

SUP
PROJECT ID:
WITH: N/A

1560-00-75

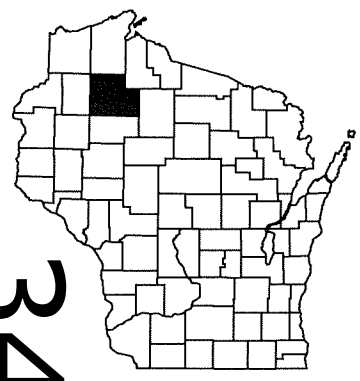
COUNTY:
SAWYER

DECEMBER 2022

ORDER OF SHEETS

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

TOTAL SHEETS = 56



34

DESIGN DESIGNATION

| | | | |
|--------------|------|---|-----------|
| A.A.D.T. | 2023 | = | 11,760 |
| A.A.D.T. | 2043 | = | 12,810 |
| D.H.V. | | = | 640 |
| D.D. | | = | 63/37 |
| T. | | = | 7.8 % |
| DESIGN SPEED | | = | 30 MPH |
| ESALS | | = | 2,500,000 |

CONVENTIONAL SYMBOLS

| PLAN | PROFILE |
|-----------------------------------|--|
| CORPORATE LIMITS | GRADE LINE |
| PROPERTY LINE | ORIGINAL GROUND |
| LOT LINE | MARSH OR ROCK PROFILE (To be noted as such) |
| LIMITED HIGHWAY EASEMENT | SPECIAL DITCH |
| EXISTING RIGHT OF WAY | GRADE ELEVATION |
| PROPOSED OR NEW R/W LINE | CULVERT (Profile View) |
| SLOPE INTERCEPT | UTILITIES |
| REFERENCE LINE | ELECTRIC |
| EXISTING CULVERT | FIBER OPTIC |
| PROPOSED CULVERT (Box or Pipe) | GAS |
| COMBUSTIBLE FLUIDS | SANITARY SEWER |
| MARSH AREA | STORM SEWER |
| WOODED OR SHRUB AREA | TELEPHONE |
| | WATER |
| | UTILITY PEDESTAL |
| | POWER POLE |
| | TELEPHONE POLE |

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

C HAYWARD, FIRST STREET

SMITH LAKE CREEK CULVERT

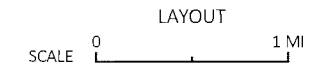
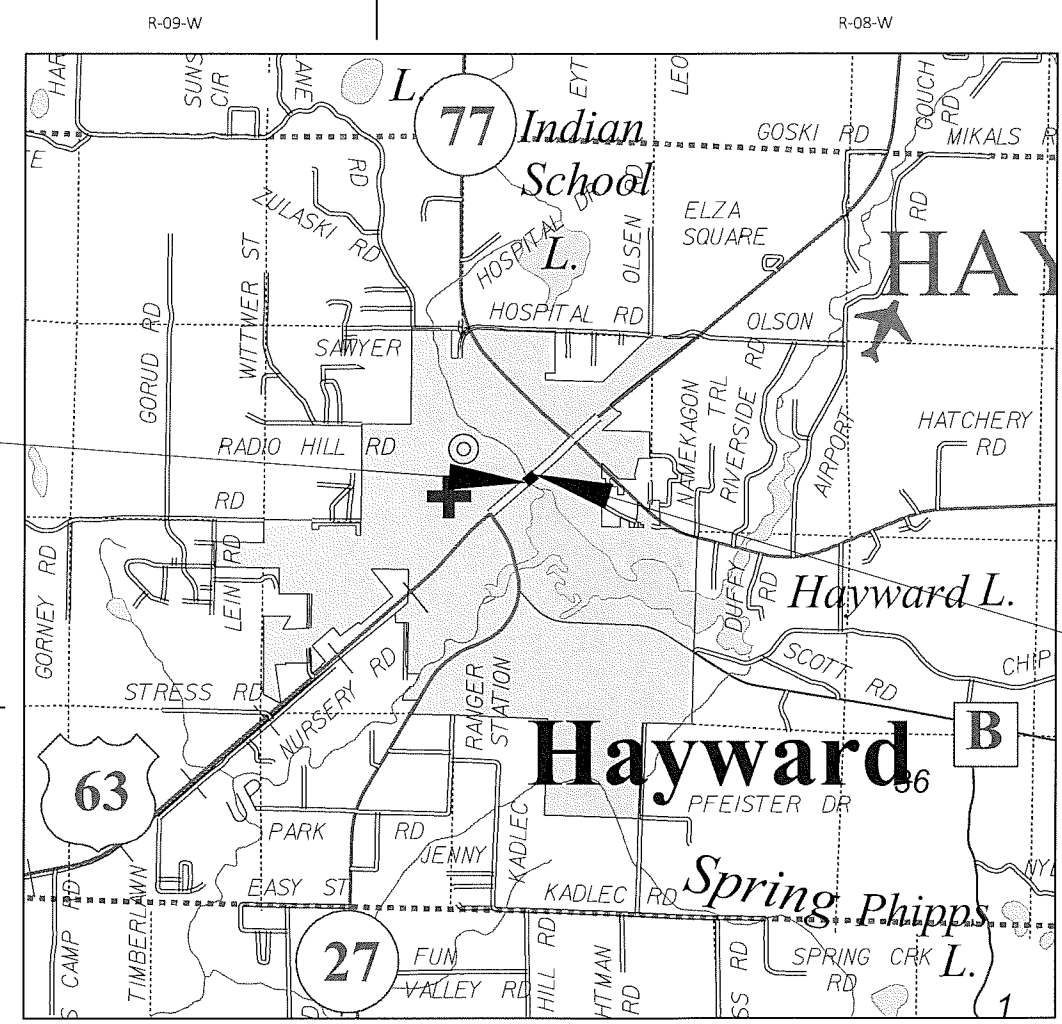
USH 63

SAWYER COUNTY

STATE PROJECT NUMBER
1560-00-75

BEGIN PROJECT
STA 999+58.59
Y = 438,397.893
X = 618,504.572

END PROJECT
STA 1000+47.96



TOTAL NET LENGTH OF CENTERLINE = 0.017 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), SAWYER 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 |
| 1560-00-75 | WISC 2023118 | 1 |
| | | |
| | | |

ORIGINAL PLANS PREPARED BY



DATE: 7/21/2022
Tara L. Krista
(Professional Engineer Signature)

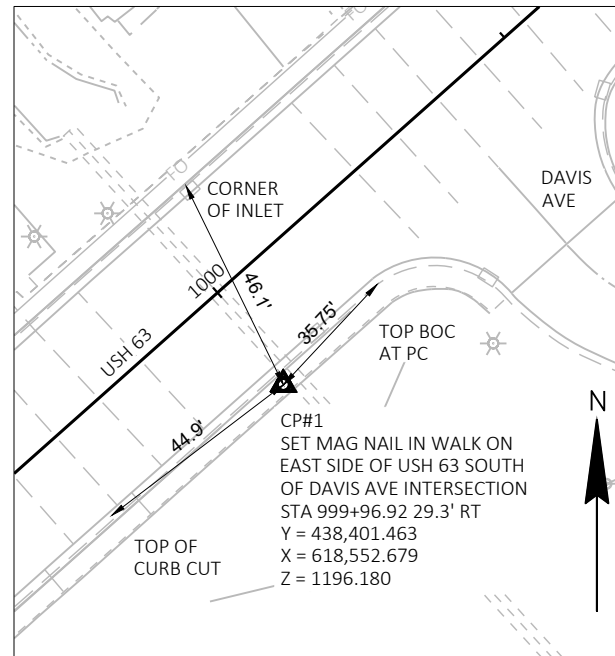
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

| | |
|---------------------|---------------------|
| PREPARED BY | SEH/WISDOT |
| Surveyor | SEH |
| Designer | PHILLIP KEPPERS |
| Project Manager | REGIONAL EXAMINER |
| Regional Examiner | REGIONAL SUPERVISOR |
| Regional Supervisor | |

APPROVED FOR THE DEPARTMENT
DATE: 7/21/2022
Philip Keppers
(Signature)

E

CONTROL TIES



GENERAL NOTES

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

WHEN THE QUANTITY OF BASE AGGREGATE IS MEASURED FOR PAYMENT BY THE TON, THE DEPTH OR THICKNESS OF THE LAYER SHOWN ON THE PLANS IS APPROXIMATE AND THE ACTUAL THICKNESS WILL DEPEND ON THE DISTRIBUTION OF THE MATERIAL AS DIRECTED BY THE ENGINEER.

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

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

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, ARE TO BE 4-INCH SALVAGED TOPSOILED, SEEDED, TEMPORARY SEEDED, FERTILIZED, AND EMATTED AS SHOWN ON THE TYPICAL SECTIONS. FINISHED SEEDED SURFACE SHALL BE 1-INCH BELOW THE TOP OF ADJACENT CONCRETE.

A VERTICAL SAWCUT SHALL BE MADE THROUGH EXISTING PAVEMENTS AT REMOVAL LIMITS.

ALL PAVEMENT DIMENSIONS AND STATIONS ARE SHOWN TO THE EDGE OF PAVEMENT UNLESS NOTED OTHERWISE.

UTILITY CONTACTS

CITY OF HAYWARD W&S - SEWER
 15889 W. 3RD STREET
 HAYWARD, WI 54843
 TELEPHONE: 715.634.4312, 715.699.4612 (MOBILE)
 ATTENTION: JOHN MCCUE
 EMAIL: PW3@CENTURYTEL.NET

CITY OF HAYWARD W&S - WATER
 15889 W. 3RD STREET
 HAYWARD, WI 54843
 TELEPHONE: 715.634.4312, 715.699.4612 (MOBILE)
 ATTENTION: JOHN MCCUE
 EMAIL: PW3@CENTURYTEL.NET

WE ENERGIES - GAS/PETROLEUM
 104 W. SOUTH ST.
 RICE LAKE, WI 54868
 TELEPHONE: 715-234-9605, 715-213-4327 (MOBILE)
 ATTENTION: STEVEN CHAVERS
 EMAIL: STEVEN.CHAVERS@WE-ENERGIES.COM

XCEL ENERGY - ELECTRICITY
 2400 FARM RD
 ASHLAND, WI 54806
 TELEPHONE: 715.209.3071 (MOBILE)
 ATTENTION: MURRAY SMERER
 EMAIL: MURRAYSMERER@GMAIL.COM



Dial 811 or (800)242-8511

www.DiggersHotline.com

WISDOT CONTACTS
 1701 NORTH 4TH STREET
 SUPERIOR, WI 54880
 TELEPHONE: 715.395.3027
 ATTENTION: PHILIP KEPPERS
 EMAIL: PHILIP.KEPPERS@DOT.WI.GOV

NWR ELECTRICAL FIELD UNIT (UTILITIES)
 TELEPHONE: 715 577-5399

DESIGN CONTACT
 10 NORTH BRIDGE STREET
 CHIPPEWA FALLS, WI 54729
 TELEPHONE: 715.720.6291
 ATTENTION: TARA KRISTA
 EMAIL: TKRISTA@SEHINC.COM

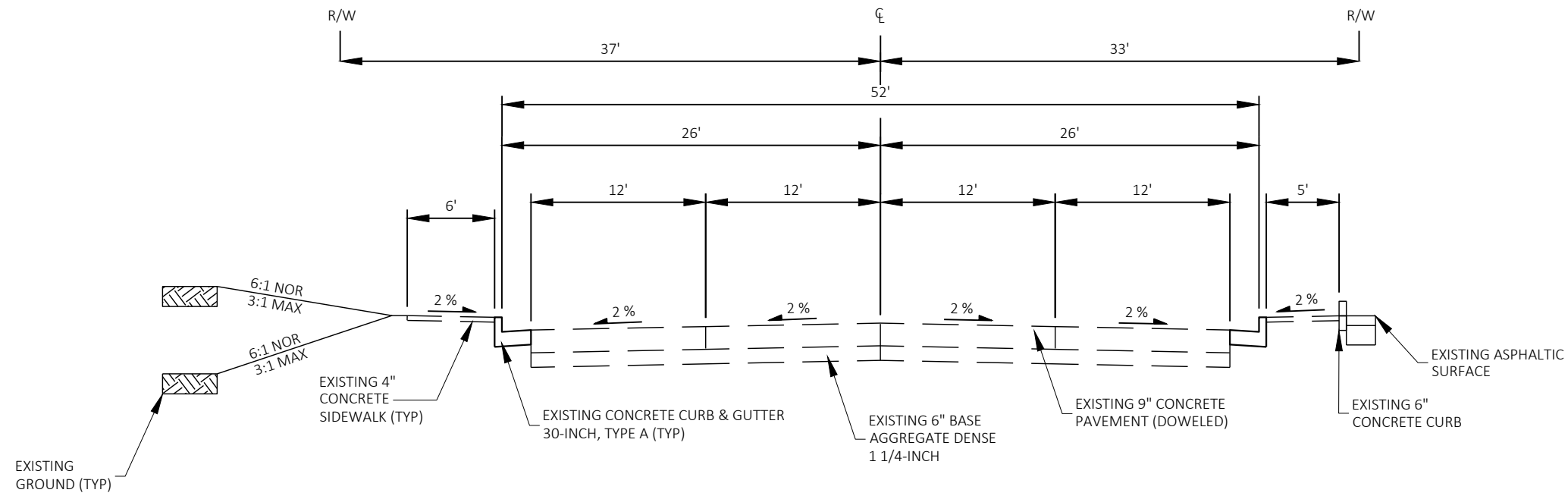
WDNR CONTACT
 DNR NORTHERN REGION HQ
 810 WEST MAPLE STREET
 SPOONER, WI 54801
 TELEPHONE: 715.635.4228
 ATTENTION: SHAWN HASELEU
 EMAIL: SHAWN.HASELEU@WISCONSIN.GOV

CITY CONTACT
 CITY OF HAYWARD
 15889 W. 3RD STREET
 P.O. BOX 969
 HAYWARD, WI 54843
 TELEPHONE: 715.634.4612
 ATTENTION: JOHN MCCUE
 EMAIL: PW3@CENTURYTEL.NET

RUNOFF COEFFICIENT TABLE

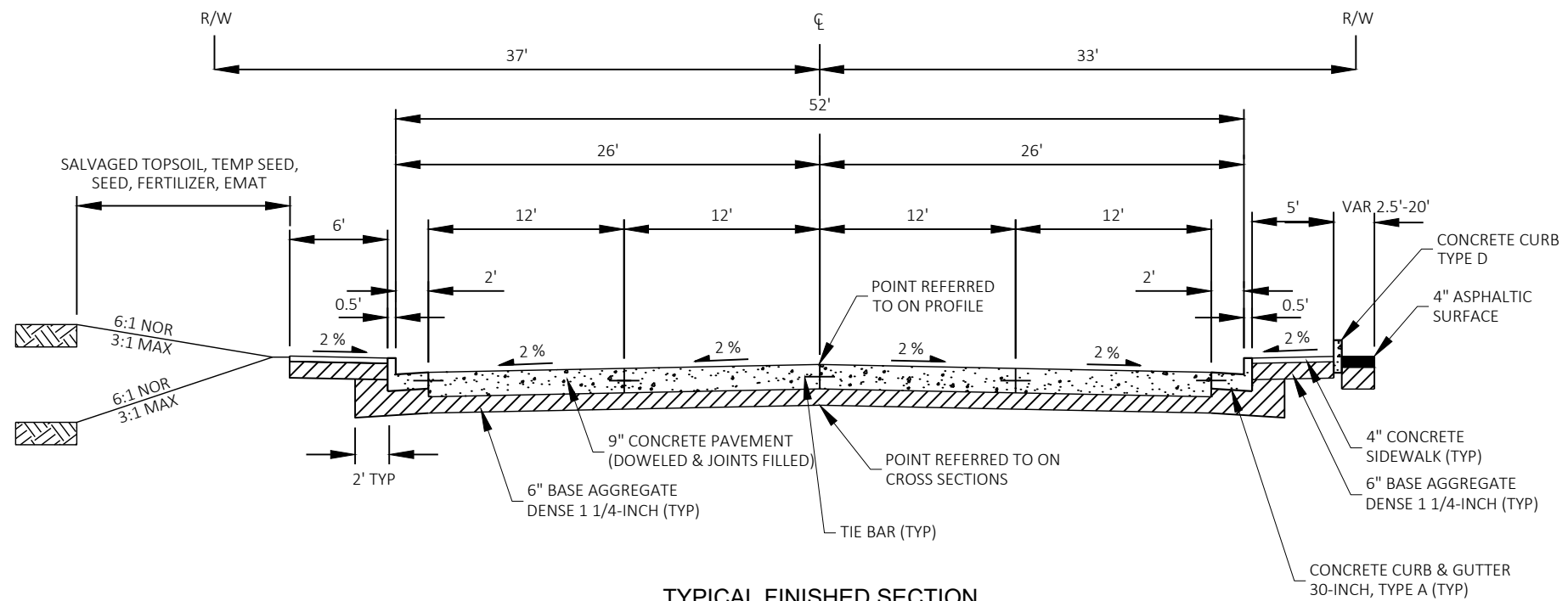
| | HYDROLOGIC SOIL GROUP | | | | | | | | | | | |
|-------------------------|-----------------------|-----|----------|-----------------------|-----|----------|-----------------------|-----|----------|-----------------------|-----|----------|
| | A | | | B | | | C | | | D | | |
| | SLOPE RANGE (PERCENT) | | | 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 | .16 | .22 | .12 | .20 | .27 | .15 | .24 | .33 | .19 | .28 | .38 |
| | .22 | .30 | .38 | .26 | .34 | .44 | .30 | .37 | .50 | .34 | .41 | .56 |
| MEDIAN STRIP-TURF | .19 | .20 | .24 | .19 | .22 | .26 | .20 | .23 | .30 | .20 | .25 | .30 |
| | .24 | .26 | .30 | .25 | .28 | .33 | .26 | .30 | .37 | .27 | .32 | .40 |
| SIDE SLOPE-TURF | | | .25 | | | .27 | | | .28 | | | .30 |
| | | | .32 | | | .34 | | | .36 | | | .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 = 0.3 ACRES
 TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0.2 ACRES



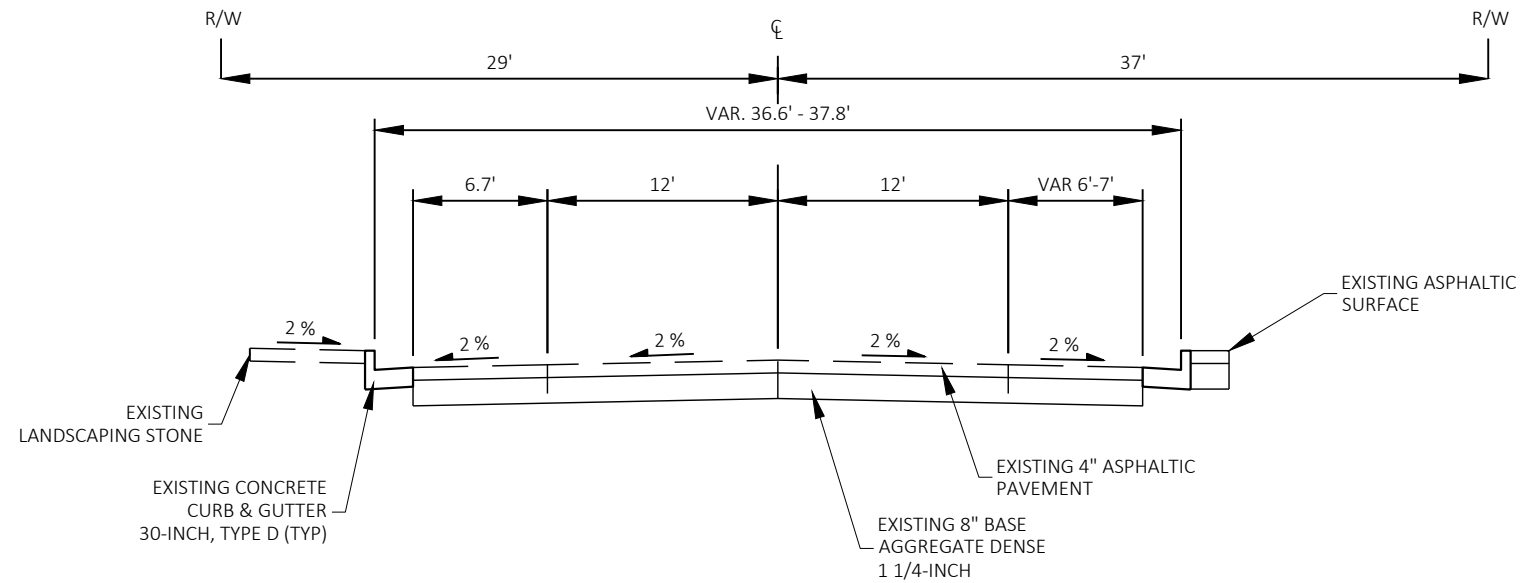
TYPICAL EXISTING SECTION

USH 63
STA 999+58.59 TO STA 1000+47.96



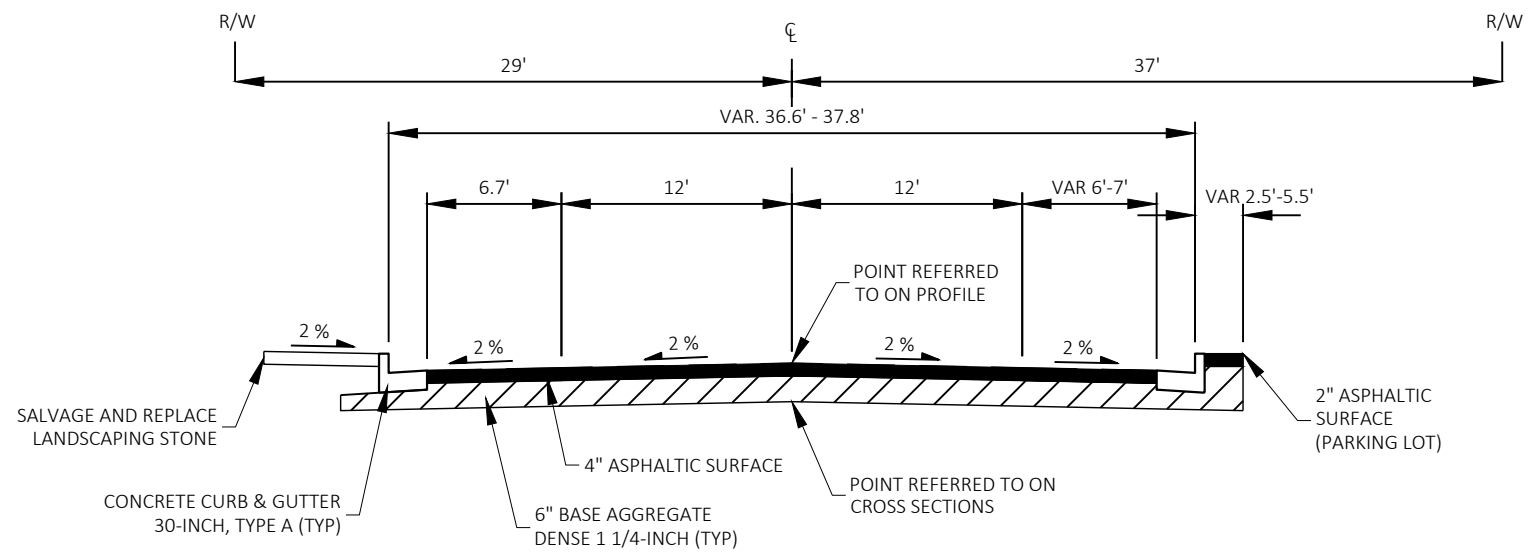
TYPICAL FINISHED SECTION

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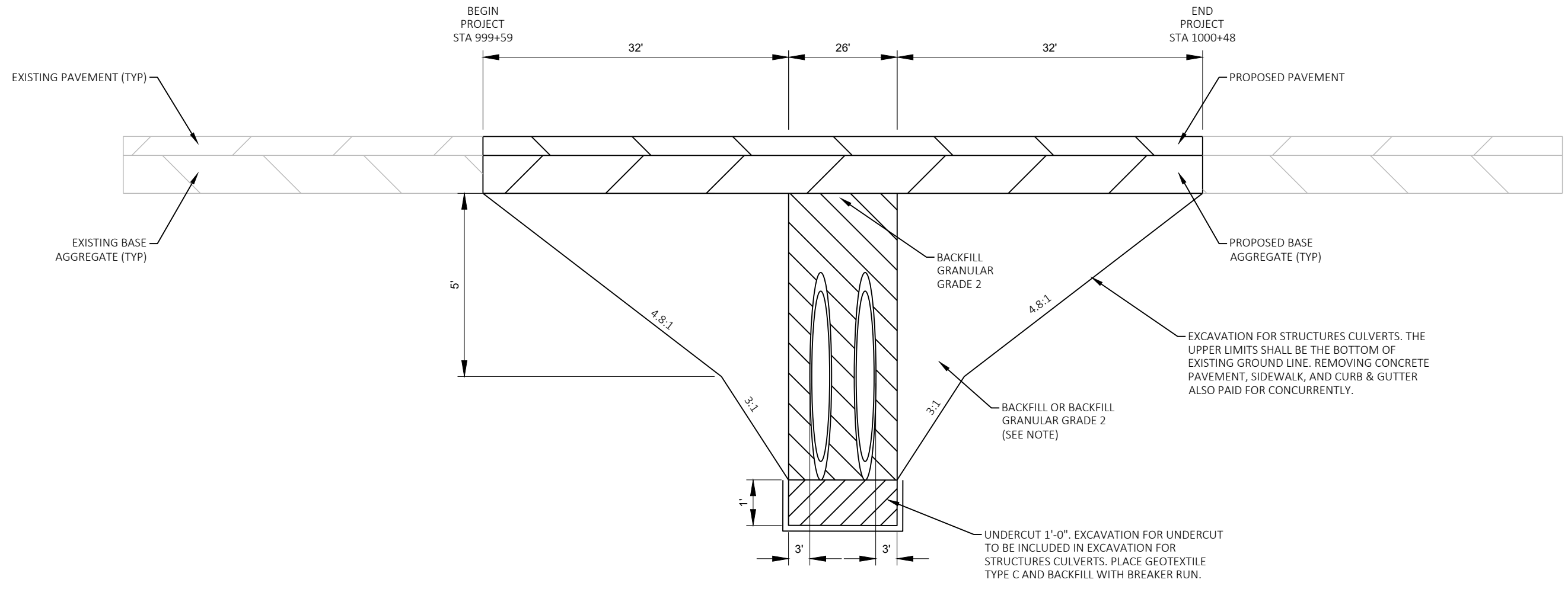
TYPICAL EXISTING SECTION

DAVIS AVE
STA 2000+50.97 TO STA 2000+66.83



TYPICAL FINISHED SECTION

DAVIS AVE
STA 2000+50.97 TO STA 2000+66.83



CULVERT EXCAVATION AND INSTALLATION DETAIL

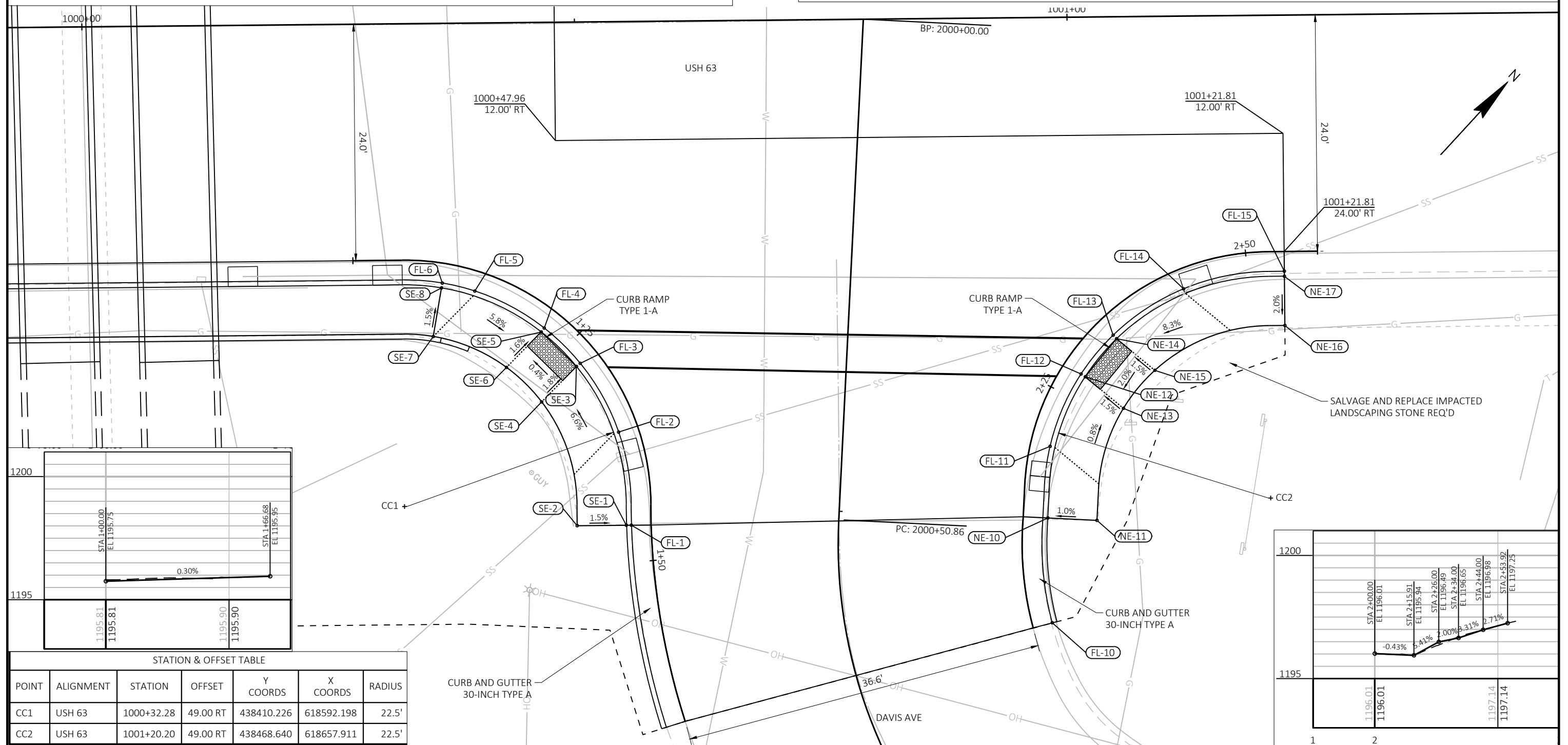
NOTE: BACKFILL INCLUDED UNDER EXCAVATION FOR STRUCTURES CULVERTS UNLESS DETERMINED TO BE UNUSABLE BY THE ENGINEER. ALL MATERIAL REMOVED FOR INSTALL TO BE REUSED AS BACKFILL EXCEPT WHERE BACKFILL GRANULAR GRADE 2 IS SHOWN.

| SE Quad | | | | | |
|--------------|---------|----------|-----------|-----------|-----------|
| POINT NUMBER | STATION | OFFSET | ELEVATION | NORTHING | EASTING |
| FL-1 | 1+46.39 | 2.00' RT | 1195.81 | 438423.92 | 618610.80 |
| FL-2 | 1+36.15 | 2.00' RT | 1195.78 | 438430.19 | 618603.61 |
| FL-3 | 1+27.42 | 2.00' RT | 1195.75 | 438432.89 | 618596.09 |
| FL-4 | 1+21.85 | 2.00' RT | 1195.74 | 438433.19 | 618590.99 |
| FL-5 | 1+13.12 | 2.00' RT | 1195.71 | 438431.39 | 618583.20 |
| FL-6 | 1+09.43 | 2.00' RT | 1195.71 | 438429.84 | 618580.19 |
| SE-1 | 1+46.39 | 2.51' RT | 1196.31 | 438423.58 | 618610.42 |
| SE-2 | 1+46.39 | 7.50' RT | 1196.38 | 438420.27 | 618606.69 |

