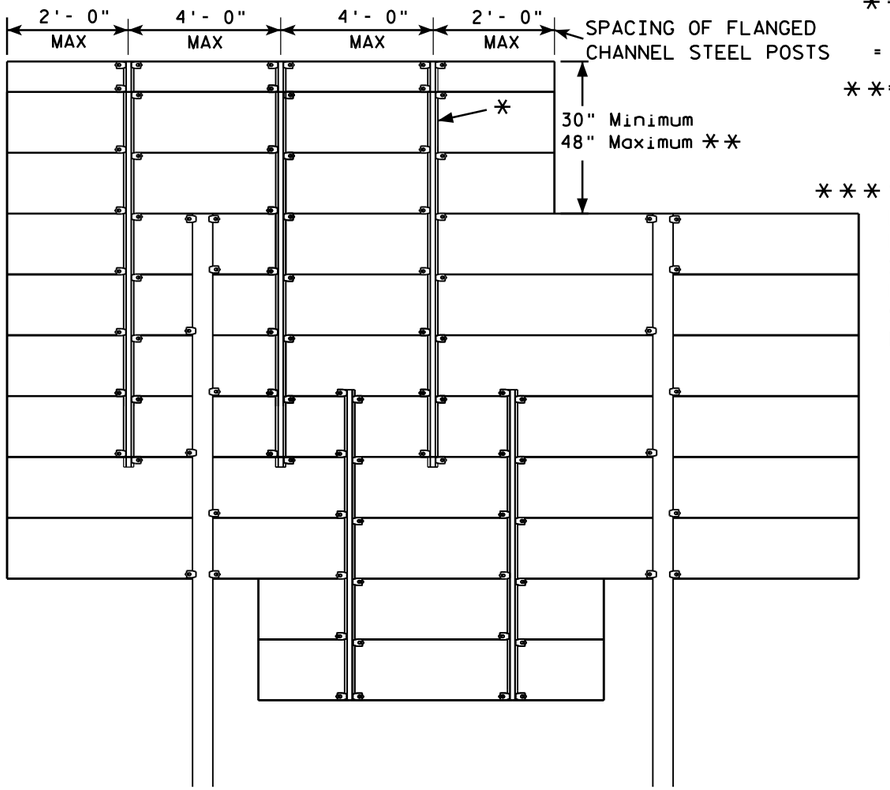
DATE 7/23/15 PLATE NO. A4-4 224 14

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A44.DGN PLOT DATE : 23-JUL-2015 15:23 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 107.021305:1.000000

WISDOT/CADDS SHEET 42

# GROUND MOUNTED SIGN

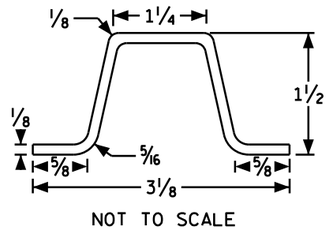



*=2.00 lb/ft FLANGED CHANNEL, MIN. YIELD STRENGTH = 60,000 PSI (GRADE 60) GALVANIZED

**=FOR 48" HEIGHT PANELS ON OVERHEAD STRUCTURES, ENTIRE SIGN SHALL BE CENTERED VERTICALLY ABOUT THE DEPTH OF THE TRUSS.

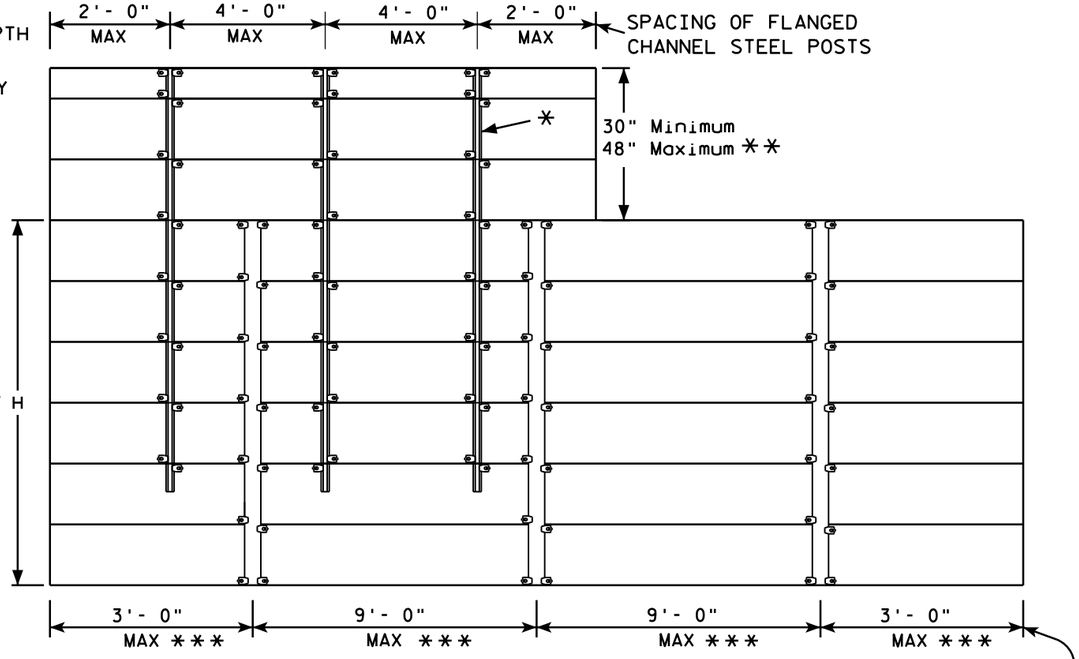
*** THESE SPACING DISTANCES SHALL ONLY BE USED WHEN THE MAIN SIGN HAS A MAXIMUM HEIGHT (DIMENSION H) OF 16 FT OR LESS. FOR SIGNS WITH A HEIGHT OF GREATER THAN 16 FT, STRUCTURAL CALCULATIONS SHALL BE PERFORMED.

## FLANGE CHANNEL DETAIL




NOT TO SCALE

# SIGN BRIDGE MOUNTED SIGN




SPACING OF ALUMINUM SIGN SUPPORTS
5" X 3.5" X 3.7 LBS./ft.

## GENERAL NOTES

1. Flanged channel steel posts shall conform to size and material above, and shall be considered as incidental to other items in the contract.
2. Number of Flanged channel steel supports varies with length of panel and shall be spaced as shown:

   PANEL LENGTH 8'-0" OR LESS = 2 CHANNELS
   PANEL LENGTH 9'- 0" - 12'- 0" = 3 CHANNELS
   PANEL LENGTH 13'- 0" OR MORE = 4 CHANNELS

   If the flanged channel steel posts can not be horizontally spaced as shown, they can be moved so as to securely hold the sign.
3. The EXIT NUMBER PANEL shall normally be positioned above the guide sign aligned with the right edge of the guide sign. If the guide sign indicates a left exit, the EXIT NUMBER PANEL shall be aligned with the left edge of the guide sign.
4. If the bolt holes in the top panel (EXIT NUMBER), or sub panel (NEXT EXIT) line up with holes in main sign panel, stitch bolts shall be used in addition to the channels.
5. Provide post clips for each sign as shown. (Please note the differences between a ground mounted versus Sign bridge mounted sign as far as number of clips required on the main supports or beams)
6. Structural steel sign supports shall extend to the top of the main signs, as shown on the above details.

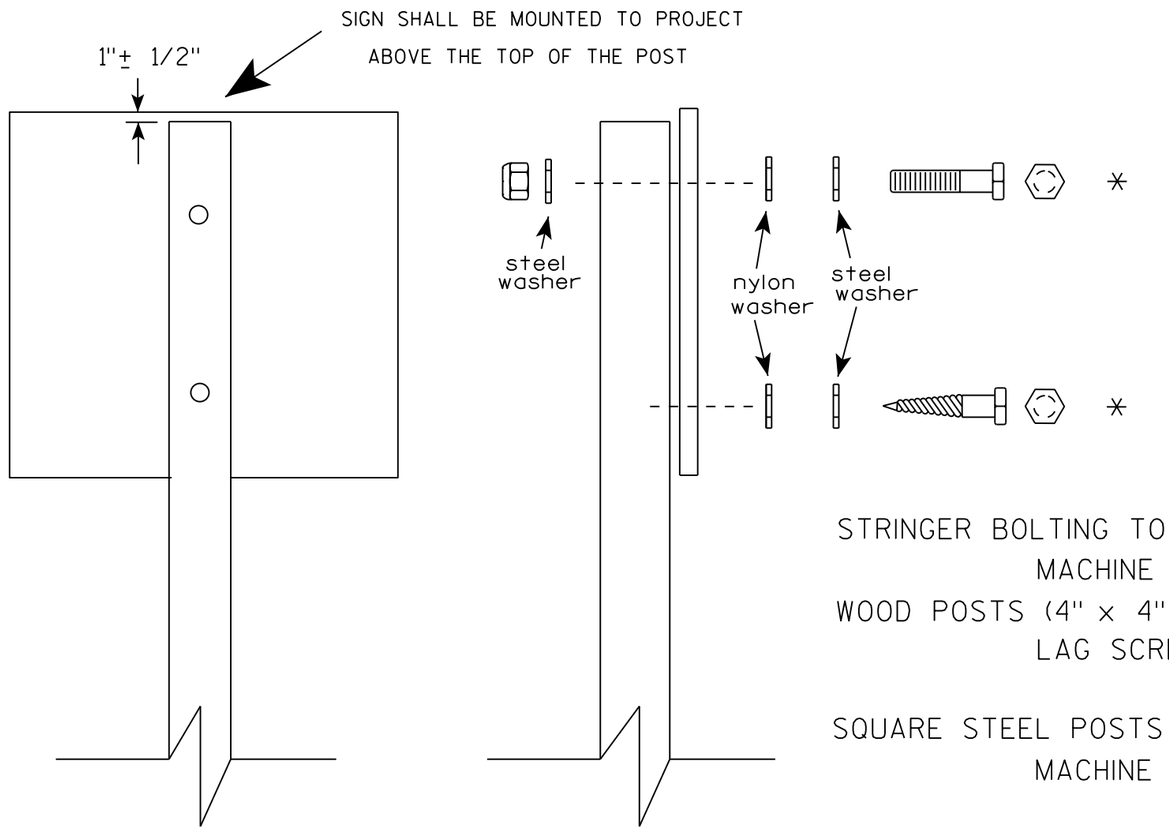
ATTACHMENT OF GUIDE SIGNS TO SUPPORTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/05/13 PLAT 225 A4-6.12

| PROJECT NO: | | | | SHEET NO: | E |
|---|---|---|---|---|---|




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

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

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

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

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

# ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 8/11/16 PLATE NO. A4-8.8

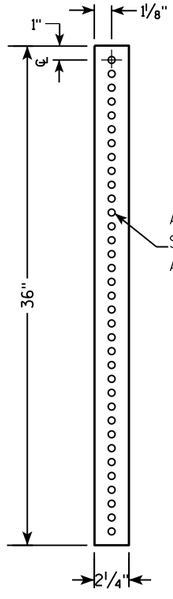


PROJECT NO: SHEET NO: E

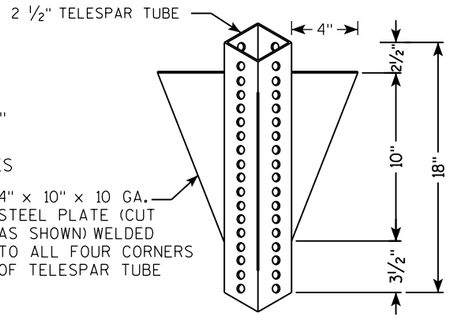
FILE NAME : C:\CADfiles\Projects\tr_stdplate\A48.DGN PLOT DATE : 11-AUG-2016 11:35 PLOT BY : $$ plotuser $$

## TELESCOPIC TUBING ANCHORS
## TWO PIECE SYSTEM

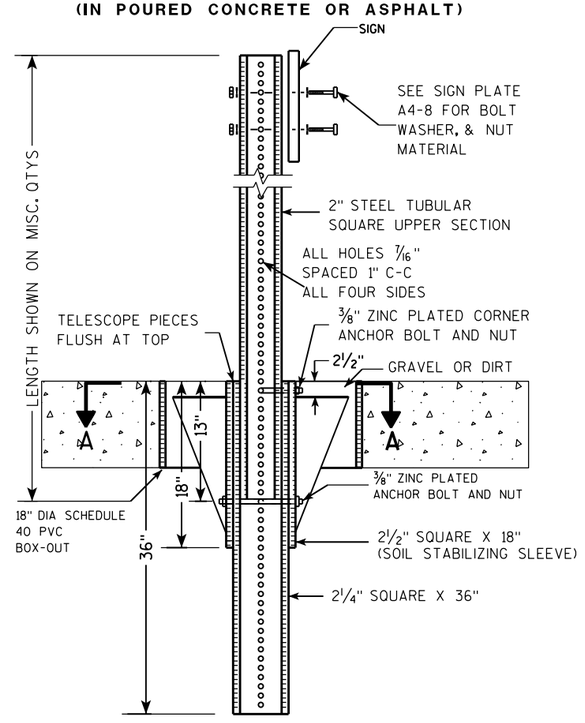
**2 1/4 " SQUARE**
**12 GAUGE**
**PERFORATED**
**GALVANIZED FINISH**



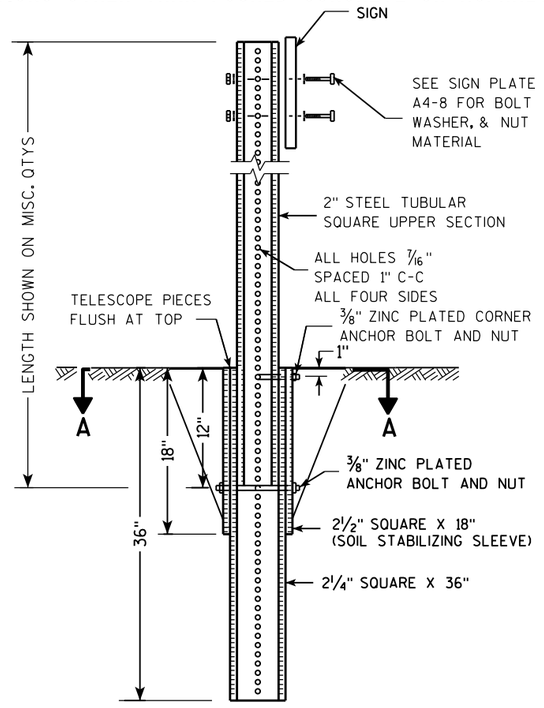

**2 1/2 " SQUARE**
**12 GAUGE**
**OMNI-DIRECTIONAL**
**PERFORATED**
**SOIL STABILIZING SLEEVE**
**GALVANIZED FINISH**

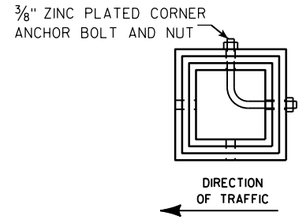



## DETAIL OF TUBULAR STEEL SIGN POST
**(IN POURED CONCRETE OR ASPHALT)**




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




**SECTION A-A**

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

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

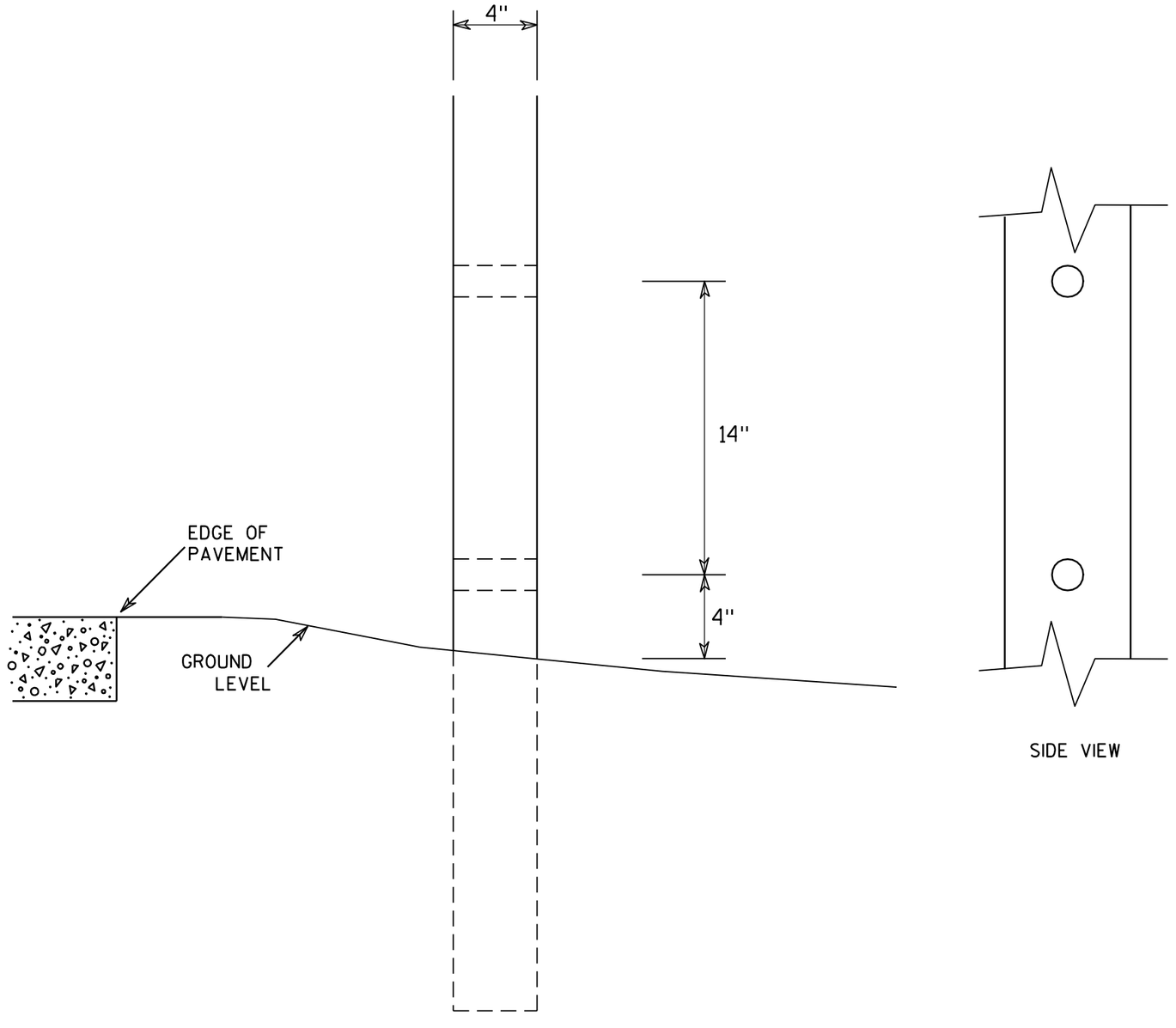
TUBULAR STEEL
SIGN POST
A4-9

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
*for* State Traffic Engineer

DATE 2/05/15 PLATE 227 A4-9.9

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






SIDE VIEW

GENERAL NOTES

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

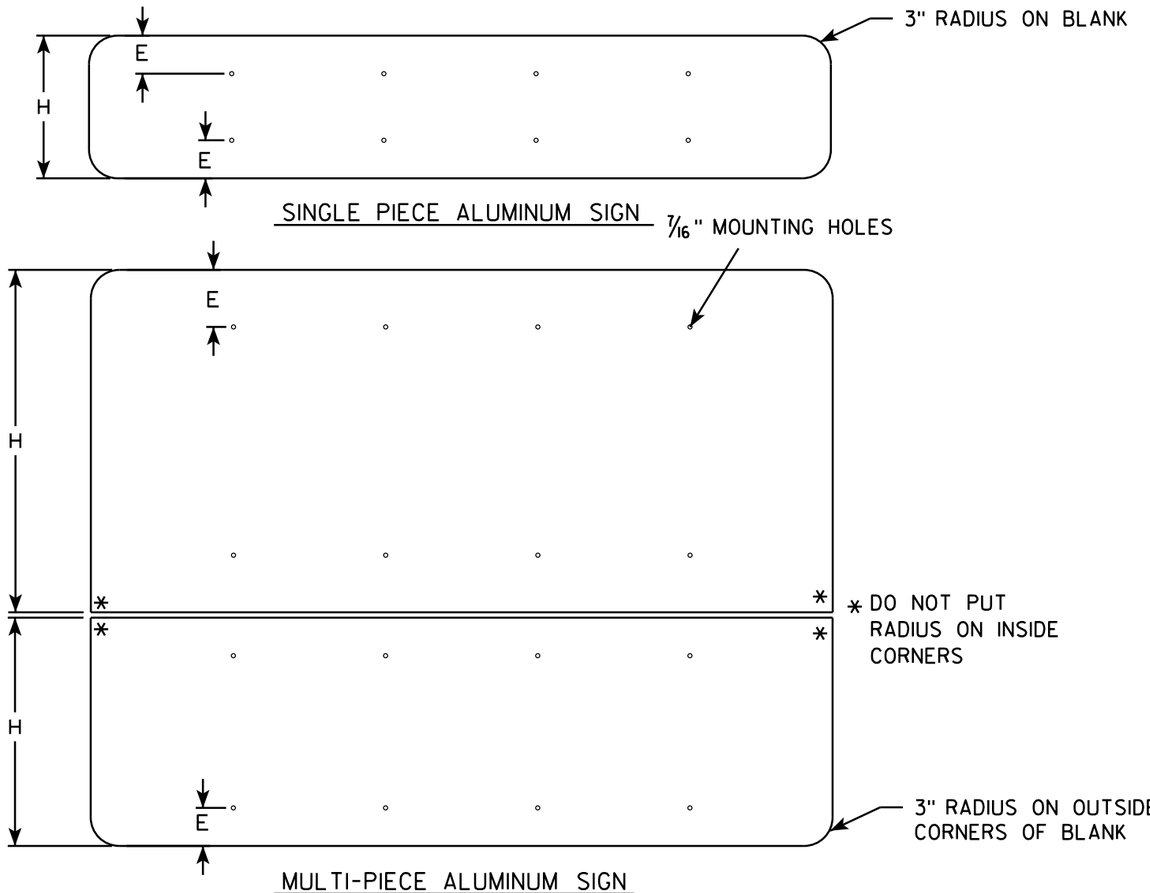
# 4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

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

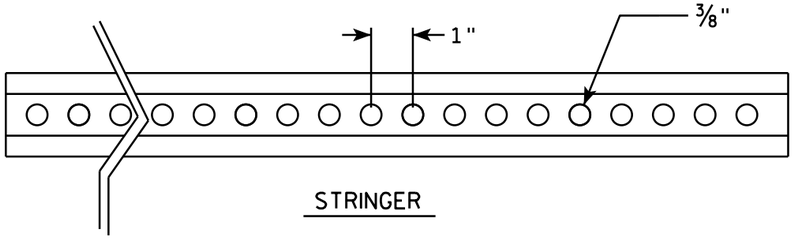
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 228 | E |
|---|---|---|---|---|---|




# GENERAL NOTES

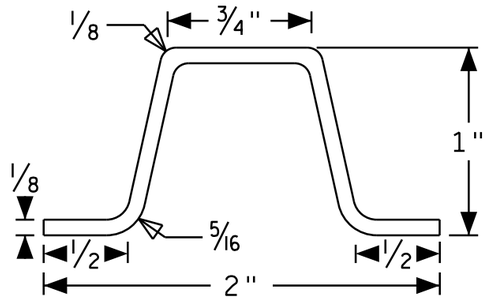
- ALL SIGNS OVER 60" IN WIDTH SHALL HAVE A 3" RADIUS ON THE OUTSIDE CORNERS OF THE ALUMINUM BLANK.
- MOUNTING HOLES SHALL BE 7/16" DIAMETER.
- SEE CHART FOR HOLE SPACING REQUIREMENTS
- FOR SIGN PANELS WITH DIMENSION (H) 36" AND OVER, DIMENSION E SHALL BE 6"
- FOR SIGN PANELS WITH DIMENSION (H) UNDER 36", DIMENSION E SHALL BE 4"
- SIGN STRINGER MATERIAL SHALL CONSIST OF STEEL CHANNEL POST SECTIONS, WEIGHING 1.12 LBS/FT IN ACCORDANCE WITH SECTION 633.2.1 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.
- SEE SIGN PLATE A4-8 FOR SIGN STRINGER BOLTING REQUIREMENTS.

| SIGN WIDTH | STRINGER WIDTH | POSTS | HOLE SPACING | MOUNTING HOLES |
|---|---|---|---|---|
| 78" | 72" | 2 | 16" | 15" 31" 47" 63" |
| 84" | 72" | 2 | 17" | 16½" 33½" 50½" 67½" |
| 90" | 72" | 2 | 18" | 18" 36" 54" 72" |
| 96" | 90" | 2 | 19" | 19½" 38½" 57½" 76½" |
| 102" | 90" | 2 | 20" | 21" 41" 61" 81" |
| 108" | 90" | 2 | 21" | 22½" 43½" 64½" 85½" |
| 114" | 108" | 3 | 15" | 12" 27" 42" 57" 72" 87" 102" |
| 120" | 108" | 3 | 16" | 12" 28" 44" 60" 76" 92" 108" |
| 126" | 108" | 3 | 17" | 12" 29" 46" 63" 80" 97" 114" |
| 132" | 126" | 3 | 18" | 12" 30" 48" 66" 84" 102" 120" |
| 138" | 126" | 3 | 19" | 12" 31" 50" 69" 88" 107" 126" |
| 144" | 126" | 3 | 20" | 12" 32" 52" 72" 92" 112" 132" |

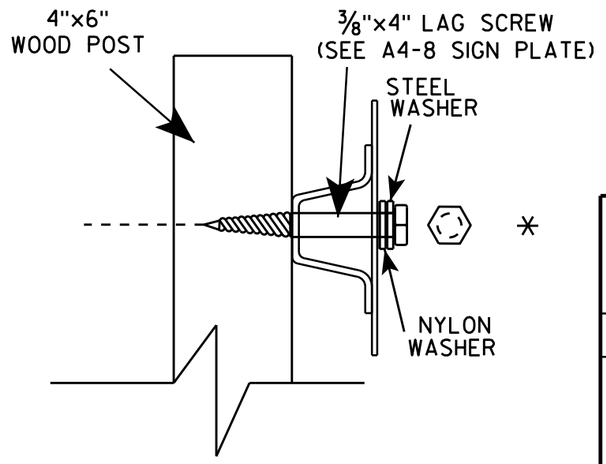



STRINGER

CROSS SECTION VIEW OF CHANNEL




POST MOUNTING




## SIGN STRINGER MOUNTING REQUIREMENTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

for State Traffic Engineer

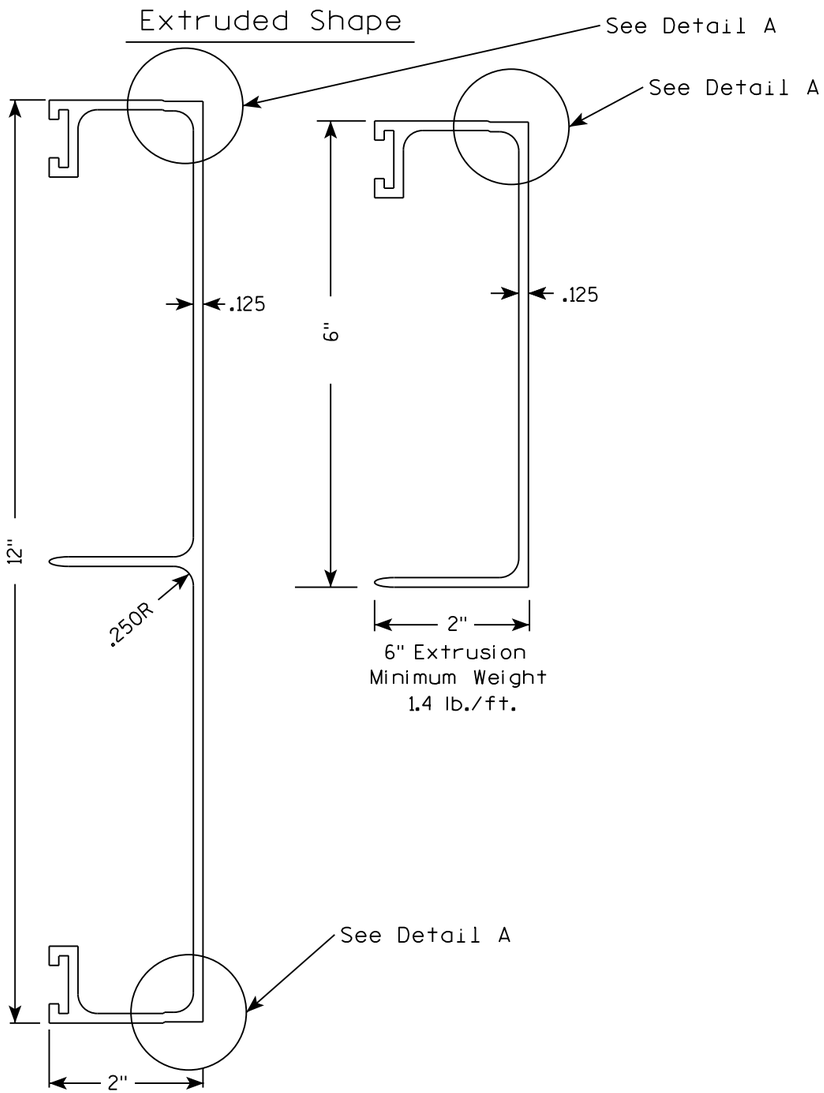
DATE 4/26/16 PLATE NO A4-18.1

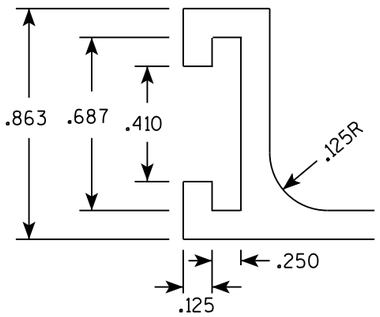
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|

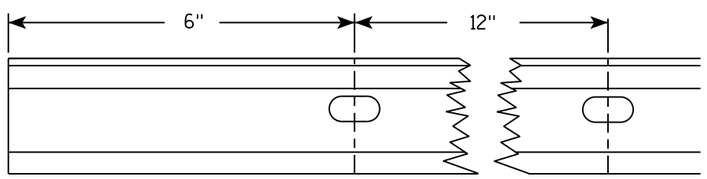


FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A418.dgn PLOT DATE : 27-APR-2016 13:56 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 41.805205:1.000000 WISDOT/CADDS SHEET 42

## Extruded Shape



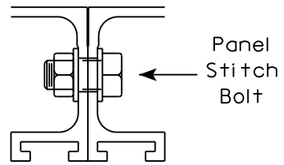

Punch 7/16" x 7/8" oval holes beginning 6" in from end of extrusion 12" CC on both edges of 6" and 12" panels.

## Hardware

### STITCH BOLT, WASHER & NUT

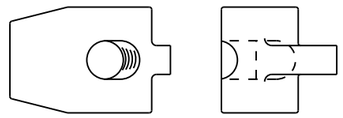
The hardware includes:

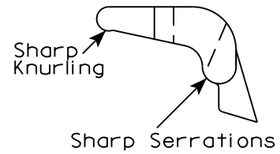
3/8 " - 16 X 3/4 " Economy Bolt 2024-T4 alloy
3/8 " - Stainless steel stop nut
3/8" X .064 Flat Washers, Alclad 2024-T4 alloy

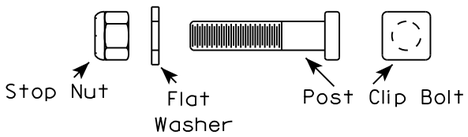



### POST CLIP, POST CLIP BOLT, WASHER & NUT

Post Clip shall be Alum. Alloy 356-T6
Post Clip Bolt shall be Stainless Steel.
Flat washer shall be 3/8" X .091, Stainless Steel.
Stop nut shall be stainless steel.

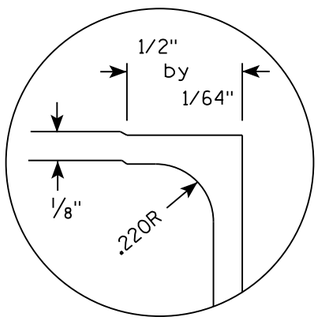



### NOTES

1. The contractor may select any brand of extrusion that conforms to the illustrations or meets with the approval of the engineer, but all extrusions used on this contract shall be of the same brand.
2. Panel Stitch Bolts shall be used to assemble adjacent panels. Maximum stitch bolt spacing shall be 24" C-C, and a minimum of 4 bolts shall be used to connect any two extrusions.
3. Post Clips shall be used to attach the sign panel to the sign support.
4. Edge wrapping of sign sheeting required on all extrusions joints shown in Detail A.



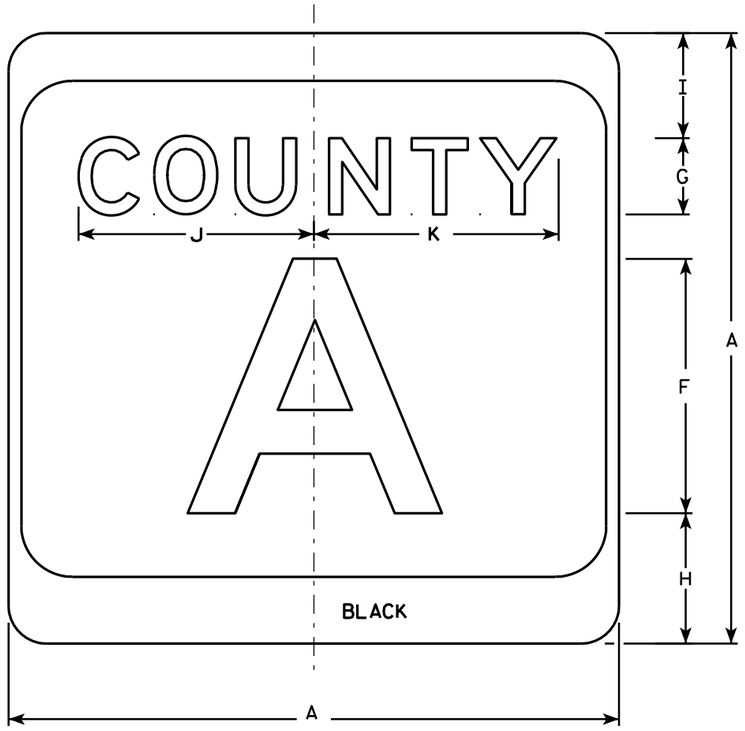

DETAIL A (EDGE WRAP JOINT)

# ALUMINUM EXTRUSIONS FOR TYPE I SIGNS

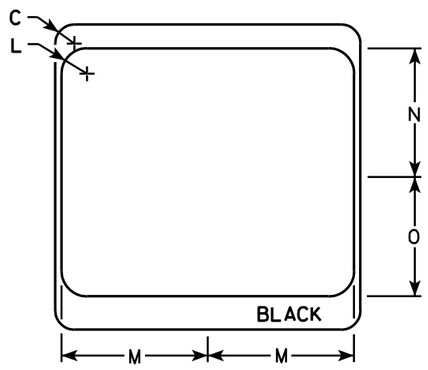
*WISCONSIN DEPT OF TRANSPORTATION*

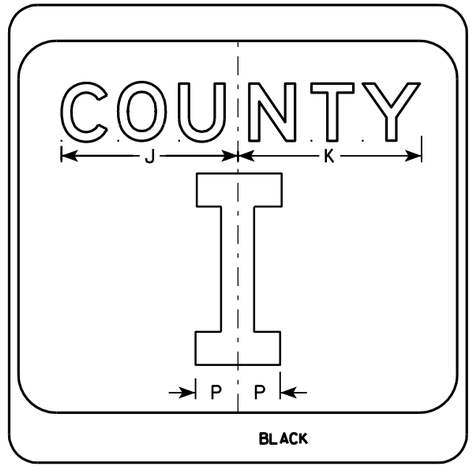
APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 11/30/16 PLATE NO. A5-2.10

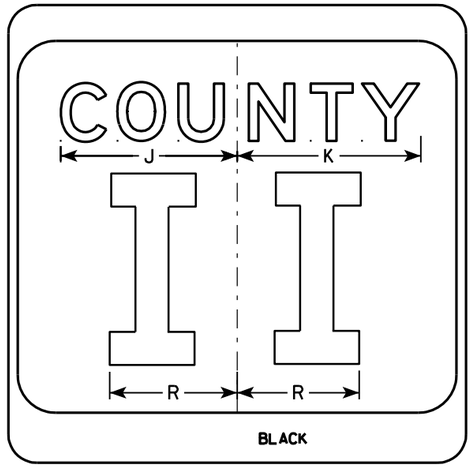
| PROJECT NO: | | | | SHEET NO: 230 | E |
|---|---|---|---|---|---|




M1-5A




NOTES

1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 7
   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. Message Series E for 1 letter.
   Message Series D for 2 letters unless message is too big then Series C.
   Message Series C for 3 letters unless message is too big then Series B.
6. Substitute appropriate letters & optically center to achieve proper balance.
7. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective

| 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 | | 1 1/2 | | | 10 | 3 | 5 1/8 | 4 1/8 | 9 1/4 | 9 5/8 | 2 | 11 1/2 | 10 1/8 | 9 3/8 | 2 1/4 | | 6 5/8 | | | | | | | | | 4.0 |
| 3 | 36 | | 2 1/4 | | | 16 | 4 | 7 5/8 | 5 5/8 | 12 1/4 | 12 7/8 | 3 | 17 1/8 | 15 1/4 | 14 | 3 3/8 | | 10 | | | | | | | | | 9.0 |
| 4 | 36 | | 2 1/4 | | | 16 | 4 | 7 5/8 | 5 5/8 | 12 1/4 | 12 7/8 | 3 | 17 1/8 | 15 1/4 | 14 | 3 3/8 | | 10 | | | | | | | | | 9.0 |
| 5 | 36 | | 2 1/4 | | | 16 | 4 | 7 5/8 | 5 5/8 | 12 1/4 | 12 7/8 | 3 | 17 1/8 | 15 1/4 | 14 | 3 3/8 | | 10 | | | | | | | | | 9.0 |

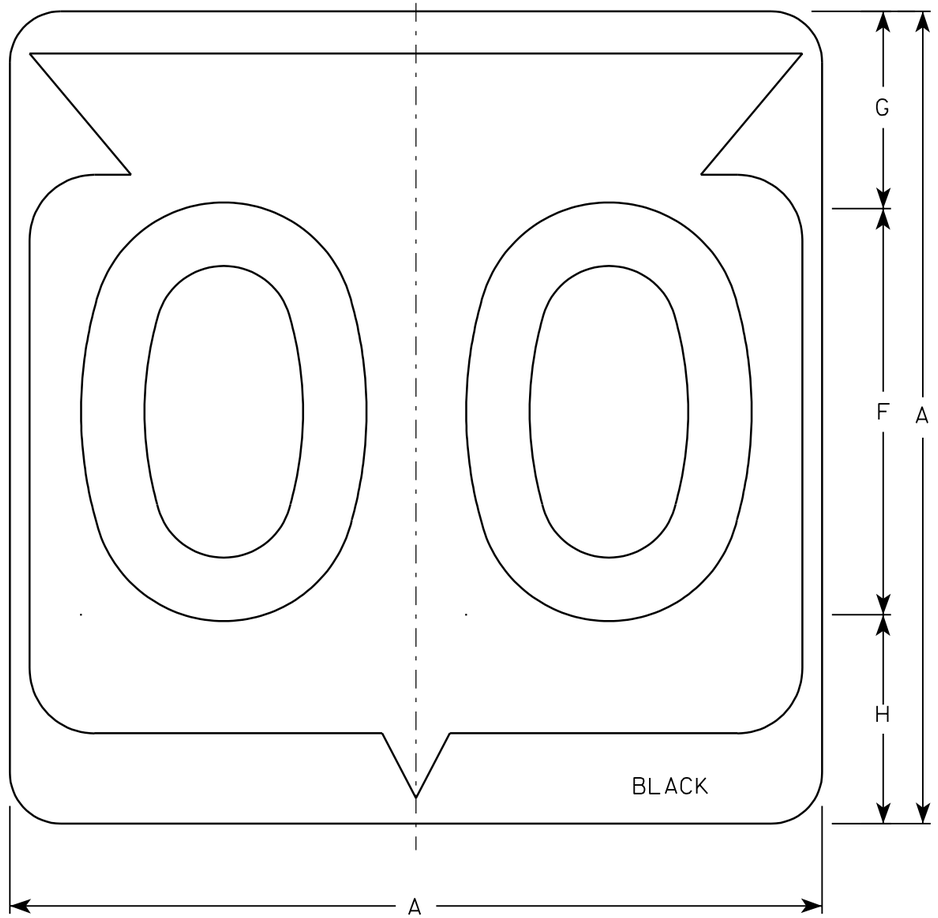
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/27/11 PLATE NO. M1-5A.8

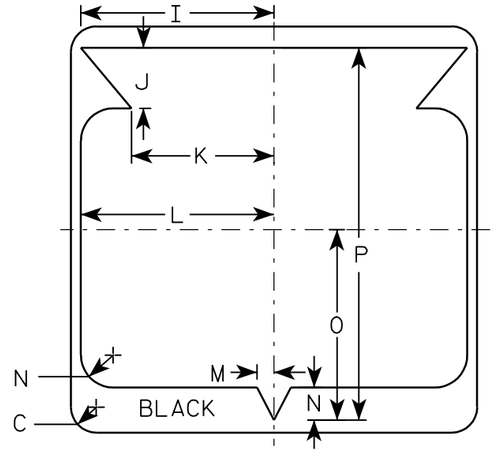
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 231 | E |
|---|---|---|---|---|---|




M1-6

## 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




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 m2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 |

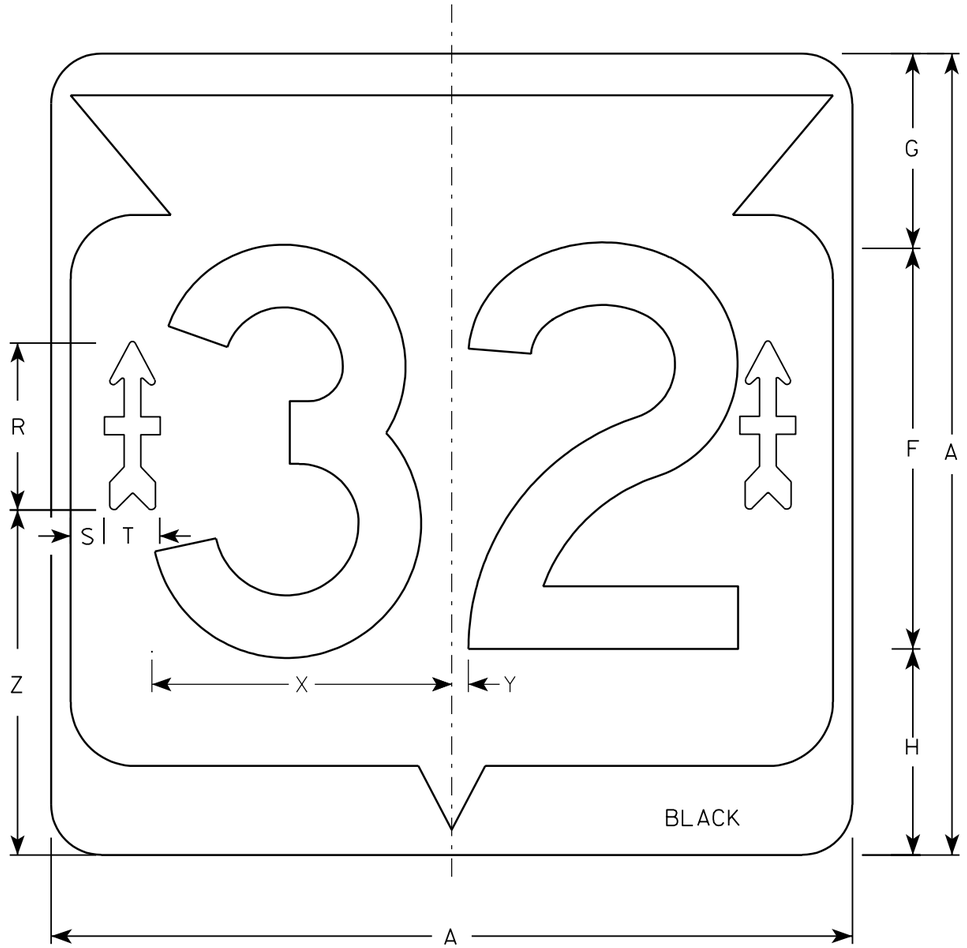
# STATE ROUTE MARKER M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

DATE 3/20/02 PLATE NO. M1-6.9

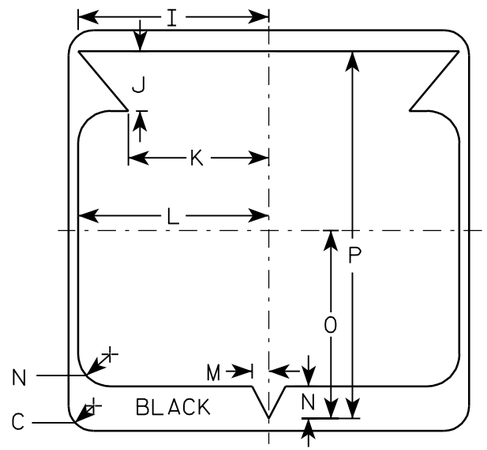
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 232 | E |
|---|---|---|---|---|---|



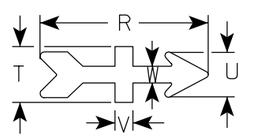

M1-6B

NOTES

1. Sign is Type II - Type H - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black
   Message - Black
   Arrow - Type H Reflective Red
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.




32nd DIVISION ARROW
ACTUAL SIZE




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 m2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | | 5 1/8 | 3/4 | 1 7/8 | 1 1/2 | 5/8 | 5/8 | 9 | 1/2 | 10 1/2 | 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 | | 7 1/2 | 1 1/2 | 2 1/2 | 2 | 7/8 | 3/4 | 13 1/2 | 3/4 | 15 1/2 | 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 | | 7 1/2 | 1 1/2 | 2 1/2 | 2 | 7/8 | 3/4 | 13 1/2 | 3/4 | 15 1/2 | 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 | | 7 1/2 | 1 1/2 | 2 1/2 | 2 | 7/8 | 3/4 | 13 1/2 | 3/4 | 15 1/2 | 9.0 | .81 |

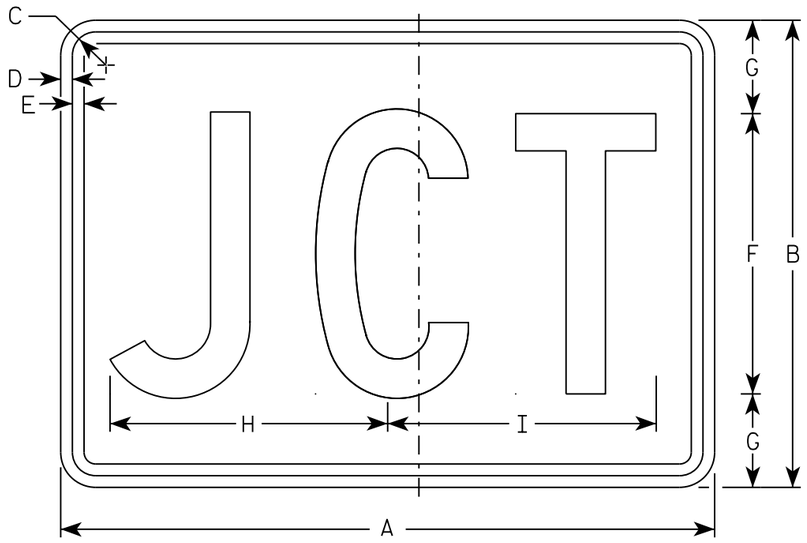
STATE ROUTE MARKER "32"
M1-6B FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

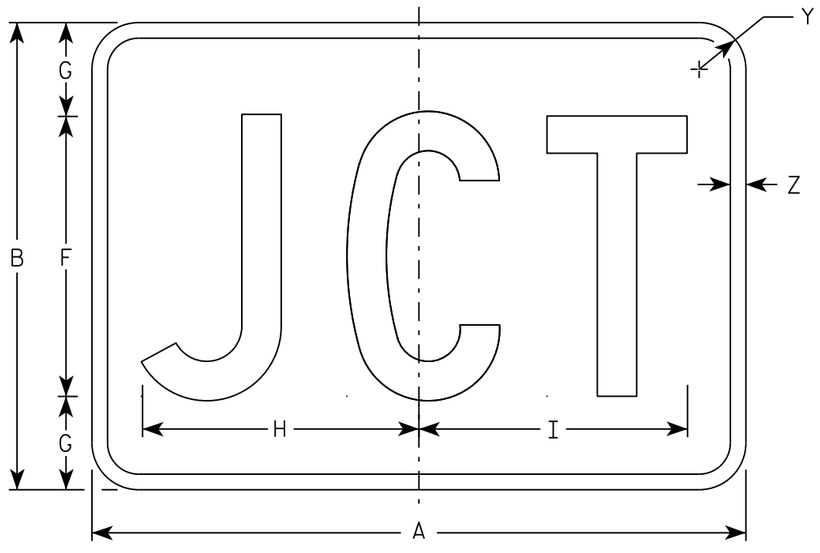
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 12/5/05 PLATE NO. M1-6B.2

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 233 | E |
|---|---|---|---|---|---|




M2-1
MM2-1
MP2-1




MB2-1
MK2-1
MN2-1
MR2-1

NOTES

1. Sign is 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. M2-1 Background - White
   Message - Black
   MB2-1 Background - Blue
   Message - White
   MK2-1 Background - Green
   Message - White
   MM2-1 Background - White
   Message - Green
   MN2-1 Background - Brown
   Message - White
   MP2-1 Background - White
   Message - Blue
   MR2-1 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 | 15 | 1 1/8 | 3/8 | 3/8 | 9 | 3 | 8 7/8 | 8 5/8 | | | | | | | | | | | | | | | | 1 1/2 | 1/2 | 2.20 |
| 3 | 30 | 21 | 1 1/8 | 3/8 | 3/8 | 13 | 4 | 12 7/8 | 12 3/8 | | | | | | | | | | | | | | | | 1 1/2 | 1/2 | 4.40 |
| 4 | 30 | 21 | 1 1/8 | 3/8 | 3/8 | 13 | 4 | 12 7/8 | 12 3/8 | | | | | | | | | | | | | | | | 1 1/2 | 1/2 | 4.40 |
| 5 | 30 | 21 | 1 1/8 | 3/8 | 3/8 | 13 | 4 | 12 7/8 | 12 3/8 | | | | | | | | | | | | | | | | 1 1/2 | 1/2 | 4.40 |

STANDARD SIGN
M2-1

WISCONSIN DEPT OF TRANSPORTATION

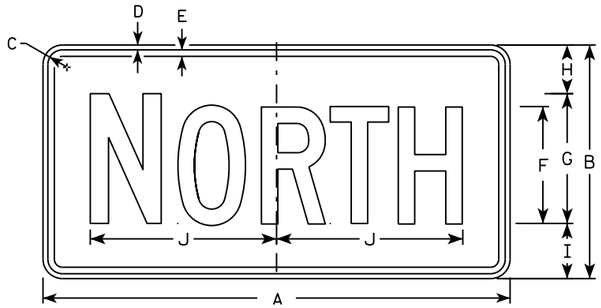
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 234 12-1.12

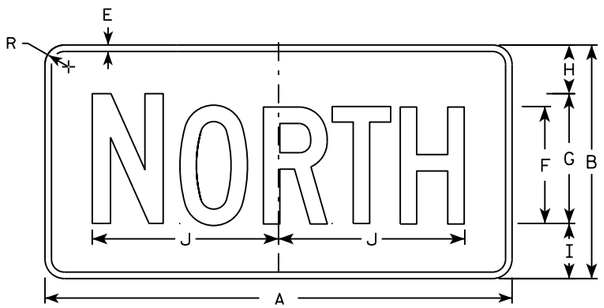
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|



FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M21.DGN PLOT DATE : 01-DEC-2015 17:54 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 4.864603:1.000000




M3-1
MM3-1
MP3-1



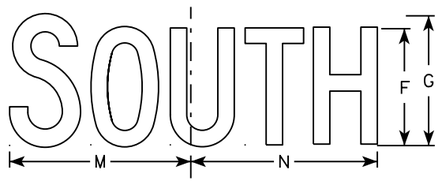

MB3-1
MK3-1
MN3-1



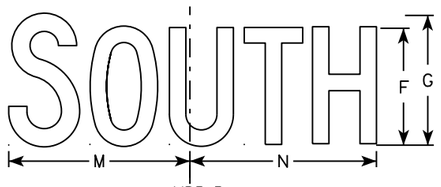

M3-2
MM3-2
MP3-2



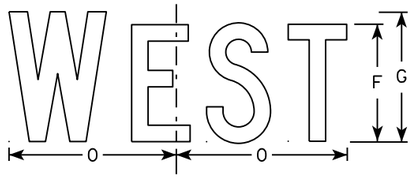

MB3-2
MK3-2
MN3-2



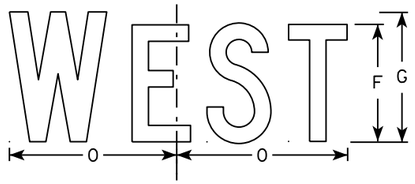

M3-3
MM3-3
MP3-3




MB3-3
MK3-3
MN3-3




M3-4
MM3-4
MP3-4




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 thur M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

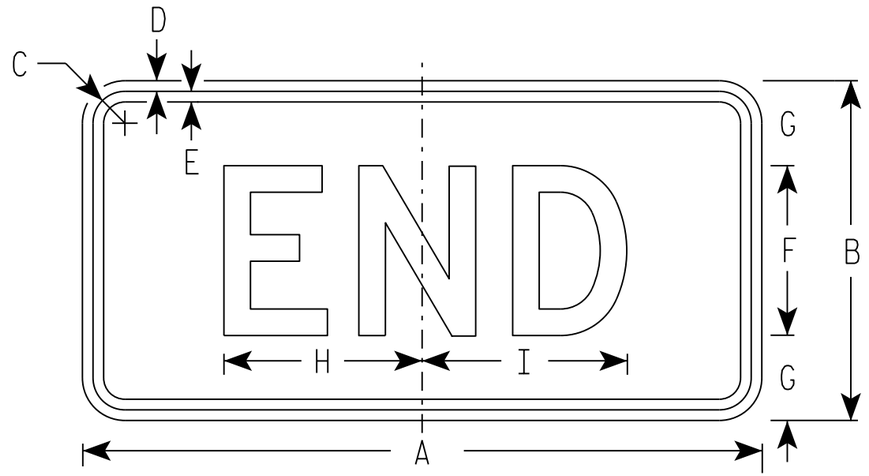
APPROVED Matthew P Rauch for State Traffic Engineer

DATE 10/15/15 PLATE NO M3-1.14

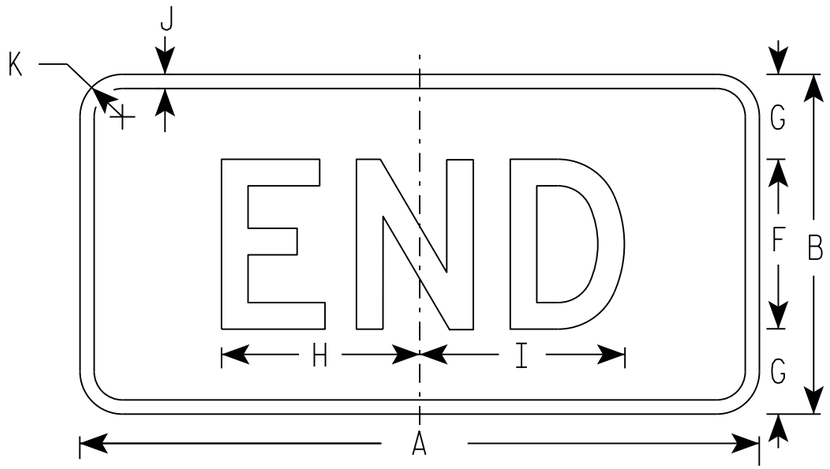


PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M31.DGN PLOT DATE : 01-DEC-2015 17:54 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000




M4-6
MM4-6
MP4-6




MB4-6
MK4-6
MN4-6
MR4-6

NOTES

1. Sign is Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
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. M4-6 Background - White
   Message - Black

   MB4-6 Background - Blue
   Message - White

   MK4-6 Background - Green
   Message - White

   MM4-6 Background - White
   Message - Green

   MN4-6 Background - Brown
   Message - White

   MP4-6 Background - White
   Message - Blue

   MR4-6 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 | 24 | 12 | 1 1/8 | 3/8 | 3/8 | 6 | 3 | 7 | 7 1/4 | 1/2 | 1 1/2 | | | | | | | | | | | | | | | | 2.00 |
| 3 | 36 | 18 | 1 1/8 | 3/8 | 1/2 | 9 | 4 1/2 | 12 | 11 7/8 | 1/2 | 1 1/2 | | | | | | | | | | | | | | | | 4.5 |
| 4 | 36 | 18 | 1 1/8 | 3/8 | 1/2 | 9 | 4 1/2 | 12 | 11 7/8 | 1/2 | 1 1/2 | | | | | | | | | | | | | | | | 4.5 |
| 5 | 36 | 18 | 1 1/8 | 3/8 | 1/2 | 9 | 4 1/2 | 12 | 11 7/8 | 1/2 | 1 1/2 | | | | | | | | | | | | | | | | 4.5 |

STANDARD SIGN
M4-6

WISCONSIN DEPT OF TRANSPORTATION

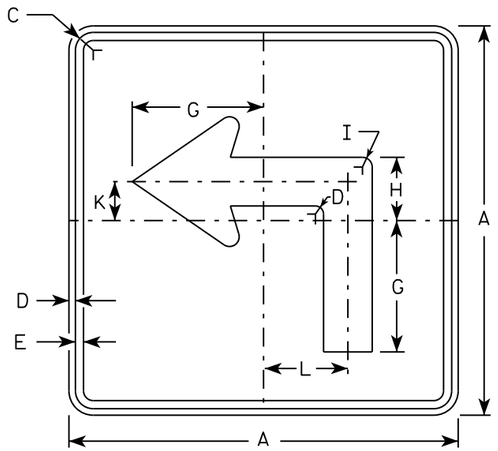
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 236 '14-7.9

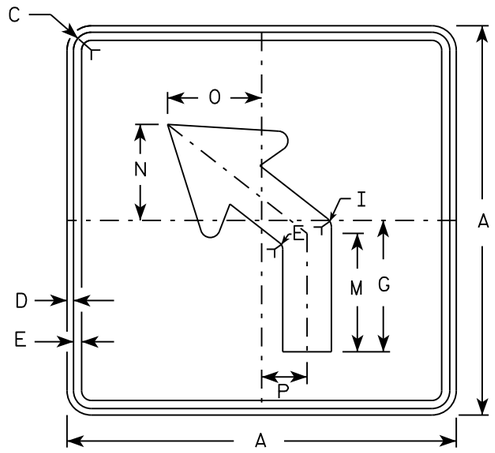
PROJECT NO: | HWY: | COUNTY: | SHEET NO: E



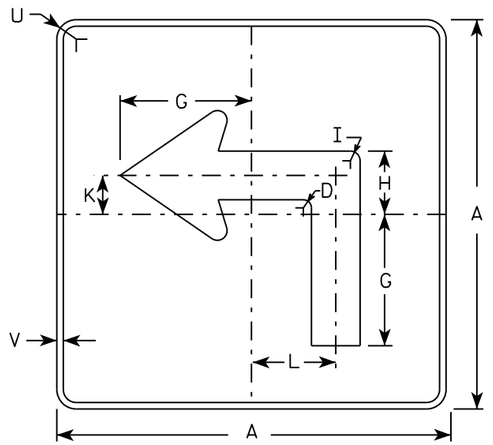
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M46.DGN PLOT DATE : 01-DEC-2015 17:55 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 5.351066:1.000000



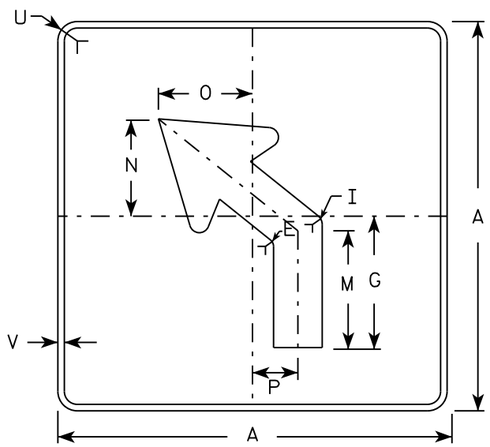

M5-1L
MM5-1L
MO5-1L
MP5-1L



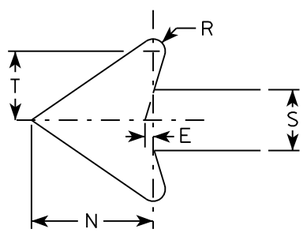

M5-2L
MM5-2L
MO5-2L
MP5-2L




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




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




NOTES

1. Signs are Type II - Type H reflective 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. 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
   MO5-1 and MO5-2 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
5. M5-1R same as M5-1L except arrow points right.
6. 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

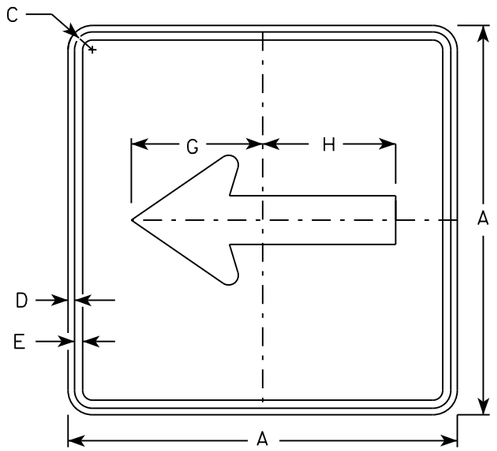
APPROVED Matthew R Rauch
for State Traffic Engineer

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

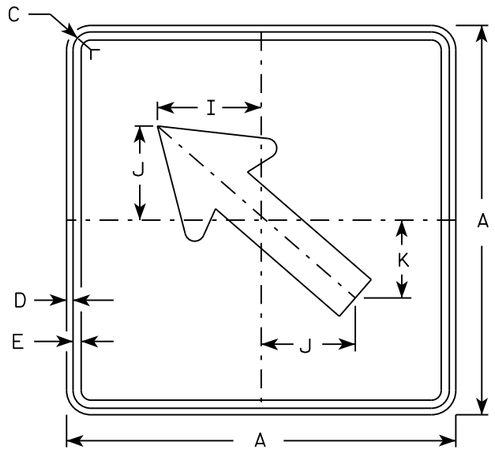


PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M51.DGN PLOT DATE : 01-DEC-2015 18:07 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



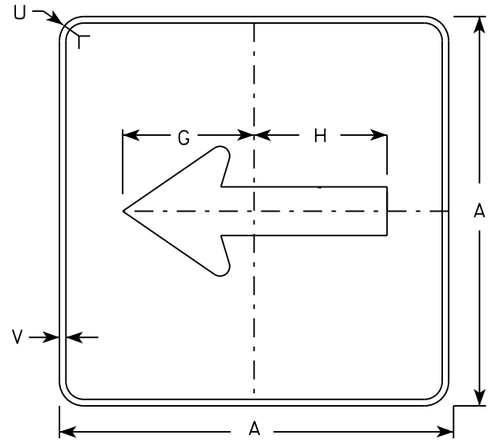

M6-1
MM6-1
MO6-1
MP6-1



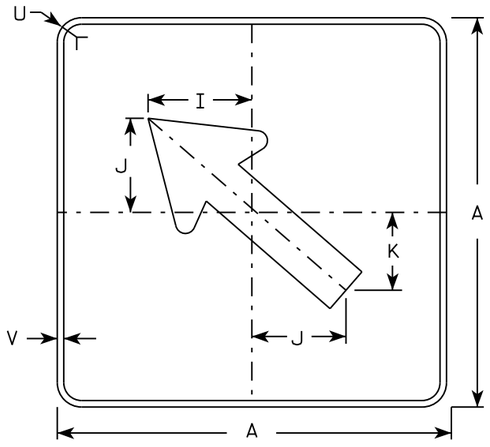

M6-2
MM6-2
MO6-2
MP6-2

NOTES

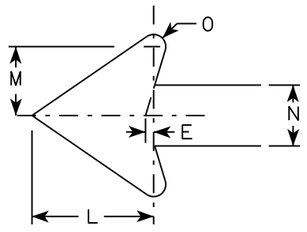
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - 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
   MO6-1 and MO6-2 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




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




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




| 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 |

STANDARD SIGN
M6-1 & M6-2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

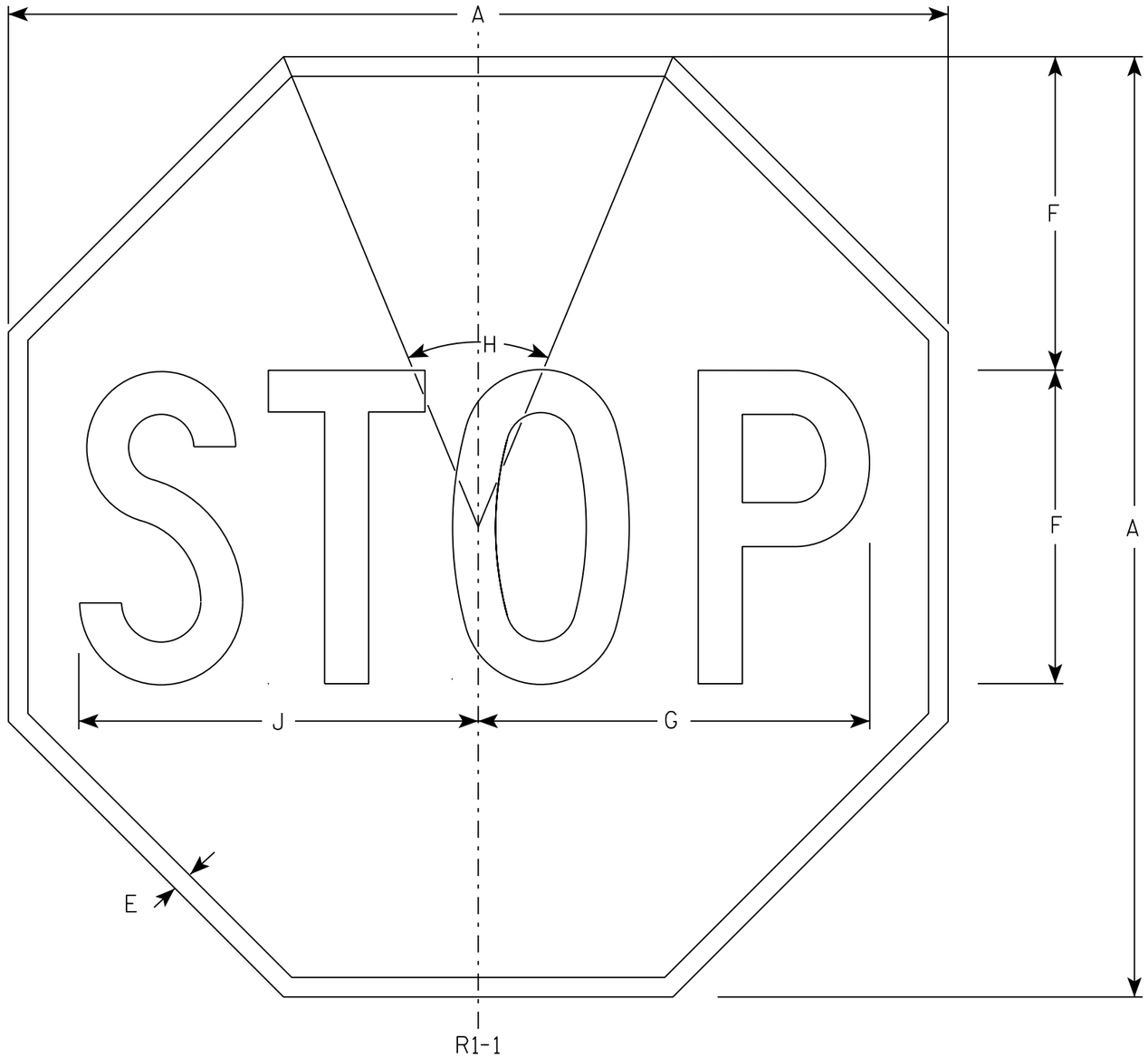
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 238 M6-1.15

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



FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M61.DGN PLOT DATE : 01-DEC-2015 17:57 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000




R1-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C

| 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 | 30 | | | | 5/8 | 10 | 12 1/2 | 45° | | 12 3/4 | | | | | | | | | | | | | | | | | 5.18 |
| 2S | 30 | | | | 5/8 | 10 | 12 1/2 | 45° | | 12 3/4 | | | | | | | | | | | | | | | | | 5.18 |
| 2M | 36 | | | | 3/4 | 12 | 15 | 45° | | 15 3/8 | | | | | | | | | | | | | | | | | 7.46 |
| 3 | 36 | | | | 3/4 | 12 | 15 | 45° | | 15 3/8 | | | | | | | | | | | | | | | | | 7.46 |
| 4 | 48 | | | | 1 | 16 | 20 | 45° | | 20 1/2 | | | | | | | | | | | | | | | | | 13.25 |
| 5 | 48 | | | | 1 | 16 | 20 | 45° | | 20 1/2 | | | | | | | | | | | | | | | | | 13.25 |
| 6 | 18 | | | | 3/8 | 6 | 7 3/4 | 45° | | 7 3/4 | | | | | | | | | | | | | | | | | 1.86 |
| 7 | 12 | | | | 1/4 | 4 | 5 | 45° | | 5 1/8 | | | | | | | | | | | | | | | | | 0.78 |

STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

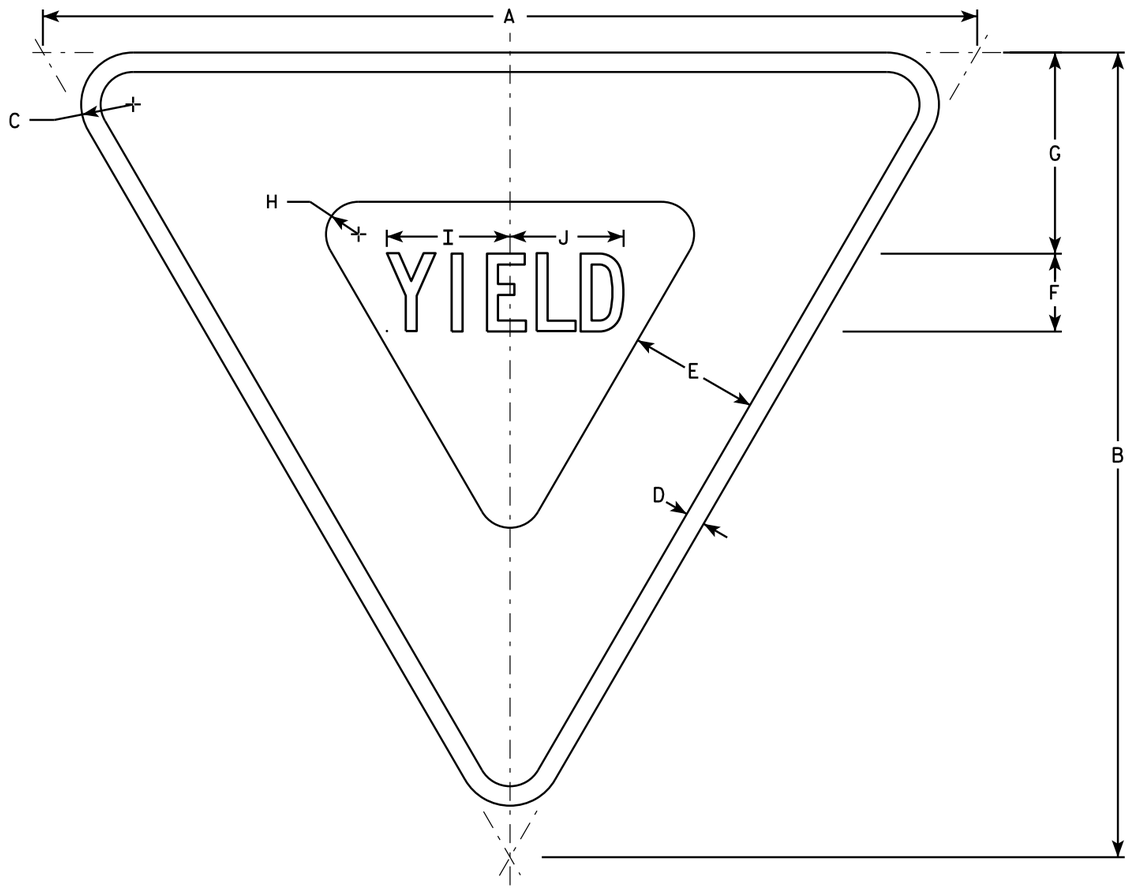
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/15 PLATE 239 R1-1.13

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



FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R11.DGN PLOT DATE : 01-DEC-2015 18:07 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 4.378143:1.000000




R1-2

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 - 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. The border strip and word message are reflectorized red.

| 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 | 30 | 26 | 1 1/2 | 5/8 | 4 | 2 1/2 | 6 3/8 | 7/8 | 4 | 3 5/8 | | | | | | | | | | | | | | | | | 2.71 |
| 2S | 36 | 31 | 2 | 3/4 | 5 | 3 | 7 3/4 | 1 1/4 | 4 3/4 | 4 3/8 | | | | | | | | | | | | | | | | | 3.88 |
| 2M | 48 | 42 | 3 | 1 | 6 | 4 | 9 3/4 | 2 | 6 1/4 | 5 7/8 | | | | | | | | | | | | | | | | | 7.00 |
| 3 | 48 | 42 | 3 | 1 | 6 | 4 | 9 3/4 | 2 | 6 1/4 | 5 7/8 | | | | | | | | | | | | | | | | | 7.00 |
| 4 | 48 | 42 | 3 | 1 | 6 | 4 | 9 3/4 | 2 | 6 1/4 | 5 7/8 | | | | | | | | | | | | | | | | | 7.00 |
| 5 | 60 | 52 | 3 | 1 1/2 | 8 | 5 | 13 | 2 1/2 | 7 7/8 | 7 1/4 | | | | | | | | | | | | | | | | | 10.83 |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 18 | 15 1/2 | 1 | 3/8 | 2 1/2 | 1 1/2 | 3 7/8 | 5/8 | 2 3/8 | 2 1/4 | | | | | | | | | | | | | | | | | 0.97 |

STANDARD SIGN
R1-2

WISCONSIN DEPT OF TRANSPORTATION

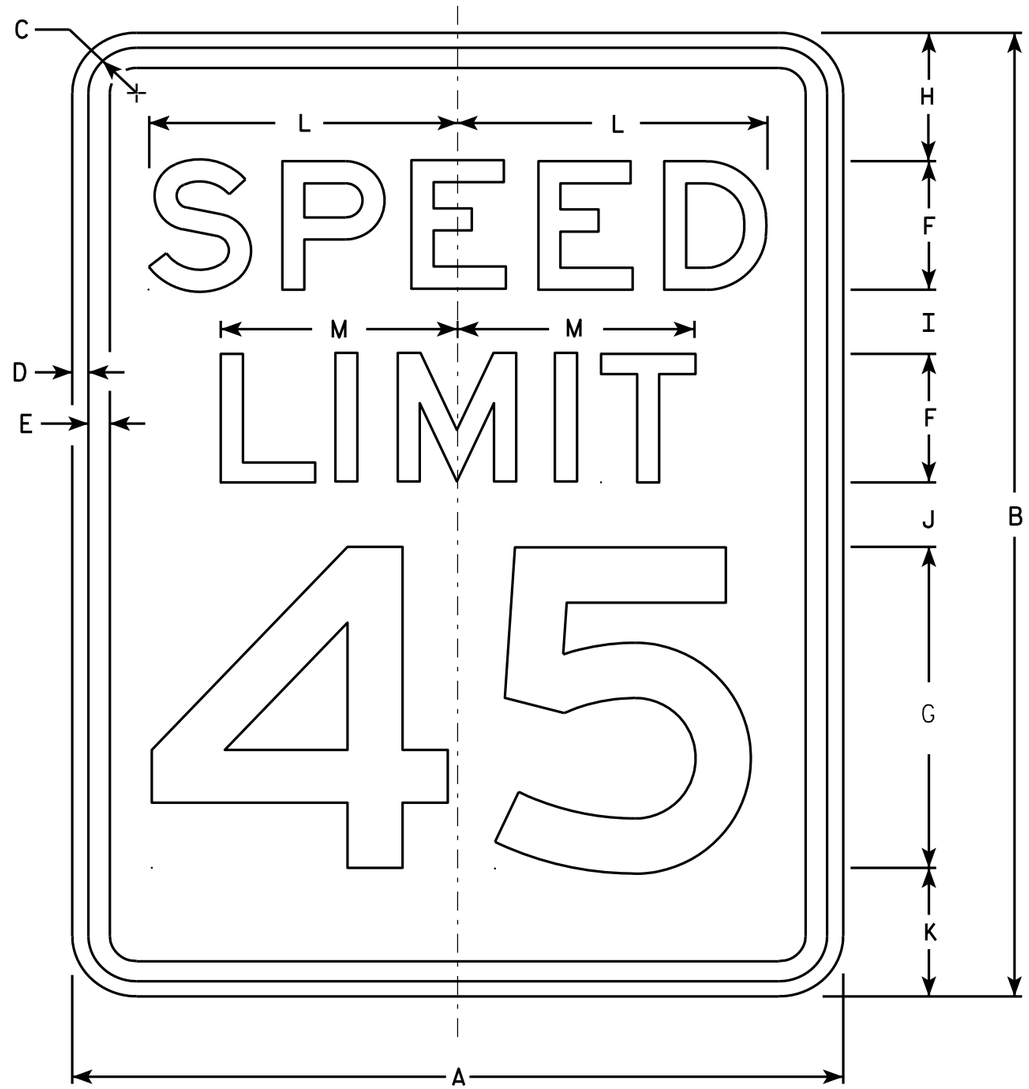
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/13/14 PLATE R1-2.12



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

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\R12.DGN PLOT DATE : 13-OCT-2014 15:12 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 5.837526:1.000000
WISDOT/CADDS SHEET 42




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

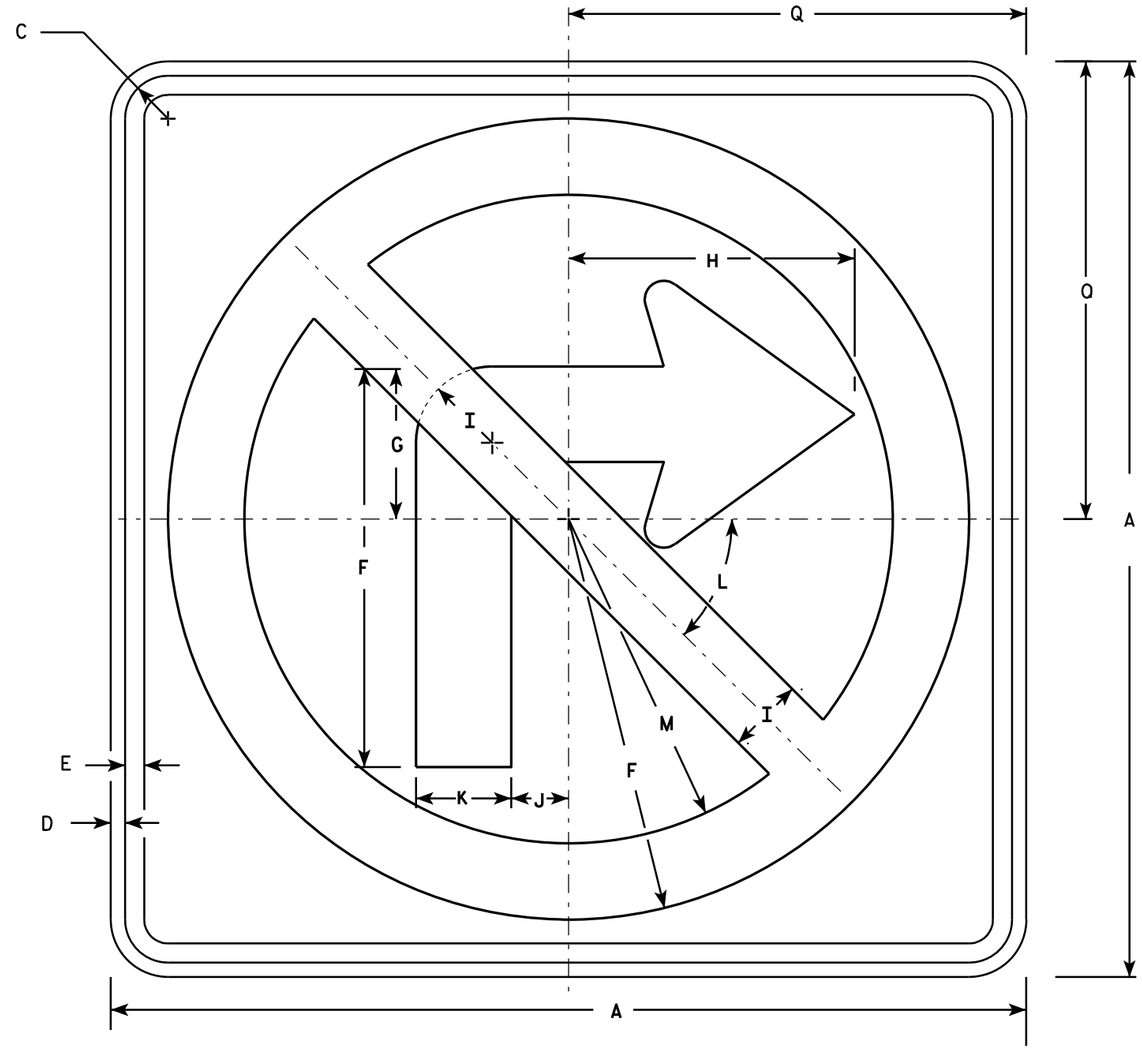
DATE 5/26/10 PLATE NO. R2-1.13

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 241 | E




FILE NAME : C:\Users\PROJECTS\tr_stdplate\R21.DGN PLOT DATE : 28-MAY-2010 08:32 PLOT BY : ditjph PLOT NAME : PLOT SCALE : 4.717577:1.000000

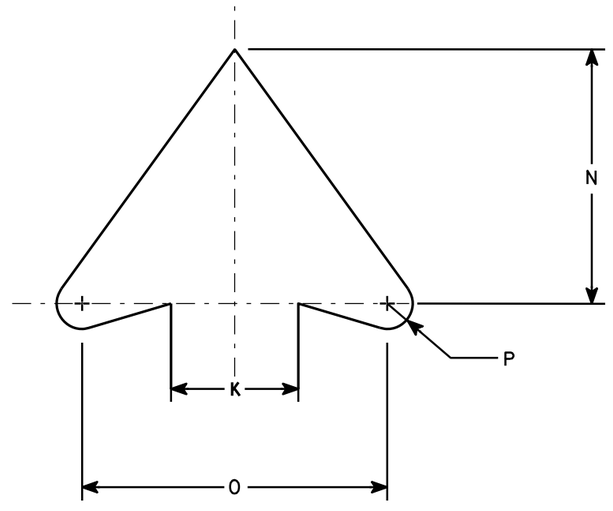
WISDOT/CADDS SHEET 42




R3-1

## 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 - 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. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.




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 | 24 | | 1 1/8 | 3/8 | 1/2 | 10 1/2 | 4 | 7 1/2 | 2 | 1 1/2 | 2 1/2 | 45 | 8 1/2 | 5 | 6 | 1/2 | 12 | | | | | | | | | | 4.0 |
| 2S | 24 | | 1 1/8 | 3/8 | 1/2 | 10 1/2 | 4 | 7 1/2 | 2 | 1 1/2 | 2 1/2 | 45° | 8 1/2 | 5 | 6 | 1/2 | 12 | | | | | | | | | | 4.0 |
| 2M | 36 | | 1 5/8 | 5/8 | 3/4 | 15 3/4 | 6 | 11 1/4 | 3 | 2 1/4 | 3 3/4 | 45 | 12 3/4 | 7 1/2 | 9 | 3/4 | 18 | | | | | | | | | | 9.0 |
| 3 | 36 | | 1 5/8 | 5/8 | 3/4 | 15 3/4 | 6 | 11 1/4 | 3 | 2 1/4 | 3 3/4 | 45 | 12 3/4 | 7 1/2 | 9 | 3/4 | 18 | | | | | | | | | | 9.0 |
| 4 | 36 | | 1 5/8 | 5/8 | 3/4 | 15 3/4 | 6 | 11 1/4 | 3 | 2 1/4 | 3 3/4 | 45° | 12 3/4 | 7 1/2 | 9 | 3/4 | 18 | | | | | | | | | | 9.0 |
| 5 | 48 | | 2 1/4 | 3/4 | 1 | 21 | 8 | 15 | 4 | 3 | 5 | 45° | 17 | 10 | 12 | 1 | 24 | | | | | | | | | | 16.0 |

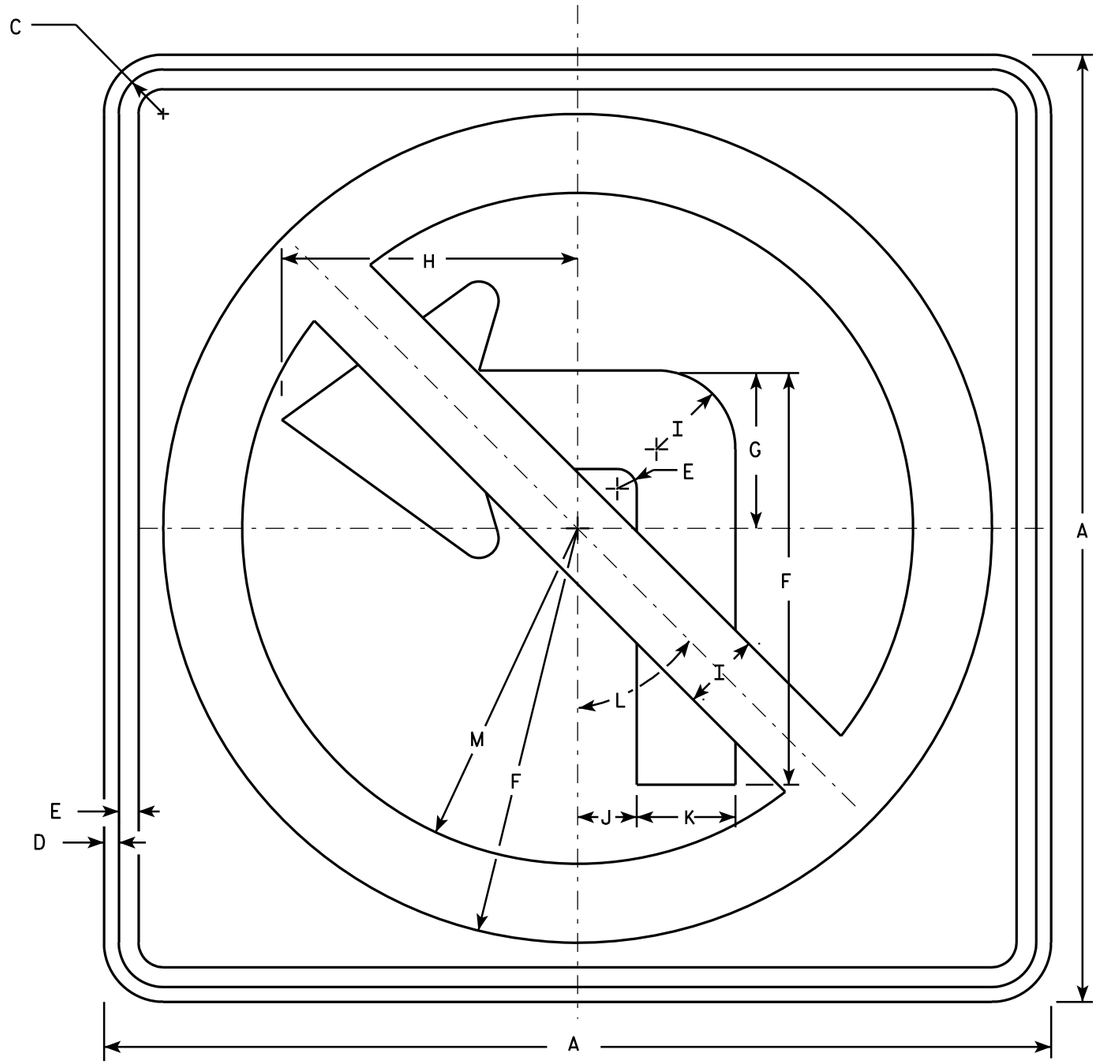
# STANDARD SIGN
# R3-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-1.5

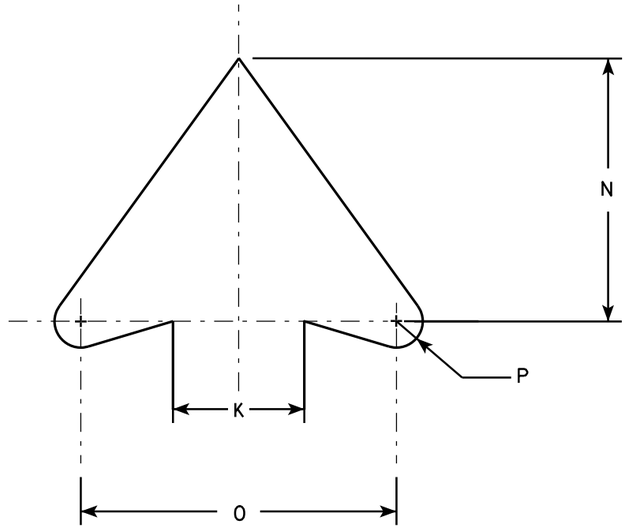
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 242 | E |
|---|---|---|---|---|---|




R3-2

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 - 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. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.




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 | 24 | | 1 1/8 | 3/8 | 1/2 | 10 1/2 | 4 | 7 1/2 | 2 | 1 1/2 | 2 1/2 | 45° | 8 1/2 | 5 | 6 | 1/2 | | | | | | | | | | | 4.0 |
| 2S | 24 | | 1 1/8 | 3/8 | 1/2 | 10 1/2 | 4 | 7 1/2 | 2 | 1 1/2 | 2 1/2 | 45° | 8 1/2 | 5 | 6 | 1/2 | | | | | | | | | | | 4.0 |
| 2M | 36 | | 1 5/8 | 5/8 | 3/4 | 15 3/4 | 6 | 11 1/4 | 3 | 2 1/4 | 3 3/4 | 45° | 12 3/4 | 7 1/2 | 9 | 3/4 | | | | | | | | | | | 9.0 |
| 3 | 36 | | 1 5/8 | 5/8 | 3/4 | 15 3/4 | 6 | 11 1/4 | 3 | 2 1/4 | 3 3/4 | 45° | 12 3/4 | 7 1/2 | 9 | 3/4 | | | | | | | | | | | 9.0 |
| 4 | 36 | | 1 5/8 | 5/8 | 3/4 | 15 3/4 | 6 | 11 1/4 | 3 | 2 1/4 | 3 3/4 | 45° | 12 3/4 | 7 1/2 | 9 | 3/4 | | | | | | | | | | | 9.0 |
| 5 | 48 | | 2 1/4 | 3/4 | 1 | 21 | 8 | 15 | 4 | 3 | 5 | 45° | 17 | 10 | 12 | 1 | | | | | | | | | | | 16.0 |

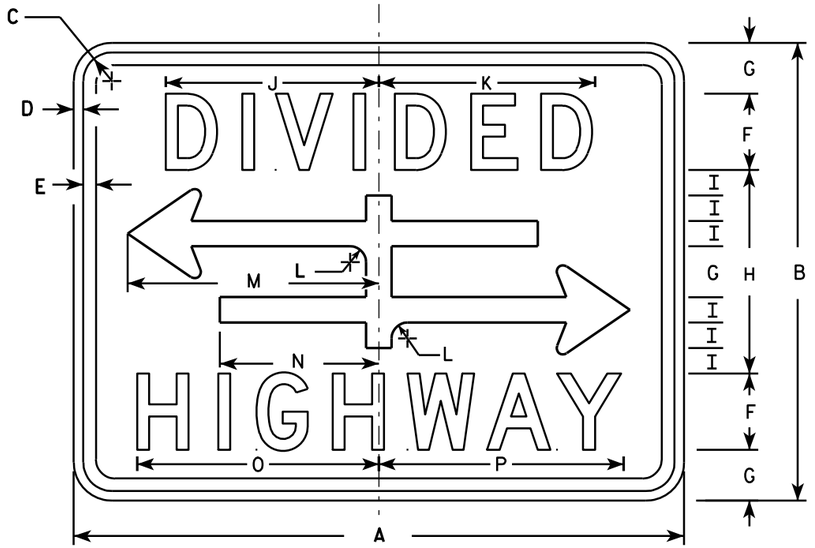
STANDARD SIGN
R3-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-2.10

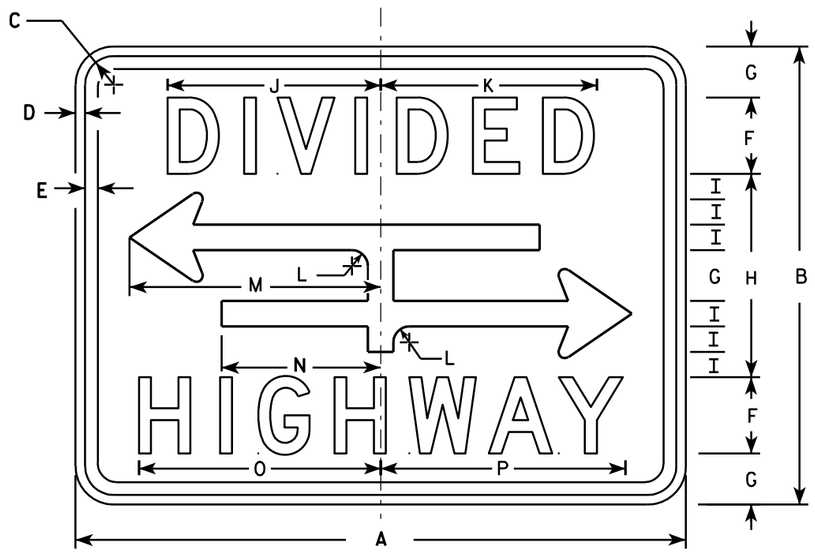
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 243 | E |
|---|---|---|---|---|---|



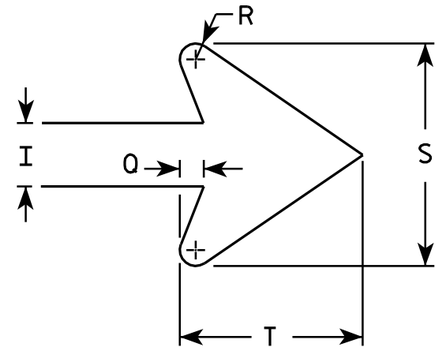

R6-3

## 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.




R6-3A




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 | 24 | 18 | 1 1/8 | 3/8 | 3/8 | 3 | 2 | 8 | 1 | 8 3/8 | 8 1/2 | 5/8 | 9 7/8 | 6 1/4 | 9 1/2 | 9 5/8 | 3/8 | 1/4 | 3 1/2 | 2 3/4 | | | | | | | 3.0 |
| 2S | 30 | 24 | 1 1/8 | 3/8 | 1/2 | 4 | 2 5/8 | 10 3/4 | 1 3/8 | 10 1/2 | 10 5/8 | 7/8 | 12 1/2 | 7 7/8 | 12 1/4 | 12 3/8 | 1/2 | 3/8 | 4 5/8 | 3 5/8 | | | | | | | 5.0 |
| 2M | 30 | 24 | 1 1/8 | 3/8 | 1/2 | 4 | 2 5/8 | 10 3/4 | 1 3/8 | 10 1/2 | 10 5/8 | 7/8 | 12 1/2 | 7 7/8 | 12 1/4 | 12 3/8 | 1/2 | 3/8 | 4 5/8 | 3 5/8 | | | | | | | 5.0 |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

STANDARD SIGN
R6-3 & R6-3A

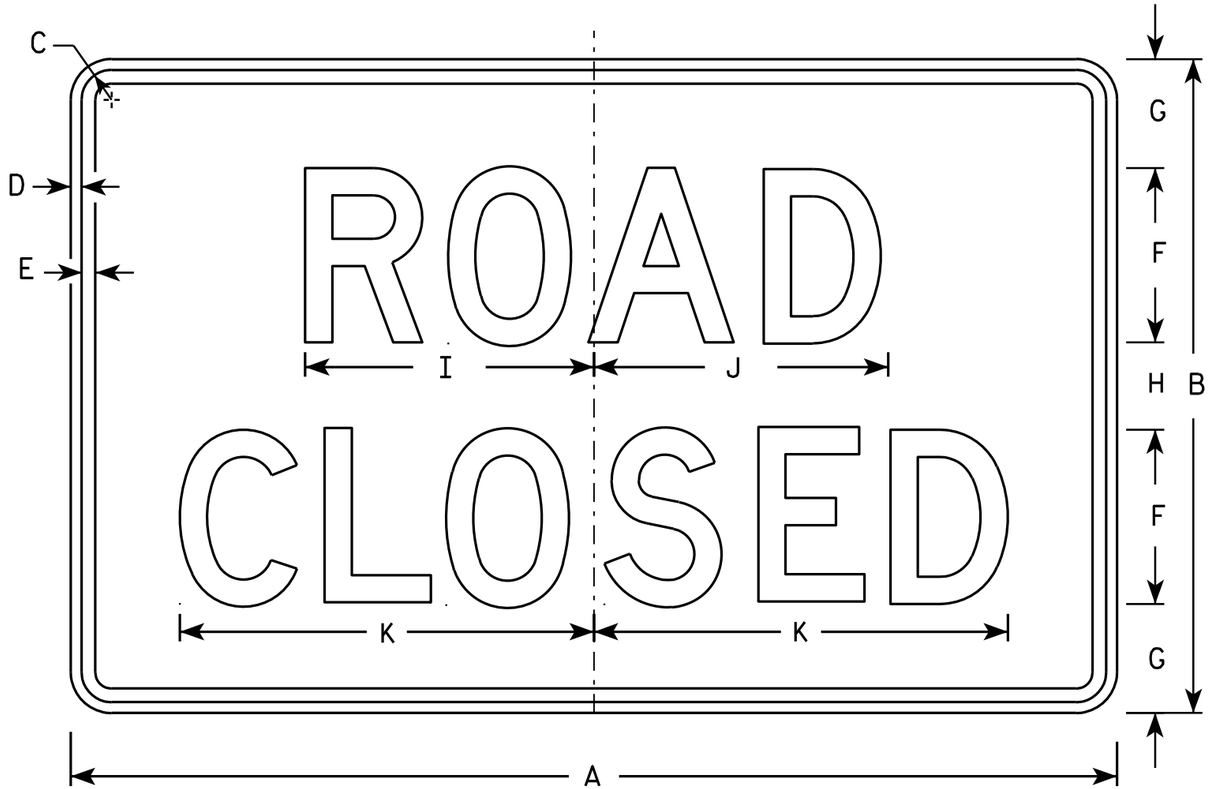
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R6-3.5

PROJECT NO:

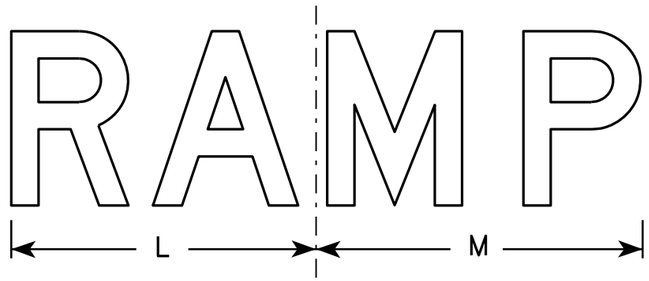
SHEET NO: 244 E



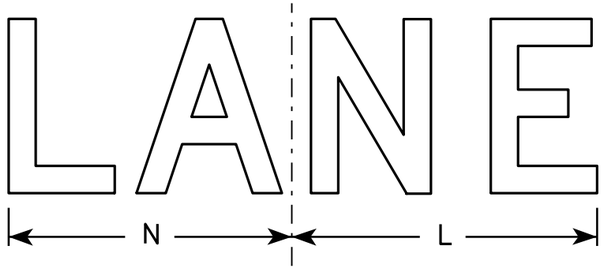

R11-2

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.
5. Modify the message as required.




R11-2R




R11-2L

| 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 | 13 1/4 | 13 1/2 | 19 | 14 | 15 | 13 | | | | | | | | | | | | | 10.0 |
| 2M | 48 | 30 | 1 3/8 | 1/2 | 5/8 | 8 | 5 | 4 | 13 1/4 | 13 1/2 | 19 | 14 | 15 | 13 | | | | | | | | | | | | | 10.0 |
| 3 | 48 | 30 | 1 3/8 | 1/2 | 5/8 | 8 | 5 | 4 | 13 1/4 | 13 1/2 | 19 | 14 | 15 | 13 | | | | | | | | | | | | | 10.0 |
| 4 | 48 | 30 | 1 3/8 | 1/2 | 5/8 | 8 | 5 | 4 | 13 1/4 | 13 1/2 | 19 | 14 | 15 | 13 | | | | | | | | | | | | | 10.0 |
| 5 | 48 | 30 | 1 3/8 | 1/2 | 5/8 | 8 | 5 | 4 | 13 1/4 | 13 1/2 | 19 | 14 | 15 | 13 | | | | | | | | | | | | | 10.0 |

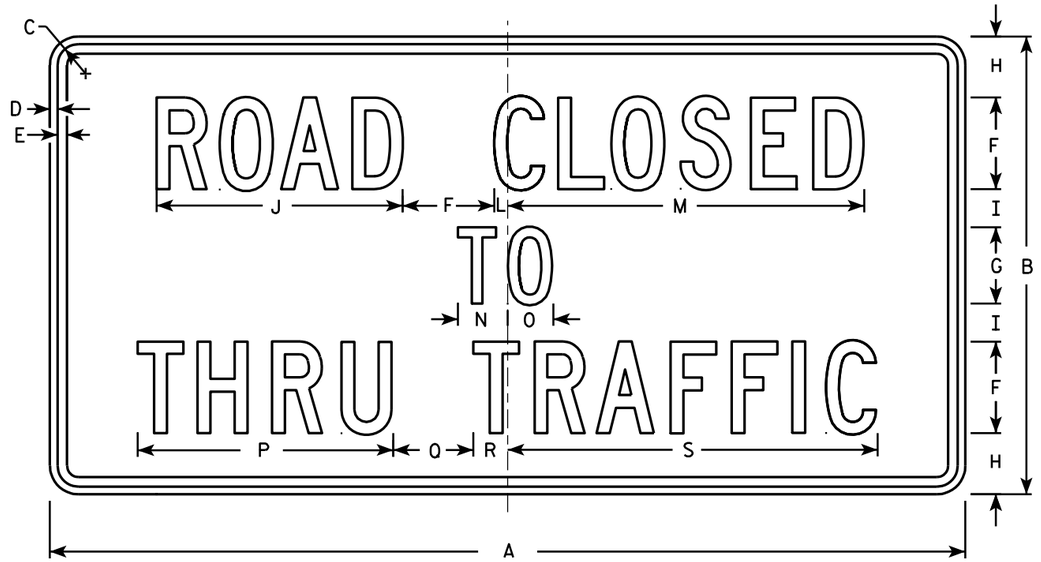
STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 245 | 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

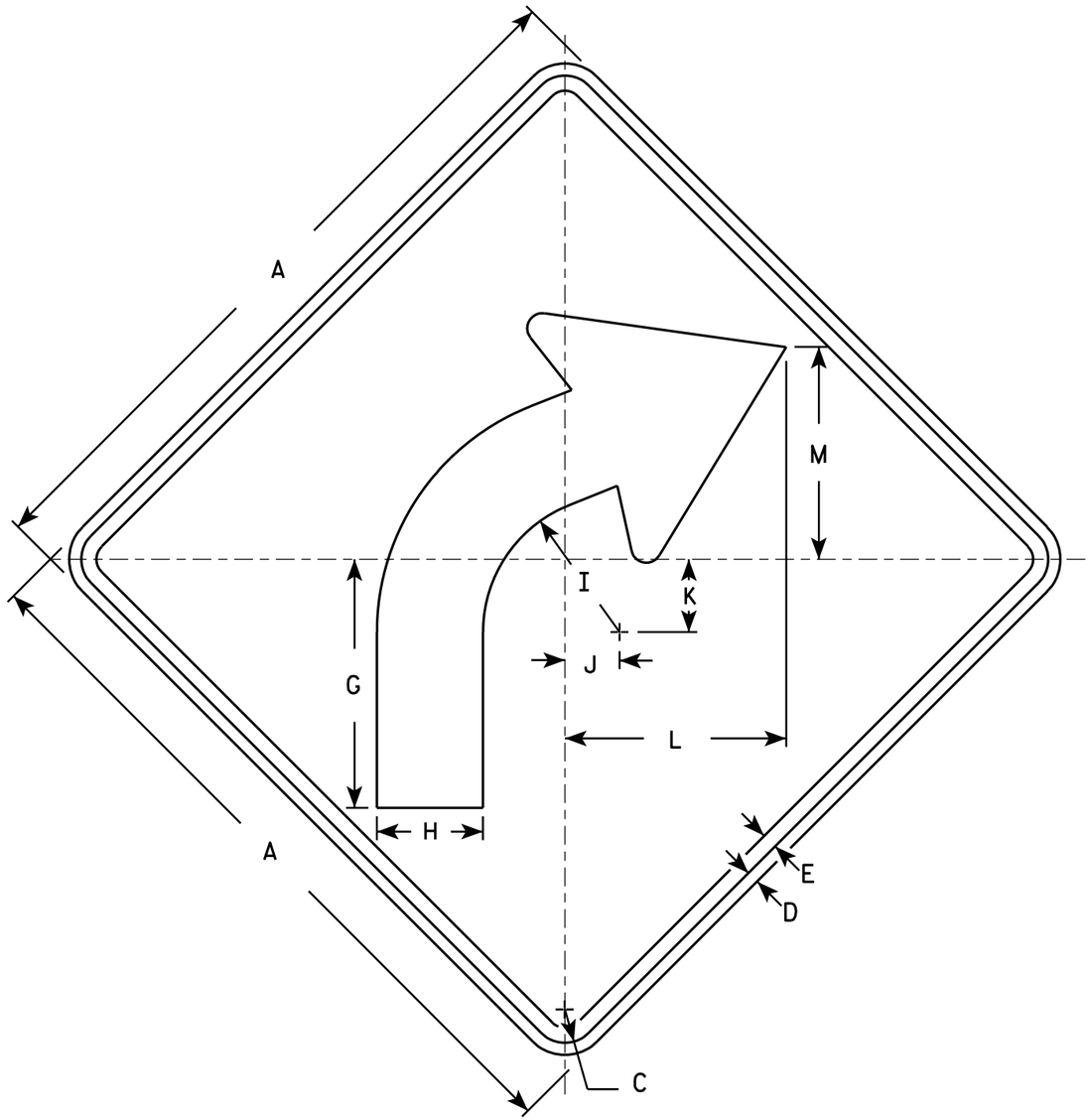
APPROVED Matthew R Rauch for State Traffic Engineer

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

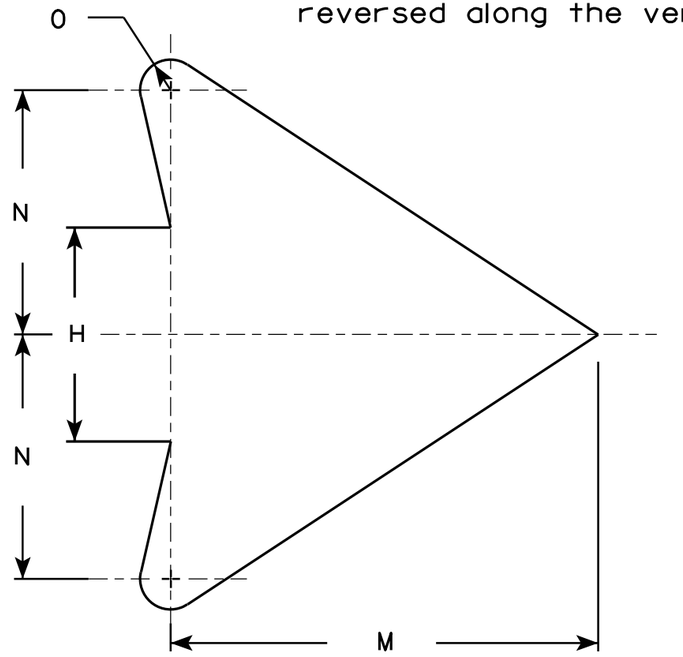
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 246 | E

## 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. W1-2L is the same as W1-2R except the arrow is reversed along the vertical centerline.




W1-2R




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 | 24 | | 1 1/8 | 3/8 | 1/2 | | 8 1/4 | 3 1/2 | 4 1/2 | 1 3/4 | 2 3/8 | 7 1/4 | 7 | 4 | 1/2 | | | | | | | | | | | | 4.0 |
| 2S | 30 | | 1 3/8 | 1/2 | 5/8 | | 10 1/4 | 4 3/8 | 5 5/8 | 2 1/4 | 3 | 9 1/8 | 8 3/4 | 5 | 5/8 | | | | | | | | | | | | 6.25 |
| 2M | 36 | | 1 5/8 | 5/8 | 3/4 | | 12 3/8 | 5 1/4 | 6 3/4 | 2 5/8 | 3 1/2 | 10 7/8 | 10 1/2 | 6 | 3/4 | | | | | | | | | | | | 9.0 |
| 3 | 36 | | 1 5/8 | 5/8 | 3/4 | | 12 3/8 | 5 1/4 | 6 3/4 | 2 5/8 | 3 1/2 | 10 7/8 | 10 1/2 | 6 | 3/4 | | | | | | | | | | | | 9.0 |
| 4 | 36 | | 1 5/8 | 5/8 | 3/4 | | 12 3/8 | 5 1/4 | 6 3/4 | 2 5/8 | 3 1/2 | 10 7/8 | 10 1/2 | 6 | 3/4 | | | | | | | | | | | | 9.0 |
| 5 | 48 | | 2 1/4 | 3/4 | 1 | | 16 1/2 | 7 | 9 | 3 1/2 | 4 5/8 | 14 1/2 | 14 | 8 | 1 | | | | | | | | | | | | 16.0 |

# STANDARD SIGN
# W1-2

WISCONSIN DEPT OF TRANSPORTATION

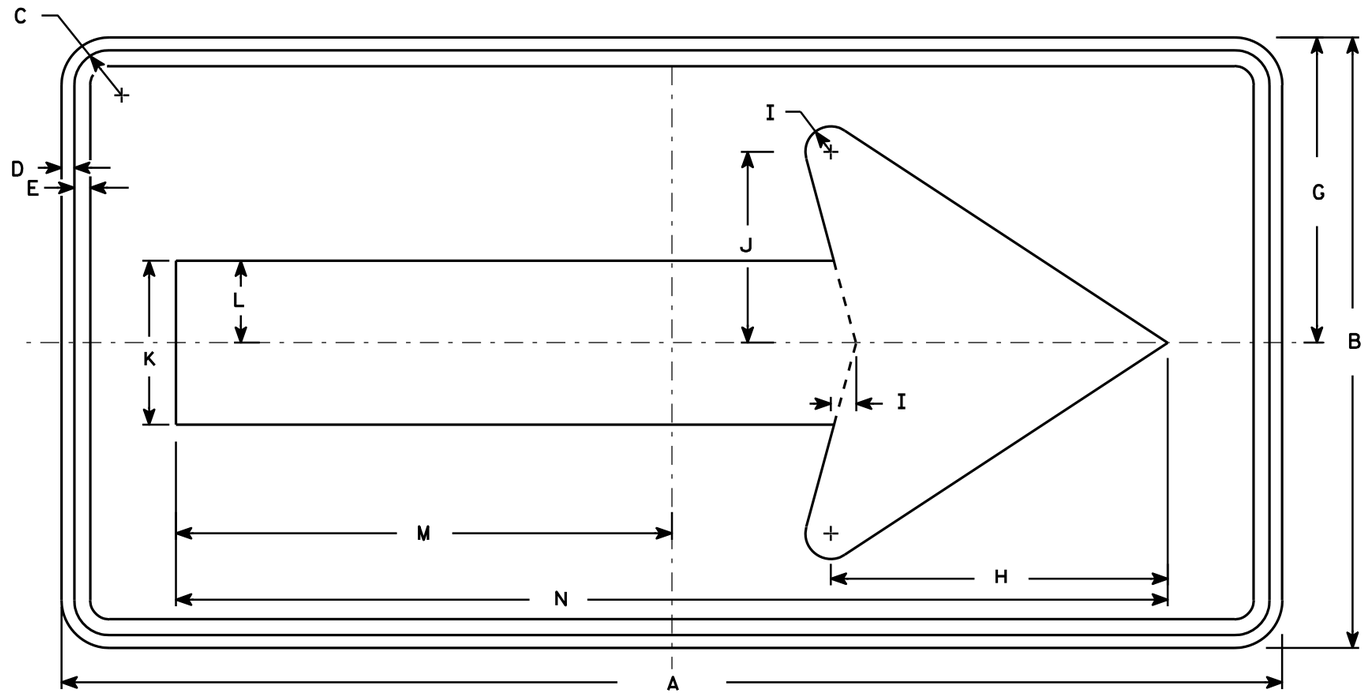
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 5/15/12 PLATE NO. W1-2.10

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 247 | 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.




W1-6

| 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 | 36 | 18 | 1 1/8 | 3/8 | 3/8 | | 9 | 10 | 3/4 | 5 5/8 | 4 3/4 | 2 3/8 | 14 5/8 | 29 1/4 | | | | | | | | | | | | | 4.5 |
| 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 | 96 | 48 | 2 1/4 | 3/4 | 1 | | 24 | 26 1/2 | 2 | 15 | 13 | 6 1/2 | 39 | 78 | | | | | | | | | | | | | 32.0 |

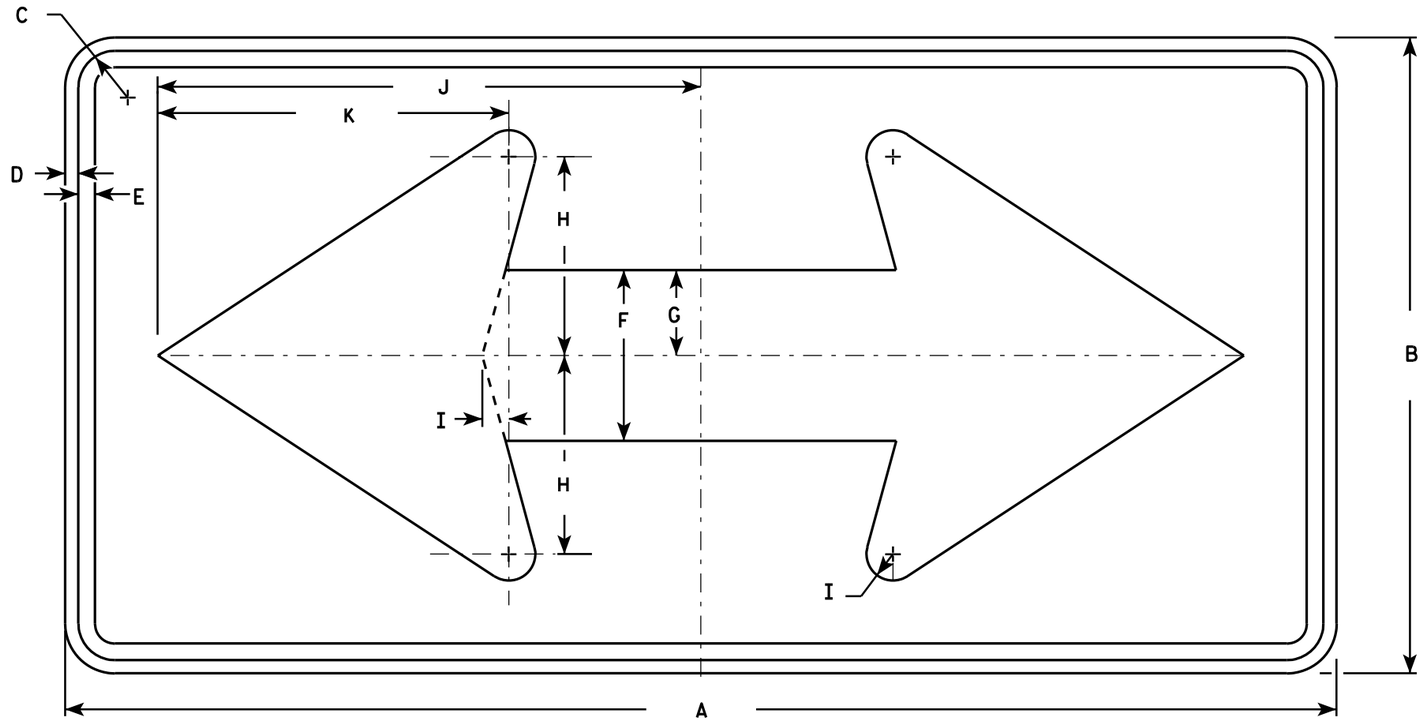
STANDARD SIGN
W1-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-6.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 248




W1-7

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.

| 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 1/8 | 3/8 | 1/2 | 5 | 2 1/2 | 5 3/4 | 3/4 | 15 5/8 | 10 1/8 | | | | | | | | | | | | | | | | 4.5 |
| 2S | 48 | 24 | 1 3/8 | 1/2 | 5/8 | 6 1/2 | 3 1/4 | 7 1/2 | 1 | 20 1/2 | 13 1/4 | | | | | | | | | | | | | | | | 8.0 |
| 2M | 48 | 24 | 1 3/8 | 1/2 | 5/8 | 6 1/2 | 3 1/4 | 7 1/2 | 1 | 20 1/2 | 13 1/4 | | | | | | | | | | | | | | | | 8.0 |
| 3 | 60 | 30 | 1 3/8 | 1/2 | 5/8 | 8 | 4 | 9 1/4 | 1 1/4 | 25 3/8 | 16 1/4 | | | | | | | | | | | | | | | | 12.5 |
| 4 | 60 | 30 | 1 3/8 | 1/2 | 5/8 | 8 | 4 | 9 1/4 | 1 1/4 | 25 3/8 | 16 1/4 | | | | | | | | | | | | | | | | 12.5 |
| 5 | 96 | 48 | 2 1/4 | 3/4 | 1 | 13 | 6 1/2 | 15 | 2 | 41 | 26 1/2 | | | | | | | | | | | | | | | | 32.0 |

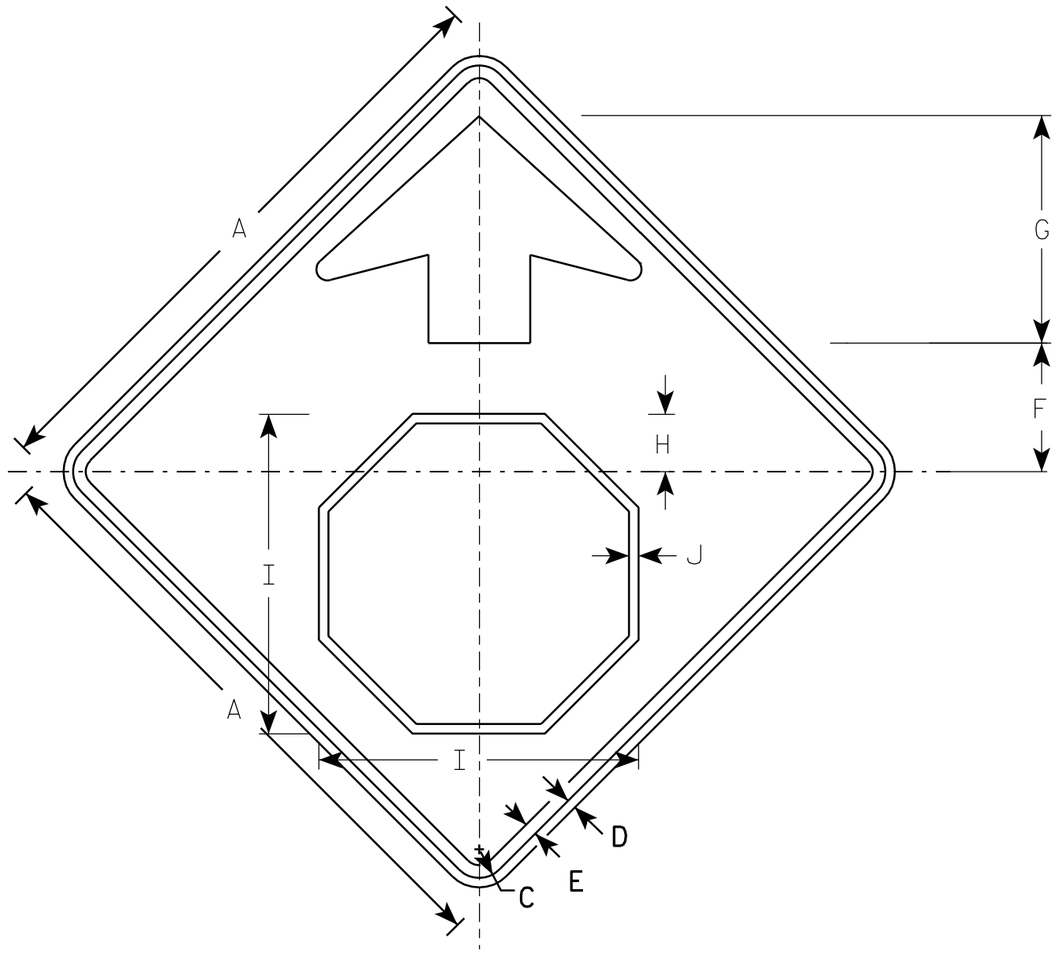
STANDARD SIGN
W1-7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-7.7

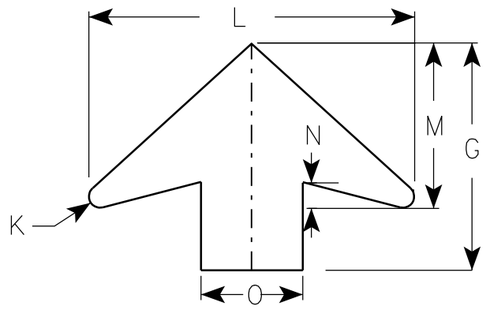
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 249 | E




W3-1

NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - YELLOW
   Arrow & Border - BLACK
   Stop Symbol - WHITE BORDER ON RED BACKGROUND




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 | 30 | | 1 3/8 | 1/2 | 5/8 | 6 1/4 | 11 1/4 | 2 7/8 | 15 3/4 | 1/2 | 1/2 | 16 | 8 | 1 1/4 | 5 | | | | | | | | | | | | 6.25 |
| 2S | 36 | | 1 5/8 | 5/8 | 3/4 | 7 1/2 | 13 1/2 | 3 1/2 | 19 | 5/8 | 5/8 | 19 1/4 | 9 3/4 | 1 5/8 | 6 | | | | | | | | | | | | 9.0 |
| 2M | 36 | | 1 5/8 | 5/8 | 3/4 | 7 1/2 | 13 1/2 | 3 1/2 | 19 | 5/8 | 5/8 | 19 1/4 | 9 3/4 | 1 5/8 | 6 | | | | | | | | | | | | 9.0 |
| 3 | 36 | | 1 5/8 | 5/8 | 3/4 | 7 1/2 | 13 1/2 | 3 1/2 | 19 | 5/8 | 5/8 | 19 1/4 | 9 3/4 | 1 5/8 | 6 | | | | | | | | | | | | 9.0 |
| 4 | 48 | | 2 1/4 | 3/4 | 1 | 10 | 17 7/8 | 4 1/2 | 25 1/8 | 3/4 | 7/8 | 25 5/8 | 13 | 2 | 8 | | | | | | | | | | | | 16.0 |
| 5 | 48 | | 2 1/4 | 3/4 | 1 | 10 | 17 7/8 | 4 1/2 | 25 1/8 | 3/4 | 7/8 | 25 5/8 | 13 | 2 | 8 | | | | | | | | | | | | 16.0 |

STANDARD SIGN
W3-1

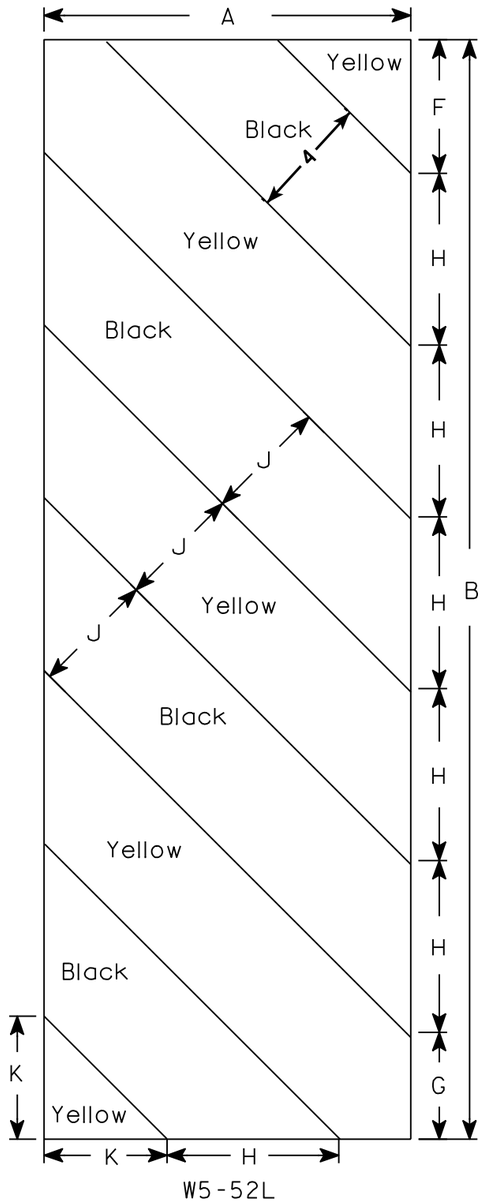
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

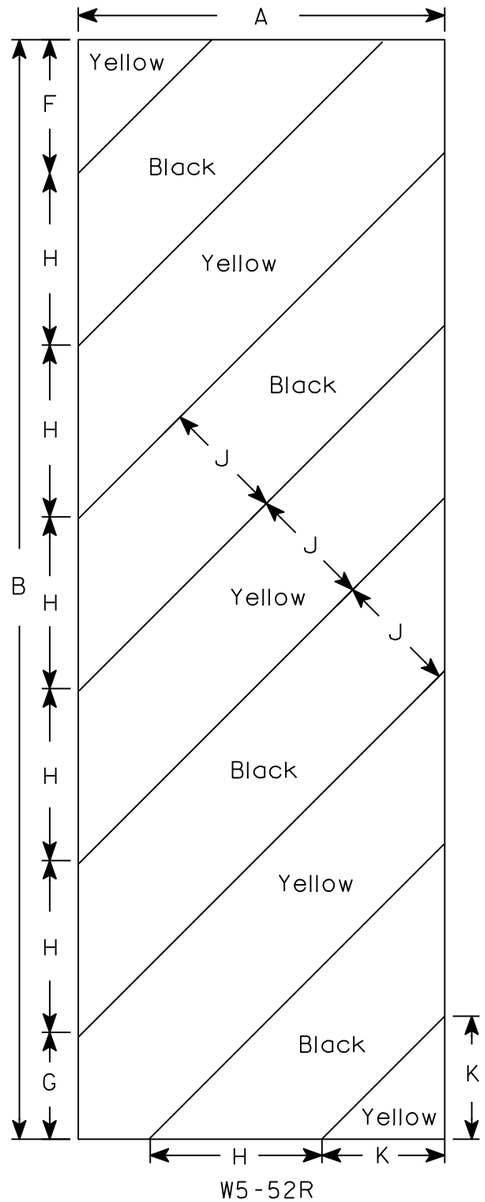
DATE 6/7/10 PLATE NO. W3-1.12

PROJECT NO:

SHEET NO: 250 E




W5-52L




W5-52R

NOTES

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

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

STANDARD SIGN

W5-52L & W5-52R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

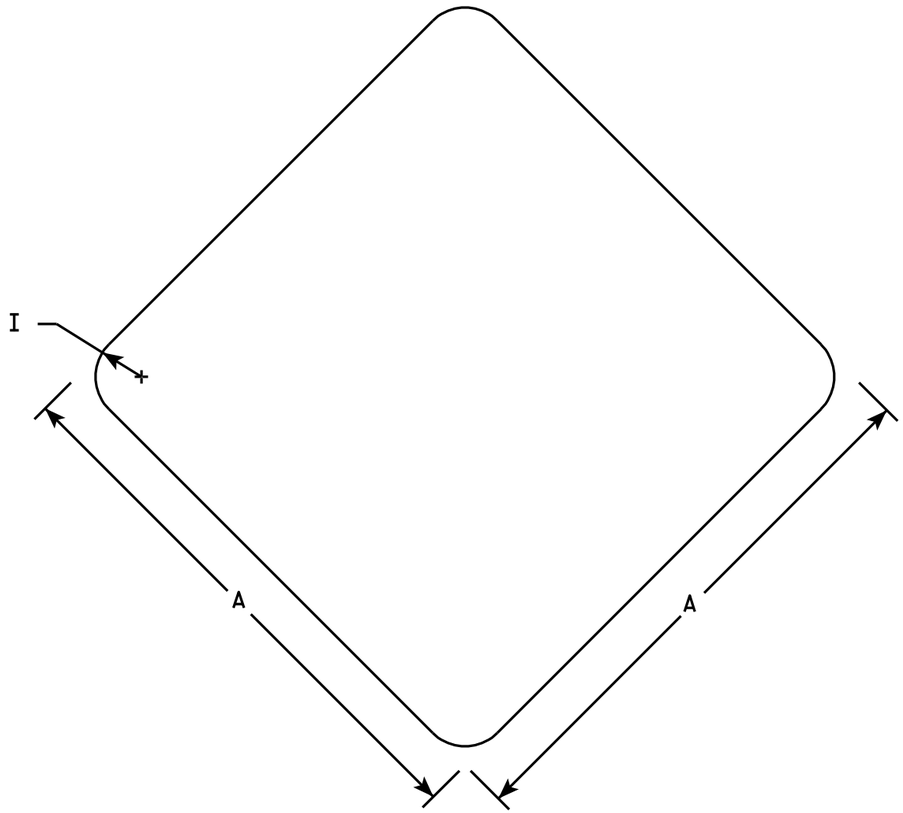
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 251 | E |
|---|---|---|---|---|---|

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W552.DGN PLOT DATE : 29-MAY-2012 13:03 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 4.961899:1.000000

WISDOT/CADDS SHEET 42

7

7




W5-56

NOTES

1. Sign is Type II - Type SH Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
3. Corners may be square or rounded when base material is plywood. When base material is metal the corners 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 | 12 | | | | | | | | 1 | | | | | | | | | | | | | | | | | | 1.0 |
| 2S | 18 | | | | | | | | 1 ½ | | | | | | | | | | | | | | | | | | 2.25 |
| 2M | 18 | | | | | | | | 1 ½ | | | | | | | | | | | | | | | | | | 2.25 |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

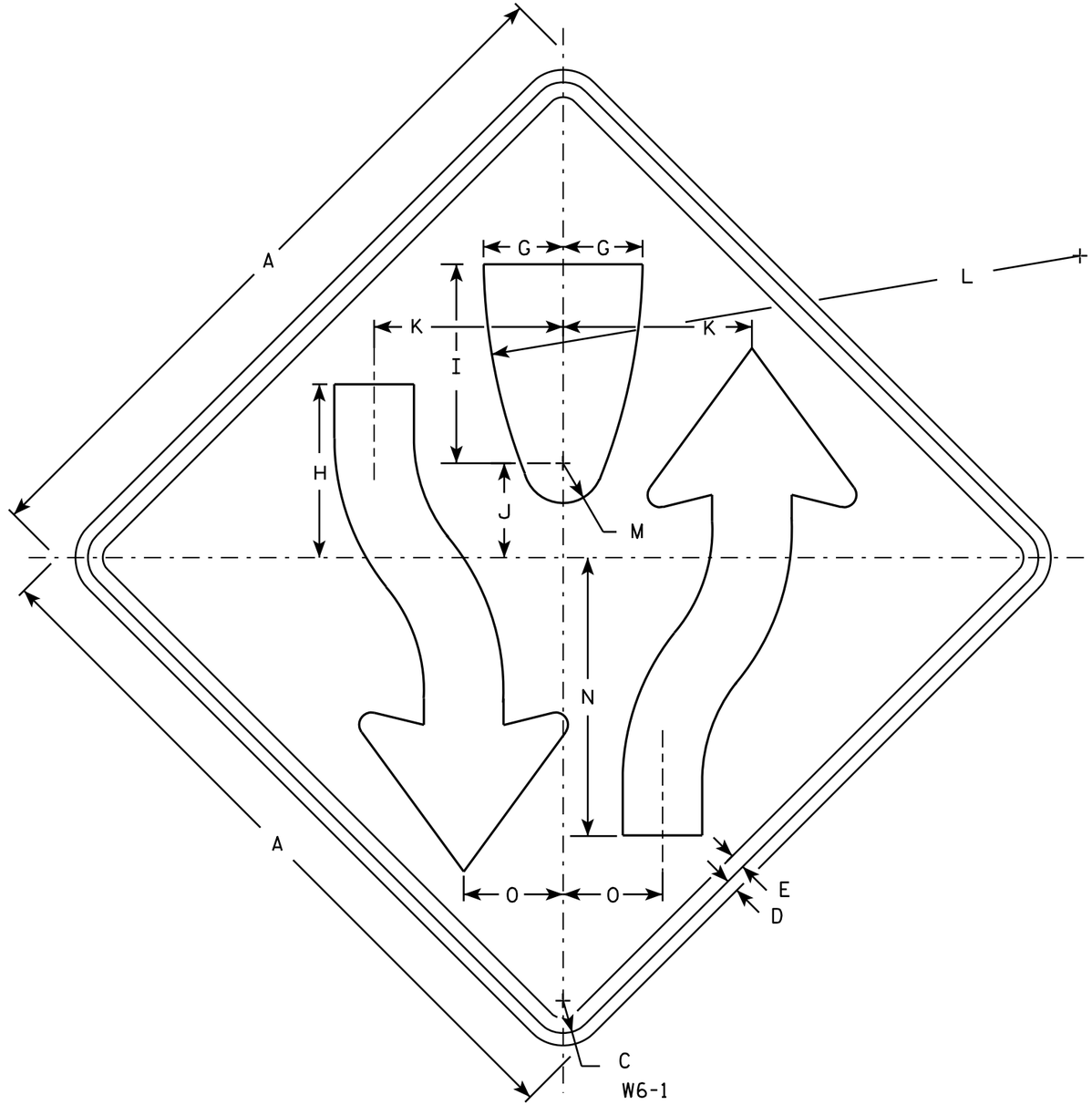
STANDARD SIGN
W5-56

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

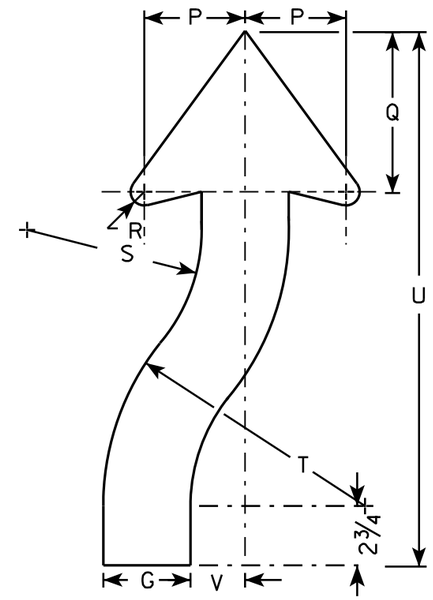
DATE 11/2/10 PLATE NO. W5-56.6

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 252 | 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. W6-2 same as W6-1 but is rotated 180° when mounted.




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 | 30 | | 1 3/8 | 1/2 | 5/8 | | 3 1/4 | 8 | 8 1/4 | 4 1/8 | 7 7/8 | 25 | 1 3/4 | 11 5/8 | 4 1/8 | 3 7/8 | 6 3/4 | 5/8 | 6 5/8 | 9 7/8 | 21 5/8 | 2 | | | | | 6.25 |
| 2S | 36 | | 1 5/8 | 5/8 | 3/4 | | 4 | 8 3/4 | 10 | 4 3/4 | 9 1/2 | 30 | 2 | 14 | 5 | 4 5/8 | 7 3/8 | 7/8 | 8 | 12 | 24 1/2 | 2 1/2 | | | | | 9.0 |
| 2M | 36 | | 1 5/8 | 5/8 | 3/4 | | 4 | 8 3/4 | 10 | 4 3/4 | 9 1/2 | 30 | 2 | 14 | 5 | 4 5/8 | 7 3/8 | 7/8 | 8 | 12 | 24 1/2 | 2 1/2 | | | | | 9.0 |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 48 | | 2 1/4 | 3/4 | 1 | | 5 3/8 | 11 5/8 | 13 3/8 | 6 3/8 | 12 5/8 | 40 | 2 5/8 | 18 5/8 | 6 5/8 | 6 1/4 | 9 7/8 | 1 1/4 | 10 5/8 | 16 | 32 5/8 | 3 3/8 | | | | | 16.0 |
| 5 | 48 | | 2 1/4 | 3/4 | 1 | | 5 3/8 | 11 5/8 | 13 3/8 | 6 3/8 | 12 5/8 | 40 | 2 5/8 | 18 5/8 | 6 5/8 | 6 1/4 | 9 7/8 | 1 1/4 | 10 5/8 | 16 | 32 5/8 | 3 3/8 | | | | | 16.0 |

# STANDARD SIGN
## W6-1 & W6-2

WISCONSIN DEPT OF TRANSPORTATION

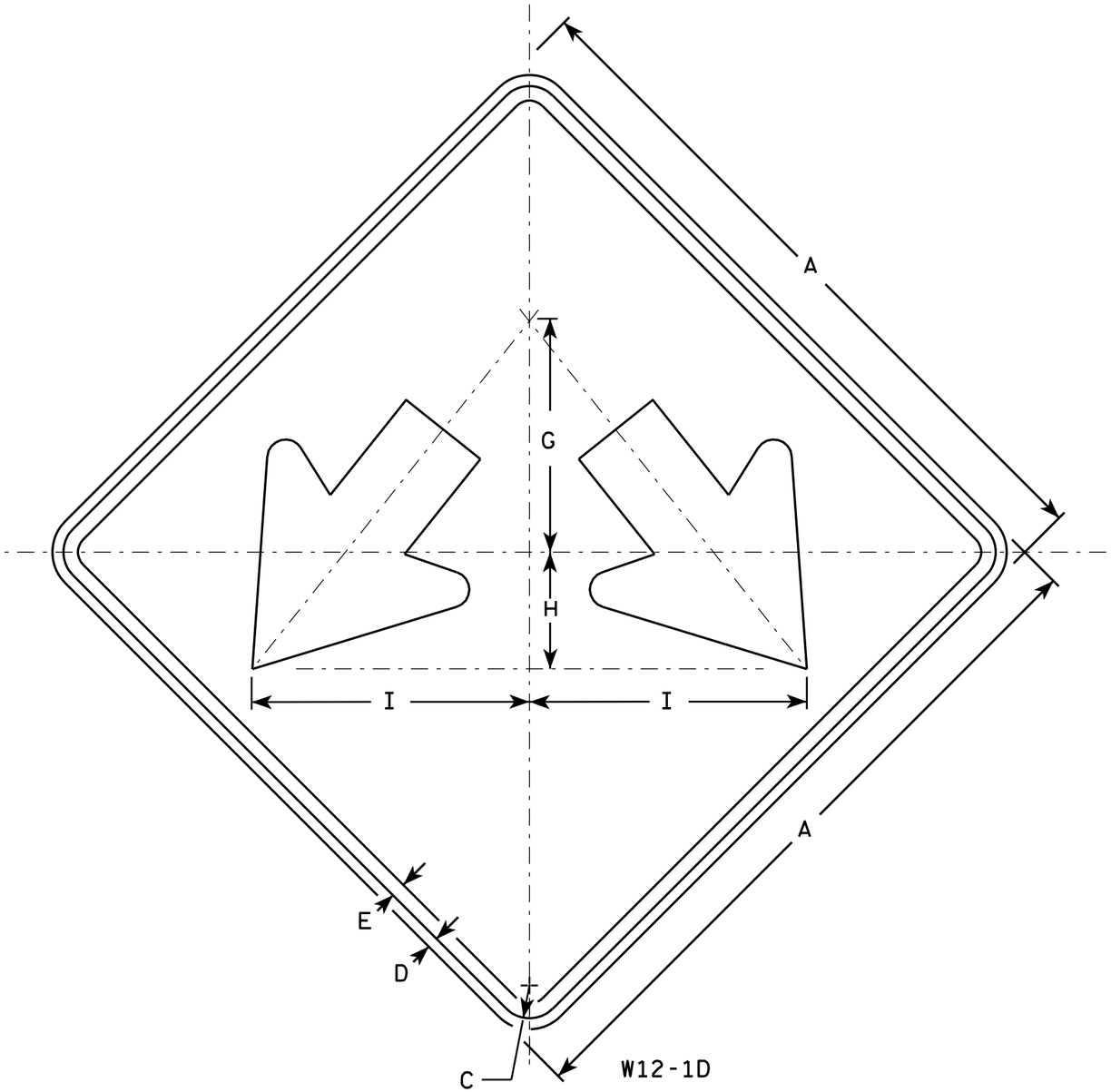
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 03/12/13 PLATE NO. W6-1.14

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 253 | E |
|---|---|---|---|---|---|

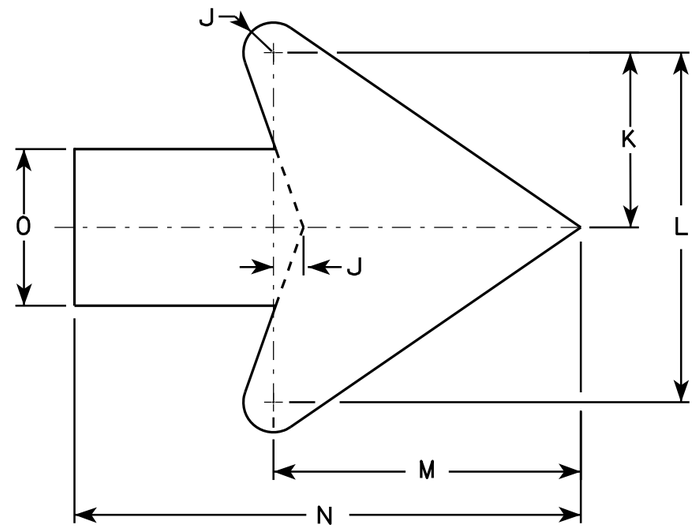

7

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\W61.DGN PLOT DATE : 12-MAR-2013 14:02 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 6.946657:1.000000
WISDOT/CADDS SHEET 42




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.




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 | | 1 1/8 | 1/2 | 3/8 | | 8 | 4 | 9 1/2 | 3/8 | 3 3/8 | 7 1/4 | 6 3/8 | 10 3/8 | 3 1/4 | | | | | | | | | | | | 4.0 |
| 2M | 24 | | 1 1/8 | 1/2 | 3/8 | | 8 | 4 | 9 1/2 | 3/8 | 3 3/8 | 7 1/4 | 6 3/8 | 10 3/8 | 3 1/4 | | | | | | | | | | | | 4.0 |
| 3 | 30 | | 1 3/8 | 1/2 | 5/8 | | 10 | 5 | 11 7/8 | 3/4 | 4 1/2 | 9 | 7 7/8 | 13 | 4 | | | | | | | | | | | | 6.25 |
| 4 | 36 | | 1 3/8 | 1/2 | 5/8 | | 12 | 6 | 14 1/4 | 1 | 5 1/2 | 10 7/8 | 9 5/8 | 15 3/4 | 4 3/4 | | | | | | | | | | | | 9.0 |
| 5 | 48 | | 2 1/4 | 3/4 | 1 | | 16 | 8 | 19 | 1 1/4 | 7 1/4 | 14 1/2 | 12 3/4 | 21 | 6 1/4 | | | | | | | | | | | | 16.0 |

STANDARD SIGN
W12-1D

WISCONSIN DEPT OF TRANSPORTATION

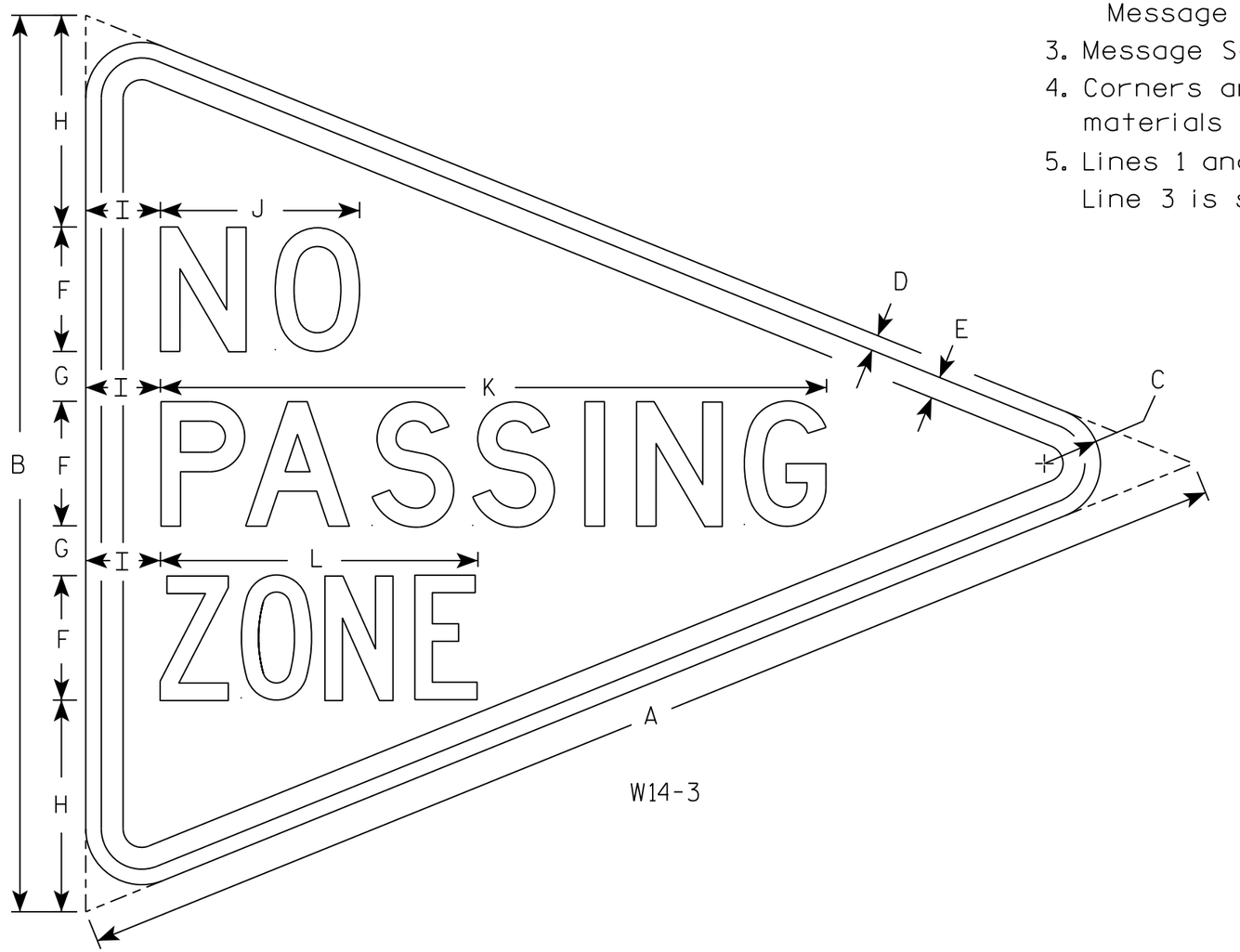
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W12-1D.15

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 254 | E |
|---|---|---|---|---|---|

NOTES

1. Sign is Type II- Type F Reflective
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - See note 5
4. Corners and borders shall be rounded on all base materials for this sign.
5. Lines 1 and 2 are Series D.
   Line 3 is series C.




W14-3

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

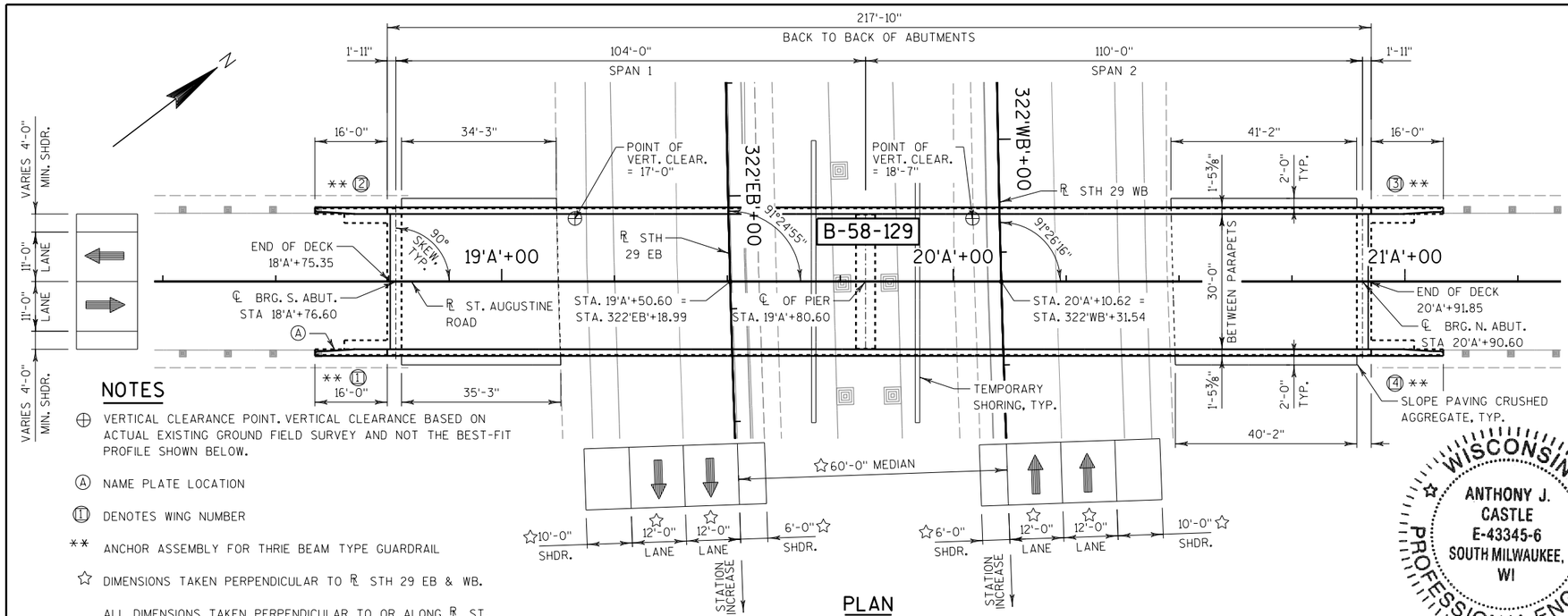
STANDARD SIGN
W14-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

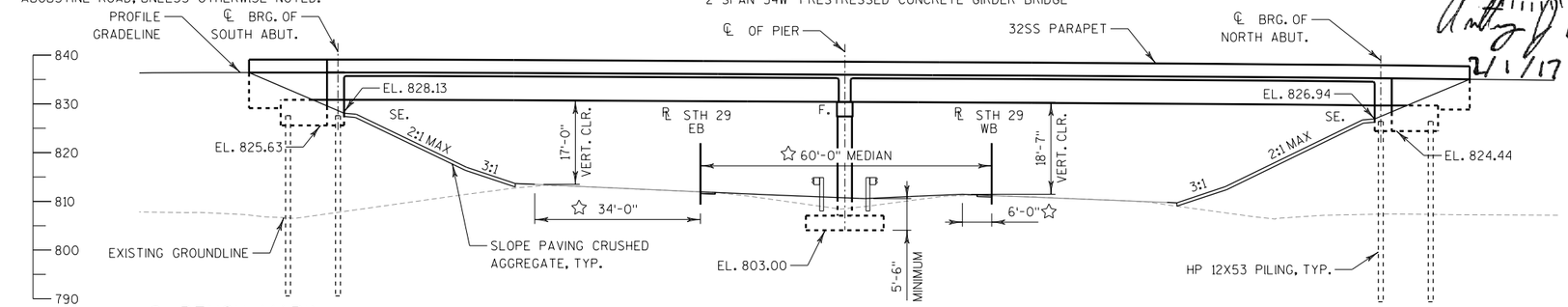
DATE 2/23/17 PLATE NO. W14-3.10

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 255 | E |
|---|---|---|---|---|---|




## PLAN

2 SPAN 54W" PRESTRESSED CONCRETE GIRDER BRIDGE

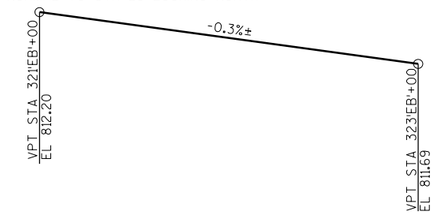



## BENCH MARK

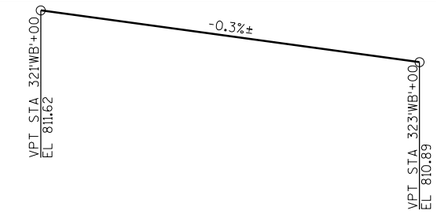
| NO. | STATION | DESCRIPTION | ELEV. |
|---|---|---|---|
| 603 | 324'EB'+87.876'(RT) | SET RR SPIKE IN POWER POLE | 812.51 |

## ELEVATION

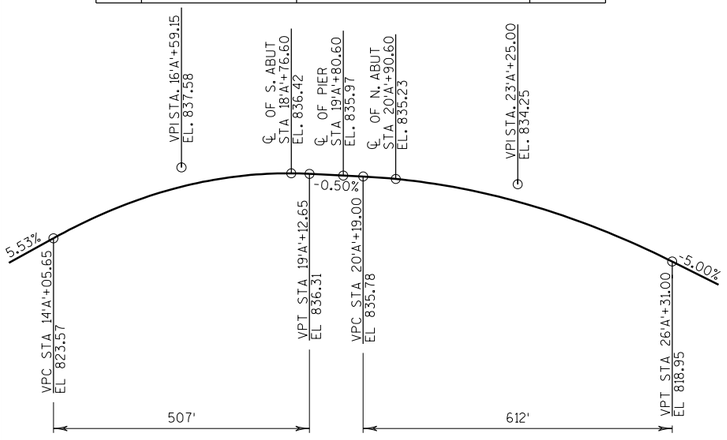
NORMAL TO STH 29 LOOKING NORTH




## BEST FIT PROFILE GRADE LINE - STH 29 EB




## BEST FIT PROFILE GRADE LINE - STH 29 WB




## PROFILE GRADE LINE - ST. AUGUSTINE ROAD

## NOTES

⊕ VERTICAL CLEARANCE POINT. VERTICAL CLEARANCE BASED ON ACTUAL EXISTING GROUND FIELD SURVEY AND NOT THE BEST-FIT PROFILE SHOWN BELOW.

Ⓐ NAME PLATE LOCATION

⑪ DENOTES WING NUMBER

** ANCHOR ASSEMBLY FOR THRIE BEAM TYPE GUARDRAIL

☆ DIMENSIONS TAKEN PERPENDICULAR TO ℄ STH 29 EB & WB.

ALL DIMENSIONS TAKEN PERPENDICULAR TO OR ALONG ℄ ST. AUGUSTINE ROAD, UNLESS OTHERWISE NOTED.

## HORIZONTAL ALIGNMENT

STH 29 EB ℄
PI STA= 327+62.13
Y = 205904.21
X = 945550.44
DELTA= 37°47'22" LT.
T= 1307.39'
L= 2519.29'
R= 3819.72'
PC STA.= 314+54.74
PT STA.= 339+74.04

STH 29 WB ℄
PI STA= 327+64.55
Y = 205960.10
X = 954580.42
DELTA= 37°47'22" LT.
T= 1286.85'
L= 2479.72'
R= 3759.72'
PC STA.= 314+77.70
PT STA.= 339+57.42

## LIST OF DRAWINGS


1. GENERAL PLAN & ELEVATION
2. CROSS SECTION AND QUANTITIES
3. SUBSURFACE EXPLORATION
4. SOUTH ABUTMENT
5. SOUTH ABUTMENT WING DETAILS
6. SOUTH ABUTMENT DETAIL
7. NORTH ABUTMENT
8. NORTH ABUTMENT WING DETAILS
9. NORTH ABUTMENT DETAILS
10. PIER
11. PIER DETAILS
12. PIER FOOTING
13. 54W" PRESTRESSED GIRDER
14. 54W" PRESTRESSED GIRDER DETAILS
15. STEEL DIAPHRAGM
16. SUPERSTRUCTURE PLAN & CROSS SECTION
17. SUPERSTRUCTURE DETAILS
18. SINGLE SLOPE PARAPET 32SS
19. SLOPE PAVING CRUSHED AGGREGATE


## STRUCTURE DESIGN CONTACTS

BRIDGE OFFICE: WILLIAM DREHER (608) 266-8489
CONSULTANT: MICHAEL D. RADTKE (414) 347-1607

## DESIGN DATA

STATE PROJECT NUMBER 1058-25-70

LIVE LOAD:
DESIGN LOADING: HL-93
INVENTORY RATING: RF = 1.30
OPERATING RATING: RF = 1.69
WISCONSIN STANDARD PERMIT VEHICLE (WIS-SPV): 250 KIPS

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

MATERIAL PROPERTIES:
CONCRETE MASONRY
SUPERSTRUCTURE ..... f'c = 4,000 psi
ALL OTHER ..... f'c = 3,500 psi

STRUCTURAL CARBON STEEL,
ASTM A709, GRADE 36 .....fy = 36,000 psi

BAR STEEL REINFORCEMENT,
HIGH STRENGTH, GRADE 60 .....fy = 60,000 psi

54W-INCH PRESTRESSED GIRDERS,
CONCRETE MASONRY .....f'c = 8,000 psi
.....f'ci = 6,800 psi

0.6" DIA. PRESTRESSING STRANDS f's = 270,000 psi

FOUNDATION DATA:
ABUTMENTS TO BE SUPPORTED ON HP 12X53 STEEL PILES (WITH PILE POINTS) DRIVEN TO THE FOLLOWING REQUIRED DRIVING RESISTANCE AS DETERMINED BY THE MODIFIED GATES DYNAMIC EQUATION.

REQUIRED DRIVING RESISTANCE*:
SOUTH ABUTMENT: 220 TONS
NORTH ABUTMENT: 220 TONS

ESTIMATED PILE LENGTH:
SOUTH ABUTMENT: 35 FEET
NORTH ABUTMENT: 35 FEET

PIER COLUMNS TO BE SUPPORTED ON SPREAD FOOTING. THE MINIMUM FACTORED BEARING RESISTANCE OF THE SOIL DIRECTLY BELOW THE SPREAD FOOTING SHALL BE 6500 PSF***. GEOTECHNICAL ENGINEER WILL VISUALLY INSPECT TO VERIFY SOIL MEETS BEARING RESISTANCE AND REQUIREMENTS OF THE GEOTECHNICAL REPORT. CONTRACTOR TO NOTIFY GEOTECHNICAL ENGINEER A MINIMUM ONE WEEK PRIOR TO START OF EXCAVATION ACTIVITIES.

*THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS THE REQUIRED DRIVING RESISTANCE MULTIPLIED BY A RESISTANCE FACTOR OF 0.50 USING THE MODIFIED GATES METHOD TO DETERMINE PILE CAPACITY.

***THE FACTORED BEARING RESISTANCE IS THE VALUE USED FOR DESIGN.

TRAFFIC DATA:

| ST. AUGUSTINE ROAD | STH 29 |
|---|---|
| A.D.T. = 460 (2017) | A.D.T. = 15,300 (2017) |
| A.D.T. = 510 (2037) | A.D.T. = 16,800 (2037) |
| R.D.S. = 45 M.P.H. | R.D.S. = 70 M.P.H. |

WISCONSIN
ANTHONY J. CASTLE
E-43345-6
SOUTH MILWAUKEE, WI
PROFESSIONAL ENGINEER
2/1/17

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


emcs LLC
1300 W. Canal Street, Suite 200
Milwaukee, WI 53233
414.347.1607 Fax 414.347.1347


STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher SDR 02/07/17
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-58-129

ST. AUGUSTINE ROAD OVER STH 29

| COUNTY | TOWN |
|---|---|
| SHAWANO | MAPLE GROVE |

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

| DESIGNED BY | AJC | DESIGN CK'D. | MDR | DRAWN BY | AJC | PLANS CK'D. | MDR |
|---|---|---|---|---|---|---|---|

GENERAL PLAN & ELEVATION

SHEET 1 OF 19
256

STATE PROJECT NUMBER

1058-25-70

## GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED.

ALL STATIONS AND ALL ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO THE NAVD 88 DATUM.

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

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

ALL REINFORCING BARS ARE ENGLISH DESIGNATION AND THE FIRST DIGIT OF A 3-DIGIT BAR MARK OR FIRST TWO DIGITS OF A 4-DIGIT BAR MARK SIGNIFY THE BAR SIZE.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

JOINT FILLER SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M153 TYPE 1, 2, OR 3, OR AASHTO M213.

THE EXISTING GROUNDLINE SHALL BE USED AS THE UPPER LIMITS OF EXCAVATION AT THE PIER.

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

THE HAUNCH CONCRETE QUANTITY IS BASED ON THE AVERAGE HAUNCH SHOWN ON THE PRESTRESSED GIRDER DETAILS SHEET.

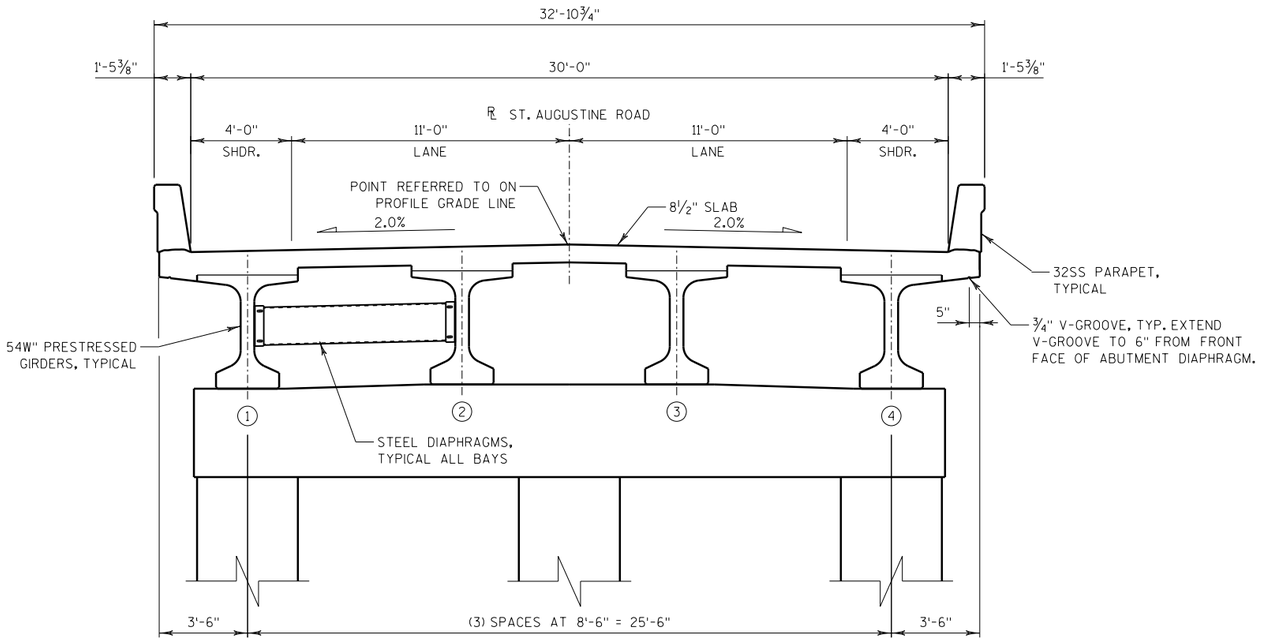
THE SLOPE OF THE FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH SLOPE PAVING MATERIAL TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS.

APPLY PROTECTIVE SURFACE TREATMENT TO TOP OF BRIDGE DECK AND PAVING NOTCH SURFACES. APPLY PIGMENTED SURFACE SEALER TO TOP AND INSIDE FACES OF PARAPETS.

THE QUANTITY FOR BACKFILL STRUCTURE, BID ITEM 210.0150, IS CALCULATED BASED ON THE APPLICABLE FIGURES 12.6-2 IN THE WISCONSIN DEPARTMENT OF TRANSPORTATION BRIDGE MANUAL.

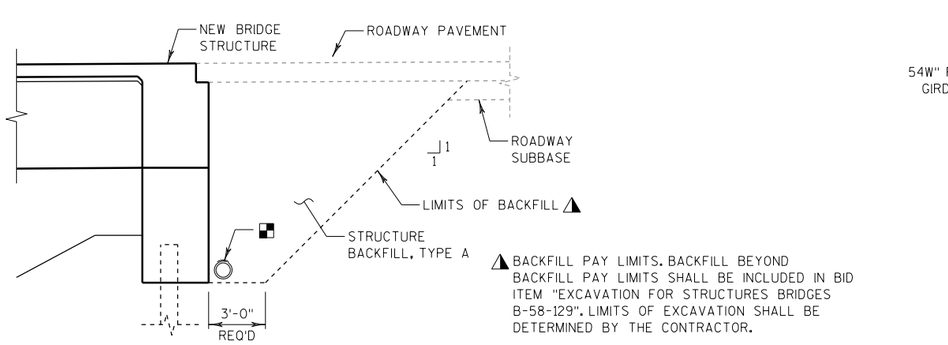
## TOTAL ESTIMATED QUANTITIES

| BID ITEM NO. | BID ITEMS | UNIT | SOUTH ABUT. | PIER | NORTH ABUT. | SUPER | TOTAL |
|---|---|---|---|---|---|---|---|
| 206.1000 | EXCAVATION FOR STRUCTURES BRIDGES B-58-0129 | LS | - | - | - | - | 1 |
| 210.1500 | BACKFILL STRUCTURE TYPE A | TON | 233 | 1090 | 231 | - | 1554 |
| 502.0100 | CONCRETE MASONRY BRIDGES | CY | 44 | 128 | 43 | 310 | 525 |
| 502.3200 | PROTECTIVE SURFACE TREATMENT | SY | - | - | - | 733 | 733 |
| 502.3210 | PIGMENTED SURFACE SEALER | SY | 14 | - | 14 | 181 | 209 |
| 503.0155 | PRESTRESSED GIRDER TYPE I 54W-INCH | LF | - | - | - | 860 | 860 |
| 505.0400 | BAR STEEL REINFORCEMENT HS STRUCTURES | LB | 2110 | 6390 | 2110 | - | 10610 |
| 505.0600 | BAR STEEL REINFORCEMENT HS COATED STRUCTURES | LB | 2820 | 15600 | 2820 | 61530 | 82770 |
| 506.2605 | BEARING PADS ELASTOMERIC NON-LAMINATED | EACH | 4 | 8 | 4 | - | 16 |
| 506.4000 | STEEL DIAPHRAGMS B-58-0129 | EACH | - | - | - | 12 | 12 |
| 511.1200 | TEMPORARY SHORING B-58-0129 | SF | - | 1720 | - | - | 1720 |
| 516.0500 | RUBBERIZED MEMBRANE WATERPROOFING | SY | 13 | - | 13 | - | 26 |
| 550.0500 | PILE POINTS | EACH | 8 | - | 8 | - | 16 |
| 550.1120 | PILING STEEL HP 12-INCH X 53 LB | LF | 280 | - | 280 | - | 560 |
| 604.0500 | SLOPE PAVING CRUSHED AGGREGATE | SY | 160 | - | 185 | - | 345 |
| 612.0406 | PIPE UNDERDRAIN WRAPPED 6-INCH | LF | 95 | - | 95 | - | 190 |
| 614.0150 | ANCHOR ASSEMBLIES FOR STEEL PLATE BEAM GUARD | EACH | 2 | - | 2 | - | 4 |
| | NON-BID ITEMS | | | | | | |
| | NON-BITUMINOUS JOINT SEALER | SIZE | - | | - | - | - |
| | PREFORMED JOINT FILLER | SIZE | - | | - | - | 1/2" & 3/4" |




## PROPOSED CROSS SECTION

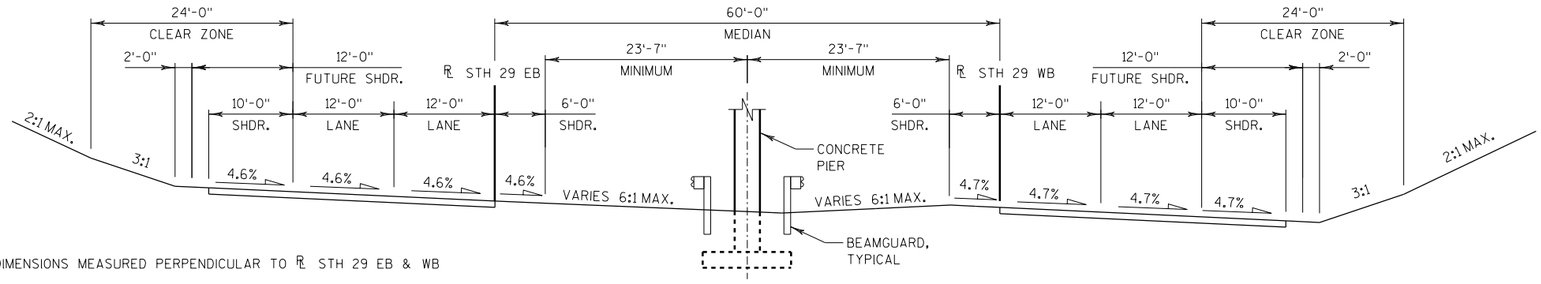
(LOOKING NORTH)




⚠ BACKFILL PAY LIMITS. BACKFILL BEYOND BACKFILL PAY LIMITS SHALL BE INCLUDED IN BID ITEM "EXCAVATION FOR STRUCTURES BRIDGES B-58-129". LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

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

## TYPICAL SECTION THROUGH ABUTMENT




NOTE: DIMENSIONS MEASURED PERPENDICULAR TO ℄ STH 29 EB & WB

## STH 29 PROPOSED TYPICAL SECTION

(LOOKING WEST)

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-58-129

DRAWN BY AJC | PLANS CK'D. MDR

CROSS SECTION AND QUANTITIES

SHEET 7 OF 19
257

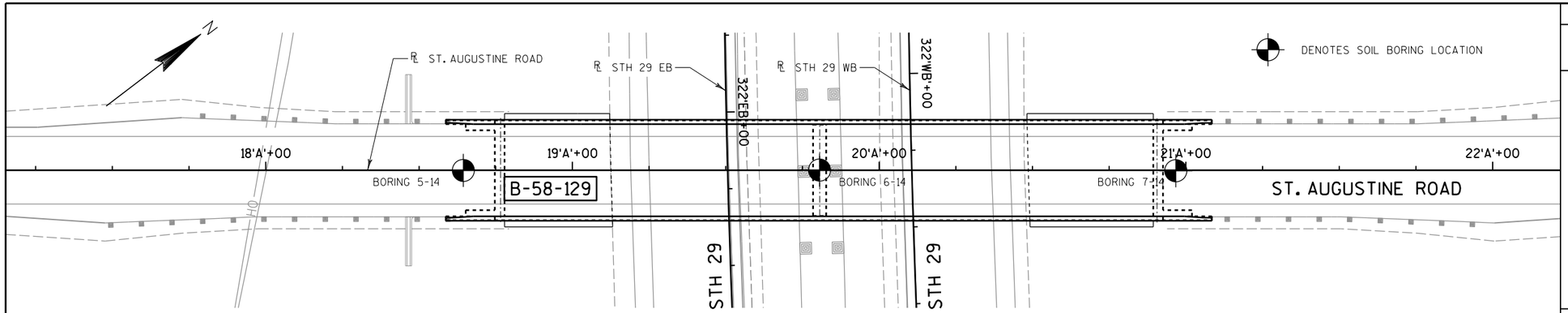
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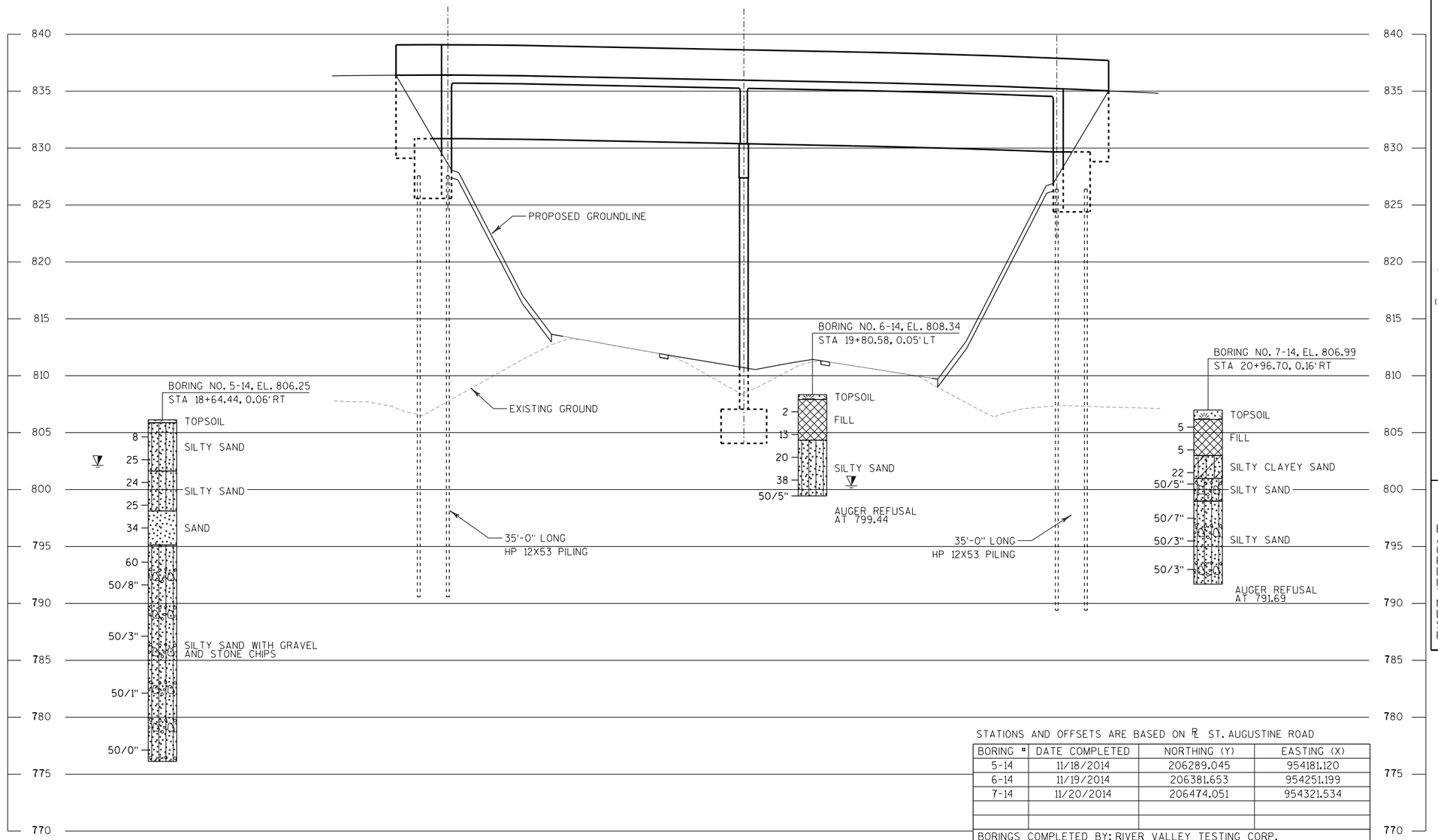
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PLOT DATE : 1/26/2017

PLOT BY : ajc




STATIONS AND OFFSETS ARE BASED ON ℄ ST. AUGUSTINE ROAD

| BORING # | DATE COMPLETED | NORTHING (Y) | EASTING (X) |
|---|---|---|---|
| 5-14 | 11/18/2014 | 206289.045 | 954181.120 |
| 6-14 | 11/19/2014 | 206381.653 | 954251.199 |
| 7-14 | 11/20/2014 | 206474.051 | 954321.534 |
| | | | |
| | | | |

BORINGS COMPLETED BY: RIVER VALLEY TESTING CORP.
REPORT COMPLETED BY: RIVER VALLEY TESTING CORP.
ALL COORDINATES REFERENCED TO WCCS NAD 83(91) SHAWANO COUNTY

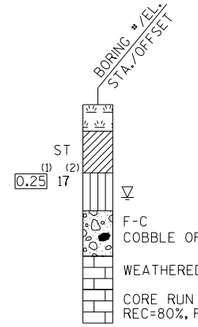
STATE PROJECT NUMBER

1058-25-70

MATERIAL SYMBOLS

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

LEGEND OF BORING




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

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

GROUND WATER ELEVATION

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

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-58-129

DRAWN BY TEO | PLANS CK'D. MDR

SUBSURFACE EXPLORATION

SHEET 3 OF 19
258

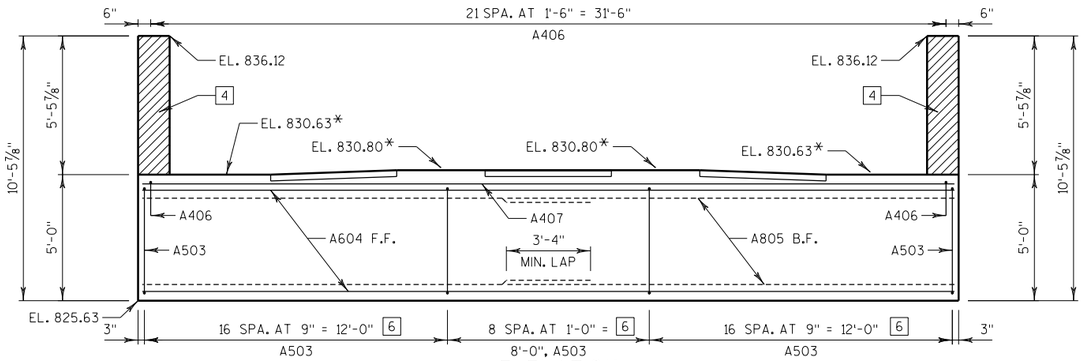
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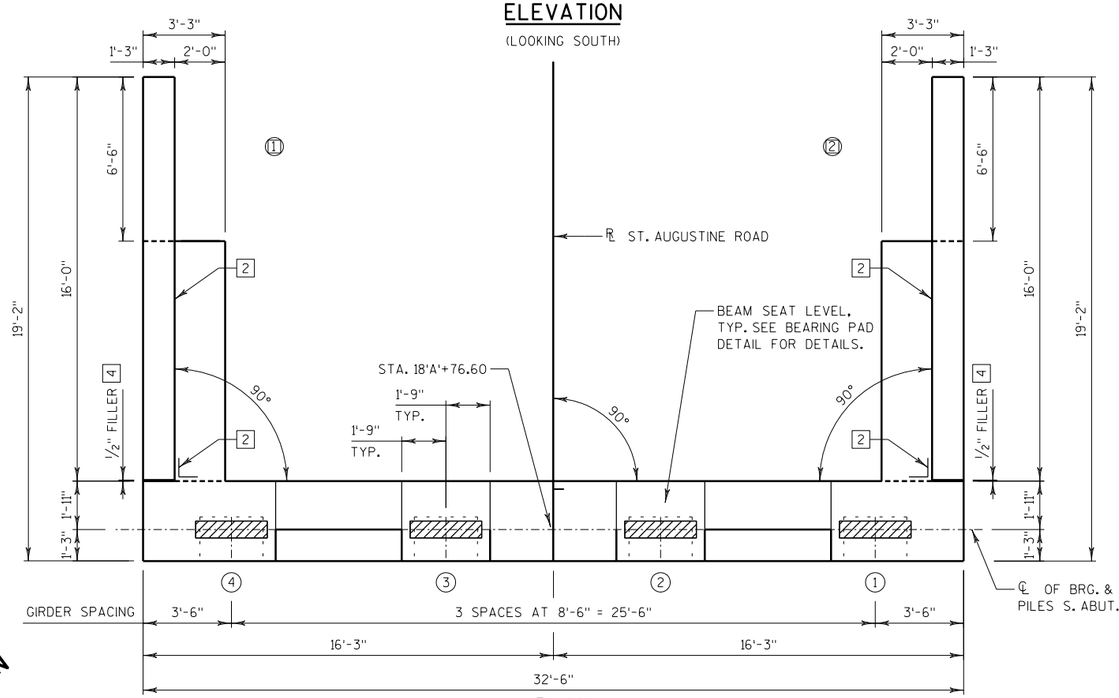
PLOT DATE : 1/26/2017

PLOT BY : ajc

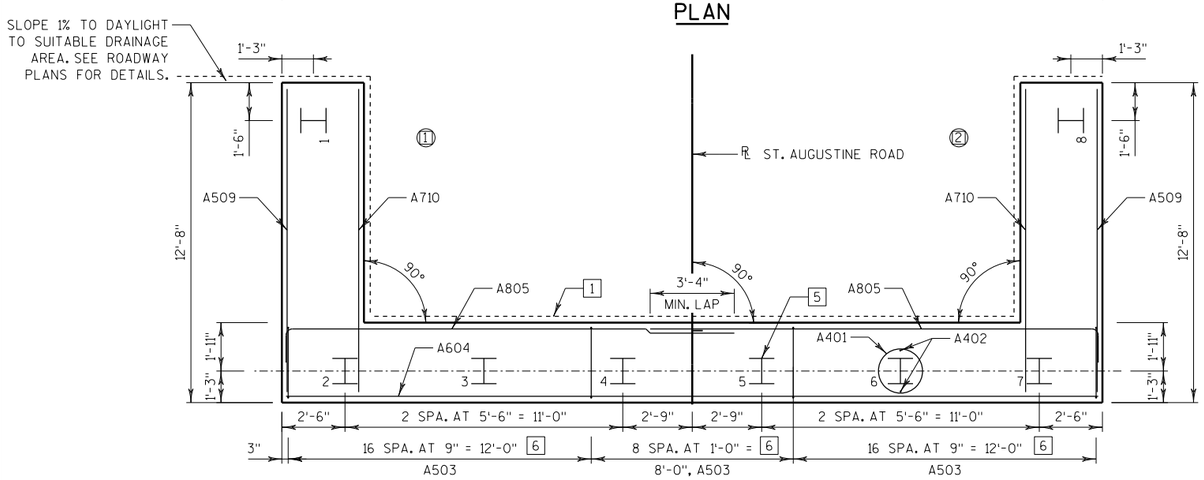



## ELEVATION

(LOOKING SOUTH)




## PLAN




## PILE PLAN

## GENERAL NOTES

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)

F.F. DENOTES FRONT FACE.

B.F. DENOTES BACK FACE.

SEE SHEET 6 FOR TYPCIAL SECTION OF ABUTMENT.

FOR PILE SPLICE DETAIL SEE SHEET 6.

(X) INDICATES GIRDER NUMBER.

(X) INDICATES WINGWALL NUMBER.

1 INDICATES PILE NUMBER

[1] PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE AS DIRECTED BY THE ENGINEER. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 6. RODENT SHIELD TO BE INCLUDED IN BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH". CAP END AS SHOWN.

[2] 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL VERTICAL AND HORIZONTAL JOINTS ON BACK FACE.

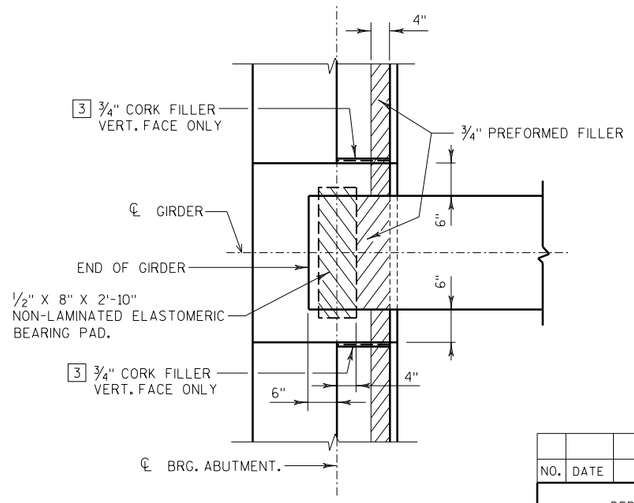
[3] ¾" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

[4] ½" FILLER - EXTEND FROM BEAM SEAT TO TOP OF CONCRETE PARAPET. INCLUDED IN WINGWALL LENGTH.

[5] SUPPORT ABUTMENT ON HP 12x53 STEEL PILING (WITH PILE POINTS), ESTIMATED 35'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE.

[6] SPACE TO MISS PILES.

* ELEVATIONS AND DIMENSIONS TAKEN AT ℄ OF BRG. & PILES S. ABUT.




## BEARING PAD DETAIL

STATE PROJECT NUMBER

1058-25-70

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-58-129

DRAWN BY AJC | PLANS CK'D. MDR

SOUTH ABUTMENT

SHEET 4 OF 19
259

8

8

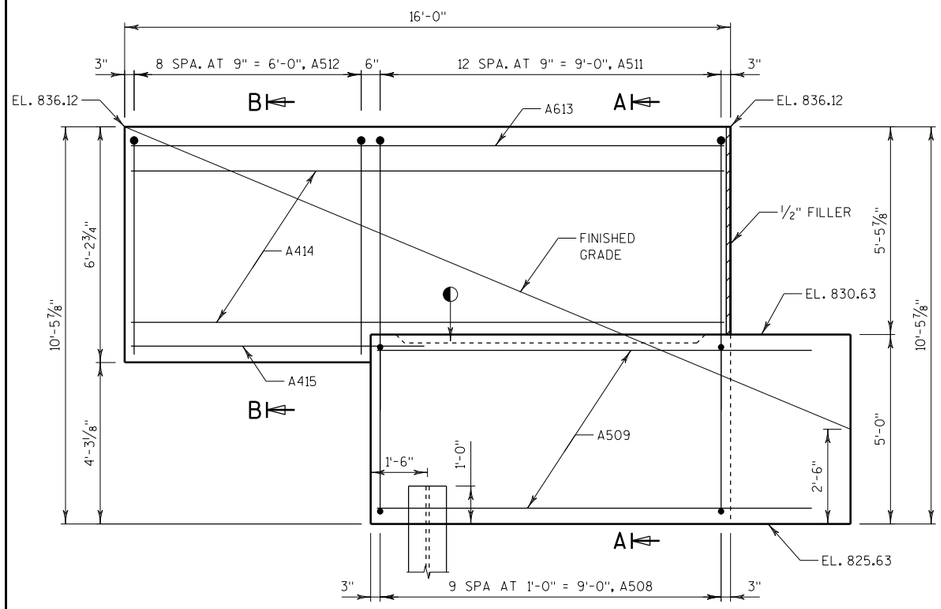
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PLOT DATE : 1/26/2017

PLOT BY : ajc

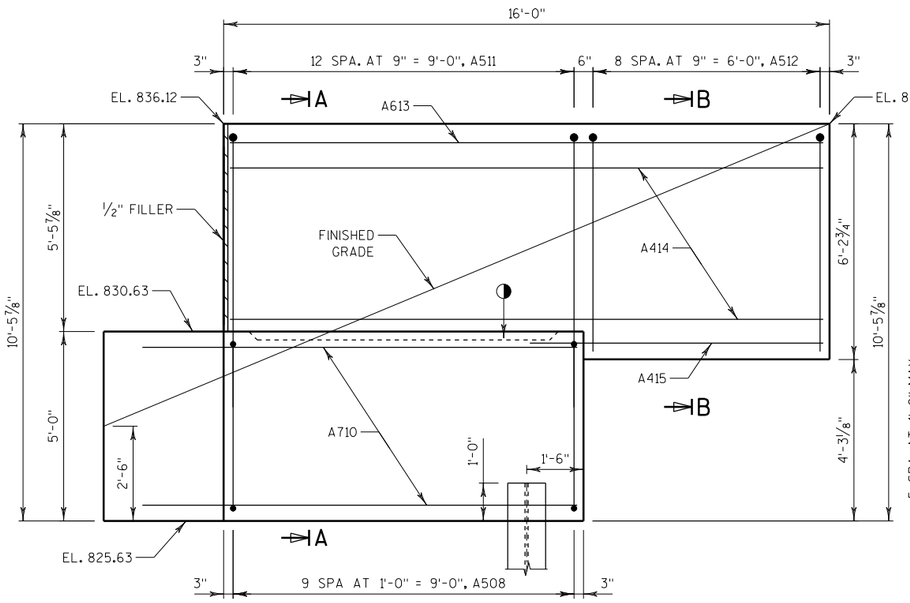
STATE PROJECT NUMBER

1058-25-70



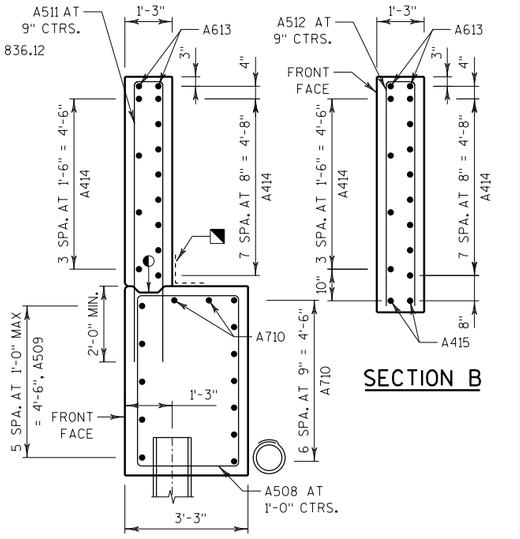

## WING 1 ELEVATION

(FRONT FACE)



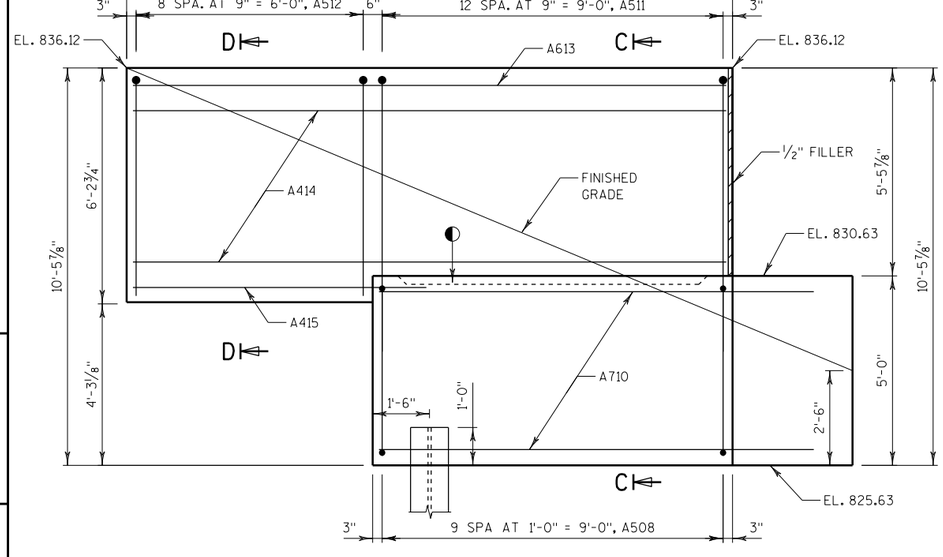

## WING 1 ELEVATION

(BACK FACE)



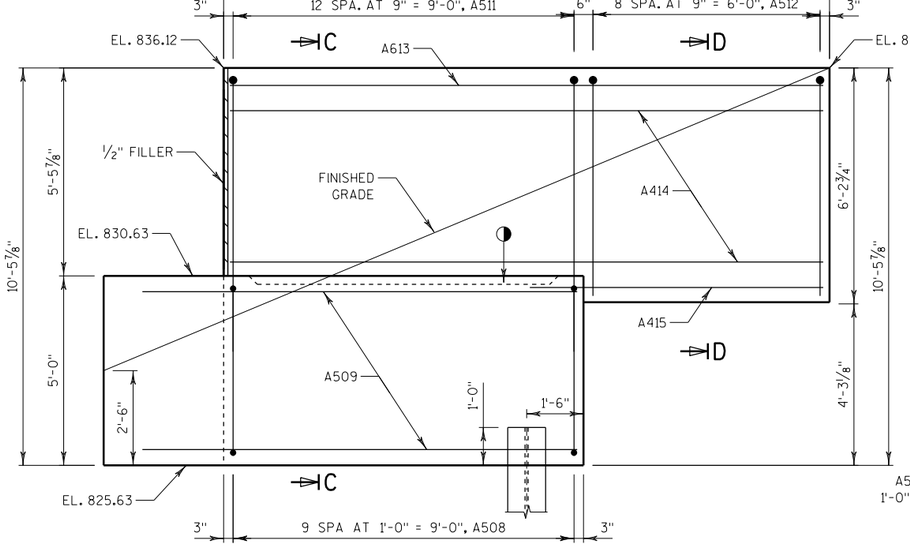

## SECTION B

## SECTION A



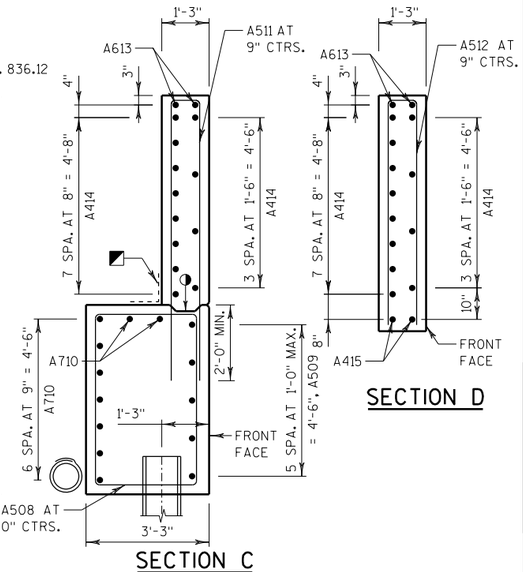

## WING 2 ELEVATION

(BACK FACE)




## WING 2 ELEVATION

(FRONT FACE)




## SECTION D

## SECTION C

◐ OPTIONAL KEYED CONST. JOINT - FORMED BY A SURFACE BEVELED 2"x6.

◥ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. AND VERT. JOINTS ON BACKFACE OF ABUTMENT

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-58-129

DRAWN BY AJC | PLANS CK'D. MDR

SOUTH ABUTMENT WING DETAILS

SHEET 5 OF 19

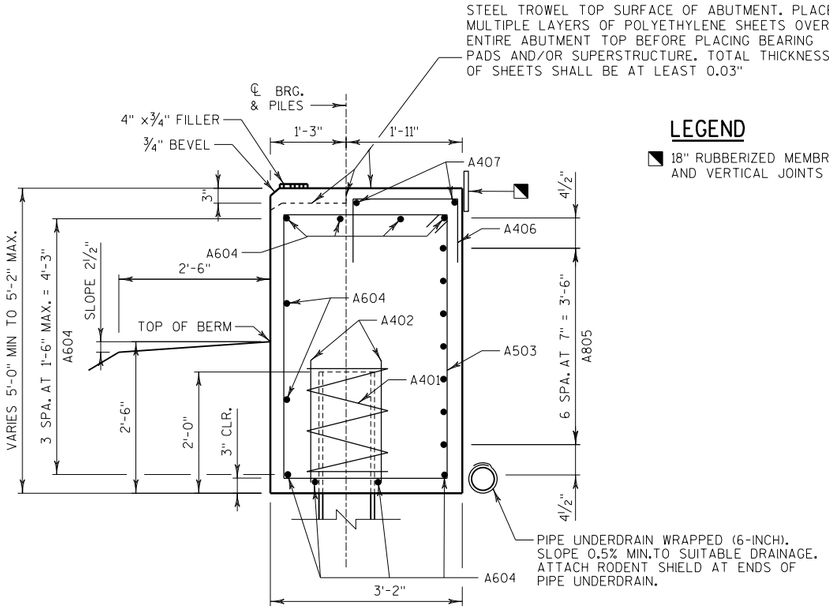
260

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STATE PROJECT NUMBER

1058-25-70



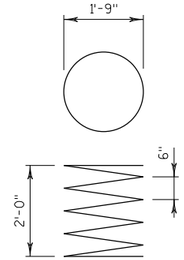

TYPICAL SECTION AT ABUTMENT

## LEGEND

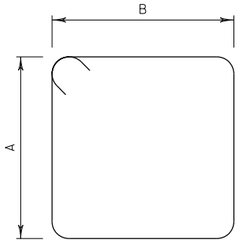
18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

## SOUTH ABUTMENT BILL OF BARS

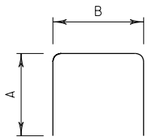
| BAR MARK | COAT | NO. | LENGTH | BENT | LOCATION |
|---|---|---|---|---|---|
| A401 | | 8 | 28'-0" | X | ABUT. BODY AT PILES |
| A402 | | 16 | 2'-3" | | ABUT. BODY AT PILES |
| A503 | | 41 | 15'-0" | X | ABUT. BODY VERT. |
| A604 | | 10 | 32'-2" | | ABUT. BODY HORIZ. |
| A805 | | 14 | 18'-11" | X | ABUT. BODY HORIZ. B.F. |
| A406 | | 22 | 3'-9" | X | ABUT. BODY VERT. |
| A407 | | 2 | 32'-2" | | ABUT. BODY HORIZ. |
| A508 | X | 20 | 15'-8" | X | WING 1 & 2 STIRRUPS |
| A509 | X | 12 | 11'-1" | | WING 1 & 2 HORIZ. F.F. |
| A710 | X | 18 | 12'-1" | | WING 1 & 2 HORIZ. B.F. |
| A511 | X | 26 | 15'-6" | X | WING 1 & 2 VERT. |
| A512 | X | 18 | 12'-4" | X | WING 1 & 2 VERT. |
| A613 | X | 4 | 15'-8" | | WING 1 & 2 HORIZ. |
| A414 | X | 24 | 15'-8" | | WING 1 & 2 HORIZ. |
| A415 | X | 4 | 7'-9" | | WING 1 & 2 HORIZ. |



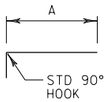

A401




A503, A508,

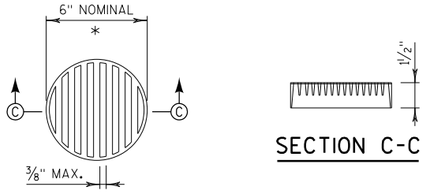



A406, A511, A512




A805

| BAR MARK | A | B |
|---|---|---|
| A503 | 4'-4" | 2'-10" |
| A805 | 17'-9" | - |
| A406 | 1'-2" | 1'-7" |
| A508 | 4'-7" | 2'-11" |
| A511 | 7'-5" | 11" |
| A512 | 5'-10" | 11" |




SECTION C-C

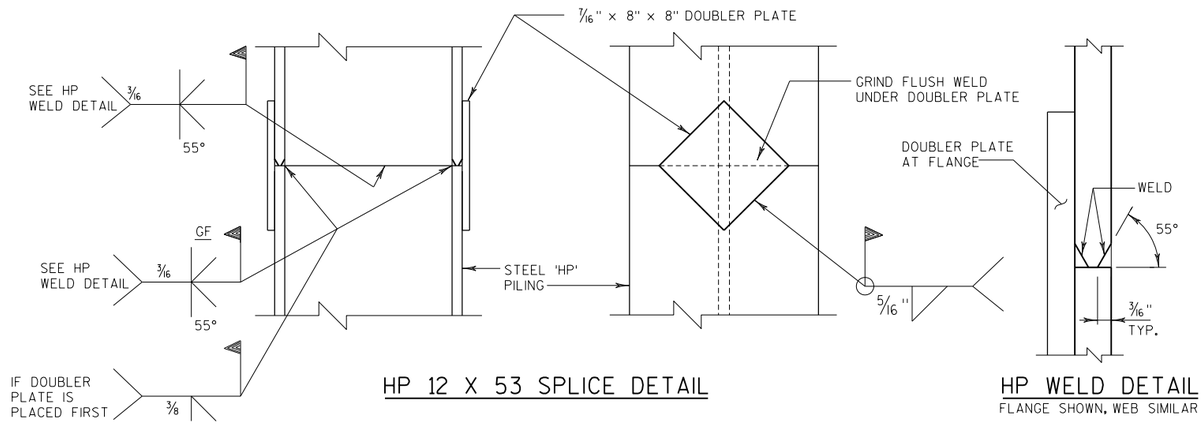
RODENT SHIELD

NOTES:

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

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

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




HP 12 X 53 SPLICE DETAIL

HP WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-58-129

DRAWN BY AJC | PLANS CK'D. MDR

SOUTH ABUTMENT DETAILS

SHEET 6 OF 19

261

8

8

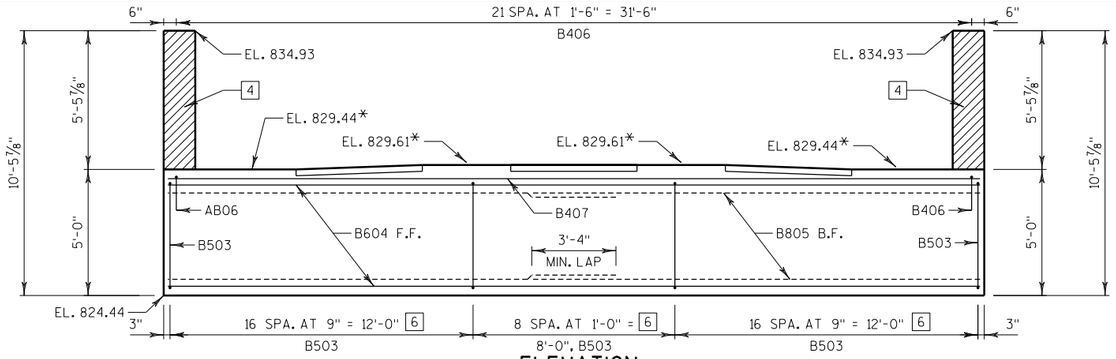
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PLOT DATE : 1/26/2017

PLOT BY : ajc

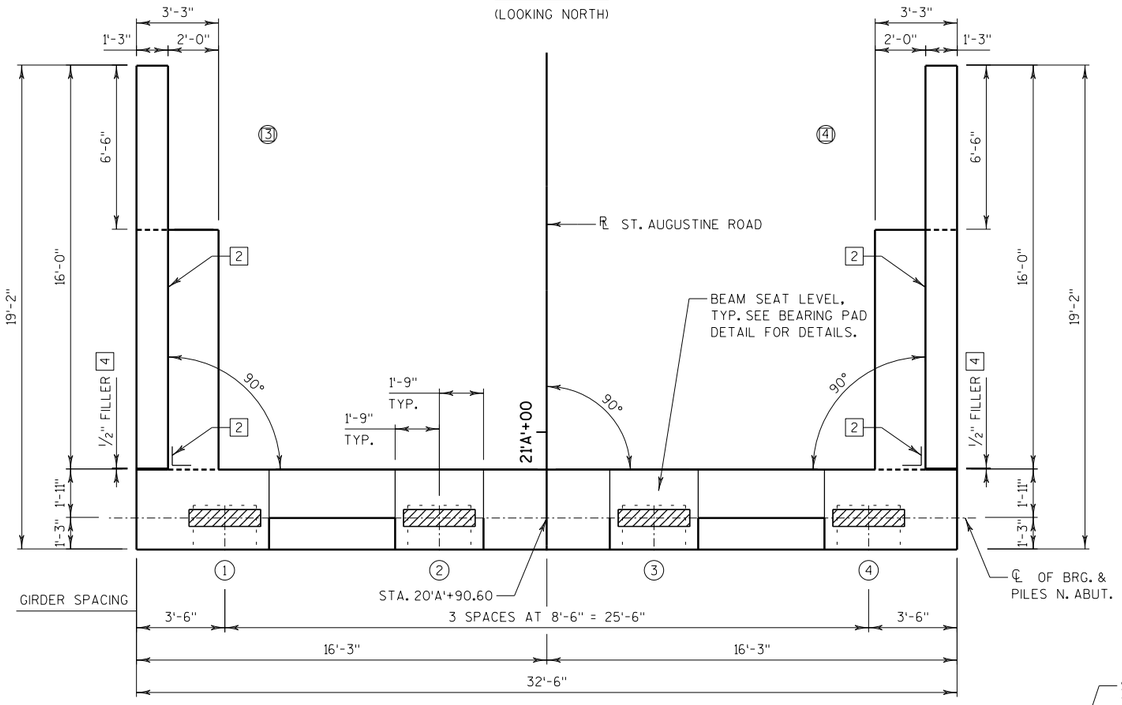
STATE PROJECT NUMBER

1058-25-70

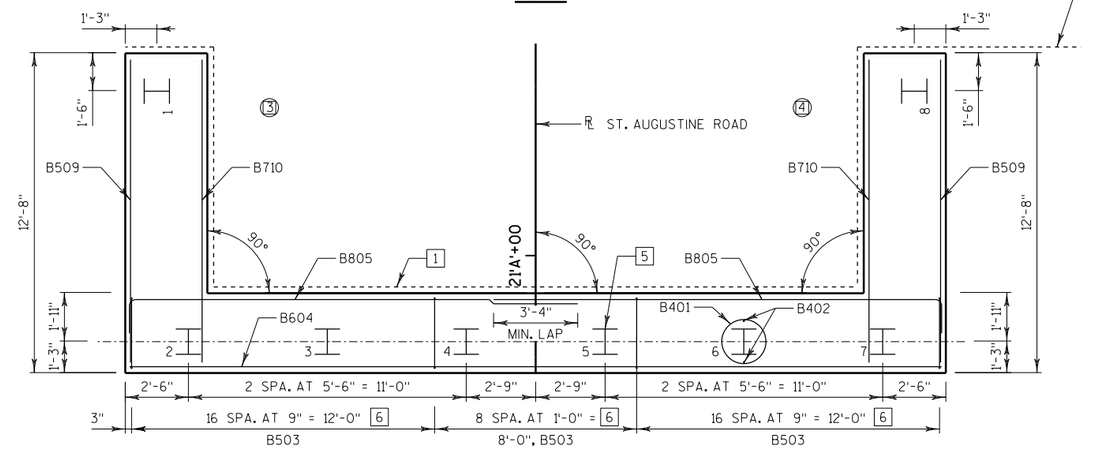



## ELEVATION

(LOOKING NORTH)




## PLAN




## PILE PLAN

SLOPE 1% TO DAYLIGHT TO SUITABLE DRAINAGE AREA. SEE ROADWAY PLANS FOR DETAILS.

