

EAU

PROJECT ID:  
WITH: N/A

8820-00-70

COUNTY:

POLK

OCTOBER 2026

ORDER OF SHEETS

|                        |              |                                                         |
|------------------------|--------------|---------------------------------------------------------|
| Section No.            | 1            | Title                                                   |
| Section No.            | 2            | Typical Sections and Details (Includes Erosion Control) |
| 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                                             |
| <del>Section No.</del> | <del>8</del> | <del>Structure Plans</del>                              |
| Section No.            | 9            | Computer Earthwork Data                                 |
| Section No.            | 9            | Cross Sections                                          |

TOTAL SHEETS = 322



DESIGN DESIGNATION 8820-00-00

|              |      |   |                 |
|--------------|------|---|-----------------|
| A.A.D.T.     | 2028 | = | 2350            |
| A.A.D.T.     | 2048 | = | 2560            |
| D.H.V.       | 2048 | = | 310             |
| D.D.         |      | = | 60/40           |
| T.           |      | = | 20.8            |
| DESIGN SPEED |      | = | 25 MPH - 55 MPH |
| ESALS        |      | = | 840,000         |

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

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

# STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

## FREDERIC - MCKINLEY

STH 35 TO BASS LAKE LANE

STH 48

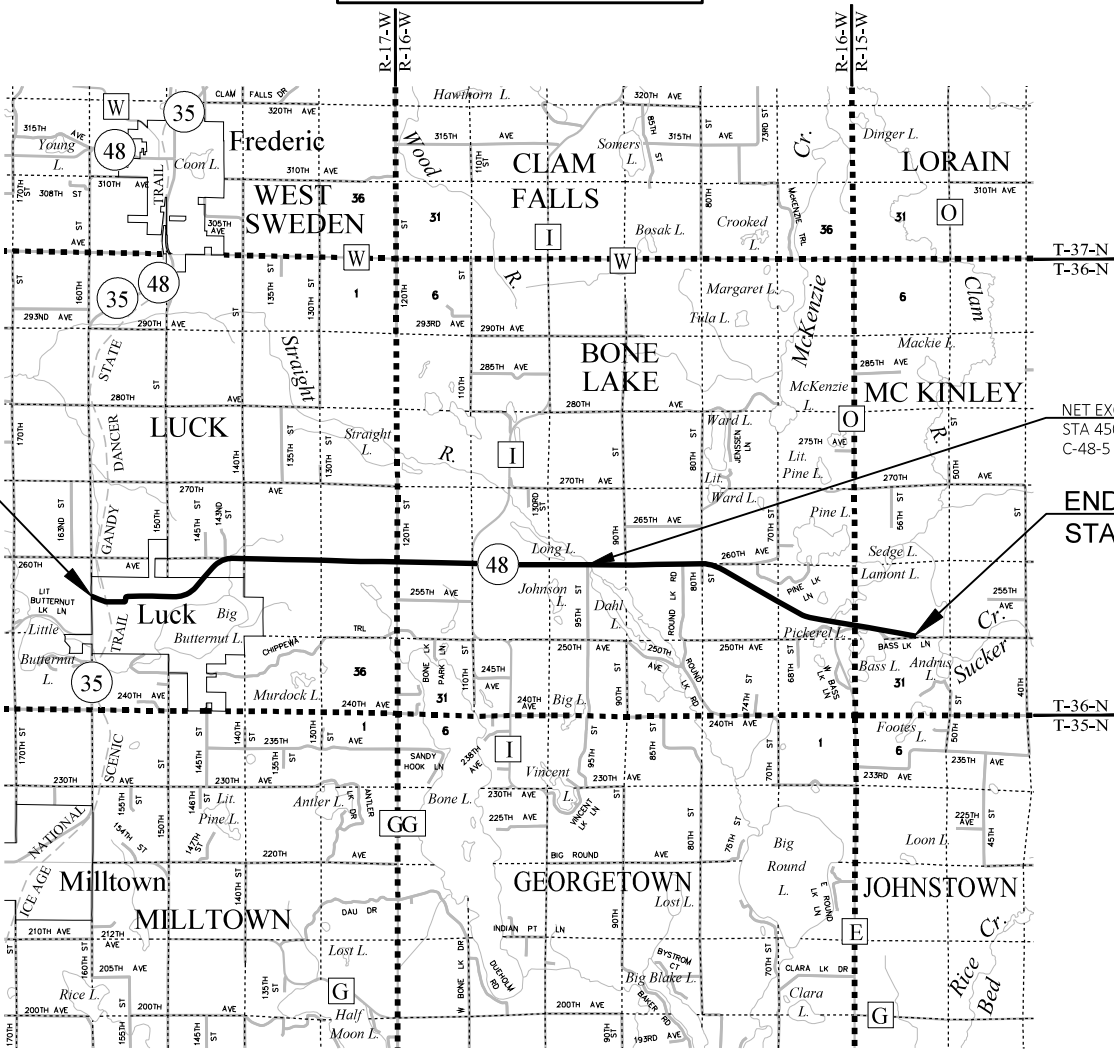
POLK COUNTY

STATE PROJECT NUMBER  
8820-00-70

BEGIN PROJECT  
STA 95+77  
Y=333,891.52  
X=502,117.16

NET EXCEPTION TO CL LENGTH  
STA 450+40 - STA 450+59  
C-48-5

END PROJECT  
STA 685+63



LAYOUT  
SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 11.168 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), POLK COUNTY, NAD83 ( 2011 ), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES.

ELEVATIONS ARE REFERENCED TO NAVD 88 ( 2012 ). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

| STATE PROJECT | FEDERAL PROJECT |          |
|---------------|-----------------|----------|
|               | PROJECT         | CONTRACT |
| 8820-00-70    |                 |          |
|               |                 |          |
|               |                 |          |
|               |                 |          |



500 North 17th Avenue  
Wausau, WI 54401  
715.845.1081 Fax 715.845.1099



4/21/25  
(Date)

*Stephanie G. Christensen*  
(Signature)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

|                     |                   |
|---------------------|-------------------|
| PREPARED BY         |                   |
| Surveyor            | CBS2 & EMCS, INC. |
| Designer            | EMCS, INC.        |
| Project Manager     | TOU YANG          |
| Regional Examiner   | REGIONAL EXAMINER |
| Regional Supervisor | TOU YANG          |

APPROVED FOR THE DEPARTMENT  
DATE: 4/22/2025 *Tou Yang*  
(Signature)

E

GENERAL NOTES

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

CROSS DRAIN PIPE LOCATIONS AND ELEVATIONS AS SHOWN ON THE CROSS SECTION SHEETS ARE APPROXIMATE AND SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.

ORDER OF SECTION 2 SHEETS

- PROJECT OVERVIEW
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- INTERSECTION DETAILS
- CURB RAMP DETAILS
- SIGNING AND MARKING
- TRAFFIC CONTROL

OTHER CONTACTS

**DNR LIAISON**  
AMY CRONK  
DNR NORTHERN REGION HEADQUARTERS  
810 W. MAPLE STREET  
SPOONER, WI 54801  
PHONE: (715) 635-4229  
CELL: (715) 520-3976  
AMY.CRONK@WISCONSIN.GOV

**VILLAGE OF LUCK STREET LIGHTING**  
SCOTT ANDERSON  
LUCK VILLAGE HALL  
401 MAIN ST. SOUTH  
PO BOX 315  
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VOLPUBLICWORKS@LUCKWISCONSIN.COM

**DESIGNER CONTACT**  
EMCS, INC.  
327 N 17TH AVE, SUITE 304  
WAUSAU, WI 54401  
PHONE: (715) 845-1081

**WISDOT DESIGNER CONTACT**  
CAMERON SHIFFER  
CORRE, INC.  
1802 WARDEN STREET  
EAU CLAIRE, WI 54703  
PHONE: (715) 495-2196  
CSHIFFER@CORREINC.COM

**ELECTRIC - DISTRIBUTION**  
DAIRYLAND POWER COOPERATIVE  
MICHAEL LYDON  
3200 EAST AVENUE SOUTH  
LA CROSSE, WI 54602-0817  
MOBILE PHONE: (608) 787-1381  
MICHAEL.LYDON@DAIRYLANDPOWER.COM

NORTHWESTERN WISCONSIN ELECTRIC CO.  
BILL COOPER  
104 S PINE ST  
GRANTSBURG, WI 54840  
MOBILE PHONE: (715) 463-1977  
BILLCOOPER@NWECO.COM

POLK-BURNETT ELECTRIC COOPERATIVE  
JESSE SEERING  
1001 STATE ROAD 35  
CENTURIA, WI 54824  
MOBILE PHONE: (715) 646-2191  
JSEERING@POLKBURNETT.COM

XCEL ENERGY  
ASHLEY LARSON  
2001 OLD HWY 35 A  
HUDSON, WI 54016  
MOBILE PHONE: (612) 346-5766  
ASHLEY.M.LARSON@XCELENERGY.COM

UTILITIES

**COMMUNICATIONS**  
BRIGHTSPEED OF WESTERN WISCONSIN, LLC  
BRIAN HUHN  
425 ELLINGON AVE  
HAWKINS, WI 54530  
MOBILE PHONE: (980) 376-1559  
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LAKELAND TELECOM INC.  
MARK MAYER  
825 INNOVATION AVE  
P.O. BOX 40  
MILLTOWN, WI 54858  
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MARKM@LAKELANDTEAM.COM

**GAS/PETROLEUM**  
WE ENERGIES  
STEVEN CHAVERS  
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STEVEN.CHAVERS@WE-ENERGIES.COM

**SANITARY SEWER**  
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**WATER**  
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VOLPUBLICWORKS@LUCKWISCONSIN.COM

DIGGERS



HOTLINE

Dial  or (800)242-8511

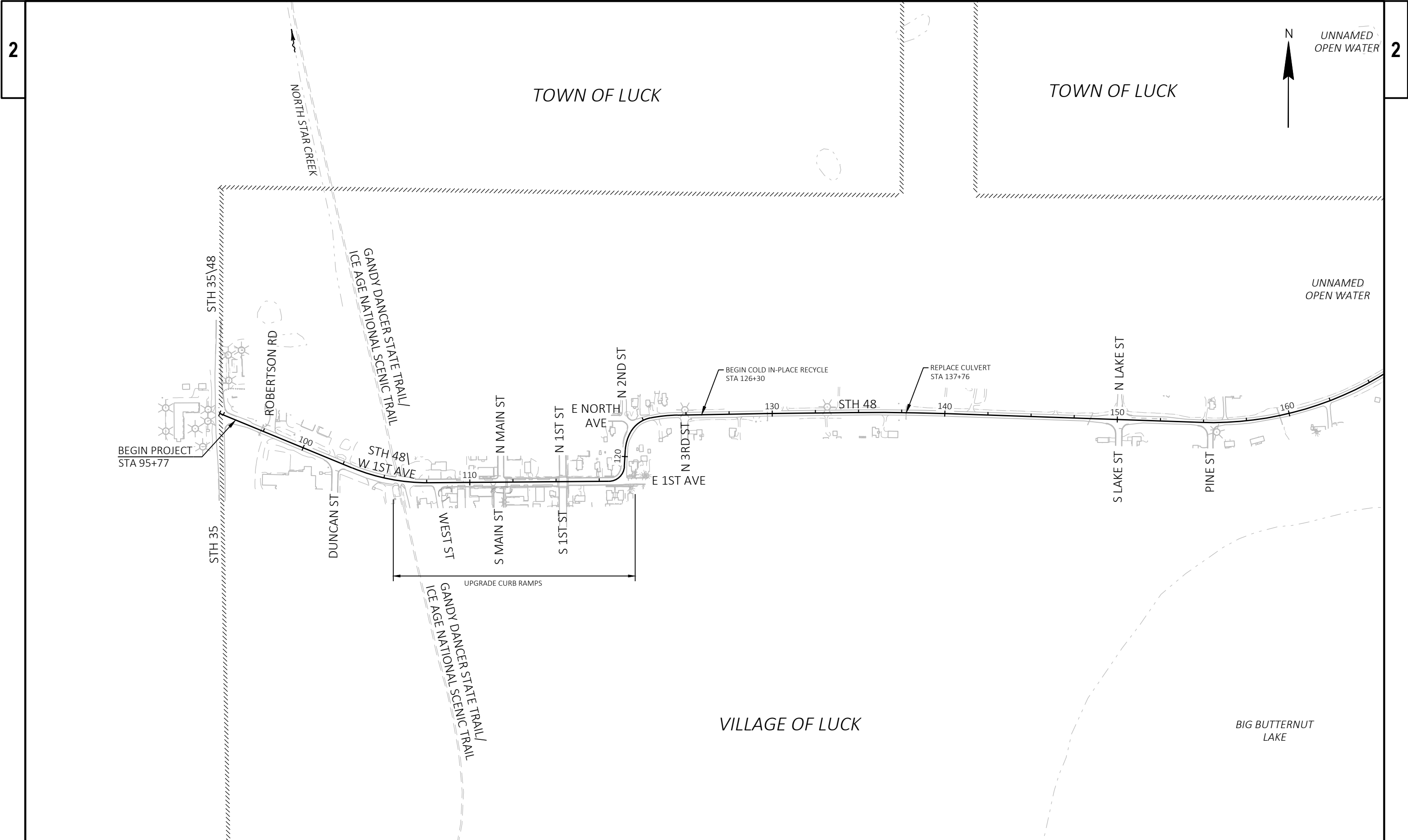
www.DiggersHotline.com

RUNOFF COEFFICIENT TABLE

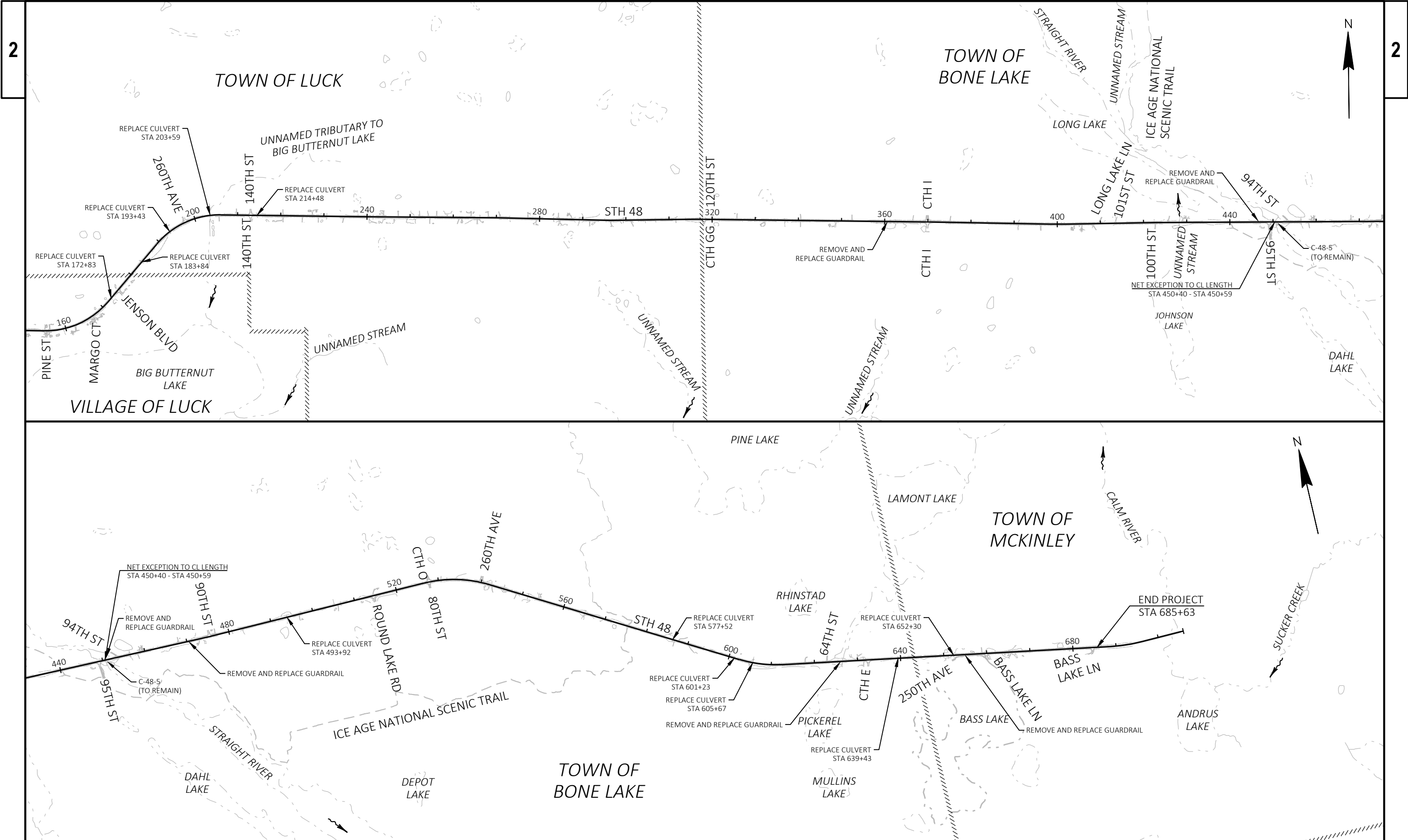
|                         | HYDROLOGIC SOIL GROUP |            |            |                       |            |            |                       |            |            |                       |            |            |
|-------------------------|-----------------------|------------|------------|-----------------------|------------|------------|-----------------------|------------|------------|-----------------------|------------|------------|
|                         | 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-<br>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-<br>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 = 163 ACRES  
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 6.3 ACRES

| CORE DATA |          |          |           |            |           |          |                    |                                                       |
|-----------|----------|----------|-----------|------------|-----------|----------|--------------------|-------------------------------------------------------|
| CORE      | NORTHING | EASTING  | LATITUDE  | LONGITUDE  | STATION   | OFFSET   | HMA THICKNESS (IN) | MATERIAL BELOW / NOTE                                 |
| C-01      | 333739.5 | 502472.3 | 45.576304 | -92.487008 | 99+62.80  | 5.7' RT  | 3.5                | 6.25" CONCRETE / BASE                                 |
| C-02      | 333541.3 | 503425.6 | 45.575756 | -92.483286 | 109+50.23 | 7.3' LT  | 2.25               | 6.75" CONCRETE / BASE                                 |
| C-03      | 333600.9 | 504373.9 | 45.575914 | -92.479583 | 119+17.31 | 12' RT   | 3.125              | BASE                                                  |
| C-04      | 333943.9 | 505112.4 | 45.576851 | -92.476697 | 128+85.76 | 7.2' LT  | 4.5                | 7" RECLAIMED                                          |
| C-05      | 333939.7 | 506094.4 | 45.576834 | -92.472862 | 138+67.76 | 3.4' RT  | 3.75               | 2.75" RECLAIMED                                       |
| C-06      | 333923.4 | 507079.0 | 45.576784 | -92.469017 | 148+52.44 | 9' LT    | 4.75               | 3.25" RECLAIMED                                       |
| C-07      | 333906.5 | 508037.4 | 45.576732 | -92.465275 | 158+11.63 | 5.5' RT  | 3.5                | 3.5" RECLAIMED                                        |
| C-08      | 334297.4 | 508929.5 | 45.577799 | -92.461788 | 167+97.35 | 8.5' LT  | 4                  | 5" RECLAIMED                                          |
| C-09      | 334988.1 | 509599.1 | 45.579689 | -92.459167 | 177+62.12 | 7.4' RT  | 3.5                | 3.25" RECLAIMED                                       |
| C-10      | 335738.4 | 510230.7 | 45.581743 | -92.456695 | 187+42.78 | 4.8' LT  | 3.25               | 6.25" RECLAIMED                                       |
| C-11      | 336350.0 | 510996.7 | 45.583416 | -92.453698 | 197+32.88 | 6' RT    | 3.625              | 4.5" RECLAIMED                                        |
| C-12      | 336537.3 | 511940.3 | 45.583923 | -92.450011 | 207+04.61 | 7' LT    | 4                  | 4.25" RECLAIMED                                       |
| C-13      | 336497.1 | 512922.9 | 45.583807 | -92.446174 | 216+87.89 | 8.6' RT  | 4.5                | 2.5" RECLAIMED                                        |
| C-14      | 336490.4 | 513894.0 | 45.583782 | -92.442381 | 226+58.88 | 6.8' LT  | 3.75               | 5.25" RECLAIMED                                       |
| C-15      | 336450.3 | 514876.4 | 45.583666 | -92.438545 | 236+41.95 | 9' RT    | 4                  | 4.25" RECLAIMED                                       |
| C-16      | 336441.9 | 515859.3 | 45.583636 | -92.434707 | 246+24.79 | 3' LT    | 4                  | 6" RECLAIMED                                          |
| C-17      | 336414.6 | 516829.0 | 45.583554 | -92.430920 | 255+94.84 | 3.8' RT  | 4.25               | 5.25" RECLAIMED                                       |
| C-18      | 336409.0 | 517796.9 | 45.583533 | -92.427140 | 265+62.67 | 9' LT    | 3.75               | 3.75" RECLAIMED                                       |
| C-19      | 336365.9 | 518778.7 | 45.583407 | -92.423306 | 275+45.29 | 6.8' RT  | 4                  | 5.375" RECLAIMED                                      |
| C-20      | 336346.0 | 519762.7 | 45.583346 | -92.419463 | 285+29.39 | 8.1' LT  | 3.625              | 6.75" RECLAIMED                                       |
| C-21      | 336298.8 | 520745.8 | 45.583209 | -92.415625 | 295+13.53 | 6.5' RT  | 3.75               | 5.5" RECLAIMED                                        |
| C-22      | 336308.9 | 521722.4 | 45.583229 | -92.411811 | 304+90.02 | 6.5' LT  | 4.875              | 6" RECLAIMED                                          |
| C-23      | 336297.3 | 522692.2 | 45.58319  | -92.408023 | 314+59.85 | 7' RT    | 6                  | 0.5" RECLAIMED / BASE (POSSIBLE 1.5" VOID BELOW RECL) |
| C-24      | 336293.6 | 523669.0 | 45.583172 | -92.404208 | 324+36.62 | 9.8' LT  | 3.375              | 1.5" RECLAIMED / BASE                                 |
| C-25      | 336255.8 | 524640.2 | 45.583061 | -92.400416 | 334+08.43 | 5.3' RT  | 2.75               | 5.5" RECLAIMED                                        |
| C-26      | 336244.0 | 525615.8 | 45.583021 | -92.396606 | 343+84.05 | 4.6' LT  | 3.375              | 1" BASE                                               |
| C-27      | 336209.0 | 526598.6 | 45.582917 | -92.392768 | 353+67.39 | 6.8' RT  | 4.75               | RECLAIMED                                             |
| C-28      | 336200.3 | 527621.6 | 45.582884 | -92.388773 | 363+90.32 | 7.3' LT  | 5.125              | 3.5" RECLAIMED                                        |
| C-29      | 336159.4 | 528548.3 | 45.582765 | -92.385155 | 373+17.78 | 9.5' RT  | 3.75               | 5.5" RECLAIMED                                        |
| C-30      | 336148.2 | 529530.1 | 45.582725 | -92.381321 | 382+99.49 | 7.8' LT  | 4                  | 4.25" RECLAIMED                                       |
| C-31      | 336104.8 | 530511.6 | 45.582598 | -92.377488 | 392+81.84 | 4.4' RT  | 3.5                | RECLAIMED                                             |
| C-32      | 336096.6 | 531485.1 | 45.582567 | -92.373686 | 402+55.47 | 5.6' LT  | 4                  | 5.75" RECLAIMED                                       |
| C-33      | 336087.7 | 532465.7 | 45.582534 | -92.369857 | 412+36.01 | 8.9' RT  | 4.5                | 4.25" RECLAIMED / BASE                                |
| C-34      | 336107.1 | 533451.8 | 45.582578 | -92.366006 | 422+22.20 | 7' LT    | 4                  | 3" RECLAIMED                                          |
| C-35      | 336087.2 | 534425.3 | 45.582514 | -92.362204 | 431+95.74 | 9' RT    | 4.375              | 2" RECLAIMED                                          |
| C-36      | 336096.0 | 535414.0 | 45.582529 | -92.358343 | 441+84.37 | 5.8' LT  | 4.5                | 3" RECLAIMED                                          |
| C-37      | 336075.6 | 536385.4 | 45.582464 | -92.354549 | 451+55.88 | 8.8' RT  | 4.25               | 0.25" BASE                                            |
| C-38      | 336086.3 | 537354.8 | 45.582484 | -92.350763 | 461+25.19 | 7' LT    | 4.125              | 0.25" RECLAIMED                                       |
| C-39      | 336068.1 | 538348.7 | 45.582424 | -92.346882 | 471+19.19 | 6.6' RT  | 4.5                | 3.125" RECLAIMED                                      |
| C-40      | 336087.7 | 539320.6 | 45.582469 | -92.343086 | 480+91.27 | 8' LT    | 4                  | 3.5" RECLAIMED                                        |
| C-41      | 336087.9 | 540292.1 | 45.58246  | -92.339292 | 490+62.65 | 8.3' RT  | 3.5                | 0.5" RECLAIMED / CRACK AT 1.5"                        |
| C-42      | 336121.4 | 541270.4 | 45.582542 | -92.335472 | 500+41.36 | 11.3' LT | 4.5                | 0.375" RECLAIMED                                      |
| C-43      | 336121.5 | 542254.7 | 45.582532 | -92.331628 | 510+25.53 | 6.8' RT  | 4                  | 5" RECLAIMED                                          |
| C-44      | 336157.1 | 543264.7 | 45.582619 | -92.327683 | 520+35.98 | 7.4' LT  | 5                  | 3" RECLAIMED                                          |
| C-45      | 336131.7 | 544252.2 | 45.582539 | -92.323827 | 530+24.73 | 8.3' RT  | 3.75               | 6.5" RECLAIMED                                        |
| C-46      | 335873.2 | 545214.8 | 45.581820 | -92.320071 | 540+24.90 | 10.1' LT | 5                  | BASE                                                  |
| C-47      | 335382.5 | 546043.7 | 45.580465 | -92.316842 | 549+87.25 | 7.6' RT  | 4                  | 3.875" RECLAIMED                                      |
| C-48      | 334903.7 | 546904.6 | 45.579143 | -92.313487 | 559+72.27 | 4.6' LT  | 4.25               | 4" RECLAIMED                                          |
| C-49      | 334409.4 | 547753.4 | 45.577778 | -92.310181 | 569+54.48 | 7' RT    | 4.125              | 0.125" RECLAIMED                                      |
| C-50      | 333930.9 | 548609.5 | 45.576456 | -92.306845 | 579+35.19 | 7.6' LT  | 3.75               | 2.75" RECLAIMED                                       |
| C-51      | 333429.5 | 549451.1 | 45.575072 | -92.303567 | 589+14.66 | 11.3' RT | 3.875              | BASE                                                  |
| C-52      | 332955.6 | 550324.6 | 45.573762 | -92.300164 | 599+08.19 | 9.7' LT  | 3.375              | 2.25" RECLAIMED / BASE                                |
| C-53      | 332507.2 | 551227.4 | 45.572522 | -92.296646 | 609+18.45 | 8.5' RT  | 4.625              | 1.625" RECLAIMED / BASE                               |
| C-54      | 332343.9 | 552169.1 | 45.572064 | -92.292972 | 618+73.92 | 6' LT    | 3.75               | 3.5" RECLAIMED                                        |
| C-55      | 332164.5 | 553126.7 | 45.571561 | -92.289236 | 628+48.10 | 5.8' RT  | 3.75               | BASE                                                  |
| C-56      | 332006.9 | 554102.5 | 45.571117 | -92.285428 | 638+36.47 | 6.7' LT  | 3                  | 3" RECLAIMED                                          |
| C-57      | 331824.0 | 555072.6 | 45.570604 | -92.281644 | 648+23.57 | 8.2' RT  | 4                  | 2.875" RECLAIMED                                      |
| C-58      | 331666.7 | 556049.9 | 45.57016  | -92.277831 | 658+13.36 | 6.9' LT  | 5.5                | BASE                                                  |
| C-59      | 331491.3 | 556993.9 | 45.569668 | -92.274148 | 667+73.46 | 3.5' RT  | 5.5                | 0.125" RECLAIMED                                      |
| C-60      | 331332.7 | 557961.6 | 45.569221 | -92.270372 | 677+54.02 | 4.6' LT  | 4.875              | BASE                                                  |

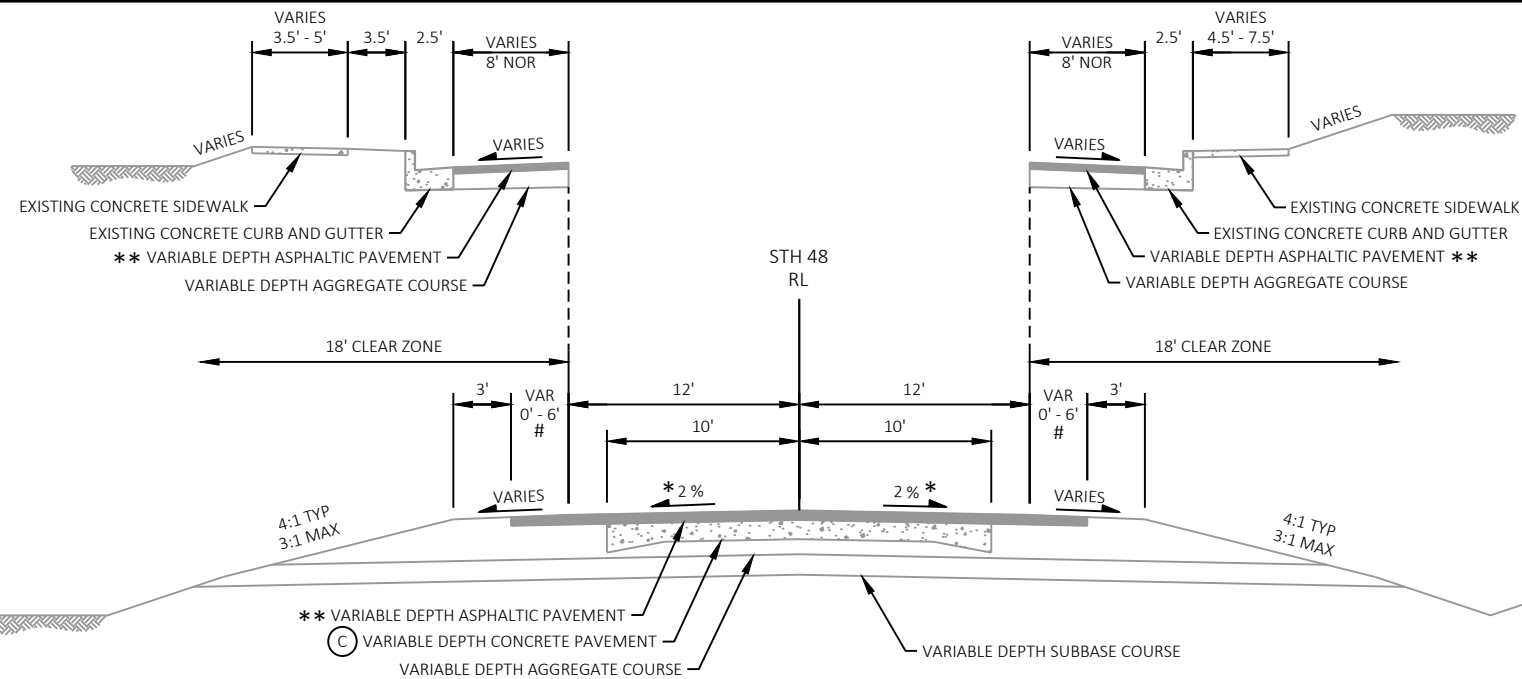


|                        |             |              |                  |         |   |
|------------------------|-------------|--------------|------------------|---------|---|
| PROJECT NO: 8820-00-70 | HWY: STH 48 | COUNTY: POLK | PROJECT OVERVIEW | SHEET 3 | E |
|------------------------|-------------|--------------|------------------|---------|---|





STA 106+83 - STA 119+36



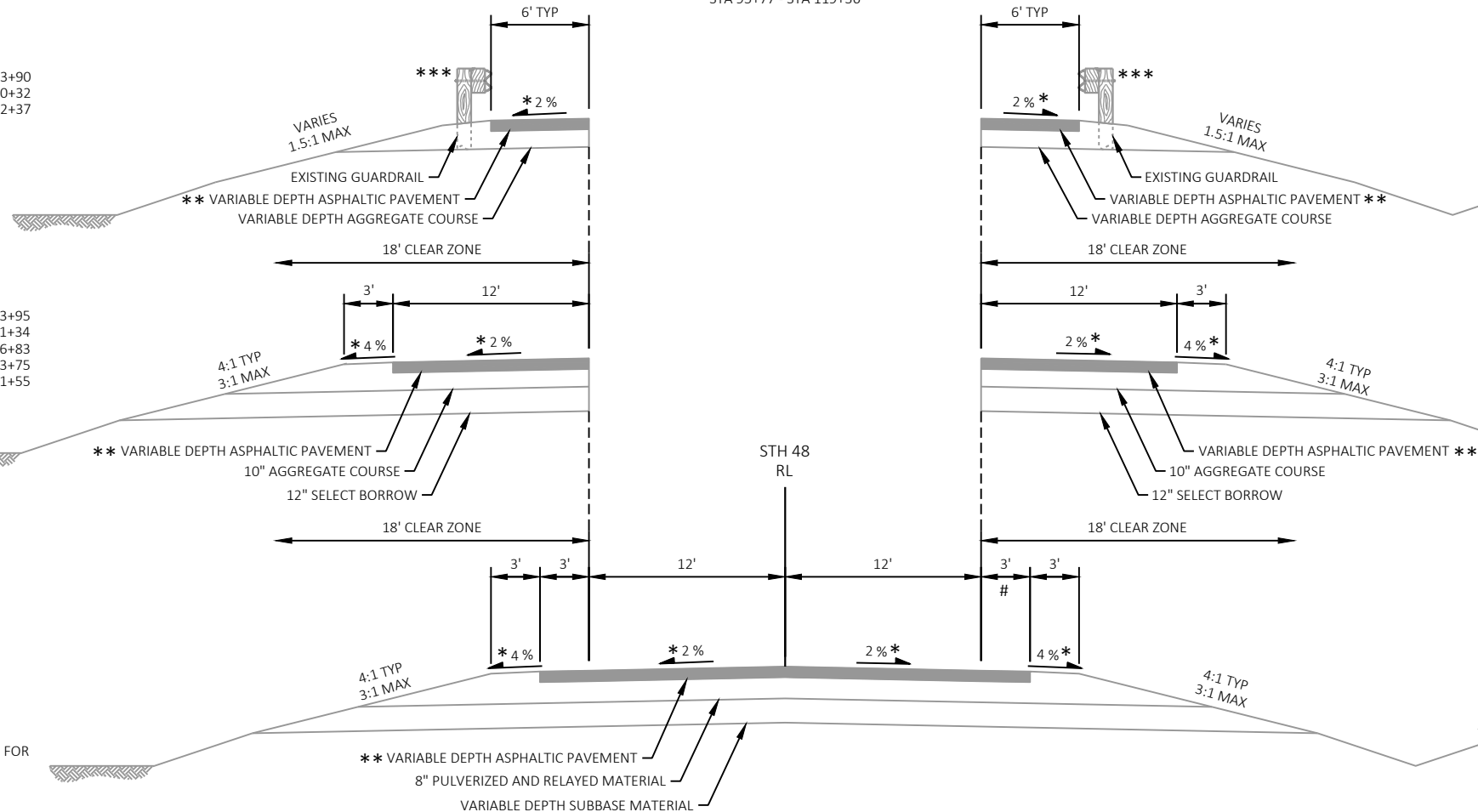
STA 106+83 - STA 119+02

## EXISTING TYPICAL SECTION

STA 95+77 - STA 119+36

GUARDRAIL  
STA 360+10 - STA 363+90  
STA 441+75 - STA 450+32  
STA 623+14 - STA 632+37

TURN LANE  
STA 150+12 - STA 153+95  
STA 197+69 - STA 201+34  
STA 213+00 - STA 216+83  
STA 369+92 - STA 373+75  
STA 527+82 - STA 531+55



GUARDRAIL  
STA 357+78 - STA 363+45  
STA 449+28 - STA 450+49  
STA 469+93 - STA 471+91  
STA 622+95 - STA 628+23  
STA 653+92 - STA 658+48

TURN LANE  
STA 314+24 - STA 318+10  
STA 364+82 - STA 369+92  
STA 445+18 - STA 449+09  
STA 510+75 - STA 514+60

## EXISTING TYPICAL SECTION

STA 119+36 - STA 450+40 (C-48-5)  
STA 459+00 - STA 652+50  
STA 682+50 - STA 685+63

## NOTES

- \* CROSS SLOPE VARIES DUE TO SUPERELEVATION, SEE SECTION 5 SHEETS FOR FOR CURVE INFORMATION
- \*\* SEE GENERAL NOTES FOR EXISTING DEPTHS FROM PAVEMENT CORES
- \*\*\* SEE CONSTRUCTION DETAILS FOR LOCATION OF EXISTING GUARDRAIL

Ⓒ CONCRETE PAVEMENT IS LOCATED FROM STA 95+77 - STA 111+32  
CONCRETE PAVEMENT MAY BE PRESENT FROM STA 111+32 - STA 116+50

FROM STA 102+72 - STA 105+60 RT, PAVED SHOULDER WIDTH IS 14'  
# FROM STA 105+83 - STA 106+82 LT, PAVED SHOULDER WIDTH IS 16'  
FROM STA 125+28 - STA 128+25 RT, PAVED SHOULDER WIDTH IS 6'



## NOTES

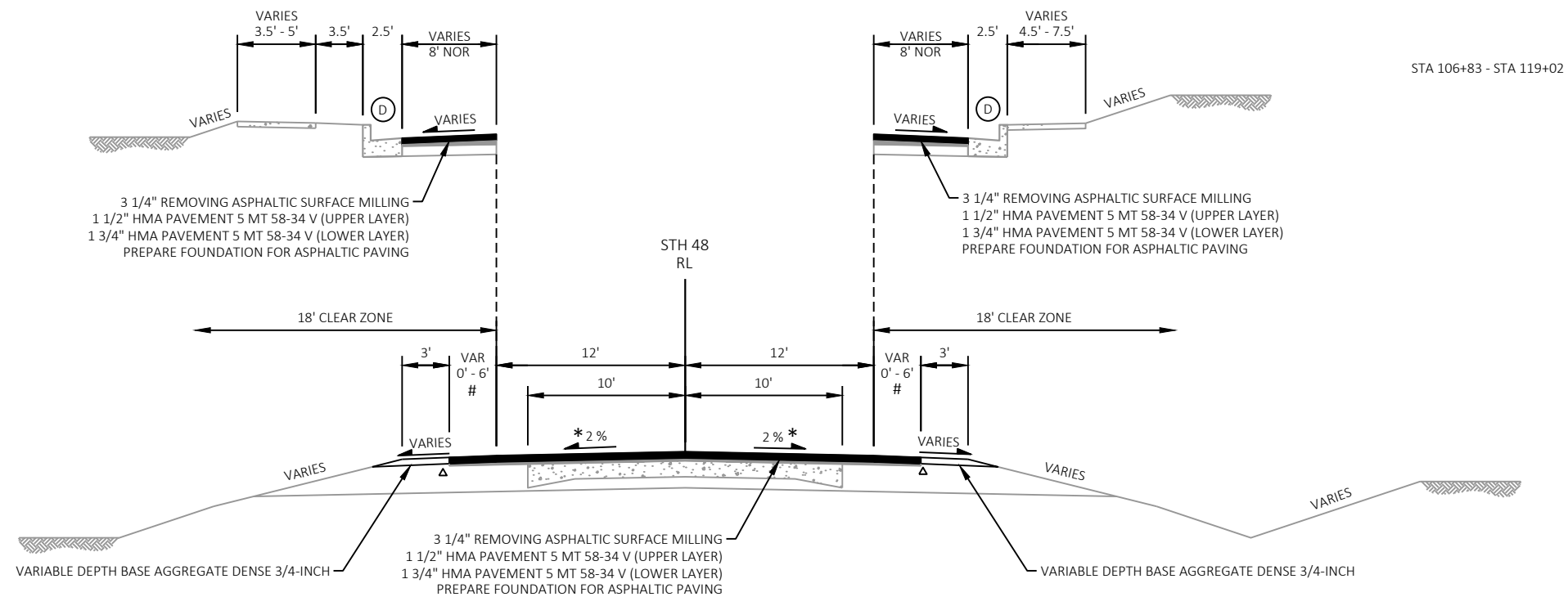
PROJECT NO: 8820-00-70

HWY: STH 48

COUNTY: POLK

## TYPICAL SECTIONS

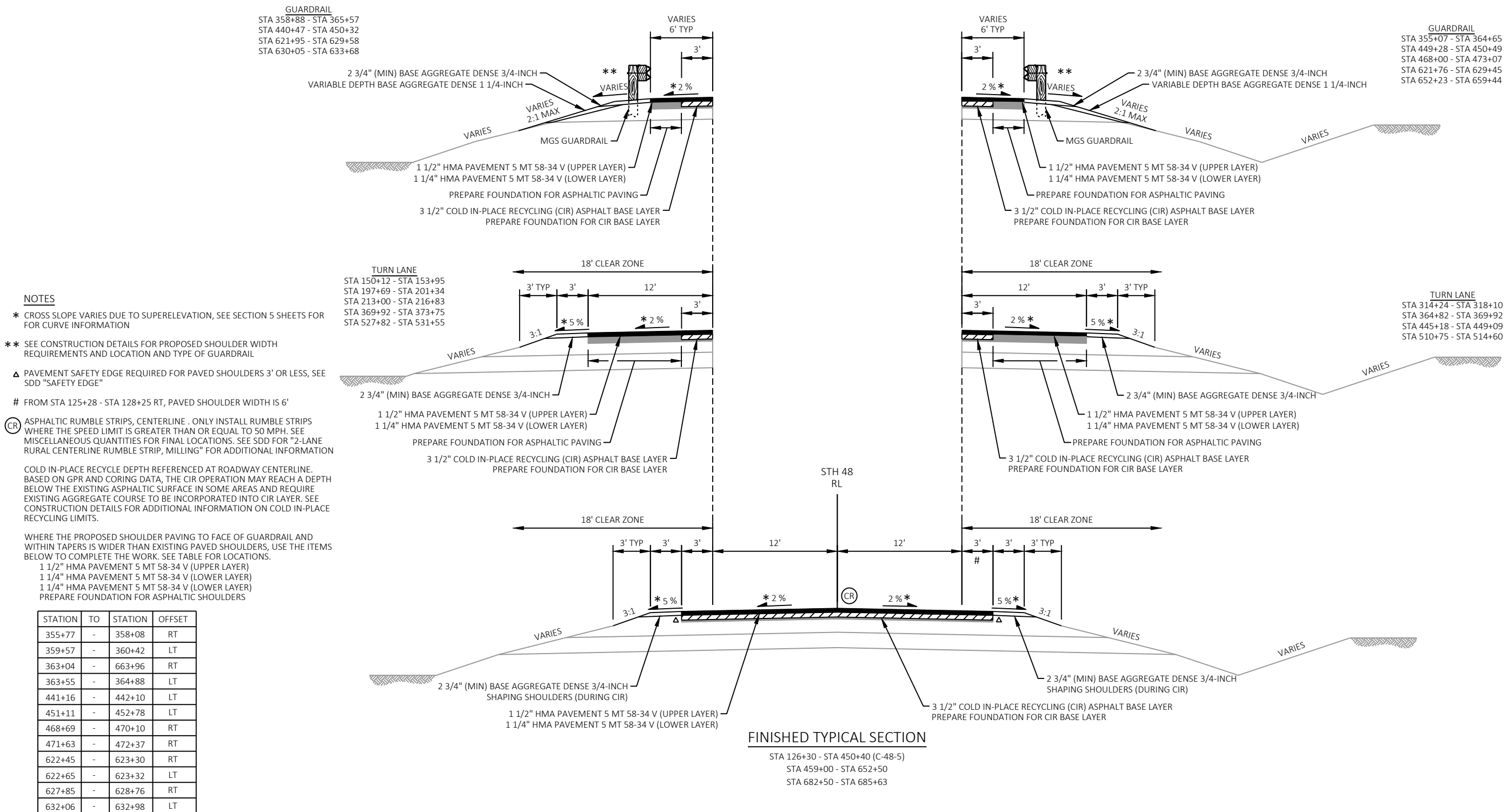
SHEET

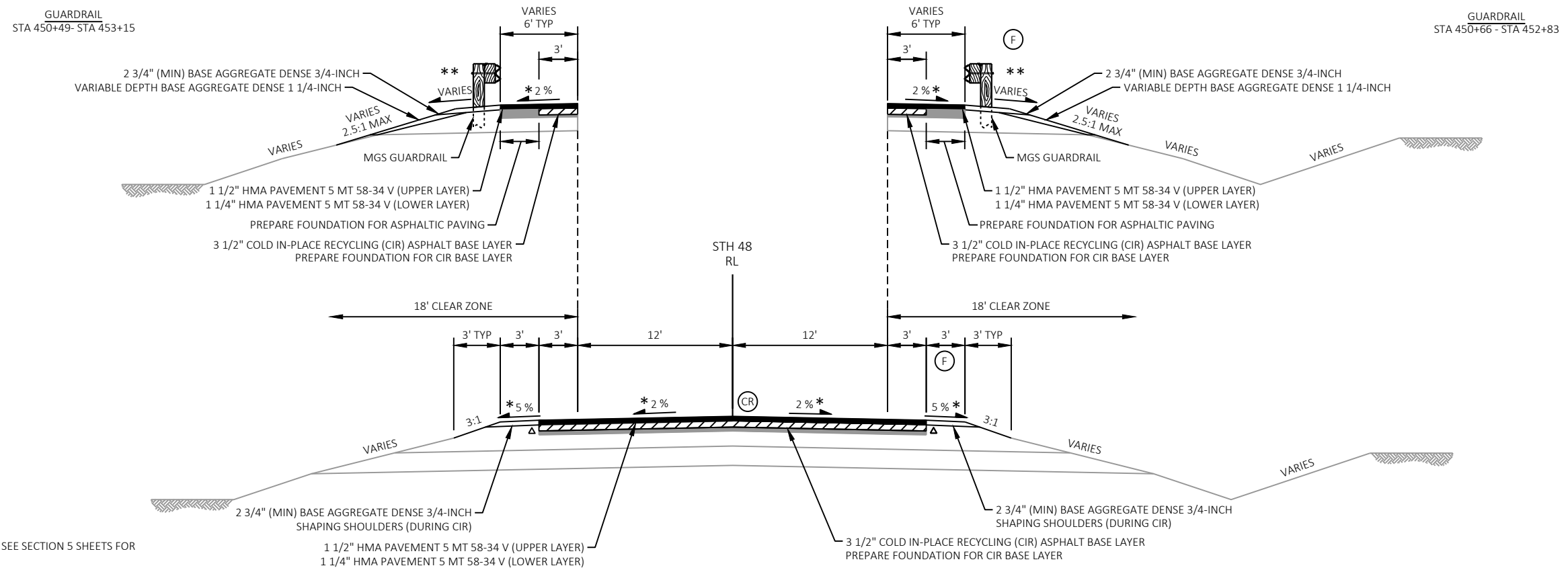
**FINISHED TYPICAL SECTION**

STA 95+77 - STA 126+30

**NOTES**

- \* CROSS SLOPE VARIES DUE TO SUPERELEVATION, SEE SECTION 5 SHEETS FOR CURVE INFORMATION
- EXISTING CONCRETE PAVEMENT IS LOCATED FROM STA 95+77 - STA 111+32 AND MAY BE PRESENT FROM STA 111+32 - STA 116+50, ADJUST MILLING DEPTH IN THIS LOCATION AS TO NOT MILL ANY EXISTING CONCRETE PAVEMENT
- # FROM STA 102+72 - STA 105+60 RT, PAVED SHOULDER WIDTH IS 14' FROM STA 105+83 - STA 106+82 LT, PAVED SHOULDER WIDTH IS 16'
- ▲ PAVEMENT SAFETY EDGE REQUIRED FOR PAVED SHOULDERS 3' OR LESS, SEE SDD "SAFETY EDGE"
- ⓓ SEE CURB RAMP DETAILS FOR SIDEWALK AND CURB & GUTTER REPLACEMENTS INCLUDED WITH PROJECT
- MILLING DEPTH REFERENCED AT ROADWAY CENTERLINE





#### NOTES

\* CROSS SLOPE VARIES DUE TO SUPERELEVATION, SEE SECTION 5 SHEETS FOR CURVE INFORMATION

\*\* SEE CONSTRUCTION DETAILS FOR PROPOSED SHOULDER WIDTH REQUIREMENTS AND LOCATION AND TYPE OF GUARDRAIL

▲ PAVEMENT SAFETY EDGE REQUIRED FOR PAVED SHOULDERS 3' OR LESS, SEE SDD "SAFETY EDGE"

(CR) ASPHALTIC RUMBLE STRIPS, CENTERLINE. ONLY INSTALL RUMBLE STRIPS WHERE THE SPEED LIMIT IS GREATER THAN OR EQUAL TO 50 MPH. SEE MISCELLANEOUS QUANTITIES FOR FINAL LOCATIONS. SEE SDD FOR "2-LANE RURAL CENTERLINE RUMBLE STRIP, MILLING" FOR ADDITIONAL INFORMATION

(F) FROM STA 452+00 - STA 454+15, RT THERE IS A FIRE DEPARTMENT FILL SITE BEHIND THE END TREATMENT OF THE GUARDRAIL, ADDITIONAL PAVED WIDTH VARIES FROM 0' - 29'. OVERLAY FILL SITE WITH 2 3/4" HMA PAVEMENT, MATCH MAINLINE LAYERS. (SEE CONSTRUCTION DETAILS FOR LAYOUT)

COLD IN-PLACE RECYCLE DEPTH REFERENCED AT ROADWAY CENTERLINE. BASED ON GPR AND CORING DATA, THE CIR OPERATION MAY REACH A DEPTH BELOW THE EXISTING ASPHALTIC SURFACE IN SOME AREAS AND REQUIRE EXISTING AGGREGATE COURSE TO BE INCORPORATED INTO CIR LAYER. SEE CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION ON COLD IN-PLACE RECYCLING LIMITS.

WHERE THE PROPOSED SHOULDER PAVING TO FACE OF GUARDRAIL AND WITHIN TAPERS IS WIDER THAN EXISTING PAVED SHOULDERS, USE THE ITEMS BELOW TO COMPLETE THE WORK. SEE TABLE FOR LOCATIONS.

1 1/2" HMA PAVEMENT 5 MT 58-34 V (UPPER LAYER)  
1 1/4" HMA PAVEMENT 5 MT 58-34 V (LOWER LAYER)  
1 1/4" HMA PAVEMENT 5 MT 58-34 V (LOWER LAYER)  
PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS

| STATION | TO | STATION | OFFSET |
|---------|----|---------|--------|
| 652+83  | -  | 654+14  | RT     |
| 658+23  | -  | 659+14  | RT     |

#### FINISHED TYPICAL SECTION

STA 450+59 (C-48-5) - STA 459+00  
STA 652+50 - STA 682+50

2



STA 450+40 (C-48-5)  
STA 450+59 (C-48-5)  
STA 685+63 (END PROJECT)



| SIDE ROAD BUTT JOINT AND PROFILE MATCH DETAIL |                                 |
|-----------------------------------------------|---------------------------------|
| STA 150+10, LT (N LAKE ST)                    | STA 1898+00, RT (95TH ST)       |
| STA 150+12, RT (S LAKE ST)                    | STA 475+41, LT (90TH ST)        |
| STA 155+40, RT (PINE ST)                      | STA 514+57, RT (ROUND LAKE RD)  |
| STA 175+29, RT (JENSON BLVD)                  | STA 527+80, LT (CTH O)          |
| STA 197+71, LT (260TH AVE)                    | STA 527+83, RT (80TH ST)        |
| STA 213+00, LT (140TH ST)                     | STA 539+95, LT (260TH AVE)      |
| STA 213+03, RT (140TH ST)                     | STA 622+94, LT (64TH ST) *      |
| * STA 318+06, LT (120TH ST)                   | STA 632+48, RT (CTH E)          |
| STA 318+11, RT (CTH GG)                       | STA 651+45, RT (250TH AVE) *    |
| STA 369+90, LT (CTH I)                        | STA 659+90, RT (BASS LAKE LN) * |
| STA 369+90, RT (CTH I)                        | STA 684+55, RT (BASS LAKE LN)   |

**\* TRANSITION PROFILE TO MATCH EXISTING BASE AGGREGATE SIDE ROADS WITH VARIABLE DEPTH MILLING AS SHOWN; NO BUTT JOINT REQUIRED.**

PROJECT NO: 8820-00-70

HWY: STH 48

COUNTY: POLK

## CONSTRUCTION DETAILS

SHEET

10

# E

FILE NAME : P:\55X\5508.DP.22.STH35-48.PLK\CADD5\88200070\SHEETS\021001-CD.DWG  
LAYOUT NAME - 01

PLOT DATE : 4/9/2026 11:26 AM

PLOT BY : PARKER TISCHAUSER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

WISDOT/CADDS SHEET 42

2



STA 48 AND SIDE ROAD BUTT JOINT DETAIL

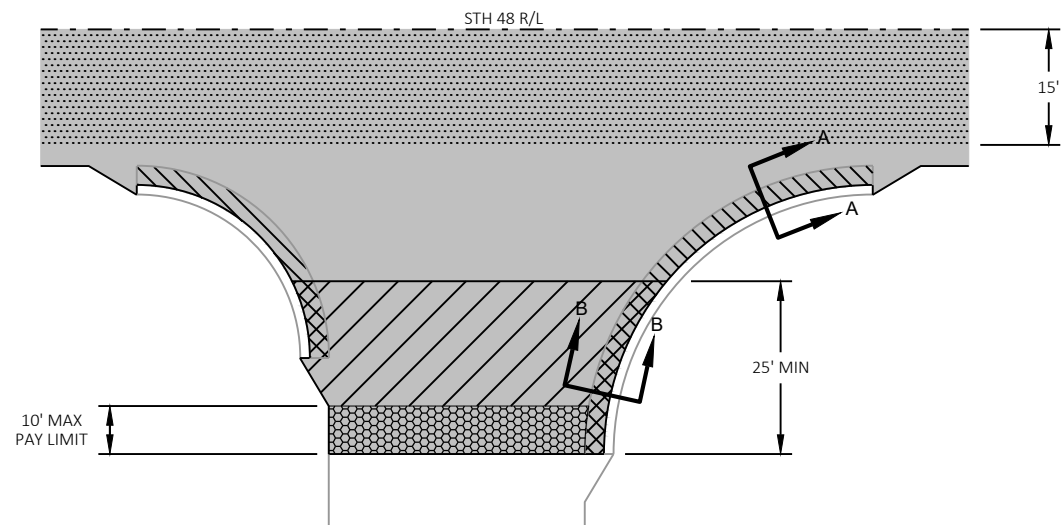
STA 95+77 (BEGIN PROJECT)  
STA 97+84,LT (ROBERTSON RD)  
STA 102+29,RT (DUNCAN ST)  
STA 108+15,RT (WEST ST)  
STA 111+67,RT (S MAIN ST)  
STA 111+80,LT (N MAIN ST)  
STA 115+39,LT (N 1ST ST)  
STA 115+39,RT (S 1ST ST)  
STA 118+93,RT (E 1ST AVE)  
STA 121+84,LT (E NORTH AVE)  
STA 124+92,RT (N 3RD ST)

**NOTE**  
SEE SECTION 5 PLANS FOR SIDE ROAD LOCATIONS.

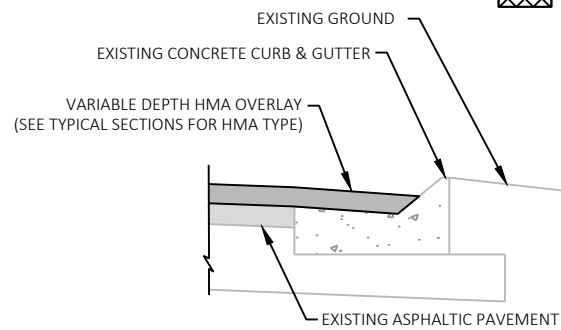


## MILL DEPTH TRANSITION DETAIL

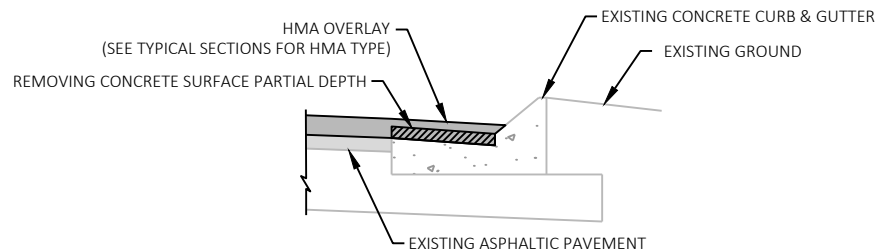




- PROPOSED COLD IN-PLACE RECYCLE
- REMOVING ASPHALTIC SURFACE MILLING SIDE ROAD PROFILE MATCH (0"-2.75")
- REMOVING ASPHALTIC SURFACE BUTT JOINTS  
DO NOT REMOVE MATERIAL UNDER THIS ITEM UNTIL 24 HOURS BEFORE PAVING
- PROPOSED HMA PAVEMENT OVERLAY
- CURB AND GUTTER PAN OVERLAY (2.75" MAX)
- REMOVING CONCRETE SURFACE PARTIAL DEPTH (0"-2.75")  
CURB AND GUTTER PAN OVERLAY



SECTION A-A



SECTION B-B

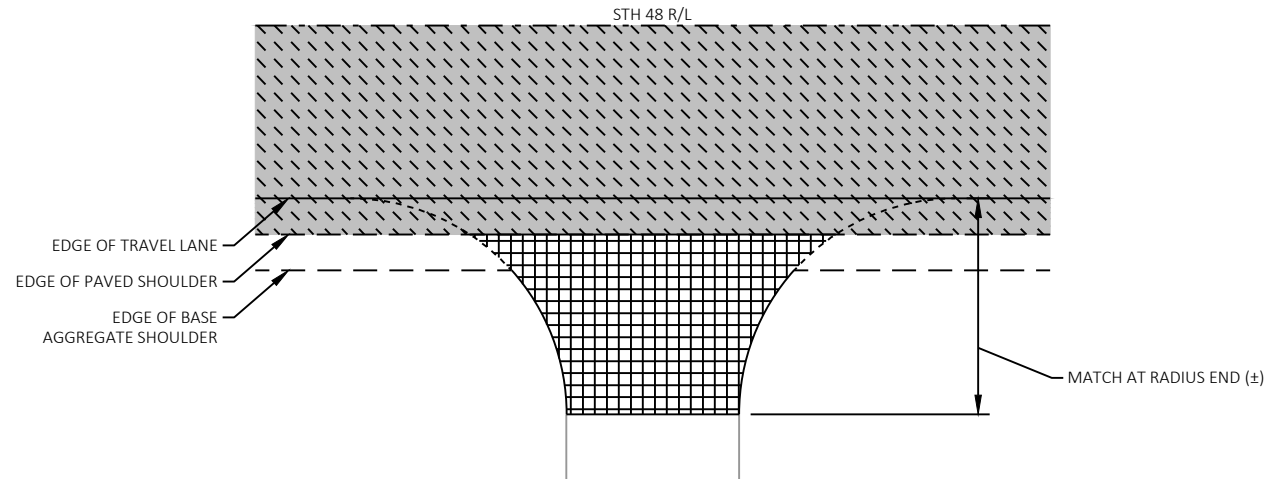
### RURAL INTERSECTION CURB AND GUTTER HMA OVERLAY DETAIL

LAKE ST (NW RADIUS)  
JENSON BLVD (SE RADIUS)  
CTH GG (SE RADIUS)  
CTH I (SW RADIUS)  
90TH ST (NW RADIUS)  
ROUND LAKE RD (SE RADIUS)  
ROUND LAKE RD (SW RADIUS)  
CTH E (SE RADIUS)  
260TH AVE (NW RADIUS)  
260TH AVE (NE RADIUS)

#### NOTES

SEE TYPICAL SECTIONS FOR PAVEMENT STRUCTURE AND HMA TYPE.

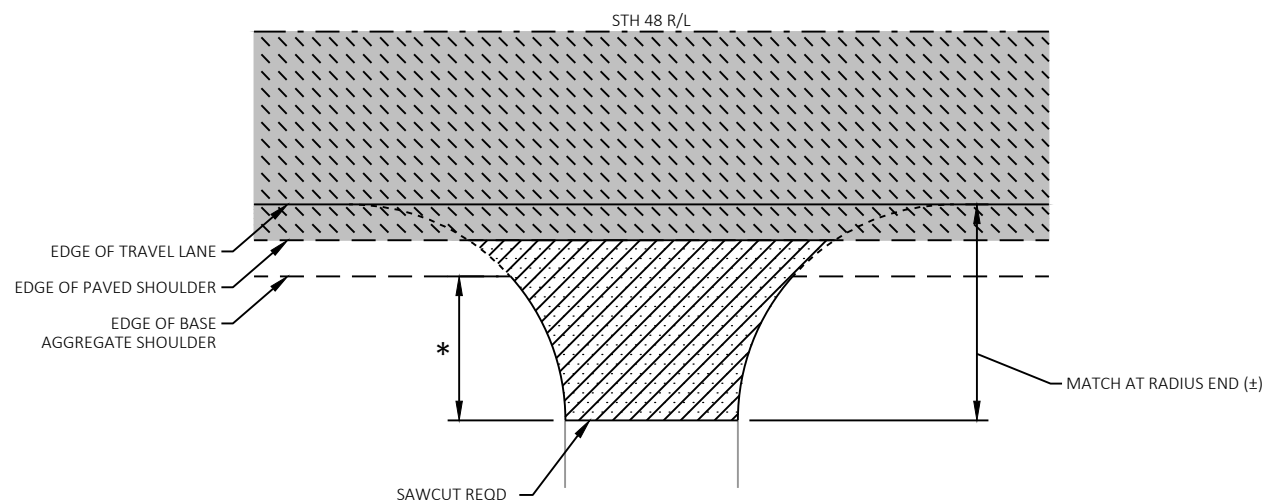
OVERLAY CURB AND GUTTER SUCH THAT THE SHOULDER SLOPE IS NOT GREATER THAN 6% AND THE LANE TO SHOULDER ROLLOVER PERCENTAGE DOES NOT EXCEED 8%.



- VARIABLE DEPTH BASE AGGREGATE DENSE 3/4-INCH
- REMOVING ASPHALTIC SURFACE MILLING/PROPOSED COLD IN-PLACE RECYCLE (SEE TYPICAL SECTIONS)
- PROPOSED HMA PAVEMENT OVERLAY

### UNPAVED SIDE ROAD AND DRIVEWAY DETAIL

STA 409+85, LT (LONG LAKE LN)  
STA 413+52, LT (101ST ST)  
STA 422+73, RT (100TH ST)  
STA 453+35, LT (94TH ST)  
DRIVEWAY LOCATIONS NOT SHOWN, MATCH EXISTING



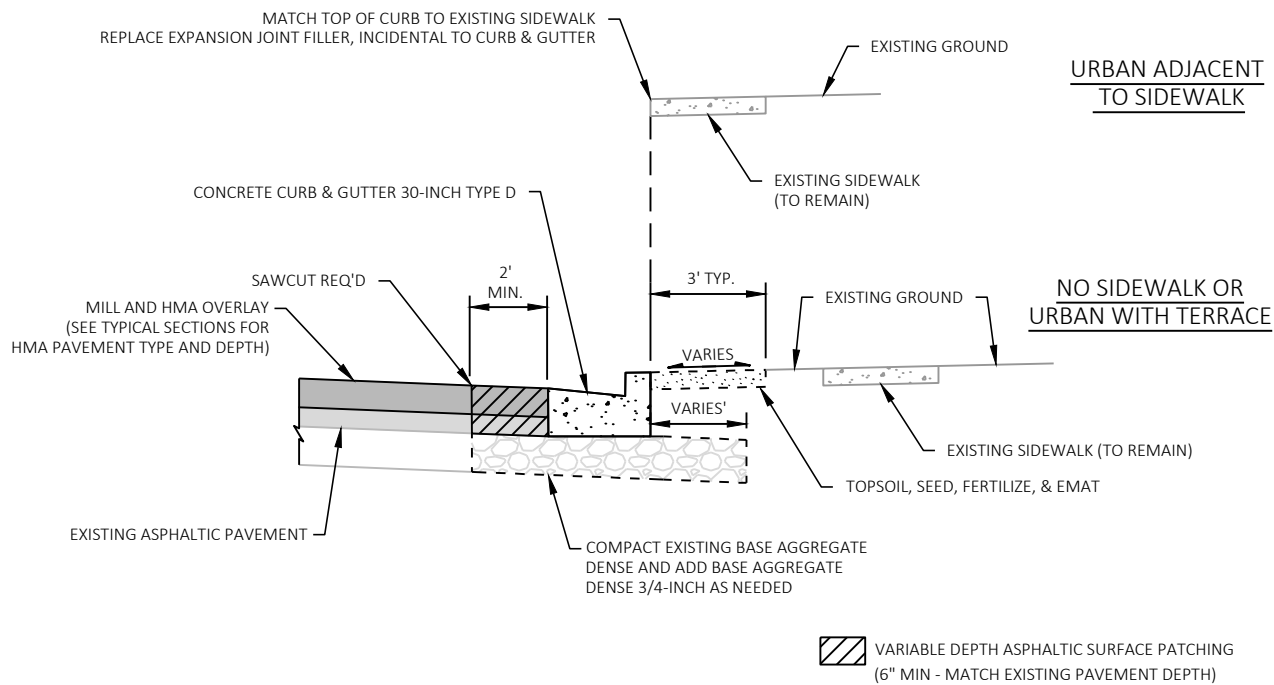
- REMOVING ASPHALTIC SURFACE OR REMOVING CONCRETE PAVEMENT
- REMOVING ASPHALTIC SURFACE MILLING/PROPOSED COLD IN-PLACE RECYCLE (SEE TYPICAL SECTIONS)
- PROPOSED HMA PAVEMENT OVERLAY
- PROPOSED 3" ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES

### PAVED DRIVEWAY DETAIL

DRIVEWAY LOCATIONS NOT SHOWN, MATCH EXISTING

#### NOTE

\* PROPOSED CONCRETE DRIVEWAY 6-INCH  
STA 261+09 - STA 261+58, RT



### DETAIL OF CURB & GUTTER REPLACEMENT

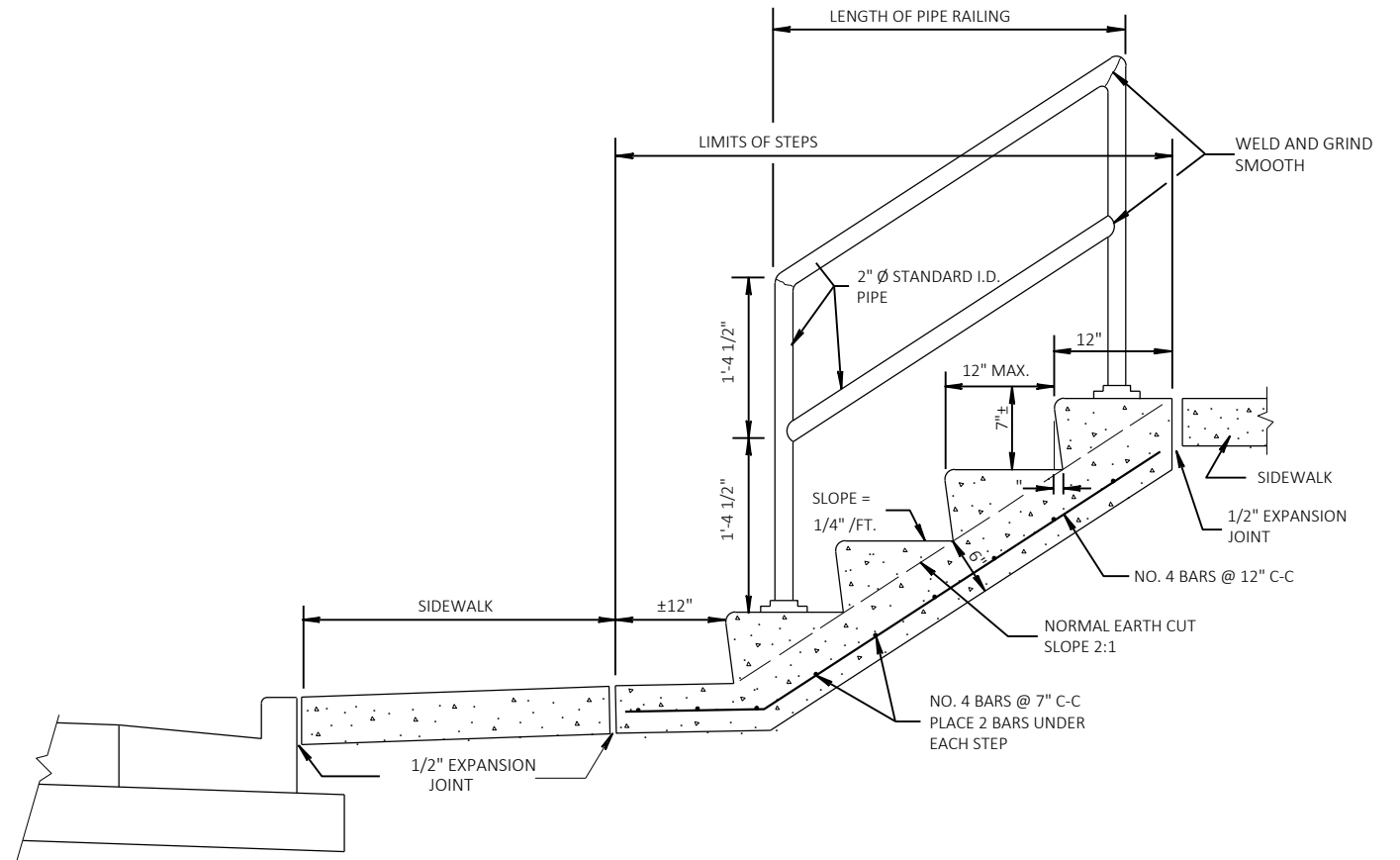
SEE CURB RAMP DETAILS FOR CURB & GUTTER REPLACEMENT LOCATIONS

#### NOTES

COMPLETE CURB & GUTTER REPLACEMENTS AND ASPHALTIC SURFACE PATCHING PRIOR TO THE MILL AND OVERLAY OF STH 48

FOR DETAILS NOT SHOWN, SEE SDD "CONCRETE CURB AND GUTTER"

SEE CURB RAMP DETAILS FOR ADDITIONAL INFORMATION INCLUDING CURB & GUTTER LOCATIONS, SIDEWALK, AND CURB RAMP IMPROVEMENTS.



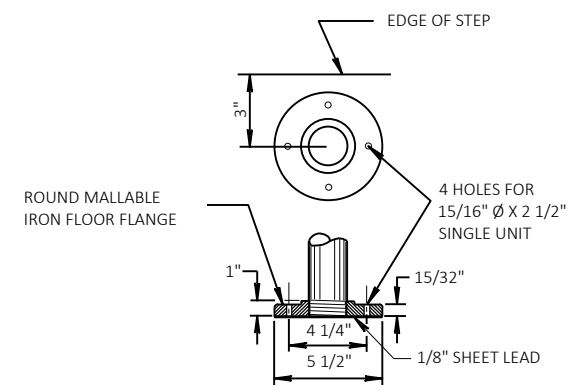
#### NOTES

THE EXACT LOCATION, WIDTHS, & NUMBER OF STEPS TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

STEEL REINFORCEMENT AND PIPE RAILING NOT REQUIRED ON STEPS WITH 2 RISERS OR LESS.

MINIMUM WIDTH OF STEP EQUALS 4 FEET.

RAILING TO BE PLACED ON LEFT ASCENDING SIDE OF STEPS ONLY.

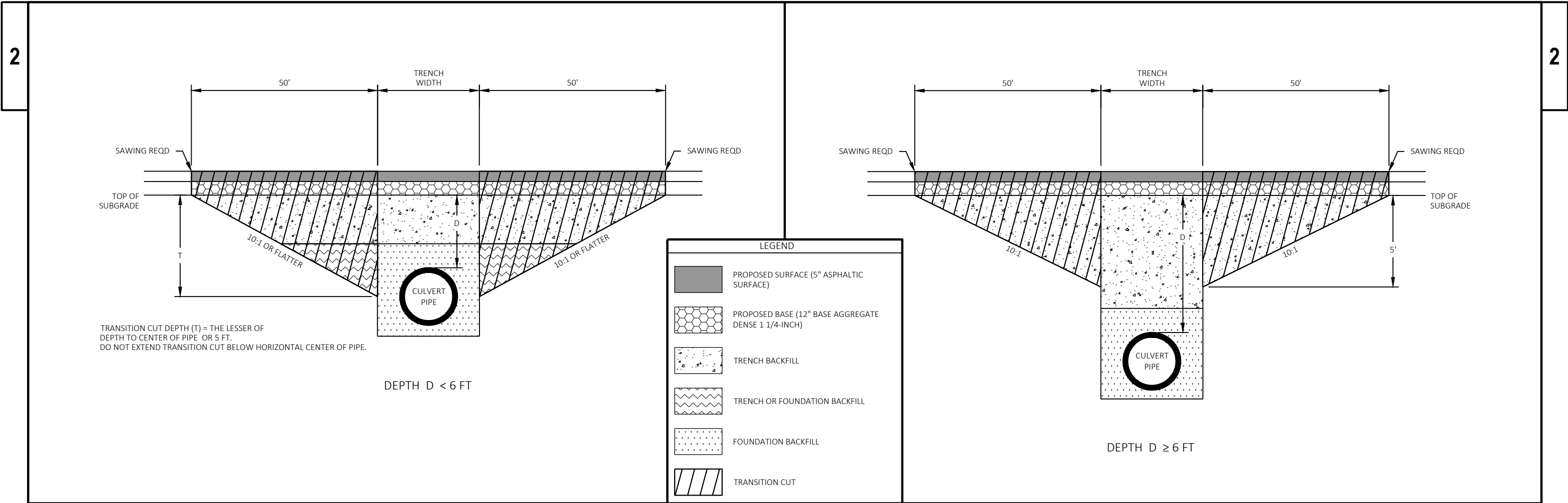


#### FLANGE DETAIL

### CONCRETE STEPS DETAIL

STA 111+19, STA 111+24, LT





NOTES

TRANSITION CUT IS PAID AS EXCAVATION COMMON

TRANSITION CUT WIDTH IS FROM SUBGRADE SHOULDER POINT TO SUBGRADE SHOULDER POINT

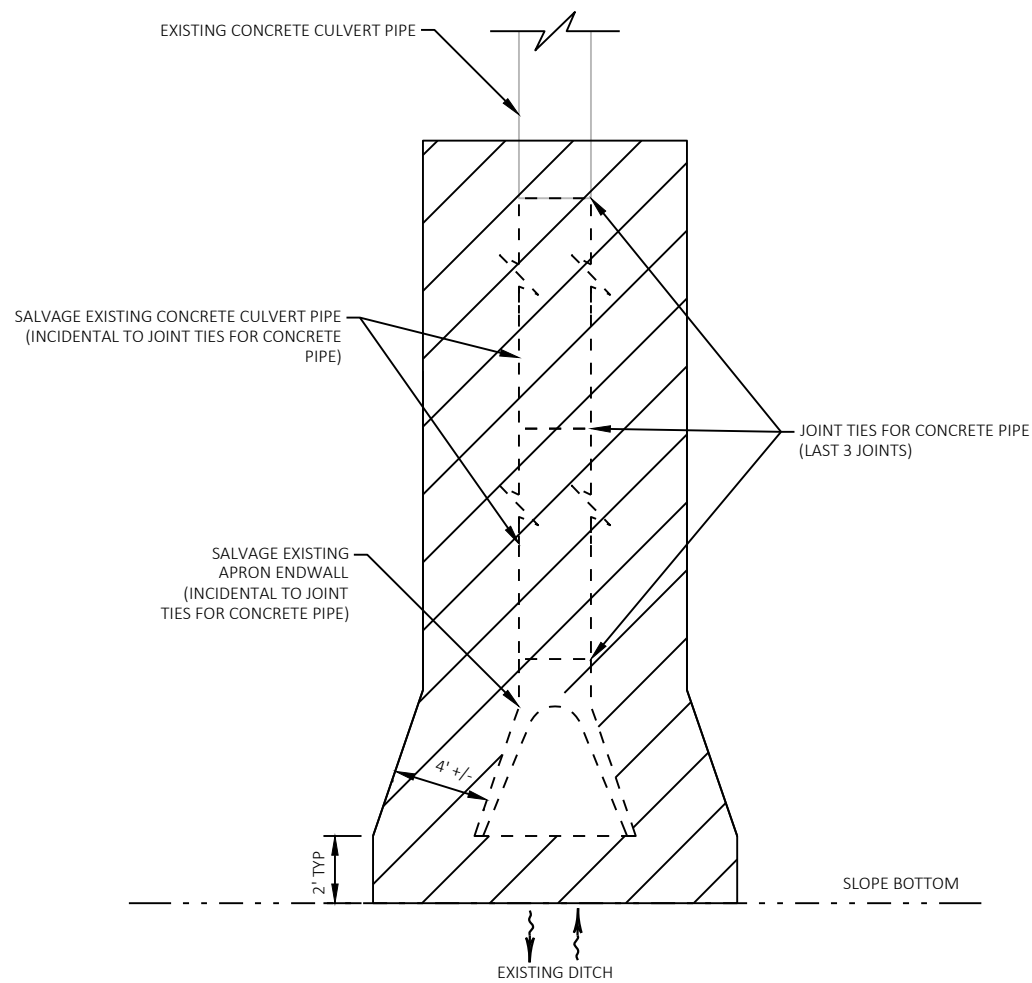
BACKFILL THE TRANSITION CUT AREAS WITH FOUNDATION AND TRENCH BACKFILL AS SPECIFIED IN STANDARD SPEC 520

PERFORM CULVERT PIPE INSTALLATION AND PLACE ASPHALTIC SURFACE BEFORE THE MILLING AND OVERLAY OR CIR OPERATIONS

\* DEPTH IS MEASURED AT THE DEEPEST PORTION OF THE PIPE WITHIN THE SUBGRADE SHOULDER POINTS

| ROUTE  | STA (CL) | DEPTH D (FT) * | PIPE DIA (IN) |
|--------|----------|----------------|---------------|
| STH 48 | 137+76   | 1.6'           | 24"           |
| STH 48 | 172+83   | 2.6'           | 30"           |
| STH 48 | 183+84   | 4.0'           | 36"           |
| STH 48 | 193+43   | 2.0'           | 24"           |
| STH 48 | 203+59   | 5.5'           | 68"X106"      |
| STH 48 | 214+48   | 1.7'           | 30"           |
| STH 48 | 493+92   | 4.8'           | 30"           |
| STH 48 | 577+52   | 3.1'           | 30"           |
| STH 48 | 601+23   | 2.3'           | 29"X45"       |
| STH 48 | 605+67   | 6.1'           | 30"           |
| STH 48 | 639+43   | 12.7'          | 30"           |
| STH 48 | 652+30   | 4.8'           | 30"           |

CULVERT PIPE TRANSITION DETAIL



#### ENDWALL AND PIPE JOINT TIES

STA 159+43, LT&RT  
STA 250+92, LT&RT  
STA 368+24, LT&RT



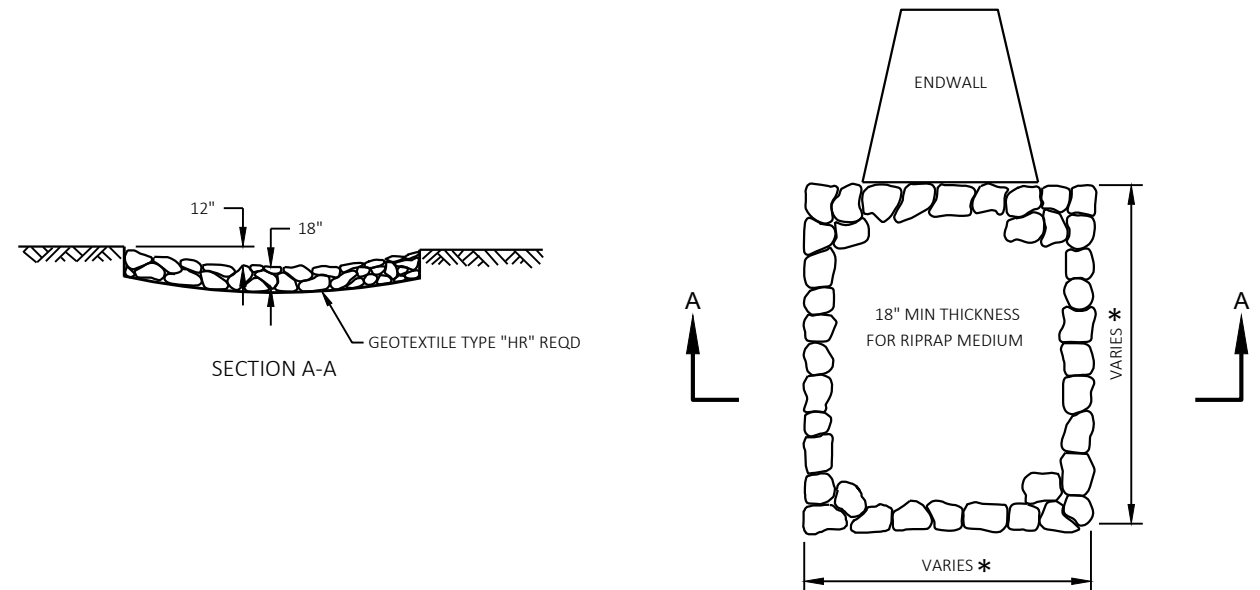
TOPSOIL, SEED, FERTILIZER AND EROSION MAT  
REQUIRED ON DISTURBED AREA

#### JOINT TIES FOR CONCRETE PIPE

##### NOTES

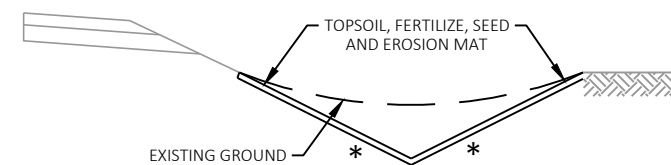
RESTORE DISTURBED GROUND AND BERM OR SIDE  
SLOPE TO EXISTING CONDITIONS.

SURFACE WATER FLOW



#### RIPRAP MEDIUM TREATMENT AT CULVERTS

SEE CONSTRUCTION DETAILS FOR LOCATIONS AND DIMENSIONS \*



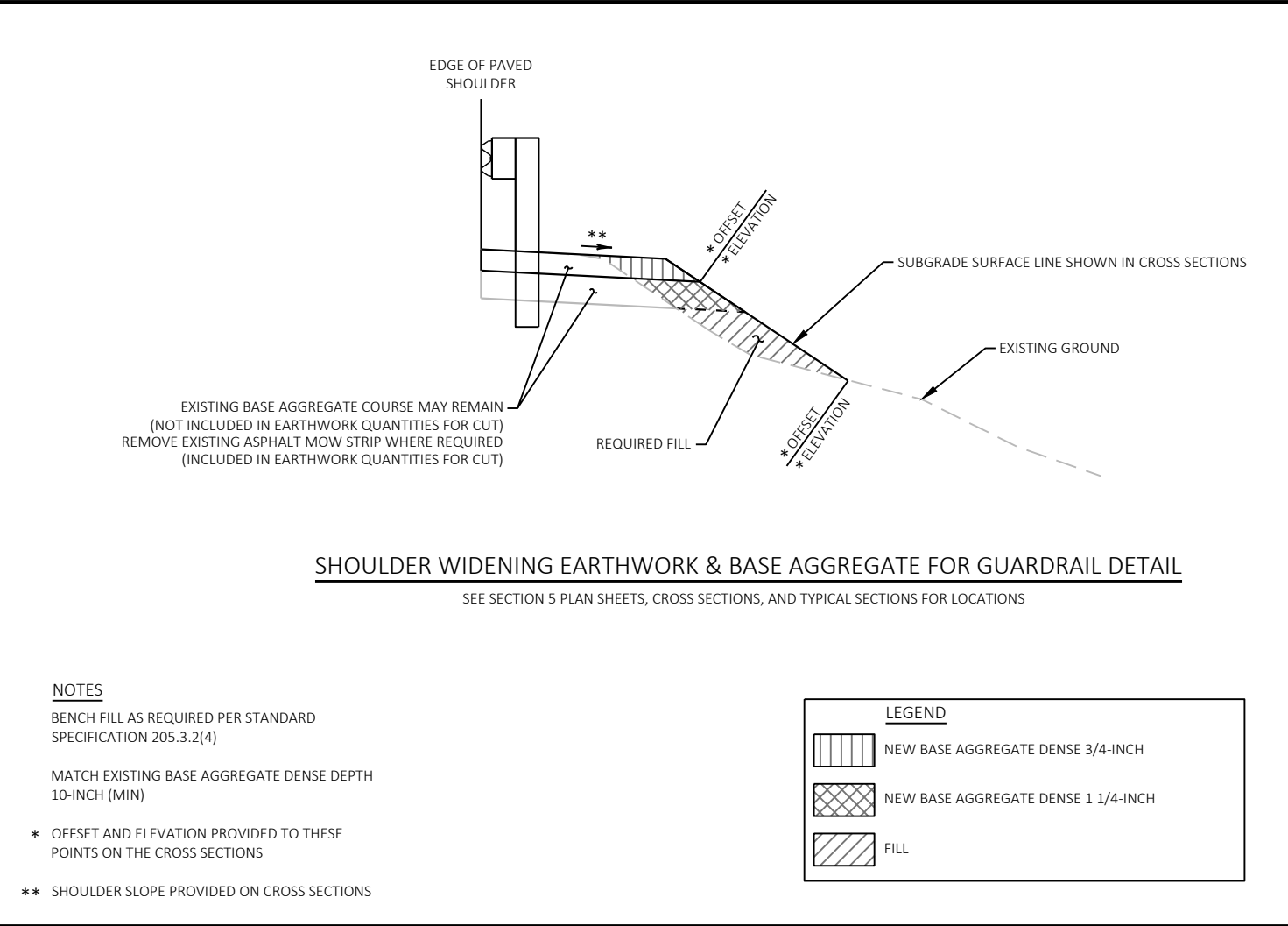
#### DITCH CLEANING

STA 193+43, FROM AEW TO 50', RT  
STA 266+15, FROM AEW TO 51', RT  
STA 273+03, FROM AEW TO 43', RT  
STA 283+28, FROM AEW TO 63', RT  
STA 311+61, FROM AEW TO 62', RT  
STA 493+92, FROM AEW TO 47', LT  
STA 601+23, FROM AEW TO 39', RT

##### NOTE

\* SLOPES VARY, 4:1 MAX

2



SHOULDER WIDENING EARTHWORK & BASE AGGREGATE FOR GUARDRAIL DETAIL

SEE SECTION 5 PLAN SHEETS, CROSS SECTIONS, AND TYPICAL SECTIONS FOR LOCATIONS

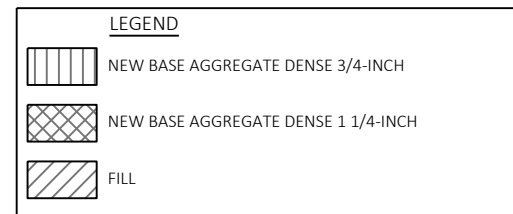
## NOTES

BENCH FILL AS REQUIRED PER STANDARD  
SPECIFICATION 205.3.2(4)

MATCH EXISTING BASE AGGREGATE DENSE DEPTH  
10-INCH (MIN)

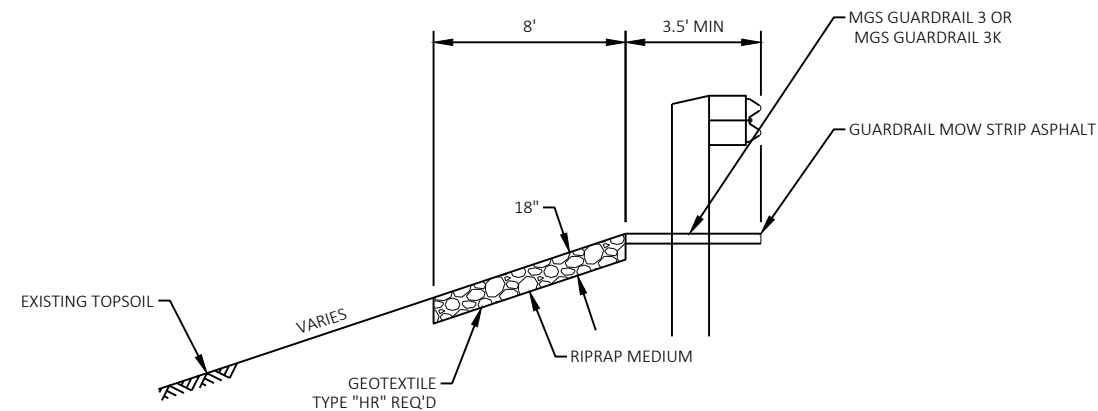
\* OFFSET AND ELEVATION PROVIDED TO THESE  
POINTS ON THE CROSS SECTIONS

\*\* SHOULDER SLOPE PROVIDED ON CROSS SECTIONS



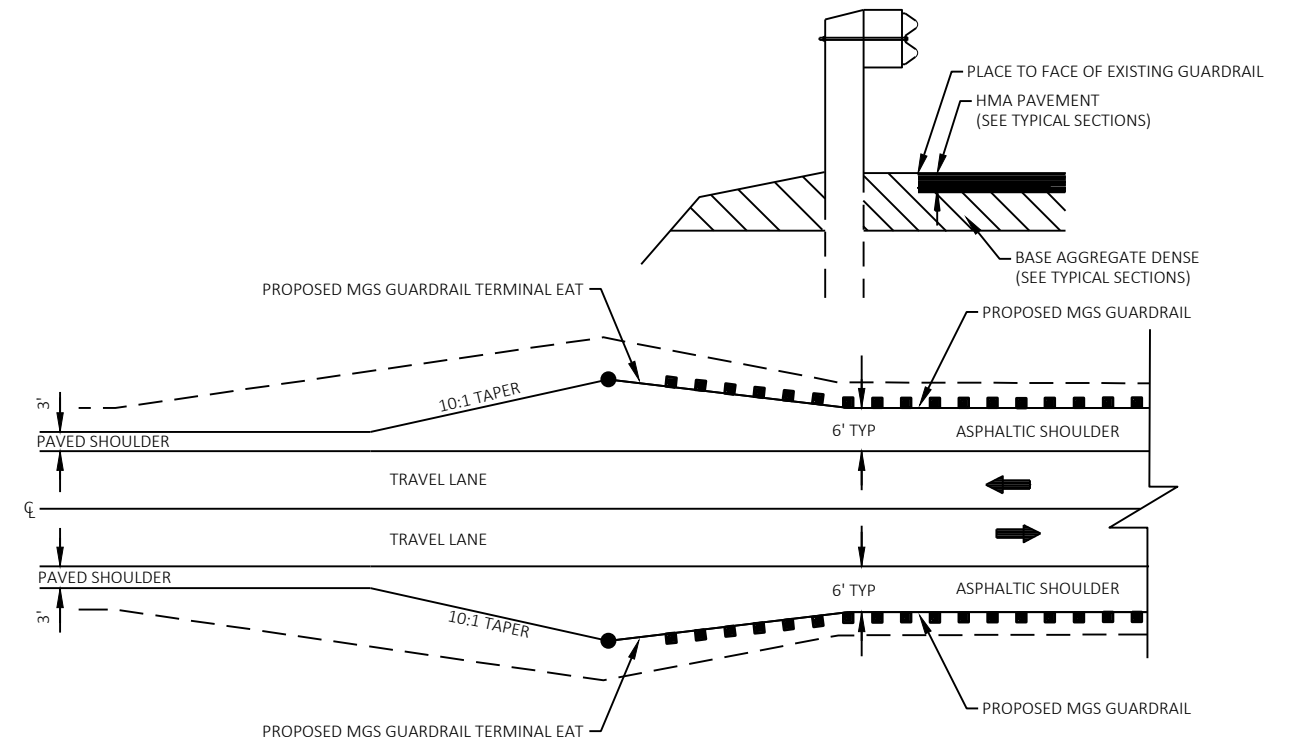
### LEGEND

 NEW BASE AGGREGATE DENSE 3/4-INCH

 NEW BASE AGGREGATE DENSE 1 1/4-INCH FILL

## RIPRAP MEDIUM TREATMENT AT GUARDRAIL

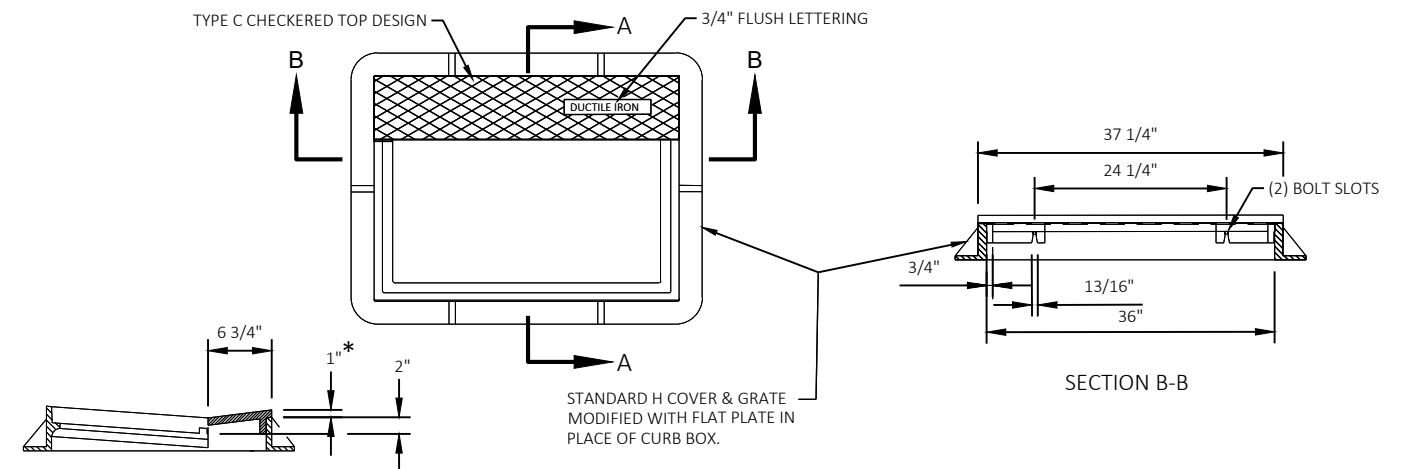
SEE GUARDRAIL CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION



### PAVED SHOULDER AT GUARDRAIL DETAIL

NOTE

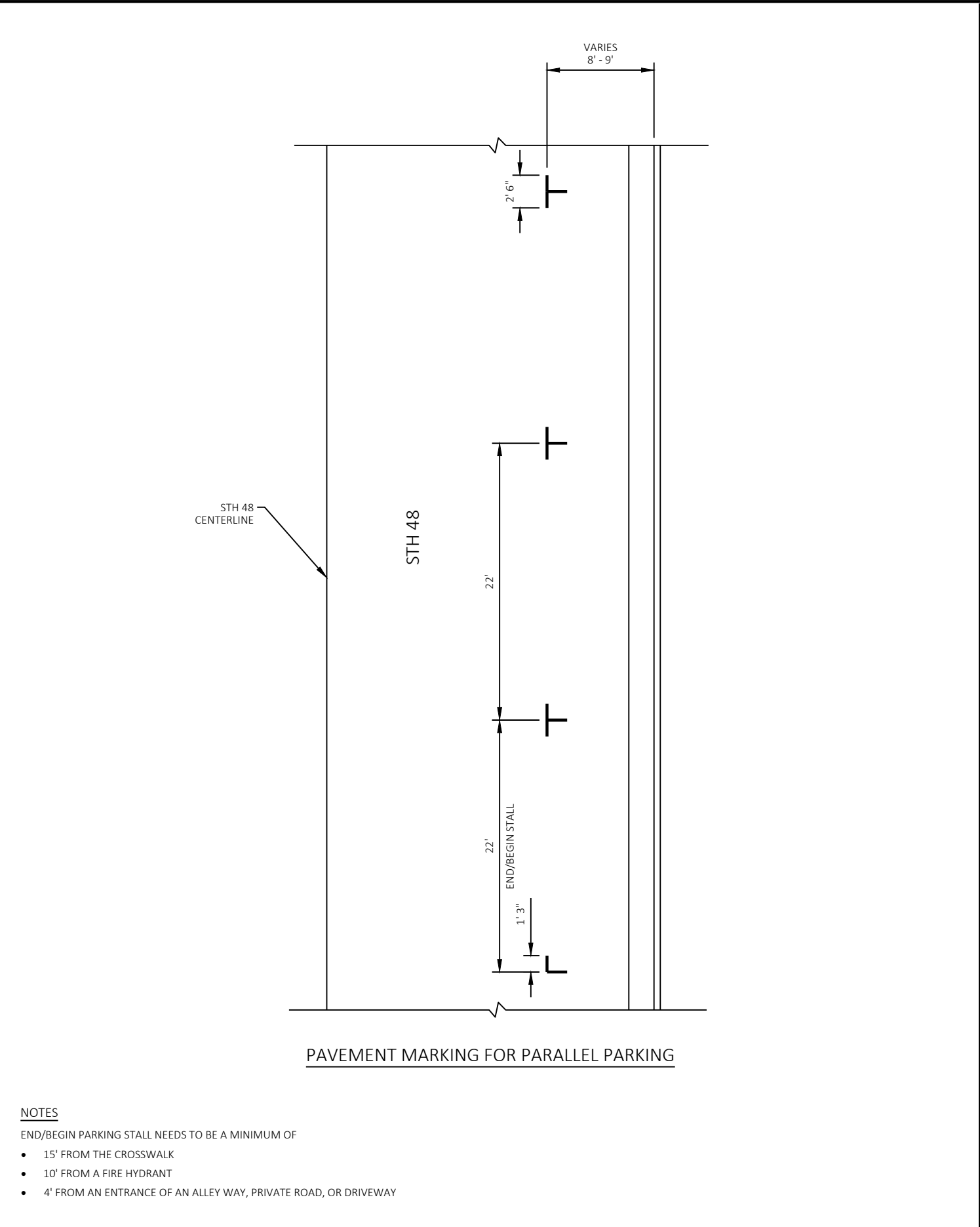
SEE CONSTRUCTION DETAILS AND SDD "MIDWEST GUARDRAIL SYSTEM (MGS) TERMINAL" FOR ADDITIONAL INFORMATION



## INLET COVER TYPE H-D

(WITH MOUNTABLE CURB PLATE)  
STA 115+62, LT  
STA 112+12, RT  
\* STA 112+13, LT (ADJUST HEIGHT OF INLET TO 2")

2



**NOTES**

END/BEGIN PARKING STALL NEEDS TO BE A MINIMUM OF

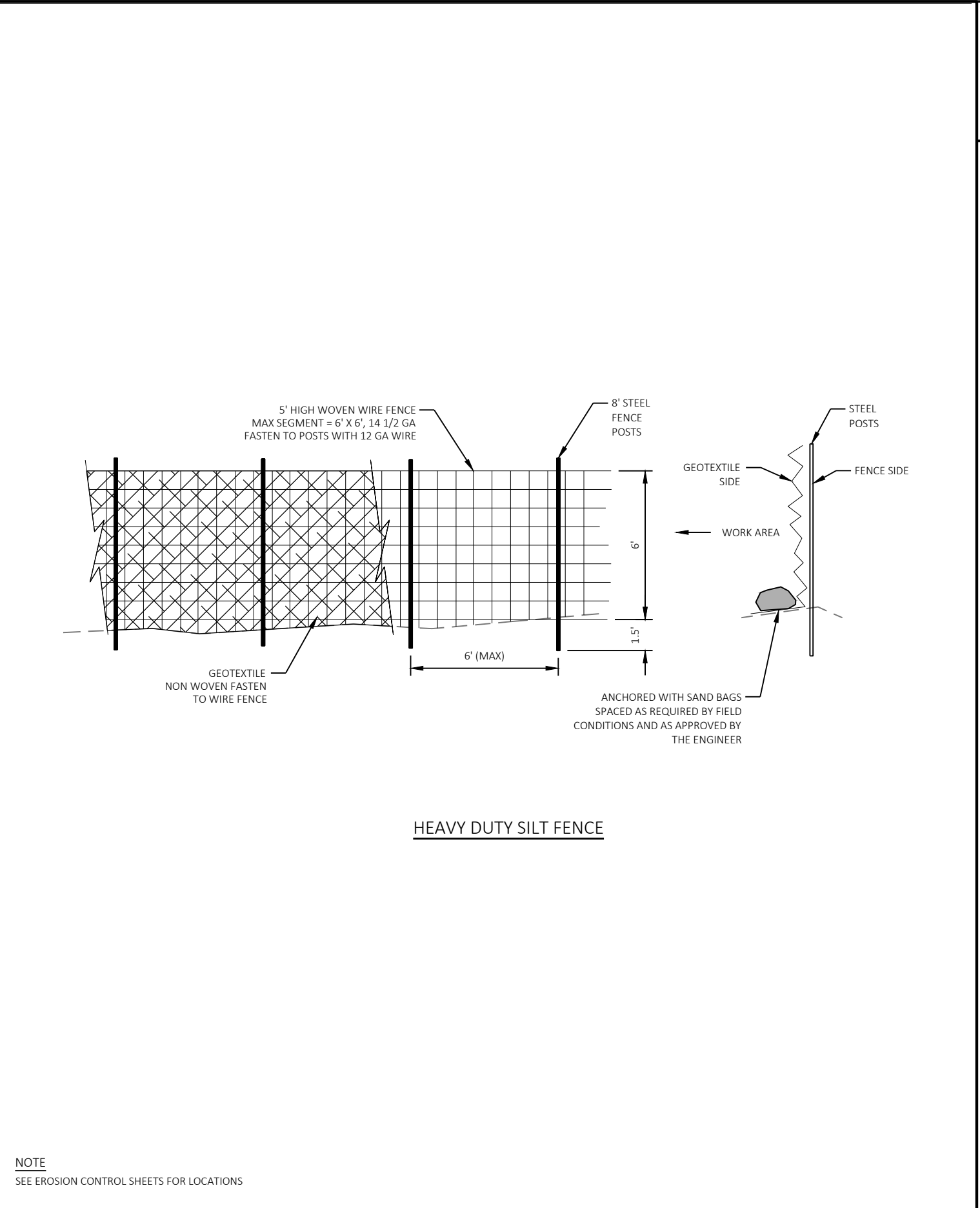
- 15' FROM THE CROSSWALK
- 10' FROM A FIRE HYDRANT
- 4' FROM AN ENTRANCE OF AN ALLEY WAY, PRIVATE ROAD, OR DRIVEWAY

END/BEGIN PARKING STALL NEEDS TO BE A MINIMUM OF

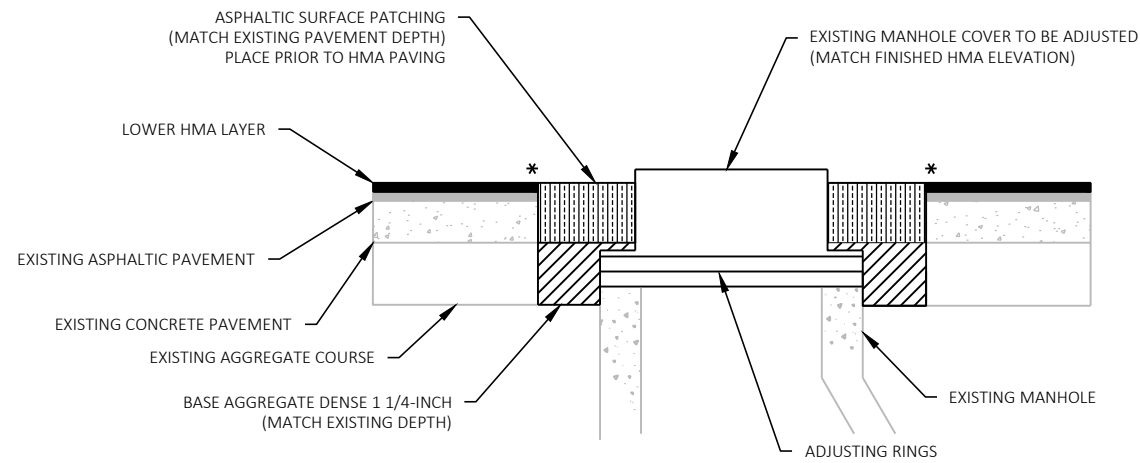
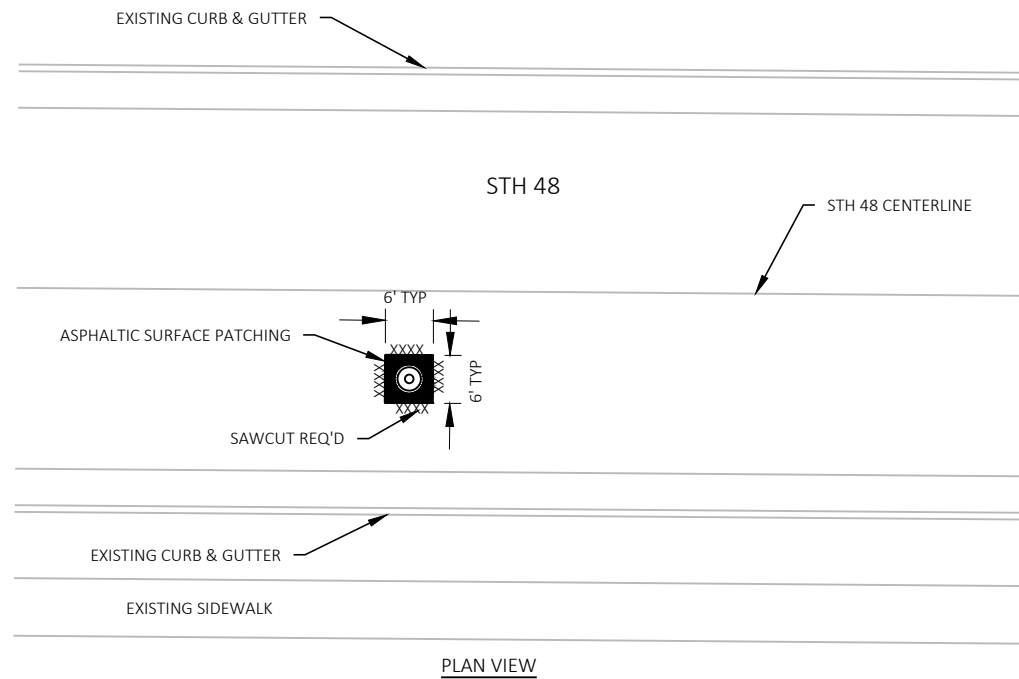
- 15' FROM THE CROSSWALK
- 10' FROM A FIRE HYDRANT
- 4' FROM AN ENTRANCE OF AN ALLEY WAY, PRIVATE ROAD, OR DRIVEWAY

6

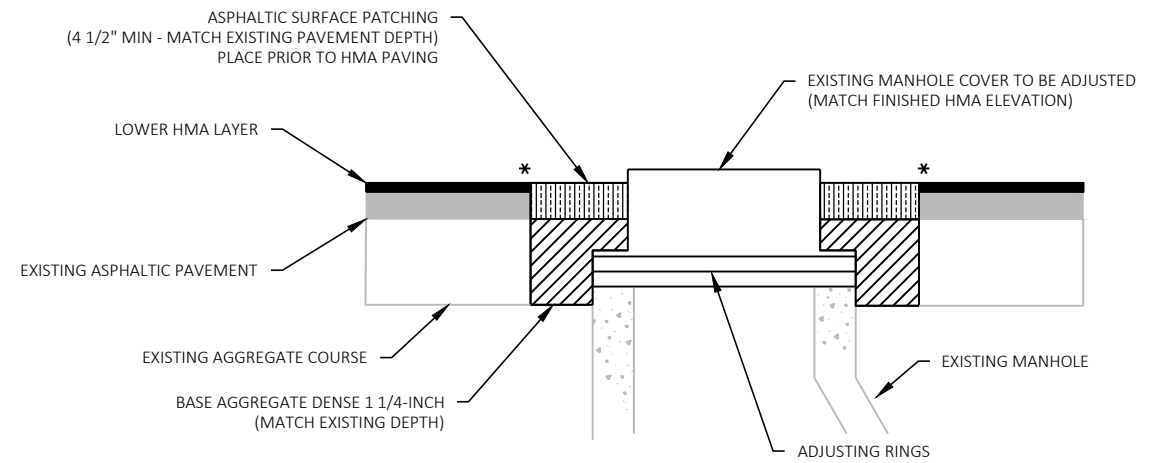
1881



NOTE  
SEE EROSION CONTROL SHEETS FOR LOCATIONS



SECTION VIEW FOR MANHOLES IN CONCRETE PAVEMENT OVERLAID WITH ASPHALT



SECTION VIEW FOR MANHOLES IN ASPHALT

NOTES

\* SAWCUT REQ'D

THE PATCHING FOR WATER VALVES SHOULD FOLLOW A SIMILAR DETAIL EXCEPT THAT THE ANTICIPATED PAVEMENT REMOVAL AREA IS ESTIMATED AT 3' X 3'. ADJUST WATER VALVES DOWN AND COVER WITH AGGREGATE PRIOR TO MILLING. RAISE WATER VALVE TO FINISHED ELEVATION PRIOR TO PAVING UPPER HMA LAYER.

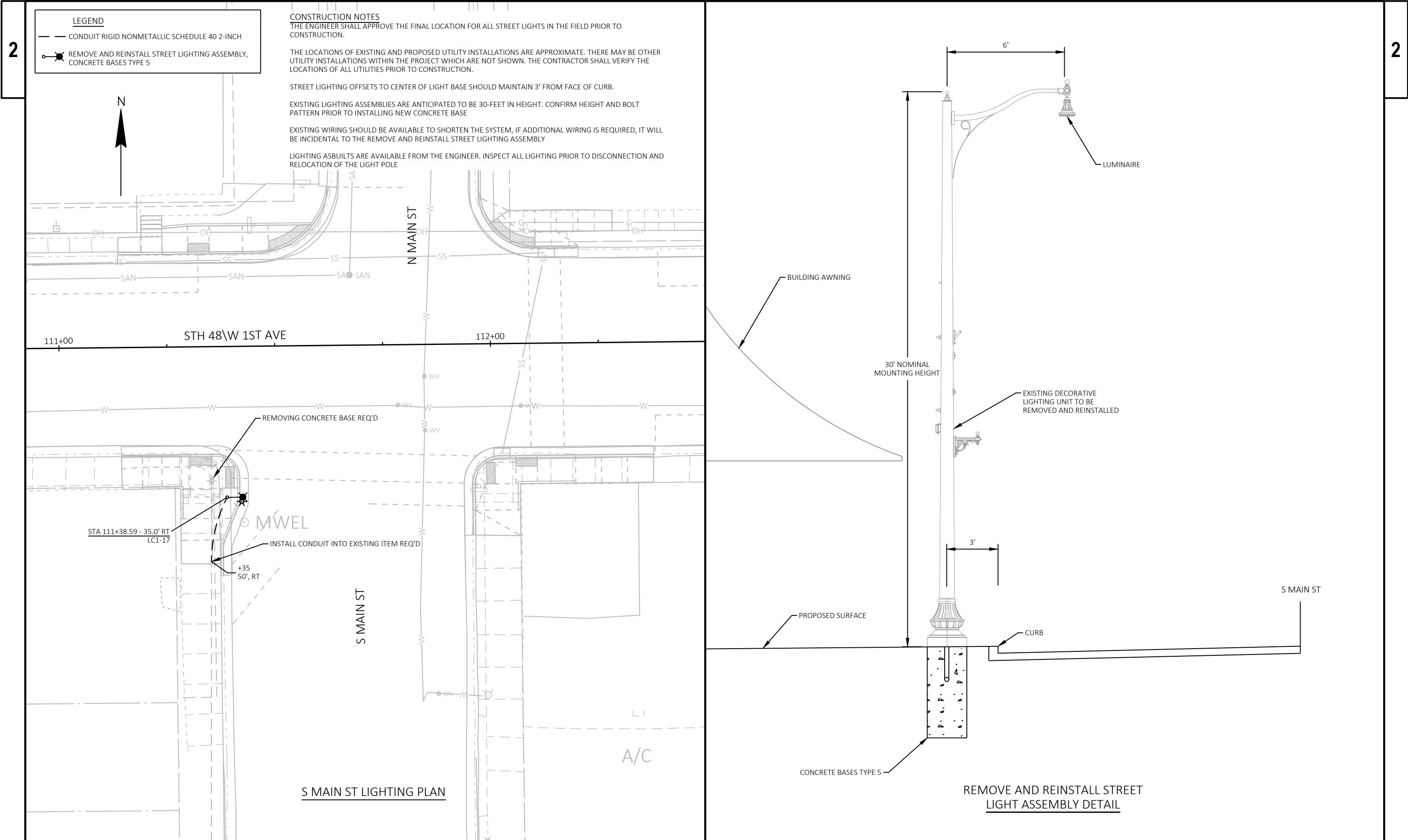
FOR MANHOLES IN THE DRIVING LANE OR MIDDLE OF INTERSECTIONS:

- SAW AROUND MANHOLE, REMOVE EXISTING PAVEMENT, STOCKPILE MANHOLE COVER AND PLACE TEMPORARY COVER PLATE
- MILL EXISTING ASPHALT AND PAVE LOWER HMA LAYER
- SAW AND REMOVE HMA, REINSTALL MANHOLE COVER WITH ADJUSTING RINGS TO FINISHED HMA ELEVATION, PLACE AGGREGATE AND ASPHALTIC SURFACE PATCHING TO TOP OF LOWER HMA LAYER
- PAVE UPPER HMA LAYER

EXISTING CONCRETE MAY BE PRESENT UNDER TRAVEL LANES, SEE TYPICAL SECTIONS FOR ANTICIPATED LIMITS OF EXISTING CONCRETE PAVEMENT. ACTUAL LOCATIONS OF EXISTING CONCRETE MAY VARY.

SEE MISCELLANEOUS QUANTITIES FOR LOCATIONS.

ADJUSTING SANITARY MANHOLE COVERS AND ADJUSTING WATER VALVE BOXES DETAIL



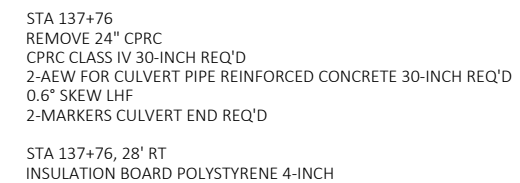


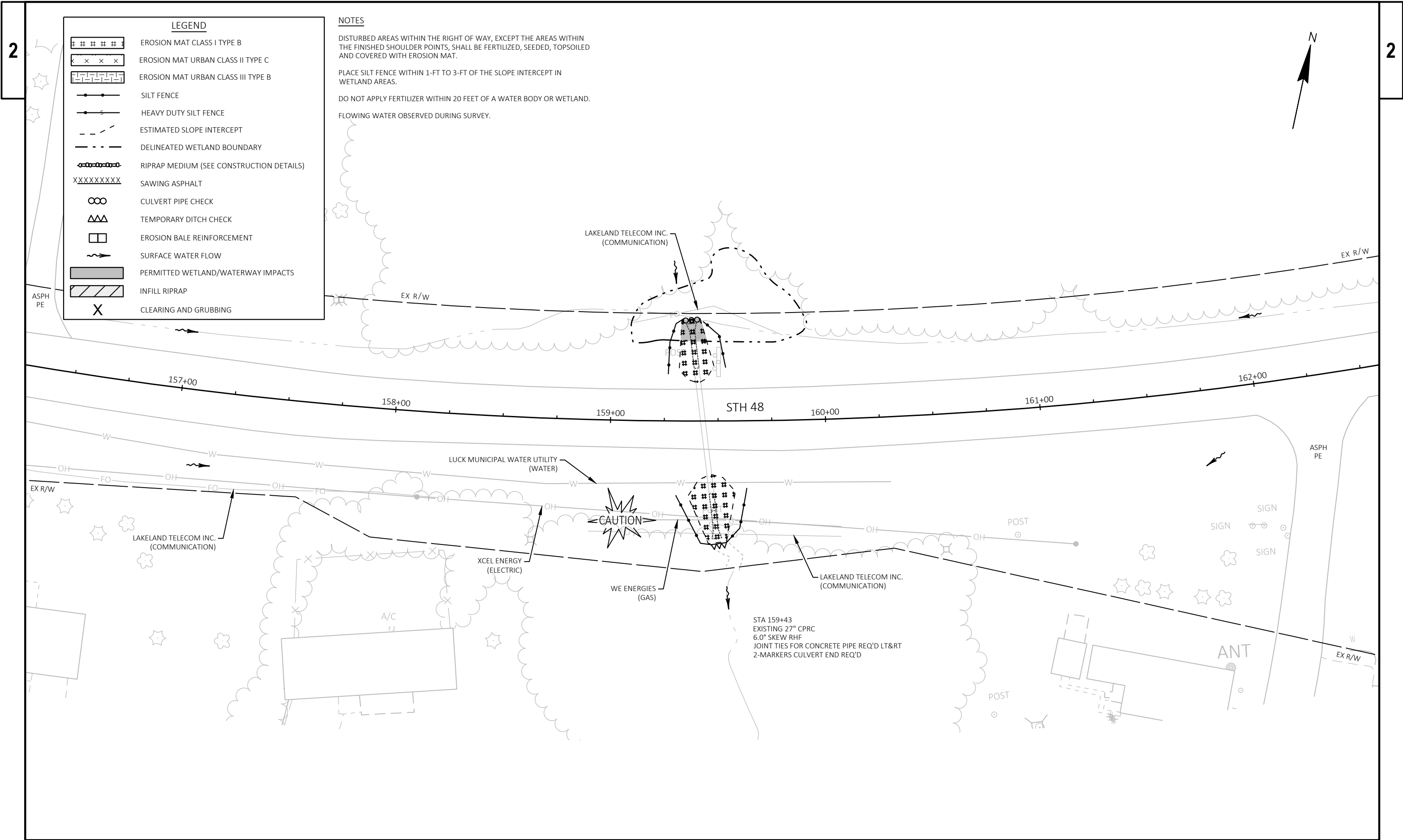
## NOTES

- DISTURBED AREA WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED, TOPSOILED, AND COVERED WITH EROSION MAT.
- PLACE SILT FENCE WITHIN 1-FT TO 3-FT OF THE SLOPE INTERCEPT IN WETLAND AREAS.
- DO NOT APPLY FERTILIZER WITHIN 20 FEET OF A WATER BODY OR WETLAND.
- SEE "CULVERT PIPE TRANSITION" CONSTRUCTION DETAIL FOR ADDITIONAL INFORMATION.

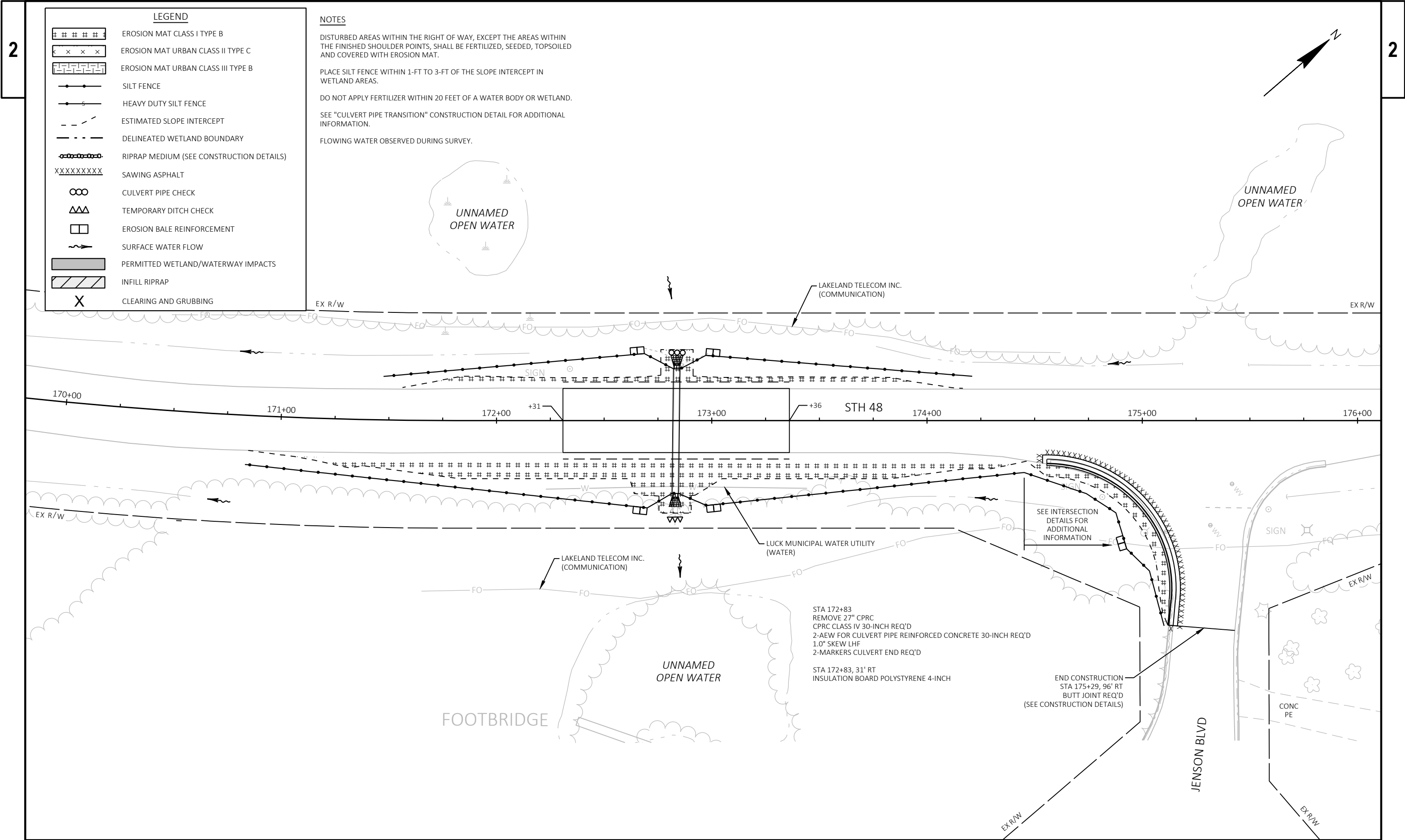
DO NOT APPLY FERTILIZER WITHIN 20 FEET OF A WATER BODY OR WETLAND.

SEE "CULVERT PIPE TRANSITION" CONSTRUCTION DETAIL FOR ADDITIONAL INFORMATION.









2

2

| LEGEND |                                          |
|--------|------------------------------------------|
|        | EROSION MAT CLASS I TYPE B               |
|        | EROSION MAT URBAN CLASS II TYPE C        |
|        | EROSION MAT URBAN CLASS III TYPE B       |
|        | SILT FENCE                               |
|        | HEAVY DUTY SILT FENCE                    |
|        | ESTIMATED SLOPE INTERCEPT                |
|        | DELINEATED WETLAND BOUNDARY              |
|        | RIPRAP MEDIUM (SEE CONSTRUCTION DETAILS) |
|        | SAWING ASPHALT                           |
|        | CULVERT PIPE CHECK                       |
|        | TEMPORARY DITCH CHECK                    |
|        | EROSION BALE REINFORCEMENT               |
|        | SURFACE WATER FLOW                       |
|        | PERMITTED WETLAND/WATERWAY IMPACTS       |
|        | INFILL RIPRAP                            |
|        | CLEARING AND GRUBBING                    |

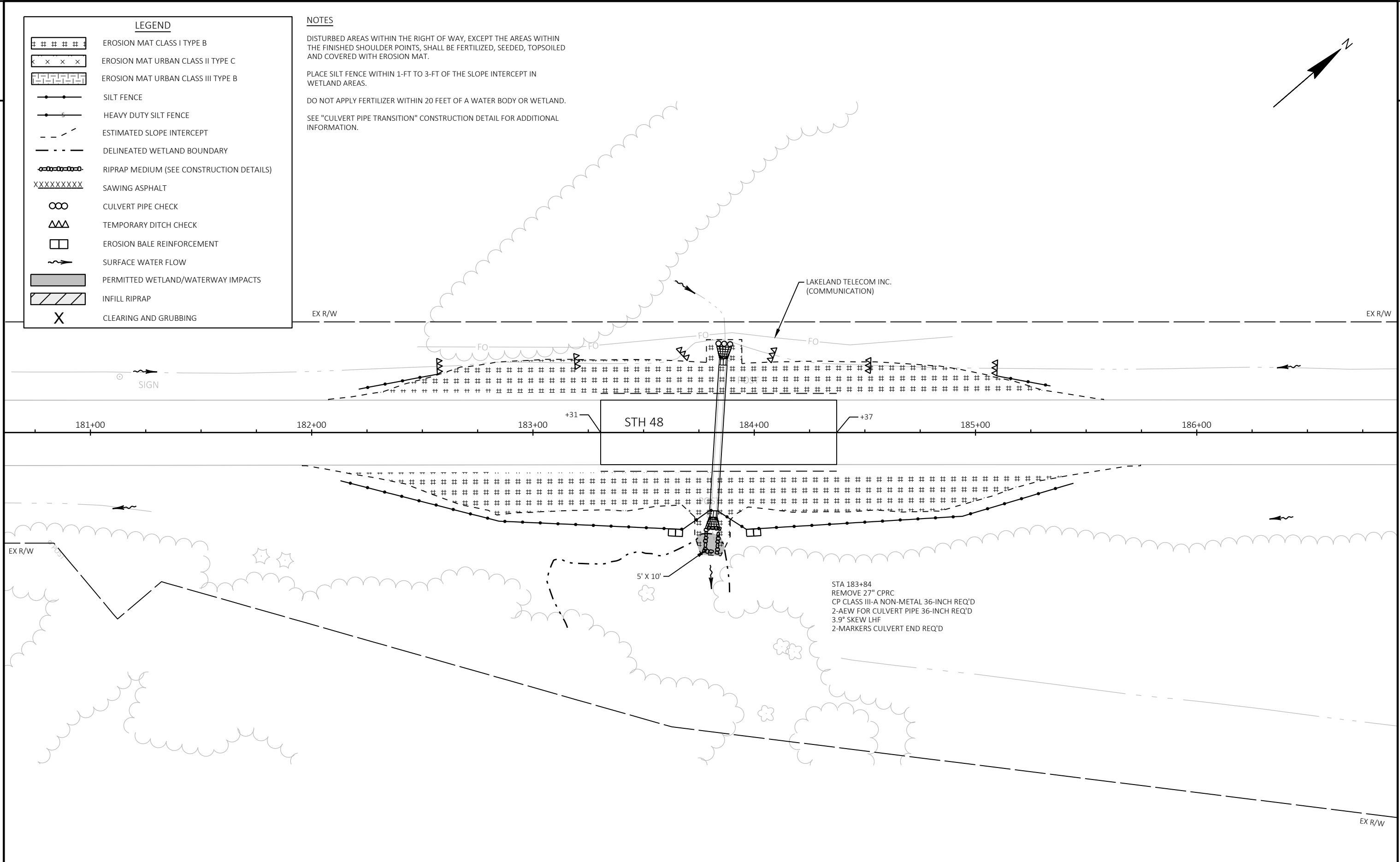
## NOTES

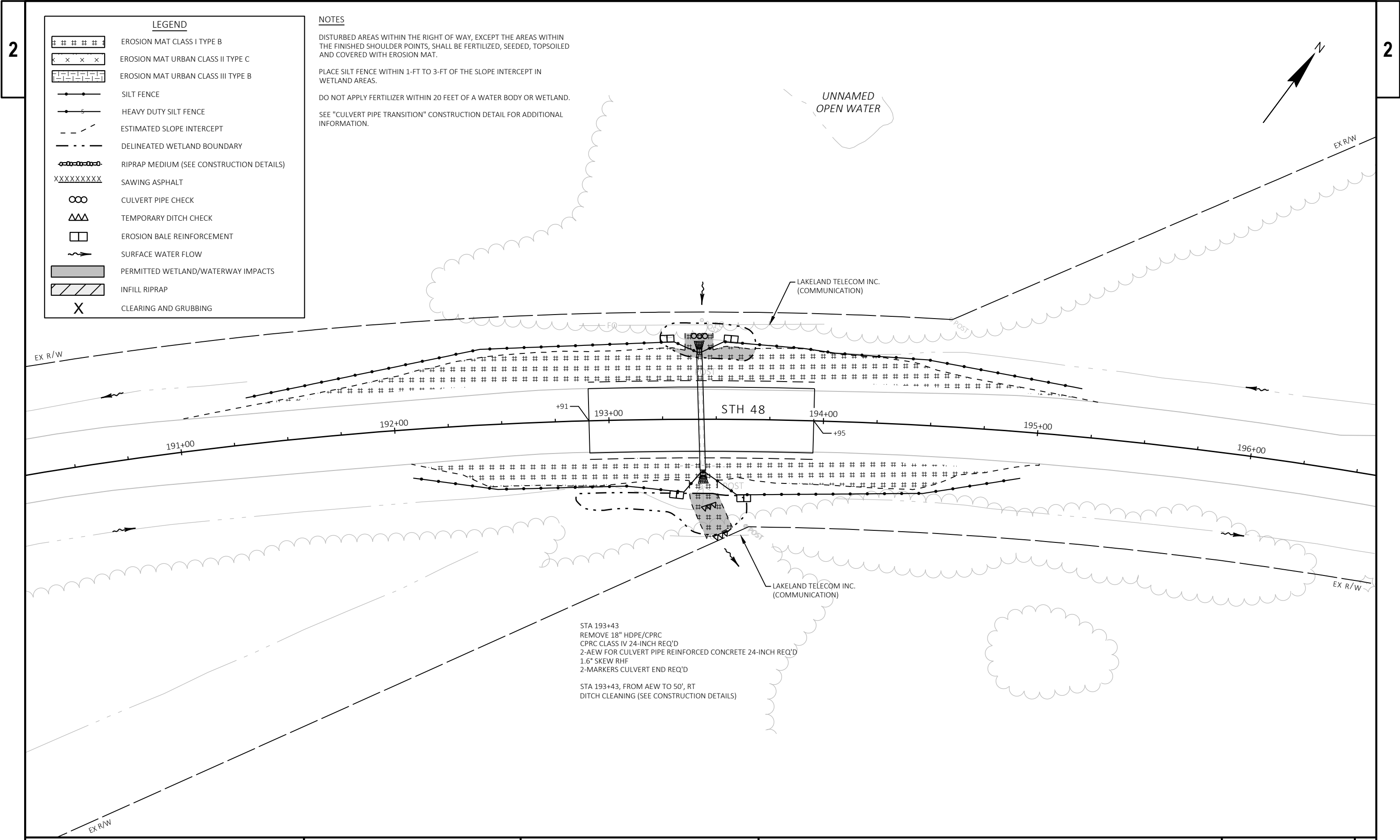
DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED, TOPSOILED AND COVERED WITH EROSION MAT.

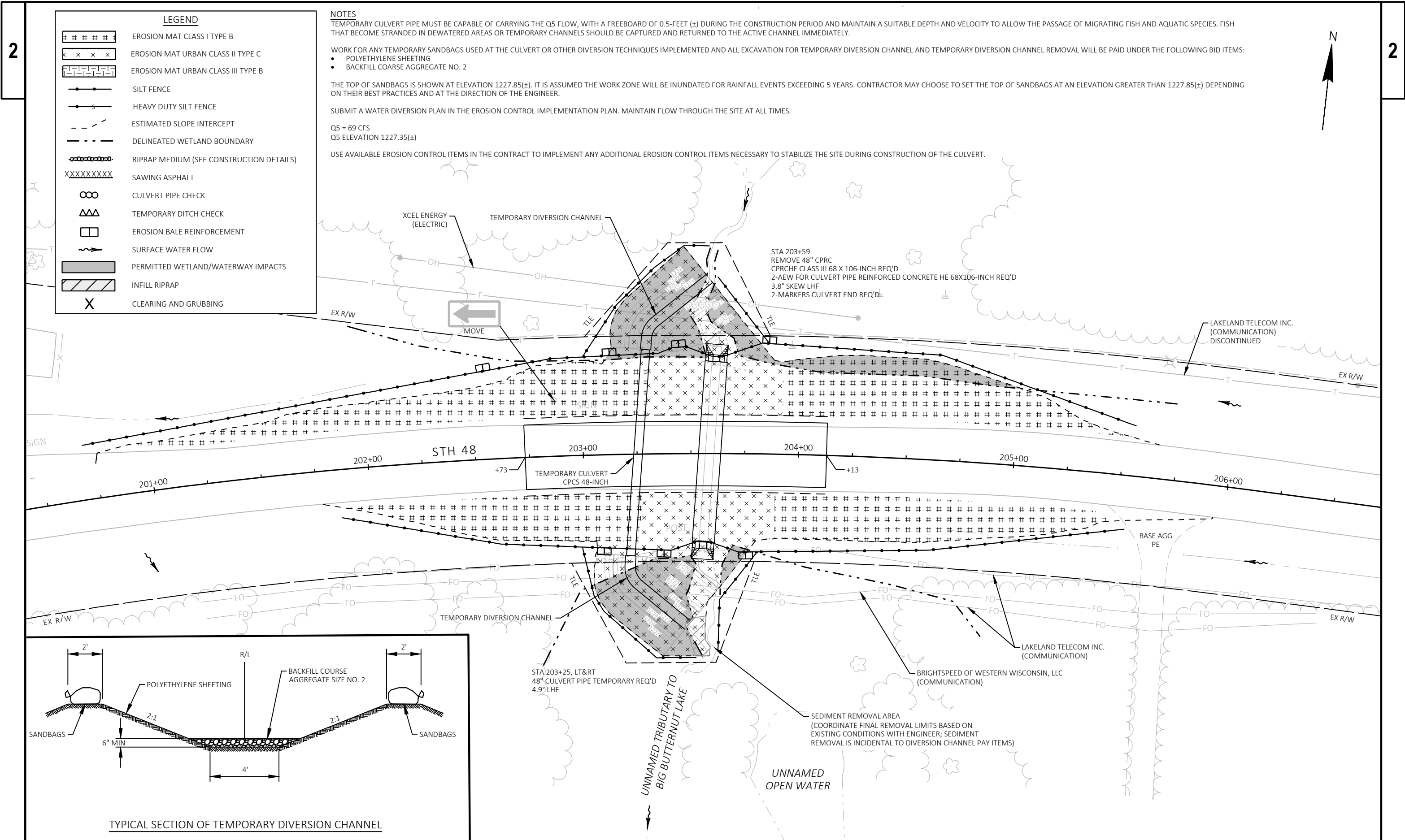
PLACE SILT FENCE WITHIN 1-FT TO 3-FT OF THE SLOPE INTERCEPT IN WETLAND AREAS.

DO NOT APPLY FERTILIZER WITHIN 20 FEET OF A WATER BODY OR WETLAND.

SEE "CULVERT PIPE TRANSITION" CONSTRUCTION DETAIL FOR ADDITIONAL INFORMATION.







LEGEND

####

EROSION MAT CLASS I TYPE B

xxxxxx

EROSION MAT URBAN CLASS II TYPE C

|||||

EROSION MAT URBAN CLASS III TYPE B

—●—

SILT FENCE

—●—

HEAVY DUTY SILT FENCE

- - -

ESTIMATED SLOPE INTERCEPT

- - -

DELINEATED WETLAND BOUNDARY

—○—○—○—

RIPRAP MEDIUM (SEE CONSTRUCTION DETAILS)

XXXXXXXX

SAWING ASPHALT

∞

CULVERT PIPE CHECK

ΔΔ

TEMPORARY DITCH CHECK

□

EROSION BALE REINFORCEMENT

→

SURFACE WATER FLOW

▨

PERMITTED WETLAND/WATERWAY IMPACTS

▨

INFILL RIPRAP

X

CLEARING AND GRUBBING

NOTES

TEMPORARY CULVERT PIPE MUST BE CAPABLE OF CARRYING THE Q5 FLOW, WITH A FREEBOARD OF 0.5-FEET (±) 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 IMMEDIATELY.

WORK FOR ANY TEMPORARY SANDBAGS USED AT THE CULVERT OR OTHER DIVERSION TECHNIQUES IMPLEMENTED AND ALL EXCAVATION FOR TEMPORARY DIVERSION CHANNEL AND TEMPORARY DIVERSION CHANNEL REMOVAL WILL BE PAID UNDER THE FOLLOWING BID ITEMS:

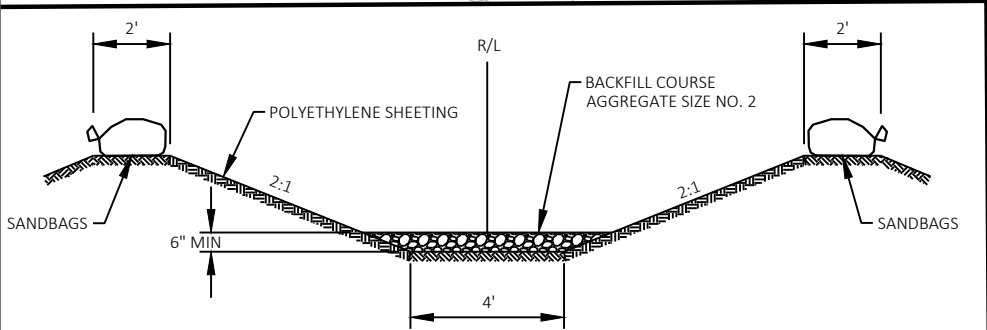
- POLYETHYLENE SHEETING
- BACKFILL COARSE AGGREGATE NO. 2

THE TOP OF SANDBAGS IS SHOWN AT ELEVATION 1227.85(±). IT IS ASSUMED THE WORK ZONE WILL BE INUNDATED FOR RAINFALL EVENTS EXCEEDING 5 YEARS. CONTRACTOR MAY CHOOSE TO SET THE TOP OF SANDBAGS AT AN ELEVATION GREATER THAN 1227.85(±) DEPENDING ON THEIR BEST PRACTICES AND AT THE DIRECTION OF THE ENGINEER.

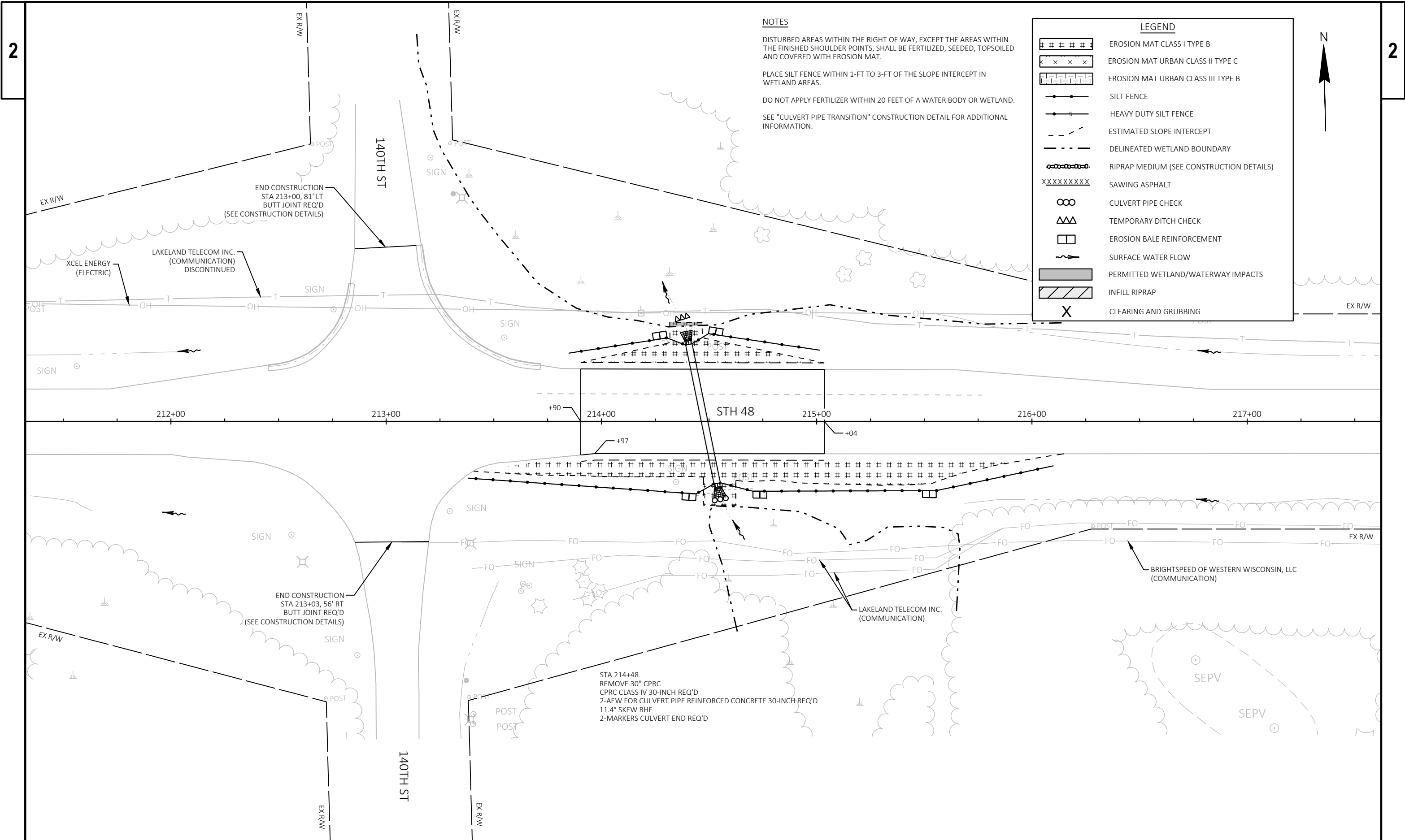
SUBMIT A WATER DIVERSION PLAN IN THE EROSION CONTROL IMPLEMENTATION PLAN. MAINTAIN FLOW THROUGH THE SITE AT ALL TIMES.

Q5 = 69 CFS  
Q5 ELEVATION 1227.35(±)

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



TYPICAL SECTION OF TEMPORARY DIVERSION CHANNEL



NOTES

DISTURBED AREAS WITHIN THE RIGHT OF WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED, TOPSOILED AND COVERED WITH EROSION MAT.

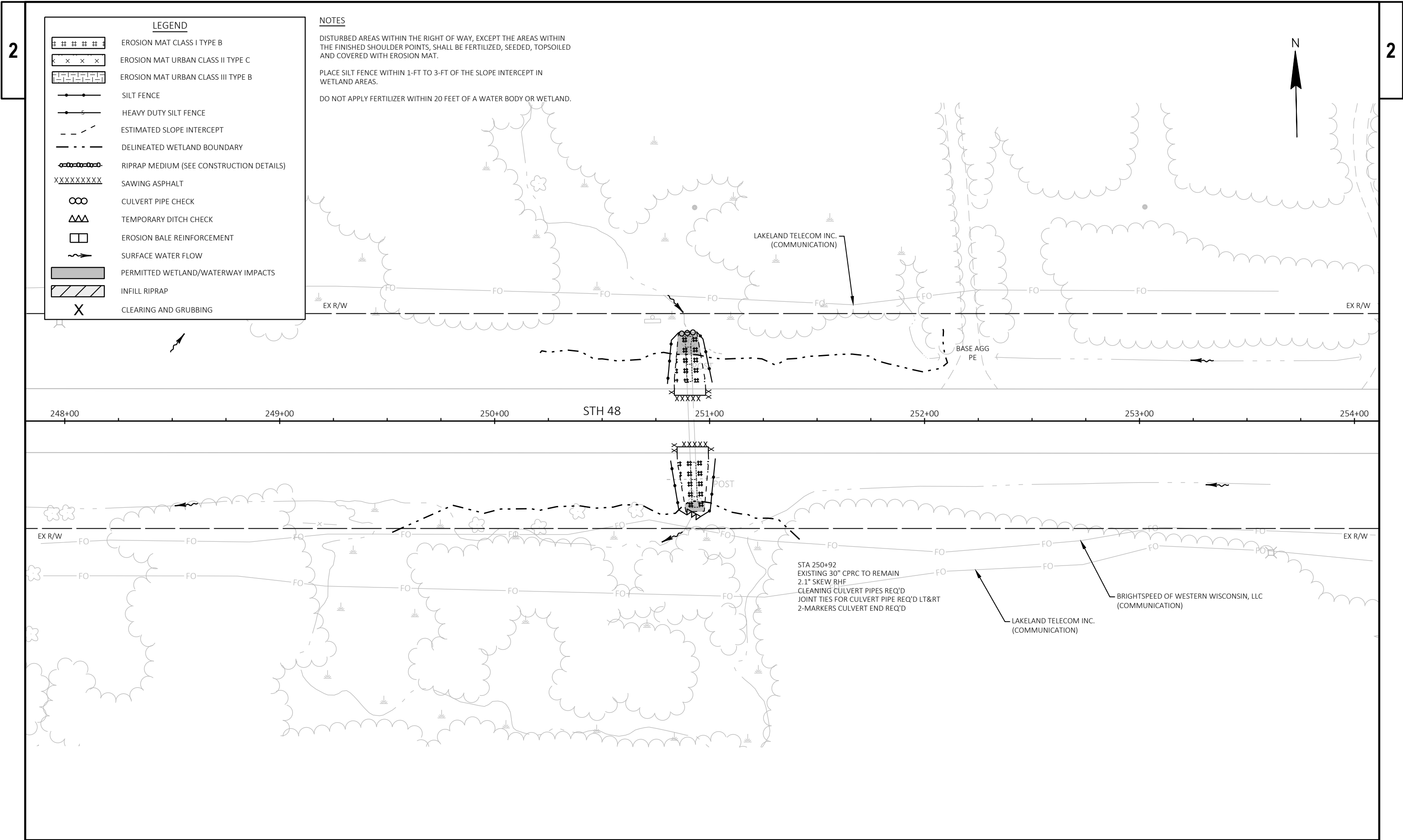
PLACE SILT FENCE WITHIN 1-FT TO 3-FT OF THE SLOPE INTERCEPT IN WETLAND AREAS.

DO NOT APPLY FERTILIZER WITHIN 20 FEET OF A WATER BODY OR WETLAND.

SEE "CULVERT PIPE TRANSITION" CONSTRUCTION DETAIL FOR ADDITIONAL INFORMATION.

LEGEND

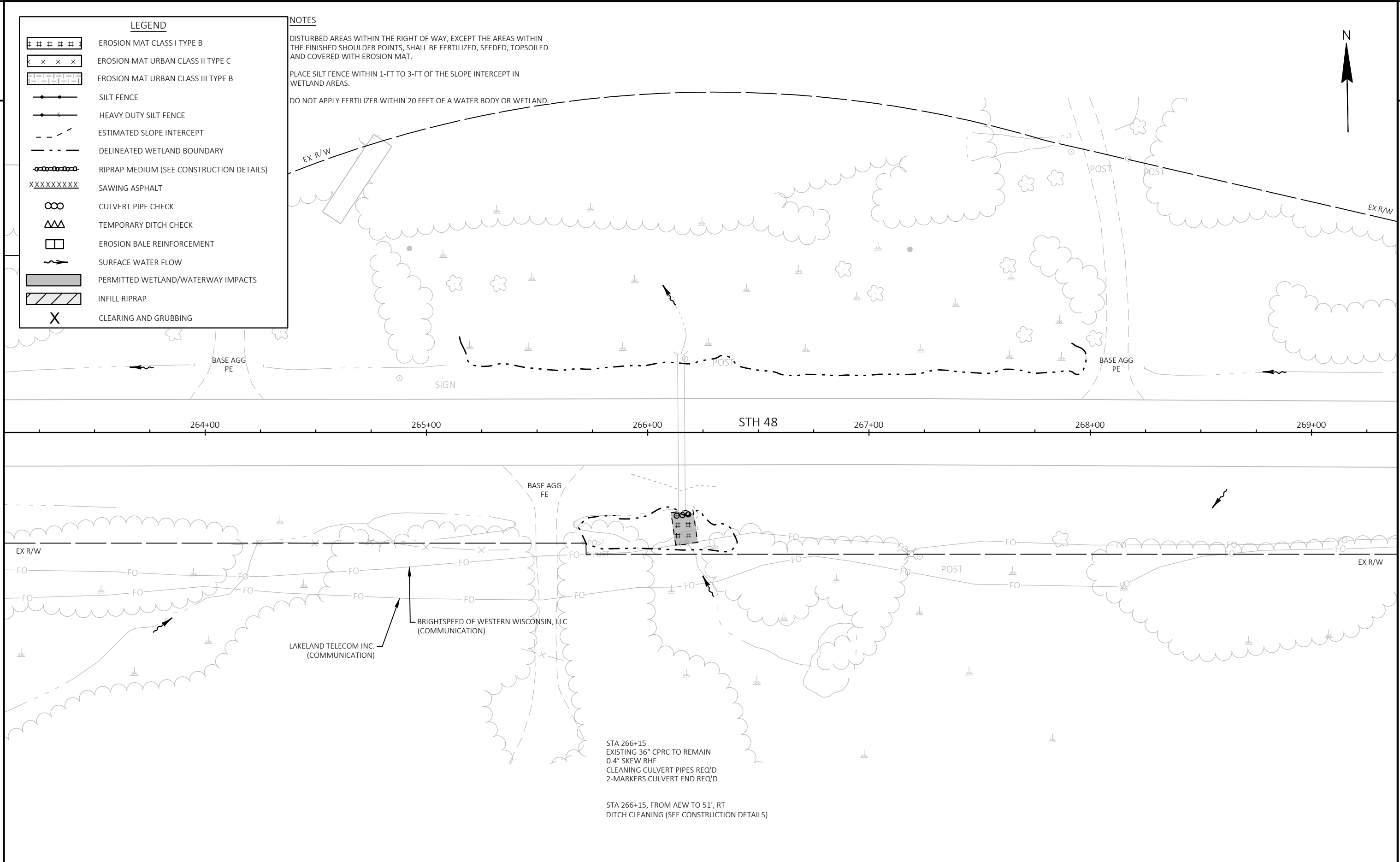
- EROSION MAT CLASS I TYPE B
- EROSION MAT URBAN CLASS II TYPE C
- EROSION MAT URBAN CLASS III TYPE B
- SILT FENCE
- HEAVY DUTY SILT FENCE
- ESTIMATED SLOPE INTERCEPT
- DELINEATED WETLAND BOUNDARY
- RIPRAP MEDIUM (SEE CONSTRUCTION DETAILS)
- SAWING ASPHALT
- CULVERT PIPE CHECK
- TEMPORARY DITCH CHECK
- EROSION BALE REINFORCEMENT
- SURFACE WATER FLOW
- PERMITTED WETLAND/WATERWAY IMPACTS
- INFILL RIPRAP
- CLEARING AND GRUBBING

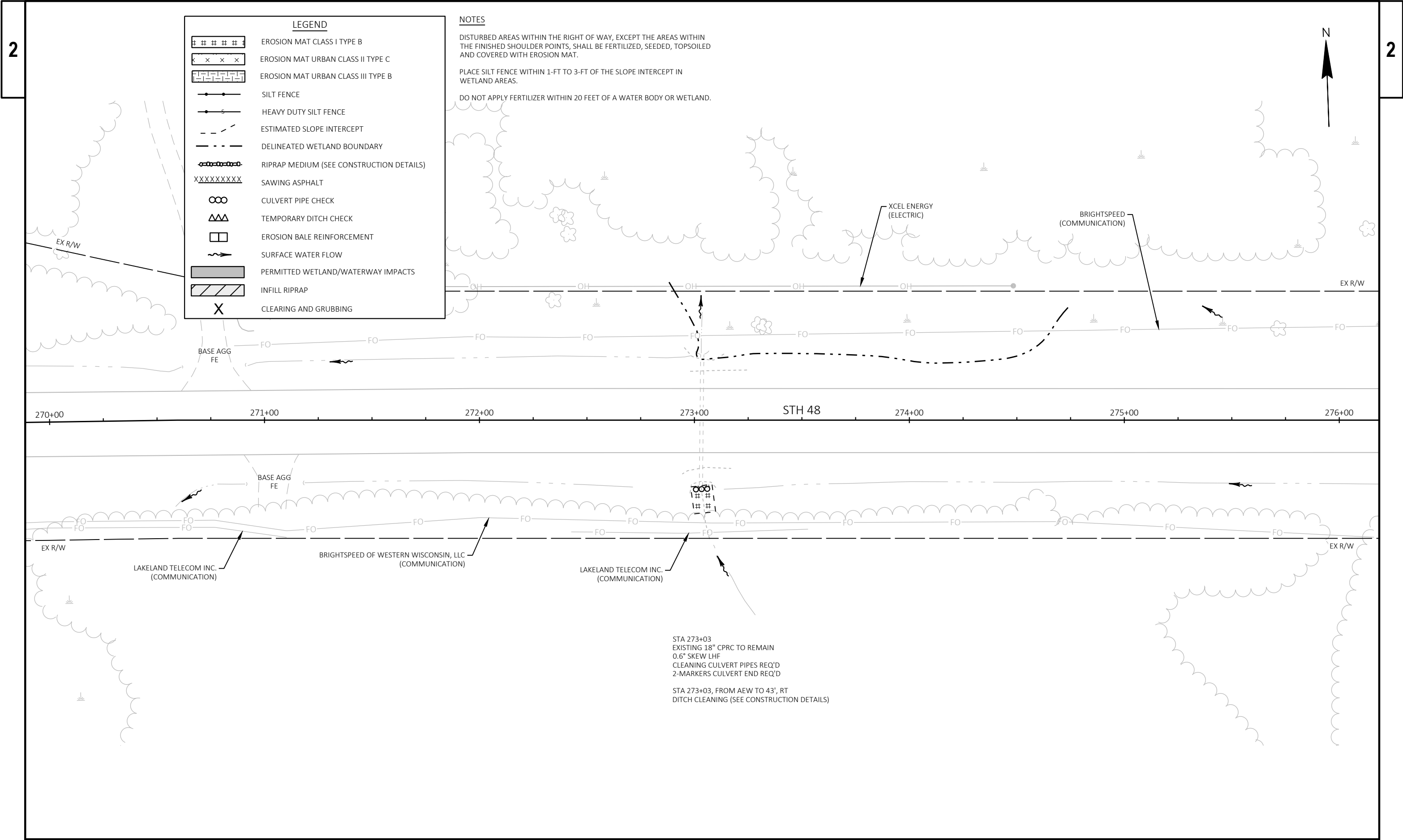




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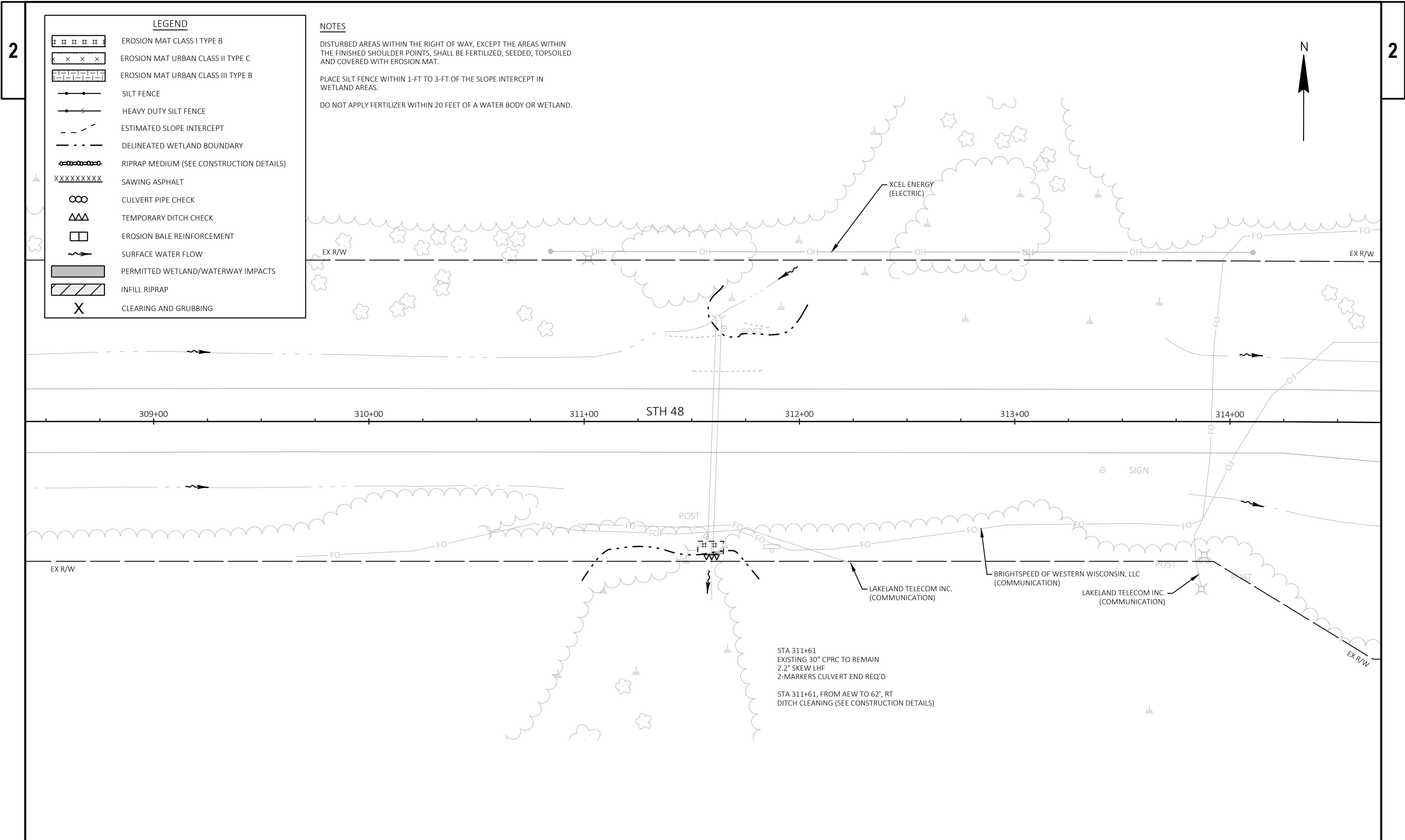
2











2

2

| LEGEND |                                          |
|--------|------------------------------------------|
|        | EROSION MAT CLASS I TYPE B               |
|        | EROSION MAT URBAN CLASS II TYPE C        |
|        | EROSION MAT URBAN CLASS III TYPE B       |
|        | SILT FENCE                               |
|        | HEAVY DUTY SILT FENCE                    |
|        | ESTIMATED SLOPE INTERCEPT                |
|        | DELINEATED WETLAND BOUNDARY              |
|        | RIPRAP MEDIUM (SEE CONSTRUCTION DETAILS) |
|        | SAWING ASPHALT                           |
|        | CULVERT PIPE CHECK                       |
|        | TEMPORARY DITCH CHECK                    |
|        | EROSION BALE REINFORCEMENT               |
|        | SURFACE WATER FLOW                       |
|        | PERMITTED WETLAND/WATERWAY IMPACTS       |
|        | INFILL RIPRAP                            |
|        | CLEARING AND GRUBBING                    |

## NOTES

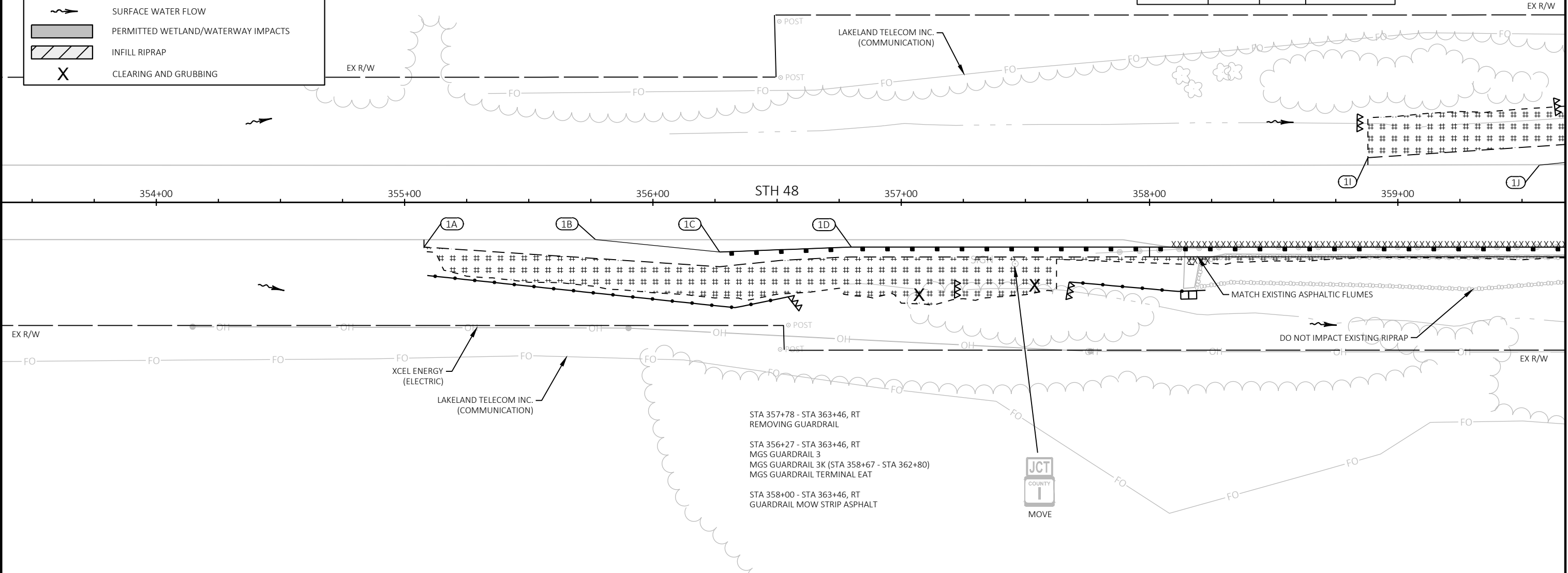
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PLACE SILT FENCE WITHIN 1-FT TO 3-FT OF THE SLOPE INTERCEPT IN WETLAND AREAS.

DO NOT APPLY FERTILIZER WITHIN 20 FEET OF A WATER BODY OR WETLAND.

SEE TYPICAL SECTION FOR ADDITIONAL INFORMATION IN AREAS WHERE SHOULDER PAVING IS WIDER THAN EXISTING PAVED SHOULDER.

| STATION & OFFSET TABLE (GUARDRAIL) |           |           |                   |
|------------------------------------|-----------|-----------|-------------------|
| POINT NUMBER                       | STATION   | OFFSET    | REMARKS           |
| 1A                                 | 355+07.80 | 18.00' RT | AGG SHLDR TAPER   |
| 1B                                 | 355+76.87 | 15.00' RT | PAVED SHLDR TAPER |
| 1C                                 | 356+26.87 | 20.00' RT | POST #1           |
| 1D                                 | 356+79.96 | 18.00' RT | BEGIN EAT         |
| 1I                                 | 358+87.92 | 18.00' LT | AGG SHLDR TAPER   |
| 1J                                 | 359+56.99 | 15.00' LT | PAVED SHLDR TAPER |



|                        |
|------------------------|
| PROJECT NO: 8820-00-70 |
|------------------------|

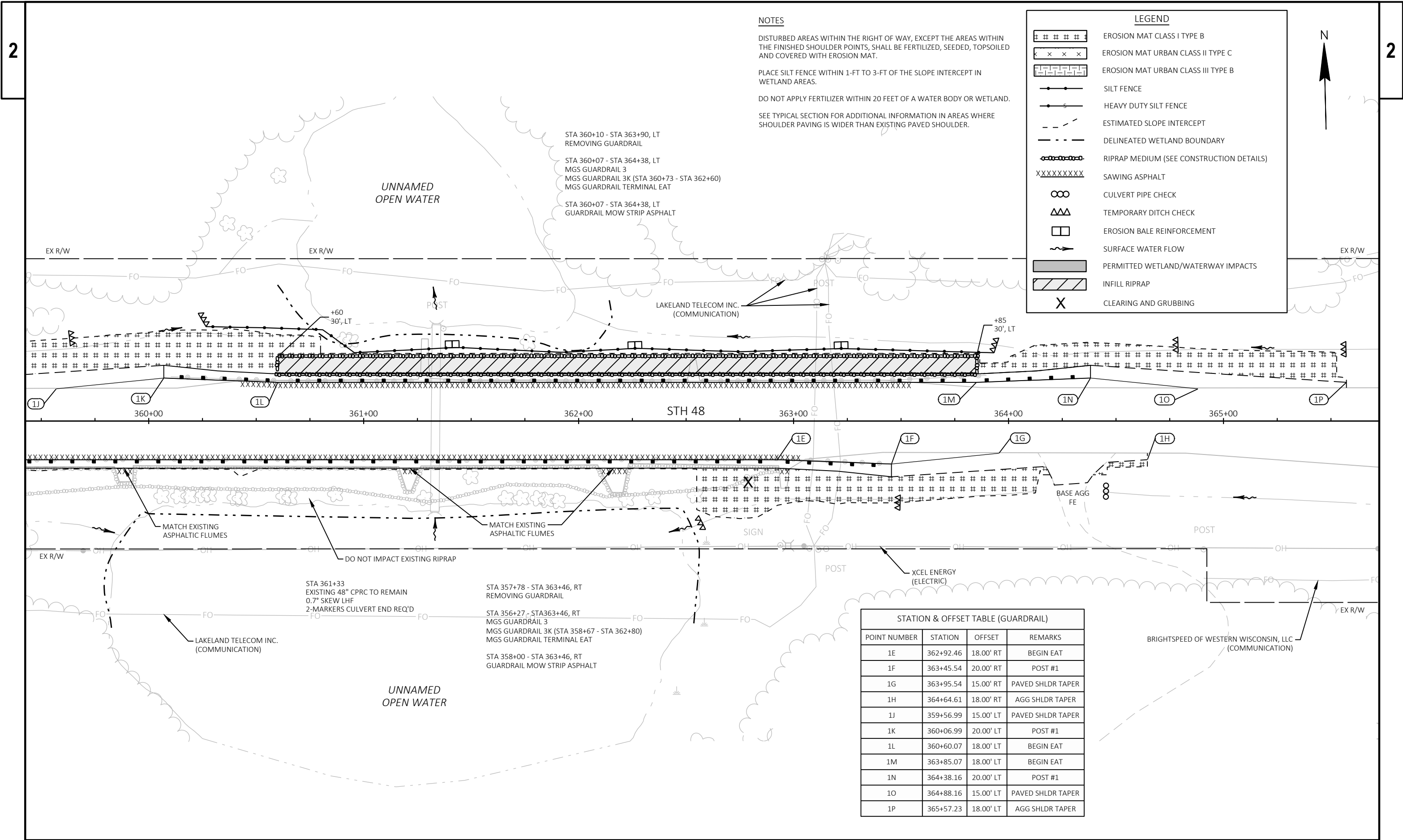
HWY: STH 48

COUNTY: POLK

## CONSTRUCTION DETAILS - GUARDRAIL REPLACEMENTS

SHEET 31

E



NOTES

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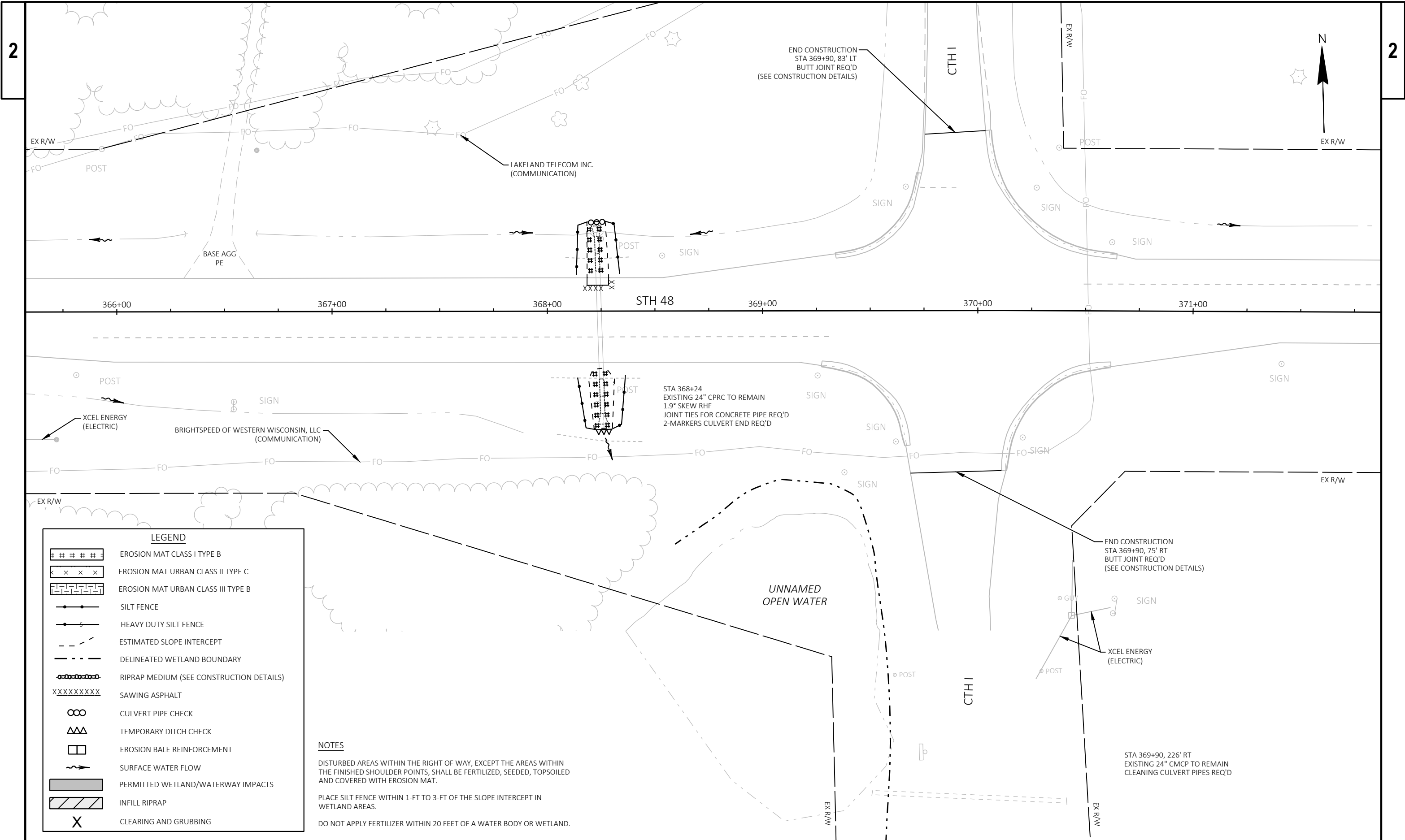
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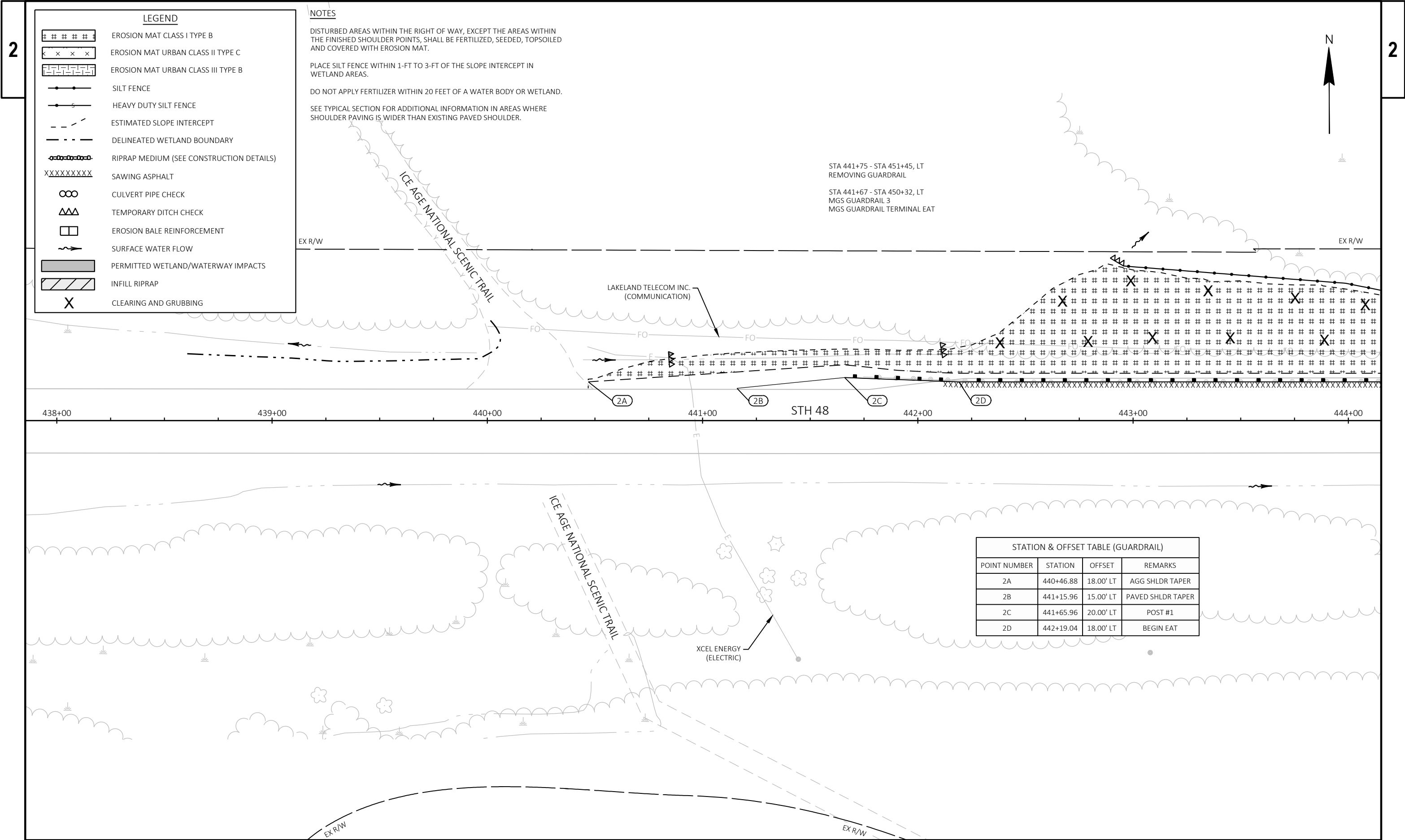
LEGEND

- EROSION MAT CLASS I TYPE B
- EROSION MAT URBAN CLASS II TYPE C
- EROSION MAT URBAN CLASS III TYPE B
- SILT FENCE
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- INFILL RIPRAP
- CLEARING AND GRUBBING

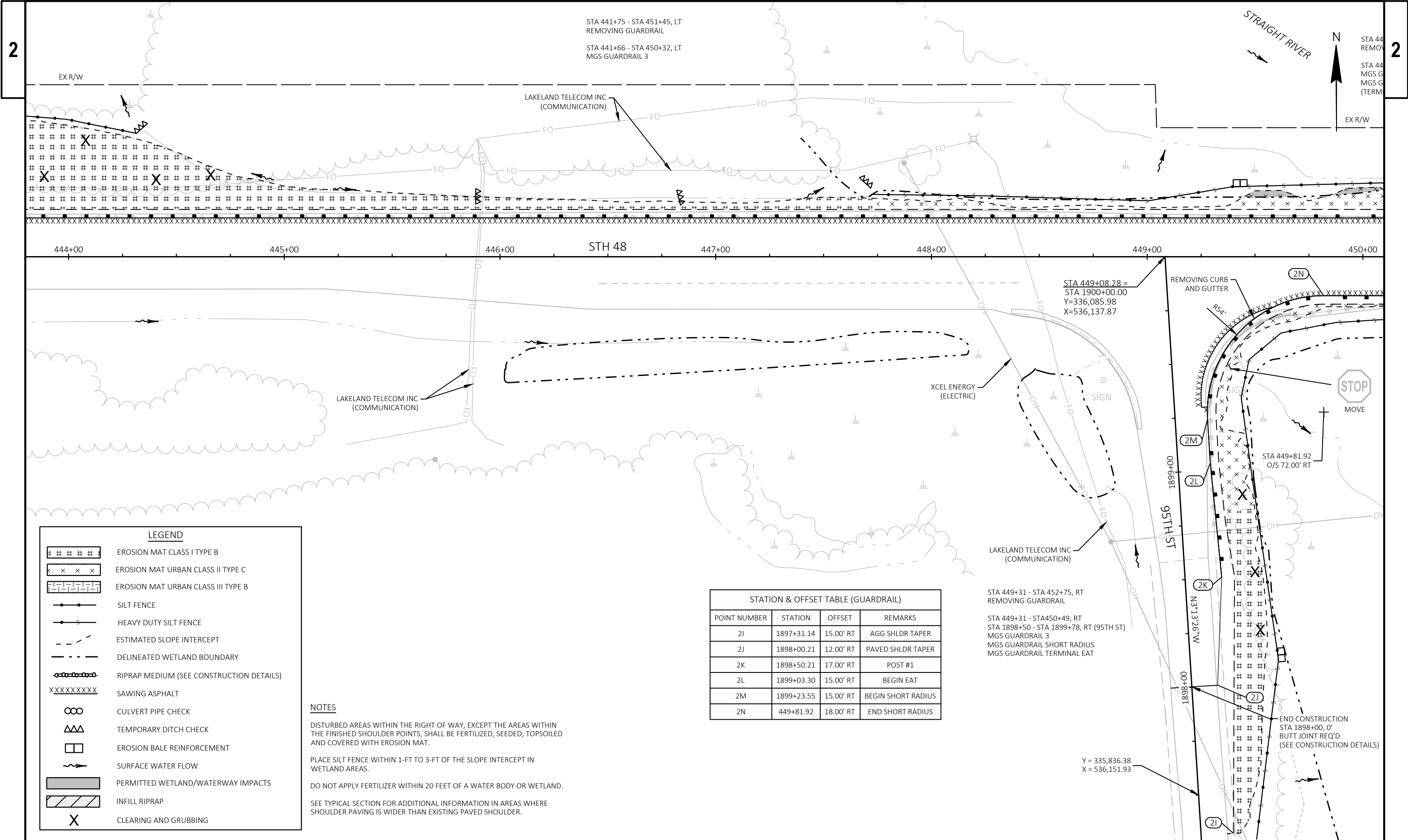


| STATION & OFFSET TABLE (GUARDRAIL) |           |           |                   |
|------------------------------------|-----------|-----------|-------------------|
| POINT NUMBER                       | STATION   | OFFSET    | REMARKS           |
| 1E                                 | 362+92.46 | 18.00' RT | BEGIN EAT         |
| 1F                                 | 363+45.54 | 20.00' RT | POST #1           |
| 1G                                 | 363+95.54 | 15.00' RT | PAVED SHLDR TAPER |
| 1H                                 | 364+64.61 | 18.00' RT | AGG SHLDR TAPER   |
| 1J                                 | 359+56.99 | 15.00' LT | PAVED SHLDR TAPER |
| 1K                                 | 360+06.99 | 20.00' LT | POST #1           |
| 1L                                 | 360+60.07 | 18.00' LT | BEGIN EAT         |
| 1M                                 | 363+85.07 | 18.00' LT | BEGIN EAT         |
| 1N                                 | 364+38.16 | 20.00' LT | POST #1           |
| 1O                                 | 364+88.16 | 15.00' LT | PAVED SHLDR TAPER |
| 1P                                 | 365+57.23 | 18.00' LT | AGG SHLDR TAPER   |









LEGEND

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EROSION MAT CLASS I TYPE B

XXXXXX

EROSION MAT URBAN CLASS II TYPE C

|||||

EROSION MAT URBAN CLASS III TYPE B

—●—

SILT FENCE

—●—

HEAVY DUTY SILT FENCE

- - -

ESTIMATED SLOPE INTERCEPT

- - -

DELINEATED WETLAND BOUNDARY

—●—●—

RIPRAP MEDIUM (SEE CONSTRUCTION DETAILS)

XXXXXXXX

SAWING ASPHALT

∞

CULVERT PIPE CHECK

ΔΔ

TEMPORARY DITCH CHECK

□

EROSION BALE REINFORCEMENT

→

SURFACE WATER FLOW

█

PERMITTED WETLAND/WATERWAY IMPACTS

▨

INFILL RIPRAP

X

CLEARING AND GRUBBING

NOTES

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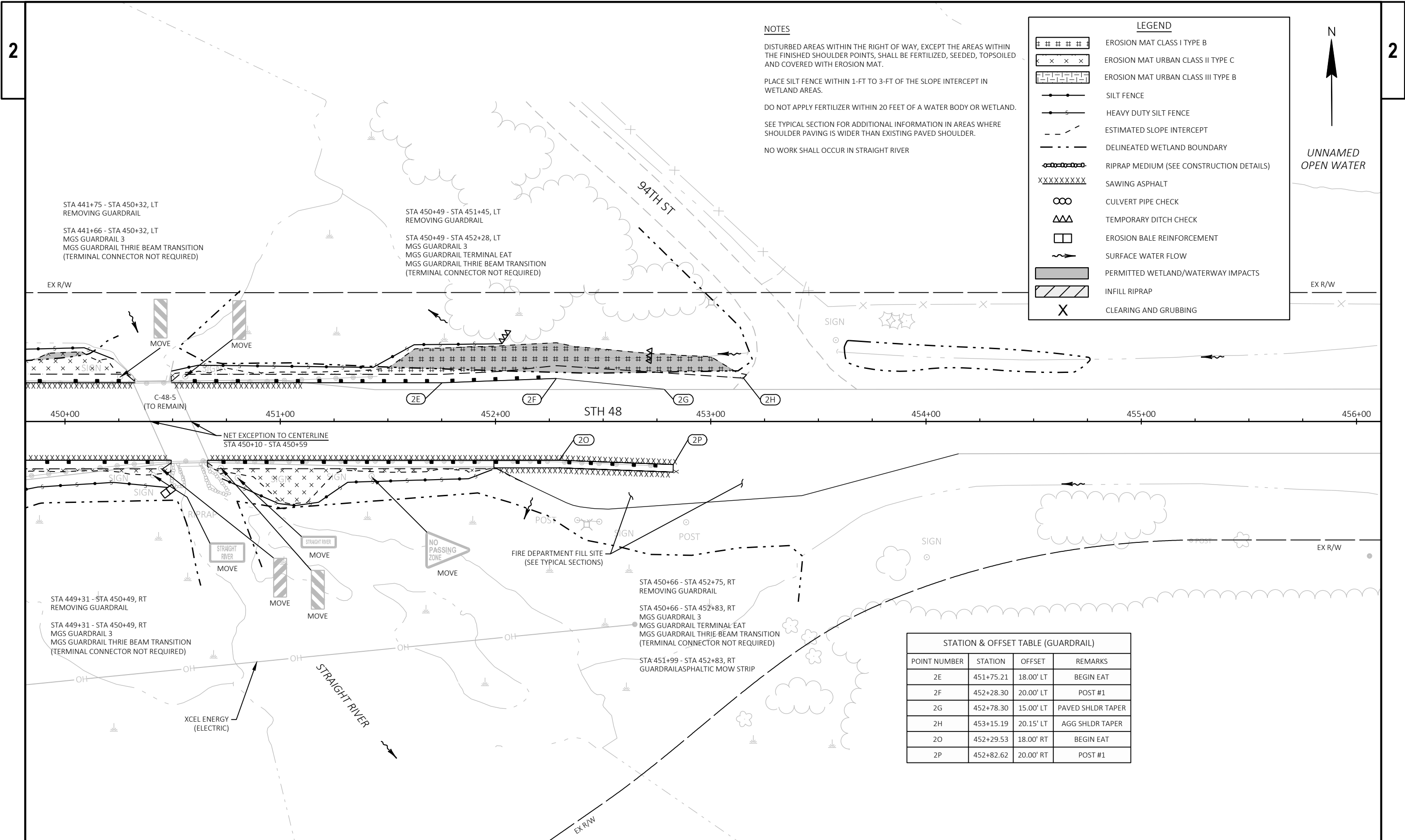
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| STATION & OFFSET TABLE (GUARDRAIL) |            |           |                    |
|------------------------------------|------------|-----------|--------------------|
| POINT NUMBER                       | STATION    | OFFSET    | REMARKS            |
| 2I                                 | 1897+31.14 | 15.00' RT | AGG SHLDR TAPER    |
| 2J                                 | 1898+00.21 | 12.00' RT | PAVED SHLDR TAPER  |
| 2K                                 | 1898+50.21 | 17.00' RT | POST #1            |
| 2L                                 | 1899+03.30 | 15.00' RT | BEGIN EAT          |
| 2M                                 | 1899+23.55 | 15.00' RT | BEGIN SHORT RADIUS |
| 2N                                 | 449+81.92  | 18.00' RT | END SHORT RADIUS   |

STA 449+31 - STA 452+75, RT  
REMOVING GUARDRAIL

STA 449+31 - STA450+49, RT  
STA 1898+50 - STA 1899+78, RT (95TH ST)  
MGS GUARDRAIL 3  
MGS GUARDRAIL SHORT RADIUS  
MGS GUARDRAIL TERMINAL EAT



NOTES

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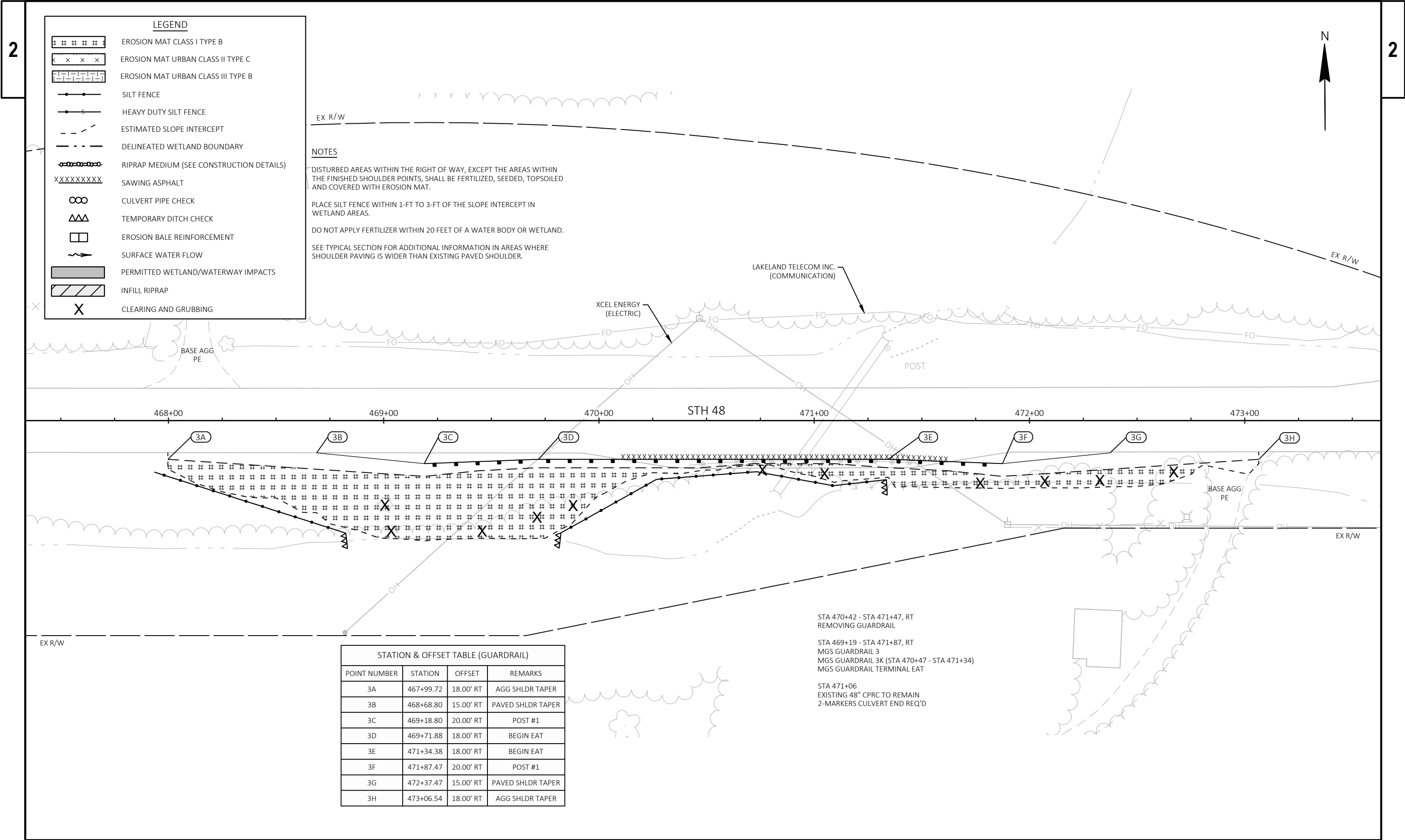
NO WORK SHALL OCCUR IN STRAIGHT RIVER

LEGEND

- EROSION MAT CLASS I TYPE B
- EROSION MAT URBAN CLASS II TYPE C
- EROSION MAT URBAN CLASS III TYPE B
- SILT FENCE
- HEAVY DUTY SILT FENCE
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| STATION & OFFSET TABLE (GUARDRAIL) |           |           |                   |
|------------------------------------|-----------|-----------|-------------------|
| POINT NUMBER                       | STATION   | OFFSET    | REMARKS           |
| 2E                                 | 451+75.21 | 18.00' LT | BEGIN EAT         |
| 2F                                 | 452+28.30 | 20.00' LT | POST #1           |
| 2G                                 | 452+78.30 | 15.00' LT | PAVED SHLDR TAPER |
| 2H                                 | 453+15.19 | 20.15' LT | AGG SHLDR TAPER   |
| 2O                                 | 452+29.53 | 18.00' RT | BEGIN EAT         |
| 2P                                 | 452+82.62 | 20.00' RT | POST #1           |



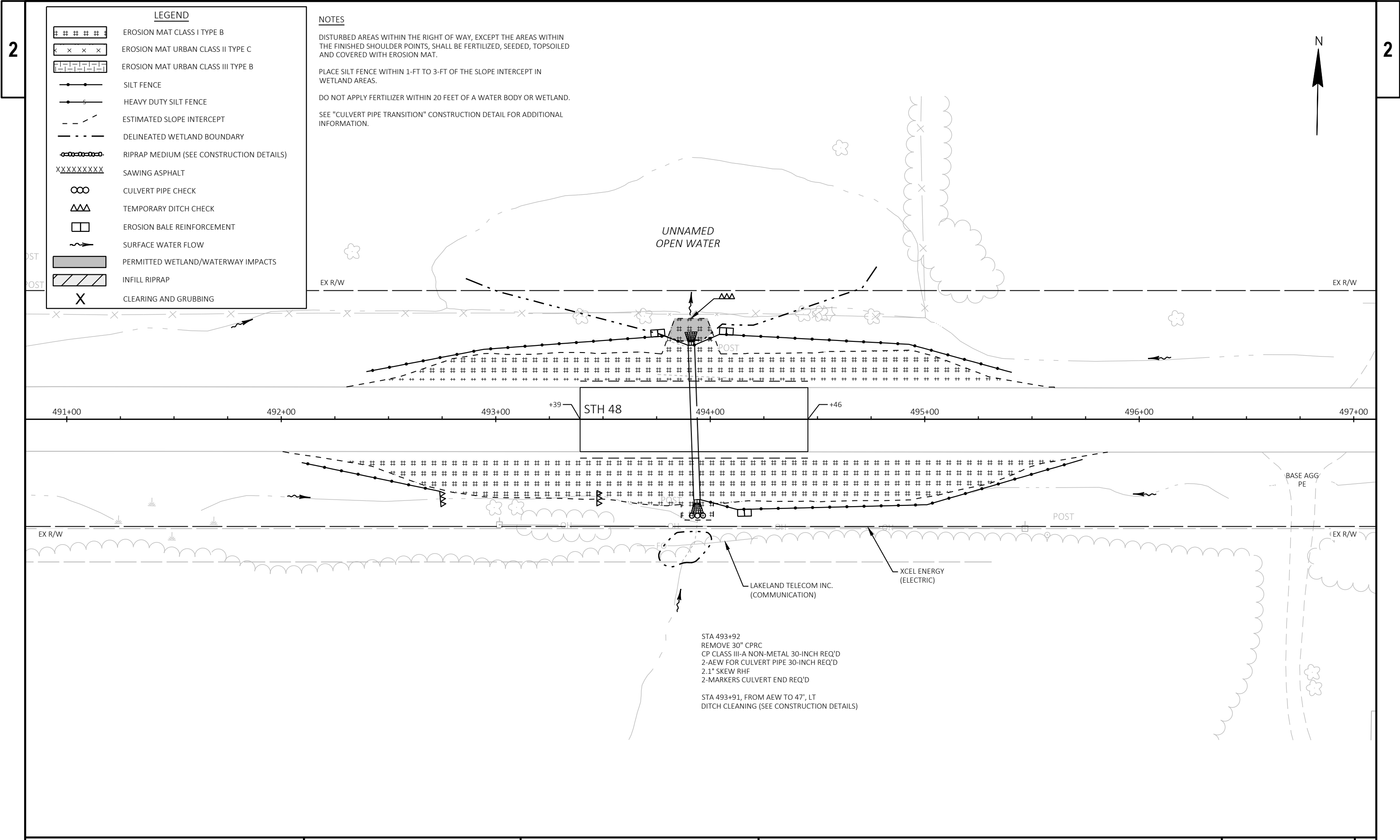


| STATION & OFFSET TABLE (GUARDRAIL) |           |           |                   |
|------------------------------------|-----------|-----------|-------------------|
| POINT NUMBER                       | STATION   | OFFSET    | REMARKS           |
| 3A                                 | 467+99.72 | 18.00' RT | AGG SHLDR TAPER   |
| 3B                                 | 468+68.80 | 15.00' RT | PAVED SHLDR TAPER |
| 3C                                 | 469+18.80 | 20.00' RT | POST #1           |
| 3D                                 | 469+71.88 | 18.00' RT | BEGIN EAT         |
| 3E                                 | 471+34.38 | 18.00' RT | BEGIN EAT         |
| 3F                                 | 471+87.47 | 20.00' RT | POST #1           |
| 3G                                 | 472+37.47 | 15.00' RT | PAVED SHLDR TAPER |
| 3H                                 | 473+06.54 | 18.00' RT | AGG SHLDR TAPER   |

STA 470+42 - STA 471+47, RT  
REMOVING GUARDRAIL

STA 469+19 - STA 471+87, RT  
MGS GUARDRAIL 3  
MGS GUARDRAIL 3K (STA 470+47 - STA 471+34)  
MGS GUARDRAIL TERMINAL EAT

STA 471+06  
EXISTING 48" CPKC TO REMAIN  
2-MARKERS CULVERT END REQ'D



| LEGEND |                                          |
|--------|------------------------------------------|
|        | EROSION MAT CLASS I TYPE B               |
|        | EROSION MAT URBAN CLASS II TYPE C        |
|        | EROSION MAT URBAN CLASS III TYPE B       |
|        | SILT FENCE                               |
|        | HEAVY DUTY SILT FENCE                    |
|        | ESTIMATED SLOPE INTERCEPT                |
|        | DELINEATED WETLAND BOUNDARY              |
|        | RIPRAP MEDIUM (SEE CONSTRUCTION DETAILS) |
|        | SAWING ASPHALT                           |
|        | CULVERT PIPE CHECK                       |
|        | TEMPORARY DITCH CHECK                    |
|        | EROSION BALE REINFORCEMENT               |
|        | SURFACE WATER FLOW                       |
|        | PERMITTED WETLAND/WATERWAY IMPACTS       |
|        | INFILL RIPRAP                            |
|        | CLEARING AND GRUBBING                    |

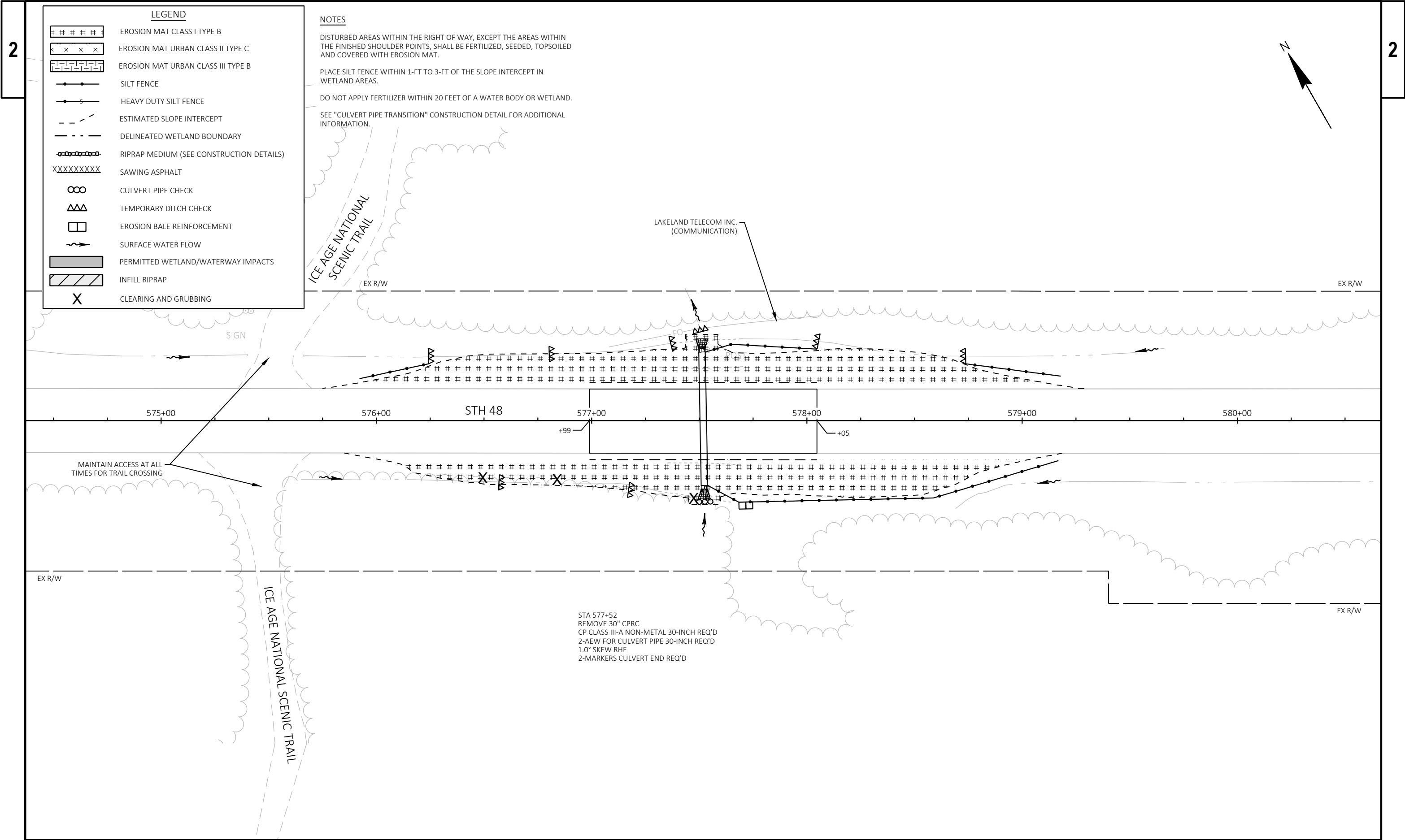
NOTES

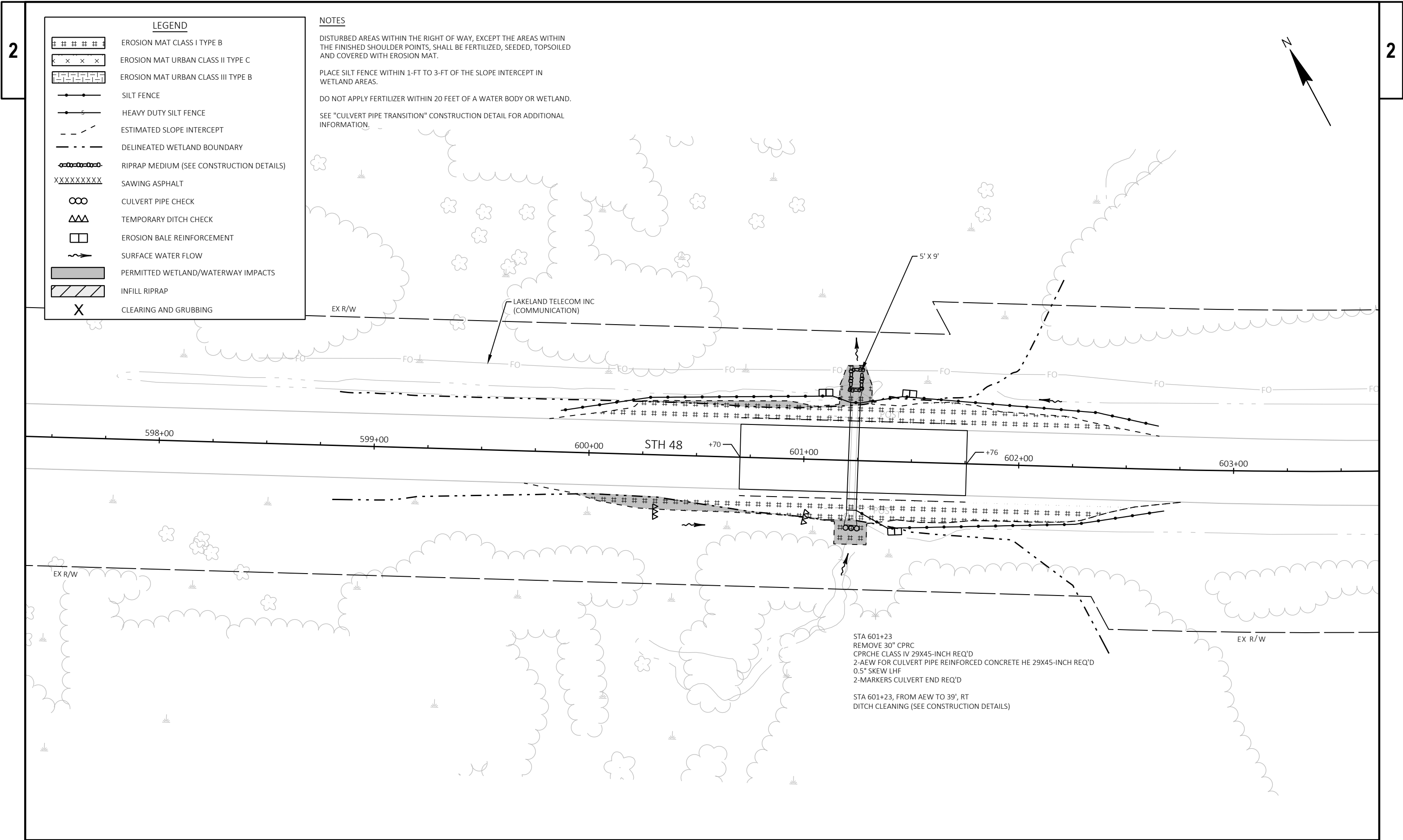
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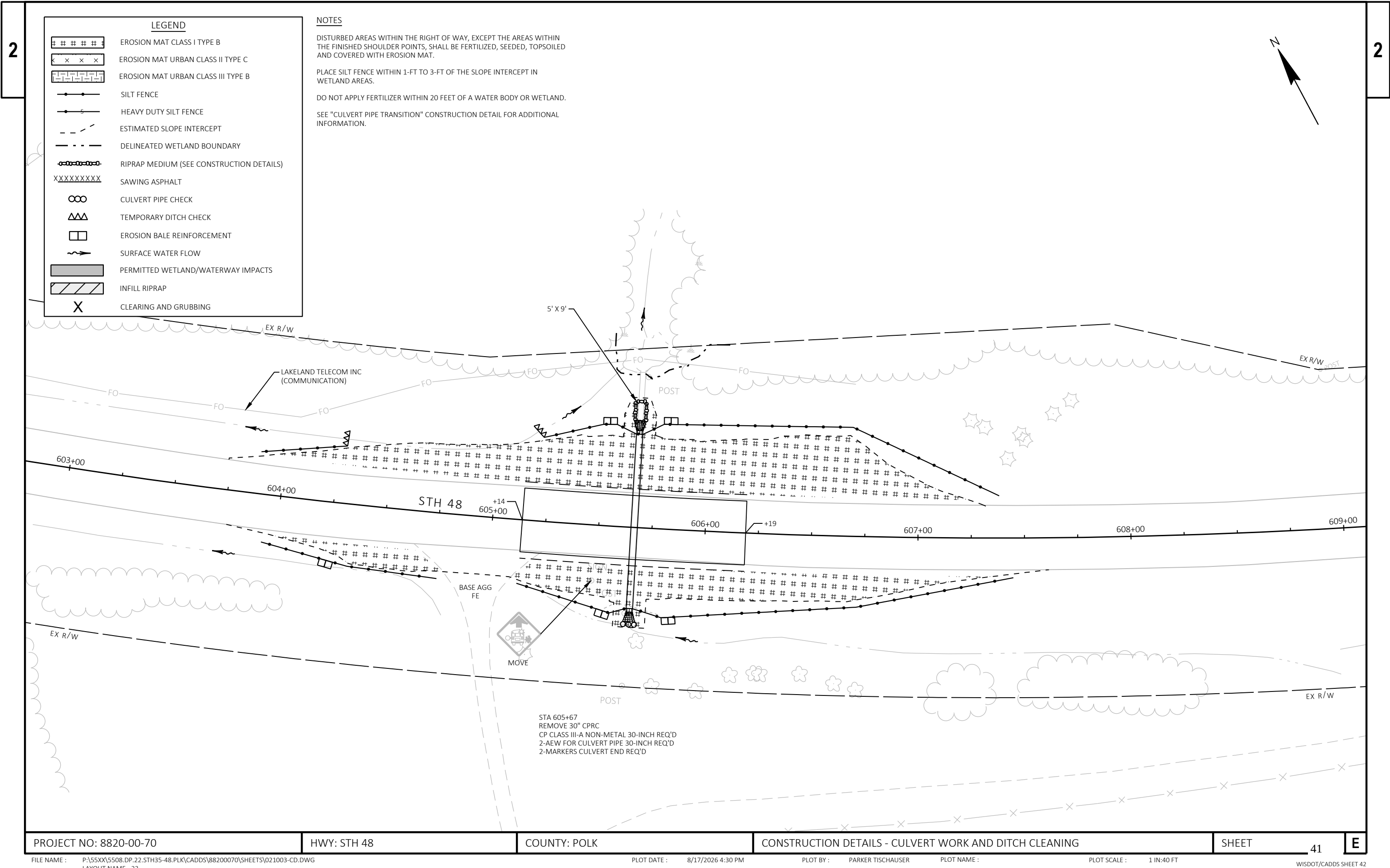
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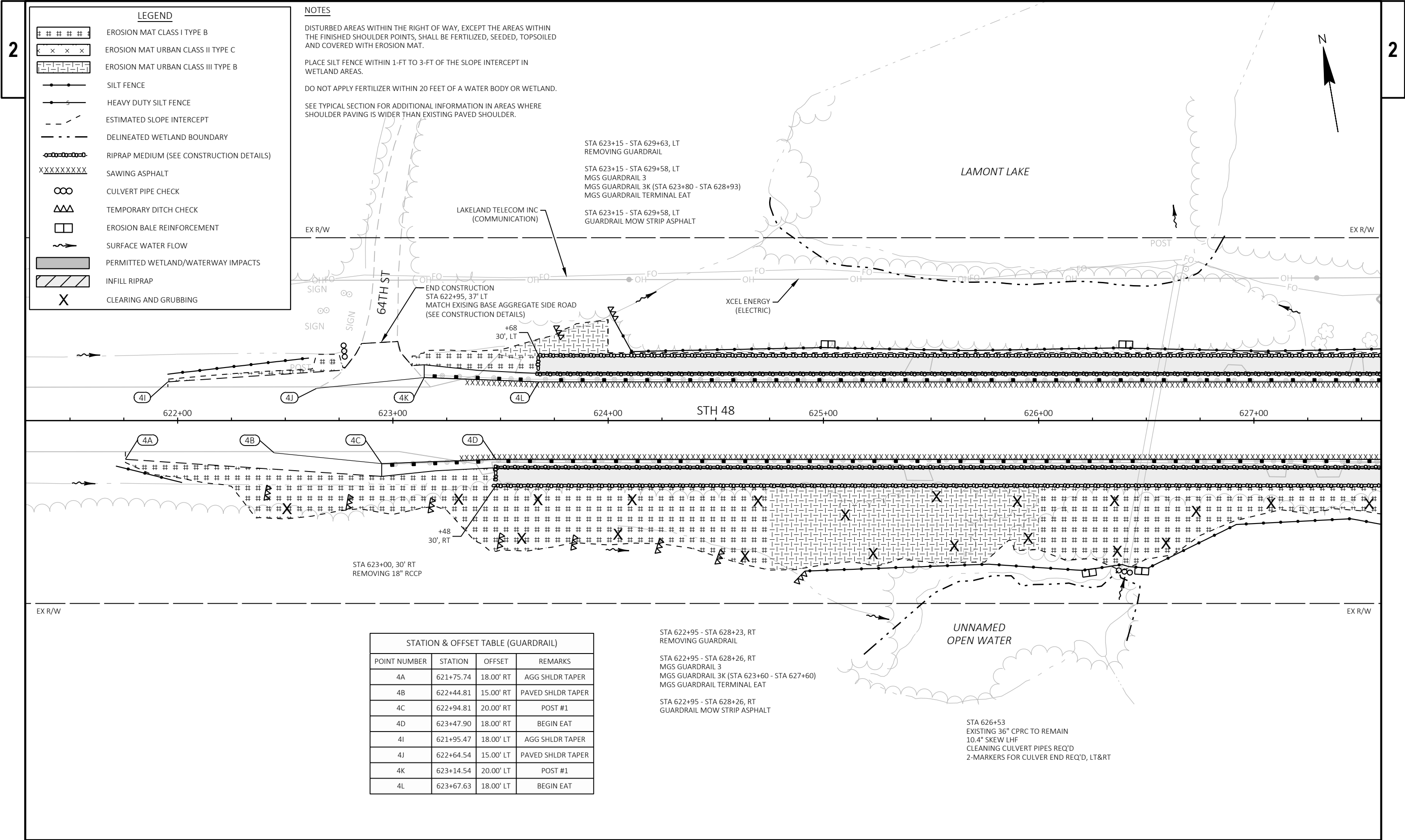
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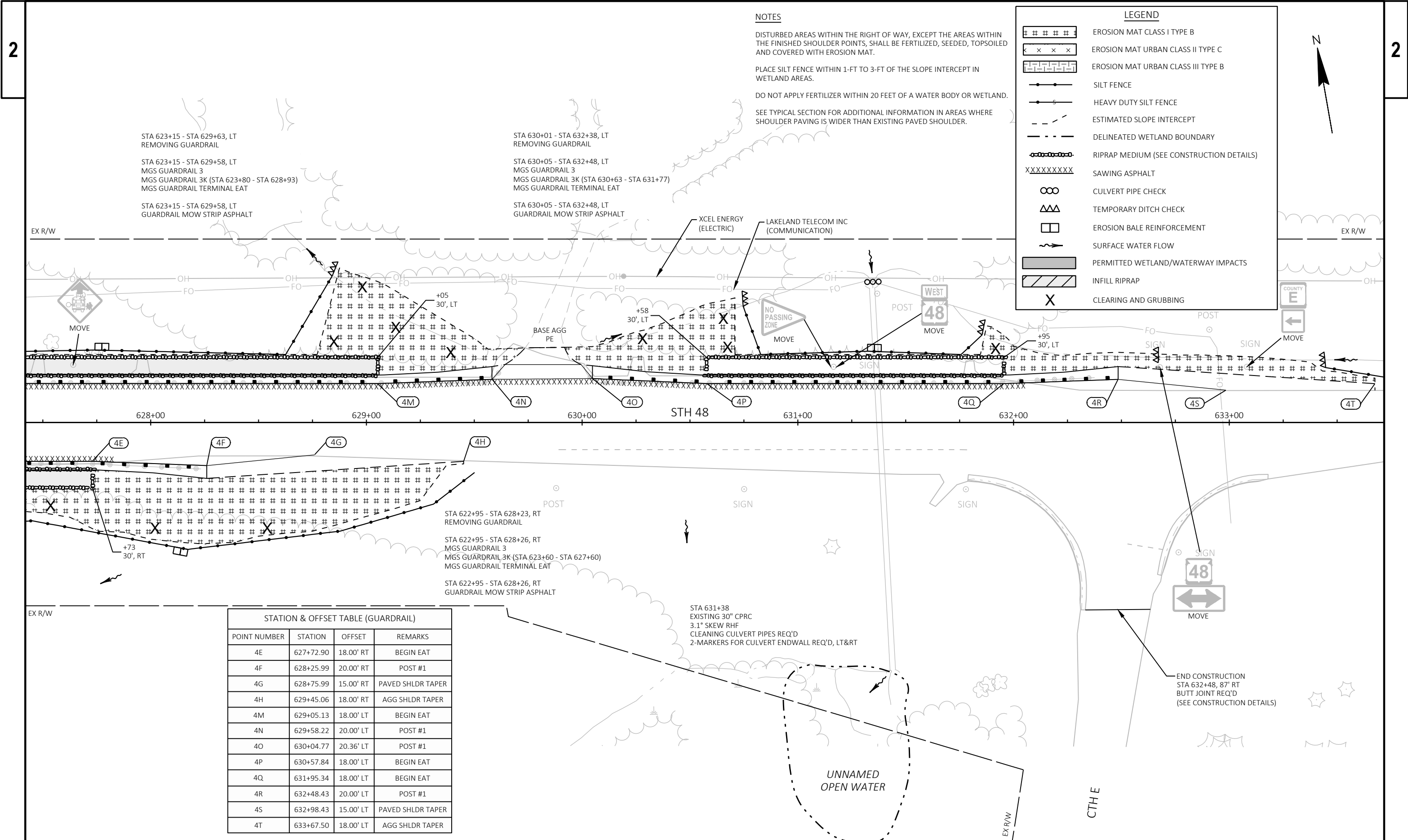