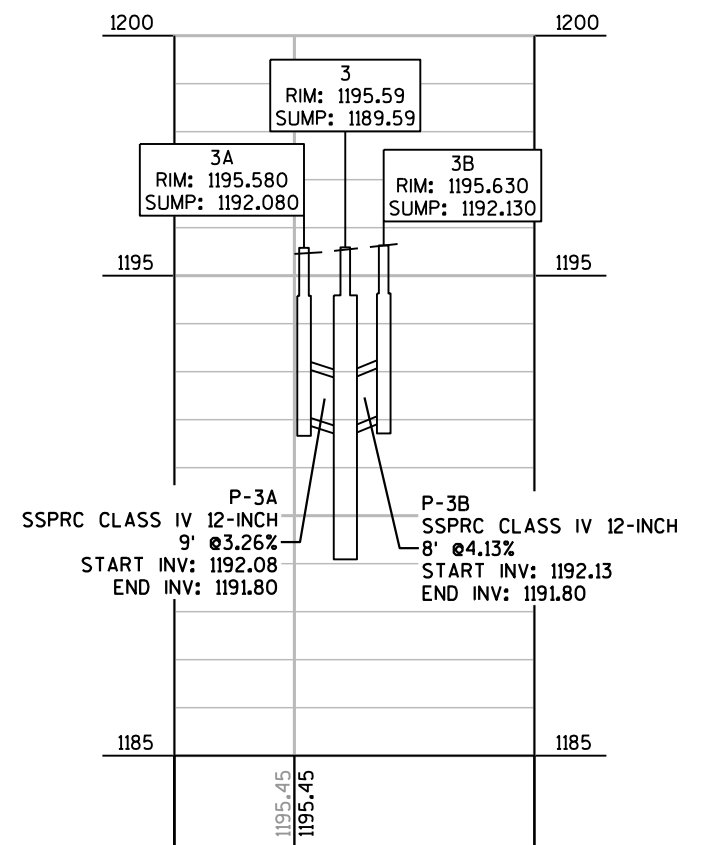
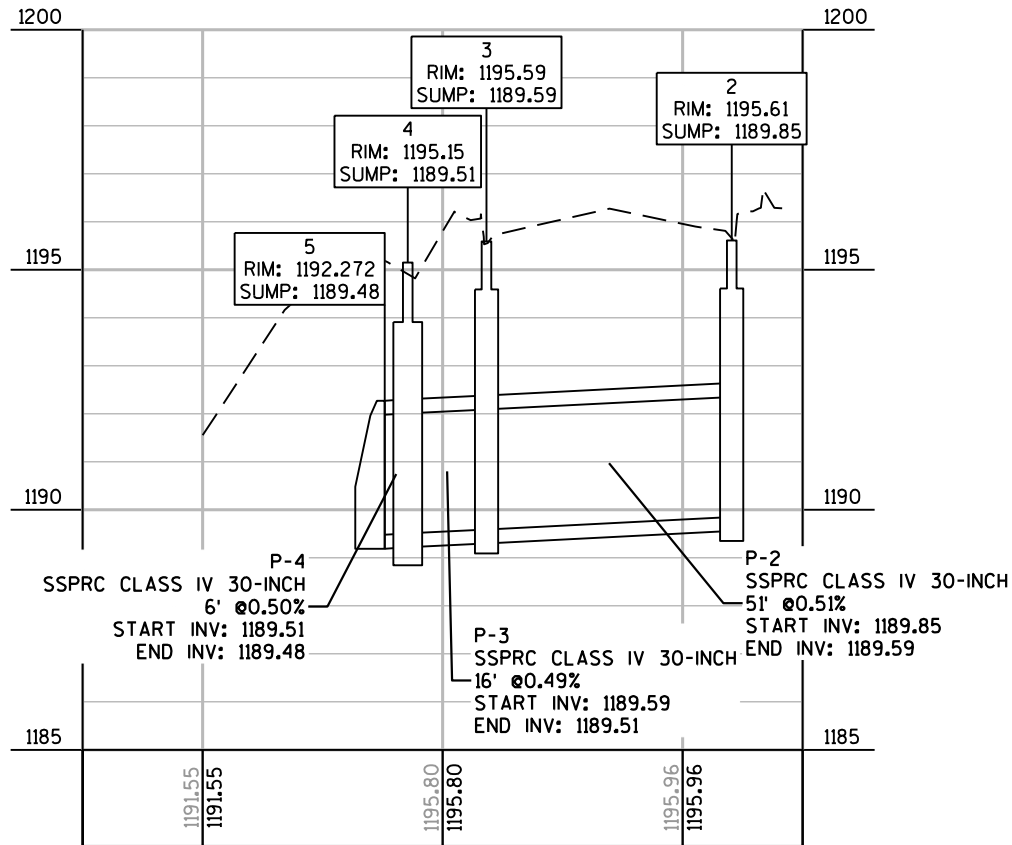
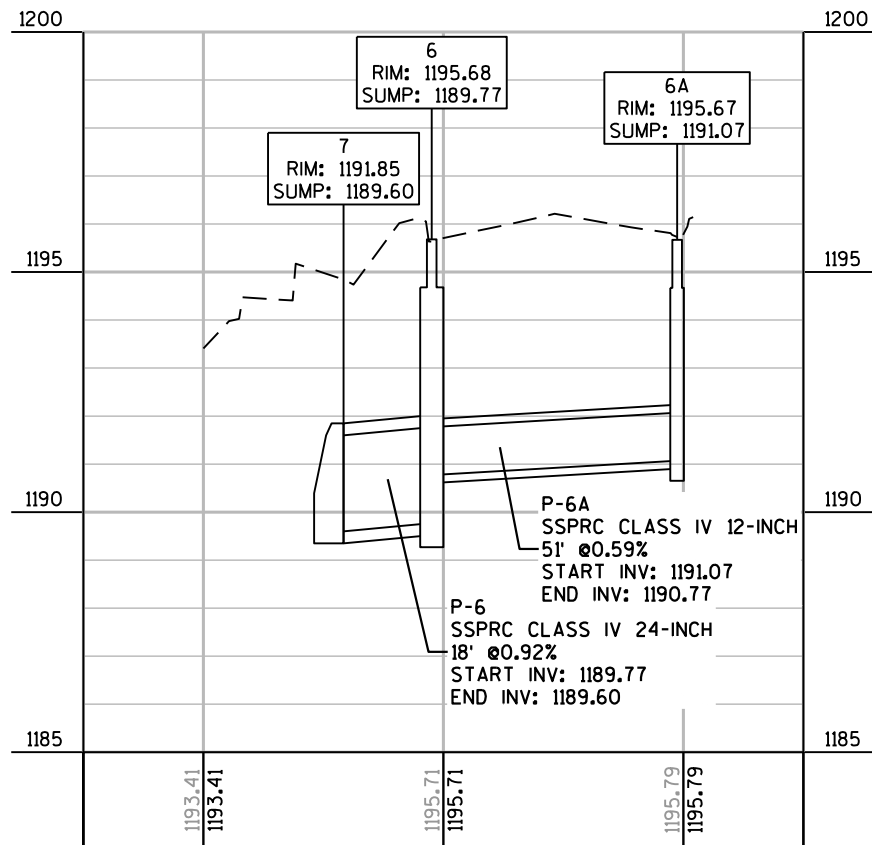
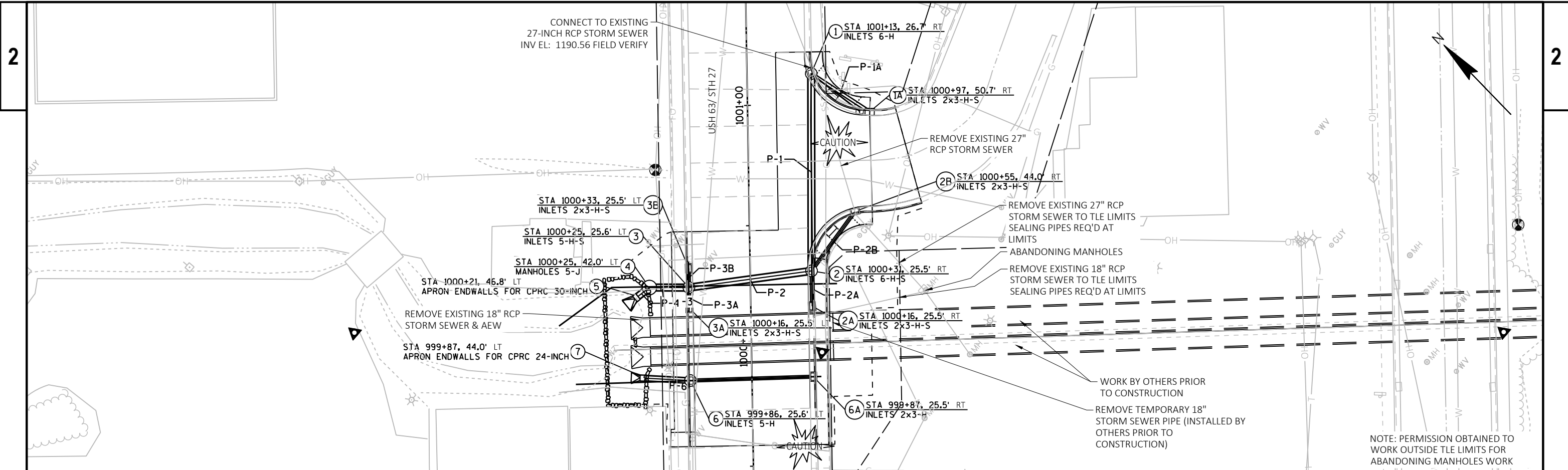
| SE Quad | | | | | |
|--------------|---------|----------|-----------|-----------|-----------|
| POINT NUMBER | STATION | OFFSET | ELEVATION | NORTHING | EASTING |
| SE-3 | 1+27.42 | 2.50' RT | 1195.75 | 438432.40 | 618596.01 |
| SE-4 | 1+28.22 | 7.50' RT | 1195.84 | 438427.37 | 618595.71 |
| SE-5 | 1+21.85 | 2.50' RT | 1195.74 | 438432.69 | 618591.01 |
| SE-6 | 1+21.05 | 7.50' RT | 1195.82 | 438427.66 | 618590.72 |
| SE-7 | 1+09.43 | 7.50' RT | 1196.27 | 438425.15 | 618583.06 |
| SE-8 | 1+09.43 | 2.50' RT | 1196.20 | 438429.41 | 618580.45 |

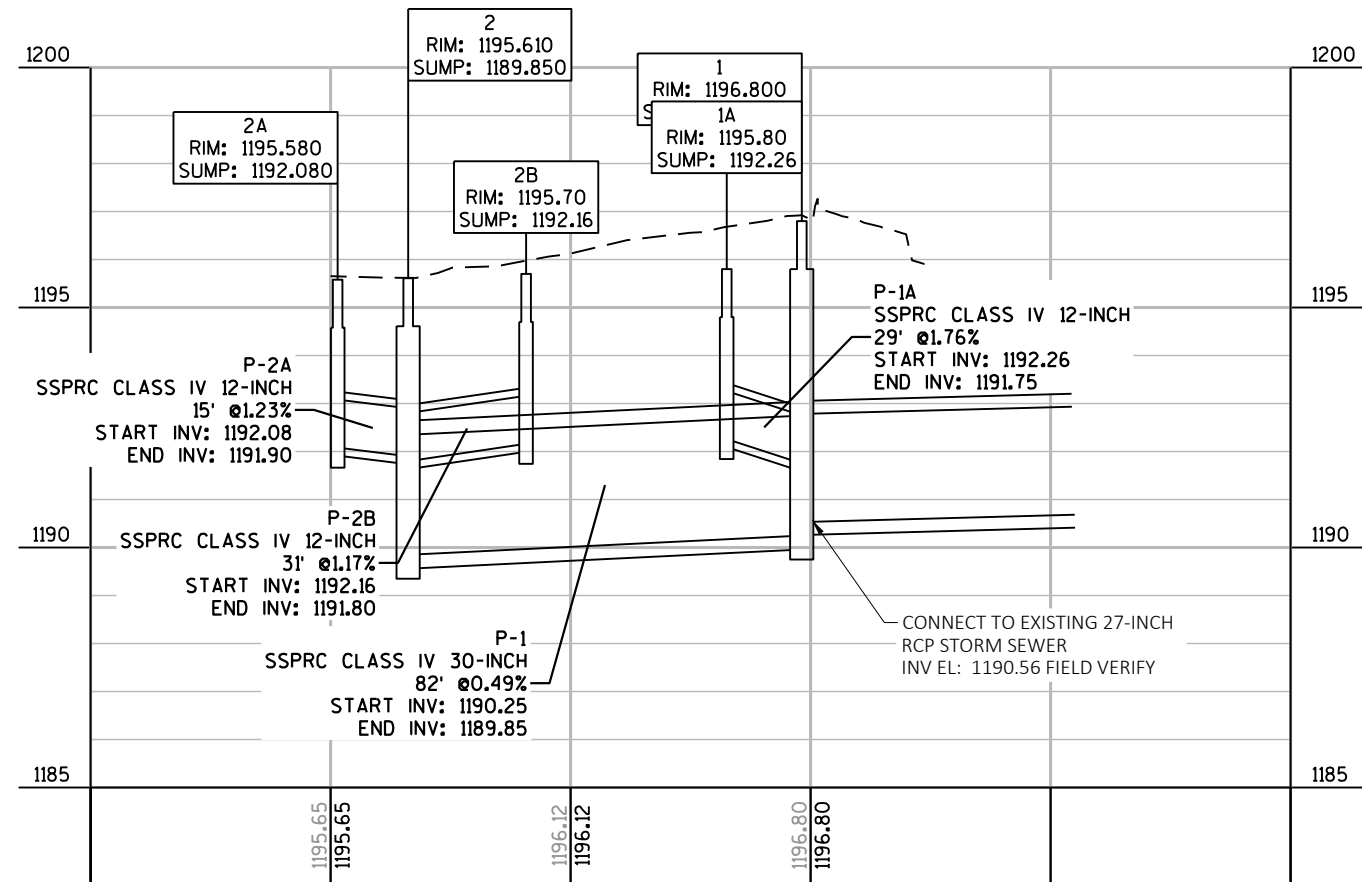
| NE Quad | | | | | |
|--------------|------------|-----------|-----------|-----------|-----------|
| POINT NUMBER | STATION | OFFSET | ELEVATION | NORTHING | EASTING |
| FL-10 | 1000+97.90 | 61.44' RT | 1195.93 | 438444.52 | 618649.51 |
| FL-11 | 1000+97.86 | 43.54' RT | 1196.03 | 438457.88 | 618637.58 |
| FL-12 | 1001+01.07 | 36.22' RT | 1196.45 | 438465.48 | 618635.13 |
| FL-13 | 1001+04.37 | 32.32' RT | 1196.56 | 438470.59 | 618634.99 |
| FL-14 | 1001+11.56 | 27.68' RT | 1196.86 | 438478.83 | 618637.29 |
| FL-15 | 1001+21.81 | 26.00' RT | 1197.17 | 438486.90 | 618643.83 |
| NE-10 | 1000+97.56 | 50.80' RT | 1196.38 | 438452.25 | 618642.19 |
| NE-11 | 1001+02.55 | 51.10' RT | 1196.43 | 438455.35 | 618646.11 |

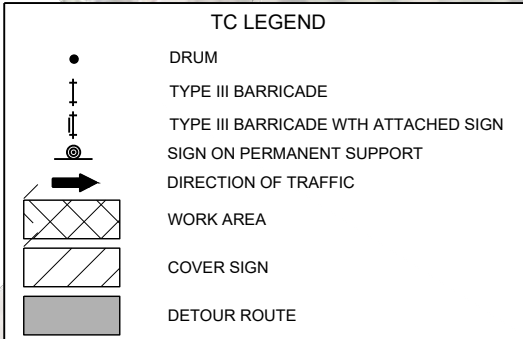
| NE Quad | | | | | |
|--------------|------------|-----------|-----------|-----------|-----------|
| POINT NUMBER | STATION | OFFSET | ELEVATION | NORTHING | EASTING |
| NE-12 | 1001+01.50 | 36.51' RT | 1196.45 | 438465.55 | 618635.64 |
| NE-13 | 1001+05.34 | 39.75' RT | 1196.52 | 438465.68 | 618640.66 |
| NE-14 | 1001+04.71 | 32.68' RT | 1196.56 | 438470.55 | 618635.49 |
| NE-15 | 1001+08.57 | 35.93' RT | 1196.63 | 438470.68 | 618640.53 |
| NE-16 | 1001+21.81 | 31.50' RT | 1197.57 | 438482.79 | 618647.49 |
| NE-17 | 1001+21.81 | 26.51' RT | 1197.67 | 438486.52 | 618644.17 |



| STATION & OFFSET TABLE | | | | | | |
|------------------------|-----------|------------|----------|------------|------------|--------|
| POINT | ALIGNMENT | STATION | OFFSET | Y COORDS | X COORDS | RADIUS |
| CC1 | USH 63 | 1000+32.28 | 49.00 RT | 438410.226 | 618592.198 | 22.5' |
| CC2 | USH 63 | 1001+20.20 | 49.00 RT | 438468.640 | 618657.911 | 22.5' |







NOTES:

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

DURING HOURS OF DARKNESS ALL BARRICADES USED TO SHIELD A HAZARD SHALL BE EQUIPPED WITH WARNING LIGHTS, TYPE A.

ALL SIGNS ARE TYPE 2 UNLESS OTHERWISE NOTED

UNLESS OTHERWISE NOTED THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL DRIVEWAYS AT ALL TIMES DURING CONSTRUCTION.

ALL SIGNS OR PAVEMENT MARKING TEMPORARY OR EXISTING THAT MAY CONFLICT WITH THE CONSTRUCTION TRAFFIC PATTERN SHALL BE REMOVED OR COVERED.

ALL SIGNS SHALL BE FURNISHED BY THE CONTRACTOR.

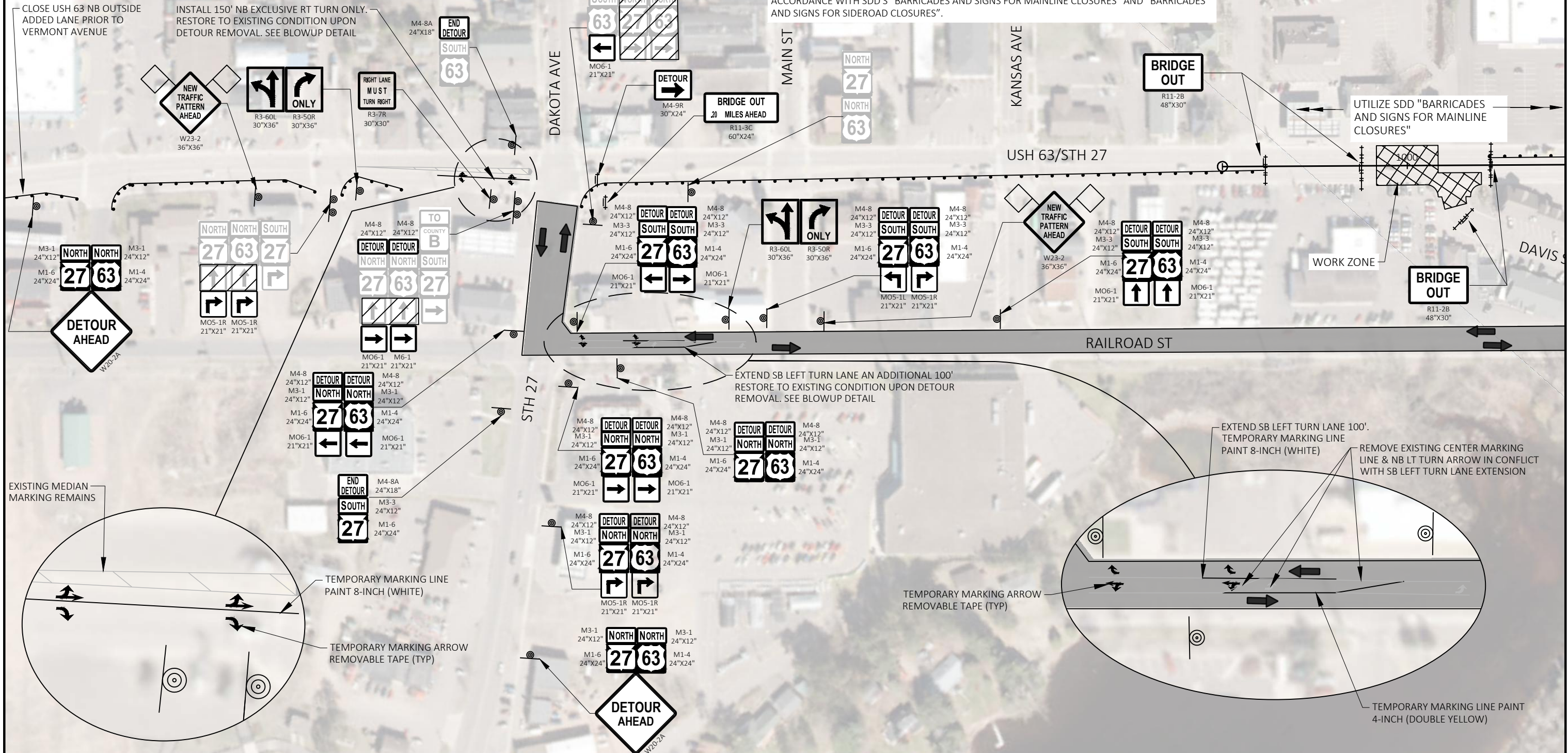
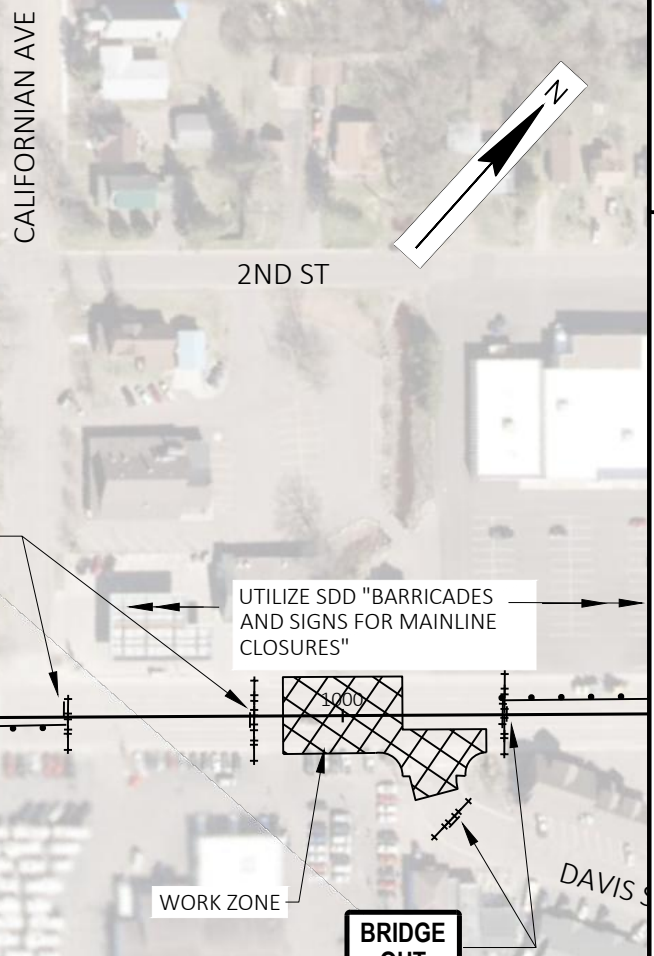
ALL TRAFFIC CONTROL DEVICES SHALL BE IN CONFORMANCE WITH THE "WISCONSIN MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (WMUTCD) AND STANDARD DETAIL DRAWINGS.

ADVANCED LANE CLOSURES SHALL BE CLOSED AND SIGNED IN ACCORDANCE WITH SDD "TRAFFIC CONTROL, ADDED LANE CLOSURE WITHOUT LANE SHIFT" "TRAFFIC CONTROL, ADDED LANE CLOSURE WITH LANE SHIFT" AND "TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY".

ALL SIDEROADS INTERSECTIONS WITHIN THE PROJECT LIMITS SHALL BE CLOSED AND SIGNED IN ACCORDANCE WITH DETAIL 4 OF THE SDD "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES".

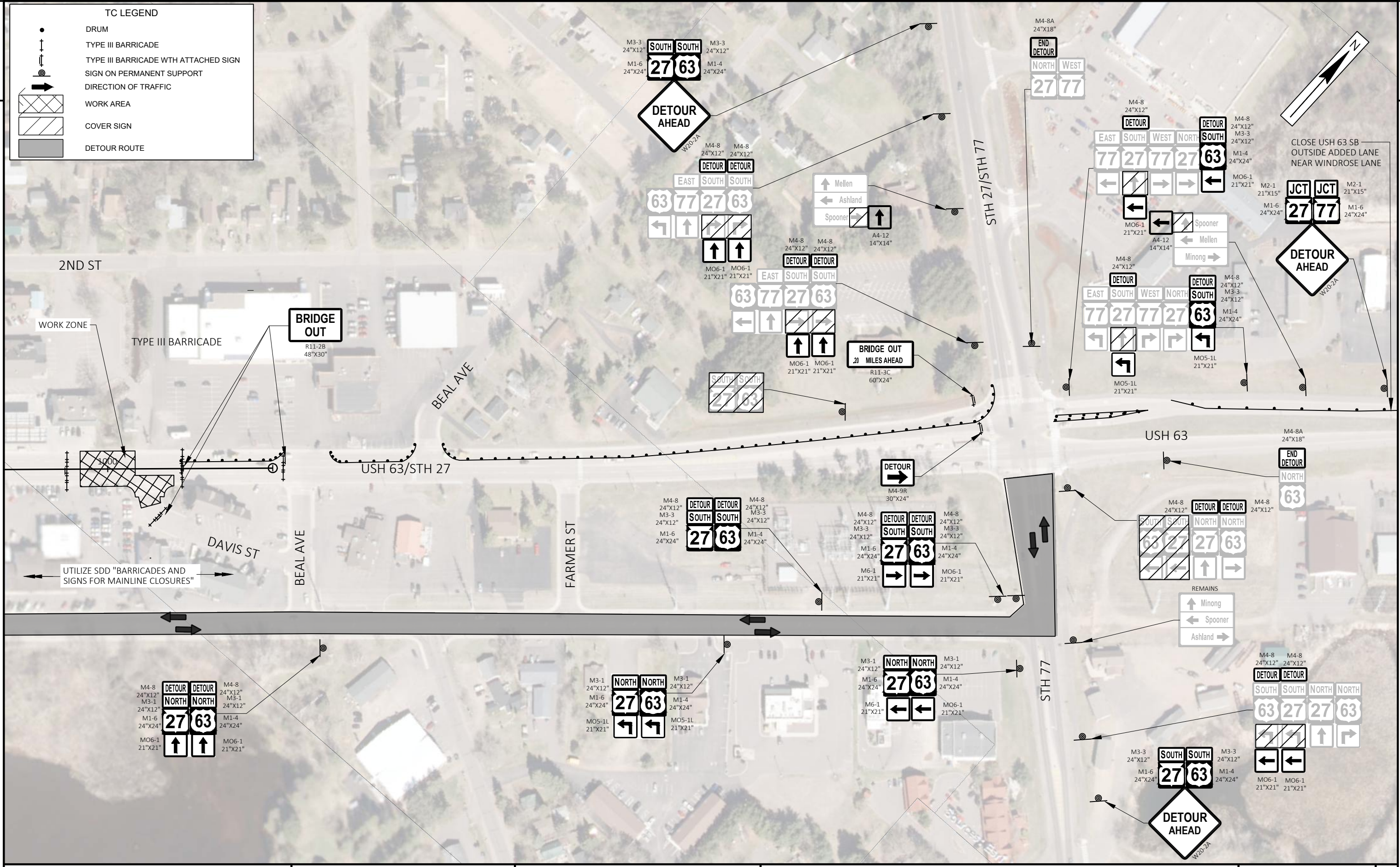
PROVIDE TRAFFIC CONTROL PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) AS SPECIFIED IN THE SPECIAL PROVISIONS ONE WEEK BEFORE CLOSING USH 63 AND IMPLEMENTING THE DETOUR. PLACE THE NORTHBOUND USH 63 TRAFFIC CONTROL PCMS AT THE SOUTH END OF THE WORK ZONE; PLACE THE SOUTHBOUND USH 63 TRAFFIC CONTROL PCMS AT THE NORTH END OF THE WORK ZONE

TYPICAL SIGN SPACING, SIGN CODES, SIGN SIZES AND ADDITIONAL GENERAL NOTES SHALL BE IN ACCORDANCE WITH SDD'S "BARRICADES AND SIGNS FOR MAINLINE CLOSURES" AND "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES".










TC LEGEND

- DRUM
- ⊕ TYPE III BARRICADE
- ⊕ TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- ▨ WORK AREA
- ▨ COVER SIGN
- ▨ DETOUR ROUTE



LEGEND

-  TYPE II BARRICADE WITH ATTACHED SIGN
-  TEMPORARY PEDESTRIAN BARRICADE
-  SIGN
-  SIGN ON PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  DETOUR ROUTE



| | | | | | |
|------------------------|-------------|----------------|-------------------------|-------|----------|
| PROJECT NO: 1560-00-75 | HWY: USH 63 | COUNTY: SAWYER | PEDESTRIAN DETOUR ROUTE | SHEET | E |
|------------------------|-------------|----------------|-------------------------|-------|----------|

Estimate Of Quantities

1560-00-75

| Line | Item | Item Description | Unit | Total | Qty |
|------|----------|--|------|-----------|-----------|
| 0002 | 203.0220 | Removing Structure (structure) 01. 1000+00 | EACH | 1.000 | 1.000 |
| 0004 | 204.0100 | Removing Concrete Pavement | SY | 719.000 | 719.000 |
| 0006 | 204.0130 | Removing Curb | LF | 80.000 | 80.000 |
| 0008 | 204.0150 | Removing Curb & Gutter | LF | 272.000 | 272.000 |
| 0010 | 204.0155 | Removing Concrete Sidewalk | SY | 140.000 | 140.000 |
| 0012 | 204.0210 | Removing Manholes | EACH | 2.000 | 2.000 |
| 0014 | 204.0215 | Removing Catch Basins | EACH | 2.000 | 2.000 |
| 0016 | 204.0245 | Removing Storm Sewer (size) 01. 18-Inch | LF | 67.000 | 67.000 |
| 0018 | 204.0245 | Removing Storm Sewer (size) 02. 27-Inch | LF | 86.000 | 86.000 |
| 0020 | 204.0250 | Abandoning Manholes | EACH | 1.000 | 1.000 |
| 0022 | 204.0280 | Sealing Pipes | EACH | 2.000 | 2.000 |
| 0024 | 205.0100 | Excavation Common | CY | 92.000 | 92.000 |
| 0026 | 206.2001 | Excavation for Structures Culverts (structure) 01. Sta 999+97, Sta 1000+09 | EACH | 1.000 | 1.000 |
| 0028 | 209.2500 | Backfill Granular Grade 2 | TON | 790.000 | 790.000 |
| 0030 | 213.0100 | Finishing Roadway (project) 01. 1560-00-75 | EACH | 1.000 | 1.000 |
| 0032 | 305.0120 | Base Aggregate Dense 1 1/4-Inch | TON | 371.000 | 371.000 |
| 0034 | 311.0115 | Breaker Run | CY | 81.000 | 81.000 |
| 0036 | 415.0090 | Concrete Pavement 9-Inch | SY | 719.000 | 719.000 |
| 0038 | 415.4100 | Concrete Pavement Joint Filling | SY | 719.000 | 719.000 |
| 0040 | 416.0610 | Drilled Tie Bars | EACH | 60.000 | 60.000 |
| 0042 | 416.0620 | Drilled Dowel Bars | EACH | 90.000 | 90.000 |
| 0044 | 455.0605 | Tack Coat | GAL | 4.000 | 4.000 |
| 0046 | 465.0105 | Asphaltic Surface | TON | 37.000 | 37.000 |
| 0048 | 522.1024 | Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch | EACH | 1.000 | 1.000 |
| 0050 | 522.1030 | Apron Endwalls for Culvert Pipe Reinforced Concrete 30-Inch | EACH | 1.000 | 1.000 |
| 0052 | 522.2653 | Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 53x83-Inch | EACH | 2.000 | 2.000 |
| 0054 | 601.0110 | Concrete Curb Type D | LF | 80.000 | 80.000 |
| 0056 | 601.0409 | Concrete Curb & Gutter 30-Inch Type A | LF | 272.000 | 272.000 |
| 0058 | 602.0405 | Concrete Sidewalk 4-Inch | SF | 1,259.000 | 1,259.000 |
| 0060 | 602.0505 | Curb Ramp Detectable Warning Field Yellow | SF | 20.000 | 20.000 |
| 0062 | 606.0300 | Riprap Heavy | CY | 51.000 | 51.000 |
| 0064 | 608.0412 | Storm Sewer Pipe Reinforced Concrete Class IV 12-Inch | LF | 114.000 | 114.000 |
| 0066 | 608.0424 | Storm Sewer Pipe Reinforced Concrete Class IV 24-Inch | LF | 18.000 | 18.000 |
| 0068 | 608.0430 | Storm Sewer Pipe Reinforced Concrete Class IV 30-Inch | LF | 181.000 | 181.000 |
| 0070 | 611.0530 | Manhole Covers Type J | EACH | 1.000 | 1.000 |
| 0072 | 611.0624 | Inlet Covers Type H | EACH | 3.000 | 3.000 |
| 0074 | 611.0639 | Inlet Covers Type H-S | EACH | 7.000 | 7.000 |
| 0076 | 611.2005 | Manholes 5-FT Diameter | EACH | 3.000 | 3.000 |
| 0078 | 611.2006 | Manholes 6-FT Diameter | EACH | 2.000 | 2.000 |
| 0080 | 611.3230 | Inlets 2x3-FT | EACH | 6.000 | 6.000 |
| 0082 | 618.0100 | Maintenance And Repair of Haul Roads (project) 01. 1560-00-75 | EACH | 1.000 | 1.000 |
| 0084 | 619.1000 | Mobilization | EACH | 1.000 | 1.000 |
| 0086 | 624.0100 | Water | MGAL | 3.800 | 3.800 |
| 0088 | 625.0500 | Salvaged Topsoil | SY | 100.000 | 100.000 |
| 0090 | 628.1504 | Silt Fence | LF | 70.000 | 70.000 |
| 0092 | 628.1520 | Silt Fence Maintenance | LF | 70.000 | 70.000 |
| 0094 | 628.1905 | Mobilizations Erosion Control | EACH | 2.000 | 2.000 |
| 0096 | 628.1910 | Mobilizations Emergency Erosion Control | EACH | 2.000 | 2.000 |
| 0098 | 628.2008 | Erosion Mat Urban Class I Type B | SY | 100.000 | 100.000 |

Estimate Of Quantities

1560-00-75

| Line | Item | Item Description | Unit | Total | Qty |
|------|----------|--|------|------------|------------|
| 0100 | 628.6005 | Turbidity Barriers | SY | 35.000 | 35.000 |
| 0102 | 628.7015 | Inlet Protection Type C | EACH | 10.000 | 10.000 |
| 0104 | 629.0210 | Fertilizer Type B | CWT | 0.100 | 0.100 |
| 0106 | 630.0120 | Seeding Mixture No. 20 | LB | 3.000 | 3.000 |
| 0108 | 630.0200 | Seeding Temporary | LB | 3.000 | 3.000 |
| 0110 | 630.0500 | Seed Water | MGAL | 3.000 | 3.000 |
| 0112 | 633.5200 | Markers Culvert End | EACH | 1.000 | 1.000 |
| 0114 | 638.2102 | Moving Signs Type II | EACH | 3.000 | 3.000 |
| 0116 | 642.5001 | Field Office Type B | EACH | 1.000 | 1.000 |
| 0118 | 643.0300 | Traffic Control Drums | DAY | 13,950.000 | 13,950.000 |
| 0120 | 643.0410 | Traffic Control Barricades Type II | DAY | 135.000 | 135.000 |
| 0122 | 643.0420 | Traffic Control Barricades Type III | DAY | 540.000 | 540.000 |
| 0124 | 643.0705 | Traffic Control Warning Lights Type A | DAY | 900.000 | 900.000 |
| 0126 | 643.0900 | Traffic Control Signs | DAY | 8,550.000 | 8,550.000 |
| 0128 | 643.0920 | Traffic Control Covering Signs Type II | EACH | 29.000 | 29.000 |
| 0130 | 643.1050 | Traffic Control Signs PCMS | DAY | 14.000 | 14.000 |
| 0132 | 643.3105 | Temporary Marking Line Paint 4-Inch | LF | 250.000 | 250.000 |
| 0134 | 643.3205 | Temporary Marking Line Paint 8-Inch | LF | 250.000 | 250.000 |
| 0136 | 643.3550 | Temporary Marking Arrow Removable Tape | EACH | 8.000 | 8.000 |
| 0138 | 643.5000 | Traffic Control | EACH | 1.000 | 1.000 |
| 0140 | 644.1810 | Temporary Pedestrian Barricade | LF | 24.000 | 24.000 |
| 0142 | 645.0105 | Geotextile Type C | SY | 262.000 | 262.000 |
| 0144 | 645.0120 | Geotextile Type HR | SY | 100.000 | 100.000 |
| 0146 | 646.5020 | Marking Arrow Epoxy | EACH | 1.000 | 1.000 |
| 0148 | 646.6120 | Marking Stop Line Epoxy 18-Inch | LF | 18.000 | 18.000 |
| 0150 | 646.6464 | Cold Weather Marking Epoxy 4-Inch | LF | 738.000 | 738.000 |
| 0152 | 646.7420 | Marking Crosswalk Epoxy Transverse Line 6-Inch | LF | 100.000 | 100.000 |
| 0154 | 646.9000 | Marking Removal Line 4-Inch | LF | 400.000 | 400.000 |
| 0156 | 646.9100 | Marking Removal Line 8-Inch | LF | 250.000 | 250.000 |
| 0158 | 646.9300 | Marking Removal Special Marking | EACH | 5.000 | 5.000 |
| 0160 | 650.4000 | Construction Staking Storm Sewer | EACH | 22.000 | 22.000 |
| 0162 | 650.4500 | Construction Staking Subgrade | LF | 89.000 | 89.000 |
| 0164 | 650.5000 | Construction Staking Base | LF | 89.000 | 89.000 |
| 0166 | 650.5500 | Construction Staking Curb Gutter and Curb & Gutter | LF | 352.000 | 352.000 |
| 0168 | 650.6000 | Construction Staking Pipe Culverts | EACH | 2.000 | 2.000 |
| 0170 | 650.7000 | Construction Staking Concrete Pavement | LF | 89.000 | 89.000 |
| 0172 | 650.9000 | Construction Staking Curb Ramps | EACH | 2.000 | 2.000 |
| 0174 | 650.9911 | Construction Staking Supplemental Control (project) 01. 1560-00-75 | EACH | 1.000 | 1.000 |
| 0176 | 650.9920 | Construction Staking Slope Stakes | LF | 89.000 | 89.000 |
| 0178 | 690.0150 | Sawing Asphalt | LF | 222.000 | 222.000 |
| 0180 | 690.0250 | Sawing Concrete | LF | 210.000 | 210.000 |
| 0182 | 715.0720 | Incentive Compressive Strength Concrete Pavement | DOL | 500.000 | 500.000 |
| 0184 | ASP.1T0A | On-the-Job Training Apprentice at \$5.00/HR | HRS | 300.000 | 300.000 |
| 0186 | ASP.1T0G | On-the-Job Training Graduate at \$5.00/HR | HRS | 300.000 | 300.000 |
| 0188 | SPV.0090 | Special 01. Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 53x83-Inc | LF | 152.000 | 152.000 |
| 0190 | SPV.0165 | Special 01. Salvage and Replace Landscaping Stone | SF | 110.000 | 110.000 |
| 0192 | SPV.0195 | Special 01. Excavation, Hauling, and Disposal of Contaminated Soil (Direct Landfill) | TON | 195.000 | 195.000 |

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3

REMOVING STRUCTURE

| STATION | LOCATION | 203.0220 (1000+00) EACH |
|-------------------|----------|-------------------------------|
| USH 63 1000+00 | LT & RT | 1 |
| ITEM TOTALS | | 1 |

PAVEMENT REMOVALS

| STATION | LOCATION | 204.0100 REMOVING CONCRETE PAVEMENT SY | 204.0130 REMOVING CURB LF | 204.0150 REMOVING CURB & GUTTER LF | 204.0155 REMOVING CONCRETE SIDEWALK SY |
|----------------------------|----------|--|------------------------------------|--|--|
| USH 63 999+59 - 1001+22 | LT & RT | 719 | 80 | 272 | 140 |
| ITEM TOTALS | | 719 | 80 | 272 | 140 |

STORM SEWER REMOVALS

| STATION | LOCATION | 204.0210 REMOVING MANHOLES EACH | 204.0215 REMOVING CATCH BASINS EACH | 204.0245.01 REMOVING STORM SEWER 18-INCH LF | 204.0245.02 REMOVING STORM SEWER 27-INCH LF | 204.0250 ABANDONING MANHOLES EACH | 204.0280 SEALING PIPES EACH |
|-----------------------------|----------|--|---|---|---|--|--------------------------------------|
| USH 63 1000+10 - 1000+12 | RT | - | - | 8 | - | - | - |
| 1000+12 | LT | - | 1 | 24 | - | - | - |
| 1000+12 - 1000+19 | RT | - | 1 | 35 | - | - | 1 |
| 1000+22 | RT | - | - | - | - | 1 | - |
| 1000+33 - 1000+54 | RT | 1 | - | - | 27 | - | 1 |
| 1000+54 - 1001+11 | RT | 1 | - | - | 59 | - | - |
| ITEM TOTALS | | 2 | 2 | 67 | 86 | 1 | 2 |