## GENERAL NOTES

SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF ½" FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)

F.F. DENOTES FRONT FACE.

B.F. DENOTES BACK FACE.

SEE SHEET 9 FOR TYPCIAL SECTION OF ABUTMENT.

FOR PILE SPLICE DETAIL SEE SHEET 6.

(X) INDICATES GIRDER NUMBER.

(X) INDICATES WINGWALL NUMBER.

1 INDICATES PILE NUMBER

[1] PIPE UNDERDRAIN WRAPPED (6-INCH). SLOPE 0.5% MIN. TO SUITABLE DRAINAGE AS DIRECTED BY THE ENGINEER. ATTACH RODENT SHIELD AT ENDS OF PIPE UNDERDRAIN AS DETAILED ON SHEET 6. RODENT SHIELD TO BE INCLUDED IN BID PRICE OF "PIPE UNDERDRAIN WRAPPED 6-INCH". CAP END AS SHOWN.

[2] 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL VERTICAL AND HORIZONTAL JOINTS ON BACK FACE.

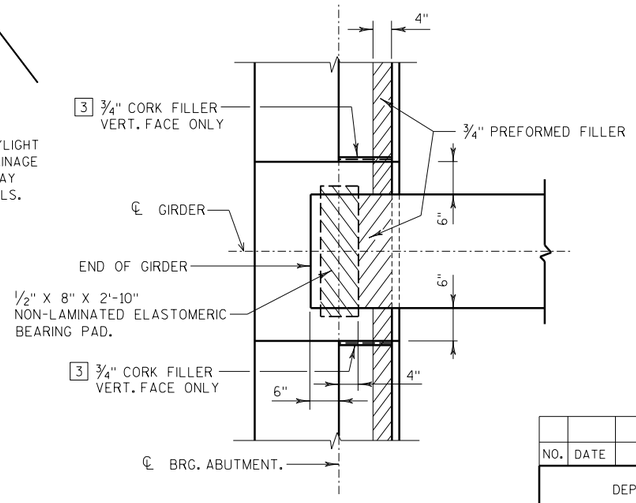
[3] ¾" CORK FILLER ON VERTICAL BEAM SEAT FACES THAT RUN PARALLEL WITH GIRDER.

[4] ½" FILLER - EXTEND FROM BEAM SEAT TO TOP OF CONCRETE PARAPET. INCLUDED IN WINGWALL LENGTH.

[5] SUPPORT ABUTMENT ON HP 12x53 STEEL PILING (WITH PILE POINTS), ESTIMATED 35'-0" LONG WITH A REQUIRED DRIVING RESISTANCE OF 220 TONS PER PILE.

[6] SPACE TO MISS PILES.

* ELEVATIONS AND DIMENSIONS TAKEN AT ℄ OF BRG. & PILES NORTH ABUTMENT.




## BEARING PAD DETAIL

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-58-129

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NORTH ABUTMENT

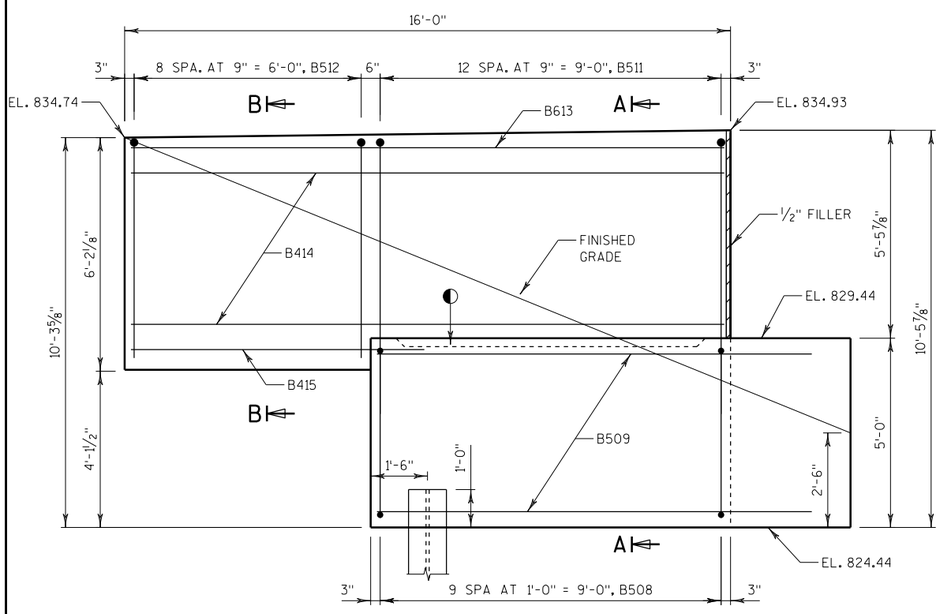
SHEET 7 OF 19
262

8

8

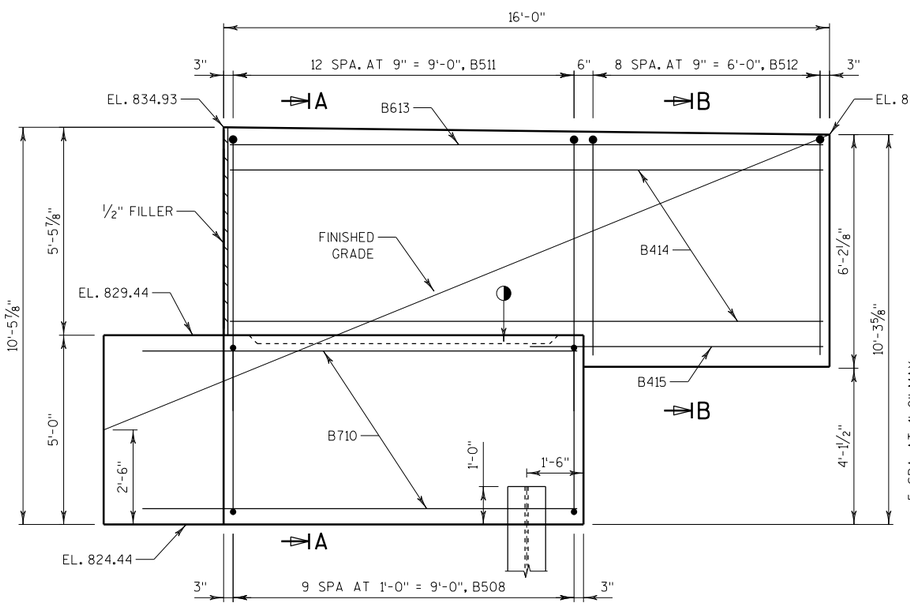
STATE PROJECT NUMBER

1058-25-70



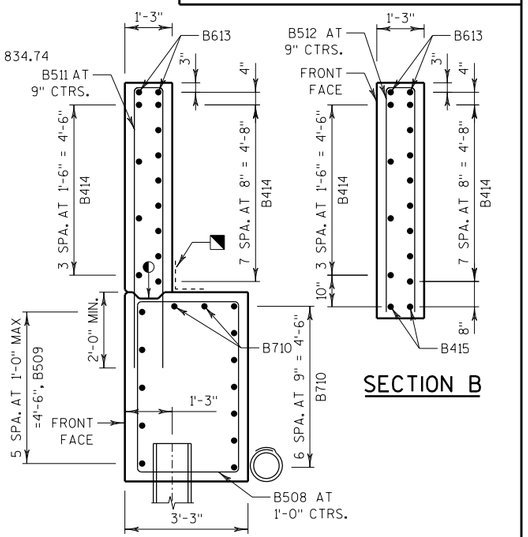

WING 3 ELEVATION

(FRONT FACE)



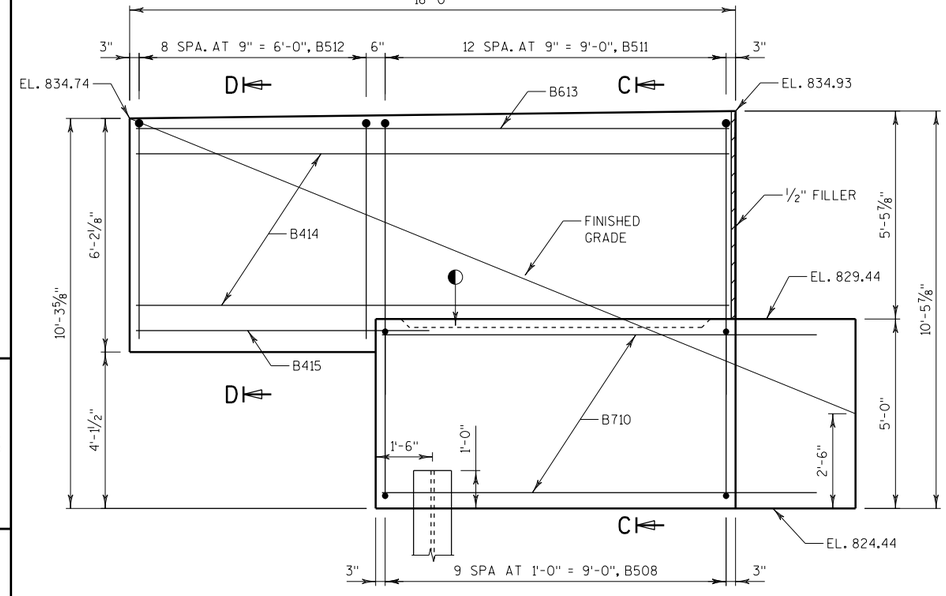

WING 3 ELEVATION

(BACK FACE)



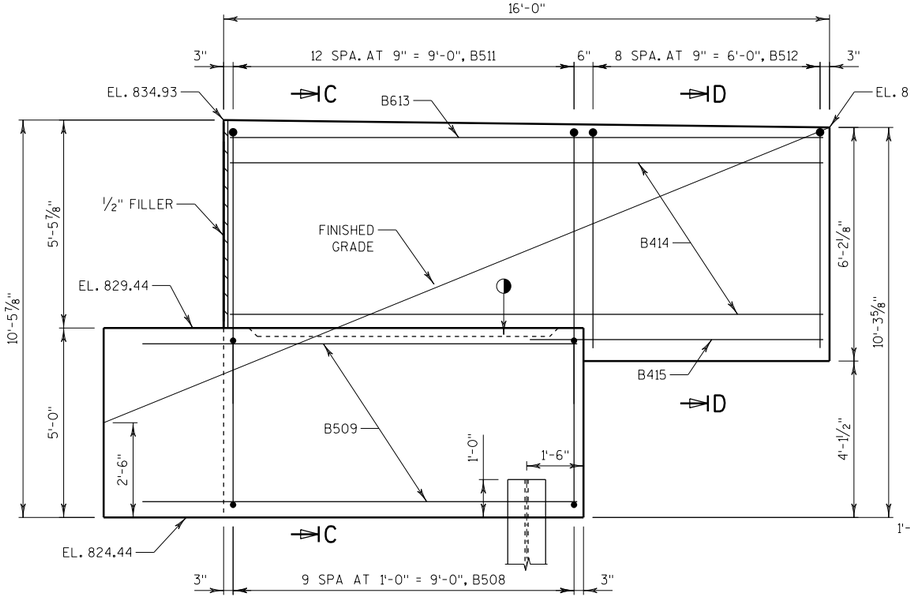

SECTION B

SECTION A



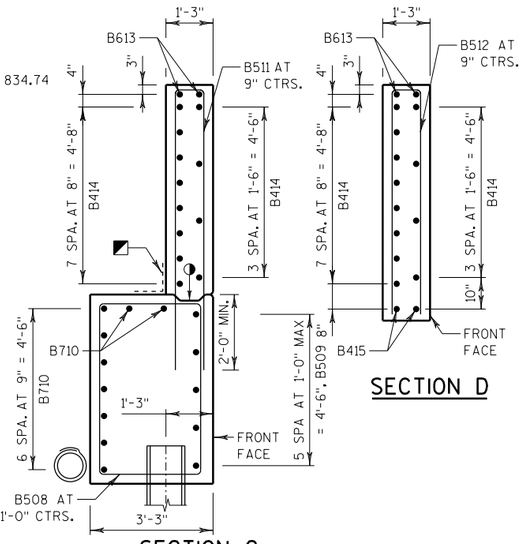

WING 4 ELEVATION

(BACK FACE)




WING 4 ELEVATION

(FRONT FACE)




SECTION D

SECTION C

◐ OPTIONAL KEYED CONST. JOINT - FORMED BY A SURFACE BEVELED 2"x6.

◥ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZ. AND VERT. JOINTS ON BACKFACE OF ABUTMENT

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-58-129

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NORTH ABUTMENT WING DETAILS

SHEET 8 OF 19

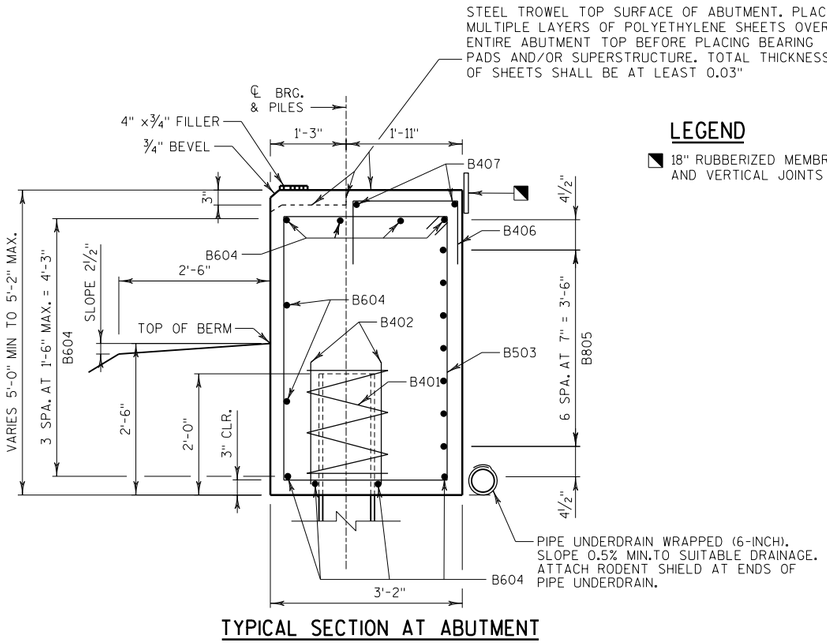
263

8

8

STATE PROJECT NUMBER

1058-25-70



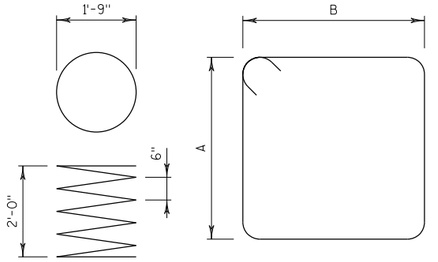

TYPICAL SECTION AT ABUTMENT

## LEGEND

▨ 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE.

## NORTH ABUTMENT BILL OF BARS

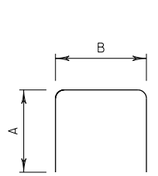
| BAR MARK | COAT | NO. | LENGTH | BENT | LOCATION |
|---|---|---|---|---|---|
| B401 | | 8 | 28'-0" | X | ABUT. BODY AT PILES |
| B402 | | 16 | 2'-3" | | ABUT. BODY AT PILES |
| B503 | | 41 | 15'-0" | X | ABUT. BODY VERT. |
| B604 | | 10 | 32'-2" | | ABUT. BODY HORIZ. |
| B805 | | 14 | 18'-11" | X | ABUT. BODY HORIZ. B.F. |
| B406 | | 22 | 3'-9" | X | ABUT. BODY VERT. |
| B407 | | 2 | 32'-2" | | ABUT. BODY HORIZ. |
| B508 | X | 20 | 15'-8" | X | WING 3 & 4 STIRRUPS |
| B509 | X | 12 | 11'-1" | | WING 3 & 4 HORIZ. F.F. |
| B710 | X | 18 | 12'-1" | | WING 3 & 4 HORIZ. B.F. |
| B511 | X | 26 | 15'-6" | X | WING 3 & 4 VERT. |
| B512 | X | 18 | 12'-4" | X | WING 3 & 4 VERT. |
| B613 | X | 4 | 15'-8" | | WING 3 & 4 HORIZ. |
| B414 | X | 24 | 15'-8" | | WING 3 & 4 HORIZ. |
| B415 | X | 4 | 7'-9" | | WING 3 & 4 HORIZ. |



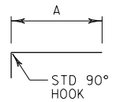

B401




B503, B508,




B406, B511, B512




B805

| BAR MARK | A | B |
|---|---|---|
| B503 | 4'-4" | 2'-10" |
| B805 | 17'-9" | - |
| B406 | 1'-2" | 1'-7" |
| B508 | 4'-7" | 2'-11" |
| B511 | 7'-5" | 11" |
| B512 | 5'-10" | 11" |

8

8

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-58-129

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NORTH ABUTMENT DETAILS

SHEET 9 OF 19
264

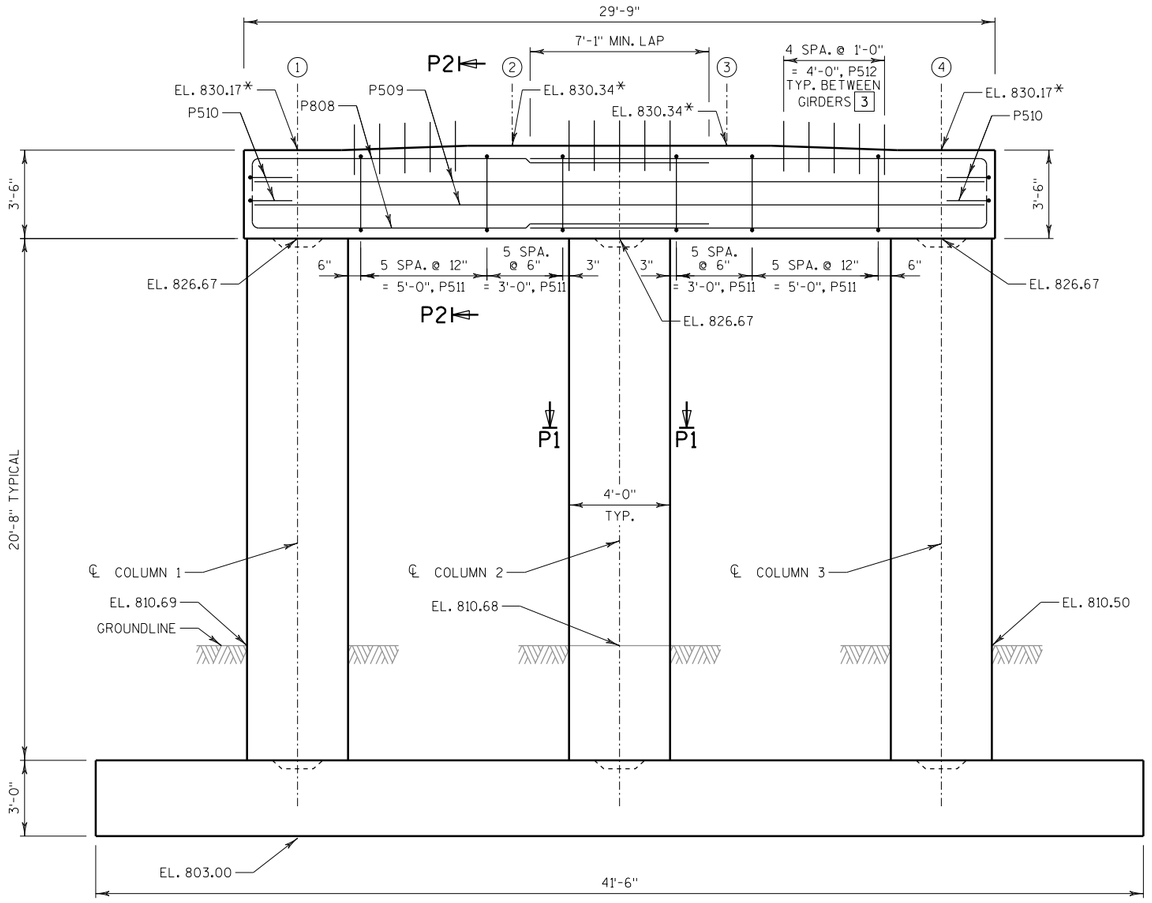
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PLOT DATE : 1/26/2017

PLOT BY : ajc

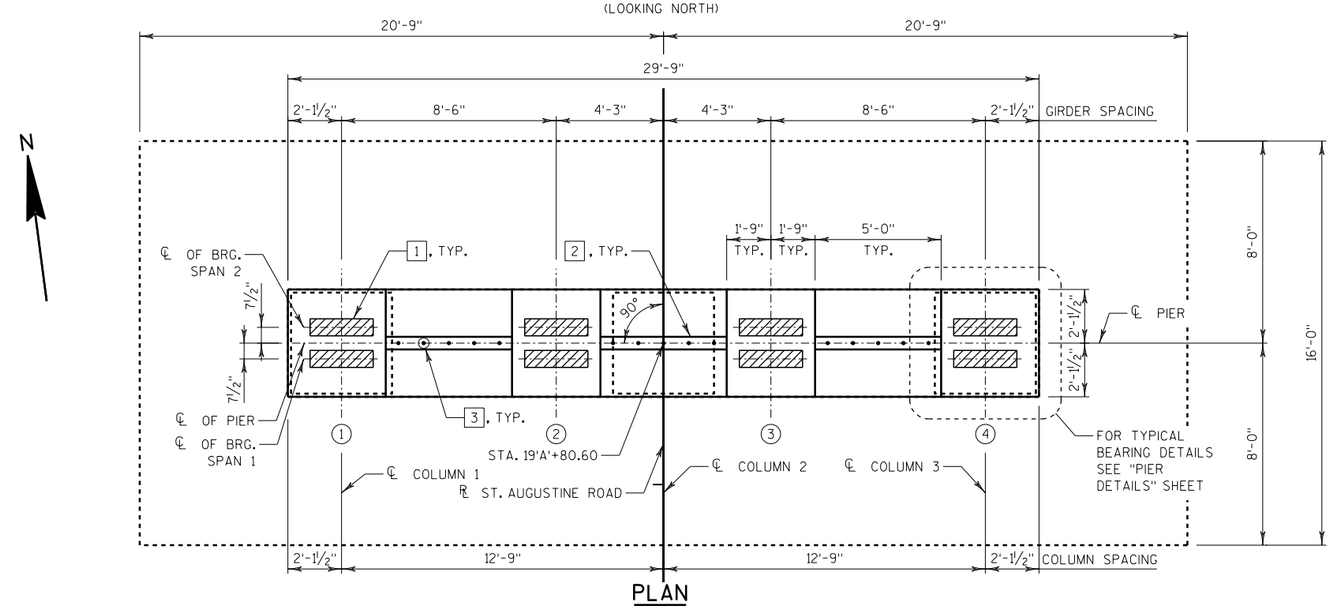
STATE PROJECT NUMBER

1058-25-70

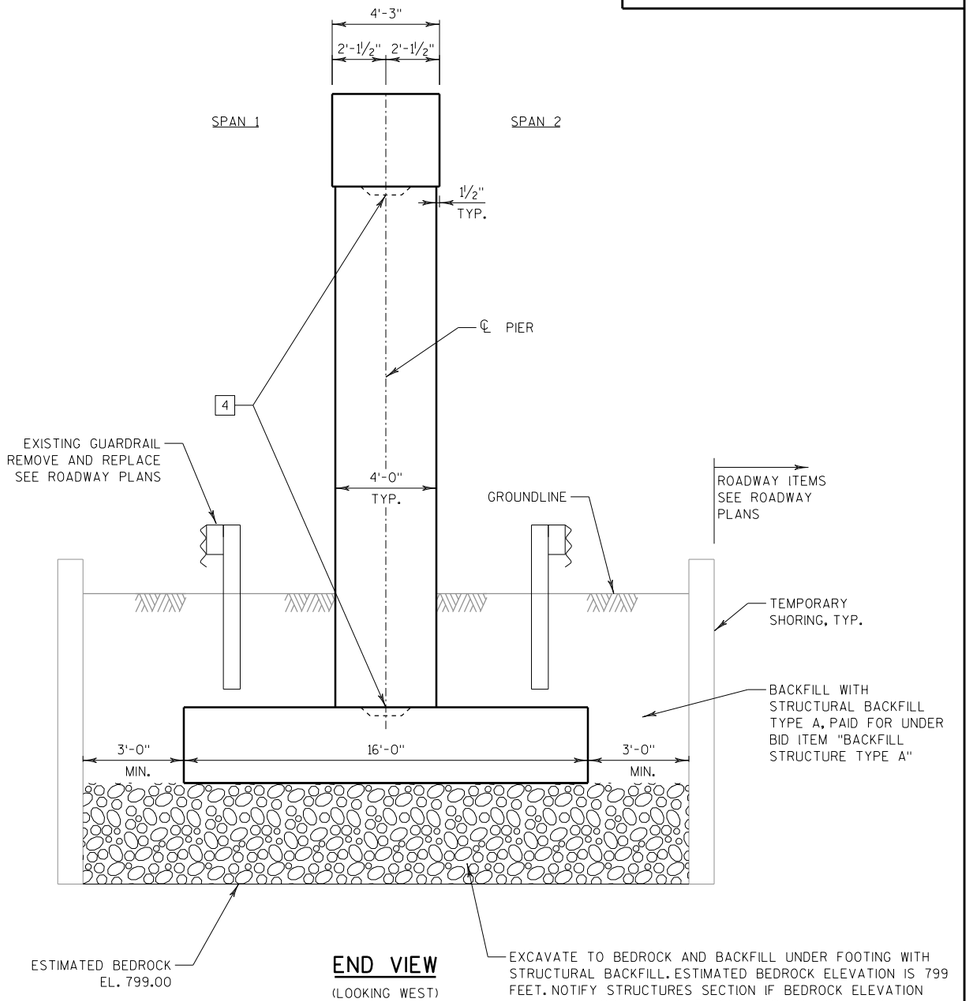



## ELEVATION

(LOOKING NORTH)




## PLAN




## END VIEW

(LOOKING WEST)

## LEGEND

- (X) INDICATES GIRDER NUMBER
- [1] BEARING PAD ELASTOMERIC NON-LAMINATED ½" X 8" X 2'-6"
- [2] KEYED CONSTRUCTION JOINT. FORMED BY SURFACE BEVELED 2" X 6" BETWEEN BEAM SEATS.
- [3] P512 BARS AT 1'-0" CENTERS, BETWEEN BEAM SEATS. EMBED 1'-0" INTO CAP CONCRETE.
- [4] 1'-3" X 2'-0" X 4" DEEP CONSTRUCTION JOINT FORMED BY BEVELED KEYWAY.
- ✳ ELEVATIONS AND DIMENSIONS TAKEN AT ℄ OF PIER.

FOR SECTIONS P1 AND P2 SEE SHEET 11.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-58-129

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PIER

SHEET 10 OF 19
265

8

8

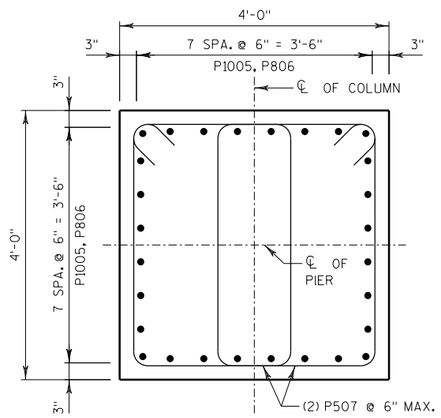
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PLOT DATE : 1/26/2017

PLOT BY : ajc

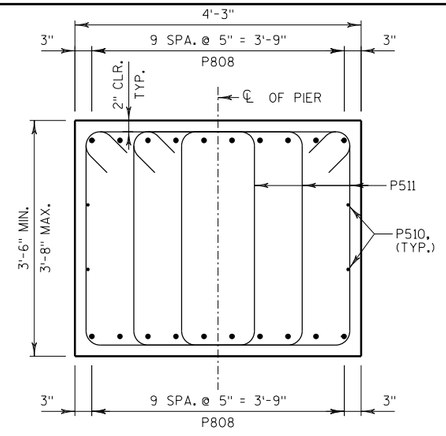
STATE PROJECT NUMBER

1058-25-70




## SECTION P1

PIER COLUMN

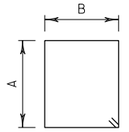



## SECTION P2

PIER CAP

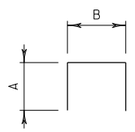
## PIER BILL OF BARS

| BAR MARK | COAT | NO. | LENGTH | BENT | LOCATION |
|---|---|---|---|---|---|
| P901 | | 42 | 15'-6" | | PIER FOOTING - BOTTOM |
| P602 | | 41 | 15'-6" | | PIER FOOTING - TOP |
| P903 | | 16 | 41'-0" | | PIER FOOTING - BOTTOM |
| P604 | | 16 | 41'-0" | | PIER FOOTING - TOP |
| P1005 | X | 84 | 10'-10" | X | PIER FOOTING DOWEL |
| P806 | X | 84 | 23'-8" | | PIER VERT. COLUMN |
| P507 | X | 252 | 12'-6" | X | COLUMN STIRRUPS |
| P808 | X | 40 | 19'-5" | X | PIER CAP - HORIZ. TOP & BOT. |
| P509 | X | 4 | 29'-5" | | PIER CAP FACE - HORZ. |
| P510 | X | 4 | 7'-0" | X | PIER CAP - HORZ. AT END |
| P511 | X | 66 | 12'-0" | X | PIER CAP - STIRRUPS |
| P512 | X | 15 | 2'-0" | | PIER CAP - VERT. BETWEEN BEAM SEATS |



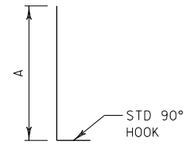

## P507, P511

| BAR MARK | DIM. A | DIM. B |
|---|---|---|
| P507 | 3'-7" | 2'-4" |
| P511 | 3'-2" | 2'-6" |



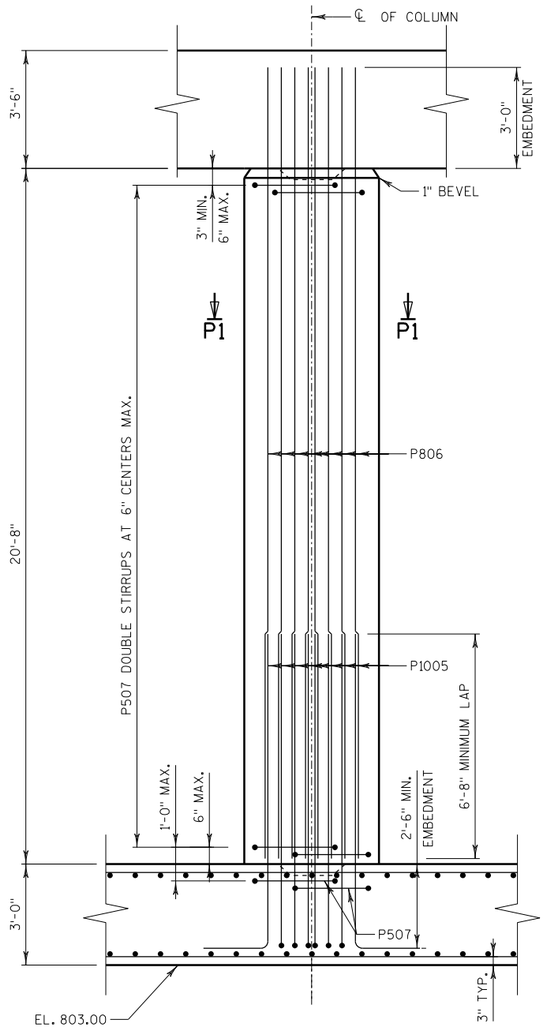

## P510

| BAR MARK | DIM. A | DIM. B |
|---|---|---|
| P510 | 1'-9" | 3'-9" |



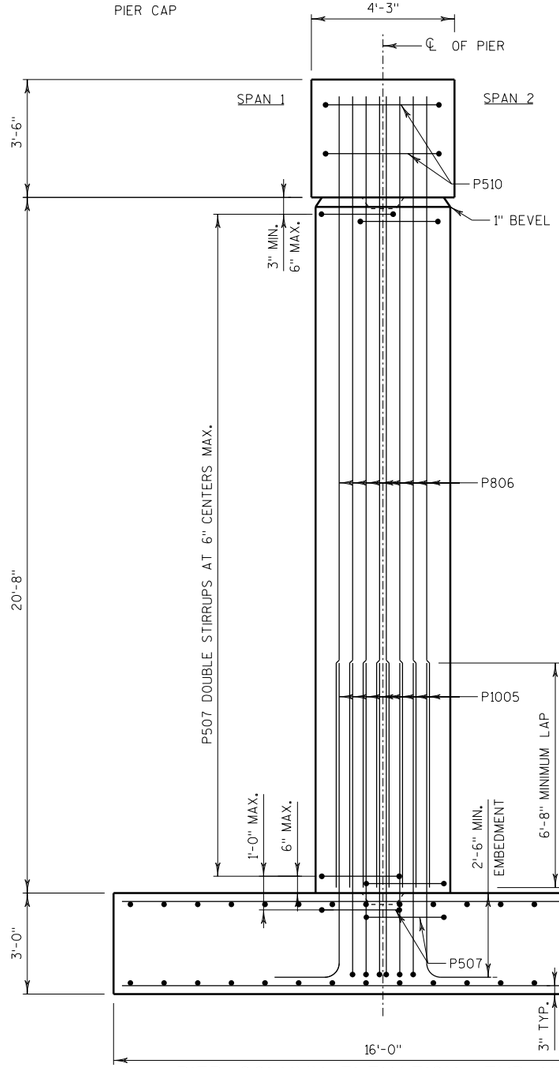

## P1005, P808

| BAR MARK | DIM. A |
|---|---|
| P1005 | 9'-4" |
| P808 | 18'-3" |



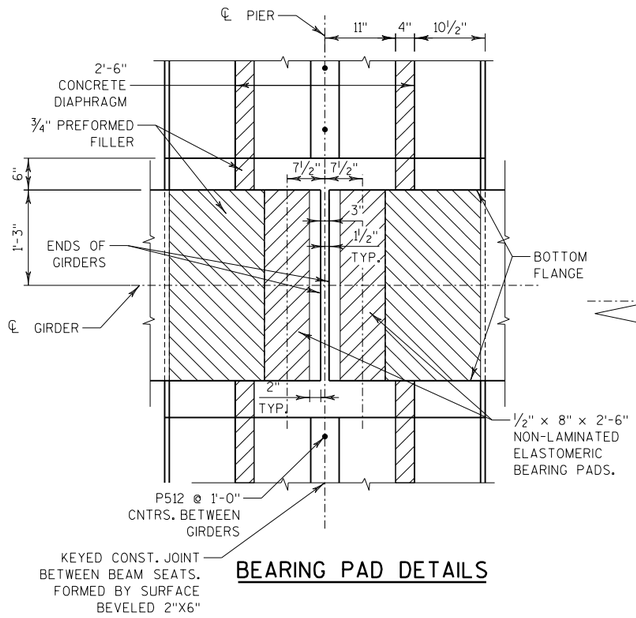

## PIER COLUMN ELEVATION

LOOKING UP STATION

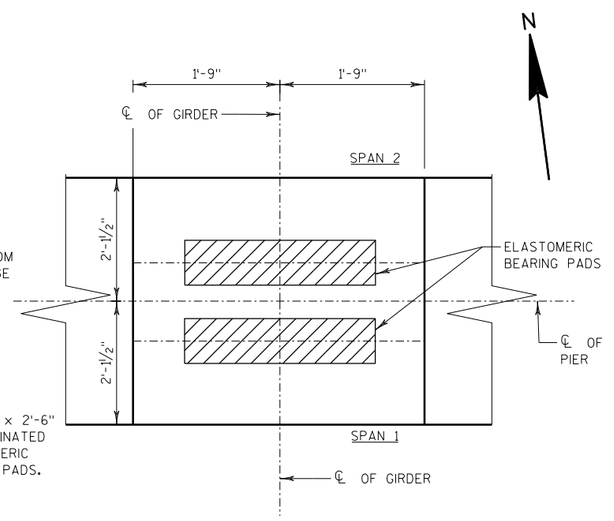



## PIER COLUMN ELEVATION- END VIEW

(LOOKING WEST)




## BEARING PAD DETAILS




## BEAM SEAT DETAILS

8

8

| NO. | DATE | REVISION | BY |
|---|---|---|---|
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STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-58-129

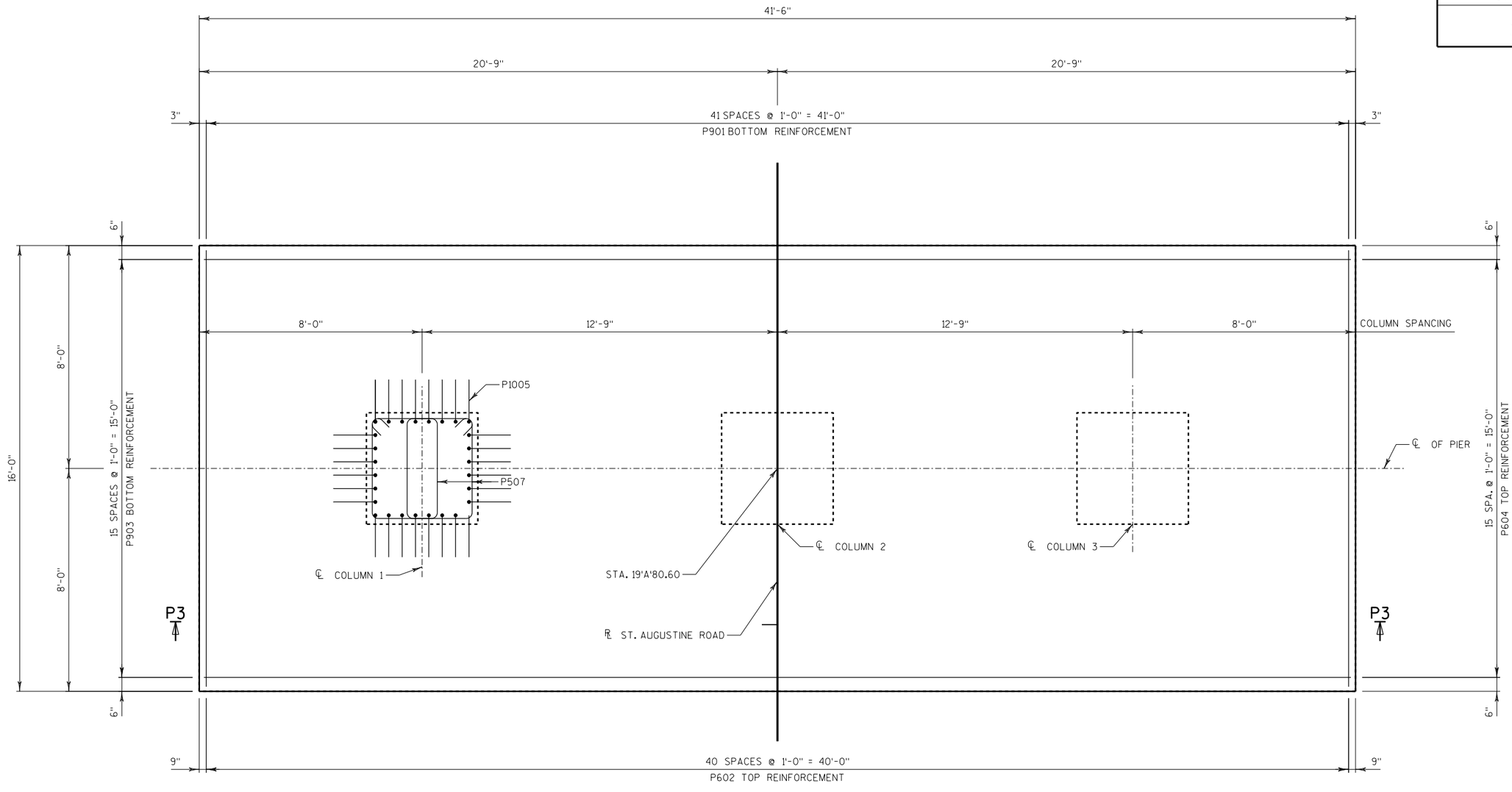
DRAWN BY AJC | PLANS CK'D. MDR

PIER DETAILS

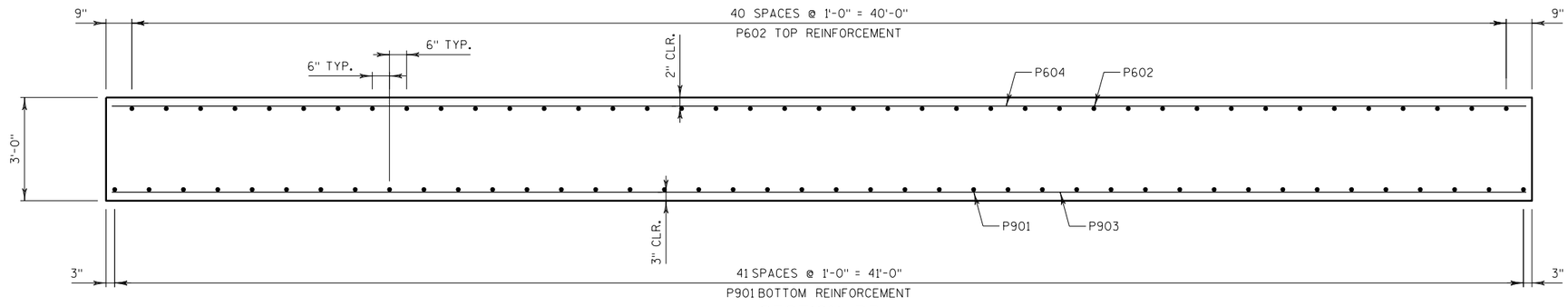
SHEET 11 OF 19
266

STATE PROJECT NUMBER

1058-25-70




## COMBINED FOOTING REINFORCEMENT PLAN




## SECTION P3

8

8

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-58-129

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PIER FOOTING

SHEET 12 OF 19
267

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\09 STRUCTURES\B-58-129- St. Augustine over STH 29\Plan\080112_pf.dgn

PLOT DATE : 1/26/2017

PLOT BY : ajc

STATE PROJECT NUMBER

1058-25-70

## NOTES

TOP OF GIRDER TO BE ROUGH FLOATED AND BROOMED TRANSVERSELY, EXCEPT THE OUTSIDE 15" OF GIRDER, WHICH SHALL RECEIVE A SMOOTH FINISH. AN APPROVED CONCRETE SEALER SHALL BE APPLIED TO ALL SMOOTH SURFACES INCLUDING THE OUTSIDE 15" OF THE TOP FLANGE.

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

THE GIRDERS SHALL BE PROVIDED WITH A SUITABLE LIFTING DEVICE FOR HANDLING AND ERECTING THE GIRDERS. SEE SECTION 503.3.3 OF STANDARD SPECIFICATION FOR GUIDANCE.

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

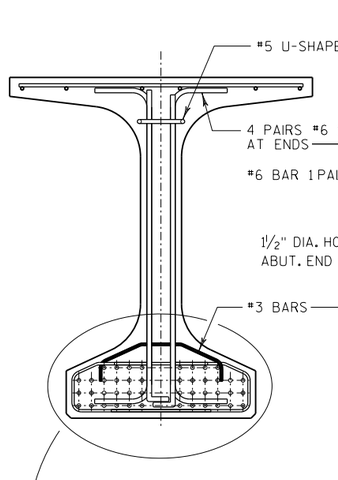
ALL GIRDERS SHALL BE CAST FULL LENGTH AS SHOWN.

SPACING SHOWN FOR #4 STIRRUPS IS FOR GRADE 60 REINFORCEMENT.

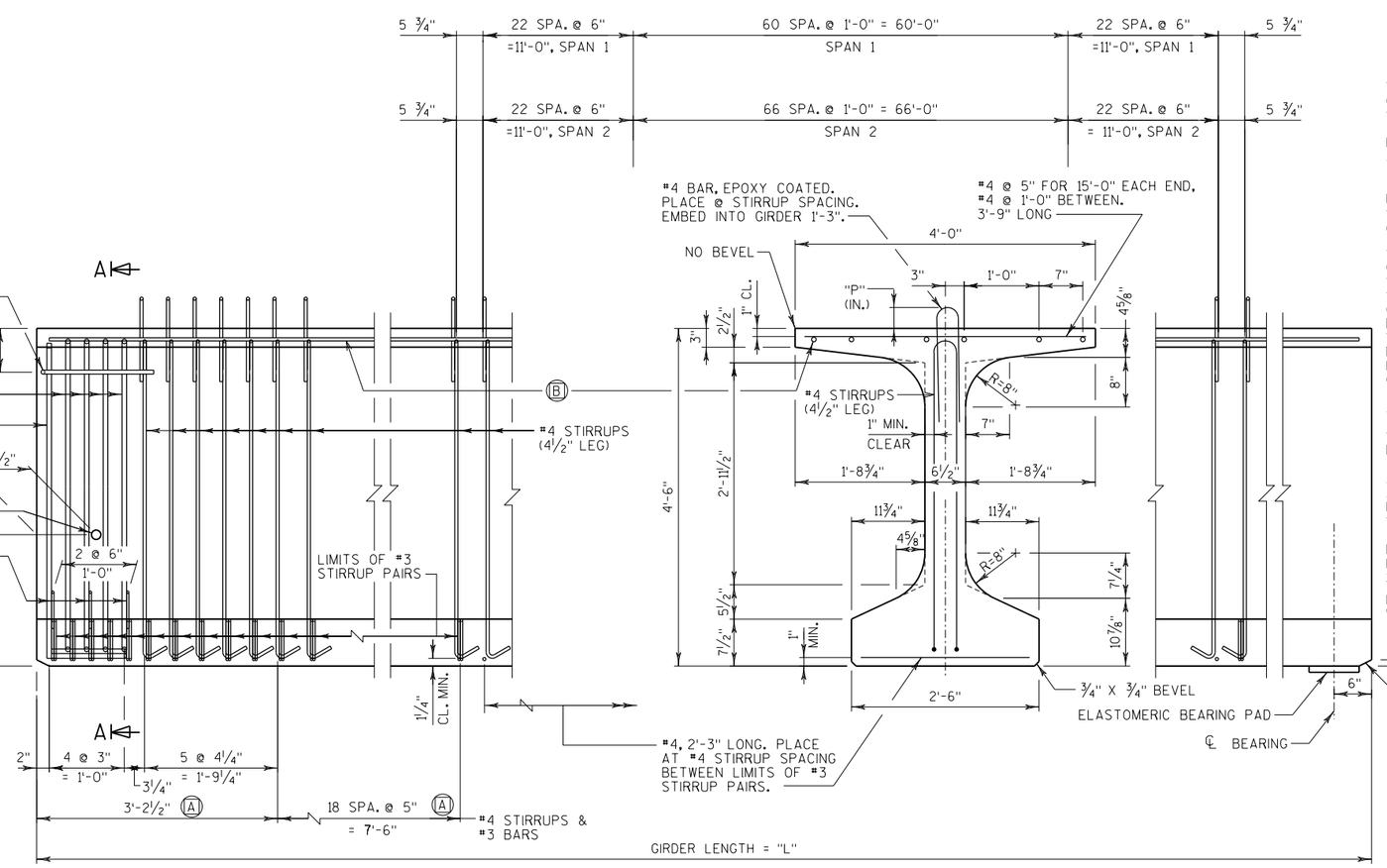
AN ALTERNATE EQUIVALENT OF WELDED WIRE FABRIC (WWF) ASTM A497 MAY BE SUBSTITUTED FOR THE STIRRUP REINFORCEMENT SHOWN, UPON APPROVAL OF THE STRUCTURES DEVELOPMENT SECTION.

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

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




SECTION A-A



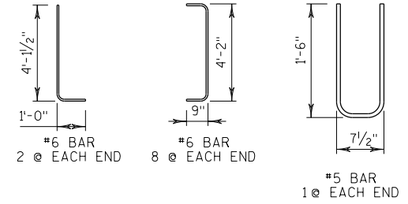


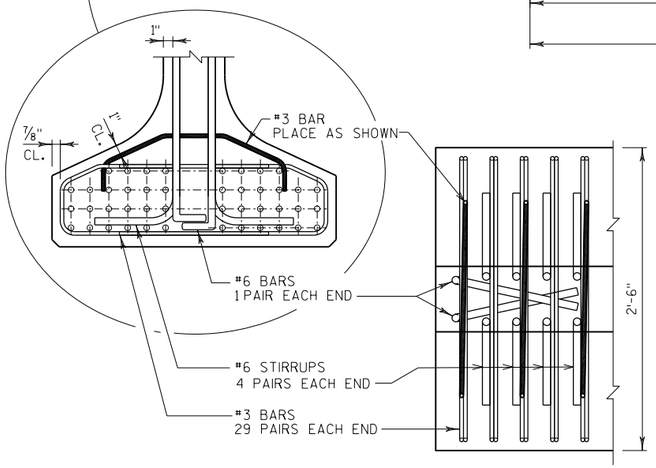


SIDE VIEW & TYP. SECTION IN SPAN

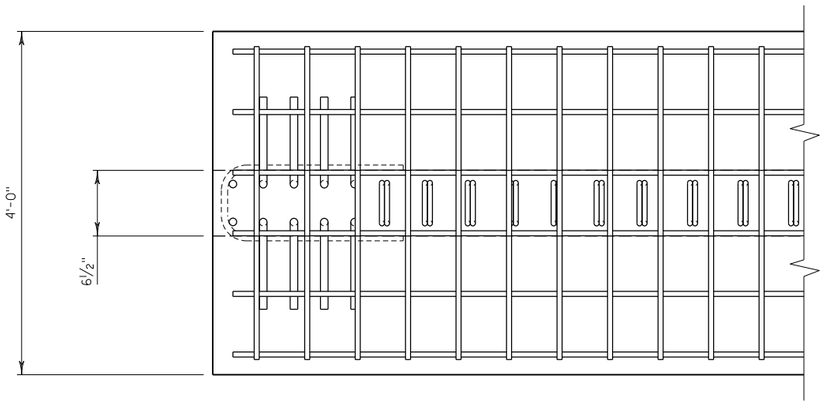
Ⓐ DETAIL TYP. AT EACH END

Ⓑ 6 #4 BARS, FULL LENGTH, MIN. LAP = 2'-6"

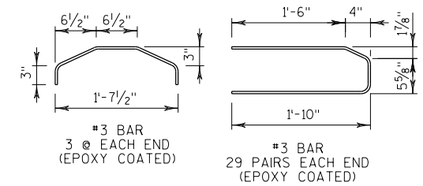



BOTTOM FLANGE




TOP FLANGE




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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-58-129

DRAWN BY AJC | PLANS CK'D. MDR

54W" PRESTRESSED GIRDER

SHEET 13 OF 19
268

8

8

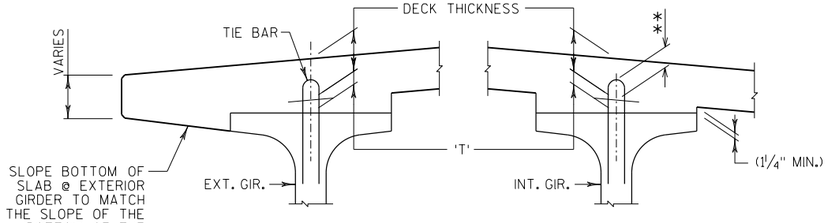
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PLOT DATE : 1/26/2017

PLOT BY : ajc

STATE PROJECT NUMBER

1058-25-70




## DECK HAUNCH DETAIL

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

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

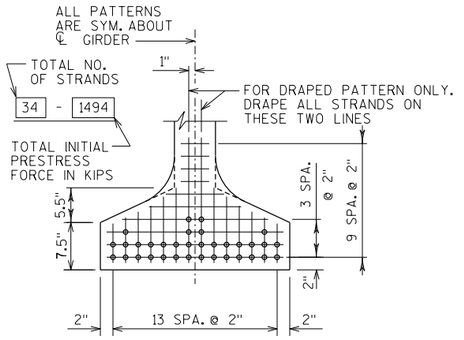
TO DETERMINE 'T', ELEV. OF TOP OF GIRDERS. AT ℄ OF SUBSTRUCTURE UNITS & AT 1/10 POINTS OF EACH SPAN SHALL BE TAKEN. THEN FOLLOW THIS PROCESS:

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

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

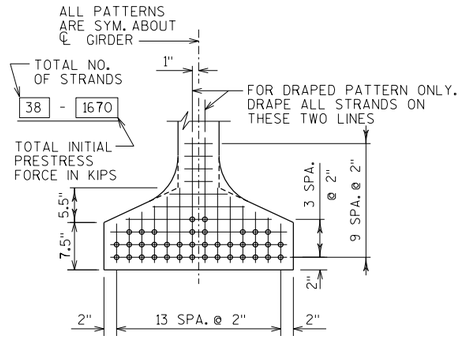
| GIRDER DATA | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SPAN | GIRDER | GIRDER LENGTH "L" | DEAD LOAD DEFL. (IN) | | | | | | | | | CONC. STRGTH. f'c (psi) | "P" FIRST 1/3 OF GIRDER | "P" MID 1/3 OF GIRDER | "P" END 1/3 OF GIRDER | DIA. OF STRAND (IN.) | DRAPED PATTERN | | | | | |
| | | | 1/10 | 2/10 | 3/10 | 4/10 | 5/10 | 6/10 | 7/10 | 8/10 | 9/10 | | | | | | TOTAL NO. OF STRANDS | f'ci (psi) ☆ | (IN.) "A" | "B" MIN. | "B" MAX" | "C" |
| 1 | 1,4 | 104'-4 1/2" | 0.4 | 0.8 | 1.1 | 1.3 | 1.3 | 1.3 | 1.1 | 0.8 | 0.4 | 8,000 | 6.50 | 6.00 | 6.50 | 0.6 | 34 | 6,800 | 49 | 16 | 19 | 5 |
| 1 | 2,3 | 104'-4 1/2" | 0.4 | 0.8 | 1.1 | 1.3 | 1.3 | 1.3 | 1.1 | 0.8 | 0.4 | 8,000 | 6.50 | 6.00 | 6.50 | 0.6 | 34 | 6,800 | 49 | 16 | 19 | 5 |
| 2 | 1,4 | 110'-4 1/2" | 0.5 | 1.0 | 1.4 | 1.6 | 1.7 | 1.6 | 1.4 | 1.0 | 0.5 | 8,000 | 6.50 | 6.00 | 6.50 | 0.6 | 38 | 6,800 | 49 | 16 | 19 | 5 |
| 2 | 2,3 | 110'-4 1/2" | 0.5 | 1.0 | 1.4 | 1.6 | 1.7 | 1.6 | 1.4 | 1.0 | 0.5 | 8,000 | 6.50 | 6.00 | 6.50 | 0.6 | 38 | 6,800 | 49 | 16 | 19 | 5 |

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



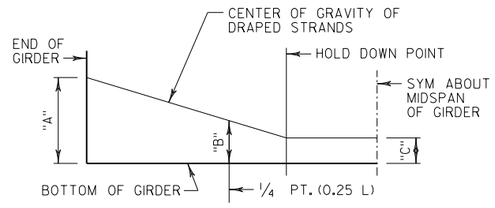

## TYPICAL STRAND PATTERN

SPAN 1




## TYPICAL STRAND PATTERN

SPAN 2



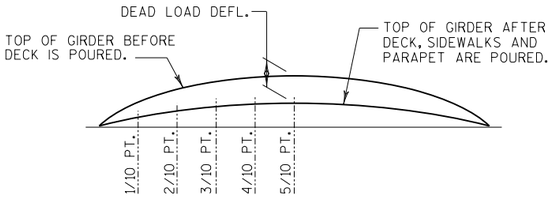

## DRAPED STRAND PROFILE

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

| SPAN | CAMBER (IN.) * |
|---|---|
| 1 | 3.0" |
| 2 | 3.6" |
| | |
| | |
| | |

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

THESE VALUES ARE FOR INFORMATIONAL PURPOSES ONLY.




## DEAD LOAD DEFLECTION DIAGRAM

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-58-129

DRAWN BY AJC | PLANS CK'D. MDR

54W" PRESTRESSED GIRDER DETAILS

SHEET 14 OF 19

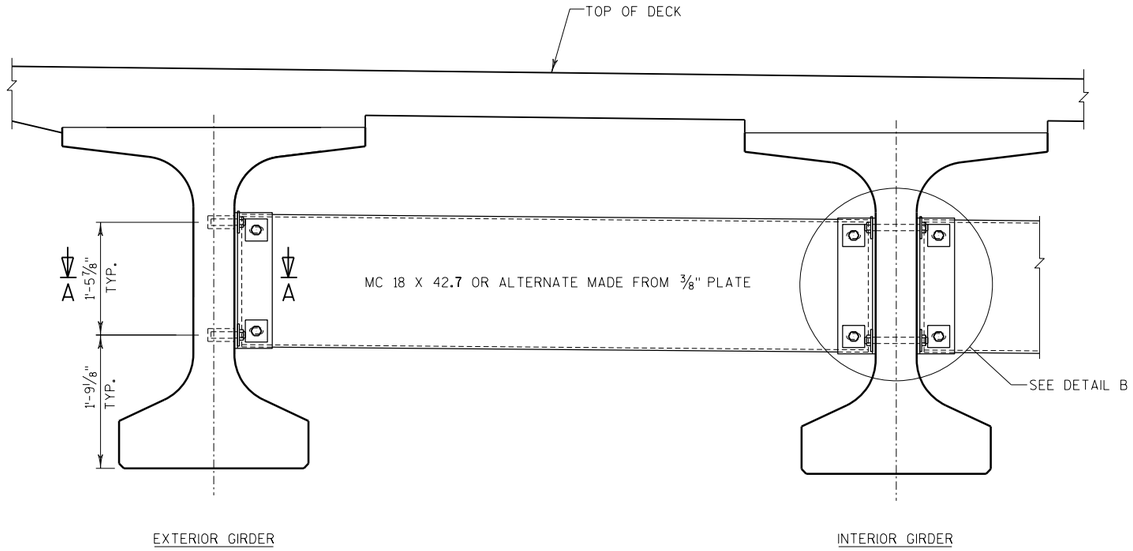
269

8

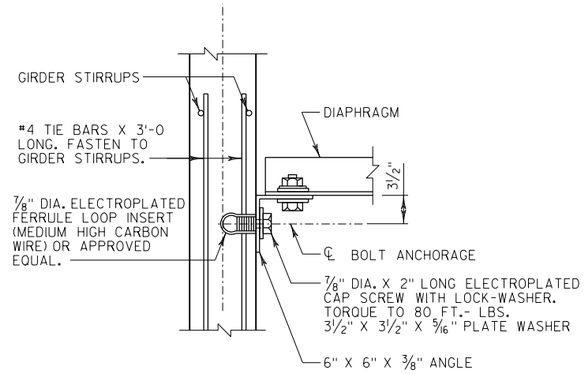
8

STATE PROJECT NUMBER

1058-25-70




PART TRANSVERSE SECTION AT DIAPHRAGM




SECTION A-A

(FOR EXTERIOR ATTACHMENT)

## NOTES

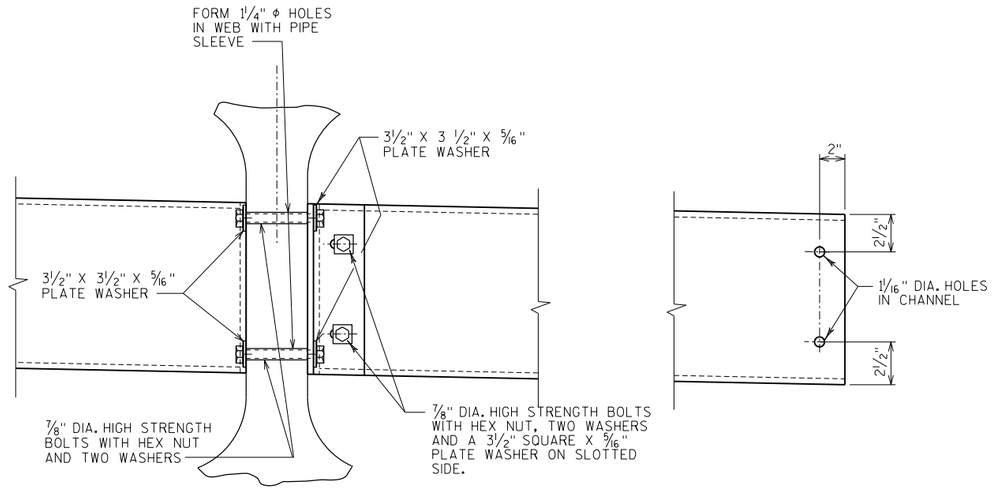
ALL DIAPHRAGM MATERIAL NOT EMBEDDED IN THE CONCRETE GIRDER SHALL BE PAID FOR AT THE UNIT PRICE BID FOR "STEEL DIAPHRAGMS B-58-129", EACH.

EACH DIAPHRAGM BETWEEN GIRDERS SHALL CONSTITUTE ONE UNIT.

ALL DIAPHRAGM STRUCTURAL STEEL SHALL BE ASTM A709 GRADE 36.

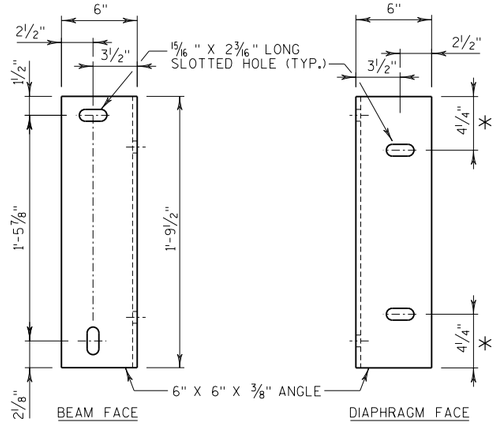
ALL DIAPHRAGM MATERIAL INCLUDING BOLTS, NUTS AND WASHERS SHALL BE GALVANIZED AFTER FABRICATION.

STEEL DIAPHRAGM TO CONCRETE WEB CONNECTION SHALL BE SNUG-TIGHT PLUS ¼ TURN, UNLESS NOTED OTHERWISE. HIGH STRENGTH BOLTS FOR WEB CONNECTION SHALL MEET THE REQUIREMENTS FOR ASTM A325 OR ASTM A449.



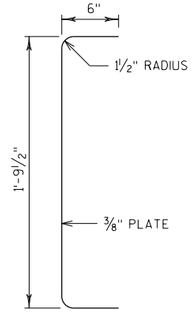

(FOR CONTINUOUS LINE OF DIAPHRAGM)

DETAIL B




DIAPHRAGM SUPPORT

* 2½" FOR ALTERNATE PLATE DIAPHRAGM




SECTION THRU ALTERNATE DIAPHRAGM

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-58-129

DRAWN BY AJC | PLANS CK'D. MDR

STEEL DIAPHRAGM

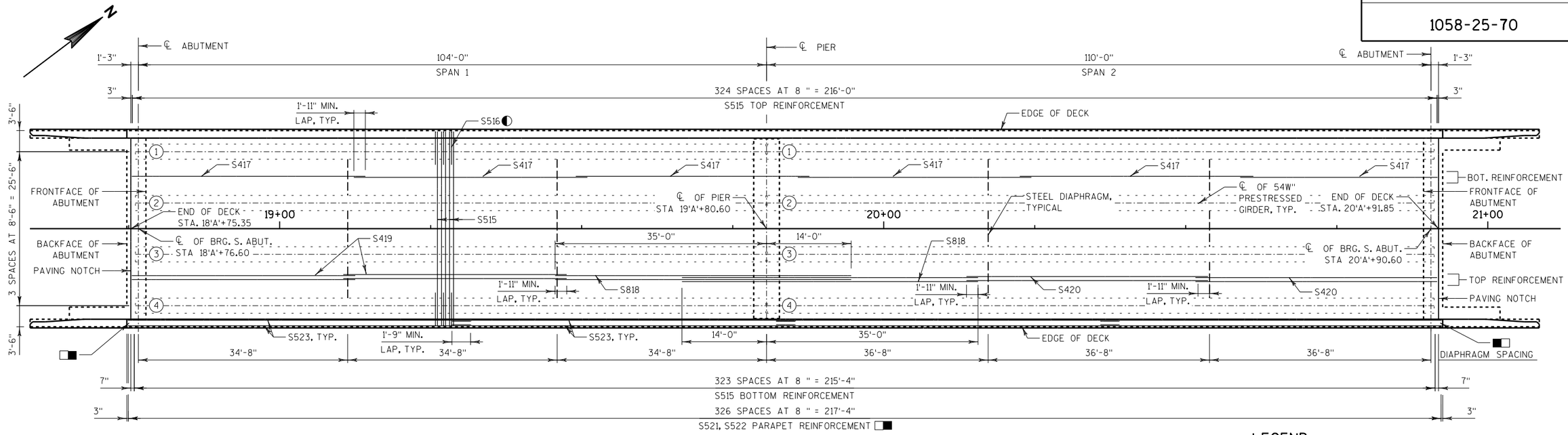
SHEET 15 OF 19
270

8

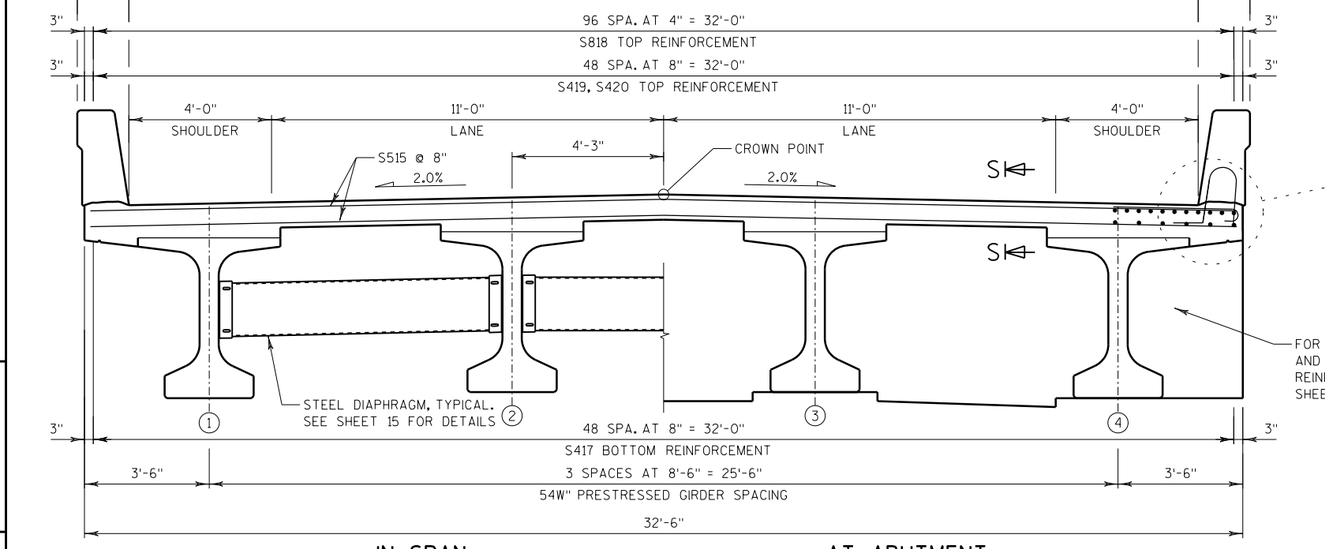
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STATE PROJECT NUMBER

1058-25-70

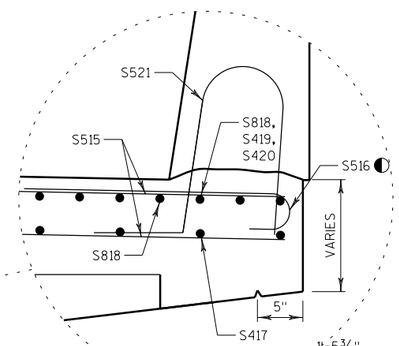



## PLAN




IN SPAN

FOR CONCRETE ABUTMENT AND PIER DIAPHRAGM REINFORCEMENT DETAILS SEE SHEET 17




AT ABUTMENT

## TYPICAL CROSS SECTION THRU DECK

(LOOKING NORTH)

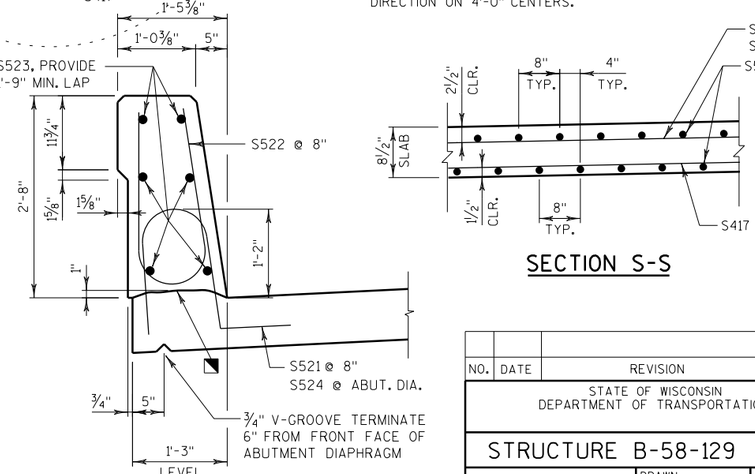
## LEGEND:

- ◐ LAP S516 ONTO EVERY OTHER TRANSVERSE BAR IN THE TOP MAT AS SHOWN.
- (1) GIRDER NUMBER
- ■ PROVIDE 2-S524 IN PARAPET AT EACH ABUT. DIAPHRAGM. PROVIDE S521 IN PARAPET AT 8" SPACING MAX ALONG SPAN

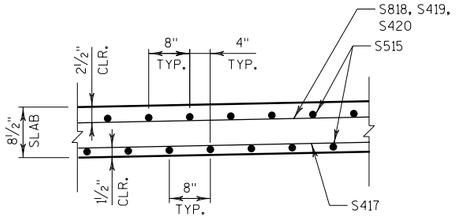
## NOTES:

THE BOTTOM TRANSVERSE BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS WITH A CENTER TO CENTER SPACING NOT TO EXCEED 4'-0". ONE LINE OF CONTINUOUS BAR CHAIRS SHALL BE PLACED NEAR EACH EDGE OF SLAB TO SUPPORT THE ENDS OF THE BOTTOM TRANSVERSE BAR STEEL.

THE TOP LONGITUDINAL BAR STEEL REINFORCEMENT SHALL BE SUPPORTED BY CONTINUOUS BAR CHAIRS IN TRANSVERSE DIRECTION ON 4'-0" CENTERS.




SECTION THRU PARAPET ON BRIDGE




SECTION S-S

## TOP OF DECK ELEVATIONS

| LOCATION | S. ABUT | 0.1 PT | 0.2 PT | 0.3 PT | 0.4 PT | 0.5 PT | 0.5 PT | 0.7 PT | 0.8 PT | 0.9 PT | PIER | 0.1 PT | 0.2 PT | 0.3 PT | 0.4 PT | 0.5 PT | 0.6 PT | 0.7 PT | 0.8 PT | 0.9 PT | N. ABUT |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| W. EDGE DECK | 836.12 | 836.11 | 836.08 | 836.04 | 835.98 | 835.93 | 835.88 | 835.83 | 835.77 | 835.72 | 835.67 | 835.62 | 835.56 | 835.51 | 835.45 | 835.39 | 835.31 | 835.23 | 835.14 | 835.04 | 834.93 |
| GIRDER 1 | 836.17 | 836.16 | 836.13 | 836.09 | 836.03 | 835.98 | 835.92 | 835.87 | 835.82 | 835.77 | 835.72 | 835.66 | 835.61 | 835.55 | 835.50 | 835.43 | 835.36 | 835.28 | 835.19 | 835.09 | 834.98 |
| GIRDER 2 | 836.34 | 836.33 | 836.30 | 836.26 | 836.20 | 836.15 | 836.09 | 836.04 | 835.99 | 835.94 | 835.89 | 835.83 | 835.78 | 835.72 | 835.67 | 835.60 | 835.53 | 835.45 | 835.36 | 835.26 | 835.15 |
| GIRDER 3 | 836.34 | 836.33 | 836.30 | 836.26 | 836.20 | 836.15 | 836.09 | 836.04 | 835.99 | 835.94 | 835.89 | 835.83 | 835.78 | 835.72 | 835.67 | 835.60 | 835.53 | 835.45 | 835.36 | 835.26 | 835.15 |
| GIRDER 4 | 836.17 | 836.16 | 836.13 | 836.09 | 836.03 | 835.98 | 835.92 | 835.87 | 835.82 | 835.77 | 835.72 | 835.66 | 835.61 | 835.55 | 835.50 | 835.43 | 835.36 | 835.28 | 835.19 | 835.09 | 834.98 |
| E. EDGE DECK | 836.12 | 836.11 | 836.08 | 836.04 | 835.98 | 835.93 | 835.88 | 835.83 | 835.77 | 835.72 | 835.67 | 835.62 | 835.56 | 835.51 | 835.45 | 835.39 | 835.31 | 835.23 | 835.14 | 835.04 | 834.93 |

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-58-129

DRAWN BY AJC | PLANS CK'D. MDR

SUPERSTRUCTURE PLAN & CROSS SECTION

SHEET 16 OF 19
271

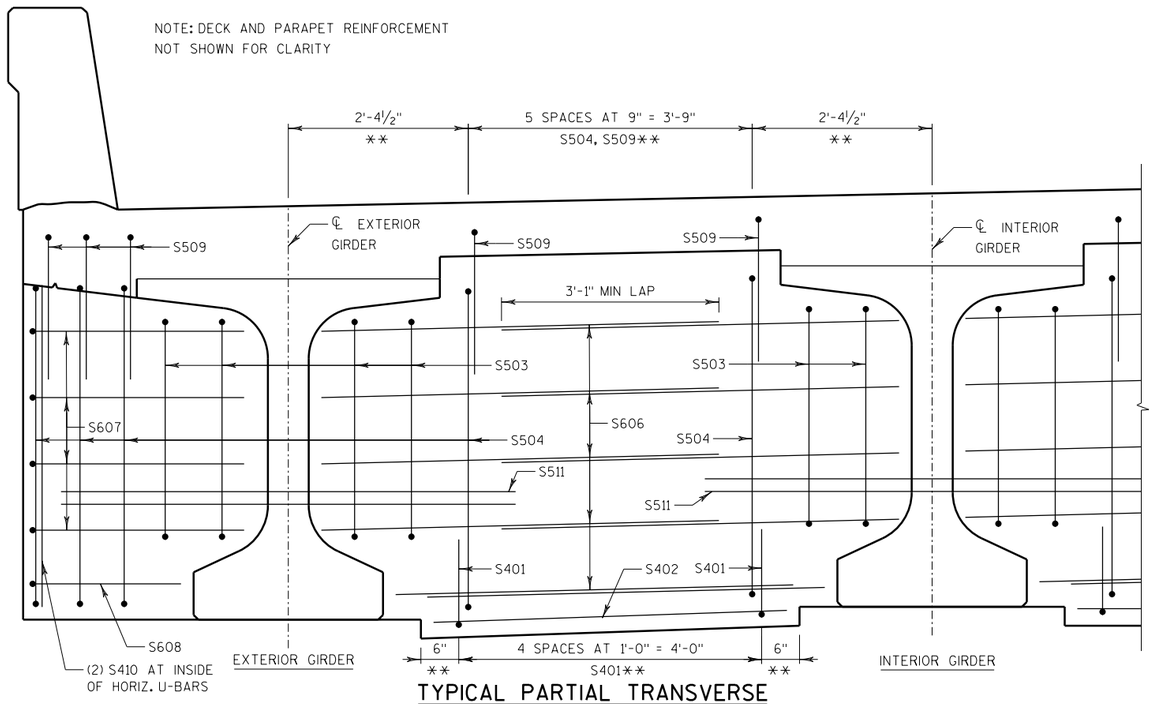
8

8

STATE PROJECT NUMBER

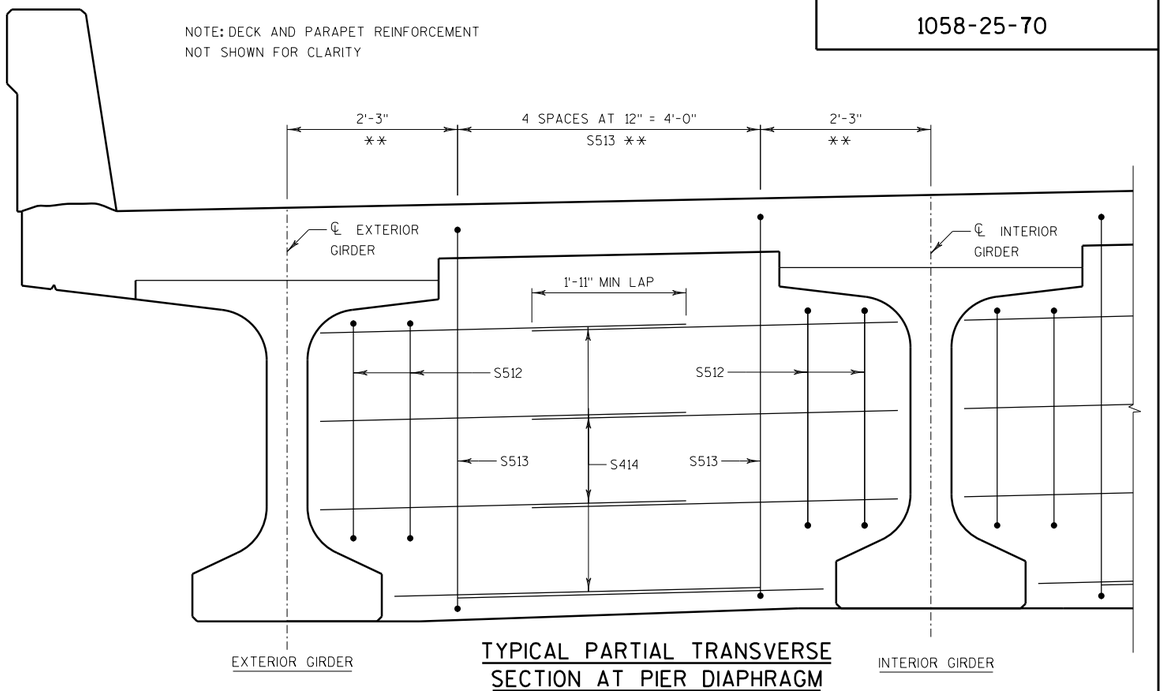
1058-25-70

NOTE: DECK AND PARAPET REINFORCEMENT NOT SHOWN FOR CLARITY




## TYPICAL PARTIAL TRANSVERSE SECTION AT ABUTMENT DIAPHRAGM

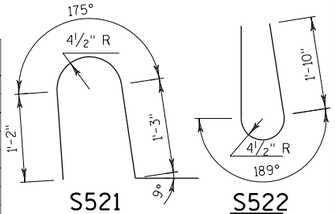
NOTE: DECK AND PARAPET REINFORCEMENT NOT SHOWN FOR CLARITY



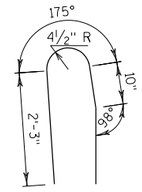

## TYPICAL PARTIAL TRANSVERSE SECTION AT PIER DIAPHRAGM

## SUPERSTRUCTURE BILL OF BARS

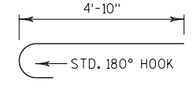
| BAR MARK | COAT | NO. | LENGTH | BENT | LOCATION |
|---|---|---|---|---|---|
| S401 | X | 30 | 3'-5" | X | ABUT. DIAPHRAGM VERT. |
| S402 | X | 12 | 4'-8" | | ABUT. DIAPHRAGM HORIZ. |
| S503 | X | 32 | 12'-2" | X | ABUT. DIAPHRAGM STIRRUP |
| S504 | X | 48 | 14'-8" | X | ABUT. DIAPHRAGM STIRRUP |
| S605 | X | 14 | 32'-2" | | ABUT. DIAPHRAGM HORIZ. |
| S606 | X | 60 | 5'-5" | | ABUT. DIAPHRAGM HORIZ. F.F. |
| S607 | X | 16 | 8'-2" | X | ABUT. DIAPHRAGM END HORIZ. |
| S608 | X | 4 | 6'-4" | X | ABUT. DIAPHRAGM END HORIZ. |
| S509 | X | 48 | 5'-9" | X | ABUT. DIAPHRAGM VERT. |
| S410 | X | 8 | 4'-2" | | ABUT. DIAPHRAGM END VERT. |
| S511 | X | 16 | 6'-0" | | ABUT. DIAPH. HORIZ. THRU GIRDERS |
| S512 | X | 12 | 10'-10" | X | PIER DIAPHRAGM STIRRUP |
| S513 | X | 15 | 13'-6" | X | PIER DIAPHRAGM VERT. |
| S414 | X | 48 | 4'-10" | | PIER DIAPHRAGM HORIZ. |
| S515 | X | 649 | 32'-2" | | SLAB TRANS. TOP AND BOTTOM |
| S516 | X | 326 | 5'-5" | X | SLAB TRANS. TOP AT OVERHANGS |
| S417 | X | 294 | 37'-8" | | SLAB LONG. BOT. |
| S818 | X | 97 | 49'-0" | | SLAB LONG. TOP |
| S419 | X | 98 | 37'-0" | | SLAB LONG. TOP SPAN 1 |
| S420 | X | 98 | 40'-0" | | SLAB LONG. TOP SPAN 2 |
| S521 | X | 650 | 4'-5" | X | PARAPET VERT. |
| S522 | X | 654 | 5'-0" | X | PARAPET VERT. |
| S523 | X | 48 | 55'-9" | | PARAPET HORIZ. |
| S524 | X | 4 | 5'-10" | X | PARAPET - VERT. AT ABUT. DIAPHRAGM |



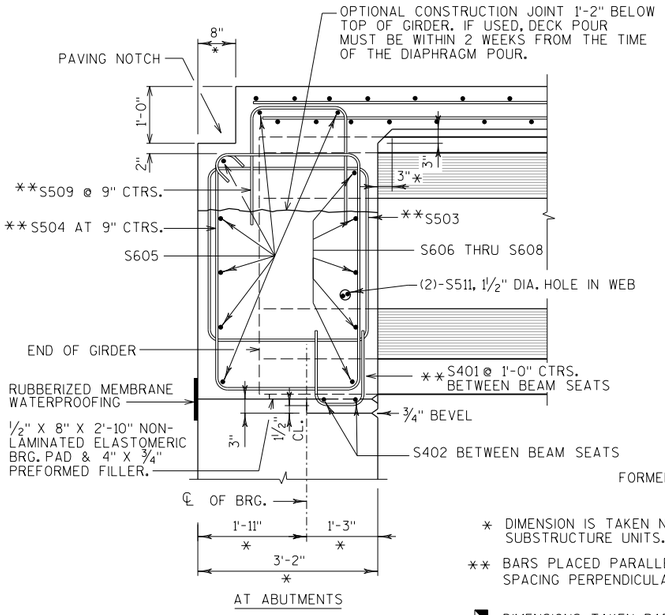

S521 S522




S524




S516

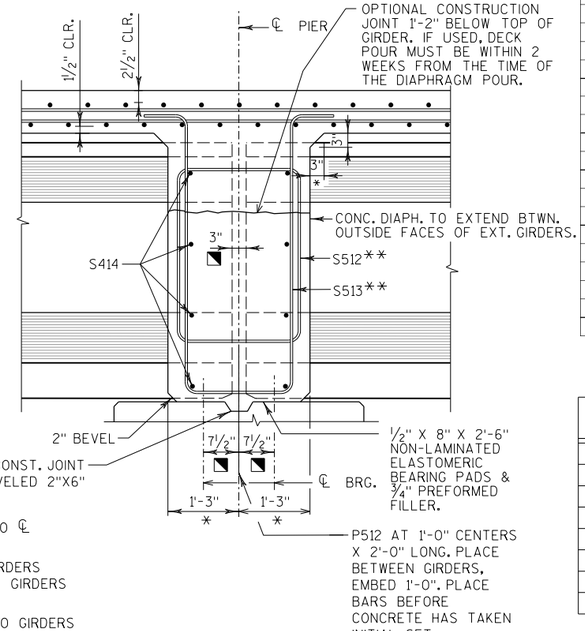



## AT ABUTMENT DIAPHRAGM

* DIMENSION IS TAKEN NORMAL TO ℄ SUBSTRUCTURE UNITS.

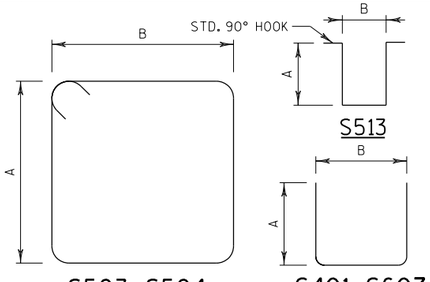
** BARS PLACED PARALLEL TO GIRDERS SPACING PERPENDICULAR TO ℄ GIRDERS

◥ DIMENSIONS TAKEN PARALLEL TO GIRDERS




## AT PIER DIAPHRAGM

| BAR MARK | A | B |
|---|---|---|
| S401 | 1'-4" | 11" |
| S503 | 2'-11" | 2'-10" |
| S504 | 4'-2" | 2'-10" |
| S607 | 2'-10" | 2'-10" |
| S608 | 1'-11" | 2'-10" |
| S509 | 1'-11" | 2'-2" |
| S512 | 2'-11" | 2'-2" |
| S513 | 5'-1" | 2'-2" |




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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-58-129

DRAWN BY AJC | PLANS CK'D. MDR

SUPERSTRUCTURE DETAILS

SHEET 17 OF 19
272

8

8

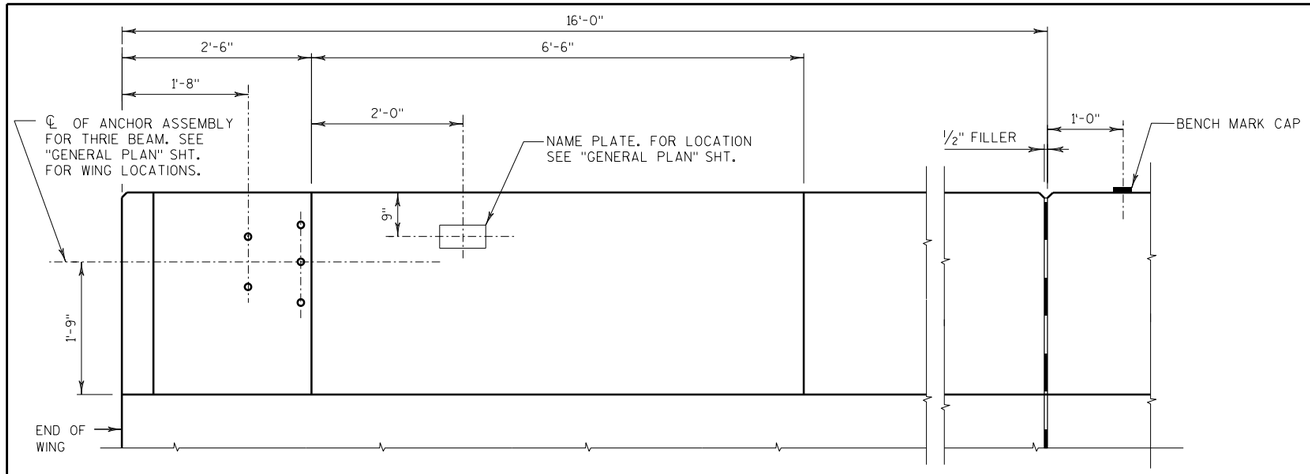
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\09 STRUCTURES\B-58-129- St. Augustine over STH 29\Plan\080117_ss.dgn

PLOT DATE : 1/26/2017

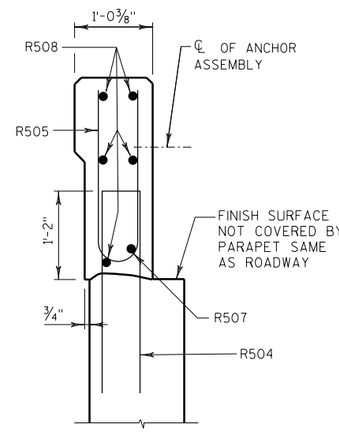
PLOT BY : ajc

STATE PROJECT NUMBER

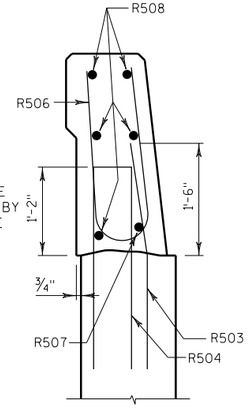
1058-25-70



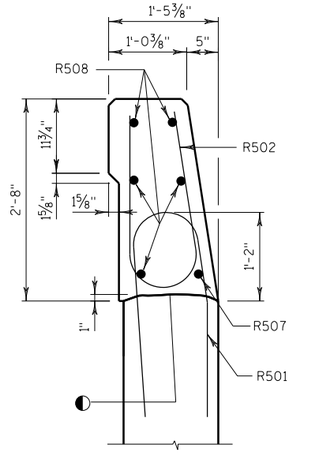

INSIDE ELEVATION




SECTION A

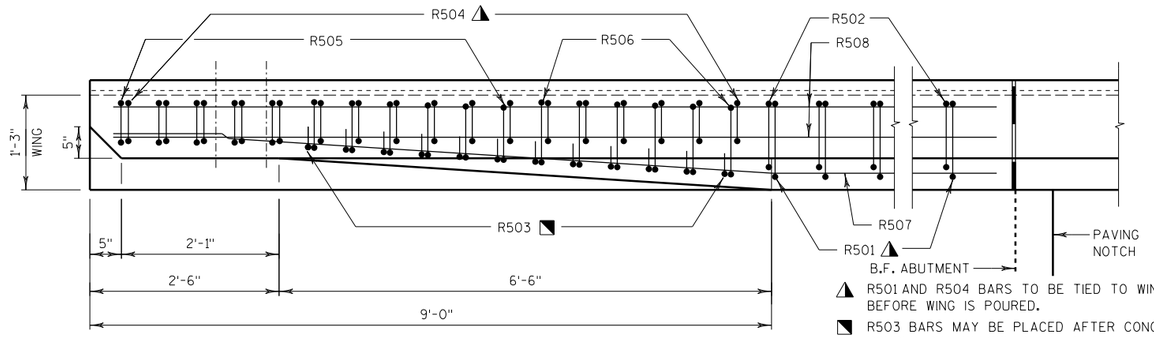



SECTION B




◐ CONST. JOINT - STRIKE OFF AS SHOWN.

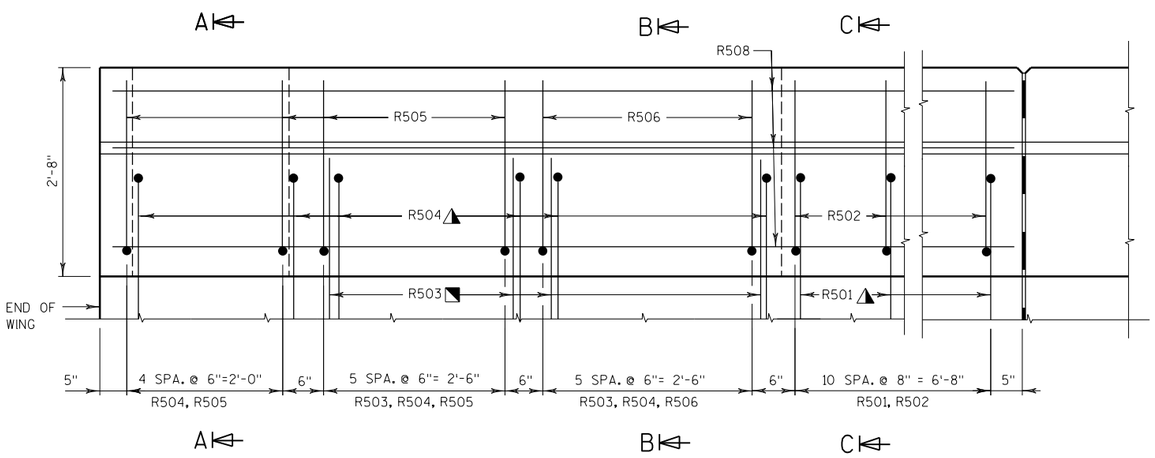
SECTION C




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

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

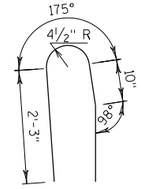
PLAN



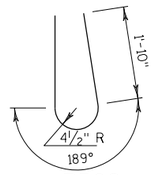

OUTSIDE ELEVATION

## BILL OF BARS

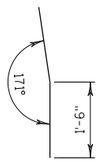
| BAR MARK | COAT | NO. S. ABUT. | NO. N. ABUT. | LENGTH | BENT | LOCATION |
|---|---|---|---|---|---|---|
| R501 | X | 22 | 22 | 5'-10" | X | PARAPET - VERT. |
| R502 | X | 22 | 22 | 5'-0" | X | PARAPET - VERT. |
| R503 | X | 24 | 24 | 3'-0" | X | PARAPET - VERT. |
| R504 | X | 34 | 34 | 5'-7" | X | PARAPET - VERT. |
| R505 | X | 22 | 22 | 4'-9" | X | PARAPET - VERT. |
| R506 | X | 12 | 12 | 4'-10" | X | PARAPET - VERT. |
| R507 | X | 2 | 2 | 15'-6" | X | PARAPET - HORIZ. |
| R508 | X | 10 | 10 | 15'-6" | | PARAPET - HORIZ. |



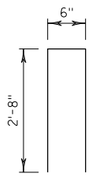

R501



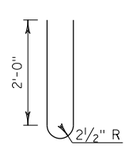

R502



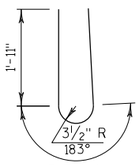

R503



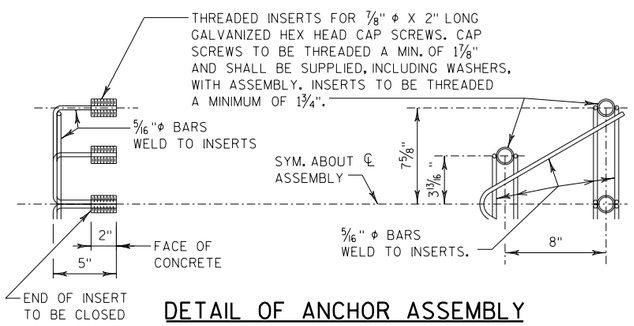

R504




R505



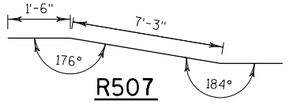

R506




## DETAIL OF ANCHOR ASSEMBLY

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

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




R507

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-58-129

DRAWN BY AJC | PLANS CK'D. MDR

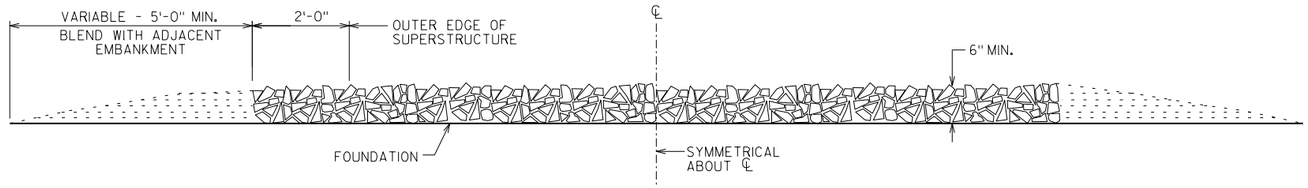
SINGLE SLOPE PARAPET 32SS

SHFFT 18 OF 19
273

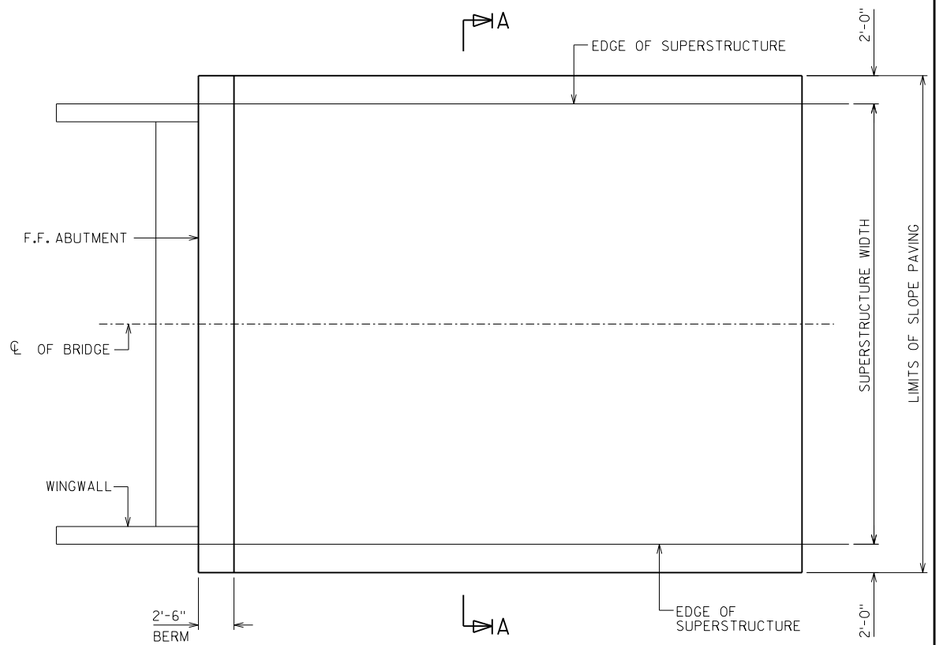
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8

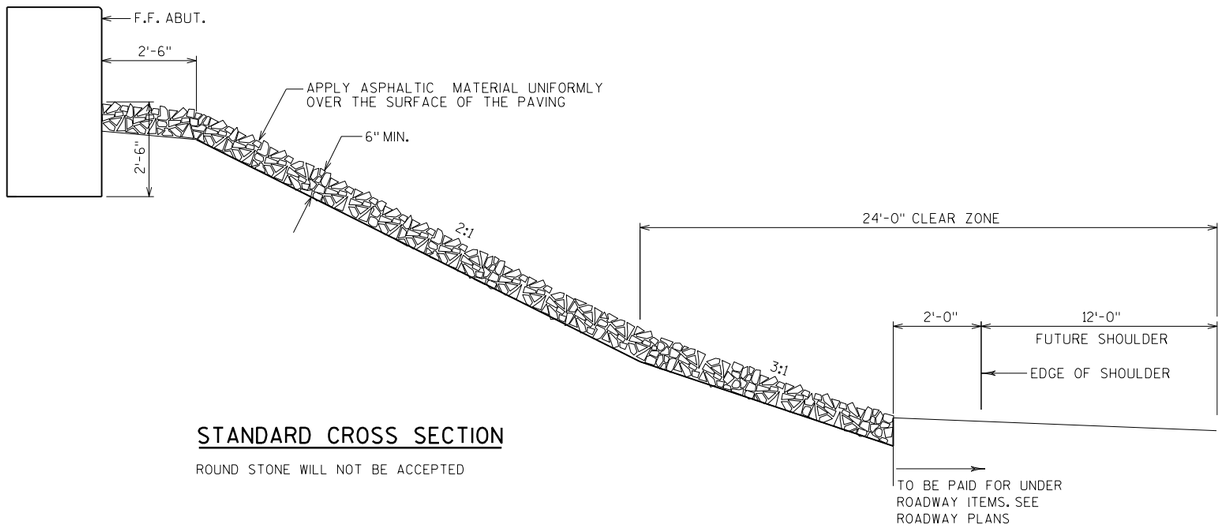
| STATE PROJECT NUMBER |
|---|
| 1058-25-70 |




## SECTION A-A




## PLAN




## STANDARD CROSS SECTION

ROUND STONE WILL NOT BE ACCEPTED

## GENERAL NOTES

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

WOOD FORMS MAY BE LEFT IN PLACE WHEN OF A QUALITY ACCEPTABLE TO THE ENGINEER.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-58-129

DRAWN BY AJC | PLANS CK'D. MDR

SLOPE PAVING - CRUSHED AGGREGATE

SHEET 19 OF 19
274

8

8

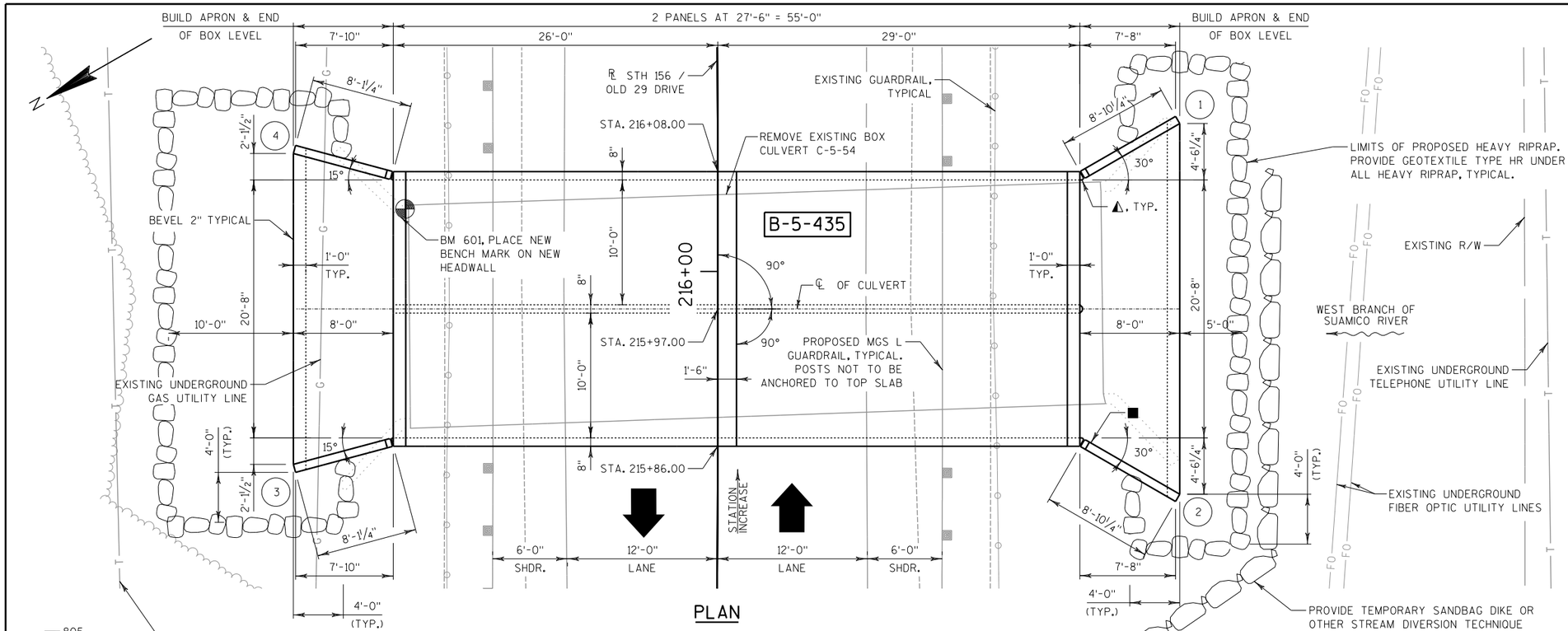
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PLOT DATE : 1/26/2017

PLOT BY : ajc

STATE PROJECT NUMBER

1058-25-70




## DESIGN DATA

LIVE LOAD: HL-93
INVENTORY RATING FACTOR: RF = 1.05
OPERATING RATING FACTOR: RF = 1.35
WISCONSIN STANDARD PERMIT VEHICLE (Wis-SPV) = 255 KIPS
EARTH LOAD: DESIGNED FOR FILL
HEIGHT RANGE OF 1.0 TO 3.0 FEET.

MATERIAL PROPERTIES:

CONCRETE MASONRY _____ f'c = 3.5 K.S.I.
BAR STEEL REINFORCEMENT _____ fy = 60 K.S.I.

## HYDRAULIC DATA

Q(100) = 440 C.F.S.
VELOCITY - THROUGH STRUCTURE = 6.3 F.P.S.
HIGH WATER ELEVATION, Q(100) = 798.98
WATERWAY AREA = 70 SQ. FT.
DRAINAGE AREA = 2.9 SQ. MI.
ROADWAY OVERTOPPING FREQUENCY = N/A
SCOUR CRITICAL CODE = 8
Q(2) = 105 C.F.S.
HIGH WATER EL, Q(2) = 796.65

## TRAFFIC DATA

STH 156 / OLD 29 DRIVE:
ADT (2017) = 1,900
ADT (2037) = 2,500
RDS = 50 M.P.H.

## LIST OF DRAWINGS


1. GENERAL PLAN & ELEVATION
2. BOX CULVERT DETAILS
3. BOX CULVERT DETAILS 2
4. APRON DETAILS
5. APRON DETAILS 2
6. SUBSURFACE EXPLORATION


## STRUCTURE DESIGN CONTACTS

BRIDGE OFFICE: WILLIAM DREHER (608) 266-8489
CONSULTANT: MICHAEL D. RADTKE (414) 347-1607

WISCONSIN MICHAEL D. RADTKE 40967 Elm Grove WI PROFESSIONAL ENGINEER
FEB 10, 2017

## 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.

THE CONCRETE IN THE CUT OFF WALL MAY BE PLACED UNDERWATER IF THE EXCAVATION CANNOT BE DEWATERED.

THE EXISTING STRUCTURE C-5-54 IS A 16'X5'-10" THREE SIDED CONCRETE BOX CULVERT APPROXIMATELY 55 FEET IN LENGTH.

THE CONTRACTOR MAY FURNISH A PRECAST CONCRETE BOX CULVERT IN LIEU OF THE CAST-IN-PLACE BOX CULVERT WITH THE ACCEPTANCE OF THE SHOP DRAWINGS BY THE STRUCTURES DESIGN SECTION. THE PRECAST CONCRETE BOX CULVERT SHALL CONFORM TO THE PRECAST DETAILS IN CHAPTER 36 OF THE CURRENT WISCONSIN DOT BRIDGE MANUAL. PAYMENT FOR THE PRECAST CULVERT SHALL BE BASED ON QUANTITIES AND PRICES BID FOR THE ITEMS LISTED IN THE "TOTAL ESTIMATED QUANTITIES". IF A PRECAST CONCRETE BOX CULVERT OPTION IS PERSUED, CONTRACTOR SHALL MAKE SURE STRUCTURE WIDTH DOES NOT EXCEED WIDTH REQUIRED BY THE MGS L GUARDRAIL STANDARD DETAIL.

SEE ROADWAY PLANS FOR TEMPORARY DIVERSION CHANNEL DETAILS. WORK TO BE PAID FOR UNDER ROADWAY BID ITEMS EXCEPT EXCAVATION FOR TEMPORARY BYPASS CHANNEL WILL BE INCLUDED IN BID ITEM, "EXCAVATION FOR STRUCTURES CULVERTS B-5-435".

## LEGEND

(X) INDICATES WING NUMBER

◭ FOR CORNER DETAILS, SEE "APRON DETAILS" SHEETS

■ FOR NAME PLATE LOCATION, SEE "BOX CULVERT DETAIL" SHEET

◐ UNDERCUT 1'-0" (INCLUDED IN EXCAVATION FOR STRUCTURES), PLACE GEOTEXTILE FABRIC TYPE 'C', AND BACKFILL WITH 'BREAKER RUN'. EXTEND 3'-0" BEYOND THE FOOTPRINT OF THE CULVERT.

☐ PLACE AN 18" (MIN.) WIDE SHEET OF "RUBBERIZED MEMBRANE WATERPROOFING" ON TOP SLAB OVER ALL CONSTRUCTION JOINTS AND EXTEND DOWN TO BOTTOM OF OUTSIDE WALLS.

## BENCH MARK

| NO. | STATION | DESCRIPTION | EL. |
|---|---|---|---|
| 601 | 216+05 (LT) | CHISELED SQUARE ON HEADWALL | 799.27 |

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


emcs INC
1300 W. Canal Street, Suite 200
Milwaukee, WI 53233
414.347.1607 Fax 414.347.1347


STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher SDR 02/20/17
CHIEF STRUCTURES DESIGN ENGINEER DATE

# STRUCTURE B-5-435

STH 156 OVER WEST BRANCH SUAMICO RIVER

| COUNTY | TOWN |
|---|---|
| BROWN | PITTSFIELD |

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

| DESIGNED BY | DESIGN CK'D. | DRAWN BY | PLANS CK'D. |
|---|---|---|---|
| AJC | MDR | AJC | MDR |

GENERAL PLAN & ELEVATION

SHEET 1 OF 6
275

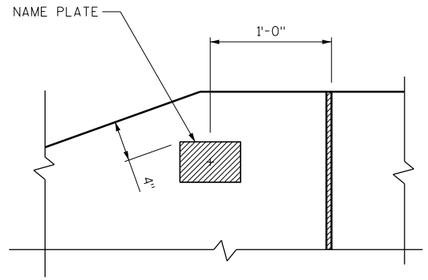
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\09 STRUCTURES\B-5-435 - STH 156 over Suamico Trib\Plan\080101_gp.dgn
PLOT DATE : 2/10/2017
PLOT BY : mdr

STATE PROJECT NUMBER

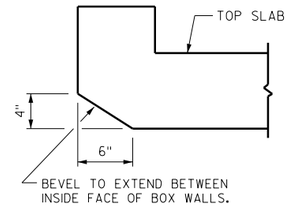
1058-25-70

## TOTAL ESTIMATED QUANTITIES

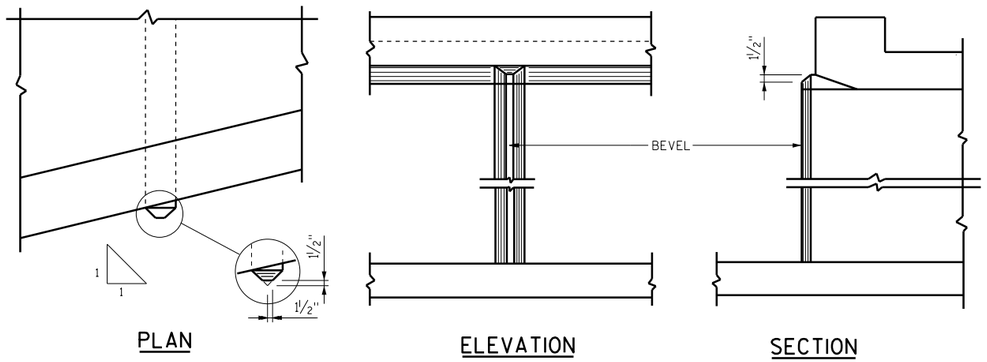
| BID ITEM NO. | BID ITEMS | UNIT | INLET | BARREL | OUTLET | TOTAL |
|---|---|---|---|---|---|---|
| 203.0600.S | REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 215+97.00 | LS | - | - | - | 1 |
| 206.2000 | EXCAVATION FOR STRUCTURES CULVERTS B-05-0435 | LS | - | - | - | 1 |
| 210.2500 | BACKFILL STRUCTURE TYPE B | TON | 20 | 155 | 20 | 195 |
| 311.0110 | BREAKER RUN | TON | 19 | 115 | 17 | 151 |
| 504.0100 | CONCRETE MASONRY CULVERTS | CY | 11 | 115 | 12 | 138 |
| 505.0400 | BAR STEEL REINFORCEMENT HS STRUCTURES | LB | 440 | 15720 | 470 | 16630 |
| 505.0600 | BAR STEEL REINFORCEMENT HS COATED STRUCTURES | LB | 430 | - | 390 | 820 |
| 516.0500 | RUBBERIZED MEMBRANE WATERPROOFING | SY | 5 | 6 | 5 | 16 |
| 606.0300 | RIPRAP HEAVY | CY | 20 | - | 30 | 50 |
| 645.0105 | GEOTEXTILE TYPE C | SY | - | 223 | - | 223 |
| 645.0120 | GEOTEXTILE TYPE HR | SY | 26 | - | 43 | 69 |
| | NON-BID ITEMS | | | | | |
| | FILLER | SIZE | 3/4" | - | - | |




NAME PLATE LOCATION
WING 2

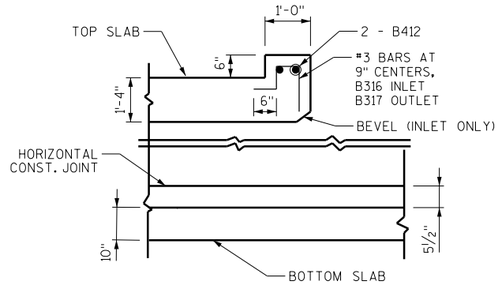



SECTION THRU INLET HEADER

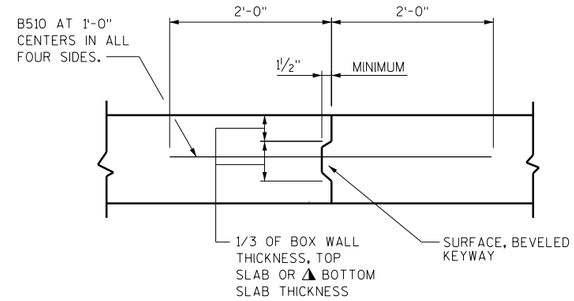



PLAN ELEVATION SECTION

INLET NOSE CENTERWALL DETAILS

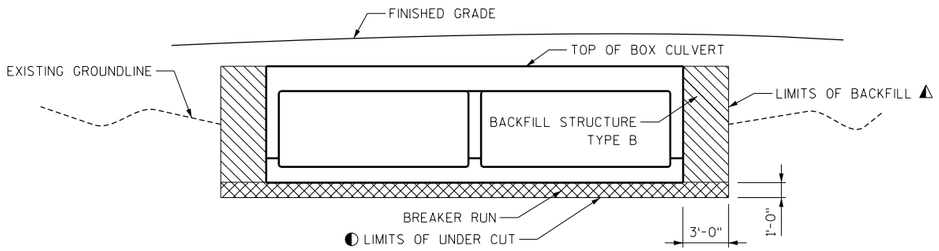



TYPICAL SECTION THRU
CULVERT HEADERS




CONSTRUCTION JOINT

⚠ IN LIEU OF CONSTRUCTION JOINTS IN THE BOTTOM SLAB, THE CONTRACTOR MAY USE 2" DEEP SAW CUTS WITHIN 12 HOURS AFTER POURING.




TYPICAL SECTION THRU BOX CULVERT

## NOTES

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CULVERTS B-5-435" SHALL BE THE EXISTING GROUND LINE.

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

BACKFILL WITH "BACKFILL STRUCTURE TYPE B" ALL VOLUME WHICH CANNOT BE PLACED BEFORE CULVERT CONSTRUCTION AND WILL NOT OCCUPIED BY THE NEW STRUCTURE. BACKFILL WITHIN THE LENGTH OF THE BOX INCLUDING THE APRON WING WALLS

◐ UNDER CUT 1'-0". INCLUDE THE EXCAVATION FOR UNDER CUT IN "EXCAVATION FOR STRUCTURES CULVERTS B-5-435". PLACE "GEOTEXTILE TYPE C" AND BACKFILL WITH "BREAKER RUN".

PLACE ALL PRECAST BOX SECTIONS ON A BEDDING OF "STRUCTURE BACKFILL TYPE B" OF 6" MINIMUM DEPTH.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-435

DRAWN BY PLR | PLANS CK'D. MDR

BOX CULVERT DETAILS

SHEET 2 OF 6
276

8

8

STATE PROJECT NUMBER

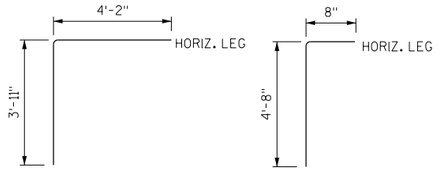
1058-25-70

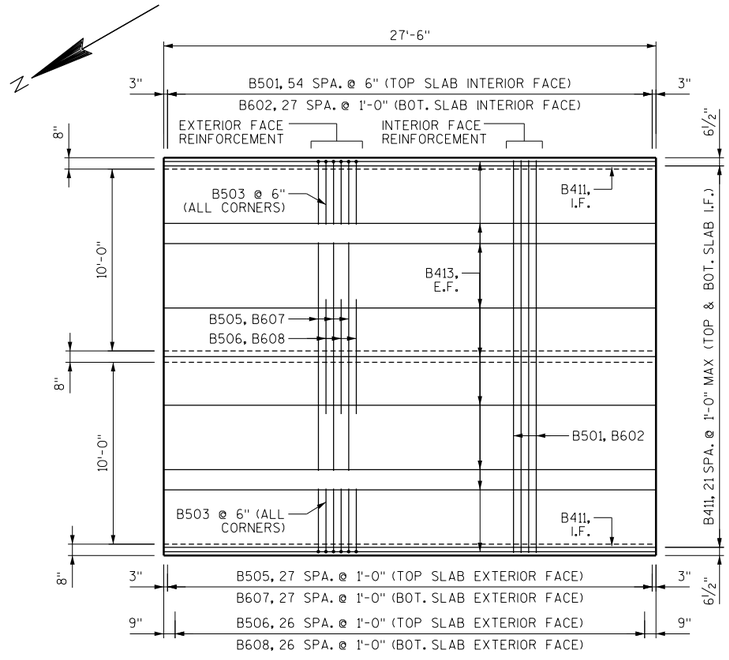
## BILL OF BARS FOR BARREL

| BAR MARK | NO. | LENGTH | BENT | LOCATION |
|---|---|---|---|---|
| B501 | 110 | 21'-8" | | TOP SLAB TRANS. I.F. |
| B602 | 56 | 21'-8" | | BOTTOM SLAB TRANS. I.F. |
| B503 | 440 | 7'-11" | X | CORNER BARS |
| B404 | 112 | 5'-4" | X | INTERIOR WALL VERT. |
| B505 | 56 | 15'-8" | | TOP SLAB TRANS. E.F. |
| B506 | 54 | 8'-0" | | TOP SLAB TRANS. E.F. |
| B607 | 56 | 15'-8" | | BOTTOM SLAB TRANS. E.F. |
| B608 | 54 | 8'-0" | | BOTTOM SLAB TRANS. E.F. |
| B409 | 112 | 2'-9" | | INTERIOR WALL DOWEL |
| B510 | 56 | 4'-0" | | CONST. JT. DOWEL |
| B411 | 88 | 27'-2" | | TOP & BOT. SLAB LONG. I.F. INT. PANEL |
| B412 | 4 | 21'-8" | | HEADERS HORIZ. |
| B413 | 36 | 27'-2" | | TOP & BOT. SLAB LONG. E.F. INT. PANEL |
| B414 | 112 | 2'-9" | | EXTERIOR WALL DOWEL |
| B415 | 36 | 27'-2" | | EXTERIOR AND INTERIOR WALL LONG. |
| B316 | 29 | 3'-1" | X | INLET HEADER TIES |
| B317 | 29 | 3'-5" | X | OUTLET HEADER TIES |
| B418 | 112 | 4'-8" | | EXTERIOR WALL VERT. I.F. |

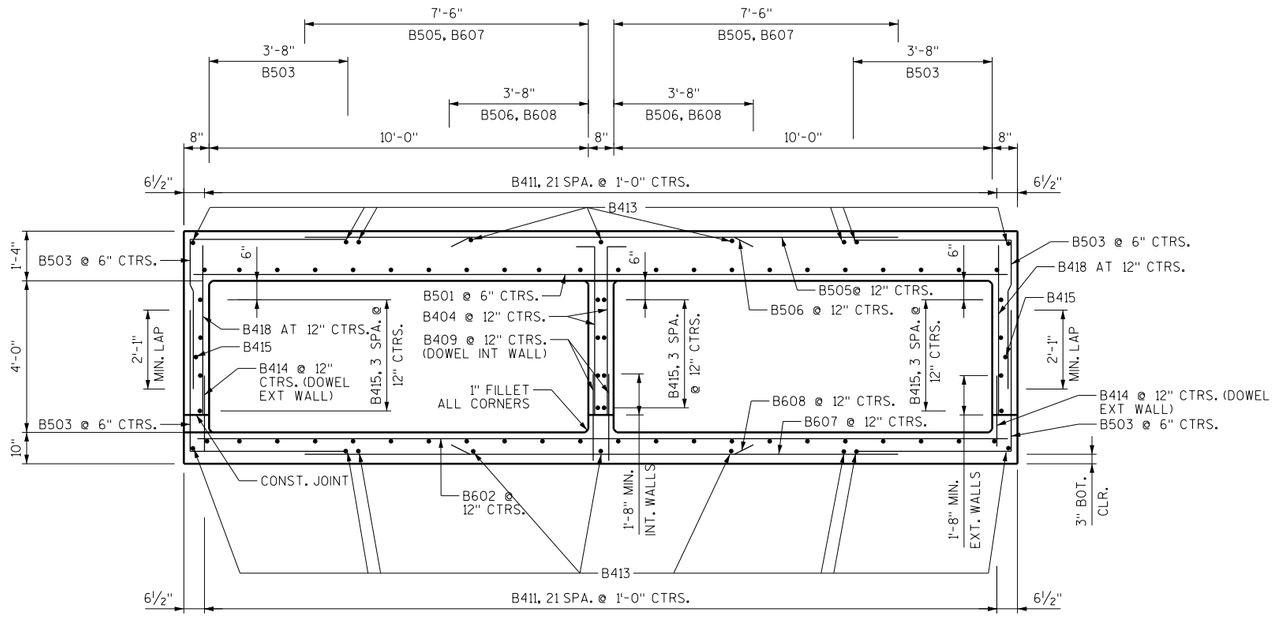
ALL REINFORCEMENT BARS IN BARREL WILL BE UNCOATED.

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




PLAN VIEW OF TYPICAL INTERIOR PANEL




SECTION THRU BOX

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-435

DRAWN BY PLR | PLANS CK'D. MDR

BOX CULVERT DETAILS 2

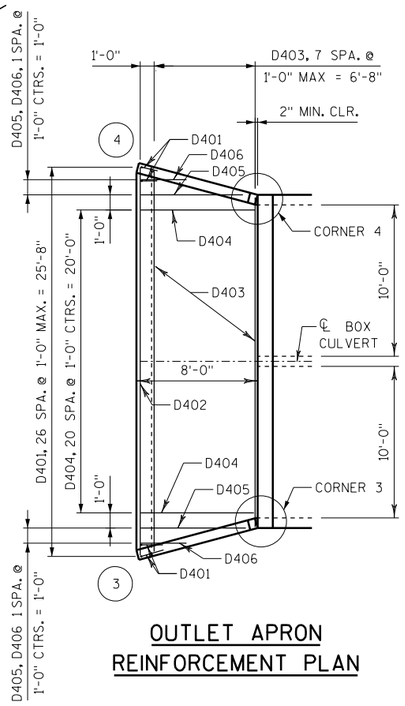
SHEET 3 OF 6
277

8

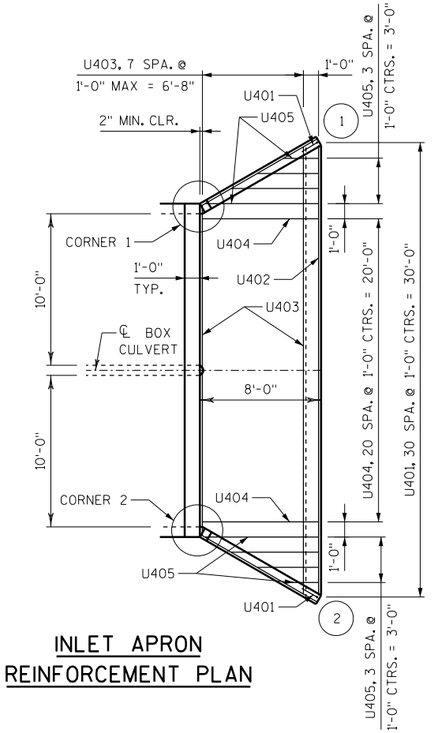
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STATE PROJECT NUMBER

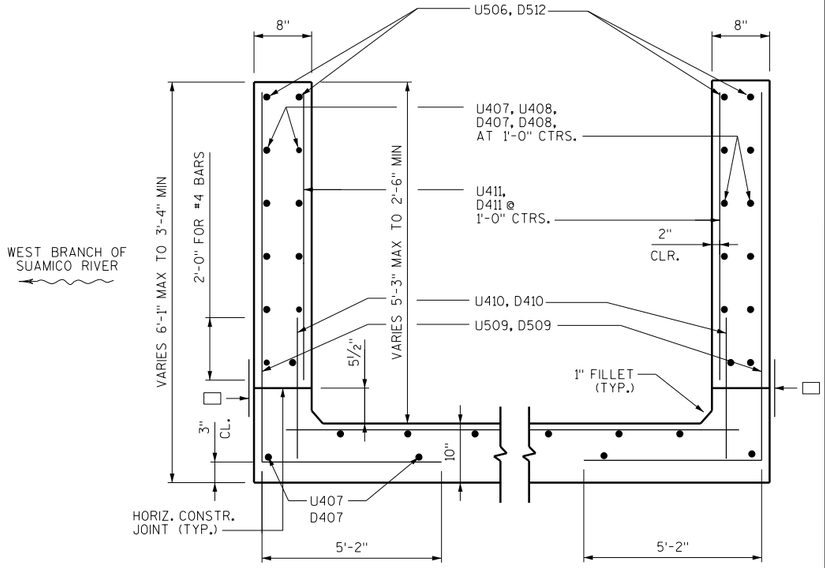
1058-25-70




## OUTLET APRON REINFORCEMENT PLAN

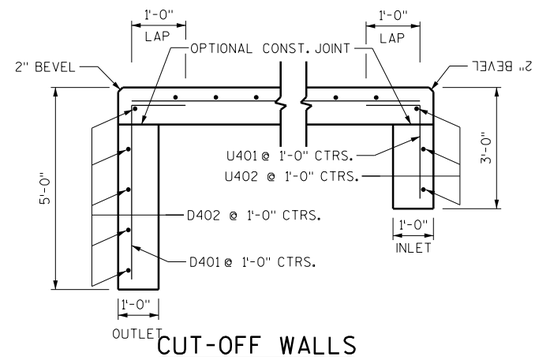



## INLET APRON REINFORCEMENT PLAN



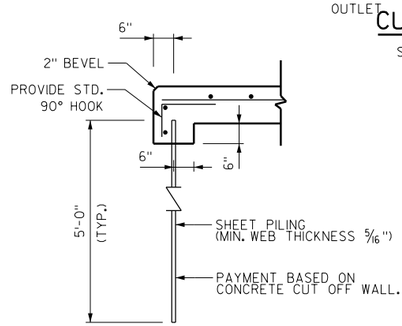

## SECTION THRU WINGWALLS

☐ 18" MIN. WIDTH RUBBERIZED MEMBRANE WATERPROOFING ALONG HORIZ. CONSTR. JT. IN WING. (TYP.)



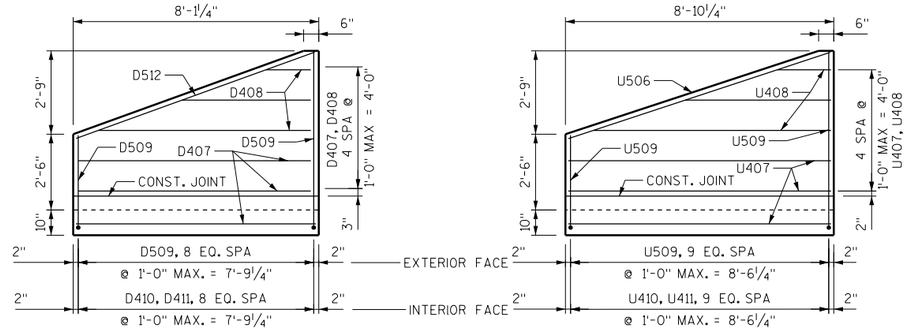

## CUT-OFF WALLS

SECTION THRU WALLS



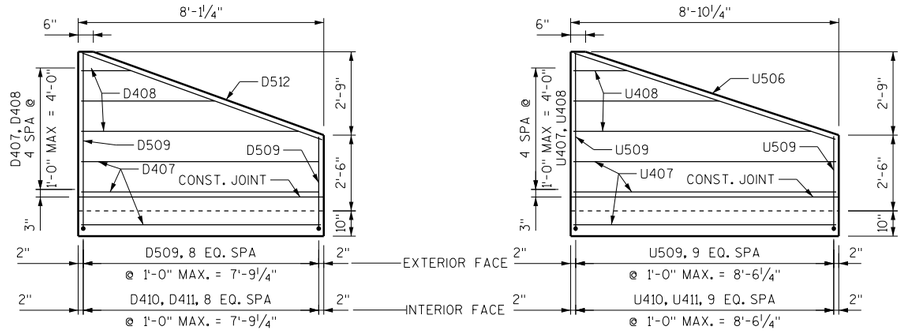

## ALTERNATE CUT-OFF WALL

THE ABOVE ALT. MAY BE USED IN LIEU OF THE CAST-IN-PLACE CONC. CUT-OFF WALLS. PAYMENT WILL BE BASED ON THE CONC. CUT-OFF WALLS.




## WING 3
EXTERIOR FACE

## WING 1
EXTERIOR FACE




## WING 4
EXTERIOR FACE

## WING 2
EXTERIOR FACE

NOTE:
ALL WING ELEVATION VIEWS SHOW EXTERIOR FACE REINFORCING ONLY. INTERIOR FACE REINFORCING NOT SHOWN FOR CLAIRTY.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-435

DRAWN BY PLR | PLANS CK'D. MDR

APRON DETAILS

SHEET 4 OF 6
278

8

8

STATE PROJECT NUMBER

1058-25-70

## BILL OF BARS FOR INTLET APRON

| BAR | NO. | LENGTH | COAT | BENT | SERIES | LOCATION |
|---|---|---|---|---|---|---|
| U401 | 31 | 3'-6" | | X | | INLET CUTOFF WALL VERT. |
| U402 | 3 | 29'-9" | | | | INLET CUTOFF WALL HORIZ. |
| U403 | 8 | 25'-8" | | | X | INLET APRON TRANSVERSE |
| U404 | 21 | 10'-1" | | | | INLET APRON LONG. |
| U405 | 8 | 4'-11" | | | X | INLET APRON LONG. |
| U506 | 4 | 8'-8" | X | | | INLET WINGWALL TOP DIAG. WING 1 & 2 |
| U407 | 12 | 8'-6" | X | | | INLET WINGWALL LONG. WING 1 & 2 |
| U408 | 12 | 4'-10" | X | | X | INLET WINGWALL LONG. WING 1 & 2 |
| U509 | 20 | 9'-4" | X | X | X | INLET WINGWALL CONER BAR WING 1 & 2 |
| U410 | 20 | 3'-1" | X | | | INLET WINGWALL I.F. DOWEL WING 1 & 2 |
| U411 | 20 | 3'-2" | X | | X | INLET WINGWALL VERT. I.F. WING 1 & 2 |

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

## BAR SERIES TABLE

| BAR | NO. REQ'D. | LENGTHS FOR EACH SERIES |
|---|---|---|
| U403 | 1 SERIES OF 8 | 21'-9" TO 29'-6" |
| U405 | 2 SERIES OF 4 | 2'-3" TO 7'-7" |
| U408 | 4 SERIES OF 3 | 1'-10" TO 7'-10" |
| U509 | 2 SERIES OF 10 | 7'-11" TO 10'-8" |
| U411 | 2 SERIES OF 10 | 1'-9" TO 4'-7" |

BUNDLE AND TAG EACH SERIES SEPERATELY

## BILL OF BARS FOR OUTLET APRON

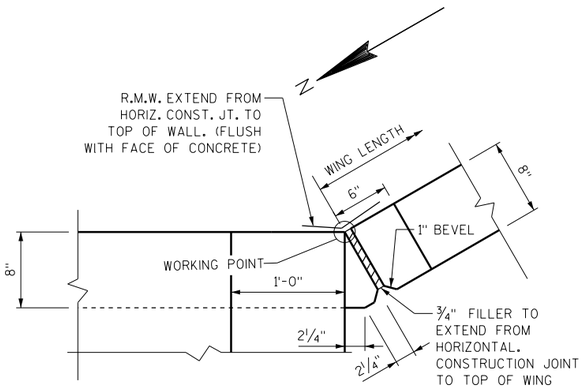
| BAR | NO. | LENGTH | COAT | BENT | SERIES | LOCATION |
|---|---|---|---|---|---|---|
| D401 | 27 | 5'-6" | | X | | OUTLET CUTOFF WALL VERT. |
| D402 | 5 | 25'-6" | | | | OUTLET CUTOFF WALL HORIZ. |
| D403 | 8 | 23'-4" | | | X | OUTLET APRON TRANSVERSE |
| D404 | 21 | 10'-1" | | | | OUTLET APRON LONG. |
| D405 | 2 | 6'-11" | | | | OUTLET APRON LONG. |
| D406 | 2 | 3'-0" | | | | OUTLET APRON LONG. |
| D407 | 12 | 7'-9" | X | | | OUTLET WINGWALL LONG. WING 3 & 4 |
| D408 | 12 | 4'-6" | X | | X | OUTLET WINGWALL LONG. WING 3 & 4 |
| D509 | 18 | 9'-4" | X | X | X | OUTLET WINGWALL CONER BAR WING 3 & 4 |
| D410 | 18 | 3'-1" | X | | | OUTLET WINGWALL I.F. DOWEL WING 3 & 4 |
| D411 | 18 | 3'-2" | X | | X | OUTLET WINGWALL VERT. I.F. WING 3 & 4 |
| D512 | 4 | 8'-2" | X | | | INLET WINGWALL TOP DIAG. WING 3 & 4 |

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

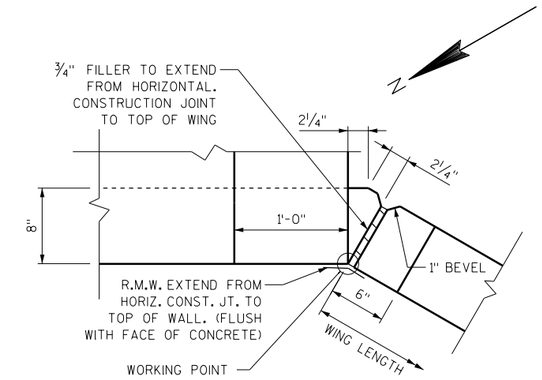
## BAR SERIES TABLE

| BAR | NO. REQ'D. | LENGTHS FOR EACH SERIES |
|---|---|---|
| D403 | 1 SERIES OF 8 | 21'-8" TO 25'-0" |
| D408 | 4 SERIES OF 3 | 1'-9" TO 7'-3" |
| D509 | 2 SERIES OF 9 | 7'-11" TO 10'-8" |
| D411 | 2 SERIES OF 9 | 1'-9" TO 4'-7" |

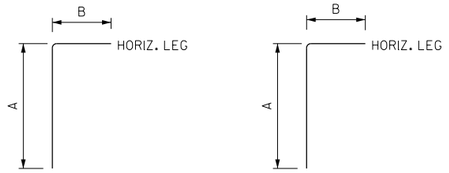
BUNDLE AND TAG EACH SERIES SEPERATELY




CORNER 1




CORNER 2



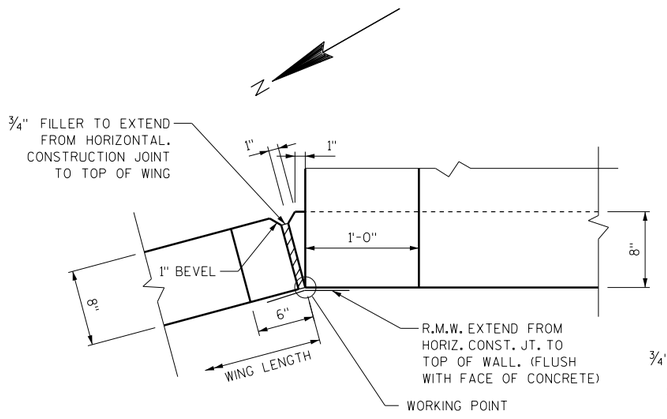

U401, U509

| BAR MARK | A | B |
|---|---|---|
| U401 | 2'-7" | 1'-0" |
| U509 | 4'-8" | 3'-8" |

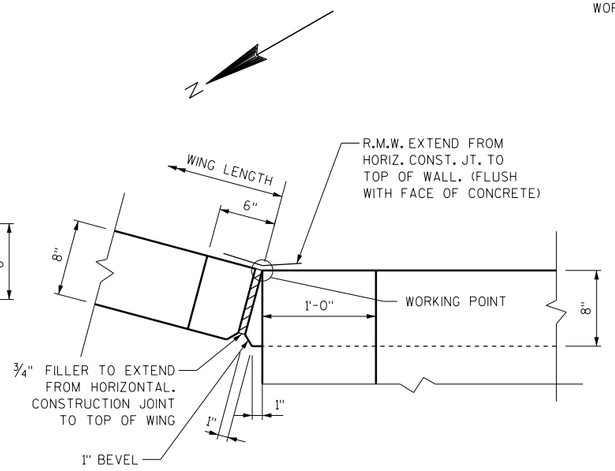



D401, D509

| BAR MARK | A | B |
|---|---|---|
| D401 | 4'-7" | 1'-0" |
| D509 | 4'-8" | 3'-8" |




CORNER 3




CORNER 4

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-435

DRAWN BY PLR | PLANS CK'D. MDR

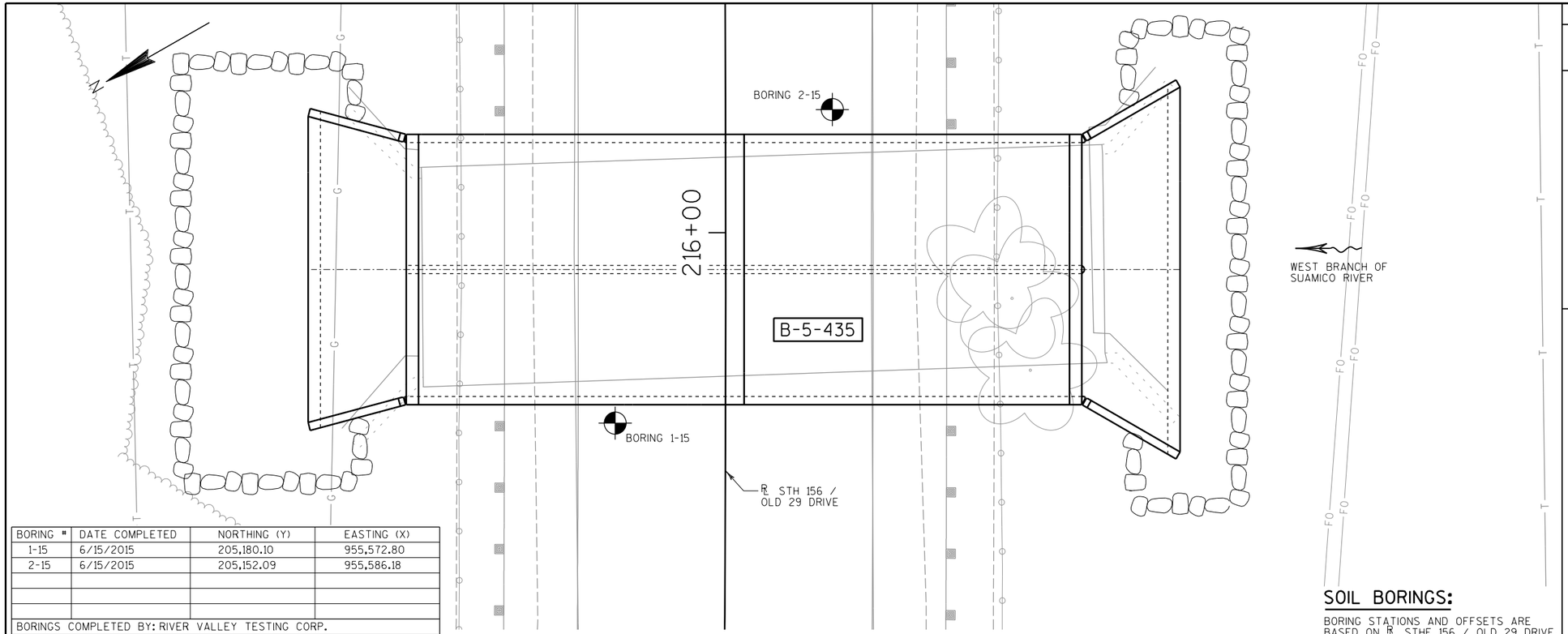
APRON DETAILS 2

SHEET 5 OF 6

279

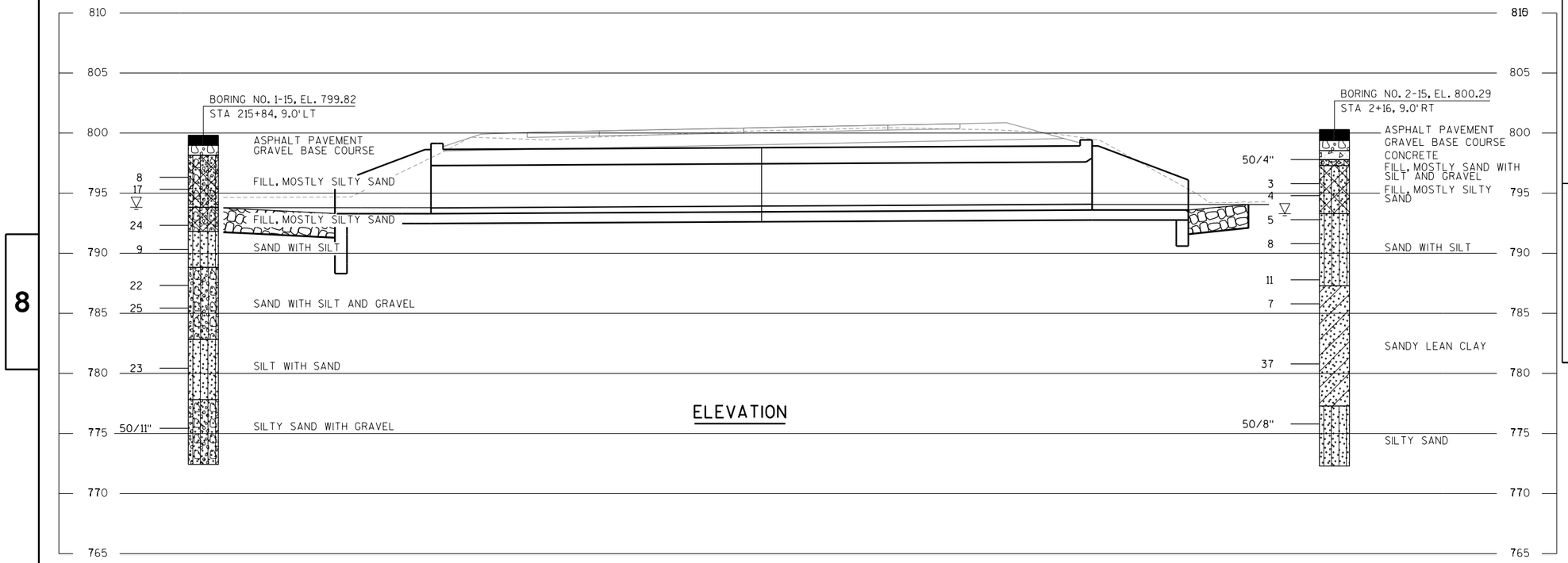
8

8




PLAN

| BORING # | DATE COMPLETED | NORTHING (Y) | EASTING (X) |
|---|---|---|---|
| 1-15 | 6/15/2015 | 205,180.10 | 955,572.80 |
| 2-15 | 6/15/2015 | 205,152.09 | 955,586.18 |
| | | | |
| | | | |
| | | | |
| BORINGS COMPLETED BY: RIVER VALLEY TESTING CORP. | | | |
| REPORT COMPLETED BY: RIVER VALLEY TESTING CORP. | | | |
| ALL COORDINATES REFERENCED TO WCCS NAD 83(91) SHAWANO COUNTY | | | |




ELEVATION

## SOIL BORINGS:

BORING STATIONS AND OFFSETS ARE BASED ON ℄ STHE 156 / OLD 29 DRIVE.

DENOTES SOIL BORING LOCATION

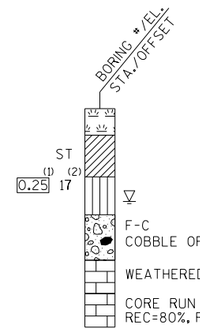
STATE PROJECT NUMBER

1058-25-70

MATERIAL SYMBOLS

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

LEGEND OF BORING




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

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

GROUND WATER ELEVATION

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

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-5-435

| DRAWN BY | TEO | PLANS CK'D. | AJC |
|---|---|---|---|

SUBSURFACE EXPLORATION

SHEET 6 OF 6
280

8

8

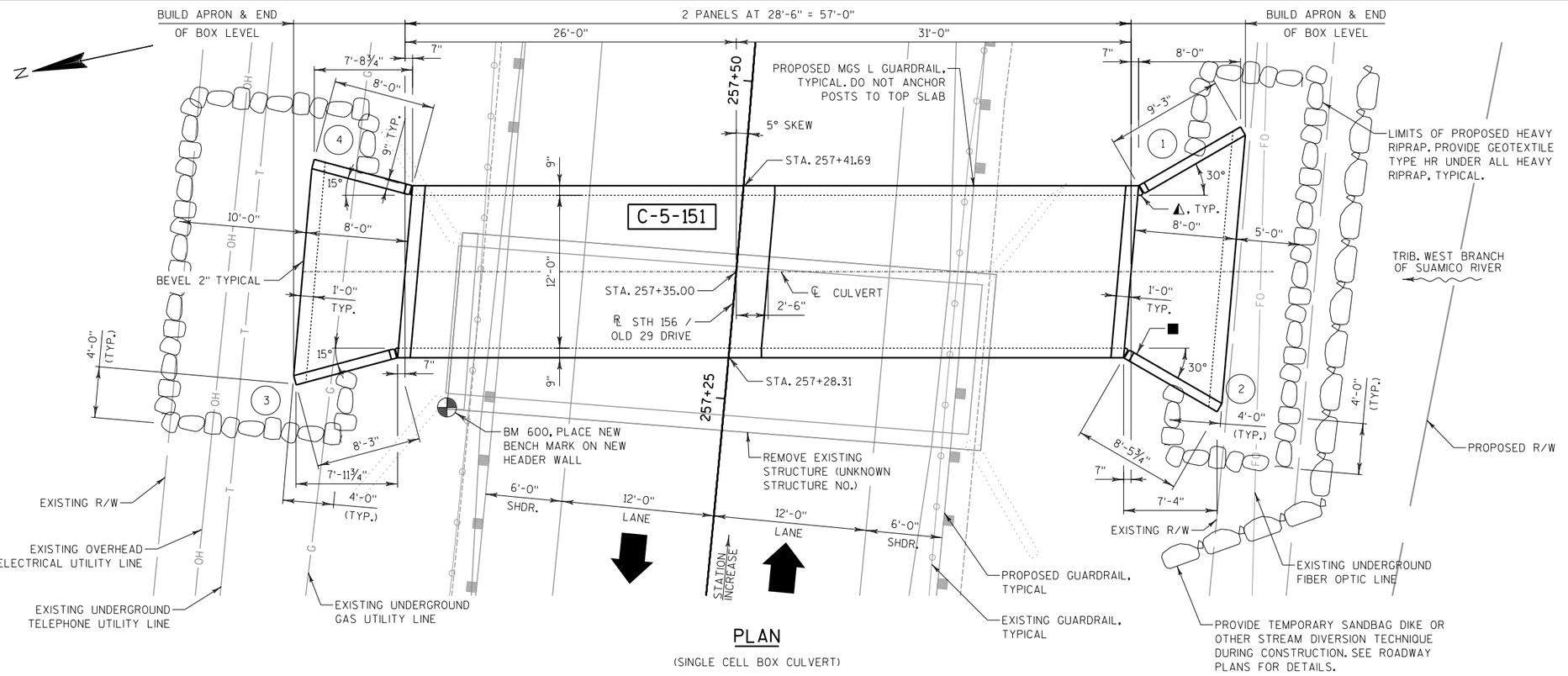
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\09 STRUCTURES\B-5-435 - STH 156 over Suamico Trib\Plan\080106_se.dgn

PLOT DATE : 8/16/2016

PLOT BY : mdr

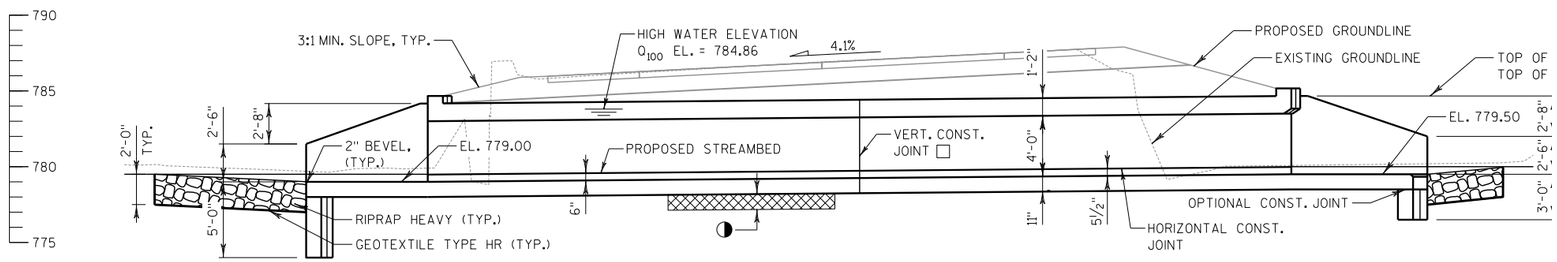
STATE PROJECT NUMBER

1058-25-70




## PLAN

(SINGLE CELL BOX CULVERT)




OUTLET ELEVATION INLET

## DESIGN DATA

LIVE LOAD: HL-93
INVENTORY RATING FACTOR: RF = 1.05
OPERATING RATING FACTOR: RF = 1.35
WISCONSIN STANARD PERMIT VEHICLE (Wis-SPV) = 255 KIPS
EARTH LOAD: DESIGNED FOR FILL HEIGHT RANGE OF 1.0 TO 4.0 FEET.

MATERIAL PROPERTIES:

CONCRETE MASONRY _____ f'c = 3.5 K.S.I.
BAR STEEL REINFORCEMENT _____ fy = 60 K.S.I.

## HYDRAULIC DATA

Q(100) = 260 C.F.S.
VELOCITY - THROUGH STRUCTURE = 7.0 F.P.S.
HIGH WATER ELEVATION, Q(100) = 784.86
WATERWAY AREA = 42 SQ. FT.
DRAINAGE AREA = 1.5 SQ. MI.
ROADWAY OVERTOPPING FREQUENCY = N/A
SCOUR CRITICAL CODE = 5
Q(2) = 70 C.F.S.
HIGH WATER EL, Q(2) = 782.28

## TRAFFIC DATA

STH 156 / OLD 29 DRIVE:
ADT (2017) = 1,900
ADT (2037) = 2,500
RDS = 50 M.P.H.

## LIST OF DRAWINGS


1. GENERAL PLAN & ELEVATION
2. BOX CULVERT DETAILS
3. APRON DETAILS
4. APRON DETAILS 2
5. SUBSURFACE EXPLORATION


## STRUCTURE DESIGN CONTACTS


BRIDGE OFFICE: WILLIAM DREHER (608) 266-8489
CONSULTANT: MICHAEL D. RADTKE (414) 347-1607


## 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.

THE CONCRETE IN THE CUT OFF WALL MAY BE PLACED UNDERWATER IF THE EXCAVATION CANNOT BE DEWATERED.

THE EXISTING STRUCTURE (STRUCTURE NUMBER UNKNOWN) IS A 12'X5'-8" THREE SIDED CONCRETE BOX CULVERT APPROXIMATELY 42 FEET IN LENGTH.

THE CONTRACTOR MAY FURNISH A PRECAST CONCRETE BOX CULVERT IN LIEU OF THE CAST-IN-PLACE BOX CULVERT WITH THE ACCEPTANCE OF THE SHOP DRAWINGS BY THE STRUCTURES DESIGN SECTION. THE PRECAST CONCRETE BOX CULVERT SHALL CONFORM TO THE PRECAST DETAILS IN CHAPTER 36 OF THE CURRENT WISCONSIN DOT BRIDGE MANUAL. PAYMENT FOR THE PRECAST CULVERT SHALL BE BASED ON QUANTITIES AND PRICES BID FOR THE ITEMS LISTED IN THE "TOTAL ESTIMATED QUANTITIES".

SEE ROADWAY PLANS FOR TEMPORARY DIVERSION CHANNEL DETAILS. WORK TO BE PAID FOR UNDER ROADWAY BID ITEMS EXCEPT EXCAVATION FOR TEMPORARY BYPASS CHANNEL WILL BE INCLUDED IN BID ITEM, "EXCAVATION FOR STRUCTURES CULVERTS C-5-151".

## LEGEND

(X) INDICATES WING NUMBER

◭ FOR CORNER DETAILS, SEE "APRON DETAILS" SHEETS

■ FOR NAME PLATE LOCATION, SEE "BOX CULVERT DETAIL" SHEET

◐ UNDERCUT 1'-0" (INCLUDED IN EXCAVATION FOR STRUCTURES), PLACE GEOTEXTILE TYPE 'C', AND BACKFILL WITH 'BREAKER RUN'. EXTEND 3'-0" BEYOND THE FOOTPRINT OF THE CULVERT.

☐ PLACE AN 18" (MIN.) WIDE SHEET OF "RUBBERIZED MEMBRANE WATERPROOFING" ON TOP SLAB OVER ALL CONSTRUCTION JOINTS AND EXTEND DOWN TO BOTTOM OF OUTSIDE WALLS.

## BENCH MARK

| NO. | STATION | DESCRIPTION | EL. |
|---|---|---|---|
| 600 | 257+22 (LT) | CHISELED SQUARE IN HEADWALL | 787.03 |




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


emcs inc
1300 W. Canal Street, Suite 200
Milwaukee, WI 53233
414.347.1607 Fax 414.347.1347


STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED William C. Dreher SDR 02/20/17
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE C-5-151

STH 156 OVER TRIB. BRANCH SUAMICO RIVER

| COUNTY | TOWN |
|---|---|
| BROWN | PITTSFIELD |

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

| DESIGNED BY | DESIGN CK'D. | DRAWN BY | PLANS CK'D. |
|---|---|---|---|
| MDR | AJC | PLR | AJC |

GENERAL PLAN & ELEVATION

SHEET 1 OF 5
281

8

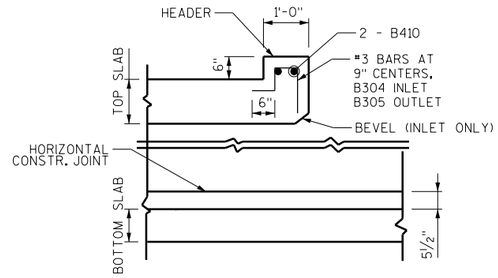
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STATE PROJECT NUMBER

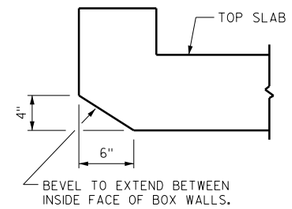
1058-25-70

## TOTAL ESTIMATED QUANTITIES

| BID ITEM NO. | BID ITEMS | UNIT | INLET | BARREL | OUTLET | TOTAL |
|---|---|---|---|---|---|---|
| 203.0600.S | REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 257+35.00 | LS | - | - | - | 1 |
| 206.2000 | EXCAVATION FOR STRUCTURES CULVERTS C-05-0151 | LS | - | - | - | 1 |
| 210.2500 | BACKFILL STRUCTURE TYPE B | TON | 23 | 366 | 21 | 410 |
| 311.0110 | BREAKER RUN | TON | 14 | 83 | 12 | 109 |
| 504.0100 | CONCRETE MASONRY CULVERTS | CY | 9 | 73 | 10 | 92 |
| 505.0400 | BAR STEEL REINFORCEMENT HS STRUCTURES | LB | 300 | 10080 | 290 | 10670 |
| 505.0600 | BAR STEEL REINFORCEMENT HS COATED STRUCTURES | LB | 430 | - | 390 | 820 |
| 516.0500 | RUBBERIZED MEMBRANE WATERPROOFING | SY | 5 | 4 | 5 | 14 |
| 606.0300 | RIPRAP HEAVY | CY | 15 | - | 25 | 40 |
| 645.0105 | GEOTEXTILE TYPE C | SY | - | 159 | - | 159 |
| 645.0120 | GEOTEXTILE TYPE HR | SY | 23 | - | 33 | 56 |
| | NON-BID ITEMS | | | | | |
| | FILLER | SIZE | 3/4" | | | |




TYPICAL SECTION THRU CULVERT HEADERS



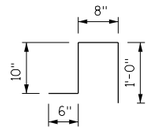

SECTION THRU INLET HEADER

## BILL OF BARS FOR BARREL

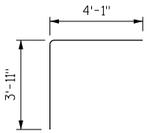
| BAR MARK | NO. | LENGTH | BENT | LOCATION |
|---|---|---|---|---|
| B601 | 114 | 13'-3" | | TOP SLAB TRANS. I.F. |
| B402 | 20 | 28'-2" | | WALL LONG. |
| B503 | 114 | 13'-3" | | BOTTOM SLAB TRANS. I.F. |
| B304 | 18 | 2'-10" | X | INLET HEADERS TIES |
| B305 | 18 | 3'-1" | X | OUTLET HEADERS TIES |
| B406 | 72 | 28'-2" | | TOP & BOT SLAB LONG. EF |
| B507 | 456 | 7'-10" | X | CORNER BARS |
| B408 | 116 | 4'-2" | | WALL VERT. I.F. |
| B409 | 116 | 3'-0" | | WALL DOWEL VERT . I.F. |
| B410 | 4 | 13'-2" | | HEADERS LONGITUDINAL |
| B511 | 36 | 4'-0" | | CONST. JT. DOWEL |

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

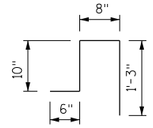
ALL BARS IN BARREL ARE UNCOATED



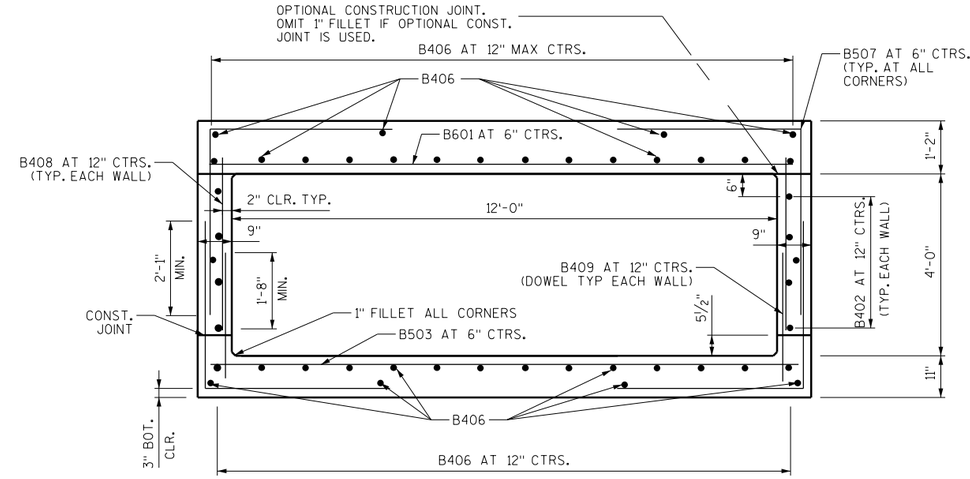

B304



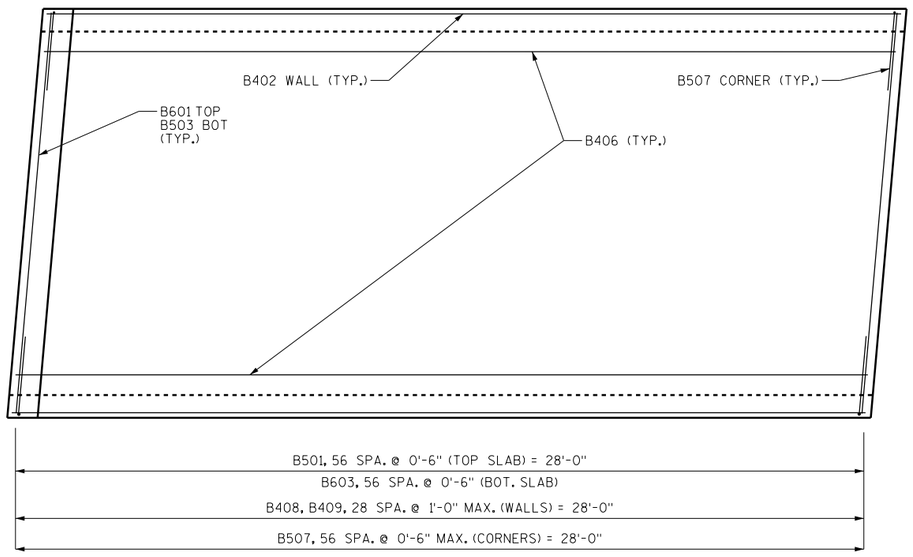

B507



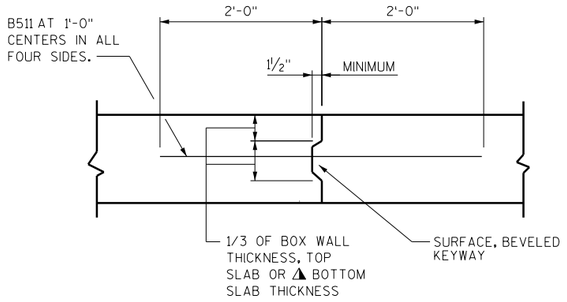

B305




SECTION THRU BOX




PLAN VIEW OF TYPICAL PANEL




## CONSTRUCTION JOINT

⚠ IN LIEU OF CONSTRUCTION JOINTS IN THE BOTTOM SLAB, THE CONTRACTOR MAY USE 2" DEEP SAW CUTS WITHIN 12 HOURS AFTER POURING.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-5-151

DRAWN BY PLR | PLANS CK'D. AJC

BOX CULVERT DETAILS

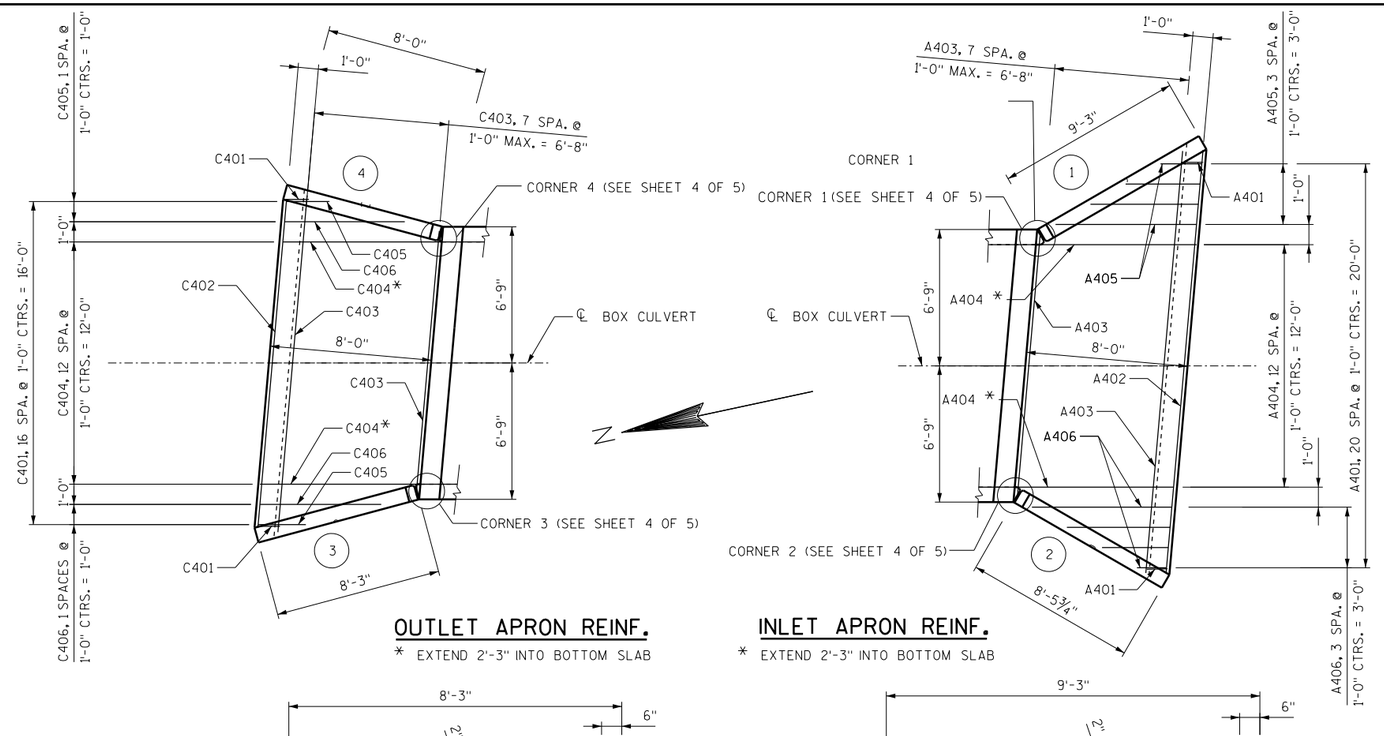
SHEET 2 OF 5
282

8

8

STATE PROJECT NUMBER

1058-25-70

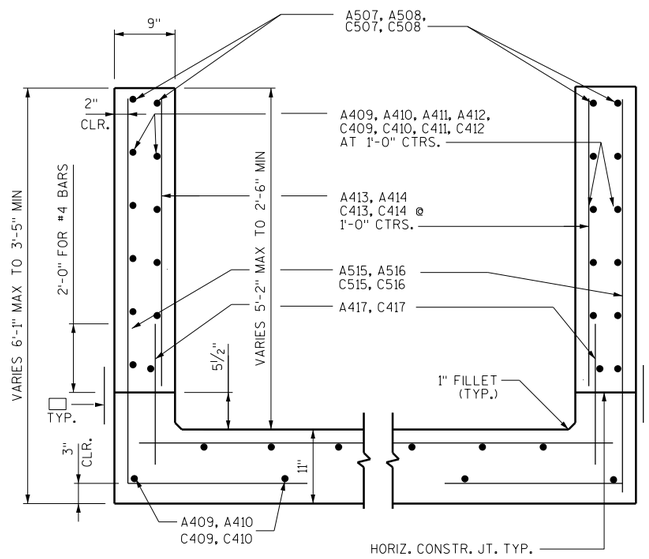



## OUTLET APRON REINF.

* EXTEND 2'-3" INTO BOTTOM SLAB

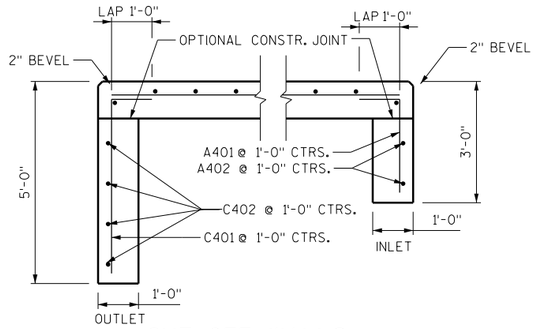
## INLET APRON REINF.

* EXTEND 2'-3" INTO BOTTOM SLAB



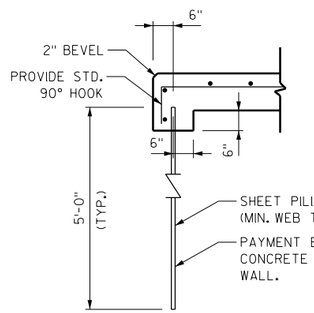

## SECTION THRU WINGWALLS

☐ 18" MIN. WIDTH RUBBERIZED MEMBRANE WATERPROOFING ALONG HORIZ. CONSTR. JT. IN WING. (TYP.)



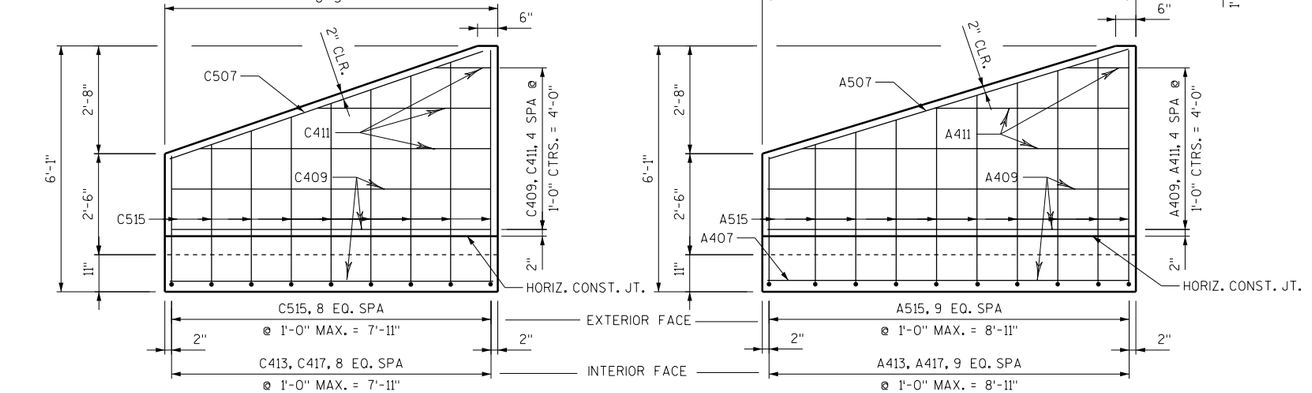

## CUT-OFF WALLS

SECTION THRU WALLS




## ALTERNATE CUT-OFF WALL

THE ABOVE ALT. MAY BE USED IN LIEU OF THE CAST-IN-PLACE CONC. CUT-OFF WALLS. PAYMENT WILL BE BASED ON THE CONC. CUT-OFF WALLS.



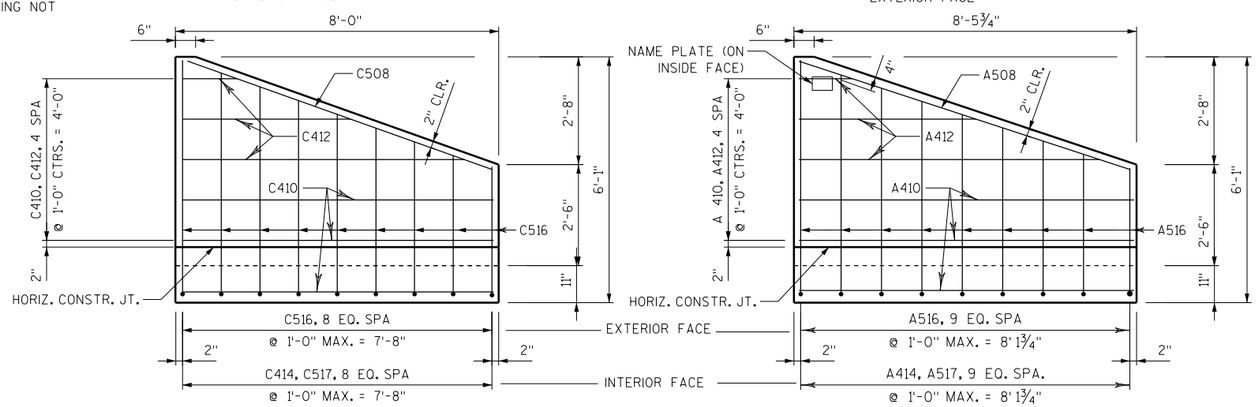

## WING 3

EXTERIOR FACE

## WING 1

EXTERIOR FACE

NOTE:
ALL WING ELEVATION VIEWS SHOW EXTERIOR FACE REINFORCING ONLY. INTERIOR FACE REINFORCING NOT SHOWN FOR CLAIRTY.




## WING 4

EXTERIOR FACE

## WING 2

EXTERIOR FACE

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-5-151

DRAWN BY PLR | PLANS CK'D. AJC

APRON DETAILS

SHEET 3 OF 5
283

8

8

STATE PROJECT NUMBER

1058-25-70

## BILL OF BARS FOR INLET APRON

| BAR MARK | NO. REQ'D | LENGTH | COAT | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| A401 | 21 | 3'-6" | | X | | INLET CUTOFF WALL VERT. |
| A402 | 3 | 21'-0" | | | | INLET CUTOFF WALL HORIZ. |
| A403 | 8 | 17'-0" | | | X | INLET APRON TRANSVERSE |
| A404 | 13 | 10'-2" | | | | INLET APRON LONG. |
| A405 | 4 | 4'-5" | | | X | INLET APRON LONG. AT WING 1 |
| A406 | 4 | 4'-2" | | | X | INLET APRON LONG. AT WING 2 |
| A507 | 2 | 9'-3" | X | | | INLET WINGWALL 1 TOP DIAG. |
| A508 | 2 | 8'-6" | X | | | INLET WINGWALL 2 TOP DIAG. |
| A409 | 6 | 8'-11" | X | | | INLET WINGWALL 1 HORIZ. BOTTOM |
| A410 | 6 | 8'-1" | X | | | INLET WINGWALL 2 HORIZ. BOTTOM |
| A411 | 6 | 4'-9" | X | | X | INLET WINGWALL 1 HORIZ. TOP |
| A412 | 6 | 4'-4" | X | | X | INLET WINGWALL 2 HORIZ. TOP |
| A413 | 10 | 3'-2" | X | | X | INLET WINGWALL 1 VERT. I.F. |
| A414 | 10 | 3'-2" | X | | X | INLET WINGWALL 2 VERT. I.F. |
| A515 | 10 | 9'-5" | X | X | X | INLET WINGWALL 1 CORNER BAR |
| A516 | 10 | 9'-5" | X | X | X | INLET WINGWALL 2 CORNER BAR |
| A417 | 20 | 3'-3" | X | | | INLET WINGWALL 1 & 2 I.F. DOWEL |

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

### BAR SERIES TABLE

| BAR MARK | NO. REQ'D. | LENGTHS FOR EACH SERIES |
|---|---|---|
| A403 | 1 SERIES OF 8 | 13'-2" TO 20'-10" |
| A405 | 1 SERIES OF 4 | 2'-0" TO 6'-10" |
| A406 | 1 SERIES OF 4 | 1'-5" TO 6'-11" |
| A411 | 2 SERIES OF 3 | 1'-6" TO 8'-0" |
| A412 | 2 SERIES OF 3 | 1'-3" TO 7'-5" |
| A413 | 1 SERIES OF 10 | 1'-10" TO 4'-6" |
| A414 | 1 SERIES OF 10 | 1'-10" TO 4'-6" |
| A515 | 1 SERIES OF 10 | 8'-1" TO 10'-9" |
| A516 | 1 SERIES OF 10 | 8'-1" TO 10'-9" |

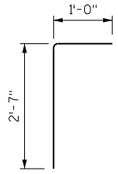
## BILL OF BARS FOR OUTLET APRON

| BAR MARK | NO. REQ'D | LENGTH | COAT | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| C401 | 17 | 5'-6" | | X | | OUTLET CUTOFF WALL VERT. |
| C402 | 5 | 16'-3" | | | | OUTLET CUTOFF WALL HORIZ. |
| C403 | 8 | 14'-10" | | | X | OUTLET APRON TRANSVERSE |
| C404 | 13 | 10'-2" | | | | OUTLET APRON LONG. |
| C405 | 2 | 2'-3" | | | | OUTLET APRON LONG. AT CORNER |
| C406 | 2 | 6'-0" | | | | OUTLET APRON LONG. AT CORNER |
| C507 | 2 | 8'-4" | X | | | OUTLET WINGWALL 3 TOP DIAG. |
| C508 | 2 | 8'-1" | X | | | OUTLET WINGWALL 4 TOP DIAG. |
| C409 | 6 | 7'-11" | X | | | OUTLET WINGWALL 3 HORIZ. BOTTOM |
| C410 | 6 | 7'-8" | X | | | OUTLET WINGWALL 4 HORIZ. BOTTOM |
| C411 | 6 | 4'-3" | X | | X | OUTLET WINGWALL 3 HORIZ. TOP |
| C412 | 6 | 4'-2" | X | | X | OUTLET WINGWALL 4 HORIZ. TOP |
| C413 | 9 | 3'-2" | X | | X | OUTLET WINGWALL 3 VERT. I.F. |
| C414 | 9 | 3'-2" | X | | X | OUTLET WINGWALL 4 VERT. I.F. |
| C515 | 9 | 9'-5" | X | X | X | OUTLET WINGWALL 3 CORNER BAR |
| C516 | 9 | 9'-5" | X | X | X | OUTLET WINGWALL 4 CORNER BAR |
| C417 | 18 | 3'-3" | X | | | OUTLET WINGWALL 3 & 4 I.F. DOWEL |

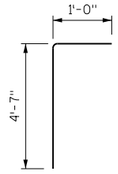
FOR BAR SERIES SEE BAR SERIES TABLE FOR ACTUAL LENGTHS. LENGTH SHOWN FOR BAR IS AN AVERAGE LENGTH AND SHOULD BE USED FOR BAR WEIGHT CALCULATIONS.

### BAR SERIES TABLE

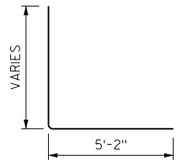
| BAR MARK | NO. REQ'D. | LENGTHS FOR EACH SERIES |
|---|---|---|
| C403 | 1 SERIES OF 8 | 13'-1" TO 16'-7" |
| C411 | 2 SERIES OF 3 | 1'-4" TO 7'-2" |
| C412 | 2 SERIES OF 3 | 1'-4" TO 7'-0" |
| C413 | 1 SERIES OF 9 | 1'-10" TO 4'-6" |
| C414 | 1 SERIES OF 9 | 1'-10" TO 4'-6" |
| C515 | 1 SERIES OF 9 | 8'-1" TO 10'-9" |
| C516 | 1 SERIES OF 9 | 8'-1" TO 10'-9" |



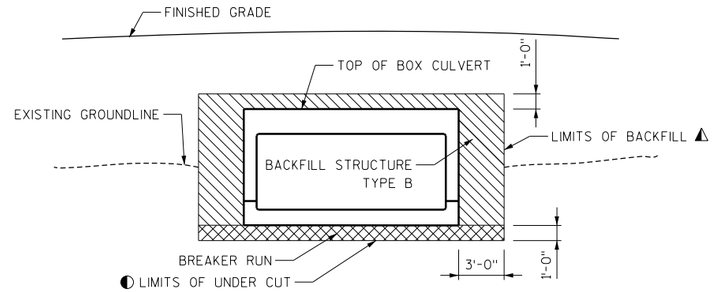

A401




C401




A515, A516, C515, C516




## TYPICAL SECTION THRU BOX CULVERT

### NOTES

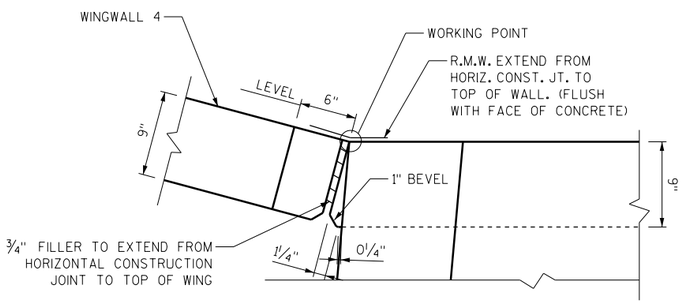
THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CULVERTS C-5-151" SHALL BE THE EXISTING GROUND LINE.

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

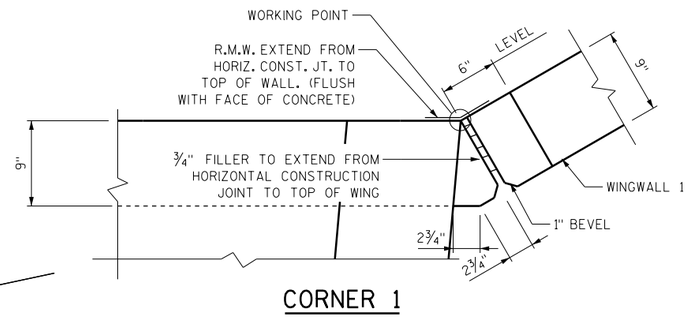
BACKFILL WITH "BACKFILL STRUCTURE TYPE B" ALL VOLUME WHICH CANNOT BE PLACED BEFORE CULVERT CONSTRUCTION AND WILL NOT OCCUPIED BY THE NEW STRUCTURE. BACKFILL WITHIN THE LENGTH OF THE BOX INCLUDING THE APRON WING WALLS

◐ UNDER CUT 1'-0". INCLUDE THE EXCAVATION FOR UNDER CUT IN "EXCAVATION FOR STRUCTURES CULVERTS C-5-151". PLACE "GEOTEXTILE TYPE C" AND BACKFILL WITH "BREAKER RUN".

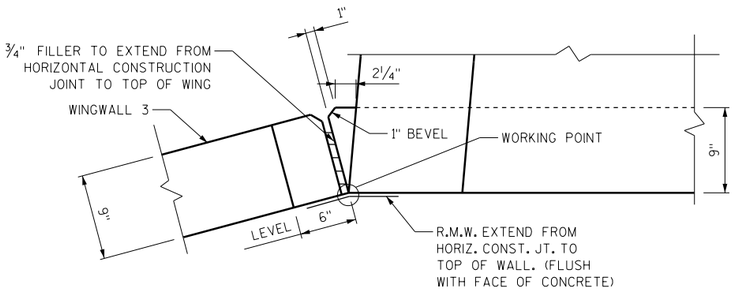
PLACE ALL PRECAST BOX SECTIONS ON A BEDDING OF "STRUCTURE BACKFILL TYPE B" OF 6" MINIMUM DEPTH.



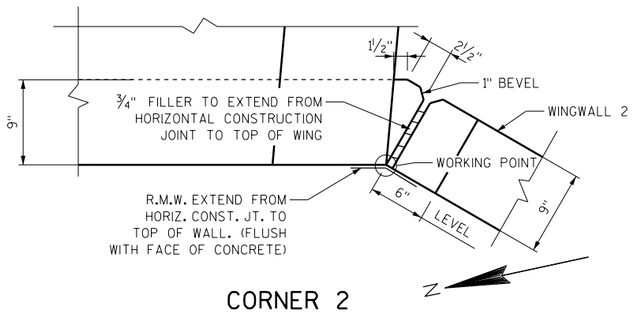

CORNER 4




CORNER 1




CORNER 3




CORNER 2

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-5-151

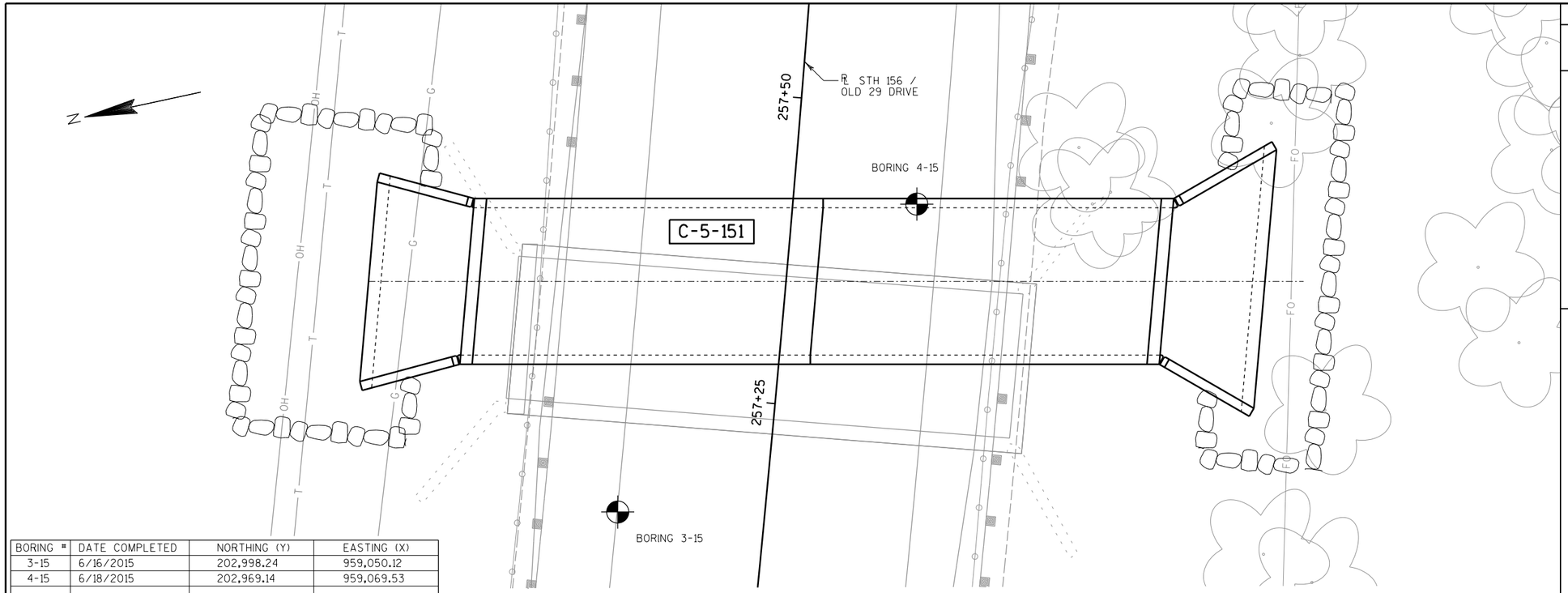
DRAWN BY PLR | PLANS CK'D. AJC

APRON DETAILS 2

SHEET 4 OF 5
284

8

8

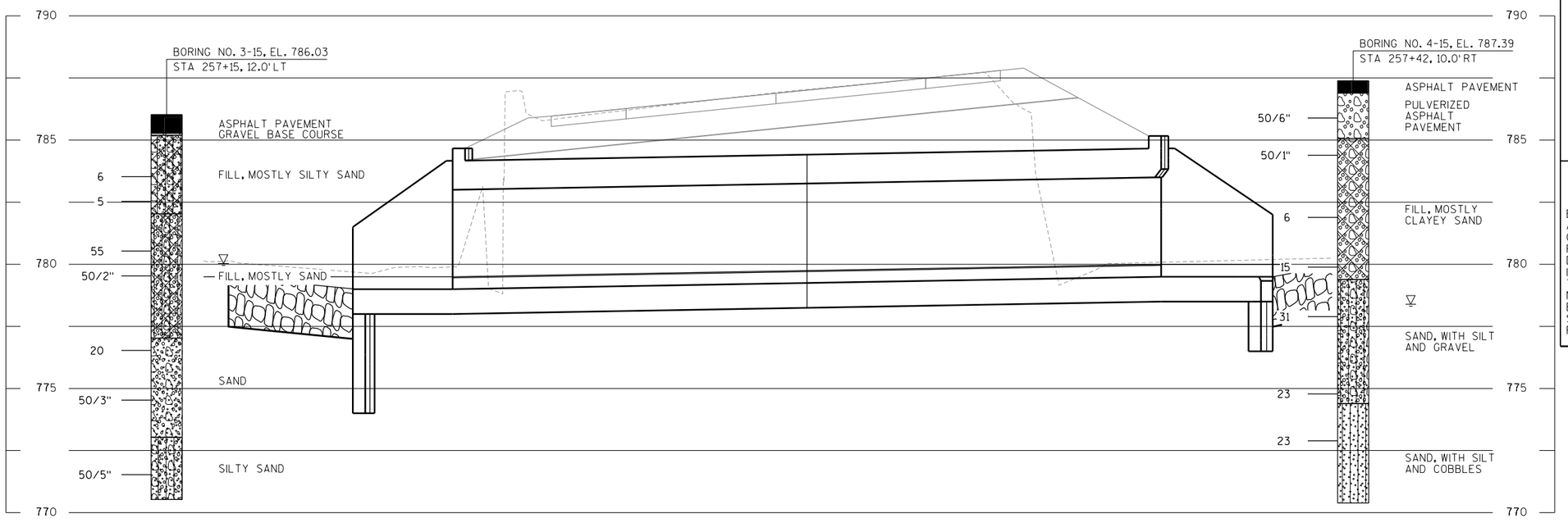



| BORING # | DATE COMPLETED | NORTHING (Y) | EASTING (X) |
|---|---|---|---|
| 3-15 | 6/16/2015 | 202,998.24 | 959,050.12 |
| 4-15 | 6/18/2015 | 202,969.14 | 959,069.53 |
| | | | |
| | | | |
| | | | |
| BORINGS COMPLETED BY: RIVER VALLEY TESTING CORP. | | | |
| REPORT COMPLETED BY: RIVER VALLEY TESTING CORP. | | | |
| ALL COORDINATES REFERENCED TO WCCS NAD 83(91) SHAWANO COUNTY | | | |

## SOIL BORINGS:

BORING STATIONS AND OFFSETS ARE BASED ON ℄ STH 156 / OLD 29 DRIVE.