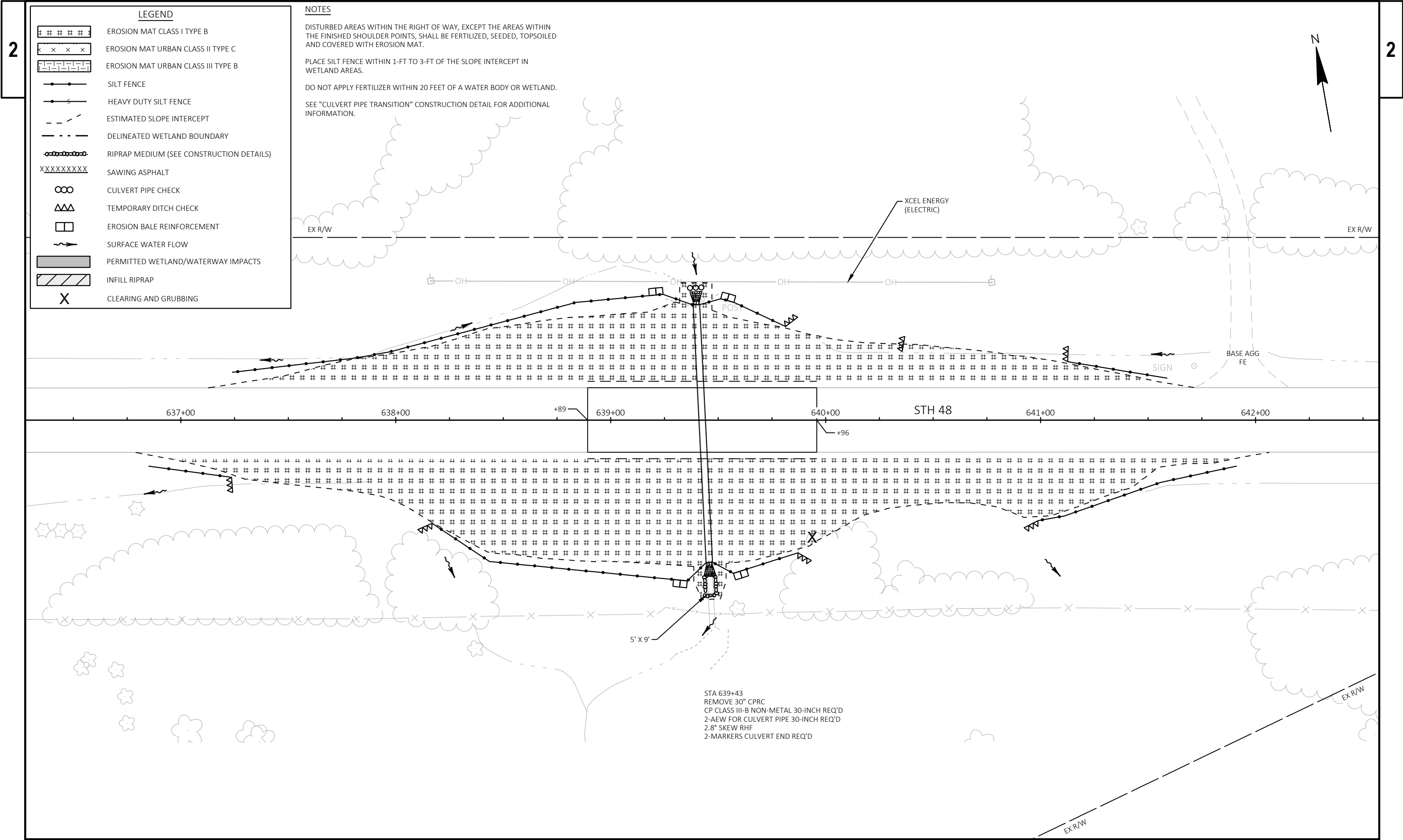












LEGEND

- EROSION MAT CLASS I TYPE B
- EROSION MAT URBAN CLASS II TYPE C
- EROSION MAT URBAN CLASS III TYPE B
- SILT FENCE
- HEAVY DUTY SILT FENCE
- ESTIMATED SLOPE INTERCEPT
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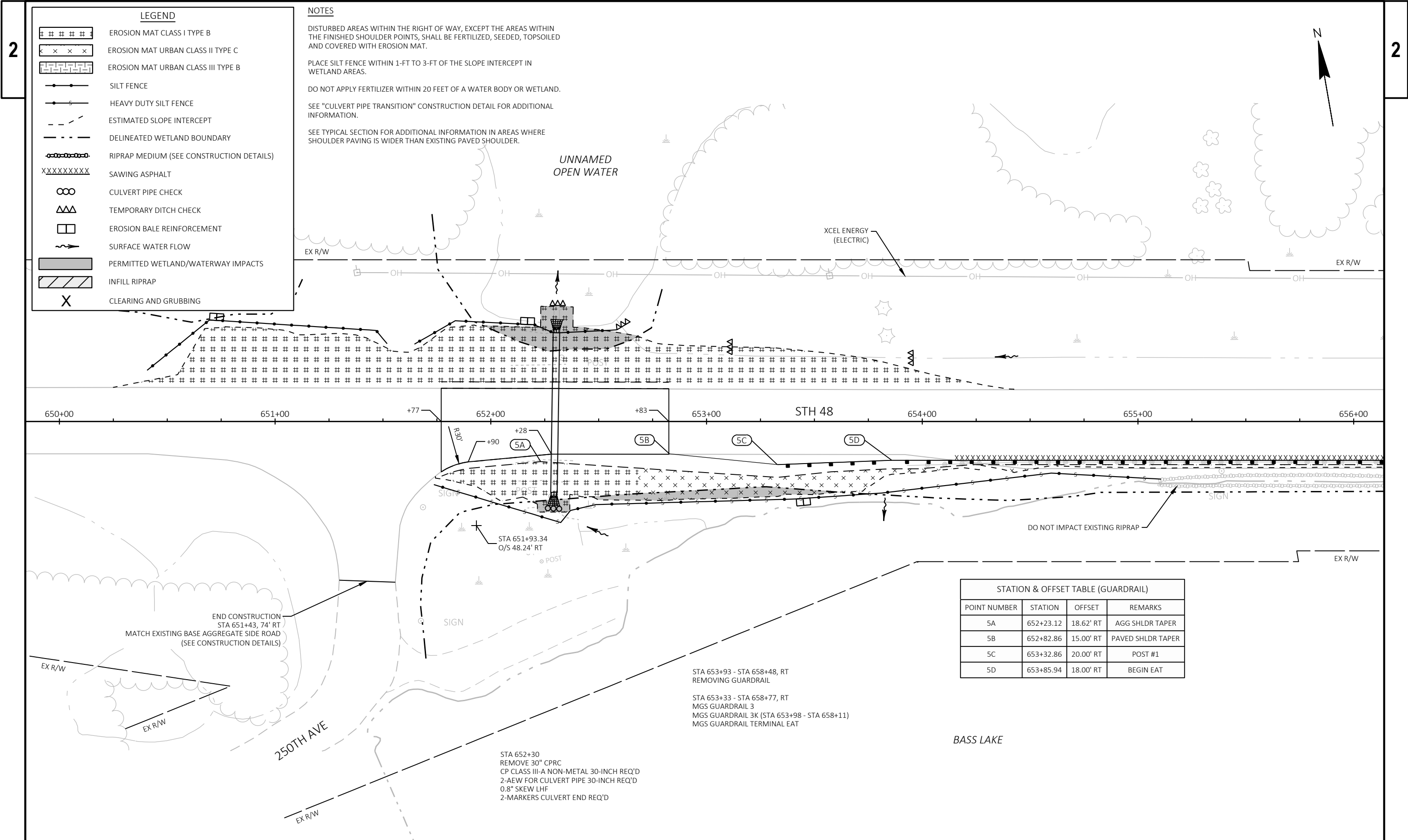
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LEGEND

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EROSION MAT CLASS I TYPE B

xxxxxx

EROSION MAT URBAN CLASS II TYPE C

|||||

EROSION MAT URBAN CLASS III TYPE B

—●—

SILT FENCE

—●—

HEAVY DUTY SILT FENCE

- - -

ESTIMATED SLOPE INTERCEPT

- - -

DELINEATED WETLAND BOUNDARY

—●—

RIPRAP MEDIUM (SEE CONSTRUCTION DETAILS)

XXXXXXXXXX

SAWING ASPHALT

∞

CULVERT PIPE CHECK

△△

TEMPORARY DITCH CHECK

□

EROSION BALE REINFORCEMENT

→

SURFACE WATER FLOW

■

PERMITTED WETLAND/WATERWAY IMPACTS

▨

INFILL RIPRAP

X

CLEARING AND GRUBBING

NOTES

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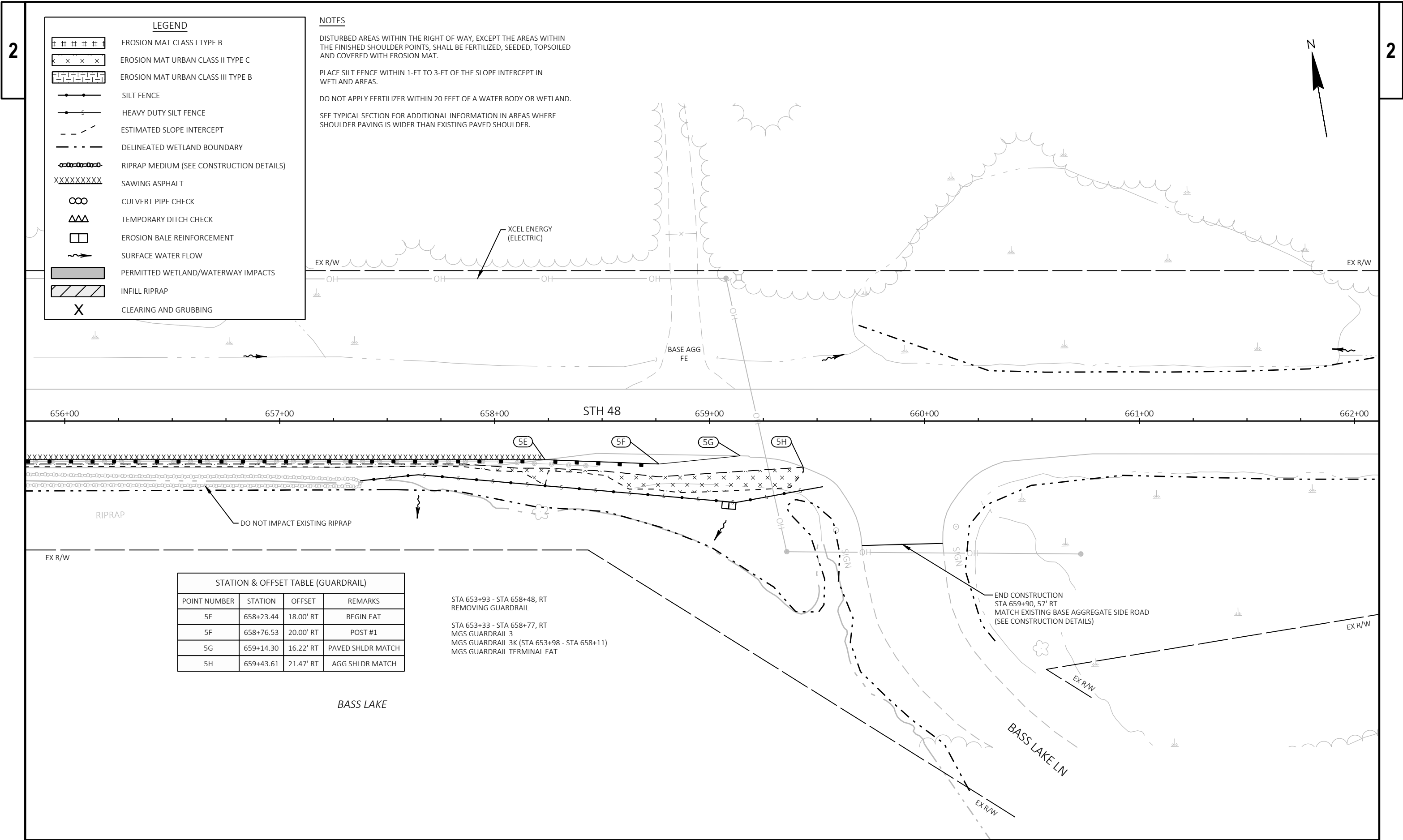
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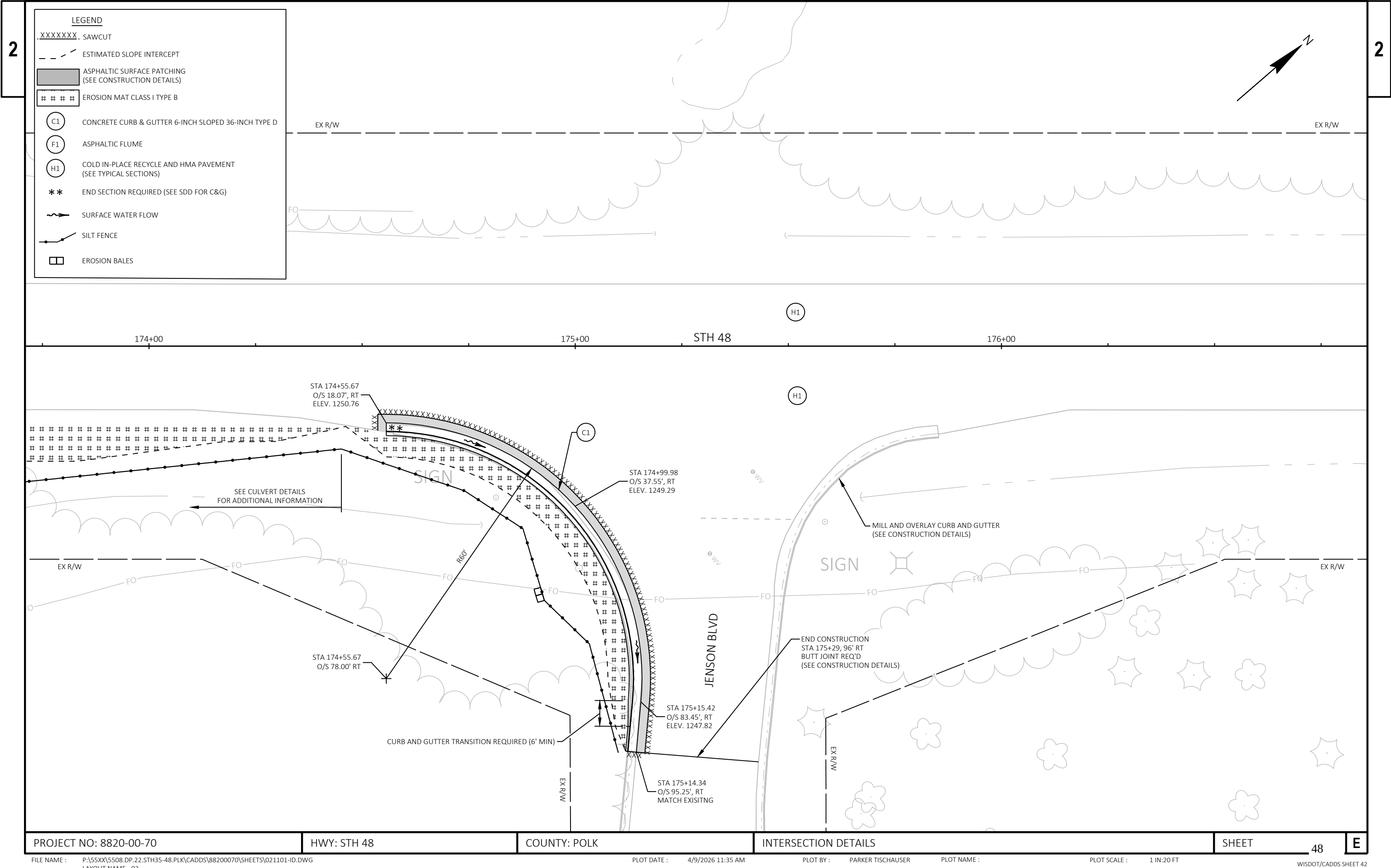
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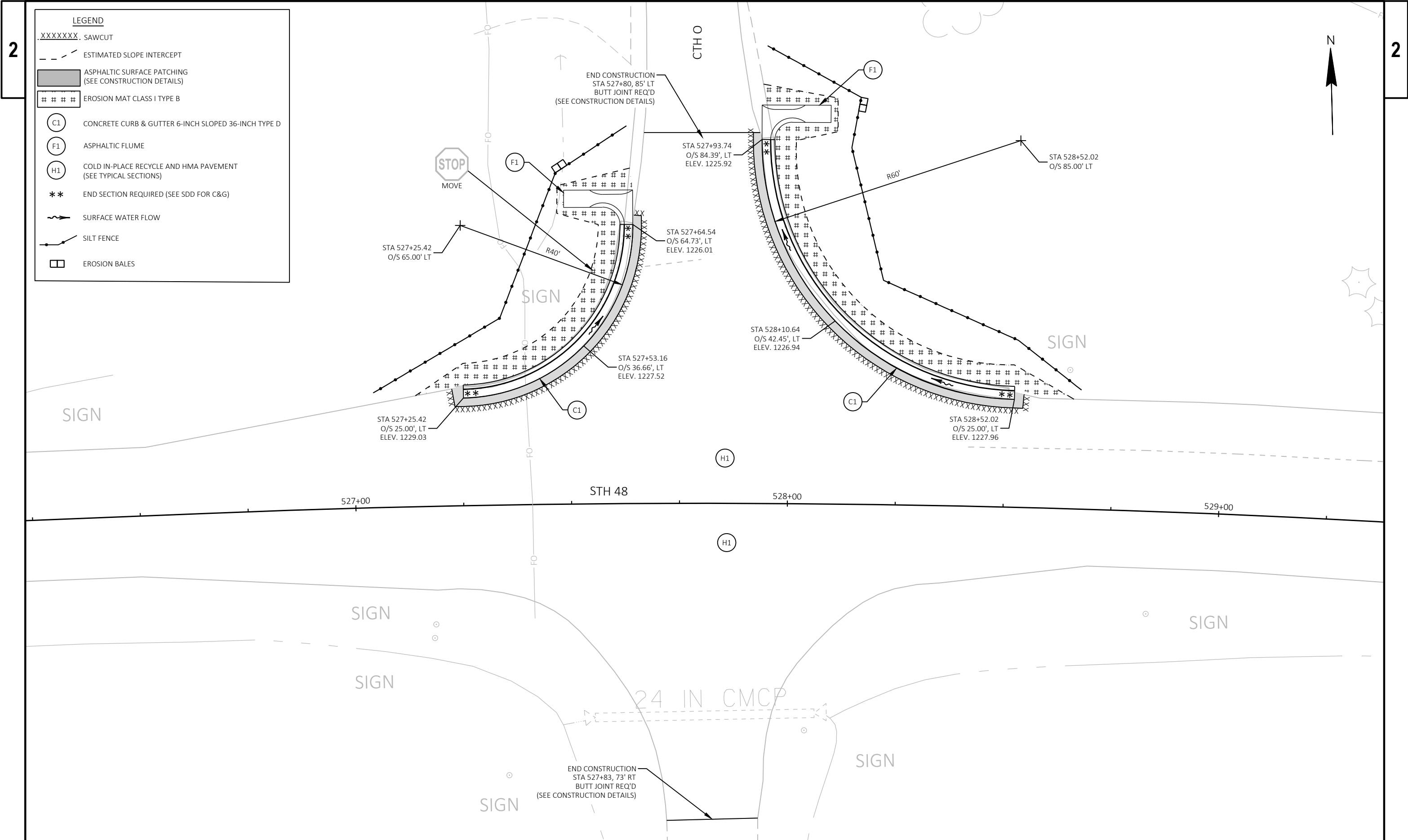
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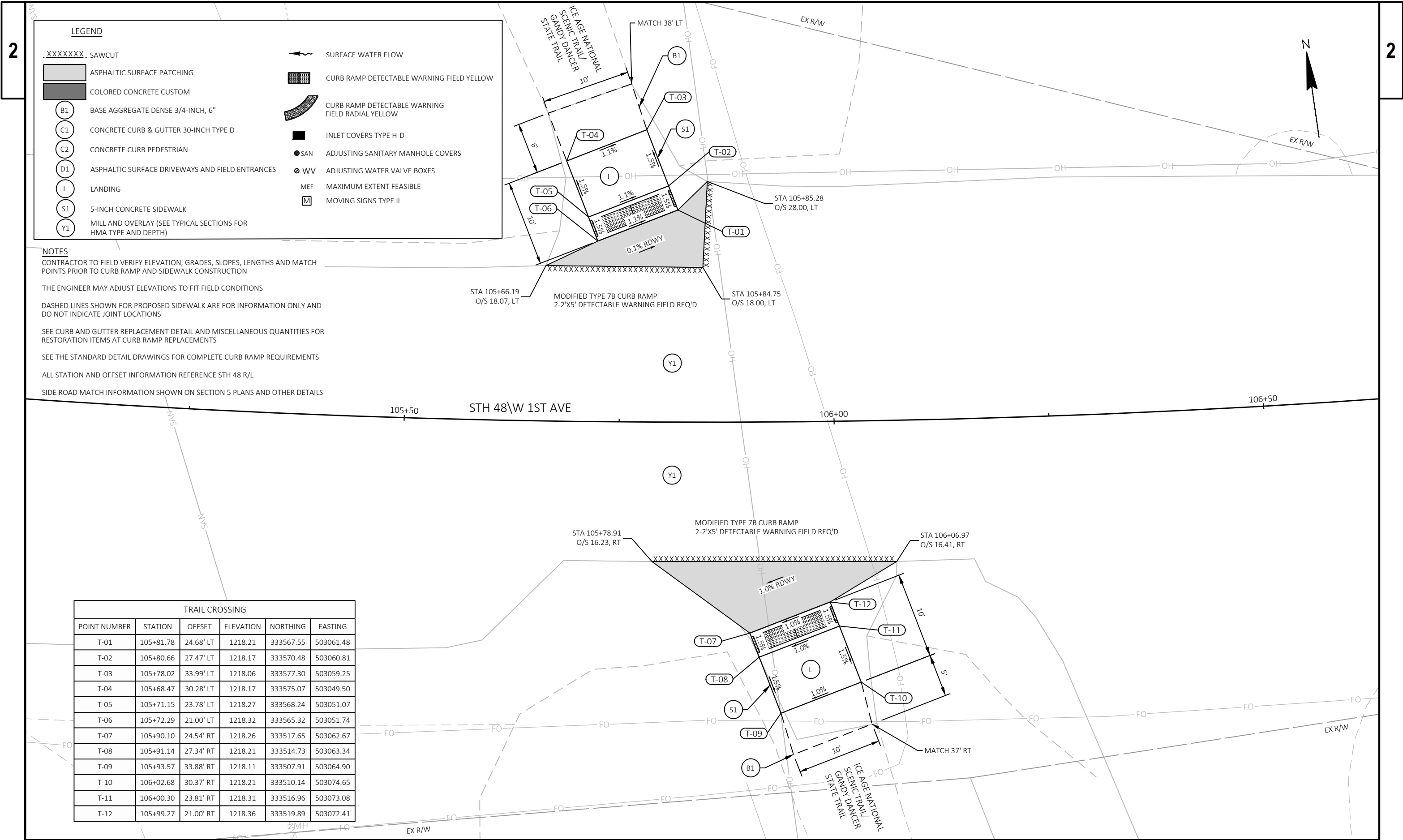
| STATION & OFFSET TABLE (GUARDRAIL) |           |           |                   |
|------------------------------------|-----------|-----------|-------------------|
| POINT NUMBER                       | STATION   | OFFSET    | REMARKS           |
| 5A                                 | 652+23.12 | 18.62' RT | AGG SHLDR TAPER   |
| 5B                                 | 652+82.86 | 15.00' RT | PAVED SHLDR TAPER |
| 5C                                 | 653+32.86 | 20.00' RT | POST #1           |
| 5D                                 | 653+85.94 | 18.00' RT | BEGIN EAT         |











LEGEND

.XXXXXXX. SAWCUT

ASPHALTIC SURFACE PATCHING

COLORED CONCRETE CUSTOM

B1 BASE AGGREGATE DENSE 3/4-INCH, 6"

C1 CONCRETE CURB & GUTTER 30-INCH TYPE D

C2 CONCRETE CURB PEDESTRIAN

D1 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES

L LANDING

S1 5-INCH CONCRETE SIDEWALK

Y1 MILL AND OVERLAY (SEE TYPICAL SECTIONS FOR HMA TYPE AND DEPTH)

SURFACE WATER FLOW

CURB RAMP DETECTABLE WARNING FIELD YELLOW

CURB RAMP DETECTABLE WARNING FIELD RADIAL YELLOW

INLET COVERS TYPE H-D

ADJUSTING SANITARY MANHOLE COVERS

ADJUSTING WATER VALVE BOXES

MAXIMUM EXTENT FEASIBLE

MOVING SIGNS TYPE II

NOTES

CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION

THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONDITIONS

DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS

SEE CURB AND GUTTER REPLACEMENT DETAIL AND MISCELLANEOUS QUANTITIES FOR RESTORATION ITEMS AT CURB RAMP REPLACEMENTS

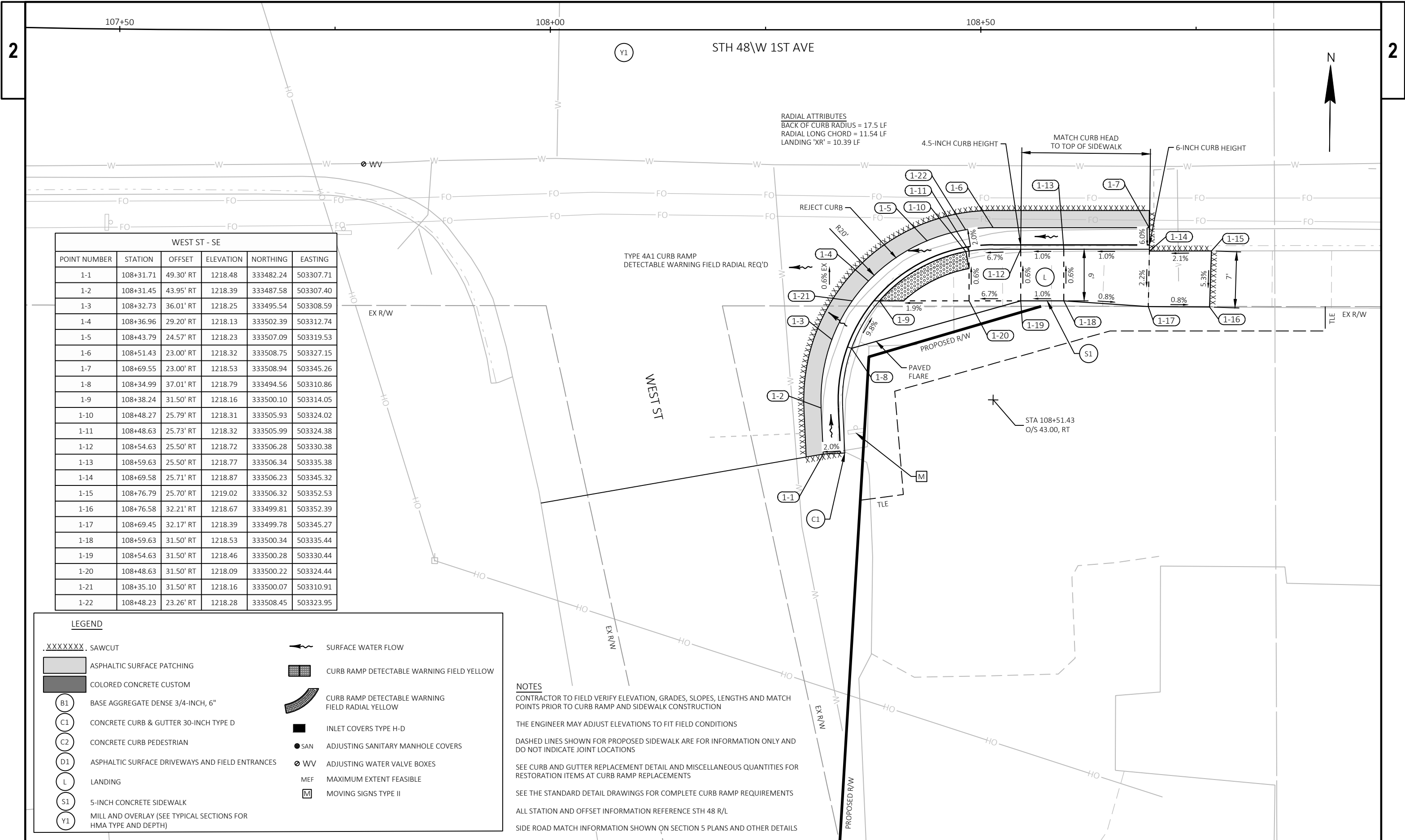
SEE THE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS

ALL STATION AND OFFSET INFORMATION REFERENCE STH 48 R/L

SIDE ROAD MATCH INFORMATION SHOWN ON SECTION 5 PLANS AND OTHER DETAILS

| TRAIL CROSSING |           |           |           |           |           |
|----------------|-----------|-----------|-----------|-----------|-----------|
| POINT NUMBER   | STATION   | OFFSET    | ELEVATION | NORTHING  | EASTING   |
| T-01           | 105+81.78 | 24.68' LT | 1218.21   | 333567.55 | 503061.48 |
| T-02           | 105+80.66 | 27.47' LT | 1218.17   | 333570.48 | 503060.81 |
| T-03           | 105+78.02 | 33.99' LT | 1218.06   | 333577.30 | 503059.25 |
| T-04           | 105+68.47 | 30.28' LT | 1218.17   | 333575.07 | 503049.50 |
| T-05           | 105+71.15 | 23.78' LT | 1218.27   | 333568.24 | 503051.07 |
| T-06           | 105+72.29 | 21.00' LT | 1218.32   | 333565.32 | 503051.74 |
| T-07           | 105+90.10 | 24.54' RT | 1218.26   | 333517.65 | 503062.67 |
| T-08           | 105+91.14 | 27.34' RT | 1218.21   | 333514.73 | 503063.34 |
| T-09           | 105+93.57 | 33.88' RT | 1218.11   | 333507.91 | 503064.90 |
| T-10           | 106+02.68 | 30.37' RT | 1218.21   | 333510.14 | 503074.65 |
| T-11           | 106+00.30 | 23.81' RT | 1218.31   | 333516.96 | 503073.08 |
| T-12           | 105+99.27 | 21.00' RT | 1218.36   | 333519.89 | 503072.41 |





| WEST ST - SE |           |           |           |           |           |
|--------------|-----------|-----------|-----------|-----------|-----------|
| POINT NUMBER | STATION   | OFFSET    | ELEVATION | NORTHING  | EASTING   |
| 1-1          | 108+31.71 | 49.30' RT | 1218.48   | 333482.24 | 503307.71 |
| 1-2          | 108+31.45 | 43.95' RT | 1218.39   | 333487.58 | 503307.40 |
| 1-3          | 108+32.73 | 36.01' RT | 1218.25   | 333495.54 | 503308.59 |
| 1-4          | 108+36.96 | 29.20' RT | 1218.13   | 333502.39 | 503312.74 |
| 1-5          | 108+43.79 | 24.57' RT | 1218.23   | 333507.09 | 503319.53 |
| 1-6          | 108+51.43 | 23.00' RT | 1218.32   | 333508.75 | 503327.15 |
| 1-7          | 108+69.55 | 23.00' RT | 1218.53   | 333508.94 | 503345.26 |
| 1-8          | 108+34.99 | 37.01' RT | 1218.79   | 333494.56 | 503310.86 |
| 1-9          | 108+38.24 | 31.50' RT | 1218.16   | 333500.10 | 503314.05 |
| 1-10         | 108+48.27 | 25.79' RT | 1218.31   | 333505.93 | 503324.02 |
| 1-11         | 108+48.63 | 25.73' RT | 1218.32   | 333505.99 | 503324.38 |
| 1-12         | 108+54.63 | 25.50' RT | 1218.72   | 333506.28 | 503330.38 |
| 1-13         | 108+59.63 | 25.50' RT | 1218.77   | 333506.34 | 503335.38 |
| 1-14         | 108+69.58 | 25.71' RT | 1218.87   | 333506.23 | 503345.32 |
| 1-15         | 108+76.79 | 25.70' RT | 1219.02   | 333506.32 | 503352.53 |
| 1-16         | 108+76.58 | 32.21' RT | 1218.67   | 333499.81 | 503352.39 |
| 1-17         | 108+69.45 | 32.17' RT | 1218.39   | 333499.78 | 503345.27 |
| 1-18         | 108+59.63 | 31.50' RT | 1218.53   | 333500.34 | 503335.44 |
| 1-19         | 108+54.63 | 31.50' RT | 1218.46   | 333500.28 | 503330.44 |
| 1-20         | 108+48.63 | 31.50' RT | 1218.09   | 333500.22 | 503324.44 |
| 1-21         | 108+35.10 | 31.50' RT | 1218.16   | 333500.07 | 503310.91 |
| 1-22         | 108+48.23 | 23.26' RT | 1218.28   | 333508.45 | 503323.95 |

LEGEND

.XXXXXXXX. SAWCUT

ASPHALTIC SURFACE PATCHING

COLORLED CONCRETE CUSTOM

B1 BASE AGGREGATE DENSE 3/4-INCH, 6"

C1 CONCRETE CURB & GUTTER 30-INCH TYPE D

C2 CONCRETE CURB PEDESTRIAN

D1 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES

L LANDING

S1 5-INCH CONCRETE SIDEWALK

Y1 MILL AND OVERLAY (SEE TYPICAL SECTIONS FOR HMA TYPE AND DEPTH)

SURFACE WATER FLOW

CURB RAMP DETECTABLE WARNING FIELD YELLOW

CURB RAMP DETECTABLE WARNING FIELD RADIAL YELLOW

INLET COVERS TYPE H-D

SAN ADJUSTING SANITARY MANHOLE COVERS

WV ADJUSTING WATER VALVE BOXES

MEF MAXIMUM EXTENT FEASIBLE

M MOVING SIGNS TYPE II

NOTES

CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION

THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONDITIONS

DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS

SEE CURB AND GUTTER REPLACEMENT DETAIL AND MISCELLANEOUS QUANTITIES FOR RESTORATION ITEMS AT CURB RAMP REPLACEMENTS

SEE THE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS

ALL STATION AND OFFSET INFORMATION REFERENCE STH 48 R/L

SIDE ROAD MATCH INFORMATION SHOWN ON SECTION 5 PLANS AND OTHER DETAILS

PROJECT NO: 8820-00-70

HWY: STH 48

COUNTY: POLK

CURB RAMP DETAILS

SHEET

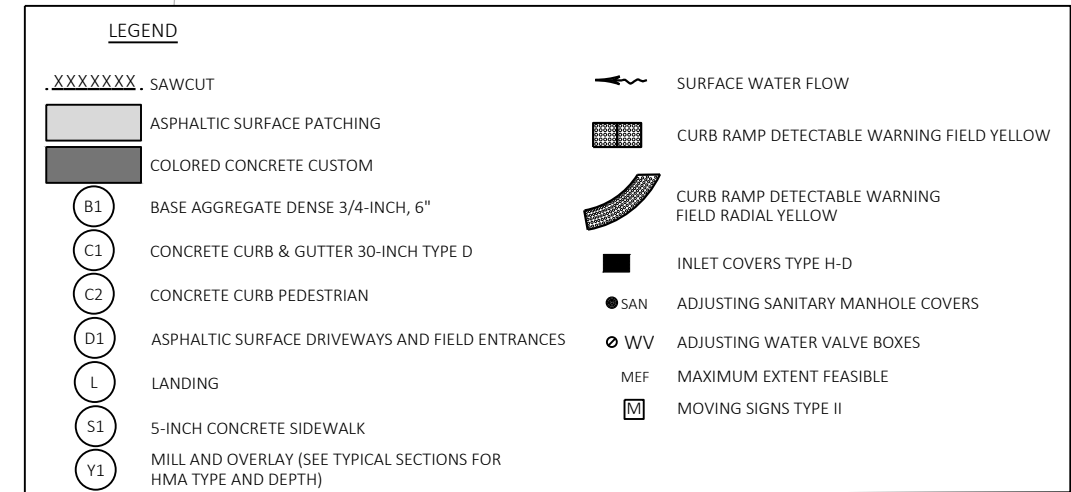
51

E

2

WISDOT/CADDS SHEET 42





| S MAIN ST - SE |           |           |           |           |           |
|----------------|-----------|-----------|-----------|-----------|-----------|
| POINT NUMBER   | STATION   | OFFSET    | ELEVATION | NORTHING  | EASTING   |
| 3-01           | 111+93.59 | 44.34' RT | 1223.51   | 333491.13 | 503669.52 |
| 3-02           | 111+93.59 | 32.48' RT | 1223.63   | 333502.99 | 503669.39 |
| 3-03           | 111+96.08 | 26.49' RT | 1223.61   | 333509.01 | 503671.81 |
| 3-04           | 111+97.39 | 25.42' RT | 1223.60   | 333510.10 | 503673.11 |
| 3-05           | 112+02.09 | 24.00' RT | 1223.63   | 333511.56 | 503677.80 |
| 3-06           | 112+05.58 | 24.00' RT | 1223.67   | 333511.60 | 503681.29 |
| 3-07           | 112+10.58 | 24.00' RT | 1223.74   | 333511.66 | 503686.29 |
| 3-08           | 112+37.57 | 24.00' RT | 1224.09   | 333511.95 | 503713.27 |
| 3-09           | 111+96.09 | 44.34' RT | 1223.43   | 333491.16 | 503672.02 |
| 3-10           | 111+96.09 | 38.58' RT | 1223.78   | 333496.92 | 503671.95 |
| 3-11           | 111+96.09 | 32.50' RT | 1223.55   | 333503.00 | 503671.89 |
| 3-12           | 111+97.85 | 28.26' RT | 1223.53   | 333507.26 | 503673.60 |
| 3-13           | 111+98.77 | 27.50' RT | 1223.52   | 333508.03 | 503674.52 |
| 3-14           | 112+00.09 | 26.31' RT | 1223.51   | 333509.23 | 503675.83 |
| 3-15           | 112+05.58 | 26.50' RT | 1223.59   | 333509.10 | 503681.31 |
| 3-16           | 112+10.58 | 26.50' RT | 1223.66   | 333509.16 | 503686.31 |
| 3-17           | 112+19.45 | 26.50' RT | 1224.27   | 333509.25 | 503695.18 |
| 3-18           | 112+25.45 | 26.50' RT | 1224.35   | 333509.32 | 503701.18 |
| 3-19           | 112+31.45 | 26.50' RT | 1224.43   | 333509.38 | 503707.18 |
| 3-20           | 112+37.57 | 26.50' RT | 1224.51   | 333509.45 | 503713.30 |
| 3-21           | 112+06.59 | 44.56' RT | 1224.05   | 333491.06 | 503682.52 |

| S MAIN ST - SE |           |           |           |           |           |
|----------------|-----------|-----------|-----------|-----------|-----------|
| POINT NUMBER   | STATION   | OFFSET    | ELEVATION | NORTHING  | EASTING   |
| 3-22           | 112+06.59 | 38.58' RT | 1223.91   | 333497.03 | 503682.45 |
| 3-23           | 112+06.09 | 38.58' RT | 1223.91   | 333497.03 | 503681.95 |
| 3-24           | 112+06.09 | 32.00' RT | 1223.67   | 333503.61 | 503681.88 |
| 3-25           | 112+19.45 | 32.00' RT | 1224.35   | 333503.75 | 503695.24 |
| 3-26           | 112+19.45 | 32.50' RT | 1224.35   | 333503.25 | 503695.25 |
| 3-27           | 112+25.45 | 32.50' RT | 1224.45   | 333503.32 | 503701.25 |
| 3-28           | 112+31.45 | 32.50' RT | 1224.53   | 333503.38 | 503707.25 |
| 3-29           | 112+37.45 | 32.50' RT | 1224.61   | 333503.45 | 503713.25 |
| 3-30           | 112+10.58 | 28.50' RT | 1223.68   | 333507.16 | 503686.34 |
| 3-31           | 112+05.58 | 28.50' RT | 1223.62   | 333507.10 | 503681.34 |
| 3-32           | 112+05.58 | 27.50' RT | 1223.61   | 333508.10 | 503681.32 |
| 3-33           | 112+00.77 | 27.50' RT | 1223.55   | 333508.05 | 503676.52 |
| 3-34           | 112+05.58 | 32.50' RT | 1223.67   | 333503.10 | 503681.38 |
| 3-35           | 112+00.77 | 32.50' RT | 1223.61   | 333503.05 | 503676.57 |
| 3-36           | 111+98.77 | 32.50' RT | 1223.59   | 333503.03 | 503674.57 |
| 3-37           | 112+10.58 | 32.00' RT | 1223.73   | 333503.66 | 503686.37 |

LEGEND

.XXXXXXXX. SAWCUT

ASPHALTIC SURFACE PATCHING

COLORED CONCRETE CUSTOM

B1 BASE AGGREGATE DENSE 3/4-INCH, 6"

C1 CONCRETE CURB & GUTTER 30-INCH TYPE D

C2 CONCRETE CURB PEDESTRIAN

D1 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES

L LANDING

S1 5-INCH CONCRETE SIDEWALK

Y1 MILL AND OVERLAY (SEE TYPICAL SECTIONS FOR HMA TYPE AND DEPTH)

SURFACE WATER FLOW

CURB RAMP DETECTABLE WARNING FIELD RADIAL YELLOW

INLET COVERS TYPE H-D

SAN ADJUSTING SANITARY MANHOLE COVERS

WV ADJUSTING WATER VALVE BOXES

MEF MAXIMUM EXTENT FEASIBLE

M MOVING SIGNS TYPE II

N MAIN ST

NOTES

CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION

THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONDITIONS

DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS

SEE CURB AND GUTTER REPLACEMENT DETAIL AND MISCELLANEOUS QUANTITIES FOR RESTORATION ITEMS AT CURB RAMP REPLACEMENTS

SEE THE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS

ALL STATION AND OFFSET INFORMATION REFERENCE STH 48 R/L

SIDE ROAD MATCH INFORMATION SHOWN ON SECTION 5 PLANS AND OTHER DETAILS

| N MAIN ST - NW |           |           |           |           |           |
|----------------|-----------|-----------|-----------|-----------|-----------|
| POINT NUMBER   | STATION   | OFFSET    | ELEVATION | NORTHING  | EASTING   |
| 4-1            | 111+13.86 | 19.50' LT | 1223.36   | 333554.10 | 503589.10 |
| 4-2            | 111+45.46 | 19.50' LT | 1224.19   | 333554.45 | 503620.69 |
| 4-3            | 111+48.79 | 19.80' LT | 1224.27   | 333554.78 | 503624.03 |
| 4-4            | 111+52.36 | 20.77' LT | 1224.32   | 333555.79 | 503627.58 |
| 4-5            | 111+58.36 | 24.39' LT | 1224.51   | 333559.48 | 503633.54 |
| 4-6            | 111+61.53 | 28.00' LT | 1224.63   | 333563.12 | 503636.67 |
| 4-7            | 111+62.68 | 29.91' LT | 1224.70   | 333565.04 | 503637.80 |
| 4-8            | 111+64.79 | 36.60' LT | 1224.89   | 333571.75 | 503639.84 |
| 4-9            | 111+13.86 | 22.00' LT | 1223.78   | 333556.60 | 503589.08 |
| 4-10           | 111+19.29 | 22.00' LT | 1223.93   | 333556.66 | 503594.50 |
| 4-11           | 111+24.13 | 22.00' LT | 1224.07   | 333556.71 | 503599.34 |
| 4-12           | 111+30.09 | 21.99' LT | 1223.73   | 333556.76 | 503605.30 |
| 4-13           | 111+35.09 | 22.00' LT | 1223.87   | 333556.83 | 503610.30 |
| 4-14           | 111+42.79 | 22.00' LT | 1224.30   | 333556.92 | 503617.99 |
| 4-15           | 111+48.79 | 22.33' LT | 1224.20   | 333557.31 | 503623.99 |
| 4-16           | 111+49.23 | 22.44' LT | 1224.21   | 333557.42 | 503624.43 |
| 4-17           | 111+58.42 | 28.00' LT | 1224.50   | 333563.08 | 503633.56 |
| 4-18           | 111+13.93 | 25.53' LT | 1223.85   | 333560.13 | 503589.11 |
| 4-19           | 111+19.29 | 25.58' LT | 1224.00   | 333560.24 | 503594.47 |
| 4-20           | 111+24.13 | 25.64' LT | 1224.14   | 333560.36 | 503599.30 |
| 4-21           | 111+24.12 | 27.47' LT | 1224.18   | 333562.18 | 503599.28 |
| 4-22           | 111+30.09 | 28.00' LT | 1223.85   | 333562.78 | 503605.23 |
| 4-23           | 111+35.09 | 28.00' LT | 1223.99   | 333562.83 | 503610.23 |
| 4-24           | 111+42.79 | 28.00' LT | 1224.42   | 333562.92 | 503617.93 |
| 4-25           | 111+48.79 | 28.00' LT | 1224.31   | 333562.98 | 503623.93 |
| 4-26           | 111+49.78 | 19.99' LT | 1224.29   | 333554.99 | 503625.01 |
| 4-27           | 111+35.09 | 19.50' LT | 1223.95   | 333554.33 | 503610.33 |
| 4-28           | 111+30.09 | 19.50' LT | 1223.81   | 333554.28 | 503605.33 |

PROJECT NO: 8820-00-70

HWY: STH 48

COUNTY: POLK

CURB RAMP DETAILS

SHEET

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E

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LAYOUT NAME - 05

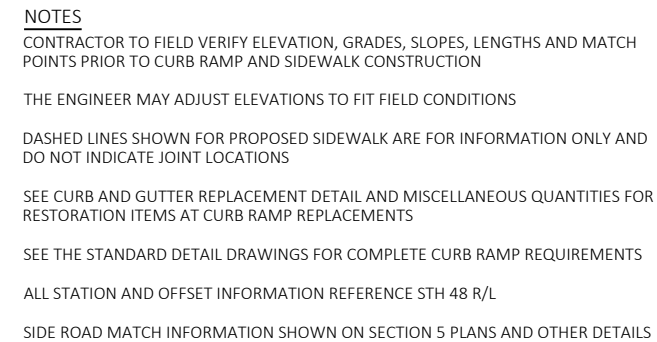
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PLOT BY : KELLEN HEINZEN

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

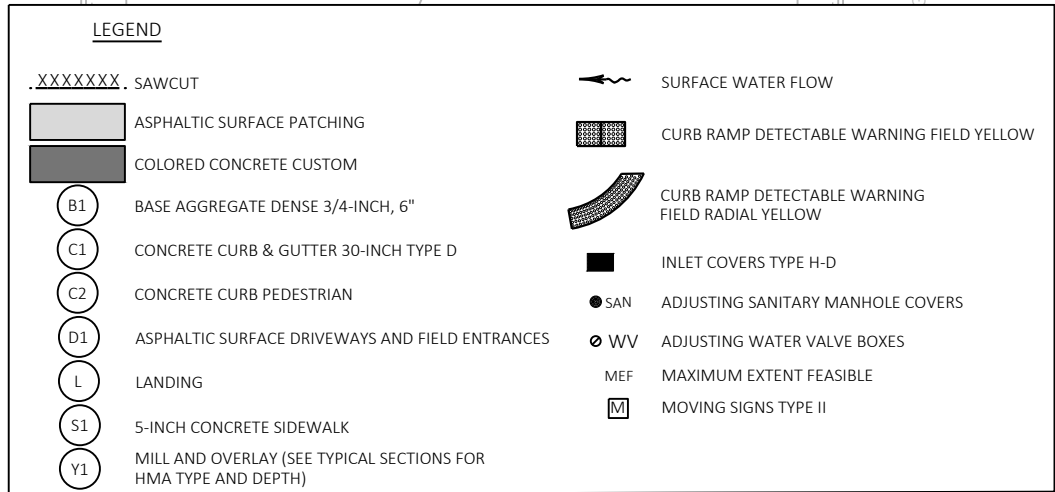
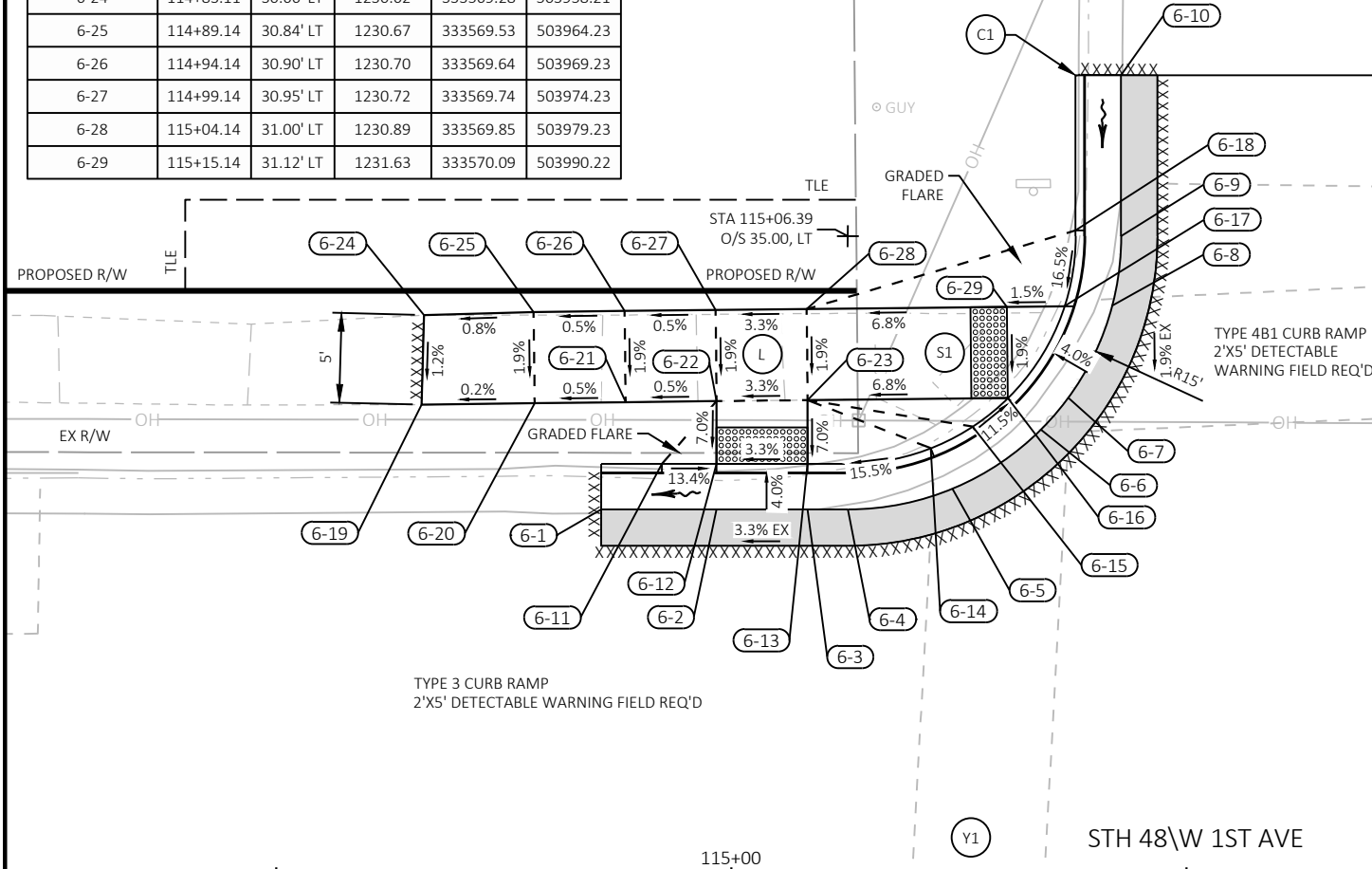
WISDOT/CADD SHEET 42



| N MAIN ST - NE |           |           |           |           |           |
|----------------|-----------|-----------|-----------|-----------|-----------|
| POINT NUMBER   | STATION   | OFFSET    | ELEVATION | NORTHING  | EASTING   |
| 5-1            | 112+20.58 | 20.00' LT | 1224.31   | 333555.76 | 503695.81 |
| 5-2            | 112+10.58 | 20.00' LT | 1224.28   | 333555.65 | 503685.81 |
| 5-3            | 112+04.79 | 21.17' LT | 1224.35   | 333556.76 | 503680.01 |
| 5-4            | 111+99.92 | 24.45' LT | 1224.42   | 333559.99 | 503675.10 |
| 5-5            | 111+98.20 | 26.53' LT | 1224.46   | 333562.05 | 503673.35 |
| 5-6            | 112+03.03 | 29.84' LT | 1224.43   | 333565.41 | 503678.15 |
| 5-7            | 111+95.58 | 35.16' LT | 1224.95   | 333570.65 | 503670.64 |
| 5-8            | 111+95.66 | 41.71' LT | 1224.93   | 333577.20 | 503670.65 |
| 5-9            | 112+20.58 | 22.50' LT | 1224.73   | 333558.26 | 503695.78 |
| 5-10           | 112+10.58 | 22.50' LT | 1224.20   | 333558.15 | 503685.78 |
| 5-11           | 112+00.26 | 27.94' LT | 1224.38   | 333563.49 | 503675.40 |
| 5-12           | 111+98.15 | 33.70' LT | 1225.28   | 333569.22 | 503673.23 |
| 5-13           | 111+98.15 | 41.68' LT | 1225.35   | 333577.20 | 503673.14 |
| 5-14           | 112+28.52 | 25.89' LT | 1225.03   | 333561.74 | 503703.68 |
| 5-15           | 112+20.58 | 25.85' LT | 1224.68   | 333561.61 | 503695.74 |
| 5-16           | 112+15.58 | 25.85' LT | 1224.46   | 333561.56 | 503690.74 |
| 5-17           | 112+10.58 | 25.85' LT | 1224.25   | 333561.50 | 503685.74 |
| 5-18           | 112+28.46 | 30.61' LT | 1225.12   | 333566.46 | 503703.58 |
| 5-19           | 112+20.58 | 30.85' LT | 1224.75   | 333566.61 | 503695.69 |
| 5-20           | 112+15.58 | 30.85' LT | 1224.54   | 333566.56 | 503690.69 |
| 5-21           | 112+10.58 | 30.85' LT | 1224.32   | 333566.50 | 503685.69 |
| 5-22           | 112+04.51 | 30.85' LT | 1224.45   | 333566.44 | 503679.62 |

2

| N 1ST ST - NW |           |           |           |           |           |
|---------------|-----------|-----------|-----------|-----------|-----------|
| POINT NUMBER  | STATION   | OFFSET    | ELEVATION | NORTHING  | EASTING   |
| 6-1           | 114+92.84 | 20.00' LT | 1230.25   | 333558.73 | 503968.05 |
| 6-2           | 114+99.19 | 20.00' LT | 1230.46   | 333558.80 | 503974.40 |
| 6-3           | 115+04.18 | 20.00' LT | 1230.63   | 333558.85 | 503979.39 |
| 6-4           | 115+06.39 | 20.00' LT | 1230.79   | 333558.87 | 503981.60 |
| 6-5           | 115+12.13 | 21.15' LT | 1231.20   | 333560.09 | 503987.33 |
| 6-6           | 115+17.00 | 24.39' LT | 1231.62   | 333563.38 | 503992.16 |
| 6-7           | 115+18.49 | 26.15' LT | 1231.67   | 333565.15 | 503993.63 |
| 6-8           | 115+20.89 | 31.16' LT | 1231.79   | 333570.19 | 503995.98 |
| 6-9           | 115+21.39 | 35.00' LT | 1231.94   | 333574.04 | 503996.44 |
| 6-10          | 115+21.39 | 43.83' LT | 1232.29   | 333582.87 | 503996.34 |
| 6-11          | 114+96.19 | 22.50' LT | 1230.78   | 333561.26 | 503971.37 |
| 6-12          | 114+99.19 | 22.50' LT | 1230.38   | 333561.30 | 503974.37 |
| 6-13          | 115+04.18 | 22.50' LT | 1230.55   | 333561.35 | 503979.37 |
| 6-14          | 115+10.96 | 23.36' LT | 1231.60   | 333562.29 | 503986.13 |
| 6-15          | 115+13.25 | 24.55' LT | 1231.82   | 333563.50 | 503988.41 |
| 6-16          | 115+15.19 | 26.12' LT | 1231.54   | 333565.09 | 503990.33 |
| 6-17          | 115+18.29 | 31.15' LT | 1231.68   | 333570.16 | 503993.37 |
| 6-18          | 115+18.89 | 35.31' LT | 1232.37   | 333574.32 | 503993.93 |
| 6-19          | 114+82.99 | 25.75' LT | 1230.57   | 333564.37 | 503958.14 |
| 6-20          | 114+89.19 | 25.84' LT | 1230.58   | 333564.52 | 503964.34 |
| 6-21          | 114+94.19 | 25.89' LT | 1230.60   | 333564.63 | 503969.34 |
| 6-22          | 114+99.19 | 25.95' LT | 1230.63   | 333564.74 | 503974.34 |
| 6-23          | 115+04.19 | 26.00' LT | 1230.79   | 333564.85 | 503979.33 |
| 6-24          | 114+83.11 | 30.66' LT | 1230.62   | 333569.28 | 503958.21 |
| 6-25          | 114+89.14 | 30.84' LT | 1230.67   | 333569.53 | 503964.23 |
| 6-26          | 114+94.14 | 30.90' LT | 1230.70   | 333569.64 | 503969.23 |
| 6-27          | 114+99.14 | 30.95' LT | 1230.72   | 333569.74 | 503974.23 |
| 6-28          | 115+04.14 | 31.00' LT | 1230.89   | 333569.85 | 503979.23 |
| 6-29          | 115+15.14 | 31.12' LT | 1231.63   | 333570.09 | 503990.22 |



NOTES

CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION

(THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONDITIONS)

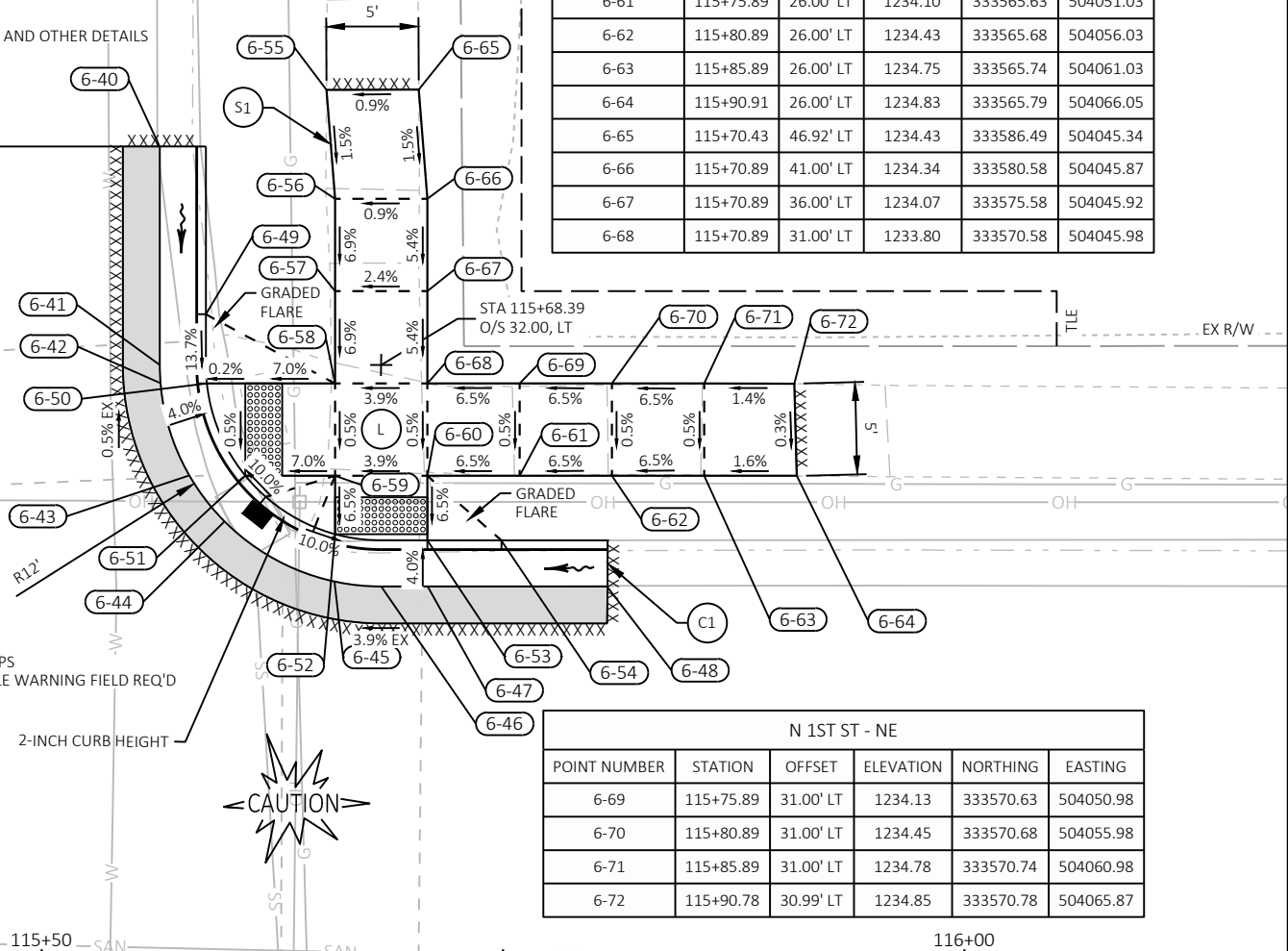
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ALL STATION AND OFFSET INFORMATION REFERENCE STH 48 R/L

SIDE ROAD MATCH INFORMATION SHOWN ON SECTION 5 PLANS AND OTHER DETAILS



| N 1ST ST - NE |           |           |           |           |           |
|---------------|-----------|-----------|-----------|-----------|-----------|
| POINT NUMBER  | STATION   | OFFSET    | ELEVATION | NORTHING  | EASTING   |
| 6-40          | 115+56.39 | 43.81' LT | 1233.74   | 333583.23 | 504031.34 |
| 6-41          | 115+56.39 | 32.00' LT | 1233.35   | 333571.42 | 504031.47 |
| 6-42          | 115+56.44 | 31.02' LT | 1233.34   | 333570.44 | 504031.53 |
| 6-43          | 115+58.01 | 26.02' LT | 1233.33   | 333565.45 | 504033.15 |
| 6-44          | 115+59.91 | 23.51' LT | 1233.32   | 333562.97 | 504035.07 |
| 6-45          | 115+65.87 | 20.27' LT | 1233.48   | 333559.79 | 504041.08 |
| 6-46          | 115+68.39 | 20.00' LT | 1233.57   | 333559.55 | 504043.60 |
| 6-47          | 115+70.89 | 20.04' LT | 1233.65   | 333559.62 | 504046.10 |
| 6-48          | 115+80.64 | 20.00' LT | 1234.00   | 333559.68 | 504055.84 |
| 6-49          | 115+58.89 | 34.74' LT | 1233.77   | 333574.19 | 504033.94 |
| 6-50          | 115+58.94 | 31.00' LT | 1233.26   | 333570.45 | 504034.03 |
| 6-51          | 115+61.03 | 26.00' LT | 1233.24   | 333565.47 | 504036.17 |
| 6-52          | 115+65.89 | 22.83' LT | 1233.38   | 333562.36 | 504041.07 |
| 6-53          | 115+70.89 | 22.50' LT | 1233.58   | 333562.08 | 504046.07 |
| 6-54          | 115+74.89 | 22.50' LT | 1234.21   | 333562.12 | 504050.07 |
| 6-55          | 115+65.43 | 46.90' LT | 1234.39   | 333586.41 | 504040.35 |
| 6-56          | 115+65.89 | 41.00' LT | 1234.30   | 333580.52 | 504040.87 |
| 6-57          | 115+65.89 | 36.00' LT | 1233.95   | 333575.52 | 504040.92 |
| 6-58          | 115+65.89 | 31.00' LT | 1233.61   | 333570.52 | 504040.98 |
| 6-59          | 115+65.89 | 26.00' LT | 1233.58   | 333565.52 | 504041.03 |
| 6-60          | 115+70.89 | 26.00' LT | 1233.78   | 333565.58 | 504046.03 |
| 6-61          | 115+75.89 | 26.00' LT | 1234.10   | 333565.63 | 504051.03 |
| 6-62          | 115+80.89 | 26.00' LT | 1234.43   | 333565.68 | 504056.03 |
| 6-63          | 115+85.89 | 26.00' LT | 1234.75   | 333565.74 | 504061.03 |
| 6-64          | 115+90.91 | 26.00' LT | 1234.83   | 333565.79 | 504066.05 |
| 6-65          | 115+70.43 | 46.92' LT | 1234.43   | 333586.49 | 504045.34 |
| 6-66          | 115+70.89 | 41.00' LT | 1234.34   | 333580.58 | 504045.87 |
| 6-67          | 115+70.89 | 36.00' LT | 1234.07   | 333575.58 | 504045.92 |
| 6-68          | 115+70.89 | 31.00' LT | 1233.80   | 333570.58 | 504045.98 |

| N 1ST ST - NE |           |           |           |           |           |
|---------------|-----------|-----------|-----------|-----------|-----------|
| POINT NUMBER  | STATION   | OFFSET    | ELEVATION | NORTHING  | EASTING   |
| 6-69          | 115+75.89 | 31.00' LT | 1234.13   | 333570.63 | 504050.98 |
| 6-70          | 115+80.89 | 31.00' LT | 1234.45   | 333570.68 | 504055.98 |
| 6-71          | 115+85.89 | 31.00' LT | 1234.78   | 333570.74 | 504060.98 |
| 6-72          | 115+90.78 | 30.99' LT | 1234.85   | 333570.78 | 504065.87 |

2



LEGEND

- .XXXXXXX. SAWCUT

ASPHALTIC SURFACE PATCHING

COLORLED CONCRETE CUSTOM

B1 BASE AGGREGATE DENSE 3/4-INCH, 6"

C1 CONCRETE CURB & GUTTER 30-INCH TYPE D

C2 CONCRETE CURB PEDESTRIAN

D1 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES

L LANDING

S1 5-INCH CONCRETE SIDEWALK

Y1 MILL AND OVERLAY (SEE TYPICAL SECTIONS FOR HMA TYPE AND DEPTH)
- SURFACE WATER FLOW

CURB RAMP DETECTABLE WARNING FIELD YELLOW

CURB RAMP DETECTABLE WARNING FIELD RADIAL YELLOW

INLET COVERS TYPE H-D

SAN ADJUSTING SANITARY MANHOLE COVERS

WV ADJUSTING WATER VALVE BOXES

MEF MAXIMUM EXTENT FEASIBLE

MOVING SIGNS TYPE II

NOTES

CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION

THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONDITIONS

DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS

SEE CURB AND GUTTER REPLACEMENT DETAIL AND MISCELLANEOUS QUANTITIES FOR RESTORATION ITEMS AT CURB RAMP REPLACEMENTS

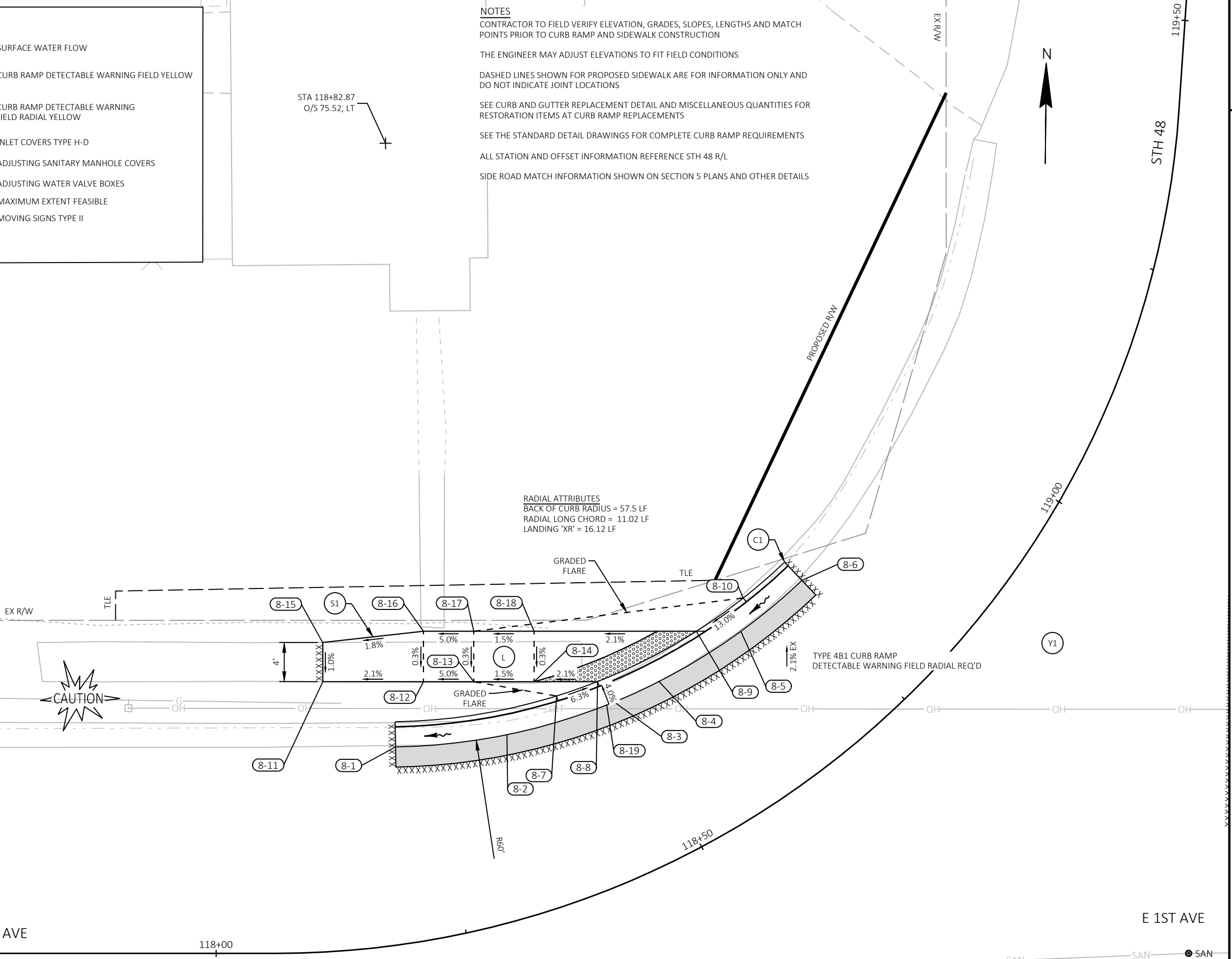
SEE THE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS

ALL STATION AND OFFSET INFORMATION REFERENCE STH 48 R/L

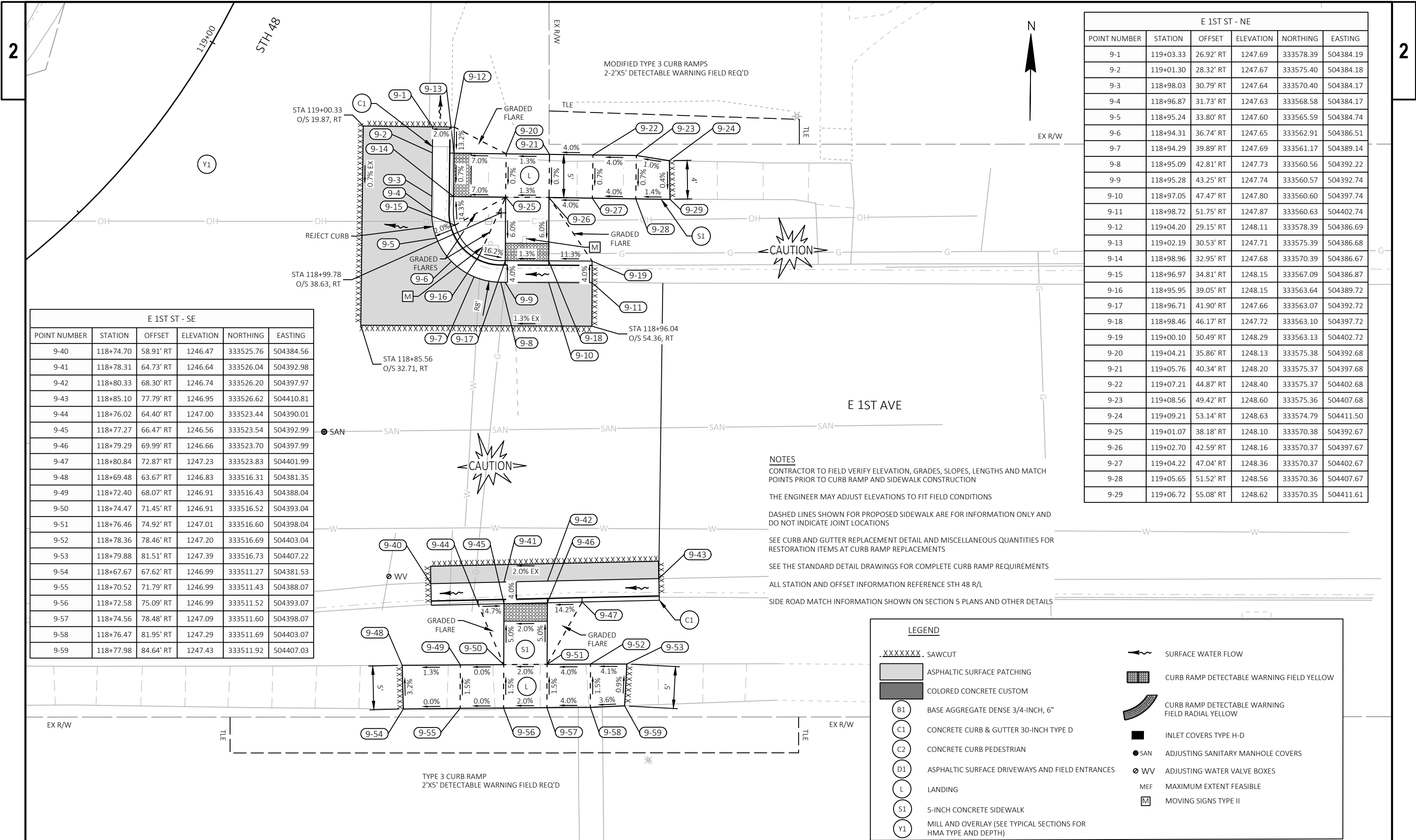
SIDE ROAD MATCH INFORMATION SHOWN ON SECTION 5 PLANS AND OTHER DETAILS

STA 118+82.87  
O/S 75.52, LT

| E 1ST ST - NW |           |           |           |           |           |
|---------------|-----------|-----------|-----------|-----------|-----------|
| POINT NUMBER  | STATION   | OFFSET    | ELEVATION | NORTHING  | EASTING   |
| 8-1           | 118+21.21 | 19.49' LT | 1243.95   | 333562.77 | 504293.02 |
| 8-2           | 118+35.14 | 17.96' LT | 1244.51   | 333564.11 | 504304.07 |
| 8-3           | 118+48.90 | 16.78' LT | 1245.06   | 333567.48 | 504314.71 |
| 8-4           | 118+54.88 | 16.39' LT | 1245.15   | 333569.56 | 504319.13 |
| 8-5           | 118+66.48 | 15.82' LT | 1245.30   | 333574.63 | 504327.21 |
| 8-6           | 118+76.05 | 15.57' LT | 1245.75   | 333579.76 | 504333.22 |
| 8-7           | 118+42.71 | 19.78' LT | 1245.23   | 333568.01 | 504308.96 |
| 8-8           | 118+48.21 | 19.34' LT | 1244.96   | 333569.48 | 504313.02 |
| 8-9           | 118+62.13 | 18.50' LT | 1245.18   | 333574.59 | 504322.78 |
| 8-10          | 118+69.31 | 18.23' LT | 1245.92   | 333577.95 | 504327.42 |
| 8-11          | 118+12.60 | 26.83' LT | 1244.28   | 333569.19 | 504285.72 |
| 8-12          | 118+26.53 | 25.31' LT | 1244.49   | 333569.29 | 504295.72 |
| 8-13          | 118+33.18 | 23.99' LT | 1244.74   | 333569.35 | 504300.72 |
| 8-14          | 118+40.76 | 21.96' LT | 1244.83   | 333569.41 | 504306.72 |
| 8-15          | 118+13.03 | 30.71' LT | 1244.28   | 333573.08 | 504285.67 |
| 8-16          | 118+28.24 | 30.17' LT | 1244.50   | 333574.29 | 504295.66 |
| 8-17          | 118+35.37 | 28.75' LT | 1244.75   | 333574.35 | 504300.66 |
| 8-18          | 118+43.44 | 26.57' LT | 1244.84   | 333574.41 | 504306.66 |
| 8-19          | 118+47.92 | 16.85' LT | 1245.04   | 333567.17 | 504313.96 |







| E 1ST ST - SE |           |           |           |           |           |
|---------------|-----------|-----------|-----------|-----------|-----------|
| POINT NUMBER  | STATION   | OFFSET    | ELEVATION | NORTHING  | EASTING   |
| 9-40          | 118+74.70 | 58.91' RT | 1246.47   | 333525.76 | 504384.56 |
| 9-41          | 118+78.31 | 64.73' RT | 1246.64   | 333526.04 | 504392.98 |
| 9-42          | 118+80.33 | 68.30' RT | 1246.74   | 333526.20 | 504397.97 |
| 9-43          | 118+85.10 | 77.79' RT | 1246.95   | 333526.62 | 504410.81 |
| 9-44          | 118+76.02 | 64.40' RT | 1247.00   | 333523.44 | 504390.01 |
| 9-45          | 118+77.27 | 66.47' RT | 1246.56   | 333523.54 | 504392.99 |
| 9-46          | 118+79.29 | 69.99' RT | 1246.66   | 333523.70 | 504397.99 |
| 9-47          | 118+80.84 | 72.87' RT | 1247.23   | 333523.83 | 504401.99 |
| 9-48          | 118+69.48 | 63.67' RT | 1246.83   | 333516.31 | 504381.35 |
| 9-49          | 118+72.40 | 68.07' RT | 1246.91   | 333516.43 | 504388.04 |
| 9-50          | 118+74.47 | 71.45' RT | 1246.91   | 333516.52 | 504393.04 |
| 9-51          | 118+76.46 | 74.92' RT | 1247.01   | 333516.60 | 504398.04 |
| 9-52          | 118+78.36 | 78.46' RT | 1247.20   | 333516.69 | 504403.04 |
| 9-53          | 118+79.88 | 81.51' RT | 1247.39   | 333516.73 | 504407.22 |
| 9-54          | 118+67.67 | 67.62' RT | 1246.99   | 333511.27 | 504381.53 |
| 9-55          | 118+70.52 | 71.79' RT | 1246.99   | 333511.43 | 504388.07 |
| 9-56          | 118+72.58 | 75.09' RT | 1246.99   | 333511.52 | 504393.07 |
| 9-57          | 118+74.56 | 78.48' RT | 1247.09   | 333511.60 | 504398.07 |
| 9-58          | 118+76.47 | 81.95' RT | 1247.29   | 333511.69 | 504403.07 |
| 9-59          | 118+77.98 | 84.64' RT | 1247.43   | 333511.92 | 504407.03 |

| E 1ST ST - NE |           |           |           |           |           |
|---------------|-----------|-----------|-----------|-----------|-----------|
| POINT NUMBER  | STATION   | OFFSET    | ELEVATION | NORTHING  | EASTING   |
| 9-1           | 119+03.33 | 26.92' RT | 1247.69   | 333578.39 | 504384.19 |
| 9-2           | 119+01.30 | 28.32' RT | 1247.67   | 333575.40 | 504384.18 |
| 9-3           | 118+98.03 | 30.79' RT | 1247.64   | 333570.40 | 504384.17 |
| 9-4           | 118+96.87 | 31.73' RT | 1247.63   | 333568.58 | 504384.17 |
| 9-5           | 118+95.24 | 33.80' RT | 1247.60   | 333565.59 | 504384.74 |
| 9-6           | 118+94.31 | 36.74' RT | 1247.65   | 333562.91 | 504386.51 |
| 9-7           | 118+94.29 | 39.89' RT | 1247.69   | 333561.17 | 504389.14 |
| 9-8           | 118+95.09 | 42.81' RT | 1247.73   | 333560.56 | 504392.22 |
| 9-9           | 118+95.28 | 43.25' RT | 1247.74   | 333560.57 | 504392.74 |
| 9-10          | 118+97.05 | 47.47' RT | 1247.80   | 333560.60 | 504397.74 |
| 9-11          | 118+98.72 | 51.75' RT | 1247.87   | 333560.63 | 504402.74 |
| 9-12          | 119+04.20 | 29.15' RT | 1248.11   | 333578.39 | 504386.69 |
| 9-13          | 119+02.19 | 30.53' RT | 1247.71   | 333575.39 | 504386.68 |
| 9-14          | 118+98.96 | 32.95' RT | 1247.68   | 333570.39 | 504386.67 |
| 9-15          | 118+96.97 | 34.81' RT | 1248.15   | 333567.09 | 504386.87 |
| 9-16          | 118+95.95 | 39.05' RT | 1248.15   | 333563.64 | 504389.72 |
| 9-17          | 118+96.71 | 41.90' RT | 1247.66   | 333563.07 | 504392.72 |
| 9-18          | 118+98.46 | 46.17' RT | 1247.72   | 333563.10 | 504397.72 |
| 9-19          | 119+00.10 | 50.49' RT | 1248.29   | 333563.13 | 504402.72 |
| 9-20          | 119+04.21 | 35.86' RT | 1248.13   | 333575.38 | 504392.68 |
| 9-21          | 119+05.76 | 40.34' RT | 1248.20   | 333575.37 | 504397.68 |
| 9-22          | 119+07.21 | 44.87' RT | 1248.40   | 333575.37 | 504402.68 |
| 9-23          | 119+08.56 | 49.42' RT | 1248.60   | 333575.36 | 504407.68 |
| 9-24          | 119+09.21 | 53.14' RT | 1248.63   | 333574.79 | 504411.50 |
| 9-25          | 119+01.07 | 38.18' RT | 1248.10   | 333570.38 | 504392.67 |
| 9-26          | 119+02.70 | 42.59' RT | 1248.16   | 333570.37 | 504397.67 |
| 9-27          | 119+04.22 | 47.04' RT | 1248.36   | 333570.37 | 504402.67 |
| 9-28          | 119+05.65 | 51.52' RT | 1248.56   | 333570.36 | 504407.67 |
| 9-29          | 119+06.72 | 55.08' RT | 1248.62   | 333570.35 | 504411.61 |

**NOTES**  
CONTRACTOR TO FIELD VERIFY ELEVATION, GRADES, SLOPES, LENGTHS AND MATCH POINTS PRIOR TO CURB RAMP AND SIDEWALK CONSTRUCTION  
  
THE ENGINEER MAY ADJUST ELEVATIONS TO FIT FIELD CONDITIONS  
  
DASHED LINES SHOWN FOR PROPOSED SIDEWALK ARE FOR INFORMATION ONLY AND DO NOT INDICATE JOINT LOCATIONS  
  
SEE CURB AND GUTTER REPLACEMENT DETAIL AND MISCELLANEOUS QUANTITIES FOR RESTORATION ITEMS AT CURB RAMP REPLACEMENTS  
  
SEE THE STANDARD DETAIL DRAWINGS FOR COMPLETE CURB RAMP REQUIREMENTS  
  
ALL STATION AND OFFSET INFORMATION REFERENCE STH 48 R/L  
  
SIDE ROAD MATCH INFORMATION SHOWN ON SECTION 5 PLANS AND OTHER DETAILS

**LEGEND**

.XXXXXXXX. SAWCUT

ASPHALTIC SURFACE PATCHING

COLORED CONCRETE CUSTOM

B1 BASE AGGREGATE DENSE 3/4-INCH, 6"

C1 CONCRETE CURB & GUTTER 30-INCH TYPE D

C2 CONCRETE CURB PEDESTRIAN

D1 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES

L LANDING

S1 5-INCH CONCRETE SIDEWALK

Y1 MILL AND OVERLAY (SEE TYPICAL SECTIONS FOR HMA TYPE AND DEPTH)

SURFACE WATER FLOW

CURB RAMP DETECTABLE WARNING FIELD YELLOW

CURB RAMP DETECTABLE WARNING FIELD RADIAL YELLOW

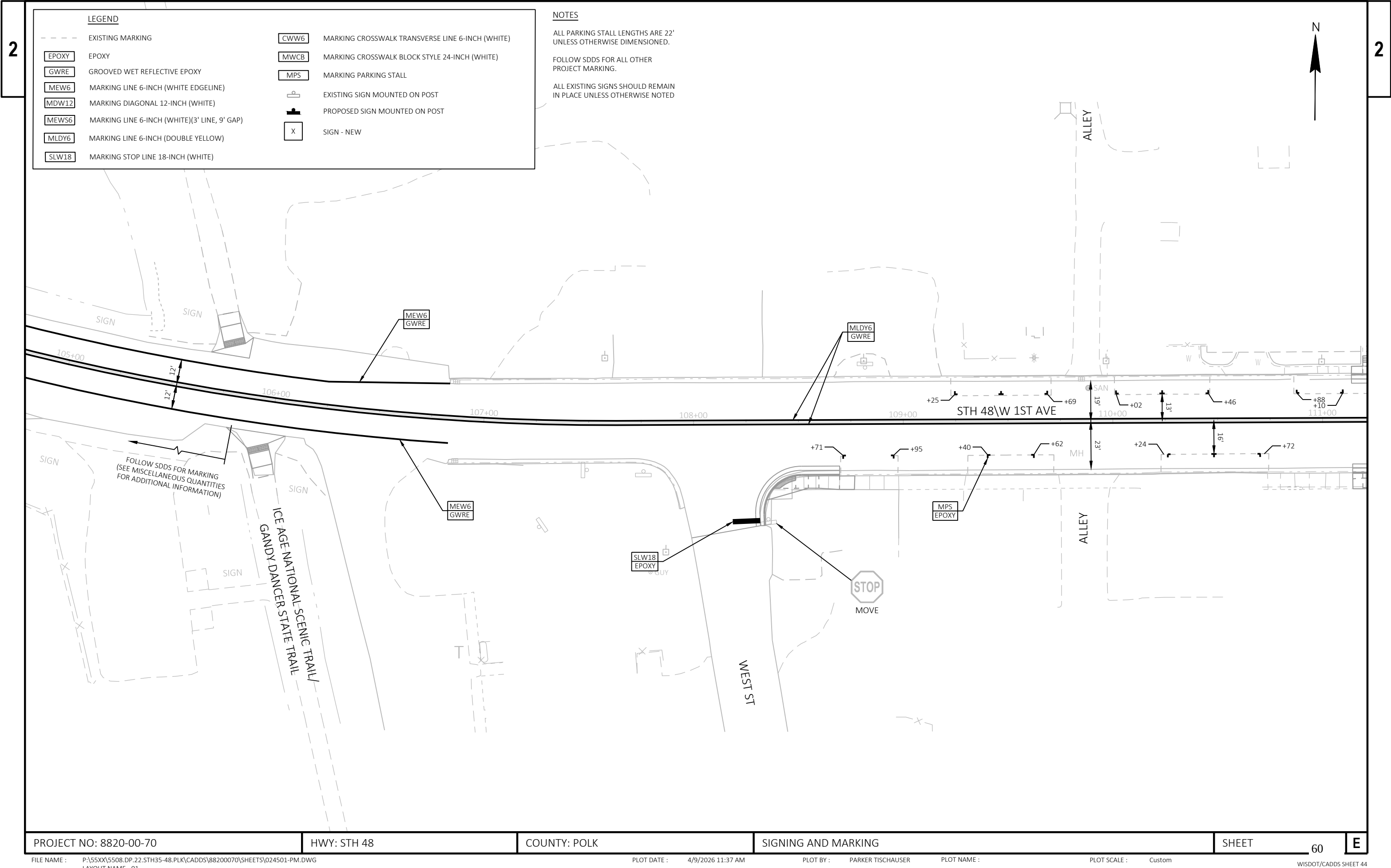
INLET COVERS TYPE H-D

ADJUSTING SANITARY MANHOLE COVERS

ADJUSTING WATER VALVE BOXES

MAXIMUM EXTENT FEASIBLE

MOVING SIGNS TYPE II





LEGEND

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EXISTING MARKING

EPOXY

EPOXY

GWRE

GROOVED WET REFLECTIVE EPOXY

MEW6

MARKING LINE 6-INCH (WHITE EDGELINE)

MDW12

MARKING DIAGONAL 12-INCH (WHITE)

MEWS6

MARKING LINE 6-INCH (WHITE)(3' LINE, 9' GAP)

MLDY6

MARKING LINE 6-INCH (DOUBLE YELLOW)

SLW18

MARKING STOP LINE 18-INCH (WHITE)

CWW6

MARKING CROSSWALK TRANSVERSE LINE 6-INCH (WHITE)

MWCB

MARKING CROSSWALK BLOCK STYLE 24-INCH (WHITE)

MPS

MARKING PARKING STALL

EXISTING SIGN MOUNTED ON POST

PROPOSED SIGN MOUNTED ON POST

X

SIGN - NEW

NOTES

ALL PARKING STALL LENGTHS ARE 22' UNLESS OTHERWISE DIMENSIONED.

FOLLOW SDDS FOR ALL OTHER PROJECT MARKING.

ALL EXISTING SIGNS SHOULD REMAIN IN PLACE UNLESS OTHERWISE NOTED

PROJECT NO: 8820-00-70

HWY: STH 48

COUNTY: POLK

SIGNING AND MARKING

SHEET 61

E

FILE NAME : P:\555XX\5508.DP.22.STH35-48.PLK\CADD\88200070\024501-PM.DWG  
LAYOUT NAME - 02

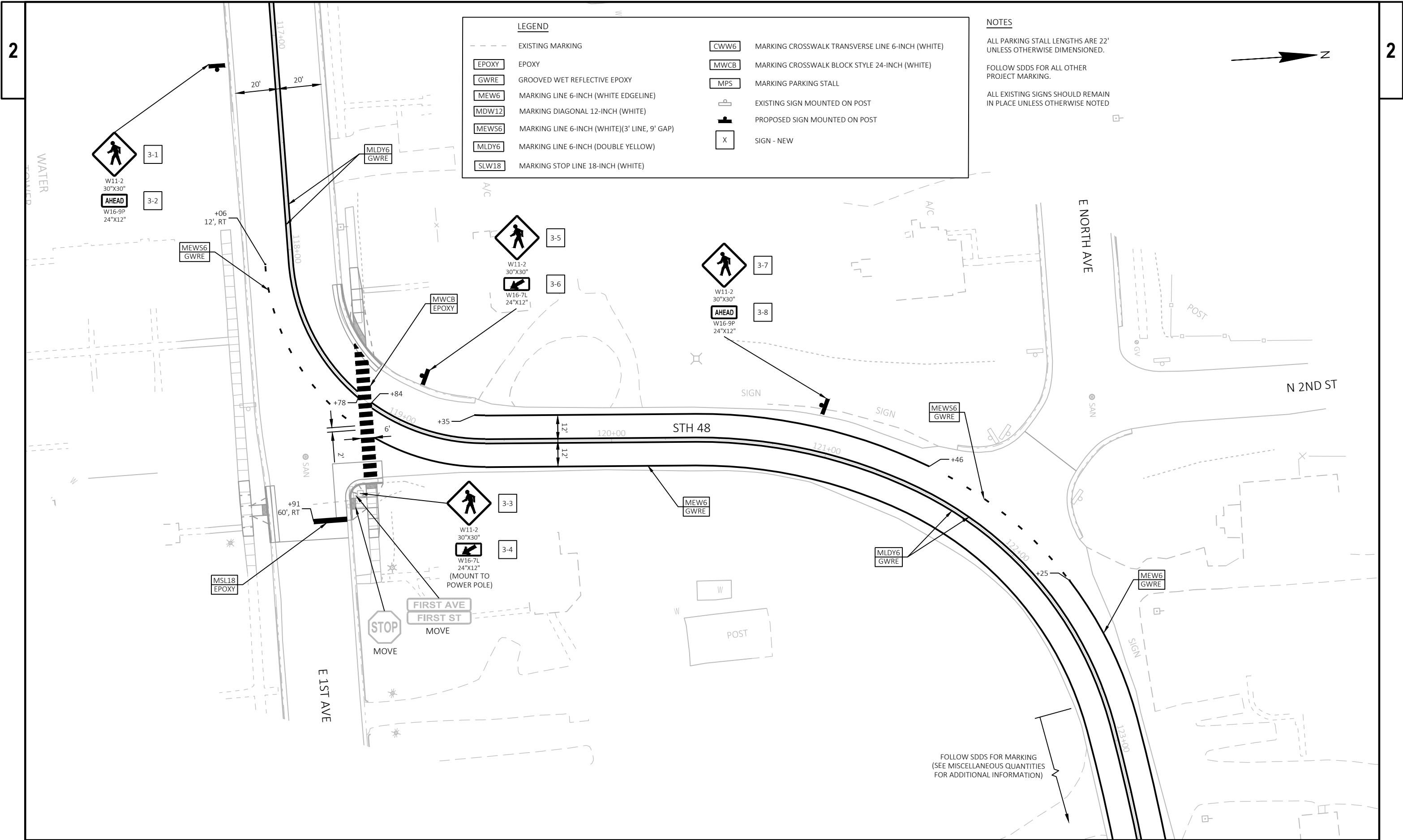
PLOT DATE : 4/9/2026 11:35 AM

PLOT BY : PARKER TISCHAUSER

PLOT NAME :

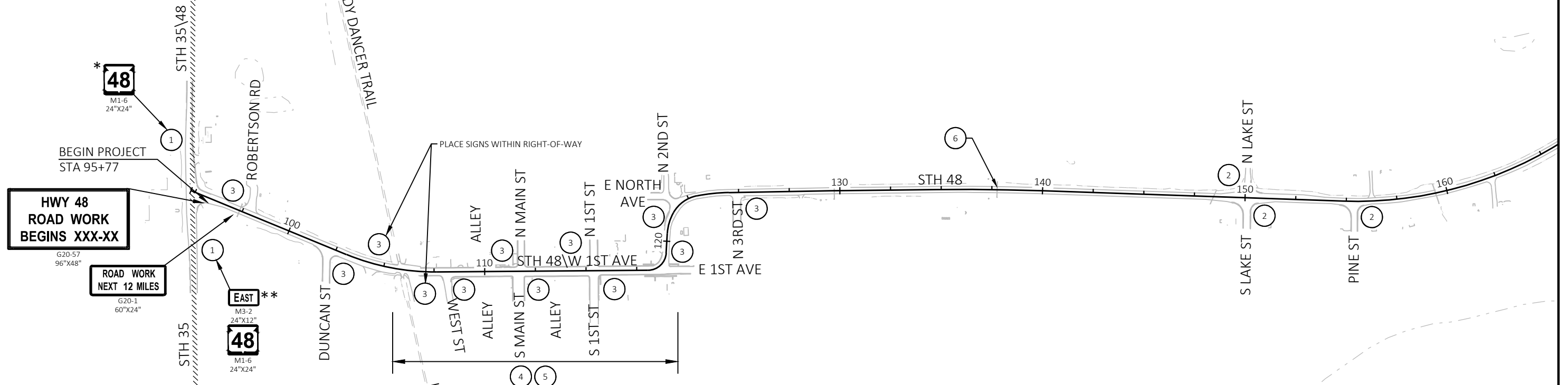
PLOT SCALE : 1 IN=40 FT

WISDOT/CADD SHEET 44





*TOWN OF LUCK*

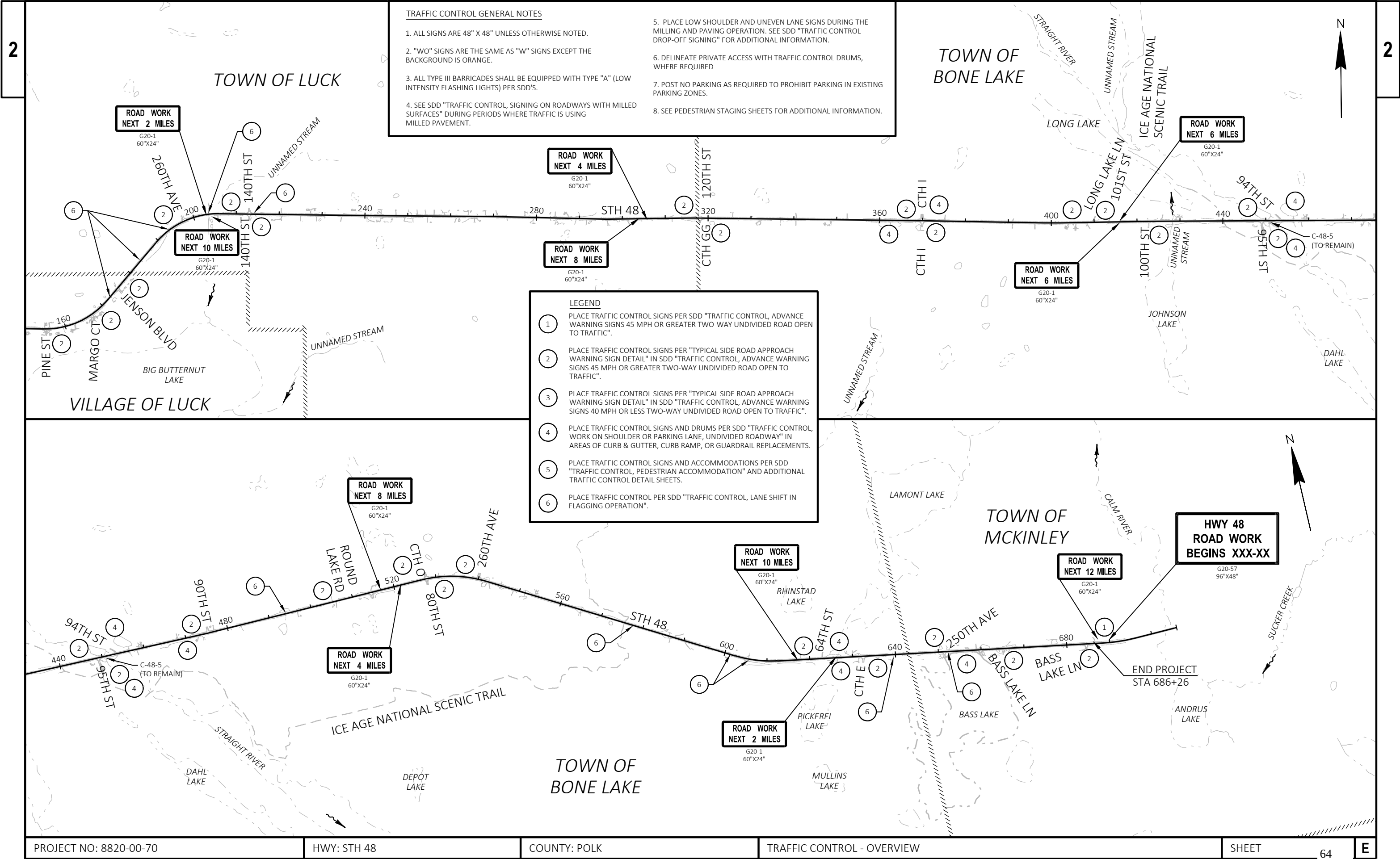


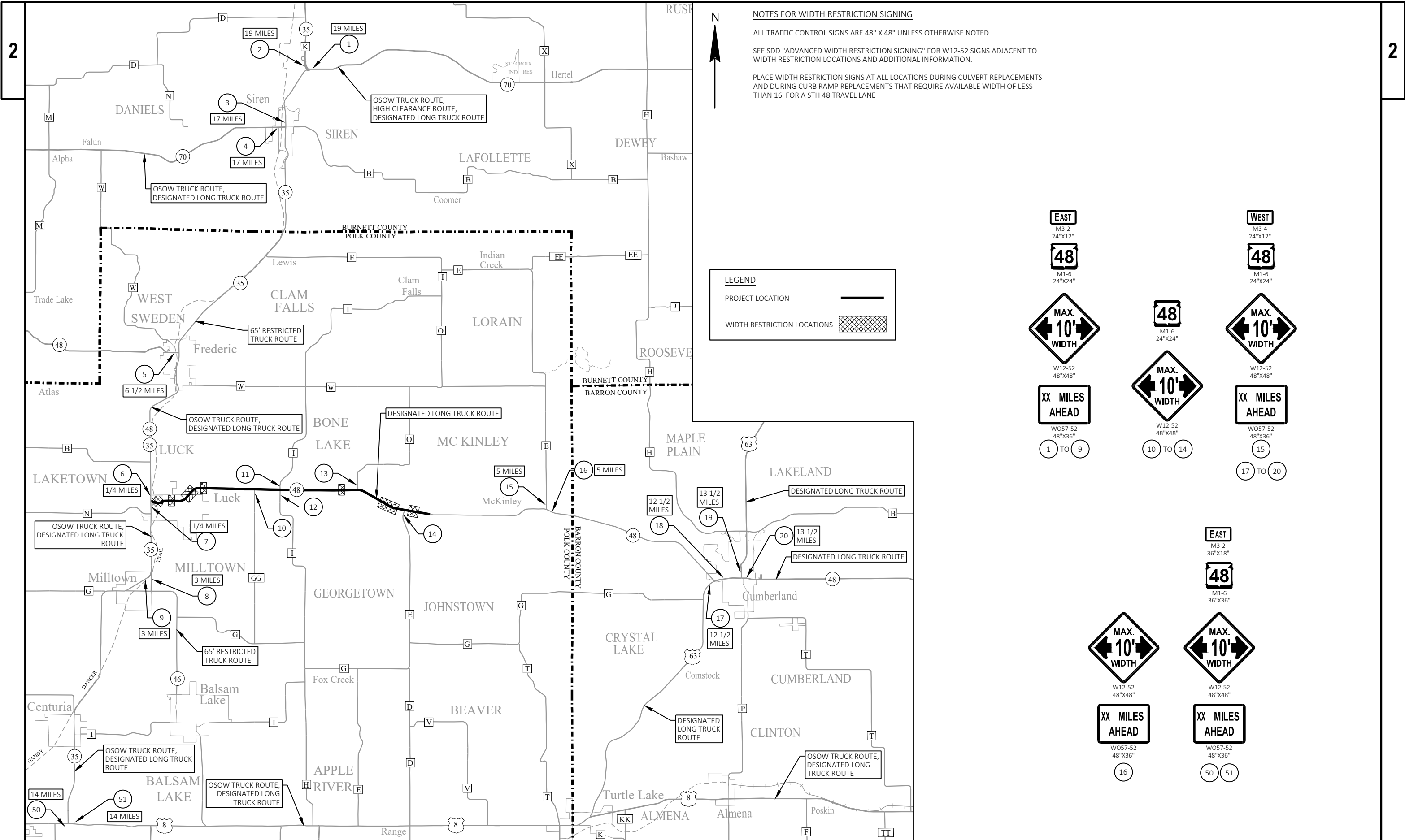
- 1 PLACE TRAFFIC CONTROL SIGNS PER SDD "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC".
- 2 PLACE TRAFFIC CONTROL SIGNS PER "TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL" IN SDD "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 MPH OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC".
- 3 PLACE TRAFFIC CONTROL SIGNS PER "TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL" IN SDD "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 MPH OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC".
- 4 PLACE TRAFFIC CONTROL SIGNS AND DRUMS PER SDD "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY" IN AREAS OF CURB & GUTTER, CURB RAMP, OR GUARDRAIL REPLACEMENTS.
- 5 PLACE TRAFFIC CONTROL SIGNS AND ACCOMMODATIONS PER SDD "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION" AND ADDITIONAL TRAFFIC CONTROL DETAIL SHEETS.
- 6 PLACE TRAFFIC CONTROL PER SDD "TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION".

\* PLACE SIGN ABOVE W20-1A, W20-1C, AND W20-1D

\*\* PLACE SIGNS ABOVE W20-1A, W20-1C, AND W20-1D

|                                                                                                                               |                                                                                                      |
|-------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
| 1. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.                                                                            | MILLING AND PAVING OPERATION. SEE SDD "TRAFFIC CONTROL DROP-OFF SIGNING" FOR ADDITIONAL INFORMATION. |
| 2. "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.                                                      | 6. DELINEATE PRIVATE ACCESS WITH TRAFFIC CONTROL DRUMS, WHERE REQUIRED                               |
| 3. ALL TYPE III BARRICADES SHALL BE EQUIPPED WITH TYPE "A" (LOW INTENSITY FLASHING LIGHTS) PER SDD'S.                         | 7. POST NO PARKING AS REQUIRED TO PROHIBIT PARKING IN EXISTING PARKING ZONES.                        |
| 4. SEE SDD "TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES" DURING PERIODS WHERE TRAFFIC IS USING MILLED PAVEMENT. | 8. SEE PEDESTRIAN STAGING SHEETS FOR ADDITIONAL INFORMATION.                                         |





NOTES FOR WIDTH RESTRICTION SIGNING

ALL TRAFFIC CONTROL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

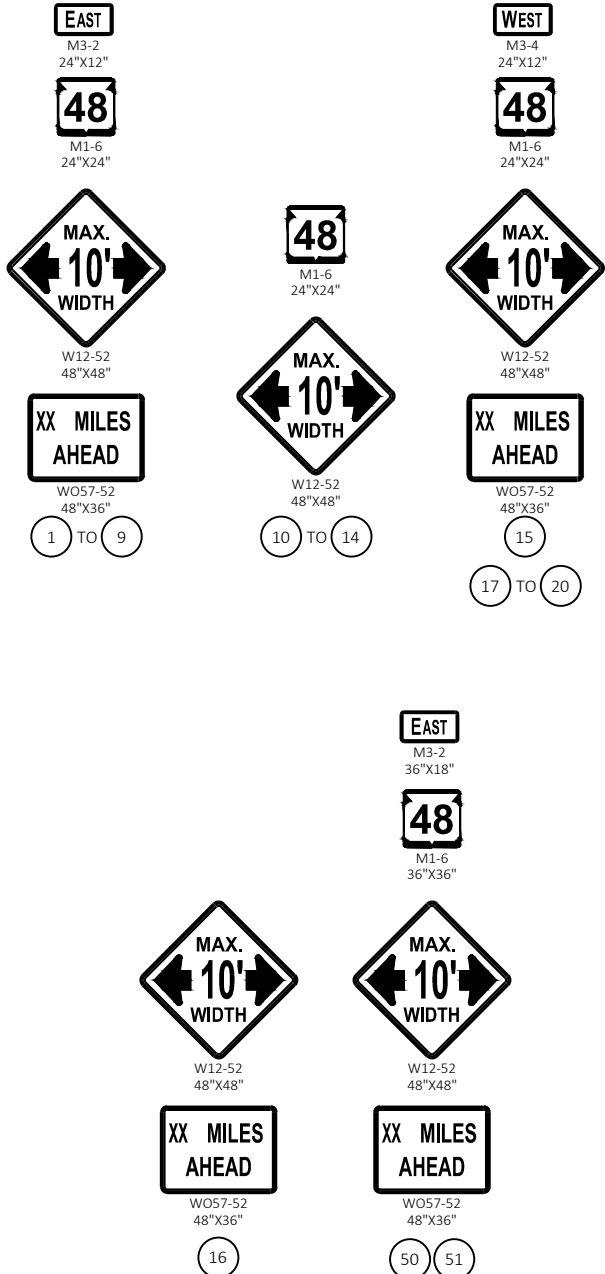
SEE SDD "ADVANCED WIDTH RESTRICTION SIGNING" FOR W12-52 SIGNS ADJACENT TO WIDTH RESTRICTION LOCATIONS AND ADDITIONAL INFORMATION.

PLACE WIDTH RESTRICTION SIGNS AT ALL LOCATIONS DURING CULVERT REPLACEMENTS AND DURING CURB RAMP REPLACEMENTS THAT REQUIRE AVAILABLE WIDTH OF LESS THAN 16' FOR A STH 48 TRAVEL LANE

LEGEND

PROJECT LOCATION

WIDTH RESTRICTION LOCATIONS



PROJECT NO: 8820-00-70

HWY: STH 48

COUNTY: POLK

TRAFFIC CONTROL - WIDTH RESTRICTIONS

SHEET

65

E

LEGEND

WORK AREA

TRAFFIC FLOW DIRECTION

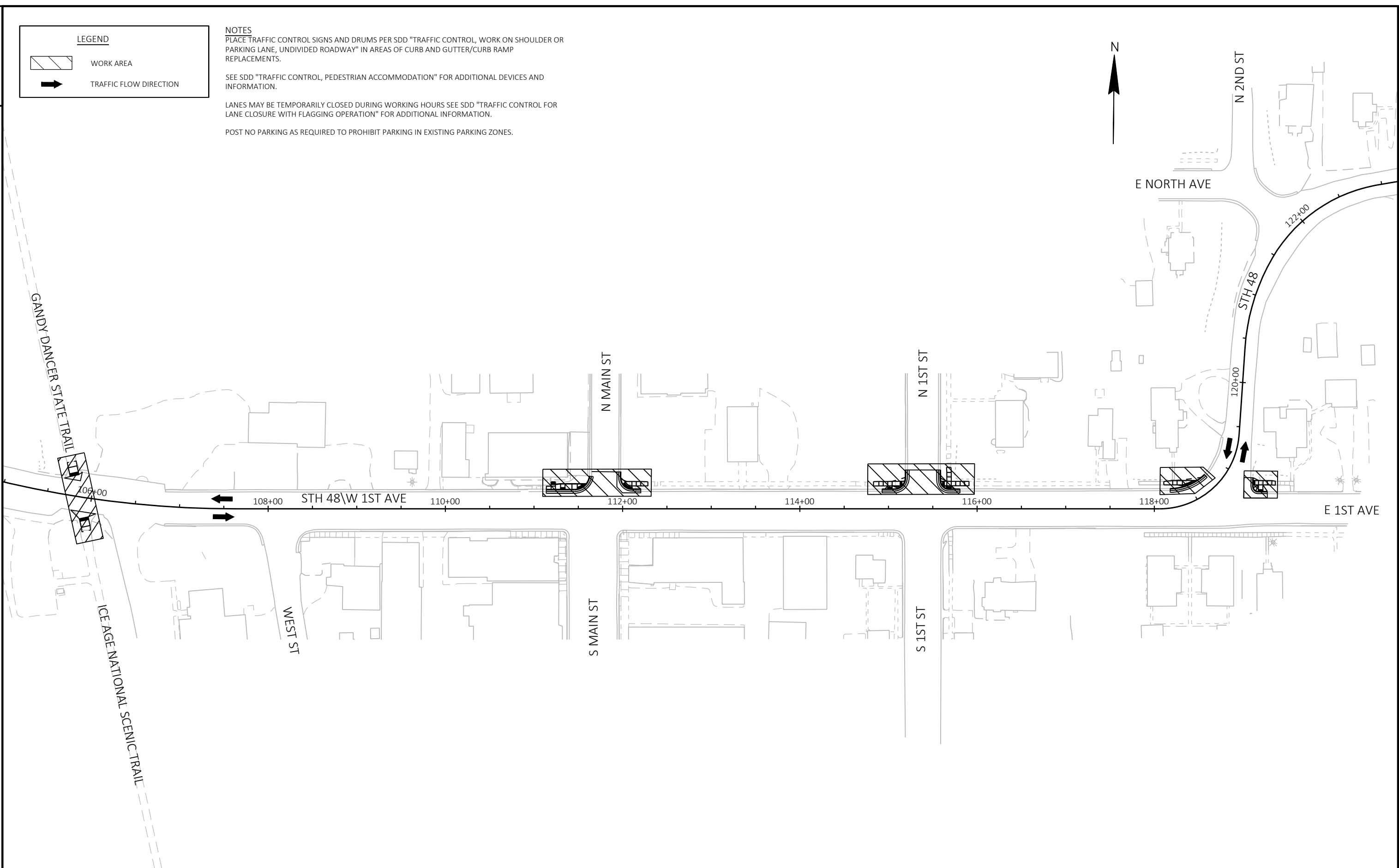
NOTES

PLACE TRAFFIC CONTROL SIGNS AND DRUMS PER SDD "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY" IN AREAS OF CURB AND GUTTER/CURB RAMP REPLACEMENTS.

SEE SDD "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION" FOR ADDITIONAL DEVICES AND INFORMATION.

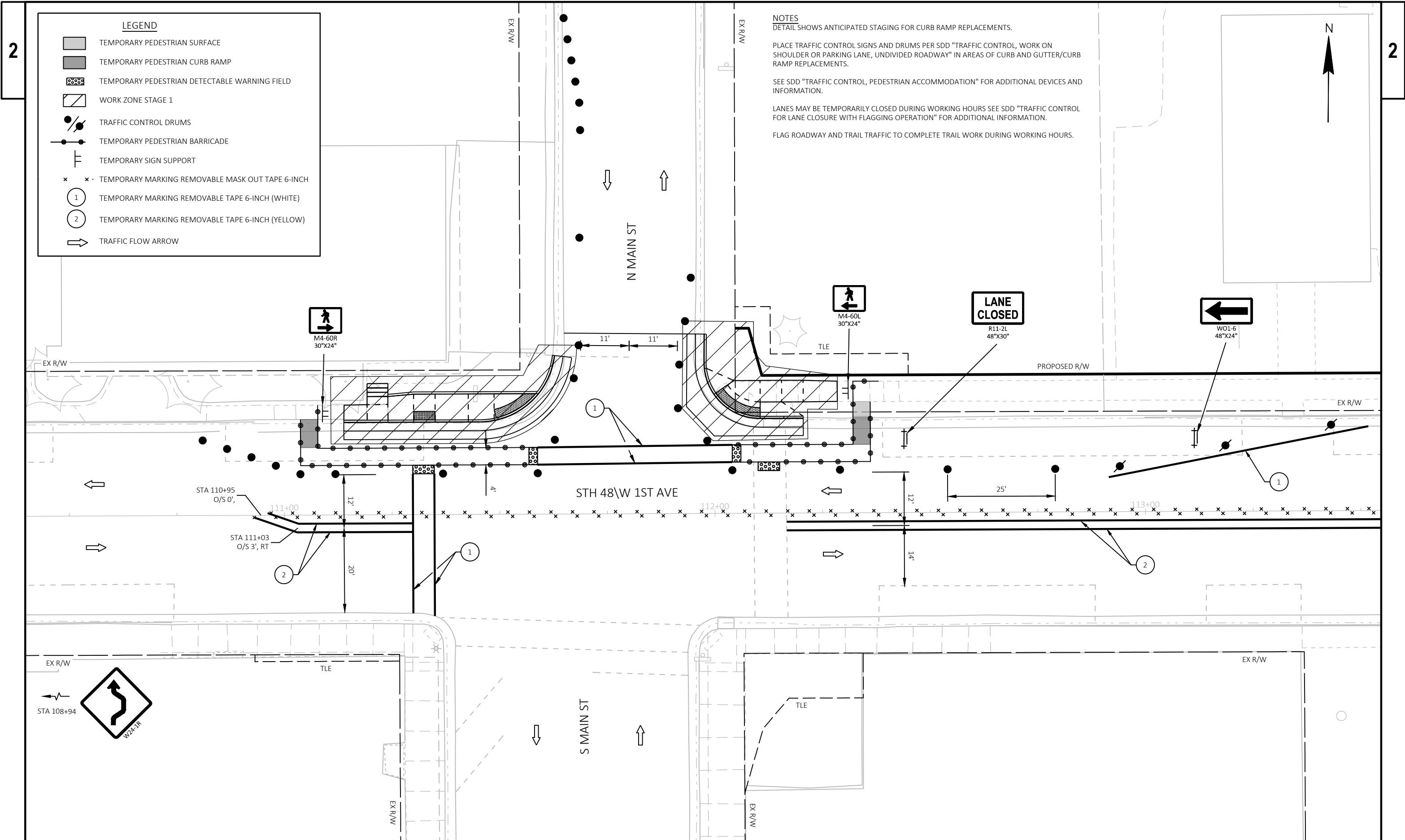
LANES MAY BE TEMPORARILY CLOSED DURING WORKING HOURS SEE SDD "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION" FOR ADDITIONAL INFORMATION.

POST NO PARKING AS REQUIRED TO PROHIBIT PARKING IN EXISTING PARKING ZONES.

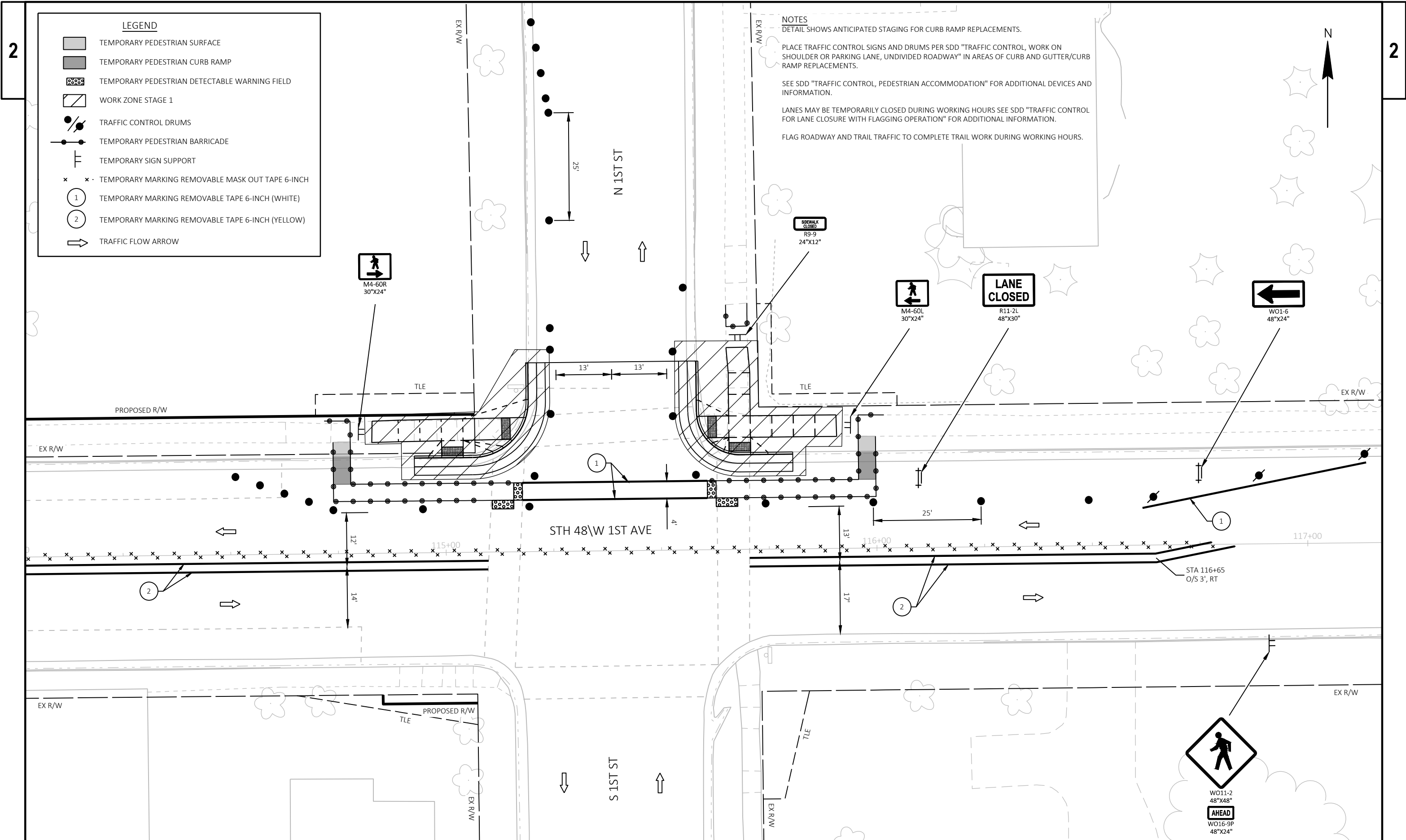












LEGEND

- TEMPORARY PEDESTRIAN SURFACE
- TEMPORARY PEDESTRIAN CURB RAMP
- TEMPORARY PEDESTRIAN DETECTABLE WARNING FIELD
- WORK ZONE STAGE 1
- TRAFFIC CONTROL DRUMS
- TEMPORARY PEDESTRIAN BARRICADE
- TEMPORARY SIGN SUPPORT
- TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH
- TEMPORARY MARKING REMOVABLE TAPE 6-INCH (WHITE)
- TEMPORARY MARKING REMOVABLE TAPE 6-INCH (YELLOW)
- TRAFFIC FLOW ARROW

NOTES  
DETAIL SHOWS ANTICIPATED STAGING FOR CURB RAMP REPLACEMENTS.

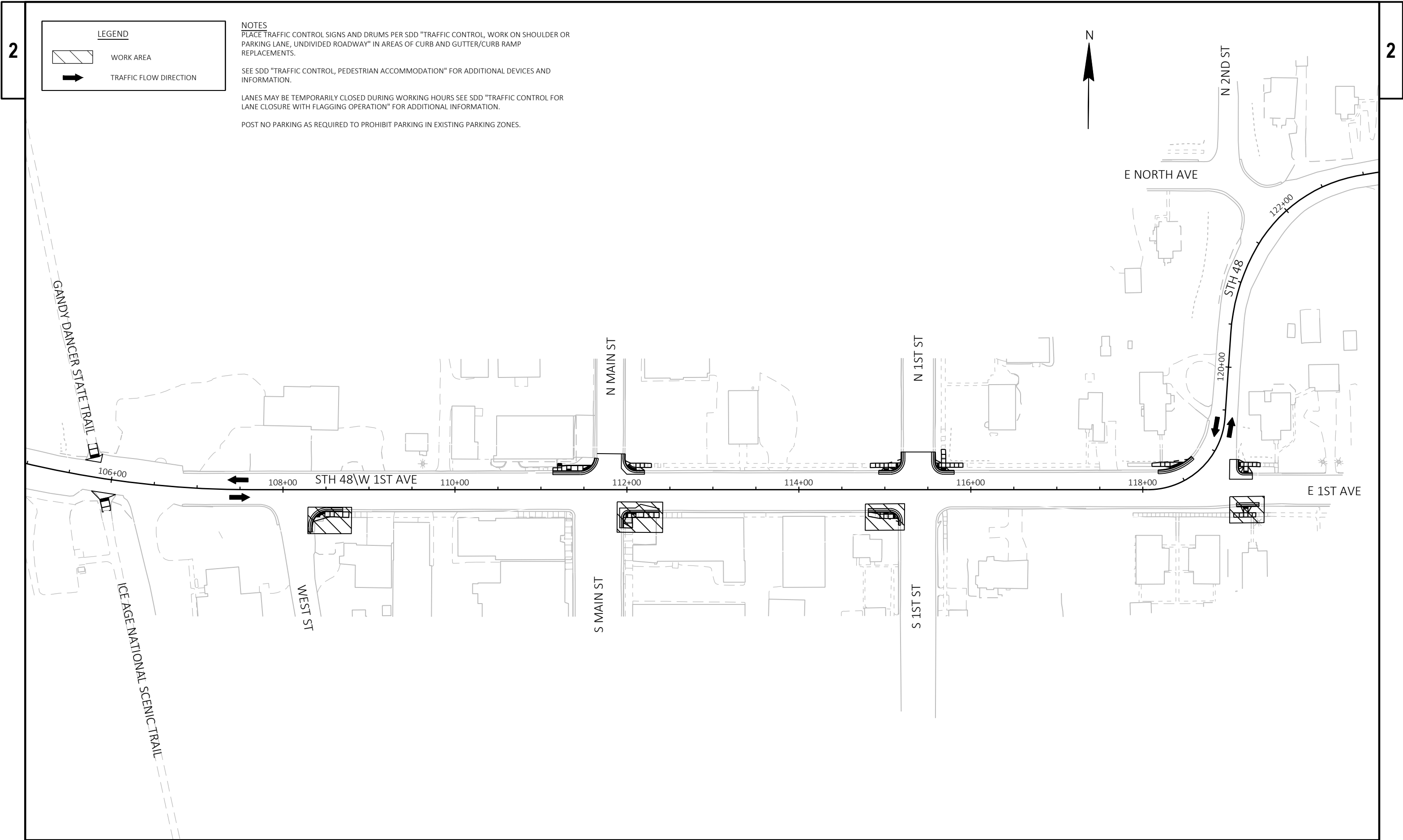
PLACE TRAFFIC CONTROL SIGNS AND DRUMS PER SDD "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY" IN AREAS OF CURB AND GUTTER/CURB RAMP REPLACEMENTS.

SEE SDD "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION" FOR ADDITIONAL DEVICES AND INFORMATION.

LANES MAY BE TEMPORARILY CLOSED DURING WORKING HOURS SEE SDD "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION" FOR ADDITIONAL INFORMATION.

FLAG ROADWAY AND TRAIL TRAFFIC TO COMPLETE TRAIL WORK DURING WORKING HOURS.





LEGEND

- WORK AREA
- TRAFFIC FLOW DIRECTION

NOTES  
PLACE TRAFFIC CONTROL SIGNS AND DRUMS PER SDD "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY" IN AREAS OF CURB AND GUTTER/CURB RAMP REPLACEMENTS.  
  
SEE SDD "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION" FOR ADDITIONAL DEVICES AND INFORMATION.  
  
LANES MAY BE TEMPORARILY CLOSED DURING WORKING HOURS SEE SDD "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION" FOR ADDITIONAL INFORMATION.  
  
POST NO PARKING AS REQUIRED TO PROHIBIT PARKING IN EXISTING PARKING ZONES.

2

2

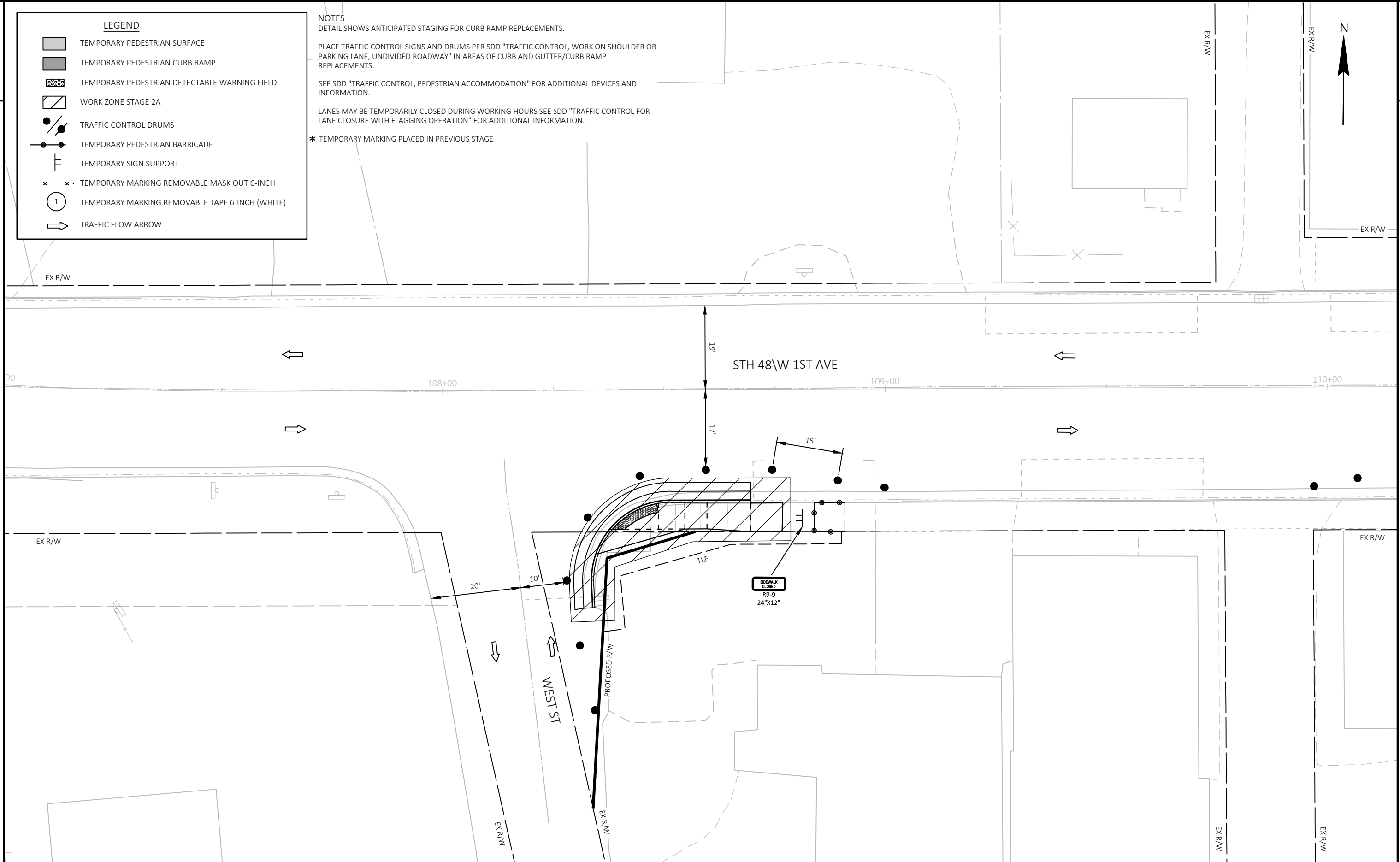
### LEGEND

|                                                                                   |                                                 |
|-----------------------------------------------------------------------------------|-------------------------------------------------|
|  | TEMPORARY PEDESTRIAN SURFACE                    |
|  | TEMPORARY PEDESTRIAN CURB RAMP                  |
|  | TEMPORARY PEDESTRIAN DETECTABLE WARNING FIELD   |
|  | WORK ZONE STAGE 2A                              |
|  | TRAFFIC CONTROL DRUMS                           |
|  | TEMPORARY PEDESTRIAN BARRICADE                  |
|  | TEMPORARY SIGN SUPPORT                          |
| x x ·                                                                             | TEMPORARY MARKING REMOVABLE MASK OUT 6-INCH     |
|  | TEMPORARY MARKING REMOVABLE TAPE 6-INCH (WHITE) |
|  | TRAFFIC FLOW ARROW                              |

DETAIL SHOWS ANTICIPATED STAGING FOR CURB RAMP REPLACEMENTS.

SEE SDD "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION" FOR ADDITIONAL DEVICES AND INFORMATION.

\* TEMPORARY MARKING PLACED IN PREVIOUS STAGE



PROJECT NO: 8820-00-70

|             |
|-------------|
| HWY: STH 48 |
|-------------|

|              |
|--------------|
| COUNTY: POLK |
|--------------|

TRAFFIC CONTROL - PEDESTRIAN STAGING - STAGE 2A

SHEET 72

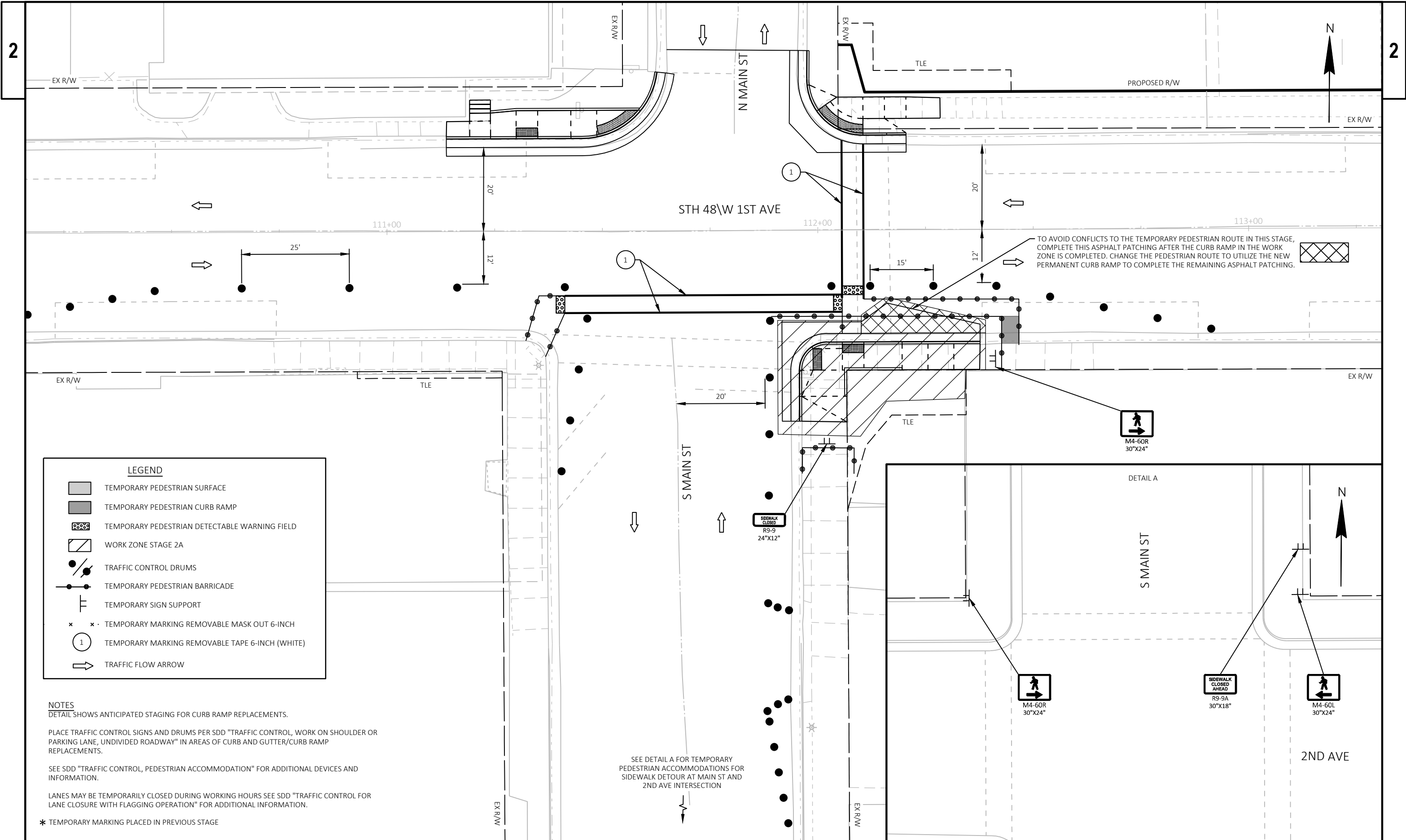
# E

PLOT DATE : 4/9/2026 11:00 AM

PLOT NAME :

PLOT SCALE : 1 IN:20 FT

WISDOT/CADDS SHEET 44



LEGEND

- TEMPORARY PEDESTRIAN SURFACE
- TEMPORARY PEDESTRIAN CURB RAMP
- TEMPORARY PEDESTRIAN DETECTABLE WARNING FIELD
- WORK ZONE STAGE 2A
- TRAFFIC CONTROL DRUMS
- TEMPORARY PEDESTRIAN BARRICADE
- TEMPORARY SIGN SUPPORT
- TEMPORARY MARKING REMOVABLE MASK OUT 6-INCH
- TEMPORARY MARKING REMOVABLE TAPE 6-INCH (WHITE)
- TRAFFIC FLOW ARROW

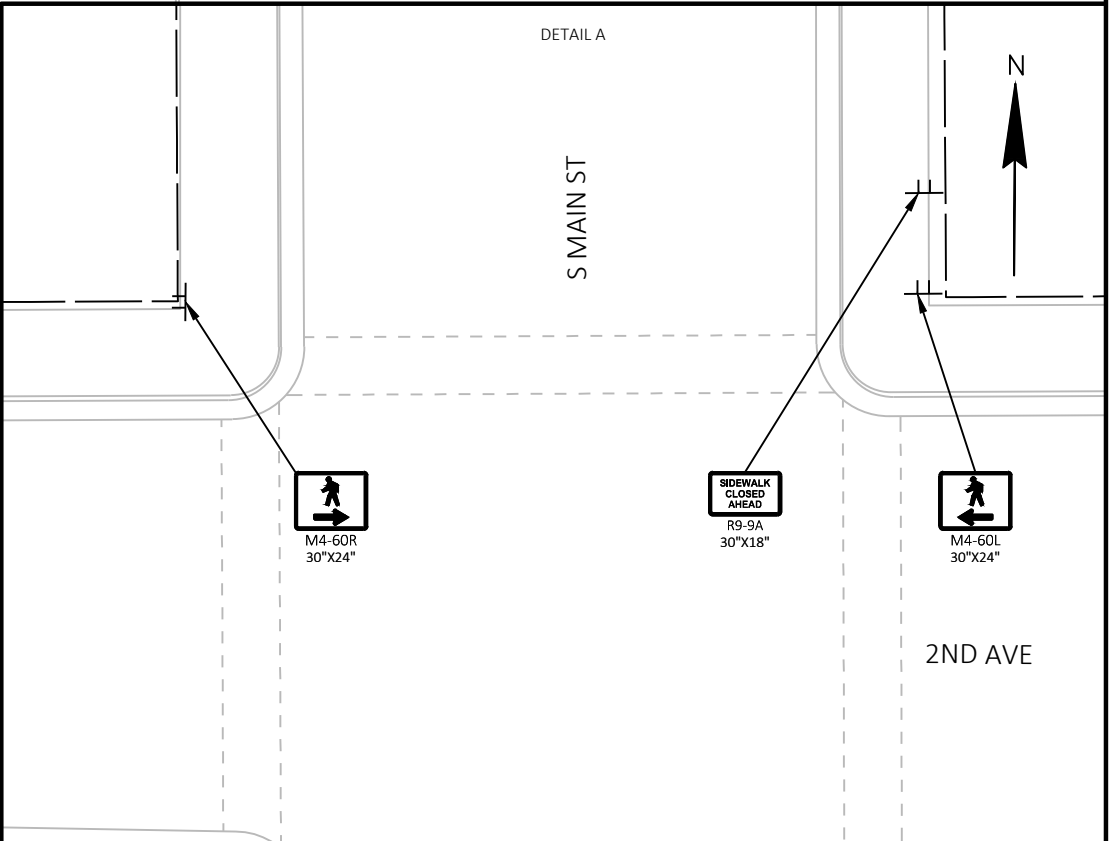
NOTES  
DETAIL SHOWS ANTICIPATED STAGING FOR CURB RAMP REPLACEMENTS.

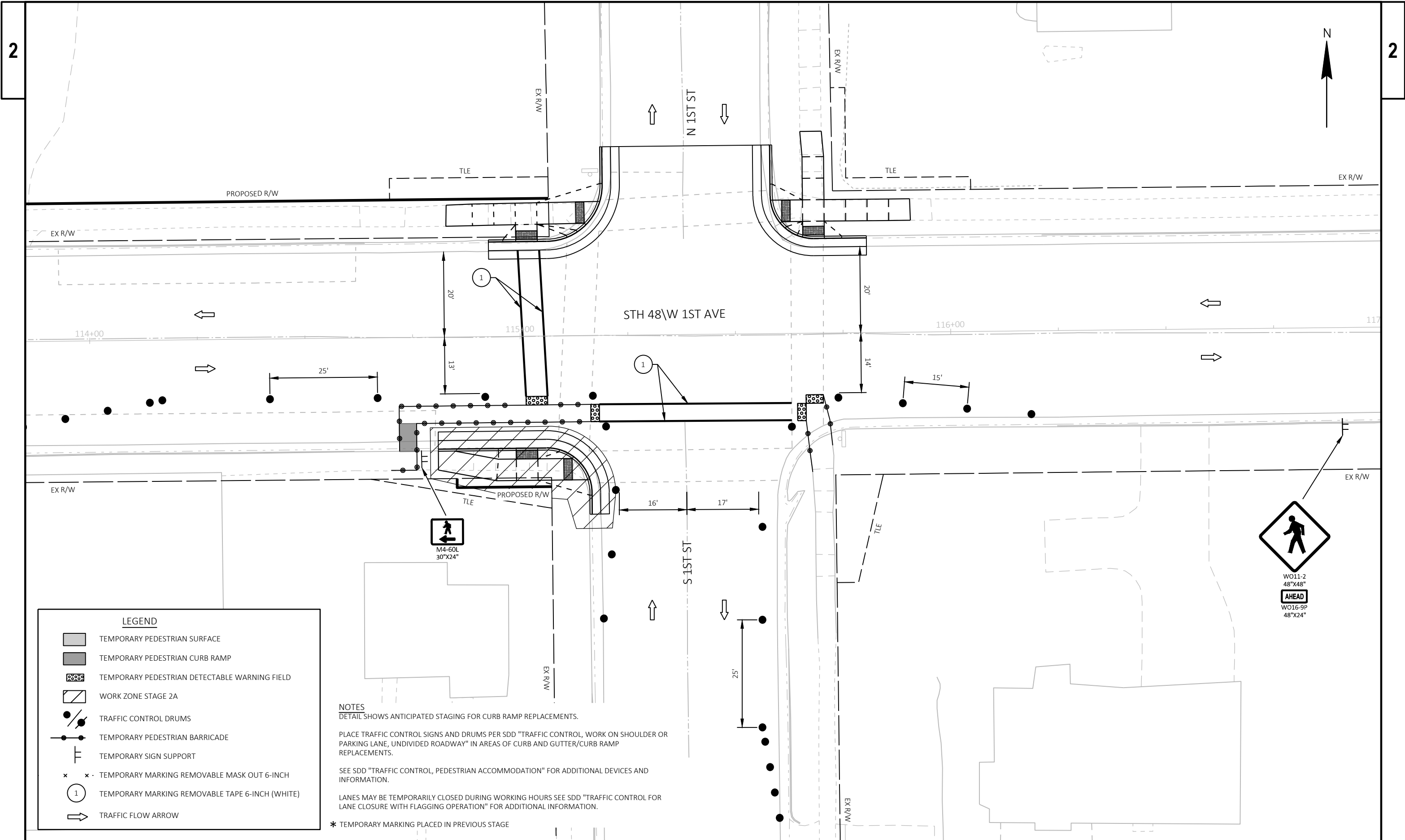
PLACE TRAFFIC CONTROL SIGNS AND DRUMS PER SDD "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY" IN AREAS OF CURB AND GUTTER/CURB RAMP REPLACEMENTS.

SEE SDD "TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION" FOR ADDITIONAL DEVICES AND INFORMATION.

LANES MAY BE TEMPORARILY CLOSED DURING WORKING HOURS SEE SDD "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION" FOR ADDITIONAL INFORMATION.

\* TEMPORARY MARKING PLACED IN PREVIOUS STAGE





LEGEND

TEMPORARY PEDESTRIAN SURFACE

TEMPORARY PEDESTRIAN CURB RAMP

TEMPORARY PEDESTRIAN DETECTABLE WARNING FIELD

WORK ZONE STAGE 2A

TRAFFIC CONTROL DRUMS

TEMPORARY PEDESTRIAN BARRICADE

TEMPORARY SIGN SUPPORT

TEMPORARY MARKING REMOVABLE MASK OUT 6-INCH

TEMPORARY MARKING REMOVABLE TAPE 6-INCH (WHITE)

TRAFFIC FLOW ARROW

NOTES

DETAIL SHOWS ANTICIPATED STAGING FOR CURB RAMP REPLACEMENTS.

PLACE TRAFFIC CONTROL SIGNS AND DRUMS PER SDD "TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY" IN AREAS OF CURB AND GUTTER/CURB RAMP REPLACEMENTS.

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\* TEMPORARY MARKING PLACED IN PREVIOUS STAGE



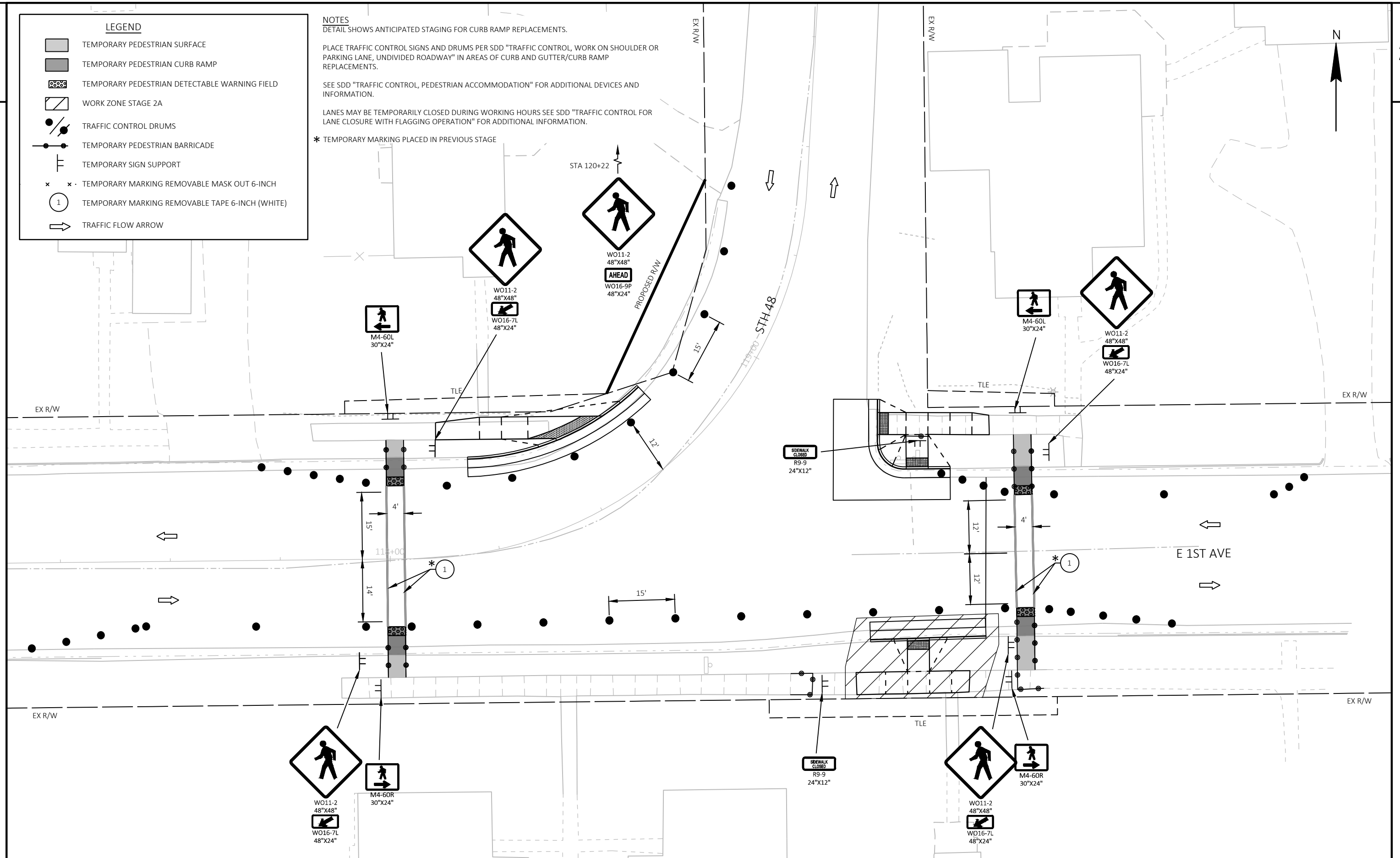
## NOTES

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\* TEMPORARY MARKING PLACED IN PREVIOUS STAGE



75

11

LEGEND



WORK AREA



TRAFFIC FLOW DIRECTION

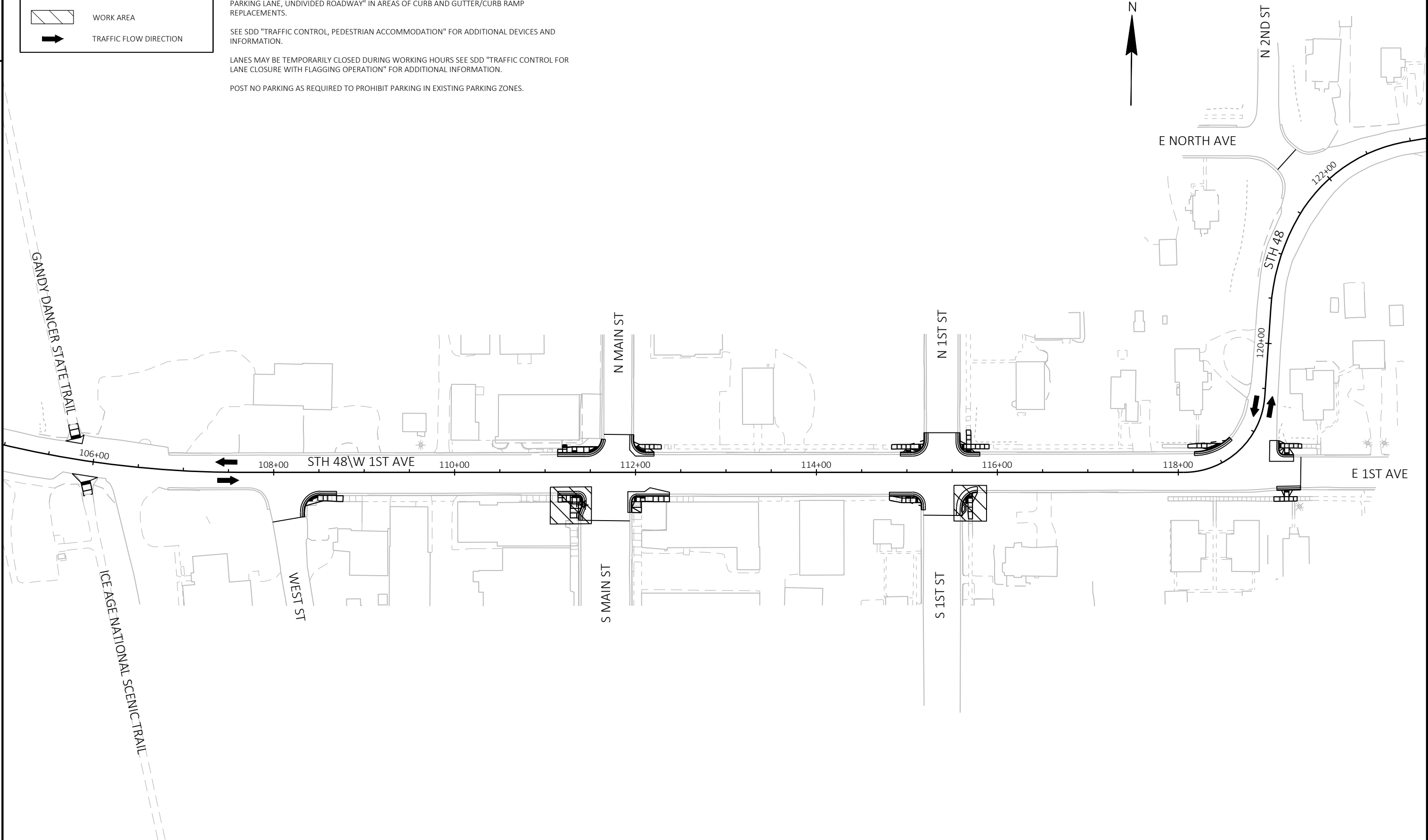
NOTES

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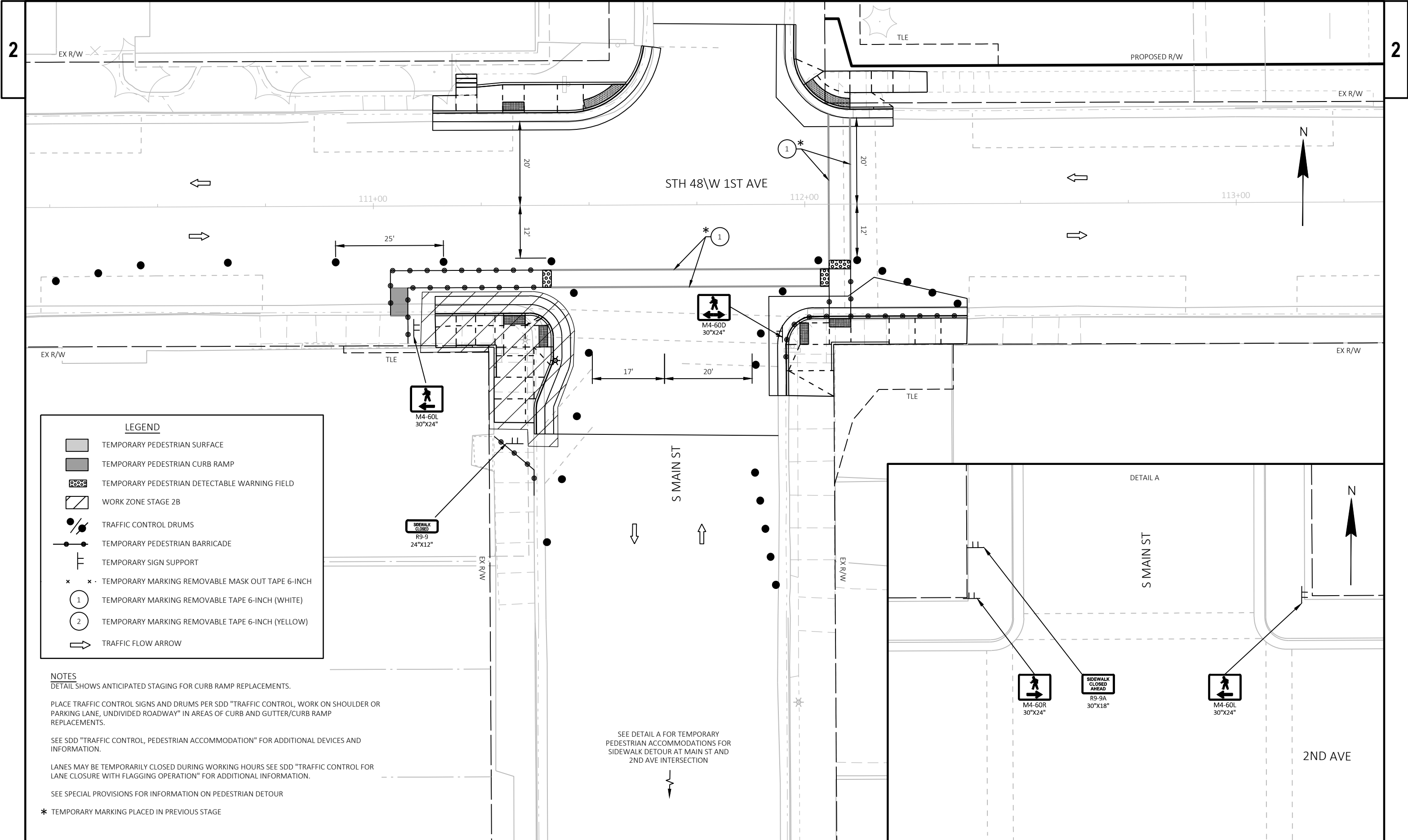
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POST NO PARKING AS REQUIRED TO PROHIBIT PARKING IN EXISTING PARKING ZONES.







LEGEND

TEMPORARY PEDESTRIAN SURFACE

TEMPORARY PEDESTRIAN CURB RAMP

x x

1

2

NOTES  
DETAIL SHOWS ANTICIPATED STAGING FOR CURB RAMP REPLACEMENTS.

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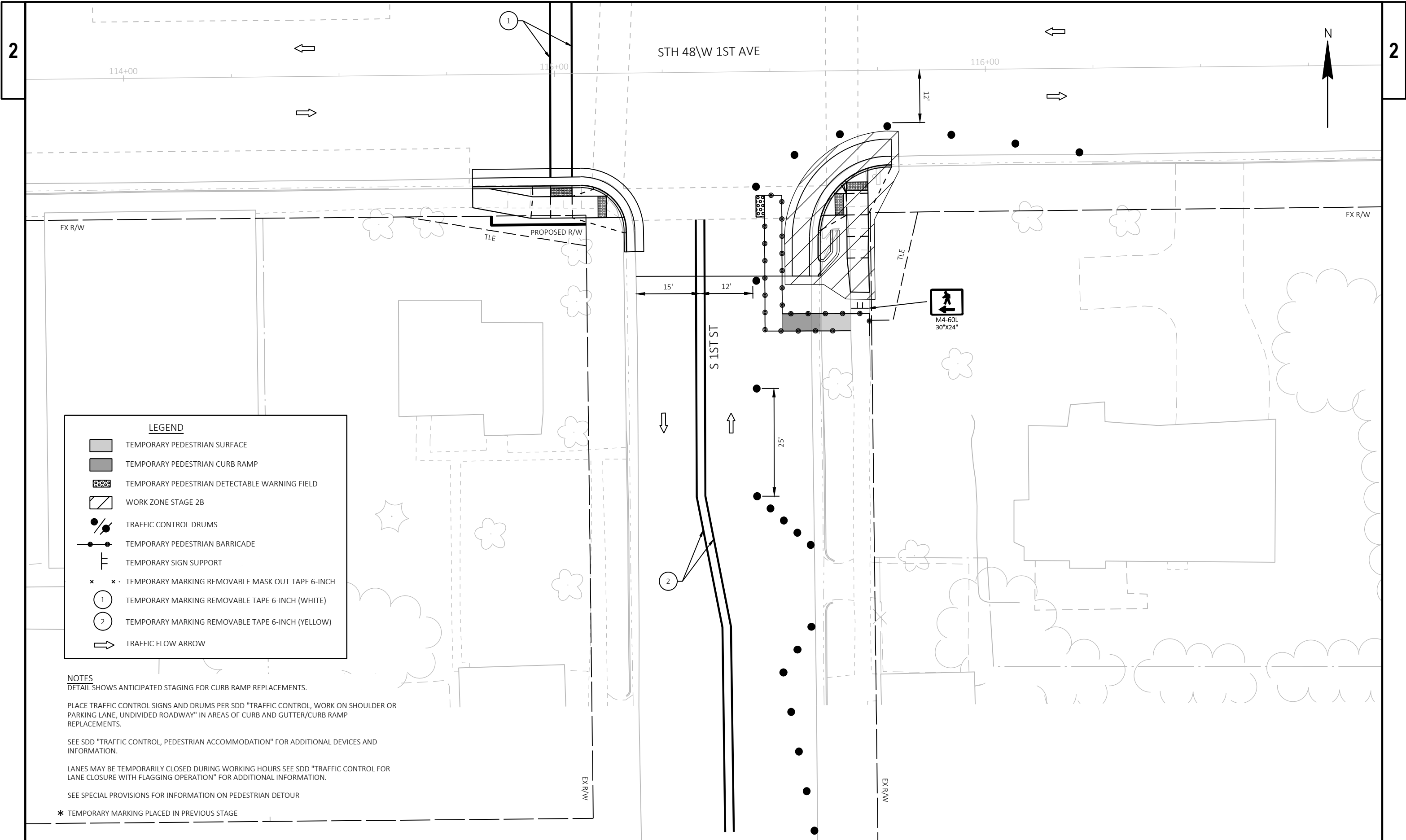
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LANES MAY BE TEMPORARILY CLOSED DURING WORKING HOURS SEE SDD "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION" FOR ADDITIONAL INFORMATION.

SEE SPECIAL PROVISIONS FOR INFORMATION ON PEDESTRIAN DETOUR

\* TEMPORARY MARKING PLACED IN PREVIOUS STAGE

SEE DETAIL A FOR TEMPORARY  
PEDESTRIAN ACCOMMODATIONS FOR  
SIDEWALK DETOUR AT MAIN ST AND  
2ND AVE INTERSECTION



**LEGEND**

- TEMPORARY PEDESTRIAN SURFACE
- TEMPORARY PEDESTRIAN CURB RAMP
- TEMPORARY PEDESTRIAN DETECTABLE WARNING FIELD
- WORK ZONE STAGE 2B
- TRAFFIC CONTROL DRUMS
- TEMPORARY PEDESTRIAN BARRICADE
- TEMPORARY SIGN SUPPORT
- TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH
- TEMPORARY MARKING REMOVABLE TAPE 6-INCH (WHITE)
- TEMPORARY MARKING REMOVABLE TAPE 6-INCH (YELLOW)
- TRAFFIC FLOW ARROW

**NOTES**  
DETAIL SHOWS ANTICIPATED STAGING FOR CURB RAMP REPLACEMENTS.

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SEE SPECIAL PROVISIONS FOR INFORMATION ON PEDESTRIAN DETOUR

\* TEMPORARY MARKING PLACED IN PREVIOUS STAGE

Estimate Of Quantities

| 8820-00-70 |            |                                                                  |      |             |             |
|------------|------------|------------------------------------------------------------------|------|-------------|-------------|
| Line       | Item       | Item Description                                                 | Unit | Total       | Qty         |
| 0002       | 201.0105   | Clearing                                                         | STA  | 25.000      | 25.000      |
| 0004       | 201.0205   | Grubbing                                                         | STA  | 25.000      | 25.000      |
| 0006       | 203.0100   | Removing Small Pipe Culverts                                     | EACH | 13.000      | 13.000      |
| 0008       | 204.0100   | Removing Concrete Pavement                                       | SY   | 65.000      | 65.000      |
| 0010       | 204.0109.S | Removing Concrete Surface Partial Depth                          | SF   | 860.000     | 860.000     |
| 0012       | 204.0110   | Removing Asphaltic Surface                                       | SY   | 695.000     | 695.000     |
| 0014       | 204.0115   | Removing Asphaltic Surface Butt Joints                           | SY   | 1,240.000   | 1,240.000   |
| 0016       | 204.0120   | Removing Asphaltic Surface Milling                               | SY   | 17,200.000  | 17,200.000  |
| 0018       | 204.0150   | Removing Curb & Gutter                                           | LF   | 1,030.000   | 1,030.000   |
| 0020       | 204.0155   | Removing Concrete Sidewalk                                       | SY   | 255.000     | 255.000     |
| 0022       | 204.0165   | Removing Guardrail                                               | LF   | 4,300.000   | 4,300.000   |
| 0024       | 204.0180   | Removing Delineators and Markers                                 | EACH | 96.000      | 96.000      |
| 0026       | 204.0195   | Removing Concrete Bases                                          | EACH | 1.000       | 1.000       |
| 0028       | 204.0265   | Abandoning Wells                                                 | EACH | 1.000       | 1.000       |
| 0030       | 205.0100   | Excavation Common                                                | CY   | 9,059.000   | 9,059.000   |
| 0032       | 208.0100   | Borrow                                                           | CY   | 4,200.000   | 4,200.000   |
| 0034       | 208.1500.S | Temporary Lane Shift During Culvert Work                         | EACH | 26.000      | 26.000      |
| 0036       | 209.0300.S | Backfill Coarse Aggregate (size) 01. No. 2                       | CY   | 15.000      | 15.000      |
| 0038       | 211.0101   | Prepare Foundation for Asphaltic Paving (project) 01. 8820-00-70 | EACH | 1.000       | 1.000       |
| 0040       | 211.0400   | Prepare Foundation for Asphaltic Shoulders                       | STA  | 32.000      | 32.000      |
| 0042       | 211.0700.S | Prepare Foundation for CIR Base Layer (project) 01. 8820-00-70   | EACH | 1.000       | 1.000       |
| 0044       | 211.0800.S | Base Repair for CIR Layer                                        | CY   | 500.000     | 500.000     |
| 0046       | 213.0100   | Finishing Roadway (project) 01. 8820-00-70                       | EACH | 1.000       | 1.000       |
| 0048       | 305.0110   | Base Aggregate Dense 3/4-Inch                                    | TON  | 8,750.000   | 8,750.000   |
| 0050       | 305.0120   | Base Aggregate Dense 1 1/4-Inch                                  | TON  | 5,600.000   | 5,600.000   |
| 0052       | 305.0500   | Shaping Shoulders                                                | STA  | 1,010.000   | 1,010.000   |
| 0054       | 327.1000.S | CIR Asphaltic Base Layer                                         | SY   | 186,380.000 | 186,380.000 |
| 0056       | 405.0200   | Coloring Concrete Custom                                         | CY   | 4.000       | 4.000       |
| 0058       | 450.4000   | HMA Cold Weather Paving                                          | TON  | 800.000     | 800.000     |
| 0060       | 455.0605   | Tack Coat                                                        | GAL  | 26,200.000  | 26,200.000  |
| 0062       | 455.0770.S | Asphalt Stabilizing Agent                                        | TON  | 835.000     | 835.000     |
| 0064       | 460.0105.S | HMA Percent Within Limits (PWL) Test Strip Volumetrics           | EACH | 1.000       | 1.000       |
| 0066       | 460.6645   | HMA Pavement 5 MT 58-34 V                                        | TON  | 33,750.000  | 33,750.000  |
| 0068       | 460.9000.S | Material Transfer Vehicle                                        | EACH | 1.000       | 1.000       |
| 0070       | 465.0105   | Asphaltic Surface                                                | TON  | 1,660.000   | 1,660.000   |
| 0072       | 465.0110   | Asphaltic Surface Patching                                       | TON  | 435.000     | 435.000     |
| 0074       | 465.0120   | Asphaltic Surface Driveways and Field Entrances                  | TON  | 40.000      | 40.000      |
| 0076       | 465.0315   | Asphaltic Flumes                                                 | SY   | 18.000      | 18.000      |
| 0078       | 465.0560   | Asphaltic Rumble Strips, Centerline                              | LF   | 46,265.000  | 46,265.000  |
| 0080       | 513.2001   | Railing Pipe                                                     | LF   | 3.000       | 3.000       |
| 0082       | 520.1030   | Apron Endwalls for Culvert Pipe 30-Inch                          | EACH | 10.000      | 10.000      |
| 0084       | 520.1036   | Apron Endwalls for Culvert Pipe 36-Inch                          | EACH | 2.000       | 2.000       |
| 0086       | 520.2048   | Culvert Pipe Temporary 48-Inch                                   | LF   | 96.000      | 96.000      |
| 0088       | 520.3430   | Culvert Pipe Class III-A Non-metal 30-Inch                       | LF   | 290.000     | 290.000     |
| 0090       | 520.3436   | Culvert Pipe Class III-A Non-metal 36-Inch                       | LF   | 66.000      | 66.000      |
| 0092       | 520.3630   | Culvert Pipe Class III-B Non-metal 30-Inch                       | LF   | 120.000     | 120.000     |
| 0094       | 520.8700   | Cleaning Culvert Pipes                                           | EACH | 19.000      | 19.000      |
| 0096       | 522.0424   | Culvert Pipe Reinforced Concrete Class IV 24-Inch                | LF   | 54.000      | 54.000      |
| 0098       | 522.0430   | Culvert Pipe Reinforced Concrete Class IV 30-Inch                | LF   | 178.000     | 178.000     |

Estimate Of Quantities

8820-00-70

| Line | Item       | Item Description                                                                      | Unit | Total      | Qty        |
|------|------------|---------------------------------------------------------------------------------------|------|------------|------------|
| 0100 | 522.1024   | Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch                           | EACH | 2.000      | 2.000      |
| 0102 | 522.1030   | Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch                           | EACH | 6.000      | 6.000      |
| 0104 | 522.2368   | Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-III 68x106-Inch       | LF   | 84.000     | 84.000     |
| 0106 | 522.2429   | Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 29x45-Inch         | LF   | 50.000     | 50.000     |
| 0108 | 522.2629   | Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 29x45-Inch  | EACH | 2.000      | 2.000      |
| 0110 | 522.2668   | Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 68x106-Inch | EACH | 2.000      | 2.000      |
| 0112 | 601.0411   | Concrete Curb & Gutter 30-Inch Type D                                                 | LF   | 560.000    | 560.000    |
| 0114 | 601.0557   | Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D                                   | LF   | 410.000    | 410.000    |
| 0116 | 601.0600   | Concrete Curb Pedestrian                                                              | LF   | 75.000     | 75.000     |
| 0118 | 602.0410   | Concrete Sidewalk 5-Inch                                                              | SF   | 2,935.000  | 2,935.000  |
| 0120 | 602.0505   | Curb Ramp Detectable Warning Field Yellow                                             | SF   | 200.000    | 200.000    |
| 0122 | 602.0605   | Curb Ramp Detectable Warning Field Radial Yellow                                      | SF   | 90.000     | 90.000     |
| 0124 | 602.0810   | Concrete Driveway 6-Inch                                                              | SY   | 60.000     | 60.000     |
| 0126 | 602.1500   | Concrete Steps                                                                        | SF   | 24.000     | 24.000     |
| 0128 | 602.3010   | Concrete Surface Drains                                                               | CY   | 1.000      | 1.000      |
| 0130 | 606.0200   | Riprap Medium                                                                         | CY   | 645.000    | 645.000    |
| 0132 | 611.8120.S | Cover Plates Temporary                                                                | EACH | 5.000      | 5.000      |
| 0134 | 612.0902.S | Insulation Board Polystyrene (inch) 01. 4-Inch                                        | SY   | 8.000      | 8.000      |
| 0136 | 614.0396   | Guardrail Mow Strip Asphalt                                                           | SY   | 1,120.000  | 1,120.000  |
| 0138 | 614.2300   | MGS Guardrail 3                                                                       | LF   | 1,538.000  | 1,538.000  |
| 0140 | 614.2330   | MGS Guardrail 3 K                                                                     | LF   | 2,125.000  | 2,125.000  |
| 0142 | 614.2350   | MGS Guardrail Short Radius                                                            | LF   | 100.000    | 100.000    |
| 0144 | 614.2500   | MGS Thrie Beam Transition                                                             | LF   | 154.000    | 154.000    |
| 0146 | 614.2610   | MGS Guardrail Terminal EAT                                                            | EACH | 18.000     | 18.000     |
| 0148 | 618.0100   | Maintenance and Repair of Haul Roads (project) 01. 8820-00-70                         | EACH | 1.000      | 1.000      |
| 0150 | 619.1000   | Mobilization                                                                          | EACH | 1.000      | 1.000      |
| 0152 | 624.0100   | Water                                                                                 | MGAL | 80.000     | 80.000     |
| 0154 | 625.0100   | Topsoil                                                                               | SY   | 24,810.000 | 24,810.000 |
| 0156 | 628.1104   | Erosion Bales                                                                         | EACH | 630.000    | 630.000    |
| 0158 | 628.1504   | Silt Fence                                                                            | LF   | 12,500.000 | 12,500.000 |
| 0160 | 628.1520   | Silt Fence Maintenance                                                                | LF   | 12,500.000 | 12,500.000 |
| 0162 | 628.1530.S | Silt Fence Heavy Duty                                                                 | LF   | 1,700.000  | 1,700.000  |
| 0164 | 628.1535.S | Silt Fence Heavy Duty Maintenance                                                     | LF   | 1,700.000  | 1,700.000  |
| 0166 | 628.1905   | Mobilizations Erosion Control                                                         | EACH | 8.000      | 8.000      |
| 0168 | 628.1910   | Mobilizations Emergency Erosion Control                                               | EACH | 4.000      | 4.000      |
| 0170 | 628.2004   | Erosion Mat Class I Type B                                                            | SY   | 22,080.000 | 22,080.000 |
| 0172 | 628.2006   | Erosion Mat Urban Class I Type A                                                      | SY   | 220.000    | 220.000    |
| 0174 | 628.2027   | Erosion Mat Class II Type C                                                           | SY   | 1,810.000  | 1,810.000  |
| 0176 | 628.2033   | Erosion Mat Class III Type B                                                          | SY   | 700.000    | 700.000    |
| 0178 | 628.5505   | Polyethylene Sheeting                                                                 | SY   | 400.000    | 400.000    |
| 0180 | 628.7504   | Temporary Ditch Checks                                                                | LF   | 1,200.000  | 1,200.000  |
| 0182 | 628.7555   | Culvert Pipe Checks                                                                   | EACH | 130.000    | 130.000    |
| 0184 | 629.0210   | Fertilizer Type B                                                                     | CWT  | 12.000     | 12.000     |
| 0186 | 630.0130   | Seeding Mixture No. 30                                                                | LB   | 450.000    | 450.000    |
| 0188 | 630.0140   | Seeding Mixture No. 40                                                                | LB   | 4.000      | 4.000      |
| 0190 | 630.0160   | Seeding Mixture No. 60                                                                | LB   | 20.000     | 20.000     |
| 0192 | 630.0500   | Seed Water                                                                            | MGAL | 560.000    | 560.000    |
| 0194 | 633.5200   | Markers Culvert End                                                                   | EACH | 96.000     | 96.000     |
| 0196 | 634.0616   | Posts Wood 4x6-Inch x 16-FT                                                           | EACH | 3.000      | 3.000      |

Estimate Of Quantities

8820-00-70

| Line | Item       | Item Description                                                   | Unit | Total       | Qty         |
|------|------------|--------------------------------------------------------------------|------|-------------|-------------|
| 0198 | 637.2230   | Signs Type II Reflective F                                         | SF   | 33.000      | 33.000      |
| 0200 | 638.2102   | Moving Signs Type II                                               | EACH | 30.000      | 30.000      |
| 0202 | 642.5001   | Field Office Type B                                                | EACH | 1.000       | 1.000       |
| 0204 | 643.0300   | Traffic Control Drums                                              | DAY  | 3,825.000   | 3,825.000   |
| 0206 | 643.0420   | Traffic Control Barricades Type III                                | DAY  | 40.000      | 40.000      |
| 0208 | 643.0705   | Traffic Control Warning Lights Type A                              | DAY  | 80.000      | 80.000      |
| 0210 | 643.0715   | Traffic Control Warning Lights Type C                              | DAY  | 80.000      | 80.000      |
| 0212 | 643.0900   | Traffic Control Signs                                              | DAY  | 13,900.000  | 13,900.000  |
| 0214 | 643.1000   | Traffic Control Signs Fixed Message                                | SF   | 64.000      | 64.000      |
| 0216 | 643.3165   | Temporary Marking Line Paint 6-Inch                                | LF   | 263,100.000 | 263,100.000 |
| 0218 | 643.3180   | Temporary Marking Line Removable Tape 6-Inch                       | LF   | 2,075.000   | 2,075.000   |
| 0220 | 643.3960   | Temporary Marking Removable Mask Out Tape 6-Inch                   | LF   | 1,170.000   | 1,170.000   |
| 0222 | 643.5000   | Traffic Control                                                    | EACH | 1.000       | 1.000       |
| 0224 | 644.1440   | Temporary Pedestrian Surface Matting                               | SF   | 165.000     | 165.000     |
| 0226 | 644.1601   | Temporary Pedestrian Curb Ramp                                     | DAY  | 120.000     | 120.000     |
| 0228 | 644.1605   | Temporary Pedestrian Detectable Warning Field                      | SF   | 184.000     | 184.000     |
| 0230 | 644.1810   | Temporary Pedestrian Barricade                                     | LF   | 1,180.000   | 1,180.000   |
| 0232 | 645.0120   | Geotextile Type HR                                                 | SY   | 1,790.000   | 1,790.000   |
| 0234 | 646.2040   | Marking Line Grooved Wet Ref Epoxy 6-Inch                          | LF   | 178,000.000 | 178,000.000 |
| 0236 | 646.4040   | Marking Line Grooved Wet Ref Epoxy 10-Inch                         | LF   | 2,130.000   | 2,130.000   |
| 0238 | 646.6120   | Marking Stop Line Epoxy 18-Inch                                    | LF   | 350.000     | 350.000     |
| 0240 | 646.6466   | Cold Weather Marking Epoxy 6-Inch                                  | LF   | 17,800.000  | 17,800.000  |
| 0242 | 646.6470   | Cold Weather Marking Epoxy 10-Inch                                 | LF   | 210.000     | 210.000     |
| 0244 | 646.7120   | Marking Diagonal Epoxy 12-Inch                                     | LF   | 40.000      | 40.000      |
| 0246 | 646.7420   | Marking Crosswalk Epoxy Transverse Line 6-Inch                     | LF   | 740.000     | 740.000     |
| 0248 | 646.7520   | Marking Crosswalk Epoxy Block Style 24-Inch                        | LF   | 90.000      | 90.000      |
| 0250 | 646.8320   | Marking Parking Stall Epoxy                                        | LF   | 130.000     | 130.000     |
| 0252 | 650.4500   | Construction Staking Subgrade                                      | LF   | 6,233.000   | 6,233.000   |
| 0254 | 650.5000   | Construction Staking Base                                          | LF   | 6,233.000   | 6,233.000   |
| 0256 | 650.5500   | Construction Staking Curb Gutter and Curb & Gutter                 | LF   | 965.000     | 965.000     |
| 0258 | 650.6000   | Construction Staking Pipe Culverts                                 | EACH | 12.000      | 12.000      |
| 0260 | 650.8000   | Construction Staking Resurfacing Reference                         | LF   | 58,967.000  | 58,967.000  |
| 0262 | 650.9000   | Construction Staking Curb Ramps                                    | EACH | 20.000      | 20.000      |
| 0264 | 650.9500   | Construction Staking Sidewalk (project) 01. 8820-00-70             | EACH | 1.000       | 1.000       |
| 0266 | 650.9911   | Construction Staking Supplemental Control (project) 01. 8820-00-70 | EACH | 1.000       | 1.000       |
| 0268 | 650.9920   | Construction Staking Slope Stakes                                  | LF   | 6,233.000   | 6,233.000   |
| 0270 | 652.0225   | Conduit Rigid Nonmetallic Schedule 40 2-Inch                       | LF   | 16.000      | 16.000      |
| 0272 | 652.0700.S | Install Conduit into Existing Item                                 | EACH | 1.000       | 1.000       |
| 0274 | 654.0105   | Concrete Bases Type 5                                              | EACH | 1.000       | 1.000       |
| 0276 | 680.0100   | Public Land Survey Monument Verify and Reset                       | EACH | 15.000      | 15.000      |
| 0278 | 690.0150   | Sawing Asphalt                                                     | LF   | 6,939.000   | 6,939.000   |
| 0280 | 690.0250   | Sawing Concrete                                                    | LF   | 228.000     | 228.000     |
| 0282 | 740.0440   | Incentive IRI Ride                                                 | DOL  | 45,000.000  | 45,000.000  |
| 0284 | SPV.0055   | Special 01. Incentive Density PWL HMA Pavement                     | DOL  | 24,440.000  | 24,440.000  |
| 0286 | SPV.0055   | Special 02. Incentive Air Voids HMA Pavement                       | DOL  | 33,750.000  | 33,750.000  |
| 0288 | SPV.0055   | Special 03. Incentive Density HMA Pavement Longitudinal Joints     | DOL  | 23,590.000  | 23,590.000  |
| 0290 | SPV.0060   | Special 01. Inlet Covers Type H-D                                  | EACH | 3.000       | 3.000       |
| 0292 | SPV.0060   | Special 02. Adjusting Water Valve Boxes                            | EACH | 23.000      | 23.000      |
| 0294 | SPV.0060   | Special 03. Adjusting Sanitary Manhole Covers                      | EACH | 7.000       | 7.000       |

Estimate Of Quantities

8820-00-70

| Line | Item     | Item Description                                       | Unit | Total   | Qty     |
|------|----------|--------------------------------------------------------|------|---------|---------|
| 0296 | SPV.0060 | Special 04. Joint Ties for Concrete Pipe               | EACH | 36.000  | 36.000  |
| 0298 | SPV.0060 | Special 05. Remove and Reinstall Street Light Assembly | EACH | 1.000   | 1.000   |
| 0300 | SPV.0090 | Special 01. Ditch Cleaning                             | LF   | 90.000  | 90.000  |
| 0302 | SPV.0195 | Special 01. Infill Riprap                              | TON  | 575.000 | 575.000 |



CLEARING AND GRUBBING ITEMS

| CATEGORY | STATION | TO | STATION | OFFSET | 201.0105<br>CLEARING<br>STA | 201.0205<br>GRUBBING<br>STA | COMMENTS    |
|----------|---------|----|---------|--------|-----------------------------|-----------------------------|-------------|
| 0010     | 357+04  | -  | 357+68  | RT     | 1                           | 1                           |             |
|          | 362+75  | -  | 362+83  | RT     | 1                           | 1                           |             |
|          | 442+03  | -  | 444+95  | LT     | 3                           | 3                           |             |
|          | 468+78  | -  | 472+81  | RT     | 5                           | 5                           |             |
|          | 576+14  | -  | 577+64  | RT     | 2                           | 2                           |             |
|          | 622+28  | -  | 632+00  | LT&RT  | 10                          | 10                          |             |
|          | 639+89  | -  | 640+16  | RT     | 2                           | 2                           |             |
|          | 1898+06 | -  | 1898+95 | RT     | 1                           | 1                           | 95TH STREET |
| TOTALS   |         |    |         |        | 25                          | 25                          |             |

REMOVING CULVERT PIPE ITEMS

| CATEGORY | STATION | OFFSET | 203.0100<br>REMOVING SMALL<br>PIPE CULVERTS | 204.0180*<br>REMOVING DELINEATORS<br>AND MARKERS | COMMENTS          |
|----------|---------|--------|---------------------------------------------|--------------------------------------------------|-------------------|
|          |         |        | EACH                                        | EACH                                             |                   |
| 0010     | 137+76  | LT&RT  | 1                                           | 2                                                | 24-INCH CPRC      |
|          | 172+83  | LT&RT  | 1                                           | 2                                                | 27-INCH CPRC      |
|          | 183+84  | LT&RT  | 1                                           | 2                                                | 27-INCH CPRC      |
|          | 193+43  | LT&RT  | 1                                           | 2                                                | 18-INCH HDPE/CPRC |
|          | 203+59  | LT&RT  | 1                                           | 2                                                | 48-INCH CPRC      |
|          | 214+48  | LT&RT  | 1                                           | 2                                                | 30-INCH CPRC      |
|          | 493+92  | LT&RT  | 1                                           | 2                                                | 30-INCH CPRC      |
|          | 577+52  | LT&RT  | 1                                           | 2                                                | 30-INCH CPRC      |
|          | 601+23  | LT&RT  | 1                                           | 2                                                | 30-INCH CPRC      |
|          | 605+67  | LT&RT  | 1                                           | 2                                                | 30-INCH CPRC      |
|          | 623+00  | RT     | 1                                           | --                                               | 18-INCH RCCP      |
|          | 639+43  | LT&RT  | 1                                           | 2                                                | 30-INCH CPRC      |
|          | 652+30  | LT&RT  | 1                                           | 2                                                | 30-INCH CPRC      |
| TOTALS   |         |        | 13                                          | 24                                               |                   |

\*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

REMOVAL ITEMS

| CATEGORY             | STATION | TO | STATION | OFFSET | 204.0109.S<br>REMOVING<br>CONCRETE SURFACE<br>PARTIAL DEPTH<br>SF | 204.0100*<br>REMOVING<br>CONCRETE<br>PAVEMENT<br>SY | 204.0110*<br>REMOVING<br>ASPHALTIC<br>SURFACE<br>SY | 204.0115<br>REMOVING<br>ASPHALTIC SURFACE<br>BUTT JOINTS<br>SY | 204.0120<br>REMOVING ASPHALTIC<br>SURFACE MILLING<br>SY | 204.0150<br>REMOVING CURB<br>& GUTTER<br>LF | 204.0155<br>REMOVING<br>CONCRETE<br>SIDEWALK<br>SY | 204.0165<br>REMOVING<br>GUARDRAIL<br>LF | 204.0265<br>ABANDONING<br>WELLS<br>EACH | COMMENTS                    |
|----------------------|---------|----|---------|--------|-------------------------------------------------------------------|-----------------------------------------------------|-----------------------------------------------------|----------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------|----------------------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------|
| 0010                 | 95+77   | -  | 126+30  | LT&RT  | --                                                                | --                                                  | --                                                  | 478                                                            | 13,000                                                  | --                                          | --                                                 | --                                      | --                                      | MAINLINE                    |
|                      | 108+29  | -  | 108+71  | RT     | --                                                                | --                                                  | 13                                                  | --                                                             | --                                                      | 54                                          | 34                                                 | --                                      | --                                      | SE WEST STREET              |
|                      | 111+14  | -  | 111+67  | LT     | --                                                                | --                                                  | 14                                                  | --                                                             | --                                                      | 57                                          | 7                                                  | --                                      | --                                      | NW MAIN STREET              |
|                      | 111+14  | -  | 111+46  | RT     | --                                                                | --                                                  | 21                                                  | --                                                             | --                                                      | 50                                          | 36                                                 | --                                      | 1                                       | SW MAIN STREET              |
|                      | 111+92  | -  | 112+38  | RT     | --                                                                | --                                                  | 43                                                  | --                                                             | --                                                      | 58                                          | 41                                                 | --                                      | --                                      | SE MAIN STREET              |
|                      | 111+94  | -  | 112+24  | LT     | --                                                                | --                                                  | 14                                                  | --                                                             | --                                                      | 37                                          | 20                                                 | --                                      | --                                      | NE MAIN STREET              |
|                      | 114+81  | -  | 115+20  | RT     | --                                                                | --                                                  | 11                                                  | --                                                             | --                                                      | 47                                          | 18                                                 | --                                      | --                                      | SW SOUTH 1ST STREET         |
|                      | 114+83  | -  | 115+23  | LT     | --                                                                | --                                                  | 11                                                  | --                                                             | --                                                      | 43                                          | 18                                                 | --                                      | --                                      | NW NORTH 1ST STREET         |
|                      | 115+54  | -  | 115+91  | LT     | --                                                                | --                                                  | 10                                                  | --                                                             | --                                                      | 40                                          | 30                                                 | --                                      | --                                      | NE NORTH 1ST STREET         |
|                      | 115+57  | -  | 115+78  | RT     | --                                                                | --                                                  | 19                                                  | --                                                             | --                                                      | 36                                          | 14                                                 | --                                      | --                                      | SE SOUTH 1ST STREET         |
|                      | 118+13  | -  | 118+76  | LT     | --                                                                | --                                                  | 10                                                  | --                                                             | --                                                      | 44                                          | 11                                                 | --                                      | --                                      | NW 1ST AVENUE               |
|                      | 118+69  | -  | 118+86  | RT     | --                                                                | --                                                  | 6                                                   | --                                                             | --                                                      | 26                                          | 14                                                 | --                                      | --                                      | SE 1ST AVENUE               |
|                      | 118+93  | -  | 119+09  | RT     | --                                                                | --                                                  | 32                                                  | --                                                             | --                                                      | 30                                          | 12                                                 | --                                      | --                                      | NE 1ST AVENUE               |
|                      | 126+30  | -  | 450+40  | LT&RT  | 560                                                               | 60                                                  | 223                                                 | 426                                                            | 1,230                                                   | --                                          | --                                                 | --                                      | --                                      | INTERSECTIONS AND DRIVEWAYS |
|                      | 154+66  | -  | 155+92  | RT     | --                                                                | --                                                  | 45                                                  | --                                                             | --                                                      | 190                                         | --                                                 | --                                      | --                                      | PINE STREET                 |
|                      | 174+57  | -  | 175+18  | RT     | --                                                                | --                                                  | 25                                                  | --                                                             | --                                                      | 107                                         | --                                                 | --                                      | --                                      | JENSEN BOULEVARD            |
|                      | 357+78  | -  | 363+46  | RT     | --                                                                | --                                                  | --                                                  | --                                                             | --                                                      | --                                          | --                                                 | 567                                     | --                                      |                             |
|                      | 360+10  | -  | 363+90  | LT     | --                                                                | --                                                  | --                                                  | --                                                             | --                                                      | --                                          | --                                                 | 380                                     | --                                      |                             |
|                      | 441+75  | -  | 450+33  | LT     | --                                                                | --                                                  | --                                                  | --                                                             | --                                                      | --                                          | --                                                 | 858                                     | --                                      |                             |
|                      | 449+27  | -  | 450+50  | RT     | --                                                                | --                                                  | --                                                  | --                                                             | --                                                      | 62                                          | --                                                 | 208                                     | --                                      |                             |
|                      | 450+59  | -  | 685+63  | LT&RT  | 300                                                               | --                                                  | 55                                                  | 312                                                            | 1,400                                                   | --                                          | --                                                 | --                                      | --                                      | INTERSECTIONS AND DRIVEWAYS |
|                      | 450+49  | -  | 451+45  | LT     | --                                                                | --                                                  | --                                                  | --                                                             | --                                                      | --                                          | --                                                 | 96                                      | --                                      |                             |
|                      | 450+66  | -  | 452+83  | RT     | --                                                                | --                                                  | 32                                                  | --                                                             | --                                                      | --                                          | --                                                 | 208                                     | --                                      |                             |
|                      | 470+42  | -  | 471+47  | RT     | --                                                                | --                                                  | --                                                  | --                                                             | --                                                      | --                                          | --                                                 | 105                                     | --                                      |                             |
|                      | 527+24  | -  | 528+52  | LT     | --                                                                | --                                                  | 36                                                  | --                                                             | --                                                      | 150                                         | --                                                 | --                                      | --                                      | CTH O                       |
|                      | 622+95  | -  | 628+23  | RT     | --                                                                | --                                                  | --                                                  | --                                                             | --                                                      | --                                          | --                                                 | 529                                     | --                                      |                             |
|                      | 623+15  | -  | 632+38  | LT     | --                                                                | --                                                  | --                                                  | --                                                             | --                                                      | --                                          | --                                                 | 894                                     | --                                      |                             |
|                      | 653+93  | -  | 658+48  | RT     | --                                                                | --                                                  | --                                                  | --                                                             | --                                                      | --                                          | --                                                 | 455                                     | --                                      |                             |
|                      | 1898+00 | -  | 1899+46 | LT&RT  | --                                                                | --                                                  | --                                                  | 24                                                             | 410                                                     | --                                          | --                                                 | --                                      | --                                      | 95TH STREET                 |
| CATEGORY 0010 TOTALS |         |    |         |        | 860                                                               | 60                                                  | 620                                                 | 1,240                                                          | 16,040                                                  | 1,030                                       | 255                                                | 4,300                                   | 1                                       |                             |
| 0020                 | 107+68  | -  | 111+45  | LT     | --                                                                | --                                                  | --                                                  | --                                                             | 254                                                     | --                                          | --                                                 | --                                      | --                                      | PARKING LANE                |
|                      | 108+53  | -  | 111+31  | RT     | --                                                                | --                                                  | --                                                  | --                                                             | 185                                                     | --                                          | --                                                 | --                                      | --                                      | PARKING LANE                |
|                      | 112+05  | -  | 115+06  | RT     | --                                                                | --                                                  | --                                                  | --                                                             | 200                                                     | --                                          | --                                                 | --                                      | --                                      | PARKING LANE                |
|                      | 112+11  | -  | 115+01  | LT     | --                                                                | --                                                  | --                                                  | --                                                             | 195                                                     | --                                          | --                                                 | --                                      | --                                      | PARKING LANE                |
|                      | 115+77  | -  | 118+05  | LT     | --                                                                | --                                                  | --                                                  | --                                                             | 152                                                     | --                                          | --                                                 | --                                      | --                                      | PARKING LANE                |
|                      | 115+77  | -  | 118+35  | RT     | --                                                                | --                                                  | --                                                  | --                                                             | 174                                                     | --                                          | --                                                 | --                                      | --                                      | PARKING LANE                |
| CATEGORY 0020 TOTALS |         |    |         |        | --                                                                | --                                                  | --                                                  | --                                                             | 1,160                                                   | --                                          | --                                                 | --                                      | --                                      |                             |
| TOTALS               |         |    |         |        | 860                                                               | 60                                                  | 620                                                 | 1,240                                                          | 17,200                                                  | 1,030                                       | 255                                                | 4,300                                   | 1                                       |                             |

\*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

| EARTHWORK SUMMARY |            |           |                                                                 |                                          |                                                            |                                           |                            |                                   |                                          |          |
|-------------------|------------|-----------|-----------------------------------------------------------------|------------------------------------------|------------------------------------------------------------|-------------------------------------------|----------------------------|-----------------------------------|------------------------------------------|----------|
| DIVISION          | STATION TO | STATION   | LOCATION                                                        | 205.0100                                 | SALVAGED/UNUSABLE<br>PAVEMENT MATERIAL<br>(NOTE 2)<br>(CY) | AVAILABLE<br>MATERIAL<br>(NOTE 3)<br>(CY) | UNEXPANDED<br>FILL<br>(CY) | EXPANDED FILL<br>(NOTE 4)<br>(CY) | MASS ORDINATE<br>+/-<br>(NOTE 5)<br>(CY) | 208.0100 |
|                   |            |           |                                                                 | EXCAVATION<br>COMMON<br>(NOTE 1)<br>(CY) |                                                            |                                           |                            | FACTOR                            |                                          | BORROW   |
|                   |            |           |                                                                 |                                          |                                                            |                                           |                            | 1.25                              |                                          | (CY)     |
| 1                 | 137+24     | - 138+28  | CULVERT REPLACEMENT TRANSITION CUT                              | 483                                      | 37                                                         | 446                                       | --                         | --                                | 446                                      | --       |
|                   | 172+31     | - 173+36  | CULVERT REPLACEMENT TRANSITION CUT                              | 594                                      | 37                                                         | 557                                       | --                         | --                                | 557                                      | --       |
|                   | 183+31     | - 184+37  | CULVERT REPLACEMENT TRANSITION CUT                              | 741                                      | 37                                                         | 704                                       | --                         | --                                | 704                                      | --       |
|                   | 192+91     | - 193+95  | CULVERT REPLACEMENT TRANSITION CUT                              | 496                                      | 37                                                         | 459                                       | --                         | --                                | 459                                      | --       |
|                   | 202+73     | - 204+13  | CULVERT REPLACEMENT TRANSITION CUT                              | 905                                      | 48                                                         | 857                                       | --                         | --                                | 857                                      | --       |
|                   | 213+90     | - 215+04  | CULVERT REPLACEMENT TRANSITION CUT                              | 672                                      | 53                                                         | 619                                       | --                         | --                                | 619                                      | --       |
|                   | 493+39     | - 494+46  | CULVERT REPLACEMENT TRANSITION CUT                              | 790                                      | 37                                                         | 753                                       | --                         | --                                | 753                                      | --       |
|                   | 576+99     | - 578+05  | CULVERT REPLACEMENT TRANSITION CUT                              | 639                                      | 37                                                         | 601                                       | --                         | --                                | 601                                      | --       |
|                   | 600+70     | - 601+76  | CULVERT REPLACEMENT TRANSITION CUT                              | 564                                      | 37                                                         | 527                                       | --                         | --                                | 527                                      | --       |
|                   | 605+14     | - 606+19  | CULVERT REPLACEMENT TRANSITION CUT                              | 696                                      | 37                                                         | 659                                       | --                         | --                                | 659                                      | --       |
|                   | 638+89     | - 639+96  | CULVERT REPLACEMENT TRANSITION CUT                              | 696                                      | 37                                                         | 659                                       | --                         | --                                | 659                                      | --       |
|                   | 651+77     | - 652+83  | CULVERT REPLACEMENT TRANSITION CUT                              | 888                                      | 39                                                         | 849                                       | --                         | --                                | 849                                      | --       |
| SUBTOTAL          |            |           |                                                                 | 8,164                                    | 474                                                        | 7,690                                     | --                         | --                                | 7,690                                    | --       |
| 2                 | 137+24     | - 138+28  | CULVERT STAGING - TEMPORARY BASE REMOVAL AT PAVEMENT PATCH (5") | 48                                       | --                                                         | 48                                        | --                         | --                                | 48                                       | --       |
|                   | 172+31     | - 173+36  | CULVERT STAGING - TEMPORARY BASE REMOVAL AT PAVEMENT PATCH (5") | 49                                       | --                                                         | 49                                        | --                         | --                                | 49                                       | --       |
|                   | 183+31     | - 184+37  | CULVERT STAGING - TEMPORARY BASE REMOVAL AT PAVEMENT PATCH (5") | 49                                       | --                                                         | 49                                        | --                         | --                                | 49                                       | --       |
|                   | 192+91     | - 193+95  | CULVERT STAGING - TEMPORARY BASE REMOVAL AT PAVEMENT PATCH (5") | 48                                       | --                                                         | 48                                        | --                         | --                                | 48                                       | --       |
|                   | 202+73     | - 204+13  | CULVERT STAGING - TEMPORARY BASE REMOVAL AT PAVEMENT PATCH (5") | 65                                       | --                                                         | 65                                        | --                         | --                                | 65                                       | --       |
|                   | 213+90     | - 215+04  | CULVERT STAGING - TEMPORARY BASE REMOVAL AT PAVEMENT PATCH (5") | 70                                       | --                                                         | 70                                        | --                         | --                                | 70                                       | --       |
|                   | 493+39     | - 494+46  | CULVERT STAGING - TEMPORARY BASE REMOVAL AT PAVEMENT PATCH (5") | 50                                       | --                                                         | 50                                        | --                         | --                                | 50                                       | --       |
|                   | 576+99     | - 578+05  | CULVERT STAGING - TEMPORARY BASE REMOVAL AT PAVEMENT PATCH (5") | 49                                       | --                                                         | 49                                        | --                         | --                                | 49                                       | --       |
|                   | 600+70     | - 601+76  | CULVERT STAGING - TEMPORARY BASE REMOVAL AT PAVEMENT PATCH (5") | 49                                       | --                                                         | 49                                        | --                         | --                                | 49                                       | --       |
|                   | 605+14     | - 606+19  | CULVERT STAGING - TEMPORARY BASE REMOVAL AT PAVEMENT PATCH (5") | 49                                       | --                                                         | 49                                        | --                         | --                                | 49                                       | --       |
|                   | 638+89     | - 639+96  | CULVERT STAGING - TEMPORARY BASE REMOVAL AT PAVEMENT PATCH (5") | 50                                       | --                                                         | 50                                        | --                         | --                                | 50                                       | --       |
|                   | 651+77     | - 652+83  | CULVERT STAGING - TEMPORARY BASE REMOVAL AT PAVEMENT PATCH (5") | 52                                       | --                                                         | 52                                        | --                         | --                                | 52                                       | --       |
| SUBTOTAL          |            |           |                                                                 | 627                                      | --                                                         | 627                                       | --                         | --                                | 627                                      | --       |
| 3                 | 108+35     | - 119+09  | SIDEWALK<br>TRAIL                                               | 36                                       | --                                                         | 36                                        | --                         | --                                | 36                                       | --       |
|                   | 105+63     | - 106+08  |                                                                 | 8                                        | 8                                                          | --                                        | --                         | --                                | --                                       | --       |
| SUBTOTAL          |            |           |                                                                 | 44                                       | 8                                                          | 36                                        | --                         | --                                | 36                                       | --       |
| 4                 | 261+09     | - 261+58  | CONCRETE DRIVEWAY                                               | 24                                       | 10                                                         | 14                                        | --                         | --                                | 14                                       | --       |
|                   |            |           |                                                                 |                                          |                                                            |                                           |                            |                                   |                                          |          |
| SUBTOTAL          |            |           |                                                                 | 24                                       | 10                                                         | 14                                        | --                         | --                                | 14                                       | --       |
| 5                 | 355+08     | - 364+65  | GUARDRAIL, WEST OF 110TH, RT                                    | 5                                        | --                                                         | 5                                         | 275                        | 344                               | -339                                     | 339      |
|                   | 358+08     | - 363+04  | MOWSTRIP, RT                                                    | 18                                       | 18                                                         | --                                        | --                         | --                                | --                                       | --       |
|                   | 358+88     | - 365+57  | GUARDRAIL, WEST OF 110TH, LT                                    | 6                                        | --                                                         | 6                                         | 223                        | 279                               | -273                                     | 273      |
|                   | 360+42     | - 363+55  | MOWSTRIP, LT                                                    | 5                                        | 5                                                          | --                                        | --                         | --                                | --                                       | --       |
|                   | 440+47     | - 453+15  | GUARDRAIL, STRAIGHT RIVER, LT                                   | --                                       | --                                                         | --                                        | 726                        | 908                               | -908                                     | 908      |
|                   | 442+10     | - 450+32  | MOWSTRIP, LT                                                    | 21                                       | 21                                                         | --                                        | --                         | --                                | --                                       | --       |
|                   | 449+25     | - 450+48  | MOWSTRIP, RT                                                    | 8                                        | 8                                                          | --                                        | --                         | --                                | --                                       | --       |
|                   | 449+82     | - 452+83  | GUARDRAIL, STRAIGHT RIVER, RT                                   | 4                                        | --                                                         | 4                                         | 15                         | 19                                | -15                                      | 15       |
|                   | 450+50     | - 451+11  | MOWSTRIP, LT                                                    | 1                                        | 1                                                          | --                                        | --                         | --                                | --                                       | --       |
|                   | 450+67     | - 451+99  | MOWSTRIP, RT                                                    | 4                                        | 4                                                          | --                                        | --                         | --                                | --                                       | --       |
|                   | 468+00     | - 473+07  | GUARDRAIL, WEST OF 90TH, RT                                     | 5                                        | --                                                         | 5                                         | 332                        | 415                               | -410                                     | 410      |
|                   | 470+10     | - 471+63  | MOWSTRIP, RT                                                    | 6                                        | 6                                                          | --                                        | --                         | --                                | --                                       | --       |
|                   | 621+76     | - 629+45  | GUARDRAIL, WEST OF CTH E, RT                                    | 29                                       | --                                                         | 29                                        | 1,217                      | 1,521                             | -1,492                                   | 1,492    |
|                   | 621+95     | - 633+68  | GUARDRAIL, WEST OF CTH E, LT                                    | 6                                        | --                                                         | 6                                         | 408                        | 510                               | -504                                     | 504      |
|                   | 623+30     | - 627+85  | MOWSTRIP, RT                                                    | 13                                       | 13                                                         | --                                        | --                         | --                                | --                                       | --       |
|                   | 623+32     | - 632+06  | MOWSTRIP, LT                                                    | 42                                       | 42                                                         | --                                        | --                         | --                                | --                                       | --       |
|                   | 652+23     | - 659+44  | GUARDRAIL, BASS LAKE LANE, RT                                   | 6                                        | --                                                         | 6                                         | 128                        | 160                               | -154                                     | 154      |
|                   | 654+14     | - 658+23  | MOWSTRIP, RT                                                    | 17                                       | 17                                                         | --                                        | --                         | --                                | --                                       | --       |
|                   | 1897+31    | - 1899+78 | GUARDRAIL, 95TH ST, RT                                          | 4                                        | --                                                         | 4                                         | 88                         | 110                               | -106                                     | 106      |
|                   |            |           |                                                                 |                                          |                                                            |                                           |                            |                                   |                                          |          |
| SUBTOTAL          |            |           |                                                                 | 200                                      | 135                                                        | 65                                        | 3,412                      | 4,265                             | -4,200                                   | 4,200    |
| PROJECT TOTAL     |            |           |                                                                 | 9,059                                    | 627                                                        | 8,432                                     | 3,412                      | 4,265                             | 4,167                                    | 4,200    |

NOTES:  
1) SALVAGED/UNSUABLE PAVEMENT MATERIAL IS INCLUDED IN CUT  
2) SALVAGED/UNUSABLE PAVEMENT MATERIAL = (AREA OF PROJECT PAVEMENT) \* (TYPICAL DEPTH)  
3) AVAILABLE MATERIAL = CUT - SALVAGED/UNUSUABLE PAVEMENT MATERIAL  
4) EXPANDED FILL = (UNEXPANDED FILL) \* (FILL FACTOR)  
5) MASS ORDINATE = AVAILABLE MATERIAL - (EXPANDED FILL); POSITIVE INDICATES AN EXCESS OF MATERIAL; NEGATIVE INDICATES A SHORTAGE OF MATERIAL

3



3

3

| ASPHALTIC ITEMS      |                      |    |         |               |                                                                      |                                            |                                           |                       |                                               |                                          |                                                                            |                                  |                                               |                                 |                                                       |                                                            |                     |
|----------------------|----------------------|----|---------|---------------|----------------------------------------------------------------------|--------------------------------------------|-------------------------------------------|-----------------------|-----------------------------------------------|------------------------------------------|----------------------------------------------------------------------------|----------------------------------|-----------------------------------------------|---------------------------------|-------------------------------------------------------|------------------------------------------------------------|---------------------|
|                      |                      |    |         |               | 327.1000.S<br>COLD IN-PLACE<br>RECYCLING (CIR)<br>ASPHALT BASE LAYER | 211.0800.S<br>BASE REPAIR<br>FOR CIR LAYER | 450.4000<br>HMA COLD<br>WEATHER<br>PAVING | 455.0605<br>TACK COAT | 455.0770.S<br>ASPHALT<br>STABILIZING<br>AGENT | 460.6645<br>HMA PAVEMENT<br>5 MT 58-34 V | 460.0105.S<br>HMA PERCENT WITHIN<br>LIMITS (PWL) TEST STRIP<br>VOLUMETRICS | 465.0105<br>ASPHALTIC<br>SURFACE | 465.0110*<br>ASPHALTIC<br>SURFACE<br>PATCHING | 465.0315<br>ASPHALTIC<br>FLUMES | 465.0560<br>ASPHALTIC<br>RUMBLE STRIPS,<br>CENTERLINE |                                                            |                     |
| CATEGORY             | STATION              | TO | STATION | OFFSET        | SY                                                                   | CY                                         | TON                                       | GAL                   | TON                                           | TON                                      | EACH                                                                       | TON                              | TON                                           | SY                              | LF                                                    | COMMENTS                                                   |                     |
| 0010                 | 95+77                | -  | 126+30  | LT&RT         | --                                                                   | --                                         | --                                        | 1,615                 | --                                            | 2,450                                    | --                                                                         | --                               | --                                            | --                              | --                                                    | MAINLINE & INTERSECTION PAVING<br>MILL AND OVERLAY SEGMENT |                     |
|                      | 95+77                | -  | 126+30  | UNDISTRIBUTED | --                                                                   | --                                         | --                                        | --                    | --                                            | --                                       | --                                                                         | 100                              | 100                                           | --                              | --                                                    |                                                            |                     |
|                      | 126+30               | -  | 450+40  | LT&RT         | 108,033                                                              | --                                         | --                                        | 13,849                | 484                                           | 17,763                                   | --                                                                         | --                               | --                                            | --                              | --                                                    | MAINLINE & INTERSECTION PAVING<br>CIR SEGMENT              |                     |
|                      | 126+30               | -  | 685+63  | UNDISTRIBUTED | --                                                                   | 500                                        | --                                        | --                    | --                                            | --                                       | --                                                                         | 300                              | 200                                           | --                              | --                                                    |                                                            |                     |
|                      | 137+24               | -  | 138+28  | LT&RT         | --                                                                   | --                                         | --                                        | 21                    | --                                            | --                                       | --                                                                         | 97                               | --                                            | --                              | --                                                    | CULVERT REPLACEMENT                                        |                     |
|                      | 172+31               | -  | 173+36  | LT&RT         | --                                                                   | --                                         | --                                        | 21                    | --                                            | --                                       | --                                                                         | 98                               | --                                            | --                              | --                                                    | CULVERT REPLACEMENT                                        |                     |
|                      | 183+31               | -  | 184+37  | LT&RT         | --                                                                   | --                                         | --                                        | 21                    | --                                            | --                                       | --                                                                         | 97                               | --                                            | --                              | --                                                    | CULVERT REPLACEMENT                                        |                     |
|                      | 192+91               | -  | 193+95  | LT&RT         | --                                                                   | --                                         | --                                        | 21                    | --                                            | --                                       | --                                                                         | 98                               | --                                            | --                              | --                                                    | CULVERT REPLACEMENT                                        |                     |
|                      | 202+73               | -  | 204+13  | LT&RT         | --                                                                   | --                                         | --                                        | 23                    | --                                            | --                                       | --                                                                         | 133                              | --                                            | --                              | --                                                    | CULVERT REPLACEMENT                                        |                     |
|                      | 213+90               | -  | 215+04  | LT&RT         | --                                                                   | --                                         | --                                        | 25                    | --                                            | --                                       | --                                                                         | 140                              | --                                            | --                              | --                                                    | CULVERT REPLACEMENT                                        |                     |
|                      | 250+85               | -  | 250+99  | LT&RT         | --                                                                   | --                                         | --                                        | --                    | --                                            | --                                       | --                                                                         | --                               | 4                                             | --                              | --                                                    | JOINT TIES FOR CONCRETE PIPE                               |                     |
|                      | 355+77               | -  | 364+88  | LT&RT         | --                                                                   | --                                         | --                                        | 55                    | --                                            | 79                                       | --                                                                         | --                               | --                                            | --                              | --                                                    | GUARDRAIL PAVING                                           |                     |
|                      | 368+18               | -  | 368+28  | LT            | --                                                                   | --                                         | --                                        | --                    | --                                            | --                                       | --                                                                         | --                               | 2                                             | --                              | --                                                    | JOINT TIES FOR CONCRETE PIPE                               |                     |
|                      | 441+16               | -  | 450+50  | LT&RT         | --                                                                   | --                                         | --                                        | 173                   | --                                            | 229                                      | --                                                                         | --                               | --                                            | --                              | --                                                    | GUARDRAIL & INTERSECTION PAVING                            |                     |
|                      | 450+51               | -  | 454+15  | LT&RT         | --                                                                   | --                                         | --                                        | 60                    | --                                            | 81                                       | --                                                                         | --                               | --                                            | --                              | --                                                    | GUARDRAIL PAVING                                           |                     |
|                      | 450+59               | -  | 685+63  | LT&RT         | 78,347                                                               | --                                         | --                                        | 9,956                 | 351                                           | 12,777                                   | --                                                                         | --                               | --                                            | --                              | --                                                    | MAINLINE & INTERSECTION PAVING<br>GUARDRAIL PAVING         |                     |
|                      | 468+69               | -  | 472+37  | RT            | --                                                                   | --                                         | --                                        | 15                    | --                                            | 25                                       | --                                                                         | --                               | --                                            | --                              | --                                                    |                                                            |                     |
|                      | 493+39               | -  | 494+46  | LT&RT         | --                                                                   | --                                         | --                                        | 18                    | --                                            | --                                       | --                                                                         | --                               | 99                                            | --                              | --                                                    | --                                                         | CULVERT REPLACEMENT |
|                      | 527+25               | -  | 528+52  | LT            | --                                                                   | --                                         | --                                        | --                    | --                                            | --                                       | --                                                                         | --                               | --                                            | --                              | 18                                                    | --                                                         | CTH O               |
|                      | 576+99               | -  | 578+05  | LT&RT         | --                                                                   | --                                         | --                                        | 17                    | --                                            | --                                       | --                                                                         | --                               | 98                                            | --                              | --                                                    | --                                                         | CULVERT REPLACEMENT |
|                      | 600+70               | -  | 601+76  | LT&RT         | --                                                                   | --                                         | --                                        | 18                    | --                                            | --                                       | --                                                                         | --                               | 99                                            | --                              | --                                                    | --                                                         | CULVERT REPLACEMENT |
|                      | 605+14               | -  | 606+19  | LT&RT         | --                                                                   | --                                         | --                                        | 18                    | --                                            | --                                       | --                                                                         | --                               | 98                                            | --                              | --                                                    | --                                                         | CULVERT REPLACEMENT |
|                      | 622+45               | -  | 632+98  | LT&RT         | --                                                                   | --                                         | --                                        | 71                    | --                                            | --                                       | 98                                                                         | --                               | --                                            | --                              | --                                                    | --                                                         | GUARDRAIL PAVING    |
|                      | 638+89               | -  | 639+96  | LT&RT         | --                                                                   | --                                         | --                                        | 18                    | --                                            | --                                       | --                                                                         | --                               | 100                                           | --                              | --                                                    | --                                                         | CULVERT REPLACEMENT |
|                      | 651+77               | -  | 652+83  | LT&RT         | --                                                                   | --                                         | --                                        | 19                    | --                                            | --                                       | --                                                                         | --                               | 104                                           | --                              | --                                                    | --                                                         | CULVERT REPLACEMENT |
|                      | 652+83               | -  | 659+14  | RT            | --                                                                   | --                                         | --                                        | 26                    | --                                            | --                                       | 39                                                                         | --                               | --                                            | --                              | --                                                    | --                                                         | GUARDRAIL PAVING    |
|                      | PROJECT              |    |         |               |                                                                      | --                                         | --                                        | 800                   | --                                            | --                                       | --                                                                         | 1                                | --                                            | --                              | --                                                    | --                                                         |                     |
| CATEGORY 0010 TOTALS |                      |    |         |               | 186,380                                                              | 500                                        | 800                                       | 26,060                | 835                                           | 33,540                                   | 1                                                                          | 1,660                            | 306                                           | 18                              | 46,265                                                |                                                            |                     |
| 0020                 | 107+68               | -  | 111+45  | LT            | --                                                                   | --                                         | --                                        | 31                    | --                                            | 46                                       | --                                                                         | --                               | --                                            | --                              | --                                                    | PARKING LANE (6' WIDE)                                     |                     |
|                      | 108+53               | -  | 111+31  | RT            | --                                                                   | --                                         | --                                        | 23                    | --                                            | 34                                       | --                                                                         | --                               | --                                            | --                              | --                                                    | PARKING LANE (6' WIDE)                                     |                     |
|                      | 112+05               | -  | 115+06  | RT            | --                                                                   | --                                         | --                                        | 24                    | --                                            | 37                                       | --                                                                         | --                               | --                                            | --                              | --                                                    | PARKING LANE (6' WIDE)                                     |                     |
|                      | 112+11               | -  | 115+01  | LT            | --                                                                   | --                                         | --                                        | 23                    | --                                            | 35                                       | --                                                                         | --                               | --                                            | --                              | --                                                    | PARKING LANE (6' WIDE)                                     |                     |
|                      | 115+77               | -  | 118+05  | LT            | --                                                                   | --                                         | --                                        | 18                    | --                                            | 28                                       | --                                                                         | --                               | --                                            | --                              | --                                                    | PARKING LANE (6' WIDE)                                     |                     |
|                      | 115+77               | -  | 118+35  | RT            | --                                                                   | --                                         | --                                        | 21                    | --                                            | 31                                       | --                                                                         | --                               | --                                            | --                              | --                                                    | PARKING LANE (6' WIDE)                                     |                     |
|                      | CATEGORY 0020 TOTALS |    |         |               |                                                                      | --                                         | --                                        | --                    | 140                                           | --                                       | 210                                                                        | --                               | --                                            | --                              | --                                                    | --                                                         |                     |
| TOTALS               |                      |    |         |               | 186,380                                                              | 500                                        | 800                                       | 26,200                | 835                                           | 33,750                                   | 1                                                                          | 1,660                            | 306                                           | 18                              | 46,265                                                |                                                            |                     |