EXCAVATION

| STATION | LOCATION | 205.0100 EXCAVATION COMMON CY | AVAILABLE MATERIAL CY | EXPANDED FILL CY | WASTE CY | REMARKS |
|-----------------------------|----------|--|-----------------------------|------------------------|-------------|---------------------------------------|
| USH 63 1001+22 - 1001+22 | LT & RT | 92 | 64 | 0 | 64 | FOR OUTSIDE CULVERT INSTALLATION AREA |
| ITEM TOTALS | | 92 | 64 | 0 | 64 | |

NOTES:
 1) UNUSABLE ASPHALTIC PAVEMENT MATERIAL IS INCLUDED IN COMMON EXCAVATION.
 2) AVAILABLE MATERIAL DOES NOT INCLUDE UNUSABLE PAVEMENT EXCAVATION VOLUME.
 3) EXPANSION FACTOR = 1.3
 4) CULVERT EXCAVATION INCLUDED IN ITEM EXCAVATION FOR STRUCTURES CULVERTS NOT SHOWN

EXCAVATION FOR STRUCTURES CULVERTS

| STATION | LOCATION | 206.2001 (STA 999+97, STA 1000+09) EACH |
|----------------------------|----------|---|
| USH 63 999+59 - 1001+22 | LT & RT | 1 |
| ITEM TOTALS | | 1 |

BACKFILL GRANULAR

| STATION | LOCATION | 209.2500 GRADE 2 TON |
|----------------------------|----------|----------------------------|
| USH 63 999+87 - 1000+13 | LT & RT | 790 |
| ITEM TOTALS | | 790 |

FINISHING ROADWAY (1560-00-75)

| STATION | LOCATION | 213.0100 EACH |
|-------------------|----------|------------------|
| USH 63 PROJECT | | 1 |
| ITEM TOTAL | | 1 |

BASE AGGREGATE DENSE

| STATION | LOCATION | 305.0120 1 1/4-INCH TON | 624.0100 WATER MGAL |
|----------------------------|----------|-------------------------------|---------------------------|
| USH 63 999+59 - 1001+22 | LT & RT | 371 | 3.8 |
| ITEM TOTALS | | 371 | 3.8 |

BREAKER RUN

| STATION | LOCATION | 311.0115 CY | 645.0105 GEOTEXTILE TYPE C SY |
|----------------------------|----------|----------------|--|
| USH 63 999+59 - 1001+22 | LT & RT | 81 | 262 |
| ITEM TOTALS | | 81 | 262 |

CONCRETE PAVEMENT

| STATION | LOCATION | 415.4100 CONCRETE PAVEMENT 9-INCH SY | 415.0090 CONCRETE PAVEMENT JOINT FILLING SY | 416.0620 CONCRETE PAVEMENT DRILLED TIE BARS EACH | 416.0620 CONCRETE PAVEMENT DRILLED DOWEL BARS EACH |
|----------------------------|----------|--|--|--|--|
| USH 63 999+59 - 1001+22 | LT & RT | 719 | 719 | 60 | 90 |
| ITEM TOTALS | | 719 | 719 | 60 | 90 |

ASPHALTIC PAVEMENT

| STATION | LOCATION | 455.0605 TACK COAT GAL | 465.0105 ASPHALTIC SURFACE TON | REMARKS |
|----------------------------|----------|---------------------------------|---|-------------|
| USH 63 999+59 - 1000+50 | RT | - | 22 | PARKING LOT |
| 2000+51 - 2000+67 | LT & RT | 4 | 15 | DAVIS AVE |
| ITEM TOTALS | | 4 | 37 | |

CULVERT ITEMS

| STATION | LOCATION | 522.2653 APRON ENDWALLS FOR CULVERT PIPE REINFORCED HORIZONTAL ELLIPTICAL 53X83-IN EACH | SPV.0090.01 CULVERT PIPE REINFORCED HORIZONTAL ELLIPTICAL CLASS HE-IV 53X83-IN LF |
|-----------------------------|--------------------|--|--|
| USH 63 999+97 1000+09 | LT & RT LT & RT | 1 1 | 76 76 |
| ITEM TOTAL | | 2 | 152 |

CONCRETE CURB, CURB & GUTTER, AND SIDEWALK

| STATION | LOCATION | 601.0010 CONCRETE CURB TYPE D LF | 601.0409 CONCRETE & GUTTER 30-INCH TYPE A LF | 602.0405 CONCRETE SIDEWALK 4-INCH SF | 601.0010 CURB RAMP DETECTABLE WARNING FIELD YELLOW SF |
|----------------------------|----------|--|---|--|---|
| USH 63 999+75 - 1000+29 | LT & RT | 80 | 272 | 1259 | 20 |
| ITEM TOTALS | | 80 | 272 | 1259 | 20 |

RIPRAP

| STATION | LOCATION | 606.0300 RIPRAP HEAVY CY | 645.0120 GEOTEXTILE TYPE HR SY |
|----------------------------|----------|-----------------------------------|---|
| USH 63 999+75 - 1000+29 | LT | 51 | 100 |
| ITEM TOTALS | | 51 | 100 |

PROJECT NO: 1560-00-75

HWY: USH 63

COUNTY: SAWYER

MISCELLANEOUS QUANTITIES

SHEET

E

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STORM SEWER PIPES

| PIPE | FROM STR | TO STR | 522.1024 | 522.1030 | 608.0412 | 608.0424 | 608.0430 |
|-------------|----------|---------|----------------------------------|----------------------------------|---------------------|---------------------|---------------------|
| | | | REINFORCED CONCRETE 24-INCH EACH | REINFORCED CONCRETE 30-INCH EACH | CLASS IV 12-INCH LF | CLASS IV 24-INCH LF | CLASS IV 30-INCH LF |
| P-6 | 6 | 7 (AEW) | 1 | - | - | 18 | - |
| P-6A | 6A | 6 | - | - | 51 | - | - |
| P-4 | 4 | 5 (AEW) | - | 1 | - | - | 6 |
| P-3 | 3 | 4 | - | - | - | - | 16 |
| P-3A | 3A | 3 | - | - | 9 | - | - |
| P-3B | 3B | 3 | - | - | 8 | - | - |
| P-2 | 2 | 3 | - | - | - | - | 51 |
| P-2A | 2A | 2 | - | - | 15 | - | - |
| P-2B | 2B | 2 | - | - | 31 | - | - |
| P-1 | 1 | 2 | - | - | - | - | 82 |
| P-1A | 1A | 1 | - | - | - | - | 26 |
| ITEM TOTALS | | | 1 | 1 | 114 | 18 | 181 |

STORM SEWER STRUCTURES

| STRUCTURE | STATION | LOCATION | 611.0530 | 611.0624 | 611.0639 | 611.2005 | 611.2006 | 611.3230 |
|-------------|---------|----------|----------------------------|--------------------------|----------------------------|-----------------------------|-----------------------------|--------------------|
| | | | MANHOLE COVERS TYPE J EACH | INLET COVERS TYPE H EACH | INLET COVERS TYPE H-S EACH | MANHOLES 5-FT DIAMETER EACH | MANHOLES 6-FT DIAMETER EACH | INLETS 2X3-FT EACH |
| 1 | 1001+13 | 26.7' RT | - | 1 | - | - | 1 | - |
| 1A | 1000+97 | 46.6' RT | - | - | 1 | - | - | 1 |
| 2 | 1000+31 | 25.5' RT | - | - | 1 | - | 1 | - |
| 2A | 1000+16 | 25.5' RT | - | - | 1 | - | - | 1 |
| 2B | 1000+55 | 44.0' RT | - | - | 1 | - | - | 1 |
| 3 | 1000+25 | 25.6' LT | - | - | 1 | 1 | - | - |
| 3A | 1000+16 | 25.5' LT | - | - | 1 | - | - | 1 |
| 3B | 1000+33 | 25.5' LT | - | - | 1 | - | - | 1 |
| 4 | 1000+25 | 42.0' LT | 1 | - | - | 1 | - | - |
| 6 | 999+86 | 25.6' LT | - | 1 | - | 1 | - | - |
| 6A | 999+87 | 25.5' RT | - | 1 | - | - | - | 1 |
| ITEM TOTALS | | | 1 | 3 | 7 | 3 | 2 | 6 |

MAINTENANCE AND REPAIR OF HAUL ROADS (1560-00-75)

| STATION | 618.0100 EACH |
|----------------|---------------|
| USH 63 PROJECT | 1 |
| ITEM TOTAL | 1 |

MOBILIZATION

| STATION | 619.1000 EACH |
|----------------|---------------|
| USH 63 PROJECT | 1 |
| ITEM TOTAL | 1 |

SALVAGED TOPSOIL AND SEEDING

| STATION | LOCATION | 625.0500 | 629.0210 | 630.0120 | 630.0200 | 630.0500 |
|-------------------------|----------|---------------------|-----------------------|---------------------------|----------------------|-----------------|
| | | SALVAGED TOPSOIL SY | FERTILIZER TYPE B CWT | SEEDING MIXTURE NO. 20 LB | SEEDING TEMPORARY LB | SEED WATER MGAL |
| USH 63 999+59 - 1001+22 | LT & RT | 100 | 0.1 | 3 | 3 | 3 |
| ITEM TOTALS | | 100 | 0.1 | 3 | 3 | 3 |

EROSION CONTROL ITEMS

| STATION | LOCATION | 628.1504 | 628.1520 | 628.1905 | 628.1910 | 628.2008 | 628.6005 | 628.7015 |
|-------------------------|----------|---------------|---------------------------|------------------------------------|--|-------------------------------------|-----------------------|------------------------------|
| | | SILT FENCE LF | SILT FENCE MAINTENANCE LF | MOBILIZATIONS EROSION CONTROL EACH | MOBILIZATIONS EMERGENCY EROSION CONTROL EACH | EROSION MAT URBAN CLASS I TYPE B SY | TURBIDITY BARRIERS SY | INLET PROTECTION TYPE C EACH |
| USH 63 999+59 - 1001+22 | LT & RT | 70 | 70 | 2 | 2 | 100 | 35 | 10 |
| ITEM TOTALS | | 70 | 70 | 2 | 2 | 100 | 35 | 10 |

MARKERS CULVERT END

| STATION | LOCATION | 633.5200 EACH | |
|----------------|----------|---------------|---|
| USH 63 1000+09 | LT | 1 | |
| ITEM TOTALS | | | 1 |

PERMANENT SIGNING

| STATION | LOCATION | 638.2102 MOVING SIGNS TYPE II EACH | REMARKS |
|-------------------------|----------|------------------------------------|--------------------------------|
| USH 63 999+59 - 1001+22 | LT & RT | 3 | SALVAGE AND REINSTALL EXISTING |
| ITEM TOTALS | | | 3 |

FIELD OFFICE TYPE B

| STATION | 642.5001 EACH |
|----------------|---------------|
| USH 63 PROJECT | 1 |
| ITEM TOTAL | 1 |

TRAFFIC CONTROL

| LOCATION | LOCATION | 643.0300 | ** | 643.0410 | ** | 643.0420 | ** | 643.0705 | ** | 643.0900 | ** | ** | ** | 643.1050 | ** | 643.5000 | ** | 644.1810 | |
|----------------|----------|----------------------------|----------------------------|---|---|--|--|----------------------------|----------------------------|----------------------------|----------------------------|-------------------------------|-------------------------------|----------------|-----------------|-------------------------------|-----------------------------------|----------|----|
| | | TRAFFIC CONTROL DRUMS DAYS | TRAFFIC CONTROL DRUMS EACH | TRAFFIC CONTROL BARRICADES TYPE II DAYS | TRAFFIC CONTROL BARRICADES TYPE II EACH | TRAFFIC CONTROL BARRICADES TYPE III DAYS | TRAFFIC CONTROL BARRICADES TYPE III EACH | WARNING LIGHTS TYPE A DAYS | WARNING LIGHTS TYPE A EACH | TRAFFIC CONTROL SIGNS DAYS | TRAFFIC CONTROL SIGNS EACH | COVERING NUMBER OF SIGNS EACH | COVERING NUMBER OF SIGNS EACH | PCMS SIGNS DAY | PCMS SIGNS EACH | TRAFFIC CONTROL CALENDAR DAYS | TEMPORARY PEDESTRIAN BARRICADE LF | | |
| USH 63 PROJECT | LT & RT | 13950 | 310 | 135 | 3 | 540 | 12 | 900 | 20 | 8550 | 190 | 29 | 1 | 29 | 14 | 2 | 1 | 45 | 24 |
| ITEM TOTALS | | 13950 | | 135 | | 540 | | 900 | | 8550 | 190 | 29 | 1 | 29 | 14 | 2 | 1 | 45 | 24 |

**FOR INFORMATION ONLY

PROJECT NO: 1560-00-75

HWY: USH 63

COUNTY: SAWYER

MISCELLANEOUS QUANTITIES

SHEET

E

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TEMPORARY MARKING

| STATION | LOCATION | 643.3105 | 643.3205 | 643.3550 | REMARKS |
|---------------------------|---------------|-----------------------------------|-----------------------------------|---|--|
| | | TEMPORARY MARKING PAINT 4-INCH LF | TEMPORARY MARKING PAINT 8-INCH LF | TEMPORARY MARKING ARROW REMOVABLE TAPE EACH | |
| USH 63 DETOUR RAILROAD ST | RT LT & RT | - 270 | 150 100 | 4 4 | FOR NB TURN LANE INSTALL AT STH 27 FOR SB TURN LANE EXTENSION |
| ITEM TOTAL | | 270 | 250 | 8 | |

SAWING

| STATION | LOCATION | 690.0150 | 690.0250 |
|-------------------|----------|------------|-------------|
| | | ASPHALT LF | CONCRETE LF |
| USH 63 | | | |
| 999+59 | LT & RT | - | 66 |
| 999+58 - 1000+57 | RT | 135 | - |
| 1000+48 | LT & RT | - | 45 |
| 1000+48 - 1001+22 | | - | 94 |
| 2000+67 | LT & RT | 37 | 5 |
| UNDISTRIBUTED | LT & RT | 50 | - |
| ITEM TOTAL | | 222 | 210 |

3

PAVEMENT MARKING

| STATION | LOCATION | 646.5020 | 646.6120 | 646.6464 | 646.7420 | REMARKS |
|---------------------------|---------------|--------------------------|------------------------------------|--------------------------------------|---|--|
| | | MARKING ARROW EPOXY EACH | MARKING STOP LINE EPOXY 18-INCH LF | COLD WEATHER MARKING EPOXY 4-INCH LF | MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH LF | |
| USH 63 | | | | | | |
| 999+50 - 1000+50 | CL | - | - | 200 | - | DOUBLE YELLOW |
| 999+50 - 1000+50 | CL | - | - | 50 | - | WHITE SKIP |
| 1000+50 - 1001+00 | LT & RT | - | - | - | 100 | WHITE |
| 2000+43 | LT & RT | - | 18 | - | - | WHITE |
| USH 63 DETOUR RAILROAD ST | RT LT & RT | - - | - - | 38 200 | - | WHITE SKIP, FOR NB TURN LANE REMOVAL AT STH 27 FOR SB TURN LANE RESTORATION |
| RAILROAD ST | LT & RT | 1 | - | 250 | - | FOR SB TURN LANE RESTORATION |
| ITEM TOTAL | | 1 | 18 | 738 | 100 | |

SALVAGE AND REPLACE LANDSCAPING STONE

| STATION | LOCATION | SPV.0165.01 SF |
|-------------------|----------|----------------|
| USH 63 | | |
| 1001+02 - 1001+22 | RT | 110 |
| ITEM TOTAL | | 110 |

MARKING REMOVAL

| STATION | LOCATION | 646.9000 | 646.9100 | 646.9300 | REMARKS |
|---------------------------|---------------|-----------------|----------------|----------------------|--|
| | | LINE 4-INCH LF | LINE 8-INCH LF | SPECIAL MARKING EACH | |
| USH 63 DETOUR RAILROAD ST | RT LT & RT | - 150 250 | 150 - | - 5 - | FOR NB TURN LANE REMOVAL AT STH 27 FOR SB TURN LANE EXTENSION FOR SB TURN LANE RESTORATION |
| ITEM TOTAL | | 400 | 250 | 5 | |

EXCAVATION, HAULING, AND DISPOSAL OF CONTAMINATED SOIL (DIRECT LANDFILL)

| STATION | LOCATION | SPV.0195.01 TON | REMARKS |
|------------------|----------|-----------------|----------------|
| USH 63 | | | |
| 999+59 - 1000+48 | LT & RT | 195 | IF ENCOUNTERED |
| ITEM TOTAL | | 195 | |

CONSTRUCTION STAKING

| STATION | LOCATION | 650.4000 | 650.4500 | 650.5000 | 650.5500 | 650.6000 | 650.7000 | 650.9000 | 650.9911 | 650.9920 |
|------------------|----------|------------------|-------------|----------|--------------------|--------------------|----------------------|----------------|--------------------------------|-------------------------|
| | | STORM SEWER EACH | SUBGRADE LF | BASE LF | CURB AND GUTTER LF | PIPE CULVERTS EACH | CONCRETE PAVEMENT LF | CURB RAMP EACH | SUPPLEMENTAL (1560-00-75) EACH | CONTROL SLOPE STAKES LF |
| USH 63 | | | | | | | | | | |
| 999+59 - 1000+48 | LT & RT | 22 | 89 | 89 | 352 | 2 | 89 | 2 | 1 | 89 |
| ITEM TOTALS | | 22 | 89 | 89 | 352 | 2 | 89 | 2 | 1 | 89 |

PROJECT NO: 1560-00-75

HWY: USH 63

COUNTY: SAWYER

MISCELLANEOUS QUANTITIES

SHEET

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TRANSPORTATION PROJECT PLAT NO: 1560-00-25-4.01

THAT PART OF LOTS 10, 11, & 12 OF BLOCK 22, NORTHSIDE ADDITION TO HAYWARD AND PART OF LOT 1 CERTIFIED SURVEY MAP NO. 6784 VOLUME 25, PAGE 286, DOCUMENT NO. 322744, AND PART OF OUTLOT 1 CERTIFIED SURVEY MAP NO. 7114, VOLUME 27 PAGE 253, DOCUMENT NO. 334112, LOCATED IN THE SOUTHEAST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 22, TOWNSHIP 41 NORTH, RANGE 9 WEST, CITY OF HAYWARD, SAWYER COUNTY, WISCONSIN.
RELOCATION ORDER USH 63, CITY OF HAYWARD, FIRST STREET, SMITH LAKE CREEK CULVERT, SAWYER COUNTY

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

| POINT | NORTHING | EASTING | DESCRIPTION |
|-------|------------|------------|------------------|
| 6128 | 438146.143 | 618168.613 | 1" IRON PIPE |
| 6131 | 438422.251 | 618581.281 | PK NAIL |
| 6132 | 438256.515 | 618394.718 | 1" IRON PIPE |
| 6133 | 438246.199 | 618403.763 | 1" IRON PIPE |
| 6134 | 438169.050 | 618299.638 | 1 1/2" IRON PIPE |

| POINT | STATION | OFFSET |
|-------|------------|-----------|
| 311 | 1000+31.00 | 62.24' LT |
| 317 | 1001+04.59 | 51.43' RT |
| 323 | 1000+18.67 | 62.24' LT |

| COURSE | BEARING | DISTANCE |
|----------|-------------|----------|
| 309-300 | N35°06'54"W | 37.51' |
| 300-322 | N48°23'00"E | 78.37' |
| 322-312 | N48°23'00"E | 31.63' |
| 312-313 | N48°23'00"E | 71.58' |
| 313-315 | S41°38'06"E | 37.21' |
| 315-316 | S41°38'06"E | 32.79' |
| 316-318 | S48°23'00"W | 17.20' |
| 318-6131 | S48°23'00"W | 72.27' |
| 6131-308 | S48°23'00"W | 100.11' |
| 308-309 | N35°06'54"W | 32.94' |

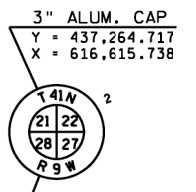
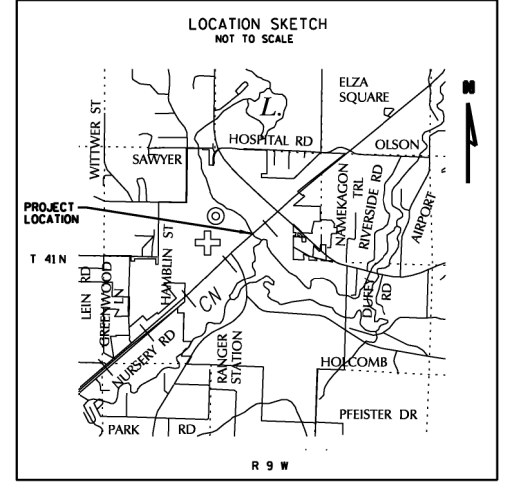
| POINT | STATION | OFFSET |
|-------|------------|-----------|
| 300 | 999+40.00 | 37.27' LT |
| 308 | 999+32.00 | 32.73' RT |
| 309 | 999+35.74 | 0.00' LT |
| 312 | 1000+50.00 | 37.24' LT |
| 313 | 1001+21.58 | 37.21' LT |
| 315 | 1001+21.58 | 0.00' RT |
| 316 | 1001+21.58 | 32.79' RT |
| 318 | 1001+04.38 | 32.78' RT |
| 322 | 1000+18.37 | 37.25' RT |
| 6131 | 1000+32.11 | 32.76' RT |

| COURSE | BEARING | DISTANCE |
|---------|-------------|----------|
| 322-323 | N40°56'53"W | 25.00' |
| 323-311 | N48°23'00"E | 12.33' |
| 311-312 | S78°51'47"E | 31.41' |
| 316-317 | S00°42'59"W | 25.22' |
| 317-318 | N42°15'55"W | 18.65' |

| POINT | STATION | OFFSET |
|-------|------------|-----------|
| 301 | 999+70.00 | 70.00' LT |
| 302 | 1000+35.00 | 70.00' LT |
| 303 | 1000+60.00 | 37.23' LT |
| 304 | 1001+31.45 | 32.79' RT |
| 305 | 1001+05.27 | 64.69' RT |
| 306 | 1000+38.70 | 62.00' RT |
| 307 | 999+75.00 | 62.00' RT |
| 324 | 999+68.36 | 37.26' LT |
| 325 | 999+68.66 | 62.26' LT |
| 326 | 999+92.87 | 70.00' LT |
| 327 | 999+92.94 | 62.25' LT |
| 328 | 1000+08.36 | 70.00' LT |
| 329 | 1000+11.78 | 62.25' LT |
| 330 | 1000+38.46 | 40.05' RT |

| UTILITY INTERESTS REQUIRED | | |
|----------------------------|-------------------|-------------------|
| UTILITY NUMBER | UTILITY OWNER (S) | INTEREST REQUIRED |
| 100 | WE ENERGIES (GAS) | RELEASE OF RIGHTS |

| UTILITY EASEMENT TABLE | | | |
|------------------------|------------|-----------------------|-------------------|
| UTILITY NUMBER | PARCEL (S) | RECORDING INFORMATION | UTILITY NAME |
| 100 | 3 | NO EASEMENT OF RECORD | WE ENERGIES (GAS) |
| | 4 | NO EASEMENT OF RECORD | |



ORIGINAL PLAT OF HAYWARD BLOCK 16

| PARCEL NUMBER | OWNER (S) | INTEREST REQUIRED | R/W NEW S.F. | R/W EXISTING S.F. | R/W TOTAL S.F. | PLE S.F. | TLE S.F. |
|---------------|--|-------------------|--------------|-------------------|----------------|----------|----------|
| 1 | INDIANHEAD OIL CO., INC | TLE | --- | --- | --- | --- | 700 |
| 2 | CRAIG N. COOPER AND KATHLEEN A. COOPER | PLE/TLE | --- | --- | --- | 550 | 398 |
| 3 | VENDOR: E & K INVESTMENTS, LLC PURCHASER: THE LAKES COMMUNITY HEALTH CENTER, INC. | PLE/TLE | --- | --- | --- | 160 | 280 |
| 4 | AARON M. RESNICK | TLE | --- | --- | --- | --- | 2465 |

FILE NAME : C:\Users\jance\Desktop\Desktop Projects\Hayward Smith Creek RW\040102 RPA.dgn APPRAISAL PLAT DATE : 3-5-2021

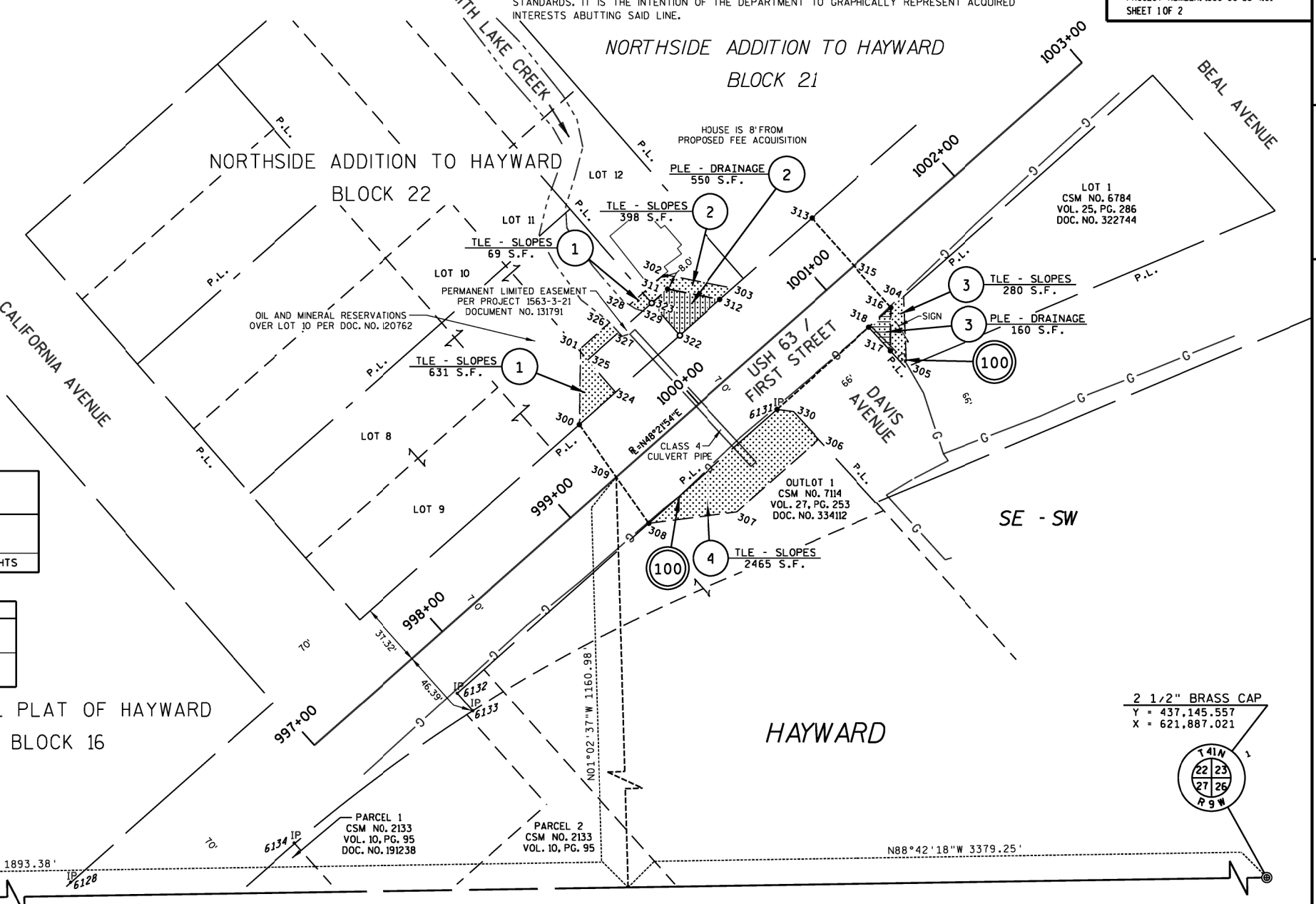


NOTES:
POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), SAWYER COUNTY, NAD83(2011), IN US SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.
ALL NEW RIGHT-OF-WAY MONUMENTS WILL BE TYPE 2 (TYPICALLY 3/4"x24" 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:
EXISTING HIGHWAY RIGHT-OF-WAY FOR USH 63 ESTABLISHED FROM CSM 7114, CSM 6784, NORTHSIDE ADDITION TO HAYWARD, AND PROJECT 1563-3-20.
EXISTING HIGHWAY RIGHT-OF-WAY FOR DAVIS AVENUE ESTABLISHED FROM CSM 7114.
FOR THE LATEST ACCESS / DRIVEWAY INFORMATION CONTACT THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN SUPERIOR.
THE EASTERLY BOUNDARY OF LOT 11, BLOCK 22 HAS NOT BEEN LOCATED BY ACCEPTABLE SURVEY STANDARDS. IT IS THE INTENTION OF THE DEPARTMENT TO GRAPHICALLY REPRESENT ACQUIRED INTERESTS ABUTTING SAID LINE.

430334
PAULA CHISSER
REGISTER OF DEEDS
SAWYER COUNTY, WI
03/05/2021 02:06 PM
RECORDING FEE 25.00

PAGES: 2
The above recording information verifies that this document has been electronically recorded and returned to the submitter.

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER: 1560-00-25-4.01
SHEET 1 OF 2



2 1/2" BRASS CAP
Y = 437,145.557
X = 621,887.021

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

10 N. BRIDGE STREET
CHIPPewa FALLS, WI 54729

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

SIGNATURE: *Jason L. Cance* DATE: 3-5-2021
PRINTED NAME: JASON L. CANCE
REGISTRATION NUMBER: S-2688

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR DEPARTMENT OF TRANSPORTATION, NORTHWEST REGION.

SIGNATURE: *Heather L. Dreisel* DATE: 3-5-2021
PRINTED NAME: HEATHER L. DREISEL

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

TRANSPORTATION PROJECT PLAT TITLE SHEET

PROJECT NO. 1560-00-25

CITY OF HAYWARD, FIRST STREET
SMITH LAKE CREEK CULVERT

USH 63

SAWYER COUNTY

R 9 W



4

4

CONVENTIONAL SYMBOLS

| | | | | | |
|---|--|------------------------------------|--|--|--|
| SECTION LINE | | SECTION CORNER SYMBOL | | F/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) | |
| NEW REFERENCE LINE | | SIXTEENTH CORNER MONUMENT | | OFF-PREMISE SIGN | |
| NEW R/W LINE | | SIGN | | COMPENSABLE | |
| EXISTING R/W OR HE LINE | | COMPENSABLE | | NON-COMPENSABLE | |
| PROPERTY LINE | | NO ACCESS (BY STATUTORY AUTHORITY) | | NO ACCESS (BY PREVIOUS PROJECT OR CONTROL) | |
| LOT, TIE & OTHER MINOR LINES | | NO ACCESS (NEW HIGHWAY) | | PARCEL NUMBER (25) | |
| SLOPE INTERCEPT | | PARALLEL OFFSETS | | UTILITY NUMBER (40) | |
| CORPORATE LIMITS | | BRIDGE | | | |
| UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC.) | | | | | |
| NEW R/W (FEE OR HE) (HATCHING VARIES BY OWNER) | | | | | |
| TEMPORARY LIMITED EASEMENT AREA | | | | | |
| EASEMENT AREA (PERMANENT LIMITED OR RESTRICTED DEVELOPMENT) | | | | | |
| TRANSMISSION STRUCTURES | | | | | |
| BUILDING TO BE REMOVED | | | | | |
| BRIDGE | | | | | |

CONVENTIONAL ABBREVIATIONS

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

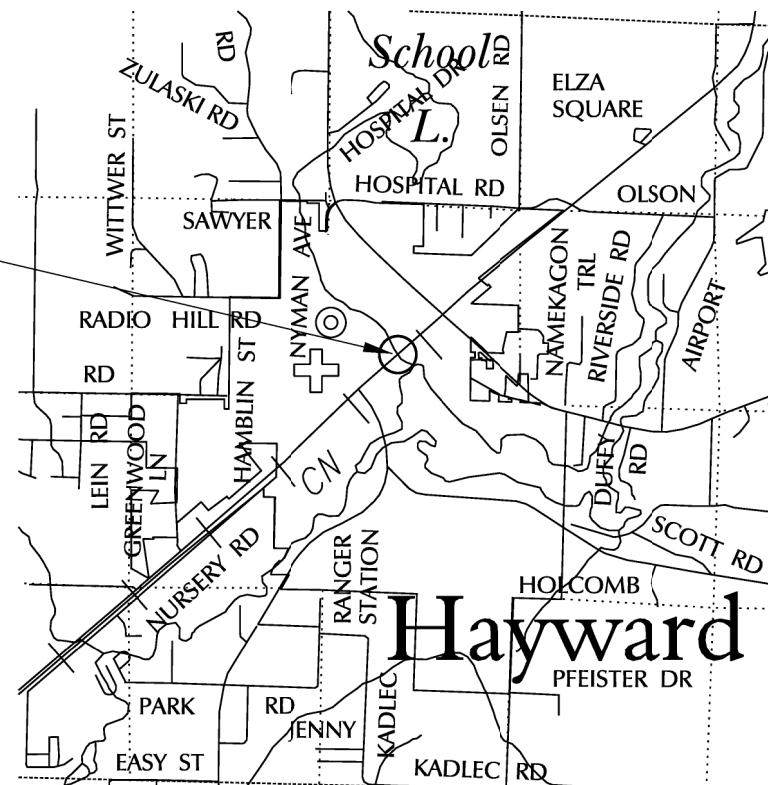
CURVE DATA

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

CONVENTIONAL UTILITY SYMBOLS

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

PROJECT LOCATION



T 41 N

T 40 N



LAYOUT
SCALE 0 1/2 MI.

THE NOTES, CONVENTIONAL SIGNS AND ABBREVIATIONS ARE ASSOCIATED WITH EACH TRANSPORTATION PROJECT PLAT FOR PROJECT 1560-00-25

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE REFERENCE SYSTEM COORDINATES (WISCRS), SAWYER COUNTY, NAD83 (2011) IN US SURVEY FEET. VALUES SHOWN 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 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 OR FROM CENTERLINE OF EXISTING PAVEMENTS.

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 AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE. ALL TLES EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.

A **PERMANENT LIMITED EASEMENT (PLE)** IS A RIGHT FOR CONSTRUCTION AND MAINTENANCE PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS, AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE. BUT WITHOUT PREJUDICE TO THE OWNER'S RIGHT TO MAKE OR CONSTRUCT IMPROVEMENT ON SAID LANDS OR TO FLATTEN THE SLOPES, PROVIDING SAID ACTIVITIES WILL NOT IMPAIR OR OTHERWISE ADVERSELY AFFECT THE HIGHWAY FACILITIES.

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

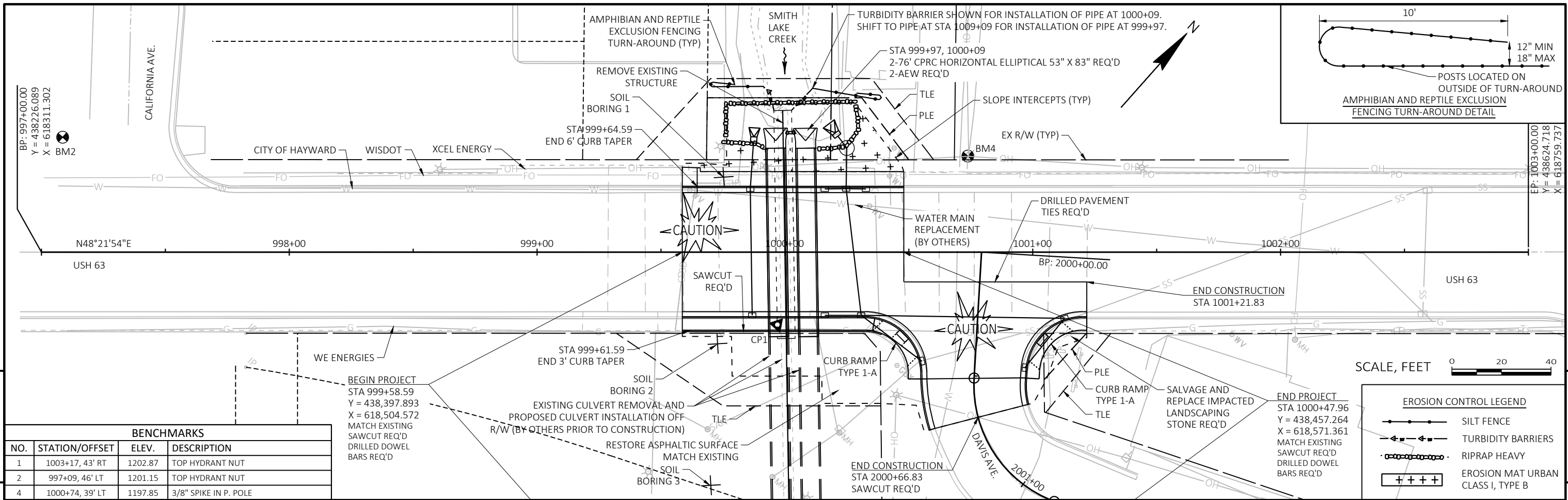
FOR THE LATEST ACCESS/DRIVEWAY INFORMATION, CONTACT THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN SUPERIOR.