DENOTES SOIL BORING LOCATION



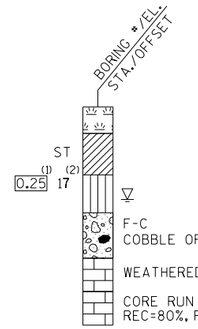

STATE PROJECT NUMBER

1058-25-70

MATERIAL SYMBOLS

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

LEGEND OF BORING




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

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

GROUND WATER ELEVATION

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

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-5-151

DRAWN BY PLR | PLANS CK'D. AJC

SUBSURFACE EXPLORATION

SHEET 5 OF 5
285

8

8

| NOTES: | |
|---|---|
| 1 - CUT | CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL |
| 2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL | SALVAGED/UNUSABLE PAVEMENT MATERIAL IS NOT SHOWN ON CROSS SECTIONS; REMOVE AND WASTE EXISTING AND TEMPORARY PAVEMENTS PRESENT IN BOTH CUT AND FILL SECTIONS; SALVAGED/UNUSABLE PAVEMENT MATERIAL INCLUDES BOTH CONCRETE AND ASPHALTIC PAVEMENTS |
| 3 - FILL | INCLUDES BACKFILL OF SALVAGED/UNUSABLE PAVEMENT MATERIAL EXCAVATION AREAS TO BE REMOVED BELOW THE ULTIMATE SUBGRADE IN FILL SECTIONS |
| 4 - EXPANDED FILL | ((UNEXPANDED FILL - REDUCED EBS IN FILL) * FILL FACTOR) |
| 5 - EXPANDED EBS BACKFILL | (EBS EXCAVATION * EXPANDED EBS BACKFILL FACTOR) |
| 6 - REDUCED EBS IN FILL | (EBS EXCAVATION * REDUCED EBS FILL FACTOR) |
| 7 - MASS ORDINATE | ((CUT) - (EXPANDED FILL) - (SALVAGED/UNUSABLE PAVEMENT MATERIAL)); PLUS INDICATES AN EXCESS OF MATERIAL; MINUS INDICATES A SHORTAGE OF MATERIAL |

9

9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | EARTHWORK | SHEET 286 | E |
|---|---|---|---|---|---|

STH 156/OLD 29 DR (CURVE RECONSTRUCTION AND B-05-0435)
STA 196+50 - STA 217+50

| STATION | DISTANCE | AREA (SF) | | | | INCREMENTAL VOL (CY) (UNADJUSTED) | | | | CUMULATIVE VOL (CY) | | | | | MASS ORDINATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | CUT | SALVAGED/ UNUSABLE PAVEMENT MATERIAL | FILL | EBS | CUT NOTE 1 | SALVAGED UNUSABLE PAVEMENT MATERIAL NOTE 2 | FILL NOTE 3 | EBS | CUT 1.00 NOTE 1 | SALVAGED UNUSABLE PAVEMENT MATERIAL NOTE 2 | EXPANDED FILL 1.25 NOTE 4 | EXPANDED EBS BACKFILL 1.30 NOTE 5 | REDUCED EBS IN FILL 0.80 NOTE 6 | NOTE 7 |
| 196+50 | | 52 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 197+00 | 50 | 74 | 15 | 4 | 0 | 117 | 27 | 4 | 0 | 117 | 27 | 4 | 0 | 0 | 85 |
| 197+18 | 18 | 111 | 15 | 3 | 0 | 62 | 10 | 2 | 0 | 178 | 37 | 7 | 0 | 0 | 134 |
| 197+50 | 32 | 75 | 15 | 13 | 0 | 110 | 17 | 10 | 0 | 288 | 54 | 20 | 0 | 0 | 215 |
| 197+88 | 38 | 67 | 15 | 17 | 0 | 100 | 21 | 21 | 0 | 389 | 75 | 46 | 0 | 0 | 267 |
| 198+00 | 12 | 59 | 15 | 3 | 0 | 27 | 6 | 4 | 0 | 416 | 81 | 52 | 0 | 0 | 283 |
| 198+50 | 50 | 53 | 15 | 2 | 0 | 103 | 27 | 5 | 0 | 519 | 109 | 58 | 0 | 0 | 353 |
| 199+00 | 50 | 55 | 15 | 2 | 0 | 100 | 27 | 4 | 0 | 619 | 136 | 62 | 0 | 0 | 421 |
| 199+18 | 18 | 81 | 15 | 14 | 0 | 47 | 10 | 5 | 0 | 666 | 146 | 69 | 0 | 0 | 451 |
| 199+50 | 32 | 99 | 15 | 12 | 0 | 106 | 17 | 16 | 0 | 771 | 163 | 89 | 0 | 0 | 520 |
| 200+00 | 50 | 81 | 15 | 13 | 0 | 167 | 27 | 24 | 0 | 938 | 190 | 118 | 0 | 0 | 629 |
| 200+50 | 50 | 70 | 15 | 18 | 0 | 140 | 27 | 29 | 0 | 1,078 | 217 | 154 | 0 | 0 | 706 |
| 201+00 | 50 | 63 | 15 | 24 | 0 | 123 | 27 | 39 | 0 | 1,201 | 244 | 203 | 0 | 0 | 754 |
| 201+50 | 50 | 60 | 15 | 22 | 0 | 114 | 27 | 42 | 0 | 1,315 | 272 | 255 | 0 | 0 | 788 |
| 202+00 | 50 | 66 | 15 | 15 | 67 | 116 | 27 | 34 | 62 | 1,431 | 299 | 236 | 80 | 49 | 896 |
| 202+18 | 18 | 71 | 0 | 12 | 69 | 46 | 5 | 9 | 46 | 1,477 | 304 | 201 | 140 | 86 | 972 |
| 202+50 | 32 | 84 | 0 | 9 | 67 | 91 | 0 | 13 | 80 | 1,568 | 304 | 138 | 243 | 150 | 1,127 |
| 203+00 | 50 | 104 | 0 | 23 | 50 | 174 | 0 | 29 | 108 | 1,743 | 304 | 66 | 384 | 236 | 1,373 |
| 203+50 | 50 | 76 | 0 | 44 | 27 | 167 | 0 | 62 | 71 | 1,910 | 304 | 73 | 476 | 293 | 1,534 |
| 203+68 | 18 | 60 | 0 | 46 | 47 | 46 | 0 | 31 | 25 | 1,956 | 304 | 86 | 508 | 313 | 1,567 |
| 204+00 | 32 | 31 | 0 | 37 | 32 | 54 | 0 | 49 | 46 | 2,010 | 304 | 101 | 568 | 349 | 1,605 |
| 204+25 | 25 | 16 | 0 | 32 | 38 | 22 | 0 | 32 | 32 | 2,032 | 304 | 108 | 610 | 375 | 1,620 |
| 204+50 | 25 | 18 | 0 | 35 | 34 | 15 | 0 | 31 | 34 | 2,047 | 304 | 114 | 654 | 402 | 1,630 |
| 205+00 | 50 | 38 | 0 | 33 | 40 | 52 | 0 | 63 | 69 | 2,099 | 304 | 124 | 743 | 457 | 1,671 |
| 205+50 | 50 | 44 | 0 | 28 | 49 | 76 | 0 | 56 | 82 | 2,175 | 304 | 112 | 850 | 523 | 1,759 |
| 206+00 | 50 | 65 | 0 | 24 | 55 | 101 | 0 | 48 | 96 | 2,276 | 304 | 76 | 976 | 600 | 1,896 |
| 206+50 | 50 | 91 | 0 | 12 | 70 | 145 | 0 | 34 | 116 | 2,420 | 304 | 2 | 1,126 | 693 | 2,115 |
| 207+00 | 50 | 90 | 0 | 44 | 39 | 167 | 0 | 52 | 101 | 2,588 | 304 | -34 | 1,258 | 774 | 2,318 |
| 207+50 | 50 | 150 | 0 | 0 | 83 | 222 | 0 | 41 | 114 | 2,810 | 304 | -97 | 1,406 | 865 | 2,603 |
| 208+00 | 50 | 203 | 0 | 0 | 83 | 327 | 0 | 0 | 154 | 3,137 | 304 | -251 | 1,606 | 988 | 3,085 |
| 208+50 | 50 | 239 | 0 | 0 | 83 | 409 | 0 | 0 | 154 | 3,546 | 304 | -406 | 1,806 | 1,112 | 3,648 |
| 209+00 | 50 | 244 | 0 | 0 | 83 | 447 | 0 | 0 | 154 | 3,993 | 304 | -560 | 2,007 | 1,235 | 4,249 |
| 209+50 | 50 | 90 | 0 | 14 | 72 | 309 | 0 | 13 | 144 | 4,302 | 304 | -687 | 2,194 | 1,350 | 4,686 |
| 210+00 | 50 | 281 | 0 | 43 | 41 | 344 | 0 | 53 | 104 | 4,646 | 304 | -725 | 2,330 | 1,434 | 5,068 |
| 210+50 | 50 | 185 | 0 | 31 | 53 | 432 | 0 | 68 | 87 | 5,078 | 304 | -727 | 2,443 | 1,503 | 5,501 |
| 211+00 | 50 | 182 | 0 | 15 | 69 | 340 | 0 | 43 | 114 | 5,417 | 304 | -787 | 2,590 | 1,594 | 5,901 |
| 211+50 | 50 | 133 | 0 | 2 | 81 | 291 | 0 | 16 | 139 | 5,708 | 304 | -907 | 2,772 | 1,706 | 6,311 |
| 212+00 | 50 | 116 | 15 | 0 | 83 | 231 | 14 | 2 | 152 | 5,939 | 317 | -1,056 | 2,969 | 1,827 | 6,678 |
| 212+50 | 50 | 93 | 15 | 1 | 0 | 194 | 27 | 1 | 77 | 6,133 | 344 | -1,132 | 3,070 | 1,889 | 6,921 |
| 213+00 | 50 | 90 | 15 | 1 | 0 | 169 | 27 | 2 | 0 | 6,302 | 372 | -1,130 | 3,070 | 1,889 | 7,061 |
| 213+29 | 29 | 80 | 15 | 1 | 0 | 92 | 16 | 1 | 0 | 6,395 | 388 | -1,129 | 3,070 | 1,889 | 7,136 |
| 213+50 | 21 | 73 | 15 | 1 | 0 | 59 | 11 | 0 | 0 | 6,453 | 399 | -1,128 | 3,070 | 1,889 | 7,183 |
| 213+60 | 10 | 69 | 15 | 1 | 0 | 27 | 6 | 0 | 0 | 6,481 | 404 | -1,128 | 3,070 | 1,889 | 7,205 |
| 214+00 | 40 | 81 | 15 | 0 | 0 | 110 | 22 | 1 | 0 | 6,591 | 426 | -1,127 | 3,070 | 1,889 | 7,293 |
| 214+48 | 48 | 71 | 15 | 10 | 0 | 134 | 26 | 9 | 0 | 6,725 | 452 | -1,116 | 3,070 | 1,889 | 7,389 |
| 214+50 | 3 | 71 | 15 | 10 | 0 | 7 | 1 | 1 | 0 | 6,732 | 453 | -1,115 | 3,070 | 1,889 | 7,394 |
| 214+73 | 23 | 75 | 15 | 10 | 0 | 61 | 12 | 8 | 0 | 6,792 | 465 | -1,105 | 3,070 | 1,889 | 7,432 |
| 214+79 | 6 | 76 | 15 | 10 | 0 | 17 | 3 | 2 | 0 | 6,809 | 469 | -1,102 | 3,070 | 1,889 | 7,443 |
| 214+98 | 19 | 89 | 15 | 6 | 0 | 58 | 10 | 6 | 0 | 6,867 | 479 | -1,095 | 3,070 | 1,889 | 7,483 |
| 215+00 | 3 | 87 | 15 | 5 | 0 | 8 | 1 | 1 | 0 | 6,875 | 480 | -1,094 | 3,070 | 1,889 | 7,489 |
| 215+04 | 4 | 78 | 15 | 7 | 0 | 11 | 2 | 1 | 0 | 6,886 | 482 | -1,093 | 3,070 | 1,889 | 7,497 |
| 215+29 | 25 | 72 | 15 | 3 | 0 | 69 | 14 | 4 | 0 | 6,956 | 496 | -1,088 | 3,070 | 1,889 | 7,547 |
| 215+50 | 21 | 71 | 15 | 7 | 0 | 57 | 12 | 4 | 0 | 7,013 | 507 | -1,083 | 3,070 | 1,889 | 7,588 |
| 216+00 | 50 | 56 | 15 | 24 | 0 | 103 | 27 | 44 | 0 | 7,116 | 535 | -1,027 | 3,070 | 1,889 | 7,609 |
| 216+50 | 50 | 46 | 15 | 13 | 0 | 95 | 27 | 34 | 0 | 7,211 | 562 | -985 | 3,070 | 1,889 | 7,634 |
| 216+65 | 15 | 56 | 15 | 12 | 0 | 29 | 8 | 7 | 0 | 7,240 | 570 | -976 | 3,070 | 1,889 | 7,646 |
| 216+90 | 25 | 61 | 15 | 21 | 0 | 54 | 14 | 15 | 0 | 7,294 | 584 | -957 | 3,070 | 1,889 | 7,667 |
| 216+98 | 8 | 69 | 15 | 20 | 0 | 18 | 4 | 6 | 0 | 7,312 | 588 | -950 | 3,070 | 1,889 | 7,674 |
| 217+00 | 2 | 71 | 15 | 16 | 0 | 6 | 1 | 1 | 0 | 7,317 | 589 | -949 | 3,070 | 1,889 | 7,677 |
| 217+15 | 15 | 60 | 15 | 19 | 0 | 37 | 8 | 10 | 0 | 7,355 | 597 | -936 | 3,070 | 1,889 | 7,693 |
| 217+23 | 8 | 59 | 15 | 12 | 0 | 16 | 4 | 4 | 0 | 7,371 | 601 | -931 | 3,070 | 1,889 | 7,700 |
| 217+48 | 25 | 71 | 15 | 5 | 0 | 60 | 14 | 8 | 0 | 7,432 | 615 | -920 | 3,070 | 1,889 | 7,737 |
| 217+50 | 2 | 75 | 15 | 5 | 0 | 6 | 1 | 0 | 0 | 7,437 | 616 | -920 | 3,070 | 1,889 | 7,741 |
| | | | | COLUMN TOTALS | | 7,437 | 616 | 1,153 | 2,361 | | | | | | |

STH 156/OLD 29 DR (C-05-0151)
STA 253+89 - STA 260+54

| STATION | DISTANCE | AREA (SF) | | | | INCREMENTAL VOL (CY) (UNADJUSTED) | | | | CUMULATIVE VOL (CY) | | | | | MASS ORDINATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | CUT | SALVAGED/ UNUSABLE PAVEMENT MATERIAL | FILL | EBS | CUT NOTE 1 | SALVAGED UNUSABLE PAVEMENT MATERIAL NOTE 2 | FILL NOTE 3 | EBS | CUT 1.00 NOTE 1 | SALVAGED UNUSABLE PAVEMENT MATERIAL NOTE 2 | EXPANDED FILL 1.25 NOTE 4 | EXPANDED EBS BACKFILL 1.30 NOTE 5 | REDUCED EBS IN FILL 0.80 NOTE 6 | NOTE 7 |
| 253+89 | | 93 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 254+00 | 11 | 60 | 15 | 24 | 0 | 31 | 6 | 5 | 0 | 31 | 6 | 6 | 0 | 0 | 19 |
| 254+50 | 50 | 72 | 15 | 24 | 0 | 123 | 27 | 44 | 0 | 154 | 33 | 61 | 0 | 0 | 59 |
| 255+00 | 50 | 66 | 15 | 29 | 0 | 128 | 27 | 49 | 0 | 282 | 60 | 123 | 0 | 0 | 99 |
| 255+25 | 25 | 67 | 15 | 34 | 0 | 62 | 14 | 29 | 0 | 344 | 74 | 160 | 0 | 0 | 110 |
| 255+33 | 8 | 89 | 15 | 31 | 0 | 23 | 4 | 10 | 0 | 367 | 78 | 172 | 0 | 0 | 117 |
| 255+50 | 17 | 79 | 15 | 37 | 0 | 53 | 9 | 21 | 0 | 420 | 87 | 198 | 0 | 0 | 134 |
| 255+79 | 29 | 78 | 15 | 51 | 0 | 84 | 16 | 47 | 0 | 504 | 103 | 257 | 0 | 0 | 144 |
| 256+00 | 21 | 75 | 15 | 48 | 0 | 59 | 11 | 39 | 0 | 563 | 115 | 305 | 0 | 0 | 144 |
| 256+04 | 4 | 74 | 15 | 48 | 0 | 11 | 2 | 7 | 0 | 574 | 117 | 314 | 0 | 0 | 143 |
| 256+10 | 6 | 72 | 15 | 45 | 0 | 16 | 3 | 10 | 0 | 591 | 120 | 327 | 0 | 0 | 144 |
| 256+29 | 19 | 74 | 15 | 27 | 0 | 52 | 10 | 26 | 0 | 642 | 130 | 359 | 0 | 0 | 153 |
| 256+35 | 6 | 73 | 15 | 25 | 0 | 16 | 3 | 6 | 0 | 659 | 134 | 366 | 0 | 0 | 159 |
| 256+50 | 15 | 66 | 15 | 23 | 0 | 38 | 8 | 13 | 0 | 697 | 142 | 383 | 0 | 0 | 172 |
| 256+60 | 10 | 68 | 15 | 19 | 0 | 25 | 5 | 8 | 0 | 722 | 147 | 393 | 0 | 0 | 181 |
| 257+00 | 40 | 82 | 15 | 21 | 0 | 111 | 22 | 30 | 0 | 832 | 169 | 430 | 0 | 0 | 233 |
| 257+50 | 50 | 167 | 15 | 23 | 0 | 309 | 27 | 42 | 0 | 1,141 | 196 | 483 | 0 | 0 | 463 |
| 257+65 | 15 | 133 | 15 | 21 | 0 | 83 | 8 | 12 | 0 | 1,224 | 204 | 498 | 0 | 0 | 522 |
| 257+90 | 25 | 119 | 15 | 0 | 0 | 117 | 14 | 10 | 0 | 1,341 | 218 | 510 | 0 | 0 | 613 |
| 258+00 | 10 | 110 | 15 | 4 | 0 | 42 | 5 | 1 | 0 | 1,384 | 223 | 511 | 0 | 0 | 649 |
| 258+25 | 25 | 61 | 15 | 48 | 0 | 79 | 14 | 24 | 0 | 1,463 | 237 | 541 | 0 | 0 | 684 |
| 258+43 | 18 | 60 | 15 | 39 | 0 | 40 | 10 | 29 | 0 | 1,503 | 247 | 578 | 0 | 0 | 678 |
| 258+50 | 7 | 59 | 15 | 36 | 0 | 15 | 4 | 10 | 0 | 1,518 | 250 | 590 | 0 | 0 | 678 |
| 258+68 | 18 | 61 | 15 | 32 | 0 | 40 | 10 | 23 | 0 | 1,558 | 260 | 618 | 0 | 0 | 680 |
| 258+75 | 7 | 63 | 15 | 30 | 0 | 16 | 4 | 8 | 0 | 1,574 | 264 | 628 | 0 | 0 | 682 |
| 258+92 | 17 | 62 | 15 | 31 | 0 | 40 | 9 | 19 | 0 | 1,614 | 273 | 653 | 0 | 0 | 688 |
| 258+93 | 1 | 63 | 15 | 32 | 0 | 2 | 1 | 1 | 0 | 1,616 | 274 | 654 | 0 | 0 | 688 |
| 259+00 | 7 | 63 | 15 | 33 | 0 | 16 | 4 | 8 | 0 | 1,632 | 278 | 665 | 0 | 0 | 690 |
| 259+17 | 17 | 66 | 15 | 36 | 0 | 41 | 9 | 22 | 0 | 1,673 | 287 | 692 | 0 | 0 | 695 |
| 259+42 | 25 | 67 | 15 | 36 | 0 | 62 | 14 | 33 | 0 | 1,735 | 300 | 734 | 0 | 0 | 701 |
| 259+50 | 8 | 66 | 15 | 31 | 0 | 20 | 4 | 10 | 0 | 1,754 | 305 | 746 | 0 | 0 | 704 |
| 259+66 | 16 | 65 | 15 | 21 | 0 | 39 | 9 | 15 | 0 | 1,793 | 313 | 765 | 0 | 0 | 715 |
| 260+00 | 34 | 71 | 15 | 9 | 0 | 86 | 18 | 19 | 0 | 1,879 | 332 | 789 | 0 | 0 | 758 |
| 260+36 | 36 | 68 | 15 | 4 | 0 | 93 | 20 | 9 | 0 | 1,972 | 351 | 800 | 0 | 0 | 820 |
| 260+50 | 14 | 57 | 15 | 3 | 0 | 32 | 8 | 2 | 0 | 2,004 | 359 | 802 | 0 | 0 | 843 |
| 260+54 | 4 | 54 | 15 | 0 | 0 | 8 | 2 | 0 | 0 | 2,013 | 361 | 803 | 0 | 0 | 849 |
| | | | | COLUMN TOTALS | | 2,013 | 361 | 642 | 0 | | | | | | |

9

9

STH 156/OLD 29 DR (CTH Y INTERSECTION)
STA 276+25 - STA 286+59

| STATION | DISTANCE | AREA (SF) | | | | INCREMENTAL VOL (CY) (UNADJUSTED) | | | | CUMULATIVE VOL (CY) | | | | | MASS ORDINATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | CUT | SALVAGED/ UNUSABLE PAVEMENT MATERIAL | FILL | EBS | CUT NOTE 1 | SALVAGED UNUSABLE PAVEMENT MATERIAL NOTE 2 | FILL NOTE 3 | EBS | CUT 1.00 NOTE 1 | SALVAGED UNUSABLE PAVEMENT MATERIAL NOTE 2 | EXPANDED FILL 1.25 NOTE 4 | EXPANDED EBS BACKFILL 1.30 NOTE 5 | REDUCED EBS IN FILL 0.80 NOTE 6 | NOTE 7 |
| 276+25 | 0 | 87 | 15 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 276+39 | 14 | 82 | 15 | 10 | 0 | 43 | 7 | 3 | 0 | 43 | 7 | 3 | 0 | 0 | 33 |
| 276+50 | 11 | 88 | 15 | 8 | 0 | 35 | 6 | 4 | 0 | 78 | 14 | 8 | 0 | 0 | 57 |
| 277+00 | 50 | 145 | 15 | 7 | 0 | 215 | 27 | 14 | 0 | 294 | 41 | 25 | 0 | 0 | 228 |
| 277+50 | 50 | 152 | 15 | 4 | 0 | 275 | 27 | 10 | 0 | 569 | 68 | 37 | 0 | 0 | 464 |
| 277+67 | 17 | 156 | 15 | 3 | 0 | 97 | 9 | 2 | 0 | 666 | 77 | 39 | 0 | 0 | 549 |
| 277+68 | 1 | 156 | 15 | 3 | 0 | 4 | 0 | 0 | 0 | 670 | 78 | 40 | 0 | 0 | 553 |
| 278+00 | 32 | 175 | 15 | 1 | 0 | 197 | 17 | 2 | 0 | 867 | 95 | 42 | 0 | 0 | 730 |
| 278+50 | 50 | 178 | 15 | 7 | 0 | 327 | 27 | 8 | 0 | 1,194 | 122 | 52 | 0 | 0 | 1,020 |
| 278+67 | 17 | 111 | 15 | 0 | 0 | 93 | 9 | 2 | 0 | 1,287 | 132 | 55 | 0 | 0 | 1,101 |
| 279+00 | 33 | 112 | 15 | 0 | 0 | 135 | 18 | 0 | 0 | 1,422 | 149 | 55 | 0 | 0 | 1,218 |
| 279+50 | 50 | 127 | 15 | 0 | 0 | 222 | 27 | 0 | 0 | 1,644 | 177 | 55 | 0 | 0 | 1,412 |
| 279+69 | 19 | 143 | 15 | 0 | 0 | 93 | 10 | 0 | 0 | 1,737 | 187 | 55 | 0 | 0 | 1,495 |
| 280+00 | 31 | 102 | 15 | 0 | 0 | 142 | 17 | 0 | 0 | 1,879 | 204 | 55 | 0 | 0 | 1,621 |
| 280+50 | 50 | 117 | 15 | 0 | 0 | 202 | 27 | 0 | 0 | 2,081 | 231 | 55 | 0 | 0 | 1,796 |
| 280+85 | 35 | 87 | 15 | 2 | 0 | 133 | 19 | 1 | 0 | 2,215 | 250 | 56 | 0 | 0 | 1,908 |
| 281+00 | 15 | 156 | 15 | 1 | 0 | 67 | 8 | 1 | 0 | 2,281 | 258 | 57 | 0 | 0 | 1,966 |
| 281+13 | 13 | 171 | 15 | 4 | 0 | 79 | 7 | 1 | 0 | 2,360 | 265 | 59 | 0 | 0 | 2,036 |
| 281+50 | 37 | 167 | 15 | 1 | 0 | 231 | 20 | 3 | 0 | 2,591 | 285 | 63 | 0 | 0 | 2,243 |
| 281+60 | 10 | 164 | 15 | 1 | 0 | 61 | 5 | 0 | 0 | 2,653 | 291 | 64 | 0 | 0 | 2,298 |
| 282+00 | 40 | 163 | 15 | 3 | 0 | 243 | 22 | 3 | 0 | 2,895 | 312 | 67 | 0 | 0 | 2,515 |
| 282+13 | 13 | 152 | 15 | 4 | 0 | 76 | 7 | 2 | 0 | 2,971 | 319 | 69 | 0 | 0 | 2,582 |
| 282+50 | 37 | 142 | 15 | 4 | 0 | 201 | 20 | 5 | 0 | 3,172 | 340 | 75 | 0 | 0 | 2,757 |
| 283+00 | 50 | 64 | 15 | 3 | 0 | 190 | 27 | 6 | 0 | 3,362 | 367 | 83 | 0 | 0 | 2,912 |
| 283+50 | 50 | 56 | 15 | 3 | 0 | 111 | 27 | 5 | 0 | 3,474 | 394 | 90 | 0 | 0 | 2,990 |
| 284+00 | 50 | 46 | 15 | 3 | 0 | 94 | 27 | 5 | 0 | 3,568 | 421 | 96 | 0 | 0 | 3,051 |
| 284+50 | 50 | 38 | 15 | 1 | 0 | 78 | 27 | 3 | 0 | 3,645 | 448 | 100 | 0 | 0 | 3,097 |
| 285+00 | 50 | 34 | 15 | 0 | 0 | 67 | 27 | 1 | 0 | 3,712 | 475 | 102 | 0 | 0 | 3,135 |
| 285+50 | 50 | 34 | 15 | 0 | 0 | 62 | 27 | 0 | 0 | 3,775 | 502 | 102 | 0 | 0 | 3,171 |
| 286+00 | 50 | 39 | 15 | 0 | 0 | 67 | 27 | 0 | 0 | 3,841 | 530 | 102 | 0 | 0 | 3,210 |
| 286+30 | 30 | 32 | 15 | 0 | 0 | 40 | 16 | 0 | 0 | 3,881 | 546 | 102 | 0 | 0 | 3,233 |
| 286+50 | 20 | 32 | 15 | 0 | 0 | 24 | 11 | 0 | 0 | 3,905 | 557 | 102 | 0 | 0 | 3,246 |
| 286+59 | 9 | 33 | 15 | 0 | 0 | 11 | 5 | 0 | 0 | 3,916 | 562 | 102 | 0 | 0 | 3,252 |
| | | | | COLUMN TOTALS | | 3,916 | 562 | 81 | 0 | | | | | | |

CTH Y (SOUTH OF STH 156)
STA 3+17 - STA 4+85

| STATION | DISTANCE | AREA (SF) | | | | INCREMENTAL VOL (CY) (UNADJUSTED) | | | | CUMULATIVE VOL (CY) | | | | | MASS ORDINATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | CUT | SALVAGED/ UNUSABLE PAVEMENT MATERIAL | FILL | EBS | CUT NOTE 1 | SALVAGED UNUSABLE PAVEMENT MATERIAL NOTE 2 | FILL NOTE 3 | EBS | CUT 1.00 NOTE 1 | SALVAGED UNUSABLE PAVEMENT MATERIAL NOTE 2 | EXPANDED FILL 1.25 NOTE 4 | EXPANDED EBS BACKFILL 1.30 NOTE 5 | REDUCED EBS IN FILL 0.80 NOTE 6 | NOTE 7 |
| 3+17 | 0 | 53 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3+50 | 33 | 73 | 15 | 3 | 0 | 77 | 18 | 3 | 0 | 77 | 18 | 4 | 0 | 0 | 55 |
| 4+00 | 50 | 122 | 15 | 3 | 0 | 180 | 27 | 6 | 0 | 257 | 45 | 11 | 0 | 0 | 201 |
| 4+06 | 6 | 127 | 15 | 3 | 0 | 27 | 3 | 1 | 0 | 284 | 48 | 12 | 0 | 0 | 224 |
| 4+18 | 12 | 155 | 15 | 3 | 0 | 65 | 7 | 1 | 0 | 349 | 55 | 13 | 0 | 0 | 281 |
| 4+46 | 28 | 264 | 15 | 10 | 0 | 214 | 15 | 10 | 0 | 562 | 70 | 26 | 0 | 0 | 466 |
| 4+50 | 4 | 292 | 15 | 12 | 0 | 43 | 2 | 2 | 0 | 605 | 72 | 28 | 0 | 0 | 505 |
| 4+64 | 14 | 115 | 15 | 11 | 0 | 105 | 8 | 6 | 0 | 710 | 80 | 36 | 0 | 0 | 595 |
| 4+85 | 21 | 0 | 0 | 0 | 0 | 46 | 0 | 0 | 0 | 756 | 80 | 36 | 0 | 0 | 641 |
| | | | | COLUMN TOTALS | | 756 | 80 | 29 | 0 | | | | | | |

STH 156 (NORTH OF CTH Y & OLD 29 DR)
STA 5+42 - STA 10+67

| STATION | DISTANCE | AREA (SF) | | | | INCREMENTAL VOL (CY) (UNADJUSTED) | | | | CUMULATIVE VOL (CY) | | | | | MASS ORDINATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | CUT | SALVAGED/ UNUSABLE PAVEMENT MATERIAL | FILL | EBS | CUT NOTE 1 | SALVAGED UNUSABLE PAVEMENT MATERIAL NOTE 2 | FILL NOTE 3 | EBS | CUT 1.00 NOTE 1 | SALVAGED UNUSABLE PAVEMENT MATERIAL NOTE 2 | EXPANDED FILL 1.25 NOTE 4 | EXPANDED EBS BACKFILL 1.30 NOTE 5 | REDUCED EBS IN FILL 0.80 NOTE 6 | NOTE 7 |
| 5+42 | 0 | 229 | 15 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5+50 | 8 | 244 | 15 | 68 | 0 | 70 | 4 | 20 | 0 | 70 | 4 | 25 | 0 | 0 | 40 |
| 5+61 | 11 | 177 | 15 | 300 | 0 | 84 | 6 | 120 | 0 | 154 | 10 | 175 | 0 | 0 | -32 |
| 6+00 | 39 | 301 | 15 | 12 | 0 | 347 | 21 | 18 | 0 | 501 | 31 | 198 | 0 | 0 | 271 |
| 6+45 | 45 | 149 | 15 | 6 | 0 | 375 | 24 | 10 | 0 | 876 | 56 | 210 | 0 | 0 | 610 |
| 6+50 | 5 | 147 | 15 | 6 | 0 | 27 | 3 | 1 | 0 | 904 | 59 | 211 | 0 | 0 | 633 |
| 7+00 | 50 | 121 | 15 | 8 | 0 | 249 | 27 | 14 | 0 | 1,152 | 86 | 229 | 0 | 0 | 837 |
| 7+50 | 50 | 103 | 15 | 8 | 0 | 208 | 27 | 15 | 0 | 1,360 | 113 | 248 | 0 | 0 | 999 |
| 8+00 | 50 | 81 | 15 | 9 | 0 | 171 | 27 | 16 | 0 | 1,531 | 140 | 268 | 0 | 0 | 1,122 |
| 8+50 | 50 | 72 | 15 | 12 | 0 | 142 | 27 | 22 | 0 | 1,672 | 167 | 296 | 0 | 0 | 1,209 |
| 9+00 | 50 | 18 | 15 | 9 | 0 | 83 | 27 | 16 | 0 | 1,755 | 194 | 316 | 0 | 0 | 1,245 |
| 9+50 | 50 | 16 | 15 | 5 | 0 | 31 | 27 | 9 | 0 | 1,787 | 222 | 328 | 0 | 0 | 1,237 |
| 10+00 | 50 | 15 | 15 | 2 | 0 | 29 | 27 | 4 | 0 | 1,816 | 249 | 332 | 0 | 0 | 1,235 |
| 10+50 | 50 | 14 | 15 | 2 | 0 | 27 | 27 | 4 | 0 | 1,843 | 276 | 338 | 0 | 0 | 1,229 |
| 10+67 | 17 | 13 | 15 | 0 | 0 | 8 | 9 | 0 | 0 | 1,851 | 285 | 338 | 0 | 0 | 1,229 |
| | | | | COLUMN TOTALS | | 1,851 | 285 | 270 | 0 | | | | | | |

ST. AUGUSTINE RD OVERPASS (SOUTH OF STH 29)
STA 10+24 - STA 18+75

| STATION | REAL STATION | DISTANCE | AREA (SF) | | | | INCREMENTAL VOL (CY) (UNADJUSTED) | | | | CUMULATIVE VOL (CY) | | | | | MASS ORDINATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | CUT | SALVAGED/ UNUSABLE PAVEMENT MATERIAL | FILL | EBS | CUT NOTE 1 | SALVAGED UNUSABLE PAVEMENT MATERIAL NOTE 2 | FILL NOTE 3 | EBS | CUT 1.00 NOTE 1 | SALVAGED UNUSABLE PAVEMENT MATERIAL NOTE 2 | EXPANDED FILL 1.25 NOTE 4 | EXPANDED EBS BACKFILL 1.30 NOTE 5 | REDUCED EBS IN FILL 0.80 NOTE 6 | NOTE 7 |
| 10+24 | 1024 | 0 | 0 | 0 | 130 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10+50 | 1050 | 26 | 25 | 0 | 173 | 0 | 12 | 0 | 146 | 0 | 12 | 0 | 182 | 0 | 0 | -170 |
| 11+00 | 1100 | 50 | 13 | 0 | 91 | 106 | 35 | 0 | 244 | 98 | 46 | 0 | 390 | 127 | 78 | -343 |
| 11+50 | 1150 | 50 | 23 | 0 | 82 | 121 | 33 | 0 | 160 | 210 | 79 | 0 | 379 | 401 | 247 | -300 |
| 12+00 | 1200 | 50 | 23 | 0 | 130 | 110 | 43 | 0 | 197 | 214 | 122 | 0 | 411 | 679 | 418 | -289 |
| 12+50 | 1250 | 50 | 20 | 0 | 204 | 131 | 40 | 0 | 309 | 223 | 162 | 0 | 574 | 969 | 597 | -413 |
| 13+00 | 1300 | 50 | 14 | 0 | 332 | 139 | 31 | 0 | 496 | 250 | 193 | 0 | 945 | 1,294 | 796 | -752 |
| 13+50 | 1350 | 50 | 20 | 0 | 492 | 162 | 32 | 0 | 763 | 279 | 225 | 0 | 1,619 | 1,657 | 1,020 | -1,395 |
| 14+00 | 1400 | 50 | 33 | 0 | 701 | 149 | 49 | 0 | 1,104 | 288 | 273 | 0 | 2,711 | 2,032 | 1,250 | -2,438 |
| 14+50 | 1450 | 50 | 40 | 0 | 947 | 148 | 67 | 0 | 1,525 | 275 | 341 | 0 | 4,343 | 2,389 | 1,470 | -4,002 |
| 15+00 | 1500 | 50 | 41 | 0 | 1,222 | 157 | 76 | 0 | 2,008 | 283 | 417 | 0 | 6,571 | 2,757 | 1,697 | -6,154 |
| 15+50 | 1550 | 50 | 32 | 0 | 1,569 | 165 | 68 | 0 | 2,584 | 299 | 485 | 0 | 9,502 | 3,145 | 1,936 | -9,018 |
| 16+00 | 1600 | 50 | 22 | 0 | 1,962 | 176 | 50 | 0 | 3,270 | 315 | 535 | 0 | 13,274 | 3,555 | 2,188 | -12,739 |
| 16+45 | 1645 | 45 | 14 | 0 | 1,962 | 176 | 30 | 0 | 3,247 | 291 | 565 | 0 | 17,042 | 3,933 | 2,420 | -16,477 |
| 16+50 | 1650 | 5 | 11 | 0 | 2,336 | 183 | 2 | 0 | 423 | 35 | 568 | 0 | 17,536 | 3,979 | 2,449 | -16,968 |
| 16+78 | 1678 | 28 | 8 | 0 | 2,404 | 183 | 9 | 0 | 2,420 | 187 | 577 | 0 | 20,373 | 4,222 | 2,598 | -19,796 |
| 17+00 | 1700 | 22 | 6 | 0 | 2,590 | 186 | 6 | 0 | 2,074 | 153 | 583 | 0 | 22,813 | 4,422 | 2,721 | -22,230 |
| 17+19 | 1719 | 19 | 6 | 0 | 2,753 | 179 | 4 | 0 | 1,850 | 127 | 587 | 0 | 24,999 | 4,586 | 2,822 | -24,412 |
| 17+44 | 1744 | 25 | 7 | 0 | 3,131 | 213 | 6 | 0 | 2,722 | 182 | 592 | 0 | 28,219 | 4,822 | 2,968 | -27,627 |
| 17+50 | 1750 | 6 | 7 | 0 | 3,143 | 213 | 2 | 0 | 734 | 50 | 594 | 0 | 29,087 | 4,887 | 3,007 | -28,493 |
| 17+69 | 1769 | 19 | 11 | 0 | 3,204 | 218 | 6 | 0 | 2,198 | 150 | 600 | 0 | 31,685 | 5,081 | 3,127 | -31,085 |
| 17+94 | 1794 | 25 | 13 | 0 | 3,282 | 228 | 11 | 0 | 3,000 | 207 | 611 | 0 | 35,229 | 5,350 | 3,292 | -34,618 |
| 18+00 | 1800 | 6 | 14 | 0 | 3,290 | 228 | 3 | 0 | 769 | 53 | 614 | 0 | 36,137 | 5,420 | 3,335 | -35,523 |
| 18+19 | 1819 | 19 | 16 | 0 | 3,383 | 211 | 10 | 0 | 2,306 | 152 | 624 | 0 | 38,867 | 5,617 | 3,457 | -38,243 |
| 18+50 | 1850 | 31 | 11 | 0 | 3,483 | 204 | 16 | 0 | 3,985 | 241 | 640 | 0 | 43,608 | 5,930 | 3,649 | -42,968 |
| 18+75 | 1875 | 25 | 0 | 0 | 1,667 | 204 | 5 | 0 | 2,354 | 186 | 645 | 0 | 46,363 | 6,172 | 3,798 | -45,718 |
| | | | | | COLUMN TOTALS | | 645 | 0 | 40,889 | 4,748 | | | | | | |

ST. AUGUSTINE RD OVERPASS (NORTH OF STH 29)
STA 20+93 - STA 37+00

| STATION | REAL STATION | DISTANCE | AREA (SF) | | | | INCREMENTAL VOL (CY) (UNADJUSTED) | | | | CUMULATIVE VOL (CY) | | | | | MASS ORDINATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | CUT | SALVAGED/ UNUSABLE PAVEMENT MATERIAL | FILL | EBS | CUT NOTE 1 | SALVAGED UNUSABLE PAVEMENT MATERIAL NOTE 2 | FILL NOTE 3 | EBS | CUT 1.00 NOTE 1 | SALVAGED UNUSABLE PAVEMENT MATERIAL NOTE 2 | EXPANDED FILL 1.25 NOTE 4 | EXPANDED EBS BACKFILL 1.30 NOTE 5 | REDUCED EBS IN FILL 0.80 NOTE 6 | NOTE 7 |
| 20+93 | 2093 | 0 | 31 | 0 | 1,526 | 206 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21+00 | 2100 | 7 | 31 | 0 | 4,035 | 206 | 9 | 0 | 770 | 57 | 9 | 0 | 906 | 74 | 46 | -897 |
| 21+49 | 2149 | 49 | 29 | 0 | 4,169 | 239 | 54 | 0 | 7,375 | 400 | 63 | 0 | 9,724 | 594 | 366 | -9,661 |
| 21+50 | 2150 | 1 | 32 | 0 | 4,185 | 239 | 2 | 0 | 226 | 13 | 64 | 0 | 9,994 | 611 | 376 | -9,929 |
| 21+74 | 2174 | 24 | 41 | 0 | 4,247 | 243 | 32 | 0 | 3,673 | 210 | 96 | 0 | 14,375 | 884 | 544 | -14,279 |
| 21+99 | 2199 | 25 | 41 | 0 | 4,312 | 250 | 38 | 0 | 3,966 | 228 | 134 | 0 | 19,104 | 1,180 | 726 | -18,970 |
| 22+00 | 2200 | 1 | 40 | 0 | 4,340 | 252 | 2 | 0 | 234 | 14 | 136 | 0 | 19,383 | 1,198 | 737 | -19,247 |
| 22+24 | 2224 | 24 | 38 | 0 | 4,384 | 271 | 34 | 0 | 3,800 | 228 | 170 | 0 | 23,905 | 1,494 | 919 | -23,735 |
| 22+49 | 2249 | 25 | 43 | 0 | 4,350 | 247 | 37 | 0 | 4,040 | 240 | 207 | 0 | 28,716 | 1,805 | 1,111 | -28,509 |
| 22+50 | 2250 | 2 | 55 | 0 | 3,995 | 230 | 3 | 0 | 232 | 13 | 210 | 0 | 28,992 | 1,823 | 1,122 | -28,782 |
| 22+91 | 2291 | 41 | 69 | 0 | 4,081 | 225 | 93 | 0 | 6,064 | 341 | 303 | 0 | 36,231 | 2,266 | 1,395 | -35,928 |
| 23+00 | 2300 | 9 | 83 | 0 | 3,999 | 218 | 27 | 0 | 1,414 | 77 | 330 | 0 | 37,921 | 2,367 | 1,457 | -37,591 |
| 23+41 | 2341 | 41 | 104 | 0 | 3,717 | 234 | 140 | 0 | 5,795 | 339 | 470 | 0 | 44,825 | 2,808 | 1,728 | -44,355 |
| 23+50 | 2350 | 9 | 66 | 0 | 3,525 | 343 | 30 | 0 | 1,267 | 101 | 500 | 0 | 46,308 | 2,939 | 1,809 | -45,808 |
| 24+00 | 2400 | 50 | 92 | 0 | 3,259 | 249 | 147 | 0 | 6,281 | 548 | 646 | 0 | 53,612 | 3,651 | 2,247 | -52,965 |
| 24+50 | 2450 | 50 | 115 | 0 | 2,924 | 191 | 192 | 0 | 5,725 | 408 | 838 | 0 | 60,360 | 4,181 | 2,573 | -59,521 |
| 25+00 | 2500 | 50 | 95 | 0 | 2,565 | 191 | 195 | 0 | 5,083 | 354 | 1,034 | 0 | 66,359 | 4,641 | 2,856 | -65,326 |
| 25+50 | 2550 | 50 | 121 | 0 | 2,236 | 202 | 201 | 0 | 4,446 | 364 | 1,234 | 0 | 71,553 | 5,114 | 3,147 | -70,319 |
| 26+00 | 2600 | 50 | 149 | 0 | 1,931 | 203 | 251 | 0 | 3,859 | 375 | 1,485 | 0 | 76,002 | 5,602 | 3,447 | -74,517 |
| 26+50 | 2650 | 50 | 159 | 0 | 1,677 | 191 | 285 | 0 | 3,341 | 365 | 1,770 | 0 | 79,813 | 6,076 | 3,739 | -78,043 |
| 27+00 | 2700 | 50 | 77 | 0 | 1,448 | 191 | 218 | 0 | 2,893 | 354 | 1,988 | 0 | 83,075 | 6,536 | 4,022 | -81,087 |
| 27+50 | 2750 | 50 | 45 | 0 | 1,238 | 133 | 113 | 0 | 2,487 | 300 | 2,101 | 0 | 85,883 | 6,926 | 4,262 | -83,782 |
| 28+00 | 2800 | 50 | 86 | 0 | 1,040 | 129 | 122 | 0 | 2,110 | 243 | 2,223 | 0 | 88,277 | 7,242 | 4,457 | -86,055 |
| 28+50 | 2850 | 50 | 87 | 0 | 601 | 113 | 161 | 0 | 1,520 | 224 | 2,383 | 0 | 89,953 | 7,534 | 4,636 | -87,570 |
| 29+00 | 2900 | 50 | 102 | 0 | 478 | 110 | 175 | 0 | 1,000 | 206 | 2,559 | 0 | 90,997 | 7,802 | 4,801 | -88,438 |
| 29+50 | 2950 | 50 | 281 | 0 | 578 | 132 | 355 | 0 | 978 | 224 | 2,913 | 0 | 91,996 | 8,093 | 4,980 | -89,083 |
| 30+00 | 3000 | 50 | 174 | 7 | 538 | 125 | 421 | 7 | 1,034 | 238 | 3,335 | 7 | 93,051 | 8,401 | 5,170 | -89,723 |
| 30+50 | 3050 | 50 | 98 | 7 | 355 | 202 | 252 | 14 | 827 | 303 | 3,587 | 20 | 93,783 | 8,795 | 5,412 | -90,216 |
| 31+00 | 3100 | 50 | 122 | 7 | 222 | 153 | 204 | 14 | 534 | 328 | 3,790 | 34 | 94,122 | 9,222 | 5,675 | -90,366 |
| 31+50 | 3150 | 50 | 94 | 7 | 133 | 193 | 201 | 14 | 328 | 320 | 3,991 | 48 | 94,212 | 9,637 | 5,931 | -90,268 |
| 32+00 | 3200 | 50 | 72 | 7 | 87 | 102 | 154 | 14 | 203 | 273 | 4,145 | 61 | 94,193 | 9,992 | 6,149 | -90,109 |
| 32+50 | 3250 | 50 | 90 | 7 | 64 | 82 | 150 | 14 | 140 | 170 | 4,295 | 75 | 94,198 | 10,214 | 6,285 | -89,978 |
| 33+00 | 3300 | 50 | 115 | 7 | 55 | 94 | 190 | 14 | 111 | 163 | 4,484 | 88 | 94,173 | 10,426 | 6,416 | -89,777 |
| 33+50 | 3350 | 50 | 98 | 7 | 58 | 112 | 197 | 14 | 105 | 191 | 4,682 | 102 | 94,113 | 10,674 | 6,569 | -89,533 |
| 34+00 | 3400 | 50 | 95 | 7 | 65 | 107 | 179 | 14 | 114 | 204 | 4,861 | 115 | 94,052 | 10,938 | 6,731 | -89,307 |
| 34+50 | 3450 | 50 | 88 | 7 | 49 | 103 | 169 | 14 | 106 | 195 | 5,030 | 129 | 93,989 | 11,192 | 6,887 | -89,088 |
| 35+00 | 3500 | 50 | 80 | 7 | 79 | 122 | 156 | 14 | 119 | 209 | 5,186 | 143 | 93,929 | 11,463 | 7,054 | -88,886 |
| 35+50 | 3550 | 50 | 83 | 7 | 56 | 111 | 152 | 14 | 126 | 216 | 5,337 | 156 | 93,870 | 11,744 | 7,227 | -88,689 |
| 35+93 | 3593 | 43 | 107 | 7 | 46 | 105 | 150 | 12 | 80 | 170 | 5,487 | 168 | 93,800 | 11,965 | 7,363 | -88,481 |
| 36+00 | 3600 | 8 | 63 | 7 | 48 | 106 | 24 | 2 | 13 | 29 | 5,511 | 170 | 93,788 | 12,003 | 7,386 | -88,447 |
| 36+50 | 3650 | 50 | 41 | 7 | 40 | 77 | 96 | 14 | 81 | 169 | 5,606 | 183 | 93,720 | 12,223 | 7,522 | -88,297 |
| 37+00 | 3700 | 50 | 26 | 7 | 0 | 62 | 62 | 14 | 37 | 129 | 5,669 | 197 | 93,638 | 12,390 | 7,625 | -88,166 |
| | | | | | COLUMN TOTALS | | 5,669 | 197 | 82,535 | 9,531 | | | | | | |

EXISTING ST. AUGUSTINE RD (CUL DE SAC)
STA 11+39 - STA 13+75

| STATION | DISTANCE | AREA (SF) | | | | INCREMENTAL VOL (CY) (UNADJUSTED) | | | | CUMULATIVE VOL (CY) | | | | | MASS ORDINATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | CUT | SALVAGED/ UNUSABLE PAVEMENT MATERIAL | FILL | EBS | CUT NOTE 1 | SALVAGED UNUSABLE PAVEMENT MATERIAL NOTE 2 | FILL NOTE 3 | EBS | CUT 1.00 NOTE 1 | SALVAGED UNUSABLE PAVEMENT MATERIAL NOTE 2 | EXPANDED FILL 1.25 NOTE 4 | EXPANDED EBS BACKFILL 1.30 NOTE 5 | REDUCED EBS IN FILL 0.80 NOTE 6 | NOTE 7 |
| 11+39 | | 483 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 11+50 | 11 | 393 | 7 | 0 | 0 | 182 | 3 | 0 | 0 | 182 | 3 | 0 | 0 | 0 | 179 |
| 12+00 | 50 | 224 | 7 | 0 | 0 | 571 | 14 | 0 | 0 | 754 | 17 | 0 | 0 | 0 | 737 |
| 12+50 | 50 | 211 | 7 | 0 | 0 | 403 | 14 | 0 | 0 | 1,157 | 30 | 0 | 0 | 0 | 1,127 |
| 13+00 | 50 | 216 | 7 | 28 | 0 | 396 | 14 | 26 | 0 | 1,553 | 44 | 33 | 0 | 0 | 1,476 |
| 13+50 | 50 | 148 | 7 | 2 | 0 | 337 | 14 | 28 | 0 | 1,890 | 57 | 68 | 0 | 0 | 1,765 |
| 13+75 | 25 | 7 | 7 | 0 | 0 | 72 | 7 | 1 | 0 | 1,962 | 64 | 70 | 0 | 0 | 1,828 |
| | | | | COLUMN TOTALS | | 1,962 | 64 | 56 | 0 | | | | | | |

EXISTING ST. AUGUSTINE RD (TIE TO ST. AUGUSTINE RD)
STA 18+70 - STA 22+59

| STATION | DISTANCE | AREA (SF) | | | | INCREMENTAL VOL (CY) (UNADJUSTED) | | | | | | CUMULATIVE VOL (CY) | | | | | MASS ORDINATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | CUT | SALVAGED/ UNUSABLE PAVEMENT MATERIAL | FILL | EBS | CUT NOTE 1 | SALVAGED UNUSABLE PAVEMENT MATERIAL NOTE 2 | FILL NOTE 3 | MARSH EXC | ROCK EXC | EBS | CUT 1.00 NOTE 1 | SALVAGED UNUSABLE PAVEMENT MATERIAL NOTE 2 | EXPANDED FILL 1.25 NOTE 4 | EXPANDED EBS BACKFILL 1.30 NOTE 5 | REDUCED EBS IN FILL 0.80 NOTE 6 | NOTE 7 |
| 18+70 | | 29 | 7 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 19+00 | 30 | 38 | 7 | 5 | 0 | 37 | 8 | 10 | 0 | 0 | 0 | 37 | 8 | 12 | 0 | 0 | 16 |
| 19+50 | 50 | 41 | 7 | 3 | 0 | 73 | 14 | 8 | 0 | 0 | 0 | 110 | 22 | 22 | 0 | 0 | 66 |
| 20+00 | 50 | 38 | 7 | 4 | 0 | 74 | 14 | 7 | 0 | 0 | 0 | 183 | 35 | 30 | 0 | 0 | 118 |
| 20+50 | 50 | 45 | 7 | 6 | 0 | 77 | 14 | 9 | 0 | 0 | 0 | 260 | 49 | 42 | 0 | 0 | 170 |
| 21+00 | 50 | 39 | 7 | 20 | 0 | 78 | 14 | 24 | 0 | 0 | 0 | 338 | 62 | 72 | 0 | 0 | 204 |
| 21+50 | 50 | 47 | 7 | 76 | 0 | 79 | 14 | 89 | 0 | 0 | 0 | 417 | 76 | 183 | 0 | 0 | 158 |
| 22+00 | 50 | 154 | 7 | 199 | 0 | 186 | 14 | 255 | 0 | 0 | 0 | 603 | 90 | 502 | 0 | 0 | 12 |
| 22+50 | 50 | 0 | 7 | 395 | 0 | 0 | 14 | 732 | 0 | 0 | 0 | 603 | 103 | 1,417 | 0 | 0 | -916 |
| 22+59 | 9 | 0 | 7 | 345 | 0 | 0 | 2 | 119 | 0 | 0 | 0 | 603 | 106 | 1,566 | 0 | 0 | -1,068 |
| | | | | COLUMN TOTALS | | 603 | 106 | 1,252 | 0 | 0 | 0 | | | | | | |

STH 29 (TURN LANE AND MEDIAN REMOVAL)
STA 316+50 - STA 335+09

| STATION | DISTANCE | AREA (SF) | | | | INCREMENTAL VOL (CY) (UNADJUSTED) | | | | CUMULATIVE VOL (CY) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | CUT | SALVAGED/ UNUSABLE PAVEMENT MATERIAL | FILL | EBS | CUT NOTE 1 | SALVAGED UNUSABLE PAVEMENT MATERIAL NOTE 2 | FILL NOTE 3 | EBS | CUT 1.00 NOTE 1 | SALVAGED UNUSABLE PAVEMENT MATERIAL NOTE 2 | EXPANDED FILL 1.25 NOTE 4 | EXPANDED EBS BACKFILL 1.30 NOTE 5 | REDUCED EBS IN FILL 0.80 NOTE 6 | MASS ORDINATE NOTE 7 |
| 316+50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 317+00 | 50 | 67 | 0 | 11 | 0 | 62 | 0 | 10 | 0 | 62 | 0 | 12 | 0 | 0 | 49 |
| 317+50 | 50 | 69 | 0 | 0 | 0 | 126 | 0 | 10 | 0 | 188 | 0 | 25 | 0 | 0 | 163 |
| 318+00 | 50 | 67 | 0 | 0 | 0 | 126 | 0 | 0 | 0 | 314 | 0 | 25 | 0 | 0 | 289 |
| 318+50 | 50 | 63 | 0 | 0 | 0 | 120 | 0 | 0 | 0 | 434 | 0 | 25 | 0 | 0 | 410 |
| 319+00 | 50 | 55 | 0 | 0 | 0 | 109 | 0 | 0 | 0 | 544 | 0 | 25 | 0 | 0 | 519 |
| 319+24 | 24 | 60 | 4 | 4 | 0 | 51 | 2 | 2 | 0 | 595 | 2 | 27 | 0 | 0 | 566 |
| 319+50 | 26 | 55 | 4 | 8 | 0 | 56 | 4 | 6 | 0 | 650 | 6 | 34 | 0 | 0 | 610 |
| 320+00 | 50 | 46 | 4 | 16 | 0 | 94 | 7 | 22 | 0 | 744 | 13 | 62 | 0 | 0 | 670 |
| 320+50 | 50 | 50 | 4 | 19 | 0 | 89 | 7 | 32 | 0 | 833 | 20 | 102 | 0 | 0 | 711 |
| 320+74 | 24 | 37 | 4 | 21 | 0 | 39 | 4 | 18 | 0 | 872 | 24 | 123 | 0 | 0 | 724 |
| 321+00 | 26 | 10 | 4 | 27 | 0 | 23 | 4 | 23 | 0 | 894 | 28 | 152 | 0 | 0 | 714 |
| 321+38 | 38 | 11 | 4 | 35 | 0 | 14 | 6 | 43 | 0 | 909 | 33 | 206 | 0 | 0 | 669 |
| 321+50 | 12 | 11 | 4 | 37 | 0 | 5 | 2 | 16 | 0 | 913 | 35 | 226 | 0 | 0 | 652 |
| 322+00 | 50 | 11 | 4 | 45 | 0 | 21 | 7 | 76 | 0 | 934 | 43 | 321 | 0 | 0 | 571 |
| 322+02 | 2 | 11 | 4 | 45 | 0 | 1 | 0 | 3 | 0 | 935 | 43 | 325 | 0 | 0 | 567 |
| 322+37 | 35 | 12 | 4 | 40 | 0 | 15 | 5 | 55 | 0 | 950 | 48 | 394 | 0 | 0 | 508 |
| 322+50 | 13 | 12 | 4 | 38 | 0 | 6 | 2 | 19 | 0 | 956 | 50 | 417 | 0 | 0 | 488 |
| 322+89 | 39 | 13 | 4 | 31 | 0 | 18 | 6 | 50 | 0 | 974 | 56 | 480 | 0 | 0 | 439 |
| 323+00 | 11 | 13 | 4 | 29 | 0 | 5 | 2 | 12 | 0 | 980 | 57 | 495 | 0 | 0 | 427 |
| 323+02 | 2 | 13 | 4 | 29 | 0 | 1 | 0 | 2 | 0 | 980 | 58 | 497 | 0 | 0 | 426 |
| 323+50 | 48 | 14 | 4 | 17 | 0 | 25 | 7 | 41 | 0 | 1,005 | 65 | 548 | 0 | 0 | 392 |
| 323+52 | 2 | 22 | 4 | 17 | 0 | 2 | 0 | 1 | 0 | 1,006 | 65 | 550 | 0 | 0 | 391 |
| 323+65 | 13 | 51 | 4 | 13 | 0 | 17 | 2 | 7 | 0 | 1,024 | 67 | 559 | 0 | 0 | 398 |
| 324+00 | 35 | 61 | 4 | 4 | 0 | 73 | 5 | 11 | 0 | 1,096 | 72 | 573 | 0 | 0 | 451 |
| 324+45 | 45 | 82 | 4 | 0 | 0 | 119 | 7 | 4 | 0 | 1,215 | 79 | 578 | 0 | 0 | 558 |
| 324+50 | 5 | 85 | 4 | 0 | 0 | 15 | 1 | 0 | 0 | 1,231 | 80 | 578 | 0 | 0 | 573 |
| 325+00 | 50 | 103 | 7 | 0 | 0 | 174 | 10 | 0 | 0 | 1,405 | 90 | 578 | 0 | 0 | 737 |
| 325+15 | 15 | 107 | 8 | 0 | 0 | 58 | 4 | 0 | 0 | 1,463 | 94 | 578 | 0 | 0 | 791 |
| 325+50 | 35 | 121 | 10 | 0 | 0 | 148 | 12 | 0 | 0 | 1,611 | 106 | 578 | 0 | 0 | 927 |
| 326+00 | 50 | 120 | 14 | 0 | 0 | 223 | 22 | 0 | 0 | 1,834 | 128 | 578 | 0 | 0 | 1,128 |
| 326+50 | 50 | 124 | 14 | 0 | 0 | 226 | 26 | 0 | 0 | 2,060 | 154 | 578 | 0 | 0 | 1,328 |
| 327+00 | 50 | 110 | 14 | 0 | 0 | 217 | 26 | 0 | 0 | 2,277 | 180 | 578 | 0 | 0 | 1,519 |
| 327+31 | 31 | 93 | 14 | 0 | 0 | 117 | 16 | 0 | 0 | 2,393 | 196 | 578 | 0 | 0 | 1,619 |
| 327+50 | 19 | 89 | 14 | 15 | 0 | 64 | 10 | 5 | 0 | 2,457 | 206 | 585 | 0 | 0 | 1,667 |
| 328+00 | 50 | 114 | 14 | 14 | 0 | 188 | 26 | 26 | 0 | 2,645 | 232 | 618 | 0 | 0 | 1,796 |
| 328+50 | 50 | 168 | 60 | 0 | 0 | 261 | 69 | 13 | 0 | 2,906 | 300 | 634 | 0 | 0 | 1,972 |
| 328+52 | 2 | 174 | 60 | 0 | 0 | 14 | 5 | 0 | 0 | 2,920 | 305 | 634 | 0 | 0 | 1,981 |
| 329+00 | 48 | 414 | 60 | 0 | 0 | 521 | 106 | 0 | 0 | 3,441 | 411 | 634 | 0 | 0 | 2,396 |
| 329+50 | 50 | 362 | 60 | 0 | 0 | 719 | 111 | 0 | 0 | 4,160 | 522 | 634 | 0 | 0 | 3,004 |
| 329+84 | 34 | 175 | 60 | 0 | 0 | 337 | 75 | 0 | 0 | 4,498 | 598 | 634 | 0 | 0 | 3,266 |
| 330+00 | 16 | 132 | 16 | 0 | 0 | 92 | 23 | 0 | 0 | 4,589 | 620 | 634 | 0 | 0 | 3,335 |
| 330+50 | 50 | 119 | 16 | 0 | 0 | 233 | 30 | 0 | 0 | 4,822 | 650 | 634 | 0 | 0 | 3,538 |
| 330+70 | 20 | 100 | 16 | 0 | 0 | 82 | 12 | 0 | 0 | 4,904 | 662 | 634 | 0 | 0 | 3,608 |
| 330+85 | 15 | 87 | 16 | 0 | 0 | 51 | 9 | 0 | 0 | 4,955 | 671 | 634 | 0 | 0 | 3,651 |
| 331+00 | 15 | 72 | 16 | 0 | 0 | 44 | 9 | 0 | 0 | 5,000 | 680 | 634 | 0 | 0 | 3,686 |
| 331+50 | 50 | 63 | 16 | 2 | 0 | 125 | 30 | 2 | 0 | 5,125 | 709 | 637 | 0 | 0 | 3,779 |
| 332+00 | 50 | 48 | 16 | 11 | 0 | 103 | 30 | 12 | 0 | 5,228 | 739 | 652 | 0 | 0 | 3,837 |
| 332+50 | 50 | 34 | 14 | 5 | 0 | 76 | 28 | 14 | 0 | 5,304 | 767 | 670 | 0 | 0 | 3,867 |
| 333+00 | 50 | 25 | 12 | 9 | 0 | 55 | 24 | 13 | 0 | 5,359 | 791 | 685 | 0 | 0 | 3,882 |
| 333+50 | 50 | 26 | 10 | 0 | 0 | 47 | 20 | 8 | 0 | 5,406 | 811 | 696 | 0 | 0 | 3,899 |
| 334+00 | 50 | 23 | 8 | 0 | 0 | 46 | 17 | 0 | 0 | 5,451 | 828 | 696 | 0 | 0 | 3,927 |
| 334+50 | 50 | 14 | 6 | 0 | 0 | 35 | 13 | 0 | 0 | 5,486 | 841 | 696 | 0 | 0 | 3,949 |
| 334+83 | 33 | 9 | 4 | 1 | 0 | 14 | 6 | 0 | 0 | 5,500 | 847 | 697 | 0 | 0 | 3,957 |
| 335+00 | 17 | 2 | 4 | 0 | 0 | 3 | 3 | 0 | 0 | 5,504 | 849 | 697 | 0 | 0 | 3,957 |
| 335+09 | 9 | 1 | 4 | 0 | 0 | 0 | 1 | 0 | 0 | 5,504 | 851 | 697 | 0 | 0 | 3,956 |
| | | | | COLUMN TOTALS | | 5,504 | 851 | 558 | 0 | | | | | | |

EXISTING STH 156 (REMOVAL)
STA 2+59 - STA 8+92

| STATION | DISTANCE | AREA (SF) | | | | INCREMENTAL VOL (CY) (UNADJUSTED) | | | | CUMULATIVE VOL (CY) | | | | | MASS ORDINATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | CUT | SALVAGED/ UNUSABLE PAVEMENT MATERIAL | FILL | EBS | CUT NOTE 1 | SALVAGED UNUSABLE PAVEMENT MATERIAL NOTE 2 | FILL NOTE 3 | EBS | CUT 1.00 NOTE 1 | SALVAGED UNUSABLE PAVEMENT MATERIAL NOTE 2 | EXPANDED FILL 1.25 NOTE 4 | EXPANDED EBS BACKFILL 1.30 NOTE 5 | REDUCED EBS IN FILL 0.80 NOTE 6 | NOTE 7 |
| 2+59 | 0 | 4 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3+00 | 41 | 32 | 15 | 3 | 0 | 27 | 22 | 2 | 0 | 27 | 22 | 3 | 0 | 0 | 2 |
| 3+50 | 50 | 110 | 15 | 5 | 0 | 131 | 27 | 7 | 0 | 158 | 50 | 12 | 0 | 0 | 97 |
| 4+00 | 50 | 197 | 15 | 9 | 0 | 284 | 27 | 13 | 0 | 443 | 77 | 28 | 0 | 0 | 338 |
| 4+50 | 50 | 192 | 15 | 10 | 0 | 360 | 27 | 18 | 0 | 803 | 104 | 50 | 0 | 0 | 649 |
| 5+00 | 50 | 139 | 15 | 6 | 0 | 306 | 27 | 15 | 0 | 1,109 | 131 | 69 | 0 | 0 | 909 |
| 5+50 | 50 | 129 | 15 | 10 | 0 | 248 | 27 | 14 | 0 | 1,357 | 158 | 87 | 0 | 0 | 1,112 |
| 6+00 | 50 | 151 | 15 | 11 | 0 | 260 | 27 | 19 | 0 | 1,617 | 185 | 111 | 0 | 0 | 1,321 |
| 6+50 | 50 | 197 | 15 | 6 | 0 | 322 | 27 | 16 | 0 | 1,939 | 213 | 131 | 0 | 0 | 1,596 |
| 7+00 | 50 | 337 | 15 | 24 | 0 | 495 | 27 | 28 | 0 | 2,434 | 240 | 165 | 0 | 0 | 2,029 |
| 7+50 | 50 | 354 | 15 | 41 | 0 | 640 | 27 | 60 | 0 | 3,074 | 267 | 240 | 0 | 0 | 2,568 |
| 8+00 | 50 | 272 | 15 | 41 | 0 | 579 | 27 | 75 | 0 | 3,653 | 294 | 334 | 0 | 0 | 3,026 |
| 8+50 | 50 | 250 | 15 | 20 | 0 | 483 | 27 | 56 | 0 | 4,136 | 321 | 404 | 0 | 0 | 3,411 |
| 8+92 | 42 | 341 | 15 | 7 | 0 | 465 | 23 | 22 | 0 | 4,601 | 344 | 431 | 0 | 0 | 3,826 |
| | | | | COLUMN TOTALS | | 4,601 | 344 | 345 | 0 | | | | | | |

OLD 29 DR (REMOVAL)
STA 5+68 - STA 9+37

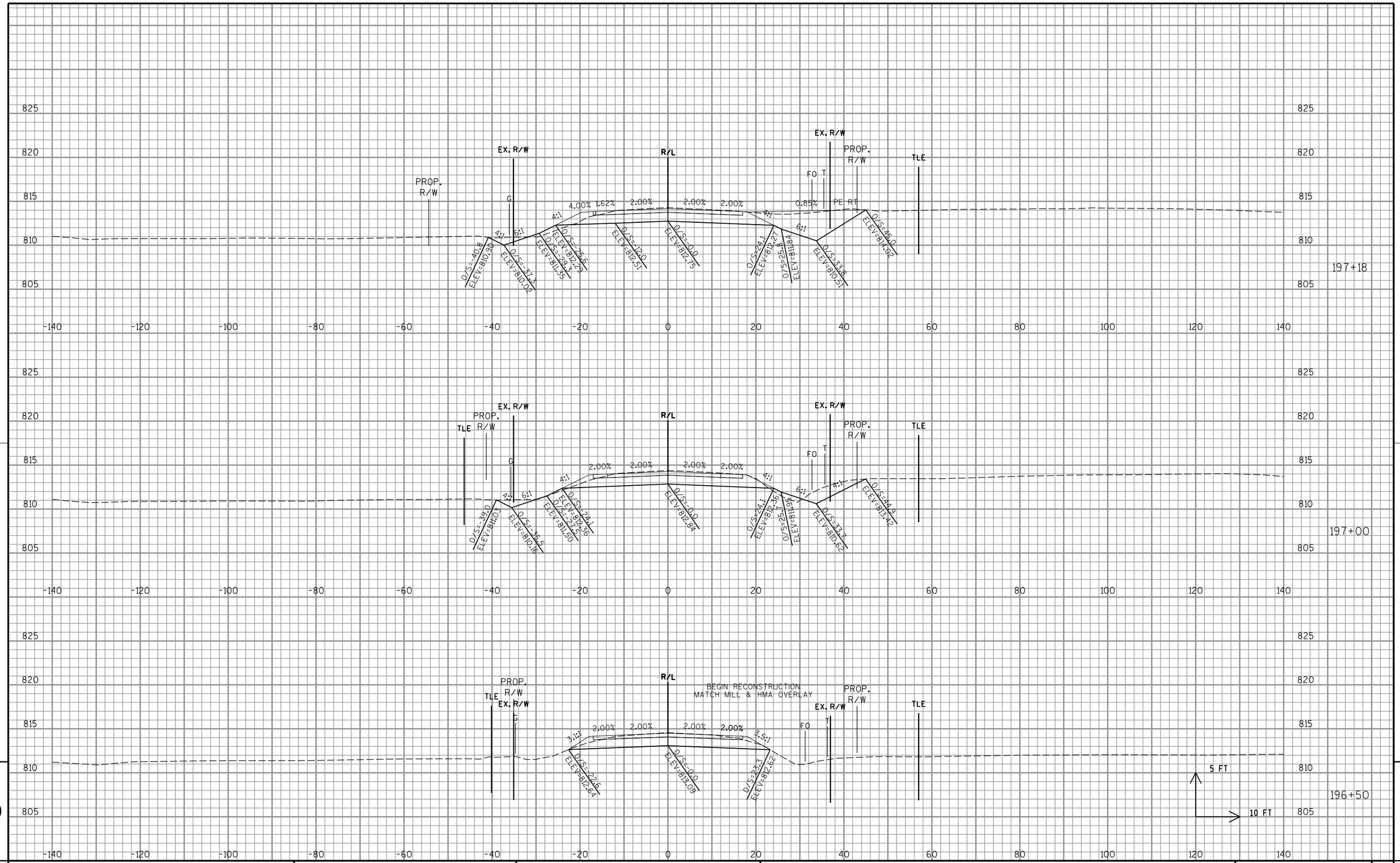
| STATION | DISTANCE | AREA (SF) | | | | INCREMENTAL VOL (CY) (UNADJUSTED) | | | | CUMULATIVE VOL (CY) | | | | | MASS ORDINATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | CUT | SALVAGED/ UNUSABLE PAVEMENT MATERIAL | FILL | EBS | CUT NOTE 1 | SALVAGED UNUSABLE PAVEMENT MATERIAL NOTE 2 | FILL NOTE 3 | EBS | CUT 1.00 NOTE 1 | SALVAGED UNUSABLE PAVEMENT MATERIAL NOTE 2 | EXPANDED FILL 1.25 NOTE 4 | EXPANDED EBS BACKFILL 1.30 NOTE 5 | REDUCED EBS IN FILL 0.80 NOTE 6 | NOTE 7 |
| 5+68 | 0 | 200 | 15 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6+00 | 32 | 78 | 15 | 29 | 0 | 165 | 17 | 24 | 0 | 165 | 17 | 30 | 0 | 0 | 118 |
| 6+50 | 50 | 63 | 15 | 34 | 0 | 131 | 27 | 58 | 0 | 295 | 45 | 103 | 0 | 0 | 148 |
| 7+00 | 50 | 56 | 15 | 30 | 0 | 110 | 27 | 59 | 0 | 405 | 72 | 177 | 0 | 0 | 157 |
| 7+50 | 50 | 61 | 15 | 123 | 0 | 108 | 27 | 142 | 0 | 514 | 99 | 354 | 0 | 0 | 61 |
| 8+00 | 50 | 53 | 15 | 145 | 0 | 106 | 27 | 248 | 0 | 619 | 126 | 664 | 0 | 0 | -171 |
| 8+50 | 50 | 74 | 15 | 3 | 0 | 118 | 27 | 137 | 0 | 737 | 153 | 835 | 0 | 0 | -251 |
| 9+00 | 50 | 74 | 15 | 5 | 0 | 137 | 27 | 7 | 0 | 874 | 180 | 844 | 0 | 0 | -151 |
| 9+37 | 37 | 71 | 15 | 0 | 0 | 100 | 20 | 3 | 0 | 974 | 200 | 849 | 0 | 0 | -75 |
| | | | | COLUMN TOTALS | | 974 | 200 | 679 | 0 | | | | | | |

OLD 29 DR (TEMPORARY CONNECTION)
STA 11+75 - STA 13+64

| STATION | DISTANCE | AREA (SF) | | | | INCREMENTAL VOL (CY) (UNADJUSTED) | | | | CUMULATIVE VOL (CY) | | | | | MASS ORDINATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | CUT | SALVAGED/ UNUSABLE PAVEMENT MATERIAL | FILL | EBS | CUT NOTE 1 | SALVAGED UNUSABLE PAVEMENT MATERIAL NOTE 2 | FILL NOTE 3 | EBS | CUT 1.00 NOTE 1 | SALVAGED UNUSABLE PAVEMENT MATERIAL NOTE 2 | EXPANDED FILL 1.25 NOTE 4 | EXPANDED EBS BACKFILL 1.30 NOTE 5 | REDUCED EBS IN FILL 0.80 NOTE 6 | NOTE 7 |
| 11+75 | 0 | 60 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12+00 | 25 | 54 | 15 | 0 | 0 | 52 | 14 | 0 | 0 | 52 | 14 | 0 | 0 | 0 | 39 |
| 12+50 | 50 | 50 | 15 | 0 | 0 | 95 | 27 | 0 | 0 | 148 | 41 | 0 | 0 | 0 | 107 |
| 13+00 | 50 | 48 | 15 | 1 | 0 | 91 | 27 | 1 | 0 | 239 | 68 | 1 | 0 | 0 | 169 |
| 13+50 | 50 | 44 | 15 | 4 | 0 | 86 | 27 | 7 | 0 | 325 | 95 | 10 | 0 | 0 | 219 |
| 13+64 | 14 | 81 | 15 | 0 | 0 | 32 | 8 | 0 | 0 | 357 | 103 | 11 | 0 | 0 | 243 |
| | | | | COLUMN TOTALS | | 357 | 103 | 8 | 0 | | | | | | |

TEMPORARY STREAM DIVERSION (ST. AUGUSTINE RD)
STA 0+00 - STA 14+55

| STATION | DISTANCE | AREA (SF) | | | | INCREMENTAL VOL (CY) (UNADJUSTED) | | | | CUMULATIVE VOL (CY) | | | | | MASS ORDINATE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | CUT | SALVAGED/ UNUSABLE PAVEMENT MATERIAL | FILL | EBS | CUT NOTE 1 | SALVAGED UNUSABLE PAVEMENT MATERIAL NOTE 2 | FILL NOTE 3 | EBS | CUT 1.00 NOTE 1 | SALVAGED UNUSABLE PAVEMENT MATERIAL NOTE 2 | EXPANDED FILL 1.25 NOTE 4 | EXPANDED EBS BACKFILL 1.30 NOTE 5 | REDUCED EBS IN FILL 0.80 NOTE 6 | NOTE 7 |
| 0+00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0+25 | 25 | 46 | 0 | 0 | 0 | 21 | 0 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 21 |
| 0+50 | 25 | 46 | 0 | 5 | 0 | 42 | 0 | 2 | 0 | 64 | 0 | 3 | 0 | 0 | 61 |
| 0+75 | 25 | 49 | 0 | 2 | 0 | 44 | 0 | 3 | 0 | 107 | 0 | 7 | 0 | 0 | 100 |
| 1+00 | 25 | 55 | 0 | 1 | 0 | 48 | 0 | 1 | 0 | 156 | 0 | 9 | 0 | 0 | 147 |
| 1+25 | 25 | 62 | 0 | 0 | 0 | 54 | 0 | 0 | 0 | 210 | 0 | 9 | 0 | 0 | 201 |
| 1+50 | 25 | 87 | 0 | 0 | 0 | 69 | 0 | 0 | 0 | 279 | 0 | 9 | 0 | 0 | 270 |
| 1+75 | 25 | 45 | 0 | 0 | 0 | 61 | 0 | 0 | 0 | 340 | 0 | 9 | 0 | 0 | 330 |
| 2+00 | 25 | 7 | 0 | 0 | 0 | 24 | 0 | 0 | 0 | 364 | 0 | 9 | 0 | 0 | 355 |
| 2+04 | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 364 | 0 | 9 | 0 | 0 | 355 |
| SECTION 1 SUBTOTALS | | | | | | 364 | 0 | 7 | 0 | | | | | | |
| 4+26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4+50 | 24 | 21 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 10 |
| 4+75 | 25 | 34 | 0 | 0 | 0 | 26 | 0 | 0 | 0 | 35 | 0 | 0 | 0 | 0 | 35 |
| 5+00 | 25 | 28 | 0 | 5 | 0 | 29 | 0 | 2 | 0 | 64 | 0 | 3 | 0 | 0 | 62 |
| 5+25 | 25 | 30 | 0 | 13 | 0 | 27 | 0 | 8 | 0 | 91 | 0 | 13 | 0 | 0 | 78 |
| 5+50 | 25 | 30 | 0 | 12 | 0 | 28 | 0 | 12 | 0 | 119 | 0 | 28 | 0 | 0 | 92 |
| 5+75 | 25 | 30 | 0 | 11 | 0 | 28 | 0 | 11 | 0 | 147 | 0 | 41 | 0 | 0 | 106 |
| 6+00 | 25 | 29 | 0 | 12 | 0 | 28 | 0 | 11 | 0 | 175 | 0 | 54 | 0 | 0 | 120 |
| 6+25 | 25 | 29 | 0 | 12 | 0 | 27 | 0 | 11 | 0 | 202 | 0 | 68 | 0 | 0 | 133 |
| 6+50 | 25 | 28 | 0 | 13 | 0 | 26 | 0 | 11 | 0 | 228 | 0 | 83 | 0 | 0 | 145 |
| 6+75 | 25 | 27 | 0 | 13 | 0 | 26 | 0 | 12 | 0 | 253 | 0 | 98 | 0 | 0 | 156 |
| 7+00 | 25 | 27 | 0 | 14 | 0 | 25 | 0 | 12 | 0 | 278 | 0 | 113 | 0 | 0 | 165 |
| 7+25 | 25 | 26 | 0 | 14 | 0 | 24 | 0 | 13 | 0 | 303 | 0 | 129 | 0 | 0 | 173 |
| 7+50 | 25 | 24 | 0 | 15 | 0 | 23 | 0 | 14 | 0 | 326 | 0 | 146 | 0 | 0 | 180 |
| 7+75 | 25 | 23 | 0 | 16 | 0 | 22 | 0 | 15 | 0 | 348 | 0 | 164 | 0 | 0 | 183 |
| 8+00 | 25 | 23 | 0 | 18 | 0 | 21 | 0 | 16 | 0 | 369 | 0 | 184 | 0 | 0 | 185 |
| 8+25 | 25 | 25 | 0 | 16 | 0 | 22 | 0 | 16 | 0 | 392 | 0 | 204 | 0 | 0 | 188 |
| 8+50 | 25 | 24 | 0 | 18 | 0 | 23 | 0 | 16 | 0 | 414 | 0 | 223 | 0 | 0 | 191 |
| 8+75 | 25 | 24 | 0 | 15 | 0 | 22 | 0 | 15 | 0 | 437 | 0 | 242 | 0 | 0 | 195 |
| 9+00 | 25 | 27 | 0 | 0 | 0 | 24 | 0 | 7 | 0 | 460 | 0 | 250 | 0 | 0 | 210 |
| 9+17 | 17 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 469 | 0 | 250 | 0 | 0 | 219 |
| SECTION 2 SUBTOTALS | | | | | | 469 | 0 | 200 | 0 | | | | | | |
| 10+40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10+50 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10+75 | 25 | 11 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 5 |
| 11+00 | 25 | 26 | 0 | 25 | 0 | 17 | 0 | 12 | 0 | 22 | 0 | 15 | 0 | 0 | 8 |
| 11+25 | 25 | 37 | 5 | 26 | 0 | 29 | 2 | 24 | 0 | 51 | 2 | 44 | 0 | 0 | 5 |
| 11+50 | 25 | 37 | 5 | 23 | 0 | 34 | 5 | 22 | 0 | 85 | 7 | 72 | 0 | 0 | 6 |
| 11+75 | 25 | 35 | 5 | 22 | 0 | 33 | 5 | 21 | 0 | 118 | 12 | 98 | 0 | 0 | 9 |
| 12+00 | 25 | 33 | 5 | 23 | 0 | 31 | 5 | 21 | 0 | 150 | 16 | 124 | 0 | 0 | 9 |
| 12+25 | 25 | 30 | 5 | 24 | 0 | 29 | 5 | 22 | 0 | 178 | 21 | 151 | 0 | 0 | 6 |
| 12+50 | 25 | 24 | 5 | 25 | 0 | 25 | 5 | 23 | 0 | 204 | 25 | 180 | 0 | 0 | -2 |
| 12+75 | 25 | 27 | 5 | 19 | 0 | 24 | 5 | 20 | 0 | 227 | 30 | 205 | 0 | 0 | -8 |
| 13+00 | 25 | 38 | 10 | 17 | 0 | 30 | 7 | 16 | 0 | 258 | 37 | 226 | 0 | 0 | -5 |
| 13+25 | 25 | 49 | 10 | 17 | 0 | 40 | 9 | 16 | 0 | 298 | 46 | 246 | 0 | 0 | 6 |
| 13+50 | 25 | 57 | 10 | 27 | 0 | 49 | 9 | 20 | 0 | 347 | 56 | 271 | 0 | 0 | 21 |
| 13+75 | 25 | 59 | 10 | 29 | 0 | 54 | 9 | 26 | 0 | 401 | 65 | 303 | 0 | 0 | 33 |
| 14+00 | 25 | 56 | 10 | 24 | 0 | 53 | 9 | 25 | 0 | 454 | 74 | 334 | 0 | 0 | 46 |
| 14+25 | 25 | 54 | 10 | 3 | 0 | 51 | 9 | 13 | 0 | 505 | 83 | 350 | 0 | 0 | 72 |
| 14+50 | 25 | 0 | 0 | 0 | 0 | 25 | 5 | 2 | 0 | 530 | 88 | 352 | 0 | 0 | 90 |
| 14+55 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 530 | 88 | 352 | 0 | 0 | 90 |
| SECTION 3 SUBTOTALS | | | | | | 530 | 88 | 281 | 0 | | | | | | |
| COLUMN TOTALS | | | | | | 1,364 | 88 | 489 | 0 | | | | | | |

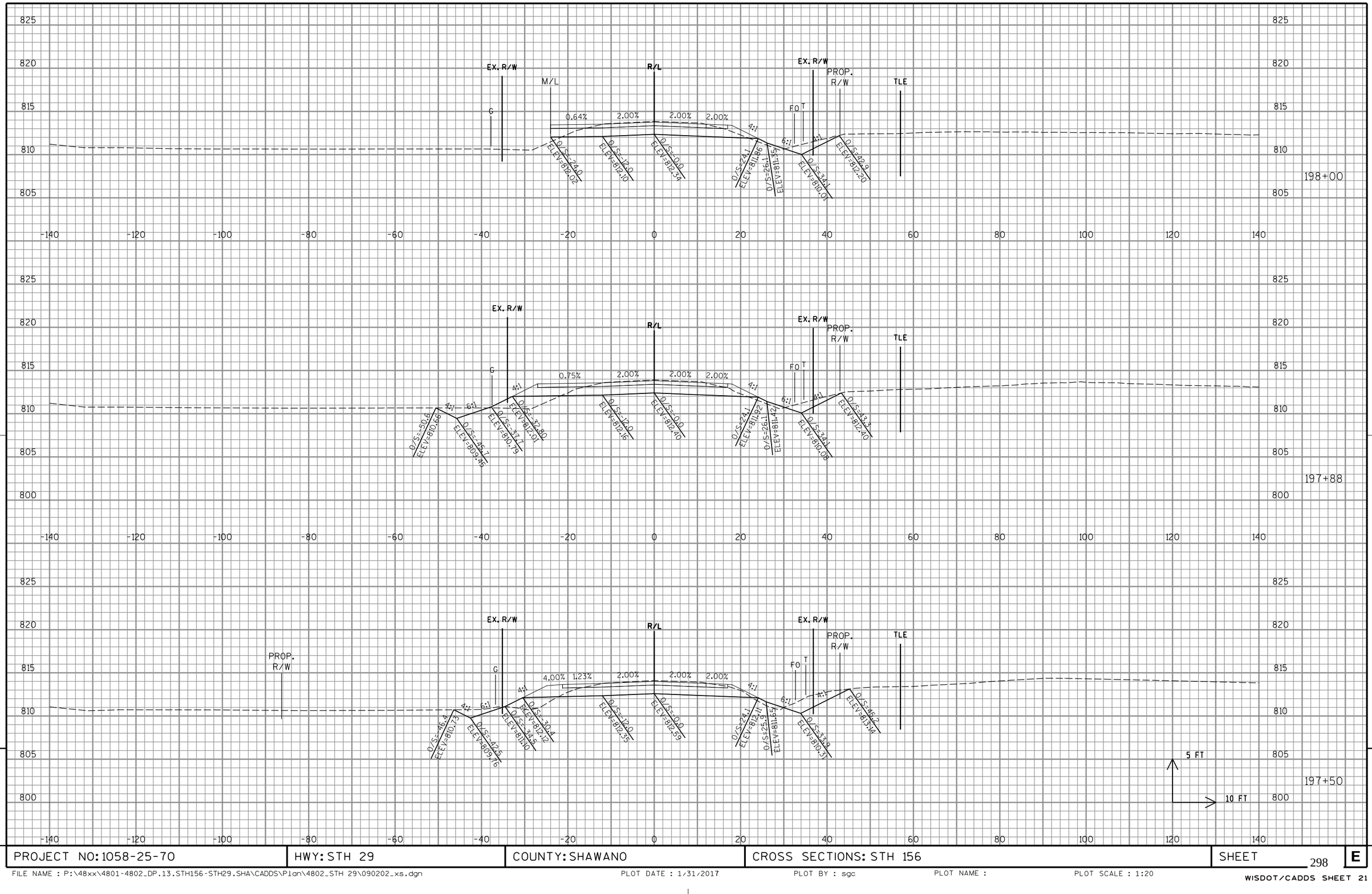



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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156 | SHEET 297 | E |
|---|---|---|---|---|---|

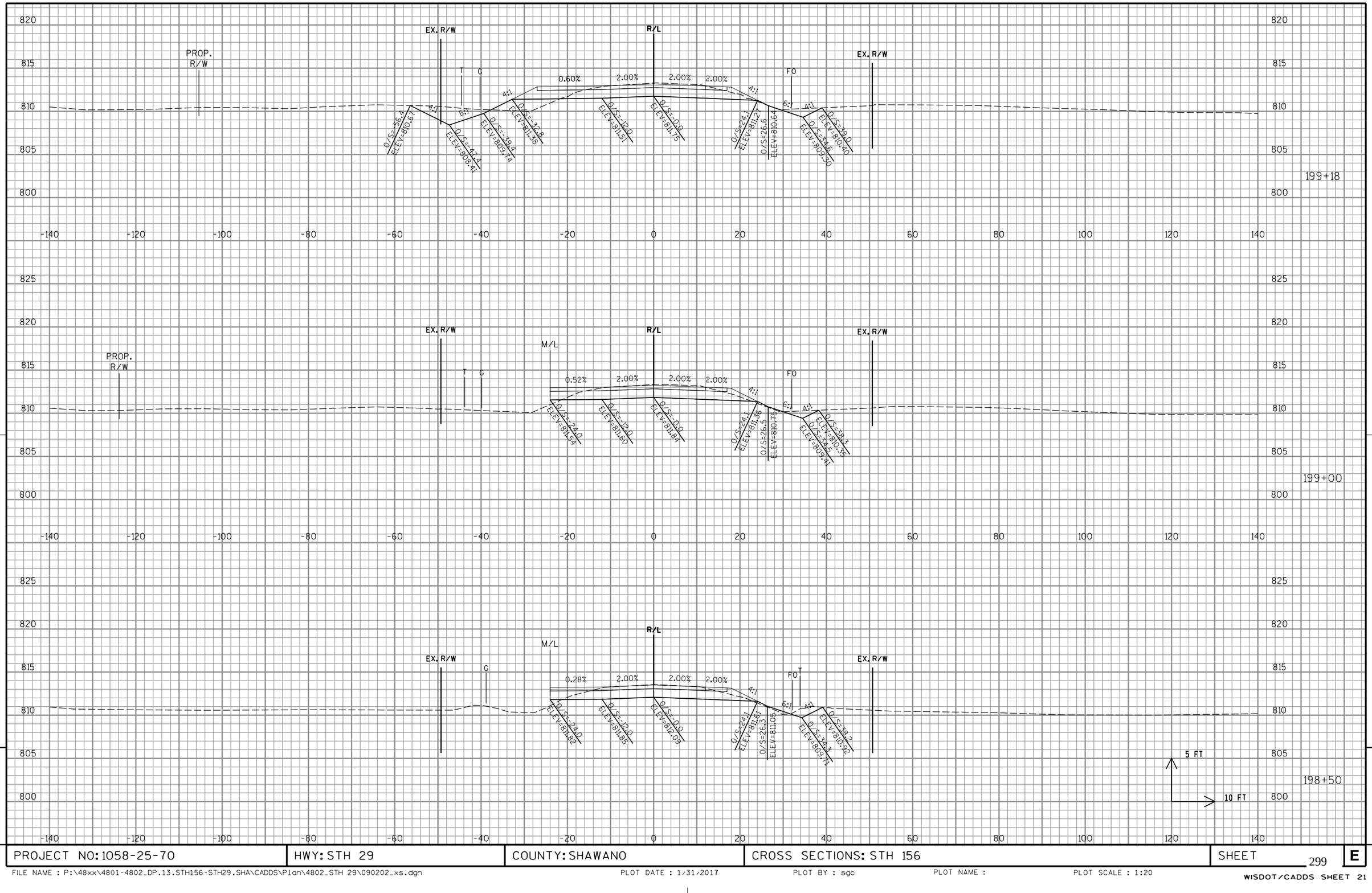
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PLOT DATE : 1/31/2017
PLOT BY : sgc
PLOT NAME :
PLOT SCALE : 1:20
WISDOT/CADDS SHEET 21




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156 | SHEET 298 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090202_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21



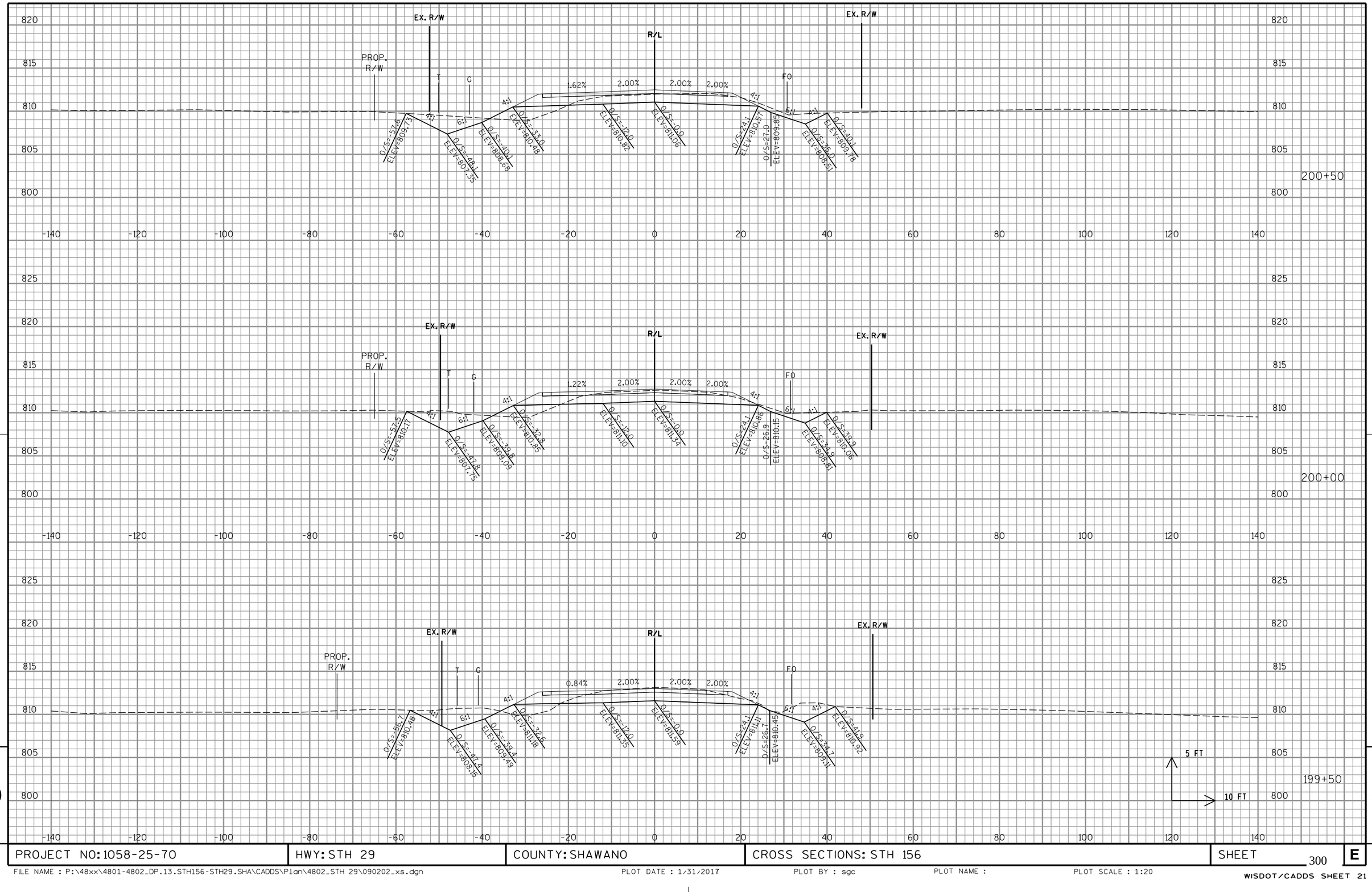

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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156 | SHEET 299 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090202_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21



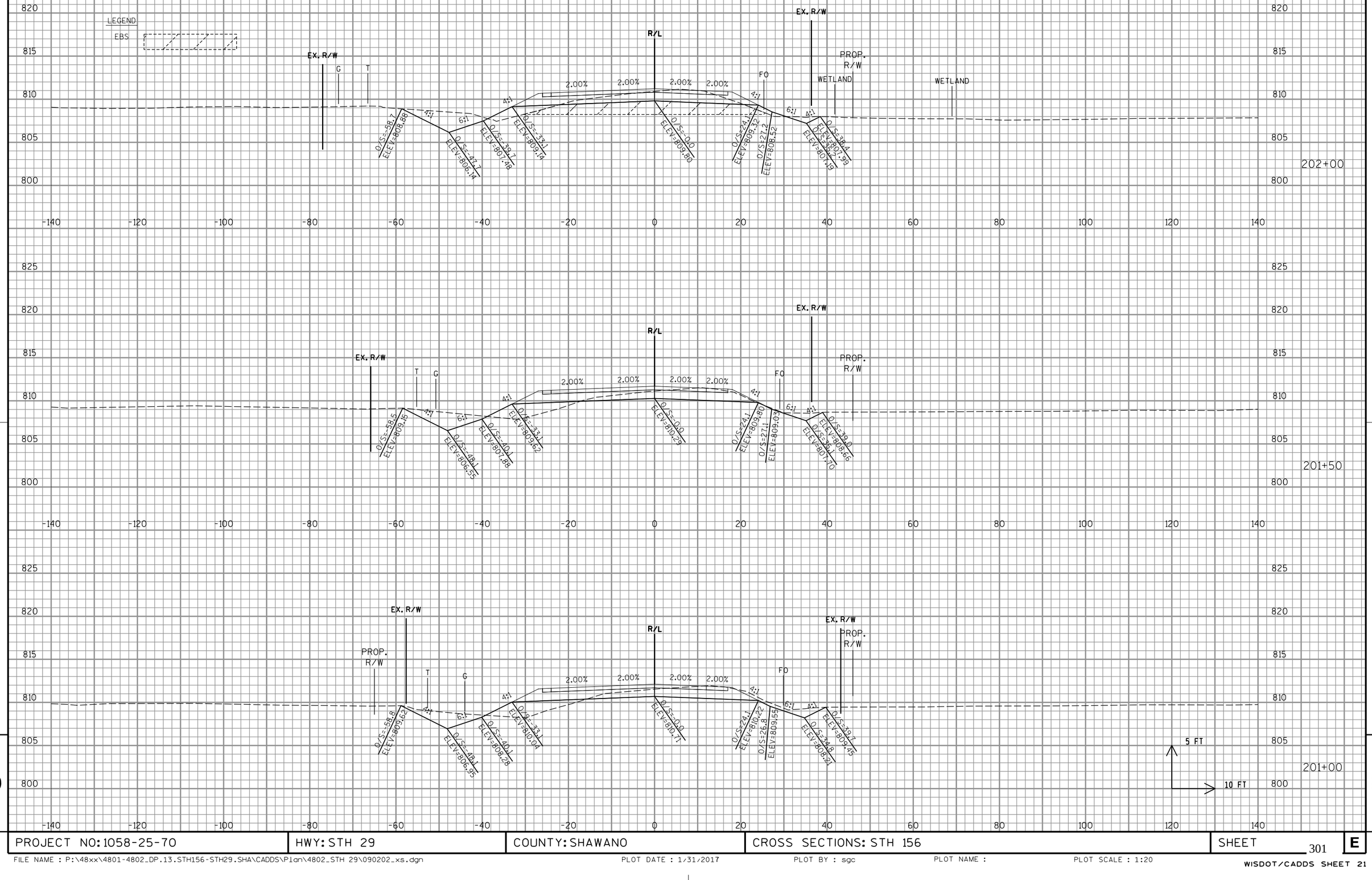

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156 | SHEET 300 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090202_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS



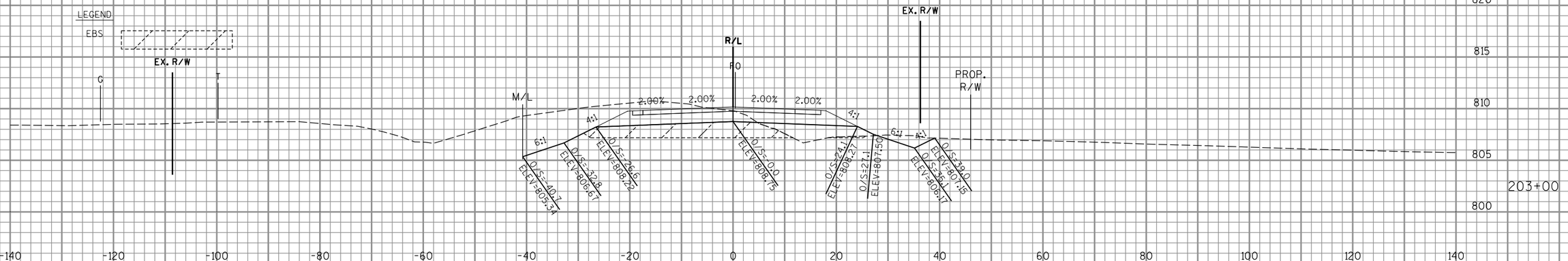

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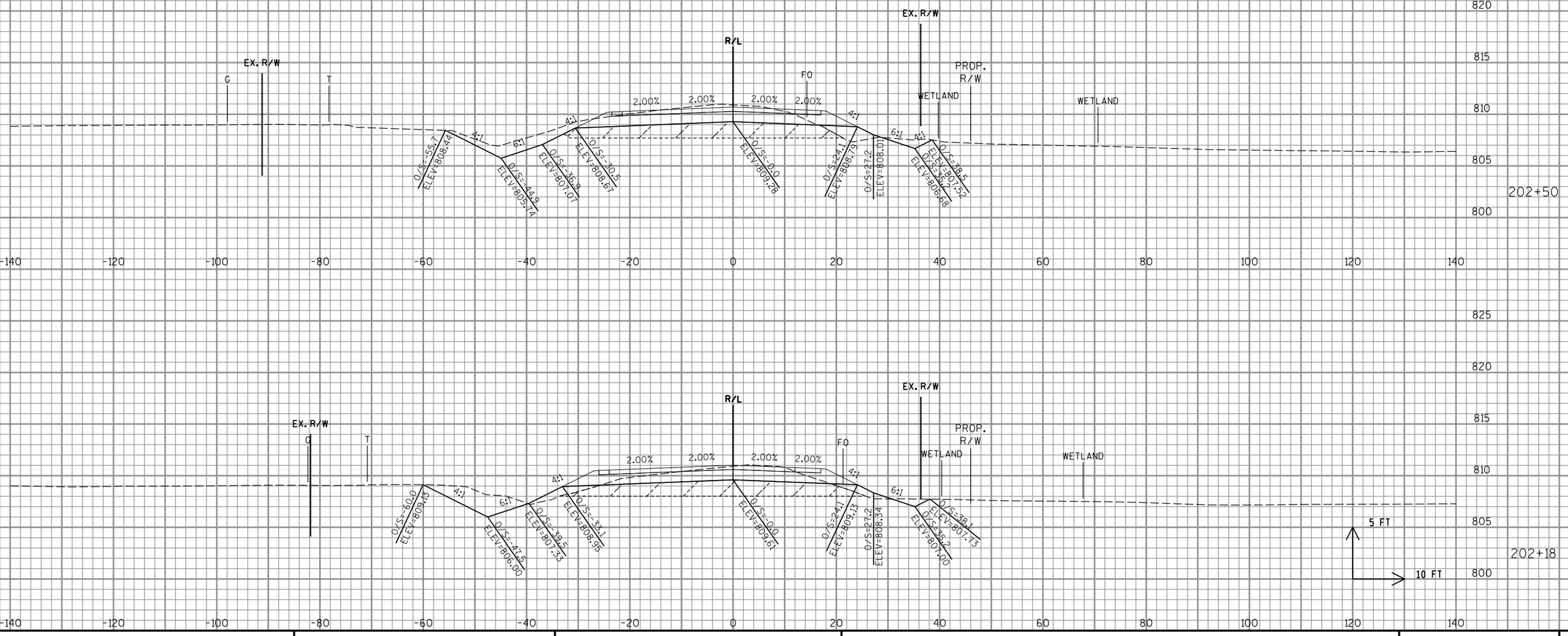
9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156 | SHEET 301 | E |
|---|---|---|---|---|---|

LEGEND

EBS




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9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156 | SHEET 302 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090202_xs.dgn

PLOT DATE : 1/31/2017

PLOT BY : sgc

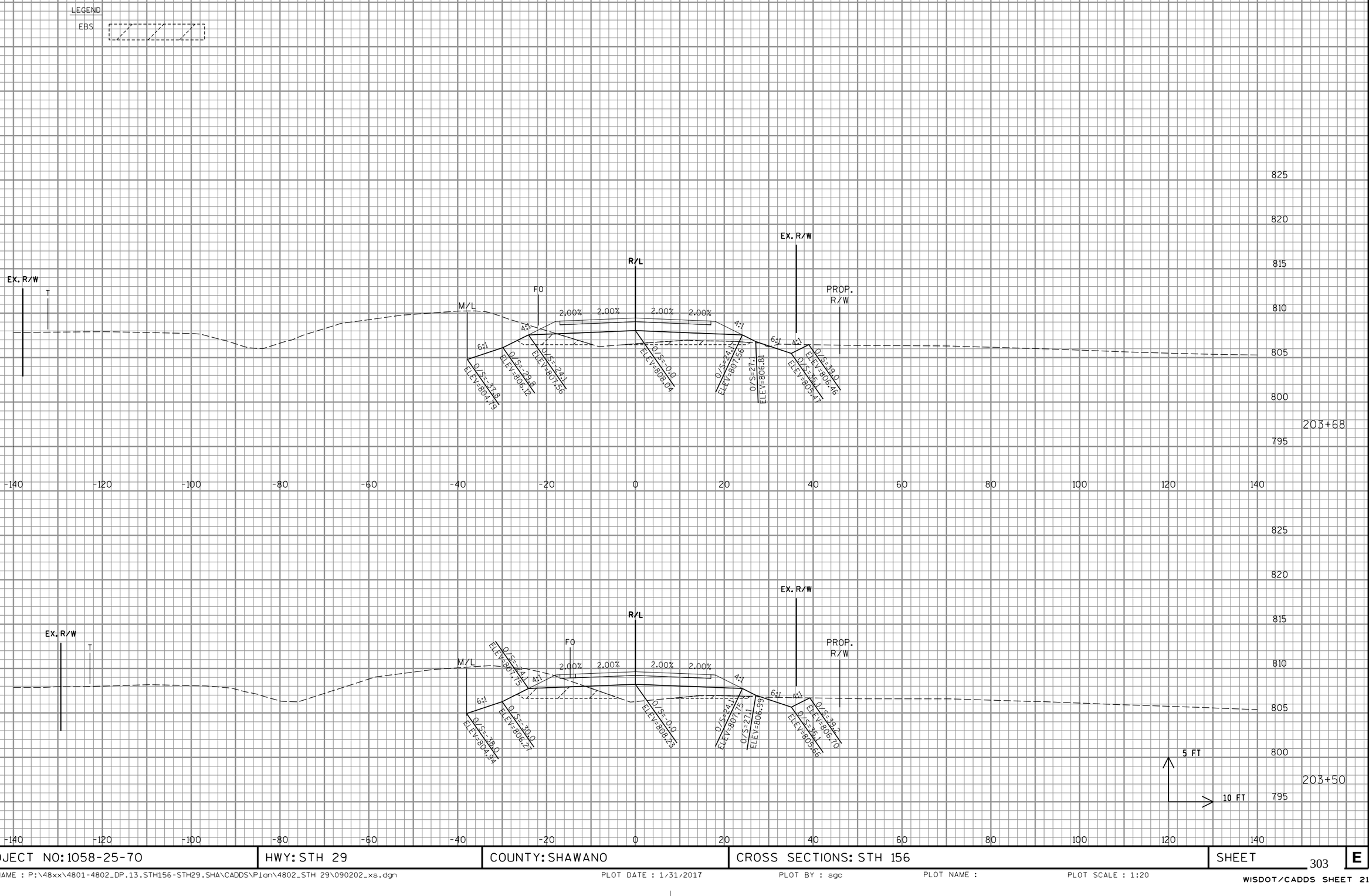
PLOT NAME :

PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS




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9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156 | SHEET 303 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090202_xs.dgn

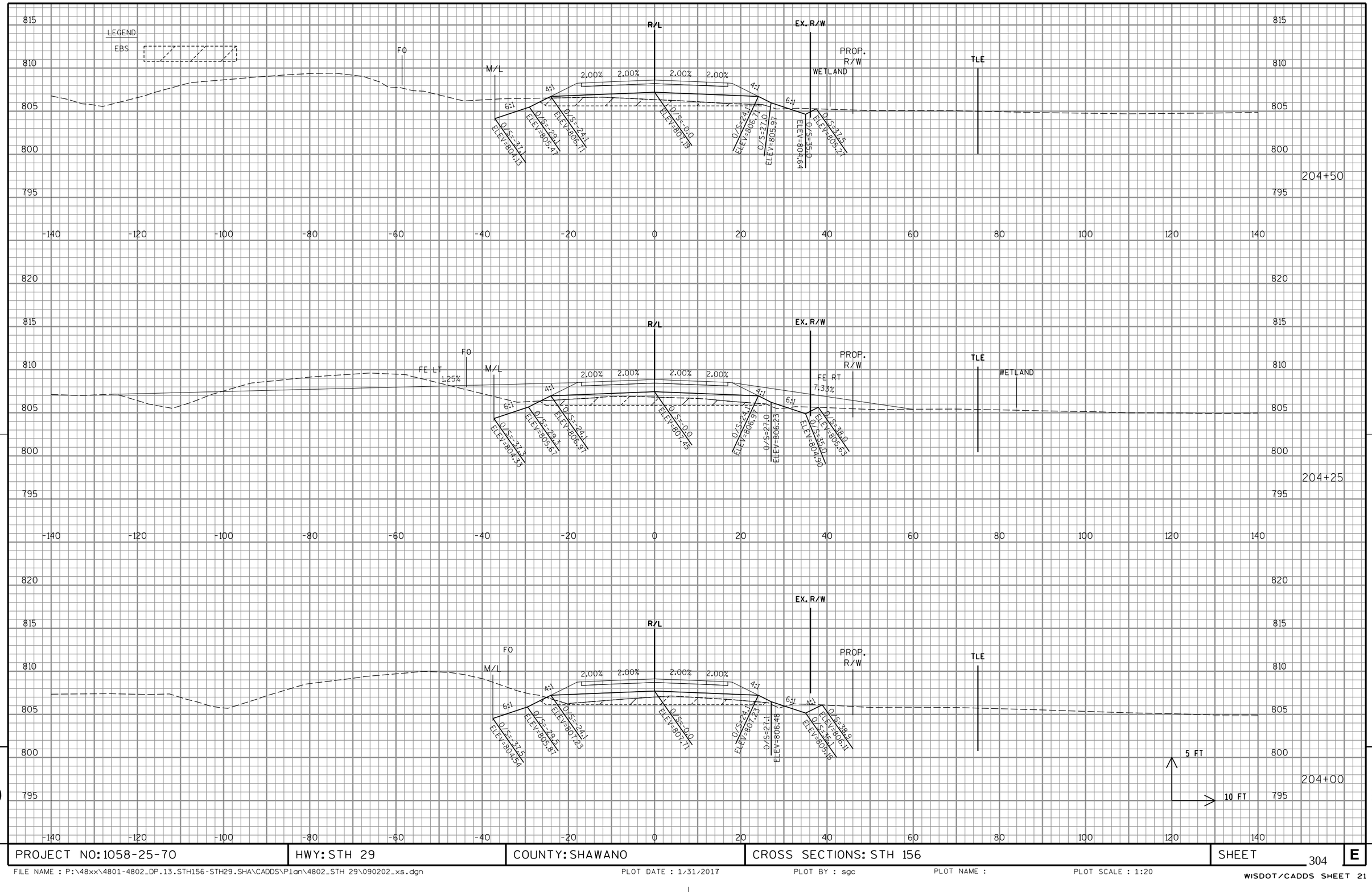
PLOT DATE : 1/31/2017

PLOT BY : sgc

PLOT NAME :

PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21



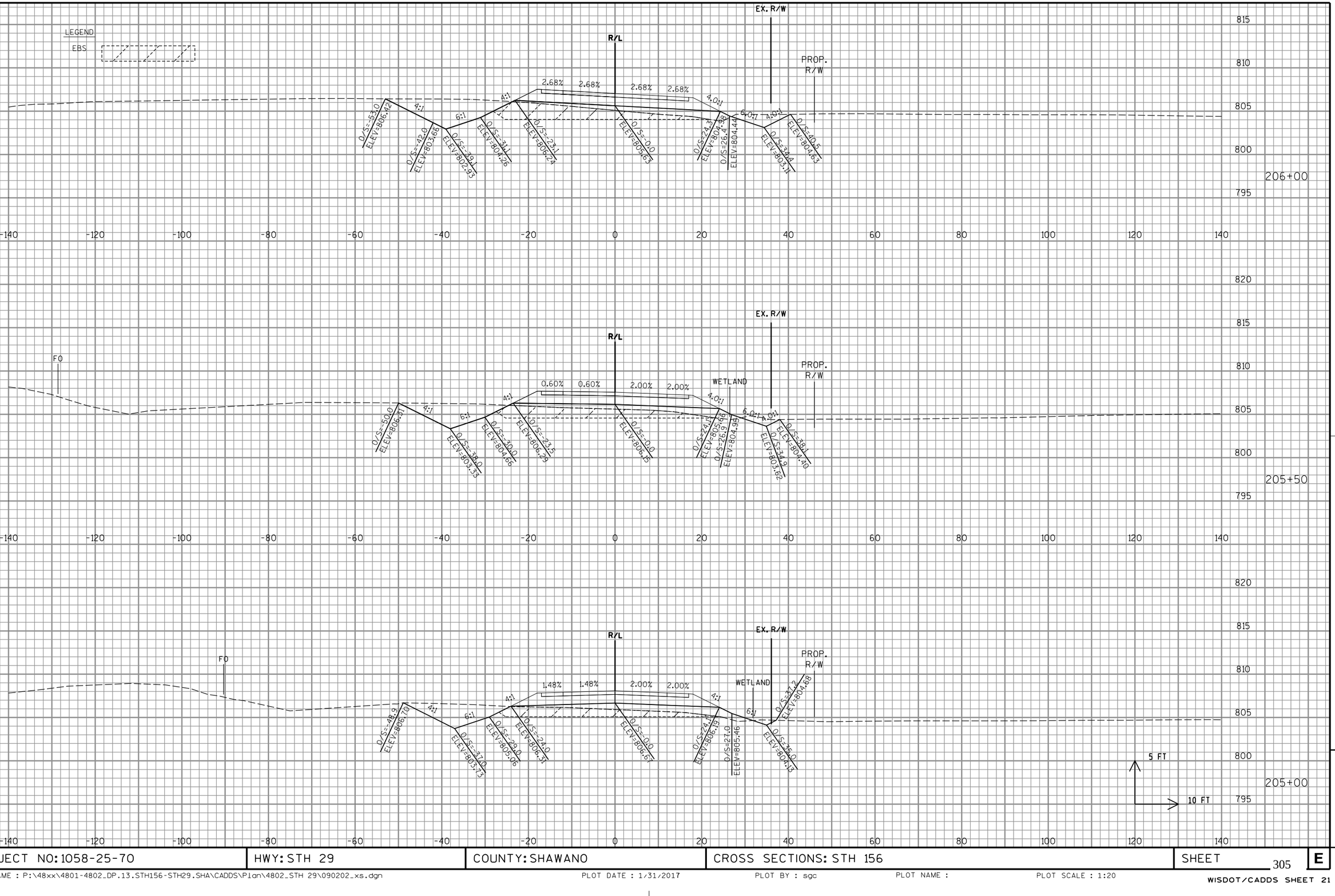

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156 | SHEET 304 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090202_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS



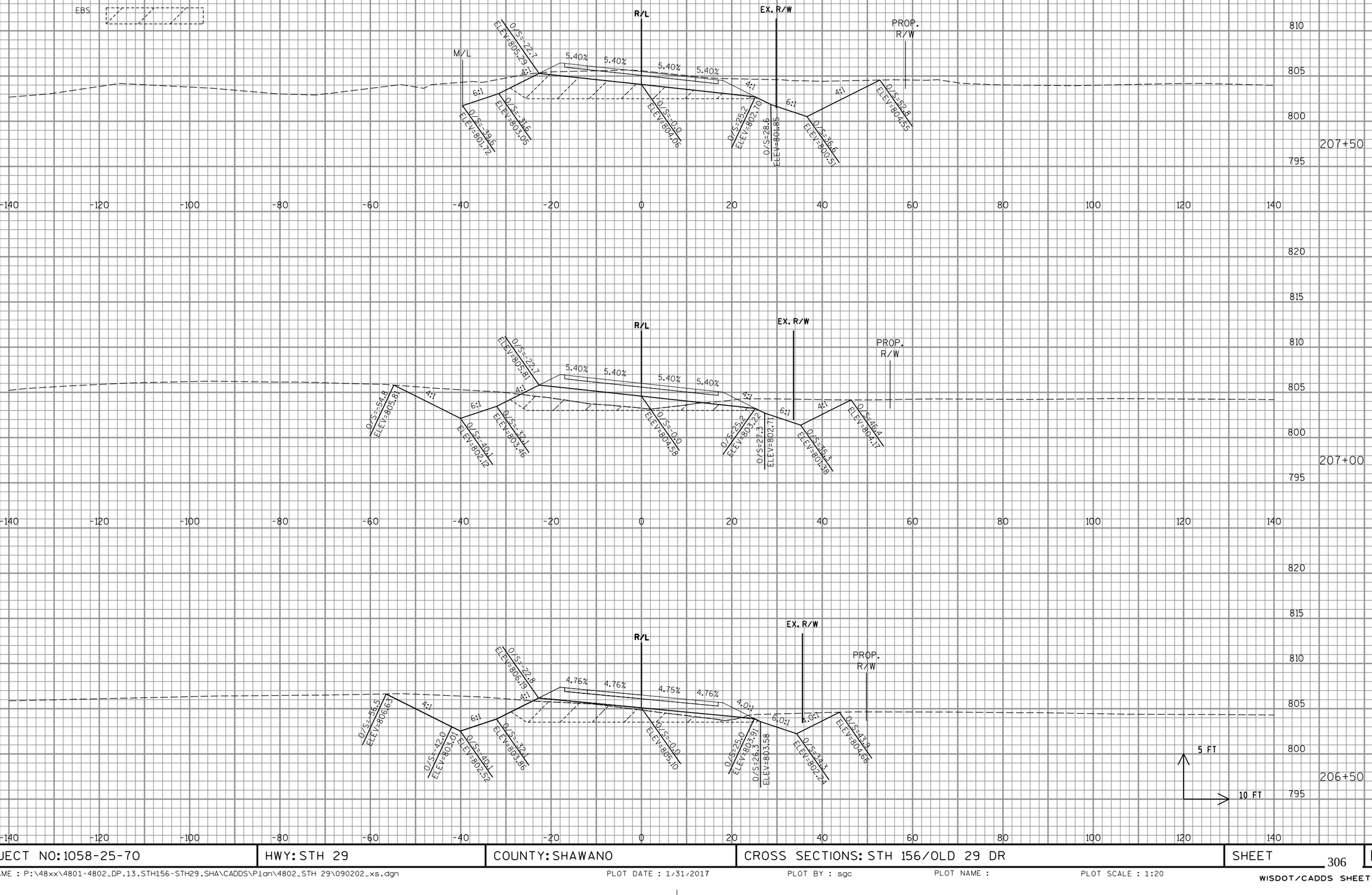

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156 | SHEET 305 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090202_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS



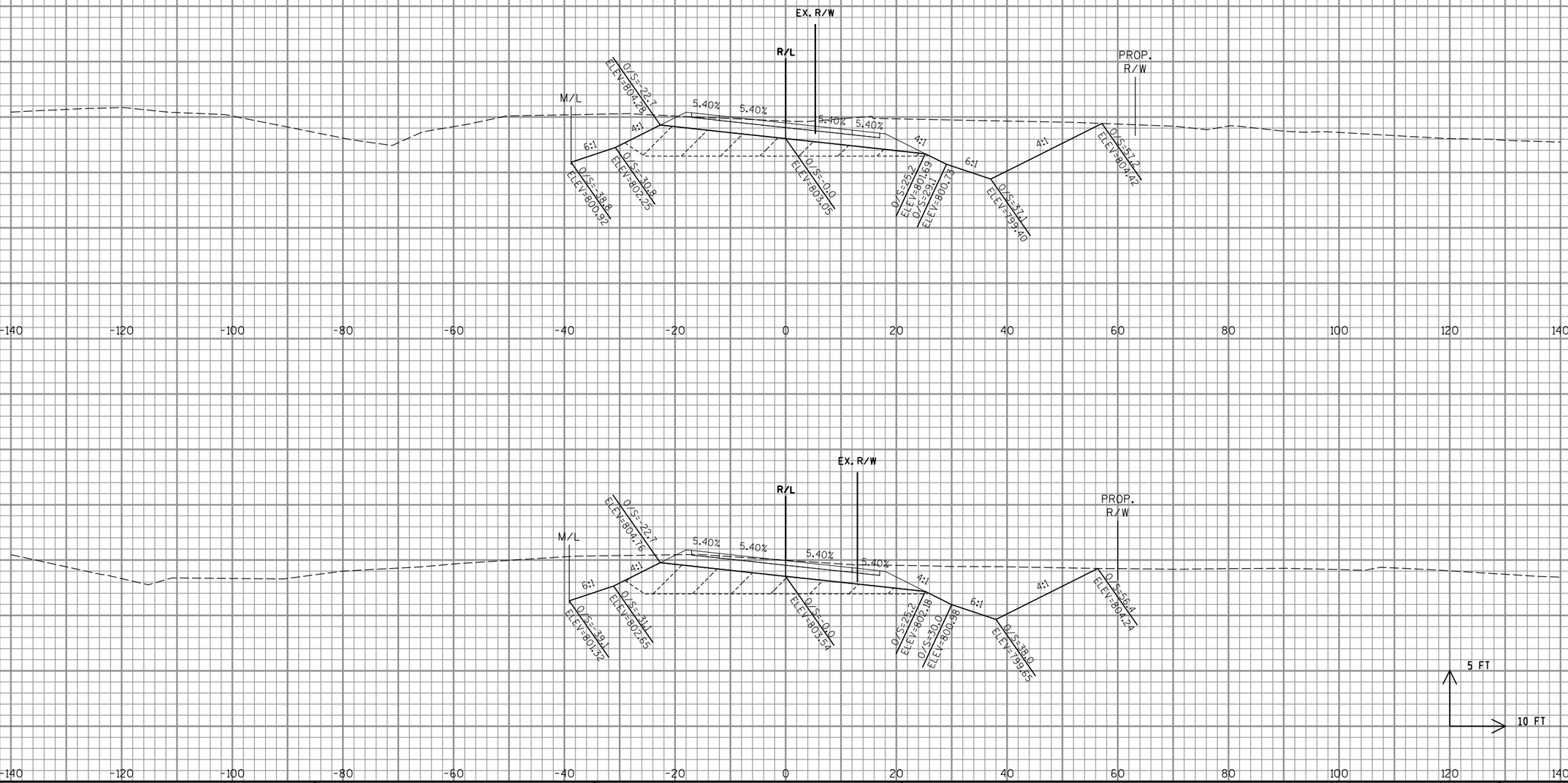

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 306 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090202_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS



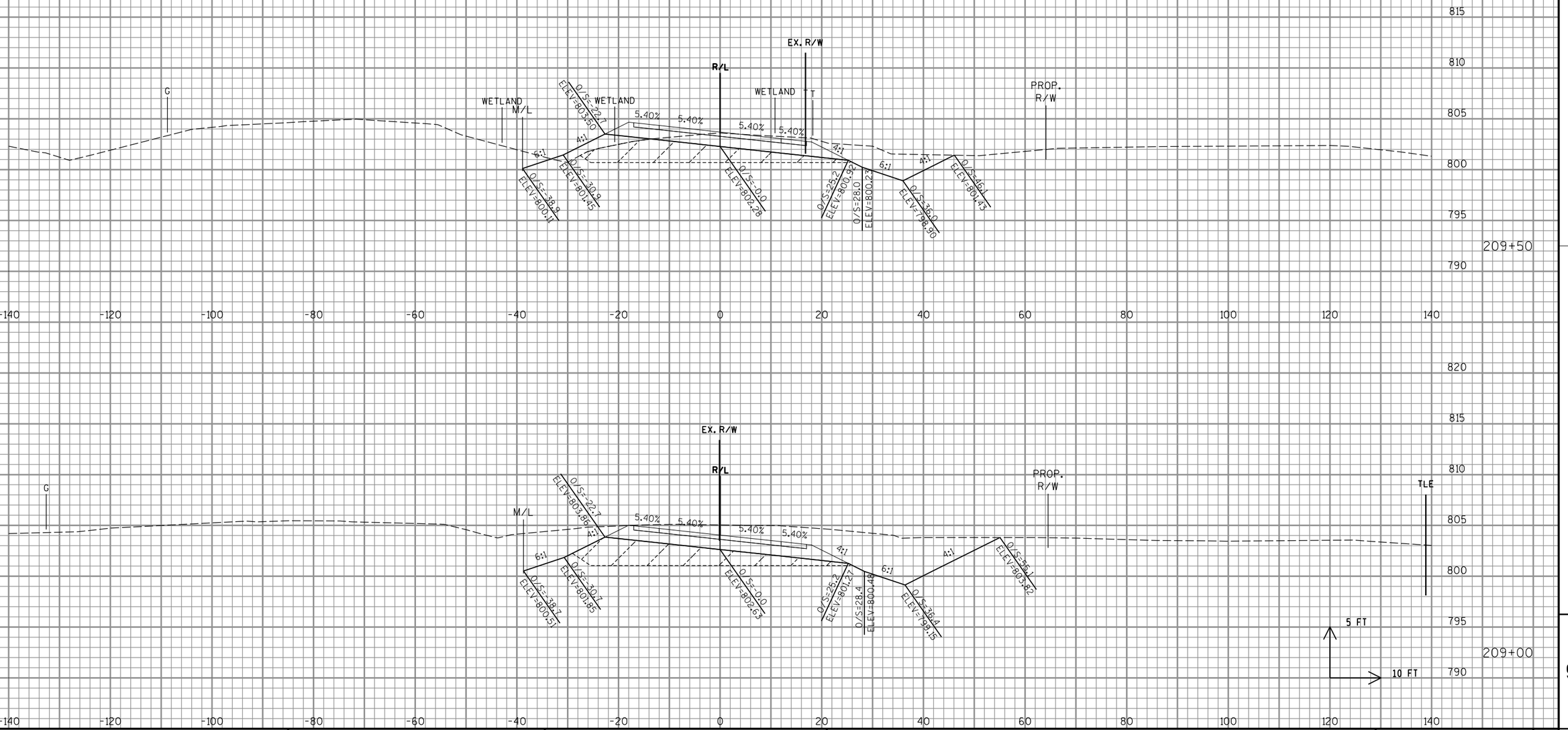

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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 307 | E |
|---|---|---|---|---|---|

LEGEND

EBS



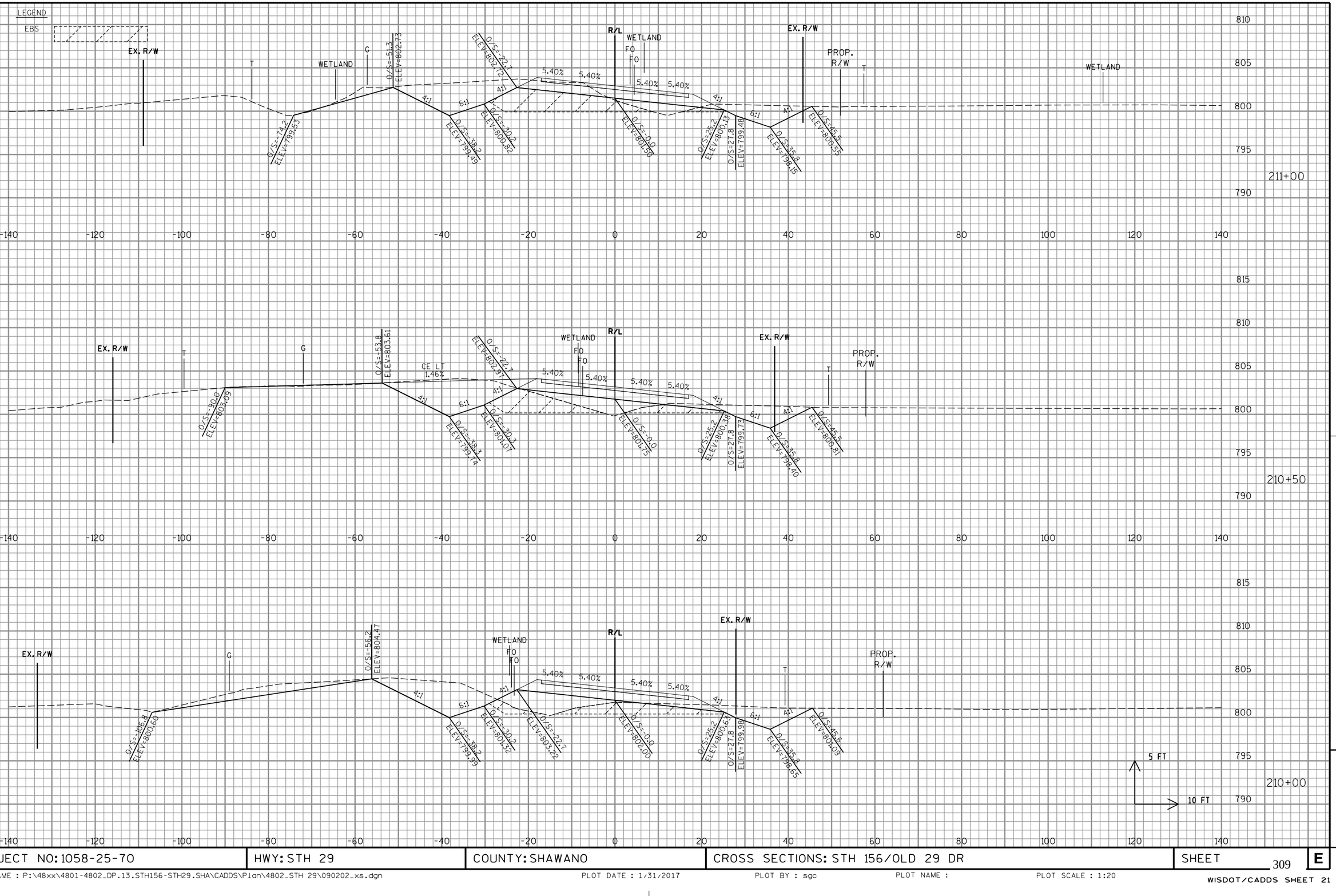

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 308 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090202_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS




9

9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 309 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090202_xs.dgn

PLOT DATE : 1/31/2017

PLOT BY : sgc

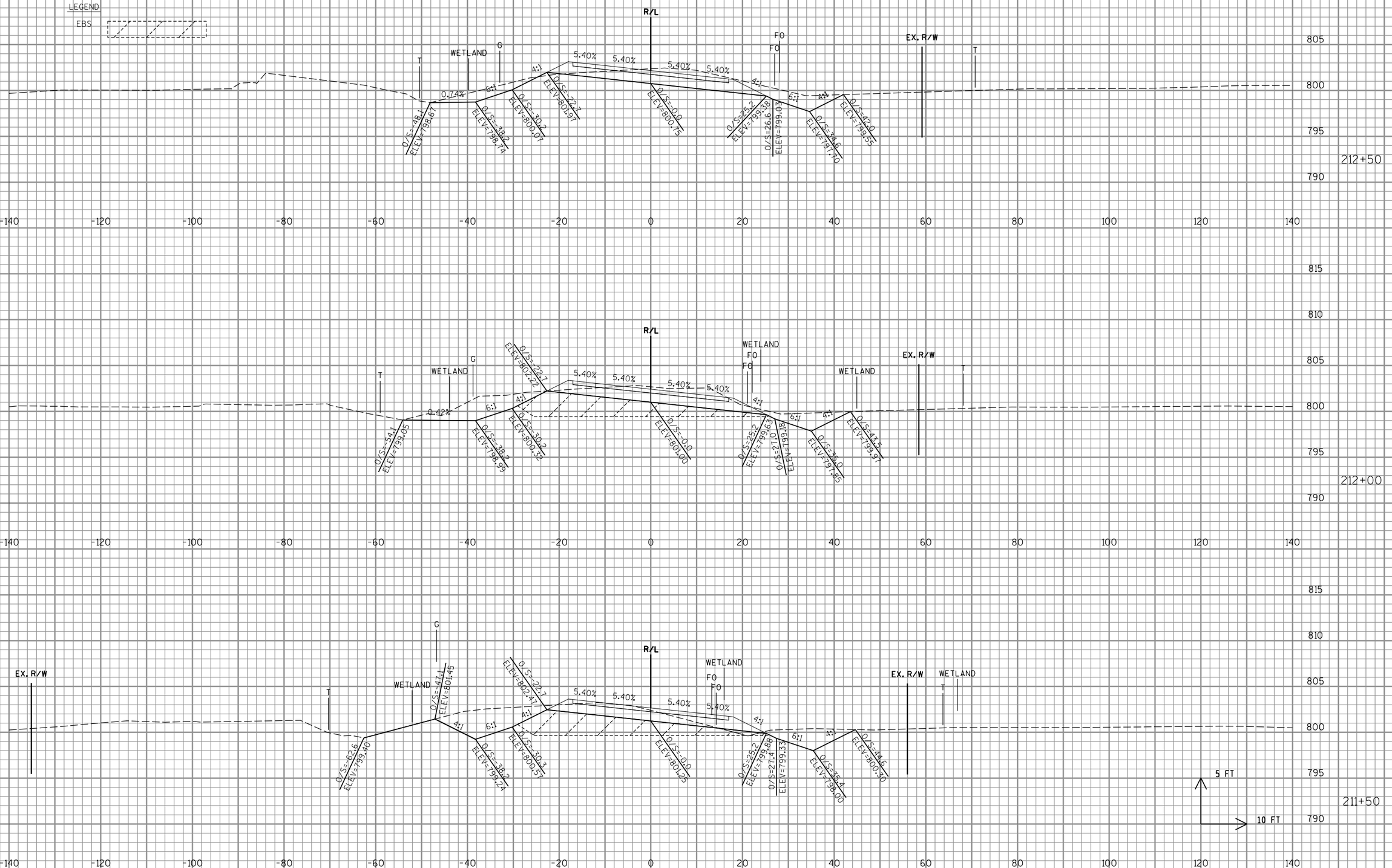
PLOT NAME :

PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS

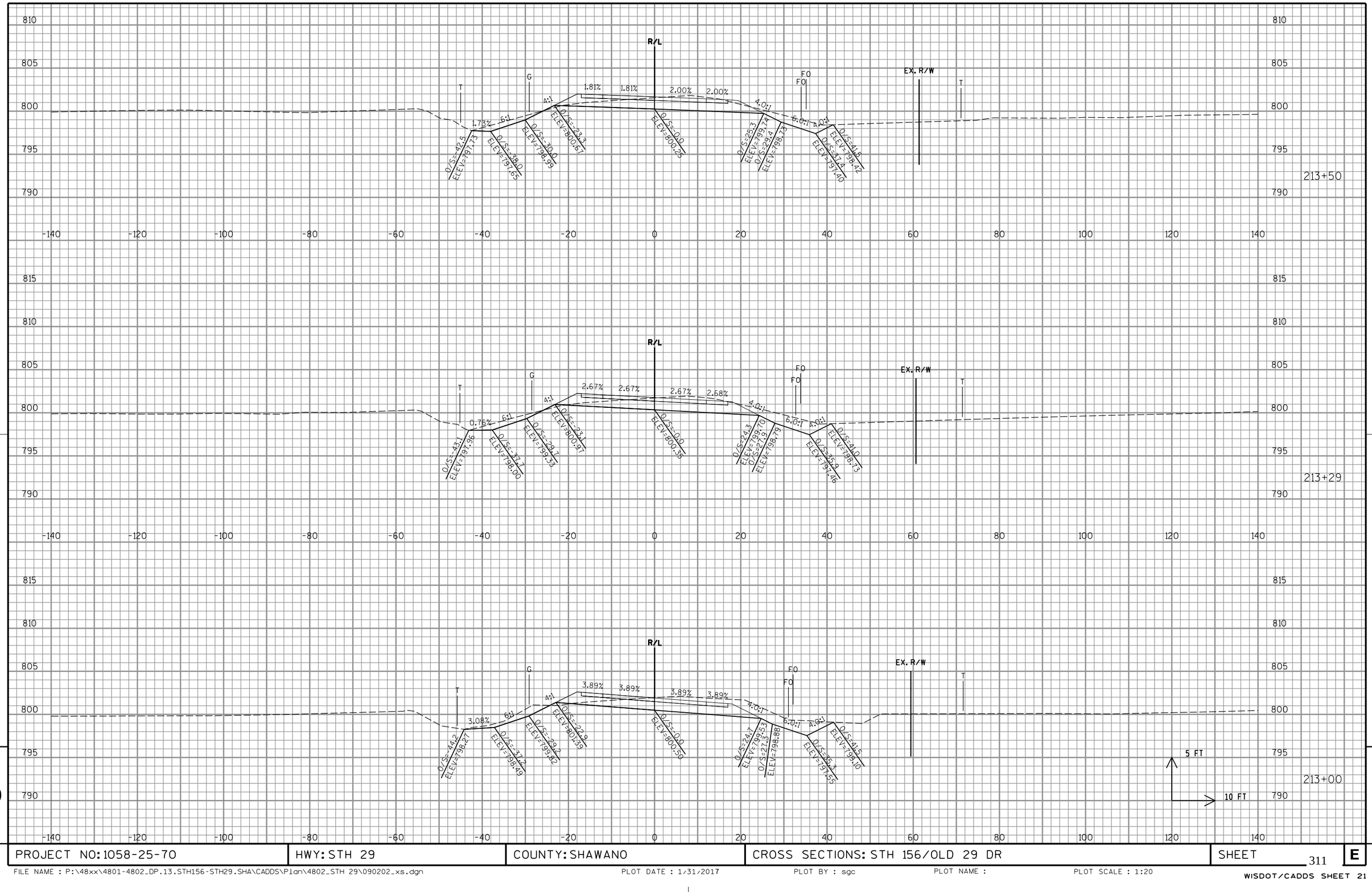



| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 310 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090202_xs.dgn

PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

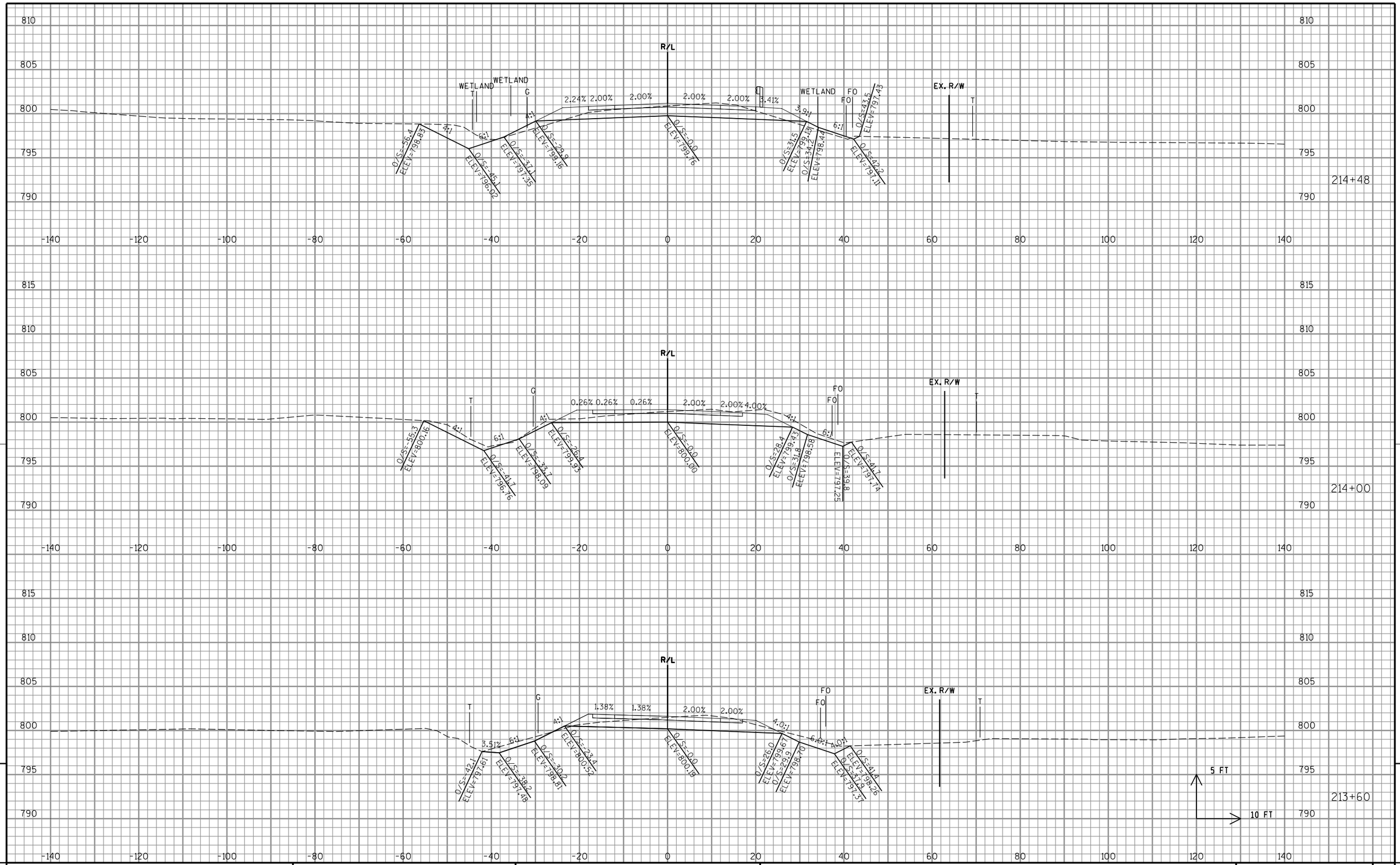
WISDOT/CADDS SHEET 21




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 311 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090202_xs.dgn | PLOT DATE : 1/31/2017 | PLOT BY : sgc | PLOT NAME : | PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21




9

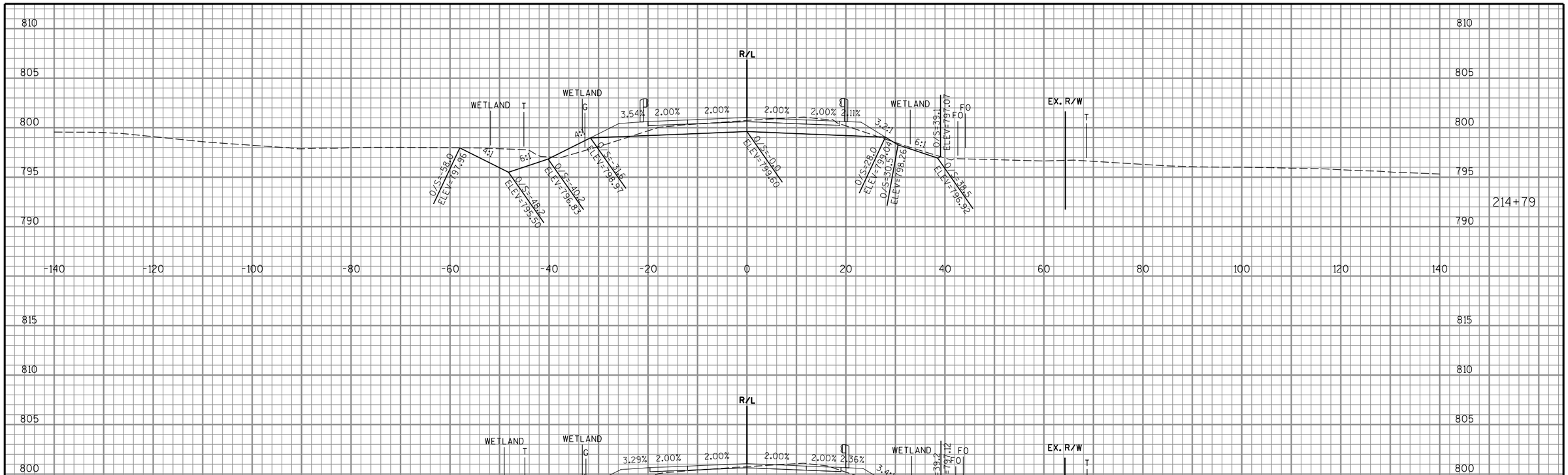
9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 312 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090202_xs.dgn

PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

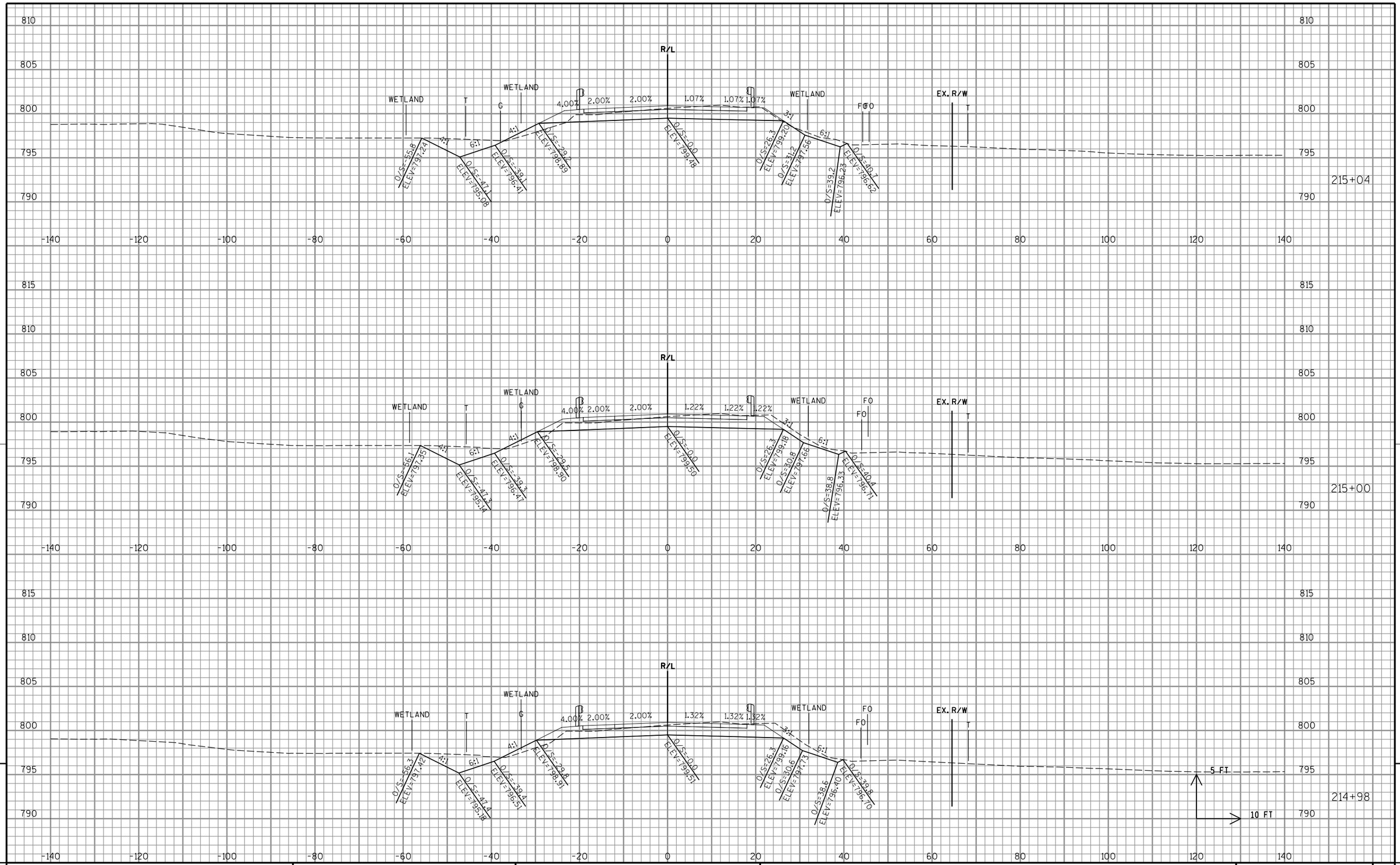
WISDOT/CADDS SHEET 21




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 313 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090202_xs.dgn | PLOT DATE : 1/31/2017 | PLOT BY : sgc | PLOT NAME : | PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21




9

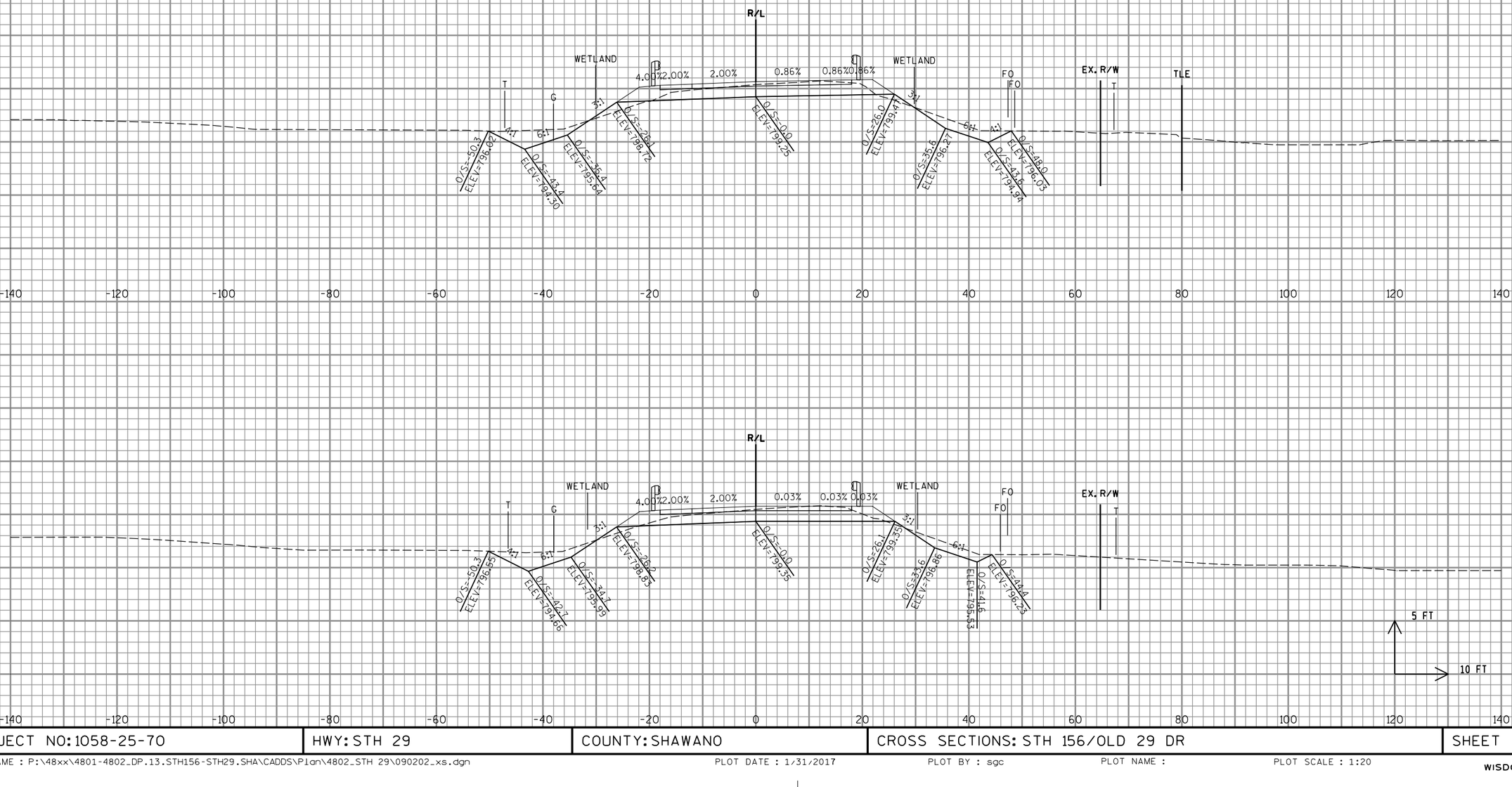
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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 314 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090202_xs.dgn

PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

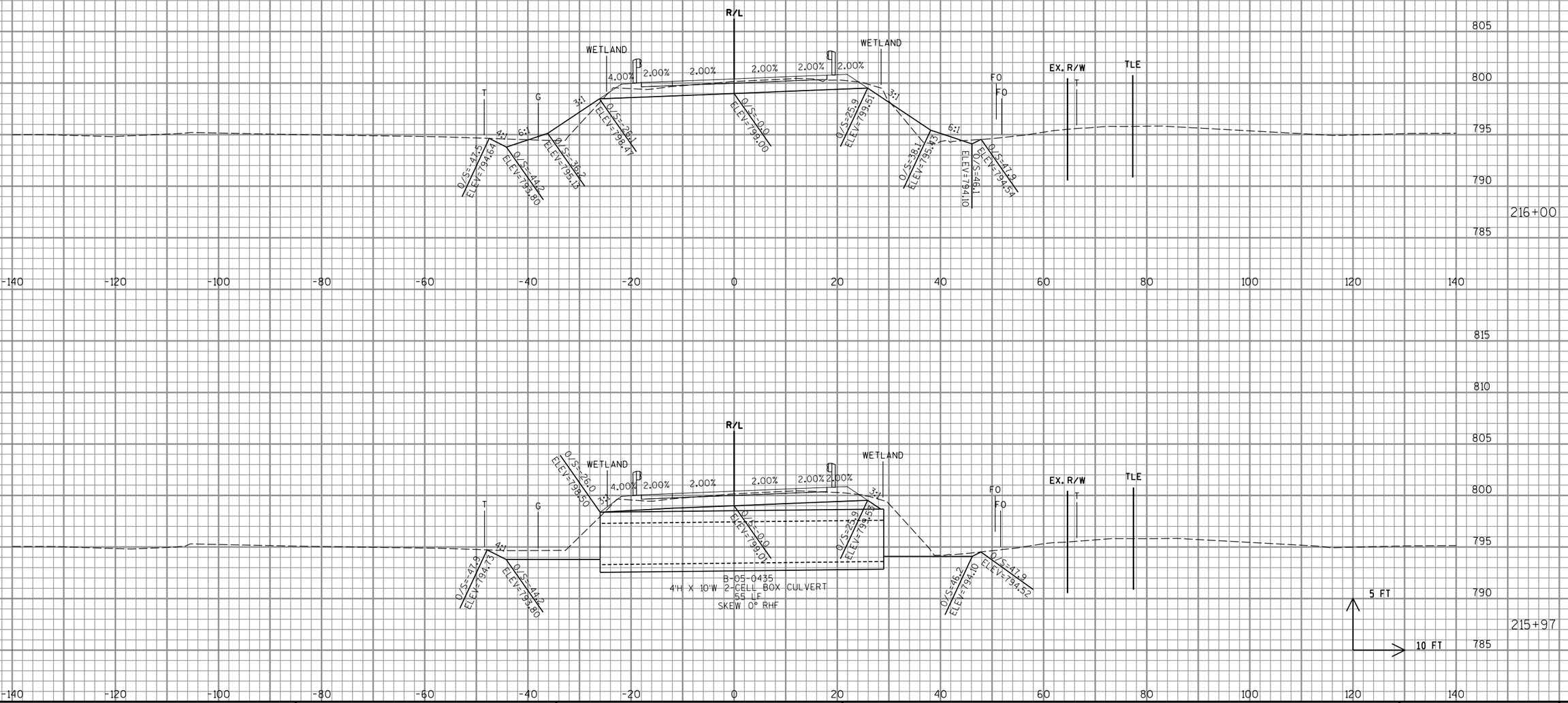
WISDOT/CADDS SHEET 21




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 315 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090202_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

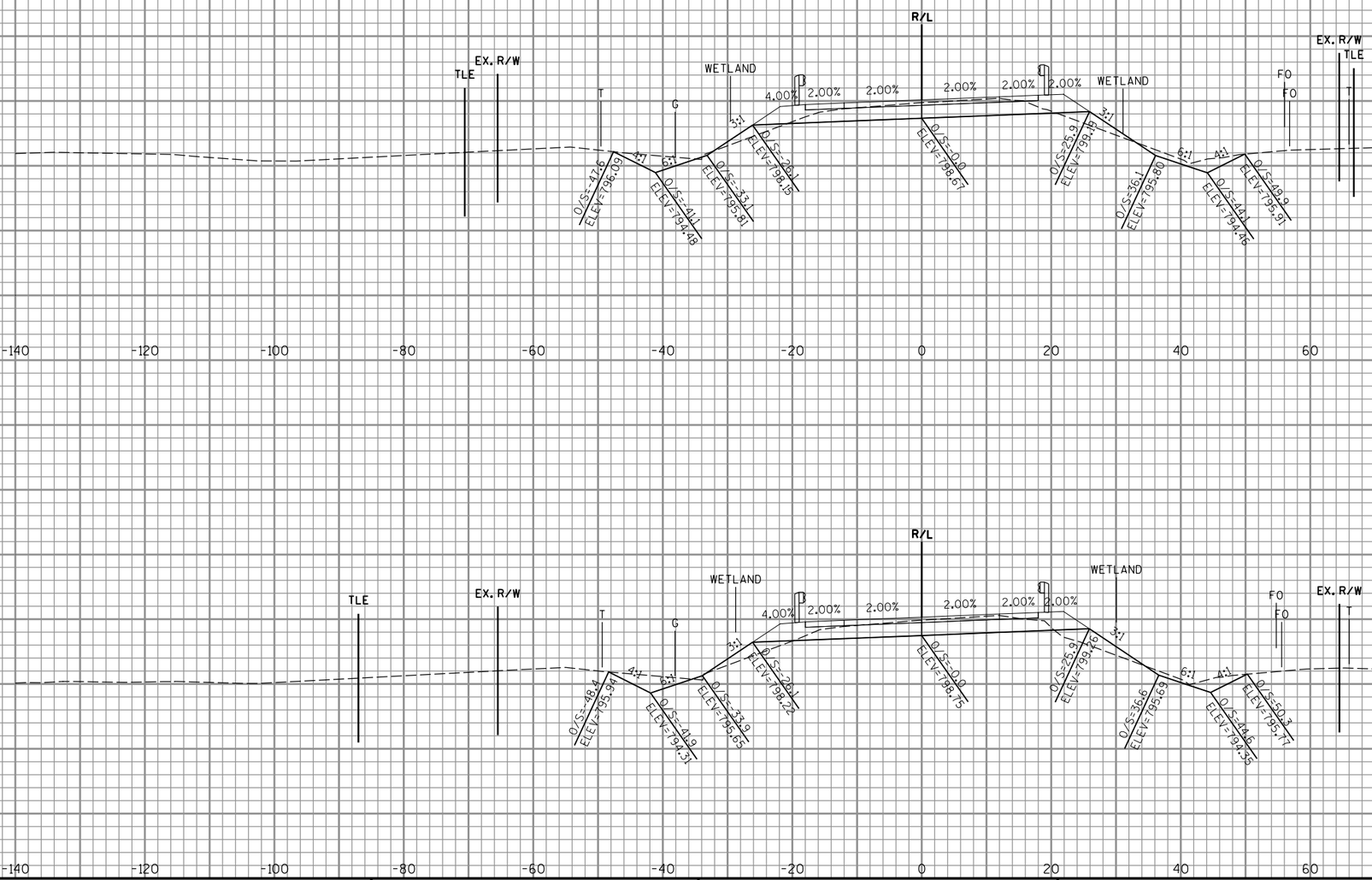
WISDOT/CADDS SHEET 21




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 316 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090202_xs.dgn | PLOT DATE : 1/31/2017 | PLOT BY : sgc | PLOT NAME : | PLOT SCALE : 1:20

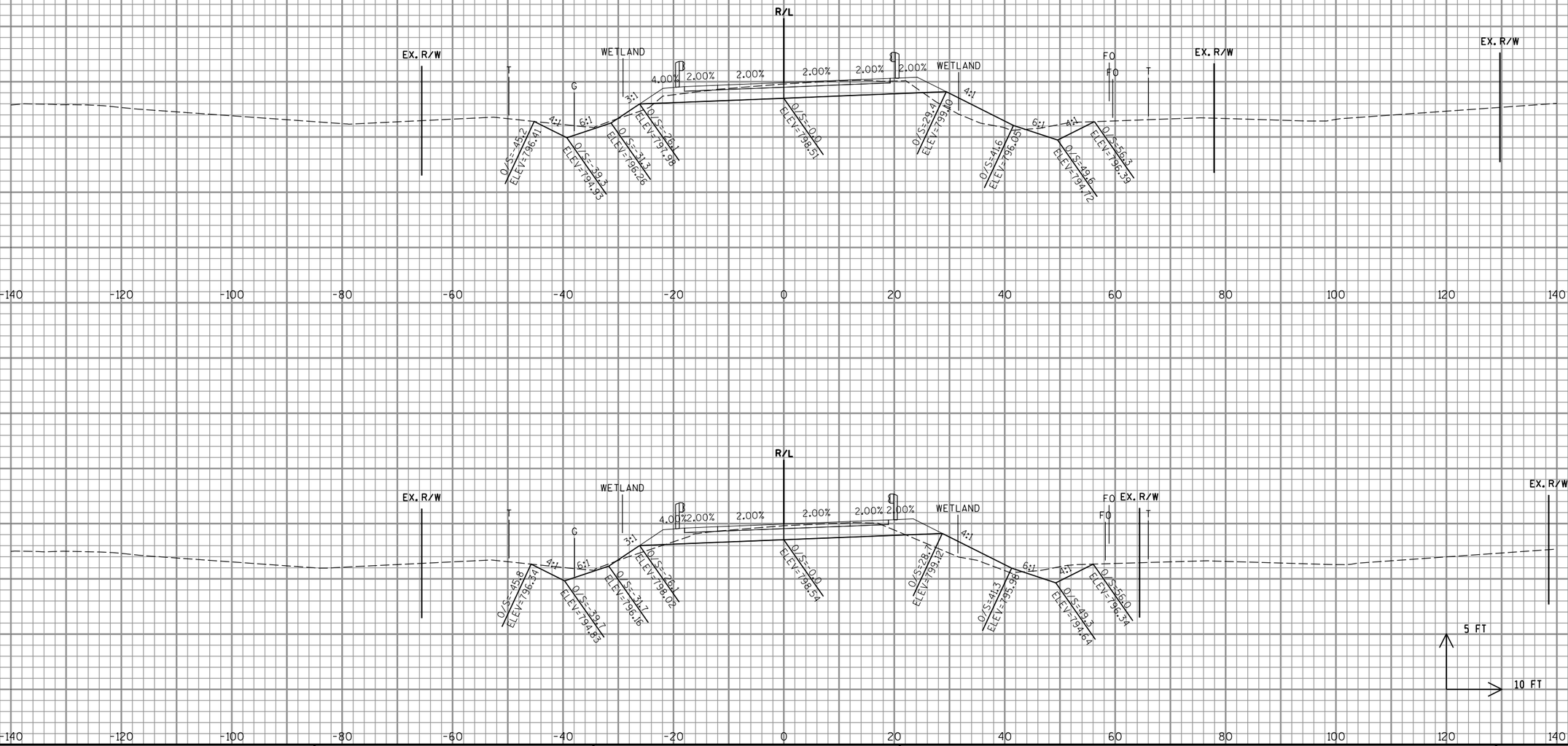
WISDOT/CADDS SHEET 21




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 317 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090202_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21



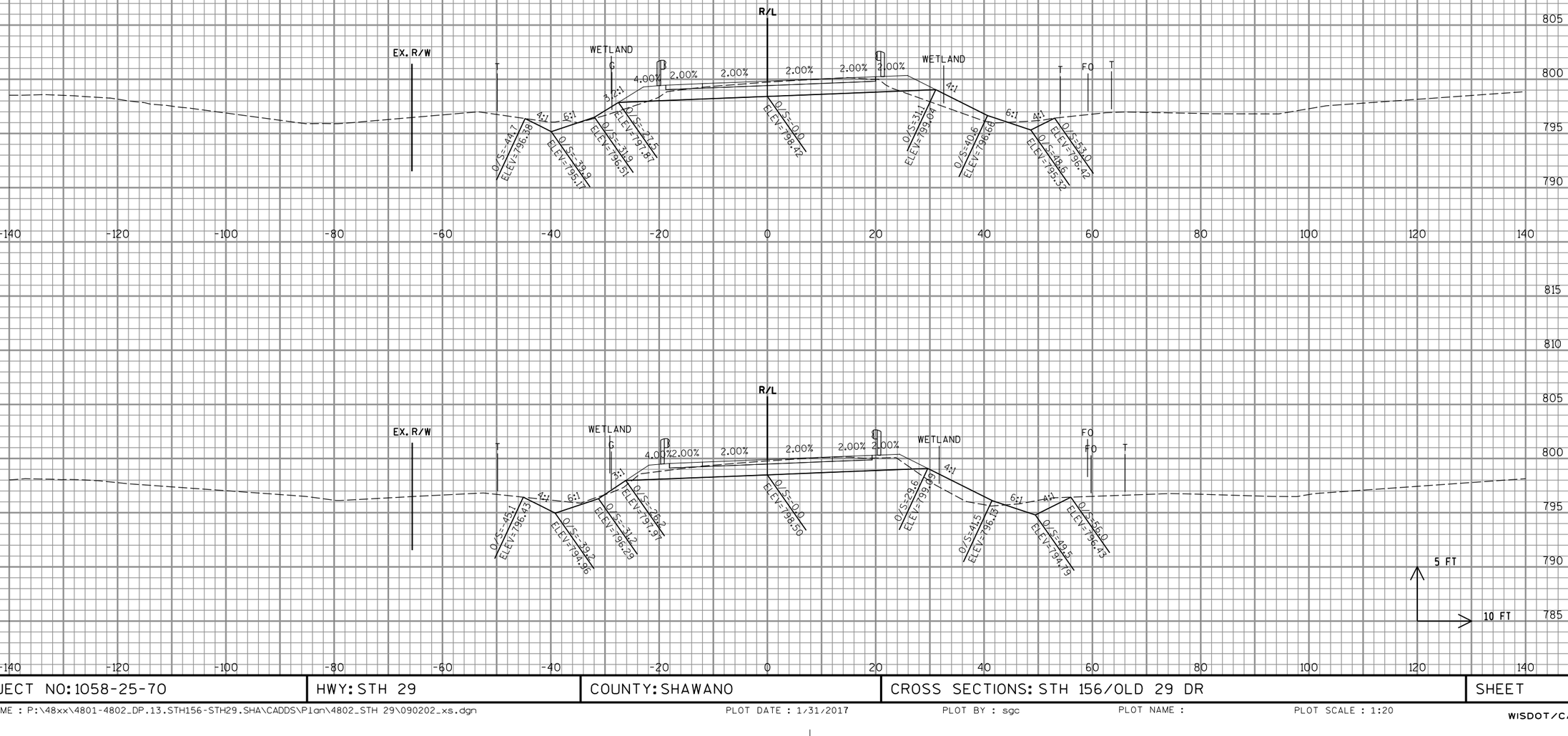

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9

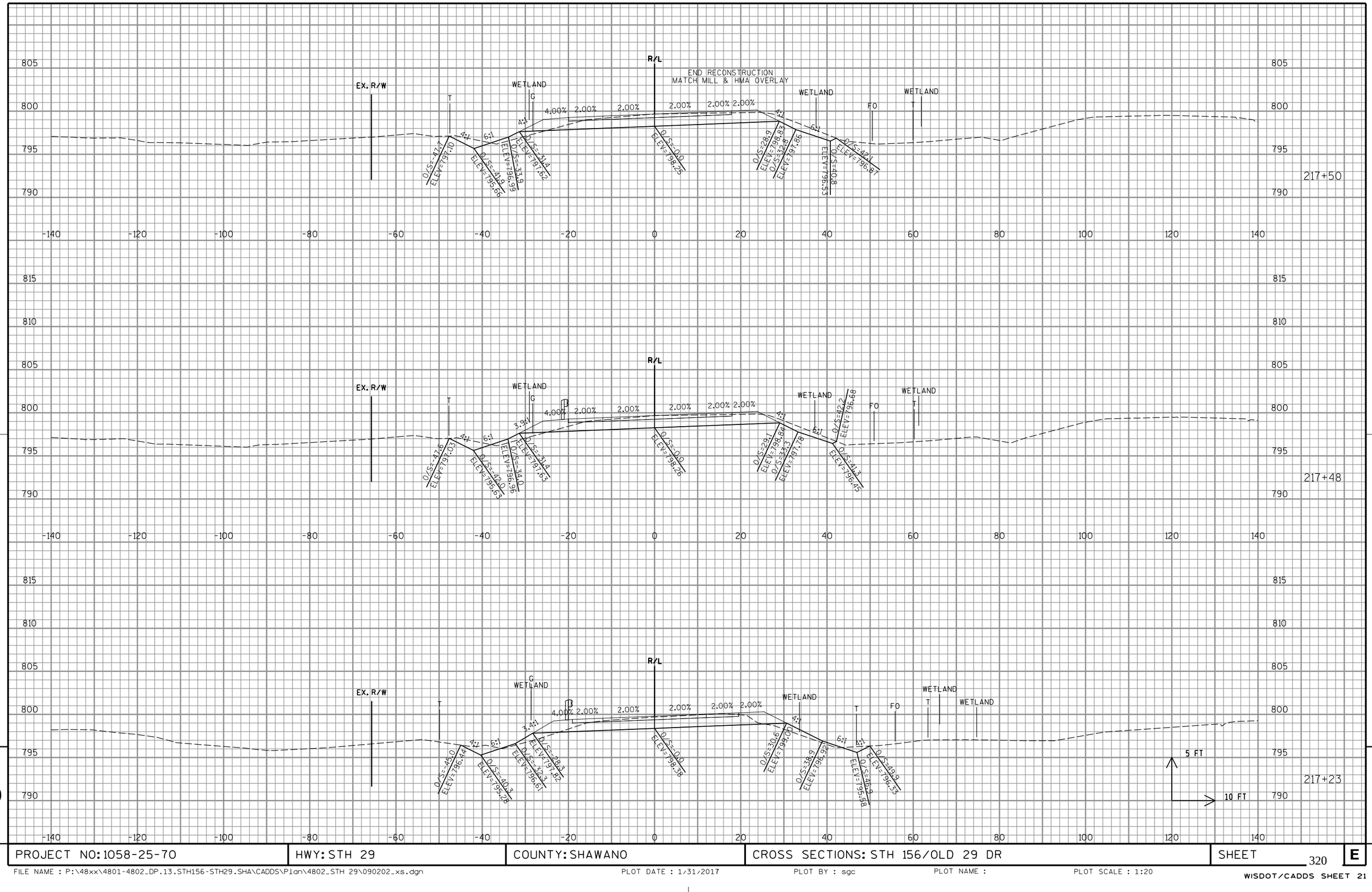
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|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090202_xs.dgn | PLOT DATE : 1/31/2017 | PLOT BY : sgc | PLOT NAME : | PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21



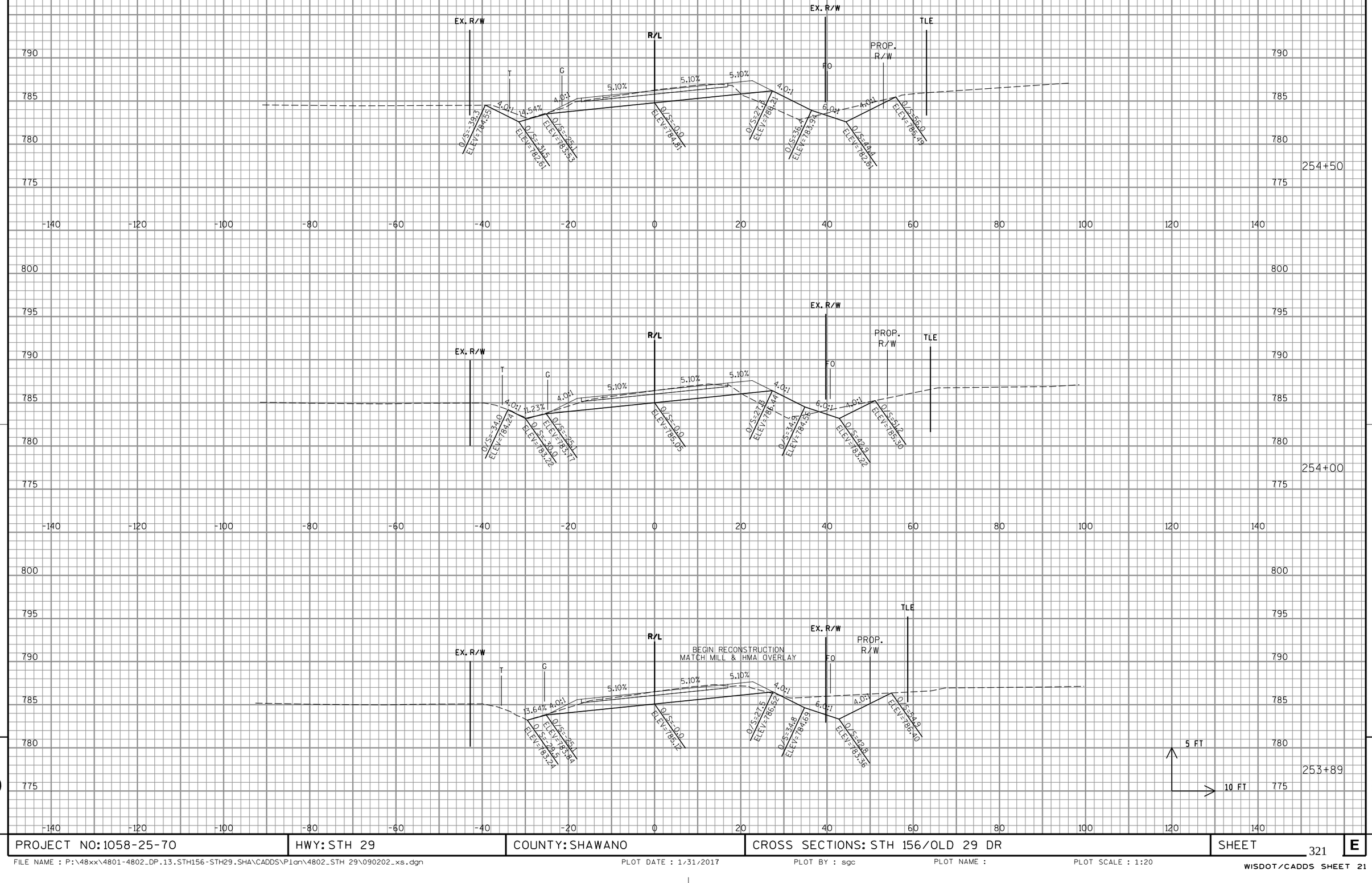

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 319 | E |
|---|---|---|---|---|---|




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 320 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090202_xs.dgn | PLOT DATE : 1/31/2017 | PLOT BY : sgc | PLOT NAME : | PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21



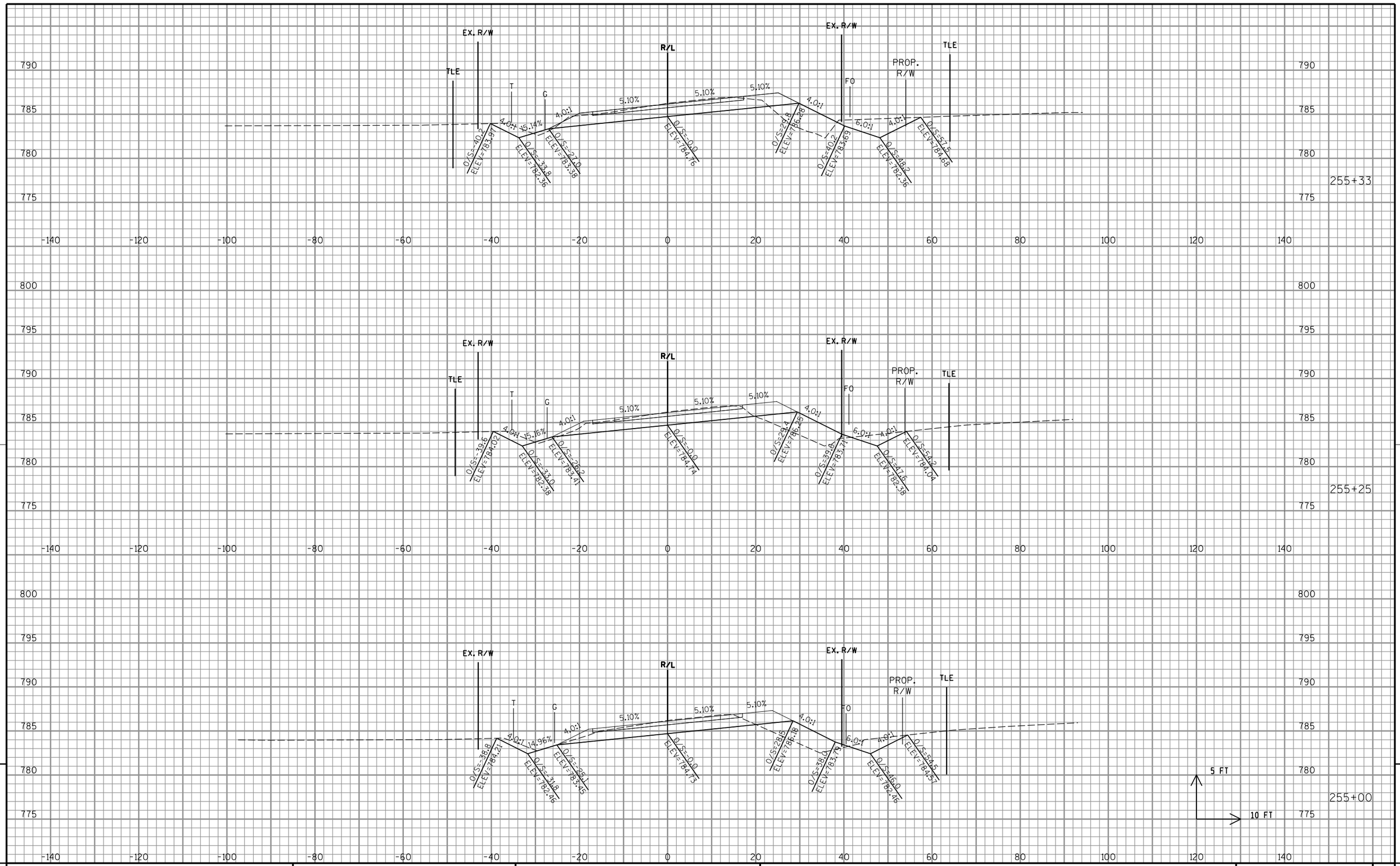

9

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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 321 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090202_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21



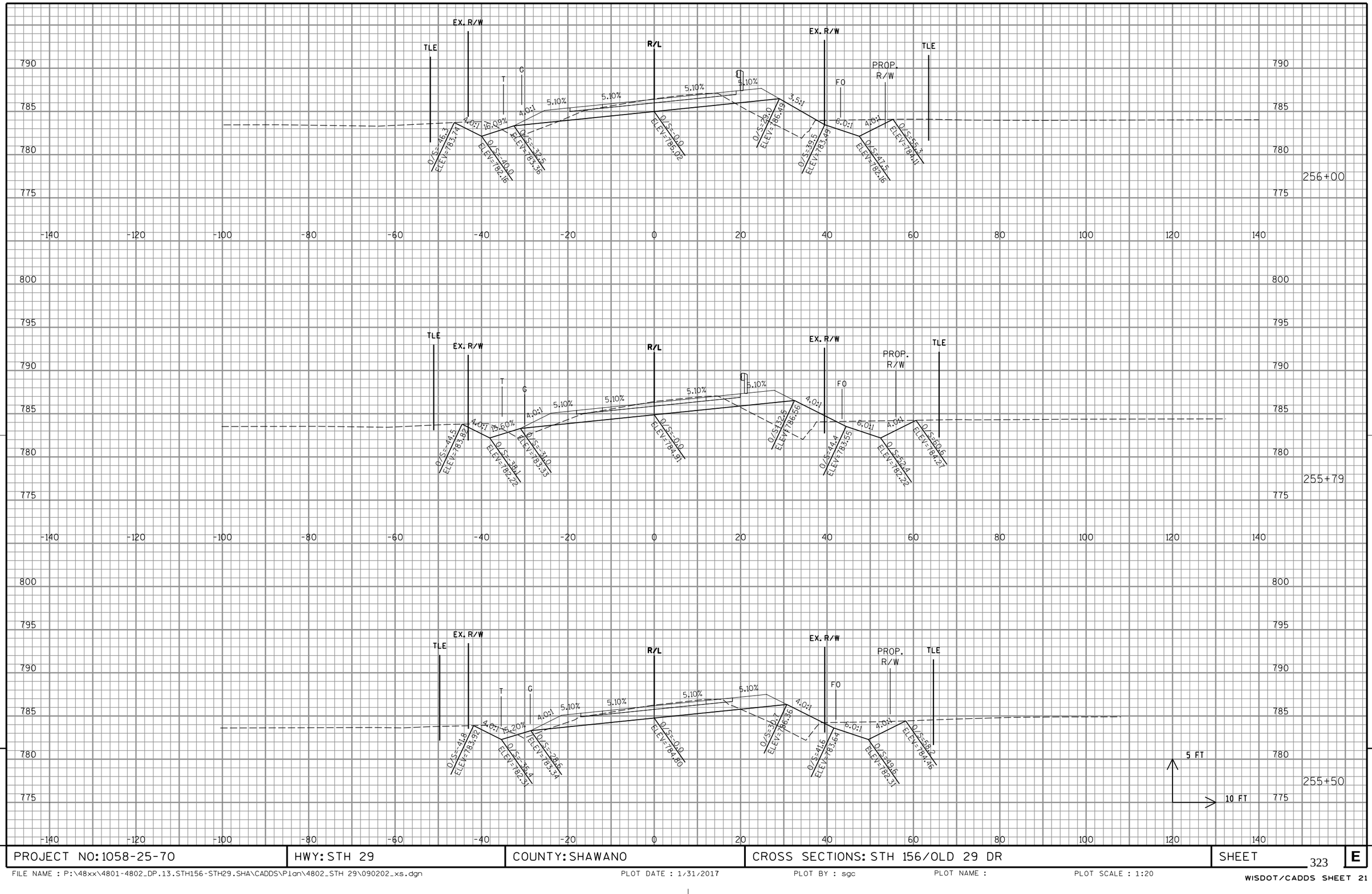

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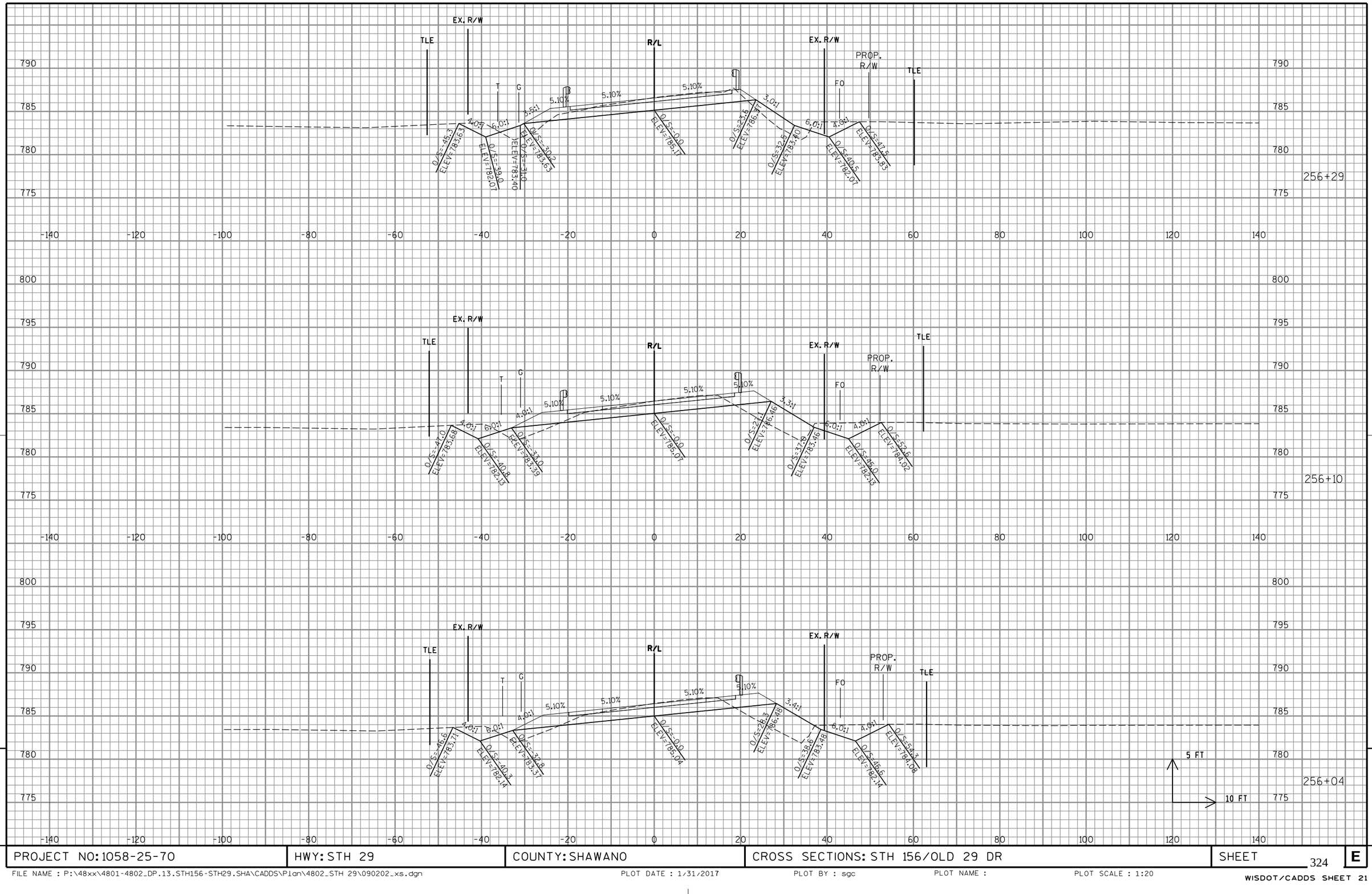
| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 322 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090202_xs.dgn | PLOT DATE : 1/31/2017 | PLOT BY : sgc | PLOT NAME : | PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21



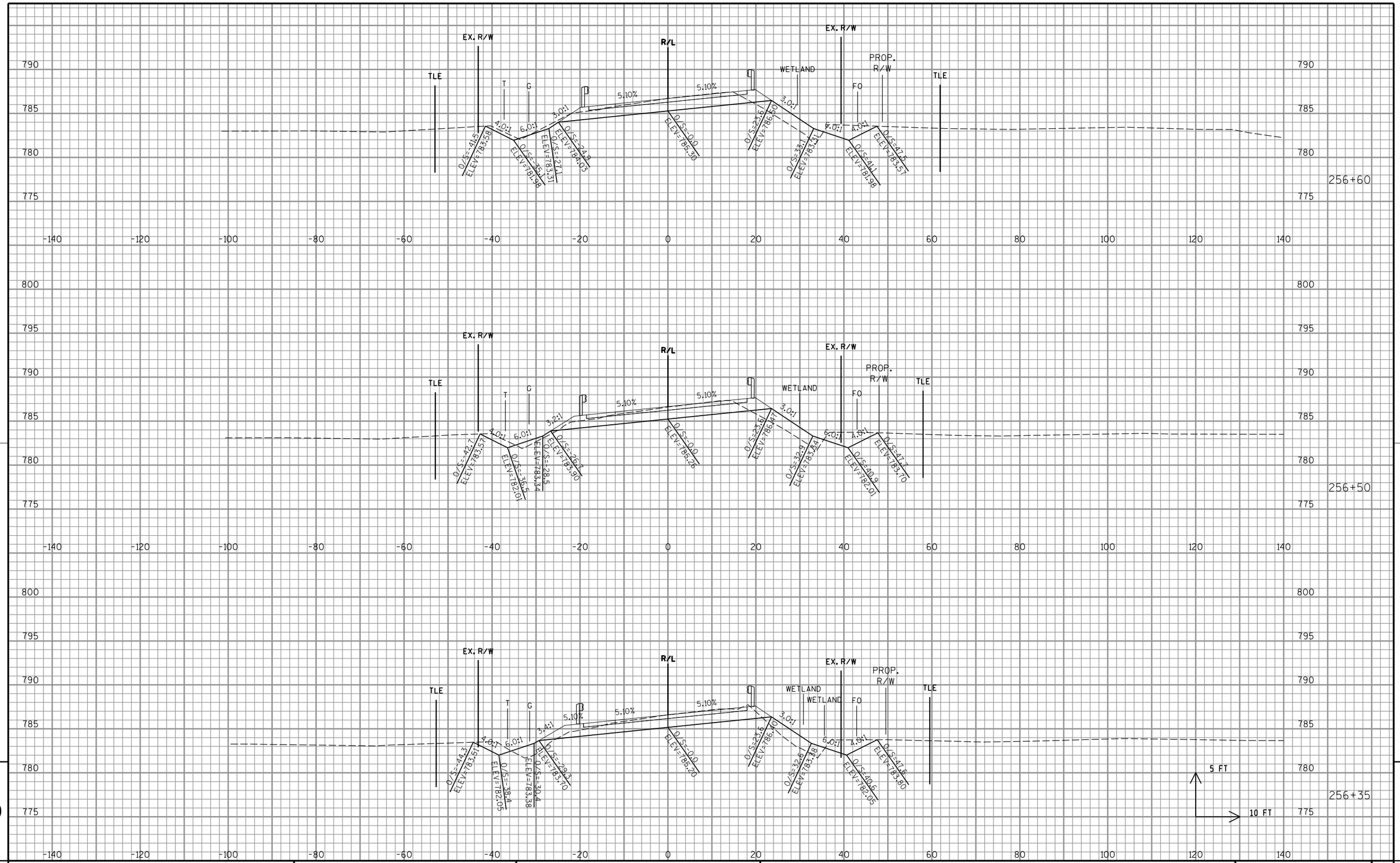

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 323 | E |
|---|---|---|---|---|---|




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 324 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090202_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

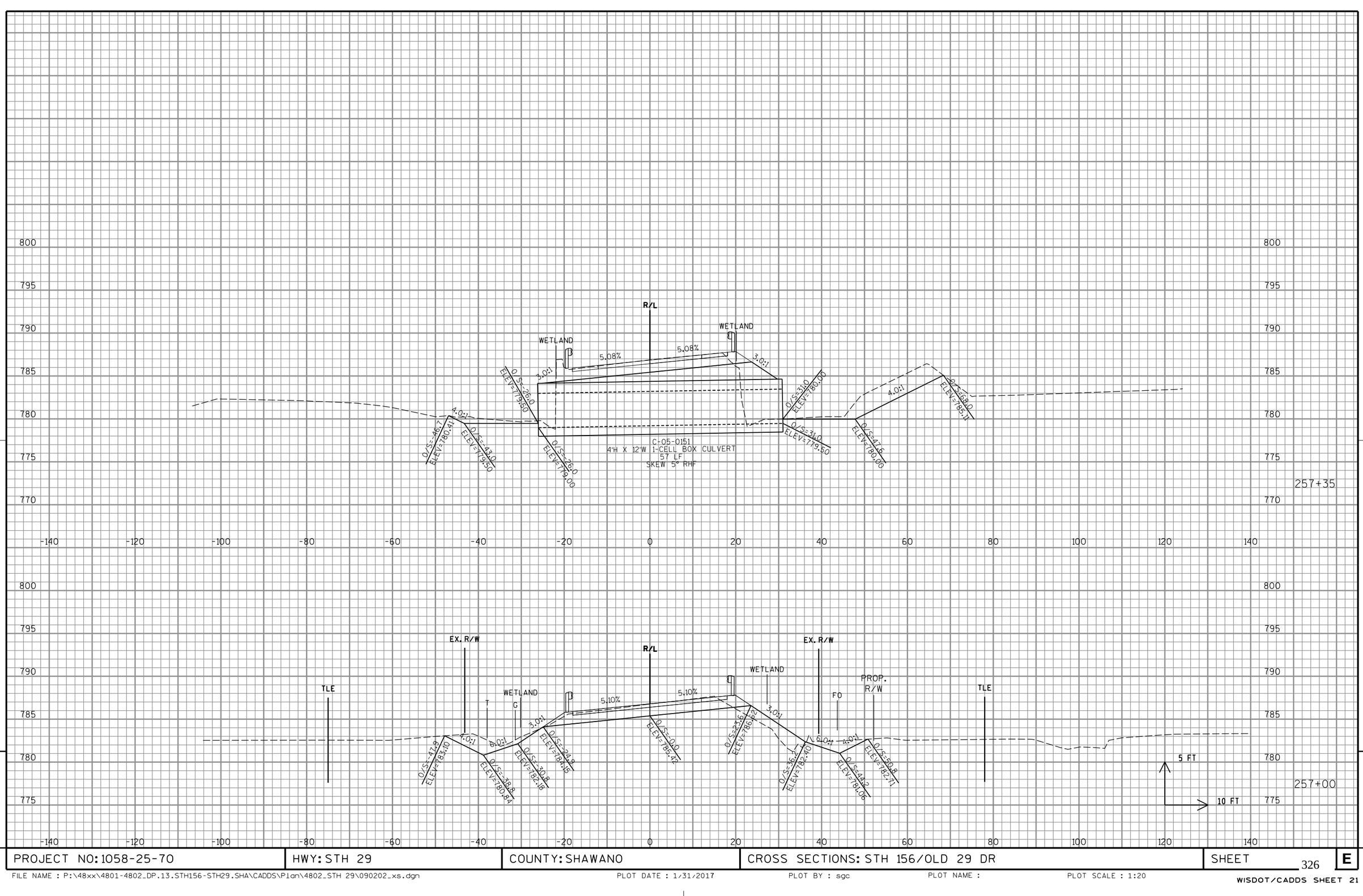
WISDOT/CADDS SHEET 21



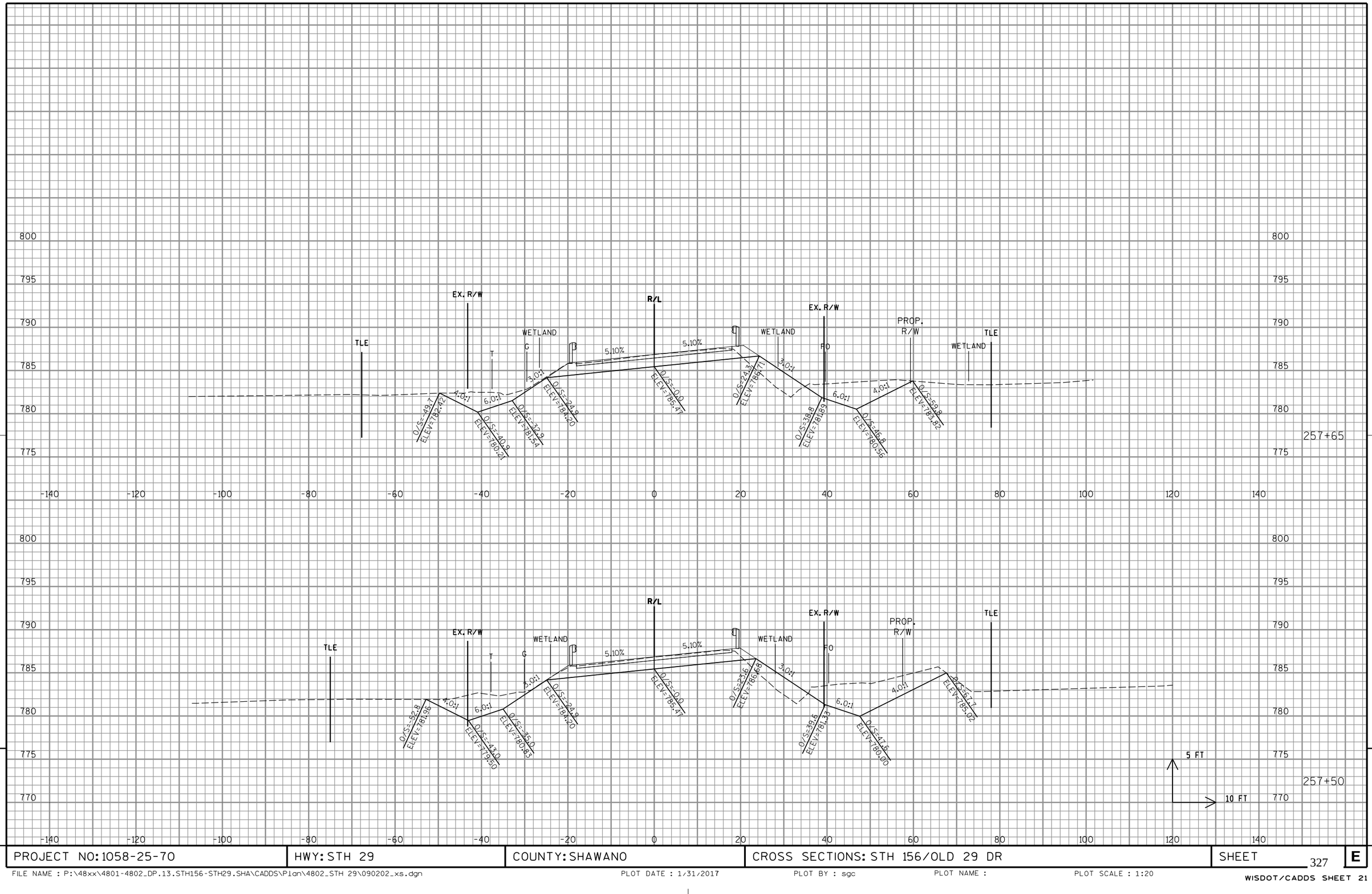

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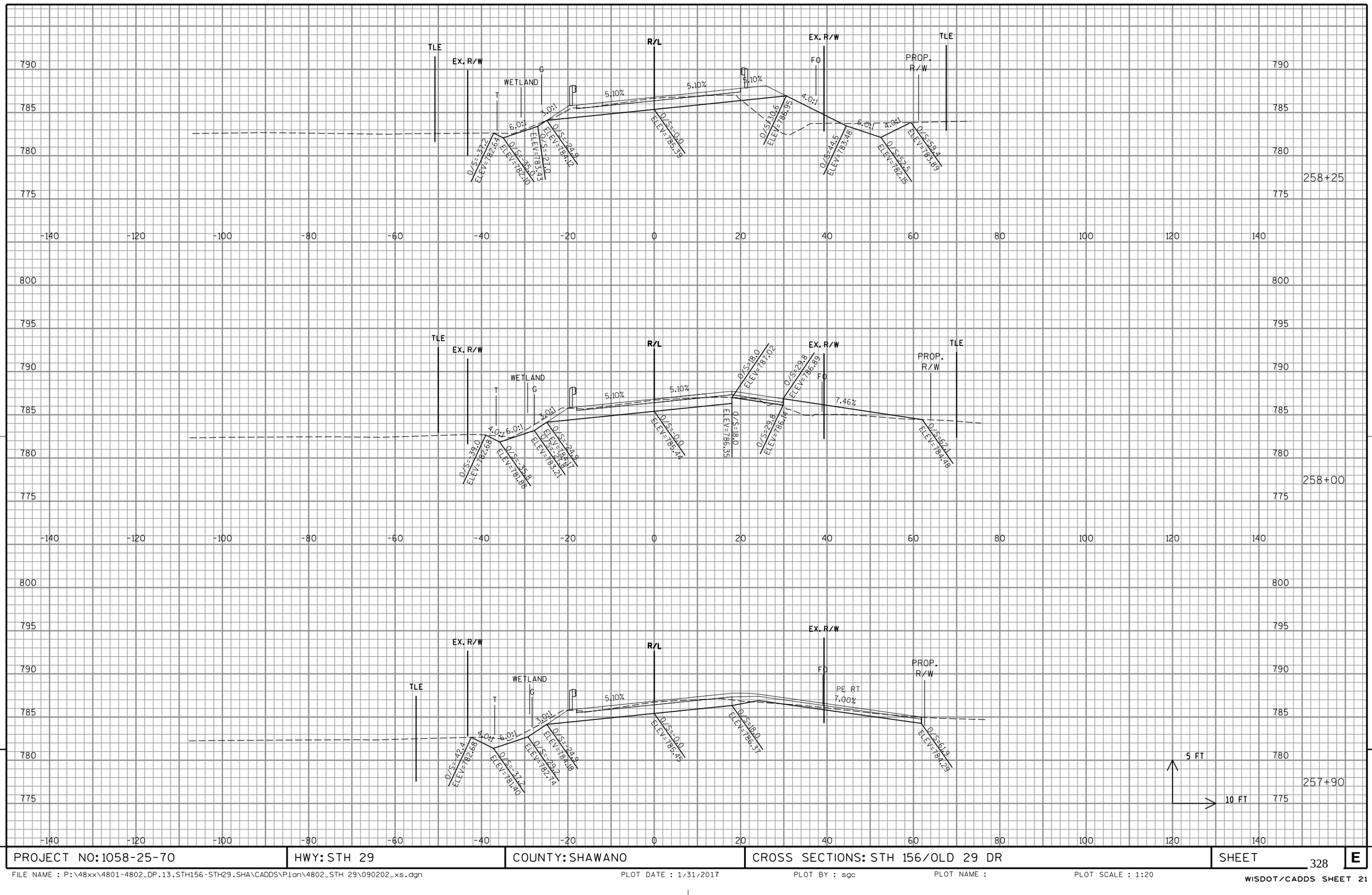
| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 325 | E |
|---|---|---|---|---|---|



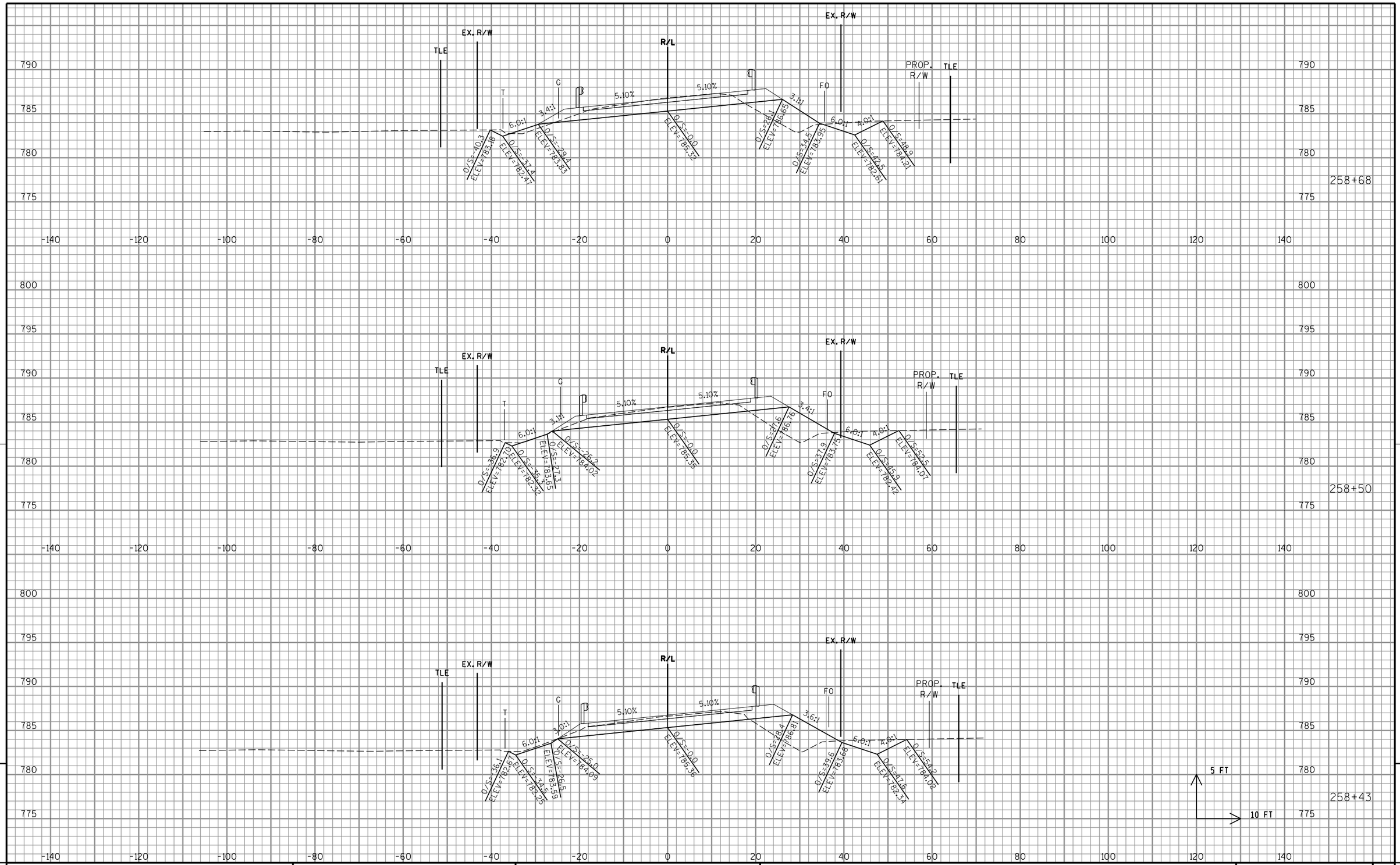

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 326 | E |
|---|---|---|---|---|---|




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 327 | E |
|---|---|---|---|---|---|




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 328 | E |
|---|---|---|---|---|---|



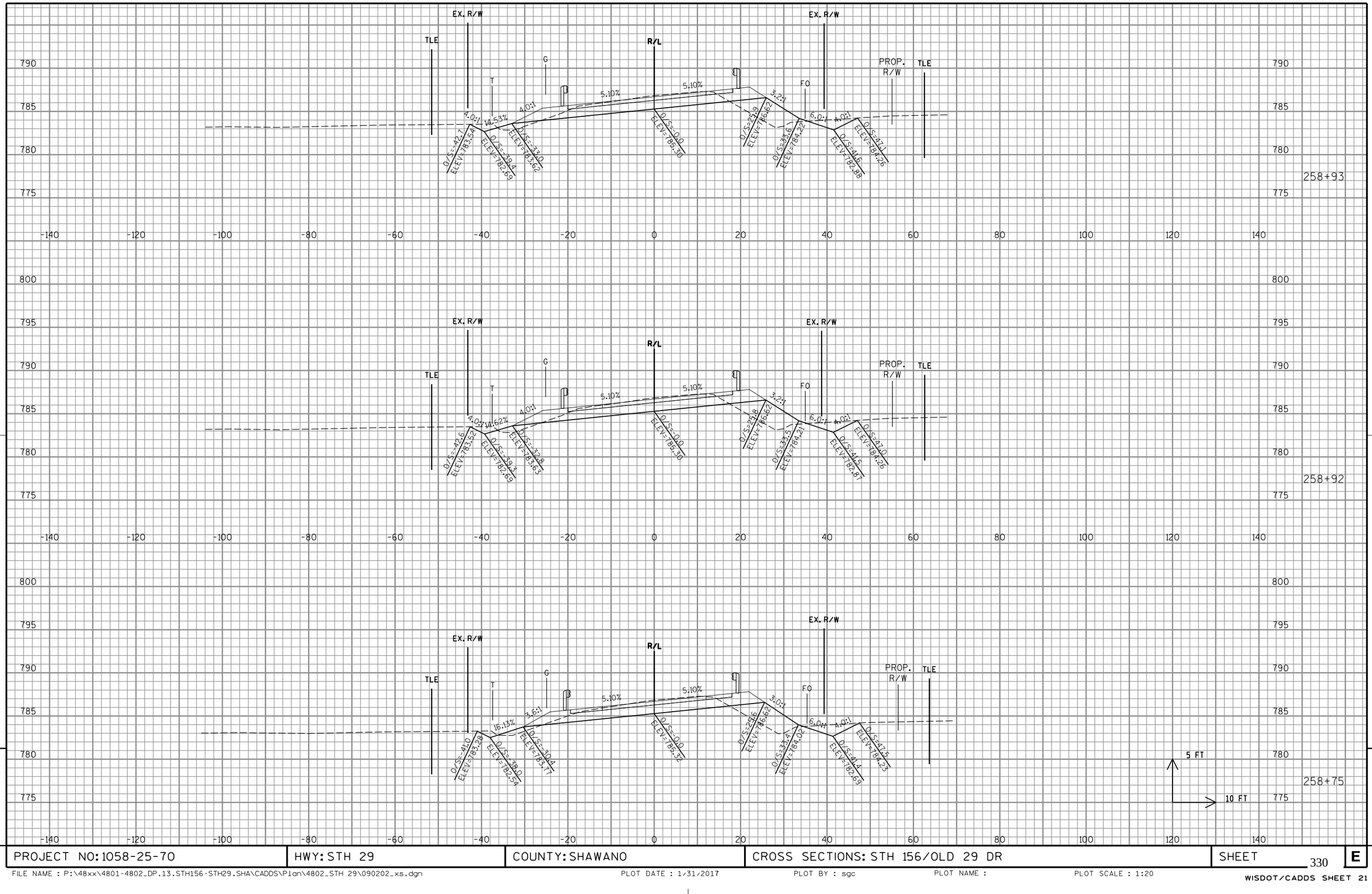

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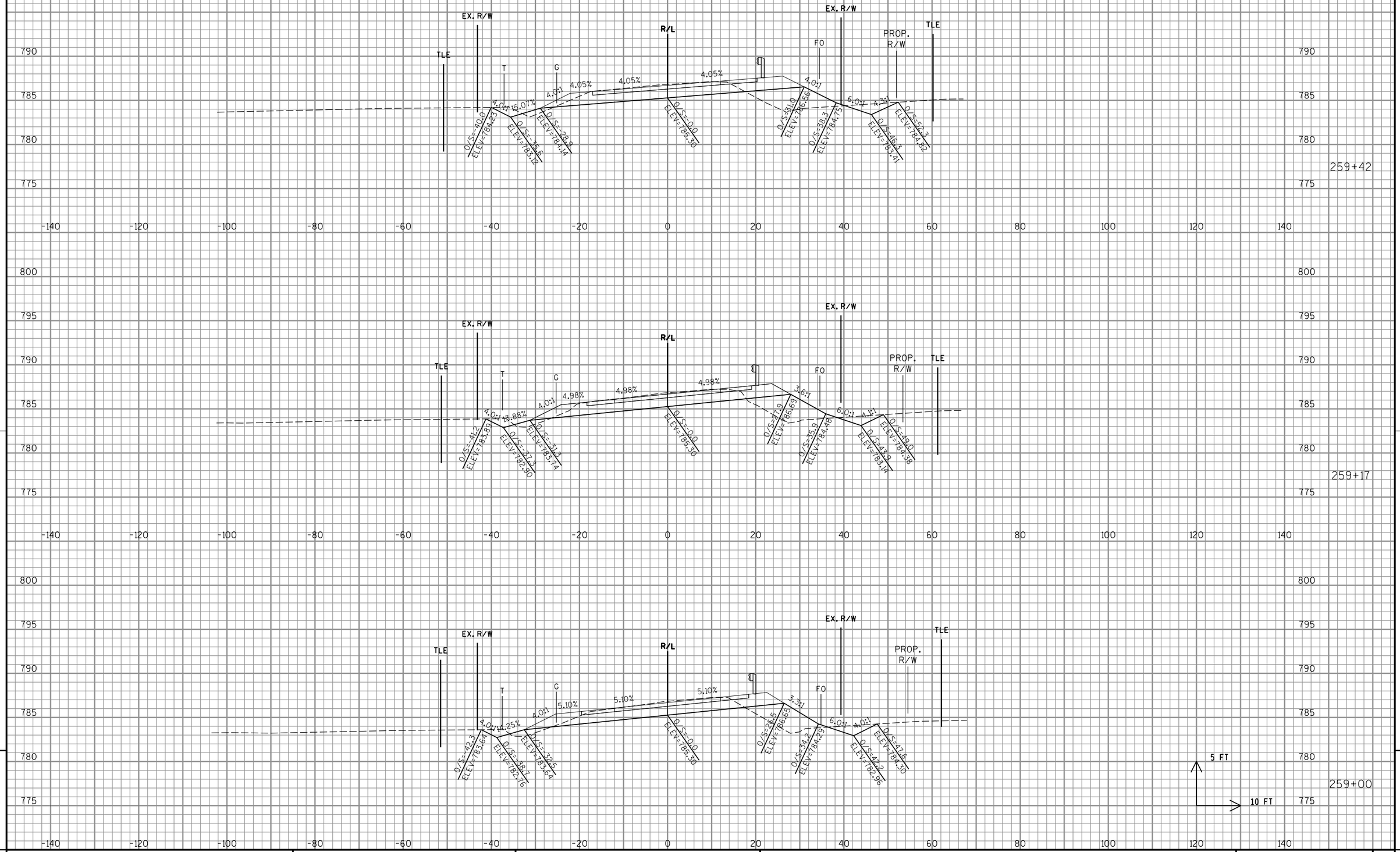
| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 329 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090202_xs.dgn

PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

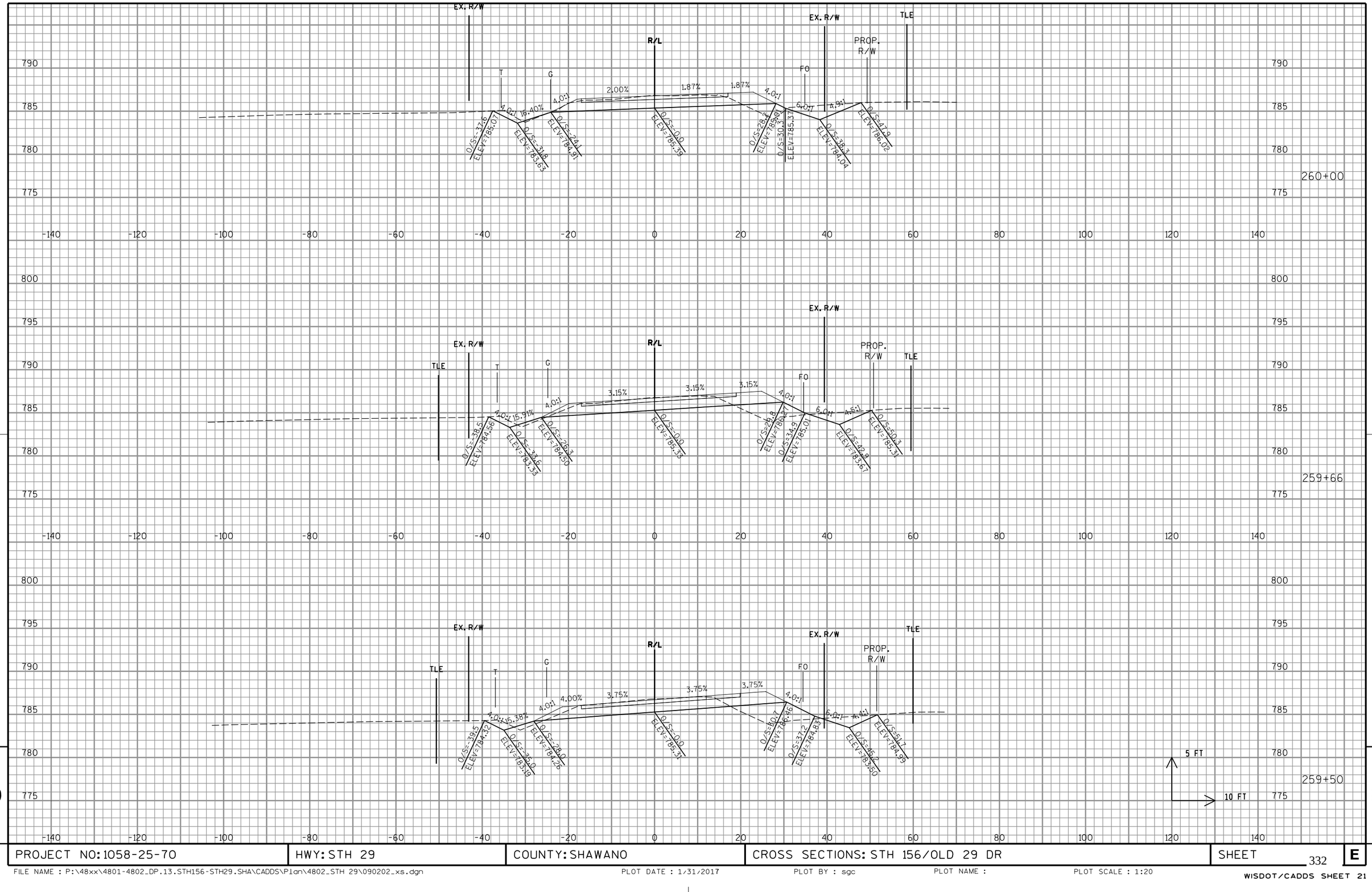

EX. R/W
TLE
R/L
G
T
FO
PROP. R/W
TLE
EX. R/W
4.0:1
14.53%
5.10%
5.10%
3.2:1
6.0:1
4.0:1
O/S=42.7
ELEV=783.54
O/S=39.4
ELEV=782.69
O/S=33.0
ELEV=783.62
O/S=0.0
ELEV=786.30
O/S=25.9
ELEV=786.62
O/S=33.6
ELEV=784.22
O/S=44.6
ELEV=782.88
O/S=47.1
ELEV=784.26
790
785
780
775
800
795
-140
-120
-100
-80
-60
-40
-20
0
20
40
60
80
100
120
140
258+93
258+92
258+75
16.13%
3.6:1
3.0:1
O/S=41.0
ELEV=783.28
O/S=39.0
ELEV=782.54
O/S=30.4
ELEV=783.77
5 FT
10 FT
9
PROJECT NO: 1058-25-70
HWY: STH 29
COUNTY: SHAWANO
CROSS SECTIONS: STH 156/OLD 29 DR
SHEET
330
E
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090202_xs.dgn
PLOT DATE : 1/31/2017
PLOT BY : sgc
PLOT NAME :
PLOT SCALE : 1:20
WISDOT/CADDS SHEET 21




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 331 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090202_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

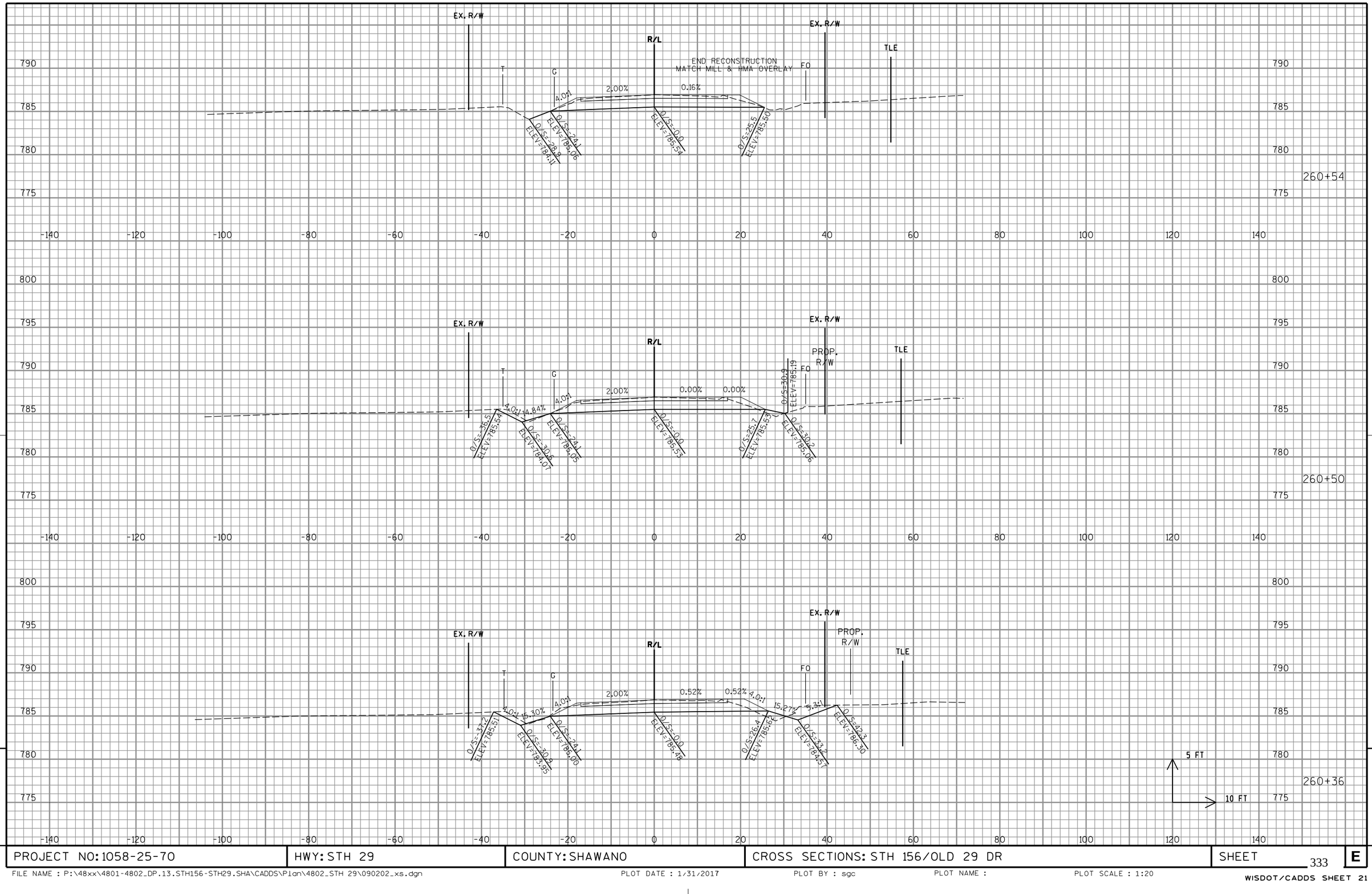
WISDOT/CADDS SHEET 21




9

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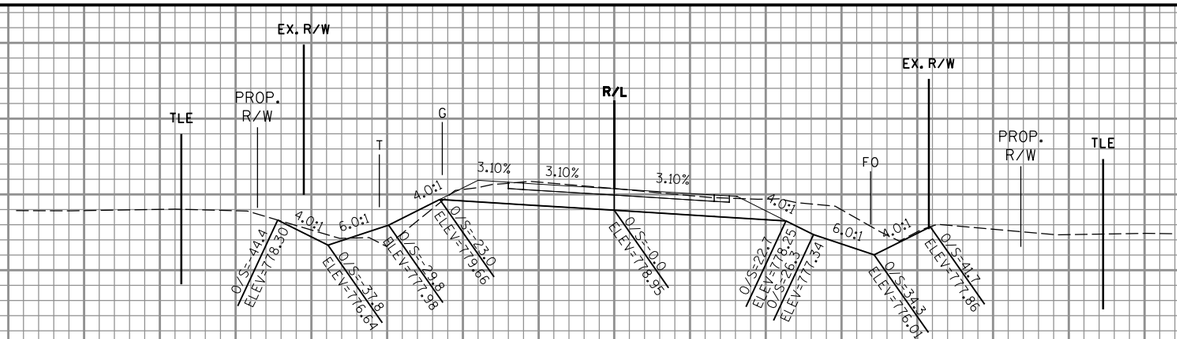
| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 332 | E |
|---|---|---|---|---|---|




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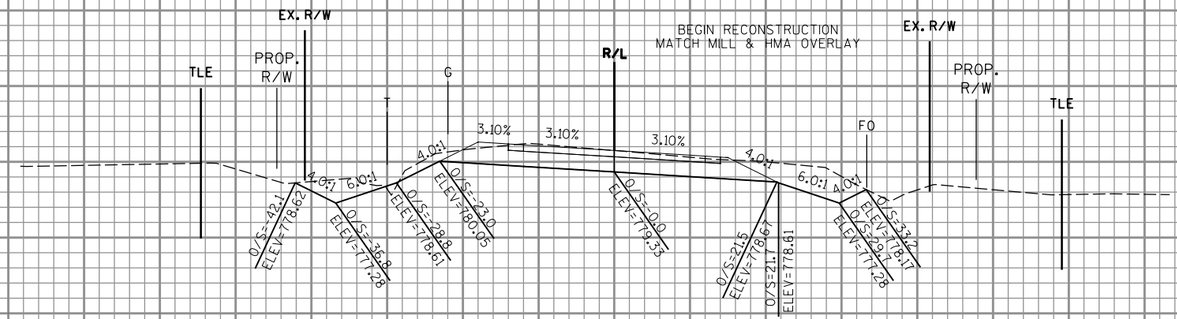
| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 333 | E |
|---|---|---|---|---|---|