NOTES:  
UNDISTRIBUTED ASPHALTIC SURFACE USED FOR WEDGING, LEVELING AND SPOT LANE FAILURES AFTER MILLING/CIR  
UNDISTRIBUTED ASPHALTIC SURFACE PATCHING USED FOR MISCELLANEOUS REPAIRS DESIGNATED BY THE ENGINEER  
\*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

| PREPARE FOUNDATION ITEMS |         |    |         |        |                                                                     |                                 |
|--------------------------|---------|----|---------|--------|---------------------------------------------------------------------|---------------------------------|
| CATEGORY                 | STATION | TO | STATION | OFFSET | 211.0400<br>PREPARE FOUNDATION<br>FOR ASPHALTIC<br>SHOULDERS<br>STA | COMMENTS                        |
| 0010                     | 355+77  | -  | 364+88  | LT&RT  | 9                                                                   | GUARDRAIL PAVING                |
|                          | 441+16  | -  | 450+50  | LT&RT  | 4                                                                   | GUARDRAIL & INTERSECTION PAVING |
|                          | 450+51  | -  | 454+15  | LT&RT  | 2                                                                   | GUARDRAIL PAVING                |
|                          | 468+69  | -  | 472+37  | RT     | 5                                                                   | GUARDRAIL PAVING                |
|                          | 622+45  | -  | 632+98  | LT&RT  | 7                                                                   | GUARDRAIL PAVING                |
|                          | 652+83  | -  | 659+14  | RT     | 5                                                                   | GUARDRAIL PAVING                |
| PROJECT                  |         |    |         |        | --                                                                  |                                 |
| TOTALS                   |         |    |         |        | 32                                                                  |                                 |

| DRIVEWAY ITEMS |         |    |         |                                                  |    |                                                                          |    |                                          |    |                                           |    |
|----------------|---------|----|---------|--------------------------------------------------|----|--------------------------------------------------------------------------|----|------------------------------------------|----|-------------------------------------------|----|
|                |         |    |         | 602.0810<br>CONCRETE<br>DRIVEWAY<br>6-INCH<br>SY |    | 465.0120<br>ASPHALTIC SURFACE<br>DRIVEWAYS AND<br>FIELD ENTRANCES<br>TON |    | 690.0150*<br><br>SAWING<br>ASPHALT<br>LF |    | 690.0250*<br><br>SAWING<br>CONCRETE<br>LF |    |
| CATEGORY       | STATION | TO | STATION | OFFSET                                           |    |                                                                          |    |                                          |    |                                           |    |
| 0010           | 111+92  | -  | 112+38  | RT                                               | -- |                                                                          | 3  |                                          | 30 |                                           | -- |
|                | 127+88  | -  | 128+27  | RT                                               | -- |                                                                          | 7  |                                          | 12 |                                           | -- |
|                | 156+06  | -  | 156+46  | LT                                               | -- |                                                                          | 8  |                                          | 18 |                                           | -- |
|                | 209+55  | -  | 209+86  | LT                                               | -- |                                                                          | 7  |                                          | 11 |                                           | -- |
|                | 261+09  | -  | 261+58  | RT                                               | 60 |                                                                          | 2  |                                          | -- |                                           | 18 |
|                | 340+32  | -  | 340+65  | RT                                               | -- |                                                                          | 7  |                                          | 13 |                                           | -- |
|                | 629+58  | -  | 630+05  | LT                                               | -- |                                                                          | 6  |                                          | -- |                                           | -- |
| TOTALS         |         |    |         |                                                  |    | 60                                                                       | 40 |                                          | 84 |                                           | 18 |

\*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

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|                                                          |         |    |        |                                                                                        |                                |                                                 |        |           | QUALITY MANAGEMENT PROGRAM TO BE USED FOR:   |                                                                  |
|----------------------------------------------------------|---------|----|--------|----------------------------------------------------------------------------------------|--------------------------------|-------------------------------------------------|--------|-----------|----------------------------------------------|------------------------------------------------------------------|
| LOCATION                                                 | STA     | TO | STA    | MIXTURE USE                                                                            | UNDERLYING SURFACE             | BID ITEM                                        | TONS   | THICKNESS | MIXTURE ACCEPTANCE                           | DENSITY ACCEPTANCE                                               |
| 12 FOOT DRIVING LANE                                     | 95+77   | -  | 126+30 | LOWER LAYER                                                                            | MILLED EXISTING HMA SURFACE    | HMA PAVEMENT 5 MT 58-34 V                       | 798    | 1.75"     | INCENTIVE AIR VOIDS HMA PAVEMENT SPV.0055.02 | INCENTIVE DENSITY PWL HMA PAVEMENT SPV.0055.01                   |
| 12 FOOT DRIVING LANE                                     | 95+77   | -  | 126+30 | UPPER LAYER                                                                            | HMA PAVEMENT 5 MT 58-34 V      | HMA PAVEMENT 5 MT 58-34 V                       | 684    | 1.5"      | INCENTIVE AIR VOIDS HMA PAVEMENT SPV.0055.02 | INCENTIVE DENSITY PWL HMA PAVEMENT SPV.0055.01                   |
| SHOULDERS & PARKING LANES                                | 95+77   | -  | 126+30 | LOWER LAYER                                                                            | MILLED EXISTING HMA SURFACE    | HMA PAVEMENT 5 MT 58-34 V                       | 634    | 1.75"     | INCENTIVE AIR VOIDS HMA PAVEMENT SPV.0055.02 | DEPARTMENT ACCEPTANCE (SS 460.3.3.2); NOT ELIGIBLE FOR INCENTIVE |
| SHOULDERS & PARKING LANES                                | 95+77   | -  | 126+30 | UPPER LAYER                                                                            | HMA PAVEMENT 5 MT 58-34 V      | HMA PAVEMENT 5 MT 58-34 V                       | 544    | 1.5"      | INCENTIVE AIR VOIDS HMA PAVEMENT SPV.0055.02 | DEPARTMENT ACCEPTANCE (SS 460.3.3.2); NOT ELIGIBLE FOR INCENTIVE |
| 12 FOOT DRIVING LANE                                     | 126+30  | -  | 685+63 | LOWER LAYER                                                                            | CIR                            | HMA PAVEMENT 5 MT 58-34 V                       | 10,437 | 1.25"     | INCENTIVE AIR VOIDS HMA PAVEMENT SPV.0055.02 | INCENTIVE DENSITY PWL HMA PAVEMENT SPV.0055.01                   |
| 12 FOOT DRIVING LANE                                     | 126+30  | -  | 685+63 | UPPER LAYER                                                                            | HMA PAVEMENT 5 MT 58-34 V      | HMA PAVEMENT 5 MT 58-34 V                       | 12,525 | 1.5"      | INCENTIVE AIR VOIDS HMA PAVEMENT SPV.0055.02 | INCENTIVE DENSITY PWL HMA PAVEMENT SPV.0055.01                   |
| SHOULDERS, SIDEROADS, GUARDRAIL WIDENING, AND TURN LANES | 126+30  | -  | 685+63 | LOWER LAYER                                                                            | CIR OR EXISTNG ASPAHLT SURFACE | HMA PAVEMENT 5 MT 58-34 V                       | 4,434  | 1.25"     | INCENTIVE AIR VOIDS HMA PAVEMENT SPV.0055.02 | DEPARTMENT ACCEPTANCE (SS 460.3.3.2); NOT ELIGIBLE FOR INCENTIVE |
| SHOULDERS, SIDEROADS, GUARDRAIL WIDENING, AND TURN LANES | 126+30  | -  | 685+63 | UPPER LAYER                                                                            | HMA PAVEMENT 5 MT 58-34 V      | HMA PAVEMENT 5 MT 58-34 V                       | 3,694  | 1.5"      | INCENTIVE AIR VOIDS HMA PAVEMENT SPV.0055.02 | DEPARTMENT ACCEPTANCE (SS 460.3.3.2); NOT ELIGIBLE FOR INCENTIVE |
| VARIOUS                                                  | VARIOUS |    |        | CULVERT PATCHES, WEDGING, LEVELING, AND SPOT LANE FAILURES                             | BASE AGGREGATE                 | ASPHALTIC SURFACE                               | 1,660  | 5"        | SS 465                                       | ORDINARY COMPACTION (SS 450.3.2.6.2)                             |
| VARIOUS                                                  | VARIOUS |    |        | DRIVEWAYS                                                                              | BASE AGGREGATE                 | ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES | 40     | 3"        | SS 465                                       | ORDINARY COMPACTION (SS 450.3.2.6.2)                             |
| VARIOUS                                                  | VARIOUS |    |        | MISCELLANEOUS REPAIRS AFTER MILLING AND CIR,CURB PATCHES, JOINT TIES FOR CONCRETE PIPE | BASE AGGREGATE                 | ASPHALTIC SURFACE PATCHING                      | 415    | VARIES    | SS 465                                       | ORDINARY COMPACTION (SS 450.3.2.6.2)                             |

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| BASE AGGREGATE ITEMS |         |          |         |           |                                         |                                           |                             |                              |
|----------------------|---------|----------|---------|-----------|-----------------------------------------|-------------------------------------------|-----------------------------|------------------------------|
|                      |         | 305.0110 |         | 305.0120* |                                         | 305.0500                                  |                             |                              |
| CATEGORY             | STATION | TO       | STATION | OFFSET    | BASE AGGREGATE<br>DENSE 3/4-INCH<br>TON | BASE AGGREGATE<br>DENSE 1 1/4-INCH<br>TON | SHAPING<br>SHOULDERS<br>STA | COMMENTS                     |
| 0010                 | 95+77   | -        | 126+30  | LT&RT     | 146                                     | --                                        | --                          | MAINLINE                     |
|                      | 126+30  | -        | 450+40  | LT&RT     | 4,745                                   | --                                        | 590                         | MAINLINE                     |
|                      | 137+24  | -        | 138+28  | LT&RT     | 28                                      | 332                                       | --                          | CULVERT REPLACEMENT          |
|                      | 172+31  | -        | 173+36  | LT&RT     | 28                                      | 334                                       | --                          | CULVERT REPLACEMENT          |
|                      | 183+31  | -        | 184+37  | LT&RT     | 28                                      | 334                                       | --                          | CULVERT REPLACEMENT          |
|                      | 192+91  | -        | 193+95  | LT&RT     | 28                                      | 334                                       | --                          | CULVERT REPLACEMENT          |
|                      | 202+73  | -        | 204+13  | LT&RT     | 37                                      | 450                                       | --                          | CULVERT REPLACEMENT          |
|                      | 213+90  | -        | 215+04  | LT&RT     | 30                                      | 440                                       | --                          | CULVERT REPLACEMENT          |
|                      | 250+84  | -        | 250+99  | LT&RT     | --                                      | 6                                         | --                          | JOINT TIES FOR CONCRETE PIPE |
|                      | 355+08  | -        | 365+57  | LT&RT     | 90                                      | 366                                       | --                          | GUARDRAIL                    |
|                      | 368+18  | -        | 368+28  | LT        | --                                      | 4                                         | --                          | JOINT TIES FOR CONCRETE PIPE |
|                      | 440+47  | -        | 450+50  | LT&RT     | 43                                      | 186                                       | --                          | GUARDRAIL                    |
|                      | 450+59  | -        | 685+63  | LT&RT     | 3,180                                   | --                                        | 420                         | MAINLINE                     |
|                      | 450+49  | -        | 453+15  | LT&RT     | 42                                      | 96                                        | --                          | GUARDRAIL                    |
|                      | 468+00  | -        | 473+07  | RT        | 35                                      | 152                                       | --                          | GUARDRAIL                    |
|                      | 493+39  | -        | 494+46  | LT&RT     | 28                                      | 337                                       | --                          | CULVERT REPLACEMENT          |
|                      | 576+99  | -        | 578+05  | LT&RT     | 28                                      | 335                                       | --                          | CULVERT REPLACEMENT          |
|                      | 600+70  | -        | 601+76  | LT&RT     | 28                                      | 338                                       | --                          | CULVERT REPLACEMENT          |
|                      | 605+14  | -        | 606+19  | LT&RT     | 28                                      | 334                                       | --                          | CULVERT REPLACEMENT          |
|                      | 621+76  | -        | 633+67  | LT&RT     | 92                                      | 358                                       | --                          | GUARDRAIL                    |
|                      | 638+89  | -        | 639+96  | LT&RT     | 28                                      | 340                                       | --                          | CULVERT REPLACEMENT          |
|                      | 651+77  | -        | 652+83  | LT&RT     | 28                                      | 350                                       | --                          | CULVERT REPLACEMENT          |
|                      | 652+23  | -        | 659+44  | RT        | 30                                      | 136                                       | --                          | GUARDRAIL                    |
| TOTALS               |         |          |         |           | 8,750                                   | 5,562                                     | 1,010                       |                              |

NOTES:  
PERFORM SHAPING SHOULDERS DURING CIR OPERATIONS  
\*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

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| CONCRETE CURB & GUTTER ITEMS |         |    |         |        |                                         |                                                   |                                                                 |                                   |                                  |                         |                          |  |
|------------------------------|---------|----|---------|--------|-----------------------------------------|---------------------------------------------------|-----------------------------------------------------------------|-----------------------------------|----------------------------------|-------------------------|--------------------------|--|
|                              |         |    |         |        | 465.0110*                               | 601.0411                                          | 601.0557                                                        | 601.0600                          | 602.3010                         | 690.0150*               | 690.0250*                |  |
|                              |         |    |         |        | ASPHALTIC<br>SURFACE<br>PATCHING<br>TON | CONCRETE CURB &<br>GUTTER 30-INCH<br>TYPE D<br>LF | CONCRETE CURB &<br>GUTTER 6-INCH SLOPED<br>36-INCH TYPE D<br>LF | CONCRETE CURB<br>PEDESTRIAN<br>LF | CONCRETE SURFACE<br>DRAINS<br>CY | SAWING<br>ASPHALT<br>LF | SAWING<br>CONCRETE<br>LF |  |
| CATEGORY                     | STATION | TO | STATION | OFFSET |                                         |                                                   |                                                                 |                                   |                                  |                         |                          |  |
| 0010                         | 108+29  | -  | 108+70  | RT     | 4                                       | 53                                                | --                                                              | --                                | --                               | 66                      | --                       |  |
|                              | 111+14  | -  | 111+46  | RT     | 4                                       | 54                                                | --                                                              | 18                                | --                               | 64                      | --                       |  |
|                              | 111+14  | -  | 111+67  | LT     | 5                                       | 58                                                | --                                                              | 36                                | --                               | 67                      | --                       |  |
|                              | 111+92  | -  | 112+38  | RT     | 9                                       | 58                                                | --                                                              | 21                                | --                               | 75                      | --                       |  |
|                              | 111+94  | -  | 112+24  | LT     | 5                                       | 37                                                | --                                                              | --                                | --                               | 51                      | --                       |  |
|                              | 114+81  | -  | 115+20  | RT     | 4                                       | 46                                                | --                                                              | --                                | --                               | 57                      | --                       |  |
|                              | 114+83  | -  | 115+23  | LT     | 5                                       | 43                                                | --                                                              | --                                | --                               | 53                      | --                       |  |
|                              | 115+54  | -  | 115+91  | LT     | 3                                       | 40                                                | --                                                              | --                                | --                               | 50                      | --                       |  |
|                              | 115+57  | -  | 115+78  | RT     | 6                                       | 36                                                | --                                                              | --                                | 1                                | 54                      | --                       |  |
|                              | 118+13  | -  | 118+76  | LT     | 4                                       | 43                                                | --                                                              | --                                | --                               | 50                      | --                       |  |
|                              | 118+69  | -  | 118+86  | RT     | 3                                       | 26                                                | --                                                              | --                                | --                               | 30                      | --                       |  |
|                              | 118+93  | -  | 119+09  | RT     | 11                                      | 30                                                | --                                                              | --                                | --                               | 63                      | --                       |  |
|                              | 154+66  | -  | 155+92  | RT     | 18                                      | 30                                                | 160                                                             | --                                | --                               | 214                     | 6                        |  |
|                              | 174+57  | -  | 175+18  | RT     | 9                                       | 6                                                 | 102                                                             | --                                | --                               | 123                     | 3                        |  |
|                              | 527+25  | -  | 528+52  | LT     | 15                                      | --                                                | 148                                                             | --                                | --                               | 198                     | --                       |  |
| TOTALS                       |         |    |         |        | 105                                     | 560                                               | 410                                                             | 75                                | 1                                | 1,215                   | 9                        |  |

\*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

| CONCRETE SIDEWALK ITEMS |                      |    |         |        |                                                      |                                                  |                                                  |                                                                |                                                                          |                                |                                     |                                      |                                       |
|-------------------------|----------------------|----|---------|--------|------------------------------------------------------|--------------------------------------------------|--------------------------------------------------|----------------------------------------------------------------|--------------------------------------------------------------------------|--------------------------------|-------------------------------------|--------------------------------------|---------------------------------------|
|                         |                      |    |         |        | 465.0110*<br>ASPHALTIC<br>SURFACE<br>PATCHING<br>TON | 602.0410<br>CONCRETE<br>SIDEWALK<br>5-INCH<br>SF | 405.0200<br>COLORING<br>CONCRETE<br>CUSTOM<br>CY | 602.0505<br>CURB RAMP DETECTABLE<br>WARNING FIELD YELLOW<br>SF | 602.0605<br>CURB RAMP<br>DETECTABLE WARNING<br>FIELD RADIAL YELLOW<br>SF | 513.2001<br>RAILING PIPE<br>LF | 602.1500<br>CONCRETE<br>STEPS<br>SF | 690.0150*<br>SAWING<br>ASPHALT<br>LF | 690.0250*<br>SAWING<br>CONCRETE<br>LF |
| CATEGORY                | STATION              | TO | STATION | OFFSET |                                                      |                                                  |                                                  |                                                                |                                                                          |                                |                                     |                                      |                                       |
| 0010                    | 105+63               | -  | 106+08  | LT&RT  | 5                                                    | 200                                              | --                                               | 40                                                             | --                                                                       | --                             | --                                  | 60                                   | --                                    |
|                         | 108+29               | -  | 108+70  | RT     | --                                                   | 260                                              | --                                               | --                                                             | 20                                                                       | --                             | --                                  | --                                   | 16                                    |
|                         | 111+14               | -  | 111+46  | RT     | --                                                   | 381                                              | --                                               | 20                                                             | --                                                                       | --                             | --                                  | --                                   | 25                                    |
|                         | 111+14               | -  | 111+67  | LT     | --                                                   | 218                                              | --                                               | 10                                                             | 20                                                                       | 3                              | 24                                  | --                                   | 14                                    |
|                         | 111+92               | -  | 112+38  | RT     | --                                                   | 362                                              | --                                               | 20                                                             | --                                                                       | --                             | --                                  | --                                   | 23                                    |
|                         | 111+94               | -  | 112+24  | LT     | --                                                   | 150                                              | --                                               | --                                                             | 24                                                                       | --                             | --                                  | --                                   | 10                                    |
|                         | 114+81               | -  | 115+20  | RT     | --                                                   | 207                                              | --                                               | 20                                                             | --                                                                       | --                             | --                                  | --                                   | 9                                     |
|                         | 114+83               | -  | 115+23  | LT     | --                                                   | 216                                              | --                                               | 20                                                             | --                                                                       | --                             | --                                  | --                                   | 10                                    |
|                         | 115+54               | -  | 115+91  | LT     | --                                                   | 262                                              | --                                               | 20                                                             | --                                                                       | --                             | --                                  | --                                   | 15                                    |
|                         | 115+57               | -  | 115+78  | RT     | --                                                   | 160                                              | --                                               | 20                                                             | --                                                                       | --                             | --                                  | --                                   | 10                                    |
|                         | 118+13               | -  | 118+76  | LT     | --                                                   | 158                                              | --                                               | --                                                             | 26                                                                       | --                             | --                                  | --                                   | 9                                     |
|                         | 118+69               | -  | 118+86  | RT     | --                                                   | 164                                              | --                                               | 10                                                             | --                                                                       | --                             | --                                  | --                                   | 15                                    |
|                         | 118+93               | -  | 119+09  | RT     | --                                                   | 197                                              | --                                               | 20                                                             | --                                                                       | --                             | --                                  | --                                   | 9                                     |
| TOTALS                  |                      |    |         |        | 5                                                    | 2,935                                            | --                                               | 200                                                            | 90                                                                       | 3                              | 24                                  | 60                                   | 165                                   |
| 0020                    | 111+28               | -  | 111+41  | RT     | --                                                   | --                                               | 2                                                | --                                                             | --                                                                       | --                             | --                                  | --                                   | --                                    |
|                         | 111+96               | -  | 112+07  | RT     | --                                                   | --                                               | 2                                                | --                                                             | --                                                                       | --                             | --                                  | --                                   | --                                    |
|                         | CATEGORY 0020 TOTALS |    |         |        |                                                      | --                                               | --                                               | 4                                                              | --                                                                       | --                             | --                                  | --                                   | --                                    |
| TOTALS                  |                      |    |         |        | 5                                                    | 2,935                                            | 4                                                | 200                                                            | 90                                                                       | 3                              | 24                                  | 60                                   | 165                                   |

\*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

3

|          |         |        | 520.3430                              | 520.3436      | 520.3630                              | 520.1030                           | 520.1036        | 522.0424                                        | 522.0430      | 522.1024                                                  | 522.1030        | 522.2368                                                                  | 522.2429                                                                 | 522.2629                                                                        | 522.2668       | 633.5200*          |
|----------|---------|--------|---------------------------------------|---------------|---------------------------------------|------------------------------------|-----------------|-------------------------------------------------|---------------|-----------------------------------------------------------|-----------------|---------------------------------------------------------------------------|--------------------------------------------------------------------------|---------------------------------------------------------------------------------|----------------|--------------------|
|          |         |        | CULVERT PIPE CLASS III-A<br>NON-METAL |               | CULVERT PIPE CLASS<br>III-B NON-METAL | APRON ENDWALLS FOR<br>CULVERT PIPE |                 | CULVERT PIPE<br>REINFORCED<br>CONCRETE CLASS IV |               | APRON ENDWALLS FOR<br>CULVERT PIPE REINFORCED<br>CONCRETE |                 | CULVERT PIPE REINFORCED<br>CONCRETE HORIZONTAL<br>ELLIPTICAL CLASS HE-III | CULVERT PIPE REINFORCED<br>CONCRETE HORIZONTAL<br>ELLIPTICAL CLASS HE-IV | APRON ENDWALLS FOR CULVERT PIPE<br>REINFORCED CONCRETE HORIZONTAL<br>ELLIPTICAL |                | MARKERS<br>CULVERT |
| CATEGORY | STATION | OFFSET | 30-INCH<br>LF                         | 36-INCH<br>LF | 30-INCH<br>LF                         | 30-INCH<br>EACH                    | 36-INCH<br>EACH | 24-INCH<br>LF                                   | 30-INCH<br>LF | 24-INCH<br>EACH                                           | 30-INCH<br>EACH | 68X106-INCH<br>LF                                                         | 29X45-INCH<br>LF                                                         | 29X45-INCH<br>EACH                                                              | 68X106<br>EACH | END<br>EACH        |
| 0010     | 137+76  | LT&RT  | --                                    | --            | --                                    | --                                 | --              | --                                              | 54            | --                                                        | 2               | --                                                                        | --                                                                       | --                                                                              | --             | 2                  |
|          | 172+83  | LT&RT  | --                                    | --            | --                                    | --                                 | --              | --                                              | 58            | --                                                        | 2               | --                                                                        | --                                                                       | --                                                                              | --             | 2                  |
|          | 183+84  | LT&RT  | --                                    | 66            | --                                    | --                                 | 2               | --                                              | --            | --                                                        | --              | --                                                                        | --                                                                       | --                                                                              | --             | 2                  |
|          | 193+43  | LT&RT  | --                                    | --            | --                                    | --                                 | --              | 54                                              | --            | 2                                                         | --              | --                                                                        | --                                                                       | --                                                                              | --             | 2                  |
|          | 203+59  | LT&RT  | --                                    | --            | --                                    | --                                 | --              | --                                              | --            | --                                                        | --              | 84                                                                        | --                                                                       | --                                                                              | 2              | 2                  |
|          | 214+48  | LT&RT  | --                                    | --            | --                                    | --                                 | --              | --                                              | 66            | --                                                        | 2               | --                                                                        | --                                                                       | --                                                                              | --             | 2                  |
|          | 493+92  | LT&RT  | 72                                    | --            | --                                    | 2                                  | --              | --                                              | --            | --                                                        | --              | --                                                                        | --                                                                       | --                                                                              | --             | 2                  |
|          | 577+52  | LT&RT  | 62                                    | --            | --                                    | 2                                  | --              | --                                              | --            | --                                                        | --              | --                                                                        | --                                                                       | --                                                                              | --             | 2                  |
|          | 601+23  | LT&RT  | --                                    | --            | --                                    | --                                 | --              | --                                              | --            | --                                                        | --              | --                                                                        | 50                                                                       | 2                                                                               | --             | 2                  |
|          | 605+67  | LT&RT  | 82                                    | --            | --                                    | 2                                  | --              | --                                              | --            | --                                                        | --              | --                                                                        | --                                                                       | --                                                                              | --             | 2                  |
| 639+43   | LT&RT   | --     | --                                    | 120           | 2                                     | --                                 | --              | --                                              | --            | --                                                        | --              | --                                                                        | --                                                                       | --                                                                              | 2              |                    |
| 652+30   | LT&RT   | 74     | --                                    | --            | 2                                     | --                                 | --              | --                                              | --            | --                                                        | --              | --                                                                        | --                                                                       | --                                                                              | 2              |                    |
| TOTALS   |         |        | 290                                   | 66            | 120                                   | 10                                 | 2               | 54                                              | 178           | 2                                                         | 6               | 84                                                                        | 50                                                                       | 2                                                                               | 2              | 24                 |

NOTES:  
 \*ADDITIONAL QUANTITIES SHOWN ELSEWHERE  
 CULVERT PIPE INVERTS ARE SHOWN ON CROSS SECTIONS  
 LENGTHS FOR CLASS III-A/B ARE BASED ON CONCRETE PIPES, IF ALTERNATIVE MATERIAL IS SELECTED, LENGTHS MAY DIFFER

| CATEGORY | STATION | OFFSET | APPROXIMATE INLET ELEVATION | APPROXIMATE DISCHARGE ELEVATION | SLOPE | 209.0300.S.01<br>BACKFILL COARSE<br>AGGREGATE NO.2<br>CY | 520.2048<br>CULVERT PIPE<br>TEMPORARY 48-INCH<br>LF | 628.5505<br>POLYETHYLENE<br>SHEETING<br>SY |
|----------|---------|--------|-----------------------------|---------------------------------|-------|----------------------------------------------------------|-----------------------------------------------------|--------------------------------------------|
| 0010     | 203+25  | LT&RT  | 1222.04                     | 1222.00                         | 0.04% | 15                                                       | 96                                                  | 400                                        |
| TOTAL    |         |        |                             |                                 |       | 15                                                       | 96                                                  | 400                                        |

| 208.1500.S<br>TEMPORARY LANE SHIFT<br>DURING CULVERT WORK |         |        |               |
|-----------------------------------------------------------|---------|--------|---------------|
| CATEGORY                                                  | STATION | OFFSET | EACH COMMENTS |
| 0010                                                      | 137+84  | LT&RT  | 2             |
|                                                           | 172+91  | LT&RT  | 2             |
|                                                           | 183+91  | LT&RT  | 2             |
|                                                           | 193+51  | LT&RT  | 2             |
|                                                           | 203+25  | LT&RT  | 2             |
|                                                           | 203+66  | LT&RT  | 2             |
|                                                           | 214+56  | LT&RT  | 2             |
|                                                           | 494+00  | LT&RT  | 2             |
|                                                           | 577+59  | LT&RT  | 2             |
|                                                           | 601+31  | LT&RT  | 2             |
|                                                           | 605+74  | LT&RT  | 2             |
|                                                           | 639+50  | LT&RT  | 2             |
|                                                           | 652+38  | LT&RT  | 2             |
| TOTALS                                                    |         |        | 26            |

3

CULVERT MAINTENCE ITEMS

| CATEGORY | STATION | OFFSET | 204.0180*                                   | 520.8700                          | 633.5200*                      | SPV.0060.04                             | SPV.0090.01          |
|----------|---------|--------|---------------------------------------------|-----------------------------------|--------------------------------|-----------------------------------------|----------------------|
|          |         |        | REMOVING DELINEATORS<br>AND MARKERS<br>EACH | CLEANING<br>CULVERT PIPES<br>EACH | MARKERS<br>CULVERT END<br>EACH | JOINT TIES FOR<br>CONCRETE PIPE<br>EACH | DITCH CLEANING<br>LF |
| 0010     | 97+36   | LT&RT  | 2                                           | --                                | 2                              | --                                      | --                   |
|          | 129+72  | LT&RT  | 2                                           | --                                | 2                              | --                                      | --                   |
|          | 148+44  | LT&RT  | 2                                           | --                                | 2                              | --                                      | --                   |
|          | 159+43  | LT&RT  | 2                                           | --                                | 2                              | 12                                      | --                   |
|          | 193+58  | RT     | --                                          | --                                | --                             | --                                      | 24                   |
|          | 230+70  | LT&RT  | 2                                           | --                                | 2                              | --                                      | --                   |
|          | 241+38  | LT&RT  | 2                                           | 1                                 | 2                              | --                                      | --                   |
|          | 250+92  | LT&RT  | 2                                           | 1                                 | 2                              | 12                                      | --                   |
|          | 266+15  | LT&RT  | 2                                           | 1                                 | 2                              | --                                      | 15                   |
|          | 273+03  | LT&RT  | 2                                           | 1                                 | 2                              | --                                      | 15                   |
|          | 283+28  | LT&RT  | 2                                           | --                                | 2                              | --                                      | 10                   |
|          | 289+49  | LT&RT  | 2                                           | --                                | 2                              | --                                      | --                   |
|          | 299+45  | LT&RT  | 2                                           | 1                                 | 2                              | --                                      | --                   |
|          | 306+87  | LT&RT  | 2                                           | 1                                 | 2                              | --                                      | --                   |
|          | 311+61  | LT&RT  | 2                                           | --                                | 2                              | --                                      | 8                    |
|          | 329+84  | LT&RT  | 2                                           | 1                                 | 2                              | --                                      | --                   |
|          | 336+84  | LT&RT  | 2                                           | --                                | 2                              | --                                      | --                   |
|          | 361+33  | LT&RT  | 2                                           | --                                | 2                              | --                                      | --                   |
|          | 368+24  | LT&RT  | 2                                           | --                                | 2                              | 12                                      | --                   |
|          | 369+90  | RT     | 2                                           | 1                                 | 2                              | --                                      | --                   |
|          | 391+01  | LT&RT  | 2                                           | --                                | 2                              | --                                      | --                   |
|          | 403+81  | LT&RT  | 2                                           | 1                                 | 2                              | --                                      | --                   |
|          | 428+26  | LT&RT  | 2                                           | --                                | 2                              | --                                      | --                   |
|          | 456+51  | LT&RT  | 2                                           | 1                                 | 2                              | --                                      | --                   |
|          | 471+06  | LT&RT  | 2                                           | --                                | 2                              | --                                      | --                   |
|          | 475+40  | LT     | 2                                           | 1                                 | 2                              | --                                      | --                   |
|          | 480+75  | LT&RT  | 2                                           | 1                                 | 2                              | --                                      | --                   |
|          | 493+91  | LT     | --                                          | --                                | --                             | --                                      | 8                    |
|          | 506+72  | LT&RT  | 2                                           | 1                                 | 2                              | --                                      | --                   |
|          | 530+71  | LT&RT  | 2                                           | 1                                 | 2                              | --                                      | --                   |
|          | 541+69  | LT&RT  | 2                                           | 1                                 | 2                              | --                                      | --                   |
|          | 545+48  | LT&RT  | 2                                           | 1                                 | 2                              | --                                      | --                   |
|          | 551+34  | LT&RT  | 2                                           | --                                | 2                              | --                                      | --                   |
|          | 565+05  | LT&RT  | 2                                           | --                                | 2                              | --                                      | --                   |
|          | 586+35  | LT&RT  | 2                                           | --                                | 2                              | --                                      | --                   |
|          | 601+23  | RT     | --                                          | --                                | --                             | --                                      | 10                   |
|          | 626+53  | LT&RT  | 2                                           | 1                                 | 2                              | --                                      | --                   |
|          | 631+38  | LT&RT  | 2                                           | 1                                 | 2                              | --                                      | --                   |
|          | 660+80  | LT&RT  | 2                                           | 1                                 | 2                              | --                                      | --                   |
| TOTALS   |         |        | 72                                          | 19                                | 72                             | 36                                      | 90                   |

\*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

INLET COVER ITEMS

| CATEGORY | STATION | OFFSET | SPV.0060.01                      |
|----------|---------|--------|----------------------------------|
|          |         |        | INLET COVERS<br>TYPE H-D<br>EACH |
| 0010     |         |        |                                  |
|          | 112+02  | RT     | 1                                |
|          | 112+13  | LT     | 1                                |
|          | 115+61  | LT     | 1                                |
| TOTAL    |         |        | 3                                |

DRAINAGE AND UTILITY ADJUSTMENT ITEMS

| CATEGORY | STATION | OFFSET | 204.0100*                              | 204.0110*                              | 305.0120*                                 | 465.0110*                               | 612.0902.S.01                                      | 611.8120.S                           | 690.0150*               | 690.0250*                | SPV.0060.02                               | SPV.0060.03                                        |
|----------|---------|--------|----------------------------------------|----------------------------------------|-------------------------------------------|-----------------------------------------|----------------------------------------------------|--------------------------------------|-------------------------|--------------------------|-------------------------------------------|----------------------------------------------------|
|          |         |        | REMOVING<br>CONCRETE<br>PAVEMENT<br>SY | REMOVING<br>ASPHALTIC<br>SURFACE<br>SY | BASE AGGREGATE<br>DENSE 1 1/4-INCH<br>TON | ASPHALTIC<br>SURFACE<br>PATCHING<br>TON | INSULATION<br>BOARD<br>POLYSTYRENE<br>4-INCH<br>SY | COVER<br>PLATES<br>TEMPORARY<br>EACH | SAWING<br>ASPHALT<br>LF | SAWING<br>CONCRETE<br>LF | ADJUSTING<br>WATER VALVE<br>BOXES<br>EACH | ADJUSTING<br>SANITARY<br>MANHOLE<br>COVERS<br>EACH |
| 0020     | 102+23  | RT     | --                                     | 2                                      | 1                                         | 0.5                                     | --                                                 | --                                   | 24                      | --                       | 1                                         | --                                                 |
|          | 107+71  | LT     | --                                     | 4                                      | 2                                         | 1.0                                     | --                                                 | --                                   | 24                      | --                       | --                                        | 1                                                  |
|          | 107+78  | RT     | --                                     | 1                                      | 2                                         | 0.5                                     | --                                                 | --                                   | 12                      | --                       | 1                                         | --                                                 |
|          | 109+88  | LT     | --                                     | 4                                      | 2                                         | 1.0                                     | --                                                 | --                                   | 24                      | --                       | --                                        | 1                                                  |
|          | 111+68  | LT     | --                                     | 7                                      | 2                                         | 1.0                                     | --                                                 | 1                                    | 48                      | --                       | --                                        | 1                                                  |
|          | 111+78  | RT     | --                                     | 2                                      | 1                                         | 0.5                                     | --                                                 | --                                   | 24                      | --                       | 1                                         | --                                                 |
|          | 111+84  | RT     | 1                                      | 1                                      | 1                                         | 0.5                                     | --                                                 | --                                   | 12                      | 12                       | 1                                         | --                                                 |
|          | 111+84  | RT     | --                                     | 2                                      | 1                                         | 0.5                                     | --                                                 | --                                   | 24                      | --                       | 1                                         | --                                                 |
|          | 112+07  | RT     | --                                     | 1                                      | 1                                         | 0.5                                     | --                                                 | --                                   | 12                      | --                       | 1                                         | --                                                 |
|          | 115+06  | RT     | --                                     | 1                                      | 1                                         | 0.5                                     | --                                                 | --                                   | 12                      | --                       | 1                                         | --                                                 |
|          | 115+16  | RT     | --                                     | 1                                      | 1                                         | 0.5                                     | --                                                 | --                                   | 12                      | --                       | 1                                         | --                                                 |
|          | 115+39  | LT     | 4                                      | 4                                      | 3                                         | 2.0                                     | --                                                 | 1                                    | 24                      | 24                       | --                                        | 1                                                  |
|          | 117+10  | RT     | --                                     | 2                                      | 1                                         | 0.5                                     | --                                                 | --                                   | 24                      | --                       | 1                                         | --                                                 |
|          | 117+35  | RT     | --                                     | 2                                      | 1                                         | 0.5                                     | --                                                 | --                                   | 24                      | --                       | 1                                         | --                                                 |
|          | 118+73  | RT     | --                                     | 1                                      | 1                                         | 0.5                                     | --                                                 | --                                   | 12                      | --                       | 1                                         | --                                                 |
|          | 118+77  | RT     | --                                     | 7                                      | 2                                         | 1.0                                     | --                                                 | 1                                    | 48                      | --                       | --                                        | 1                                                  |
|          | 124+92  | RT     | --                                     | 7                                      | 2                                         | 1.0                                     | --                                                 | 1                                    | 48                      | --                       | --                                        | 1                                                  |
|          | 124+99  | RT     | --                                     | 2                                      | 1                                         | 0.5                                     | --                                                 | --                                   | 24                      | --                       | 1                                         | --                                                 |
|          | 125+20  | RT     | --                                     | 1                                      | 1                                         | 0.5                                     | --                                                 | --                                   | 12                      | --                       | 1                                         | --                                                 |
|          | 137+76  | RT     | --                                     | --                                     | --                                        | --                                      | 4                                                  | --                                   | --                      | --                       | --                                        | --                                                 |
|          | 149+95  | RT     | --                                     | 2                                      | 1                                         | 0.5                                     | --                                                 | --                                   | 24                      | --                       | 1                                         | --                                                 |
|          | 150+19  | RT     | --                                     | 2                                      | 1                                         | 0.5                                     | --                                                 | --                                   | 24                      | --                       | 1                                         | --                                                 |
|          | 150+38  | RT     | --                                     | 2                                      | 1                                         | 0.5                                     | --                                                 | --                                   | 24                      | --                       | 1                                         | --                                                 |
|          | 155+38  | RT     | --                                     | 7                                      | 2                                         | 1.0                                     | --                                                 | 1                                    | 48                      | --                       | --                                        | 1                                                  |
|          | 155+46  | RT     | --                                     | 2                                      | 1                                         | 0.5                                     | --                                                 | --                                   | 24                      | --                       | 1                                         | --                                                 |
|          | 155+49  | RT     | --                                     | 2                                      | 1                                         | 0.5                                     | --                                                 | --                                   | 24                      | --                       | 1                                         | --                                                 |
|          | 155+54  | RT     | --                                     | --                                     | --                                        | --                                      | --                                                 | --                                   | --                      | --                       | 1                                         | --                                                 |
|          | 155+63  | RT     | --                                     | 1                                      | 1                                         | 0.5                                     | --                                                 | --                                   | 12                      | --                       | 1                                         | --                                                 |
|          | 172+83  | RT     | --                                     | --                                     | --                                        | --                                      | 4                                                  | --                                   | --                      | --                       | --                                        | --                                                 |
|          | 175+11  | RT     | --                                     | 1                                      | 1                                         | 0.5                                     | --                                                 | --                                   | 12                      | --                       | 1                                         | --                                                 |
|          | 175+31  | RT     | --                                     | 2                                      | 1                                         | 0.5                                     | --                                                 | --                                   | 24                      | --                       | 1                                         | --                                                 |
|          | 175+42  | RT     | --                                     | 2                                      | 1                                         | 0.5                                     | --                                                 | --                                   | 24                      | --                       | 1                                         | --                                                 |
| TOTALS   |         |        | 5                                      | 75                                     | 38                                        | 19                                      | 8                                                  | 5                                    | 684                     | 36                       | 23                                        | 7                                                  |

\*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

RIPRAP ITEMS

| CATEGORY | STATION | TO | STATION | OFFSET | 606.0200            | 645.0120                 | SPV.0195.01          |
|----------|---------|----|---------|--------|---------------------|--------------------------|----------------------|
|          |         |    |         |        | RIPRAP MEDIUM<br>CY | GEOTEXTILE TYPE HR<br>SY | INFILL RIPRAP<br>TON |
| 0010     | 183+84  |    |         | RT     | 3                   | 11                       | --                   |
|          | 360+60  | -  | 363+85  | LT     | 144                 | 400                      | 145                  |
|          | 601+23  |    |         | LT     | 3                   | 9                        | --                   |
|          | 605+67  |    |         | LT     | 3                   | 9                        | --                   |
|          | 623+48  | -  | 627+73  | RT     | 189                 | 522                      | 190                  |
|          | 623+68  | -  | 629+05  | LT     | 239                 | 660                      | 240                  |
|          | 630+58  | -  | 631+95  | LT     | 61                  | 171                      | --                   |
|          | 639+43  |    |         | RT     | 3                   | 9                        | --                   |
| TOTALS   |         |    |         |        | 645                 | 1,790                    | 575                  |

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|          |               |        |         |        | 628.1104      | 628.1504   | 628.1520    | 628.1530.S       | 628.1535.S       | 628.7504     | 628.7555     |
|----------|---------------|--------|---------|--------|---------------|------------|-------------|------------------|------------------|--------------|--------------|
|          |               |        |         |        | EROSION BALES | SILT FENCE | SILT FENCE  | SILT FENCE HEAVY | SILT FENCE HEAVY | TEMPORARY    | CULVERT PIPE |
| CATEGORY | STATION       | TO     | STATION | OFFSET | EACH          | LF         | MAINTENANCE | DUTY             | DUTY MAINTENANCE | DITCH CHECKS | CHECKS       |
|          |               |        |         |        |               |            | LF          | LF               | LF               | LF           | EACH         |
| 0010     |               |        |         |        |               |            |             |                  |                  |              |              |
|          | 106+82        | -      | 119+36  | LT&RT  | --            | --         | --          | --               | --               | 12           | --           |
|          | 135+84        | -      | 139+61  | LT&RT  | 32            | 650        | 650         | --               | --               | --           | 5            |
|          | 154+47        | -      | 156+06  | RT     | --            | 200        | 200         | --               | --               | --           | --           |
|          |               | 159+43 |         | LT     | --            | 110        | 110         | --               | --               | 12           | 4            |
|          | 170+84        | -      | 175+13  | LT&RT  | 40            | 750        | 750         | --               | --               | 12           | 5            |
|          | 181+96        | -      | 185+75  | LT&RT  | 16            | 400        | 400         | --               | --               | 72           | 6            |
|          | 191+03        | -      | 195+27  | LT&RT  | 32            | 690        | 690         | --               | --               | 24           | 3            |
|          | 200+70        | -      | 205+95  | LT&RT  | 56            | 1,100      | 1,100       | --               | --               | --           | 9            |
|          | 213+38        | -      | 216+15  | LT&RT  | 40            | 400        | 400         | --               | --               | 12           | 5            |
|          |               | 250+92 |         | LT&RT  | --            | 110        | 110         | --               | --               | 12           | 5            |
|          |               | 266+15 |         | LT&RT  | --            | --         | --          | --               | --               | --           | 6            |
|          |               | 273+03 |         | LT&RT  | --            | --         | --          | --               | --               | --           | 3            |
|          |               | 283+28 |         | RT     | --            | --         | --          | --               | --               | 12           | --           |
|          |               | 311+61 |         | RT     | --            | --         | --          | --               | --               | 12           | --           |
|          | 355+08        | -      | 365+57  | LT&RT  | 32            | 570        | 570         | --               | --               | 132          | 3            |
|          |               | 368+24 |         | LT     | --            | 110        | 110         | --               | --               | 12           | 4            |
|          | 440+47        | -      | 453+17  | LT&RT  | 24            | 185        | 185         | 825              | 825              | 108          | --           |
|          | 468+00        | -      | 473+07  | RT     | --            | 250        | 250         | --               | --               | 36           | --           |
|          | 492+01        | -      | 495+85  | LT&RT  | 24            | 550        | 550         | --               | --               | 36           | 5            |
|          | 527+05        | -      | 528+68  | LT     | 16            | 210        | 210         | --               | --               | --           | --           |
|          | 575+75        | -      | 579+29  | LT&RT  | 8             | 300        | 300         | --               | --               | 96           | 5            |
|          | 599+70        | -      | 602+76  | LT&RT  | 24            | 430        | 430         | --               | --               | 24           | 5            |
|          | 603+74        | -      | 607+61  | LT&RT  | 40            | 590        | 590         | --               | --               | 24           | 5            |
|          | 621+76        | -      | 633+80  | LT&RT  | 56            | 1,250      | 1,250       | --               | --               | 180          | 14           |
|          | 636+79        | -      | 642+06  | LT&RT  | 32            | 630        | 630         | --               | --               | 84           | 5            |
|          | 650+25        | -      | 659+53  | LT&RT  | 32            | 240        | 240         | 540              | 540              | 48           | 5            |
|          | UNDISTRIBUTED |        |         |        | 126           | 2,775      | 2,775       | 335              | 335              | 240          | 28           |
| TOTALS   |               |        |         |        | 630           | 12,500     | 12,500      | 1,700            | 1,700            | 1,200        | 130          |

## TYPE II SIGNS AND SUPPORTS

| CATEGORY | STATION | OFFSET | SIGN NUMBER | SIGN CODE | SIGN DIMENSION<br>W X H |   |    | DESCRIPTION         | 634.0616                               | 637.2230                            | COMMENTS                       |
|----------|---------|--------|-------------|-----------|-------------------------|---|----|---------------------|----------------------------------------|-------------------------------------|--------------------------------|
|          |         |        |             |           | IN                      | X | IN |                     | POSTS WOOD<br>4X6-INCH X 16-FT<br>EACH | SIGNS TYPE II<br>REFLECTIVE F<br>SF |                                |
| 0010     | 117+14  | RT     | 3-1         | W11-2     | 30                      | X | 30 | PEDESTRIAN CROSSING | 1                                      | 6.25                                |                                |
|          | 117+14  | RT     | 3-2         | W16-9P    | 24                      | X | 12 | AHEAD               | --                                     | 2.00                                | MOUNT SIGN ON SAME POST AS 3-1 |
|          | 118+99  | RT     | 3-3         | W11-2     | 30                      | X | 30 | PEDESTRIAN CROSSING | --                                     | 6.25                                | MOUNT ON POWER POLE            |
|          | 118+99  | RT     | 3-4         | W16-7L    | 24                      | X | 12 | DIAGONAL ARROW      | --                                     | 2.00                                | MOUNT ON POWER POLE            |
|          | 119+00  | LT     | 3-5         | W11-2     | 30                      | X | 30 | PEDESTRIAN CROSSING | 1                                      | 6.25                                |                                |
|          | 119+00  | LT     | 3-6         | W16-7L    | 24                      | X | 12 | DIAGONAL ARROW      | --                                     | 2.00                                | MOUNT SIGN ON SAME POST AS 3-5 |
|          | 120+93  | LT     | 3-7         | W11-2     | 30                      | X | 30 | PEDESTRIAN CROSSING | 1                                      | 6.25                                |                                |
|          | 120+93  | LT     | 3-8         | W16-9P    | 24                      | X | 12 | AHEAD               | --                                     | 2.00                                | MOUNT SIGN ON SAME POST AS 3-7 |
| TOTALS   |         |        |             |           |                         |   |    |                     | 3                                      | 33.00                               |                                |

3

## RESTORATION ITEMS

|          |               |    |         |        | 625.0100 | 628.2004                         | 628.2006                               | 628.2027                       | 628.2033                           | 629.0210                    | 630.0130                        | 630.0140                        | 630.0160                        | 630.0500              |
|----------|---------------|----|---------|--------|----------|----------------------------------|----------------------------------------|--------------------------------|------------------------------------|-----------------------------|---------------------------------|---------------------------------|---------------------------------|-----------------------|
|          |               |    |         |        | TOPSOIL  | EROSION<br>MAT CLASS I<br>TYPE B | EROSION MAT<br>URBAN CLASS I TYPE<br>A | EROSION MAT<br>CLASS II TYPE C | EROSION<br>MAT CLASS III<br>TYPE B | FERTILIZER<br>TYPE B<br>CWT | SEEDING<br>MIXTURE NO. 30<br>LB | SEEDING<br>MIXTURE NO. 40<br>LB | SEEDING<br>MIXTURE NO. 60<br>LB | SEED<br>WATER<br>MGAL |
| CATEGORY | STATION       | TO | STATION | OFFSET | SY       | SY                               | SY                                     | SY                             | SY                                 | SY                          | LB                              | LB                              | LB                              | MGAL                  |
| 0010     | 106+82        | -  | 119+36  | LT&RT  | 178      | --                               | 178                                    | --                             | --                                 | 0.1                         | --                              | 3                               | --                              | 4                     |
|          | 135+84        | -  | 139+61  | LT&RT  | 702      | 702                              | --                                     | --                             | --                                 | 0.1                         | 13                              | --                              | --                              | 16                    |
|          | 154+47        | -  | 156+06  | RT     | 111      | 111                              | --                                     | --                             | --                                 | 0.1                         | 2                               | --                              | --                              | 3                     |
|          | 159+43        | -  | 160+00  | LT&RT  | 93       | 93                               | --                                     | --                             | --                                 | 0.1                         | 2                               | --                              | --                              | 2                     |
|          | 170+84        | -  | 175+13  | LT&RT  | 451      | 451                              | --                                     | --                             | --                                 | 0.3                         | 8                               | --                              | --                              | 10                    |
|          | 181+96        | -  | 185+75  | LT&RT  | 990      | 990                              | --                                     | --                             | --                                 | 0.6                         | 18                              | --                              | --                              | 22                    |
|          | 191+03        | -  | 195+27  | LT&RT  | 768      | 768                              | --                                     | --                             | --                                 | 0.3                         | 14                              | --                              | --                              | 17                    |
|          | 200+70        | -  | 205+95  | LT&RT  | 2,144    | 1,275                            | --                                     | 869                            | --                                 | 0.5                         | 39                              | --                              | --                              | 48                    |
|          | 213+38        | -  | 216+15  | LT&RT  | 322      | 322                              | --                                     | --                             | --                                 | 0.1                         | 6                               | --                              | --                              | 7                     |
|          | 250+92        | -  | 251+00  | LT&RT  | 70       | 70                               | --                                     | --                             | --                                 | --                          | 1                               | --                              | --                              | 2                     |
|          | 266+15        | -  | 267+00  | LT&RT  | 17       | 17                               | --                                     | --                             | --                                 | --                          | 1                               | --                              | --                              | 1                     |
|          | 273+03        | -  | 274+00  | RT     | 14       | 14                               | --                                     | --                             | --                                 | 0.1                         | 1                               | --                              | --                              | 1                     |
|          | 283+28        | -  | 284+00  | RT     | 11       | 11                               | --                                     | --                             | --                                 | --                          | 1                               | --                              | --                              | 1                     |
|          | 311+61        | -  | 312+00  | RT     | 8        | 8                                | --                                     | --                             | --                                 | --                          | 1                               | --                              | --                              | 1                     |
|          | 355+08        | -  | 365+57  | LT&RT  | 1,210    | 1,210                            | --                                     | --                             | --                                 | 0.7                         | 22                              | --                              | --                              | 27                    |
|          | 368+24        | -  | 369+00  | LT&RT  | 57       | 57                               | --                                     | --                             | --                                 | 0.1                         | 1                               | --                              | --                              | 1                     |
|          | 440+47        | -  | 453+17  | LT&RT  | 2,069    | 1,784                            | --                                     | 284                            | --                                 | 1.0                         | 37                              | --                              | --                              | 46                    |
|          | 468+00        | -  | 473+07  | RT     | 714      | 714                              | --                                     | --                             | --                                 | 0.5                         | 13                              | --                              | --                              | 16                    |
|          | 492+01        | -  | 495+85  | LT&RT  | 1,019    | 1,019                            | --                                     | --                             | --                                 | 0.5                         | 18                              | --                              | --                              | 23                    |
|          | 527+05        | -  | 528+68  | LT     | 102      | 102                              | --                                     | --                             | --                                 | 0.1                         | 2                               | --                              | --                              | 2                     |
|          | 575+75        | -  | 579+29  | LT&RT  | 848      | 848                              | --                                     | --                             | --                                 | 0.5                         | 15                              | --                              | --                              | 19                    |
|          | 599+70        | -  | 602+76  | LT&RT  | 450      | 450                              | --                                     | --                             | --                                 | 0.1                         | 8                               | --                              | --                              | 10                    |
|          | 603+74        | -  | 607+61  | LT&RT  | 1,021    | 1,021                            | --                                     | --                             | --                                 | 0.6                         | 18                              | --                              | --                              | 23                    |
|          | 621+76        | -  | 633+80  | LT&RT  | 2,889    | 2,333                            | --                                     | --                             | 556                                | 1.6                         | 52                              | --                              | --                              | 65                    |
|          | 636+79        | -  | 642+06  | LT&RT  | 2,375    | 2,375                            | --                                     | --                             | --                                 | 1.5                         | 43                              | --                              | --                              | 53                    |
|          | 650+25        | -  | 659+53  | LT&RT  | 1,204    | 915                              | --                                     | 289                            | --                                 | 0.3                         | 22                              | --                              | --                              | 27                    |
|          | UNDISTRIBUTED |    |         |        | 4,973    | 4,420                            | 42                                     | 368                            | 144                                | 2.3                         | 93                              | 1                               | 20                              | 112                   |
| TOTALS   |               |    |         |        | 24,810   | 22,080                           | 220                                    | 1,810                          | 700                                | 12.0                        | 450                             | 4                               | 20                              | 560                   |

## MOVING SIGNS

|               |         |        | 638.2102        |
|---------------|---------|--------|-----------------|
|               |         |        | MOVING SIGNS    |
| CATEGORY      | STATION | OFFSET | TYPE II<br>EACH |
| 0010          | 108+35  | RT     | 1               |
|               | 111+97  | RT     | 1               |
|               | 115+74  | RT     | 1               |
|               | 118+97  | RT     | 1               |
|               | 118+98  | RT     | 1               |
|               | 137+70  | RT     | 1               |
|               | 155+03  | RT     | 1               |
|               | 155+64  | RT     | 1               |
|               | 202+87  | LT     | 1               |
|               | 357+46  | RT     | 1               |
|               | 449+38  | RT     | 1               |
|               | 450+26  | LT     | 1               |
|               | 450+41  | RT     | 1               |
|               | 450+45  | RT     | 1               |
|               | 450+56  | LT     | 1               |
|               | 450+72  | RT     | 1               |
|               | 450+80  | RT     | 1               |
|               | 451+42  | RT     | 1               |
|               | 527+55  | LT     | 1               |
|               | 605+48  | RT     | 1               |
|               | 627+64  | LT     | 1               |
|               | 631+17  | LT     | 1               |
|               | 632+68  | LT     | 1               |
|               | 633+08  | LT     | 1               |
| UNDISTRIBUTED |         |        | 6               |
| TOTAL         |         |        | 30              |



| TRAFFIC CONTROL ITEMS |                                          |          |                 |          |                     |          |                       |          |                       |          |                 |       |
|-----------------------|------------------------------------------|----------|-----------------|----------|---------------------|----------|-----------------------|----------|-----------------------|----------|-----------------|-------|
|                       |                                          | 643.0300 |                 | 643.0420 |                     | 643.0705 |                       | 643.0715 |                       | 643.0900 |                 |       |
| CATEGORY              | LOCATION                                 | STAGE    | TRAFFIC CONTROL |          | TRAFFIC CONTROL     |          | TRAFFIC CONTROL       |          | TRAFFIC CONTROL       |          | TRAFFIC CONTROL |       |
|                       |                                          | DURATION | DRUMS           |          | BARRICADES TYPE III |          | WARNING LIGHTS TYPE A |          | WARNING LIGHTS TYPE C |          | SIGNS           |       |
|                       |                                          | DAYS     | NO.             | DAY      | NO.                 | DAY      | NO.                   | DAY      | NO.                   | DAY      | NO.             | DAY   |
| 0010                  |                                          |          |                 |          |                     |          |                       |          |                       |          |                 |       |
|                       | PROJECT - ADVANCED WARNING               | 120      | --              | --       | --                  | --       | --                    | --       | --                    | --       | 80              | 9,600 |
|                       | WIDTH RESTRICTION - CULVERT REPLACEMENTS | 40       | --              | --       | --                  | --       | --                    | --       | --                    | --       | 76              | 3,040 |
|                       | LANE SHIFT DURING CULVERT REPLACEMENTS   | 35       | 35              | 1,225    | --                  | --       | --                    | --       | --                    | --       | 2               | 70    |
|                       | GUARDRAIL REPLACEMENTS                   | 20       | 35              | 700      | --                  | --       | --                    | --       | --                    | --       | 2               | 40    |
|                       | STAGE 1 CURB RAMP REPLACEMENTS           | 10       | 110             | 1,100    | 4                   | 40       | 8                     | 80       | 6                     | 80       | 35              | 350   |
|                       | STAGE 2A CURB RAMP REPLACEMENTS          | 5        | 110             | 550      | --                  | --       | --                    | --       | --                    | --       | 32              | 160   |
|                       | STAGE 2B CURB RAMP REPLACEMENTS          | 5        | 50              | 250      | --                  | --       | --                    | --       | --                    | --       | 8               | 40    |
|                       | CIR/MILL AND OVERLAY                     | 60       | --              | --       | --                  | --       | --                    | --       | --                    | --       | 10              | 600   |
| TOTALS                |                                          |          | 3,825           |          | 40                  |          | 80                    |          | 80                    |          | 13,900          |       |

| TEMPORARY PEDESTRIAN FACILITIES |       |           |    |         |        |                                                                         |                                                                             |                                                                 |                                                         |                                                                          |                                                        |     |
|---------------------------------|-------|-----------|----|---------|--------|-------------------------------------------------------------------------|-----------------------------------------------------------------------------|-----------------------------------------------------------------|---------------------------------------------------------|--------------------------------------------------------------------------|--------------------------------------------------------|-----|
|                                 |       |           |    |         |        | 643.3180<br>TEMPORARY<br>MARKING LINE<br>REMOVABLE<br>TAPE 6-INCH<br>LF | 643.3960<br>TEMPORARY<br>MARKING<br>REMOVABLE MASK<br>OUT TAPE 6-INCH<br>LF | 644.1440<br>TEMPORARY<br>PEDESTRIAN<br>SURFACE<br>MATTING<br>SF | 644.1601<br>TEMPORARY<br>PEDESTRIAN<br>CURB RAMP<br>DAY | 644.1605<br>TEMPORARY<br>PEDESTRIAN<br>DETECTABLE<br>WARNING FIELD<br>SF | 644.1810<br>TEMPORARY<br>PEDESTRIAN<br>BARRICADE<br>LF |     |
| CATEGORY                        | STAGE | STATION   | TO | STATION | OFFSET |                                                                         |                                                                             |                                                                 |                                                         |                                                                          |                                                        |     |
| 0010                            | 1     | 105+66    | -  | 106+22  | LT&RT  | --                                                                      | --                                                                          | --                                                              | --                                                      | --                                                                       | 50                                                     |     |
|                                 |       | 110+78    | -  | 117+14  | LT&RT  | 1,240                                                                   | 1,170                                                                       | 40                                                              | 40                                                      | 64                                                                       | 430                                                    |     |
|                                 |       | 117+18    | -  | 119+40  | LT&RT  | 115                                                                     | --                                                                          | 95                                                              | 40                                                      | 32                                                                       | 120                                                    |     |
|                                 |       | SUBTOTALS |    |         |        |                                                                         | 1,355                                                                       | 1,170                                                           | 135                                                     | 80                                                                       | 96                                                     | 600 |
| 2A                              |       | 105+66    | -  | 106+22  | LT&RT  | --                                                                      | --                                                                          | --                                                              | --                                                      | --                                                                       | 50                                                     |     |
|                                 |       | 108+28    | -  | 109+00  | RT     | --                                                                      | --                                                                          | --                                                              | --                                                      | --                                                                       | 20                                                     |     |
|                                 |       | 110+30    | -  | 112+96  | LT&RT  | 185                                                                     | --                                                                          | --                                                              | 5                                                       | 24                                                                       | 140                                                    |     |
|                                 |       | 113+65    | -  | 116+19  | LT&RT  | 160                                                                     | --                                                                          | --                                                              | 5                                                       | 32                                                                       | 110                                                    |     |
|                                 |       | 117+18    | -  | 119+40  | LT&RT  | --                                                                      | --                                                                          | --                                                              | 20                                                      | --                                                                       | 40                                                     |     |
|                                 |       | SUBTOTALS |    |         |        |                                                                         | 345                                                                         | --                                                              | --                                                      | 30                                                                       | 56                                                     | 360 |
|                                 |       | 2B        |    | 109+97  | -      | 112+31                                                                  | RT                                                                          | --                                                              | --                                                      | --                                                                       | 5                                                      | 24  |
| 114+99                          | -     |           |    | 116+19  | LT&RT  | 375                                                                     | --                                                                          | 30                                                              | 5                                                       | 8                                                                        | 90                                                     |     |
| SUBTOTALS                       |       |           |    |         | 375    | --                                                                      | 30                                                                          | 10                                                              | 32                                                      | 220                                                                      |                                                        |     |
| TOTALS                          |       |           |    |         |        | 2,075                                                                   | 1,170                                                                       | 165                                                             | 120                                                     | 184                                                                      | 1,180                                                  |     |

| TRAFFIC CONTROL SIGNS FIXED MESSAGE |                    |                               |                |                                    |
|-------------------------------------|--------------------|-------------------------------|----------------|------------------------------------|
|                                     |                    | SIGN SIZE<br>W X H<br>IN X IN | 643.1000<br>SF | SIGN MESSAGE                       |
| 0010                                | WEST PROJECT LIMIT | 96" X 48"                     | 32.00          | HWY 48 / ROAD WORK / BEGINS XXX-XX |
|                                     | EAST PROJECT LIMIT | 96" X 48"                     | 32.00          | HWY 48 / ROAD WORK / BEGINS XXX-XX |
| TOTAL                               |                    |                               | 64.00          |                                    |

| WATER    |          |                  |
|----------|----------|------------------|
| CATEGORY | LOCATION | 624.0100<br>MGAL |
| 0010     | PROJECT  | 80               |
| TOTAL    |          | 80               |

MONUMENT ITEMS

| 680.0100<br>PUBLIC LAND REFERENCE<br>MONUMENT VERIFY AND RESET |      |                |
|----------------------------------------------------------------|------|----------------|
| LOCATION                                                       | EACH | COMMENTS       |
| SEC 28 / 27, T36N, R17W                                        | 1    | QUARTER CORNER |
| SEC 22 / 23 / 27 / 26, T36N, R17W                              | 1    | SECTION CORNER |
| SEC 23 / 26, T36N, R17W                                        | 1    | QUARTER CORNER |
| SEC 23 / 24 / 26 / 25, T36N, R17W                              | 1    | SECTION CORNER |
| SEC 24 / 25, T36N, R17W                                        | 1    | QUARTER CORNER |
| SEC 24 / 25, T36N, R17W - SEC 19 / 30, T36N, R16W              | 1    | SECTION CORNER |
| SEC 19 / 30, T36N, R16W                                        | 1    | QUARTER CORNER |
| SEC 19 / 20 / 30 / 29, T36N, R16W                              | 1    | SECTION CORNER |
| SEC 20 / 29, T37N, R16W                                        | 1    | QUARTER CORNER |
| SEC 20 / 21 / 29 / 28, T36N, R16W                              | 1    | SECTION CORNER |
| SEC 21 / 28, T36N, R16W                                        | 1    | QUARTER CORNER |
| SEC 21 / 22 / 28 / 27, T36N, R16W                              | 1    | SECTION CORNER |
| SEC 22 / 27, T36N, R16W                                        | 1    | QUARTER CORNER |
| SEC 22 / 23 / 27 / 26, T36N, R16W                              | 1    | SECTION CORNER |
| SEC 26 / 225, T36N, R16W                                       | 1    | QUARTER CORNER |
| TOTAL                                                          | 15   |                |

LONG LINE PAVEMENT MARKING ITEMS

|          |         |    |         | 643.3165<br>TEMPORARY MARKING LINE<br>PAINT 6-INCH |              | 646.2040<br>MARKING LINE GROOVED WET REFLECTIVE EPOXY 6-INCH |                 |                          |             | 646.4040<br>MARKING LINE GROOVED WET<br>REFLECTIVE EPOXY 10-INCH |  | 646.6466<br>COLD WEATHER<br>MARKING EPOXY<br>6-INCH |  | 646.6470<br>COLD WEATHER<br>MARKING EPOXY<br>10-INCH |  |
|----------|---------|----|---------|----------------------------------------------------|--------------|--------------------------------------------------------------|-----------------|--------------------------|-------------|------------------------------------------------------------------|--|-----------------------------------------------------|--|------------------------------------------------------|--|
|          |         |    |         | 12.5' LINE 37.5'<br>SKIP YELLOW                    | SOLID YELLOW | 12.5' LINE 37.5'<br>SKIP YELLOW                              | SOLID<br>YELLOW | 3' LINE 9' SKIP<br>WHITE | SOLID WHITE | SOLID WHITE                                                      |  |                                                     |  |                                                      |  |
| CATEGORY | STATION | TO | STATION | LF                                                 | LF           | LF                                                           | LF              | LF                       | LF          | LF                                                               |  | LF                                                  |  | LF                                                   |  |
| 0010     | 95+77   | -  | 134+50  | 2,250                                              | 19,190       | 250                                                          | 6,400           | 45                       | 5,055       | --                                                               |  | 1,180                                               |  | --                                                   |  |
|          | 134+50  | -  | 685+63  | 99,000                                             | 142,660      | 11,000                                                       | 47,600          | 30                       | 107,620     | 2,130                                                            |  | 16,620                                              |  | 210                                                  |  |
| TOTALS   |         |    |         |                                                    | 263,100      |                                                              | 178,000         |                          |             | 2,130                                                            |  | 17,800                                              |  | 210                                                  |  |

NOTE:  
PLACE TEMPORARY MARKING LINE PAINT ON MILLED/CIR, ON LOWER LAYER OF HMA PAVEMENT, AND ON SURFACE LAYER OF HMA PAVEMENT PRIOR TO GROOVING.

MISCELLANEOUS PAVEMENT MARKING ITEMS

|          |                      |    |         | 646.6120<br>MARKING STOP LINE<br>EPOXY 18-INCH | 646.7120<br>MARKING DIAGONAL<br>EPOXY 12-INCH | 646.7420<br>MARKING CROSSWALK EPOXY<br>TRANSVERSE LINE 6-INCH | 646.7520<br>MARKING CROSSWALK EPOXY<br>BLOCK STYLE 24-INCH | 646.8320<br>MARKING PARKING<br>STALL EPOXY |
|----------|----------------------|----|---------|------------------------------------------------|-----------------------------------------------|---------------------------------------------------------------|------------------------------------------------------------|--------------------------------------------|
| CATEGORY | STATION              | TO | STATION | LF                                             | LF                                            | LF                                                            | LF                                                         | LF                                         |
| 0010     | 95+77                | -  | 126+30  | 150                                            | 40                                            | 740                                                           | 90                                                         | --                                         |
|          | 126+30               | -  | 450+40  | 140                                            | --                                            | --                                                            | --                                                         | --                                         |
|          | 450+59               | -  | 685+63  | 60                                             | --                                            | --                                                            | --                                                         | --                                         |
|          | CATEGORY 0010 TOTALS |    |         | 350                                            | 40                                            | 740                                                           | 90                                                         | --                                         |
| 0020     | 108+71               | -  | 114+78  | --                                             | --                                            | --                                                            | --                                                         | 130                                        |
|          | CATEGORY 0020 TOTALS |    |         | --                                             | --                                            | --                                                            | --                                                         | 130                                        |
| TOTALS   |                      |    |         | 350                                            | 40                                            | 740                                                           | 90                                                         | 130                                        |

SAWING ITEMS

|          |         |    |         |        | 690.0150*      |                        |
|----------|---------|----|---------|--------|----------------|------------------------|
|          |         |    |         |        | SAWING ASPHALT |                        |
| CATEGORY | STATION | TO | STATION | OFFSET | LF             | COMMENTS               |
| 0010     | 137+24  | -  | 138+28  | LT&RT  | 60             | CULVERT REPLACEMENT    |
|          | 172+31  | -  | 173+36  | LT&RT  | 60             | CULVERT REPLACEMENT    |
|          | 183+31  | -  | 184+37  | LT&RT  | 60             | CULVERT REPLACEMENT    |
|          | 192+91  | -  | 193+95  | LT&RT  | 60             | CULVERT REPLACEMENT    |
|          | 202+73  | -  | 204+13  | LT&RT  | 60             | CULVERT REPLACEMENT    |
|          | 213+90  | -  | 215+04  | LT&RT  | 80             | CULVERT REPLACEMENT    |
|          | 250+85  | -  | 250+99  | LT&RT  | 40             | JOINT TIES FOR CULVERT |
|          | 358+08  | -  | 363+55  | LT&RT  | 852            | GUARDRAIL REPLACEMENT  |
|          | 368+18  | -  | 368+28  | LT     | 17             | JOINT TIES FOR CULVERT |
|          | 442+10  | -  | 450+48  | LT&RT  | 980            | GUARDRAIL REPLACEMENT  |
|          | 450+51  | -  | 452+83  | LT&RT  | 364            | GUARDRAIL REPLACEMENT  |
|          | 471+10  | -  | 471+63  | RT     | 154            | GUARDRAIL REPLACEMENT  |
|          | 493+39  | -  | 494+46  | LT&RT  | 60             | CULVERT REPLACEMENT    |
|          | 576+99  | -  | 578+05  | LT&RT  | 60             | CULVERT REPLACEMENT    |
|          | 600+70  | -  | 601+76  | LT&RT  | 60             | CULVERT REPLACEMENT    |
|          | 605+14  | -  | 606+19  | LT&RT  | 60             | CULVERT REPLACEMENT    |
|          | 623+30  | -  | 632+06  | LT&RT  | 1,330          | GUARDRAIL REPLACEMENT  |
|          | 638+89  | -  | 639+96  | LT&RT  | 60             | CULVERT REPLACEMENT    |
|          | 651+77  | -  | 652+83  | LT&RT  | 69             | CULVERT REPLACEMENT    |
|          | 654+14  | -  | 658+23  | RT     | 410            | GUARDRAIL REPLACEMENT  |
| TOTALS   |         |    |         |        | 4,896          |                        |

\*ADDITIONAL QUANTITIES SHOWN ELSEWHERE



MOVING STREET LIGHT ITEMS

| CATEGORY | STATION | OFFSET | 204.0195<br>REMOVING<br>CONCRETE<br>BASES<br>EACH | 652.0225<br>CONDUIT RIGID<br>NONMETALLIC<br>SCHEDULE 40 2-INCH<br>LF | 652.0700.S<br>INSTALL<br>CONDUIT INTO<br>EXISTING ITEM<br>EACH | 654.0105<br>CONCRETE BASES<br>TYPE 5<br>EACH | SPV.0060.05<br>REMOVE AND<br>REINSTALL STREET<br>LIGHT ASSEMBLY<br>EACH |
|----------|---------|--------|---------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------|-------------------------------------------------------------------------|
| 0010     | 111+35  | RT     | 1                                                 | 16                                                                   | 1                                                              | 1                                            | 1                                                                       |
| TOTALS   |         |        | 1                                                 | 16                                                                   | 1                                                              | 1                                            | 1                                                                       |

GUARDRAIL ITEMS

| CATEGORY | STATION | TO | STATION | OFFSET | 614.0396<br>GUARDRAIL<br>MOW STRIP<br>ASPHALT<br>SY | 614.2300<br>MGS<br>GUARDRAIL<br>3<br>LF | 614.2330<br>MGS<br>GUARDRAIL 3<br>K<br>LF | 614.2350<br>MGS GUARDRAIL<br>SHORT RADIUS<br>LF | 614.2500<br>MGS THRIE BEAM<br>TRANSITION<br>LF | 614.2610<br>MGS GUARDRAIL<br>TERMINAL EAT<br>EACH |
|----------|---------|----|---------|--------|-----------------------------------------------------|-----------------------------------------|-------------------------------------------|-------------------------------------------------|------------------------------------------------|---------------------------------------------------|
| 0010     | 356+27  | -  | 363+46  | RT     | 243                                                 | 200                                     | 412.5                                     | --                                              | --                                             | 2                                                 |
|          | 360+07  | -  | 364+38  | LT     | 197                                                 | 137.5                                   | 187.5                                     | --                                              | --                                             | 2                                                 |
|          | 441+66  | -  | 450+32  | LT     | --                                                  | 775                                     | --                                        | --                                              | 38.4                                           | 1                                                 |
|          | 449+25  | -  | 450+49  | RT     | --                                                  | 37.5                                    | --                                        | 100                                             | 38.4                                           | 1                                                 |
|          | 450+49  | -  | 452+28  | LT     | --                                                  | 87.5                                    | --                                        | --                                              | 38.4                                           | 1                                                 |
|          | 450+66  | -  | 452+83  | RT     | 32                                                  | 125                                     | --                                        | --                                              | 38.4                                           | 1                                                 |
|          | 469+19  | -  | 471+87  | RT     | --                                                  | 75                                      | 87.5                                      | --                                              | --                                             | 2                                                 |
|          | 622+95  | -  | 628+26  | RT     | 243                                                 | 25                                      | 400                                       | --                                              | --                                             | 2                                                 |
|          | 623+15  | -  | 629+58  | LT     | 290                                                 | 25                                      | 512.5                                     | --                                              | --                                             | 2                                                 |
|          | 630+05  | -  | 632+48  | LT     | 115                                                 | 25                                      | 112.5                                     | --                                              | --                                             | 2                                                 |
|          | 653+33  | -  | 658+77  | RT     | --                                                  | 25                                      | 412.5                                     | --                                              | --                                             | 2                                                 |
| TOTALS   |         |    |         |        | 1,120                                               | 1,538                                   | 2,125                                     | 100                                             | 154                                            | 18                                                |

NOTES:  
CRT POSTS = 16

STAKING ITEMS

| CATEGORY | STATION | TO | STATION | OFFSET | 650.4500<br>CONSTRUCTION<br>STAKING<br>SUBGRADE<br>LF | 650.5000<br>CONSTRUCTION<br>STAKING BASE<br>LF | 650.5500<br>CONSTRUCTION STAKING<br>CURB GUTTER AND CURB<br>& GUTTER<br>LF | 650.6000<br>CONSTRUCTION<br>STAKING PIPE<br>CULVERTS<br>EACH | 650.8000<br>CONSTRUCTION STAKING<br>RESURFACING REFERENCE<br>LF | 650.9000<br>CONSTRUCTION<br>STAKING CURB<br>RAMPS<br>EACH | 650.9920<br>CONSTRUCTION<br>STAKING SLOPE<br>STAKES<br>LF | COMMENTS                             |
|----------|---------|----|---------|--------|-------------------------------------------------------|------------------------------------------------|----------------------------------------------------------------------------|--------------------------------------------------------------|-----------------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------|--------------------------------------|
| 0010     | 95+77   | -  | 126+30  | LT&RT  | --                                                    | --                                             | 515                                                                        | --                                                           | 3,053                                                           | 20                                                        | --                                                        | MAINLINE PAVING                      |
|          | 126+30  | -  | 450+40  | LT&RT  | --                                                    | --                                             | 300                                                                        | --                                                           | 32,410                                                          | --                                                        | --                                                        | MAINLINE PAVING                      |
|          | 137+24  | -  | 138+28  | LT&RT  | 104                                                   | 104                                            | --                                                                         | 1                                                            | --                                                              | --                                                        | 104                                                       | CULVERT REPLACEMENT (TRANSITION CUT) |
|          | 172+31  | -  | 173+36  | LT&RT  | 105                                                   | 105                                            | --                                                                         | 1                                                            | --                                                              | --                                                        | 105                                                       | CULVERT REPLACEMENT (TRANSITION CUT) |
|          | 183+31  | -  | 184+37  | LT&RT  | 106                                                   | 106                                            | --                                                                         | 1                                                            | --                                                              | --                                                        | 106                                                       | CULVERT REPLACEMENT (TRANSITION CUT) |
|          | 192+91  | -  | 193+95  | LT&RT  | 104                                                   | 104                                            | --                                                                         | 1                                                            | --                                                              | --                                                        | 104                                                       | CULVERT REPLACEMENT (TRANSITION CUT) |
|          | 202+73  | -  | 204+13  | LT&RT  | 140                                                   | 140                                            | --                                                                         | 1                                                            | --                                                              | --                                                        | 140                                                       | CULVERT REPLACEMENT (TRANSITION CUT) |
|          | 213+90  | -  | 215+04  | LT&RT  | 114                                                   | 114                                            | --                                                                         | 1                                                            | --                                                              | --                                                        | 114                                                       | CULVERT REPLACEMENT (TRANSITION CUT) |
|          | 355+08  | -  | 365+57  | LT&RT  | 1,049                                                 | 1,049                                          | --                                                                         | --                                                           | --                                                              | --                                                        | 1,049                                                     | GUARDRAIL REPLACEMENT                |
|          | 440+47  | -  | 450+49  | LT&RT  | 1,002                                                 | 1,002                                          | --                                                                         | --                                                           | --                                                              | --                                                        | 1,002                                                     | GUARDRAIL REPLACEMENT                |
|          | 450+49  | -  | 453+15  | LT&RT  | 266                                                   | 266                                            | --                                                                         | --                                                           | --                                                              | --                                                        | 266                                                       | GUARDRAIL REPLACEMENT                |
|          | 450+59  | -  | 685+63  | LT&RT  | --                                                    | --                                             | 150                                                                        | --                                                           | 23,504                                                          | --                                                        | --                                                        | MAINLINE PAVING                      |
|          | 468+00  | -  | 473+07  | RT     | 507                                                   | 507                                            | --                                                                         | --                                                           | --                                                              | --                                                        | 507                                                       | GUARDRAIL REPLACEMENT                |
|          | 493+39  | -  | 494+46  | LT&RT  | 107                                                   | 107                                            | --                                                                         | 1                                                            | --                                                              | --                                                        | 107                                                       | CULVERT REPLACEMENT (TRANSITION CUT) |
|          | 576+99  | -  | 578+05  | LT&RT  | 106                                                   | 106                                            | --                                                                         | 1                                                            | --                                                              | --                                                        | 106                                                       | CULVERT REPLACEMENT (TRANSITION CUT) |
|          | 600+70  | -  | 601+76  | LT&RT  | 106                                                   | 106                                            | --                                                                         | 1                                                            | --                                                              | --                                                        | 106                                                       | CULVERT REPLACEMENT (TRANSITION CUT) |
|          | 605+14  | -  | 606+19  | LT&RT  | 105                                                   | 105                                            | --                                                                         | 1                                                            | --                                                              | --                                                        | 105                                                       | CULVERT REPLACEMENT (TRANSITION CUT) |
|          | 621+76  | -  | 633+67  | LT&RT  | 1,191                                                 | 1,191                                          | --                                                                         | --                                                           | --                                                              | --                                                        | 1,191                                                     | GUARDRAIL REPLACEMENT                |
|          | 638+89  | -  | 639+96  | LT&RT  | 107                                                   | 107                                            | --                                                                         | 1                                                            | --                                                              | --                                                        | 107                                                       | CULVERT REPLACEMENT (TRANSITION CUT) |
|          | 651+77  | -  | 659+44  | LT&RT  | 767                                                   | 767                                            | --                                                                         | 1                                                            | --                                                              | --                                                        | 767                                                       | CULVERT & GUARDRAIL REPLACEMENT      |
|          | 1897+31 | -  | 1899+78 | RT     | 247                                                   | 247                                            | --                                                                         | --                                                           | --                                                              | --                                                        | 247                                                       | GUARDRAIL REPLACEMENT                |
| PROJECT  |         |    |         |        | --                                                    | --                                             | --                                                                         | --                                                           | --                                                              | --                                                        | --                                                        |                                      |
| TOTALS   |         |    |         |        | 6,233                                                 | 6,233                                          | 965                                                                        | 12                                                           | 58,967                                                          | 20                                                        | 6,233                                                     |                                      |

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION  
TRANSPORTATION PROJECT PLAT TITLE SHEET  
8820-00-20  
FREDERIC - MCKINLEY  
STH 35 TO BASS LAKE LANE  
STH 48  
POLK COUNTY



CONVENTIONAL SYMBOLS

|                                                             |     |                                                    |  |                                      |    |
|-------------------------------------------------------------|-----|----------------------------------------------------|--|--------------------------------------|----|
| SECTION LINE                                                | --- | SECTION CORNER SYMBOL                              |  | R/W MONUMENT (TO BE SET)             | ●  |
| QUARTER LINE                                                | --- | SECTION CORNER MONUMENT                            |  | NON-MONUMENTED R/W POINT             | ○  |
| SIXTEENTH LINE                                              | --- | GEODETIC SURVEY MONUMENT                           |  | FOUND IRON PIN (1-INCH UNLESS NOTED) | IP |
| NEW REFERENCE LINE                                          | --- | SIXTEENTH CORNER MONUMENT                          |  | OFF-PREMISE SIGN                     |    |
| NEW R/W LINE                                                | --- | SIGN                                               |  |                                      |    |
| EXISTING R/W OR HE LINE                                     | --- |                                                    |  |                                      |    |
| PROPERTY LINE                                               | --- |                                                    |  |                                      |    |
| LOT, TIE & OTHER MINOR LINES                                | --- |                                                    |  |                                      |    |
| SLOPE INTERCEPT                                             | --- |                                                    |  |                                      |    |
| CORPORATE LIMITS                                            | --- | ELECTRIC POLE                                      |  | COMPENSABLE                          |    |
| UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC)        | --- | TELEPHONE POLE                                     |  | NON-COMPENSABLE                      |    |
| NEW R/W (FEE OR HE) (HATCHING VARIES BY OWNER)              | --- | PEDESTAL (LABEL TYPE) (TV, TEL, ELEC, ETC.)        |  |                                      |    |
| TEMPORARY LIMITED EASEMENT AREA                             | --- | ACCESS RESTRICTED BY ACQUISITION                   |  |                                      |    |
| EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT) | --- | NO ACCESS (BY STATUTORY AUTHORITY)                 |  |                                      |    |
| TRANSMISSION STRUCTURES                                     | --- | ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL) |  |                                      |    |
| BUILDING                                                    |     | NO ACCESS (NEW HIGHWAY)                            |  |                                      |    |
| TO BE REMOVED                                               |     | PARCEL NUMBER                                      |  | UTILITY NUMBER                       |    |
| BRIDGE                                                      |     | PARALLEL OFFSETS                                   |  |                                      |    |
| CULVERT                                                     |     |                                                    |  |                                      |    |

CONVENTIONAL ABBREVIATIONS

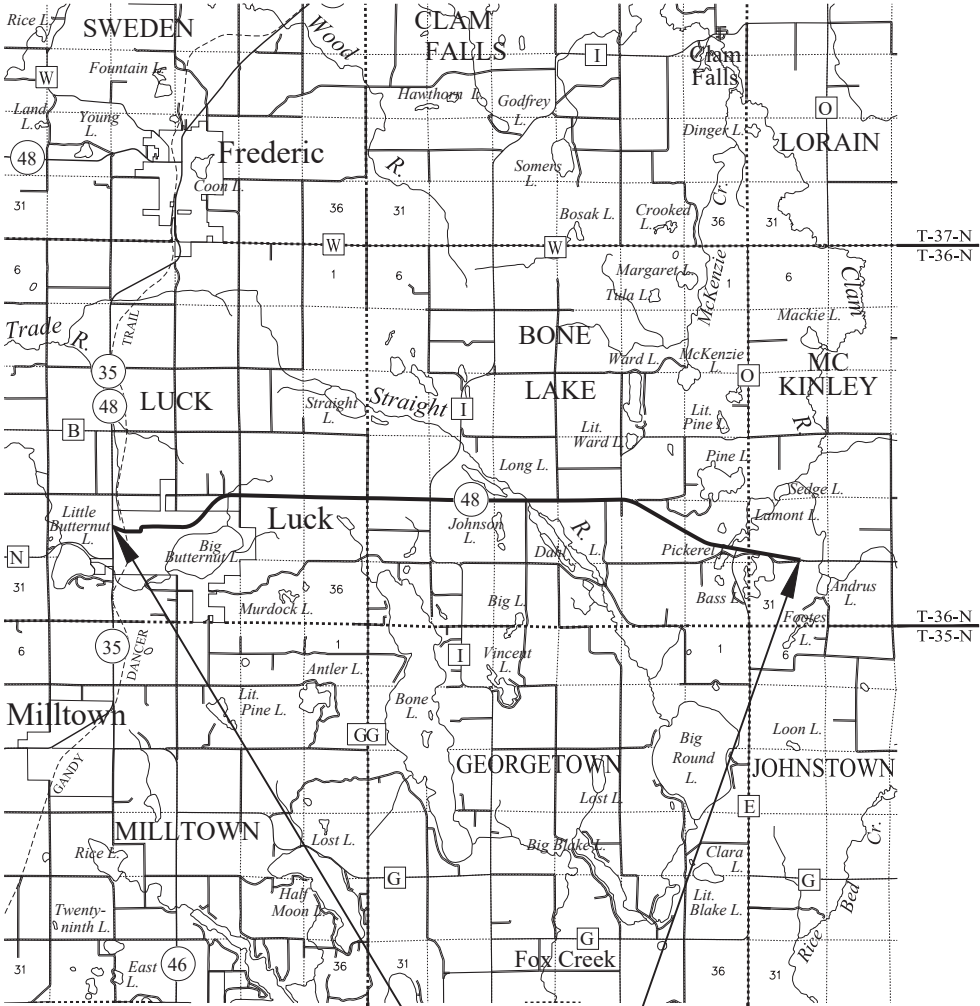
|                            |       |                             |        |
|----------------------------|-------|-----------------------------|--------|
| ACCESS RIGHTS              | AR    | POINT OF COMPOUND CURVE     | PCC    |
| ACRES                      | AC    | POINT OF INTERSECTION      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

CURVE DATA ABBREVIATIONS

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

CONVENTIONAL UTILITY SYMBOLS

|                             |     |
|-----------------------------|-----|
| WATER                       | --- |
| GAS                         | --- |
| TELEPHONE                   | --- |
| OVERHEAD TRANSMISSION LINES | --- |
| ELECTRIC                    | --- |
| CABLE TELEVISION            | --- |
| FIBER OPTIC                 | --- |
| SANITARY SEWER              | --- |
| STORM SEWER                 | --- |
| ELECTRIC TOWER              |     |



LAYOUT  
SCALE 0 1.5 MI.

THE NOTES, CONVENTIONAL SIGNS, AND ABBREVIATIONS ARE ASSOCIATED WITH EACH TRANSPORTATION PROJECT PLAT FOR PROJECT 8820-00-20

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), POLK COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY 3/4" X 24" IRON REBARS), UNLESS OTHERWISE NOTED, AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

ALL RIGHT-OF-WAY LINES DEPICTED IN THE NON-ACQUISITION AREAS ARE INTENDED TO RE-ESTABLISH EXISTING RIGHT-OF-WAY LINES AS DETERMINED FROM PREVIOUS PROJECTS, OTHER RECORDED DOCUMENTS, CENTERLINE OF EXISTING PAVEMENTS AND/OR EXISTING OCCUPATIONAL LINES.

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 THE NEW REFERENCE LINES.

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON, 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 DESIRABLE. ALL (TLEs) ON THIS PLAT EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

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

FOR THE CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN SUPERIOR, WI.

PARCEL AND UTILITY IDENTIFICATION NUMBERS MAY NOT POINT TO ALL AREAS OF ACQUISITION, AS NOTED ON THE TPP DETAIL PAGES.

INFORMATION FOR THE BASIS OF EXISTING HIGHWAY RIGHT-OF-WAY POINTS OF REFERENCE AND ACCESS CONTROL ARE LISTED ON THE TPP DETAIL PAGES.

PROJECT NUMBER 8820-00-20 - 4. 01  
SHEET 2 OF 2  
AMENDMENT NO:

TRANSPORTATION PROJECT PLAT NO: 8820-00-20 - 4.01

THAT PART OF LOTS 1 & 18, BLOCK 3 OF THE PLAT OF THE TOWN OF LAWSON CITY LOCATED IN PART OF THE NE1/4 OF THE SW1/4, AND LOTS 17 & 18, BLOCK 3 OF THE PLAT OF THE TOWN OF LAWSON CITY LOCATED IN PART OF THE NW1/4 OF THE SW1/4, ALL LOCATED IN SECTION 28, TOWNSHIP 36 NORTH, RANGE 17 WEST, VILLAGE OF LUCK, POLK COUNTY, WISCONSIN.

RELOCATION ORDER - STH 48, FREDERIC - MCKINLEY (STH 35 TO BASS LAKE LANE), POLK 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 INTERESTS TO THE DEPARTMENT.

| PARCEL NUMBER | OWNERS                 | INTERESTS REQUIRED | R/W SF REQUIRED |          |       | TLE SF |
|---------------|------------------------|--------------------|-----------------|----------|-------|--------|
|               |                        |                    | NEW             | EXISTING | TOTAL |        |
| 1             | LUCK TELEPHONE COMPANY | FEE/TLE            | 600             | ---      | 600   | 253    |
| 2             | JENSEN HOLDINGS, LLC   | TLE                | ---             | ---      | ---   | 53     |

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), POLK COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY 3/4" X 24" IRON REBARS), UNLESS OTHERWISE NOTED, 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 FOR STH 48: R/W PLAT T 0132 (1), PLAT OF THE TOWN OF LAWSON CITY, PLAT OF FIRST ADDITION TO LAWSON CITY, AND EXISTING CENTERLINE.

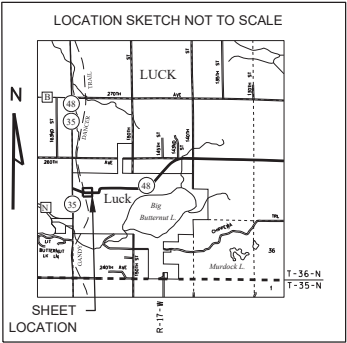
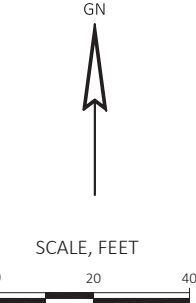
EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE FOR N MAIN ST: R/W PLAT T 0132 (1), PLAT OF FIRST ADDITION TO LAWSON CITY, AND EXISTING CENTERLINE.

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE FOR S MAIN ST: PLAT OF THE TOWN OF LAWSON CITY, AND EXISTING CENTERLINE.

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE FOR WEST ST: PLAT OF THE TOWN OF LAWSON CITY, AND EXISTING CENTERLINE.

FOR THE CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN SUPERIOR, WI.

| EXISTING MONUMENTS                                                                                                                                     |              |             |                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------------|---------------------|
| POINT                                                                                                                                                  | Y (NORTHING) | X (EASTING) | DESCRIPTION         |
| IP210                                                                                                                                                  | 333572.600   | 503679.871  | 3/4" IRON ROD W/CAP |
| FOUND MONUMENT INFORMATION SHOWN REPRESENTS TYPE AND LOCATION OF EXISTING MONUMENTS WITHOUT OPINION AS TO THEIR VALIDITY AND USE AS A PROPERTY CORNER. |              |             |                     |



Doc # 926086  
Envelope #: 3488  
Polk County, Wisconsin  
Sally L. Spanel, Register of Deeds  
PLAT FEE: 25.00  
Total: 25.00  
RECORDED ON: 05/24/2024 11:05 AM  
PAGES: 2  
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RESERVED FOR REGISTER OF DEEDS  
PROJECT NUMBER 8820-00-20-4.01  
SHEET 1 OF 2  
AMENDMENT NO: \_\_\_\_\_

| COURSE TABLE    |               |          |
|-----------------|---------------|----------|
| COURSE          | BEARING       | DISTANCE |
| 1000-PRW1001    | S89° 26' 42"W | 27.16'   |
| PRW1001-PRW1002 | S73° 00' 22"W | 20.84'   |
| PRW1002-PRW1003 | S02° 48' 08"W | 56.60'   |
| PRW1003-1004    | S77° 03' 42"W | 20.00'   |
| 1004-1005       | N12° 56' 18"W | 68.28'   |
| 1005-1006       | N00° 33' 18"W | 32.06'   |
| 1006-1007       | N00° 33' 18"W | 23.94'   |
| 1007-1008       | N89° 26' 42"E | 175.23'  |
| 1008-1009       | N00° 33' 26"W | 10.00'   |
| 1009-1010       | N89° 26' 34"E | 20.00'   |
| 1010-1011       | N89° 26' 42"E | 160.00'  |
| 1011-1012       | S22° 32' 50"W | 36.46'   |
| 1012-1013       | S22° 32' 50"W | 35.30'   |
| 1013-1014       | S89° 26' 42"W | 129.97'  |
| 1014-1015       | S89° 26' 42"W | 20.00'   |
| 1015-1000       | S89° 26' 42"W | 92.47'   |

| STATION & OFFSET TABLE |           |        |
|------------------------|-----------|--------|
| POINT NO.              | STATION   | OFFSET |
| 1000                   | 108+84.15 | 32.16' |
| PRW1001                | 108+57.00 | 32.13' |
| PRW1002                | 108+37.00 | 38.00' |
| PRW1003                | 108+33.62 | 94.50' |
| 1004                   | 108+14.08 | 98.77' |
| 1005                   | 107+99.51 | 32.06' |
| 1006                   | 107+99.55 | 0.00'  |
| 1007                   | 107+99.58 | 23.94' |
| 1008                   | 109+74.81 | 23.73' |
| 1009                   | 109+74.82 | 33.73' |
| 1010                   | 109+94.82 | 33.71' |
| 1011                   | 111+54.82 | 33.52' |
| 1012                   | 111+40.48 | 0.00'  |
| 1013                   | 111+26.59 | 32.45' |
| 1014                   | 109+96.62 | 32.29' |
| 1015                   | 109+76.62 | 32.27' |

| TLE STATION & OFFSET TABLE |           |        |
|----------------------------|-----------|--------|
| POINT NO.                  | STATION   | OFFSET |
| TLE1100                    | 108+36.00 | 54.67' |
| TLE1101                    | 108+41.00 | 54.00' |
| TLE1102                    | 108+40.00 | 42.00' |
| TLE1103                    | 108+65.00 | 35.00' |
| TLE1104                    | 108+90.00 | 35.00' |
| TLE1105                    | 108+90.00 | 32.17' |
| TLE1106                    | 110+93.00 | 32.41' |
| TLE1107                    | 110+93.00 | 34.00' |
| TLE1108                    | 111+26.59 | 34.00' |

ANY AREA CURRENTLY OCCUPIED BY A BUILDING IS EXCEPTED FROM TLE ACQUISITION ON THIS TRANSPORTATION PROJECT PLAT.

REFER TO THE TITLE SHEET, RECORDED AS SHEET 2 OF 2, FOR ADDITIONAL INFORMATION.

ALL TLES ARE FOR SLOPE GRADING PURPOSES



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 OF TRANSPORTATION, I HAVE SURVEYED AND MAPPED THIS TRANSPORTATION PROJECT PLAT AND SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.



SIGNATURE: *Kevin C. Boyer* DATE: 5/20/2024  
PRINT NAME: KEVIN C. BOYER  
REGISTRATION NUMBER: S-2675  
THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION  
NW REGION - SUPERIOR OFFICE  
SIGNATURE: *Aaron Gustafson* DATE: 5/20/2024  
PRINT NAME: AARON GUSTAFSON



TRANSPORTATION PROJECT PLAT NO: 8820-00-20 - 4.02

THAT PART OF LOTS 1, 4 & 5, BLOCK 4 OF PLAT OF THE TOWN OF LAWSON CITY, AND LOTS 4 & 5, BLOCK 5 OF PLAT OF FIRST ADDITION TO LAWSON CITY LOCATED IN PART OF THE NE1/4 OF THE SW1/4, SECTION 28, TOWNSHIP 36 NORTH, RANGE 17 WEST, VILLAGE OF LUCK, POLK COUNTY, WISCONSIN.

RELOCATION ORDER - STH 48, FREDERIC - MCKINLEY (STH 35 TO BASS LAKE LANE), POLK 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 INTERESTS TO THE DEPARTMENT.

| PARCEL NUMBER | OWNERS                                                                                              | INTERESTS REQUIRED | R/W SF REQUIRED |          |       | TLE SF |
|---------------|-----------------------------------------------------------------------------------------------------|--------------------|-----------------|----------|-------|--------|
|               |                                                                                                     |                    | NEW             | EXISTING | TOTAL |        |
| 2             | JENSEN HOLDINGS, LLC                                                                                | FEE/TLE            | 930             | ---      | 930   | 239    |
| 3             | RONALD E. HANSON AND KATHLENE S. HANSON, TRUSTEES OF THE HANSON REVOCABLE TRUST DATED JUNE 30, 2015 | FEE/TLE            | 46              | ---      | 46    | 103    |
| 4             | KENT W. PETERSEN AND RACHEL A. PETERSEN                                                             | TLE                | ---             | ---      | ---   | 373    |
| 6             | M&J HOLDINGS, LLC                                                                                   | FEE                | 873             | ---      | 873   | ---    |
| 7             | SKOL PARTNERS, LLC, A WISCONSIN LIMITED LIABILITY COMPANY                                           | FEE/TLE            | 885             | ---      | 885   | 184    |

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), POLK COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY 3/4" X 24" IRON REBARS), UNLESS OTHERWISE NOTED, 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 FOR STH 48: R/W PLAT T 0132 (1), PLAT OF THE TOWN OF LAWSON CITY, PLAT OF FIRST ADDITION TO LAWSON CITY, AND EXISTING CENTERLINE.

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE FOR N 1ST ST: R/W PLAT T 0132 (1), PLAT OF FIRST ADDITION TO LAWSON CITY, AND EXISTING CENTERLINE.

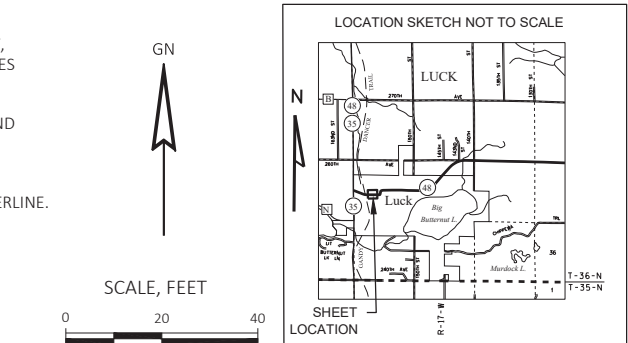
EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE FOR S 1ST ST: PLAT OF THE TOWN OF LAWSON CITY, AND EXISTING CENTERLINE.

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE FOR N MAIN ST: R/W PLAT T 0132 (1), PLAT OF FIRST ADDITION TO LAWSON CITY, AND EXISTING CENTERLINE.

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE FOR S MAIN ST: PLAT OF THE TOWN OF LAWSON CITY, AND EXISTING CENTERLINE.

FOR THE CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN SUPERIOR, WI.

| UTILITY INTERESTS REQUIRED |                                                                   |                   |
|----------------------------|-------------------------------------------------------------------|-------------------|
| UTILITY NUMBER             | OWNER(S)                                                          | INTEREST REQUIRED |
| 201                        | LAKELAND TELECOM INC (COMMUNICATION)                              | RELEASE OF RIGHTS |
| 202                        | NORTHERN STATES POWER COMPANY, A WISCONSIN CORPORATION (ELECTRIC) | RELEASE OF RIGHTS |
| 203                        | WISCONSIN GAS LLC D/B/A WE ENERGIES (GAS)                         | RELEASE OF RIGHTS |



Doc # 926480  
Envelope #: 3528  
Polk County, Wisconsin  
Sally L. Spanel, Register of Deeds  
PLAT FEE: 25.00  
Total: 25.00  
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PAGES: 1  
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RESERVED FOR REGISTER OF DEEDS  
PROJECT NUMBER 8820-00-20-4.02  
AMENDMENT NO:---

| STATION & OFFSET TABLE |           |        |
|------------------------|-----------|--------|
| POINT NO.              | STATION   | OFFSET |
| PRW2000                | 115+06.96 | 35.00' |
| PRW2001                | 114+85.00 | 35.00' |
| PRW2002                | 114+85.00 | 32.88' |
| 2003                   | 113+56.75 | 32.73' |
| 2004                   | 113+36.75 | 32.70' |
| 2005                   | 112+06.59 | 32.55' |
| 2006                   | 111+26.59 | 32.45' |
| 2007                   | 111+40.48 | 0.00'  |
| 2008                   | 111+54.82 | 33.52' |
| 2009                   | 111+54.84 | 43.06' |
| PRW2010                | 112+04.84 | 43.00' |
| PRW2011                | 112+08.00 | 43.00' |
| PRW2012                | 112+11.00 | 32.00' |
| PRW2013                | 115+06.89 | 32.00' |
| 2014                   | 115+72.88 | 33.02' |
| 2015                   | 115+72.92 | 0.00'  |
| IP249                  | 115+72.96 | 32.99' |
| 2017                   | 115+72.96 | 34.91' |

| TLE STATION & OFFSET TABLE |           |        |
|----------------------------|-----------|--------|
| POINT NO.                  | STATION   | OFFSET |
| TLE2100                    | 115+06.97 | 40.00' |
| TLE2101                    | 114+65.00 | 32.86' |
| TLE2102                    | 112+34.28 | 32.58' |
| TLE2103                    | 112+34.25 | 43.00' |
| TLE2104                    | 112+17.00 | 43.00' |
| TLE2105                    | 112+11.00 | 50.00' |
| TLE2106                    | 112+06.65 | 65.00' |
| TLE2107                    | 112+04.84 | 48.00' |
| TLE2108                    | 112+13.00 | 48.00' |
| TLE2109                    | 112+13.00 | 37.00' |
| TLE2110                    | 112+45.00 | 37.00' |
| TLE2111                    | 112+45.00 | 32.00' |
| TLE2112                    | 114+70.00 | 32.00' |
| TLE2113                    | 114+70.00 | 37.00' |
| TLE2114                    | 115+06.84 | 37.00' |

| COURSE TABLE    |               |          |
|-----------------|---------------|----------|
| COURSE          | BEARING       | DISTANCE |
| PRW2000-PRW2001 | S89° 22' 35"W | 21.96'   |
| PRW2001-PRW2002 | N00° 37' 25"W | 2.12'    |
| PRW2002-2003    | S89° 26' 42"W | 128.25'  |
| 2003-2004       | S89° 26' 42"W | 20.00'   |
| 2004-2005       | S89° 26' 42"W | 130.16'  |
| 2005-2006       | S89° 26' 42"W | 80.00'   |
| 2006-2007       | N22° 32' 50"E | 35.30'   |
| 2007-2008       | N22° 32' 50"E | 36.46'   |
| 2008-2009       | N00° 33' 26"W | 9.54'    |
| 2009-PRW2010    | N89° 26' 34"E | 50.00'   |
| PRW2010-PRW2011 | N89° 22' 35"E | 3.16'    |
| PRW2011-PRW2012 | S15° 52' 44"E | 11.40'   |
| PRW2012-PRW2013 | N89° 22' 35"E | 295.89'  |
| PRW2013-2014    | N88° 29' 43"E | 66.00'   |
| 2014-2015       | S00° 41' 33"E | 33.01'   |
| 2015-IP249      | S00° 41' 33"E | 32.99'   |
| IP249-2017      | S00° 42' 22"E | 1.92'    |
| 2017-PRW2000    | S89° 17' 38"W | 66.00'   |

ALL TLES ARE FOR SLOPE GRADING PURPOSES

REFER TO THE TITLE SHEET, RECORDED AS SHEET 2 OF 2, IN TRANSPORTATION PROJECT PLATS AS DOCUMENT NO. 926086 FOR ADDITIONAL INFORMATION.



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 OF TRANSPORTATION, I HAVE SURVEYED AND MAPPED THIS TRANSPORTATION PROJECT PLAT AND SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.



SIGNATURE: *Kevin C. Boyer* DATE: 5/30/2024

PRINT NAME: KEVIN C. BOYER  
REGISTRATION NUMBER: S-2675

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION  
NW REGION - SUPERIOR OFFICE

SIGNATURE: *Aaron Gustafson* DATE: 6-10-24

PRINT NAME: AARON GUSTAFSON

96

TRANSPORTATION PROJECT PLAT NO: 8820-00-20 - 4.03

THAT PART OF LOTS 3 & 5, BLOCK 6, AND LOT 1, BLOCK 7 OF PLAT OF FIRST ADDITION TO LAWSON CITY, PART OF LOTS 11 & 12, BLOCK 21 OF PEDERSEN'S SECOND ADDITION TO LAWSON CITY, AND PART OF LOT 1 OF CSM 5314 V. 23 P. 221 DOC. 725626, LOCATED IN PART OF THE NE1/4 OF THE SW1/4, SECTION 28, TOWNSHIP 36 NORTH, RANGE 17 WEST, VILLAGE OF LUCK, POLK COUNTY, WISCONSIN.

RELOCATION ORDER - STH 48, FREDERIC - MCKINLEY (STH 35 TO BASS LAKE LANE), POLK COUNTY

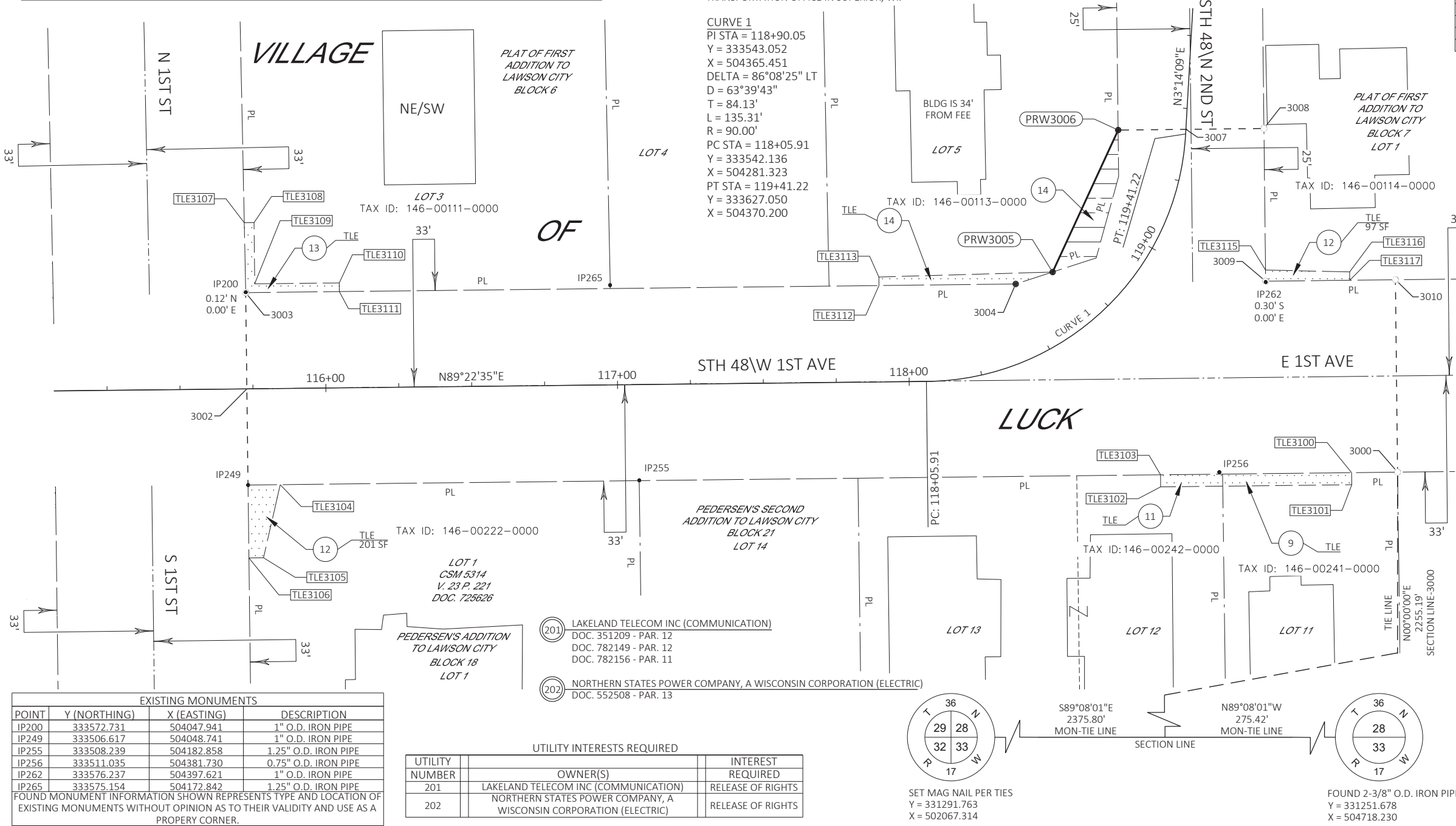
TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN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

| PARCEL NUMBER | OWNERS                                        | INTERESTS REQUIRED | R/W SF REQUIRED |          |       | TLE SF |
|---------------|-----------------------------------------------|--------------------|-----------------|----------|-------|--------|
|               |                                               |                    | NEW             | EXISTING | TOTAL |        |
| 9             | PETER STEFFEN AND BONNIE STEFFEN              | TLE                | ---             | ---      | ---   | 183    |
| 11            | TOMLINSON RENTALS, LLC                        | TLE                | ---             | ---      | ---   | 88     |
| 12            | ALAN L. TOMLINSON AND EILEEN E. TOMLINSON     | TLE                | ---             | ---      | ---   | 298    |
| 13            | DAVID M. CORREDATO AND KATHERINE H. CORREDATO | TLE                | ---             | ---      | ---   | 164    |
| 14            | SHEILA K. HUDSON                              | FEE/TLE            | 373             | ---      | 373   | 180    |



NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), POLK COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY 3/4" X 24" IRON REBARS), UNLESS OTHERWISE NOTED, 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 FOR STH 48\W 1ST AVE: R/W PLAT T 0132 (1), PEDERSEN'S ADDITION TO LAWSON CITY, PEDERSEN'S SECOND ADDITION TO LAWSON CITY, PLAT OF FIRST ADDITION TO LAWSON CITY, CSM 5314, AND EXISTING CENTERLINE.

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE FOR STH 48\N 2ND ST: R/W PLAT T 0132 (1), PLAT OF FIRST ADDITION TO LAWSON CITY, AND EXISTING CENTERLINE.

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE FOR E 1ST AVE: R/W PLAT T 0132 (1), PEDERSEN'S SECOND ADDITION TO LAWSON CITY, PLAT OF FIRST ADDITION TO LAWSON CITY, AND EXISTING CENTERLINE.

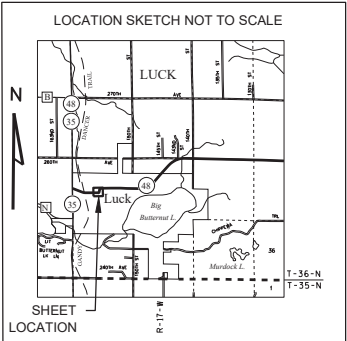
EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE FOR N 1ST ST: R/W PLAT T 0132 (1), PLAT OF FIRST ADDITION TO LAWSON CITY, AND EXISTING CENTERLINE.

EXISTING HIGHWAY RIGHT-OF-WAY SHOWN HEREIN IS BASED ON THE FOLLOWING POINTS OF REFERENCE FOR S 1ST ST: PEDERSEN'S ADDITION TO LAWSON CITY, CSM 5314, AND EXISTING CENTERLINE.

FOR THE CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN SUPERIOR, WI.

GN

SCALE, FEET



Doc # 926481  
Envelope #: 353A  
Polk County, Wisconsin  
Sally L. Spaul, Register of Deeds  
PLAT FEE: 25.00  
Total: 25.00  
RECORDED ON: 06/11/2024 09:51 AM  
PAGES: 1  
Document Electronically Recorded

RESERVED FOR REGISTER OF DEEDS  
PROJECT NUMBER 8820-00-20-4.03  
AMENDMENT NO.:

| STATION & OFFSET TABLE |           |         |
|------------------------|-----------|---------|
| POINT NO.              | STATION   | OFFSET  |
| 3000                   | 118+88.67 | 112.66' |
| IP249                  | 115+72.96 | 32.99'  |
| 3002                   | 115+72.92 | 0.00'   |
| 3003                   | 115+72.88 | 33.02'  |
| 3004                   | 118+50.77 | 25.22'  |
| PRW3005                | 118+68.00 | 21.38'  |
| PRW3006                | 119+41.22 | 23.20'  |
| 3007                   | 119+42.80 | 0.00'   |
| 3008                   | 119+44.60 | 26.68'  |
| 3009                   | 119+06.46 | 39.79'  |
| 3010                   | 119+16.76 | 80.89'  |

| TLE STATION & OFFSET TABLE |           |         |
|----------------------------|-----------|---------|
| POINT NO.                  | STATION   | OFFSET  |
| TLE3100                    | 118+84.15 | 100.37' |
| TLE3101                    | 118+82.68 | 103.07' |
| TLE3102                    | 118+56.45 | 60.07'  |
| TLE3103                    | 118+57.80 | 56.58'  |
| TLE3104                    | 115+84.00 | 32.98'  |
| TLE3105                    | 115+78.00 | 58.00'  |
| TLE3106                    | 115+72.99 | 58.00'  |
| TLE3107                    | 115+72.65 | 57.00'  |
| TLE3108                    | 115+76.00 | 57.00'  |
| TLE3109                    | 115+76.00 | 36.00'  |
| TLE3110                    | 116+05.00 | 36.00'  |
| TLE3111                    | 116+05.00 | 33.03'  |
| TLE3112                    | 117+90.00 | 33.09'  |
| TLE3113                    | 117+90.00 | 36.00'  |
| TLE3115                    | 119+08.89 | 38.15'  |
| TLE3116                    | 119+15.30 | 65.19'  |
| TLE3117                    | 119+13.75 | 66.21'  |

| COURSE TABLE    |               |          |
|-----------------|---------------|----------|
| COURSE          | BEARING       | DISTANCE |
| 3000-IP249      | S89° 21' 27"W | 394.13'  |
| IP249-3002      | N00° 41' 33"W | 32.99'   |
| 3002-3003       | N00° 41' 33"W | 33.01'   |
| 3003-3004       | N89° 21' 27"E | 264.00'  |
| 3004-PRW3005    | N72° 02' 06"E | 13.31'   |
| PRW3005-PRW3006 | N24° 45' 03"E | 53.61'   |
| PRW3006-3007    | N89° 21' 27"E | 23.26'   |
| 3007-3008       | N89° 21' 27"E | 26.74'   |
| 3008-3009       | S00° 38' 33"E | 52.39'   |
| 3009-3010       | N89° 21' 27"E | 44.49'   |
| 3010-3000       | S00° 38' 33"E | 66.00'   |

ALL TLES ARE FOR SLOPE GRADING PURPOSES

REFER TO THE TITLE SHEET, RECORDED AS SHEET 2 OF 2, IN TRANSPORTATION PROJECT PLATS AS DOCUMENT NO. 926086 FOR ADDITIONAL INFORMATION.



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 OF TRANSPORTATION, I HAVE SURVEYED AND MAPPED THIS TRANSPORTATION PROJECT PLAT AND SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.



SIGNATURE: *Kevin C. Boyer* DATE: 5/30/2024  
PRINT NAME: KEVIN C. BOYER  
REGISTRATION NUMBER: S-2675  
THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION  
NW REGION - SUPERIOR OFFICE  
SIGNATURE: *Aaron Gustafson* DATE: 6-10-24  
PRINT NAME: AARON GUSTAFSON

NOTES:  
THIS EXHIBIT IS A GRAPHIC REPRESENTATION AND IS FOR REFERENCE PURPOSES ONLY.  
REFER TO THE CONVEYANCE DOCUMENT FOR PARCEL RELATED DETAILS.

ALL TLES ARE FOR CULVERT REPLACEMENT AND SLOPE GRADING PURPOSES.

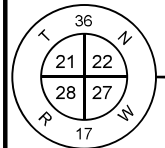
R/W PROJECT NUMBER: 8820-00-20      EXHIBIT NUMBER: 1

TLE ACQUISITION EXHIBIT  
FREDERIC - MCKINLEY  
STH 35 TO BASS LAKE LANE      POLK COUNTY

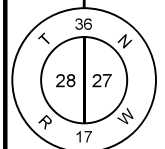
THAT PART OF SE1/4 OF THE SE1/4, SECTION 22 AND PART OF THE NE1/4 OF THE NE1/4, SECTION 27, ALL LOCATED IN TOWNSHIP 36 NORTH, RANGE 17 WEST, TOWN OF LUCK, POLK COUNTY, WISCONSIN.

CURVE 8  
PI STA = 198+24.66  
Y = 336553.567  
X = 510942.032  
DELTA = 50°31'57" RT  
D = 2°59'59"  
T = 901.53'  
L = 1684.63'  
R = 1910.10'  
PC STA = 189+23.14  
Y = 335871.541  
X = 510352.465  
PT STA = 206+07.77  
Y = 336531.951  
X = 511843.300  
DB = S40°50'29"W  
DA = S88°37'34"E

FOUND MAG NAIL  
Y = 336513.992  
X = 507269.548



SECTION LINE  
S00°41'01"W  
2612.18'



FOUND PLASTIC BERNTSEN W/BRASS DISK  
Y = 333901.996  
X = 507238.377

### SCHEDULE OF LANDS & INTERESTS REQUIRED

OWNERS NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY AND ARE SUBJECT TO CHANGE PRIOR TO THE TRANSFER OF LAND INTERESTS TO THE DEPARTMENT

| PARCEL NUMBER | OWNER(S)                                              | INTEREST REQUIRED | TLE S.F. |
|---------------|-------------------------------------------------------|-------------------|----------|
| 16            | LYNN D. WONKA F/K/A LYNN LINDBERG F/K/A LYNN D. GATES | TLE               | 2419     |
| 17            | WILLIAM A. FRENDT                                     | TLE               | 3004     |

### UTILITY INTERESTS REQUIRED

| UTILITY NUMBER | UTILITY OWNER(S)                                                  | INTEREST REQUIRED |
|----------------|-------------------------------------------------------------------|-------------------|
| 201            | LAKELAND TELECOM INC (COMMUNICATION)                              | RELEASE OF RIGHTS |
| 202            | NORTHERN STATES POWER COMPANY, A WISCONSIN CORPORATION (ELECTRIC) | RELEASE OF RIGHTS |
| 206            | BRIGHTSPEED OF WESTERN WISCONSIN, LLC (COMMUNICATION)             | RELEASE OF RIGHTS |

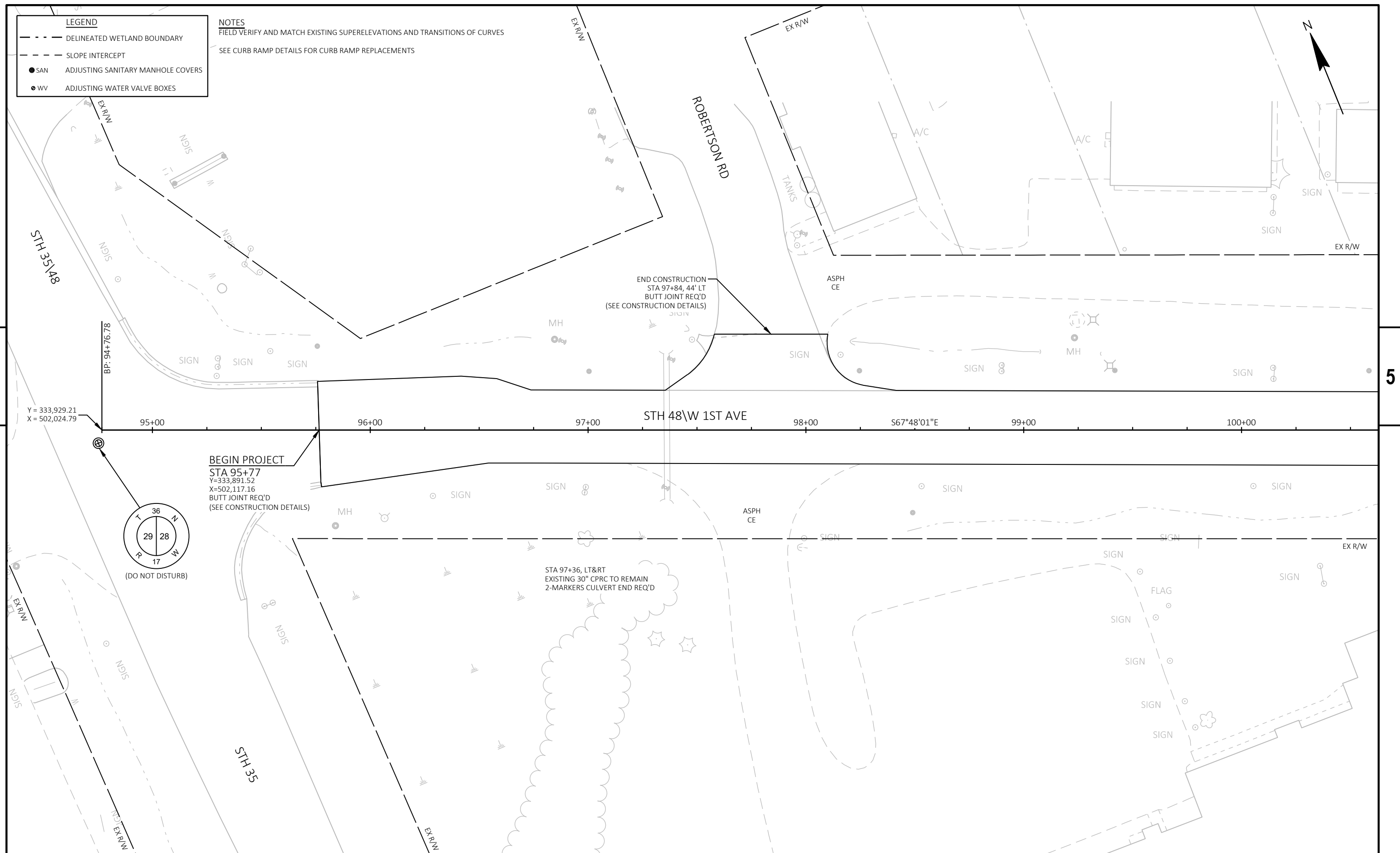
LYNN D. WONKA F/K/A LYNN LINDBERG F/K/A LYNN D. GATES  
TAX ID: 146-00524-0000

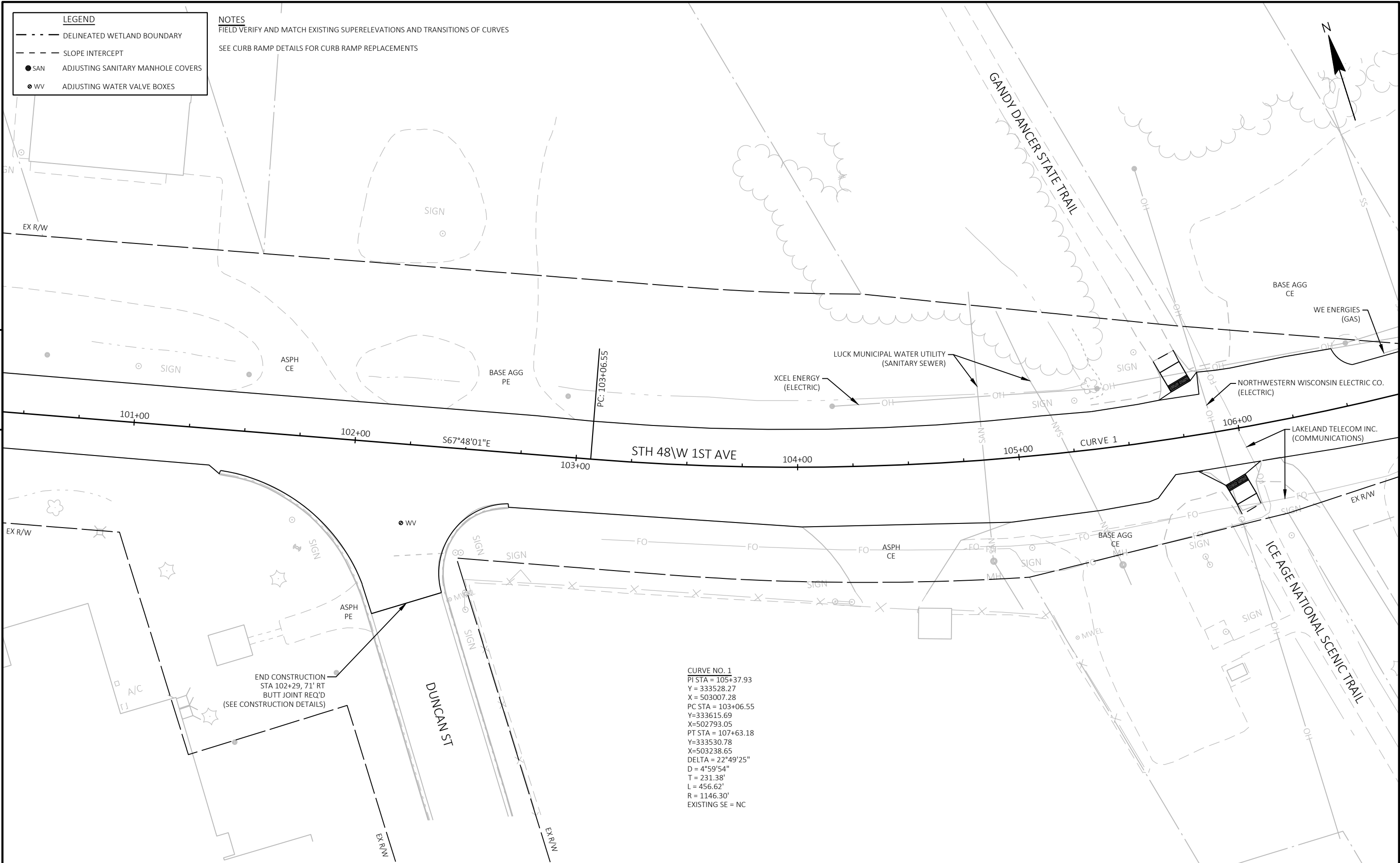
WILLIAM A. FRENDT  
TAX ID: 036-00625-0000



- (201) LAKELAND TELECOM INC (COMMUNICATION)  
DOC. 354031 - PAR. 17  
DOC. 347032 - PAR. 16
- (202) NORTHERN STATES POWER COMPANY, A WISCONSIN CORPORATION (ELECTRIC)  
DOC. 261649 - PAR. 16
- (206) BRIGHTSPEED OF WESTERN WISCONSIN, LLC (COMMUNICATION)  
NO RECORD OF EASEMENT - PAR. 17

REVISED DATE: 2/4/2025







**LEGEND**

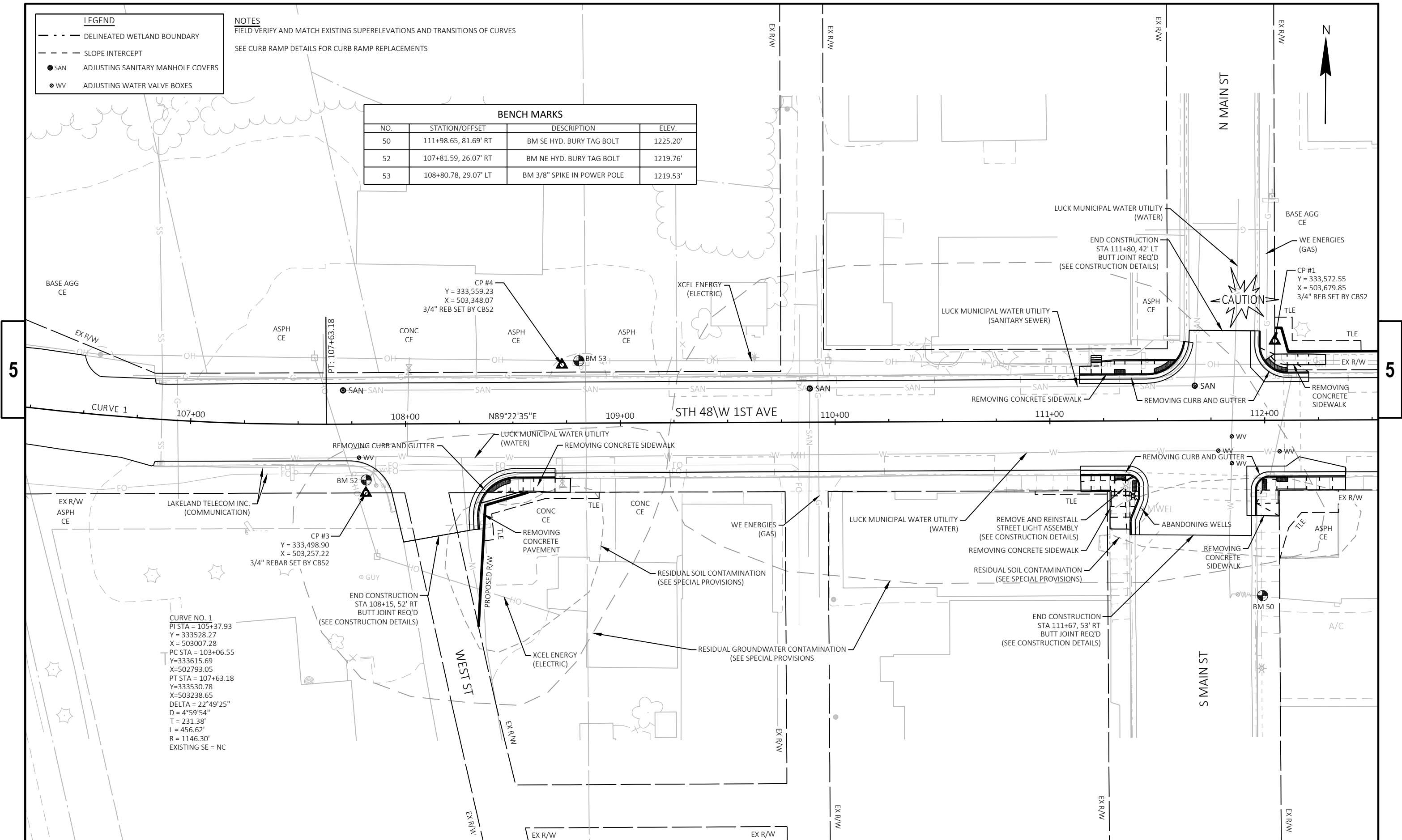
- DELINEATED WETLAND BOUNDARY
- SLOPE INTERCEPT
- SAN ADJUSTING SANITARY MANHOLE COVERS
- WV ADJUSTING WATER VALVE BOXES

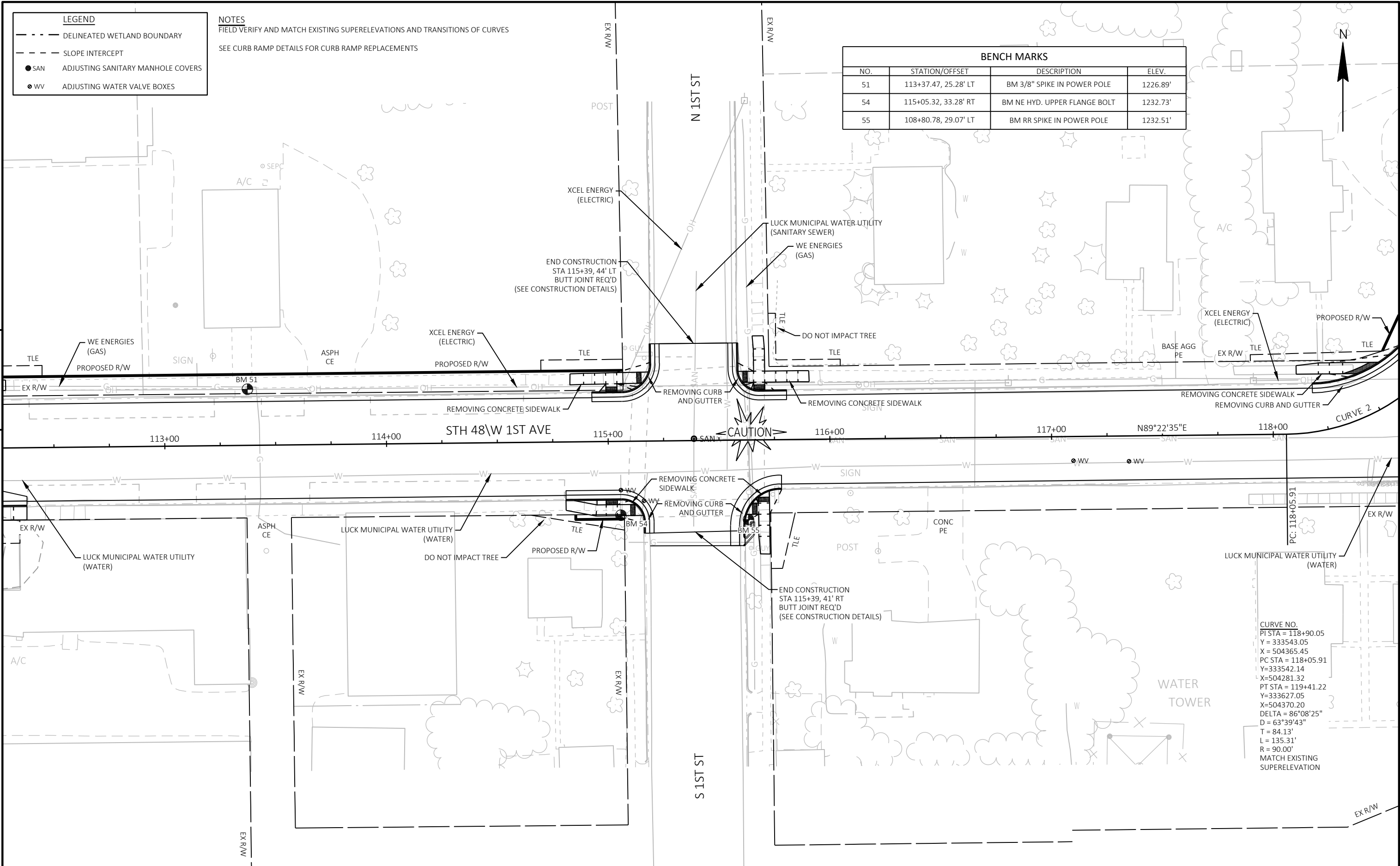
**NOTES**

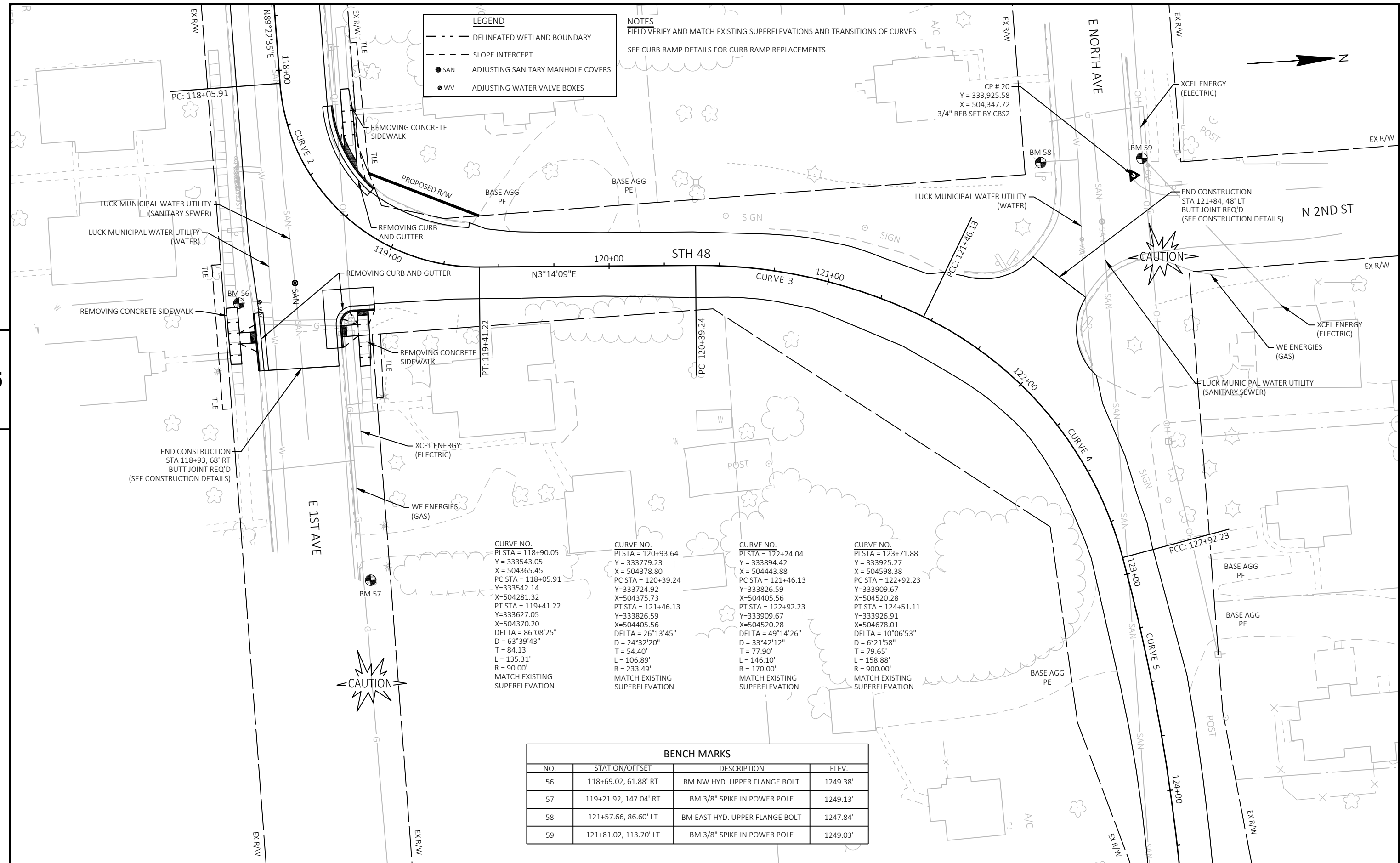
FIELD VERIFY AND MATCH EXISTING SUPERELEVATIONS AND TRANSITIONS OF CURVES

SEE CURB RAMP DETAILS FOR CURB RAMP REPLACEMENTS

| BENCH MARKS |                      |                             |          |
|-------------|----------------------|-----------------------------|----------|
| NO.         | STATION/OFFSET       | DESCRIPTION                 | ELEV.    |
| 50          | 111+98.65, 81.69' RT | BM SE HYD. BURY TAG BOLT    | 1225.20' |
| 52          | 107+81.59, 26.07' RT | BM NE HYD. BURY TAG BOLT    | 1219.76' |
| 53          | 108+80.78, 29.07' LT | BM 3/8" SPIKE IN POWER POLE | 1219.53' |









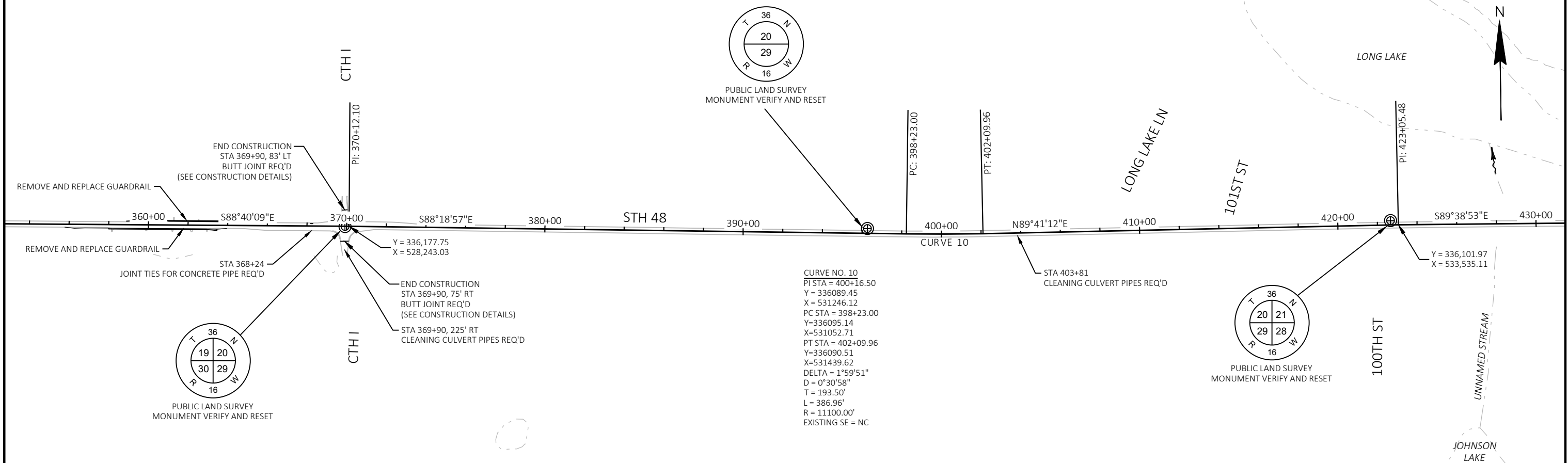
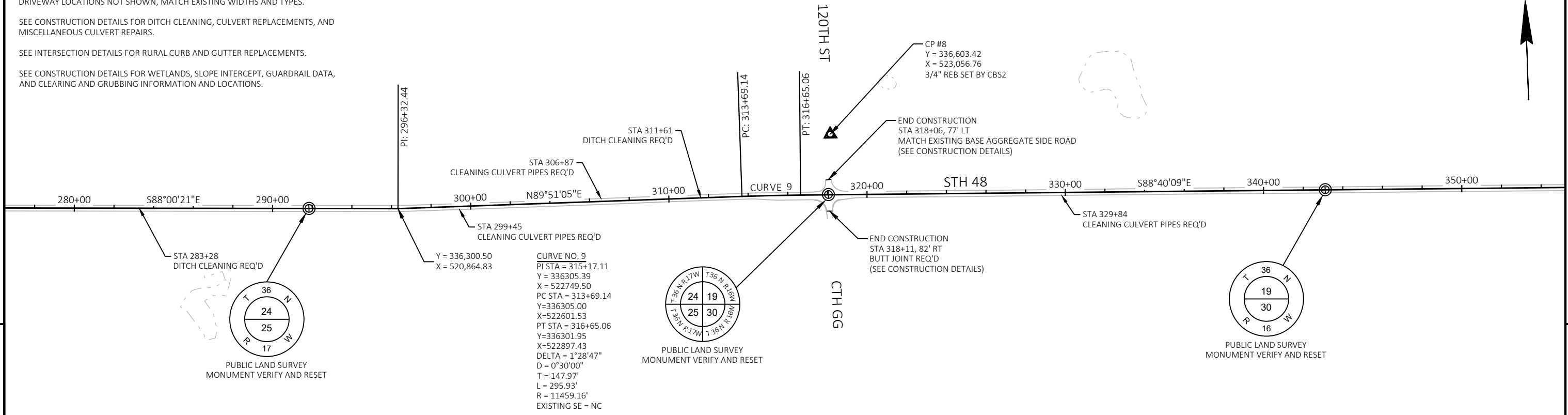
NOTES  
FIELD VERIFY AND MATCH EXISTING SUPERELEVATIONS AND TRANSITIONS ON CURVES

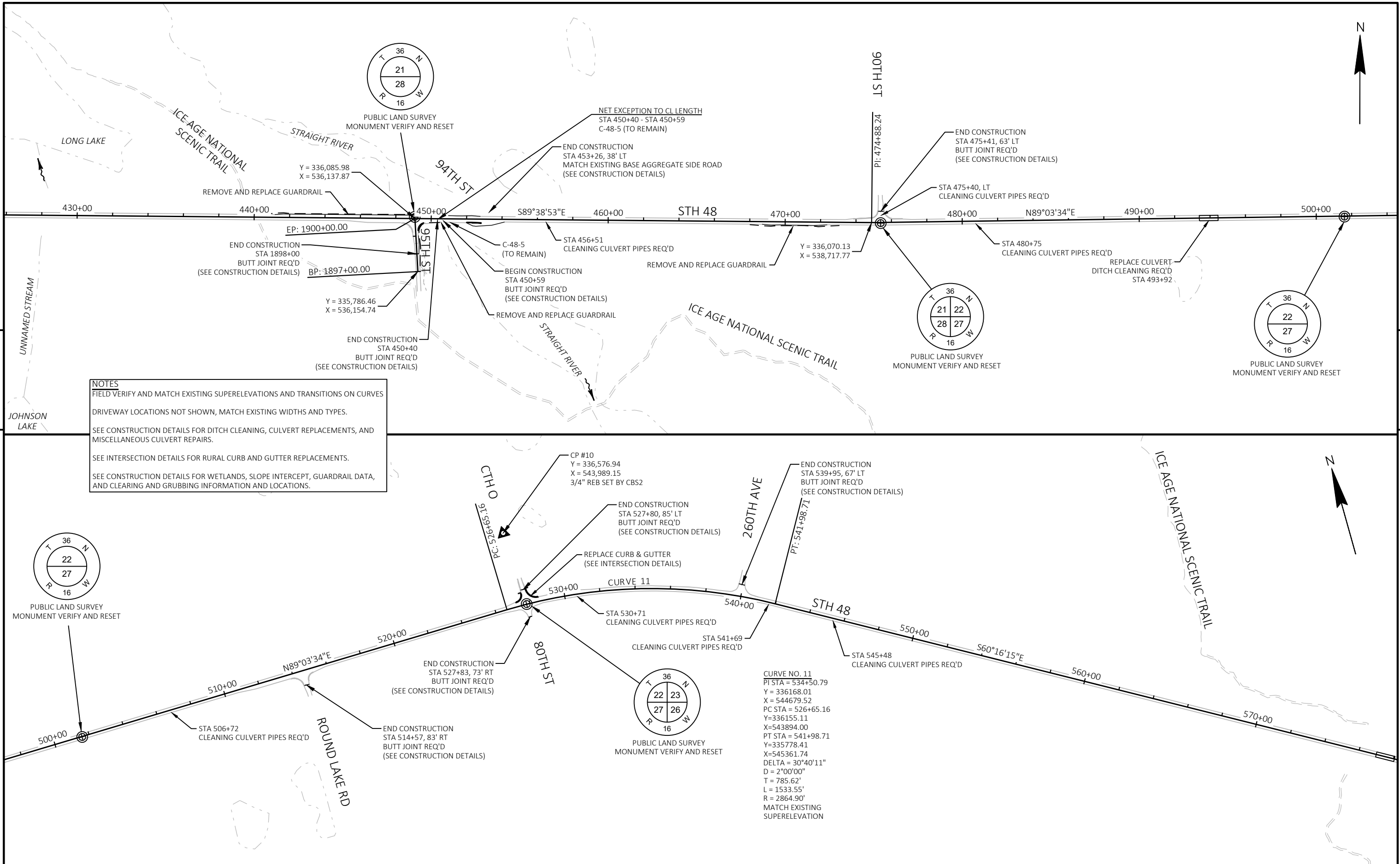
DRIVEWAY LOCATIONS NOT SHOWN, MATCH EXISTING WIDTHS AND TYPES.

SEE CONSTRUCTION DETAILS FOR DITCH CLEANING, CULVERT REPLACEMENTS, AND MISCELLANEOUS CULVERT REPAIRS.

SEE INTERSECTION DETAILS FOR RURAL CURB AND GUTTER REPLACEMENTS.

SEE CONSTRUCTION DETAILS FOR WETLANDS, SLOPE INTERCEPT, GUARDRAIL DATA, AND CLEARING AND GRUBBING INFORMATION AND LOCATIONS.





NOTES  
FIELD VERIFY AND MATCH EXISTING SUPERELEVATIONS AND TRANSITIONS ON CURVES  
DRIVEWAY LOCATIONS NOT SHOWN, MATCH EXISTING WIDTHS AND TYPES.  
SEE CONSTRUCTION DETAILS FOR DITCH CLEANING, CULVERT REPLACEMENTS, AND MISCELLANEOUS CULVERT REPAIRS.  
SEE INTERSECTION DETAILS FOR RURAL CURB AND GUTTER REPLACEMENTS.  
SEE CONSTRUCTION DETAILS FOR WETLANDS, SLOPE INTERCEPT, GUARDRAIL DATA, AND CLEARING AND GRUBBING INFORMATION AND LOCATIONS.



SEE CONSTRUCTION DETAILS FOR WETLANDS, SLOPE INTERCEPT, GUARDRAIL DATA,  
AND CLEARING AND GRUBBING INFORMATION AND LOCATIONS.

CURVE NO. 12  
PI STA = 607+55.30  
Y = 332526.98  
X = 551055.33  
PC STA = 602+54.14  
Y=32775.51  
X=550620.13  
PT STA = 612+46.42  
Y=32440.95  
X=551549.05  
DELTA = 19°50'42"  
D = 2°00'00"  
T = 501.16'  
L = 992.28'  
R = 2864.90'  
MATCH EXISTING  
SUPERELEVATION

END CONSTRUCTION  
STA 622+94, 36' LT  
MATCH EXISTING BASE AGGREGATE SIDE ROAD  
(SEE CONSTRUCTION DETAILS)

LAMONT LAKE

64TH ST

STA 631+38  
CLEANING CULVERT PIPES REQ'D

640+00

REPLACE CULVERT  
STA 639+43

## BASS LAKE

—END CONSTRUCTION  
STA 632+48, 87' RT  
BUTT JOINT REQ'D  
(SEE CONSTRUCTION

48

REMOVE AND REPLACE GUARDRAIL, LT&RT

PICKEREL  
LAKE

CURVE NO. 13  
PI STA = 692+36.52  
Y = 331069.36  
X = 559420.55  
PC STA = 688+55.49  
Y=331134.77  
X=559045.17  
PT STA = 696+15.12  
Y=331078.08  
X=559801.47  
DELTA = 11°11'42"  
D = 1°28'26"  
T = 381.03'  
L = 759.63'  
R = 3887.75'  
MATCH EXISTING  
SUPERELEVATION

PC: 688+55.49

PT: 696+15.12

EP: 706+00.00

$$\frac{Y}{X} = \frac{331,100.61}{560,786.10}$$

—M RIVER

ANDRUS  
LAKE

REPLACE CULVERT  
STA 652+30

— STA 660+80  
CLEANING CULVERT PIPES REQ'D  
MARKERS FOR CULVERT END REQ'D, LT&RT

STA 668+60  
CLEANING CULVERT PIPES REQ'D  
MARKERS FOR CULVERT END REQ'D, LT&R

STH 48

80°06'56"E

END PROJECT  
STA 685+63  
BUTT JOINT REQ'D  
(SEE CONSTRUCTION DETAILS)

END CONSTRUCTION —  
STA 684+55, 76' RT  
BUTT JOINT REQ'D  
(SEE CONSTRUCTION DETAILS)

## BASS LAKE

MISS LAKE LN

END CONSTRUCTION  
STA 659+90, 57' RT  
MATCH EXISTING BASE AGGREGATE SIDE ROAD  
(SEE CONSTRUCTION DETAILS)

- REMOVE AND REPLACE GUARDRAIL

END CONSTRUCTION  
STA 651+45, 74' RT  
MATCH EXISTING BASE AGGREGATE SIDE ROAD  
(SEE CONSTRUCTION DETAILS)

PROJECT NO: 8820-00-70

HWY: STH 48

COUNTY: POLK

## PLAN

SHEET

107

# E

FILE NAME : P:\55XX\5508.DP.22.STH35-48.PLK\CADD5\88200070\SHEETS\050202-PN.DWG  
LAYOUT NAME - 04

PLOT DATE : 4/9/2026 1:56 PM

PLOT BY : PARKER TISCHAUSER

PLOT NAME :

PLOT SCALE : 1 IN:500 FT

WISDOT/CADDS SHEET 44

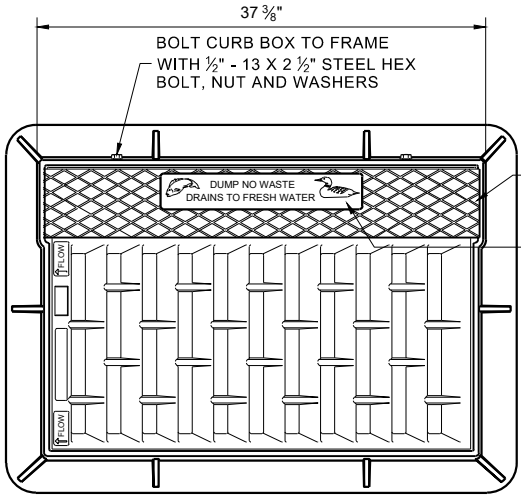
Standard Detail Drawing List

|           |                                                                                                    |
|-----------|----------------------------------------------------------------------------------------------------|
| 08A05-22A | INLET COVERS TYPE A, H, A-S, H-S & Z                                                               |
| 08D01-24A | CONCRETE CURB & GUTTER                                                                             |
| 08D01-24B | CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS                                               |
| 08D04-07  | CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES                                                         |
| 08D05-22A | CURB RAMPS TYPES 1 AND 1-A                                                                         |
| 08D05-22B | CURB RAMPS TYPES 2 AND 3                                                                           |
| 08D05-22C | CURB RAMPS TYPES 4A AND 4A1                                                                        |
| 08D05-22D | CURB RAMPS TYPES 4B AND 4B1                                                                        |
| 08D05-22E | CURB RAMPS TYPES 5, 6, 7A, 7B & 8                                                                  |
| 08D05-22F | CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS                                            |
| 08D05-22G | CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES                                        |
| 08E08-03  | TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS                                    |
| 08E09-06  | SILT FENCE                                                                                         |
| 08E10-02  | INLET PROTECTION TYPE A, B, C AND D                                                                |
| 08E15-01  | CULVERT PIPE CHECK                                                                                 |
| 08F01-11  | APRON ENDWALLS FOR CULVERT PIPE                                                                    |
| 08F02-01  | APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE                                                   |
| 08F04-08  | JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL                                            |
| 09B02-10  | CONDUIT                                                                                            |
| 09C02-09  | CONCRETE BASES, TYPES 1, 2, 5, & 6                                                                 |
| 13A11-04A | CENTERLINE RUMBLE STRIPS - ASPHALT                                                                 |
| 13A11-04D | CENTERLINE RUMBLE STRIPS - INTERSECTIONS, DRIVEWAYS, BRIDGES, RAILROADS                            |
| 13C19-03  | HMA LONGITUDINAL JOINTS                                                                            |
| 14B28-04A | GUARDRAIL MOW STRIP                                                                                |
| 14B28-04B | GUARDRAIL MOW STRIP                                                                                |
| 14B29-01  | SAFETY EDGE                                                                                        |
| 14B42-07A | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL                                                           |
| 14B42-07B | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL                                                           |
| 14B42-07C | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL                                                           |
| 14B42-07D | MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL                                                           |
| 14B43-04A | MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)                                                         |
| 14B43-04B | MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)                                                         |
| 14B43-04C | MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L)                                                         |
| 14B44-04A | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)                                           |
| 14B44-04B | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)                                           |
| 14B44-04C | MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)                                           |
| 14B45-05A | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)                                               |
| 14B45-05B | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)                                               |
| 14B45-05C | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)                                               |
| 14B45-05D | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)                                               |
| 14B45-05E | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)                                               |
| 14B45-05F | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)                                               |
| 14B45-05G | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)                                               |
| 14B45-05H | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)                                               |
| 14B45-05I | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)                                               |
| 14B45-05J | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)                                               |
| 14B45-05K | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)                                               |
| 14B45-05L | MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION (MGS)                                               |
| 14B53-03A | SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)                                          |
| 14B53-03B | SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)                                          |
| 14B53-03C | SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)                                          |
| 14B53-03D | SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)                                          |
| 14B53-03E | SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)                                          |
| 14B53-03F | SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)                                          |
| 14B53-03G | SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)                                          |
| 14B53-03H | SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)                                          |
| 14B53-03I | SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)                                          |
| 15A03-02A | FLEXIBLE MARKER POST FOR CULVERT END                                                               |
| 15A03-02B | FLEXIBLE MARKER POST FOR CULVERT END                                                               |
| 15C02-10A | BARRICADES AND SIGNS FOR MAINLINE CLOSURES                                                         |
| 15C02-10B | BARRICADES AND SIGNS FOR VARIOUS CLOSURES                                                          |
| 15C02-10F | ADVANCED WIDTH RESTRICTION SIGNING                                                                 |
| 15C03-05  | BARRICADES AND SIGNS FOR SIDEROAD CLOSURES                                                         |
| 15C04-05  | TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC |
| 15C05-05  | TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC    |
| 15C06-12  | SIGNING & MARKING FOR TWO LANE BRIDGES                                                             |



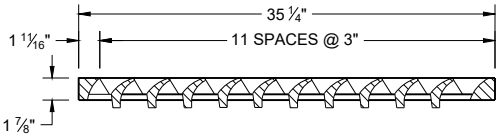
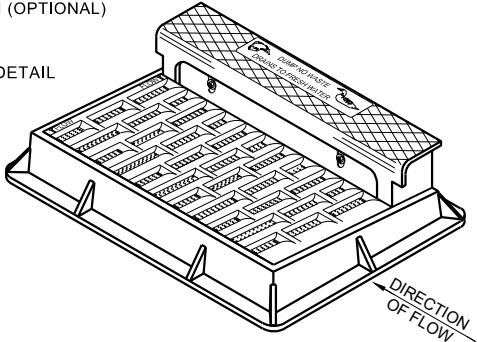
Standard Detail Drawing List

|           |                                                                        |
|-----------|------------------------------------------------------------------------|
| 15C08-24A | PERMANENT LONGITUDINAL PAVEMENT MARKINGS                               |
| 15C08-24B | TEMPORARY LONGITUDINAL PAVEMENT MARKING                                |
| 15C11-11B | CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS      |
| 15C12-09A | TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION               |
| 15C12-09B | TRAFFIC CONTROL, LANE CLOSURE WITH AUTOMATED FLAGGER ASSISTANCE DEVICE |
| 15C19-11A | MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY             |
| 15C33-05  | STOP LINE AND CROSSWALK PAVEMENT MARKING                               |
| 15C35-06A | PAVEMENT MARKING (INTERSECTIONS)                                       |
| 15C36-01  | PARKING STALL MARKING                                                  |
| 15D28-05  | TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY   |
| 15D30-12A | TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION                              |
| 15D30-12B | TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION                              |
| 15D30-12C | TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION                              |
| 15D30-12D | TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION                              |
| 15D30-12E | TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION                              |
| 15D30-12F | TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION                              |
| 15D30-12G | TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION                              |
| 15D30-12H | TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION                              |
| 15D30-12I | TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION                              |
| 15D30-12J | TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION                              |
| 15D30-12K | TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION                              |
| 15D30-12L | TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION                              |
| 15D39-03  | TRAFFIC CONTROL, DROP-OFF SIGNING                                      |
| 15D44-02  | TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES              |
| 15D45-03  | TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL                 |
| 15D48-01  | TRAFFIC CONTROL, LANE SHIFT IN FLAGGING OPERATION                      |
| 15D51-02  | TRAFFIC CONTROL, MOBILE OPERATIONS ON AN UNDIVIDED ROADWAY             |
| 16A02-01  | GEODETIC SURVEY MONUMENT                                               |

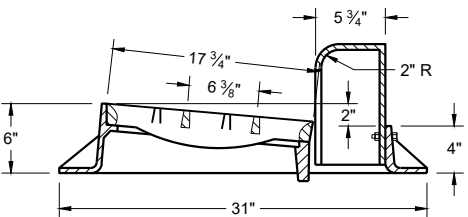
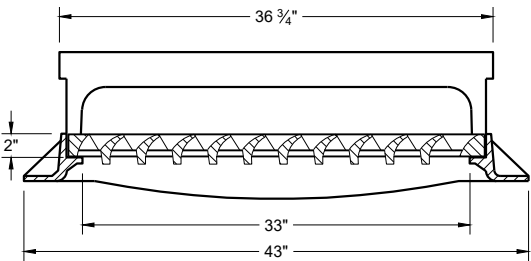
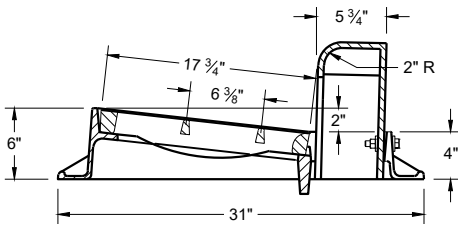
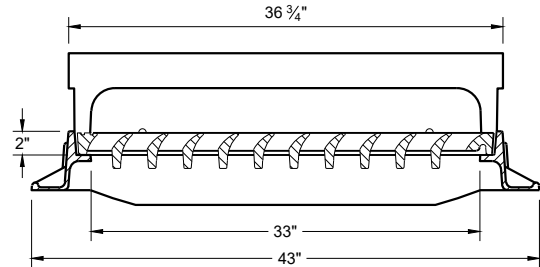


NOTE: EITHER CASTING IS ACCEPTABLE

TYPE "C" CHECKERED TOP DESIGN (OPTIONAL)  
SEE LOGO DETAIL

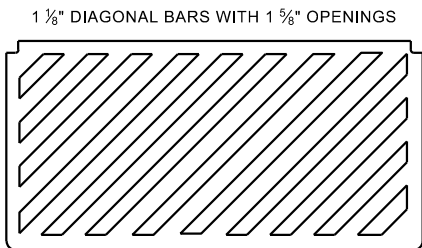


NOTE: CURB BOX HEIGHT ADJUSTABLE 6" - 9"

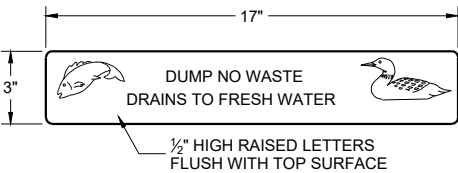


**TYPE "H"**

NOTE: EITHER CASTING IS ACCEPTABLE



**SPECIAL GRATE FOR TYPE "H" COVER**  
(MEASURES 35" X 17 3/4" X 2")  
(NOTED AS TYPE H-S ON DRAINAGE TABLE)



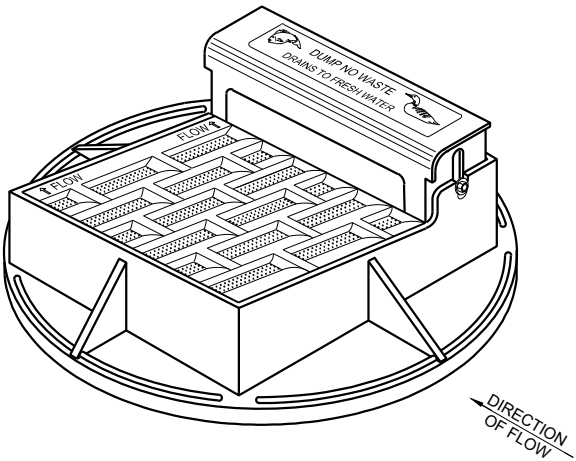
**LOGO DETAIL**

**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.

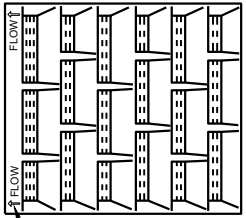
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

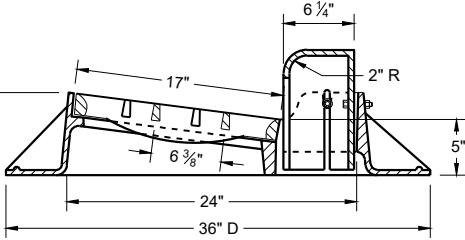
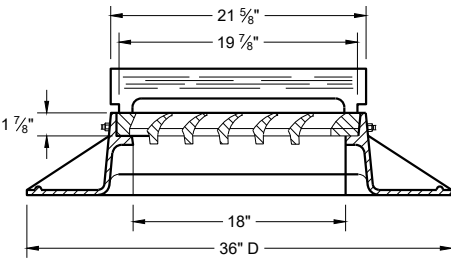
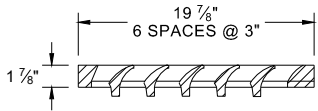


NOTE: CURB BOX HEIGHT ADJUSTABLE 6" - 9"

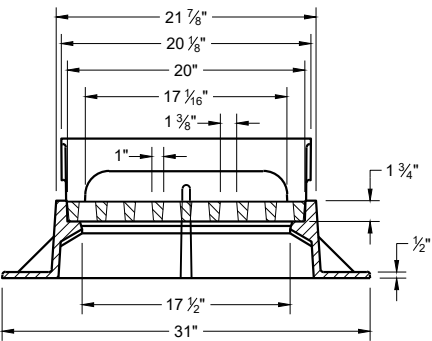
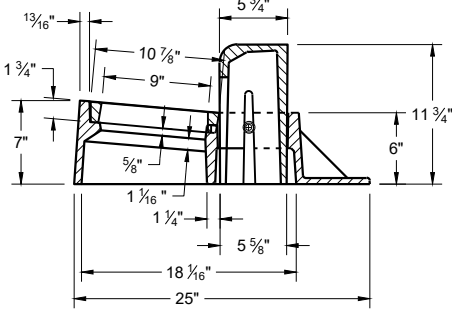
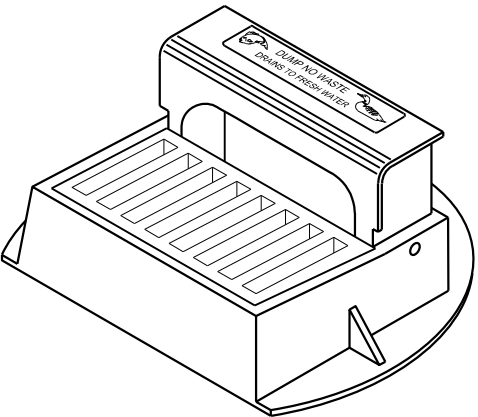
NOTE: EITHER CASTING IS ACCEPTABLE



DIRECTION OF FLOW ARROWS



**TYPE "A"**

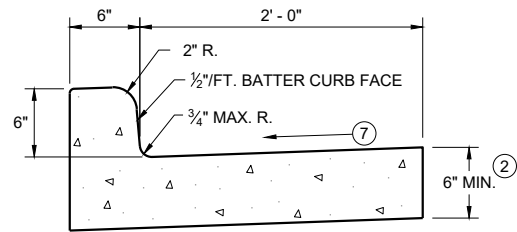


**TYPE "Z"**

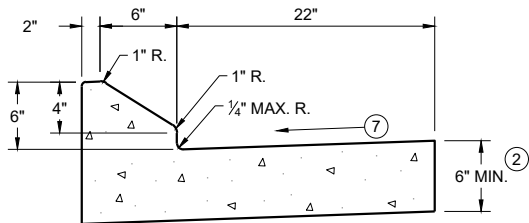
**INLET COVERS  
TYPES A, H, A-S, H-S AND Z**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

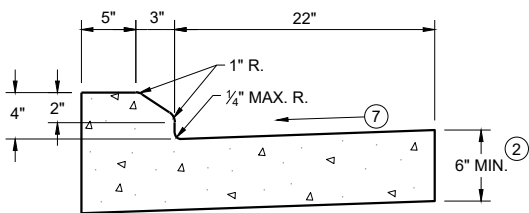
APPROVED  
February 2025 DATE /S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT  
UNIT SUPERVISOR  
FHWA



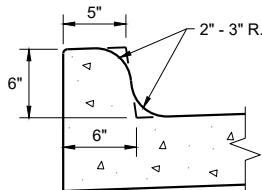
TYPES A<sup>①</sup> & D



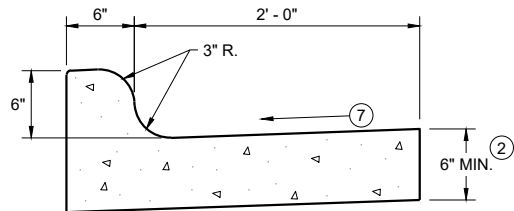
6" SLOPED CURB TYPES G<sup>①</sup> & J



4" SLOPED CURB TYPES G<sup>①</sup> & J

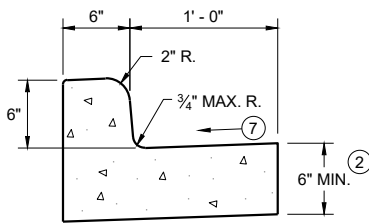


TYPES K<sup>①</sup> & L  
(OPTIONAL CURB SHAPE)



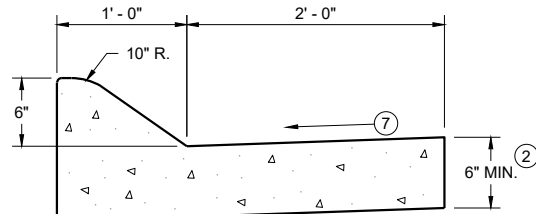
TYPES K<sup>①</sup> & L

CONCRETE CURB AND GUTTER 30"

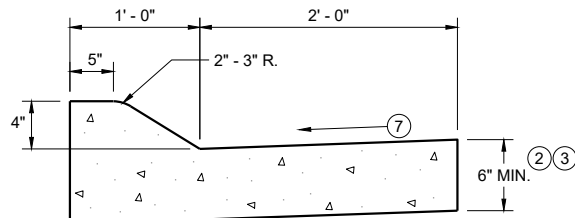


TYPES A<sup>①</sup> & D

CONCRETE CURB AND GUTTER 18"

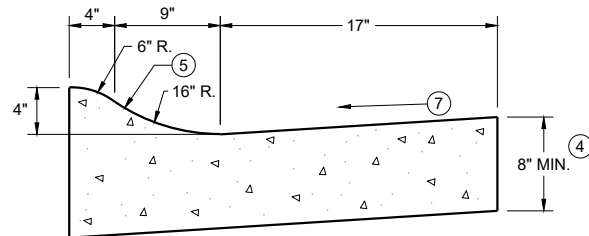


6" SLOPED CURB TYPES A<sup>①</sup> & D



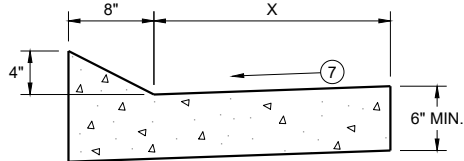
4" SLOPED CURB TYPES A<sup>①</sup> & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R<sup>①</sup> & T  
CONCRETE CURB AND GUTTER 30"

| TBT & TBTT | X   |
|------------|-----|
| 30"        | 22" |
| 36"        | 28" |

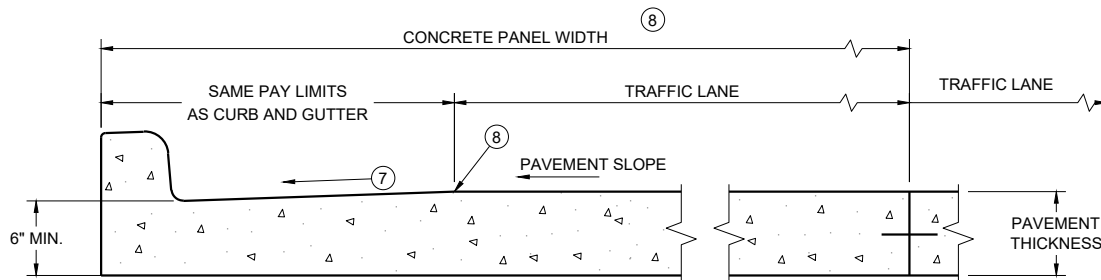


TYPES TBT & TBTT<sup>①</sup>

CONCRETE CURB AND GUTTER

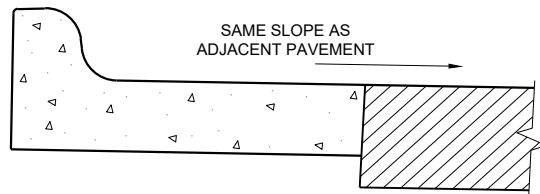
PAVEMENT THICKNESS  
AND MAXIMUM CONCRETE  
PANEL WIDTH TABLE

| PAVEMENT THICKNESS | MAXIMUM PANEL WIDTH |
|--------------------|---------------------|
| LESS THAN 10"      | 12'                 |
| 10" & ABOVE        | 15'                 |

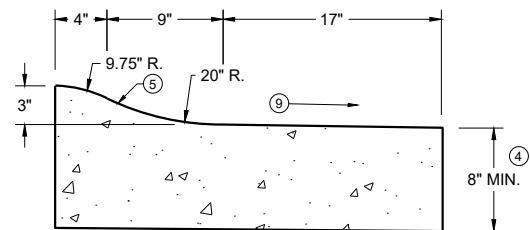


PARTIAL SECTION OF PAVEMENT  
WITH INTEGRAL CURB AND GUTTER

\* BIKE LANE IS NOT SHOWN



REVERSE SLOPE GUTTER<sup>⑥</sup>  
(TYPICAL FOR ALL CURB & GUTTER TYPES)



3" SLOPED CURB TYPES R<sup>①</sup> & T

CONCRETE CURB AND GUTTER

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES

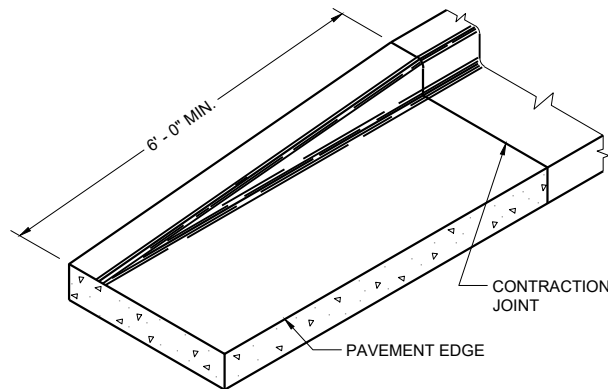
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

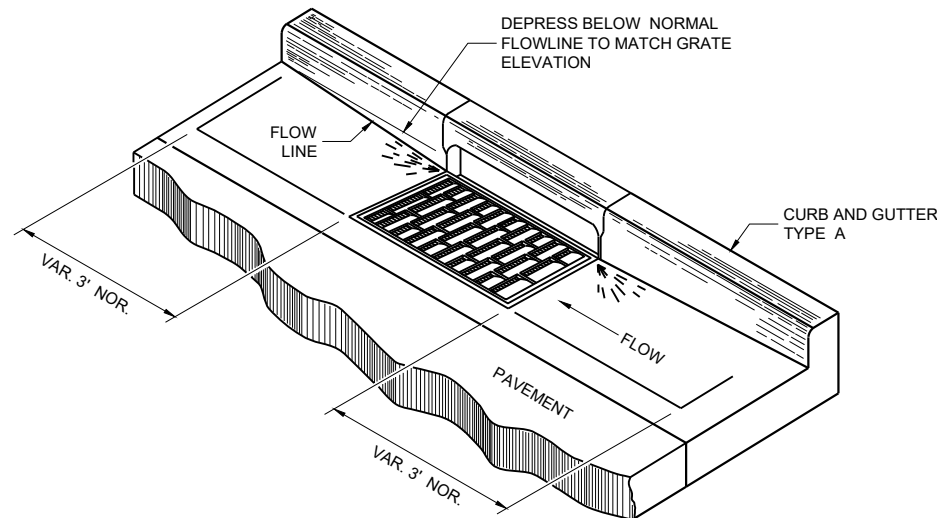
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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 GUTTERS 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 UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES 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.
- ⑦ USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- ⑧ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.
- ⑨ SLOPE TO BE REVERSE SLOPE MATCHING THE SLOPE OF THE PAVEMENT AND THE CIRCULATORY ROADWAY

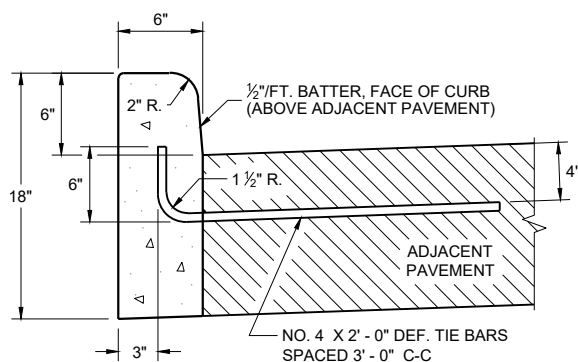


END SECTION CURB AND GUTTER

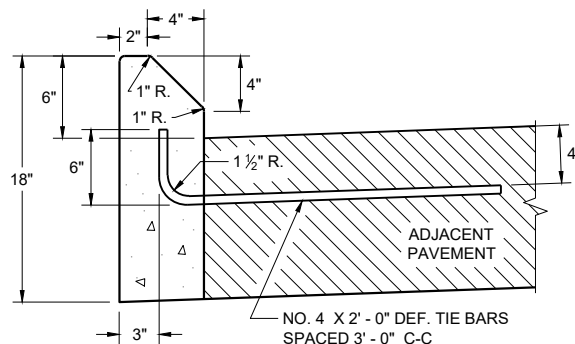


DETAIL OF CURB AND GUTTER AT INLETS

(TYPICAL H INLET COVER SHOWN)

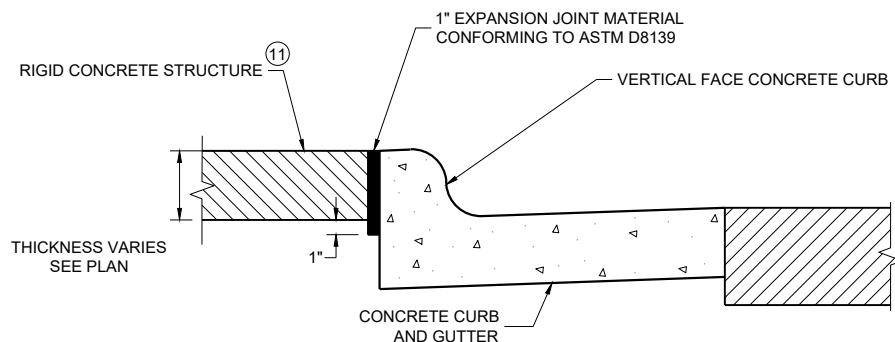


TYPES A<sup>①</sup> & D

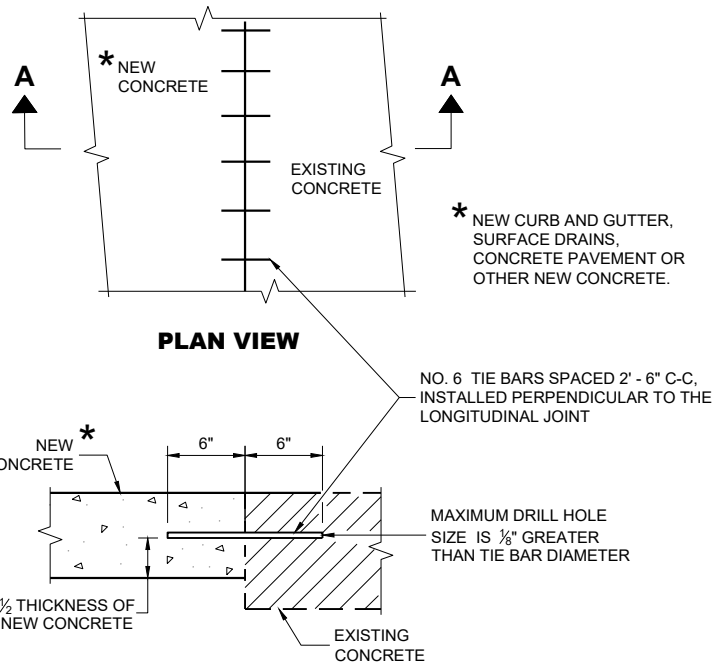


TYPES G<sup>①</sup> & J

CONCRETE CURB



EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE<sup>⑪</sup>



PLAN VIEW

SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT

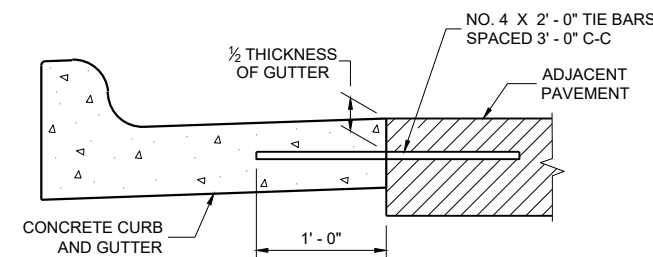
GENERAL NOTES

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

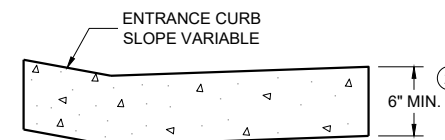
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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 GUTTERS 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.
- ⑩ REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.
- ⑪ PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.



TYPICAL TIE BAR LOCATION<sup>①</sup>



DRIVEWAY ENTRANCE CURB<sup>⑩</sup>  
(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES  
AND CURB AND GUTTER  
APPLICATIONS

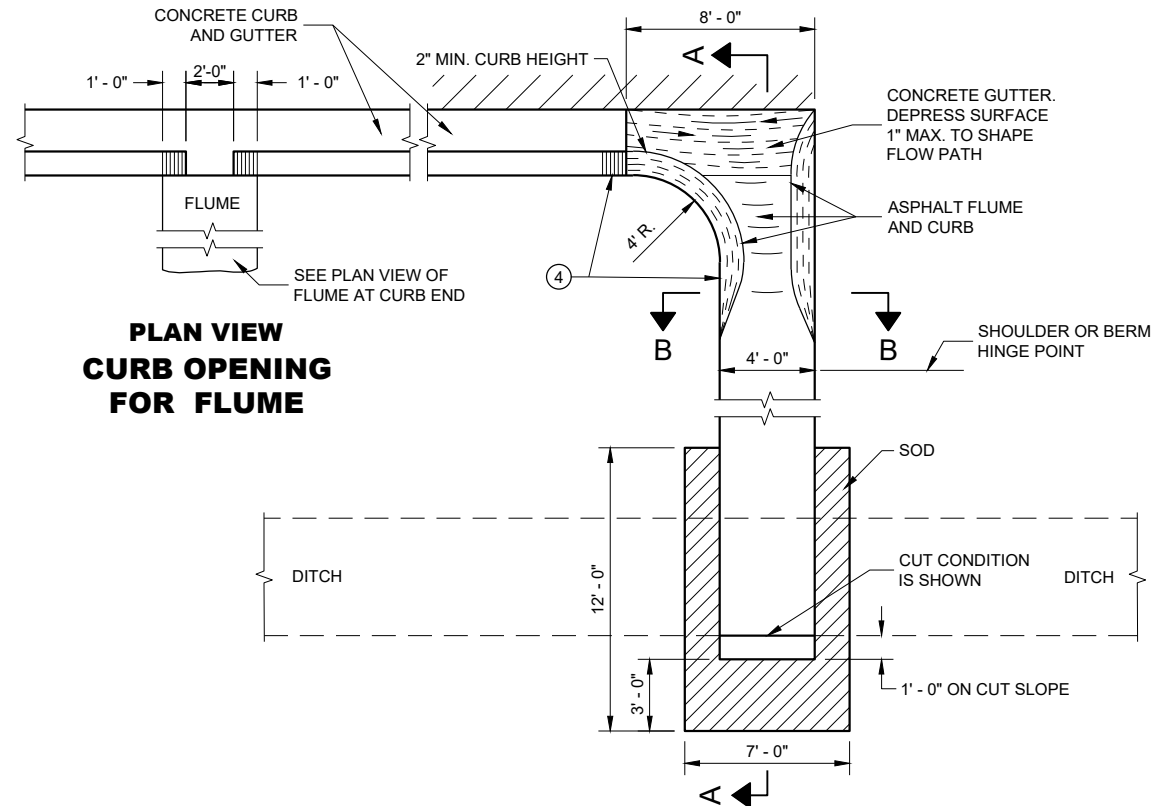
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
February 2025  
DATE  
/S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT  
UNIT SUPERVISOR

FHWA

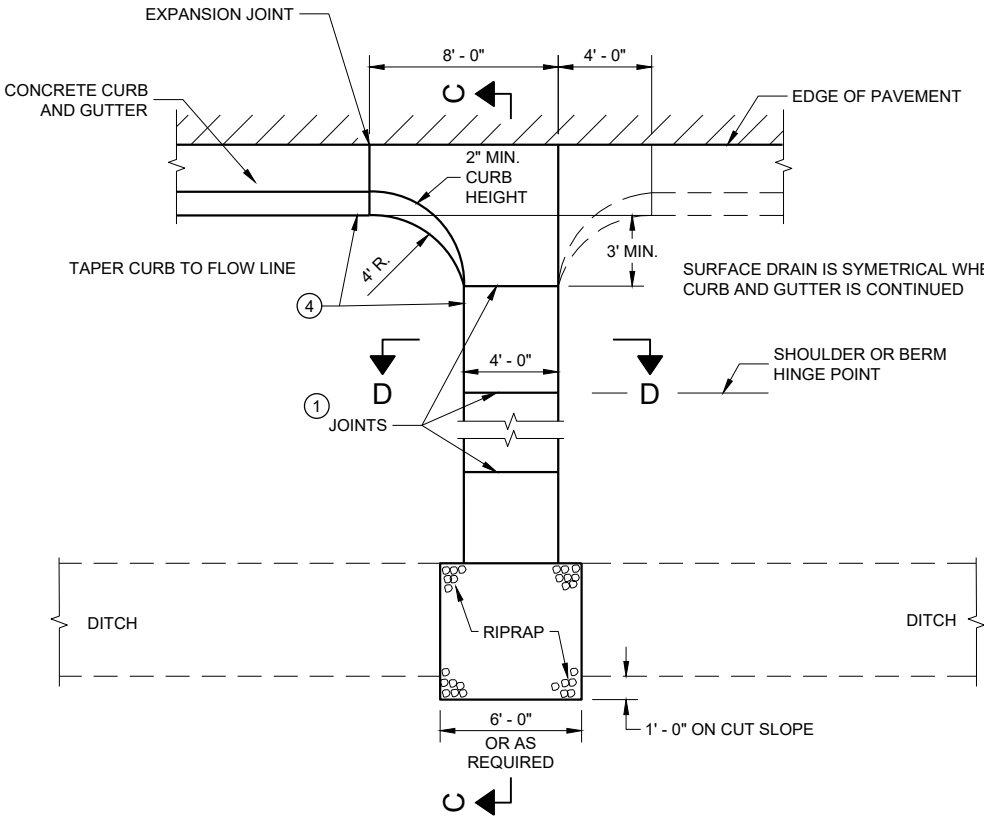
NOTE: TAPER CURB ENDS TO GUTTER IN 1' - 0"

ASPHALTIC FLUME



PLAN VIEW  
CURB OPENING  
FOR FLUME

PLAN VIEW  
FLUME AT CURB END



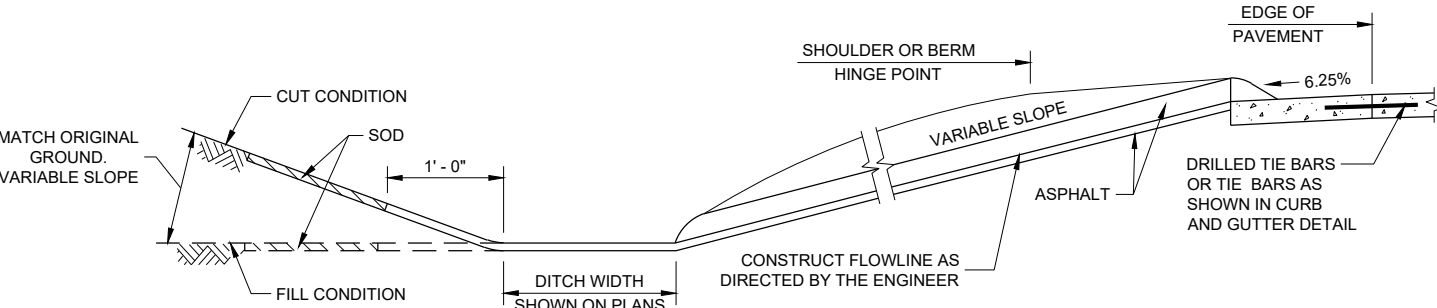
PLAN VIEW  
CONCRETE SURFACE DRAIN

GENERAL NOTES

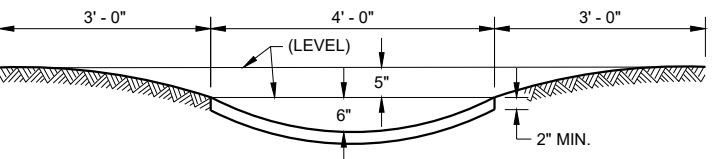
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

4" X 4" - W3.0 X W3.0 CONCRETE REINFORCEMENT SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

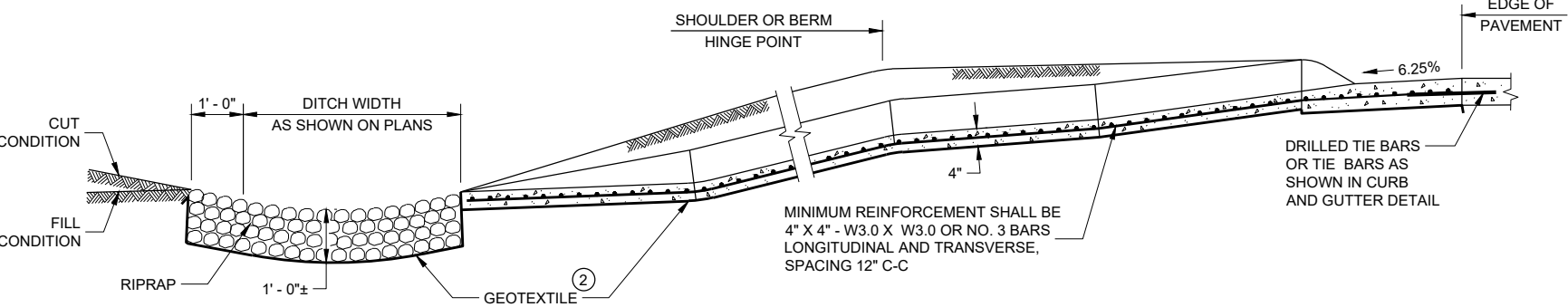
- ① JOINTS SHALL BE 1/8" TO 1/4" WIDE BY 1 1/2" DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
- ② GEOTEXTILE TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
- ③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED.
- ④ ANGLE OF FLUME IN RELATION TO BACK OF CURB TO BE CONSTRUCTED PER THE PLAN DETAILS OR AS DIRECTED BY THE ENGINEER. ANGLE OF FLUME MAY BE OTHER THAN 90 DEGREES AS SHOWN.



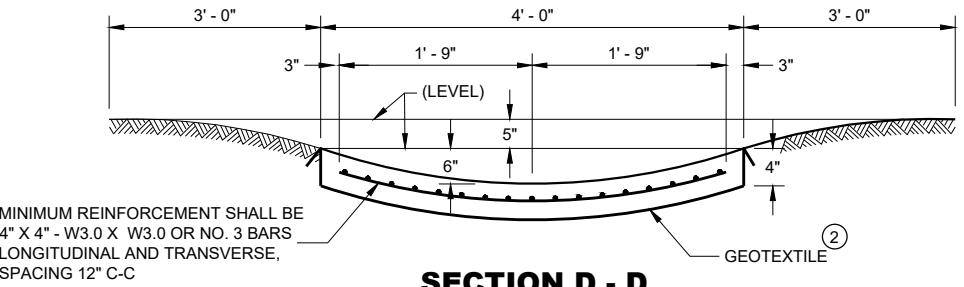
SECTION A - A



SECTION B - B



SECTION C - C

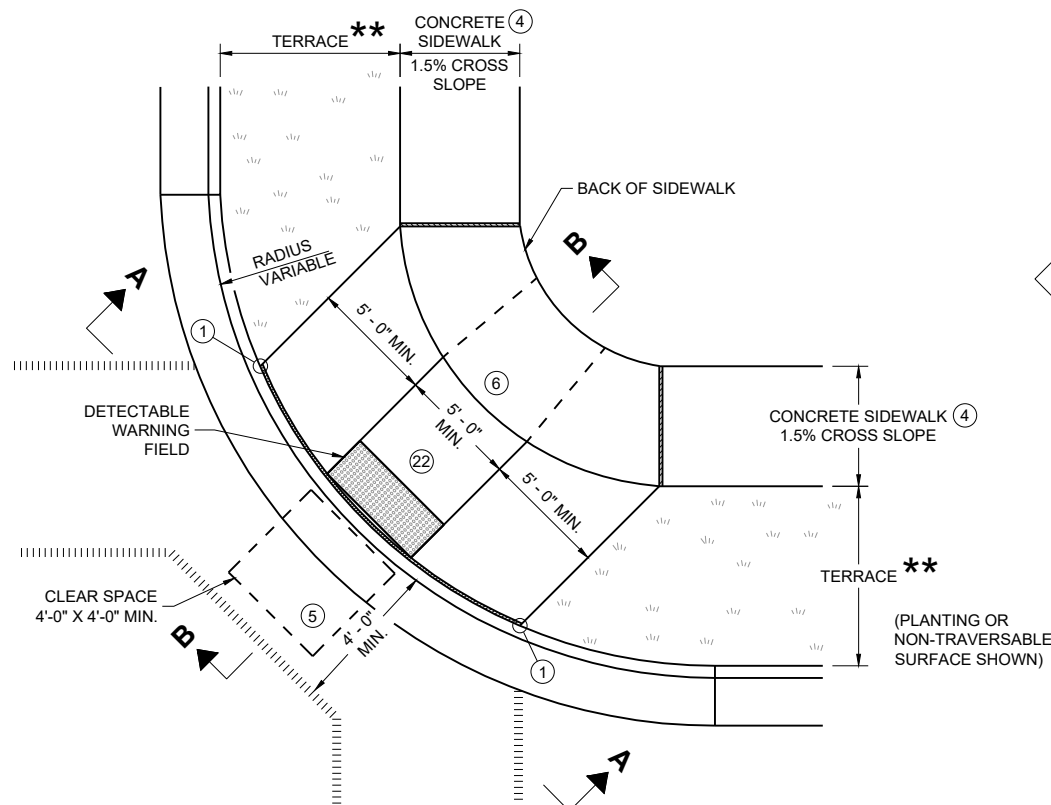


SECTION D - D

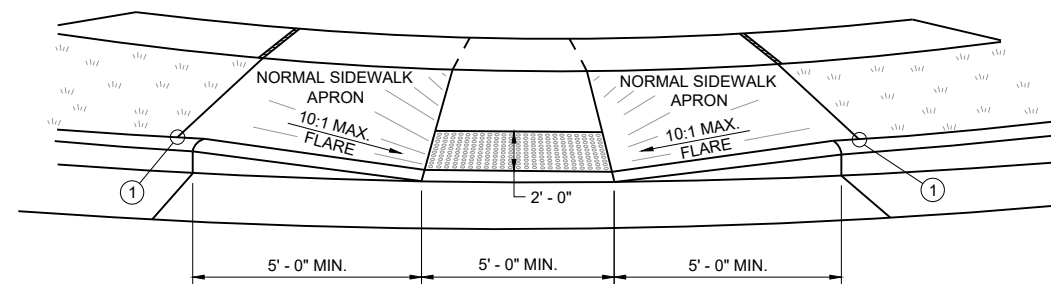
CONCRETE SURFACE  
DRAINS AND  
ASPHALTIC FLUMES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

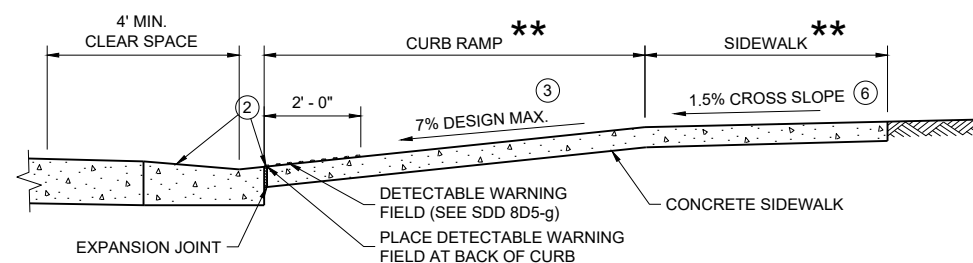
APPROVED  
May 2023  
DATE  
/S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT ENGINEER  
113  
FHWA



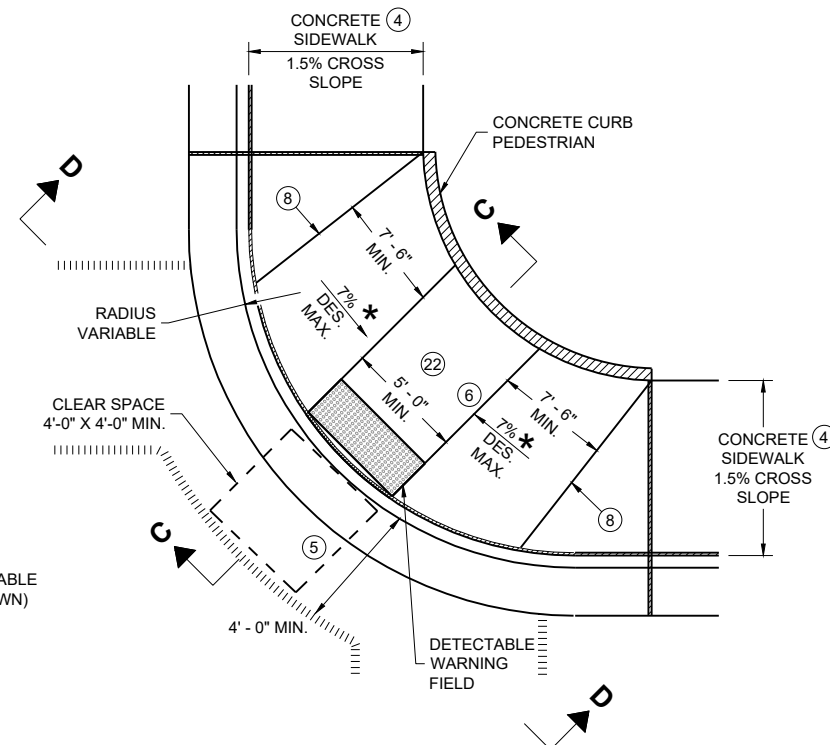
**PLAN VIEW**  
**CURB RAMP TYPE 1**  
**(CENTER OF CORNER RADIUS)**



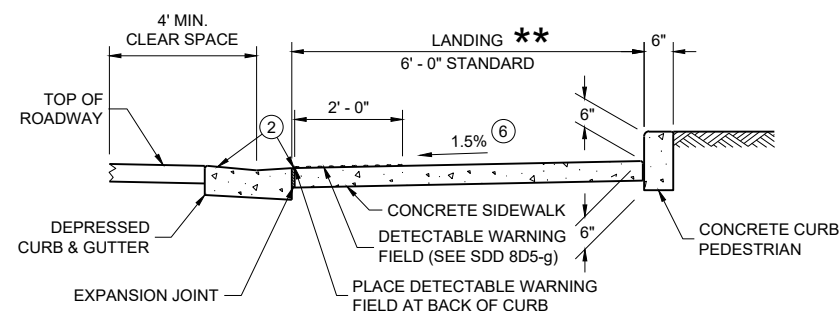
**VIEW A - A FOR TYPE 1**



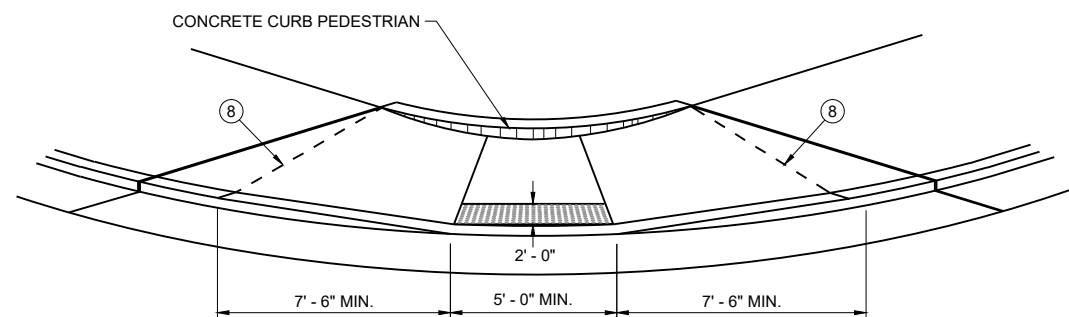
**SECTION B - B FOR TYPE 1**



**PLAN VIEW**  
**CURB RAMP TYPE 1 - A**  
**(NO TERRACE)**



**SECTION C - C FOR TYPE 1 - A**



**VIEW D - D FOR TYPE 1 - A**

## GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF CURB RAMP ACCESS AREAS.

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.

WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE CURB RAMP.

TYPE 1 CURB RAMPS SHALL HAVE A NORMAL SIDEWALK APRON AND CURB ON BOTH SIDES OF CURB RAMP.

DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAR FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS CONCRETE SIDEWALK, INCLUDING THE AREA UNDER THE DETECTABLE WARNING FIELD.

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD".

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE CURB RAMP.

- ① THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB. POINT LOCATION MAY BE ADJUSTED TO ALIGN WITH BEGINNING OF FULL-HEIGHT CURB IF THIS DISTANCE IS SHORT.
- ② GRADE CHANGE BETWEEN GUTTER COUNTER SLOPE AND THE CURB RAMP SLOPE IS DESIRABLY 11% OR LESS AND SHALL NOT EXCEED 13.3%. TYPICAL GUTTER COUNTER SLOPE IS 4% BUT MAY BE MODIFIED TO FIT FIELD CONDITIONS. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5%, DESIRABLY 7% OR LESS, AND SHALL NOT EXCEED A MAXIMUM OF 8.3%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ MAXIMUM 8.3% CURB RAMP SLOPE IS ALLOWABLE WITH GUTTER COUNTER SLOPE OF 5% MAXIMUM AND A 13.3% MAXIMUM GRADE CHANGE.
- ④  $\pm 0.5\%$  CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2.1% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑤ PROVIDE A CLEAR SPACE IN THE STREET AND GUTTER AREA. WHEN THE GUTTER CROSS SLOPE EXCEEDS 2.1%, CONSTRUCT THE CLEAR SPACE IN THE STREET AREA AND THE 4 FOOT WIDTH IS MEASURED FROM THE FLANGE LINE. FOR RECONSTRUCTION AND MODERNIZATION PROJECTS THE CLEAR SPACE SLOPE PARALLEL TO THE CURBLINE SHOULD BE 2.1% MAX FOR CROSSINGS THAT ARE STOP AND YIELD CONTROLLED, AND 5% MAX FOR THOSE THAT ARE SIGNAL CONTROLLED. FOR PERPETUATION AND REHABILITATION PROJECTS THE SLOPE OF THE CLEAR SPACE PARALLEL TO THE CURBLINE WILL MATCH THE ROADWAY LONGITUDINAL SLOPE. THE SLOPE OF THE CLEAR SPACE PERPENDICULAR TO THE CURBLINE WILL MATCH THE ROADWAY CROSS SLOPE BUT SHOULD NOT EXCEED 5% UNLESS THE ROADWAY IS SUPERELEVATED (WHEN SUPERELEVATED THE ROADWAY CROSS SLOPE SHOULD MATCH THE SUPERELEVATION).
- ⑥ PROVIDE A 5 FOOT BY 5 FOOT LANDING. SLOPE PERPENDICULAR TO CURB SHALL BE 2.1% MAXIMUM. SLOPE PARALLEL TO CURB SHALL MATCH THE CURB AND GUTTER LONGITUDINAL SLOPE.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- ⑪ A MAXIMUM 2-INCH CONCRETE BORDER IS PERMITTED ALONG ALL SIDES OF THE DETECTABLE WARNING FIELD SURFACE.
- ⑫ THE ENTIRE RAMP SHALL BE A PLANAR SURFACE. DO NOT WARP THE RUNNING SLOPE OR CROSS SLOPE OF THE RAMP. WARPING OF THE SIDEWALK CROSS SLOPE SHALL TAKE PLACE BETWEEN THE LANDING AND MATCH POINT.

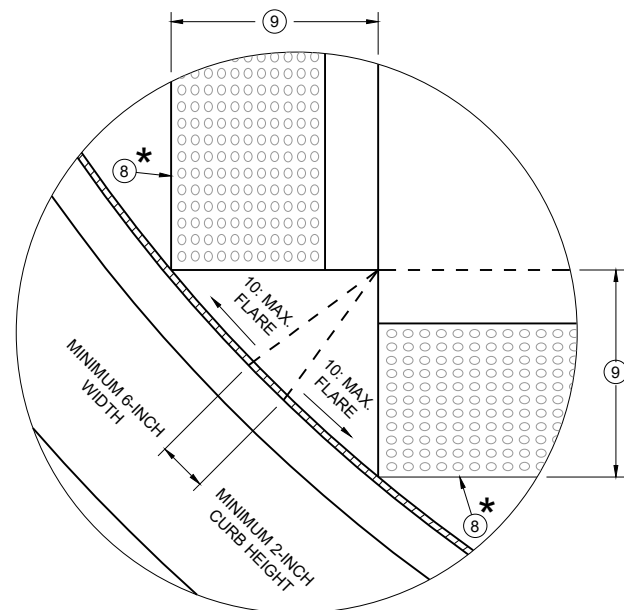
## LEGEND

- 1/2" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- MAXIMUM 8.3%
- WIDTH SHOWN ELSEWHERE IN THE PLANS

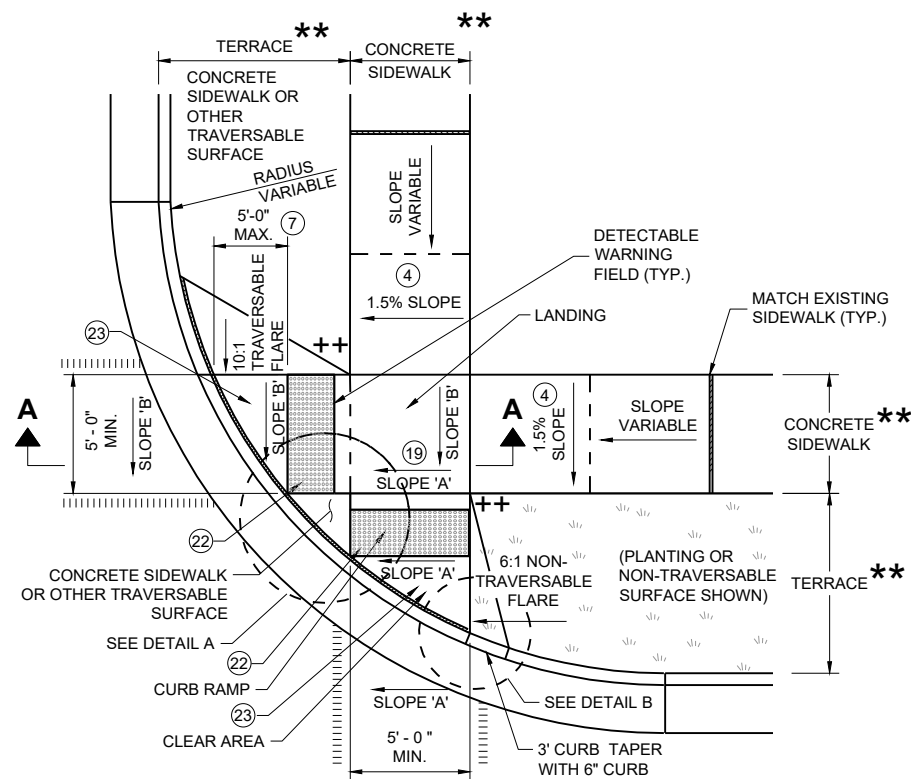
## CURB RAMPS TYPE 1 AND 1-A

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

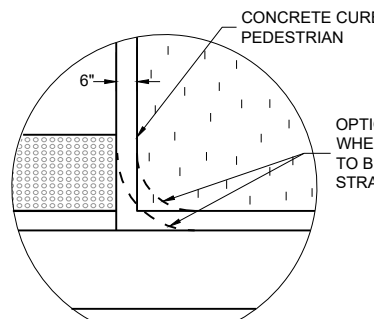




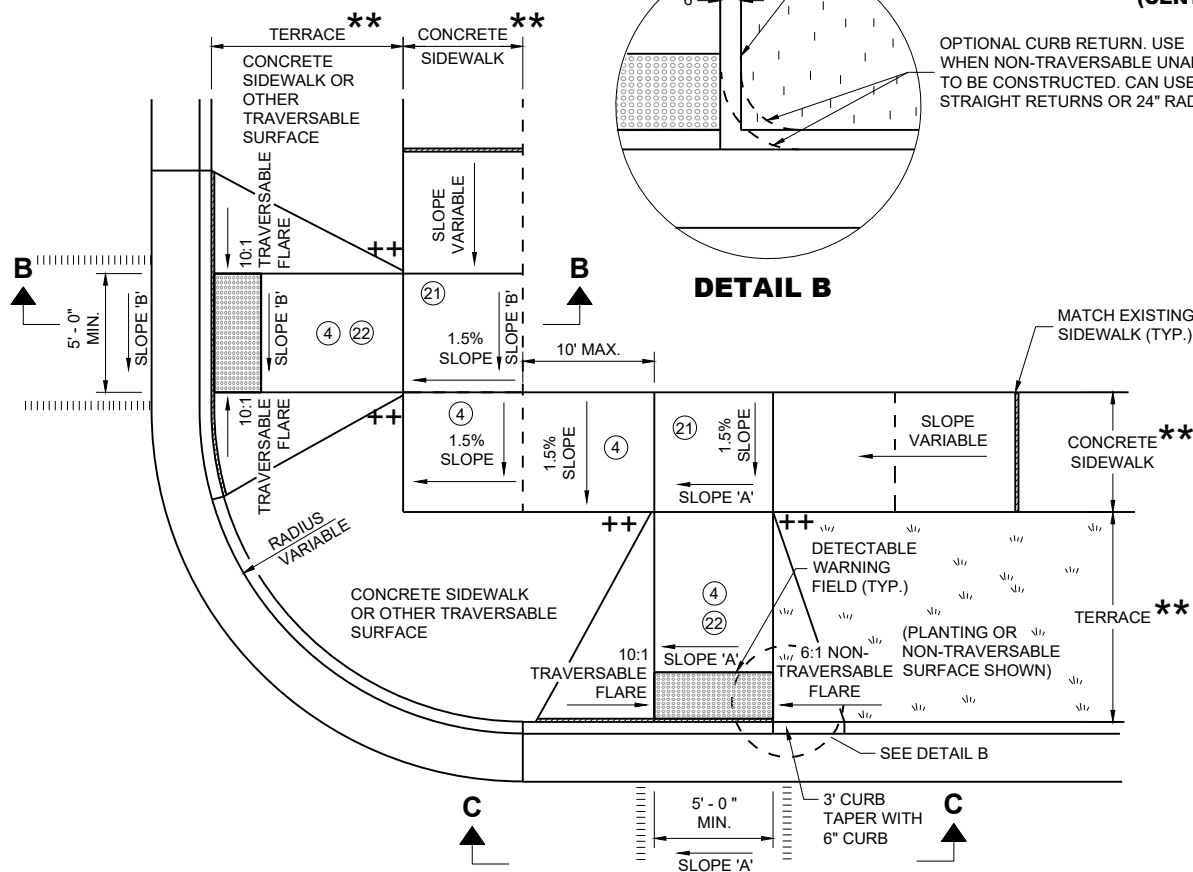
DETAIL A



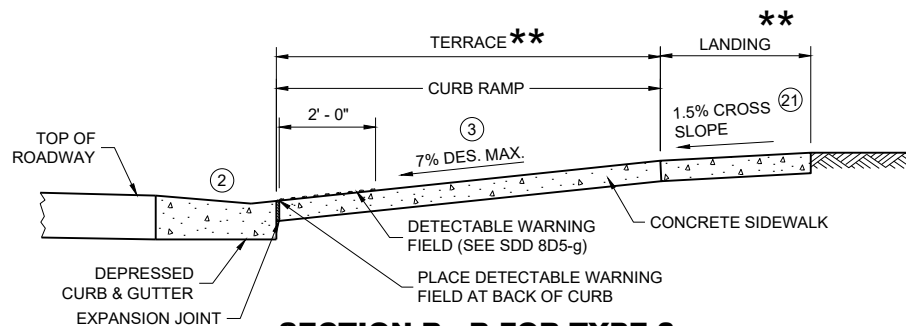
**PLAN VIEW  
CURB RAMP TYPE 2  
(CENTER OF CORNER RADIUS)**



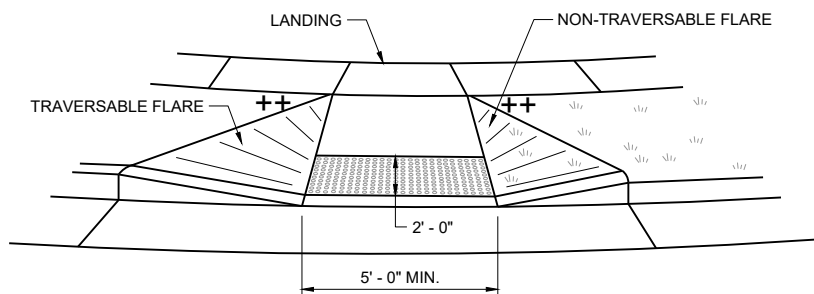
DETAIL B



**PLAN VIEW  
CURB RAMP TYPE 3  
(OUTSIDE OF CROSSWALK AREA)**



SECTION B - B FOR TYPE 3



VIEW C - C FOR TYPE 3

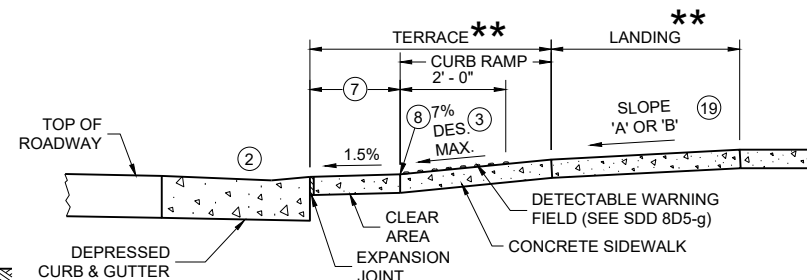
**GENERAL NOTES**

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF CURB RAMP ACCESS AREAS.