PARCEL IDENTIFICATION NUMBERS MAY NOT POINT TO ALL AREAS OF ACQUISITION, AS NOTED ON THE SCHEDULE OF LANDS & INTERESTS REQUIRED.

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



RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER 1560-00-25 - 4.01
SHEET 2 OF 2

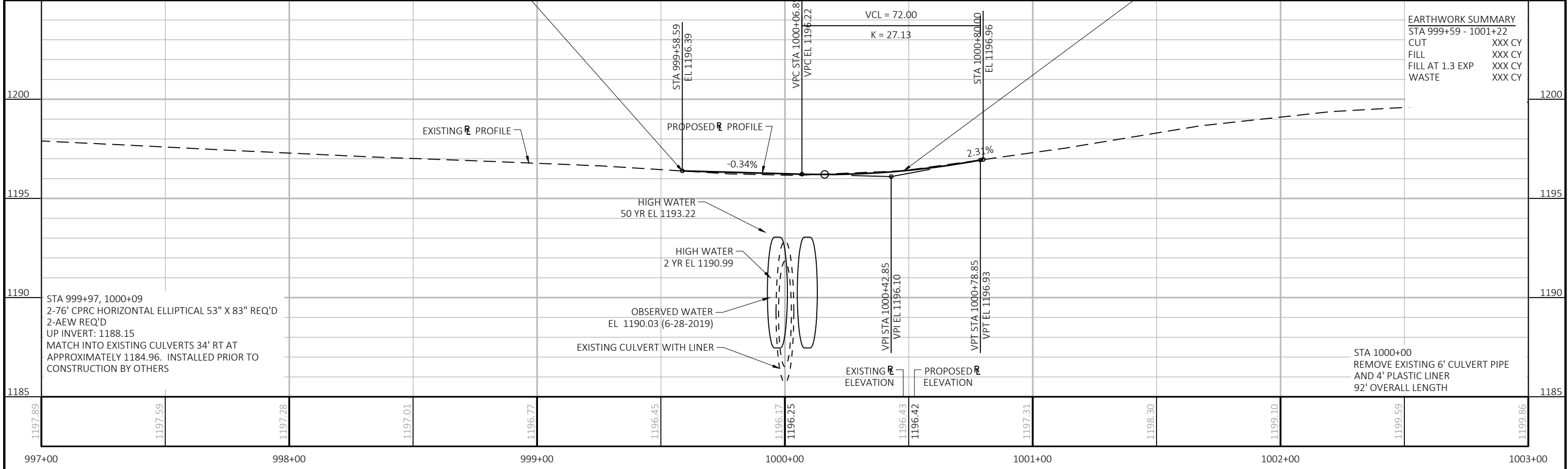


| BENCHMARKS | | | |
|------------|-----------------|---------|-----------------------|
| NO. | STATION/OFFSET | ELEV. | DESCRIPTION |
| 1 | 1003+17, 43' RT | 1202.87 | TOP HYDRANT NUT |
| 2 | 997+09, 46' LT | 1201.15 | TOP HYDRANT NUT |
| 4 | 1000+74, 39' LT | 1197.85 | 3/8" SPIKE IN P. POLE |

BEGIN PROJECT
 STA 999+58.59
 Y = 438,397.893
 X = 618,504.572
 MATCH EXISTING
 SAWCUT REQ'D
 DRILLED DOWEL
 BARS REQ'D

END PROJECT
 STA 1000+47.96
 Y = 438,457.264
 X = 618,571.361
 MATCH EXISTING
 SAWCUT REQ'D
 DRILLED DOWEL
 BARS REQ'D

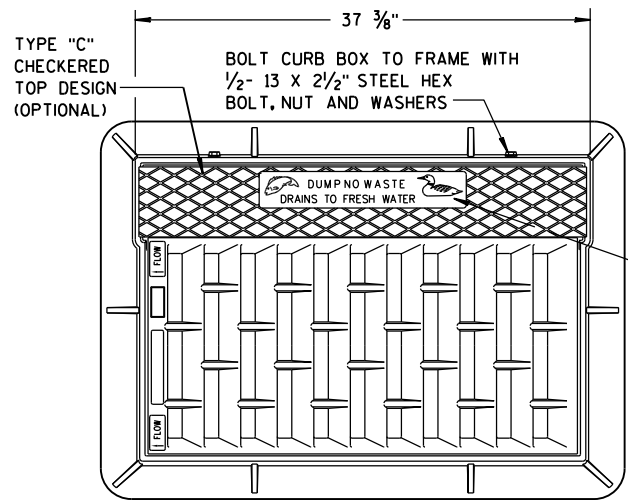
| EROSION CONTROL LEGEND | |
|------------------------|-----------------------------------|
| | SILT FENCE |
| | TURBIDITY BARRIERS |
| | RIPRAP HEAVY |
| | EROSION MAT URBAN CLASS I, TYPE B |



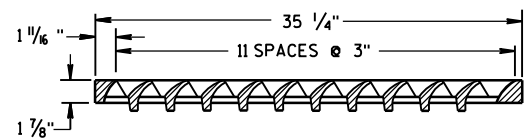
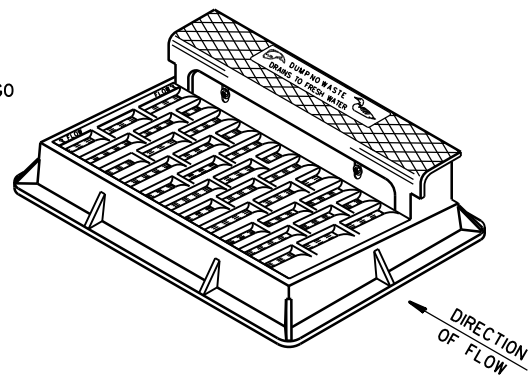
| EARTHWORK SUMMARY | |
|----------------------|--------|
| STA 999+59 - 1001+22 | |
| CUT | XXX CY |
| FILL | XXX CY |
| FILL AT 1.3 EXP | XXX CY |
| WASTE | XXX CY |

Standard Detail Drawing List

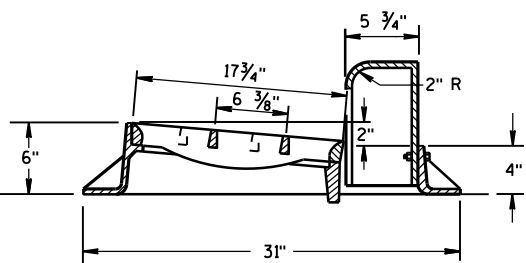
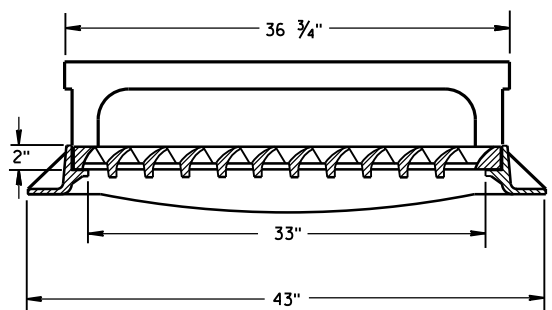
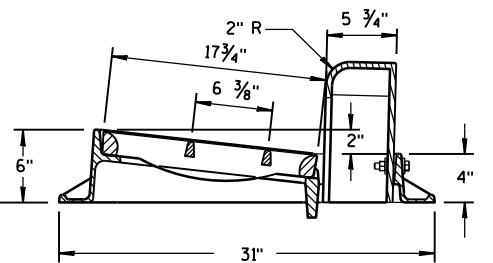
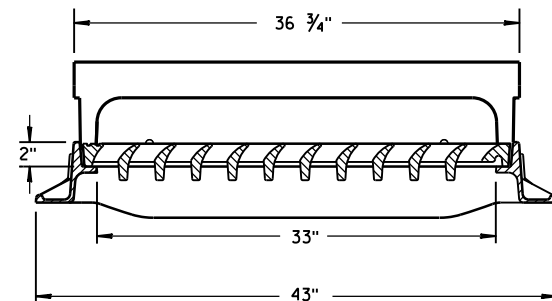
| | |
|-----------|--|
| 08A05-19A | INLET COVERS TYPE A, H, A-S, H-S & Z |
| 08A05-19D | INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M |
| 08B09-03 | MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT, 10-FT DIAMETER |
| 08C07-02 | INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT |
| 08D01-22A | CONCRETE CURB & GUTTER |
| 08D01-22B | CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS |
| 08D05-20A | CURB RAMPS TYPES 1 AND 1-A |
| 08D05-20F | CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS |
| 08D05-20G | CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES |
| 08E09-06 | SILT FENCE |
| 08E10-02 | INLET PROTECTION TYPE A, B, C AND D |
| 08E11-02 | TURBIDITY BARRIER |
| 08F02-01 | APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE |
| 13C01-19 | CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES |
| 13C18-07A | CONCRETE PAVEMENT JOINTING |
| 13C18-07B | CONCRETE PAVEMENT STEEL REINFORCEMENT |
| 13C18-07C | CONCRETE PAVEMENT JOINT TYPES |
| 15A03-02A | FLEXIBLE MARKER POST FOR CULVERT END |
| 15A03-02B | FLEXIBLE MARKER POST FOR CULVERT END |
| 15C02-08A | BARRICADES AND SIGNS FOR MAINLINE CLOSURES |
| 15C02-08B | BARRICADES AND SIGNS FOR VARIOUS CLOSURES |
| 15C02-08C | DETOUR SIGNING FOR MAINLINE CLOSURES |
| 15C03-05 | BARRICADES AND SIGNS FOR SIDEROAD CLOSURES |
| 15C07-15C | PAVEMENT MARKING ARROWS |
| 15C08-21A | LONGITUDINAL MARKING (MAINLINE) |
| 15C08-21B | TEMPORARY LONGITUDINAL PAVEMENT MARKING |
| 15C11-09B | CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS |
| 15D20-06B | TRAFFIC CONTROL, SINGLE RIGHT LANE CLOSURE, UNDIVIDED NON-FREEWAY/EXPRESSWAY |
| 15D21-07A | TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE |
| 15D21-07B | TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE |
| 15D50-02A | TRAFFIC CONTROL, ADDED LANE CLOSURE WITHOUT LANE SHIFT |
| 15D50-02B | TRAFFIC CONTROL, ADDED LANE CLOSURE WITH LANE SHIFT |



**NOTE:
GRATE IS REVERSIBLE.**

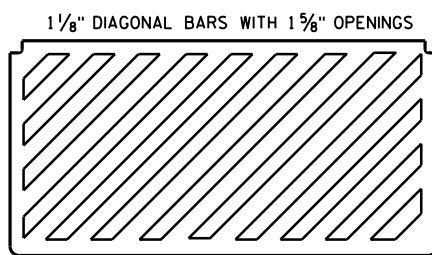


NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"



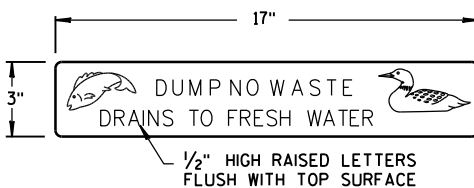
TYPE "H"

NOTE: EITHER CASTING IS ACCEPTABLE

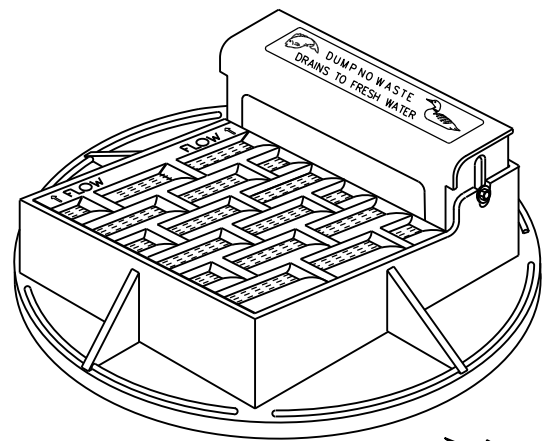


**SPECIAL GRATE FOR
TYPE "H" COVER**

(MEASURES 35 1/4" X 17 3/4" X 2")
(NOTED AS TYPE H-S ON DRAINAGE TABLE)

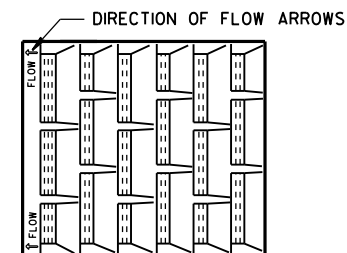


LOGO DETAIL

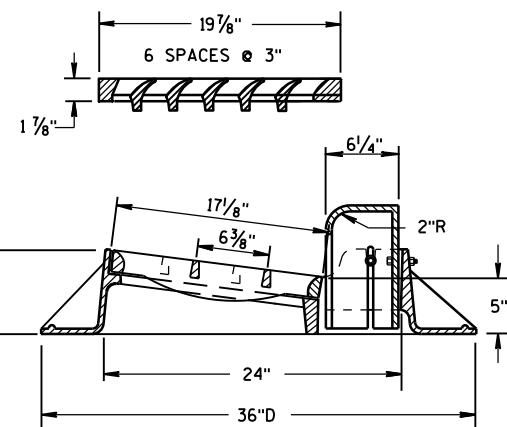
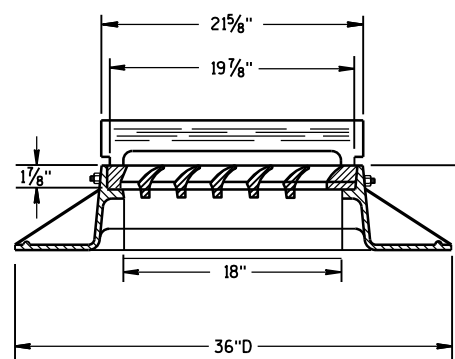


NOTE: CURB BOX ADJUSTABLE 4" TO 9"

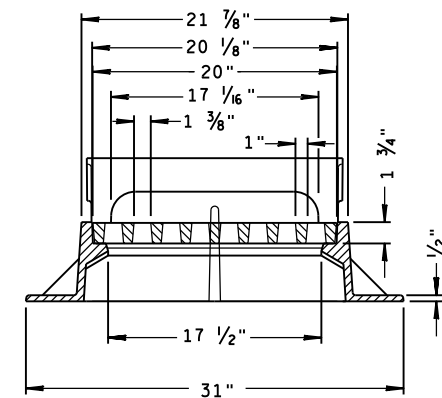
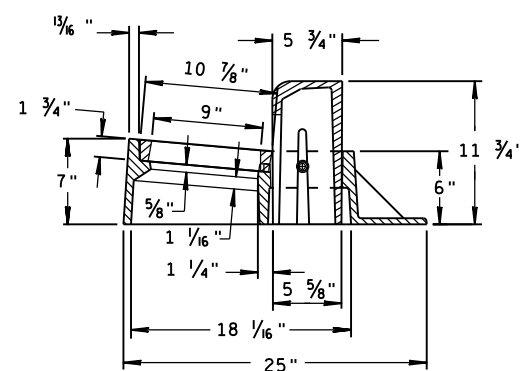
**NOTE:
GRATE IS REVERSIBLE.**



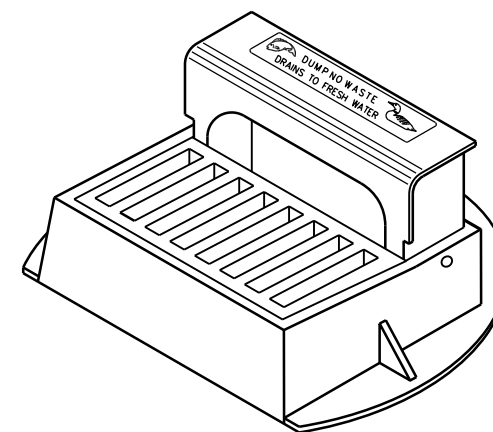
**SPECIAL GRATE FOR
TYPE "A" COVER**
(MEASURES 19 3/4" X 17" X 1 1/8")
(NOTED AS TYPE A-S ON DRAINAGE TABLE)



TYPE "A"



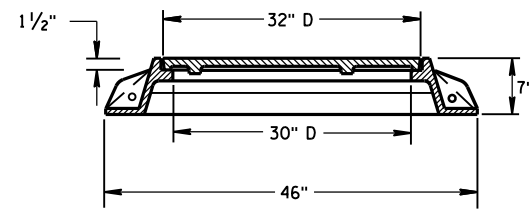
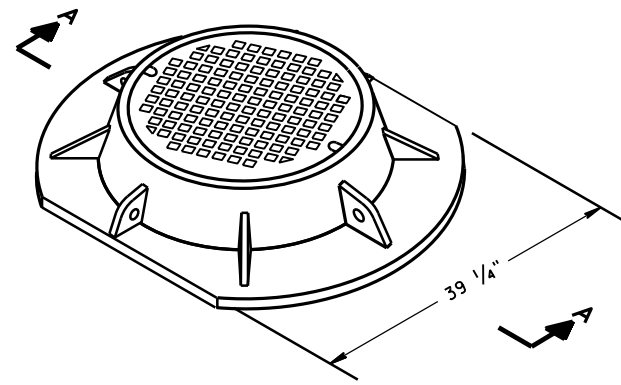
TYPE "Z"



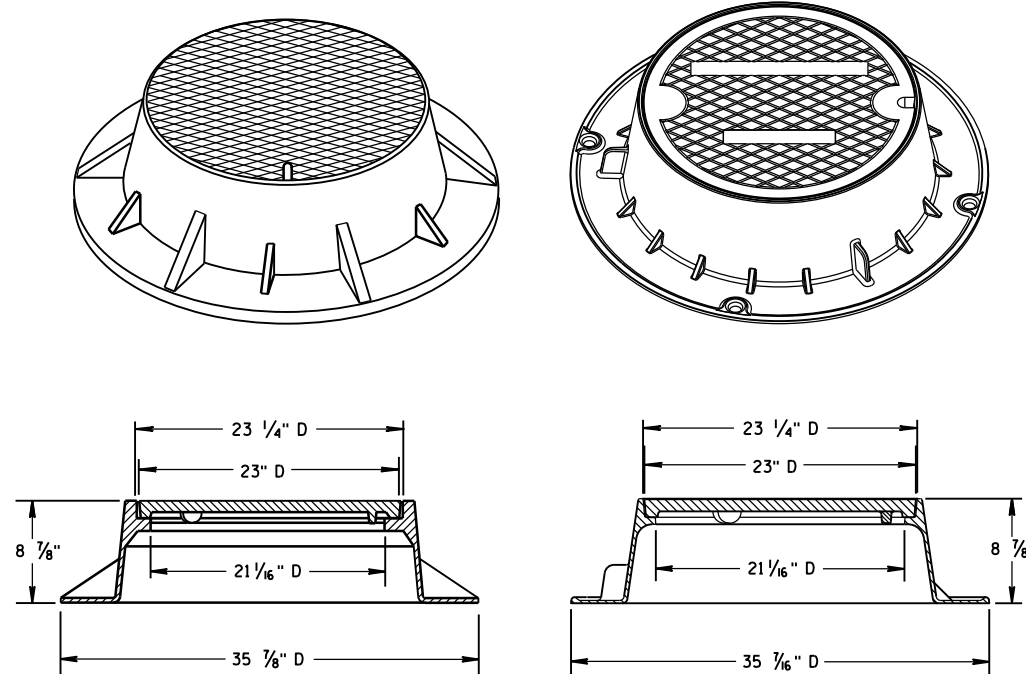
**INLET COVERS
TYPE A, H, A-S, H-S & Z**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11-27-13
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA

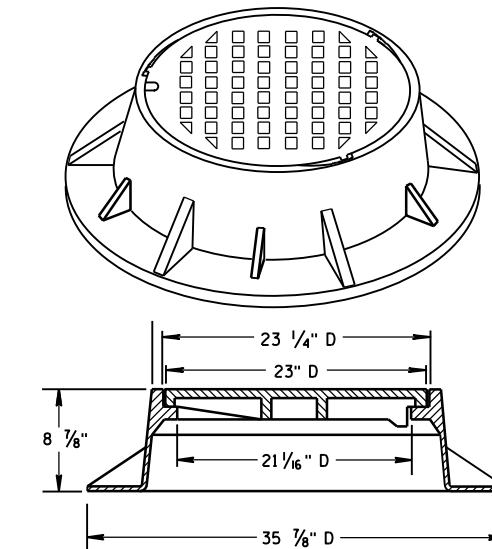
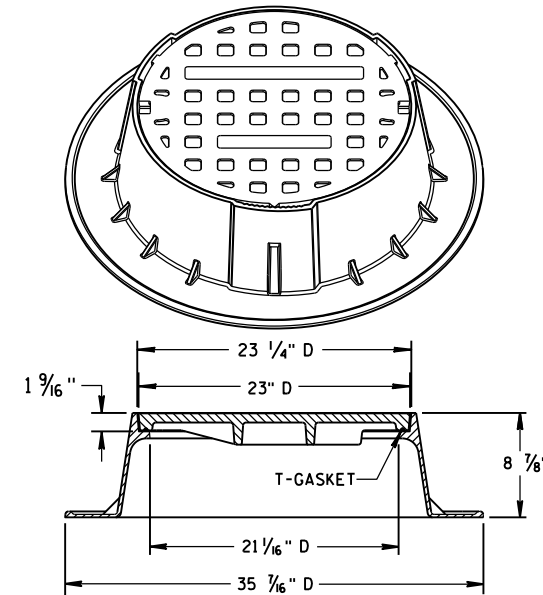


SECTION A-A
TYPE "K"

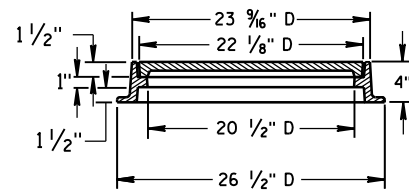
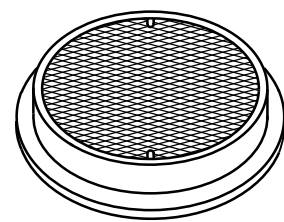


TYPE "J"

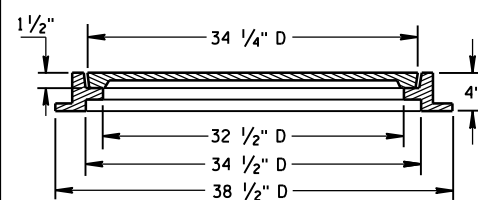
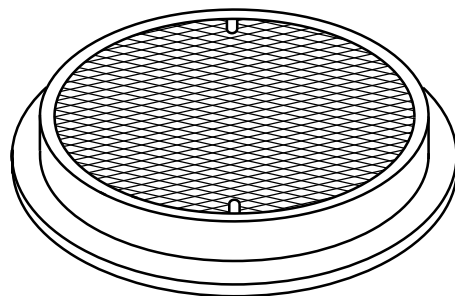
NOTE: EITHER CASTING IS ACCEPTABLE



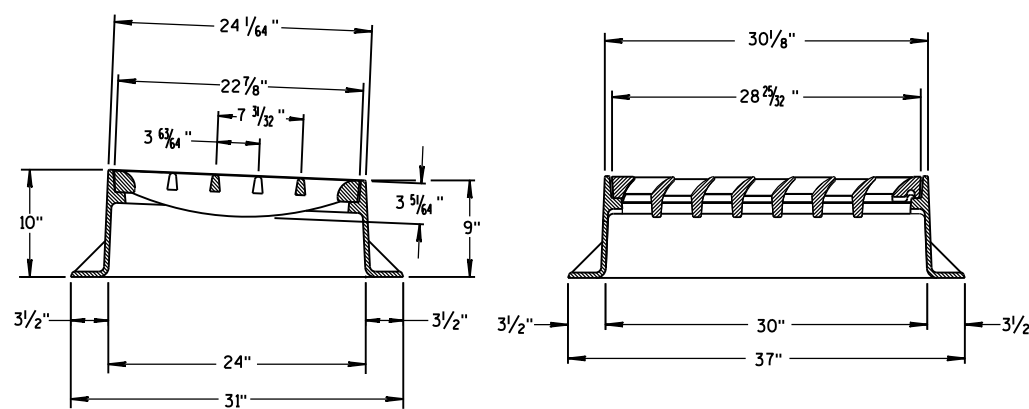
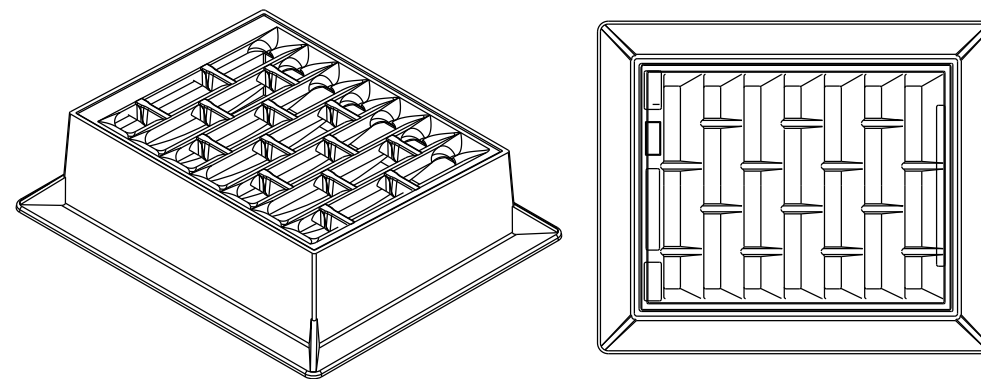
TYPE "J" SPECIAL
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)
NOTE: EITHER CASTING IS ACCEPTABLE



TYPE "L"



TYPE "M"



INLET COVER TYPE "BW"

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 MANHOLE 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.

6

6

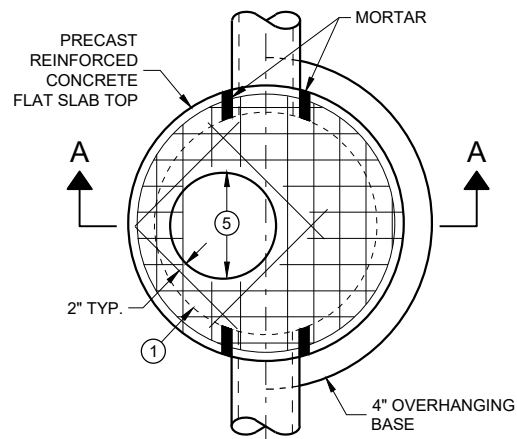
S.D.D. 8 A 5-19d

S.D.D. 8 A 5-19d

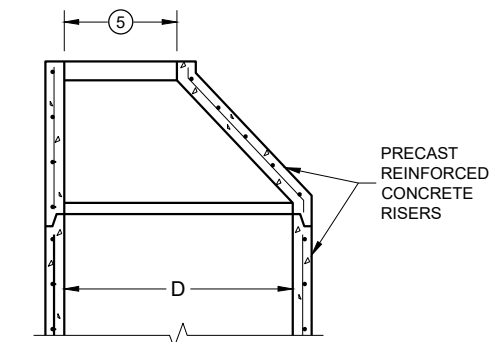
INLET COVER TYPE BW
MANHOLE COVERS, TYPE K,
J, J-S, L & M

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

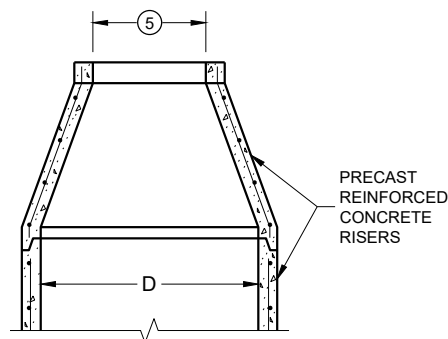
APPROVED
11/27/2013 DATE /S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA



**PLAN VIEW
CIRCULAR OPENING**



**OPTIONAL PRECAST
REINFORCED CONCRETE
ECCENTRIC TOP**



**OPTIONAL PRECAST
REINFORCED CONCRETE
CONCENTRIC TOP**

MANHOLE COVER OPENING MATRIX

| MANHOLE COVER TYPE OPENING SIZE (FT.) | C | ALL J'S | K | L | M |
|--|---|---------|---|---|---|
| 2 DIA. | X | X | | X | |
| 3 DIA. | | | X | | X |

PIPE MATRIX

| MANHOLE SIZE (DIA.) | MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES | | MINIMUM WALL THICKNESS (IN) | MINIMUM PRECAST FLAT SLAB TOP AND BASE THICKNESS |
|---------------------|--|---------------------|-----------------------------|--|
| | 180° SEPARATION (IN) | 90° SEPARATION (IN) | | |
| 3-FT | 15 | 12 | 4 | 6 |
| 4-FT | 24 | 18 | 4 | 6 |
| 5-FT | 36 | 24 | 5 | 8 |
| 6-FT | 42 | 36 | 6 | 8 |
| 7-FT | 48 | 36/42* | 7 | 8 |
| 8-FT | 60 | 42 | 8 | 8 |
| 9-FT | 66 | 54 | 9 | 10 |
| 10-FT | 72 | 60 | 10 | 10 |

*A 36" PIPE AND A 42" PIPE CAN BE PLACED WITHIN 90 DEGREES. SEE MINIMUM HORIZONTAL PIPE SEPARATION 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.

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST MANHOLE UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATE THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

PRECAST REINFORCED CONCRETE CONE TOPS (ECCENTRIC OR CONCENTRIC) OR PRECAST REINFORCED CONCRETE FLAT SLAB TOPS MAY BE USED ON CONCRETE BLOCK STRUCTURES.

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES. CONCENTRIC CONE TOPS SHALL BE USED ONLY ON STRUCTURES 5 FEET OR LESS IN DEPTH UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

STEPS MEETING AASHTO M199 AND THE FOLLOWING REQUIREMENTS SHALL BE INSTALLED IN ALL STRUCTURES OVER 5 FEET IN DEPTH: 16 INCH C-C MAXIMUM SPACING; PROJECT A MINIMUM CLEAR DISTANCE OF 4 INCHES FROM THE WALL AT THE POINT OF EMBEDMENT; MINIMUM LENGTH OF 10 INCHES; MINIMUM WALL EMBEDMENT OF 3 INCHES. FERROUS METAL STEPS NOT PAINTED OR TREATED TO RESIST CORROSION SHALL HAVE A MINIMUM CROSS SECTIONAL DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF 1/2 INCH AND MEET THE REQUIREMENTS OF ASTM A615.

CERTIFICATION SHALL BE PROVIDED THAT INSTALLED STEPS WHEN TESTED IN ACCORDANCE WITH SECTION 10 OF AASHTO T280 CAN WITHSTAND A VERTICAL LOAD OF 800 LBS. AND A HORIZONTAL LOAD OF 400 LBS.

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

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M199.

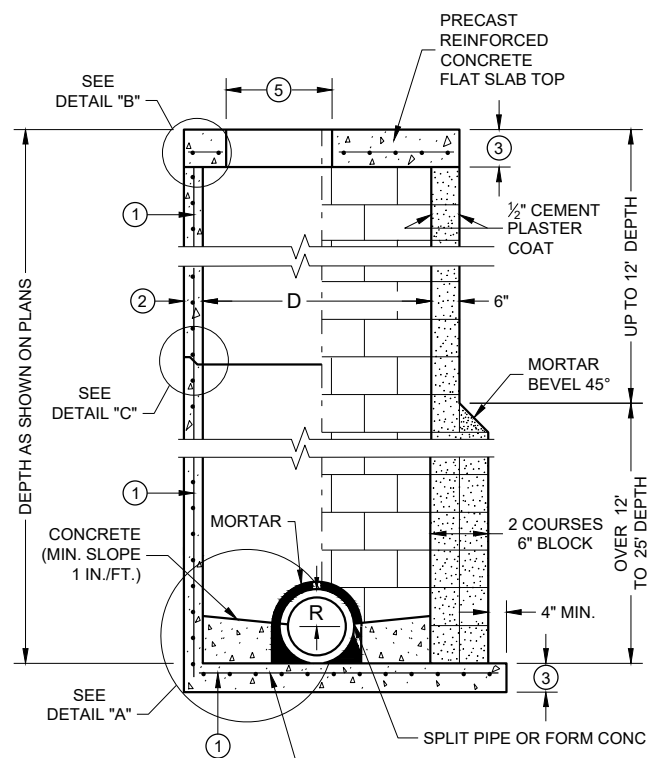
PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

CONCRETE BLOCK WILL NOT BE PERMITTED FOR STRUCTURES GREATER THAN 4 FEET IN DIAMETER.

4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "D".

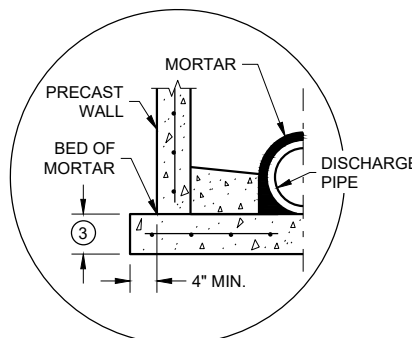
- ① FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.
- ② SEE PIPE MATRIX TABLE FOR MINIMUM WALL THICKNESS FOR PRECAST MANHOLES
- ③ SEE PIPE MATRIX TABLE FOR MINIMUM THICKNESS OF PRECAST FLAT SLAB TOPS AND BASES.
- ④ JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP.).
- ⑤ SEE MANHOLE COVER OPENING MATRIX.