276+50




276+39




276+25

5 FT
10 FT

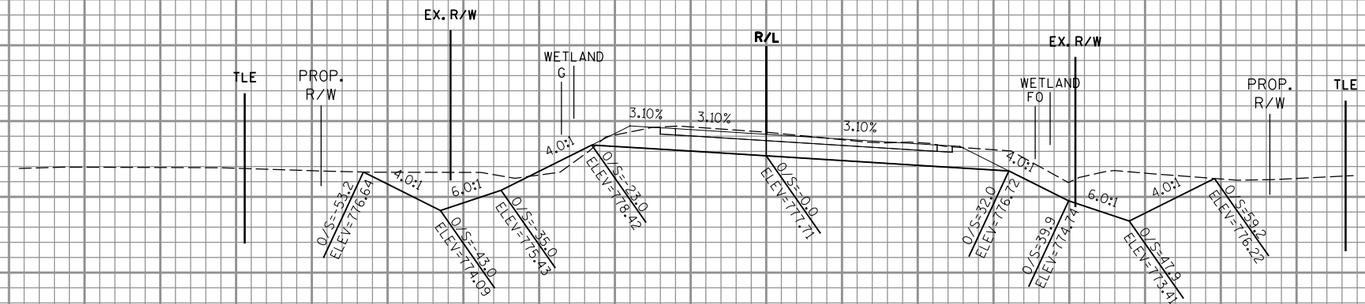
9

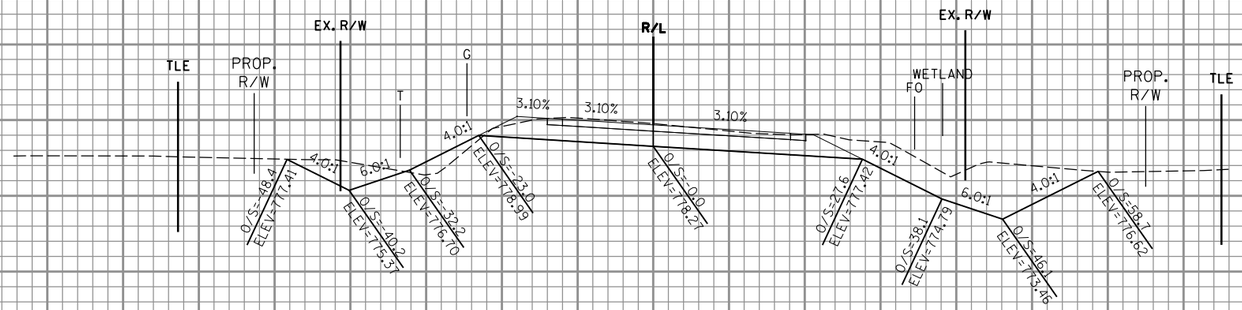
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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 334 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090203_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21



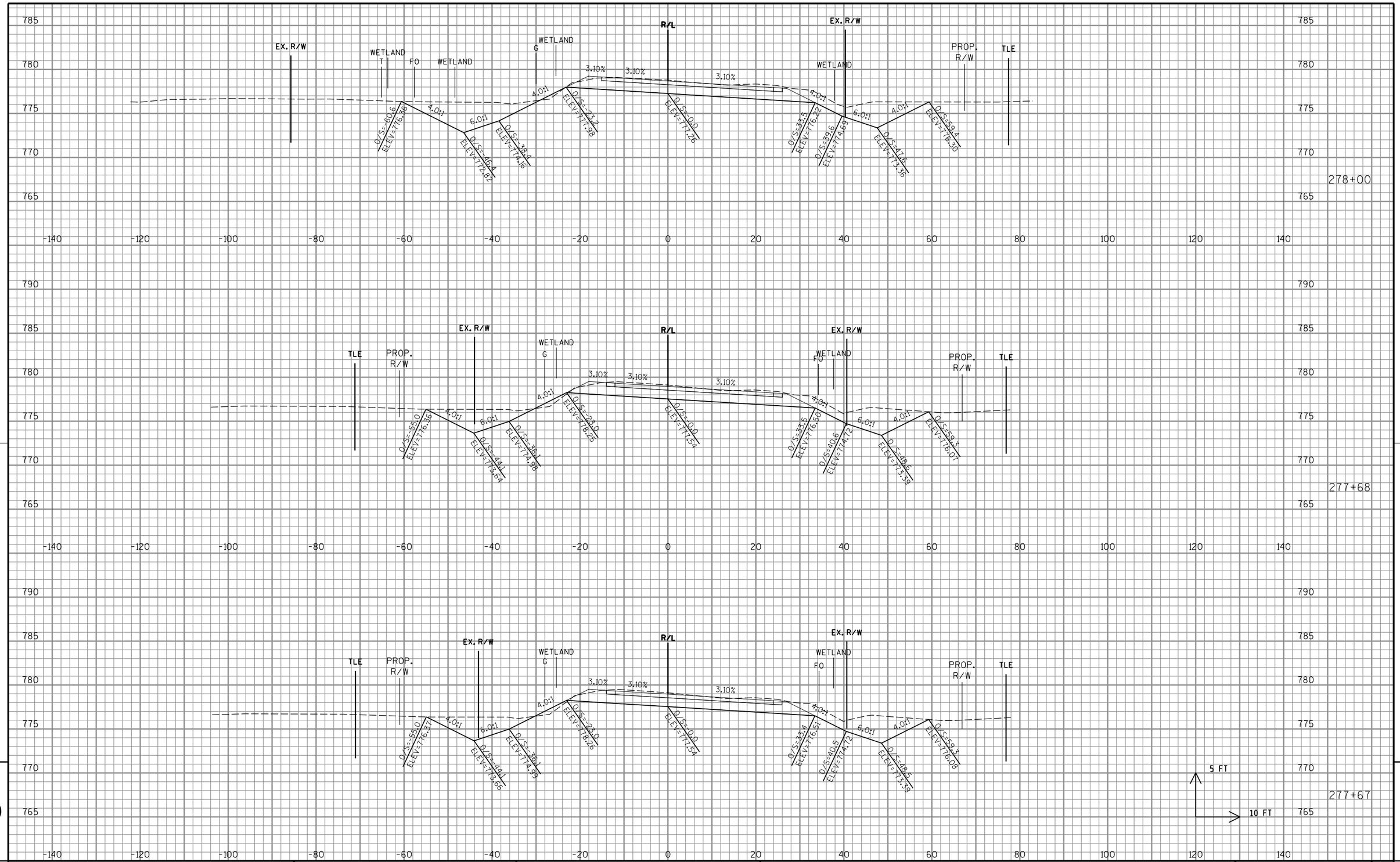

-140 -120 -100 -80 -60 -40 -20 0 20 40 60 80 100 120 140

9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 335 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090203_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

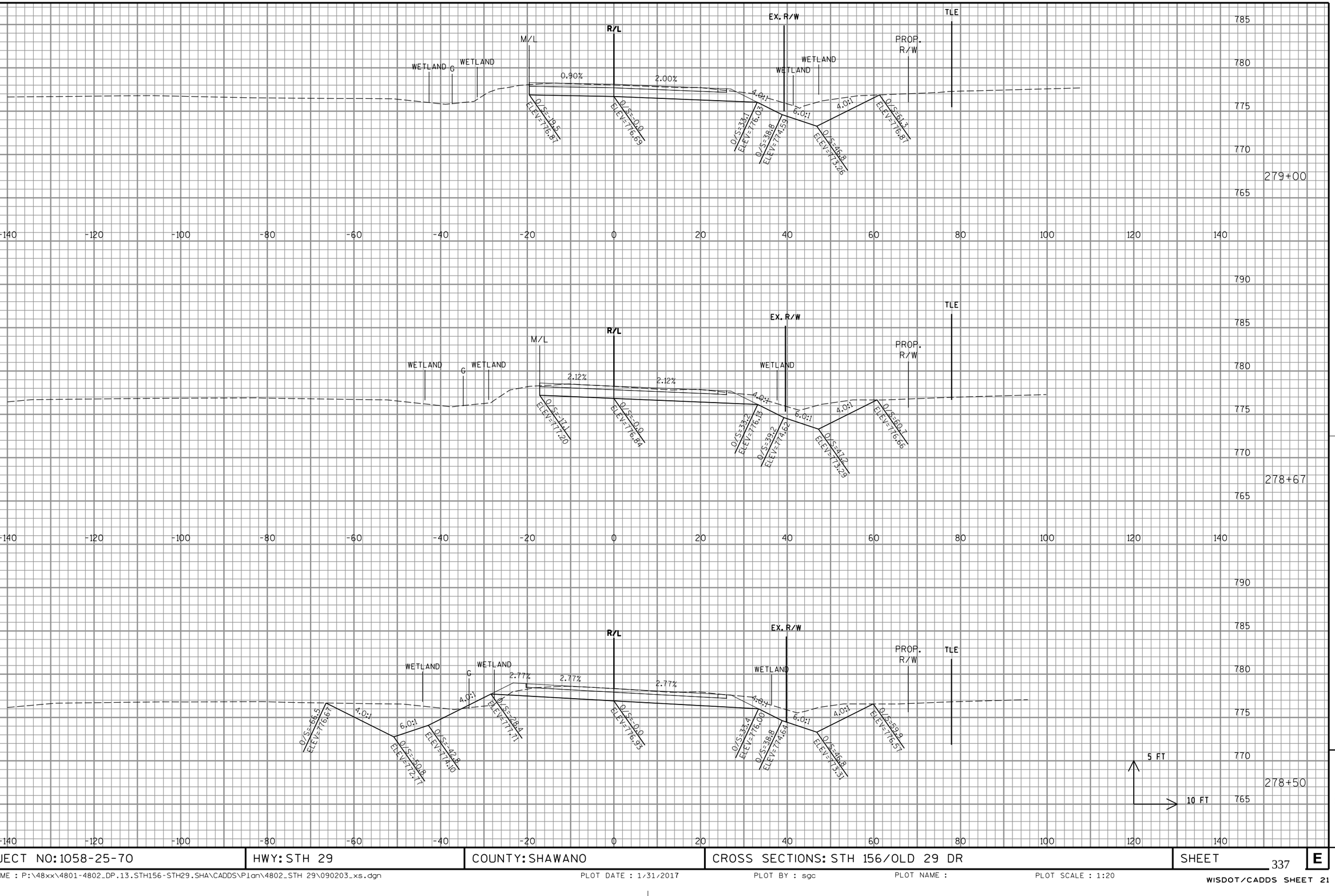
WISDOT/CADDS SHEET 21




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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 336 | E |
|---|---|---|---|---|---|

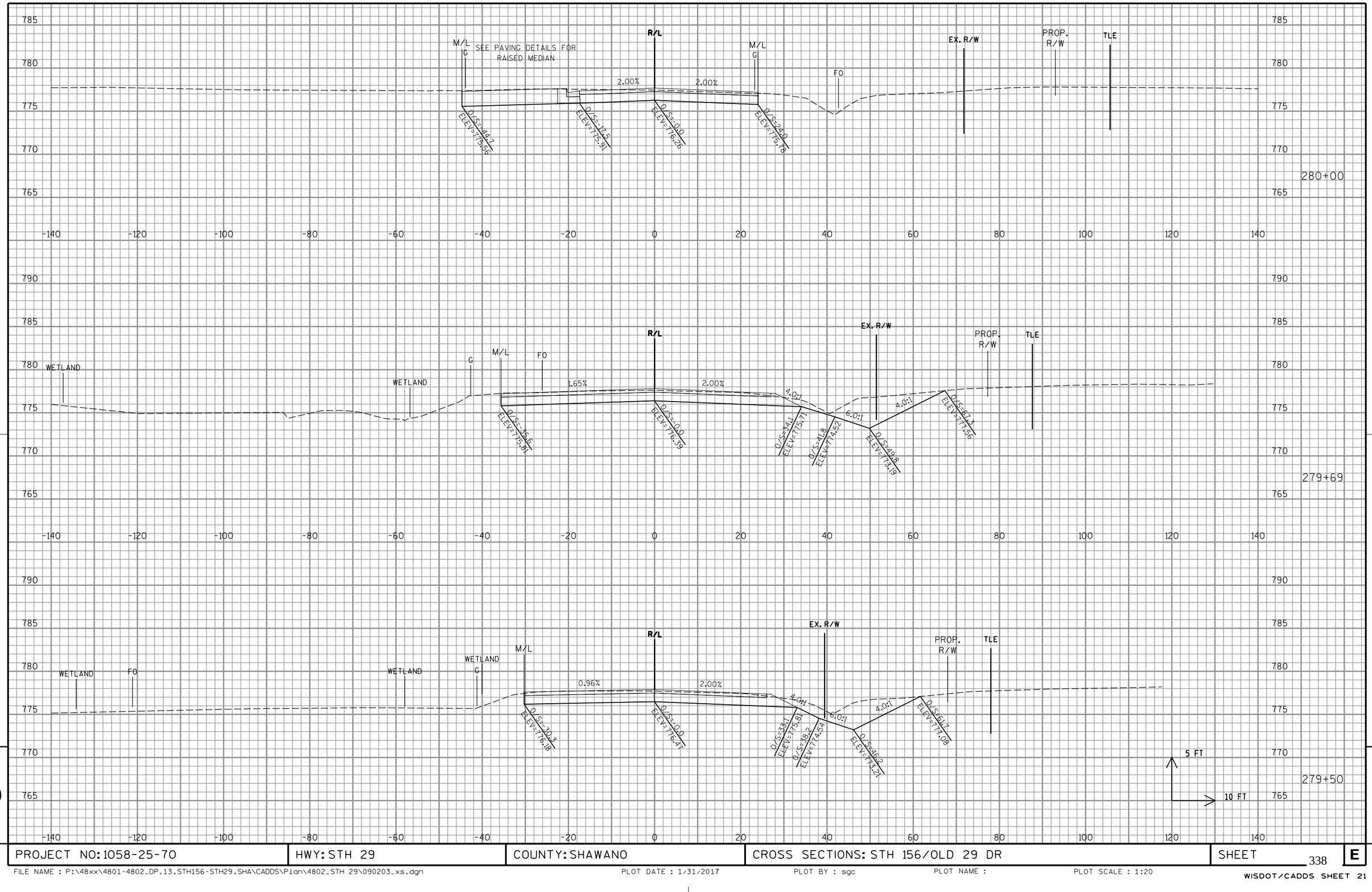
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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 337 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090203_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

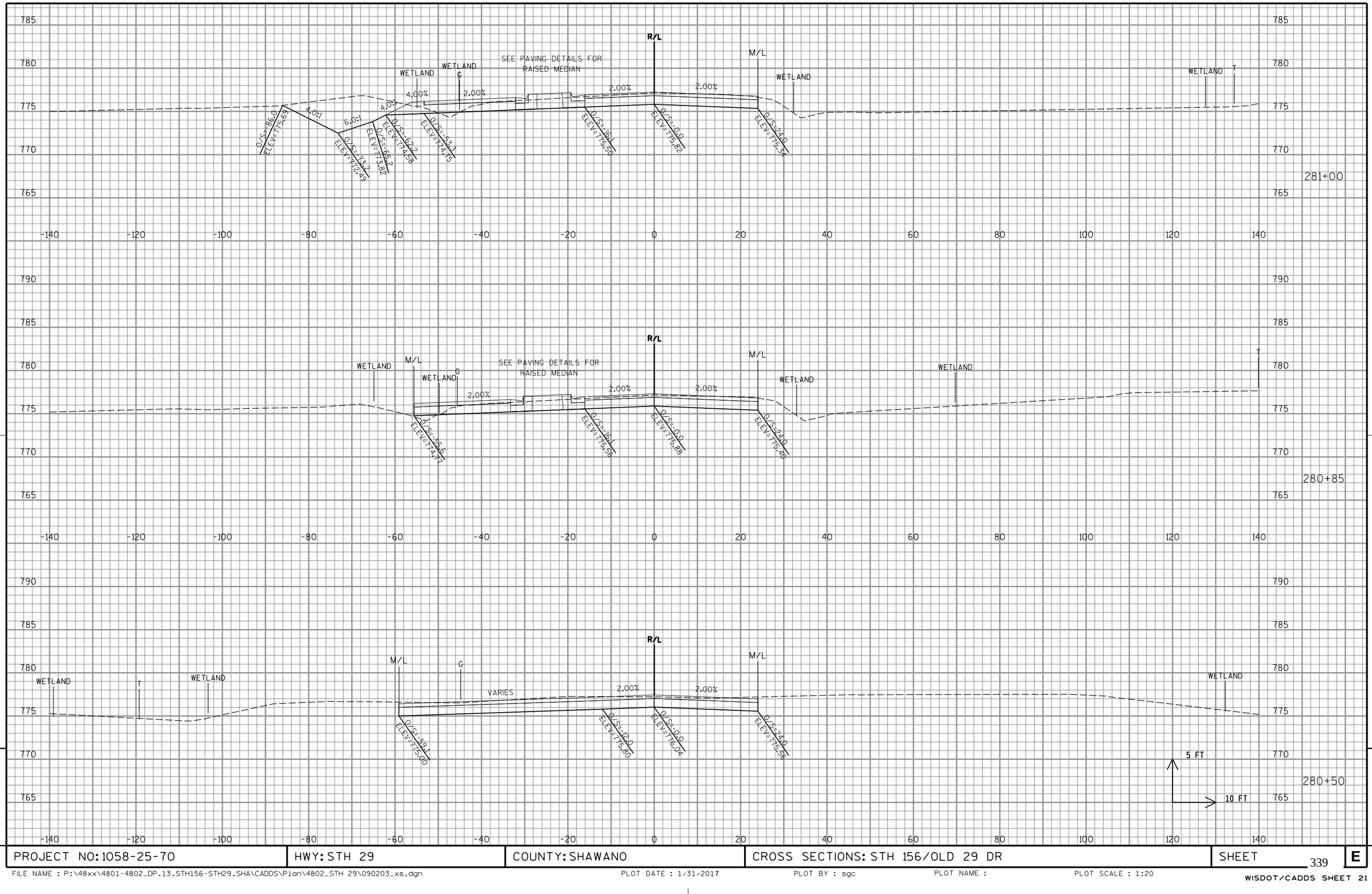
WISDOT/CADDS SHEET 21




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 338 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090203_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

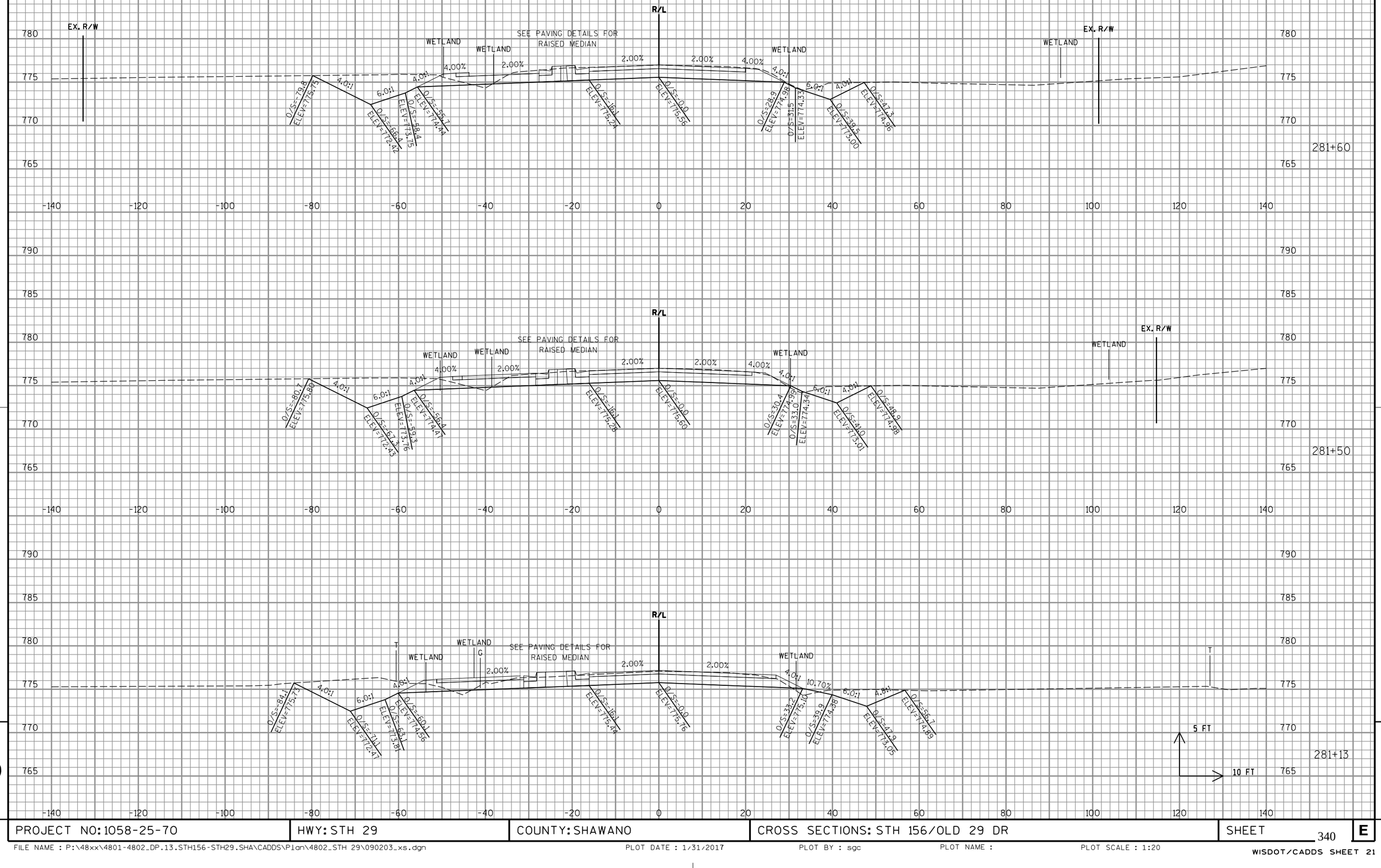
WISDOT/CADDS SHEET 21




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 339 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090203_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

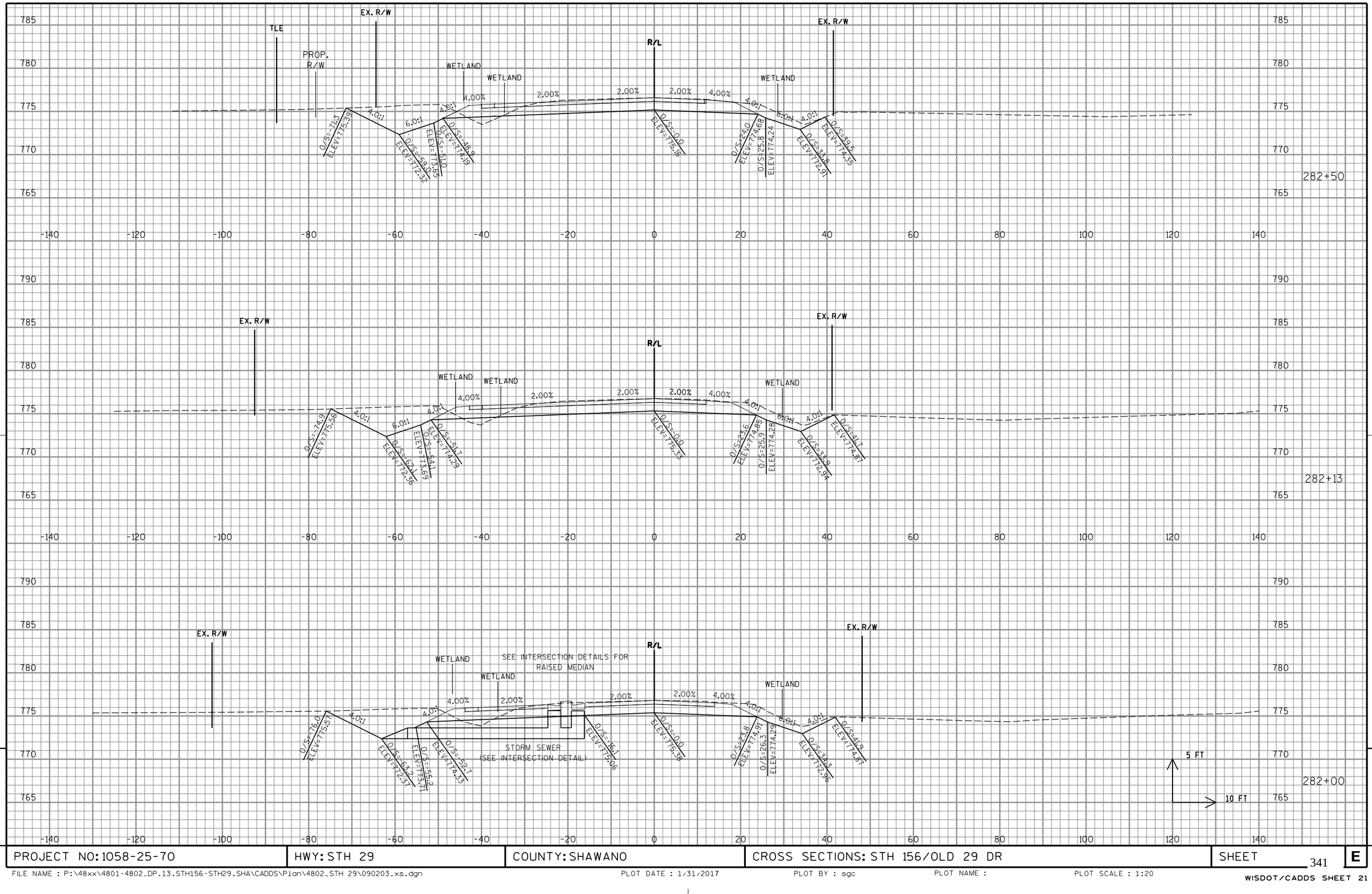
WISDOT/CADDS SHEET 21




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 340 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090203_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21



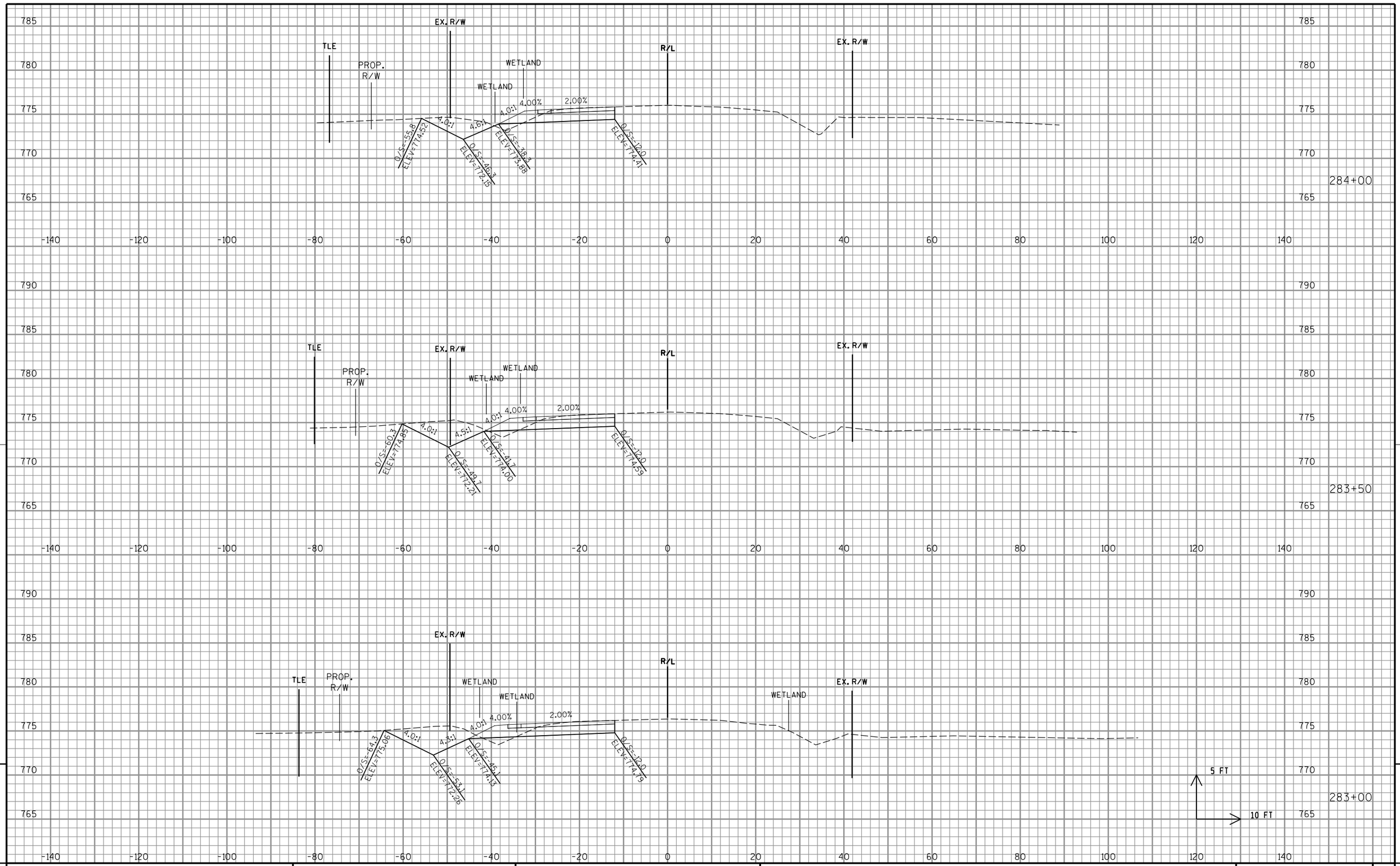

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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 341 | E |
|---|---|---|---|---|---|

9

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090203_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

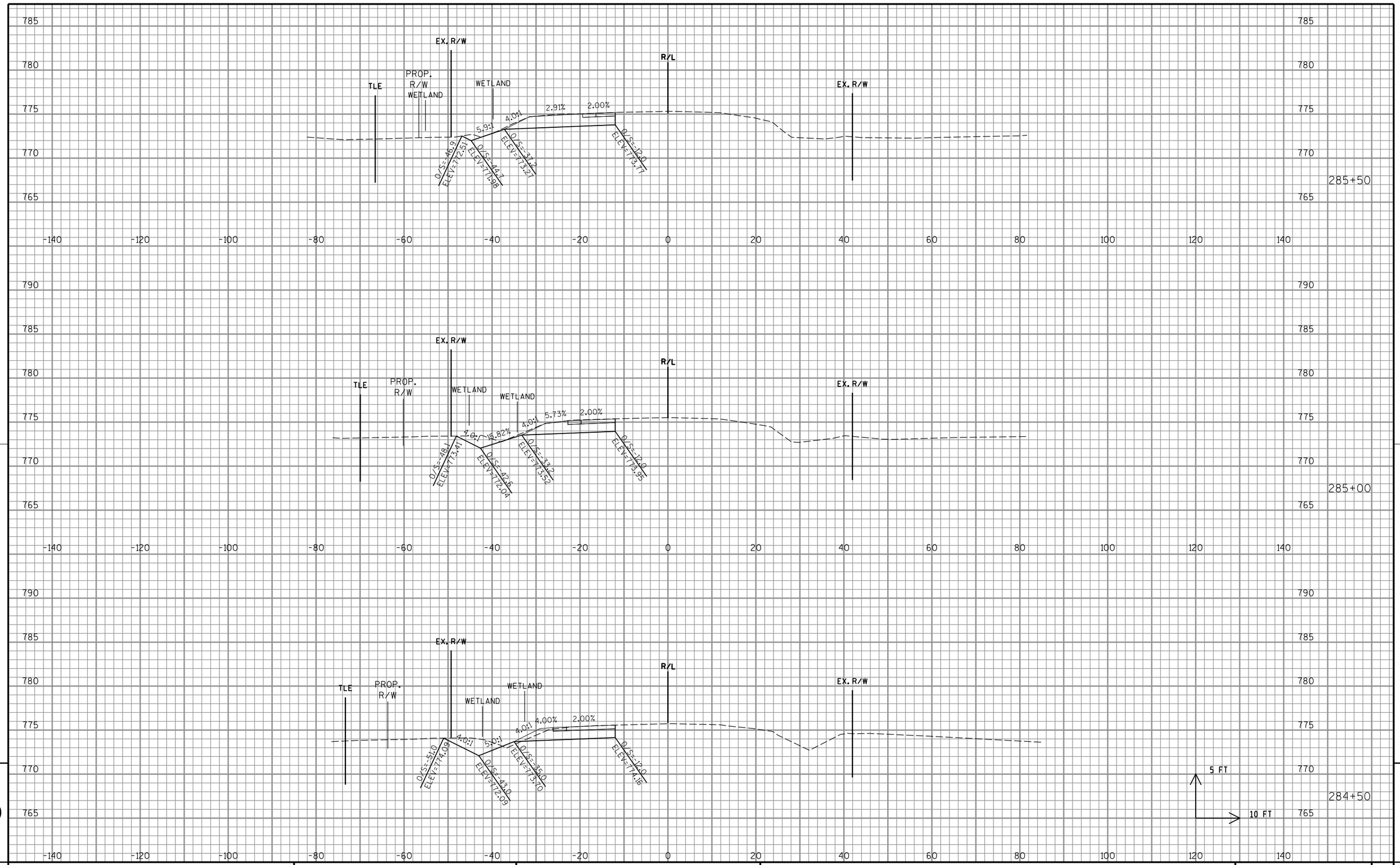
WISDOT/CADDS SHEET 21




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 342 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090203_xs.dgn | PLOT DATE : 1/31/2017 | PLOT BY : sgc | PLOT NAME : | PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21



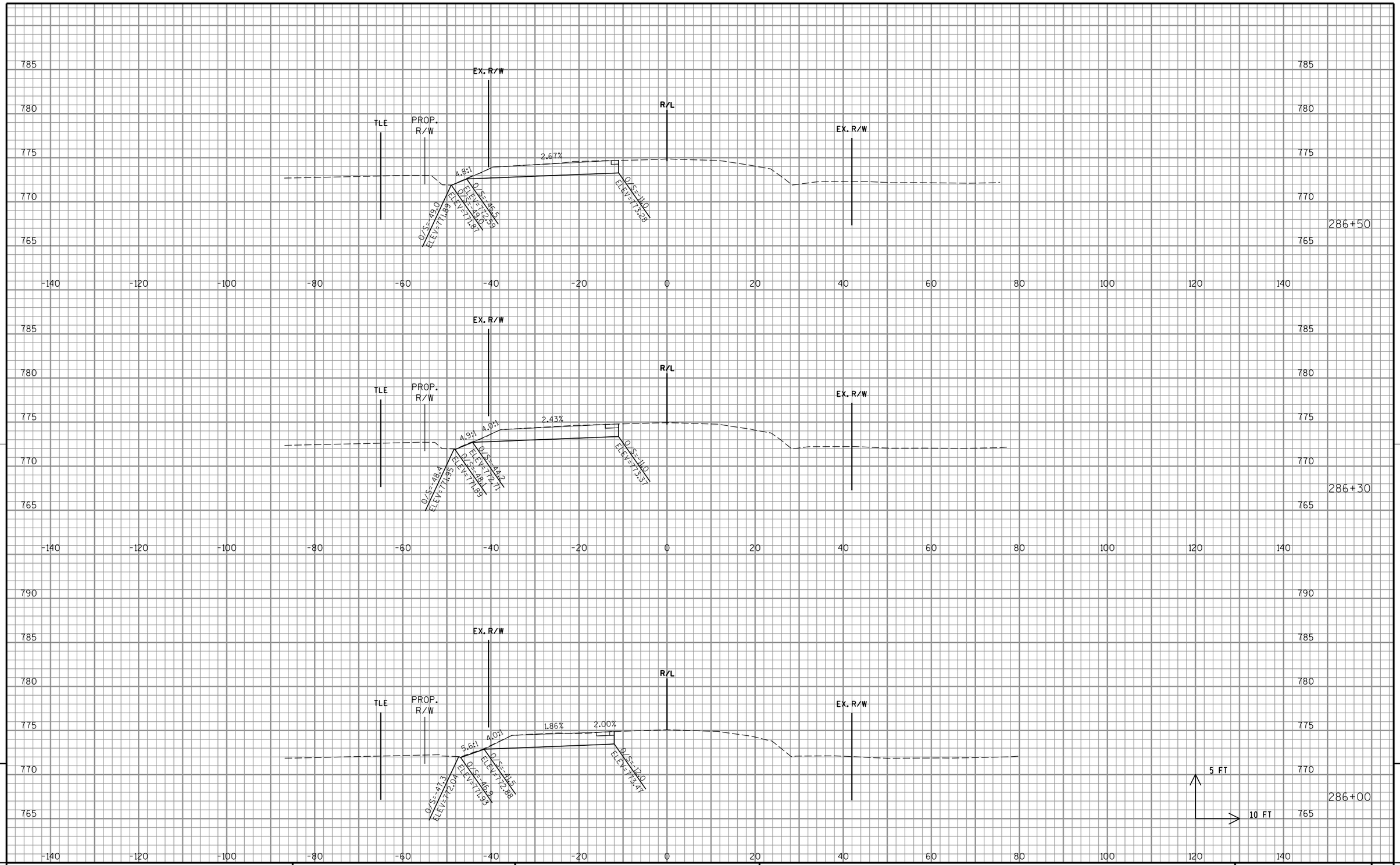

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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 343 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090203_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21



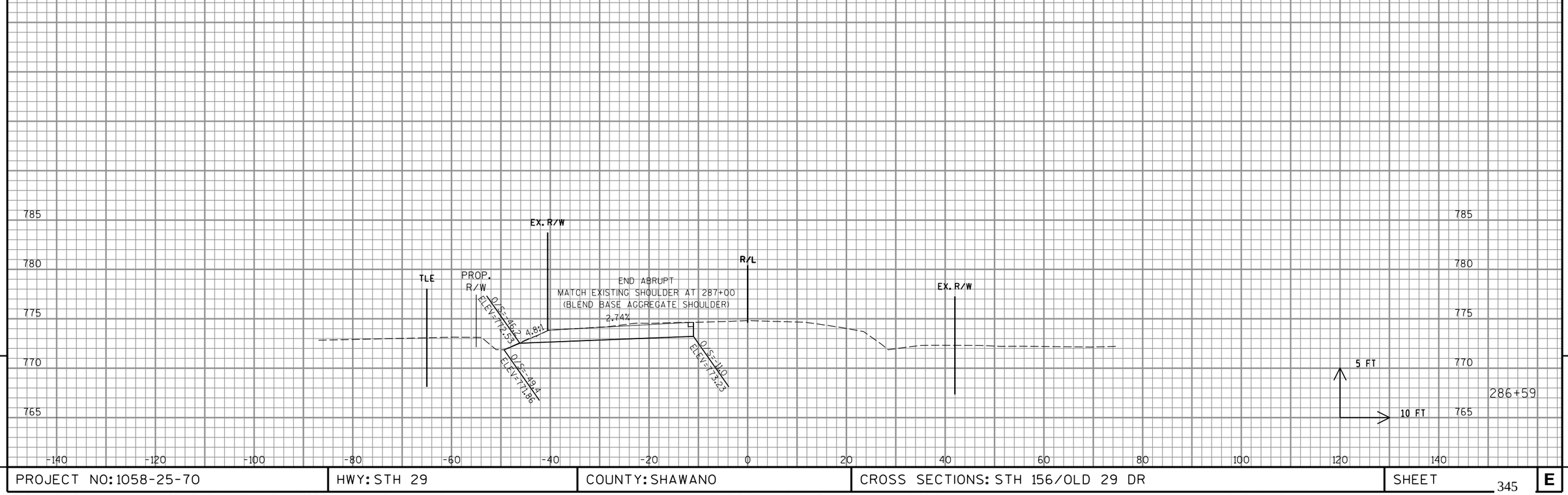

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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 344 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090203_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21



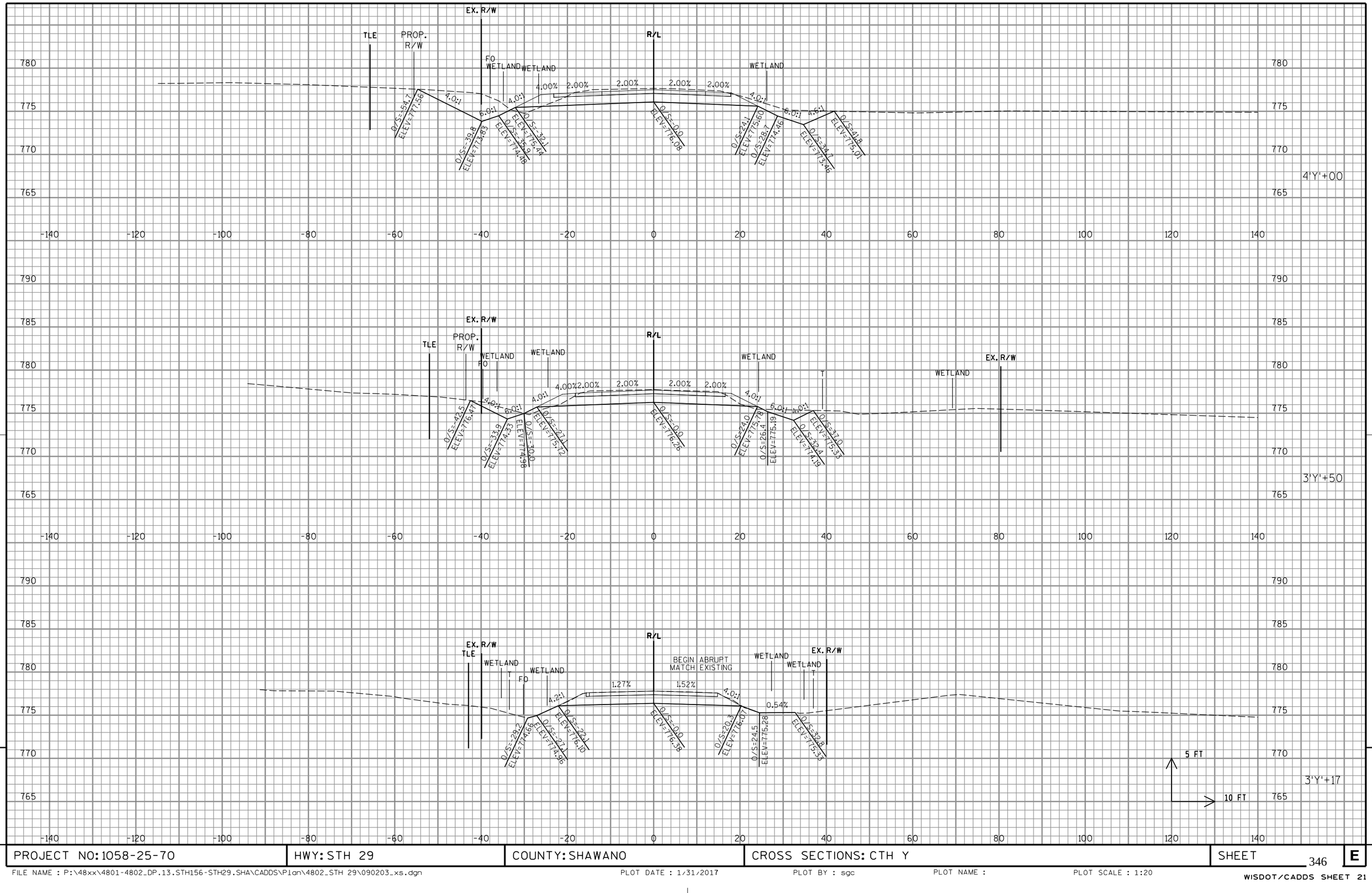

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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156/OLD 29 DR | SHEET 345 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090203_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

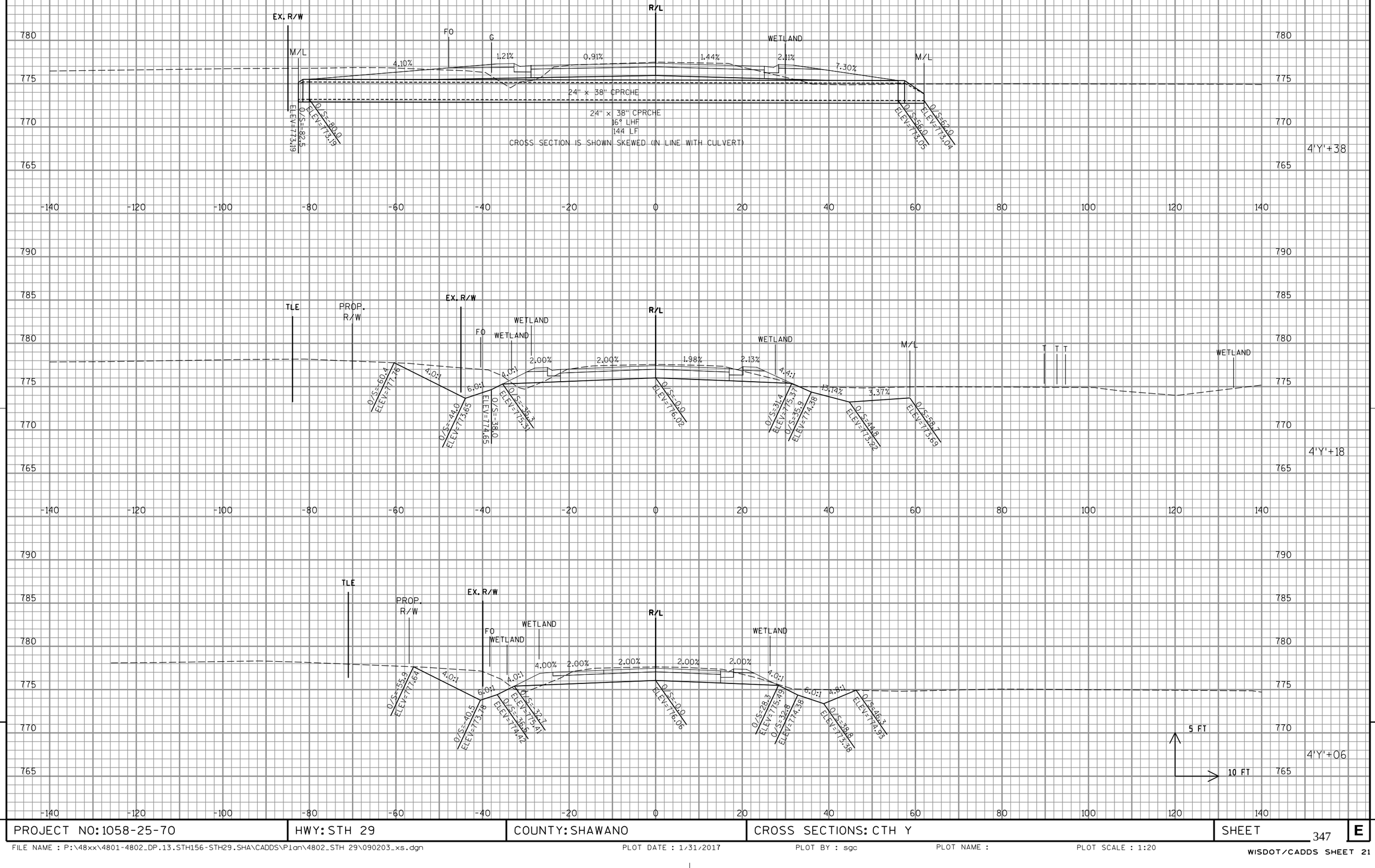
WISDOT/CADDS SHEET 21



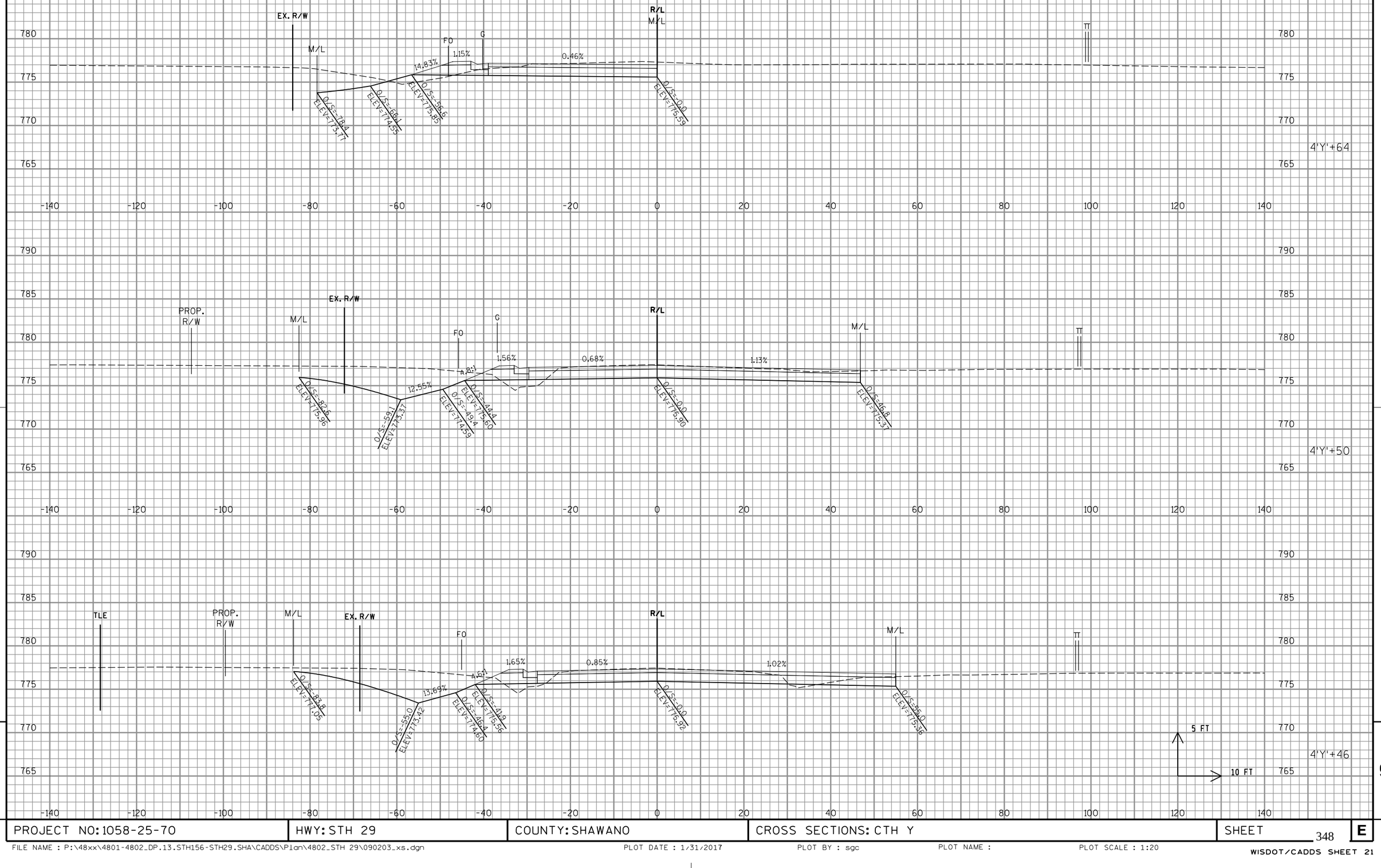

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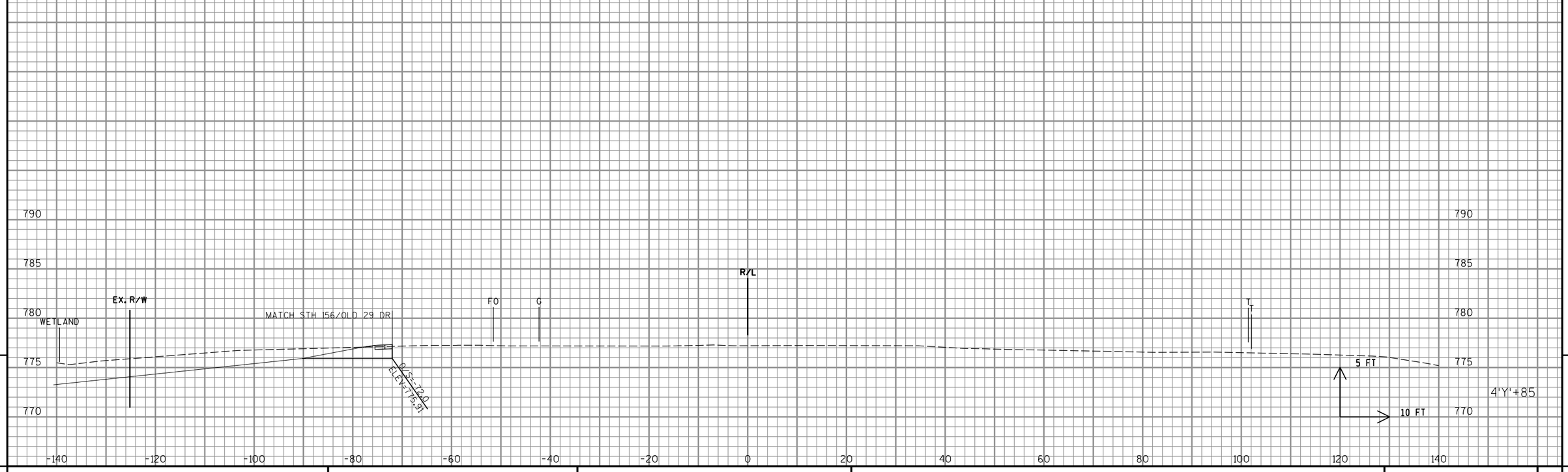
| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: CTH Y | SHEET 346 | E |
|---|---|---|---|---|---|




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: CTH Y | SHEET 347 | E |
|---|---|---|---|---|---|

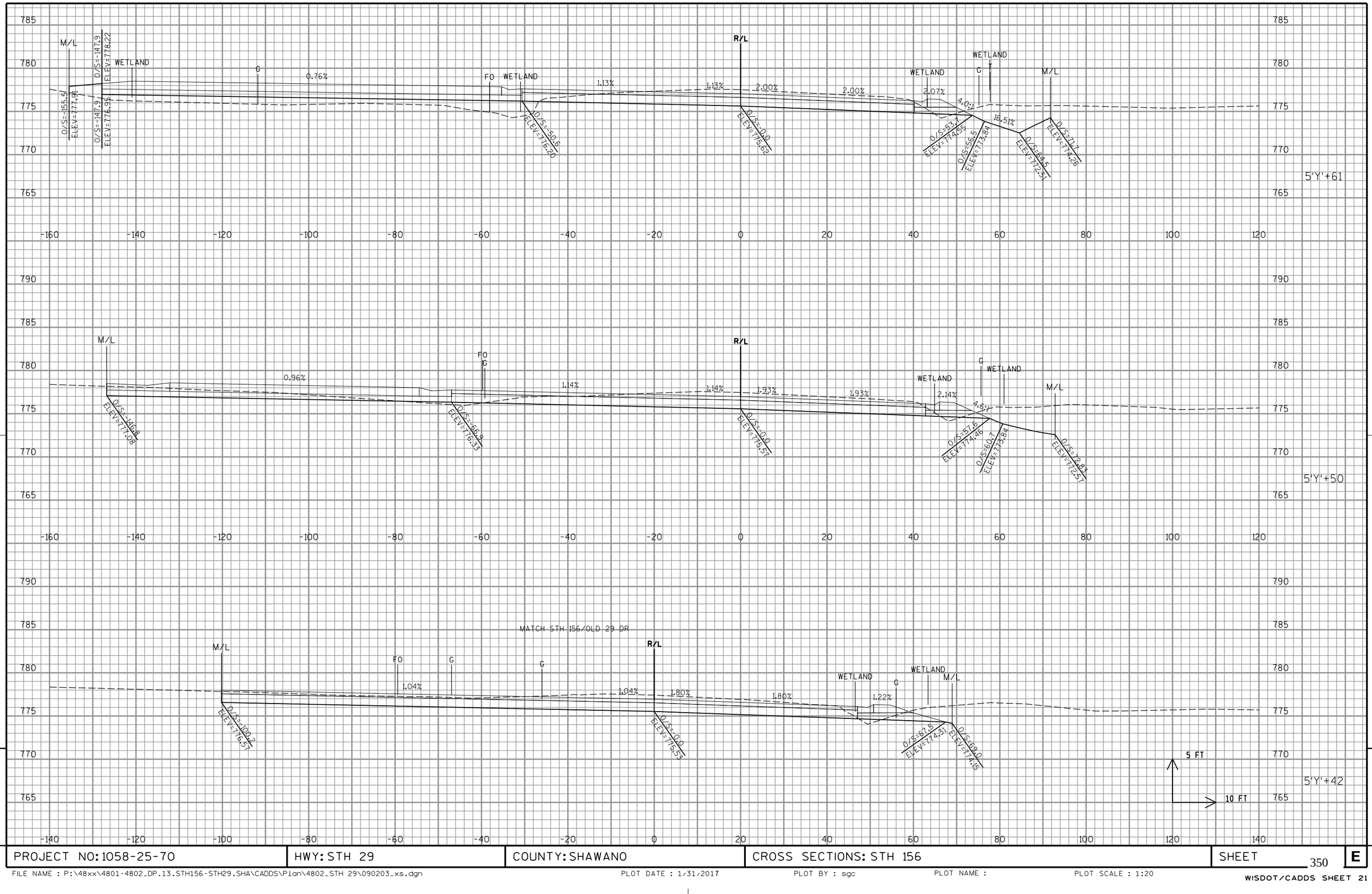



| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: CTH Y | SHEET 348 | E |
|---|---|---|---|---|---|




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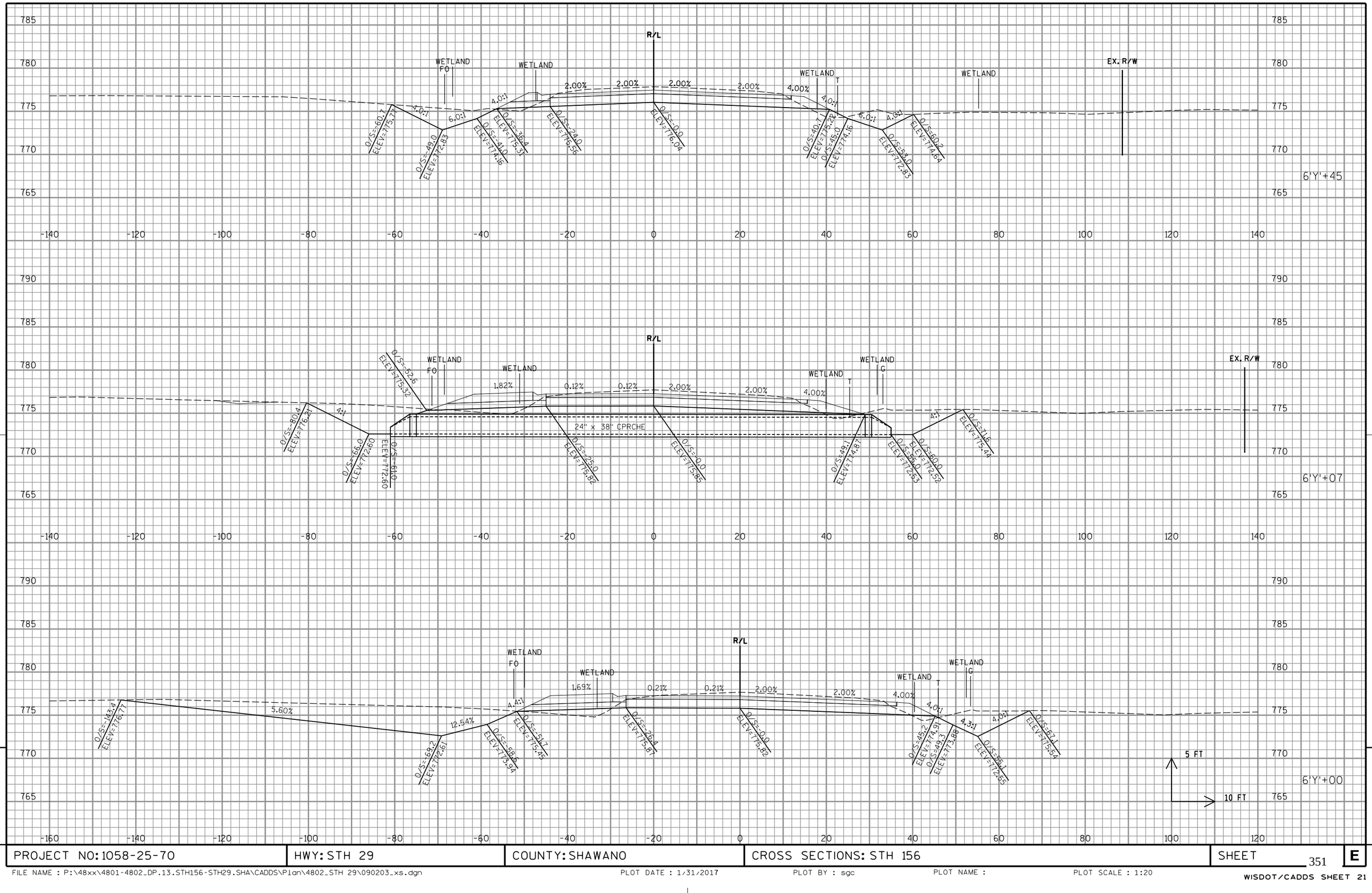
| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: CTH Y | SHEET 349 | E |
|---|---|---|---|---|---|




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156 | SHEET 350 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090203_xs.dgn | PLOT DATE : 1/31/2017 | PLOT BY : sgc | PLOT NAME : | PLOT SCALE : 1:20

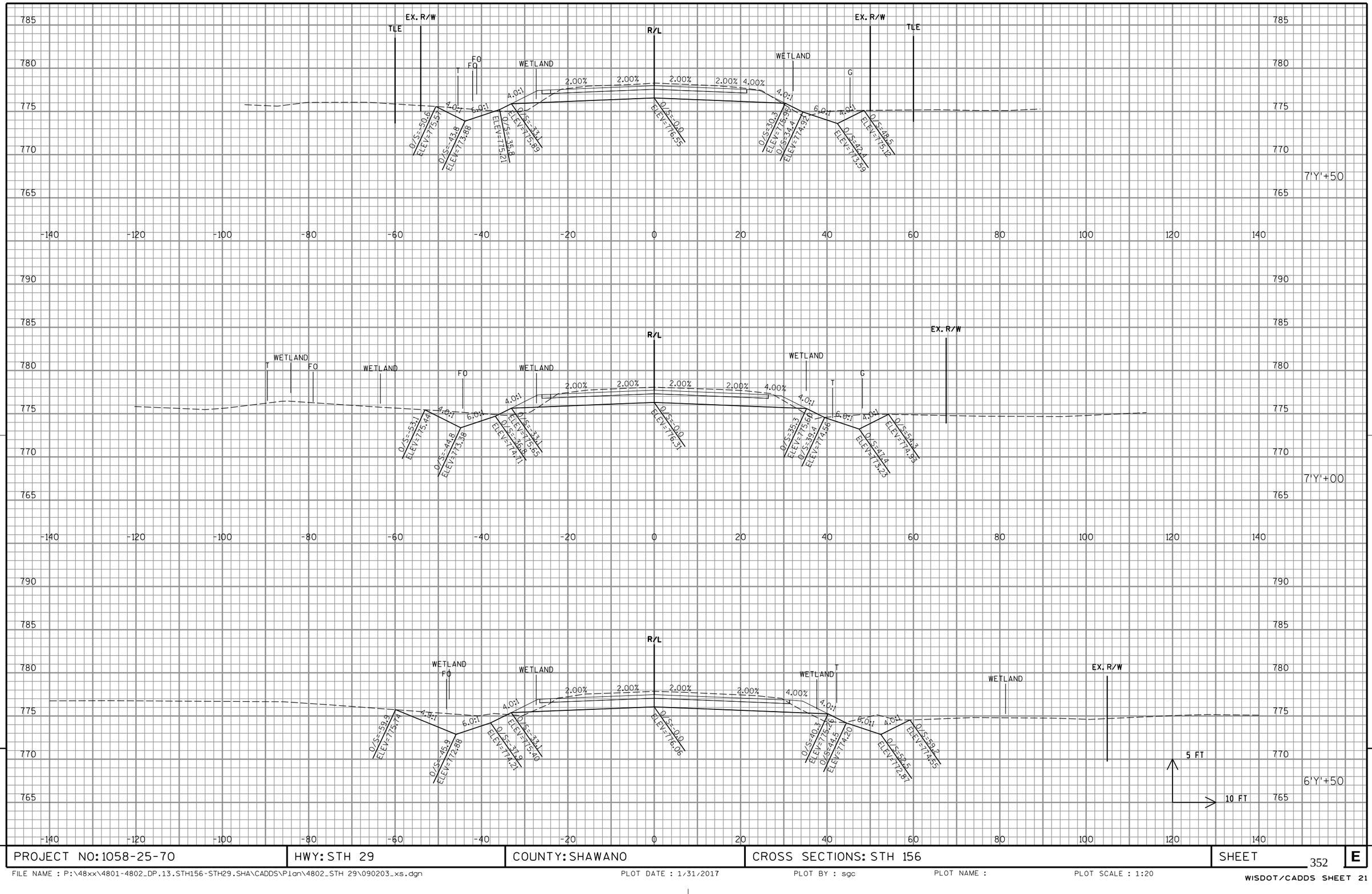
WISDOT/CADDS SHEET 21




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156 | SHEET 351 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090203_xs.dgn | PLOT DATE : 1/31/2017 | PLOT BY : sgc | PLOT NAME : | PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

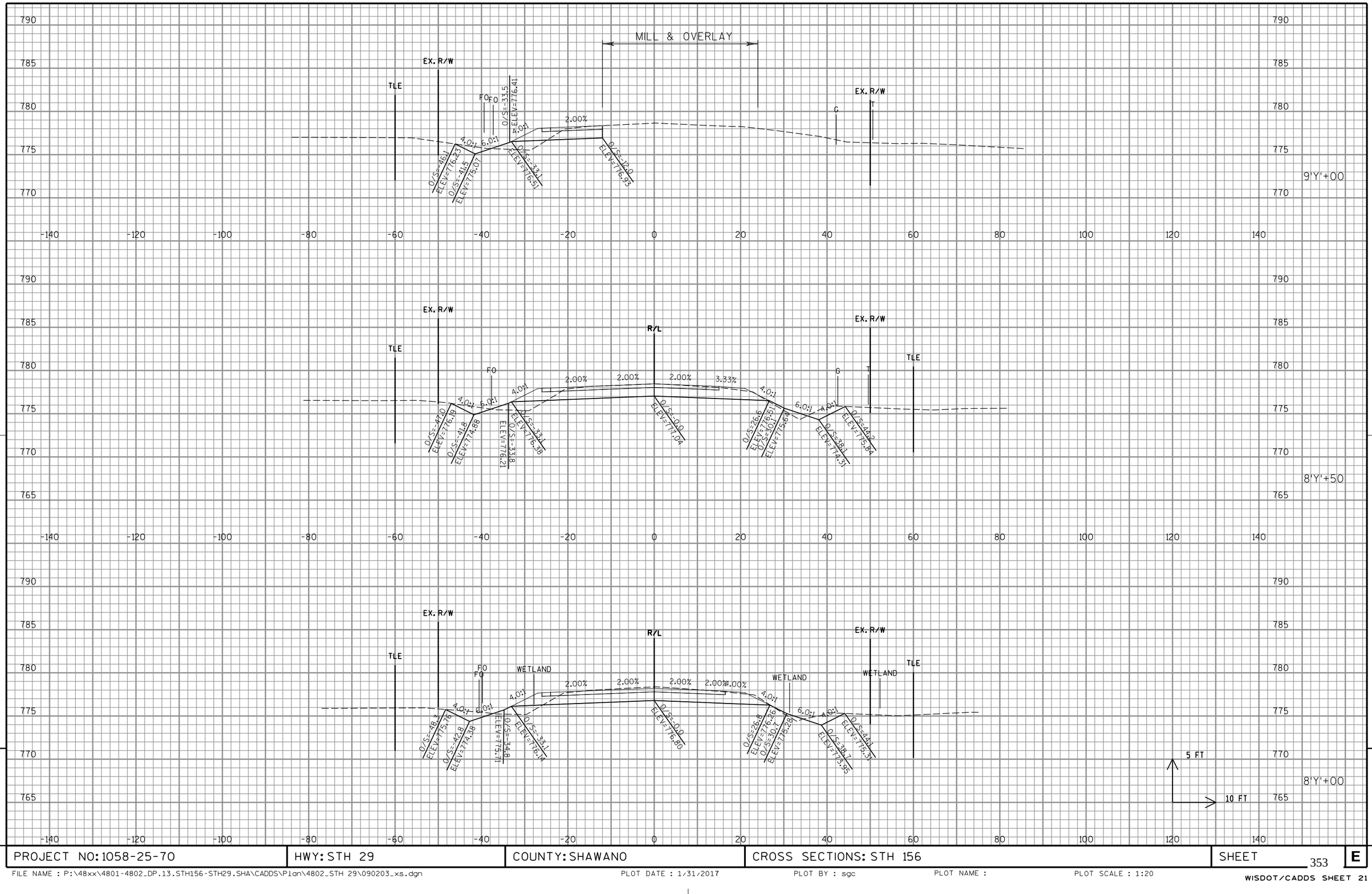



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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156 | SHEET 352 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090203_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

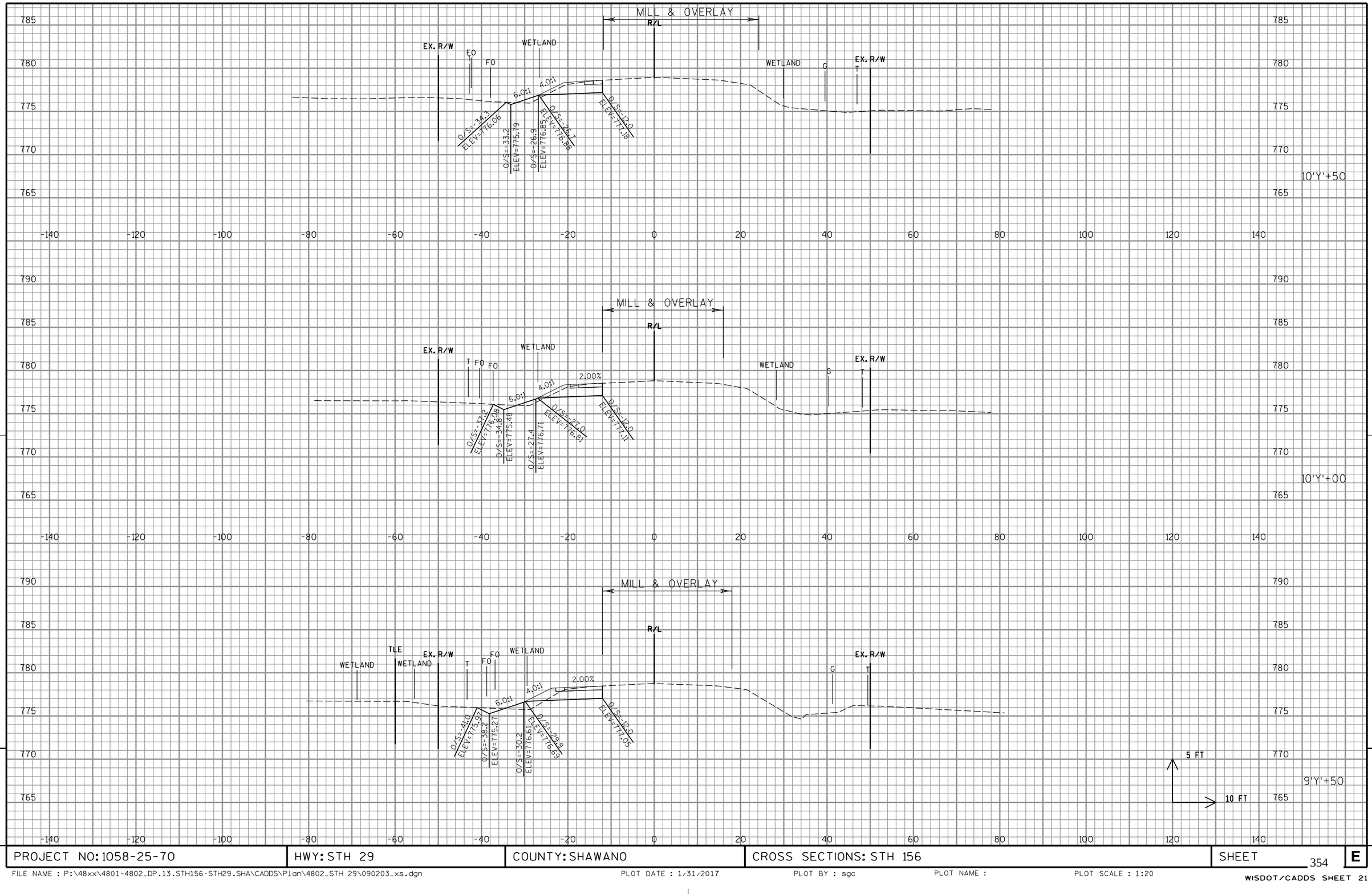
WISDOT/CADDS SHEET 21




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156 | SHEET 353 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090203_xs.dgn | PLOT DATE : 1/31/2017 | PLOT BY : sgc | PLOT NAME : | PLOT SCALE : 1:20

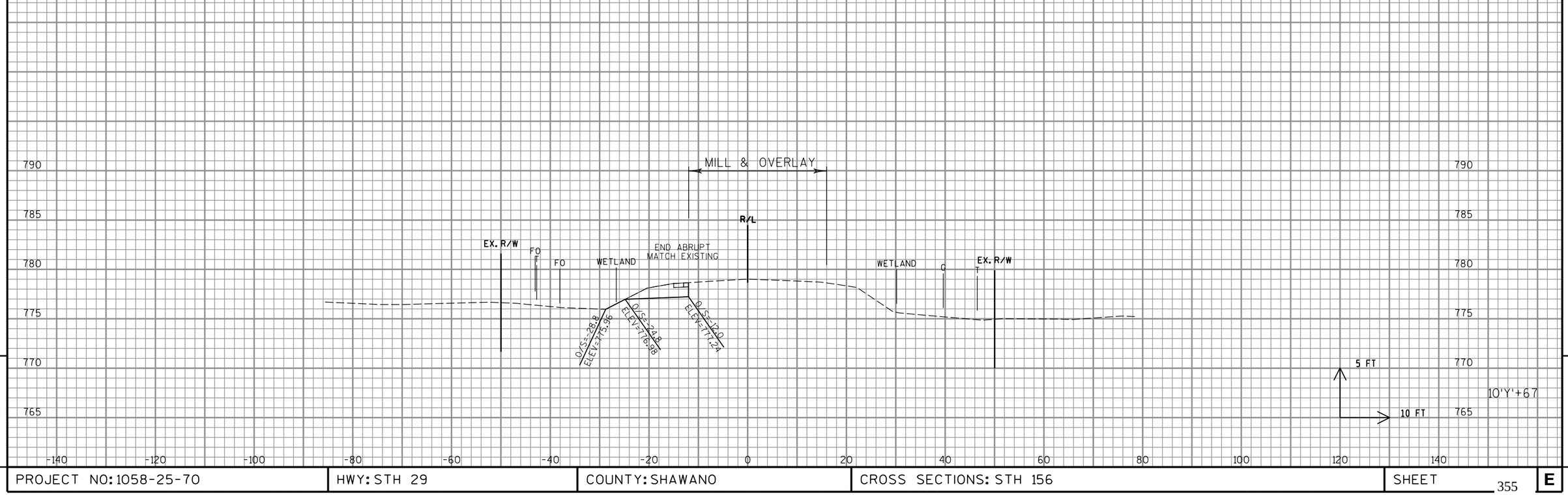
WISDOT/CADDS SHEET 21




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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156 | SHEET 354 | E |
|---|---|---|---|---|---|




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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156 | SHEET 355 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090203_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS

PROP. R/W

R/L

M/L

0/S=20.6 ELEV=813.03

0/S=27.2 ELEV=811.36

4:1

3:1

0/S=37.6 ELEV=810.64

0/S=35.2 ELEV=810.95

2.53%

2.45%

2.45%

0/S=0.0 ELEV=812.51

0/S=23.8 ELEV=811.92

0/S=30.3 ELEV=810.30

6:1

0/S=38.3 ELEV=806.97

0/S=44.4 ELEV=810.48

11'A'+00

0/S=27.9 ELEV=813.99

0/S=39.6 ELEV=811.65

4.91

3.49%

0.70%

1.56%

2.88%

0/S=37.6 ELEV=813.46

0/S=55.0 ELEV=810.56

0/S=22.9 ELEV=812.40

0/S=0.0 ELEV=812.25

0/S=31.7 ELEV=811.78

0/S=61.2 ELEV=809.95

0/S=73.5 ELEV=809.57

10'A'+50

MATCH STH 156

0.40%

0.66%

T

0/S=55.0 ELEV=812.46

0/S=0.0 ELEV=812.27

0/S=72.4 ELEV=811.81

5 FT

10 FT

10'A'+24

820 815 810 805 800 825

-140 -120 -100 -80 -60 -40 -20 0 20 40 60 80 100 120 140

9

9

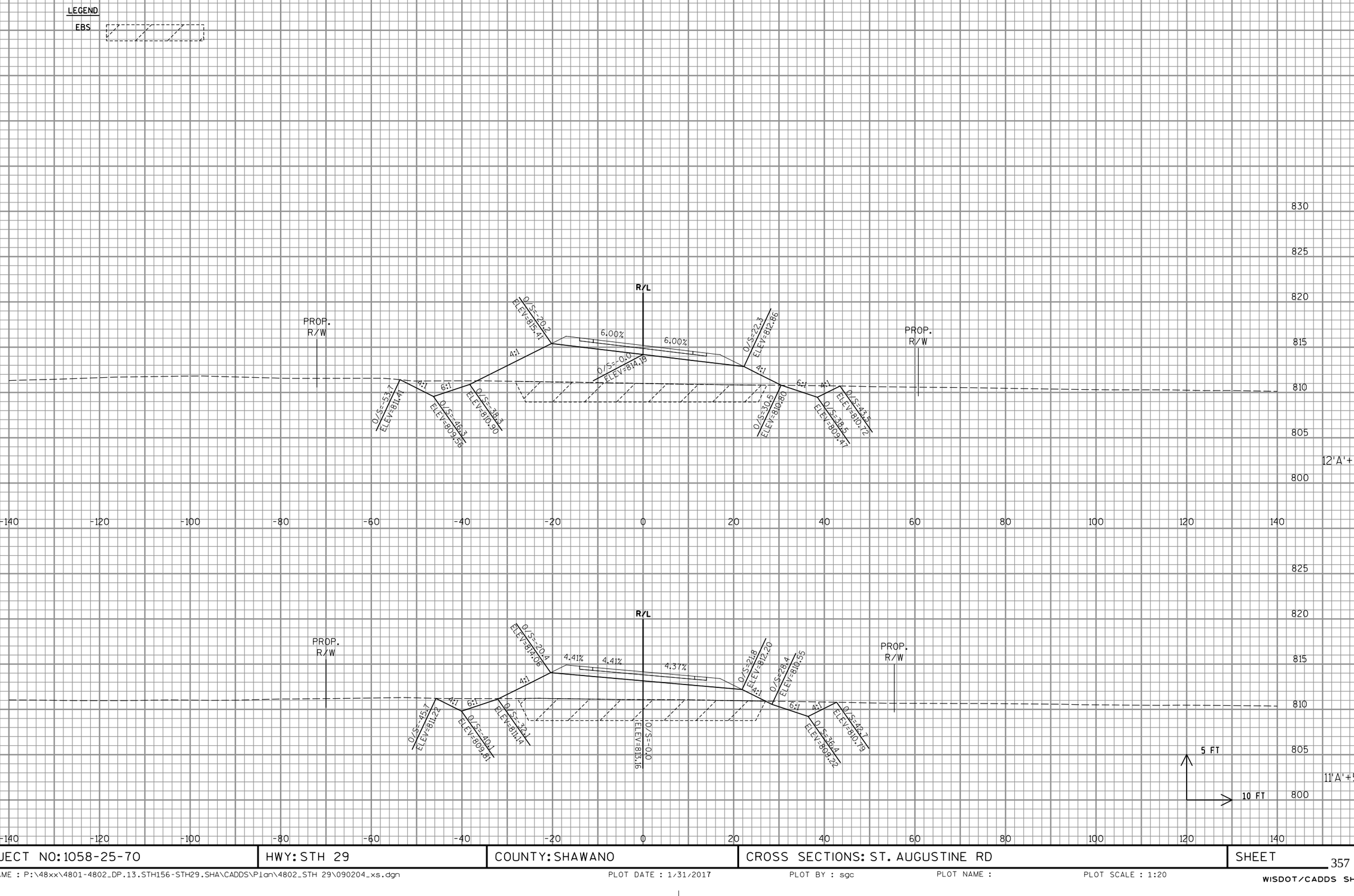
| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 356 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090204_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS



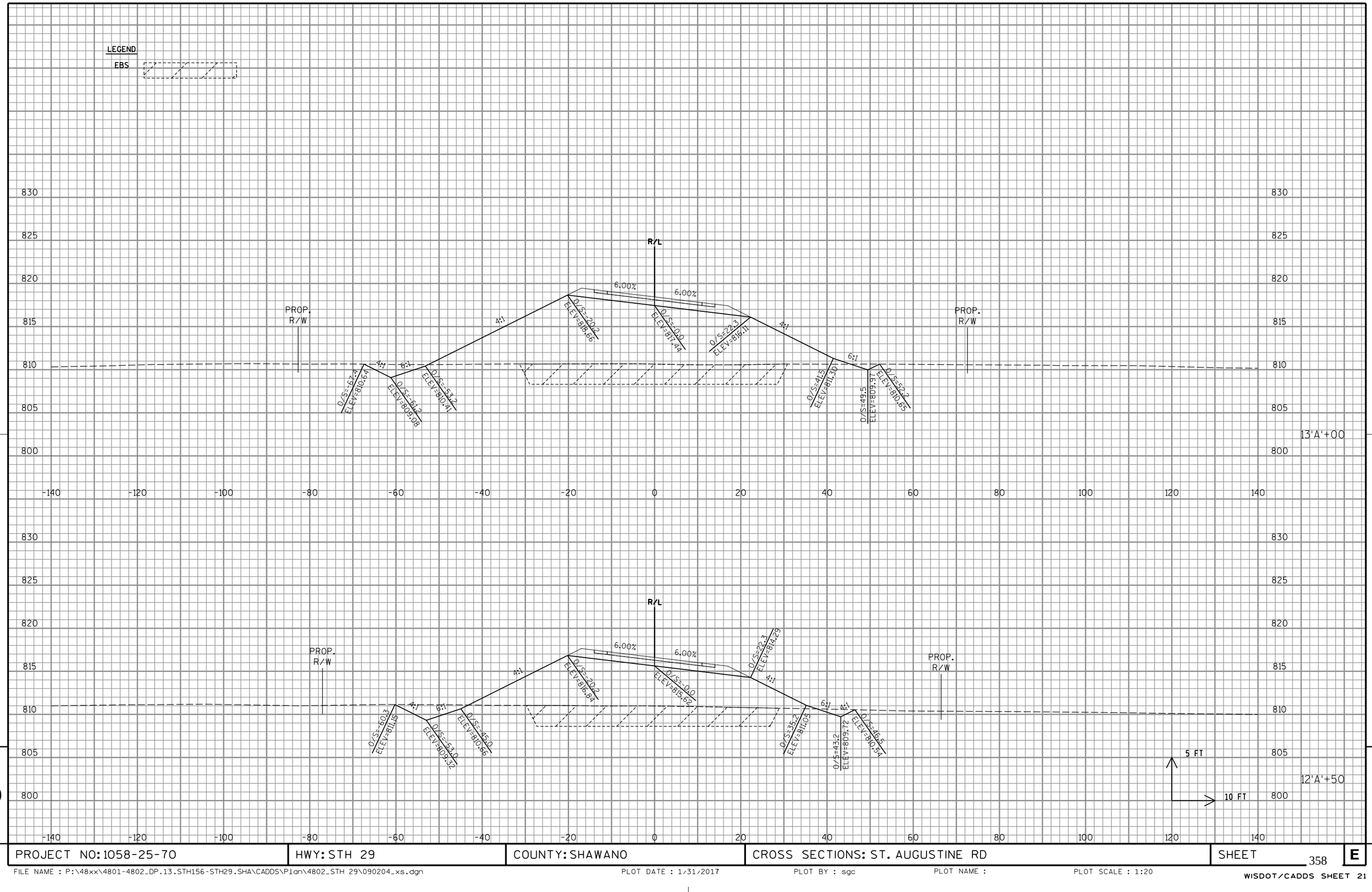

9

9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 357 | E |
|---|---|---|---|---|---|

LEGEND

EBS







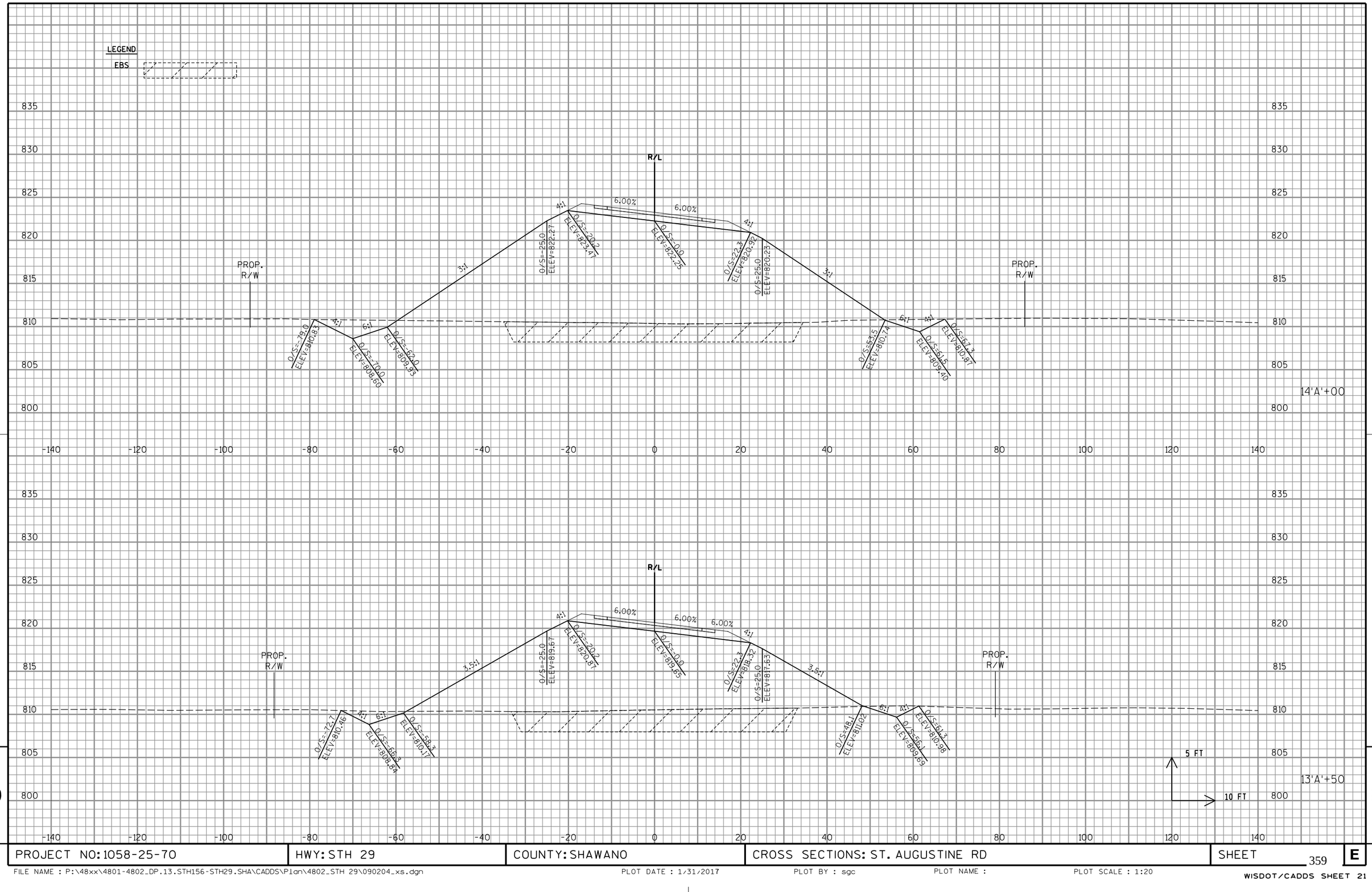
9

9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 358 | E |
|---|---|---|---|---|---|

LEGEND

EBS




9

9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 359 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090204_xs.dgn

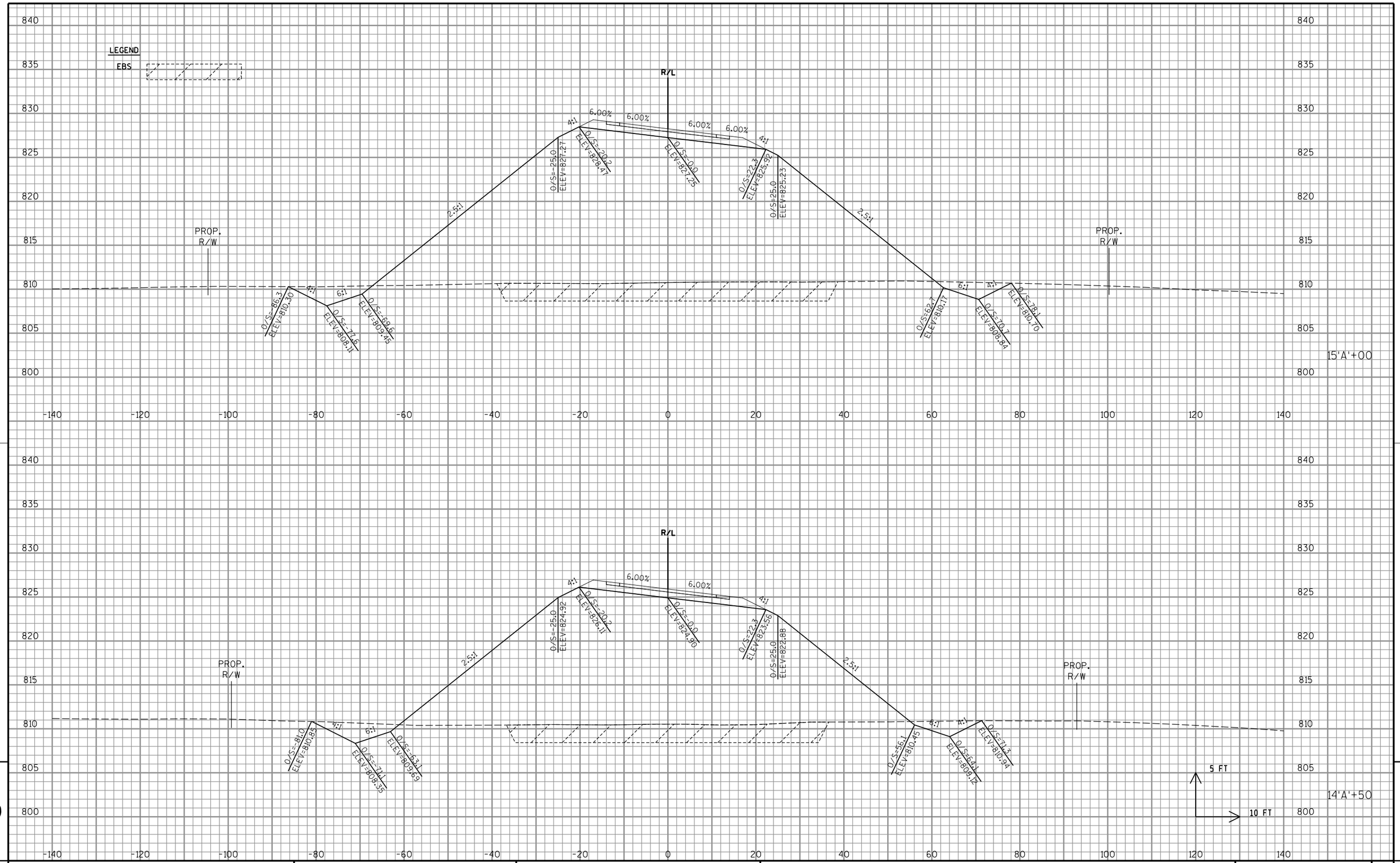
PLOT DATE : 1/31/2017

PLOT BY : sgc

PLOT NAME :

PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21




9

9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 360 | E |
|---|---|---|---|---|---|

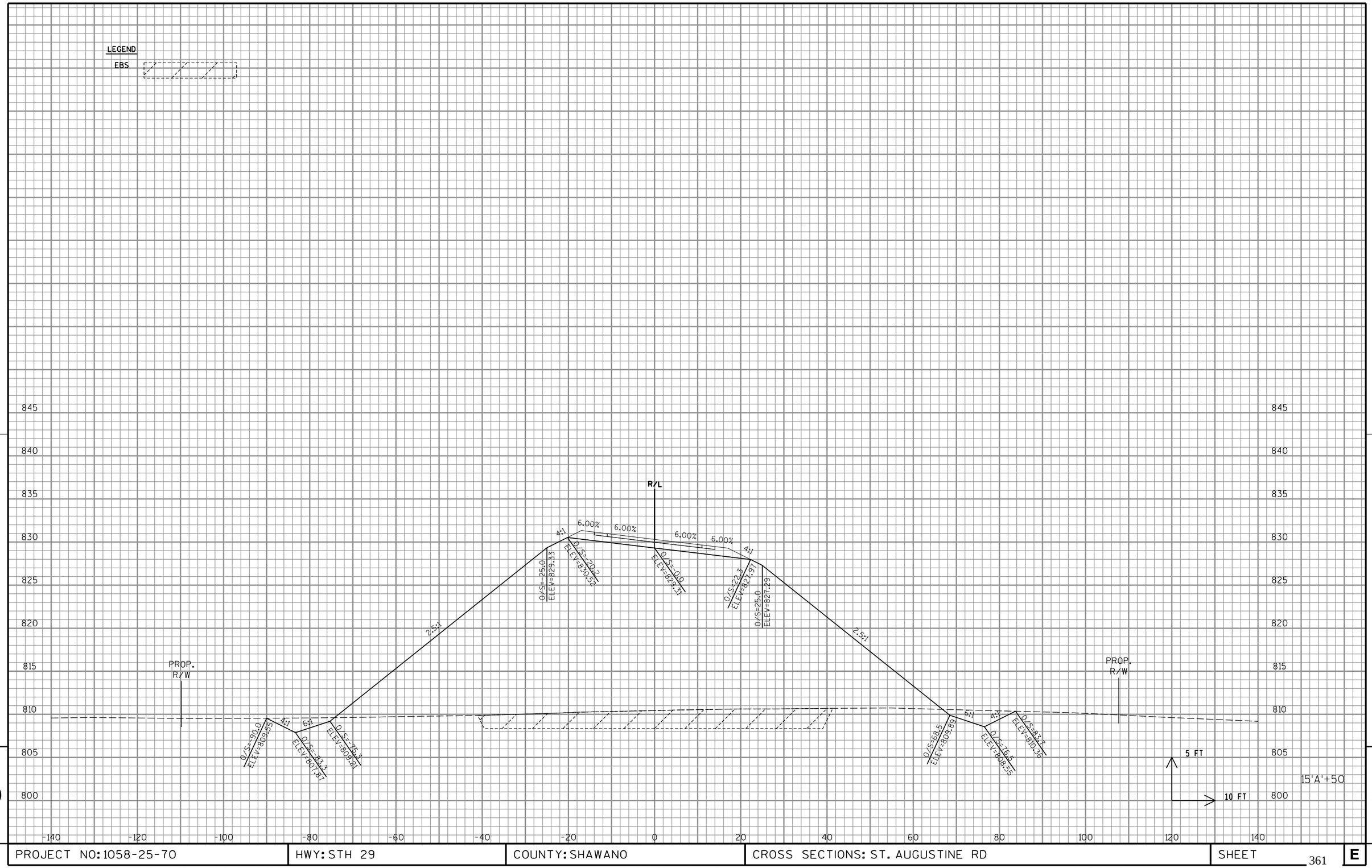
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090204_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS






9

9

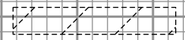
| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 361 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090204_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS



R/L

6.00%

6.00%

6.00%

6.00%

4:1

4:1

2.5:1

2.5:1

O/S=25.0
ELEV=831.09

O/S=20.2
ELEV=832.28

O/S=0.0
ELEV=834.07

O/S=22.3
ELEV=829.73

O/S=25.0
ELEV=829.05

PROP.
R/W

PROP.
R/W

O/S=34.4
ELEV=809.17

4:1

6:1

O/S=88.3
ELEV=807.63

O/S=80.3
ELEV=808.36

O/S=74.6
ELEV=809.60

6:1

4:1

O/S=81.6
ELEV=808.27

O/S=87.4
ELEV=809.71

5 FT

10 FT

16'A'+00

845
840
835
830
825
820
815
810
805
800

-140 -120 -100 -80 -60 -40 -20 0 20 40 60 80 100 120 140

9

9

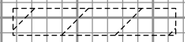
| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 362 | E |
|---|---|---|---|---|---|

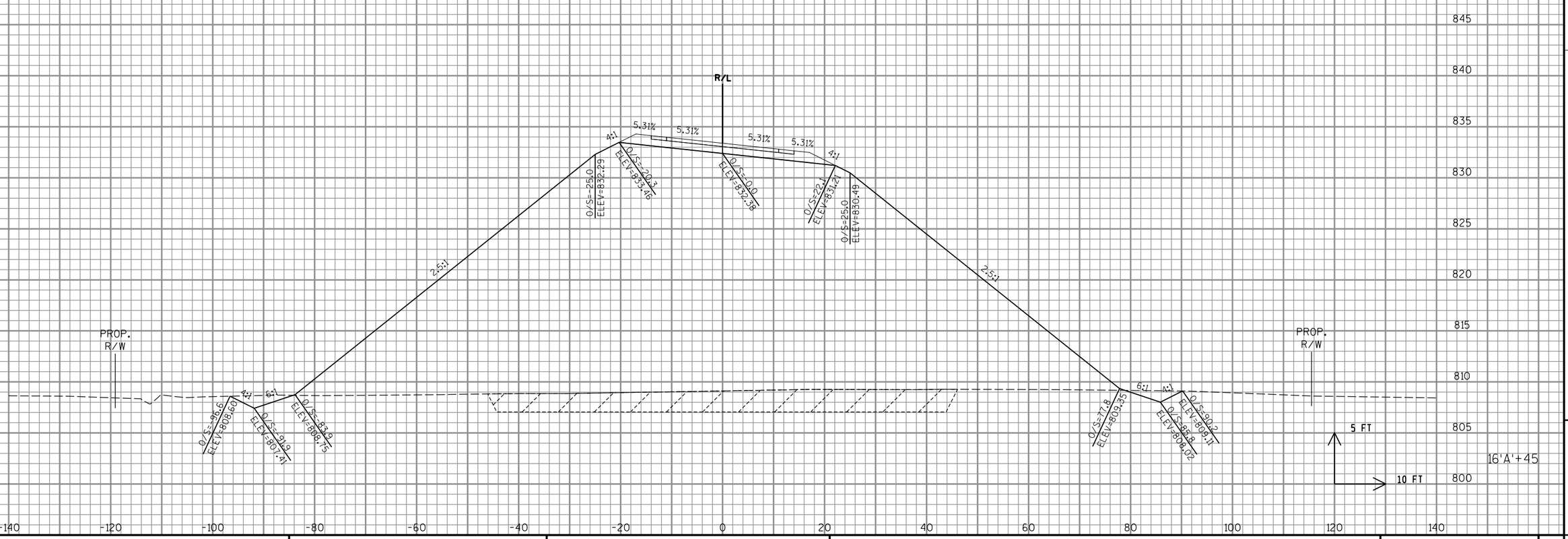
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090204_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS






9

9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 363 | E |
|---|---|---|---|---|---|

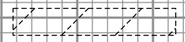
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090204_xs.dgn

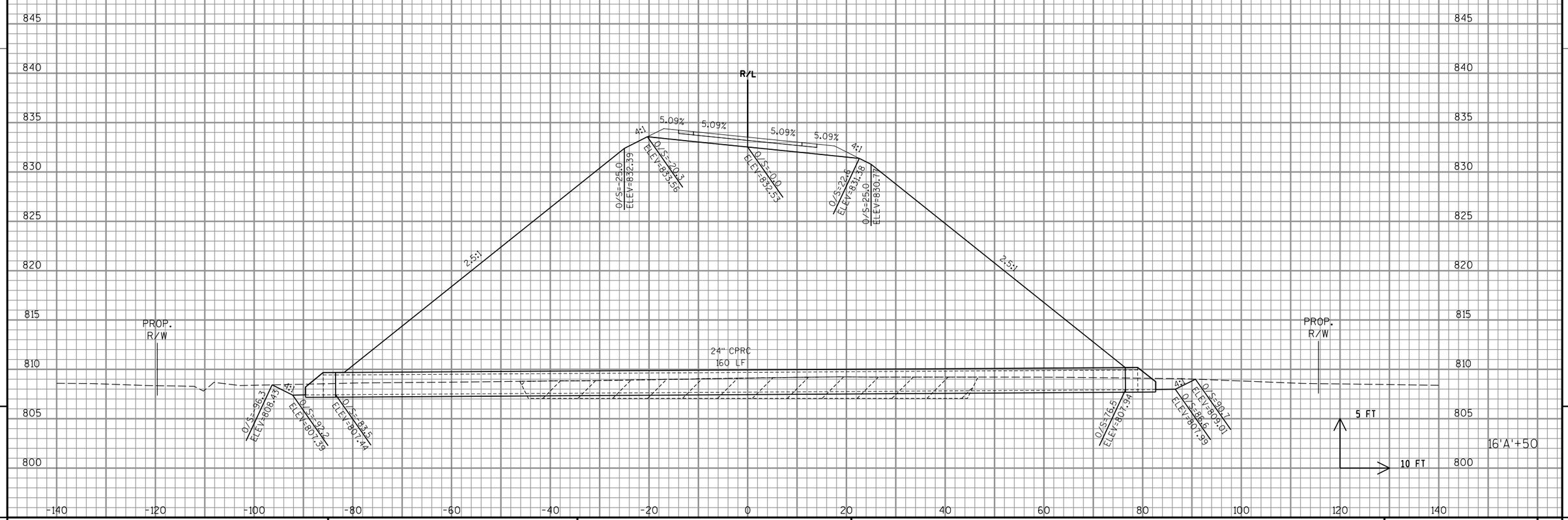
PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS






9

9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 364 | E |
|---|---|---|---|---|---|

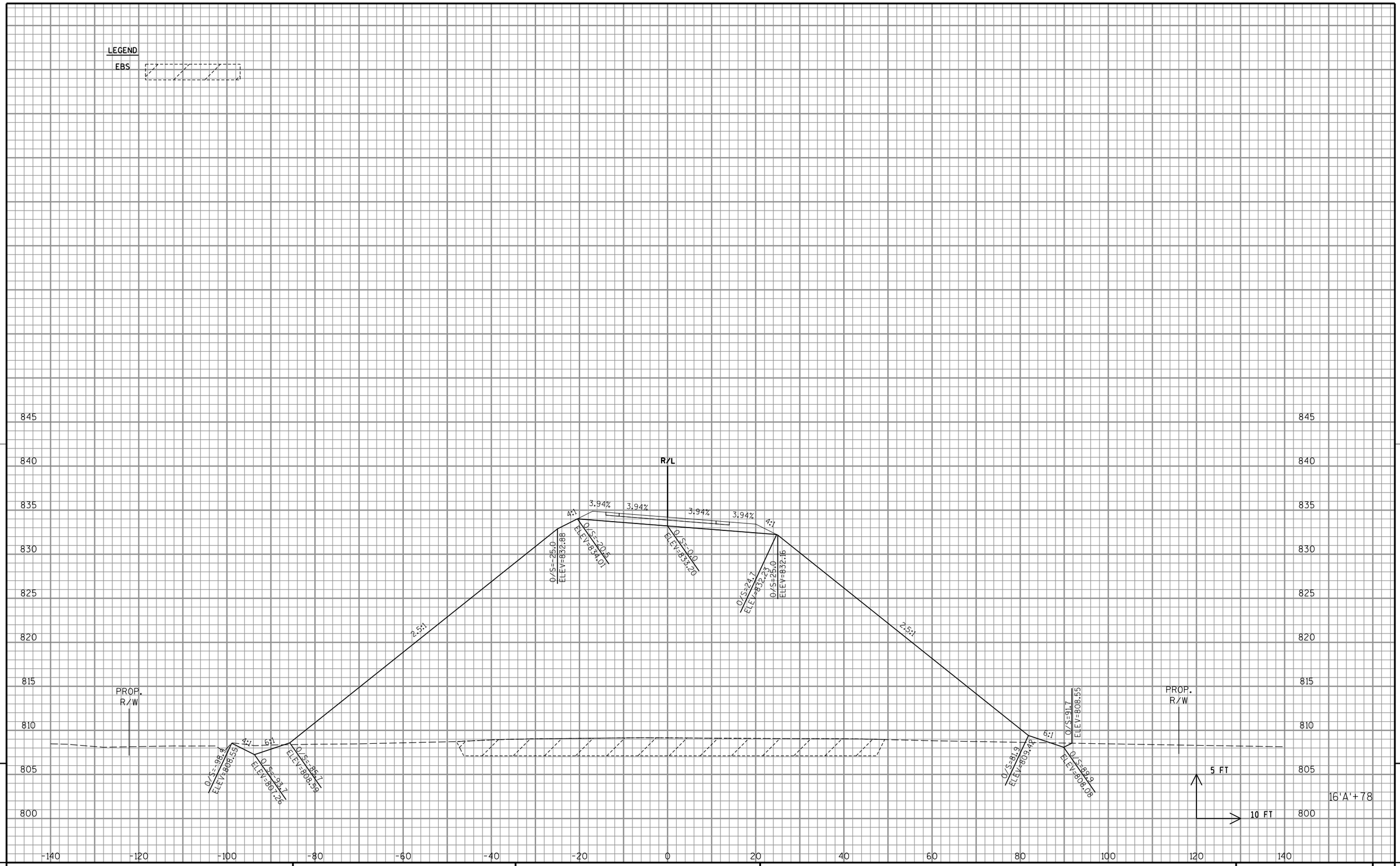
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090204_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS






9

9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 365 | E |
|---|---|---|---|---|---|

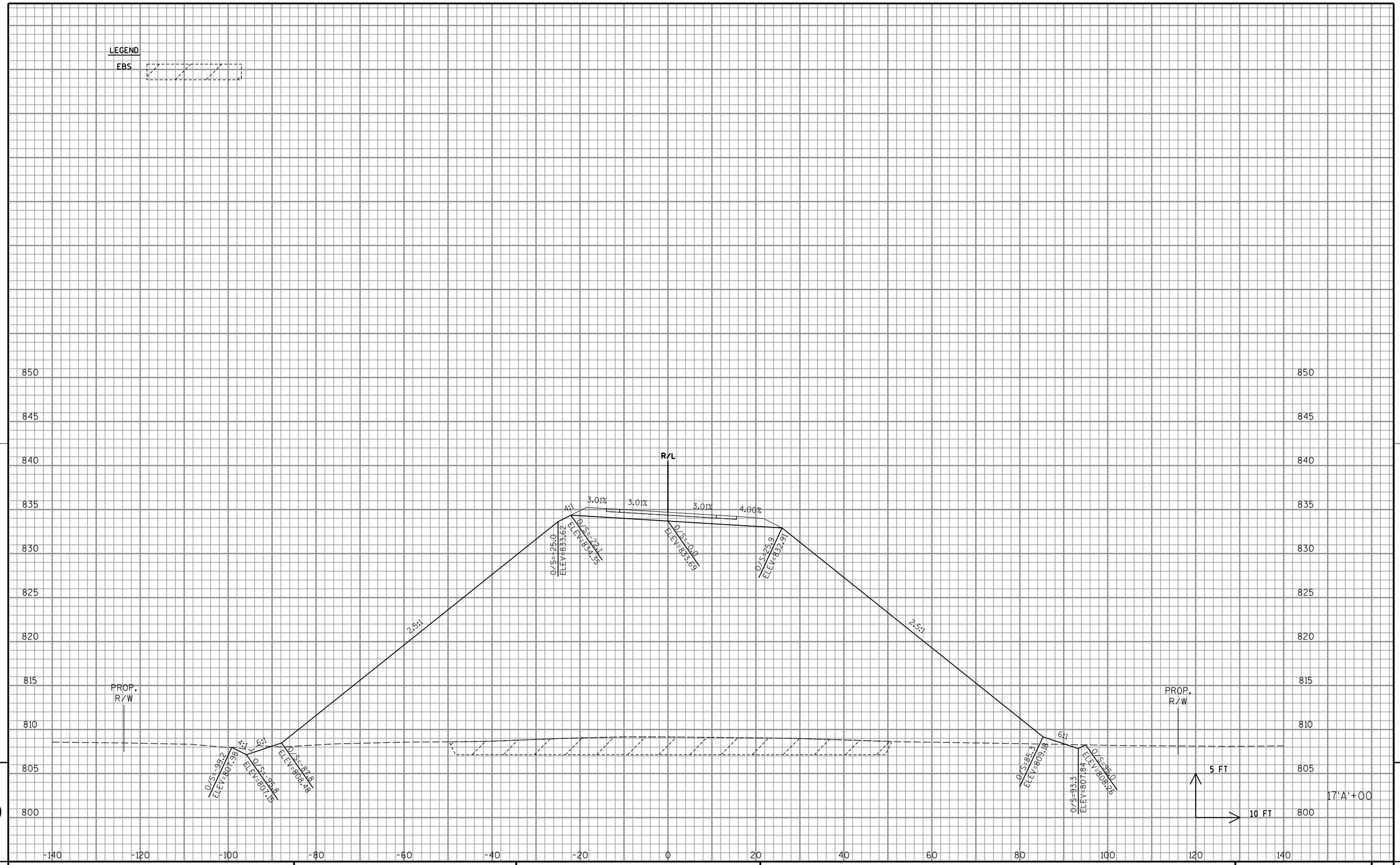
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090204_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS






9

9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 366 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090204_xs.dgn

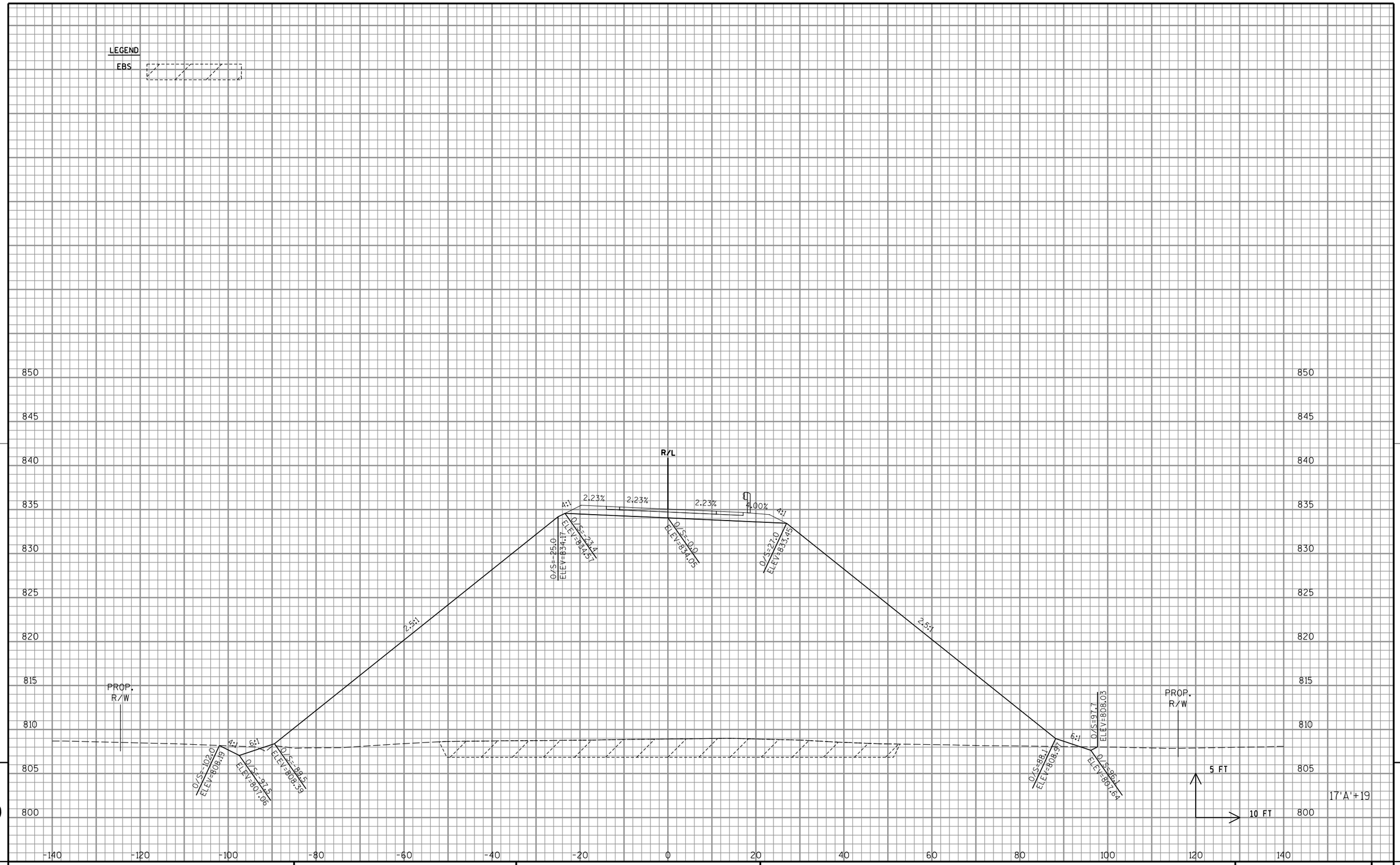
PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS






9

9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 367 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090204_xs.dgn

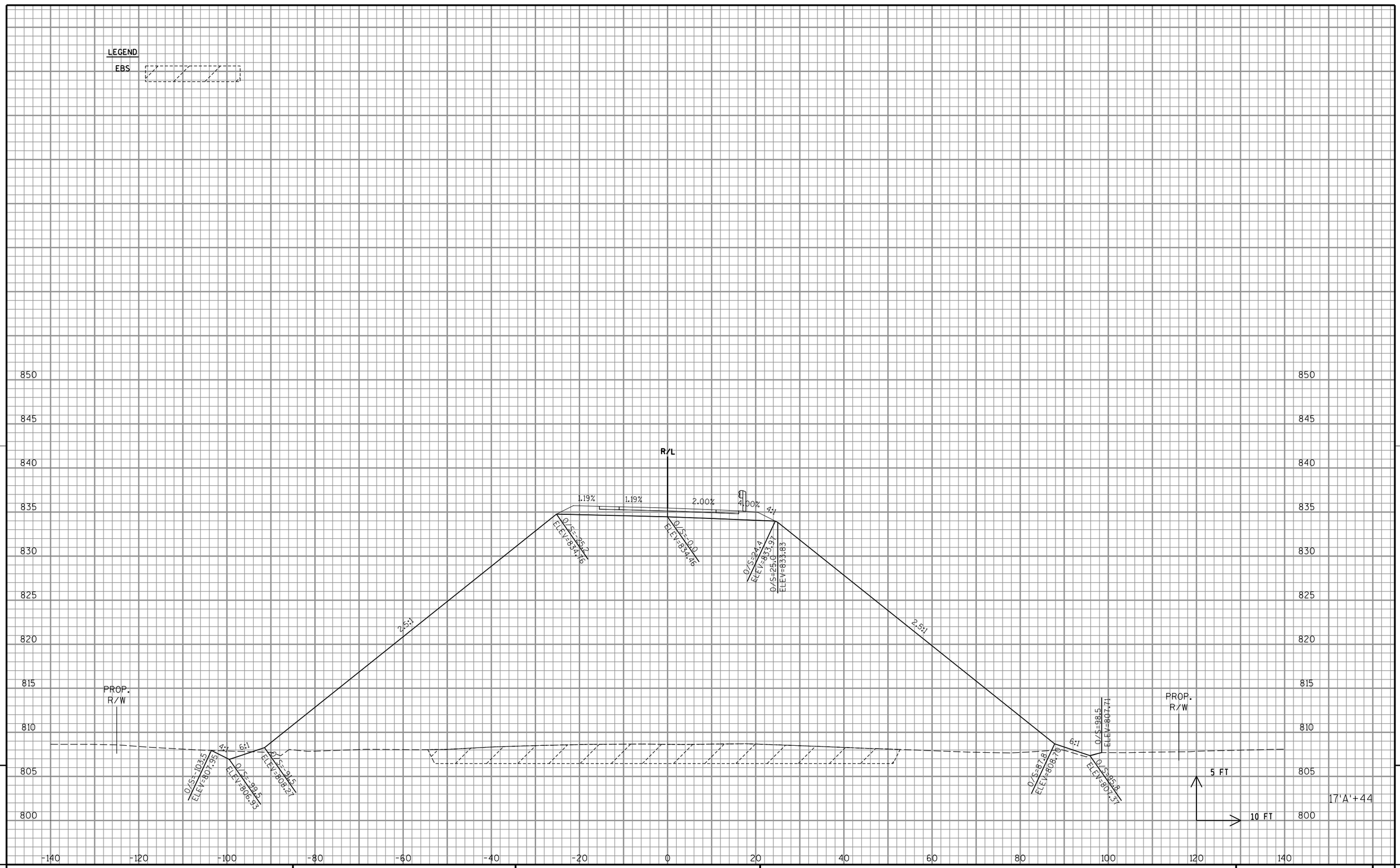
PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS






9

9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 368 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090204_xs.dgn

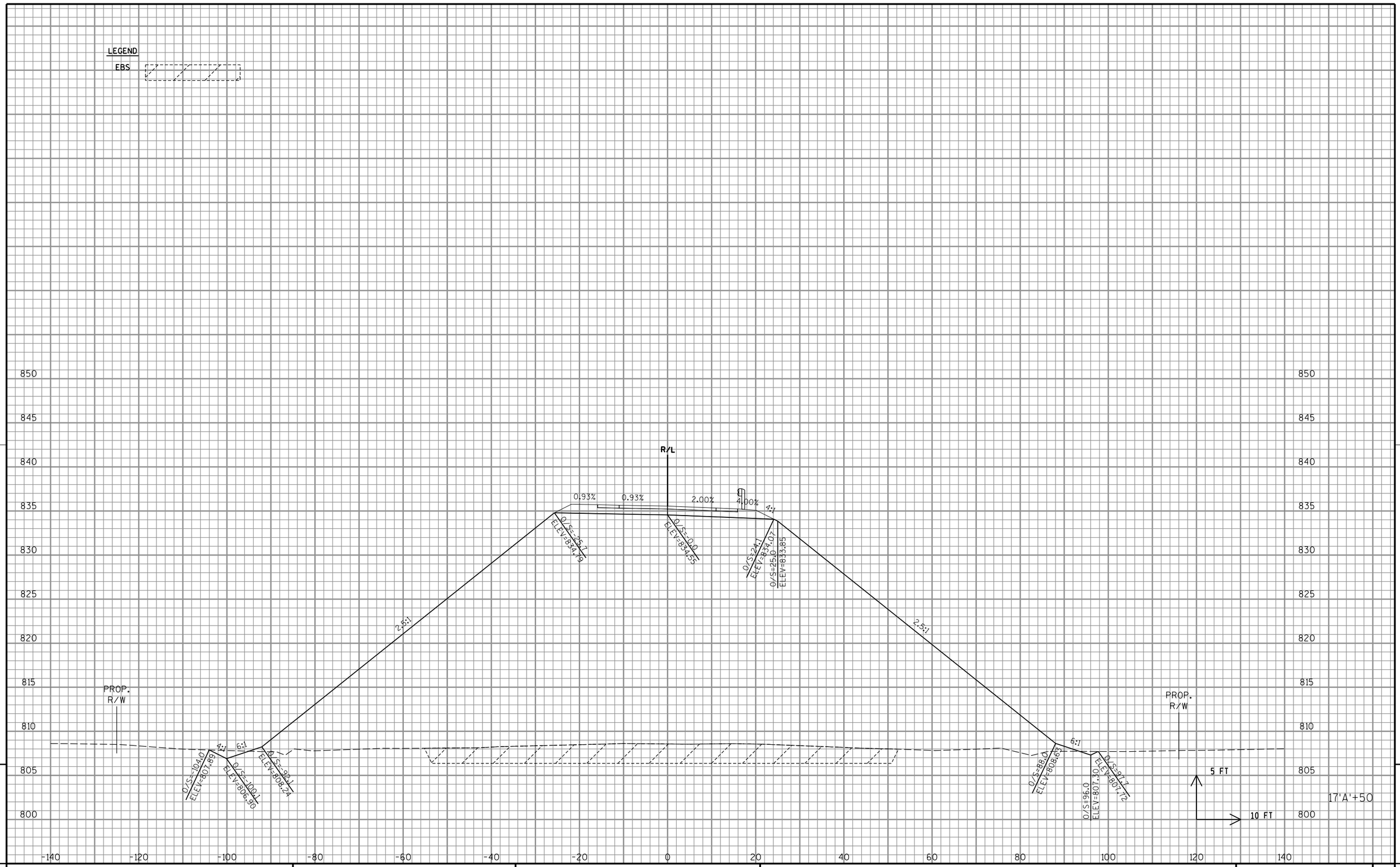
PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS






9

9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 369 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090204_xs.dgn

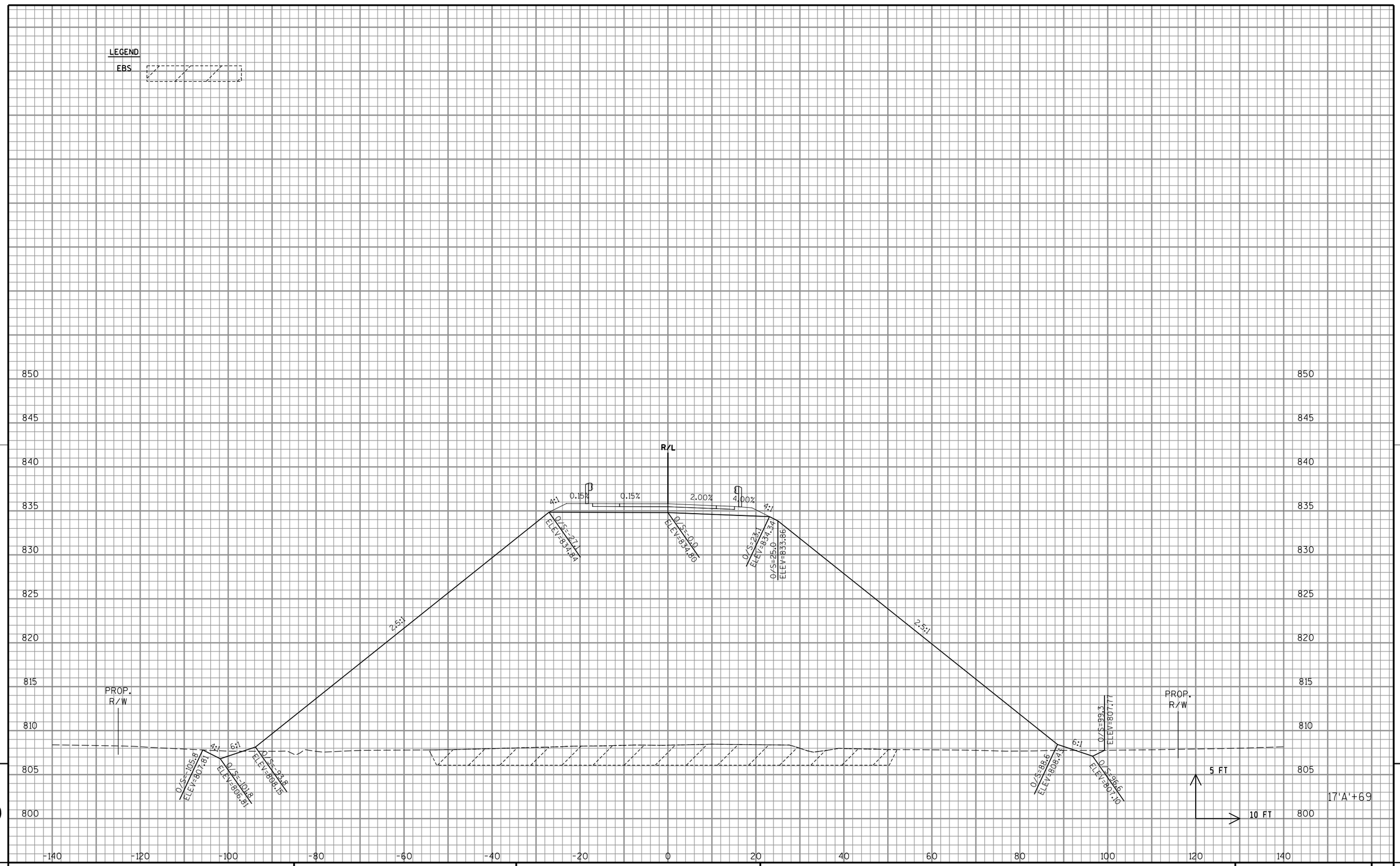
PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS






9

9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 370 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090204_xs.dgn

PLOT DATE : 1/31/2017

PLOT BY : sgc

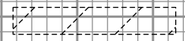
PLOT NAME :

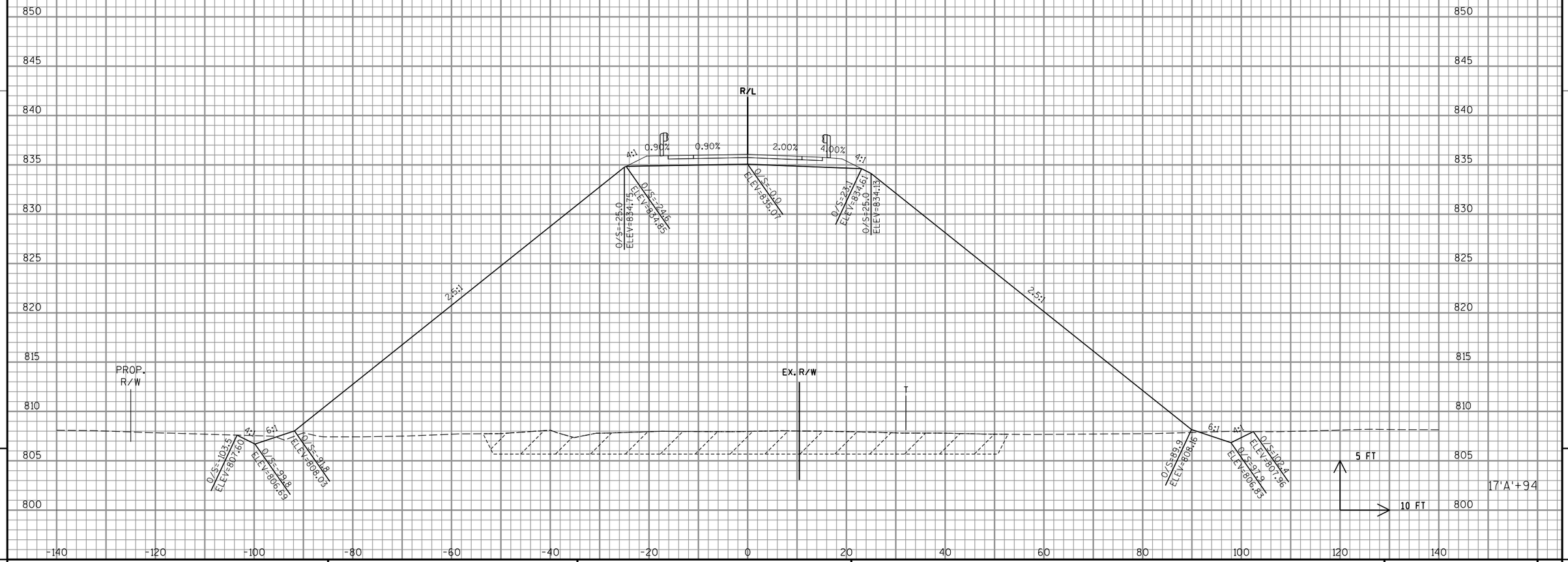
PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS






9

9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 371 | E |
|---|---|---|---|---|---|

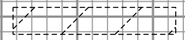
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090204_xs.dgn

PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS



R/L

4:1 1.16% 1.16% 2.00% 4.00% 4:1

O/S=25.0 ELEV=834.27

O/S=22.3 ELEV=834.44

O/S=0.0 ELEV=835.17

O/S=23.1 ELEV=834.66

O/S=25.0 ELEV=834.18

2.5:1

2.5:1

PROP. R/W

EX. R/W

T

6:1 4:1

O/S=103.4 ELEV=807.59

O/S=99.7 ELEV=806.86

O/S=91.7 ELEV=808.00

O/S=90.2 ELEV=808.09

O/S=98.2 ELEV=806.76

O/S=103.3 ELEV=808.04

5 FT

10 FT

18'A'+00

850 845 840 835 830 825 820 815 810 805 800

-140 -120 -100 -80 -60 -40 -20 0 20 40 60 80 100 120 140

9 9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 372 | E |
|---|---|---|---|---|---|

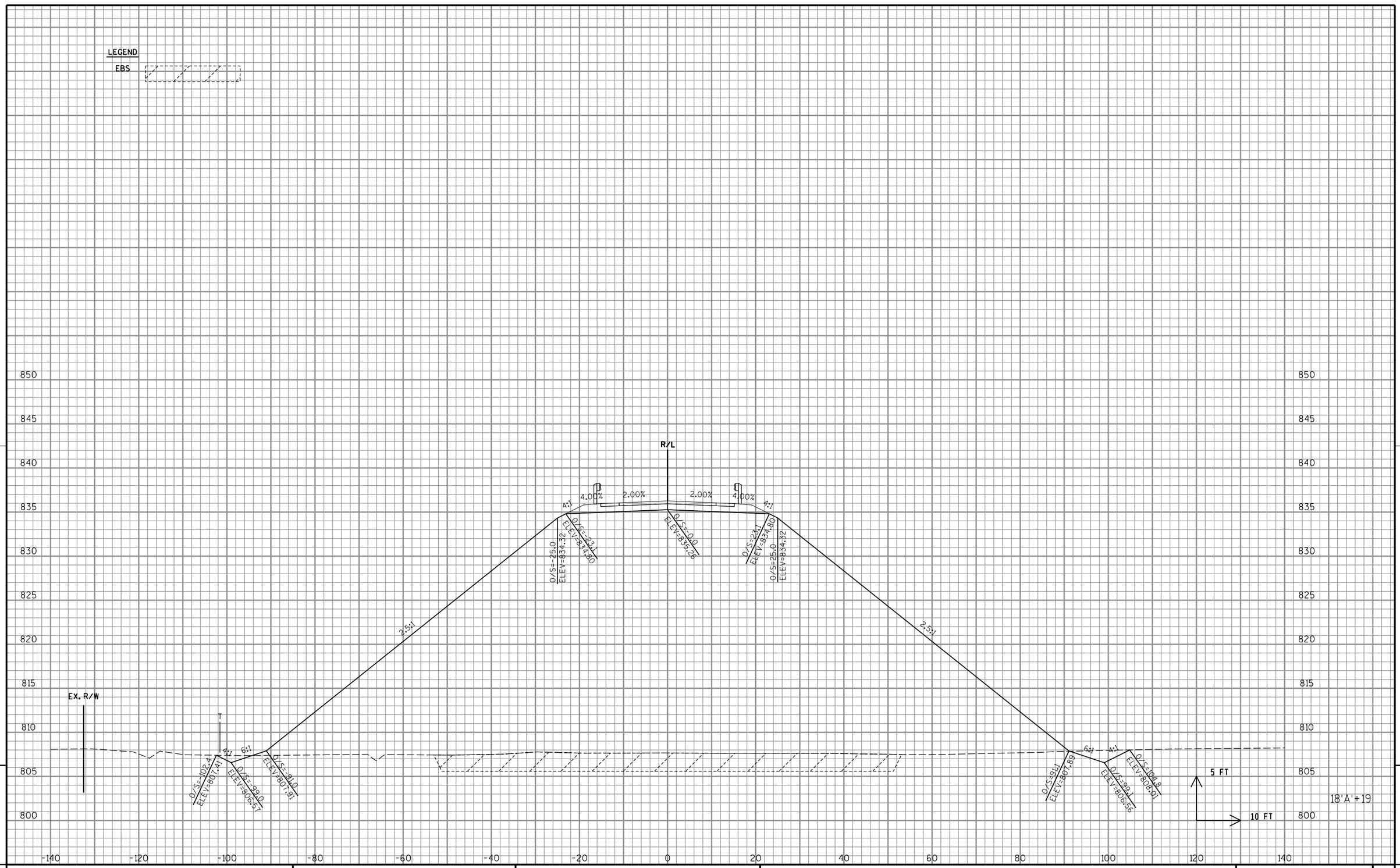
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090204_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS






9

9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 373 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090204_xs.dgn

PLOT DATE : 1/31/2017

PLOT BY : sgc

PLOT NAME :

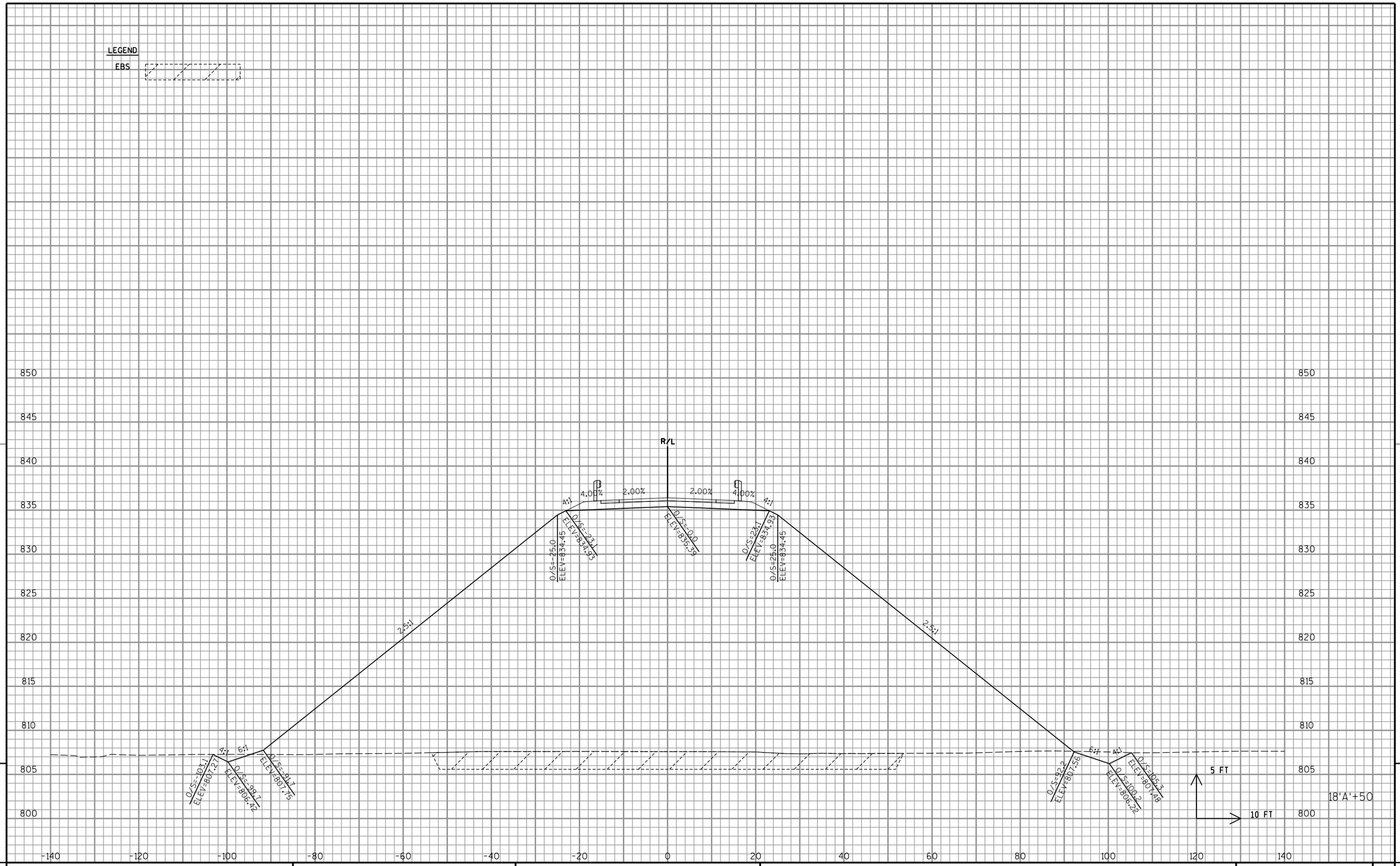
PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS






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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 374 | E |
|---|---|---|---|---|---|

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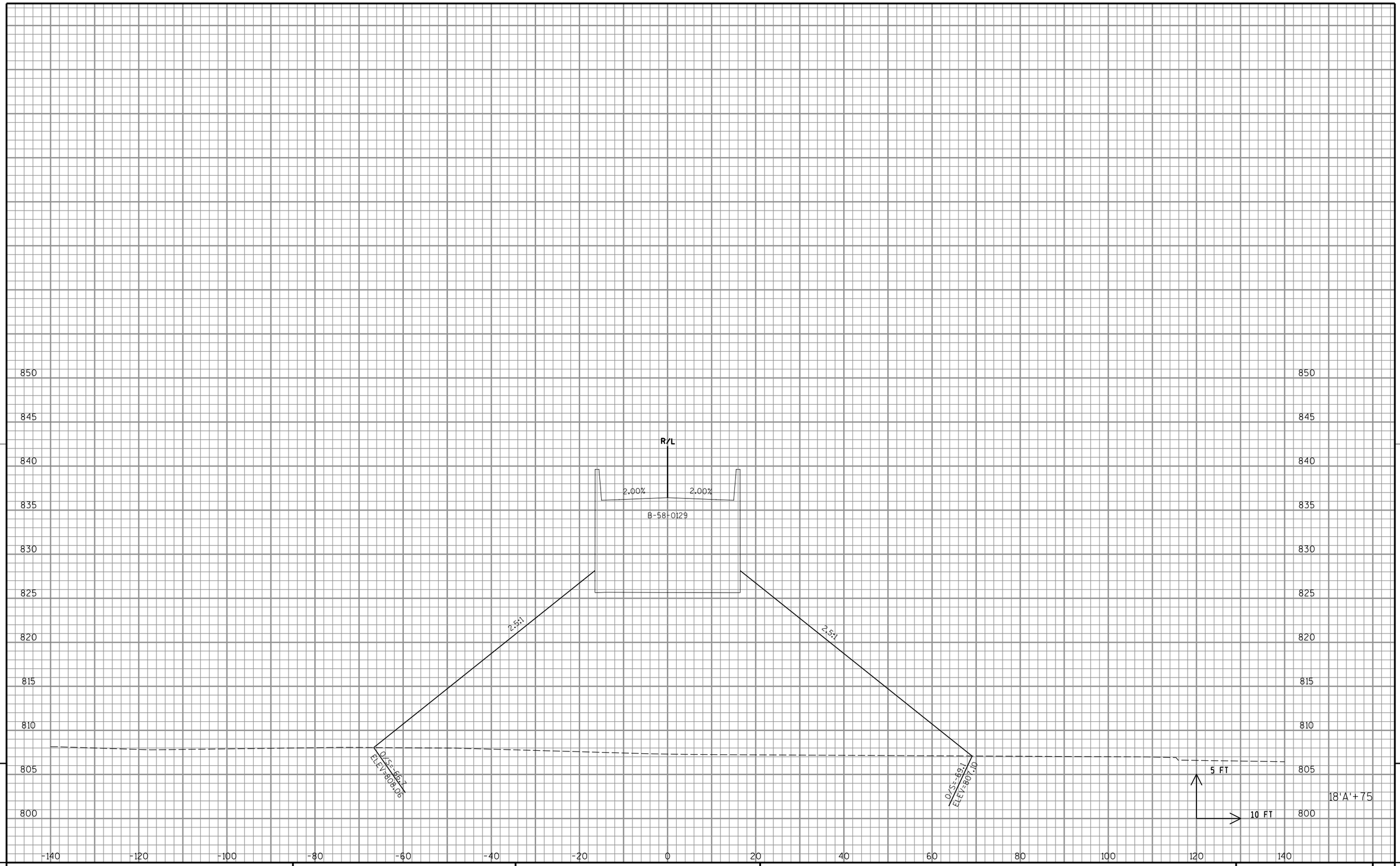
PLOT DATE : 1/31/2017

PLOT BY : sgc

PLOT NAME :

PLOT SCALE : 1:20

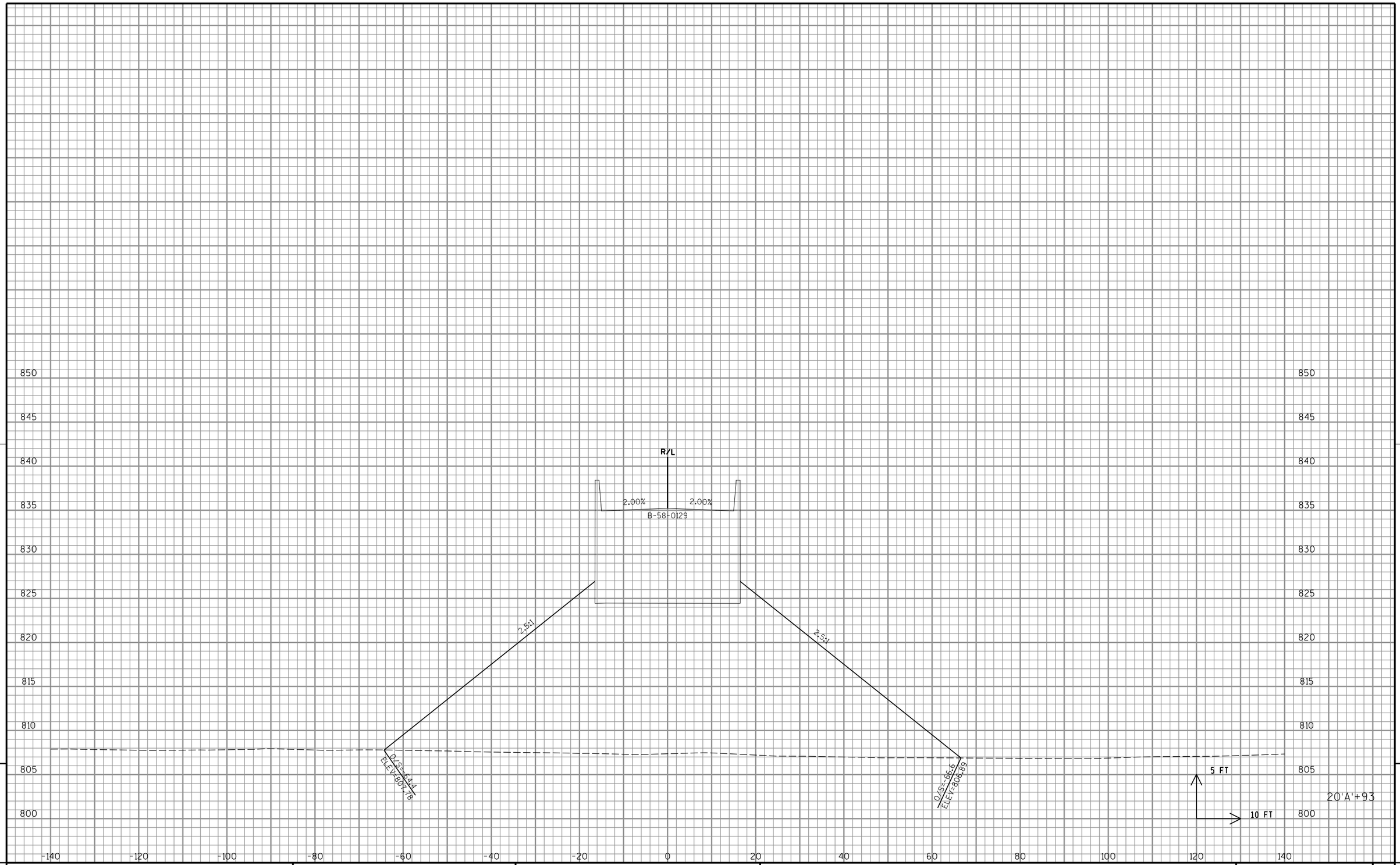
WISDOT/CADDS SHEET 21




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 375 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090204_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21




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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 376 | E |
|---|---|---|---|---|---|

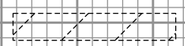
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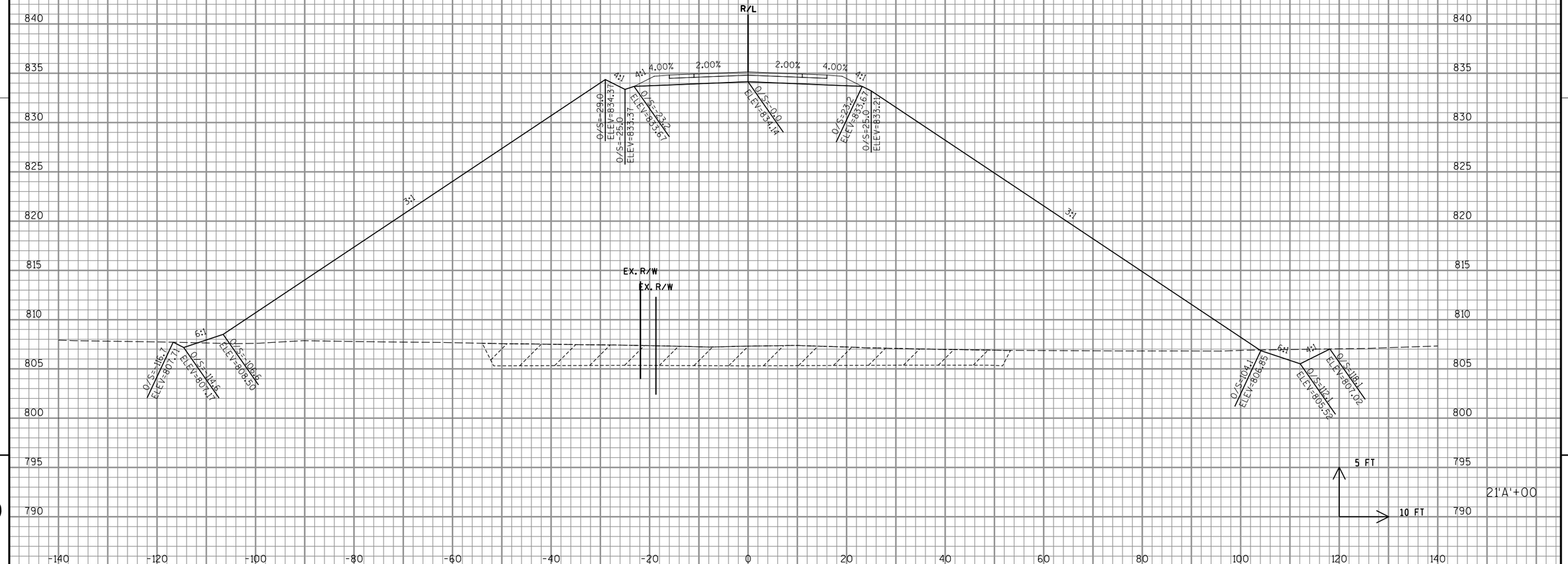
PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS






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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 377 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090204_xs.dgn

PLOT DATE : 1/31/2017

PLOT BY : sgc

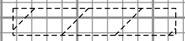
PLOT NAME :

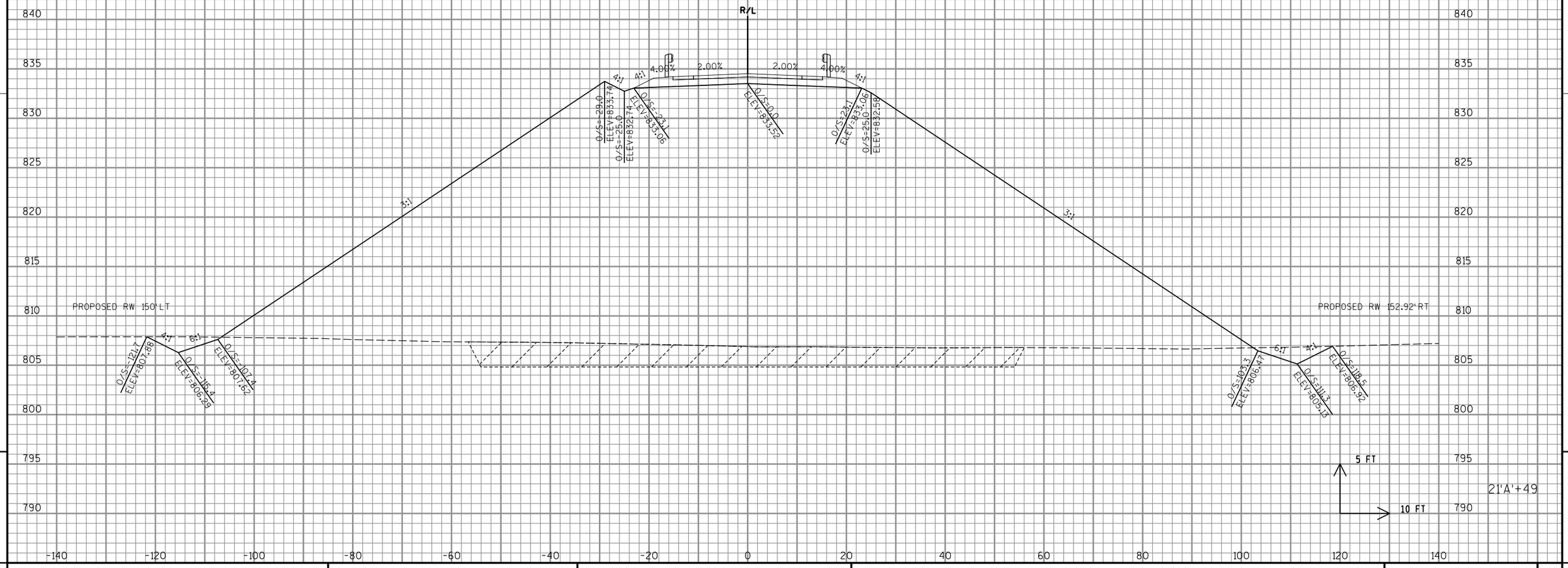
PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS






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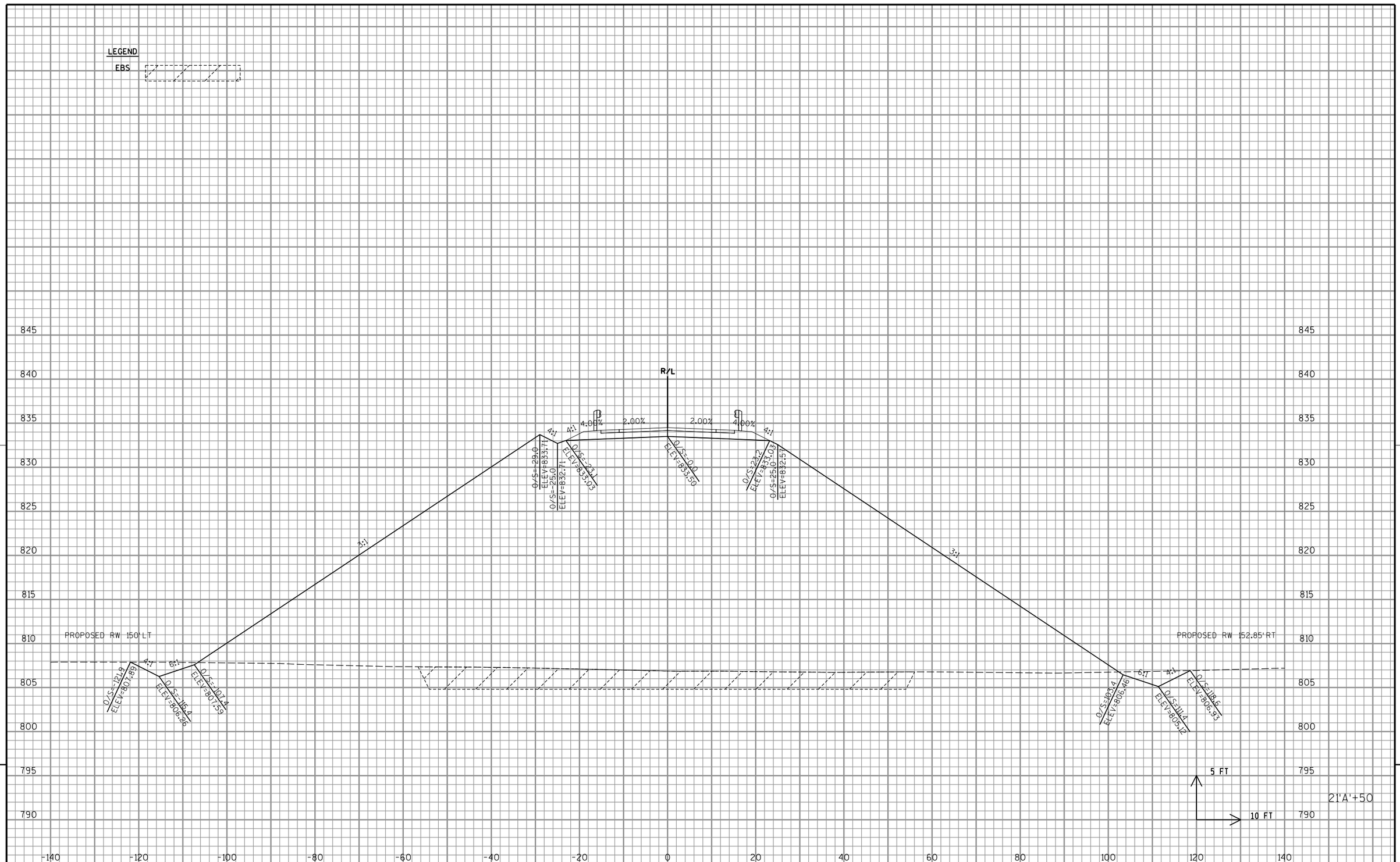
| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 378 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090204_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS




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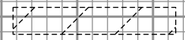
| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 379 | E |
|---|---|---|---|---|---|

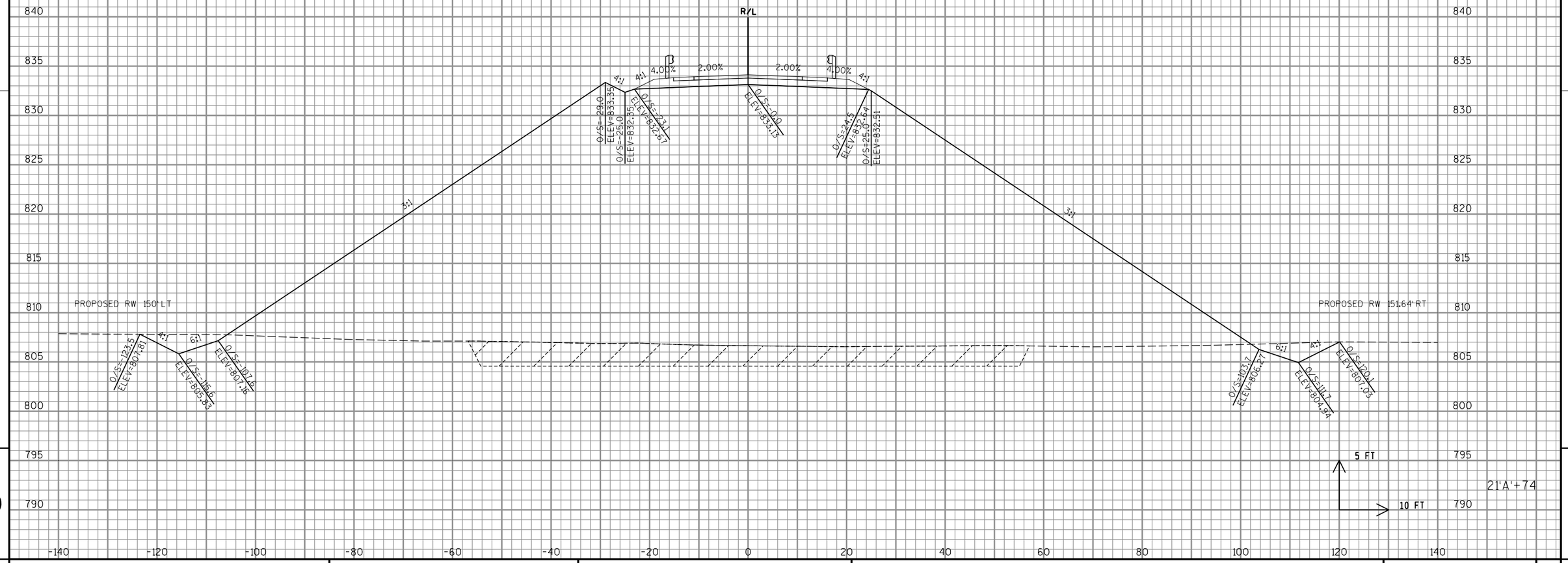
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090204_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS





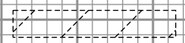

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 380 | E |
|---|---|---|---|---|---|

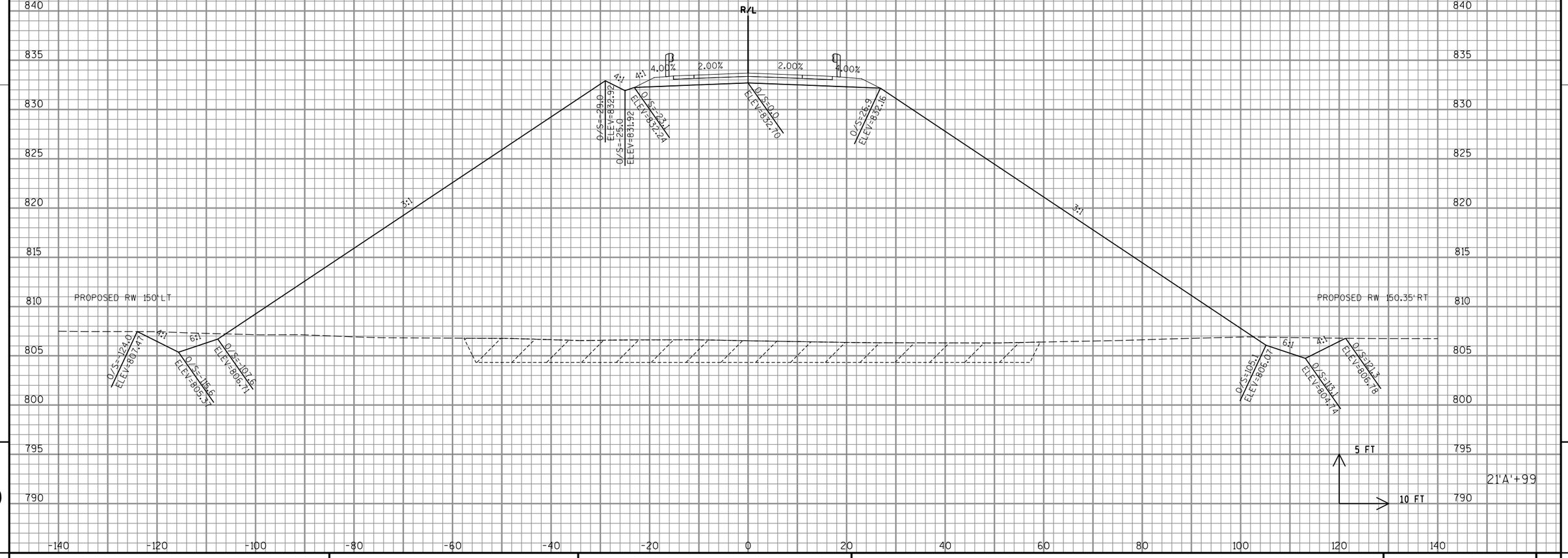
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WISDOT/CADDS SHEET 21

LEGEND

EBS






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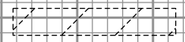
| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 381 | E |
|---|---|---|---|---|---|

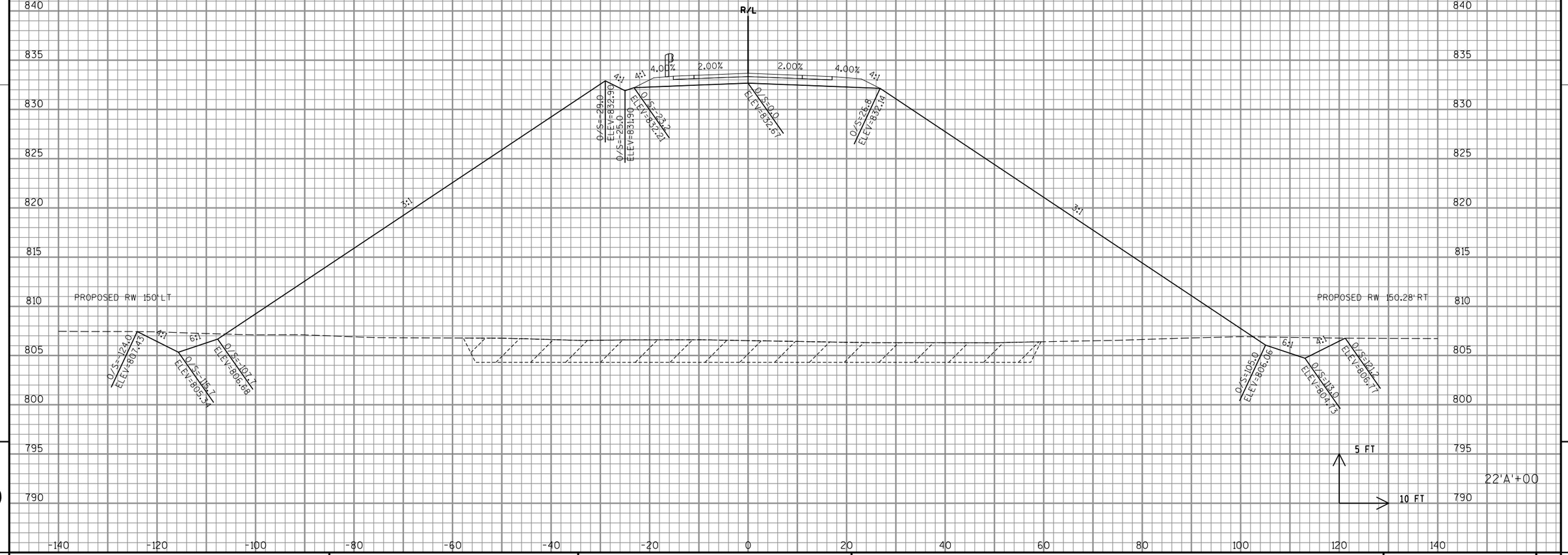
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WISDOT/CADDS SHEET 21

LEGEND

EBS






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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 382 | E |
|---|---|---|---|---|---|

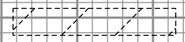
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090204_xs.dgn

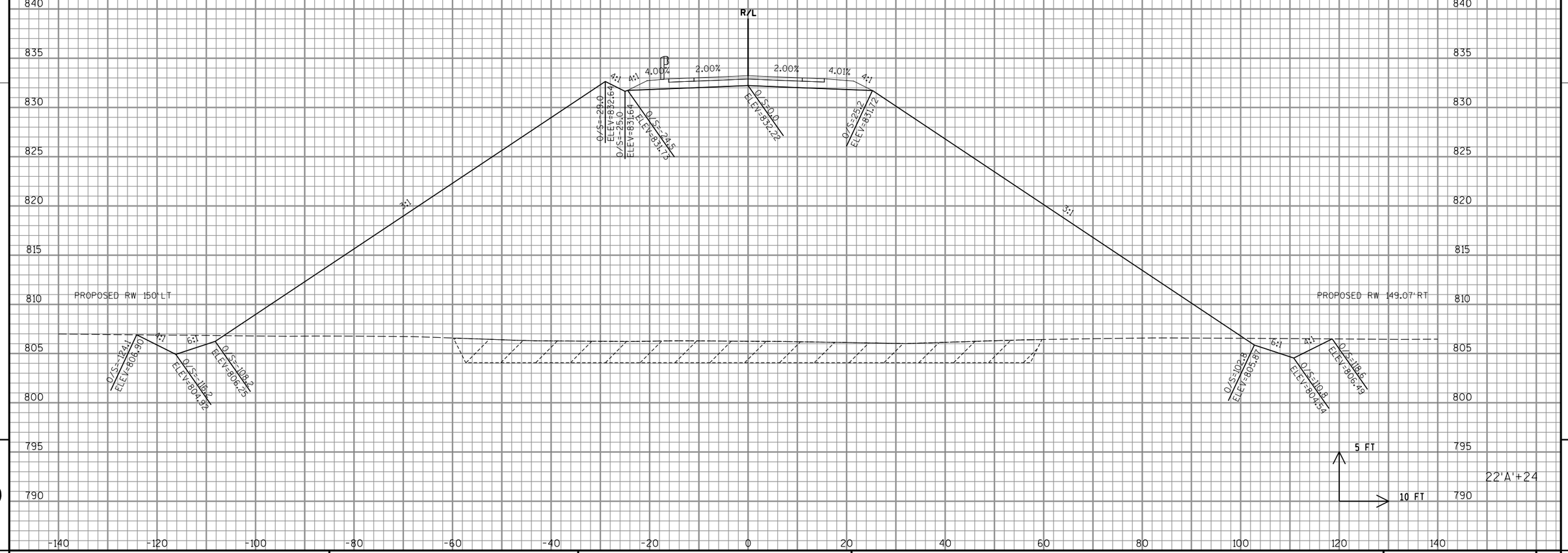
PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS






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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 383 | E |
|---|---|---|---|---|---|

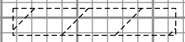
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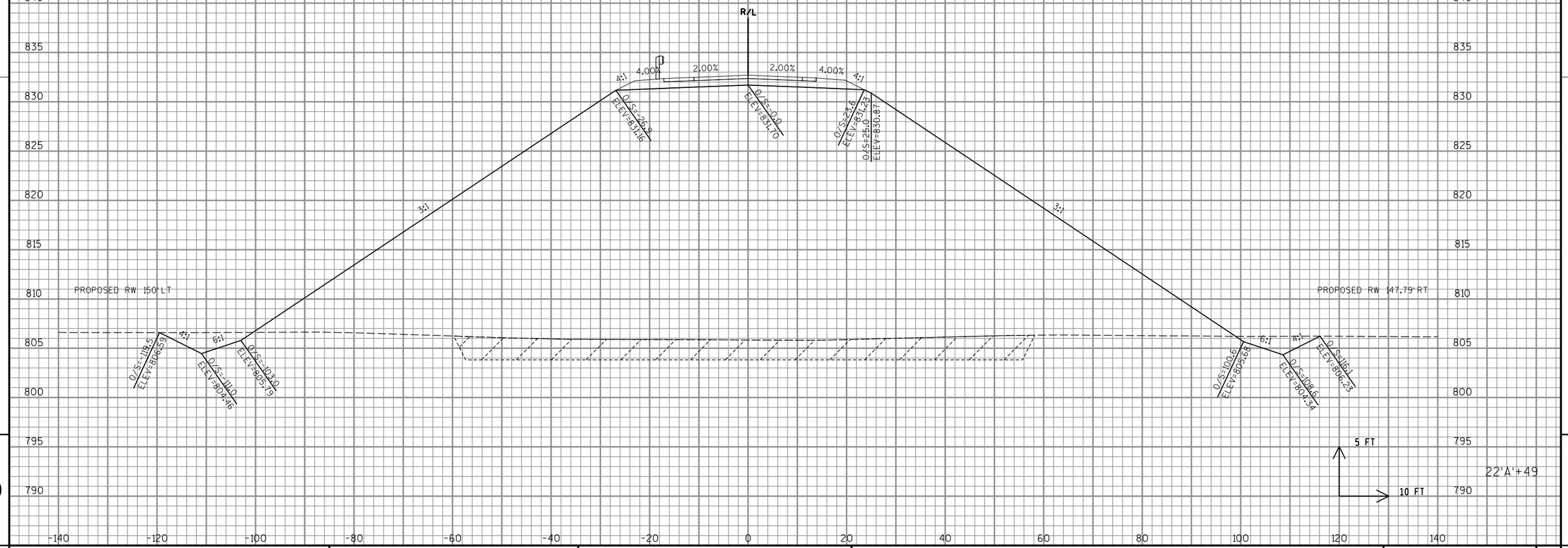
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WISDOT/CADDS SHEET 21

LEGEND

EBS






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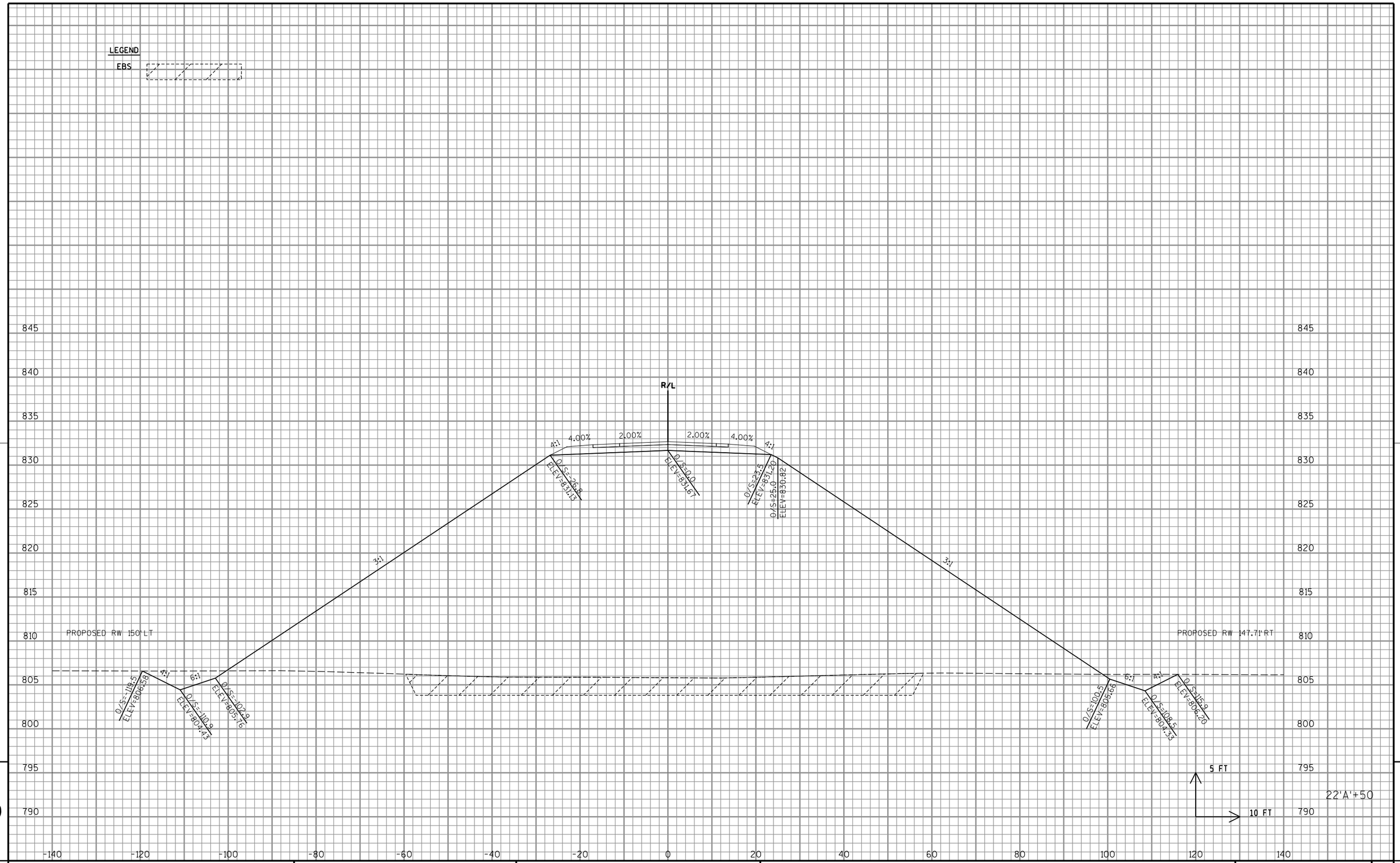
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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 384 | E |
|---|---|---|---|---|---|

LEGEND

EBS






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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 385 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090204_xs.dgn

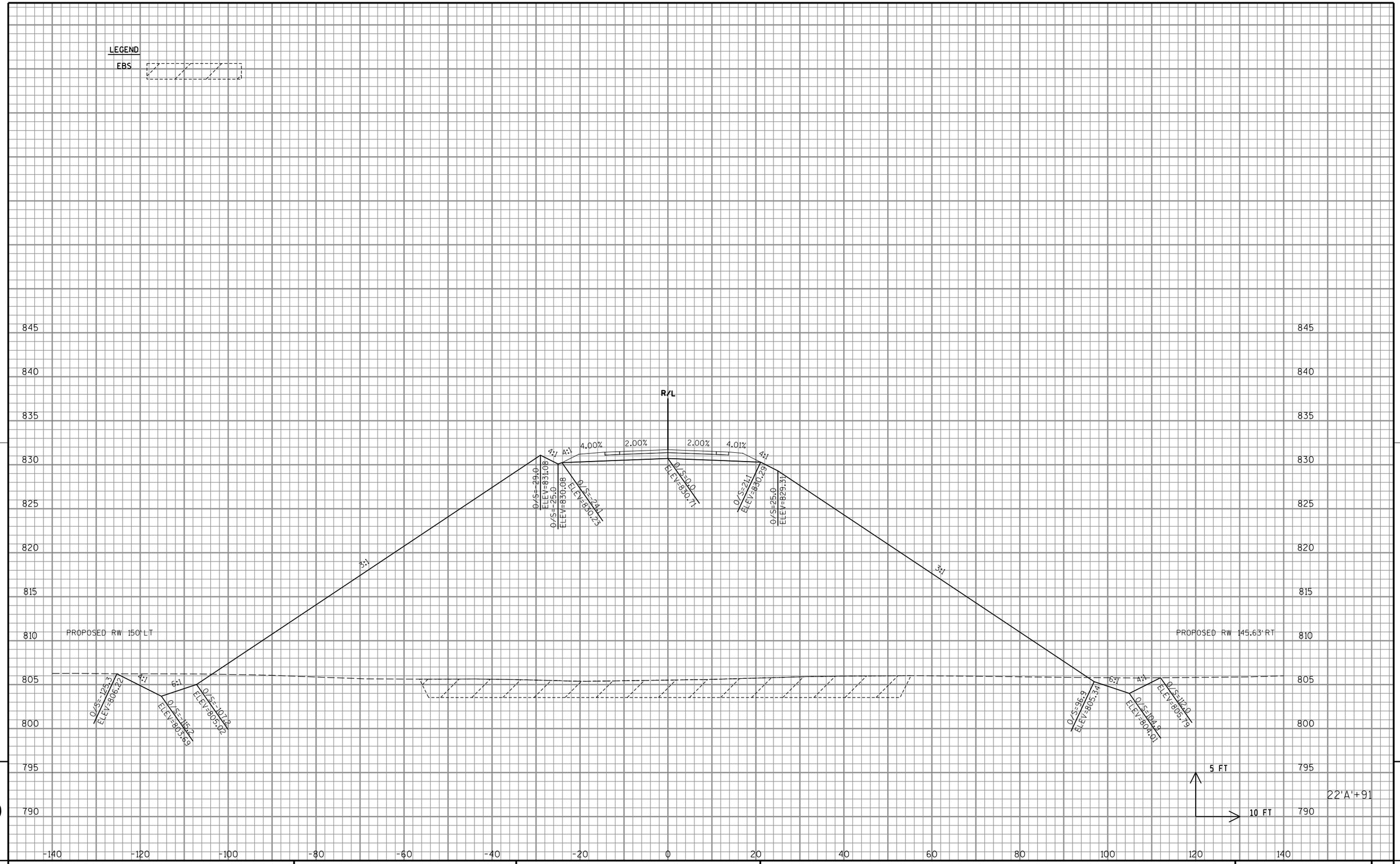
PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS






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9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 386 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090204_xs.dgn

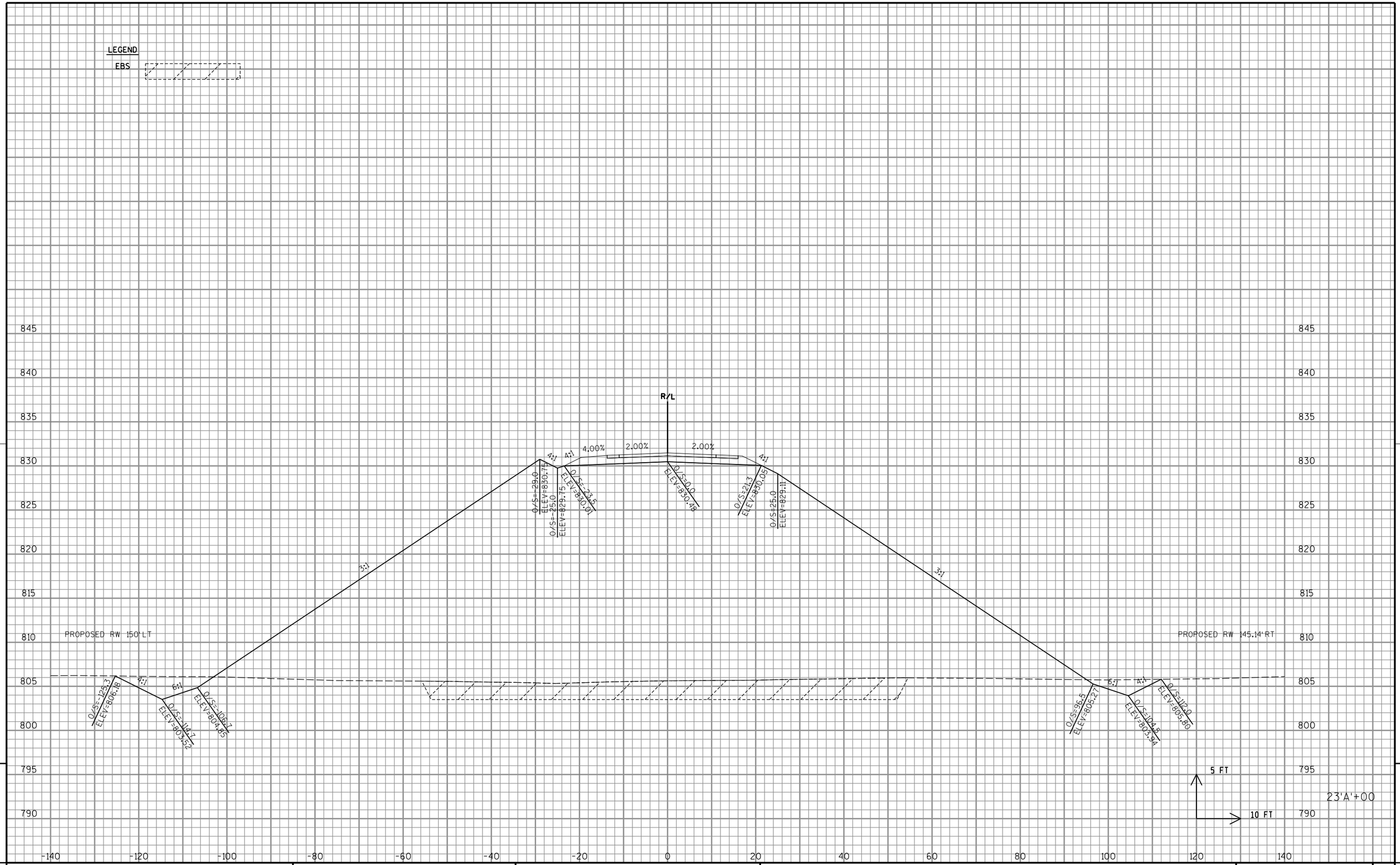
PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS





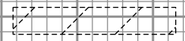

9

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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 387 | E |
|---|---|---|---|---|---|

LEGEND

EBS



R/L

4.00% 2.00% 2.00% 4.00%

4:1 6:1 4:1 4:1

O/S=29.0
ELEV=829.26
O/S=25.0
ELEV=828.26
O/S=20.8
ELEV=826.96
O/S=0.0
ELEV=824.37
O/S=20.8
ELEV=826.96
O/S=25.0
ELEV=827.91

3.4:1

3:1

PROP.
R/W

PROPOSED RW 143.06'RT

4:1 6:1 4:1

O/S=135.0
ELEV=805.94
O/S=122.3
ELEV=802.78
O/S=114.3
ELEV=804.11
O/S=93.3
ELEV=805.15
O/S=101.3
ELEV=805.61
O/S=110.4
ELEV=806.08

5 FT

10 FT

23'A'+41

845 840 835 830 825 820 815 810 805 800 795 790

-160 -140 -120 -100 -80 -60 -40 -20 0 20 40 60 80 100 120

9

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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 388 | E |
|---|---|---|---|---|---|

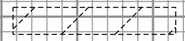
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090204_xs.dgn

PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS



R/L

4.00% 2.00% 2.00% 4.00%

4:1 6:1 4:1 4:1

3.5:1 3:1

O/S=29.0 ELEV=828.99
O/S=25.0 ELEV=827.99
O/S=20.8 ELEV=826.68
O/S=0.0 ELEV=829.10
O/S=20.8 ELEV=826.68
O/S=25.0 ELEV=827.64

PROP. R/W

O/S=138.6 ELEV=805.94
O/S=124.7 ELEV=802.60
O/S=116.7 ELEV=803.94

PROPOSED RW 142.57' RT

O/S=93.6 ELEV=805.12
O/S=100.6 ELEV=803.79
O/S=109.8 ELEV=806.09

5 FT
10 FT

23'A'+50

845 840 835 830 825 820 815 810 805 800 795 790

-160 -140 -120 -100 -80 -60 -40 -20 0 20 40 60 80 100 120

9 9

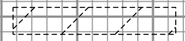
| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 389 | E |
|---|---|---|---|---|---|

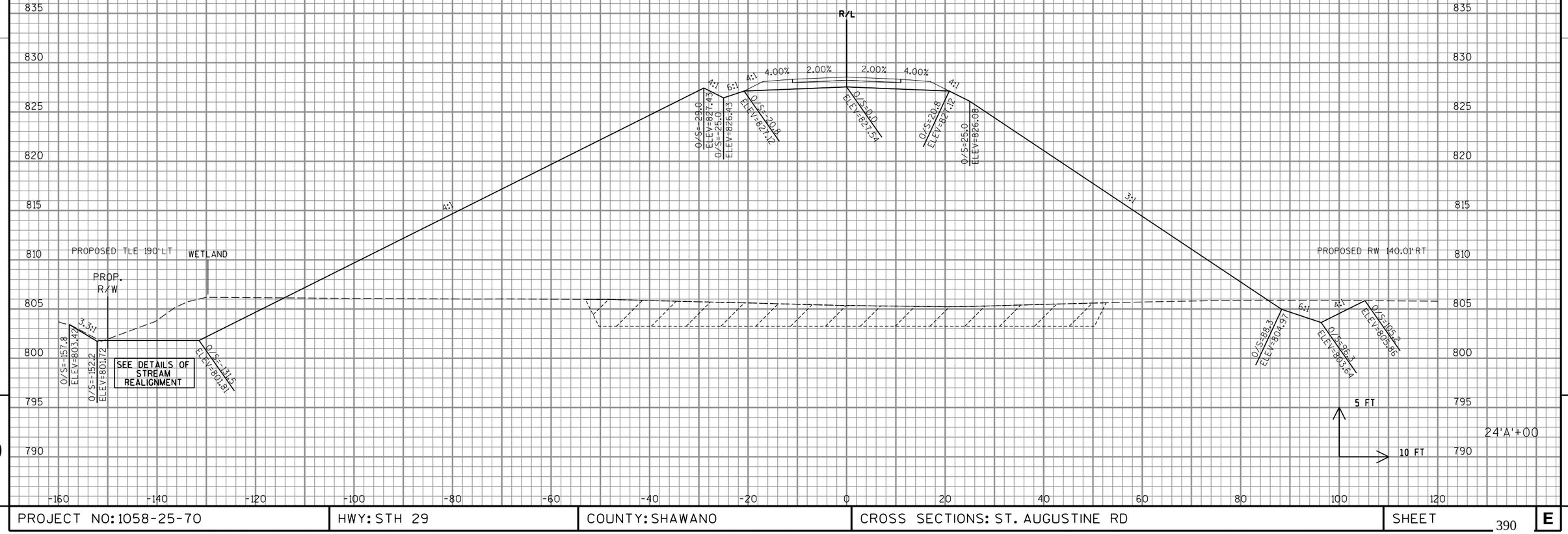
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090204_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS

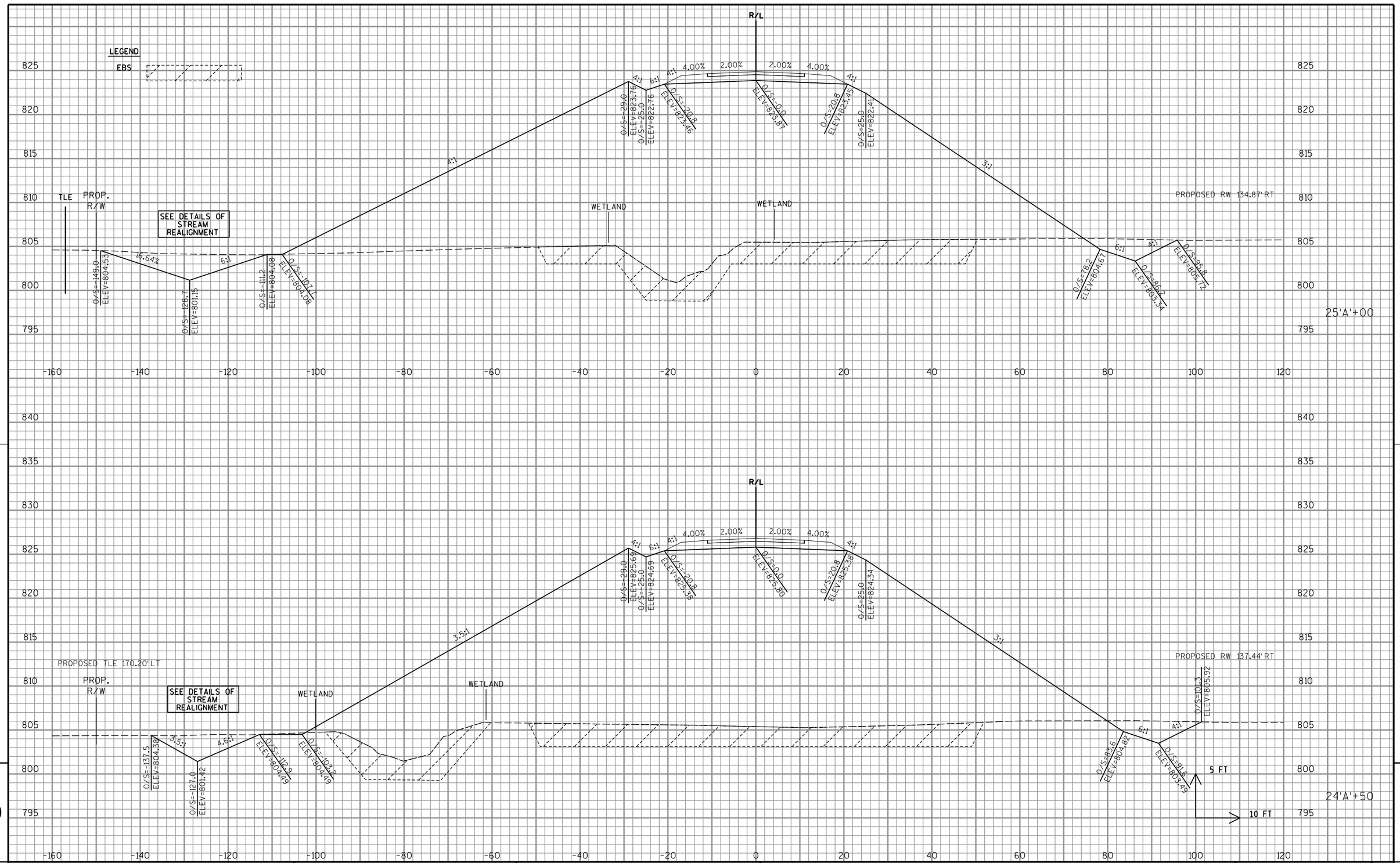





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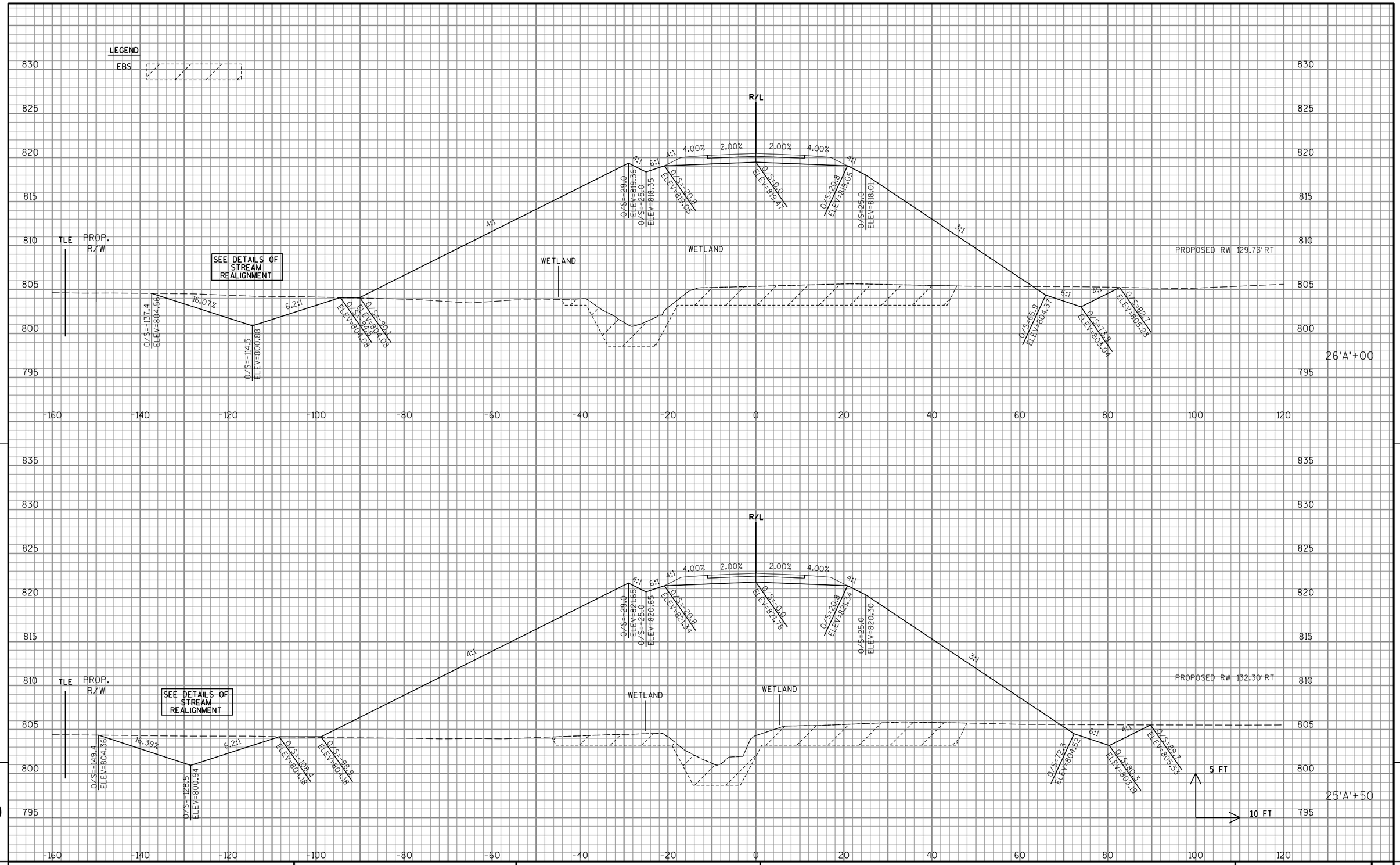
| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 390 | E |
|---|---|---|---|---|---|




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 391 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090204_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

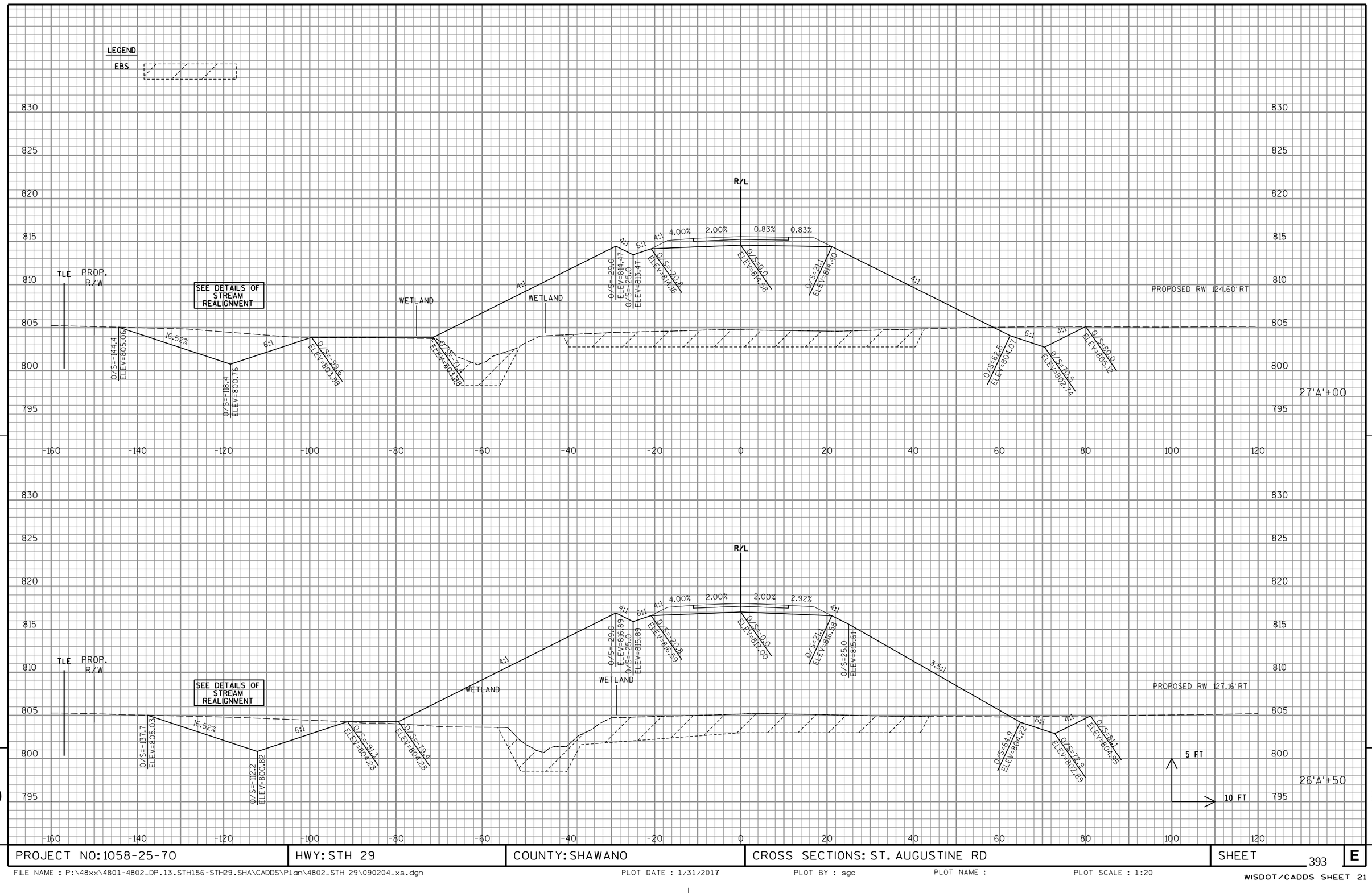
WISDOT/CADDS SHEET 21




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 392 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090204_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21



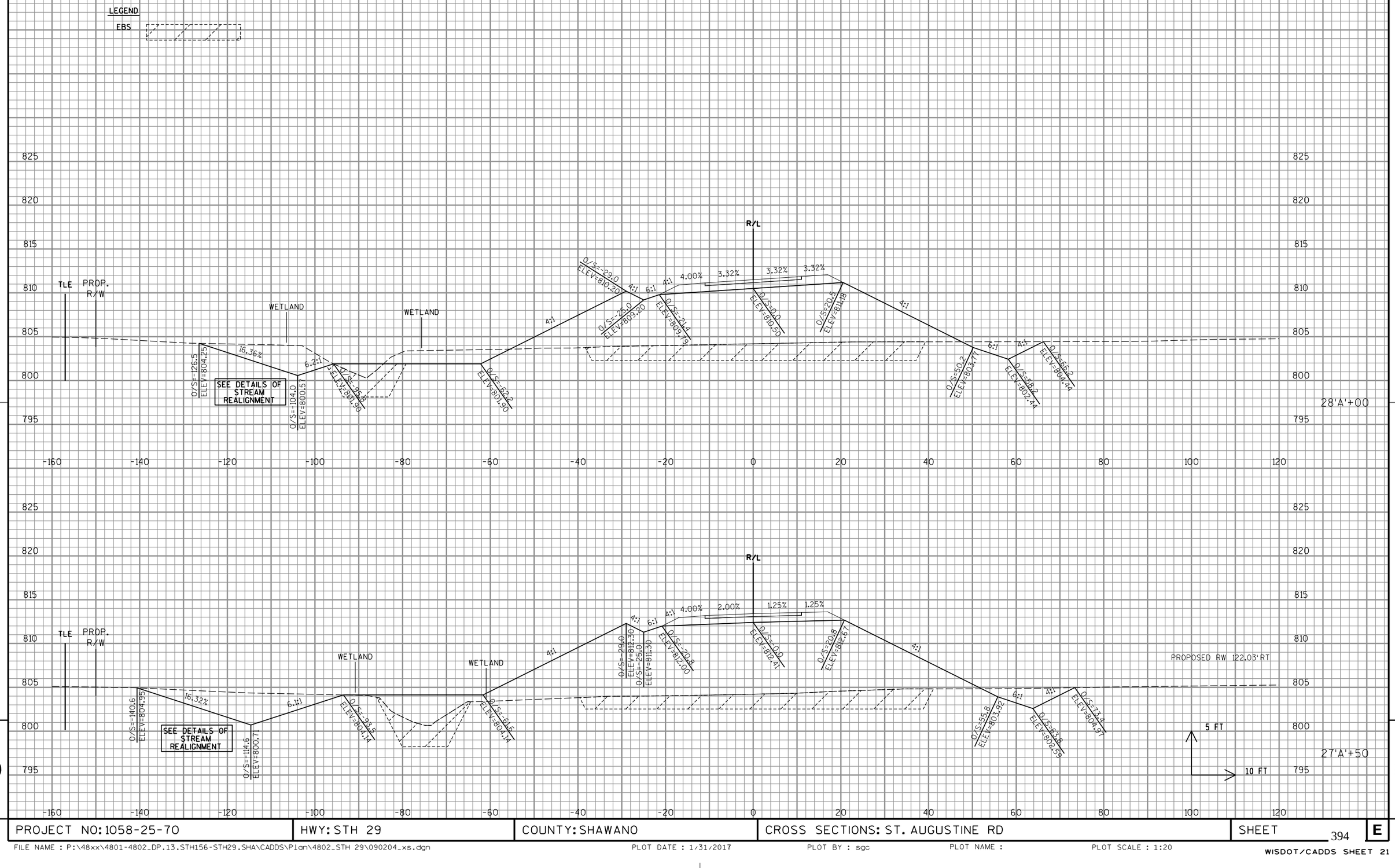

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 393 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090204_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

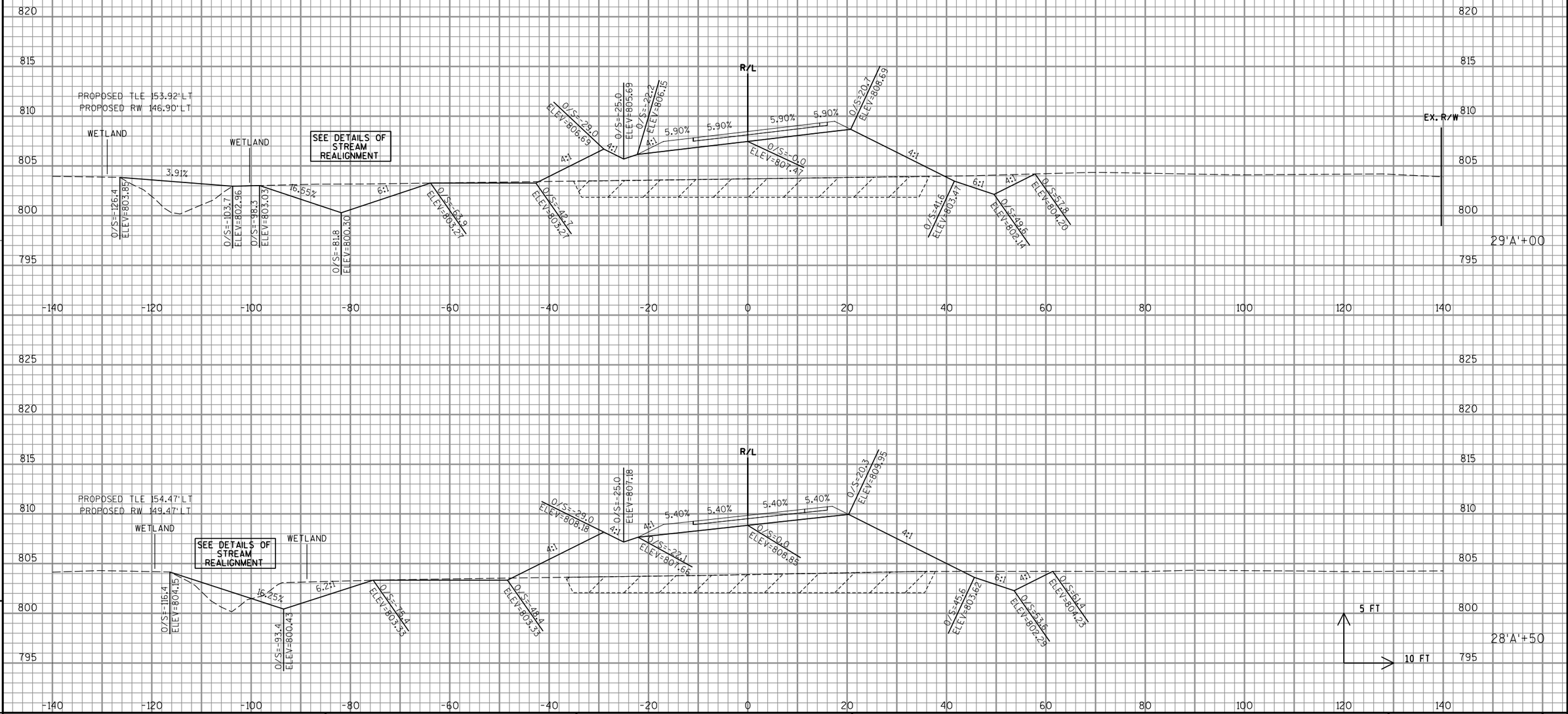
EBS




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 394 | E |
|---|---|---|---|---|---|

LEGEND

EBS




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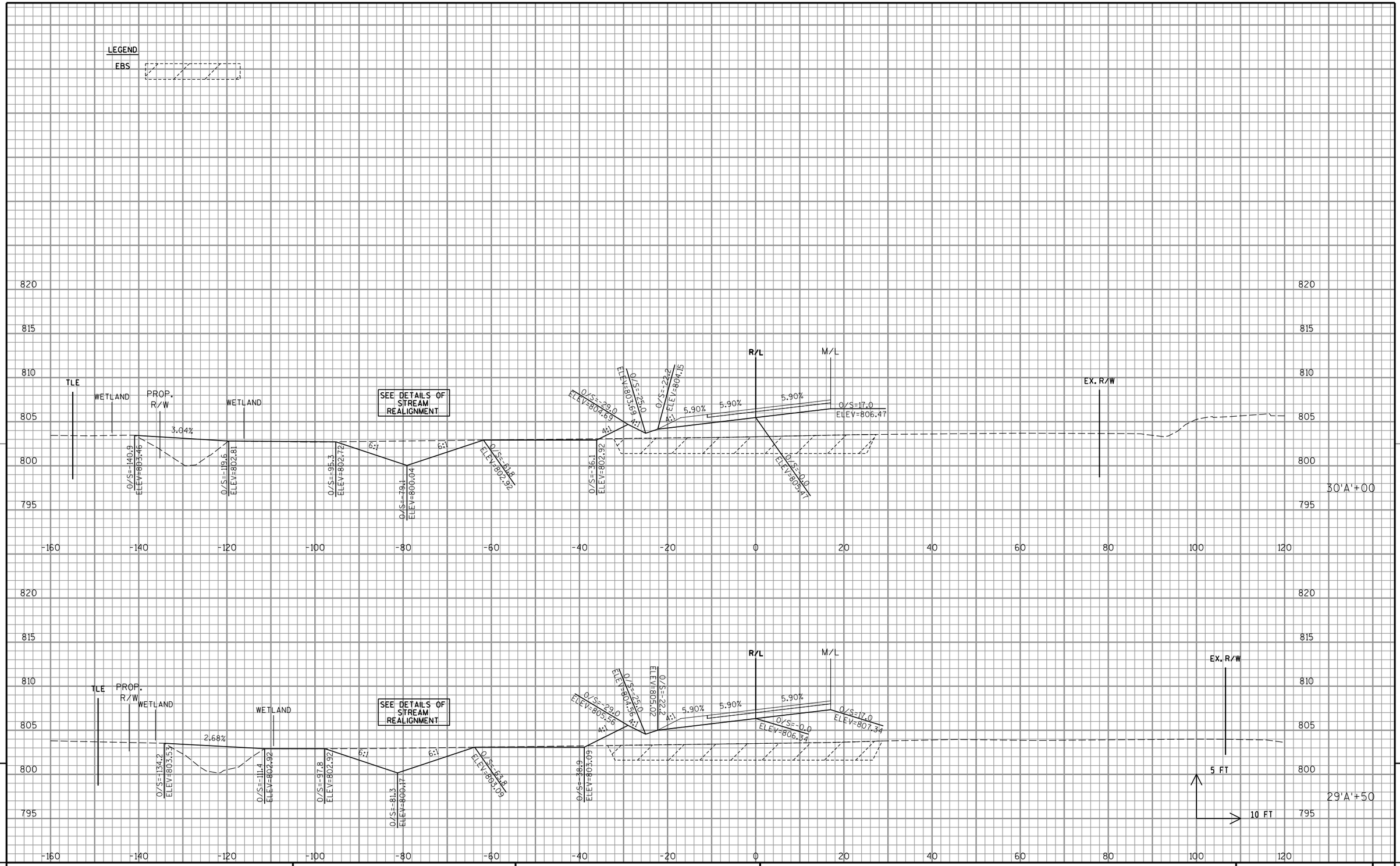
| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 395 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090204_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS