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.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE SHALL BE FROM THE SAME MANUFACTURER.

- ② GRADE CHANGE BETWEEN GUTTER COUNTER SLOPE AND THE CURB RAMP SLOPE IS DESIRABLY 11% OR LESS AND SHALL NOT EXCEED 13.3%. TYPICAL GUTTER COUNTER SLOPE IS 4% BUT MAY BE MODIFIED TO FIT FIELD CONDITIONS. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5%, DESIRABLY 7% OR LESS, AND SHALL NOT EXCEED A MAXIMUM OF 8.3%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ MAXIMUM 8.3% CURB RAMP SLOPE IS ALLOWABLE WITH GUTTER COUNTER SLOPE OF 5% MAXIMUM AND A 13.3% MAXIMUM GRADE CHANGE.
- ④  $\pm 0.5\%$  CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2.1% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑦ WHEN GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- ⑨ WHEN DISTANCE IS LESS THAN 6' - 0", IT MAY BE DIFFICULT TO ACHIEVE A 7% DESIGN MAXIMUM SLOPE OR FLATTER ALONG THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 7% DESIGN MAXIMUM SLOPE OR FLATTER ON RAMP. CONSTRUCT 2-INCH MINIMUM CURB HEIGHT BETWEEN 10:1 FLARES.
- ⑪ A MAXIMUM 2-INCH CONCRETE BORDER IS PERMITTED ALONG ALL SIDES OF THE DETECTABLE WARNING FIELD SURFACE.
- ⑫ WHERE A LANDING SERVES TWO CURB RAMPS, THE LANDING SLOPE SHALL NOT EXCEED THE CROSS SLOPE AT THE BOTTOM OF THE RAMP OR WITHIN THE CROSSWALK PARALLEL TO THE DIRECTION OF TRAVEL.
- ⑬ PROVIDE A LANDING WITH A SLOPE PARALLEL TO ROADWAY THAT MATCHES SLOPE AT THE BOTTOM OF THE ADJACENT RAMP. SLOPE PERPENDICULAR TO ROADWAY SHALL BE 2.1% MAXIMUM. STANDARD LANDING SIZE IS 5 FEET BY 5 FEET.
- ⑭ THE ENTIRE RAMP SHALL BE A PLANAR SURFACE. DO NOT WARP THE RUNNING SLOPE OR CROSS SLOPE OF THE RAMP. WARPING OF THE SIDEWALK CROSS SLOPE SHALL TAKE PLACE BETWEEN THE LANDING AND MATCH POINT.
- ⑮ THE CLEAR AREA BETWEEN THE BOTTOM OF RAMP AND BACK OF CURB SHALL BE SLOPED SO THAT WATER DRAINS OUT OF ONE SIDE OR BOTH SIDES OF THE CURB OPENING.



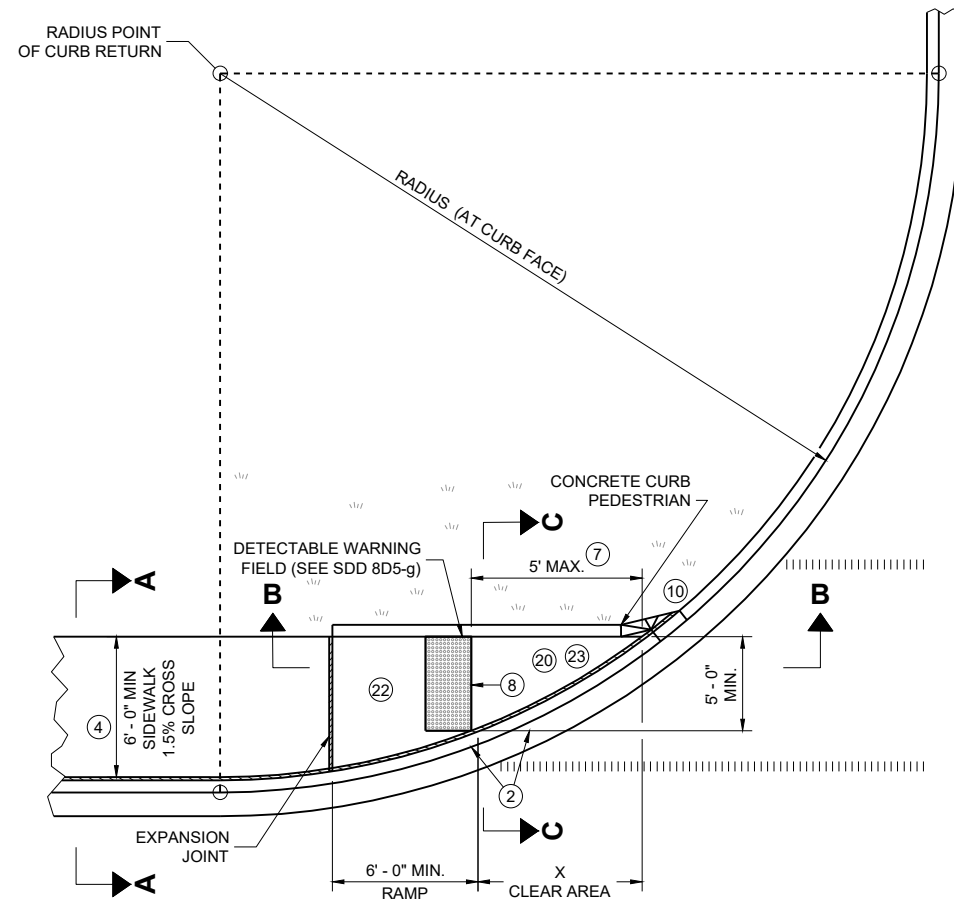
SECTION A - A FOR TYPE 2

**LEGEND**

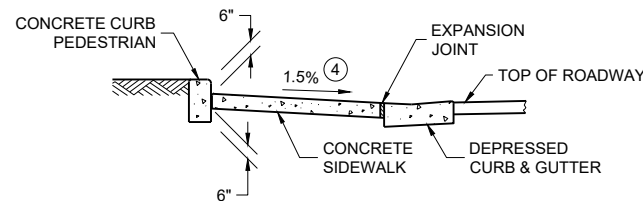
- 1/2" EXPANSION JOINT SIDEWALK
- - - CONTRACTION JOINT SIDEWALK
- ||||| PAVEMENT MARKING CROSSWALK (WHITE)
- \* MAXIMUM 2.1% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK
- \*\* WIDTH SHOWN ELSEWHERE IN THE PLANS
- ++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE

**CURB RAMPS  
TYPE 2 AND 3**

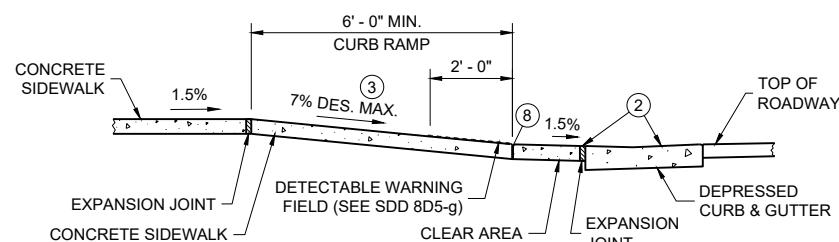
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**PLAN VIEW  
CURB RAMP TYPE 4A**



**SECTION C - C FOR TYPE 4A**



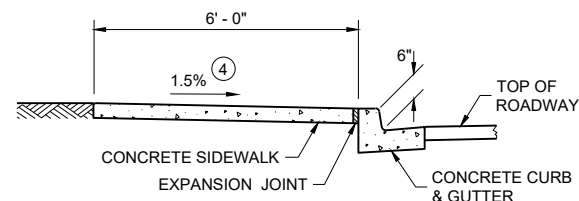
**SECTION B - B FOR  
TYPE 4A AND TYPE 4A1**

### LEGEND

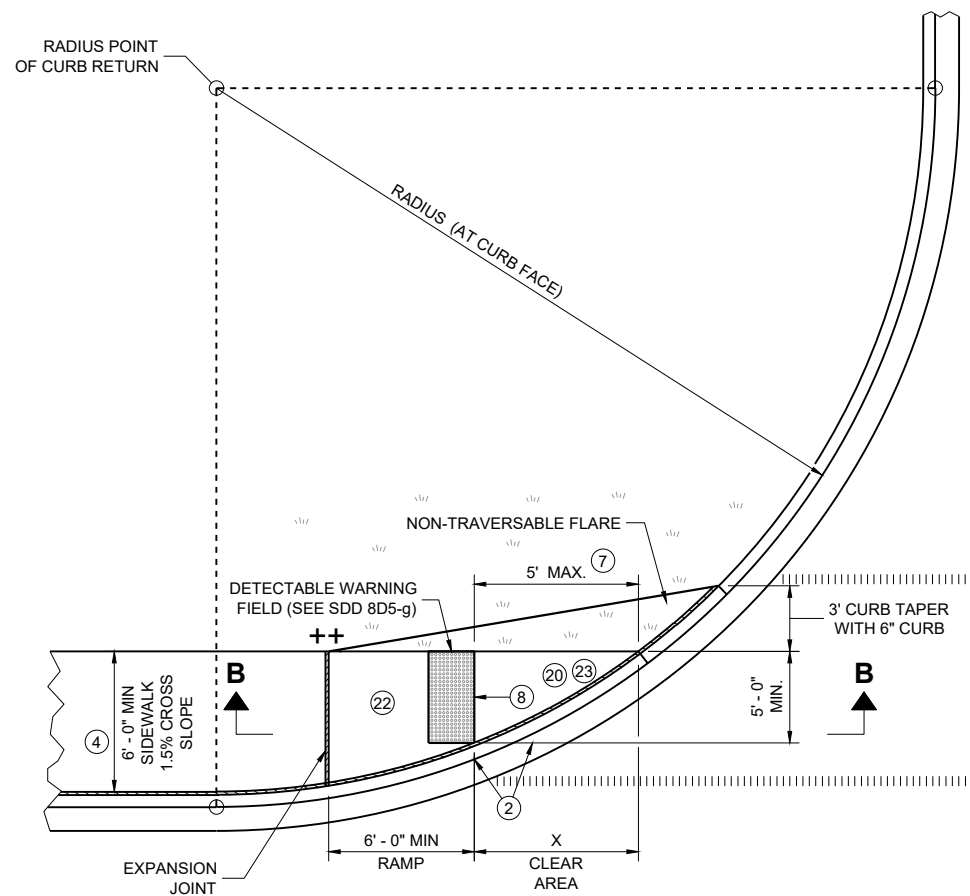
- 1/2" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- PAVEMENT MARKING CROSSWALK (WHITE)
- CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE

| RADIUS<br>(AT CURB FACE) | X       |
|--------------------------|---------|
| 10 FEET                  | 4' - 7" |

INTERMEDIATE RADII CAN BE INTERPOLATED



**SECTION A - A FOR TYPE 4A**



**PLAN VIEW  
CURB RAMP TYPE 4A1**

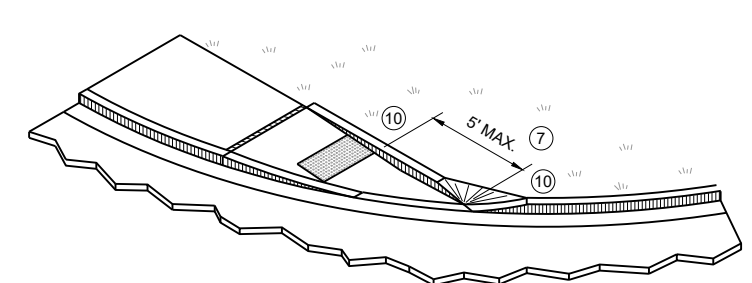
### GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF CURB RAMP ACCESS AREAS.

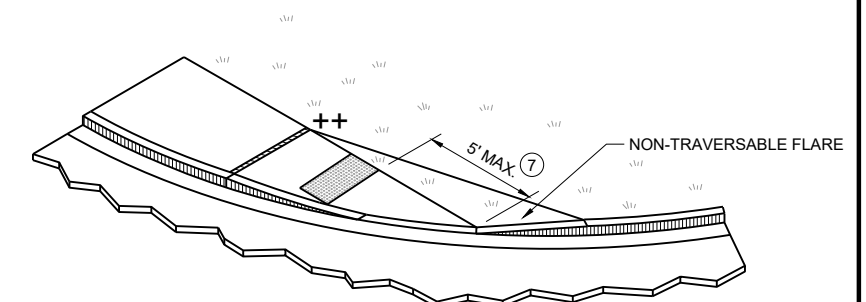
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

- ② GRADE CHANGE BETWEEN GUTTER COUNTER SLOPE AND THE CURB RAMP SLOPE IS DESIRABLY 11% OR LESS AND SHALL NOT EXCEED 13.3%. TYPICAL GUTTER COUNTER SLOPE IS 4% BUT MAY BE MODIFIED TO FIT FIELD CONDITIONS. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5%, DESIRABLY 7% OR LESS, AND SHALL NOT EXCEED A MAXIMUM OF 8.3%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ MAXIMUM 8.3% CURB RAMP SLOPE IS ALLOWABLE WITH GUTTER COUNTER SLOPE OF 5% MAXIMUM AND A 13.3% MAXIMUM GRADE CHANGE.
- ④  $\pm 0.5\%$  CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2.1% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑦ WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- ⑩ INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.
- ⑰ A MAXIMUM 2-INCH CONCRETE BORDER IS PERMITTED ALONG ALL SIDES OF THE DETECTABLE WARNING FIELD SURFACE.
- ⑳ MAXIMUM 1.5% DESIGN MAXIMUM AND 2.1% PROWAG MAXIMUM RUNNING SLOPE ON CLEAR AREA. CROSS SLOPE OF CLEAR AREA SHALL MATCH THE CROSS SLOPE OF THE ADJACENT CROSSWALK.
- ㉒ THE ENTIRE RAMP SHALL BE A PLANAR SURFACE. DO NOT WARP THE RUNNING SLOPE OR CROSS SLOPE OF THE RAMP. WARPING OF THE SIDEWALK CROSS SLOPE SHALL TAKE PLACE BETWEEN THE LANDING AND MATCH POINT.
- ㉓ THE CLEAR AREA BETWEEN THE BOTTOM OF RAMP AND BACK OF CURB SHALL BE SLOPED SO THAT WATER DRAINS OUT OF ONE SIDE OR BOTH SIDES OF THE CURB OPENING.



**ISOMETRIC VIEW FOR TYPE 4A**

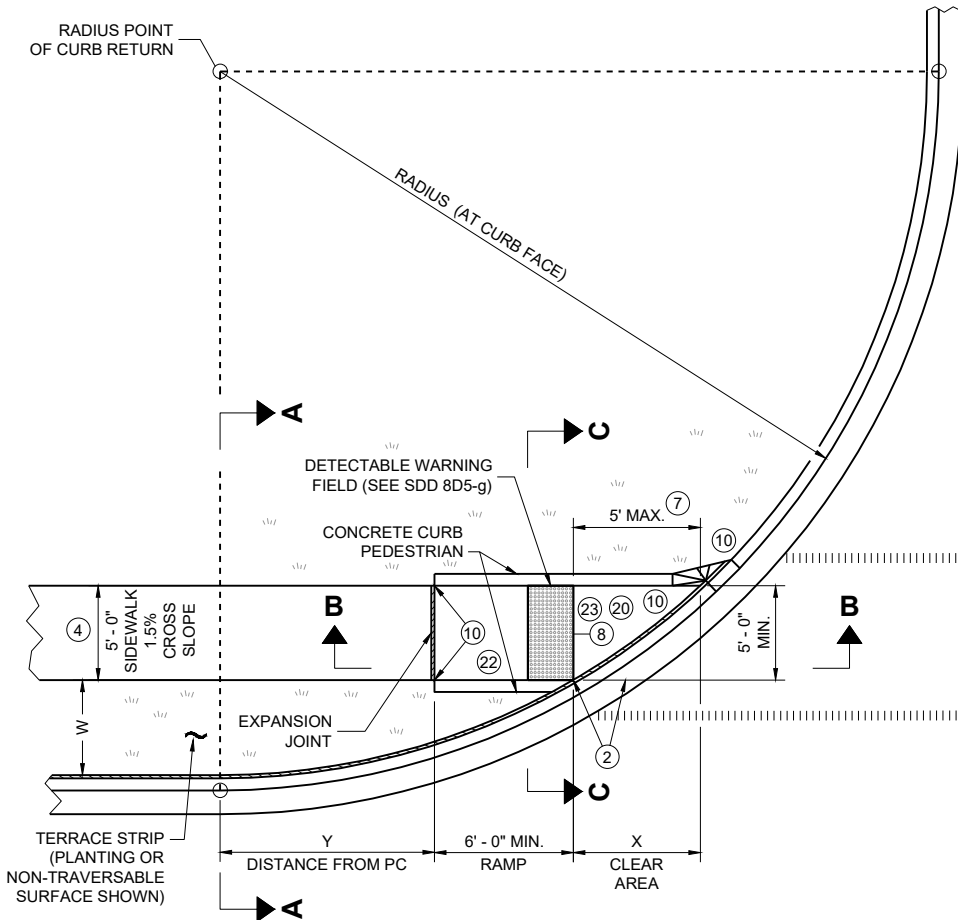


**ISOMETRIC VIEW FOR TYPE 4A1**

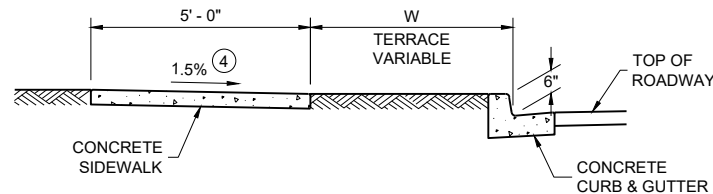
**CURB RAMPS  
TYPE 4A AND 4A1**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

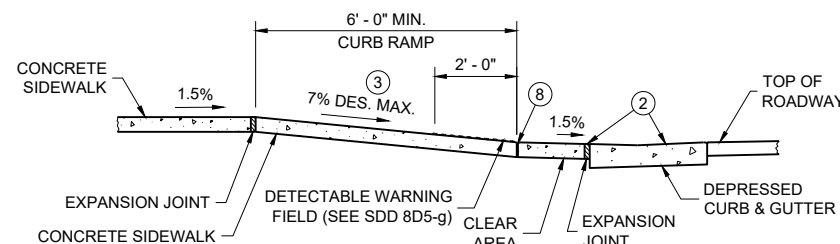




PLAN VIEW  
CURB RAMP TYPE 4B



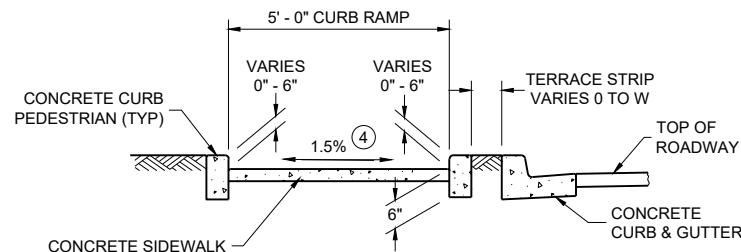
SECTION A - A FOR TYPE 4B



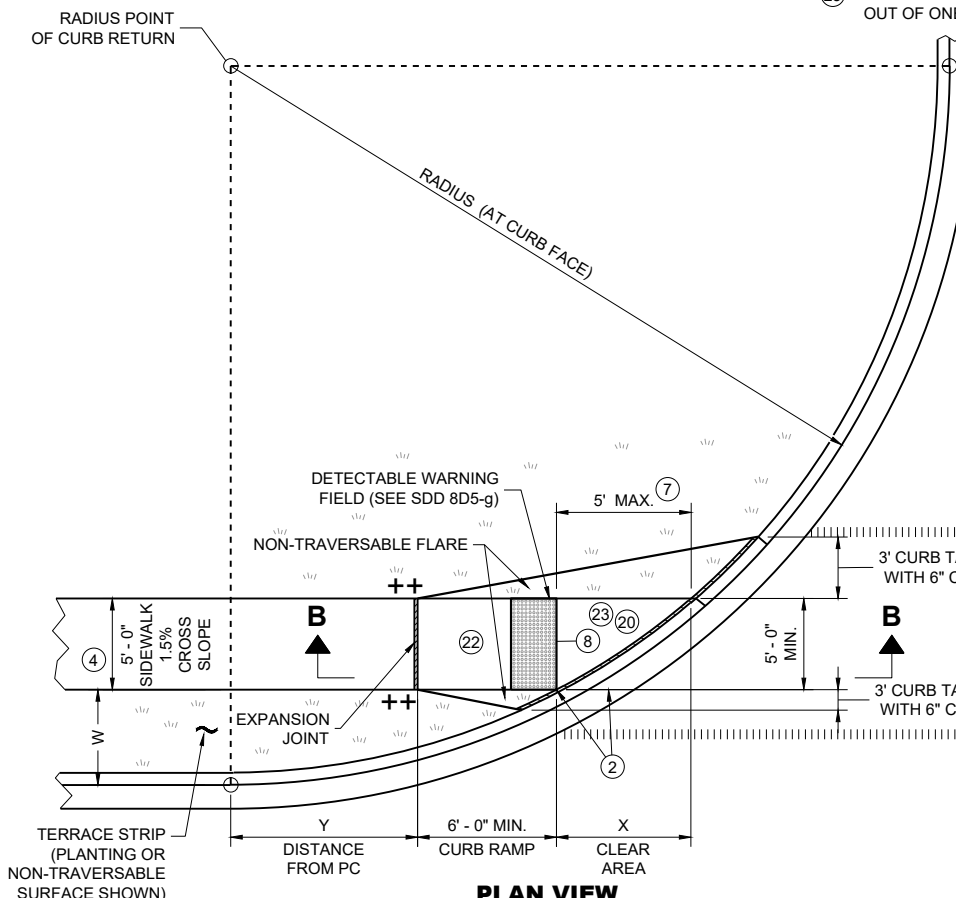
SECTION B - B FOR  
TYPE 4B AND TYPE 4B1

| RADIUS<br>(AT CURB FACE) | W = 3' - 0"  |             | W = 4' - 0"  |             | W = 5' - 0" |             | W = 6' - 0" |             | W = 7' - 0"  |              | W = 8' - 0" |              | W = 9' - 0" |              | W = 10' - 0" |              |
|--------------------------|--------------|-------------|--------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|-------------|--------------|-------------|--------------|--------------|--------------|
|                          | X            | Y           | X            | Y           | X           | Y           | X           | Y           | X            | Y            | X           | Y            | X           | Y            | X            | Y            |
| 10 FEET                  | 2' - 10 1/4" | 0' - 5"     | 2' - 1"      | 1' - 4 1/2" | 1' - 5"     | 2' - 1"     | 0' - 10"    | 2' - 7 1/2" | 0' - 3 1/4"  | 3' - 0 1/4"  |             |              |             |              |              |              |
| 15 FEET                  | 4' - 6 3/4"  | 2' - 1 3/4" | 3' - 9"      | 3' - 5 3/4" | 3' - 1 1/4" | 4' - 6"     | 2' - 6 3/4" | 5' - 4 1/2" | 2' - 1"      | 6' - 1"      | 1' - 8"     | 6' - 8 1/2"  | 1' - 3 1/4" | 7' - 2 1/2"  | 0' - 10 3/4" | 7' - 7 1/4"  |
| 20 FEET                  |              |             | 4' - 11 1/2" | 5' - 1 3/4" | 4' - 3 1/4" | 6' - 5 1/2" | 3' - 8 3/4" | 7' - 7"     | 3' - 3"      | 8' - 6 1/2"  | 2' - 10"    | 9' - 4 1/2"  | 2' - 5 1/2" | 10' - 1 1/4" | 2' - 1 1/4"  | 10' - 9"     |
| 30 FEET                  |              |             |              |             |             |             |             |             | 4' - 10 3/4" | 12' - 5 3/4" | 4' - 5 1/2" | 13' - 7 3/4" | 4' - 0 3/4" | 14' - 8 1/2" | 3' - 8 1/2"  | 15' - 8 1/4" |
| 40 FEET                  |              |             |              |             |             |             |             |             |              |              |             |              |             |              | 4' - 10 3/4" | 19' - 8 1/4" |

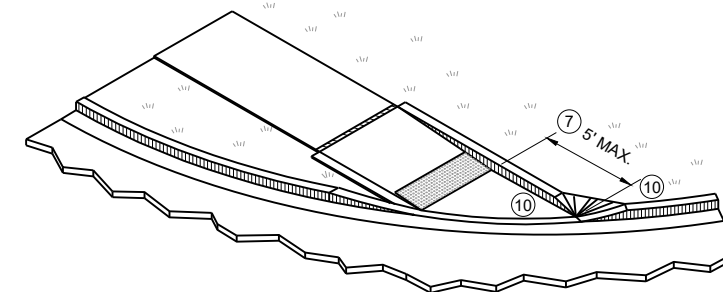
INTERMEDIATE RADII CAN BE INTERPOLATED  
DIMENSION "Y" IS CALCULATED BASED ON 6'-0" RAMP LENGTH  
DIMENSION "X" IS CALCULATED BASED ON 5'-0" SIDEWALK WIDTH



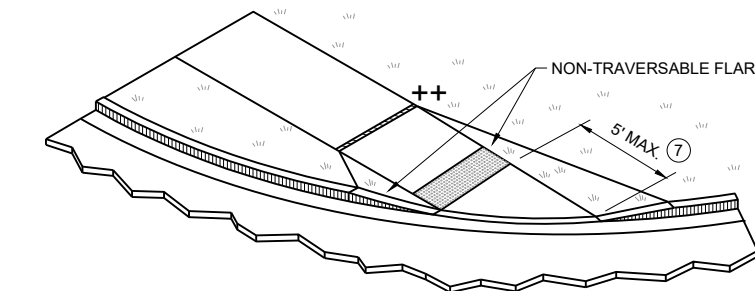
SECTION C - C FOR TYPE 4B



PLAN VIEW  
CURB RAMP TYPE 4B1



ISOMETRIC VIEW FOR TYPE 4B



ISOMETRIC VIEW FOR TYPE 4B1

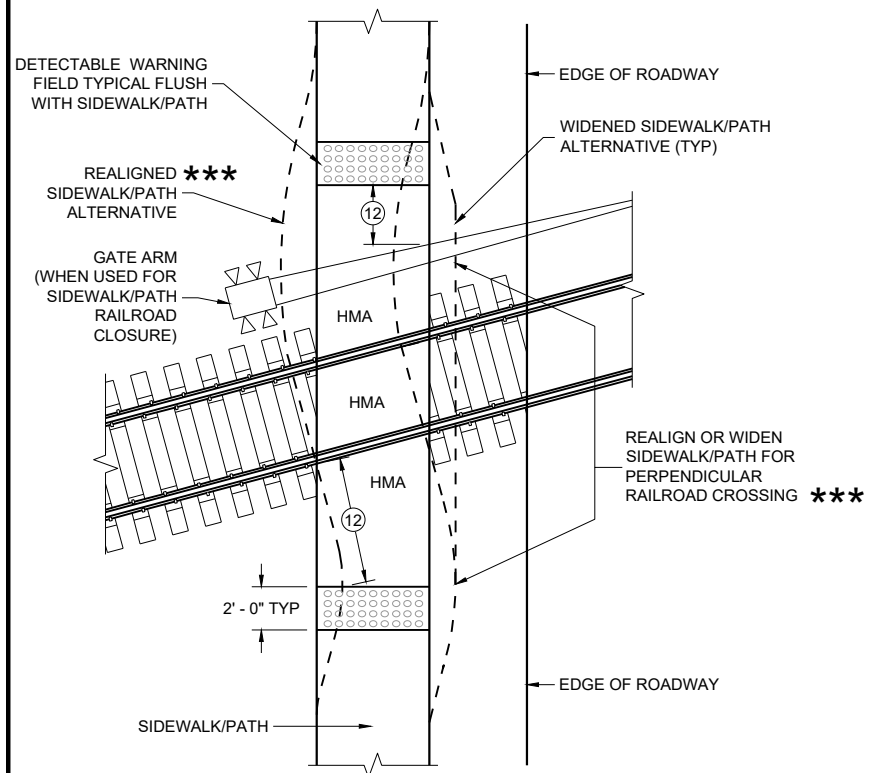
- LEGEND**
- 1/2" EXPANSION JOINT SIDEWALK
  - CONTRACTION JOINT SIDEWALK
  - PAVEMENT MARKING CROSSWALK (WHITE)
  - \* MAXIMUM 2.1% SLOPE IN ALL DIRECTIONS IF FRONT OF GRADE BREAK
  - ++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE

**GENERAL NOTES**

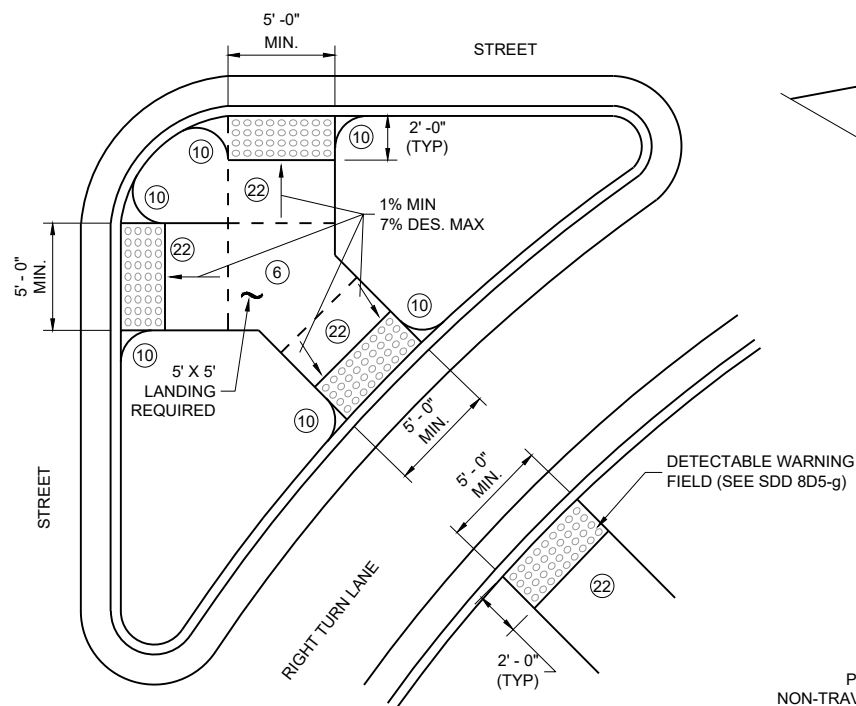
- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF CURB RAMP ACCESS AREAS.
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- GRADE CHANGE BETWEEN GUTTER COUNTER SLOPE AND THE CURB RAMP SLOPE IS DESIRABLY 11% OR LESS AND SHALL NOT EXCEED 13.3%. TYPICAL GUTTER COUNTER SLOPE IS 4% BUT MAY BE MODIFIED TO FIT FIELD CONDITIONS. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5%, DESIRABLY 7% OR LESS, AND SHALL NOT EXCEED A MAXIMUM OF 8.3%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- MAXIMUM 8.3% CURB RAMP SLOPE IS ALLOWABLE WITH GUTTER COUNTER SLOPE OF 5% MAXIMUM AND A 13.3% MAXIMUM GRADE CHANGE.
- ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2.1% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.
- A MAXIMUM 2-INCH CONCRETE BORDER IS PERMITTED ALONG ALL SIDES OF THE DETECTABLE WARNING FIELD SURFACE.
- MAXIMUM 1.5% DESIGN MAXIMUM AND 2.1% PROWAG MAXIMUM RUNNING SLOPE ON CLEAR AREA. CROSS SLOPE OF CLEAR AREA SHALL MATCH THE CROSS SLOPE OF THE ADJACENT CROSSWALK.
- THE ENTIRE RAMP SHALL BE A PLANAR SURFACE. DO NOT WARP THE RUNNING SLOPE OR CROSS SLOPE OF THE RAMP. WARPING OF THE SIDEWALK CROSS SLOPE SHALL TAKE PLACE BETWEEN THE LANDING AND MATCH POINT.
- THE CLEAR AREA BETWEEN THE BOTTOM OF RAMP AND BACK OF CURB SHALL BE SLOPED SO THAT WATER DRAINS OUT OF ONE SIDE OR BOTH SIDES OF THE CURB OPENING.

**CURB RAMPS  
TYPE 4B AND 4B1**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

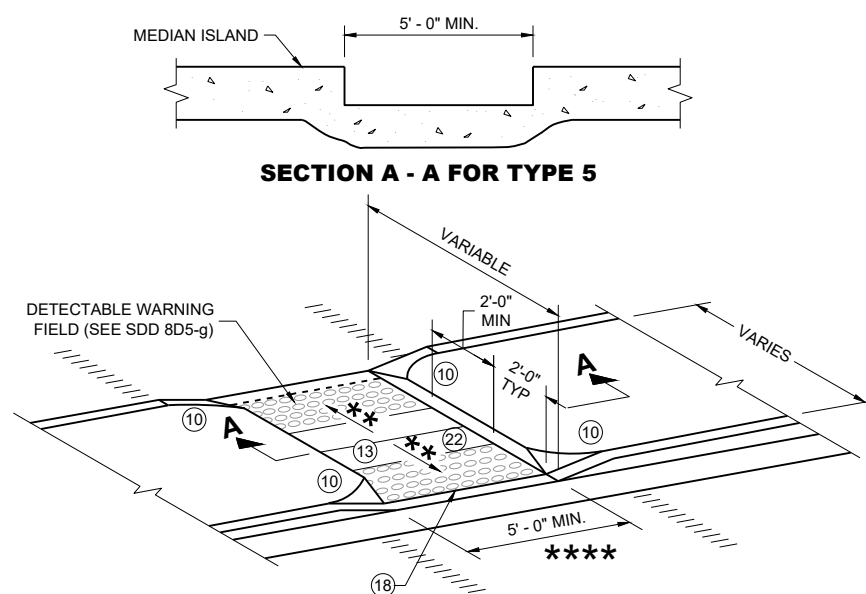


**CURB RAMP TYPE 8**  
**DETECTABLE WARNINGS**  
**FOR SIDEWALKS OR SHARED USE PATHS**  
**AT RAILROAD CROSSINGS**

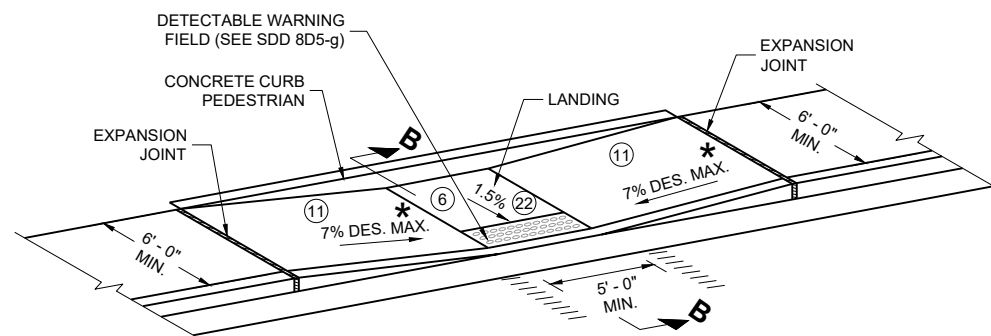


**CURB RAMP TYPE 6**  
**DETECTABLE WARNING AT ISLANDS**

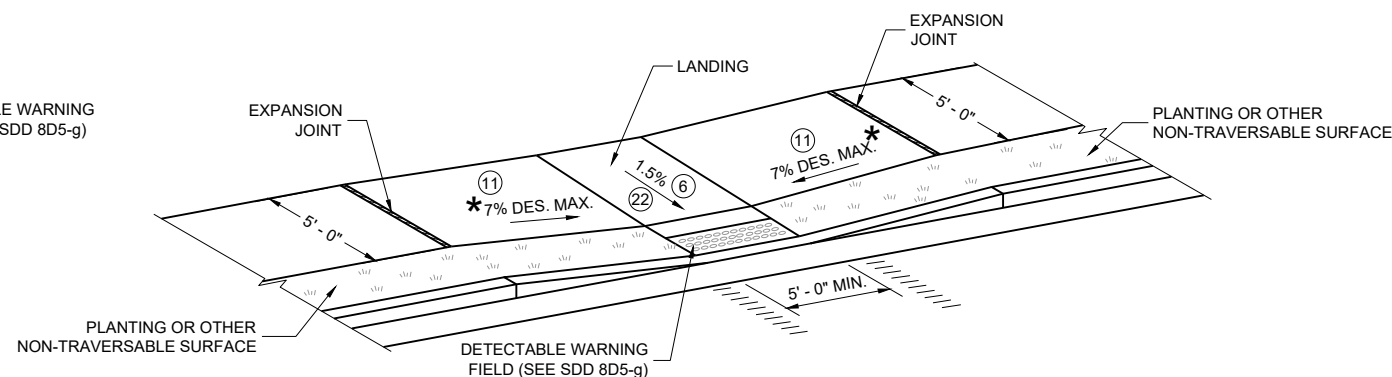
REFER TO GENERAL NOTES (2) AND (3)  
FOR ALL ISLAND CURB RAMPS



**CURB RAMP TYPE 5**  
**MEDIAN ISLAND**  
**NON-ELEVATED PEDESTRIAN CROSSING**



**CURB RAMP TYPE 7A**  
**FOR INTERSECTIONS AND**  
**MID BLOCK CROSSINGS**



**CURB RAMP TYPE 7B**  
**FOR INTERSECTIONS AND**  
**MID BLOCK CROSSINGS**

## GENERAL NOTES

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF CURB RAMP ACCESS AREAS.

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.

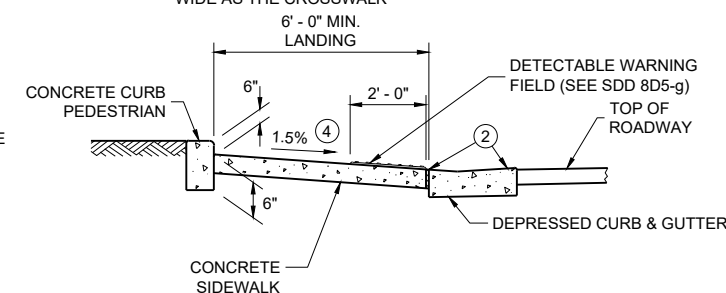
SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2.1%.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

- (2) GRADE CHANGE BETWEEN GUTTER COUNTER SLOPE AND THE CURB RAMP SLOPE IS DESIRABLY 11% OR LESS AND SHALL NOT EXCEED 13.3%. TYPICAL GUTTER COUNTER SLOPE IS 4% BUT MAY BE MODIFIED TO FIT FIELD CONDITIONS. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5%, DESIRABLY 7% OR LESS, AND SHALL NOT EXCEED A MAXIMUM OF 8.3%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- (3) MAXIMUM 8.3% CURB RAMP SLOPE IS ALLOWABLE WITH GUTTER COUNTER SLOPE OF 5% MAXIMUM AND A 13.3% MAXIMUM GRADE CHANGE.
- (4)  $\pm 0.5\%$  CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2.1% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- (6) PROVIDE A 5 FOOT BY 5 FOOT LANDING. SLOPE PERPENDICULAR TO CURB SHALL BE 2.1% MAXIMUM. SLOPE PARALLEL TO CURB SHALL MATCH THE CURB AND GUTTER LONGITUDINAL SLOPE.
- (10) INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.
- (11) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.
- (12) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET  $\pm 0.1'$  FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK/PATH. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD TRACK IS 15 FEET MAXIMUM AND 12 FEET MINIMUM, 15 FEET TYPICAL FROM THE NEAREST RAIL.
- (13) DO NOT INSTALL DETECTABLE WARNING FIELDS AT THE EDGES OF STEET-LEVEL PEDESTRIAN REFUGE ISLANDS IF A MINIMUM 2 FOOT CONCRETE SURFACE WITHOUT DETECTABLE WARNINGS (MEASURED IN THE DIRECTION OF PEDESTRIAN TRAVEL) CANNOT BE ACHIEVED.
- (17) A MAXIMUM 2-INCH CONCRETE BORDER IS PERMITTED ALONG ALL SIDES OF THE DETECTABLE WARNING FIELD SURFACE.
- (18) WHEN THE DISTANCE BETWEEN THE BACK OF CURBS IS LESS THAN 6 FEET BUT THE FACE OF CURB TO FACE OF CURB DISTANCE IS 6 FEET OR GREATER THEN THE DETECTABLE WARNING FIELDS MAY BE MOVED SO THAT THE EDGE OF THE WARNING FIELD IS PLACED AT THE GUTTER FLOWLINE. MAINTAIN A MINIMUM OF TWO FEET BETWEEN DETECTABLE WARNING FIELD PANELS.
- (22) THE ENTIRE RAMP SHALL BE A PLANAR SURFACE. DO NOT WARP THE RUNNING SLOPE OR CROSS SLOPE OF THE RAMP. WARPING OF THE SIDEWALK CROSS SLOPE SHALL TAKE PLACE BETWEEN THE LANDING AND MATCH POINT.

## LEGEND

- 1/2" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- MAXIMUM 8.3%
- 1% MINIMUM (PROVIDE DRAINAGE)
- DETAILS TO BE DETERMINED BY ENGINEER
- FOR SHARED USE PATHS, WIDTH MUST BE AS WIDE AS THE CROSSWALK



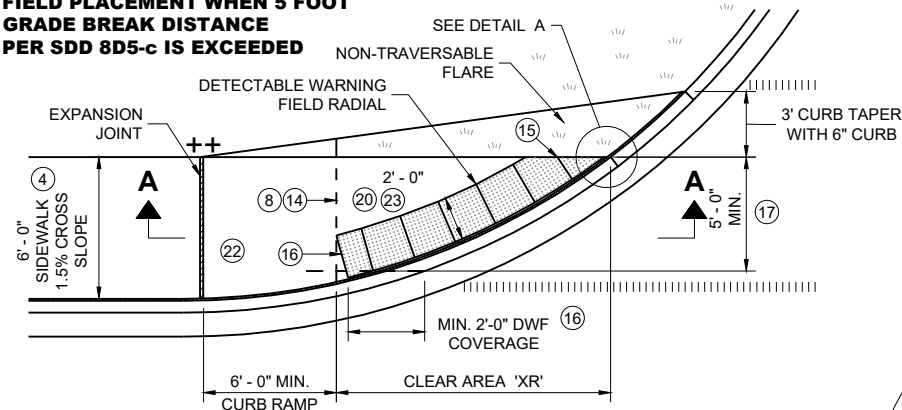
**SECTION B - B FOR TYPE 7A**

## CURB RAMPS

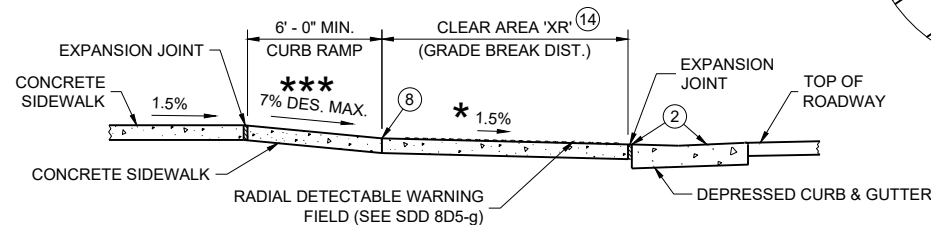
TYPE 5, 6, 7A, 7B & 8

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

**RADIAL DETECTABLE WARNING  
FIELD PLACEMENT WHEN 5 FOOT  
GRADE BREAK DISTANCE  
PER SDD 8D5-c IS EXCEEDED**



**PLAN VIEW  
CURB RAMP TYPE 4A1  
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)**



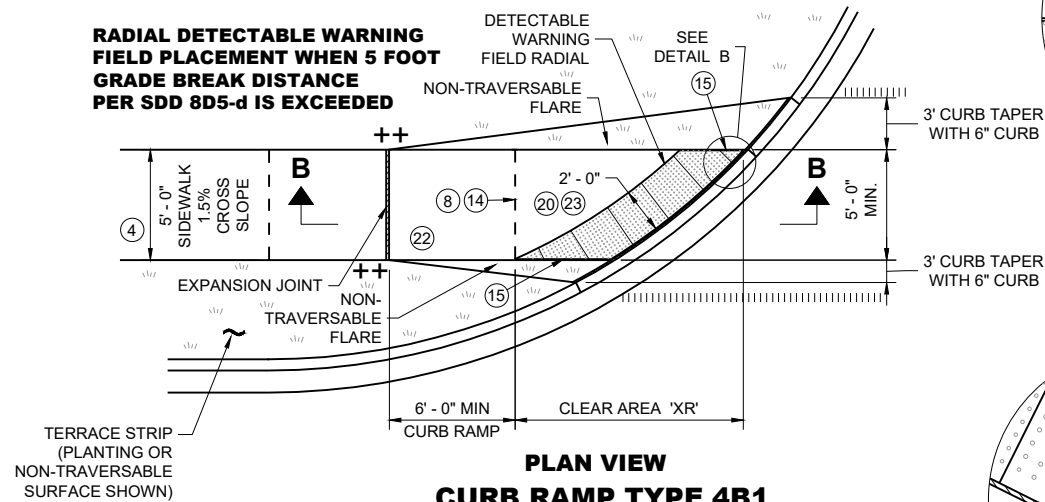
**SECTION A - A FOR TYPE 4A1**

**DETAIL A**

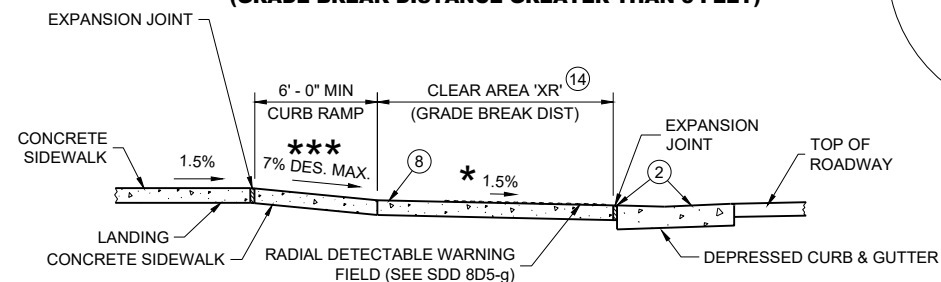
**DETAIL B**

**DETAIL C**

**RADIAL DETECTABLE WARNING  
FIELD PLACEMENT WHEN 5 FOOT  
GRADE BREAK DISTANCE  
PER SDD 8D5-d IS EXCEEDED**



**PLAN VIEW  
CURB RAMP TYPE 4B1  
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)**



**SECTION B - B FOR TYPE 4B1**

**GENERAL NOTES**

AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF CURB RAMP ACCESS AREAS.

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.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

APPLY RADIAL DETECTABLE WARNING PLACEMENT SIMILARLY FOR TYPE 4A AND 4A1 CURB RAMPS AND SIMILARLY FOR TYPE 4B AND 4B1 CURB RAMPS. TYPE 4A AND 4B CURB RAMPS ARE NOT SHOWN.

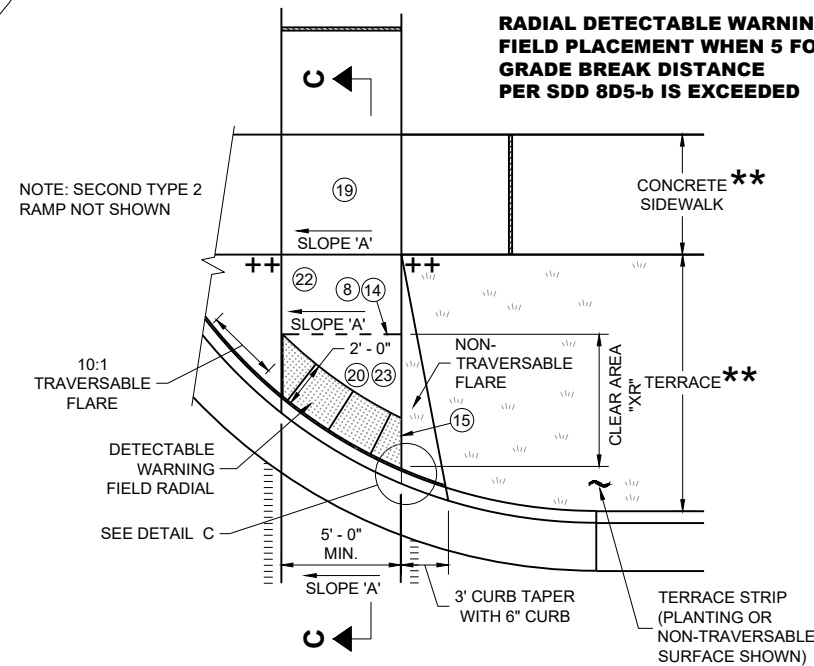
REFER TO SDD 8D5-g FOR ADDITIONAL RADIAL PLATE REQUIREMENTS.

FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FIELD ARE PROHIBITED.

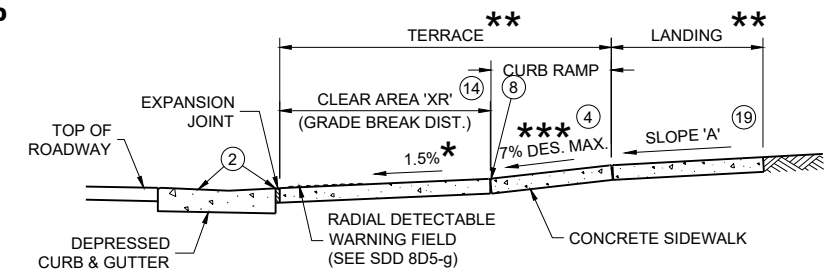
DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

- ② GRADE CHANGE BETWEEN GUTTER COUNTER SLOPE AND THE CURB RAMP SLOPE IS DESIRABLY 11% OR LESS AND SHALL NOT EXCEED 13.3%. TYPICAL GUTTER COUNTER SLOPE IS 4% BUT MAY BE MODIFIED TO FIT FIELD CONDITIONS. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5%, DESIRABLY 7% OR LESS, AND SHALL NOT EXCEED A MAXIMUM OF 8.3%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ MAXIMUM 8.3% CURB RAMP SLOPE IS ALLOWABLE WITH GUTTER COUNTER SLOPE OF 5% MAXIMUM AND A 13.3% MAXIMUM GRADE CHANGE.
- ④  $\pm 0.5\%$  CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2.1% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑥ PROVIDE A 5 FOOT BY 5 FOOT LANDING. SLOPE PERPENDICULAR TO CURB SHALL BE 2.1% MAXIMUM. SLOPE PARALLEL TO CURB SHALL MATCH THE CURB AND GUTTER LONGITUDINAL SLOPE.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- ⑭ CONSULT ENGINEER IF GRADE BREAK LOCATION (END OF LANDING DIMENSION "XR") REQUIRES FIELD ADJUSTMENT WHEN ESTABLISHING FINAL RADIAL DETECTABLE WARNING FIELD LOCATION.
- ⑮ FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN  $\frac{1}{8}$ " DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.
- ⑯ USE 1' X 2" RECTANGULAR END PLATE AT END OF TYPE 4A1 RAMP AND PROVIDE MINIMUM 2' - 0" DETECTABLE WARNING FIELD COVERAGE (IN DIRECTION OF PEDESTRIAN TRAVEL) ALONG THE ENTIRE CURB RAMP WIDTH.
- ⑰ A MAXIMUM 2-INCH CONCRETE BORDER IS PERMITTED ALONG ALL SIDES OF THE DETECTABLE WARNING FIELD SURFACE.
- ⑲ WHERE A LANDING SERVES TWO CURB RAMPS, THE LANDING SLOPE SHALL NOT EXCEED THE CROSS SLOPE AT THE BOTTOM OF THE RAMP OR WITHIN THE CROSSWALK PARALLEL TO THE DIRECTION OF TRAVEL.
- ⑳ MAXIMUM 1.5% DESIGN MAXIMUM AND 2.1% PROWAG MAXIMUM RUNNING SLOPE ON CLEAR AREA. CROSS SLOPE OF CLEAR AREA SHALL MATCH THE CROSS SLOPE OF THE ADJACENT CROSSWALK.
- ㉒ THE ENTIRE RAMP SHALL BE A PLANAR SURFACE. DO NOT WARP THE RUNNING SLOPE OR CROSS SLOPE OF THE RAMP. WARPING OF THE SIDEWALK CROSS SLOPE SHALL TAKE PLACE BETWEEN THE LANDING AND MATCH POINT.
- ㉓ THE CLEAR AREA BETWEEN THE BOTTOM OF RAMP AND BACK OF CURB SHALL BE SLOPED SO THAT WATER DRAINS OUT OF ONE SIDE OR BOTH SIDES OF THE CURB OPENING.

**RADIAL DETECTABLE WARNING  
FIELD PLACEMENT WHEN 5 FOOT  
GRADE BREAK DISTANCE  
PER SDD 8D5-b IS EXCEEDED**



**PLAN VIEW  
CURB RAMP TYPE 2  
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)  
(ON LINE WITH SIDEWALK)**



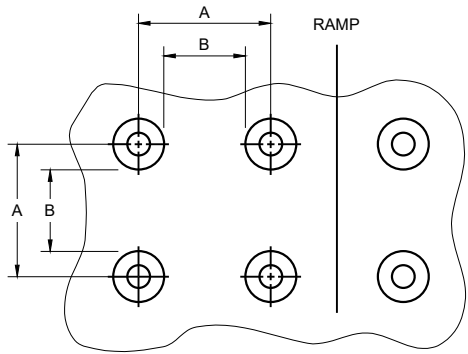
**SECTION C - C FOR TYPE 2**

**CURB RAMPS  
RADIAL DETECTABLE WARNING**

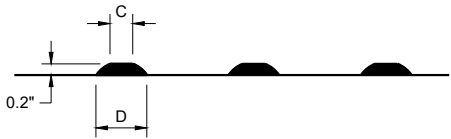
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

|   | MIN.  | MAX. |
|---|-------|------|
| A | 1.6"  | 2.4" |
| B | 0.65" | 1.5" |
| C | *     | *    |
| D | 0.9"  | 1.4" |

\* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.

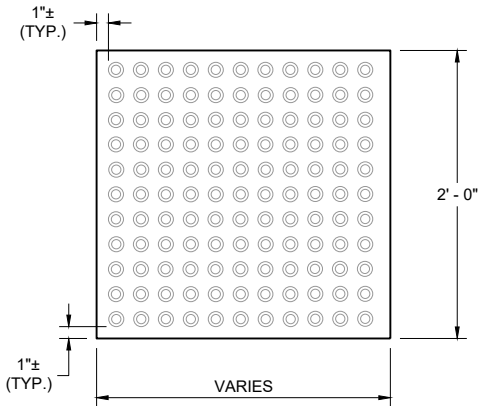


PLAN VIEW

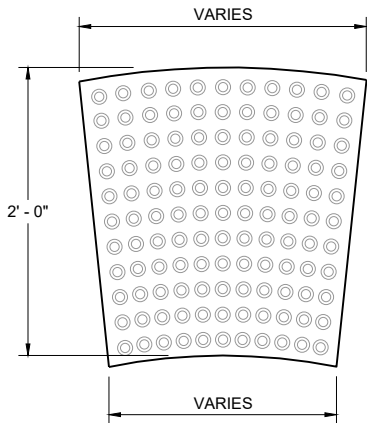


ELEVATION VIEW

TRUNCATED DOMES  
DETECTABLE WARNING PATTERN DETAIL

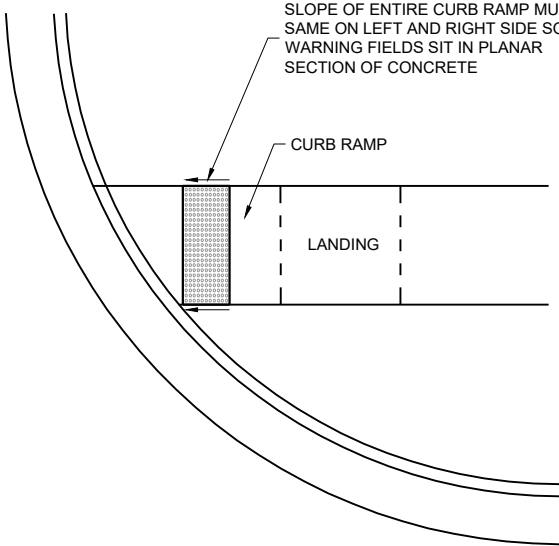


RECTANGULAR  
PLATES

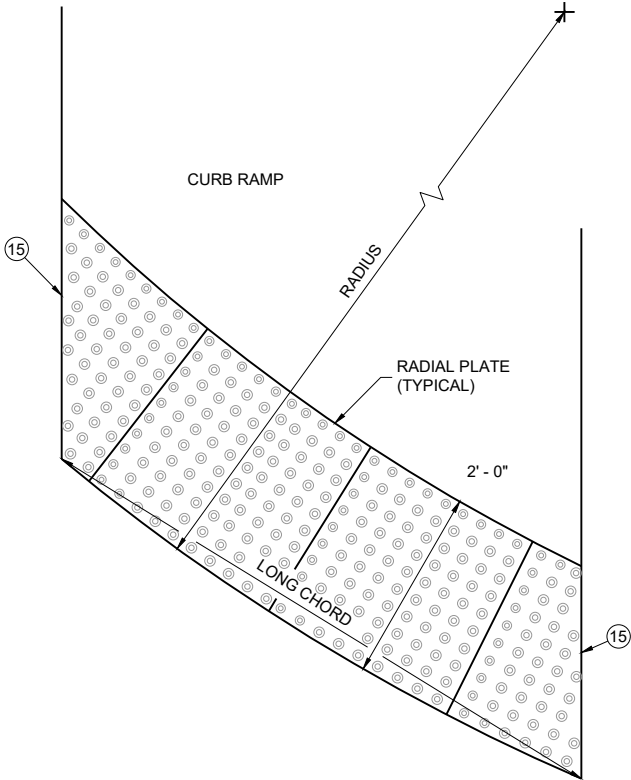


RADIAL  
PLATES

PLAN VIEW  
DETECTABLE WARNING FIELDS (TYPICAL)



DETECTABLE WARNING FIELD  
PLANAR INSTALLATION



PLAN VIEW  
RADIAL DETECTABLE  
WARNING FIELD ATTRIBUTES

GENERAL NOTES

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AT A CURB RAMP SHALL BE FROM THE SAME MANUFACTURER.

PLACE ALL DETECTABLE WARNING FIELD SYSTEMS IN ACCORDANCE TO THE MANUFACTURER'S RECOMMENDATION.

FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FILED ARE PROHIBITED.

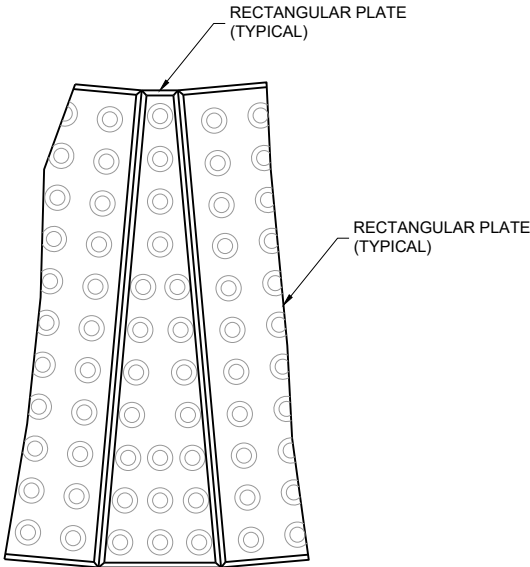
DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

FOR RADIAL DETECTABLE WARNING FIELD APPLICATIONS WHERE STANDARD RADIAL PLATES ARE NOT AVAILABLE AT AN INTERSECTION CURB RADIUS, A COMBINATION OF SQUARE OR RECTANGULAR PLATES AND RADIAL PLATES MAY BE USED TO FORM RADIAL CONFIGURATION. RADIAL WEDGE PLATES IN COMBINATION WITH SQUARE PLATES ARE ALSO ACCEPTABLE. FOLLOW MANUFACTURER'S RECOMMENDATIONS.

REFER TO CONTRACT AND STANDARD SPECIFICATIONS FOR FIELD CUTTING REQUIREMENTS.

DO NOT EMBED IN CONCRETE ANY FIELD-CUT PLATES WITH CUT EDGES SHORTER THAN 6 INCHES. CONSULT WITH MANUFACTURER FOR RE-DRILLING AND ANCHORING REQUIREMENTS OF FIELD-CUT PLATES.

15 FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN 1/8" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.



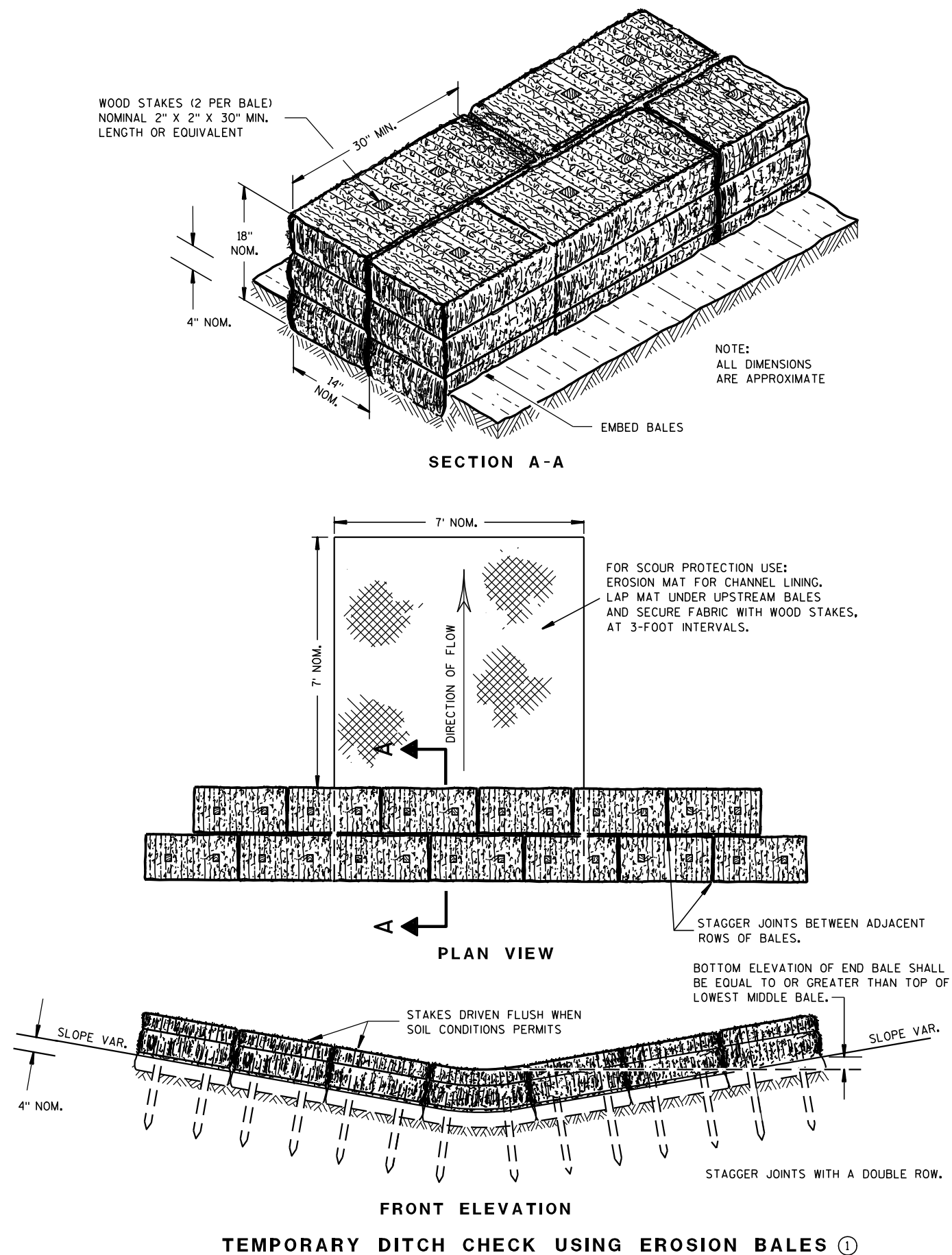
PLAN VIEW  
RADIAL WEDGE PLATE  
CONNECTION DETAIL

CURB RAMPS  
RECTANGULAR AND RADIAL  
DETECTABLE WARNING PLATES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
February 2025 /S/ Rodney Taylor  
DATE <position>

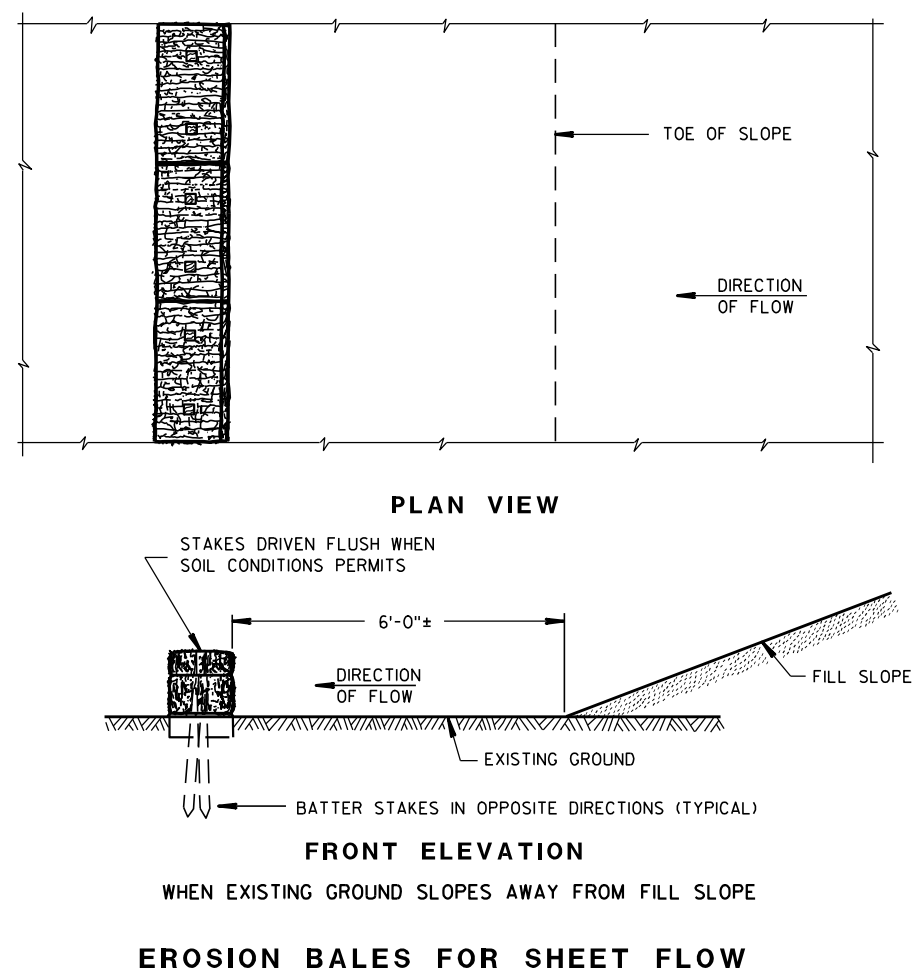
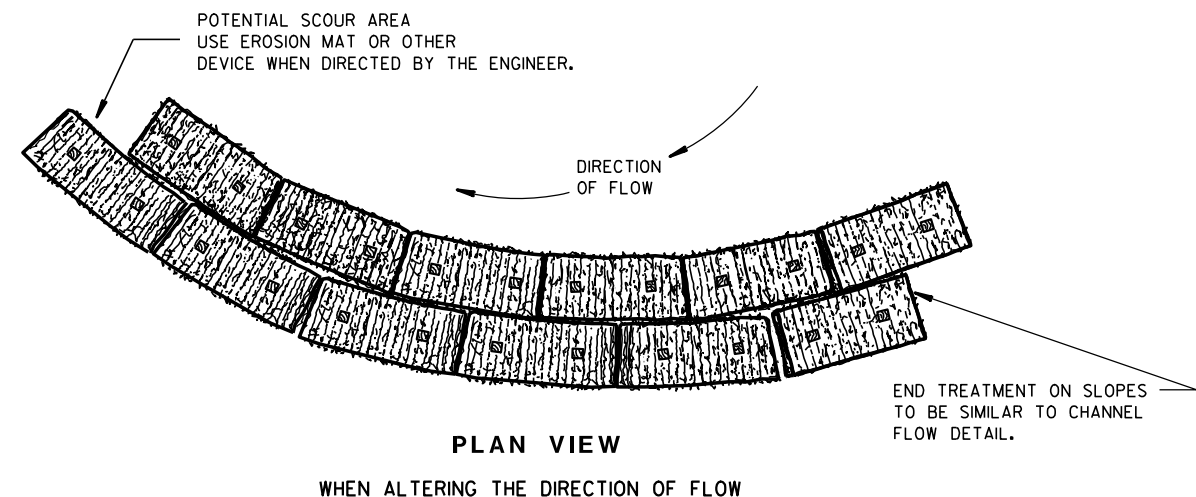
FHWA



## GENERAL NOTES

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

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



## TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

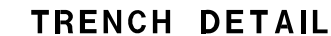
6/04/02  
DATE

/S/ Beth Conn  
CHIEF ROADWAY DEVELOPER 121 ENGINEER

FHWA



- 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 1½" X 1½" 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.



**SILT FENCE**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
4-29-05  
DATE

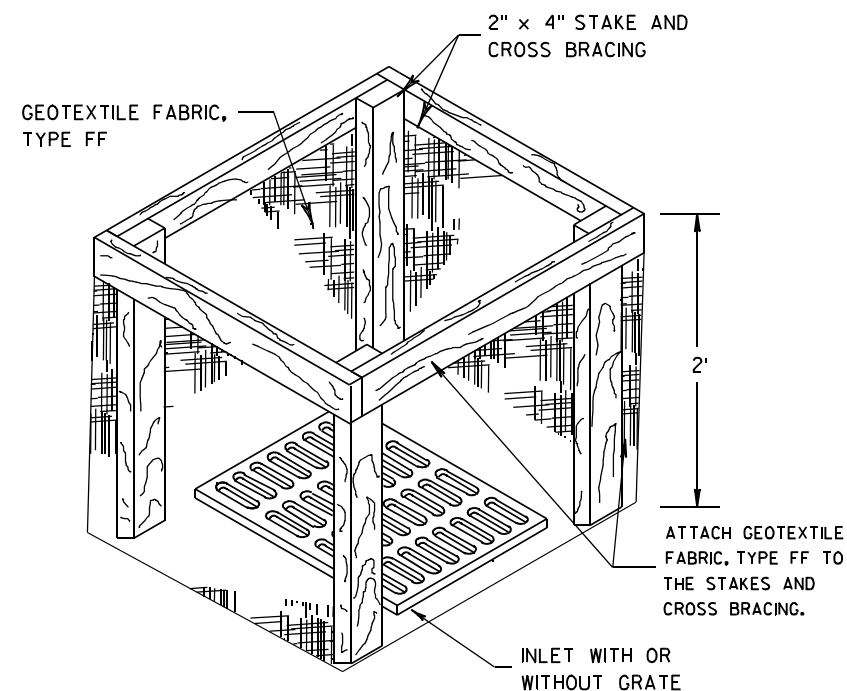
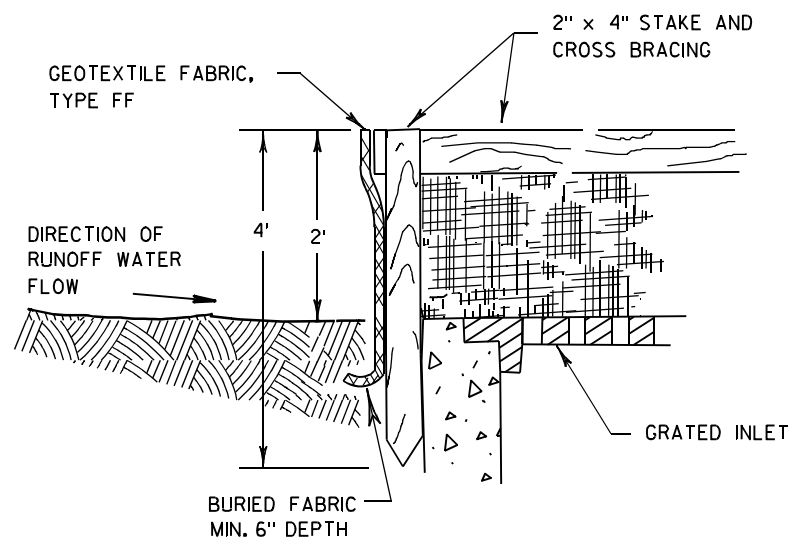
/S/ Beth Connolly  
CHIEF ROADWAY DEVELOPMENT

122

ENGINEER

FHWA





**INLET PROTECTION, TYPE A**

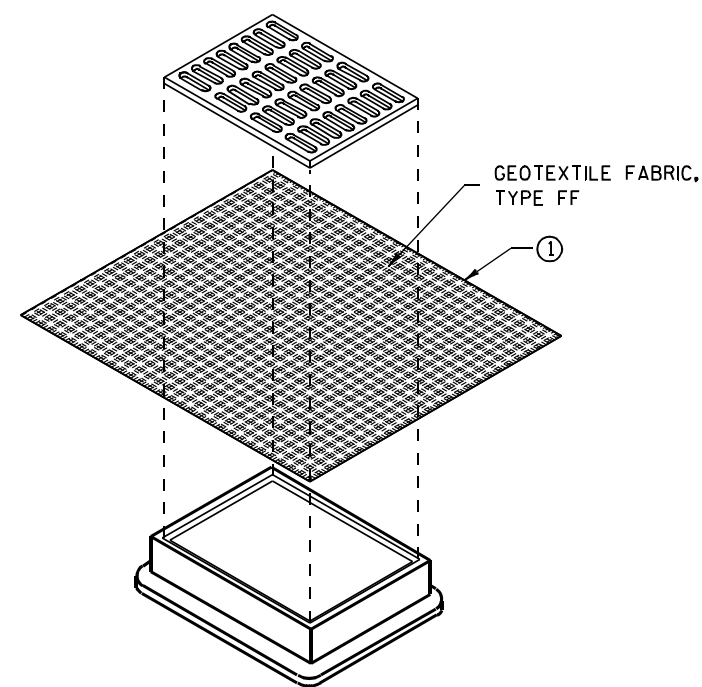
**GENERAL NOTES**

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.

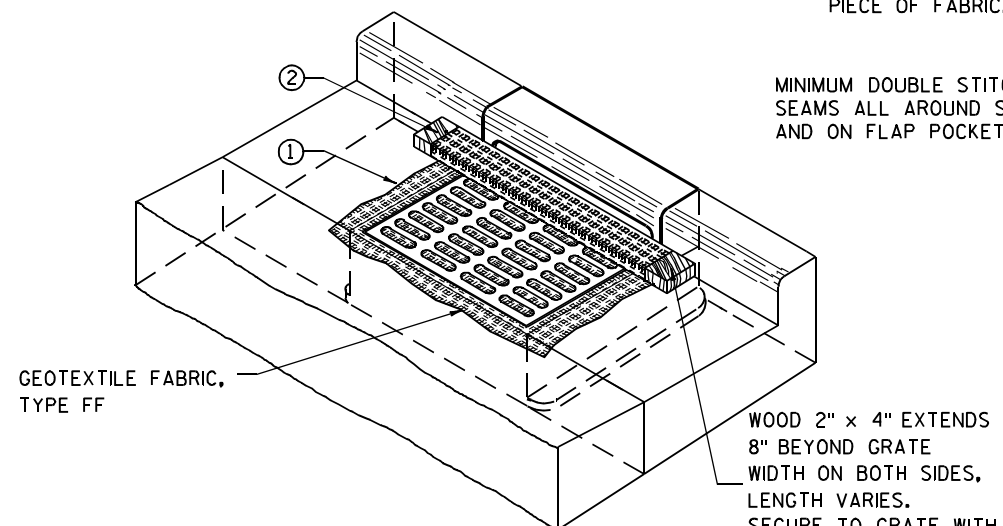
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.



**INLET PROTECTION, TYPE B  
(WITHOUT CURB BOX)**

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



**INLET PROTECTION, TYPE C (WITH CURB BOX)**

**INSTALLATION NOTES**

**TYPE B & C**

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

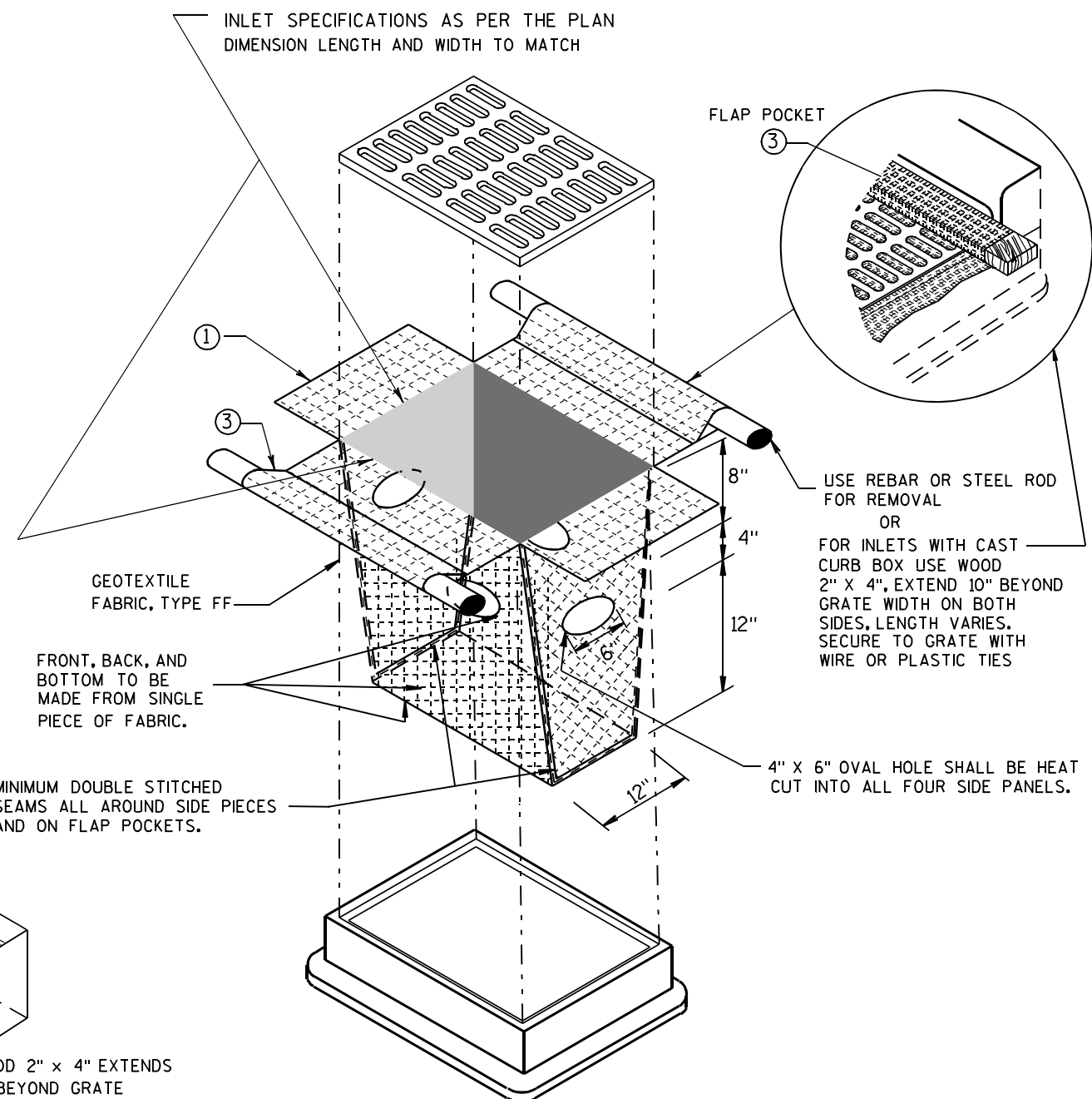
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

**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.



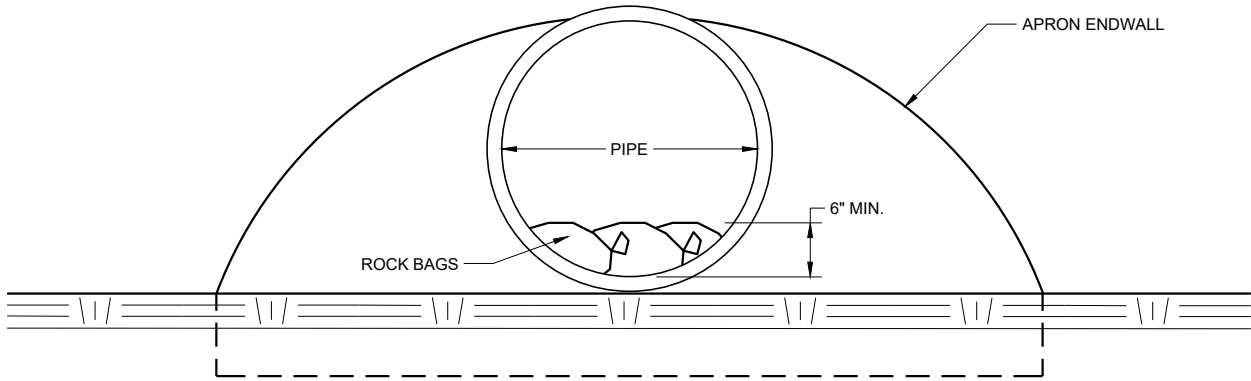
**INLET PROTECTION, TYPE D**

(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

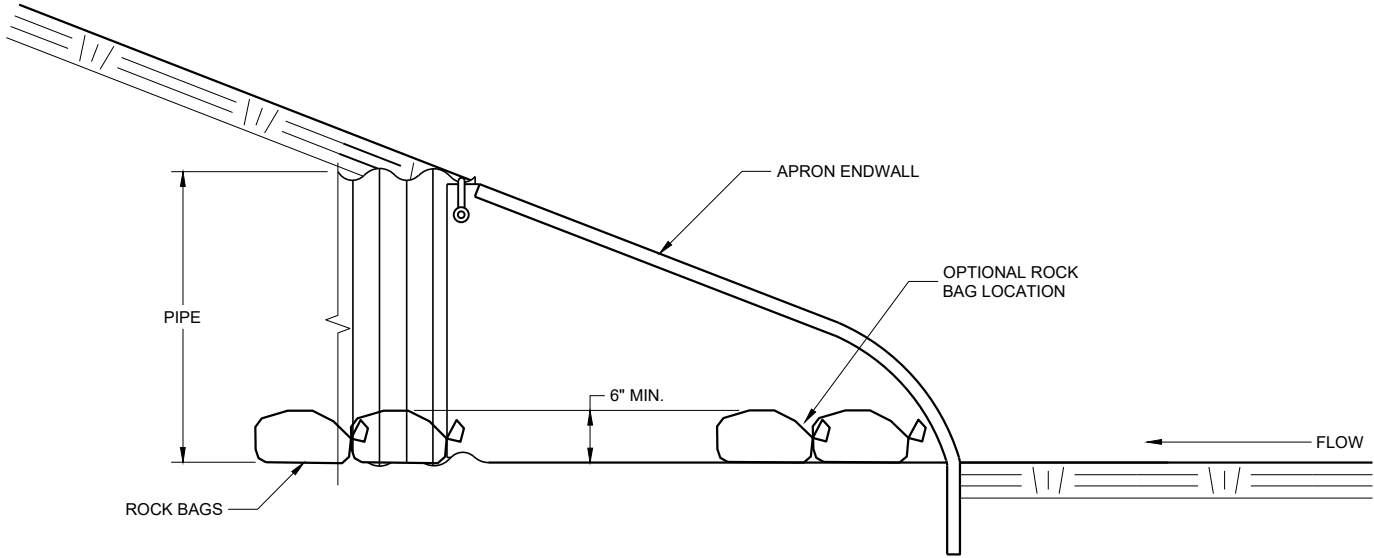
**INLET PROTECTION  
TYPE A, B, C, AND D**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
10/16/02 /S/ Beth Connolly  
DATE 123  
FHWA CHIEF ROADWAY DEVELOPMENT ENGINEER



END VIEW



SIDE VIEW

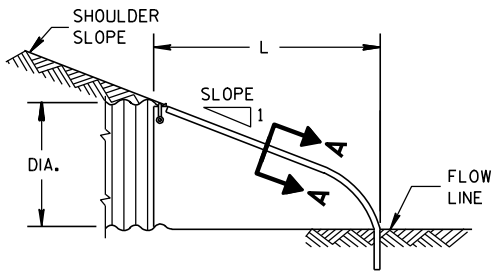
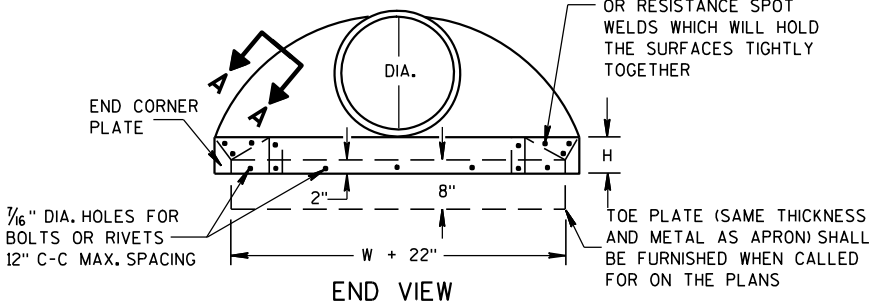
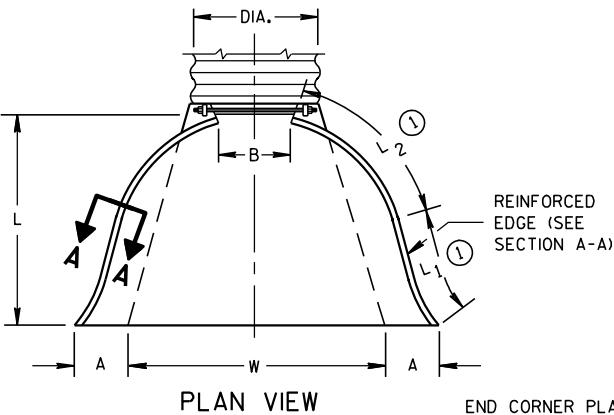
**CULVERT PIPE CHECK**  
(INSTALL ON INLET END ONLY)

|                                                    |                                               |
|----------------------------------------------------|-----------------------------------------------|
| <b>CULVERT PIPE CHECK</b>                          |                                               |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |                                               |
| APPROVED<br>May 2019<br>DATE                       | /S/ Daniel Schave<br>EROSION CONTROL ENGI 124 |
| FHWA                                               |                                               |



| METAL APRON ENDWALLS |                         |       |                     |             |            |                |                     |                     |            |                  |       |  |
|----------------------|-------------------------|-------|---------------------|-------------|------------|----------------|---------------------|---------------------|------------|------------------|-------|--|
| PIPE DIA.<br>(IN.)   | MIN. THICK.<br>(Inches) |       | DIMENSIONS (Inches) |             |            |                |                     |                     |            | APPROX.<br>SLOPE | BODY  |  |
|                      | STEEL                   | ALUM. | A<br>(±1")          | B<br>(MAX.) | H<br>(±1") | L<br>(±1 1/2") | L <sub>1</sub><br>① | L <sub>2</sub><br>① | W<br>(±2") |                  |       |  |
| 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                   | .109x                   | .105x | 18                  | 33          | 12         | 87             | —                   | —                   | 114        | 2 to 1           | 3 Pc. |  |
| 66                   | .109x                   | .105x | 18                  | 36          | 12         | 87             | —                   | —                   | 120        | 2 to 1           | 3 Pc. |  |
| 72                   | .109x                   | .105x | 18                  | 39          | 12         | 87             | —                   | —                   | 126        | 2 to 1           | 3 Pc. |  |
| 78                   | .109x                   | .105x | 18                  | 42          | 12         | 87             | —                   | —                   | 132        | 1 1/2 to 1       | 3 Pc. |  |
| 84                   | .109x                   | .105x | 18                  | 45          | 12         | 87             | —                   | —                   | 138        | 1 1/2 to 1       | 3 Pc. |  |
| 90                   | .109x                   | .105x | 18                  | 37          | 12         | 87             | —                   | —                   | 144        | 1 1/2 to 1       | 3 Pc. |  |
| 96                   | .109x                   | .105x | 18                  | 35          | 12         | 87             | —                   | —                   | 150        | 1 1/2 to 1       | 3 Pc. |  |

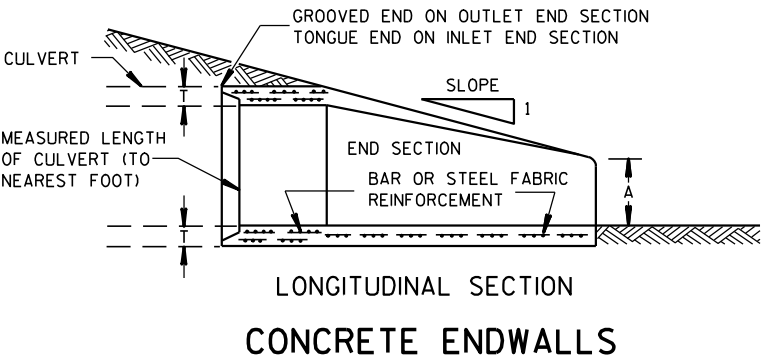
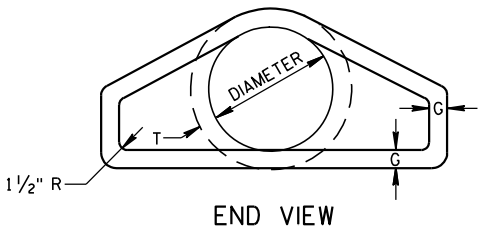
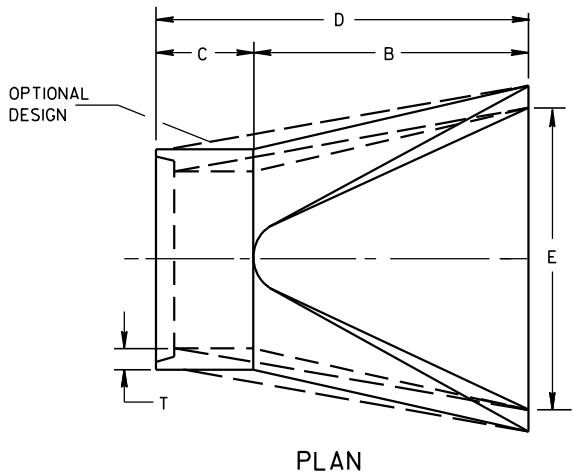
\* EXCEPT CENTER PANEL  
SEE GENERAL NOTES



SIDE ELEVATION  
METAL ENDWALLS

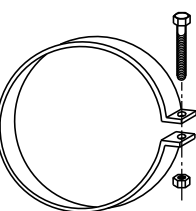
| REINFORCED CONCRETE APRON ENDWALLS |                               |                                |                                |                                    |                                     |     |                               |                                    |
|------------------------------------|-------------------------------|-------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

\* MINIMUM  
\*\* MAXIMUM

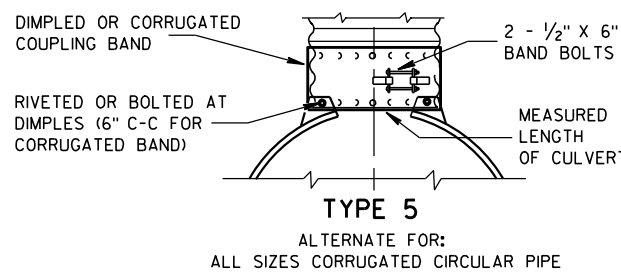
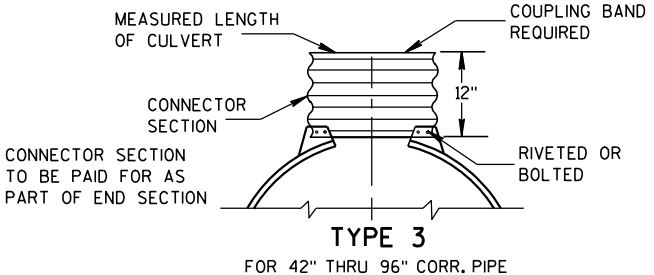
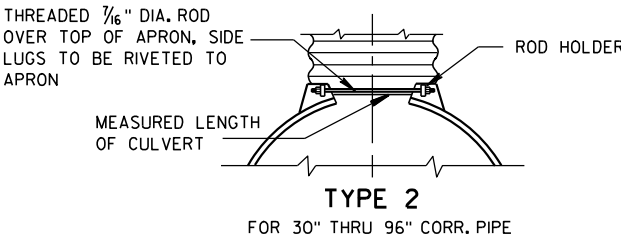
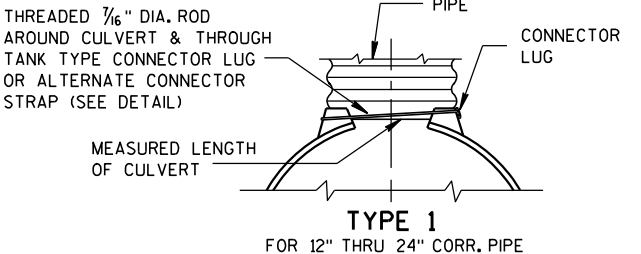


LONGITUDINAL SECTION  
CONCRETE ENDWALLS

1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



ALTERNATE FOR TYPE 1 CONNECTION  
END SECTION CONNECTOR STRAP



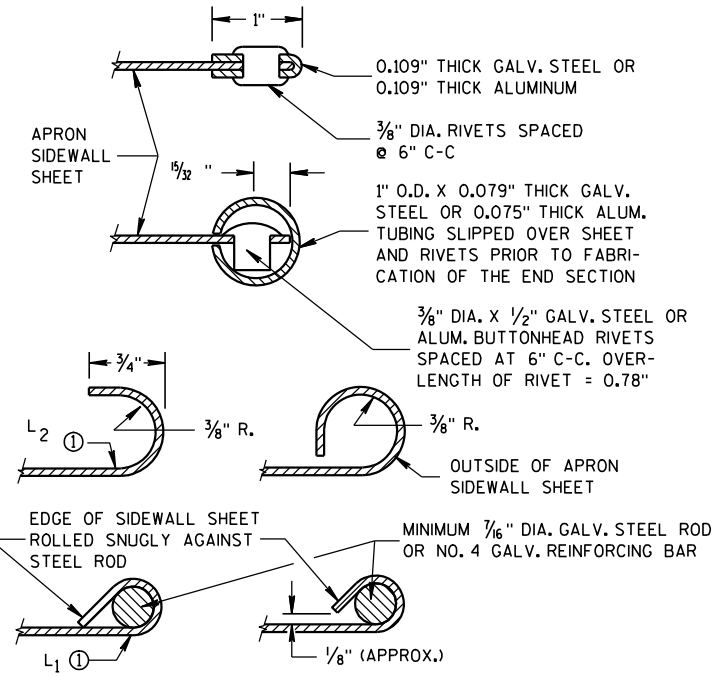
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

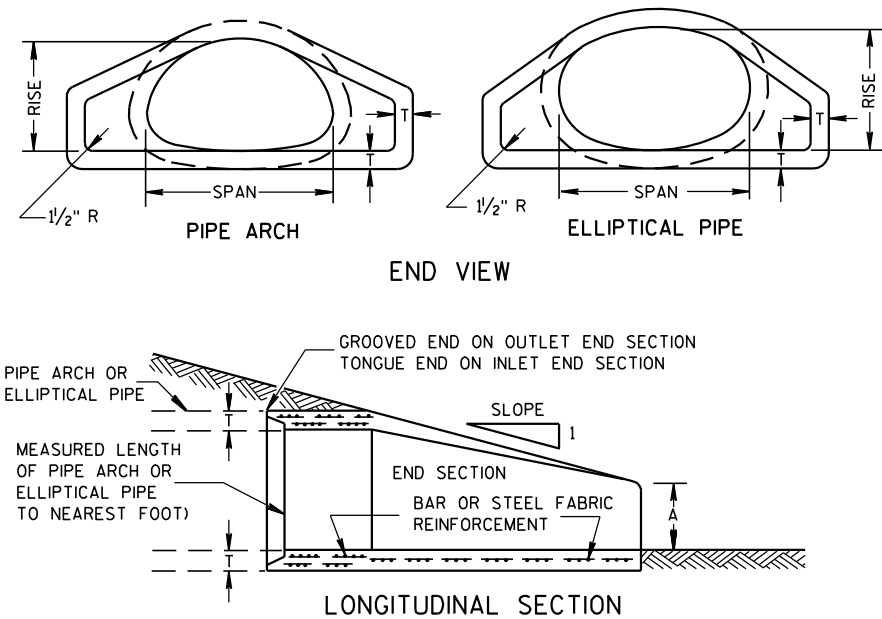
ALL THREE PIECE STEEL APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 60" DIAMETER PIPE AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT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

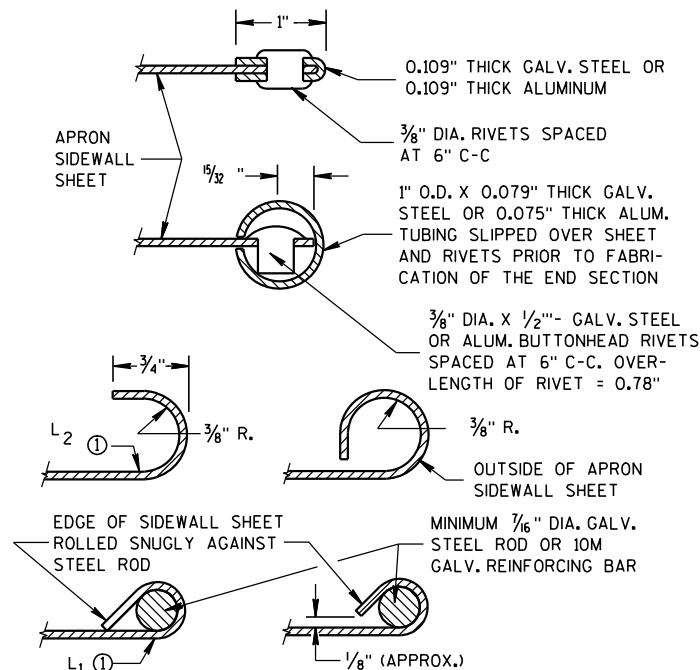
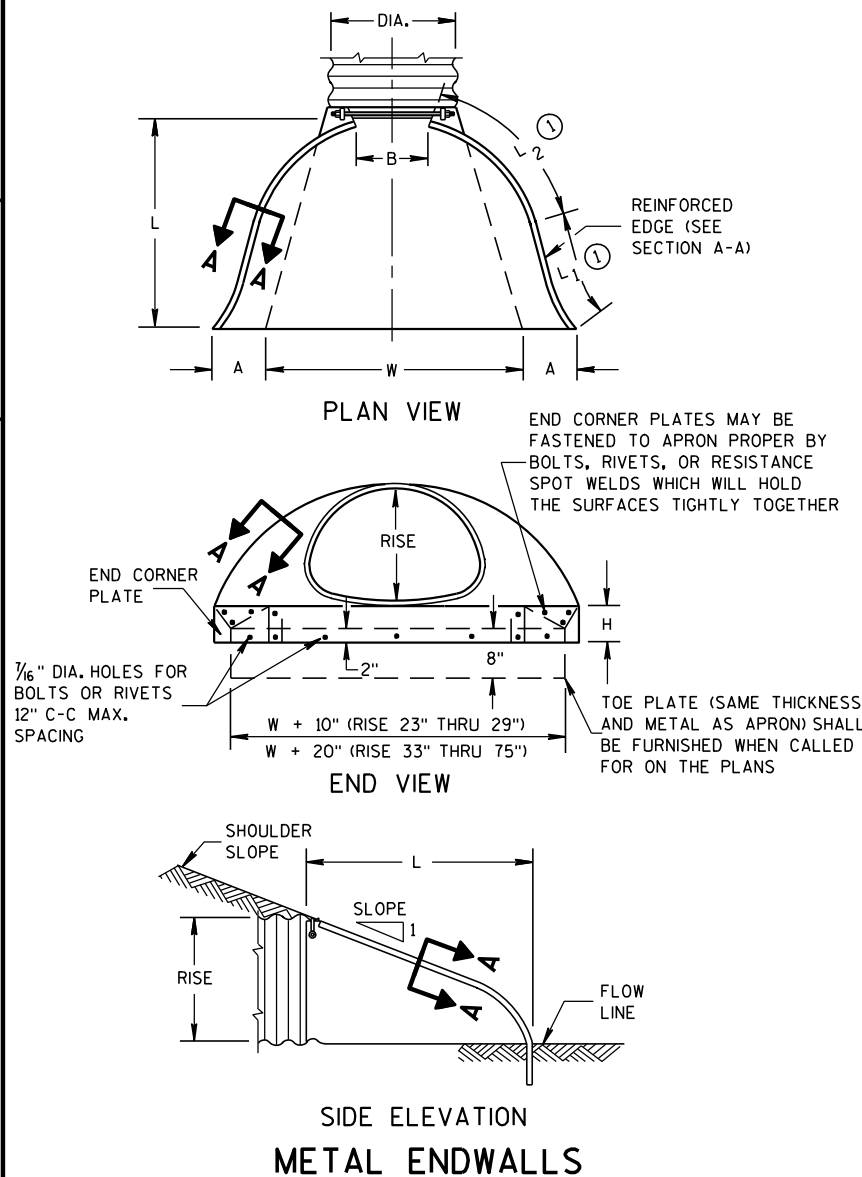
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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<br>DEPARTMENT OF TRANSPORTATION |          |                       |      |
| APPROVED                                           | 11/30/94 | /S/ Rory L. Rhinehart | NEER |
| DATE                                               |          | CHIEF ROADWAY DEVELOP | 125  |
| FHWA                                               |          |                       |      |



CONCRETE ENDWALLS



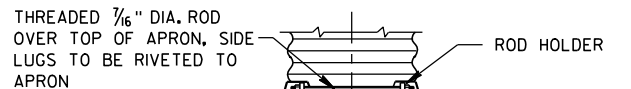
SECTION A-A

| 2- 2/3" X 1/2" CORRUGATIONS |          |      |                      |       |                     |          |         |             |      |        |         |               |       |
|-----------------------------|----------|------|----------------------|-------|---------------------|----------|---------|-------------|------|--------|---------|---------------|-------|
| EQUIV. DIA. (Inches)        | (Inches) |      | MIN. THICK. (Inches) |       | DIMENSIONS (Inches) |          |         |             |      |        |         | APPROX. SLOPE | BODY  |
|                             | SPAN     | RISE | STEEL                | ALUM. | A (±1")             | B (MAX.) | H (±1") | L (±1 1/2") | L1 ① | L2 ①   | W (±2") |               |       |
|                             |          |      |                      |       | (±1")               | (MAX.)   | (±1")   | (±1 1/2")   | ①    | ①      | (±2")   |               |       |
| 15                          | 17       | 13   | .064                 | .060  | 7                   | 9        | 6       | 19          | 14   | 16     | 30      | 2 1/2 to 1    | 1 Pc. |
| 18                          | 21       | 15   | .064                 | .060  | 7                   | 10       | 6       | 23          | 14   | 19 3/8 | 36      | 2 1/2 to 1    | 1 Pc. |
| 21                          | 24       | 18   | .064                 | .060  | 8                   | 12       | 6       | 28          | 18   | 21 3/4 | 42      | 2 1/2 to 1    | 1 Pc. |
| 24                          | 28       | 20   | .064                 | .060  | 9                   | 14       | 6       | 32          | 18   | 27 1/2 | 48      | 2 1/2 to 1    | 1 Pc. |
| 30                          | 35       | 24   | .079                 | .075  | 10                  | 16       | 6       | 39          | 18   | 37 5/8 | 60      | 2 1/2 to 1    | 1 Pc. |
| 36                          | 42       | 29   | .079                 | .075  | 12                  | 18       | 8       | 46          | 24   | 45 3/8 | 75      | 2 1/2 to 1    | 1 Pc. |
| 42                          | 49       | 33   | .109                 | .105  | 13                  | 21       | 9       | 53          | 24   | 54 3/4 | 85      | 2 1/2 to 1    | 2 Pc. |
| 48                          | 57       | 38   | .109                 | .105  | 18                  | 26       | 12      | 63          | 24   | 68     | 90      | 2 1/2 to 1    | 3 Pc. |
| 54                          | 64       | 43   | .109                 | .105  | 18                  | 30       | 12      | 70          | 24   | 72 3/4 | 102     | 2 1/4 to 1    | 3 Pc. |
| 60                          | 71       | 47   | .109*                | .105* | 18                  | 33       | 12      | 77          | 30   | 82 1/4 | 114     | 2 1/4 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) |      | MIN. THICK. (Inches) |       | DIMENSIONS (Inches) |          |         |             |      |        |         | APPROX. SLOPE | BODY  |
|                      | SPAN     | RISE | STEEL                | ALUM. | A (±1")             | B (MAX.) | H (±1") | L (±1 1/2") | L1 ① | L2 ①   | W (±2") |               |       |
|                      |          |      |                      |       | (±1")               | (MAX.)   | (±1")   | (±1 1/2")   | ①    | ①      | (±2")   |               |       |
| 48                   | 53       | 41   | .109                 | .105  | 18                  | 26       | 12      | 63          | 24   | 72 3/4 | 90      | 2 1/2 to 1    | 2 Pc. |
| 54                   | 60       | 46   | .109                 | .105  | 18                  | 30       | 12      | 70          | 30   | 82 1/4 | 102     | 2 to 1        | 2 Pc. |
| 60                   | 66       | 51   | .109*                | .105* | 18                  | 33       | 12      | 77          | —    | —      | 114     | 1 1/2 to 1    | 3 Pc. |
| 66                   | 73       | 55   | .109*                | .105* | 18                  | 36       | 12      | 77          | —    | —      | 126     | 1 1/2 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     | 1 1/2 to 1    | 3 Pc. |
| 84                   | 95       | 67   | .109*                | .105* | 22                  | 34       | 12      | 77          | —    | —      | 162     | 1 1/2 to 1    | 3 Pc. |
| 90                   | 103      | 71   | .109*                | .105* | 22                  | 38       | 12      | 77          | —    | —      | 174     | 1 1/2 to 1    | 3 Pc. |
| 96                   | 112      | 75   | .109*                | .105* | 24                  | 40       | 12      | 77          | —    | —      | 174     | 1 1/2 to 1    | 3 Pc. |

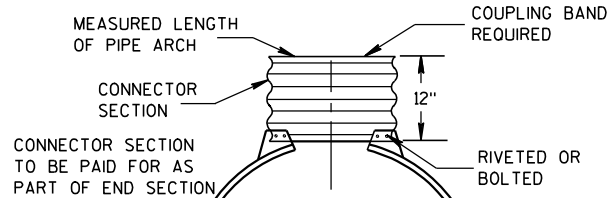
NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED.

\* EXCEPT CENTER PANEL SEE GENERAL NOTES



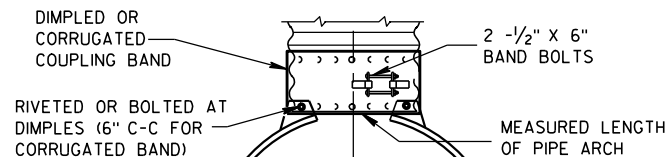
TYPE 2

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

| REINFORCED CONCRETE PIPE ARCH |                     |         |       |         |    |    |     |     |               |  |
|-------------------------------|---------------------|---------|-------|---------|----|----|-----|-----|---------------|--|
| EQUIV. DIA. (Inches)          | DIMENSIONS (Inches) |         |       |         |    |    |     |     | APPROX. SLOPE |  |
|                               | ** SPAN             | ** RISE | T     | A       | B  | C  | D   | E   |               |  |
| 24                            | 29                  | 18      | 3     | 8 1/2   | 39 | 33 | 72  | 48  | 3 to 1        |  |
| 30                            | 36                  | 22      | 3 1/2 | 9 1/2   | 50 | 46 | 96  | 60  | 3 to 1        |  |
| 36                            | 44                  | 27      | 4     | 11 1/8  | 60 | 36 | 96  | 72  | 3 to 1        |  |
| 42                            | 51                  | 31      | 4 1/2 | 15 5/16 | 60 | 36 | 96  | 78  | 3 to 1        |  |
| 48                            | 58                  | 36      | 5     | 21      | 60 | 36 | 96  | 84  | 3 to 1        |  |
| 54                            | 65                  | 40      | 5 1/2 | 25 1/2  | 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     | 28 1/2  | 83 | 19 | 102 | 144 | 2 to 1        |  |

| REINFORCED CONCRETE ELLIPTICAL PIPE |                     |         |       |        |    |    |    |    |               |  |
|-------------------------------------|---------------------|---------|-------|--------|----|----|----|----|---------------|--|
| EQUIV. DIA. (Inches)                | DIMENSIONS (Inches) |         |       |        |    |    |    |    | APPROX. SLOPE |  |
|                                     | ** SPAN             | ** RISE | T     | A      | B  | C  | D  | E  |               |  |
| 24                                  | 30                  | 19      | 3 1/4 | 8 1/2  | 39 | 33 | 72 | 48 | 3 to 1        |  |
| 30                                  | 38                  | 24      | 3 3/4 | 9 1/2  | 54 | 18 | 72 | 60 | 3 to 1        |  |
| 36                                  | 45                  | 29      | 4 1/2 | 11 1/8 | 60 | 24 | 84 | 72 | 2 1/2 to 1    |  |
| 42                                  | 53                  | 34      | 5     | 15 1/4 | 60 | 36 | 96 | 78 | 2 1/2 to 1    |  |
| 48                                  | 60                  | 38      | 5 1/2 | 21     | 60 | 36 | 96 | 84 | 2 1/2 to 1    |  |
| 54                                  | 68                  | 43      | 6     | 25 1/2 | 60 | 36 | 96 | 90 | 2 1/2 to 1    |  |
| 60                                  | 76                  | 48      | 6 1/2 | 30     | 60 | 36 | 96 | 96 | 2 1/2 to 1    |  |

\*\*NOMINAL SIZE

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.

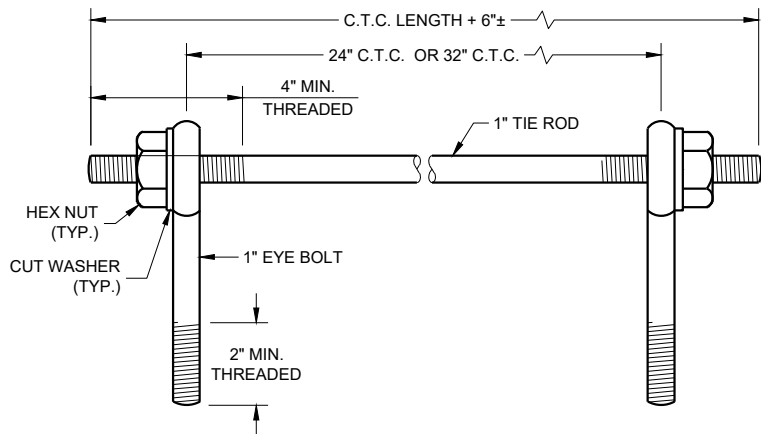
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

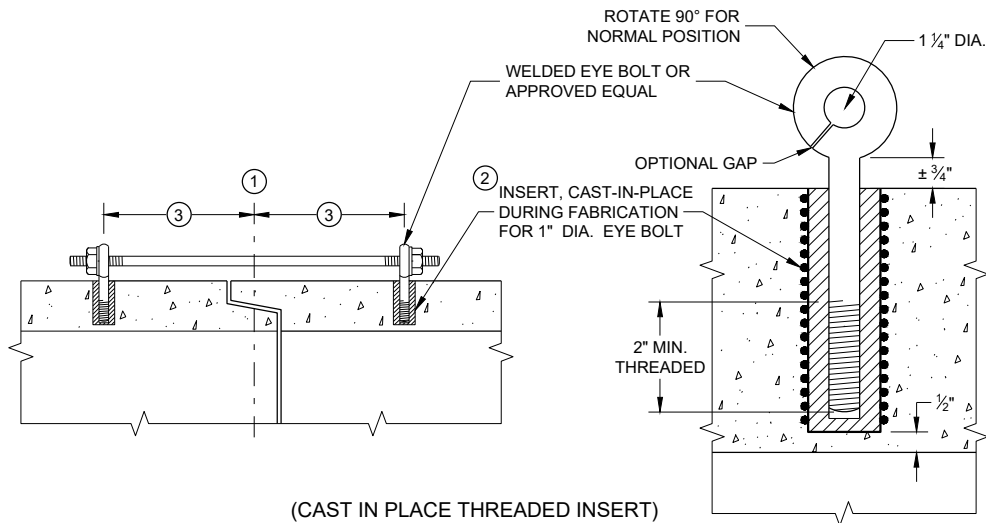
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
11/30/94 /S/ Rory L. Rhinehart  
DATE CHIEF ROADWAY DEVELOPER  
FHWA 126 ENGINEER



EYE BOLTS AND TIE ROD

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 1)



(CAST IN PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

## GENERAL NOTES

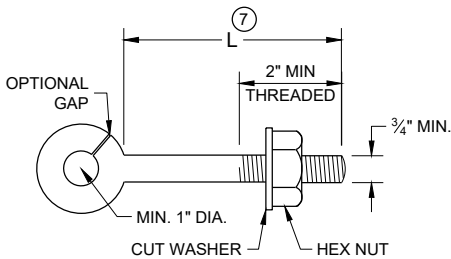
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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.

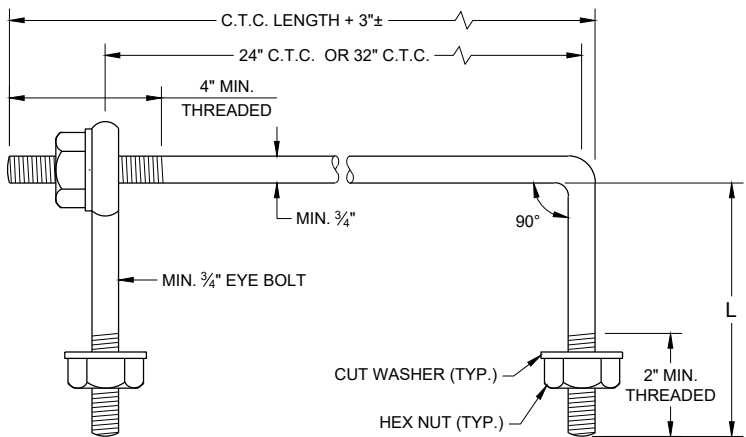
JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

- 1 CENTER LINE 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 PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.
- 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.
- 7 EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

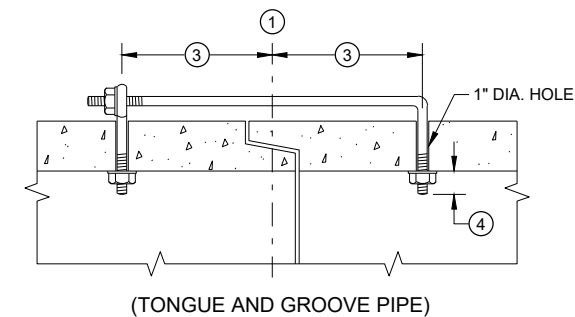


EYE BOLT 7

NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD

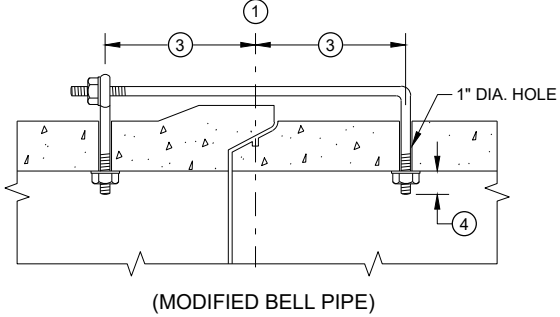


(TONGUE AND GROOVE PIPE)

LONGITUDINAL SECTION

(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

EYE BOLT AND TIE ROD ASSEMBLY (ALTERNATE NO. 2)

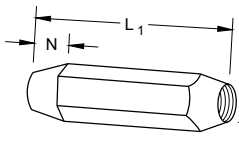


(MODIFIED BELL PIPE)

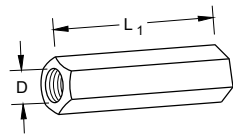
ADJUSTABLE TIE ROD TABLE

| PIPE DIAMETER | TIE ROD DIAMETER | D   | L <sub>1</sub> | N      |
|---------------|------------------|-----|----------------|--------|
| 12 - 60       | 5/8              | 5/8 | 5              | 1/2    |
| 66 - 84       | 3/4              | 3/4 | 5              | 1/2    |
| 90 - 144      | 1                | 1   | 7              | 1 1/16 |

DIMENSIONS SHOWN ARE IN INCHES

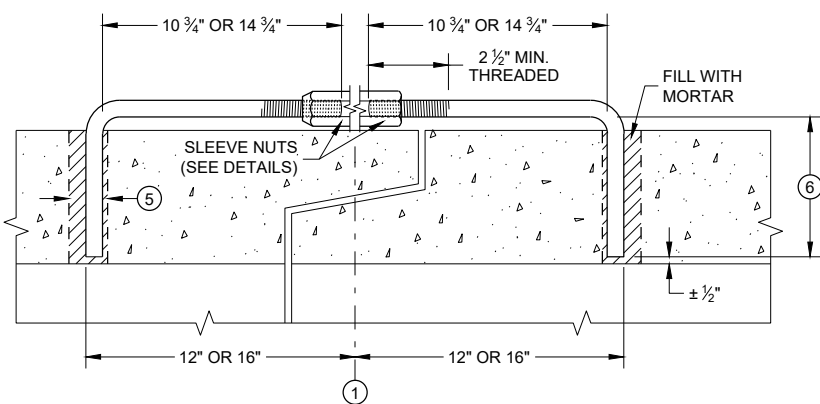


TAPERED



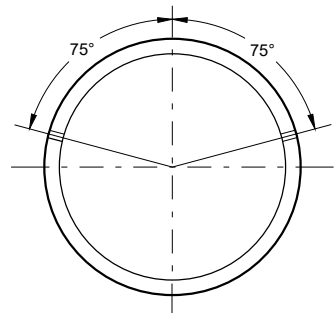
PLAIN

RIGHT AND LEFT THREADS  
SLEEVE NUTS



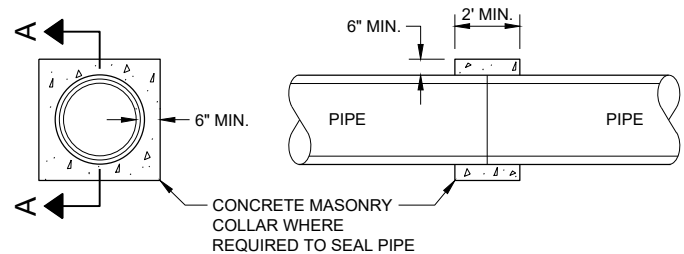
LONGITUDINAL SECTION

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



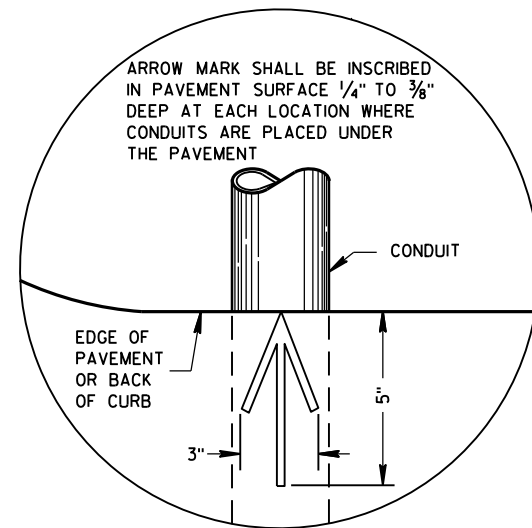
SECTION A - A

CONCRETE COLLAR DETAIL

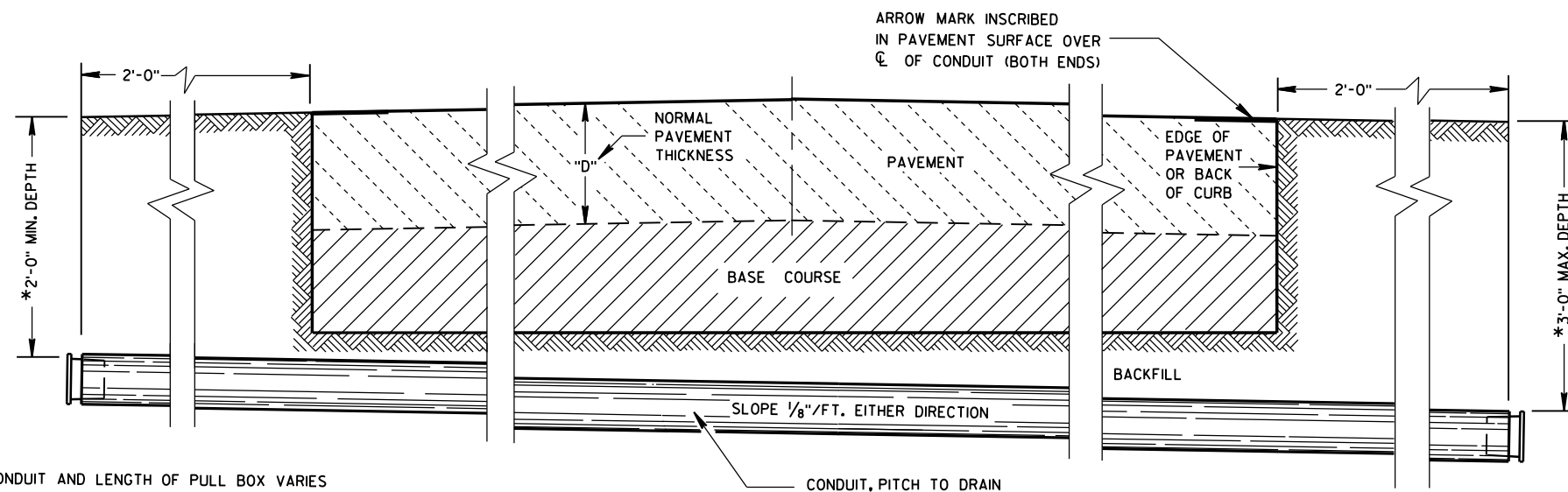
## JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2021 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER 127  
FHWA



PLAN VIEW  
ARROW MARK



SIDE ELEVATION  
DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

\*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES  
WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

## GENERAL NOTES

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

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

TRACER WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

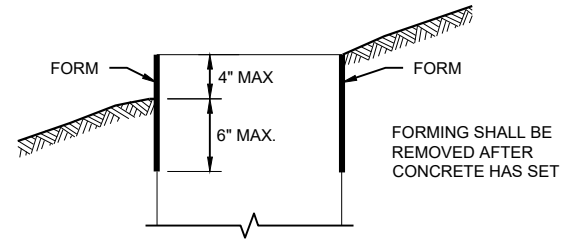
ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.

CONDUIT

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
March, 2017 /S/ Ahmet Demirbilek  
DATE STATE ELECTRICAL 128  
FHWA

FORM DEPTH SHALL BE NO MORE THAN 6" BELOW GRADE ON THE LOWER SIDE OF BASE



FORMING DETAIL

| QUANTITY REQUIREMENTS           | CONCRETE BASE TYPE |      |       |
|---------------------------------|--------------------|------|-------|
|                                 | 1                  | 2    | 5 & 6 |
| APPROX. CUBIC YARDS OF CONCRETE | 0.40               | 0.57 | 0.40  |
| LBS. OF HOOP BAR STEEL          | NONE               | 23   | 16    |
| LBS. OF VERTICAL BAR STEEL      | NONE               | 60   | 18    |

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE SHOWN ON THE PLANS

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NON-METALLIC.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NON-METALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

GENERAL NOTES

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION.

WHEN REQUIRED TO CONNECT NON-METALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 2, TYPE 5 AND TYPE 6 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER ALL BASE TYPES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4 INCH "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND SHALL NOT BE THREADED.

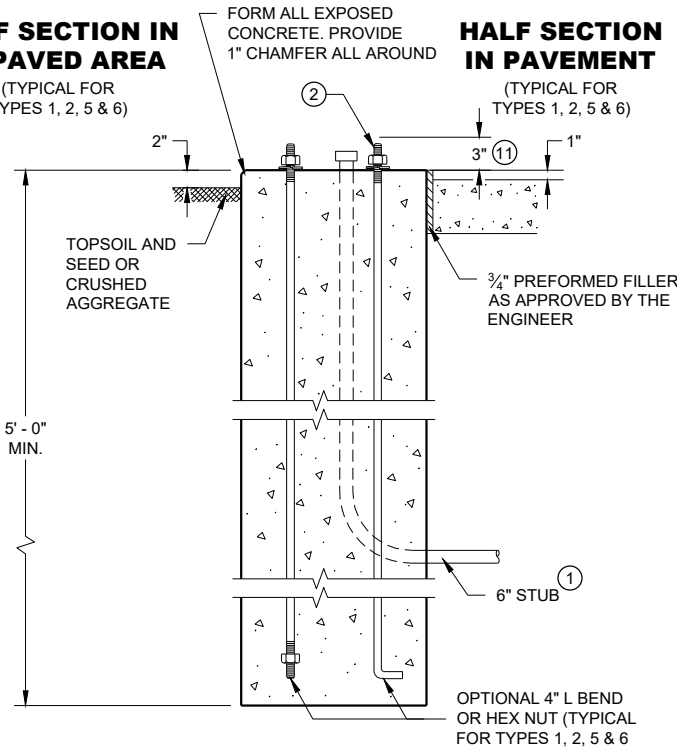
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

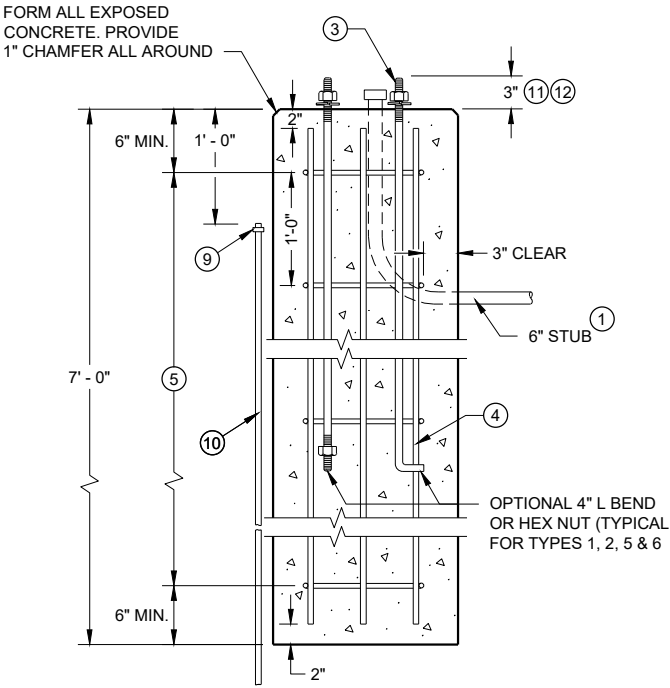
- 1 THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL OF THE ENGINEER.
- 2 (4) 1" DIA. X 3' - 6" ANCHOR RODS.
- 3 (4) 1" DIA. X 5' - 0" ANCHOR RODS.
- 4 (6) NO. 6 X 6' - 8" BAR STEEL REINFORCEMENT.
- 5 (7) NO. 4 X 5' - 1" BAR STEEL REINFORCEMENT @ 1' - 0" C - C.
- 6 (4) 1" DIA. X 3' - 6" ANCHOR RODS.
- 7 (6) NO. 4 X 4' - 8" BAR STEEL REINFORCEMENT.
- 8 (5) NO. 4 X 5' - 1" BAR STEEL REINFORCEMENT @ 1' - 0" C - C.
- 9 EXOTHERMIC CONNECTION TO EQUIPMENT GROUNDING CONDUCTOR
- 10 5/8" DIA. X 8' - 0" COPPERCLAD EQUIPMENT GROUNDING ELECTRODE REQUIRED
- 11 ANY ANCHOR ROD PROJECTION SHORTER THAN 2 3/4" OR LONGER THAN 3 1/2" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.
- 12 FOR NON - BREAKAWAY INSTALLATIONS, 4 1/2" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

HALF SECTION IN UNPAVED AREA



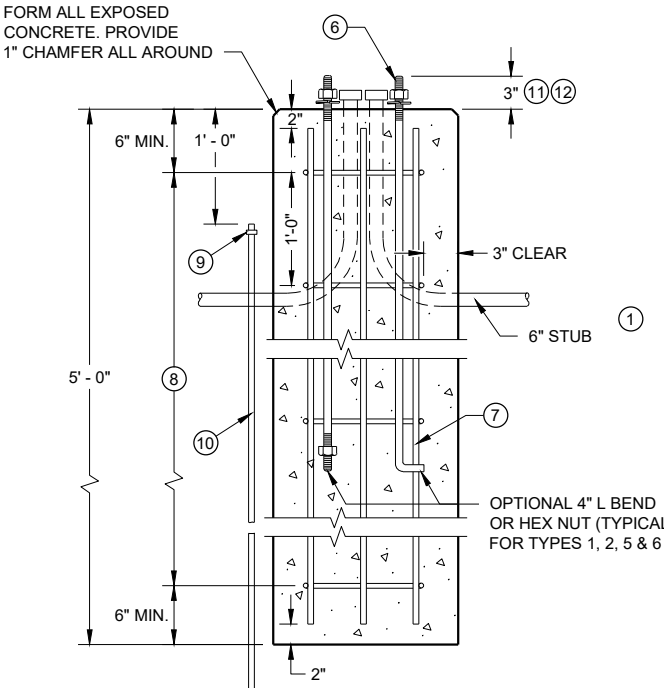
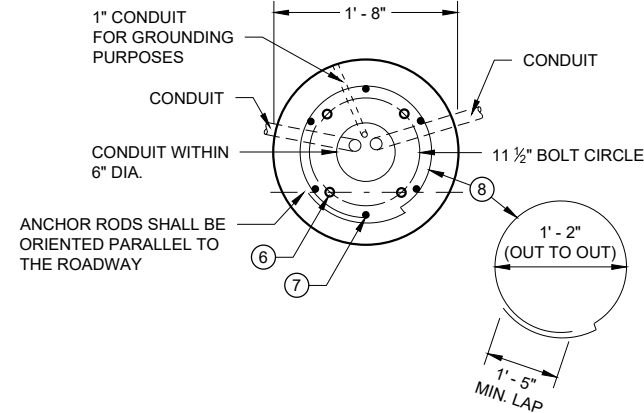
TYPE 1

HALF SECTION IN PAVEMENT

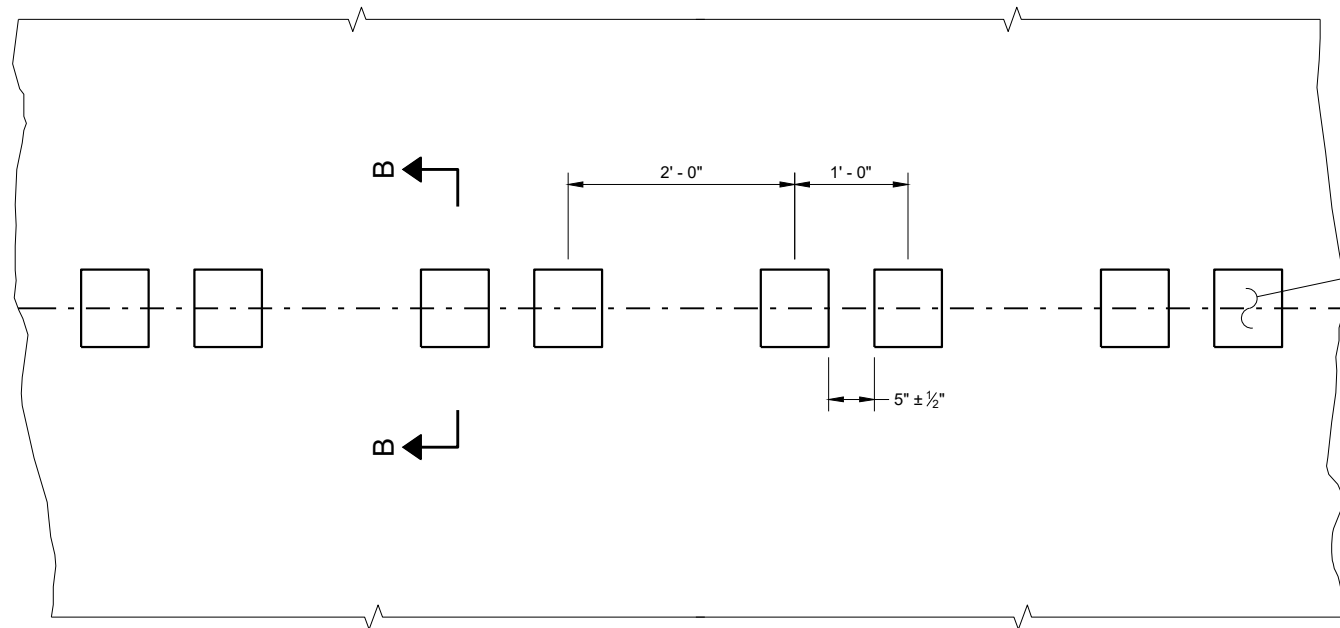


TYPE 2

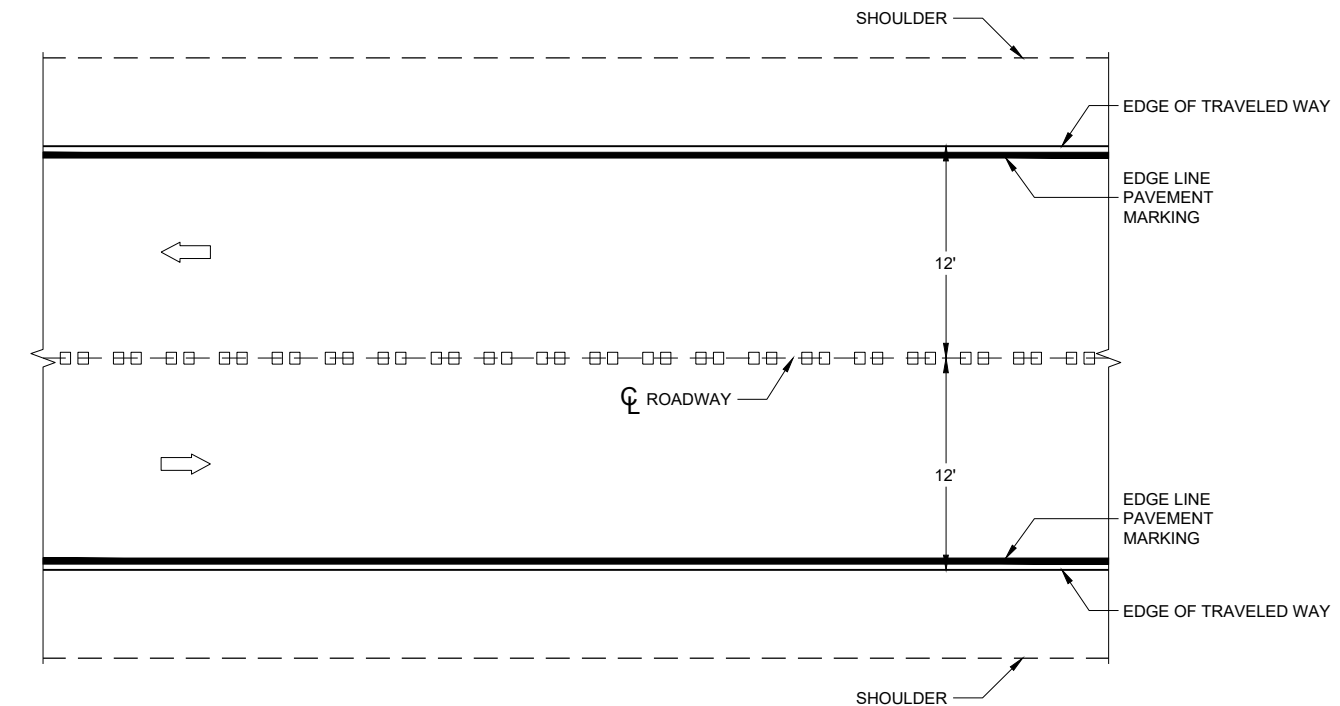
CONCRETE BASES



TYPE 5 & 6

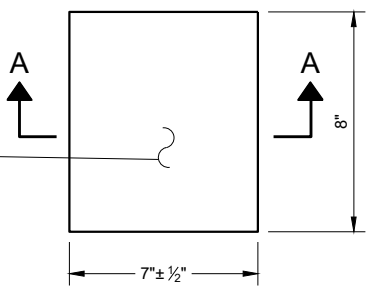


PLAN DETAIL VIEW

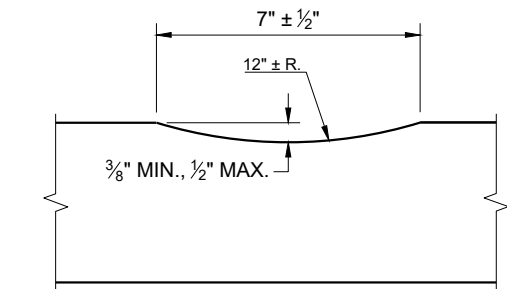


PLAN VIEW

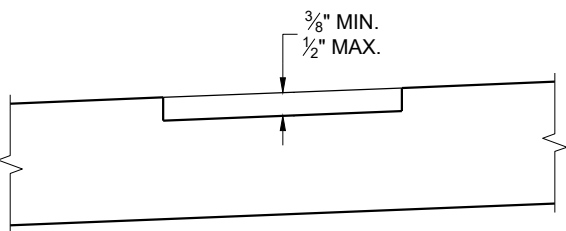
CENTERLINE RUMBLE STRIPS - ASPHALT



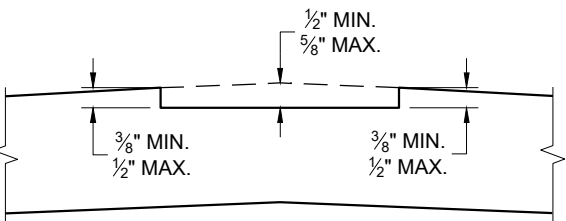
PLAN VIEW  
(SINGLE GROOVE)



SECTION A - A



SECTION B - B  
SUPERELEVATED ROADWAY

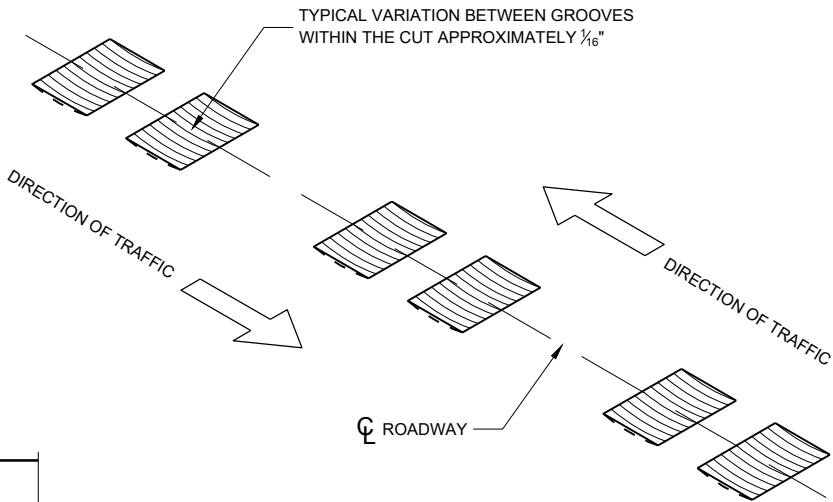


SECTION B - B  
CROWNED ROADWAY

GENERAL NOTES

DO NOT MILL SHOULDER GROOVES THROUGH INTERSECTIONS, MARKED CROSSWALKS, NON-MOTORIZED PATH CROSSINGS, ETC. REFER TO SDD 13A11 SHEETS "d" AND "e".

CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS WHEN DIRECTED BY THE ENGINEER.

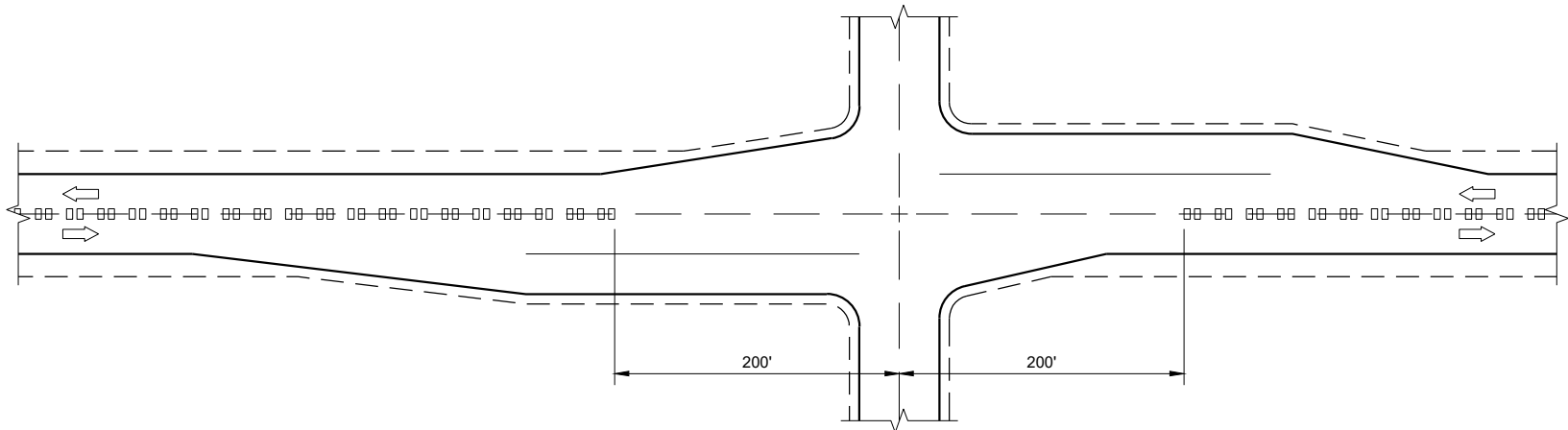


ISOMETRIC

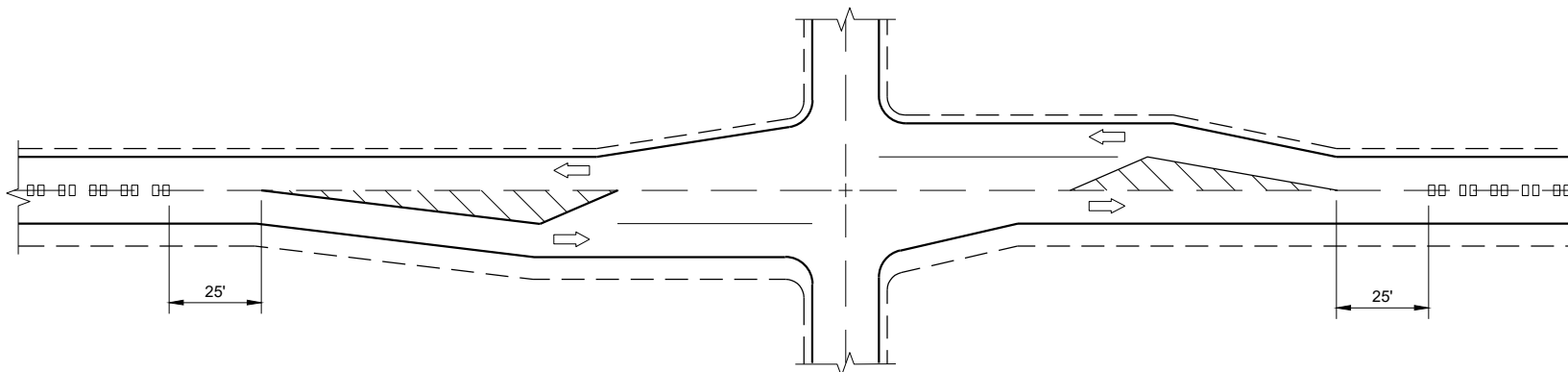
CENTERLINE RUMBLE  
STRIPS - ASPHALT

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION 130

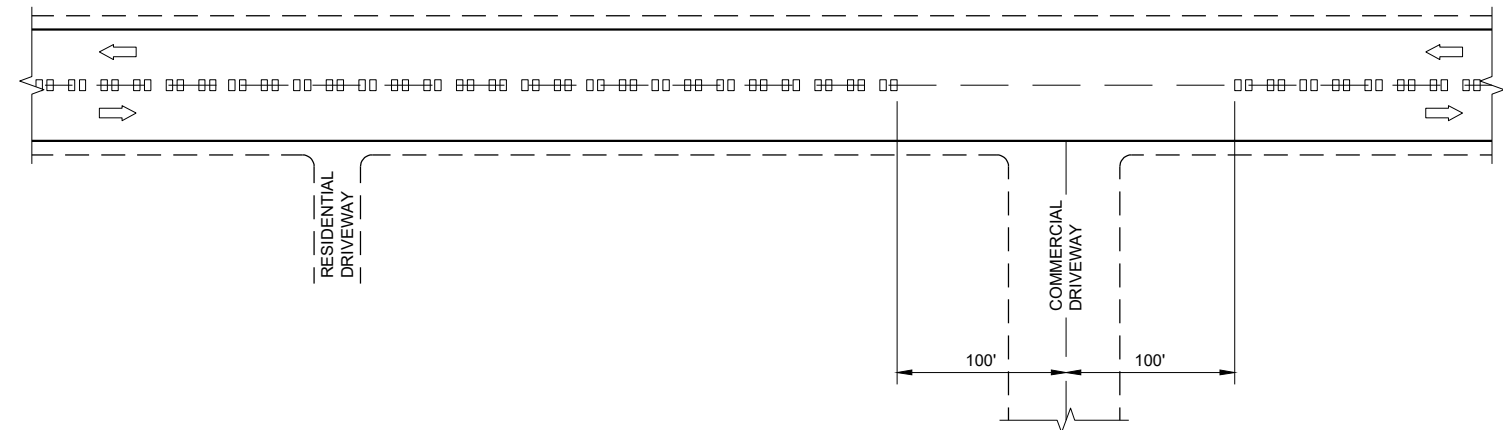




CENTERLINE GROOVES AT INTERSECTIONS



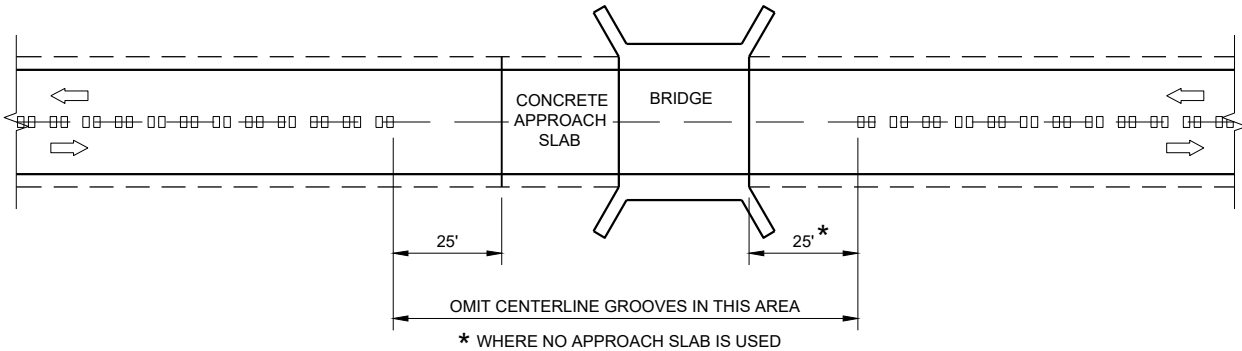
CENTERLINE GROOVES AT INTERSECTIONS  
(WITH LEFT TURN LANES)



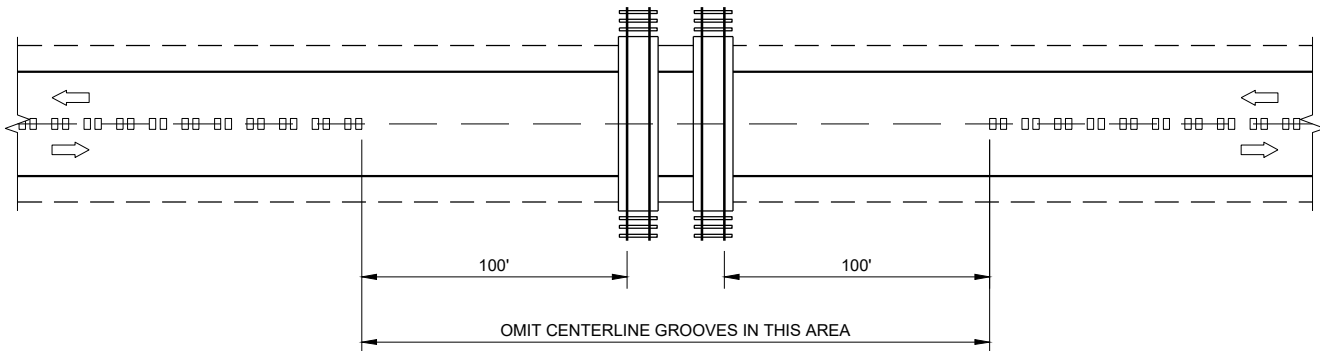
CENTERLINE GROOVES AT DRIVEWAYS<sup>①</sup>

GENERAL NOTES

- ① CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS WHEN DIRECTED BY THE ENGINEER.



CENTERLINE GROOVES AT BRIDGES

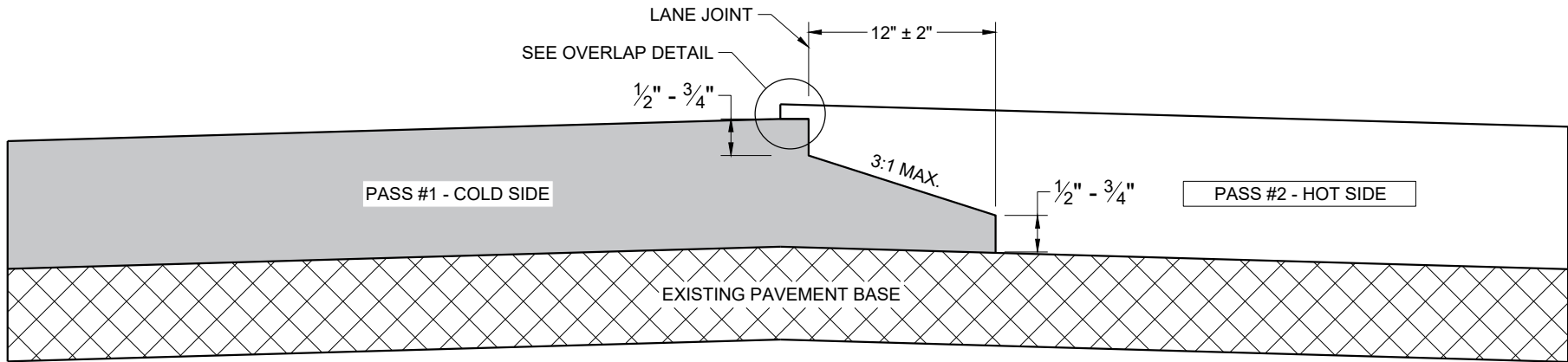


CENTERLINE GROOVES AT RAILROADS

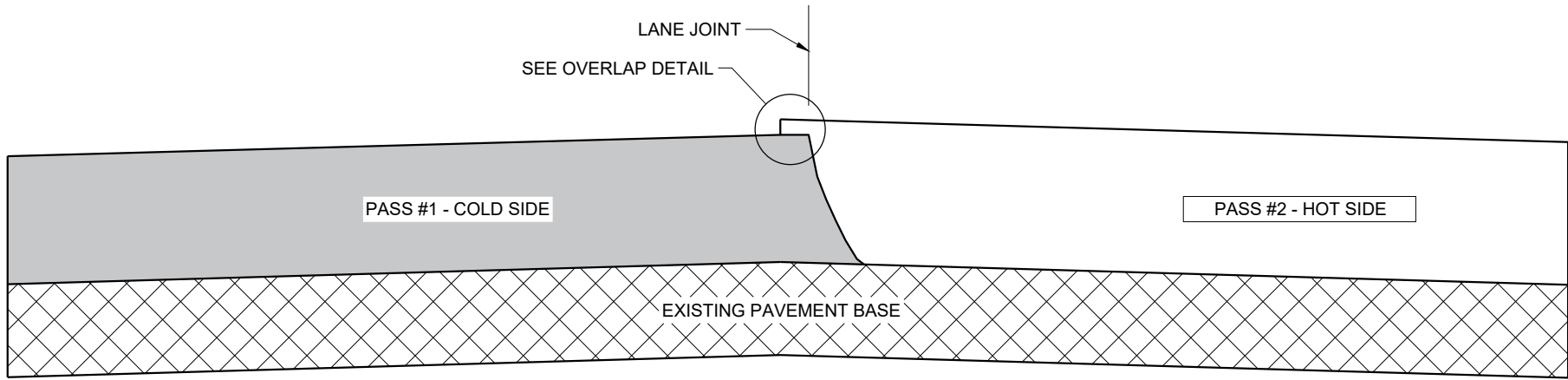
CENTER LINE  
RUMBLE STRIPS -  
INTERSECTIONS, DRIVEWAYS,  
BRIDGES, RAIL ROADS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

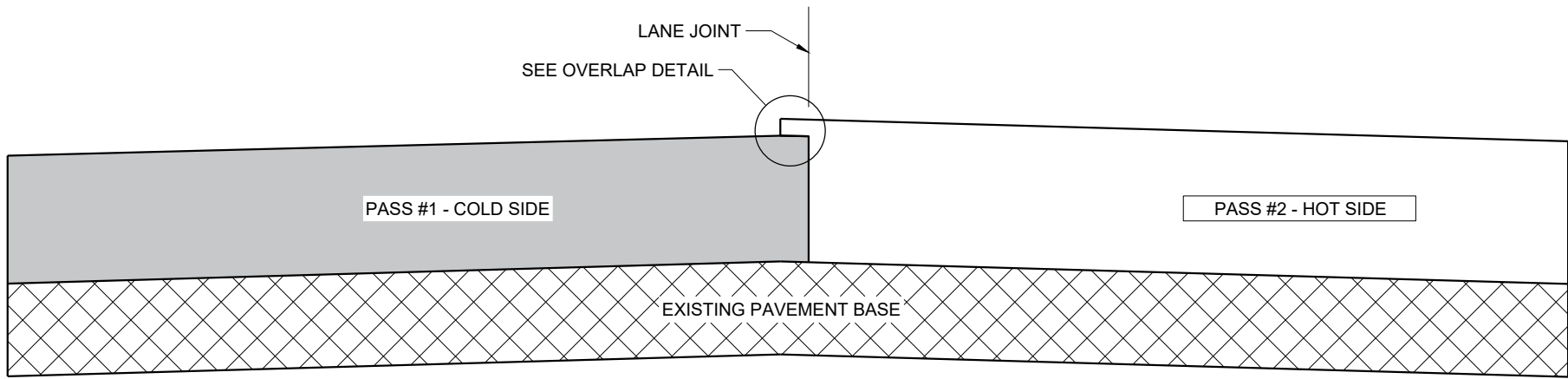
APPROVED  
May 2023  
DATE  
/S/ John Jenkins  
ROADWAY STANDARDS DEVELOPMENT  
ENGINEER



TYPICAL PAVEMENT CROSS SECTION  
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION  
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION  
VERTICAL JOINT (MILLED)

GENERAL NOTES

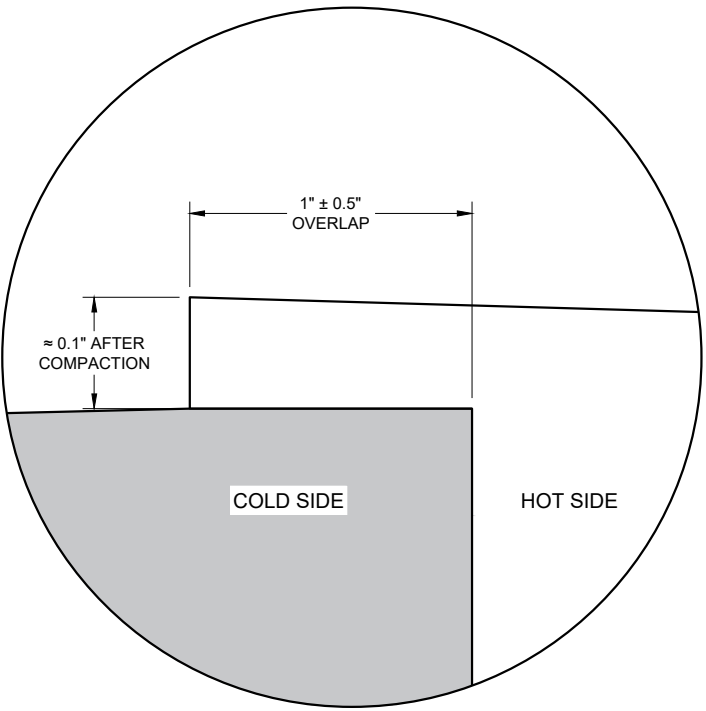
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

FOR ALL LONGITUDINAL JOINTS, ENSURE THE PAVER SCREED OVERLAPS THE PREVIOUSLY PLACED PAVEMENT BY  $1" \pm 0.5"$  AND THE HOT SIDE OF THE JOINT REMAINS HIGHER THAN THE COLD SIDE BY APPROXIMATELY  $0.1"$  AFTER FINAL COMPACTION. (IT WILL BE FLUSH WHEN PAVING IN ECHELON.)

ONLY REMOVE THE LONGITUDINAL NOTCHED WEDGE JOINT FOR SMA PAVEMENT OR AS DIRECTED BY THE ENGINEER TO ADDRESS SPECIFIC LENGTHS OF JOINT DAMAGED BY TRAFFIC.

WHEN MILLING BACK OR REMOVING ANY LONGITUDINAL JOINT, LIMIT THE MATERIAL REMOVED TO  $2"$  FROM THE TOP NOTCH OR FROM THE VERTICAL JOINT EDGE ON THE COLD SIDE OF THE JOINT.

USE LONGITUDINAL MILLED JOINT AS PLANS SHOW OR THE AS THE ENGINEER DIRECTS.



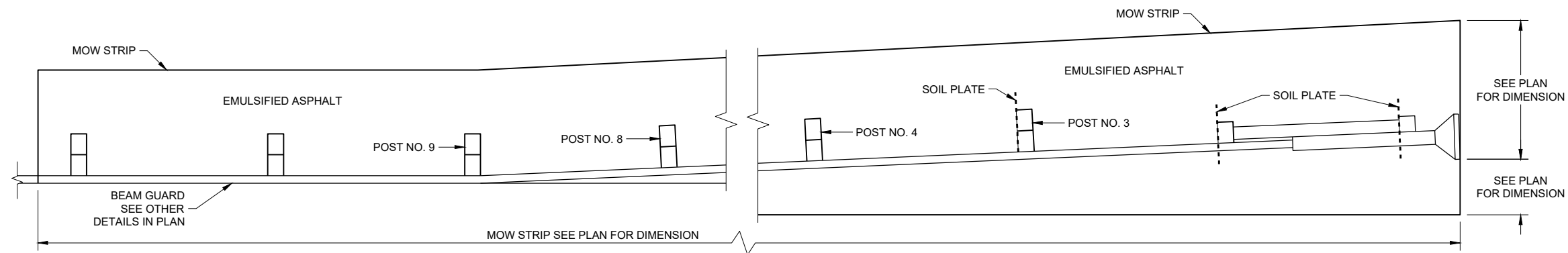
OVERLAP DETAIL (TYPICAL)

HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2020 /S/ Steven Hefel  
DATE HMA PAVEMENT ENGIN 132  
FHWA



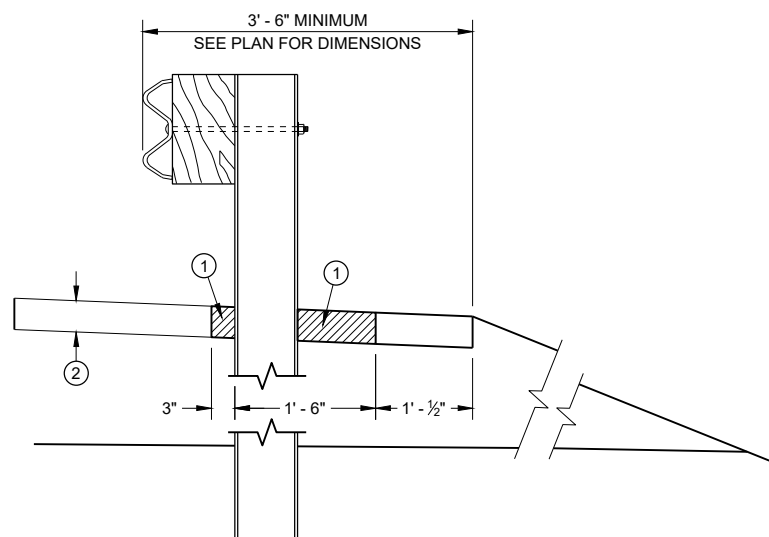


**PLAN VIEW**  
**MOW STRIP LAYOUT FOR ENERGY ABSORBING TERMINAL**

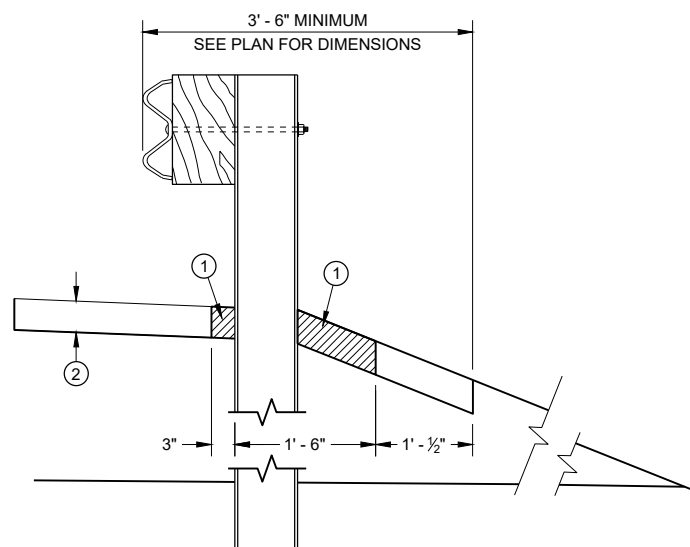
**GENERAL NOTES**

ONLY USE STEEL POSTS IN CONCRETE AND ASPHALT MOW STRIPS.

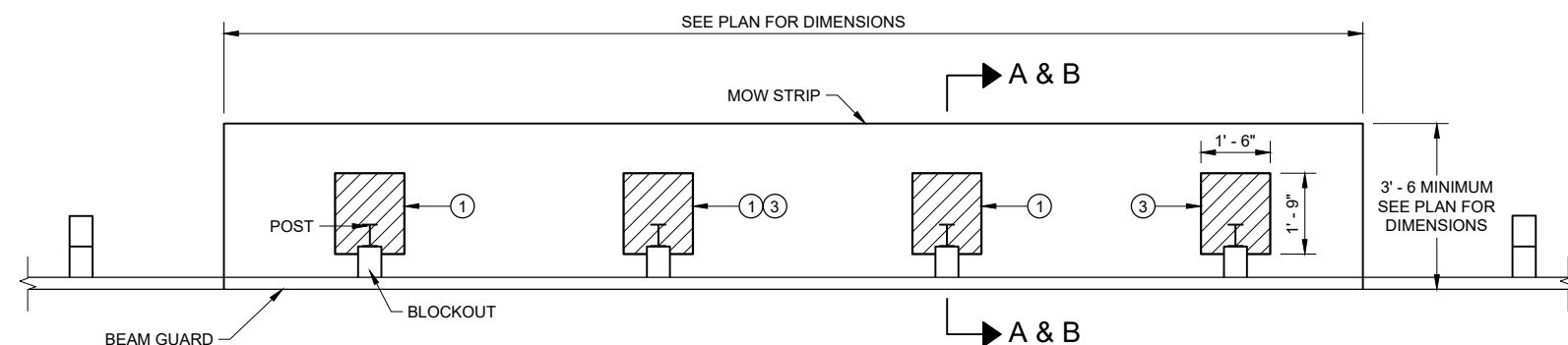
- ① CONTROLLED LOW-STRENGTH BACKFILL OR EMULSIFIED ASPHALT.
- ② DEPTH OF MOW STRIP:  
ASPHALT - 4"  
CONCRETE - 4"  
EMULSIFIED ASPHALT - 1" OR LESS
- ③ FOR EMULSIFIED ASPHALT, MOW STRIP STRIP LEAVE OUTS NOT REQUIRED. (TYPICAL FOR ALL POSTS)



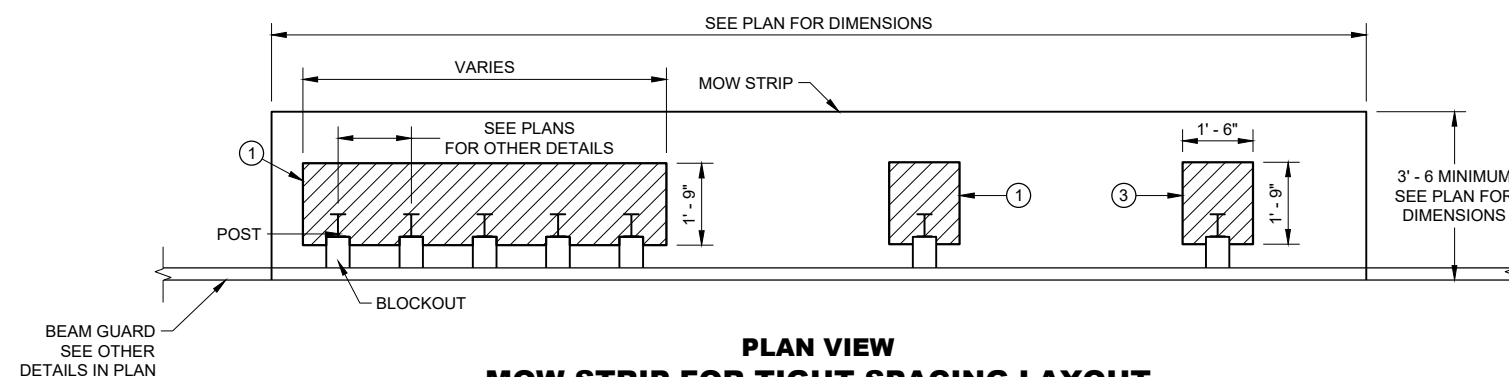
**SECTION A - A**



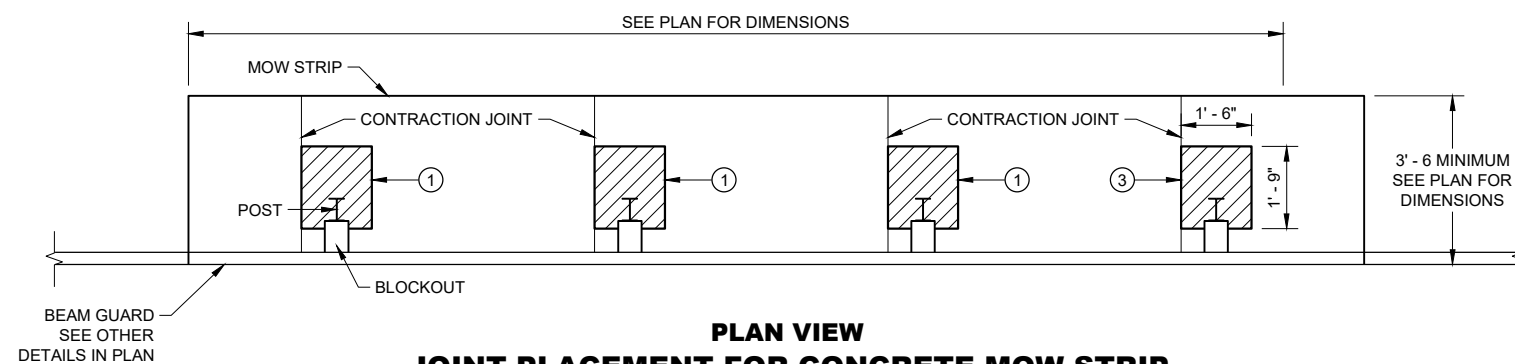
**SECTION B - B**



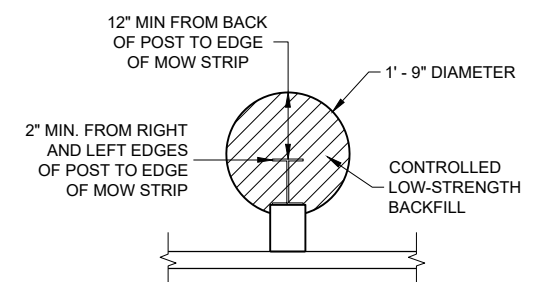
**PLAN VIEW**  
**MOW STRIP FOR TYPICAL BLOCKOUT LAYOUT**



**PLAN VIEW**  
**MOW STRIP FOR TIGHT SPACING LAYOUT**



**PLAN VIEW**  
**JOINT PLACEMENT FOR CONCRETE MOW STRIP**



**ALTERNATIVE HMA**  
**MOW STRIP DESIGN**

**GUARDRAIL MOW STRIP**

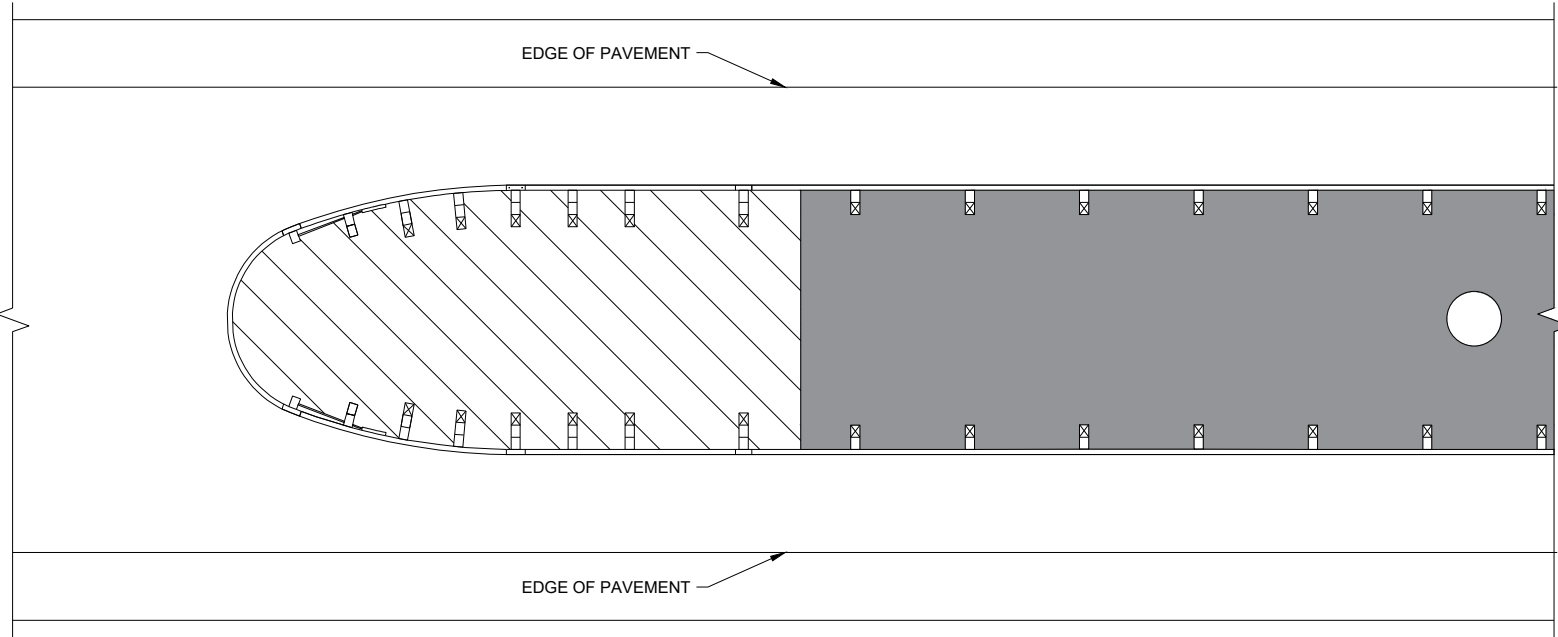
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION 133

LEGEND

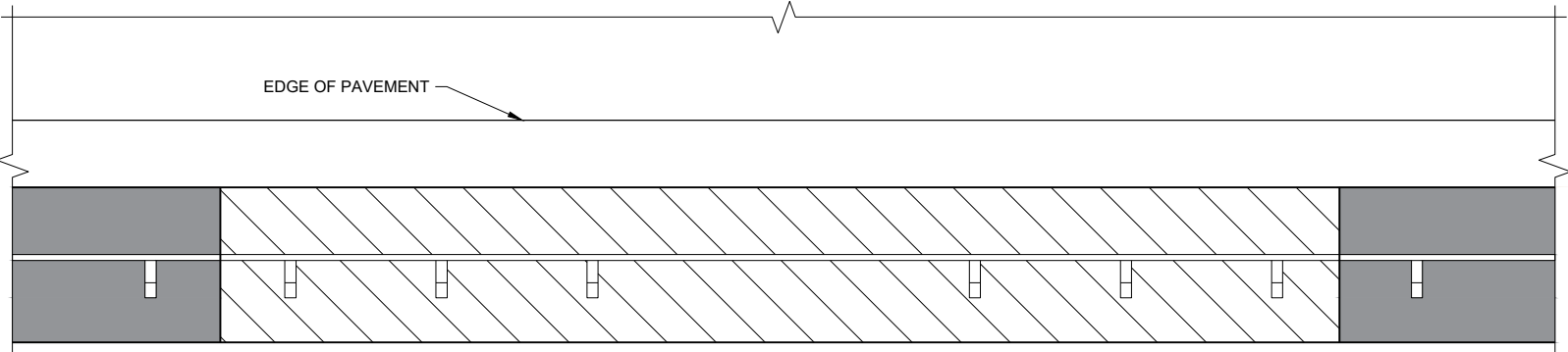
- CONCRETE, ASPHALT, OR EMULSIFIED ASPHALT MOW STRIP (SEE OTHER DETAILS)
- EMULSIFIED ASPHALT MOW STRIP (SEE OTHER DETAILS)

GENERAL NOTES

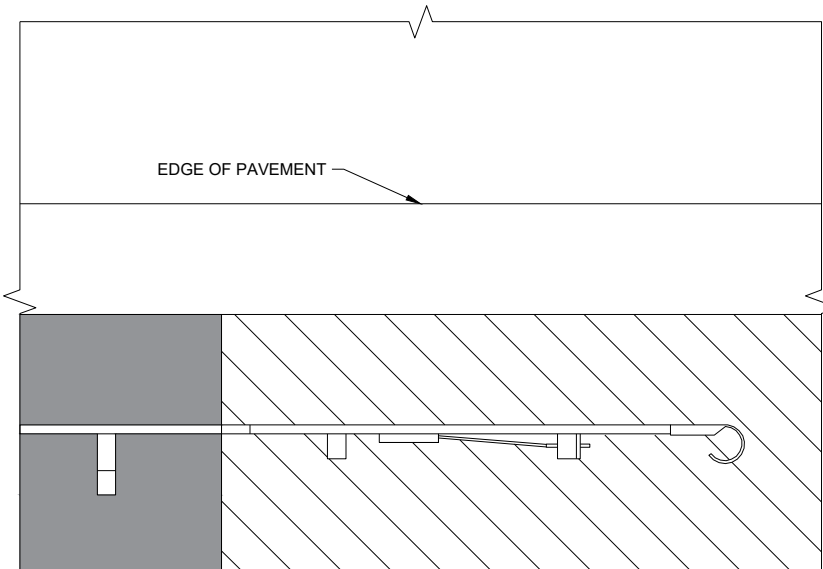
EXISTING THRIE BEAM BULLNOSES MAY HAVE WOOD POSTS. NEW THRIE BEAM BULLNOSE WILL HAVE STEEL POSTS.



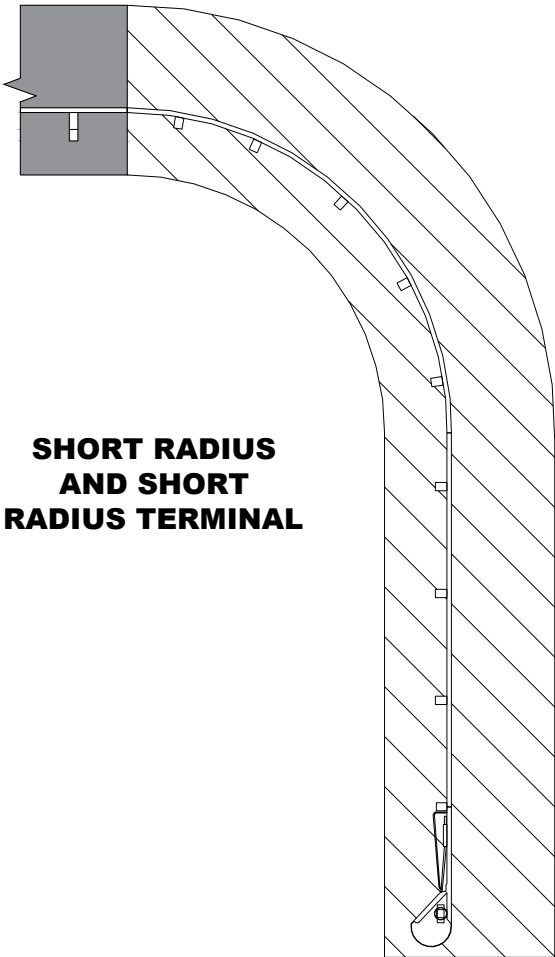
THRIE BEAM BULLNOSE



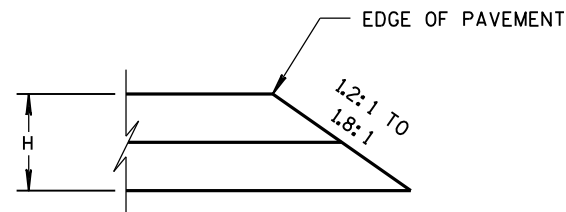
LONG - SPAN



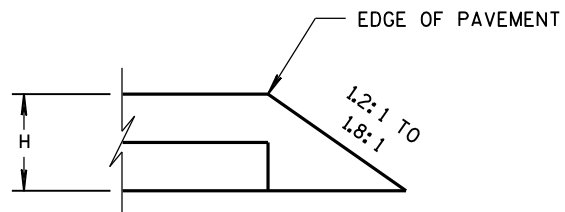
TYPE 2 TERMINAL



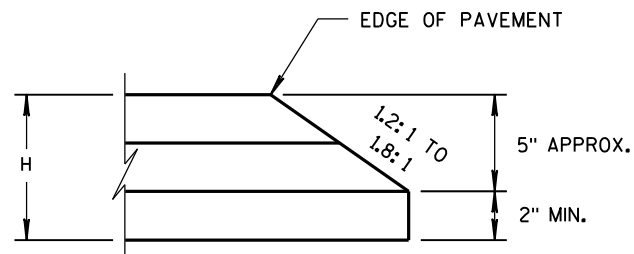
| GUARDRAIL MOW STRIP                                |                                                                    |
|----------------------------------------------------|--------------------------------------------------------------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |                                                                    |
| APPROVED<br>August 2020<br>DATE                    | /S/ Rodney Taylor<br>ROADWAY STANDARDS DEVELOPMENT<br>ENGINEER 134 |
| FHWA                                               |                                                                    |



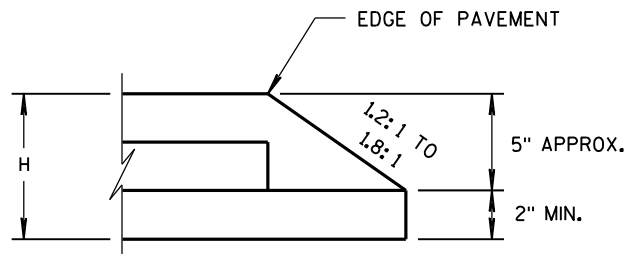
CONSTRUCTED WITH FINAL TWO LAYERS  
FOR H 5" OR LESS



CONSTRUCTED WITH FINAL LAYER  
FOR H 5" OR LESS

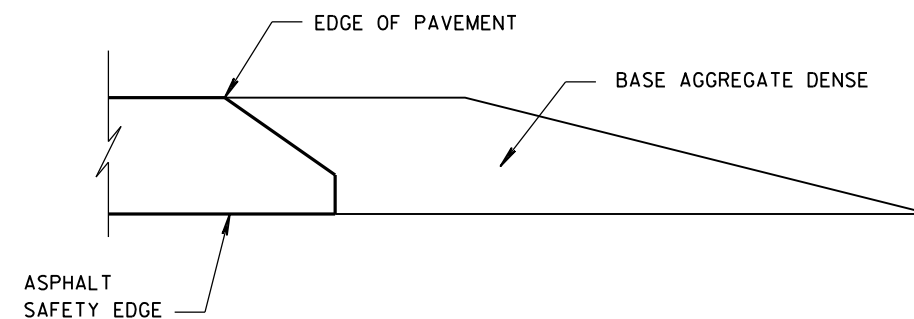


CONSTRUCTED WITH FINAL TWO LAYERS  
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER  
FOR H GREATER THAN 5"

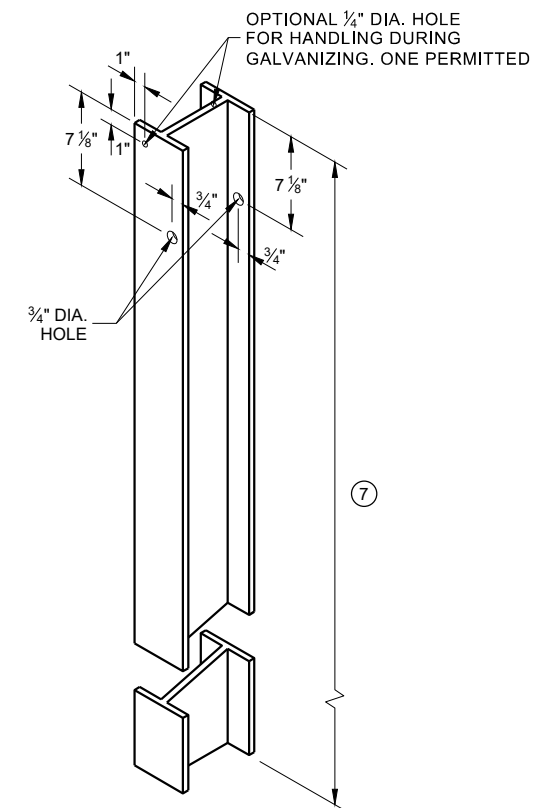
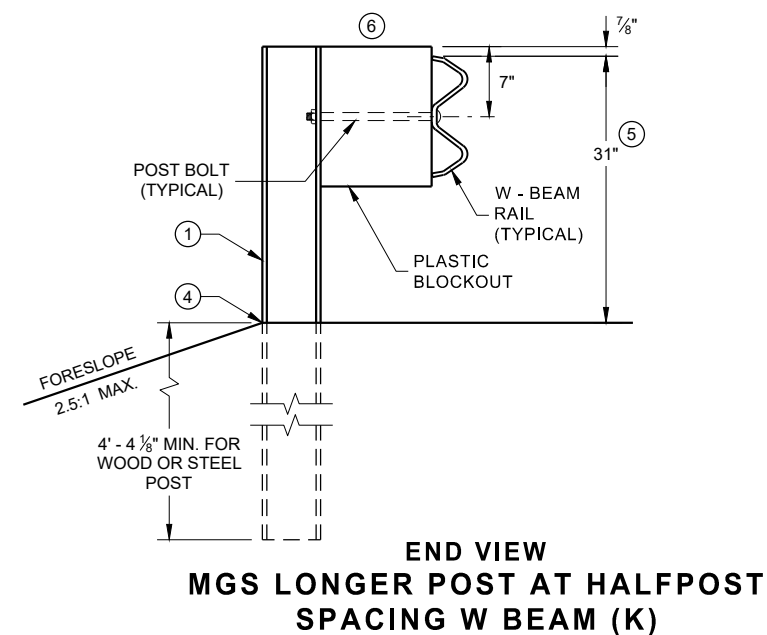
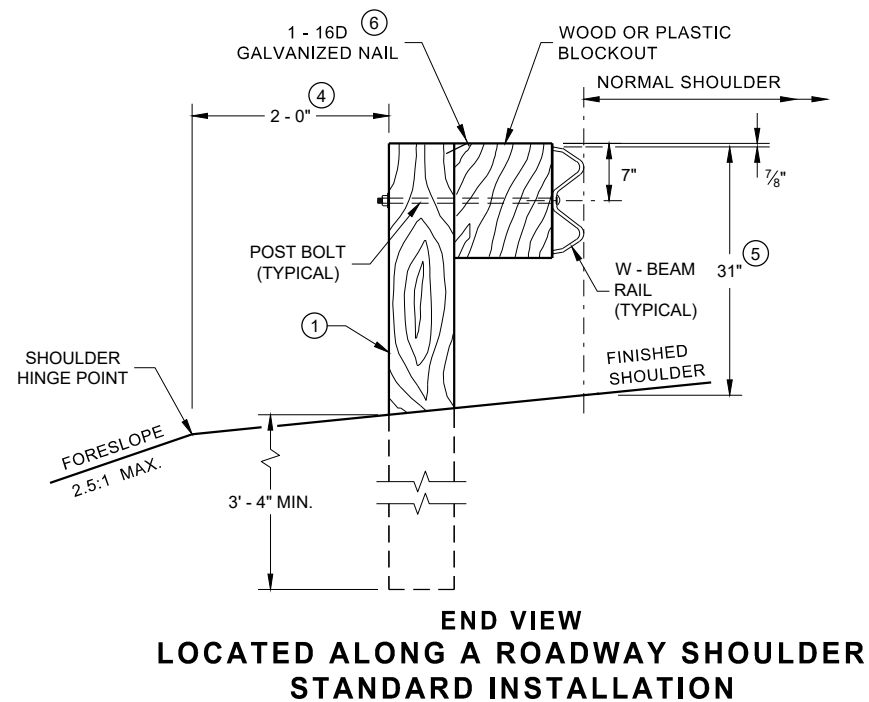
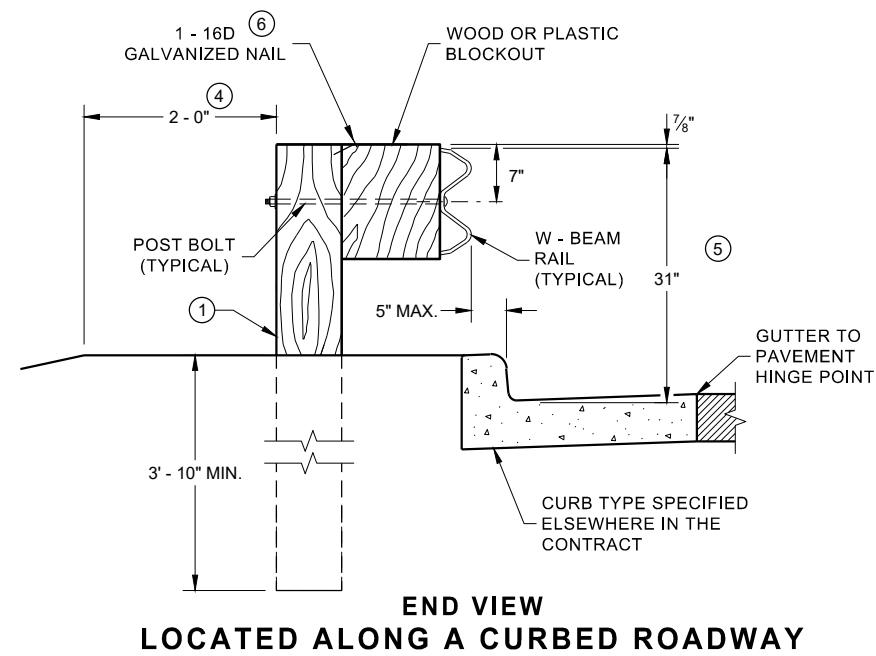
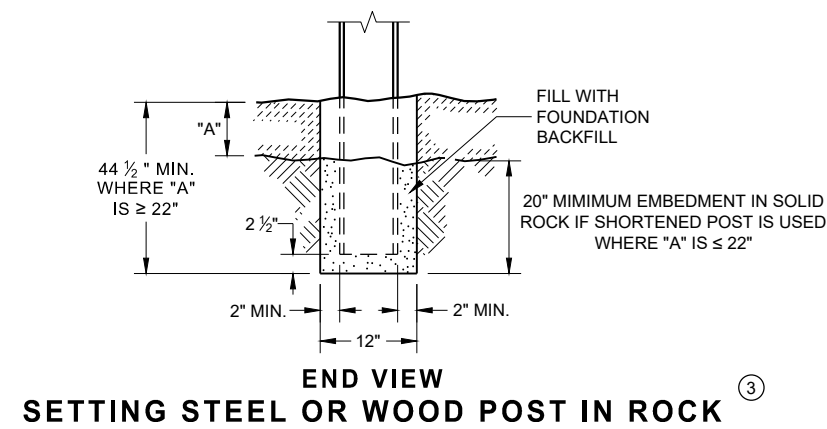
# HMA PAVEMENT AND HMA OVERLAYS



# FINISHED SHOULDER AGGREGATE PLACEMENT

|                                                    |                                                     |
|----------------------------------------------------|-----------------------------------------------------|
| SAFETY EDGE <sub>SM</sub>                          |                                                     |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |                                                     |
| APPROVED<br>DATE<br>11/30/2012                     | /S/ Jerry H. Zoaga<br>ROADWAY STANDARDS<br>ENGINEER |
| 135 ENT                                            |                                                     |

- ① WOOD OR STEEL POSTS (w6X9 OR w6X8.5) MAY BE USED. DO NOT INTERMIX WOOD AND STEEL POSTS. INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- ② USE WOOD OR APPROVED PLASTIC BLOCKOUTS. WOOD BLOCKOUTS MAY BE CONSTRUCTED OUT OF TWO OR MORE WOOD BLOCKOUTS. SEE ALTERNATE WOOD BLOCKOUT DETAIL. DIMENSIONS OF APPROVED PLASTIC BLOCKOUTS MAY VARY.
- ③ IF ROCK IS ENCOUNTERED DURING EXCAVATION, PROVIDE A HOLE 12 INCHES IN DIAMETER EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE APPROXIMATELY 2 1/2" INCHES OF GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE. CUT THE POSTS THE TO LENGTH AND INSTALL. BACKFILL WITH EXCAVATED MATERIAL AND COMPACT. BACKFILL IS TO BE FREE OF LARGE ROCKS.
- ④ WHEN THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING (K).
- ⑤ FOR NEW MGS INSTALLATION TOP OF W-BEAM RAIL TOLERANCE IS  $\pm 1"$ . FOR EXISTING MGS INSTALLATION TOP OF W-BEAM IS BETWEEN 27 3/4" TO 32".
- ⑥ WHEN USING STEEL POST AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- ⑦ TOTAL POST LENGTH FOR TYPE K IS 7' - 0".  
TOTAL POST LENGTH FOR OTHER MGS TYPES IS 6' - 0".



**STEEL POST & HOLE  
PUNCHING DETAIL  
(W 6 X 9) ①**

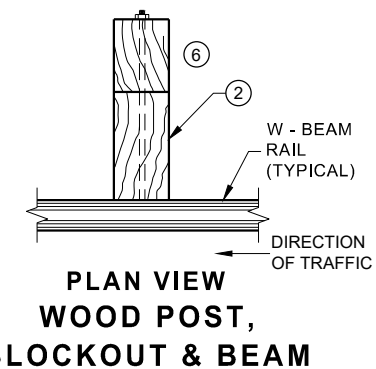
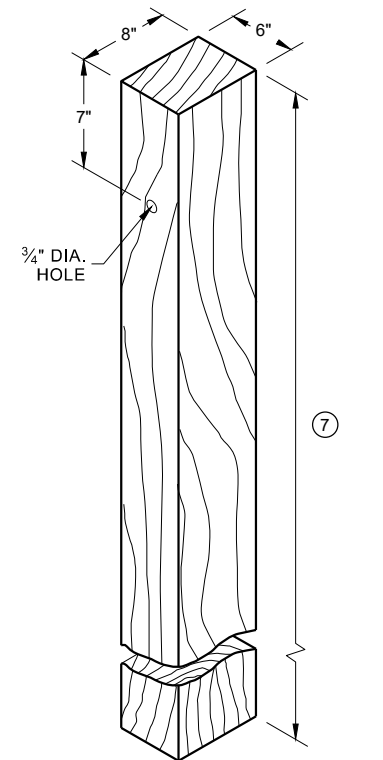
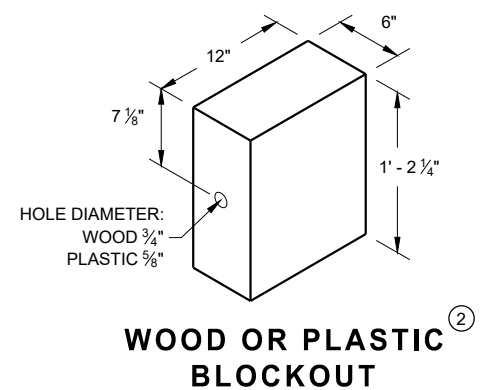


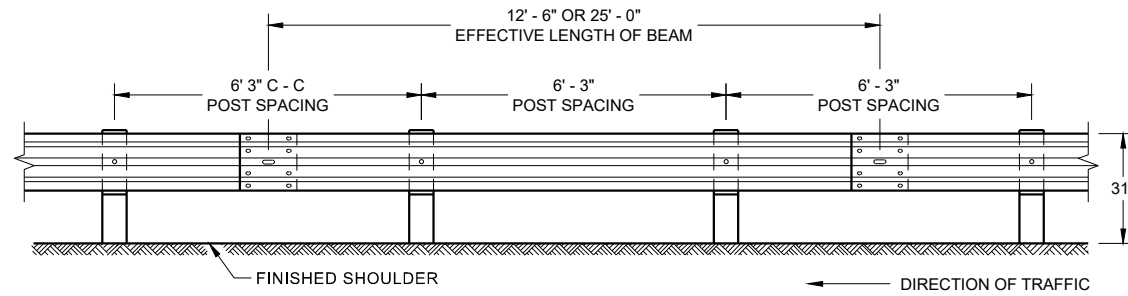
Diagram illustrating the PLAN VIEW of a STEEL POST, PLASTIC BLOCKOUT & BEAM. The diagram shows a cross-section of a beam with a steel post and a plastic blockout. The beam is labeled "W - BEAM RAIL (TYPICAL)". The steel post is labeled "2". The plastic blockout is labeled "1 1/4\"". The direction of traffic is indicated by an arrow pointing to the right.



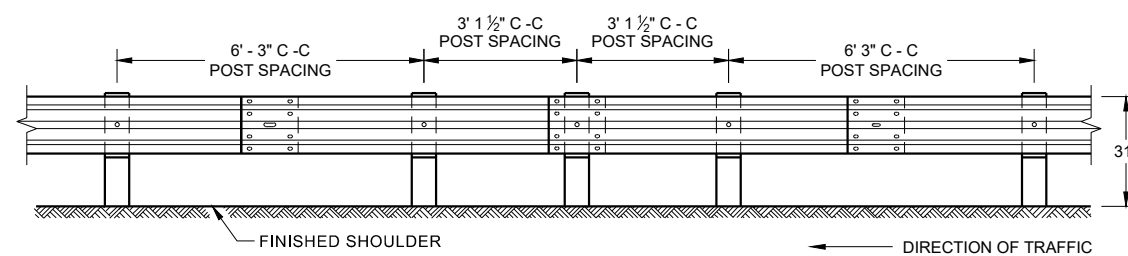
**WOOD POST (6" X 8") NOMINAL** <sup>(1)</sup>



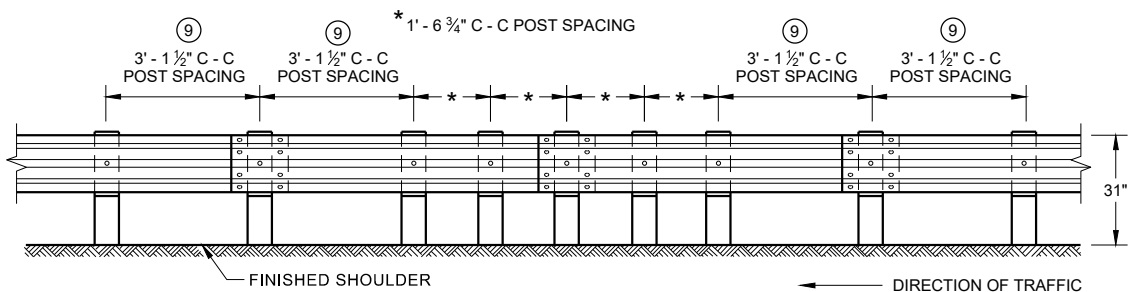
**WOOD OR PLASTIC  
BLOCKOUT**



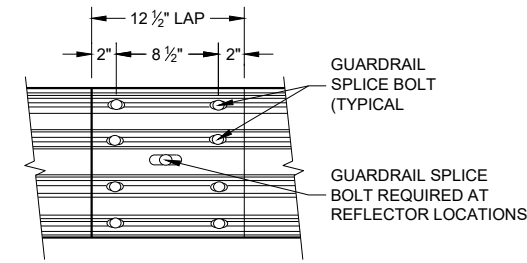
**FRONT VIEW  
POST SPACING STANDARD INSTALLATION**



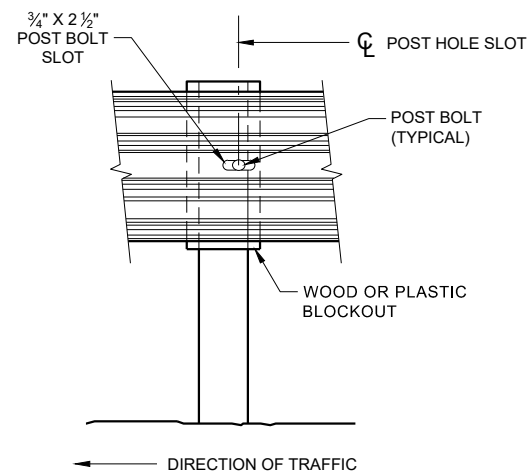
**FRONT VIEW  
HALF POST SPACING (HS) AND  
HALF POST SPACING WITH LONGER POSTS (K)**



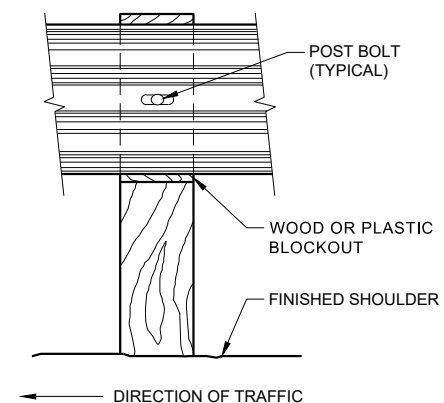
**FRONT VIEW  
QUARTER POST SPACING (QS)**



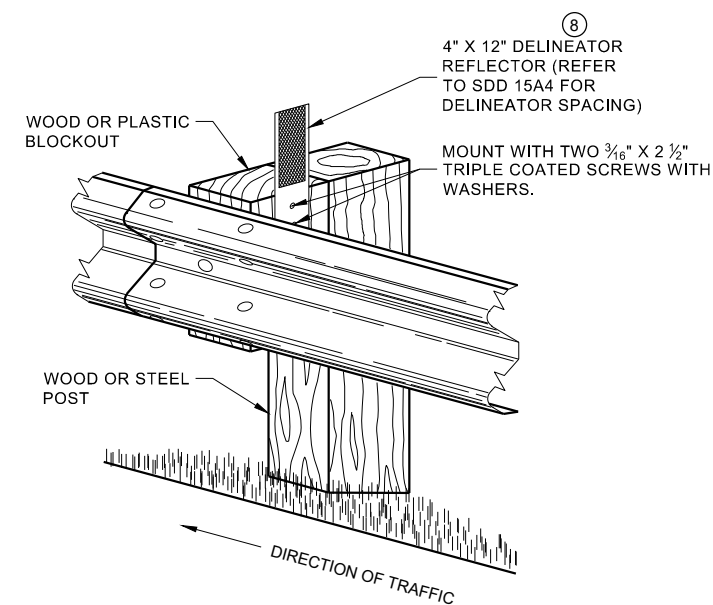
**FRONT VIEW  
MID-SPAN BEAM SPLICE**



**FRONT VIEW AT STEEL POST**



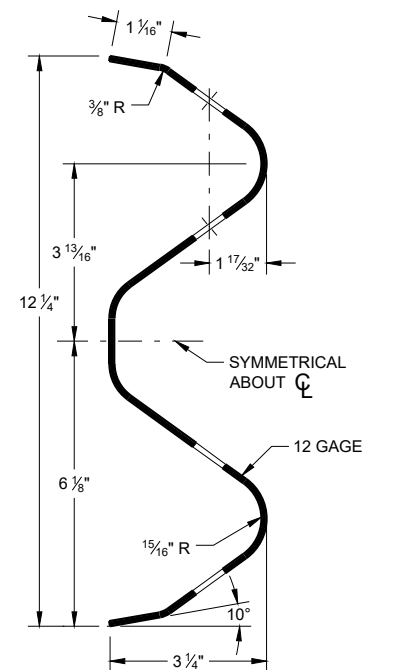
**FRONT VIEW AT WOOD POST**



**ONE SIDED REFLECTOR DETAIL  
AND TYPICAL INSTALLATION**

**GENERAL NOTES**

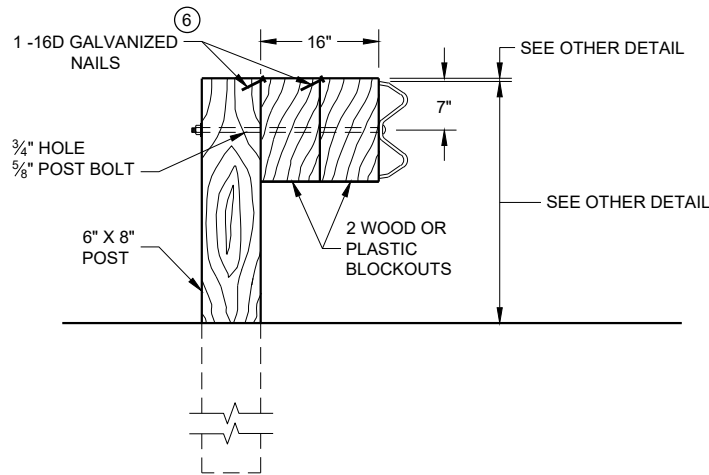
- ⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.
  - ⑨ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.
- POST BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND 3/8" DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.
- GUARD RAIL SPLICE BOLTS ARE A 3/8" DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES 3/4" DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.



**SECTION THRU W-BEAM RAIL**

**MIDWEST GUARDRAIL SYSTEM  
(MGS) GUARDRAIL**

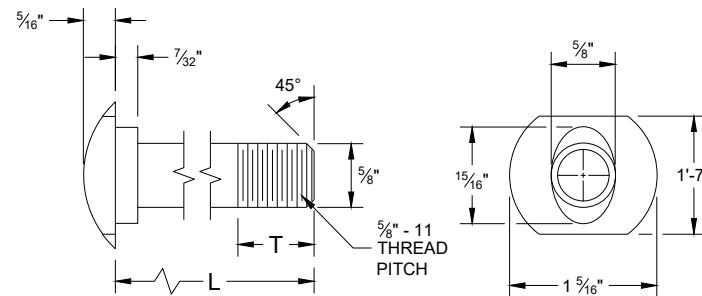
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION 137



DETAIL FOR 16" BLOCKOUT DEPTH

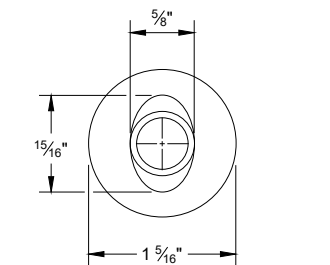
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.

- NOTE:
1. ALL FILLETS SHALL HAVE A MINIMUM RADIUS OF  $\frac{3}{16}$ ".
  2. IF THE BOLT EXTENDS MORE THAN  $\frac{1}{4}$ " FROM THE NUT THE BOLT SHOULD BE TRIMMED BACK.

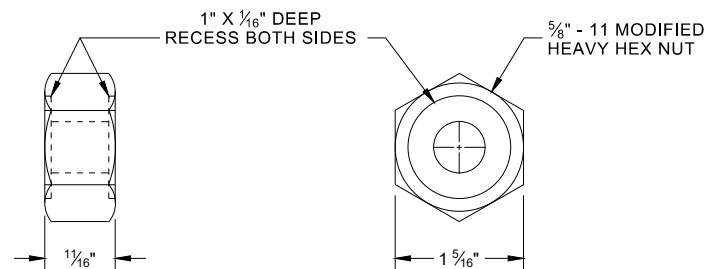


POST BOLT TABLE

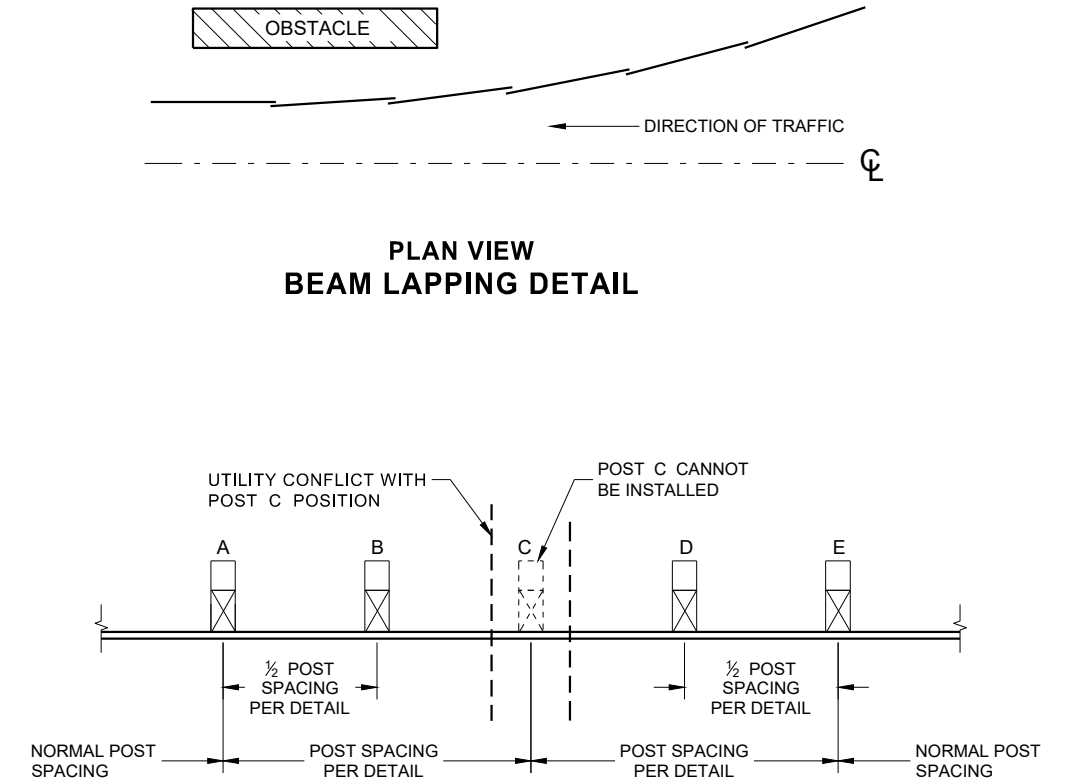
| L      | T (MIN.) |
|--------|----------|
| 1 1/4" | 1 1/8"   |
| 2"     | 1 3/4"   |
| 10"    | 4"       |
| 14"    | 4 1/16"  |
| 18"    | 4"       |
| 21"    | 4 1/16"  |
| 25"    | 4"       |



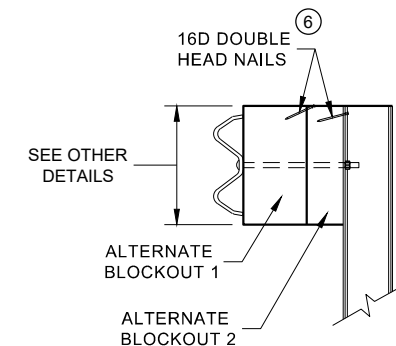
ALTERNATE BOLT HEAD



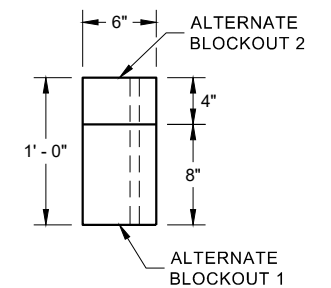
POST BOLT, SPLICE BOLT AND RECESS NUT



POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION



SIDE VIEW



PLAN VIEW

ALTERNATE WOOD BLOCKOUT DETAIL

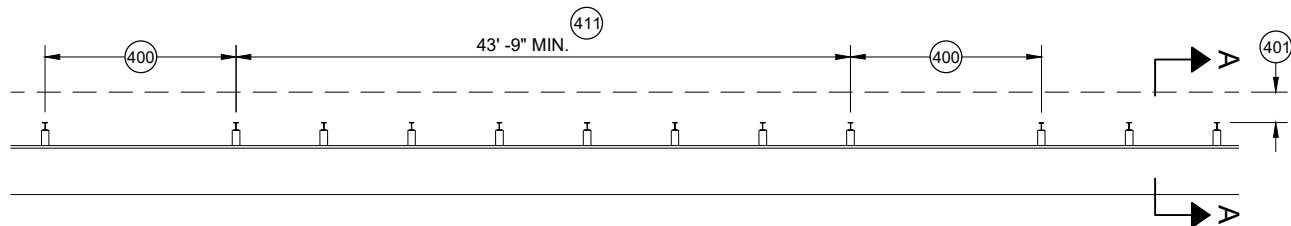
- NOTES:
- UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.
- DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.

- 6 WHEN USING STEEL POST AD 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.