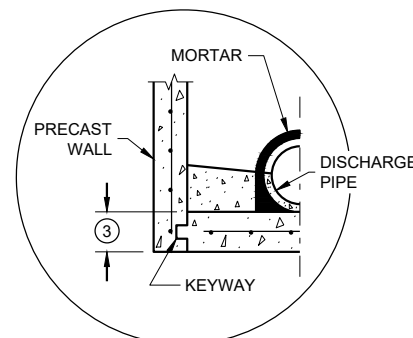
SECTION A - A

**PRECAST REINFORCED
CONCRETE WITH
MONOLITHIC BASE**

**CONCRETE BLOCK WITH
CAST IN PLACE OR
PRECAST REINFORCED
CONCRETE BASE ①**

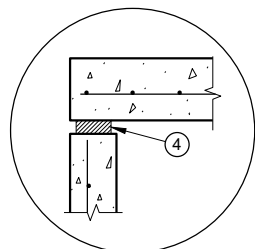


**SEPARATE PRECAST REINFORCED
CONCRETE BASE OPTION**

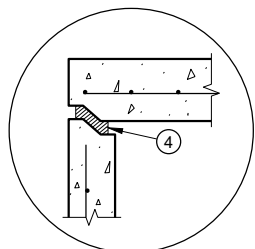


**PRECAST REINFORCED CONCRETE
WITH INTEGRAL BASE OPTION**

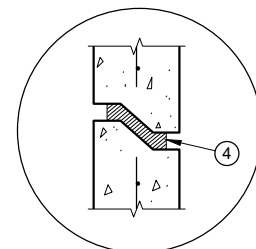
DETAIL "A"



**TOP WITH PLAIN
END JOINT**



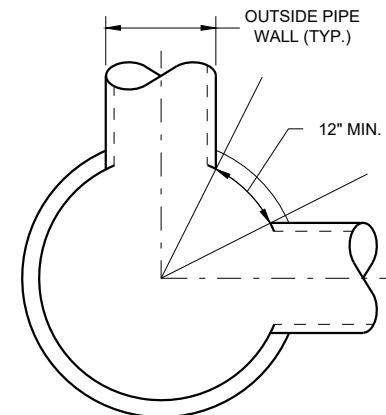
**TOP WITH TONGUE
AND GROOVE JOINT**



**RISER WITH TONGUE
AND GROOVE JOINT**

DETAIL "B"

DETAIL "C"



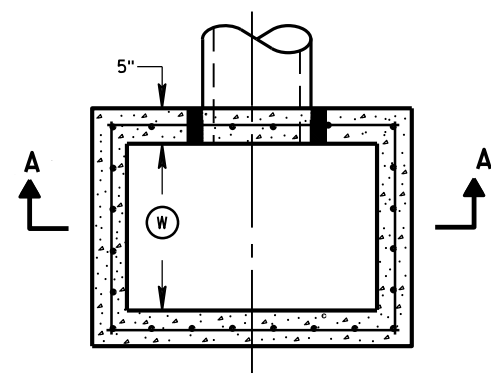
**MINIMUM HORIZONTAL
PIPE SEPARATION**

MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT AND 10-FT DIAMETER

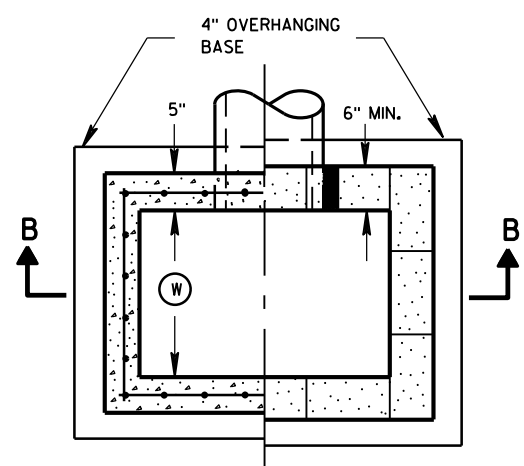
**MANHOLES, 3-FT, 4-FT
5-FT, 6-FT, 7-FT, 8-FT, 9-FT
AND 10-FT DIAMETER**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

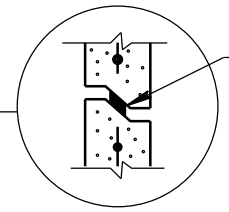
APPROVED
November 2021 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA



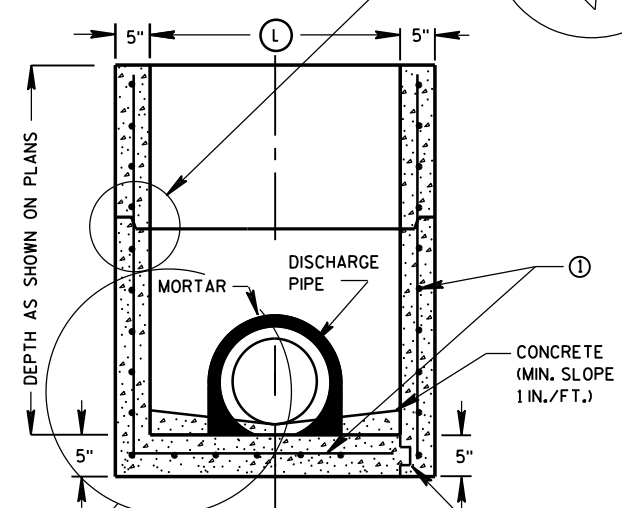
PLAN VIEW



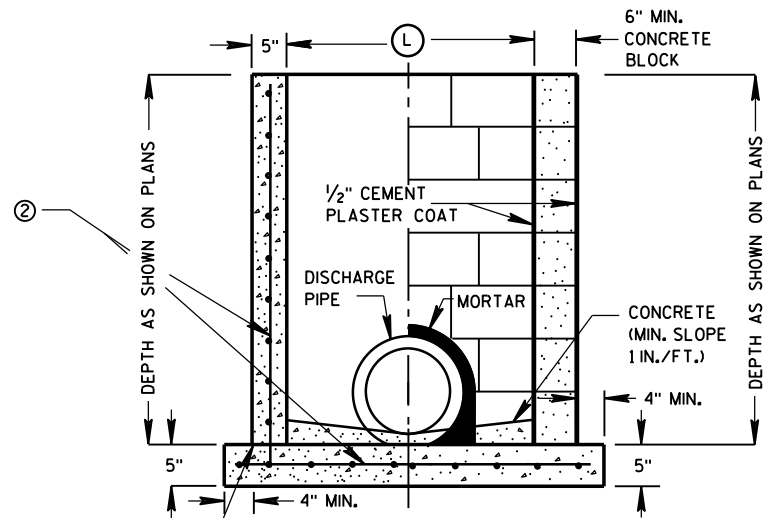
PLAN VIEW



RISER JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



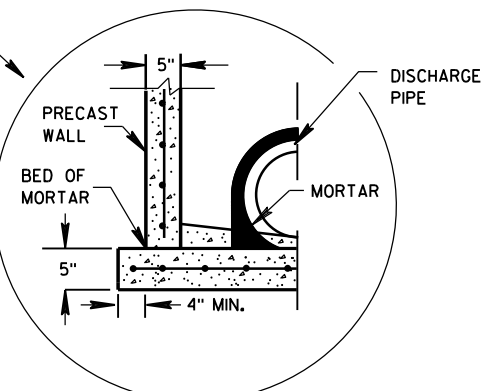
SECTION A-A



SECTION B-B

PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE
 PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE
 KEYWAY

CAST-IN-PLACE REINFORCED CONCRETE
 CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ①



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

GENERAL NOTES

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

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST INLET UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND DRAINAGE STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES THE SIZE OF THE STRUCTURE, AND THE FOLLOWING LETTER DESIGNATES THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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

PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

MAXIMUM INSIDE PIPE DIAMETER DETERMINED BY 3 INCH CLEARANCE ON EACH SIDE OF THE OUTSIDE WALL OF THE PIPE. SEE DETAIL "A". ASSUMES PIPE ENTERS PERPENDICULAR TO THE STRUCTURE.

① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

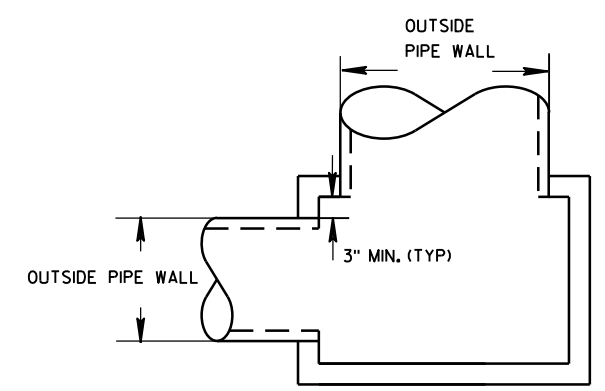
② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

| INLET SIZE | INLET COVER TYPE | | ALL A'S | ALL B'S | BW | F | ALL H'S | S | T | V | WM |
|------------|------------------|---------------|---------|---------|----|---|---------|---|---|---|----|
| | WIDTH ① (FT) | LENGTH ② (FT) | | | | | | | | | |
| 2X2-FT | 2 | 2 | X | X | | | | X | | X | |
| 2X2.5-FT | 2 | 2.5 | | | X | | | X | X | X | X |
| 2X3-FT | 2 | 3 | | | | | X | | | | |
| 2.5X3-FT | 2.5 | 3 | | | | X | | | | | |

PIPE MATRIX

| INLET SIZE | MAXIMUM INSIDE PIPE DIAMETER | |
|------------|------------------------------|-------------|
| | WIDTH (IN) | LENGTH (IN) |
| 2X2-FT | 12 | 12 |
| 2X2.5-FT | 12 | 18 |
| 2X3-FT | 12 | 24 |
| 2.5X3-FT | 18 | 24 |



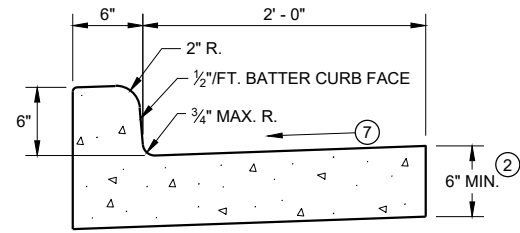
DETAIL "A"

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

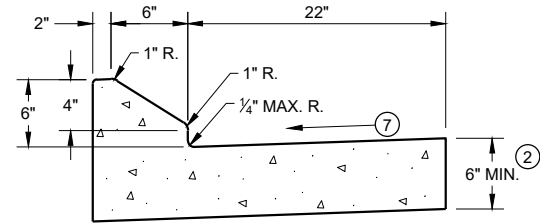
INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

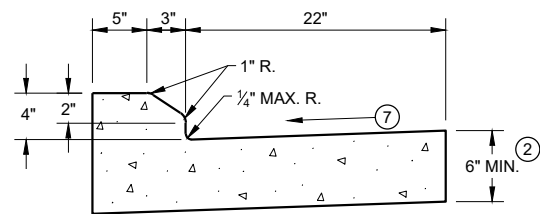
APPROVED
 Sept., 2016 /S/ Rodney Taylor
 DATE ROADWAY STANDARDS DEVELOPMENT
 FHWA UNIT SUPERVISOR



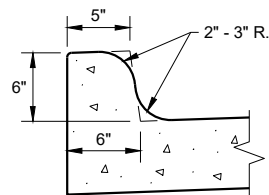
TYPES A¹ & D



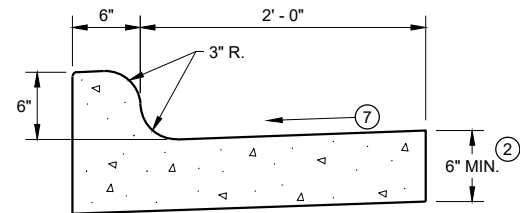
6" SLOPED CURB TYPES G¹ & J



4" SLOPED CURB TYPES G¹ & J

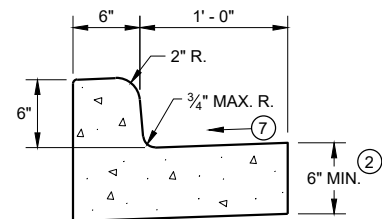


TYPES K¹ & L
(OPTIONAL CURB SHAPE)



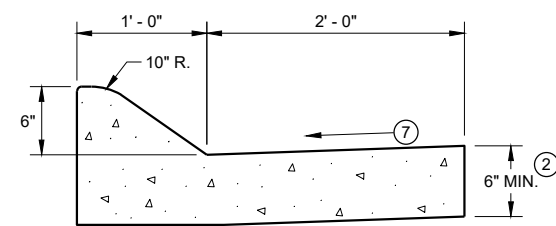
TYPES K¹ & L

CONCRETE CURB AND GUTTER 30"

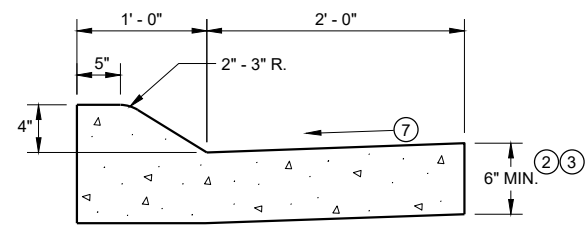


TYPES A¹ & D

CONCRETE CURB AND GUTTER 18"

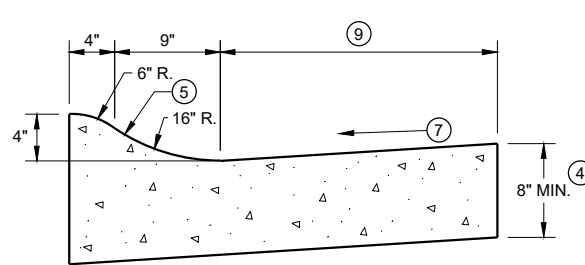


6" SLOPED CURB TYPES A¹ & D



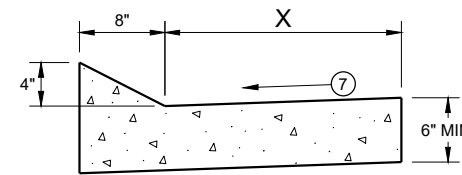
4" SLOPED CURB TYPES A¹ & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R¹ & T

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

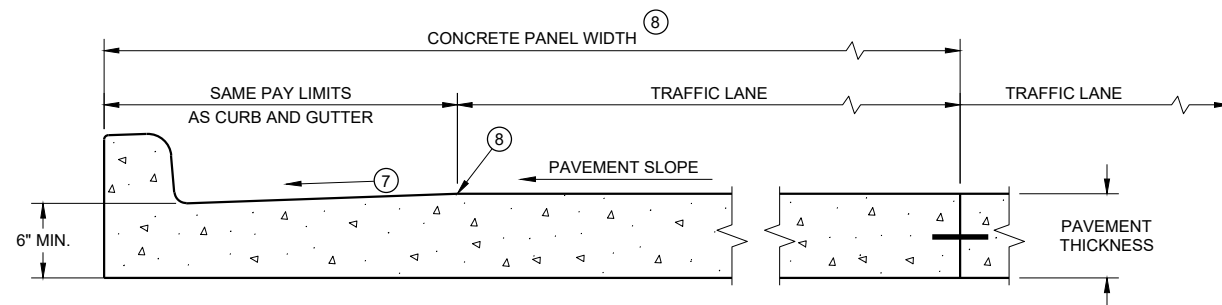


TYPES TBT & TBTT¹

CONCRETE CURB AND GUTTER

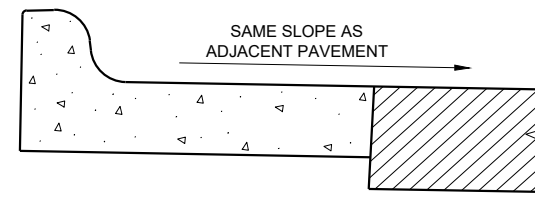
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

| 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 GUTTER⁶
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

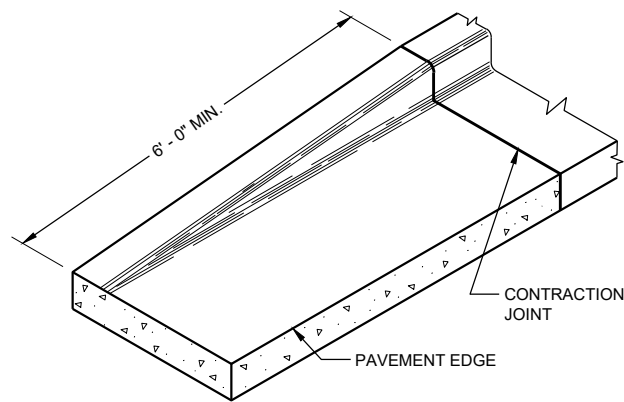
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

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

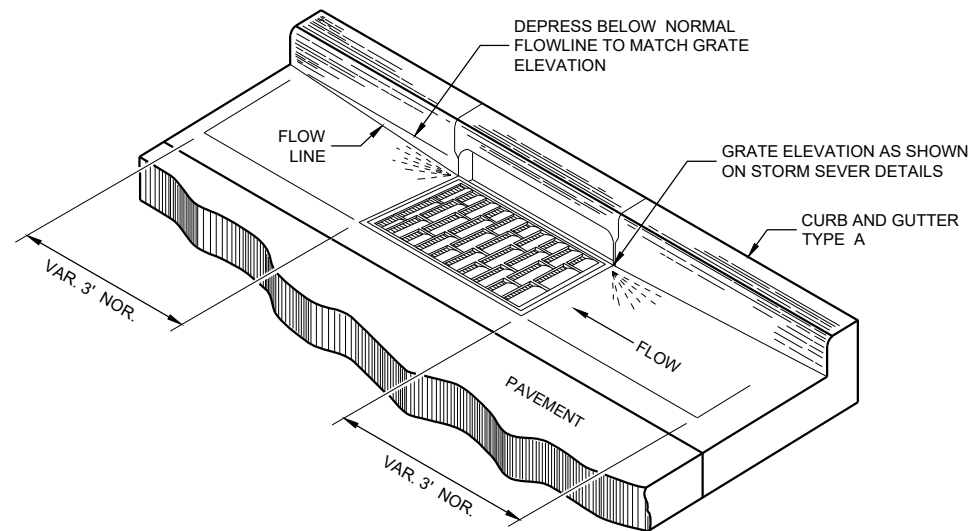
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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 CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES



END SECTION CURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS
(TYPICAL H INLET COVER SHOWN)

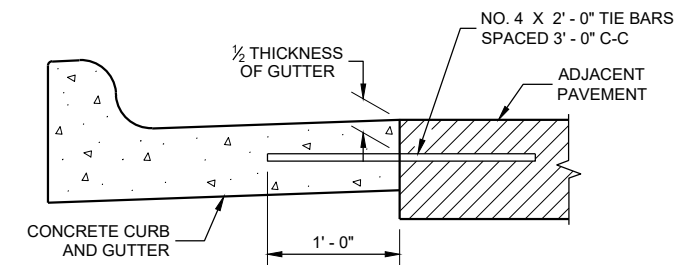
GENERAL NOTES

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

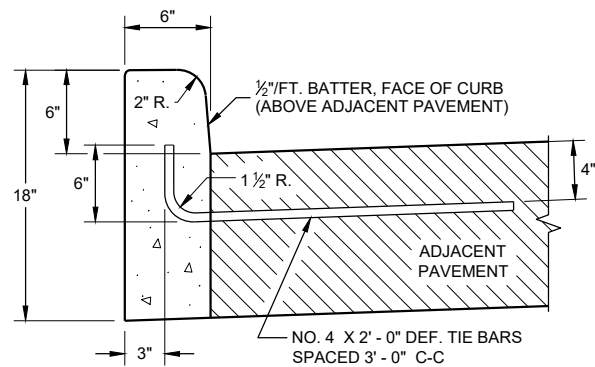
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

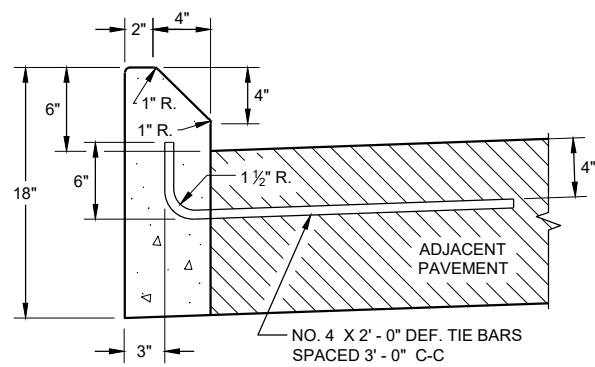
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑨ REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.



TYPICAL TIE BAR LOCATION ①

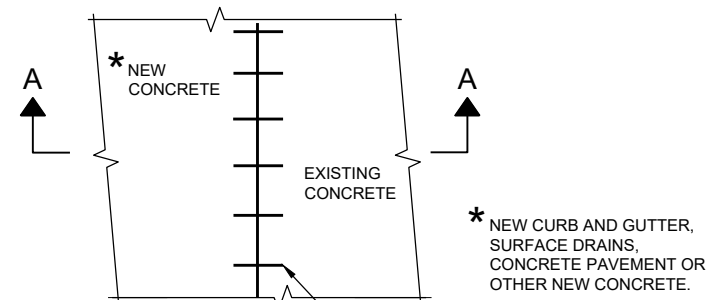


TYPES A ① & D

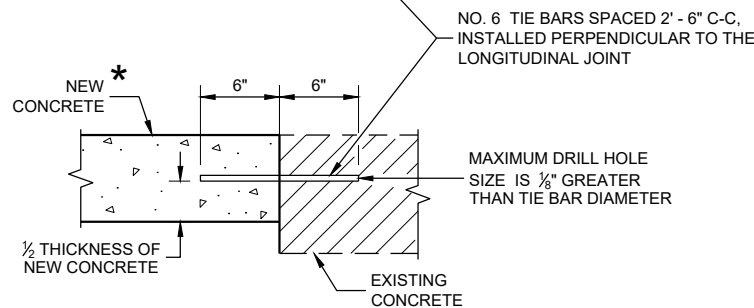


TYPES G ① & J

CONCRETE CURB

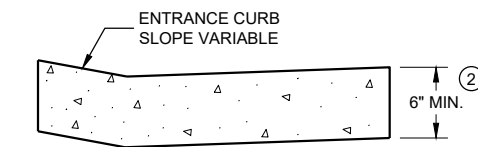


PLAN VIEW



SECTION A - A

TIE BARS DRILLED INTO EXISTING PAVEMENT



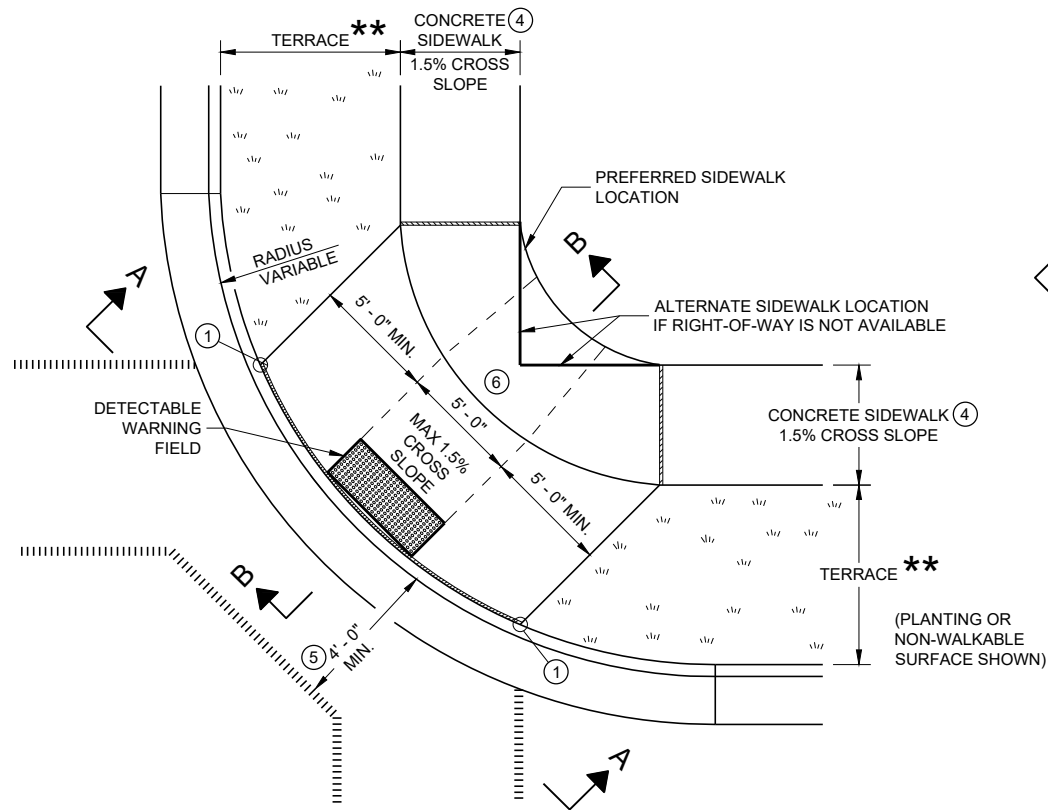
DRIVEWAY ENTRANCE CURB ⑨
(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

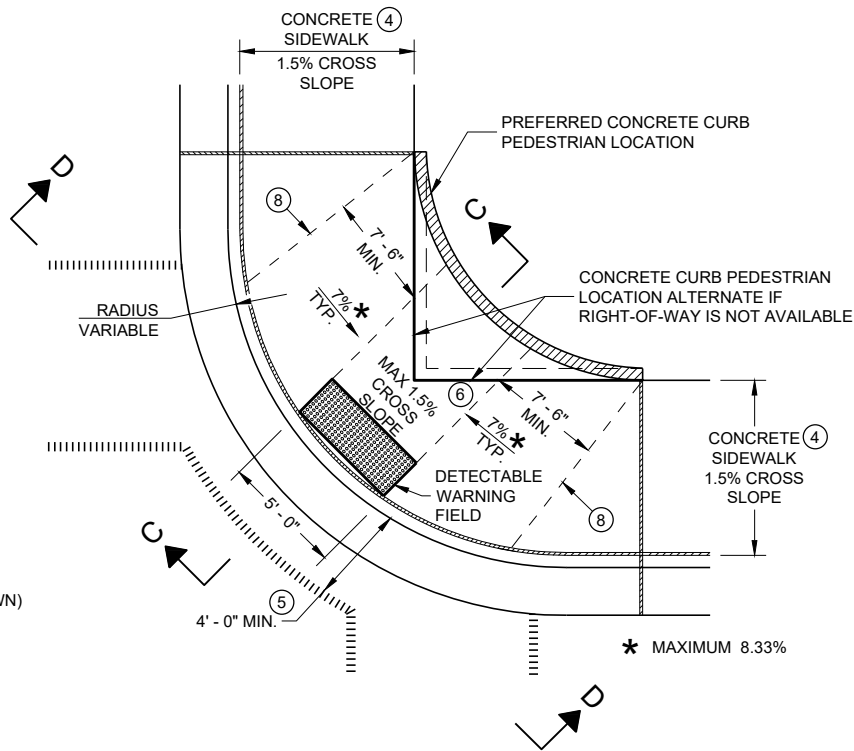
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
ENGINEER

FHWA



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



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

GENERAL NOTES

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

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

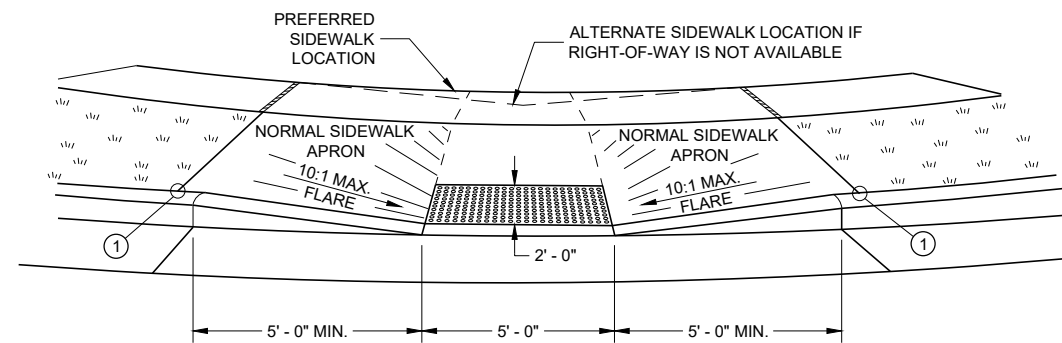
DETECTABLE WARNING FIELD SHALL BE MEASURED AND PAID BY THE SQUARE FOOT AS "CURB RAMP DETECTABLE WARNING FIELD". THE CONCRETE PEDESTRIAN CURB, IF NEEDED, SHALL BE MEASURED AND PAID BY THE LINEAR FOOT AS "CONCRETE CURB PEDESTRIAN". CONCRETE SIDEWALK IN THE CURB RAMP AREA SHALL BE MEASURED AND PAID BY THE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

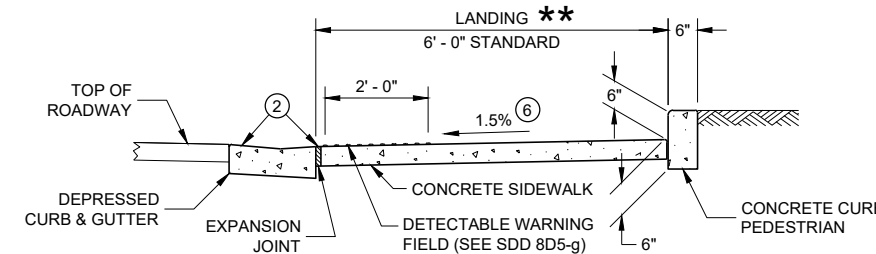
SURFACE TEXTURE OF THE RAMP SHALL BE OBTAINED BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP.

- 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 FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4" INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ MAXIMUM 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑤ PROVIDE A LEVEL LANDING IN THE STREET AND GUTTER AREA (2% MAXIMUM SLOPE IN ANY DIRECTION). WHEN THE GUTTER SLOPE EXCEEDS 2%, CONSTRUCT THE LEVEL LANDING IN THE STREET AREA.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.



VIEW A - A FOR TYPE 1

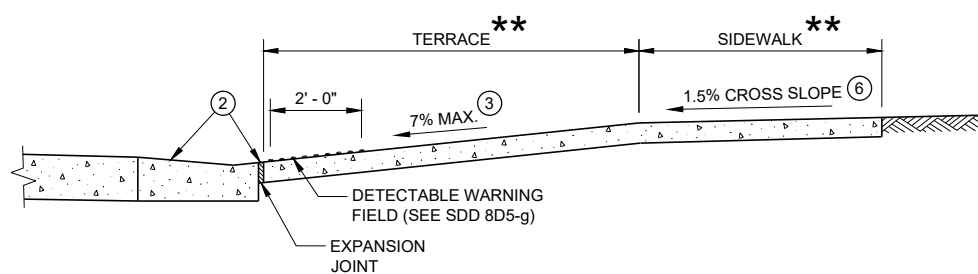
** WIDTH SHOWN ELSEWHERE IN THE PLANS



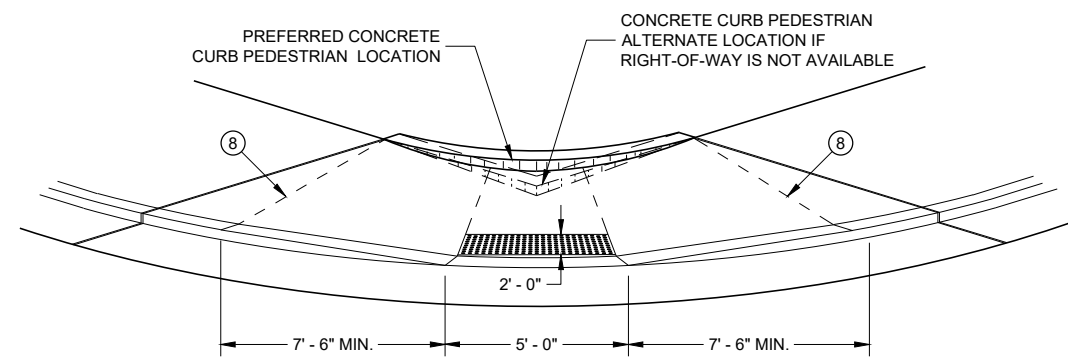
SECTION C - C FOR TYPE 1 - A

LEGEND

- 1/2" EXPANSION JOINT SIDEWALK
- - - - - CONTRACTION JOINT FIELD LOCATED
- ||||||| PAVEMENT MARKING CROSSWALK (WHITE)



SECTION B - B FOR TYPE 1

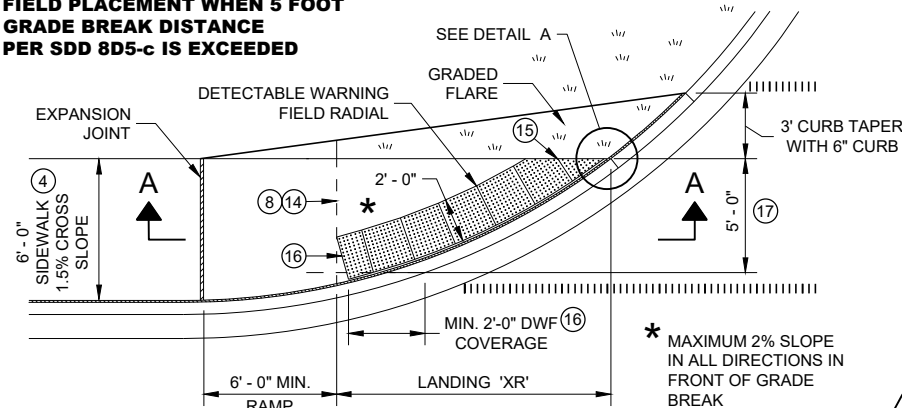


VIEW D - D FOR TYPE 1 - A

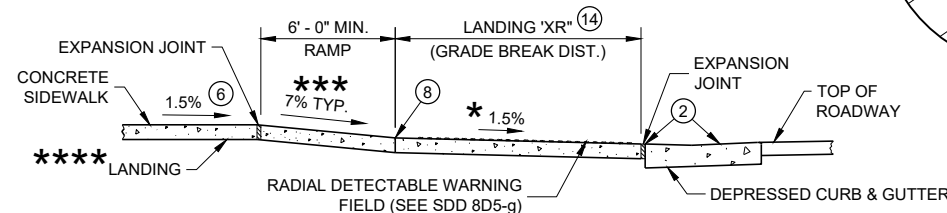
CURB RAMPS
TYPE 1 AND 1-A

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)

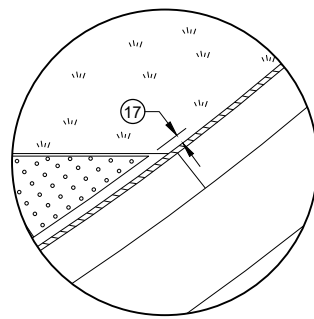


SECTION A - A FOR TYPE 4A1

**** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

*** MAXIMUM 8.33%

- LEGEND**
- 1/2" EXPANSION JOINT SIDEWALK
 - - - - - CONTRACTION JOINT SIDEWALK
 - ||||| PAVEMENT MARKING CROSSWALK (WHITE)

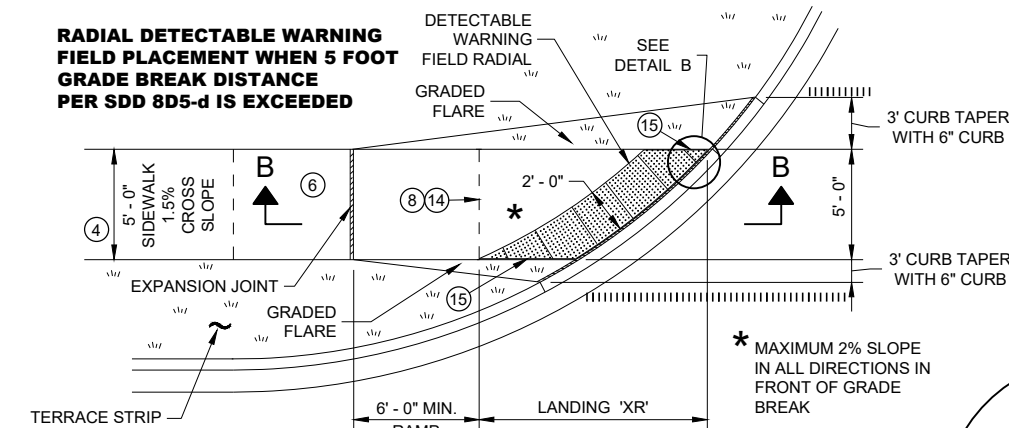


DETAIL A

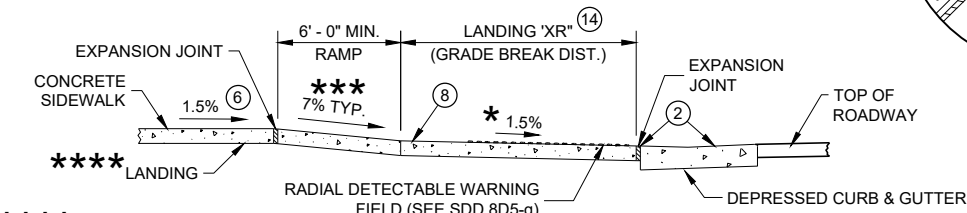
GENERAL NOTES

- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF 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 RAMPS ARE NOT SHOWN.
- REFER TO SDD 8D5-g FOR ADDITIONAL RADIAL PLATE REQUIREMENTS.
- 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.
- 2 GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4 INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- 3 AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- 4 ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- 6 PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET BY 5 FEET.
- 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 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 3 INCH CONCRETE BORDER WITH IS ALLOWABLE IN FROM OF RADIAL DETECTABLE WARNING FIELD FOR CONSTRUCTABILITY PURPOSES. CONCRETE BORDER WIDTH MAY VARY UP TO 1 INCH.