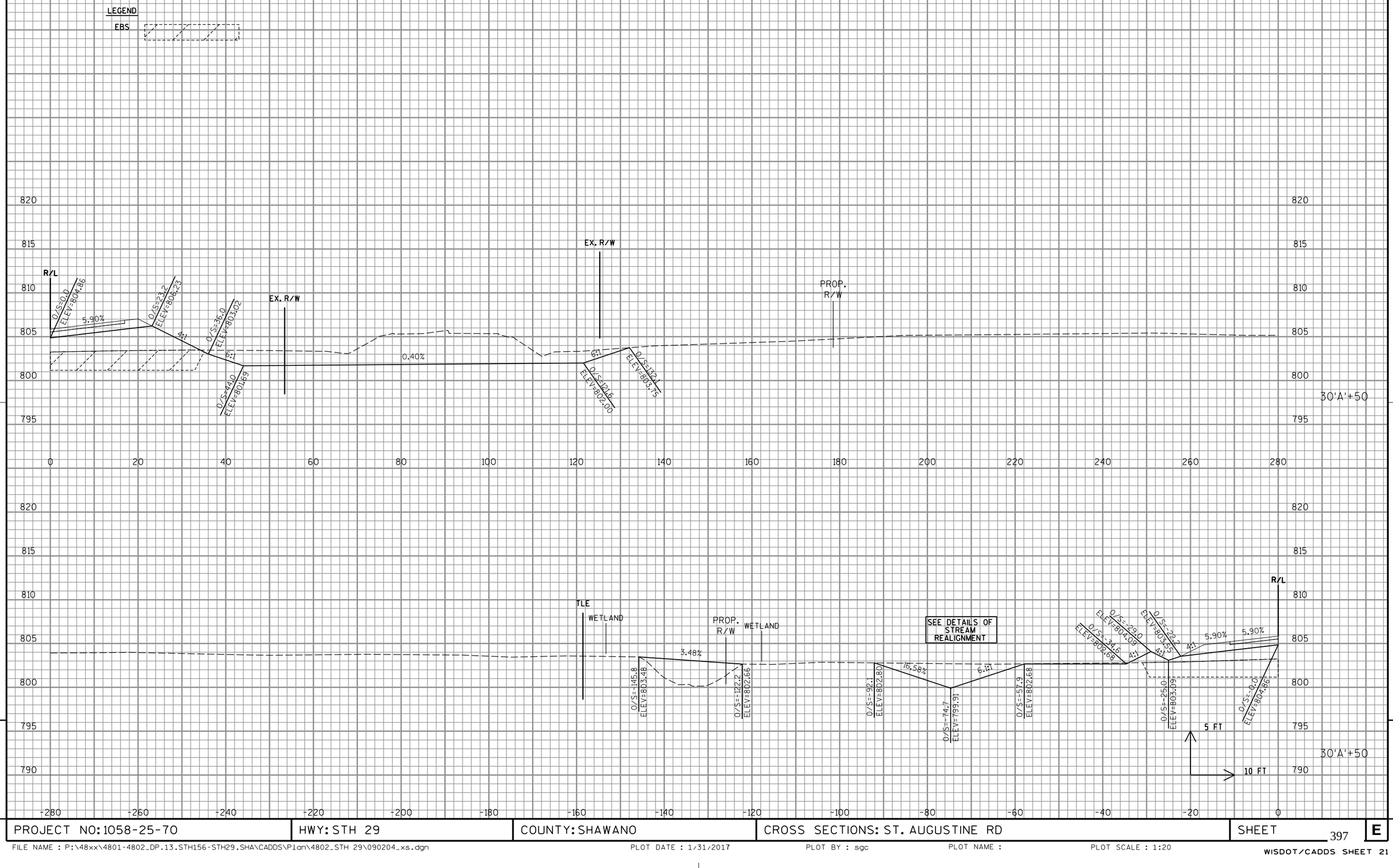

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 396 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090204_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

EBS



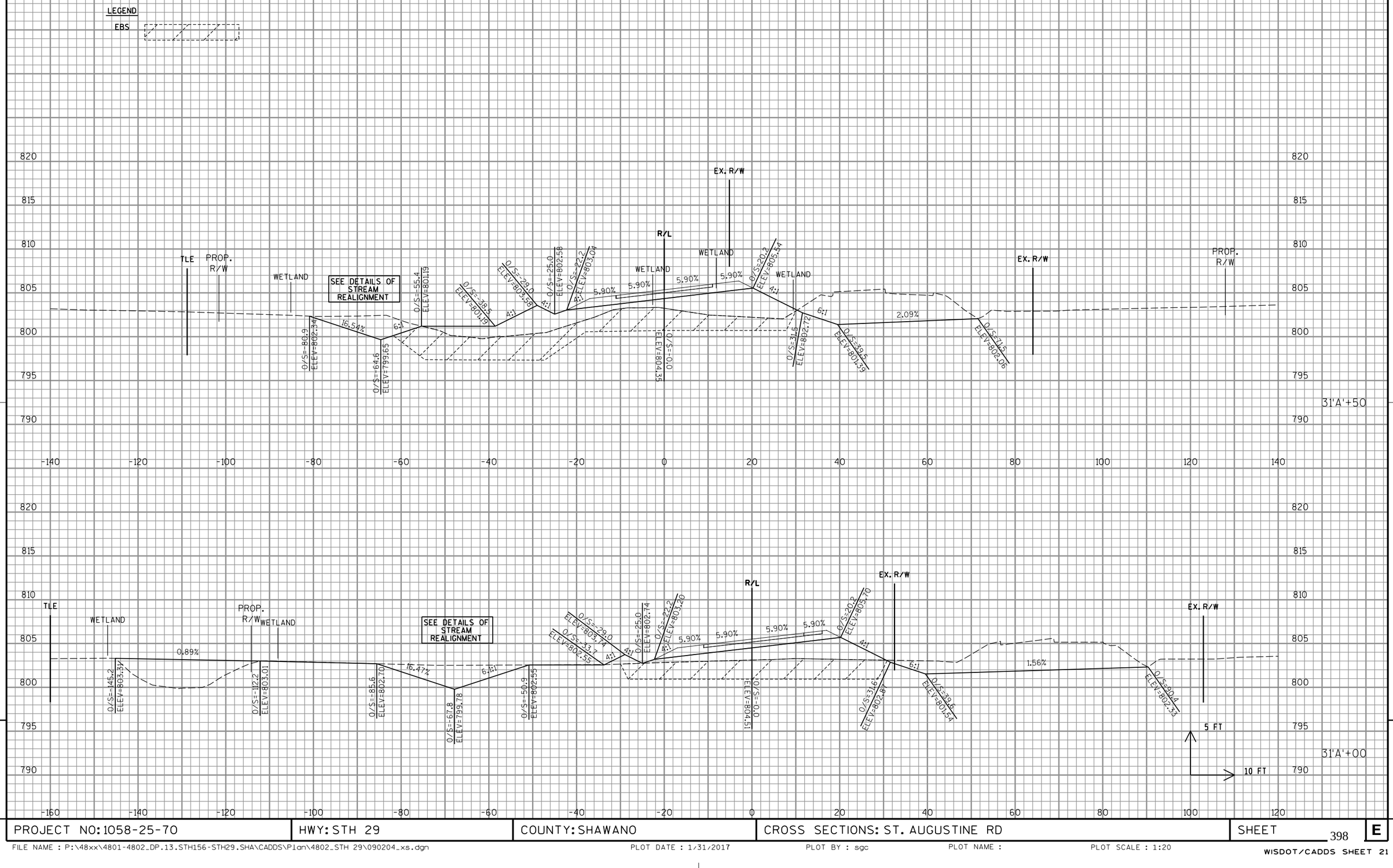

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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 397 | E |
|---|---|---|---|---|---|

LEGEND

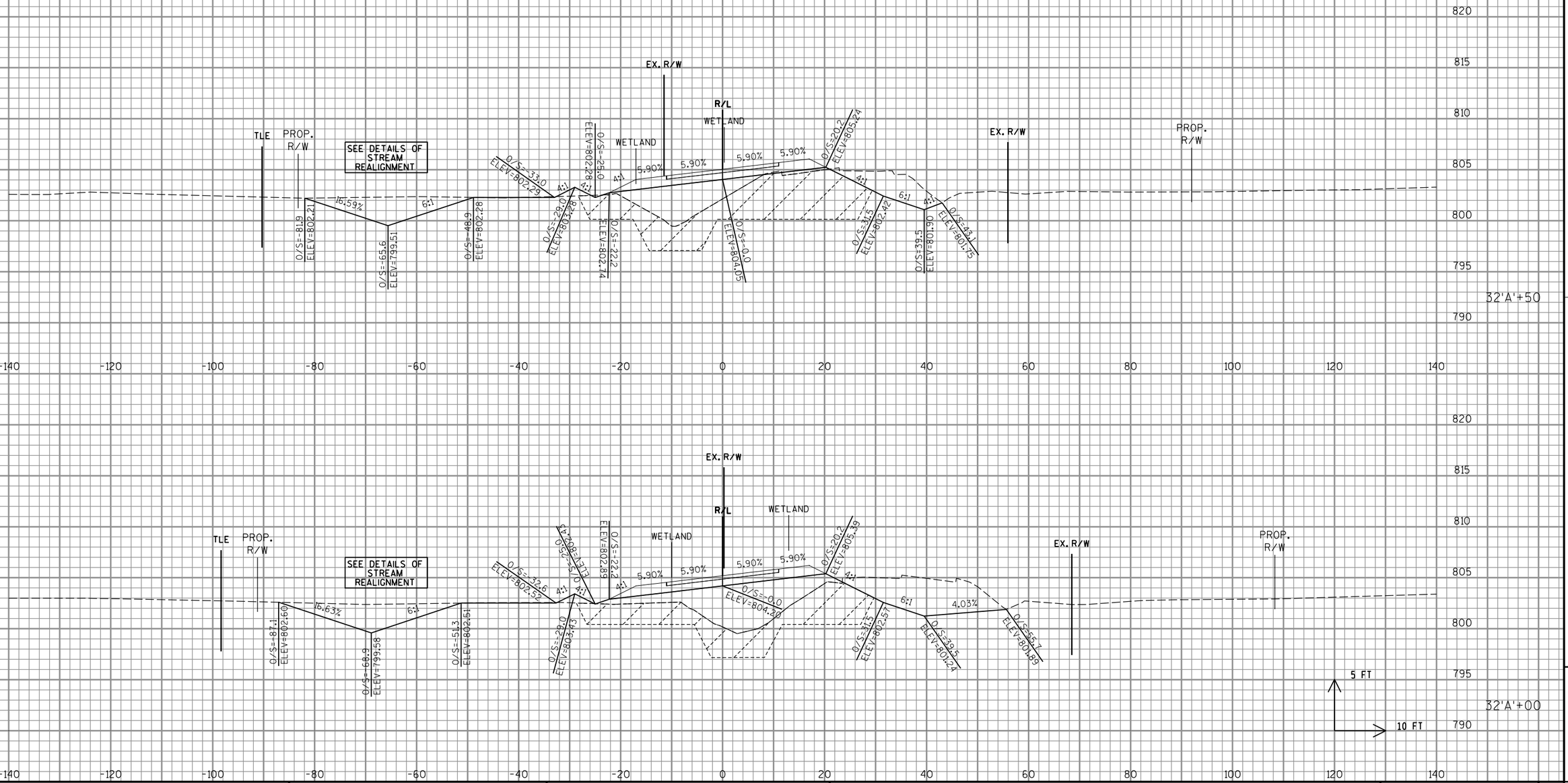
EBS




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 398 | E |
|---|---|---|---|---|---|

LEGEND

EBS



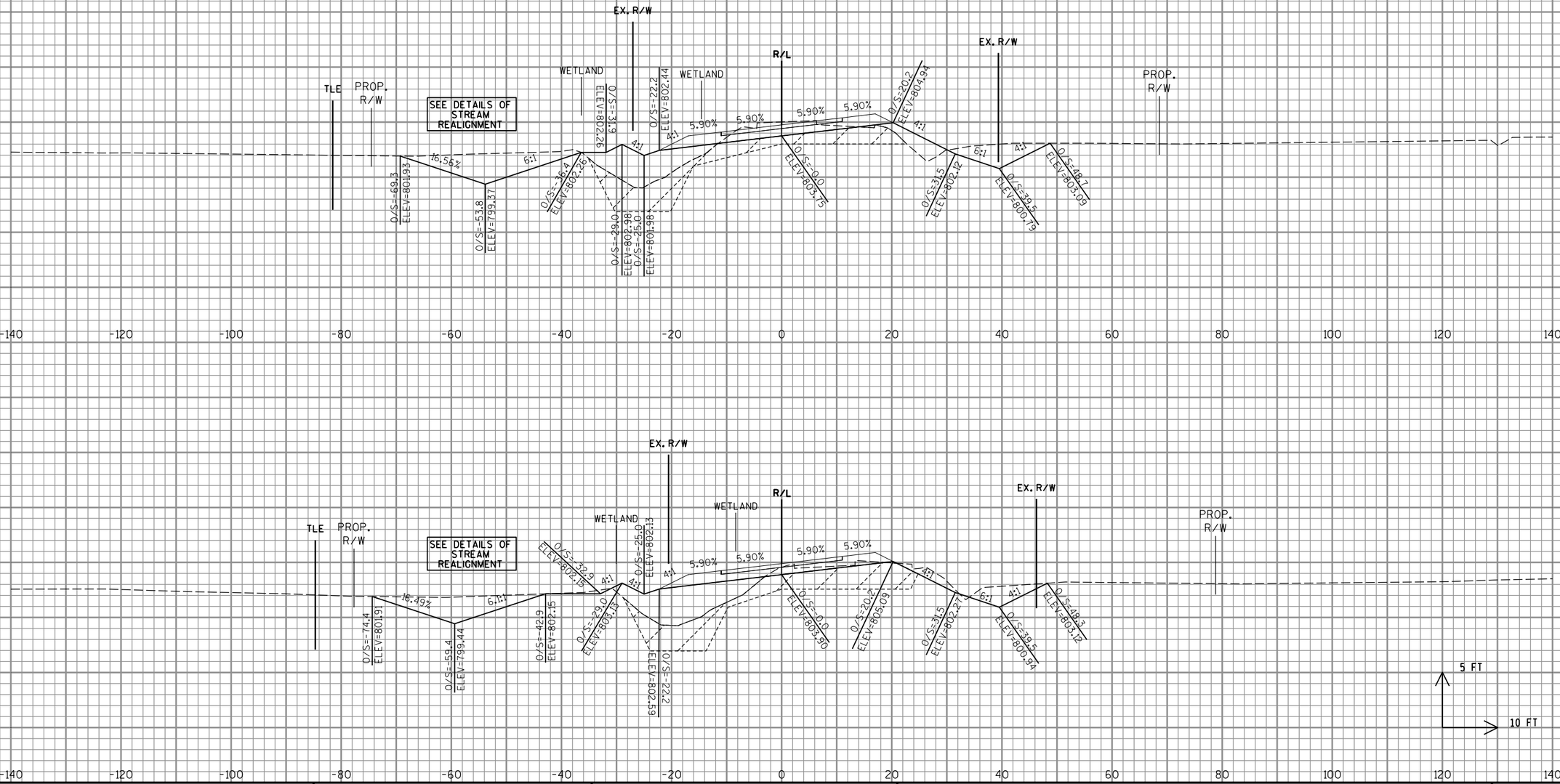

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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 399 | E |
|---|---|---|---|---|---|

LEGEND

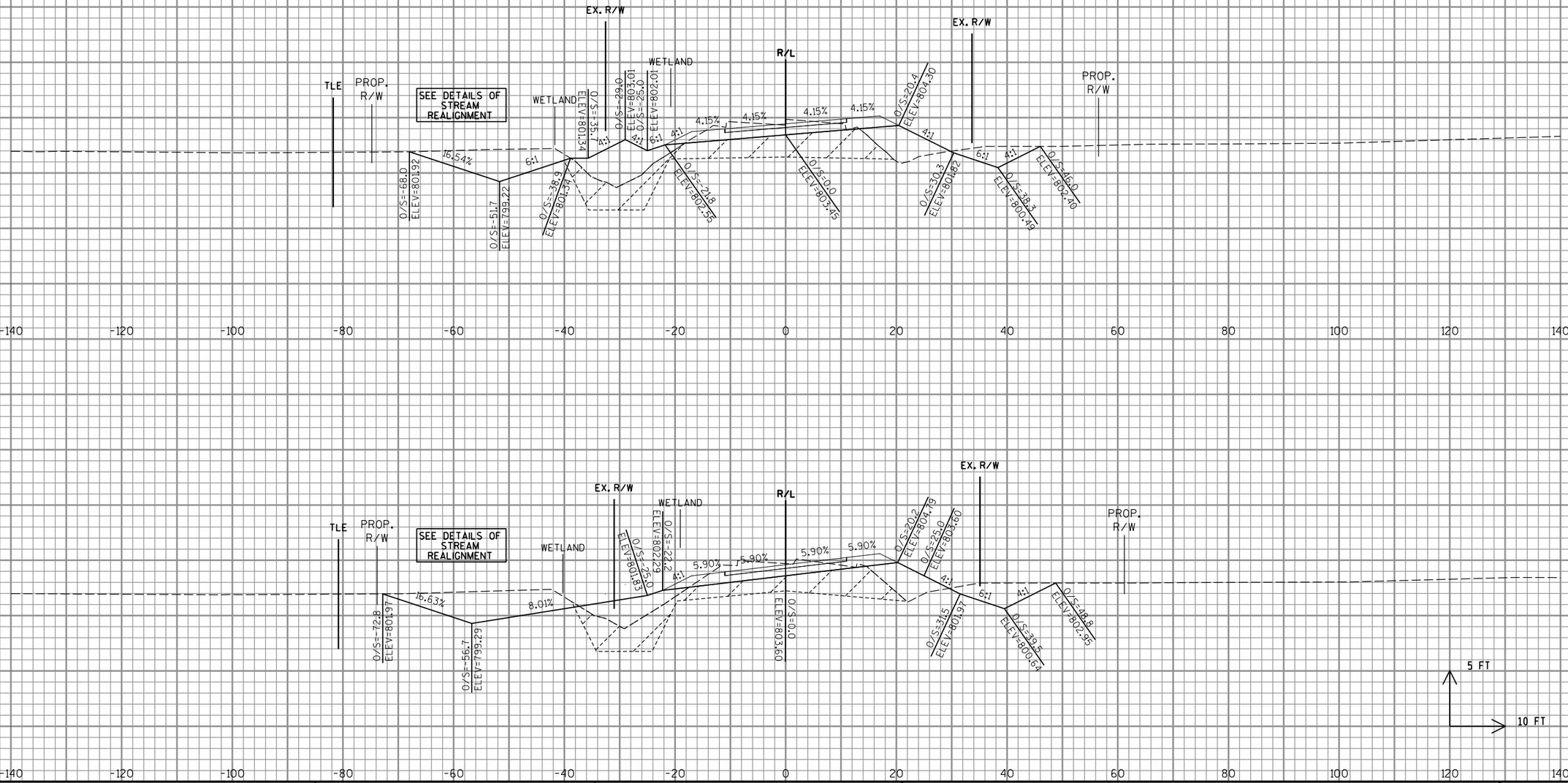
EBS




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 400 | E |
|---|---|---|---|---|---|

LEGEND

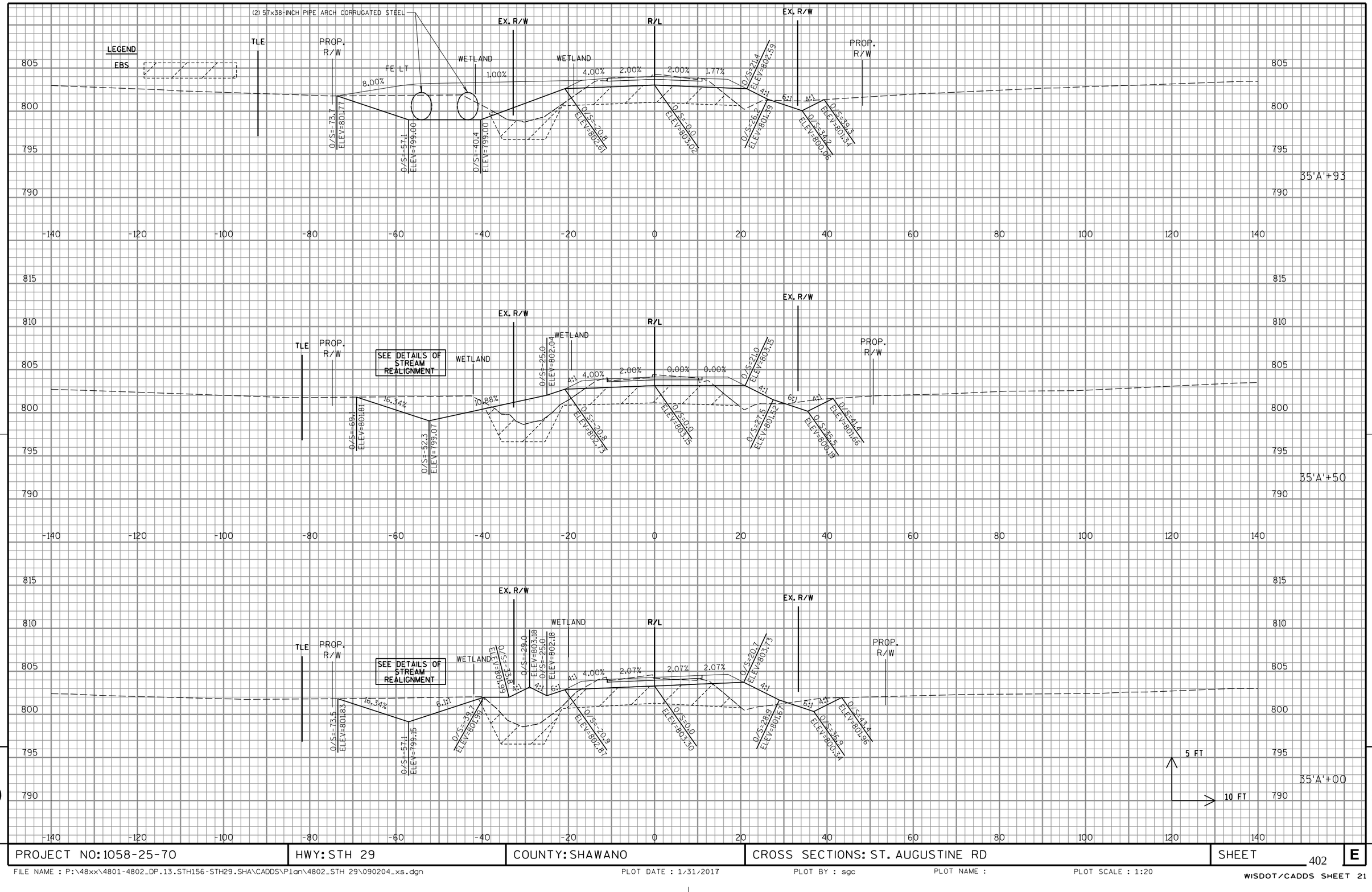
EBS




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 401 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090204_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

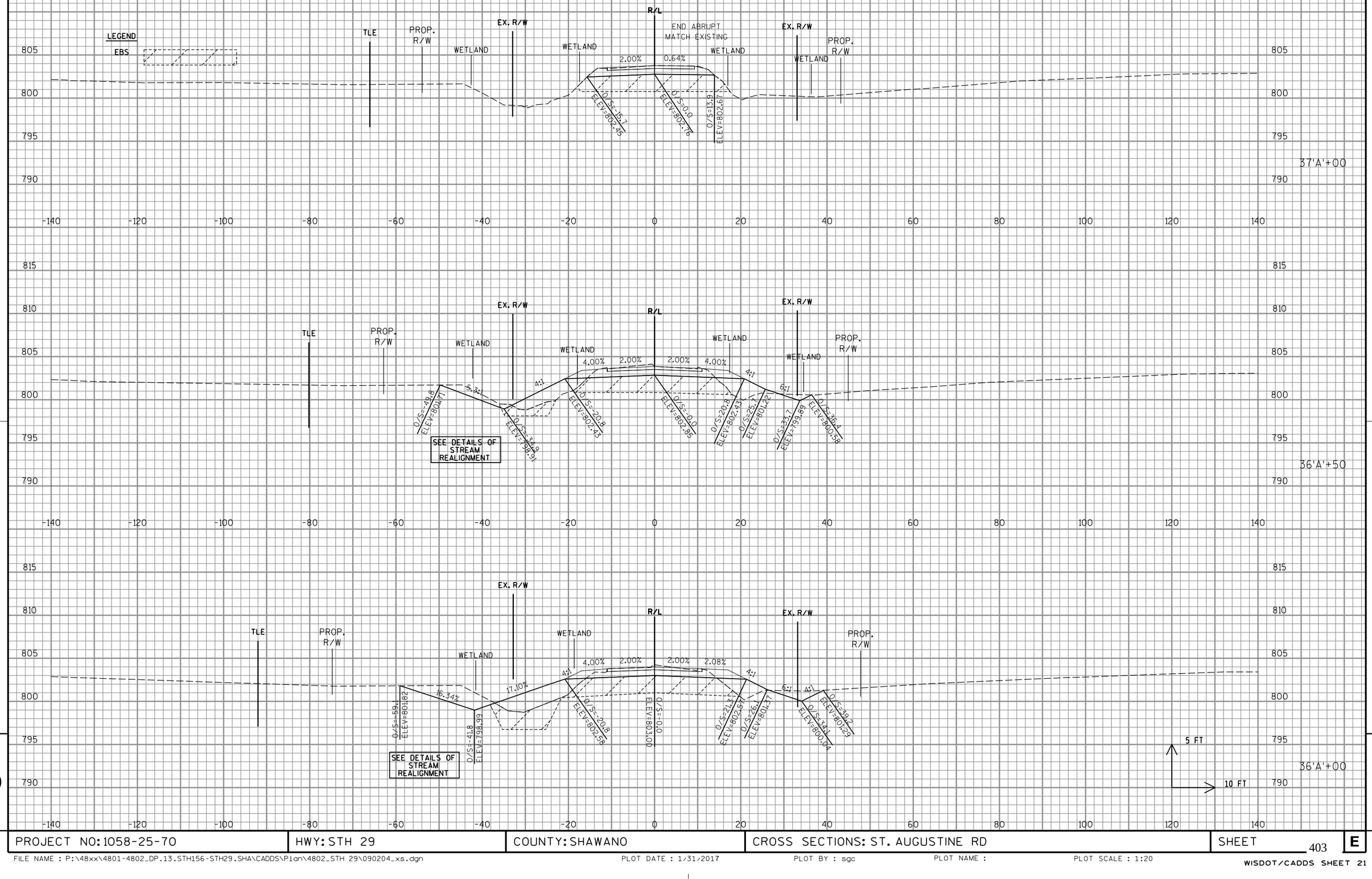
WISDOT/CADDS SHEET 21



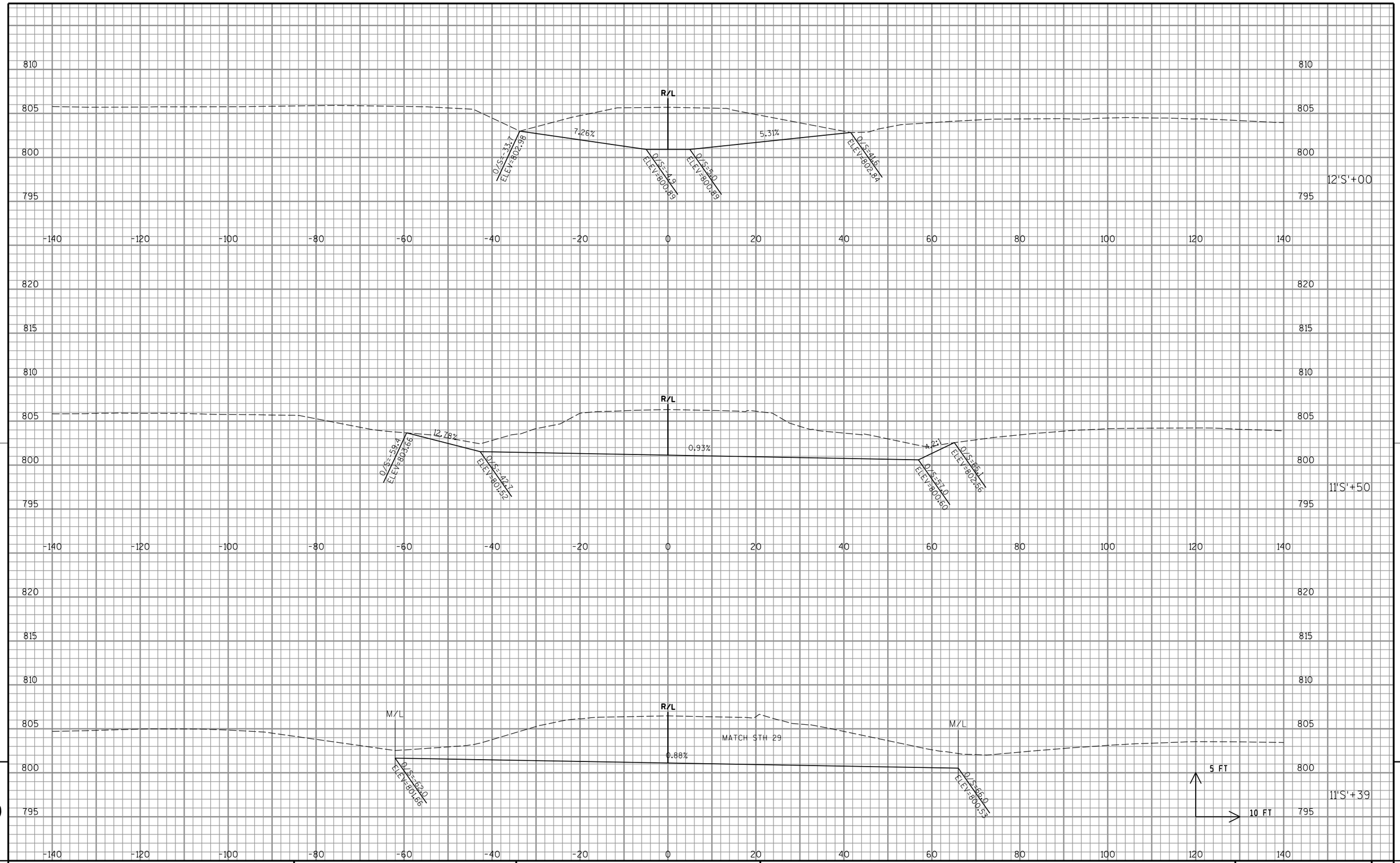

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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 402 | E |
|---|---|---|---|---|---|

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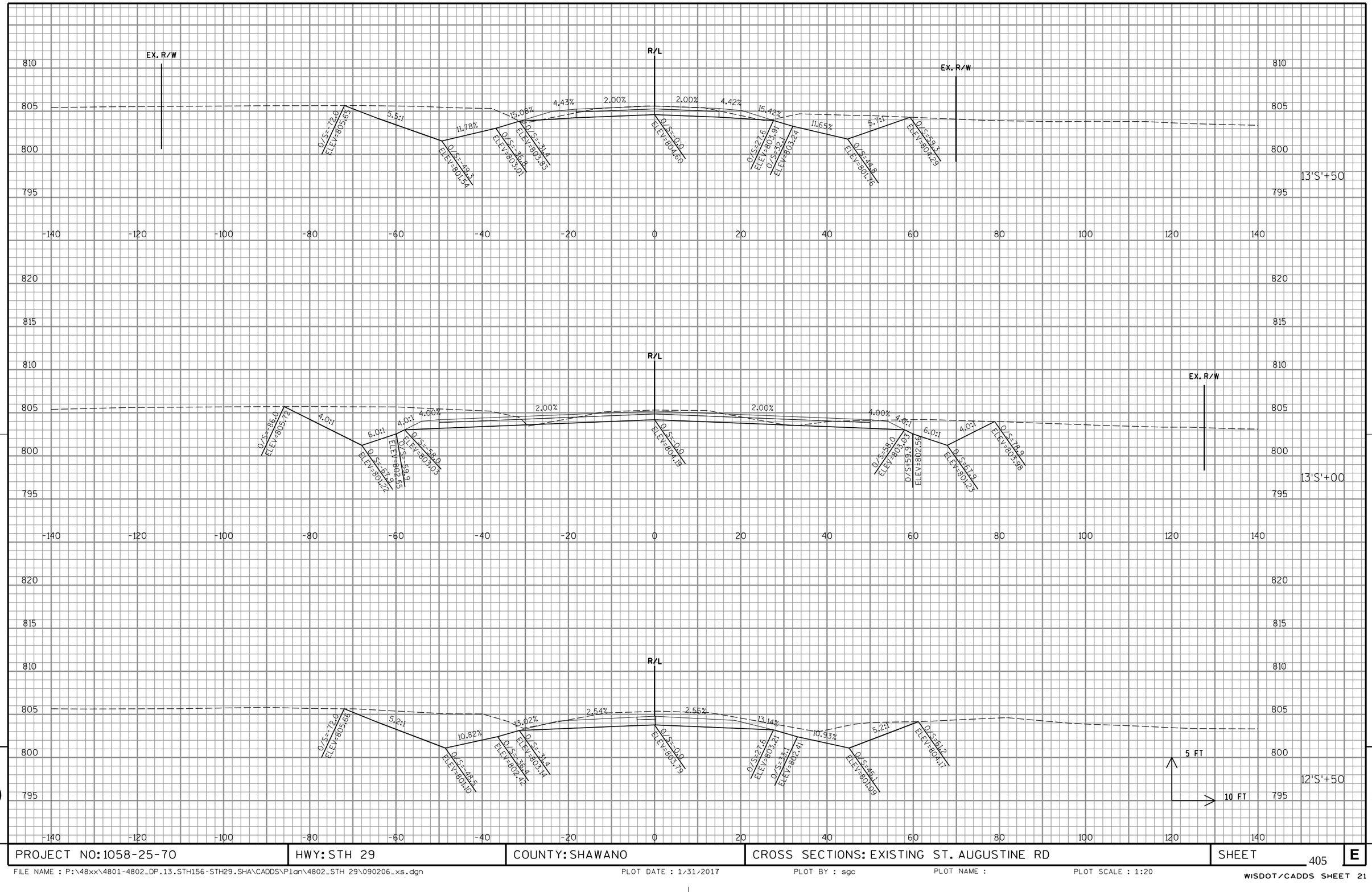

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: ST. AUGUSTINE RD | SHEET 403 | E |
|---|---|---|---|---|---|



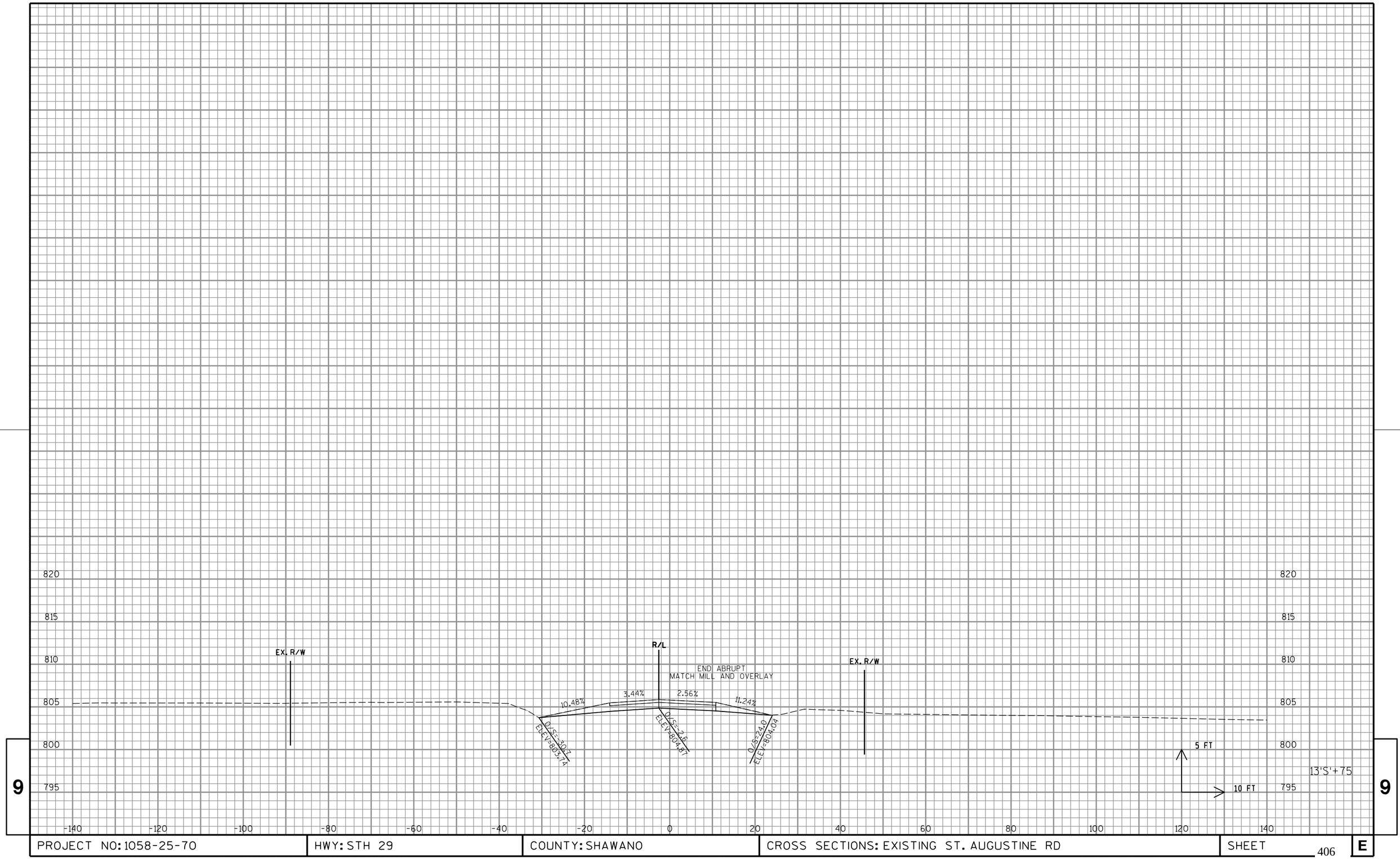

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: EXISTING ST. AUGUSTINE RD | SHEET 404 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090206_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21



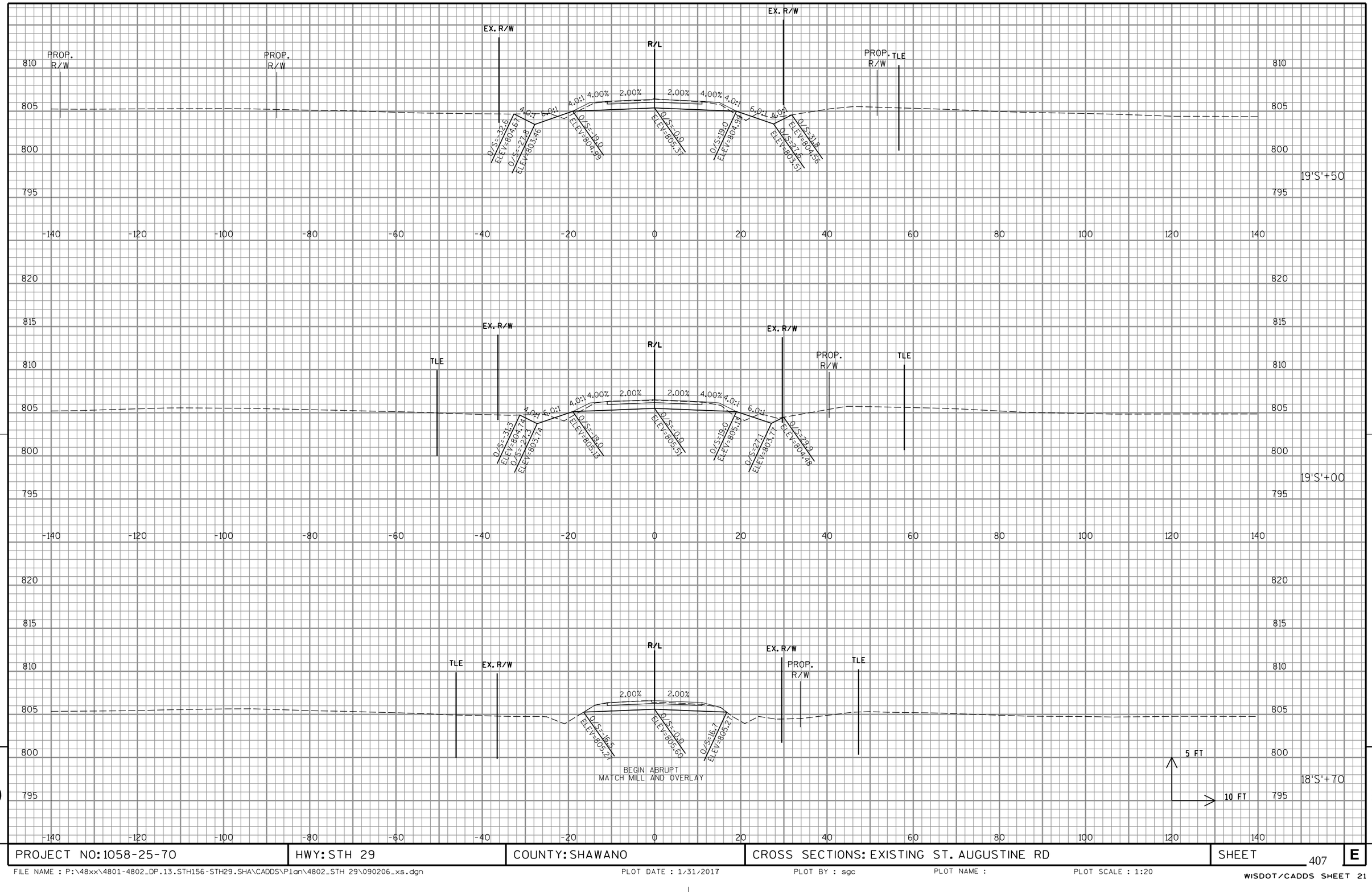

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: EXISTING ST. AUGUSTINE RD | SHEET 405 | E |
|---|---|---|---|---|---|




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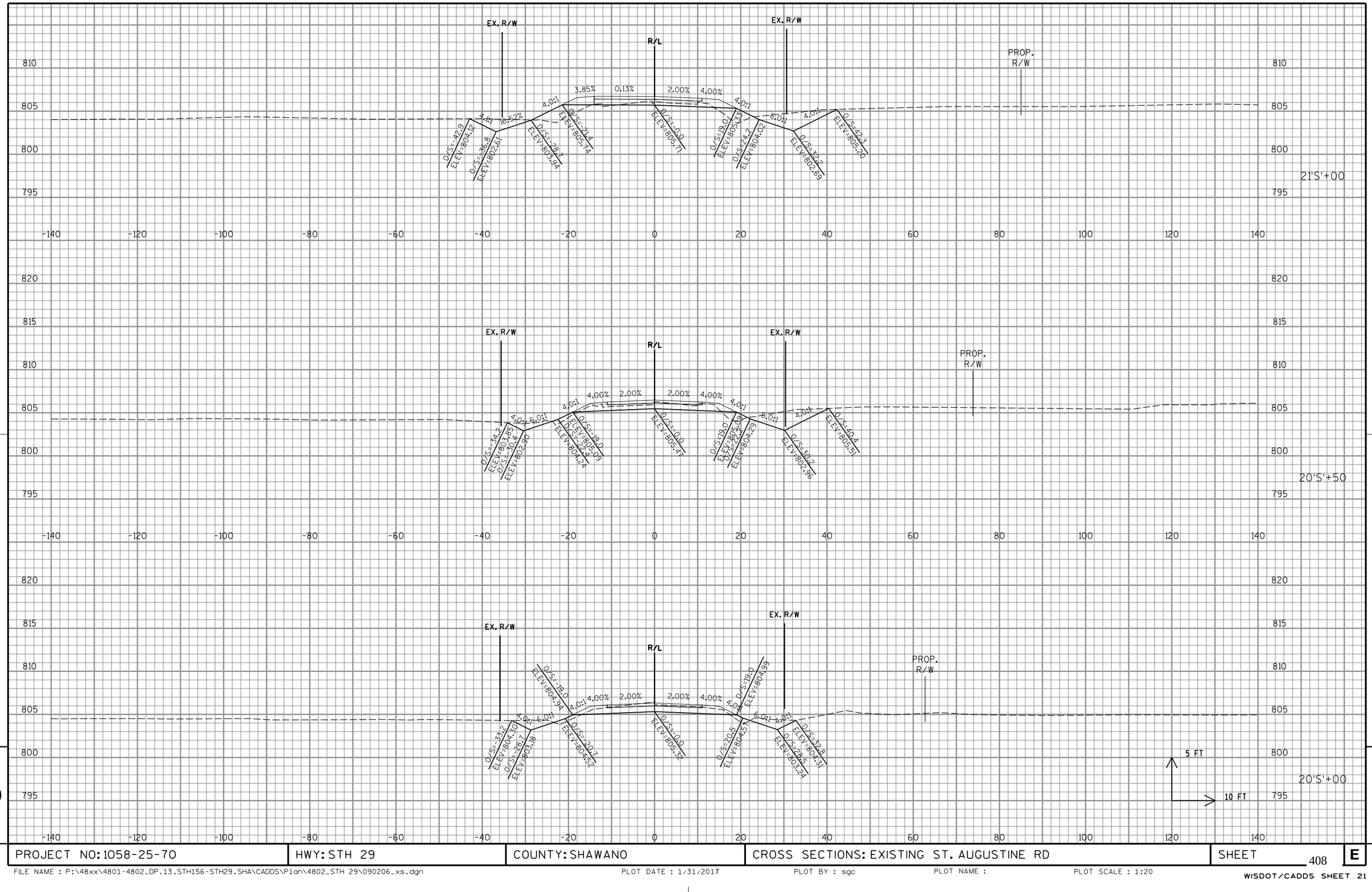
| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: EXISTING ST. AUGUSTINE RD | SHEET 406 | E |
|---|---|---|---|---|---|




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: EXISTING ST. AUGUSTINE RD | SHEET 407 | E |
|---|---|---|---|---|---|

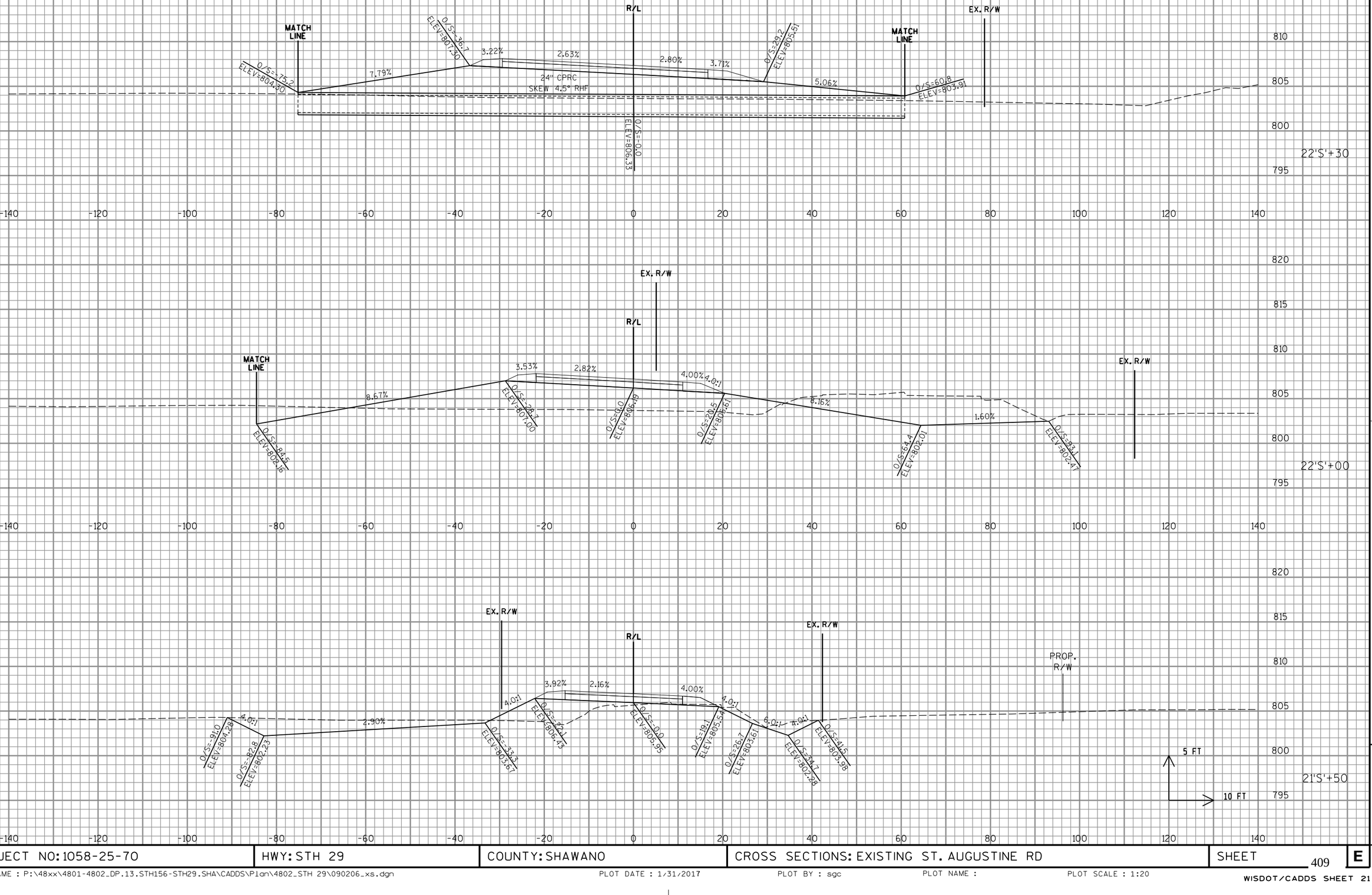
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090206_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

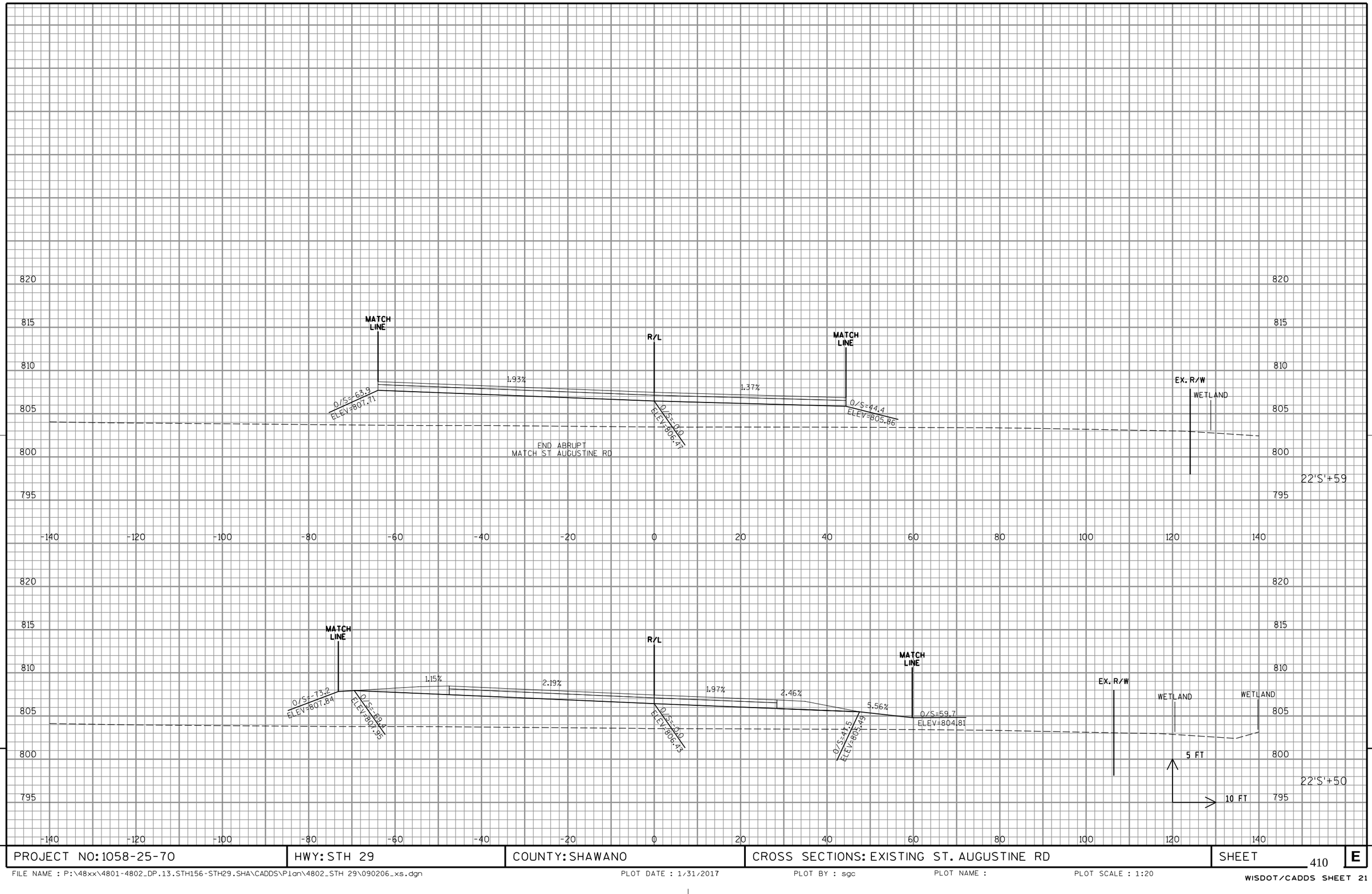



| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: EXISTING ST. AUGUSTINE RD | SHEET 408 | E |
|---|---|---|---|---|---|

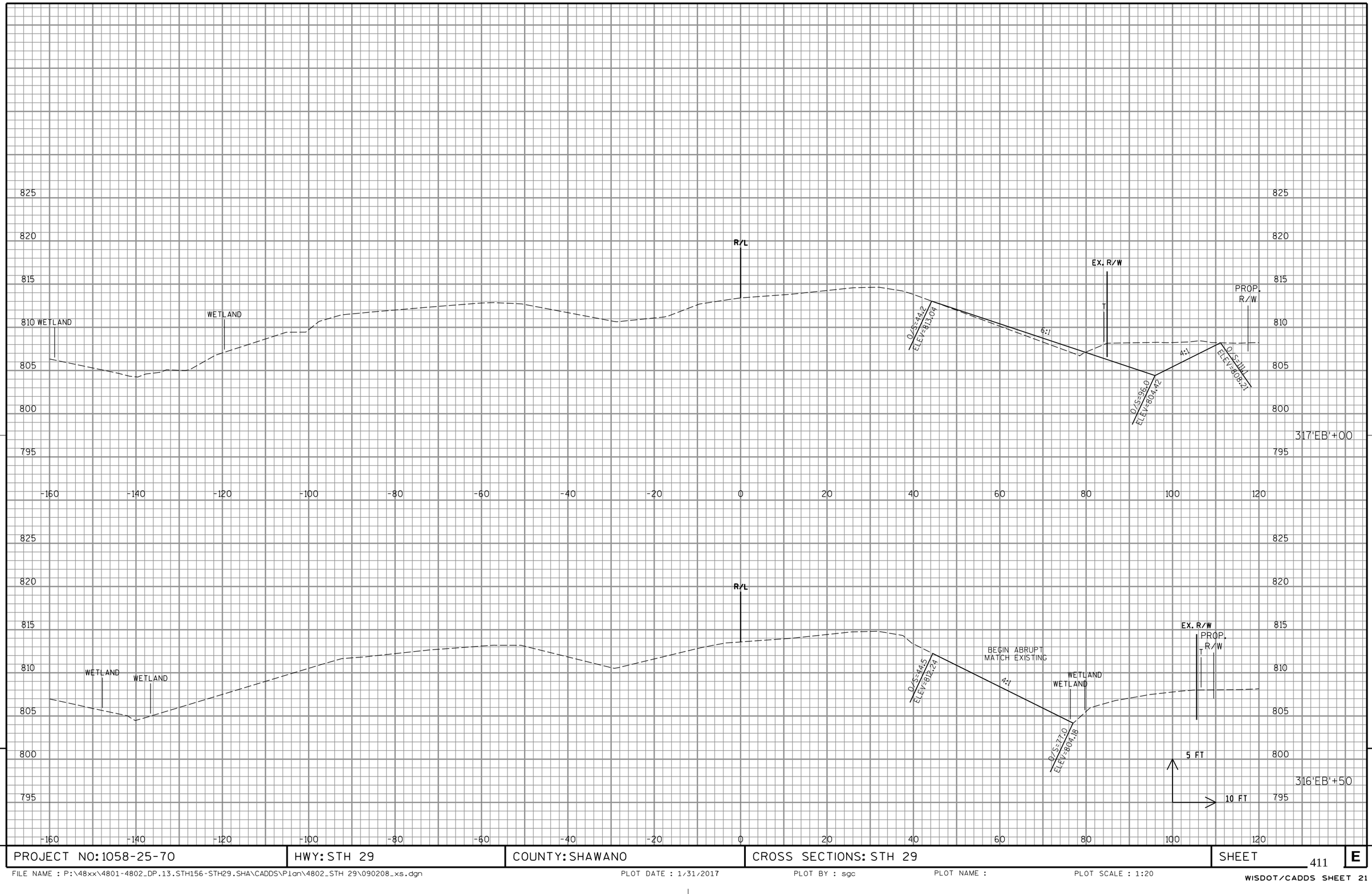
CROSS SECTION IS SKEWED IN LINE WITH CULVERT



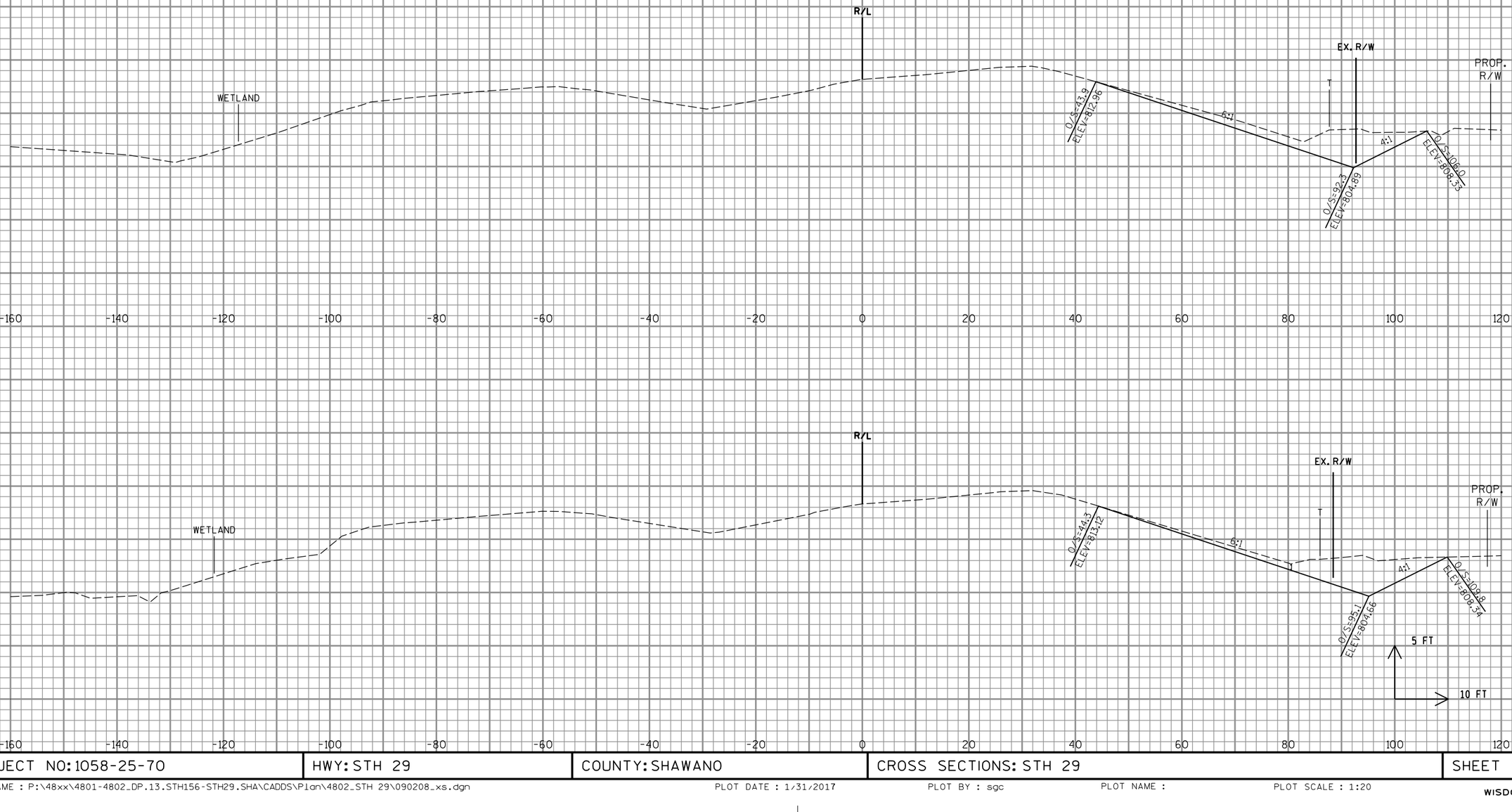

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: EXISTING ST. AUGUSTINE RD | SHEET 409 | E |
|---|---|---|---|---|---|




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: EXISTING ST. AUGUSTINE RD | SHEET 410 | E |
|---|---|---|---|---|---|




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 29 | SHEET 411 | E |
|---|---|---|---|---|---|



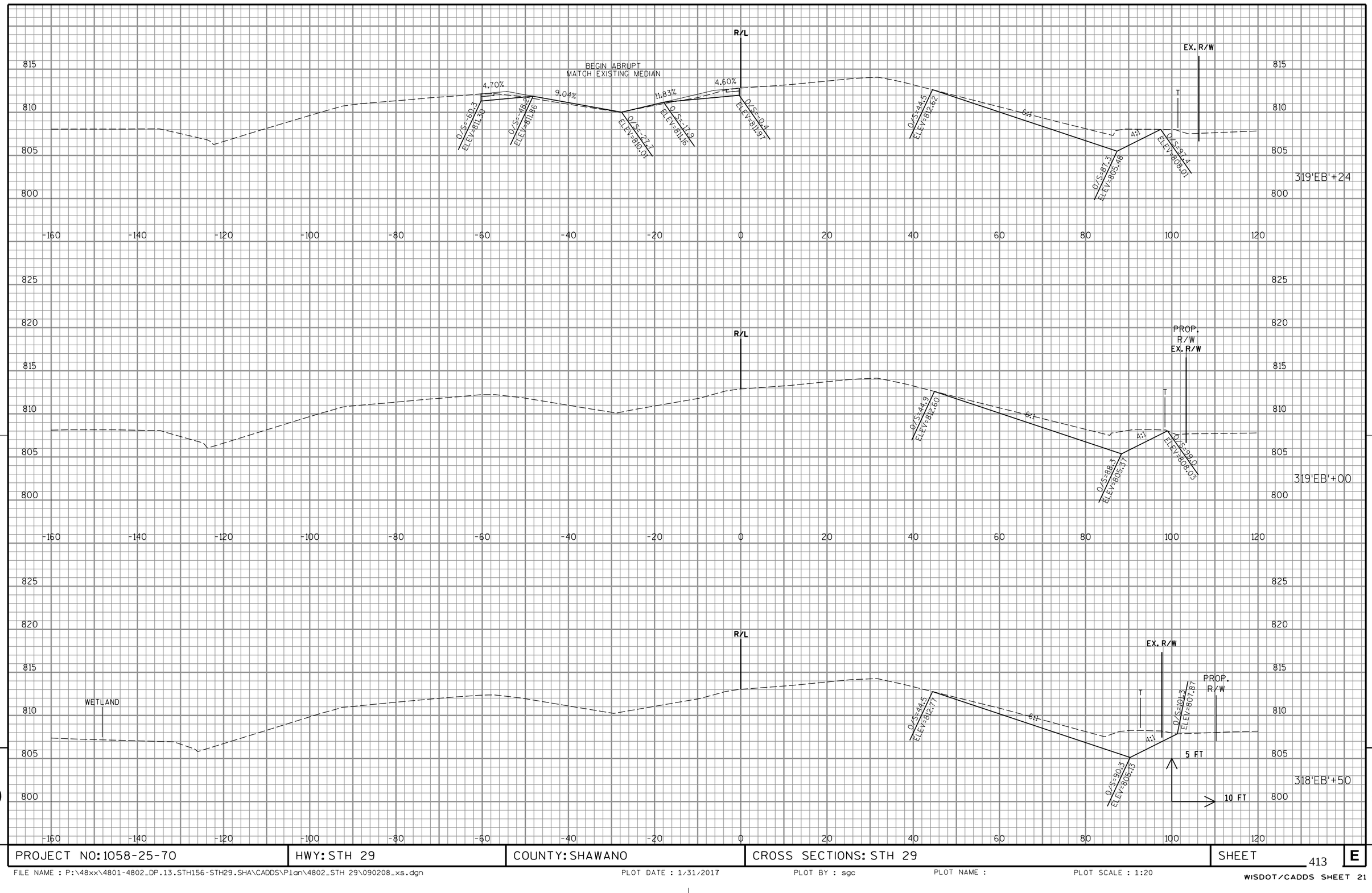

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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 29 | SHEET 412 | E |
|---|---|---|---|---|---|

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FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090208_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

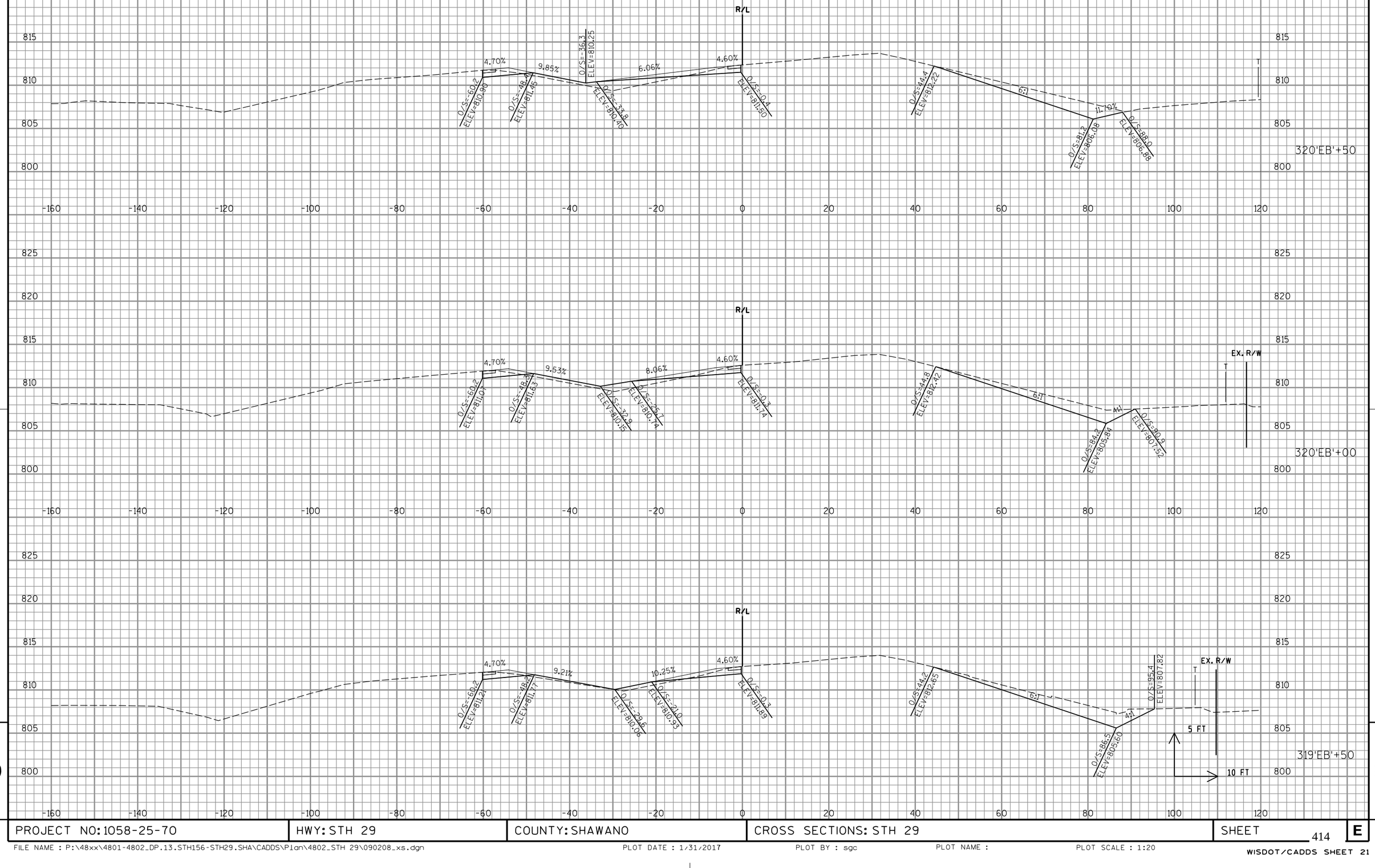
WISDOT/CADDS SHEET 21




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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 29 | SHEET 413 | E |
|---|---|---|---|---|---|

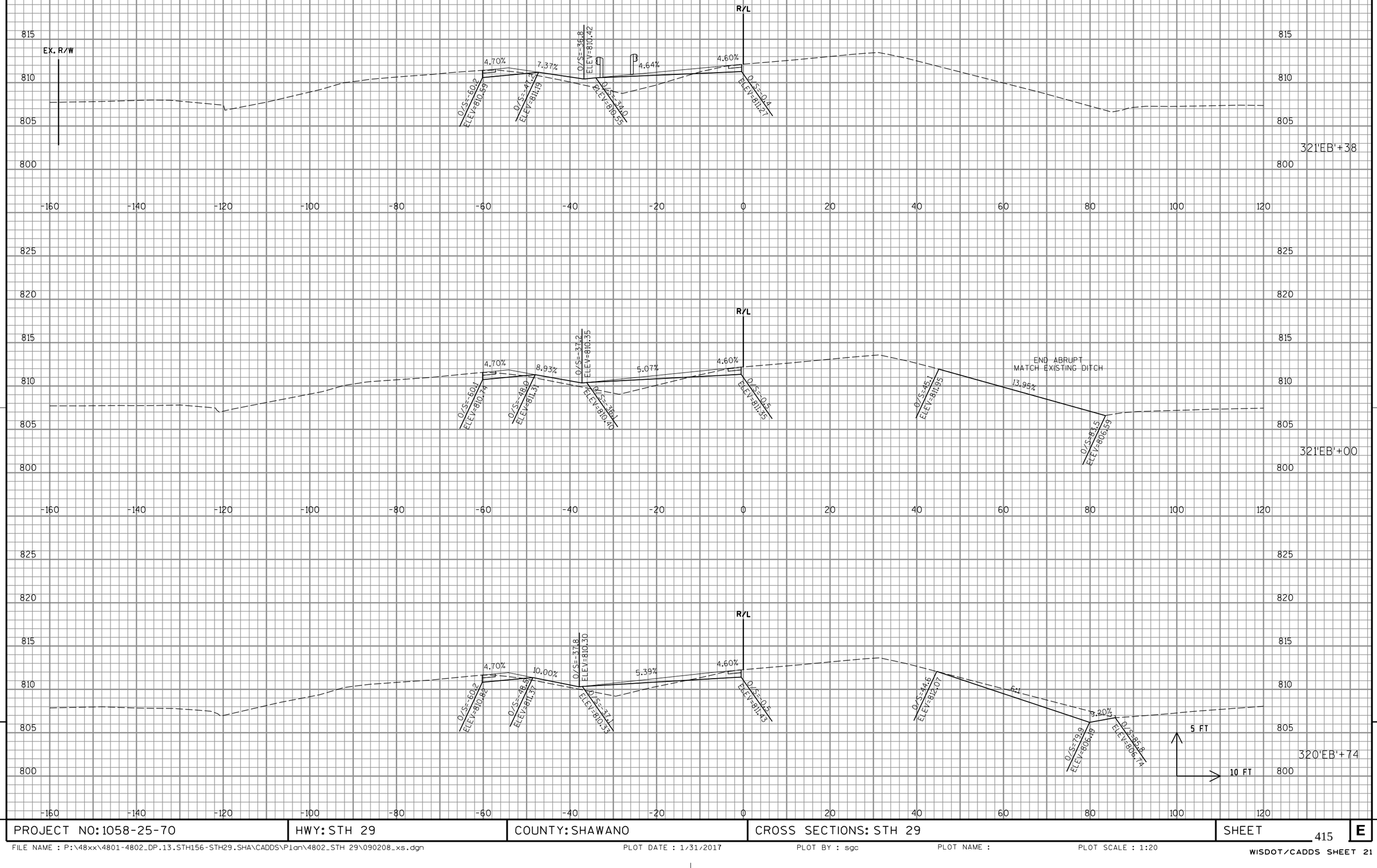
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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 29 | SHEET 414 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090208_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

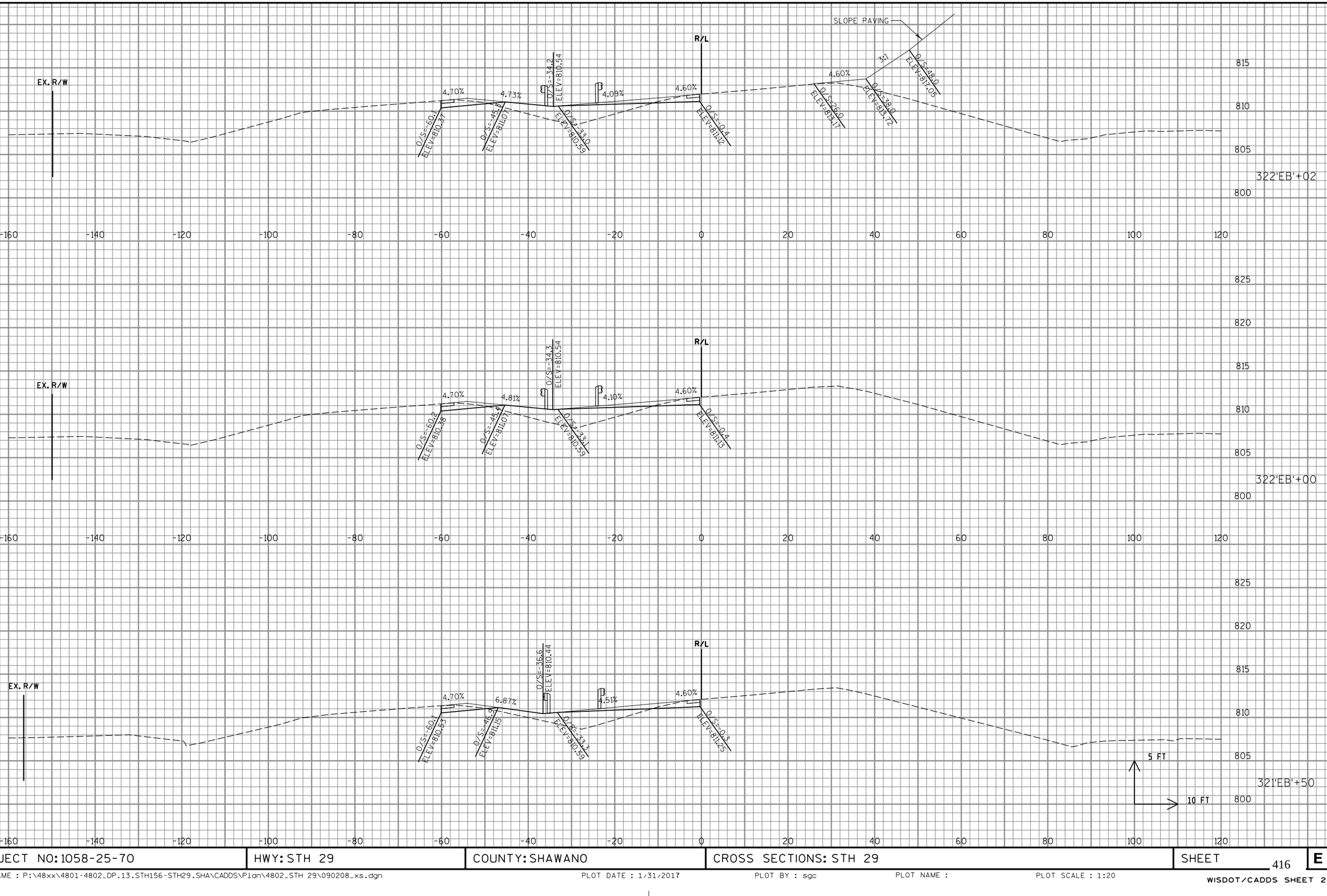
WISDOT/CADDS SHEET 21




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 29 | SHEET 415 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090208_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

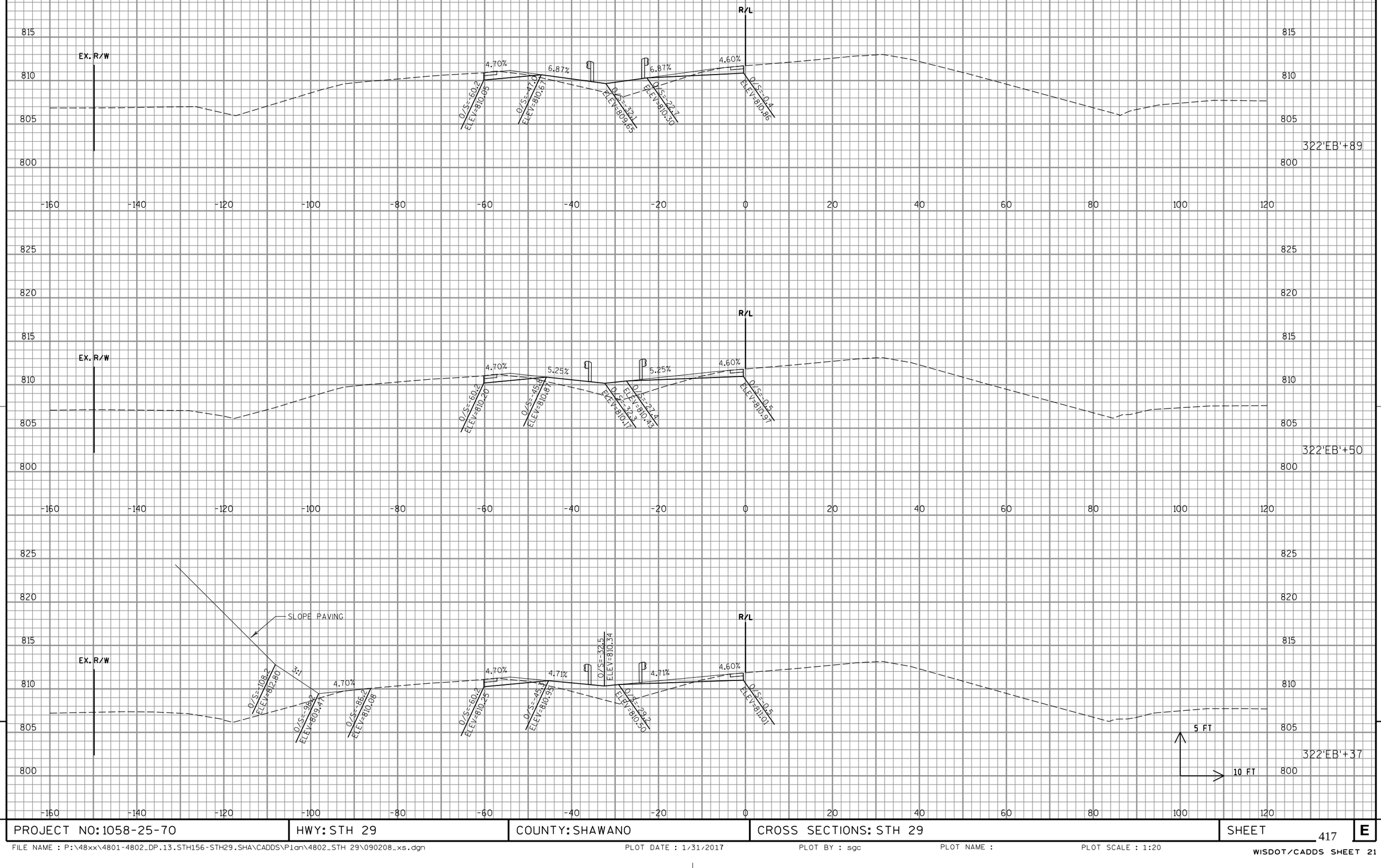
WISDOT/CADDS SHEET 21




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 29 | SHEET 416 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090208_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

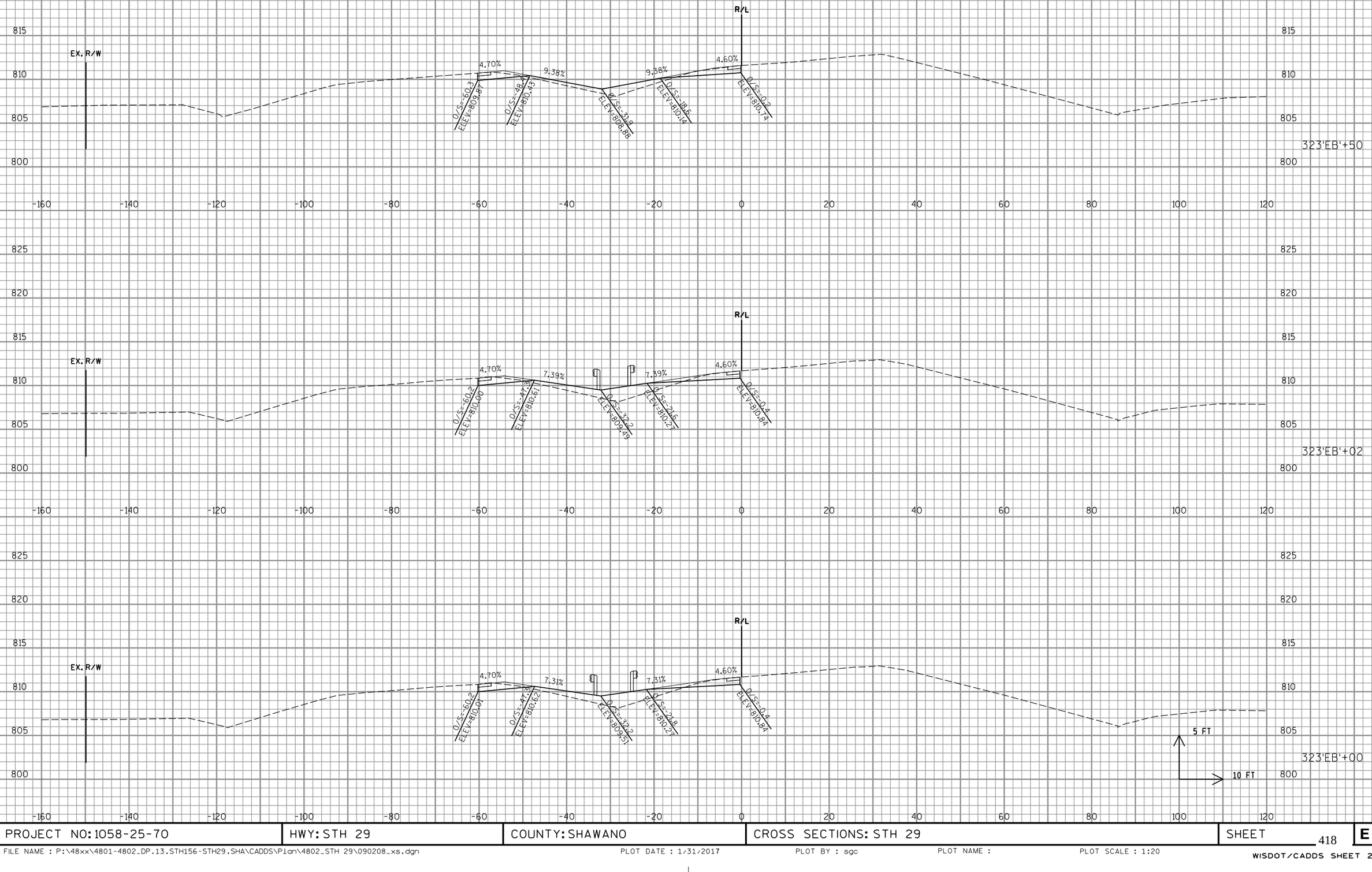
WISDOT/CADDS SHEET 21




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 29 | SHEET 417 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090208_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

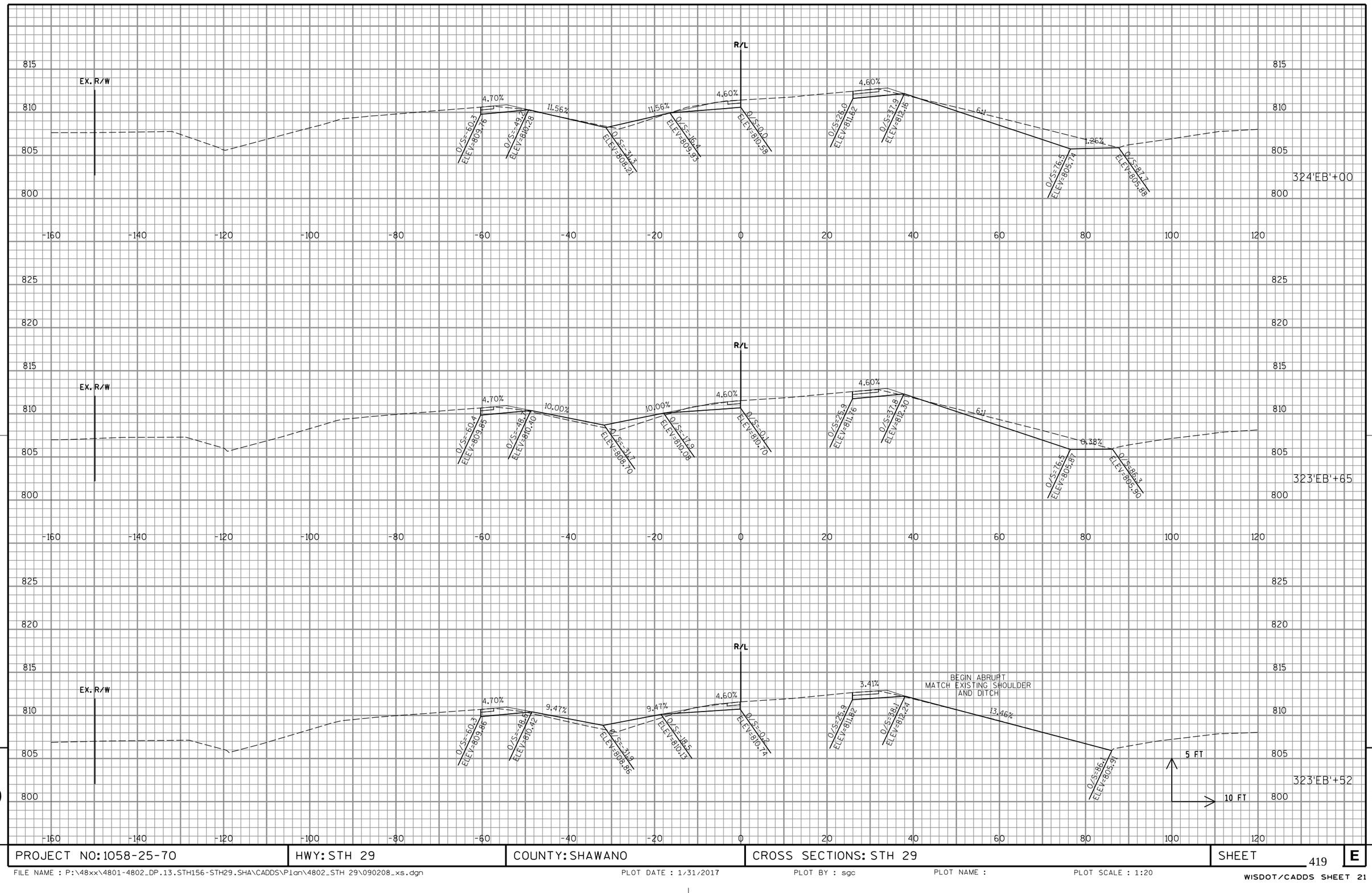
WISDOT/CADDS SHEET 21



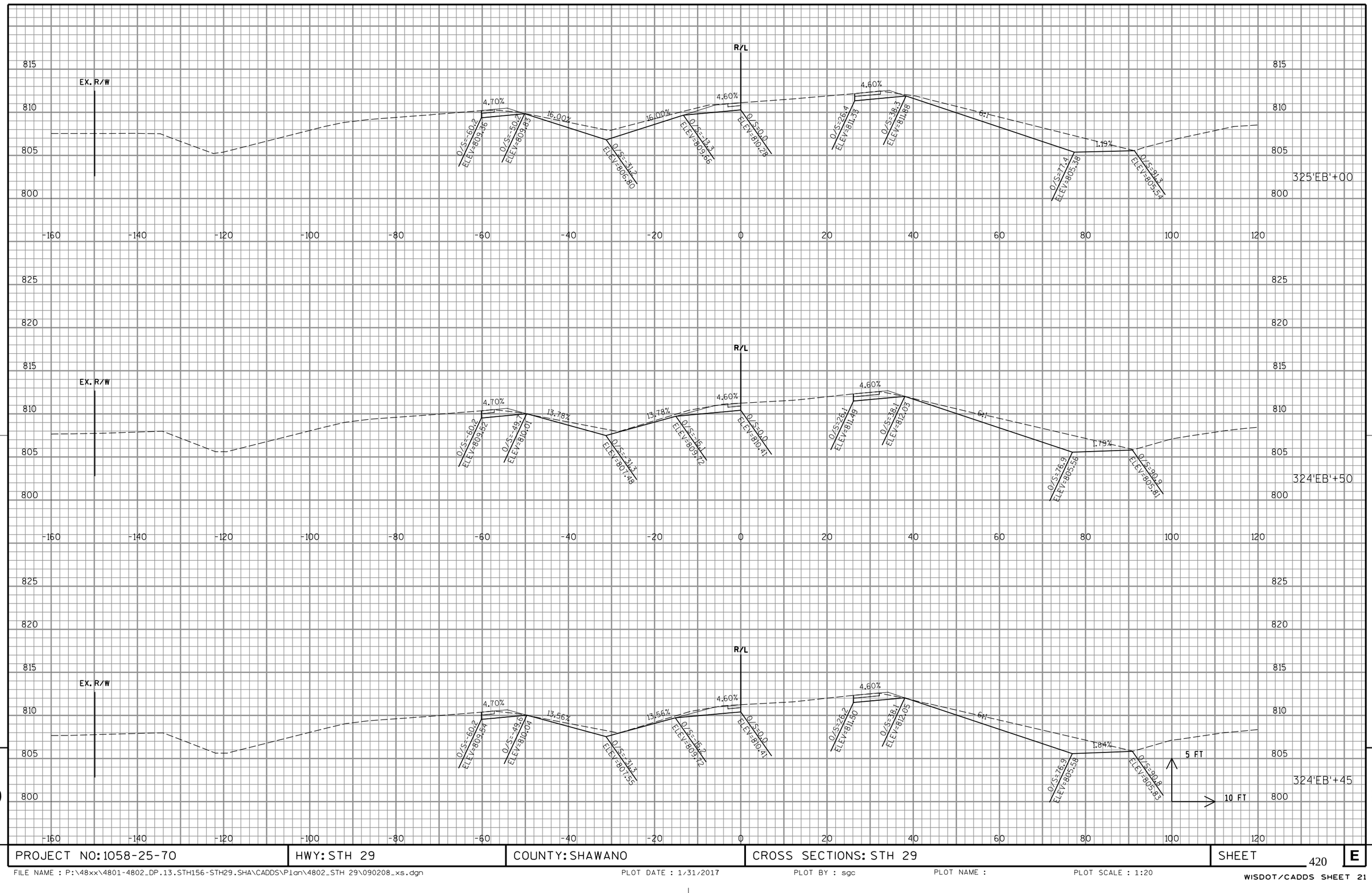

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 29 | SHEET 418 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090208_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21



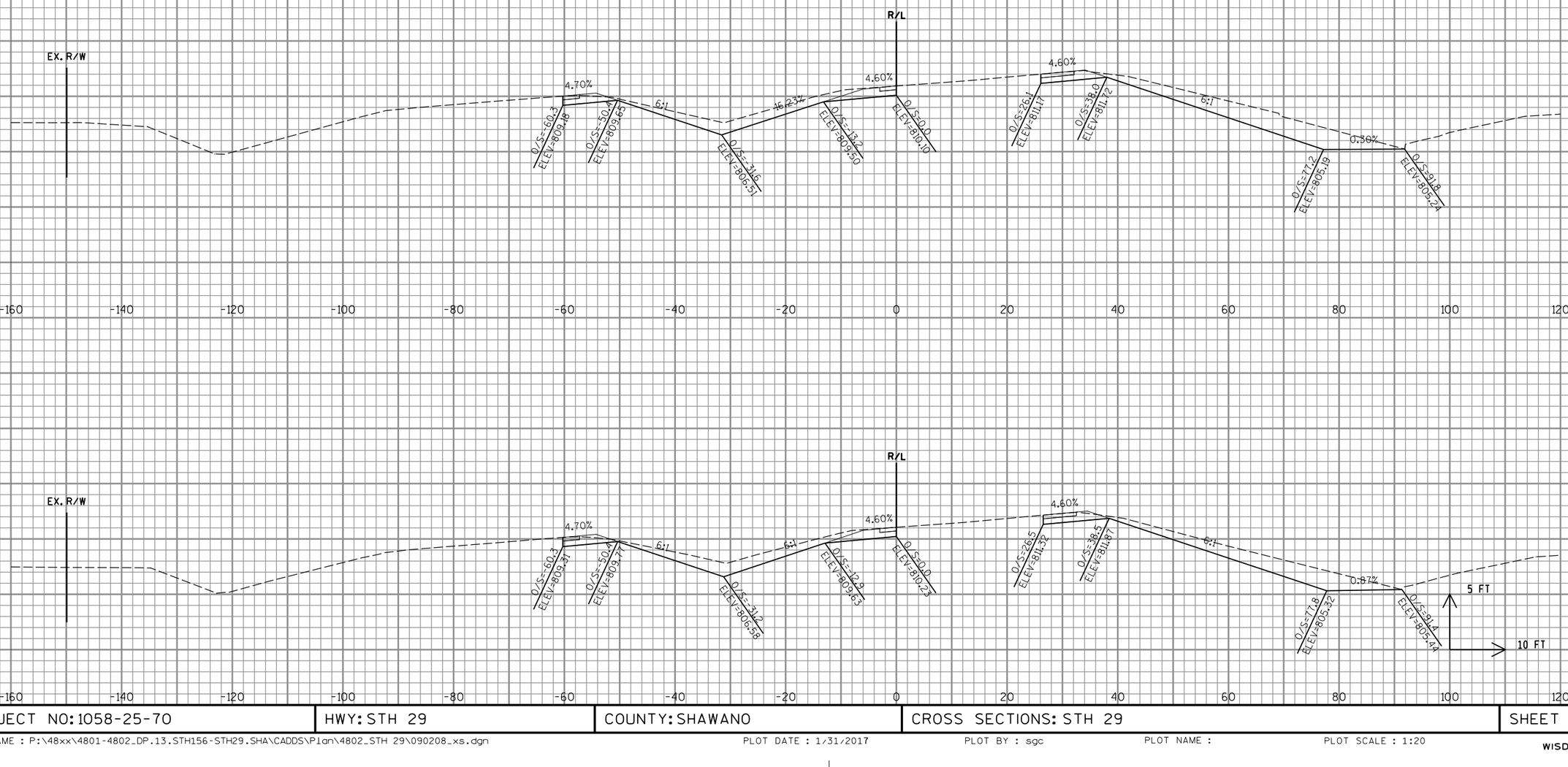

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 29 | SHEET 419 | E |
|---|---|---|---|---|---|




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 29 | SHEET 420 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090208_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21



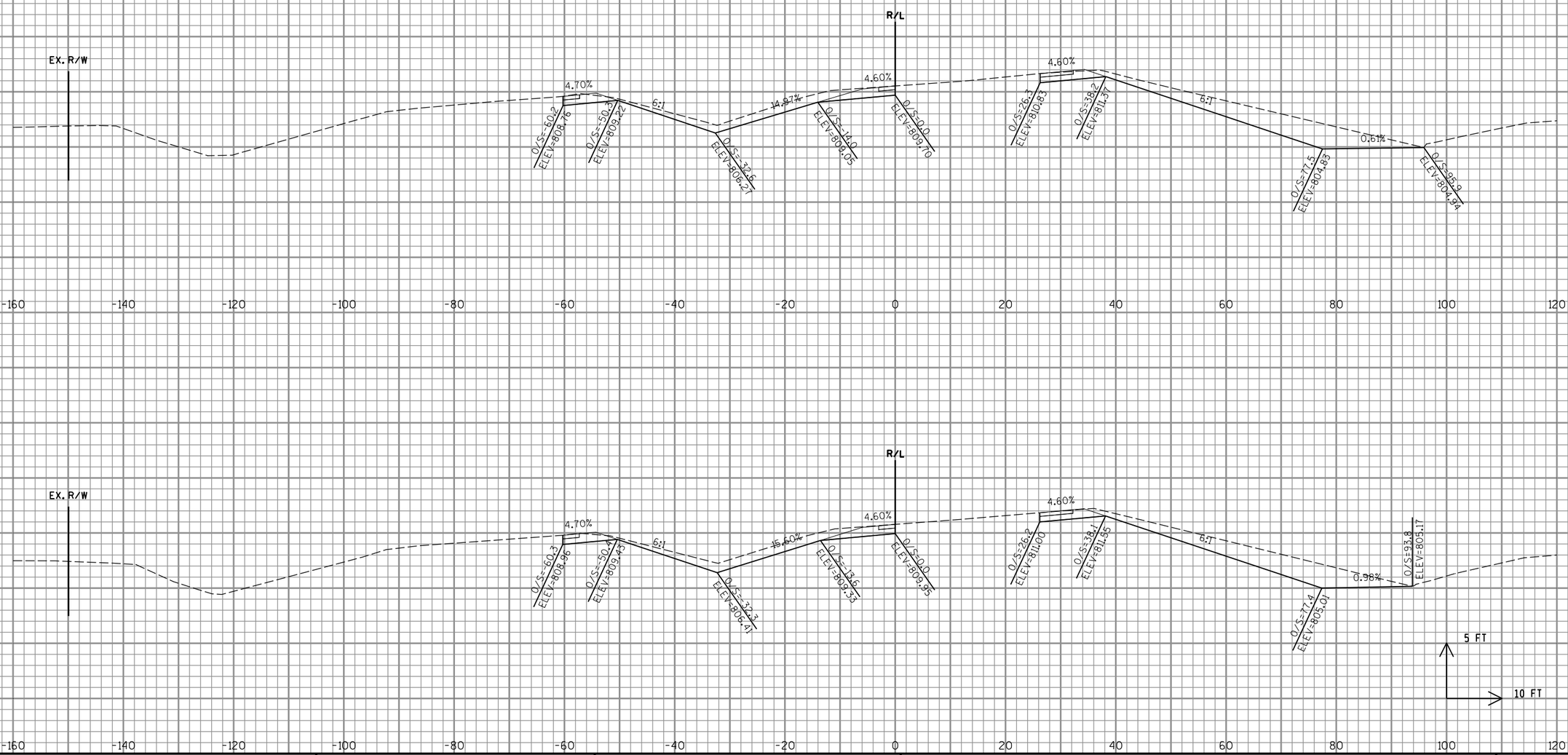

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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 29 | SHEET 421 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090208_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21



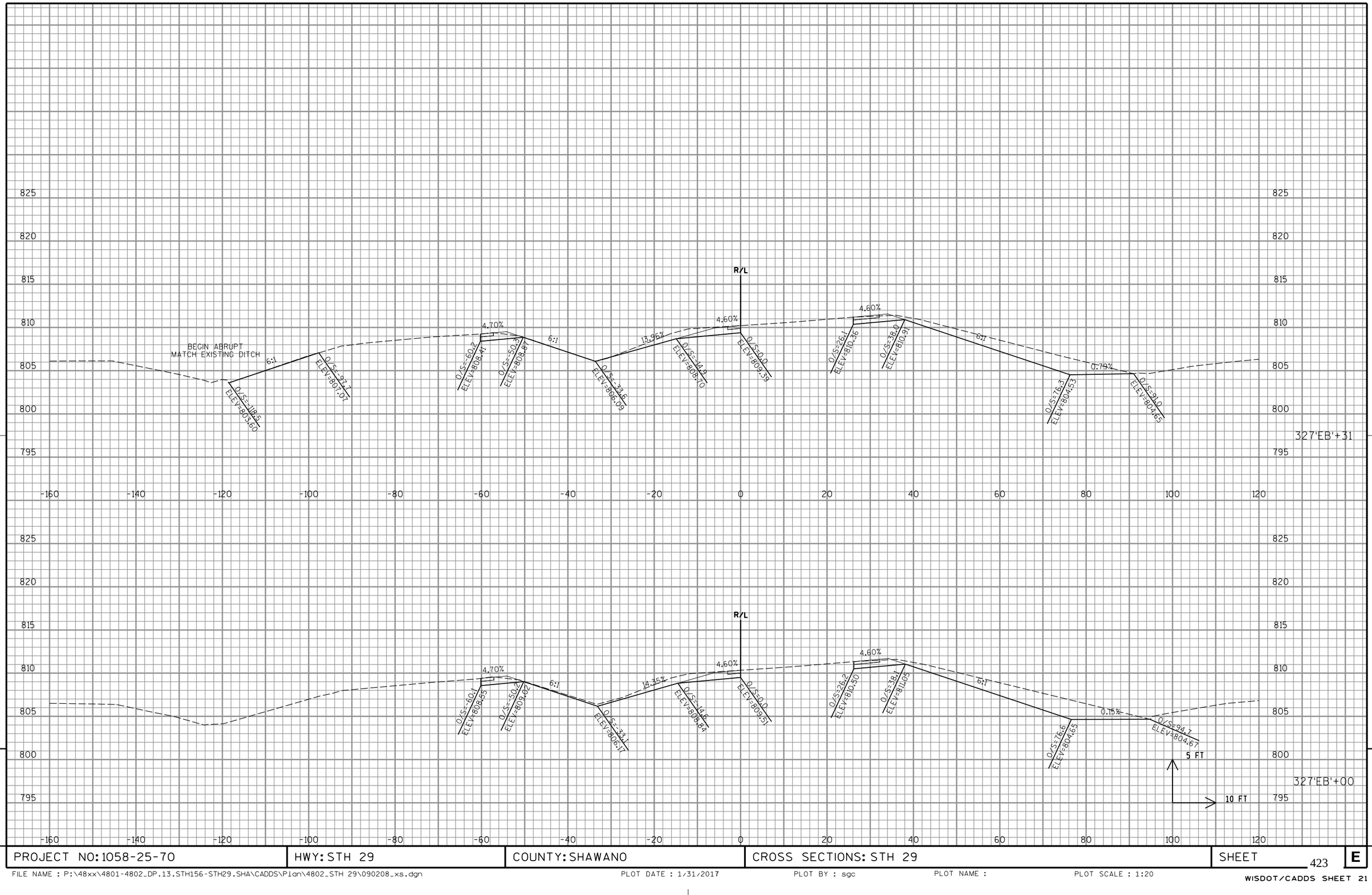

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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 29 | SHEET 422 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090208_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

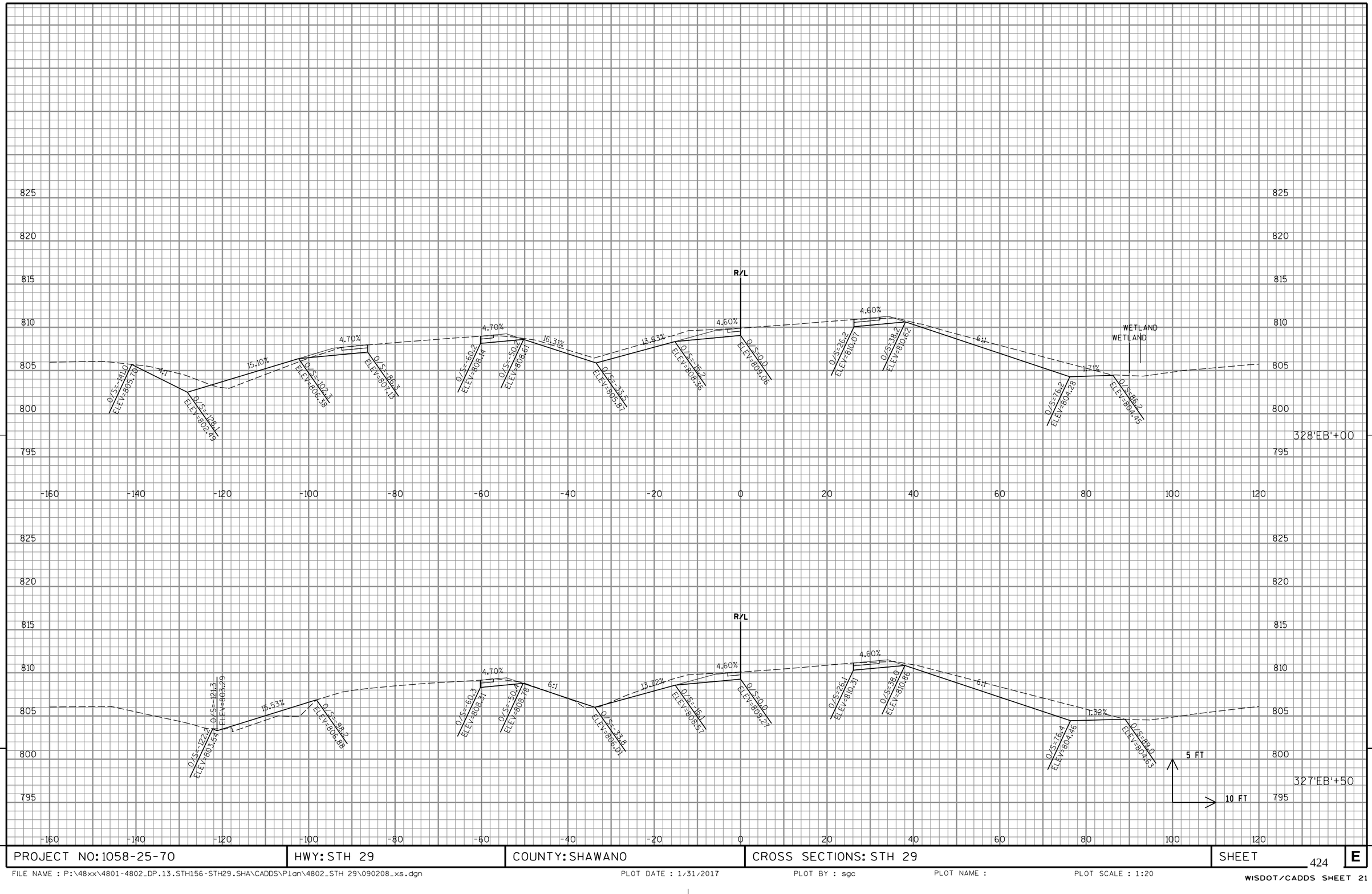
WISDOT/CADDS SHEET 21




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 29 | SHEET 423 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090208_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

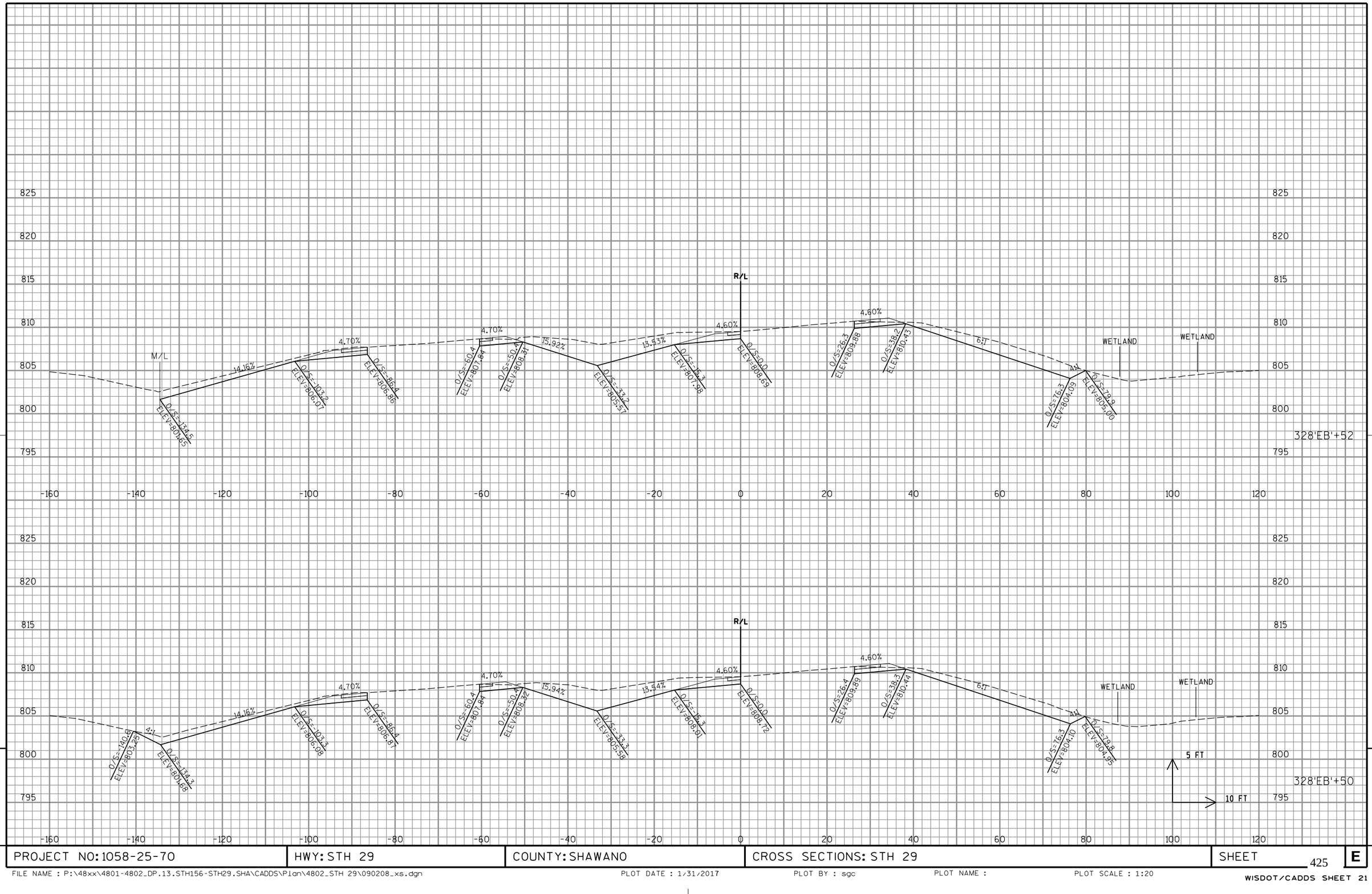
WISDOT/CADDS SHEET 21




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 29 | SHEET 424 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090208_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

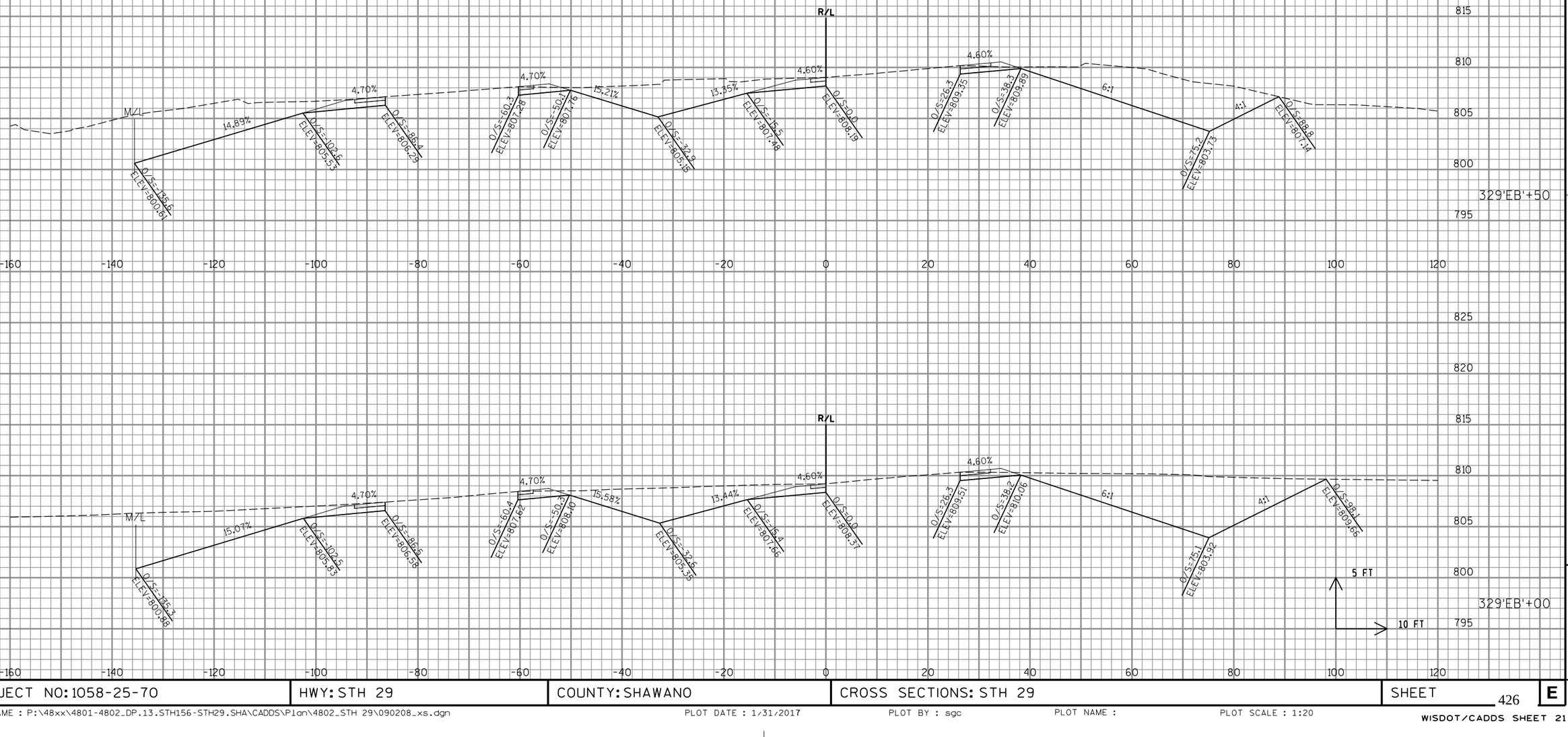



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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 29 | SHEET 425 | E |
|---|---|---|---|---|---|

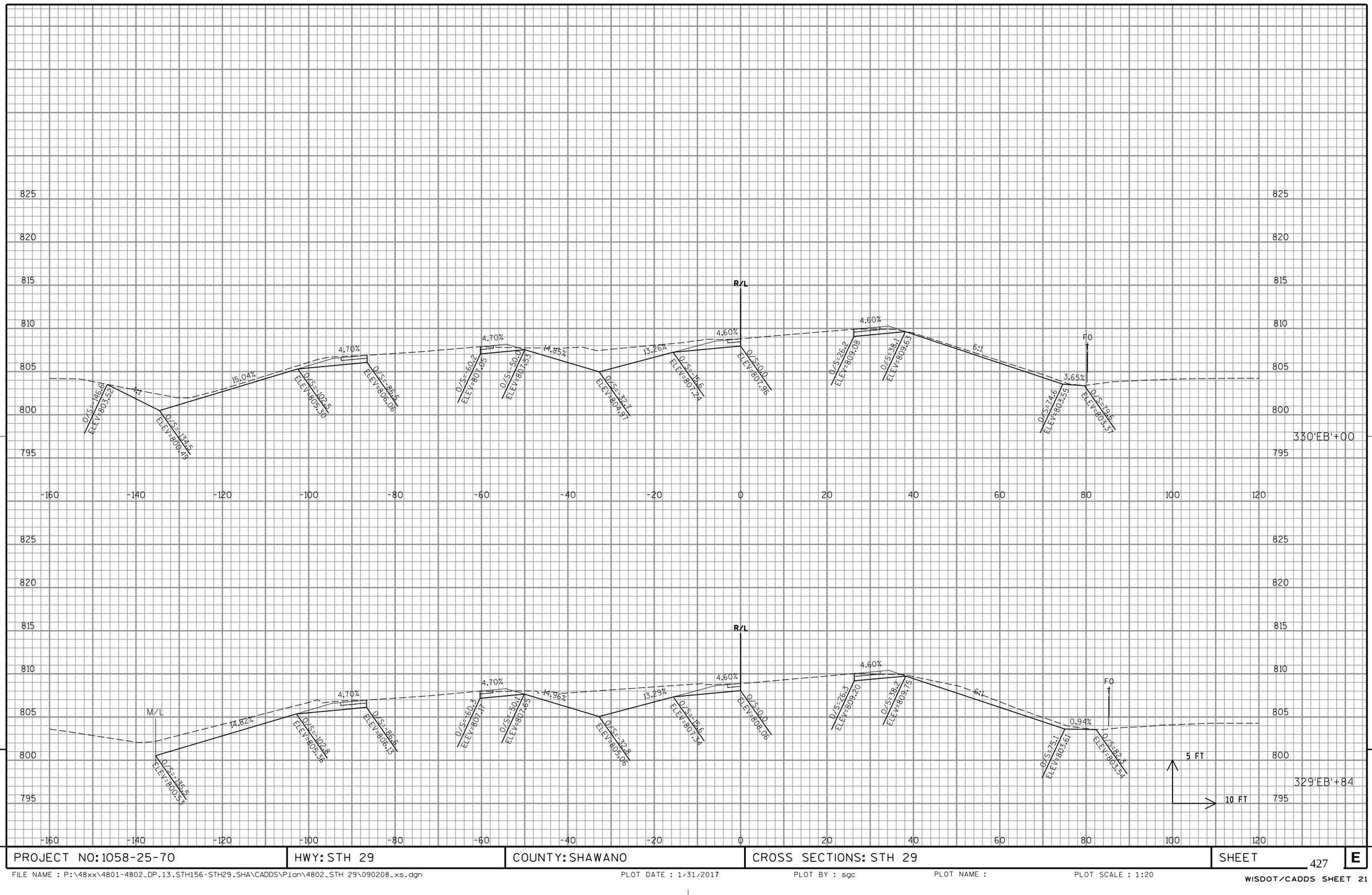
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090208_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 29 | SHEET 426 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090208_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

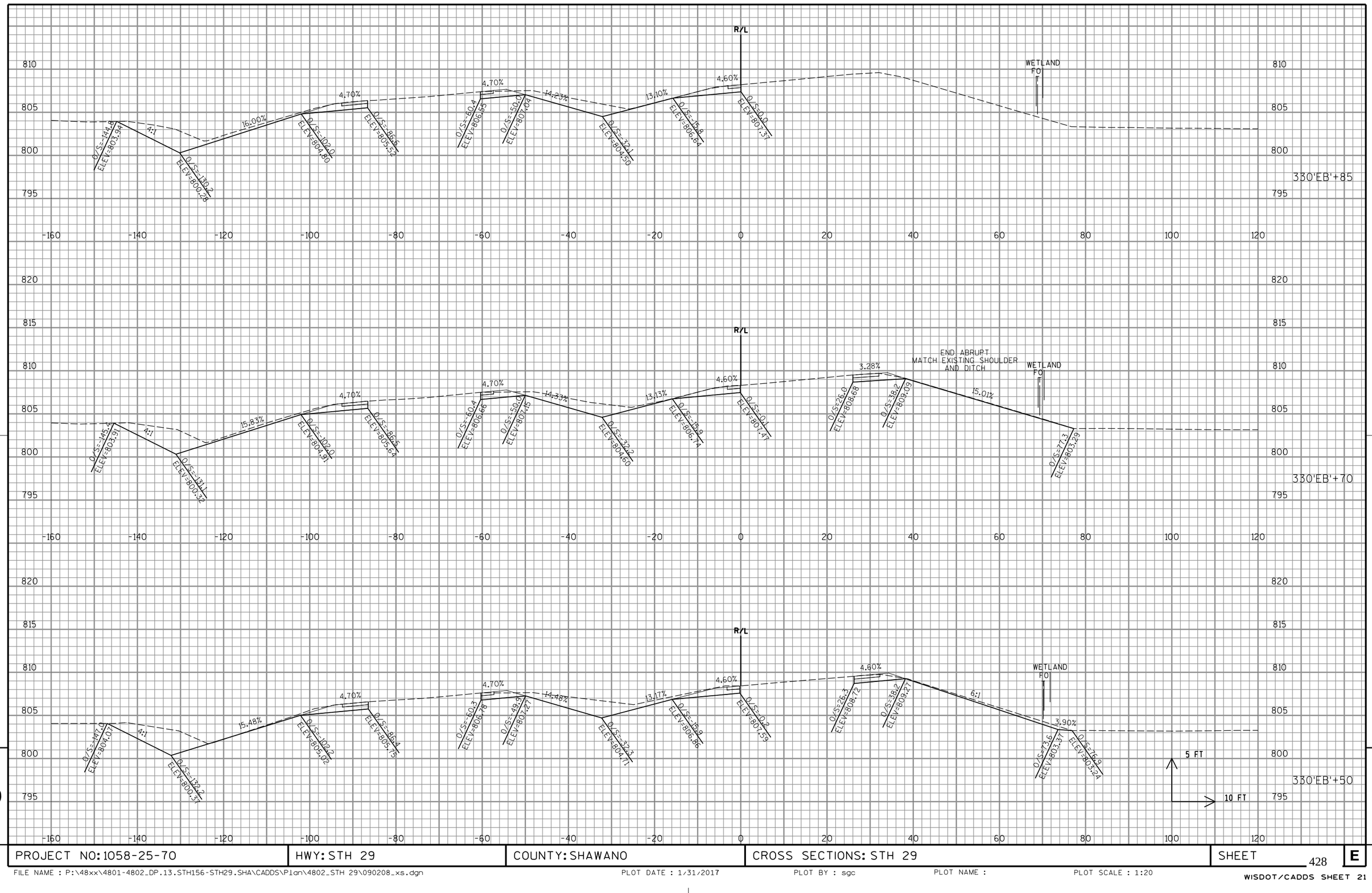
WISDOT/CADDS SHEET 21




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 29 | SHEET 427 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090208_xs.dgn | PLOT DATE : 1/31/2017 | PLOT BY : sgc | PLOT NAME : | PLOT SCALE : 1:20

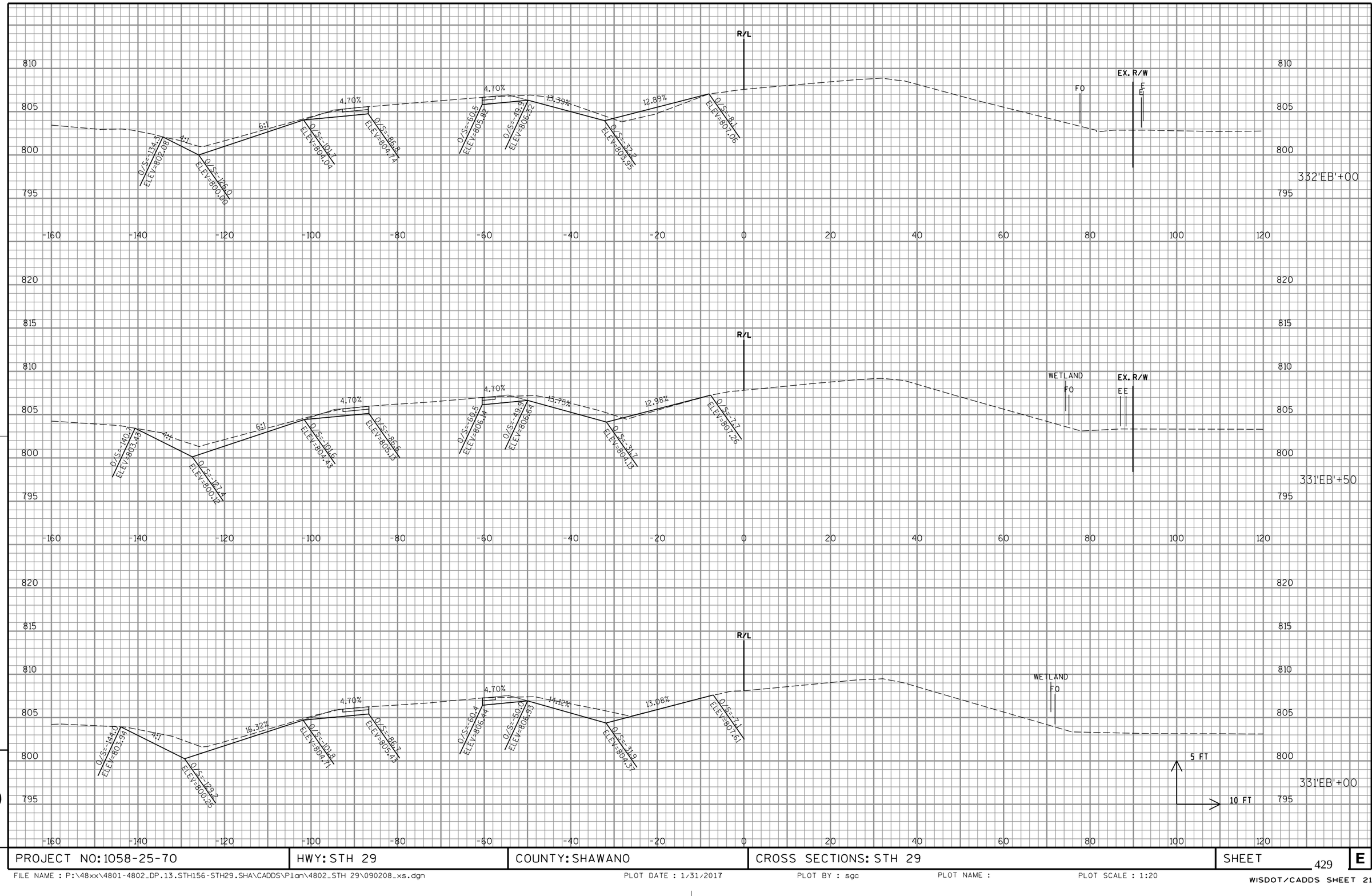
WISDOT/CADDS SHEET 21




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 29 | SHEET 428 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090208_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21



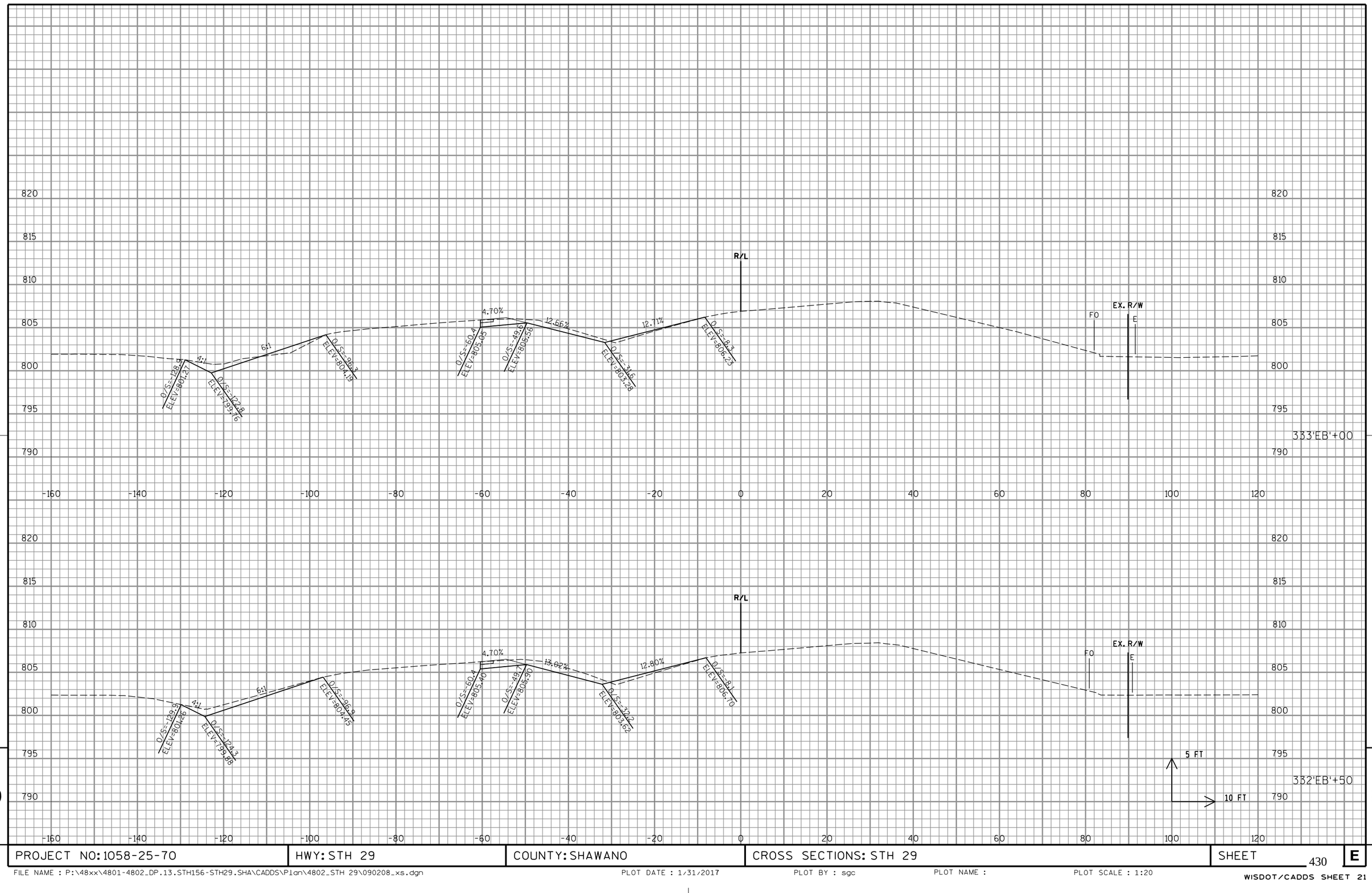

9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 29 | SHEET 429 | E |
|---|---|---|---|---|---|

9

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090208_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21



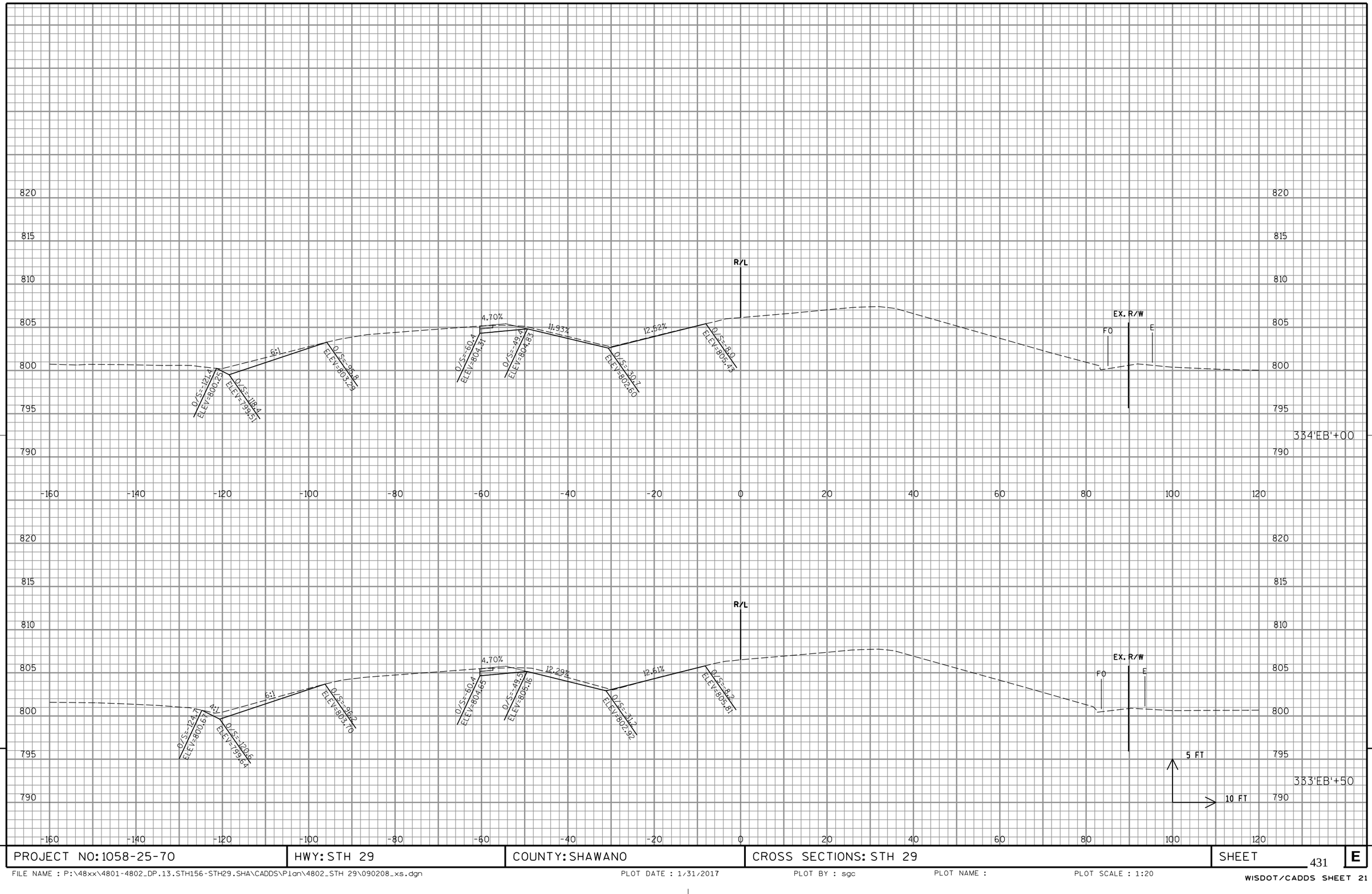

9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 29 | SHEET 430 | E |
|---|---|---|---|---|---|

9

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090208_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21



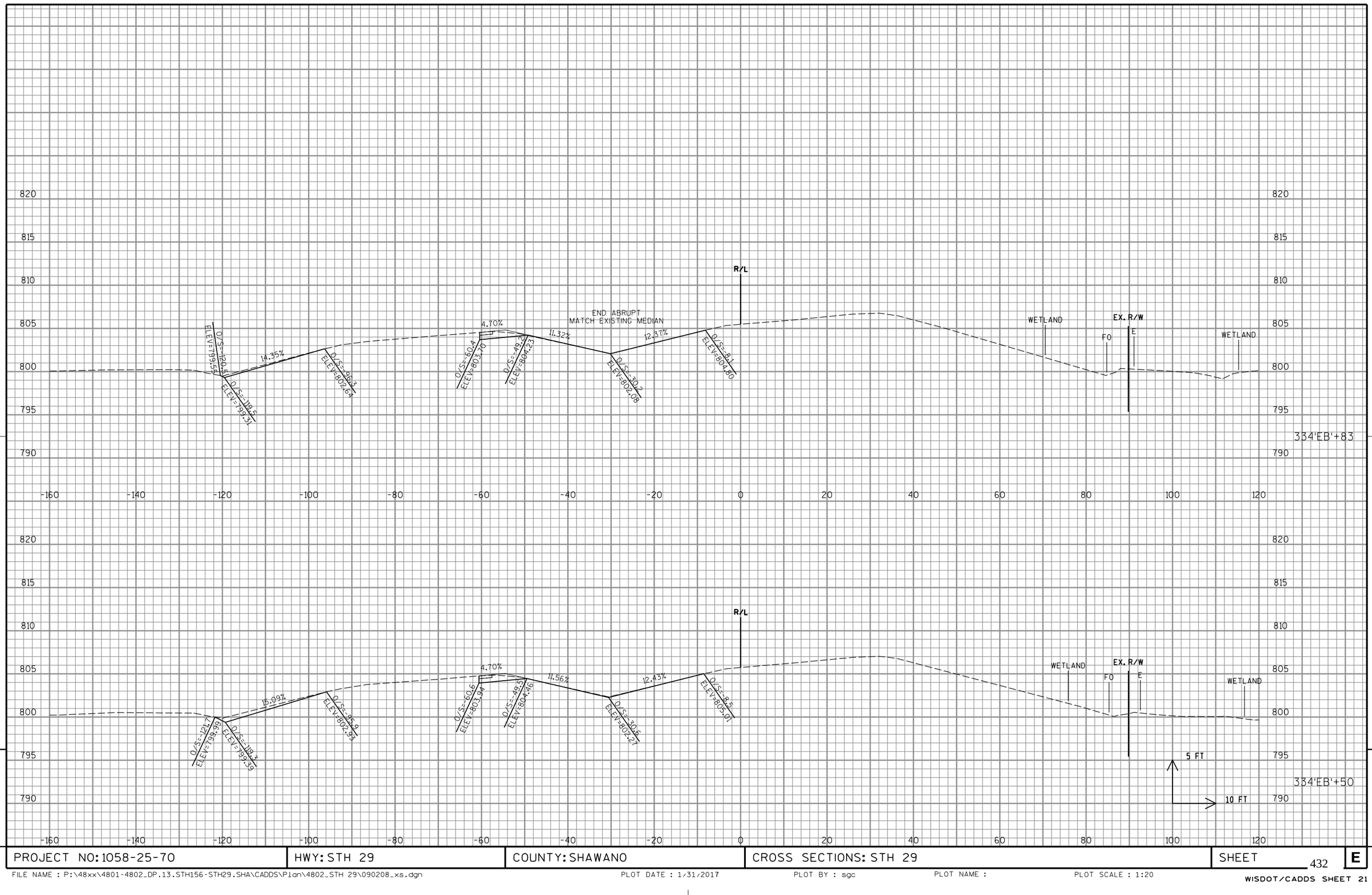

9

9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 29 | SHEET 431 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090208_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21



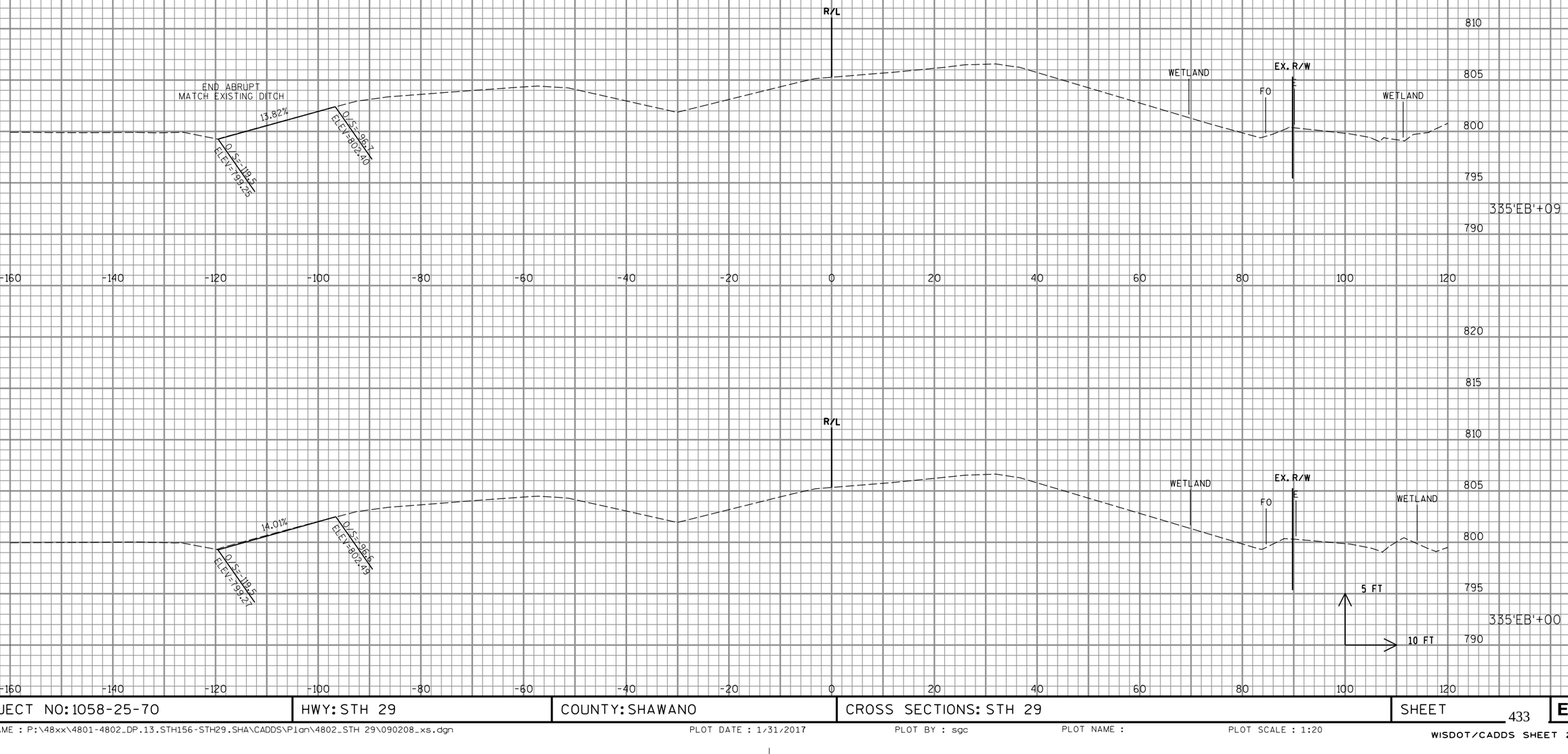

9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 29 | SHEET 432 | E |
|---|---|---|---|---|---|

9

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090208_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21



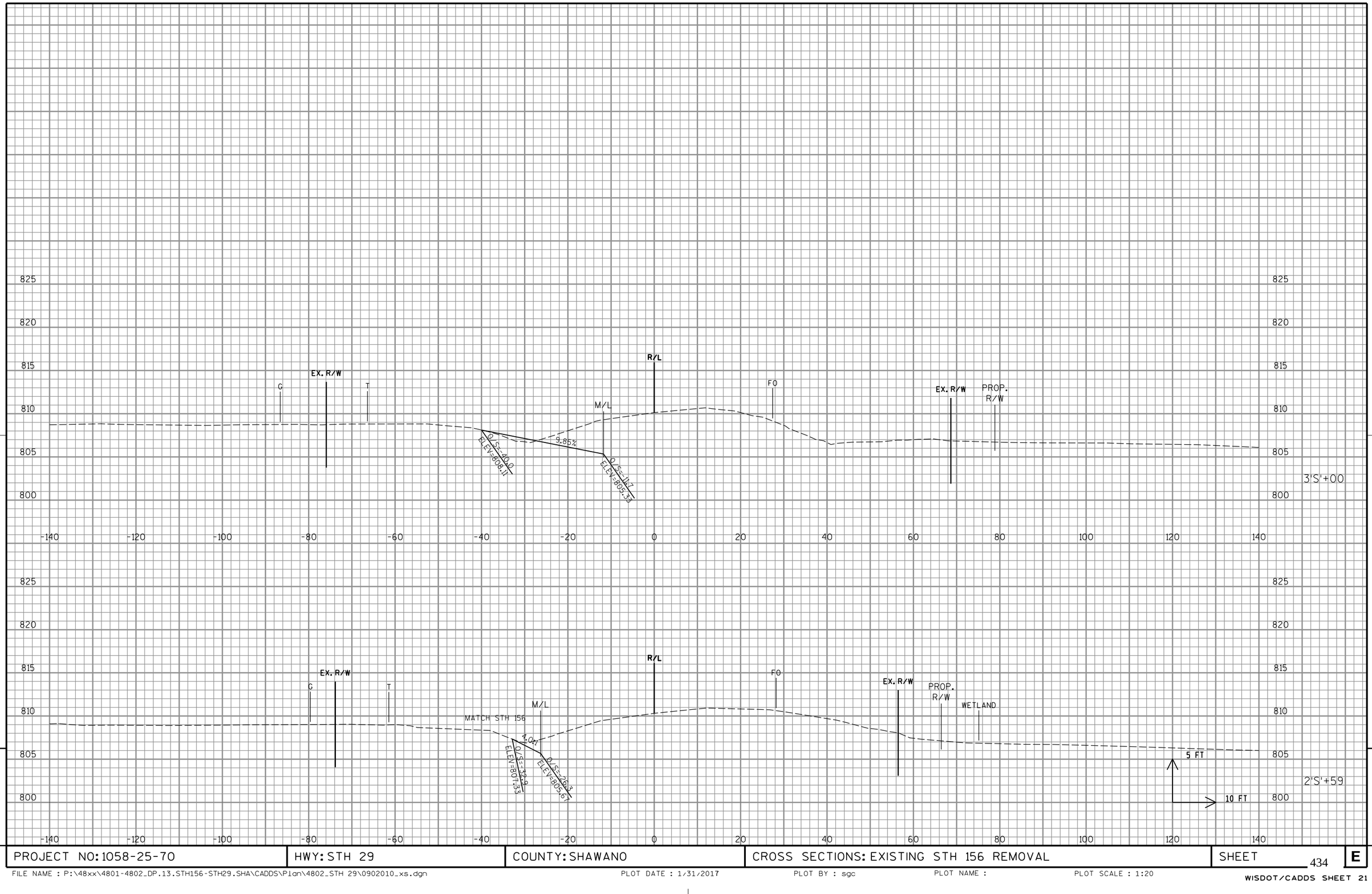

9

9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: STH 29 | SHEET 433 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\090208_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

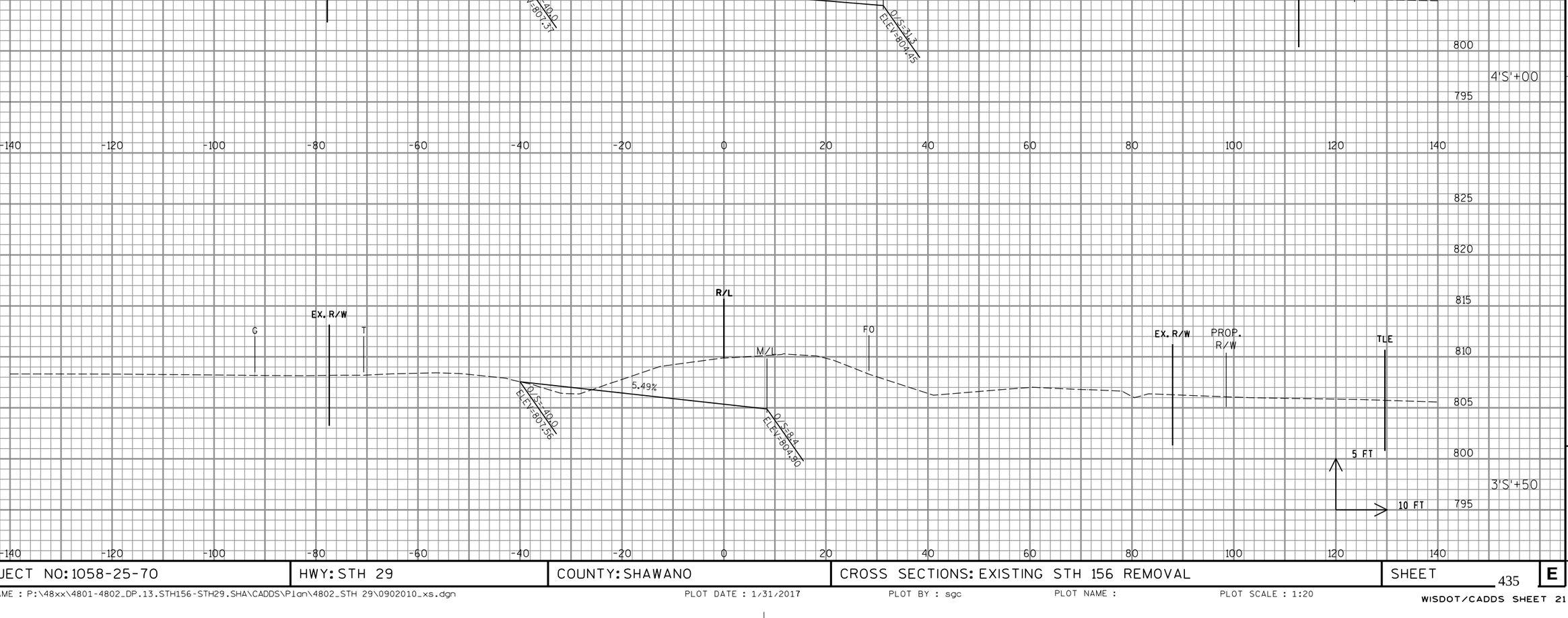
WISDOT/CADDS SHEET 21




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: EXISTING STH 156 REMOVAL | SHEET 434 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\0902010_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

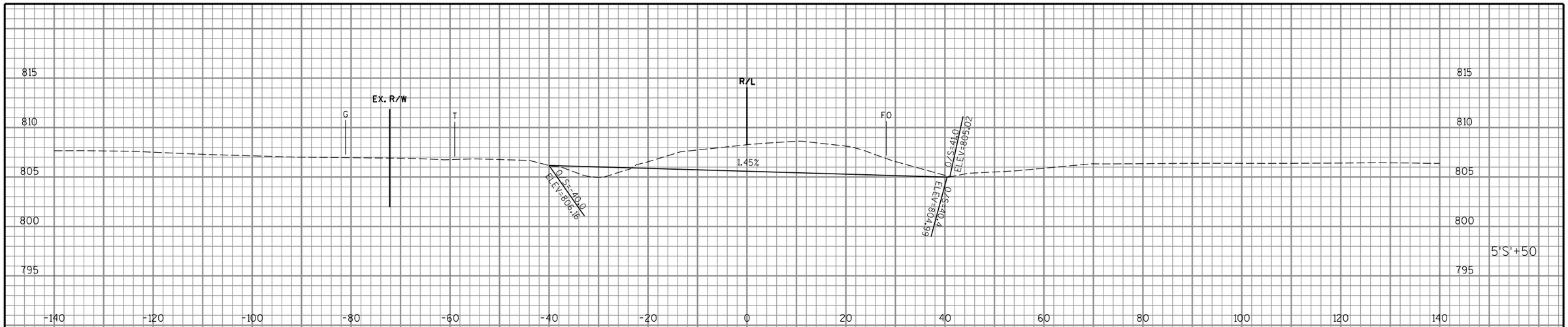
WISDOT/CADDS SHEET 21




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: EXISTING STH 156 REMOVAL | SHEET 435 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\0902010_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21



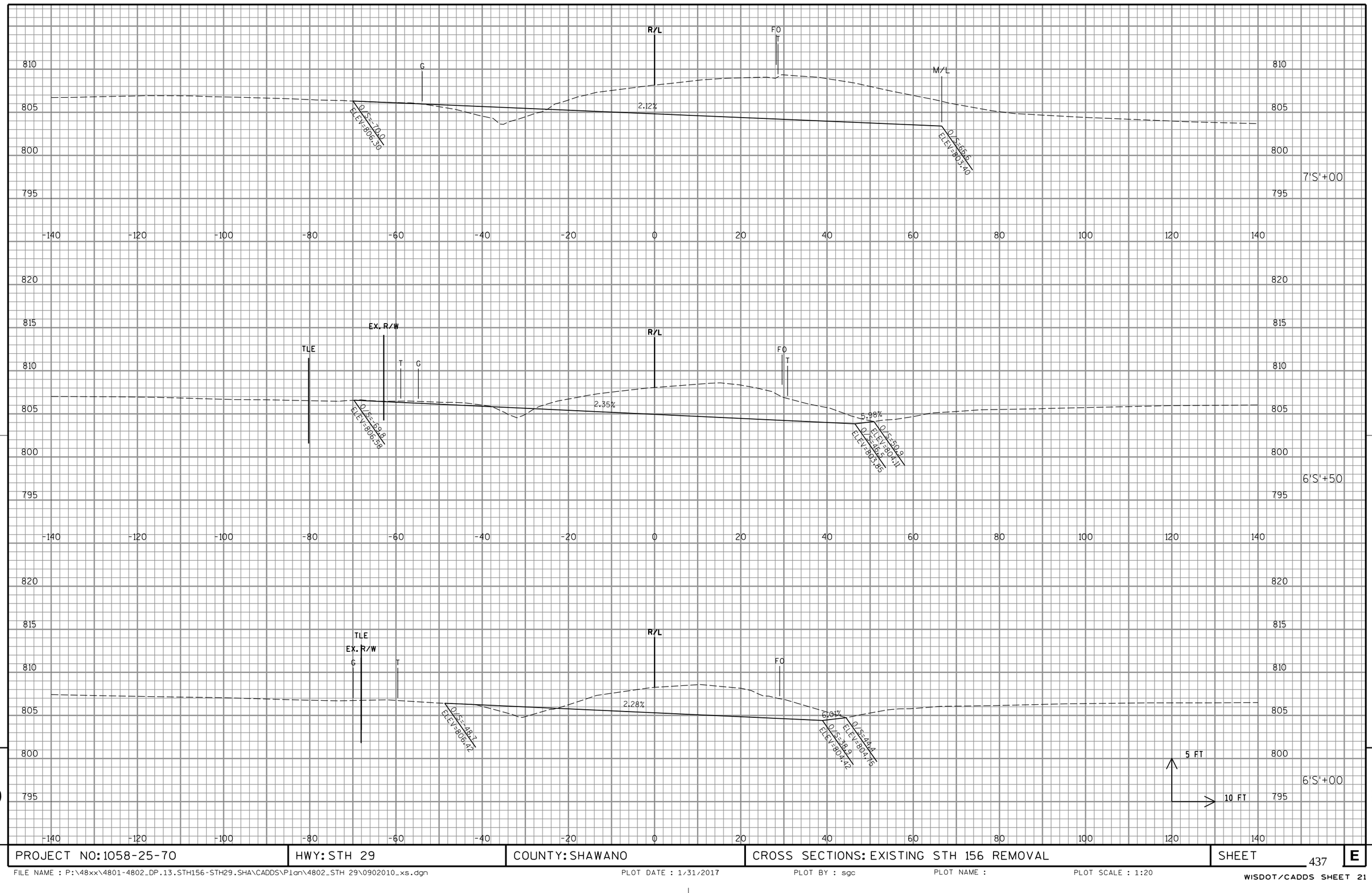




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: EXISTING STH 156 REMOVAL | SHEET 436 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\0902010_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

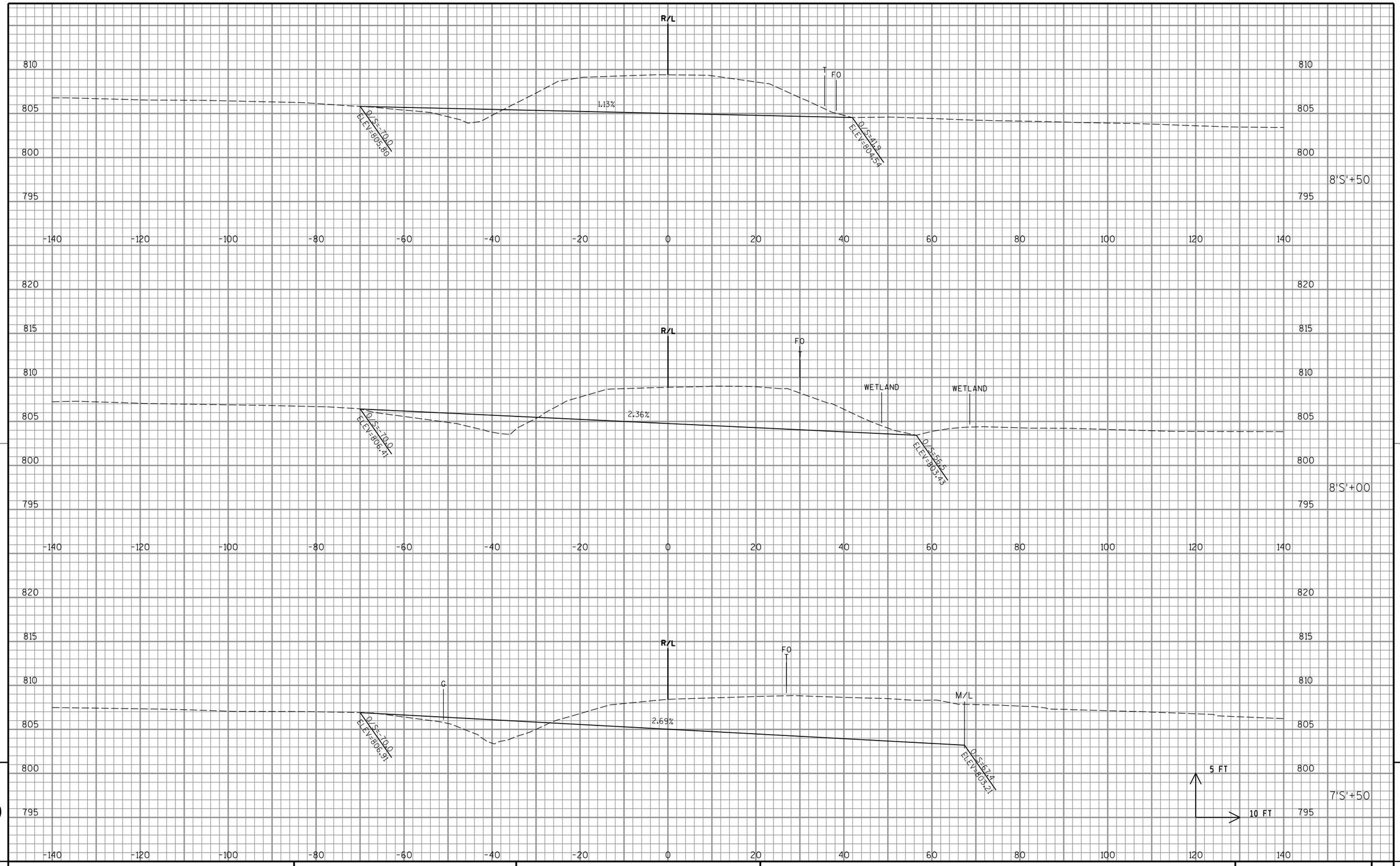
WISDOT/CADDS SHEET 21




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: EXISTING STH 156 REMOVAL | SHEET 437 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\0902010_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21



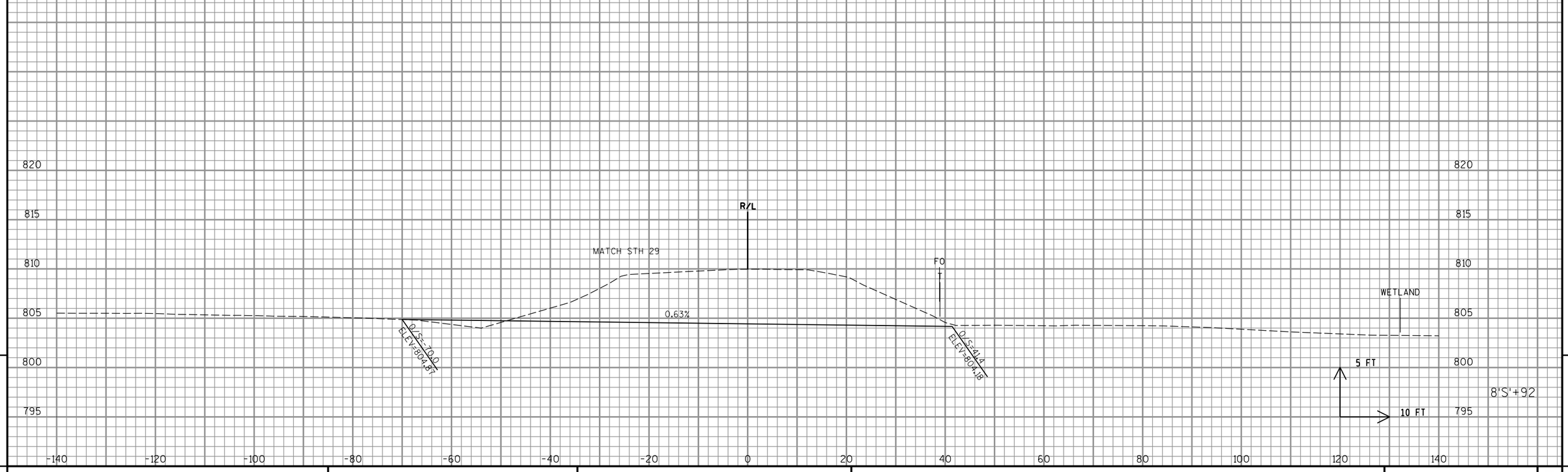

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9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: EXISTING STH 156 REMOVAL | SHEET 438 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\0902010_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21



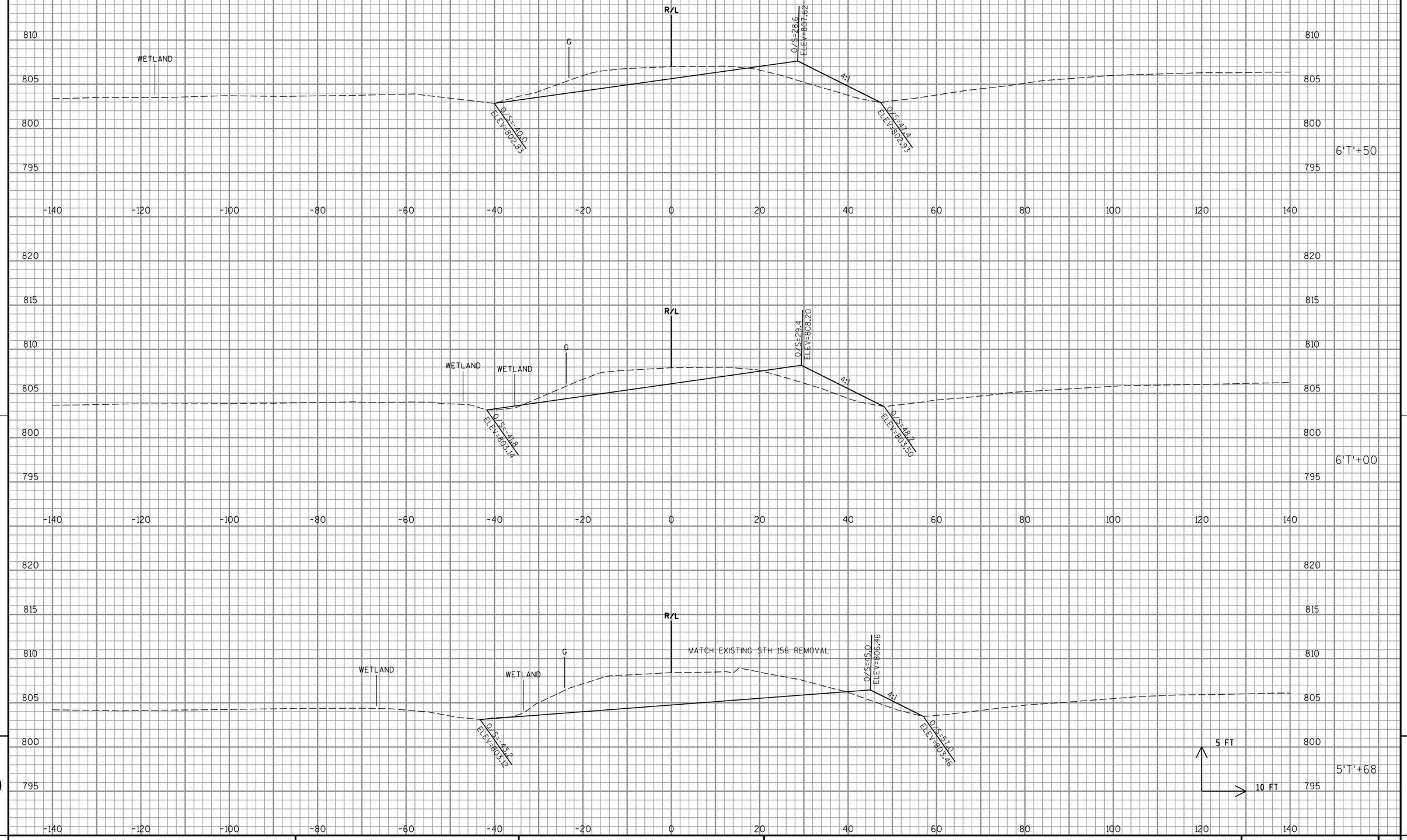

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9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: EXISTING STH 156 REMOVAL | SHEET 439 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\0902010_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21



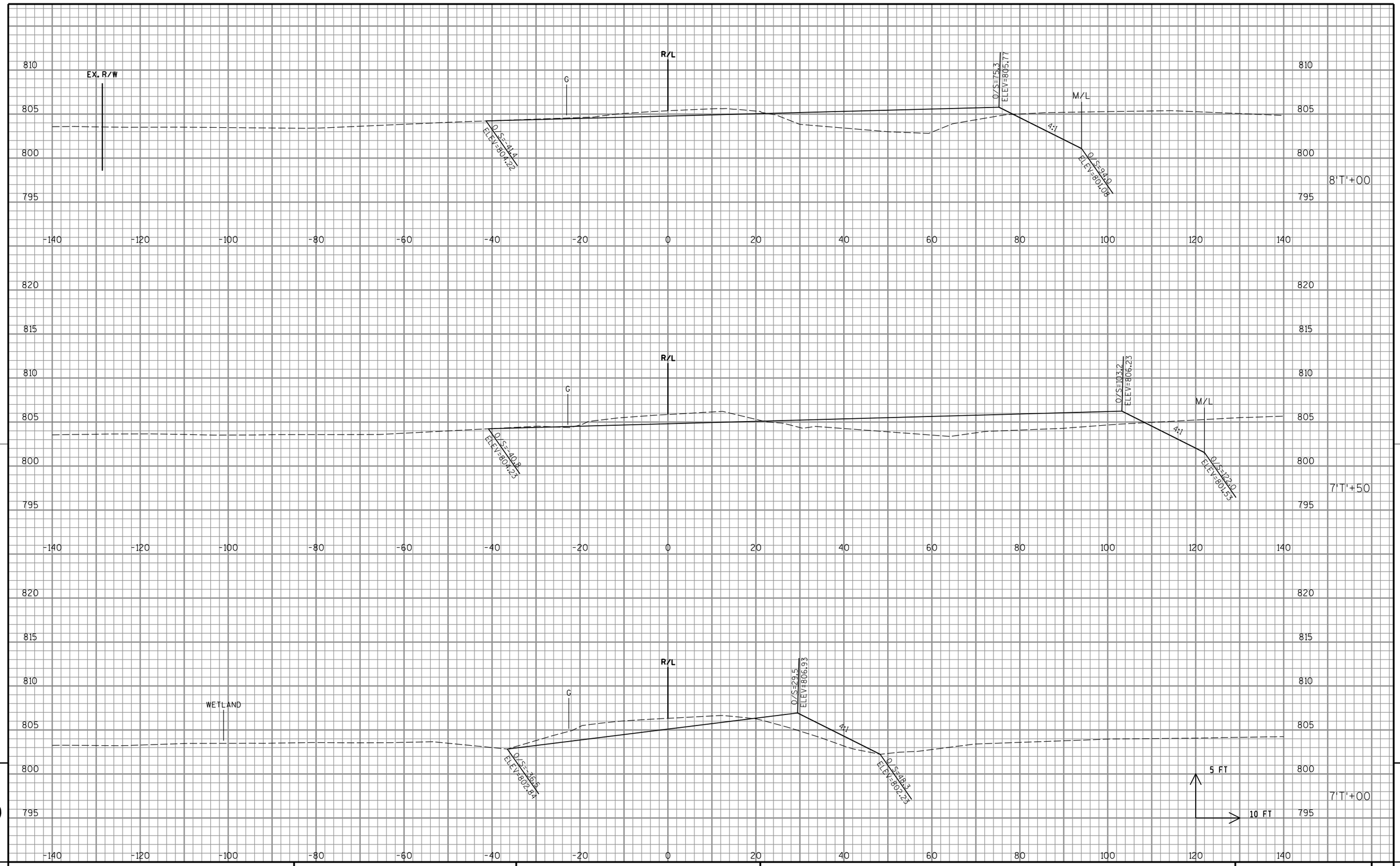

9

9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: OLD 29 DR REMOVAL | SHEET 440 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\0902010_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21



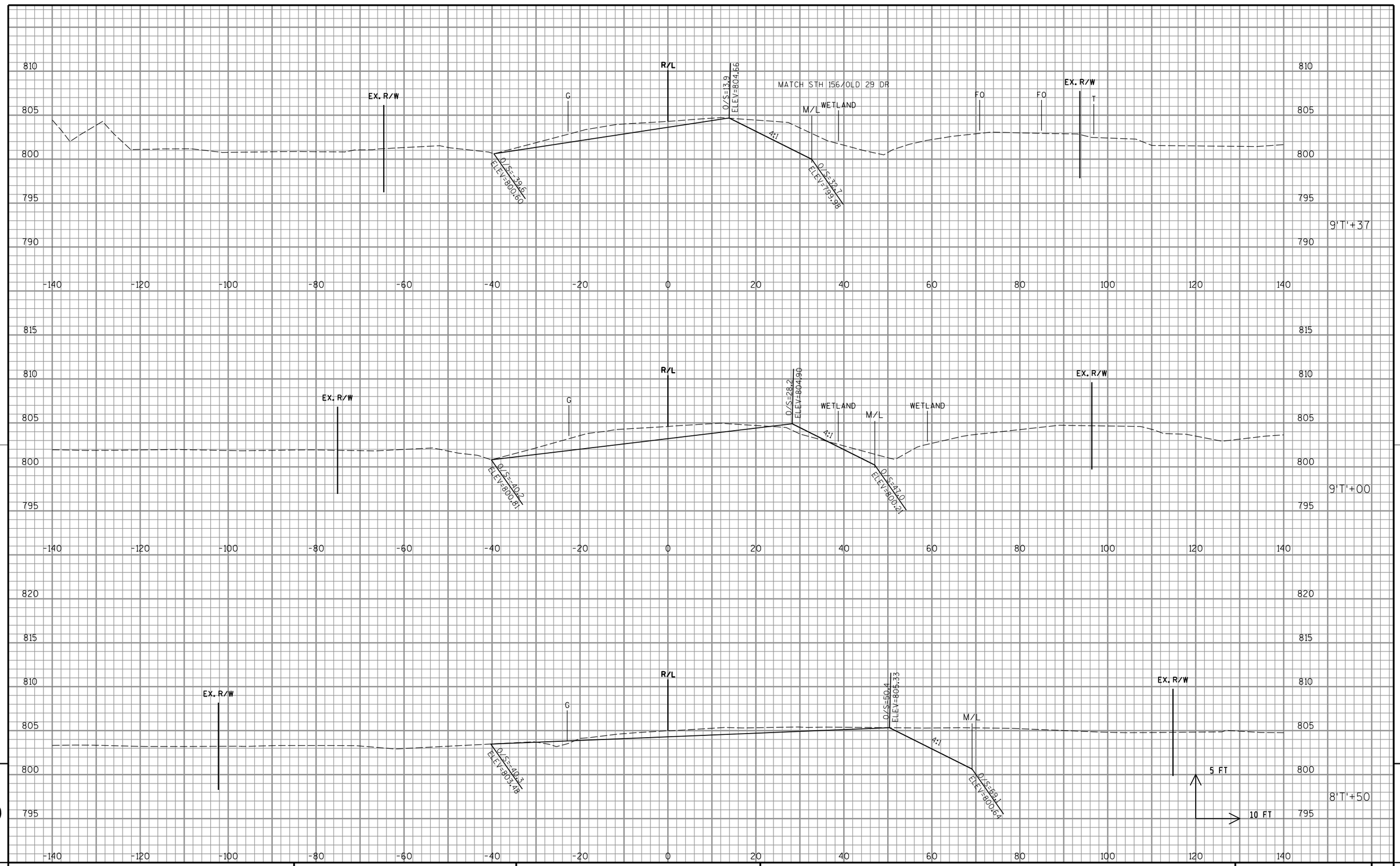

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9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: OLD 29 DR REMOVAL | SHEET 441 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\0902010_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

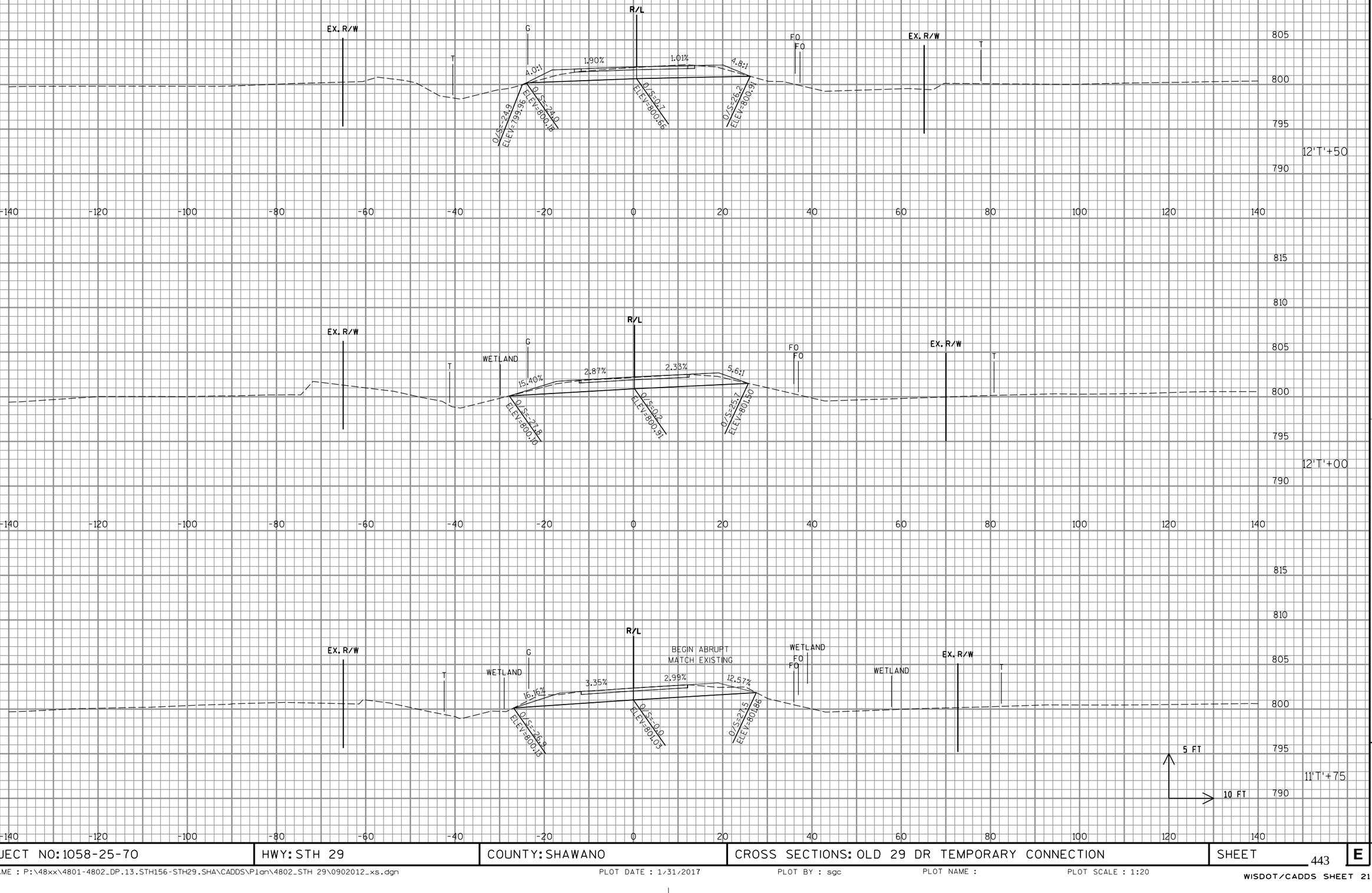



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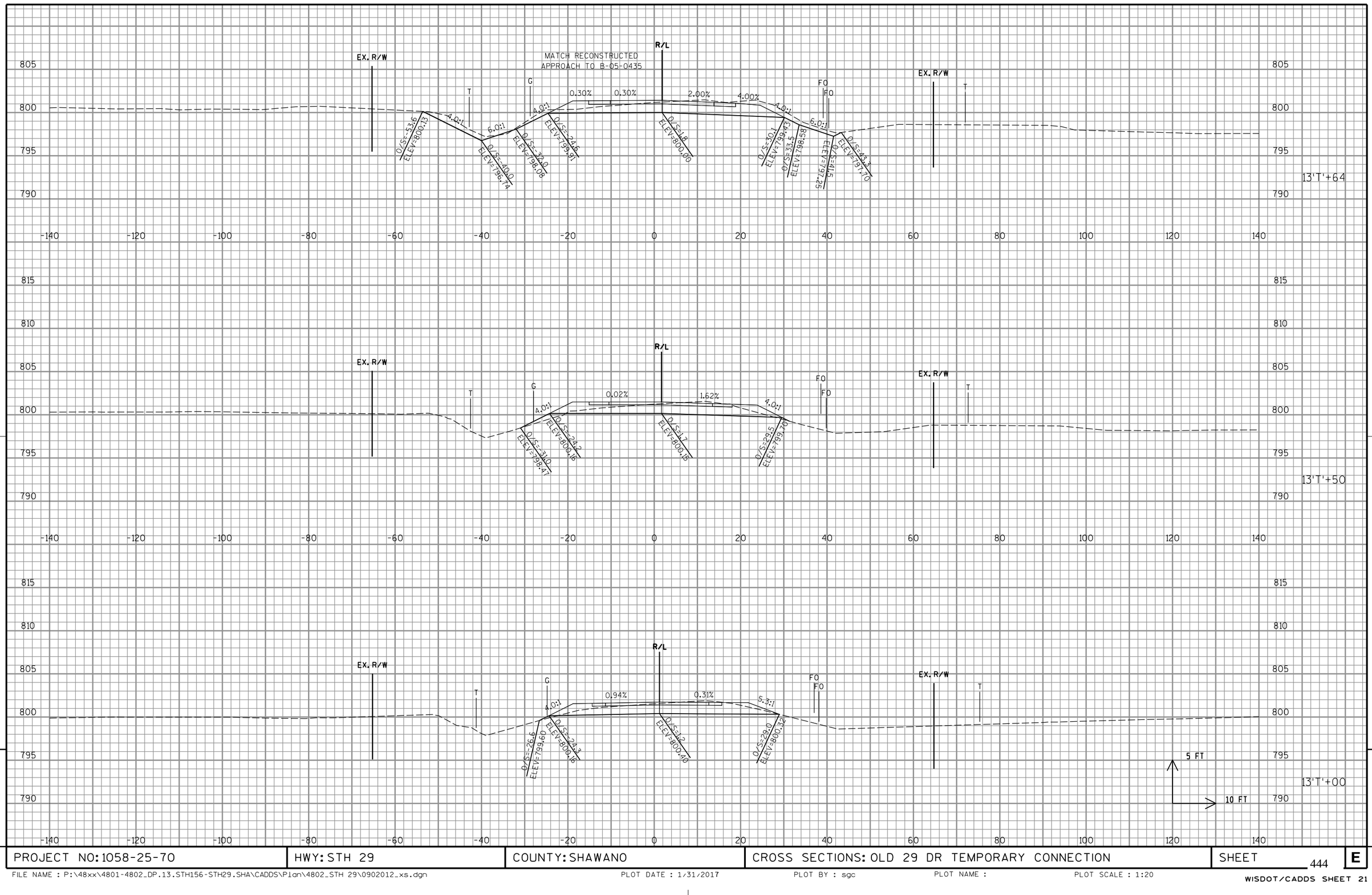
| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: OLD 29 DR REMOVAL | SHEET 442 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\0902010_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: OLD 29 DR TEMPORARY CONNECTION | SHEET 443 | E |
|---|---|---|---|---|---|




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: OLD 29 DR TEMPORARY CONNECTION | SHEET 444 | E |
|---|---|---|---|---|---|

LEGEND

PROPOSED FINAL SURFACE (SUBGRADE)

PROPOSED TEMPORARY BYPASS




9

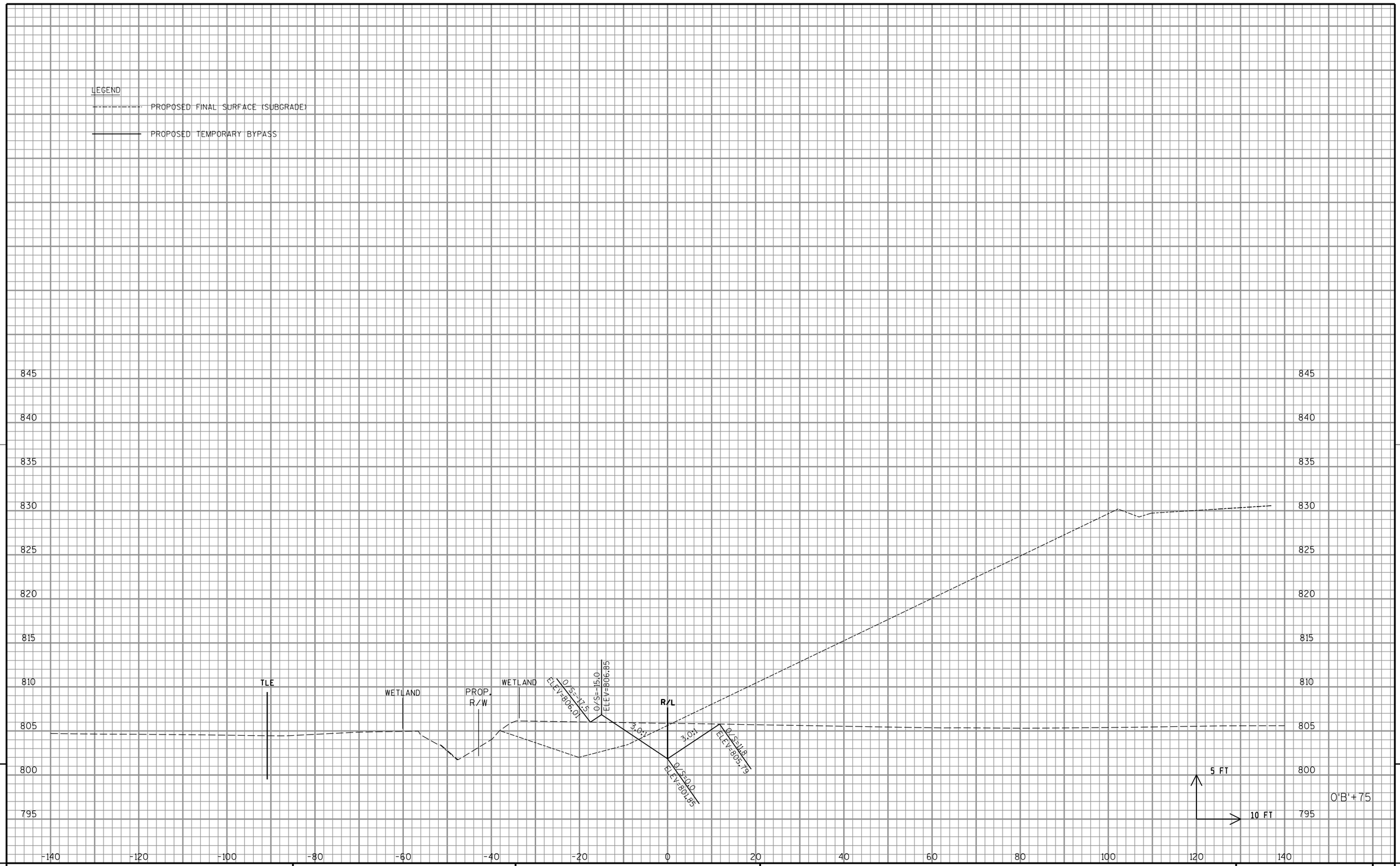
9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: TEMPORARY STREAM BYPASS | SHEET 445 | E |
|---|---|---|---|---|---|

LEGEND

PROPOSED FINAL SURFACE (SUBGRADE)

PROPOSED TEMPORARY BYPASS




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: TEMPORARY STREAM BYPASS | SHEET 446 | E |
|---|---|---|---|---|---|

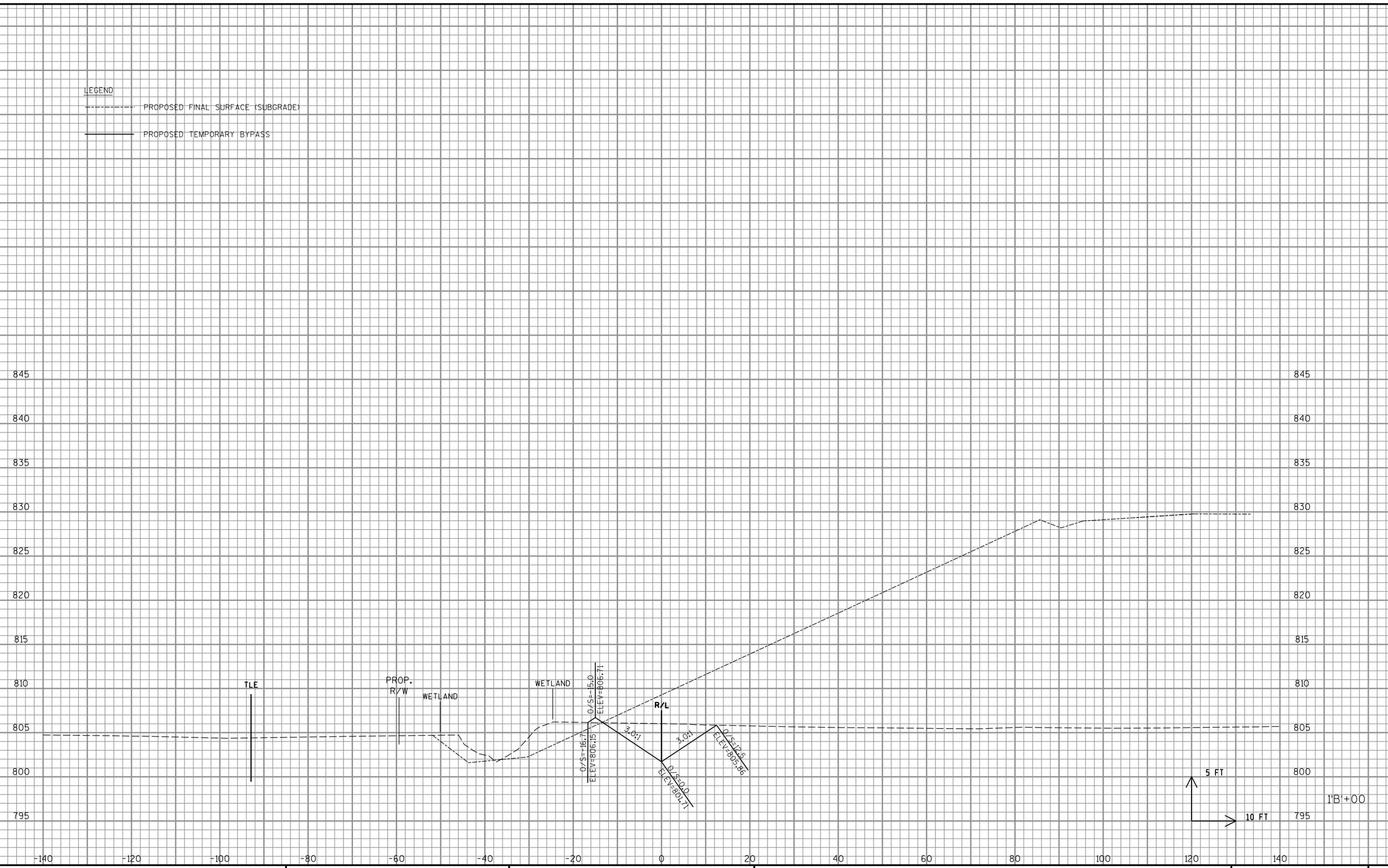
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\0902014_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

PROPOSED FINAL SURFACE (SUBGRADE)

PROPOSED TEMPORARY BYPASS




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: TEMPORARY STREAM BYPASS | SHEET 447 | E |
|---|---|---|---|---|---|

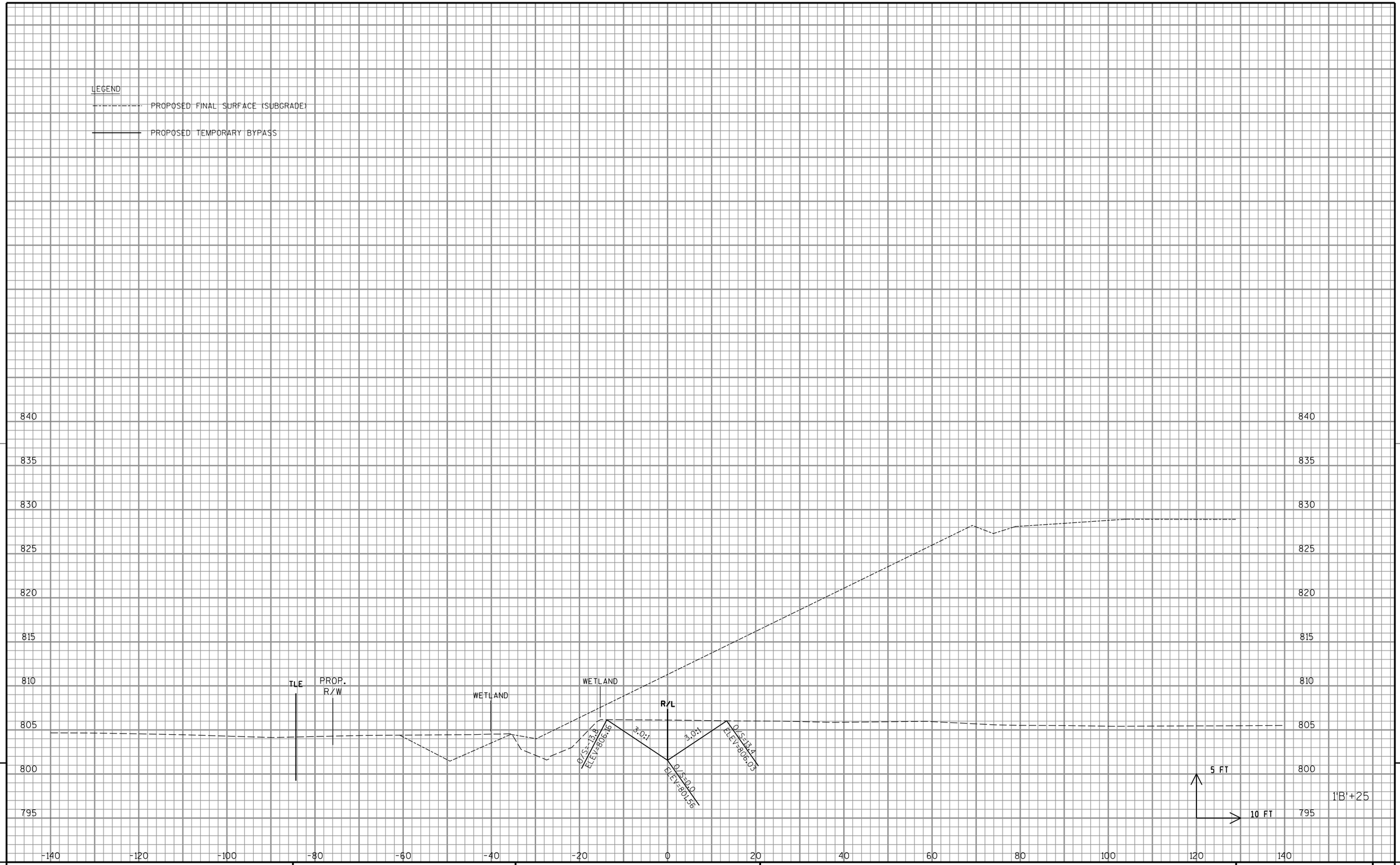
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\0902014_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

PROPOSED FINAL SURFACE (SUBGRADE)

PROPOSED TEMPORARY BYPASS




9

9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: TEMPORARY STREAM BYPASS | SHEET 448 | E |
|---|---|---|---|---|---|

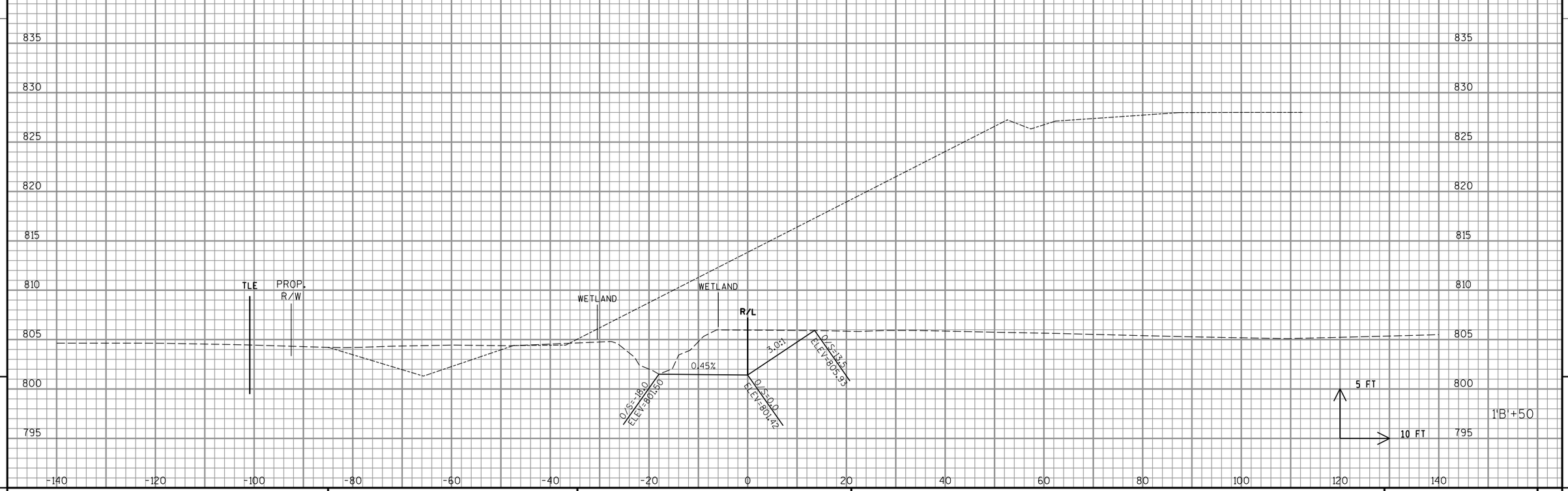
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\0902014_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

PROPOSED FINAL SURFACE (SUBGRADE)

PROPOSED TEMPORARY BYPASS




9

9

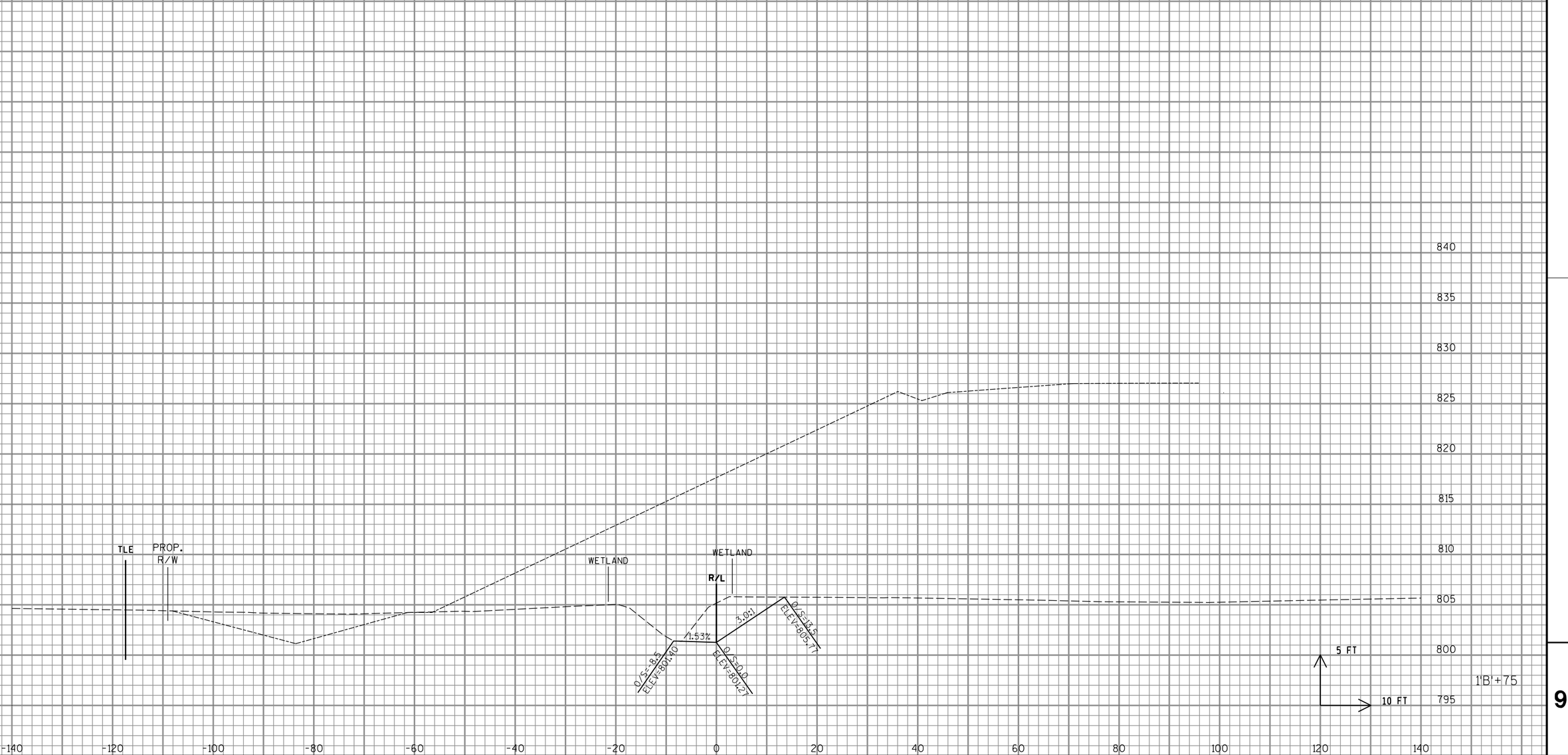
| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: TEMPORARY STREAM BYPASS | SHEET 449 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\0902014_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

LEGEND

PROPOSED FINAL SURFACE (SUBGRADE)

PROPOSED TEMPORARY BYPASS




9

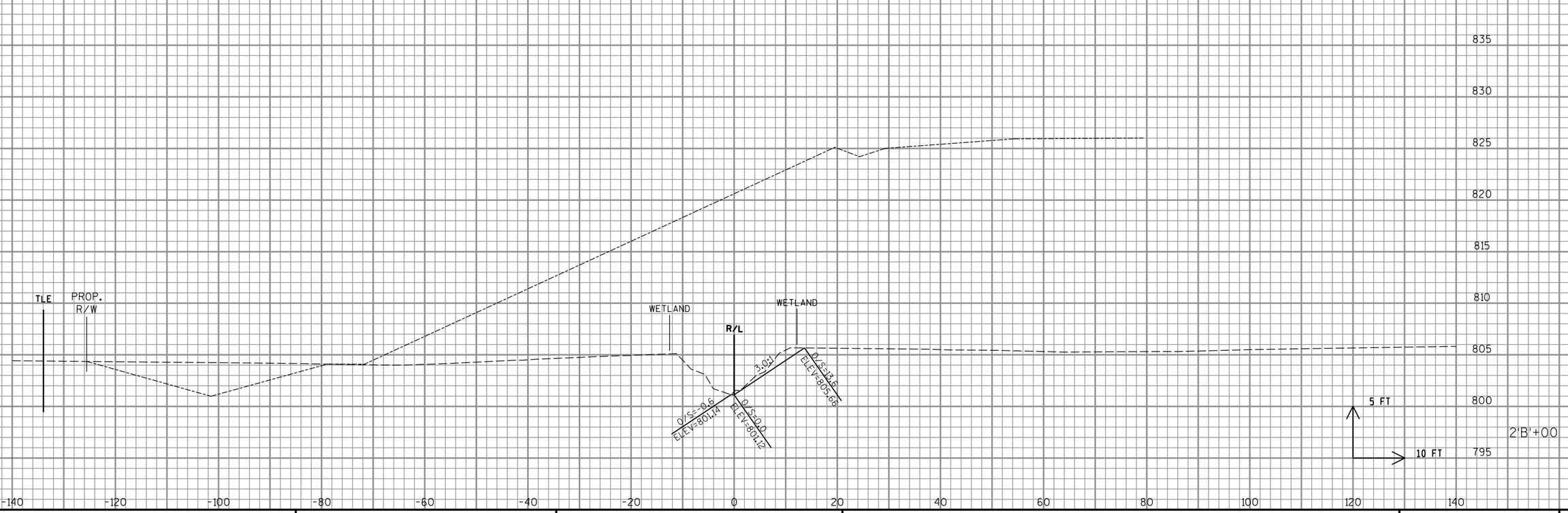
9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: TEMPORARY STREAM BYPASS | SHEET 450 | E |
|---|---|---|---|---|---|

LEGEND

PROPOSED FINAL SURFACE (SUBGRADE)

PROPOSED TEMPORARY BYPASS




9

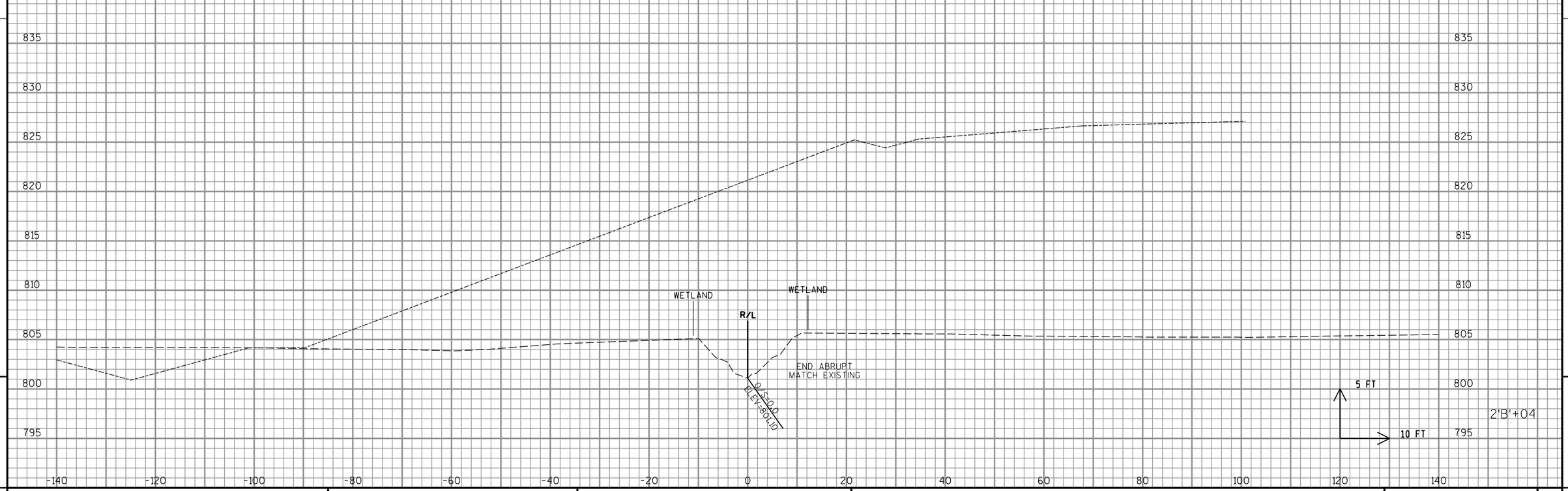
9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: TEMPORARY STREAM BYPASS | SHEET 451 | E |
|---|---|---|---|---|---|

LEGEND

PROPOSED FINAL SURFACE (SUBGRADE)

PROPOSED TEMPORARY BYPASS




9

9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: TEMPORARY STREAM BYPASS | SHEET 452 | E |
|---|---|---|---|---|---|