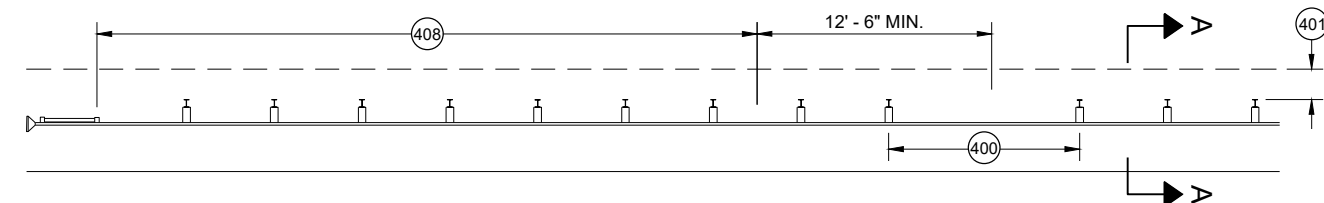
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION 138

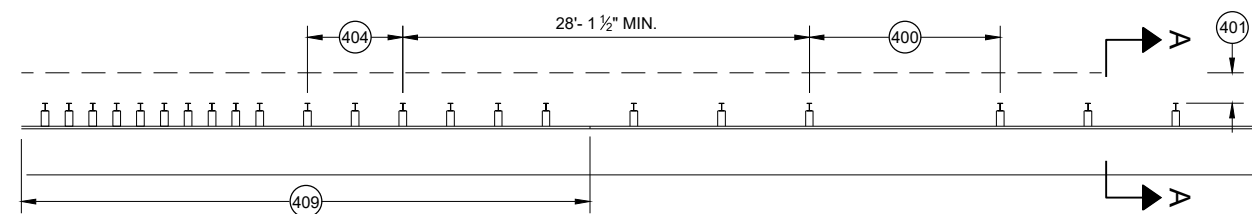




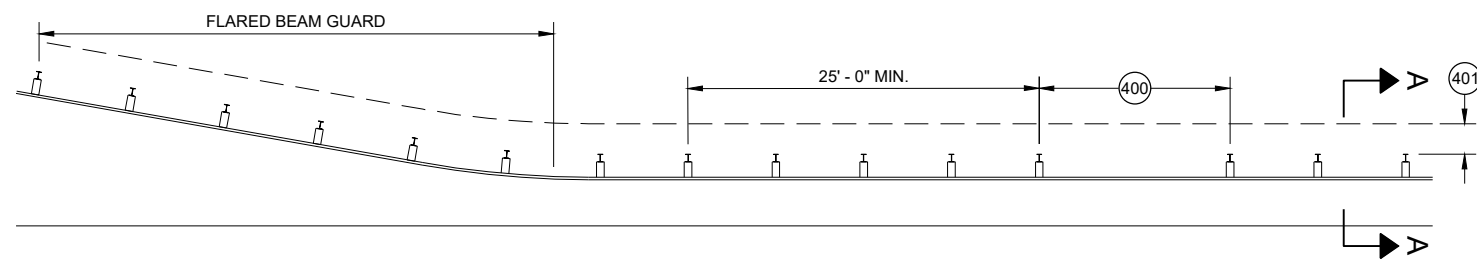
**MISSING POST IN MGS GUARDRAIL**



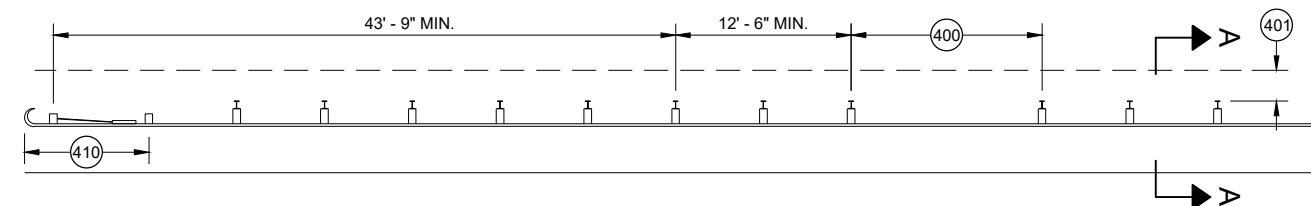
**MISSING POST IN MGS GUARDRAIL NEAR EAT**



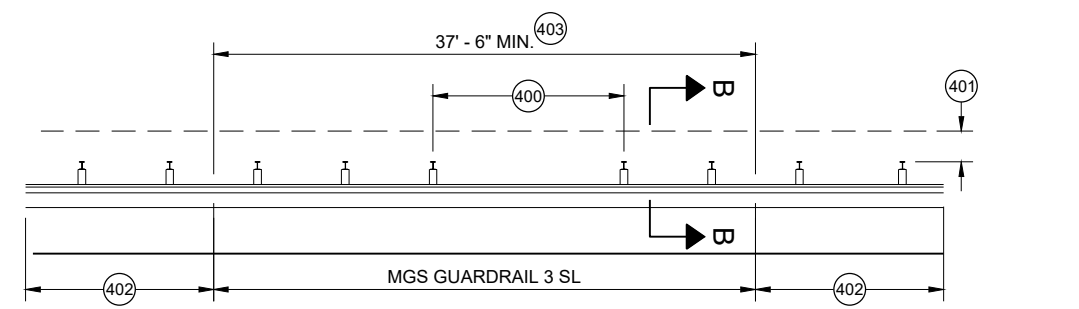
**MISSING POST IN MGS GUARDRAIL NEAR AN APPROACH TRANSITION**



**MISSING POST IN MGS GUARDRAIL NEAR FLARED BEAM GUARD**

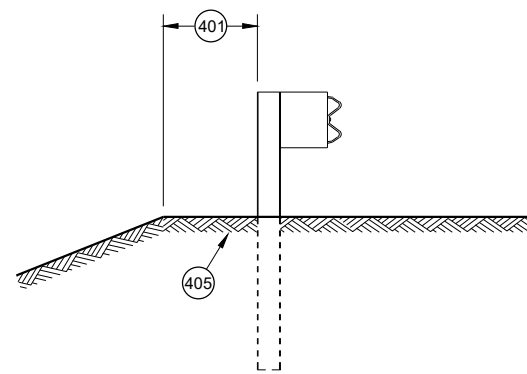


**MISSING POST IN MGS GUARDRAIL NEAR A TYPE 2 END TERMINAL**

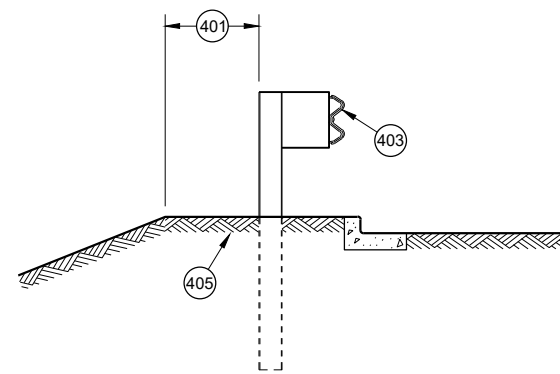


**MISSING POST IN SHORT SPAN MGS GUARDRAIL NEAR CURB (SL)**

- (400) MAX SPAN 12' - 6"
- (401) 2' MIN.
- (402) MGS GUARDRAIL 3
- (403) NESTING BEAM GUARD
- (404) ASYMMETRIC TRANSITION
- (405) SOIL WELL DRAINED AND COMPACTED
- (406) SEE OTHER DRAWINGS IN THIS SDD
- (407) SEE OTHER DRAWINGS FOR MIN. SPACING BETWEEN SPANS
- (408) SEE SDD 14B44
- (409) SEE SDD 14B45
- (410) SEE SDD 14B47
- (411) MINIMUM DISTANCE BETWEEN MISSING POST SPANS.



**SECTION A - A**



**SECTION B - B**

**MIDWEST GUARDRAIL SYSTEM  
(MGS) GUARDRAIL**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2021  
DATE  
/S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT  
UNIT SUPERVISOR

FHWA

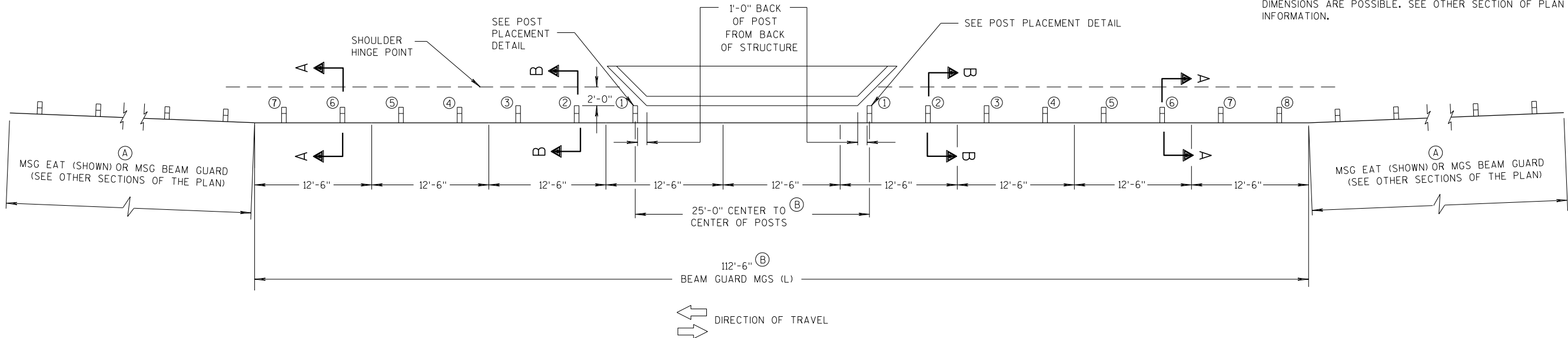
GENERAL NOTES

POSTS 1 THROUGH 3 ARE CRT POSTS.  
ALL OTHER POSTS SHALL BE WOOD OR STEEL.

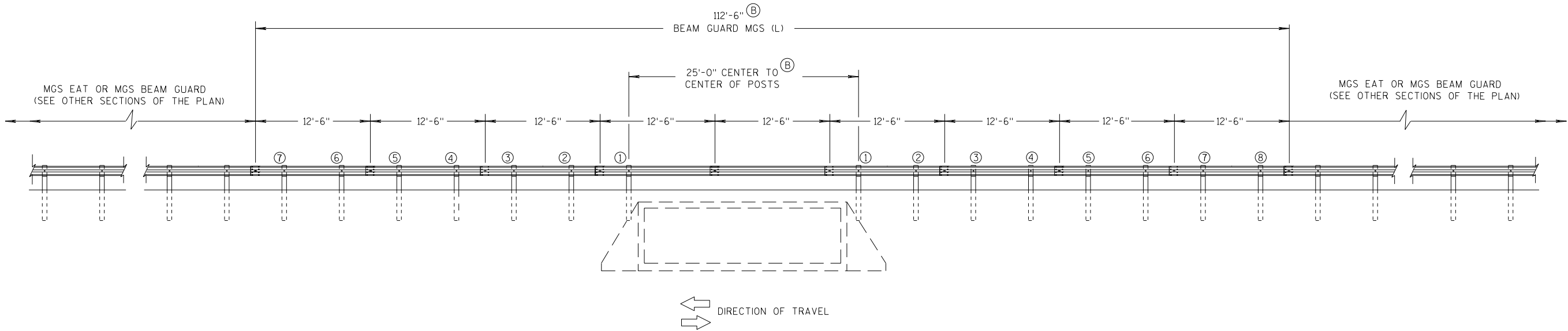
SEE SDD 14 B 42 FOR MORE DETAILS.

(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 TRANSPORTATION

140

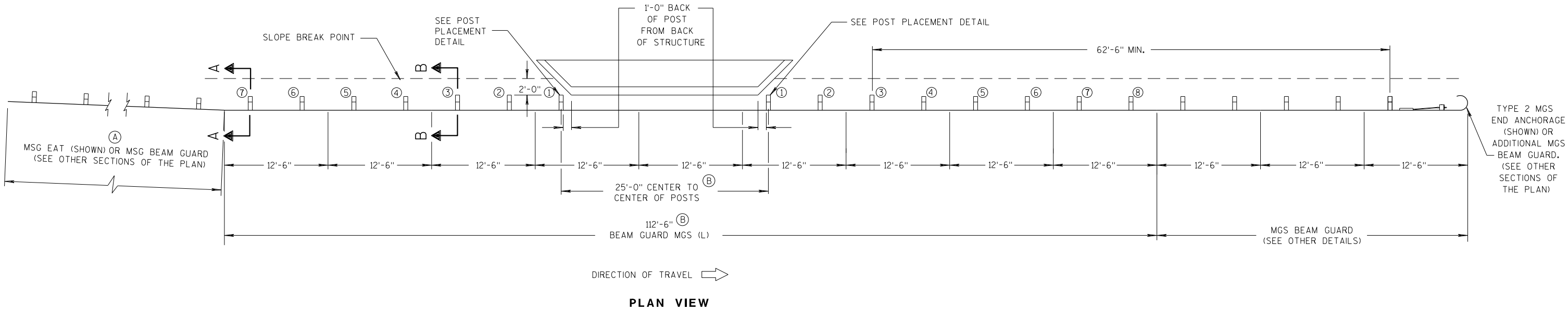


GENERAL NOTES

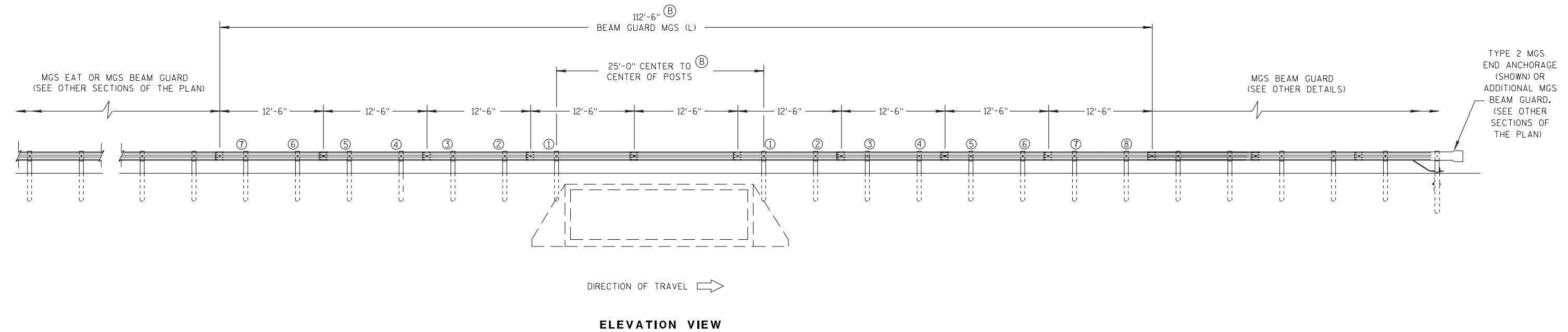
POSTS 1 THROUGH 3 ARE CRT POSTS.  
ALL OTHER POSTS SHALL BE WOOD OR STEEL.

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

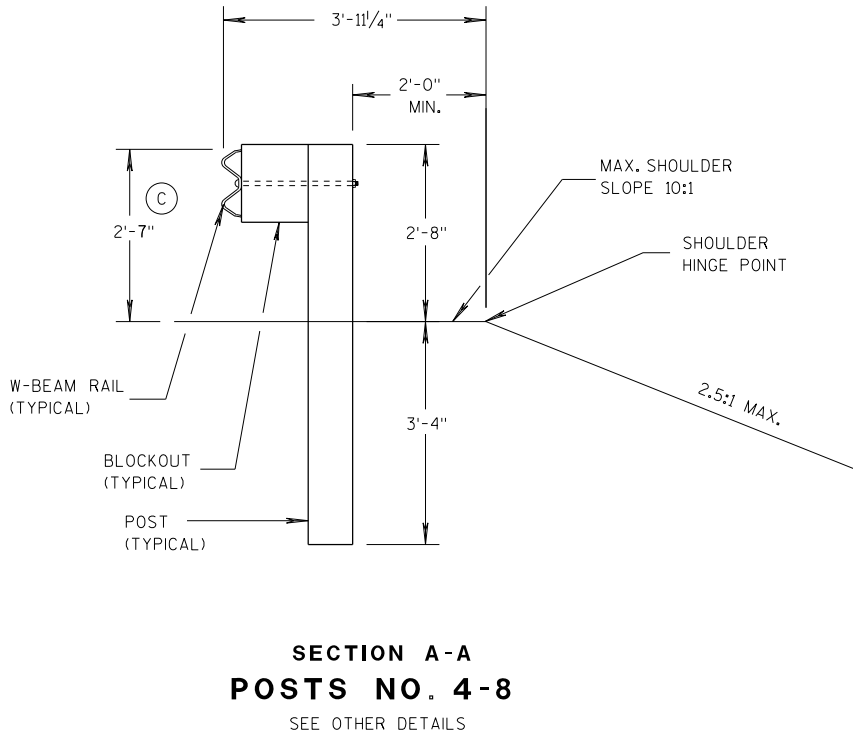
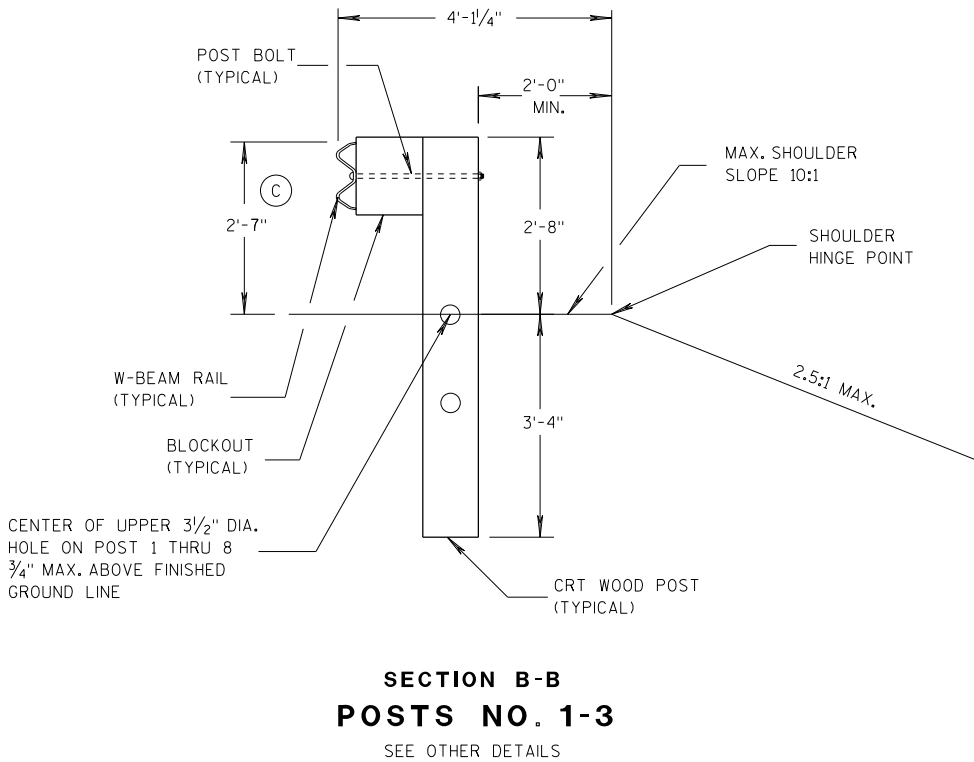
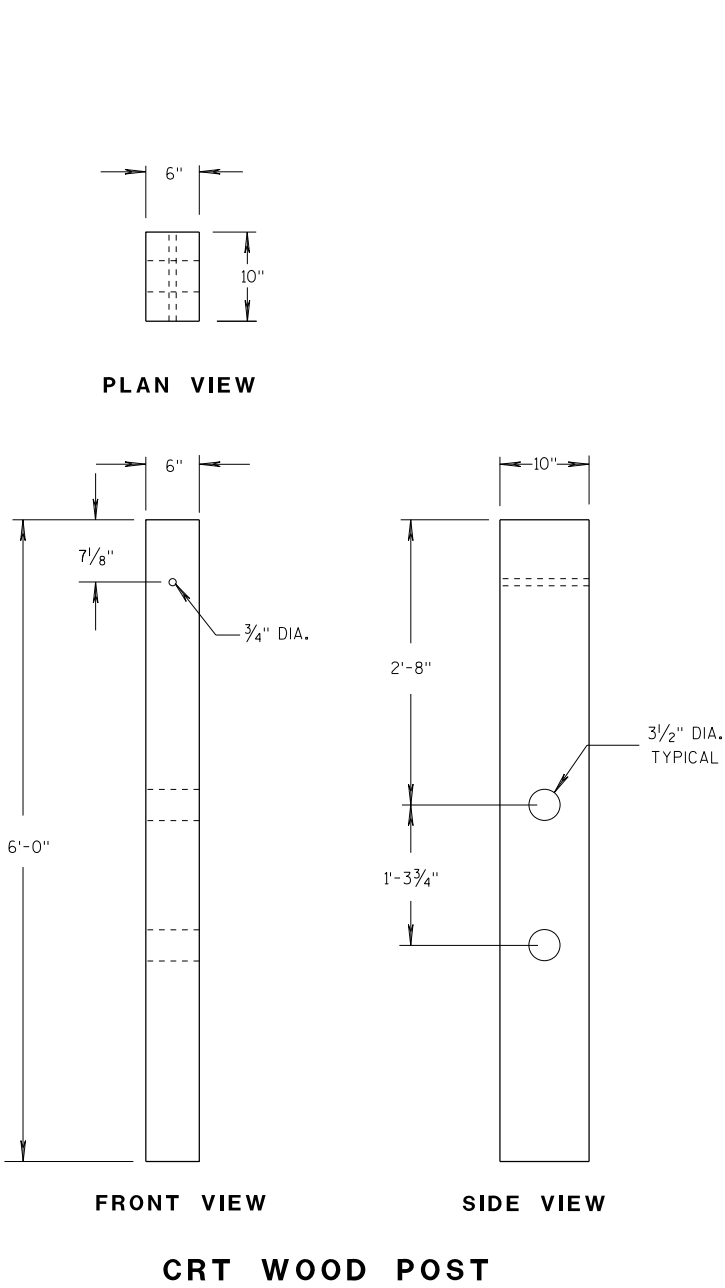


ELEVATION VIEW

MIDWEST GUARDRAIL SYSTEM LONG SPAN MGS (L) ONE-WAY TRAFFIC

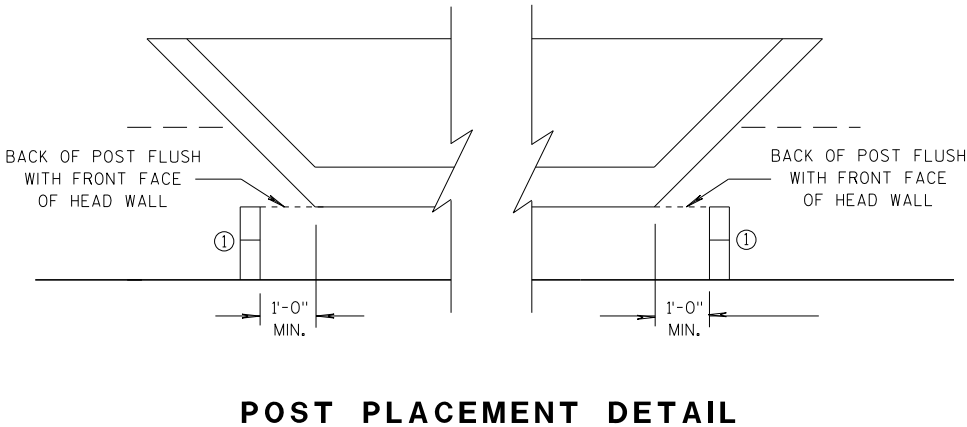
MIDWEST GUARDRAIL SYSTEM  
LONG SPAN MGS (L)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**GENERAL NOTES**

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



|                                                    |                   |     |    |
|----------------------------------------------------|-------------------|-----|----|
| MIDWEST GUARDRAIL SYSTEM<br>LONG SPAN MGS (L)      |                   |     |    |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |                   |     |    |
| APPROVED                                           |                   |     |    |
| 07/2018                                            | /S/ Rodney Taylor |     |    |
| DATE                                               | ROADWAY STANDARDS | 142 | NT |
| FHWA                                               | ENGINEER          |     |    |

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 MANUFACTURERS REQUIRE DIFFERENT PERFORATED W - BEAM RAIL END PANELS. SEE MANUFACTURER'S INFORMATION.
  - (D) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF - TAPPING SCREWS. ONE SCREW PER CORNER.
  - (E) HARDWARE MAY VARY BETWEEN MANUFACTURER. SEE MANUFACTURER'S DRAWING FOR INFORMATION.
- DIMENSIONS MAY VARY, MANUFACTURER'S INFORMATION.

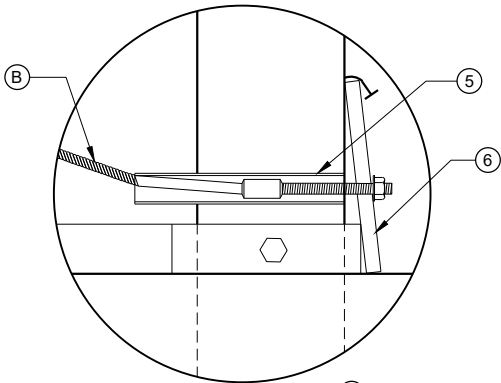
SEE SDD 14B42 FOR MORE INFORMATION.

\* DO NOT ATTACH BLOCKOUTS TO POST 1 AND 2.

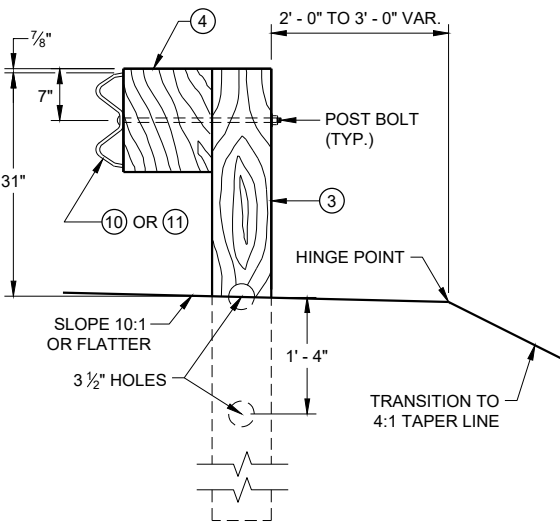
DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

SEE MANUFACTURER'S DRAWING FOR SPLICE LOCATION, HARDWARE DIMENSIONS AND INSTALLATION INSTRUCTIONS.

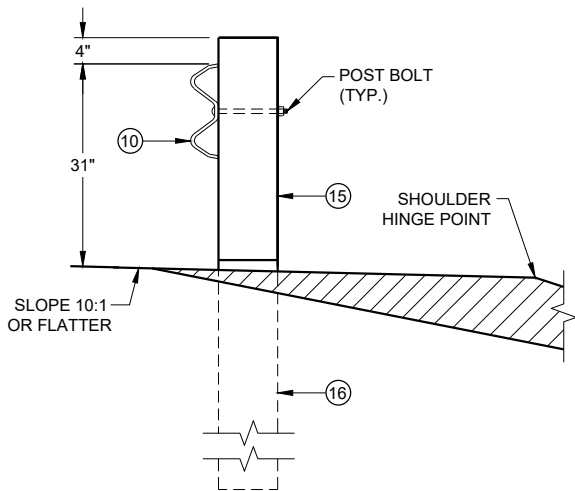
THE CENTER OF THE UPPER 3 1/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE. WOOD BLOCKS ON POSTS NUMBERED 3 THROUGH 9 MAY BE ADJUSTED UP TO 3" ABOVE THE TOP OF POST.



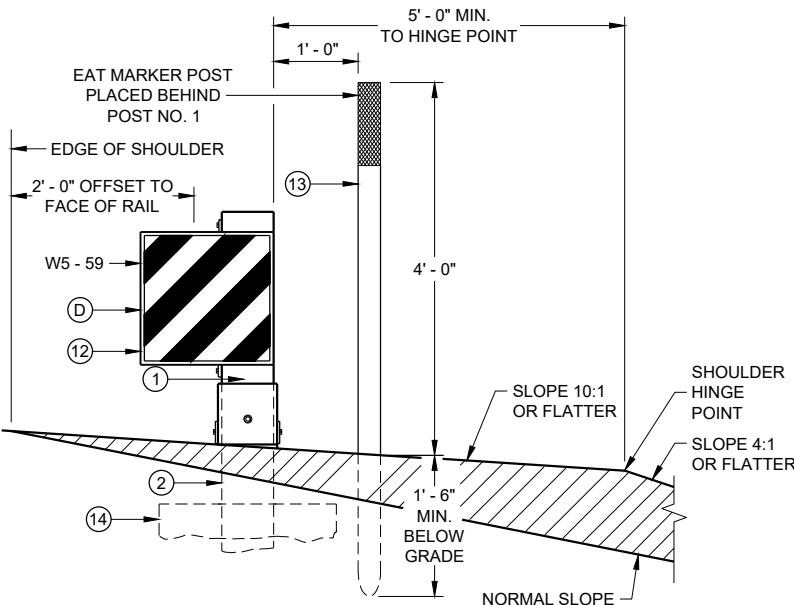
DETAIL "A"



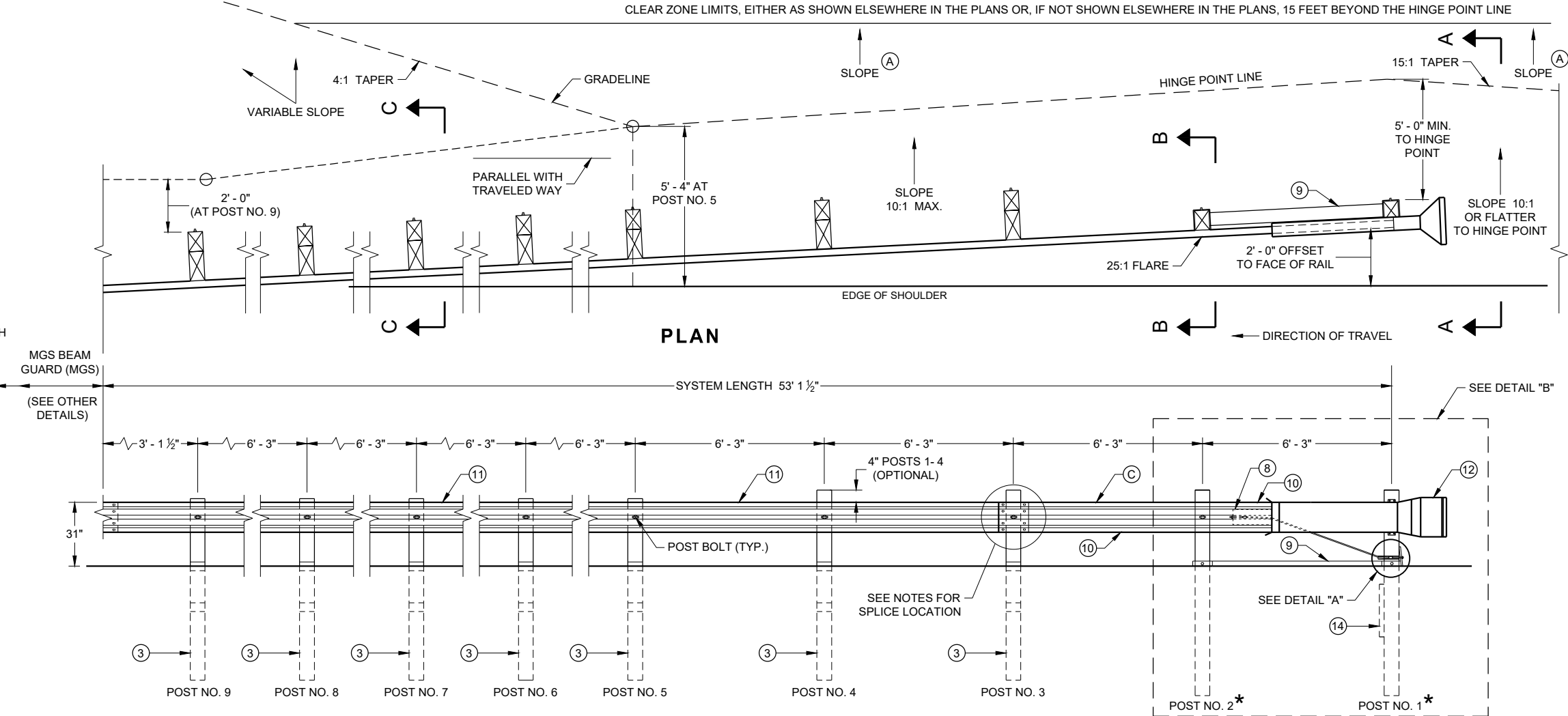
SECTION C - C  
TYPICAL AT POST NOS. 3 - 9



SECTION B - B  
TYPICAL AT POST NO. 2\*

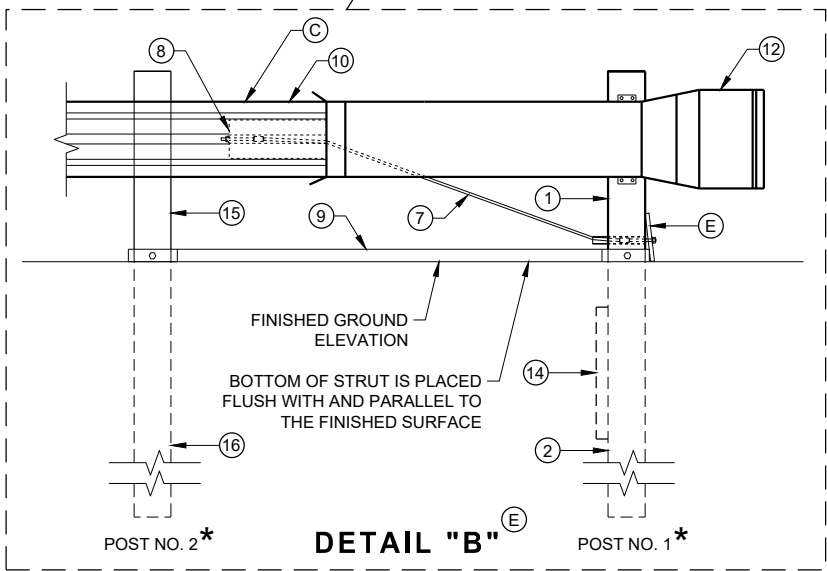


SECTION A - A  
TYPICAL AT POST NO. 1\*



PLAN

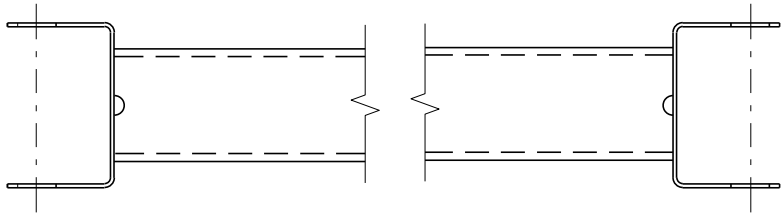
ELEVATION



DETAIL "B"

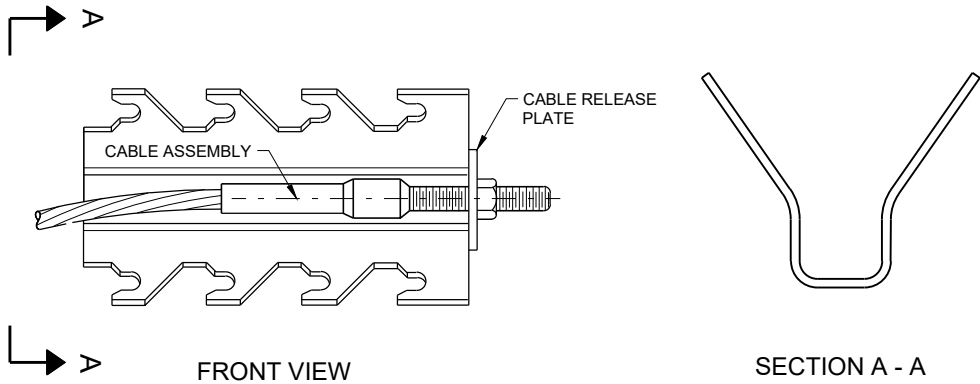
**MIDWEST GUARDRAIL SYSTEM  
ENERGY ABSORBING TERMINAL  
(MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

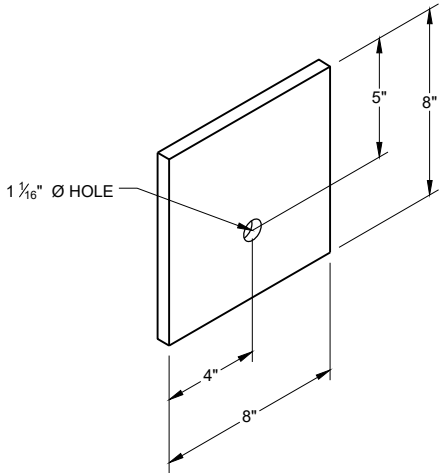


GENERIC GROUND STRUT<sup>9</sup> <sup>E</sup>

| BILL OF MATERIALS |                                                                                                                |
|-------------------|----------------------------------------------------------------------------------------------------------------|
| PART NO.          | DESCRIPTION<br>MATERIALS PROVIDED BY MGS EAT MANUFACTURER.<br>SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION. |
| ①                 | UPPER POST NO. 1 6" X 6" TUBE                                                                                  |
| ②                 | LOWER POST NO. 1                                                                                               |
| 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                 | IMPACT HEAD                                                                                                    |
| ⑬                 | EAT MARKER POST - YELLOW<br>(SEE APPROVED PRODUCTS LIST)                                                       |
| ⑭                 | SOIL PLATE                                                                                                     |
| ⑮                 | UPPER POST NO. 2                                                                                               |
| ⑯                 | LOWER POST NO. 2                                                                                               |



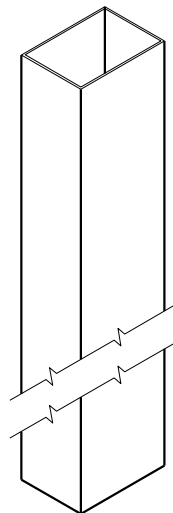
GENERIC ANCHOR CABLE BOX<sup>9</sup> <sup>E</sup>



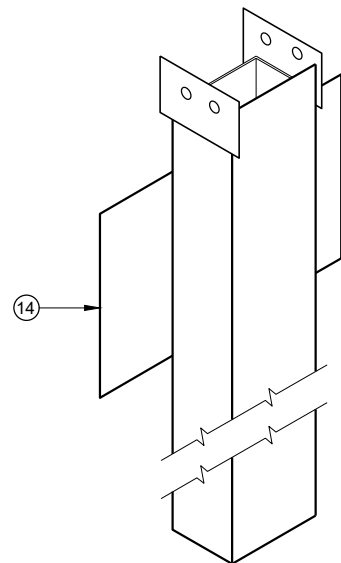
BEARING PLATE<sup>6</sup> <sup>E</sup>

MIDWEST GUARDRAIL SYSTEM  
ENERGY ABSORBING TERMINAL  
(MGS)

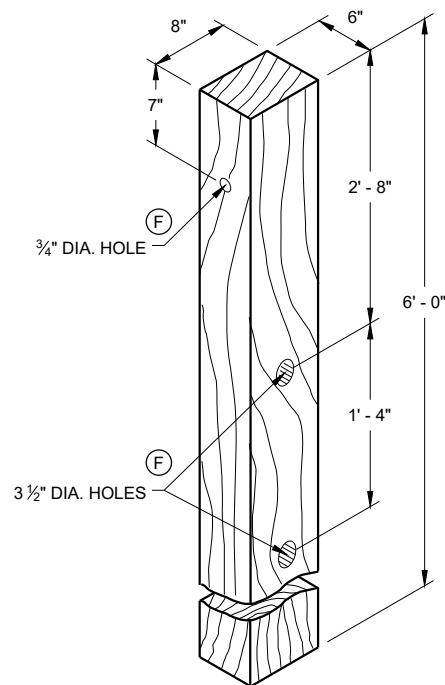
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION 144



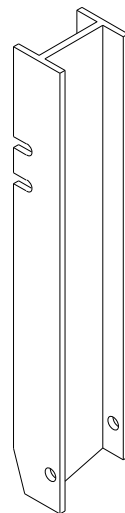
UPPER POST NO. 1 <sup>(1)</sup> (E)



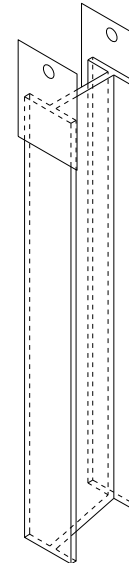
LOWER POST NO. 1 <sup>(2)</sup> (E)



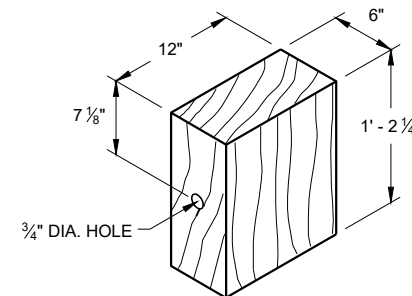
WOOD CRT POST <sup>(3)</sup> (E)  
POSTS NUMBER 3-9



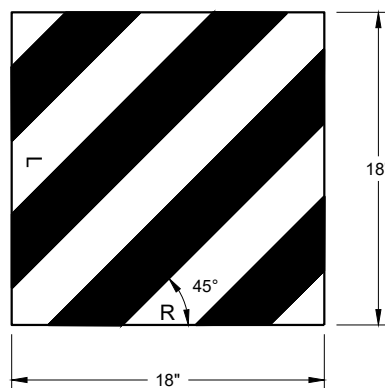
UPPER POST NO. 2 <sup>(15)</sup> (E)



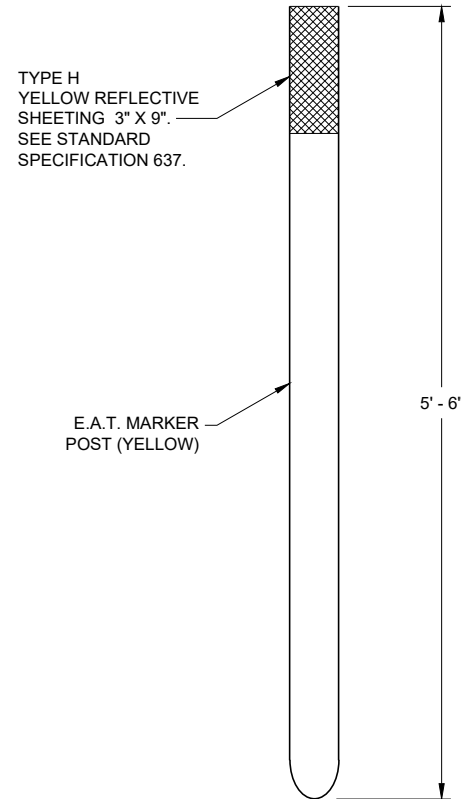
LOWER POST NO. 2 <sup>(16)</sup> (E)



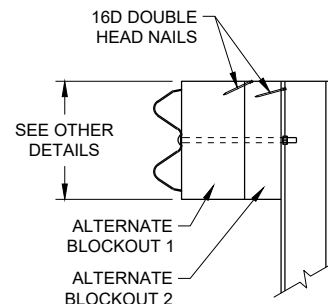
WOOD BLOCKOUT <sup>(4)</sup>  
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2



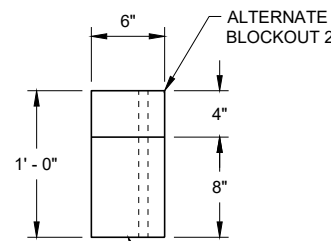
REFLECTIVE SHEETING DETAIL <sup>(E)</sup>



E.A.T. MARKER POST <sup>(13)</sup>



SIDE VIEW



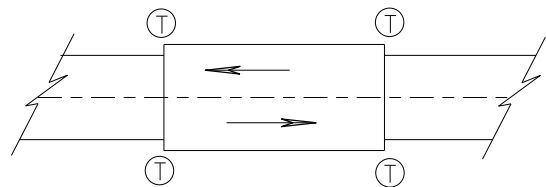
TOP VIEW

ALTERNATE WOOD  
BLOCKOUT DETAIL

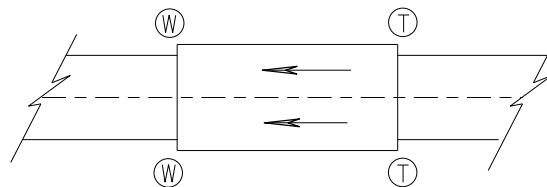
**MIDWEST GUARDRAIL SYSTEM  
ENERGY ABSORBING TERMINAL  
(MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
7/2018 DATE /S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR 145  
FHWA



**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**

**GENERAL NOTES**

IF ROCK IS ENCOUNTERED, REMOVE ROCK TO FULL DEPTH OF POST PLUS 2 1/2", AND 12" DIAMETER AROUND POST. SEE 14B42 FOR MORE DETAILS.

TRANSITION USES STEEL POSTS ONLY.

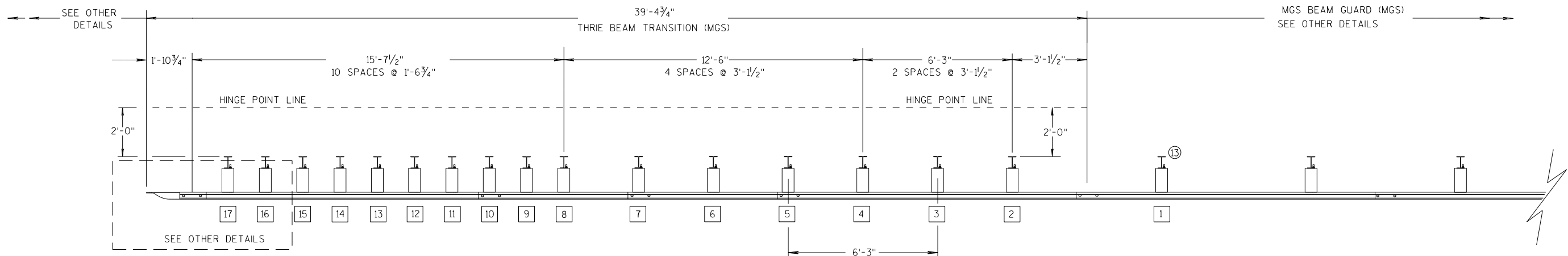
SEE STANDARD DETAIL DRAWING 14 B 42 FOR MORE INFORMATION.

POST 2 THROUGH 17 USES STEEL POST ONLY

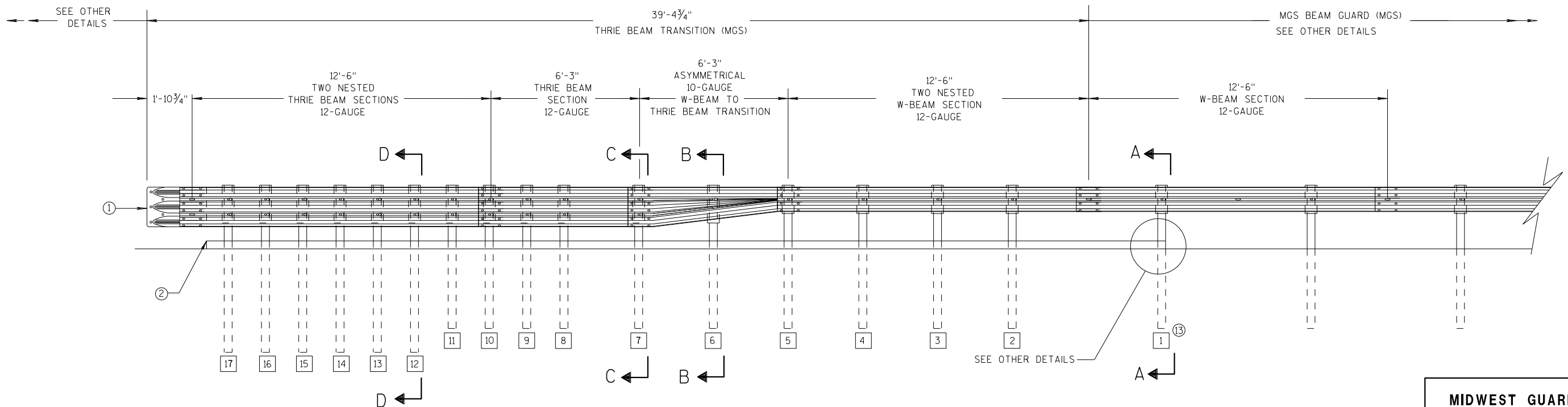
① BRIDGE RAILING TYPE "W" DOES NOT REQUIRE A TERMINAL CONNECTOR.

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

⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD14B42



**PLAN VIEW**



**ELEVATION VIEW**

**MIDWEST GUARDRAIL SYSTEM THRIE BEAM TRANSITION**

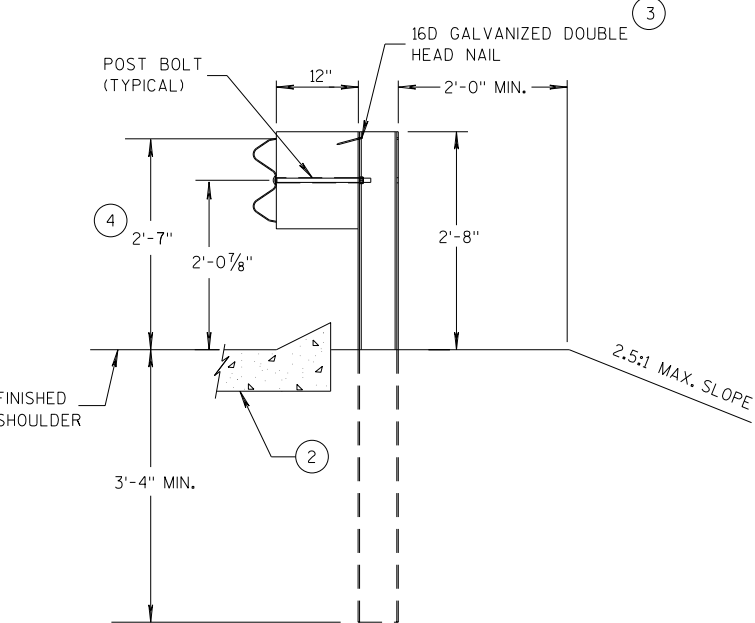
**MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION 146

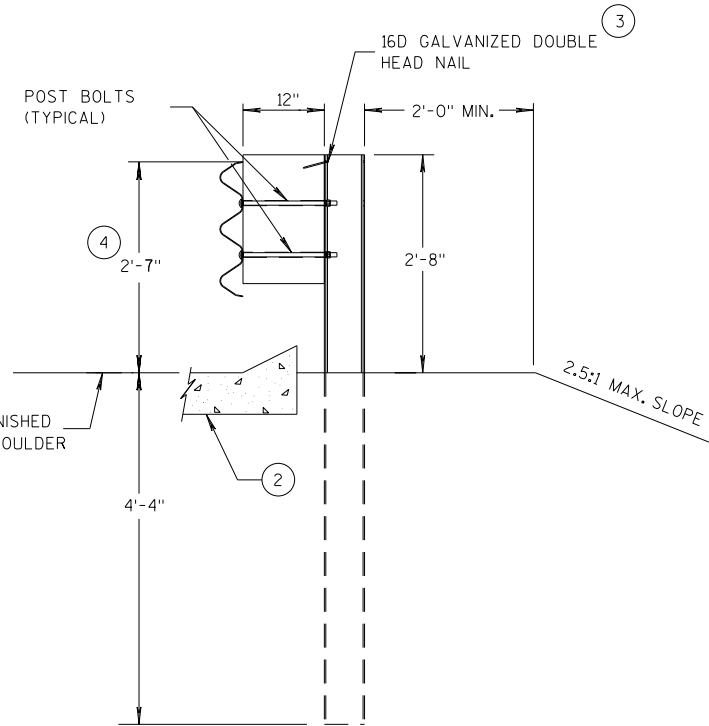


GENERAL NOTES

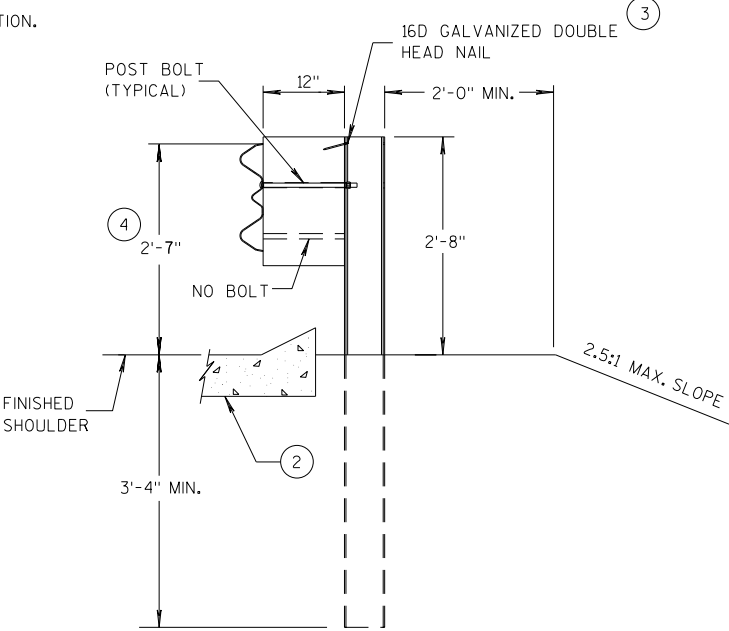
- 2 OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- 3 WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 10D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.
- 4 TOLERANCE FOR TOP OF W-BEAM RAIL IS  $\pm 1"$ .
- 13 STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42



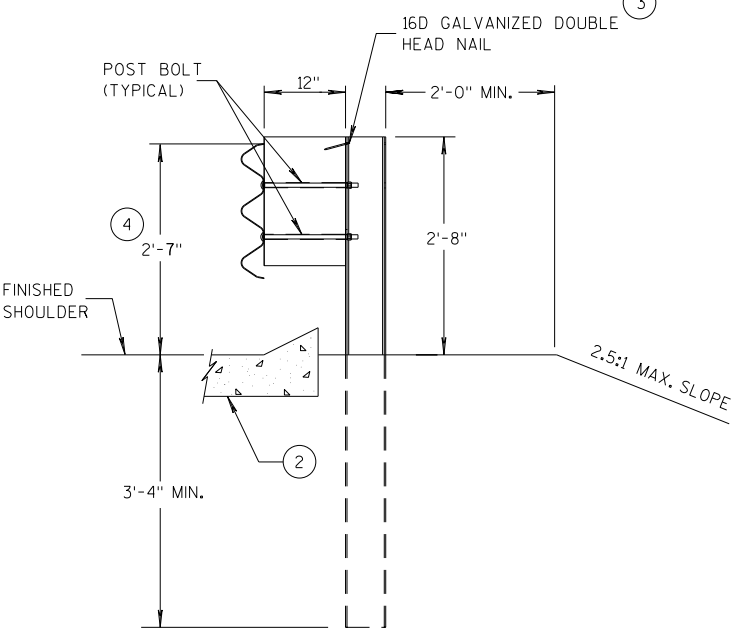
SECTION A-A  
POSTS 1-5



SECTION D-D  
POSTS 12-17



SECTION B-B  
POST 6



SECTION C-C  
POSTS 7-11

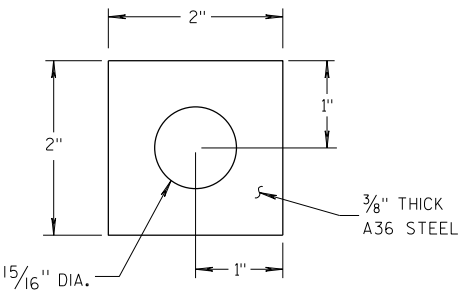
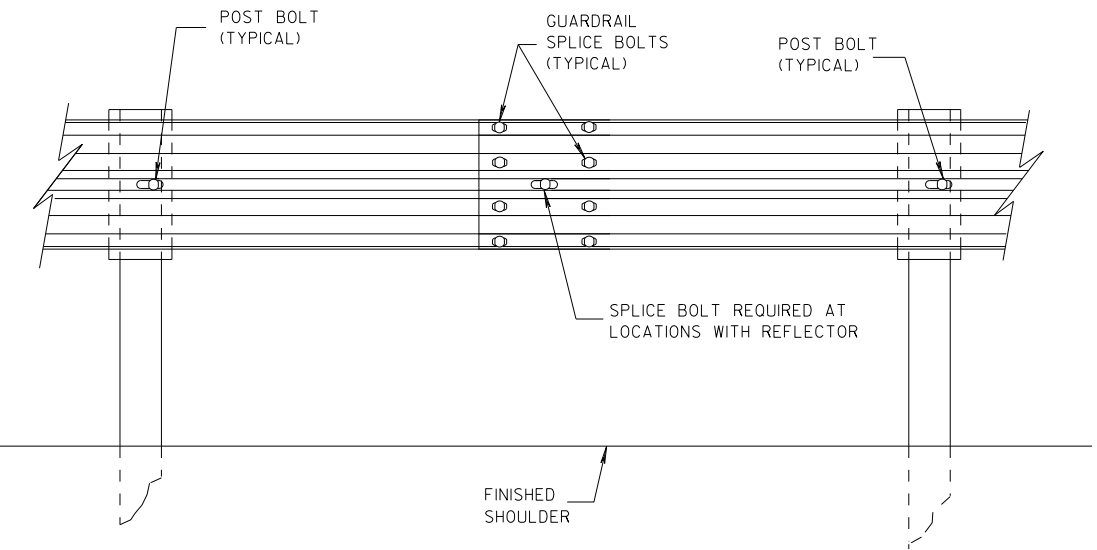
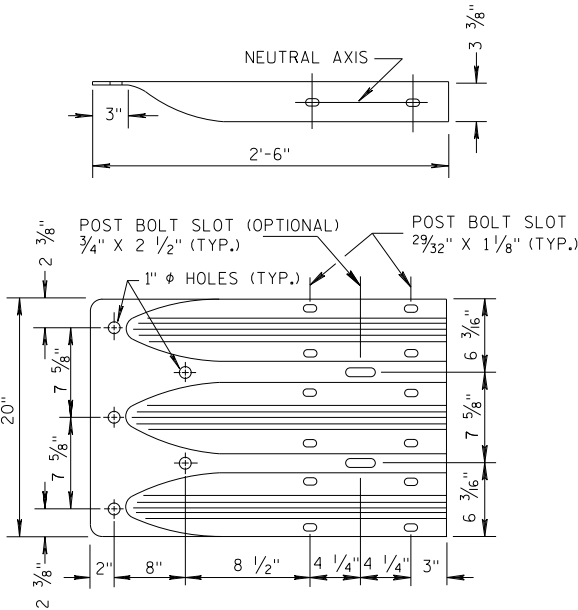


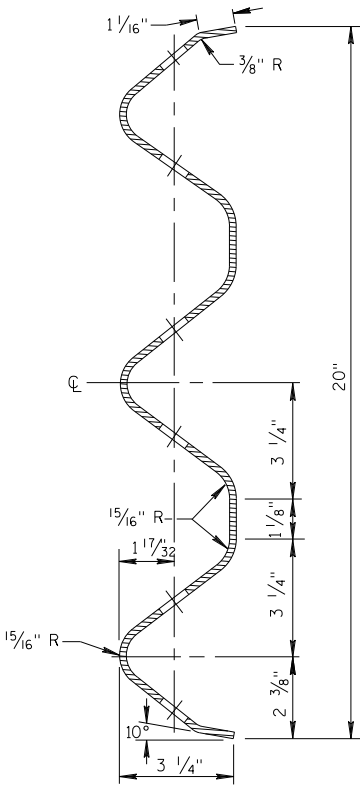
PLATE WASHER DETAIL



SPLICE DETAIL



THRIE BEAM  
TERMINAL CONNECTOR

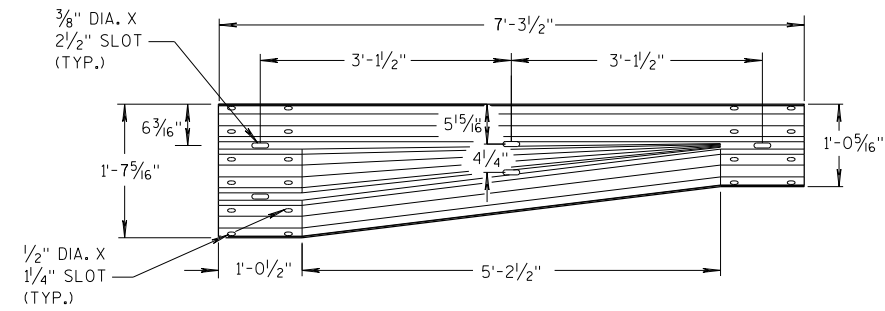


SECTION THRU THRIE  
BEAM RAIL ELEMENT

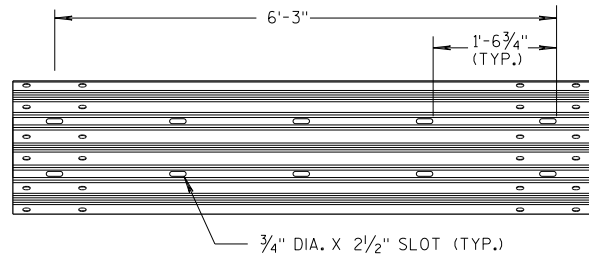
MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

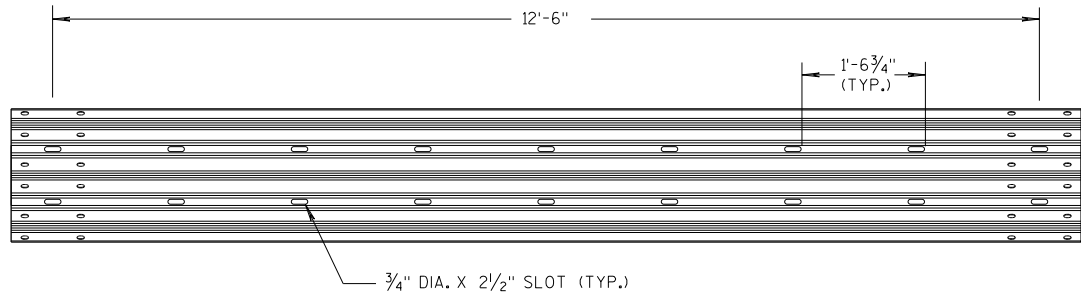
147



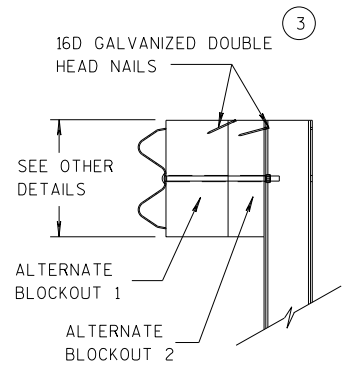
**W-BEAM TO THRIE BEAM TRANSITION SECTION**



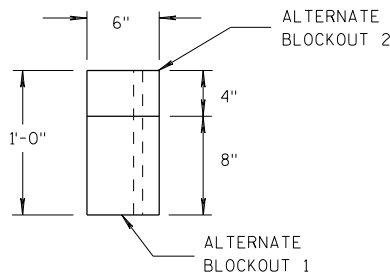
**6'-3" THRIE BEAM SECTION**



**12'-6" THRIE BEAM SECTION**

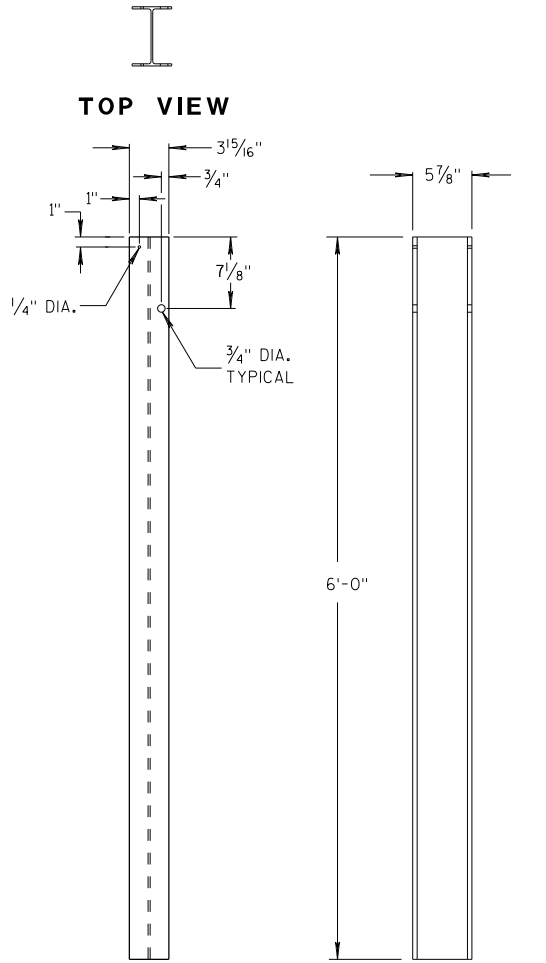


**SIDE VIEW**



**TOP VIEW**

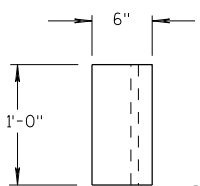
**ALTERNATE WOOD BLOCKOUT DETAIL**



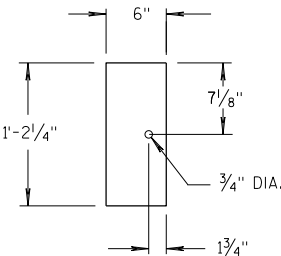
**FRONT VIEW**

**SIDE VIEW**

**STEEL POSTS 1-5**

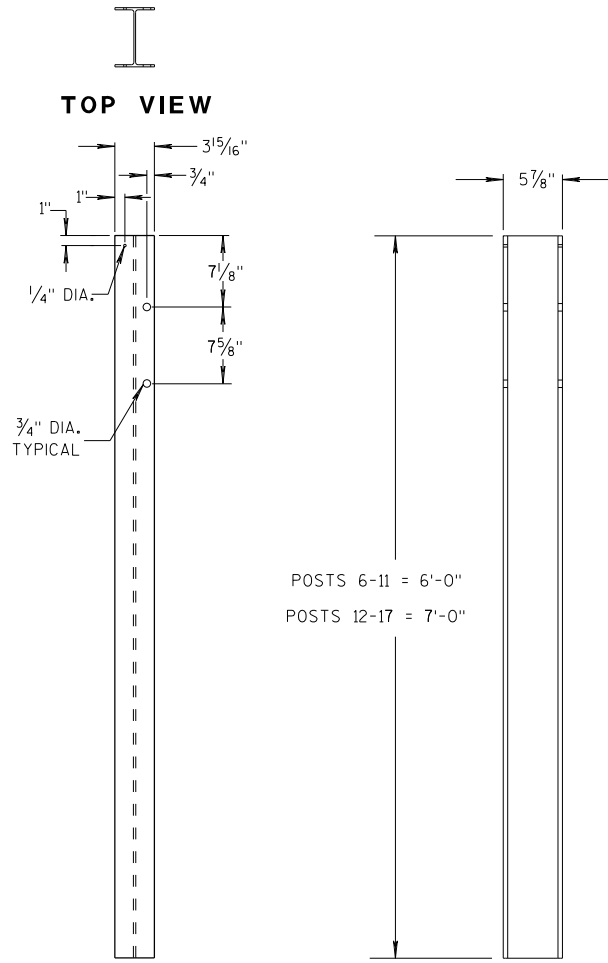


**TOP VIEW**



**FRONT VIEW**

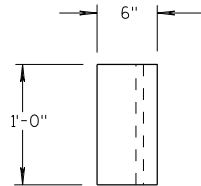
**BLOCKOUT  
POSTS 1-5**



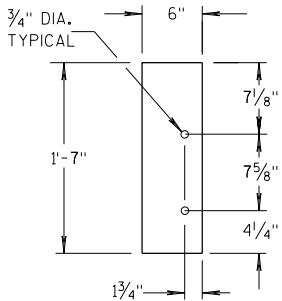
**FRONT VIEW**

**SIDE VIEW**

**STEEL POSTS 6-17**



**TOP VIEW**



**FRONT VIEW**

**BLOCKOUT  
POSTS 6-17**

**GENERAL NOTES**

STEEL POSTS ARE W6X9 OR W6X8.5.

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

③ WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

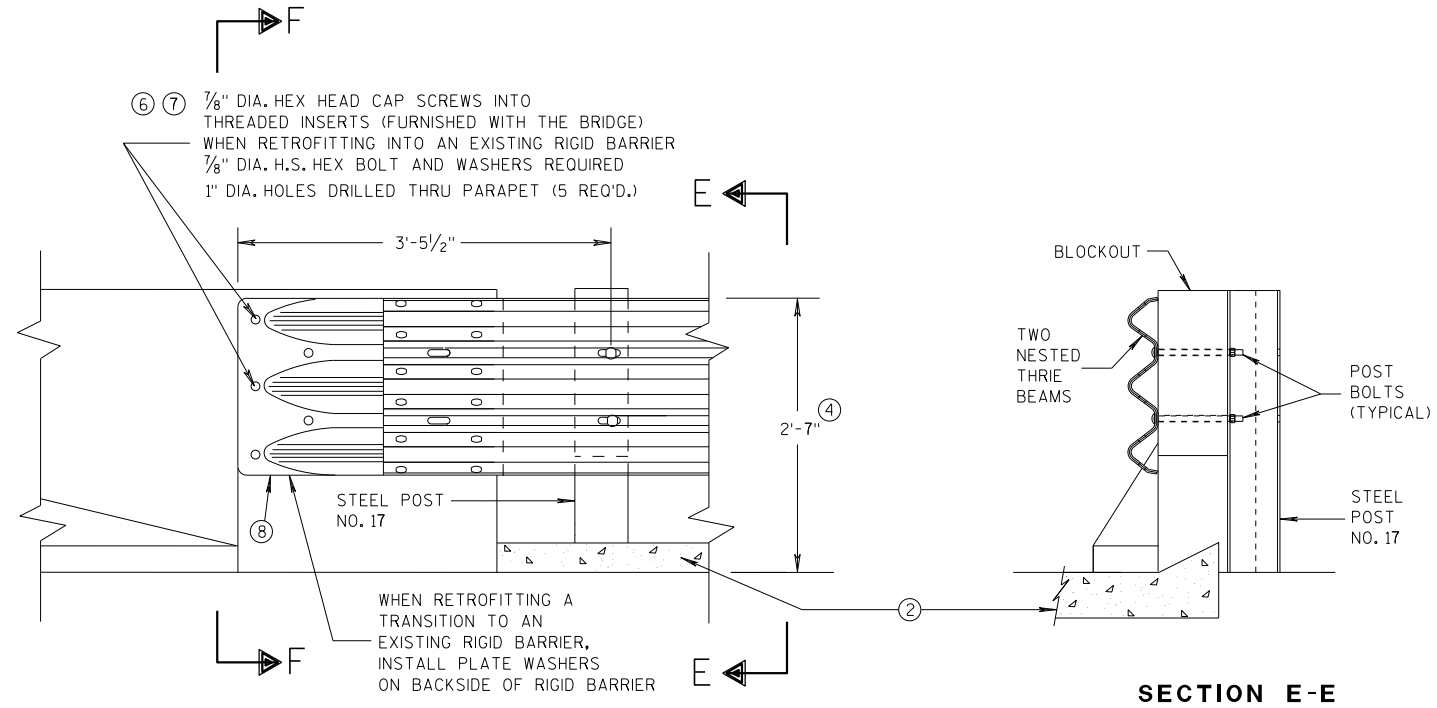
⑤ WOOD BLOCKS MAY BE CONSTRUCTED OUT OF 2 WOOD BLOCKS. SEE ALTERNATE WOOD BLOCK DETAIL.

⑬ STEEL OR WOOD POST IS ACCEPTABLE AT POST 1. SEE SDD 14B42.

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

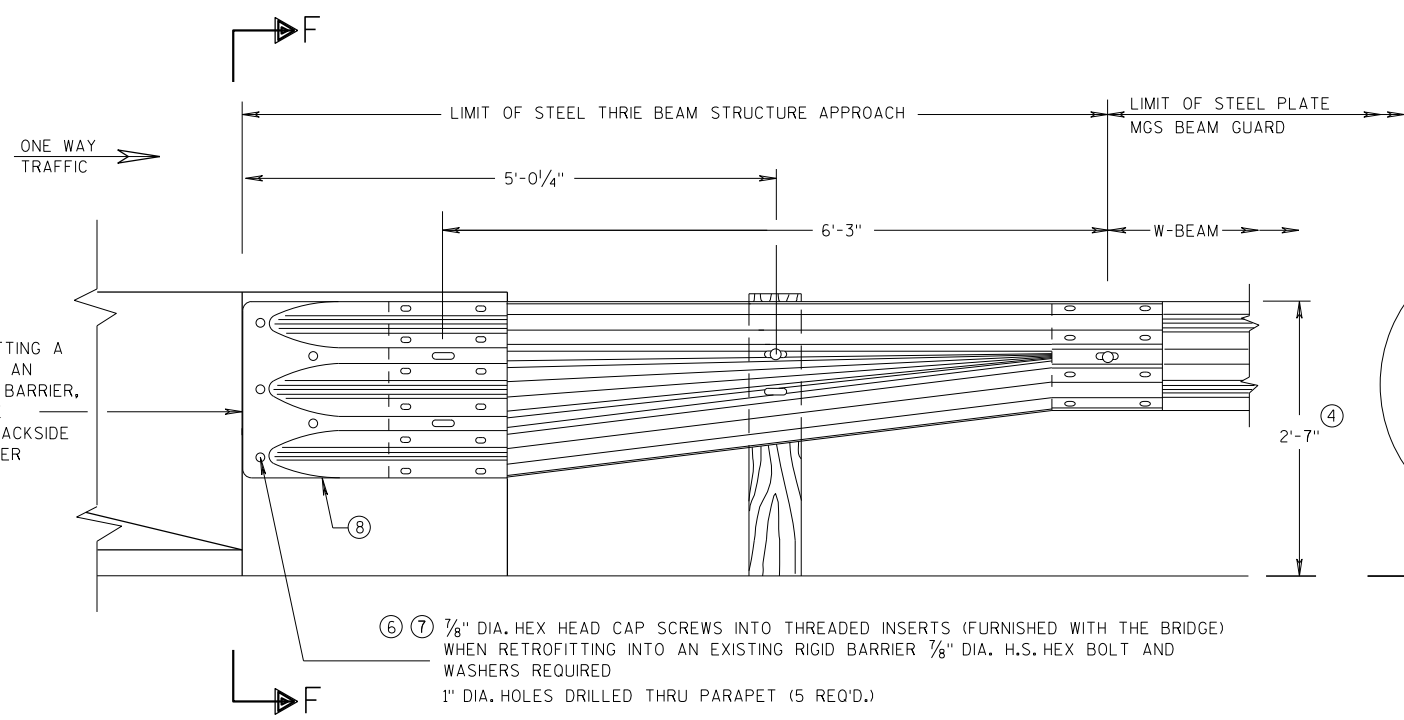
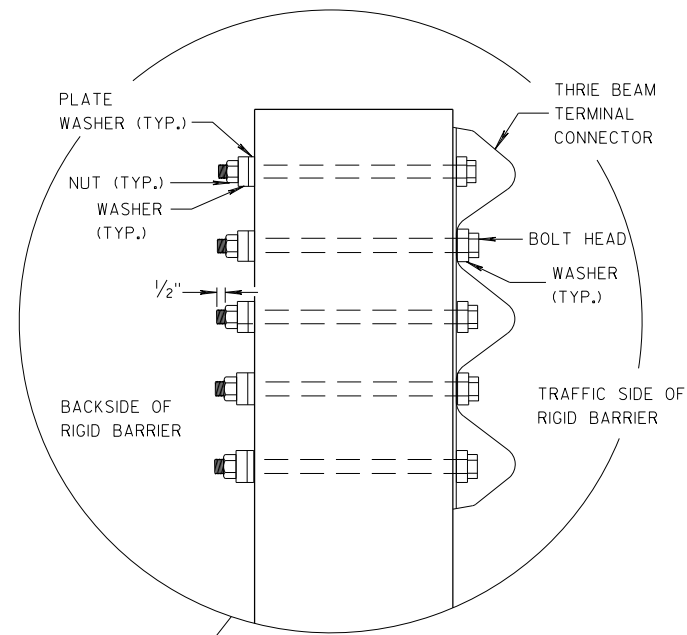
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



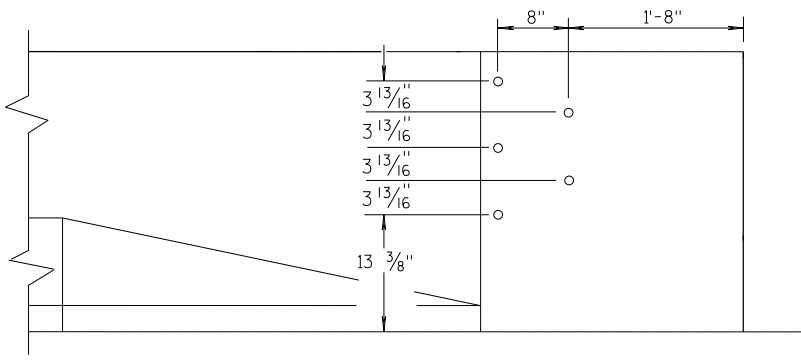


**GENERAL NOTES**

- 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  $\pm 1"$ .
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.
- ⑧ THE RECESS FOR A W-BEAM CONNECTION, WHICH EXISTS ON SOME PARAPETS OF THIS TYPE, SHALL BE FILLED WITH A TREATED TIMBER BLOCKOUT. BLOCKOUT SIZE IS 1'-6" X 2'-0" X 3 1/2".



**SECTION F-F**



**DRILL HOLE LOCATION**

|                                                         |                                                        |    |  |
|---------------------------------------------------------|--------------------------------------------------------|----|--|
| MIDWEST GUARDRAIL SYSTEM<br>THRIE BEAM TRANSITION (MGS) |                                                        |    |  |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION      |                                                        |    |  |
| APPROVED<br>07/2018<br>DATE                             | /S/ Rodney Taylor<br>ROADWAY STANDARDS UNIT SUPERVISOR |    |  |
| FHWA                                                    | 149                                                    | NT |  |

## 6

**S.D.D. 14 B 45-5e**

- S.D.D. 14 B 45-5e**



**S.D.D. 14 B 45-5e**



**S.D.D. 14 B 45-5e**

**S.D.D. 14 B 45-5e**



**S.D.D. 14 B 45-5e**

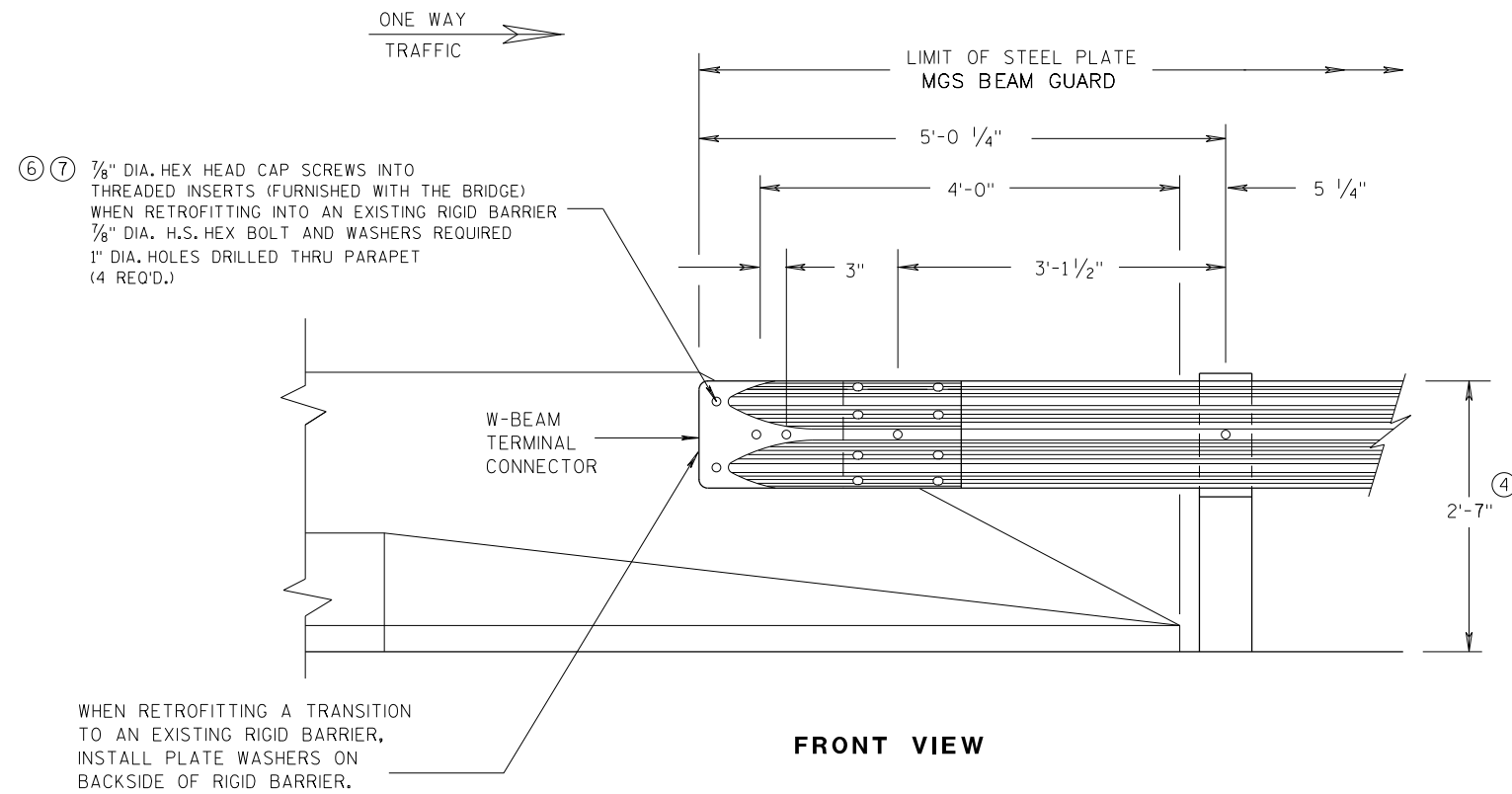
**S.D.D. 14 B 45-5e**

**S.D.D. 14 B 45-5e**



**S.D.D. 14 B 45-5e**

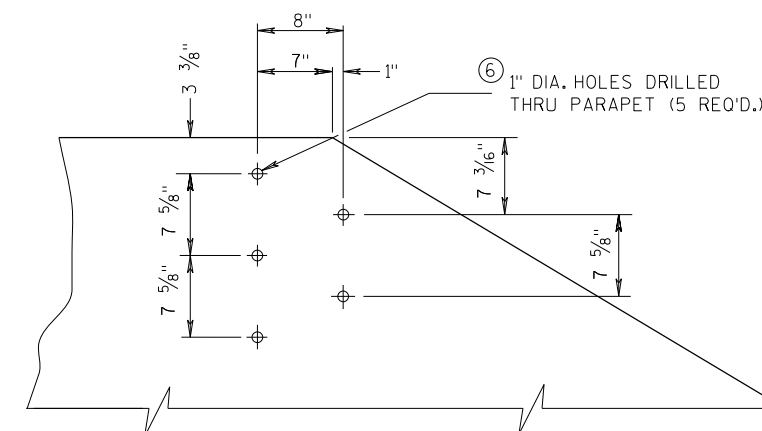
**S.D.D. 14 B 45-5e**



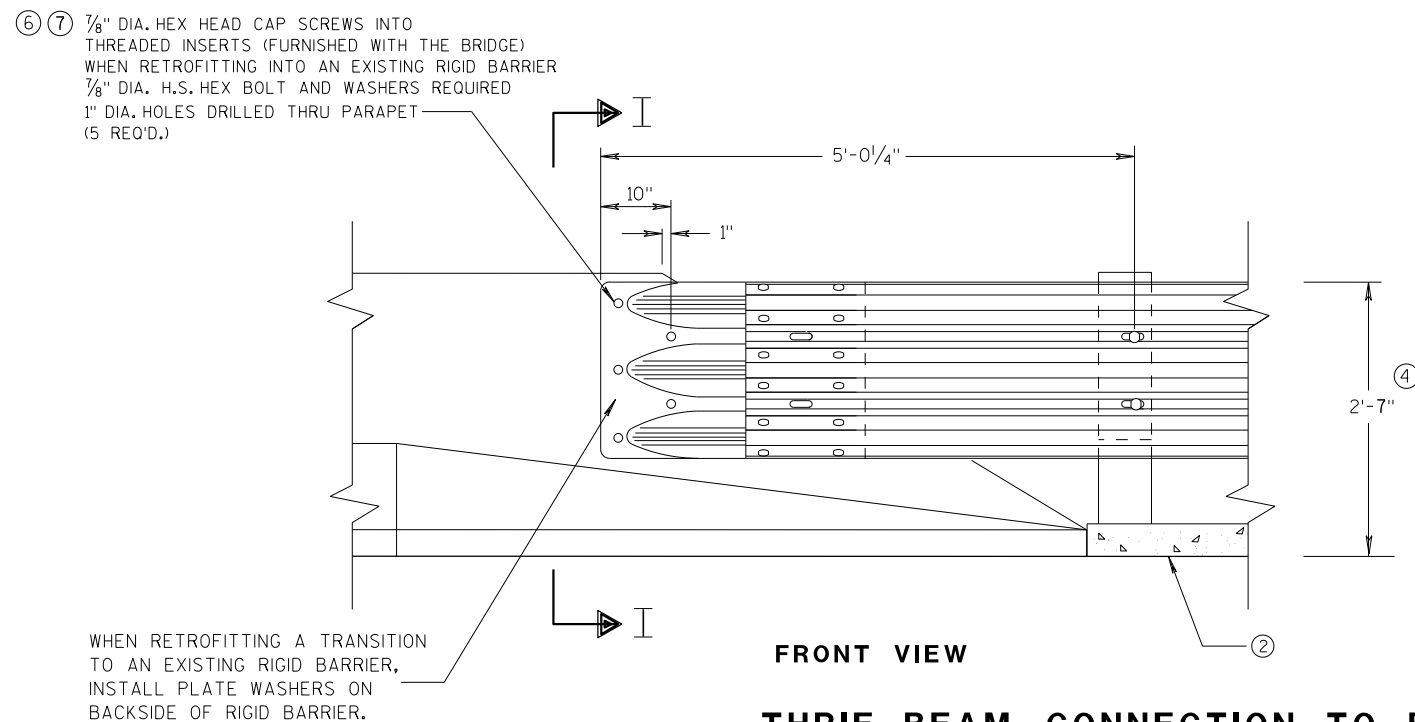
**W BEAM CONNECTION TO  
PARAPETS WITH SLOPED ENDS**  
(USE ONLY AT TRAFFIC EXIT END OF ONE WAY BRIDGE)

## GENERAL NOTES

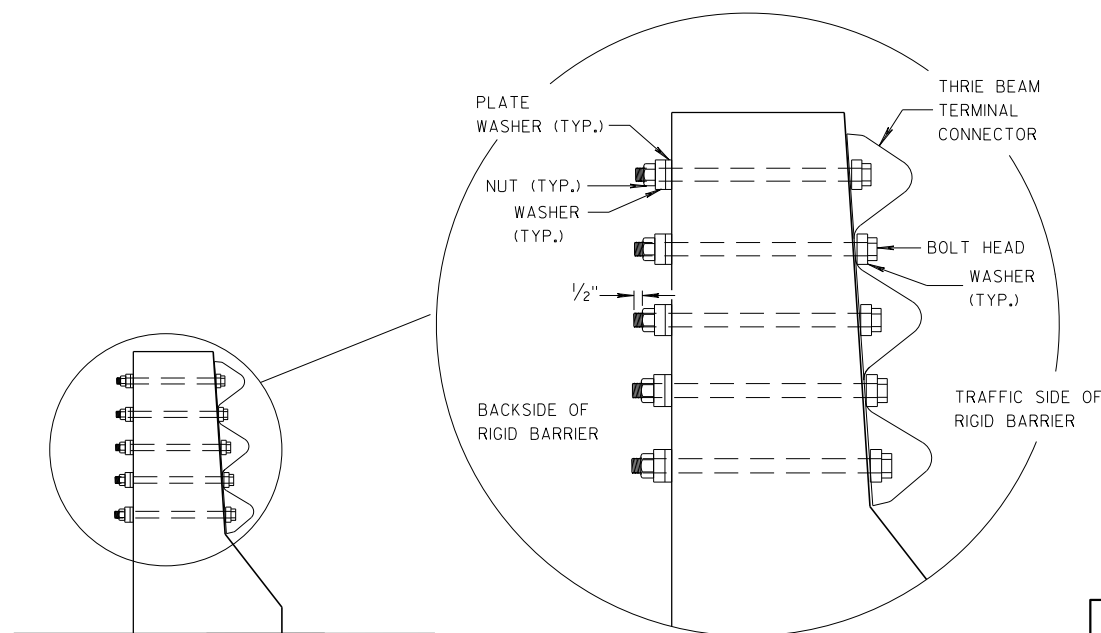
- ② OPTIONAL CURB AND GUTTER OR DRAINAGE FEATURE SEE PLAN FOR INFORMATION.
- ④ TOLERANCE FOR TOP OF BEAM IS  $\pm 1"$ .
- ⑥ DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.
- ⑦ BOLTS MAY BE A325 BOLTS OR A449 BOLTS. BOLT LENGTH AND THREADING LENGTH ARE TO ALLOW FOR A TIGHT CONNECTION BETWEEN RIGID BARRIER AND THRIE BEAM CONNECTION PLATE. CONTRACTOR IS TO FIELD VERIFY BOLT LENGTH AND THREAD LENGTH. ONE ROUND WASHER REQUIRED BETWEEN BOLT HEAD AND THRIE BEAM CONNECTOR PLATE. BOLTS THAT EXTEND THROUGH THE PARAPET AND OUT THE BACK FACE REQUIRE A HARDENED ROUND STEEL WASHER THAT IS 2" O.D. X 5/32" THICK AND ONE PLATE WASHER. REPAIR ANY DAMAGED CONCRETE FROM BOLT INSTALLATION.



**DRILL HOLE LOCATION AND PATTERN  
FOR THRIE BEAM CONNECTION**



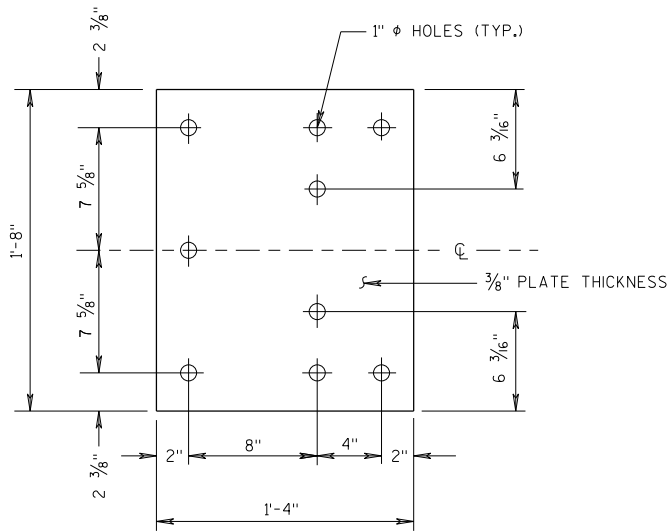
**THRIE BEAM CONNECTION TO BRIDGE  
PARAPETS WITH SLOPED ENDS**



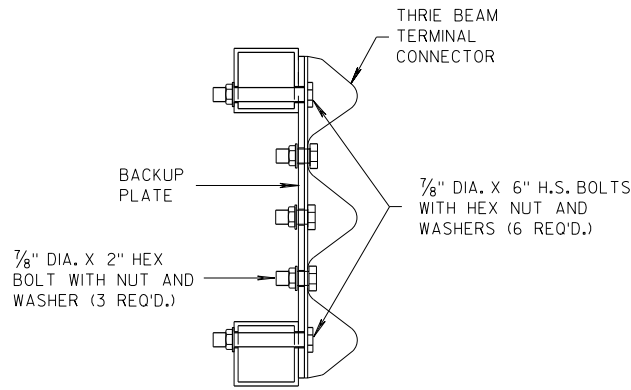
**MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

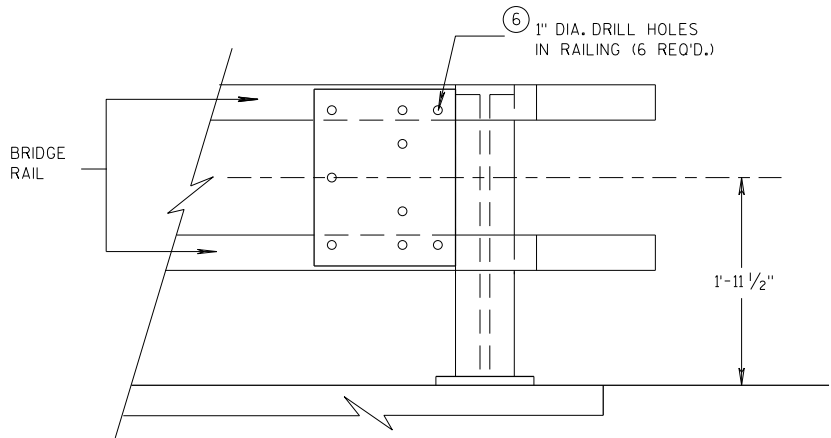
APPROVED  
DATE 07/2018 /S/ Rodney Taylor  
ROADWAY STANDARDS UNIT SUPERVISOR 151  
FHWA



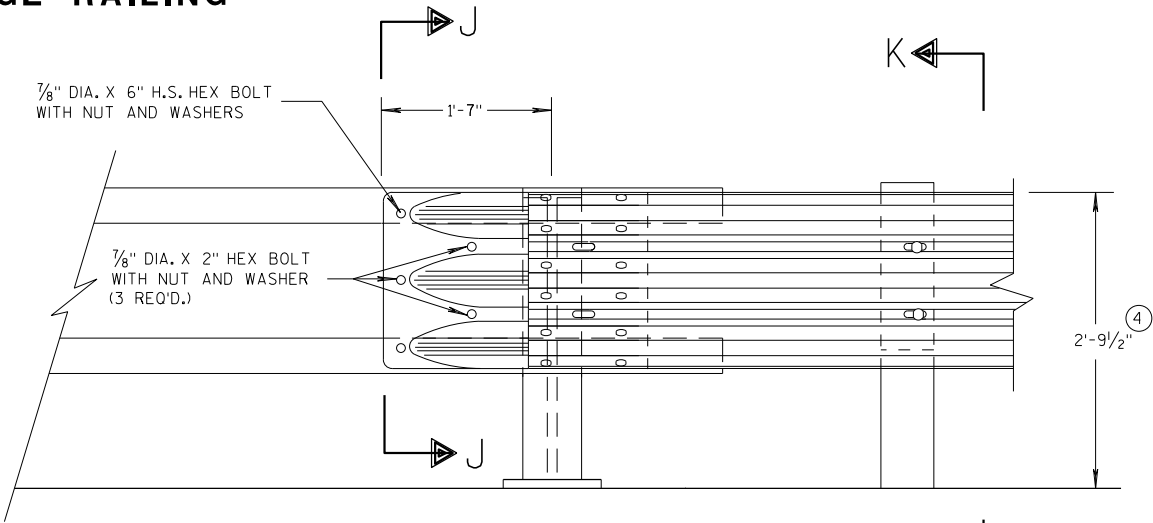
BACK-UP PLATE DETAIL



SECTION J-J

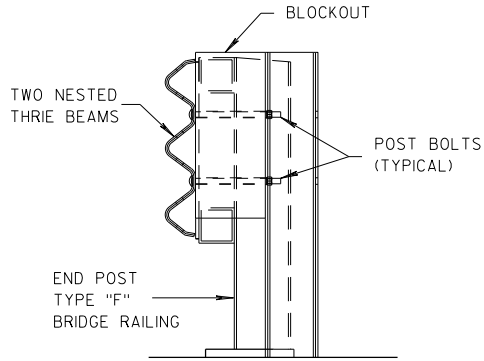


BACK-UP PLATE MOUNTING ONTO BRIDGE RAILING



FRONT VIEW

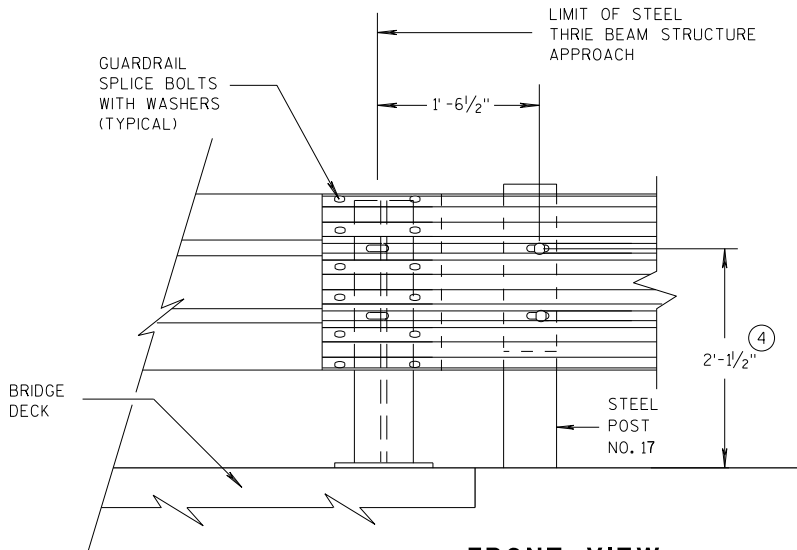
THRIE BEAM CONNECTION TO TUBULAR RAILING TYPE "F"



SECTION K-K

GENERAL NOTES

- (4) TOLERANCE FOR TOP OF BEAM IS  $\pm 1"$ .
- (6) DRILLING HOLES THROUGH THE PAPER, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.



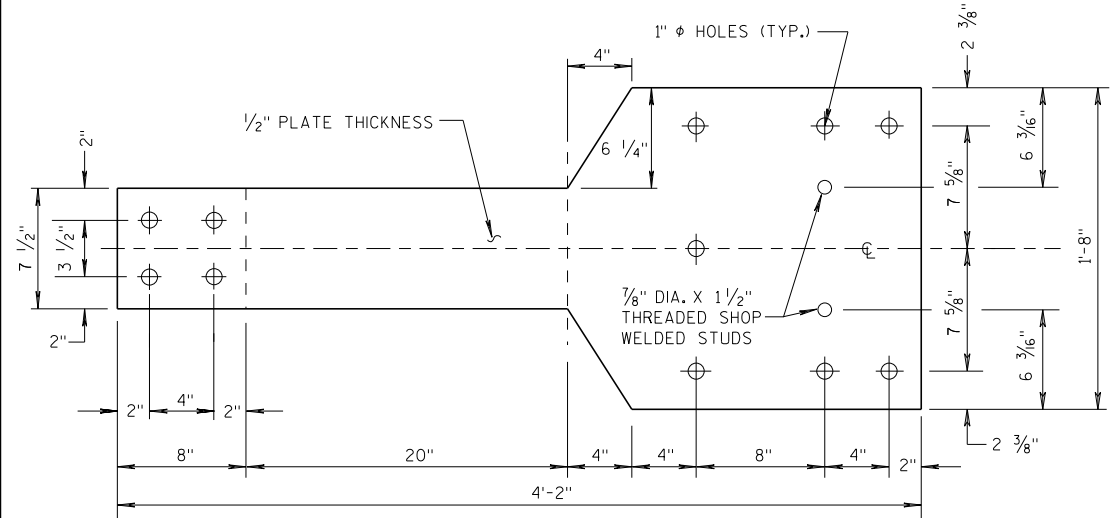
FRONT VIEW

THRIE BEAM CONNECTION TO STEEL RAILING TYPE "W"

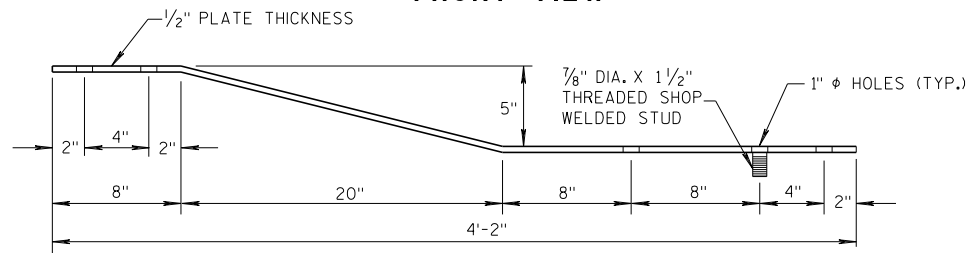
|                                                         |                               |                 |
|---------------------------------------------------------|-------------------------------|-----------------|
| MIDWEST GUARDRAIL SYSTEM<br>THRIE BEAM TRANSITION (MGS) |                               |                 |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION      |                               |                 |
| APPROVED<br>07/2018                                     | /S/ Rodney Taylor             | 152             |
| DATE                                                    | ROADWAY STANDARDS DEVELOPMENT | UNIT SUPERVISOR |
| FHWA                                                    |                               |                 |

GENERAL NOTES

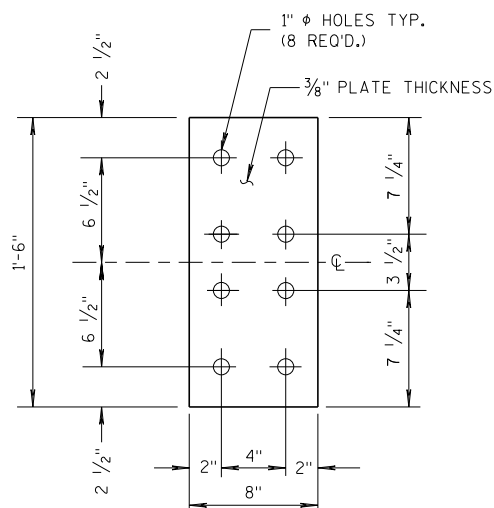
④ TOLERANCE FOR TOP OF W-BEAM RAIL IS  $\pm 1"$ .



FRONT VIEW

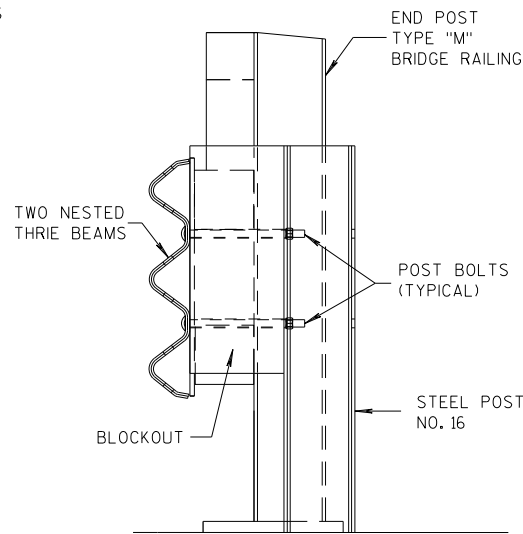


PLAN VIEW  
BACK-UP PLATE DETAIL, TYPE "M"

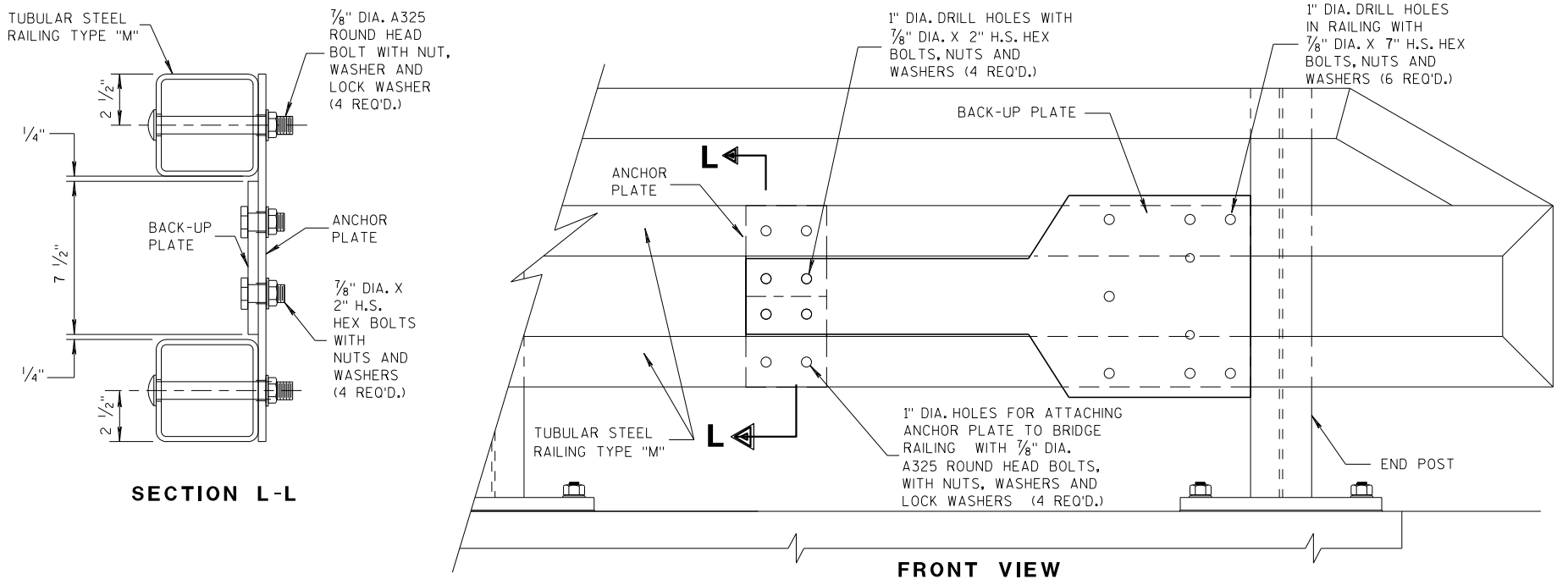


FRONT VIEW

ANCHOR  
PLATE DETAIL,  
TYPE "M"



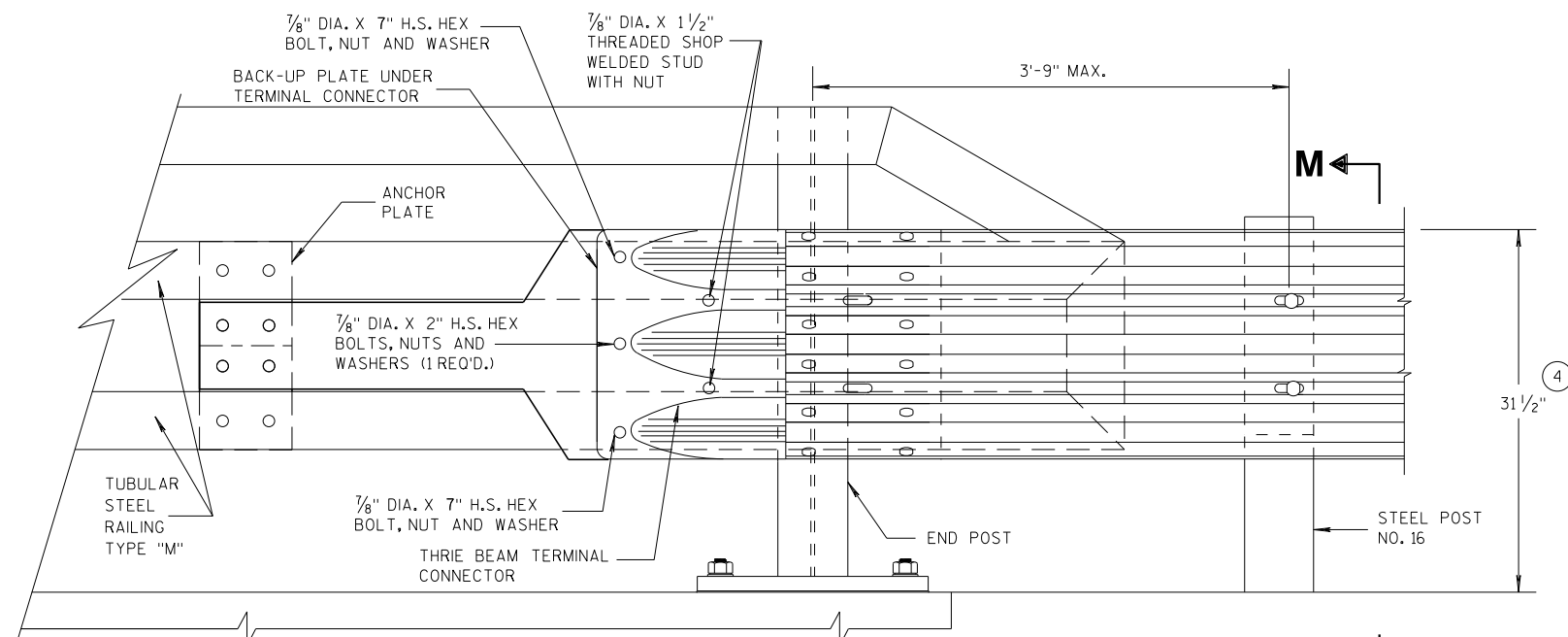
SECTION M-M



SECTION L-L

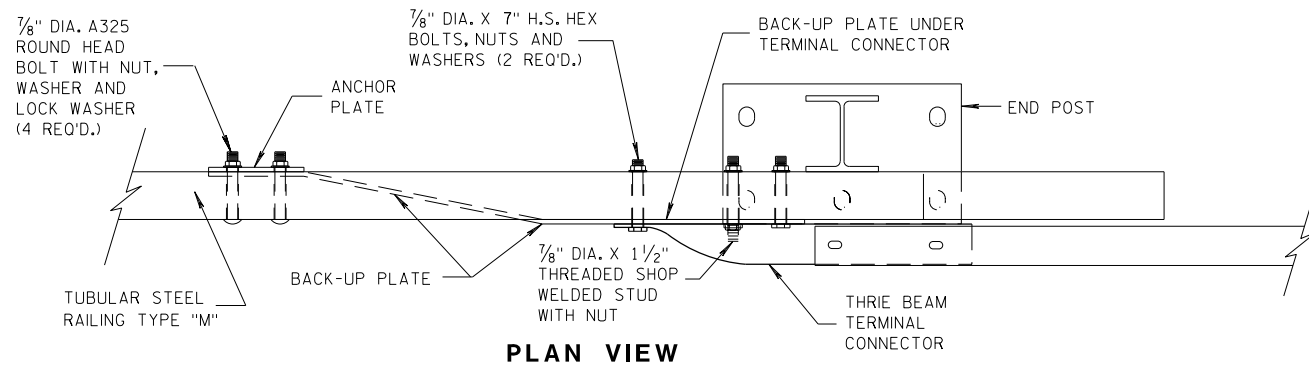
FRONT VIEW

ANCHOR AND BACK-UP PLATE MOUNTING TO BRIDGE RAILING, TYPE "M"



FRONT VIEW

M



PLAN VIEW

THREE BEAM CONNECTION TO TUBULAR RAILING, TYPE "M"

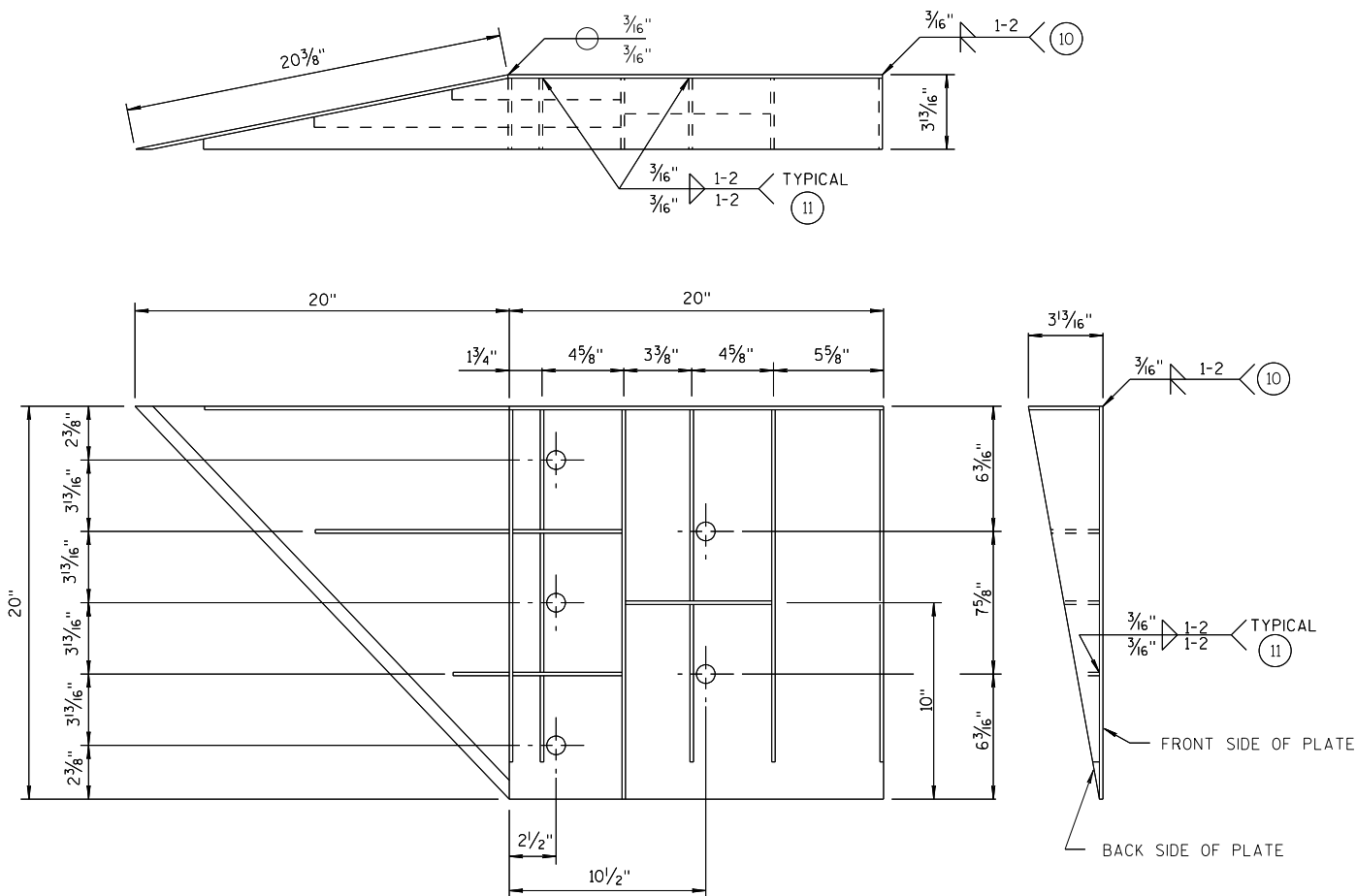
MIDWEST GUARDRAIL SYSTEM  
THREE BEAM TRANSITION (MGS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
07/2018  
DATE  
FHWA

/S/ Rodney Taylor  
ROADWAY STANDARDS UNIT SUPERVISOR

153  
ENT



WELDING INSTRUCTION  
(VIEWED FROM BACK SIDE OF PLATE)

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

SINGLE SLOPE CONNECTION 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".

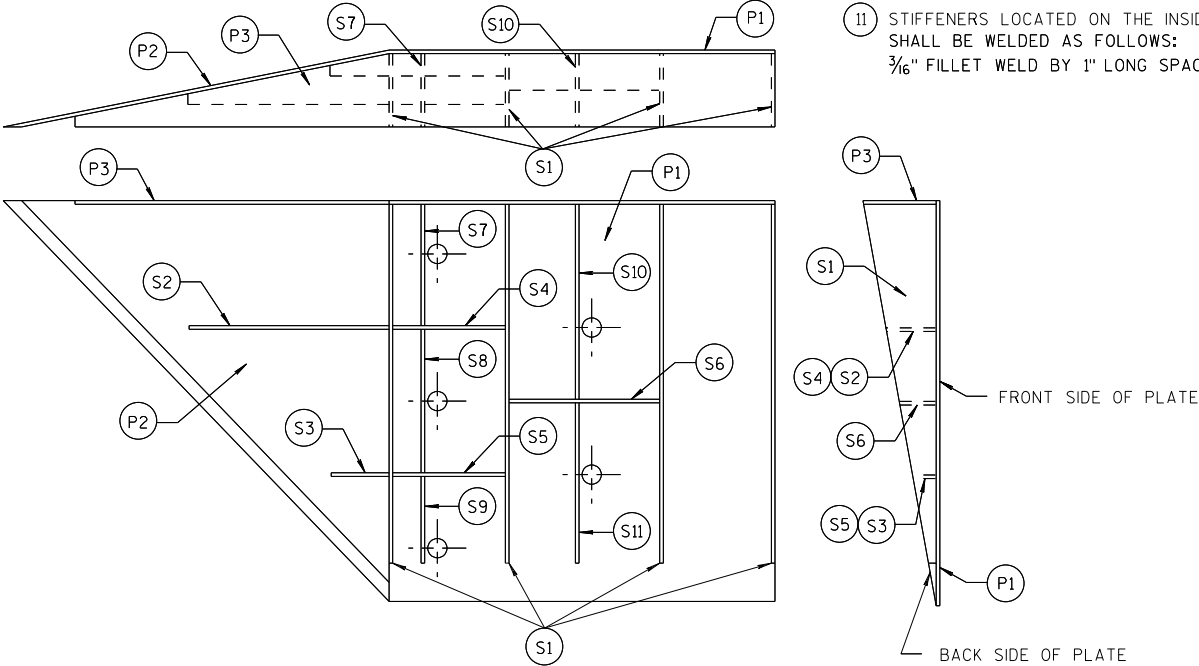


PLATE AND STIFFENER IDENTIFICATION  
(VIEWED FROM BACK SIDE OF PLATE)

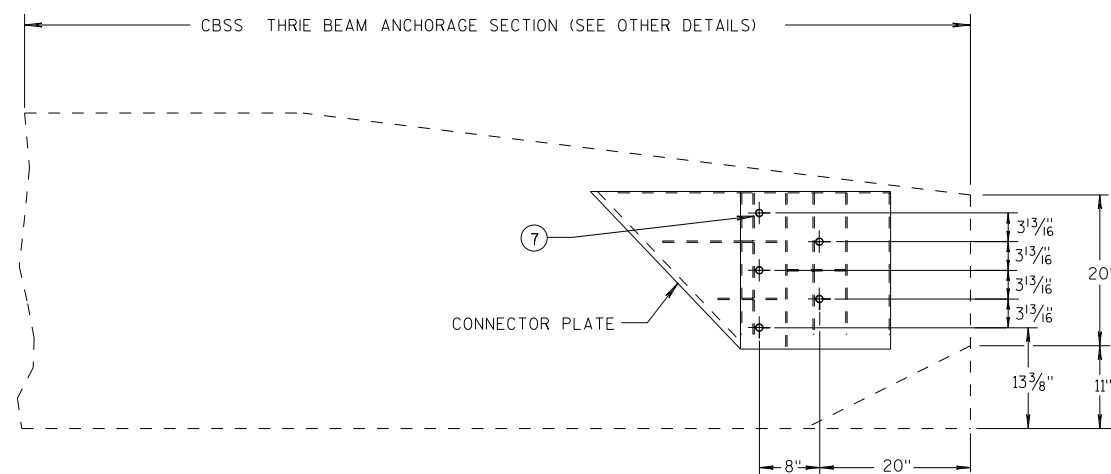
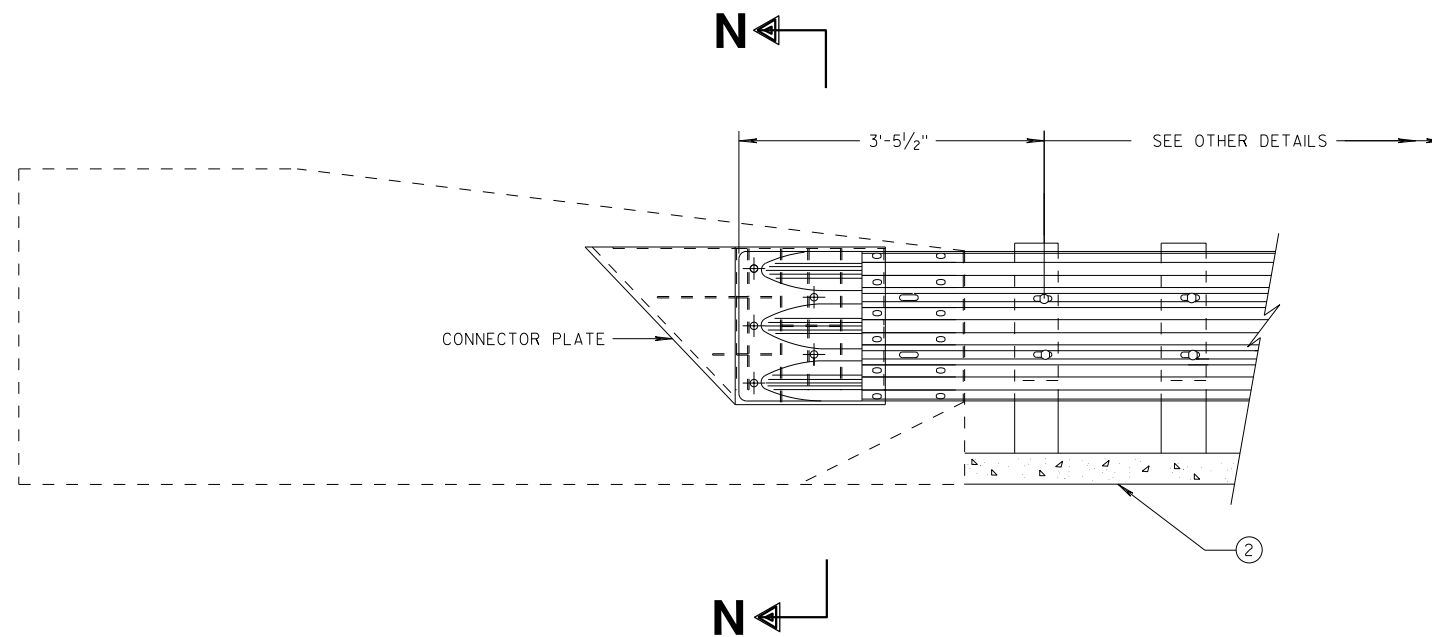
MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
7/2018  
DATE  
/S/ Rodney Taylor  
ROADWAY STANDARDS UNIT SUPERVISOR  
154  
ENT  
FHWA



## THRIE BEAM CONNECTION TO SINGLE SLOPE BARRIER



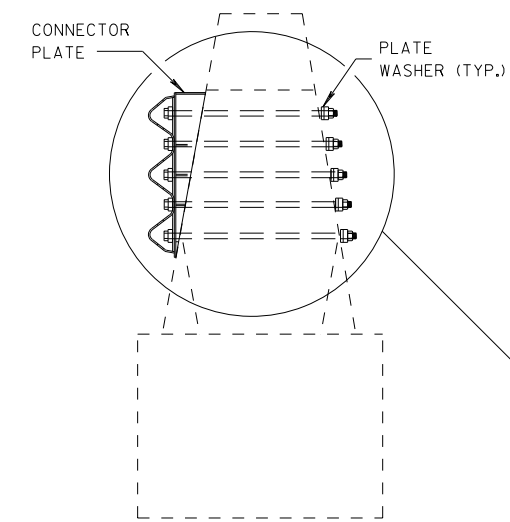
## SINGLE SLOPE CONNECTION PLATE PLACEMENT

## GENERAL NOTES

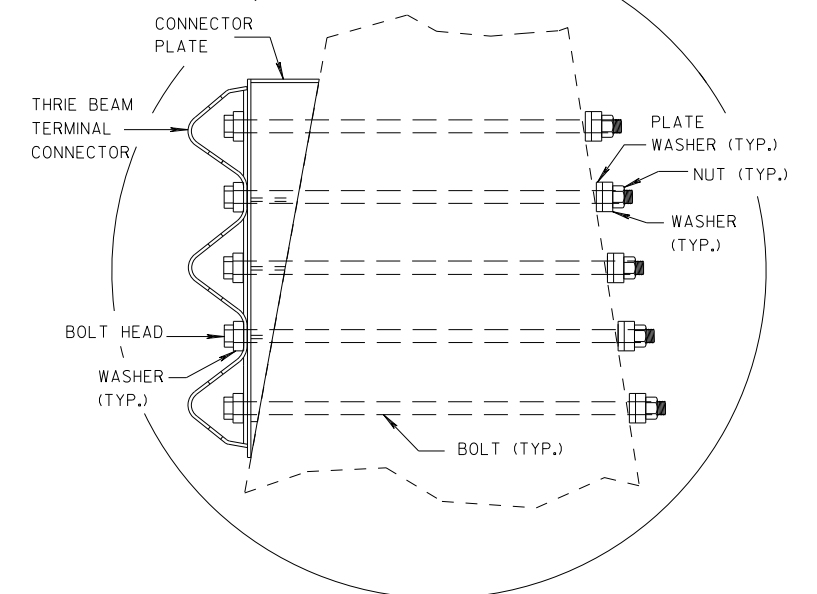
CONNECTOR PLATE, DRILLING BOLT HOLES THROUGH THE PARAPET, BOLTS, NUTS, WASHERS AND REPAIRING DAMAGED CONCRETE ARE INCIDENTAL TO THE CONTRACT.

(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 5/32" 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

7/2018

DATE

FHWA

/S/ Rodney Taylor

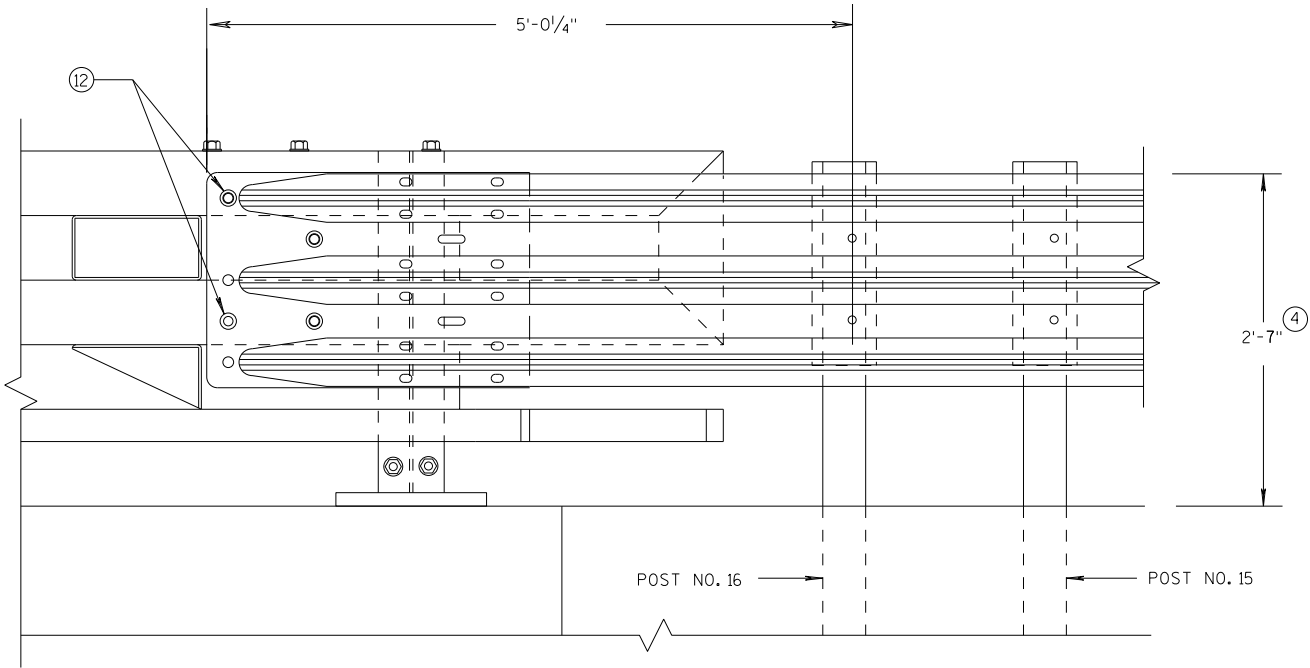
ROADWAY STANDARDS DISTRICT SUPERVISOR

UNIT SUPERVISOR 155

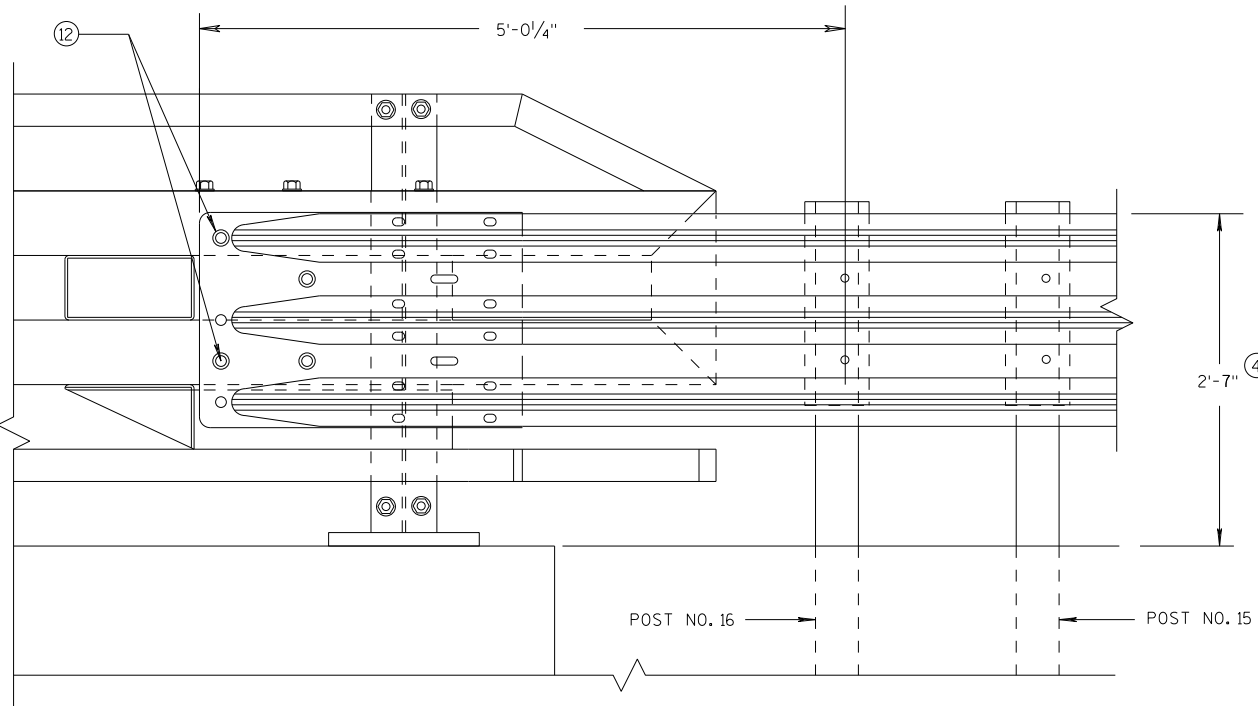
UNIT SUPERVISOR

GENERAL NOTES

- ④ TOLERANCE FOR TOP OF BEAM IS  $\pm 1"$ .
- 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  $\frac{1}{2}$ -INCH BEYOND NUT.



ELEVATION OF DETAIL AT NY3 END POST  
THRIE BEAM RAIL ATTACHMENT



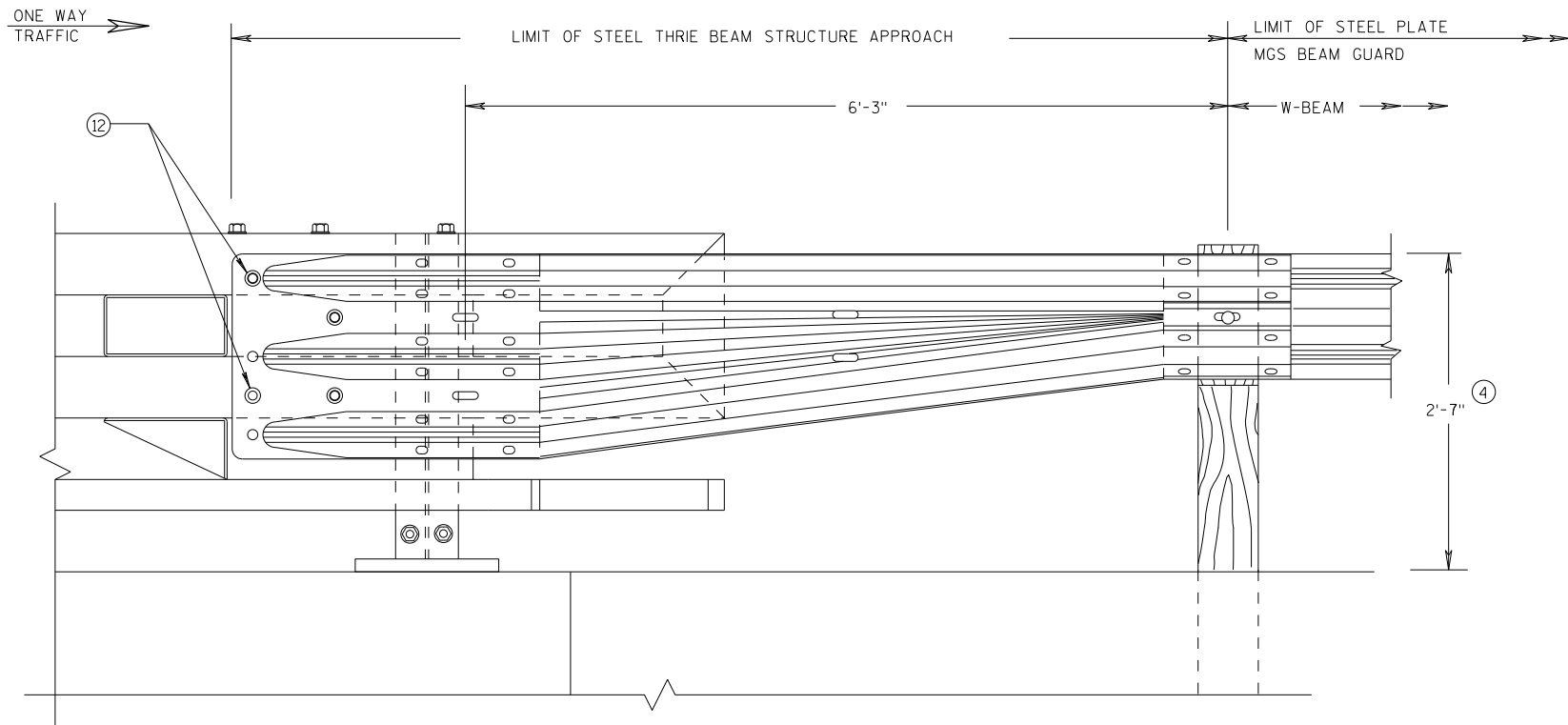
ELEVATION OF DETAIL AT NY4 END POST  
THRIE BEAM RAIL ATTACHMENT

MIDWEST GUARDRAIL SYSTEM  
THRIE BEAM TRANSITION (MGS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE 7/2018 /S/ Rodney Taylor  
ROADWAY STANDARDS UNIT SUPERVISOR 156 NT  
FHWA



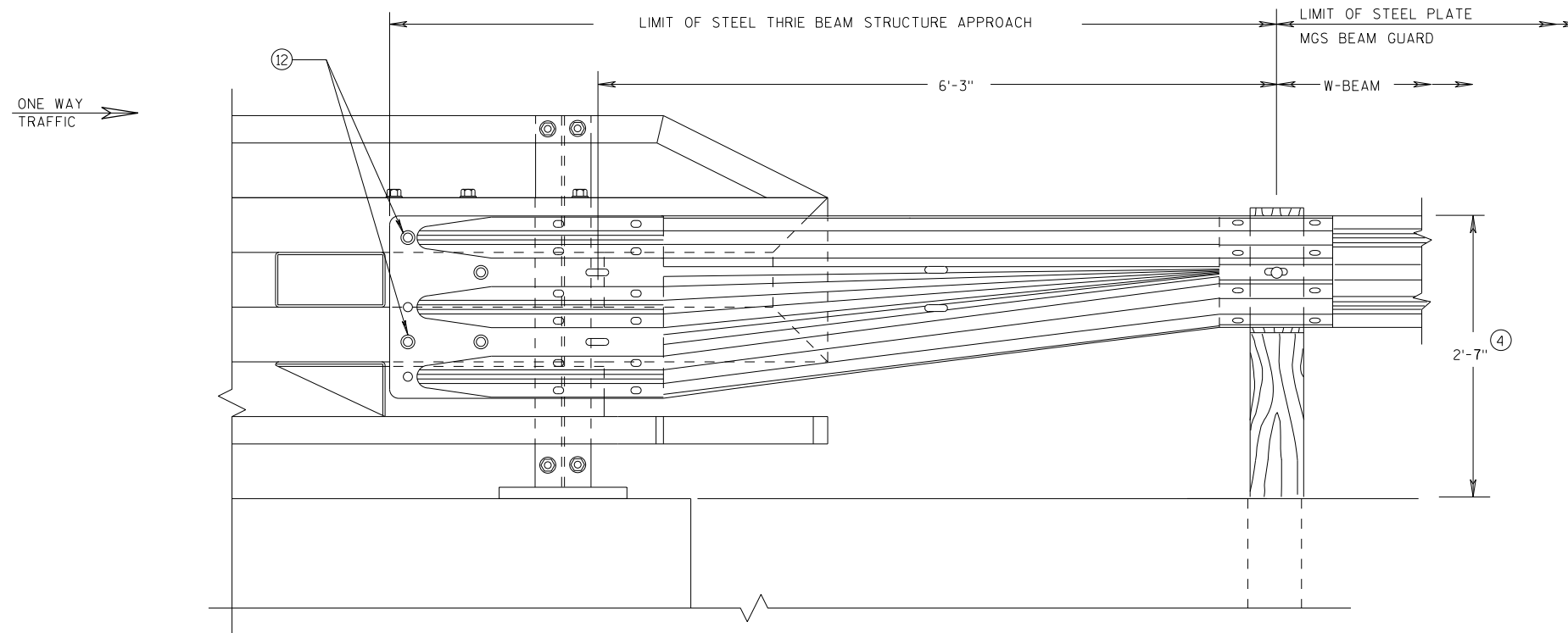


## GENERAL NOTES

- (4) TOLERANCE FOR TOP OF BEAM IS  $\pm 1"$ .
- (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  $\frac{1}{2}$ -INCH BEYOND NUT.

FRONT VIEW

### W BEAM TRANSITION AND CONNECTION TO BRIDGE RAILING TYPE "NY3" (USE ONLY ON THE TRAFFIC EXIT END OF ONE WAY BRIDGES)



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

7/2018

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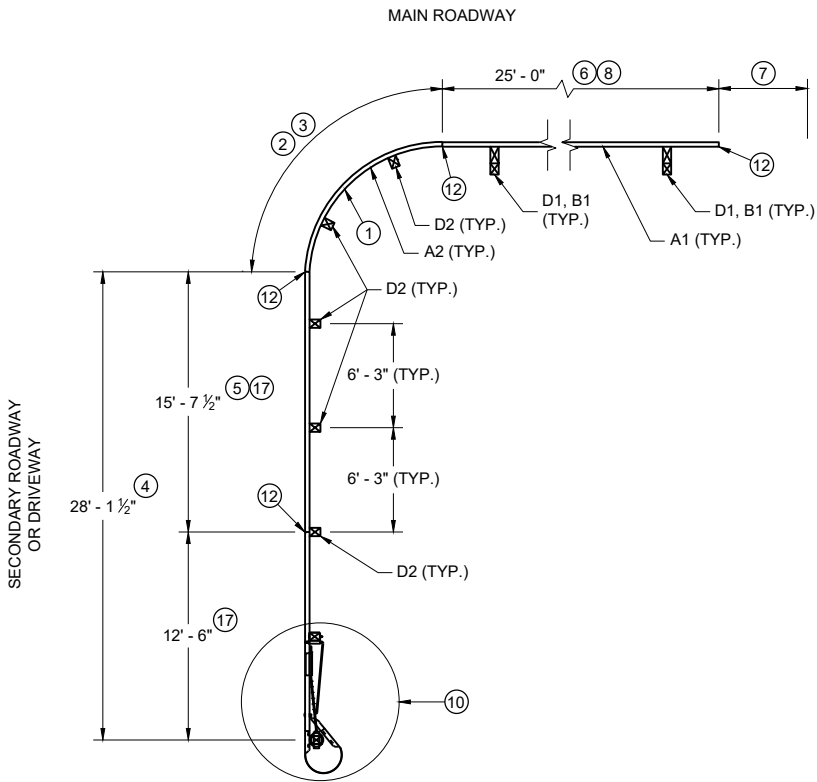
FHWA

/S/ Rodney Taylor

ROADWAY STANDARDS C 157

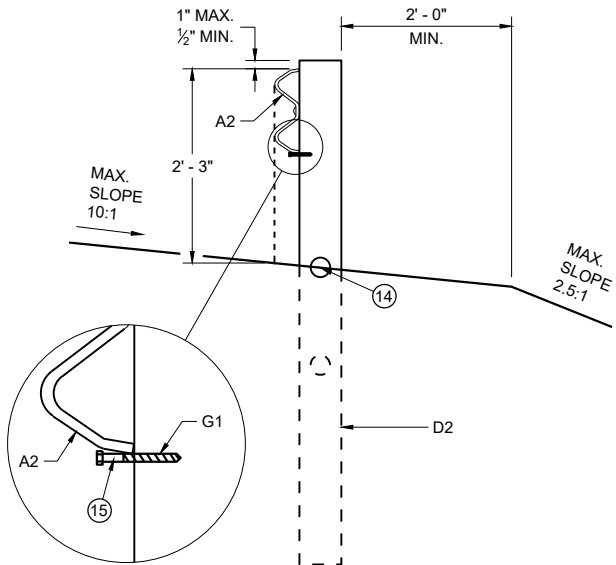
UNIT SUPERVISOR

NT

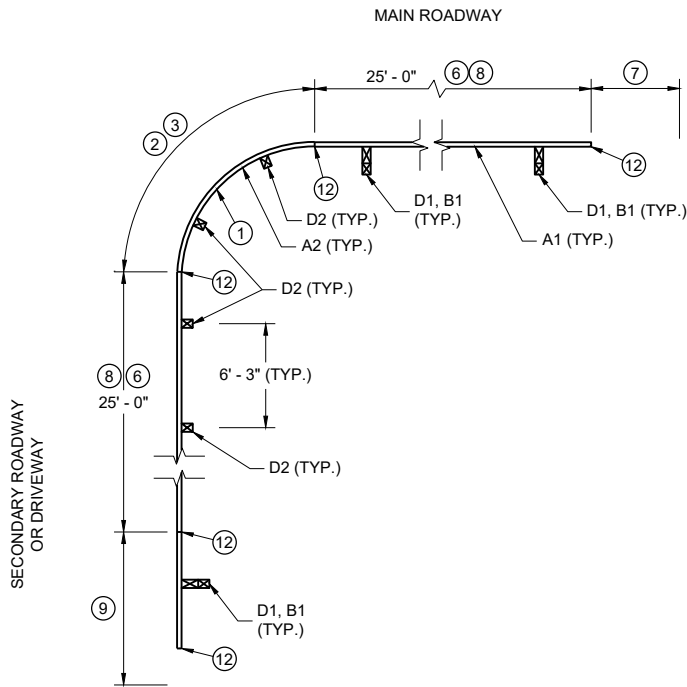


PLAN VIEW

**SHORT RADIUS BEAM GUARD WITH  
SHORT RADIUS TERMINAL ON  
SECONDARY ROAD OR DRIVEWAY**

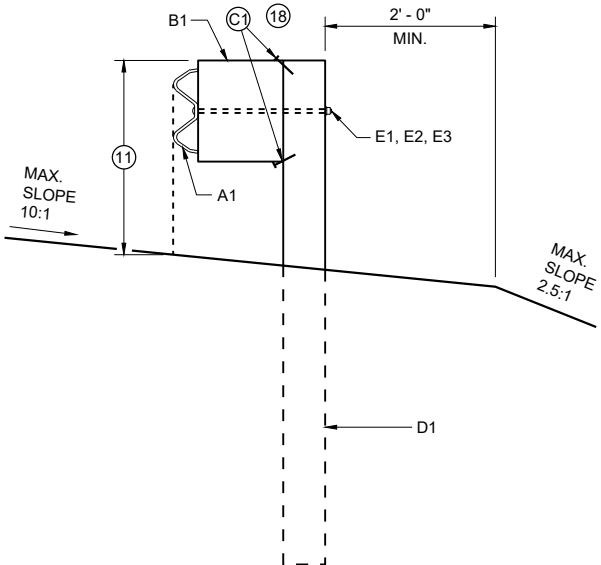


**CONTROLLED RELEASE  
TERMINAL POST (CRT) IN RADIUS**



PLAN VIEW

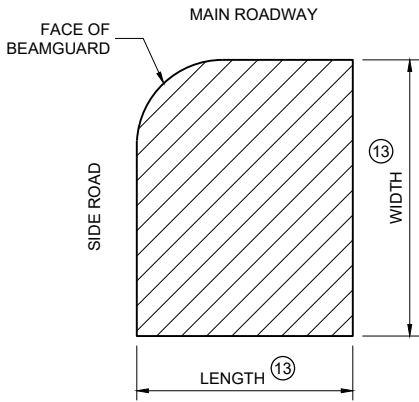
**SHORT RADIUS BEAM GUARD WITH  
EAT, ADDITIONAL BEAM GUARD  
OR  
TRANSITION TO RIGID BARRIER ON  
SECONDARY ROAD OR DRIVEWAY**



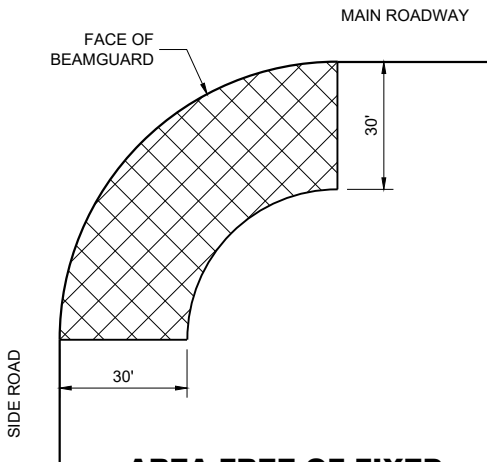
**BEAM GUARD POSTS  
IN HEIGHT TRANSITION**

TABLE FOR RADIUS OF 32' AND LESS

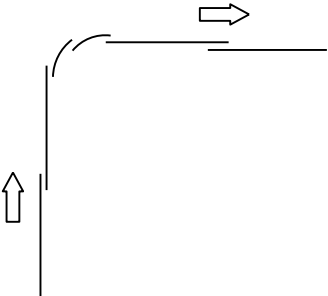
| RADIUS (FT) | LENGTH (FT) | WIDTH (FT) |
|-------------|-------------|------------|
| 8           | 25          | 15         |
| 16          | 30          | 15         |
| 24          | 40          | 20         |
| 32          | 50          | 30         |



**AREA FREE OF FIXED  
OBJECTS FOR RADIUS  
32' AND LESS**



**AREA FREE OF FIXED  
OBJECTS FOR RADIUS  
GREATER THAN 32'**



LAP SPLICE DETAIL

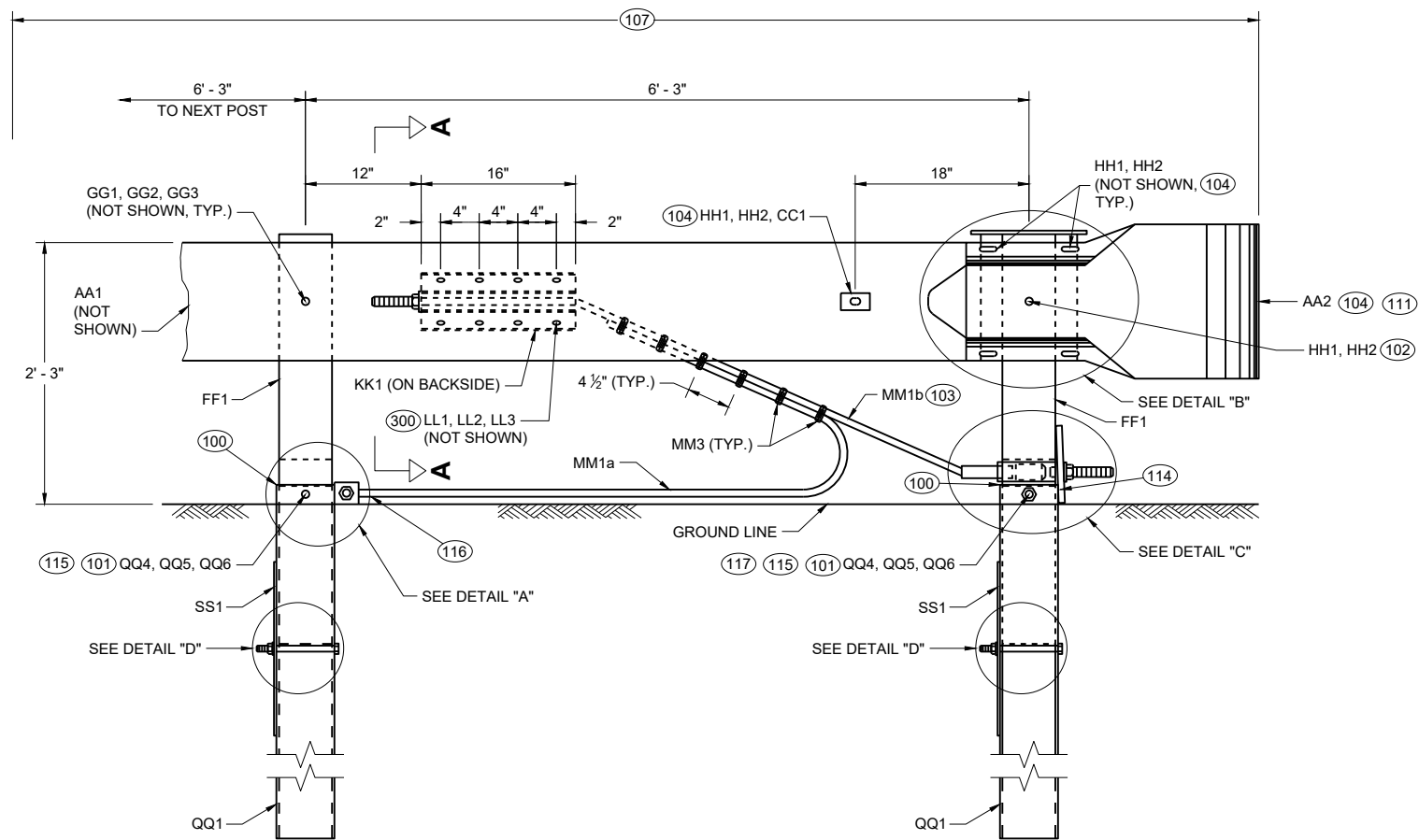
**GENERAL NOTES**

- SEE PLANS FOR OTHER BARRIER SYSTEM AND LOCATION SPECIFICS.
- SEE SDD 14B42 FOR MORE INFORMATION ON BEAM GUARD INSTALLATION, PARTS, MATERIALS, AND INSTALLATION INFORMATION.
- GALVANIZE PARTS AFTER FABRICATION.
- WELDING TO FOLLOW CURRENT REQUIREMENTS OF THE AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE ANSI / AWS D1.1.
- UNLESS NOTED OTHERWISE, ALL PLATES ARE FLAT AND FREE OF WARP.
- UNLESS NOTED OTHERWISE, ALL EDGES ARE SMOOTH, STRAIGHT AND VERTICAL.
- ALL CUTS AND HOLES, EXCEPT IN BEAM GUARD RAIL ARE TO BE MACHINED OR MACHINE FLAME CUT.
- UNLESS NOTED OTHERWISE, CUT OR PROVIDE BOLTS THAT ARE 1/4" TO 1/2" BEYOND THE NUT.
- DRAWINGS ARE NOT TO SCALE.

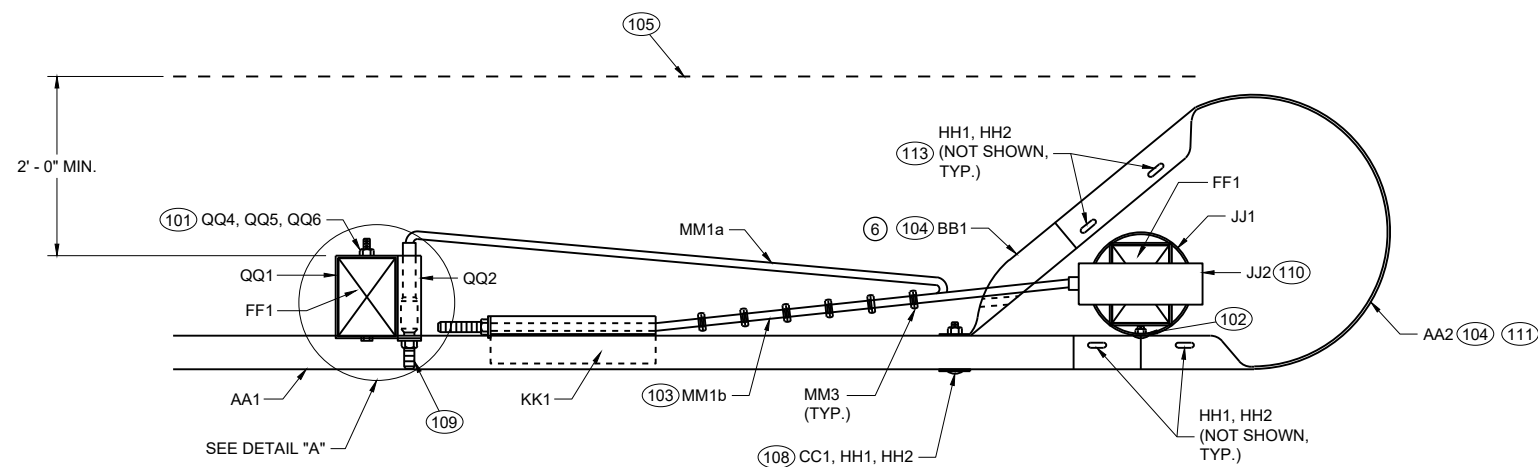
- ① RADIUS MEASURE FROM INSIDE OF RAIL. LENGTH OF BEAM GUARD SHORT RADIUS GUARD MEASURED ALONG TRAFFIC SIDE OF RAIL. RADIUS BETWEEN 8 FEET TO 150 FEET. SEE PLAN FOR REQUIRED RADIUS. BEAM GUARD RAIL IN RADIUS IS SHOP BENT. ODD RAIL LENGTH OR FIELD CUTS MAY BE REQUIRED.
- ② CONTROLLED RELEASE TERMINAL (CRT) POSTS ARE USED IN THE RADIUS. CONTROLLED RELEASE TERMINAL (CRT) POSTS ARE SPACED 6' - 3". SEE PLAN FOR NUMBER OF CONTROLLED RELEASE (CRT) POSTS.
- ③ WITHIN RADIUS BEAM GUARD RAILS ARE NOT BOLTED TO POSTS. BEAM GUARD RAIL IS RESTED ON TOP OF LAG SCREW.
- ④ MINIMUM LENGTH OF BEAM GUARD ALONG SIDE ROAD OR DRIVEWAY TO INSTALL SHORT RADIUS TERMINAL. BEAM GUARD IS PAID WITH BEAM GUARD ITEM.
- ⑤ ODD LENGTH OF BEAM GUARD REQUIRED TO INSTALL SHORT RADIUS TERMINAL.
- ⑥ MINIMUM AMOUNT OF BEAM GUARD TO BE INSTALLED PRIOR TO TRANSITION TO RIGID BARRIER. ADDITIONAL BEAM GUARD, OR EAT. BEAM GUARD PAID FOR WITH BEAM GUARD ITEM. SEE PLANS FOR MORE DETAIL.
- ⑦ BEAM GUARD, EAT, OR TRANSITION TO RIGID BARRIER. SEE PLAN.
- ⑧ TOP OF BEAM GUARD BY THE RADIUS IS 27". HEIGHT OF BEAM GUARD IS 31" BY TRANSITION TO RIGID BARRIER, ADDITIONAL BEAM GUARD OR EAT.
- ⑨ ADDITIONAL BEAM GUARD, EAT OR TRANSITION TO RIGID BARRIER. BEAM GUARD SHOWN. SEE PLAN FOR DETAILS.
- ⑩ SHORT RADIUS TERMINAL (SEE OTHER DETAILS).
- ⑪ HEIGHT VARIES. SEE NOTE ⑧ AND ⑪.
- ⑫ BEAM GUARD RAIL SPLICE LOCATION. SPLICE LOCATION REQUIRES PART F1 AND F2. SEE SDD 14B42 FOR DETAILS.
- ⑬ SEE TABLE FOR VALUES.
- ⑭ MAXIMUM HEIGHT FOR CENTER OF HOLE IS 3/4" ABOVE FINISHED GROUND ±1".
- ⑮ DRILL POST 15/64" DIA. PILOT HOLE. DO NOT HAMMER LAG SCREW INTO POST.
- ⑯ SMALL SIGNS ON BREAKAWAY HARDWARE ARE ACCEPTABLE.
- ⑰ TOP OF RAIL HEIGHT IS 27" WHEN USING A SHORT RADIUS TERMINAL (CRT).
- ⑱ INITIAL 1 NAIL AT EACH CORNER OF THE BLOCK TO CONNECT BLOCKS.

**SHORT RADIUS BEAM  
GUARD (MGS) SHORT  
RADIUS TERMINAL (MGS)**

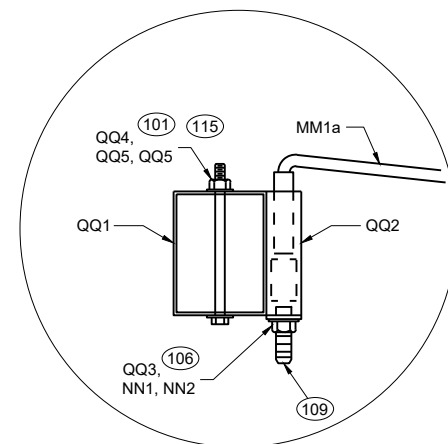
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DEPARTMENT OF TRANSPORTATION



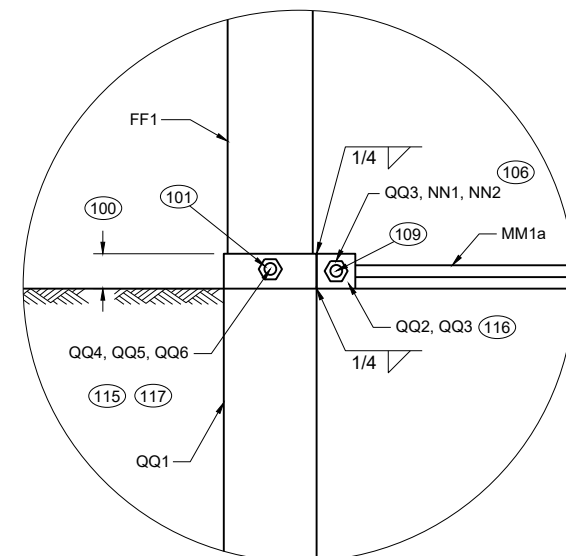
**PROFILE VIEW  
SHORT RADIUS TERMINAL**



**TOP VIEW  
SHORT RADIUS TERMINAL**



**TOP VIEW  
DETAIL "A"  
(WOOD BREAKAWAY AND BEAM  
GUARD RAIL POSTS NOT SHOWN)**



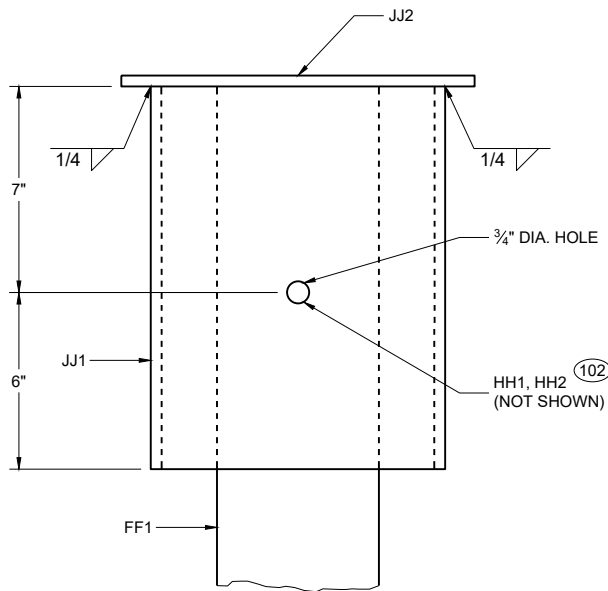
**PROFILE VIEW  
DETAIL "A"**

### GENERAL NOTES

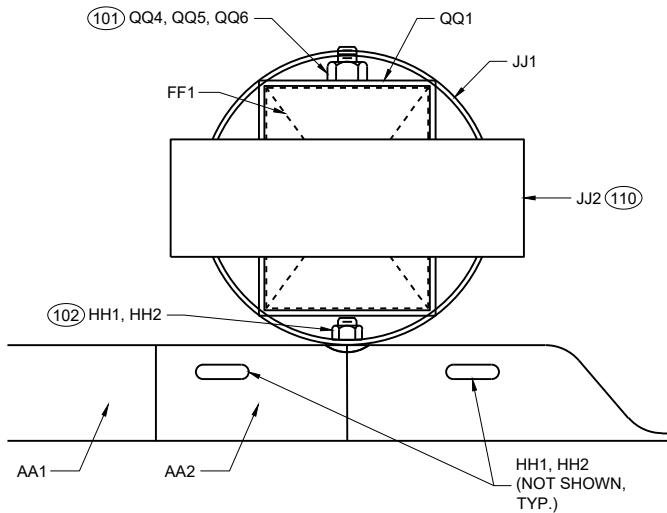
- (100) TOP OF FOUNDATION TUBE 2 INCHES MAXIMUM ABOVE FINISHED GROUND.
- (101) WASHERS REQUIRED BETWEEN BOLT HEAD AND FOUNDATION TUBE AND BETWEEN NUT AND FOUNDATION TUBE.
- (102) SPLICE BOLT AND NUT CONNECTS BEAM GUARD RAIL, W-BEAM SECTION BUFFER, AND STEEL PIPE ASSEMBLY. NO WASHER REQUIRED. SEE DETAIL "B".
- (103) CABLE IS TAUT.
- (104) ADJUST AA2 AND BB1 TO FIT.
- (105) BREAK POINT OF SHOULDER.
- (106) TACK WELD CABLE CONNECTOR TUBE PLATE TO CABLE CONNECTION TUBE. SEE DETAIL "A" PROFILE VIEW.
- (107) PAY LIMIT FOR BEAM GUARD.
- (108) SQUARE WASHER BETWEEN HEAD OF BOLT AND TRAFFIC FACE OF BEAM GUARD. ROUND WASHER REQUIRED BETWEEN NUT AND BB1.
- (109) CUT OR PROVIDE THREADED STUD THAT IS FLUSH WITH FACE OF BEAM GUARD RAIL KK1 (PLUS OR MINUS 1/2" TOLERANCE). DEBURR AFTER CUTTING.
- (110) SEE STEEL PIPE ASSEMBLY DETAILS.
- (111) ATTACH UU2 WITH UU3. SHOP APPLY UU1 TO UU2.
- (112) FOUR (4) HH1 AND HH2 REQUIRED TO ATTACH AA1 TO AA2.
- (113) FOUR (4) HH1 AND HH2 REQUIRED TO ATTACH AA2 TO BB1.
- (114) NO MATERIAL IS TO BE PLACED AGAINST THE VERTICAL FACES OF BEARING PLATE.
- (115) PREVENT OR REMOVE MATERIALS THAT BLOCK ACCESS TO BOLTS FOR POST AND SOIL TUBE.
- (116) PREVENT OR REMOVE MATERIALS THAT BLOCK ACCESS TO BOLT. PLACE CABLE ON TOP OF MATERIAL.
- (117) ONE WASHER BETWEEN BOLT HEAD AND FOUNDATION TUBE AND BETWEEN NUT AND FOUNDATION TUBE.

**SHORT RADIUS BEAM  
GUARD (MGS) SHORT  
RADIUS TERMINAL (MGS)**

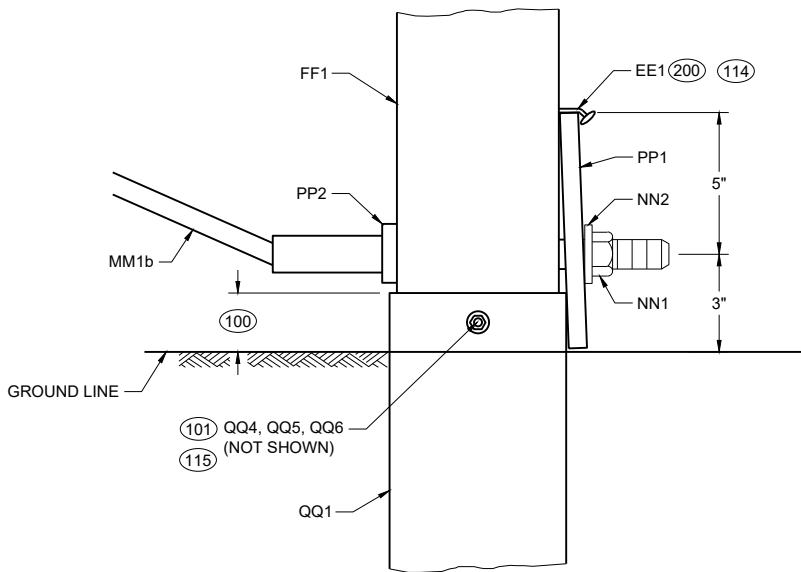
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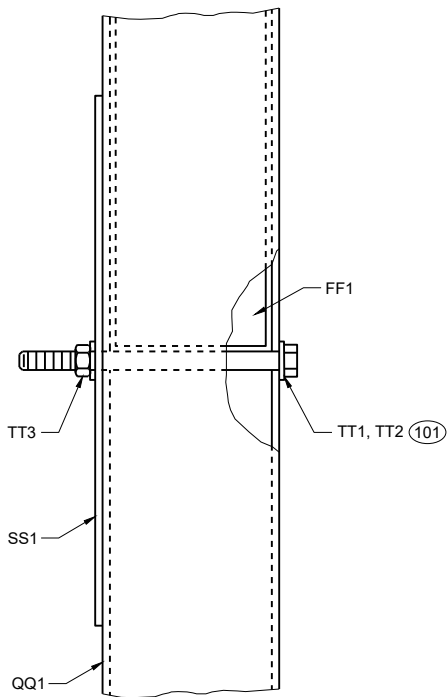
**PROFILE VIEW**  
**DETAIL "B"**  
**STEEL PIPE ASSEMBLY**  
**(BEAM GUARD AND W BEAM**  
**END SECTION NOT SHOWN)**



**PLAN VIEW**  
**DETAIL "B"**  
**STEEL PIPE ASSEMBLY**



**PROFILE VIEW**  
**DETAIL "C"**



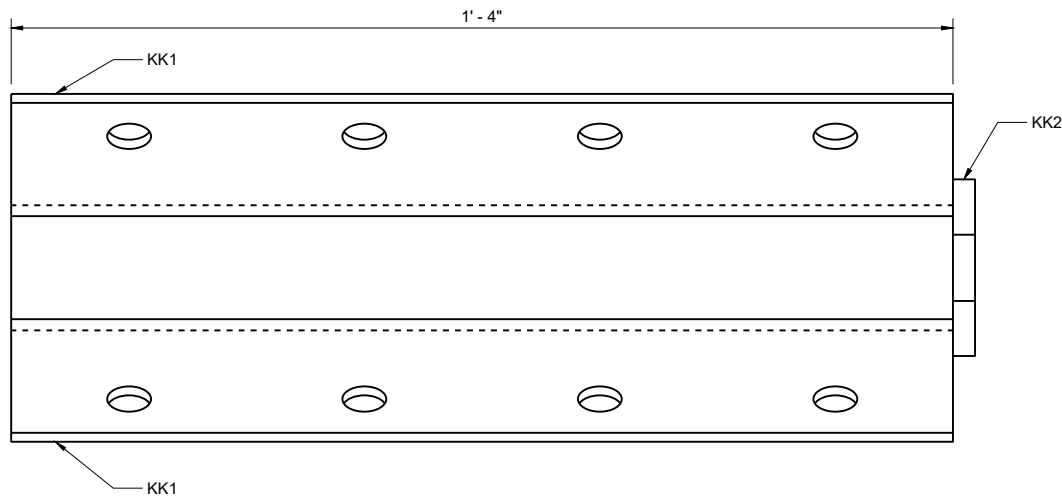
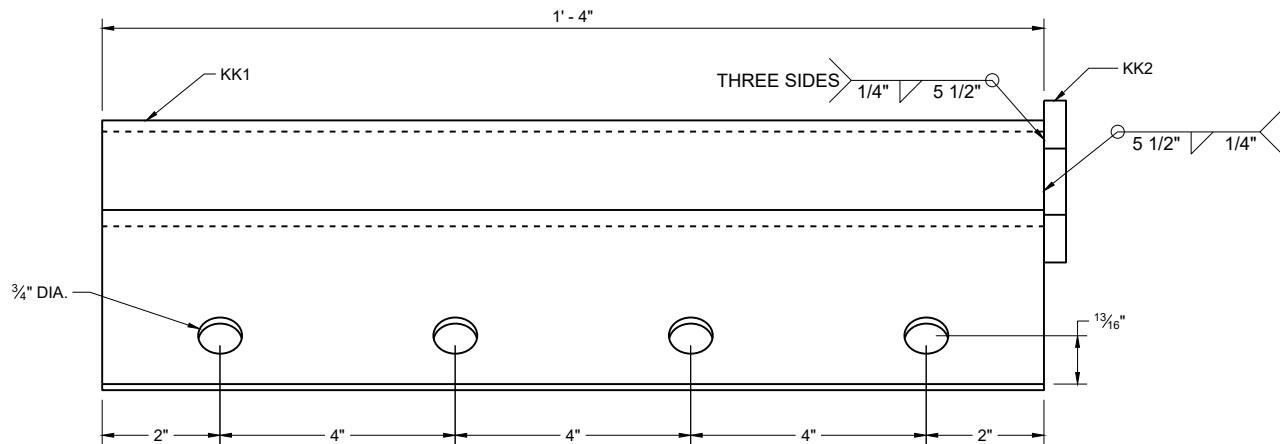
**PROFILE VIEW**  
**DETAIL "D"**

**GENERAL NOTES**

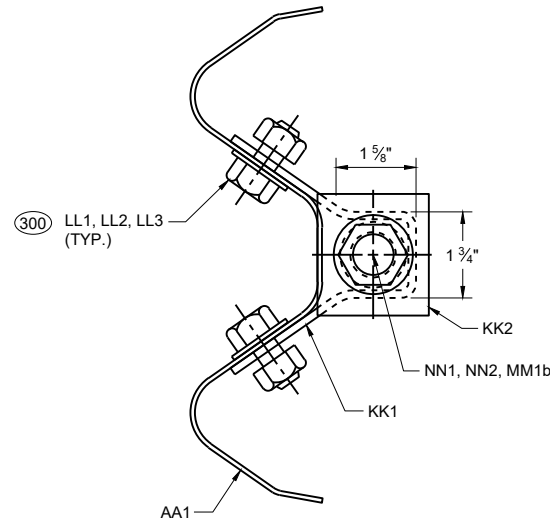
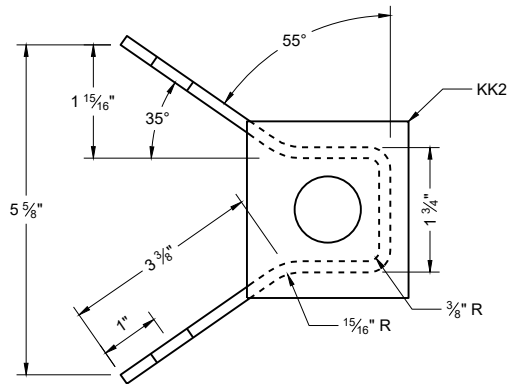
(200) TWO (2) NAILS SPACED 4 INCHES CENTER TO CENTER.

**SHORT RADIUS BEAM**  
**GUARD (MGS) SHORT**  
**RADIUS TERMINAL (MGS)**

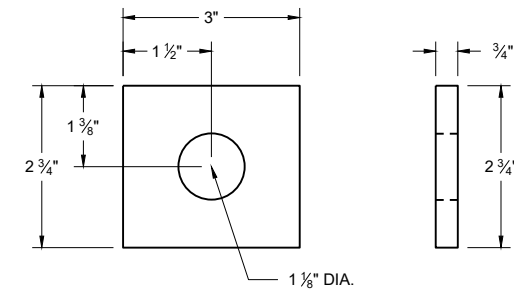
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ANCHOR BRACKET (KK1, KK2)



SECTION A - A



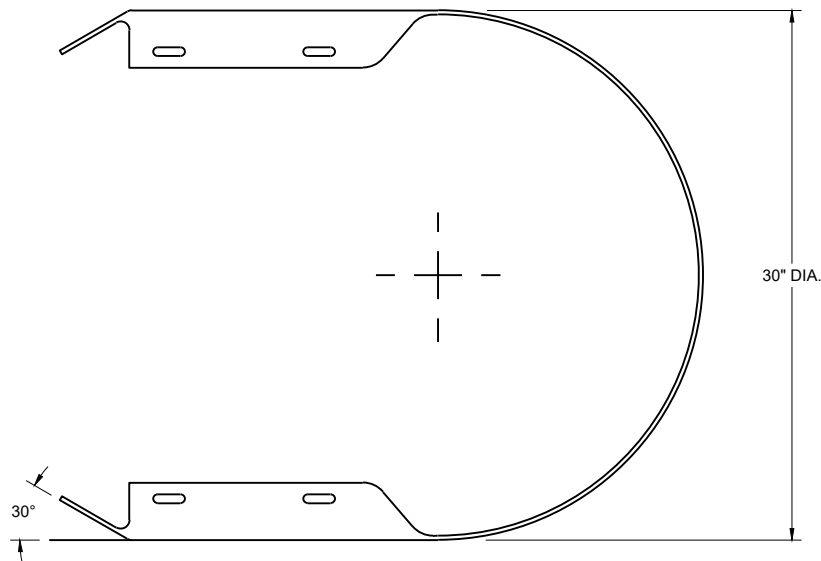
ANCHOR BRACKET BEARING PLATE (KK2)

GENERAL NOTES

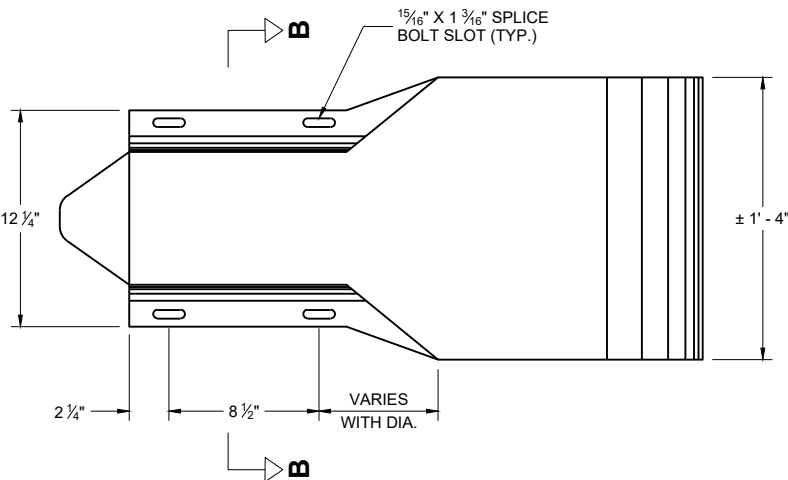
WASHERS REQUIRED BETWEEN BOLT HEAD AND BEAM GUARD RAIL AND BETWEEN NUT AND ANCHOR BRACKET. EIGHT (8) LL1 AND LL3 REQUIRED. SIXTEEN (16) LL2 REQUIRED.

SHORT RADIUS BEAM  
GUARD (MGS) SHORT  
RADIUS TERMINAL (MGS)

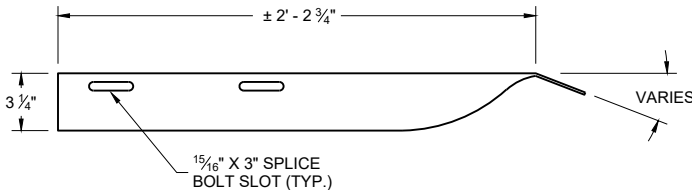
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



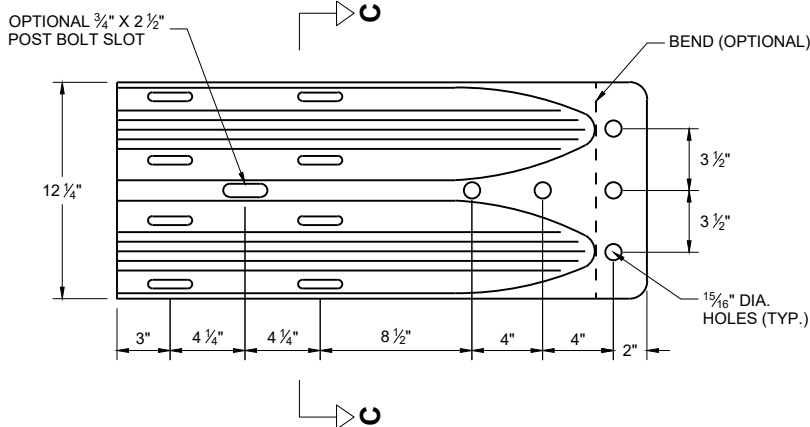
TOP VIEW



PROFILE VIEW  
W BEAM  
END SECTION BUFFER (AA2)



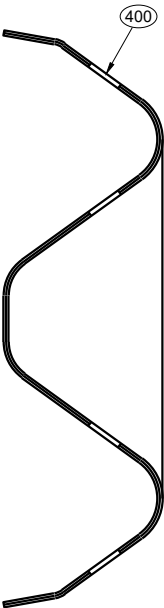
TOP VIEW



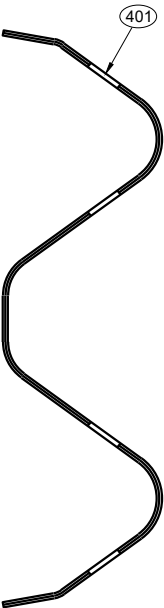
PROFILE VIEW  
W BEAM  
TERMINAL CONNECTOR (BB1)

GENERAL NOTES

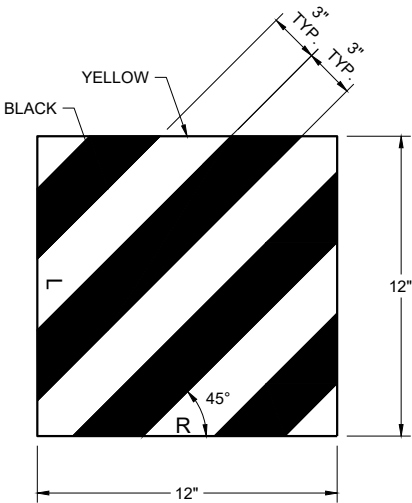
- (400) CROSS SECTION OF PART IS TO FIT OVER AA1 .
- (401) CROSS SECTION OF PART IS TO FIT OVER OR UNDER AA1 .



SECTION B -B



SECTION C -C

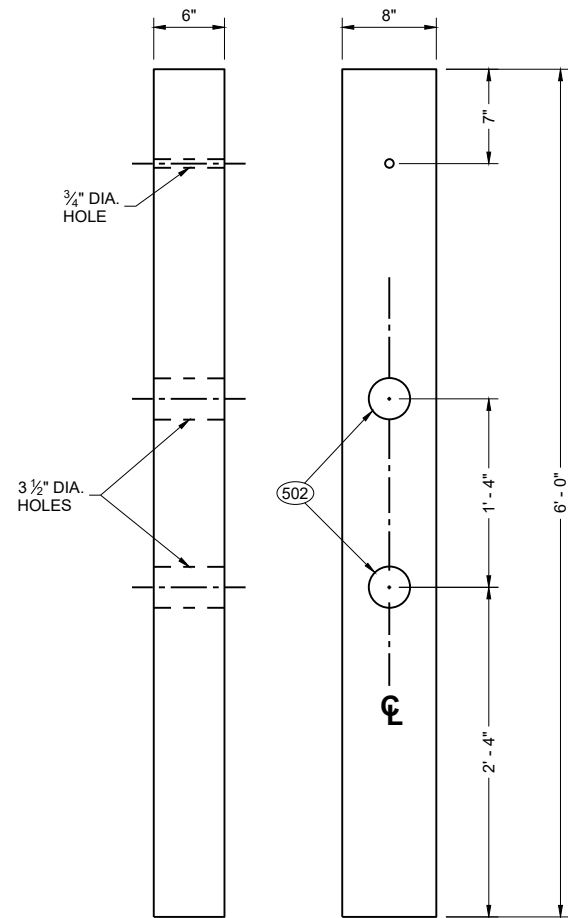


REFLECTIVE SHEETING (UU1, UU2)

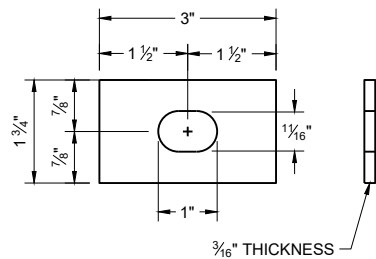
SHORT RADIUS BEAM  
GUARD (MGS) SHORT  
RADIUS TERMINAL (MGS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

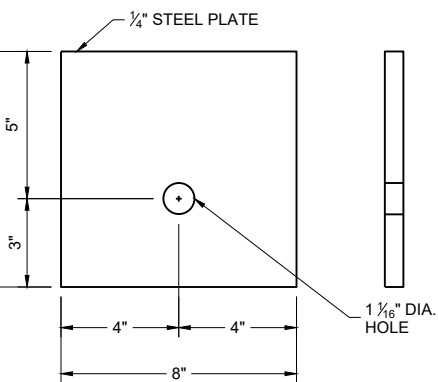




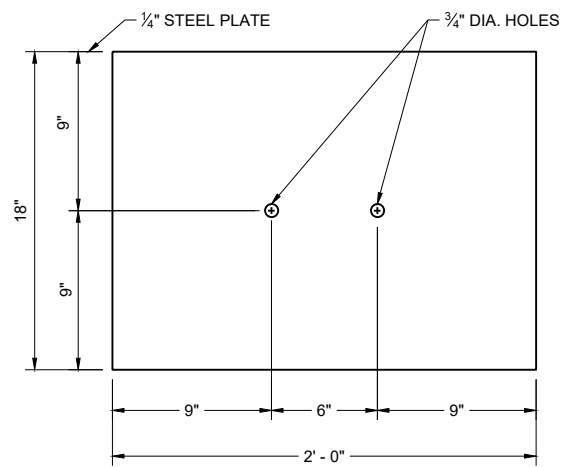
**FRONT VIEW      SIDE VIEW**  
**CONTROLLED RELEASE POST (CRT) (DD2)**



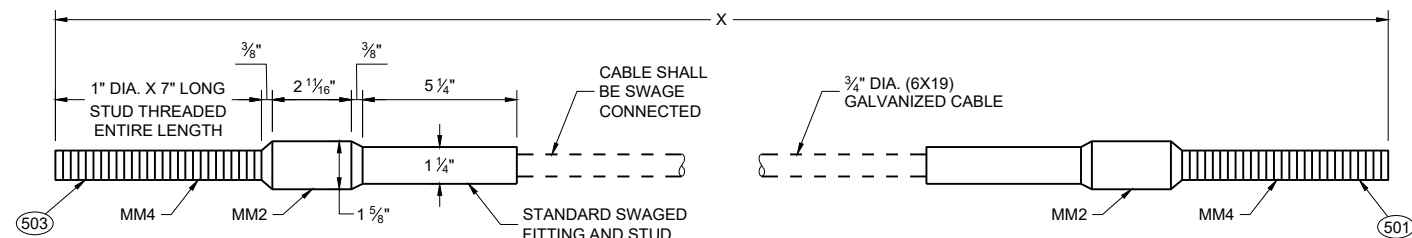
**RECTANGULAR PLATE WASHER (CC1)**



**BEARING PLATE (PP1)**



**SOIL PLATE (SS1)**

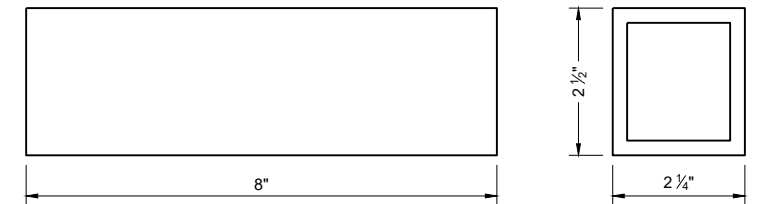


**CABLE ASSEMBLY (MM1a, MM1b)**

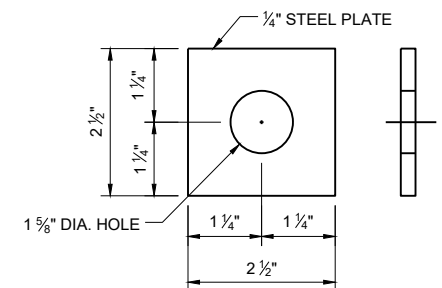
| "X" LENGTH |         |
|------------|---------|
| MM1b       | 9' - 0" |
| MM1b       | 6' - 8" |

**GENERAL NOTES**

- (500) SEE DETAIL "D" FOR LOCATION AND ATTACHMENT OF SS1.
- (501) FOR MM1a THREADED STUD ONLY REQUIRED ON ONE END. SWAGED FITTING REQUIRED.
- (502) LOCATE HOLES ON THE CENTERLINE OF THE SIDE OF THE POST.
- (503) MM1a MAY HAVE ONE THREADED STUD 4 INCHES LONG. SEE NOTE (109)



**FOUNDATION TUBE - ANCHOR CABLE TUBE (QQ2)**



**ANCHOR CABLE TUBE END PLATE (QQ3)**

**SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

BILL OF MATERIALS - SHORT RADIUS BEAM GUARD (MGS)

| PART | DESCRIPTION                 | MATERIALS SPECIFICATIONS                                                                                                                                  | NOTES                                            |
|------|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| A1   | BEAM GUARD RAIL             | AASHTO M180, CLASS A, TYPE 2                                                                                                                              |                                                  |
|      |                             | APPROVED PRODUCER                                                                                                                                         |                                                  |
| A2   | BEAM GUARD RAIL - SHOP BENT | INDICATE ON BACK OF RAIL THE RADIUS THAT RAIL WAS BENT TO. SHOP BEND RADIUS IS TO THE NEAREST FOOT. FOLLOW AASHTO M180 ON HOW TO MARK RADIUS INFORMATION. |                                                  |
|      |                             | AASHTO M180, CLASS A, TYPE 2                                                                                                                              |                                                  |
|      |                             | APPROVED PRODUCER                                                                                                                                         |                                                  |
| B1   | BLOCK - WOOD                | WISDOT SPEC. 614                                                                                                                                          | SEE SDD 14B42                                    |
| C1   | NAIL                        | ASTM A153 HOT DIP CLASS D                                                                                                                                 |                                                  |
|      |                             | ASTM F1667 TYPE 1 STYLE 12 (16 DOUBLE HEAD)                                                                                                               |                                                  |
| D1   | POST-STRONG POST-WOOD       | WISDOT SPEC. 614                                                                                                                                          | SEE SDD 14B42                                    |
| D2   | POST-CRT-WOOD               | WISDOT SPEC. 614                                                                                                                                          |                                                  |
| E1   | POST BOLT                   | ASTM A307 GRADE A OR SAE J429 GRADE 2                                                                                                                     | 5/8" DIA.<br><br>SEE SDD 14B42 FOR BOLT GEOMETRY |
|      |                             | AASHTO M180                                                                                                                                               |                                                  |
|      |                             | GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1  |                                                  |
|      |                             | UNC                                                                                                                                                       |                                                  |
| E2   | POST BOLT - WASHER          | ASTM F436 TYPE 1 (HARDEN TYPICALLY USED WITH STEEL) OR ASTM F844 (UNHARDENED TYPICALLY WITH WOOD)                                                         | 5/8" DIA.                                        |
|      |                             | GALV. AASHTO M111 / ASTM A 123 OR GALV. HOT DIP. TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329                                                  |                                                  |
| E3   | POST BOLT - NUT             | AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD                                                                                                                | 5/8" DIA.<br><br>SEE SDD 14B42 FOR BOLT GEOMETRY |
|      |                             | GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1  |                                                  |
|      |                             | UNC                                                                                                                                                       |                                                  |
|      |                             | OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563                                                                                        |                                                  |
|      |                             | ASTM A563 GRADE A HEAVY HEX HEAD                                                                                                                          |                                                  |
| F1   | SPLICE BOLT                 | GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1  | 5/8" DIA.<br><br>SEE SDD 14B42 FOR BOLT GEOMETRY |
|      |                             | ASTM A307 GRADE A OR SAE J429 GRADE 2                                                                                                                     |                                                  |
|      |                             | UNC                                                                                                                                                       |                                                  |
|      |                             | AASHTO M180                                                                                                                                               |                                                  |

| PART | DESCRIPTION                                   | MATERIALS SPECIFICATIONS                                                                                                                           | NOTES                                            |
|------|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|
| F2   | SPLICE BOLT - NUT                             | ASTM A563 GRADE A                                                                                                                                  | 5/8" DIA.<br><br>SEE SDD 14B42 FOR BOLT GEOMETRY |
|      |                                               | AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD                                                                                                         |                                                  |
|      |                                               | GALV. HOT DIP TO AASHTO M232 CLASS C/ASTM A153 CLASS C/ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1/ASTM B695 CLASS 50, TYPE 1 |                                                  |
|      |                                               | OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563                                                                                 |                                                  |
|      |                                               | UNC                                                                                                                                                |                                                  |
|      |                                               |                                                                                                                                                    |                                                  |
| G1   | LAG SCREW                                     | ASTM A308 GRADE A ASTM A153 CLASS D                                                                                                                | 1/2" DIA. 6" LONG                                |
| H1   | DELINEATOR - BEAM GUARD                       |                                                                                                                                                    | SEE SDD 14B42 FOR MORE INFORMATION               |
| H2   | DELINEATION - SHEETING                        | YELLOW OR WHITE                                                                                                                                    |                                                  |
|      |                                               | WISDOT SPEC 637 TYPE SH                                                                                                                            |                                                  |
|      |                                               | APPROVED PRODUCT LIST                                                                                                                              |                                                  |
| J1   | FOUNDATION BACKFILL                           | STANDARD SPEC. 614                                                                                                                                 |                                                  |
| AA1  | BEAM GUARD RAIL - PUNCHED                     | AASHTO M180, CLASS A, TYPE 2                                                                                                                       |                                                  |
|      |                                               | APPROVED PRODUCER                                                                                                                                  |                                                  |
| AA2  | BEAM GUARD RAIL - END SECTION BUFFER          | AASHTO M180, CLASS A, TYPE 2                                                                                                                       |                                                  |
|      |                                               | APPROVED PRODUCER                                                                                                                                  |                                                  |
| BB1  | BEAM GUARD RAIL - TERMINAL CONNECTOR MODIFIED | AASHTO M180, CLASS A, TYPE 2                                                                                                                       |                                                  |
|      |                                               | APPROVED PRODUCER                                                                                                                                  |                                                  |
| CC1  | SHORT RADIUS - SQUARE WASHER                  | AASHTO M180                                                                                                                                        |                                                  |
|      |                                               | GALV. AASHTO M111 / ASTM A123                                                                                                                      |                                                  |
| EE1  | NAIL                                          | ASTM A153 HOT DIP CLASS D                                                                                                                          |                                                  |
|      |                                               | ASTM F1667 TYPE 1 STYLE 12 (16 DOUBLE HEADED)                                                                                                      |                                                  |
| FF1  | POST - BCT - WOOD                             | S4S FINISH ON 4 SIDES                                                                                                                              |                                                  |
|      |                                               | WISDOT SPEC. 614                                                                                                                                   |                                                  |
| GG1  | POST BOLT                                     | ASTM A307 GRADE A OR SAE J429 GRADE 2                                                                                                              | 3/8" DIA.<br><br>SEE SDD 14B42 FOR BOLT GEOMETRY |
|      |                                               | AASHTO M180                                                                                                                                        |                                                  |
|      |                                               | GALV. HOT DIP TO AASHTO M232 CLASS C/ASTM A153 CLASS C/ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1/ASTM B695 CLASS 50, TYPE 1 |                                                  |
|      |                                               | UNC                                                                                                                                                |                                                  |
| GG2  | POST BOLT - WASHER                            | ASTM F436 TYPE 1 (HARDEN TYPICALLY USED WITH STEEL) OR ASTM F844 (UNHARDENED TYPICALLY WITH WOOD)                                                  | 3/8" DIA.                                        |
|      |                                               | GALV. AASHTO M111 / ASTM A 123 OR GALV. HOT DIP. TO AASHTO M232 CLASS C/ASTM A153 CLASS C / ASTM F2329                                             |                                                  |

SHORT RADIUS BEAM  
GUARD (MGS) SHORT  
RADIUS TERMINAL (MGS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



BILL OF MATERIALS - SHORT RADIUS BEAM GUARD (MGS)

| PART | DESCRIPTION                    | MATERIALS SPECIFICATIONS                                                                                                                                             | NOTES                                                       |
|------|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| GG3  | POST BOLT - NUT                | ASTM A563 GRADE A                                                                                                                                                    | $\frac{3}{8}$ " DIA.<br>SEE 14B42 FOR GEOMETRY              |
|      |                                | AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD                                                                                                                           |                                                             |
|      |                                | GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1             |                                                             |
|      |                                | UNC                                                                                                                                                                  |                                                             |
|      |                                | OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563                                                                                                   |                                                             |
|      |                                | ASTM A563 GRADE A HEAVY HEX HEAD                                                                                                                                     |                                                             |
| HH1  | SPLICE BOLT                    | GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1             | $\frac{3}{8}$ " DIA.<br><br>SEE SDD 14B42 FOR BOLT GEOMETRY |
|      |                                | ASTM A307 GRADE A OR SAE J429 GRADE 2                                                                                                                                |                                                             |
|      |                                | UNC                                                                                                                                                                  |                                                             |
|      |                                | AASHTO M180 HEAD GEOMETRY                                                                                                                                            |                                                             |
| HH2  | SPLICE BOLT - NUT              | ASTM A563 GRADE A                                                                                                                                                    | $\frac{3}{8}$ " DIA.<br><br>SEE SDD 14B42 FOR BOLT GEOMETRY |
|      |                                | AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD                                                                                                                           |                                                             |
|      |                                | GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1             |                                                             |
|      |                                | OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563                                                                                                   |                                                             |
|      |                                | UNC                                                                                                                                                                  |                                                             |
| JJ1  | PIPE - STEEL                   | ASTM A53 GALVANIZED GRADE B SCHEDULE 40                                                                                                                              | 10" O.D.                                                    |
| JJ2  | TOP PLATE                      | ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI | DIMENSIONS<br>$\frac{3}{8}$ " X 4" X 1' - 0"                |
|      |                                | GALV. AASHTO M111 / ASTM A123                                                                                                                                        |                                                             |
| KK1  | ANCHOR BRACKET                 | ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI |                                                             |
|      |                                | GALV. AASHTO M111 / ASTM A123                                                                                                                                        |                                                             |
| KK2  | ANCHOR BRACKET - BEARING PLATE | ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI |                                                             |
|      |                                | GALV. AASHTO M111 / ASTM A123                                                                                                                                        |                                                             |
| LL1  | ANCHOR BRACKET - BOLT          | ASTM A307 GRADE B HEAVY HEX HEAD OR SAE J429 GRADE 2 HEAVY HEX HEAD                                                                                                  | $\frac{5}{8}$ " DIA.                                        |
|      |                                | GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1             |                                                             |
|      |                                | UNC                                                                                                                                                                  |                                                             |

| PART | DESCRIPTION                         | MATERIALS SPECIFICATIONS                                                                                                                                                | NOTES                |
|------|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| LL2  | ANCHOR BRACKET - WASHER             | ASTM F436 TYPE 1 (HARDEN WASHER ONLY)                                                                                                                                   | $\frac{5}{8}$ " DIA. |
|      |                                     | GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329                                                                  |                      |
| LL3  | ANCHOR BRACKET - NUT                | ASTM A563 GRADE A                                                                                                                                                       | $\frac{5}{8}$ " DIA. |
|      |                                     | GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1                |                      |
|      |                                     | OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563                                                                                                      |                      |
|      |                                     | UNC                                                                                                                                                                     |                      |
| MM1a | ANCHOR CABLE                        | AASHTO M30 / ASTM A741 INDEPENDENT WIRE CORE (IWRC) OR WIRE STRAND CORE (WCS), IMPROVED PLOW STEEL (IPS), 6X19, TYPE II OR IIc CLASS C ZINC COATED                      |                      |
| MM1b | ANCHOR CABLE                        | AASHTO M30 / ASTM A741 INDEPENDENT WIRE CORE (IWRC) OR WIRE STRAND CORE (WCS), IMPROVED PLOW STEEL (IPS), 6X19, TYPE II OR IIc CLASS C ZINC COATED                      |                      |
| MM2  | ANCHOR CABLE - SWAGE FITTING        | ASTM A576 GRADE 1035                                                                                                                                                    |                      |
|      |                                     | SWAGE FITTINGS ARE TO BE FACTORY SWEDGED. WITH A BREAKING STRENGTH 40,000 LBS.                                                                                          |                      |
|      |                                     | GALV. AASHTO M111 / ASTM A123                                                                                                                                           |                      |
|      |                                     | ASME B30.26 FORGED, CAST, OR DIE STAMPED WITH THE FOLLOWING INTO CONNECTION: NAME OF MANUFACTURER OR TRADEMARK OF CONNECTION'S MANUFACTURER, SIZE OR RATED LOAD, GRADE. |                      |
| MM3  | WIRE ROPE CABLE CLAMPS              | FF-C-450D TYPE 1 CLASS 1                                                                                                                                                | $\frac{3}{4}$ "      |
|      |                                     | ASTM A153 HOT DIP CLASS D                                                                                                                                               |                      |
| MM4  | ANCHOR CABLE - SWAGE FITTING - STUD | ASTM F3125 GRADE A325 TYPE 1 OR SAE GRADE 5 OR ASTM A449 TYPE 1 HEAVY HEX HEAD                                                                                          |                      |
|      |                                     | GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1                |                      |
|      |                                     | UNC                                                                                                                                                                     |                      |
| NN1  | ANCHOR CABLE - NUT                  | ASTM A563 GRADE A                                                                                                                                                       | 1" DIA.              |
|      |                                     | AASHTO M180 DOUBLE RECESSED HEAVY HEX HEAD                                                                                                                              |                      |
|      |                                     | GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1                |                      |
|      |                                     | OVER TAPPED NUTS OVER-SIZE AS SPECIFIED IN AASHTO 291 / ASTM A 563                                                                                                      |                      |
| NN2  | ANCHOR CABLE - NUT - WASHER         | UNC                                                                                                                                                                     | 1" DIA.              |
|      |                                     | ASTM F436 TYPE 1 (HARDEN WASHER ONLY)                                                                                                                                   |                      |
|      |                                     | GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329                                                                  |                      |

SHORT RADIUS BEAM  
GUARD (MGS) SHORT  
RADIUS TERMINAL (MGS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

BILL OF MATERIALS - SHORT RADIUS BEAM GUARD (MGS)

| PART | DESCRIPTION                                                | MATERIALS SPECIFICATIONS                                                                                                                                             | NOTES                               |
|------|------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| PP1  | BEARING PLATE AT POST                                      | ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI |                                     |
|      |                                                            | GALV. AASHTO M111 / ASTM A123                                                                                                                                        |                                     |
| PP2  | PIPE - STEEL                                               | ASTM A53 GALVANIZED GRADE B SCHEDULE 40                                                                                                                              | 2" DIA. x 6" LONG                   |
| QQ1  | FOUNDATION TUBE                                            | ASTM A500 GRADE B                                                                                                                                                    | 8" X 6" X 3⁄16"                     |
|      |                                                            | GALV. AASHTO M111 / ASTM A123                                                                                                                                        |                                     |
| QQ2  | SHORT RADIUS - FOUNDATION TUBE - ANCHOR CABLE - TUBE       | ASTM A500 GRADE B                                                                                                                                                    | DIMENSIONS<br>2 ½" X 2 ¼" X ¼" X 8" |
|      |                                                            | GALV. AASHTO M111 / ASTM A123                                                                                                                                        |                                     |
| QQ3  | SHORT RADIUS - SOIL TUBE - ANCHOR CABLE - TUBE - END PLATE | ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI | DIMENSIONS<br>2 ½" X 2 ½" X ¼"      |
|      |                                                            | GALV. AASHTO M111 / ASTM A123                                                                                                                                        |                                     |
| QQ4  | GROUND STRUT AND YOKE - BOLT                               | GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1             | 5⁄8 DIA.                            |
|      |                                                            | ASTM A307 GRADE B HEAVY HEX HEAD OR SAE J429 GRADE 2 HEAVY HEX HEAD                                                                                                  |                                     |
|      |                                                            | UNC                                                                                                                                                                  |                                     |
| QQ5  | GROUND PLATE AND YOKE - WASHER                             | ASTM F436 TYPE 1 (HARDEN WASHER ONLY)                                                                                                                                | 5⁄8 DIA.                            |
|      |                                                            | GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329                                                               |                                     |
| QQ6  | GROUND STRUT AND YOKE - NUT                                | HEAVY HEX                                                                                                                                                            | 5⁄8 DIA.                            |
|      |                                                            | UNC                                                                                                                                                                  |                                     |
|      |                                                            | ASTM A563 GRADE A                                                                                                                                                    |                                     |
|      |                                                            | OVER TAPPED NUTS AS SPECIFIED IN AASHTO 291 / ASTM A 563                                                                                                             |                                     |
|      |                                                            | GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1             |                                     |

| PART | DESCRIPTION                    | MATERIALS SPECIFICATIONS                                                                                                                                             | NOTES                                                     |
|------|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| SS1  | SOIL PLATE                     | ASTM A36 MIN. STRENGTH 36 KSI, OR ASTM A529 MAX. STRENGTH 50 KSI, OR ASTM A572 MAX STRENGTH 50 KSI OR ASTM A709 MAX STRENGTH 50 KSI OR ASTM A992 MAX STRENGTH 50 KSI |                                                           |
|      |                                | GALV. AASHTO M111 / A123                                                                                                                                             |                                                           |
| TT1  | SOIL PLATE - BOLT              | ASTM A307 GRADE B HEAVY HEX HEAD OR SAE J429 GRADE 2 HEAVY HEX HEAD                                                                                                  | 5⁄8 DIA.                                                  |
|      |                                | GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1             |                                                           |
|      |                                | UNC                                                                                                                                                                  |                                                           |
| TT2  | SOIL PLATE - WASHER            | ASTM F436 TYPE 1 (HARDEN WASHER ONLY)                                                                                                                                | 5⁄8 DIA.                                                  |
|      |                                | GALV. AASHTO M111 / ASTM A123 OR GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329                                                               |                                                           |
| TT3  | SOIL PLATE - NUT               | GALV. HOT DIP TO AASHTO M232 CLASS C / ASTM A153 CLASS C / ASTM F2329 OR GALV. MECHANICALLY TO AASHTO M298 CLASS 50, TYPE 1 / ASTM B695 CLASS 50, TYPE 1             | 5⁄8 DIA.                                                  |
| UU1  | OBJECT MARKER - SHEETING       | MUTCD / WISDOT OBJECT MARKER TYPE 3                                                                                                                                  | PATTERN AND COLOR FOR SHEETING. SHEETING TYPE FOR MARKER. |
|      |                                | WISDOT SPEC 637 TYPE F                                                                                                                                               |                                                           |
|      |                                | APPROVED PRODUCT LIST                                                                                                                                                |                                                           |
| UU2  | OBJECT MARKER - ALUMINUM PLATE | WISDOT SPEC 637 ALUMINUM PLATE                                                                                                                                       | MATERIAL AND THICKNESS OF MATERIALS                       |
| UU3  | OBJECT MARKER - SCREWS         | STAINLESS SELF-TAPPING SCREWS                                                                                                                                        |                                                           |
| VV1  | FOUNDATION BACKFILL            | WISDOT SPEC 614                                                                                                                                                      |                                                           |

SHORT RADIUS BEAM GUARD (MGS) SHORT RADIUS TERMINAL (MGS)

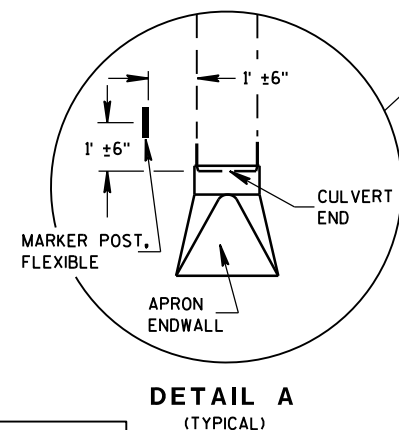
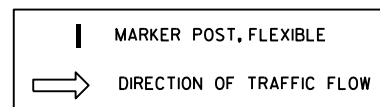
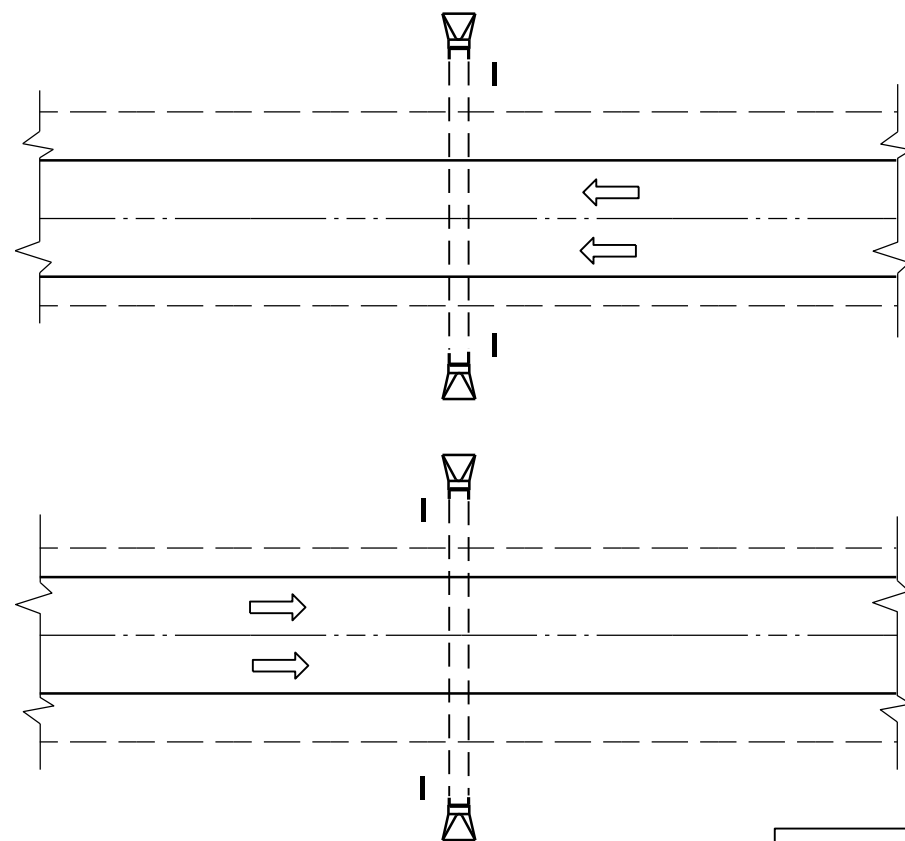
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
December 2024  
DATE

/S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT ENGINEER

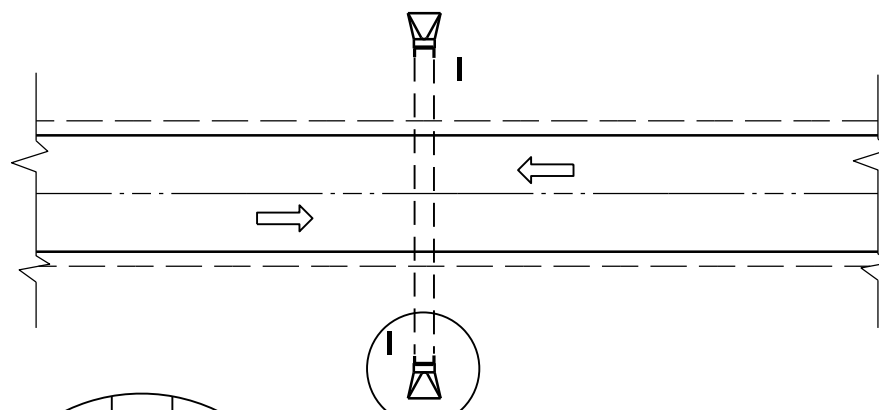
FHWA

PLAN VIEW  
DIVIDED HIGHWAY



DETAIL A  
(TYPICAL)

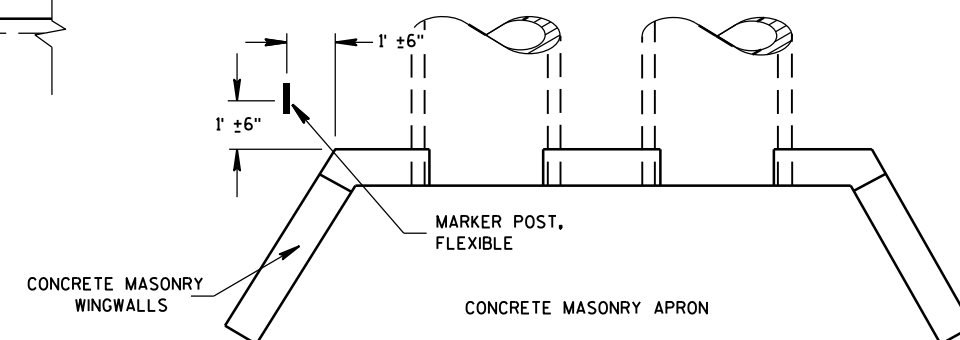
PLAN VIEW  
UNDIVIDED HIGHWAY



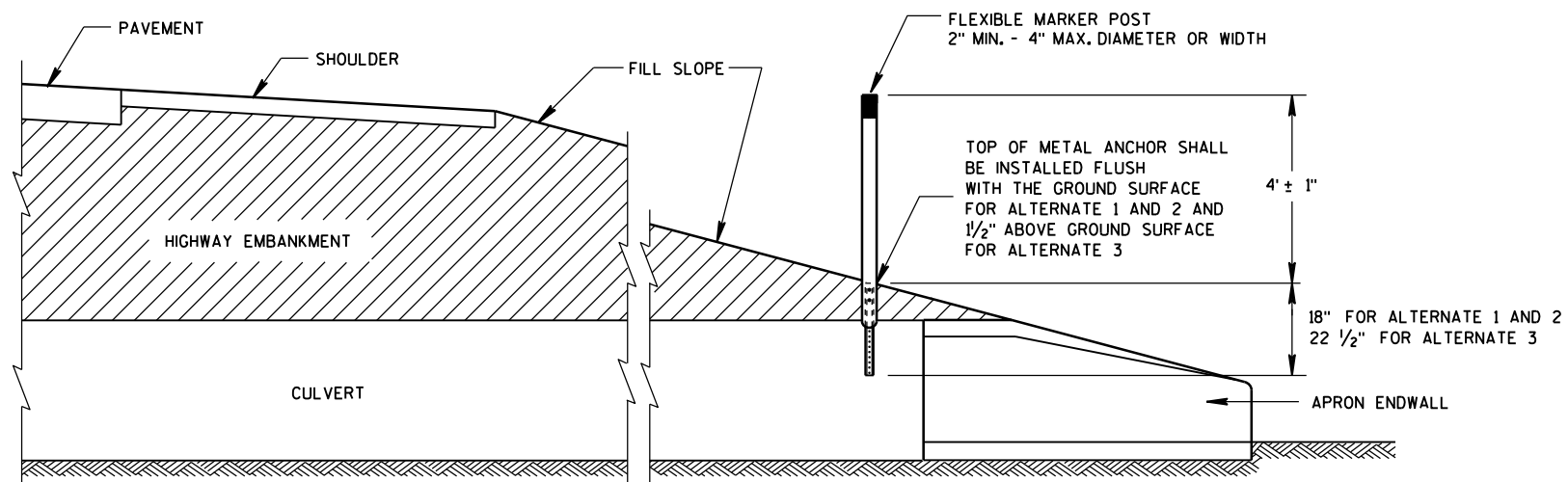
## FLEXIBLE MARKER POST LOCATION

## 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.



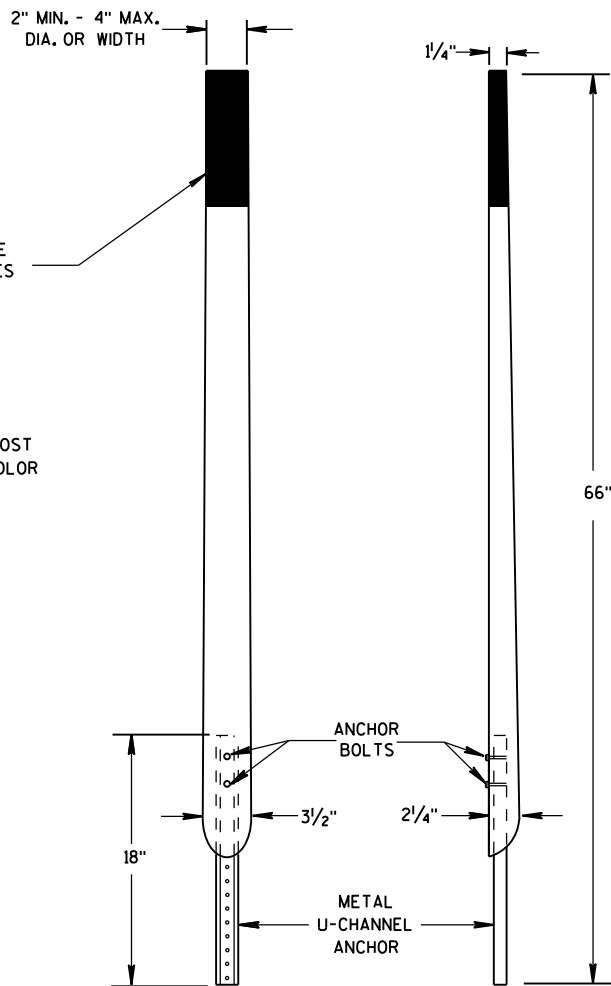
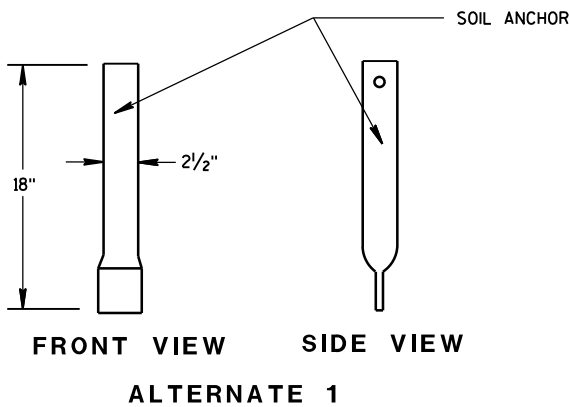
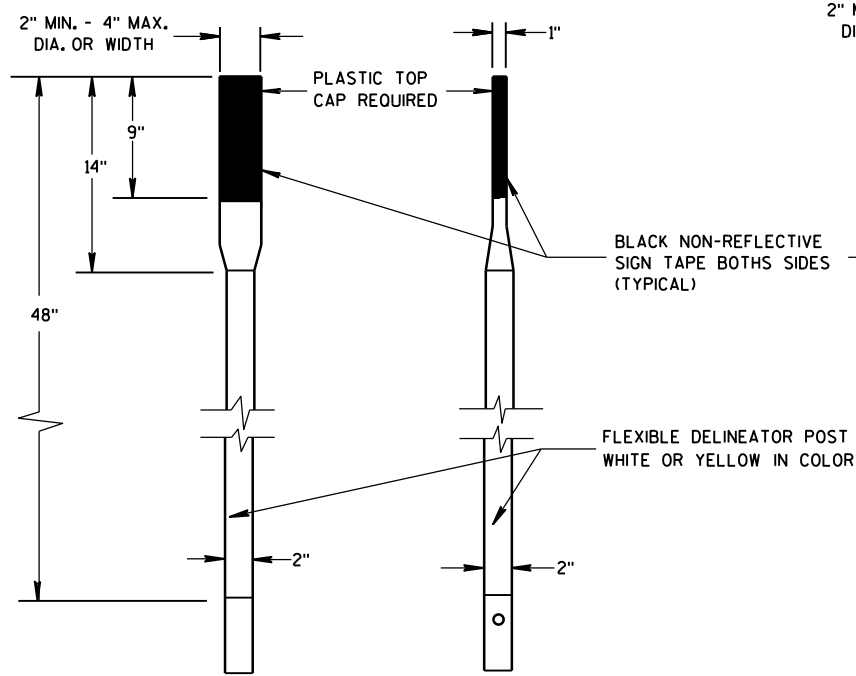
PLAN VIEW  
CONCRETE MASONRY ENDWALLS FOR  
CULVERT PIPE AND PIPE ARCH



CROSS SECTION  
FLEXIBLE MARKER POST

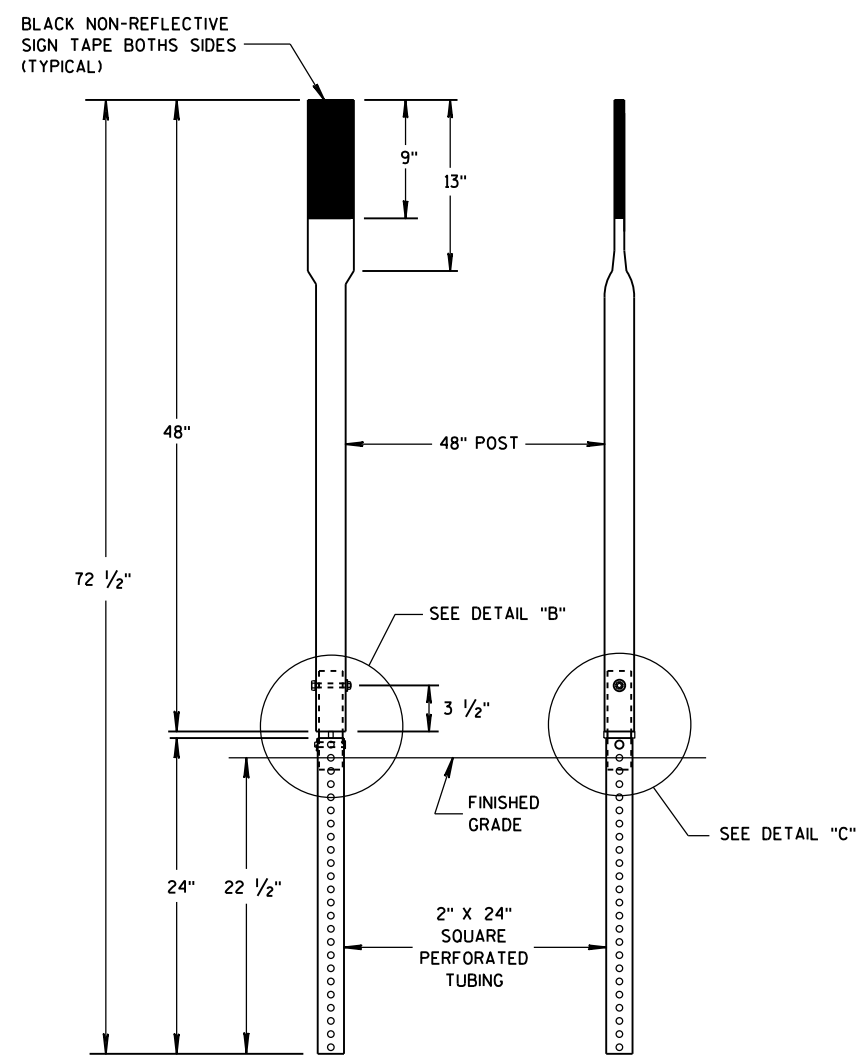
FLEXIBLE MARKER POST  
FOR CULVERT END

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION 167

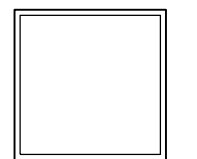


FRONT VIEW SIDE VIEW  
ALTERNATE 2

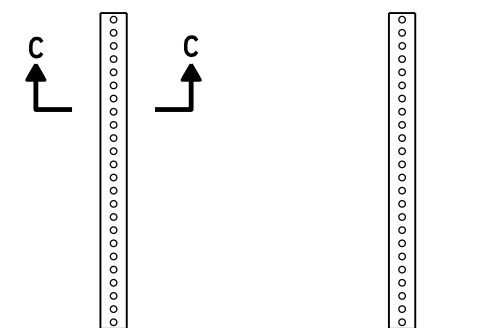
FLEXIBLE MARKER POSTS



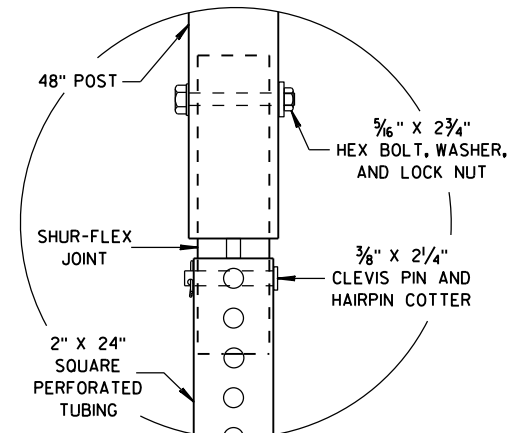
FRONT VIEW SIDE VIEW  
ALTERNATE 3



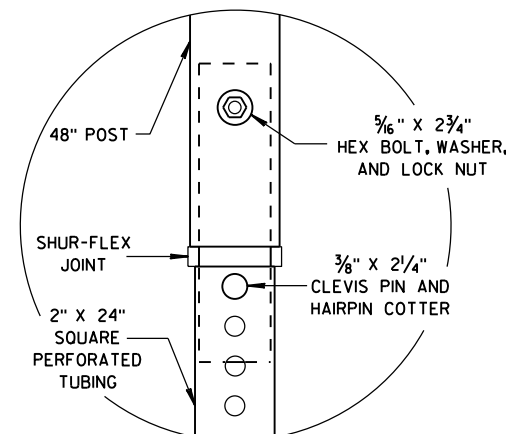
SECTION C-C



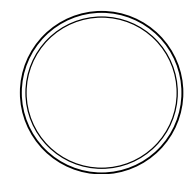
FRONT VIEW SIDE VIEW  
ALTERNATE 3



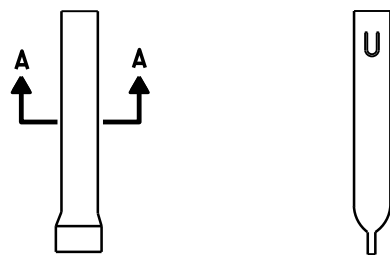
DETAIL B



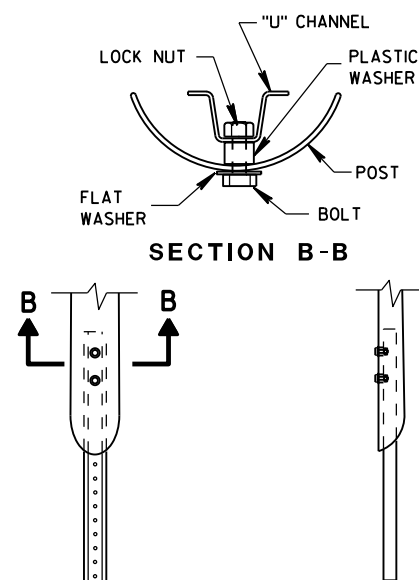
DETAIL C



SECTION A-A



FRONT VIEW SIDE VIEW  
ALTERNATE 1



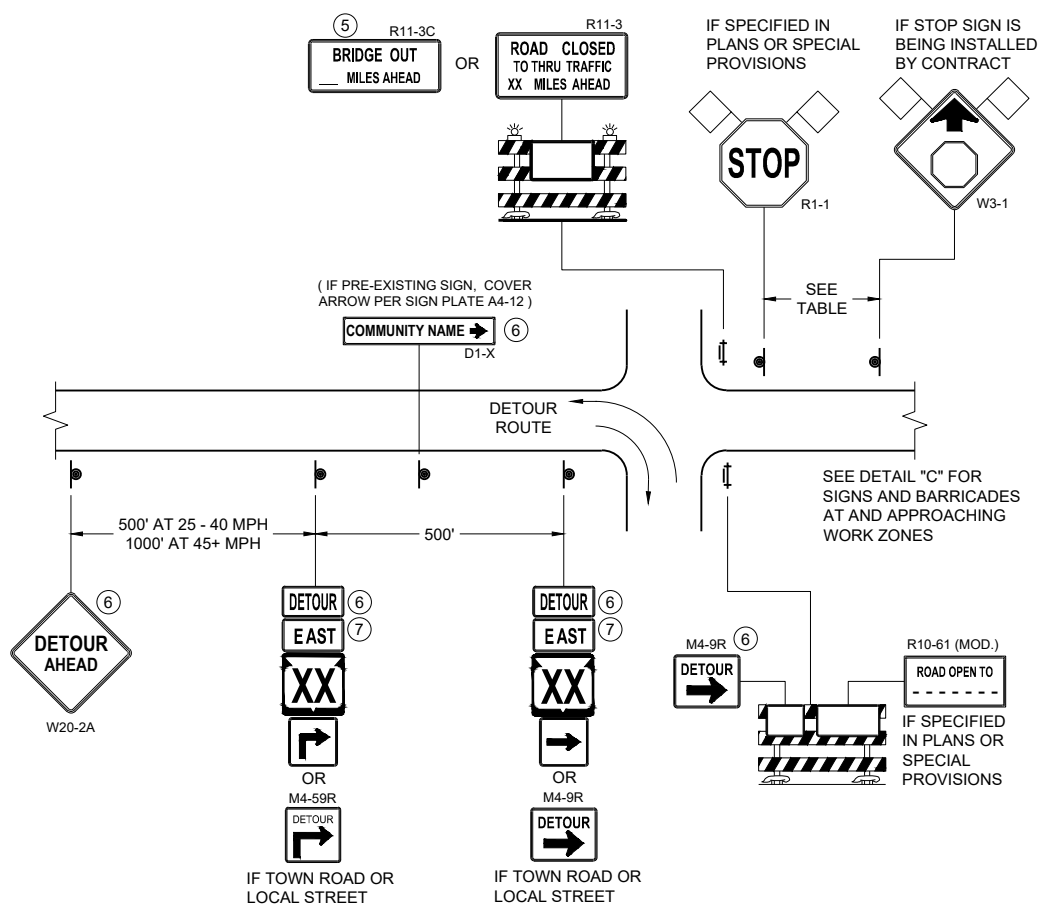
FRONT VIEW SIDE VIEW  
ALTERNATE 2

FLEXIBLE MARKER POST ANCHORS

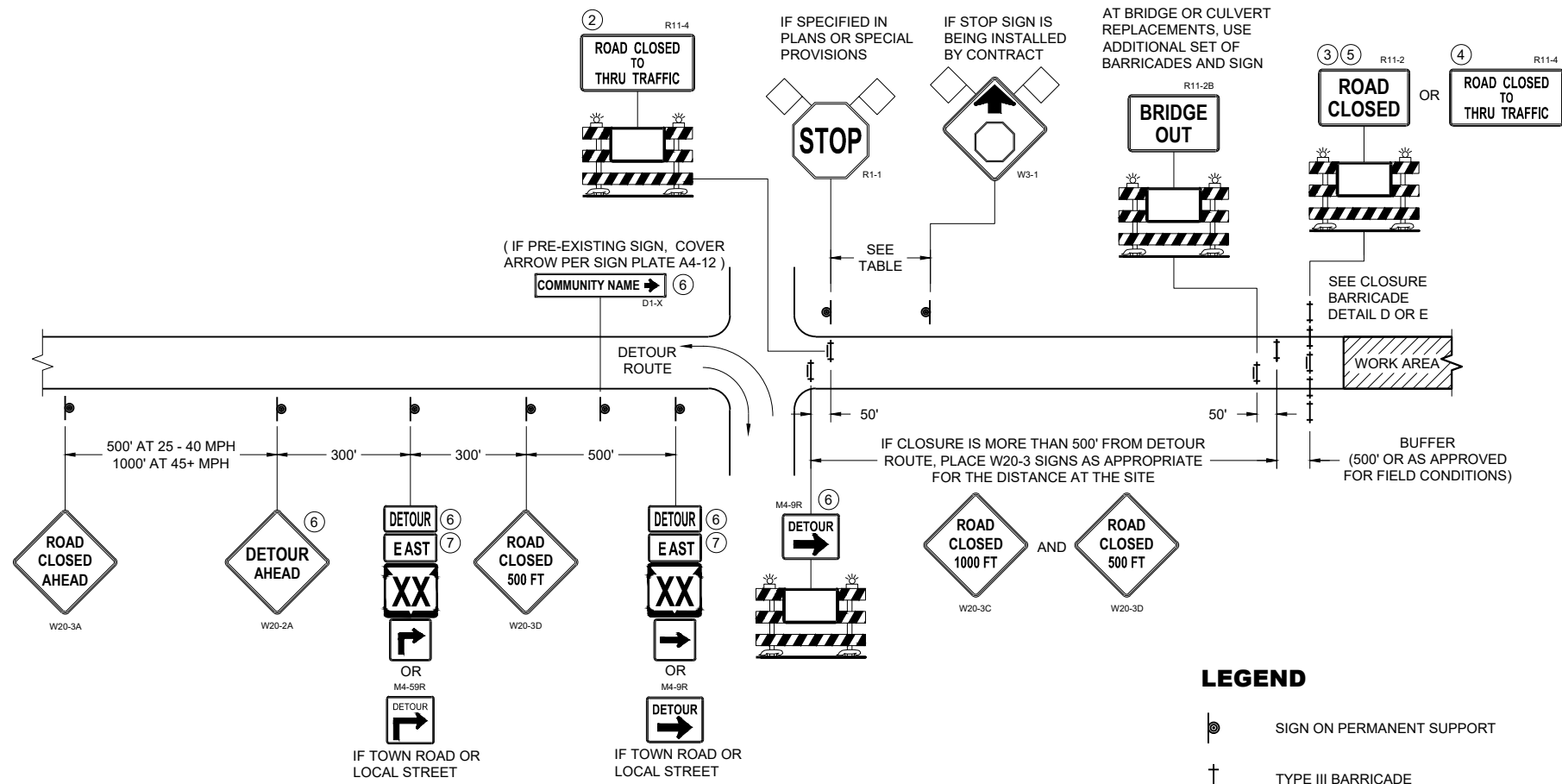
FLEXIBLE MARKER POST  
FOR CULVERT END

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
10/1/2012 /S/ Travis Feltes  
DATE STATE TRAFFIC ENGINEER 168 IGN  
FHWA



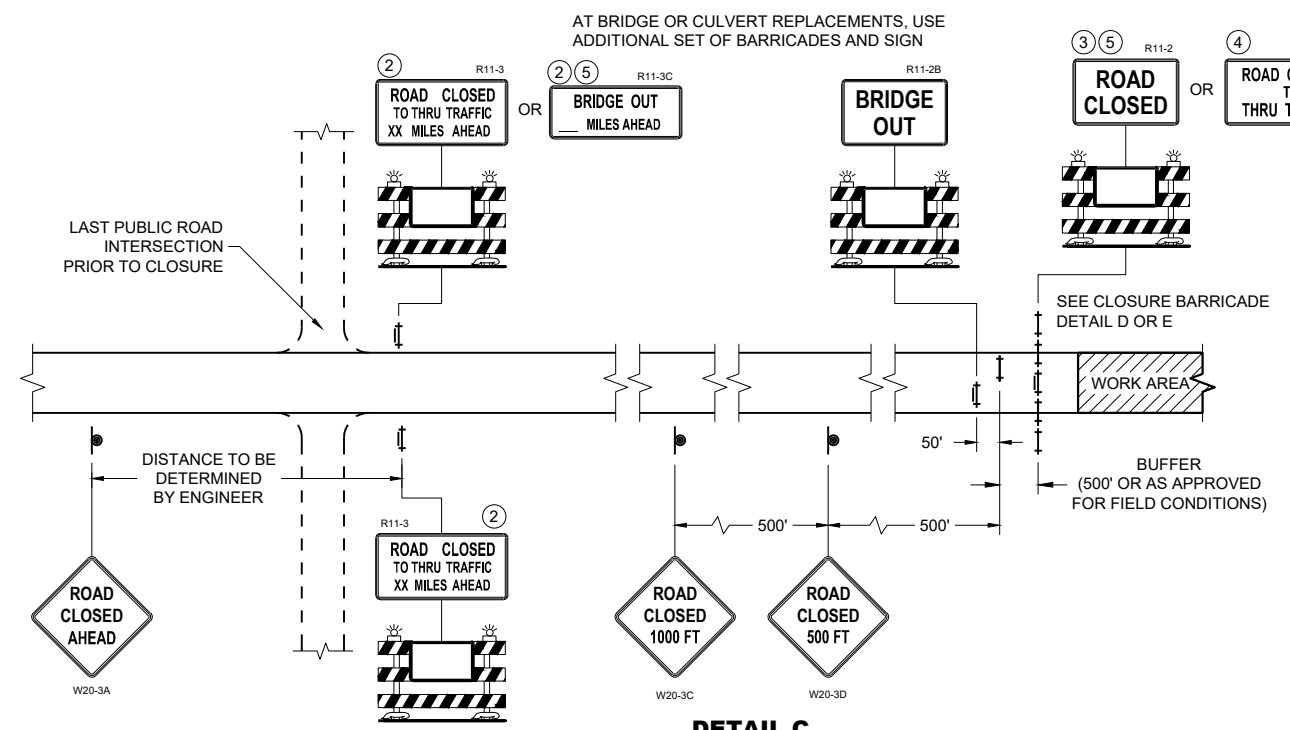
**DETAIL A**  
**MAINLINE CLOSURE WITH POSTED DETOUR**  
WORK ZONE GREATER THAN OR EQUAL TO ½ MILE FROM  
DETOUR ROUTE ( 1000 FEET IF URBAN )



**DETAIL B**  
**MAINLINE CLOSURE WITH POSTED DETOUR**  
WORK ZONE LESS THAN ½ MILE FROM  
DETOUR ROUTE ( 1000 FEET IF URBAN )

| 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



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

**LEGEND**

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)

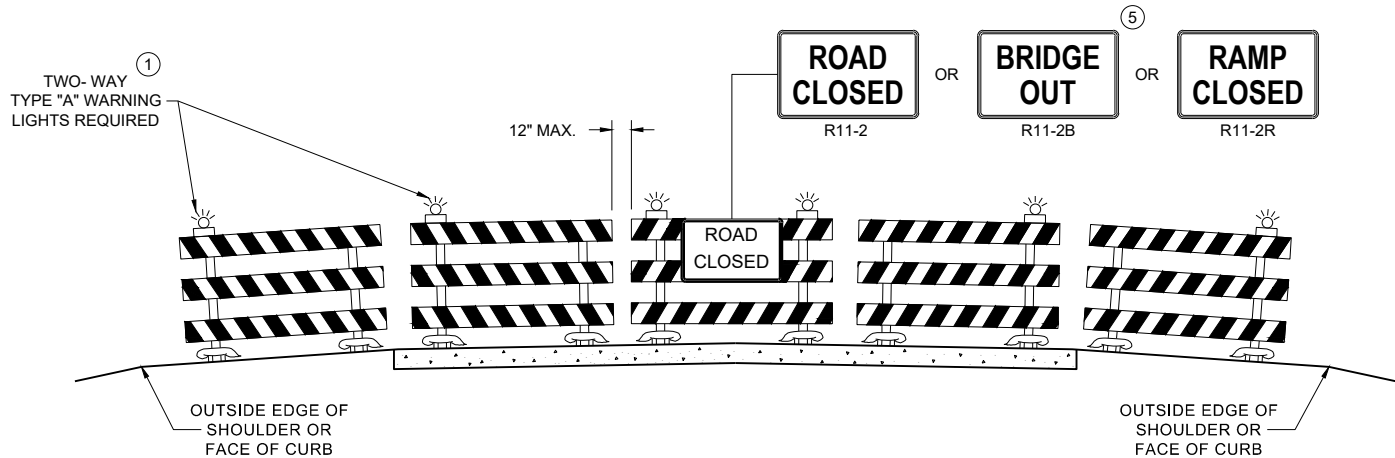
**DETOUR** M4 - 8  
**EAST** M3 - X  
**XX** OR **XX** OR **COUNTY X**  
M1 - 4 M1 - 6 M1 - 5A  
**→** OR **→**  
M05 - 1 M06 - 1

**BARRICADES AND SIGNS  
FOR MAINLINE CLOSURES**

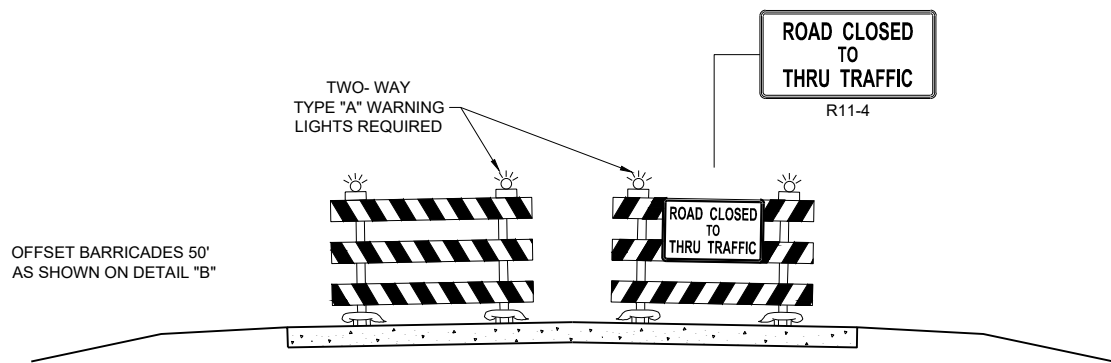
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2025 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

FHWA



**DETAIL D**  
**ROAD CLOSURE BARRICADE DETAIL**  
**APPROACH VIEW**



**DETAIL E**  
**LANE CLOSURE BARRICADE DETAIL**  
**APPROACH VIEW**

SEE SDD 15C2 - SHEET "a" FOR LEGEND

**GENERAL NOTES**

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

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

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

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

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

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

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

PARTIAL NUMBERS ON SIGNS SHALL BE DISPLAYED AS A WHOLE NUMBER(AS NEEDED) FOLLOWED BY A FRACTION. SIGNS SHALL NOT DISPLAY NUMBERS IN DECIMAL FORM.