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



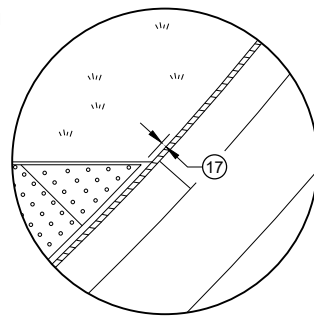
PLAN VIEW CURB RAMP TYPE 4B1 (GRADE BREAK DISTANCE GREATER THAN 5 FEET)



SECTION B - B FOR TYPE 4B1

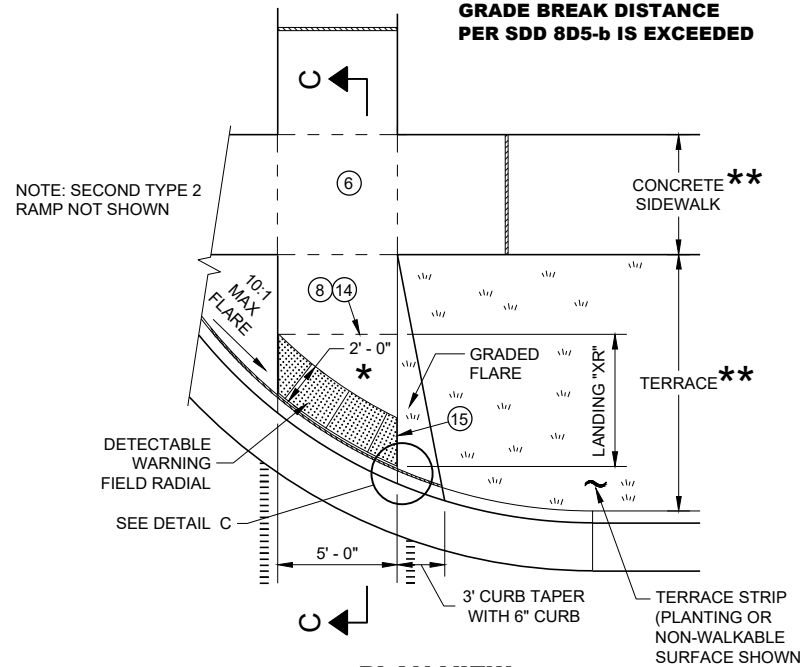
**** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

*** MAXIMUM 8.33%



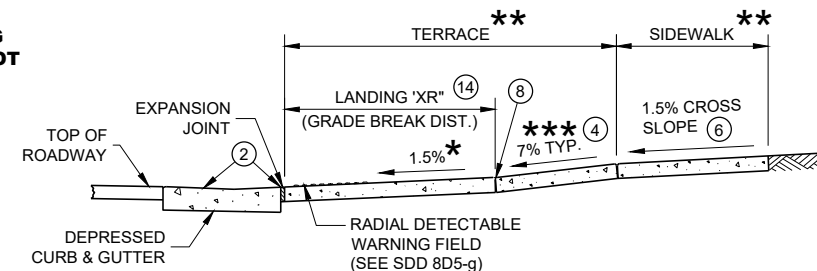
DETAIL B

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



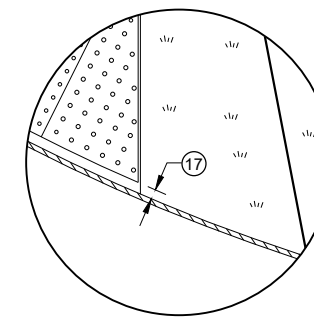
PLAN VIEW CURB RAMP TYPE 2 (GRADE BREAK DISTANCE GREATER THAN 5 FEET) (ON LINE WITH SIDEWALK)

NOTE: SECOND TYPE 2 RAMP NOT SHOWN



SECTION C - C FOR TYPE 2

- * MAXIMUM 2% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK
- ** WIDTH SHOWN ELSEWHERE IN THE PLANS
- *** MAXIMUM 8.33%



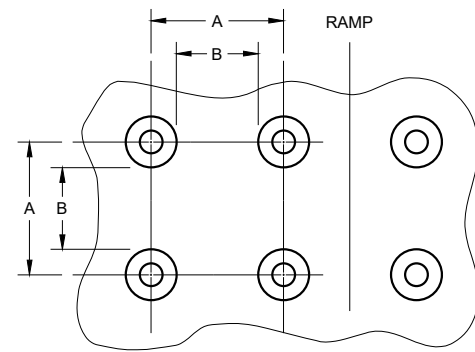
DETAIL C

CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS

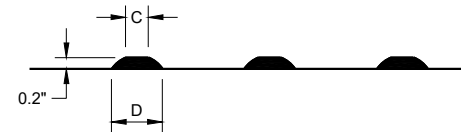
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

| | 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.

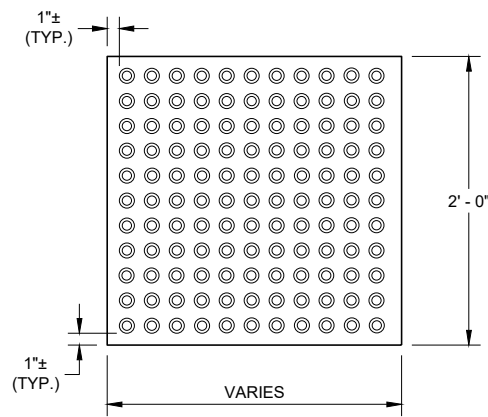


PLAN VIEW

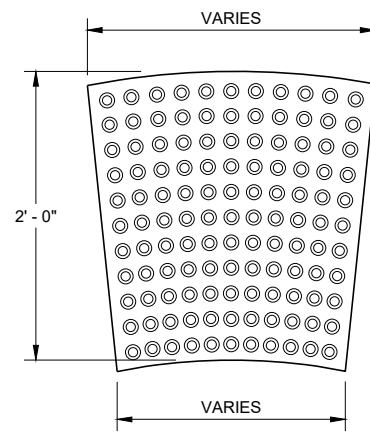


ELEVATION VIEW

**TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL**

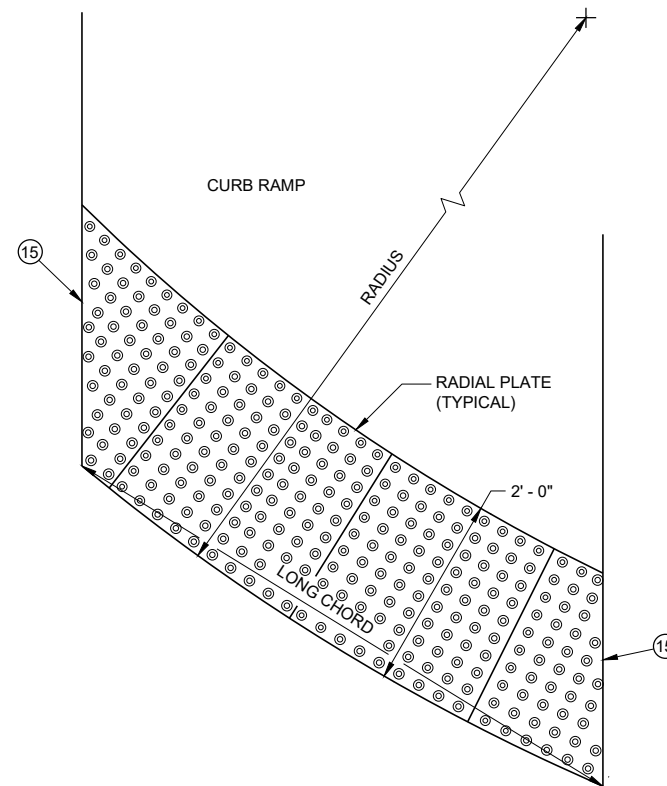


RECTANGULAR
PLATES

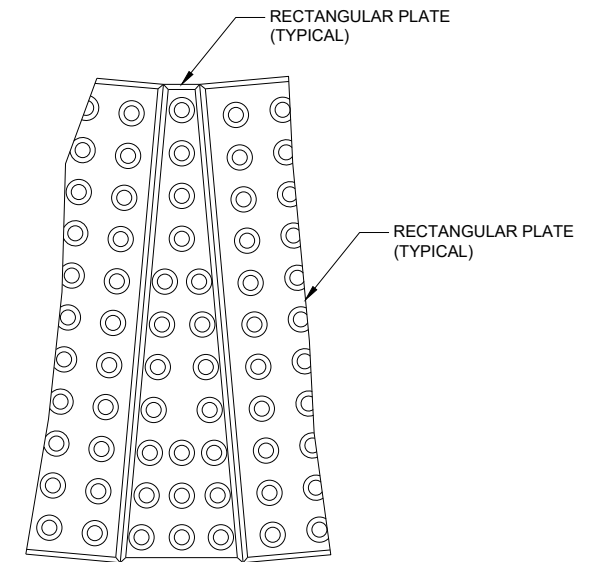


RADIAL
PLATES

PLAN VIEW
DETECTABLE WARNING FIELDS (TYPICAL)



PLAN VIEW
RADIAL DETECTABLE
WARNING FIELD ATTRIBUTES



PLAN VIEW
RADIAL WEDGE PLATE
CONNECTION DETAIL

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 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.

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.

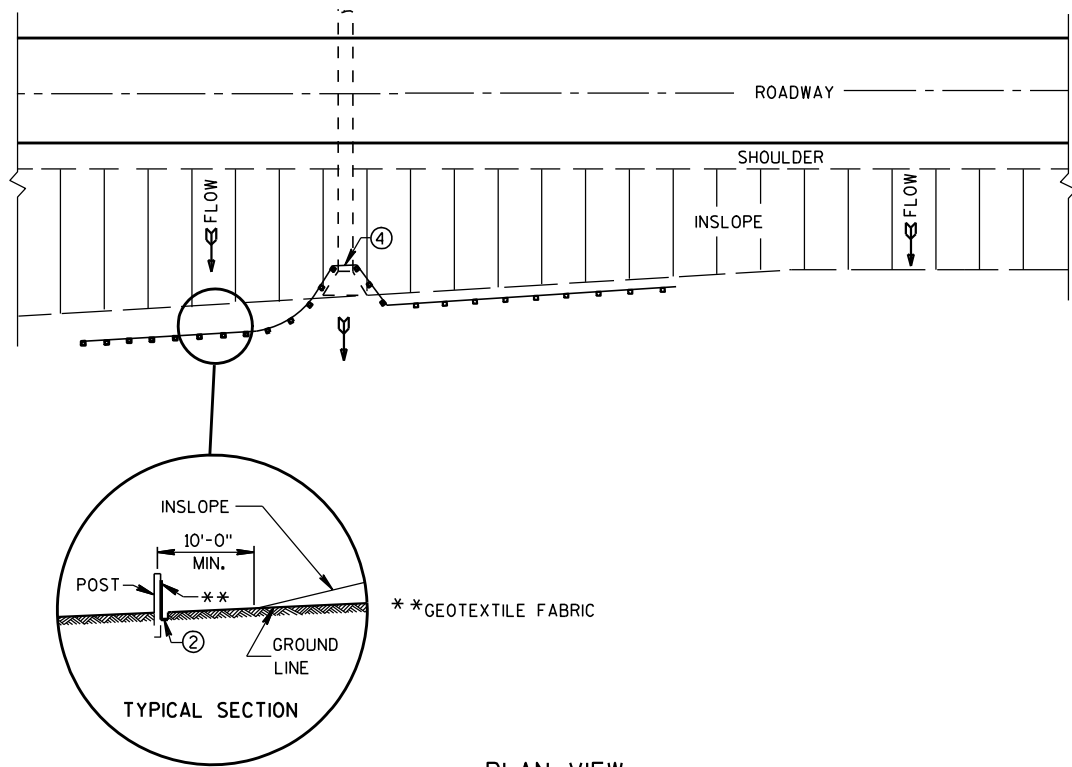
DO NOT EMBED IN CONCRETE ANY FIELD-CUT PLATES WITH CUT EDGES SHORTER THAN 6 INCHES. CONSULT WITH MANUFACTURER FOR RE-DRILLING AND ANCHORING REQUIREMENTS OF FIELD-CUT PLATES.

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.

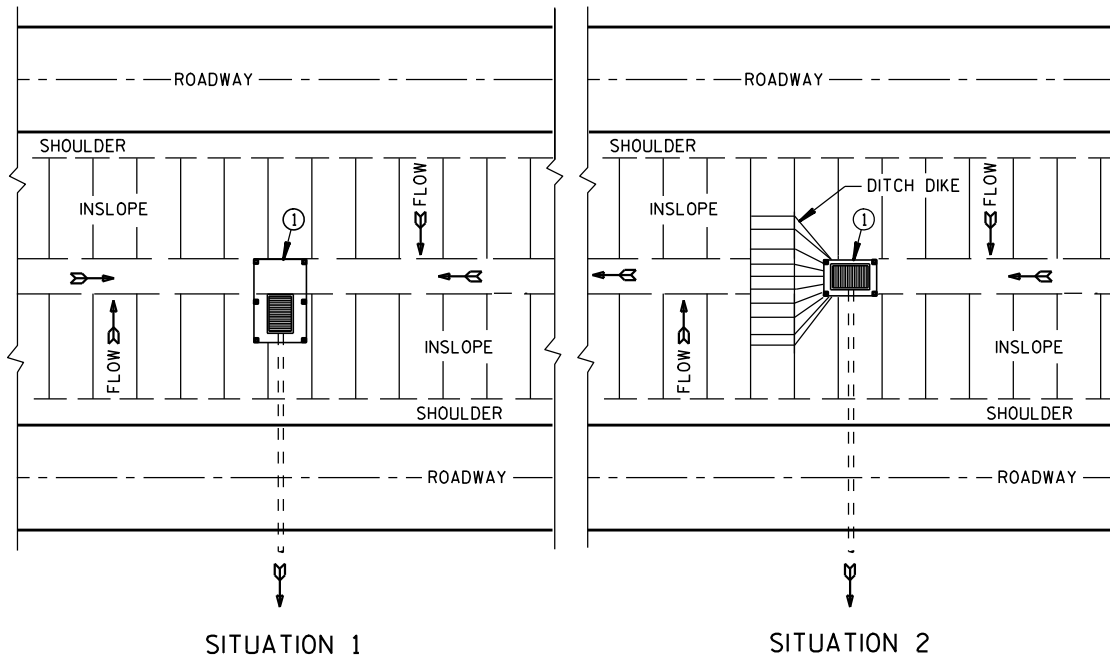
**CURB RAMPS
RECTANGULAR AND RADIAL
DETECTABLE WARNING PLATES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERVISOR



PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE

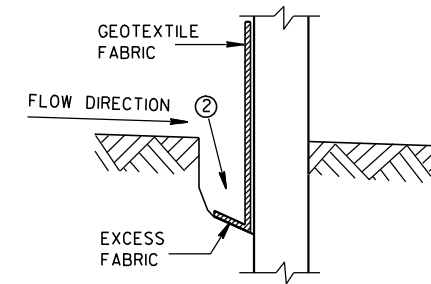


SITUATION 1 SITUATION 2
PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

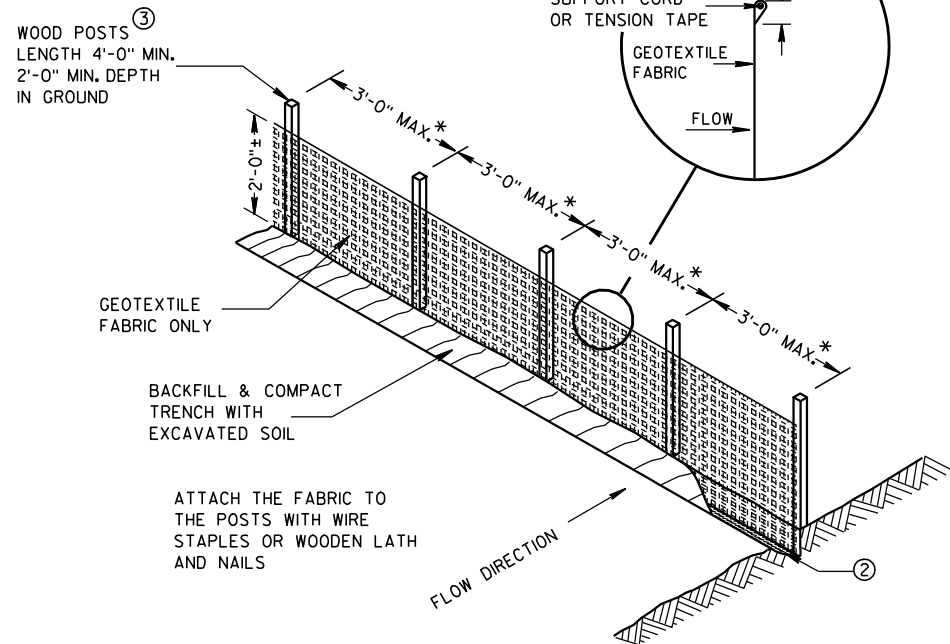
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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



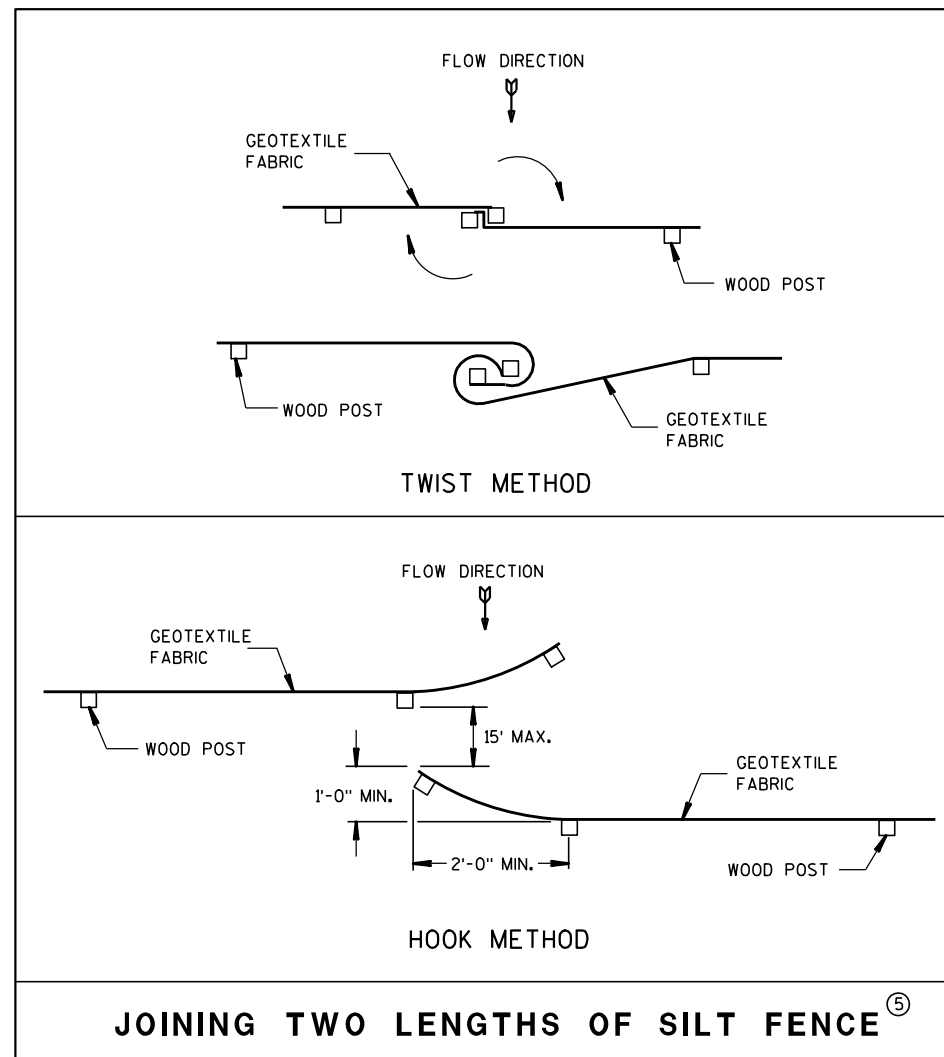
TRENCH DETAIL

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

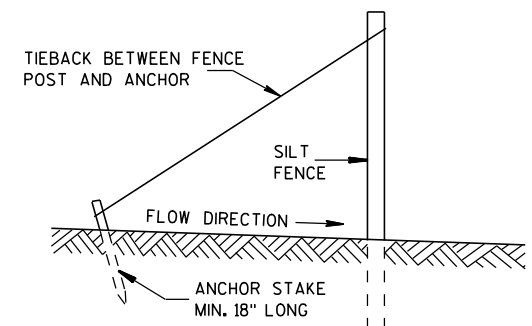


SILT FENCE

* NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

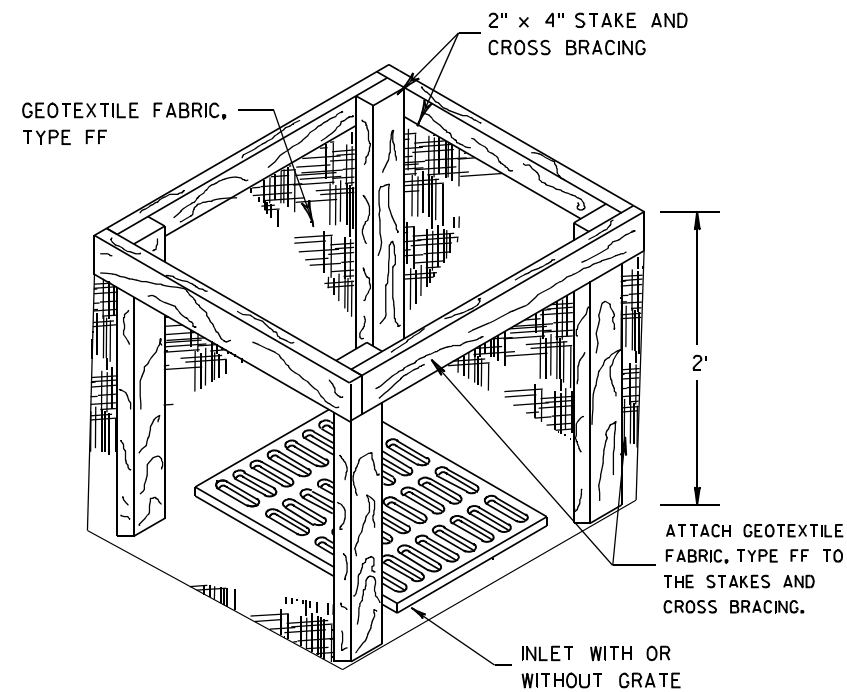
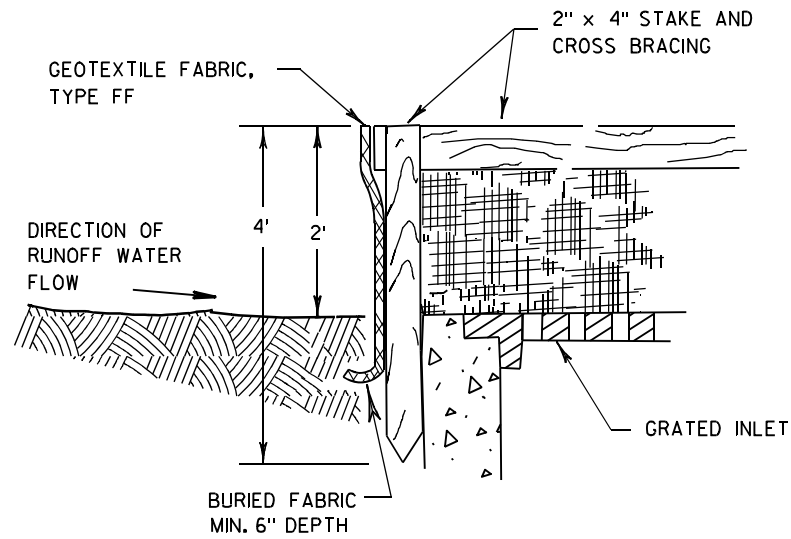


JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

| | |
|--|---|
| SILT FENCE | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | |
| APPROVED 4-29-05 DATE | /S/ Beth Canestra CHIEF ROADWAY DEVELOPMENT ENGINEER |
| FHWA | |



INLET PROTECTION, TYPE A

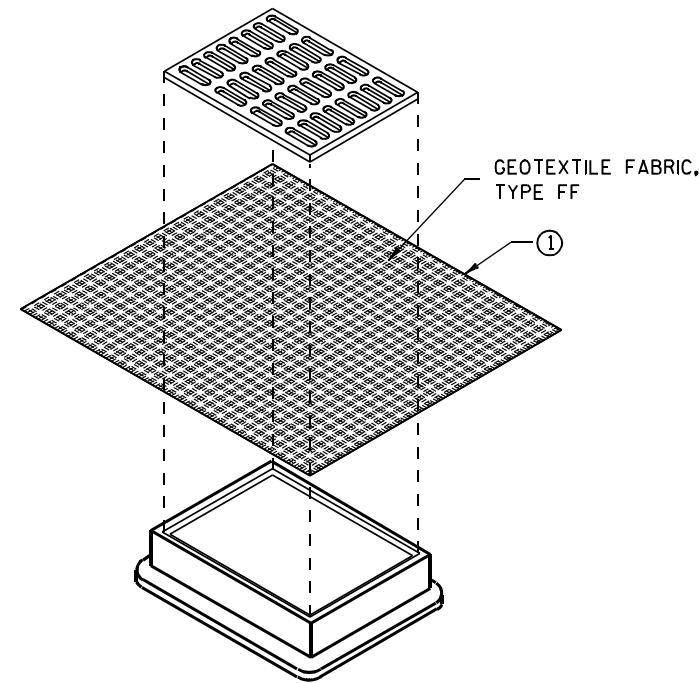
GENERAL NOTES

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.

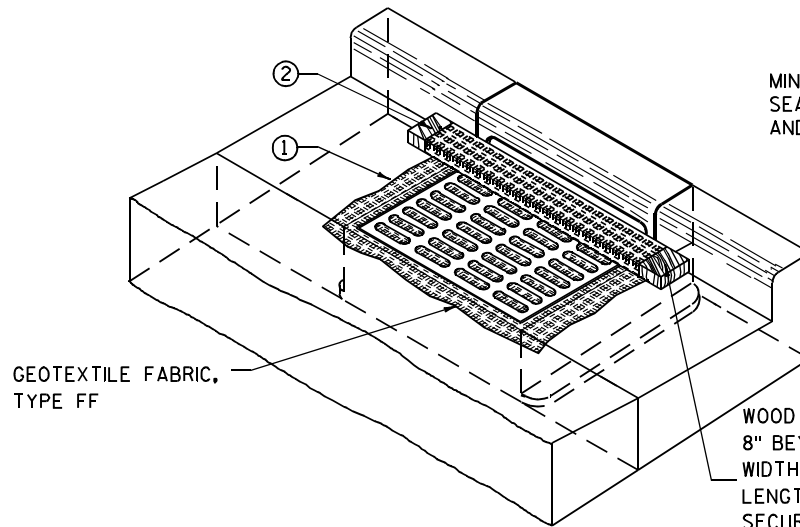
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.

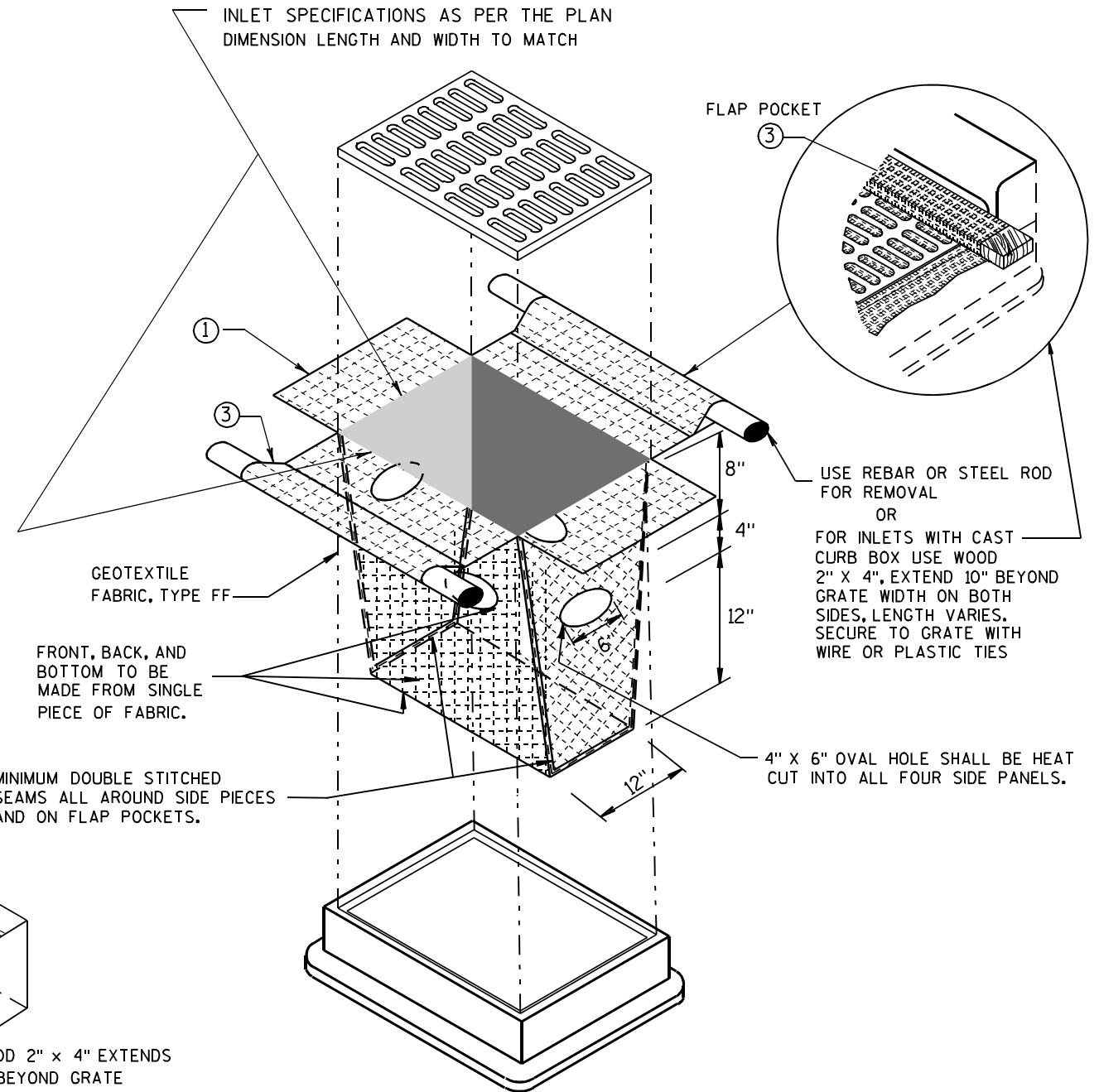
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

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.

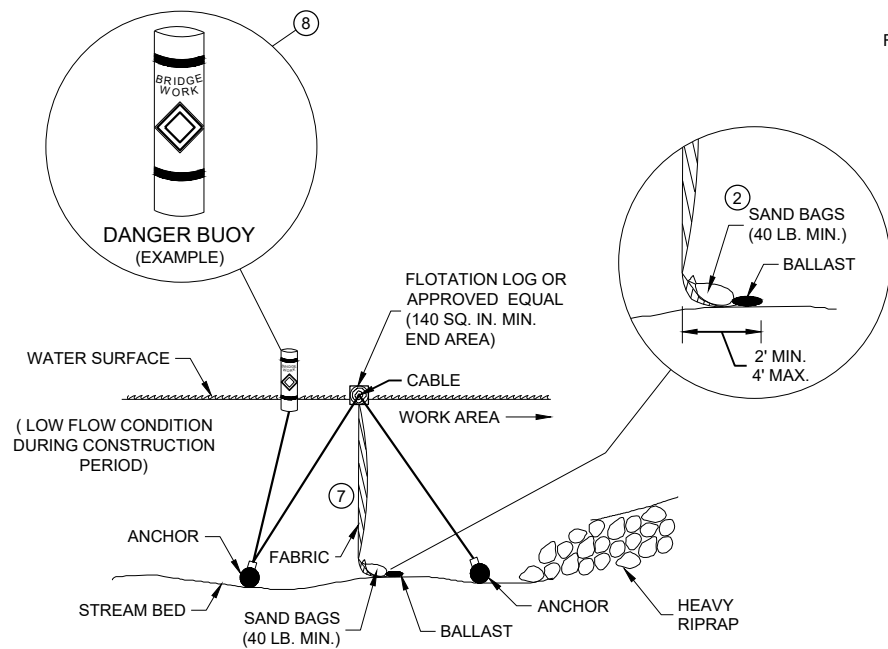
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.



INLET PROTECTION, TYPE D

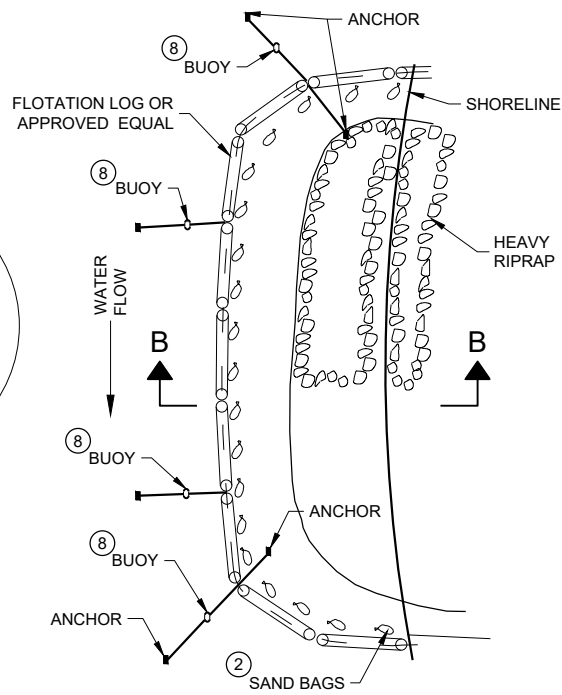
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

| | |
|--|---|
| INLET PROTECTION TYPE A, B, C, AND D | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | |
| APPROVED 10/16/02 DATE | /s/ Beth Conestra CHIEF ROADWAY DEVELOPMENT ENGINEER |
| FHWA | |

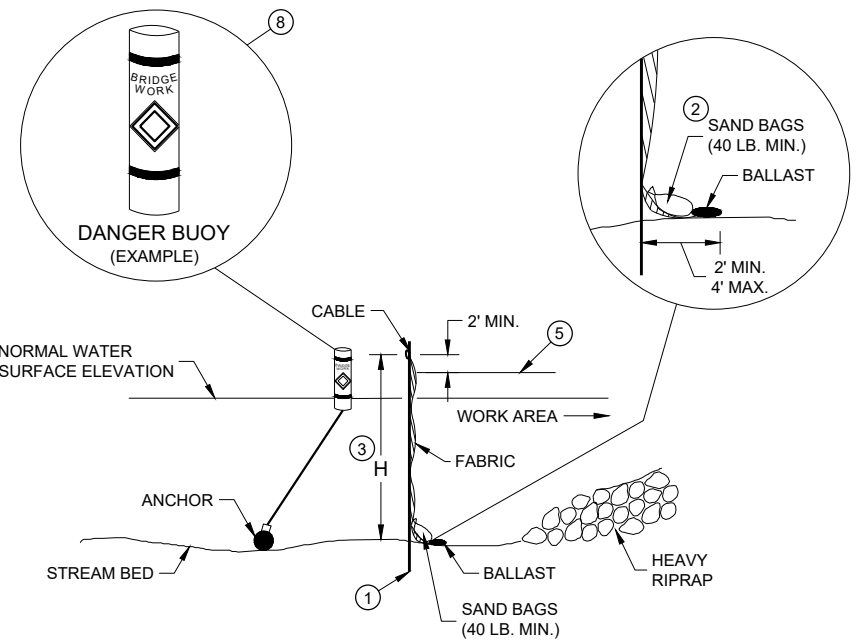


SECTION B - B

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

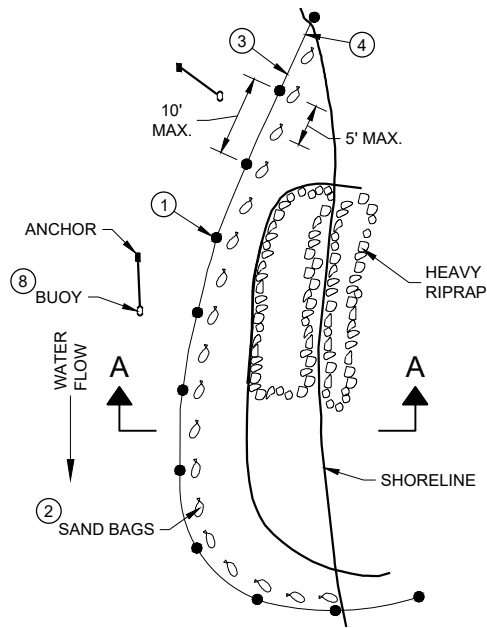


PLAN VIEW



SECTION A - A

TURBIDITY BARRIER - STANDARD POST INSTALLATION



PLAN VIEW

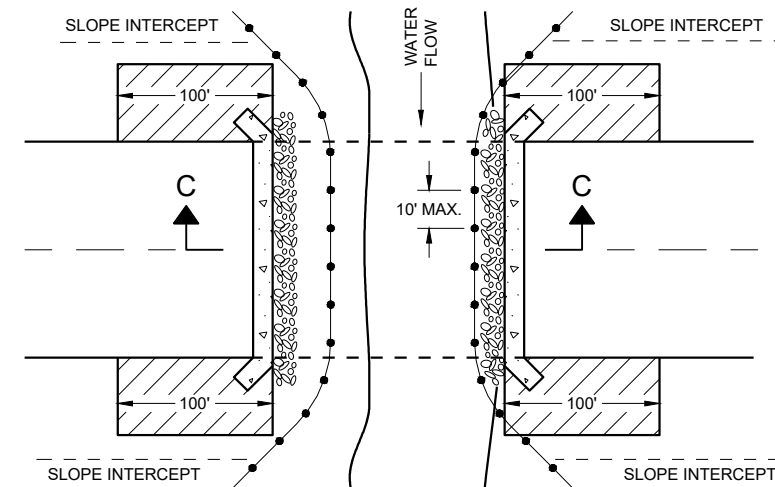
TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