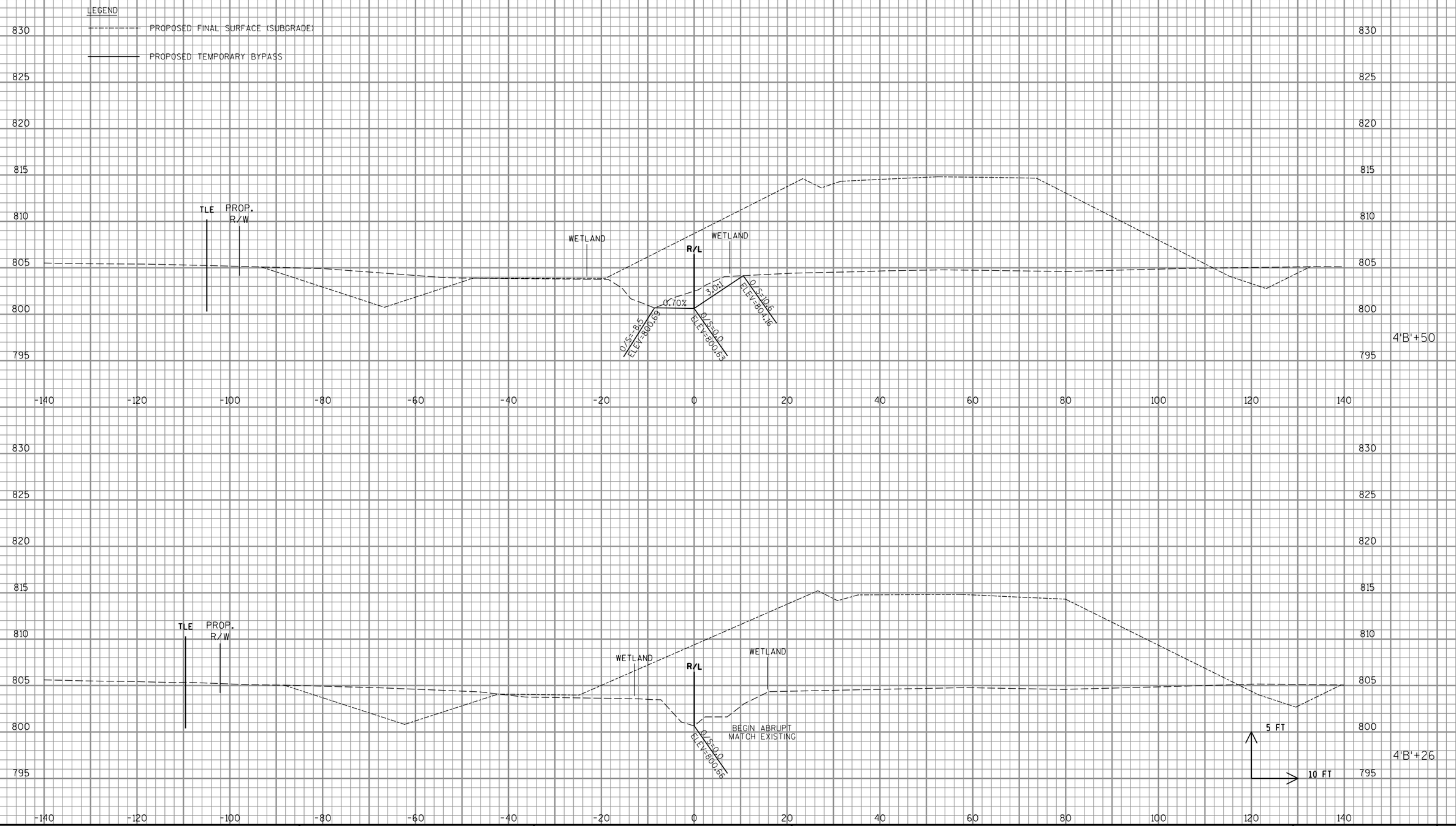
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\0902014_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

PROPOSED FINAL SURFACE (SUBGRADE)

PROPOSED TEMPORARY BYPASS




9

9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: TEMPORARY STREAM BYPASS | SHEET 453 | E |
|---|---|---|---|---|---|

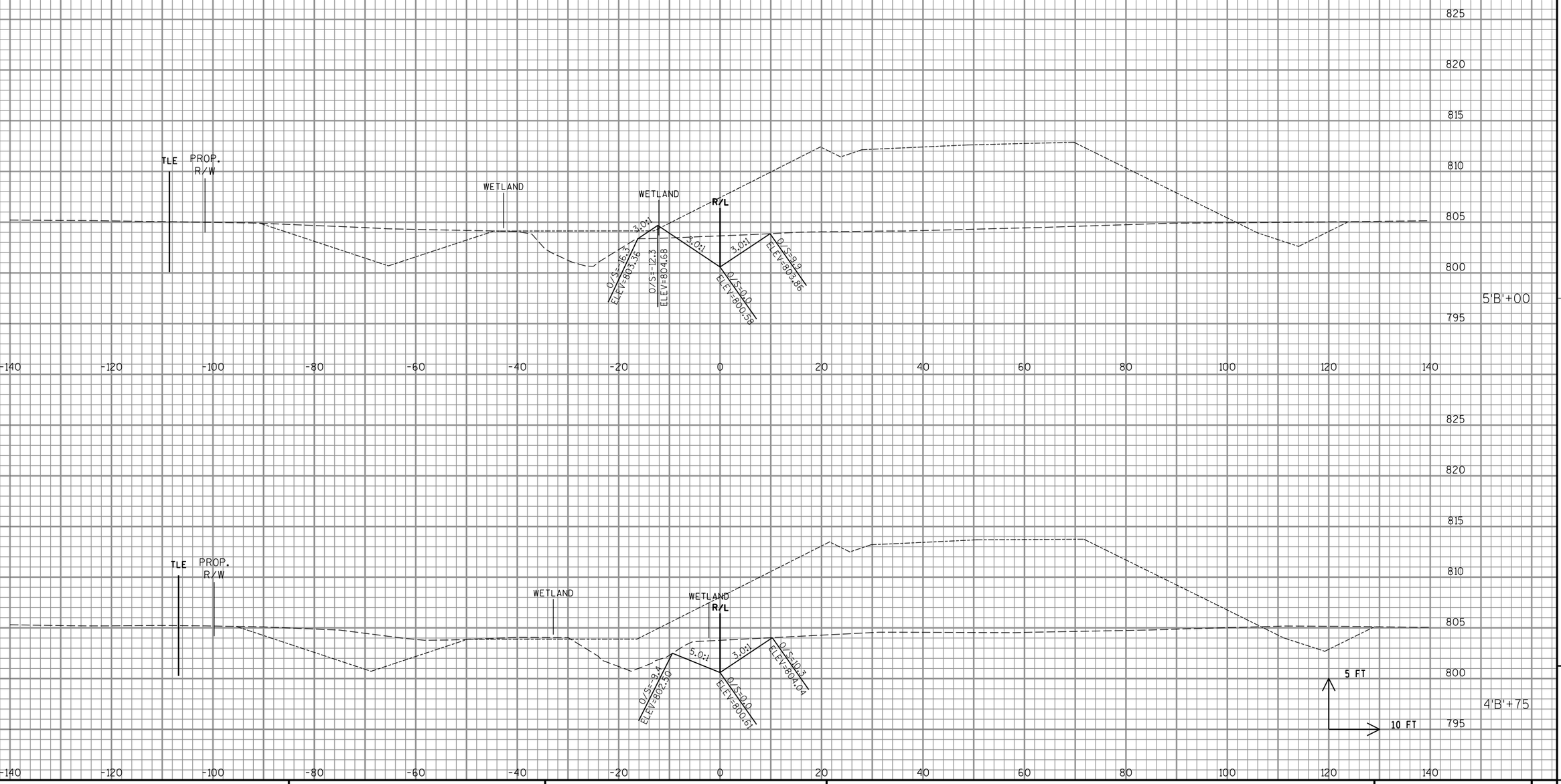
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\0902014_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

PROPOSED FINAL SURFACE (SUBGRADE)

PROPOSED TEMPORARY BYPASS




9

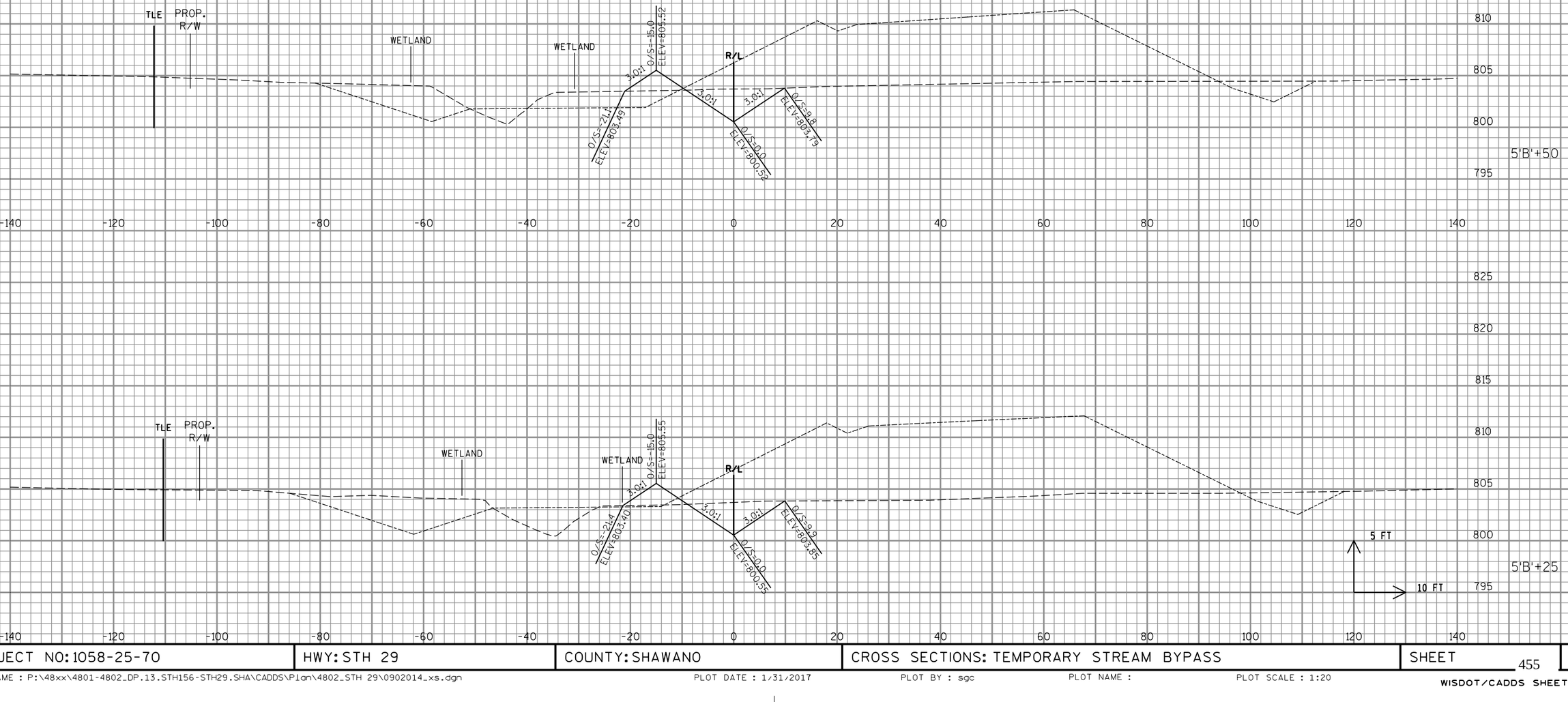
9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: TEMPORARY STREAM BYPASS | SHEET 454 | E |
|---|---|---|---|---|---|

LEGEND

PROPOSED FINAL SURFACE (SUBGRADE)

PROPOSED TEMPORARY BYPASS




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: TEMPORARY STREAM BYPASS | SHEET 455 | E |
|---|---|---|---|---|---|

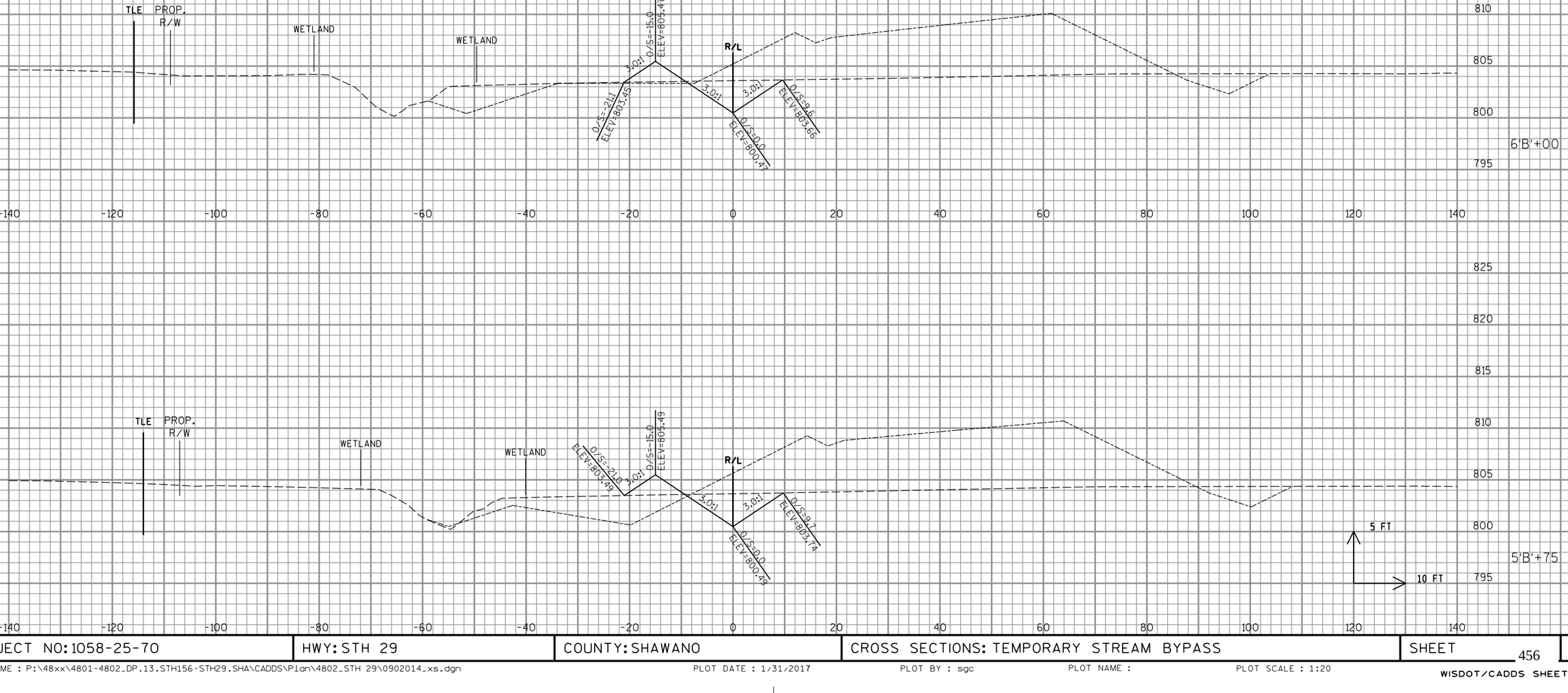
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\0902014_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

PROPOSED FINAL SURFACE (SUBGRADE)

PROPOSED TEMPORARY BYPASS




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: TEMPORARY STREAM BYPASS | SHEET 456 | E |
|---|---|---|---|---|---|

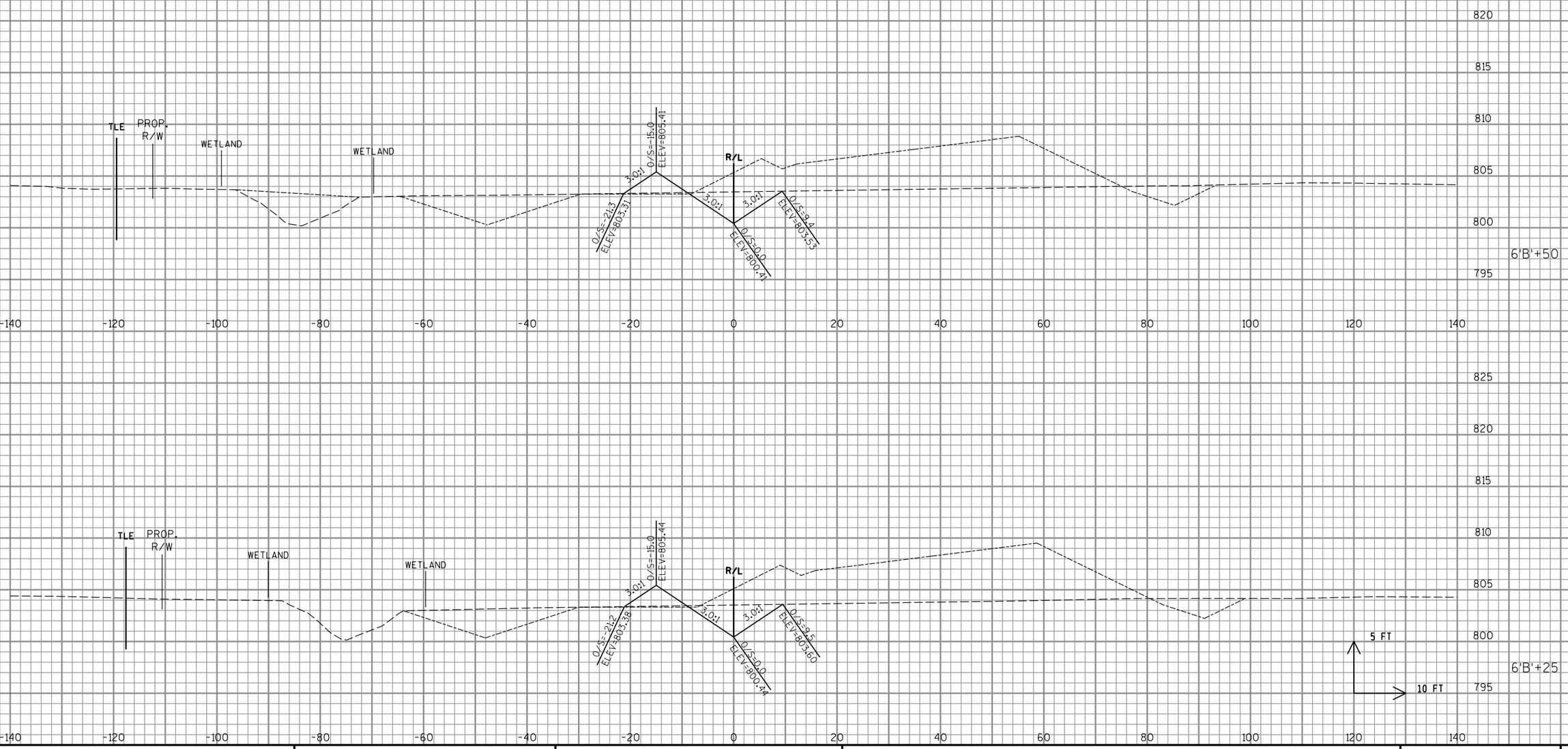
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\0902014_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

PROPOSED FINAL SURFACE (SUBGRADE)

PROPOSED TEMPORARY BYPASS




9

9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: TEMPORARY STREAM BYPASS | SHEET 457 | E |
|---|---|---|---|---|---|

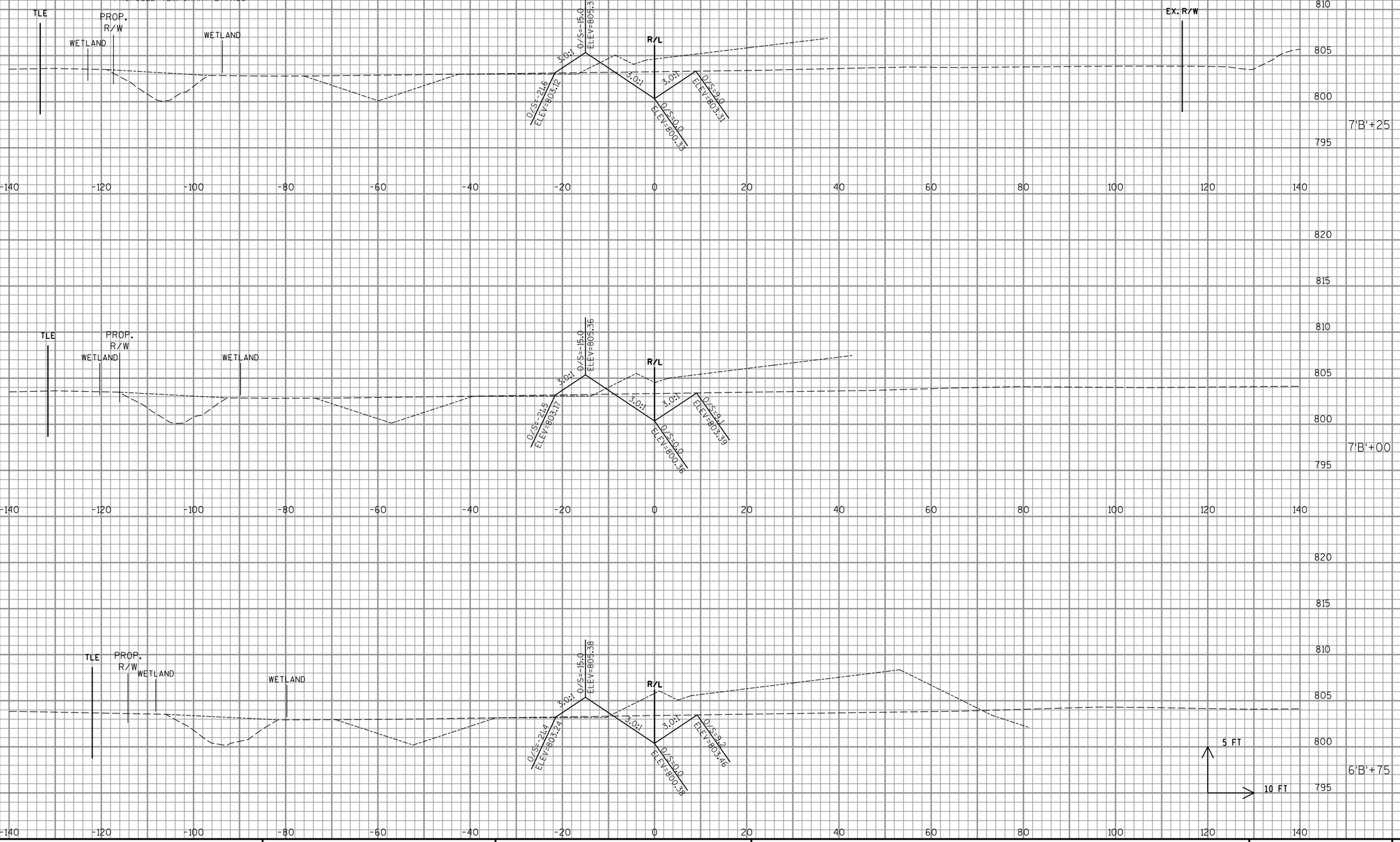
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\0902014_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

PROPOSED FINAL SURFACE (SUBGRADE)

PROPOSED TEMPORARY BYPASS




9

9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: TEMPORARY STREAM BYPASS | SHEET 458 | E |
|---|---|---|---|---|---|

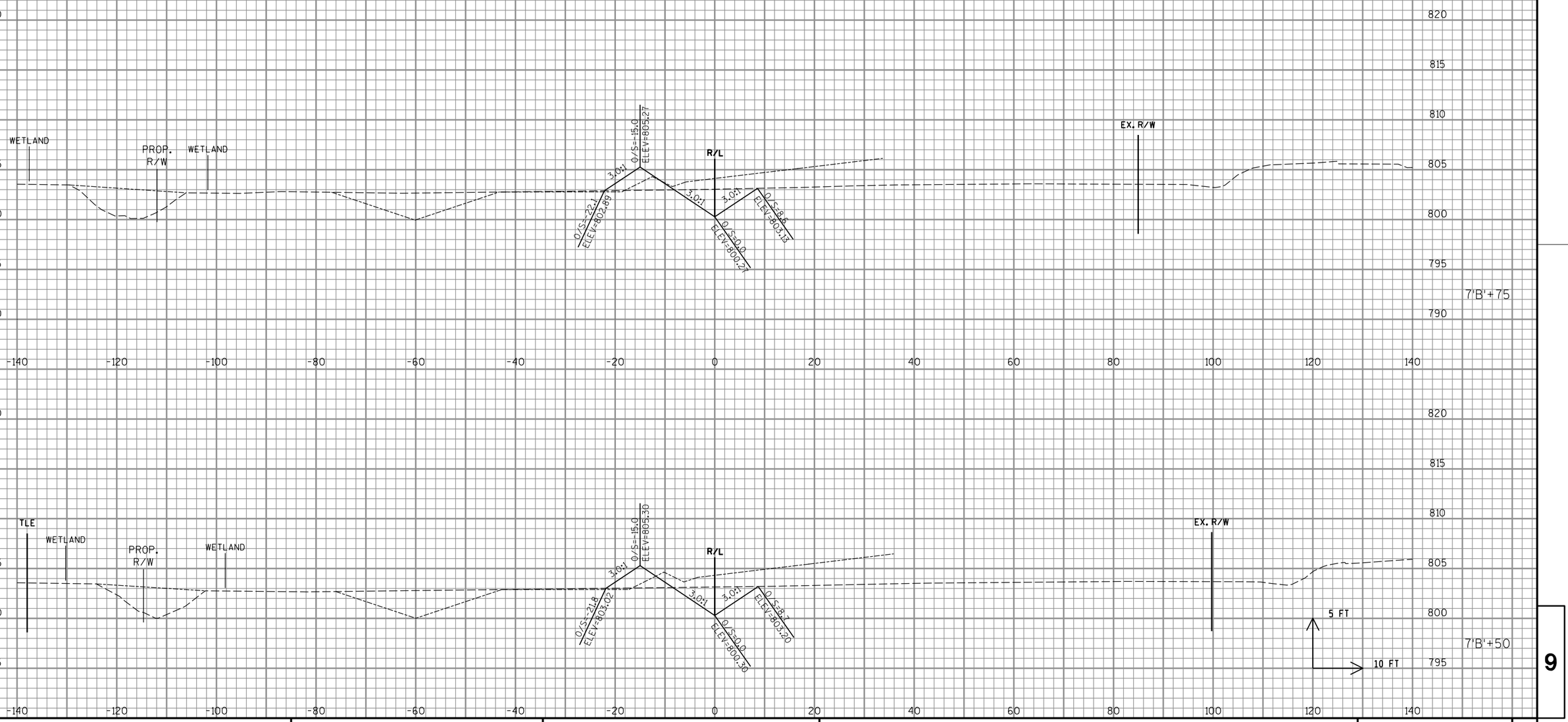
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\0902014_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

PROPOSED FINAL SURFACE (SUBGRADE)

PROPOSED TEMPORARY BYPASS




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: TEMPORARY STREAM BYPASS | SHEET 459 | E |
|---|---|---|---|---|---|

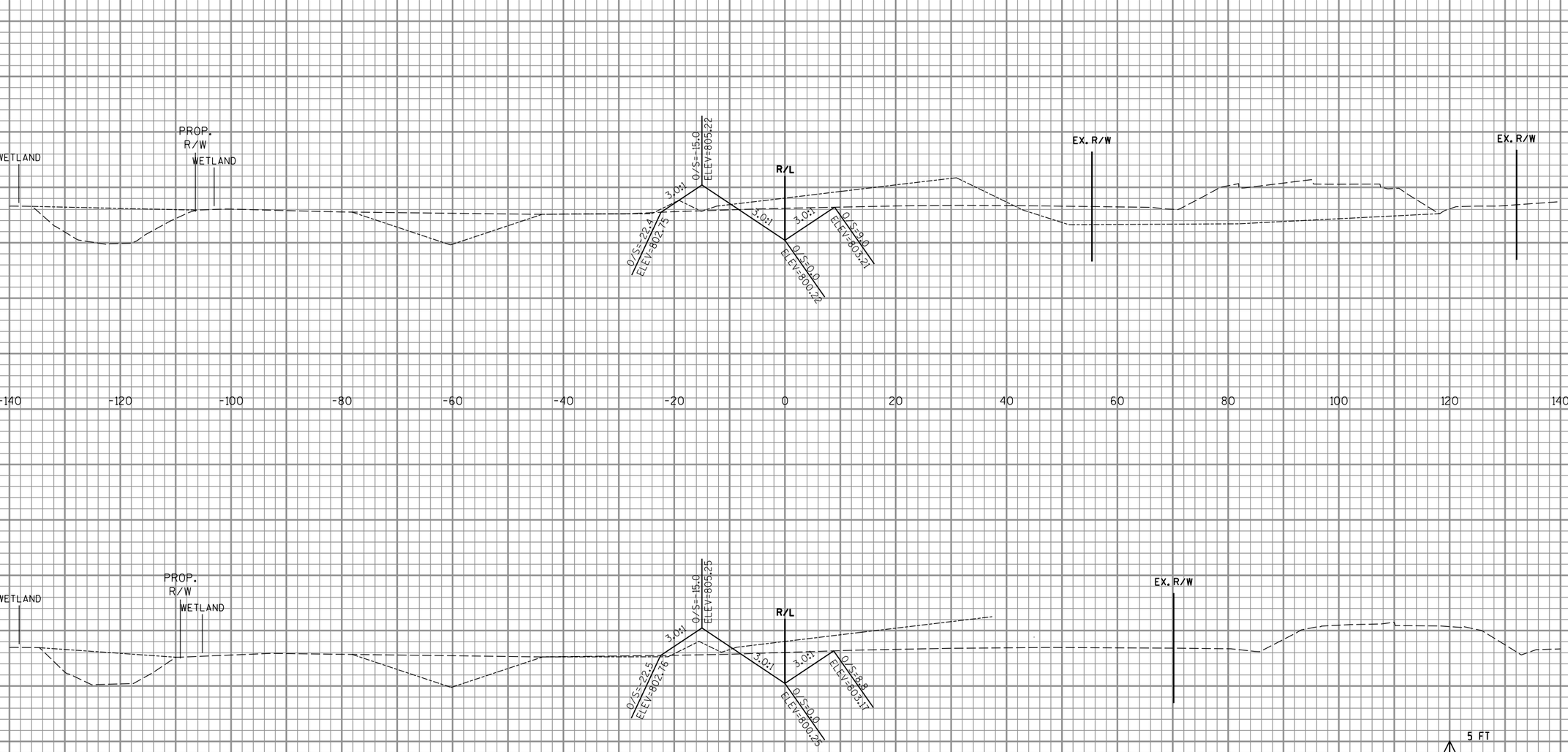
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WISDOT/CADDS SHEET 21

LEGEND

PROPOSED FINAL SURFACE (SUBGRADE)

PROPOSED TEMPORARY BYPASS




9

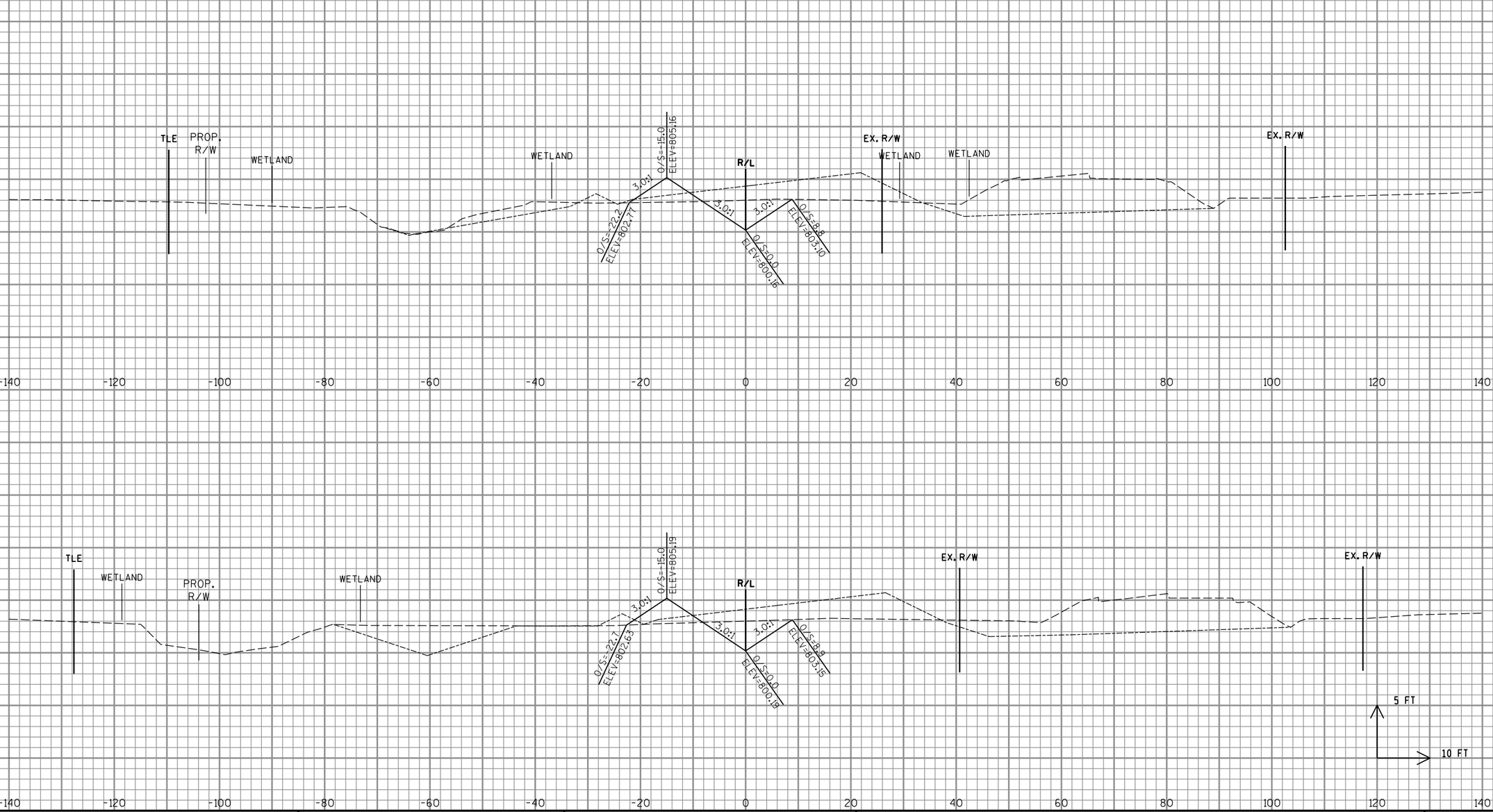
9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: TEMPORARY STREAM BYPASS | SHEET 460 | E |
|---|---|---|---|---|---|

LEGEND

PROPOSED FINAL SURFACE (SUBGRADE)

PROPOSED TEMPORARY BYPASS




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: TEMPORARY STREAM BYPASS | SHEET 461 | E |
|---|---|---|---|---|---|

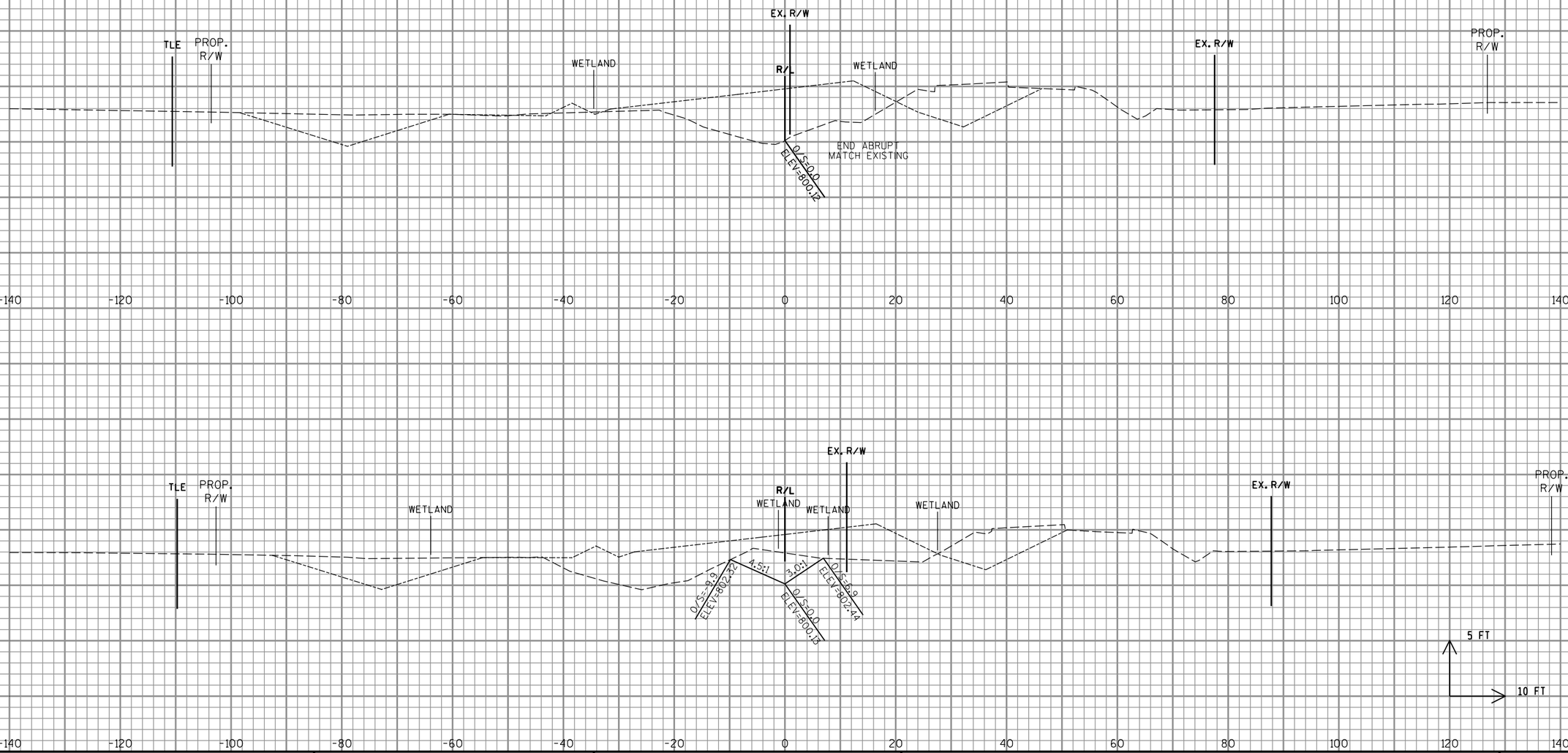
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\0902014_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

PROPOSED FINAL SURFACE (SUBGRADE)

PROPOSED TEMPORARY BYPASS




9

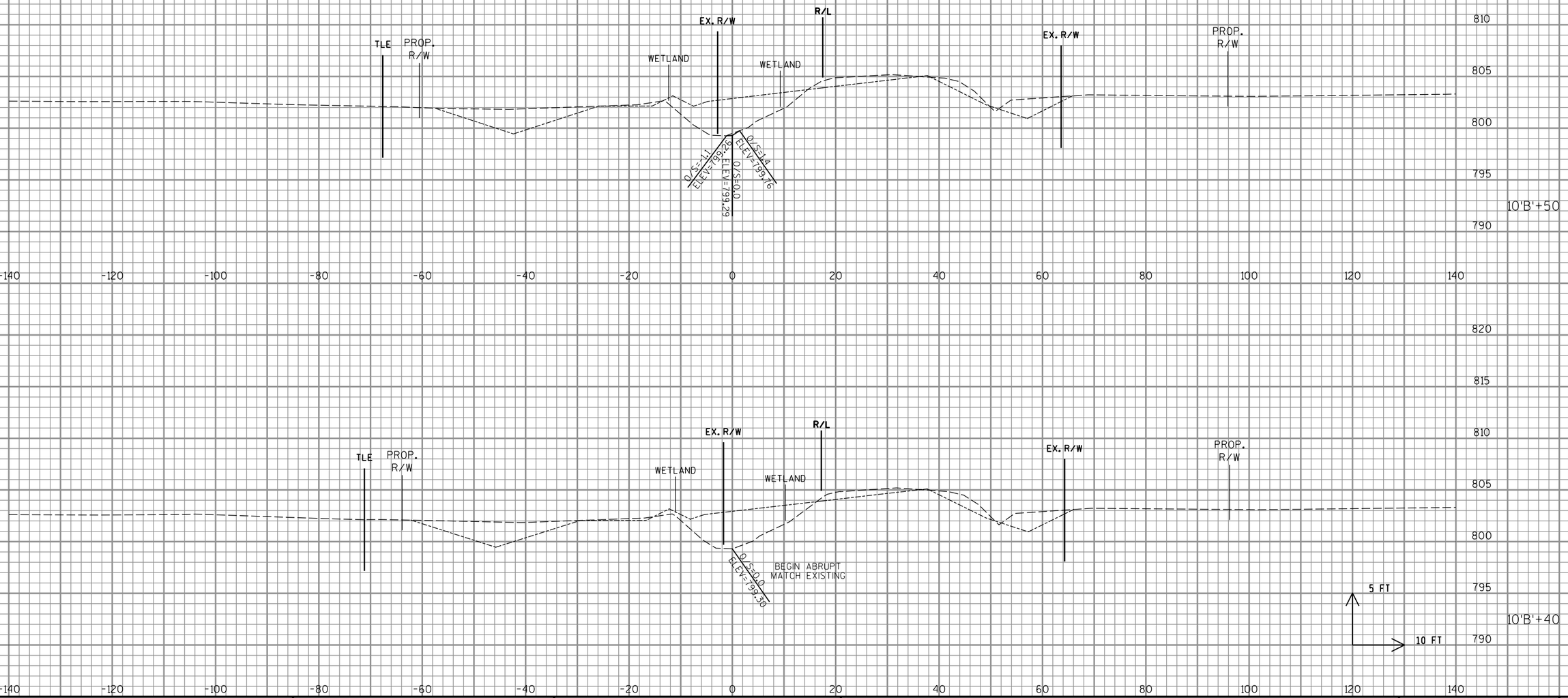
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| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: TEMPORARY STREAM BYPASS | SHEET 462 | E |
|---|---|---|---|---|---|

LEGEND

PROPOSED FINAL SURFACE (SUBGRADE)

PROPOSED TEMPORARY BYPASS




9

9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: TEMPORARY STREAM BYPASS | SHEET 463 | E |
|---|---|---|---|---|---|

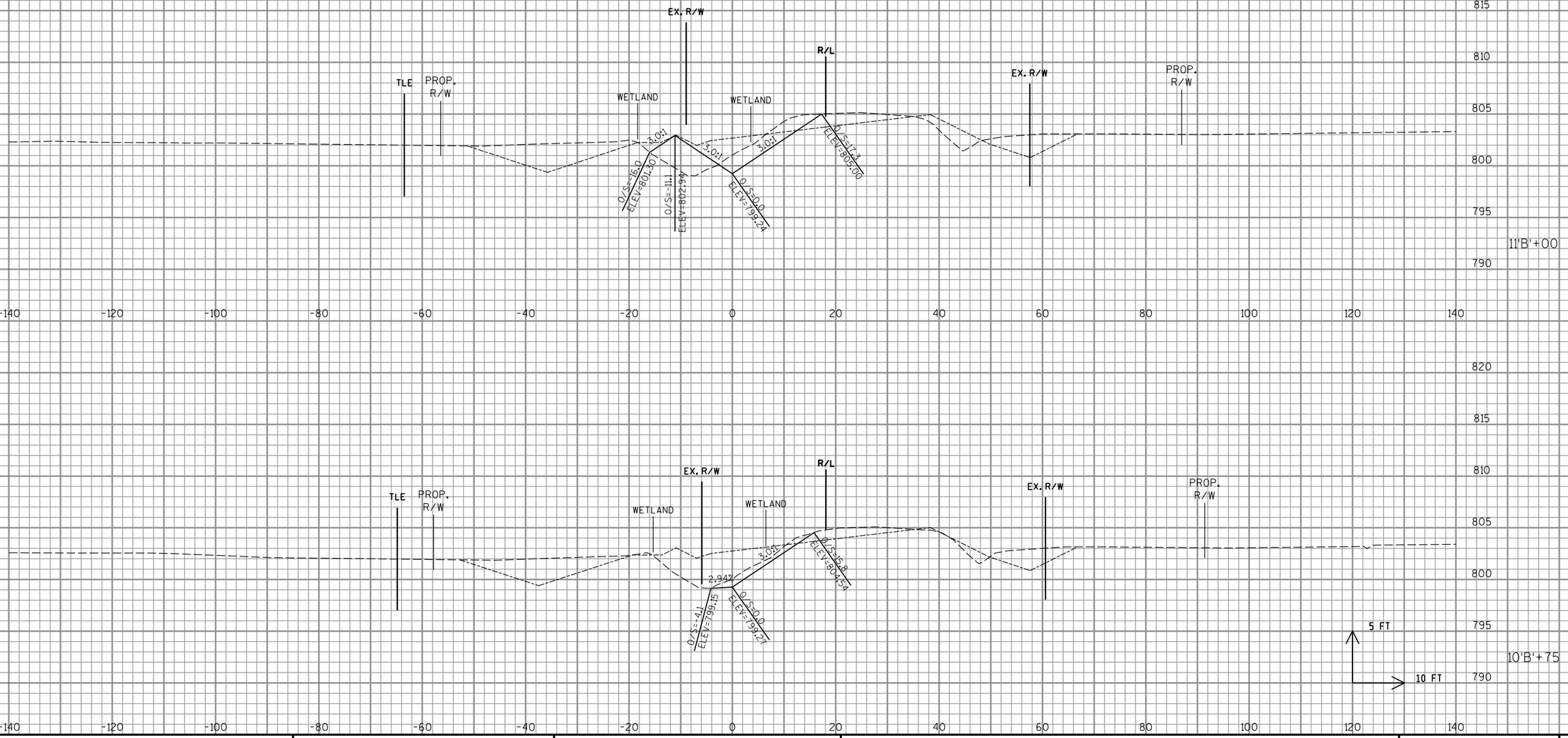
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\0902014_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

PROPOSED FINAL SURFACE (SUBGRADE)

PROPOSED TEMPORARY BYPASS




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: TEMPORARY STREAM BYPASS | SHEET 464 | E |
|---|---|---|---|---|---|

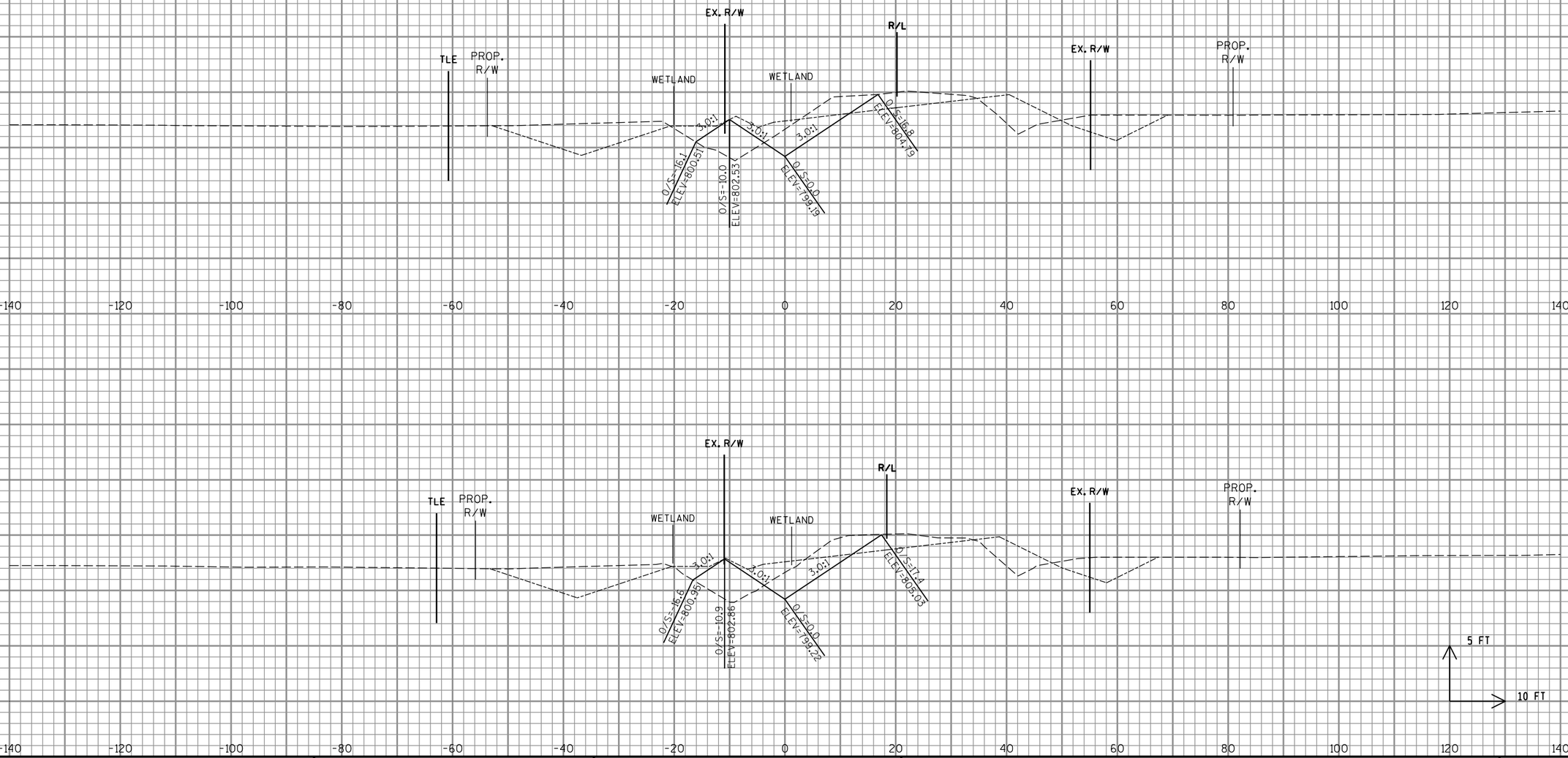
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\0902014_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

PROPOSED FINAL SURFACE (SUBGRADE)

PROPOSED TEMPORARY BYPASS




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: TEMPORARY STREAM BYPASS | SHEET 465 | E |
|---|---|---|---|---|---|

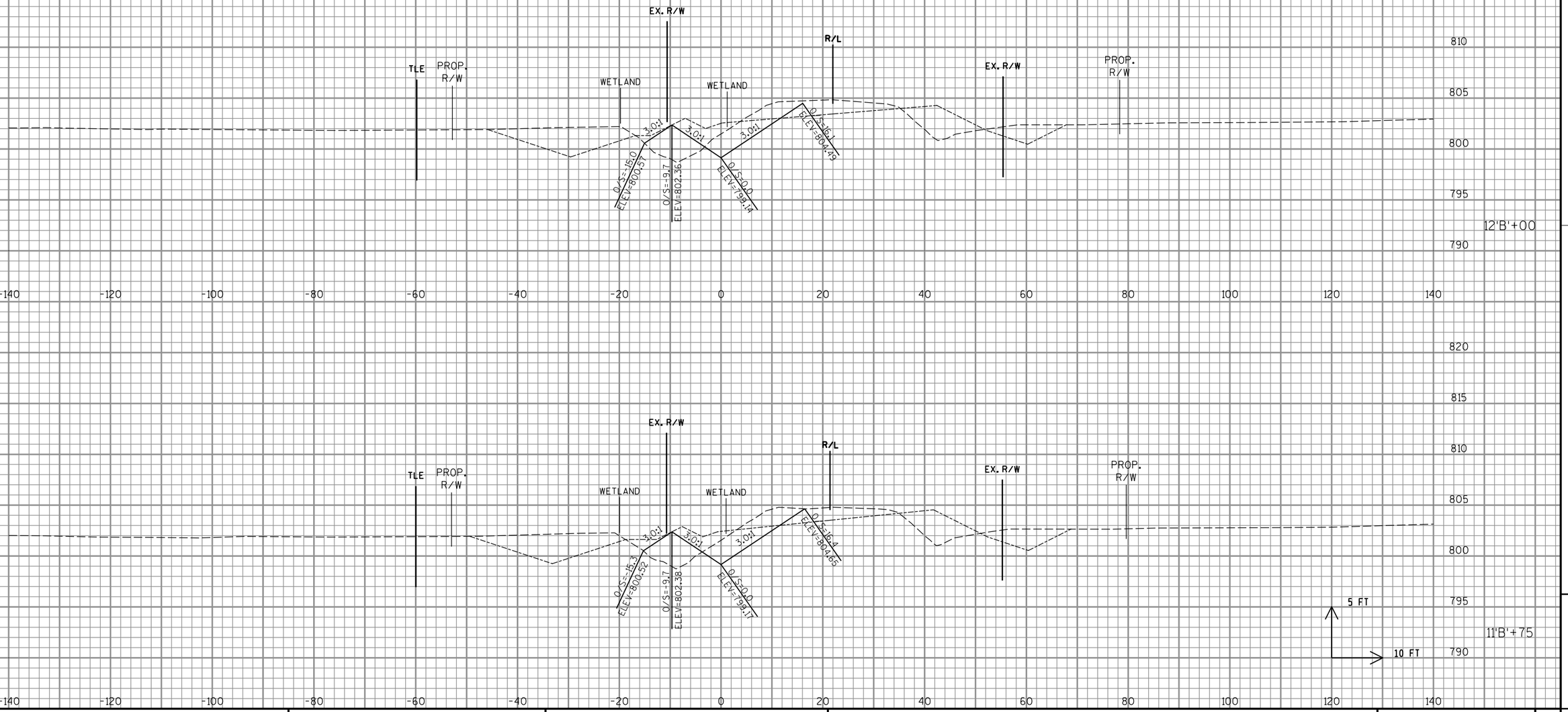
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\0902014_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

PROPOSED FINAL SURFACE (SUBGRADE)

PROPOSED TEMPORARY BYPASS




9

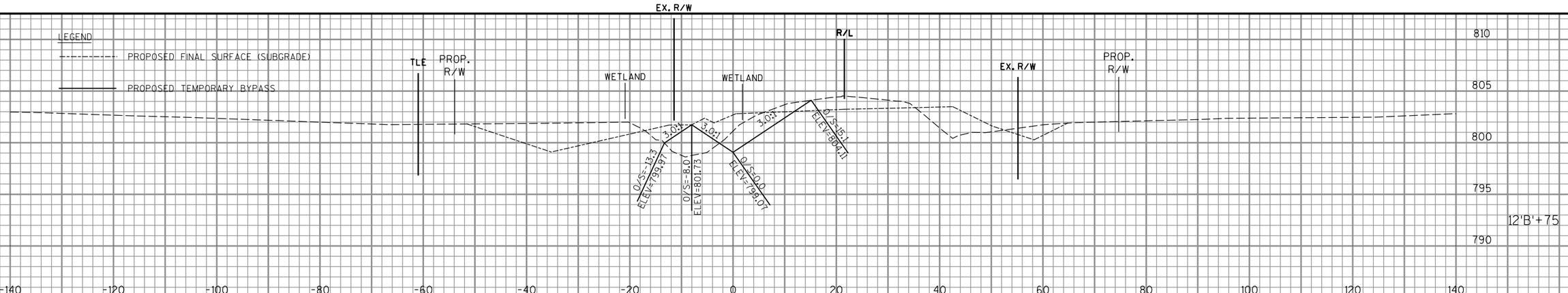
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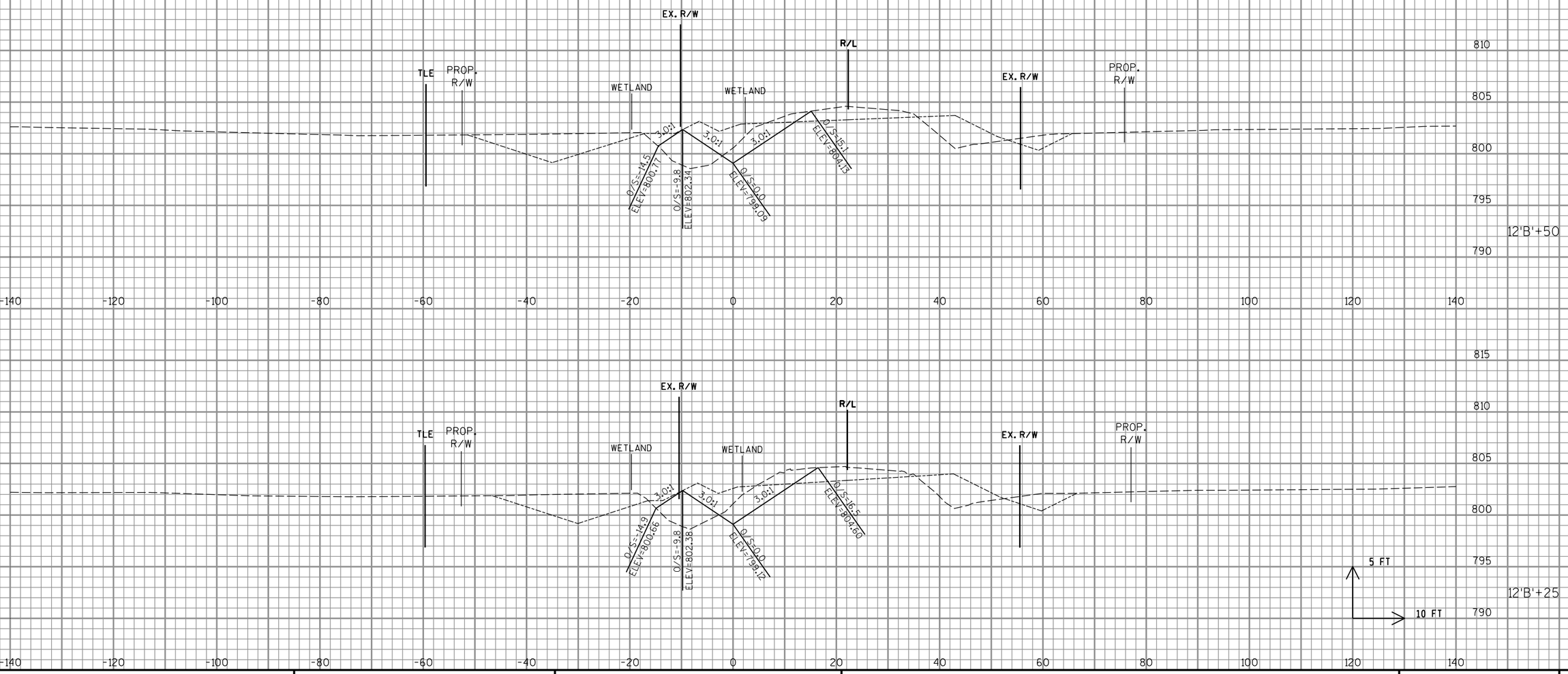
| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: TEMPORARY STREAM BYPASS | SHEET 466 | E |
|---|---|---|---|---|---|

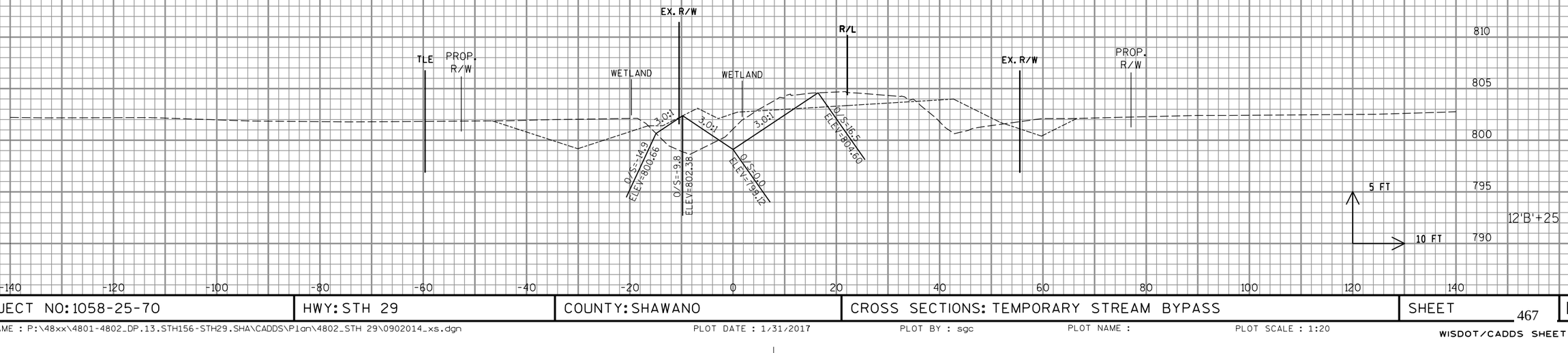
LEGEND

PROPOSED FINAL SURFACE (SUBGRADE)

PROPOSED TEMPORARY BYPASS



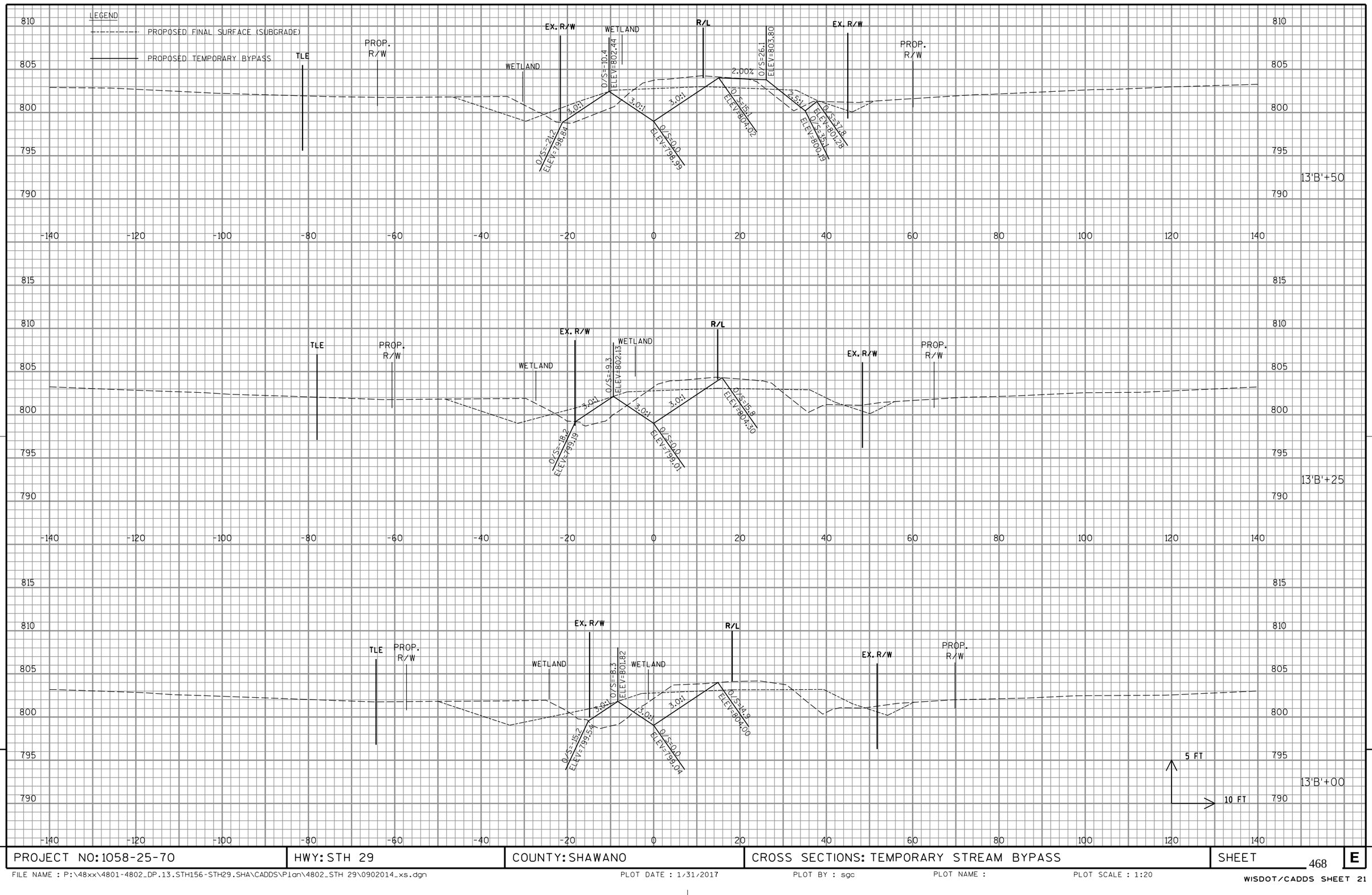




9

9

| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: TEMPORARY STREAM BYPASS | SHEET 467 | E |
|---|---|---|---|---|---|




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: TEMPORARY STREAM BYPASS | SHEET 468 | E |
|---|---|---|---|---|---|

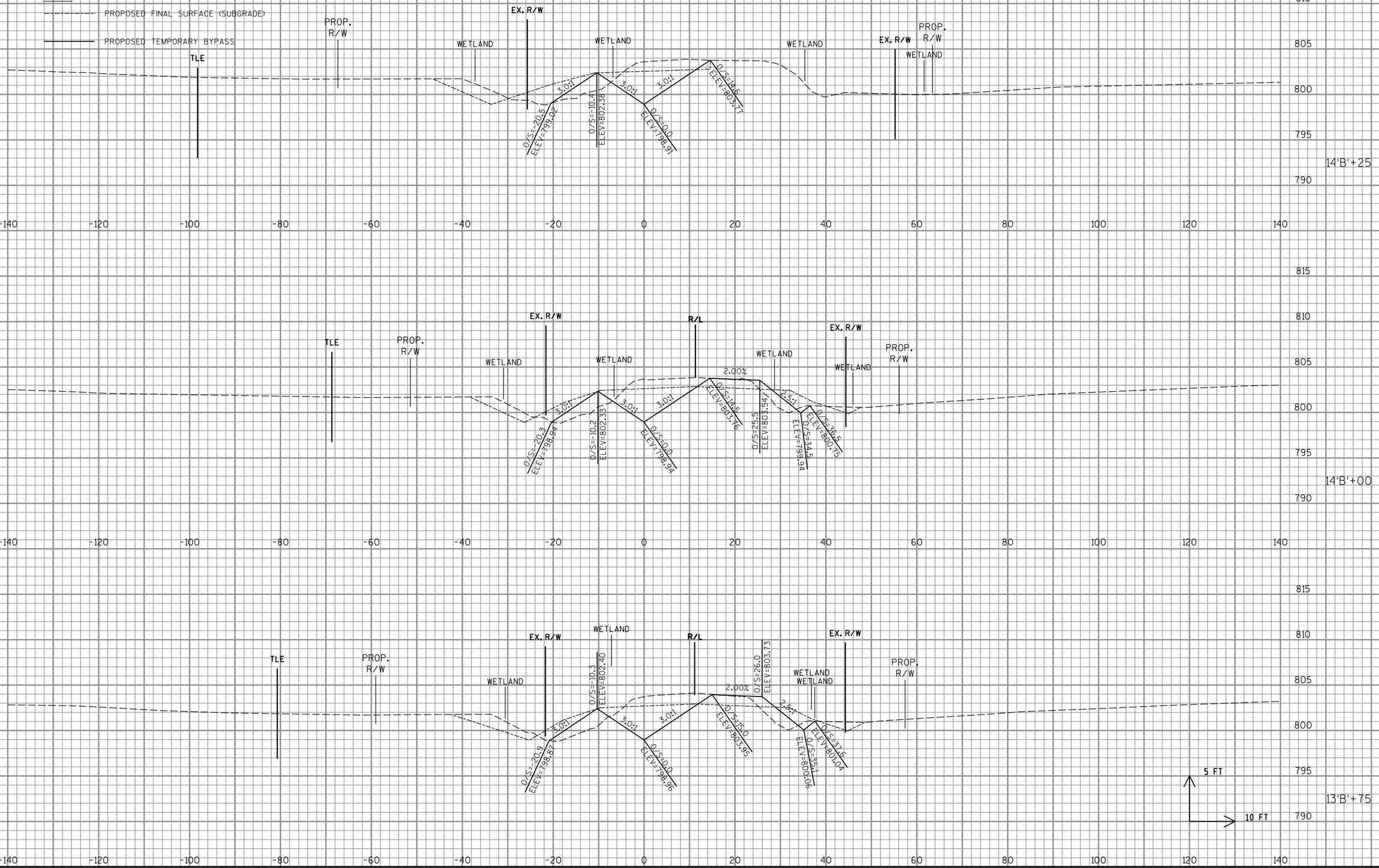
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\0902014_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

PROPOSED FINAL SURFACE (SUBGRADE)

PROPOSED TEMPORARY BYPASS




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: TEMPORARY STREAM BYPASS | SHEET 469 | E |
|---|---|---|---|---|---|

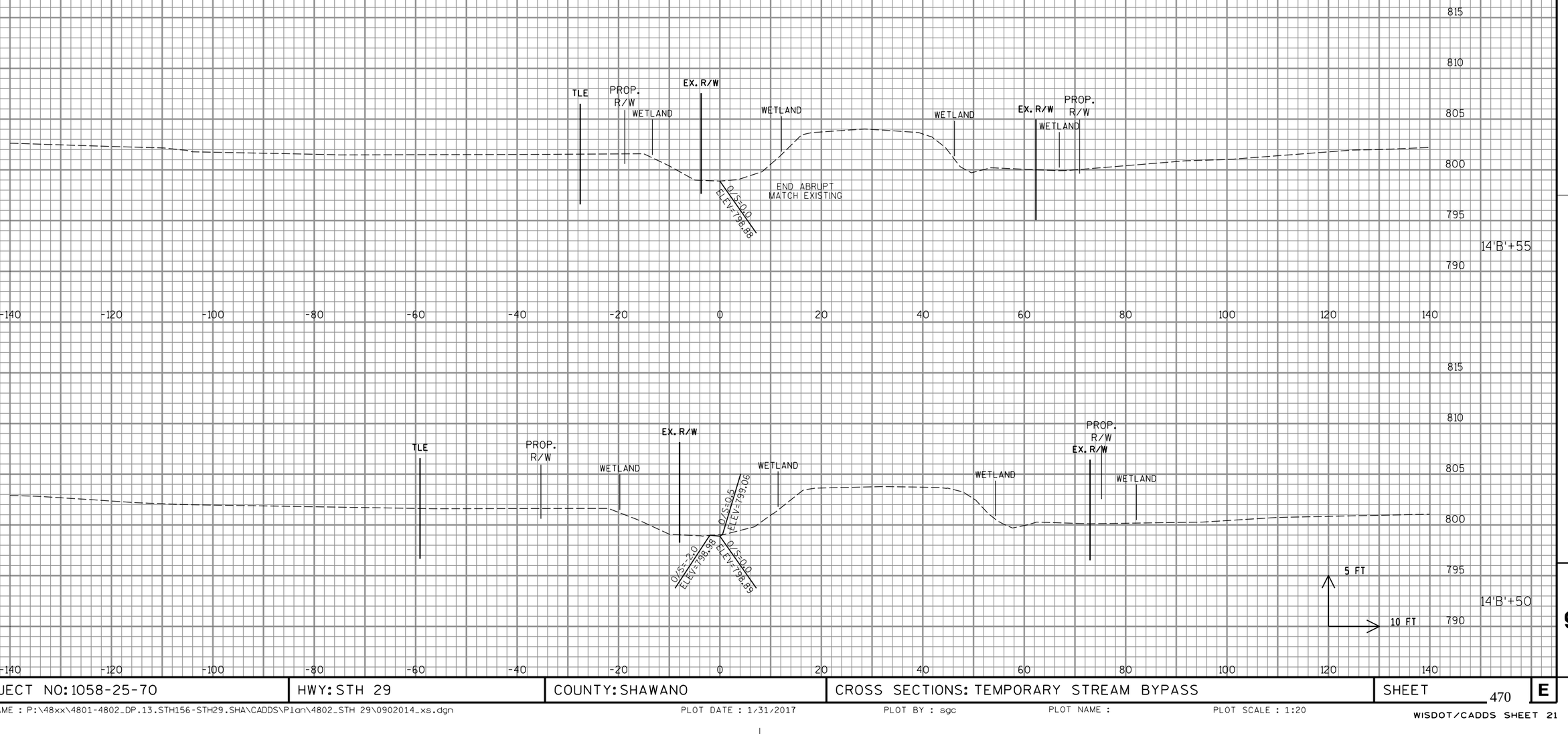
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\0902014_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

LEGEND

PROPOSED FINAL SURFACE (SUBGRADE)

PROPOSED TEMPORARY BYPASS




| PROJECT NO: 1058-25-70 | HWY: STH 29 | COUNTY: SHAWANO | CROSS SECTIONS: TEMPORARY STREAM BYPASS | SHEET 470 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4802_STH 29\0902014_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

Notes

**Wisconsin Department of Transportation**

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov

RHI

MAY 2017

PROJECT ID: 6580-11-60
WITH: 1058-25-70

COUNTY: SHAWANO

ORDER OF SHEETS


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


TOTAL SHEETS = 126

# STATE OF WISCONSIN
# DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

# CLINTONVILLE - HOWARD

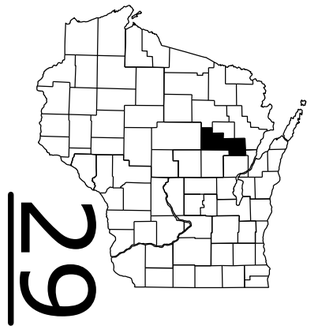
STH 55 - STH 29

## STH 156

## SHAWANO COUNTY

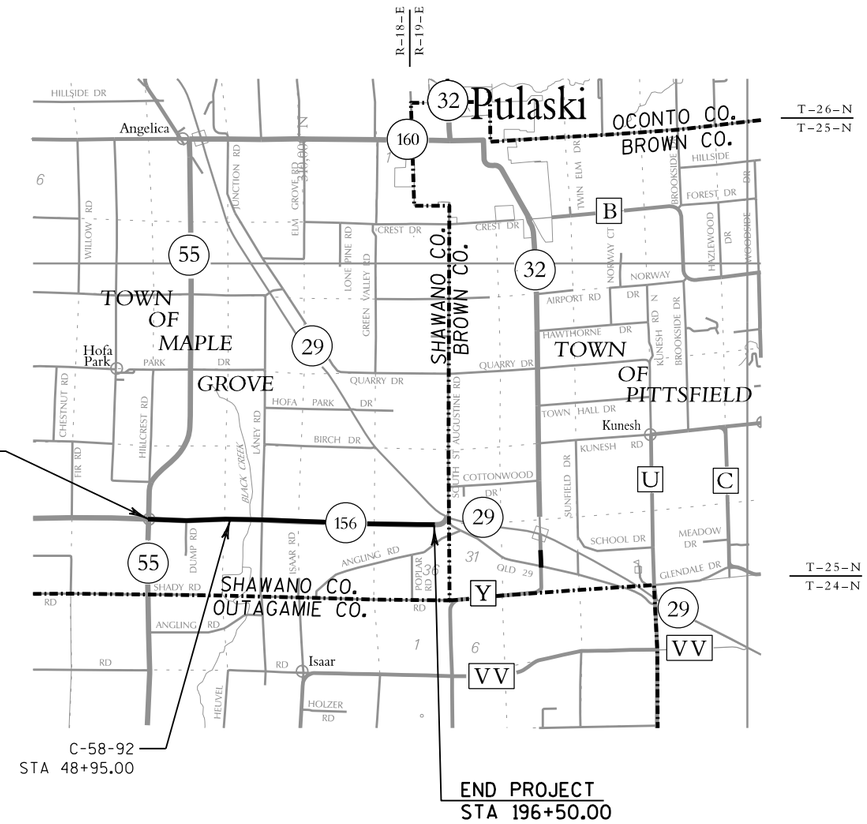
| STATE PROJECT | FEDERAL PROJECT | |
|---|---|---|
| | PROJECT | CONTRACT |
| 6580-11-60 | ——— | ——— |
| | | |
| | | |
| | | |

STATE PROJECT NUMBER
**6580-11-60**










LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 3.693 MI.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), SHAWANO COUNTY, (NAD 83), 1991 ADJUSTMENT

ALL ELEVATIONS ON THIS PROJECT ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)

DESIGN DESIGNATION

| | | |
|---|---|---|
| A.A.D.T. | (2017) = | 1,800 |
| A.A.D.T. | (2037) = | 1,900 |
| D.H.V. | (2037) = | 245 |
| D.D. | (2037) = | 60/40 |
| T. | (2037) = | 9.6% |
| DESIGN SPEED | = | 55 MPH |
| ESALS | = | N/A |

CONVENTIONAL SYMBOLS

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

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

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


ORIGINAL PLANS PREPARED BY
emcs inc
500 North 17th Avenue
Wausau, WI 54401
715.845.1081 Fax 715.845.1099





STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

| | |
|---|---|
| Surveyor | EMCS, INC. |
| Designer | EMCS, INC. |
| Project Manager | JIM VOLKMANN |
| Regional Examiner | CHERYL SIMON |
| Regional Supervisor | MIKE WENDT |

APPROVED FOR THE DEPARTMENT

DATE: 11/30/2016 (Signature)

E

2

## GENERAL NOTES

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

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

## AS-BUILTS USED FOR PLAN DEVELOPMENT

PROJECT NO. 6167-01-71, CONSTRUCTION YEAR 1986

PROJECT NO. 6580-10-70, CONSTRUCTION YEAR 2012

## ORDER OF SECTION 2 SHEETS


PROJECT OVERVIEW

TYPICAL SECTIONS

CONSTRUCTION DETAILS

EROSION CONTROL

PERMANENT SIGNING

TRAFFIC CONTROL

DETOUR


## UTILITIES

**ATC MANAGEMENT, INC.**
(ELECTRIC TRANSMISSION)
GERALD RHODE
801 OKEEFE ROAD
DE PERE, WI 54115
(920) 338-6523
GHRODE@ATCLLC.COM

**CENTURYLINK**
(COMMUNICATIONS)
MATT GUNDERSON
212 CHURCH AVE
CASCO, WI 54205
(920) 837-2344
MATT.GUNDERSON@CENTURYLINK.COM

**NORTHEAST TELEPHONE COMPANY, LLC**
(COMMUNICATIONS)
RICK VINCENT
5475 GLENDALE AVE
GREEN BAY, WI 54313
(920) 617-7316
RICK.VINCENT@NSIGHT.COM

**CENTURYLINK COMMUNICATIONS LLC FKA QWEST COMMUNICATIONS**
(COMMUNICATIONS)
BOB SAMPSON
1310 EAST MARY STREET
OTTUMWA, IA 52501
(636) 887-5367 (MOBILE)
ROBERT.SAMPSON@CENTURYLINK.COM

**WE ENERGIES**
(ELECTRIC DISTRIBUTION)
TOM BRAUN
800 SOUTH LYNDALE DRIVE
APPLETON, WI 54911
(920) 380-3452
(920) 428-3114 (MOBILE)
TOM-B.BRAUN@WE-ENERGIES.COM

**WISCONSIN PUBLIC SERVICE CORPORATION**
(GAS)
DAVID CZARNECKI
2850 SOUTH ASHLAND AVENUE
PO BOX 19001
GREEN BAY, WI 54304
(920) 617-5132
DFCZARNECKI@WISCONSINPUBLICSERVICE.COM

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

## OTHER CONTACTS

**DNR LIAISON**
JAMES DOPERALSKI JR
2984 SHAWANO AVE
P.O. BOX 10448
GREEN BAY, WI 54307-0448
(920) 662-5119
JAMES.DOPERALSKI@WISCONSIN.GOV

**U.S. ARMY CORPS OF ENGINEERS**
RYAN HUBER
211 NORTH BROADWAY, SUITE 221
GREEN BAY, WI 54303
(651) 290-5859
RYAN.J.HUBER@USACE.ARMY.MIL

2

PROPOSED ATC OVERHEAD TRANSMISSION LINE ROUTE (2017/2018)

TOWN OF MAPLE GROVE

OH OH OH OH OH OH OH OH OH OH

UNNAMED TRIBUTARY TO THE BLACK CREEK

REMOVE C-58-90 &
CONSTRUCT NEW BOX CULVERT C-58-92
RECONSTRUCT APPROACHES
REMOVE GUARDRAIL, LT & RT
REPLACE GUARDRAIL, LT

B-58-118
BOX CULVERT TO REMAIN

LANEY RD

MILL & HMA OVERLAY

REMOVE GUARDRAIL
GRADE SLOPES

STH 55

0+00 20+00 40+00 60+00 STH 156 80+00 100+00 120+00

REMOVE & REPLACE CULVERT

BEGIN PROJECT
STA 1+50
BEGIN MILL & HMA OVERLAY

FOREST VIEW RD

UNNAMED TRIBUTARY TO THE BLACK CREEK

BLACK CREEK

LANEY RD

N

TOWN OF MAPLE GROVE

OH OH OH OH OH OH OH OH OH OH

PROPOSED ATC OVERHEAD TRANSMISSION LINE ROUTE (2017/2018)

TOWN OF MAPLE GROVE

UNNAMED TRIBUTARY TO THE WEST BRANCH OF THE SUAMICO RIVER

120+00 140+00 STH 156 160+00 180+00

MILL & HMA OVERLAY

END PROJECT
STA 196+50.00
END MILL & HMA OVERLAY

SEE PROJECT 1058-25-70
CONSTRUCT NEW OVERPASS AND ROUTE STH 156 ONTO OLD 29 DR, CLOSE EXISTING INTERSECTION AT STH 29

STH 29

24'A'+00

ST. AUGUSTINE RD

320'EB'+00

EXISTING ST. AUGUSTINE RD

12'A'+00

200+00

EXISTING STH 156

210+00

TOWN OF PITTSFIELD

WEST BRANCH OF THE SUAMICO RIVER

N

340'EB'+00 STH 29 360'EB'+00

220+00

ANGLE DR

230+00

240+00

STH 156/OLD 29 DR

SHAWANO COUNTY
BROWN COUNTY

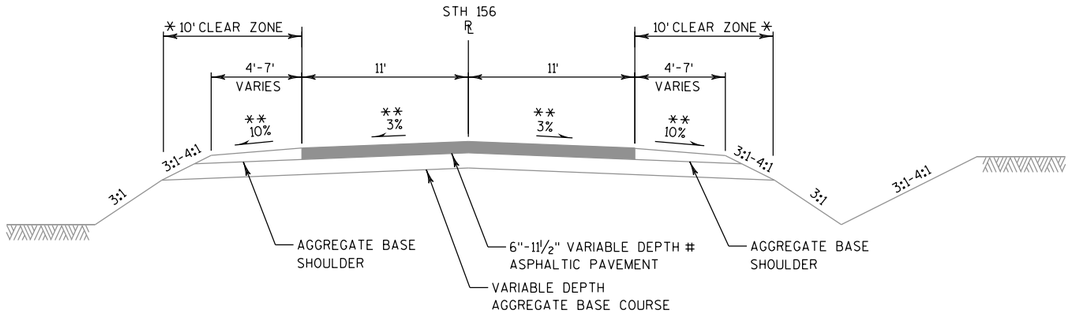
NOTE

WITHIN SHAWANO COUNTY "OLD 29" IS REFERRED TO AS "OLD 29 RD", WITHIN BROWN COUNTY IT IS REFERRED TO AS "OLD 29 DR"

FOR THE PURPOSE OF PLAN DEVELOPMENT, IT WILL BE KNOWN AS "OLD 29 DR"

| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | PROJECT OVERVIEW | SHEET 3 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4801_STH 156\020201_po.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:800

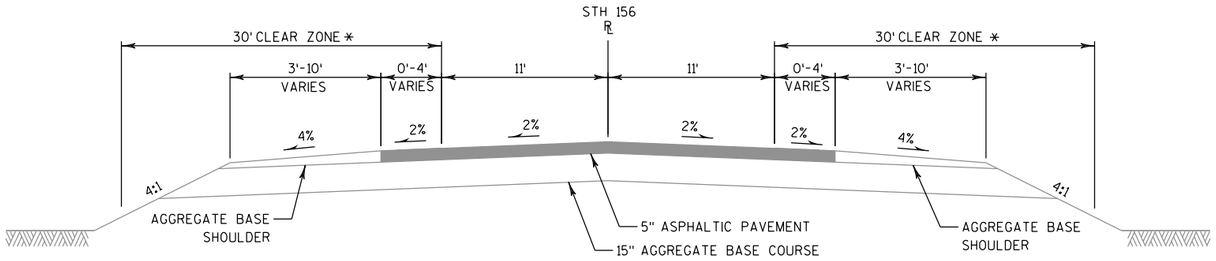



## TYPICAL EXISTING SECTION
## STH 156

STA 1+50 - STA 69+74
STA 72+44 - STA 196+50

# PAVEMENT CORES (2004)

| CORE NO. | STATION | LOCATION | ASPH. DEPTH |
|---|---|---|---|
| 31 | 10+56 | 3' RT | 8.5" |
| 32 | 21+12 | 3' LT | 8.5" |
| 33 | 31+68 | 5' RT | 9" |
| 34 | 42+24 | 5' LT | 9" |
| 35 | 52+80 | 7' RT | 8" |
| 36 | 63+36 | 7' LT | 6.5" |
| 37 | 73+92 | 9' RT | 6" |
| 38 | 84+48 | 9' LT | 8.5" |
| 39 | 95+04 | 11' RT | 7" |
| 40 | 105+60 | 11' LT | 6.5" |
| 41 | 116+16 | 3' RT | 7.5" |
| 42 | 126+72 | 3' LT | 11" |
| 43 | 137+28 | 5' RT | 11.5" |
| 44 | 147+84 | 5' LT | 10.5" |
| 45 | 158+40 | 7' RT | 9.5" |
| 46 | 168+96 | 7' LT | 10" |
| 47 | 179+52 | 9' RT | 10" |
| 48 | 190+08 | 9' LT | 9.5" |




## TYPICAL EXISTING SECTION
## STH 156

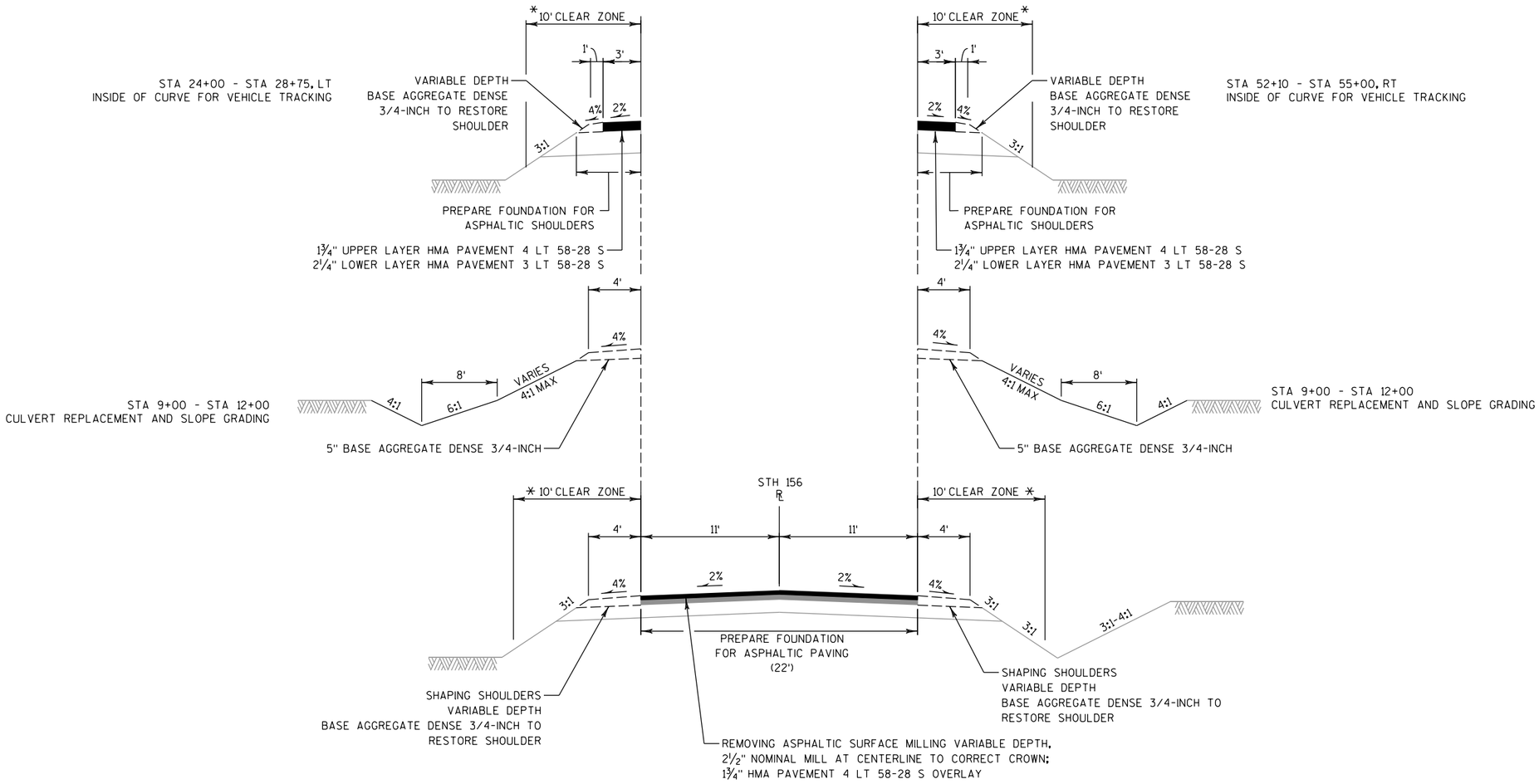
STA 69+74 - STA 72+44

NOTES

* CLEAR ZONE AS PREVIOUSLY CONSTRUCTED PER AS BUILTS

** CROSS SLOPE VARIES THROUGHOUT PROJECT; AVERAGE CROSS SLOPES SHOWN

| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | TYPICAL SECTIONS | SHEET 4 | E |
|---|---|---|---|---|---|




## TYPICAL FINISHED SECTION
## STH 156

STA 1+50 - STA 46+00
STA 52+10 - STA 69+74
STA 72+44 - STA 196+50

### NOTES

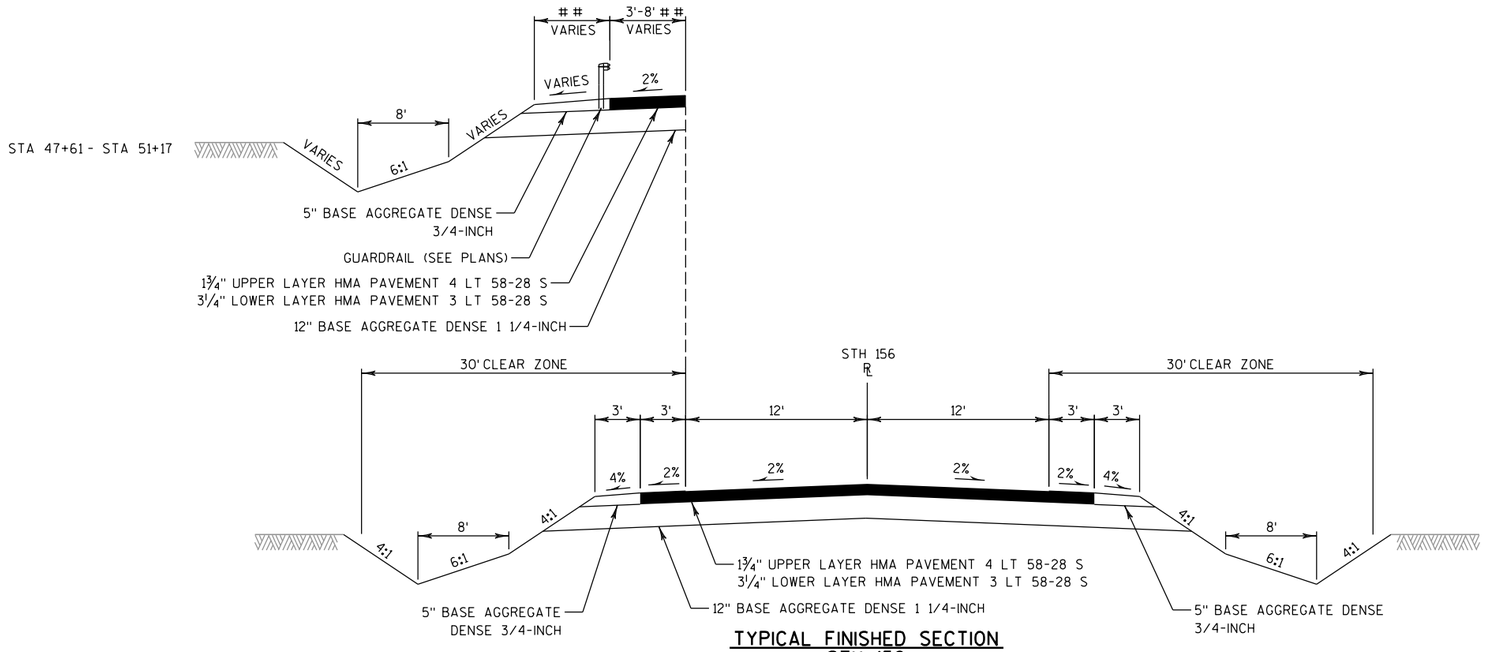
STA 23+56 - STA 29+30, RT AND STA 52+10 - STA 55+63, LT
COMPLETE VARIABLE DEPTH ASPHALTIC WEDGING TO CORRECT
SUPERELEVATIONS AS SHOWN ON SECTION 5 SHEETS

* CLEAR ZONE AS PREVIOUSLY CONSTRUCTED PER AS BUILTS

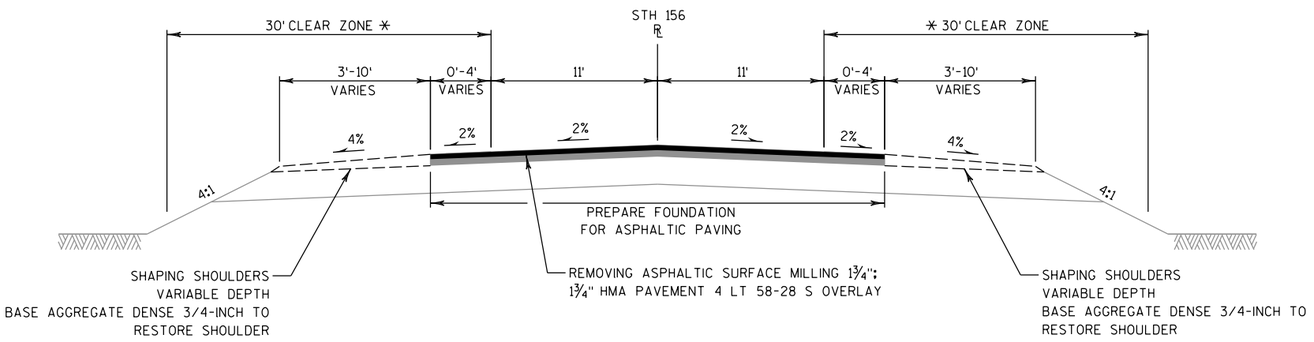
INSTALL SAFETY EDGE PER STANDARD DETAIL DRAWING

| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | TYPICAL SECTIONS | SHEET 5 | E |
|---|---|---|---|---|---|

2




**TYPICAL FINISHED SECTION**
**STH 156**
STA 46+00 - STA 52+10
C-58-92 AND APPROACHES



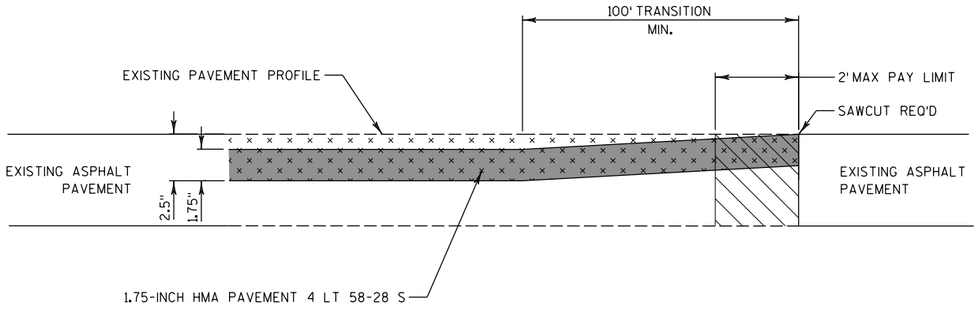

**TYPICAL FINISHED SECTION**
**STH 156**
STA 69+74 - STA 72+44

NOTES

* CLEAR ZONE AS PREVIOUSLY CONSTRUCTED PER AS BUILTS

## SHOULDER VARIES AT GUARDRAIL; SEE SDDS, CONSTRUCTION DETAILS, AND CROSS SECTIONS

INSTALL SAFETY EDGE PER STANDARD DETAIL DRAWING

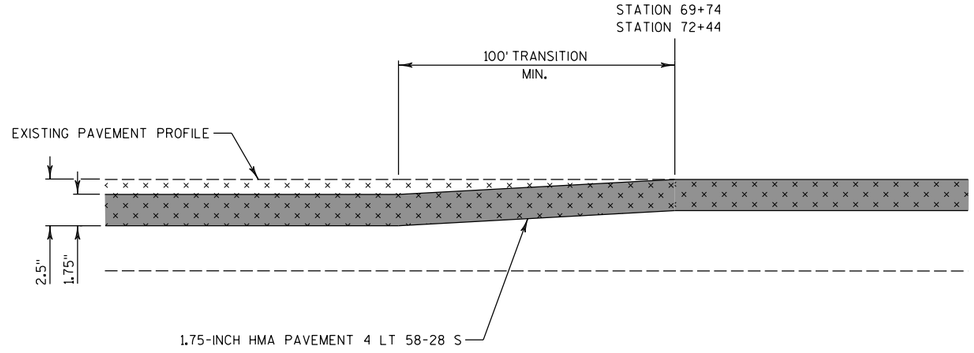



REMOVING ASPHALTIC SURFACE BUTT JOINTS (FULL DEPTH REMOVAL OPTIONAL)

REMOVING ASPHALTIC SURFACE MILLING

## DETAIL OF ASPHALTIC SURFACE BUTT JOINT ON MAINLINE

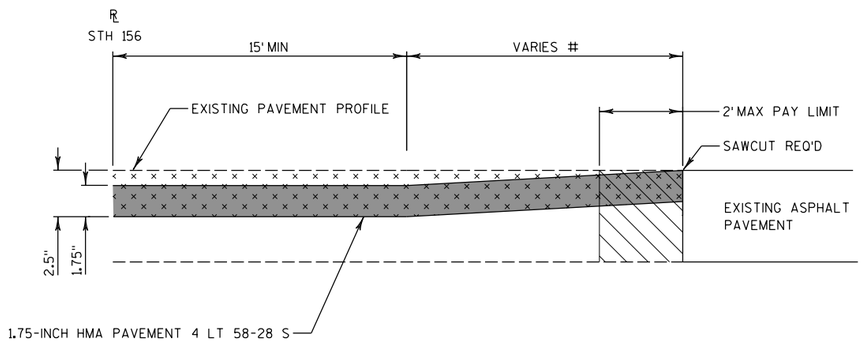
STATION 1+50




REMOVING ASPHALTIC SURFACE MILLING

## DETAIL OF MAINLINE PROFILE TRANSITION

STATION 69+74
STATION 72+44

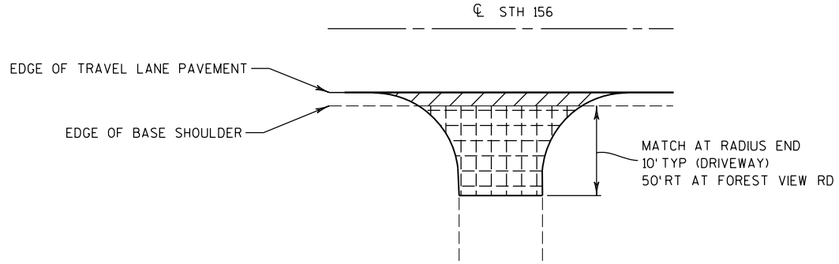



REMOVING ASPHALTIC SURFACE BUTT JOINTS (FULL DEPTH REMOVAL OPTIONAL)

REMOVING ASPHALTIC SURFACE MILLING

## ASPHALTIC SURFACE BUTT JOINT DETAIL AT PAVED INTERSECTIONS

# LANEY RD - 50'LT AND 50'RT




PAVED AREA

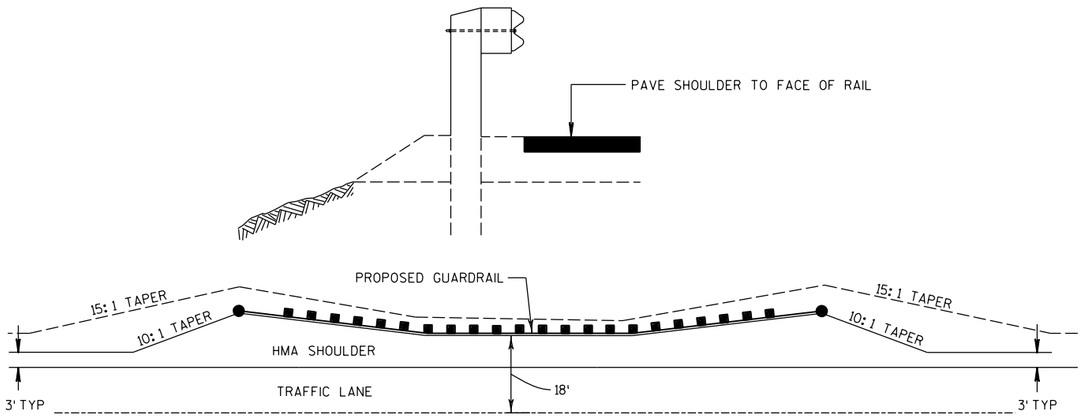
UNPAVED DRIVEWAY: 6" BASE AGGREGATE DENSE
PAVED DRIVEWAY: REMOVING ASPHALTIC SURFACE AND 3" ASPHALTIC SURFACE
DRIVEWAYS AND FIELD ENTRANCES

## MATCH LIMITS AT UNPAVED INTERSECTIONS & UNPAVED AND PAVED DRIVEWAYS DETAIL

FOREST VIEW RD
STH 156 DRIVEWAYS AND FIELD ENTRANCES

**NOTE**

FOR ADDITIONAL DETAILS NOT SHOWN, SEE SDD FOR
DRIVEWAYS WITHOUT CURB & GUTTER
RESURFACING PROJECTS RURAL

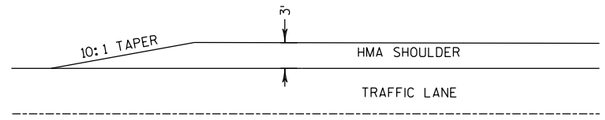



## DETAIL FOR ASPHALTIC SHOULDER AT GUARDRAIL

STA 46+00 - STA 52+10, LT
C-58-92 RECONSTRUCTION LIMITS

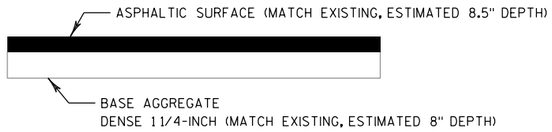
NOTE

SEE GUARDRAIL SDDS AND CROSS SECTIONS FOR ADDITIONAL INFORMATION



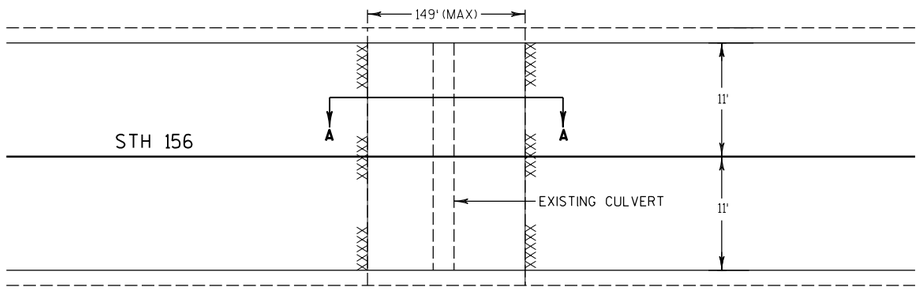

## PAVED SHOULDER WIDTH TRANSITION DETAIL

STA 46+00
STA 52+10
STA 69+74
STA 72+44

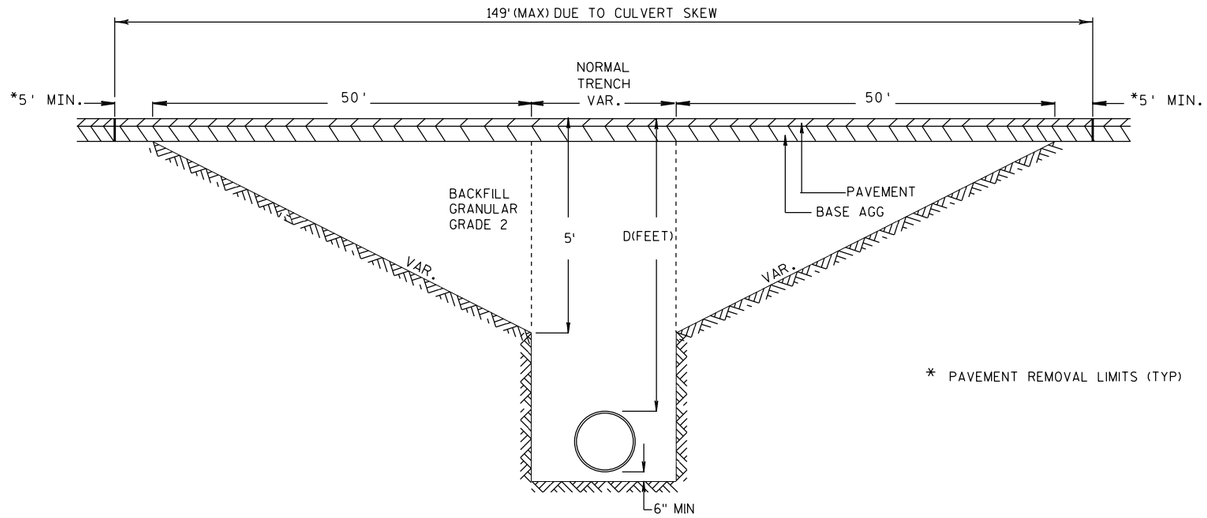



PAVEMENT STRUCTURE SECTION

XXXXX = SAWCUT REQ'D




PLAN

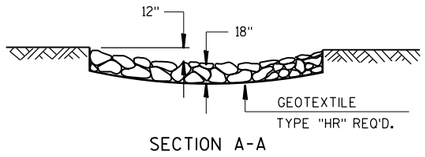



SECTION A-A

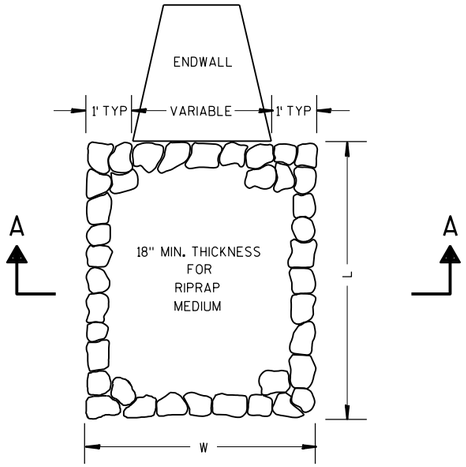
## PAVEMENT PATCH DETAIL AT CULVERT REPLACEMENT

STA 10+68
REPLACE CULVERT & PATCH PAVEMENT PRIOR TO MAINLINE MILL AND OVERLAY

| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | CONSTRUCTION DETAILS | SHEET 8 | E |
|---|---|---|---|---|---|

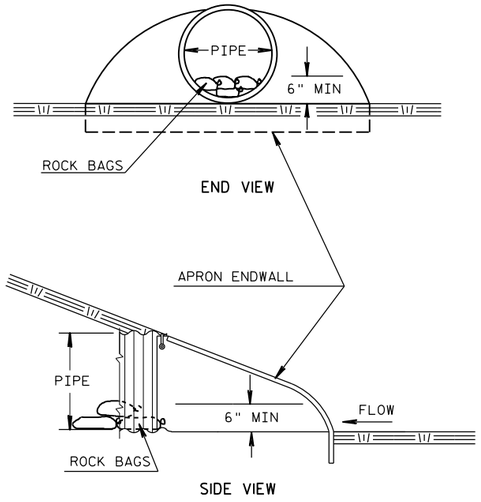



SECTION A-A




## RIPRAP MEDIUM TREATMENT AT CULVERTS

STA 10+85, LT (9'x15')

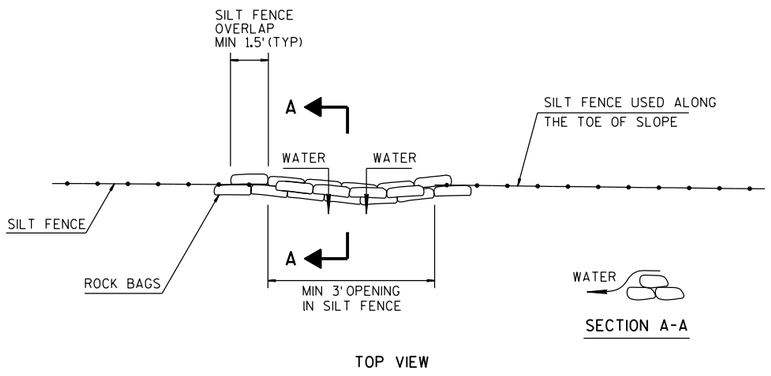



## CULVERT PIPE CHECKS

INSTALL ON INLET END

**NOTE**

SEE EROSION CONTROL PLANS FOR ADDITIONAL INFORMATION




## ROCK BAGS USED FOR SILT FENCE RELIEF DETAIL

PAID AS ROCK BAGS

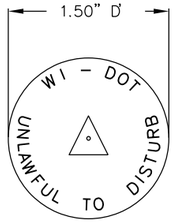
**NOTE**

SEE EROSION CONTROL PLANS FOR ADDITIONAL INFORMATION

## RUNOFF COEFFICIENT TABLE

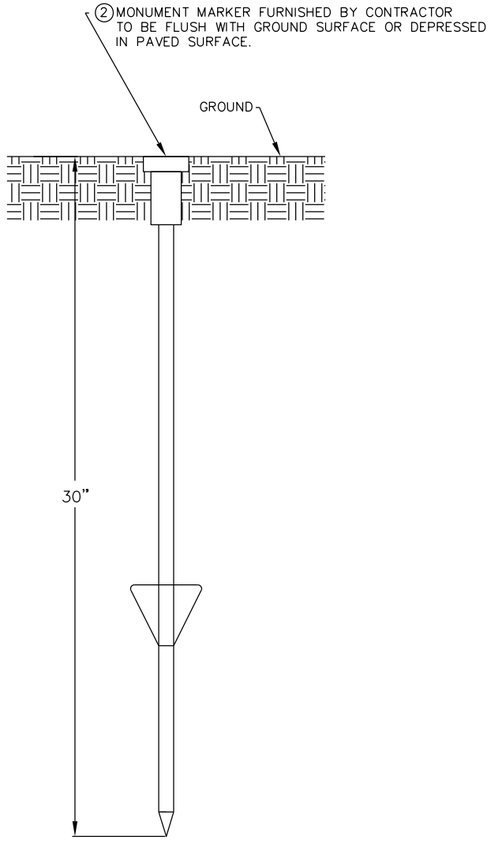
| | HYDROLOGIC SOIL GROUP | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | | | B | | | C | | | D | | |
| | SLOPE RANGE (PERCENT) | | | SLOPE RANGE (PERCENT) | | | SLOPE RANGE (PERCENT) | | | SLOPE RANGE (PERCENT) | | |
| LAND USE: | 0-2 | 2-6 | 6 & OVER | 0-2 | 2-6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

TOTAL PROJECT AREA = 33 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 2 ACRES (GRADING AREA)




## ② WIS DOT MONUMENT CAP MARKER LOGO (SSDR130)

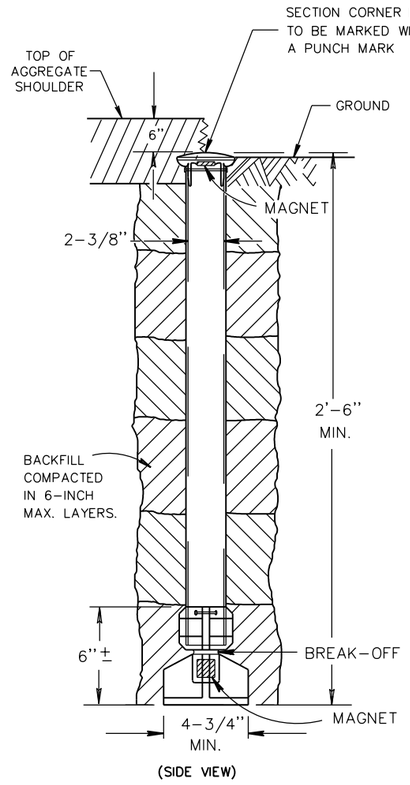
CONTRACTOR TO ORDER LANDMARK REFERENCE MONUMENTS WITH THE ABOVE STAMPING




(FRONT VIEW)

BERNSTEN DRIVABLE MONUMENT SSDR130

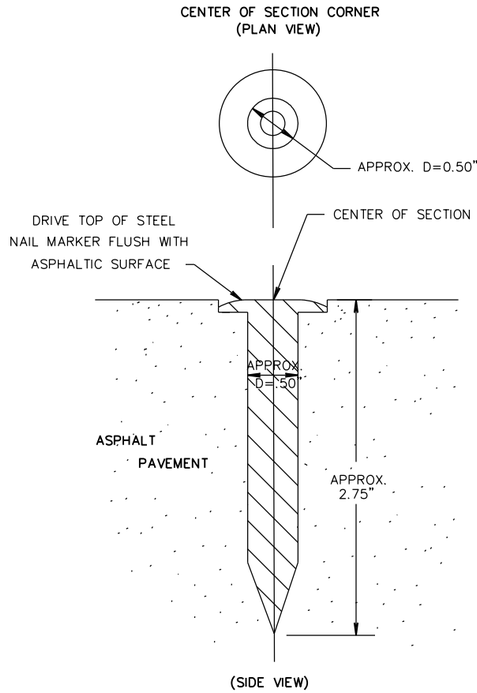
## LANDMARK REFERENCE MONUMENT (TIES ONLY)




(SIDE VIEW)

OUTSIDE OF PAVEMENT

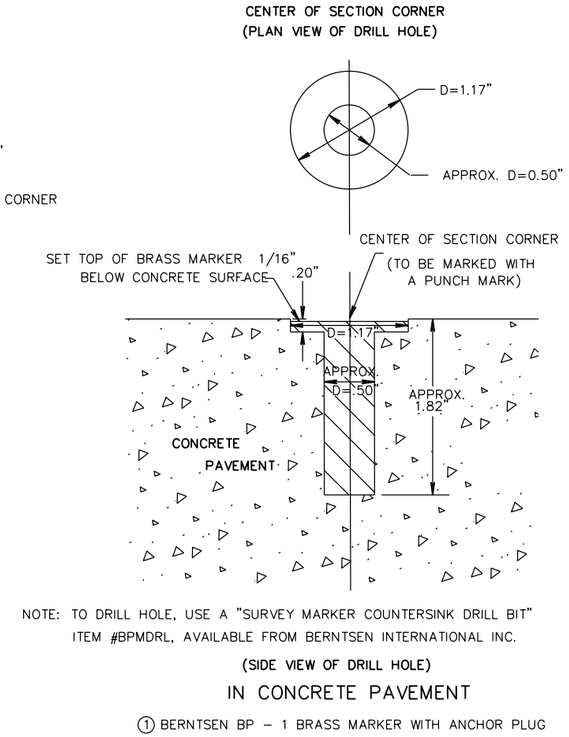
① BERNTSEN A1BR30 ALUMINUM BREAK-OFF MONUMENT




(SIDE VIEW)

IN ASPHALTIC PAVEMENT

① BERNTSEN SNM1 STEEL NAIL MARKER




NOTE: TO DRILL HOLE, USE A "SURVEY MARKER COUNTERSINK DRILL BIT" ITEM #BPMDRL, AVAILABLE FROM BERNTSEN INTERNATIONAL INC.

(SIDE VIEW OF DRILL HOLE)

IN CONCRETE PAVEMENT

① BERNTSEN BP – 1 BRASS MARKER WITH ANCHOR PLUG

## SECTION CORNER MONUMENTS

### 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

LOCATE LANDMARK REFERENCE MONUMENTS OUTSIDE THE CONSTRUCTION LIMITS AND WITHIN WISDOT RIGHT OF WAY, LOCATION TO BE APPROVED BY THE ENGINEER

BACKFILL MAY BE NATIVE MATERIAL, PROPERLY COMPACTED.

① THE REGIONAL SURVEY COORDINATOR WILL SUPPLY

② CONTRACTOR WILL SUPPLY

# SECTION CORNER MONUMENT AND LANDMARK REFERENCE MONUMENT DETAIL

| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | CONSTRUCTION DETAILS | SHEET 10 | E |
|---|---|---|---|---|---|

2

## NOTES

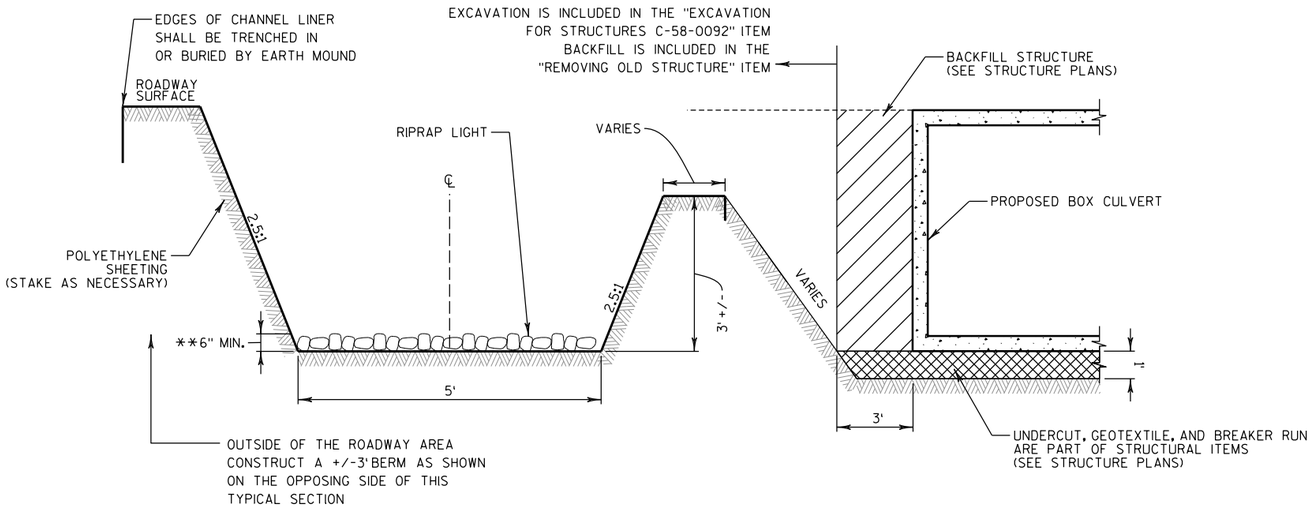
TEMPORARY DIVERSION CHANNEL SHOULD BE CAPABLE OF CARRYING THE Q2 FLOW, WITH A FREEBOARD OF APPROXIMATELY 9 TO 12-INCHES DURING THE CONSTRUCTION PERIOD AND MAINTAIN A SUITABLE DEPTH AND VELOCITY TO ALLOW THE PASSAGE OF MIGRATING FISH AND AQUATIC SPECIES. FISH THAT BECOME STRANDED IN DEWATERED AREAS OR TEMPORARY CHANNELS SHOULD BE CAPTURED AND RETURNED TO THE ACTIVE CHANNEL.

IF PERMANENT RIPRAP CONFLICTS WITH TEMPORARY DIVERSION CHANNEL, PLACE RIPRAP AFTER FLOW HAS BEEN DIVERTED TO NEW CULVERT AND TEMPORARY DIVERSION CHANNEL HAS BEEN BACKFILLED. TEMPORARY SANDBAGS AND STAGING OF RIPRAP PLACEMENT MAY BE REQUIRED.

WORK FOR TEMPORARY DIVERSION CHANNEL AND ANY TEMPORARY SANDBAGS USED AT THE BOX CULVERT OR OTHER DIVERSION TECHNIQUES IMPLEMENTED WILL BE PAID UNDER THE FOLLOWING BID ITEMS:
- ROADWAY BID ITEMS: "RIPRAP LIGHT" AND "POLYETHYLENE SHEETING".
- STRUCTURE BID ITEMS: EXCAVATION OF DIVERSION CHANNEL AND TEMPORARY SANDBAGS OR OTHER DIVERSION TECHNIQUES ARE PAID UNDER "EXCAVATION FOR STRUCTURES CULVERTS C-58-0092". BACKFILL OF THE DIVERSION CHANNEL IS PAID UNDER STRUCTURAL BID ITEM "REMOVING OLD STRUCTURE". BACKFILL NEXT TO NEW CULVERT IS PAID UNDER "BACKFILL STRUCTURE". SEE STRUCTURE PLANS FOR ADDITIONAL DETAILS.

C-58-92
Q2 = 62 CFS
Q2 ELEVATION = 852.42 AT BOX CULVERT
Q2 DEPTH = 1.8-FEET (AVG)
ESTIMATED EXCAVATION VOLUME FOR TEMPORARY DIVERSION CHANNEL = 500 CY (FOR INFORMATION ONLY)

USE AVAILABLE EROSION CONTROL ITEMS IN THE CONTRACT TO IMPLEMENT ANY ADDITIONAL EROSION CONTROL ITEMS NECESSARY TO STABILIZE THE SITE DURING CONSTRUCTION OF THE BOX CULVERT.

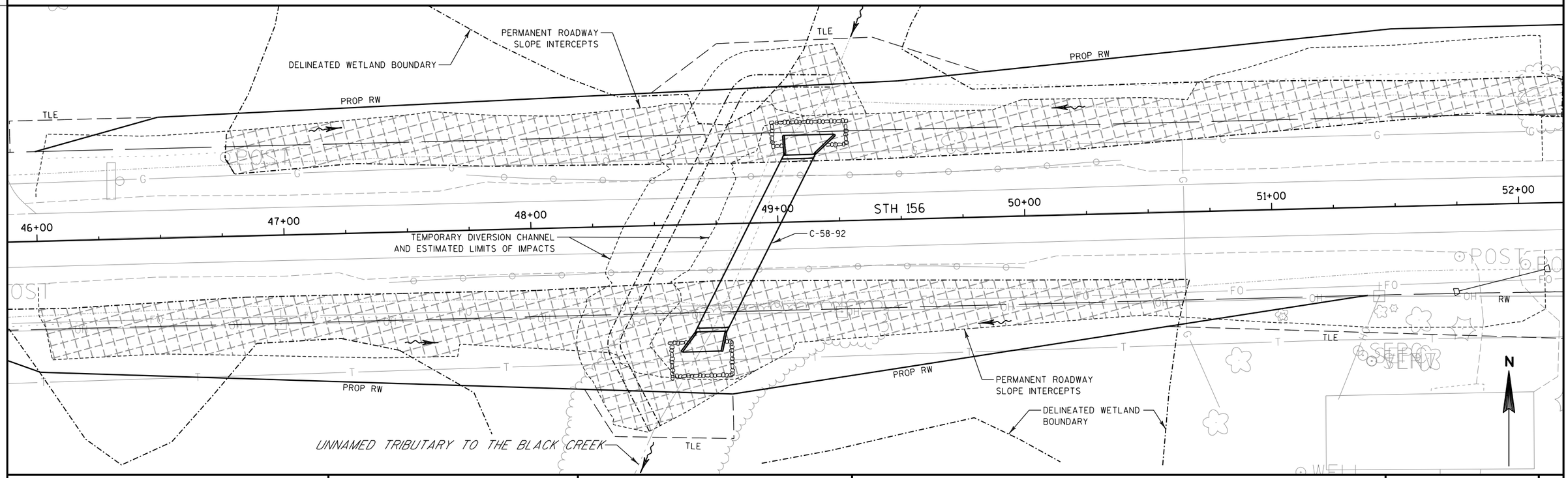



## TYPICAL SECTION OF TEMPORARY DIVERSION CHANNEL

C-58-92

PERMITTED WETLAND IMPACTS

** INCREASE HEIGHT OF LIGHT RIPRAP UP SIDES OF CHANNEL ON TIGHT CORNERS, AS REQUIRED, TO MINIMIZE EROSION AND STABLIZE POLYETHYLENE SHEETING




| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | CONSTRUCTION DETAILS-TEMPORARY DIVERSION (C-58-92) | SHEET 11 | E |
|---|---|---|---|---|---|

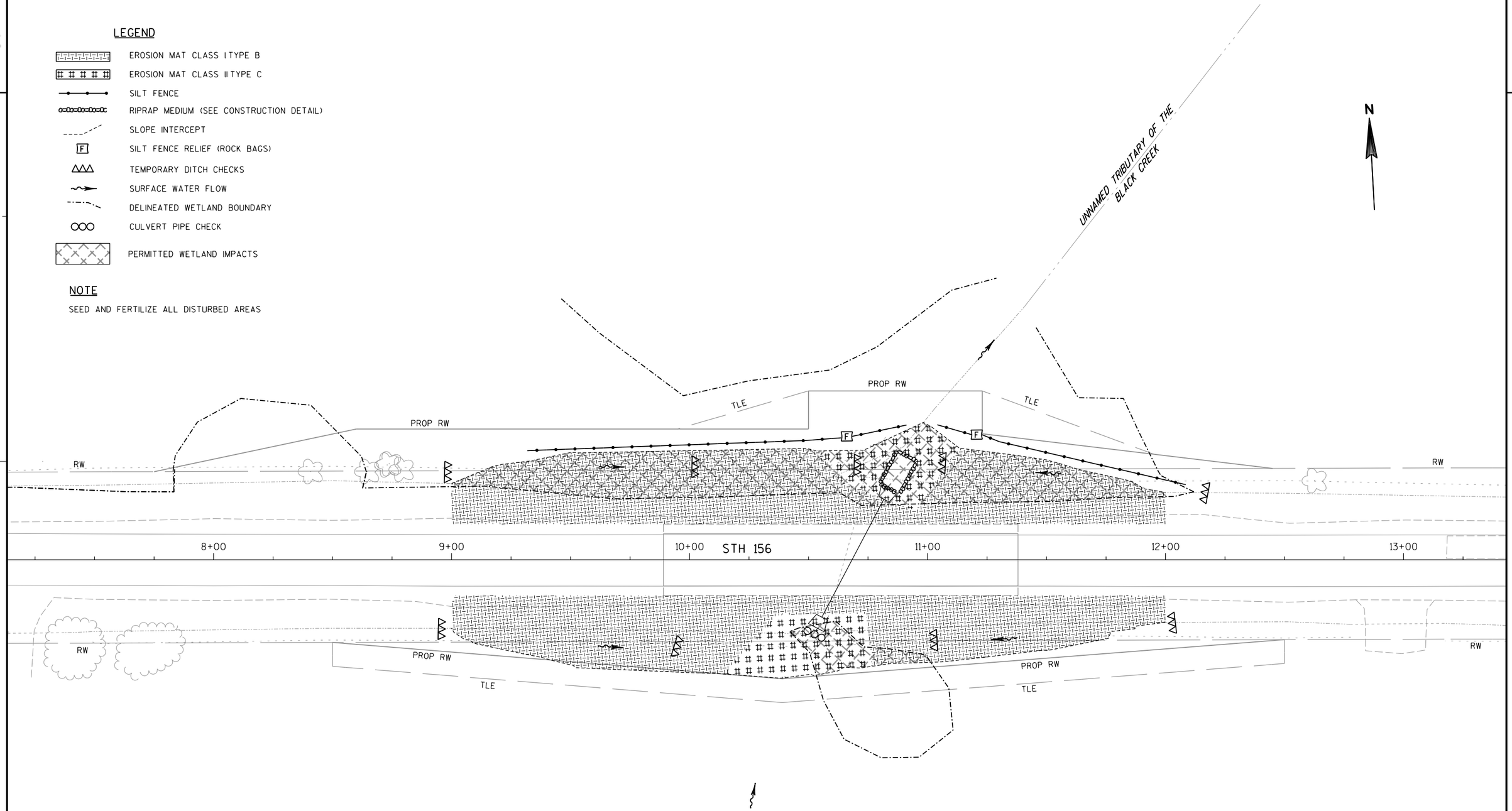
2

## LEGEND

- EROSION MAT CLASS I TYPE B
- EROSION MAT CLASS II TYPE C
- SILT FENCE
- RIPRAP MEDIUM (SEE CONSTRUCTION DETAIL)
- SLOPE INTERCEPT
- F — SILT FENCE RELIEF (ROCK BAGS)
- TEMPORARY DITCH CHECKS
- SURFACE WATER FLOW
- DELINEATED WETLAND BOUNDARY
- CULVERT PIPE CHECK
- PERMITTED WETLAND IMPACTS

## NOTE

SEED AND FERTILIZE ALL DISTURBED AREAS




2

| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | EROSION CONTROL | SHEET 12 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4801_STH 156\022001_ec.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:40

2

N

TLE

PROP RW

TLE

PROP RW

RW

46+00 47+00 48+00 STH 156 49+00 50+00 51+00 52+00

RW

TLE

PROP RW

PROP RW

TLE

UNNAMED TRIBUTARY OF THE BLACK CREEK

## LEGEND

- EROSION MAT CLASS I TYPE B
- EROSION MAT CLASS II TYPE C
- SILT FENCE
- (H) RIPRAP HEAVY (SEE C-58-92 STRUCTURE PLANS)
- SLOPE INTERCEPT
- (F) SILT FENCE RELIEF (ROCK BAGS)
- TEMPORARY DITCH CHECKS
- SURFACE WATER FLOW
- DELINEATED WETLAND BOUNDARY
- CULVERT PIPE CHECK
- PERMITTED WETLAND IMPACTS

## NOTE

SEED AND FERTILIZE ALL DISTURBED AREAS

| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | EROSION CONTROL | SHEET 13 | E |
|---|---|---|---|---|---|

2

**LEGEND**

- EXISTING SIGN MOUNTED ON SINGLE POST
- PROPOSED SIGN MOUNTED ON SINGLE POST
- EXISTING SIGN MOUNTED ON DOUBLE POST
- PROPOSED SIGN MOUNTED ON DOUBLE POST
- (X) SIGN - REMOVE AND REPLACE
- [X] SIGN - REMOVE
- ◇X◇ SIGN - PLACE NEW

**NOTES**

PERMANENT SIGN LOCATIONS ARE APPROXIMATE, FINAL LOCATIONS SHALL BE PLACED IN ACCORDANCE TO DETAILS AND THE MUTCD

NO PASSING ZONE PENNANTS SHALL BE PLACED IN ACCORDANCE WITH THE RESULTS OF THE LOCATING NO PASSING ZONE ITEM

ALL EXISTING TYPE II SIGNS NOT SHOWN ARE TO REMAIN IN PLACE

N

STH 55

518+00

516+00

514+00

512+00

510+00

STH 156

0+00 2+00 4+00 6+00 8+00 10+00 12+00 14+00

STH 156

1-12 SOUTH 55 NORTH 55
J3-2
48" X 57"

STOP
1-10
R1-1
36" X 36"
ALL WAY
1-11
R1-3P
24" X 9"

MOUNT ON EXISTING POLE WITH FLASHING BEACON

1-4
Clintonville
Seymour
Angelica
D1-3
78" X 42"

1-5
SOUTH 55 WEST 156 NORTH 55
J2-3
72" X 57"

1-6
W3-1
36" X 36"

1-9
REMOVE

EAST 156
J4-1
24" X 36"
1-1

SPEED LIMIT 55
R2-1
24" X 30"
1-2

NO PASSING ZONE
W14-3
48" X 36"
1-3

Hwy 29-32 6
Green Bay 13
D2-2
78" X 24"
1-7

Hwy 29 4
Green Bay 13
REMOVE
1-8

| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | PERMANENT SIGNING | SHEET 14 | E |
|---|---|---|---|---|---|

2

2

## LEGEND

- EXISTING SIGN MOUNTED ON SINGLE POST
- PROPOSED SIGN MOUNTED ON SINGLE POST
- EXISTING SIGN MOUNTED ON DOUBLE POST
- PROPOSED SIGN MOUNTED ON DOUBLE POST
- X — SIGN - REMOVE AND REPLACE
- X — SIGN - REMOVE
- X — SIGN - PLACE NEW

## NOTES

PERMANENT SIGN LOCATIONS ARE APPROXIMATE, FINAL LOCATIONS SHALL BE PLACED IN ACCORDANCE TO DETAILS AND THE MUTCD

NO PASSING ZONE PENNANTS SHALL BE PLACED IN ACCORDANCE WITH THE RESULTS OF THE LOCATING NO PASSING ZONE ITEM

ALL EXISTING TYPE II SIGNS NOT SHOWN ARE TO REMAIN IN PLACE

N

2-1
JCT
55
J1-1
24" X 39"

2-2
Rose Lawn
UNINCORPORATED
REMOVE

NO SIGNING FROM
STA 29+00 - STA 44+00

14+00 16+00 18+00 20+00 22+00 24+00 26+00 28+00

STH 156

NO PASSING ZONE
W14-3
48" X 36"
2-3

FOREST VIEW RD

STOP
R1-1
30" X 30"
2-4

ST HWY 156
FOREST VIEW RD
REMOVAL BY MUNICIPALITY

| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | PERMANENT SIGNING | SHEET 15 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4801_STH 156\023202_ps.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:100

2

## LEGEND

- EXISTING SIGN MOUNTED ON SINGLE POST
- PROPOSED SIGN MOUNTED ON SINGLE POST
- EXISTING SIGN MOUNTED ON DOUBLE POST
- PROPOSED SIGN MOUNTED ON DOUBLE POST
- X — SIGN - REMOVE AND REPLACE
- X — SIGN - REMOVE
- X — SIGN - PLACE NEW

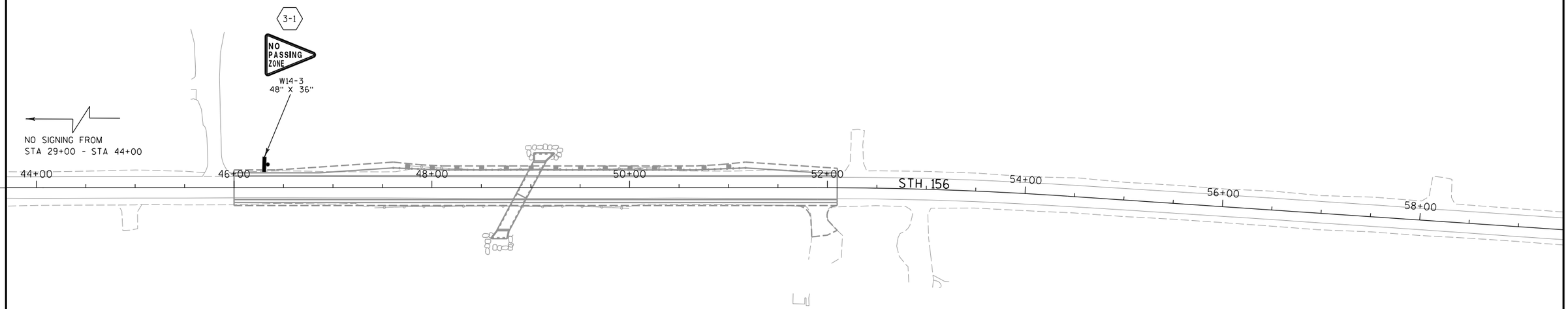
## NOTES

PERMANENT SIGN LOCATIONS ARE APPROXIMATE. FINAL LOCATIONS SHALL BE PLACED IN ACCORDANCE TO DETAILS AND THE MUTCD

NO PASSING ZONE PENNANTS SHALL BE PLACED IN ACCORDANCE WITH THE RESULTS OF THE LOCATING NO PASSING ZONE ITEM

ALL EXISTING TYPE II SIGNS NOT SHOWN ARE TO REMAIN IN PLACE

N




| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | PERMANENT SIGNING | SHEET 16 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4801_STH 156\023203_ps.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 42

2

## LEGEND

- EXISTING SIGN MOUNTED ON SINGLE POST
- PROPOSED SIGN MOUNTED ON SINGLE POST
- EXISTING SIGN MOUNTED ON DOUBLE POST
- PROPOSED SIGN MOUNTED ON DOUBLE POST
- X — SIGN - REMOVE AND REPLACE
- X — SIGN - REMOVE
- X — SIGN - PLACE NEW

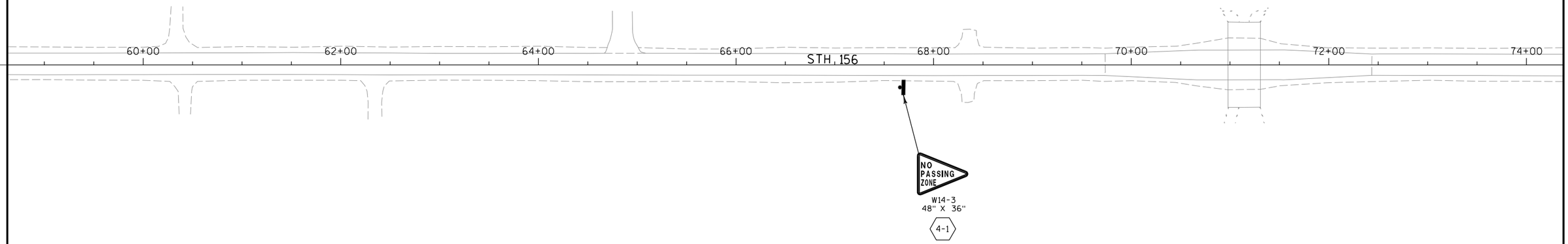
## NOTES

PERMANENT SIGN LOCATIONS ARE APPROXIMATE, FINAL LOCATIONS SHALL BE PLACED IN ACCORDANCE TO DETAILS AND THE MUTCD

NO PASSING ZONE PENNANTS SHALL BE PLACED IN ACCORDANCE WITH THE RESULTS OF THE LOCATING NO PASSING ZONE ITEM

ALL EXISTING TYPE II SIGNS NOT SHOWN ARE TO REMAIN IN PLACE

N




2

| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | PERMANENT SIGNING | SHEET 17 | E |
|---|---|---|---|---|---|

2

## LEGEND

- EXISTING SIGN MOUNTED ON SINGLE POST
- PROPOSED SIGN MOUNTED ON SINGLE POST
- EXISTING SIGN MOUNTED ON DOUBLE POST
- PROPOSED SIGN MOUNTED ON DOUBLE POST
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- X — SIGN - REMOVE
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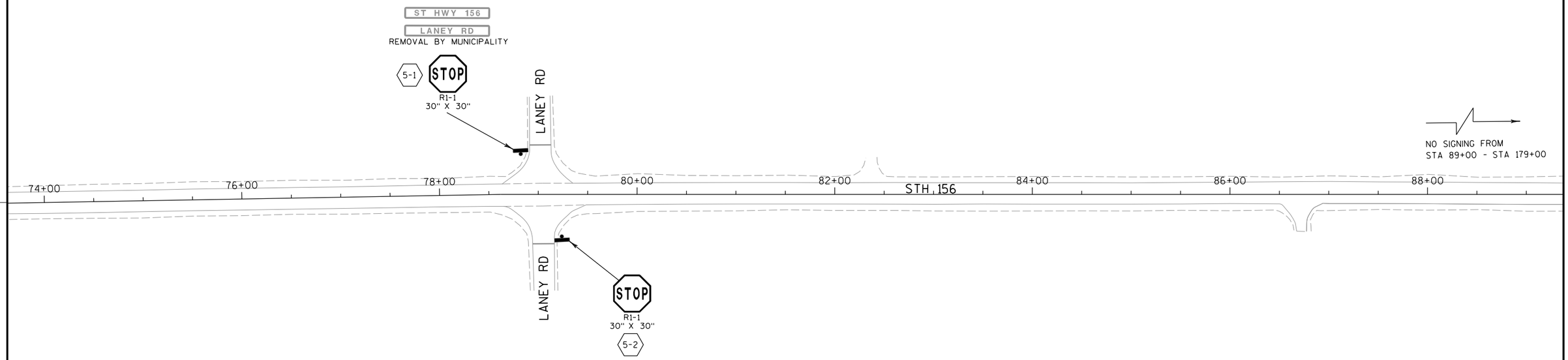
## NOTES

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ALL EXISTING TYPE II SIGNS NOT SHOWN ARE TO REMAIN IN PLACE

N




| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | PERMANENT SIGNING | SHEET 18 | E |
|---|---|---|---|---|---|

2

2

## LEGEND

- EXISTING SIGN MOUNTED ON SINGLE POST
- PROPOSED SIGN MOUNTED ON SINGLE POST
- EXISTING SIGN MOUNTED ON DOUBLE POST
- PROPOSED SIGN MOUNTED ON DOUBLE POST
- X — SIGN - REMOVE AND REPLACE
- X — SIGN - REMOVE
- X — SIGN - PLACE NEW

## NOTES

PERMANENT SIGN LOCATIONS ARE APPROXIMATE, FINAL LOCATIONS SHALL BE PLACED IN ACCORDANCE TO DETAILS AND THE MUTCD

NO PASSING ZONE PENNANTS SHALL BE PLACED IN ACCORDANCE WITH THE RESULTS OF THE LOCATING NO PASSING ZONE ITEM

ALL EXISTING TYPE II SIGNS NOT SHOWN ARE TO REMAIN IN PLACE

N

NO SIGNING FROM
STA 89+00 - STA 179+00

180+00 182+00 184+00 186+00 188+00 190+00 192+00 194+00

STH 156

6-2
SPEED LIMIT 55
R2-1
24" X 30"

6-4
NO PASSING ZONE
W14-3
48" X 36"

SPEED LIMIT 45
W3-5
36" X 36"
6-1

SPEED LIMIT 45
R2-1
24" X 30"
6-3

| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | PERMANENT SIGNING | SHEET 19 | E |
|---|---|---|---|---|---|

2

LEGEND

- EXISTING SIGN MOUNTED ON SINGLE POST
- PROPOSED SIGN MOUNTED ON SINGLE POST
- EXISTING SIGN MOUNTED ON DOUBLE POST
- PROPOSED SIGN MOUNTED ON DOUBLE POST
- X — SIGN - REMOVE AND REPLACE
- X — SIGN - REMOVE
- X — SIGN - PLACE NEW

NOTES

PERMANENT SIGN LOCATIONS ARE APPROXIMATE. FINAL LOCATIONS SHALL BE PLACED IN ACCORDANCE TO DETAILS AND THE MUTCD

NO PASSING ZONE PENNANTS SHALL BE PLACED IN ACCORDANCE WITH THE RESULTS OF THE LOCATING NO PASSING ZONE ITEM

ALL EXISTING TYPE II SIGNS NOT SHOWN ARE TO REMAIN IN PLACE

N

7-1
NO PASSING ZONE
REMOVE

7-2
Navarino 12
Clintonville 27
D2-2
90" X 24"

7-4
WEST
156
J4-1
24" X 36"

194+00
196+00
198+00
200+00
202+00
204+00
206+00
208+00

ST. AUGUSTINE RD
STH 156
OLD 29 DR
14'A'+00
12'A'+00
10'A'+00
8'S'+00
6'S'+00
4'S'+00
2'S'+00
1'S'+00
6'T'+00
8'T
EB'+00

JCT END
29 156
REMOVE
7-3

SEE PROJECT 1058-25-70
CONSTRUCT NEW OVERPASS AND ROUTE STH 156 ONTO OLD 29 DR, CLOSE EXISTING INTERSECTION AT STH 29

| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | PERMANENT SIGNING | SHEET 20 | E |
|---|---|---|---|---|---|

2

BEGIN PROJECT
STA 1+50

UNNAMED TRIBUTARY TO THE BLACK CREEK

CONSTRUCT BOX CULVERT C-58-92

STH 55

0+00

20+00

40+00

60+00

STH 156

80+00

100+00

120+00

LANEY RD

REPLACE CULVERT
ST 10+68

FOREST VIEW RD

UNNAMED TRIBUTARY TO THE BLACK CREEK

BLACK CREEK

N

LEGEND

(1) PLACE TRAFFIC CONTROL DEVICES PER SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES"

(2) PLACE TRAFFIC CONTROL DEVICES PER SDD "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES"

NOTES

IMPLEMENT DETOUR DURING CULVERT REPLACEMENTS ON STH 156

SEE DETOUR PLAN SHEETS FOR OTHER TRAFFIC CONTROL DEVICES AND ADDITIONAL INFORMATION

DO NOT CLOSE STH 156 TO LOCAL AND EMERGENCY TRAFFIC AT THE CULVERT REPLACEMENT AT STA 10+68 AND BOX CULVERT C-58-92 AT THE SAME TIME

STH 29

320'EB'+00

24'A'+00

ST. AUGUSTINE RD

EXISTING ST. AUGUSTINE RD

WEST BRANCH OF THE SUAMICO RIVER

N

UNNAMED TRIBUTARY TO THE WEST BRANCH OF THE SUAMICO RIVER

12'A'+00

200+00

EXISTING STH 156

210+00

340'EB'+00

STH 29

360'EB'+00

120+00

140+00

STH 156

160+00

180+00

SEE PROJECT 1058-25-70

PROJECT 1058-25-70 WILL UTILIZE THE DETOUR TO COMPLETE WORK ON STH 156/OLD 29 DRIVE AND ST. AUGUSTINE RD

ANGLE DR

220+00

230+00

240+00

STH 156/OLD 29 DR

END PROJECT
STA 196+50.00

SHAWANO COUNTY
BROWN COUNTY

| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | TRAFFIC CONTROL - OVERVIEW | SHEET 21 | E |
|---|---|---|---|---|---|

## GENERAL NOTES FOR TRAFFIC CONTROL AND DETOUR

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

2) ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

3) "WO" SIGNS ARE THE SAME A "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

4) ALL TYPE III BARRICADES SHALL BE 8' WIDE, UNLESS OTHERWISE NOTED. EQUIP WITH TYPE "A" (LOW INTENSITY FLASHING) LIGHTS PER SDDS.

5) MAINTAIN ALL EXISTING STOP SIGNS AT ALL TIMES.

6) A FLAGGER MAY BE REQUIRED WHERE CONSTRUCTION VEHICLES ENTER OR LEAVE WORK AREAS IF WARRANTED BY CONDITIONS OR AS DIRECTED BY THE ENGINEER.

7) MAINTAIN LOCAL AND EMERGENCY TRAFFIC ON STH 156. COMPLETE CLOSURE OF STH 156 TO LOCAL AND EMERGENCY TRAFFIC AT THE CROSS CULVERT AND BOX CULVERT C-58-92 SHALL NOT OCCUR AT THE SAME TIME.

### NOTES

\# ADJUST TRAFFIC CONTROL PCMS MESSAGE AS NEEDED BASED ON WORK ZONE AREAS AND CONSTRUCTION SCHEDULE.

CONSIDER GEOMETRICS WHEN LOCATING MESSAGE BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE BOARD FOR A MINIMUM OF 1000 FEET IN FRONT OF THE MESSAGE BOARD.

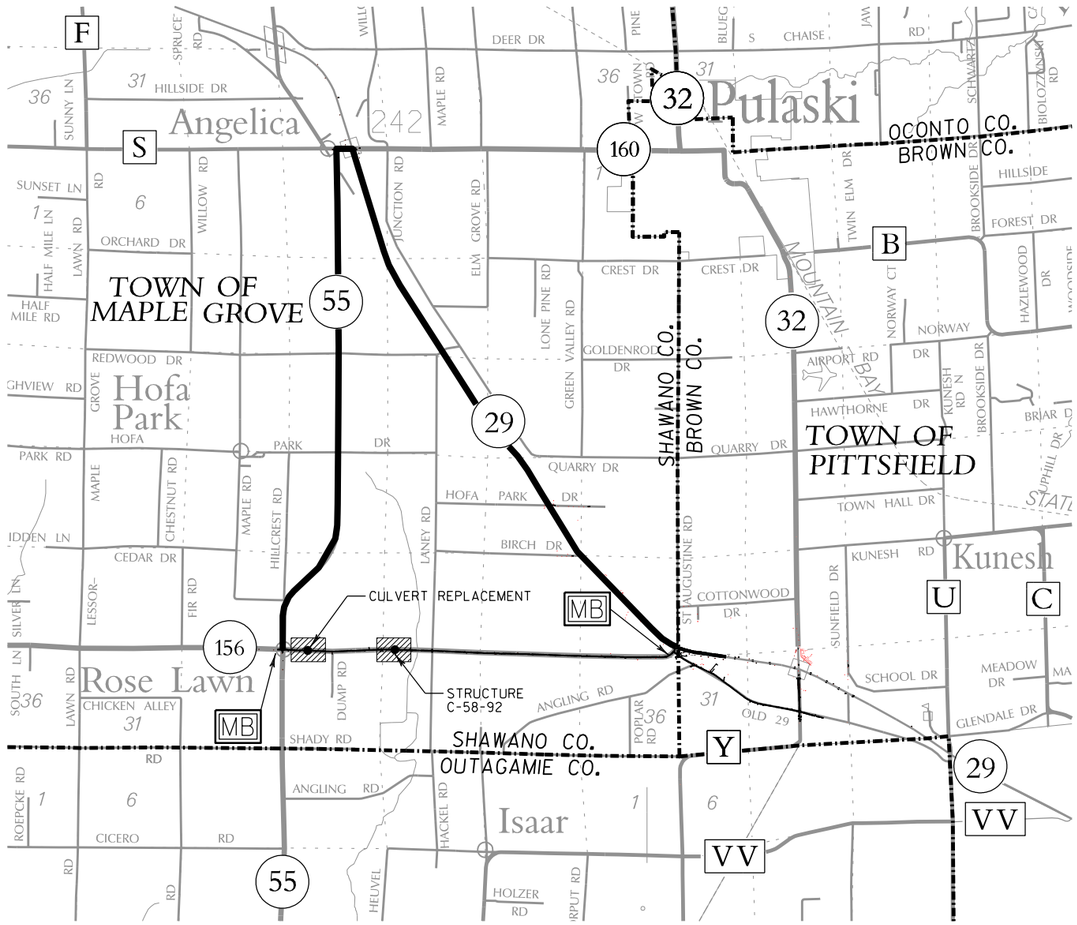
PLACE MESSAGE BOARDS AS FAR AWAY FROM LIVE TRAFFIC LANES AS POSSIBLE WITHOUT HAMPERING VISIBILITY. IN ADVANCE OF FREEWAY CONSTRUCTION PROJECTS THE SIGNS SHOULD BE PLACED ON THE BACKSLOPE BEYOND THE DITCH. THE LOCATION SELECTED SHOULD BE AT OR SLIGHTLY ABOVE THE ELEVATION OF THE ROADWAY. FOR INTERMITTENT WORK SUCH AS FREEWAY LANE CLOSURE, OR WHERE SITE CONDITIONS DO NOT ALLOW OTHERWISE, THE SIGNS MAY BE PLACED ON THE SHOULDER. THE SITE SHOULD BE VISITED TO ASSURE VISIBILITY, SAFETY AND MAINTENANCE CONSIDERATIONS. A TAPER OF REFLECTORIZED DRUMS OR BARRICADES SHOULD BE PLACED AHEAD OF PCMS PLACED ON THE SHOULDER IF IT IS NOT SHIELDED BY A BARRIER.

PLACE TRAFFIC CONTROL SIGNS PCMS THAT DISPLAY THE "PRIOR TO CONSTRUCTION" MESSAGE 7 DAYS PRIOR TO THE EXPECTED START OF THE PROPOSED WORK THAT WILL REQUIRE THE DETOUR.

| TRAFFIC CONTROL SIGNS PCMS MESSAGES | | |
|---|---|---|
| | PRIOR TO CONSTRUCTION | |
| PCMS SIGN LOCATION | PHASE 1 (2 SEC) | PHASE 2 (2 SEC) |
| # STH 156 WEST OF STH 55 | HWY 156 CLOSING DATE | FROM HWY 55 - HWY 29 |
| # STH 156 WEST OF OLD 29 DRIVE | HWY 156 CLOSING DATE | FROM HWY 29 - HWY 55 |

**LEGEND**

- FULL CLOSURE LOCATION
- DETOUR ROUTE
- MB — TRAFFIC CONTROL SIGNS PCMS






100




101

DETOUR M4-8 36" X 18"
EAST M3-2 36" X 18"
156 M1-6 36" X 36"
M06-1 30" X 30"




102

DETOUR M4-8 36" X 18"
EAST M3-2 36" X 18"
156 M1-6 36" X 36"
M06-1 30" X 30"

103

DETOUR M4-8 36" X 18"
EAST M3-2 36" X 18"
156 M1-6 36" X 36"

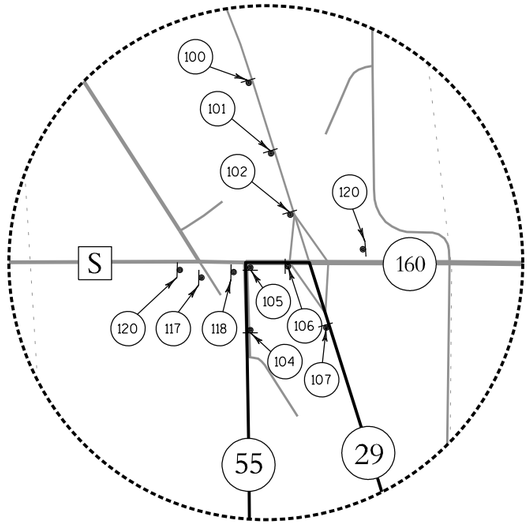
104

DETOUR M4-8 24" X 12"
EAST M3-2 24" X 12"
156 M1-6 24" X 24"
M05-1R 21" X 21"

105

DETOUR M4-8 24" X 12"
EAST M3-2 24" X 12"
156 M1-6 24" X 24"
M06-1 21" X 21"

DETAIL A

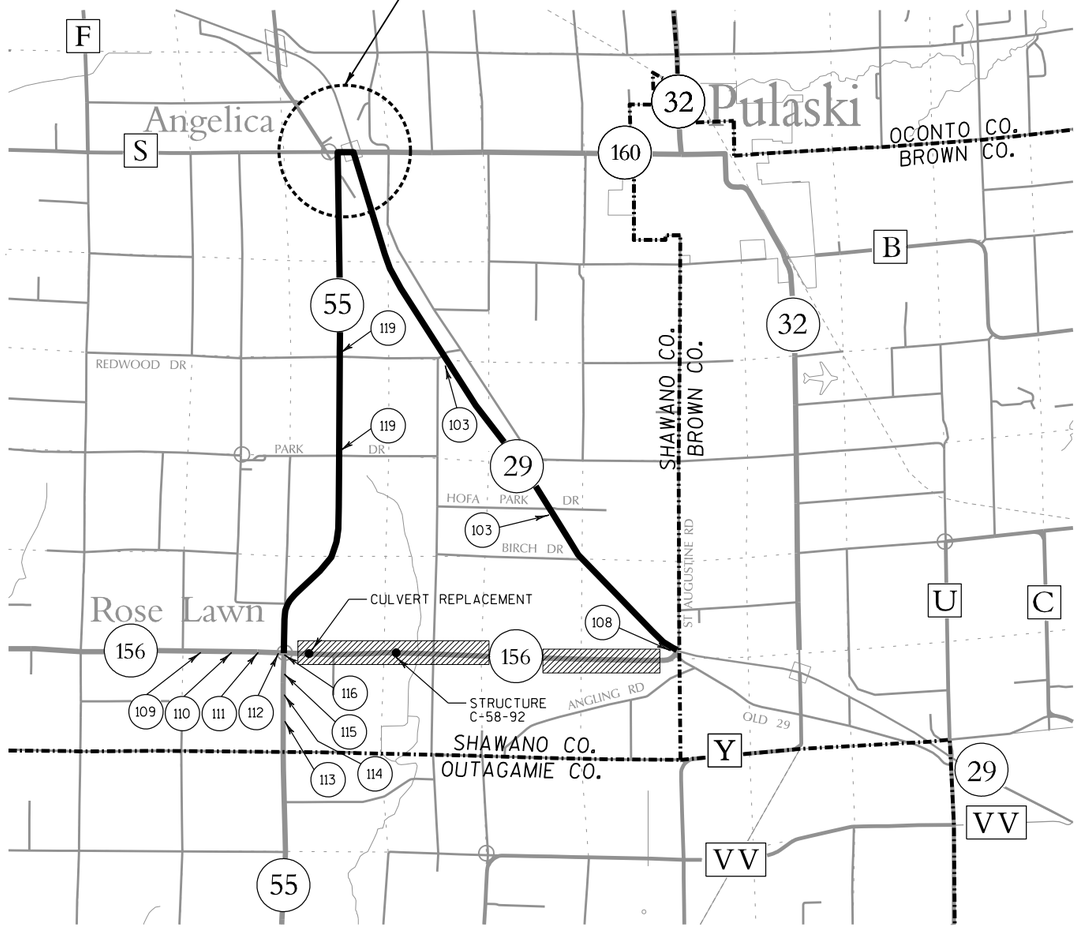



NOTES

* PAID FOR AS TRAFFIC CONTROL DETOUR SIGN

WORK ZONE

SEE DETAIL A




106

DETOUR M4-8 24" X 12"
EAST M3-2 24" X 12"
156 M1-6 24" X 24"
M06-1 21" X 21"

107

DETOUR M4-8 36" X 18"
EAST M3-2 36" X 18"
156 M1-6 36" X 36"

108

END M4-6 36" X 18"
DETOUR M4-8 36" X 18"
EAST M3-2 36" X 18"
156 M1-6 36" X 36"

109

EAST M3-2 24" X 12"
156 M1-6 24" X 24"
DETOUR M4-8 24" X 12"
JCT 55
DETOUR AHEAD W20-2a

110

DETOUR M4-8 24" X 12"
EAST M3-2 24" X 12"
156 M1-6 24" X 24"
M05-1L 21" X 21"

111

(SIGN SIZE PER A4-12 SIGN PLATE)
COVER
Green Bay
Angelica
Seymour

112

DETOUR M4-8 24" X 12"
EAST M3-2 24" X 12"
156 M1-6 24" X 24"
M06-1 21" X 21"

113

EAST M3-2 24" X 12"
156 M1-6 24" X 24"
JCT 156
DETOUR AHEAD W20-2a

114

DETOUR M4-8 24" X 12"
EAST M3-2 24" X 12"
156 M1-6 24" X 24"
M06-1 21" X 21"

115

Angelica
Clintonville
Green Bay
COVER
(SIGN SIZE PER A4-12 SIGN PLATE)

116

DETOUR M4-8 24" X 12"
WEST 156 EAST 156
COVER
M06-1 21" X 21"

117

END COUNTY S
DETOUR M4-8 24" X 12"
EAST M3-2 24" X 12"
JCT 55 JCT 160
156 M1-6 24" X 24"

118

NORTH 55 EAST 160 SOUTH 55
DETOUR M4-8 24" X 12"
EAST M3-2 24" X 12"
156 M1-6 24" X 24"
M06-1 21" X 21"

119

DETOUR M4-8 24" X 12"
EAST M3-2 24" X 12"
156 M1-6 24" X 24"

120

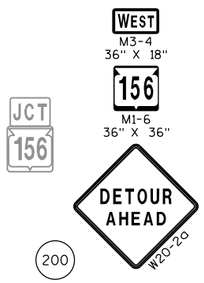
156 M1-6 24" X 24"
DETOUR AHEAD W20-2a

| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | DETOUR - STH 156 EAST | SHEET 23 | E |
|---|---|---|---|---|---|

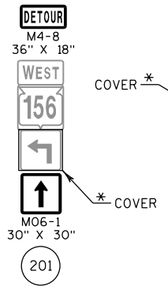
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WISDOT/CADDS SHEET 42

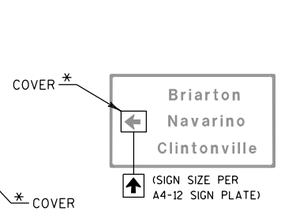
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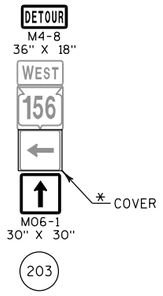

200




201




202




203

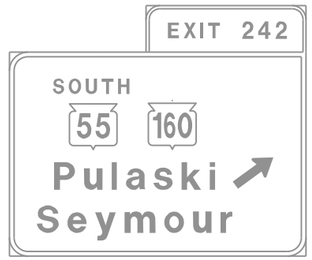



204



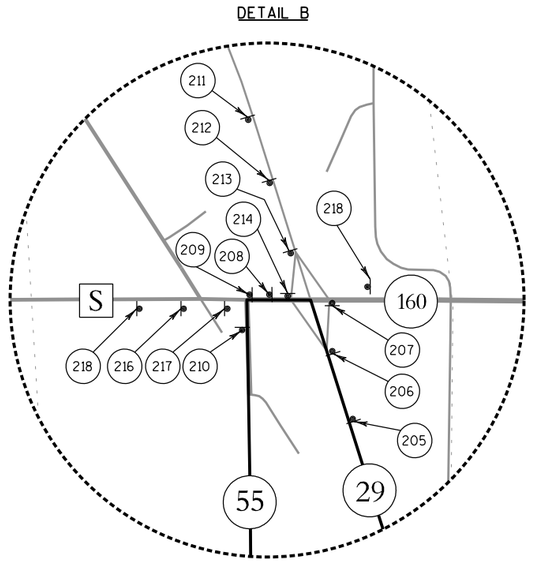

205




206

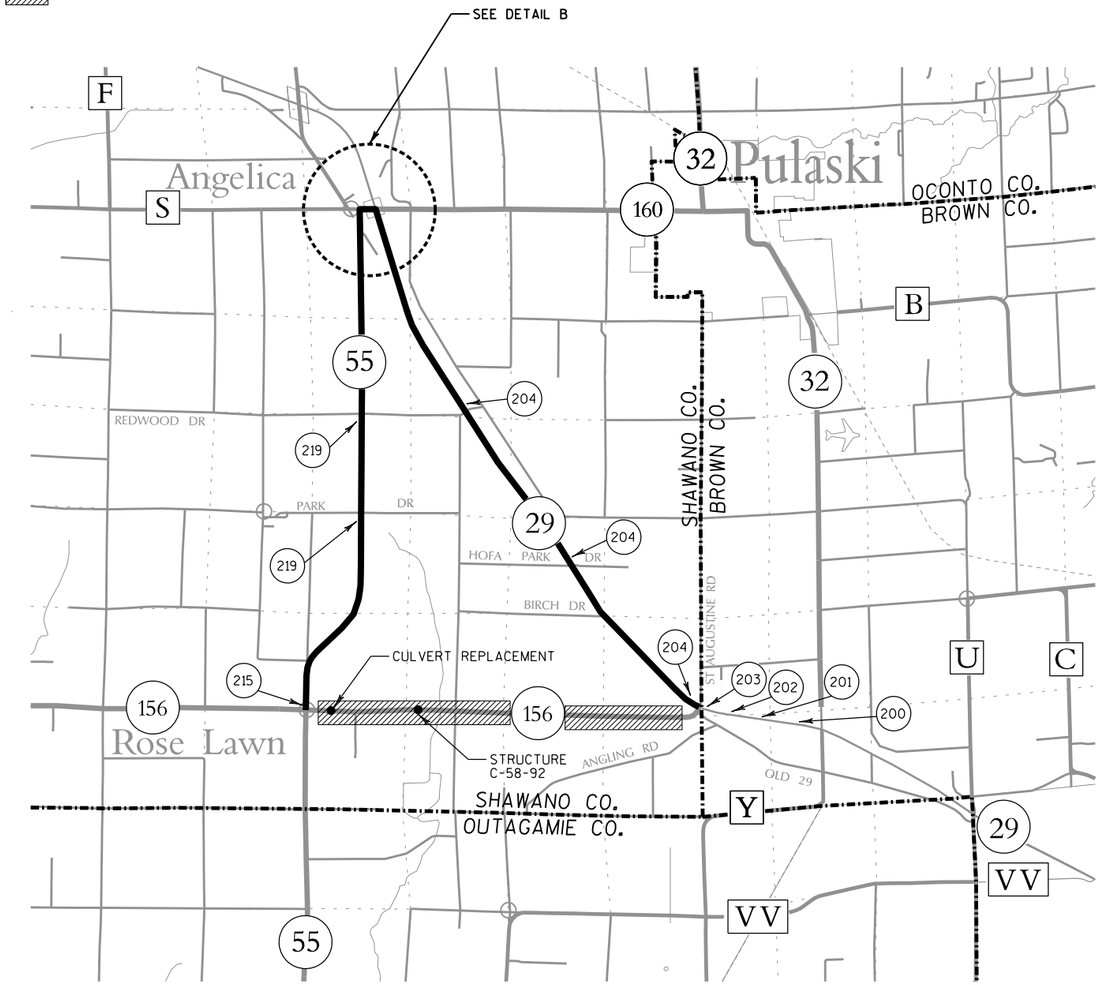


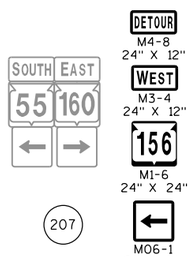




NOTES

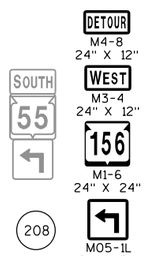
* PAID FOR AS TRAFFIC CONTROL DETOUR SIGN

WORK ZONE

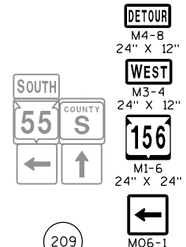


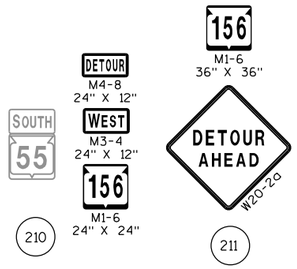

207




208

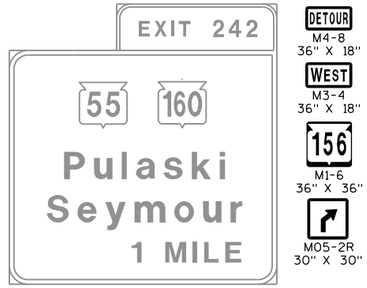



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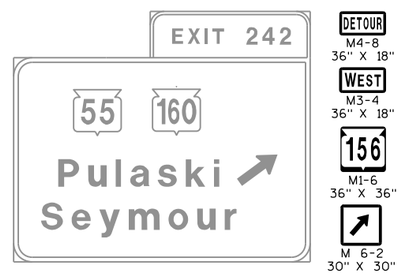



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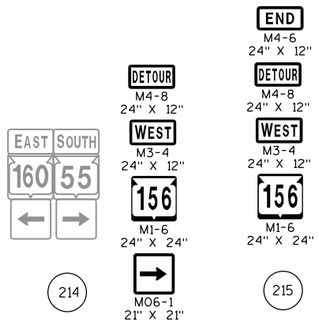
211




212



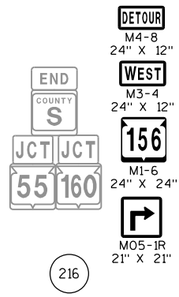

213



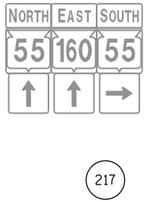

214




215




216




217







218




219

| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | DETOUR - STH 156 WEST | SHEET 24 | E |
|---|---|---|---|---|---|

6580-11-60

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 0010 | 201.0105 | Clearing | STA | 5.000 | 5.000 |
| 0020 | 201.0205 | Grubbing | STA | 5.000 | 5.000 |
| 0030 | 203.0100 | Removing Small Pipe Culverts | EACH | 2.000 | 2.000 |
| 0060 | 203.0600.S | Removing Old Structure Over Waterway With Minimal Debris (station) 03. 49+00.00 | LS | 1.000 | 1.000 |
| 0080 | 204.0110 | Removing Asphaltic Surface | SY | 1,300.000 | 1,300.000 |
| 0090 | 204.0115 | Removing Asphaltic Surface Butt Joints | SY | 15.000 | 15.000 |
| 0100 | 204.0125 | Removing Asphaltic Surface Milling | TON | 4,815.000 | 4,815.000 |
| 0150 | 205.0100 | Excavation Common | CY | 1,711.000 | 1,711.000 |
| 0190 | 206.2000 | Excavation for Structures Culverts (structure) 03. C-58-0092 | LS | 1.000 | 1.000 |
| 0200 | 208.0100 | Borrow | CY | 114.000 | 114.000 |
| 0220 | 209.2100 | Backfill Granular Grade 2 | CY | 450.000 | 450.000 |
| 0240 | 210.2500 | Backfill Structure Type B | TON | 259.000 | 259.000 |
| 0260 | 211.0100 | Prepare Foundation for Asphaltic Paving (project) 02. 6580-11-60 | LS | 1.000 | 1.000 |
| 0270 | 211.0400 | Prepare Foundation for Asphaltic Shoulders | STA | 8.000 | 8.000 |
| 0290 | 213.0100 | Finishing Roadway (project) 02. 6580-11-60 | EACH | 1.000 | 1.000 |
| 0300 | 305.0110 | Base Aggregate Dense 3/4-Inch | TON | 3,800.000 | 3,800.000 |
| 0310 | 305.0120 | Base Aggregate Dense 1 1/4-Inch | TON | 2,425.000 | 2,425.000 |
| 0320 | 305.0500 | Shaping Shoulders | STA | 366.000 | 366.000 |
| 0330 | 311.0110 | Breaker Run | TON | 129.000 | 129.000 |
| 0390 | 440.4410 | Incentive IRI Ride | DOL | 14,760.000 | 14,760.000 |
| 0410 | 455.0605 | Tack Coat | GAL | 3,565.000 | 3,565.000 |
| 0420 | 460.2000 | Incentive Density HMA Pavement | DOL | 3,460.000 | 3,460.000 |
| 0430 | 460.5223 | HMA Pavement 3 LT 58-28 S | TON | 585.000 | 585.000 |
| 0440 | 460.5224 | HMA Pavement 4 LT 58-28 S | TON | 4,810.000 | 4,810.000 |
| 0450 | 465.0105 | Asphaltic Surface | TON | 175.000 | 175.000 |
| 0460 | 465.0120 | Asphaltic Surface Driveways and Field Entrances | TON | 215.000 | 215.000 |
| 0540 | 504.0100 | Concrete Masonry Culverts | CY | 106.000 | 106.000 |
| 0550 | 505.0400 | Bar Steel Reinforcement HS Structures | LB | 13,250.000 | 13,250.000 |
| 0560 | 505.0600 | Bar Steel Reinforcement HS Coated Structures | LB | 860.000 | 860.000 |
| 0600 | 516.0500 | Rubberized Membrane Waterproofing | SY | 14.000 | 14.000 |
| 0610 | 521.0118 | Culvert Pipe Corrugated Steel 18-Inch | LF | 36.000 | 36.000 |
| 0660 | 521.1518 | Apron Endwalls for Culvert Pipe Sloped Side Drains Steel 18-Inch 6 to 1 | EACH | 2.000 | 2.000 |
| 0700 | 522.0336 | Culvert Pipe Reinforced Concrete Class IV 36-Inch | LF | 56.000 | 56.000 |
| 0730 | 522.1036 | Apron Endwalls for Culvert Pipe Reinforced Concrete 36-Inch | EACH | 2.000 | 2.000 |
| 0830 | 606.0100 | Riprap Light | CY | 30.000 | 30.000 |
| 0840 | 606.0200 | Riprap Medium | CY | 8.000 | 8.000 |

6580-11-60

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 0850 | 606.0300 | Riprap Heavy | CY | 40.000 | 40.000 |
| 0920 | 612.0700 | Drain Tile Exploration | LF | 30.000 | 30.000 |
| 1040 | 614.0920 | Salvaged Rail | LF | 1,055.000 | 1,055.000 |
| 1050 | 614.0925 | Salvaged Guardrail End Treatments | EACH | 8.000 | 8.000 |
| 1060 | 614.2300 | MGS Guardrail 3 | LF | 137.500 | 137.500 |
| 1070 | 614.2340 | MGS Guardrail 3 L | LF | 112.500 | 112.500 |
| 1090 | 614.2610 | MGS Guardrail Terminal EAT | EACH | 2.000 | 2.000 |
| 1100 | 616.0700.S | Fence Safety | LF | 85.000 | 85.000 |
| 1120 | 618.0100 | Maintenance And Repair of Haul Roads (project) 02. 6580-11-60 | EACH | 1.000 | 1.000 |
| 1130 | 619.1000 | Mobilization | EACH | 0.150 | 0.150 |
| 1150 | 621.0100 | Landmark Reference Monuments | EACH | 28.000 | 28.000 |
| 1170 | 624.0100 | Water | MGAL | 90.000 | 90.000 |
| 1190 | 625.0500 | Salvaged Topsoil | SY | 7,120.000 | 7,120.000 |
| 1200 | 627.0200 | Mulching | SY | 1,500.000 | 1,500.000 |
| 1210 | 628.1504 | Silt Fence | LF | 875.000 | 875.000 |
| 1220 | 628.1520 | Silt Fence Maintenance | LF | 875.000 | 875.000 |
| 1230 | 628.1905 | Mobilizations Erosion Control | EACH | 3.000 | 3.000 |
| 1240 | 628.1910 | Mobilizations Emergency Erosion Control | EACH | 3.000 | 3.000 |
| 1250 | 628.2004 | Erosion Mat Class I Type B | SY | 6,015.000 | 6,015.000 |
| 1270 | 628.2027 | Erosion Mat Class II Type C | SY | 975.000 | 975.000 |
| 1280 | 628.5505 | Polyethylene Sheeting | SY | 900.000 | 900.000 |
| 1320 | 628.7504 | Temporary Ditch Checks | LF | 320.000 | 320.000 |
| 1330 | 628.7555 | Culvert Pipe Checks | EACH | 25.000 | 25.000 |
| 1350 | 628.7570 | Rock Bags | EACH | 115.000 | 115.000 |
| 1360 | 629.0210 | Fertilizer Type B | CWT | 4.000 | 4.000 |
| 1380 | 630.0130 | Seeding Mixture No. 30 | LB | 130.000 | 130.000 |
| 1390 | 630.0140 | Seeding Mixture No. 40 | LB | 15.000 | 15.000 |
| 1430 | 631.0300 | Sod Water | MGAL | 25.000 | 25.000 |
| 1460 | 633.5200 | Markers Culvert End | EACH | 18.000 | 18.000 |
| 1480 | 634.0616 | Posts Wood 4x6-Inch X 16-FT | EACH | 7.000 | 7.000 |
| 1490 | 634.0618 | Posts Wood 4x6-Inch X 18-FT | EACH | 12.000 | 12.000 |
| 1500 | 634.0620 | Posts Wood 4x6-Inch X 20-FT | EACH | 5.000 | 5.000 |
| 1570 | 637.2210 | Signs Type II Reflective H | SF | 156.250 | 156.250 |
| 1590 | 637.2230 | Signs Type II Reflective F | SF | 48.000 | 48.000 |
| 1620 | 638.2602 | Removing Signs Type II | EACH | 18.000 | 18.000 |
| 1630 | 638.3000 | Removing Small Sign Supports | EACH | 20.000 | 20.000 |
| 1670 | 643.0100 | Traffic Control (project) 02. 6580-11-60 | EACH | 1.000 | 1.000 |
| 1680 | 643.0300 | Traffic Control Drums | DAY | 300.000 | 300.000 |
| 1690 | 643.0420 | Traffic Control Barricades Type III | DAY | 1,440.000 | 1,440.000 |

6580-11-60

| Line | Item | Item Description | Unit | Total | Qty |
|---|---|---|---|---|---|
| 1700 | 643.0705 | Traffic Control Warning Lights Type A | DAY | 2,880.000 | 2,880.000 |
| 1730 | 643.0900 | Traffic Control Signs | DAY | 1,260.000 | 1,260.000 |
| 1740 | 643.1050 | Traffic Control Signs PCMS | DAY | 14.000 | 14.000 |
| 1750 | 643.2000 | Traffic Control Detour (project) 01. 6580-11-60 | EACH | 1.000 | 1.000 |
| 1760 | 643.3000 | Traffic Control Detour Signs | DAY | 21,000.000 | 21,000.000 |
| 1770 | 645.0105 | Geotextile Type C | SY | 205.000 | 205.000 |
| 1780 | 645.0120 | Geotextile Type HR | SY | 78.000 | 78.000 |
| 1790 | 646.0106 | Pavement Marking Epoxy 4-Inch | LF | 9,975.000 | 9,975.000 |
| 1830 | 646.2304.S | Pavement Marking Grooved Wet Reflective Epoxy 4-Inch | LF | 38,860.000 | 38,860.000 |
| 1870 | 648.0100 | Locating No-Passing Zones | MI | 3.700 | 3.700 |
| 1900 | 650.4500 | Construction Staking Subgrade | LF | 910.000 | 910.000 |
| 1910 | 650.5000 | Construction Staking Base | LF | 610.000 | 610.000 |
| 1930 | 650.6000 | Construction Staking Pipe Culverts | EACH | 1.000 | 1.000 |
| 1970 | 650.6500 | Construction Staking Structure Layout (structure) 04. C-58-0092 | LS | 1.000 | 1.000 |
| 1990 | 650.8000 | Construction Staking Resurfacing Reference | LF | 19,500.000 | 19,500.000 |
| 2010 | 650.9910 | Construction Staking Supplemental Control (project) 02. 6580-11-60 | LS | 1.000 | 1.000 |
| 2020 | 650.9920 | Construction Staking Slope Stakes | LF | 910.000 | 910.000 |
| 2030 | 690.0150 | Sawing Asphalt | LF | 515.000 | 515.000 |
| 2050 | 715.0502 | Incentive Strength Concrete Structures | DOL | 636.000 | 636.000 |
| 2080 | SPV.0030 | Special 01. Fertilizer for Lawn Type Turf | CWT | 0.500 | 0.500 |
| 2090 | SPV.0060 | Special 01. Reestablish Section Corner Monuments | EACH | 7.000 | 7.000 |
| 2110 | SPV.0105 | Special 02. Verify and Replace Existing Property Monuments Project 6580-11-60 | LS | 1.000 | 1.000 |
| 2130 | SPV.0105 | Special 04. Research and Locate Existing Property Monuments Project 6580-11-60 | LS | 1.000 | 1.000 |
| 2140 | SPV.0180 | Special 01. Preparing Topsoil for Lawn Type Turf | SY | 800.000 | 800.000 |

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## CLEARING AND GRUBBING ITEMS

| STATION - STATION | LOCATION | 201.0105 CLEARING STA | 201.0205 GRUBBING STA |
|---|---|---|---|
| CAT 0010 | | | |
| 48+00 - 53+00 | LT & RT | 5 | 5 |
| TOTALS | | 5 | 5 |

## REMOVING SMALL PIPE CULVERTS

| | | | FOR INFORMATION ONLY | | | |
|---|---|---|---|---|---|---|
| STATION | LOCATION | 203.0100 EACH | SIZE INCH | MATERIAL | LENGTH FT | COMMENTS |
| CAT 0010 | | | | | | |
| 10+68 | LT & RT | 1 | 48 | STEEL | 56 | |
| 51+89 | RT | 1 | 18 | STEEL | 32 | |
| TOTAL | | 2 | | | | |

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## REMOVING ASPHALTIC SURFACE ITEMS

| STATION - STATION | LOCATION | 204.0110 SY | 204.0115 BUTT JOINTS SY | 204.0125 MILLING TON |
|---|---|---|---|---|
| CAT 0010 | | | | |
| 1+50 - 46+00 | LT & RT | -- | 5 | 1,125 |
| 52+10 - 196+50 | LT & RT | -- | -- | 3,650 |
| LANEY RD | LT & RT | -- | 10 | 40 |
| DRIVEWAYS | LT & RT | 1,300 | -- | -- |
| TOTALS | | 1,300 | 15 | 4,815 |

## EARTHWORK SUMMARY

| DIVISION | FROM/TO STATION | LOCATION | EXCAVATION COMMON (NOTE 1) (ITEM 205.0100) | SALVAGED / UNUSEABLE PAVEMENT MATERIAL (NOTE 3) | AVAILABLE MATERIAL (NOTE 4) | UNEXPANDED FILL (NOTE 5) | EXPANDED FILL (NOTE 6) | MASS ORDINATE +/- (NOTE 7) | BORROW (ITEM 208.0100) |
|---|---|---|---|---|---|---|---|---|---|
| | | | CUT (NOTE 2) | | | | FACTOR 1.25 | | |
| ID 6580-11-60 | | | | | | | | | |
| 1 | 9+00 - 12+00 | STH 156 (CULVERT AT STA 10+68) | 354 | 163 | 191 | 72 | 91 | 100 | 0 |
| 1 | 46+00 - 52+10 | STH 156 (C-58-92 CULVERT AT STA 48+95) | 1,357 | 331 | 1,026 | 992 | 1,240 | -214 | 214 |
| | | | | | | | | | |
| TOTALS | | | 1,711 | 494 | 1,217 | 1,064 | 1,331 | -114 | 114 |

1) NO EBS IS ANTICIPATED. IF EBS IS REQUIRED IT WILL BE PAID AS EXCAVATION COMMON. ITEM NUMBER 205.0100
2) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT
3) SALVAGED/UNUSABLE PAVEMENT MATERIAL EQUALS AREA OF PROJECT PAVEMENT REMOVAL * TYPICAL EXISTING PAVEMENT DEPTH
4) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUABLE PAVEMENT MATERIAL
5) UNEXPANDED FILL IS A SUM OF CROSS SECTION AREAS FROM EACH DIVISIONAL SHEET
6) EXPANDED FILL FACTOR = 1.25. EXPANDED FILL = (UNEXPANDED FILL) * FILL FACTOR
7) THE MASS ORDINATE + OR - QTY CALCULATED FOR THE DIVISION. PLUS QUANTITY INDICATES AN EXCESS OF MATERIAL WITHIN THE DIVISION. MINUS INDICATES A SHORTAGE OF MATERIAL WITHIN THE DIVISION.

## BACKFILL GRANULAR

| STATION | LOCATION | 209.2100 GRADE 2 CY | COMMENTS |
|---|---|---|---|
| CAT 0010 | | | |
| 10+68 | LT & RT | 450 | CULVERT REPLACEMENT |
| TOTAL | | 450 | |

## PREPARE FOUNDATION ITEMS

| STATION - STATION | LOCATION | 211.0100.02 ASPHALTIC PAVING (6580-11-60) LS | 211.0400 ASPHALTIC SHOULDERS STA |
|---|---|---|---|
| CAT 0010 | | | |
| 1+50 - 196+50 | PROJECT | 1 | -- |
| 24+00 - 28+75 | LT | -- | 5 |
| 52+10 - 55+00 | RT | -- | 3 |
| TOTALS | | 1 | 8 |

3

## BASE AGGREGATE DENSE ITEMS

| STATION - STATION | LOCATION | 305.0110 3/4-INCH TON | 305.0120 1 1/4-INCH TON |
|---|---|---|---|
| CAT 0010 | | | |
| 1+50 - 46+00 | LT & RT | 840 | 265 |
| 46+00 - 52+10 | LT & RT | 160 | 2,160 |
| 52+10 - 196+50 | LT & RT | 2,610 | -- |
| SIDE ROADS | LT & RT | 30 | -- |
| DRIVEWAYS | LT & RT | 160 | -- |
| TOTALS | | 3,800 | 2,425 |

## SHAPING SHOULDERS

| STATION - STATION | LOCATION | 305.0500 STA |
|---|---|---|
| CAT 0010 | | |
| 1+50 - 46+00 | LT | 37 |
| 1+50 - 46+01 | RT | 42 |
| 52+10 - 196+50 | LT | 145 |
| 52+10 - 196+50 | RT | 142 |
| TOTAL | | 366 |

NOTE:
NOT INCLUDED IN PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS AREAS AND RECONSTRUCTION AREAS

## CULVERT PIPE AND APRON ENDWALL ITEMS

| STATION | LOCATION | MIN. STEEL THICKNESS INCH | 521.0118 CULVERT PIPE CORRUGATED STEEL 18-INCH LF | 521.1518 APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS STEEL 18-INCH 6:1 EACH | 522.0336 CULVERT PIPE REINFORCED CONCRETE CLASS IV 36-INCH LF | 522.1036 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 36-INCH EACH | 612.0700 DRAIN TILE EXPLORATION LF | **PIPE JOINT TIES EACH |
|---|---|---|---|---|---|---|---|---|
| CAT 0010 | | | | | | | | |
| 10+68 | LT & RT | -- | -- | -- | 56 | 2 | 30 | 12 |
| 51+92 | RT | 0.064 | 36 | 2 | -- | -- | -- | -- |
| TOTALS | | | 36 | 2 | 56 | 2 | 30 | 12 |

**NON BID ITEM, FOR INFORMATION ONLY. TIE LAST THREE JOINTS AT EACH END

## HMA AND ASPHALTIC ITEMS

| STATION - STATION | LOCATION | 455.0605 TACK COAT GAL | 460.5223 HMA PAVEMENT 3 LT 58-28 S TON | 460.5224 HMA PAVEMENT 4 LT 58-28 S TON | 465.0105 ASPHALTIC SURFACE TON | 465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON | COMMENTS |
|---|---|---|---|---|---|---|---|
| CAT 0010 | | | | | | | |
| 1+50 - 46+00 | LT & RT | 747 | 20 | 1,020 | 175 | -- | |
| 46+00 - 52+10 | LT & RT | 225 | 400 | 230 | -- | -- | |
| 52+10 - 196+50 | LT & RT | 2,510 | 15 | 3,530 | -- | -- | |
| LANEY RD | LT & RT | 25 | -- | 30 | -- | -- | |
| DRIVEWAYS | LT & RT | -- | -- | -- | -- | 215 | |
| PROJECT | LT & RT | 58 | 150 | -- | -- | -- | LEVELING AND WEDGING IN SUPERELEVATION AREAS |
| TOTALS | | 3,565 | 585 | 4,810 | 175 | 215 | |

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## TEMPORARY DIVERSION CHANNEL ITEMS

| LOCATION | 606.0100 RIPRAP LIGHT CY | 628.5505 POLYETHYLENE SHEETING SY |
|---|---|---|
| CAT 0010 | | |
| STRUCTURE C-58-92 | 30 | 900 |
| TOTALS | 30 | 900 |

NOTE:
ESTIMATED EXCAVATION IS SHOWN ON THE ROADWAY PLANS AND IS INCIDENTAL TO THE ITEM "EXCAVATION FOR STRUCTURES" (SEE STRUCTURE PLANS)

## RIPRAP AND GEOTEXTILE ITEMS

| STATION | LOCATION | 606.0200 RIPRAP MEDIUM CY | 645.0120* GEOTEXTILE TYPE HR SY |
|---|---|---|---|
| CAT 0010 | | | |
| 10+85 | LT | 8 | 25 |
| TOTAL | | 8 | 25 |

*ADDITIONAL QUANTITIES SHOWN ON STRUCTURE PLANS

3

## GUARDRAIL ITEMS

| STATION - STATION | LOCATION | 614.0920 SALVAGED RAIL LF | 614.0925 SALVAGED GUARDRAIL END TREATMENTS EACH | 614.2300 MGS GUARDRAIL 3 LF | 614.2340 MGS GUARDRAIL 3 L LF | 614.2610 MGS GUARDRAIL TERMINAL EAT EACH |
|---|---|---|---|---|---|---|
| CAT 0010 | | | | | | |
| 9+14 - 11+77 | RT | 265 | 2 | -- | -- | -- |
| 9+50 - 12+15 | LT | 265 | 2 | -- | -- | -- |
| 47+42 - 50+00 | RT | 260 | 2 | -- | -- | -- |
| 47+61 - 51+17 | LT | 265 | 2 | 137.5 | 112.5 | 2 |
| TOTALS | | 1,055 | 8 | 137.5 | 112.5 | 2 |

## FENCE SAFETY

| STATION - STATION | LOCATION | 616.0700.S LF | COMMENTS |
|---|---|---|---|
| CAT 0010 | | | |
| 51+00 - 51+85 | RT | 85 | FENCE TO PROTECT SEPTIC TANK |
| TOTAL | | 85 | |

3

## MONUMENT ITEMS

| LOCATION | 621.0100 LANDMARK REFERENCE MONUMENTS EACH | SPV.0060.01 REESTABLISH SECTION CORNER MONUMENTS EACH | SPV.0105.02 VERIFY AND REPLACE EXISTING PROPERTY MONUMENTS PROJECT 6580-11-60 LS | SPV.0105.04 RESEARCH AND LOCATE EXISTING PROPERTY MONUMENTS PROJECT 6580-11-60 LS |
|---|---|---|---|---|
| CAT 0010 | | | | |
| N 1/4 OF SEC 33, T25N, R18E | 4 | 1 | -- | -- |
| NE OF SEC 33, T25N, R18E | 4 | 1 | -- | -- |
| N 1/4 OF SEC 34, T25N, R18E | 4 | 1 | -- | -- |
| NE OF SEC 34, T25N, R18E | 4 | 1 | -- | -- |
| N 1/4 OF SEC 35, T25N, R18E | 4 | 1 | -- | -- |
| NE OF SEC 35, T25N, R18E | 4 | 1 | -- | -- |
| N 1/4 OF SEC 36, T25N, R18E | 4 | 1 | -- | -- |
| PROJECT | -- | -- | 1 | 1 |
| TOTALS | 28 | 7 | 1 | 1 |

## WATER

| LOCATION | 624.0100 MGAL |
|---|---|
| CAT 0010 | |
| PROJECT | 90 |
| TOTAL | 90 |

NOTE:
WATER IS FOR BASE AGGREGATE COMPACTION

## MOBILIZATIONS EROSION CONTROL

| LOCATION | 628.1905 EACH | 628.1910 EMERGENCY EACH |
|---|---|---|
| CAT 0010 | | |
| PROJECT | 3 | 3 |
| TOTALS | 3 | 3 |

## EROSION CONTROL ITEMS

| STATION - STATION | LOCATION | 628.1504 SILT FENCE LF | 628.1520 SILT FENCE MAINTENANCE LF | 628.2004 EROSION MAT CLASS I TYPE B SY | 628.2027 EROSION MAT CLASS II TYPE C SY | 628.7504 TEMPORARY DITCH CHECKS LF | 628.7555 CULVERT PIPE CHECKS EACH | 628.7570 ROCK BAGS EACH |
|---|---|---|---|---|---|---|---|---|
| CAT 0010 | | | | | | | | |
| 9+00 - 12+00 | LT & RT | 260 | 260 | 1,590 | 245 | 110 | 10 | 30 |
| 46+00 - 52+10 | LT & RT | 440 | 440 | 3,225 | 530 | 145 | 10 | 60 |
| UNDISTRIBUTED | -- | 175 | 175 | 1,200 | 200 | 65 | 5 | 25 |
| TOTALS | | 875 | 875 | 6,015 | 975 | 320 | 25 | 115 |

## FINISHING ITEMS

| STATION - STATION | LOCATION | 625.0500 SALVAGED TOPSOIL SY | 627.0200 MULCHING SY | 629.0210 FERTILIZER TYPE B CWT | 630.0130 SEEDING MIXTURE NO. 30 LB | 630.0140 SEEDING MIXTURE NO. 40 LB | 631.0300 SOD WATER MGAL | SPV.0030.01 FERTILIZER FOR LAWN TYPE TURF CWT | SPV. 0180.01 PREPARING TOPSOIL FOR LAWN TYPE TURF SY |
|---|---|---|---|---|---|---|---|---|---|
| CAT 0010 | | | | | | | | | |
| 8+00 - 12+50 | LT & RT | 1,860 | -- | 1.2 | 35 | -- | -- | -- | -- |
| 46+00 - 52+10 | LT & RT | 3,835 | -- | 2.0 | 69 | 12 | 14 | 0.4 | 635 |
| UNDISTRIBUTED | -- | 1,425 | 1,500 | 0.8 | 26 | 3 | 11 | 0.1 | 165 |
| TOTALS | | 7,120 | 1,500 | 4.0 | 130 | 15 | 25 | 0.5 | 800 |

NOTE:
SOD WATER IS FOR ESTABLISHING LAWN TYPE AREAS, TEMPORARY DIVERSION CHANNEL, OR OTHER AREAS AS DIRECTED BY THE ENGINEER

## MARKERS ITEMS

| STATION | LOCATION | 633.5200 CULVERT END EACH |
|---|---|---|
| CAT 0010 | | |
| 5+87 | LT & RT | 2 |
| 10+68 | LT & RT | 2 |
| 32+06 | LT & RT | 2 |
| 48+95 | LT & RT | 2 |
| 71+15 | LT & RT | 2 |
| 100+85 | LT & RT | 2 |
| 139+25 | LT & RT | 2 |
| 161+38 | LT & RT | 2 |
| 180+75 | LT & RT | 2 |
| -- | PROJECT | -- |
| TOTALS | | 18 |

## TYPE II SIGNS AND SUPPORTS

| SIGN NO. | SIGN CODE | W | X | H | 637.2210 SIGNS TYPE II REFLECTIVE H SF | 637.2230 SIGNS TYPE II REFLECTIVE F SF | 634.0616 POSTS WOOD 4x6x16 EACH | 634.0618 POSTS WOOD 4x6x18 EACH | 634.0620 POSTS WOOD 4x6x20 EACH | 638.2602 REMOVING SIGNS TYPE II EACH | 638.3000 REMOVING SMALL SIGN SUPPORTS EACH | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CAT 0010 | | | | | | | | | | | | |
| 1-1 | J4-1 | 24 | X | 36 | 6.00 | -- | -- | 1 | -- | 1 | 1 | |
| 1-2 | R2-1 | 24 | X | 30 | 5.00 | -- | -- | 1 | -- | -- | -- | |
| 1-3 | W14-3 | 48 | X | 36 | -- | 6.00 | -- | -- | -- | 1 | 1 | MOUNT ON SAME POST AS 1-2 |
| 1-4 | D1-3 | 78 | X | 42 | 22.75 | -- | -- | -- | 2 | 1 | 2 | |
| 1-5 | J2-3 | 72 | X | 57 | 28.50 | -- | -- | -- | 2 | -- | -- | |
| 1-6 | W3-1 | 36 | X | 36 | -- | 9.00 | -- | 1 | -- | -- | -- | |
| 1-7 | D2-2 | 78 | X | 24 | 13.00 | -- | 1 | 1 | -- | -- | -- | |
| 1-8 | -- | -- | X | -- | -- | -- | -- | -- | -- | 1 | 2 | |
| 1-9 | -- | -- | X | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 1-10 | R1-1 | 36 | X | 36 | 7.46 | -- | -- | -- | -- | 1 | -- | MOUNT ON EXISTING POST WITH FLASHING BEACON |
| 1-11 | R1-3P | 24 | X | 9 | 1.50 | -- | -- | -- | -- | -- | -- | MOUNT WITH SIGN 1-10 |
| 1-12 | J3-2 | 48 | X | 57 | 19.00 | -- | -- | -- | 1 | 1 | 1 | |
| 2-1 | J1-1 | 24 | X | 39 | 6.50 | -- | -- | 1 | -- | 1 | 1 | |
| 2-2 | -- | -- | X | -- | -- | -- | -- | -- | -- | 1 | 2 | ROSE LAWN UNINCORPORATED SIGN |
| 2-3 | W14-3 | 48 | X | 36 | -- | 6.00 | -- | 1 | -- | 1 | 1 | |
| 2-4 | R1-1 | 30 | X | 30 | 5.18 | -- | 1 | -- | -- | 1 | 1 | RD NAME SIGN REMOVAL BY MUNICIPALITY |
| 3-1 | W14-3 | 48 | X | 36 | -- | 6.00 | -- | 1 | -- | 1 | 1 | |
| 4-1 | W14-3 | 48 | X | 36 | -- | 6.00 | -- | 1 | -- | 1 | 1 | |
| 5-1 | R1-1 | 30 | X | 30 | 5.18 | -- | 1 | -- | -- | 1 | 1 | RD NAME SIGN REMOVAL BY MUNICIPALITY |
| 5-2 | R1-1 | 30 | X | 30 | 5.18 | -- | 1 | -- | -- | 1 | 1 | |
| 6-1 | W3-5 | 36 | X | 36 | -- | 9.00 | -- | 1 | -- | -- | -- | |
| 6-2 | R2-1 | 24 | X | 30 | 5.00 | -- | 1 | -- | -- | 1 | 1 | |
| 6-3 | R2-1 | 24 | X | 30 | 5.00 | -- | 1 | -- | -- | -- | -- | |
| 6-4 | W14-3 | 48 | X | 36 | -- | 6.00 | -- | 1 | -- | -- | -- | |
| 7-1 | -- | -- | X | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 7-2 | D2-2 | 90 | X | 24 | 15.00 | -- | 1 | 1 | -- | -- | -- | |
| 7-3 | -- | -- | X | -- | -- | -- | -- | -- | -- | 1 | 1 | |
| 7-4 | J4-1 | 24 | X | 36 | 6.00 | -- | -- | 1 | -- | -- | -- | |
| TOTALS | | | | | 156.25 | 48.00 | 7 | 12 | 5 | 18 | 20 | |

## TRAFFIC CONTROL ITEMS

| LOCATION | DAYS | 643.0100.02 (6580-11-60) EACH | 643.0300 DRUMS NO. | 643.0300 DRUMS DAYS | 643.0420 BARRICADES TYPE III NO. | 643.0420 BARRICADES TYPE III DAYS | 643.0705 WARNING LIGHTS TYPE A NO. | 643.0705 WARNING LIGHTS TYPE A DAYS | 643.0900 SIGNS NO. | 643.0900 SIGNS DAYS | 643.1050 SIGNS PCMS NO. | 643.1050 SIGNS PCMS DAYS | 643.2000.01 DETOUR (6580-11-60) EACH | 643.3000 DETOUR SIGNS NO. | 643.3000 DETOUR SIGNS DAYS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CAT 0010 | | | | | | | | | | | | | | | |
| PROJECT | 60 | 1 | -- | -- | 24 | 1,440 | 48 | 2,880 | 21 | 1,260 | 2 | 14 | -- | -- | -- |
| DETOUR | 140 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 1 | 150 | 21,000 |
| UNDISTRIBUTED | 10 | -- | 30 | 300 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| TOTALS | | 1 | | 300 | | 1,440 | | 2,880 | | 1,260 | | 14 | 1 | | 21,000 |

## PAVEMENT MARKING ITEMS

| STATION - STATION | LOCATION | 646.0106 EPOXY 4-INCH (YELLOW CENTERLINE) LF | 646.2304.S GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE EDGELINE) LF |
|---|---|---|---|
| CAT 0010 | | | |
| 1+50 - 196+50 | LT & RT | 9,975 | 38,860 |
| TOTALS | | 9,975 | 38,860 |

## LOCATING NO-PASSING ZONES

| LOCATION | 648.0100 MI |
|---|---|
| CAT 0010 | |
| PROJECT | 3.70 |
| TOTAL | 3.70 |

## SAWING ASPHALT

| STATION - STATION | LOCATION | 690.0150 LF |
|---|---|---|
| CAT 0010 | | |
| 1+50 | LT & RT | 22 |
| 9+89 - 11+38 | LT & RT | 44 |
| 46+00 - 52+10 | LT & RT | 44 |
| LANEY RD | LT & RT | 45 |
| DRIVEWAYS | LT & RT | 360 |
| TOTAL | | 515 |

## CONSTRUCTION STAKING ITEMS

| STATION - STATION | LOCATION | 650.4500 SUBGRADE LF | 650.5000 BASE LF | 650.6000 PIPE CULVERTS EACH | 650.6500.04 STRUCTURE LAYOUT (C-58-0092) LS | 650.8000 RESURFACING REFERENCE LF | 650.9910.02 SUPPLEMENTAL CONTROL (6580-11-60) LS | 650.9920 SLOPE STAKES LF |
|---|---|---|---|---|---|---|---|---|
| CAT 0010 | | | | | | | | |
| 1+50 - 196+50 | LT & RT | -- | -- | -- | -- | 19,500 | -- | -- |
| 9+00 - 12+00 | LT & RT | 300 | -- | 1 | -- | -- | -- | 300 |
| 46+00 - 52+10 | LT & RT | 610 | 610 | -- | 1 | -- | -- | 610 |
| PROJECT | LT & RT | -- | -- | -- | -- | -- | 1 | -- |
| TOTALS | | 910 | 610 | 1 | 1 | 19,500 | 1 | 910 |

DOT COMPOSITE ORIGINAL LOCATED AT THE REGISTER OF DEEDS OFFICE

# TRANSPORTATION PROJECT PLAT NO: 6580-11-20 - 4.01
# AMENDMENT NO. 1

AMENDS PARCEL 3 OF TRANSPORTATION PROJECT PLAT 6580-11-20-4.01 RECORDED AS DOCUMENT NO: 713018.

THAT PART OF LOT 2 OF CSM 3310 RECORDED IN V. 14, P. 71, AS DOC. 621669 IN THE NORTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 33 AND ALSO THAT PART OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 28, ALL BEING LOCATED IN TOWNSHIP 25 NORTH, RANGE 18 EAST, TOWN OF MAPLE GROVE, SHAWANO COUNTY, WISCONSIN

RELOCATION ORDER STH 156 (STH 55 - STH 29) SHAWANO COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

DOC # 713376
Recorded
May 23, 2016 11:00 AM
AMY DILLENBURG
REGISTER OF DEEDS
SHAWANO WI
Fee Amount: $30.00
Slide B page 311

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 6580-11-20-4.01
AMENDMENT NO: 1

## CONVENTIONAL SYMBOLS

| | | | |
|---|---|---|---|
| FOUND IRON PIPE/PIN | ⌀ (1" UNLESS NOTED) | PROPOSED R/W LINE | |
| | | EXISTING H.E. LINE | |
| R/W MONUMENT | ●(SET) | PROPERTY LINE | |
| R/W STANDARD | ▲(SET) | LOT & TIE LINES | |
| SIGN | ISIGN | SLOPE INTERCEPTS | |
| SECTION CORNER MONUMENT | | CORPORATE LIMITS | |
| SECTION CORNER SYMBOL | | RESTRICTED ACCESS (BY PREVIOUS ACQUISITION/CONTROL) | |
| FEE (HATCH VARIES) | | RESTRICTED ACCESS (BY ACQUISITION) | |
| TEMPORARY LIMITED EASEMENT | | NO ACCESS (BY STATUTORY AUTHORITY) | |
| PERMANENT LIMITED EASEMENT | | SECTION LINE | |
| R/W BOUNDARY POINT | RWB20 | QUARTER LINE | |
| PARCEL NUMBER | 102 | SIXTEENTH LINE | |
| UTILITY NUMBER | 40 | EXISTING CENTERLINE | |
| SIGN NUMBER (OFF PREMISE) | 21-1 | PROPOSED REFERENCE LINE | |
| BUILDING | | PARALLEL OFFSET | |

## CONVENTIONAL ABBREVIATIONS

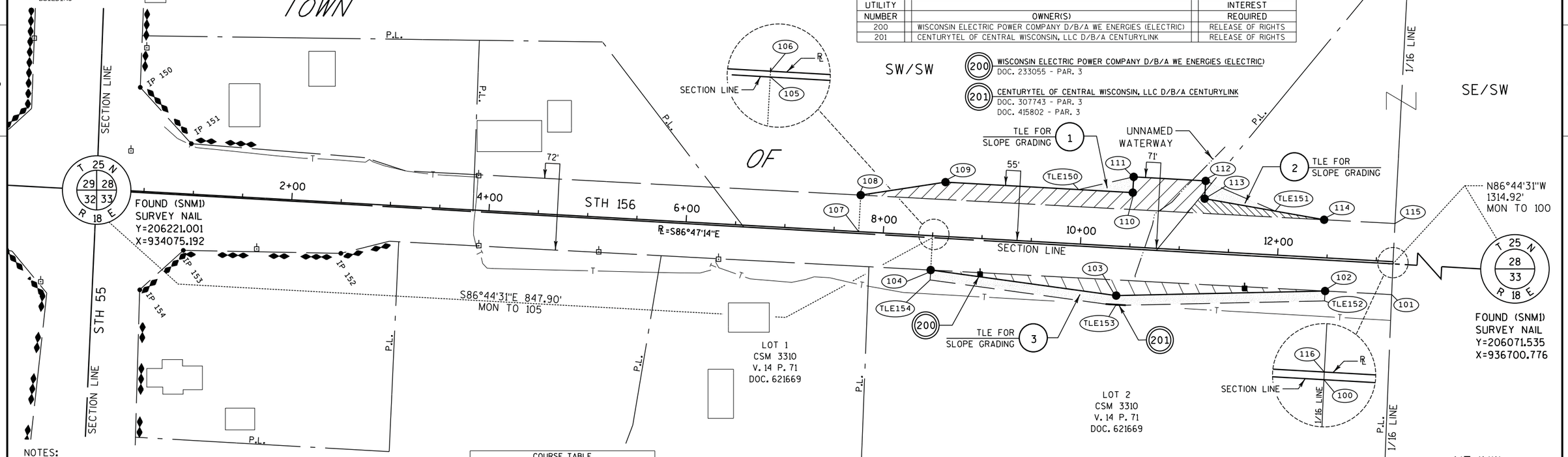
| | | | |
|---|---|---|---|
| ACCESS POINT/ DRIVEWAY CONNECTION | AP | REFERENCE LINE | R/L |
| ACCESS RIGHTS | AR | RELEASE OF RIGHTS | ROR |
| ACRES | AC. | REMAINING | REM. |
| AND OTHERS | ET.AL. | RIGHT-OF-WAY | R/W |
| CENTERLINE | C/L | SECTION | SEC. |
| CERTIFIED SURVEY MAP | CSM | STATION | STA. |
| CORNER | COR. | TEMPORARY LIMITED EASEMENT | TLE |
| DOCUMENT | DOC. | VOLUME | V. |
| EASEMENT | EASE. | | |
| HIGHWAY EASEMENT | H.E. | | |
| LAND CONTRACT | LC | | |
| MONUMENT | MON. | | |
| PAGE | P. | | |
| PERMANENT LIMITED EASEMENT | PLE | | |
| PROPERTY LINE | PL | | |
| RECORDED AS | (100') | | |

## CURVE DATA

| | |
|---|---|
| LONG CHORD | LCH |
| LONG CHORD BEARING | LCB |
| RADIUS | R |
| DEGREE OF CURVE | D |
| CENTRAL ANGLE OR DELTA | DELTA |
| LENGTH OF CURVE | L |
| TANGENT | TAN |

## CONVENTIONAL UTILITY SYMBOLS

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




## UTILITY INTERESTS REQUIRED

| UTILITY NUMBER | OWNER(S) | INTEREST REQUIRED |
|---|---|---|
| 200 | WISCONSIN ELECTRIC POWER COMPANY D/B/A WE ENERGIES (ELECTRIC) | RELEASE OF RIGHTS |
| 201 | CENTURYTEL OF CENTRAL WISCONSIN, LLC D/B/A CENTURYLINK | RELEASE OF RIGHTS |

## COURSE TABLE

| COURSE | BEARING | DISTANCE |
|---|---|---|
| 100-101 | S 2°18'07" W | 31.08' |
| 101-102 | N 86°57'23" W | 67.51' |
| 102-103 | S 88°45'11" W | 211.64' |
| 103-104 | N 82°10'00" W | 189.62' |
| 104-105 | N 3°12'46" E | 32.82' |
| 105-106 | N 3°12'46" E | 1.90' |
| 106-107 | N 86°47'14" W | 75.00' |
| 107-108 | N 3°12'46" E | 37.05' |
| 108-109 | N 81°17'28" E | 86.87' |
| 109-110 | S 86°47'14" E | 190.00' |
| 110-111 | N 3°12'46" E | 16.00' |
| 111-112 | S 86°47'14" E | 73.00' |
| 112-113 | S 3°12'46" W | 18.00' |
| 113-114 | S 79°58'57" E | 122.87' |
| 114-115 | S 86°57'23" E | 71.86' |
| 115-116 | S 2°59'25" W | 38.65' |
| 116-100 | S 2°59'25" W | 2.27' |

## EXISTING MONUMENTS

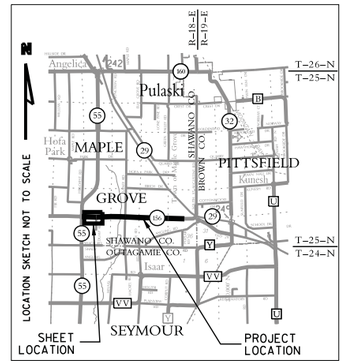
| POINT | Y (NORTHING) | X (EASTING) | DESCRIPTION |
|---|---|---|---|
| IP 150 | 206324.994 | 934119.341 | 1.25" OD IP |
| IP 151 | 206267.910 | 934171.066 | 1.25" OD IP |
| IP 152 | 206156.935 | 934322.482 | 1.25" OD IP |
| IP 153 | 206159.952 | 934162.951 | 1.25" OD IP |
| IP 154 | 206120.011 | 934118.864 | 1.25" OD IP |

## TLE STATION & OFFSET TABLE

| POINT NO. | STATION | OFFSET |
|---|---|---|
| TLE150 | 9+95.00 | -55.00' |
| TLE151 | 11+95.00 | -44.41' |
| TLE152 | 12+50.00 | 43.57' |
| TLE153 | 10+39.00 | 60.00' |
| TLE154 | 8+50.00 | 44.76' |

## STATION & OFFSET TABLE

| POINT NO. | STATION | OFFSET |
|---|---|---|
| 100 | 13+17.02 | 2.27' |
| 101 | 13+17.51 | 33.34' |
| 102 | 12+50.00 | 33.54' |
| 103 | 10+39.00 | 50.00' |
| 104 | 8+50.00 | 34.72' |
| 105 | 8+50.00 | 1.90' |
| 106 | 8+50.00 | 0.00' |
| 107 | 7+75.00 | 0.00' |
| 108 | 7+75.00 | -37.05' |
| 109 | 8+60.00 | -55.00' |
| 110 | 10+50.00 | -55.00' |
| 111 | 10+50.00 | -71.00 |
| 112 | 11+23.00 | -71.00' |
| 113 | 11+23.00 | -53.00' |
| 114 | 12+45.00 | -38.44' |
| 115 | 13+16.86 | -38.65' |
| 116 | 13+17.01 | 0.00' |




## NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, SHAWANO COUNTY, NAD 83 (1991) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

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

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO NEW REFERENCE LINES.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY LINES, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

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

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE:
EXISTING HIGHWAY RIGHT-OF-WAY FOR STH 156 ESTABLISHED FROM PREVIOUS PROJECT 5011(2), CSM 3310, AND EXISTING CENTERLINE.
EXISTING HIGHWAY RIGHT-OF-WAY FOR STH 55 ESTABLISHED FROM PREVIOUS PROJECT 6524-01-21, 5011(2), AND EXISTING CENTERLINE.