"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 SHALL, 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" (36" X 18" 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)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

SIGNS PLACED ON TYPE III BARRICADES THAT ARE SIZES OTHER THAN 48"X30" SHALL HAVE A CORRUGATED POLYPROPYLENE OR POLYETHYLENE PLASTIC SIGN BASE.

- 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 AN 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 ROAD 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.

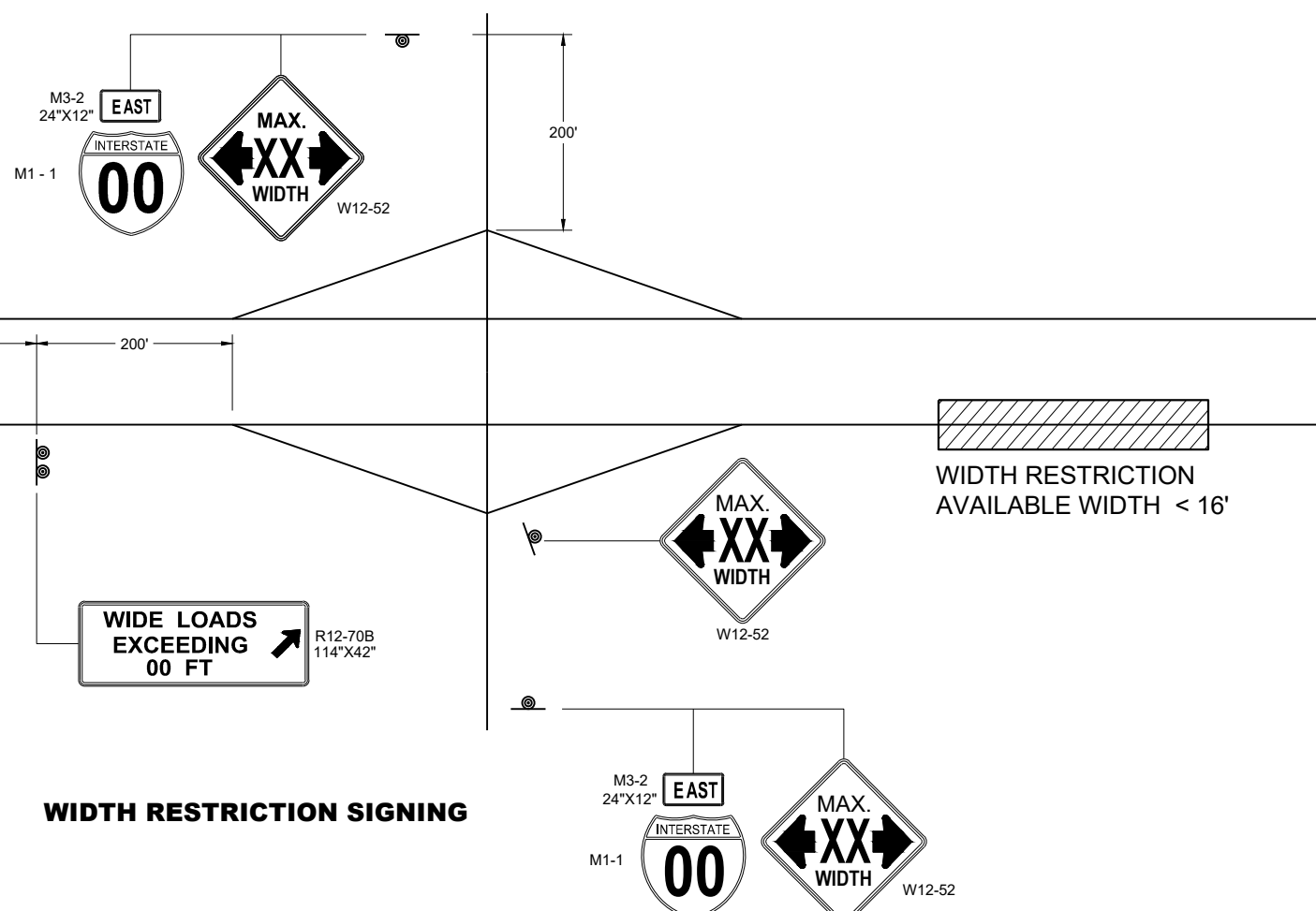
**BARRICADES AND SIGNS  
FOR  
VARIOUS CLOSURES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

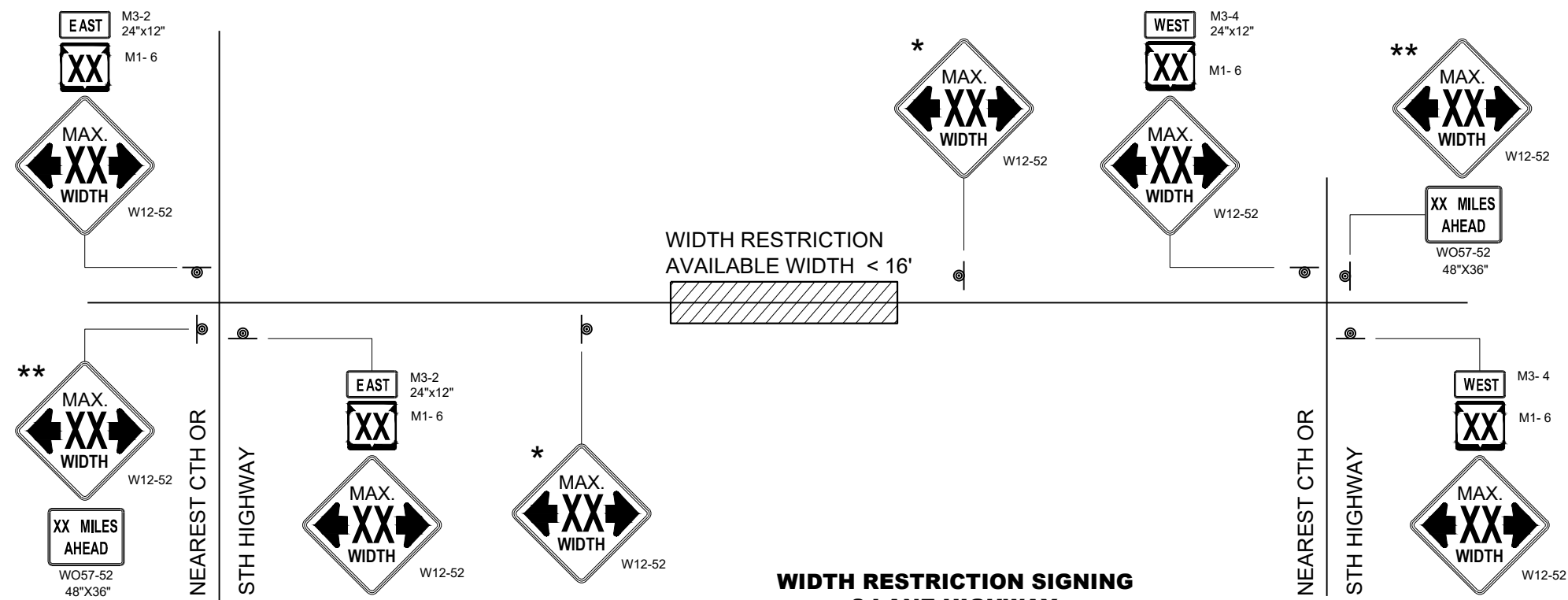
APPROVED  
November 2025 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

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WIDTH RESTRICTION SIGNING



WIDTH RESTRICTION SIGNING  
2 LANE HIGHWAY

LEGEND

SIGN ON PERMANENT SUPPORT

GENERAL NOTES

- THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS 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 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.
- ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
- "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- WIDTH ON SIGN TO BE APPROXIMATELY ONE FOOT LESS THAN AVAILABLE WIDTH.
- PLACE 500 FEET AFTER THE W20 - 1A AND 500 FEET BEFORE ADDITIONAL SIGNS FOR ROADWAYS WITH A PRE - CONSTRUCTION SPEED LIMIT OF 45 MPH OR MORE. FOR 35-40 MPH, USE 350 FOOT TYPICAL SPACING. FOR 25-30 MPH, USE 200 FOOT TYPICAL SPACING.
- \*\* SIGN SHALL BE VISIBLE FROM ROADWAY.
- \*\*\* ADDITIONAL SIGNS NEEDED IF THERE IS AN ON RAMP BETWEEN SIGNS.

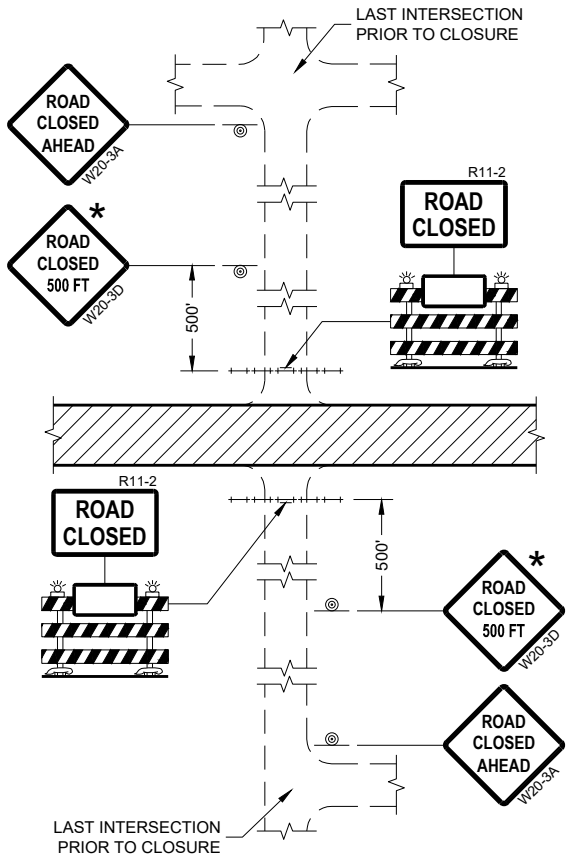


ADVANCED WIDTH  
RESTRICTION SIGNING

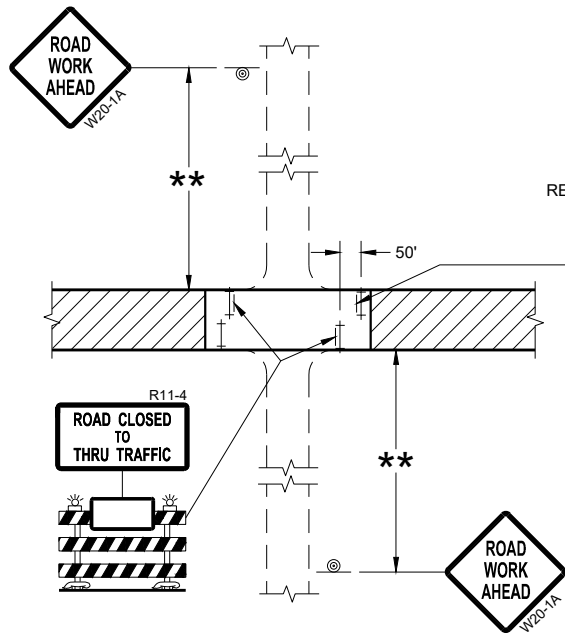
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2025 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

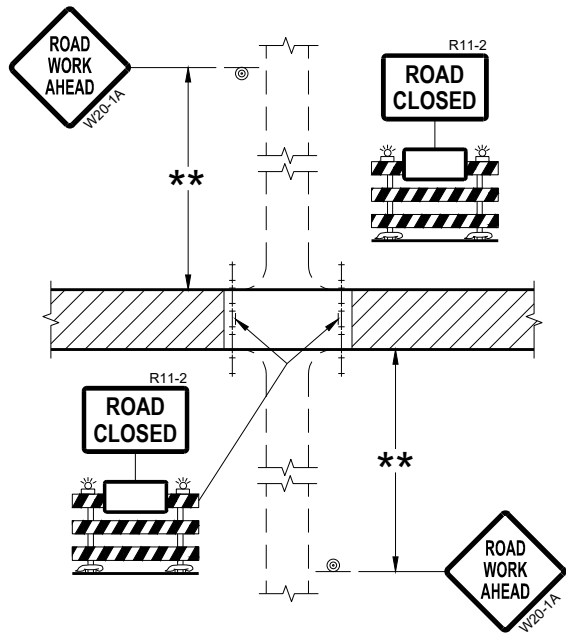
FHWA



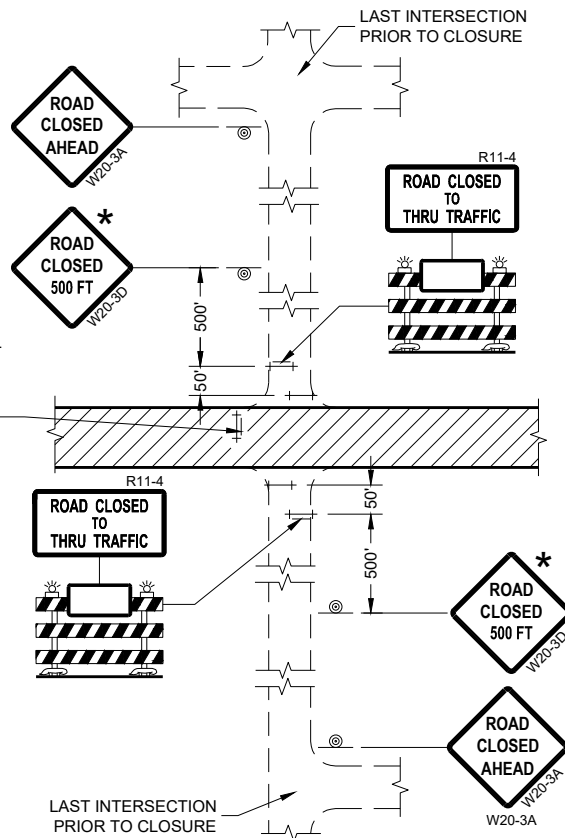
**DETAIL 1**  
(NO ACCESS TO PROJECT)



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



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



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

### GENERAL NOTES

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

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

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE (500 FEET DESIRABLE) 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 REESTABLISHED.

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

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN 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 FEET OR LESS FROM THE WORK ZONE.
- \*\* 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.

### LEGEND

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

### BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
July 2018 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER 172

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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" X 48" UNLESS OTHERWISE NOTED.

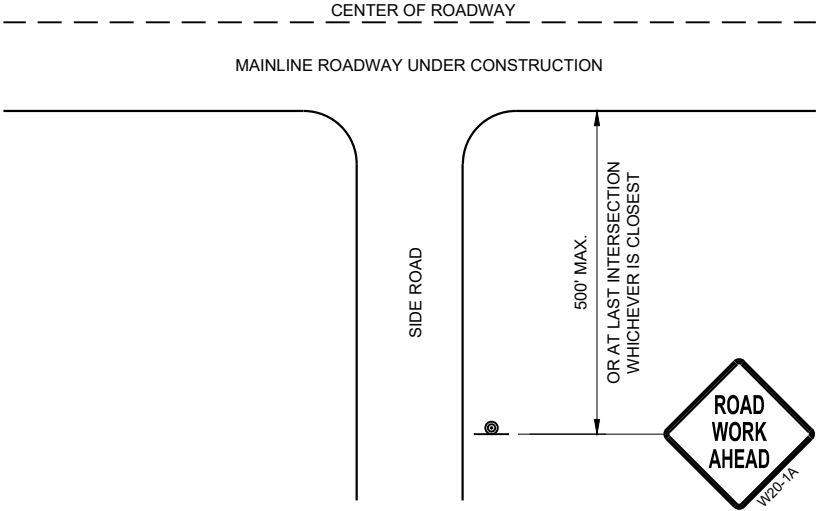
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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 REESTABLISHED.

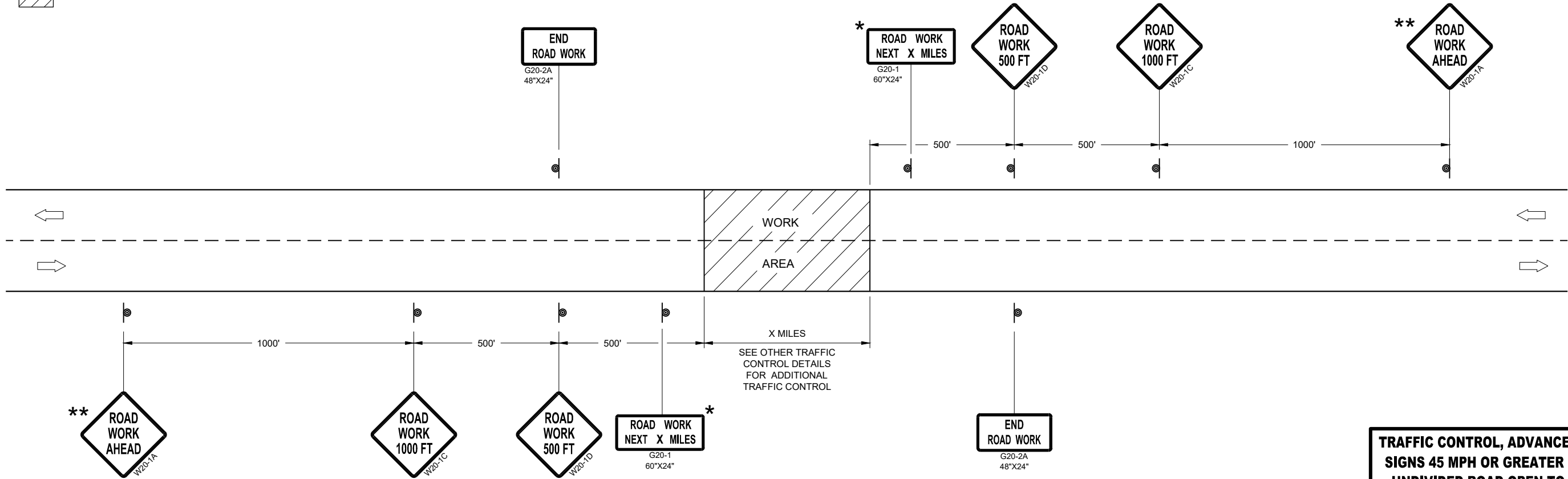
- \* OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS
- \*\* PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.

LEGEND

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



TYPICAL SIDE ROAD APPROACH  
WARNING SIGN DETAIL



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

TRAFFIC CONTROL, ADVANCE WARNING  
SIGNS 45 MPH OR GREATER TWO-WAY  
UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
July 2018 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER 173

FHWA

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" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"X36" SIGNS MAY BE USED INSTEAD OF 48" X 48" SIGNS.

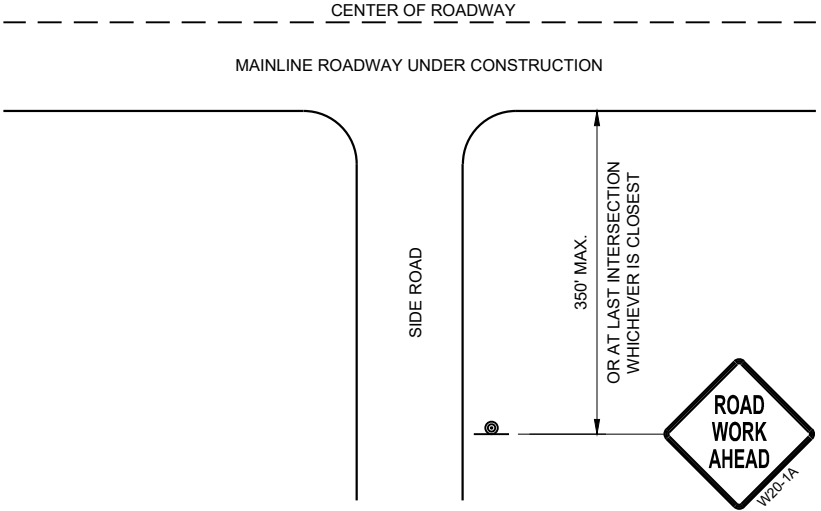
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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 REESTABLISHED.

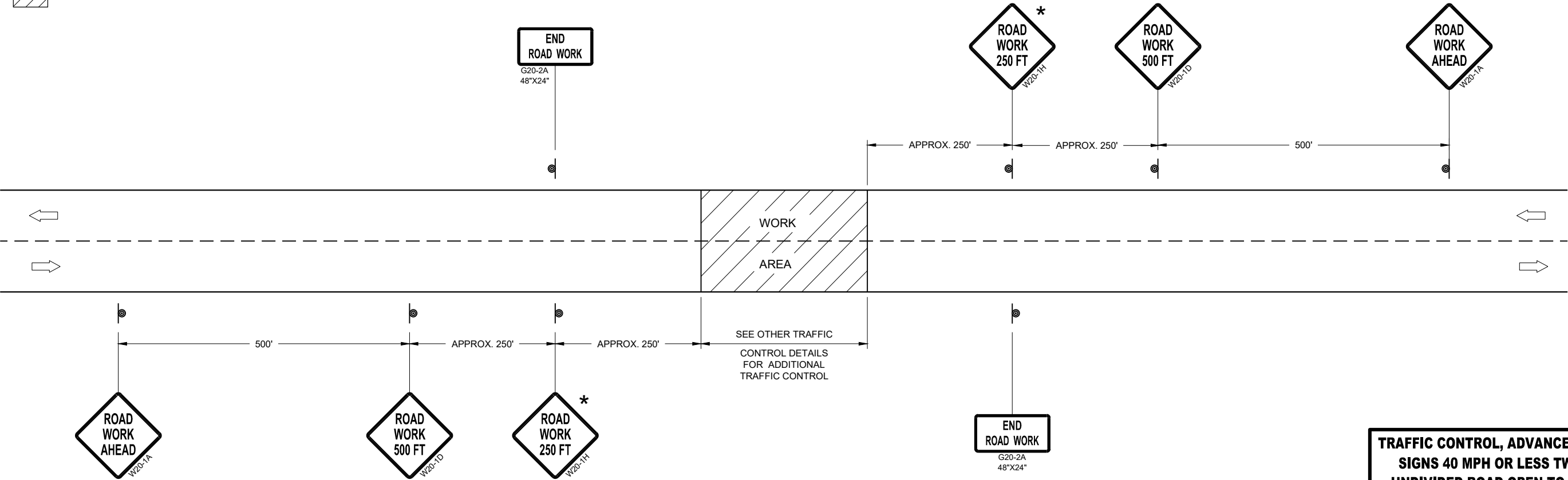
\* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.

LEGEND

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



TYPICAL SIDE ROAD APPROACH  
WARNING SIGN DETAIL



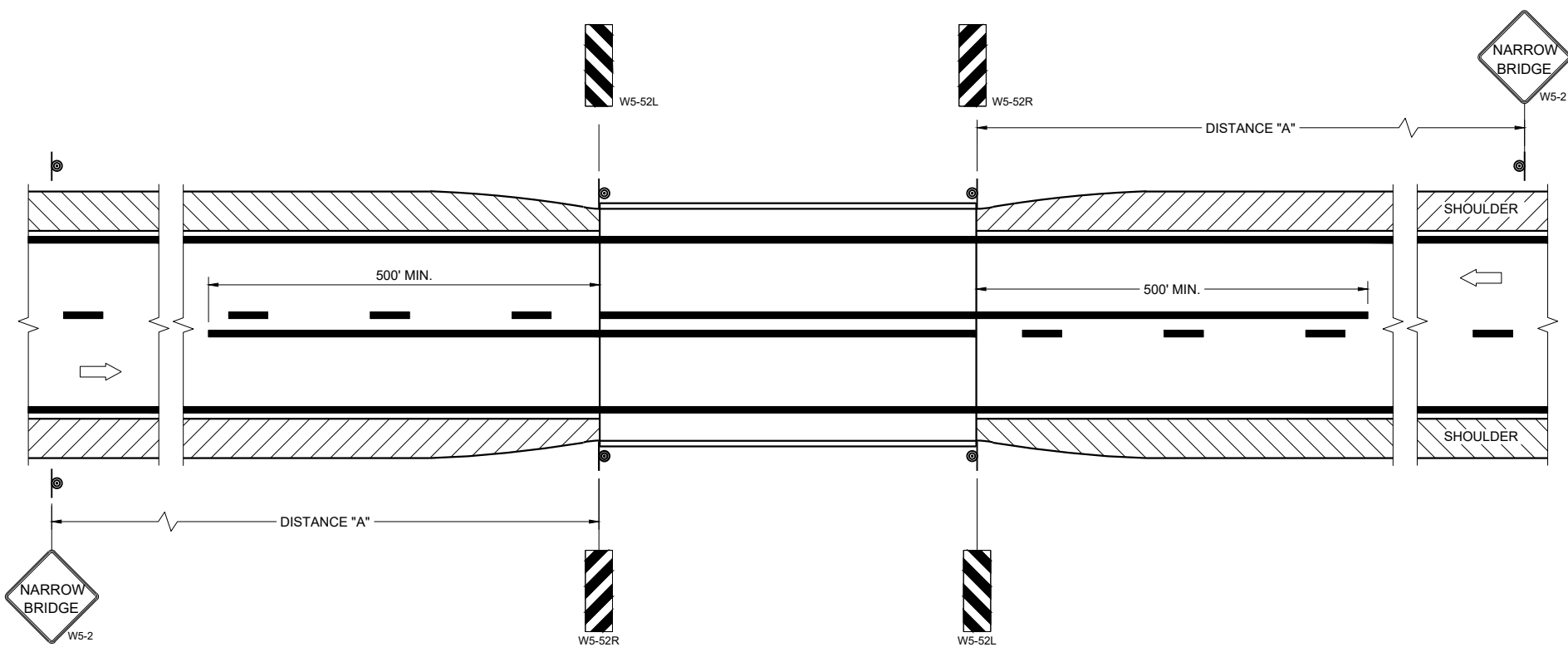
TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS

TRAFFIC CONTROL, ADVANCE WARNING  
SIGNS 40 MPH OR LESS TWO-WAY  
UNDIVIDED ROAD OPEN TO TRAFFIC

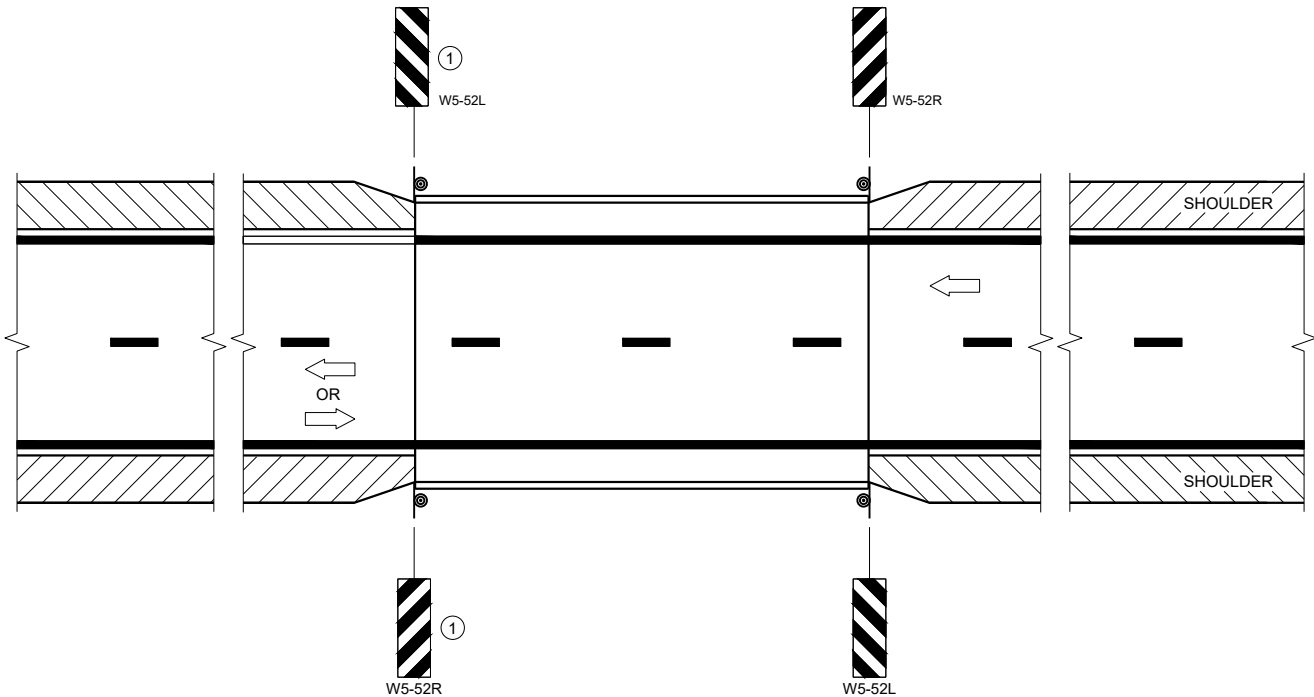
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DATE WORK ZONE ENGINEER 174

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**SITUATION 1**  
WARRANTING CRITERIA:  
BRIDGE WIDTH IS AT LEAST 16 FEET BUT LESS THAN 24 FEET.



**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 THE DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

LOCATE W5-52 SIGN POST(S) BEHIND GUARDRAIL WHEN PRESENT.

PLACE THE EDGE OF THE W5-52 SIGN IN LINE WITH FACE OF CURB OR PARAPET.

ON BRIDGE ONLY PROJECTS, PLACE 300 FEET OF EDGELINE.

OMIT EDGELINES ON ROADWAYS WITHOUT EXISTING EDGELINES.

① OMIT ON ONE-WAY TRAVELED WAYS.

**LEGEND**

⊙ SIGN ON PERMANENT SUPPORT

➡ DIRECTION OF TRAFFIC

**DISTANCE TABLE**

| POSTED OR 85TH PERCENTILE SPEED | DISTANCE "A" |
|---------------------------------|--------------|
| 25                              | 150'         |
| 30                              | 200'         |
| 35                              | 250'         |
| 40                              | 300'         |
| 45                              | 400'         |
| 50                              | 550'         |
| 55                              | 700'         |

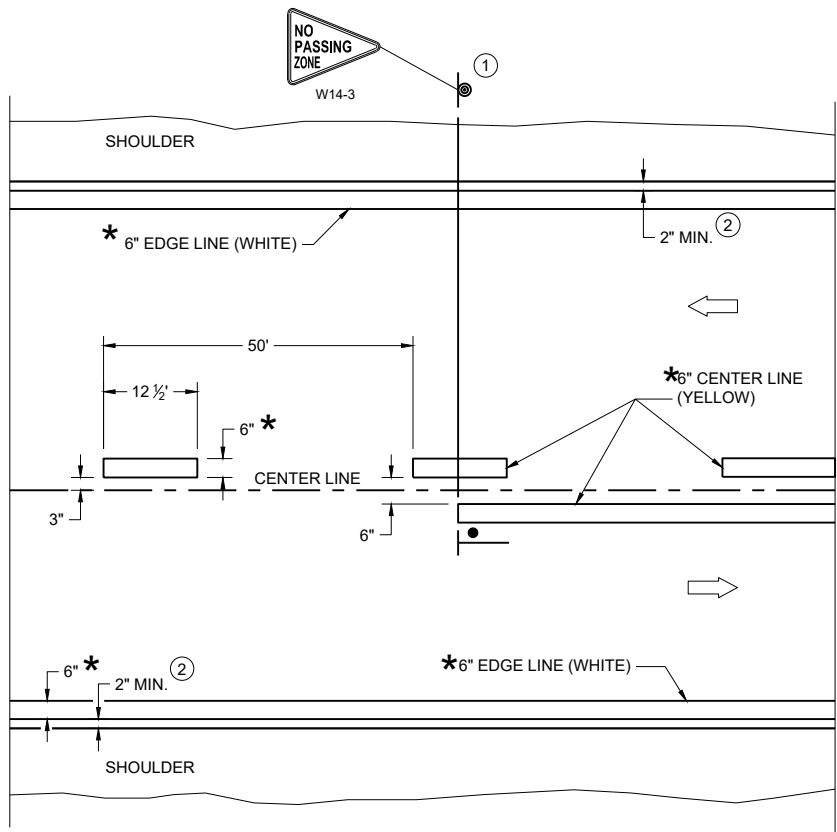
**SIGNING AND MARKING  
FOR TWO LANE BRIDGES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

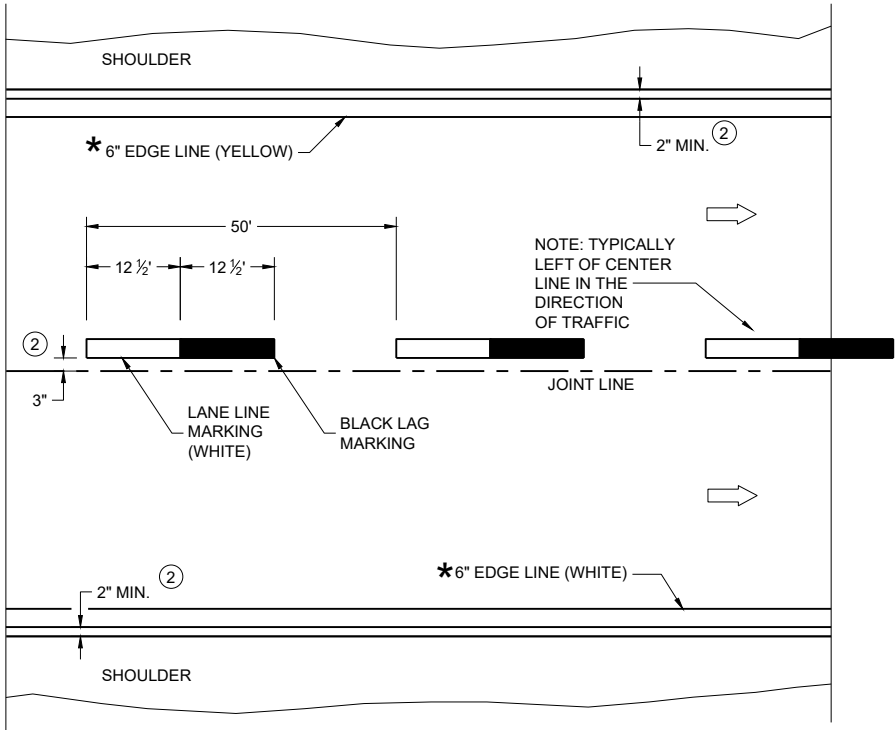
APPROVED  
May 2023  
DATE

/S/ Jeannie Silver  
Statewide Pavement Marking Engineer

FHWA 175



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

\*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

GENERAL NOTES

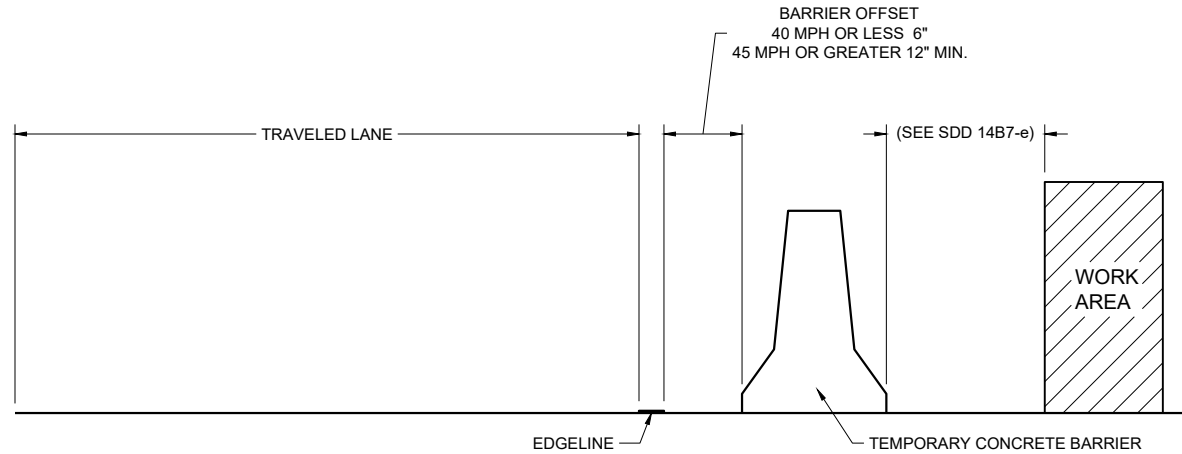
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

- ① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
- ② MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

- "T" MARKING
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC

| PERMANENT LONGITUDINAL PAVEMENT MARKINGS           |                                                           |
|----------------------------------------------------|-----------------------------------------------------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |                                                           |
| APPROVED<br>December 2024<br>DATE                  | /S/ Jeannie Silver<br>Statewide Pavement Marking Engineer |



TEMPORARY BARRIER OFFSET FROM EDGE LINE

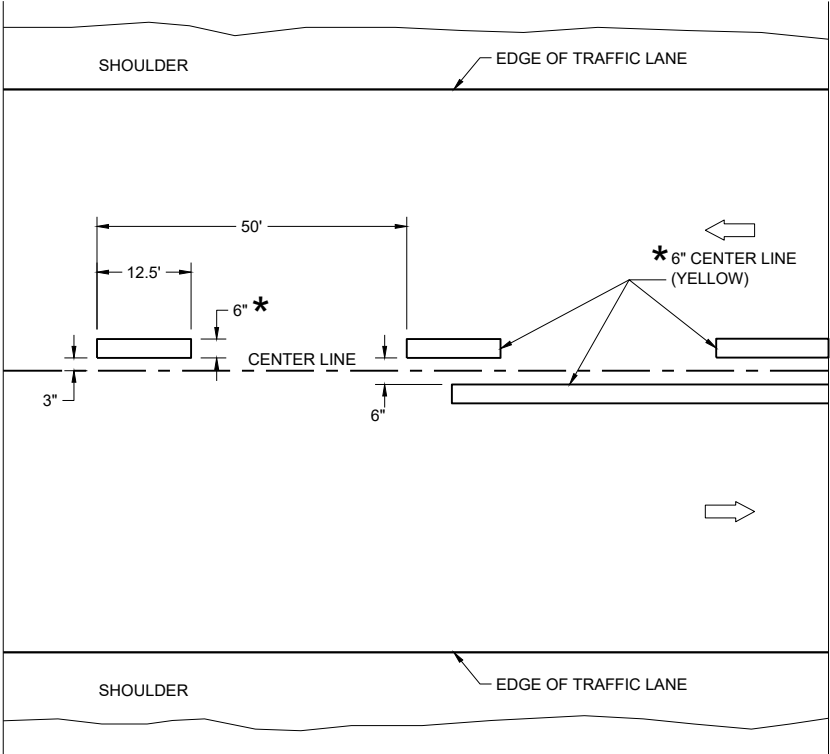
GENERAL NOTES

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

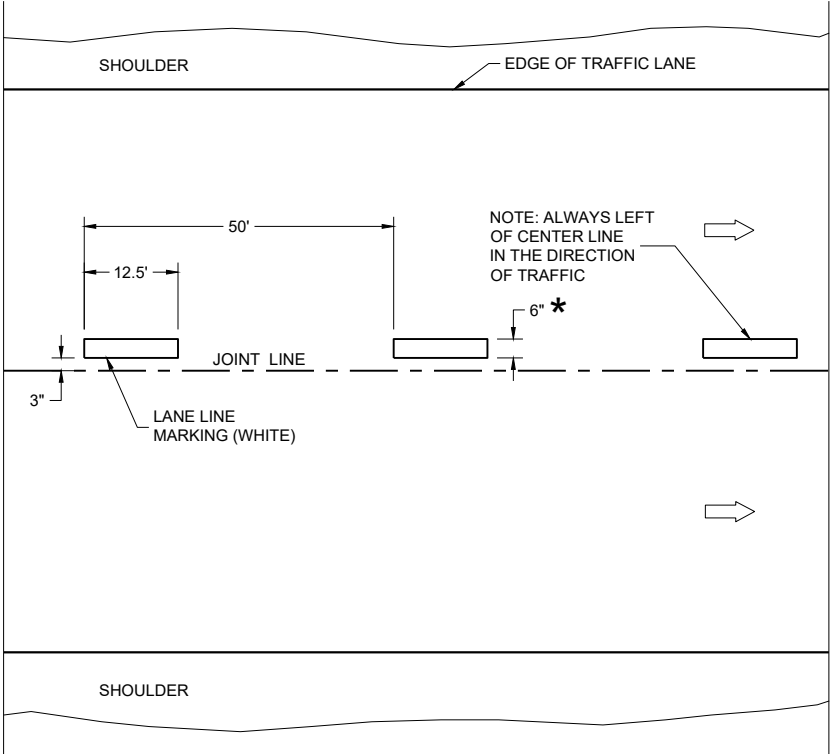
LEGEND

➡ DIRECTION OF TRAFFIC

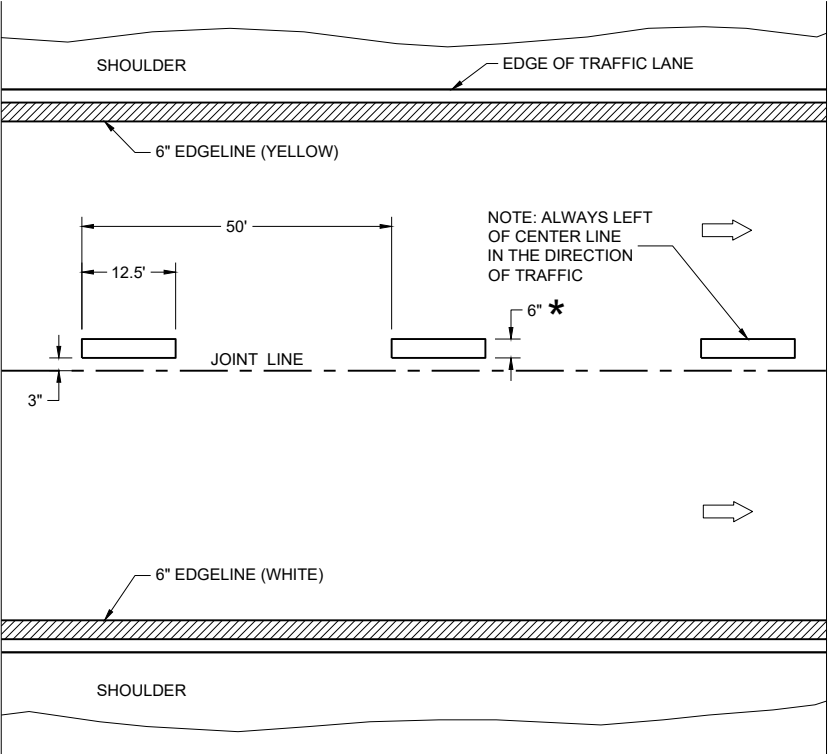
\* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



TWO WAY TRAFFIC



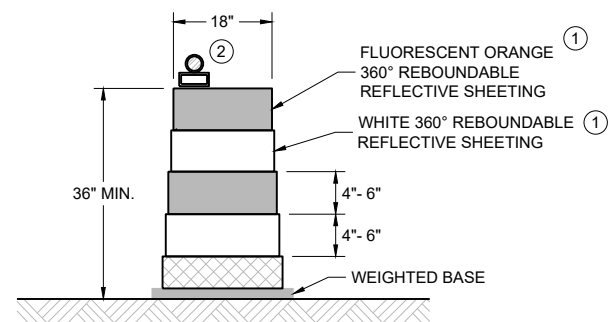
ONE WAY TRAFFIC



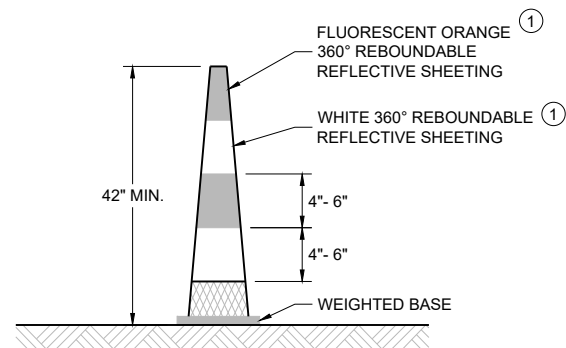
FREEWAYS AND EXPRESSWAYS

TEMPORARY PAVEMENT MARKING

| TEMPORARY LONGITUDINAL PAVEMENT MARKING            |                                                           |
|----------------------------------------------------|-----------------------------------------------------------|
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |                                                           |
| APPROVED<br>December 2024<br>DATE                  | /S/ Jeannie Silver<br>Statewide Pavement Marking Engineer |

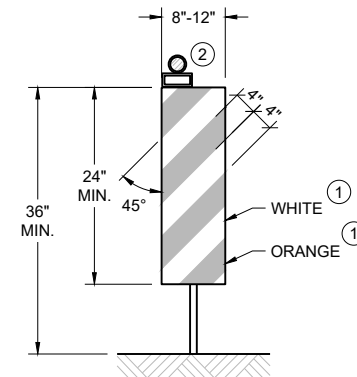
**DRUM**

BALLAST WIDTHS  
RANGE FROM 24"-36"

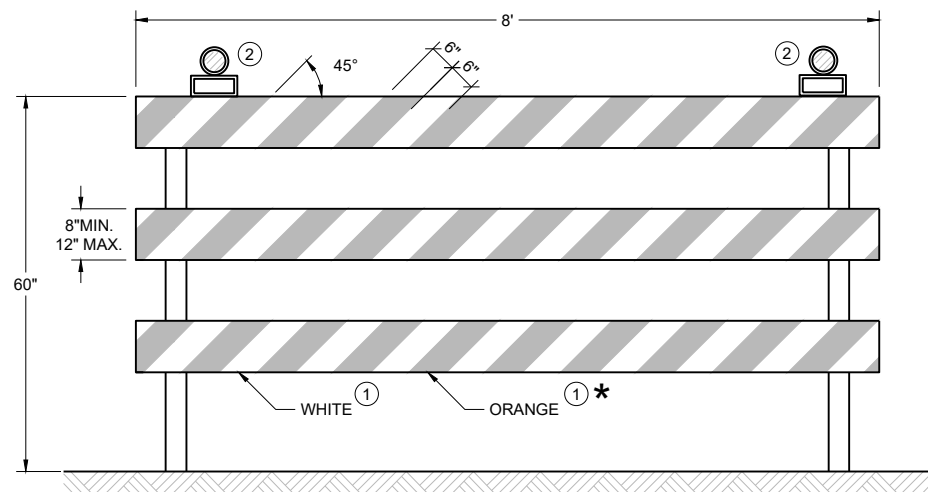
**42" CONE**

DO NOT USE IN TAPERS  
 $\frac{1}{2}$  SPACING OF DRUMS

BALLAST WIDTHS  
RANGE FROM 14"-20"

**VERTICAL PANEL**

THE STRIPES SHALL SLOPE DOWNWARD TO  
THE TRAFFIC SIDE FOR CHANNELIZATION.

**TYPE III BARRICADE**

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP  
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

\* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

**GENERAL NOTES**

- ① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
- ② LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.

**CHANNELIZING DEVICES  
DRUMS, CONES, BARRICADES  
AND VERTICAL PANELS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
February 2026 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER  
FHWA



LEGEND

-  SIGN ON PORTABLE OR PERMANENT SUPPORT
-  TEMPORARY PORTABLE RUMBLE STRIP ARRAY
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

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.

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

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

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS, DEVICES, AND 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.

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.

FLAGGING

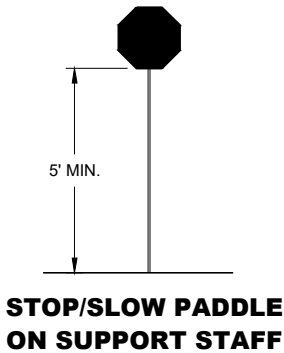
FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT REMOVE TEMPORARY PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

- ① FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' 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.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

TEMPORARY PORTABLE RUMBLE STRIPS

- UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.
- ③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER
- ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.
- INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.
- PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.
- DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.

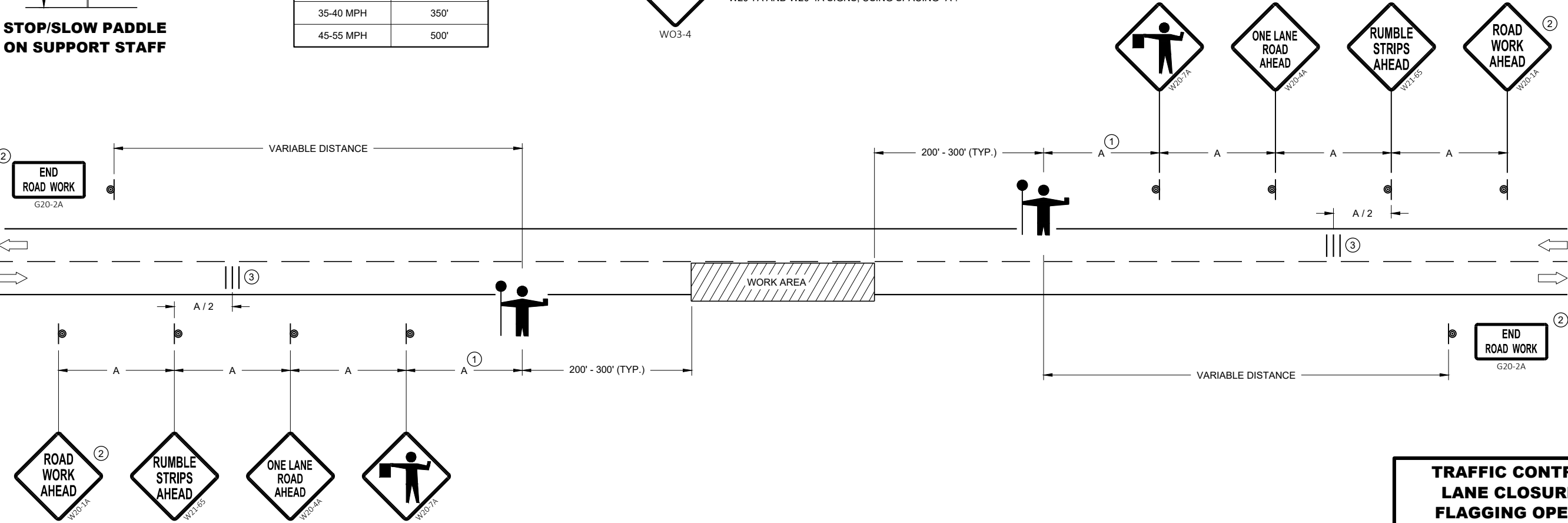


SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

| SPEED LIMIT | SPACING "A" |
|-------------|-------------|
| 25-30 MPH   | 200'        |
| 35-40 MPH   | 350'        |
| 45-55 MPH   | 500'        |



USE OF W03-4 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**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2022 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER 179

FHWA

- 

GENERAL NOTES

SIGN ON PERMANENT SUPPORT
- 

TRAFFIC CONTROL CONE 42-INCH
- 

TRAFFIC CONTROL DRUM
- 

TEMPORARY PORTABLE RUMBLE STRIP ARRAY
- 

DIRECTION OF TRAFFIC
- 

WORK AREA
- 

AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD)

- 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.

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

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

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS, DEVICES, AND 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.

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.

- FLAGGING

IF THE AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD) STOPS WORKING, 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 PORTABLE RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

WHEN THE DISTANCE BETWEEN FLAGGERS EXCEEDS 2 MILES, A PILOT CAR IS REQUIRED. WHEN CURVES REDUCE SIGHT DISTANCE BELOW 400', A PILOT CAR IS REQUIRED.

1

SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

2

IF FLAGGERS ARE PHYSICALLY NEEDED TO FLAG, REPLACE WO3-4 SIGNS WITH W20-7A SIGNS.
- TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

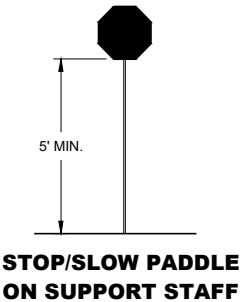
ONLY USE TEMPORARY PORTABLE RUMBLE STRIPS FROM THE APPROVED PRODUCTS LIST.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.

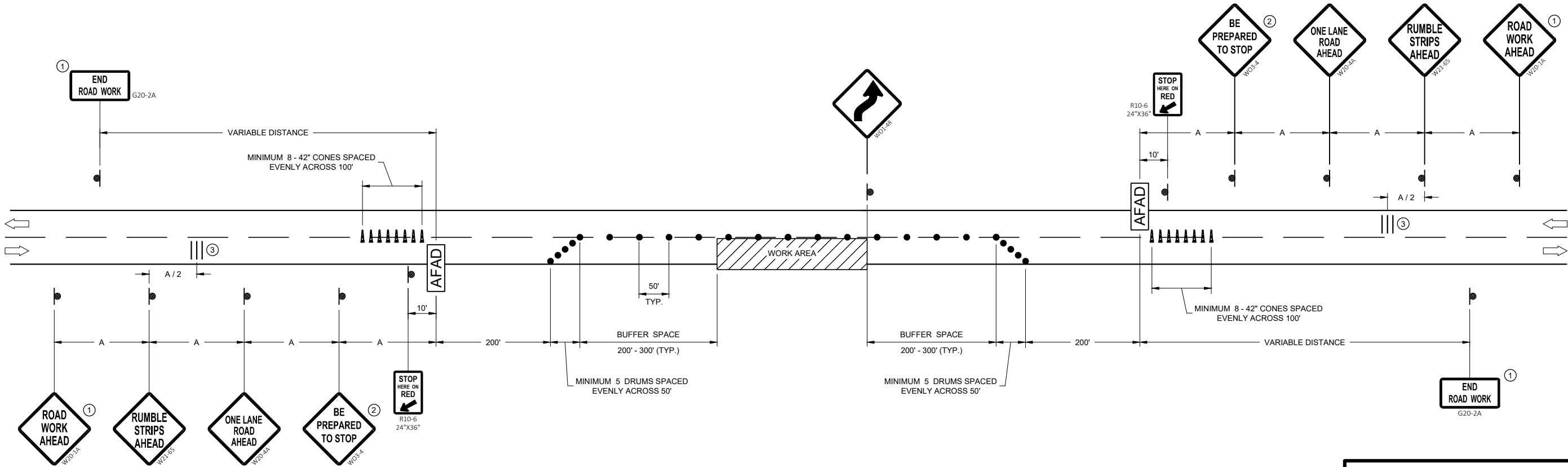
3

EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSELY AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER.



SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

| SPEED LIMIT | SPACING "A" |
|-------------|-------------|
| 25-30 MPH   | 200'        |
| 35-40 MPH   | 350'        |
| 45-55 MPH   | 500'        |



TRAFFIC CONTROL, LANE CLOSURE WITH AUTOMATED FLAGGER ASSISTANCE DEVICE

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2022 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER 180

FHWA



|           |                 |
|-----------|-----------------|
| <b>V1</b> | LEAD VEHICLE    |
| <b>V2</b> | MARKING VEHICLE |
| <b>V3</b> | SHADOW VEHICLE  |



 DIRECTION OF TRAFFIC

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 OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.

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 AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH

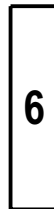
WORKERS SHALL NOT PERFORM WORK FROM ANY SHADOW OR PROTECTION VEHICLES.

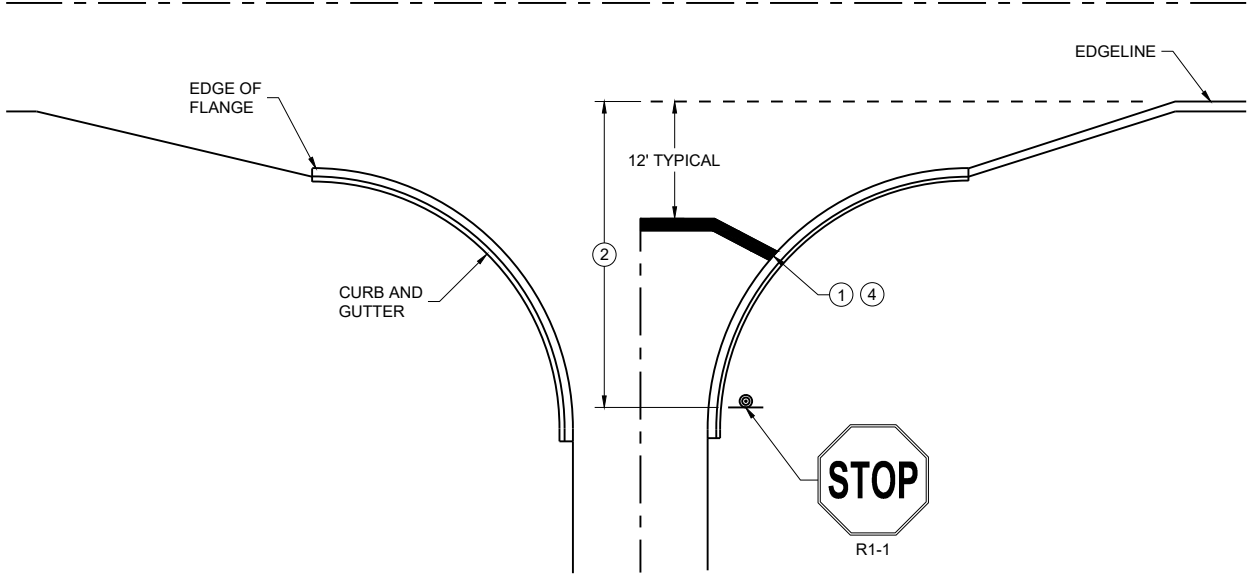
UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC.

CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

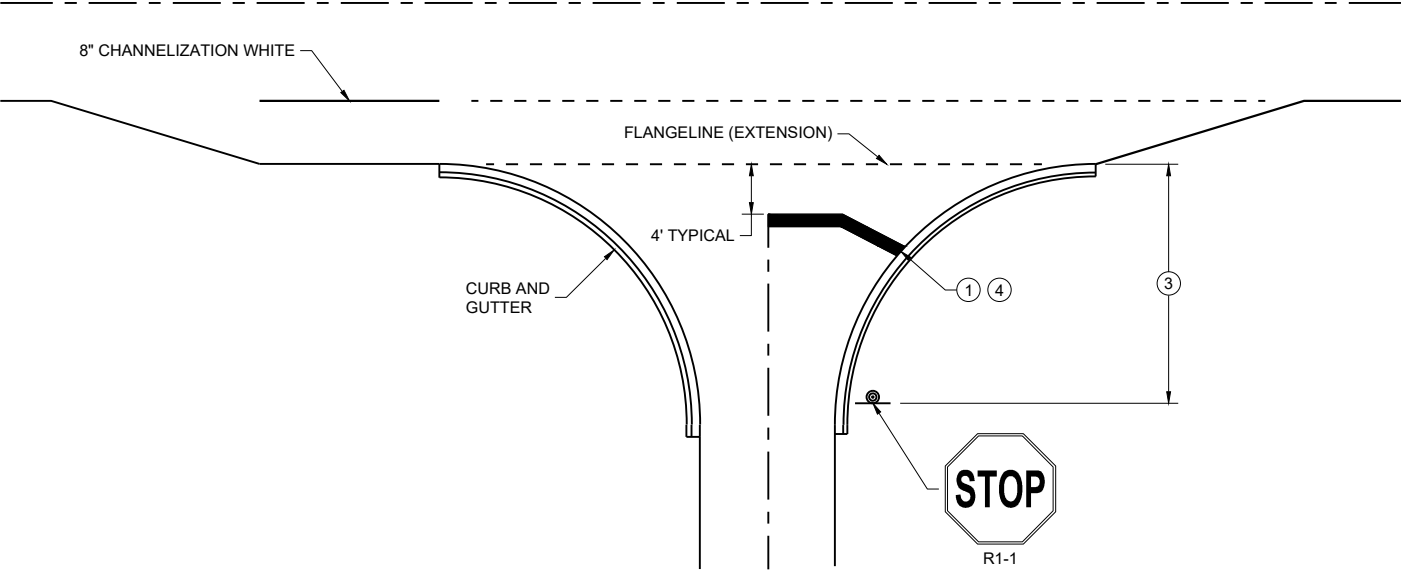
CONES SHALL BE A MINIMUM OF 28" FOR WET PAVEMENT MARKING .

- ① SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES AND AFTER EVERY MAJOR INTERSECTION.
- ② IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1A OR W21-63 ARE NOT REQUIRED.
- ③ V1 AND V2 CAN BE SWITCHED SO THAT THE MARKER IS THE LEAD VEHICLE.

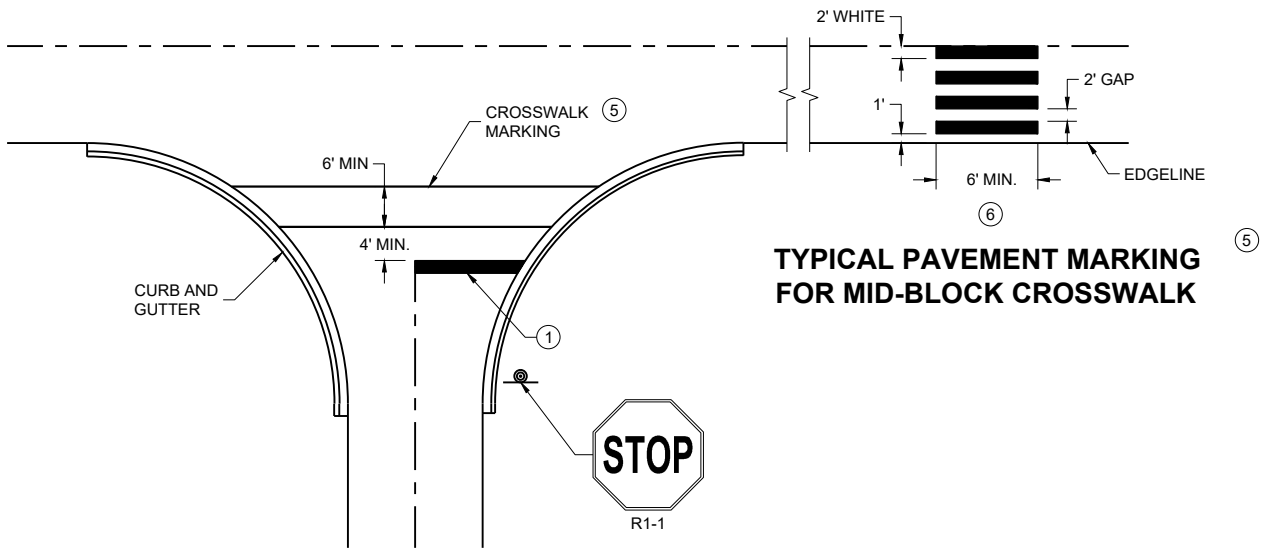




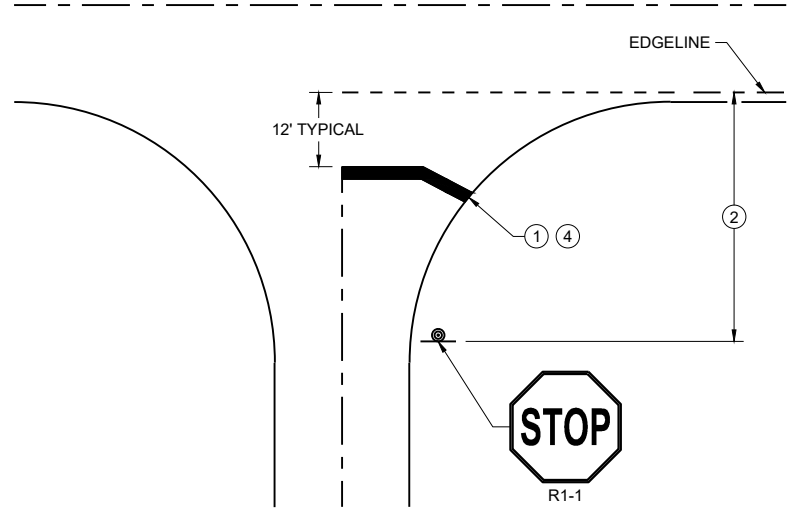
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDE ROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDE ROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

GENERAL NOTES

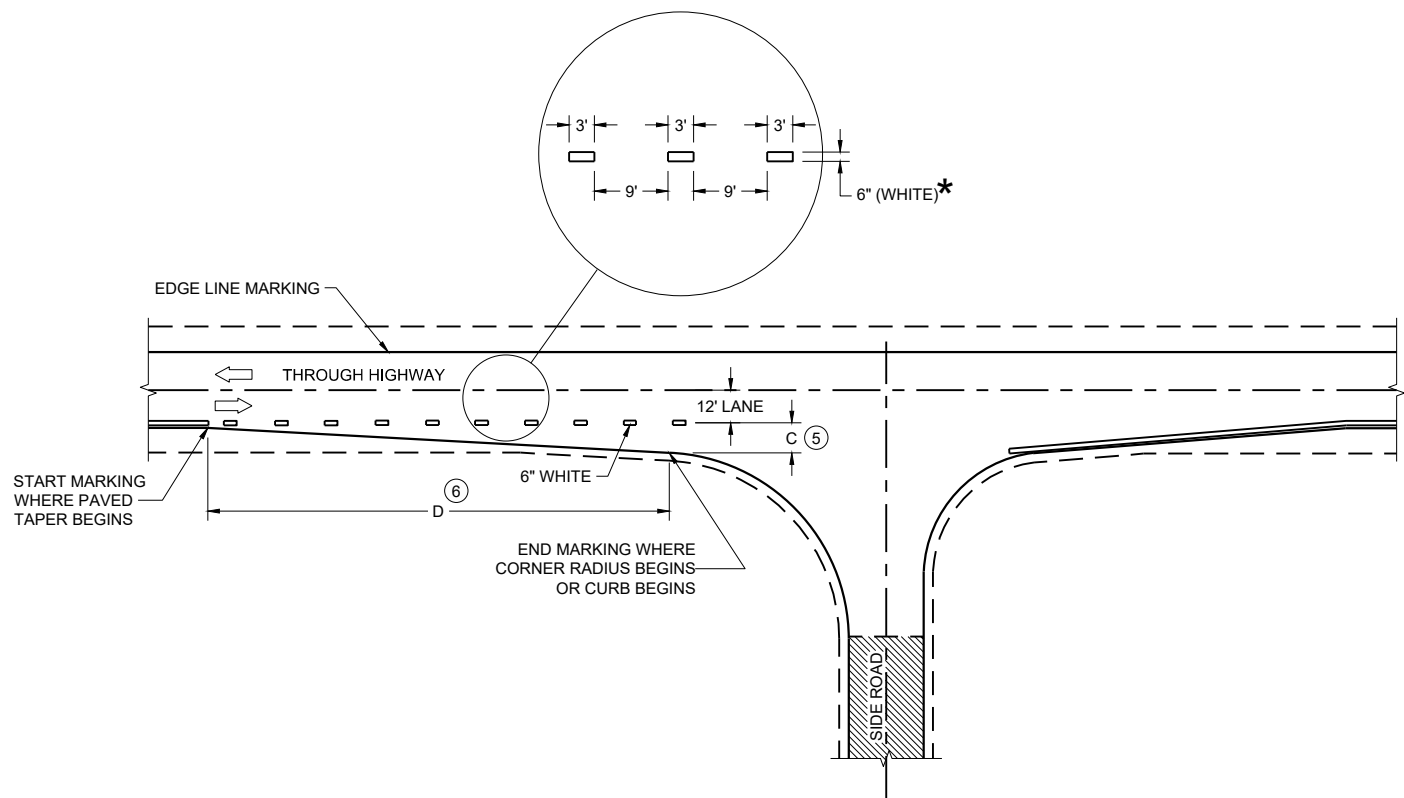
STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

- 1 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- 2 NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
- 3 NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGE LINE EXTENSION.
- 4 MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
- 5 LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES.
- 6 POSTED SPEED LIMITS OF 40 MPH OR GREATER USE A MINIMUM WIDTH OF 8' FOR MIDBLOCK CROSSWALKS

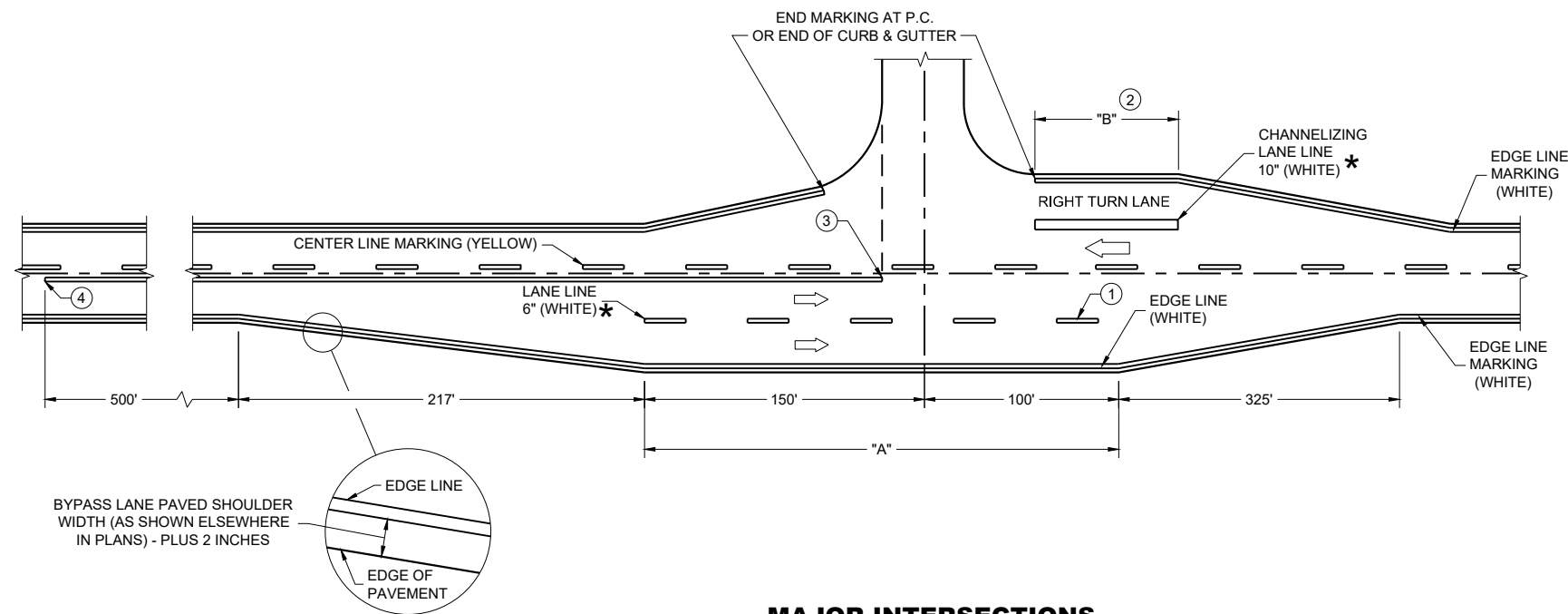
STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
March 2024 /S/ Matthew Rauch  
DATE STATE SIGNING AND MARKING  
ENGINEER  
FHWA



MINOR INTERSECTION



MAJOR INTERSECTIONS  
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

\*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

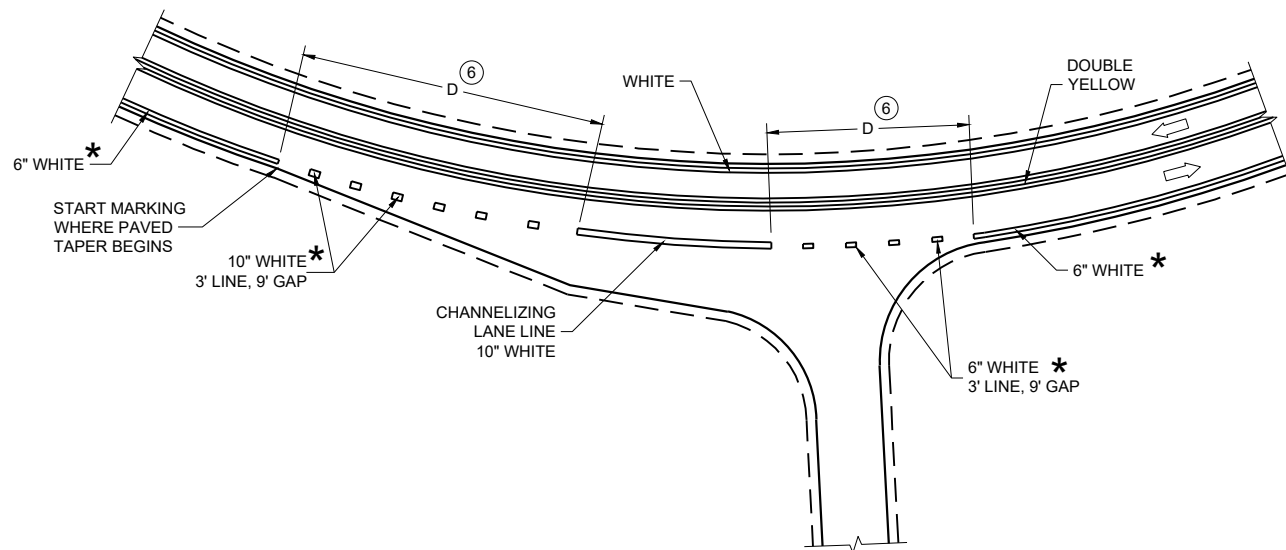
GENERAL NOTES

OMIT EDGE LINES THROUGH INTERSECTIONS. CONTINUE EDGE LINES THROUGH DRIVEWAYS.

- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
- ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
- ③ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
- ④ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
- ⑤ WHEN DISTANCE "C" IS LESS THAN 4 FEET, OMIT DOTTED EXTENSION.
- ⑥ WHEN DISTANCE "D" IS LESS THAN 50 FEET, OMIT DOTTED EXTENSION.

LEGEND

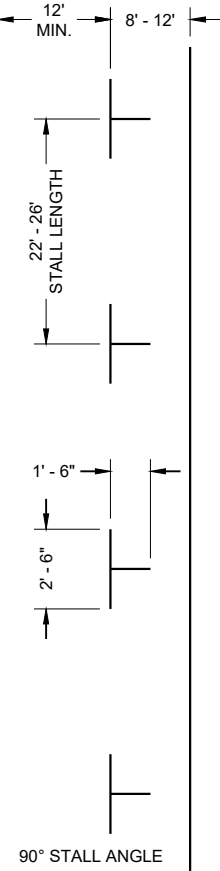
➡ DIRECTION OF TRAVEL



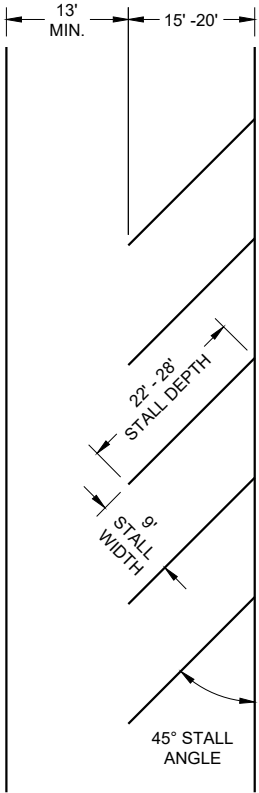
INTERSECTION ON OUTSIDE OF CURVE

PAVEMENT MARKING  
(INTERSECTIONS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

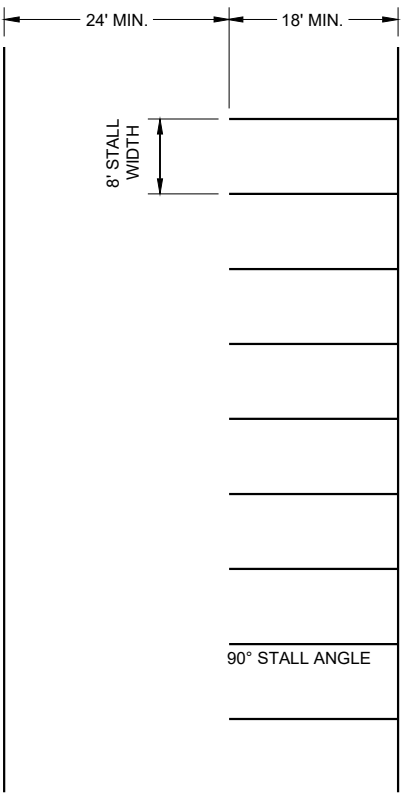
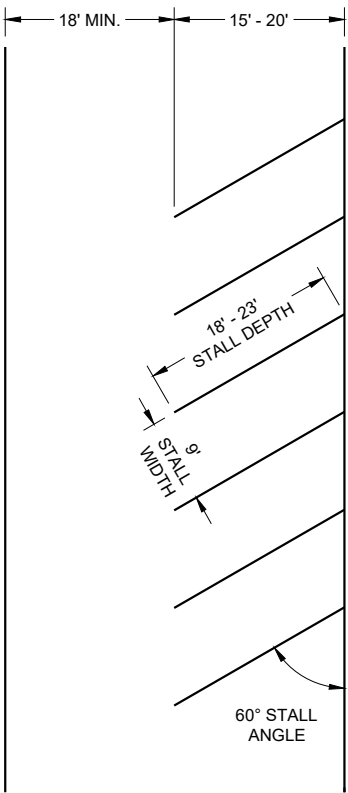


PARALLEL PARKING



ANGLED PARKING

(ANGLED PARKING IS NOT ALLOWED ON STATE HIGHWAYS UNLESS A DESIGN JUSTIFICATION HAS BEEN COMPLETED.)



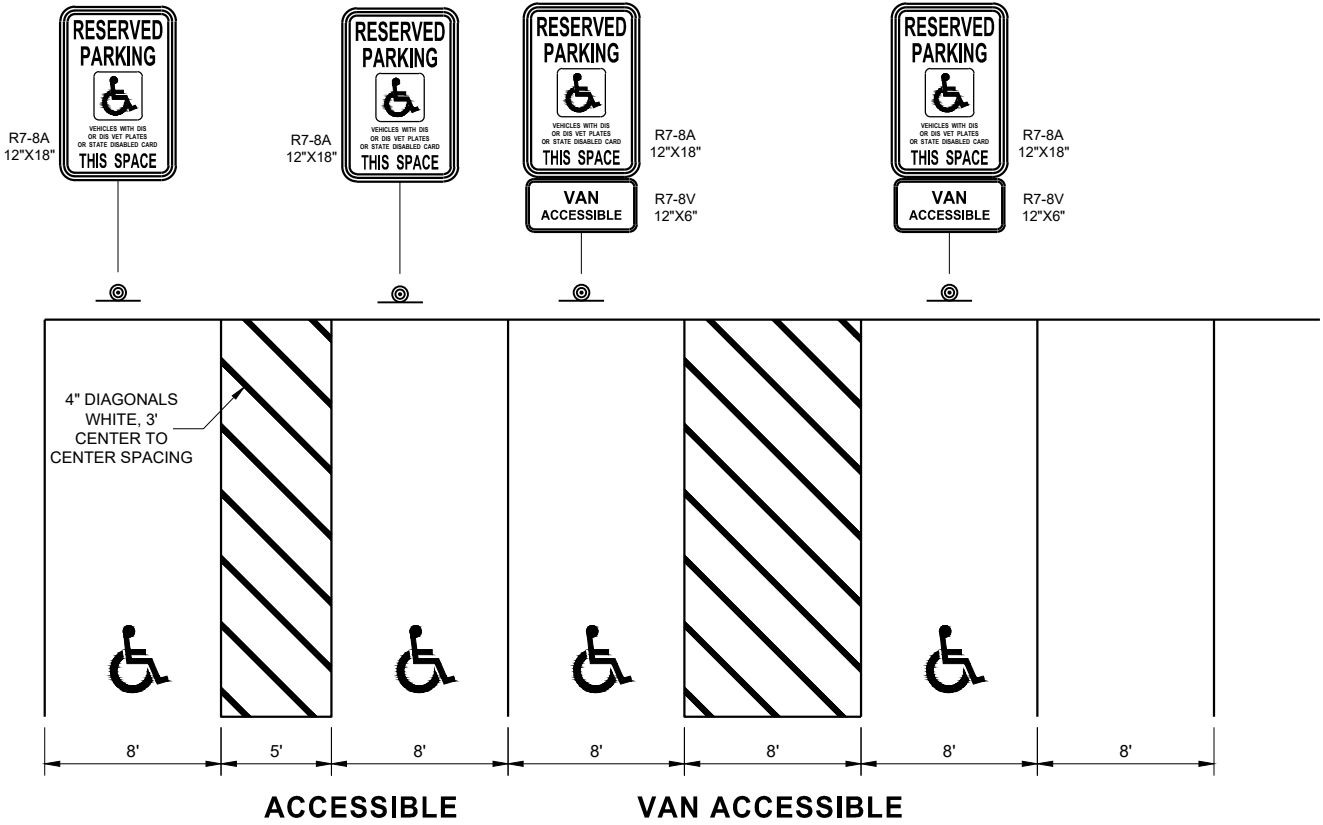
PARKING LOTS

GENERAL NOTES

ALL LINES 4" WHITE (UNLESS OTHERWISE NOTED)  
LAST PARKING STALL IS A MINIMUM OF 15' FROM THE CROSSWALK.

LEGEND

⊙ SIGN ON PERMANENT SUPPORT



PARKING STALL MARKING

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
August 2019 /S/ Matthew Rauch  
DATE STATE SIGNING AND MAP ENGINEER 184

FHWA

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  DIRECTION OF TRAFFIC
-  WORK ZONE

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

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

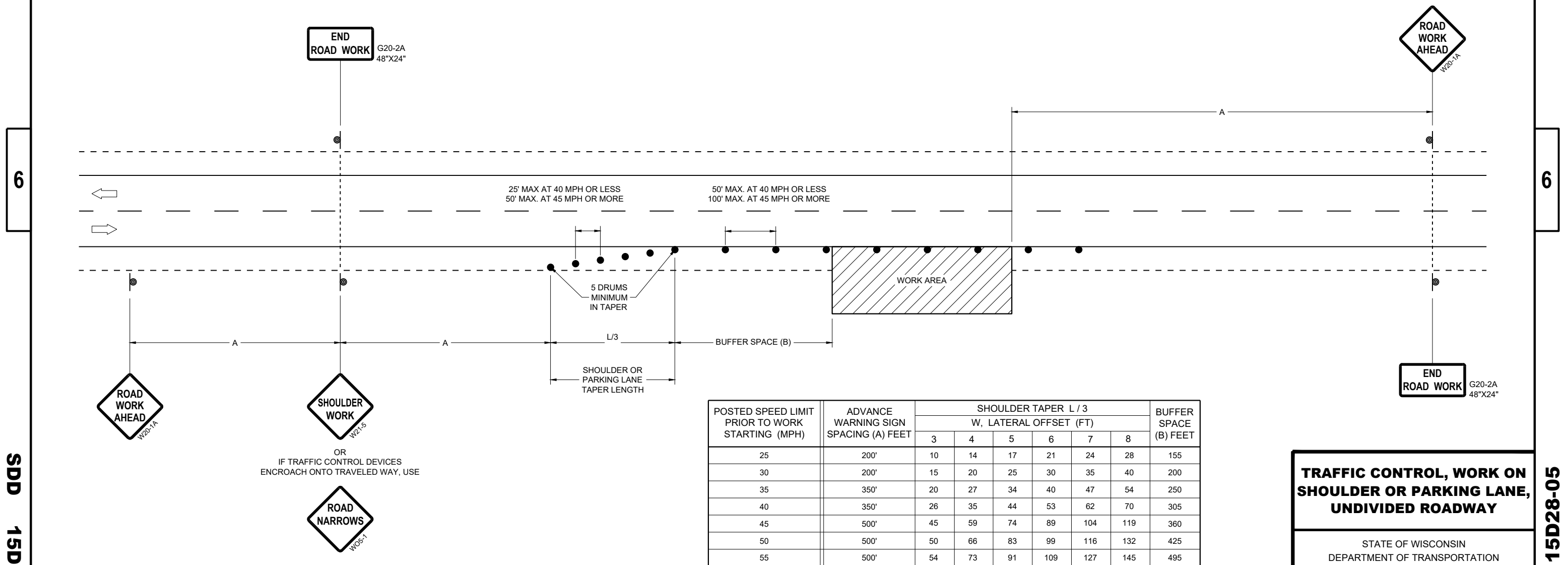
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

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.



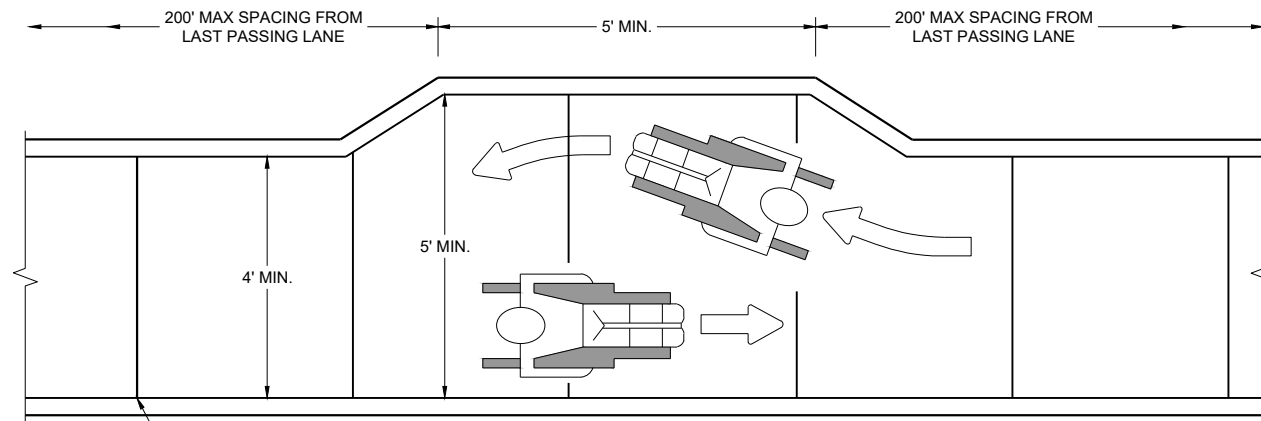
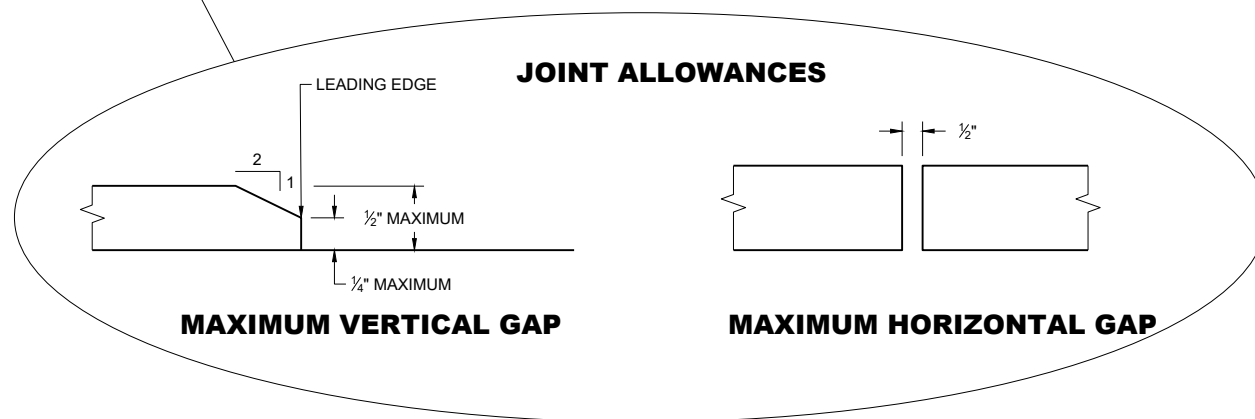
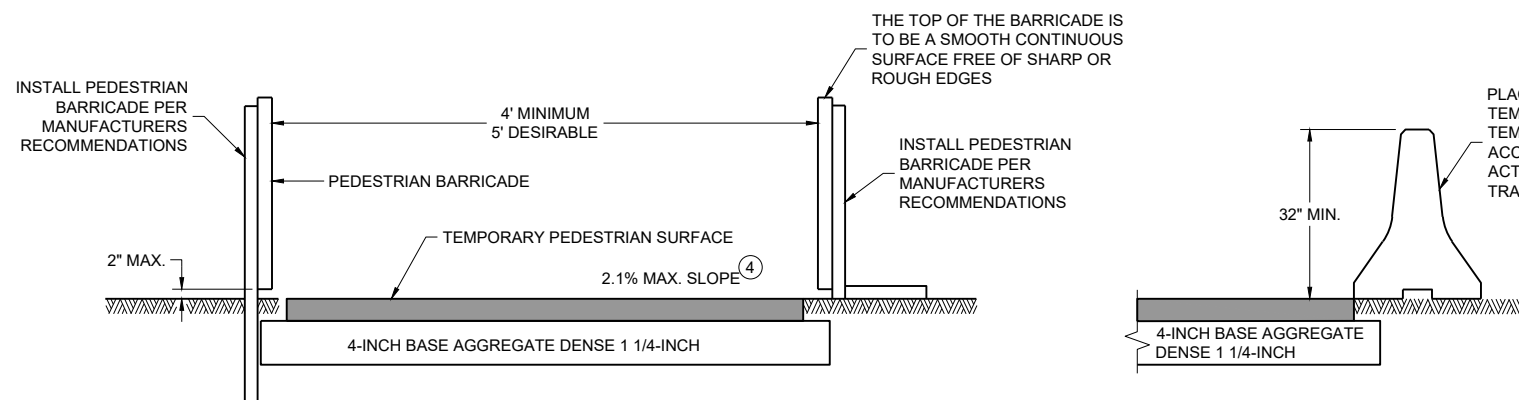
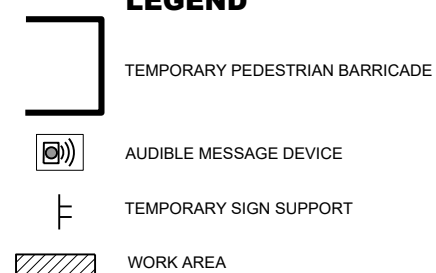
| POSTED SPEED LIMIT<br>PRIOR TO WORK<br>STARTING (MPH) | ADVANCE<br>WARNING SIGN<br>SPACING (A) FEET | SHOULDER TAPER L / 3   |    |    |     |     |     | BUFFER<br>SPACE<br>(B) FEET |
|-------------------------------------------------------|---------------------------------------------|------------------------|----|----|-----|-----|-----|-----------------------------|
|                                                       |                                             | W, LATERAL OFFSET (FT) |    |    |     |     |     |                             |
|                                                       |                                             | 3                      | 4  | 5  | 6   | 7   | 8   |                             |
| 25                                                    | 200'                                        | 10                     | 14 | 17 | 21  | 24  | 28  | 155                         |
| 30                                                    | 200'                                        | 15                     | 20 | 25 | 30  | 35  | 40  | 200                         |
| 35                                                    | 350'                                        | 20                     | 27 | 34 | 40  | 47  | 54  | 250                         |
| 40                                                    | 350'                                        | 26                     | 35 | 44 | 53  | 62  | 70  | 305                         |
| 45                                                    | 500'                                        | 45                     | 59 | 74 | 89  | 104 | 119 | 360                         |
| 50                                                    | 500'                                        | 50                     | 66 | 83 | 99  | 116 | 132 | 425                         |
| 55                                                    | 500'                                        | 54                     | 73 | 91 | 109 | 127 | 145 | 495                         |

**TRAFFIC CONTROL, WORK ON  
SHOULDER OR PARKING LANE,  
UNDIVIDED ROADWAY**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2025  
DATE

/S/ ANDREW HEIDTKE  
STATEWIDE WORK ZONE TRAFFIC  
SAFETY ENGINEER

**NARROW SIDEWALK PASSING DETAIL****MAXIMUM VERTICAL GAP****MAXIMUM HORIZONTAL GAP****TEMPORARY PEDESTRIAN ACCESS****GENERAL NOTES**

BARRICADE DEVICE SELECTED FROM APPROVED PRODUCT LIST

① REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

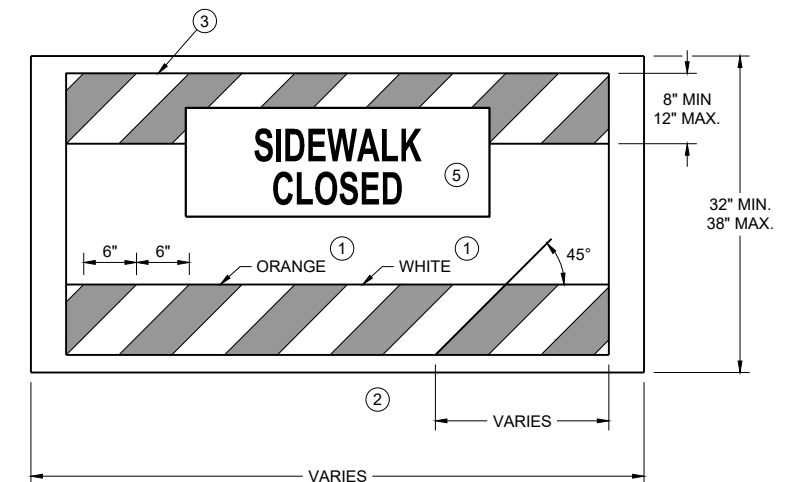
② SHEETING REQUIRED ON MORE THAN 50% OF BARRICADE WIDTH.

③ PLACE SHEETING ON BOTH SIDES OF THE BARRICADE.

★ USE THIS DETAIL FOR SHEETING PLACEMENT REFERENCE.

④ WHEN THE TEMPORARY PEDESTRIAN ACCESS ROUTE RUNS PARALLEL ON THE ROADWAY SURFACE, THE MAXIMUM CROSS SLOPE WILL MATCH THE EXISTING ROADWAY CROSS SLOPE.

⑤ WHERE SIGNS FOR TEMPORARY PEDESTRIAN ACCOMMODATIONS ARE SHOWN BEING PLACED BEHIND TEMPORARY PEDESTRIAN BARRICADE, THE SIGNS MAY BE MOUNTED ON THE TEMPORARY PEDESTRIAN BARRICADE INSTEAD. A CORRUGATED POLYPROPYLENE OR POLYETHYLENE PLASTIC SIGN BASE SHALL BE USED IF MOUNTED ON THE BARRICADE. THE TOP OF THE SIGN SHALL BE MOUNTED BELOW THE TOP OF THE BARRICADE TO ALLOW A CONTINUOUS HAND-TRAILING EDGE.

**TEMPORARY PEDESTRIAN BARRICADE \*****TEMPORARY PEDESTRIAN FLAGGING****TRAFFIC CONTROL,  
PEDESTRIAN  
ACCOMMODATION**STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



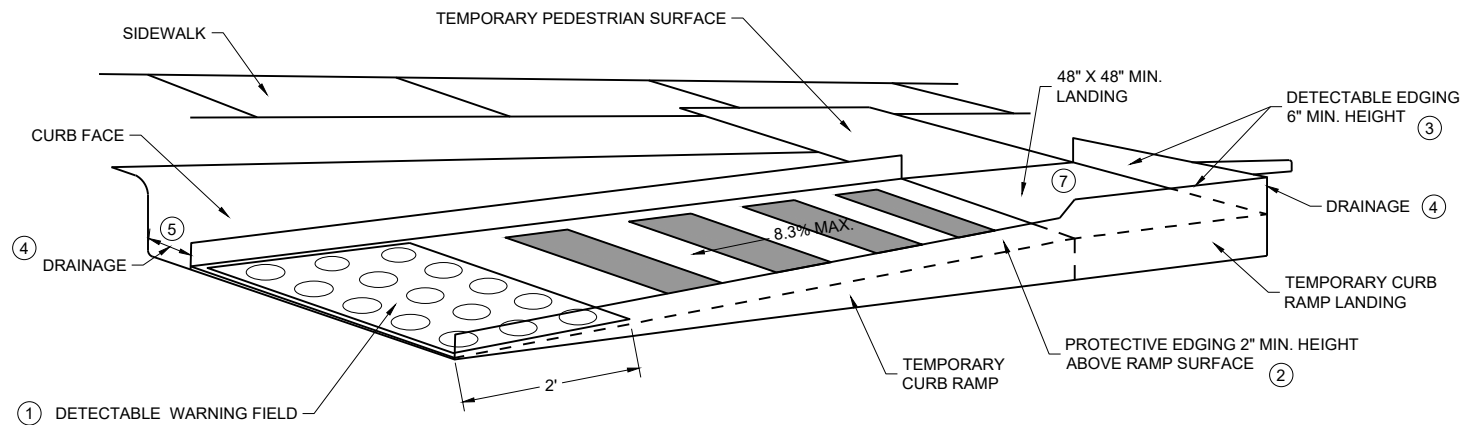
CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.

CURB RAMPS AND LANDINGS SHALL HAVE A 1:48 (2.1%) MAX. CROSS-SLOPE.

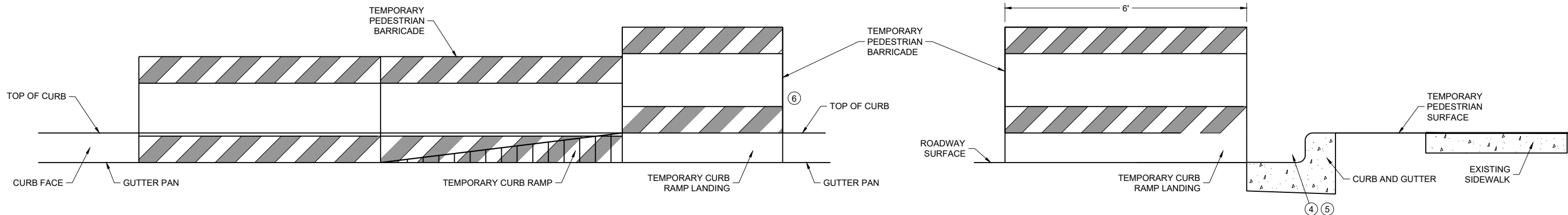
CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP. LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.

CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED  $\frac{1}{2}$ ". LATERAL EDGES MAY BE VERTICAL UP TO  $\frac{1}{4}$ " HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN  $\frac{1}{4}$ " AND  $\frac{1}{2}$ ".

- ① INSTALL CONTRASTING TEMPORARY DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS, AS SHOWN IN THE PLANS.
- ② PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
- ③ DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
- ④ DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.
- ⑤ ENSURE CURB RAMP IS OUT OF THE GUTTER PAN.
- ⑥ IF ONLY PART OF THE END PANEL OF TEMPORARY PEDESTRIAN BARRICADE PANEL IS NEEDED, EXTEND EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL HERE.
- ⑦ LANDING TO BE SLOPED A MAXIMUM OF 2.1% IN ALL DIRECTIONS OF PEDESTRIAN TRAVEL.



## PERSPECTIVE VIEW



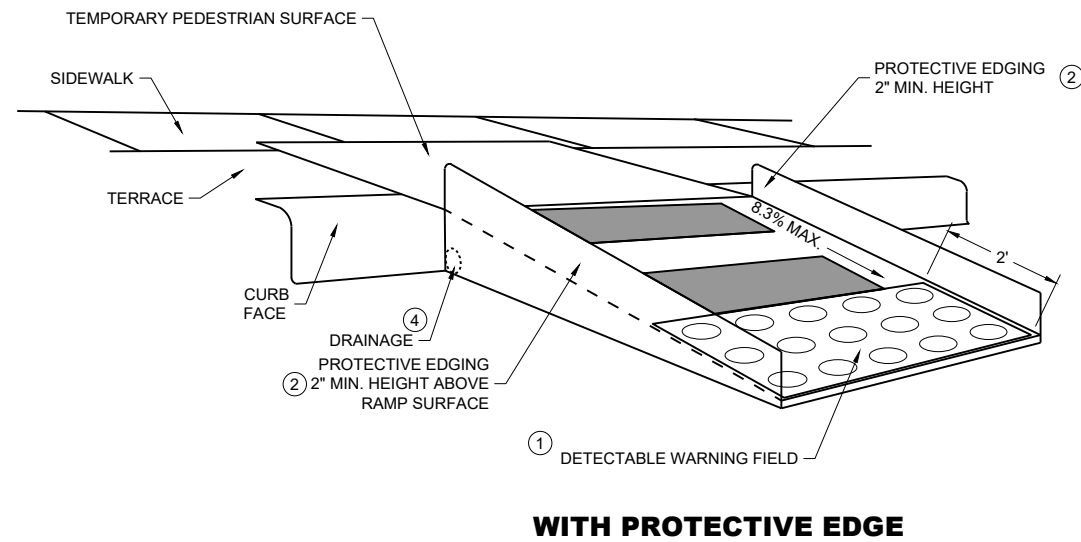
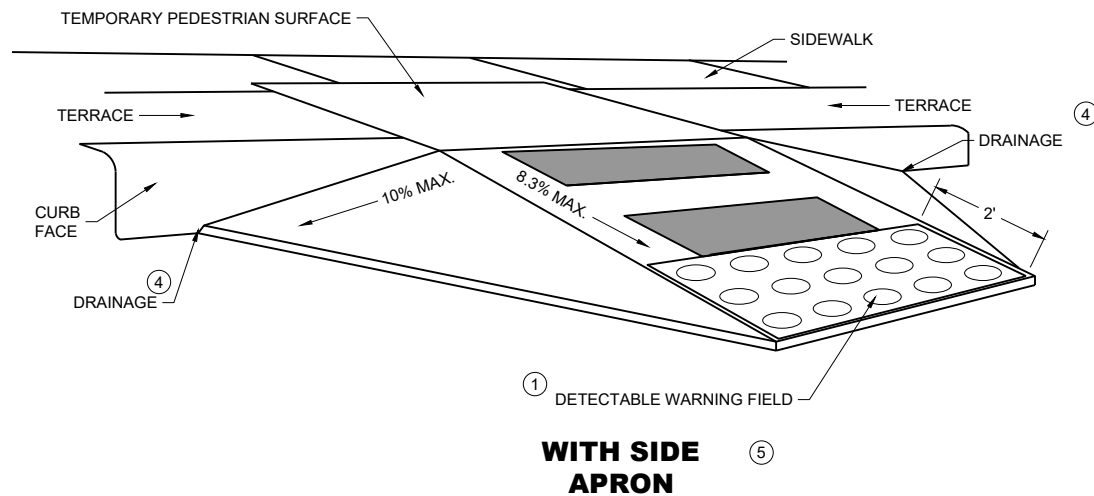
## FRONT VIEW

## SIDE VIEW

## TEMPORARY CURB RAMP PARALLEL TO CURB

## TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



TEMPORARY CURB RAMP PERPENDICULAR TO CURB

## GENERAL NOTES

CURB RAMPS SHALL BE 48" MINIMUM WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.

ALTERNATE SIDEWALK WORK BETWEEN LEFT AND RIGHT SIDE OF ROADWAY TO MAINTAIN PEDESTRIAN ACCESS.

CURB RAMPS AND LANDINGS SHALL HAVE A 1:48 (2.1%) MAX. CROSS-SLOPE.

CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.

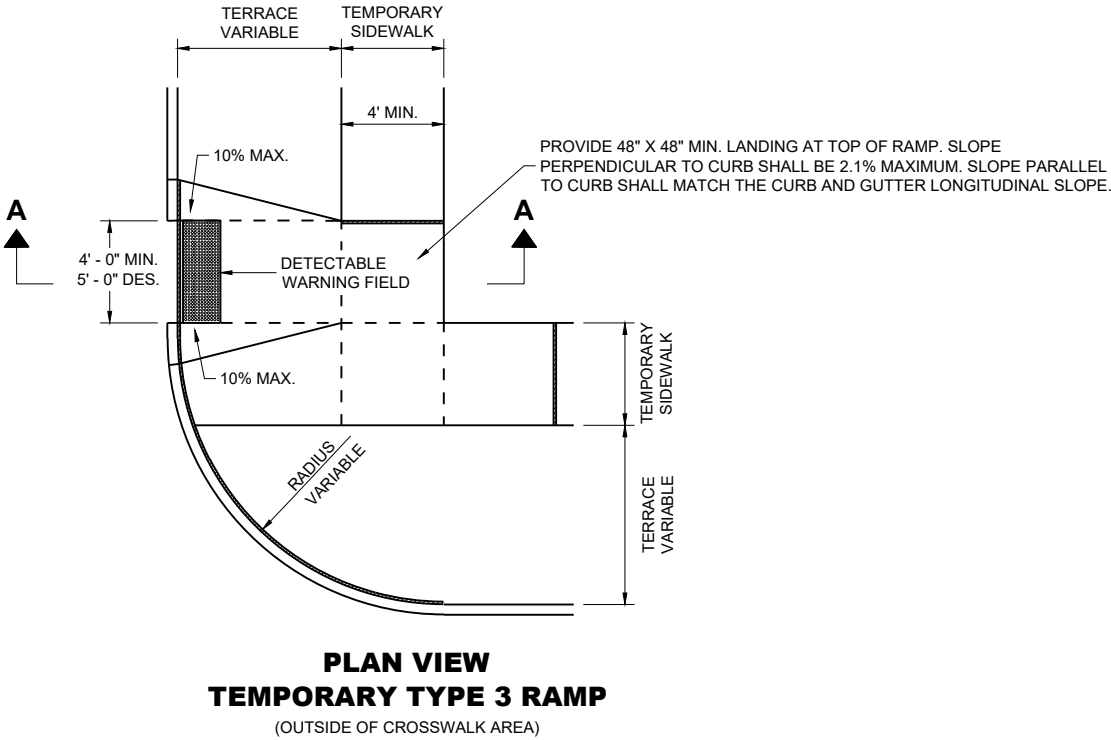
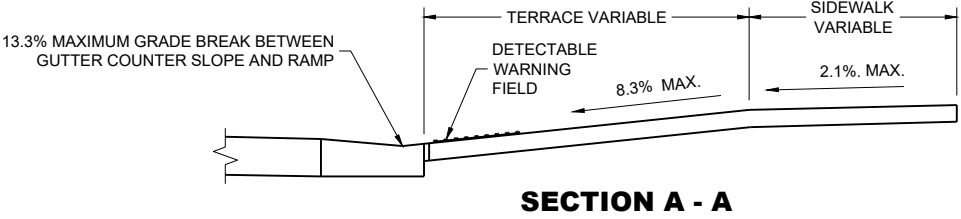
LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN ½" WIDTH.

CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED ½". LATERAL EDGES MAY BE VERTICAL UP TO ¼" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN ¼" AND ½".

- (1) INSTALL CONTRASTING TEMPORARY DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS, AS SHOWN IN THE PLANS
- (2) PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
- (3) DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
- (4) DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.
- (5) CAN ONLY BE USED FOR RAMPS WITH 6" OR LESS OF VERTICAL CHANGE.

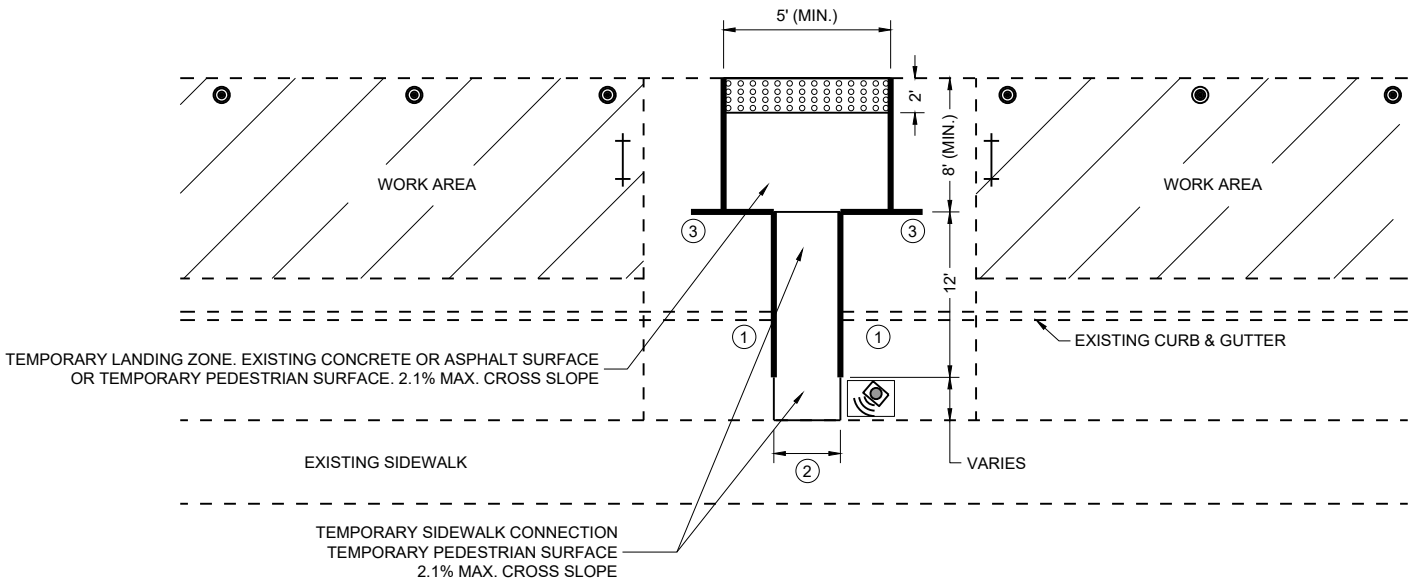


GENERAL NOTES

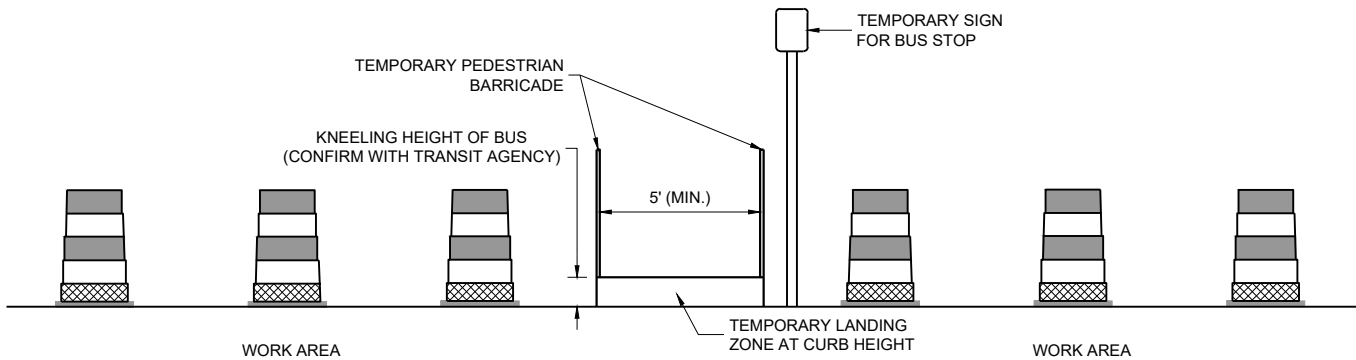


TRAFFIC CONTROL,  
PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



PLAN VIEW



PROFILE VIEW  
TEMPORARY BUS STOP PAD

GENERAL NOTES

- TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG.
- NOTIFY THE BUS COMPANY 7 DAYS IN ADVANCE OF THE BUS STOP RELOCATION.
- PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
- DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
- LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN ½" WIDTH.
- CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED ½". LATERAL EDGES MAY BE VERTICAL UP TO ¼" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN ¼" AND ½".
- CURB RAMPS AND LANDINGS SHALL HAVE A 1:48 (2.1%) MAX. CROSS-SLOPE.

- ① DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.
- ② 5' WIDE MIN. WITH TEMPORARY PEDESTRIAN BARRICADE, 10' WIDE MIN. WITHOUT TEMPORARY PEDESTRIAN BARRICADE.
- ③ PLACE EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE INTO THIS SPACE.

LEGEND

- TRAFFIC CONTROL DRUM
- ⊢ TYPE III BARRICADE
- TEMPORARY PEDESTRIAN BARRICADE
- ⊞ TEMPORARY DETECTABLE WARNING FIELD
- ▨ WORK AREA
- 🔊 TEMPORARY AUDIBLE MESSAGE DEVICE (EXACT PLACEMENT BASED UPON FIELD CONDITIONS)

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- UNDER PEDESTRIAN TRAFFIC
- WORK AREA
- TEMPORARY PEDESTRIAN BARRICADE
- DIRECTION OF TRAFFIC
- TEMPORARY AUDIBLE MESSAGE DEVICE (EXACT PLACEMENT BASED UPON FIELD CONDITIONS)

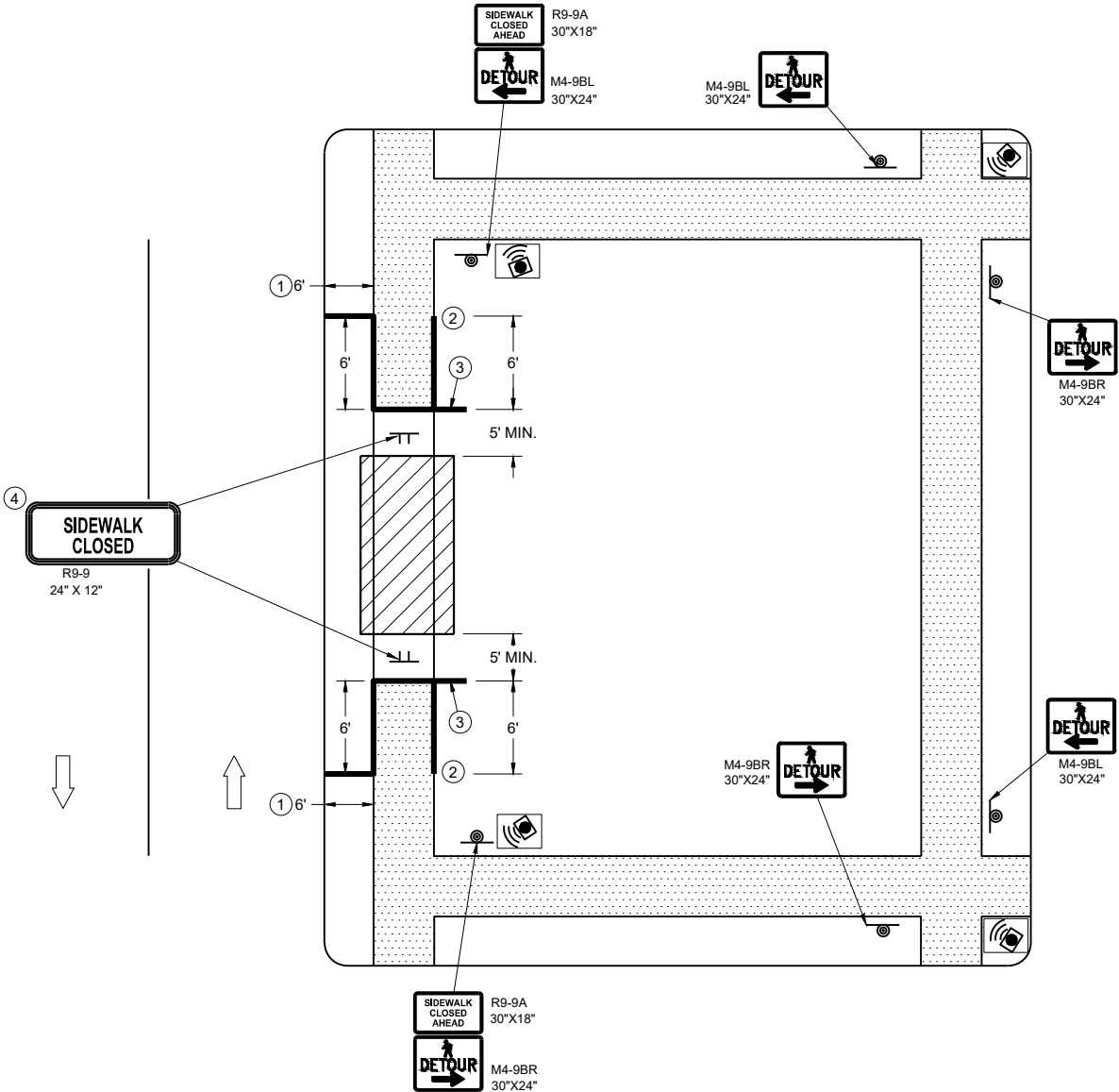
GENERAL NOTES

WHERE TEMPORARY BARRICADE RUNS PARALLEL ALONG SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.

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

PLACE TEMPORARY PEDESTRIAN BARRICADE TO FIT FIELD CONDITIONS, AVOIDING CONFLICTS WITH DRIVEWAYS AND OTHER EXISTING FEATURES.

- IF TERRACE IS LESS THAN 6 FEET WIDE, OMIT TEMPORARY PEDESTRIAN BARRICADE FROM THE SIDEWALK TO THE CURB.
- PLACE BARRICADE CLOSURE SO THAT THE TEMPORARY PEDESTRIAN BARRICADE END IS AT THE LAST OPEN SIDEWALK ACCESS TO RESIDENCES OR BUSINESSES BEFORE THE SIDEWALK CLOSURE.
- IF TEMPORARY PEDESTRIAN BARRICADE PANEL IS WIDER THAN THE SIDEWALK WIDTH, THE PORTION OF EXCESS PANEL SHOULD EXTEND INTO THE TERRACE.
- MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF SIGN.



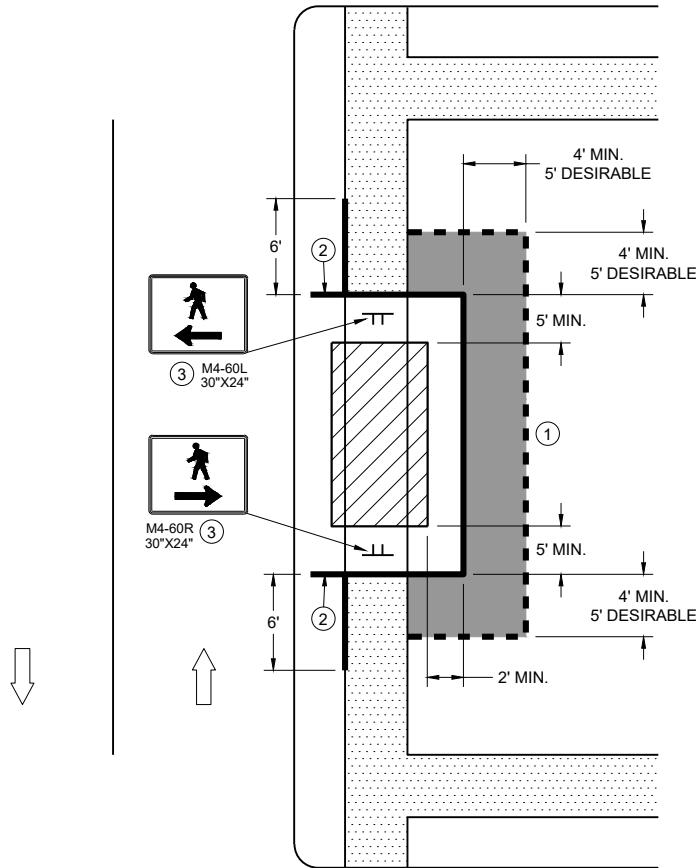
SIDEWALK DETOUR, SIDEWALK ONLY ON ONE SIDE

LEGEND

- SIGN ON TEMPORARY SUPPORT
- WORK AREA
- UNDER PEDESTRIAN TRAFFIC
- TEMPORARY PEDESTRIAN SURFACE
- TEMPORARY PEDESTRIAN BARRICADE
- OPTIONAL TEMPORARY PEDESTRIAN BARRICADE
- DIRECTION OF TRAFFIC

GENERAL NOTES

- TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG.
- WHERE TEMPORARY BARRICADE RUNS PARALLEL ALONG SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.
- SIGNS THAT REMAIN IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
- 1 USE TEMPORARY PEDESTRIAN BARRICADE TO SEPARATE PEDESTRIANS FROM DROP OFFS OR FOR ADDITIONAL PEDESTRIAN CHANNELIZATION.
  - 2 IF TEMPORARY PEDESTRIAN BARRICADE PANEL IS WIDER THAN THE SIDEWALK WIDTH, THE PORTION OF EXCESS PANEL SHOULD EXTEND INTO THE TERRACE.
  - 3 MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF SIGN.



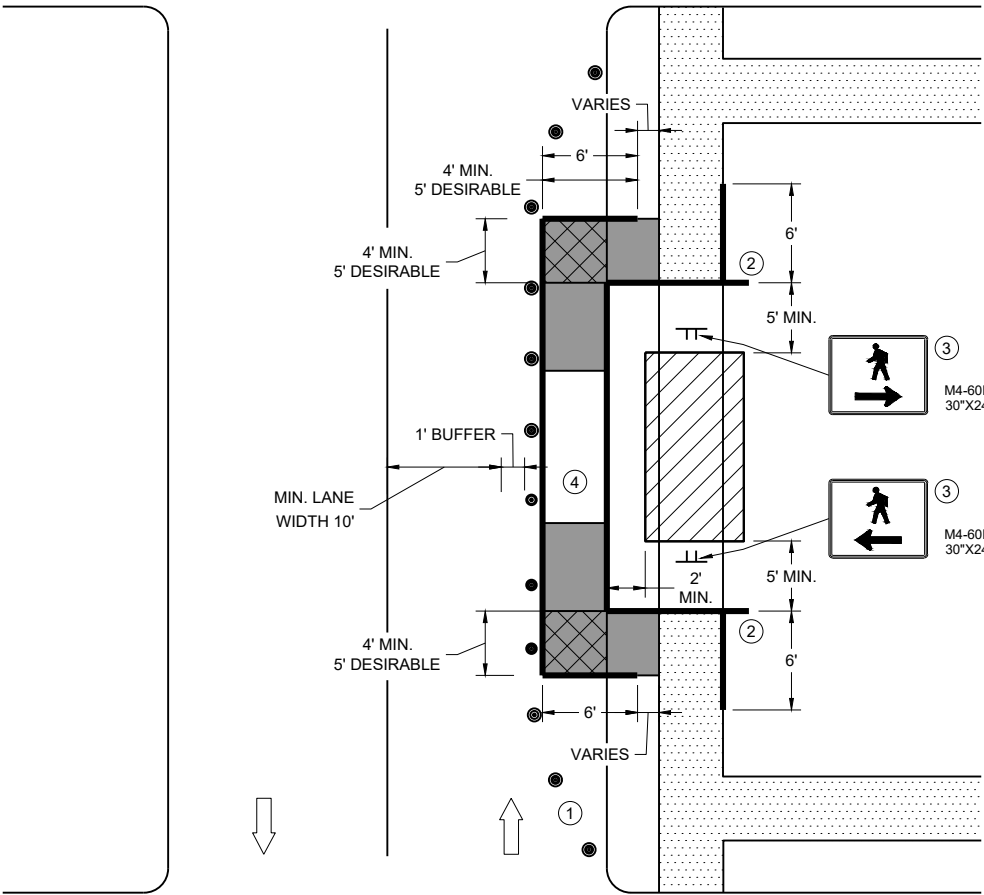
SIDEWALK BYPASS  
SINGLE SIDE

LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- WORK AREA
- UNDER PEDESTRIAN TRAFFIC
- TEMPORARY CURB RAMP
- TEMPORARY PEDESTRIAN SURFACE "A"
- TEMPORARY PEDESTRIAN SURFACE "B"
- TEMPORARY PEDESTRIAN BARRICADE
- DIRECTION OF TRAFFIC

GENERAL NOTES

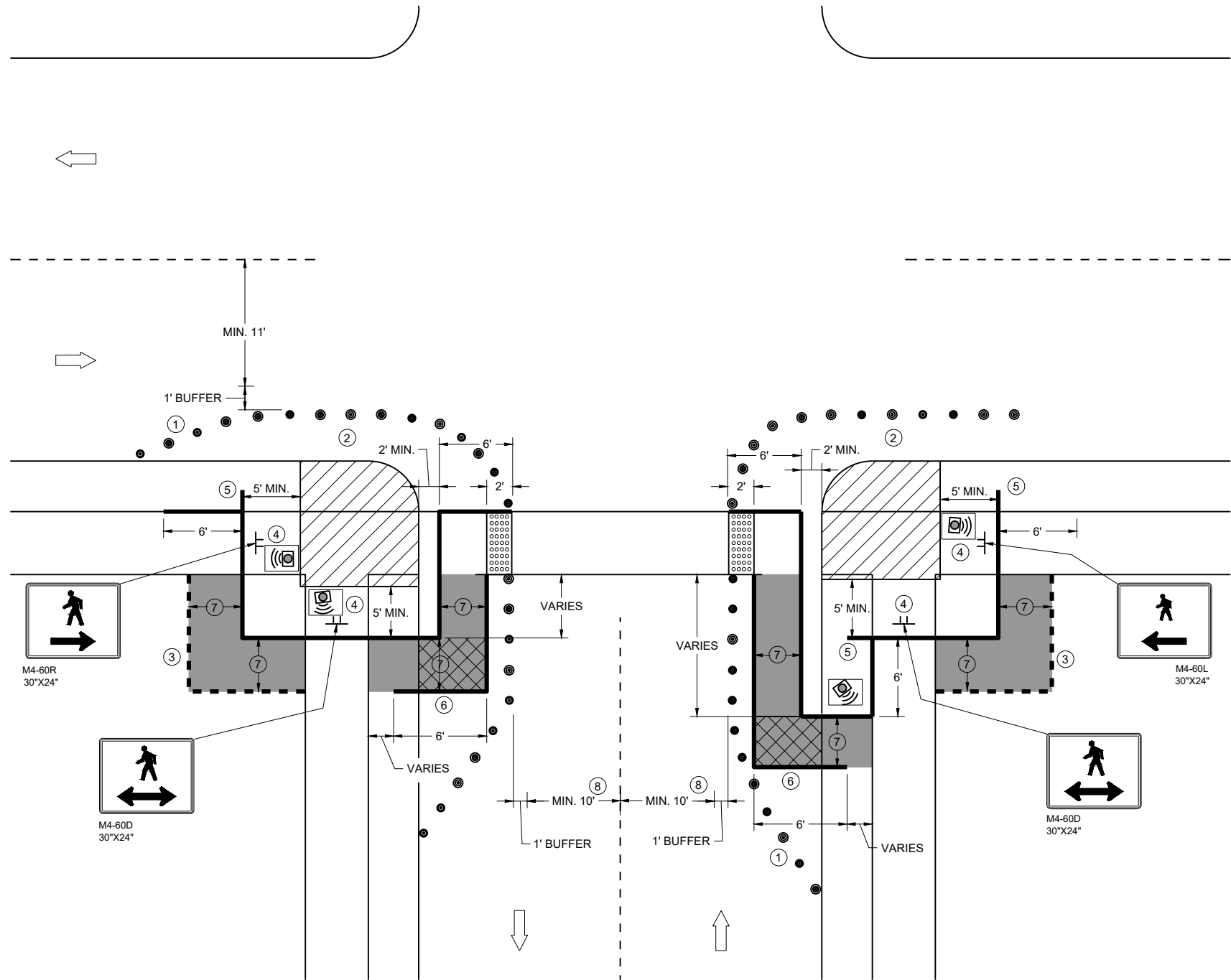
- TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG.
- WHERE TEMPORARY BARRICADE RUNS PARALLEL ALONG SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.
- SHOULDER OR LANE CLOSURE ADVANCE WARNING AND BUFFER SPACE REQUIRED.
  - PLACE EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL PAST THE SIDEWALK ON THE SIDE AWAY FROM THE ROAD.
  - MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF SIGN.
  - USE EXISTING PAVEMENT SURFACE. IF EXISTING PAVEMENT SURFACE HAS BEEN REMOVED, USE A TEMPORARY PEDESTRIAN SURFACE. WHEN THE TEMPORARY PEDESTRIAN ACCESS ROUTE RUNS PARALLEL ON THE ROADWAY SURFACE, THE MAXIMUM CROSS SLOPE WILL MATCH THE EXISTING ROADWAY CROSS SLOPE.



SIDEWALK BYPASS, SINGLE SIDE

TRAFFIC CONTROL,  
PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**CURB RAMP PEDESTRIAN TRAFFIC CONTROL  
SIDEWALK ON SINGLE SIDE**

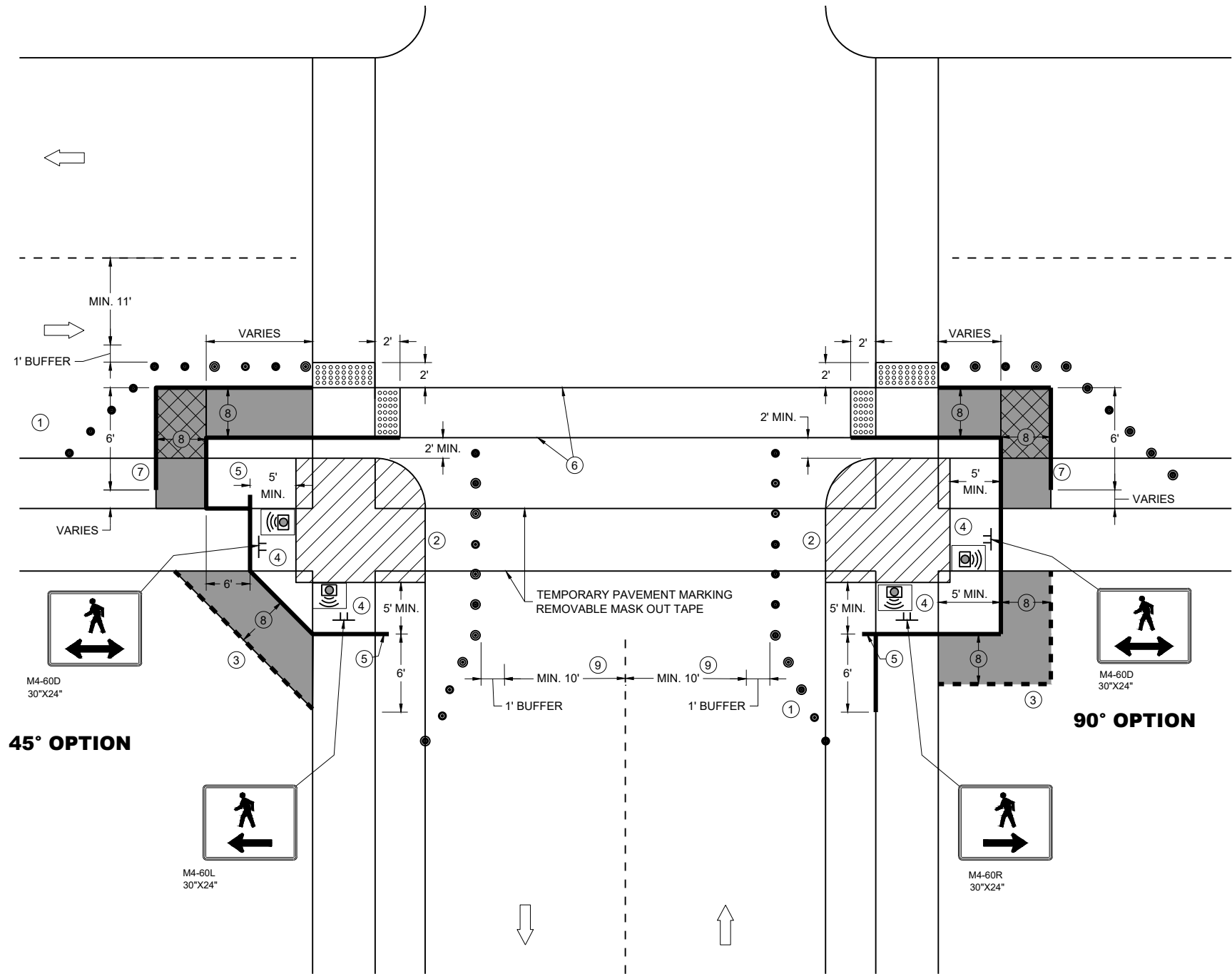
**GENERAL NOTES**

- IF PEDESTRIAN PUSH BUTTONS ARE PRESENT ON THE EXISTING FACILITY, ENSURE THEY ARE MAINTAINED/ACCESSIBLE FOR PEDESTRIAN USE THROUGHOUT THE TEMPORARY PEDESTRIAN ACCOMMODATIONS.
- TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG
- WHEN TEMPORARY PEDESTRIAN BARRICADE RUNS PARALLEL ALONG THE SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.
- WHEN THE TEMPORARY PEDESTRIAN ACCESS ROUTE RUNS PARALLEL ON THE ROADWAY SURFACE, THE MAXIMUM CROSS SLOPE WILL MATCH THE EXISTING ROADWAY CROSS SLOPE.
- 1 SHOULDERS OR LANE CLOSURE ADVANCE WARNING AND PROPER BUFFER SPACE REQUIRED.
  - 2 PROVIDE ADEQUATE SPACE FOR CONTRACTOR OPERATIONS
  - 3 USE TEMPORARY PEDESTRIAN BARRICADE TO SEPARATE PEDESTRIANS FROM DROP OFFS OR FOR ADDITIONAL PEDESTRIAN CHANNELIZATION.
  - 4 MOUNTING HEIGHT OF 5 FEET FROM SIDEWALK SURFACE TO BOTTOM OF SIGN.
  - 5 PLACE EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL IN THE SIDEWALK TERRACE.
  - 6 IF TEMPORARY PEDESTRIAN BARRICADE DOES NOT REACH THE FACE OF THE CURB, USE AN ADDITIONAL PANEL AND EXTEND INTO THE TERRACE.
  - 7 4 FEET MINIMUM, 5 FEET DESIRABLE
  - 8 IF MINIMUM LANE WIDTHS CAN'T BE ATTAINED, CURB RAMPS MAY NEED TO BE CONSTRUCTED AT SEPARATE TIMES.

**LEGEND**

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- WORK AREA
- TEMPORARY CURB RAMP
- TEMPORARY PEDESTRIAN SURFACE "A"
- TEMPORARY PEDESTRIAN SURFACE "B"
- TEMPORARY DETECTABLE WARNING FIELD
- TEMPORARY PEDESTRIAN BARRICADE
- OPTIONAL TEMPORARY PEDESTRIAN BARRICADE
- DIRECTION OF TRAFFIC
- TEMPORARY AUDIBLE MESSAGE DEVICE (EXACT PLACEMENT BASED UPON FIELD CONDITIONS)





CURB RAMP PEDESTRIAN TRAFFIC CONTROL

GENERAL NOTES

IF PEDESTRIAN PUSH BUTTONS ARE PRESENT ON THE EXISTING FACILITY, ENSURE THEY ARE MAINTAINED/ACCESSIBLE FOR PEDESTRIAN USE THROUGHOUT THE TEMPORARY PEDESTRIAN ACCOMMODATIONS.

TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG

WHEN TEMPORARY PEDESTRIAN BARRICADE RUNS PARALLEL ALONG THE SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.

WHEN THE TEMPORARY PEDESTRIAN ACCESS ROUTE RUNS PARALLEL ON THE ROADWAY SURFACE, THE MAXIMUM CROSS SLOPE WILL MATCH THE EXISTING ROADWAY CROSS SLOPE.

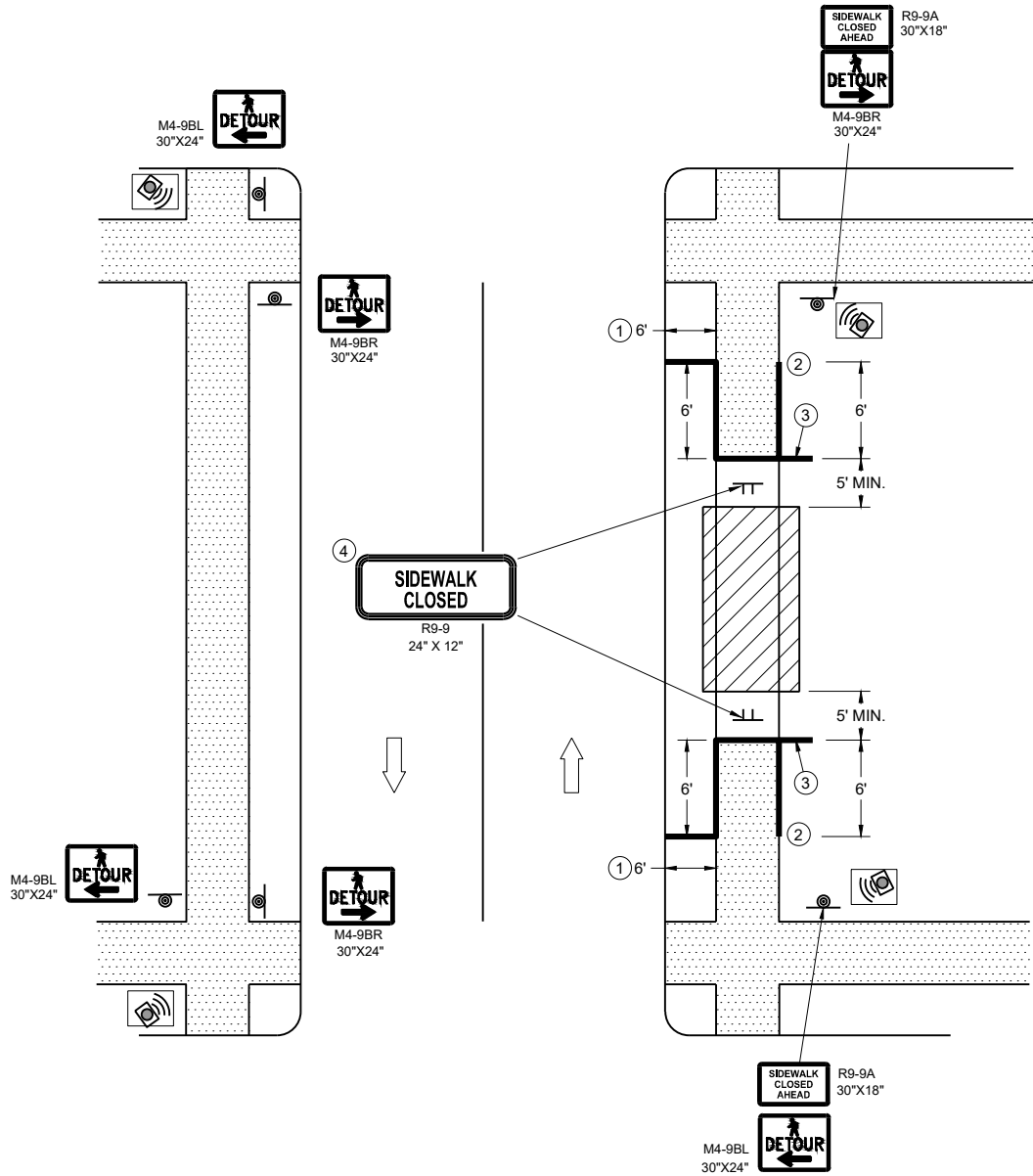
- 1 SHOULDERS OR LANE CLOSURE ADVANCE WARNING AND PROPER BUFFER SPACE REQUIRED.
- 2 PROVIDE ADEQUATE SPACE FOR CONTRACTOR OPERATIONS
- 3 USE TEMPORARY PEDESTRIAN BARRICADE TO SEPARATE PEDESTRIANS FROM DROP OFFS OR FOR ADDITIONAL PEDESTRIAN CHANNELIZATION.
- 4 MOUNTING HEIGHT OF 5 FEET FROM SIDEWALK SURFACE TO BOTTOM OF SIGN.
- 5 PLACE EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL IN THE SIDEWALK TERRACE.
- 6 WHITE 6" TEMPORARY PAVEMENT MARKING
- 7 IF TEMPORARY PEDESTRIAN BARRICADE DOES NOT REACH THE FACE OF THE CURB, USE AN ADDITIONAL PANEL AND EXTEND INTO THE TERRACE.
- 8 4 FEET MINIMUM, 5 FEET DESIRABLE
- 9 IF MINIMUM LANE WIDTHS CAN'T BE ATTAINED, CURB RAMPS MAY NEED TO BE CONSTRUCTED AT SEPARATE TIMES.

LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- WORK AREA
- TEMPORARY CURB RAMP
- TEMPORARY PEDESTRIAN SURFACE "A"
- TEMPORARY PEDESTRIAN SURFACE "B"
- TEMPORARY DETECTABLE WARNING FIELD
- TEMPORARY PEDESTRIAN BARRICADE
- OPTIONAL TEMPORARY PEDESTRIAN BARRICADE
- DIRECTION OF TRAFFIC
- TEMPORARY AUDIBLE MESSAGE DEVICE (EXACT PLACEMENT BASED UPON FIELD CONDITIONS)

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- UNDER PEDESTRIAN TRAFFIC
- WORK AREA
- TEMPORARY PEDESTRIAN BARRICADE
- DIRECTION OF TRAFFIC
- TEMPORARY AUDIBLE MESSAGE DEVICE (EXACT PLACEMENT BASED UPON FIELD CONDITIONS)

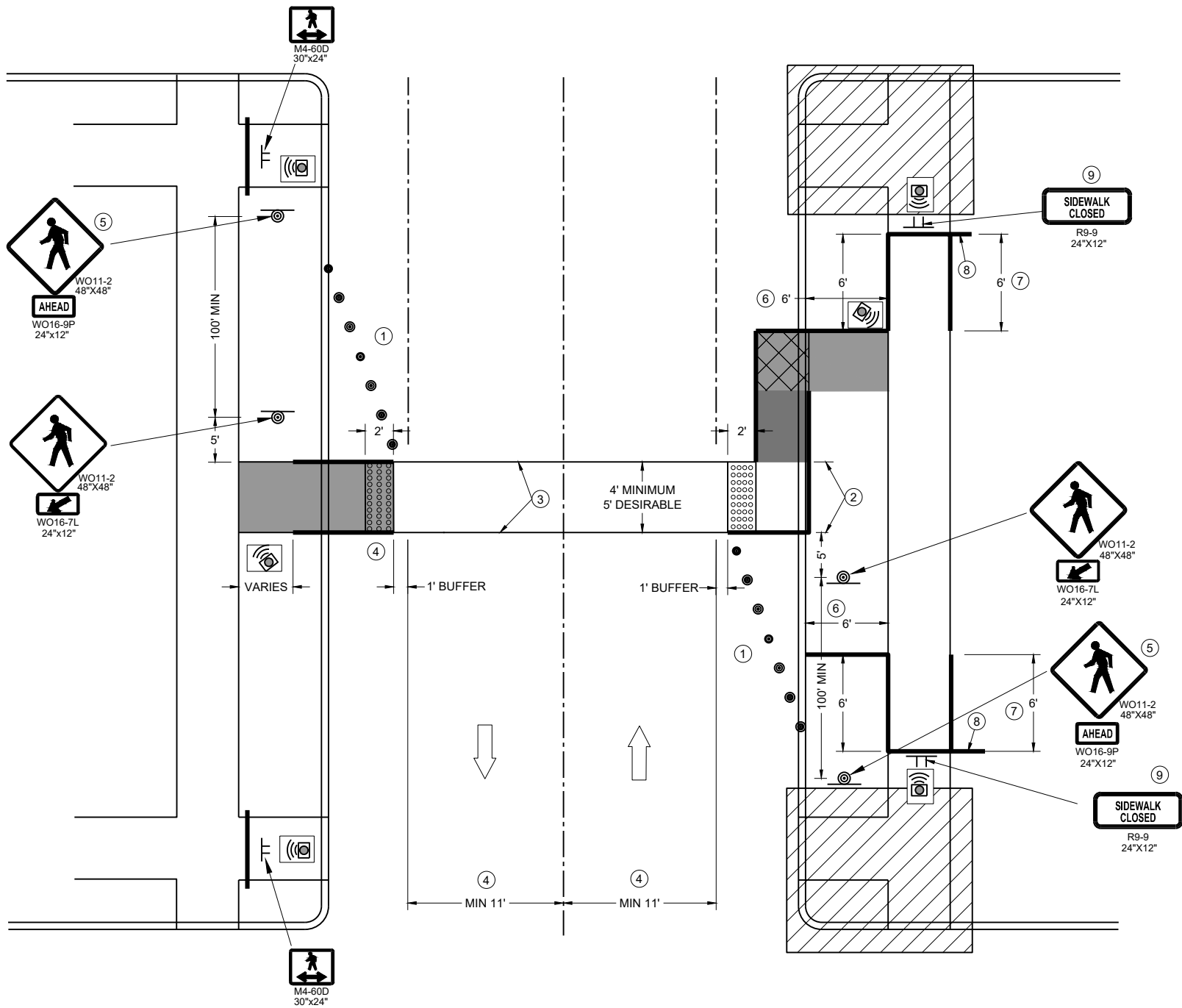


SIDEWALK DETOUR, SIDEWALK ON BOTH SIDES

GENERAL NOTES

- WHERE TEMPORARY BARRICADE RUNS PARALLEL ALONG SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.
- SIGNS THAT REMAIN IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
- PLACE TEMPORARY PEDESTRIAN BARRICADE TO FIT FIELD CONDITIONS, AVOIDING CONFLICT WITH DRIVEWAYS AND OTHER EXISTING FEATURES.
- IF TERRACE IS LESS THAN 6 FEET WIDE, OMIT TEMPORARY PEDESTRIAN BARRICADE FROM THE SIDEWALK TO THE CURB.
  - PLACE BARRICADE CLOSURE SO THAT THE TEMPORARY PEDESTRIAN BARRICADE END IS AT THE LAST OPEN SIDEWALK ACCESS TO RESIDENCES OR BUSINESSES BEFORE THE SIDEWALK CLOSURE.
  - IF TEMPORARY PEDESTRIAN BARRICADE PANEL IS WIDER THAN THE SIDEWALK WIDTH, THE PORTION OF EXCESS PANEL SHOULD EXTEND INTO THE TERRACE.
  - MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF SIGN.





TEMPORARY PEDESTRIAN CROSSING

GENERAL NOTES

TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG.  
SEE OTHER PEDESTRIAN ACCOMMODATION DETAILS FOR SIGNING AND DEVICES FOR DIFFERENT PEDESTRIAN FACILITIES CLOSURES.

WHEN THE TEMPORARY PEDESTRIAN ACCESS ROUTE RUNS PARALLEL ON THE ROADWAY SURFACE, THE MAXIMUM CROSS SLOPE WILL MATCH THE EXISTING ROADWAY CROSS SLOPE.

- ① SHOULDER OR LANE CLOSURE ADVANCED WARNING AND PROPER BUFFER SPACE REQUIRED.
- ② 4 FEET MINIMUM, 5 FEET DESIRABLE.
- ③ WHITE 6" TEMPORARY PAVEMENT MARKING.
- ④ IF MINIMUM LANE WIDTHS CAN'T BE ATTAINED, PERPENDICULAR CURB RAMPS MAY NEED TO BE UTILIZED.
- ⑤ IF MINIMUM 100' SPACING FROM THE MID-BLOCK CROSSING CANNOT BE ATTAINED BEFORE THE INTERSECTION, REMOVE THIS SIGN ASSEMBLY.
- ⑥ IF TERRACE IS LESS THAN 6 FEET WIDE, OMIT TEMPORARY PEDESTRIAN BARRICADE FROM THE SIDEWALK TO THE CURB.
- ⑦ PLACE BARRICADE CLOSURE SO THAT THE TEMPORARY PEDESTRIAN BARRICADE END IS AT THE LAST OPEN SIDEWALK ACCESS TO RESIDENCES OR BUSINESSES BEFORE THE SIDEWALK CLOSURE.
- ⑧ IF TEMPORARY PEDESTRIAN BARRICADE PANEL IS WIDER THAN THE SIDEWALK WIDTH, THE PORTION OF THE EXCESS PANEL SHOULD EXTEND INTO THE TERRACE.
- ⑨ MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF THE SIGN.

LEGEND

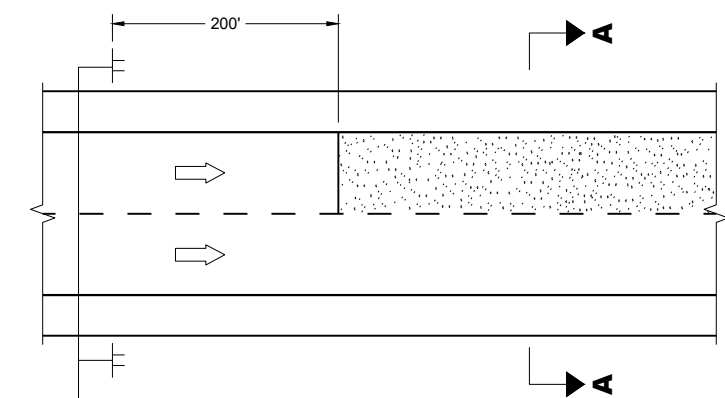
- TRAFFIC CONTROL DRUM
- ⊥ SIGN ON TEMPORARY SUPPORT
- ▬ TEMPORARY CURB RAMP
- ▬ TEMPORARY DETECTABLE WARNING FIELD
- ▬ TEMPORARY PEDESTRIAN SURFACE "A"
- ▬ TEMPORARY PEDESTRIAN SURFACE "B"
- ▬ WORK AREA
- ▬ TEMPORARY PEDESTRIAN BARRICADE
- ➡ DIRECTION OF TRAFFIC
- 🔊 TEMPORARY AUDIBLE MESSAGE DEVICE (EXACT PLACEMENT BASED UPON FIELD CONDITIONS)

TRAFFIC CONTROL,  
PEDESTRIAN ACCOMMODATION

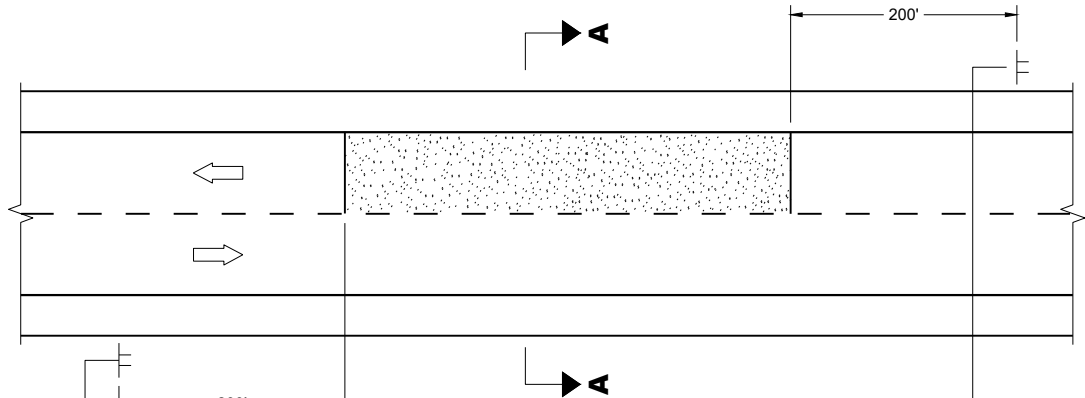
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2025 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

FHWA



MULTI-LANE

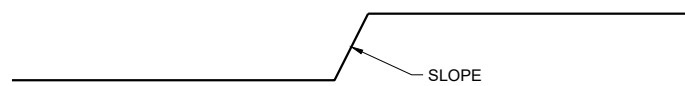


TWO-WAY TWO LANE

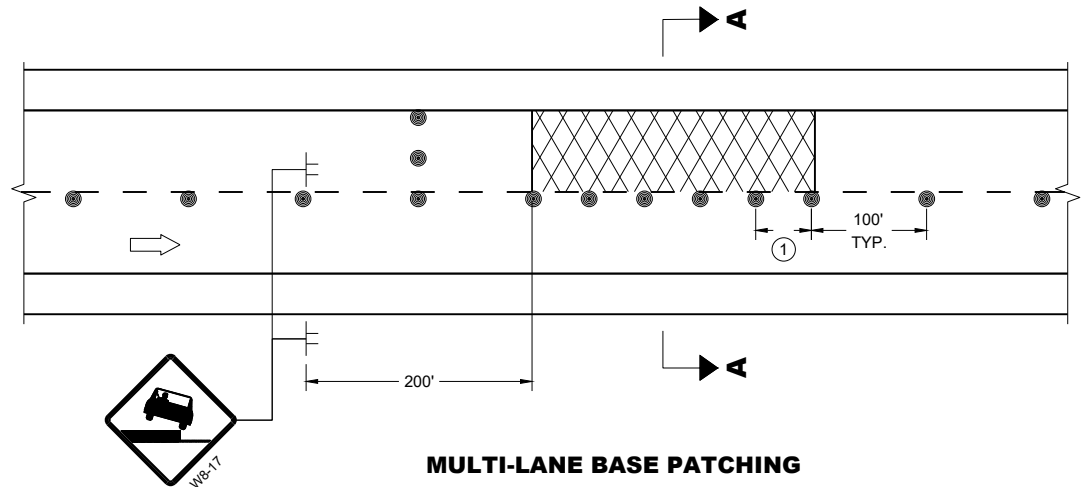


SECTION A - A

OR



SECTION A - A



MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS

GENERAL NOTES

FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.

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

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

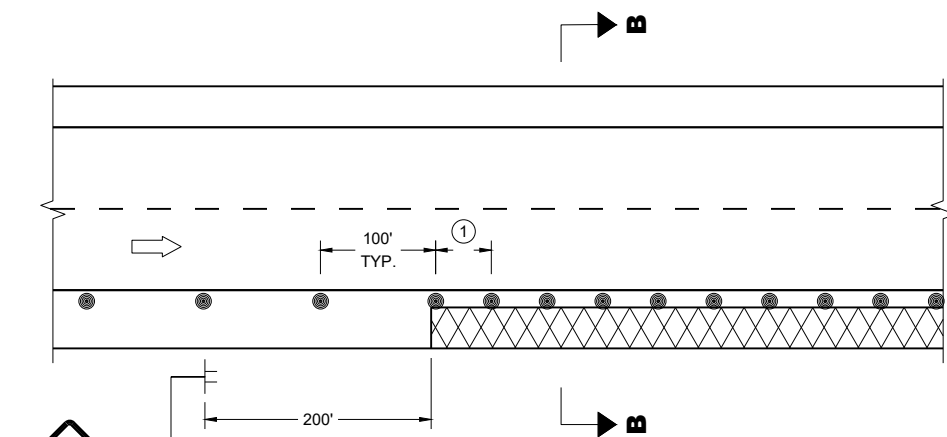
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

★ IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EVERY ENTRANCE RAMP.

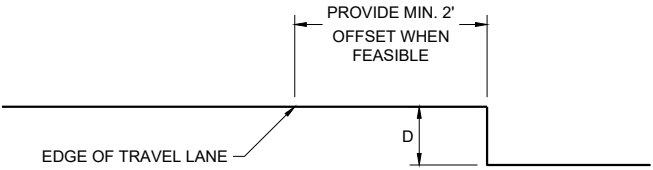
① USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE



SHOULDER DROP-OFFS



SECTION B - B

| D                                                                   | SIGN ©                       |
|---------------------------------------------------------------------|------------------------------|
| < 2" WITH A SLOPE STEEPER THAN 3:1                                  | LOW SHOULDER<br>WO8-9        |
| 2" < 6" WITH A SLOPE STEEPER THAN 3:1                               | SHOULDER DROP - OFF<br>W8-9A |
| PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT |                              |

TRAFFIC CONTROL,  
DROP-OFF SIGNING

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
February 2025  
DATE

/S/ Andrew Heidtke  
WORK ZONE ENGINEER

FHWA

GENERAL NOTES

DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM. ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD). SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISDOT STANDARD SIGN PLATES.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THAT THE BACKGROUND IS ORANGE.

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

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

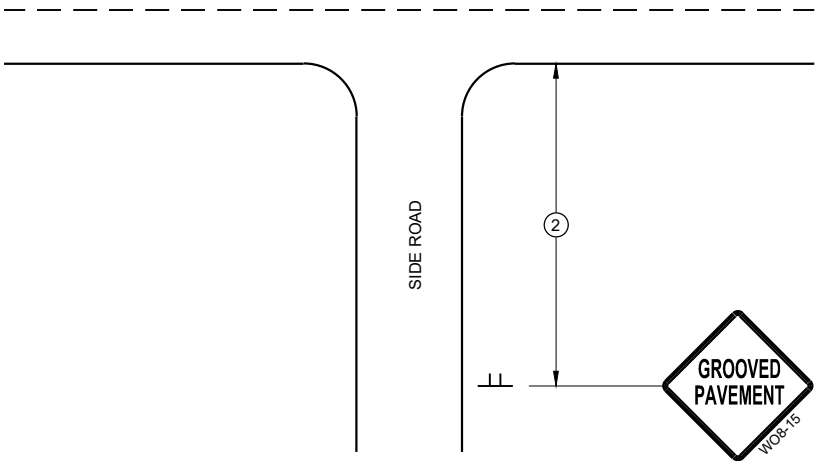
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

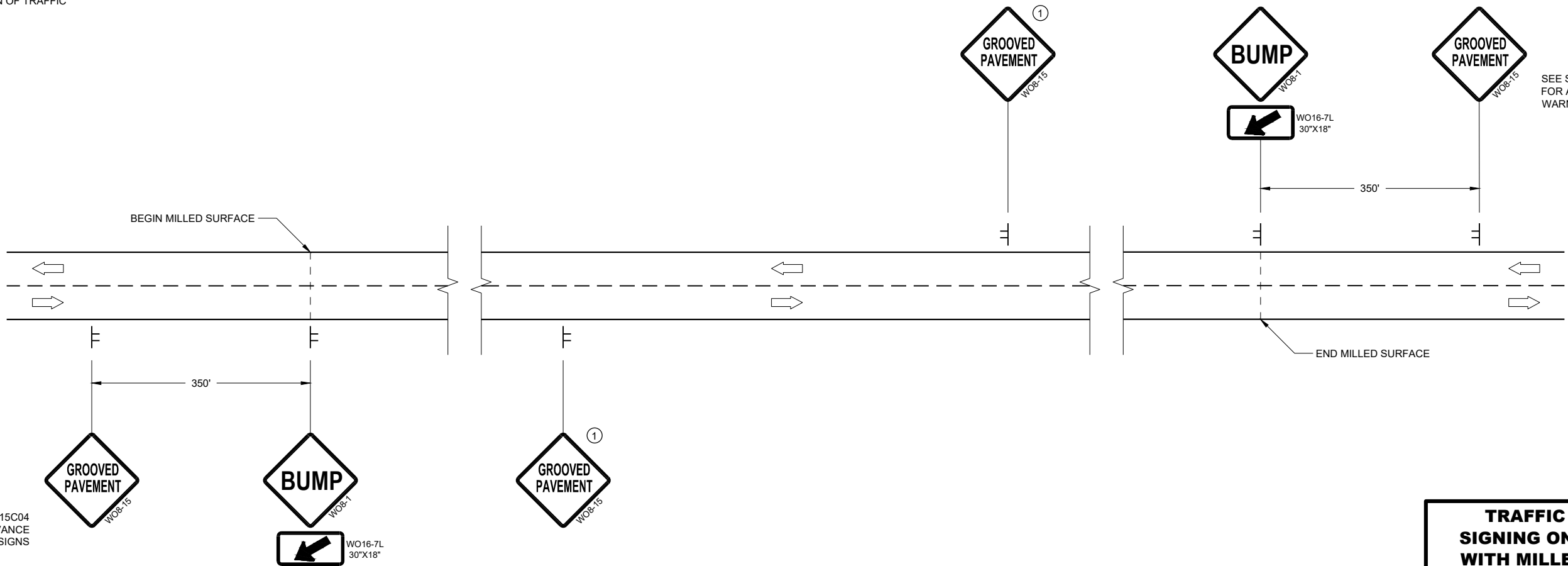
- ① PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- ② PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH  
SIGN DETAIL



SEE SDD15C04  
FOR ADVANCE  
WARNING SIGNS

SEE SDD15C04  
FOR ADVANCE  
WARNING SIGNS

DETAIL FOR SIGNING ON MILLED SURFACES

TRAFFIC CONTROL,  
SIGNING ON ROADWAYS  
WITH MILLED SURFACES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
February 2020 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER 199

FHWA

GENERAL NOTES

DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM. ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD). SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISDOT STANDARD SIGN PLATES.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THAT THE BACKGROUND IS ORANGE.

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

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

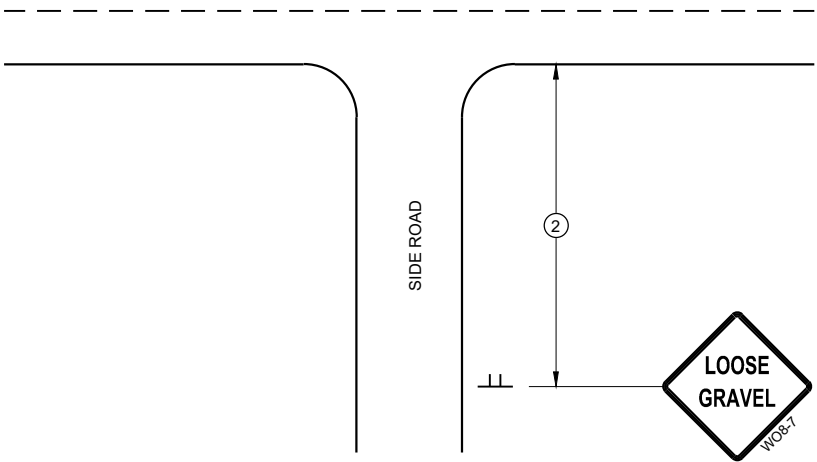
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

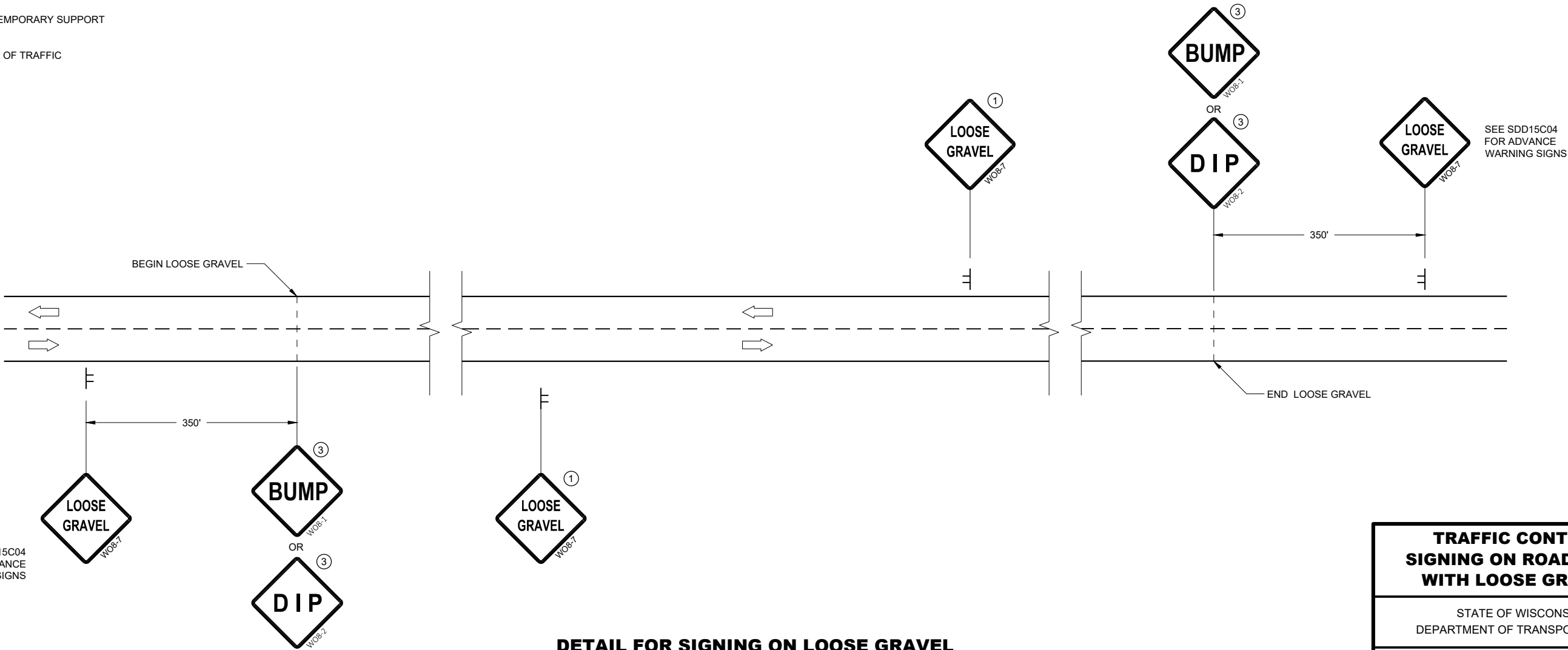
- 1 PLACE SIGNS 350' IN ADVANCE OF CHIP SEALED OR LOOSE GRAVEL SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- 2 PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.
- 3 ADD WO8-1 OR WO8-2 SIGN WHEN THE CONDITION IS PRESENT.

LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH  
SIGN DETAIL



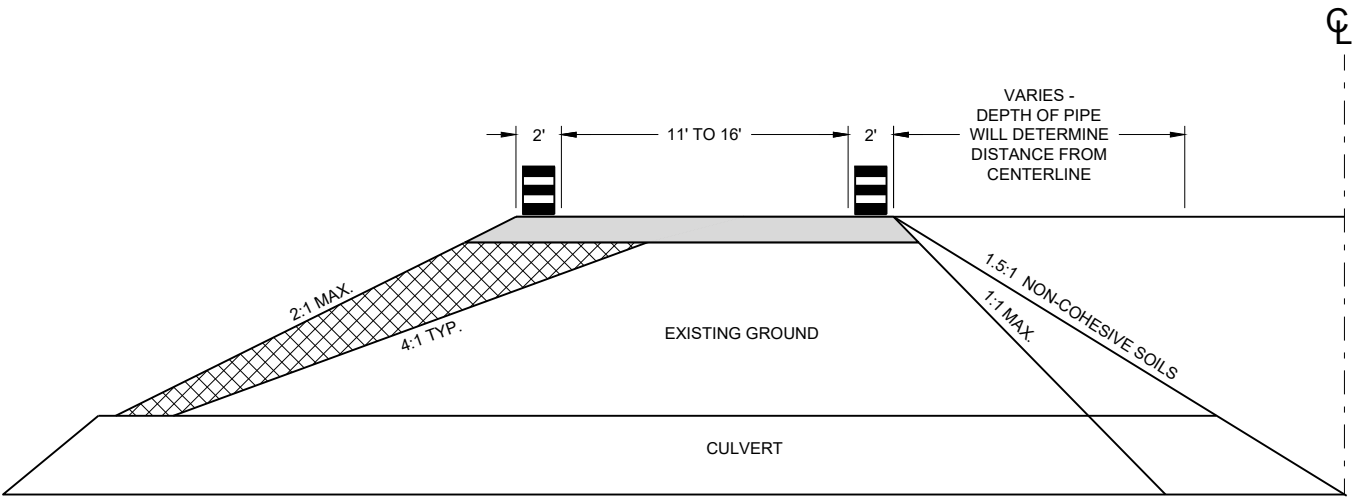
DETAIL FOR SIGNING ON LOOSE GRAVEL  
OR CHIP SEALED SURFACES

TRAFFIC CONTROL  
SIGNING ON ROADWAYS  
WITH LOOSE GRAVEL

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
February 2021 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER 200

FHWA



CROSS SECTION

GENERAL NOTES

USE 1:1 FOR COHESIVE CLAYS AND SILTS, LOAMS, SANDY CLAYS AND ANGULAR GRAVEL SOILS.  
USE 1.5:1 FOR NON-COHESIVE SOILS.

THE TAPER SHOULD EXTEND ACROSS THE SHOULDER UNLESS DOING SO WOULD GREATLY CONFLICT WITH THE WORK OPERATION.

ALL LANE CLOSURE SIGNS SHALL BE REMOVED OR COVERED AND ALL DEVICES REMOVED BEYOND THE SHOULDER WHEN WORK IS NOT IN PROGRESS AND THE LANE IS RESTORED TO A SAFE OPERATING CONDITION.

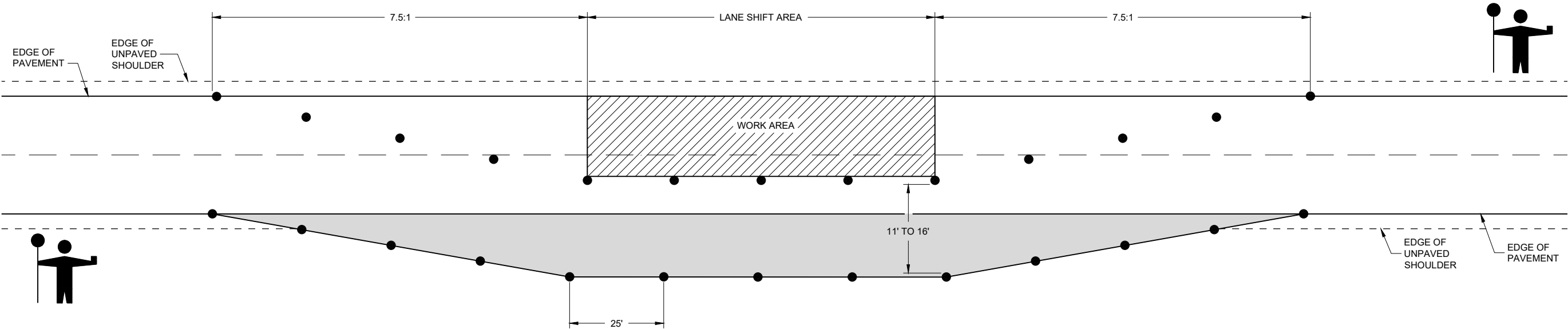
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

USE WITH SDD 15C12 "TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATIONS"

USE WITH SDD 15D45 "SIGNING ON ROADWAYS WITH LOOSE GRAVEL"

LEGEND

- DRUM WITHOUT WARNING LIGHT
- 6" BASE AGGREGATE DENSE 1 1/4" - INCIDENTAL TO LANE SHIFT ITEM
- FILL - INCIDENTAL TO LANE SHIFT ITEM
- WORK AREA
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF



LANE SHIFT IN FLAGGING OPERATION

**TRAFFIC CONTROL,  
TEMPORARY LANE SHIFT  
DURING CULVERT WORK**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
February 2021 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER 201

FHWA

LEGEND

- V1

WORK VEHICLE
- V2

SHADOW VEHICLE
- 

TRUCK MOUNTED ATTENUATOR (TMA)
- 

FLASHING ARROW PANEL (CAUTION)
- 

WORK AREA
- 

DIRECTION OF TRAFFIC

| POSTED SPEED PRIOR TO WORK STARTING (MPH) | DECISION SIGHT DISTANCE (D) |
|-------------------------------------------|-----------------------------|
| 0 - 25                                    | 550'                        |
| 30                                        | 550'                        |
| 35                                        | 700'                        |
| 40                                        | 700'                        |
| 45                                        | 900'                        |
| 50                                        | 900'                        |
| 55                                        | 1200'                       |

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

MOBILE IS WORK THAT MOVES CONTINUOUSLY OR MOVES AT LEAST THE DECISION SIGHT DISTANCE EVERY 15 MINUTES.

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL ARROW PANELS SHALL BE REAR FACING, TYPE "B" OR "C", AND DISPLAYING THE FLASHING CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

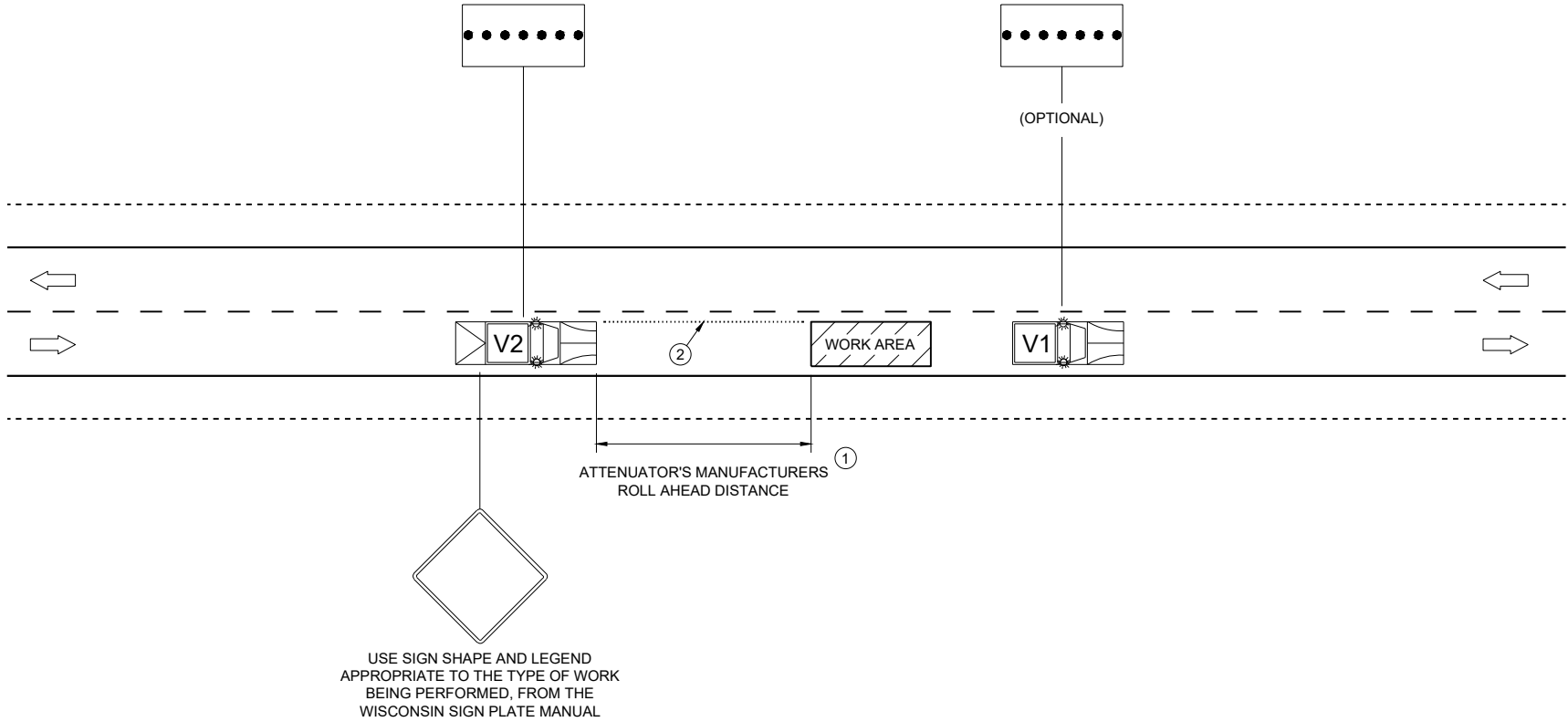
USE AN ATTENUATOR ON THE REARMOST VEHICLE THAT BLOCKS ALL OR PART OF THE TRAFFIC LANE.

WORKERS SHALL NOT PERFORM WORK FROM ANY SHADOW OR PROTECTION VEHICLES.

- ①

DISTANCE BETWEEN VEHICLES MAY INCREASE FROM THE ATTENUATOR'S ROLL AHEAD BASED ON TERRAIN, SIGHT DISTANCE, 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.
- ②

ALIGN LEFT SIDE OF SHADOW VEHICLE WITH EDGE OF WORK AREA.

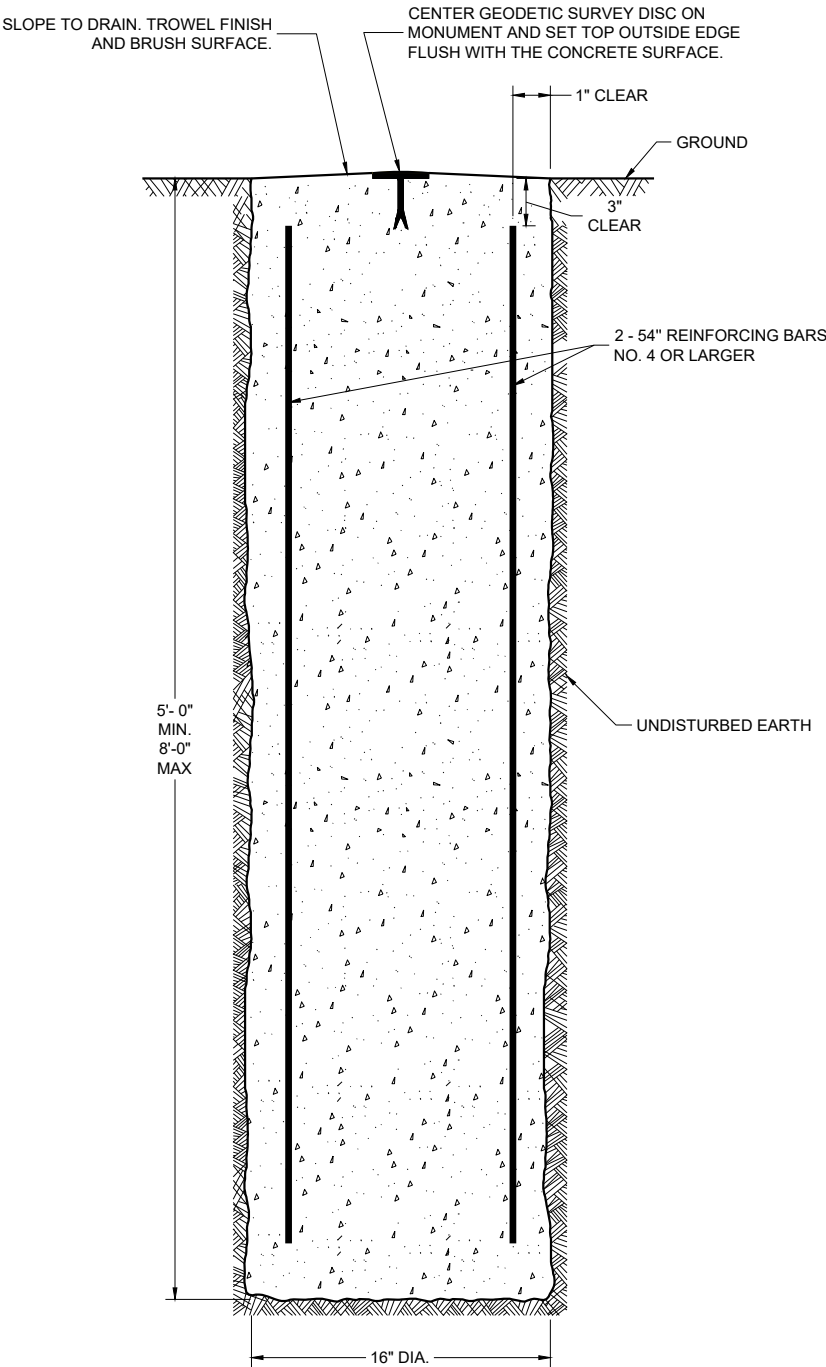


TRAFFIC CONTROL,  
MOBILE OPERATIONS ON  
AN UNDIVIDED ROADWAY

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

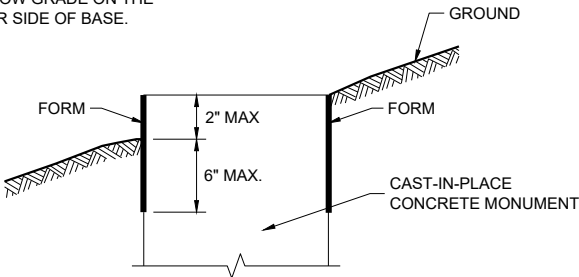
APPROVED  
November 2025 /S/ Andrew Heidtke  
DATE STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER  
FHWA





**CAST-IN-PLACE  
CONCRETE MONUMENT**

CIRCULAR FORM DEPTH SHALL BE NO MORE THAN 6" BELOW GRADE ON THE LOWER SIDE OF BASE.



**FORMING DETAIL**



**GEODETIC SURVEY DISC**  
FURNISHED BY WISDOT

**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.

SURVEY MONUMENT SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

IF A SURVEY MONUMENT REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

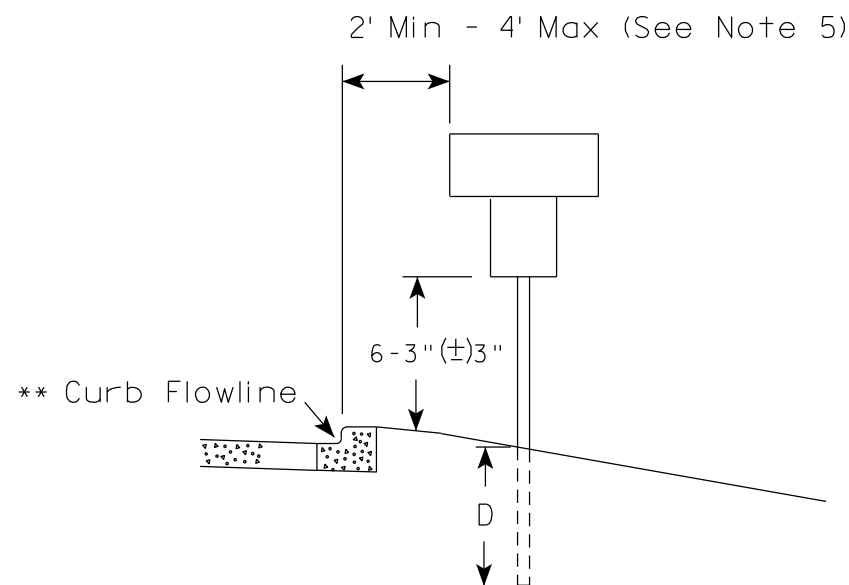
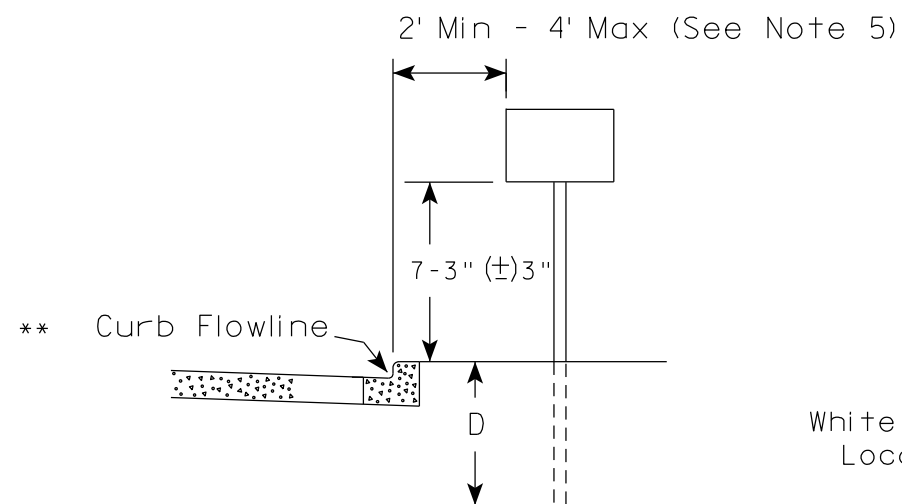
**GEODETIC SURVEY  
MONUMENT**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
August 2025 /S/ DAVID J. LAYTON  
DATE CHIEF SURVEY AND MAPPING ENGINEER

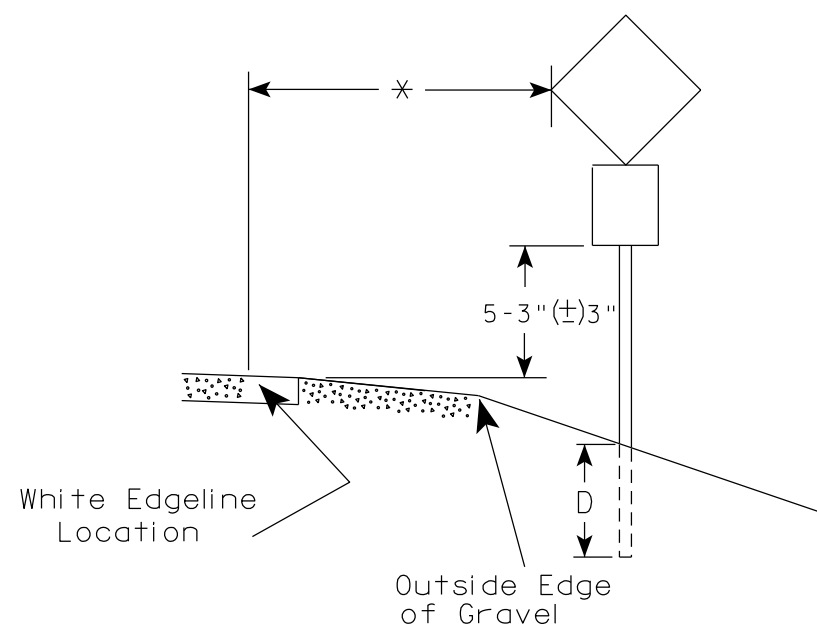
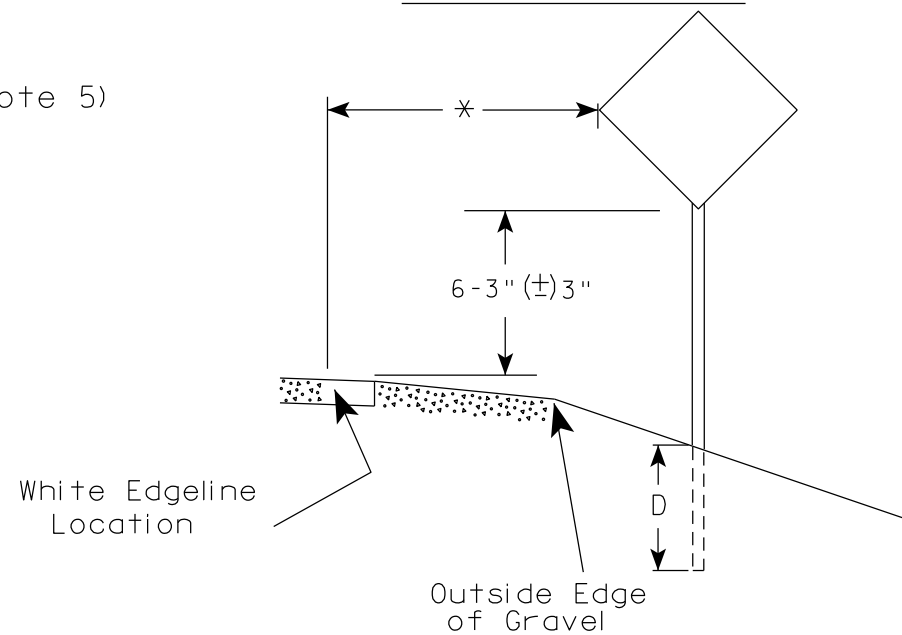
FHWA

## URBAN AREA



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

## RURAL AREA (See Note 2)



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

POST EMBEDMENT DEPTH

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

## GENERAL NOTES

- Signs wider than 4 feet or 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
- If signs are mounted on or behind barrier wall, see A4-10 sign plate.  
The Double Arrow sign (W12-1D) shall be mounted at a height of 2'-3" (±) 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" (±) 3".
- For expressways and freeways, mounting height is 7'- 3" (±) 3" or 6'-3" (±) 3" depending upon existence of a sub-sign.
- Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±) 3".
- Offset distance shall be consistent with existing signs or consistent throughout length of project.
- Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the Engineer.