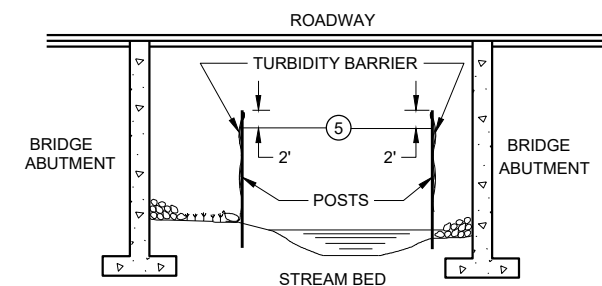
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

- ① DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.
- ② SAND BAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.
- ③ WHEN BARRIER HEIGHT "H" EXCEEDS 8 FEET, POST SPACING MAY NEED TO BE DECREASED.
- ④ IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.
- ⑤ ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE Q2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.
- ⑥ FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.
- ⑦ ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.
- ⑧ USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C - C

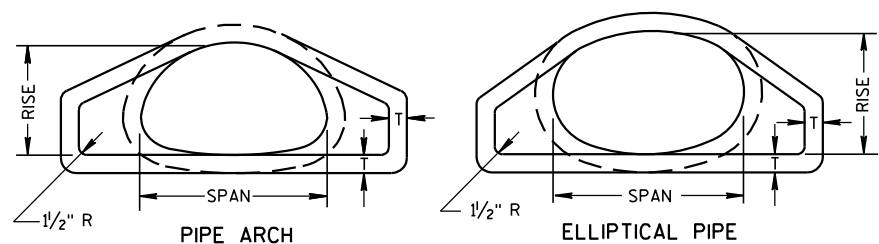
**TURBIDITY BARRIER DETAIL SHOWING
TYPICAL PLACEMENT AT STRUCTURES**

TURBIDITY BARRIER

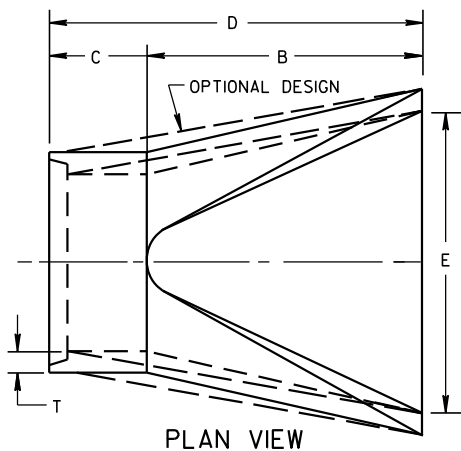
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/4/02 DATE /S/ Beth Cannestra
DATE CHIEF ROADWAY DEVELOPMENT
ENGINEER

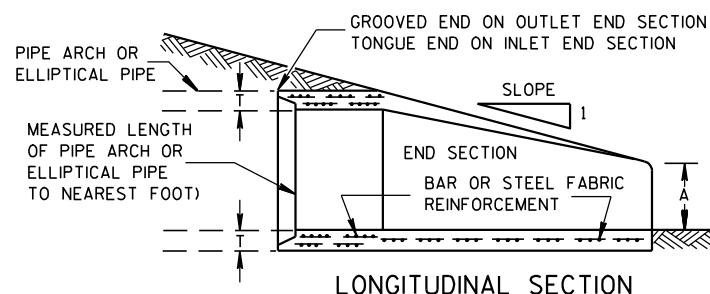
FHWA



END VIEW



PLAN VIEW



LONGITUDINAL SECTION

CONCRETE ENDWALLS

2- 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 (⓪) | L2 (⓪) | W (±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 (⓪) | L2 (⓪) | W (±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

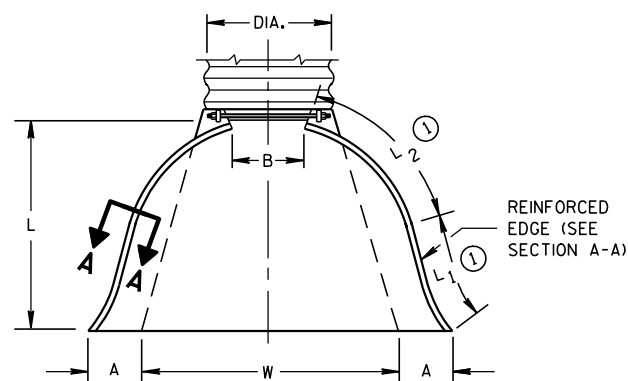
REINFORCED CONCRETE PIPE ARCH

| 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 1/8 | 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

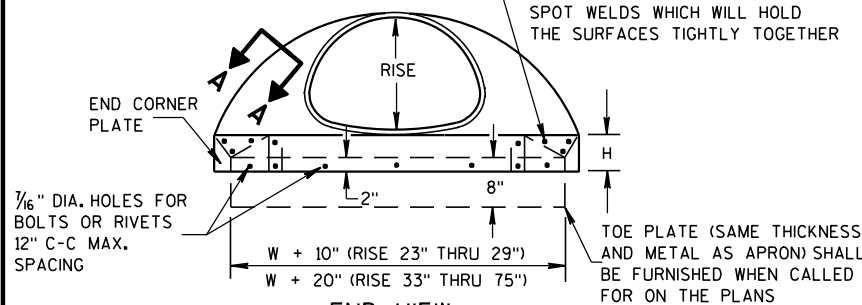
| EQUIV. DIA. (Inches) | DIMENSIONS (Inches) | | | | | | | | APPROX. SLOPE |
|----------------------|---------------------|--------|-------|--------|----|----|----|----|---------------|
| | **SPAN | **RISE | T | A | B | C | D | E | |
| 24 | 30 | 19 | 3 1/4 | 8 1/2 | 39 | 33 | 72 | 48 | 3 to 1 |
| 30 | 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 3/4 | 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



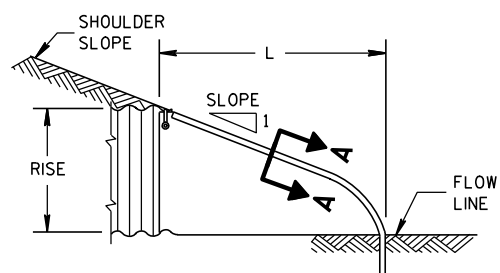
PLAN VIEW

END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER

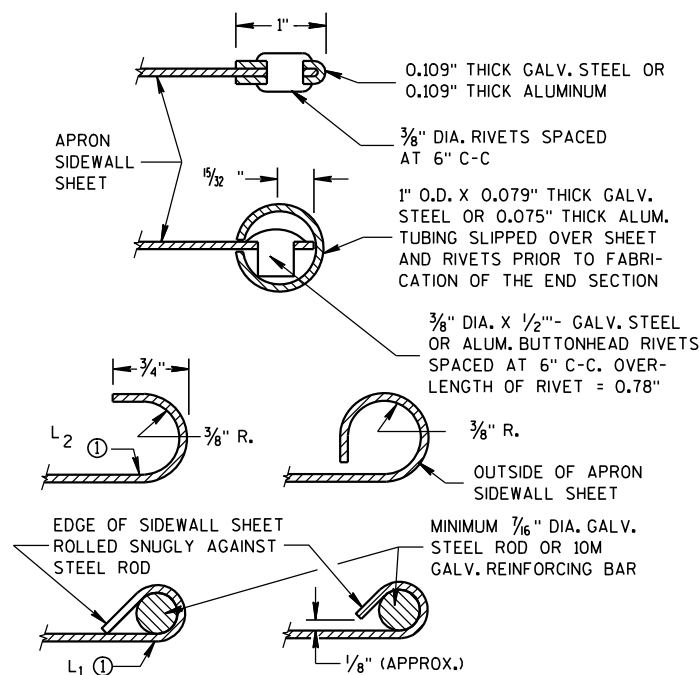


END VIEW

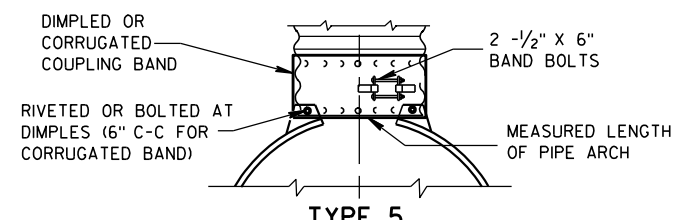
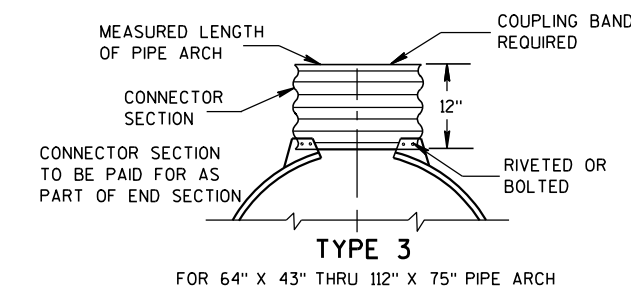
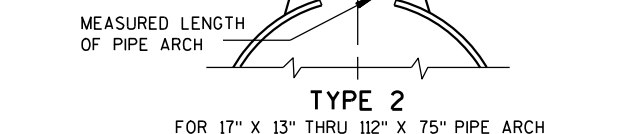
TOE PLATE (SAME THICKNESS AND METAL AS APRON) SHALL BE FURNISHED WHEN CALLED FOR ON THE PLANS



SIDE ELEVATION
METAL ENDWALLS



SECTION A-A



NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL.

CONNECTION DETAILS

GENERAL NOTES

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

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

ALL THREE PIECE STEEL APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.109" SIDES AND 0.138" CENTER PANELS. ALL THREE PIECE ALUMINUM APRON ENDWALLS FOR 66" X 51" PIPE ARCH AND LARGER SHALL HAVE 0.105" SIDES AND 0.134" CENTER PANELS. THE WIDTH OF CENTER PANELS SHALL BE GREATER THAN 20 PERCENT OF THE PIPE ARCH PERIMETER.

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 77" X 52" THROUGH 112" X 75" APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

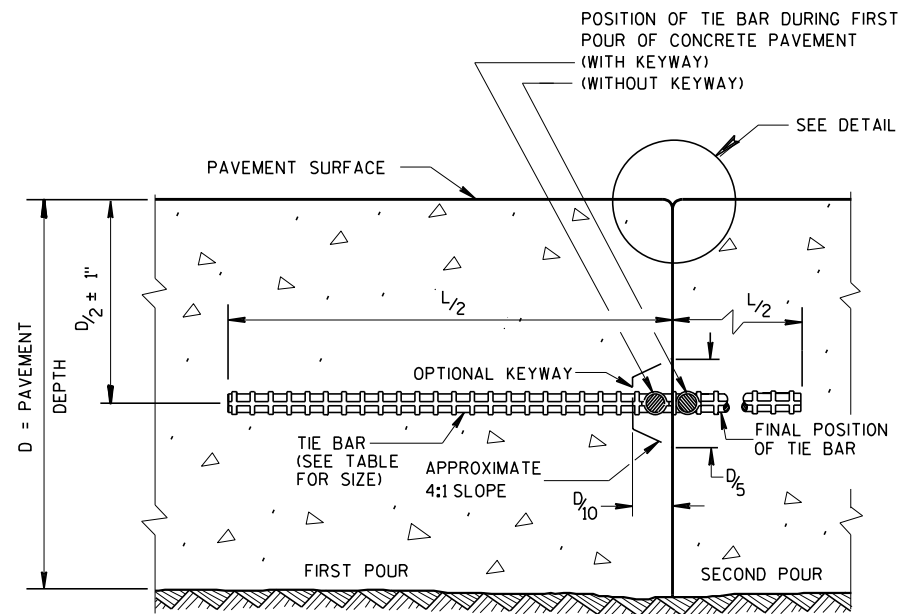
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

⓪ 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.

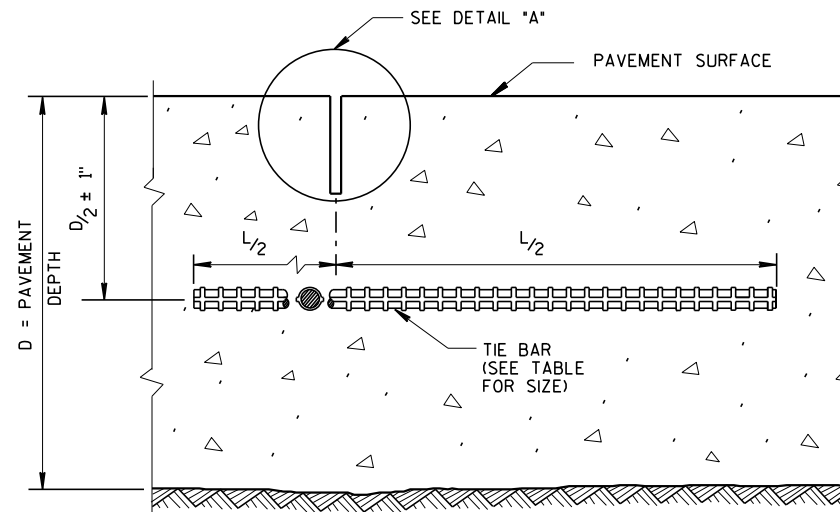
APRON ENDWALLS FOR
PIPE ARCH AND
ELLIPTICAL PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



CONSTRUCTION JOINT



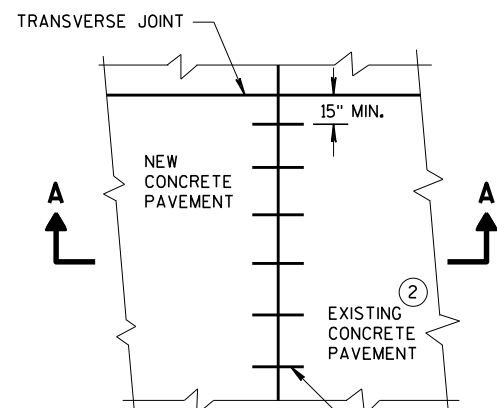
SAWED JOINT

GENERAL NOTES

CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

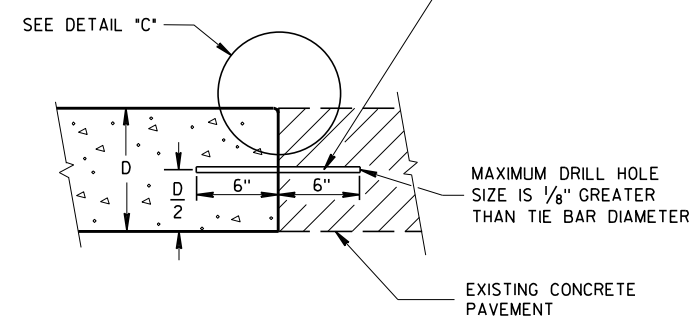
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

- ① ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.
- ② PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

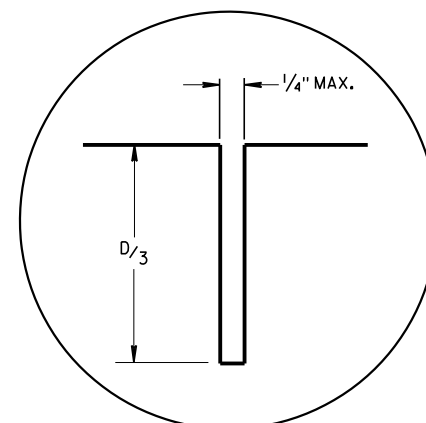


PLAN VIEW

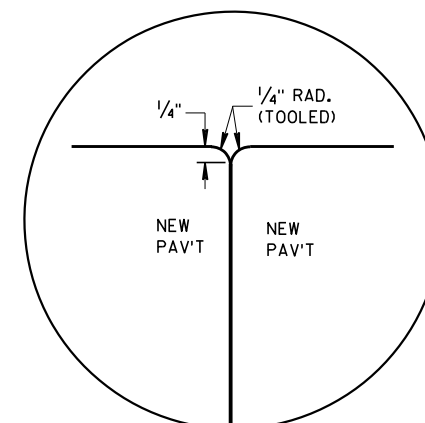
NO. 6 TIE BARS SPACED 30" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT. ①



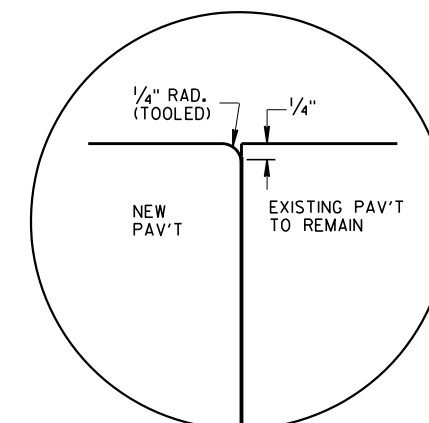
**SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT
TIE BARS ANCHORED
INTO EXISTING PAVEMENT**



DETAIL "A"



DETAIL "B"



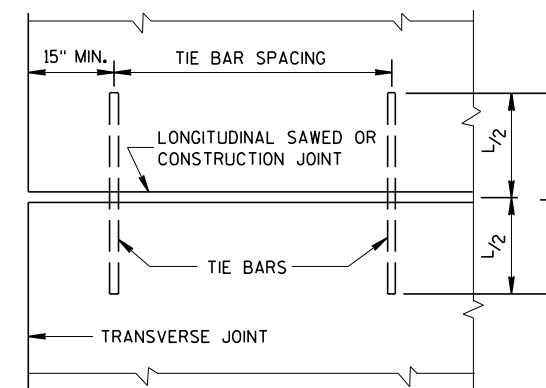
DETAIL "C"

TIE BAR TABLE

| PAVEMENT DEPTH (D) | TIE BAR SIZE | TIE BAR LENGTH (L) | MAX. TIE BAR SPACING |
|--------------------|--------------|--------------------|----------------------|
| < 10 1/2" | NO. 4 | 30" | 36" |
| ≥ 10 1/2" | NO. 5 | 36" | 36" |
| | NO. 4 * | 30" | 24" ** |

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

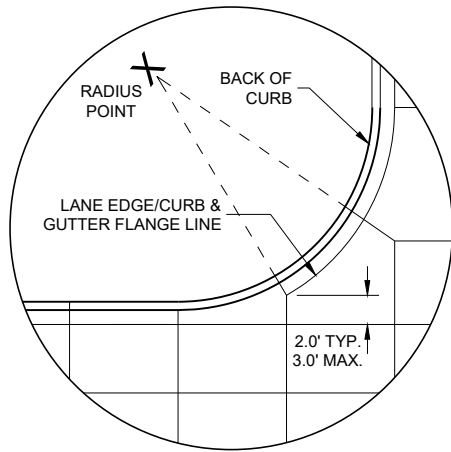


**PLAN VIEW
SHOWING LOCATION OF TIE BARS**

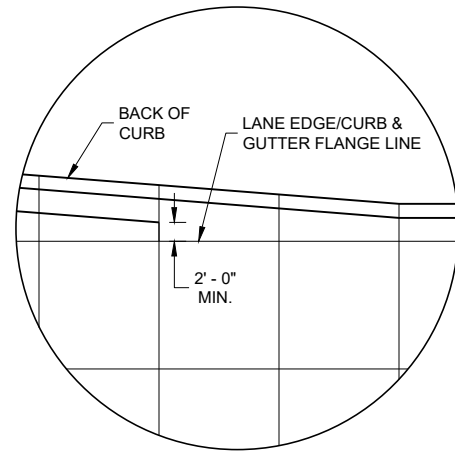
**CONCRETE PAVEMENT
LONGITUDINAL JOINTS AND TIES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

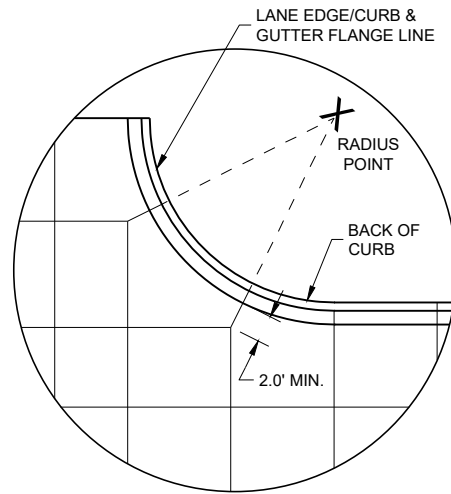
APPROVED
March 2018 /S/ Peter Kemp, P.E.
DATE PAVEMENT SUPERVISOR
FHWA



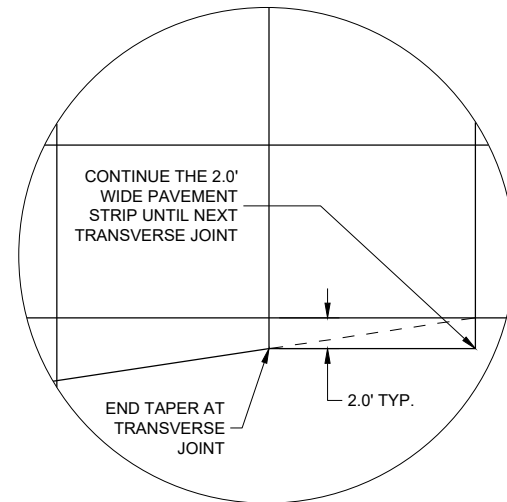
DETAIL "A"



DETAIL "B"



DETAIL "C"

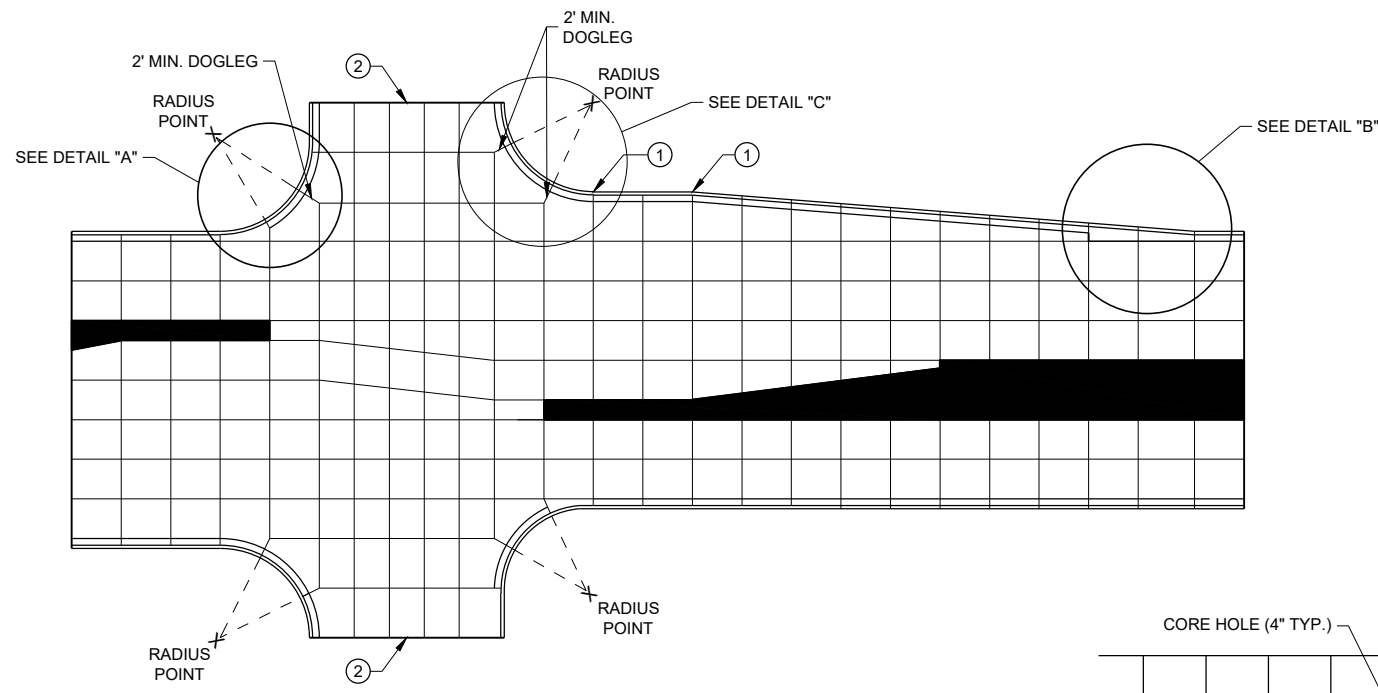


DETAIL "D"

GENERAL NOTES

- THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.
- ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.
- CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.
- ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.
- AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.
- SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.
- AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.
- CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

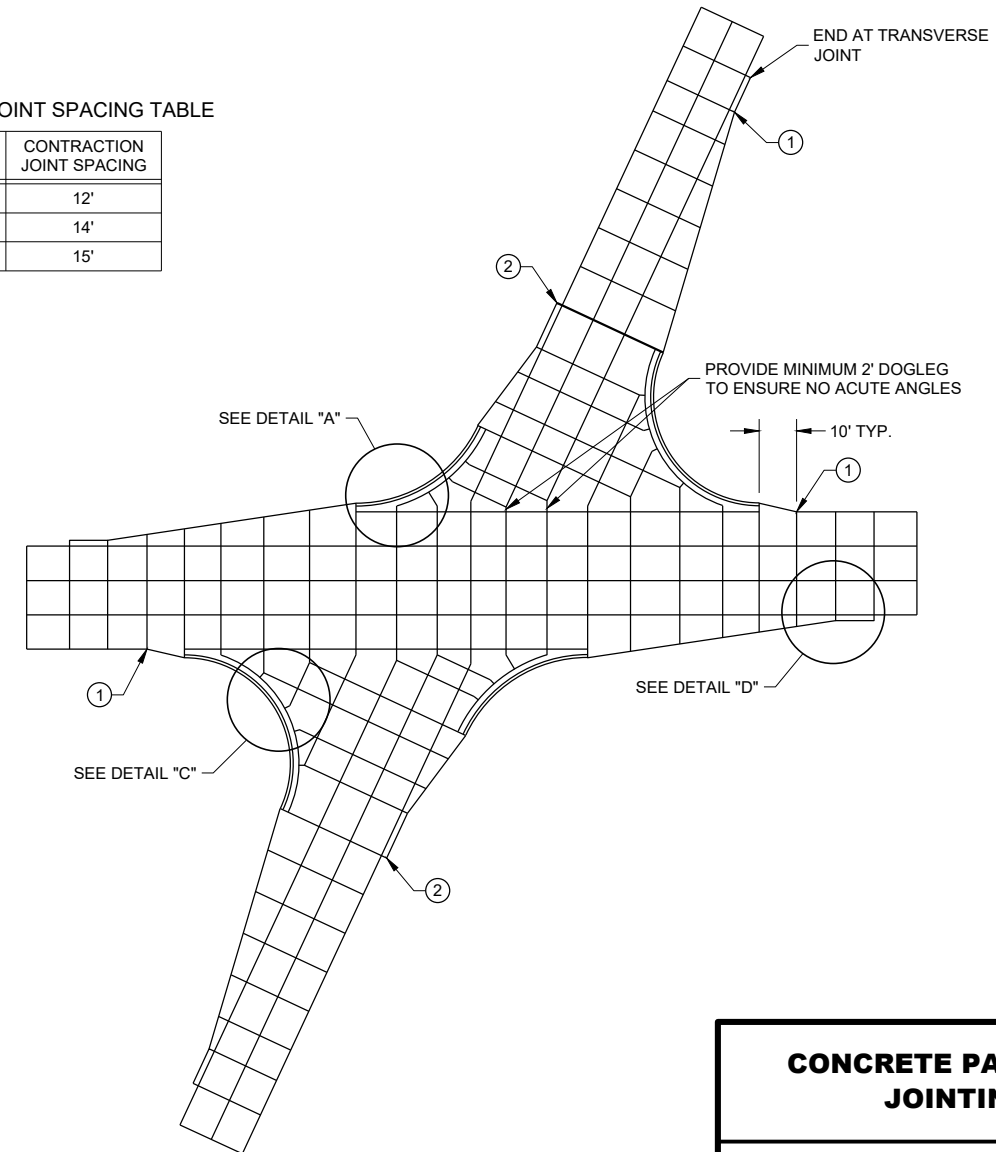
- ① PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
- ② CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
- ③ THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



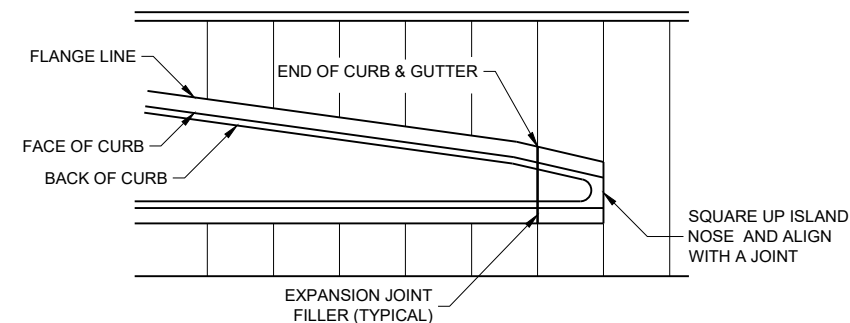
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

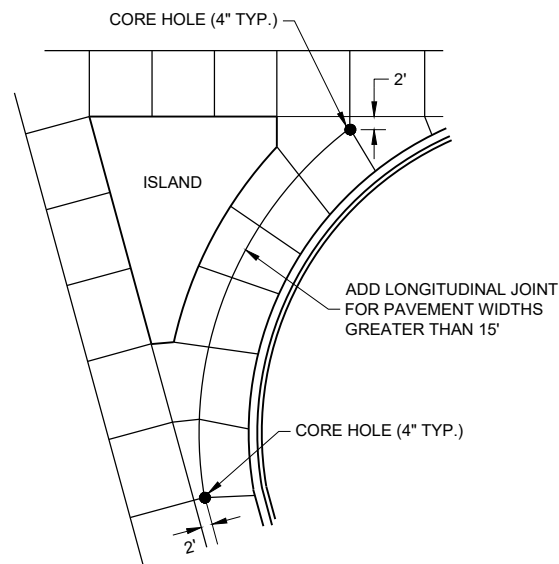
| PAVEMENT DEPTH (D) | CONTRACTION JOINT SPACING |
|--------------------|---------------------------|
| 6", 6 1/2" | 12' |
| 7", 7 1/2" | 14' |
| 8" & ABOVE | 15' |



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

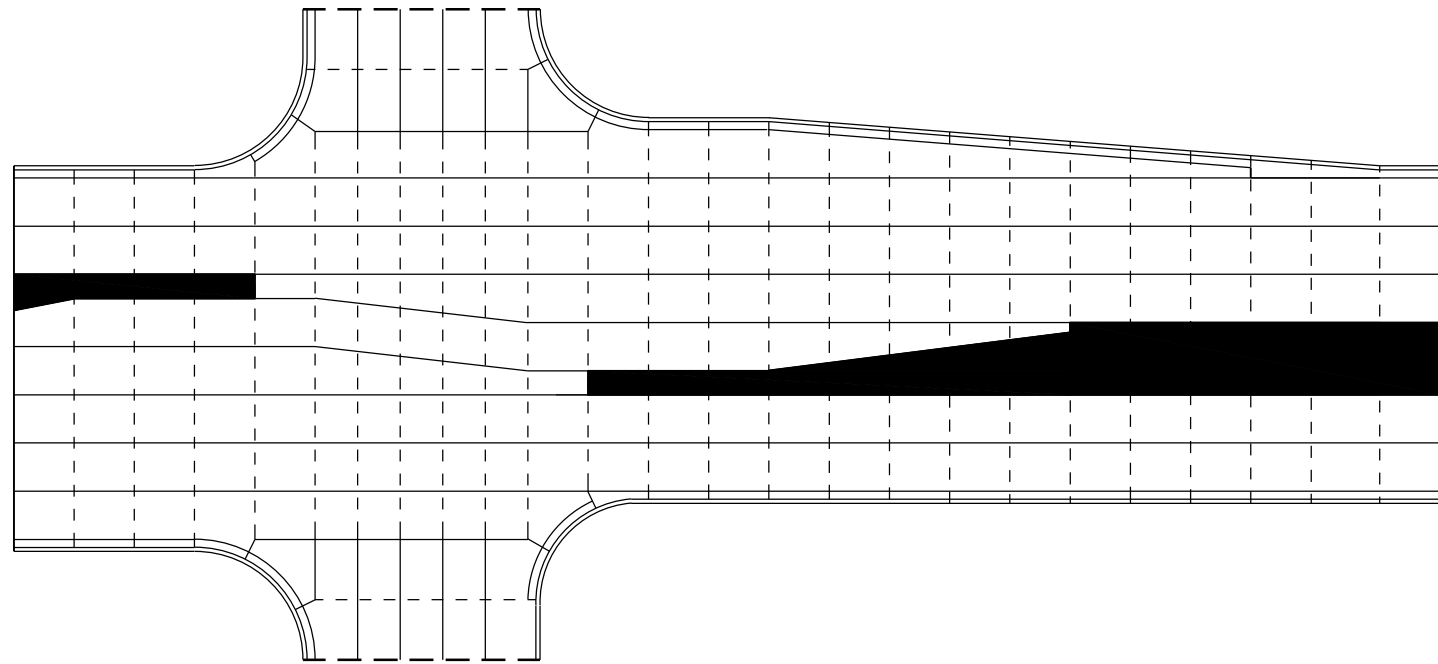
LEGEND

- POTENTIAL DOWELED EXPANSION JOINT
- - - DOWELED JOINT
- TIED JOINT

GENERAL NOTES

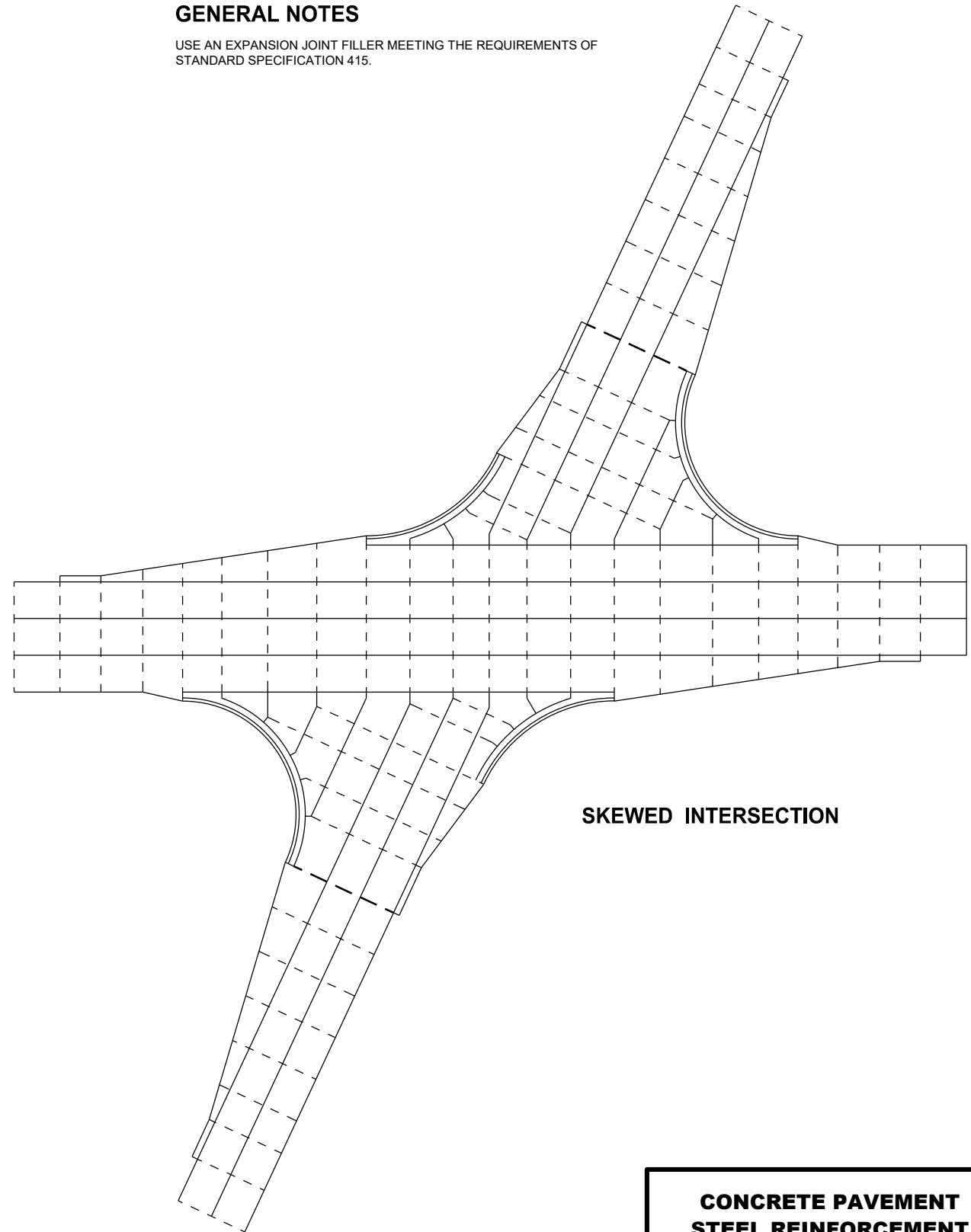
USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.