A **TEMPORARY LIMITED EASEMENT** (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE. ALL TLES EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

PREVIOUS ACCESS CONTROL ESTABLISHED FROM PREVIOUS RW PROJECT 6524-01-21.

FOR CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN RHINELANDER.

REFERENCE LINE IS NOT COINCIDENT WITH SECTION LINE.

## SCHEDULE OF LANDS & INTERESTS REQUIRED

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

| PARCEL NUMBER | OWNERS | INTEREST REQUIRED | R/W ACRES REQUIRED NEW | EXISTING | TOTAL | TLE ACRES |
|---|---|---|---|---|---|---|
| 1 | STEVE VUE AND XIA YANG VUE | FEE/TLE | 0.144 | 0.405 | 0.549 | 0.011 |
| 2 | CLAYTON NOOYEN, SR. AND PAULINE NOOYEN | FEE/TLE | 0.025 | 0.828 | 0.853 | 0.014 |
| 3 | DALE R. KROPP AND KATHRYN P. KROPP | FEE/TLE | 0.073 | 0.602 | 0.675 | 0.092 |

emcs.inc

I, KEVIN C. BOYER, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE DEPARTMENT, I HAVE SURVEYED AND MAPPED TRANSPORTATION PROJECT PLAT 6580-11-20-4.01 AMENDMENT NO. 1 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

Kevin C. Boyer DATE: 5/18/2016
KEVIN C. BOYER
PROFESSIONAL LAND SURVEYOR NUMBER 2675

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

(SIGNATURE) DATE: 5/18/2016
(PRINTED NAME) 35 LLA

WISCONSIN KEVIN C BOYER S-2675 NEWTT WI LAND SURVEYOR

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\TPP\STH 156\040101A1_rp.dgn
APPRAISAL PLAT DATE :
PLOT DATE : 5/18/2016
PLOT BY : kcb
PLOT NAME :
PLOT SCALE : 1:50

6580-11-20-4.01 A1

DOT COMPOSITE ORIGINAL LOCATED AT THE REGISTER OF DEEDS OFFICE

# TRANSPORTATION PROJECT PLAT NO: 6580-11-20 - 4.01

THAT PART OF LOT 2 OF CSM 3310 RECORDED IN V. 14, P. 71, AS DOC. 621669 IN THE NORTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 33 AND ALSO THAT PART OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 28, ALL BEING LOCATED IN TOWNSHIP 25 NORTH, RANGE 18 EAST, TOWN OF MAPLE GROVE, SHAWANO COUNTY, WISCONSIN

RELOCATION ORDER STH 156 (STH 55 - STH 29) SHAWANO COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

DOC # 713018
Recorded
January 25, 2016 12:42 PM
AMY DILLENBURG
REGISTER OF DEEDS
SHAWANO WI
Fee Amount: $25.00
Slide B-311

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 6580-11-20-4.01
AMENDMENT NO:

## CONVENTIONAL SYMBOLS

| | | | |
|---|---|---|---|
| FOUND IRON PIPE/PIN | ⌀ (1" UNLESS NOTED) | PROPOSED R/W LINE | |
| | | EXISTING H.E. LINE | |
| R/W MONUMENT | ●(SET) | PROPERTY LINE | |
| R/W STANDARD | ▲(SET) | LOT & TIE LINES | |
| SIGN | SIGN | SLOPE INTERCEPTS | |
| SECTION CORNER MONUMENT | | CORPORATE LIMITS | |
| SECTION CORNER SYMBOL | | RESTRICTED ACCESS (BY PREVIOUS ACQUISITION/CONTROL) | |
| FEE (HATCH VARIES) | | RESTRICTED ACCESS (BY ACQUISITION) | |
| TEMPORARY LIMITED EASEMENT | | NO ACCESS (BY STATUTORY AUTHORITY) | |
| PERMANENT LIMITED EASEMENT | | SECTION LINE | |
| R/W BOUNDARY POINT | RWB20 | QUARTER LINE | |
| PARCEL NUMBER | 102 | SIXTEENTH LINE | |
| UTILITY NUMBER | 40 | EXISTING CENTERLINE | |
| SIGN NUMBER (OFF PREMISE) | 71-1 | PROPOSED REFERENCE LINE | |
| BUILDING | | PARALLEL OFFSET | |

## CONVENTIONAL ABBREVIATIONS

| | | | |
|---|---|---|---|
| ACCESS POINT/ DRIVEWAY CONNECTION | AP | REFERENCE LINE | R/L |
| ACCESS RIGHTS | AR | RELEASE OF RIGHTS | ROR |
| ACRES | AC. | REMAINING | REM. |
| AND OTHERS | ET.AL. | RIGHT-OF-WAY | R/W |
| CENTERLINE | C/L | SECTION | SEC. |
| CERTIFIED SURVEY MAP | CSM | STATION | STA. |
| CORNER | COR. | TEMPORARY LIMITED EASEMENT | TLE |
| DOCUMENT | DOC. | VOLUME | V. |
| EASEMENT | EASE. | | |
| HIGHWAY EASEMENT | H.E. | | |
| LAND CONTRACT | LC | | |
| MONUMENT | MON. | | |
| PAGE | P. | | |
| PERMANENT LIMITED EASEMENT | PLE | | |
| PROPERTY LINE | PL | | |
| RECORDED AS | (100') | | |

## CURVE DATA

| | |
|---|---|
| LONG CHORD | LCH |
| LONG CHORD BEARING | LCB |
| RADIUS | R |
| DEGREE OF CURVE | D |
| CENTRAL ANGLE OR DELTA | DELTA |
| LENGTH OF CURVE | L |
| TANGENT | TAN |

## CONVENTIONAL UTILITY SYMBOLS

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

## UTILITY INTERESTS REQUIRED

| UTILITY NUMBER | OWNER(S) | INTEREST REQUIRED |
|---|---|---|
| 200 | WISCONSIN ELECTRIC POWER COMPANY D/B/A WE ENERGIES (ELECTRIC) | RELEASE OF RIGHTS |
| 201 | CENTURYTEL OF CENTRAL WISCONSIN, LLC D/B/A CENTURYLINK | RELEASE OF RIGHTS |

200 WISCONSIN ELECTRIC POWER COMPANY D/B/A WE ENERGIES (ELECTRIC)
DOC. 233055 - PAR. 3

201 CENTURYTEL OF CENTRAL WISCONSIN, LLC D/B/A CENTURYLINK
DOC. 307743 - PAR. 3
DOC. 415802 - PAR. 3

TOWN OF MAPLE GROVE

SW/SW SE/SW NW/NW NE/NW

4 4

SECTION LINE STH 55 SECTION LINE

P.L. P.L. P.L.

DOT COMPOSITE ORIGINAL LOCATED AT THE REGISTER OF DEEDS OFFICE

# TRANSPORTATION PROJECT PLAT NO: 6580-11-20 - 4.02

THAT PART OF THE SOUTHEAST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 28 AND ALSO THE NORTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 33, ALL BEING LOCATED IN TOWNSHIP 25 NORTH, RANGE 18 EAST, TOWN OF MAPLE GROVE, SHAWANO COUNTY, WISCONSIN

RELOCATION ORDER STH 156 (STH 55 - STH 29) SHAWANO COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09 AND 84.30, WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

DOC # 713019
Recorded
January 25, 2016 12:42 PM
AMY DILLENBURG
REGISTER OF DEEDS
SHAWANO WI
Fee Amount: $25.00
Slide B-311

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 6580-11-20-4.02
AMENDMENT NO:

## CONVENTIONAL SYMBOLS

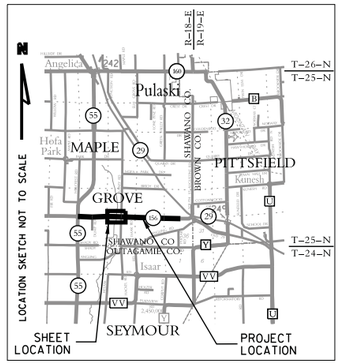
| | | | |
|---|---|---|---|
| FOUND IRON PIPE/PIN | LIP (1" UNLESS NOTED) | PROPOSED R/W LINE | |
| | | EXISTING H.E. LINE | |
| R/W MONUMENT | ●(SET) | PROPERTY LINE | |
| R/W STANDARD | ▲(SET) | LOT & TIE LINES | |
| SIGN | ISIGN | SLOPE INTERCEPTS | |
| SECTION CORNER MONUMENT | | CORPORATE LIMITS | |
| SECTION CORNER SYMBOL | | RESTRICTED ACCESS (BY PREVIOUS ACQUISITION/CONTROL) | |
| FEE (HATCH VARIES) | | RESTRICTED ACCESS (BY ACQUISITION) | |
| TEMPORARY LIMITED EASEMENT | | NO ACCESS (BY STATUTORY AUTHORITY) | |
| PERMANENT LIMITED EASEMENT | | SECTION LINE | |
| R/W BOUNDARY POINT | RWB20 | QUARTER LINE | |
| PARCEL NUMBER | 102 | SIXTEENTH LINE | |
| UTILITY NUMBER | 40 | EXISTING CENTERLINE | |
| SIGN NUMBER (OFF PREMISE) | 21-1 | PROPOSED REFERENCE LINE | |
| BUILDING | | PARALLEL OFFSET | |

## CONVENTIONAL ABBREVIATIONS

| | | | |
|---|---|---|---|
| ACCESS POINT/ DRIVEWAY CONNECTION | AP | REFERENCE LINE | R/L |
| ACCESS RIGHTS | AR | RELEASE OF RIGHTS | ROR |
| ACRES | AC. | REMAINING | REM. |
| AND OTHERS | ET.AL. | RIGHT-OF-WAY | R/W |
| CENTERLINE | C/L | SECTION | SEC. |
| CERTIFIED SURVEY MAP | CSM | STATION | STA. |
| CORNER | COR. | TEMPORARY LIMITED EASEMENT | TLE |
| DOCUMENT | DOC. | VOLUME | V. |
| EASEMENT | EASE. | **CURVE DATA** | |
| HIGHWAY EASEMENT | H.E. | LONG CHORD | LCH |
| LAND CONTRACT | LC | LONG CHORD BEARING | LCB |
| MONUMENT | MON. | RADIUS | R |
| PAGE | P. | DEGREE OF CURVE | D |
| PERMANENT LIMITED EASEMENT | PLE | CENTRAL ANGLE OR DELTA | DELTA |
| PROPERTY LINE | PL | LENGTH OF CURVE | L |
| RECORDED AS | (100') | TANGENT | TAN |

## CONVENTIONAL UTILITY SYMBOLS

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




TOWN

| COURSE TABLE | | |
|---|---|---|
| COURSE | BEARING | DISTANCE |
| SE SEC.28-201 | S 02°00'37" W | 0.98' |
| 201-202 | S 02°00'37" W | 36.43' |
| 202-203 | SEE CURVE DATA ON SHEET | |
| 203-204 | S 81°09'55" W | 260.10' |
| 204-205 | N 88°12'05" W | 280.46' |
| 205-206 | N 70°24'13" W | 48.22' |
| 206-207 | N 01°28'19" W | 35.66' |
| 207-208 | N 01°28'19" W | 0.34 |
| 208-209 | N 01°28'19" W | 36.00' |
| 209-210 | N 88°31'42" E | 45.00' |
| 210-211 | N 74°18'52" E | 51.58' |
| 211-212 | N 87°11'29" E | 300.08' |
| 212-213 | N 83°57'54" E | 200.64' |
| 213-214 | N 88°35'40" E | 70.65' |
| 214-215 | S 00°57'05" E | 36.19' |
| 215-216 | SEE CURVE DATA ON SHEET | |
| 216-SE SEC 28 | S 02°35'59" W | 34.66' |

SE/SE

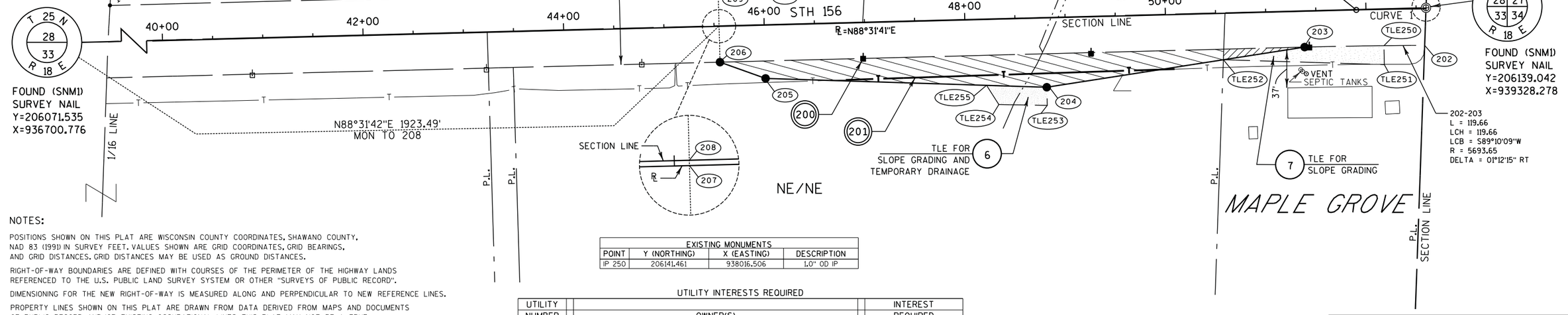
| STATION & OFFSET TABLE | | |
|---|---|---|
| POINT NO. | STATION | OFFSET |
| SE OF 28 | 52+59.86 | -0.98' |
| 201 | 52+59.82 | 0.00' |
| 202 | 52+58.27 | 36.40' |
| 203 | 51+37.96 | 35.67' |
| 204 | 48+80.00 | 69.00' |
| 205 | 46+00.00 | 53.00' |
| 206 | 45+55.00 | 35.66' |
| 207 | 45+55.00 | 0.00' |
| 208 | 45+55.00 | -0.34' |
| 209 | 45+55.00 | -36.34' |
| 210 | 46+00.00 | -36.34' |
| 211 | 46+50.00 | -49.00' |
| 212 | 49+50.00 | -56.00' |
| 213 | 51+50.00 | -71.96' |
| 214 | 52+20.08 | -72.00' |
| 215 | 52+20.04 | -35.81' |
| 216 | 52+61.66 | -35.59' |

| TLE STATION & OFFSET TABLE | | |
|---|---|---|
| POINT NO. | STATION | OFFSET |
| TLE250 | 52+17.32 | 36.17' |
| TLE251 | 52+17.30 | 55.00' |
| TLE252 | 50+56.68 | 46.17' |
| TLE253 | 48+80.00 | 87.03' |
| TLE254 | 48+31.79 | 85.00' |
| TLE255 | 48+20.00 | 65.57' |
| TLE256 | 45+90.00 | -36.34' |
| TLE257 | 45+90.00 | -49.00' |
| TLE258 | 48+50.00 | -53.67' |
| TLE259 | 48+77.00 | -73.00' |
| TLE260 | 49+40.00 | -74.00' |
| TLE261 | 49+84.00 | -58.71' |

**STH 156 CURVE 1 DATA**
PI = 53+16.83
Y = 206140.172
X = 939385.222
T = 126.46
L = 252.83
R = 3742.89
DELTA = 03°52'13" RT
D = 01°31'51"
LCH = 252.78
LCB = S89°32'12"E
PT = 54+43.20
DA = S87°36'06"E

215-216
L = 42.02
LCH = 42.02
LCB = N89°35'38"E
R = 5765.65
DELTA = 00°25'03" RT

202-203
L = 119.66
LCH = 119.66
LCB = S89°10'09"W
R = 5693.65
DELTA = 01°12'15" RT




NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, SHAWANO COUNTY, NAD 83 (1991) IN SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

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

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO NEW REFERENCE LINES.

PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES. THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES, EXCLUDING RIGHT-OF-WAY LINES, AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY ¾" × 24" REBAR) AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.
EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE: EXISTING HIGHWAY RIGHT-OF-WAY FOR STH 156 ESTABLISHED FROM PREVIOUS PROJECT SO114(3) AND EXISTING CENTERLINE.

NO PREVIOUS ACCESS CONTROL EXISTS.

A **TEMPORARY LIMITED EASEMENT** (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE. ALL TLES EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

FOR CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN RHINELANDER.

REFERENCE LINE IS NOT COINCIDENT WITH SECTION LINE.

| EXISTING MONUMENTS | | | |
|---|---|---|---|
| POINT | Y (NORTHING) | X (EASTING) | DESCRIPTION |
| IP 250 | 206141.461 | 938016.506 | 1.0" OD IP |

UTILITY INTERESTS REQUIRED

| UTILITY NUMBER | OWNER(S) | INTEREST REQUIRED |
|---|---|---|
| 200 | WISCONSIN ELECTRIC POWER COMPANY D/B/A WE ENERGIES (ELECTRIC) | RELEASE OF RIGHTS |
| 201 | CENTURYTEL OF CENTRAL WISCONSIN, LLC D/B/A CENTURYLINK | RELEASE OF RIGHTS |

SCHEDULE OF LANDS & INTERESTS REQUIRED

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

| PARCEL NUMBER | OWNERS | INTEREST REQUIRED | R/W ACRES REQUIRED NEW | EXISTING | TOTAL | TLE ACRES |
|---|---|---|---|---|---|---|
| 4 | DEAN ALLEN FEMLING, MARK ANTHONY FEMLING, JOSEPH RAE FEMLING, PAUL THOMAS FEMLING, NORMAN JOHN FEMLING, ANN MARGARET CUMBERS, AND WILLIAM JOSEPH FEMLING | FEE/TLE | 0.023 | 0.622 | 0.645 | 0.010 |
| 6 | RUEDEN'S EDEN FARMS & APARTMENTS LLC, | FEE/TLE | 0.542 | 1.049 | 1.591 | 0.065 |
| 7 | DANIEL J. RYNISH AND KIM M. RYNISH | FEE/TLE | 0.010 | 0.167 | 0.177 | 0.045 |

200 WISCONSIN ELECTRIC POWER COMPANY D/B/A WE ENERGIES (ELECTRIC)
DOC. 233058 - PAR. 6, 7
DOC. 186261 - PAR. 6, 7

201 CENTURYTEL OF CENTRAL WISCONSIN, LLC D/B/A CENTURYLINK
DOC. 307843 - PAR. 6, 7

GN

0 50 100
SCALE, FEET

emcs.inc

I, KEVIN C. BOYER, PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095 OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE DEPARTMENT, I HAVE SURVEYED AND MAPPED TRANSPORTATION PROJECT PLAT 6580-11-20-4.02 AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

Kevin C. Boyer DATE: 1/13/2016
KEVIN C. BOYER
PROFESSIONAL LAND SURVEYOR NUMBER 2675

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION
Brent L Stella DATE: 1-13-16
(SIGNATURE)
(PRINTED NAME) Bren

37

6580-11-20-4.02

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\TPP\STH 156\040102_rp.dgn
PLOT DATE : 1/13/2016
PLOT BY : kcb
PLOT NAME :
PLOT SCALE : 1:50
APPRAISAL PLAT DATE :

BENCH MARK

| NO. | STATION | DESCRIPTION | ELEV. |
|---|---|---|---|
| 605A | 9+00, 36' RT | RR SPK IN POWER POLE | 884.87 |

**PROPOSED WORK**
STA 1+50 - STA 14+00
MILL AND HMA OVERLAY
STA 9+00 - STA 12+00
REMOVE AND REPLACE CULVERT
REMOVE GUARDRAIL AND GRADE SLOPES

LEGEND
- DELINEATED WETLAND BOUNDARY
- SLOPE INTERCEPT
- X CLEARING & GRUBBING
- Ⓡ RIPRAP MEDIUM (SEE CONSTRUCTION DETAIL)
- PERMITTED WETLAND IMPACTS

N

STA 10+68
REMOVE 1-48" CPCS
1-36" CPRC REQ'D
2-36" AEW REQ'D
SKEW 27° LHF
2-MARKERS FOR CULVERT END REQ'D

CONTROL POINT 512
Y=206255.86
X=934029.44
WISDOT ALUMINUM DISK IN CONCRETE

STH 55

EARL N SCHMUDE

ALEXANDER JAMES MINISTRI

STEVE & XAIYANG VUE

CLAYTON & PAULINE NOOYEN

WISCONSIN PUBLIC SERVICE (GAS)

BASE AGG FE

ASPH CE

BASE AGG PE

EXISTING 24" CPCS TO REMAIN
2-MARKERS FOR CULVERT END REQ'D

FENCED MOVED OUT OF R/W PRIOR TO CONSTRUCTION BY OTHERS

STA 11+38.00
END CULVERT REPLACEMENT
SAWCUT REQ'D

SALVAGED RAIL & SALVAGE GUARDRAIL END TREATMENTS

PROP RW
TLE
RW
CAUTION

0+00 2+00 4+00 6+00 STH 156 8+00 10+00 12+00 14+00

S 86°47'14" E

BM 605A

STA 0+00.00
Y=206222.34
X=934073.16

T 25 N
R 18 E
29 28
32 33

DO NOT DISTURB

BEGIN PROJECT
STA 1+50.00
BEGIN MILL & HMA OVERLAY
BUTT JOINT REQ'D

QWEST COMMUNICATIONS (COMMUNICATIONS)

CENTURYLINK (COMMUNICATIONS)

WE ENERGIES (ELECTRIC DISTRIBUTION)

STA 9+89.00
BEGIN CULVERT REPLACEMENT
SAWCUT REQ'D

UNNAMED TRIBUTARY OF THE BLACK CREEK

DRAIN TILE EXPLORATION

REPLACE PAVEMENT FOR CULVERT REMOVAL AREA PRIOR TO STH 156 MILL & OVERLAY (SEE CONSTRUCTION DETAIL)

CONTROL POINT 505
Y=206111.70
X=935381.43
0.75"X24" IRON REBAR WITH BLUE EMCS CONTROL CAP

LAURY DIGES

DALE R & KATHRYN KROPP

BRADLEY J MIJAL

DALE R & KATHRYN KROPP

| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | PLAN | SHEET 38 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4801_STH 156\050201_pn.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 44

**PROPOSED WORK**
STA 14+00 - STA 29+00
MILL AND HMA OVERLAY

**LEGEND**

-·-·- DELINEATED WETLAND BOUNDARY

**BENCH MARK**

| NO. | STATION | DESCRIPTION | ELEV. |
|---|---|---|---|
| 605 | 14+26, 36'RT | RR SPK IN POWER POLE | 885.55 |

**CURVE 1**
PI = STA 26+38.28
Y = 206074.48
X = 936707.39
PC = STA 24+58.18
Y = 206084.58
X = 936527.48
PT = STA 28+18.38
Y = 206078.55
X = 936887.54
DELTA = 04°30'21" LT
T = 180.19'
L = 360.20'
R = 4580.37'
EXISTING SE = LT -3% RT -2%
PROPOSED SE = 3.3%
SE TRANSITION (T) = 141'
RO (RUNOFF) = 88'

N

CLAYTON & PAULINE NOOYEN

DAVID E & JUDITH MEEK TRUST

HYDROHOUSE FARMS INC

WISCONSIN PUBLIC SERVICE (GAS)

PC STA24+58.18

PT STA28+18.38

CURVE 1

14+00 16+00 18+00 20+00 22+00 24+00 26+00 28+00

STH 156

S 86°47'14" E

RW

ASPH PE

BASE AGG FE

BASE AGG PE

BM 605

CENTURYLINK (COMMUNICATIONS)

QWEST COMMUNICATIONS (COMMUNICATIONS)

WE ENERGIES (ELECTRIC DISTRIBUTION)

T 25 N
28
33
R 18 E

LANDMARK REFERENCE MONUMENTS

END CONSTRUCTION
50'RT
MATCH EXISTING

CLAYTON & PAULINE NOOYEN

FOREST VIEW RD

CONTROL POINT 511
Y=205909.98
X=936703.06
0.75"X24" IRON REBAR WITH
BLUE EMCS CONTROL CAP

| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | PLAN | SHEET 39 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4801_STH 156\050202_pn.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 44

**PROPOSED WORK**
STA 29+00 - STA 44+00
MILL AND HMA OVERLAY

**LEGEND**
DELINEATED WETLAND BOUNDARY

N

5

5

*HYDROHOUSE FARMS INC*

*PROXIDA R TAYLOR*

*JOHN A TAYLOR*

*PAUL T FEMLING*

WISCONSIN PUBLIC SERVICE (GAS)

ASPH PE

BASE AGG PE

BASE AGG FE

**PI STA36+37.59**
Y=206097.04
X=937706.54

RW

30+00 32+00 34+00 36+00 STH 156 38+00 40+00 42+00 44+00

N 88°42'25" E

N 88°31'41" E

EXISTING 36" CPCS TO REMAIN
2-MARKERS FOR CULVERT END REQ'D

QWEST COMMUNICATIONS (COMMUNICATIONS)

CENTURYLINK (COMMUNICATIONS)

WE ENERGIES (ELECTRIC DISTRIBUTION)

*CLAYTON & PAULINE NOOYEN*

*CLAYTON & PAULINE NOOYEN*

*GREGG L ESTREEN*

| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | PLAN | SHEET 40 | E |
|---|---|---|---|---|---|

**PROPOSED WORK**
STA 44+00 - STA 46+00
STA 52+10 - STA 59+00
MILL AND HMA OVERLAY
STA 46+00 - STA 52+10
REMOVE CULVERTS
REMOVE GUARDRAIL
CONSTRUCT NEW BOX CULVERT C-58-92
RECONSTRUCT ROADWAY APPROACHES

STA 47+61 - STA 51+17, LT
MGS GUARDRAIL 3 L
MGS GUARDRAIL 3
MGS GUARDRAIL TERMINAL EAT
(SEE STANDARD DETAIL DRAWINGS)

STA 49+00
REMOVING OLD STRUCTURE C-58-90
1-36" CPCS AND 1-72"x45" PACS

STA 48+95
STRUCTURE C-58-92 REQ'D
1 CELL 4'x10' BOX CULVERT
SKEW 28° LHF
2-MARKERS FOR CULVERT END REQ'D

LANDMARK REFERENCE MONUMENTS
T 25 N
28 27
33 34
R 18 E

**CURVE 2**
PI= STA 53+16.83
Y = 206140.17
X = 939385.22
PC = STA 51+09.37
Y = 206136.92
X = 939258.80
PT = STA 54+43.20
Y = 206134.88
X = 939511.58
DELTA = 03°52'13" RT
T = 126.46'
L = 252.83'
R = 3742.89'
EXISTING SE = LT -2% RT -3%
PROPOSED SE = 3.8%
SE TRANSITION (T) = 154'
RO (RUNOFF) = 101'

**LEGEND**
- DELINEATED WETLAND BOUNDARY
- SLOPE INTERCEPT
- X CLEARING & GRUBBING
- (H) RIPRAP HEAVY (SEE STRUCTURAL PLANS)
- PERMITTED WETLAND IMPACTS

N

PAUL T FEMLING
APARTMENTS LLC & RUEDENS EDEN FARMS
ROBERT W & KATHLEEN MCALLISTER
DANIEL J & KIM RYNISH
LESLEY A & BRENDA BONIFAS
APARTMENTS LLC & RUEDENS EDEN FARMS

SALVAGED RAIL & SALVAGE GUARDRAIL END TREATMENTS
SALVAGED RAIL & SALVAGE GUARDRAIL END TREATMENTS
WISCONSIN PUBLIC SERVICE (GAS)
OWEST COMMUNICATIONS (COMMUNICATIONS)
WE ENERGIES (ELECTRIC DISTRIBUTION)
CENTURYLINK (COMMUNICATIONS)

UNNAMED TRIBUTARY OF THE BLACK CREEK

RW
ASPH
PE
TLE
PROP RW
CAUTION
BASE AGG FE
BASE AGG PE
44+00
46+00
48+00
50+00
52+00
54+00
56+00
58+00
+61
+11
+67
+17
N 88°31'41" E
S 87°36'06" E
CURVE 2
PT STA54+43.20
STH 156
BM 604
BM 604A
PC STA51+90.37
WELL
SEPTIC
FO
OH
T
G

STA 46+00.00
END MILL & HMA OVERLAY
BEGIN RECONSTRUCTION
SAWCUT REQ'D

CONTROL POINT 504
Y=206102.46
X=938698.96
0.75"X24" IRON REBAR WITH
BLUE EMCS CONTROL CAP

STA 52+10.00
END RECONSTRUCTION
BEGIN MILL & HMA OVERLAY
SAWCUT REQ'D

STA 51+92
REMOVE 1-18" CPCS
1-18" CPCS REQ'D
2-18" AEW REQ'D

**BENCH MARK**

| NO. | STATION | DESCRIPTION | ELEV. |
|---|---|---|---|
| 604 | 44+77, 36' RT | RR SPK IN POWER POLE | 857.31 |
| 604A | 51+43, 37' RT | RR SPK IN POWER POLE | 856.50 |

VPI STA 46+00.00
VPI EL 857.39
VPC STA 46+16.96
VPC EL 857.33
LP STA 48+20.32
LP EL 856.94
VPI STA 48+66.96
VPI EL 856.38
VPT STA 51+16.96
VPT EL 857.76
VPI STA 52+10.00
VPI EL 858.28
VCL = 500'
K = 537
0.38%
0.55%
FINISHED PROFILE
EXISTING PROFILE
MATCH OVERLAY ELEVATION
MATCH OVERLAY ELEVATION
STA 48+95
STRUCTURE C-58-92 REQ'D
1 CELL-4'x10' BOX CULVERT
SKEW 28° LHF
FINISHED PROFILE ELEVATION
EXISTING PROFILE ELEVATION

870
865
860
855
850
845
840

857.45 857.39
857.02 857.08
856.59 856.95
856.57 857.00
856.79 857.24
857.36 857.67
858.28 858.22

44+00 46+00 48+00 50+00 52+00 54+00 56+00 58+00

| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | PLAN & PROFILE | SHEET 41 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4801_STH 156\050204_pp.dgn
PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:100

**PROPOSED WORK**
STA 59+00 - STA 74+00
MILL AND HMA OVERLAY

**LEGEND**

-·-·- DELINEATED WETLAND BOUNDARY

N

*LOWELL R REECK*

*BYRON R & MAE APRILL*

*JOSEPH & LAVERNE VANDE CORPUT (LIFE EST)*

STA 71+15
EXISTING B-58-118
3 CELL-7'x10' BOX CULVERT TO REMAIN
2-CULVERT MARKERS FOR CULVERT
END REQ'D

BASE AGG PE

WISCONSIN PUBLIC SERVICE (GAS)

ASPH PE

BASE AGG FE

RW

60+00 62+00 64+00 66+00 68+00 70+00 72+00 74+00

STH 156

S 87°36'06" E

QWEST COMMUNICATIONS (COMMUNICATIONS)

CENTURYLINK (COMMUNICATIONS)

WE ENERGIES (ELECTRIC DISTRIBUTION)

*APARTMENTS LLC & RUEDENS EDEN FARMS*

*TERRY R & RENEE FLEMING*

*BLACK CREEK*

*WAYNE A & STACEY NETZEL*

| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | PLAN | SHEET 42 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4801_STH 156\050205_pn.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 44

**PROPOSED WORK**
STA 74+00 - STA 89+00
MILL AND HMA OVERLAY

**LEGEND**
DELINEATED WETLAND BOUNDARY

N

RW
RW
LANEY RD
LANDMARK REFERENCE MONUMENTS
T 25 N
27
34
R 18 E
JOSEPH & LAVERNE VANDE CORPUT (LIFE EST)
JOSEPH M & ROSEMARY A VANDE CORPUT
END CONSTRUCTION
50' LT
BUTT JOINT REQ'D
(SEE CONSTRUCTION DETAILS)
WISCONSIN PUBLIC SERVICE (GAS)
PI STA78+61.91
Y=206033.66
X=941928.17
BASE AGG PE
OH
RW
RW
74+00
STH 156
76+00
78+00
80+00
82+00
84+00
STH 156
86+00
88+00
S 87°36'06" E
S 86°34'45" E
RW
FO
OH
T
CENTURYLINK (COMMUNICATIONS)
QWEST COMMUNICATIONS (COMMUNICATIONS)
WE ENERGIES (ELECTRIC DISTRIBUTION)
ASPH PE
RW
END CONSTRUCTION
50' RT
BUTT JOINT REQ'D
(SEE CONSTRUCTION DETAILS)
CONTROL POINT 510
Y=205879.22
X=941976.80
0.75"X24" IRON REBAR WITH
BLUE EMCS CONTROL CAP
WAYNE A & STACEY NETZEL
DALE R & KATHRYN KROPP
LANEY RD
RW
RW

| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | PLAN | SHEET 43 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4801_STH 156\050206_pn.dgn
PLOT DATE : 1/31/2017
PLOT BY : sgc
PLOT NAME :
PLOT SCALE : 1:100

**PROPOSED WORK**
STA 89+00 - STA 102+00
MILL AND HMA OVERLAY

**LEGEND**
DELINEATED WETLAND BOUNDARY

N

5

5

*JOSEPH M & ROSEMARY A VANDE CORPUT*

*SHAUN E BRILL*

*MARK & PATRICIA WEISNICHT*

*TERRY R & RENEE FLEMING*

*TIMOTHY J & LAURIE SCHROEDER*

*CARL E & DEBRA HENDZEL*

*TERRY R & RENEE FLEMING*

WISCONSIN PUBLIC SERVICE (GAS)

RW

ASPH PE

BASE AGG PE

BASE AGG FE

BASE AGG PE

ASPH PE

BASE AGG FE

RW

90+00 92+00 94+00 96+00 98+00 100+00 102+00 104+00

STH 156

S 86°34'45" E

RW

OWEST COMMUNICATIONS (COMMUNICATIONS)

CENTURYLINK (COMMUNICATIONS)

ASPH PE

WE ENERGIES (ELECTRIC DISTRIBUTION)

EXISTING 24" CPCS TO REMAIN
2-CULVERT MARKERS FOR CULVERT END REQ'D

BASE AGG FE

RW

*DALE R & KATHRYN KROPP*

*TERRY R & RENEE FLEMING*

| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | PLAN | SHEET 44 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4801_STH 156\050207_pn.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:100

**PROPOSED WORK**
STA 102+00 - STA 119+00
MILL AND HMA OVERLAY

**LEGEND**
DELINEATED WETLAND BOUNDARY

N

5

5

*TERRY R & RENEE FLEMING*

*CRAIG D ZULEGER*

ATC MANAGEMENT, INC
(ELECTRIC TRANSMISSION)

PI STA105+53.61
Y=205873.05
X=944615.07

WISCONSIN PUBLIC SERVICE
(GAS)

RW

104+00 106+00 108+00 110+00 112+00 114+00 116+00 118+00

STH 156

S 87°28'07" E

BASE AGG FE

BASE AGG PE

ASPH PE

QWEST COMMUNICATIONS
(COMMUNICATIONS)

CENTURYLINK
(COMMUNICATIONS)

WE ENERGIES
(ELECTRIC DISTRIBUTION)

T 25 N
R 18 E
27 26
34 35

LANDMARK
REFERENCE
MONUMENTS

*TERRY R & RENEE FLEMING*

*PAUL J NACKERS*

*COREY KACZOROWSKI*

*JULIE A BOSETSKI*

| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | PLAN | SHEET 45 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4801_STH 156\050208_pn.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:100

**PROPOSED WORK**
STA 119+00 - STA 134+00
MILL AND HMA OVERLAY

**LEGEND**
DELINEATED WETLAND BOUNDARY

N

5

5

CRAIG D ZULEGER

NANLE LLC

WISCONSIN PUBLIC SERVICE (GAS)

ASPH PE

RW

120+00

122+00

124+00

126+00

STH 156

128+00

130+00

132+00

134+00

S 87°28'07" E

BASE AGG PE

PI STA131+39.16
Y=205758.85
X=947198.10

QWEST COMMUNICATIONS (COMMUNICATIONS)

CENTURYLINK (COMMUNICATIONS)

ATC MANAGEMENT, INC (ELECTRIC TRANSMISSION)

WE ENERGIES (ELECTRIC DISTRIBUTION)

NORTHEAST TELEPHONE COMPANY, LLC (COMMUNICATIONS)

T 25 N
26
35
R 18 E

LANDMARK REFERENCE MONUMENTS

DENNIS M STEIGENBERGER

DONALD J & FAYE VAN BECKUM

| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | PLAN | SHEET 46 | E |
|---|---|---|---|---|---|

**PROPOSED WORK**
STA 134+00 - STA 149+00
MILL AND HMA OVERLAY

LEGEND
DELINEATED WETLAND BOUNDARY

N

5

5

NANLE LLC

NANLE LLC

WISCONSIN PUBLIC SERVICE (GAS)

BASE AGG FE

RW

134+00 136+00 138+00 140+00 142+00 144+00 146+00 148+00

STH 156
S 86°56'31" E

RW

RW

RW

NORTHEAST TELEPHONE COMPANY, LLC (COMMUNICATIONS)

EXISTING 2-30" CPCS'S TO REMAIN
2-CULVERT MARKERS FOR CULVERT END REQ'D

QWEST COMMUNICATIONS (COMMUNICATIONS)

BASE AGG FE

CONTROL POINT 509
Y=205651.14
X=948478.87
0.75"X24" IRON REBAR WITH BLUE EMCS CONTROL CAP

WE ENERGIES (ELECTRIC DISTRIBUTION)

PI STA 148+12.57
Y=205669.57
X=948869.12

MARTHA B PETERS

GERALD P & SHARON HOLL

| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | PLAN | SHEET 47 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4801_STH 156\050210_pn.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:100

**PROPOSED WORK**
STA 149+00 - STA 164+00
MILL AND HMA OVERLAY

**LEGEND**
DELINEATED WETLAND BOUNDARY

N

5

5

*NANLE LLC*

*RICHARD L WILKEY*

*WILLIAM J COEHOORN*

LANDMARK REFERENCE MONUMENTS

T 25 N
26 25
35 36
R 18 E

RW

BASE AGG FE

WISCONSIN PUBLIC SERVICE (GAS)

150+00 152+00 154+00 156+00 STH 156 158+00 160+00 162+00 164+00

S 87°10'15" E

S 87°28'07" E

BASE AGG PE

RW

RW

BASE AGG FE

BASE AGG PE

RW BASE AGG PE

QWEST COMMUNICATIONS (COMMUNICATIONS)

WE ENERGIES (ELECTRIC DISTRIBUTION)

NORTHEAST TELEPHONE COMPANY, LLC (COMMUNICATIONS)

**PI STA155+82.79**
Y=205631.56
X=649638.40

EXISTING 2-30" CPCS'S TO REMAIN
2-CULVERT MARKERS FOR CULVERT END REO'D

*GERALD P & SHARON HOLL*

*NATHAN J SCHROEDERGERALD P & SHARON HOLL*

*DANIEL M HOLL*

| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | PLAN | SHEET 48 | E |
|---|---|---|---|---|---|

**PROPOSED WORK**
STA 164+00 - STA 179+00
MILL AND HMA OVERLAY

**LEGEND**
DELINEATED WETLAND BOUNDARY

N

5

5

WILLIAM J COEHOORN

MARTHA B PETERS

WISCONSIN PUBLIC SERVICE (GAS)

BASE AGG PE

ASPH PE

RW

164+00 166+00 168+00 170+00 STH 156 172+00 174+00 176+00 178+00

S 87°39'18" E

RW BASE AGG PE

QWEST COMMUNICATIONS (COMMUNICATIONS)

NATHAN J SCHROEDER

ASPH PE BASE AGG FE

WE ENERGIES (ELECTRIC DISTRIBUTION)

NORTHEAST TELEPHONE COMPANY, LLC (COMMUNICATIONS)

RW

DANIEL M HOLL

NATHAN J SCHROEDERGERALD P & SHARON HOLL

RICHARD L WILKEY

| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | PLAN | SHEET 49 | E |
|---|---|---|---|---|---|

**PROPOSED WORK**
STA 179+00 - STA 194+00
MILL AND HMA OVERLAY

**LEGEND**
DELINEATED WETLAND BOUNDARY

N

UNNAMED TRIBUTARY OF WEST BRANCH OF THE SUAMICO RIVER

MARTHA B PETERS

BAUMGART MARITAL TRUST

LANDMARK REFERENCE MONUMENTS
T 25 N
25
36
R 18 E

EXISTING 2-30" CPCS'S TO REMAIN
2-CULVERT MARKERS FOR CULVERT END REQ'D

PI STA183+07.41
Y=205520.07
X=952360.74

WISCONSIN PUBLIC SERVICE (GAS)

BASE AGG FE

RW

180+00 182+00 184+00 186+00 188+00 190+00 192+00 194+00

STH 156
S 89°13'55" E

QWEST COMMUNICATIONS (COMMUNICATIONS)

MH

BASE AGG FE

WE ENERGIES (ELECTRIC DISTRIBUTION)

ASPH PE

NORTHEAST TELEPHONE COMPANY, LLC (COMMUNICATIONS)

RICHARD L WILKEY

NANCY M VAN DYKE

RICHARD J & OTHERS, MISKOVIAK

BAUMGART MARITAL TRUST

| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | PLAN | SHEET 50 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4801_STH 156\050213_pn.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 44

**PROPOSED WORK**
STA 194+00 - STA 196+50
MILL AND HMA OVERLAY

LEGEND

DELINEATED WETLAND BOUNDARY

N

BENCH MARK

| NO. | STATION | DESCRIPTION | ELEV. |
|---|---|---|---|
| 603 | 199+44, 36' RT | RR SPK IN POWER POLE | 812.51 |
| 603A | 194+79, 36' RT | RR SPK IN POWER POLE | 813.03 |

ST. AUGUSTINE RD
12'A'+00
14'A'+00
10'A'+00

STH 29 EB

EXISTING STH 156

EXISTING OLD 29 DR

WISCONSIN PUBLIC SERVICE (GAS)

BAUMGART MARITAL TRUST

END PROJECT
STA 196+50.00
END MILL & HMA OVERLAY
MATCH PROJECT 1058-25-70

194+00 STH 156 196+00 198+00 200+00 202+00 204+00 STH 156 206+00 208+00

PC STA206+22.22

S 89°13'55" E

S 89°21'38" E

BM 603A

ASPH
PE

PI STA196+04.26
Y=205502.69
X=953657.48

WE ENERGIES
(ELECTRIC DISTRIBUTION)

GARY F LARDINOIS

QWEST COMMUNICATIONS
(COMMUNICATIONS)

NORTHEAST TELEPHONE COMPANY, LLC
(COMMUNICATIONS)

BM 603

CONTROL POINT 503
Y=205464.79
X=953944.45
0.75"X24" IRON REBAR WITH
BLUE EMCS CONTROL CAP

SEE PROJECT 1058-25-70
CONSTRUCT NEW OVERPASS AND ROUTE
STH 156 ONTO OLD 29 DR, CLOSE
EXISTING INTERSECTION AT STH 29

SHAWANO COUNTY
BROWN COUNTY

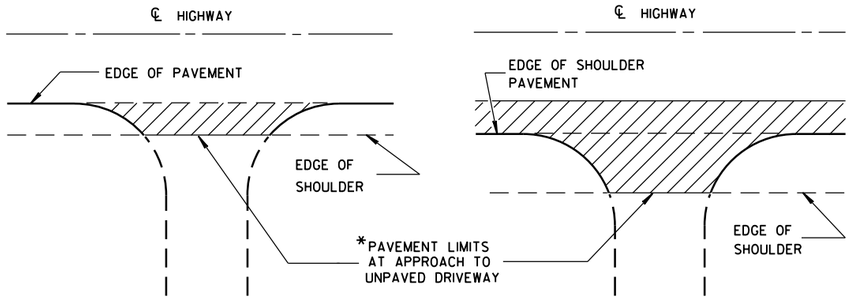
5

5

| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | PLAN | SHEET 51 | E |
|---|---|---|---|---|---|

# Standard Detail Drawing List

| | |
|---|---|
| 08D21-01 | DRIVEWAYS WITHOUT CURB & GUTTER |
| 08D22-01 | DRIVEWAYS WITHOUT CURB & GUTTER RESURFACING PROJECTS RURAL |
| 08E08-03 | TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS |
| 08E09-06 | SILT FENCE |
| 08F01-11 | APRON ENDWALLS FOR CULVERT PIPE |
| 08F04-07 | JOINT TIES FOR CONCRETE PIPE  AND CONCRETE COLLAR DETAIL |
| 08F07-05 | STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE FRAINS |
| 12A03-10 | NAME PLATE (STRUCTURES) |
| 14B29-01 | SAFETY EDGE |
| 14B42-04A | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL |
| 14B42-04B | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL |
| 14B42-04C | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL |
| 14B43-03A | MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) |
| 14B43-03B | MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) |
| 14B43-03C | MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) |
| 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) |
| 15A01-13A | MARKER POST FOR RIGHT-OF-WAY |
| 15A01-13B | FLEXIBLE MARKER POST FOR RIGHT-OF-WAY |
| 15A03-02A | FLEXIBLE MARKER POST FOR CULVERT END |
| 15A03-02B | FLEXIBLE MARKER POST FOR CULVERT END |
| 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 |
| 15C08-17A | LONGITUDINAL MARKING (MAINLINE) |
| 15C12-05 | TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION |
| 15C19-04A | MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY |
| 15D28-03 | TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED  ROADWAY |

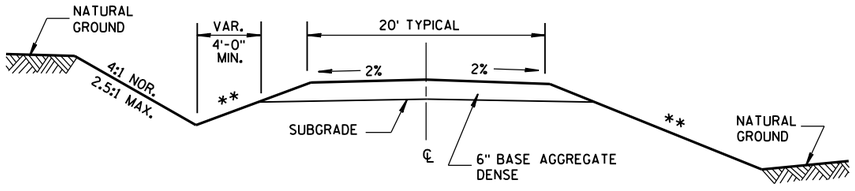



*WHERE DRIVEWAY IS PAVED, APPROACH PAVEMENT SHOULD BE EXTENDED TO MATCH DRIVEWAY PAVEMENT.

**PLAN VIEW**
(UNPAVED SHOULDER ON HIGHWAY)

**PLAN VIEW**
(PAVED SHOULDER ON HIGHWAY)

## RURAL DRIVEWAY INTERSECTION DETAIL
### (NO CURB & GUTTER OR SIDEWALK)

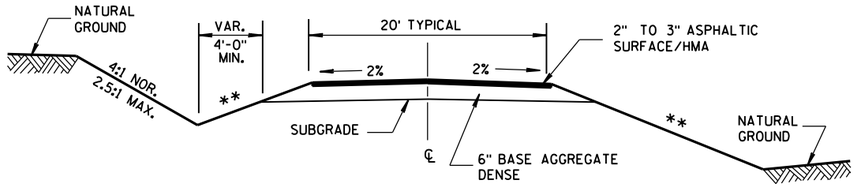



**IN CUT** **IN FILL**

## TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE AGGREGATE SURFACE

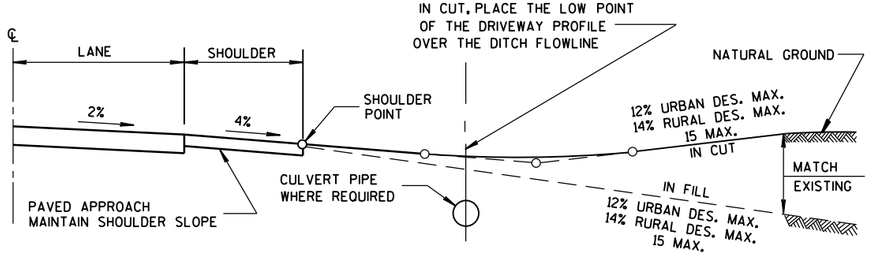
** SLOPE CAN VARY WITH SPEED. SEE 11-45-2.6.2.

| POSTED SPEED MPH | MAX. SLOPE |
|---|---|
| <35 | 4:1 |
| ≥35 TO <60 | 6:1 |
| ≥60 | 10:1 |




**IN CUT** **IN FILL**

## TYPICAL CROSS SECTION FOR PRIVATE DRIVE OR FIELD ENTRANCE ASPHALTIC SURFACE




## TYPICAL DRIVEWAY PROFILES

**DRIVEWAYS WITHOUT CURB & GUTTER**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December, 2016 /S/ Rodney Taylor
DATE ROADWAY STANDARDS UNIT SUPERV
FHWA

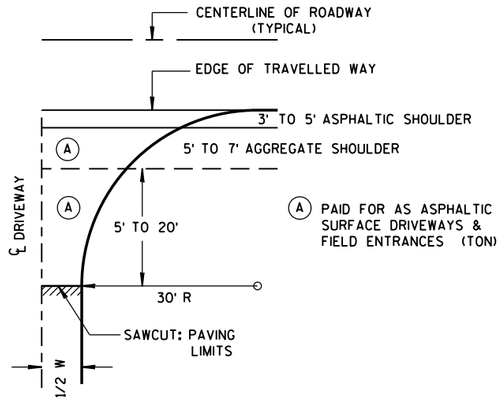


6

S.D.D. 8 D 21-1

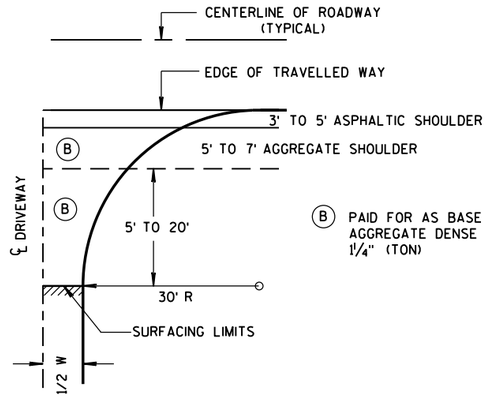
6

S.D.D. 8 D 21-1




PLAN VIEW
HALF SECTION

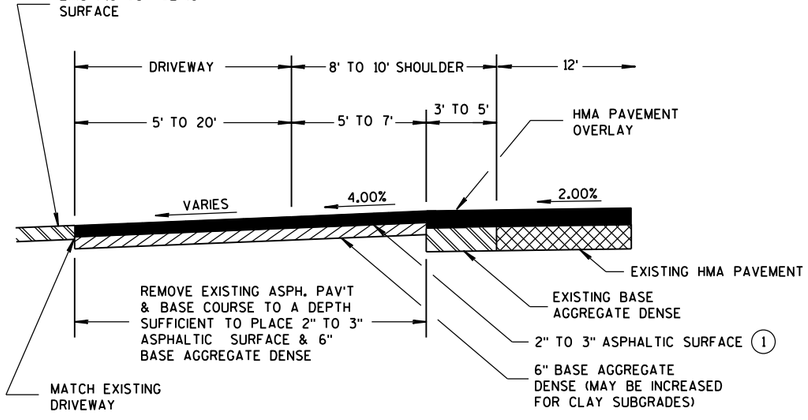
W MIN. = 16'
W MAX. = 24'




PLAN VIEW
HALF SECTION

## GENERAL NOTES

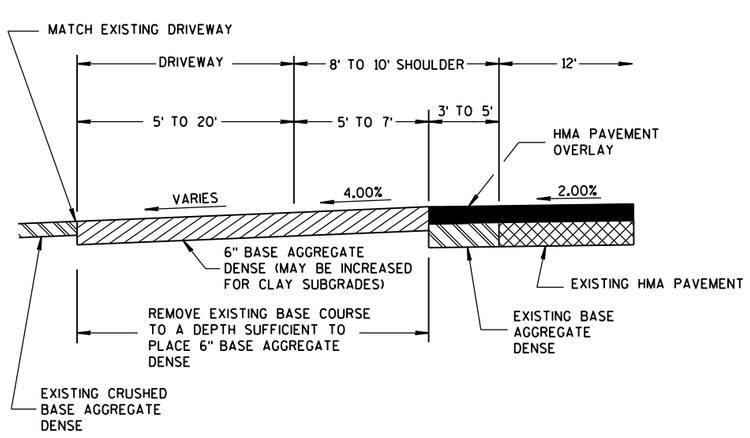
(1) DESIGN WILL DETERMINE FINAL DRIVEWAY ASPHALTIC THICKNESS BASED ON TYPE OF USAGE AND LOADINGS.




PROFILE VIEW

## RURAL ENTRANCE WITH ASPHALTIC SURFACE

RESURFACING PROJECTS




PROFILE VIEW

## RURAL ENTRANCE WITH AGGREGATE SURFACE

6" BASE AGGREGATE DENSE
RESURFACING PROJECTS

## DRIVEWAYS WITHOUT CURB & GUTTER RESURFACING PROJECTS RURAL

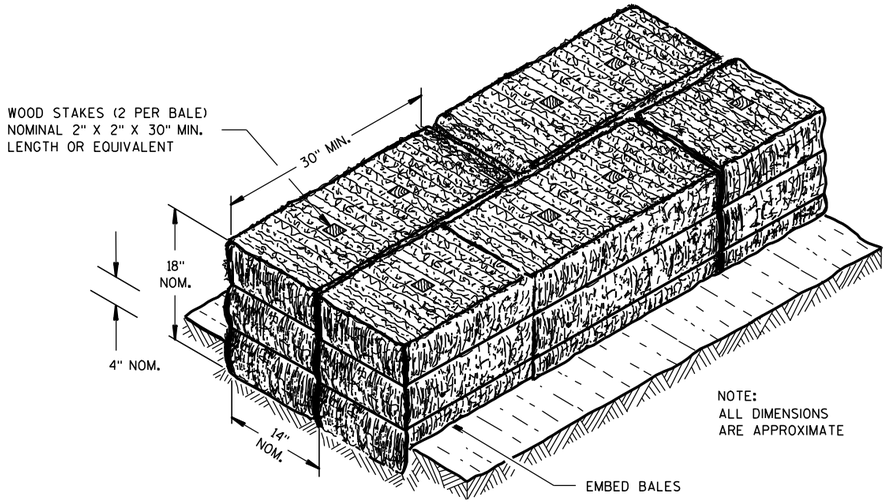
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December, 2016 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERV
ENT
FHWA

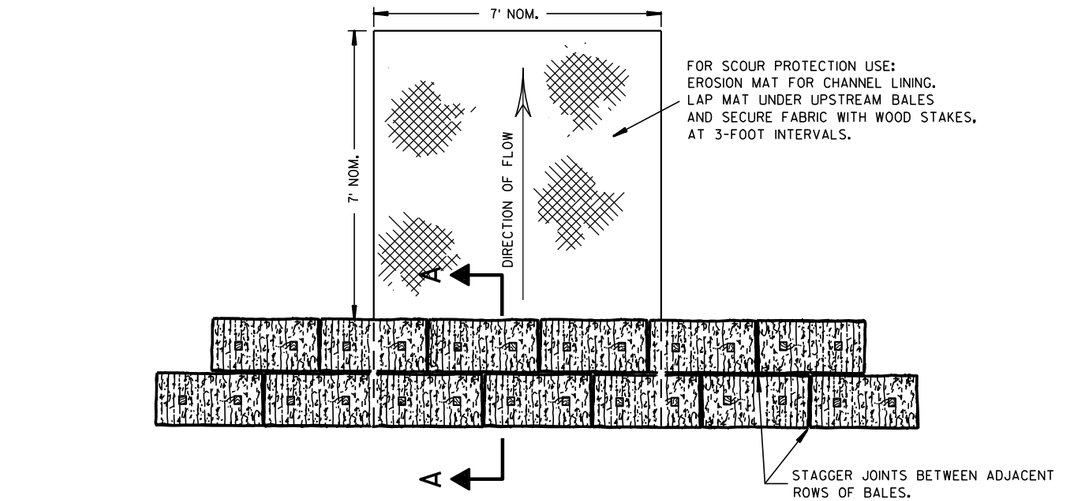



6

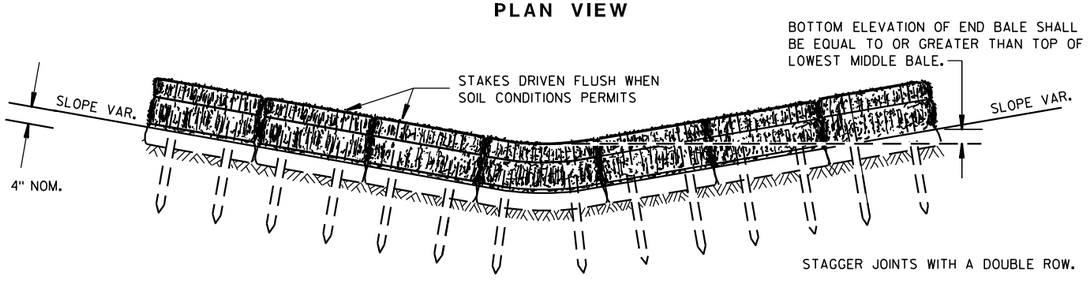
S.D.D. 8 D 22-1




**SECTION A-A**




**PLAN VIEW**



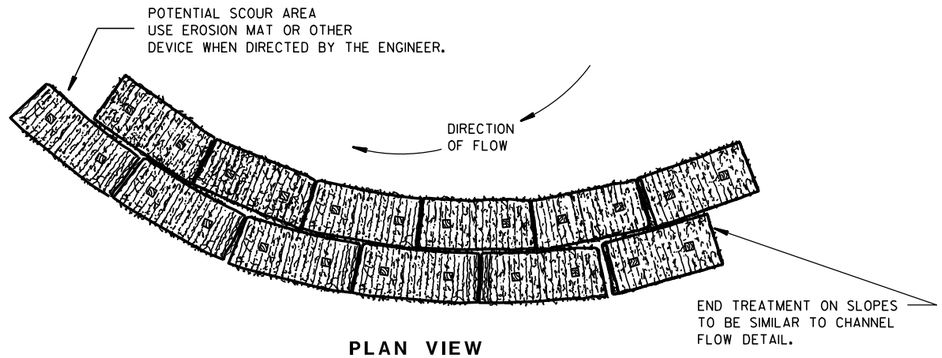

**FRONT ELEVATION**

## TEMPORARY DITCH CHECK USING EROSION BALES ①

## GENERAL NOTES

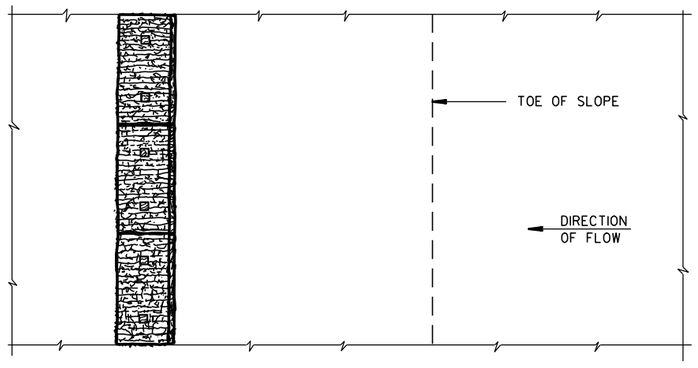
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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.

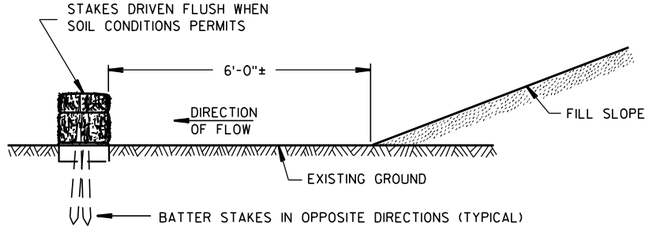



**PLAN VIEW**

WHEN ALTERING THE DIRECTION OF FLOW




**PLAN VIEW**




**FRONT ELEVATION**

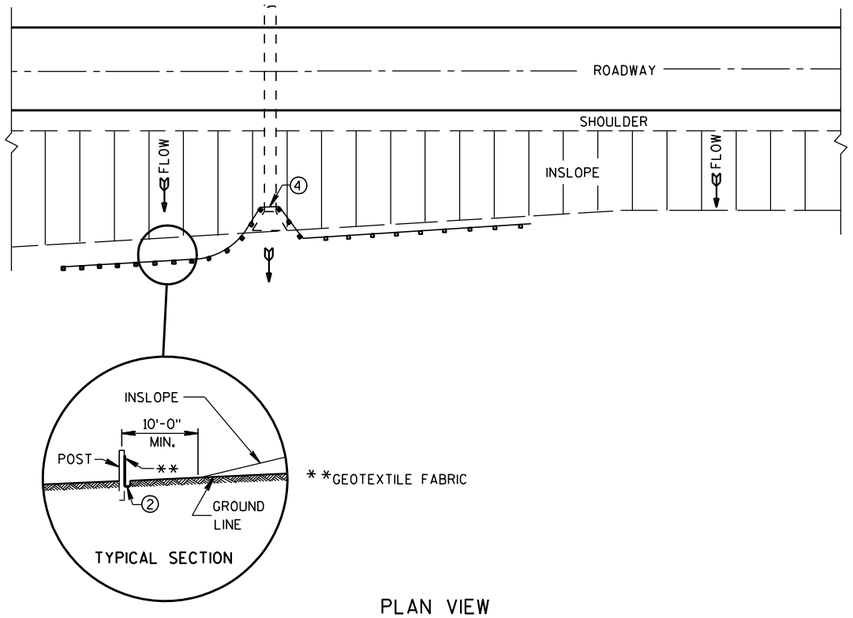
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

## EROSION BALES FOR SHEET FLOW

**TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS**

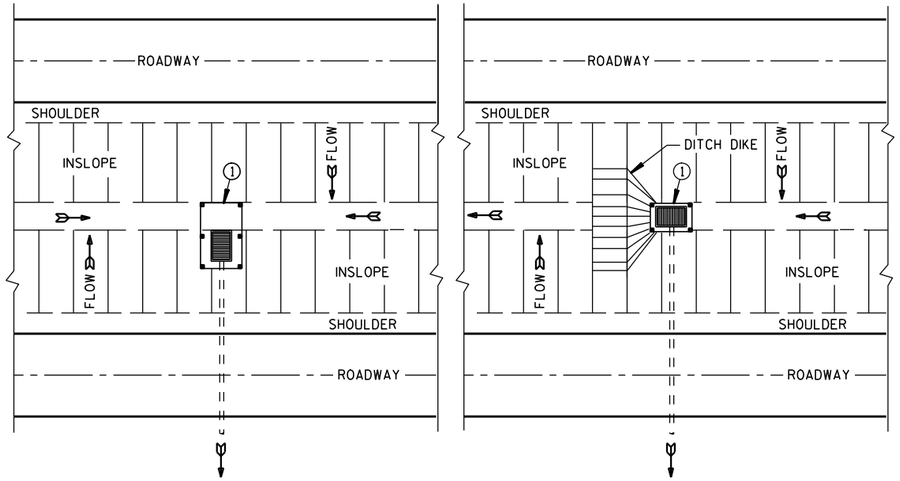
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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




PLAN VIEW

## TYPICAL APPLICATION OF SILT FENCE



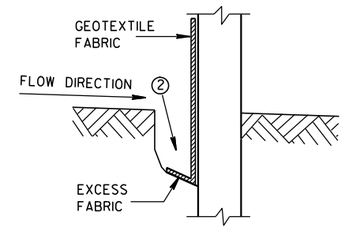

PLAN VIEW

## SILT FENCE AT MEDIAN SURFACE DRAINS

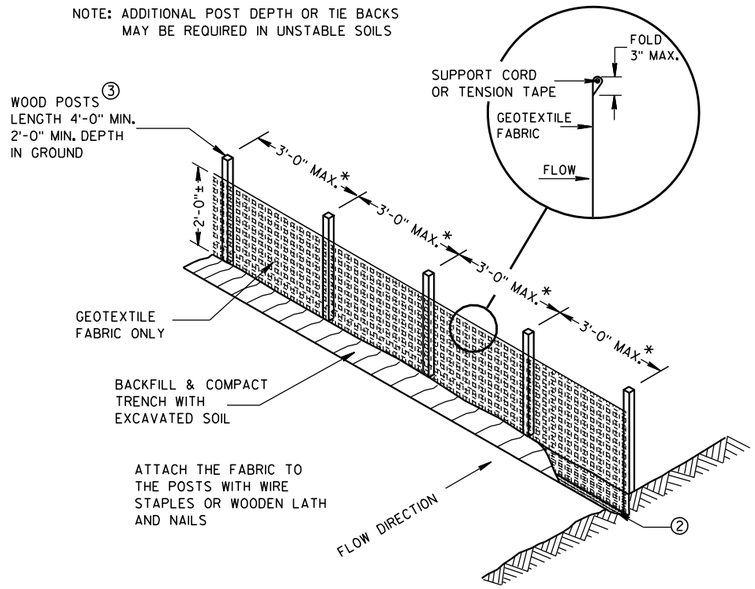
## GENERAL NOTES

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

1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

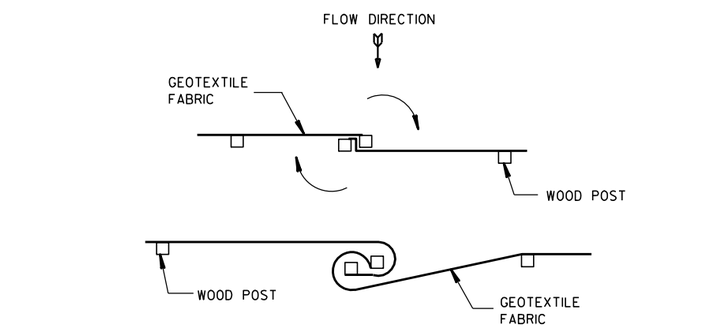



## TRENCH DETAIL

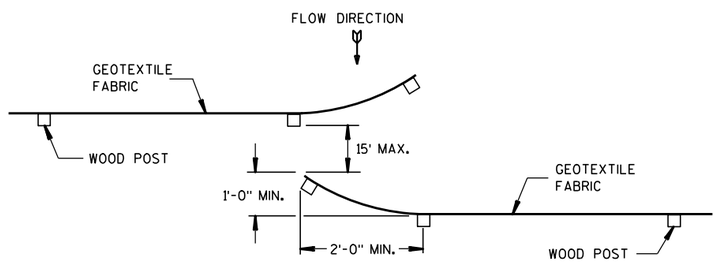



*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

## SILT FENCE

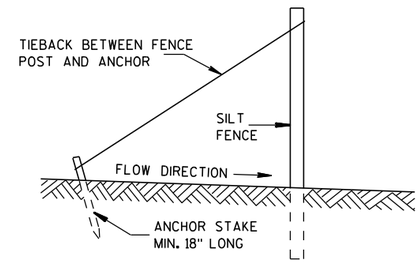



TWIST METHOD




HOOK METHOD

## JOINING TWO LENGTHS OF SILT FENCE 5




## SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



6

S.D.D. 8 E 9-6

6

S.D.D. 8 E 9-6

## METAL APRON ENDWALLS

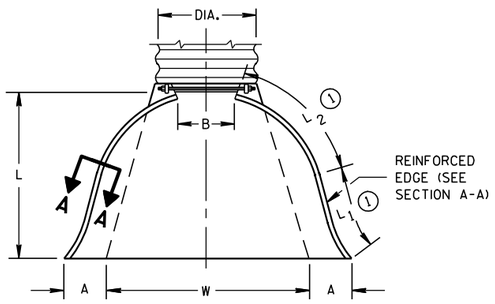
| PIPE DIA. (IN.) | MIN. THICK. (Inches) STEEL | MIN. THICK. (Inches) ALUM. | DIMENSIONS (Inches) A (±1") | B (MAX.) | H (±1") | L (±1 1/2") | L1 ① | L2 ① | W (±2") | APPROX. SLOPE | BODY |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | .064 | .060 | 6 | 6 | 6 | 21 | 12 | 17 1/2 | 24 | 2 1/2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

× EXCEPT CENTER PANEL SEE GENERAL NOTES

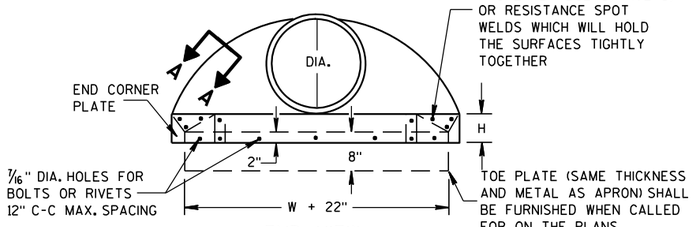
## REINFORCED CONCRETE APRON ENDWALLS

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

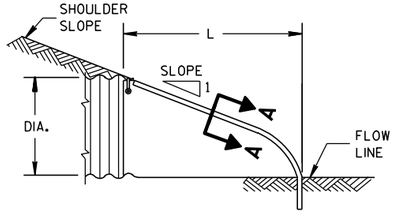
*MINIMUM
**MAXIMUM




PLAN VIEW

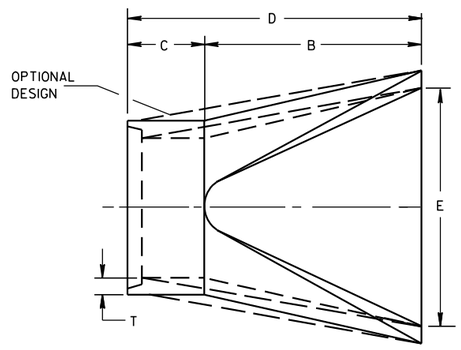



END VIEW

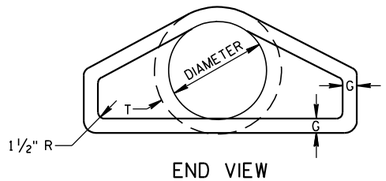



SIDE ELEVATION

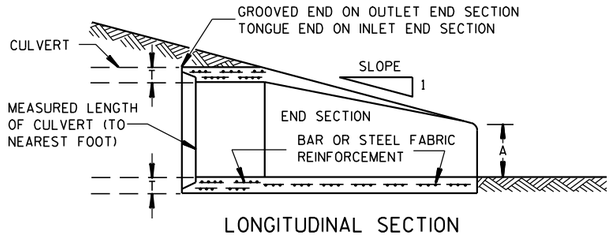
## METAL ENDWALLS




PLAN

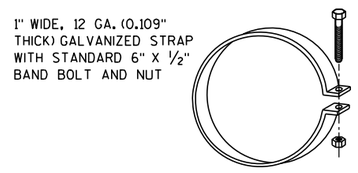



END VIEW



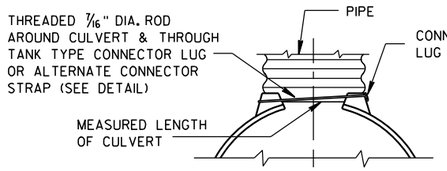

LONGITUDINAL SECTION

## CONCRETE ENDWALLS

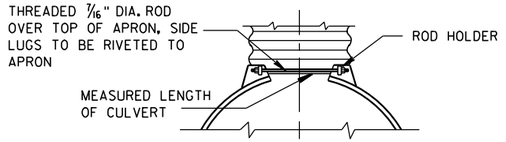



ALTERNATE FOR TYPE 1 CONNECTION

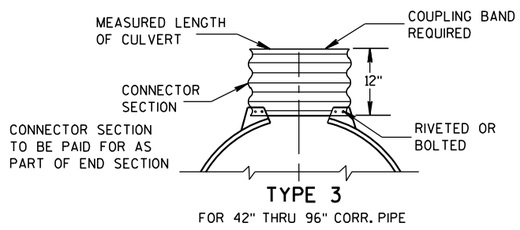
## END SECTION CONNECTOR STRAP



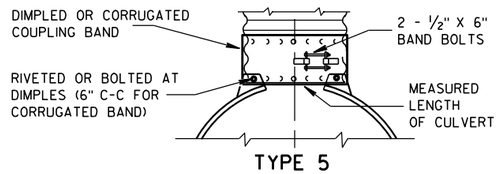

TYPE 1
FOR 12" THRU 24" CORR. PIPE




TYPE 2
FOR 30" THRU 96" CORR. PIPE




TYPE 3
FOR 42" THRU 96" CORR. PIPE




TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

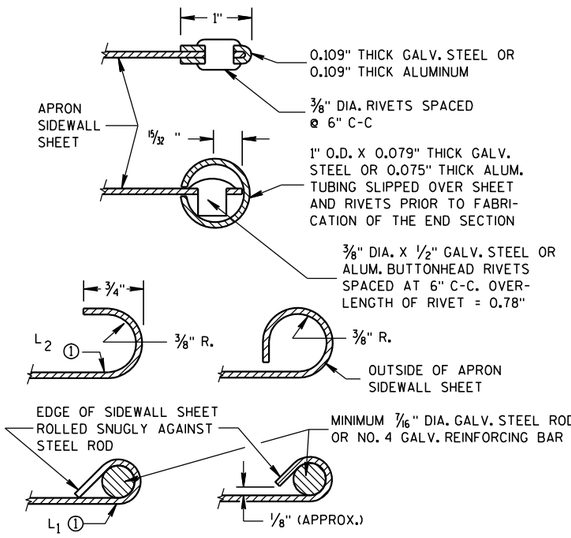
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

## CONNECTION DETAILS




## SECTION A-A

## GENERAL NOTES

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

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

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

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

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

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

# APRON ENDWALLS FOR CULVERT PIPE

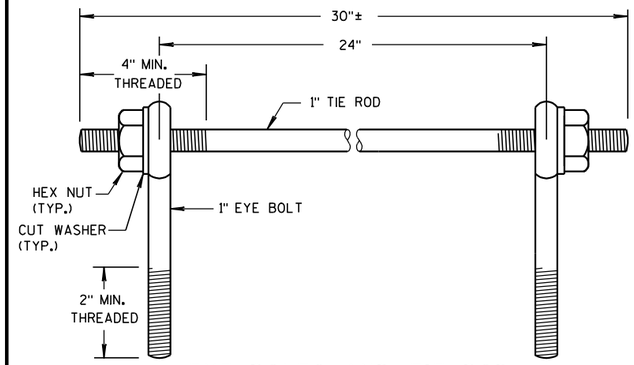
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

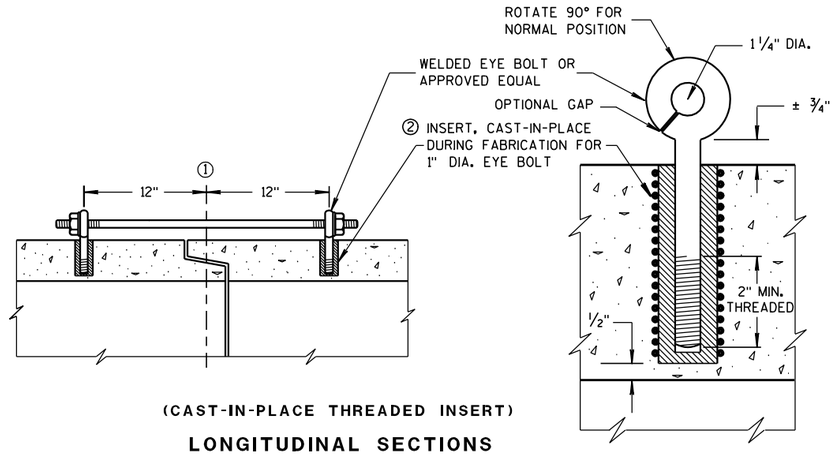



6

S.D.D. 8 F 1-11




EYE BOLTS AND TIE ROD




(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

# EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)

## GENERAL NOTES

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

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

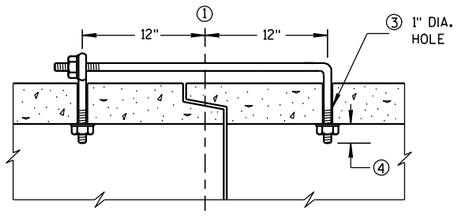
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ℄ OF TONGUE AND GROOVE.

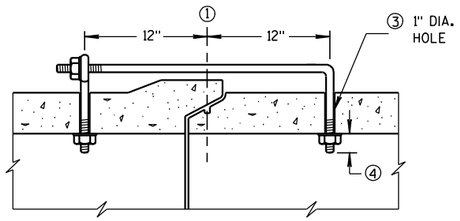
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.




(TONGUE & GROOVE PIPE)

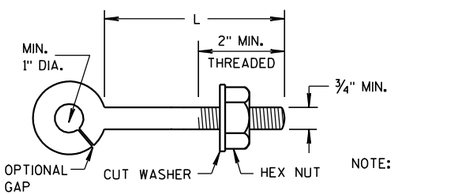



(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

**EYE BOLT DIMENSION TABLE**

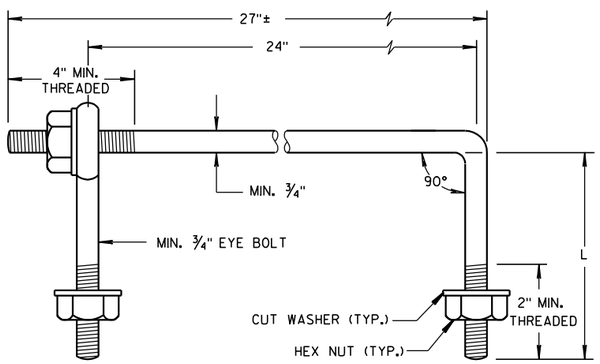
| PIPE SIZE | L = LENGTH | |
|---|---|---|
| | TONGUE & GROOVE PIPE | MODIFIED BELL PIPE |
| 18" TO 24" | 4 1/2" | 6 1/4" |
| 30" | 5" | 7" |
| 36" | 5 1/2" | 7" |
| 42" | 6" | |
| 48" | 6 1/2" | |
| 60" | 7 1/2" | |
| 66" | 8" | |




NOTE:

EYE BOLT

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.




EYE BOLT AND TIE ROD

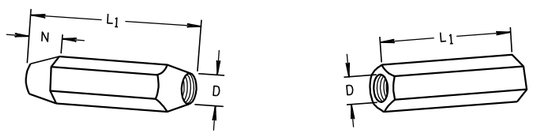
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

# EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

**ADJUSTABLE TIE ROD TABLE**

| PIPE DIAMETER | TIE ROD DIAMETER | D | $L_1$ | N |
|---|---|---|---|---|
| 12-60 | 5/8 | 5/8 | 5 | 1/2 |
| 66-84 | 3/4 | 3/4 | 5 | 1/2 |
| 90-108 | 1 | 1 | 7 | 1 1/16 |

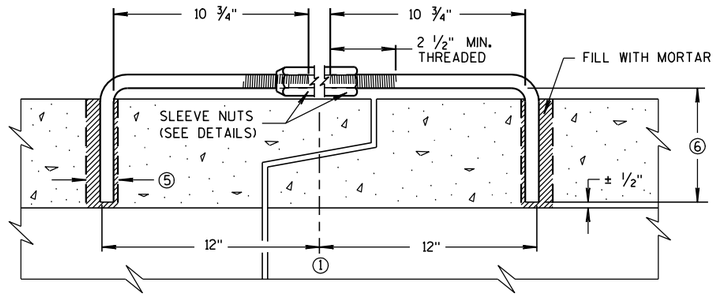
DIMENSIONS SHOWN ARE IN INCHES




TAPERED PLAIN

RIGHT AND LEFT THREADS

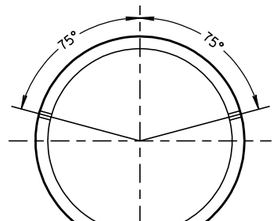
SLEEVE NUTS




LONGITUDINAL SECTION

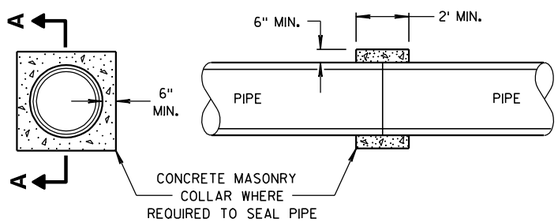
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

# ADJUSTABLE TIE ROD (ALTERNATE NO. 3)




PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION




SECTION A-A

# CONCRETE COLLAR DETAIL

**JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/5/2012 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA

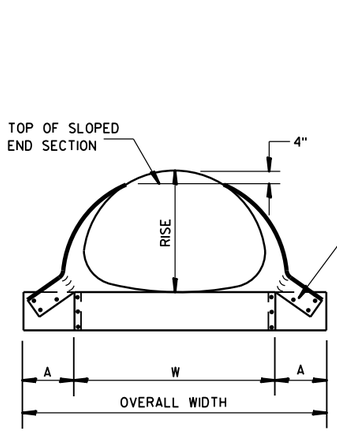


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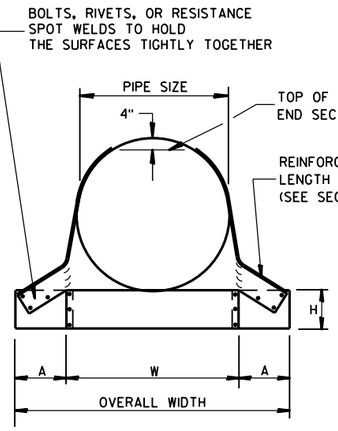
S.D.D. 8 F 4-7

6

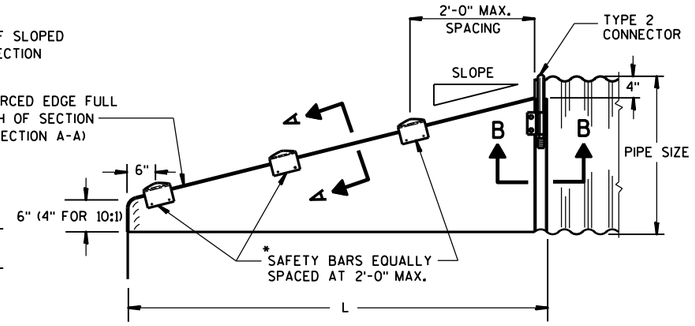
S.D.D. 8 F 4-7




FRONT VIEW




FRONT VIEW




SIDE VIEW

## GENERAL NOTES

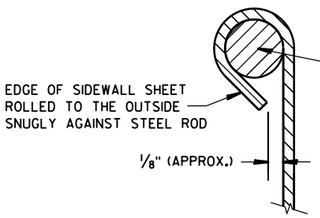
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

SLOPED END SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS, SECTION 521 FOR STEEL APRON ENDWALLS.

SAFETY BARS SHALL BE FABRICATED FROM GALVANIZED STEEL PIPE MEETING THE REQUIREMENTS OF ASTM A-53, GRADE B, SCHEDULE 40 OR APPROVED EQUAL.

**STEEL APRON ENDWALLS FOR CULVERT PIPE**
**SLOPED SIDE DRAINS**

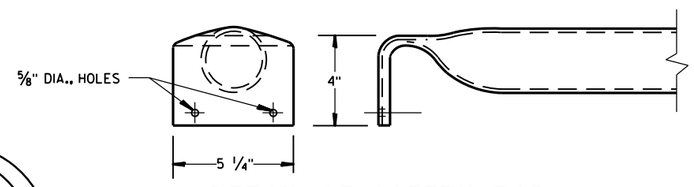
| PIPE DIA. (IN.) | MIN. THICK. (Inches) | DIMENSIONS (Inches) | | | | L DIMENSIONS | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | H | W | OVERALL WIDTH | SLOPE | LENGTH INCHES | SLOPE | LENGTH INCHES | SLOPE | LENGTH INCHES |
| 15 | .064 | 8 | 6 | 21 | 37 | 4:1 | 20 | 6:1 | 30 | 10:1 | 70 |
| 18 | .064 | 8 | 6 | 24 | 40 | 4:1 | 32 | 6:1 | 48 | 10:1 | 100 |
| 21 | .064 | 8 | 6 | 27 | 43 | 4:1 | 44 | 6:1 | 66 | 10:1 | 130 |
| 24 | .064 | 8 | 6 | 30 | 46 | 4:1 | 56 | 6:1 | 84 | 10:1 | 160 |
| 30 | .109 | 12 | 9 | 36 | 60 | 4:1 | 80 | 6:1 | 120 | 10:1 | 220 |
| 36 | .109 | 12 | 9 | 42 | 66 | 4:1 | 104 | 6:1 | 156 | 10:1 | 280 |
| 42 | .109 | 16 | 12 | 48 | 80 | 4:1 | 128 | 6:1 | 192 | —— | —— |
| 48 | .109 | 16 | 12 | 54 | 86 | 4:1 | 152 | 6:1 | 228 | —— | —— |
| 54 | .109 | 16 | 12 | 60 | 92 | 4:1 | 176 | 6:1 | 264 | —— | —— |
| 60 | .109 | 16 | 12 | 66 | 98 | 4:1 | 200 | 6:1 | 300 | —— | —— |




SECTION A-A

*NOTE:
THREE SAFETY BARS ARE SHOWN. ACTUAL NUMBER OF BARS REQUIRED AT A 2'-0" C-C MAX. SPACING WILL VARY DEPENDING ON THE LENGTH OF THE END SECTION.

3" GALVANIZED PIPE. FLATTEN ENDS, THEN BEND OUTSIDE 4" TO MATCH END SECTION SIDES.

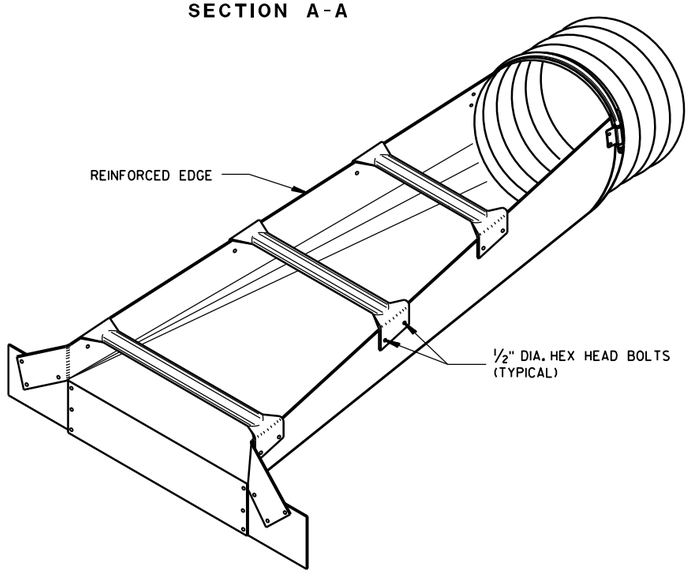



DETAIL OF SAFETY BAR

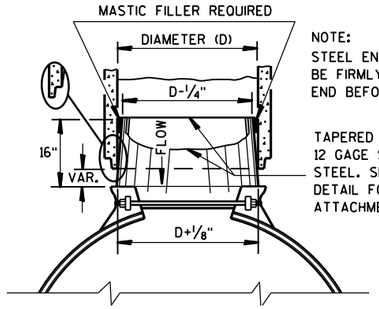
**STEEL APRON ENDWALLS FOR PIPE ARCH**
**SLOPED SIDE DRAINS**

| EQUIV. DIA. (Inches) | (Inches) SPAN | (Inches) RISE | MIN. THICK. (Inches) ① | DIMENSIONS (Inches) A | H | W | OVERALL WIDTH | L DIMENSIONS SLOPE | LENGTH INCHES | SLOPE | LENGTH INCHES | SLOPE | LENGTH INCHES |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 | 17 | 13 | .064 * | 7 | 6 | 30 | 44 | 4:1 | 19 | 6:1 | 30 | 10:1 ② | 70 |
| 18 | 21 | 15 | .064 * | 8 | 6 | 27 | 43 | 4:1 | 20 | 6:1 | 30 | 10:1 | 70 |
| 21 | 24 | 18 | .064 * | 8 | 6 | 30 | 46 | 4:1 | 32 | 6:1 | 48 | 10:1 | 100 |
| 24 | 28 | 20 | .064 * | 8 | 6 | 34 | 50 | 4:1 | 40 | 6:1 | 60 | 10:1 | 120 |
| 30 | 35 | 24 | .079 * | 12 | 9 | 41 | 65 | 4:1 | 56 | 6:1 | 84 | 10:1 | 160 |
| 36 | 42 | 29 | .109 * | 12 | 9 | 48 | 72 | 4:1 | 76 | 6:1 | 114 | 10:1 | 210 |
| 42 | 49 | 33 | .109 | 16 | 12 | 55 | 87 | 4:1 | 92 | 6:1 | 138 | —— | —— |
| 48 | 57 | 38 | .109 | 16 | 12 | 63 | 95 | 4:1 | 112 | 6:1 | 168 | —— | —— |
| 54 | 64 | 43 | .109 | 16 | 12 | 70 | 102 | 4:1 | 132 | 6:1 | 198 | —— | —— |

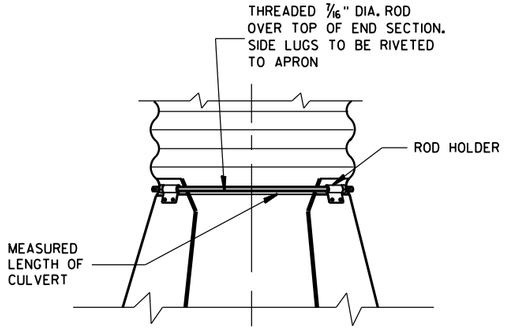
① * MINIMUM THICKNESS OF ALL 10:1 SLOPED SIDE DRAINS IS 0.109".
② ACTUAL SLOPE GREATER THAN 10:1.



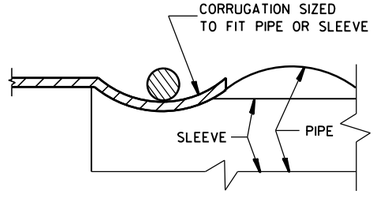

ISOMETRIC VIEW




STEEL ADAPTER SLEEVE FOR CONCRETE PIPE




TYPE 2
CONNECTION DETAIL




SECTION B-B

**STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE DRAINS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/14/2012 — DATE
/S/ Jerry H. Zoda — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

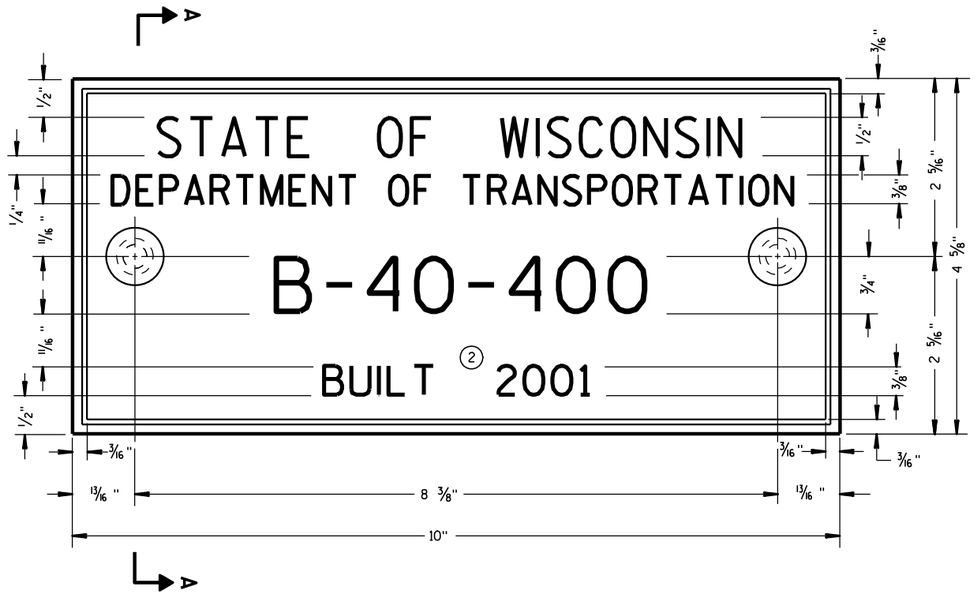


6

S.D.D. 8 F 7-5

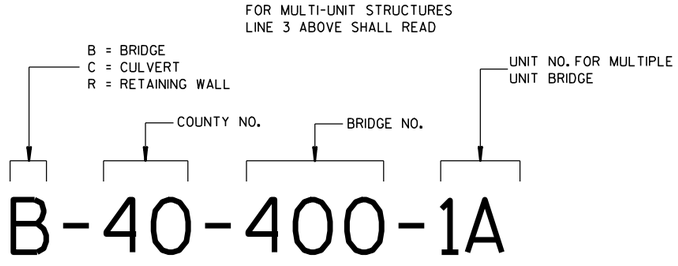
6

S.D.D. 8 F 7-5




## TYPICAL NAME PLATE

(BRIDGES, CULVERTS, AND RETAINING WALLS)




## NUMBERING DESIGNATION
## MULTI-UNIT STRUCTURES

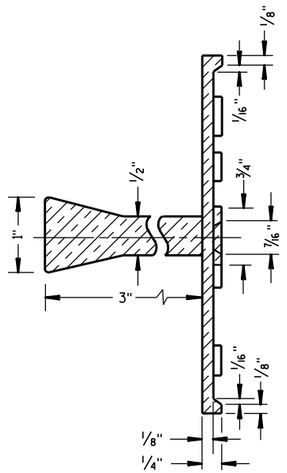
## GENERAL NOTES

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

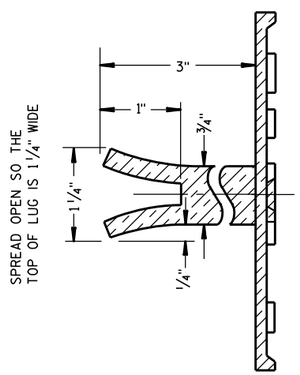
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

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

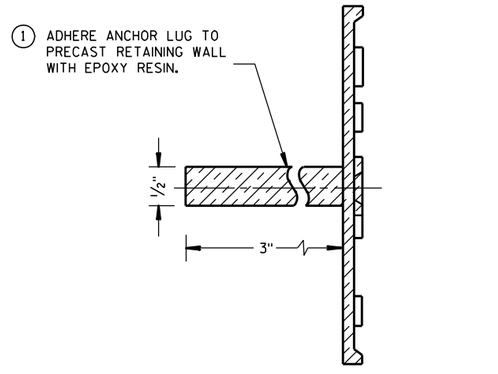
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.




SECTION A-A




ALTERNATE LUG




## ALTERNATE LUG

(FOR ATTACHMENT TO PRECAST STRUCTURES)

**NAME PLATE (STRUCTURES)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/26/10 DATE

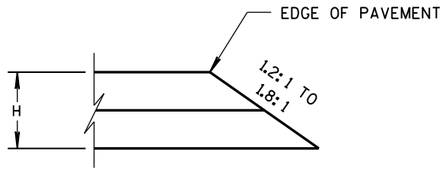
/S/ Scot Beck-- CHIEF STRUCTURAL DEVELOP ENGINEER

FHWA



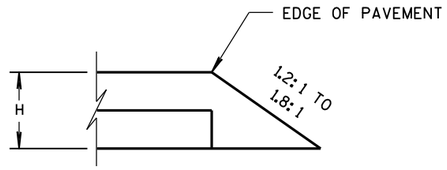
6

S.D.D. 12 A 3-10



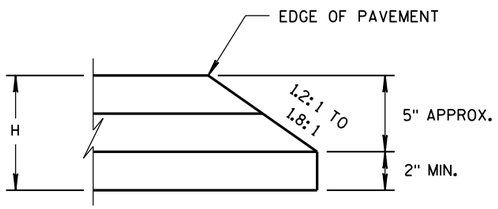

CONSTRUCTED WITH FINAL TWO LAYERS

FOR H 5" OR LESS



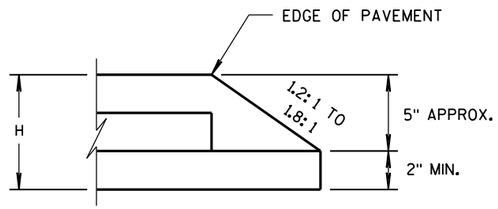

CONSTRUCTED WITH FINAL LAYER

FOR H 5" OR LESS




CONSTRUCTED WITH FINAL TWO LAYERS

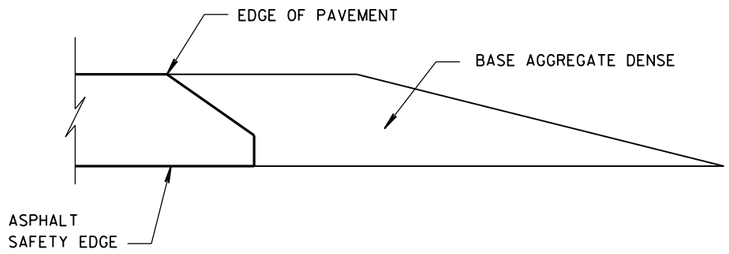
FOR H GREATER THAN 5"




CONSTRUCTED WITH FINAL LAYER

FOR H GREATER THAN 5"

## HMA PAVEMENT AND HMA OVERLAYS




## FINISHED SHOULDER AGGREGATE PLACEMENT

6

6

S.D.D. 14 B 29-1

S.D.D. 14 B 29-1

SAFETY EDGE SM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/2012
DATE

/S/ Jerry H. Zoda
ROADWAY STANDARDS 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.

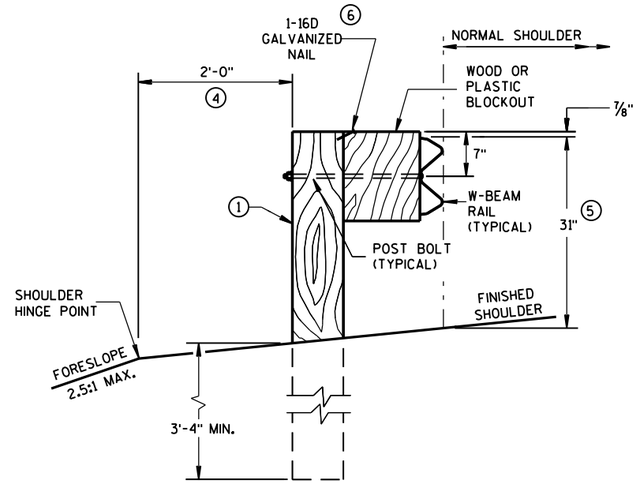
(2) USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.

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

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

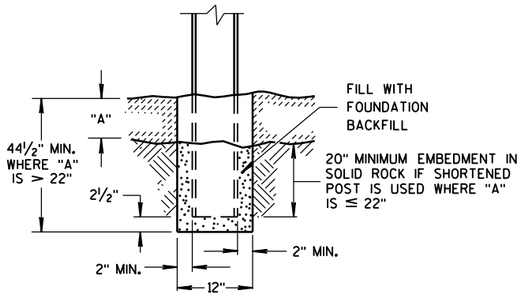
(5) FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS ± 1". FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27¾" TO 32".

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



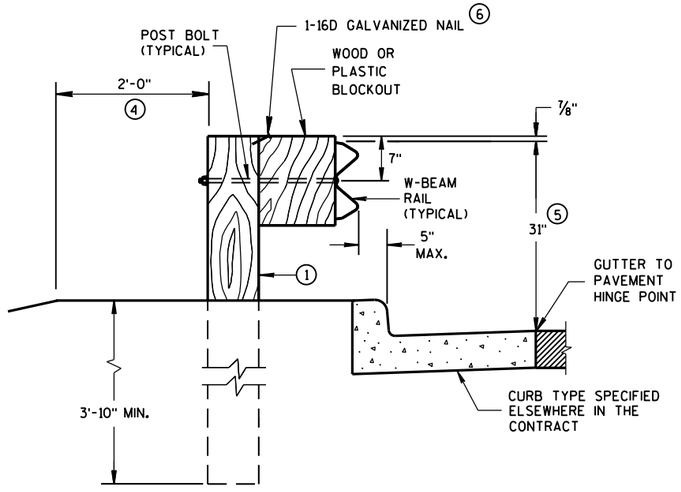

END VIEW

LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION



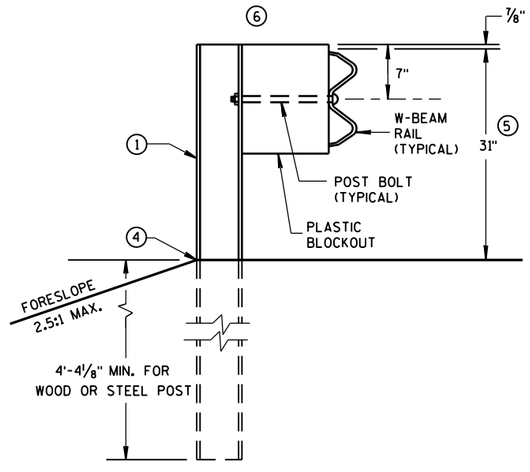

END VIEW

SETTING STEEL OR WOOD POST IN ROCK (3)



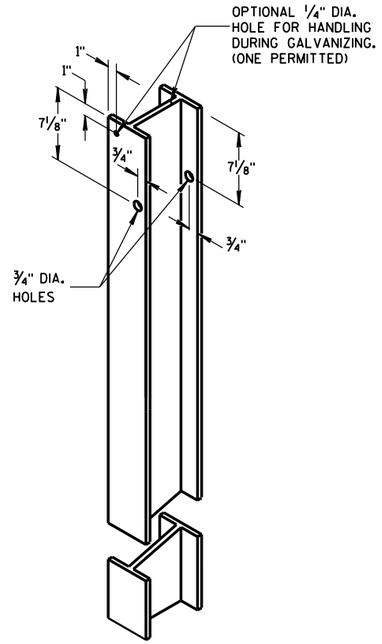

END VIEW

LOCATED ALONG A CURBED ROADWAY

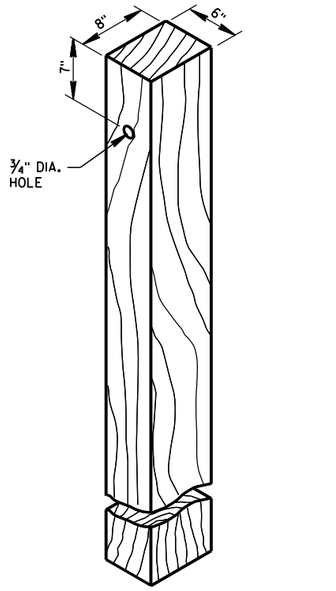



END VIEW

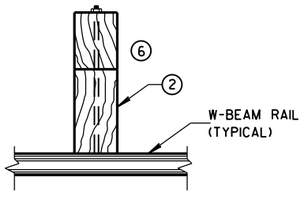
MGS LONGER POST AT HALFPOST SPACING W BEAM (K)



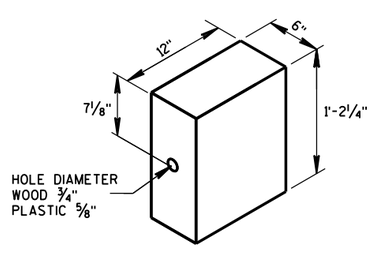

STEEL POST &
HOLE PUNCHING DETAIL
(w6X9) (1)



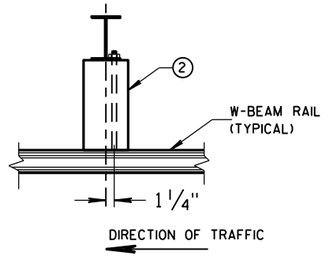

WOOD POST
(6" X 8") NOMINAL (1)




PLAN VIEW
WOOD POST,
BLOCKOUT & BEAM




WOOD OR
PLASTIC BLOCKOUT (2)




PLAN VIEW
STEEL POST,
PLASTIC BLOCKOUT & BEAM

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

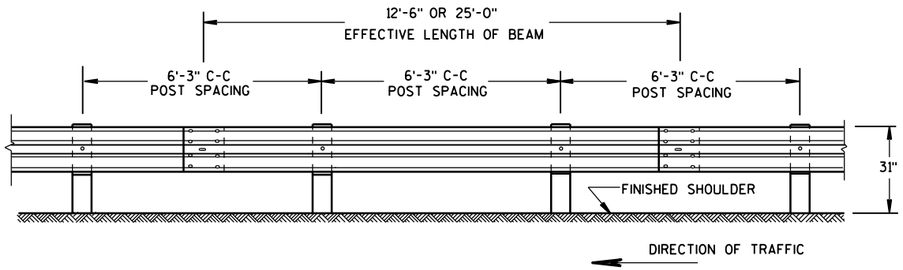
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI





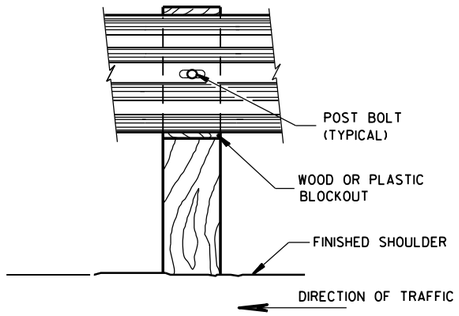
6

S.D.D. 14 B 42-4a




FRONT VIEW

## POST SPACING STANDARD INSTALLATION




FRONT VIEW AT WOOD POST

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

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

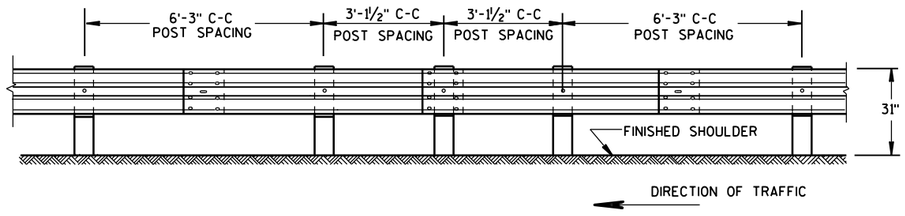
9. REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.

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

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

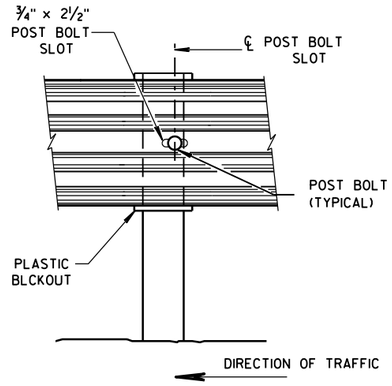
POST BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 5/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.

GUARD RAIL SPLICE BOLTS ARE A 5/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 5/8" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

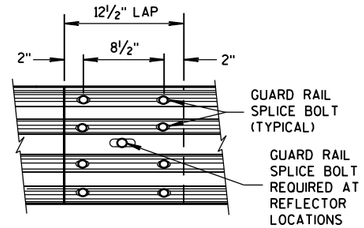



FRONT VIEW

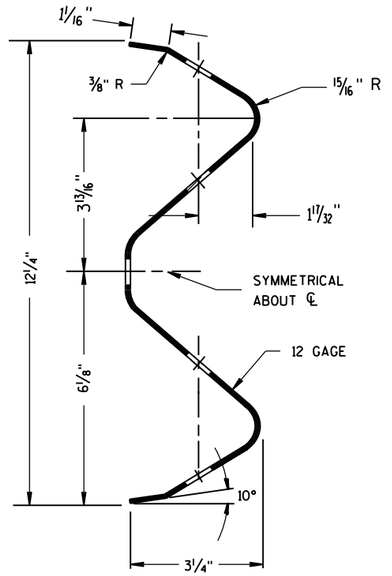
## HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)



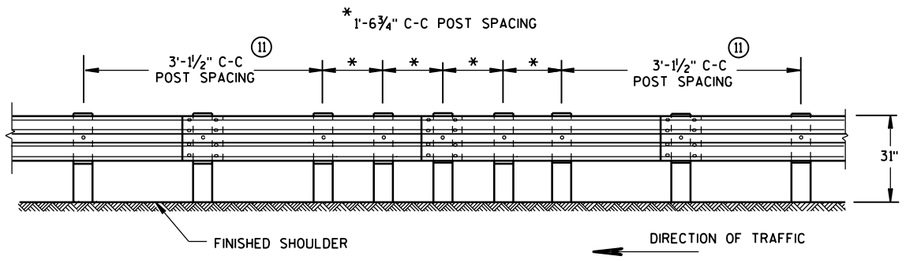

FRONT VIEW AT STEEL POST




FRONT VIEW
MID-SPAN BEAM SPLICE

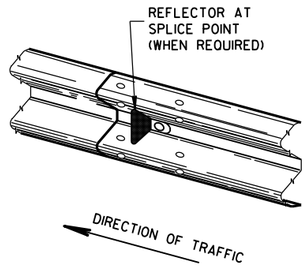


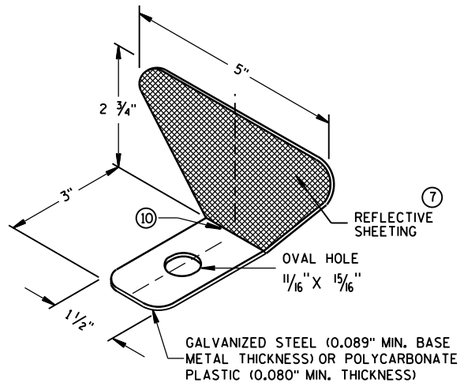

SECTION THRU W-BEAM RAIL




FRONT VIEW

## QUARTER POST SPACING (QS)




## ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION (7)

### REFLECTOR SPACING (8)

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

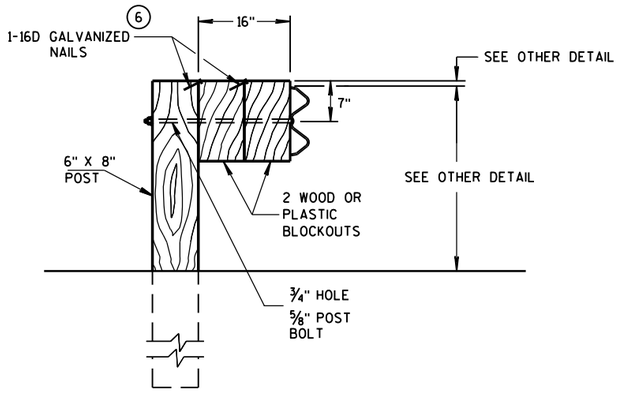
MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO



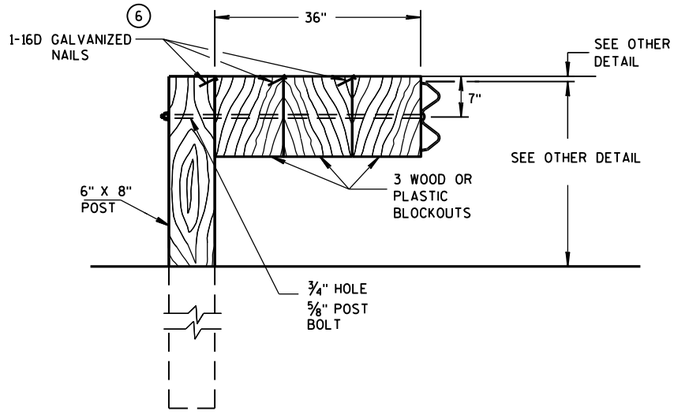

6


S.D.D. 14 B 42-4b




## 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.

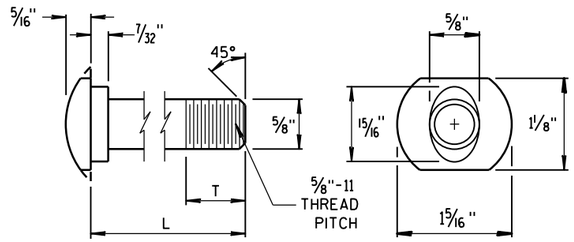



## DETAIL FOR 36" BLOCKOUT DEPTH

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.

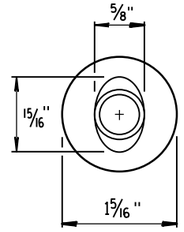
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

NOTE: 1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF 1/16".
2. IF THE BOLT EXTENDS MORE THAN 1/4" FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

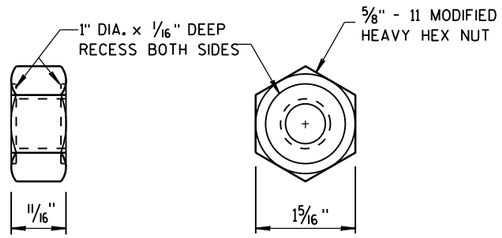



### POST BOLT TABLE

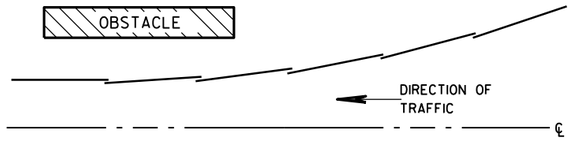
| L | T (MIN.) |
|---|---|
| 1 1/4" | 1 1/8" |
| 2" | 1 3/4" |
| 10" | 4" |
| 14" | 4 1/16" |
| 18" | 4" |
| 21" | 4 1/16" |
| 25" | 4" |




ALTERNATE BOLT HEAD

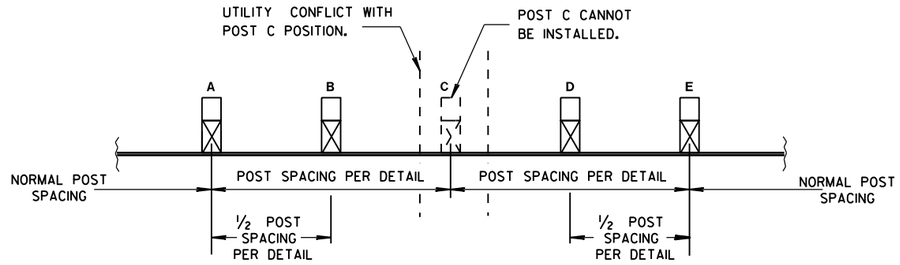



## POST BOLT, SPLICE BOLT AND RECESS NUT

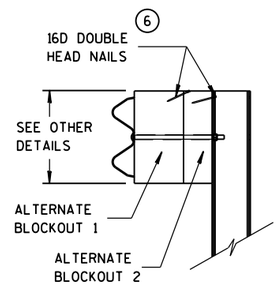



PLAN VIEW

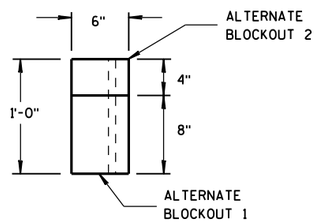
## BEAM LAPPING DETAIL




## POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION




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 ENGINEER
FHWA

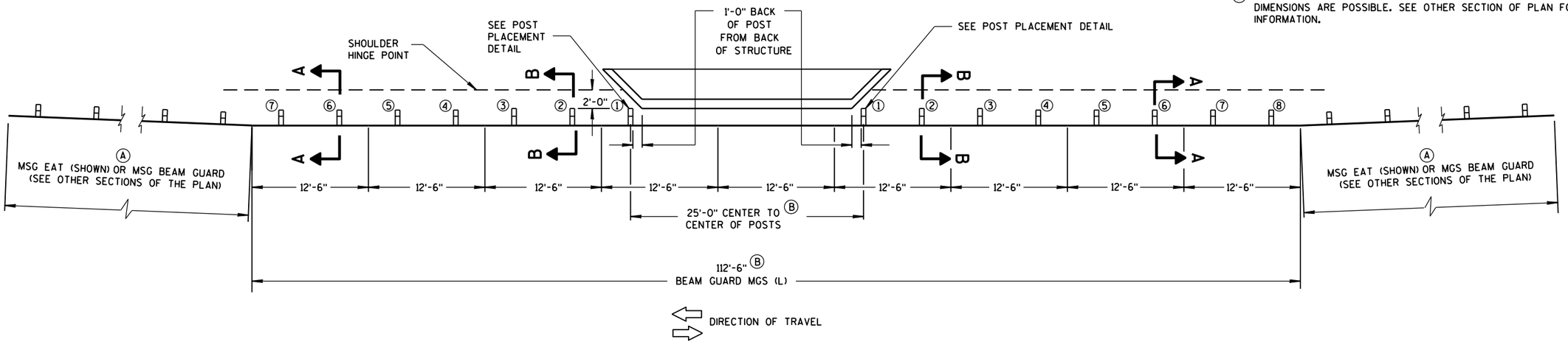
## GENERAL NOTES

POSTS 1 THROUGH 3 ARE CRT POSTS.
ALL OTHER POSTS SHALL BE WOOD OR STEEL.

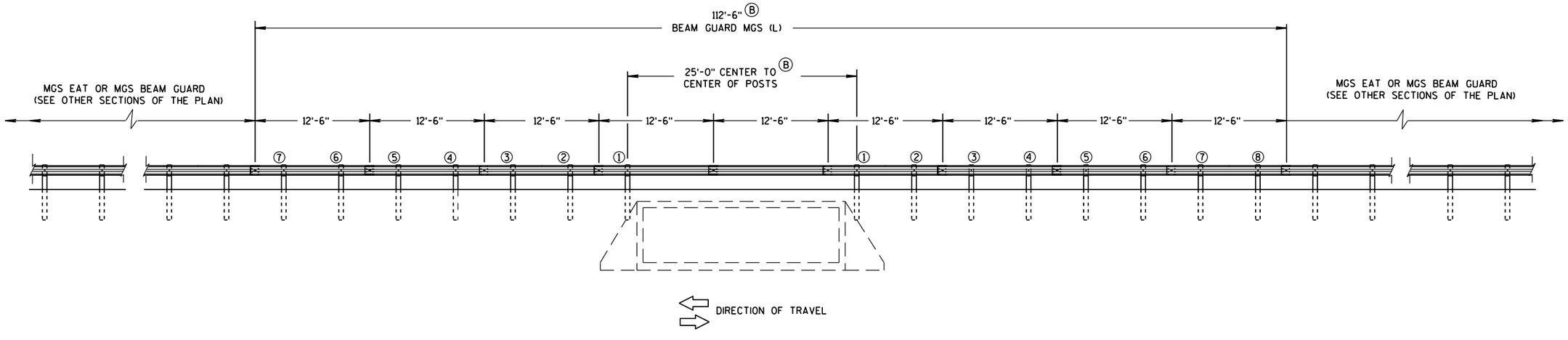
SEE SDD 14 B 42 FOR MORE DETAILS.

(A) FLARE FOR MGS EAT SHOWN. IF INSTALLING MGS NO FLARE NEEDED.

(B) VALUES SHOWN ON DRAWING REPRESENT THE MAXIMUM LENGTH. SHORTER DIMENSIONS ARE POSSIBLE. SEE OTHER SECTION OF PLAN FOR MORE INFORMATION.




PLAN VIEW




ELEVATION VIEW

# MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) TWO-WAY TRAFFIC

MIDWEST GUARDRAIL SYSTEM
LONG SPAN MGS (L)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI




6


S.D.D. 14 B 43-3a

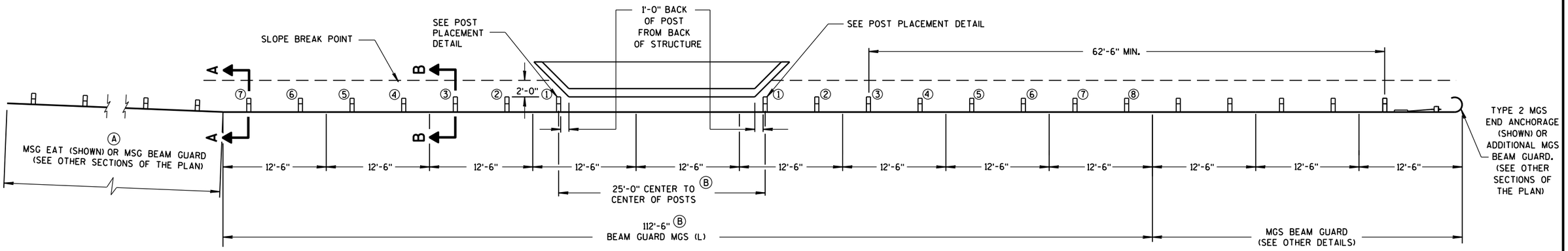
## GENERAL NOTES

POSTS 1 THROUGH 3 ARE CRT POSTS.
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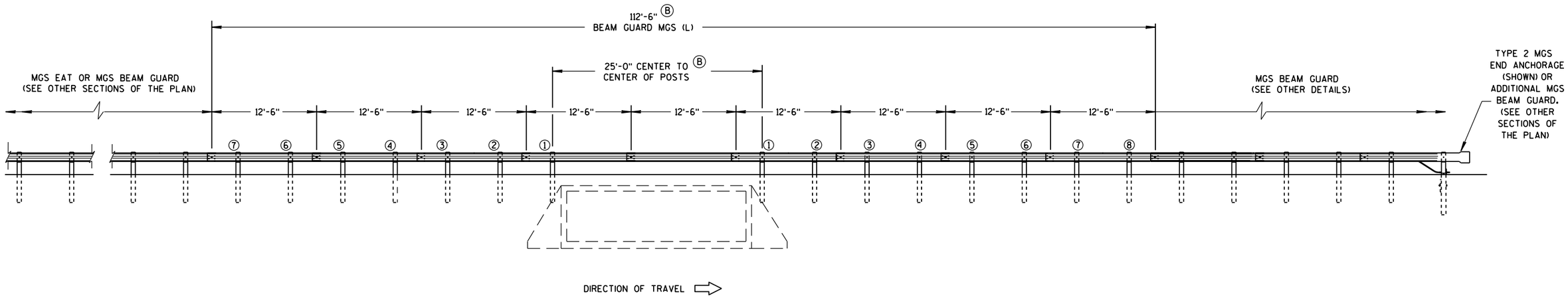
SEE SDD 14 B 42 FOR MORE DETAILS.

(A) FLARE FOR MGS EAT SHOWN. IF INSTALLING MGS NO FLARE NEEDED.

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PLAN VIEW




ELEVATION VIEW

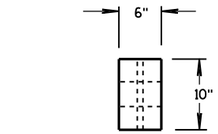
# MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) ONE-WAY TRAFFIC

| |
|---|
| MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPOI |

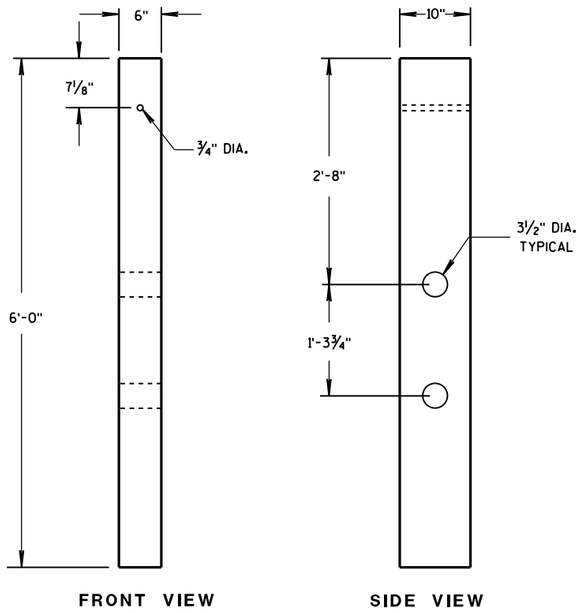



6

S.D.D. 14 B 43-3b

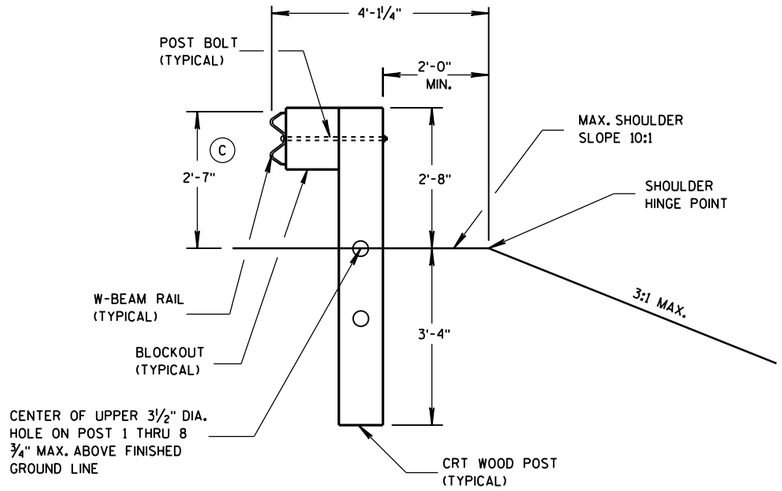



PLAN VIEW




FRONT VIEW SIDE VIEW

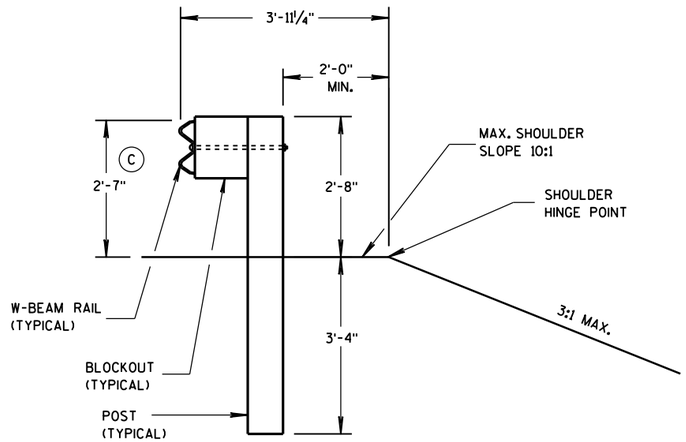
CRT WOOD POST




SECTION B-B

**POSTS NO. 1-3**

SEE OTHER DETAILS



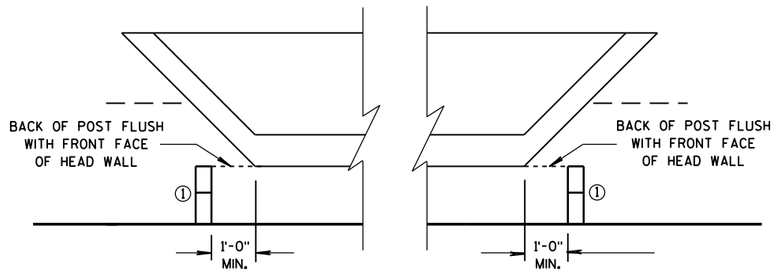

SECTION A-A

**POSTS NO. 4-8**

SEE OTHER DETAILS

## GENERAL NOTES

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




POST PLACEMENT DETAIL

**MIDWEST GUARDRAIL SYSTEM**
**LONG SPAN MGS (L)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5/10/2013
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA



6

S.D.D. 14 B 43-3c

6

S.D.D. 14 B 43-3c

## GENERAL NOTES

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

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

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

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

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

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

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

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

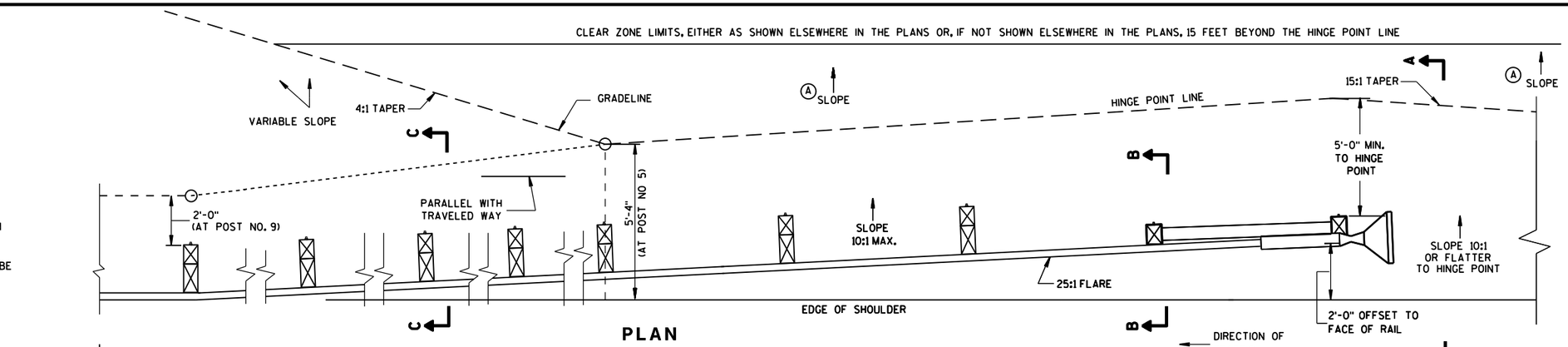
SEE SDD 14B42 FOR MORE INFORMATION.

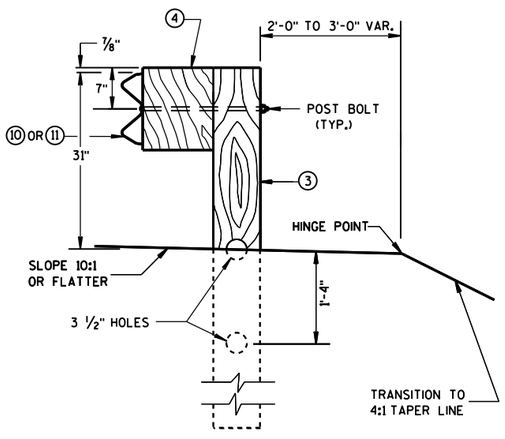
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

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

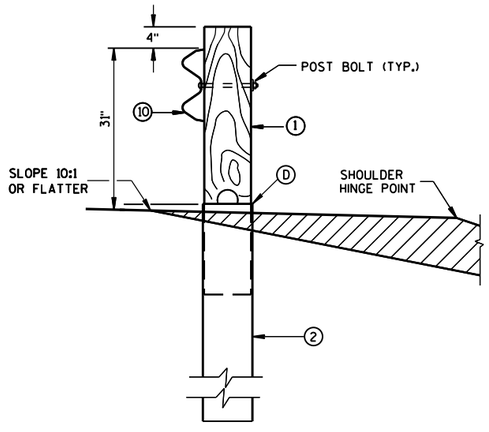
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

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

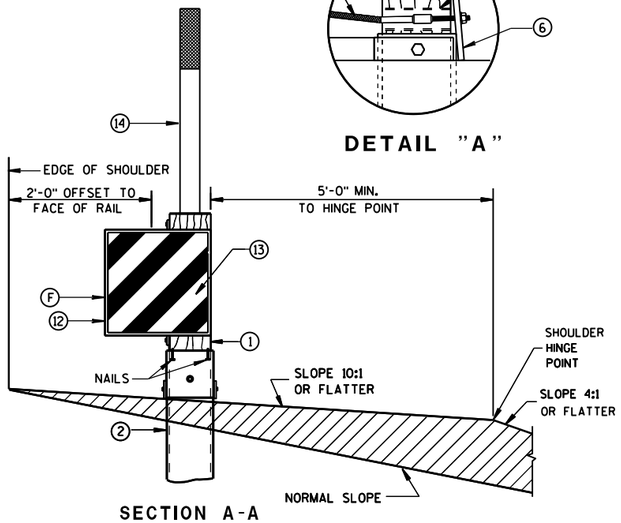


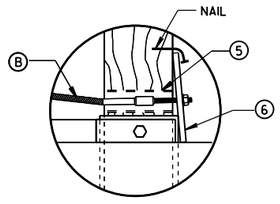

SECTION C-C
TYPICAL AT POST NOS. 3-9



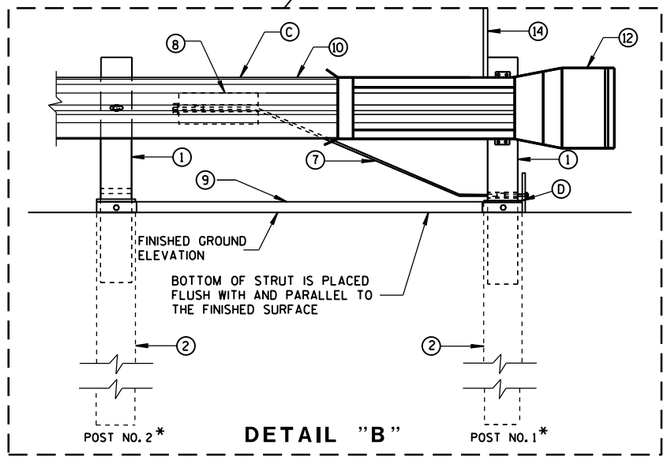

SECTION B-B
TYPICAL AT POST NO. 2*




SECTION A-A
TYPICAL AT POST NO. 1*




DETAIL "A"



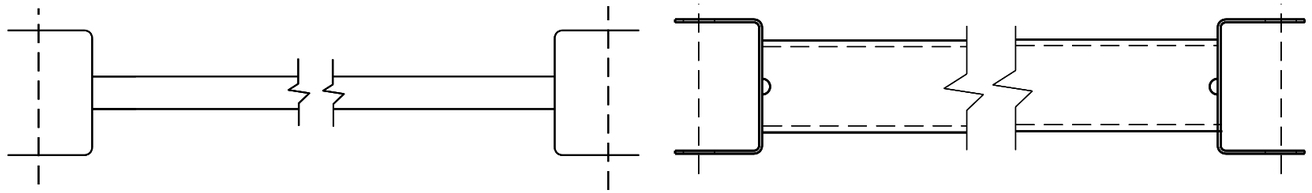

DETAIL "B"

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO



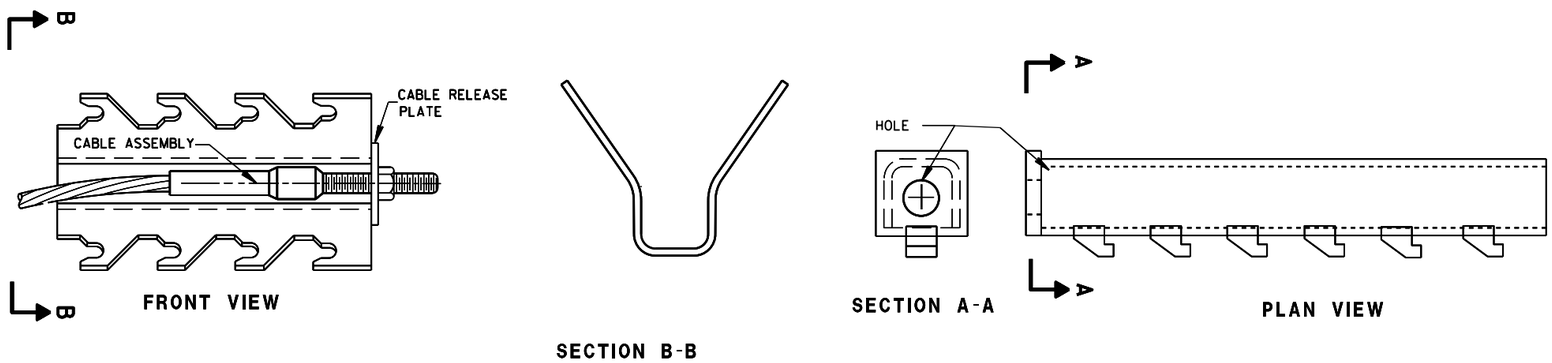

S.D.D. 14 B 44-2a



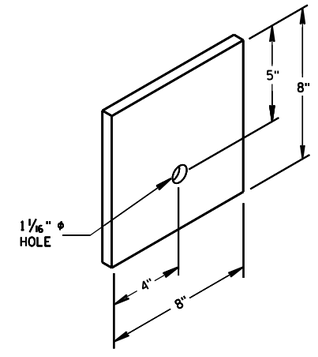
GENERIC GROUND STRUT (9) (H)

## BILL OF MATERIALS

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




GENERIC ANCHOR CABLE BOX (8) (H)




BEARING PLATE (6)

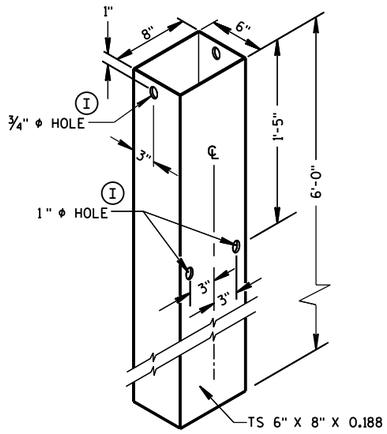
MIDWEST GUARDRAIL SYSTEM
ENERGY ABSORBING TERMINAL
(MGS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

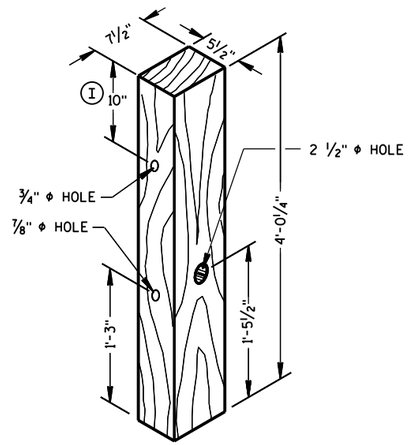



6


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

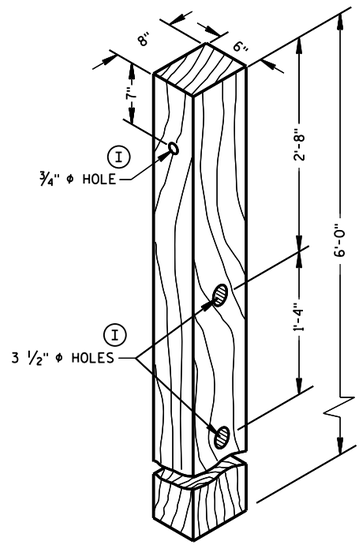



## FOUNDATION TUBE (2)



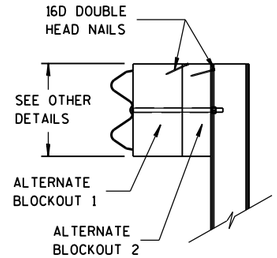

POSTS NUMBER 1 AND 2

## WOOD BREAKAWAY POST (1)

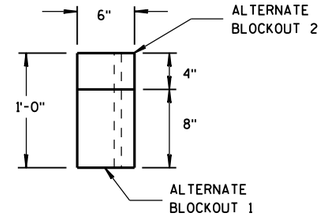



POSTS NUMBER 3-9

## WOOD CRT POST (3)

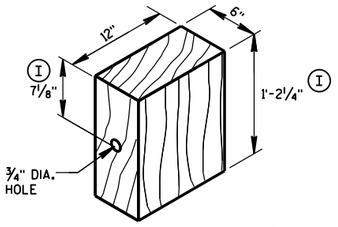



SIDE VIEW



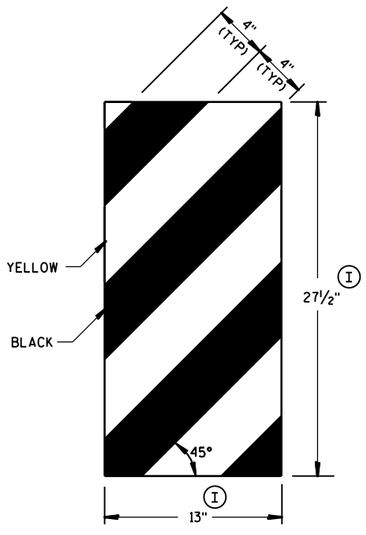

TOP VIEW

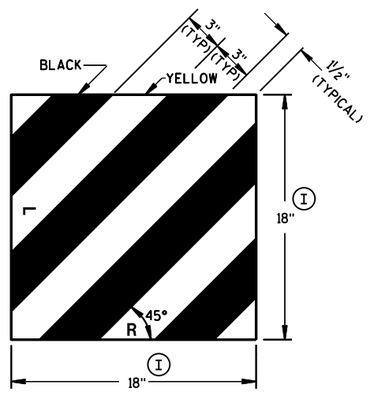
## ALTERNATE WOOD BLOCKOUT DETAIL



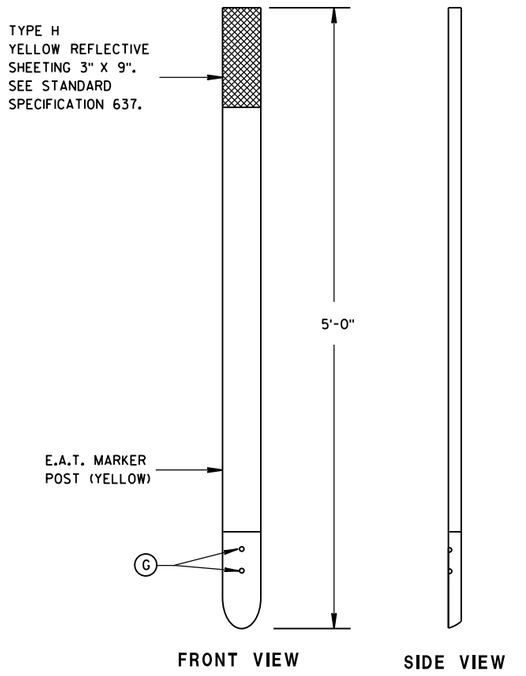

## WOOD BLOCKOUT (4)

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



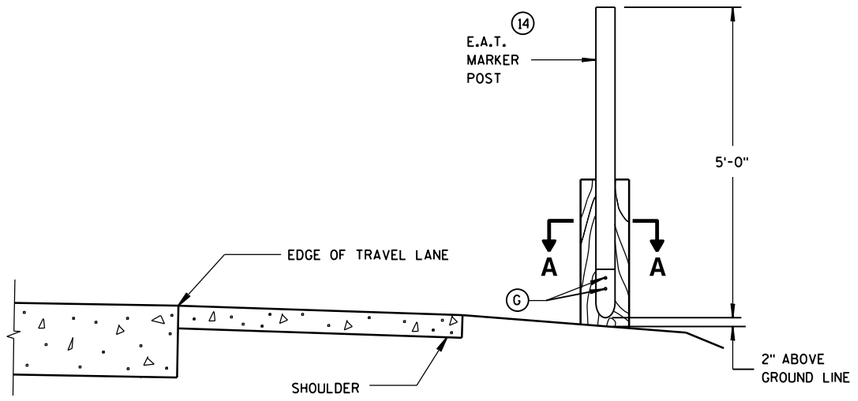

## GENERIC REFLECTIVE SHEETING (13) (H)




FRONT VIEW

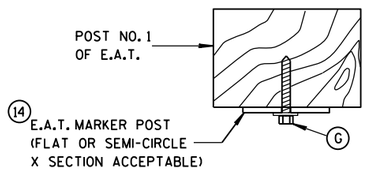
SIDE VIEW

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




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

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




SECTION A-A

## MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)

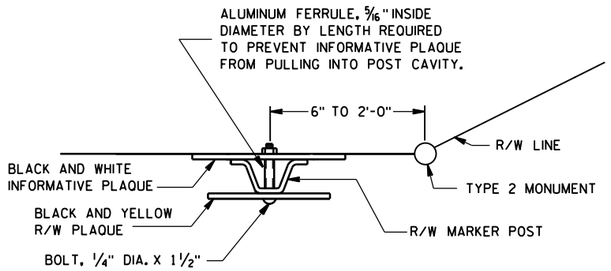
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

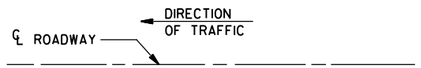
APPROVED
June 2014
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA



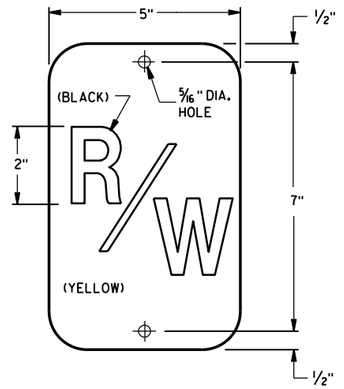

6

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



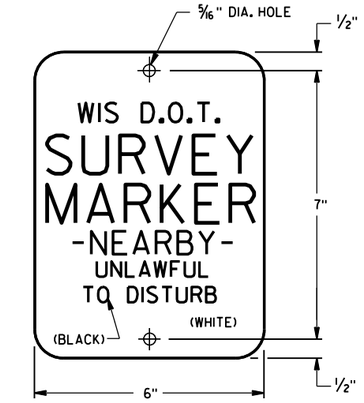




**PLAN VIEW**




**R/W PLAQUE**

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




**INFORMATIVE PLAQUE**

## GENERAL NOTES

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

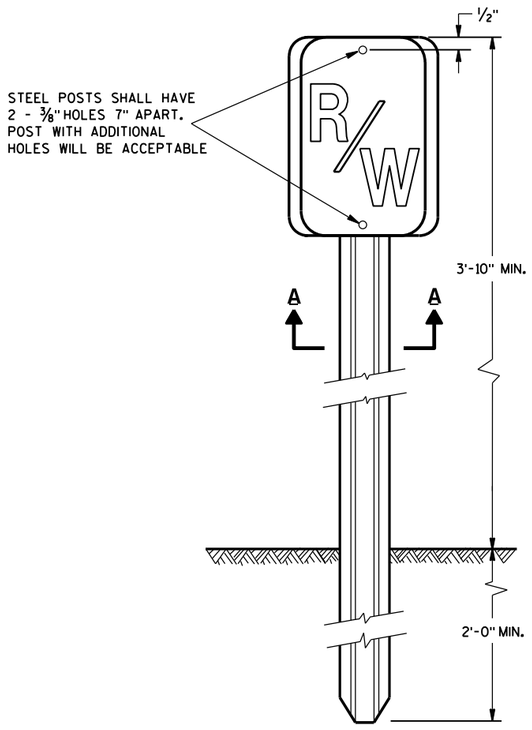
A STEEL MARKER POST FOR RIGHT-OF-WAY SHALL BE PLACED IN THE RIGHT-OF-WAY, WITH THE BACK OF THE POST ON THE LONGER RIGHT-OF-WAY TANGENT, 6 INCHES TO 24 INCHES FROM EACH TYPE 2 MONUMENT TO SERVE AS A GUARD POST, AND AT OTHER LOCATIONS AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

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

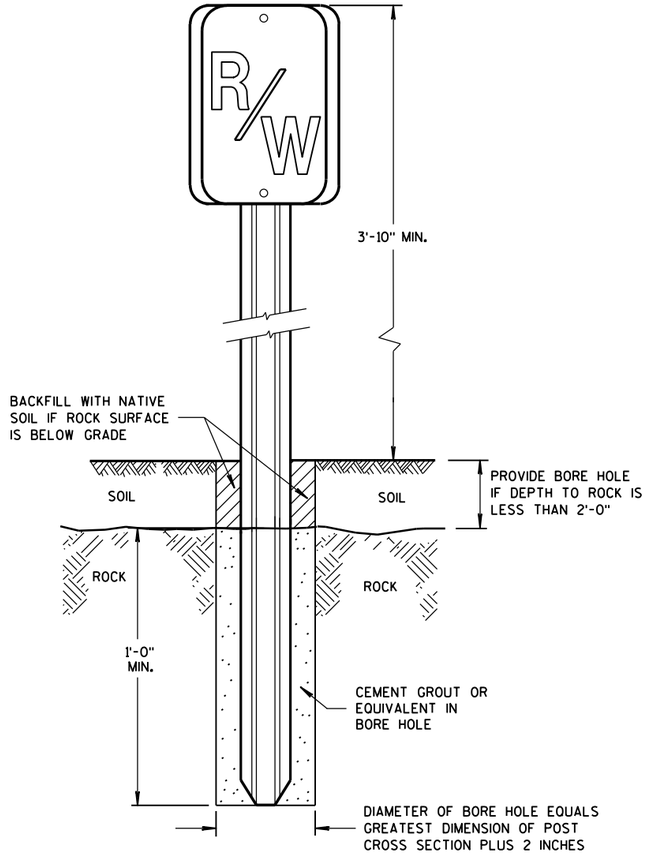
STEEL MARKER POSTS SHALL MEET THE MINIMUM MATERIAL REQUIREMENTS FOR STEEL DELINEATOR POSTS; EXCEPT POSTS PAINTED WITH FEDERAL YELLOW ENAMEL NEED NOT BE ZINC COATED.

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

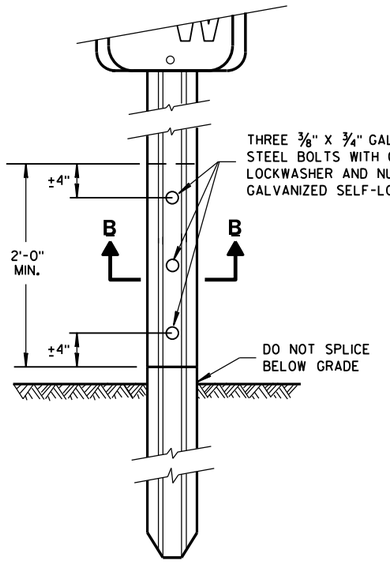
FILL THE BORE HOLE WITH CEMENT GROUT, OR EQUIVALENT. DEPENDING ON THE STABILITY OF THE ROCK.



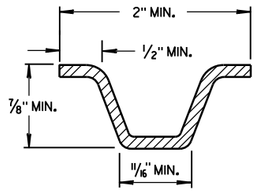

**FRONT VIEW**
**STEEL MARKER POST**




**FRONT VIEW**
**ROCK INSTALLATION** ①

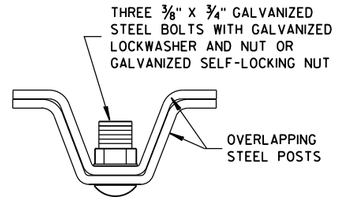



**FRONT VIEW**
**SPLICE DETAIL**




MIN. WEIGHT 1.12 LB./FT.

**SECTION A-A**




**SECTION B-B**

**MARKER POST FOR RIGHT-OF-WAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/18/2016 — DATE
/S/ Ray Kumapayi — CHIEF SURVEYING AND MA[illegible]INEER
FHWA

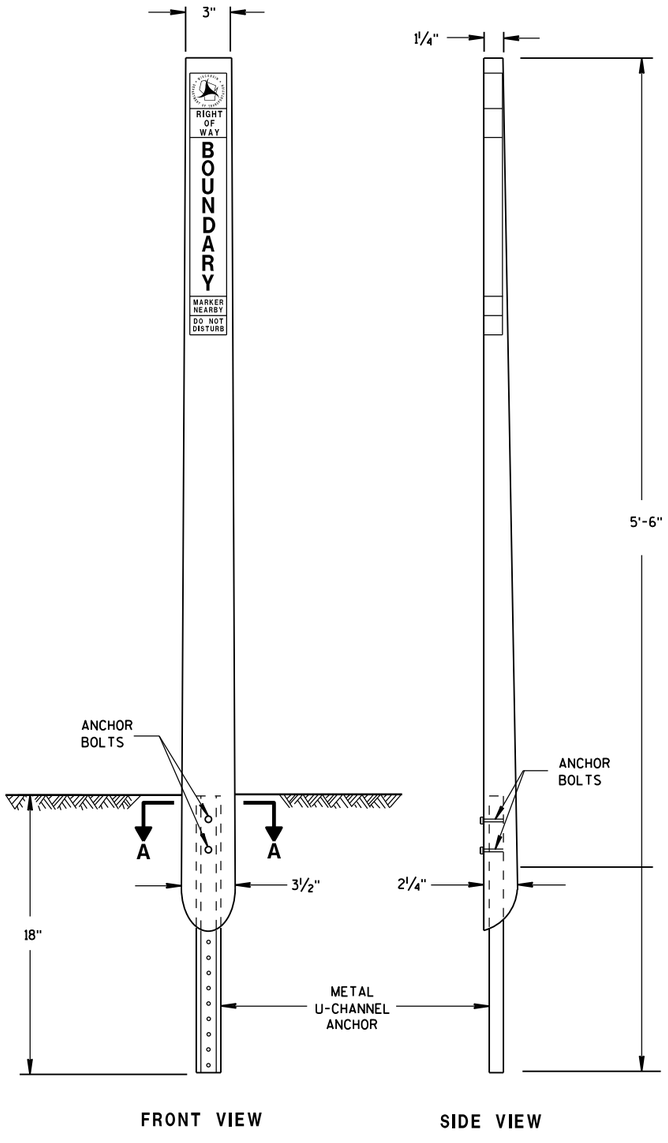


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S.D.D. 15 A 1-13a

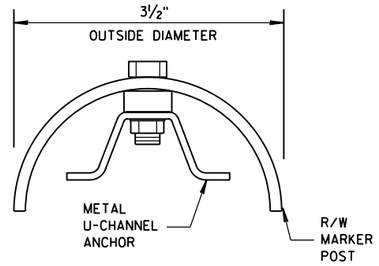
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S.D.D. 15 A 1-13a

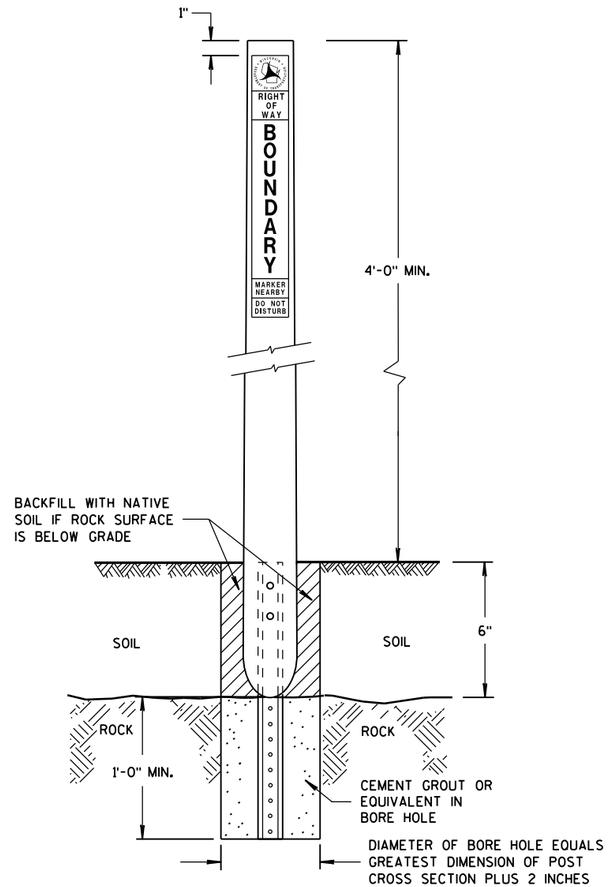



FRONT VIEW SIDE VIEW

**FLEXIBLE MARKER POST FOR RIGHT-OF-WAY** ①

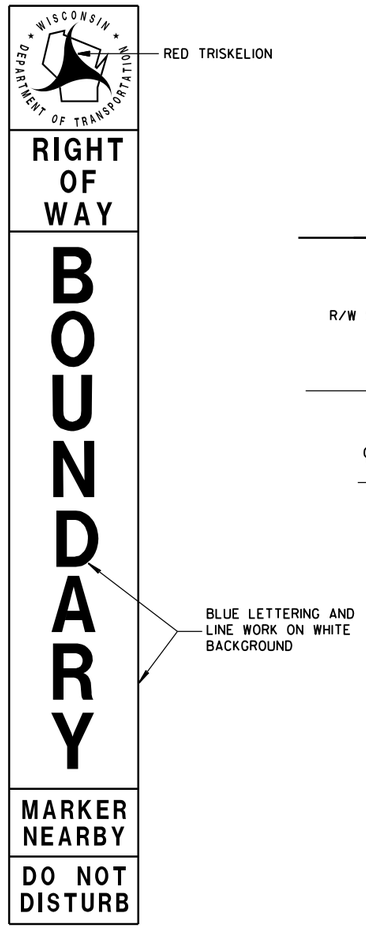



**SECTION A-A**




FRONT VIEW

**ROCK INSTALLATION** ①②




**RIGHT-OF-WAY STICKER**

THE RIGHT-OF-WAY STICKER SHALL BE ATTACHED 1" FROM THE TOP OF THE RIGHT-OF-WAY POST PRIOR TO DELIVERY.

## GENERAL NOTES

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

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

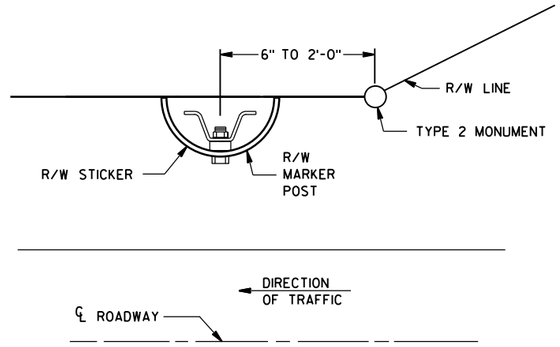
THE RIGHT-OF-WAY STICKER DIMENSIONS SHALL BE 2¼" X 17" AND THE STICKER SHALL BE MADE OF A NON-REFLECTIVE VINYL MATERIAL. THE RIGHT-OF-WAY STICKER SHALL FACE THE ROADWAY.

INSTALL PER DEPTH OF MANUFACTURER'S RECOMMENDATIONS BUT NOT LESS THAN 18 INCHES BELOW GRADE FROM THE BOTTOM OF THE METAL U-CHANNEL ANCHOR.

① FLEXIBLE MARKER POSTS SHALL BE INCLUDED IN THE APPROVED PRODUCTS LIST FOR MARKER POSTS AND SHALL BE FEDERAL YELLOW IN COLOR.

② IN AREAS OF SOLID ROCK, DRILL A BORE HOLE 2" GREATER THAN THE WIDEST DIMENSION OF THE POST CROSS SECTION INTO THE ROCK TO A MINIMUM DEPTH OF 12 INCHES. CUT OR SPLICE THE POST SO THAT A MINIMUM LENGTH OF 4'-0" PROTRUDES ABOVE THE GROUND. BLOW OUT THE BORE HOLE IN THE ROCK USING COMPRESSED AIR.

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




**PLAN VIEW**

**FLEXIBLE MARKER POST FOR RIGHT-OF-WAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
2/18/2016 — DATE
/S/ Ray Kumapayi — CHIEF SURVEYING AND MAPPING ENGINEER
FHWA

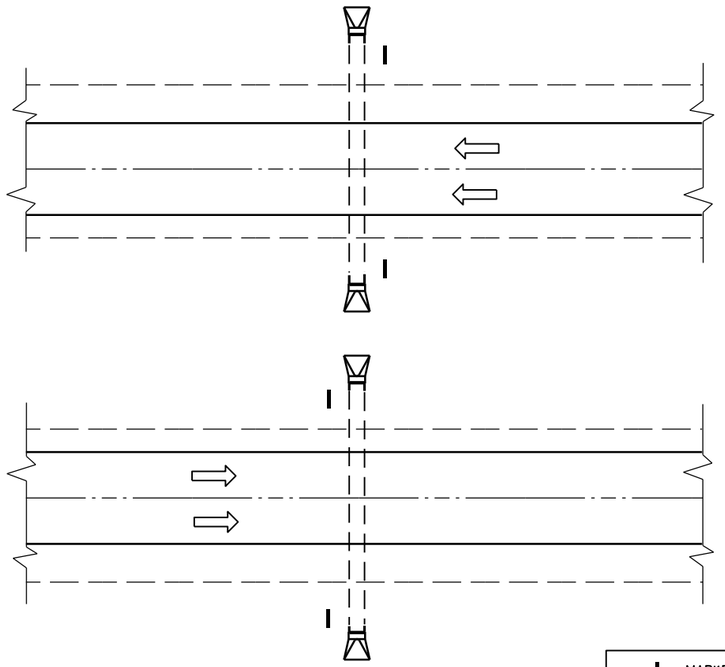


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S.D.D. 15 A 1-13b

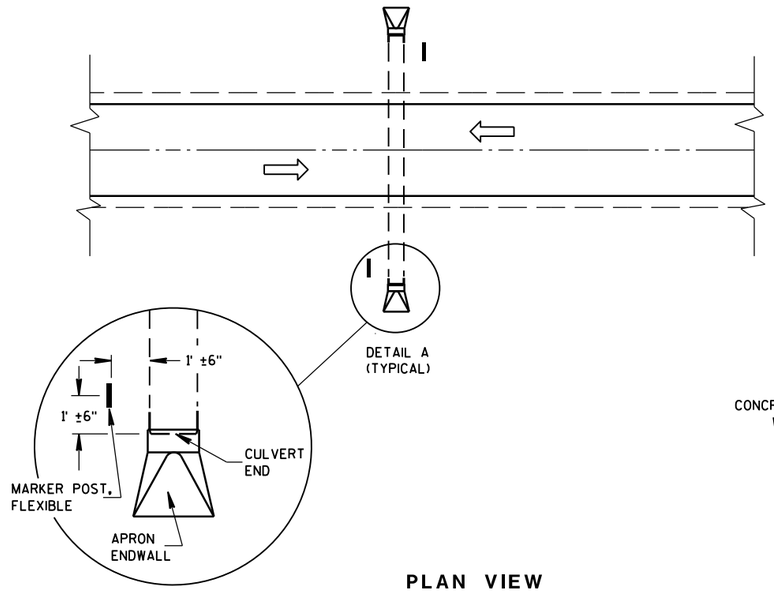
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S.D.D. 15 A 1-13b



PLAN VIEW

**DIVIDED HIGHWAY**




DETAIL A
(TYPICAL)

PLAN VIEW

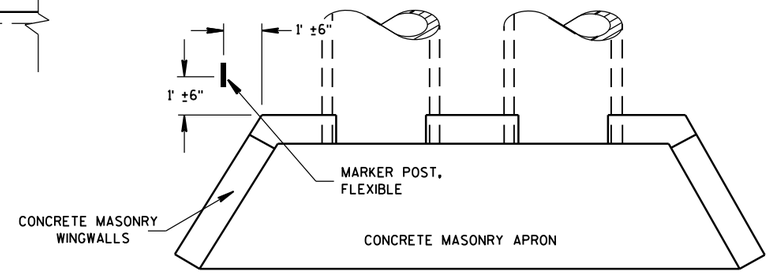
**UNDIVIDED HIGHWAY**

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

## GENERAL NOTES

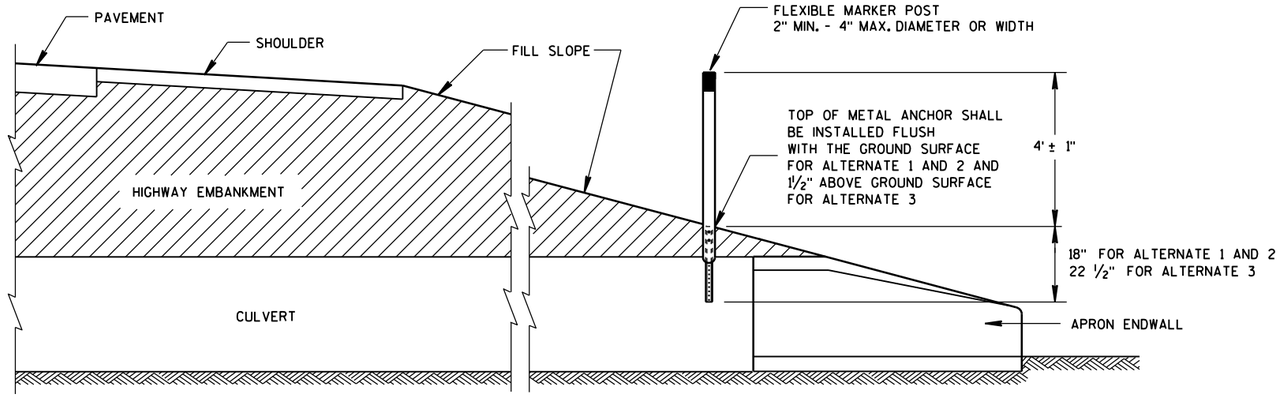
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.




PLAN VIEW

**CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH**

## FLEXIBLE MARKER POST LOCATION




CROSS SECTION

**FLEXIBLE MARKER POST**

**FLEXIBLE MARKER POST FOR CULVERT END**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

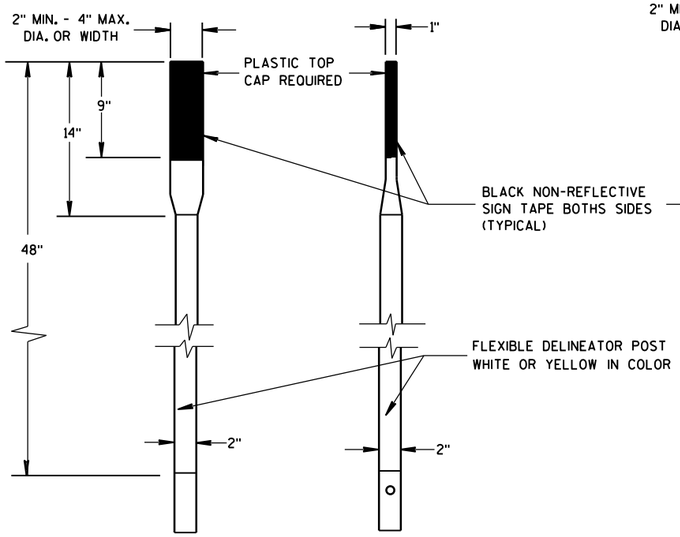


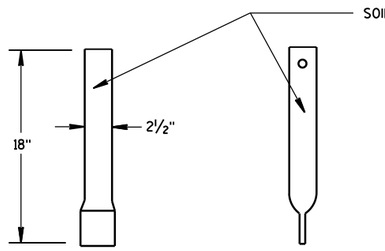
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S.D.D. 15 A 3-2a

6

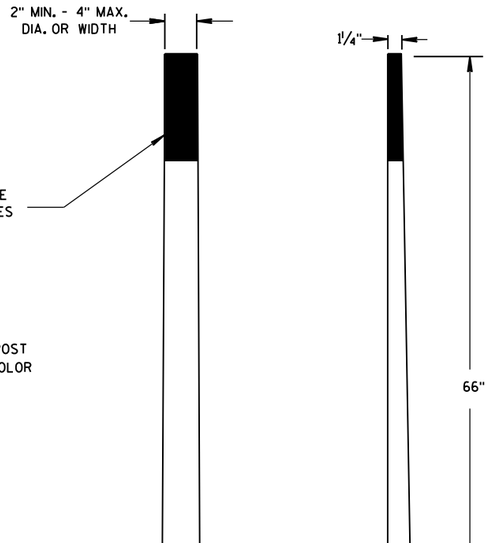
S.D.D. 15 A 3-2a



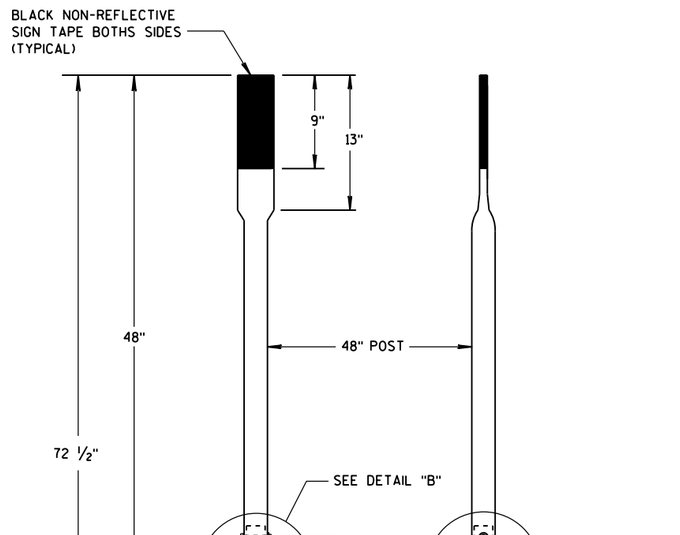

FRONT VIEW SIDE VIEW

ALTERNATE 1




FRONT VIEW SIDE VIEW

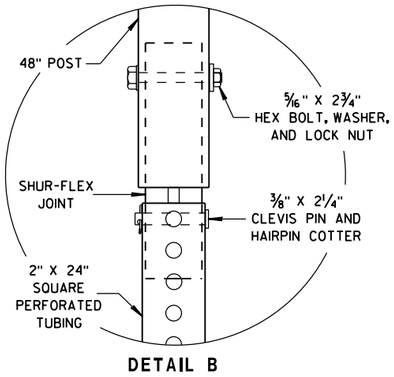
ALTERNATE 2



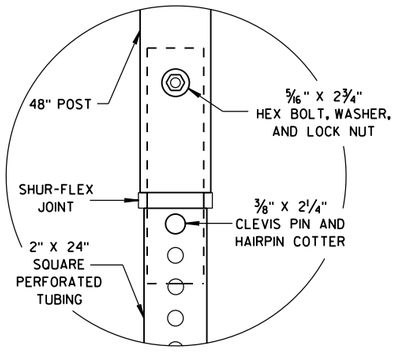

FRONT VIEW SIDE VIEW

ALTERNATE 3

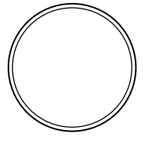
## FLEXIBLE MARKER POSTS



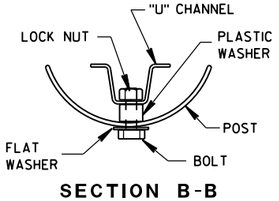

DETAIL B



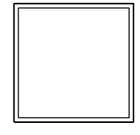

DETAIL C



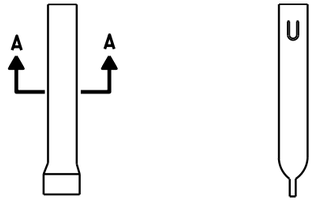
SECTION A-A




SECTION B-B

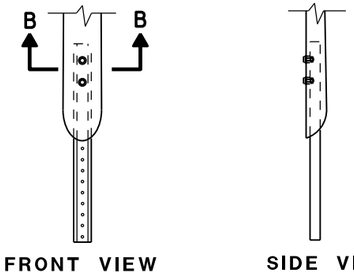


SECTION C-C



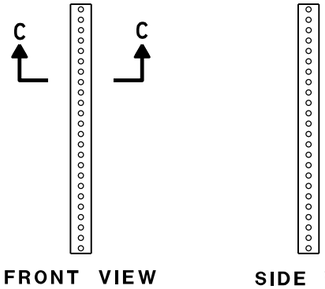

FRONT VIEW SIDE VIEW

ALTERNATE 1




FRONT VIEW SIDE VIEW

ALTERNATE 2




FRONT VIEW SIDE VIEW

ALTERNATE 3

## FLEXIBLE MARKER POST ANCHORS

FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/1/2012 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
FHWA

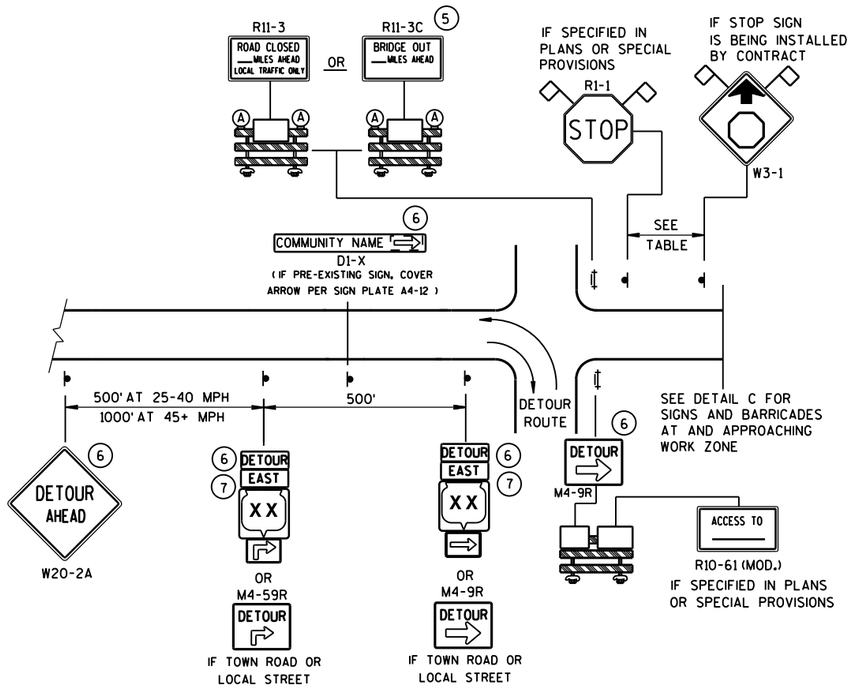


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S.D.D. 15 A 3-2b

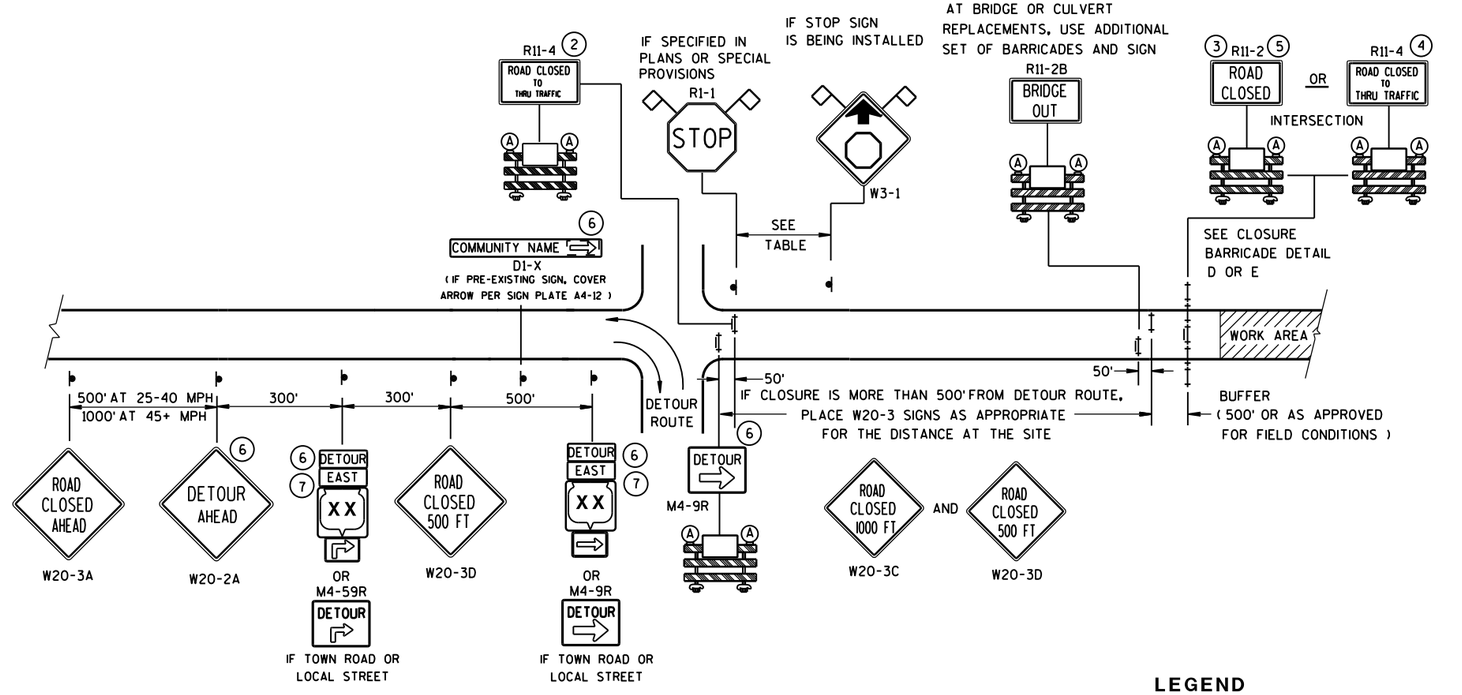
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S.D.D. 15 A 3-2b



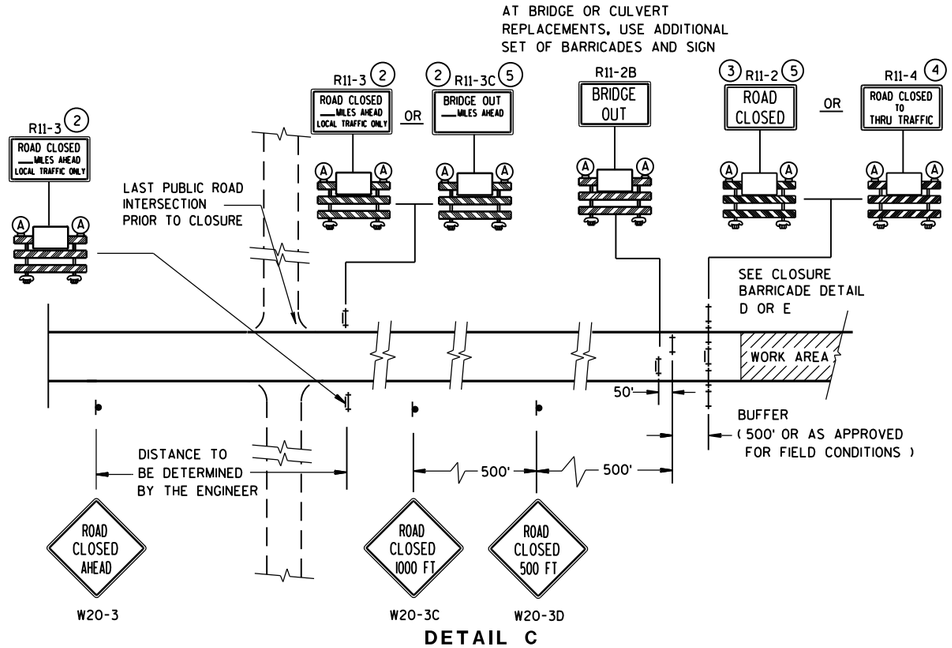

## DETAIL A
## MAINLINE CLOSURE WITH POSTED DETOUR

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




## DETAIL B
## MAINLINE CLOSURE WITH POSTED DETOUR

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




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

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

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

### LEGEND

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

**BARRICADES AND SIGNS FOR MAINLINE CLOSURES**

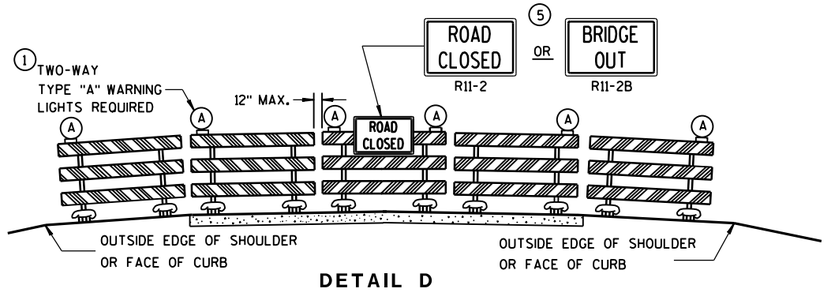
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



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

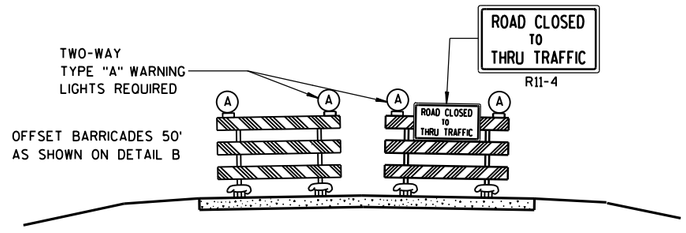
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**DETAIL D**

## ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW




**DETAIL E**

## LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

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

## GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**BARRICADES AND SIGNS FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

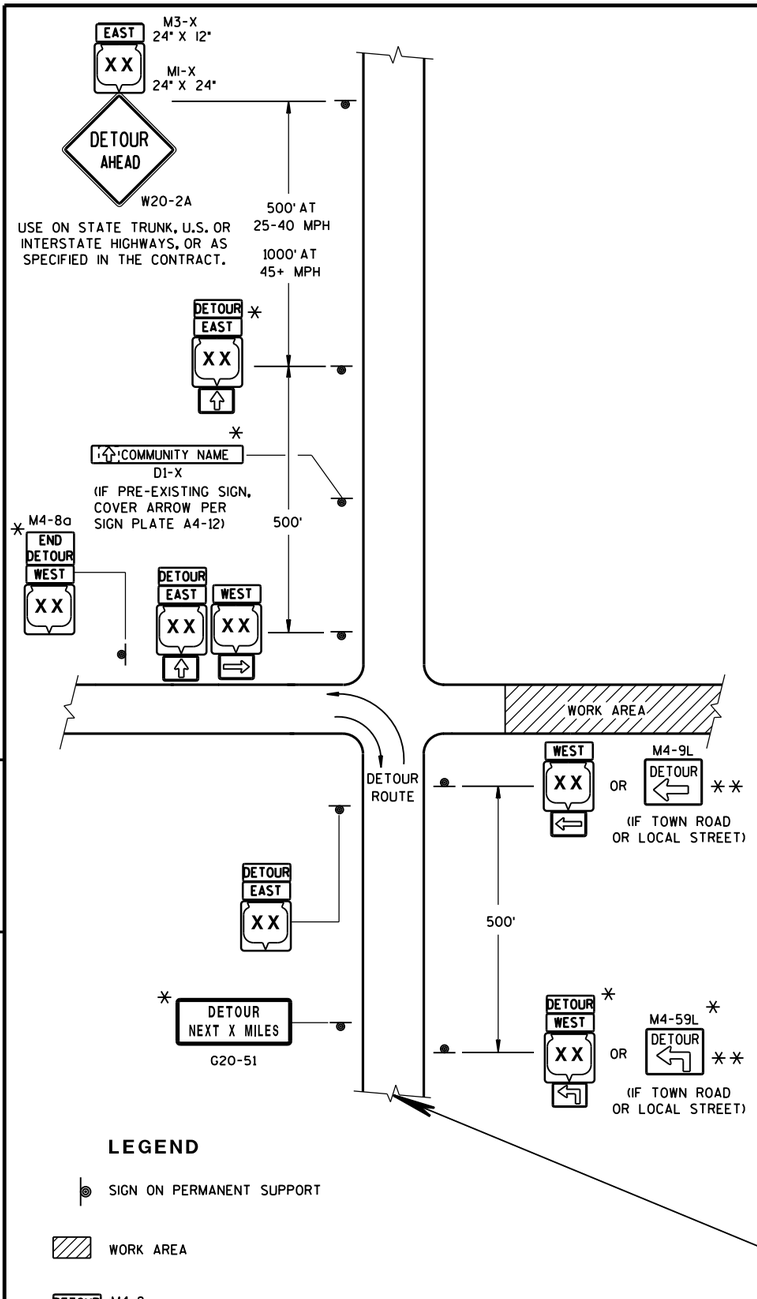
Sept. 2015 — DATE

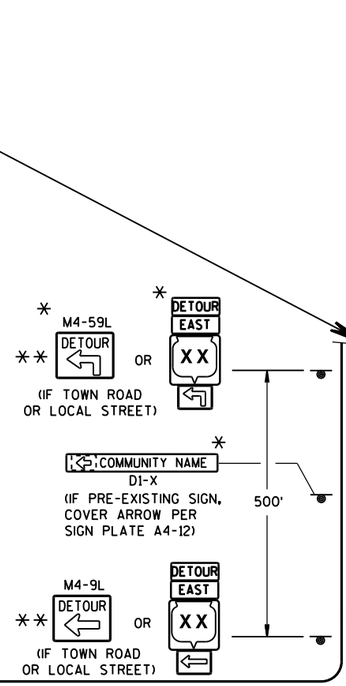
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO... SAFETY ENGI... — FHWA

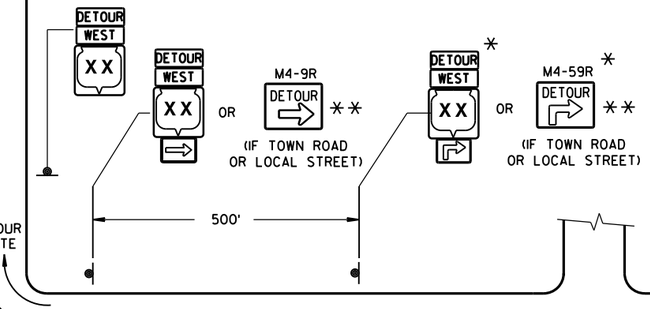


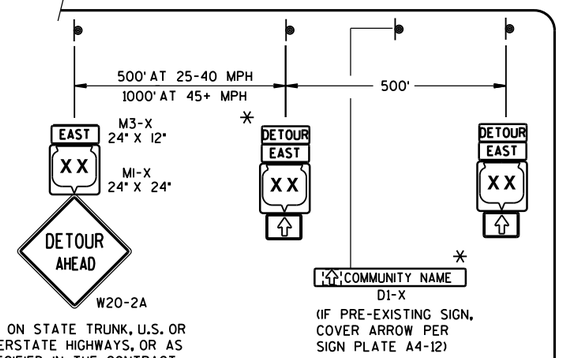

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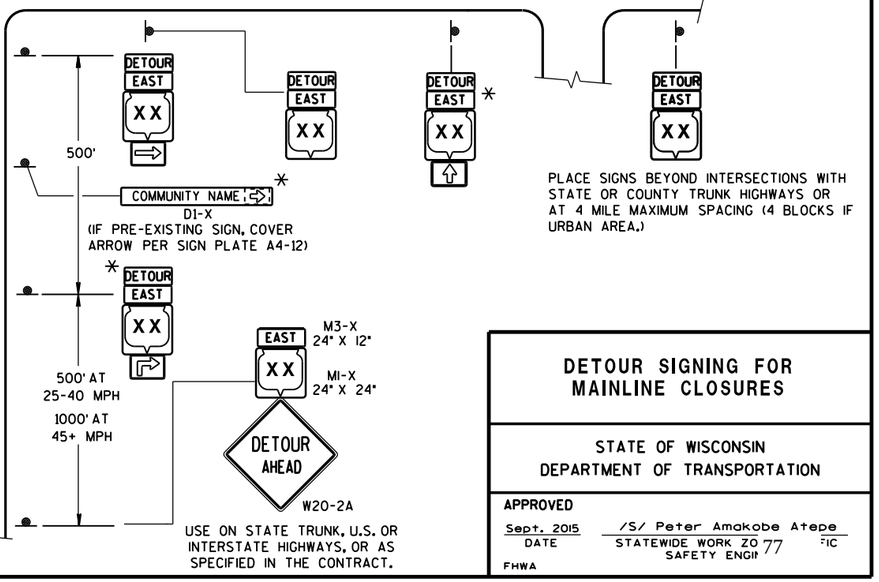

S.D.D. 15 C 2-6b




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

## GENERAL NOTES

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

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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

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

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

SIGN SIZES SHALL BE AS FOLLOWS:

- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- MO5-1 AND MO6-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-9 SHALL BE 30" X 24".
- M4-8a SHALL BE 24" X 18".
- G20-51 SHALL BE 60" X 24".
- W20-2 SHALL BE 48" X 48".
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

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

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

**MATCH POINT**

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

### LEGEND

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

**DETAIL F**

**DETOUR SIGNING**

**DETOUR SIGNING FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

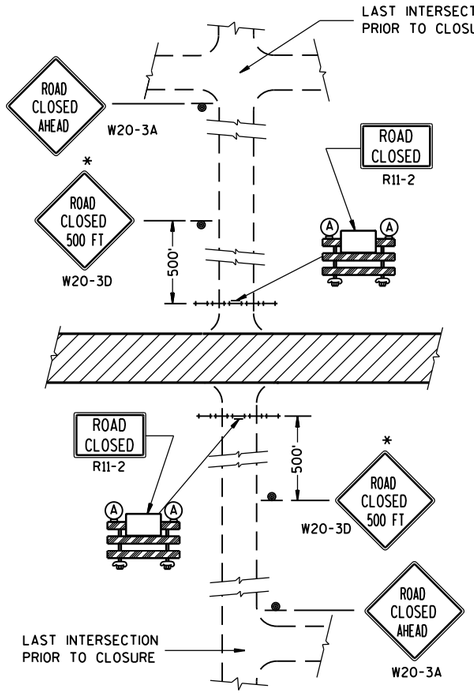
APPROVED

Sept. 2015 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO 77 FIC
SAFETY ENGI

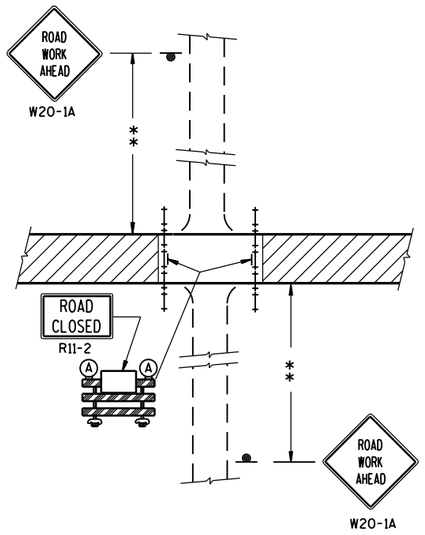
FHWA


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



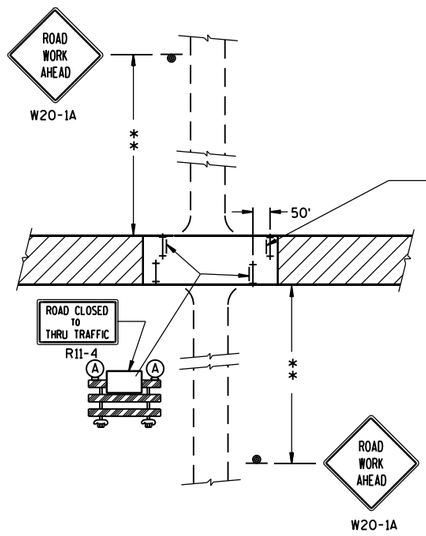

**DETAIL 1**

(NO ACCESS TO PROJECT)



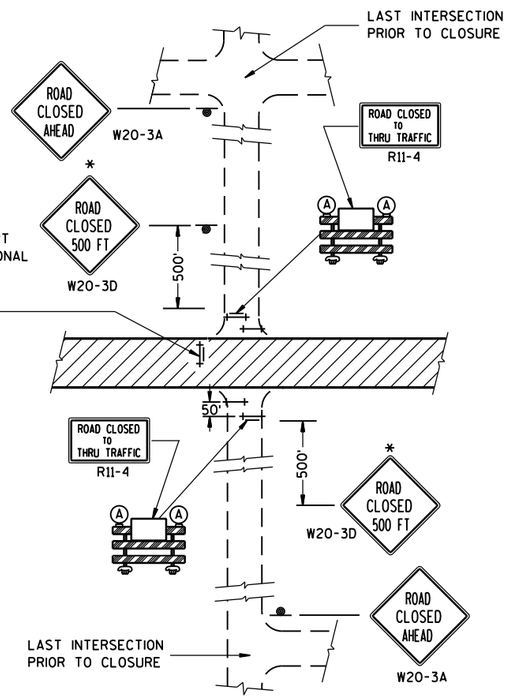

**DETAIL 2**

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




**DETAIL 3**

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




**DETAIL 4**

(CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT)

## GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

## LEGEND

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

**BARRICADES AND SIGNS FOR SIDEROAD CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO[illegible]FIC SAFETY ENGI[illegible]
FHWA



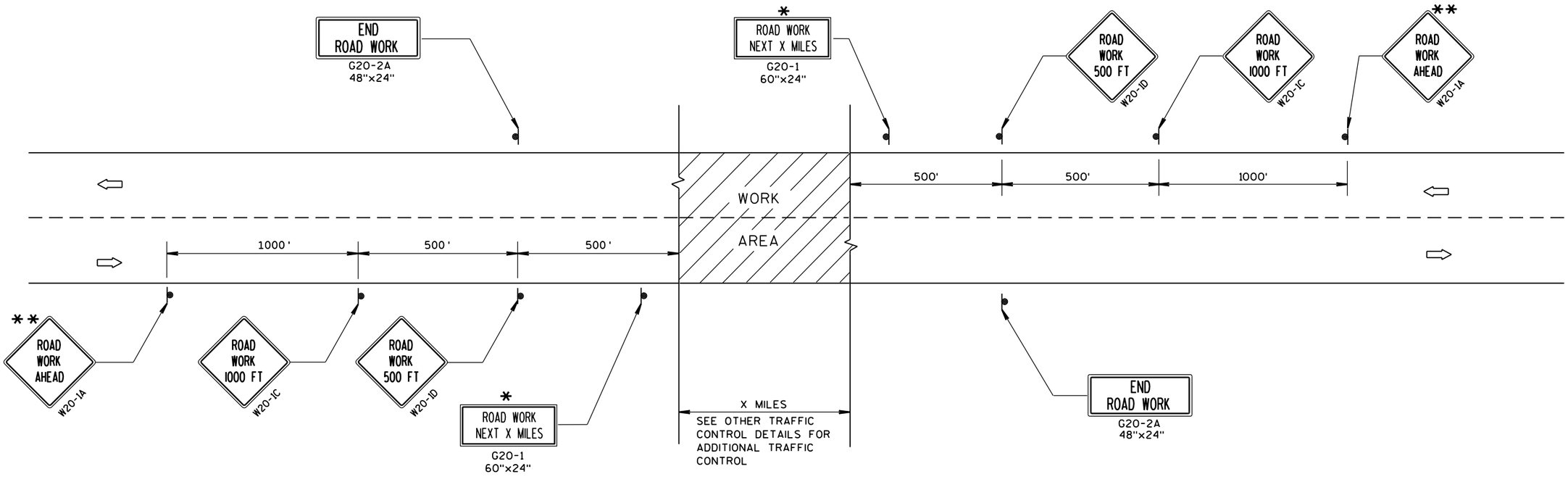
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S.D.D. 15 C 3-3

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S.D.D. 15 C 3-3

# 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.

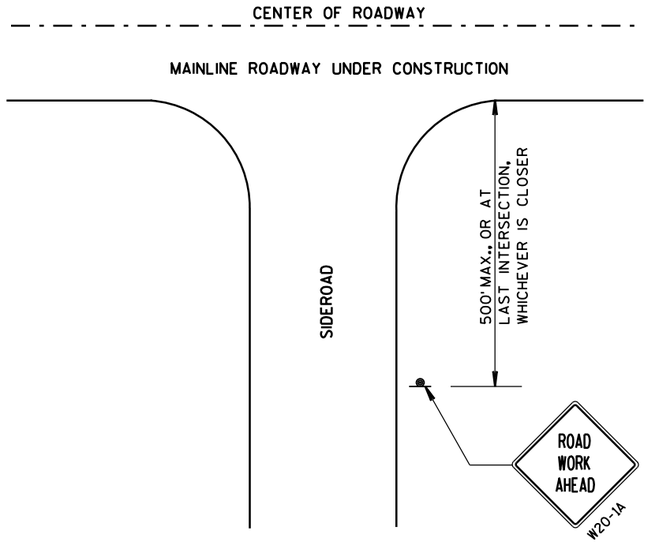
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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 Amakobe Atepe |
|---|---|
| DATE | STATEWIDE WORK ZONE SAFETY ENGINEER |

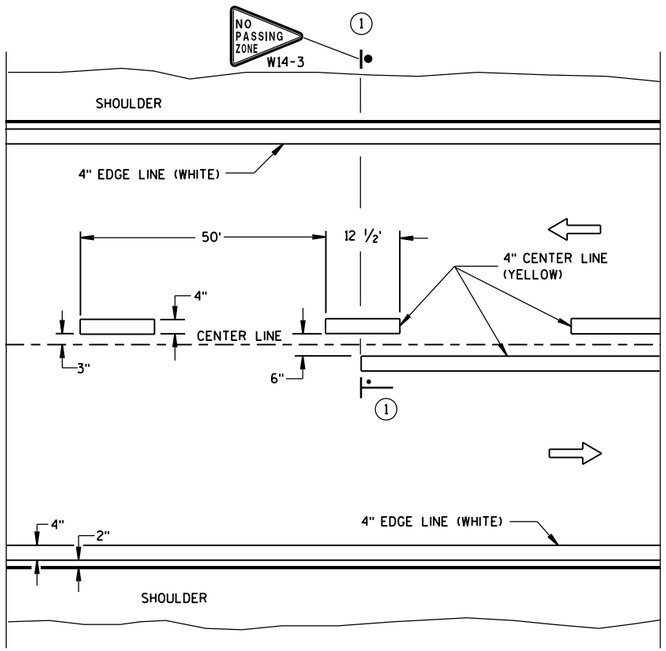
FHWA



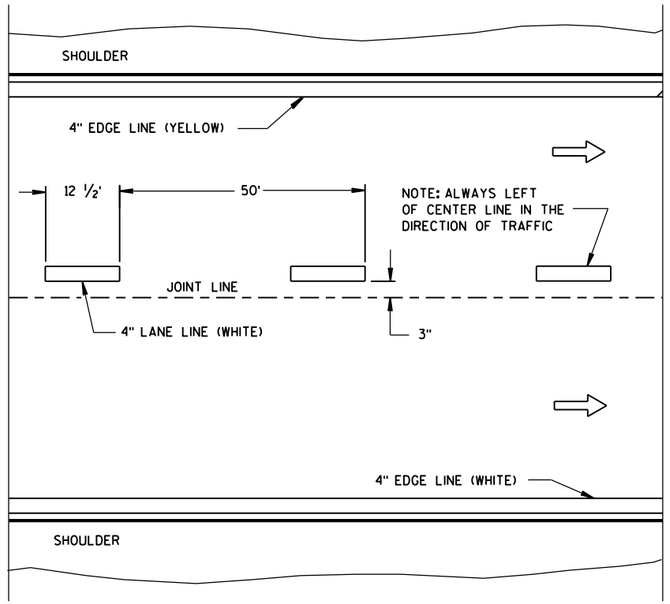


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S.D.D. 15 C 4-3




TWO WAY TRAFFIC




ONE WAY TRAFFIC

## PERMANENT PAVEMENT MARKING

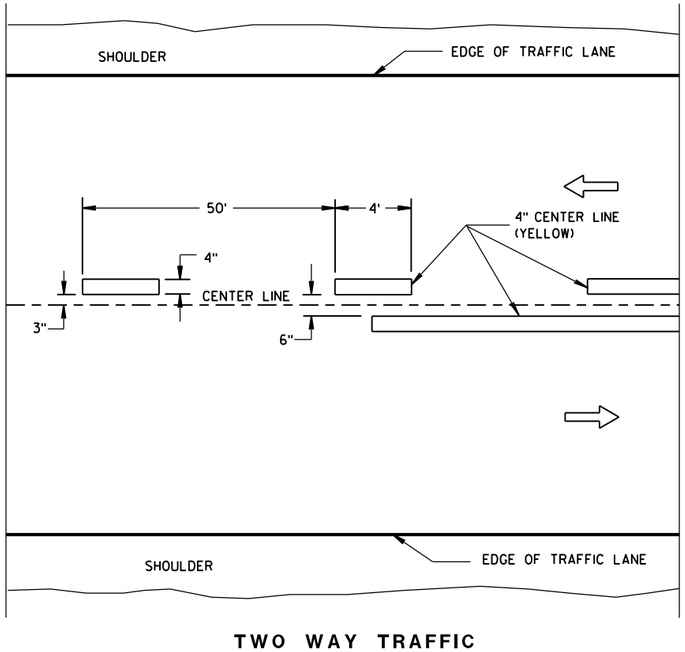
## GENERAL NOTES

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

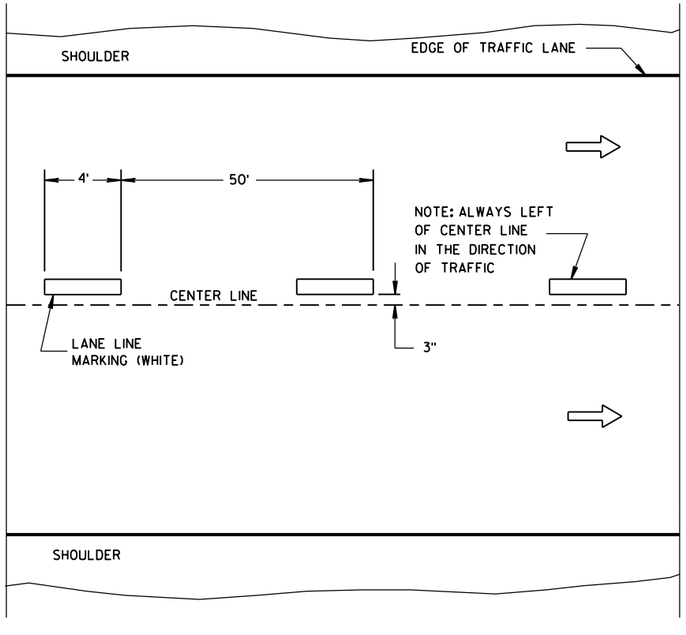
(1) NO PASSING ZONE W14-3 SIGN SHALL BE LOCATED WITHIN 50 FEET OF THE "T" MARKING.

## NOTE

ARROW SYMBOL ( ⇨ ) SHOWS DIRECTION OF TRAVEL




TWO WAY TRAFFIC




ONE WAY TRAFFIC

## TEMPORARY PAVEMENT MARKING

**LEGEND**

"T" MARKING

POST MOUNTED SIGN

**LONGITUDINAL MARKING (MAINLINE)**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



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S.D.D. 15 C 8-17a

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S.D.D. 15 C 8-17a

## LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

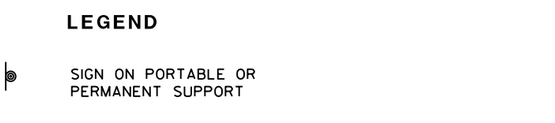
DIRECTION OF TRAFFIC

WORK AREA

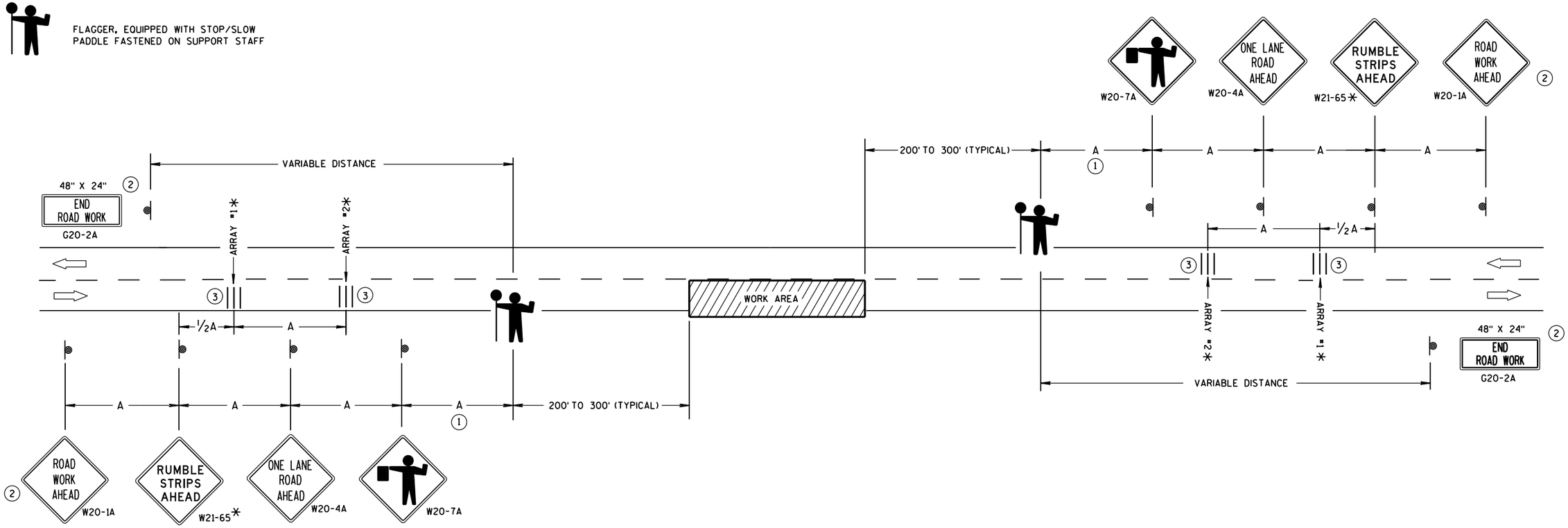
FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

## SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

| SPEED LIMIT | SPACING A |
|---|---|
| 25-35 MPH | 200' |
| 35-40 MPH | 350' |
| 45-55 MPH | 500' |




USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING A.




# TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

## 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.

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

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

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, REMOVE TEMPORARY RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

* UTILIZE TEMPORARY RUMBLE STRIPS WHEN FLAGGING OPERATION IS ANTICIPATED TO BE STATIONARY IN EXCESS OF TWO HOURS.

(1) FOR A MOVING WORK OPERATION, SIGNING AND TEMPORARY RUMBLE STRIPS (IF USED) SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3,500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

(3) EACH TEMPORARY RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

**TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December, 2016 — /S/ Andrew Heldtke
DATE — WORK ZONE ENG
FHWA

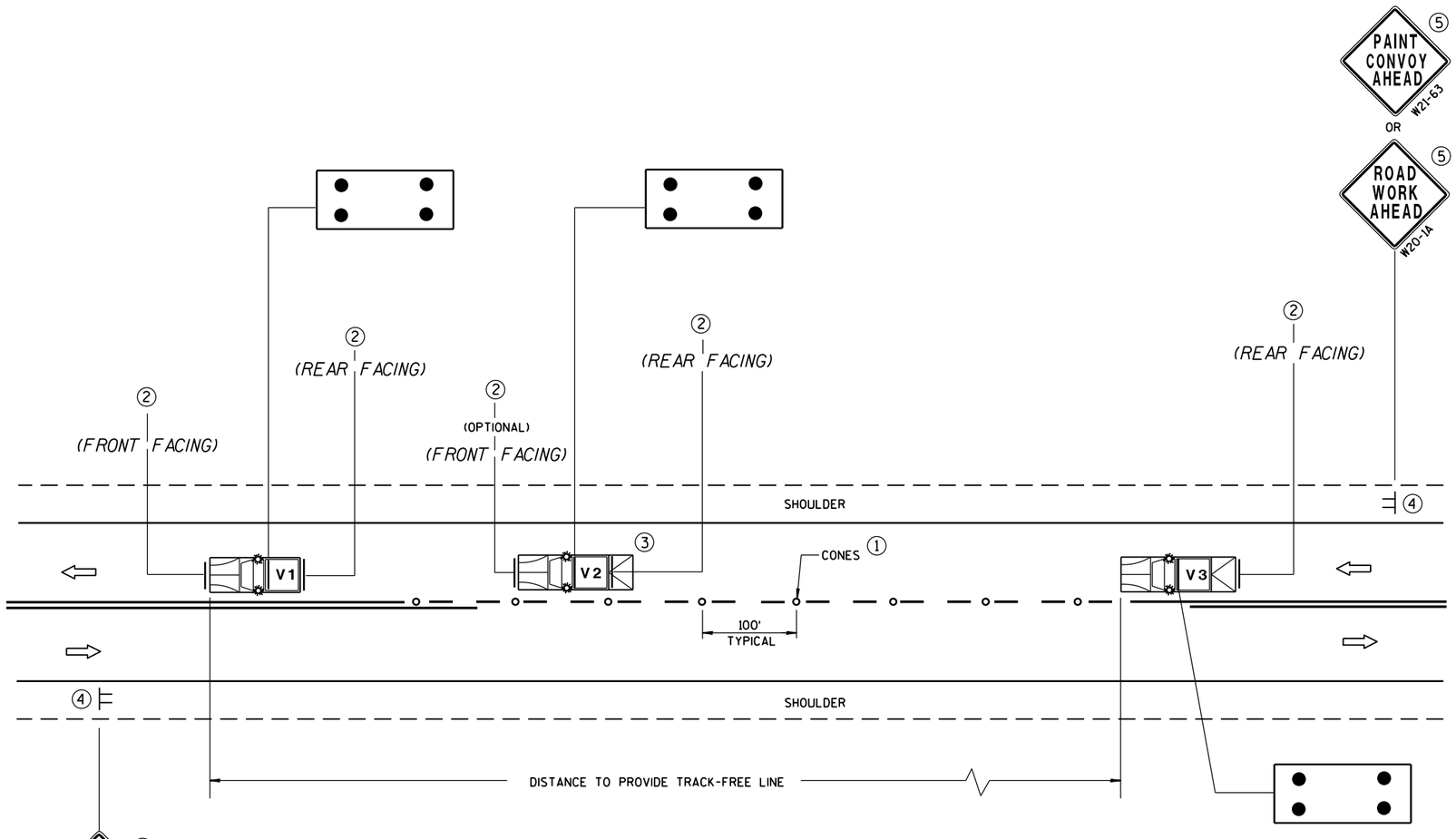


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S.D.D. 15 C 12-5

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S.D.D. 15 C 12-5




## MOVING PAVEMENT MARKING OPERATIONS
## TWO-LANE TWO-WAY ROADWAY

## GENERAL NOTES

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.

IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.

ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGELINE MARKING.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.

(1) CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

(2) USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.

WET PAINT W21-64 OR WET PAINT W21-64

(3) OPTIONAL TRUCK-MOUNTED ATTENUATOR.

(4) SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.

(5) IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.

### LEGEND

- **V1** LEAD VEHICLE
- **V2** SHADOW VEHICLE
- **V3** TRAIL VEHICLE WITH TMA
- **TMA** TRUCK-MOUNTED ATTENUATOR
- SIGN ON TEMPORARY SUPPORT
- DIRECTION OF TRAFFIC
- CONES
- FLASHING ARROW PANEL ( CAUTION )

| | |
|---|---|
| MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | |
| APPROVED | |
| June 2016 DATE | /S/ Peter Amakobe Atepe STATEWIDE WORK ZON SAFETY ENGINE |
| FHWA | |




6


S.D.D. 15 C 19-4a

## GENERAL NOTES

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

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

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

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

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.

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

## TABLE A

| SHOULDER TAPER LENGTH (FEET) | | | | | BUFFER SPACE (FEET) |
|---|---|---|---|---|---|
| S \ W | 4 | 6 | 8 | 10 | |
| 30 | 20 | 30 | 40 | 50 | 200 |
| 35 | 30 | 45 | 55 | 70 | 250 |
| 40 | 40 | 55 | 75 | 90 | 305 |
| 45 | 60 | 90 | 120 | 150 | 360 |
| 50 | 70 | 100 | 135 | 170 | 425 |
| 55 | 75 | 110 | 150 | 185 | 495 |

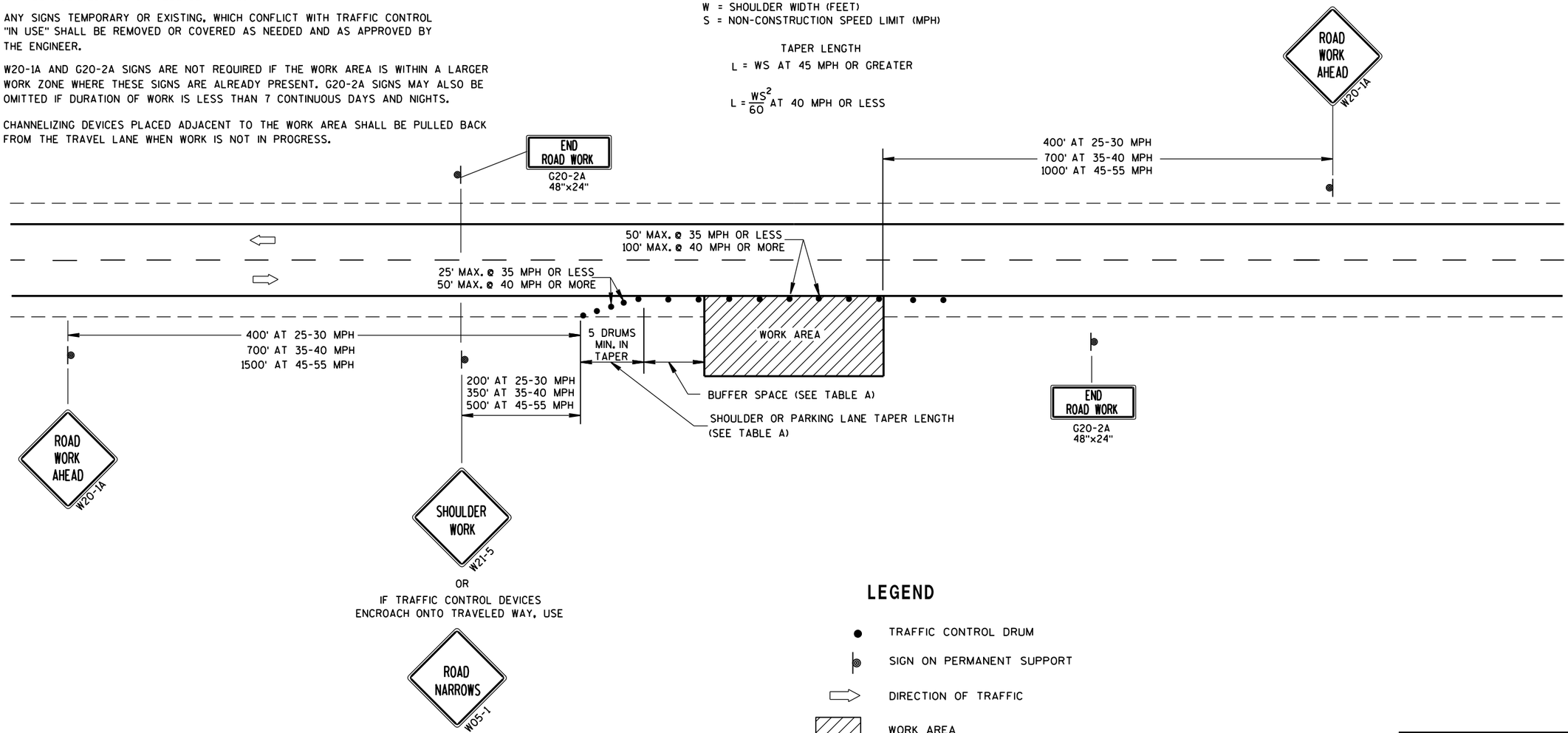
W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

TAPER LENGTH

L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

SHOULDER TAPER LENGTH = $\frac{1}{3}L$




## LEGEND

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

**TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

July 14, 2015 — DATE

/S/ Peter Amakobe Atepe — STATEWIDE WORK ZO SAFETY ENGI FIC

FHWA

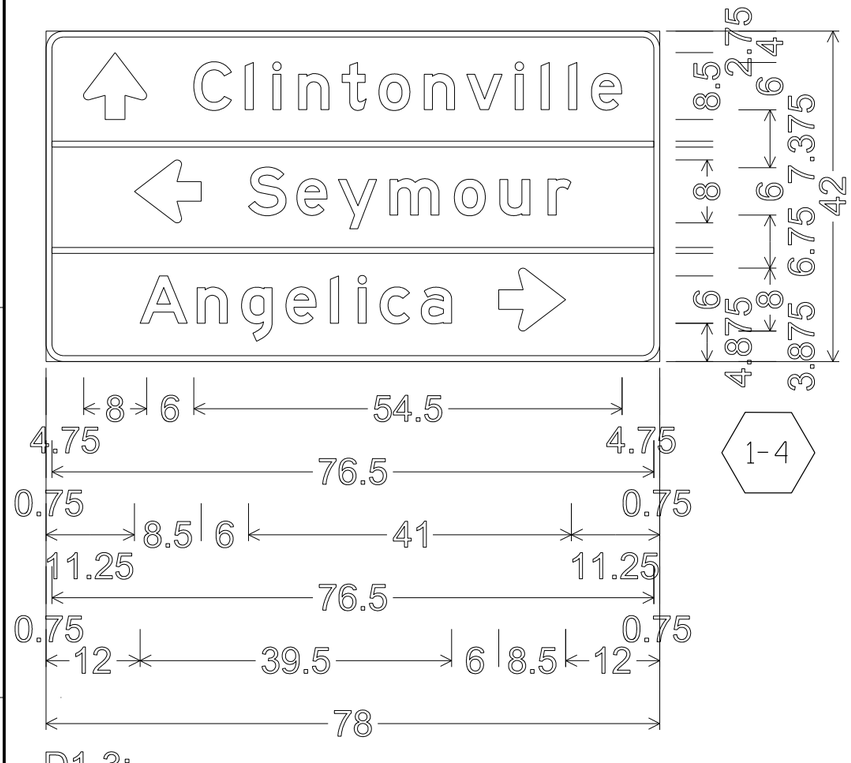




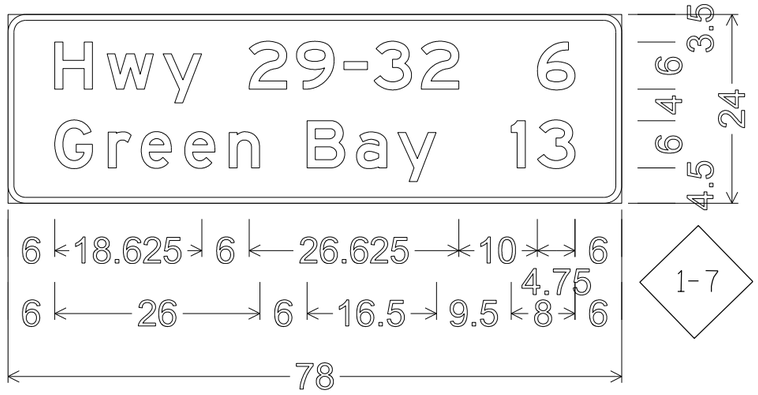
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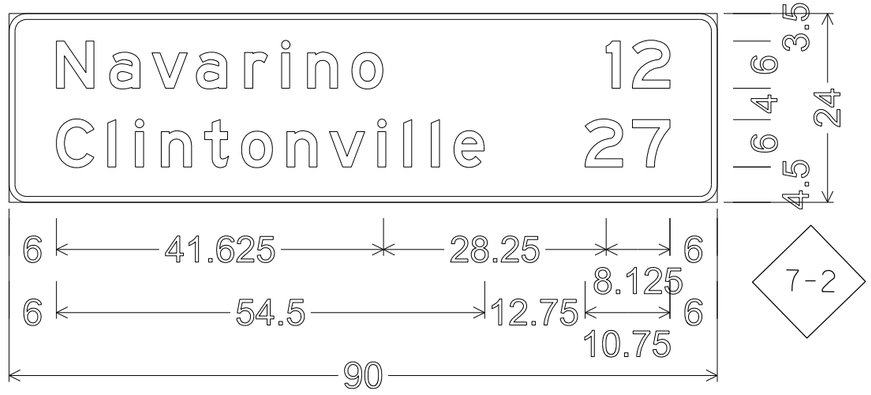
S.D.D. 15 D 28-3




D1-3;
2.250" Radius, 0.750" Border




D2-2;
2.250" Radius, 0.750" Border




D2-2;
2.250" Radius, 0.750" Border,

NOTES

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

7

7

| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | SIGN DETAILS | SCALE: 0 1/2" 1" | SHEET 84 | E |
|---|---|---|---|---|---|---|

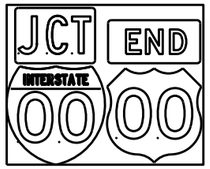
FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4801_STH 156\070101_sd.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:308

WISDOT/CADDS SHEET 47

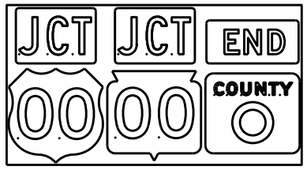
## TYPICAL ASSEMBLIES



J1-1



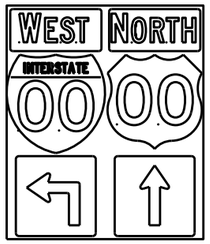
J1-2



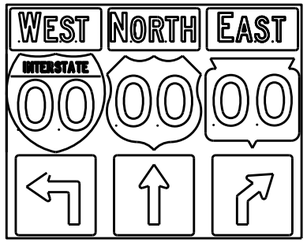
J1-3



J2-1



J2-2

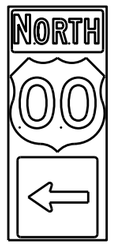


J2-3

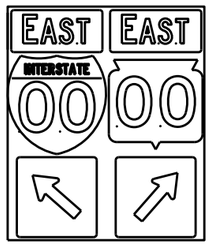


JV

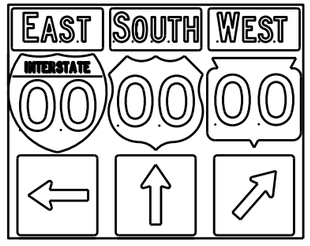
( Typical Vertical J-Assembly
See Note 10 and 11 )



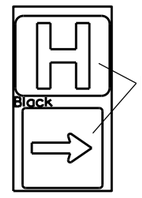
J3-1



J3-2



J3-3

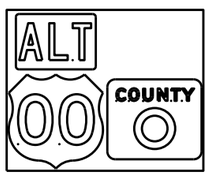


Blue Background

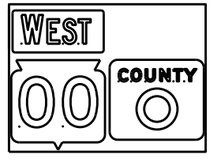
JH-1



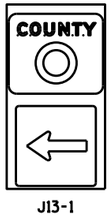
J4-1



J4-2



J4-2



J13-1



J12-1



J32-1



J33-1

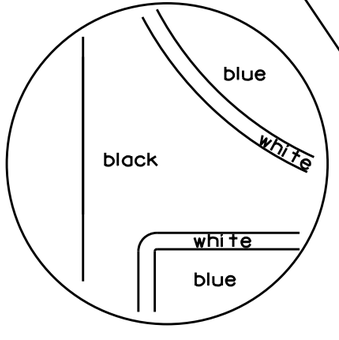


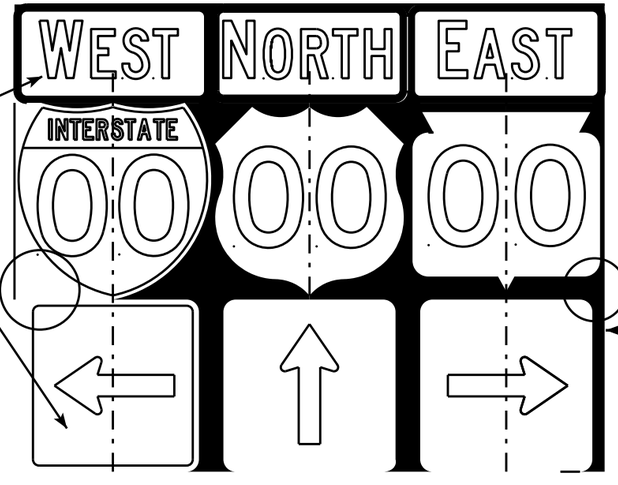
J23-1

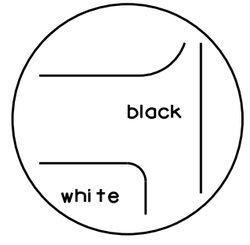


J22-1

[blue background with interstate]




[black background]

### NOTES

1. Signs are Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Black Non-reflective
   Message - see Note 5
3. Message Series - See Note 5
4. Corners shall be square or rounded if base material is plywood. If base material is metal the corners shall be rounded.
5. The colors and message spacing on each marker shall be according to the applicable route marker panel specifications.
6. Certain marker heads require the component pieces to be the same color. As an example, all the components used with an M1-1 Interstate marker shall be blue.
7. Single panel j-assemblies shall only be used with route marker shields that are same size. If the route marker shields are different size use multiple piece component.
8. Route assemblies that have 24 inch route shields and have dimensions greater than 48 inches (both vertical and horizontal) shall have one horizontal splice between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 inches or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
9. Route assemblies that have 36 inch shields and have dimensions greater than 48 inchs (both vertical and horizontal) shall have two horizontal splices. One horizontal splice shall be between the cardinal direction and route shields and the other horizontal splice shall be between the arrows and route shields. Vertical splices shall not be used on route assemblies with a horizontal dimension of 144 or less. The contractor shall not use more than one vertical joint per sign and the joint shall be between route shields.
10. All Vertical J Assemblies are given a Sign Code of JV
11. For JV Assemblies that have a mixture of Interstate and non Interstate shields, arrows and cardinals shall be white on blue.

ROUTE MARKERS & COMPONENTS
IN TYPICAL ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/06/14 PL... A2-1S.8

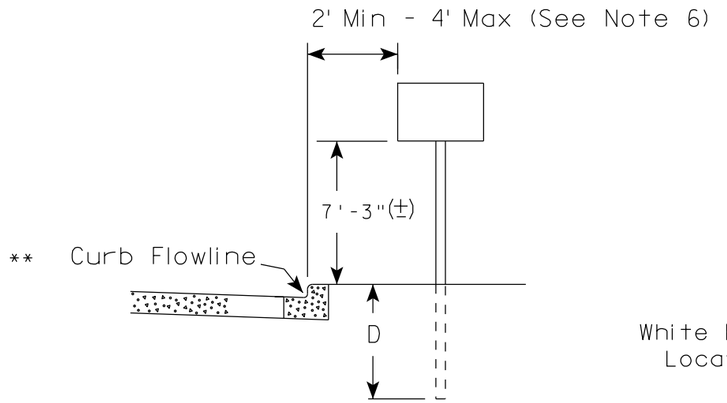
PROJECT NO: | SHEET NO: E



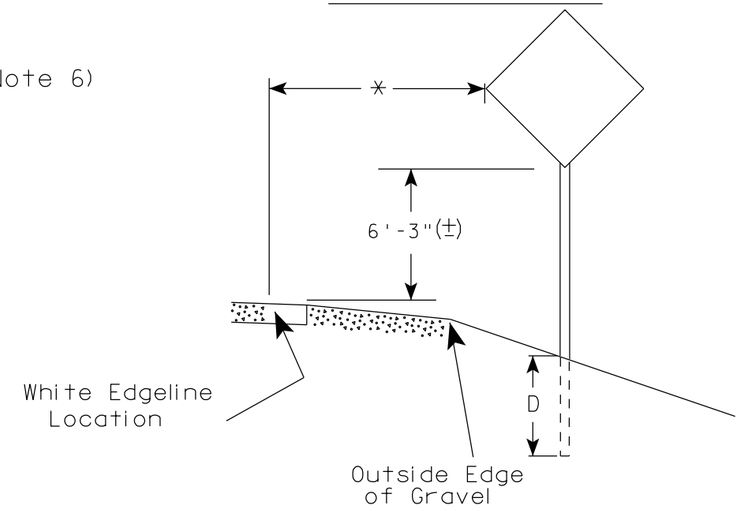
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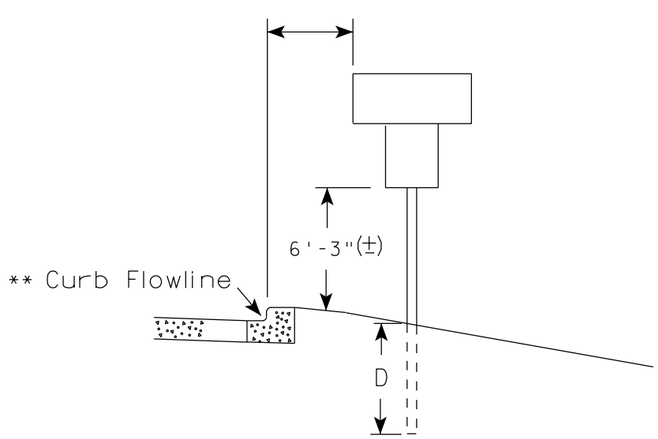
WISDOT/CADDS SHEET 42

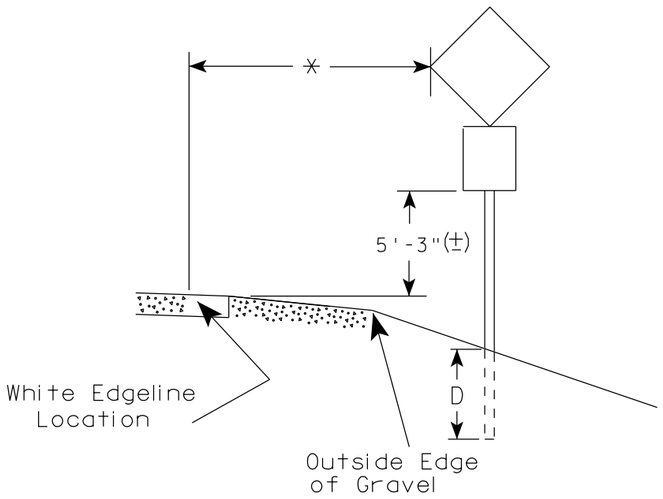
## URBAN AREA




## RURAL AREA (See Note 2)




## GENERAL NOTES

1. Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

POST EMBEDMENT DEPTH

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

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

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

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

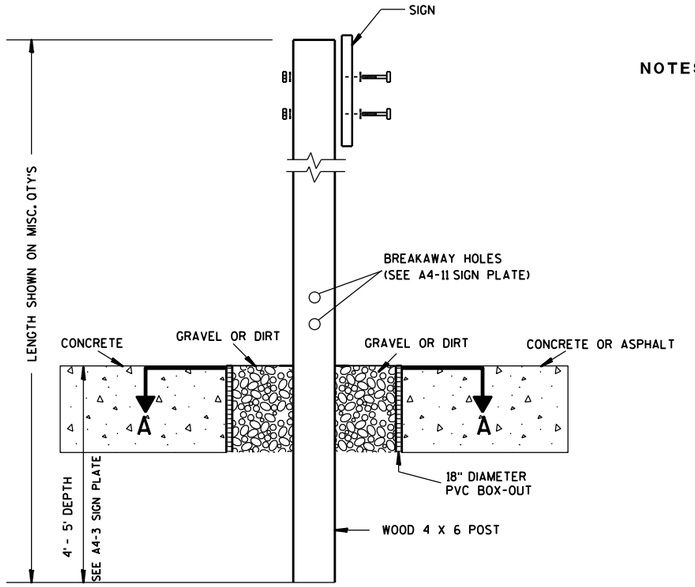
*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
for State Traffic Engineer

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



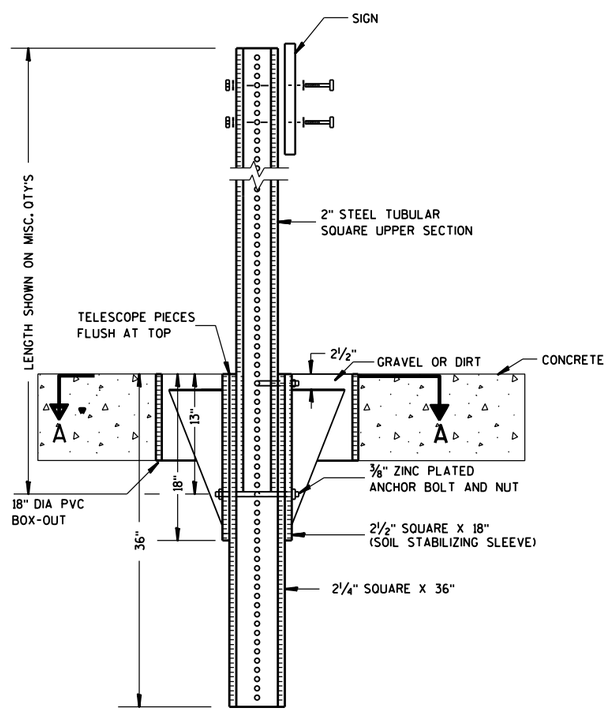
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|




**ELEVATION VIEW**

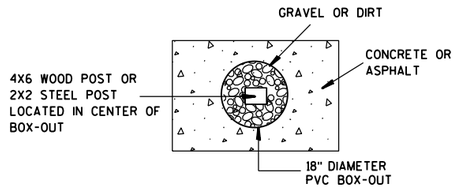
**DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT**

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*

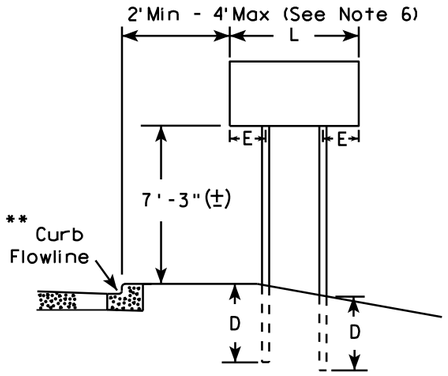
APPROVED Matthew R Rauch
for State Traffic Engineer

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

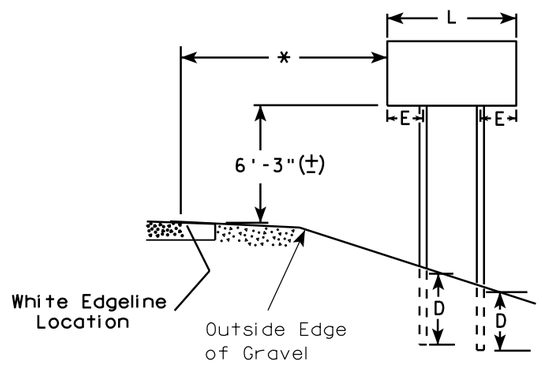


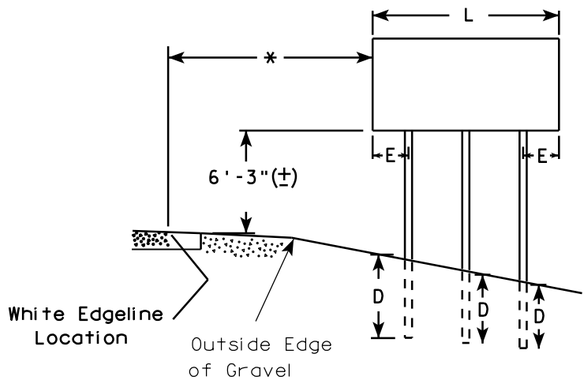
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|

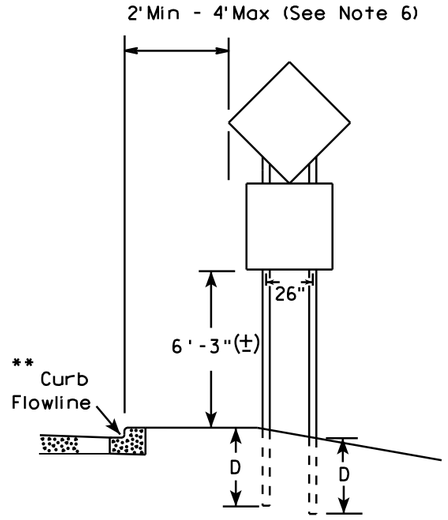
## URBAN AREA



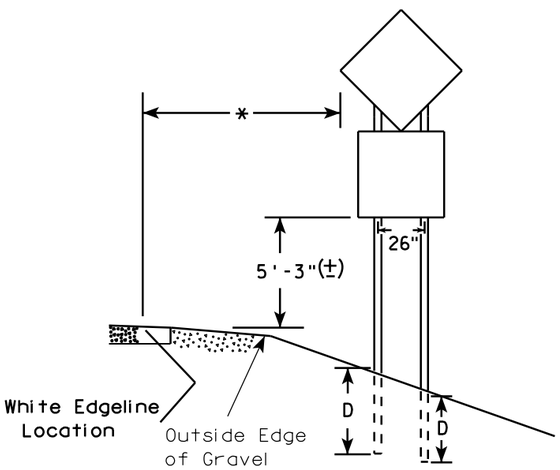

## RURAL AREA (See Note 3)




48" DIAMOND WARNING SIGN




48" DIAMOND WARNING SIGN

### 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. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
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 120" | L/5 |

| SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED) | |
|---|---|
| L | E |
| Greater than 120" less than 168" | 12" |

| SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED) | |
|---|---|
| L | E |
| 168" and greater | 12" |

### POST EMBEDMENT DEPTH

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

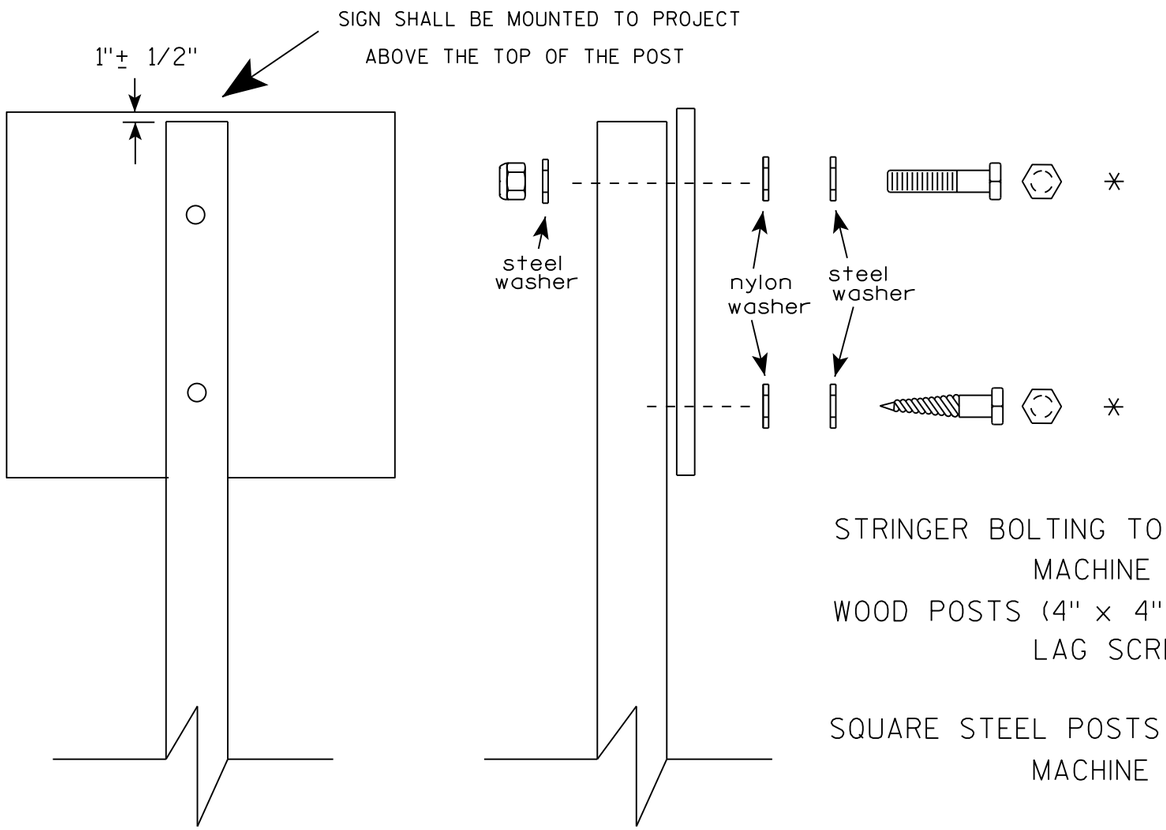
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-4 88 14

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




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

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

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

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

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

# ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 8/11/16 PLATE NO. A4-8.8

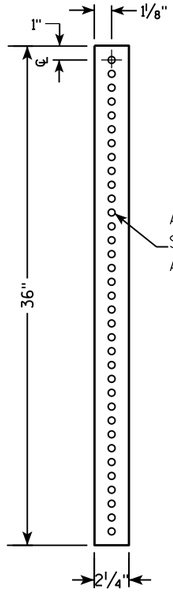


PROJECT NO: SHEET NO: E

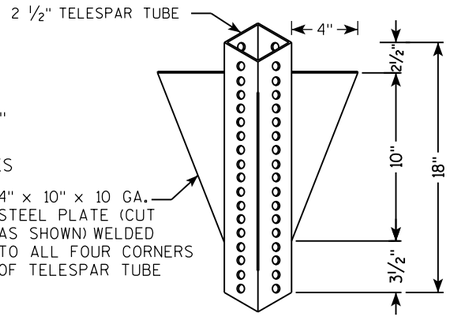
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## TELESCOPIC TUBING ANCHORS
## TWO PIECE SYSTEM

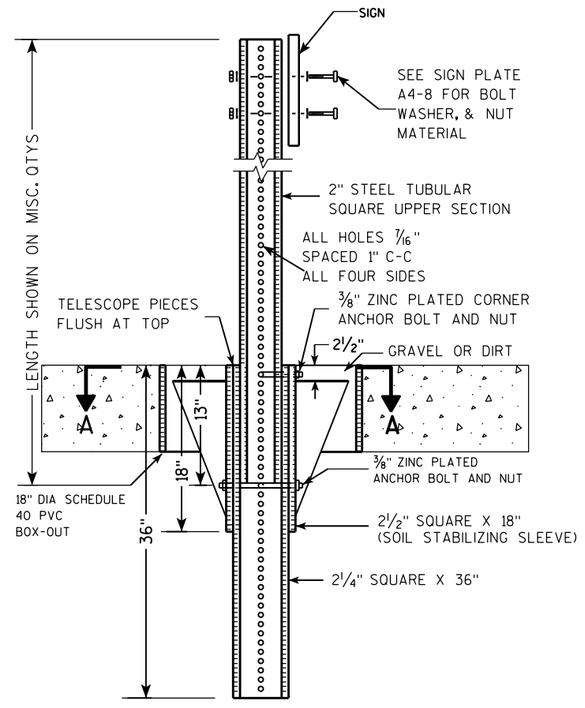
**2 1/4 " SQUARE**
**12 GAUGE**
**PERFORATED**
**GALVANIZED FINISH**



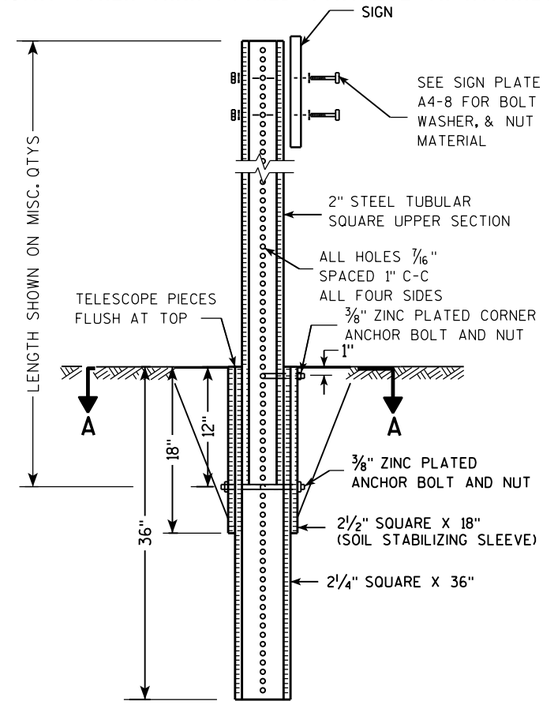

**2 1/2 " SQUARE**
**12 GAUGE**
**OMNI-DIRECTIONAL**
**PERFORATED**
**SOIL STABILIZING SLEEVE**
**GALVANIZED FINISH**

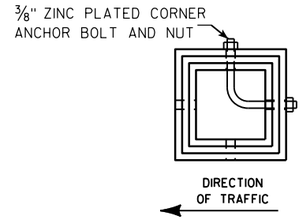



## DETAIL OF TUBULAR STEEL SIGN POST
**(IN POURED CONCRETE OR ASPHALT)**




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




**SECTION A-A**

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

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

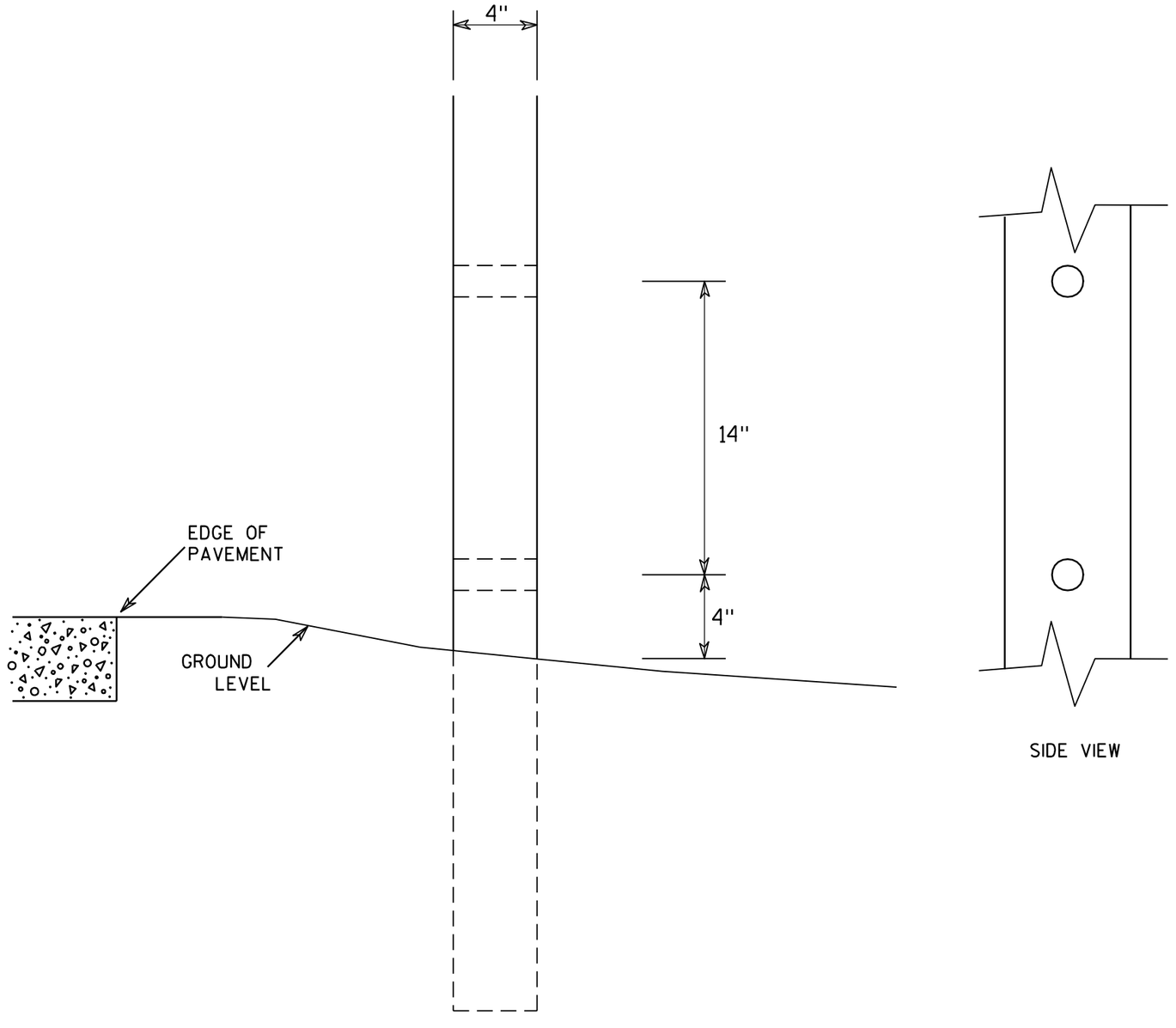
TUBULAR STEEL
SIGN POST
A4-9

*WISCONSIN DEPT OF TRANSPORTATION*

APPROVED Matthew R Rauch
*for* State Traffic Engineer

DATE 2/05/15 PLATE 90 A4-9.9

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






SIDE VIEW

GENERAL NOTES

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

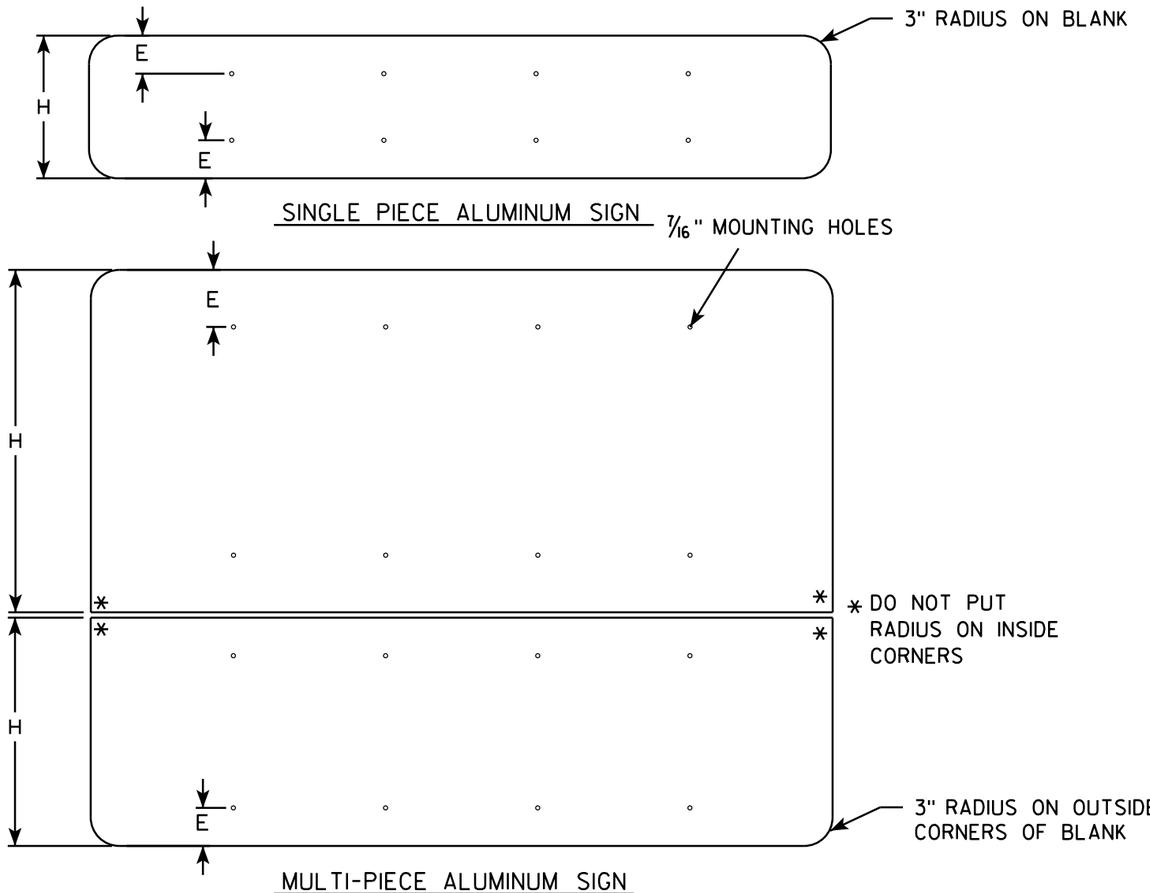
# 4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

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

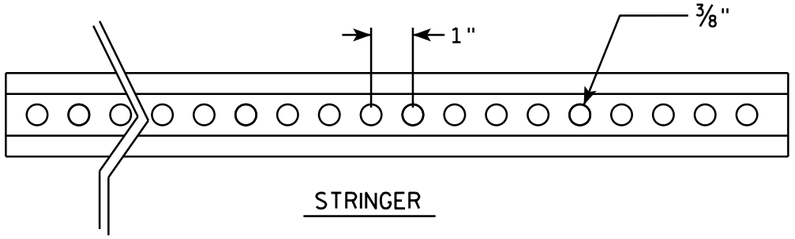
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 91 | E |
|---|---|---|---|---|---|




# GENERAL NOTES

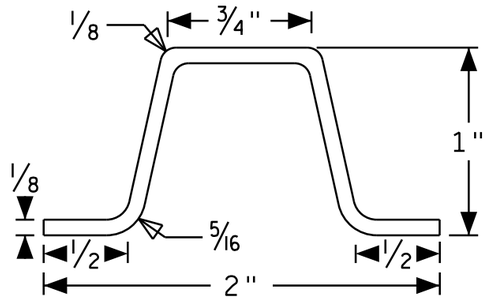
- ALL SIGNS OVER 60" IN WIDTH SHALL HAVE A 3" RADIUS ON THE OUTSIDE CORNERS OF THE ALUMINUM BLANK.
- MOUNTING HOLES SHALL BE 7/16" DIAMETER.
- SEE CHART FOR HOLE SPACING REQUIREMENTS
- FOR SIGN PANELS WITH DIMENSION (H) 36" AND OVER, DIMENSION E SHALL BE 6"
- FOR SIGN PANELS WITH DIMENSION (H) UNDER 36", DIMENSION E SHALL BE 4"
- SIGN STRINGER MATERIAL SHALL CONSIST OF STEEL CHANNEL POST SECTIONS, WEIGHING 1.12 LBS/FT IN ACCORDANCE WITH SECTION 633.2.1 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.
- SEE SIGN PLATE A4-8 FOR SIGN STRINGER BOLTING REQUIREMENTS.

| SIGN WIDTH | STRINGER WIDTH | POSTS | HOLE SPACING | MOUNTING HOLES |
|---|---|---|---|---|
| 78" | 72" | 2 | 16" | 15" 31" 47" 63" |
| 84" | 72" | 2 | 17" | 16½" 33½" 50½" 67½" |
| 90" | 72" | 2 | 18" | 18" 36" 54" 72" |
| 96" | 90" | 2 | 19" | 19½" 38½" 57½" 76½" |
| 102" | 90" | 2 | 20" | 21" 41" 61" 81" |
| 108" | 90" | 2 | 21" | 22½" 43½" 64½" 85½" |
| 114" | 108" | 3 | 15" | 12" 27" 42" 57" 72" 87" 102" |
| 120" | 108" | 3 | 16" | 12" 28" 44" 60" 76" 92" 108" |
| 126" | 108" | 3 | 17" | 12" 29" 46" 63" 80" 97" 114" |
| 132" | 126" | 3 | 18" | 12" 30" 48" 66" 84" 102" 120" |
| 138" | 126" | 3 | 19" | 12" 31" 50" 69" 88" 107" 126" |
| 144" | 126" | 3 | 20" | 12" 32" 52" 72" 92" 112" 132" |

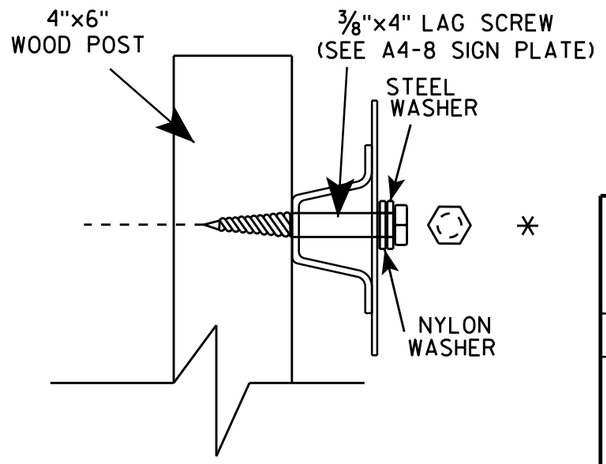



STRINGER

CROSS SECTION VIEW OF CHANNEL




POST MOUNTING




## SIGN STRINGER MOUNTING REQUIREMENTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

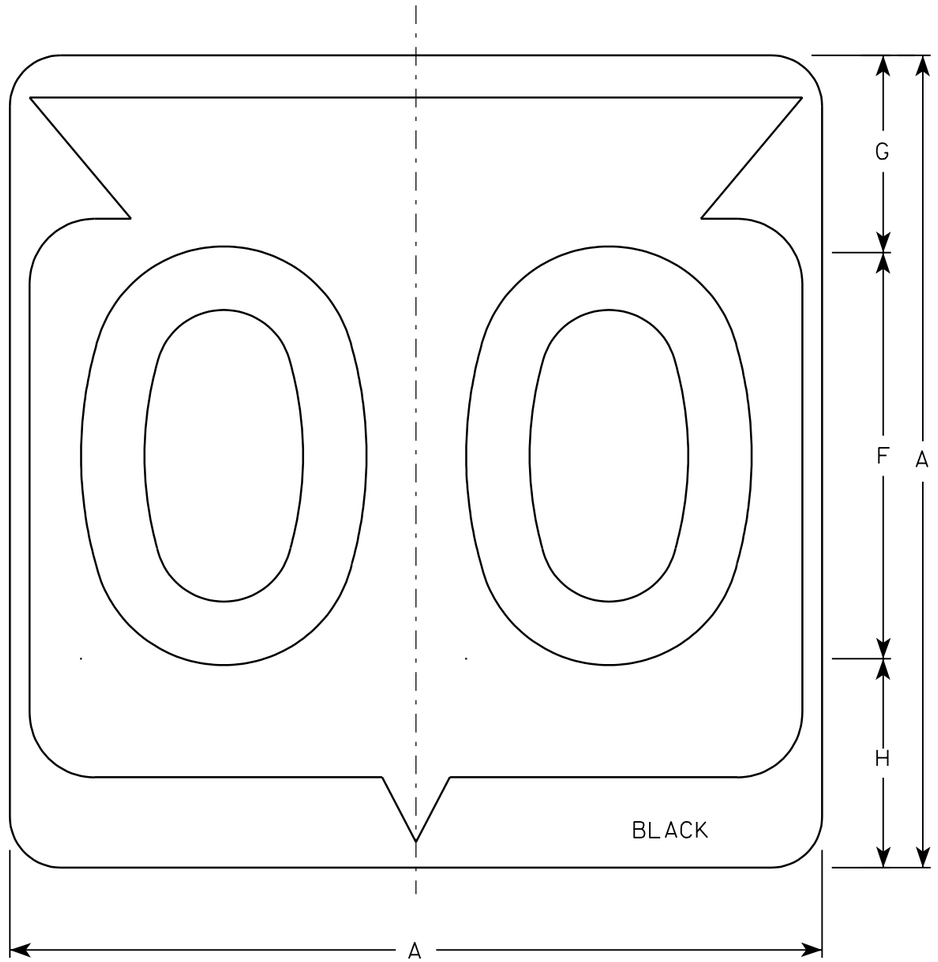
for State Traffic Engineer

DATE 4/26/16 PLATE NO A4-18.1

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



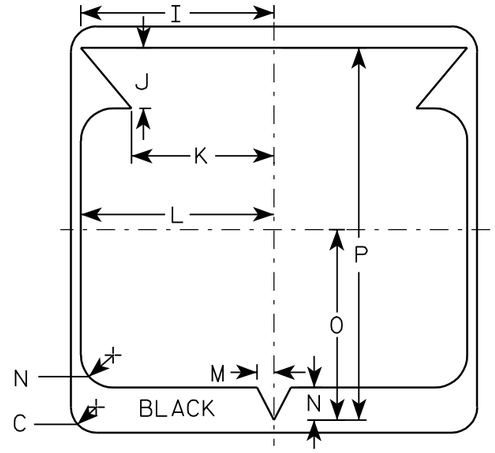
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A418.dgn PLOT DATE : 27-APR-2016 13:56 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 41.805205:1.000000 WISDOT/CADDS SHEET 42




M1-6

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




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 m2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 |

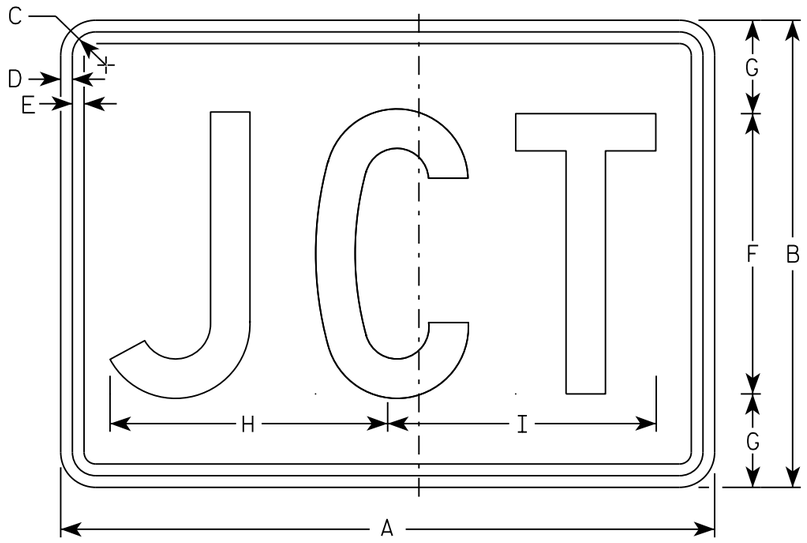
STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

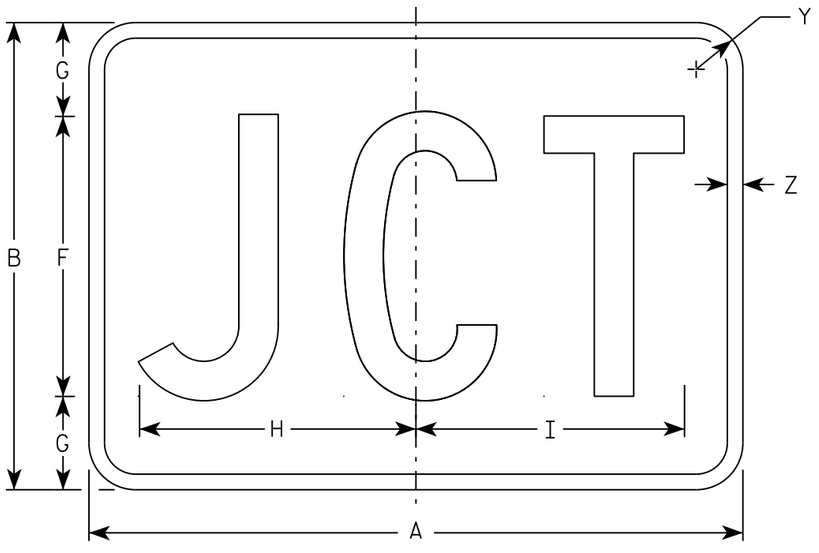
APPROVED Chester J Spang for State Traffic Engineer

DATE 3/20/02 PLATE NO. M1-6.9

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 93 | E |
|---|---|---|---|---|---|




M2-1
MM2-1
MP2-1




MB2-1
MK2-1
MN2-1
MR2-1

NOTES

1. Sign is 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. M2-1 Background - White
   Message - Black
   MB2-1 Background - Blue
   Message - White
   MK2-1 Background - Green
   Message - White
   MM2-1 Background - White
   Message - Green
   MN2-1 Background - Brown
   Message - White
   MP2-1 Background - White
   Message - Blue
   MR2-1 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 | 15 | 1 1/8 | 3/8 | 3/8 | 9 | 3 | 8 7/8 | 8 5/8 | | | | | | | | | | | | | | | | 1 1/2 | 1/2 | 2.20 |
| 3 | 30 | 21 | 1 1/8 | 3/8 | 3/8 | 13 | 4 | 12 7/8 | 12 3/8 | | | | | | | | | | | | | | | | 1 1/2 | 1/2 | 4.40 |
| 4 | 30 | 21 | 1 1/8 | 3/8 | 3/8 | 13 | 4 | 12 7/8 | 12 3/8 | | | | | | | | | | | | | | | | 1 1/2 | 1/2 | 4.40 |
| 5 | 30 | 21 | 1 1/8 | 3/8 | 3/8 | 13 | 4 | 12 7/8 | 12 3/8 | | | | | | | | | | | | | | | | 1 1/2 | 1/2 | 4.40 |

STANDARD SIGN
M2-1

WISCONSIN DEPT OF TRANSPORTATION

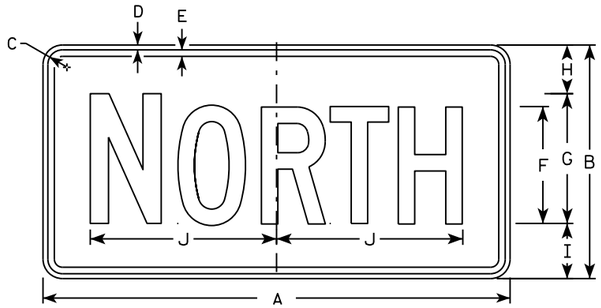
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE 94 M2-1.12

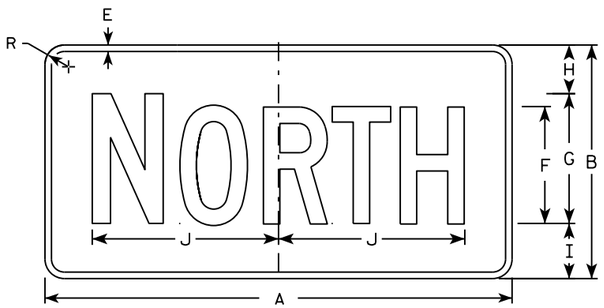
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|



FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M21.DGN PLOT DATE : 01-DEC-2015 17:54 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 4.864603:1.000000




M3-1
MM3-1
MP3-1



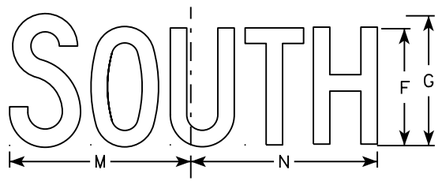

MB3-1
MK3-1
MN3-1



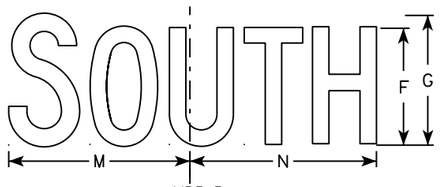

M3-2
MM3-2
MP3-2



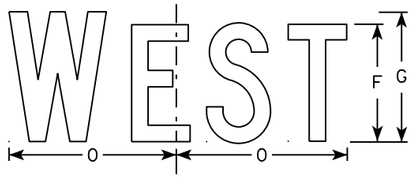

MB3-2
MK3-2
MN3-2



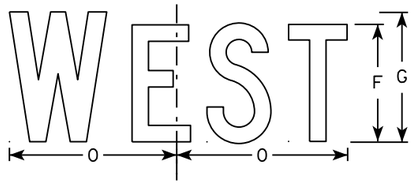

M3-3
MM3-3
MP3-3




MB3-3
MK3-3
MN3-3




M3-4
MM3-4
MP3-4




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 thur M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

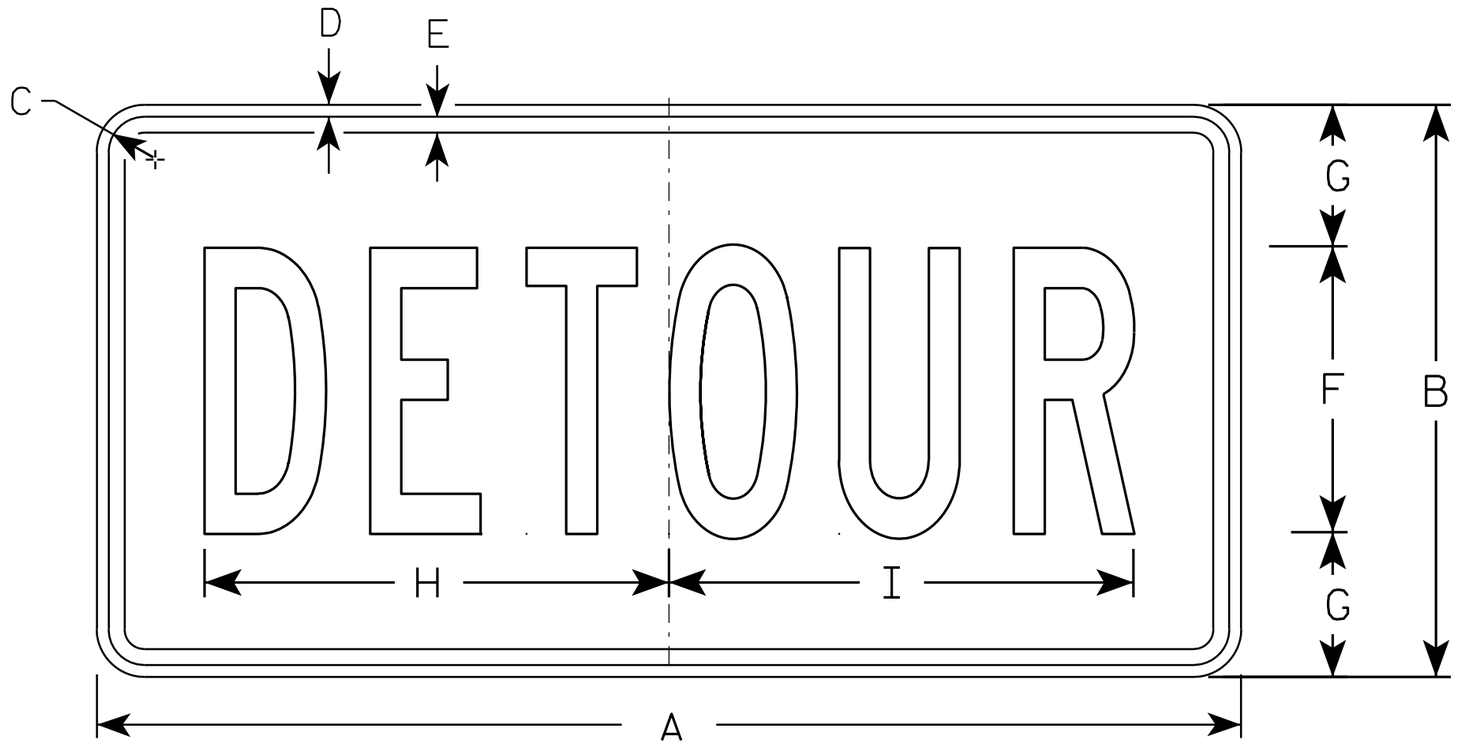
APPROVED Matthew P Rauch for State Traffic Engineer

DATE 10/15/15 PLATE NO M3-1.14



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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M31.DGN PLOT DATE : 01-DEC-2015 17:54 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000




M4-8

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.

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

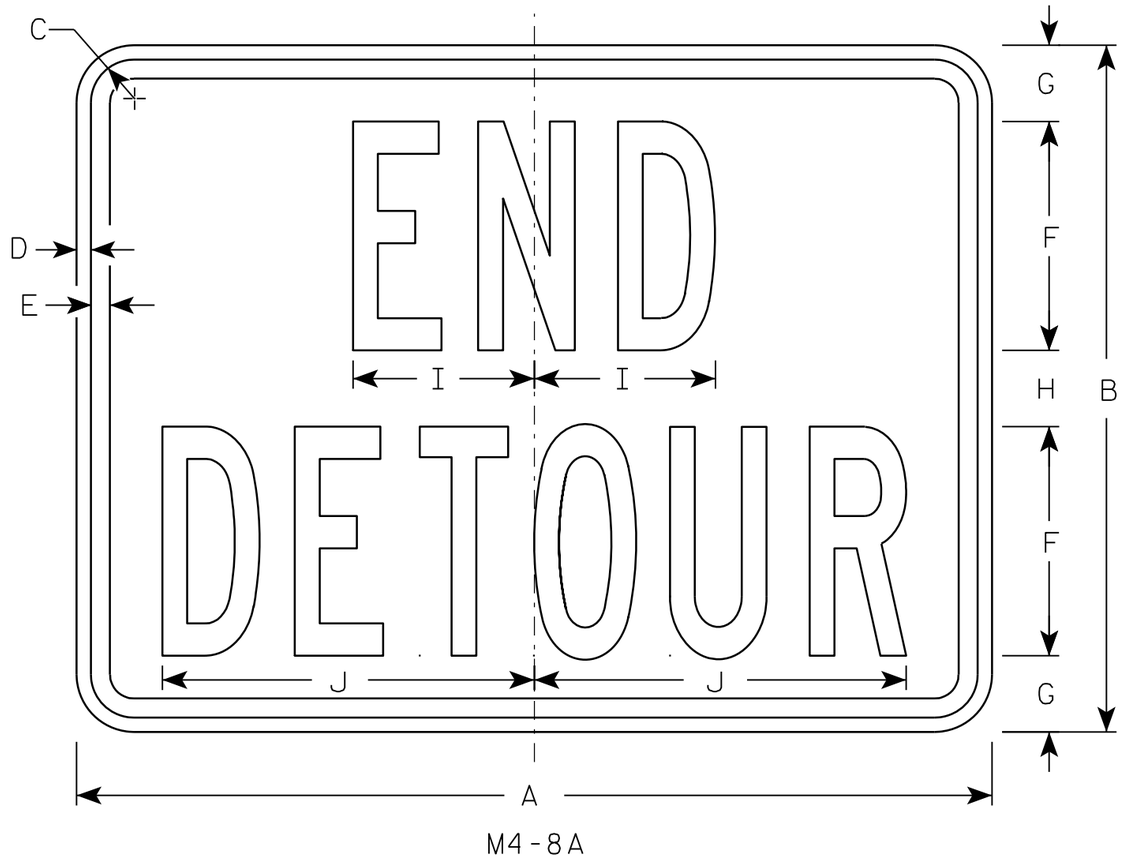
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 96 | E |
|---|---|---|---|---|---|




M4-8A

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.

| 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 | 18 | 1 1/8 | 3/8 | 1/2 | 6 | 2 | 2 | 4 3/4 | 9 3/4 | | | | | | | | | | | | | | | | | 3.0 |
| 3 | 30 | 24 | 1 1/8 | 3/8 | 1/2 | 8 | 2 1/2 | 3 | 6 3/4 | 13 | | | | | | | | | | | | | | | | | 5.0 |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

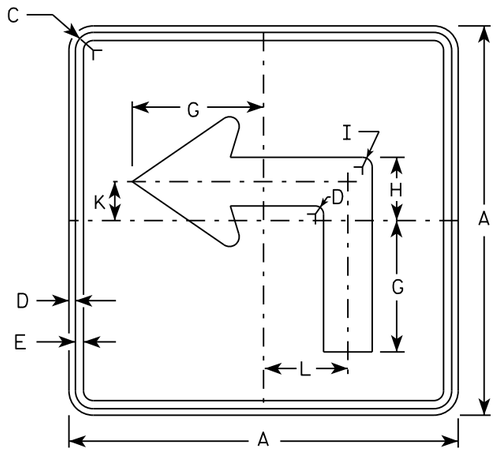
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

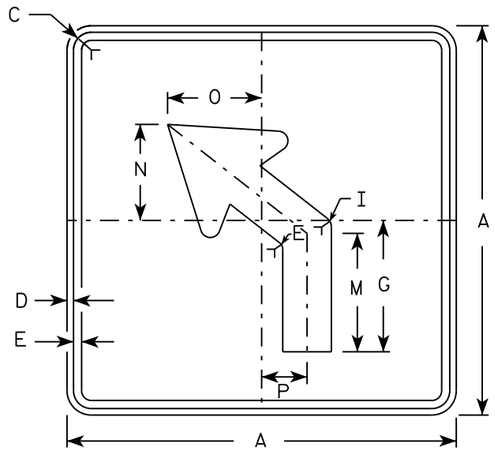
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-8A.2

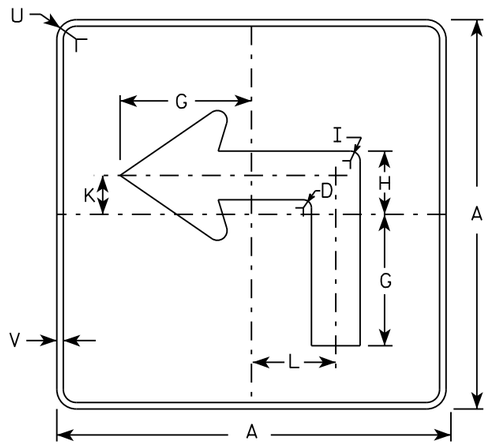
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 97 | E |
|---|---|---|---|---|---|



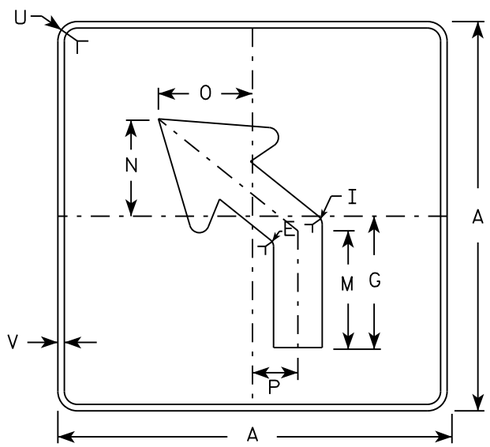

M5-1L
MM5-1L
MO5-1L
MP5-1L



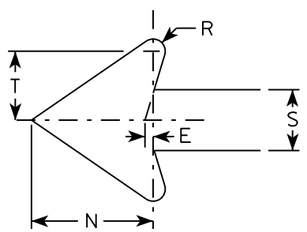

M5-2L
MM5-2L
MO5-2L
MP5-2L




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




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




NOTES

1. Signs are Type II - Type H reflective 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. 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
   MO5-1 and MO5-2 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
5. M5-1R same as M5-1L except arrow points right.
6. 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

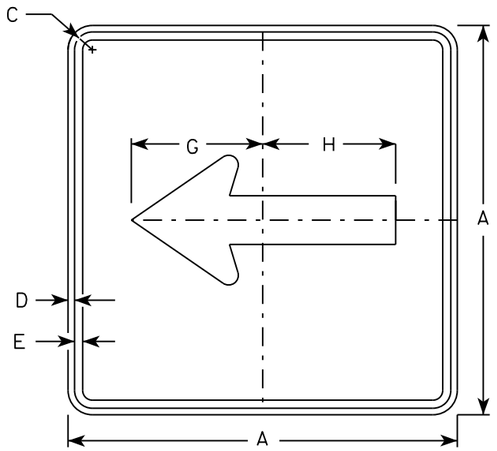
APPROVED Matthew R Rauch
for State Traffic Engineer

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

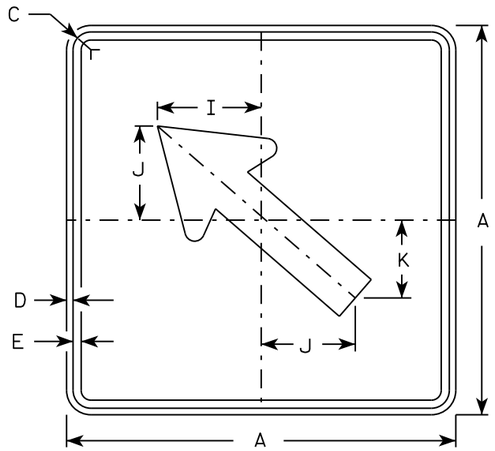


PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M51.DGN PLOT DATE : 01-DEC-2015 18:07 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000



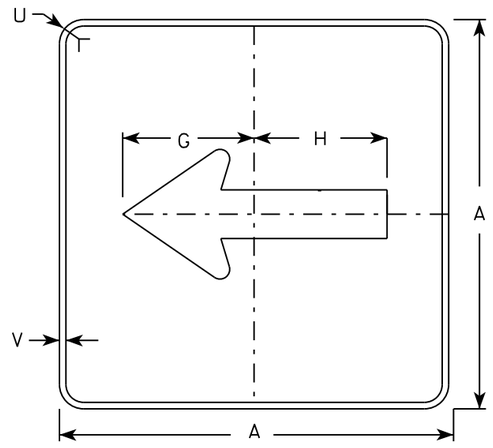

M6-1
MM6-1
MO6-1
MP6-1



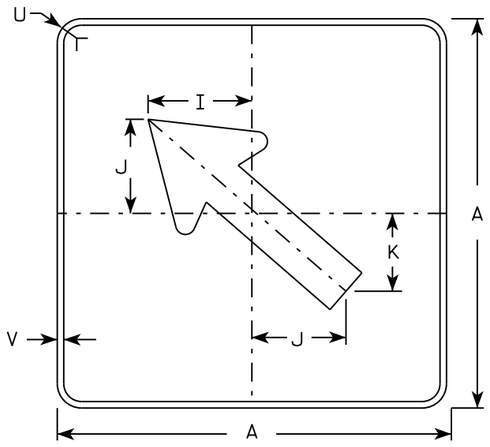

M6-2
MM6-2
MO6-2
MP6-2

NOTES

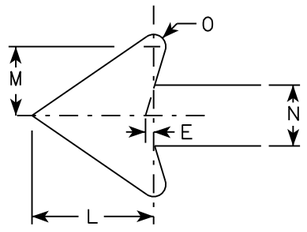
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - 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
   MO6-1 and MO6-2 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




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




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




| 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 |

# STANDARD SIGN M6-1 & M6-2 SERIES

*WISCONSIN DEPT OF TRANSPORTATION*

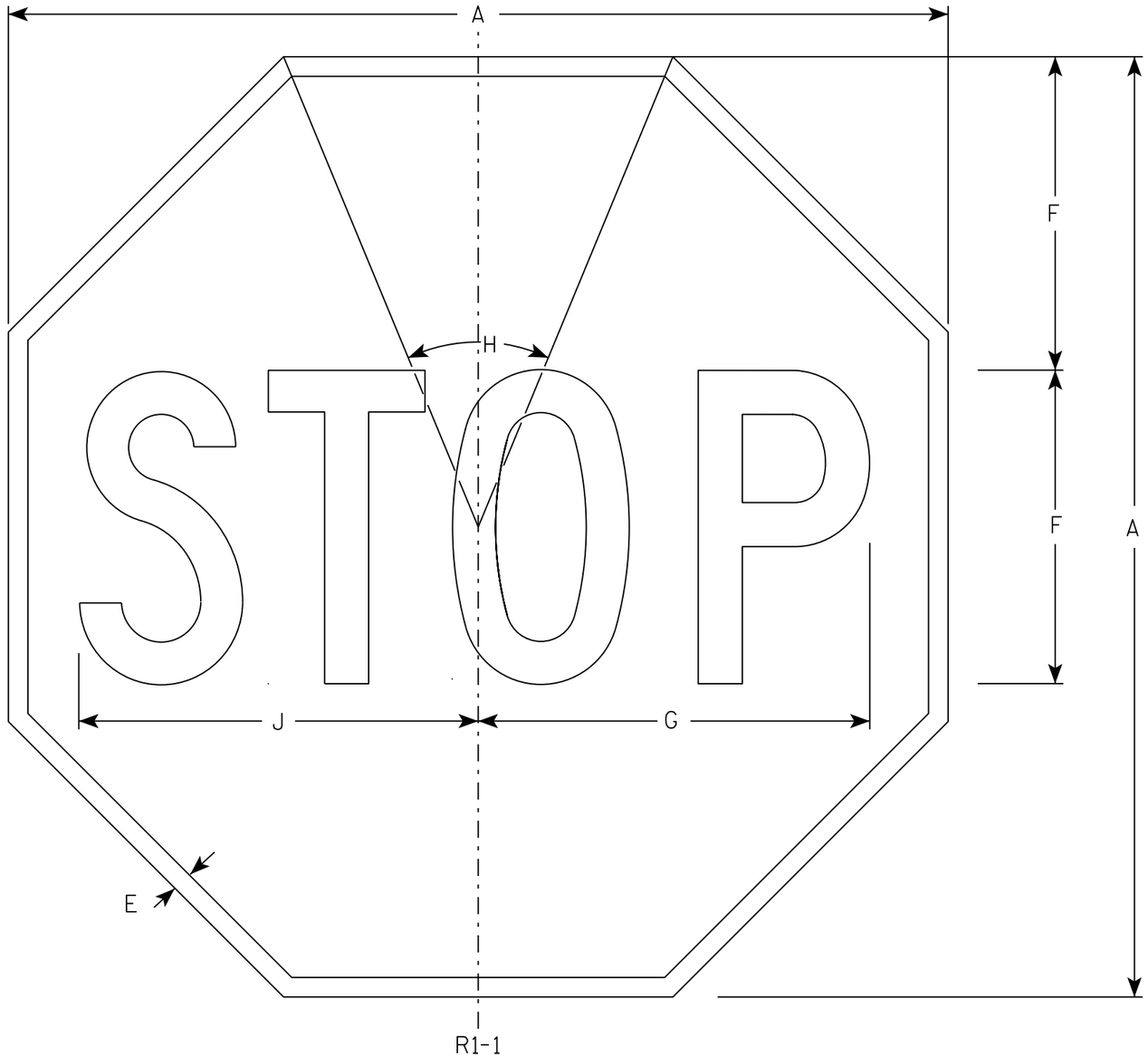
APPROVED Matthew R Rauch
*for* State Traffic Engineer

DATE 10/15/15 PLATI 99 M6-1.15

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



FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M61.DGN PLOT DATE : 01-DEC-2015 17:57 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 11.675051:1.000000




R1-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C

| 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 | 30 | | | | 5/8 | 10 | 12 1/2 | 45° | | 12 3/4 | | | | | | | | | | | | | | | | | 5.18 |
| 2S | 30 | | | | 5/8 | 10 | 12 1/2 | 45° | | 12 3/4 | | | | | | | | | | | | | | | | | 5.18 |
| 2M | 36 | | | | 3/4 | 12 | 15 | 45° | | 15 3/8 | | | | | | | | | | | | | | | | | 7.46 |
| 3 | 36 | | | | 3/4 | 12 | 15 | 45° | | 15 3/8 | | | | | | | | | | | | | | | | | 7.46 |
| 4 | 48 | | | | 1 | 16 | 20 | 45° | | 20 1/2 | | | | | | | | | | | | | | | | | 13.25 |
| 5 | 48 | | | | 1 | 16 | 20 | 45° | | 20 1/2 | | | | | | | | | | | | | | | | | 13.25 |
| 6 | 18 | | | | 3/8 | 6 | 7 3/4 | 45° | | 7 3/4 | | | | | | | | | | | | | | | | | 1.86 |
| 7 | 12 | | | | 1/4 | 4 | 5 | 45° | | 5 1/8 | | | | | | | | | | | | | | | | | 0.78 |

STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/15 PLATE 100 R1-1.13

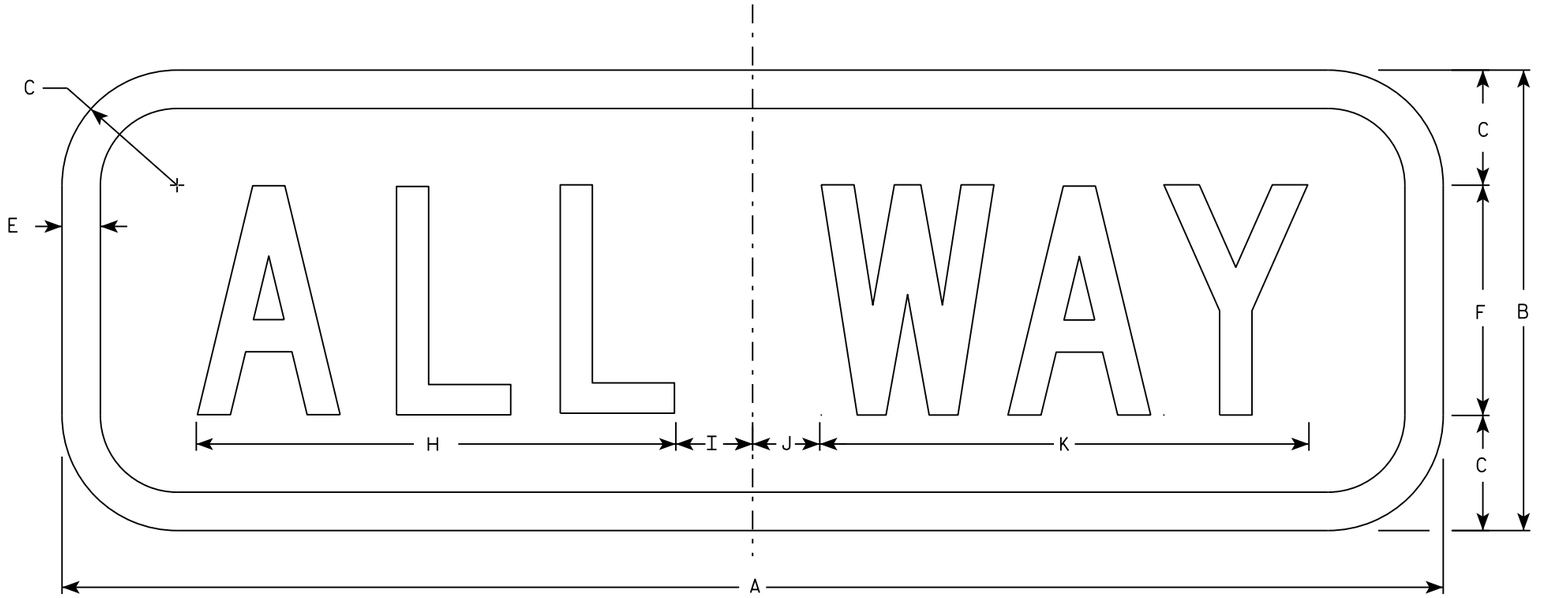
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: | E |
|---|---|---|---|---|---|



FILE NAME : C:\CAEfiles\Projects\tr_stdplate\R11.DGN PLOT DATE : 01-DEC-2015 18:07 PLOT BY : $$ plotuser $$ PLOT NAME : PLOT SCALE : 4.378143:1.000000

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - Red
   Message - White
3. Message Series - C
4. For 30"x30" R1-1 use 18"x6" R1-3P sign
   For 36"x36" R1-1 use 24"x9" R1-3P sign
   For 48"x48" R1-1 use 30"x12" R1-3P sign




R1-3P

| 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 | 6 | 1 1/2 | | 1/2 | 3 | | 6 1/4 | 1 1/4 | 7/8 | 6 3/8 | | | | | | | | | | | | | | | | 0.75 |
| 2S | 18 | 6 | 1 1/2 | | 1/2 | 3 | | 6 1/4 | 1 1/4 | 7/8 | 6 3/8 | | | | | | | | | | | | | | | | 1.5 |
| 2M | 24 | 9 | 1 1/2 | | 1/2 | 5 | | 9 1/4 | 1 1/4 | 3/4 | 9 3/4 | | | | | | | | | | | | | | | | 1.5 |
| 3 | 24 | 9 | 1 1/2 | | 1/2 | 5 | | 9 1/4 | 1 1/4 | 3/4 | 9 3/4 | | | | | | | | | | | | | | | | 1.5 |
| 4 | 30 | 12 | 2 1/4 | | 5/8 | 6 | | 11 | 2 1/4 | 1 1/2 | 11 3/4 | | | | | | | | | | | | | | | | 2.5 |
| 5 | 30 | 12 | 2 1/4 | | 5/8 | 6 | | 11 | 2 1/4 | 1 1/2 | 11 3/4 | | | | | | | | | | | | | | | | 2.5 |

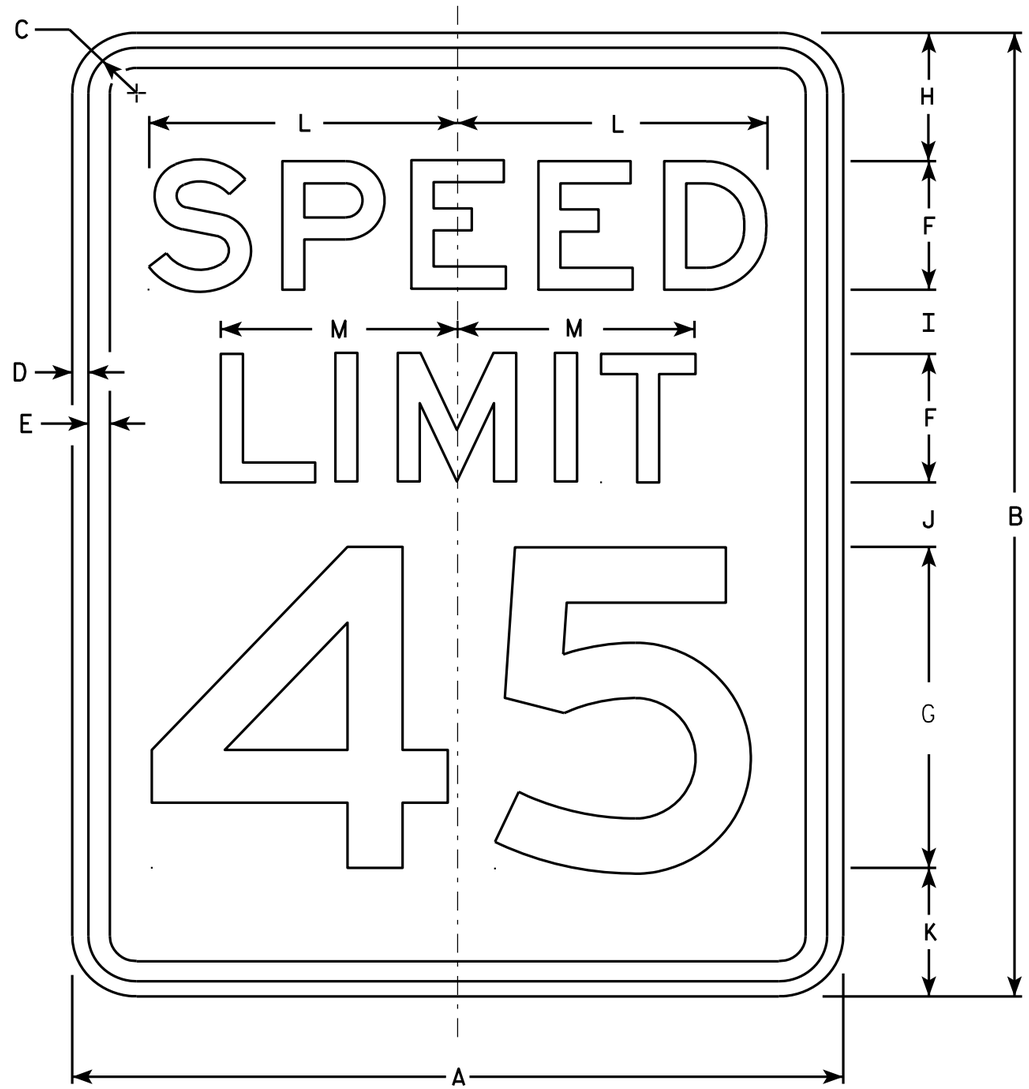
STANDARD SIGN
R1-3P

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/29/16 PLATE NO. R1-3P.3

| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 101 | E |
|---|---|---|---|---|---|




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 |

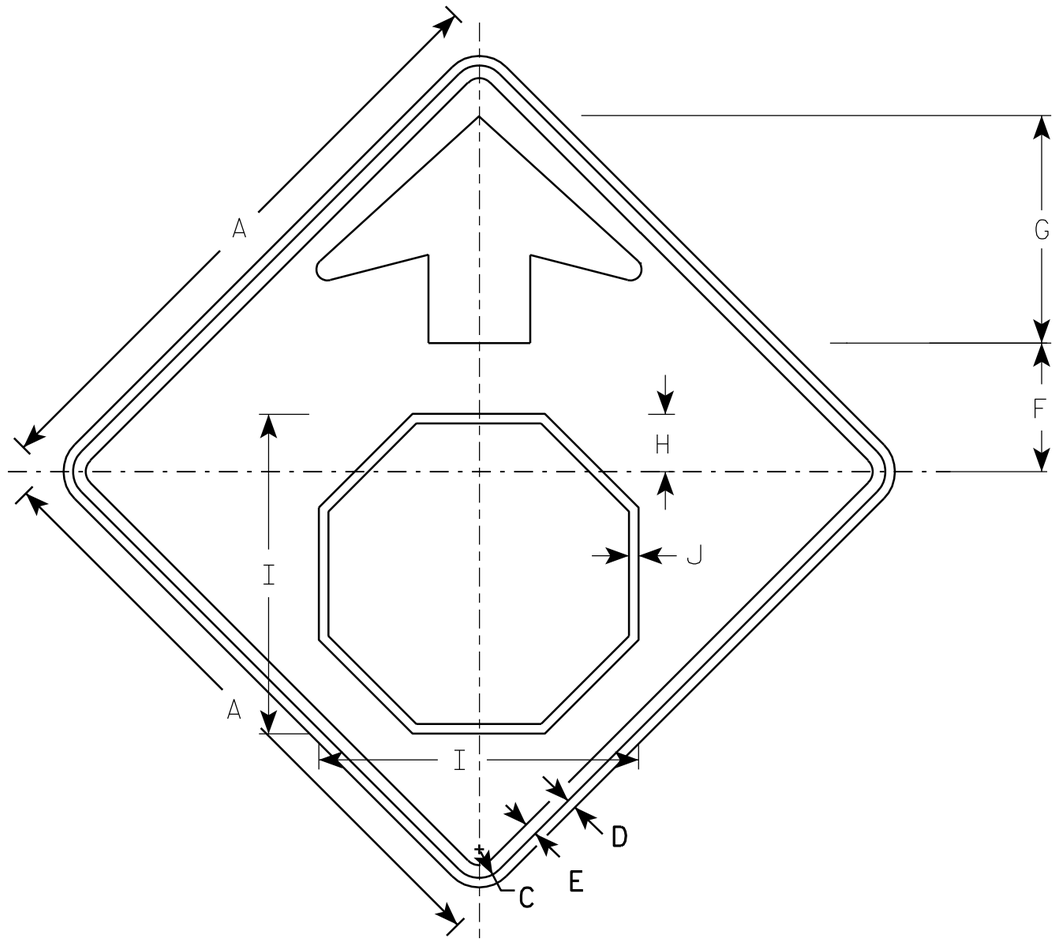
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

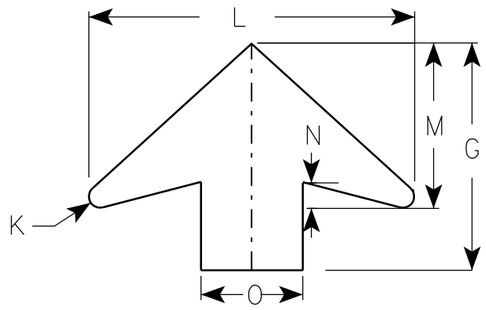
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 102 | E




W3-1

NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - YELLOW
   Arrow & Border - BLACK
   Stop Symbol - WHITE BORDER ON RED BACKGROUND




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 | 30 | | 1 3/8 | 1/2 | 5/8 | 6 1/4 | 11 1/4 | 2 7/8 | 15 3/4 | 1/2 | 1/2 | 16 | 8 | 1 1/4 | 5 | | | | | | | | | | | | 6.25 |
| 2S | 36 | | 1 5/8 | 5/8 | 3/4 | 7 1/2 | 13 1/2 | 3 1/2 | 19 | 5/8 | 5/8 | 19 1/4 | 9 3/4 | 1 5/8 | 6 | | | | | | | | | | | | 9.0 |
| 2M | 36 | | 1 5/8 | 5/8 | 3/4 | 7 1/2 | 13 1/2 | 3 1/2 | 19 | 5/8 | 5/8 | 19 1/4 | 9 3/4 | 1 5/8 | 6 | | | | | | | | | | | | 9.0 |
| 3 | 36 | | 1 5/8 | 5/8 | 3/4 | 7 1/2 | 13 1/2 | 3 1/2 | 19 | 5/8 | 5/8 | 19 1/4 | 9 3/4 | 1 5/8 | 6 | | | | | | | | | | | | 9.0 |
| 4 | 48 | | 2 1/4 | 3/4 | 1 | 10 | 17 7/8 | 4 1/2 | 25 1/8 | 3/4 | 7/8 | 25 5/8 | 13 | 2 | 8 | | | | | | | | | | | | 16.0 |
| 5 | 48 | | 2 1/4 | 3/4 | 1 | 10 | 17 7/8 | 4 1/2 | 25 1/8 | 3/4 | 7/8 | 25 5/8 | 13 | 2 | 8 | | | | | | | | | | | | 16.0 |

STANDARD SIGN
W3-1

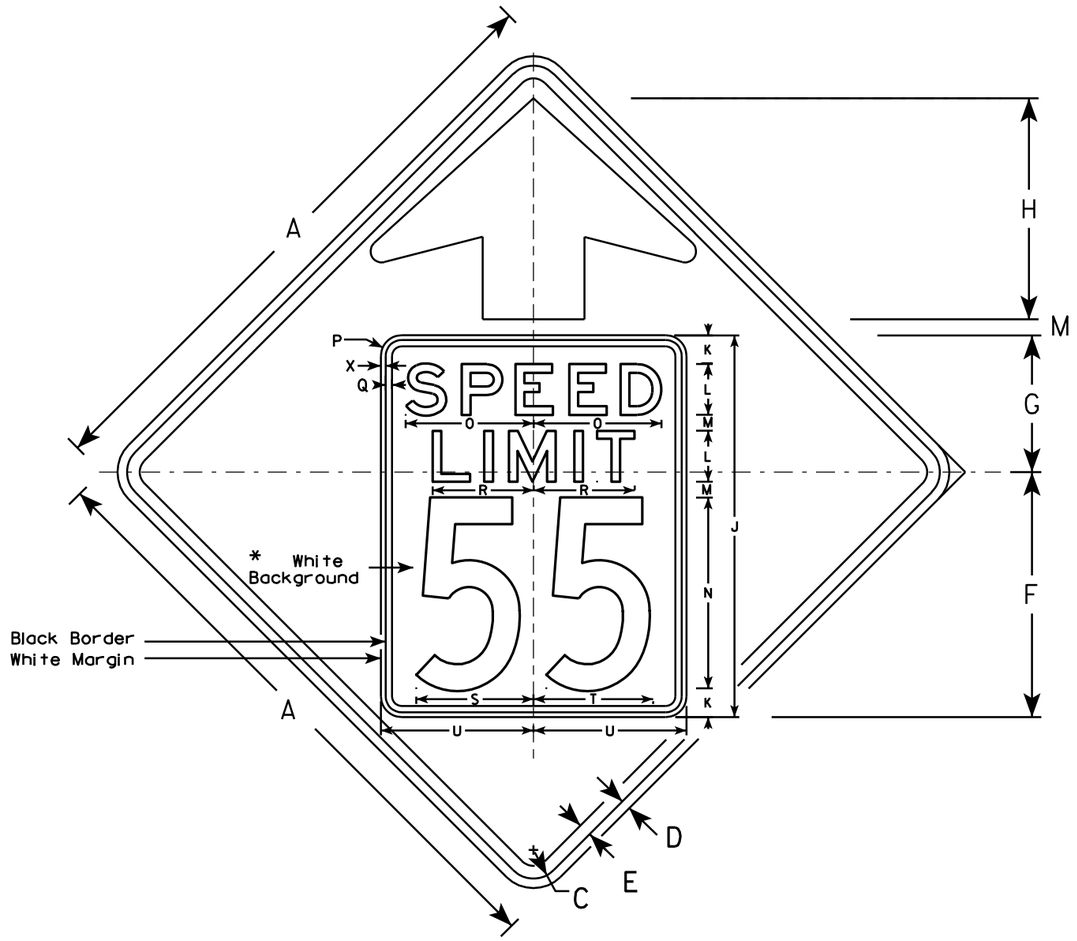
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W3-1.12

PROJECT NO:

SHEET NO: 103 E

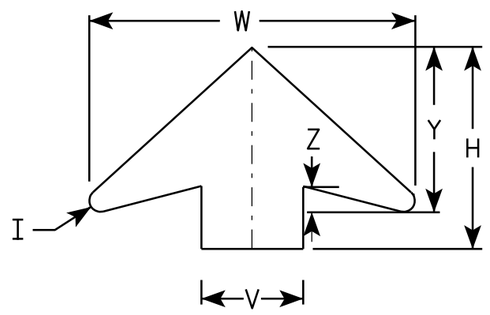



W3-5

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. Message Series - C for numbers Series E for wording
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White Background




ARROW DETAIL

| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | O | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2S | 36 | | 1 5/8 | 5/8 | 3/4 | 14 1/2 | 9 1/2 | 11 1/2 | 5/8 | 24 | 2 | 3 | 1 | 12 | 7 1/8 | 1 1/2 | 3/8 | 5 3/4 | 7 1/4 | 7 1/8 | 9 | 6 | 19 1/4 | 3/8 | 9 3/4 | 1 5/8 | 9.0 |
| 2M | 36 | | 1 5/8 | 5/8 | 3/4 | 14 1/2 | 9 1/2 | 11 1/2 | 5/8 | 24 | 2 | 3 | 1 | 12 | 7 1/8 | 1 1/2 | 3/8 | 5 3/4 | 7 1/4 | 7 1/8 | 9 | 6 | 19 1/4 | 3/8 | 9 3/4 | 1 5/8 | 9.0 |
| 3 | 36 | | 1 5/8 | 5/8 | 3/4 | 14 1/2 | 9 1/2 | 11 1/2 | 5/8 | 24 | 2 | 3 | 1 | 12 | 7 1/8 | 1 1/2 | 3/8 | 5 3/4 | 7 1/4 | 7 1/8 | 9 | 6 | 19 1/4 | 3/8 | 9 3/4 | 1 5/8 | 9.0 |
| 4 | 48 | | 2 1/4 | 3/4 | 1 | 19 1/4 | 10 3/4 | 17 3/8 | 7/8 | 30 | 2 1/4 | 4 | 1 1/4 | 15 | 10 | 1 5/8 | 1/2 | 8 | 9 1/4 | 9 3/8 | 12 | 8 | 25 5/8 | 3/8 | 13 | 2 | 16.0 |
| 5 | 48 | | 2 1/4 | 3/4 | 1 | 19 1/4 | 10 3/4 | 17 3/8 | 7/8 | 30 | 2 1/4 | 4 | 1 1/4 | 15 | 10 | 1 5/8 | 1/2 | 8 | 9 1/4 | 9 3/8 | 12 | 8 | 25 5/8 | 3/8 | 13 | 2 | 16.0 |

STANDARD SIGN
W3-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

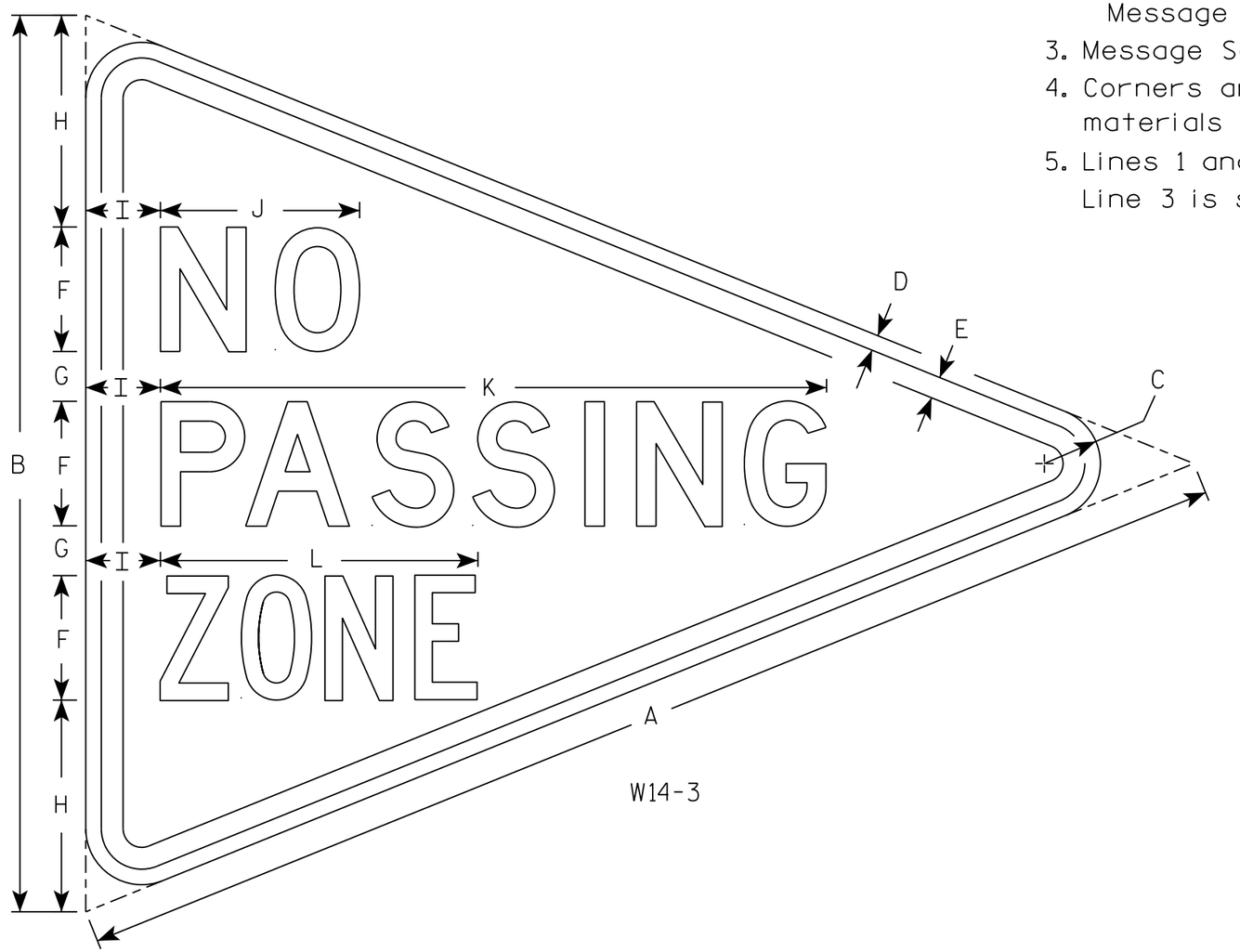
DATE 5/29/12 PLATE NO. W3-5.5

PROJECT NO:

SHEET NO: 104 E

NOTES

1. Sign is Type II- Type F Reflective
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - See note 5
4. Corners and borders shall be rounded on all base materials for this sign.
5. Lines 1 and 2 are Series D.
   Line 3 is series C.




W14-3

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

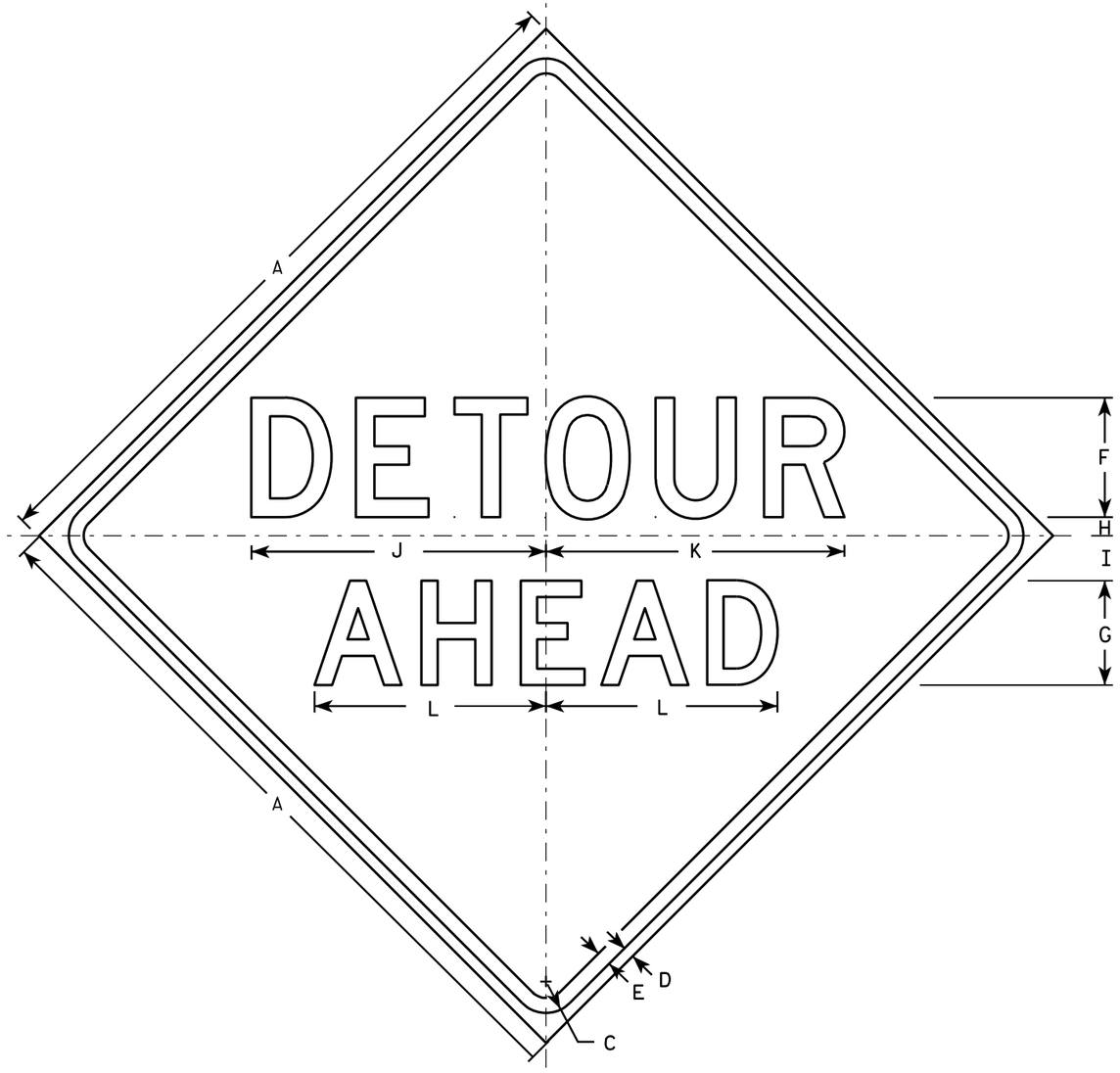
STANDARD SIGN
W14-3

WISCONSIN DEPT OF TRANSPORTATION

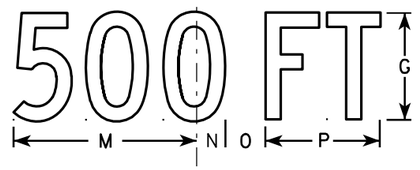
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/23/17 PLATE NO. W14-3.10

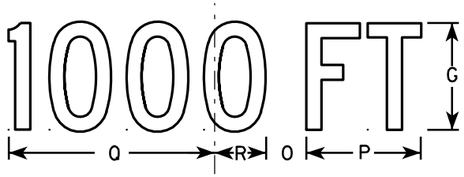
| PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 105 | E |
|---|---|---|---|---|---|



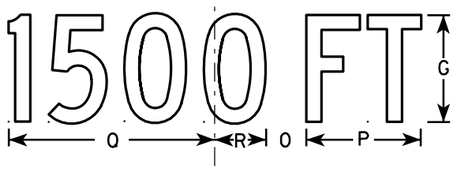

W20-2A



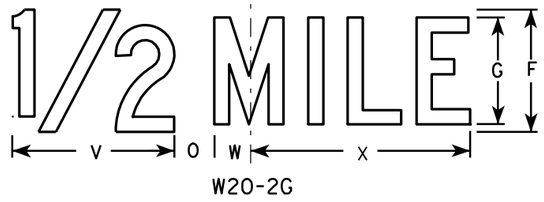

W20-2D




W20-2C




W20-2B




W20-2G




W20-2F

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 | O | 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 |

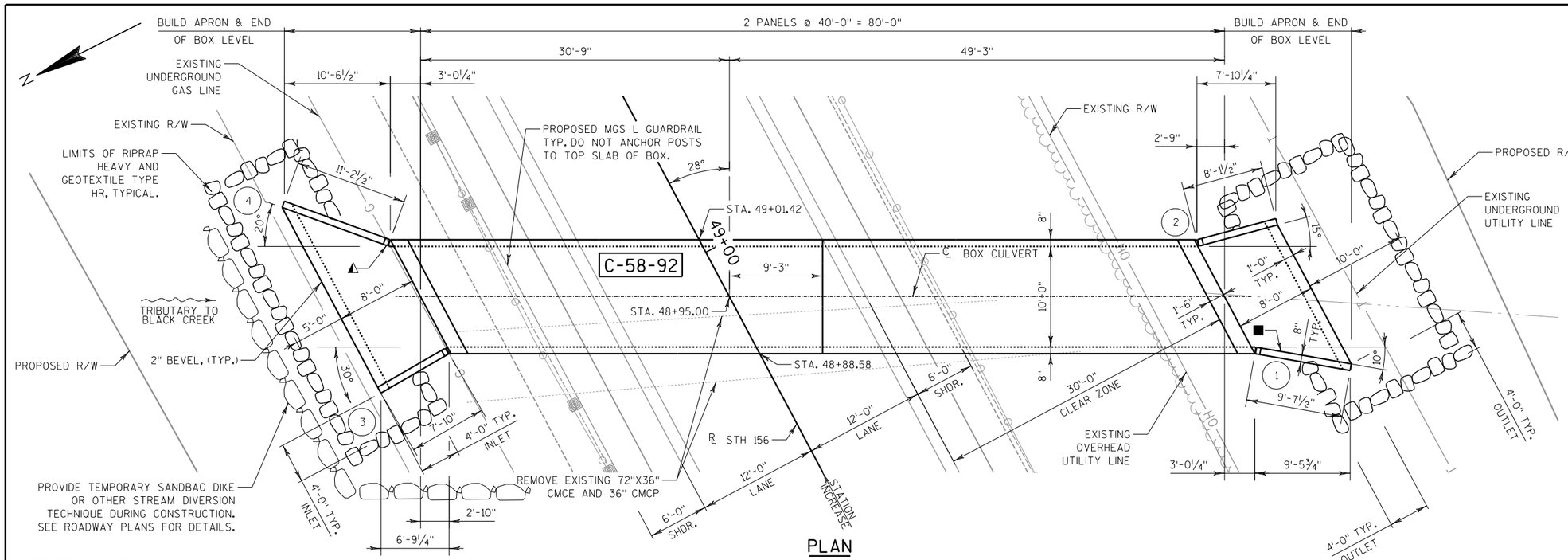
STANDARD SIGN
W20-2A,B,C,D,F & G

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: 106 | E |
|---|---|---|---|---|---|

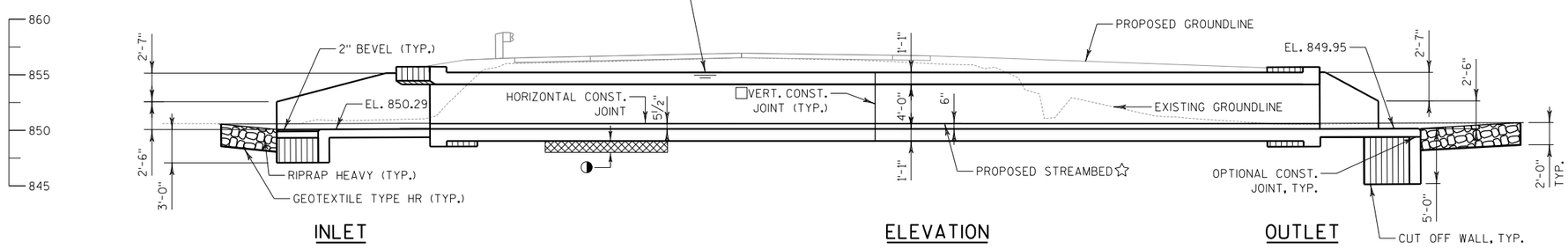



## PLAN

(SINGLE CELL BOX CULVERT)

## BENCH MARK

| NO. | STATION | DESCRIPTION | ELEV. |
|---|---|---|---|
| 604A | 51+42, 36' RT | RR SPIKE IN POWER POLE | 856.50 |




## INLET

## ELEVATION

## OUTLET

## 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.

THE CONCRETE IN THE CUT OFF WALL MAY BE PLACED UNDERWATER IF THE EXCAVATION CANNOT BE DEWATERED.

THE EXISTING STRUCTURE C-58-90 IS A 72"X36" CMCE AND A 36" CMCP. APPROXIMATELY 50' AND 62' IN LENGTH, RESPECTIVELY.

THE CONTRACTOR MAY FURNISH A PRECAST CONCRETE BOX CULVERT IN LIEU OF THE CAST-IN-PLACE BOX CULVERT WITH THE ACCEPTANCE OF THE SHOP DRAWINGS BY THE STRUCTURES DESIGN SECTION. THE PRECAST CONCRETE BOX CULVERT SHALL CONFORM TO THE PRECAST DETAILS IN CHAPTER 36 OF THE CURRENT WISCONSIN DOT BRIDGE MANUAL. PAYMENT FOR THE PRECAST CULVERT SHALL BE BASED ON QUANTITIES AND PRICES BID FOR THE ITEMS LISTED IN THE "TOTAL ESTIMATED QUANTITIES".

SEE ROADWAY PLANS FOR TEMPORARY DIVERSION CHANNEL DETAILS. WORK TO BE PAID FOR UNDER ROADWAY BID ITEMS EXCEPT EXCAVATION FOR TEMPORARY BYPASS CHANNEL WILL BE INCLUDED IN BID ITEM "EXCAVATION FOR STRUCTURES CULVERTS C-58-92".

## LEGEND

- (X) INDICATES WING NUMBER
- ◭ FOR CORNER DETAILS, SEE "APRON DETAILS" SHEETS
- ■ FOR NAME PLATE LOCATION, SEE "BOX CULVERT DETAIL" SHEET
- ◐ UNDERCUT 1'-0" (INCLUDED IN EXCAVATION FOR STRUCTURES), PLACE GEOTEXTILE TYPE 'C', AND BACKFILL WITH 'BREAKER RUN'. EXTEND 3'-0" BEYOND THE FOOTPRINT OF THE CULVERT.
- □ PLACE AN 18" (MIN.) WIDE SHEET OF "RUBBERIZED MEMBRANE WATERPROOFING" ON TOP SLAB OVER ALL CONSTRUCTION JOINTS AND EXTEND DOWN TO BOTTOM OF OUTSIDE WALLS.
- ☆ THE CULVERT INVERTS WILL BE SET 6" BELOW FINAL STREAM BED IN ORDER TO NOT CAUSE FRAGMENTATION.

## LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION
2. BOX CULVERT DETAILS 1
3. APRON DETAILS 1
4. APRON DETAILS 2
5. SUBSURFACE EXPLORATION

STATE PROJECT NUMBER

6580-11-60

## DESIGN DATA

LIVE LOAD: HL-93
INV. RF: 1.05
OPER. RF: 1.35
WIS. STD. PER. VEHICLE = 255 KIPS
EARTH LOAD: DESIGNED FOR FILL
HEIGHT RANGE OF 1 TO 2 FEET.

MATERIAL PROPERTIES:

CONCRETE MASONRY_____ f'c = 3.5 K.S.I.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60____ fy = 60 K.S.I.

## HYDRAULIC DATA

Q(100) = 280 C.F.S.
VELOCITY - THROUGH STRUCTURE = 9.66 F.P.S.
HIGH WATER ELEVATION, Q(100) = 855.22
WATERWAY AREA = 29.0 SQ. FT.
DRAINAGE AREA = 1.5 SQ. MI.
ROADWAY OVERTOPPING FREQUENCY = N/A
SCOUR CRITICAL CODE = 5
Q(2) = 62 C.F.S.
HIGH WATER EL, Q(2) = 852.42

## TRAFFIC DATA

ADT (2017) = 1,800
ADT (2037) = 1,900
RDS = 60 M.P.H.

WISCONSIN
MICHAEL D. RADTKE 40967 Elm Grove WI
PROFESSIONAL ENGINEER
SEPT 1, 2016

## STRUCTURE DESIGN CONTACTS

BRIDGE OFFICE: WILLIAM DREHER (608) 266-8489
CONSULTANT: MICHAEL D. RADTKE (414) 347-1607

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

emcs INC
1300 W. Canal Street, Suite 200
Milwaukee, WI 53233
414.347.1607 Fax 414.347.1347

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION
ACCEPTED William C. Dreher SDR 02/21/17
CHIEF STRUCTURES DESIGN ENGINEER — DATE

STRUCTURE C-58-92

STH 156 OVER TRIBUTARY TO BLACK CREEK

| COUNTY | TOWN |
|---|---|
| SHAWANO | MAPLE GROVE |

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

| DESIGNED BY | DESIGN CK'D. | DRAWN BY | PLANS CK'D. |
|---|---|---|---|
| AJC | MDR | AJC | MDR |

GENERAL PLAN & ELEVATION

SHEET 1 OF 5
107

8

8

STATE PROJECT NUMBER

6580-11-60

## TOTAL ESTIMATED QUANTITIES

| BID ITEM NO. | BID ITEMS | UNIT | INLET | BARREL | OUTLET | TOTAL |
|---|---|---|---|---|---|---|
| 203.0600.S | REMOVING OLD STRUCTURE OVER WATERWAY WITH MINIMAL DEBRIS STA. 49+00 | LS | - | - | - | 1 |
| 206.2000 | EXCAVATION FOR STRUCTURES CULVERTS C-58-0092 | LS | - | - | - | 1 |
| 210.2500 | BACKFILL STRUCTURE TYPE B | TON | 20 | 220 | 19 | 259 |
| 311.0110 | BREAKER RUN | TON | 14 | 103 | 12 | 129 |
| 504.0100 | CONCRETE MASONRY CULVERTS | CY | 8 | 90 | 8 | 106 |
| 505.0400 | BAR STEEL REINFORCEMENT HS STRUCTURES | LB | 290 | 12670 | 290 | 13250 |
| 505.0600 | BAR STEEL REINFORCEMENT HS COATED STRUCTURES | LB | 440 | - | 420 | 860 |
| 516.0500 | RUBBERIZED MEMBRANE WATERPROOFING | SY | 5 | 4 | 5 | 14 |
| 606.0300 | RIPRAP HEAVY | CY | 15 | - | 25 | 40 |
| 645.0105 | GEOTEXTILE TYPE C | SY | - | 205 | - | 205 |
| 645.0120 | GEOTEXTILE TYPE HR | SY | 21 | - | 32 | 53 |
| | NON-BID ITEMS | | | | | |
| | FILLER | SIZE | 3/4" | | | |

## BILL OF BARS FOR BARREL

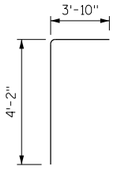
| BAR MARK | NO. | LENGTH | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|
| B601 | 200 | 11'-0" | | | TOP & BOT. SLAB TRANS. |
| B602 | 24 | 6'-0" | | ⚠ | TOP & BOT. SLAB TRANS. |
| B403 | 48 | 39'-7" | | ⚠ | TOP/BOT. SLAB LONG. |
| B604 | 432 | 7'-10" | X | | CORNER BARS |
| B405 | 162 | 4'-3" | | | WALL VERT. |
| B406 | 162 | 3'-0" | | | WALL DOWEL |
| B407 | 14 | 36'-6" | | | WALL HORZ. |
| B408 | 14 | 42'-4" | | | WALL HORZ. |
| B509 | 32 | 4'-0" | | | CONST. JT. DOWEL |
| B810 | 24 | 12'-6" | | | HEADER HORIZ. |
| B311 | 18 | 4'-4" | X | | INLET HEADER TOP VERT. TIES |
| B312 | 18 | 4'-7" | X | | OULET HEADER TOP. VERT. TIES |
| B313 | 36 | 4'-7" | X | | HEADERS BOT. VERT. TIES |
| B414 | 4 | 41'-0" | | | TOP AND BOT. SLAB LONG. |
| B415 | 4 | 38'-6" | | | TOP AND BOT. SLAB LONG. |

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

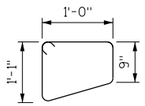
ALL BARS IN BARREL ARE UNCOATED.

## BAR SERIES TABLE

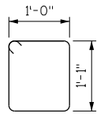
| BAR MARK | NO. REQUIRED | | | LENGTH | | |
|---|---|---|---|---|---|---|
| B602 | 4 | SERIES OF | 6 | 2'-6" | TO | 9'-6" |
| B403 | 4 | SERIES OF | 12 | 36'-8" | TO | 42'-6" |



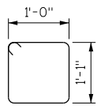

B604



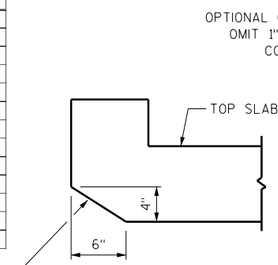

B311



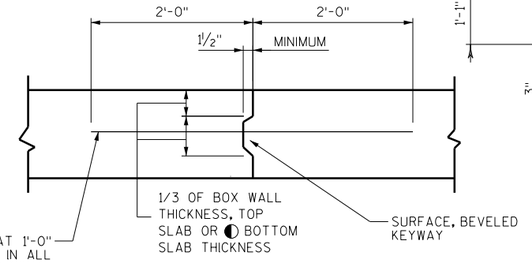

B312




B313

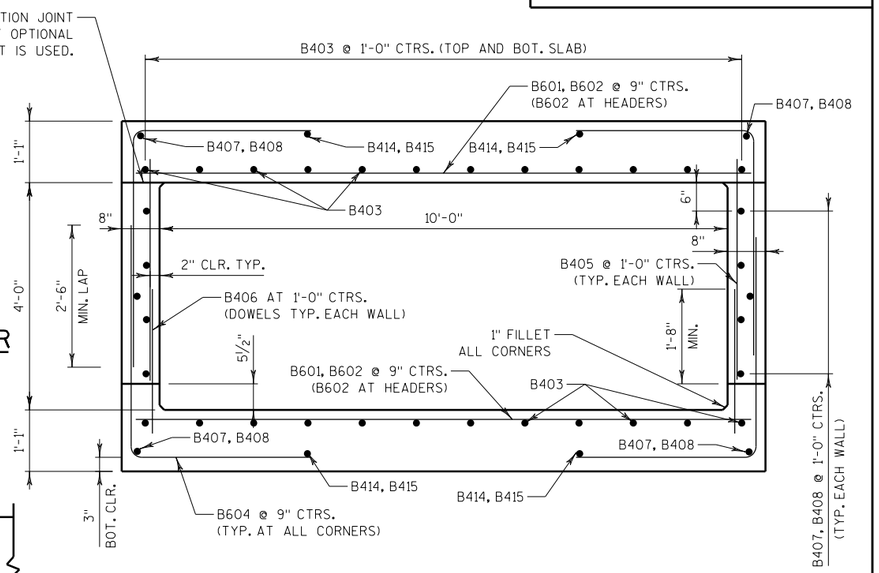



## SECTION THRU INLET HEADER

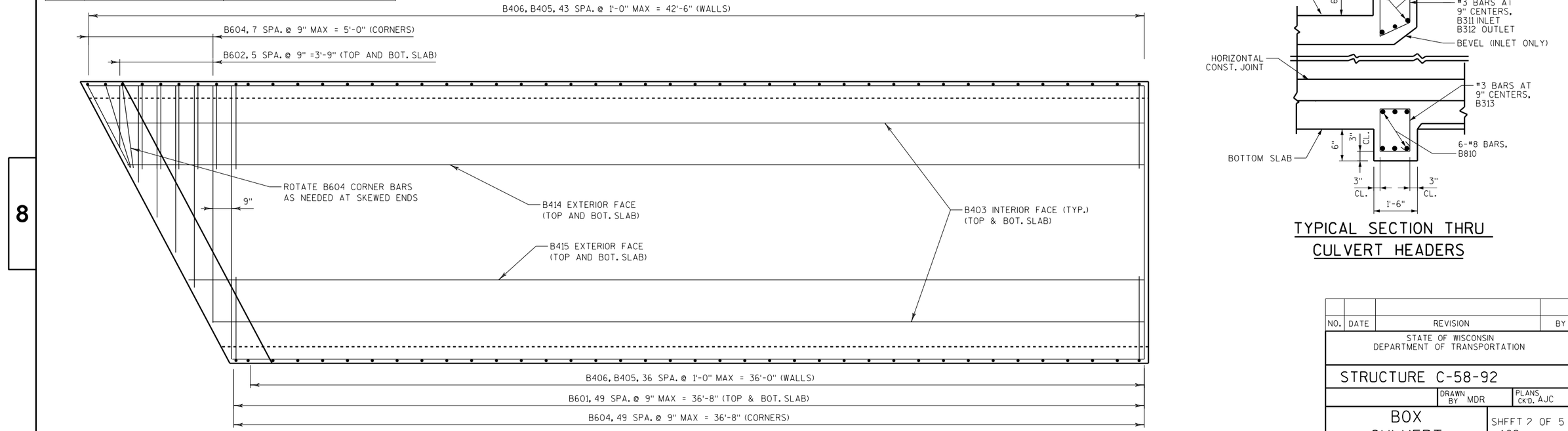



## CONSTRUCTION JOINT

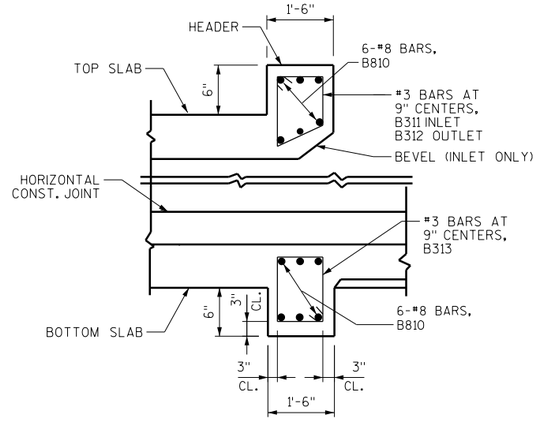
◐ IN LIEU OF CONSTRUCTION JOINTS IN THE BOTTOM SLAB, THE CONTRACTOR MAY USE 2" DEEP SAW CUTS WITHIN 12 HOURS AFTER POURING.




## SECTION THRU BOX




## PLAN VIEW TYPICAL PANEL




## TYPICAL SECTION THRU CULVERT HEADERS

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-58-92

DRAWN BY MDR | PLANS CK'D. AJC

BOX CULVERT DETAILS 1

SHEET 2 OF 5

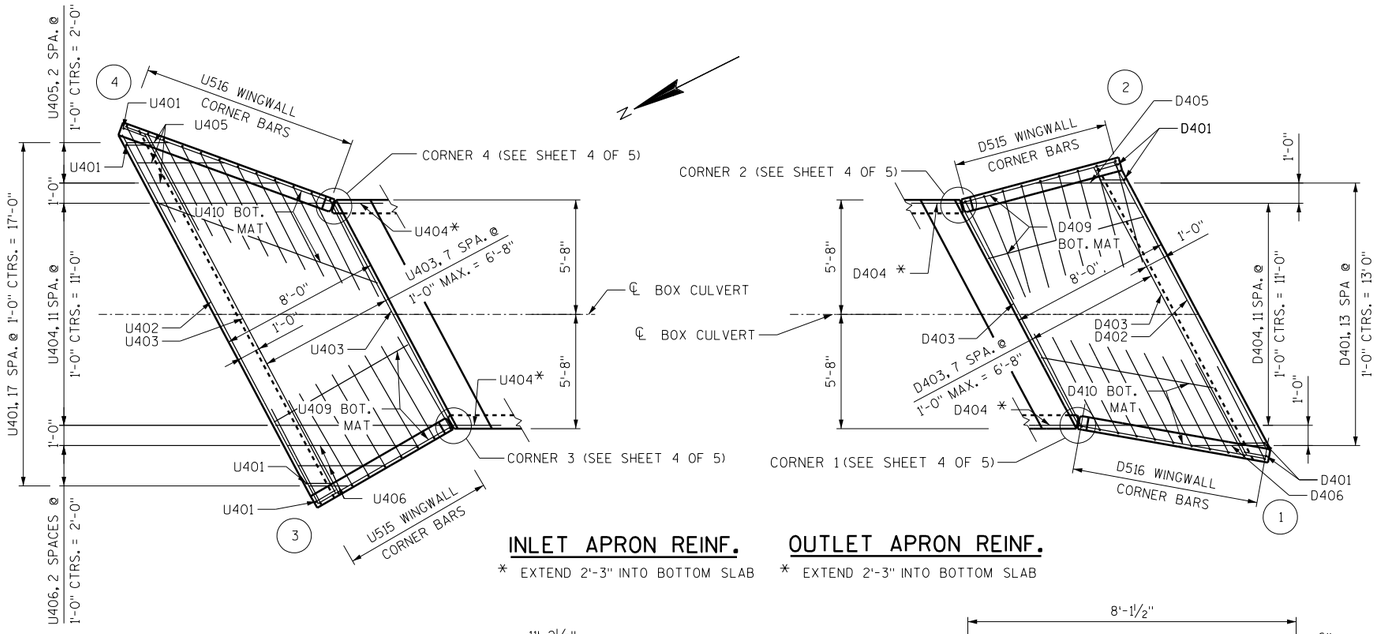
108

8

8

STATE PROJECT NUMBER

6580-11-60

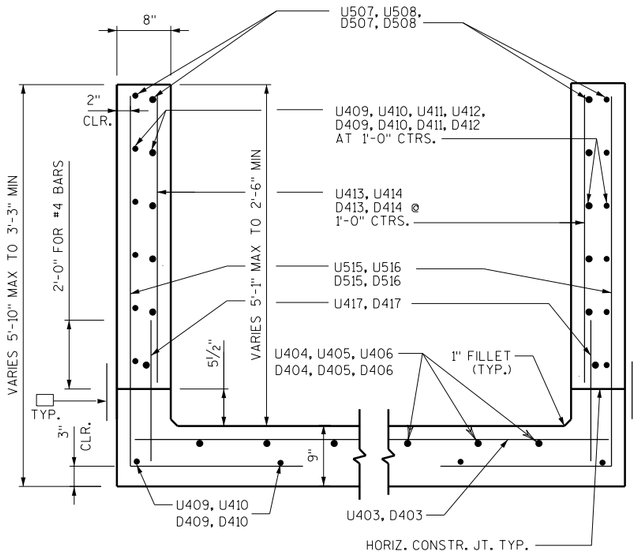



## INLET APRON REINF.

* EXTEND 2'-3" INTO BOTTOM SLAB

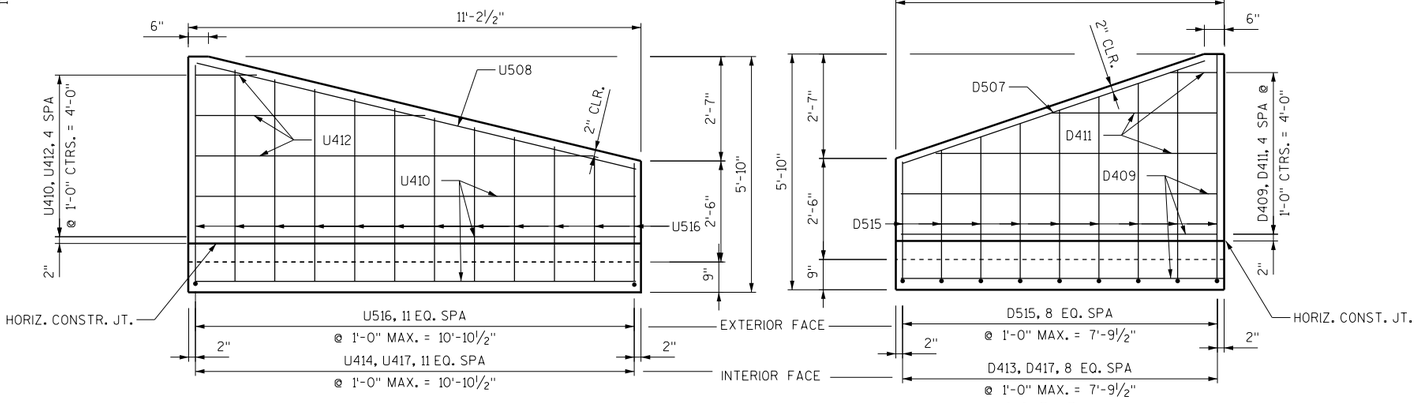
## OUTLET APRON REINF.

* EXTEND 2'-3" INTO BOTTOM SLAB




## SECTION THRU WINGWALLS

☐ 18" MIN. WIDTH RUBBERIZED MEMBRANE WATERPROOFING ALONG HORIZ. CONSTR. JT. IN WING. (TYP.)



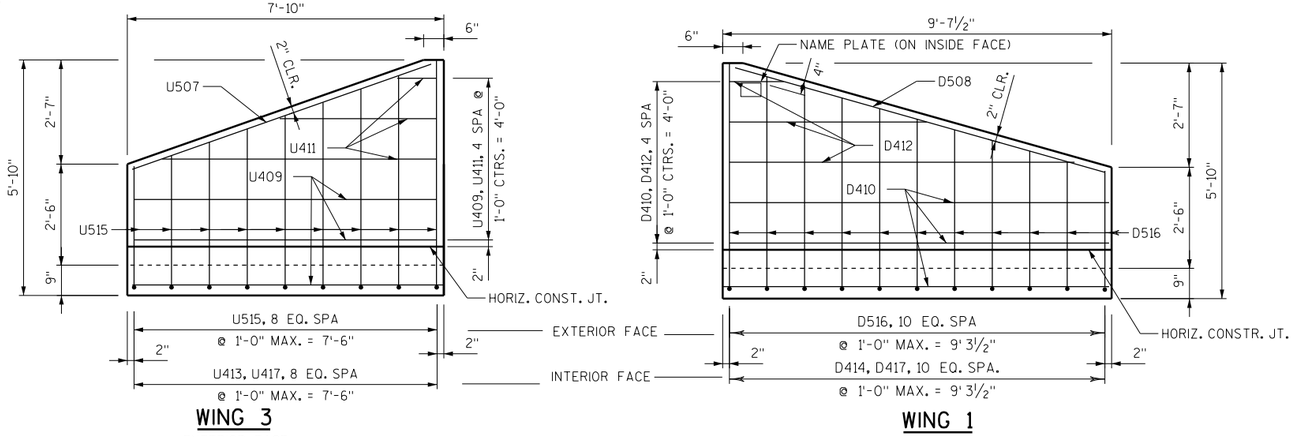

NOTE:
ALL WING ELEVATION VIEWS SHOW EXTERIOR FACE REINFORCING ONLY. INTERIOR FACE REINFORCING NOT SHOWN FOR CLAIRTY.

## WING 4

EXTERIOR FACE

## WING 2

EXTERIOR FACE




## WING 3

EXTERIOR FACE

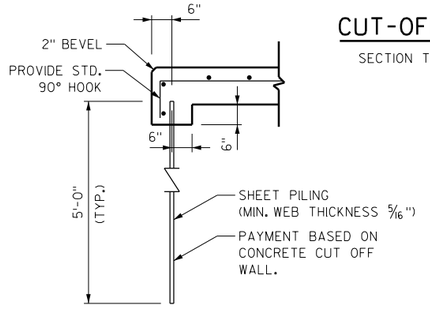
## WING 1

EXTERIOR FACE




## CUT-OFF WALLS

SECTION THRU WALLS




## ALTERNATE CUT-OFF WALL

THE ABOVE ALT. MAY BE USED IN LIEU OF THE CAST-IN-PLACE CONC. CUT-OFF WALLS. PAYMENT WILL BE BASED ON THE CONC. CUT-OFF WALLS.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-58-92

DRAWN BY PLR | PLANS CK'D. AJC

APRON DETAILS 1

SHEET 3 OF 5
109

8

8

STATE PROJECT NUMBER

6580-11-60

## BILL OF BARS FOR INLET APRON

| BAR MARK | NO. REQ'D | LENGTH | COAT | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| U401 | 20 | 3'-6" | | X | | INLET CUTOFF WALL VERT. |
| U402 | 3 | 20'-8" | | | | INLET CUTOFF WALL HORIZ. |
| U403 | 8 | 16'-3" | | | ◭ | INLET APRON TRANSVERSE |
| U404 | 12 | 11'-2" | | | | INLET APRON LONG. |
| U405 | 3 | 4'-3" | | | ◭ | INLET APRON LONG. AT WING 4 |
| U406 | 3 | 4'-3" | | | ◭ | INLET APRON LONG. AT WING 3 |
| U507 | 2 | 7'-10" | X | | | INLET WINGWALL 3 TOP DIAG. |
| U508 | 2 | 11'-1" | X | | | INLET WINGWALL 4 TOP DIAG. |
| U409 | 6 | 7'-6" | X | | | INLET WINGWALL 3 HORIZ. BOTTOM |
| U410 | 6 | 10'-10" | X | | | INLET WINGWALL 4 HORIZ. BOTTOM |
| U411 | 6 | 4'-0" | X | | ◭ | INLET WINGWALL 3 HORIZ. TOP |
| U412 | 6 | 5'-8" | X | | ◭ | INLET WINGWALL 4 HORIZ. TOP |
| U413 | 9 | 3'-1" | X | | ◭ | INLET WINGWALL 3 VERT. I.F. |
| U414 | 12 | 3'-1" | X | | ◭ | INLET WINGWALL 4 VERT. I.F. |
| U515 | 9 | 9'-3" | X | X | ◭ | INLET WINGWALL 3 CORNER BAR |
| U516 | 12 | 9'-3" | X | X | ◭ | INLET WINGWALL 4 CORNER BAR |
| U417 | 21 | 3'-0" | X | | | INLET WINGWALL 3 & 4 I.F. DOWEL |

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

### BAR SERIES TABLE

| BAR MARK | NO. REQ'D. | LENGTHS FOR EACH SERIES |
|---|---|---|
| U403 | 1 SERIES OF 8 | 12'-6" TO 20'-0" |
| U405 | 1 SERIES OF 3 | 2'-0" TO 6'-6" |
| U406 | 1 SERIES OF 3 | 2'-0" TO 6'-6" |
| U411 | 2 SERIES OF 3 | 1'-3" TO 6'-9" |
| U412 | 2 SERIES OF 3 | 1'-6" TO 9'-10" |
| U413 | 1 SERIES OF 9 | 1'-10" TO 4'-4" |
| U414 | 1 SERIES OF 12 | 1'-10" TO 4'-4" |
| U515 | 1 SERIES OF 9 | 7'-11" TO 10'-7" |
| U516 | 1 SERIES OF 12 | 7'-11" TO 10'-7" |

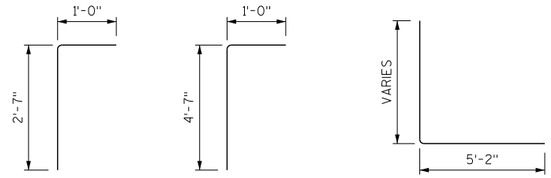
## BILL OF BARS FOR OUTLET APRON

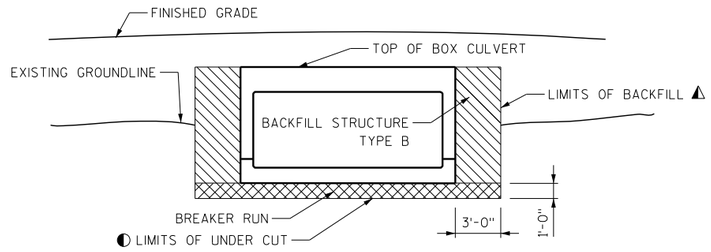
| BAR MARK | NO. REQ'D | LENGTH | COAT | BENT | BAR SERIES | LOCATION |
|---|---|---|---|---|---|---|
| D401 | 16 | 5'-6" | | X | | OUTLET CUTOFF WALL VERT. |
| D402 | 5 | 16'-1" | | | | OUTLET CUTOFF WALL HORIZ. |
| D403 | 8 | 14'-3" | | | ◭ | OUTLET APRON TRANSVERSE |
| D404 | 12 | 11'-2" | | | | OUTLET APRON LONG. |
| D405 | 1 | 4'-5" | | | | OUTLET APRON LONG. AT CORNER |
| D406 | 1 | 3'-8" | | | | OUTLET APRON LONG. AT CORNER |
| D507 | 2 | 8'-2" | X | | | OUTLET WINGWALL 2 TOP DIAG. |
| D508 | 2 | 9'-7" | X | | | OUTLET WINGWALL 1 TOP DIAG. |
| D409 | 6 | 7'-9" | X | | | OUTLET WINGWALL 2 HORIZ. BOTTOM |
| D410 | 6 | 9'-3" | X | | | OUTLET WINGWALL 1 HORIZ. BOTTOM |
| D411 | 6 | 4'-0" | X | | ◭ | OUTLET WINGWALL 2 HORIZ. TOP |
| D412 | 6 | 4'-11" | X | | ◭ | OUTLET WINGWALL 1 HORIZ. TOP |
| D413 | 9 | 3'-1" | X | | ◭ | OUTLET WINGWALL 2 VERT. I.F. |
| D414 | 11 | 3'-1" | X | | ◭ | OUTLET WINGWALL 1 VERT. I.F. |
| D515 | 9 | 9'-3" | X | X | ◭ | OUTLET WINGWALL 2 CORNER BAR |
| D516 | 11 | 9'-3" | X | X | ◭ | OUTLET WINGWALL 1 CORNER BAR |
| D417 | 20 | 3'-0" | X | | | OUTLET WINGWALL 1 & 2 I.F. DOWEL |

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

### BAR SERIES TABLE

| BAR MARK | NO. REQ'D. | LENGTHS FOR EACH SERIES |
|---|---|---|
| D403 | 1 SERIES OF 8 | 12'-5" TO 16'-1" |
| D411 | 2 SERIES OF 3 | 1'-2" TO 6'-10" |
| D412 | 2 SERIES OF 3 | 1'-4" TO 8'-6" |
| D413 | 1 SERIES OF 9 | 1'-10" TO 4'-4" |
| D414 | 1 SERIES OF 11 | 1'-10" TO 4'-4" |
| D515 | 1 SERIES OF 9 | 7'-11" TO 10'-7" |
| D516 | 1 SERIES OF 11 | 7'-11" TO 10'-7" |




### TYPICAL SECTION THRU BOX CULVERT

### NOTES

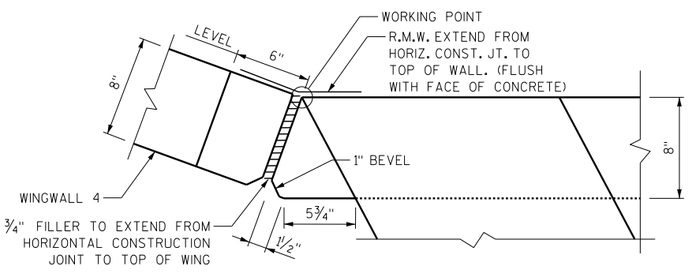
THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES CU
THE EXISTING GROUND LINE.

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

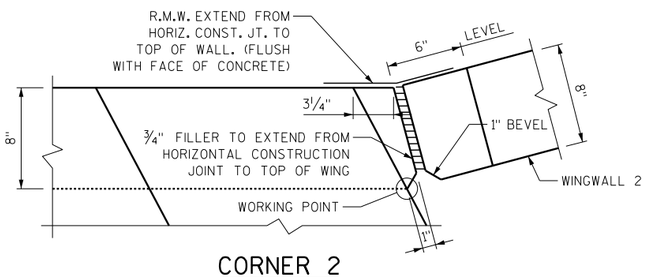
BACKFILL WITH "BACKFILL STRUCTURE TYPE B" ALL VOLUME WHICH CANNOT BE PLACED BEFORE CULVERT CONSTRUCTION AND WILL NOT OCCUPIED BY THE NEW STRUCTURE. BACKFILL WITHIN THE LENGTH OF THE BOX INCLUDING THE APRON WING WALLS

◐ UNDER CUT 1'-0". INCLUDE THE EXCAVATION FOR UNDER CUT IN "EXCAVATION FOR STRUCTURES CULVERTS C-58-92". PLACE "GEOTEXTILE TYPE C" AND BACKFILL WITH "BREAKER RUN".

PLACE ALL PRECAST BOX SECTIONS ON A BEDDING OF "STRUCTURE BACKFILL TYPE B" OF 6" MINIMUM DEPTH.

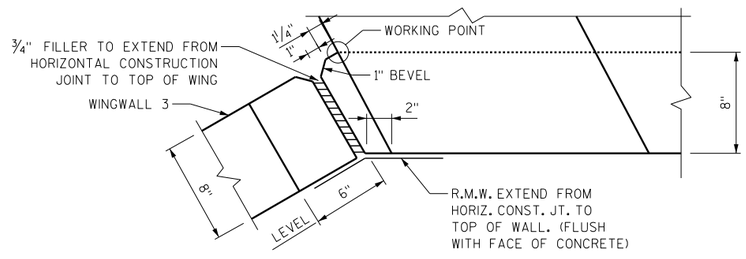



CORNER 4

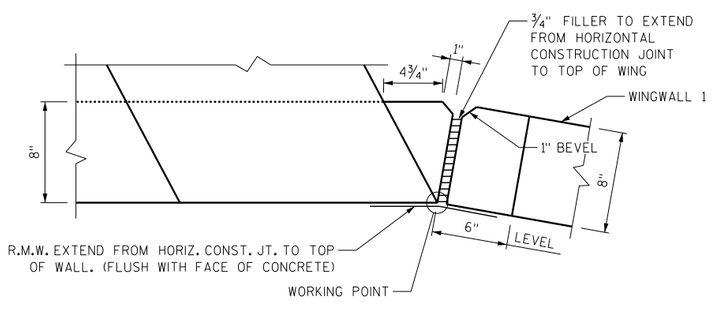



CORNER 2

N




CORNER 3




CORNER 1

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-58-92

DRAWN BY PLR | PLANS CK'D. AJC

APRON DETAILS 2

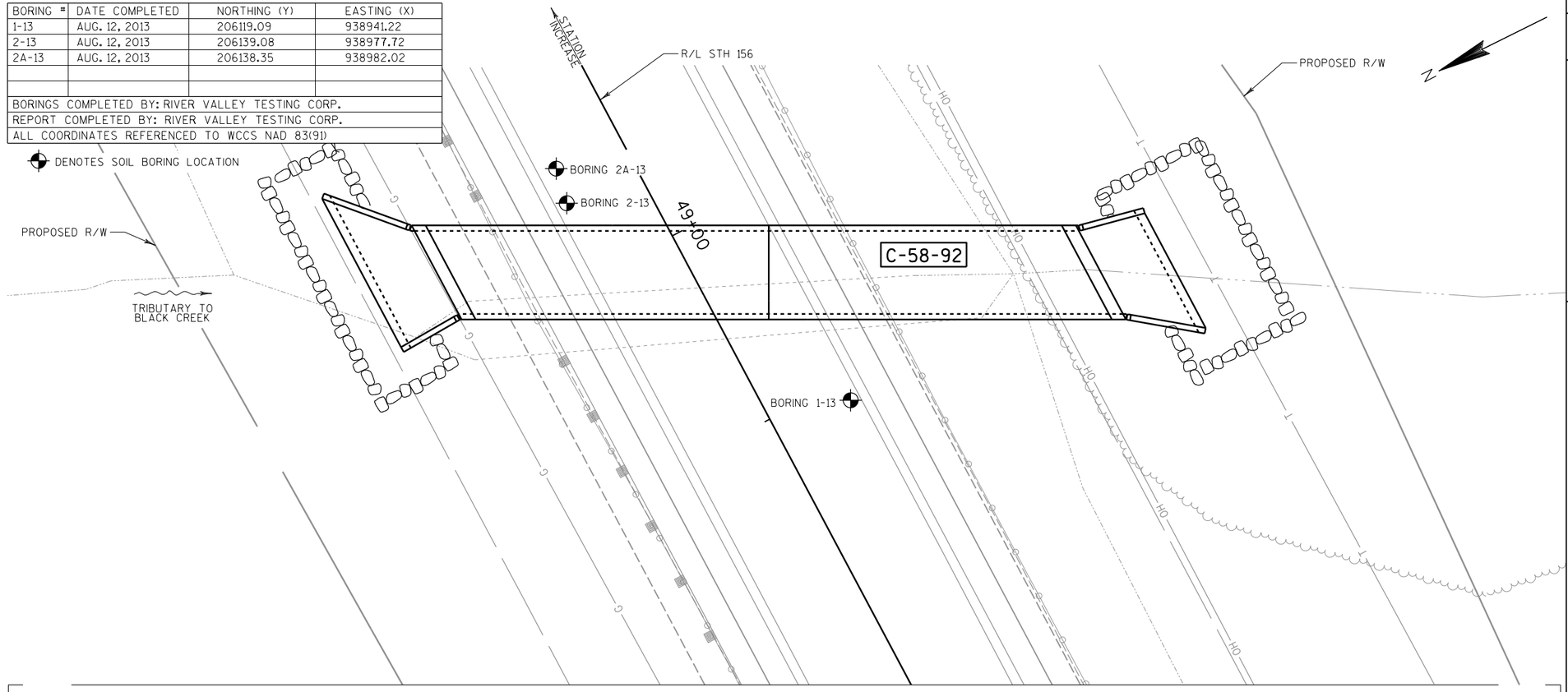
SHEET 4 OF 5

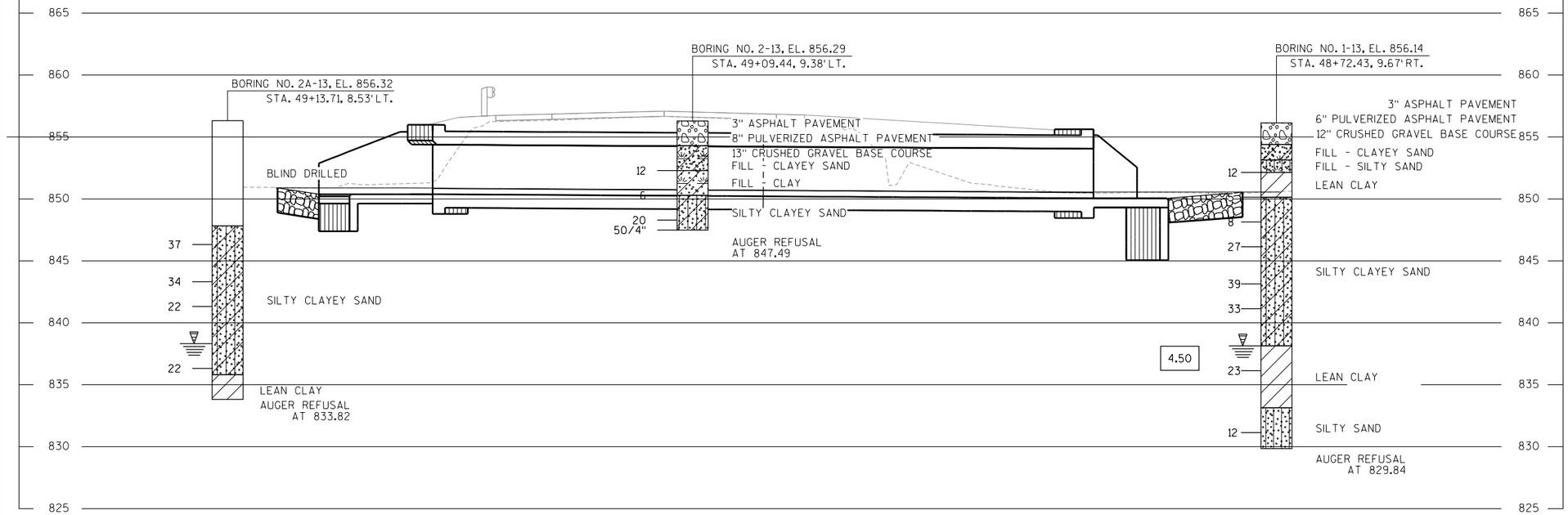
110

8

8

| BORING # | DATE COMPLETED | NORTHING (Y) | EASTING (X) |
|---|---|---|---|
| 1-13 | AUG. 12, 2013 | 206119.09 | 938941.22 |
| 2-13 | AUG. 12, 2013 | 206139.08 | 938977.72 |
| 2A-13 | AUG. 12, 2013 | 206138.35 | 938982.02 |
| | | | |
| | | | |
| BORINGS COMPLETED BY: RIVER VALLEY TESTING CORP. | | | |
| REPORT COMPLETED BY: RIVER VALLEY TESTING CORP. | | | |
| ALL COORDINATES REFERENCED TO WCCS NAD 83(91) | | | |



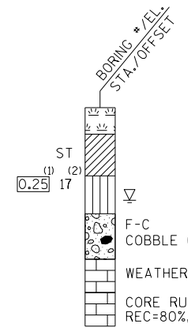

STATE PROJECT NUMBER

6580-11-60

MATERIAL SYMBOLS

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

LEGEND OF BORING




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

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

GROUND WATER ELEVATION

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

ABBREVIATIONS

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

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE C-58-92

DRAWN BY AJC | PLANS CK'D. MDR

SUBSURFACE EXPLORATION

SHEET 5 OF 5

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FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\09 STRUCTURES\C-58-92 - STH 156\Plan\080105_se.dgn

PLOT DATE : 8/16/2016

PLOT BY : mdr

STH 156 (CULVERT AT STA 10+68)
STA 9+00 - STA 12+00

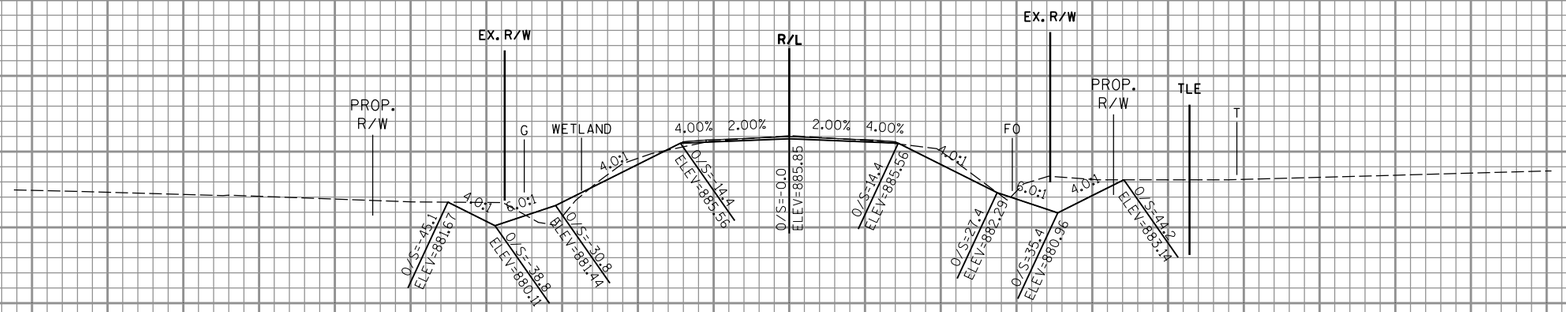
| STATION | DISTANCE | AREA (SF) | | | INCREMENTAL VOL (CY) (UNADJUSTED) | | | CUMULATIVE VOL (CY) | | | MASS ORDINATE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | CUT | SALVAGED/ UNUSABLE PAVEMENT MATERIAL | FILL | CUT NOTE 1 | SALVAGED UNUSABLE PAVEMENT MATERIAL NOTE 2 | FILL NOTE 3 | CUT 1.00 NOTE 1 | SALVAGED UNUSABLE PAVEMENT MATERIAL NOTE 2 | EXPANDED FILL 1.25 NOTE 4 | NOTE 5 |
| 9+00 | | 4 | 15 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 9+50 | 50 | 40 | 15 | 6 | 41 | 27 | 7 | 41 | 27 | 9 | 5 |
| 10+00 | 50 | 46 | 15 | 9 | 79 | 27 | 14 | 120 | 54 | 26 | 40 |
| 10+50 | 50 | 41 | 15 | 12 | 80 | 27 | 19 | 200 | 81 | 50 | 69 |
| 11+00 | 50 | 32 | 15 | 4 | 67 | 27 | 15 | 268 | 109 | 69 | 90 |
| 11+50 | 50 | 27 | 15 | 7 | 55 | 27 | 10 | 323 | 136 | 82 | 104 |
| 12+00 | 50 | 6 | 15 | 0 | 31 | 27 | 6 | 354 | 163 | 91 | 100 |
| | | | COLUMN TOTALS | | 354 | 163 | 72 | | | | |

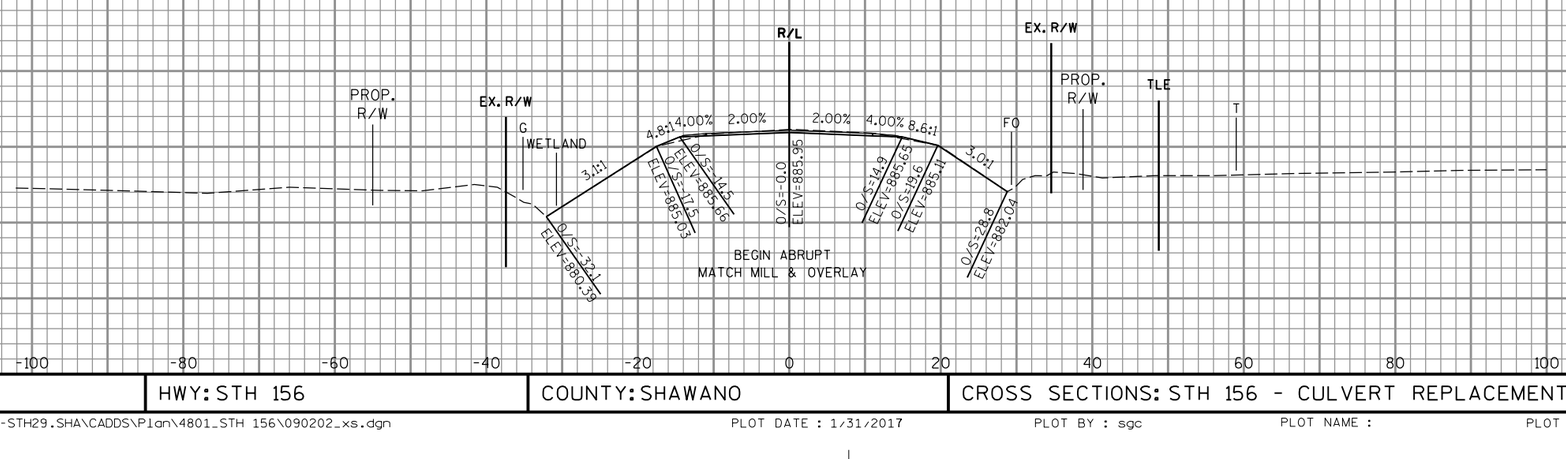
STH 156 (C-58-0092 CULVERT AT STA 48+95)
STA 46+00 - STA 52+10

| STATION | DISTANCE | AREA (SF) | | | INCREMENTAL VOL (CY) (UNADJUSTED) | | | CUMULATIVE VOL (CY) | | | MASS ORDINATE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | CUT | SALVAGED/ UNUSABLE PAVEMENT MATERIAL | FILL | CUT NOTE 1 | SALVAGED UNUSABLE PAVEMENT MATERIAL NOTE 2 | FILL NOTE 3 | CUT 1.00 NOTE 1 | SALVAGED UNUSABLE PAVEMENT MATERIAL NOTE 2 | EXPANDED FILL 1.25 NOTE 4 | NOTE 5 |
| 46+00 | | 52 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 46+42 | 42 | 73 | 15 | 25 | 97 | 23 | 20 | 97 | 23 | 25 | 50 |
| 46+50 | 8 | 69 | 15 | 24 | 21 | 4 | 7 | 118 | 27 | 34 | 58 |
| 47+00 | 50 | 62 | 15 | 43 | 122 | 27 | 62 | 240 | 54 | 111 | 75 |
| 47+50 | 50 | 59 | 15 | 59 | 112 | 27 | 95 | 353 | 81 | 229 | 42 |
| 47+61 | 11 | 51 | 15 | 65 | 22 | 6 | 25 | 375 | 87 | 261 | 27 |
| 47+86 | 25 | 47 | 15 | 50 | 45 | 14 | 53 | 420 | 101 | 327 | -8 |
| 48+00 | 14 | 50 | 15 | 44 | 25 | 8 | 24 | 445 | 109 | 357 | -20 |
| 48+11 | 11 | 54 | 15 | 40 | 21 | 6 | 17 | 467 | 115 | 378 | -27 |
| 48+50 | 39 | 62 | 15 | 49 | 84 | 21 | 64 | 550 | 136 | 458 | -44 |
| 49+00 | 50 | 48 | 15 | 57 | 102 | 27 | 98 | 653 | 163 | 581 | -91 |
| 49+50 | 50 | 47 | 15 | 30 | 88 | 27 | 81 | 741 | 190 | 681 | -131 |
| 50+00 | 50 | 37 | 15 | 36 | 78 | 27 | 61 | 819 | 217 | 758 | -156 |
| 50+50 | 50 | 36 | 15 | 28 | 68 | 27 | 60 | 888 | 244 | 832 | -189 |
| 50+67 | 17 | 39 | 15 | 32 | 24 | 9 | 19 | 911 | 254 | 856 | -198 |
| 50+92 | 25 | 49 | 15 | 46 | 41 | 14 | 36 | 952 | 267 | 901 | -216 |
| 51+00 | 8 | 55 | 15 | 54 | 15 | 4 | 15 | 968 | 272 | 919 | -223 |
| 51+17 | 17 | 69 | 15 | 70 | 39 | 9 | 39 | 1,006 | 281 | 968 | -243 |
| 51+50 | 33 | 93 | 15 | 67 | 99 | 18 | 84 | 1,105 | 299 | 1,073 | -266 |
| 51+92 | 42 | 136 | 15 | 63 | 178 | 23 | 101 | 1,283 | 322 | 1,199 | -238 |
| 52+00 | 8 | 134 | 15 | 63 | 40 | 4 | 19 | 1,323 | 326 | 1,223 | -226 |
| 52+10 | 10 | 51 | 15 | 12 | 34 | 5 | 14 | 1,357 | 331 | 1,240 | -214 |
| | | | COLUMN TOTALS | | 1,357 | 331 | 992 | | | | |

| NOTES: | |
|---|---|
| 1 - CUT | CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL |
| 2 - SALVAGED/UNUSABLE PAVEMENT MATERIAL | SALVAGED/UNUSABLE PAVEMENT MATERIAL IS NOT SHOWN ON CROSS SECTIONS; REMOVE AND WASTE EXISTING AND TEMPORARY PAVEMENTS PRESENT INBOTH CUT AND FILL SECTIONS; SALVAGED/UNUSABLE PAVEMENT MATERIAL INCLUDES BOTH CONCRETE AND ASPHALTIC PAVEMENTS |
| 3 - FILL | INCLUDES BACKFILL OF SALVAGED/UNUSABLE PAVEMENT MATERIAL EXCAVATION AREAS TO BE REMOVED BELOW THE ULTIMATE SUBGRADE IN FILL SECTONS |
| 4 - EXPANDED FILL | (UNEXPANDED FILL * FILL FACTOR) |
| 5 - MASS ORDINATE | ((CUT) - (EXPANDED FILL) - (SALVAGED/UNUSABLE PAVEMENT MATERIAL)); PLUS INDICATES AN EXCESS OF MATERIAL; MINUS INDICATES A SHORAGE OF MATERIAL |

**NOTE**
FULL DEPTH PAVEMENT PATCH AT CULVERT SHOWN ON CONSTRUCTION DETAILS



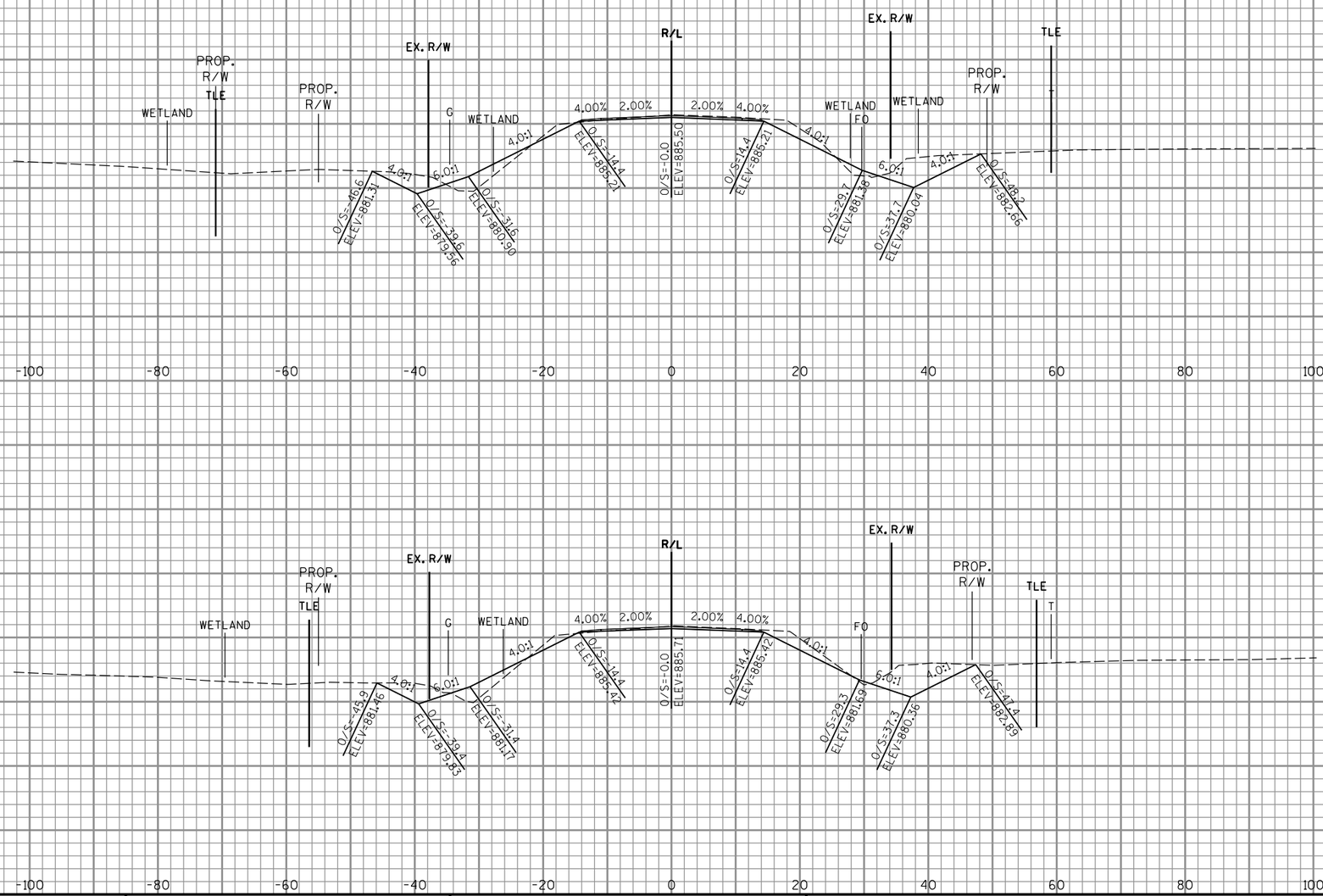

9

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| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156 - CULVERT REPLACEMENT | SHEET 113 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4801_STH 156\090202_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

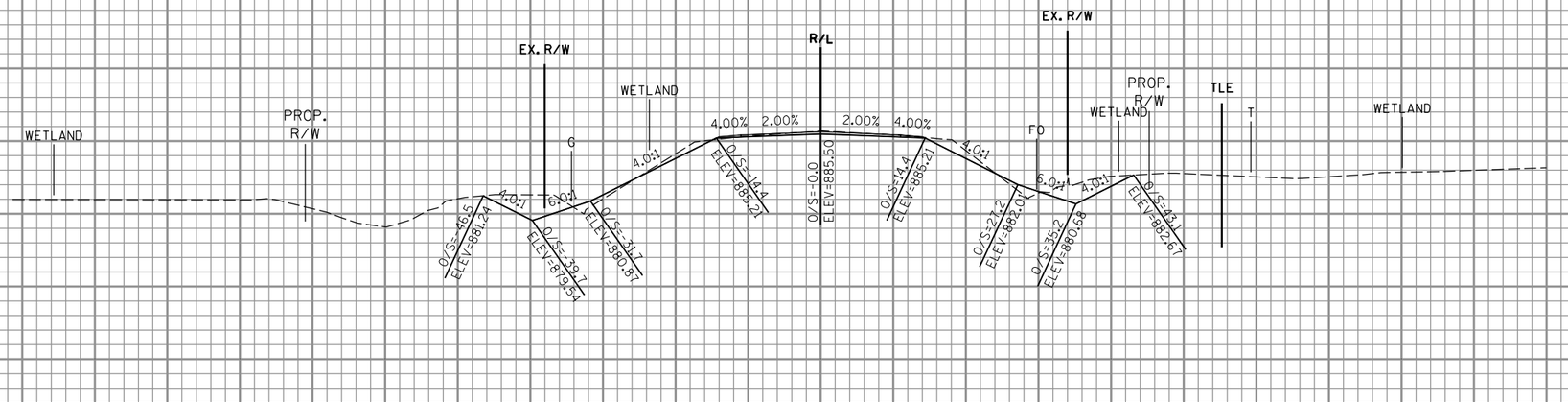
WISDOT/CADDS SHEET 21

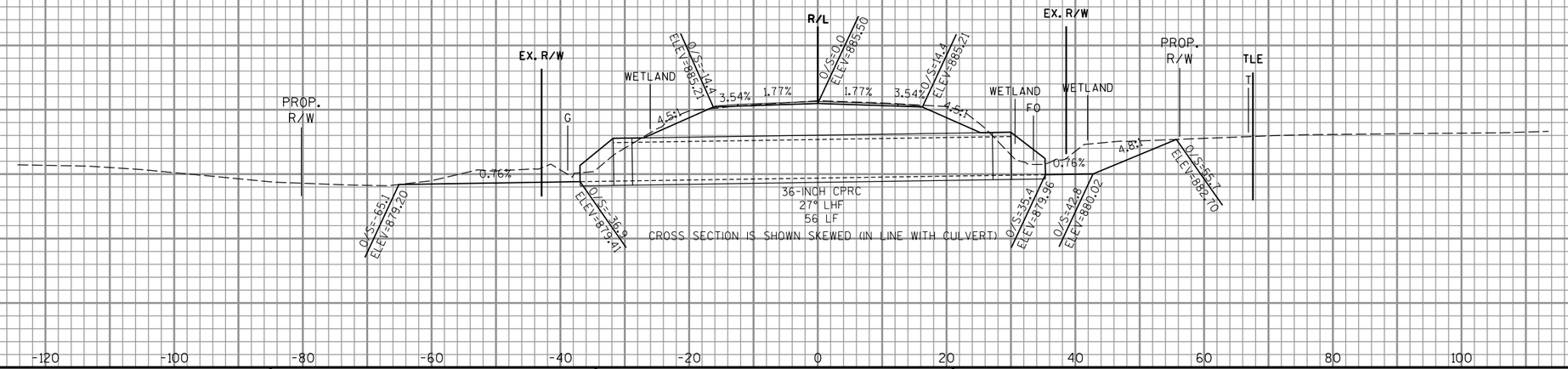



| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156 - CULVERT REPLACEMENT | SHEET 114 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4801_STH 156\090202_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

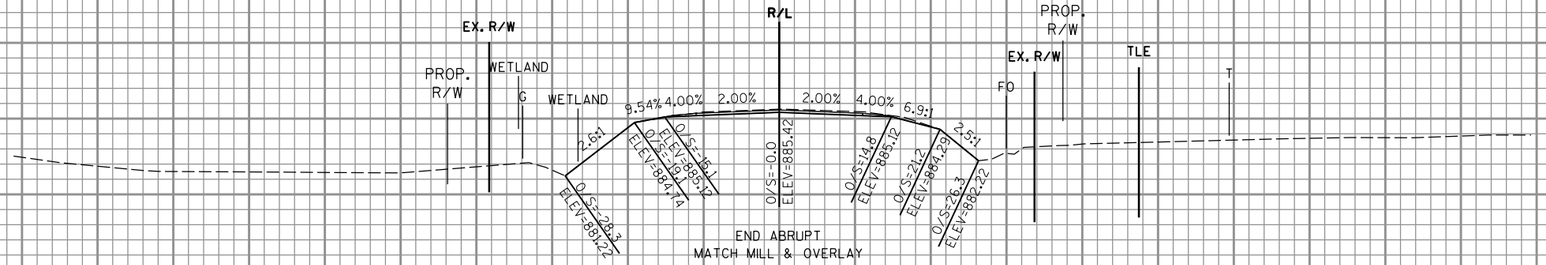



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| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156 - CULVERT REPLACEMENT | SHEET 115 | E |
|---|---|---|---|---|---|



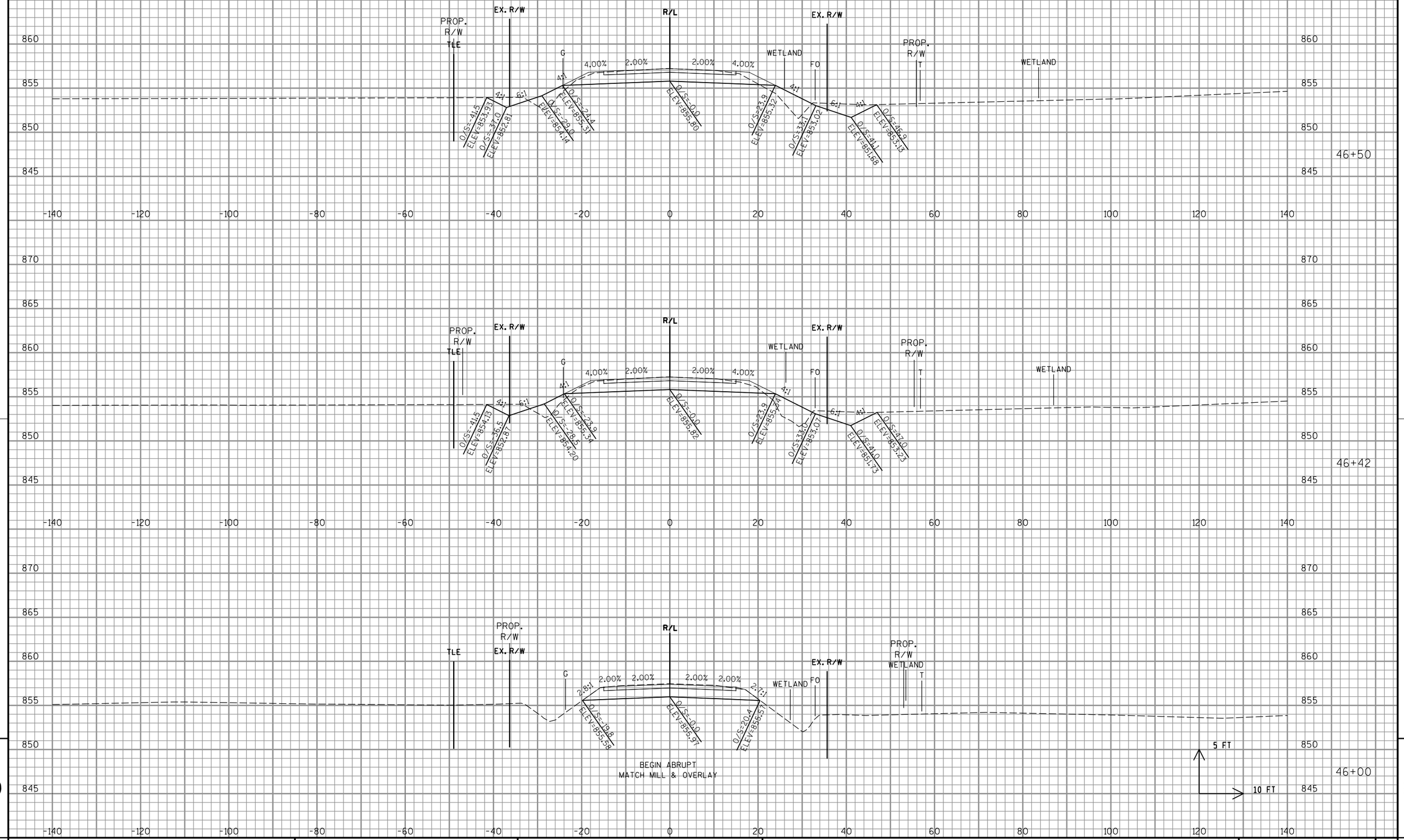

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| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156 - CULVERT REPLACEMENT | SHEET 116 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4801_STH 156\090202_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

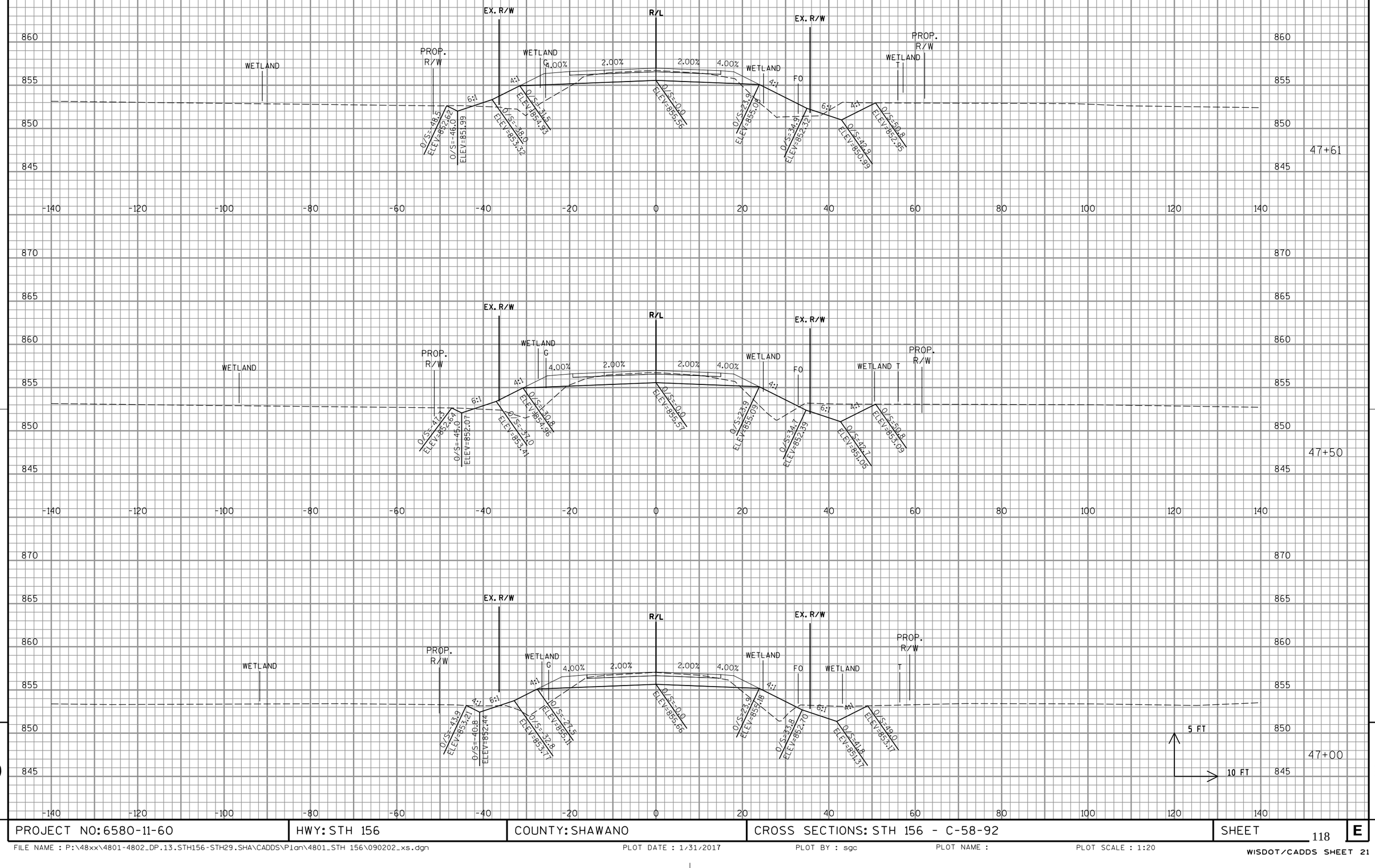
WISDOT/CADDS SHEET 21




| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156 - C-58-92 | SHEET 117 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4801_STH 156\090202_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

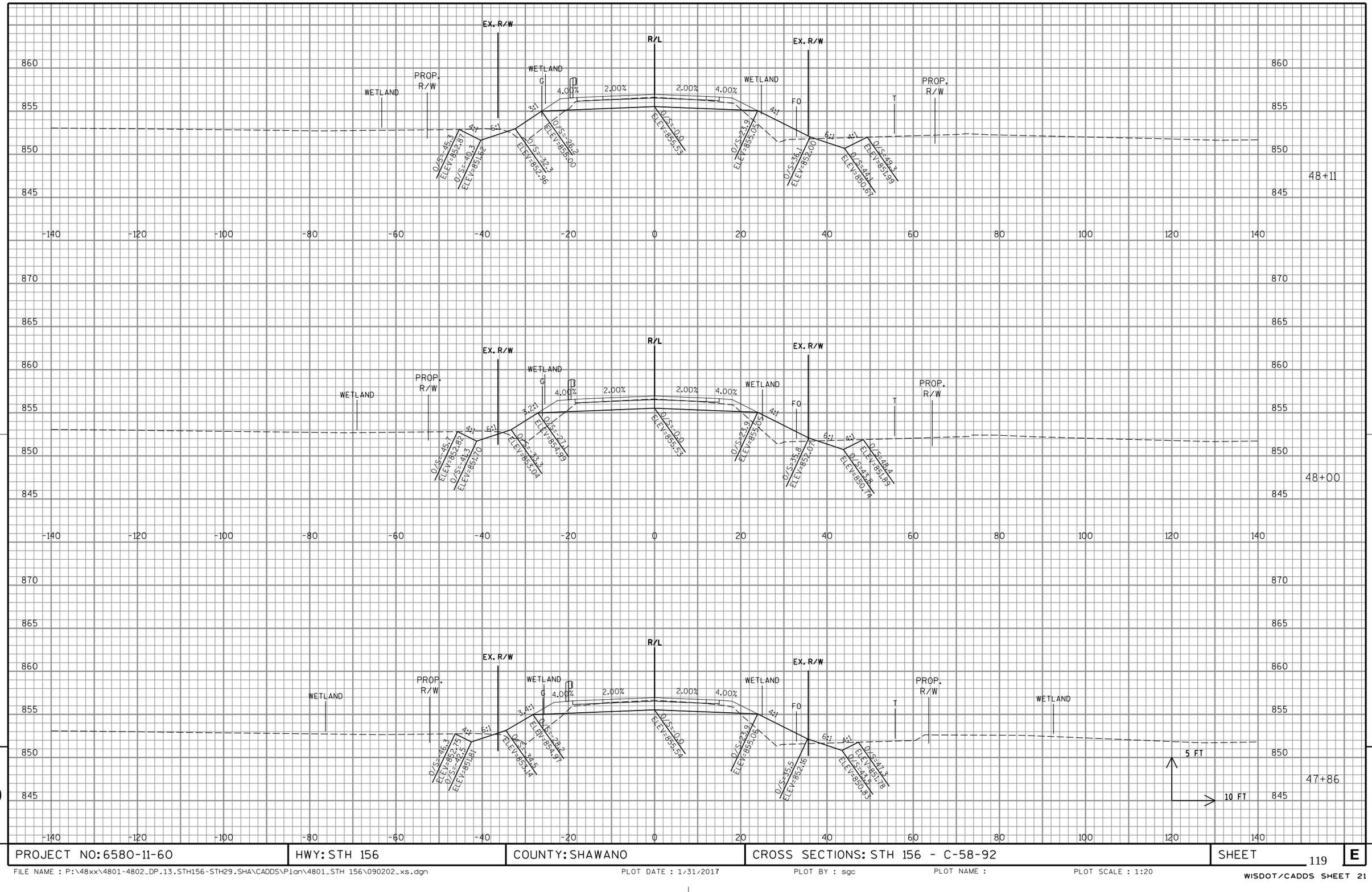
WISDOT/CADDS SHEET 21




| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156 - C-58-92 | SHEET 118 | E |
|---|---|---|---|---|---|

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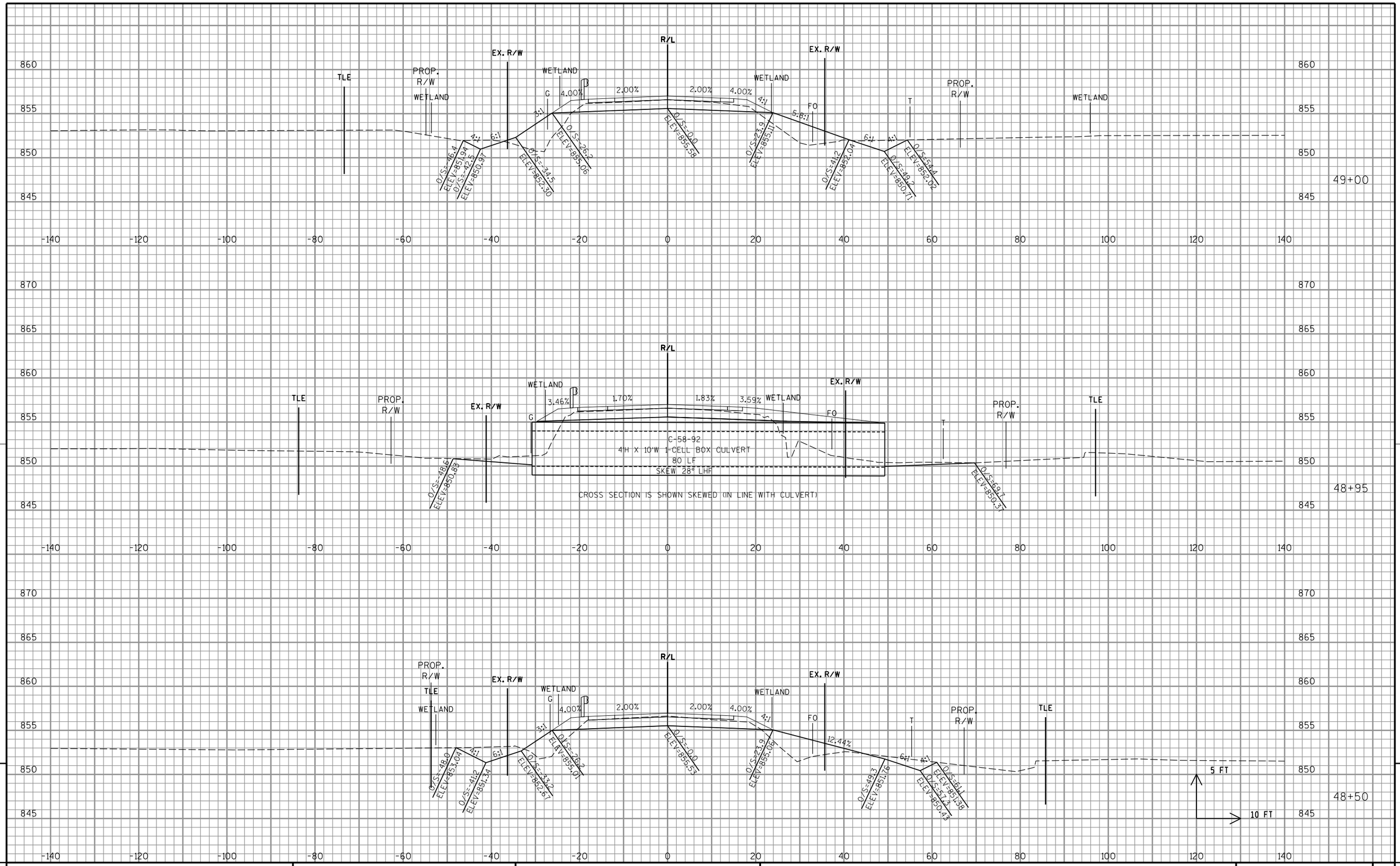
WISDOT/CADDS SHEET 21




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| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156 - C-58-92 | SHEET 119 | E |
|---|---|---|---|---|---|

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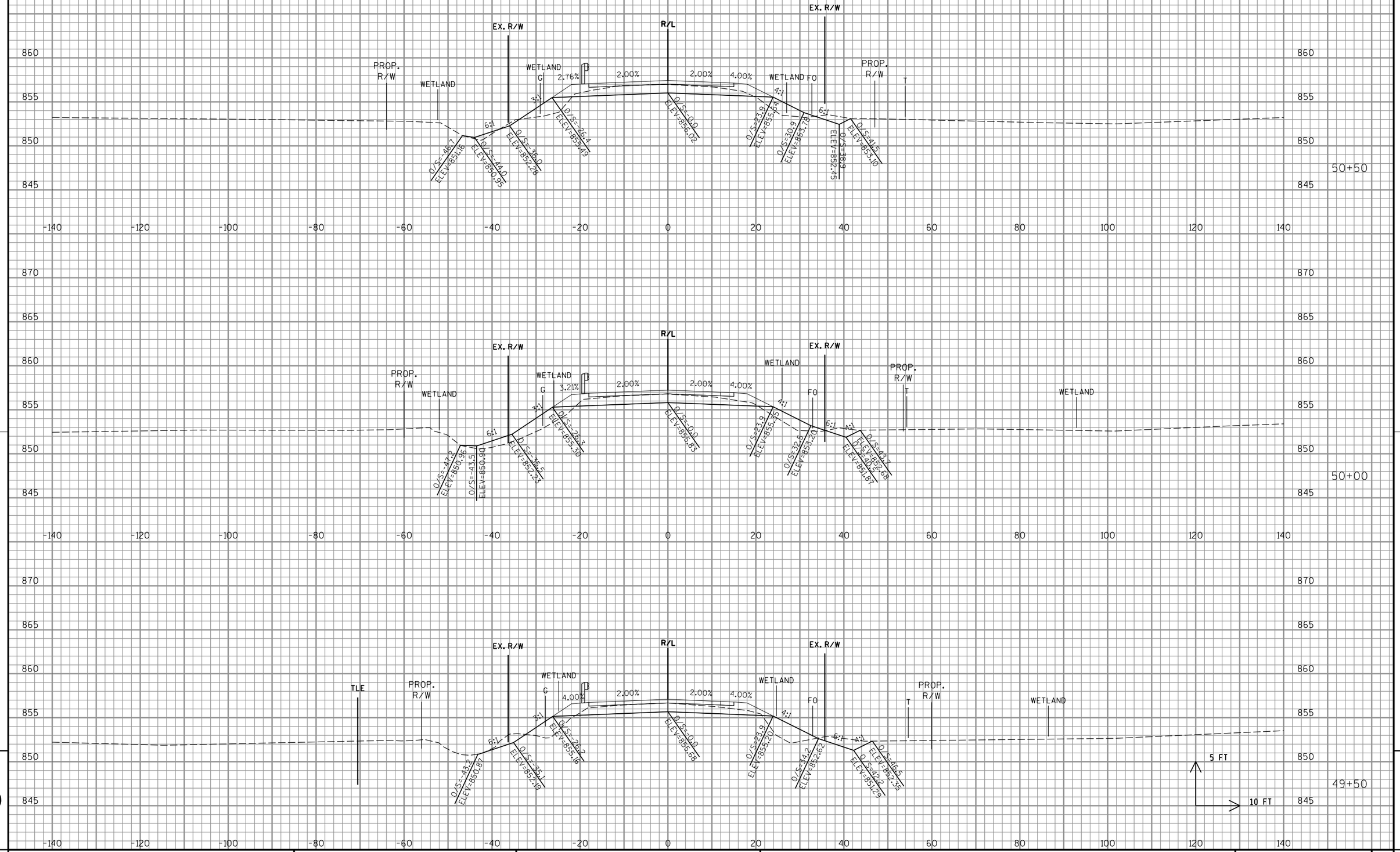
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| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156 - C-58-92 | SHEET 120 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4801_STH 156\090202_xs.dgn

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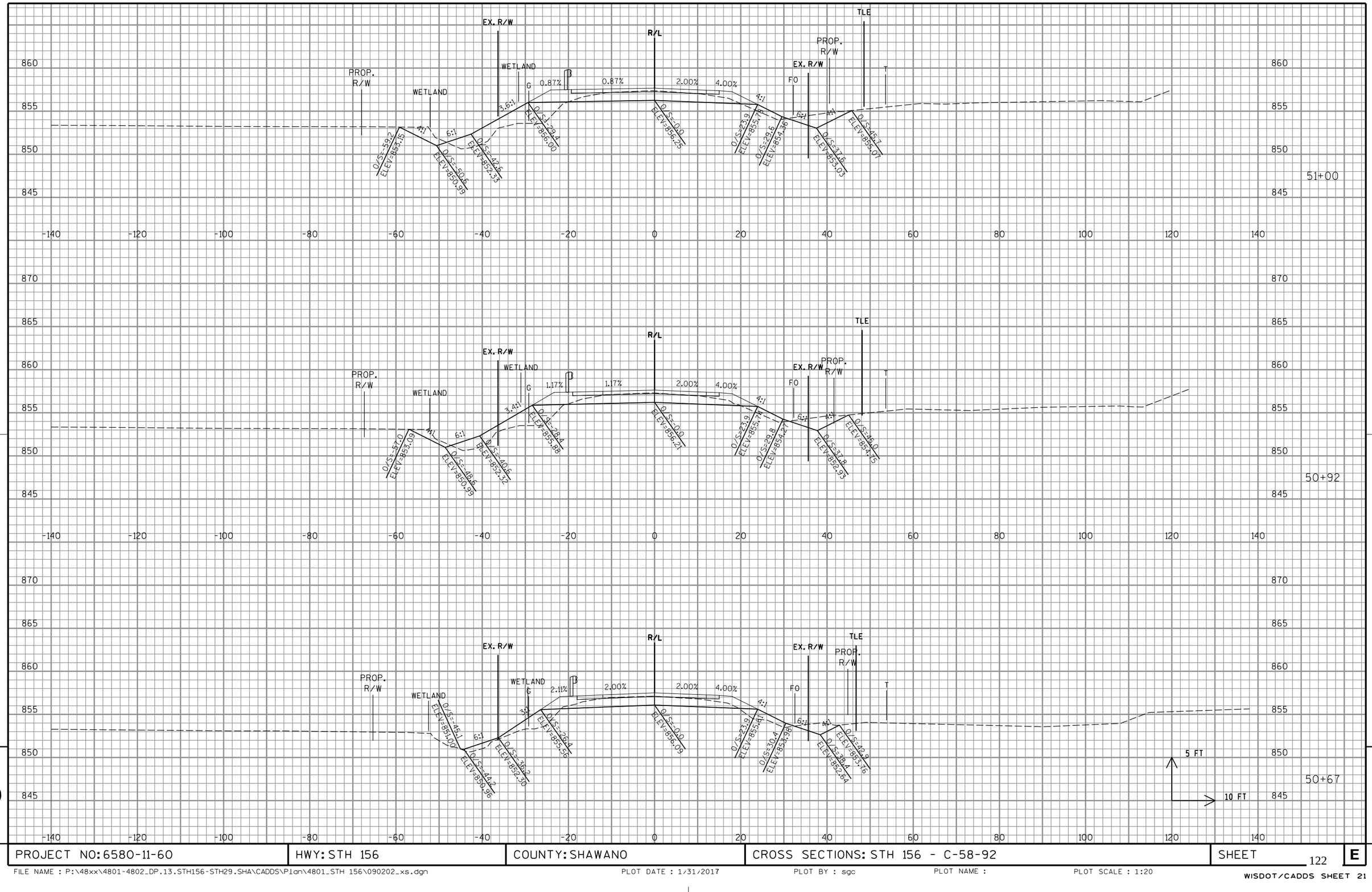
WISDOT/CADDS SHEET 21



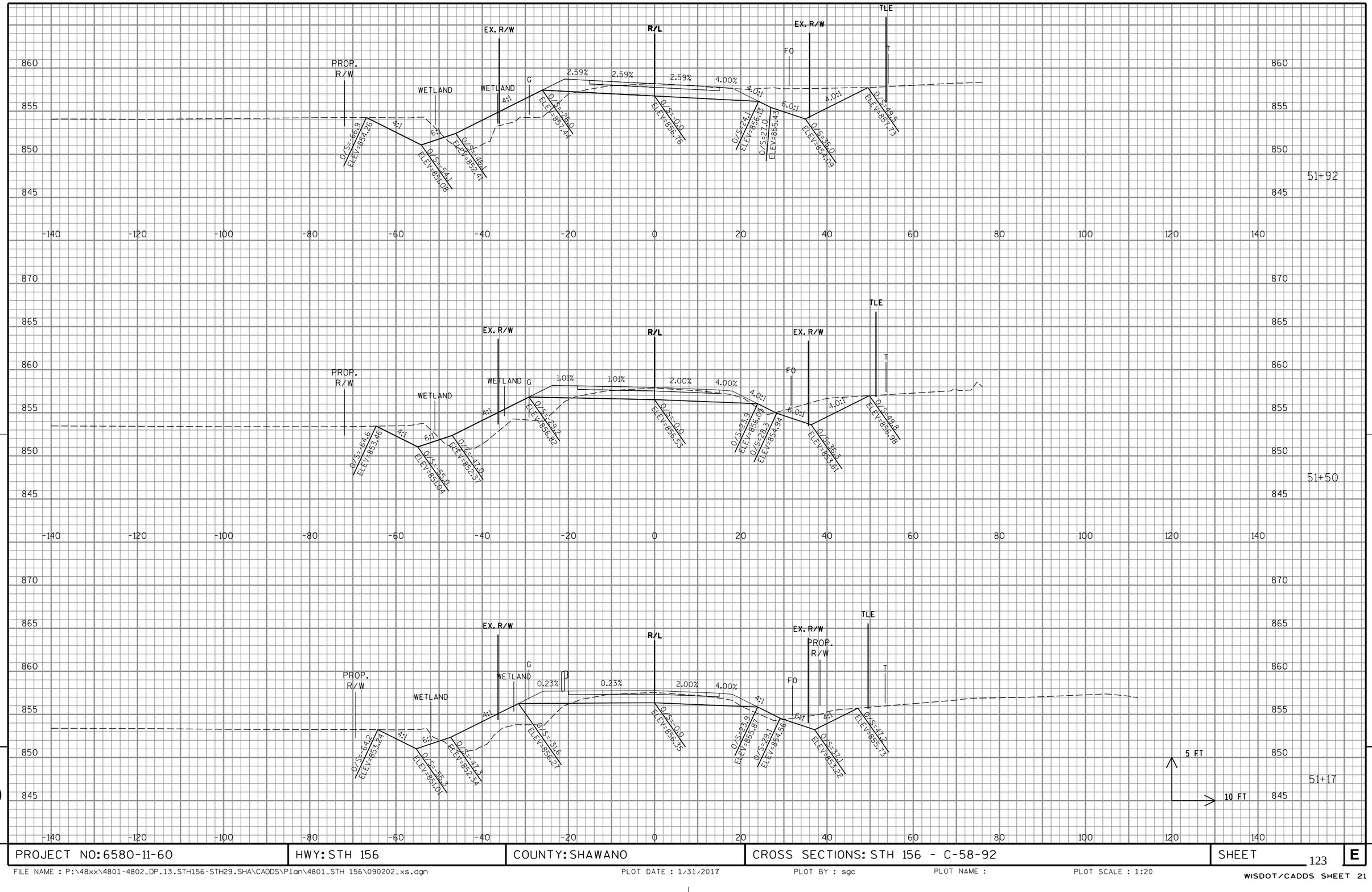

| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156 - C-58-92 | SHEET 121 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4801_STH 156\090202_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

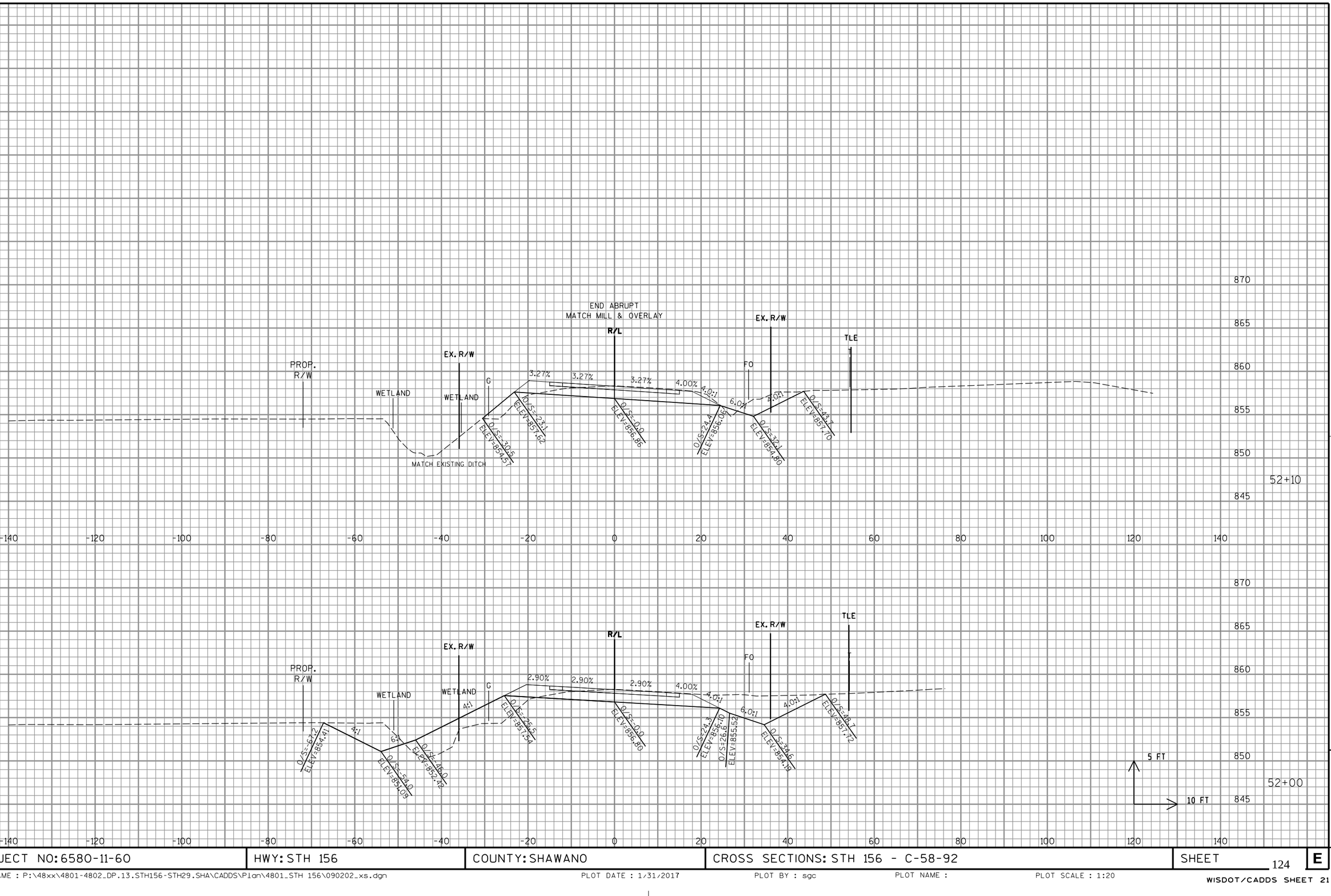
WISDOT/CADDS SHEET 21




| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156 - C-58-92 | SHEET 122 | E |
|---|---|---|---|---|---|




| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156 - C-58-92 | SHEET 123 | E |
|---|---|---|---|---|---|




| PROJECT NO: 6580-11-60 | HWY: STH 156 | COUNTY: SHAWANO | CROSS SECTIONS: STH 156 - C-58-92 | SHEET 124 | E |
|---|---|---|---|---|---|

FILE NAME : P:\48xx\4801-4802_DP.13.STH156-STH29.SHA\CADDS\Plan\4801_STH 156\090202_xs.dgn PLOT DATE : 1/31/2017 PLOT BY : sgc PLOT NAME : PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

Notes

**Wisconsin Department of Transportation**

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through innovation and exceptional service.

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