TYPICAL INSTALLATION  
OF PERMANENT TYPE II  
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

*Matthew R. Rauch*  
for State Traffic Engineer

DATE 12/6/23

PLATE NO. A4-3.23

PROJECT NO:

HWY:

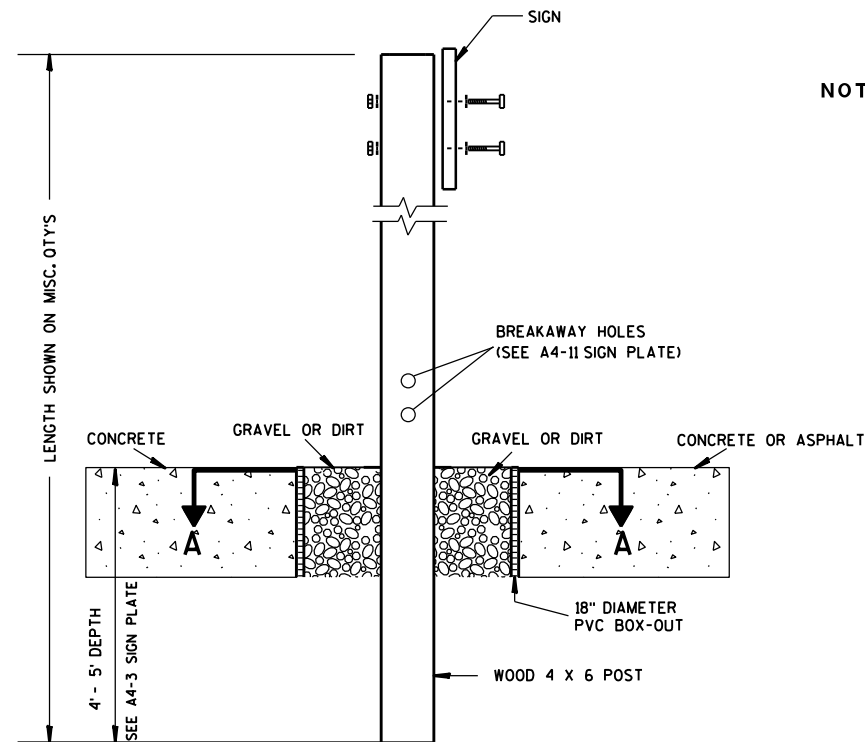
COUNTY:

SHEET NO:

204

E

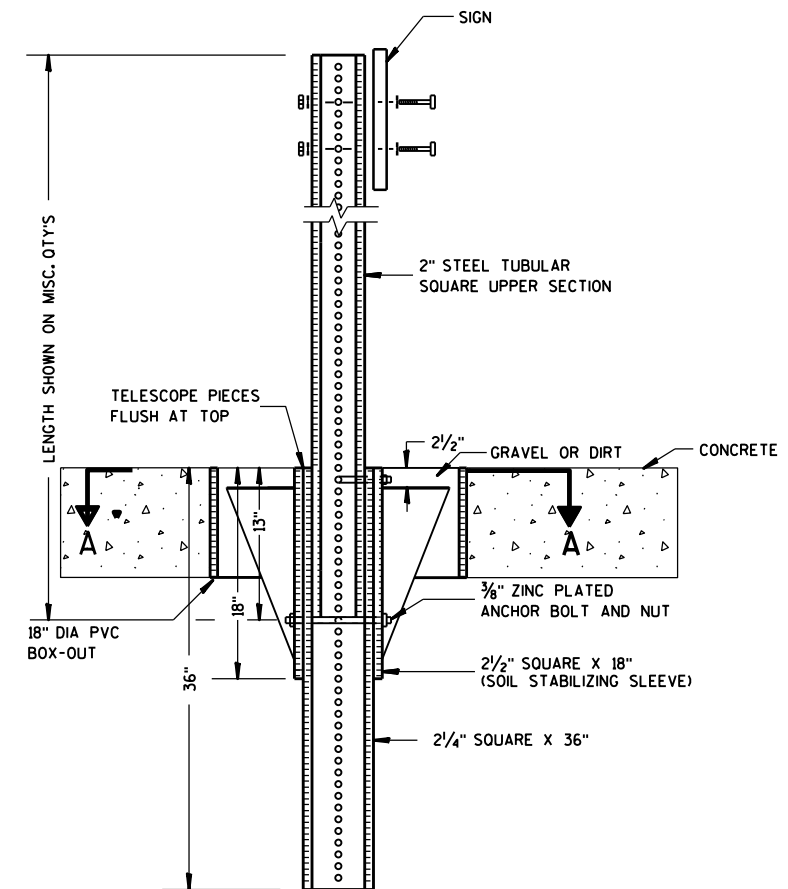




### ELEVATION VIEW

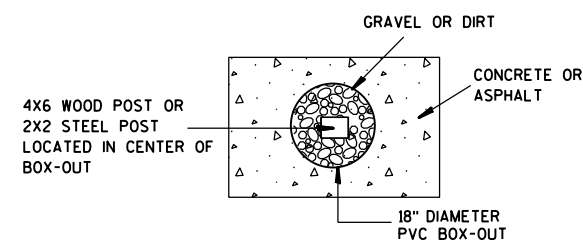
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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 PLAT 205 A4-3B.1

PROJECT NO:

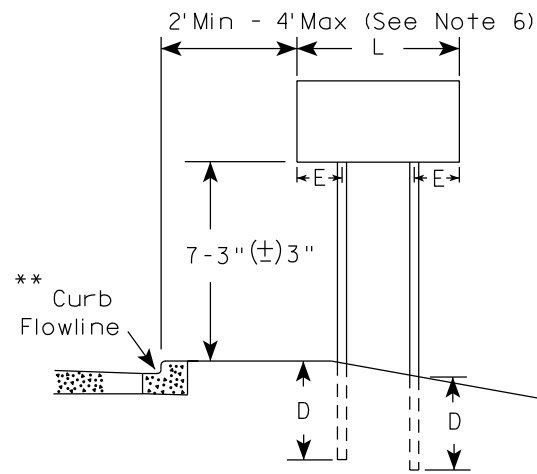
HWY:

COUNTY:

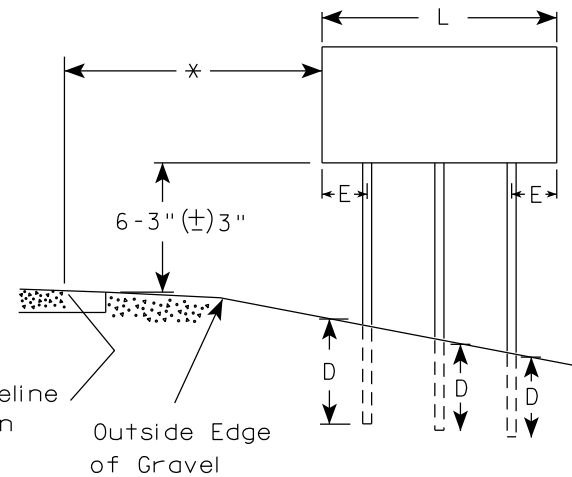
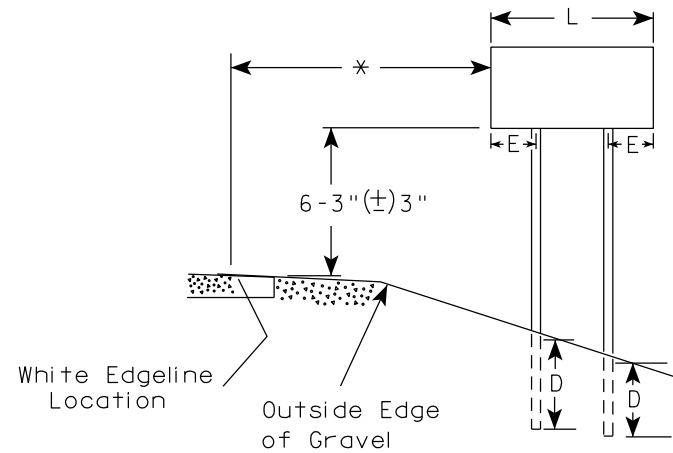
SHEET NO:

E

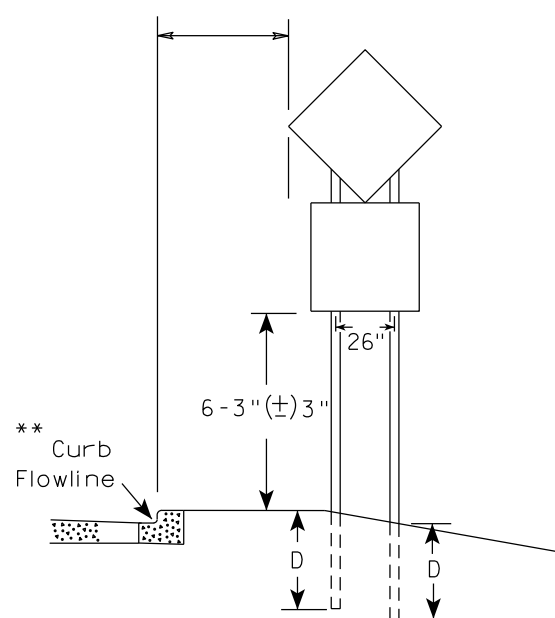
URBAN AREA



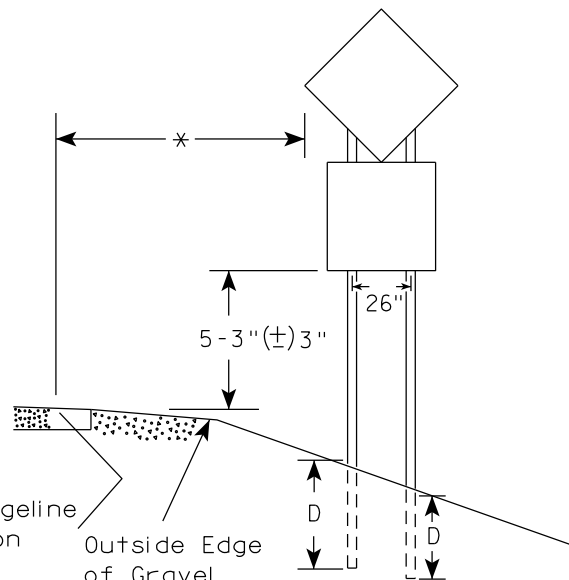
RURAL AREA (See Note 3)



2' Min - 4' Max (See Note 6)



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

\*\*\*

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

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

POST EMBEDMENT DEPTH

| Area of Sign<br>Installation<br>( Sq.Ft. ) | D<br>( 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 12/6/23 PLATE NO. A4-4.16

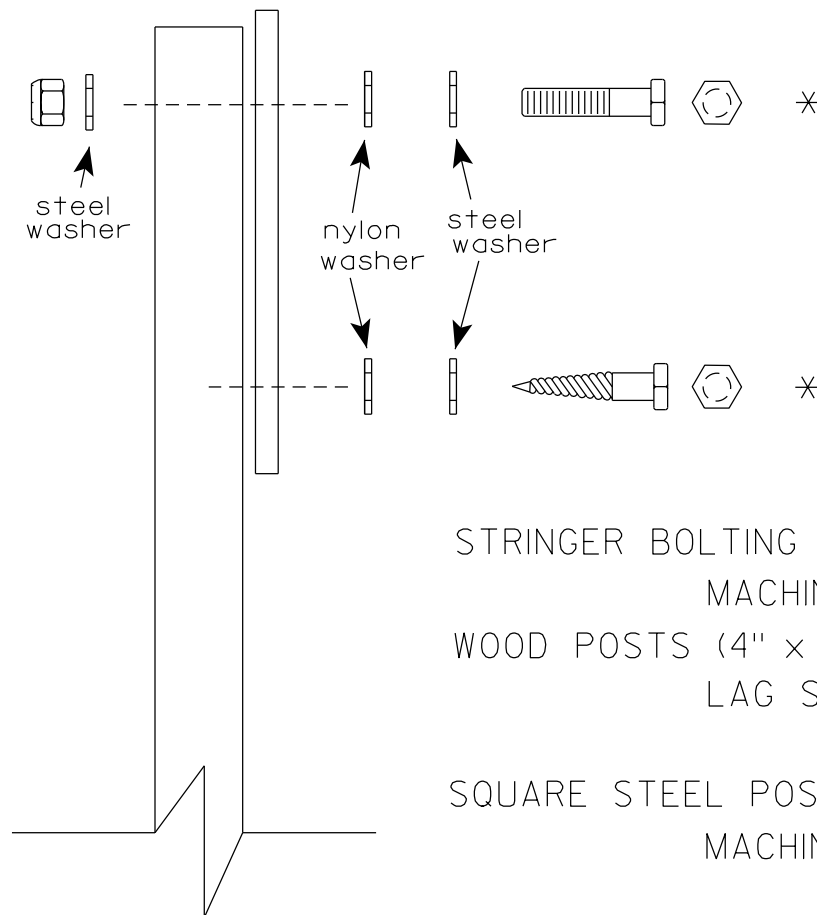
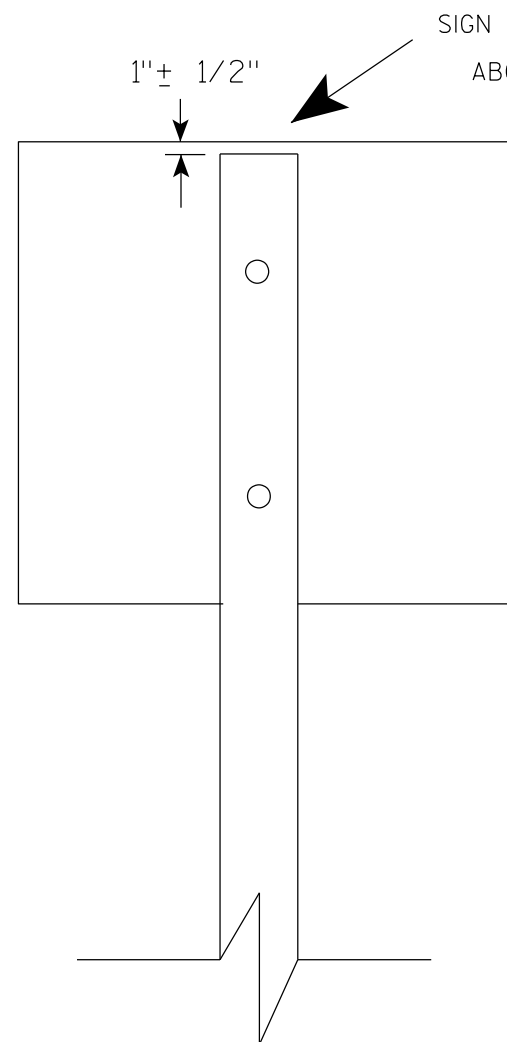
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 206

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.

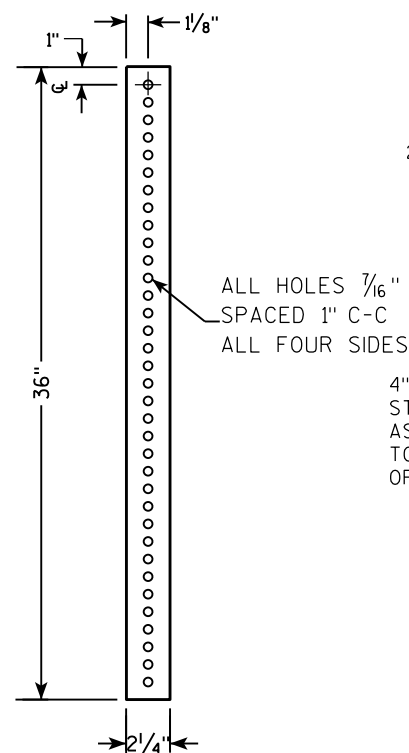
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

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

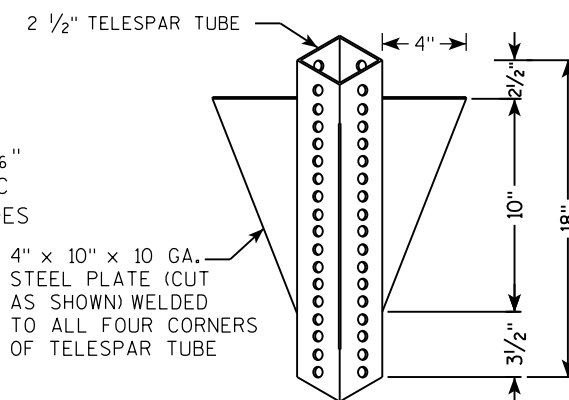
\* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

|                                  |                                                       |
|----------------------------------|-------------------------------------------------------|
| ATTACHMENT OF SIGNS<br>TO POSTS  |                                                       |
| WISCONSIN DEPT OF TRANSPORTATION |                                                       |
| APPROVED                         | <i>Matthew R. Rauch</i><br>For State Traffic Engineer |
| DATE 4/1/2020                    | PLATE NO. A4-8.9                                      |

**2 1/4 " SQUARE  
12 GAUGE  
PERFORATED  
GALVANIZED FINISH**



**2 1/2" SQUARE  
12 GAUGE  
OMNI-DIRECTIONAL  
PERFORATED  
SOIL STABILIZING SLEEVE  
GALVANIZED FINISH**



TECHNICAL DRAWING OF A SIGNPOST ASSEMBLY:

- SIGN**: Indicated at the top of the post.
- SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL**: Reference to sign plate details.
- 2" STEEL TUBULAR SQUARE UPPER SECTION**: The main vertical support.
- ALL HOLES  $\frac{7}{16}$ " SPACED 1" C-C ALL FOUR SIDES**: Specification for the upper section's holes.
- $\frac{3}{8}$ " ZINC PLATED CORNER ANCHOR BOLT AND NUT**: Detail of the corner fastener.
- 2 $\frac{1}{2}$ " GRAVEL OR DIRT**: Material filling the base around the anchor bolts.
- 3 $\frac{1}{8}$ " ZINC PLATED ANCHOR BOLT AND NUT**: Detail of the anchor bolt.
- 2 $\frac{1}{2}$ " SQUARE X 18" (SOIL STABILIZING SLEEVE)**: Sleeve around the lower section.
- 2 $\frac{1}{4}$ " SQUARE X 36"**: The lower section of the post.
- TELESCOPE PIECES FLUSH AT TOP**: Note about the connection between sections.
- 18" DIA SCHEDULE 40 PVC BOX-OUT**: The base container.
- Dimensions**:
  - Total height: 36"
  - Upper section height: 18"
  - Lower section height: 18"
  - Box-out width: 18"
  - Box-out depth: 13"
- LENGTH SHOWN ON MISC. QTY'S**: Vertical dimension on the left side.

TECHNICAL DRAWING OF A SIGNPOST ASSEMBLY.

**Side View Dimensions:**

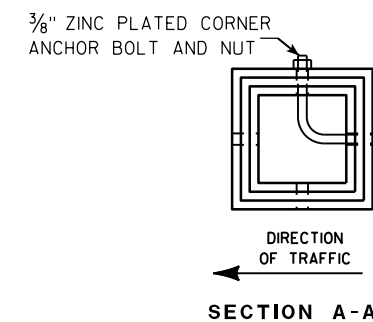
- Overall height: 36"
- Section A: 18"
- Section B: 12"

**End View Dimensions:**

- Overall width: 2 1/4" SQUARE X 36"
- Section A: 18"
- Section B: 12"

**Material and Assembly Specifications:**

- 2" STEEL TUBULAR SQUARE UPPER SECTION
- ALL HOLES 7/16" SPACED 1" C-C ALL FOUR SIDES
- 3/8" ZINC PLATED CORNER ANCHOR BOLT AND NUT
- 3/8" ZINC PLATED ANCHOR BOLT AND NUT
- 2 1/2" SQUARE X 18" (SOIL STABILIZING SLEEVE)
- SEE SIGN PLATE A4-8 FOR BOLT WASHER, & NUT MATERIAL
- SIGN



| 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

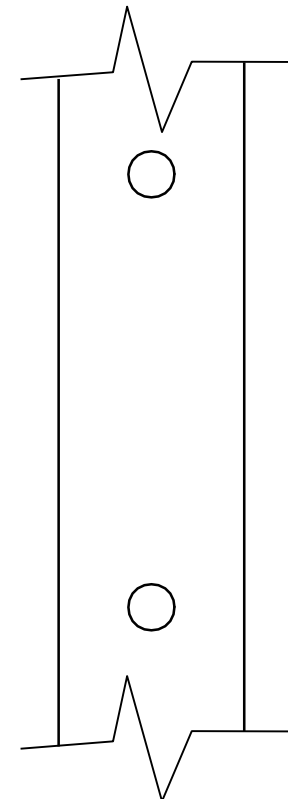
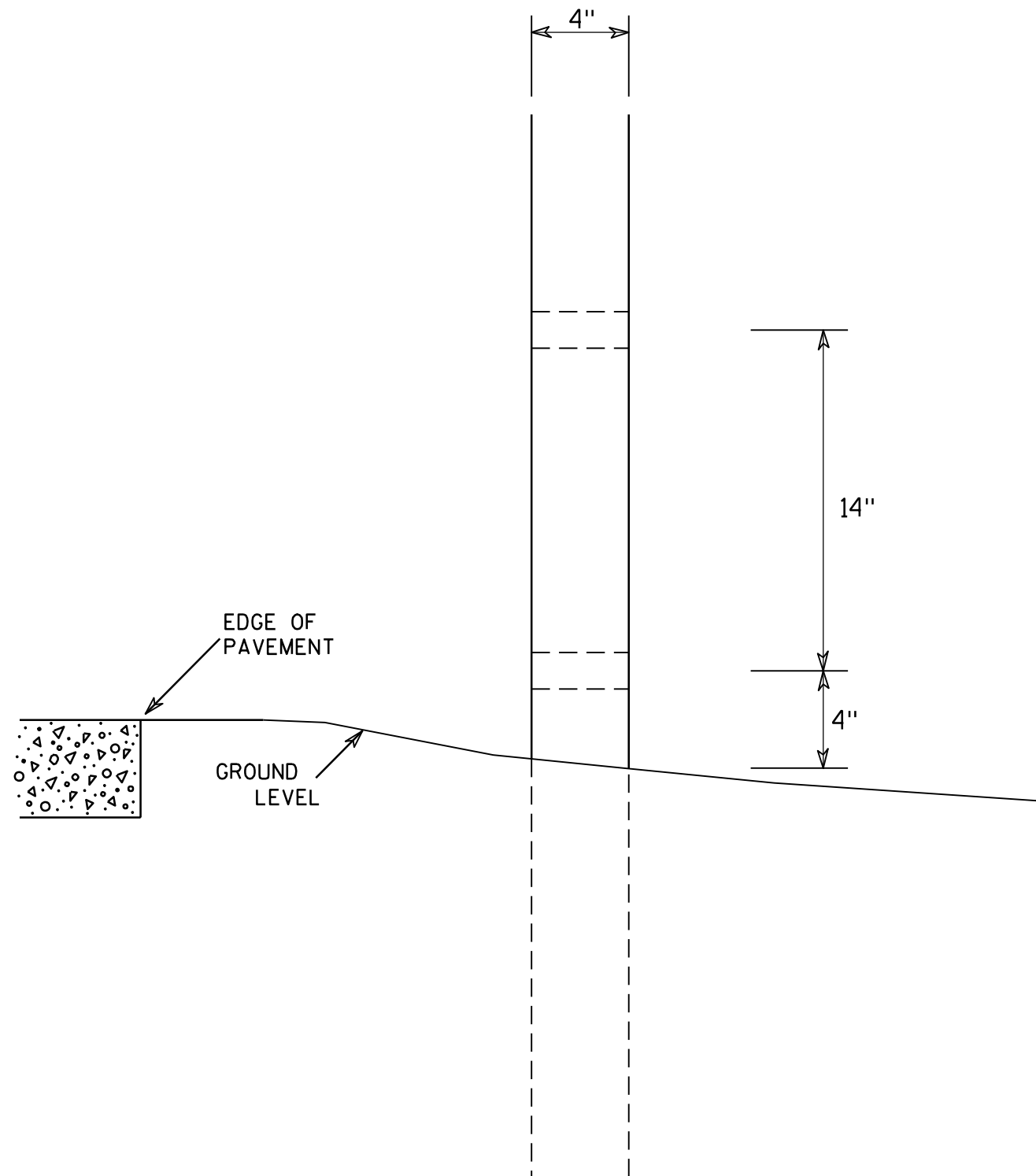
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R. Rauch

for State Traffic Engineer

DATE 2/05/15 PLATI 208 14-9.9

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



SIDE VIEW

### GENERAL NOTES

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

### 4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

*Chester J. Spang*  
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

HWY:

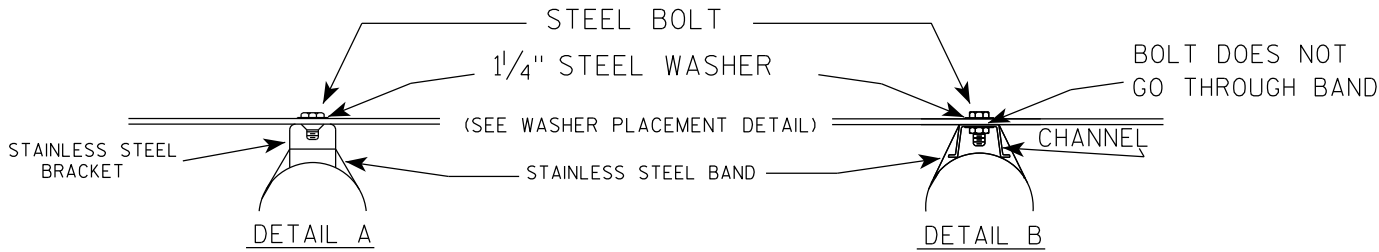
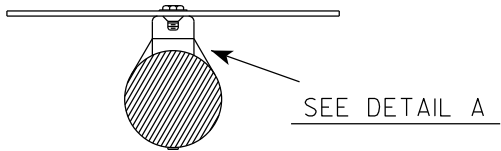
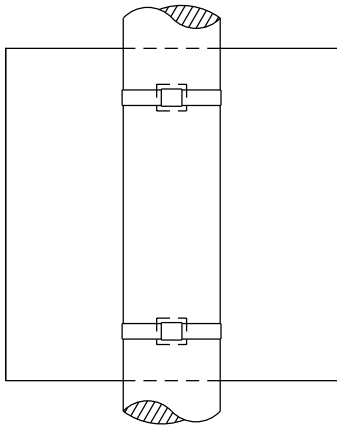
COUNTY:

SHEET NO: 209

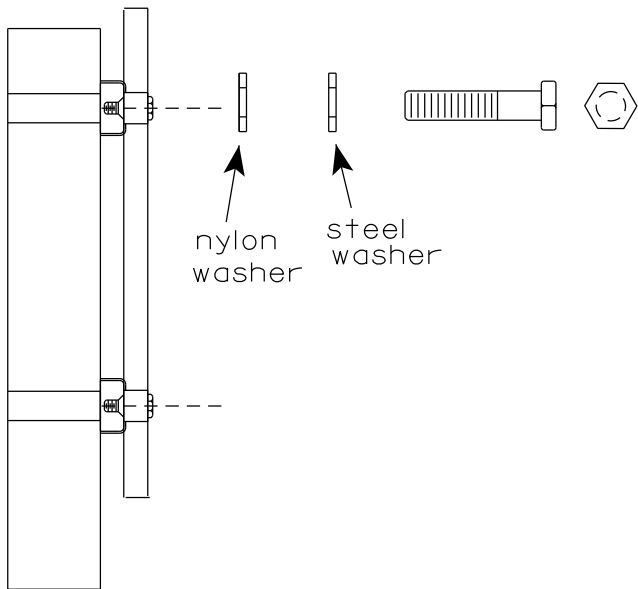
E

BANDING

SINGLE SIGN



WASHER PLACEMENT

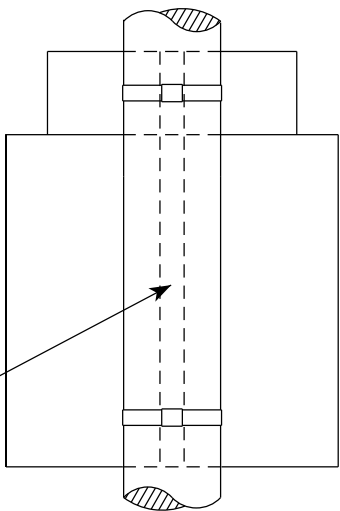


WASHERS (ALL POSTS) -  
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL  
1-1/4" O.D. X 3/8" I.D. X .080 NYLON  
FOR ALL TYPE H SIGNS

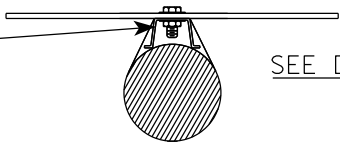
GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be 3/4" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
  - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
  - b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



CHANNEL  
SEE TYPICAL PANEL  
INSTALLATION SHEET

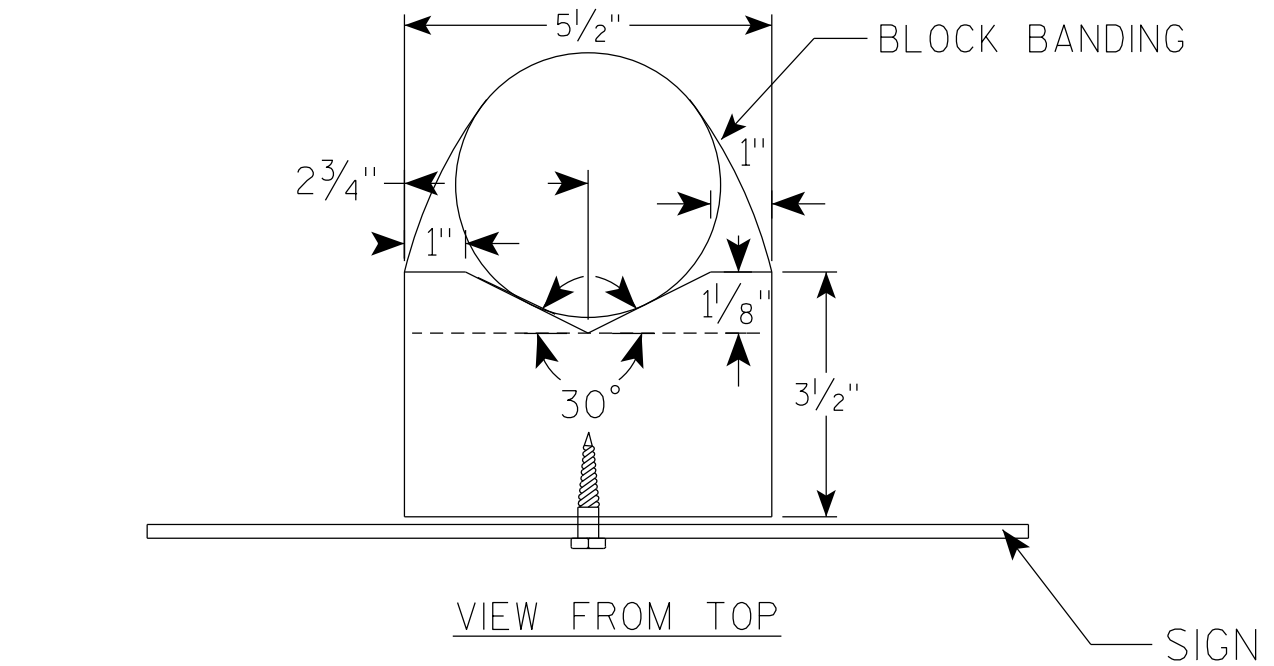
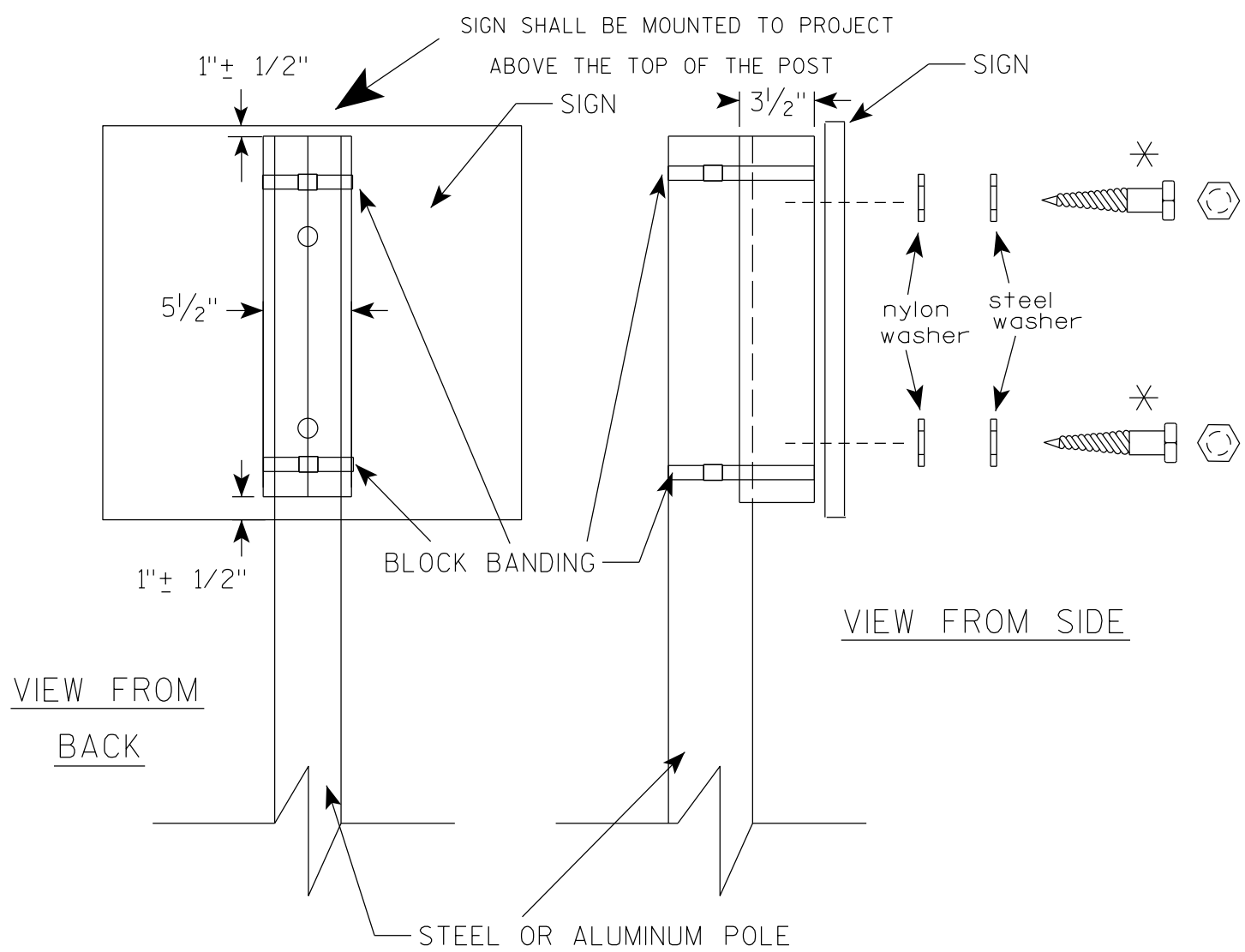


STANDARD SIGN  
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer  
DATE 6/10/19 PLATE NO. A5-9.4





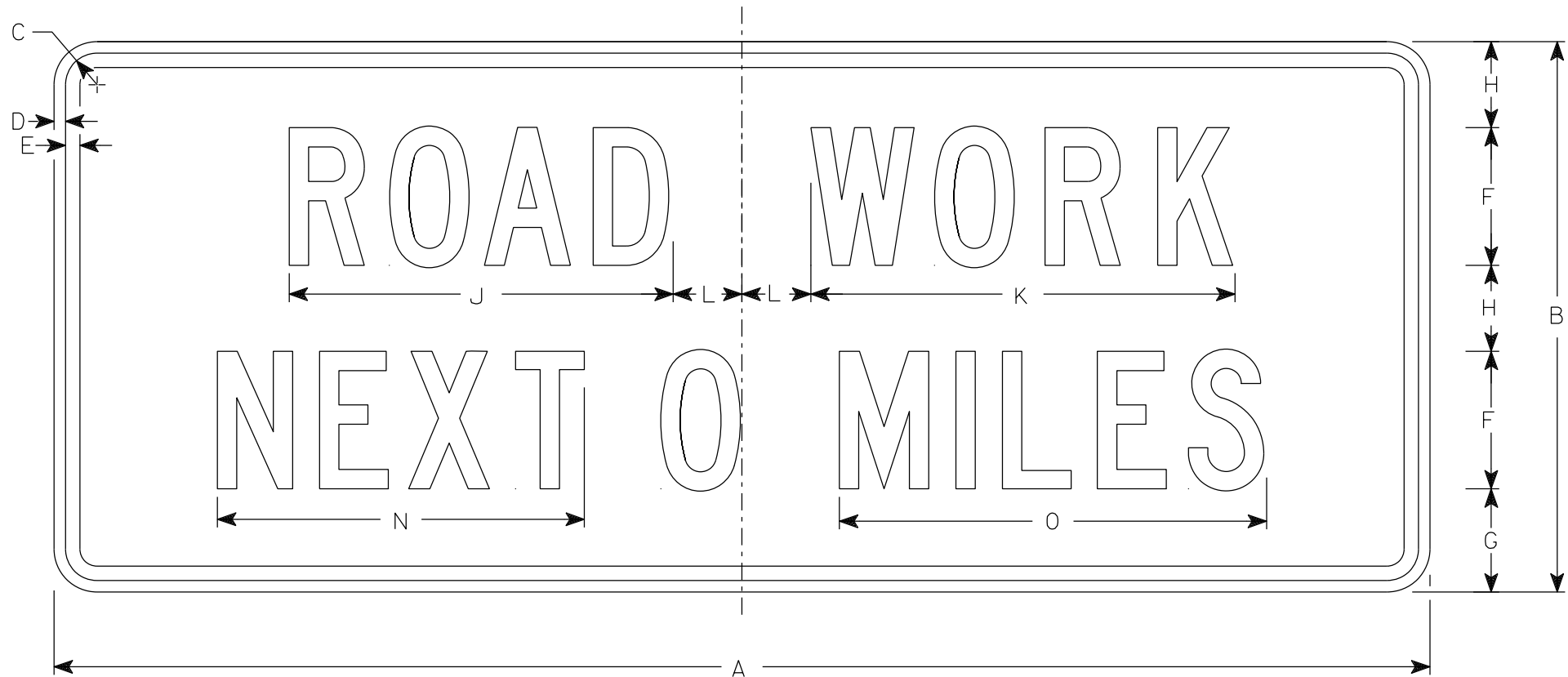
## GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WISDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL,  $\frac{3}{4}$ " WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORMALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
  - a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
  - b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE  $\frac{1}{4}$ " O.D. X  $\frac{3}{8}$ " I.D. X  $\frac{1}{16}$ "
8. NYLON WASHERS SHALL BE  $\frac{1}{4}$ " O.D. X  $\frac{3}{8}$ " I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✱ LAG BOLTS SHALL BE  $\frac{3}{8}$ " X  $2\frac{1}{2}$ "

|                                            |                                                       |
|--------------------------------------------|-------------------------------------------------------|
| BLOCK BANDING DETAIL<br>( V-BLOCK OPTION ) |                                                       |
| WISCONSIN DEPT OF TRANSPORTATION           |                                                       |
| APPROVED                                   | <i>Matthew R. Rauch</i><br>for State Traffic Engineer |
| DATE 4/19/2022                             | PLATE NO. A5-10.3                                     |

7



G20-1

NOTES

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

7

| SIZE | A  | B  | C     | D   | E   | F | G     | H     | I | J      | K      | L | M | N  | O      | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-------|-----|-----|---|-------|-------|---|--------|--------|---|---|----|--------|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    |    |    |       |     |     |   |       |       |   |        |        |   |   |    |        |   |   |   |   |   |   |   |   |   |   |   |                 |
| 2S   | 60 | 24 | 1 7⁄8 | 1⁄2 | 5⁄8 | 6 | 4 1⁄2 | 3 3⁄4 |   | 16 3⁄4 | 18 1⁄2 | 3 |   | 16 | 18 5⁄8 |   |   |   |   |   |   |   |   |   |   |   | 10.0            |
| 2M   | 60 | 24 | 1 7⁄8 | 1⁄2 | 5⁄8 | 6 | 4 1⁄2 | 3 3⁄4 |   | 16 3⁄4 | 18 1⁄2 | 3 |   | 16 | 18 5⁄8 |   |   |   |   |   |   |   |   |   |   |   | 10.0            |
| 3    | 60 | 24 | 1 7⁄8 | 1⁄2 | 5⁄8 | 6 | 4 1⁄2 | 3 3⁄4 |   | 16 3⁄4 | 18 1⁄2 | 3 |   | 16 | 18 5⁄8 |   |   |   |   |   |   |   |   |   |   |   | 10.0            |
| 4    | 60 | 24 | 1 7⁄8 | 1⁄2 | 5⁄8 | 6 | 4 1⁄2 | 3 3⁄4 |   | 16 3⁄4 | 18 1⁄2 | 3 |   | 16 | 18 5⁄8 |   |   |   |   |   |   |   |   |   |   |   | 10.0            |
| 5    | 60 | 24 | 1 7⁄8 | 1⁄2 | 5⁄8 | 6 | 4 1⁄2 | 3 3⁄4 |   | 16 3⁄4 | 18 1⁄2 | 3 |   | 16 | 18 5⁄8 |   |   |   |   |   |   |   |   |   |   |   | 10.0            |

STANDARD SIGN

G20-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 1/26/2023 PLATE NO. G20-1.9



NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:
  - Background - Orange
  - Message - Black
- 3. Message Series - D
- 4. Substitute appropriate numeral and adjust spacing to achieve proper balance.



G20-57

| SIZE | A  | B  | C     | D   | E   | F | G     | H     | I      | J     | K | L      | M      | N     | O     | P      | Q | R      | S     | T     | U      | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-------|-----|-----|---|-------|-------|--------|-------|---|--------|--------|-------|-------|--------|---|--------|-------|-------|--------|---|---|---|---|---|-----------------|
| 1    |    |    |       |     |     |   |       |       |        |       |   |        |        |       |       |        |   |        |       |       |        |   |   |   |   |   |                 |
| 2    |    |    |       |     |     |   |       |       |        |       |   |        |        |       |       |        |   |        |       |       |        |   |   |   |   |   |                 |
| 3    | 72 | 36 | 1 1/8 | 1/2 | 5/8 | 6 | 5     | 4     | 15 5/8 | 1 5/8 | 5 | 9 1/4  | 21 1/4 | 3 1/2 | 1 1/2 | 23 1/4 |   | 29 7/8 | 1 3/4 | 3 1/4 | 28 1/2 |   |   |   |   |   | 18.0            |
| 4    | 96 | 48 | 2 1/4 | 3/4 | 1   | 8 | 6 1/2 | 5 1/2 | 20 5/8 | 2 1/4 | 6 | 12 1/4 | 28 1/4 | 4 3/8 | 1 5/8 | 31     |   | 39 1/4 | 2     | 4     | 37 7/8 |   |   |   |   |   | 32.0            |
| 5    |    |    |       |     |     |   |       |       |        |       |   |        |        |       |       |        |   |        |       |       |        |   |   |   |   |   |                 |

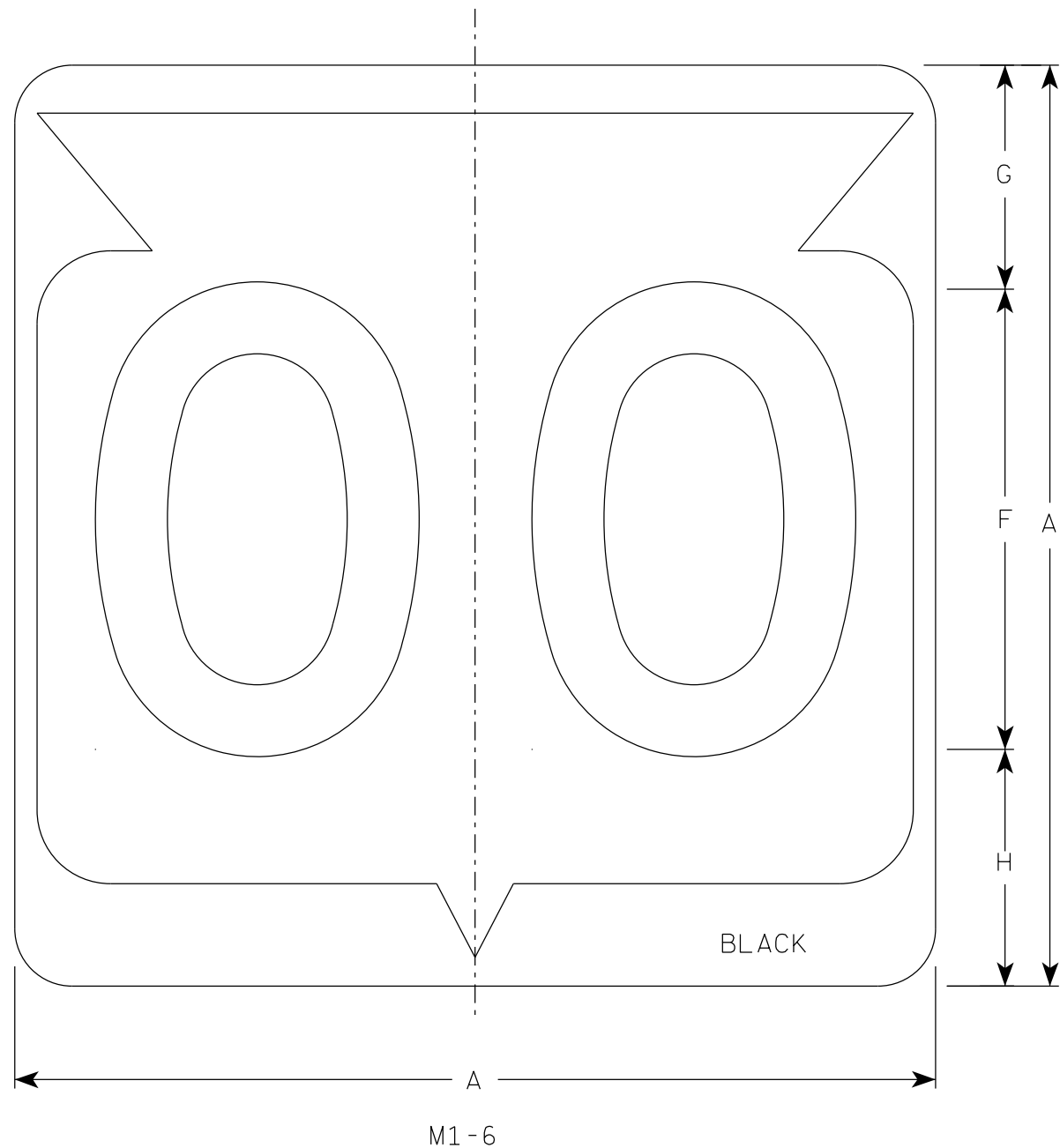
STANDARD SIGN  
G20-57

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

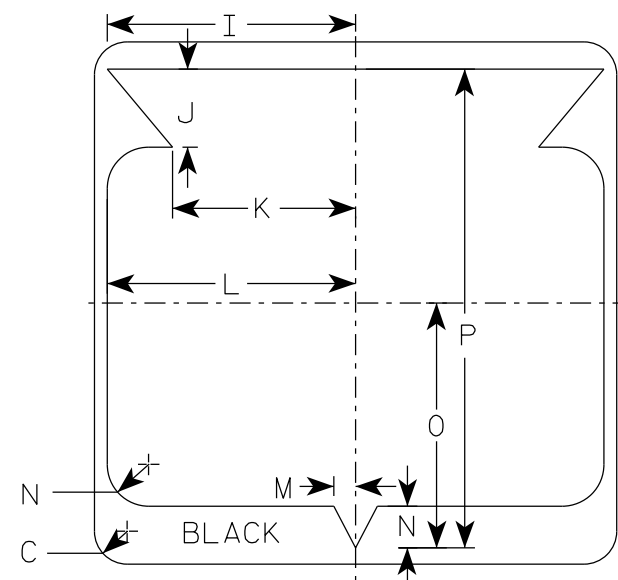
DATE 1/22/19 PLATE NO. G20-57.3

7



NOTES

1. Sign is Type II - Type H Reflective
2. Color:  
Background - White  
Message - Black
3. Message Series - D except 3 number signs 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<br>sq. ft. |
|------|----|---|-------|---|---|----|-------|-------|--------|-------|--------|--------|-------|-------|--------|--------|---|---|---|---|---|---|---|---|---|---|-----------------|
| 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             |
| 2M   | 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             |
| 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             |
| 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             |
| 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             |

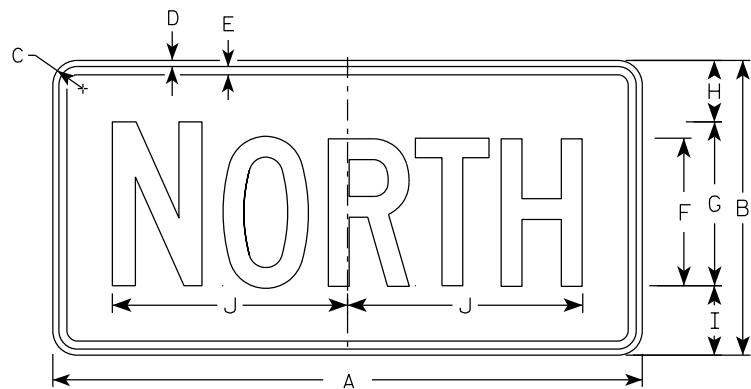
STATE ROUTE MARKER  
M1-6 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

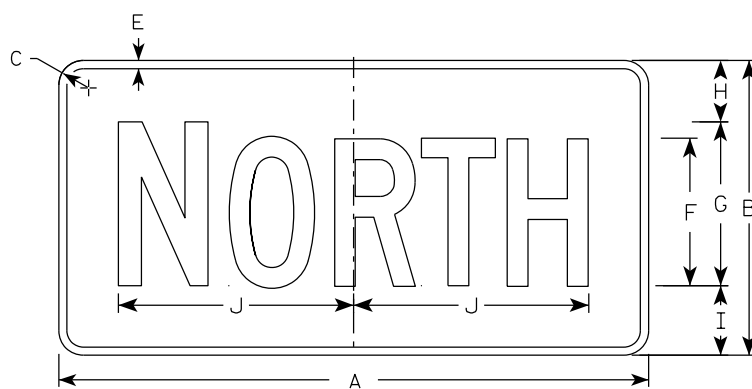
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 11/8/2022 PLATE NO. M1-6.11

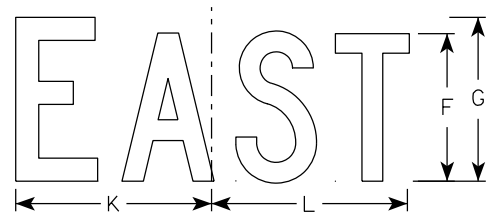
7



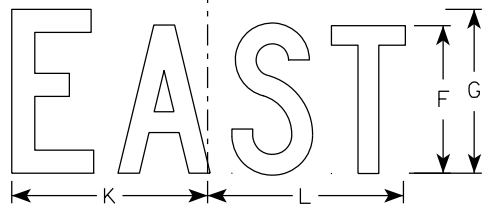
M3-1  
MM3-1  
MP3-1



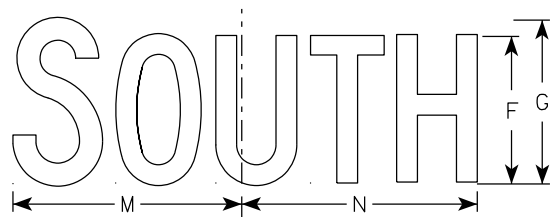
MB3-1  
MK3-1  
MN3-1



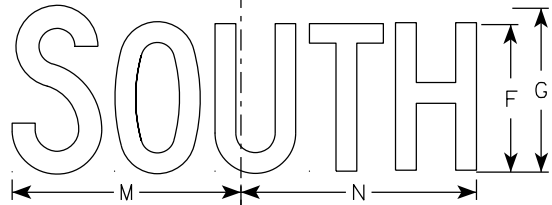
M3-2  
MM3-2  
MP3-2



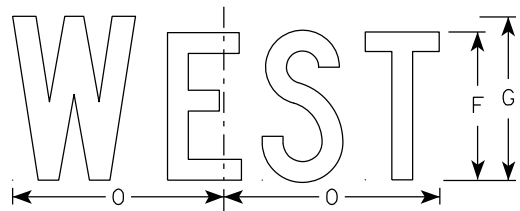
MB3-2  
MK3-2  
MN3-2



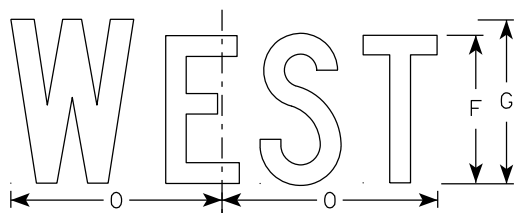
M3-3  
MM3-3  
MP3-3



MB3-3  
MK3-3  
MN3-3



M3-4  
MM3-4  
MP3-4



MB3-4  
MK3-4  
MN3-4

## NOTES

- All Signs Type II - Type H Reflective
- Color:
  - Background - See note 5
  - Message - See note 5
- Message Series - C
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 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
- Note the first letter of each direction is larger than the remainder of the message.

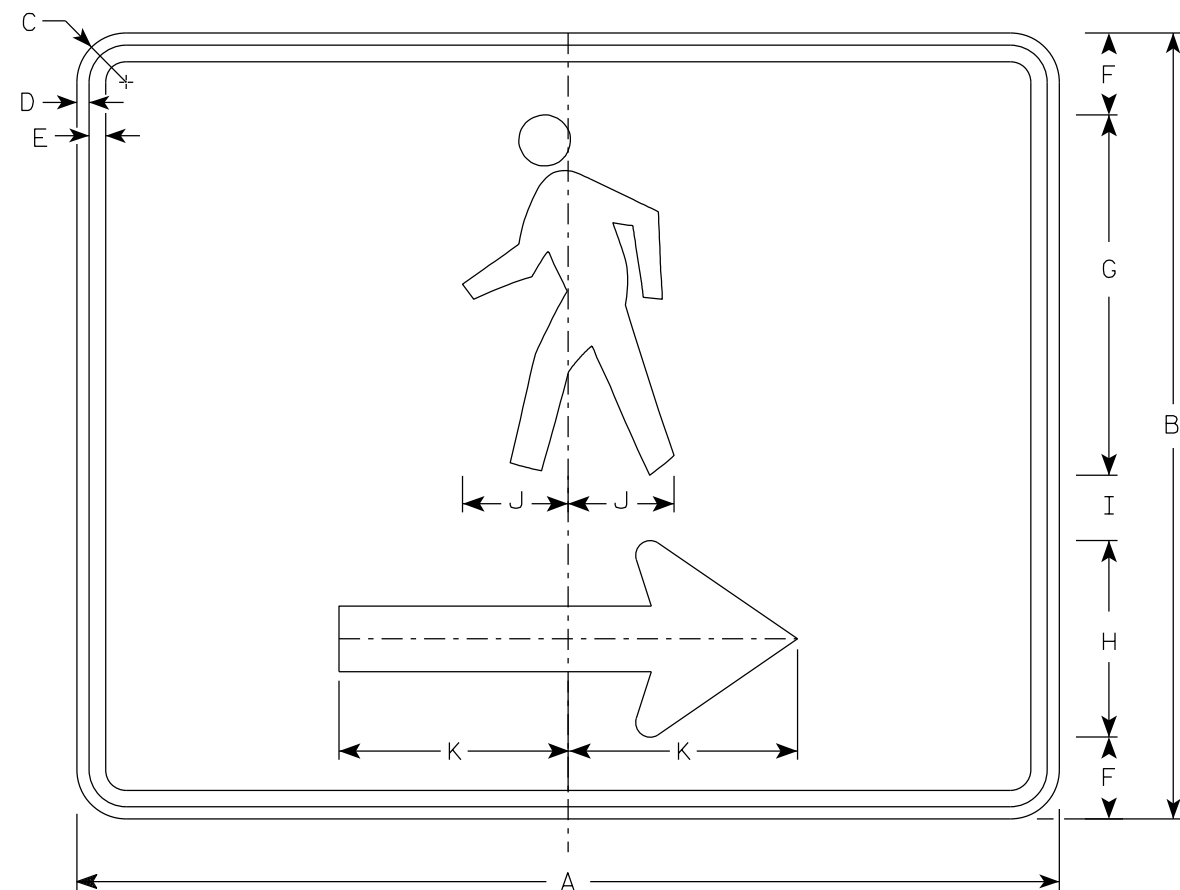
7

7

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

|             |      |         |               |   |
|-------------|------|---------|---------------|---|
| PROJECT NO: | HWY: | COUNTY: | SHEET NO: 215 | E |
|-------------|------|---------|---------------|---|

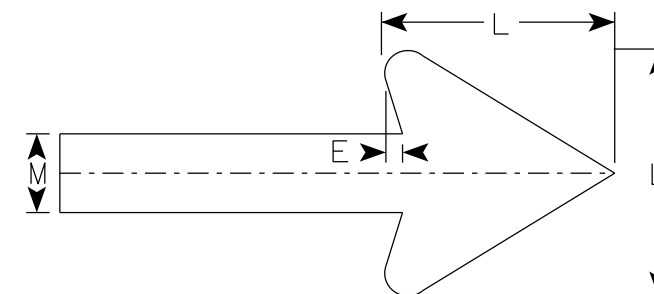
7



M4-60R

NOTES

1. Sign is Type II- Type F Reflective
2. Color:  
Background - Orange  
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M4-60L is the same as M4-60R except the arrow is reversed.



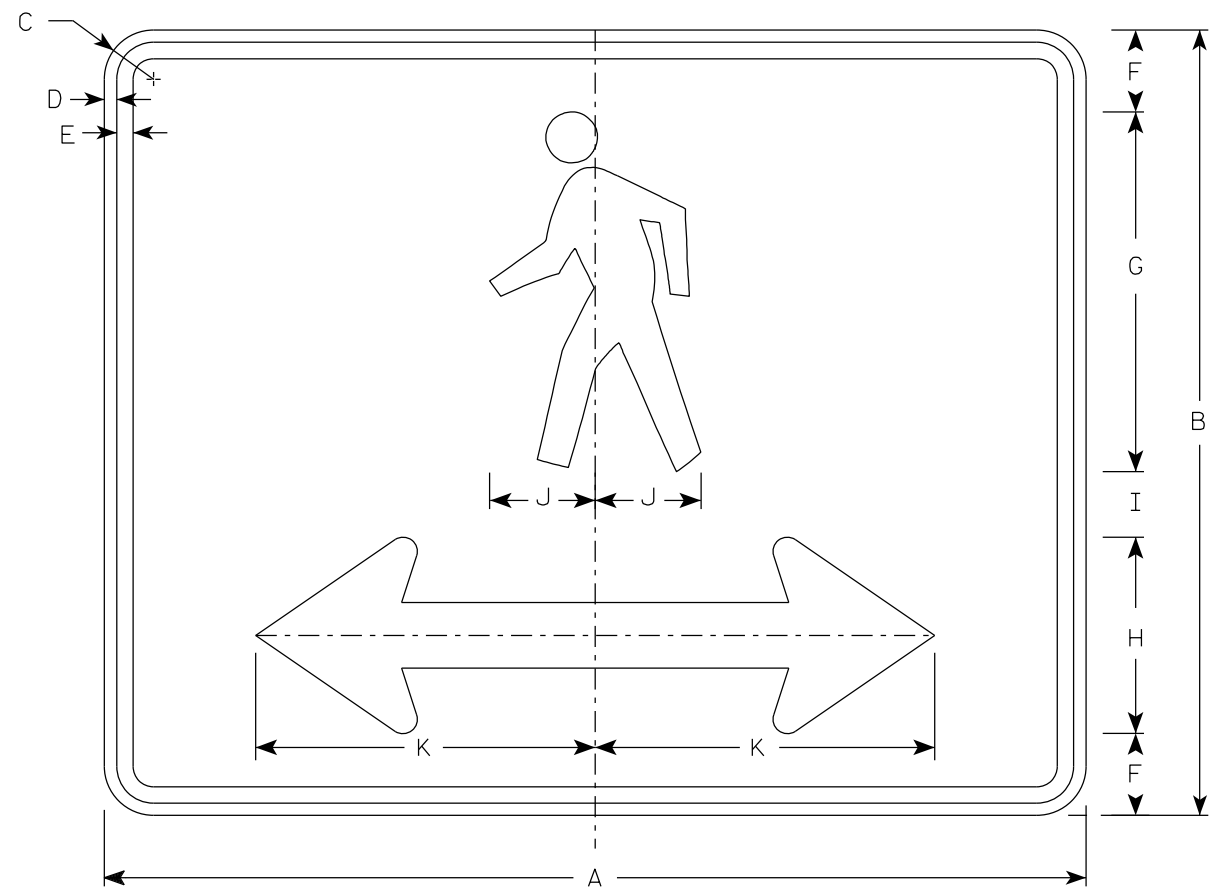
Arrow Detail

7

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

|             |      |         |               |   |
|-------------|------|---------|---------------|---|
| PROJECT NO: | HWY: | COUNTY: | SHEET NO: 216 | E |
|-------------|------|---------|---------------|---|

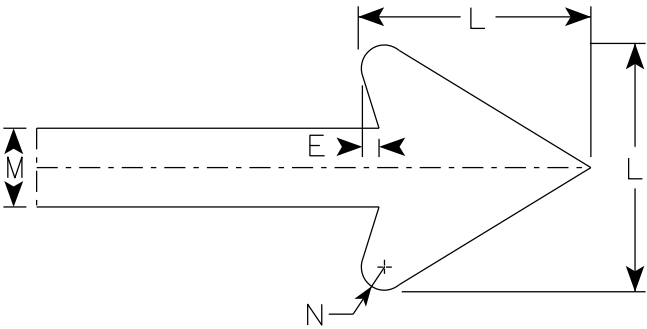
7



M4-60D

NOTES

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

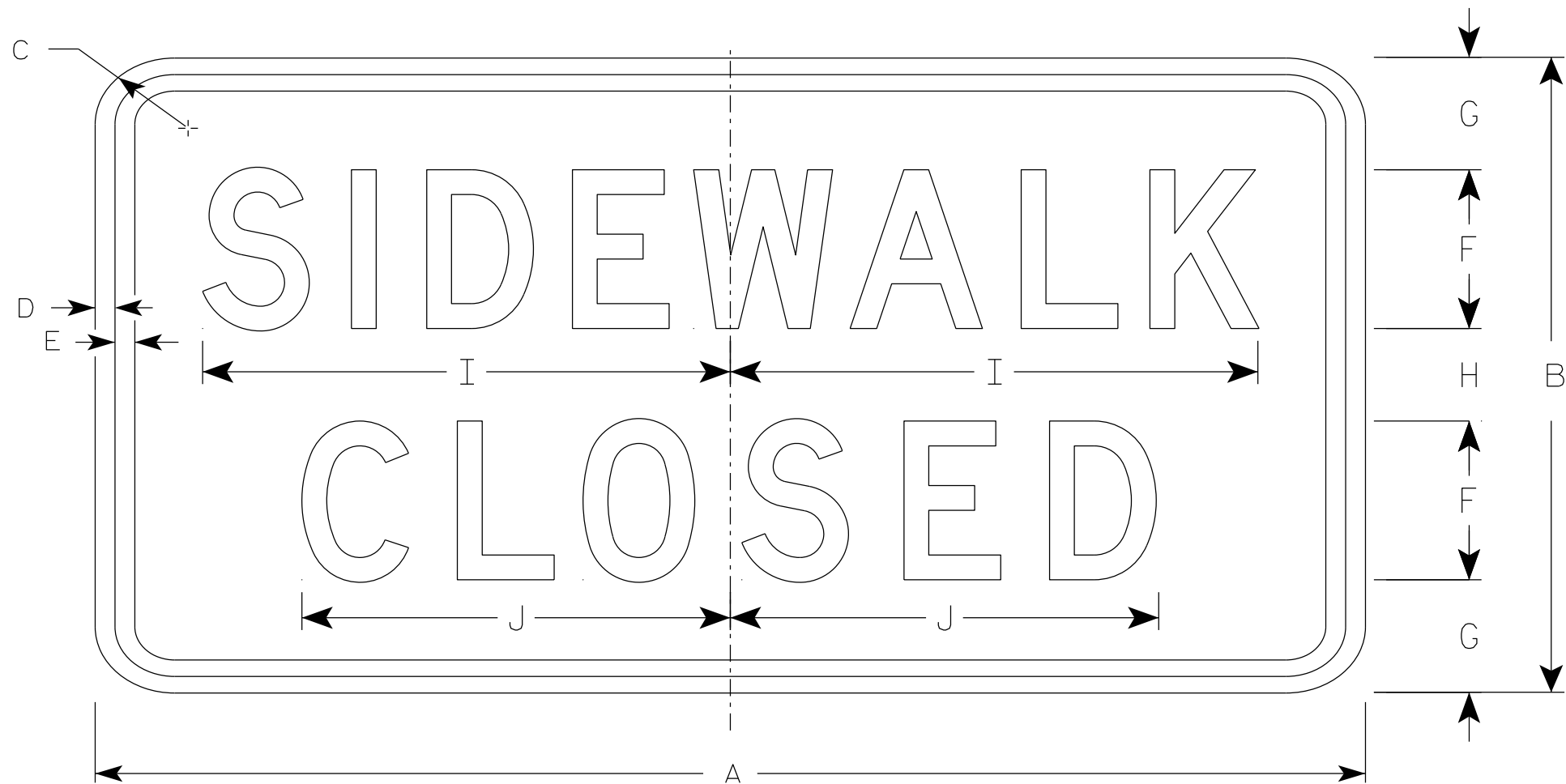


Arrow Detail

7

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

7



R9-9

NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
  - Background - White
  - Message - Black
- 3. Message Series - C
- 4. Use Size 2 for Sidewalks. Use Size 3 for Paths and Trails.

7

| SIZE | A  | B  | C     | D   | E   | F | G     | H     | I      | J      | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-------|-----|-----|---|-------|-------|--------|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    |    |    |       |     |     |   |       |       |        |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 2S   | 24 | 12 | 1 1/2 | 1/2 | 1/2 | 3 | 2 1/8 | 1 3/4 | 10     | 8 1/8  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 2.0             |
| 2M   | 24 | 12 | 1 1/2 | 1/2 | 1/2 | 3 | 2 1/8 | 1 3/4 | 10     | 8 1/8  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 2.0             |
| 3    | 30 | 18 | 1 1/2 | 1/2 | 1/2 | 4 | 3 1/2 | 3     | 12 1/2 | 10 1/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.75            |
| 4    |    |    |       |     |     |   |       |       |        |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 5    |    |    |       |     |     |   |       |       |        |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |

PROJECT NO:

HWY:

COUNTY:

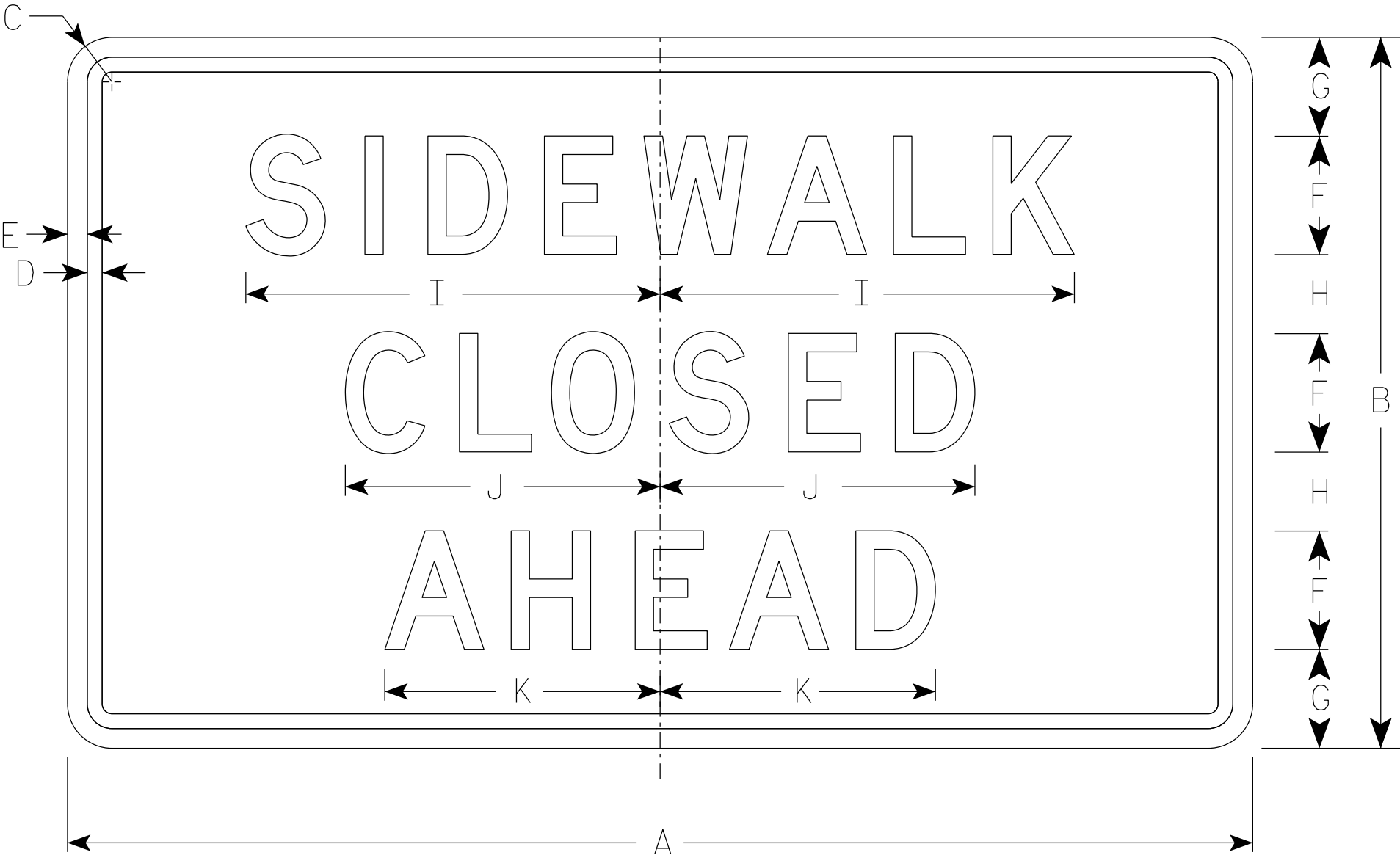
SHEET NO: 218

E



NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
  - Background - White
  - Message - Black
- 3. Message Series - D



R9-9A

| SIZE | A  | B  | C     | D   | E   | F | G     | H | I      | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-------|-----|-----|---|-------|---|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    |    |    |       |     |     |   |       |   |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 2S   | 30 | 18 | 1 1/2 | 3/8 | 1/2 | 3 | 2 1/2 | 2 | 10 1/2 | 8 | 7 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.75            |
| 2M   | 30 | 18 | 1 1/2 | 3/8 | 1/2 | 3 | 2 1/2 | 2 | 10 1/2 | 8 | 7 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.75            |
| 3    |    |    |       |     |     |   |       |   |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 4    |    |    |       |     |     |   |       |   |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 5    |    |    |       |     |     |   |       |   |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |

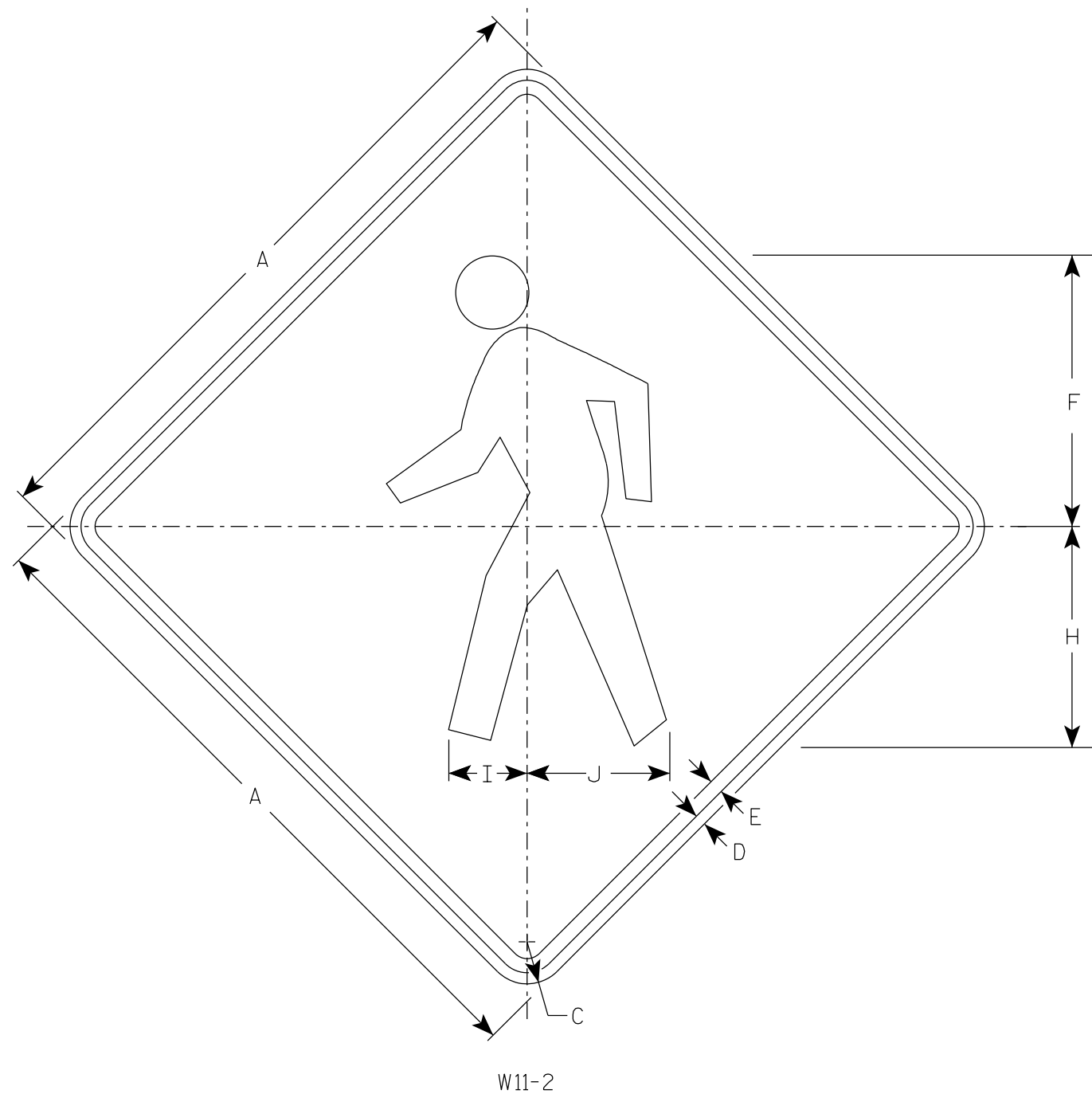
STANDARD SIGN  
R9-9A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 1/24/24 PLATE NO. R9-9A.2

7



NOTES

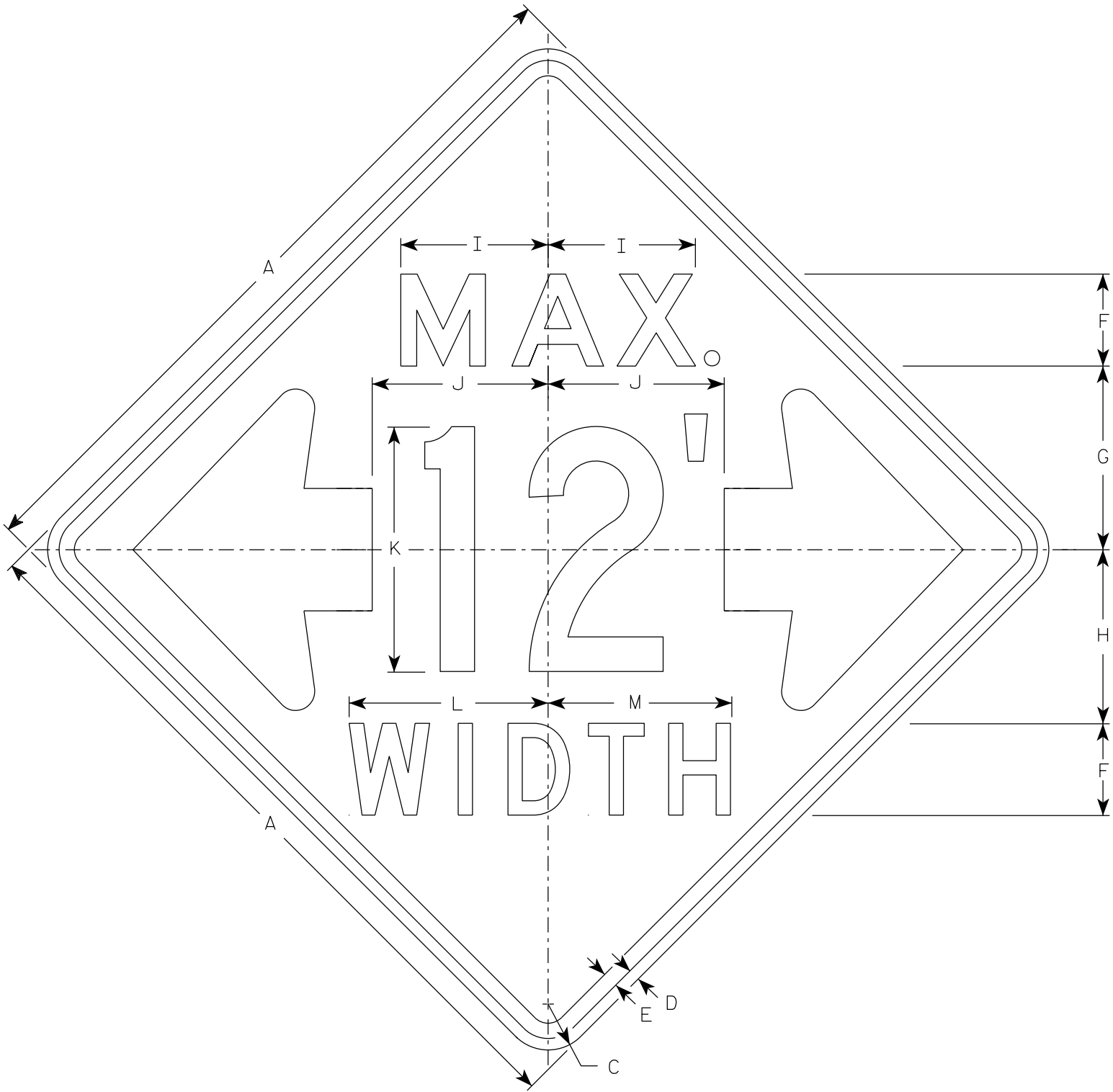
1. Sign is Type II - Type F Reflective
2. Color:  
Background - Yellow  
Message - Black

7

| SIZE | A  | B | C     | D   | E   | F      | G | H      | I     | J      | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|---|-------|-----|-----|--------|---|--------|-------|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    | 24 |   | 1 1/2 | 3/8 | 1/2 | 9 3/4  |   | 7 7/8  | 2 7/8 | 5 1/8  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 4.0             |
| 2S   | 30 |   | 1 7/8 | 1/2 | 5/8 | 12 1/8 |   | 9 7/8  | 3 1/2 | 6 3/8  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 6.25            |
| 2M   | 36 |   | 2 1/4 | 5/8 | 3/4 | 14 1/2 |   | 11 7/8 | 4 1/4 | 7 5/8  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 9.0             |
| 3    | 36 |   | 2 1/4 | 5/8 | 3/4 | 14 1/2 |   | 11 7/8 | 4 1/4 | 7 5/8  |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 9.0             |
| 4    | 48 |   | 3     | 3/4 | 1   | 19 3/8 |   | 15 3/4 | 5 5/8 | 10 1/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 16.0            |
| 5    |    |   |       |     |     |        |   |        |       |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |

|             |  |      |  |         |  |               |  |   |
|-------------|--|------|--|---------|--|---------------|--|---|
| PROJECT NO: |  | HWY: |  | COUNTY: |  | SHEET NO: 220 |  | E |
|-------------|--|------|--|---------|--|---------------|--|---|

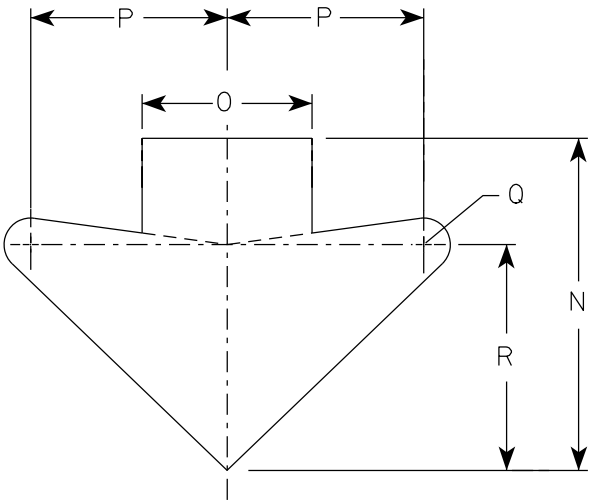




W12-52

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:  
Background - Orange  
Message - Black
- 3. Message Series - See note 5
- 4. The top line is series E, the numerals are series C, and the bottom line is series D.
- 5. Substitute appropriate numerals and adjust spacing as required.



ARROW DETAIL

| SIZE | A  | B | C | D | E | F | G  | H    | I   | J    | K  | L  | M  | N    | O | P   | Q   | R    | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|---|---|---|---|---|----|------|-----|------|----|----|----|------|---|-----|-----|------|---|---|---|---|---|---|---|---|-----------------|
| 1    |    |   |   |   |   |   |    |      |     |      |    |    |    |      |   |     |     |      |   |   |   |   |   |   |   |   |                 |
| 2S   | 48 |   | 3 | ¾ | 1 | 6 | 12 | 11 ⅜ | 9 ⅝ | 11 ½ | 16 | 13 | 12 | 15 ⅝ | 8 | 9 ¼ | 1 ¼ | 10 ⅝ |   |   |   |   |   |   |   |   | 16.0            |
| 2M   | 48 |   | 3 | ¾ | 1 | 6 | 12 | 11 ⅜ | 9 ⅝ | 11 ½ | 16 | 13 | 12 | 15 ⅝ | 8 | 9 ¼ | 1 ¼ | 10 ⅝ |   |   |   |   |   |   |   |   | 16.0            |
| 3    |    |   |   |   |   |   |    |      |     |      |    |    |    |      |   |     |     |      |   |   |   |   |   |   |   |   |                 |
| 4    |    |   |   |   |   |   |    |      |     |      |    |    |    |      |   |     |     |      |   |   |   |   |   |   |   |   |                 |
| 5    |    |   |   |   |   |   |    |      |     |      |    |    |    |      |   |     |     |      |   |   |   |   |   |   |   |   |                 |

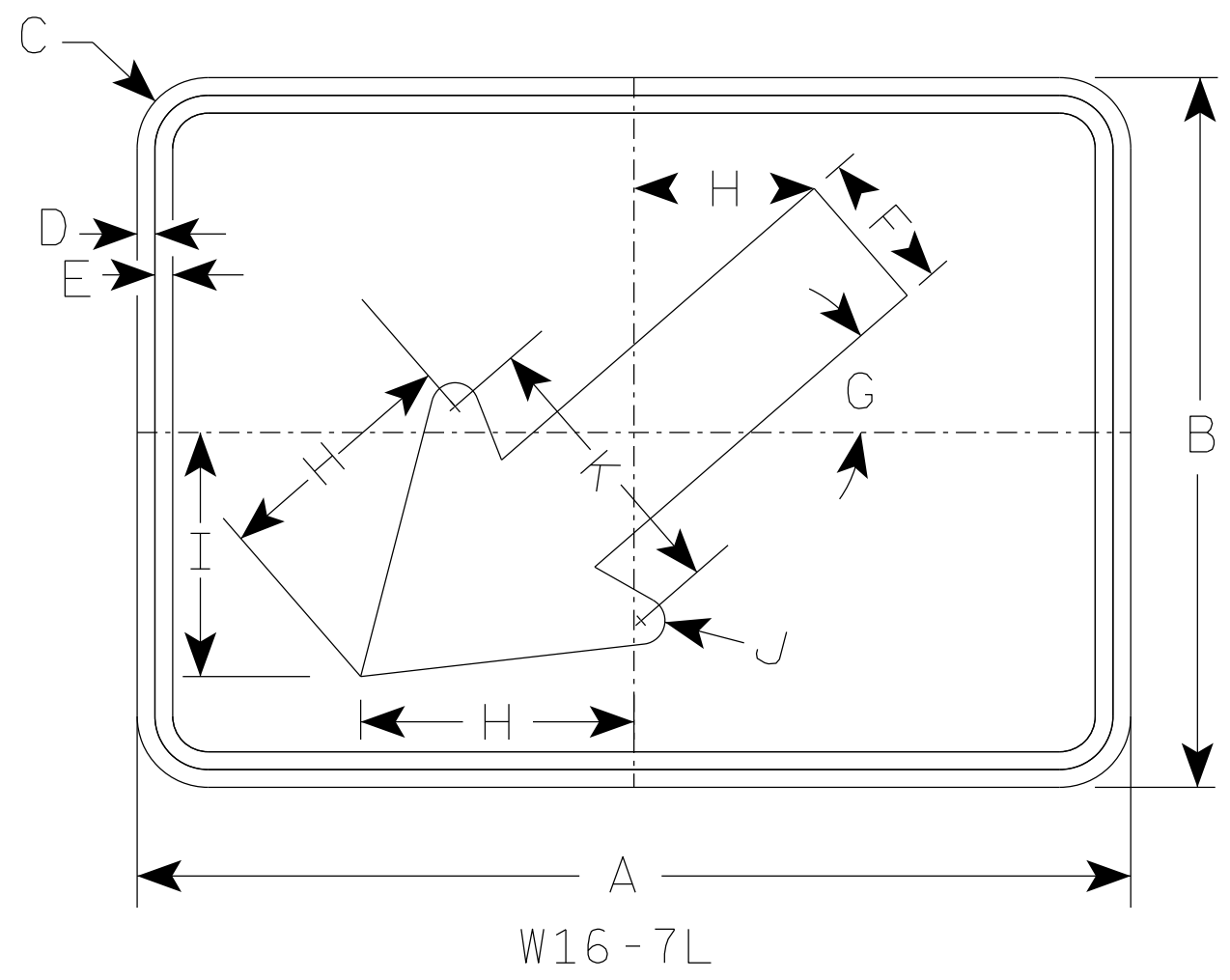
STANDARD SIGN

W12-52

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 3/10/2024 PLATE NO. W12-52.8



NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:  
Background - Yellow  
Message - Black
- 3. W16-7R is the same as W16-7L  
except the arrow is reversed along  
the vertical centerline.

- \* For 36" x 36" Warning Signs, use 30" x 21" W16-7L signs.
- \* For 48" x 48" Warning Signs, use 42" x 24" W16-7L signs.

| SIZE | A  | B  | C     | D   | E   | F     | G   | H      | I     | J   | K     | L | M | N | O | P | Q     | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-------|-----|-----|-------|-----|--------|-------|-----|-------|---|---|---|---|---|-------|---|---|---|---|---|---|---|---|---|-----------------|
| 1    |    |    |       |     |     |       |     |        |       |     |       |   |   |   |   |   |       |   |   |   |   |   |   |   |   |   |                 |
| 2S   | 21 | 15 | 1 1/2 | 3/8 | 3/8 | 3     | 41° | 5 1/4  | 5 1/8 | 1/2 | 6     |   |   |   |   |   |       |   |   |   |   |   |   |   |   |   | 2.19            |
| * 2M | 30 | 21 | 1 1/2 | 3/8 | 1/2 | 4 1/2 | 41° | 8 5/8  | 7 3/4 | 5/8 | 9 1/4 |   |   |   |   |   | 9 1/4 |   |   |   |   |   |   |   |   |   | 4.38            |
| * 3  | 30 | 21 | 1 1/2 | 3/8 | 1/2 | 4 1/2 | 41° | 8 5/8  | 7 3/4 | 5/8 | 9 1/4 |   |   |   |   |   |       |   |   |   |   |   |   |   |   |   | 4.38            |
| * 4  | 42 | 24 | 1 7/8 | 1/2 | 5/8 | 6     | 41° | 10 1/4 | 9 1/8 | 1   | 12    |   |   |   |   |   |       |   |   |   |   |   |   |   |   |   | 7.0             |
| 5    |    |    |       |     |     |       |     |        |       |     |       |   |   |   |   |   |       |   |   |   |   |   |   |   |   |   |                 |

STANDARD SIGN  
W16-7

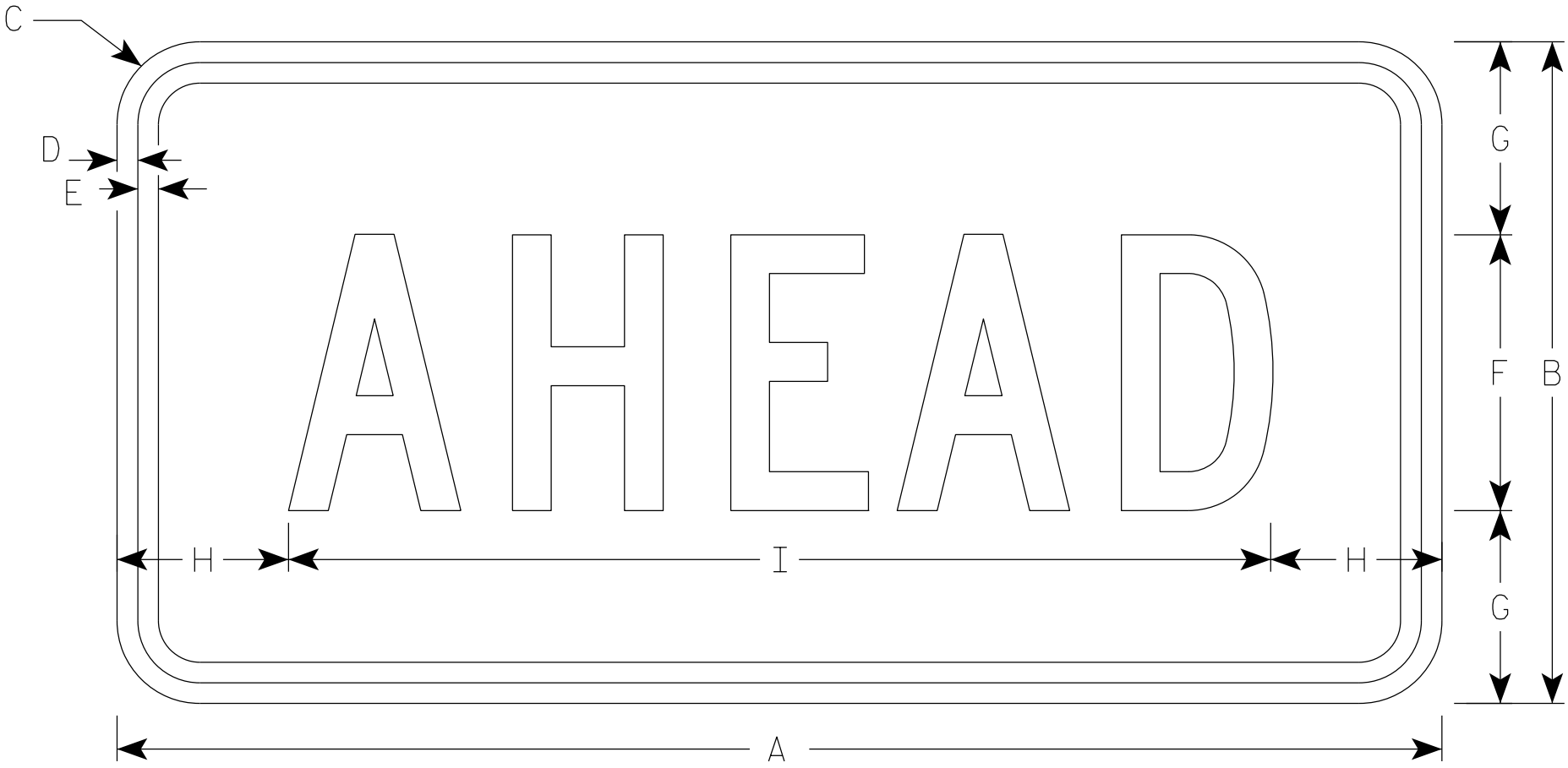
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 4/29/26 PLATE NO. W16-7.10

NOTES

- 1. Sign is Type II - Type F Reflective
- 2. Color:  
Background - Yellow  
Message - Black
- 3. Message Series - C



W16-9P

- \* For 36" x 36" Warning Signs, use 30" x 18" W16-9P signs.
- \* For 48" x 48" Warning Signs, use 48" x 24" W16-9P signs.

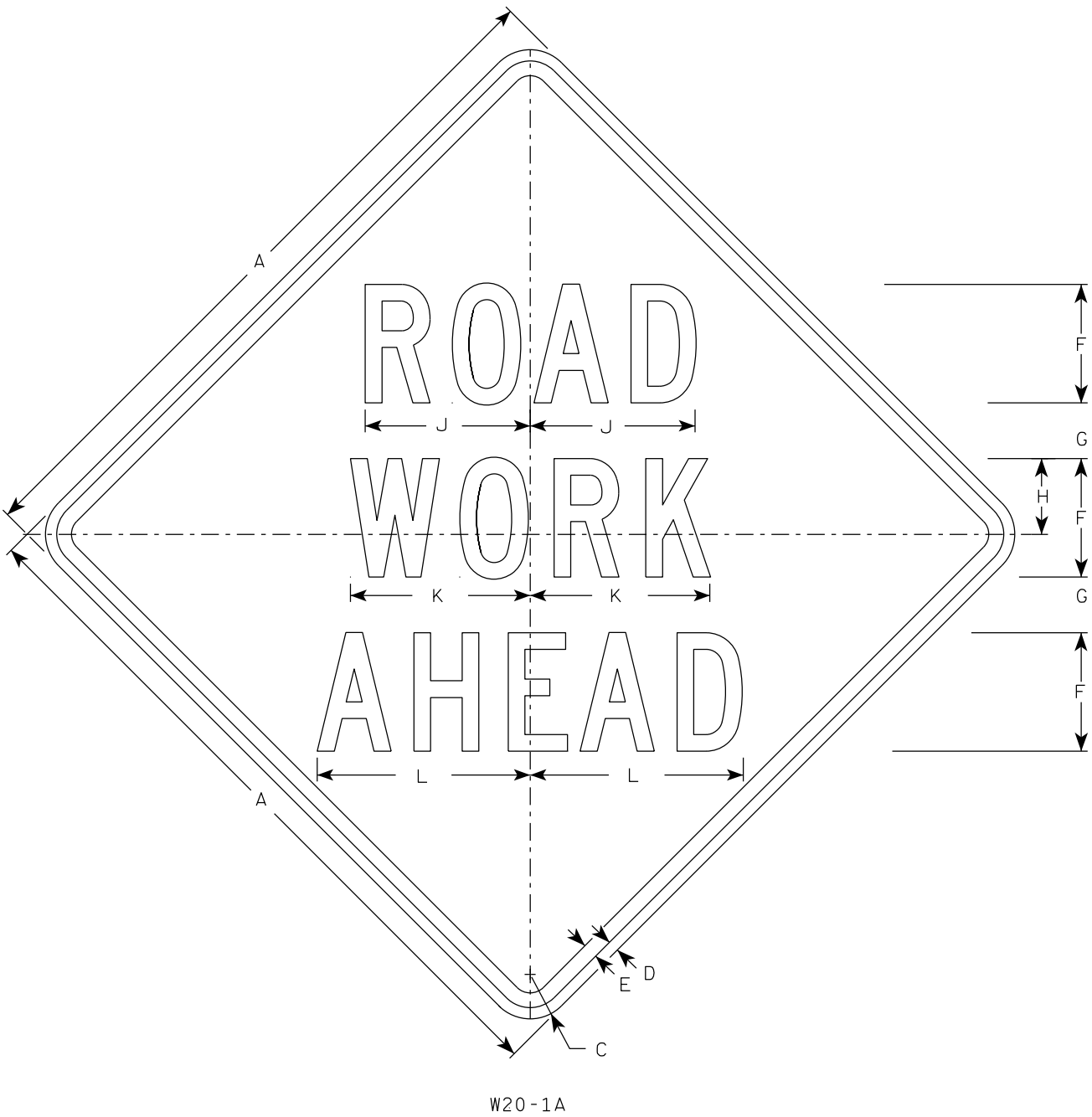
| SIZE | A  | B  | C     | D   | E   | F  | G     | H     | I      | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-------|-----|-----|----|-------|-------|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    |    |    |       |     |     |    |       |       |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 2S   | 24 | 12 | 1 1/2 | 3/8 | 3/8 | 5  | 3 1/2 | 3 1/8 | 17 3/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 2.0             |
| 2M   | 30 | 18 | 1 1/2 | 3/8 | 1/2 | 7  | 5 1/2 | 2 3/4 | 24 1/2 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.75            |
| 3    | 30 | 18 | 1 1/2 | 3/8 | 1/2 | 7  | 3 1/2 | 2 3/4 | 24 1/2 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.75            |
| 4    | 48 | 24 | 1 7/8 | 1/2 | 5/8 | 10 | 7     | 6 1/8 | 35 3/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 8.0             |
| 5    |    |    |       |     |     |    |       |       |        |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |

STANDARD SIGN  
W16-9P

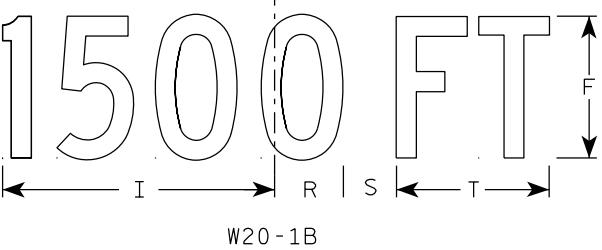
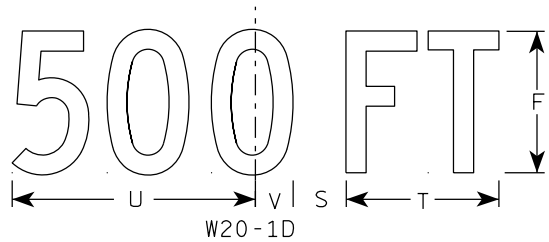
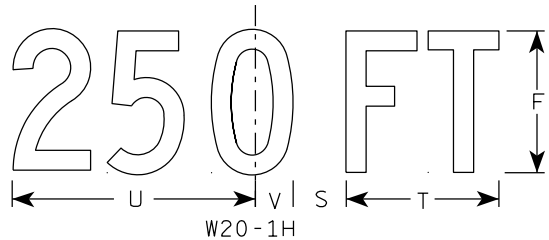
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 1/9/2024 PLATE NO. W16-9P.9

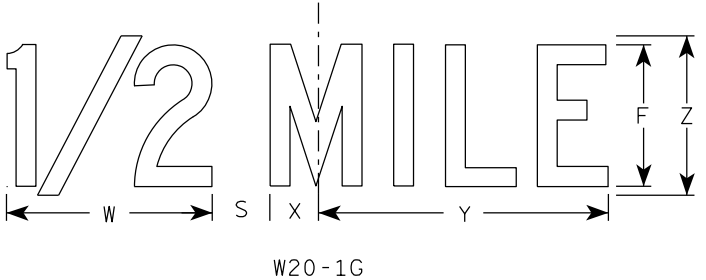


W20-1A

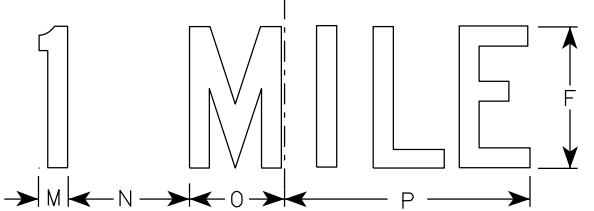


W20-1B

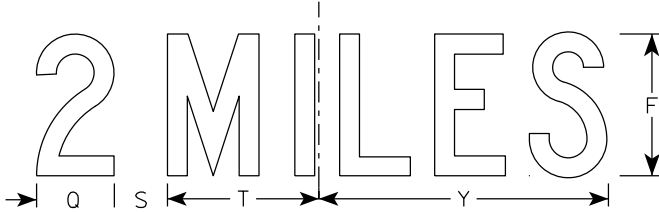
- NOTES
1. Sign is Type II - Type F Reflective
  2. Color:  
Background - Orange  
Message - Black
  3. Message Series - C
  4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



W20-1G



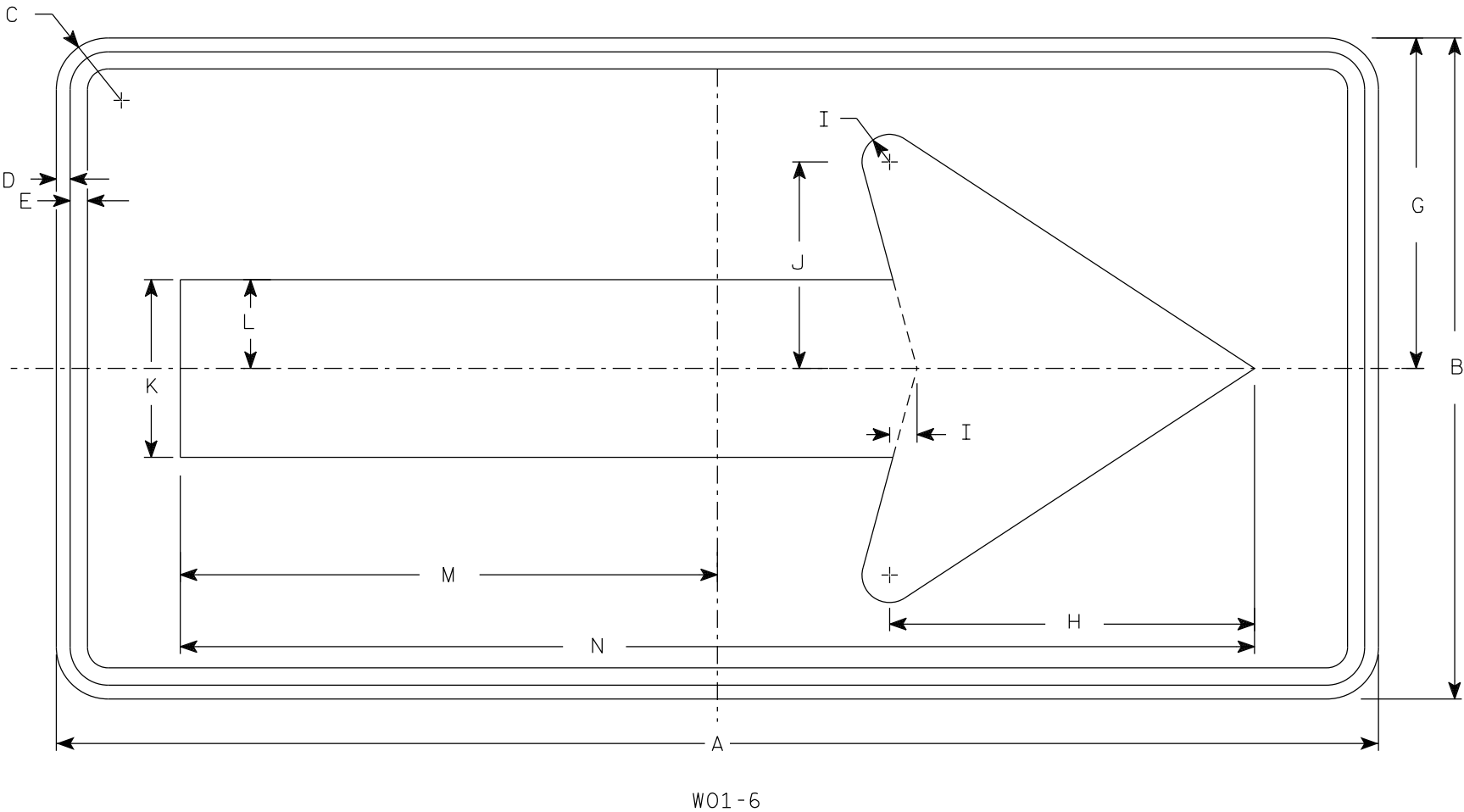
W20-1F



W20-1E

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

7



NOTES

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

7

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

STANDARD SIGN

W01-6

WISCONSIN DEPT OF TRANSPORTATION

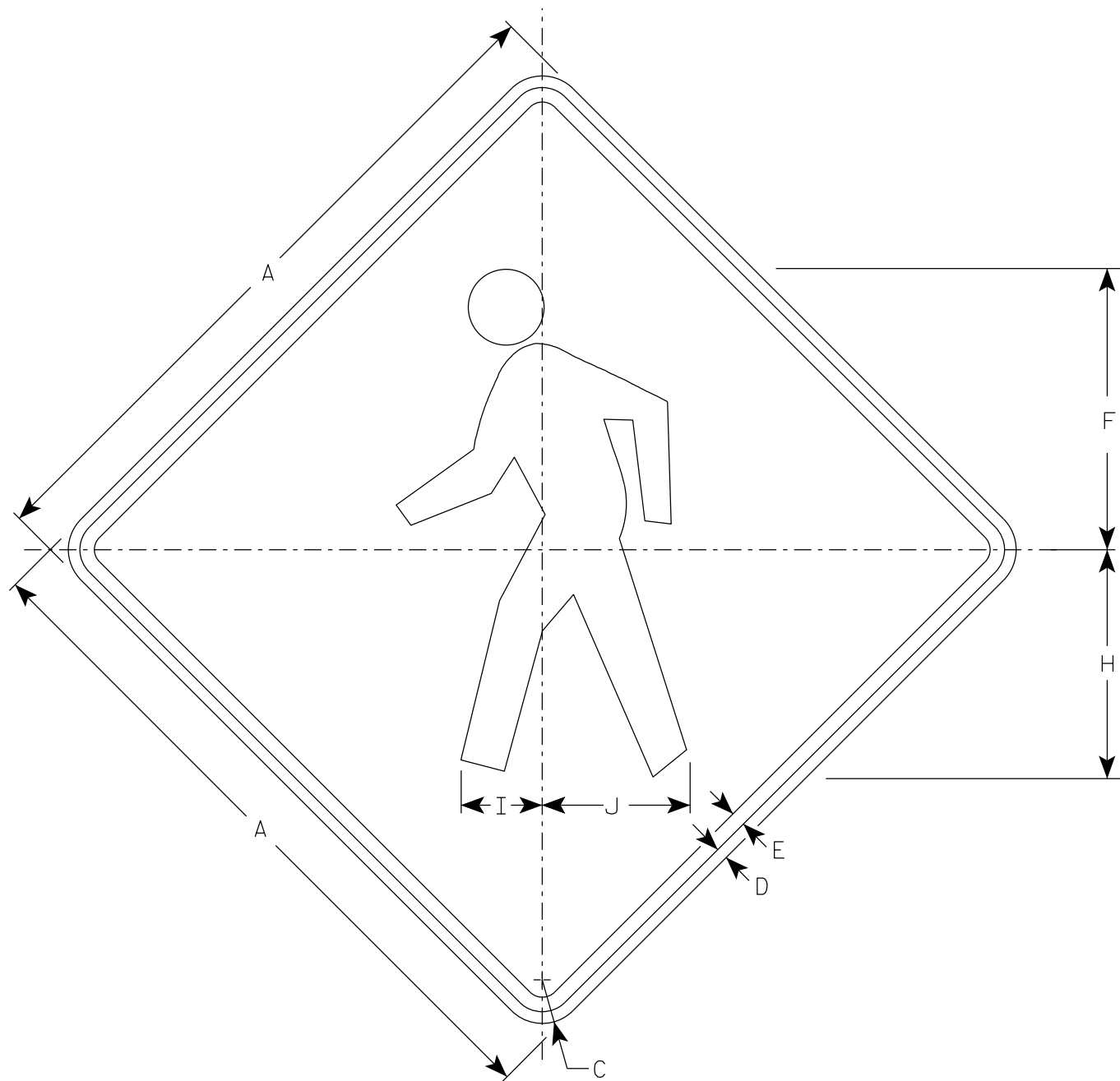
APPROVED

Matthew R. Rauch

for State Traffic Engineer

DATE 1/24/2024

PLATE NO. W01-6.2



NOTES

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

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

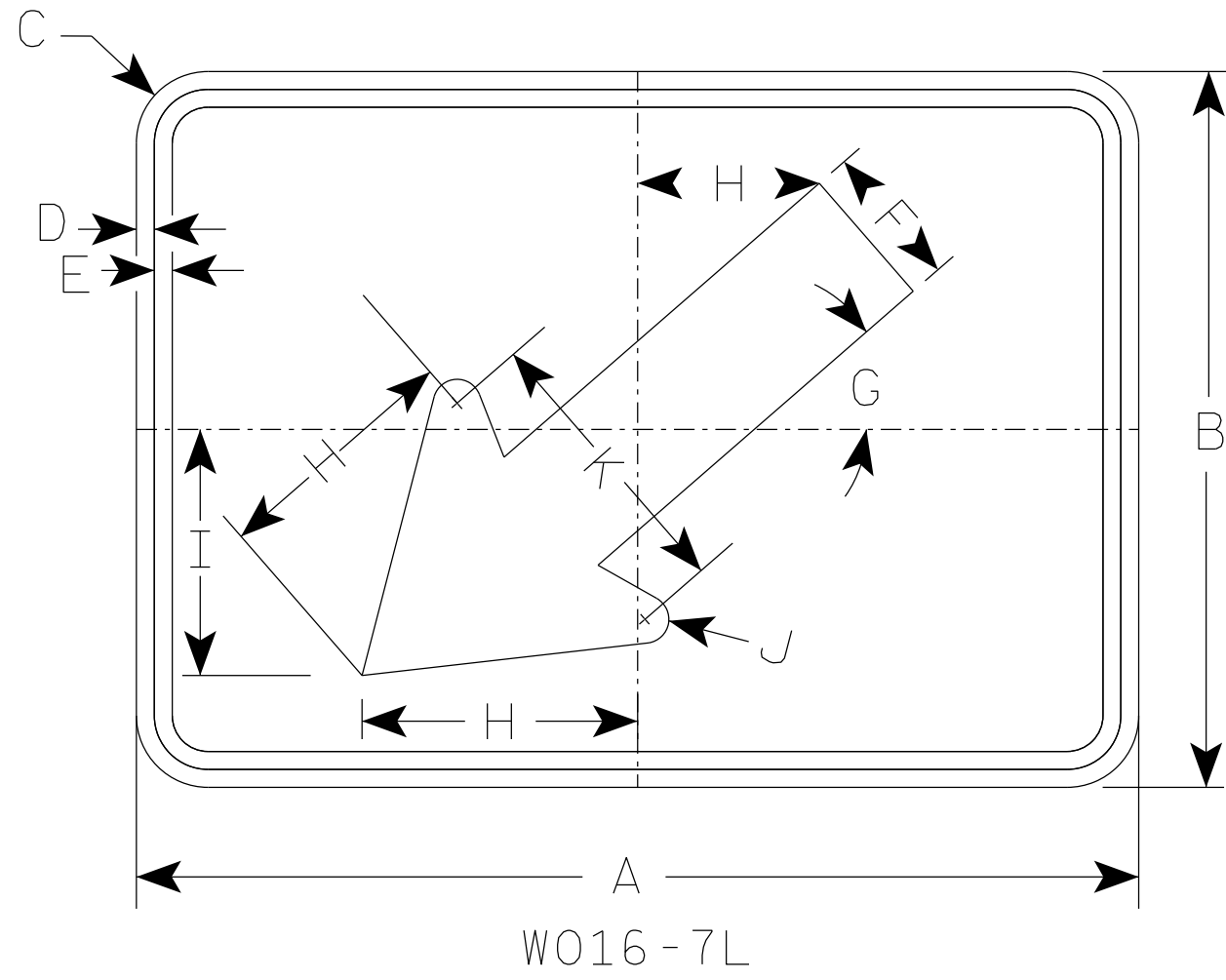
STANDARD SIGN  
W011-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 2/1/2024 PLATE NO. W011-2.2





NOTES

1. Sign is Type II - Type F Reflective
2. Color:  
Background - Orange  
Message - Black
3. W016-7R is the same as W016-7L  
except the arrow is reversed along  
the vertical centerline.

\* For 36" x 36" Warning Signs, use 30" x 21" W016-7L signs.  
\* For 48" x 48" Warning Signs, use 42" x 24" W016-7L signs.

| SIZE | A  | B  | C     | D   | E   | F     | G   | H      | I     | J   | K     | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-------|-----|-----|-------|-----|--------|-------|-----|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    |    |    |       |     |     |       |     |        |       |     |       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |
| 2S   | 21 | 15 | 1 1/2 | 3/8 | 3/8 | 3     | 41° | 5 1/4  | 5 1/8 | 1/2 | 6     |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 2.19            |
| 2M   | 30 | 21 | 1 1/2 | 3/8 | 1/2 | 4 1/2 | 41° | 8 5/8  | 7 3/4 | 5/8 | 9 1/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 4.38            |
| 3    | 30 | 21 | 1 1/2 | 3/8 | 1/2 | 4 1/2 | 41° | 8 5/8  | 7 3/4 | 5/8 | 9 1/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 4.38            |
| 4    | 42 | 24 | 1 7/8 | 1/2 | 5/8 | 6     | 41° | 10 1/4 | 9 1/8 | 1   | 12    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 7.0             |
| 5    |    |    |       |     |     |       |     |        |       |     |       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |                 |

STANDARD SIGN

W016-7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 4/30/26 PLATE NO. W016-7.4

NOTES

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



W016-9P

| SIZE | A  | B  | C     | D   | E   | F  | G     | H     | I      | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|----|-------|-----|-----|----|-------|-------|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|-----------------|
| 1    | 30 | 18 | 1 1/2 | 3/8 | 1/2 | 7  | 5 1/2 | 2 3/4 | 24 1/2 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 3.75            |
| 2S   | 48 | 24 | 1 7/8 | 1/2 | 5/8 | 10 | 7     | 6 1/8 | 35 3/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 8.0             |
| 2M   | 48 | 24 | 1 7/8 | 1/2 | 5/8 | 10 | 7     | 6 1/8 | 35 3/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 8.0             |
| 3    | 48 | 24 | 1 7/8 | 1/2 | 5/8 | 10 | 7     | 6 1/8 | 35 3/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 8.0             |
| 4    | 48 | 24 | 1 7/8 | 1/2 | 5/8 | 10 | 7     | 6 1/8 | 35 3/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 8.0             |
| 5    | 48 | 24 | 1 7/8 | 1/2 | 5/8 | 10 | 7     | 6 1/8 | 35 3/4 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   | 8.0             |

STANDARD SIGN

W016-9P

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

*Matthew R. Rauch*  
for State Traffic Engineer

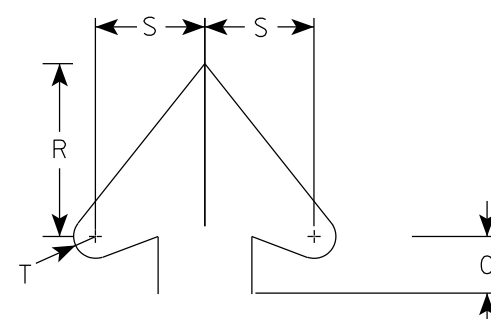
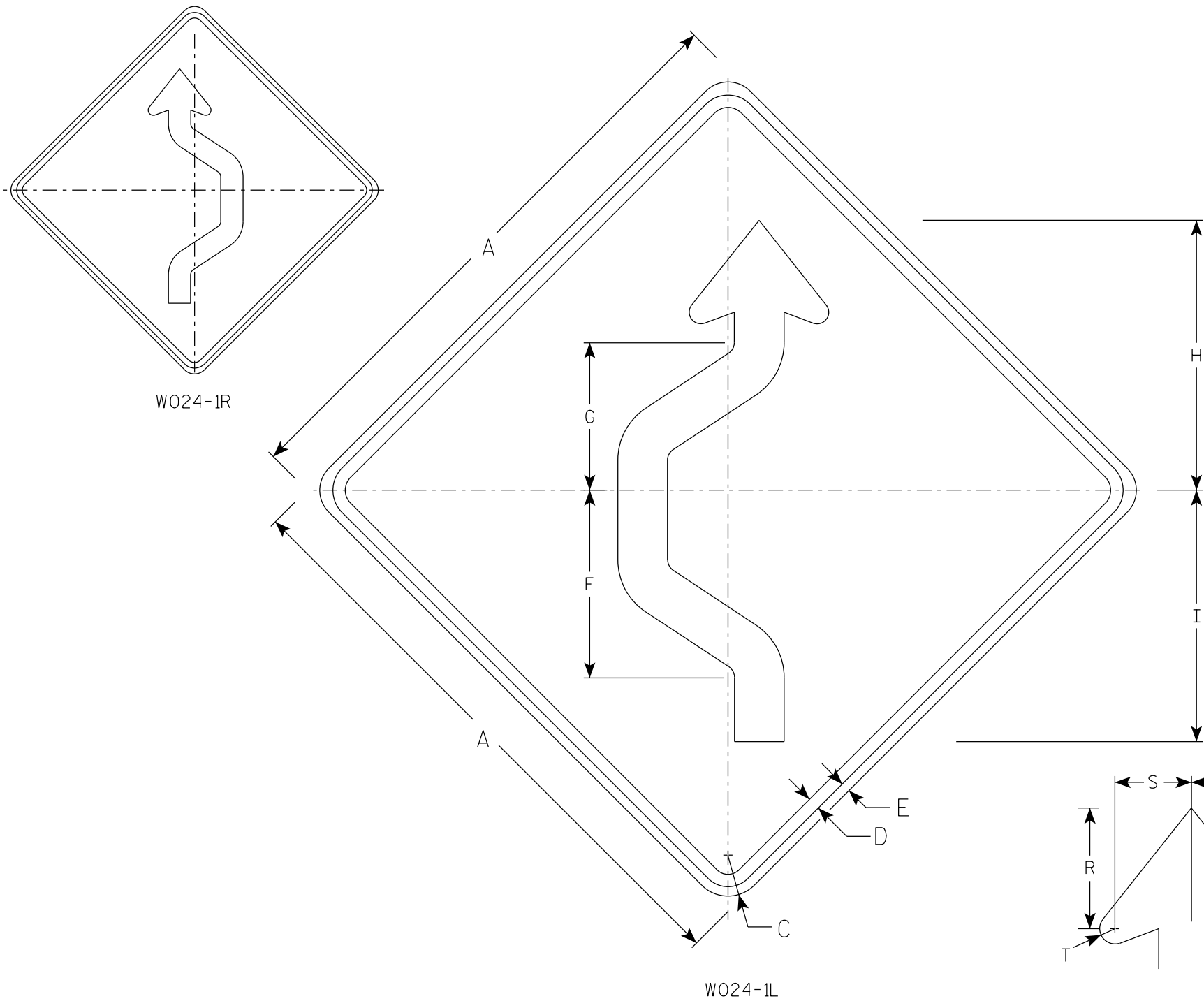
DATE 2/1/2024

PLATE NO. W016-9P.8

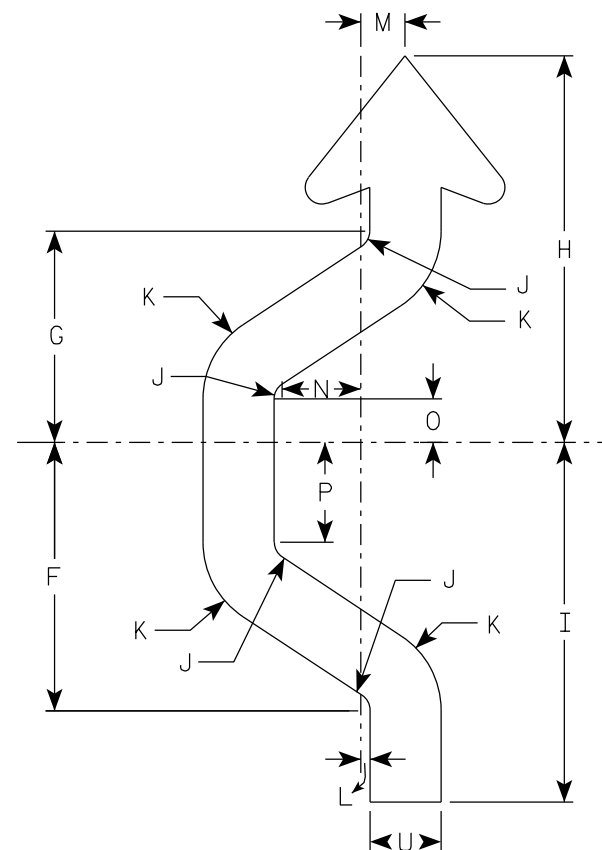
PROJECT NO: HWY: COUNTY: SHEET NO: 228 E

FILE NAME : C:\CAEfiles\Projects\tr\_stdplate\W0169P.dgn PLOT DATE : 1-FEB 2024 10:20 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : \$\$.....plotscale.....\$\$ WISDOT/CADDs SHEET 42





Arrowhead Detail



Arrow Detail

NOTES

1. Sign is Type II - Type F Reflective
2. Color:  
Background - Orange  
Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W024-1R is the same as W024-1L except reversed along the vertical centerline.

| SIZE | A  | B | C     | D   | E   | F      | G      | H      | I      | J   | K     | L   | M     | N     | O     | P     | Q | R     | S     | T   | U | V | W | X | Y | Z | Area<br>sq. ft. |
|------|----|---|-------|-----|-----|--------|--------|--------|--------|-----|-------|-----|-------|-------|-------|-------|---|-------|-------|-----|---|---|---|---|---|---|-----------------|
| 1    | 36 |   | 2 1/4 | 5/8 | 1/2 | 11 3/8 | 8 7/8  | 16 3/8 | 15 1/4 | 3/4 | 3 3/4 | 3/8 | 2     | 3 3/8 | 1 7/8 | 4 1/4 |   | 5 1/2 | 3 1/2 | 5/8 | 3 |   |   |   |   |   | 9.0             |
| 2S   | 48 |   | 3     | 1   | 3/4 | 15 1/8 | 11 7/8 | 21 3/4 | 20 1/4 | 1   | 5     | 1/2 | 2 1/2 | 4 3/8 | 2 3/8 | 5 5/8 |   | 7 3/8 | 4 3/4 | 7/8 | 4 |   |   |   |   |   | 16.0            |
| 2M   | 48 |   | 3     | 1   | 3/4 | 15 1/8 | 11 7/8 | 21 3/4 | 20 1/4 | 1   | 5     | 1/2 | 2 1/2 | 4 3/8 | 2 3/8 | 5 5/8 |   | 7 3/8 | 4 3/4 | 7/8 | 4 |   |   |   |   |   | 16.0            |
| 3    | 48 |   | 3     | 1   | 3/4 | 15 1/8 | 11 7/8 | 21 3/4 | 20 1/4 | 1   | 5     | 1/2 | 2 1/2 | 4 3/8 | 2 3/8 | 5 5/8 |   | 7 3/8 | 4 3/4 | 7/8 | 4 |   |   |   |   |   | 16.0            |
| 4    | 48 |   | 3     | 1   | 3/4 | 15 1/8 | 11 7/8 | 21 3/4 | 20 1/4 | 1   | 5     | 1/2 | 2 1/2 | 4 3/8 | 2 3/8 | 5 5/8 |   | 7 3/8 | 4 3/4 | 7/8 | 4 |   |   |   |   |   | 16.0            |
| 5    | 48 |   | 3     | 1   | 3/4 | 15 1/8 | 11 7/8 | 21 3/4 | 20 1/4 | 1   | 5     | 1/2 | 2 1/2 | 4 3/8 | 2 3/8 | 5 5/8 |   | 7 3/8 | 4 3/4 | 7/8 | 4 |   |   |   |   |   | 16.0            |

STANDARD SIGN  
W024-1 L & R

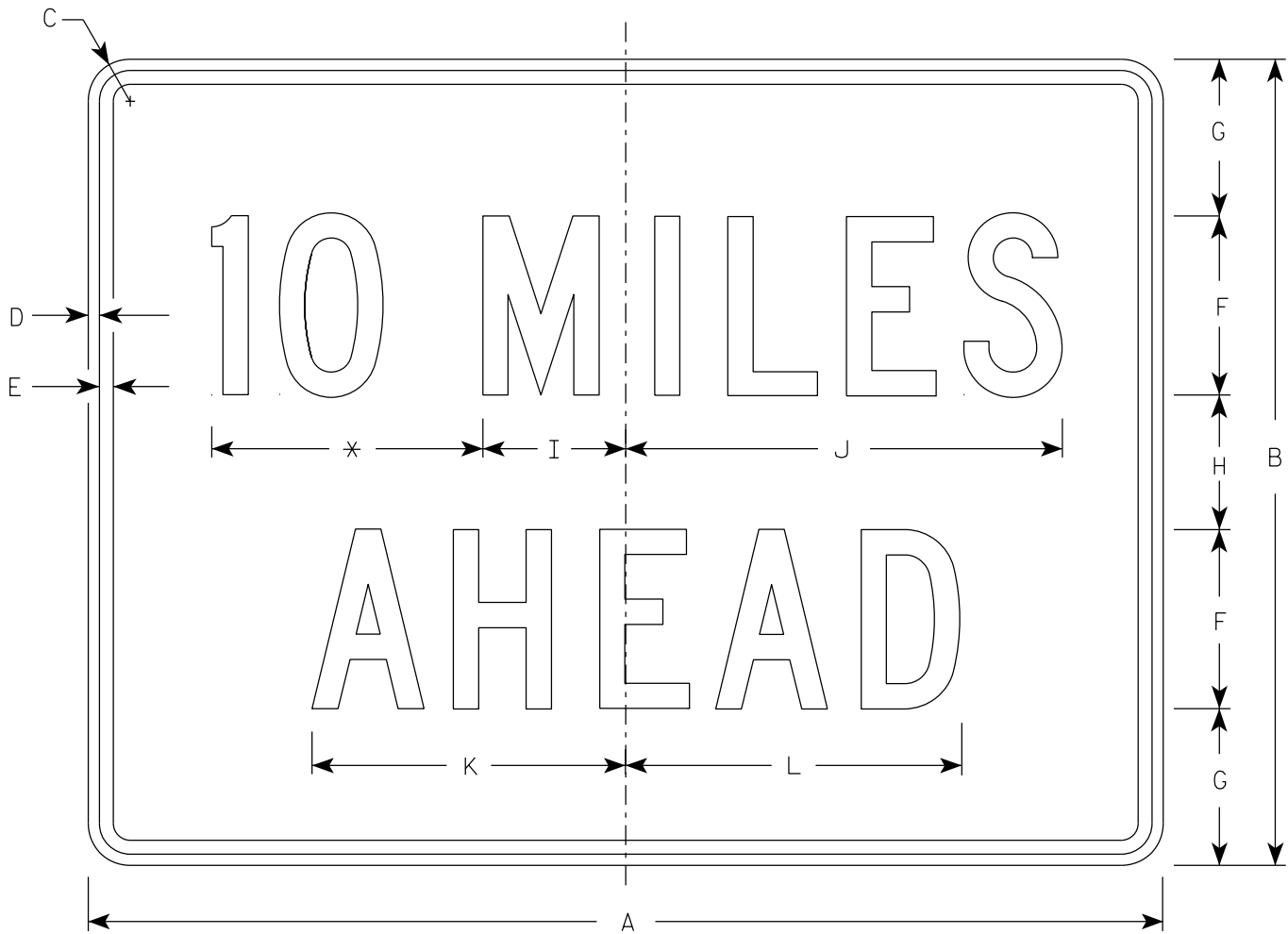
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

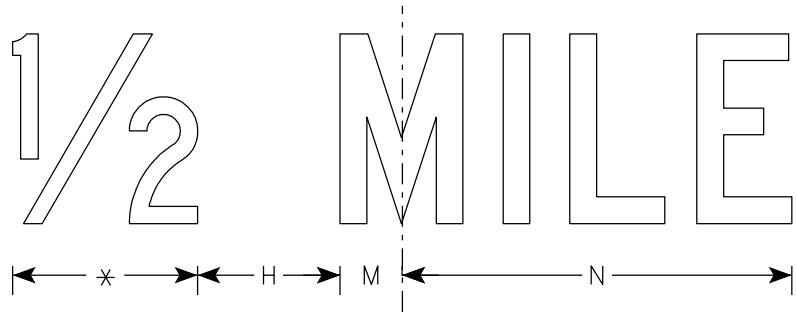
DATE 2/1/2024 PLATE NO. W024-1.2

PROJECT NO: HWY: COUNTY: SHEET NO: 229 E

7



W057-52



\* See note 5

NOTES

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

7

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

STANDARD SIGN  
W057-52

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 2/1/2024 PLATE NO. W057-52.3

| GUARDRAIL WEST OF 110TH. LT |              |          |           |      |                                      |      |                       |                                 |                        |
|-----------------------------|--------------|----------|-----------|------|--------------------------------------|------|-----------------------|---------------------------------|------------------------|
| STATION                     | REAL STATION | DISTANCE | AREA (SF) |      | INCREMENTAL VOL (CY)<br>(UNADJUSTED) |      | CUMULATIVE VOL (CY)   |                                 |                        |
|                             |              |          | CUT       | FILL | CUT                                  | FILL | CUT<br>1.00<br>NOTE 1 | EXPANDED FILL<br>1.25<br>NOTE 3 | MASS ORDNATE<br>NOTE 4 |
|                             |              |          |           |      |                                      |      |                       |                                 |                        |
| 358+88                      | 35888        | 0        | 0         | 1    | 0                                    | 0    | 0                     | 0                               | 0                      |
| 358+92                      | 35892        | 4        | 0         | 9    | 0                                    | 1    | 0                     | 1                               | -1                     |
| 359+00                      | 35900        | 8        | 0         | 13   | 0                                    | 3    | 0                     | 5                               | -5                     |
| 359+57                      | 35957        | 57       | 0         | 30   | 0                                    | 45   | 0                     | 61                              | -61                    |
| 360+00                      | 36000        | 43       | 0         | 17   | 0                                    | 38   | 0                     | 109                             | -109                   |
| 360+07                      | 36007        | 7        | 0         | 17   | 0                                    | 4    | 0                     | 114                             | -114                   |
| 360+32                      | 36032        | 25       | 0         | 21   | 0                                    | 18   | 0                     | 136                             | -136                   |
| 360+57                      | 36057        | 25       | 0         | 24   | 0                                    | 21   | 0                     | 163                             | -163                   |
| 360+73                      | 36073        | 16       | 0         | 19   | 0                                    | 12   | 0                     | 178                             | -178                   |
| 361+00                      | 36100        | 27       | 0         | 0    | 0                                    | 10   | 0                     | 190                             | -190                   |
| 361+33                      | 36133        | 33       | 0         | 3    | 0                                    | 2    | 0                     | 193                             | -193                   |
| 362+00                      | 36200        | 67       | 0         | 0    | 0                                    | 4    | 0                     | 198                             | -198                   |
| 362+55                      | 36255        | 55       | 1         | 0    | 1                                    | 0    | 1                     | 198                             | -197                   |
| 362+80                      | 36280        | 25       | 1         | 0    | 1                                    | 0    | 2                     | 198                             | -196                   |
| 362+96                      | 36296        | 16       | 1         | 0    | 1                                    | 0    | 3                     | 198                             | -195                   |
| 363+00                      | 36300        | 4        | 1         | 0    | 0                                    | 0    | 3                     | 198                             | -195                   |
| 363+21                      | 36321        | 21       | 1         | 0    | 1                                    | 0    | 4                     | 198                             | -194                   |
| 363+46                      | 36346        | 25       | 1         | 0    | 1                                    | 0    | 5                     | 198                             | -193                   |
| 363+88                      | 36388        | 43       | 1         | 0    | 1                                    | 0    | 6                     | 198                             | -192                   |
| 363+96                      | 36396        | 7        | 0         | 0    | 0                                    | 0    | 6                     | 198                             | -192                   |
| 364+00                      | 36400        | 4        | 0         | 1    | 0                                    | 0    | 6                     | 198                             | -192                   |
| 364+13                      | 36413        | 13       | 0         | 15   | 0                                    | 4    | 6                     | 203                             | -197                   |
| 364+29                      | 36429        | 16       | 0         | 21   | 0                                    | 11   | 6                     | 216                             | -210                   |
| 364+38                      | 36438        | 9        | 0         | 23   | 0                                    | 7    | 6                     | 225                             | -219                   |
| 364+65                      | 36465        | 26       | 0         | 16   | 0                                    | 19   | 6                     | 249                             | -243                   |
| 364+88                      | 36488        | 24       | 0         | 10   | 0                                    | 11   | 6                     | 263                             | -257                   |
| 365+00                      | 36500        | 12       | 0         | 9    | 0                                    | 4    | 6                     | 268                             | -262                   |
| 365+57                      | 36557        | 57       | 0         | 0    | 0                                    | 9    | 6                     | 279                             | -273                   |
|                             |              |          |           |      | 6                                    | 223  |                       |                                 |                        |

|                   |                                                                                                                                        |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| NOTES:            |                                                                                                                                        |
| 1 - CUT           | CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL. SALVAGED/UNUSABLE PAVEMENT MATERIAL IS CALCULATED ON THE SECTION 3 SUMMARY SHEET.    |
| 2 - FILL          | FILL DOES NOT INCLUDE UNUSABLE PAVEMENT AREA/VOLUME. SALVAGED/UNUSABLE PAVEMENT MATERIAL IS CALCULATED ON THE SECTION 3 SUMMARY SHEET. |
| 3 - EXPANDED FILL | (UNEXPANDED MATERIAL)*(EXPANSION FACTOR)                                                                                               |
| 4 - MASS ORDNATE  | CUT - (EXPANDED FILL); POSITIVE INDICATES AN EXCESS OF MATERIAL; NEGATIVE INDICATES A SHORTAGE OF MATERIAL                             |



| GUARDRAIL, WEST OF 90TH, RT |              |          |           |      |                                      |        |                     |                       |               |
|-----------------------------|--------------|----------|-----------|------|--------------------------------------|--------|---------------------|-----------------------|---------------|
| STATION                     | REAL STATION | DISTANCE | AREA (SF) |      | INCREMENTAL VOL (CY)<br>(UNADJUSTED) |        | CUMULATIVE VOL (CY) |                       |               |
|                             |              |          | CUT       | FILL | CUT                                  | FILL   | CUT<br>1.00         | EXPANDED FILL<br>1.25 | MASS ORDINATE |
|                             |              |          |           |      |                                      |        |                     |                       |               |
|                             |              |          |           |      | NOTE 1                               | NOTE 2 | NOTE 1              | NOTE 3                | NOTE 4        |
| 468+00                      | 46800        | 0        | 0         | 1    | 0                                    | 0      | 0                   | 0                     | 0             |
| 469+00                      | 46900        | 100      | 0         | 47   | 0                                    | 89     | 0                   | 111                   | -111          |
| 469+19                      | 46919        | 19       | 0         | 61   | 0                                    | 38     | 0                   | 159                   | -159          |
| 469+44                      | 46944        | 25       | 0         | 41   | 0                                    | 47     | 0                   | 218                   | -218          |
| 469+69                      | 46969        | 25       | 0         | 38   | 0                                    | 37     | 0                   | 264                   | -264          |
| 470+00                      | 47000        | 31       | 0         | 12   | 0                                    | 29     | 0                   | 300                   | -300          |
| 470+83                      | 47083        | 83       | 0         | 0    | 0                                    | 18     | 0                   | 323                   | -323          |
| 471+00                      | 47100        | 17       | 1         | 0    | 1                                    | 0      | 1                   | 323                   | -322          |
| 471+38                      | 47138        | 38       | 2         | 2    | 2                                    | 1      | 3                   | 324                   | -321          |
| 471+62                      | 47162        | 25       | 0         | 11   | 1                                    | 6      | 4                   | 331                   | -327          |
| 471+87                      | 47187        | 25       | 0         | 20   | 0                                    | 14     | 4                   | 349                   | -345          |
| 472+00                      | 47200        | 13       | 0         | 19   | 0                                    | 9      | 4                   | 360                   | -356          |
| 472+38                      | 47238        | 38       | 0         | 17   | 0                                    | 25     | 4                   | 391                   | -387          |
| 473+00                      | 47300        | 63       | 1         | 0    | 1                                    | 19     | 5                   | 415                   | -410          |
| 473+07                      | 47307        | 7        | 0         | 0    | 0                                    | 0      | 5                   | 415                   | -410          |
|                             |              |          |           |      | 5                                    | 332    |                     |                       |               |

|                   |                                                                                                                                        |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| NOTES:            |                                                                                                                                        |
| 1 - CUT           | CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL. SALVAGED/UNUSABLE PAVEMENT MATERIAL IS CALCULATED ON THE SECTION 3 SUMMARY SHEET.    |
| 2 - FILL          | FILL DOES NOT INCLUDE UNUSABLE PAVEMENT AREA/VOLUME. SALVAGED/UNUSABLE PAVEMENT MATERIAL IS CALCULATED ON THE SECTION 3 SUMMARY SHEET. |
| 3 - EXPANDED FILL | (UNEXPANDED MATERIAL)*(EXPANSION FACTOR)                                                                                               |
| 4 - MASS ORDINATE | CUT - (EXPANDED FILL); POSITIVE INDICATES AN EXCESS OF MATERIAL; NEGATIVE INDICATES A SHORTAGE OF MATERIAL                             |

| GUARDRAIL, WEST OF CTH E, RT |              |          |           |      |                                      |      |                       |                                 |                        |  |
|------------------------------|--------------|----------|-----------|------|--------------------------------------|------|-----------------------|---------------------------------|------------------------|--|
| STATION                      | REAL STATION | DISTANCE | AREA (SF) |      | INCREMENTAL VOL (CY)<br>(UNADJUSTED) |      | CUMULATIVE VOL (CY)   |                                 |                        |  |
|                              |              |          | CUT       | FILL | CUT                                  | FILL | CUT<br>1.00<br>NOTE 1 | EXPANDED FILL<br>1.25<br>NOTE 3 | MASS ORDNATE<br>NOTE 4 |  |
|                              |              |          |           |      |                                      |      |                       |                                 |                        |  |
| 621+76                       | 62176        | 0        | 0         | 0    | 0                                    | 0    | 0                     | 0                               | 0                      |  |
| 621+95                       | 62195        | 20       | 0         | 1    | 0                                    | 1    | 0                     | 1                               | -1                     |  |
| 622+00                       | 62200        | 5        | 0         | 2    | 0                                    | 0    | 0                     | 1                               | -1                     |  |
| 622+45                       | 62245        | 45       | 9         | 10   | 7                                    | 10   | 7                     | 14                              | -7                     |  |
| 622+65                       | 62265        | 20       | 8         | 13   | 6                                    | 8    | 13                    | 24                              | -11                    |  |
| 622+95                       | 62295        | 30       | 10        | 3    | 10                                   | 9    | 23                    | 35                              | -12                    |  |
| 623+00                       | 62300        | 5        | 15        | 1    | 2                                    | 0    | 25                    | 35                              | -10                    |  |
| 623+15                       | 62315        | 15       | 1         | 3    | 4                                    | 1    | 29                    | 36                              | -7                     |  |
| 623+20                       | 62320        | 5        | 0         | 12   | 0                                    | 2    | 29                    | 39                              | -10                    |  |
| 623+40                       | 62340        | 20       | 0         | 60   | 0                                    | 27   | 29                    | 73                              | -44                    |  |
| 623+45                       | 62345        | 5        | 0         | 69   | 0                                    | 13   | 29                    | 89                              | -60                    |  |
| 623+60                       | 62360        | 16       | 0         | 80   | 0                                    | 43   | 29                    | 143                             | -114                   |  |
| 623+65                       | 62365        | 4        | 0         | 81   | 0                                    | 12   | 29                    | 158                             | -129                   |  |
| 623+80                       | 62380        | 16       | 0         | 74   | 0                                    | 45   | 29                    | 214                             | -185                   |  |
| 623+85                       | 62385        | 5        | 0         | 75   | 0                                    | 15   | 29                    | 233                             | -204                   |  |
| 624+00                       | 62400        | 15       | 0         | 75   | 0                                    | 41   | 29                    | 284                             | -255                   |  |
| 624+05                       | 62405        | 5        | 0         | 83   | 0                                    | 15   | 29                    | 303                             | -274                   |  |
| 625+31                       | 62531        | 126      | 0         | 66   | 0                                    | 349  | 29                    | 739                             | -710                   |  |
| 626+00                       | 62600        | 69       | 0         | 36   | 0                                    | 131  | 29                    | 903                             | -874                   |  |
| 626+27                       | 62627        | 27       | 0         | 42   | 0                                    | 39   | 29                    | 951                             | -922                   |  |
| 626+53                       | 62653        | 26       | 0         | 51   | 0                                    | 45   | 29                    | 1008                            | -979                   |  |
| 627+00                       | 62700        | 47       | 0         | 23   | 0                                    | 66   | 29                    | 1090                            | -1061                  |  |
| 627+35                       | 62735        | 35       | 0         | 13   | 0                                    | 24   | 29                    | 1120                            | -1091                  |  |
| 627+60                       | 62760        | 25       | 0         | 31   | 0                                    | 21   | 29                    | 1146                            | -1117                  |  |
| 627+76                       | 62776        | 16       | 0         | 51   | 0                                    | 24   | 29                    | 1176                            | -1147                  |  |
| 628+00                       | 62800        | 24       | 0         | 58   | 0                                    | 48   | 29                    | 1236                            | -1207                  |  |
| 628+01                       | 62801        | 1        | 0         | 58   | 0                                    | 2    | 29                    | 1239                            | -1210                  |  |
| 628+26                       | 62826        | 25       | 0         | 70   | 0                                    | 59   | 29                    | 1313                            | -1284                  |  |
| 628+55                       | 62855        | 29       | 0         | 67   | 0                                    | 74   | 29                    | 1405                            | -1376                  |  |
| 628+76                       | 62876        | 21       | 0         | 48   | 0                                    | 44   | 29                    | 1460                            | -1431                  |  |
| 628+93                       | 62893        | 17       | 0         | 32   | 0                                    | 25   | 29                    | 1491                            | -1462                  |  |
| 629+00                       | 62900        | 7        | 0         | 24   | 0                                    | 8    | 29                    | 1501                            | -1472                  |  |
| 629+08                       | 62908        | 8        | 0         | 19   | 0                                    | 7    | 29                    | 1510                            | -1481                  |  |
| 629+33                       | 62933        | 25       | 0         | 0    | 0                                    | 9    | 29                    | 1521                            | -1492                  |  |
| 629+45                       | 62945        | 12       | 0         | 0    | 0                                    | 0    | 29                    | 1521                            | -1492                  |  |

29 1.217

| GUARDRAIL, WEST OF CTH E, LT |              |          |           |      |                                      |      |                       |                                 |                        |  |
|------------------------------|--------------|----------|-----------|------|--------------------------------------|------|-----------------------|---------------------------------|------------------------|--|
| STATION                      | REAL STATION | DISTANCE | AREA (SF) |      | INCREMENTAL VOL (CY)<br>(UNADJUSTED) |      | CUMULATIVE VOL (CY)   |                                 |                        |  |
|                              |              |          | CUT       | FILL | CUT                                  | FILL | CUT<br>1.00<br>NOTE 1 | EXPANDED FILL<br>1.25<br>NOTE 3 | MASS ORDNATE<br>NOTE 4 |  |
|                              |              |          |           |      |                                      |      |                       |                                 |                        |  |
| 621+95                       | 62195        | 0        | 0         | 0    | 0                                    | 0    | 0                     | 0                               | 0                      |  |
| 622+00                       | 62200        | 5        | 0         | 0    | 0                                    | 0    | 0                     | 0                               | 0                      |  |
| 622+45                       | 62245        | 45       | 0         | 1    | 0                                    | 1    | 0                     | 1                               | -1                     |  |
| 622+65                       | 62265        | 20       | 1         | 1    | 0                                    | 1    | 0                     | 3                               | -3                     |  |
| 622+95                       | 62295        | 30       | 3         | 0    | 2                                    | 0    | 2                     | 3                               | -1                     |  |
| 623+00                       | 62300        | 5        | 3         | 0    | 1                                    | 0    | 3                     | 3                               | 1                      |  |
| 623+15                       | 62315        | 15       | 0         | 2    | 1                                    | 1    | 4                     | 4                               | 0                      |  |
| 623+20                       | 62320        | 5        | 0         | 4    | 0                                    | 1    | 4                     | 5                               | -1                     |  |
| 623+40                       | 62340        | 20       | 1         | 2    | 0                                    | 2    | 4                     | 8                               | -4                     |  |
| 623+45                       | 62345        | 5        | 1         | 2    | 0                                    | 0    | 4                     | 8                               | -4                     |  |
| 623+60                       | 62360        | 16       | 2         | 5    | 1                                    | 2    | 5                     | 10                              | -5                     |  |
| 623+65                       | 62365        | 4        | 1         | 9    | 0                                    | 1    | 5                     | 11                              | -6                     |  |
| 623+80                       | 62380        | 16       | 0         | 27   | 0                                    | 11   | 5                     | 25                              | -20                    |  |
| 623+85                       | 62385        | 5        | 0         | 36   | 0                                    | 6    | 5                     | 33                              | -28                    |  |
| 624+00                       | 62400        | 15       | 2         | 17   | 1                                    | 14   | 6                     | 50                              | -44                    |  |
| 624+05                       | 62405        | 5        | 0         | 0    | 0                                    | 2    | 6                     | 53                              | -47                    |  |
| 625+31                       | 62531        | 126      | 0         | 0    | 0                                    | 0    | 6                     | 53                              | -47                    |  |
| 626+00                       | 62600        | 69       | 0         | 0    | 0                                    | 0    | 6                     | 53                              | -47                    |  |
| 626+27                       | 62627        | 27       | 0         | 0    | 0                                    | 0    | 6                     | 53                              | -47                    |  |
| 626+53                       | 62653        | 26       | 0         | 0    | 0                                    | 0    | 6                     | 53                              | -47                    |  |
| 627+00                       | 62700        | 47       | 0         | 0    | 0                                    | 0    | 6                     | 53                              | -47                    |  |
| 627+35                       | 62735        | 35       | 0         | 0    | 0                                    | 0    | 6                     | 53                              | -47                    |  |
| 627+60                       | 62760        | 25       | 0         | 0    | 0                                    | 0    | 6                     | 53                              | -47                    |  |
| 627+76                       | 62776        | 16       | 0         | 0    | 0                                    | 0    | 6                     | 53                              | -47                    |  |
| 628+00                       | 62800        | 24       | 0         | 0    | 0                                    | 0    | 6                     | 53                              | -47                    |  |
| 628+01                       | 62801        | 1        | 0         | 0    | 0                                    | 0    | 6                     | 53                              | -47                    |  |
| 628+26                       | 62826        | 25       | 0         | 0    | 0                                    | 0    | 6                     | 53                              | -47                    |  |
| 628+55                       | 62855        | 29       | 0         | 0    | 0                                    | 0    | 6                     | 53                              | -47                    |  |
| 628+76                       | 62876        | 21       | 0         | 0    | 0                                    | 0    | 6                     | 53                              | -47                    |  |
| 628+93                       | 62893        | 17       | 0         | 87   | 0                                    | 27   | 6                     | 86                              | -80                    |  |
| 629+00                       | 62900        | 7        | 0         | 99   | 0                                    | 25   | 6                     | 118                             | -112                   |  |
| 629+08                       | 62908        | 8        | 0         | 106  | 0                                    | 31   | 6                     | 156                             | -150                   |  |
| 629+33                       | 62933        | 25       | 0         | 59   | 0                                    | 76   | 6                     | 251                             | -245                   |  |
| 629+45                       | 62945        | 12       | 0         | 33   | 0                                    | 20   | 6                     | 276                             | -270                   |  |
| 629+58                       | 62958        | 13       | 0         | 1    | 0                                    | 8    | 6                     | 286                             | -280                   |  |
| 629+80                       | 62980        | 22       | 0         | 0    | 0                                    | 0    | 6                     | 286                             | -280                   |  |
| 630+00                       | 63000        | 20       | 0         | 0    | 0                                    | 0    | 6                     | 286                             | -280                   |  |
| 630+05                       | 63005        | 5        | 0         | 1    | 0                                    | 0    | 6                     | 286                             | -280                   |  |
| 630+30                       | 63030        | 25       | 0         | 29   | 0                                    | 14   | 6                     | 304                             | -298                   |  |
| 630+55                       | 63055        | 25       | 0         | 74   | 0                                    | 48   | 6                     | 364                             | -358                   |  |
| 631+00                       | 63100        | 45       | 0         | 0    | 0                                    | 63   | 6                     | 443                             | -437                   |  |
| 631+35                       | 63135        | 35       | 0         | 0    | 0                                    | 1    | 6                     | 444                             | -438                   |  |
| 631+98                       | 63198        | 64       | 0         | 8    | 0                                    | 10   | 6                     | 456                             | -450                   |  |
| 632+00                       | 63200        | 2        | 0         | 7    | 0                                    | 0    | 6                     | 456                             | -450                   |  |
| 632+23                       | 63223        | 23       | 0         | 6    | 0                                    | 5    | 6                     | 463                             | -457                   |  |
| 632+48                       | 63248        | 25       | 0         | 12   | 0                                    | 8    | 6                     | 473                             | -467                   |  |
| 632+98                       | 63298        | 50       | 0         | 8    | 0                                    | 19   | 6                     | 496                             | -490                   |  |
| 633+00                       | 63300        | 2        | 0         | 9    | 0                                    | 0    | 6                     | 496                             | -490                   |  |
| 633+68                       | 63368        | 68       | 0         | 0    | 0                                    | 11   | 6                     | 510                             | -504                   |  |

6 408

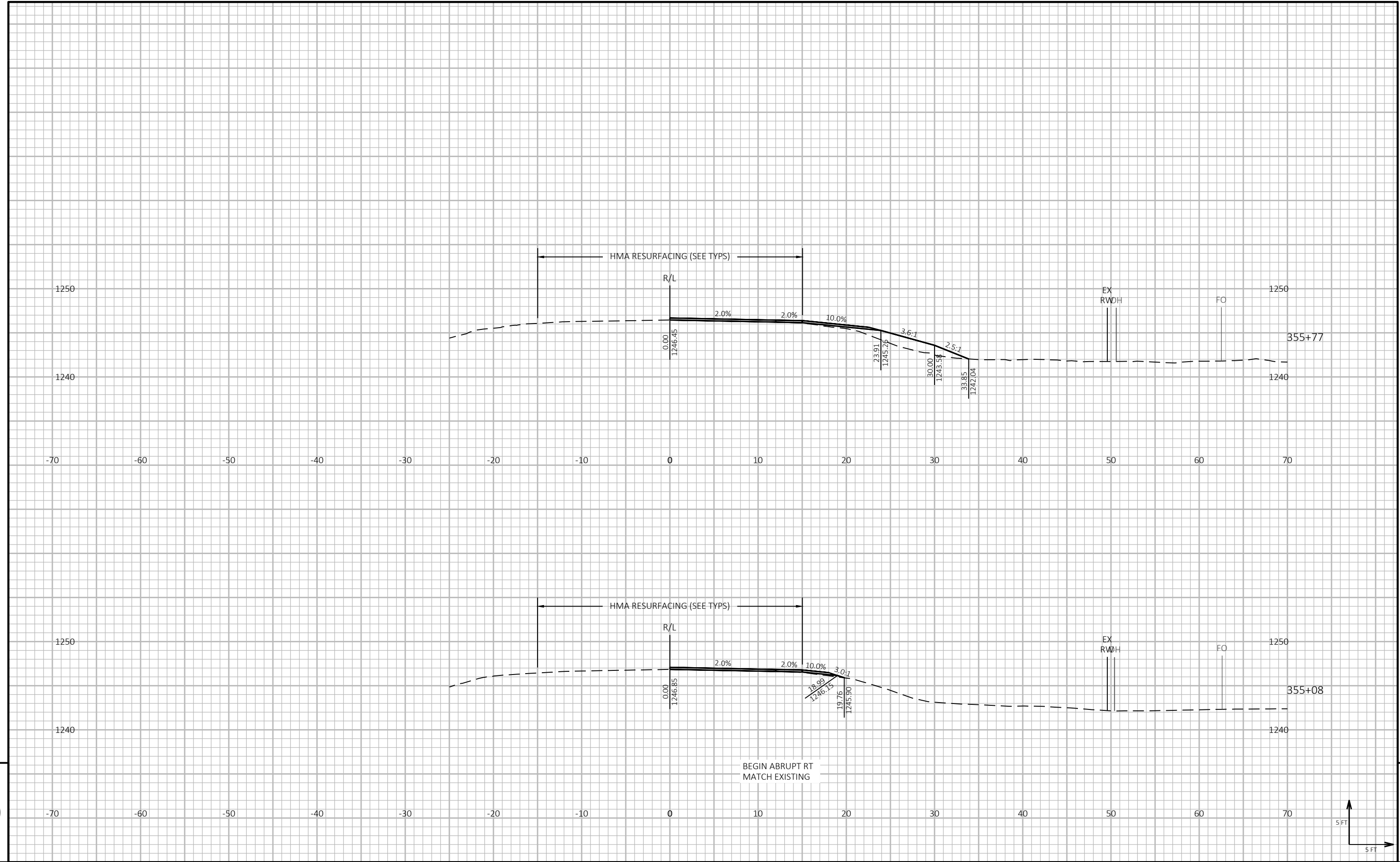
|                   |                                                                                                                                        |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| NOTES:            |                                                                                                                                        |
| 1 - CUT           | CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL. SALVAGED/UNUSABLE PAVEMENT MATERIAL IS CALCULATED ON THE SECTION 3 SUMMARY SHEET.    |
| 2 - FILL          | FILL DOES NOT INCLUDE UNUSABLE PAVEMENT AREA/VOLUME. SALVAGED/UNUSABLE PAVEMENT MATERIAL IS CALCULATED ON THE SECTION 3 SUMMARY SHEET. |
| 3 - EXPANDED FILL | (UNEXPANDED MATERIAL)*(EXPANSION FACTOR)                                                                                               |
| 4 - MASS ORDNATE  | CUT - (EXPANDED FILL); POSITIVE INDICATES AN EXCESS OF MATERIAL; NEGATIVE INDICATES A SHORTAGE OF MATERIAL                             |



| GUARDRAIL, BASS LAKE LANE, RT |              |          |           |      |                                      |      |                       |                                 |                         |
|-------------------------------|--------------|----------|-----------|------|--------------------------------------|------|-----------------------|---------------------------------|-------------------------|
| STATION                       | REAL STATION | DISTANCE | AREA (SF) |      | INCREMENTAL VOL (CY)<br>(UNADJUSTED) |      | CUMULATIVE VOL (CY)   |                                 |                         |
|                               |              |          | CUT       | FILL | CUT                                  | FILL | CUT<br>1.00<br>NOTE 1 | EXPANDED FILL<br>1.25<br>NOTE 3 | MASS ORDINATE<br>NOTE 4 |
|                               |              |          |           |      |                                      |      |                       |                                 |                         |
| 652+23                        | 65223        | 0        | 4         | 0    | 0                                    | 0    | 0                     | 0                               | 0                       |
| 652+30                        | 65230        | 7        | 6         | 2    | 1                                    | 0    | 1                     | 0                               | 1                       |
| 652+83                        | 65283        | 53       | 0         | 27   | 5                                    | 29   | 6                     | 36                              | -30                     |
| 653+00                        | 65300        | 17       | 0         | 27   | 0                                    | 17   | 6                     | 58                              | -52                     |
| 653+33                        | 65333        | 33       | 0         | 17   | 0                                    | 26   | 6                     | 90                              | -84                     |
| 653+58                        | 65358        | 25       | 0         | 8    | 0                                    | 11   | 6                     | 104                             | -98                     |
| 653+83                        | 65383        | 25       | 0         | 1    | 0                                    | 4    | 6                     | 109                             | -103                    |
| 653+98                        | 65398        | 16       | 0         | 1    | 0                                    | 1    | 6                     | 110                             | -104                    |
| 654+00                        | 65400        | 2        | 0         | 1    | 0                                    | 0    | 6                     | 110                             | -104                    |
| 654+24                        | 65424        | 24       | 0         | 0    | 0                                    | 0    | 6                     | 110                             | -104                    |
| 655+00                        | 65500        | 76       | 0         | 1    | 0                                    | 1    | 6                     | 111                             | -105                    |
| 656+00                        | 65600        | 100      | 0         | 1    | 0                                    | 2    | 6                     | 114                             | -108                    |
| 657+00                        | 65700        | 100      | 0         | 1    | 0                                    | 2    | 6                     | 116                             | -110                    |
| 657+86                        | 65786        | 86       | 0         | 0    | 0                                    | 1    | 6                     | 118                             | -112                    |
| 658+00                        | 65800        | 14       | 0         | 0    | 0                                    | 0    | 6                     | 118                             | -112                    |
| 658+11                        | 65811        | 11       | 0         | 0    | 0                                    | 0    | 6                     | 118                             | -112                    |
| 658+27                        | 65827        | 16       | 0         | 0    | 0                                    | 0    | 6                     | 118                             | -112                    |
| 658+52                        | 65852        | 25       | 0         | 1    | 0                                    | 0    | 6                     | 118                             | -112                    |
| 658+77                        | 65877        | 25       | 0         | 11   | 0                                    | 6    | 6                     | 125                             | -119                    |
| 659+00                        | 65900        | 23       | 0         | 16   | 0                                    | 12   | 6                     | 140                             | -134                    |
| 659+14                        | 65914        | 14       | 0         | 14   | 0                                    | 8    | 6                     | 150                             | -144                    |
| 659+44                        | 65944        | 29       | 0         | 0    | 0                                    | 8    | 6                     | 160                             | -154                    |
|                               |              |          |           |      | 6                                    | 128  |                       |                                 |                         |

| GUARDRAIL, 95TH ST, RT |              |          |           |      |                                      |      |                       |                                 |                         |
|------------------------|--------------|----------|-----------|------|--------------------------------------|------|-----------------------|---------------------------------|-------------------------|
| STATION                | REAL STATION | DISTANCE | AREA (SF) |      | INCREMENTAL VOL (CY)<br>(UNADJUSTED) |      | CUMULATIVE VOL (CY)   |                                 |                         |
|                        |              |          | CUT       | FILL | CUT                                  | FILL | CUT<br>1.00<br>NOTE 1 | EXPANDED FILL<br>1.25<br>NOTE 3 | MASS ORDINATE<br>NOTE 4 |
|                        |              |          |           |      |                                      |      |                       |                                 |                         |
| 1897+31                | 189731       | 0        | 1         | 0    | 0                                    | 0    | 0                     | 0                               | 0                       |
| 1898+00                | 189800       | 69       | 0         | 13   | 1                                    | 16   | 1                     | 20                              | -19                     |
| 1898+00                | 189800       | 0        | 0         | 13   | 0                                    | 0    | 1                     | 20                              | -19                     |
| 1898+50                | 189850       | 50       | 0         | 27   | 1                                    | 37   | 2                     | 66                              | -64                     |
| 1898+75                | 189875       | 25       | 0         | 11   | 0                                    | 18   | 2                     | 89                              | -87                     |
| 1899+00                | 189900       | 25       | 0         | 10   | 0                                    | 10   | 2                     | 101                             | -99                     |
| 1899+21                | 189921       | 21       | 1         | 0    | 1                                    | 4    | 3                     | 106                             | -103                    |
| 1899+63                | 189963       | 42       | 1         | 2    | 1                                    | 2    | 4                     | 109                             | -105                    |
| 1899+78                | 189978       | 15       | 0         | 0    | 0                                    | 1    | 4                     | 110                             | -106                    |
|                        |              |          |           |      | 4                                    | 88   |                       |                                 |                         |

| NOTES:            |                                                                                                                                        |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| 1 - CUT           | CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL. SALVAGED/UNUSABLE PAVEMENT MATERIAL IS CALCULATED ON THE SECTION 3 SUMMARY SHEET.    |
| 2 - FILL          | FILL DOES NOT INCLUDE UNUSABLE PAVEMENT AREA/VOLUME. SALVAGED/UNUSABLE PAVEMENT MATERIAL IS CALCULATED ON THE SECTION 3 SUMMARY SHEET. |
| 3 - EXPANDED FILL | (UNEXPANDED MATERIAL)*(EXPANSION FACTOR)                                                                                               |
| 4 - MASS ORDINATE | CUT - (EXPANDED FILL); POSITIVE INDICATES AN EXCESS OF MATERIAL; NEGATIVE INDICATES A SHORTAGE OF MATERIAL                             |



9

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PROJECT NO: 8820-00-70

HWY: STH 48

COUNTY: POLK

CROSS SECTIONS: GUARDRAIL - WEST OF 110TH ST

SHEET

236

E

FILE NAME : P:\55XX\5508.DP.22.STH35-48.PLK\CADD\88200070\090201-XS-WEST OF 110TH ST.DWG  
LAYOUT NAME - 01

PLOT DATE : 4/9/2026 12:15 PM

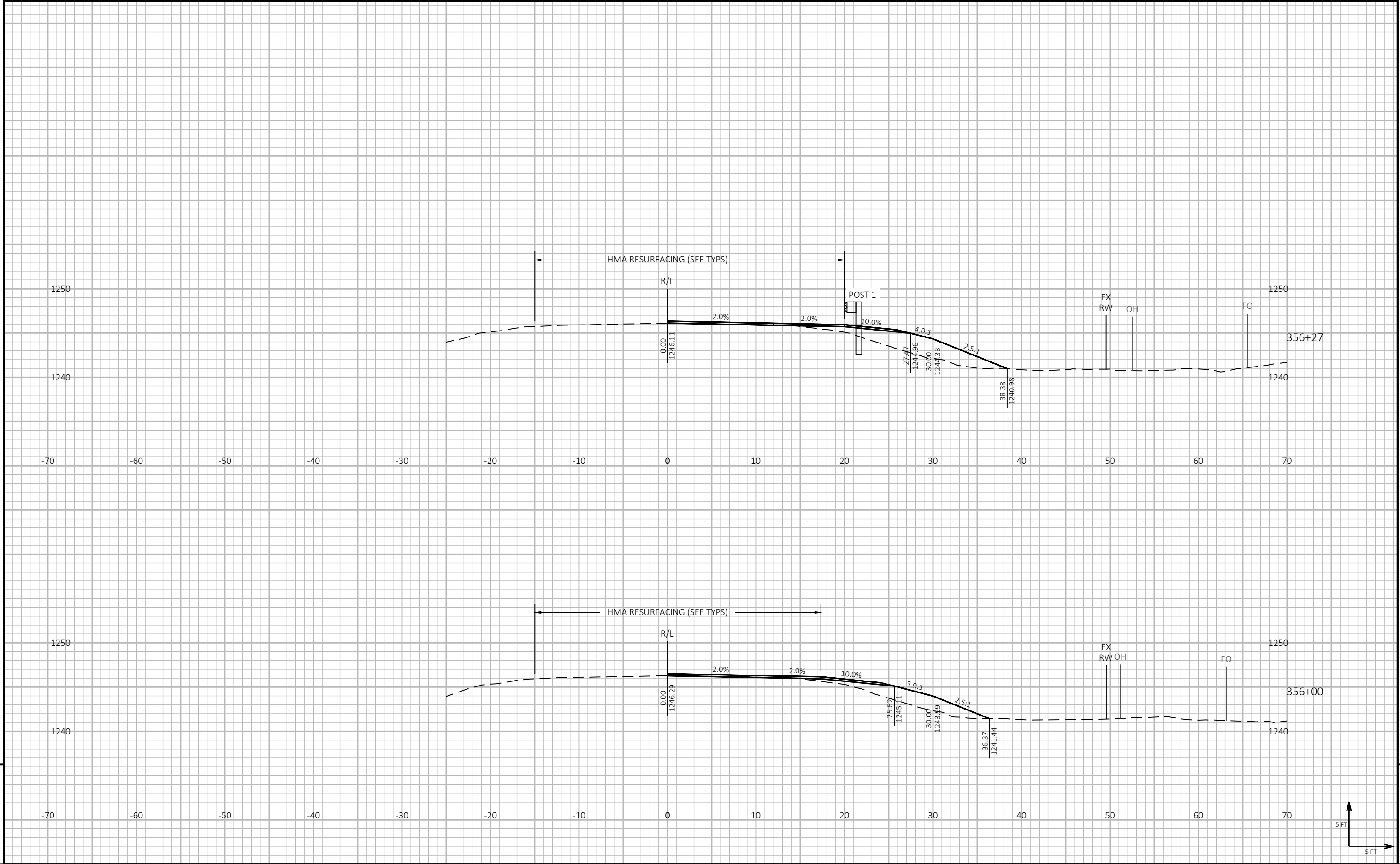
PLOT BY : PARKER TISCHAUSER

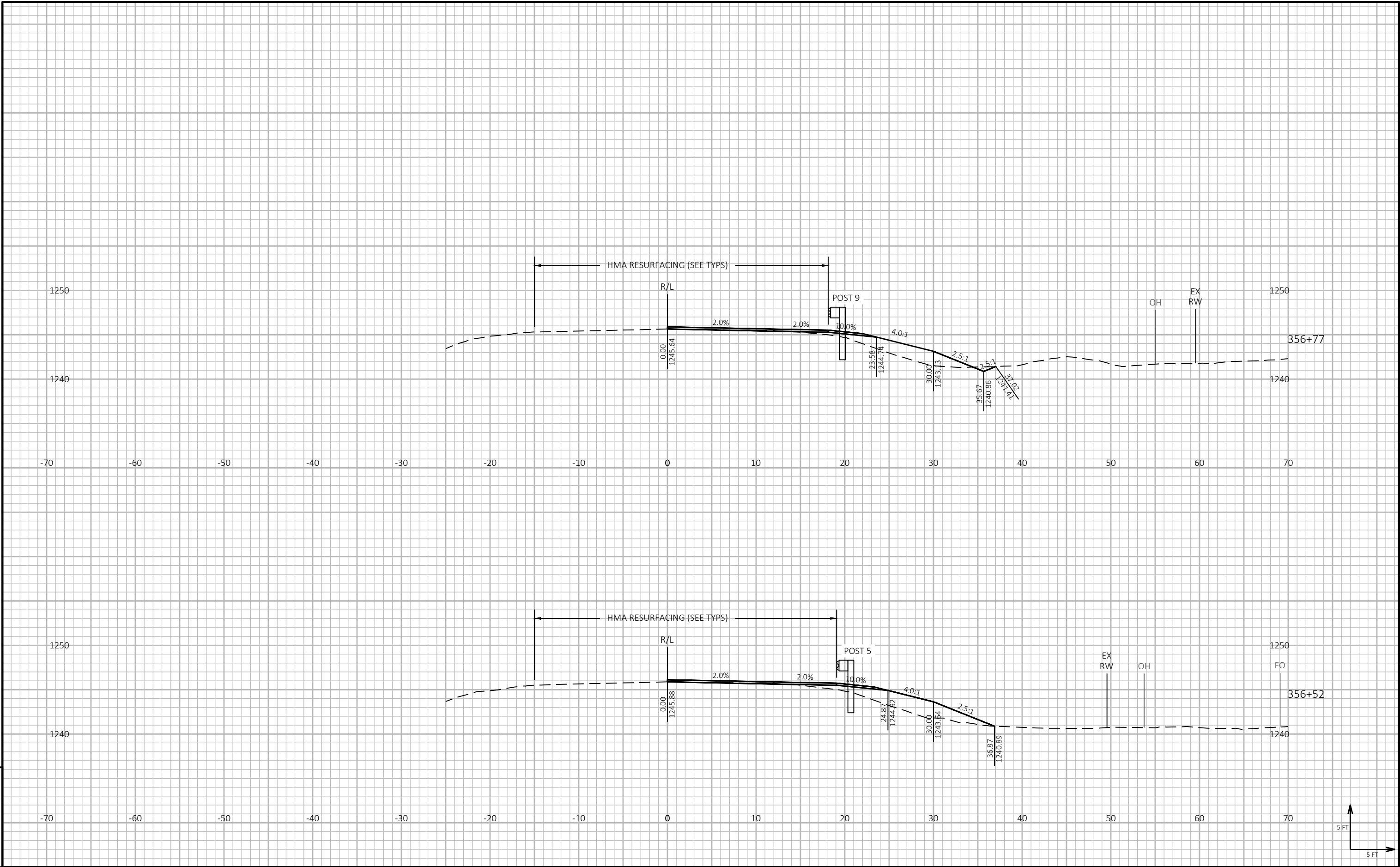
PLOT NAME :

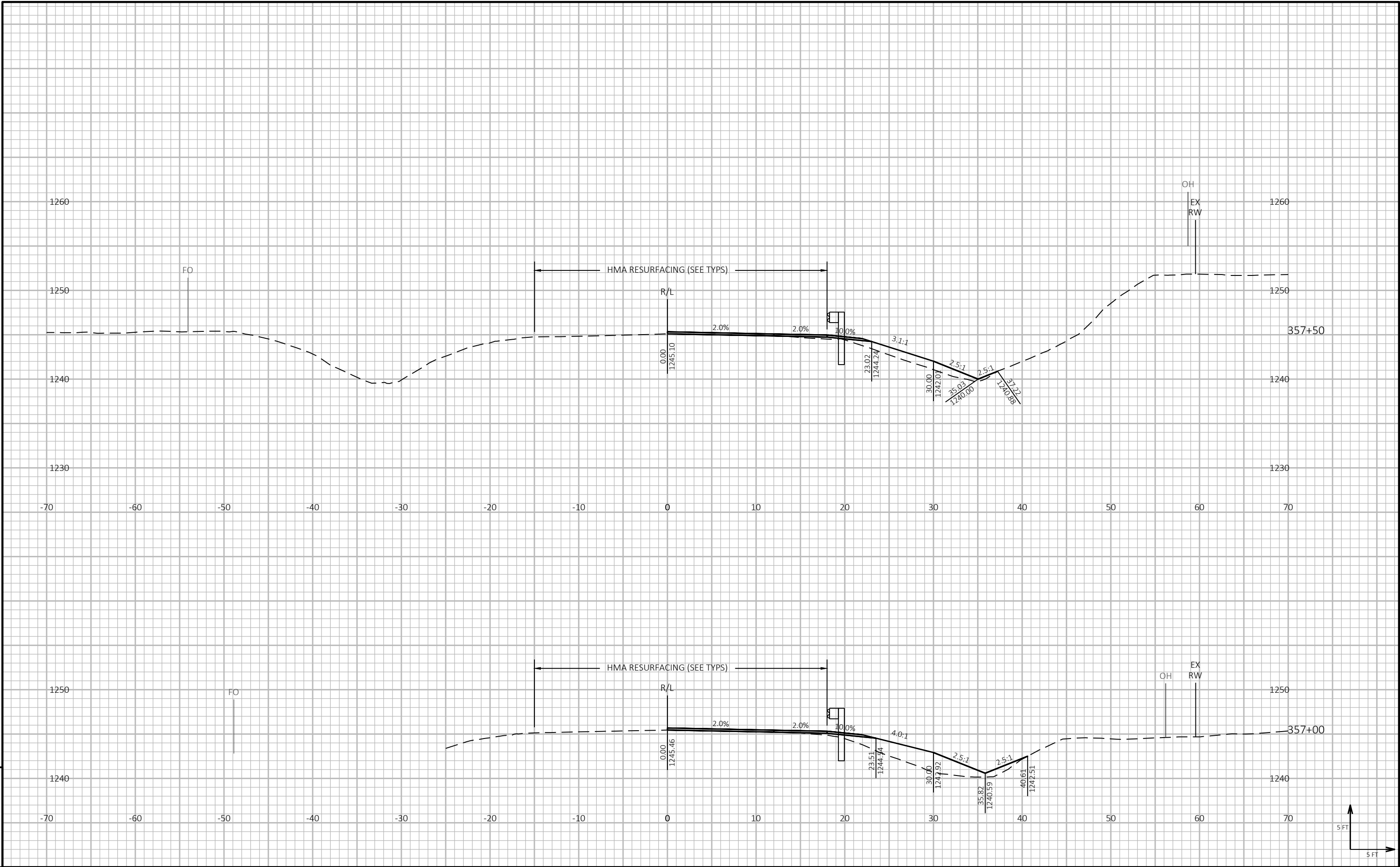
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

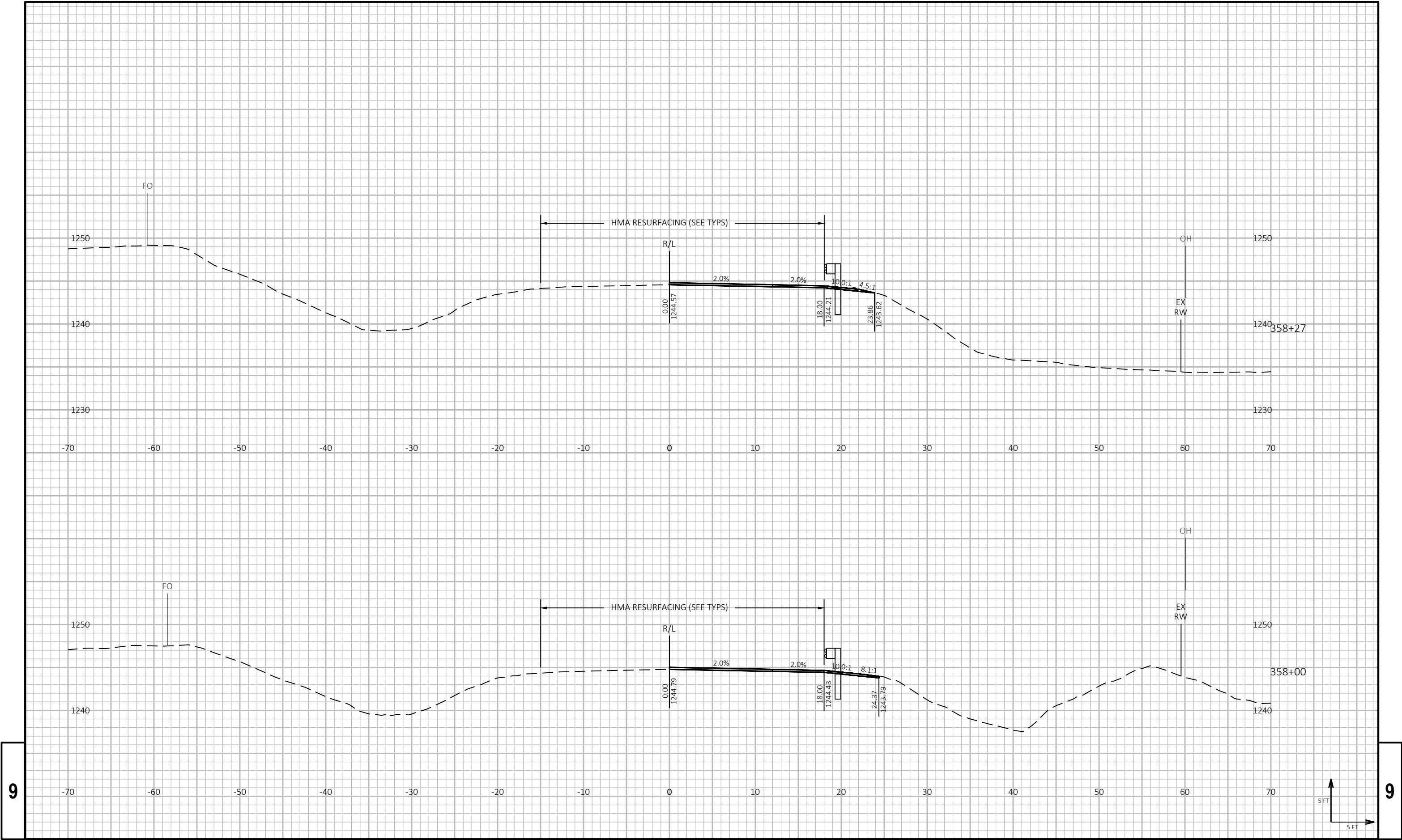
WISDOT/CADD SHEET 49











9

9

PROJECT NO: 8820-00-70

HWY: STH 48

COUNTY: POLK

CROSS SECTIONS: GUARDRAIL - WEST OF 110TH ST

SHEET

240

E

FILE NAME : P:\55XX\5508.DP.22.STH35-48.PLK\CADD\88200070\090201-XS-WEST OF 110TH ST.DWG  
LAYOUT NAME - 05

PLOT DATE : 4/9/2026 12:26 PM

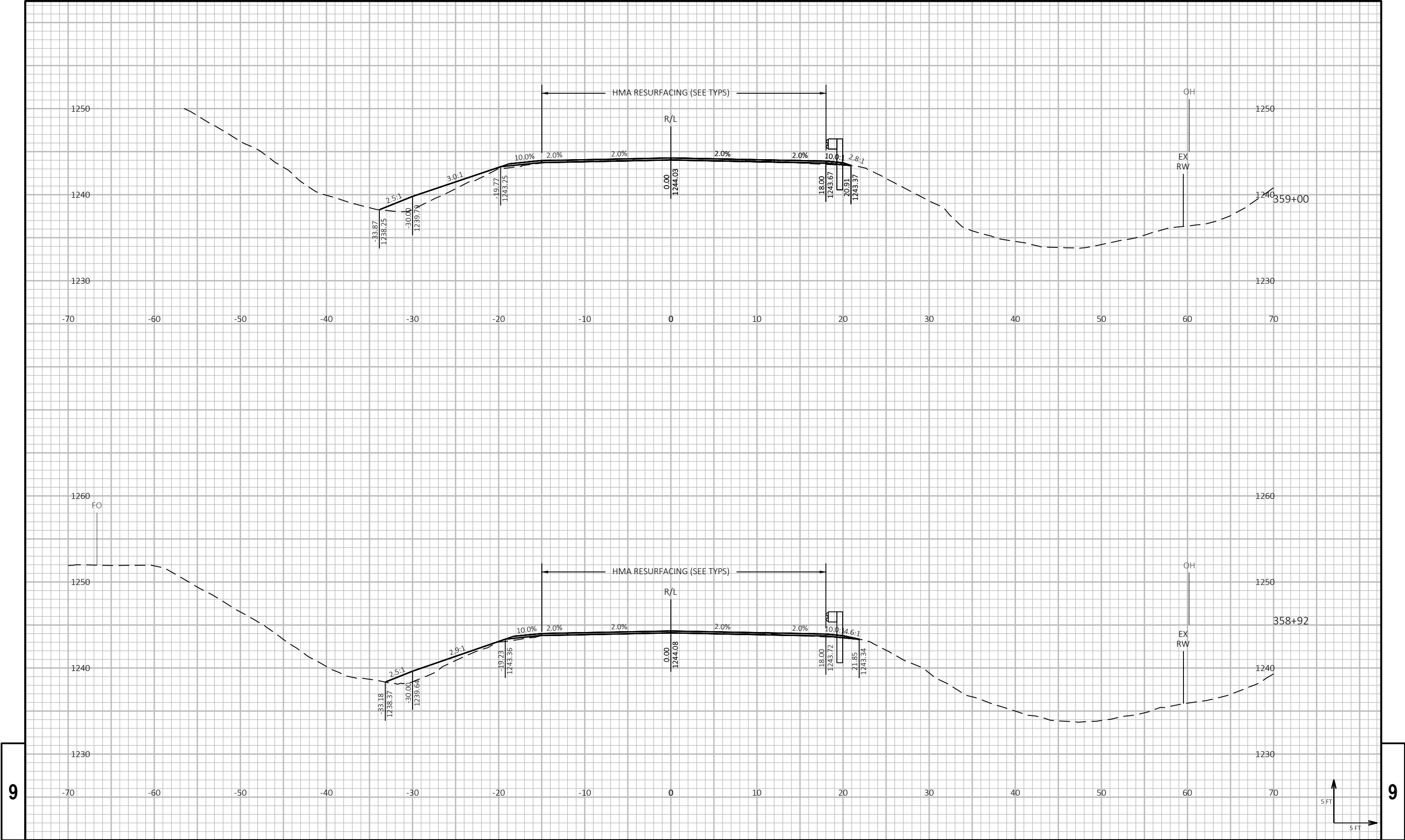
PLOT BY : PARKER TISCHAUSER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADD SHEET 49





PROJECT NO: 8820-00-70

HWY: STH 48

COUNTY: POLK

CROSS SECTIONS: GUARDRAIL - WEST OF 110TH ST

SHEET

242

E

FILE NAME : P:\55XX\5508.DP.22.STH35-48.PLK\CADD\88200070\090201-XS-WEST OF 110TH ST.DWG  
LAYOUT NAME - 07

PLOT DATE : 4/9/2026 12:20 PM

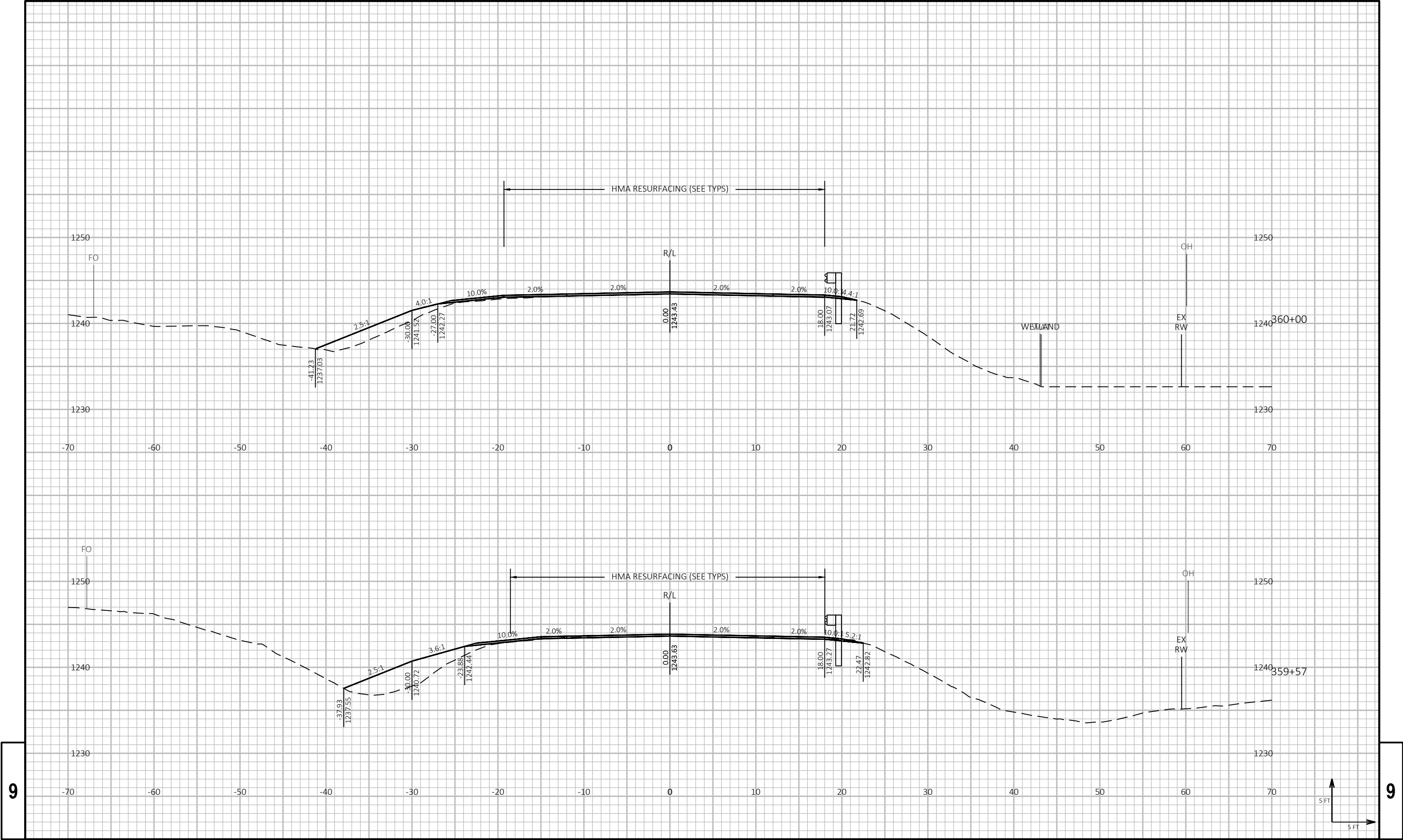
PLOT BY : PARKER TISCHAUSER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADD SHEET 49





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PROJECT NO: 8820-00-70

HWY: STH 48

COUNTY: POLK

CROSS SECTIONS: GUARDRAIL - WEST OF 110TH ST

SHEET

243

E

FILE NAME : P:\55XX\5508.DP.22.STH35-48.PLK\CADD\88200070\090201-XS-WEST OF 110TH ST.DWG  
LAYOUT NAME - 08

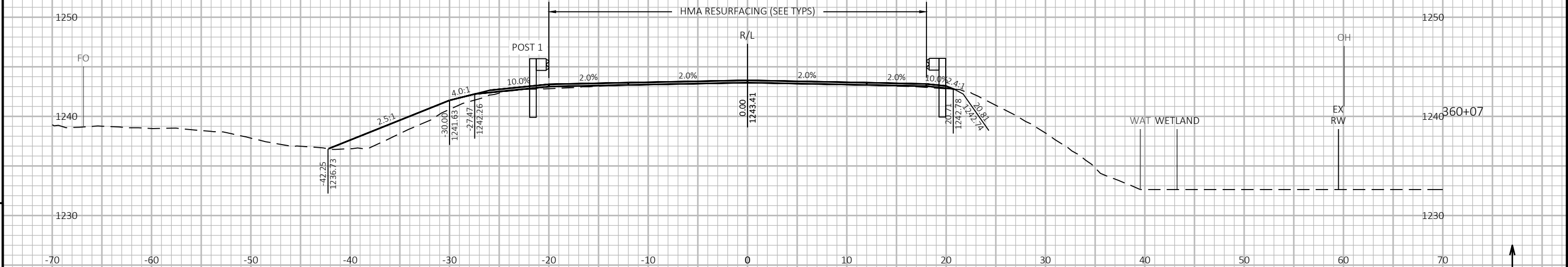
PLOT DATE : 4/9/2026 12:31 PM

PLOT BY : PARKER TISCHAUER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

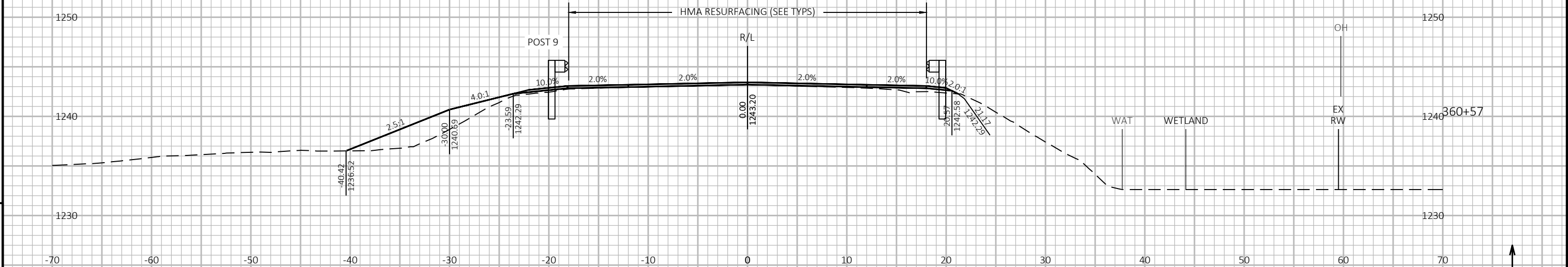
WISDOT/CADD SHEET 49

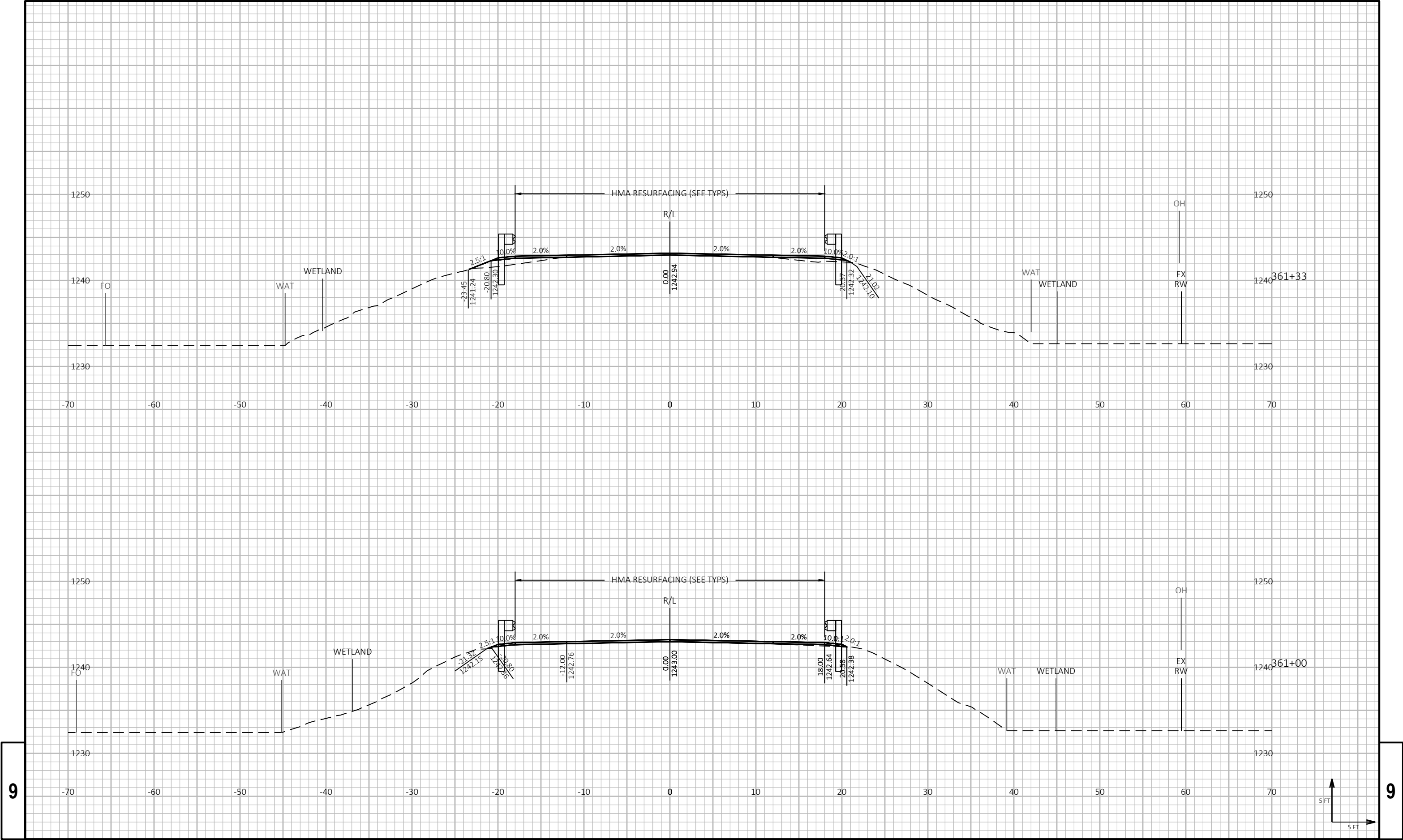


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PROJECT NO: 8820-00-70

HWY: STH 48

COUNTY: POLK

CROSS SECTIONS: GUARDRAIL - WEST OF 110TH ST

SHEET

246

E

FILE NAME : P:\55XX\5508.DP.22.STH35-48.PLK\CADD\88200070\090201-XS-WEST OF 110TH ST.DWG  
LAYOUT NAME - 11

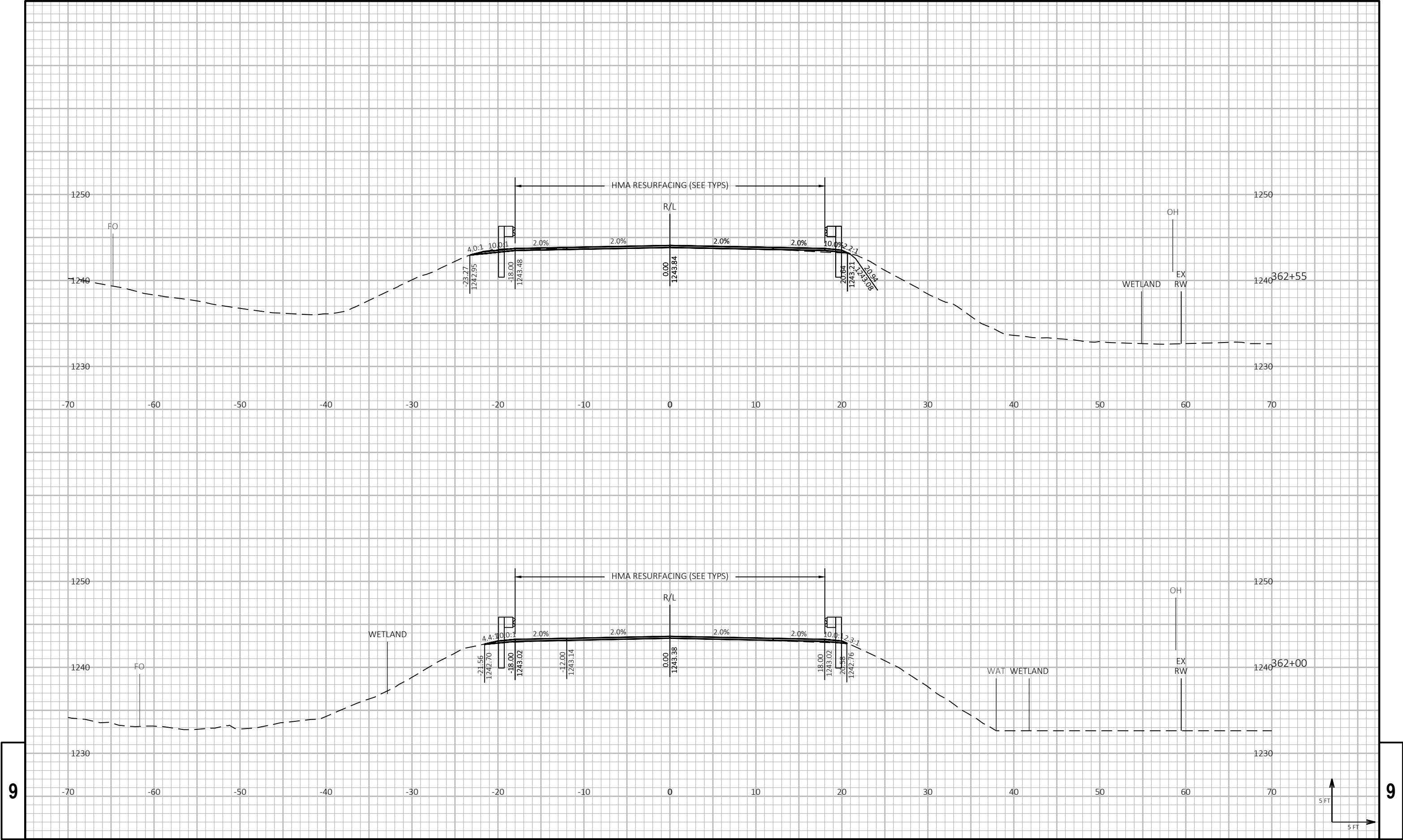
PLOT DATE : 4/9/2026 12:20 PM

PLOT BY : PARKER TISCHAUER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADD SHEET 49



9

9

PROJECT NO: 8820-00-70

HWY: STH 48

COUNTY: POLK

CROSS SECTIONS: GUARDRAIL - WEST OF 110TH ST

SHEET

247

E

FILE NAME : P:\55XX\5508.DP.22.STH35-48.PLK\CADD\88200070\090201-XS-WEST OF 110TH ST.DWG  
LAYOUT NAME - 12

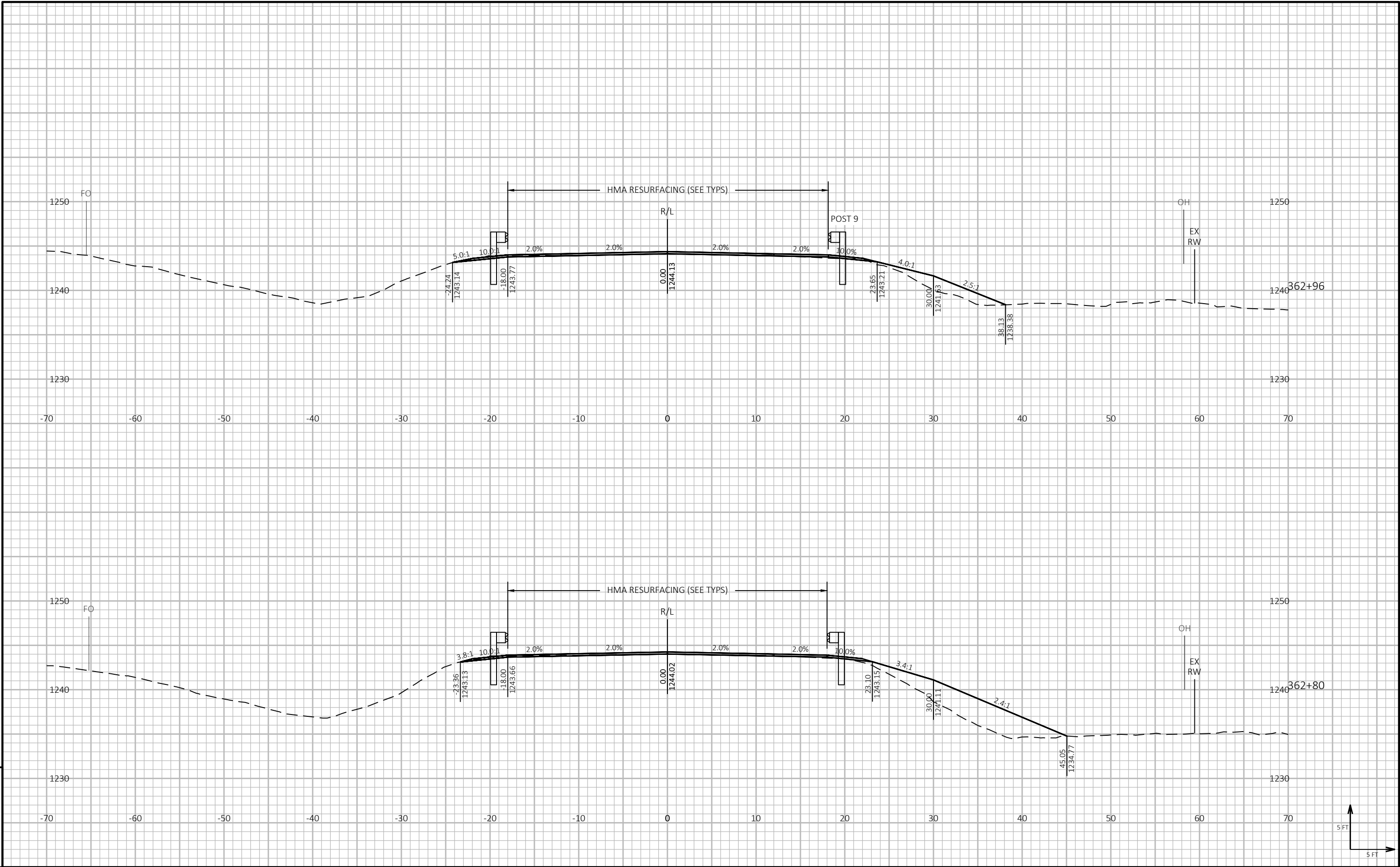
PLOT DATE : 4/9/2026 12:28 PM

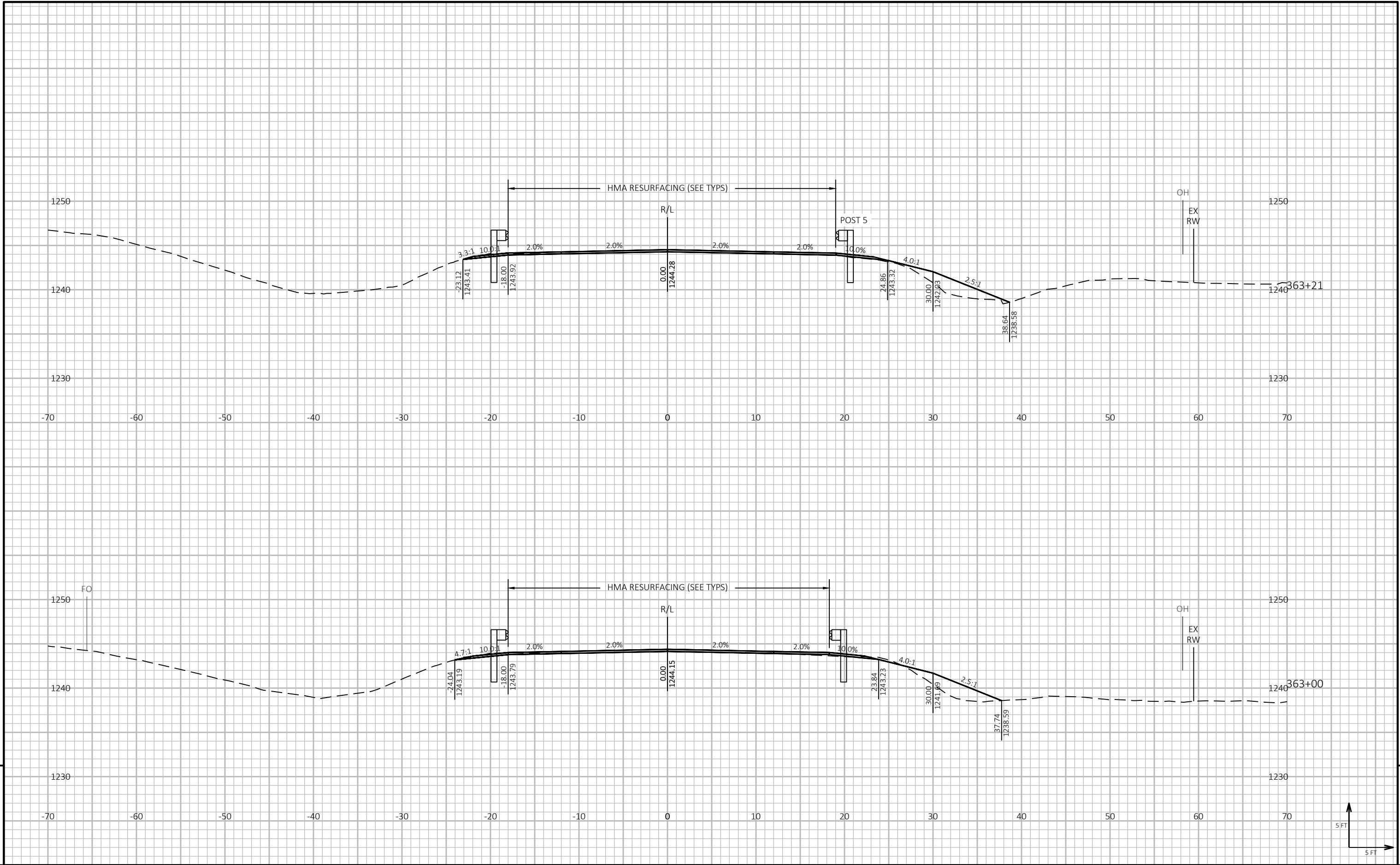
PLOT BY : PARKER TISCHAUSER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

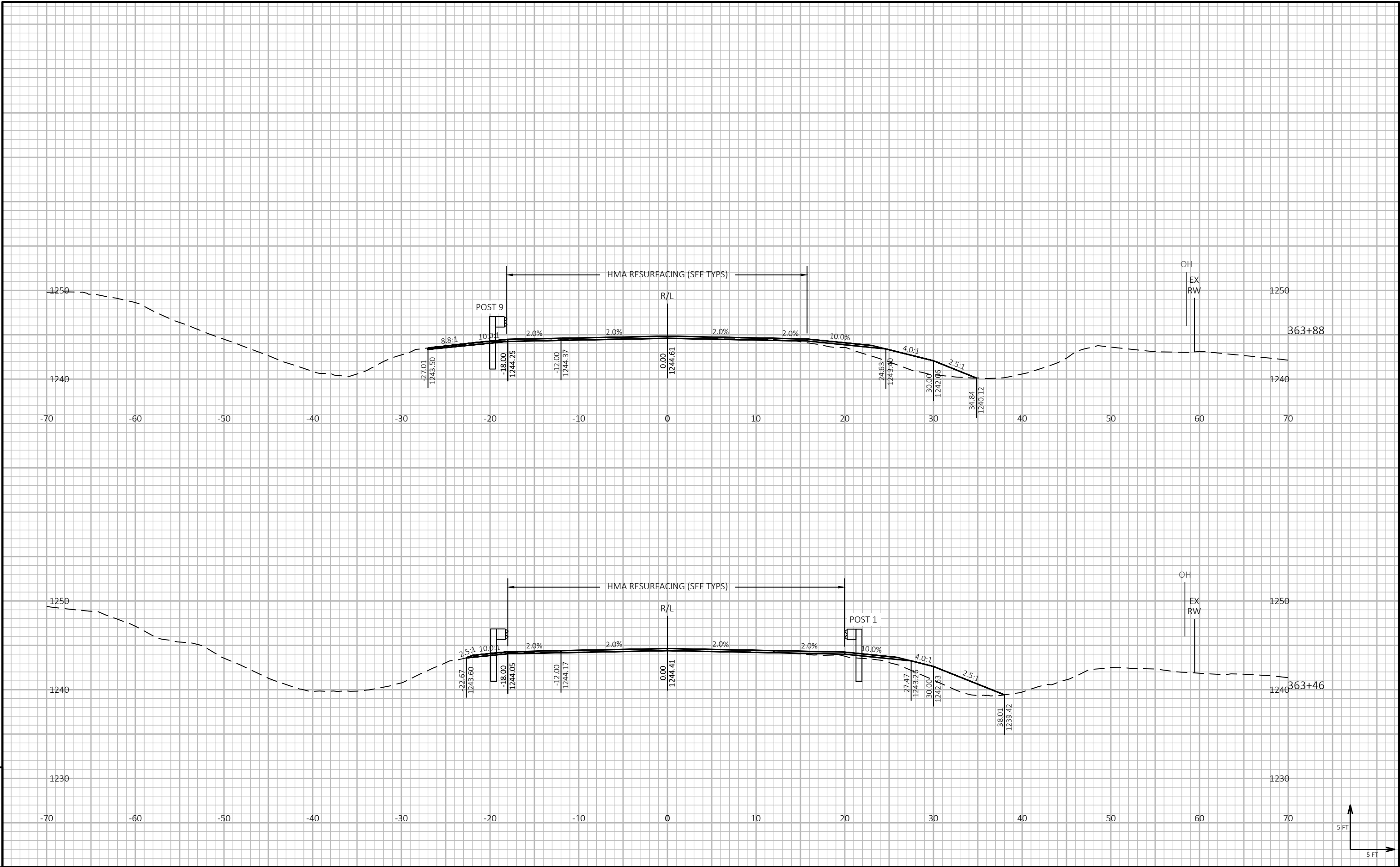
WISDOT/CADD SHEET 49



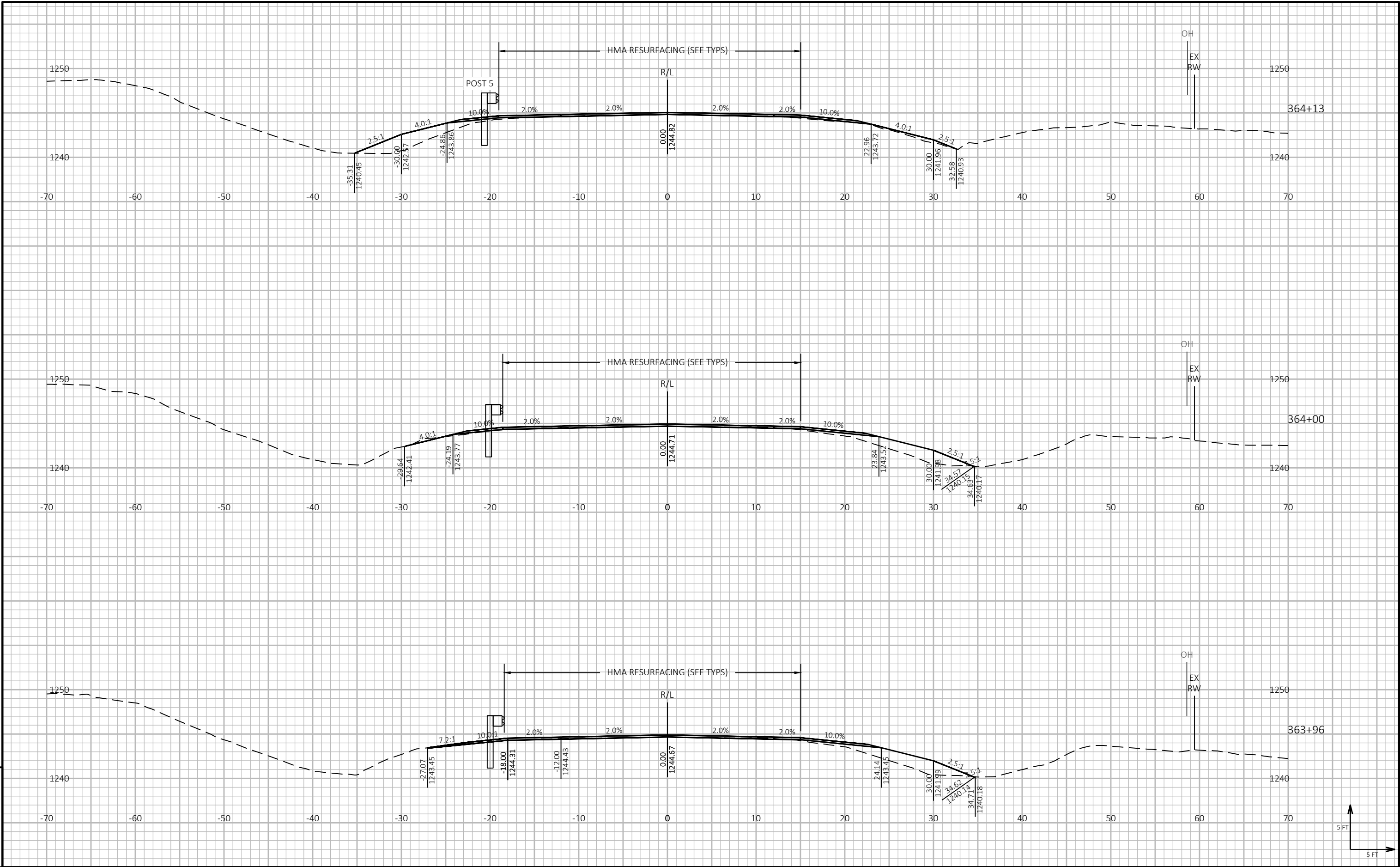


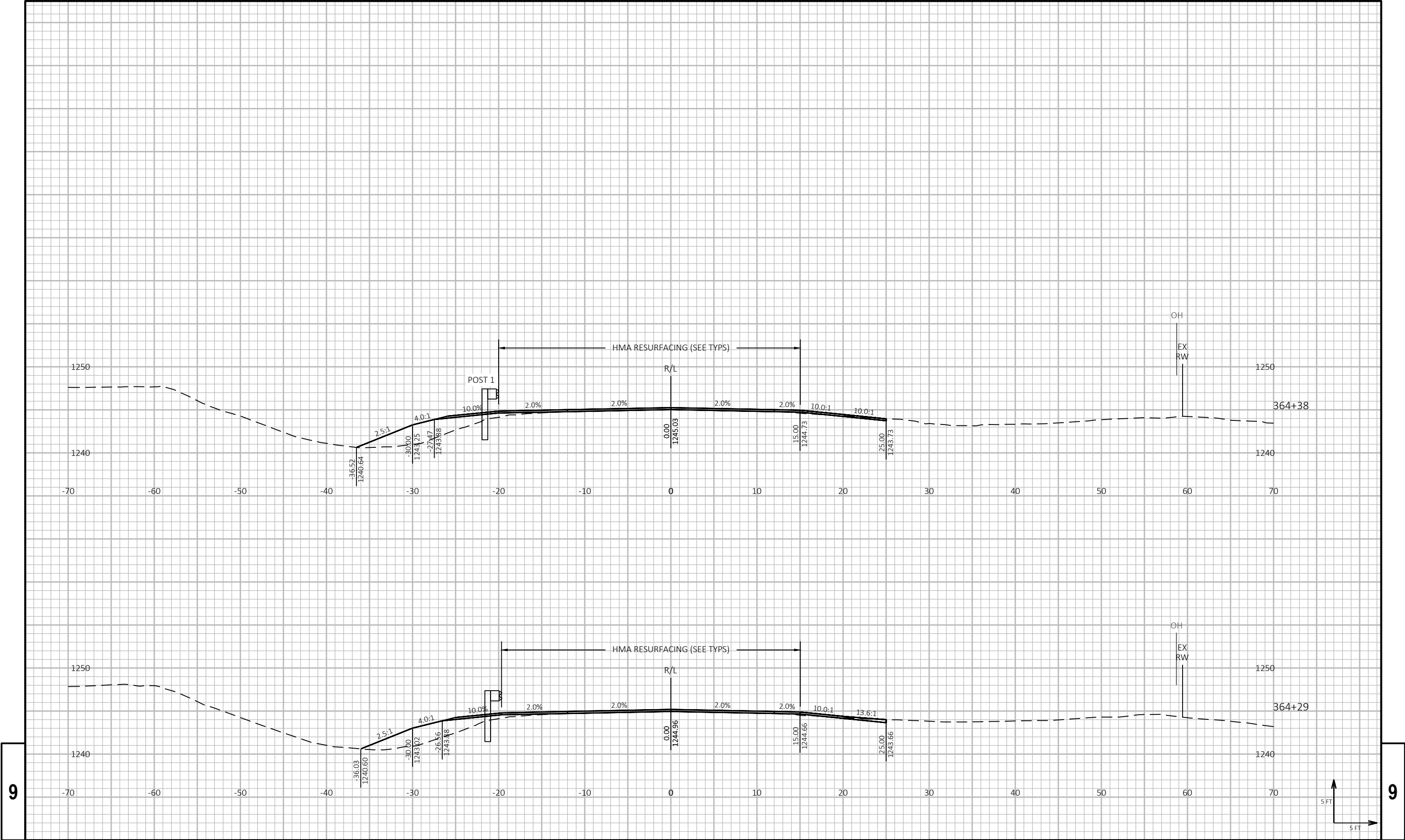
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PROJECT NO: 8820-00-70

HWY: STH 48

COUNTY: POLK

CROSS SECTIONS: GUARDRAIL - WEST OF 110TH ST

SHEET

252

E

FILE NAME : P:\55XX\5508.DP.22.STH35-48.PLK\CADD\88200070\090201-XS-WEST OF 110TH ST.DWG  
LAYOUT NAME - 17

PLOT DATE : 4/9/2026 12:27 PM

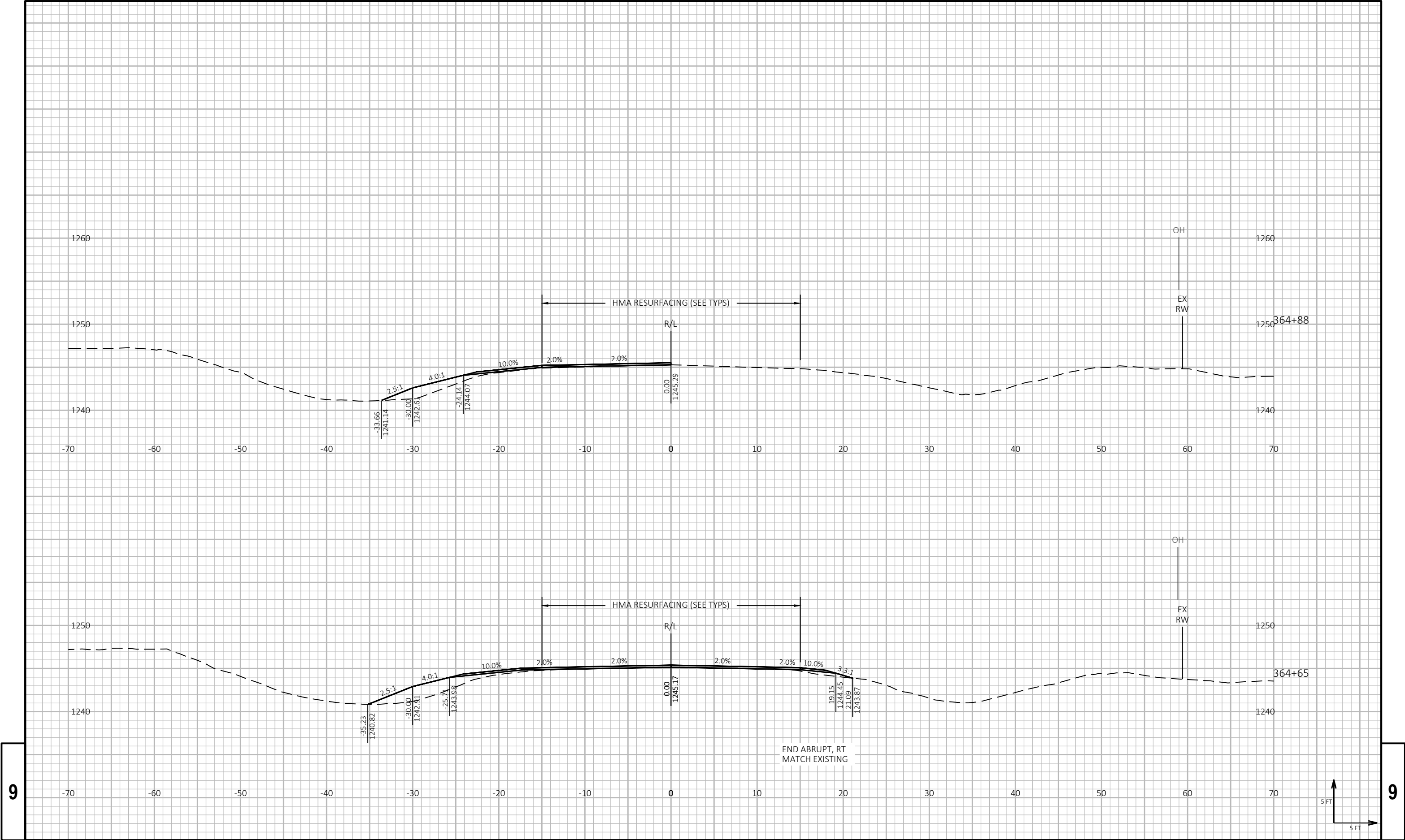
PLOT BY : PARKER TISCHAUSER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADD SHEET 49





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PROJECT NO: 8820-00-70

HWY: STH 48

COUNTY: POLK

CROSS SECTIONS: GUARDRAIL - WEST OF 110TH ST

SHEET

253

E

FILE NAME : P:\55XX\5508.DP.22.STH35-48.PLK\CADD\88200070\090201-XS-WEST OF 110TH ST.DWG  
LAYOUT NAME - 18

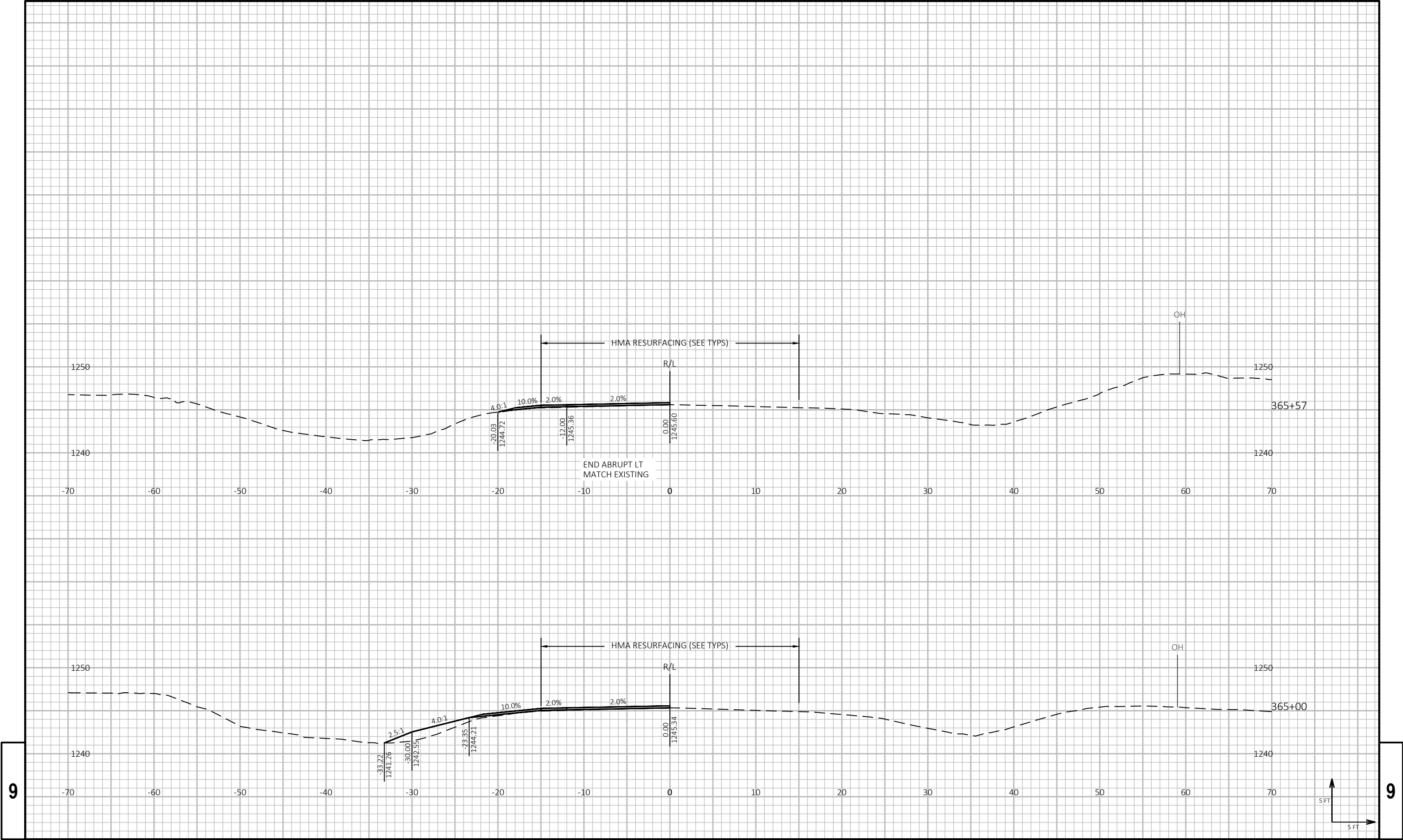
PLOT DATE : 4/9/2026 12:26 PM

PLOT BY : PARKER TISCHAUSER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADD SHEET 49



9

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PROJECT NO: 8820-00-70

HWY: STH 48

COUNTY: POLK

CROSS SECTIONS: GUARDRAIL - WEST OF 110TH ST

SHEET

254

E

FILE NAME : P:\55XX\5508.DP.22.STH35-48.PLK\CADD\88200070\5508.DP.22.STH35-48.PLK\090201-XS-WEST OF 110TH ST.DWG  
LAYOUT NAME - 19

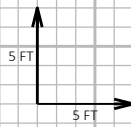
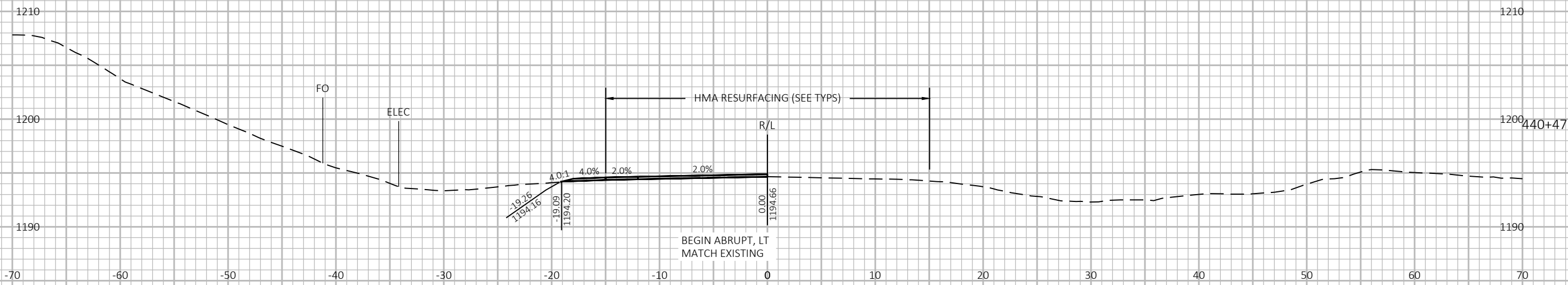
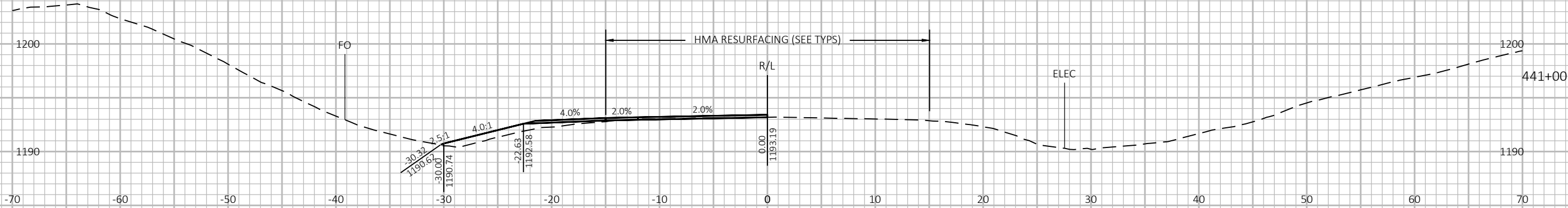
PLOT DATE : 4/9/2026 12:19 PM

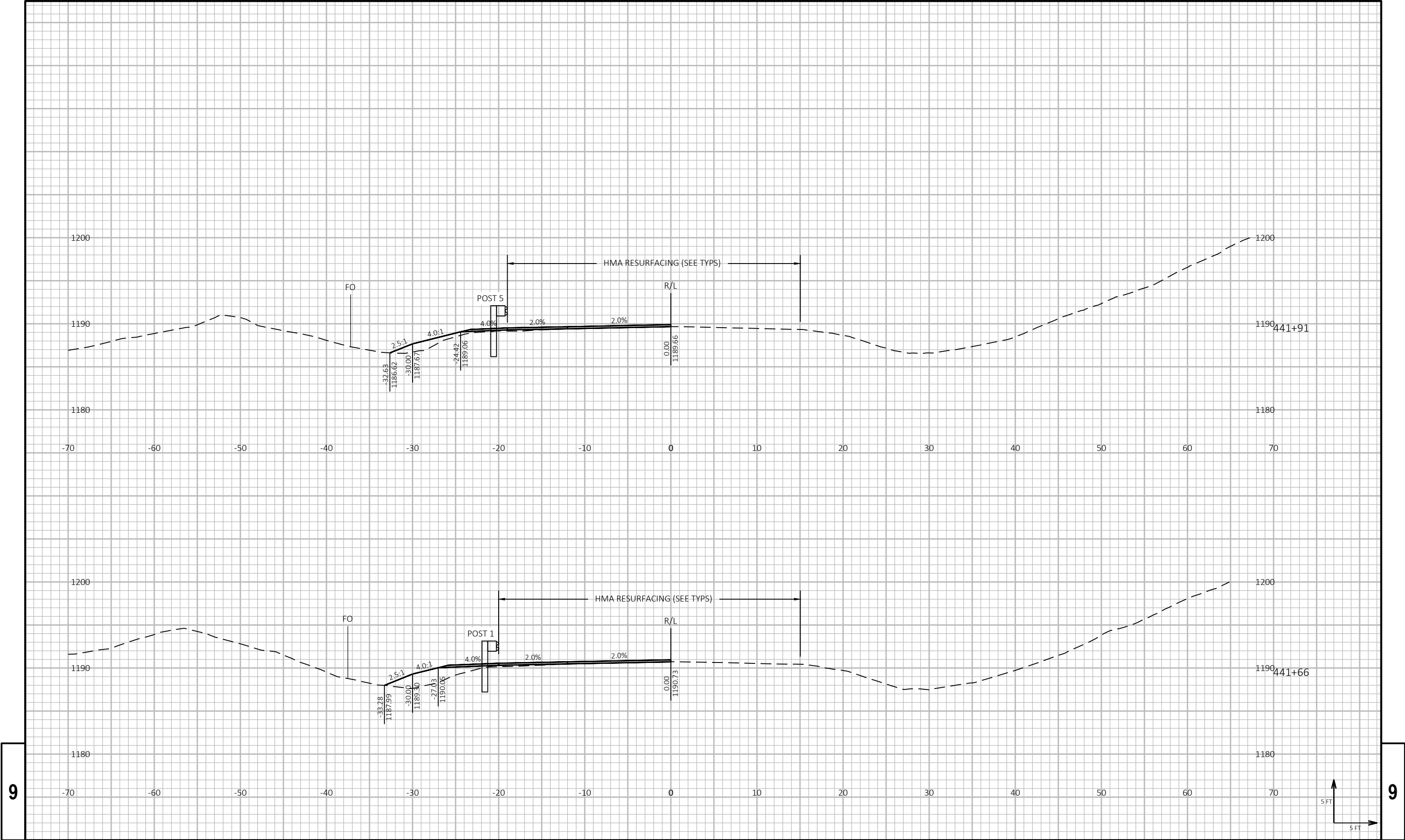
PLOT BY : PARKER TISCHAUSER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADD SHEET 49





9

9

PROJECT NO: 8820-00-70

HWY: STH 48

COUNTY: POLK

CROSS SECTIONS: GUARDRAIL - STRAIGHT RIVER

SHEET

256

E

FILE NAME : P:\55XX\5508.DP.22.STH35-48.PLK\CADD\88200070\090202-XS-EAST OF 95TH ST.DWG  
LAYOUT NAME - 02

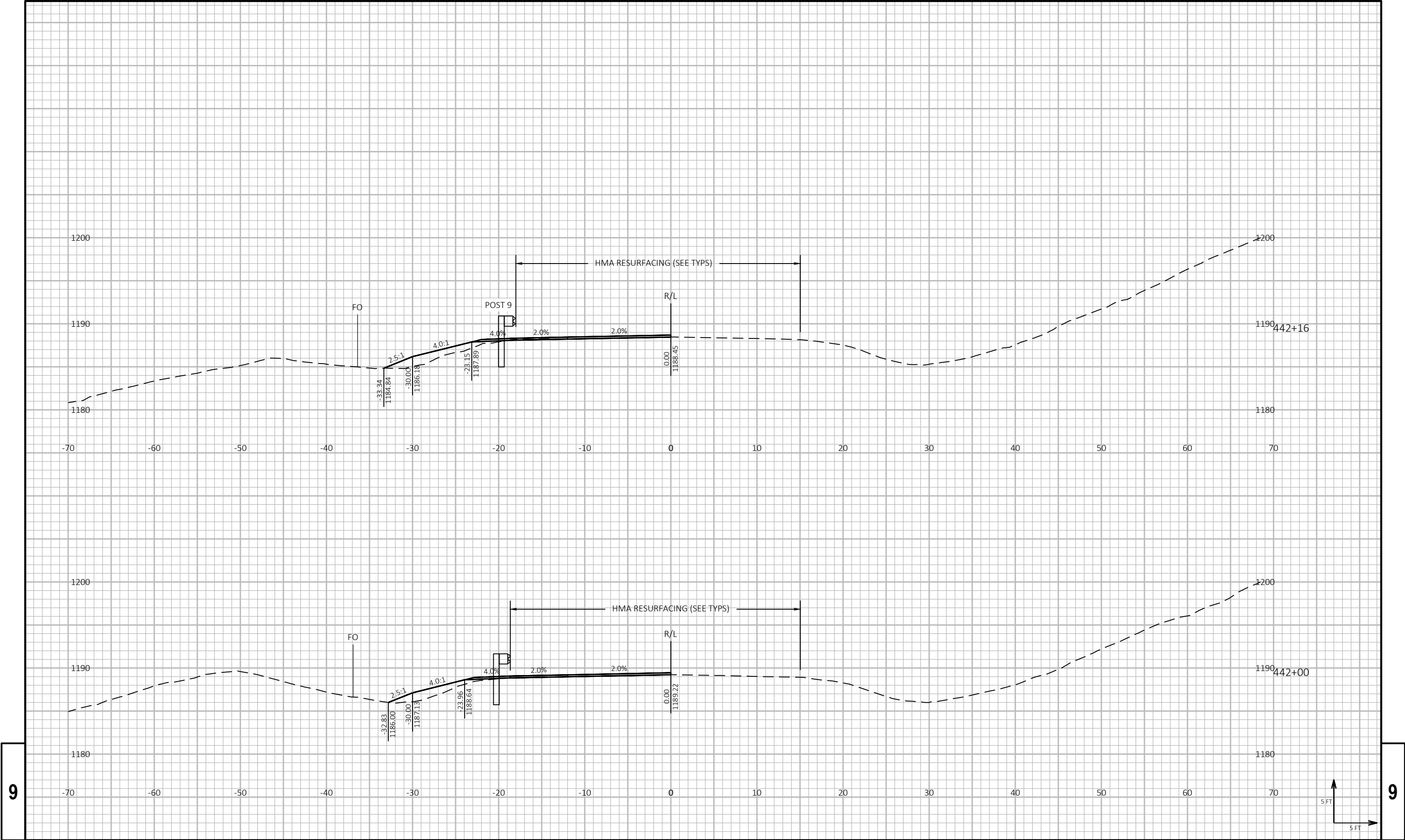
PLOT DATE : 4/9/2026 12:30 PM

PLOT BY : PARKER TISCHAUSER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADD SHEET 49

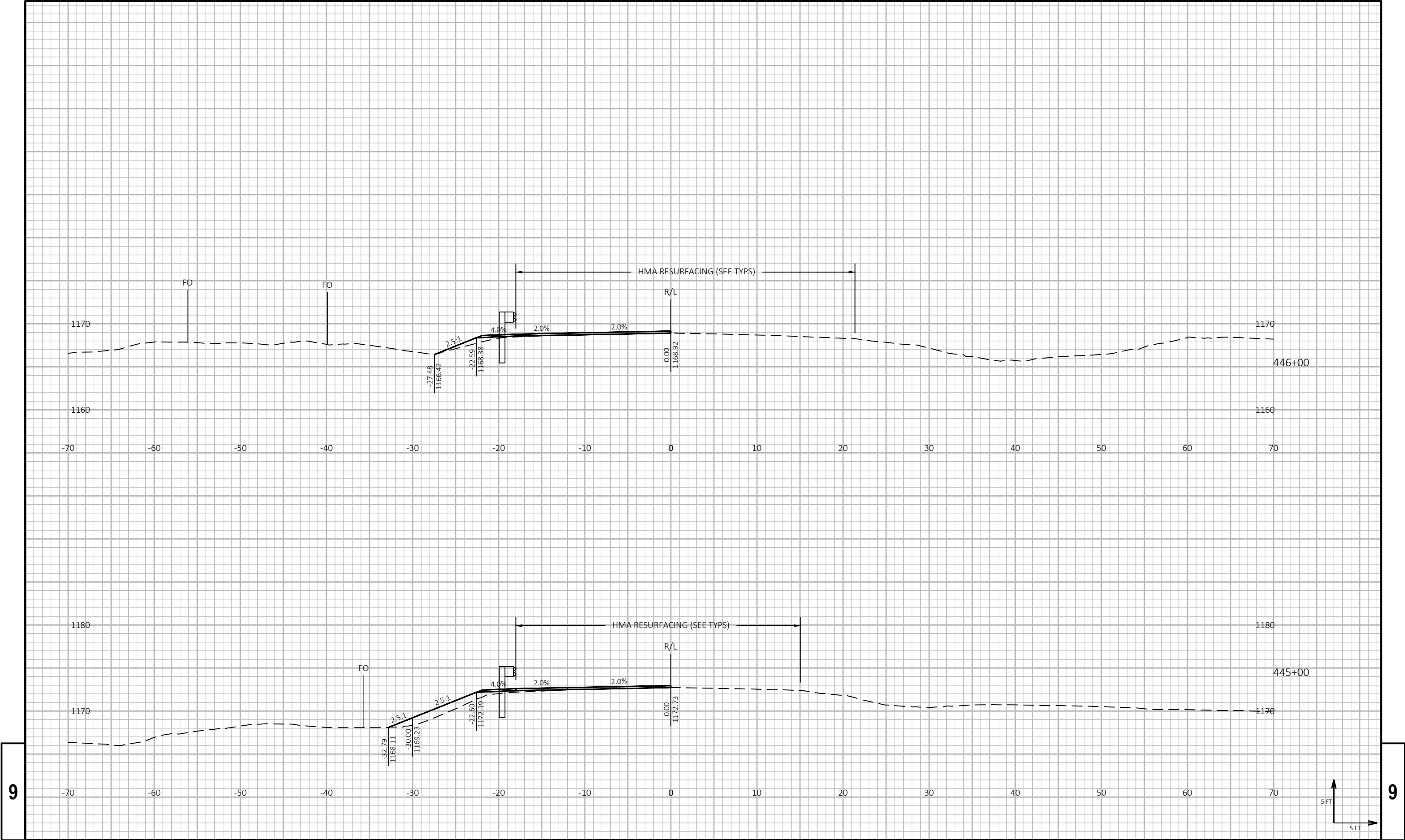


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PROJECT NO: 8820-00-70

HWY: STH 48

COUNTY: POLK

CROSS SECTIONS: GUARDRAIL - STRAIGHT RIVER

SHEET

259

E

FILE NAME : P:\55XX\5508.DP.22.STH35-48.PLK\CADD\88200070\090202-XS-EAST OF 95TH ST.DWG  
LAYOUT NAME - 05

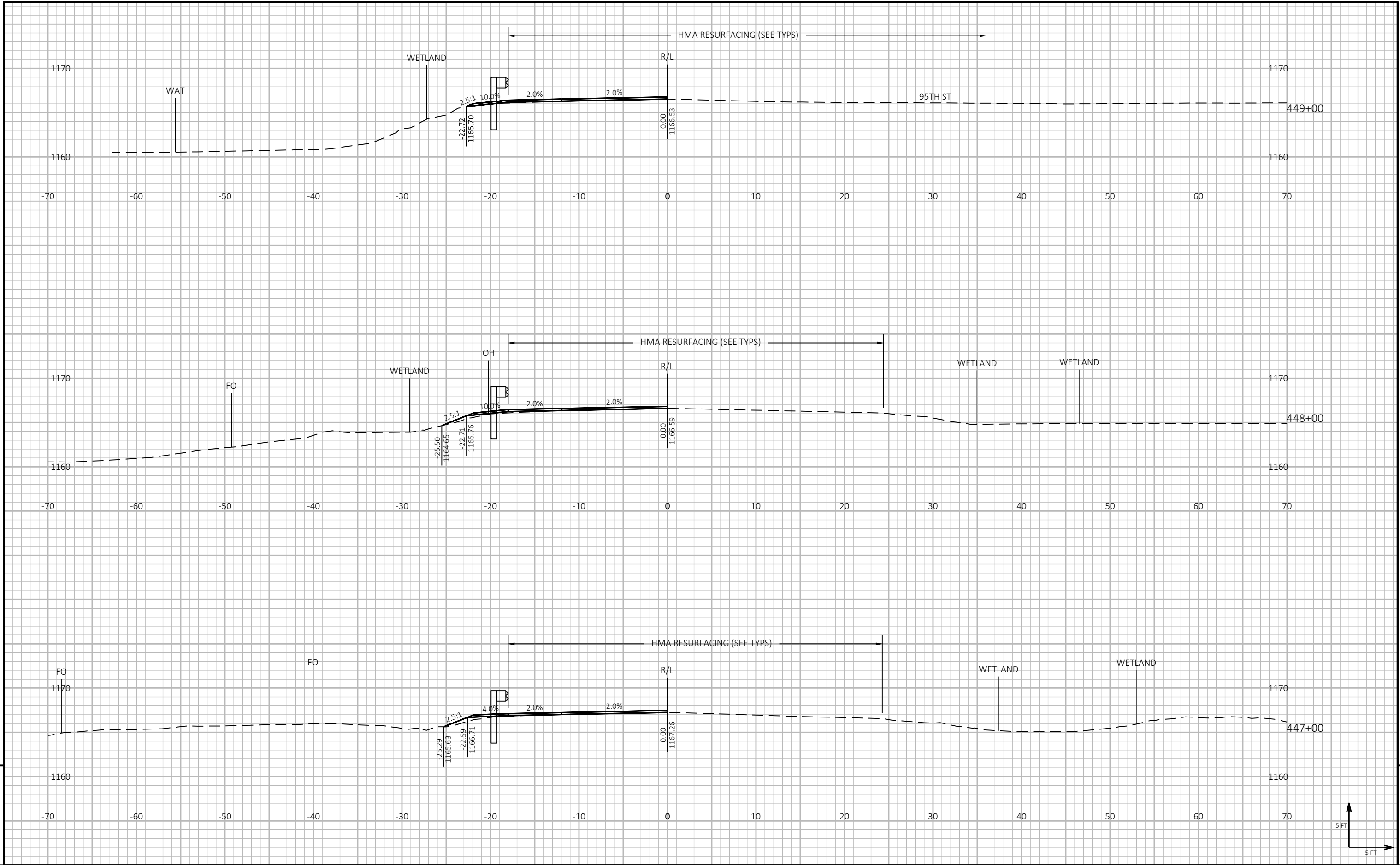
PLOT DATE : 4/9/2026 12:18 PM

PLOT BY : PARKER TISCHAUSER

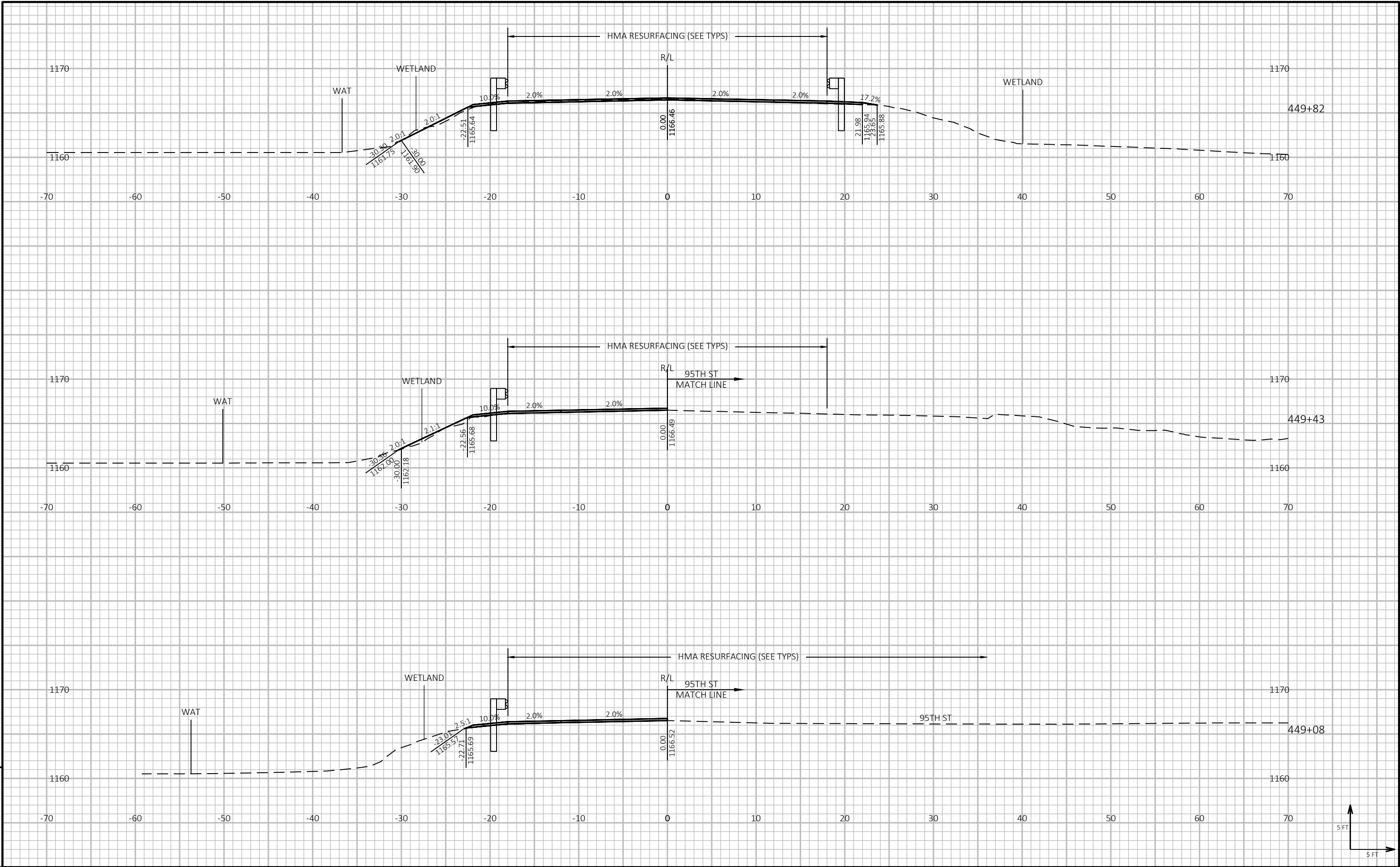
PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

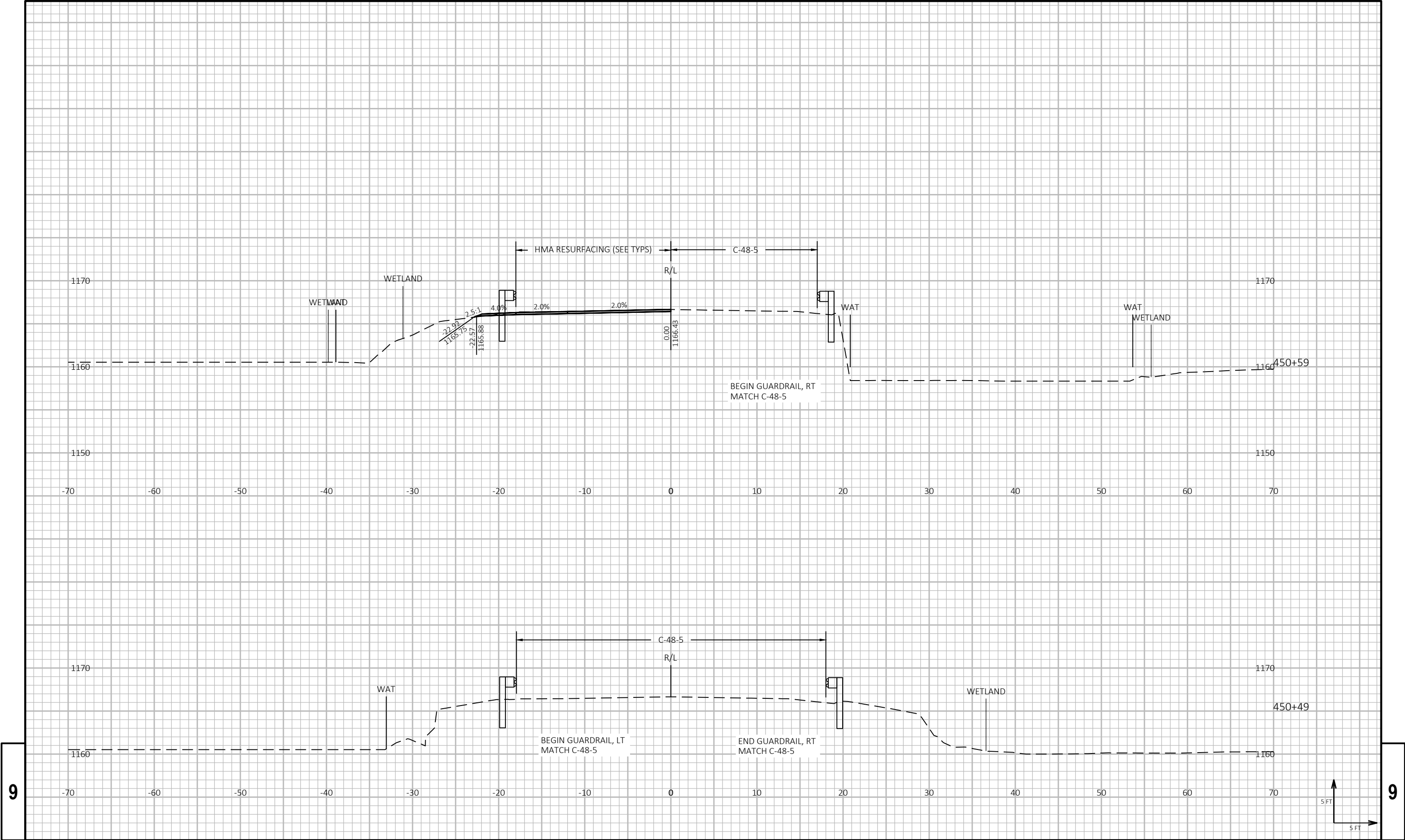
WISDOT/CADD SHEET 49





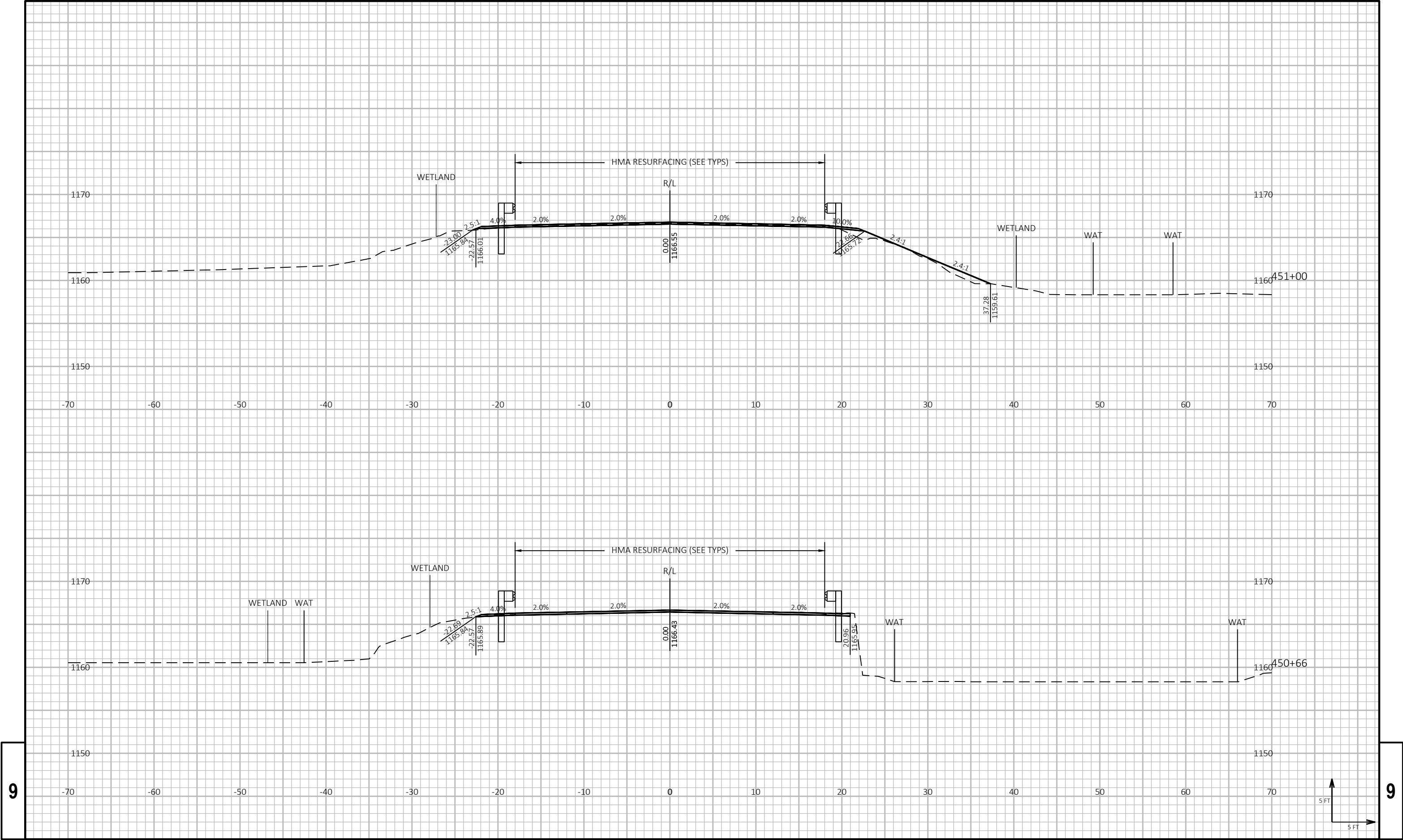






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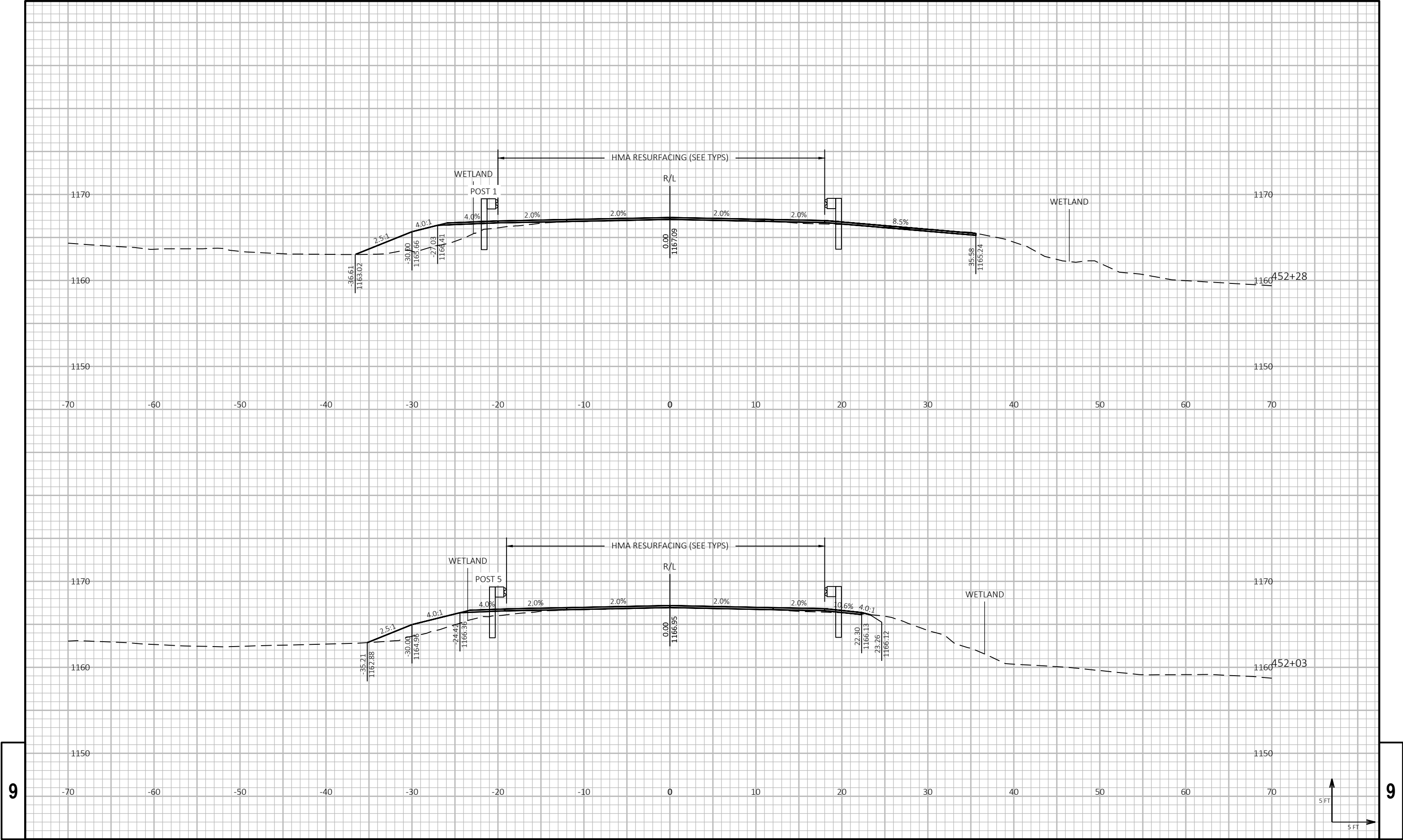
9



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PROJECT NO: 8820-00-70

HWY: STH 48

COUNTY: POLK

CROSS SECTIONS: GUARDRAIL - STRAIGHT RIVER

SHEET

266

E

FILE NAME : P:\55XX\5508.DP.22.STH35-48.PLK\CADD\88200070\090202-XS-EAST OF 95TH ST.DWG  
LAYOUT NAME - 12

PLOT DATE : 4/9/2026 12:20 PM

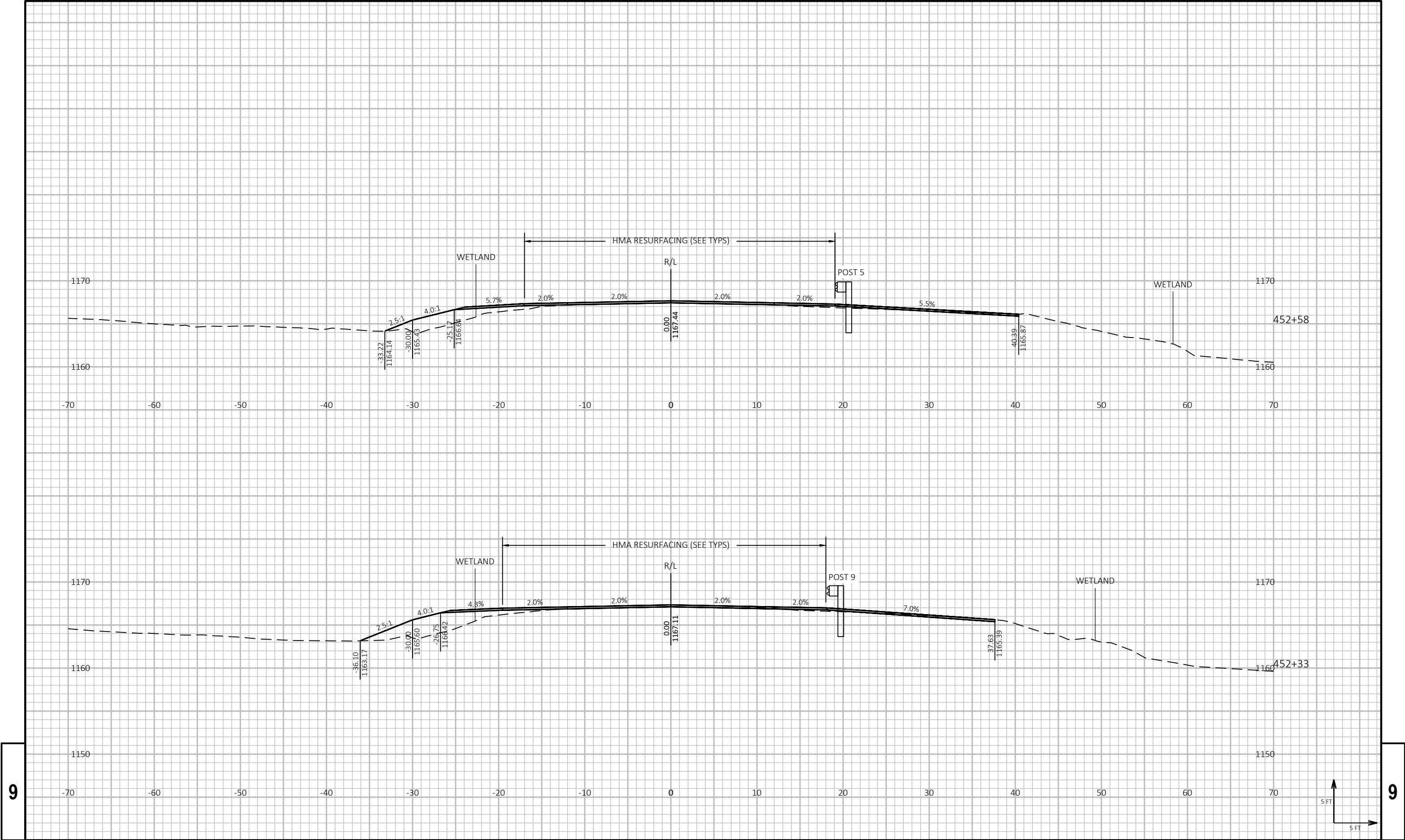
PLOT BY : PARKER TISCHAUSER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

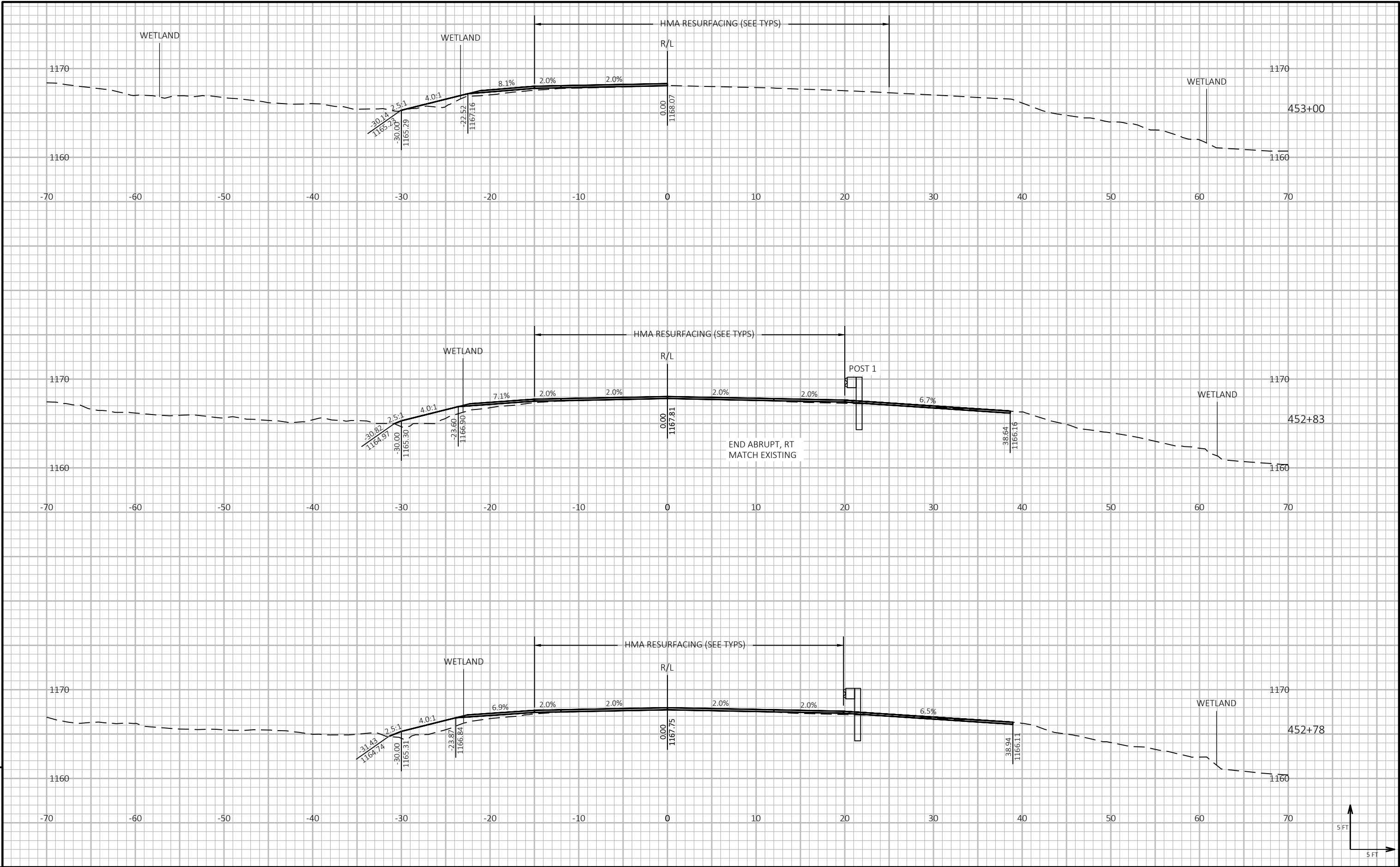
WISDOT/CADD SHEET 49





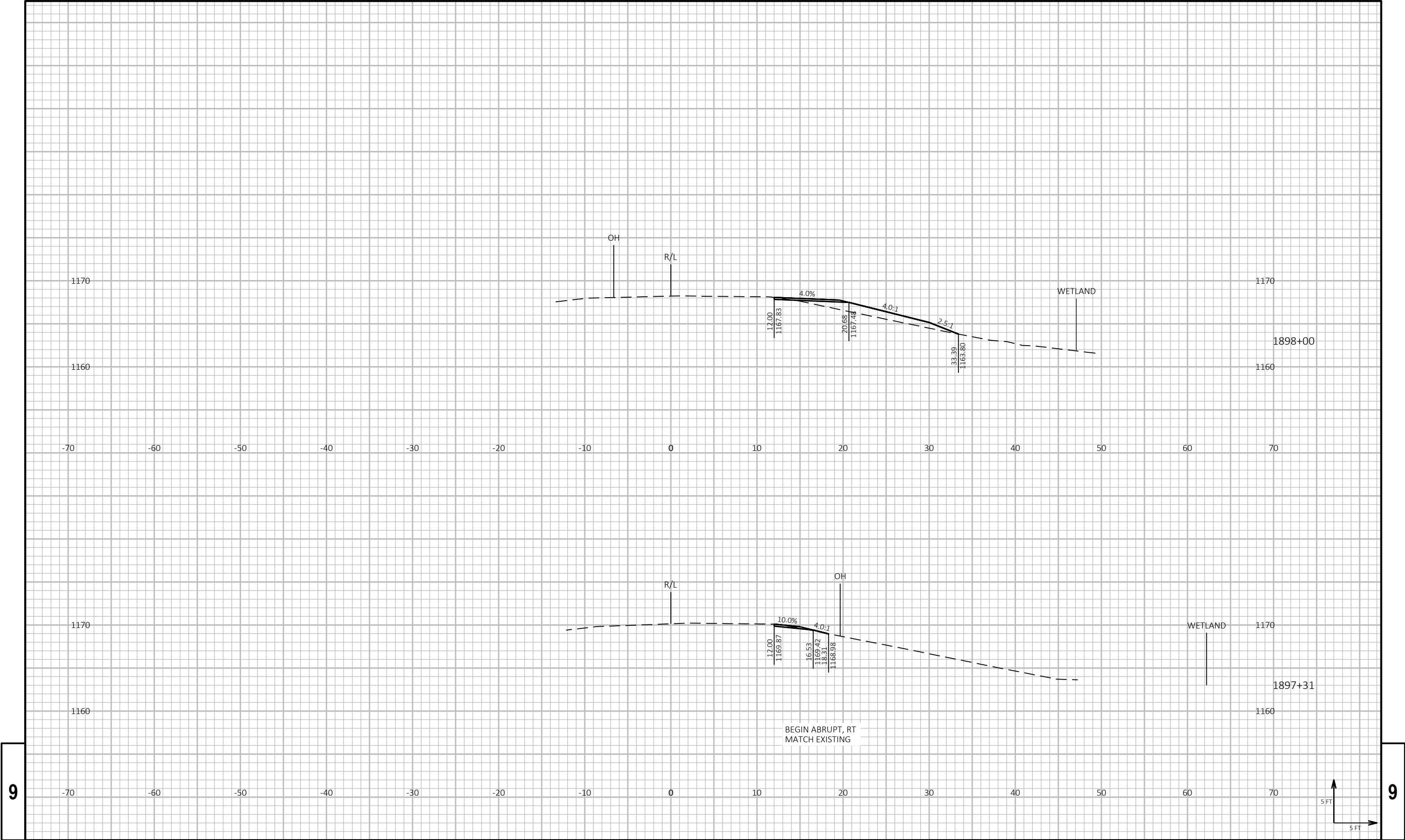
9

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PROJECT NO: 8820-00-70

HWY: STH 48

COUNTY: POLK

CROSS SECTIONS: GUARDRAIL - 95TH ST

SHEET

270

E

FILE NAME : P:\55XX\5508.DP.22.STH35-48.PLK\CADD\88200070\090203-XS-95TH ST.DWG  
LAYOUT NAME - 01

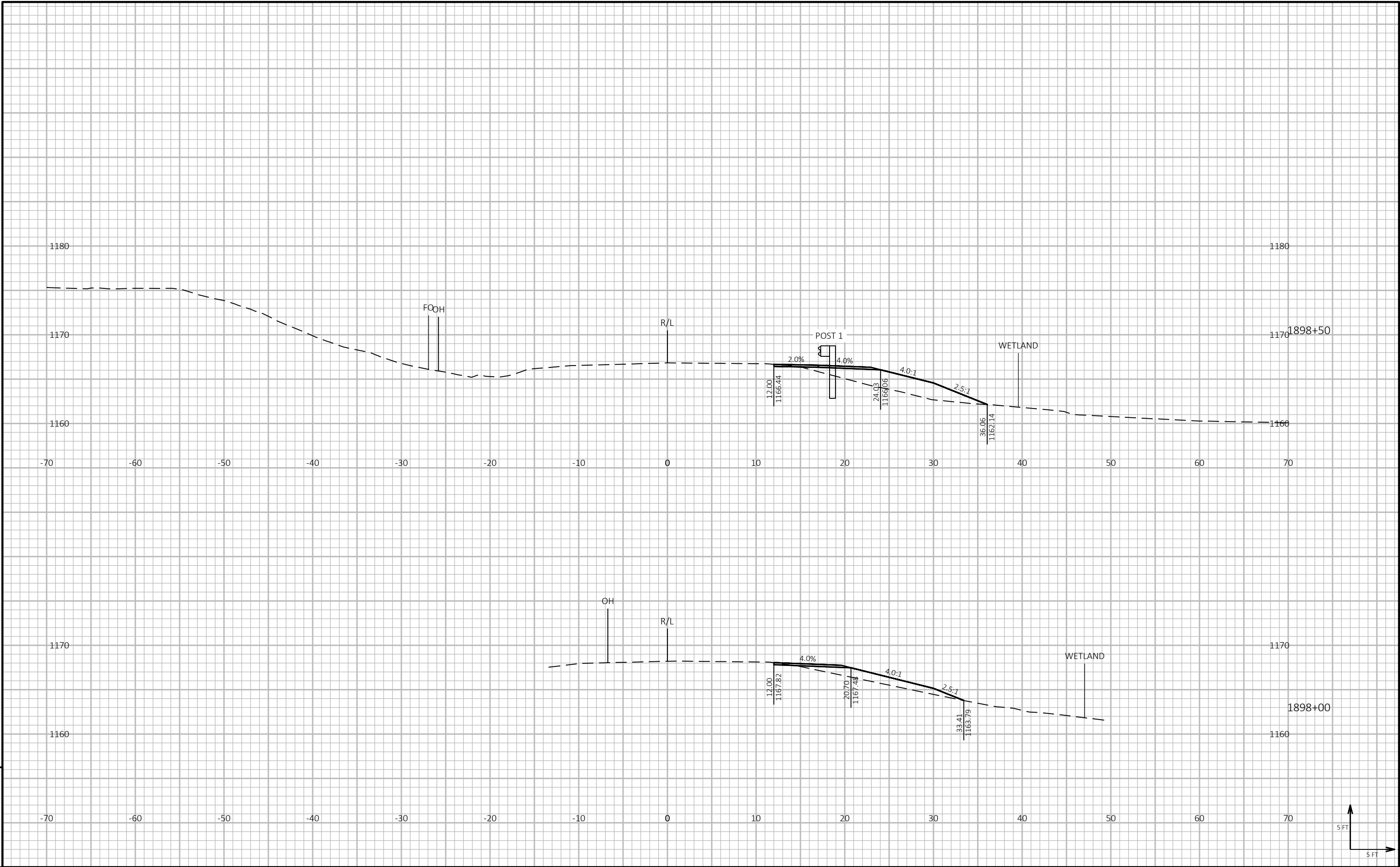
PLOT DATE : 4/9/2026 12:19 PM

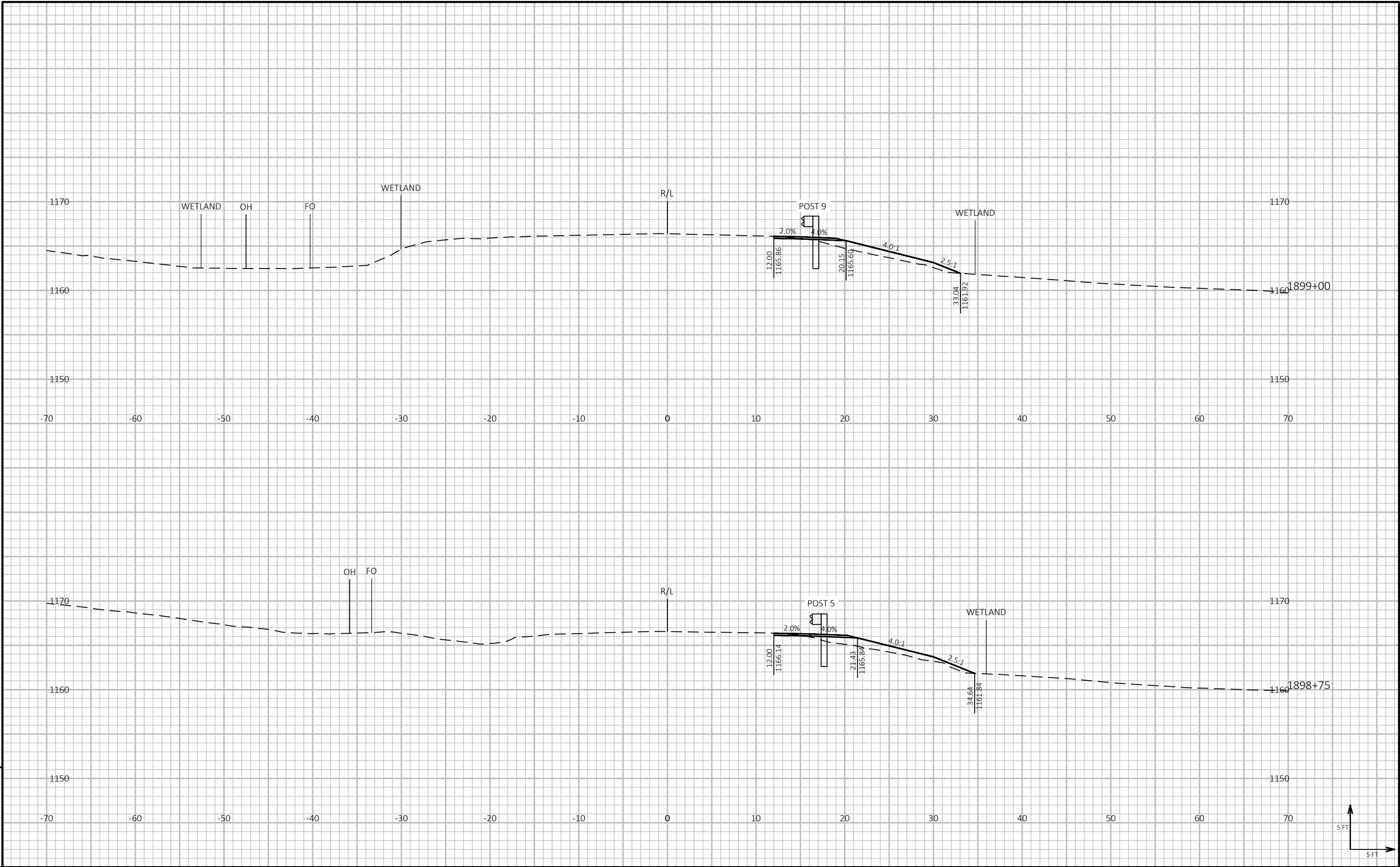
PLOT BY : PARKER TISCHAUSER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

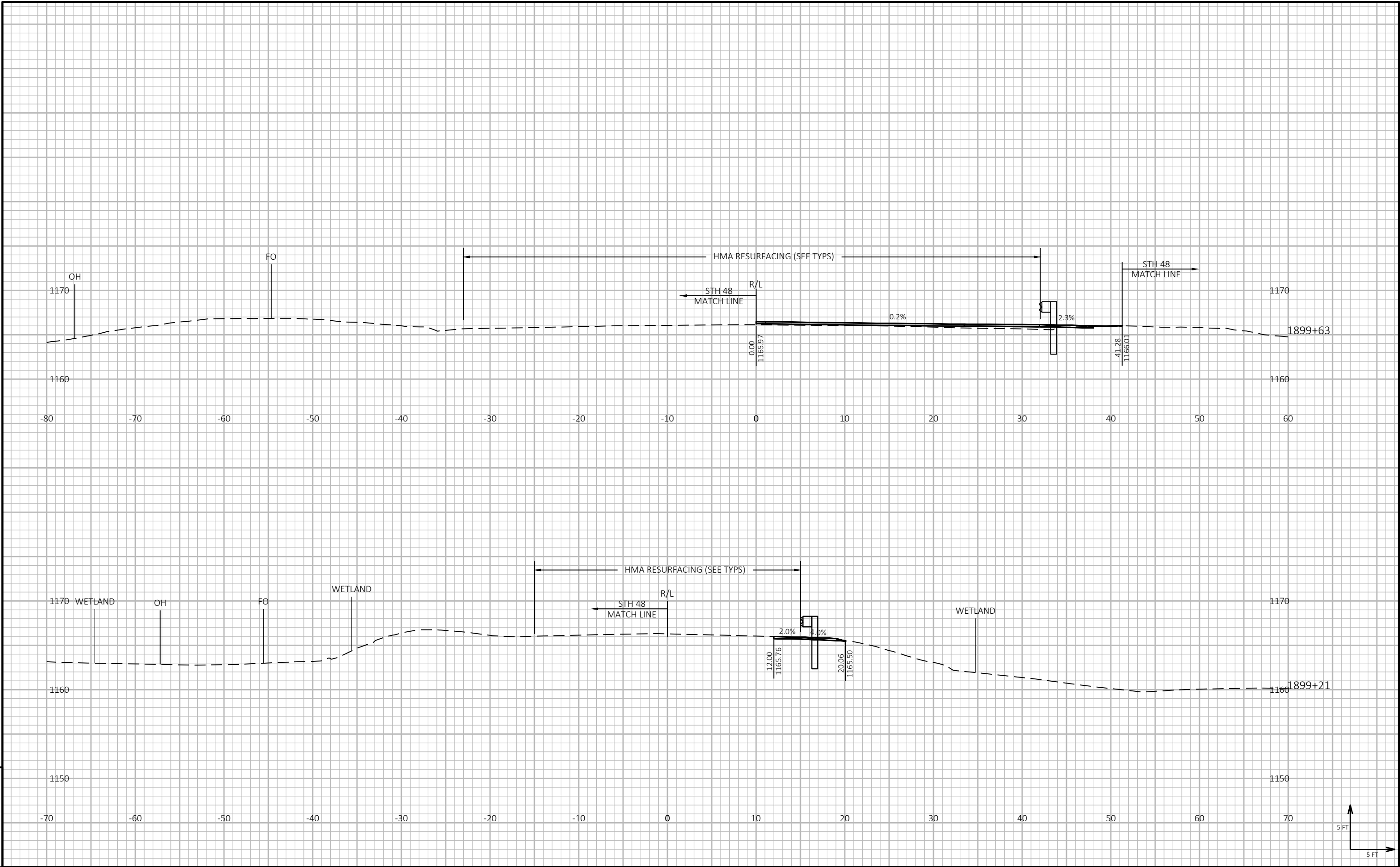
WISDOT/CADD SHEET 49





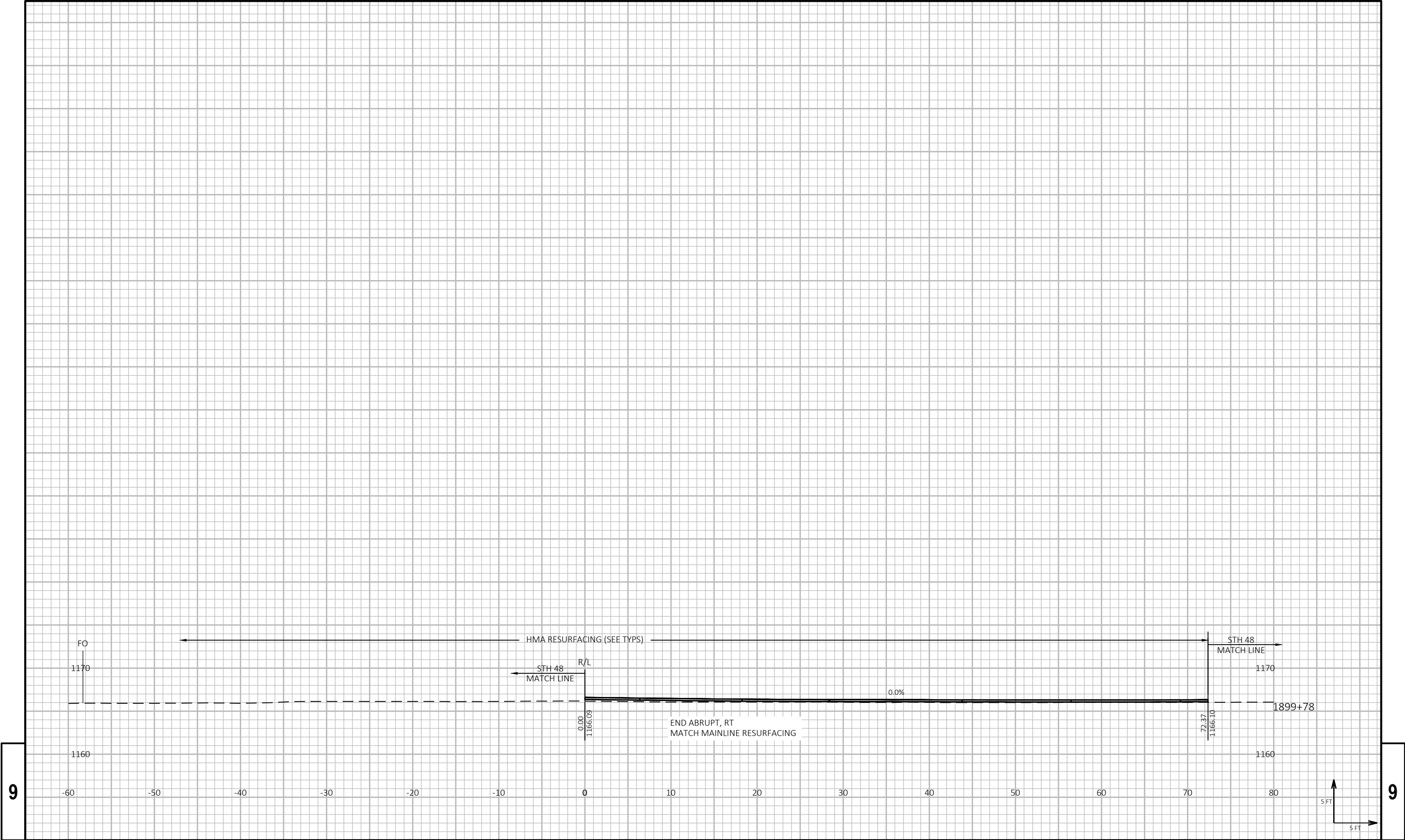
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PROJECT NO: 8820-00-70

HWY: STH 48

COUNTY: POLK

CROSS SECTIONS: GUARDRAIL - 95TH ST

SHEET

274

E

FILE NAME : P:\55XX\5508.DP.22.STH35-48.PLK\CADD\88200070\090203-XS-95TH ST.DWG  
LAYOUT NAME - 05

PLOT DATE : 4/9/2026 12:16 PM

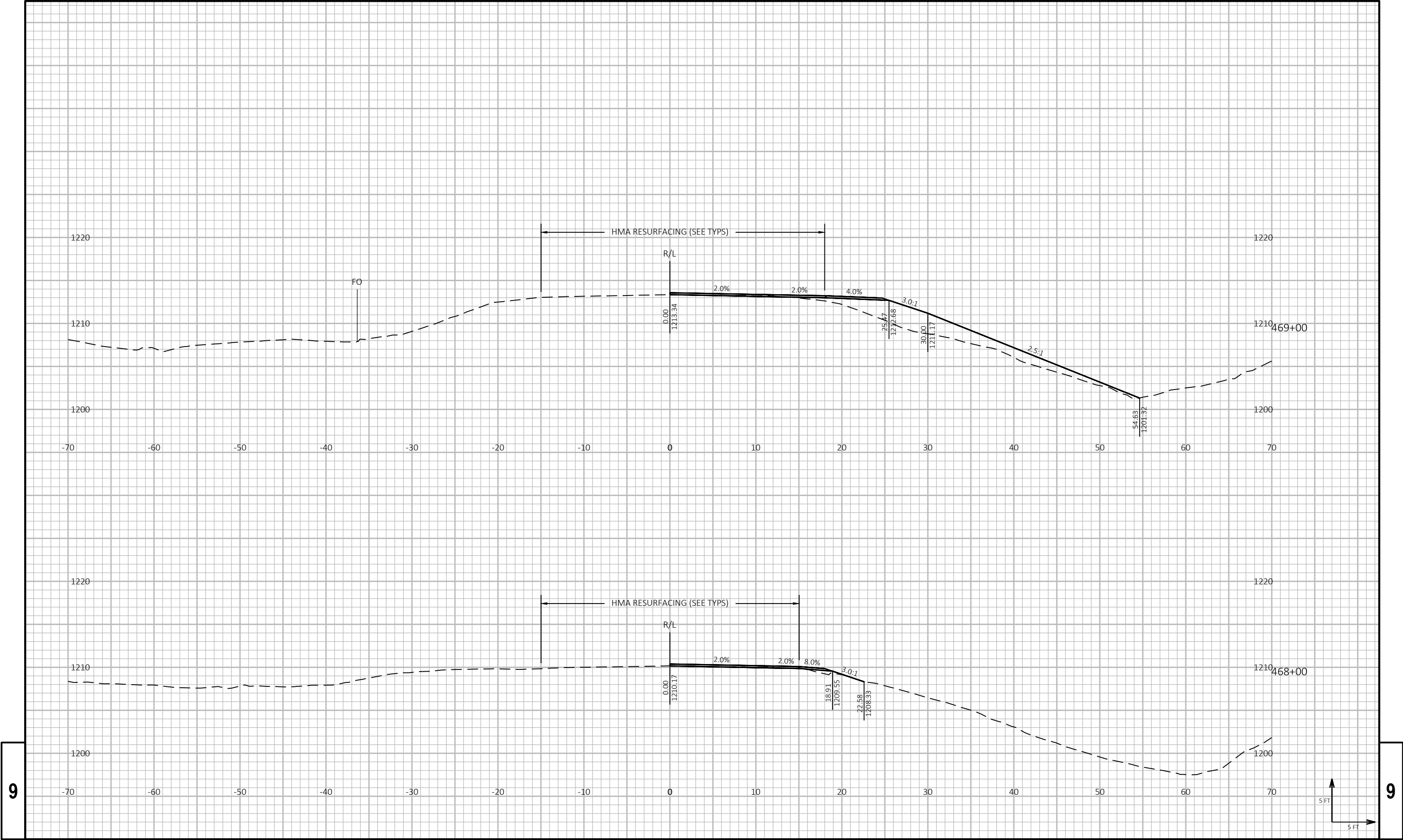
PLOT BY : PARKER TISCHAUSER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADD SHEET 49





9

9

PROJECT NO: 8820-00-70

HWY: STH 48

COUNTY: POLK

CROSS SECTIONS: GUARDRAIL - WEST OF 90TH ST

SHEET

275

E

FILE NAME : P:\55XX\5508.DP.22.STH35-48.PLK\CADD\88200070\090204-XS-WEST OF 90TH ST.DWG  
LAYOUT NAME - 01

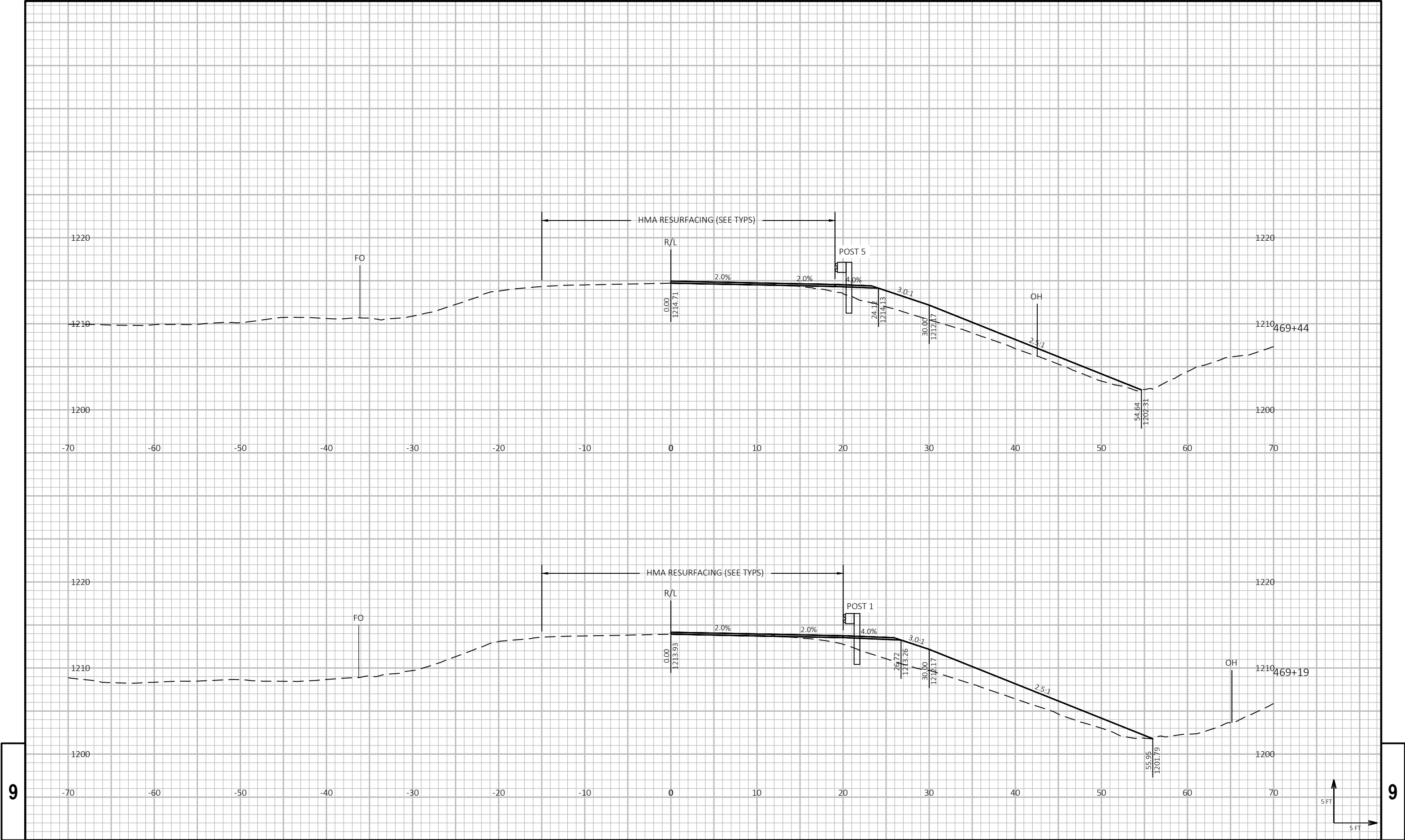
PLOT DATE : 4/9/2026 12:24 PM

PLOT BY : PARKER TISCHAUSER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

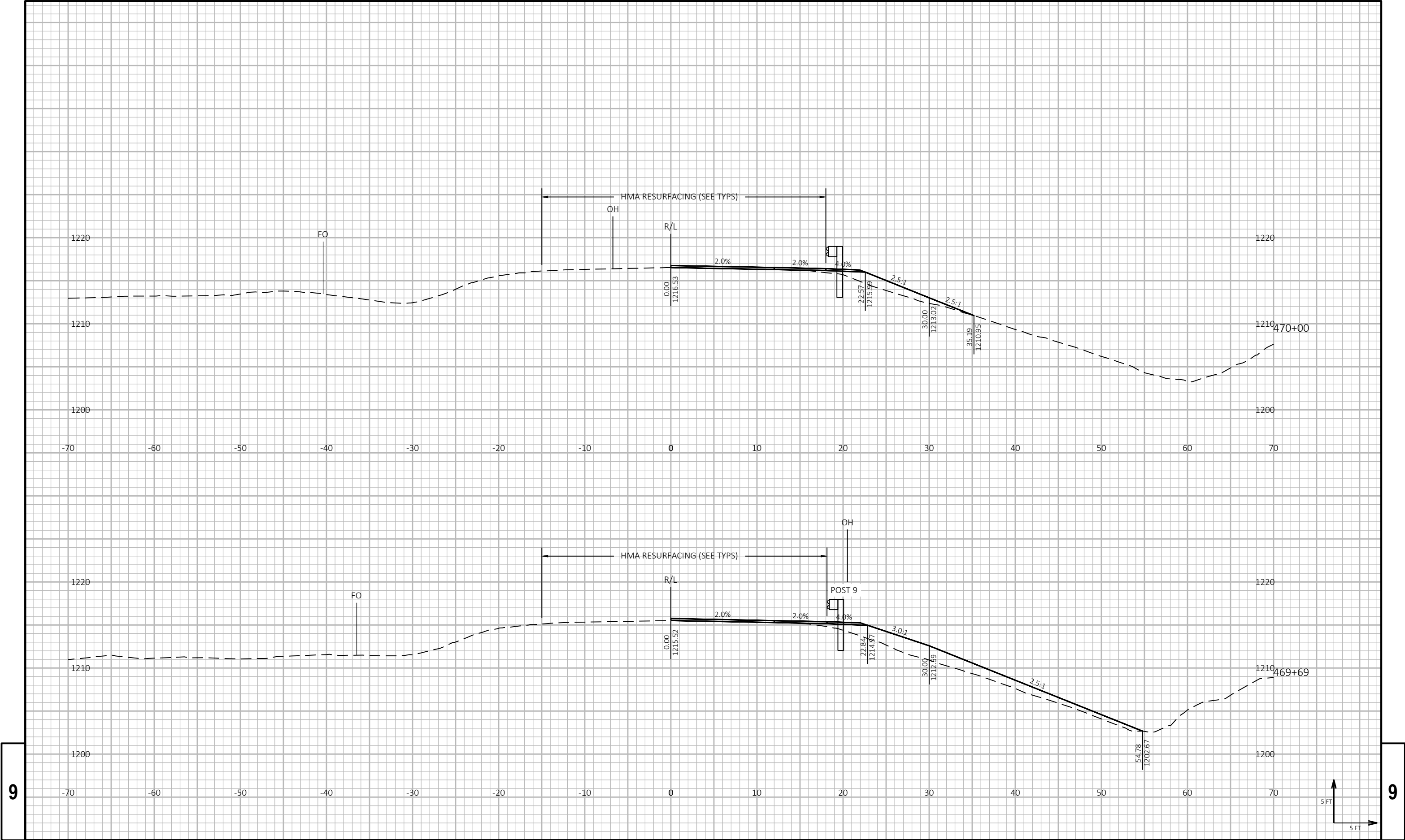
WISDOT/CADD SHEET 49



9

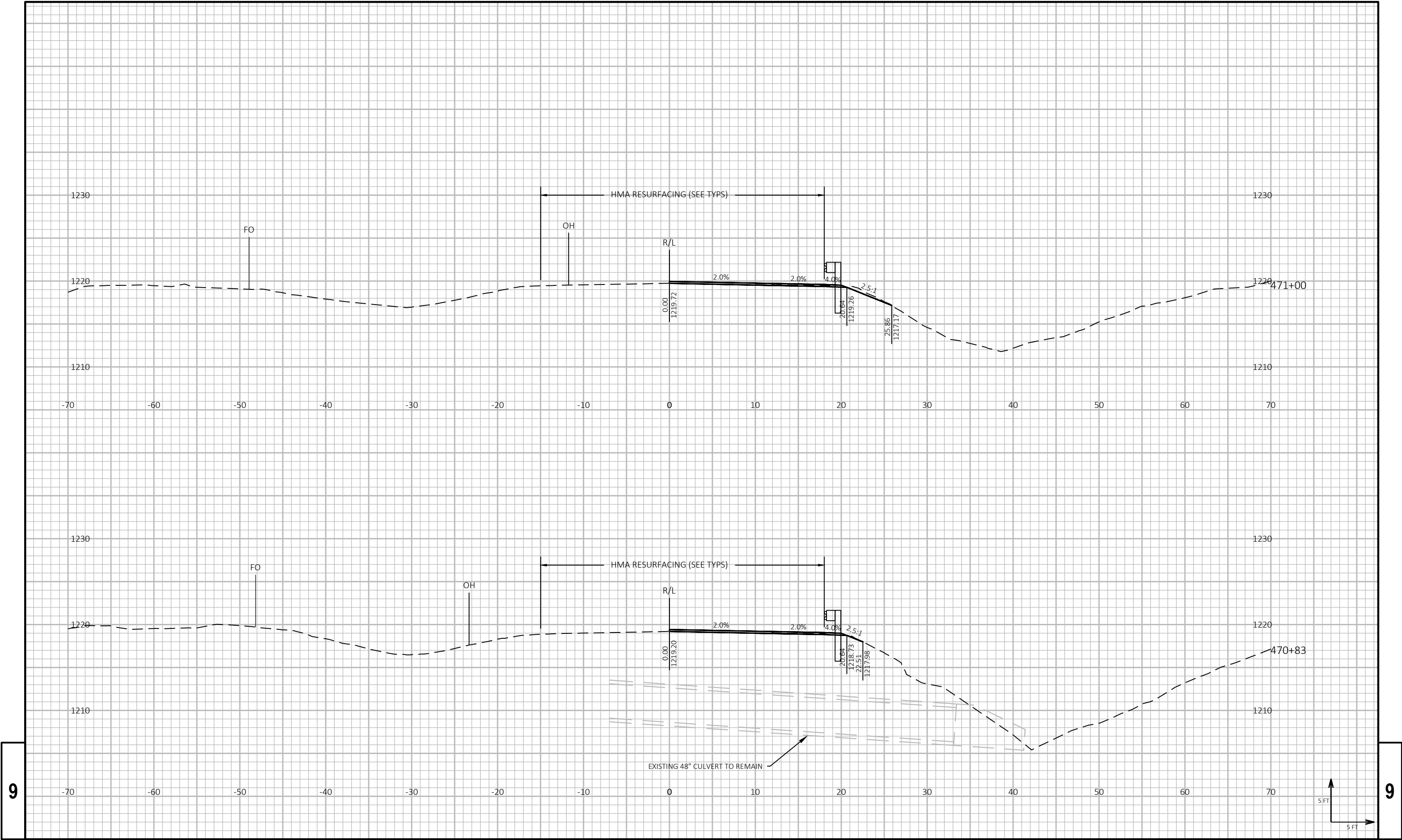
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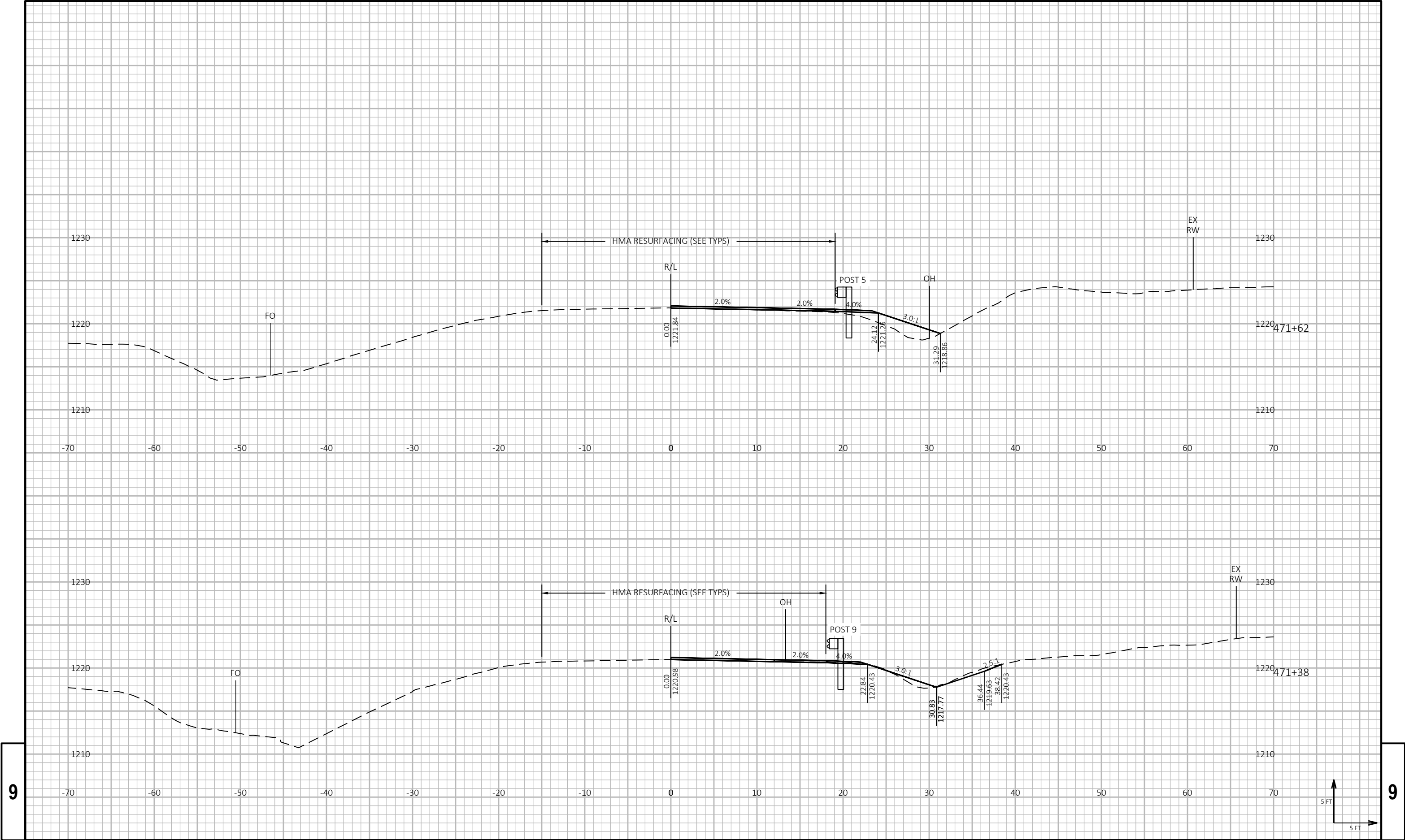




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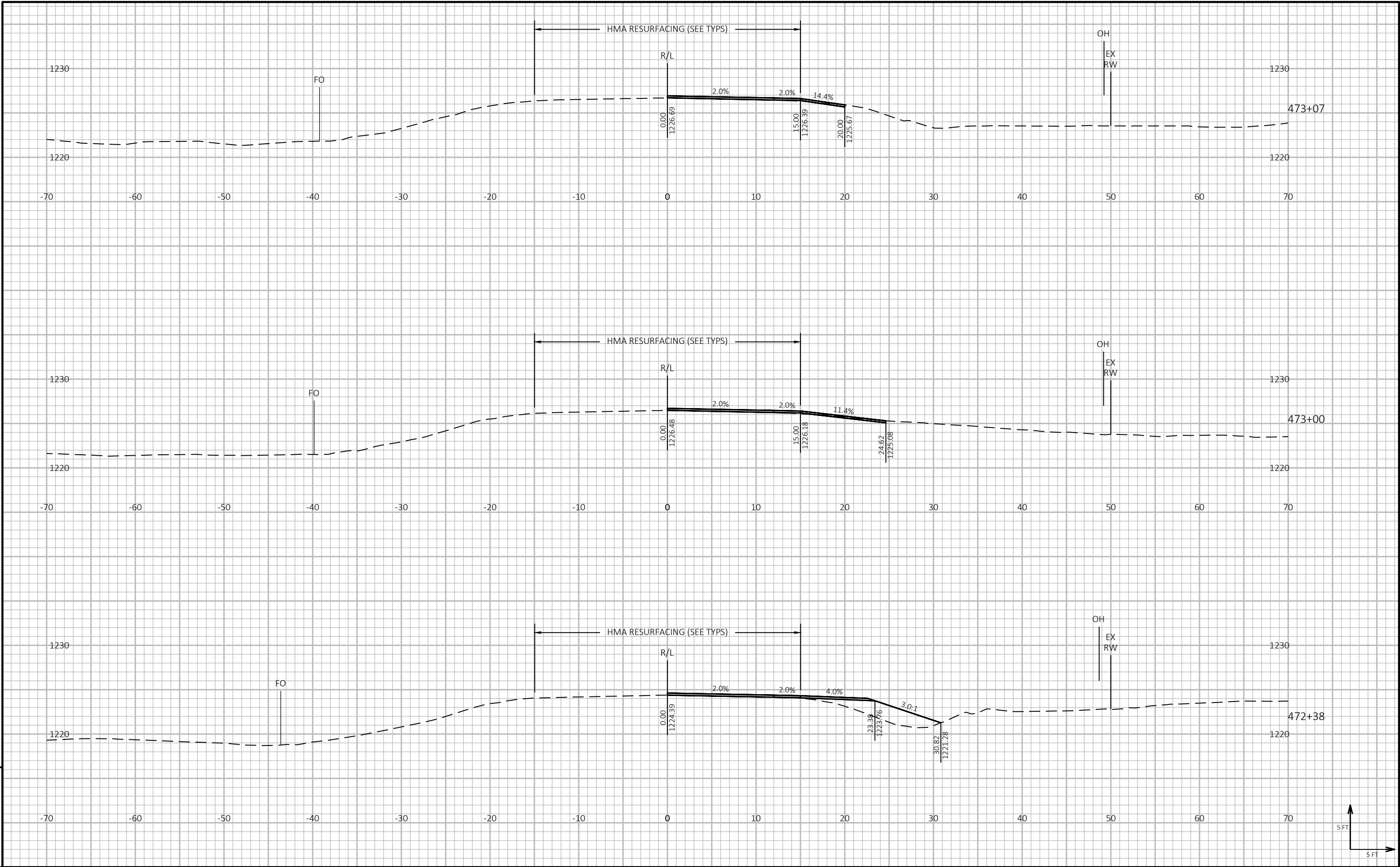


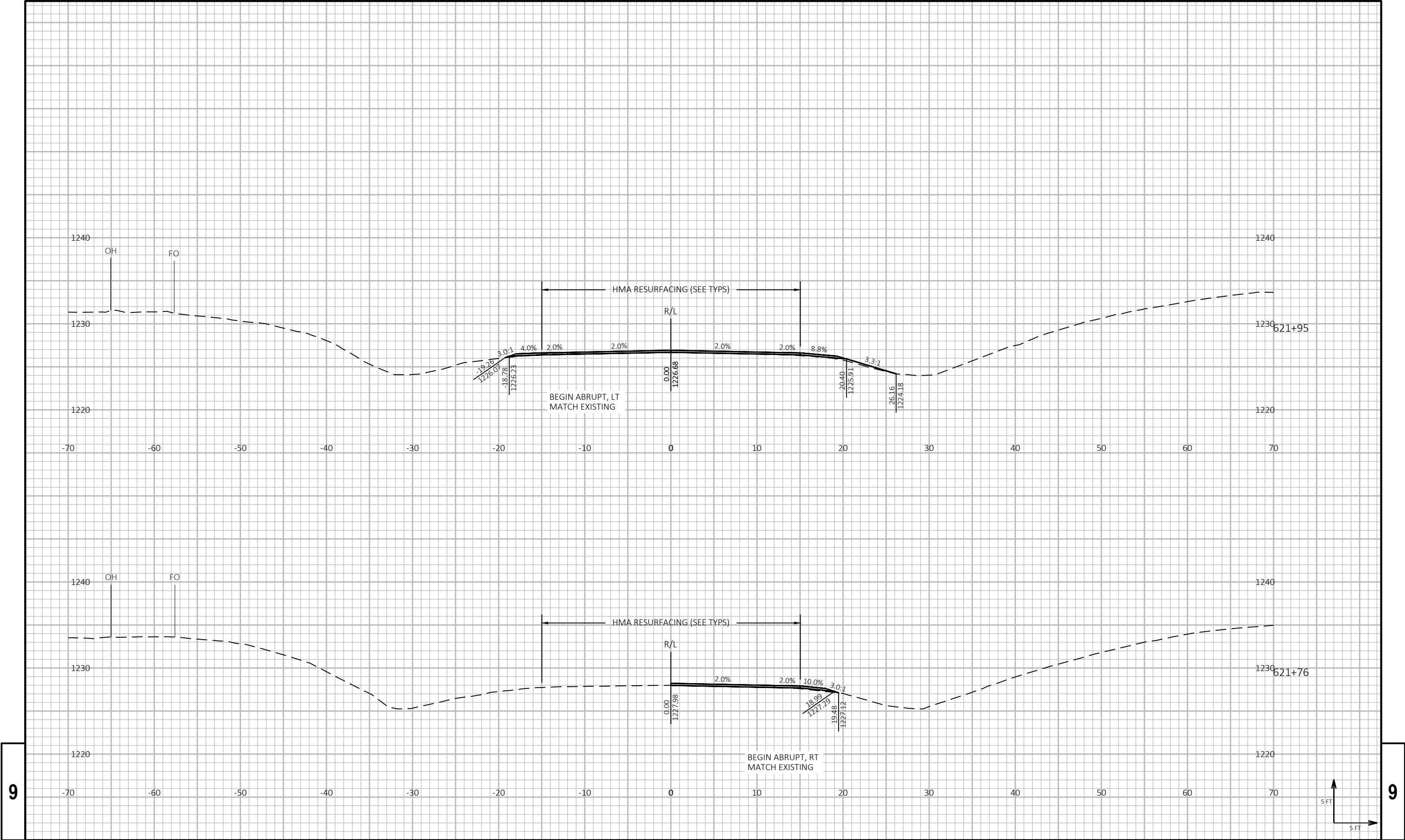


9

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PROJECT NO: 8820-00-70

HWY: STH 48

COUNTY: POLK

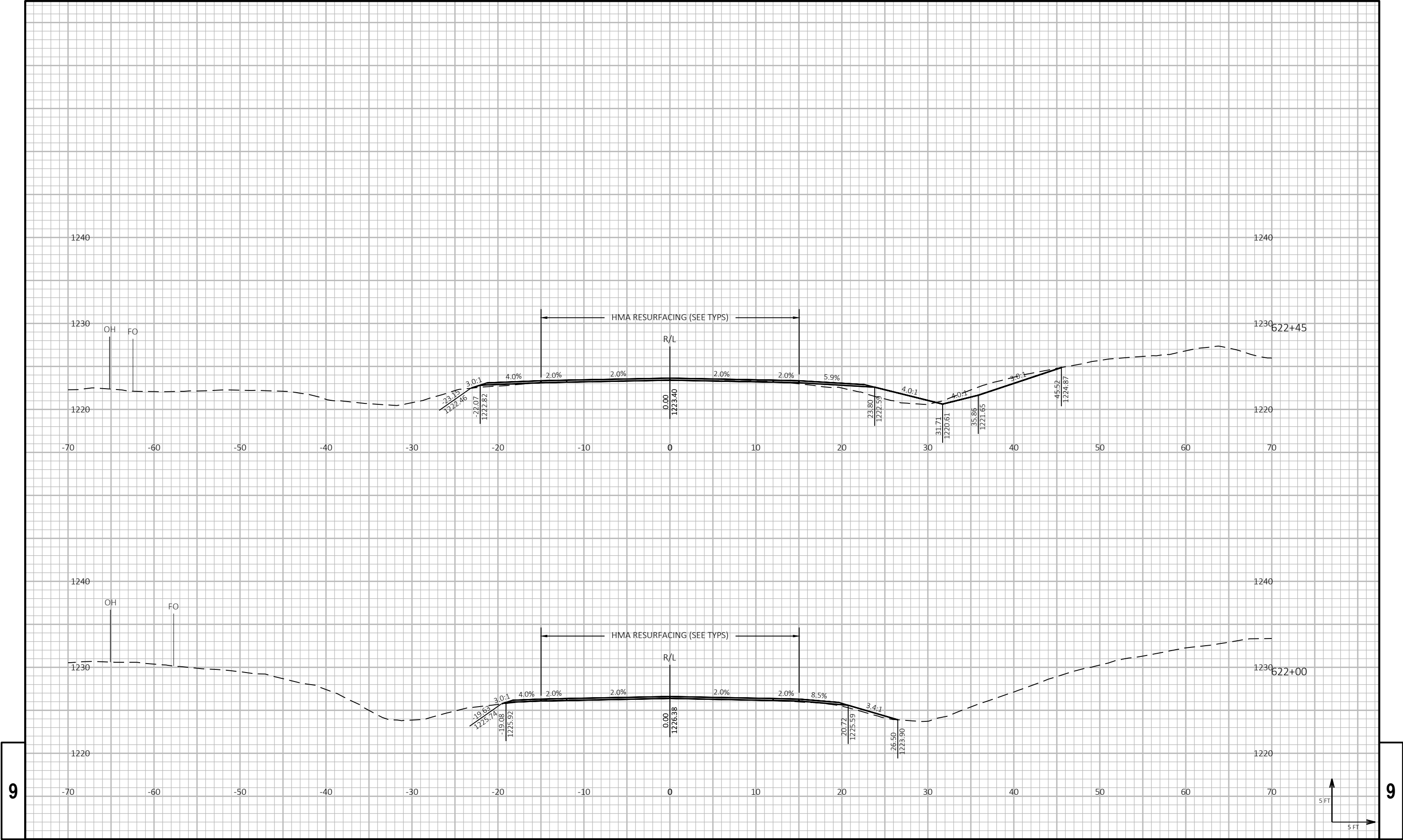
CROSS SECTIONS: GUARDRAIL - WEST OF CTH E

SHEET

282

E





PROJECT NO: 8820-00-70

HWY: STH 48

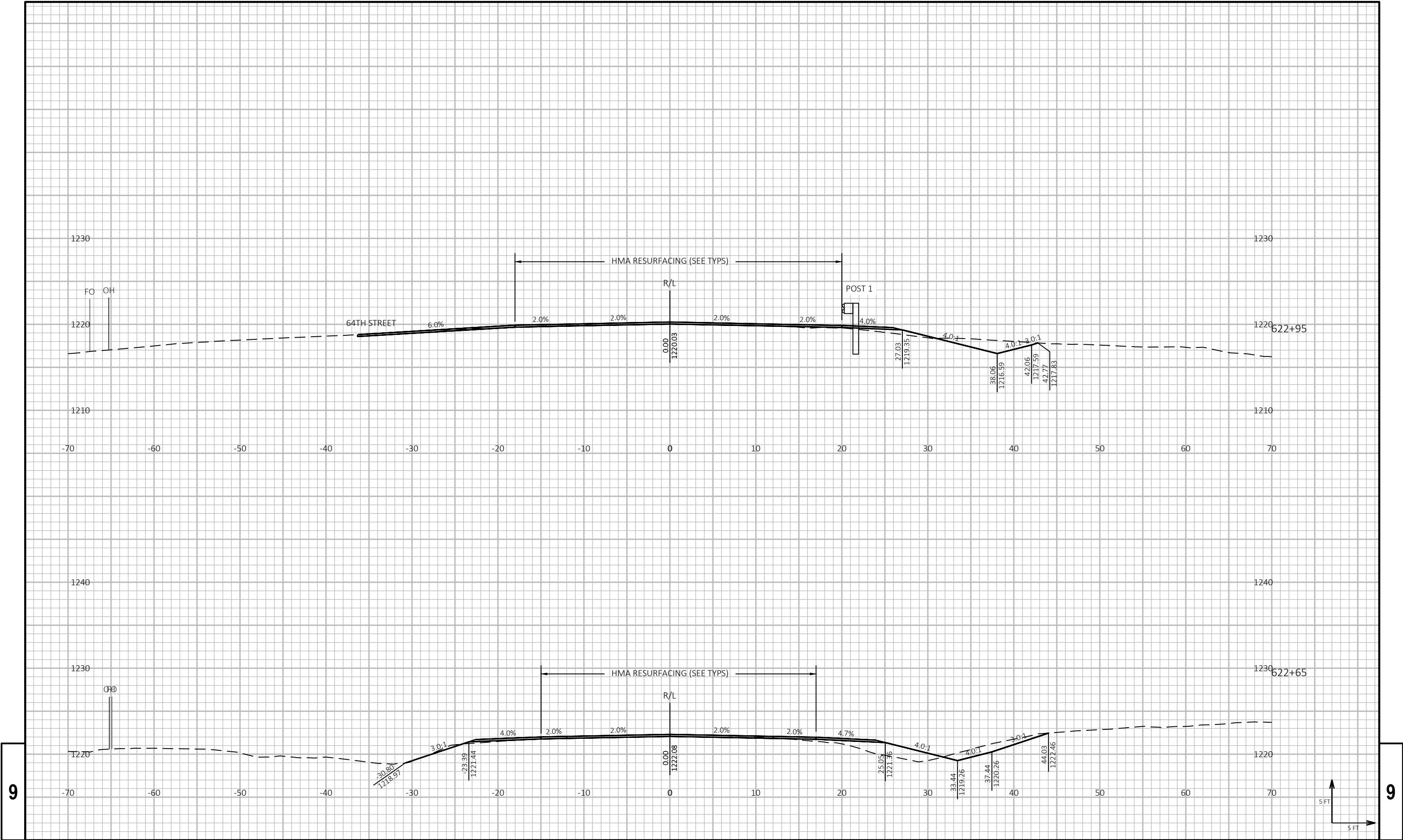
COUNTY: POLK

CROSS SECTIONS: GUARDRAIL - WEST OF CTH E

SHEET

283

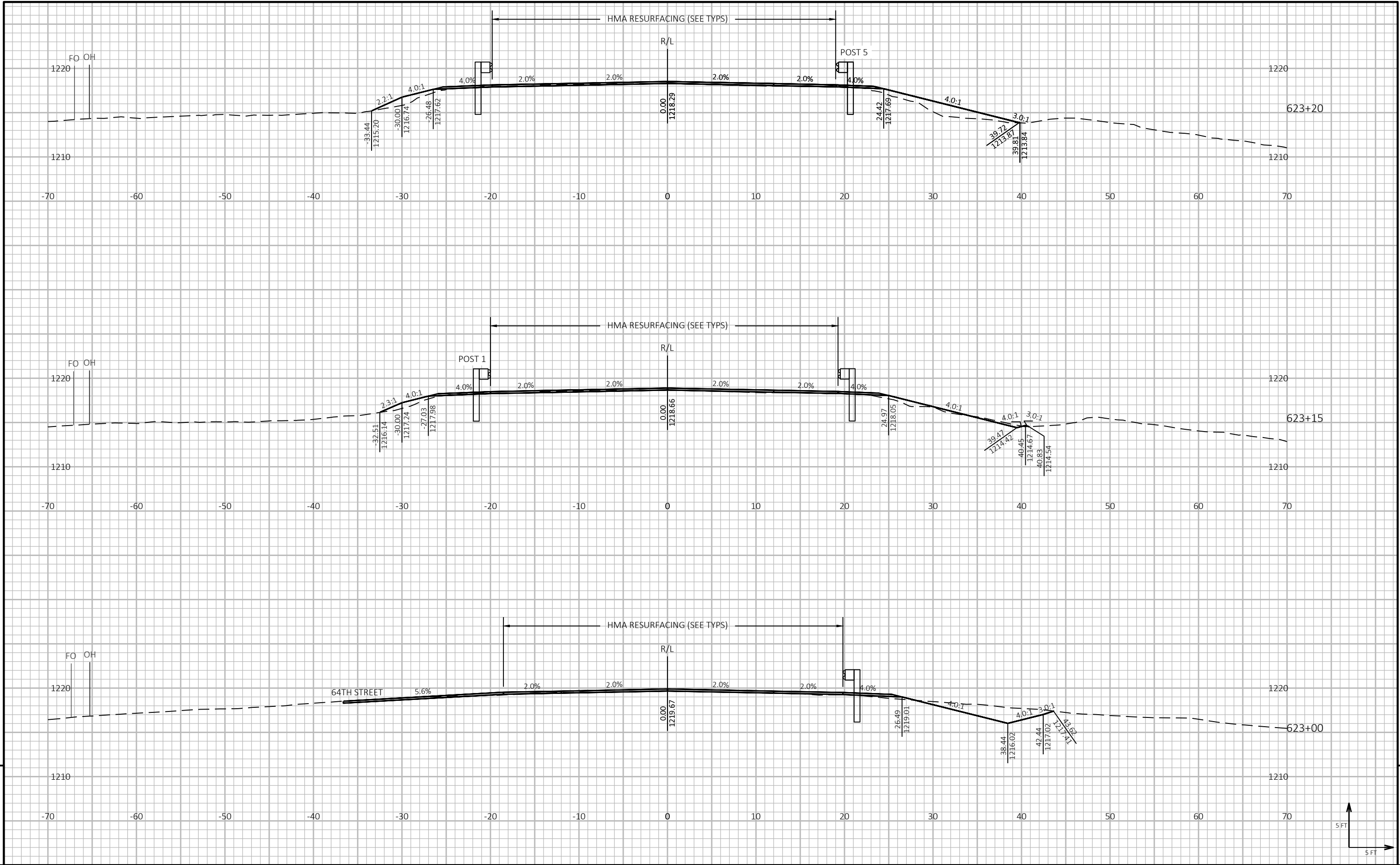
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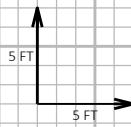
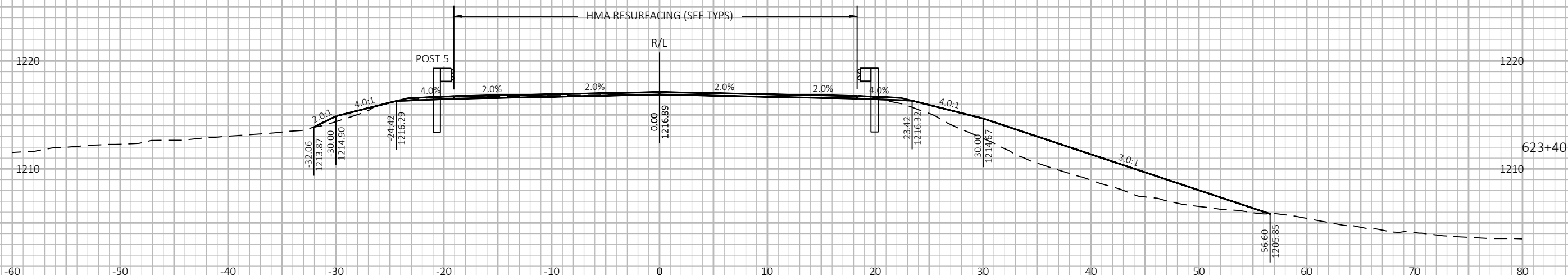
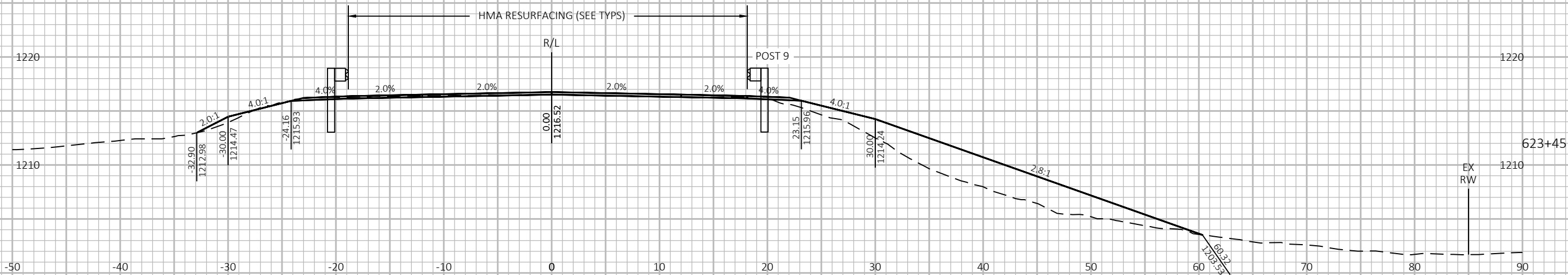
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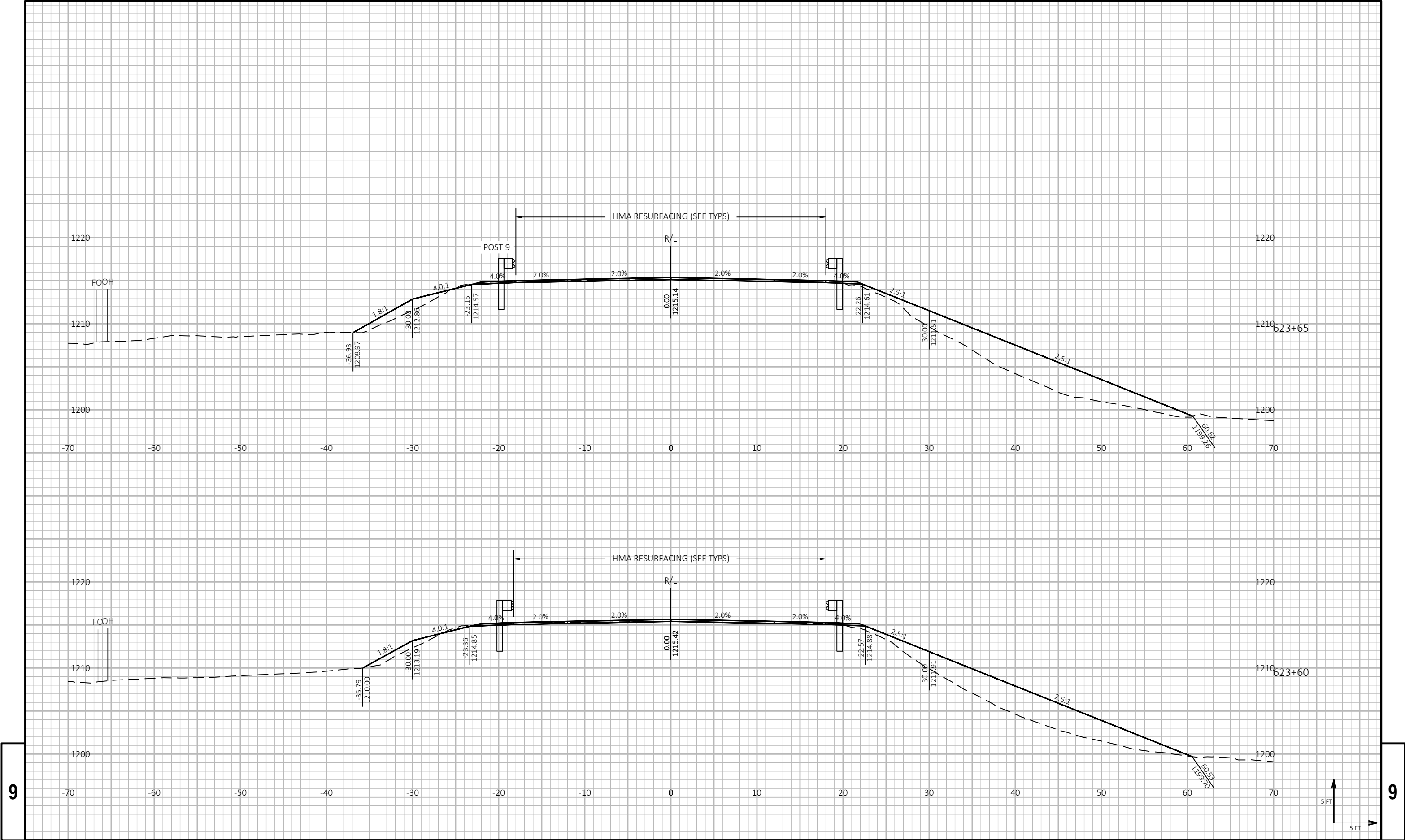




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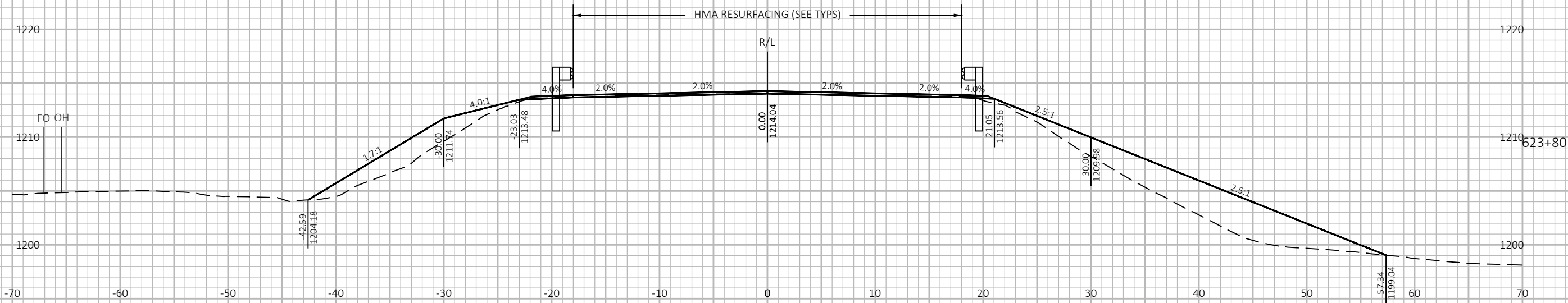
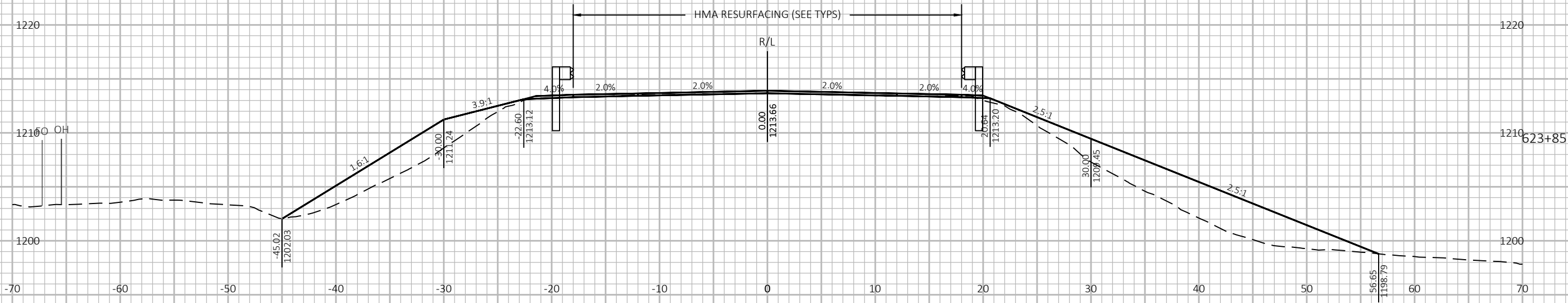


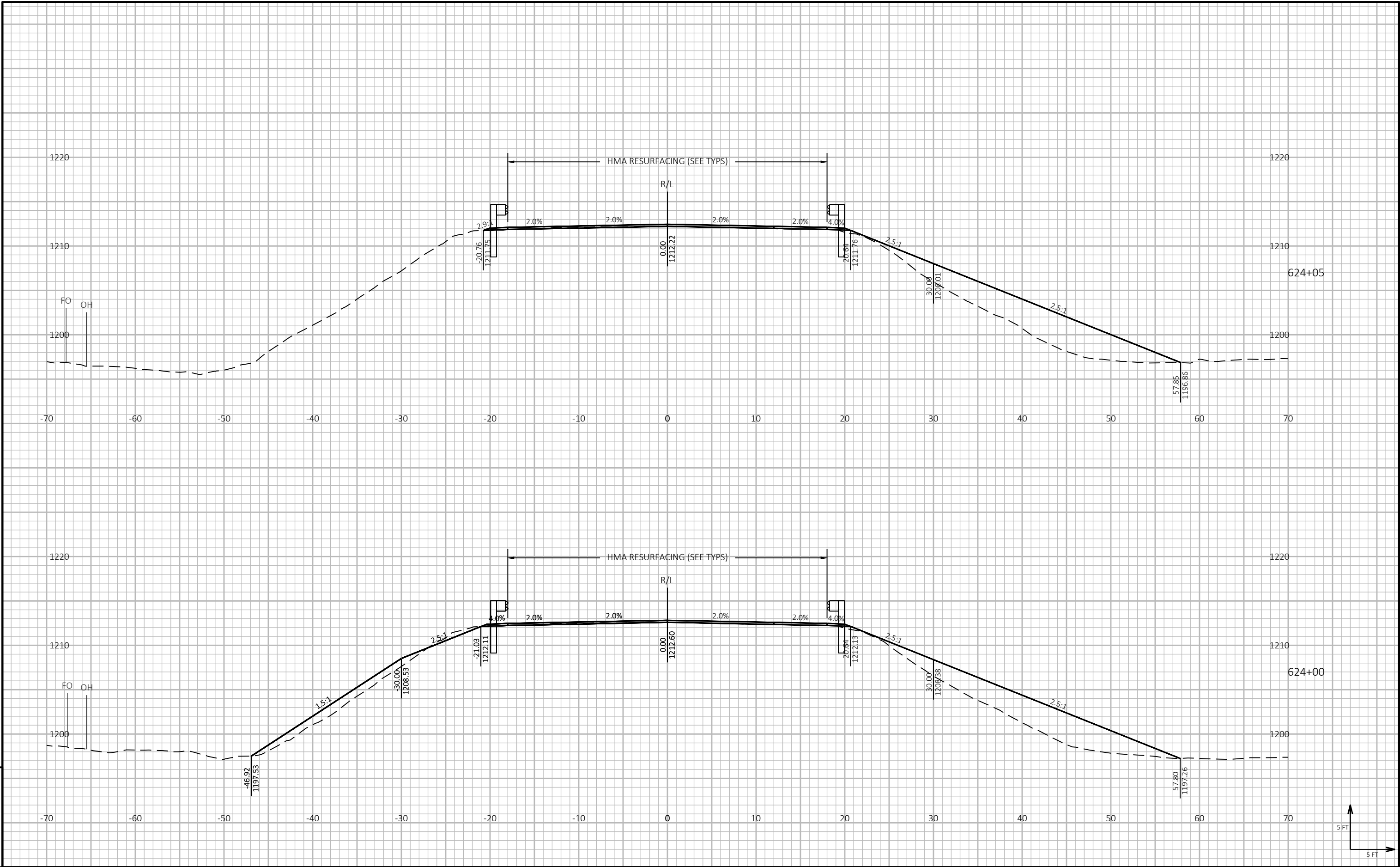
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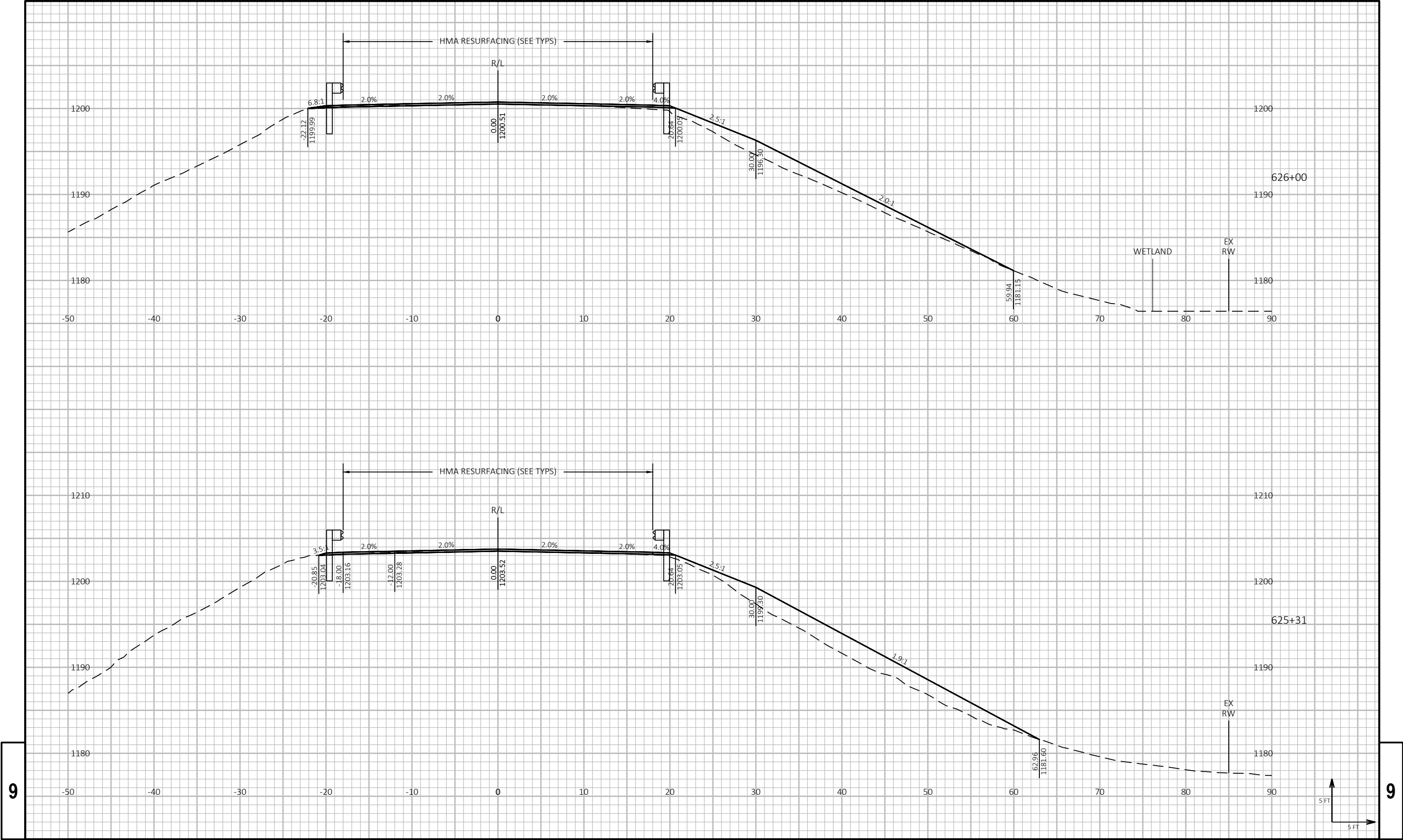
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PROJECT NO: 8820-00-70

HWY: STH 48

COUNTY: POLK

CROSS SECTIONS: GUARDRAIL - WEST OF CTH E

SHEET

290

E

FILE NAME : P:\55XX\5508.DP.22.STH35-48.PLK\CADD\88200070\090205-XS-WEST OF CTH E.DWG  
LAYOUT NAME - 09

PLOT DATE : 4/9/2026 12:23 PM

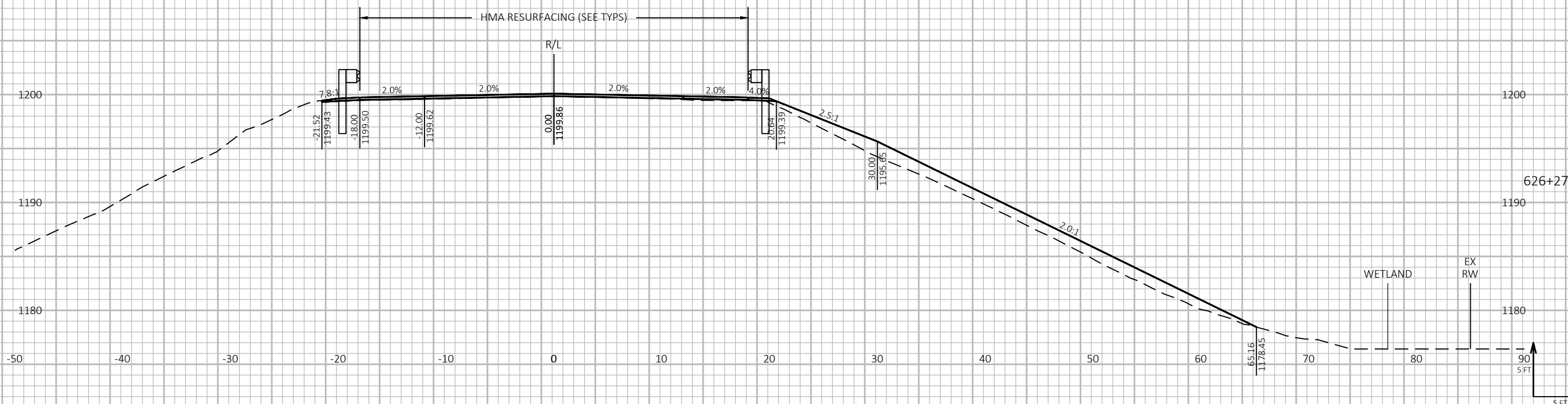
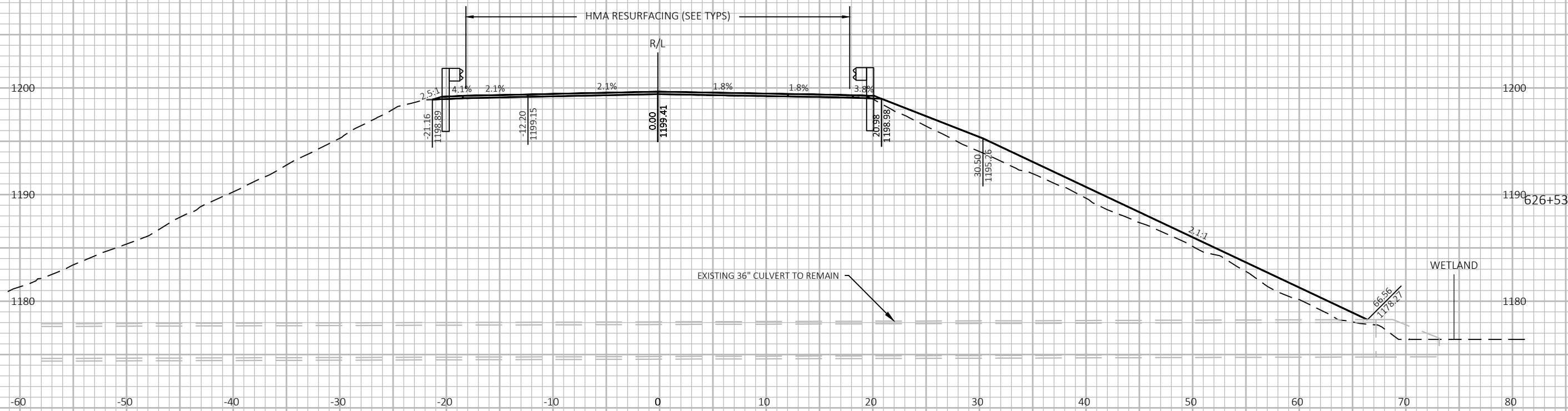
PLOT BY : PARKER TISCHAUSER

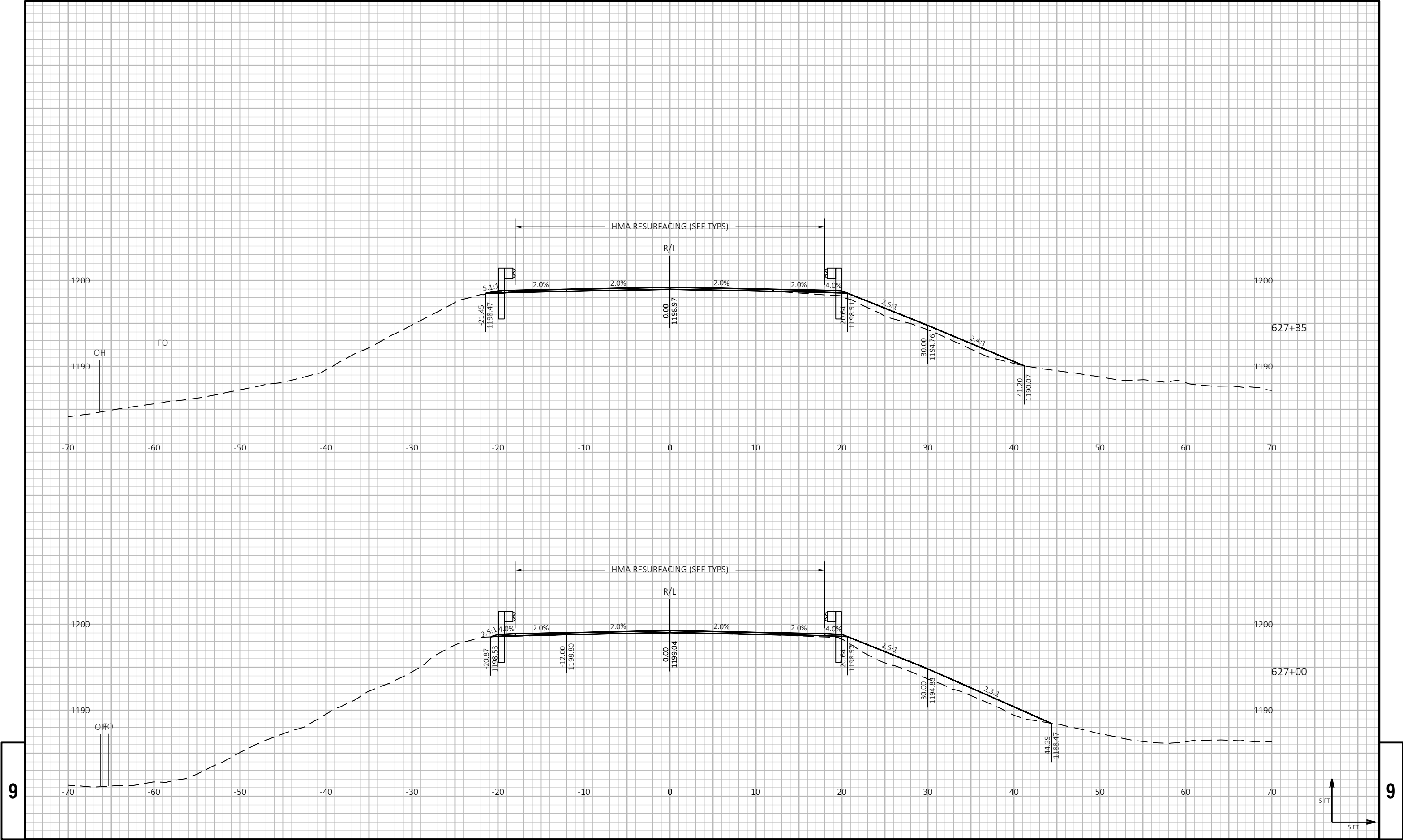
PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADD SHEET 49







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PROJECT NO: 8820-00-70

HWY: STH 48

COUNTY: POLK

CROSS SECTIONS: GUARDRAIL - WEST OF CTH E

SHEET

292

E

FILE NAME : P:\55XX\5508.DP.22.STH35-48.PLK\CADD\88200070\090205-XS-WEST OF CTH E.DWG  
LAYOUT NAME - 11

PLOT DATE : 4/9/2026 12:25 PM

PLOT BY : PARKER TISCHAUSER

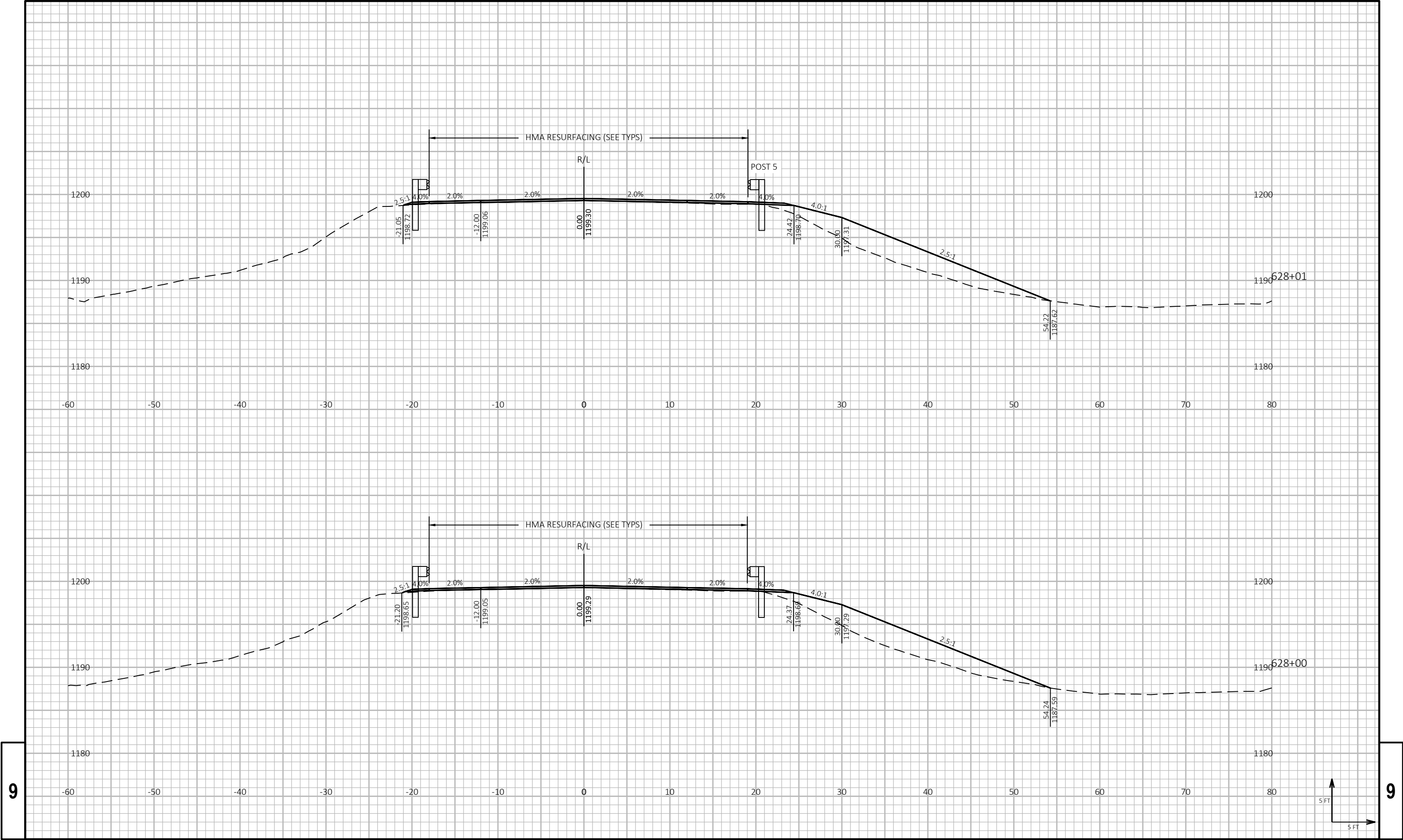
PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADD SHEET 49

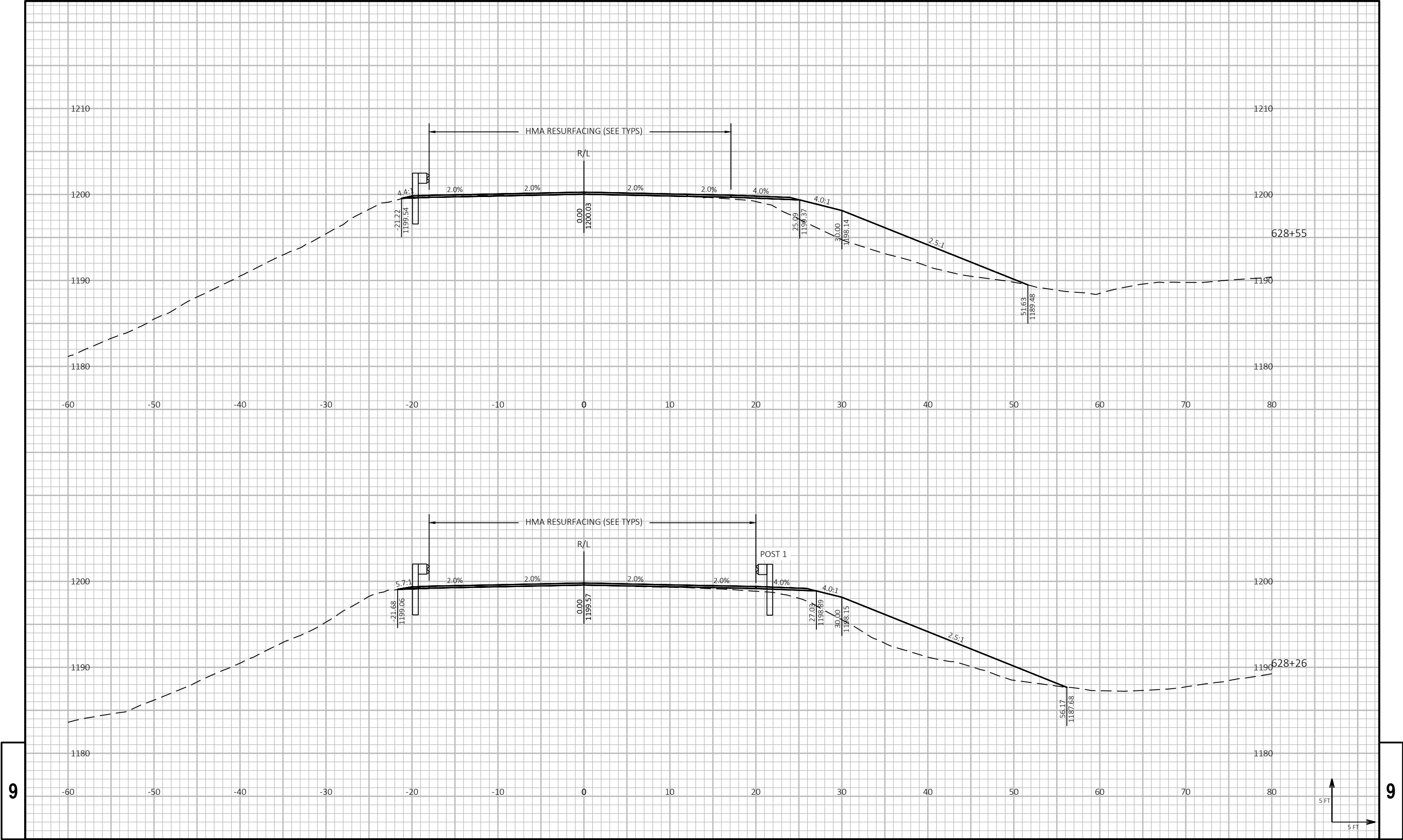






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PROJECT NO: 8820-00-70

HWY: STH 48

COUNTY: POLK

CROSS SECTIONS: GUARDRAIL - WEST OF CTH E

SHEET

295

E

FILE NAME : P:\55XX\5508.DP.22.STH35-48.PLK\CADD\88200070\090205-XS-WEST OF CTH E.DWG  
LAYOUT NAME - 14

PLOT DATE : 4/9/2026 12:22 PM

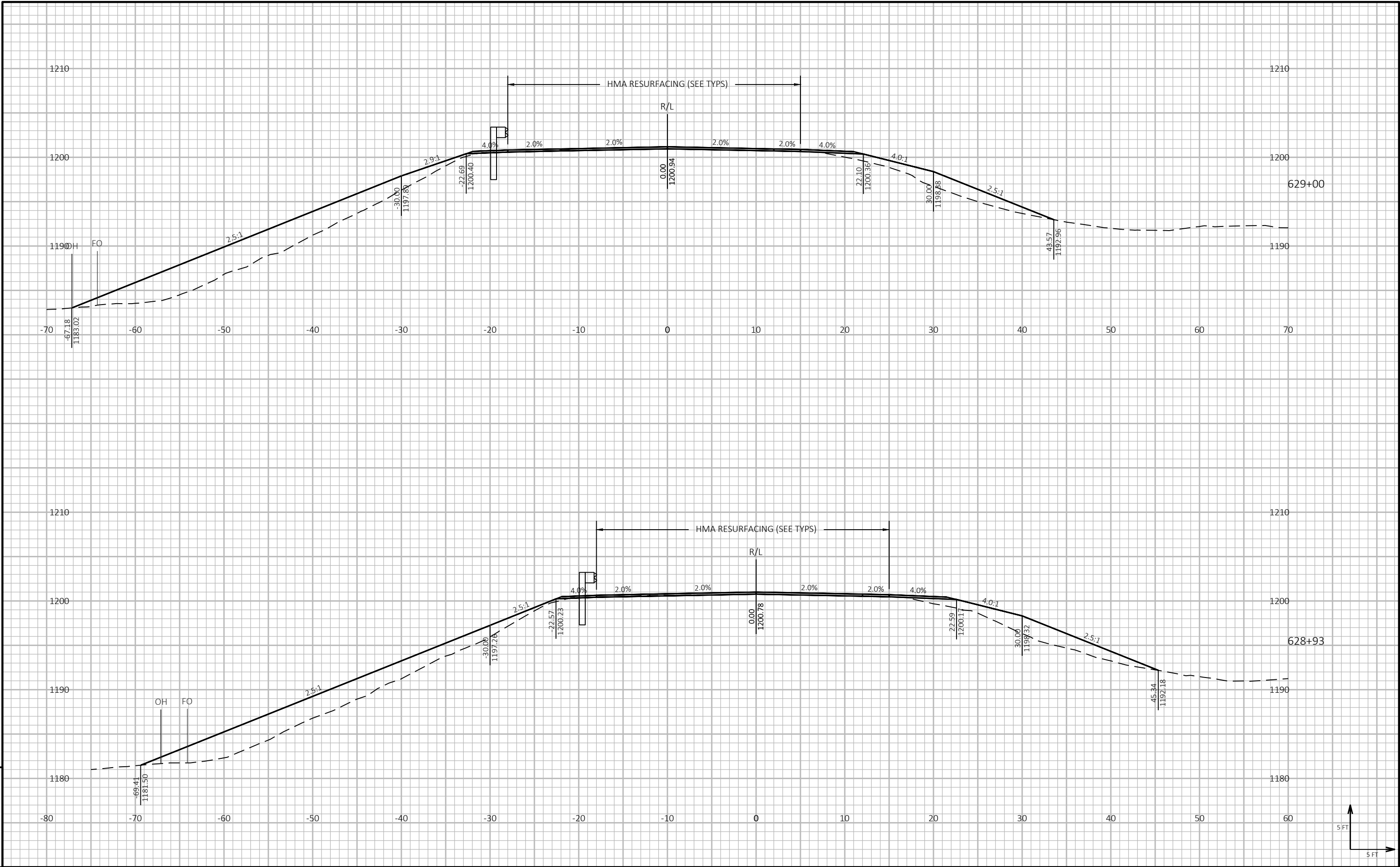
PLOT BY : PARKER TISCHAUER

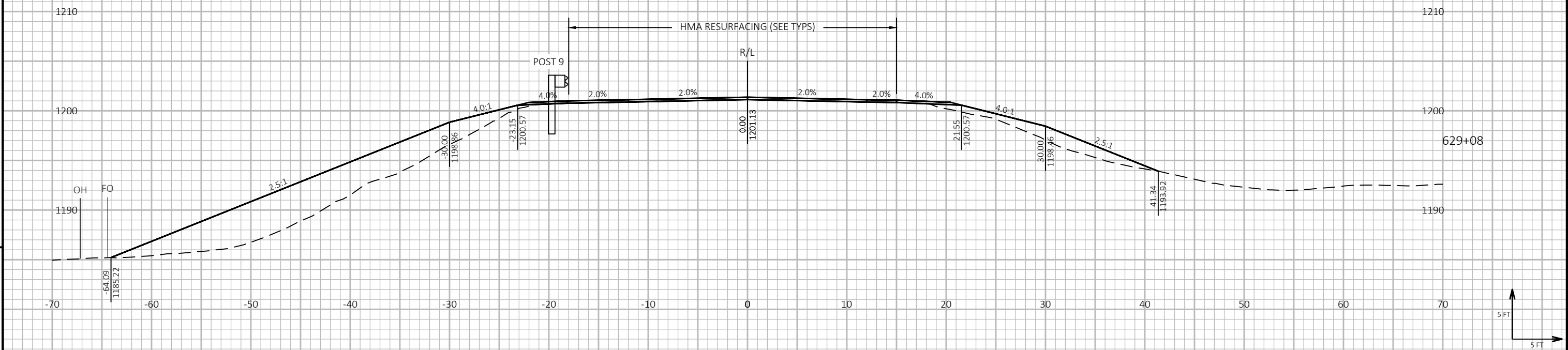
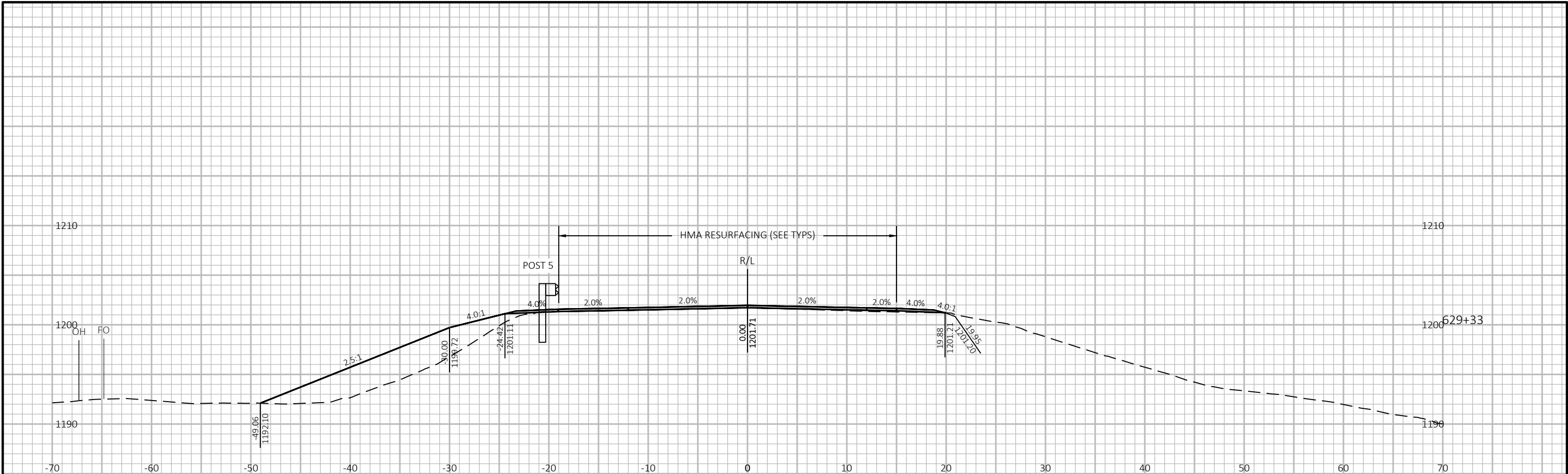
PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

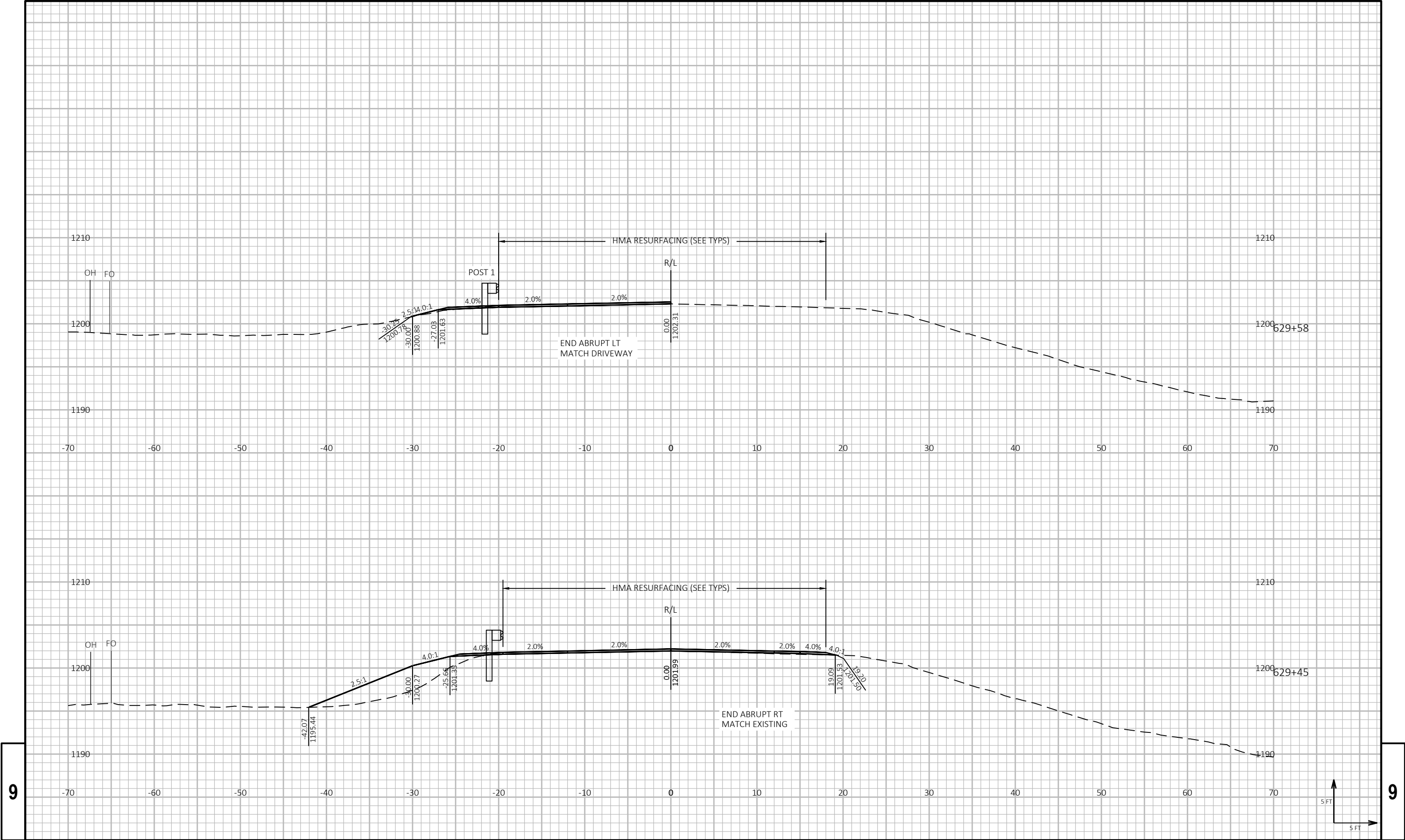
WISDOT/CADD SHEET 49











PROJECT NO: 8820-00-70

HWY: STH 48

COUNTY: POLK

CROSS SECTIONS: GUARDRAIL - WEST OF CTH E

SHEET

299

E

FILE NAME : P:\55XX\5508.DP.22.STH35-48.PLK\CADD\88200070\090205-XS-WEST OF CTH E.DWG  
LAYOUT NAME - 18

PLOT DATE : 4/9/2026 12:25 PM

PLOT BY : PARKER TISCHAUSER

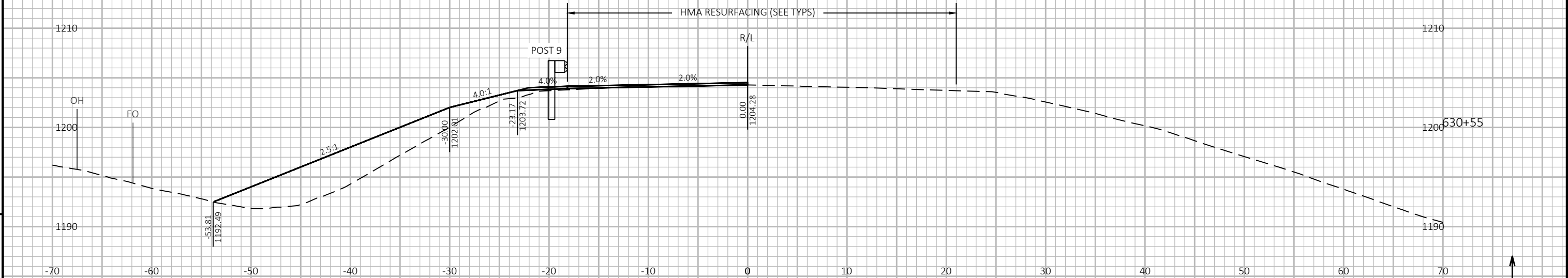
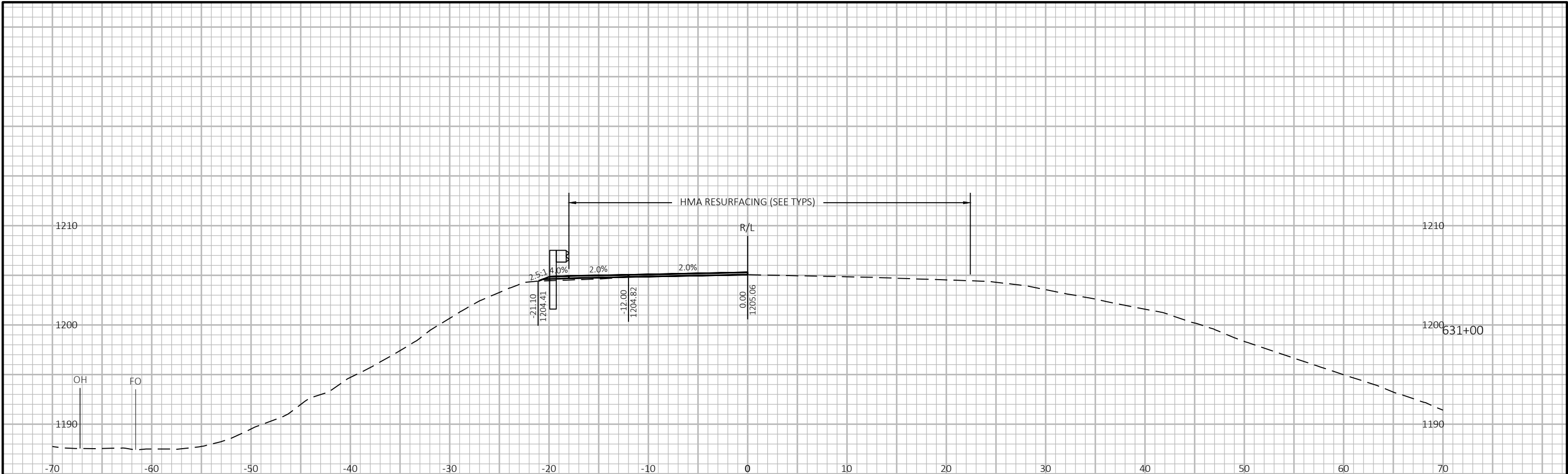
PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADD SHEET 49

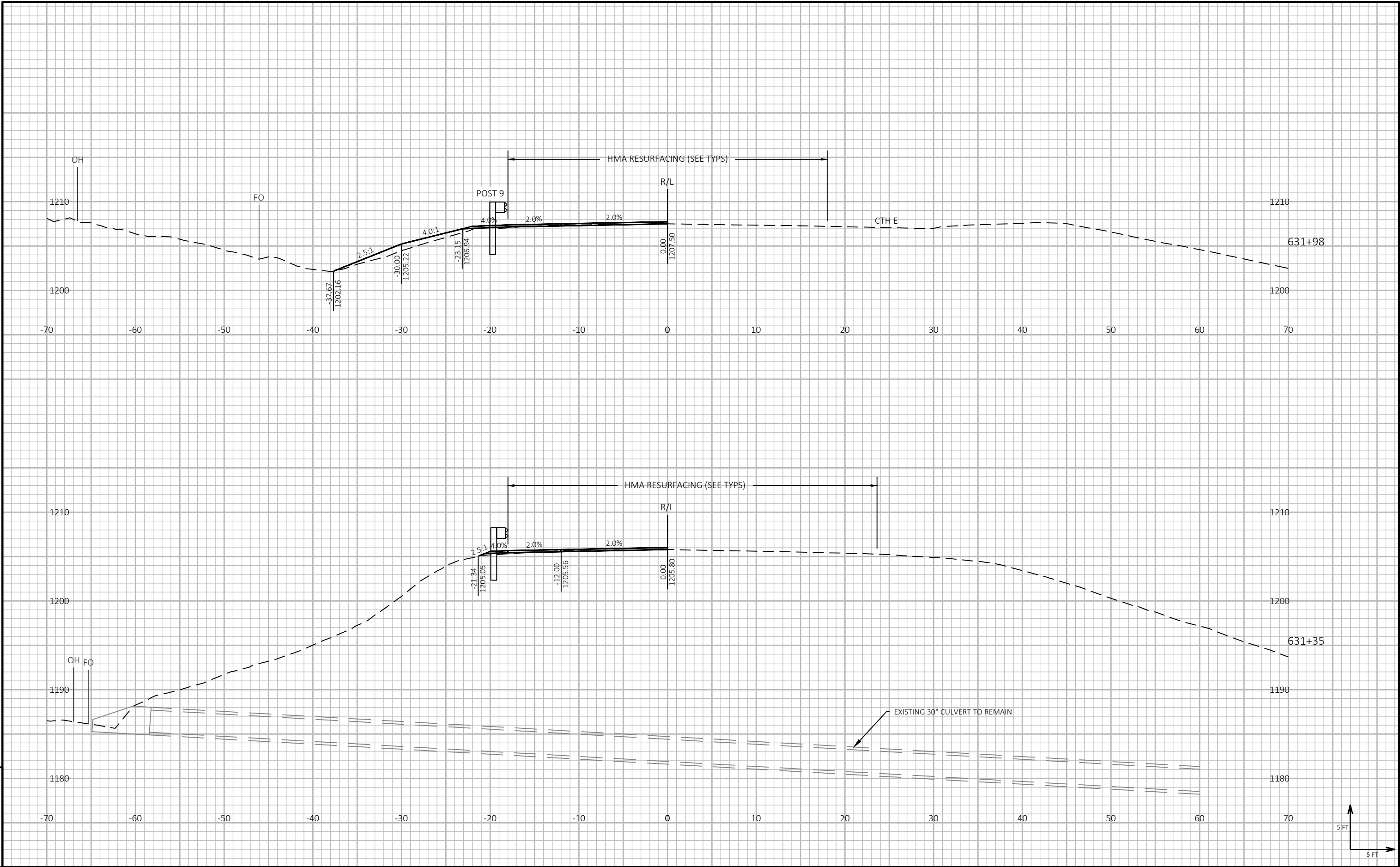






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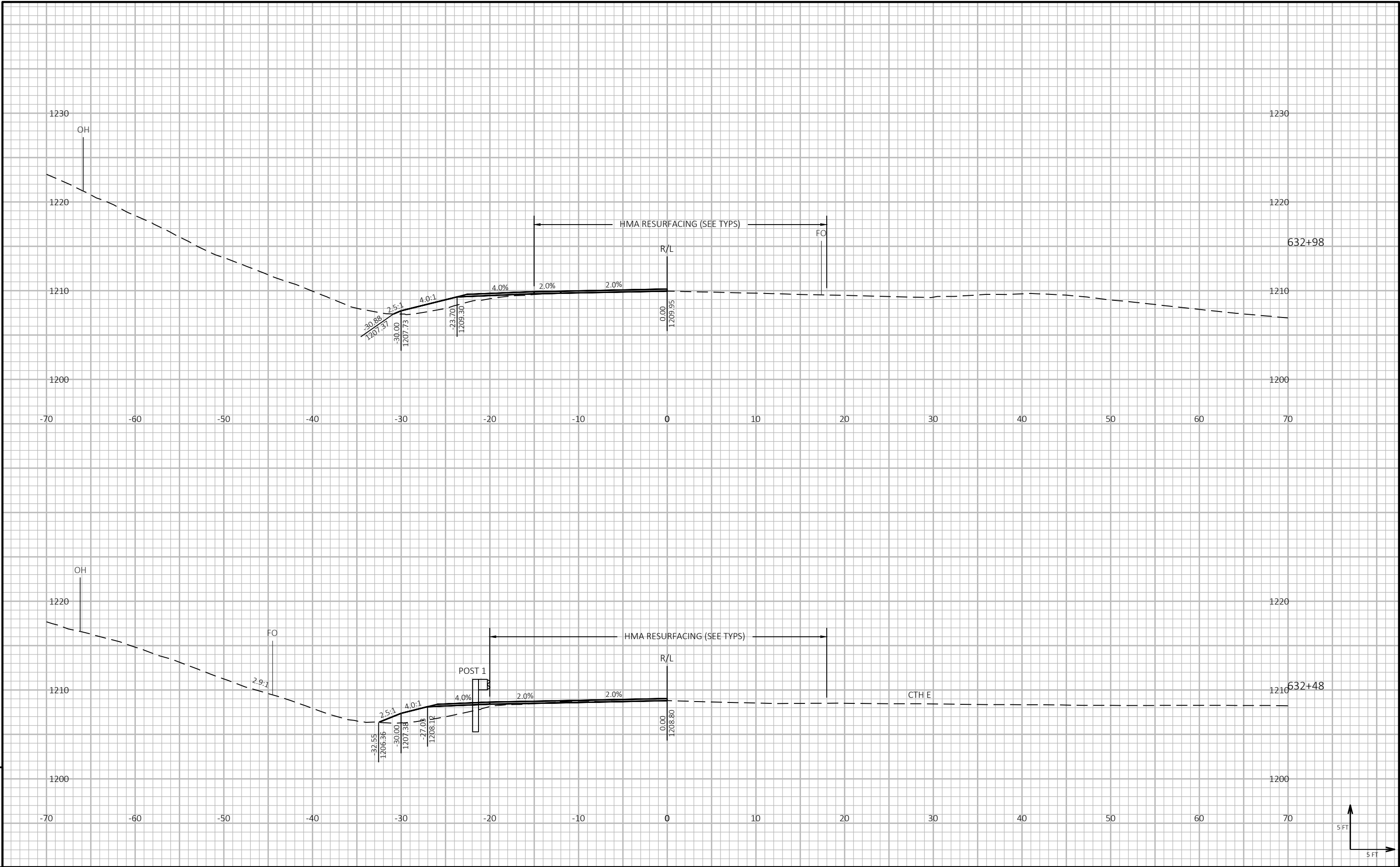
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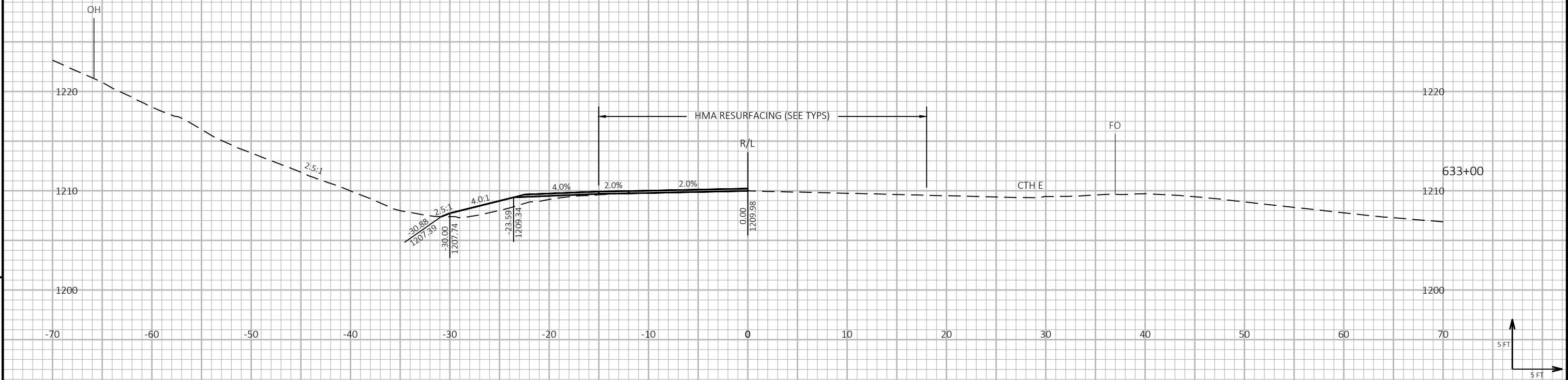
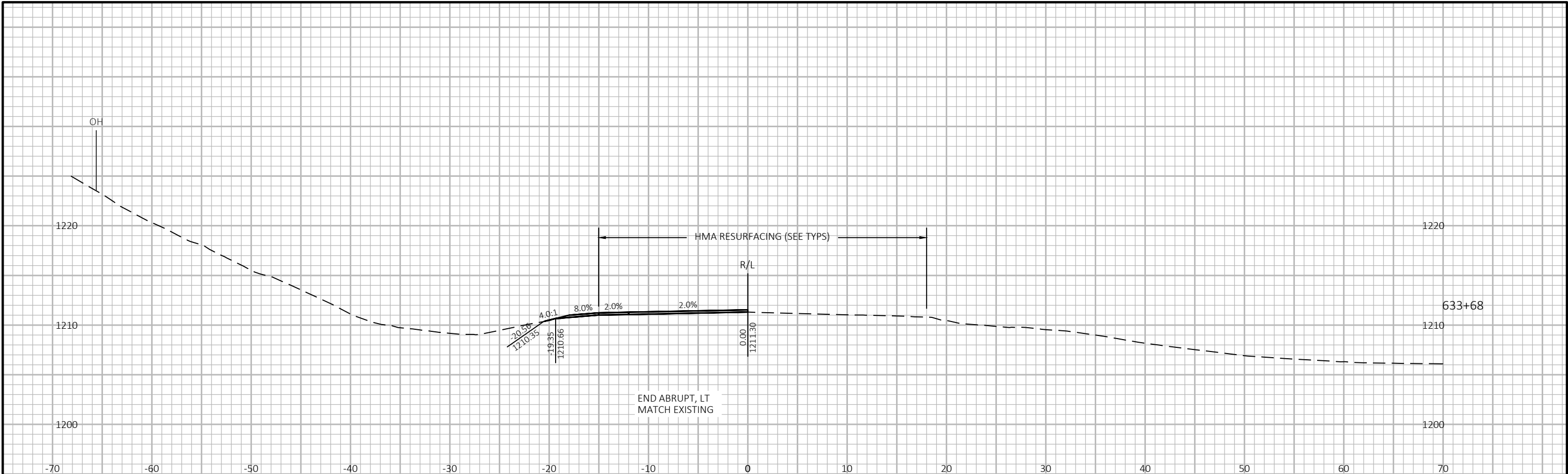
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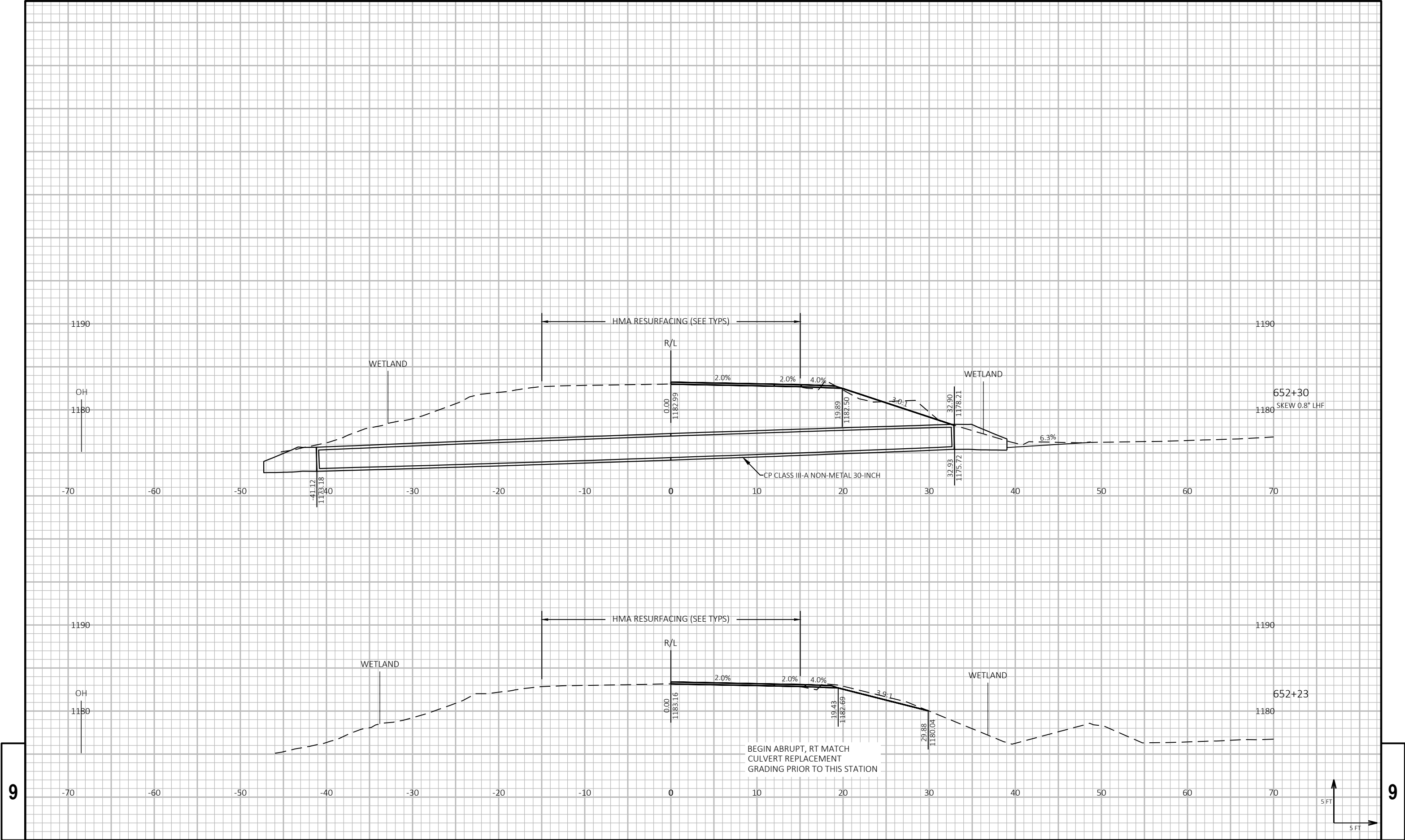




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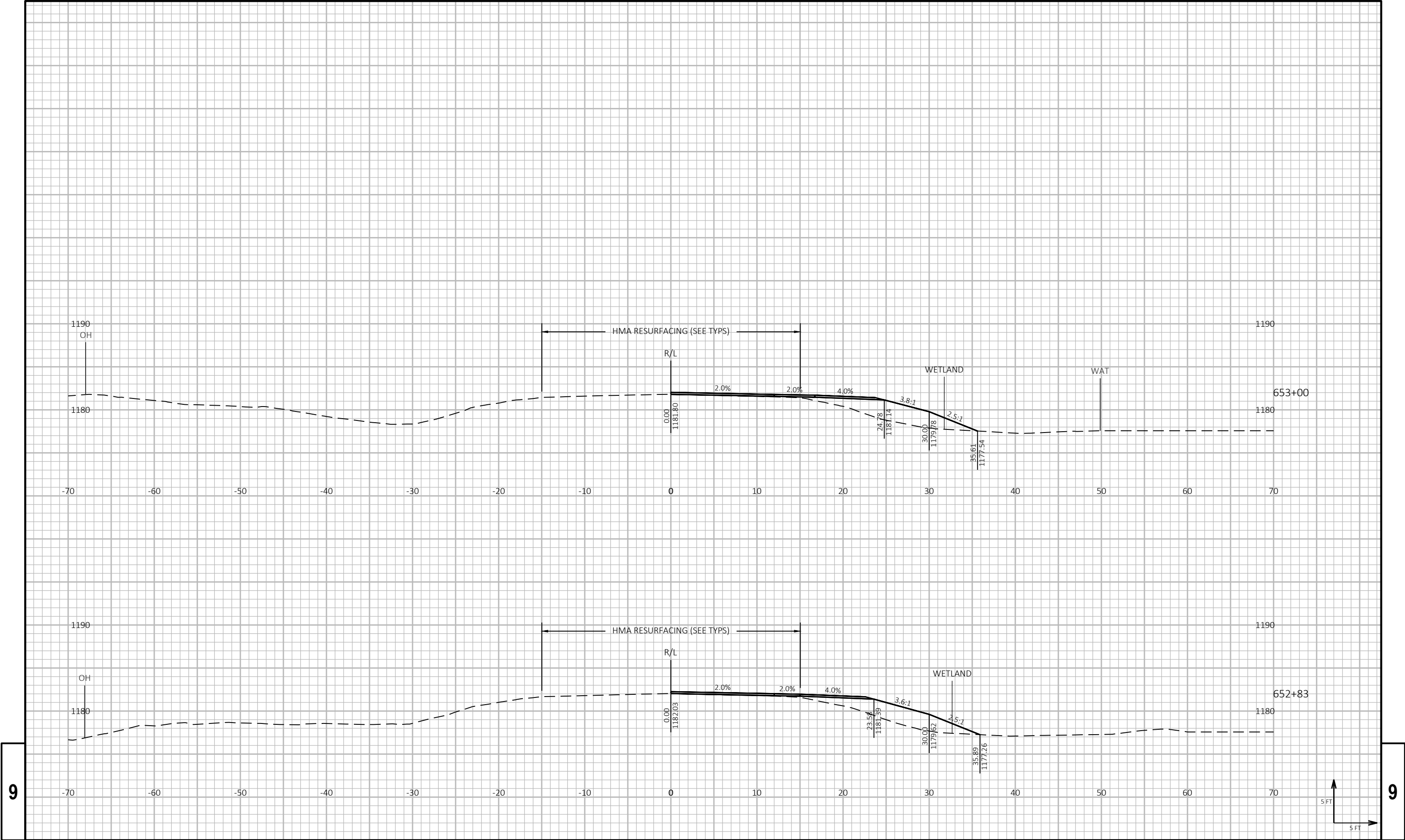




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PROJECT NO: 8820-00-70

HWY: STH 48

COUNTY: POLK

CROSS SECTIONS: GUARDRAIL - BASS LAKE LANE

SHEET

307

E

FILE NAME : P:\55XX\5508.DP.22.STH35-48.PLK\CADD\88200070\090206-XS-BASS LAKE LANE.DWG  
LAYOUT NAME - 02

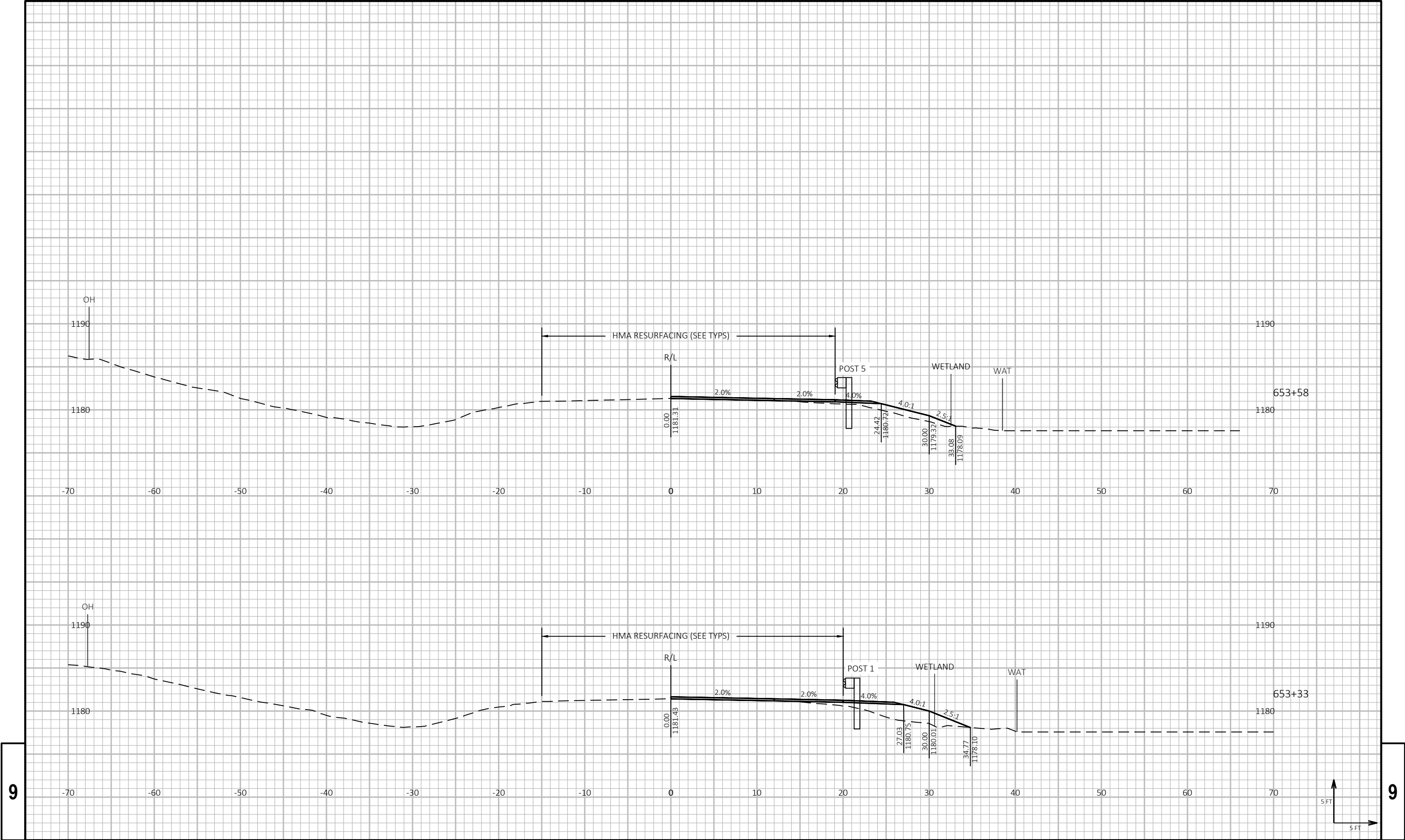
PLOT DATE : 4/9/2026 12:19 PM

PLOT BY : PARKER TISCHAUSER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

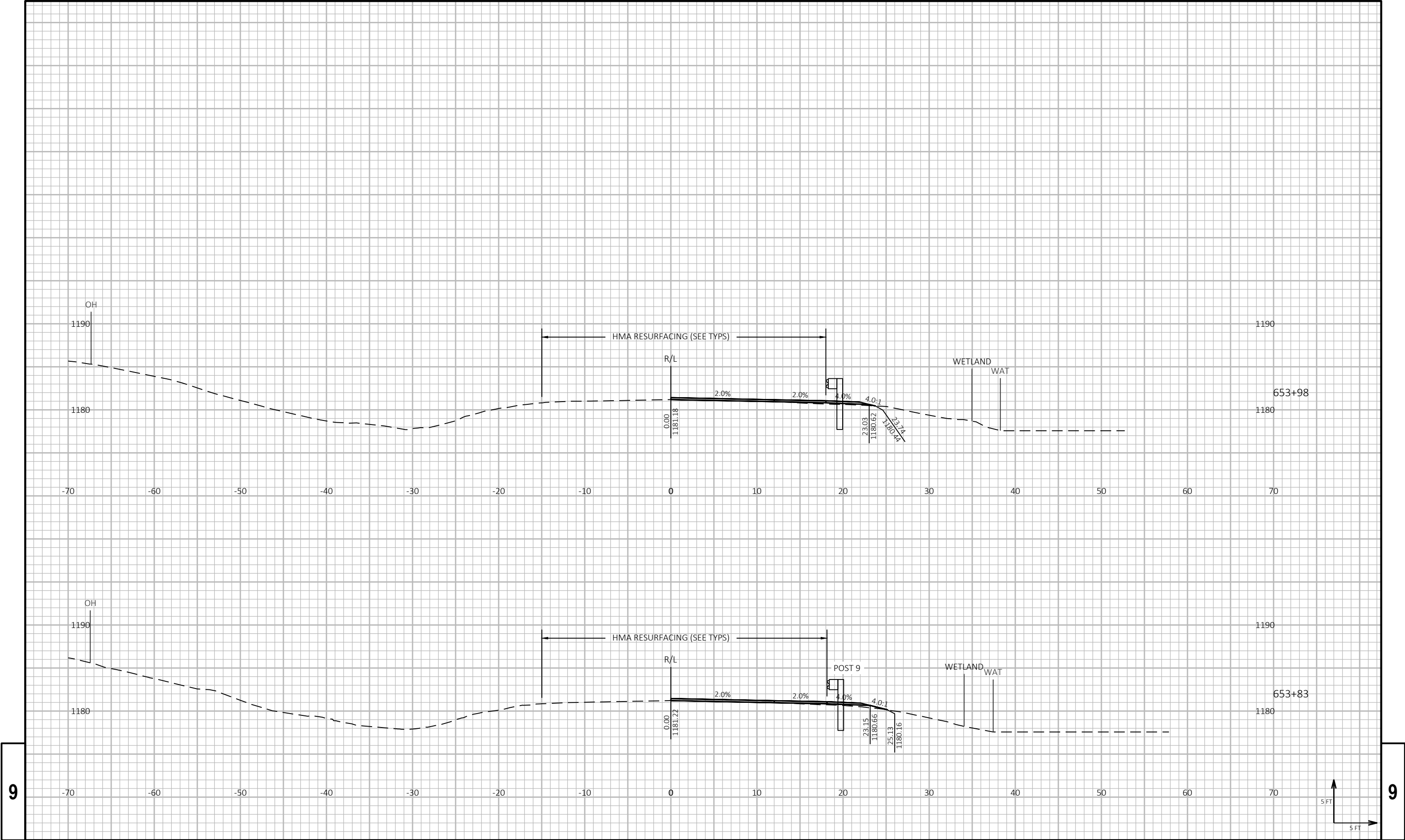
WISDOT/CADD SHEET 49



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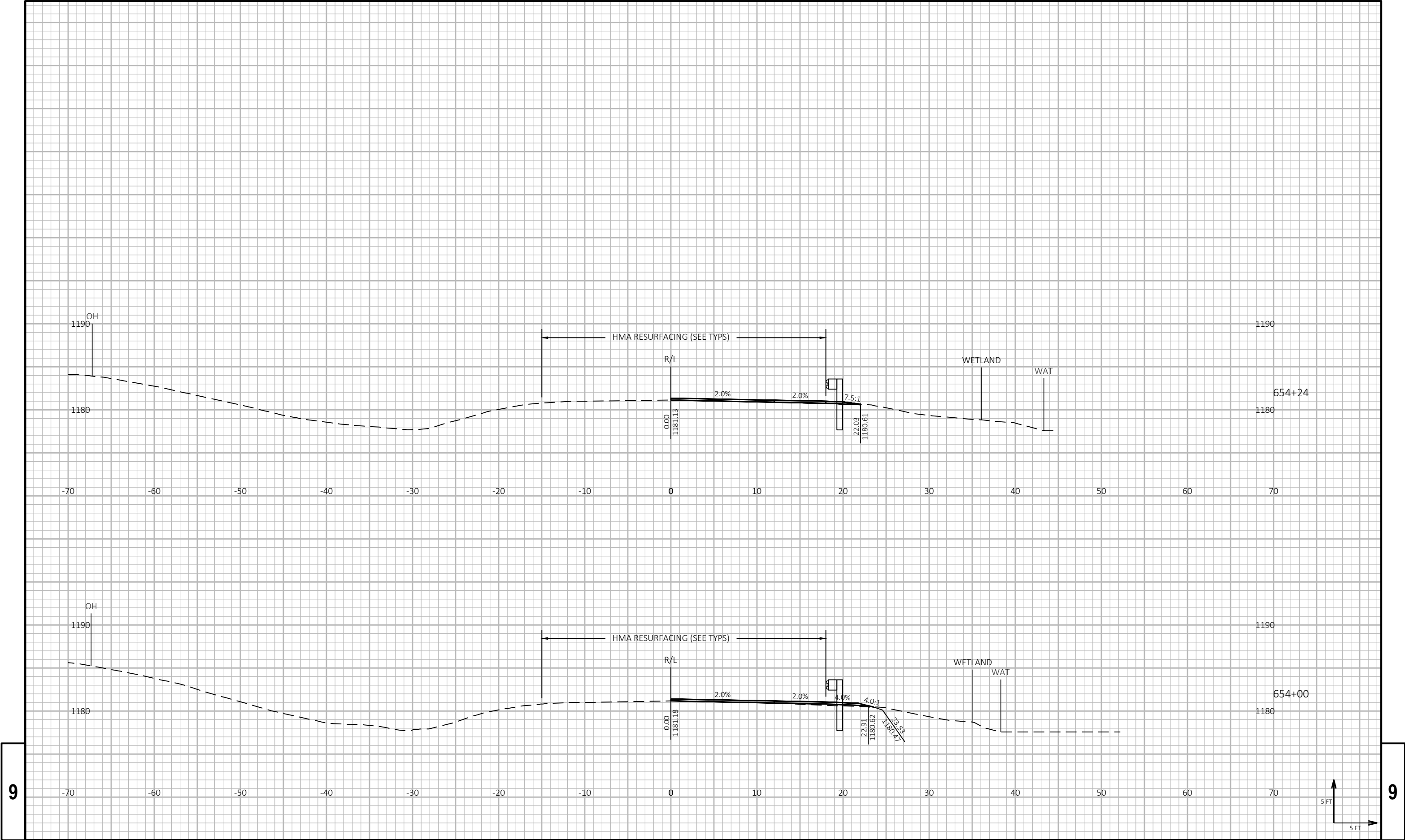
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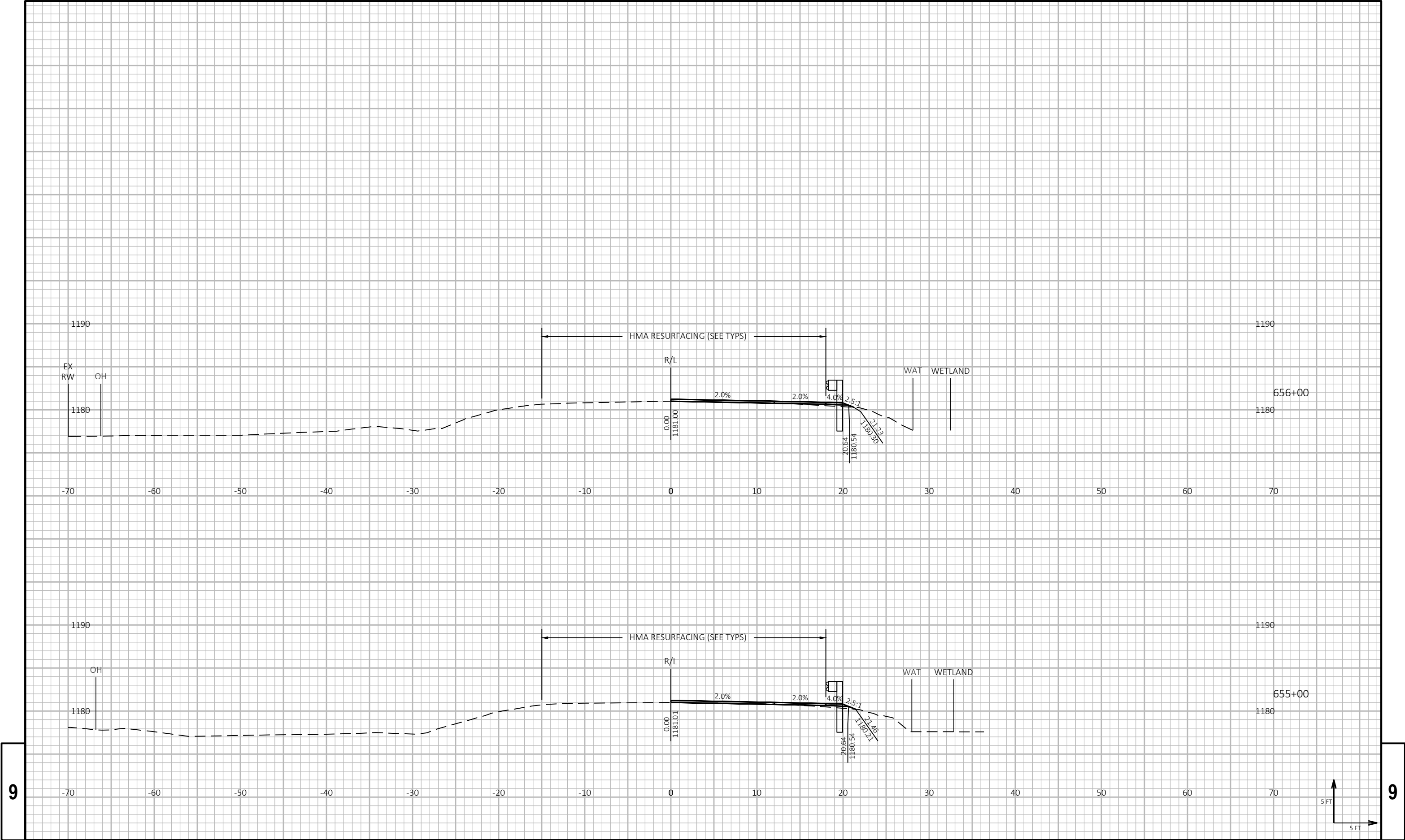
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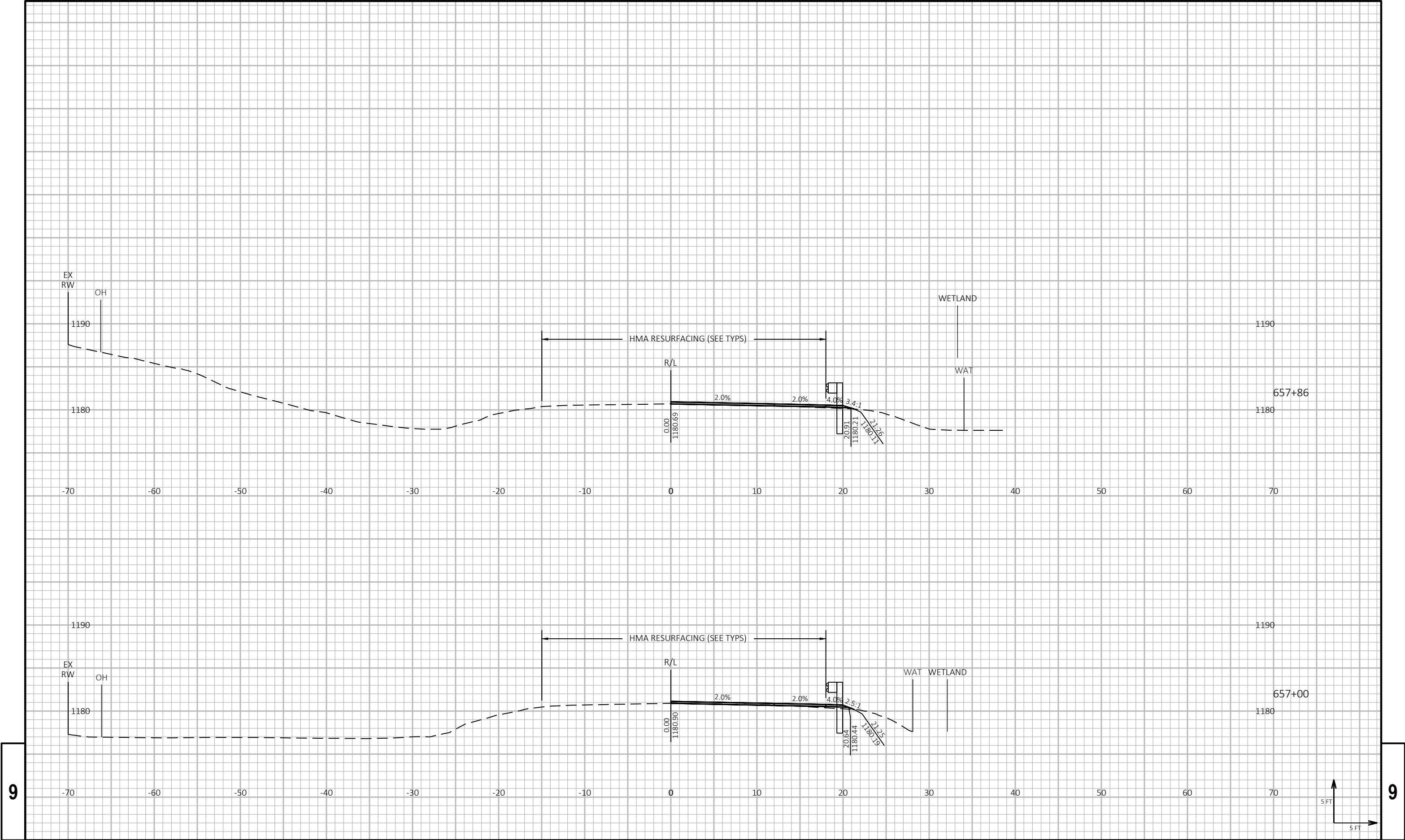
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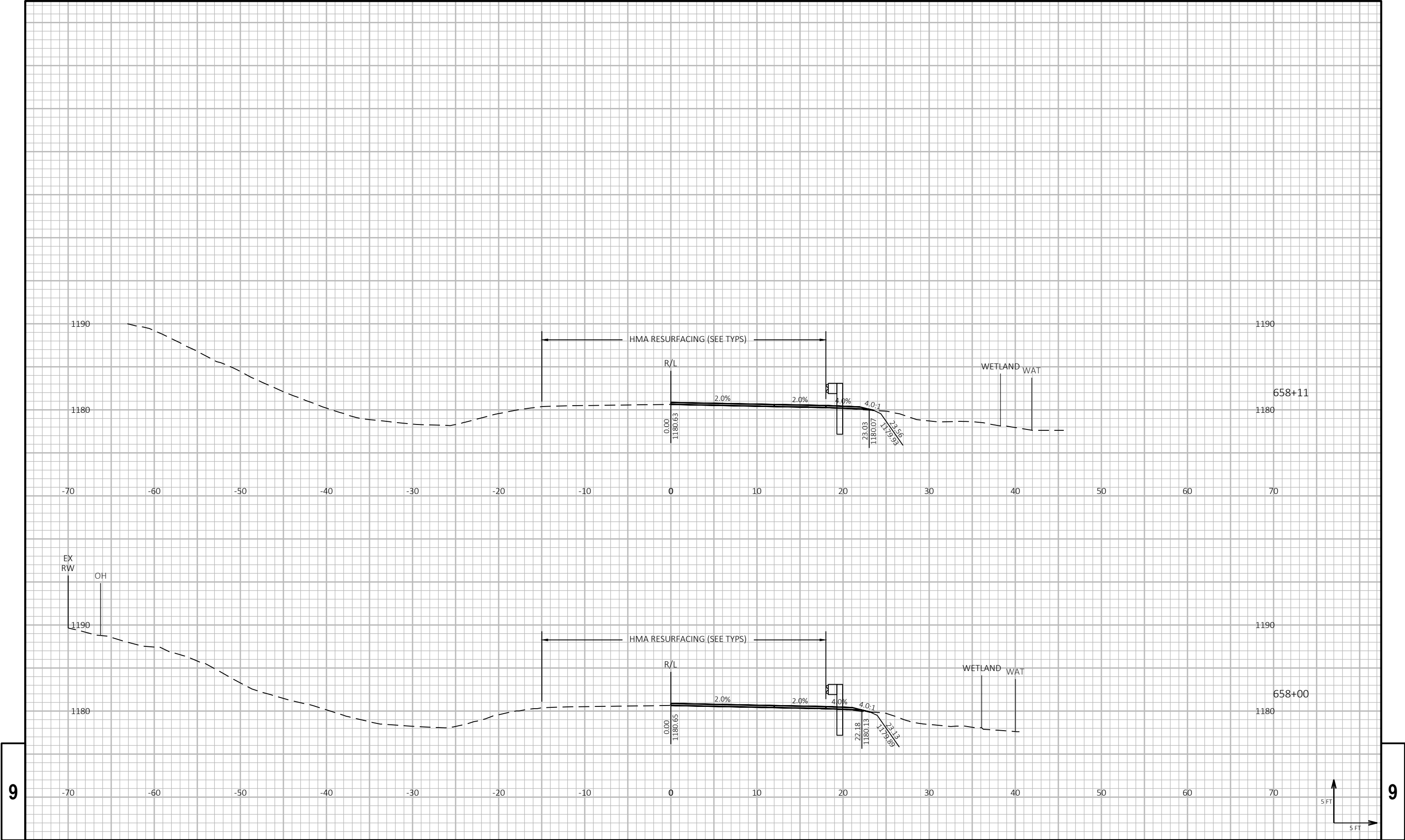
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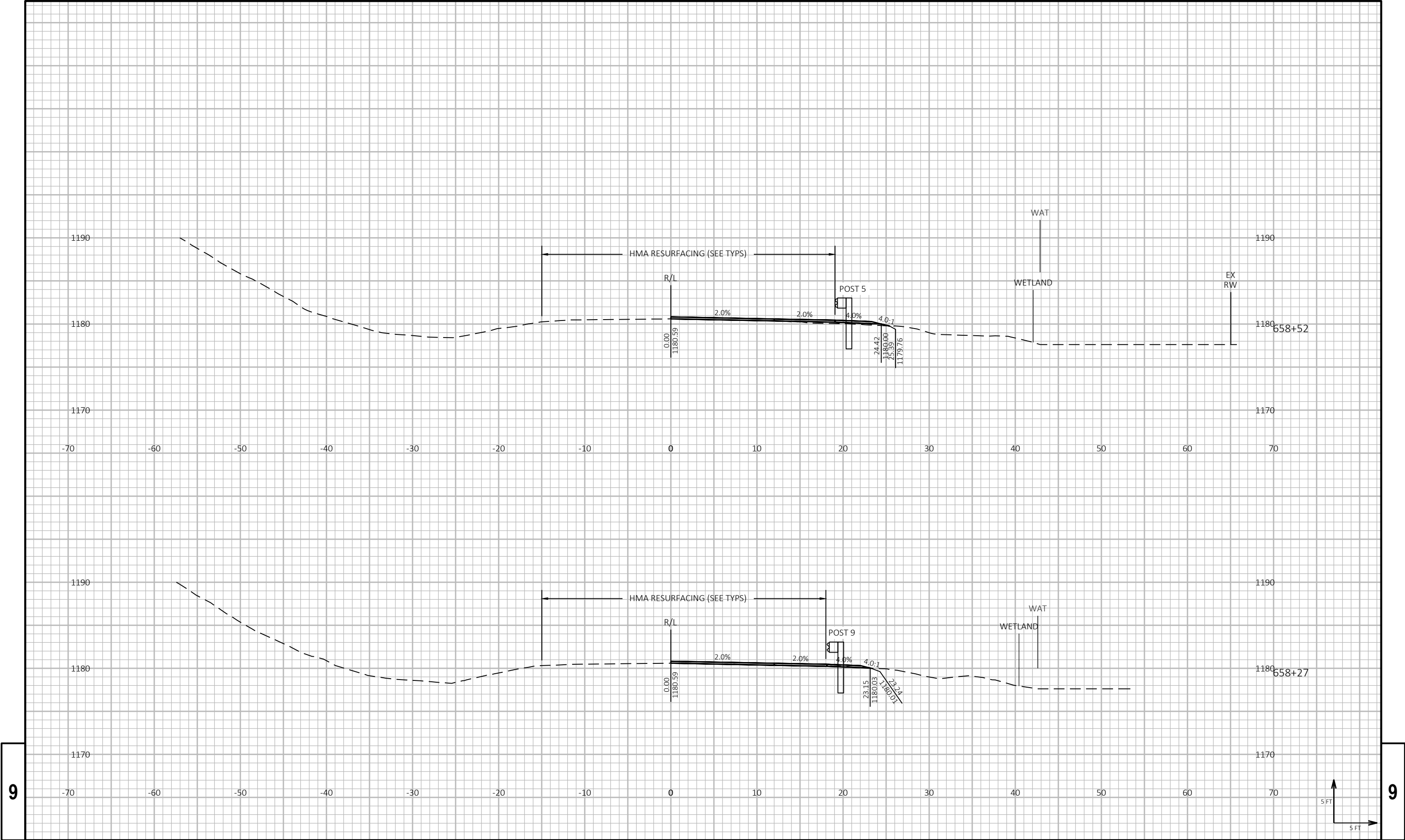
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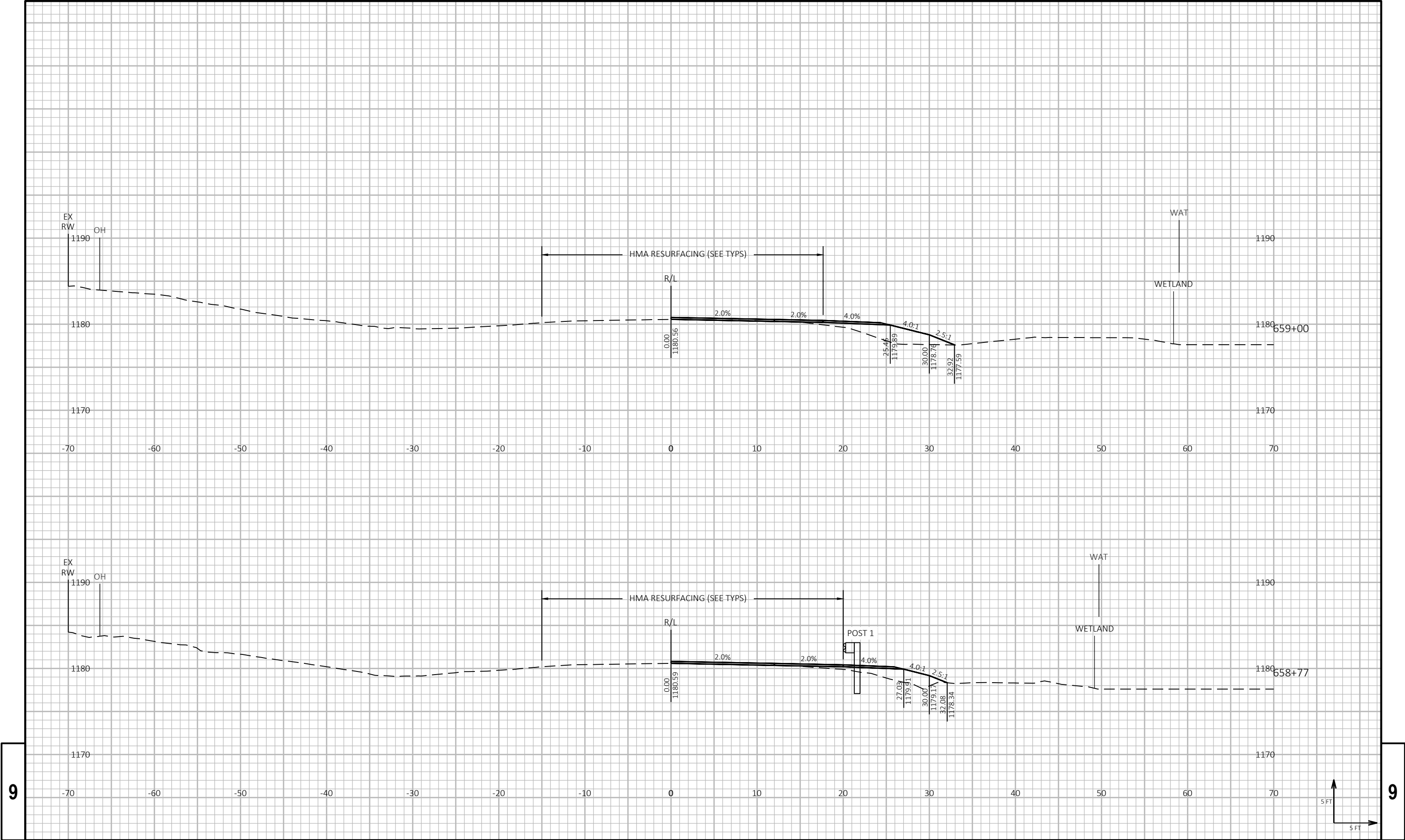
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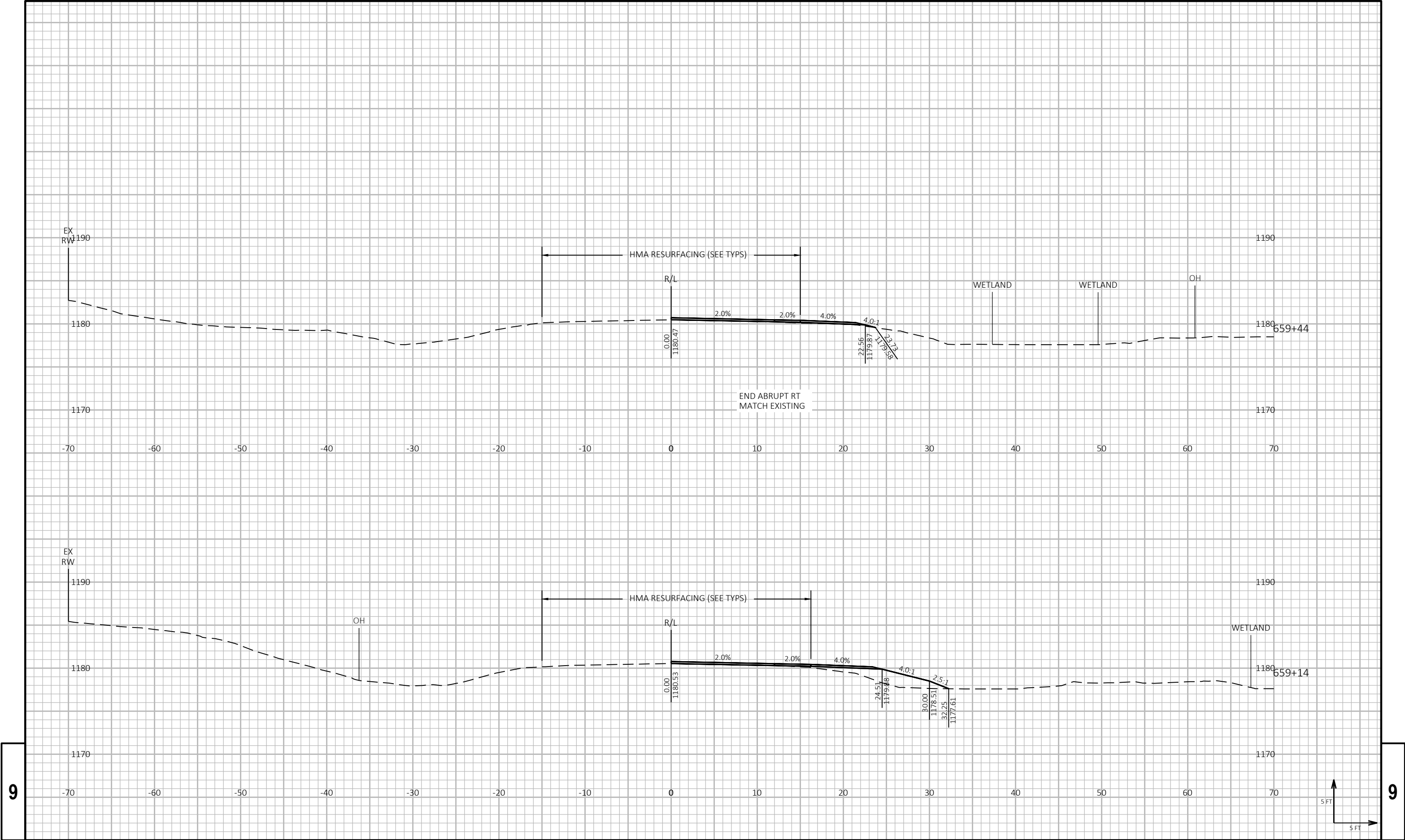
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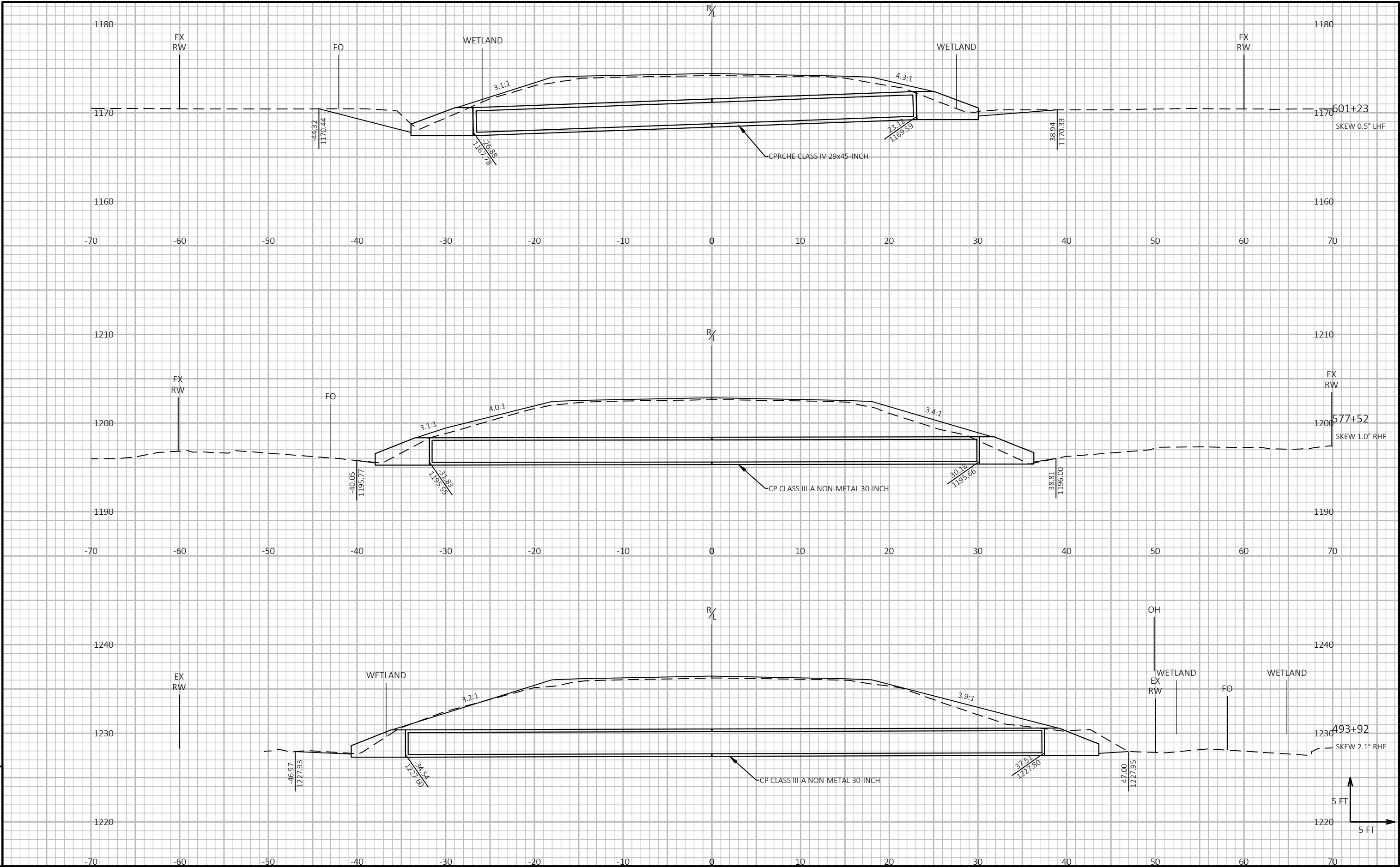
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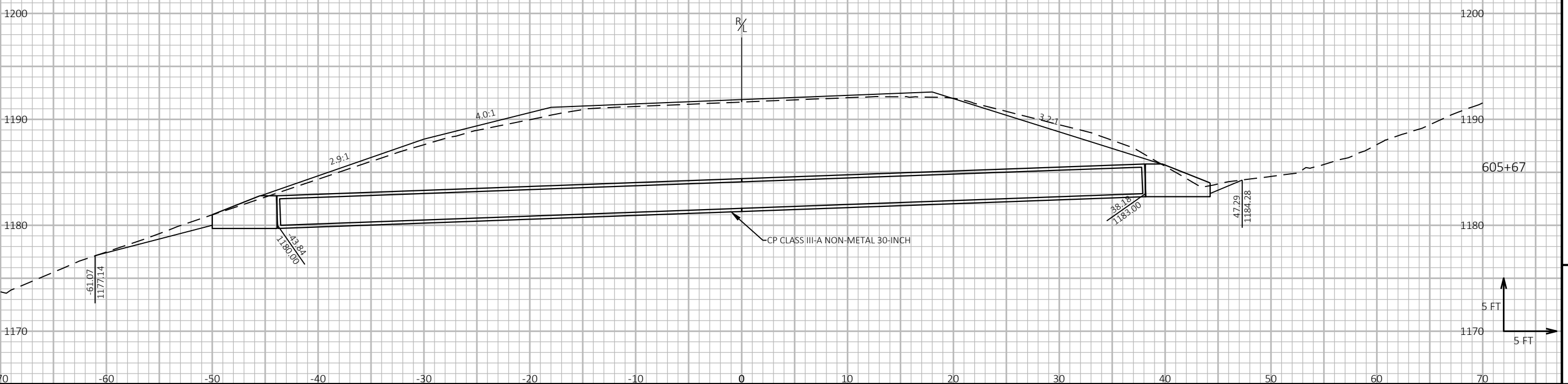
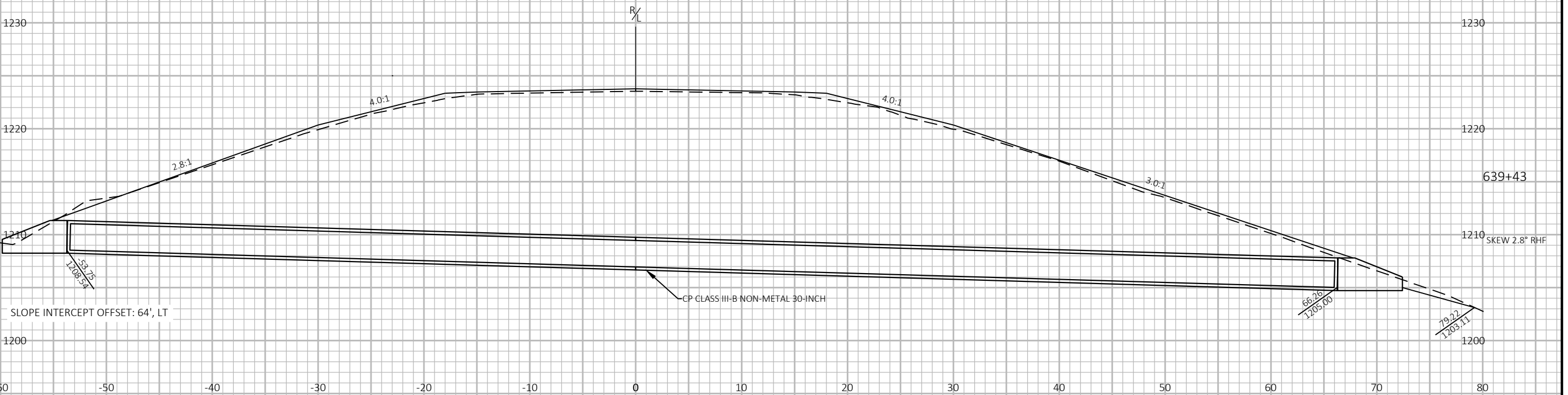




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**NOTE:**  
SEE CROSS SECTION: GUARDRAIL - BASS LAKE LANE  
FOR CULVERT AT STA 652+30



PROJECT NO: 8820-00-70

HWY: STH 48

COUNTY: POLK

CROSS SECTIONS: CULVERT REPLACEMENTS

SHEET 320

FILE NAME : P:\55XX\5508.DP.22.STH35-48.PLK\CADDS\88200070\SHEETS\090207-XS-CULVERT REPLACEMENTS.DWG  
LAYOUT NAME - 04

PLOT DATE : 4/9/2026 12:20 PM

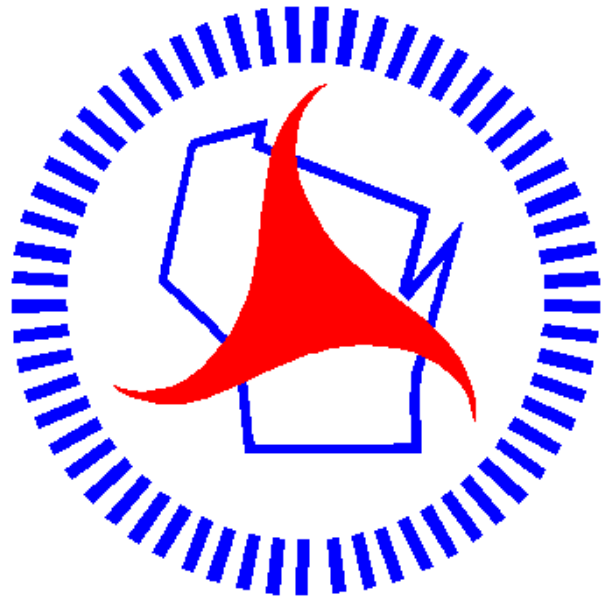
PLOT BY : PARKER TISCHAUSER

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

## Notes



## *Wisconsin Department of Transportation*

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