6



STANDARD INTERSECTION

6



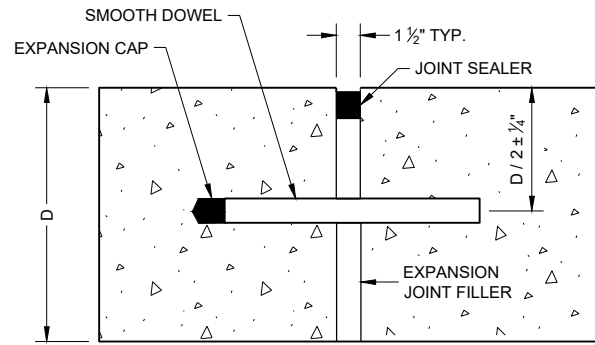
SKEWED INTERSECTION

SDD 13C18 - 07b

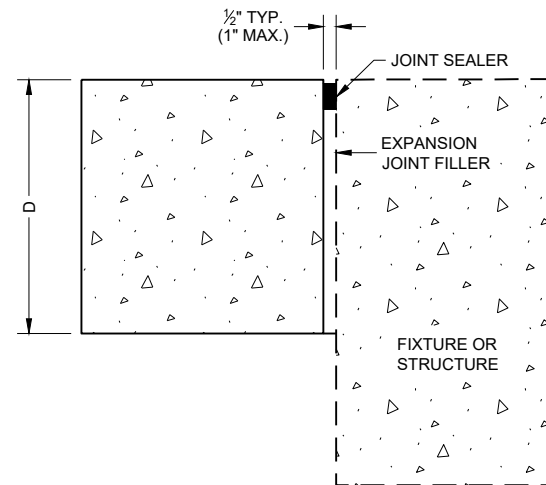
SDD 13C18 - 07b

**CONCRETE PAVEMENT
STEEL REINFORCEMENT**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DOWELED TRANSVERSE ①



UNTIED - LONGITUDINAL

EXPANSION JOINTS

TIE BAR TABLE

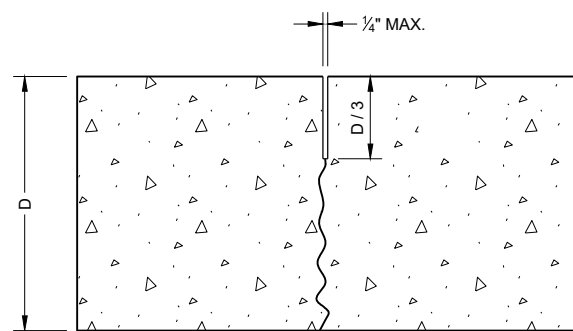
| PAVEMENT DEPTH (D) | TIE BAR SIZE | TIE BAR LENGTH (L) | MAX. TIE BAR SPACING |
|--------------------|--------------|--------------------|----------------------|
| < 10 1/2" | NO. 4 | 30" | 36" |
| ≥ 10 1/2" | NO. 5 | 36" | 36" |
| | NO. 4* | 30" | 24" ** |

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

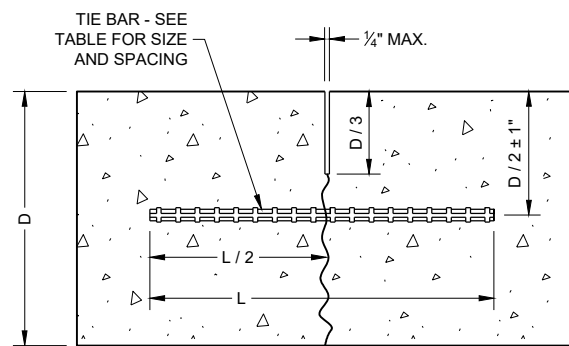
** CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

GENERAL NOTES

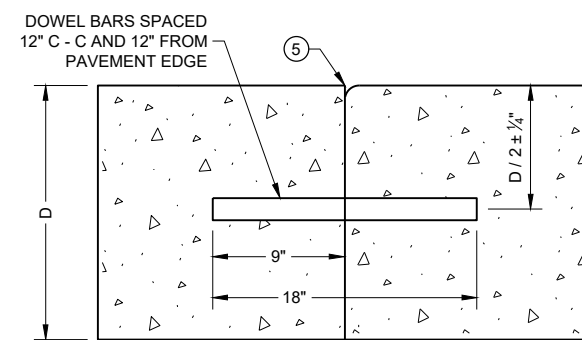
- ① USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
- ② SPACE CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C4, 13C11 OR 13C13.
- ③ LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
- ④ CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
- ⑤ IF JOINT IS FORMED, PROVIDE A 1/4" RADIUS.
- ⑥ ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



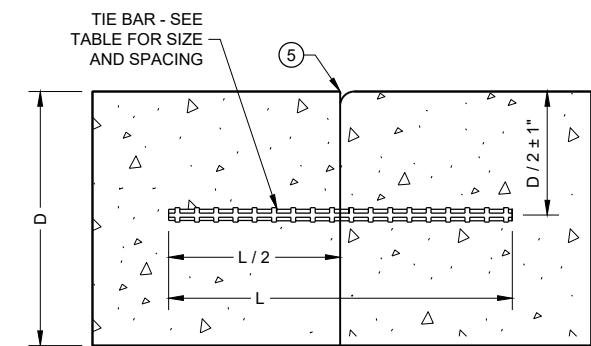
UNDOWELED TRANSVERSE



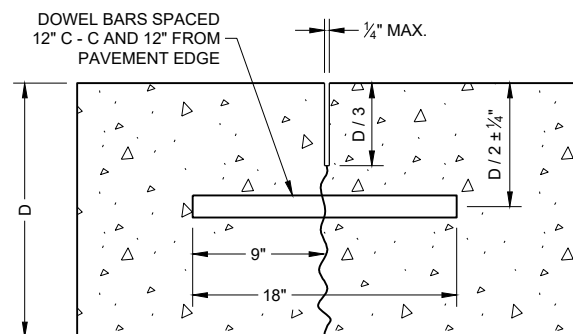
TIED LONGITUDINAL



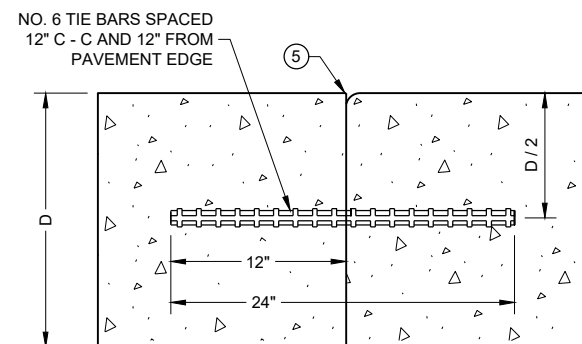
DOWELED TRANSVERSE ③



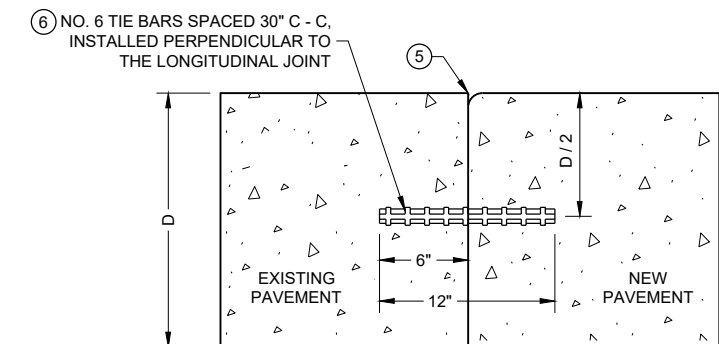
TIED LONGITUDINAL



DOWELED TRANSVERSE



TIED TRANSVERSE ③
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



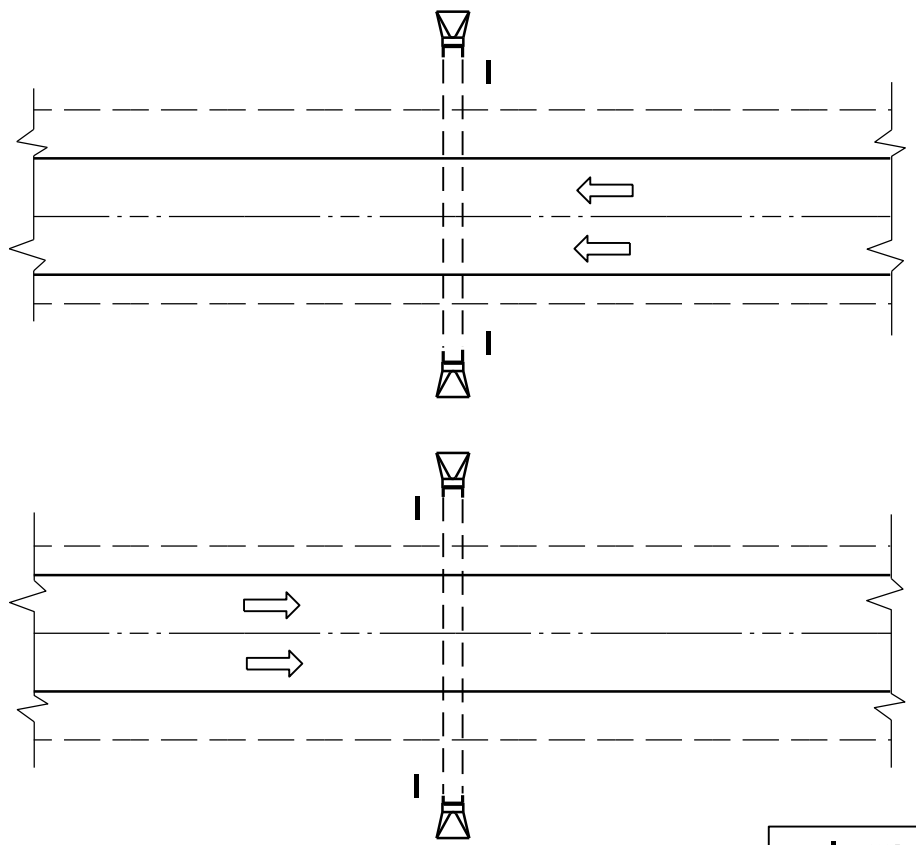
TIED LONGITUDINAL TO EXISTING

CONTRACTION JOINTS ②

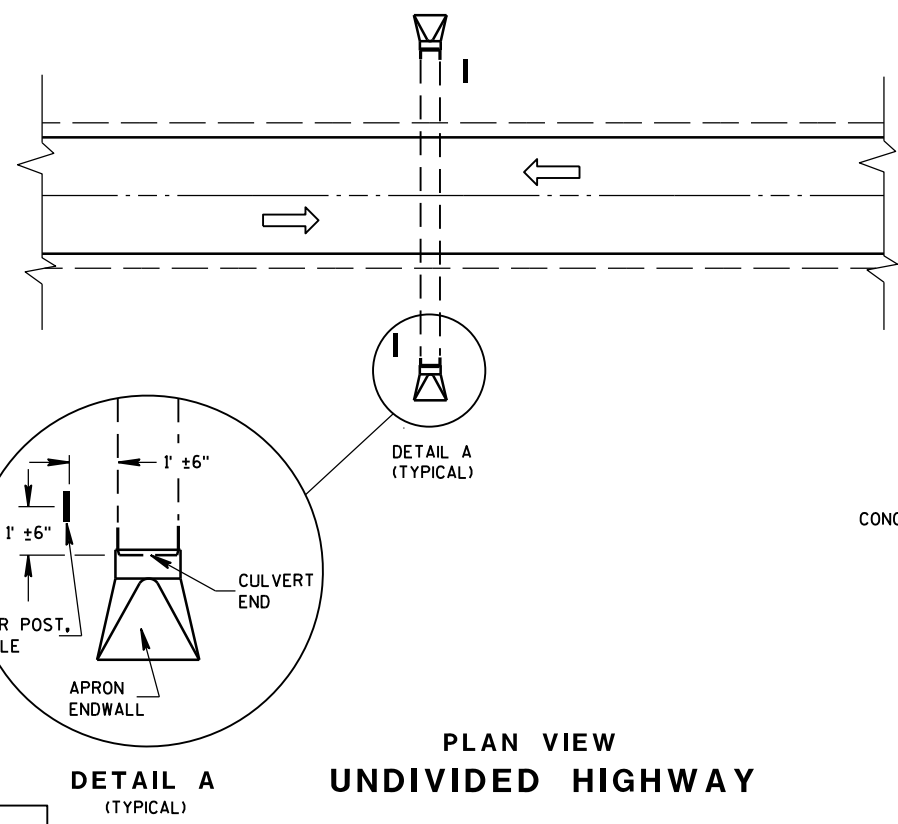
CONSTRUCTION JOINTS ④

CONCRETE PAVEMENT JOINT TYPES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



PLAN VIEW
DIVIDED HIGHWAY



PLAN VIEW
UNDIVIDED HIGHWAY

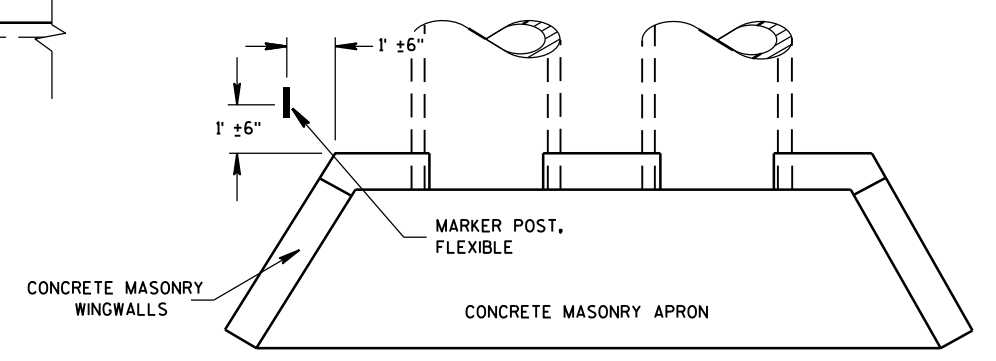
MARKER POST, FLEXIBLE
DIRECTION OF TRAFFIC FLOW

DETAIL A
(TYPICAL)

FLEXIBLE MARKER POST LOCATION

GENERAL NOTES

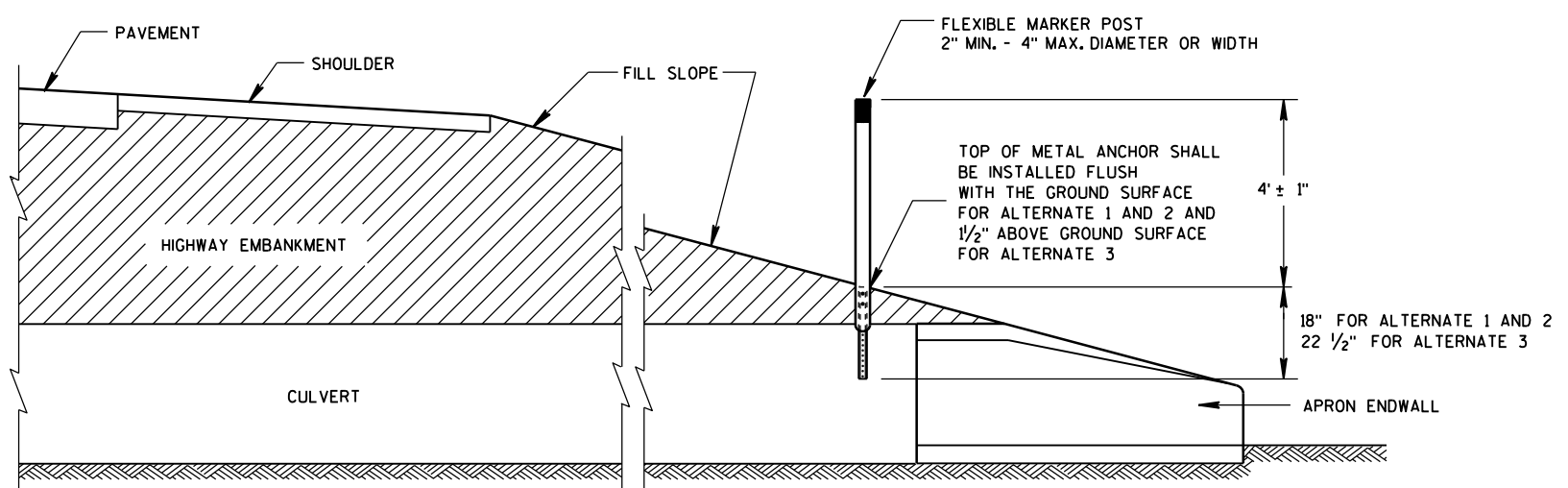
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH

6

6



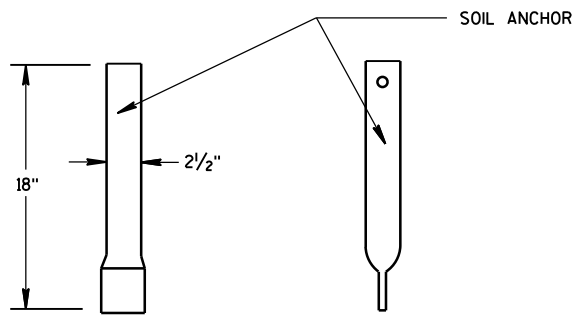
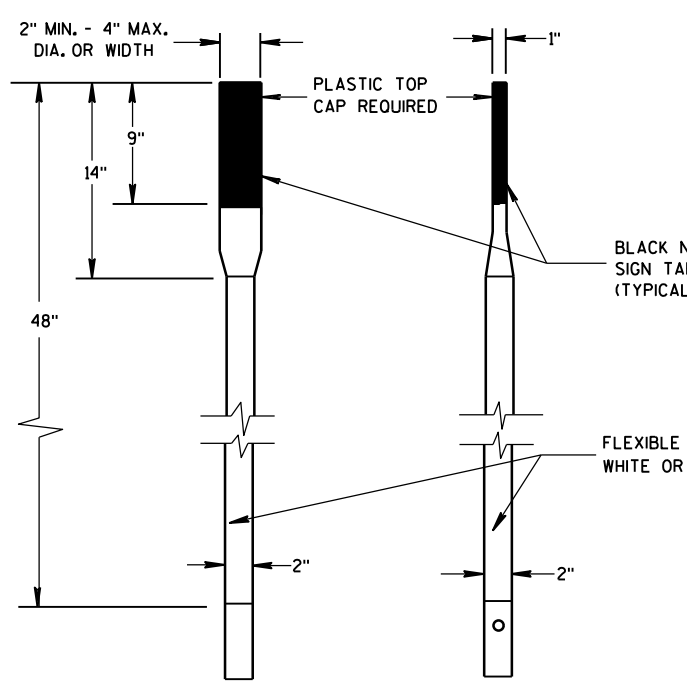
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

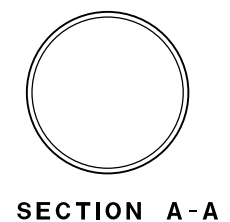
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

S.D.D. 15 A 3-2a

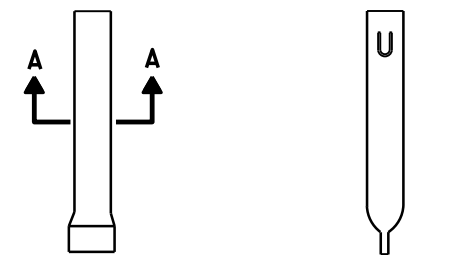
S.D.D. 15 A 3-2a



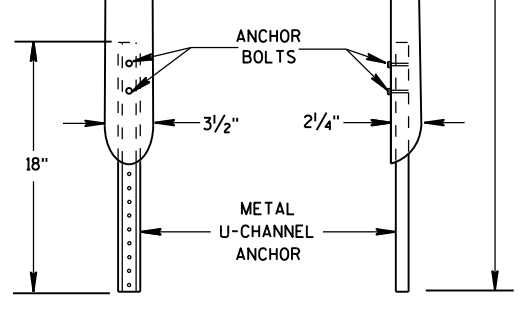
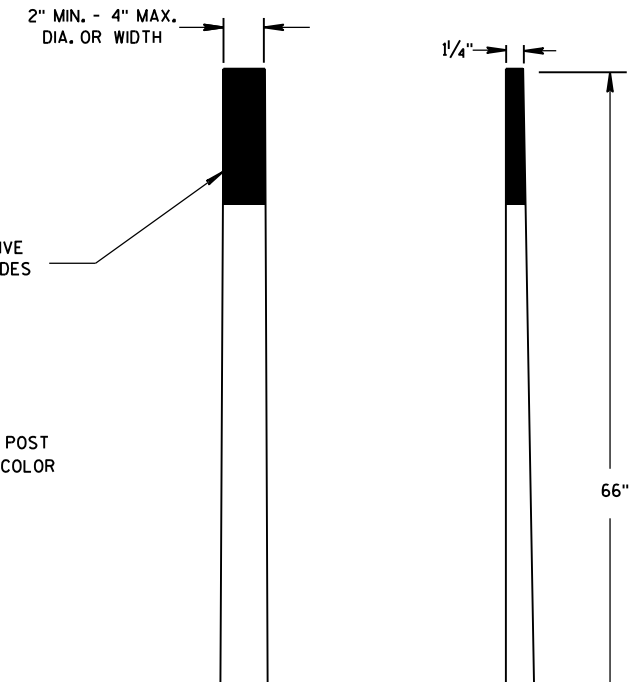
FRONT VIEW SIDE VIEW
ALTERNATE 1



SECTION A-A

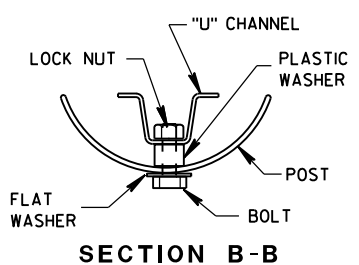


FRONT VIEW SIDE VIEW
ALTERNATE 1

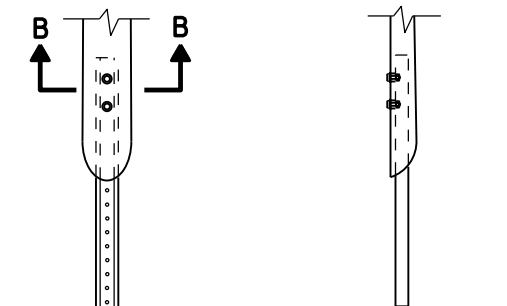


FRONT VIEW SIDE VIEW
ALTERNATE 2

FLEXIBLE MARKER POSTS

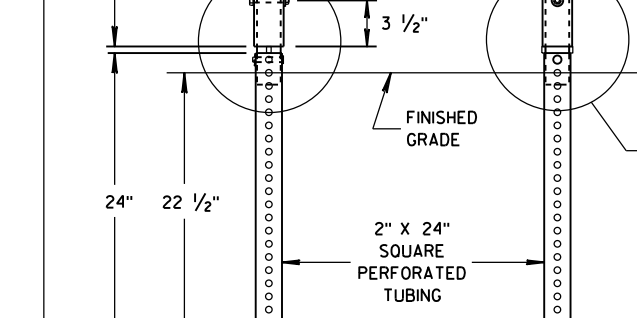
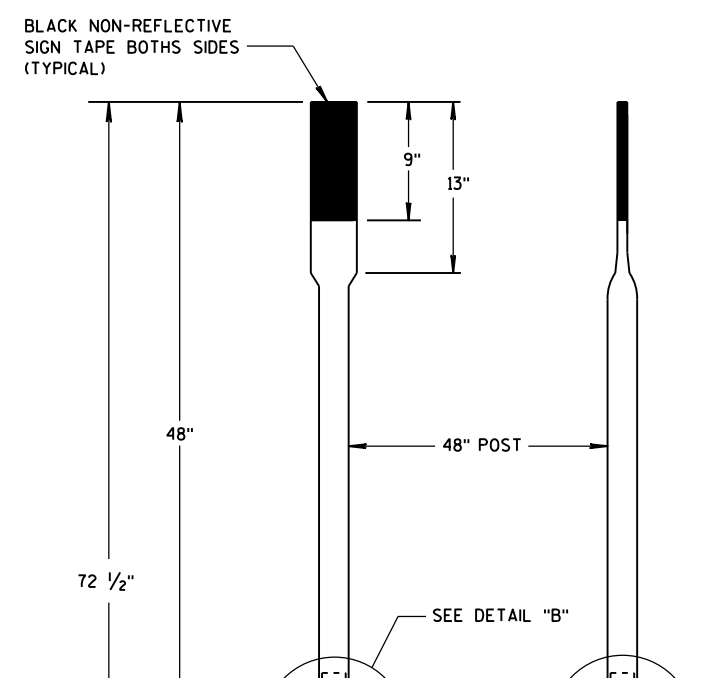


SECTION B-B

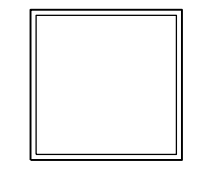


FRONT VIEW SIDE VIEW
ALTERNATE 2

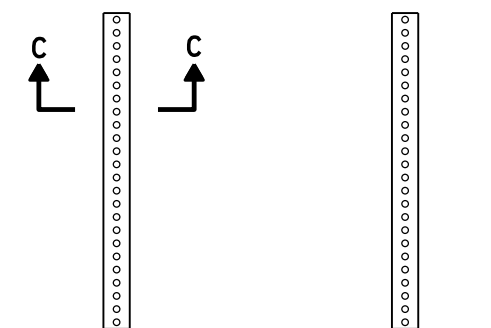
FLEXIBLE MARKER POST ANCHORS



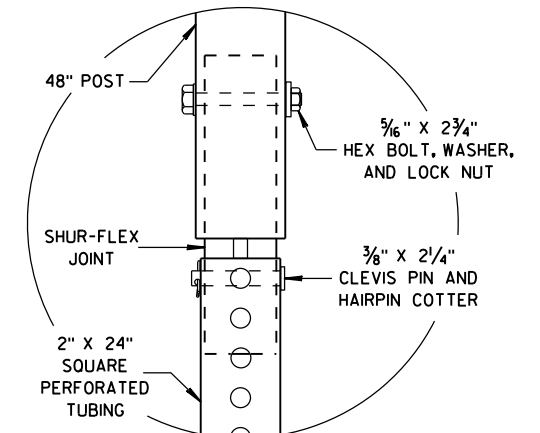
FRONT VIEW SIDE VIEW
ALTERNATE 3



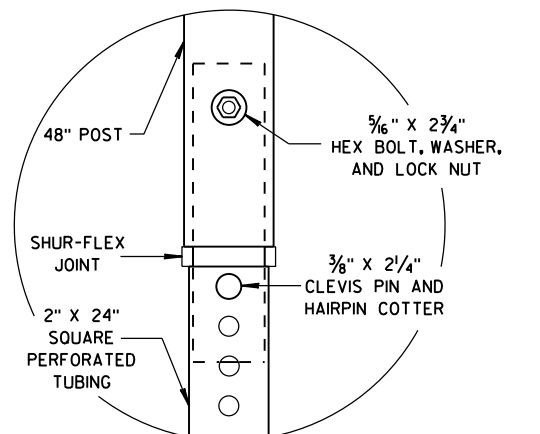
SECTION C-C



FRONT VIEW SIDE VIEW
ALTERNATE 3



DETAIL B

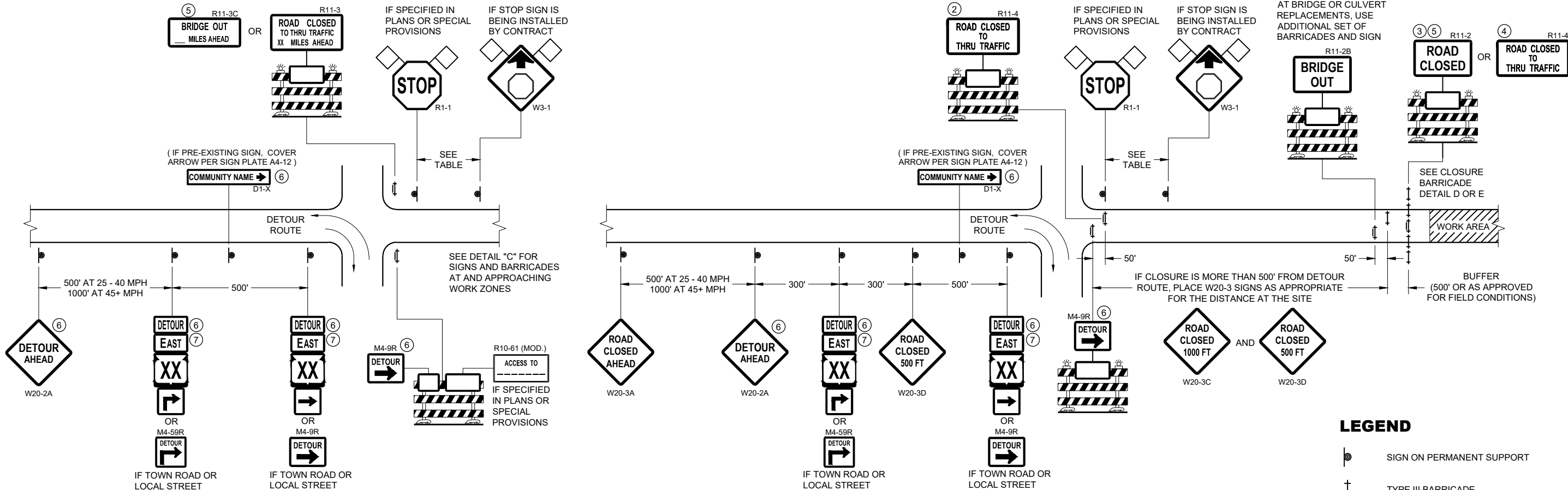


DETAIL C

FLEXIBLE MARKER POST FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
10/1/2012 DATE /S/ Travis Feltes
STATE TRAFFIC ENGINEER OF DESIGN
FHWA



**DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR**

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

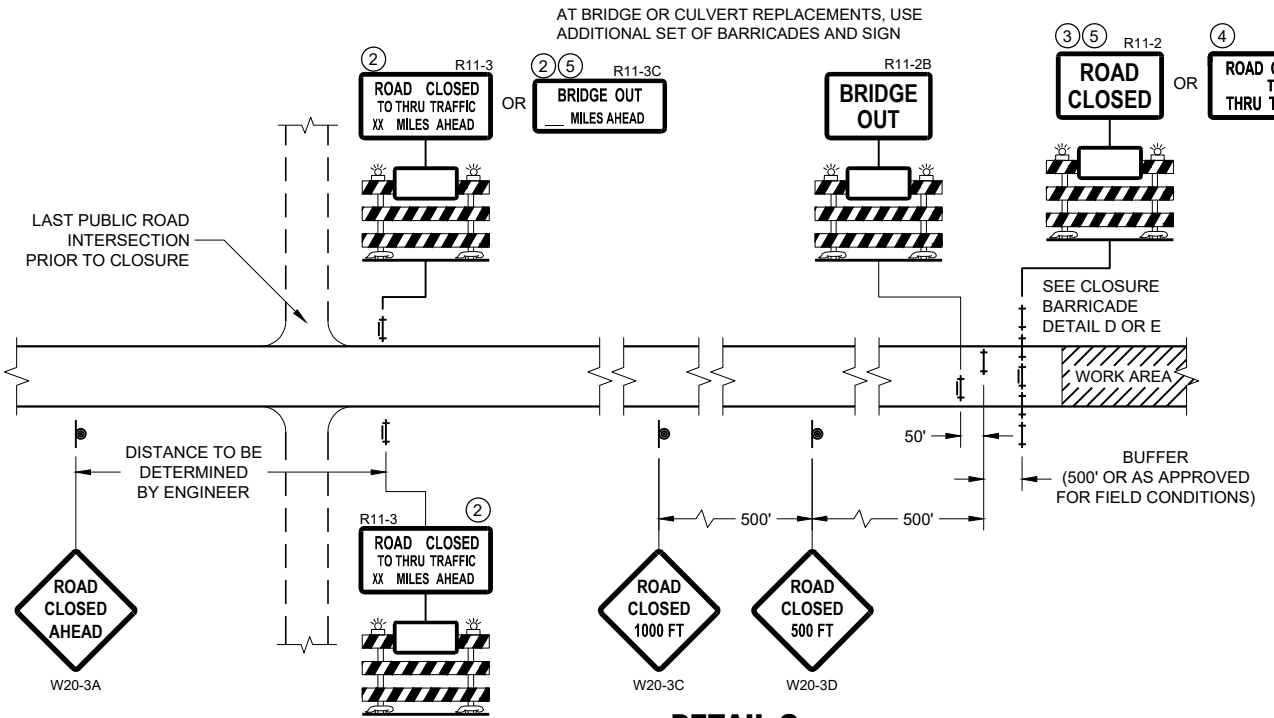
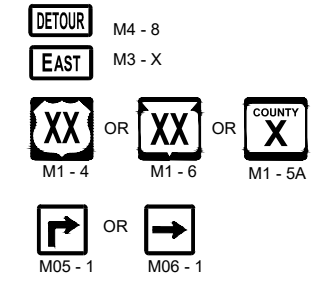
**DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR**

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

LEGEND

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

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



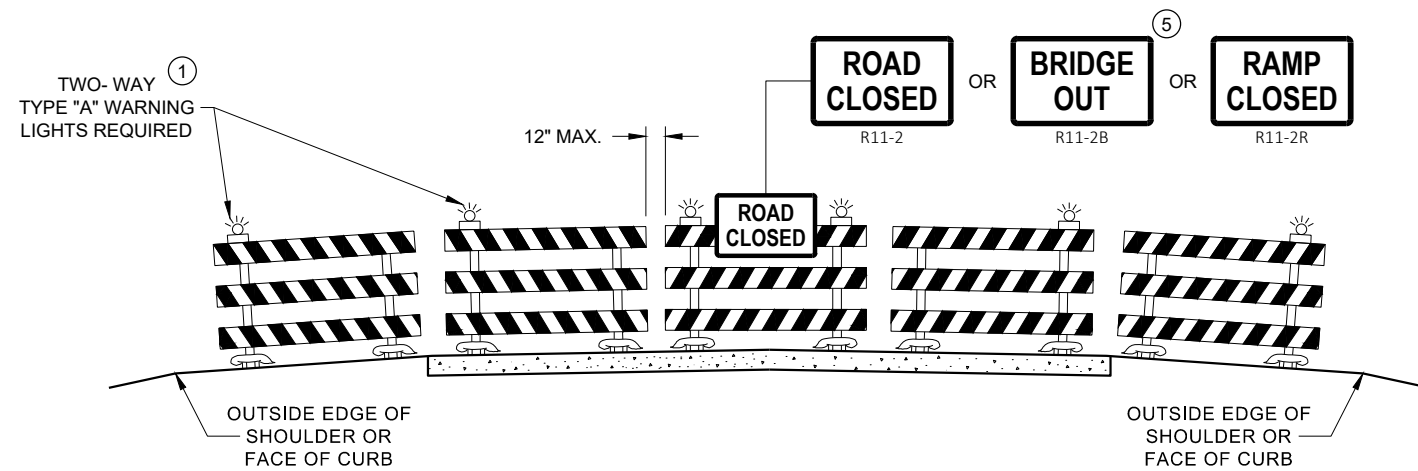
**DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR**

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

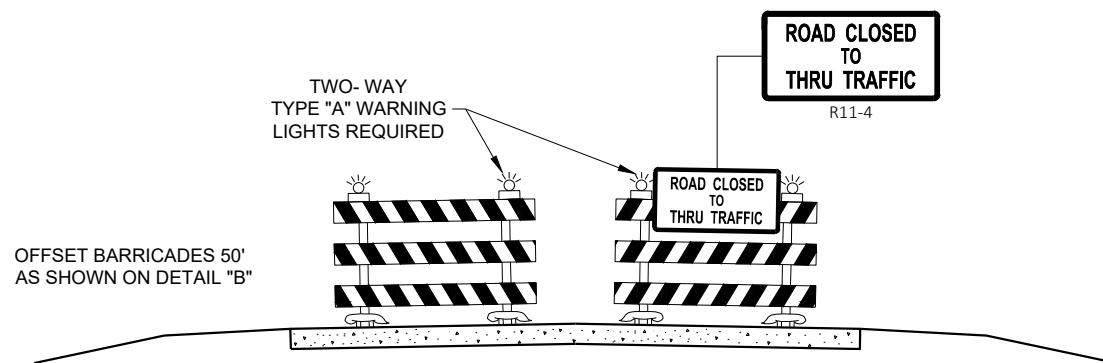
**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 /S/ Andrew Heidtke
DATE 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.

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

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

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

- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 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"

- 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
February 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR M4 - 8
- EAST M3 - X
- XX M1 - 4 OR M1 - 6 OR COUNTY M1 - 5A
- M05 - 1 OR M06 - 1 OR M06 - 1

GENERAL NOTES

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

IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. MODIFY EXISTING SIGNS WHERE POSSIBLE.

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

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

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

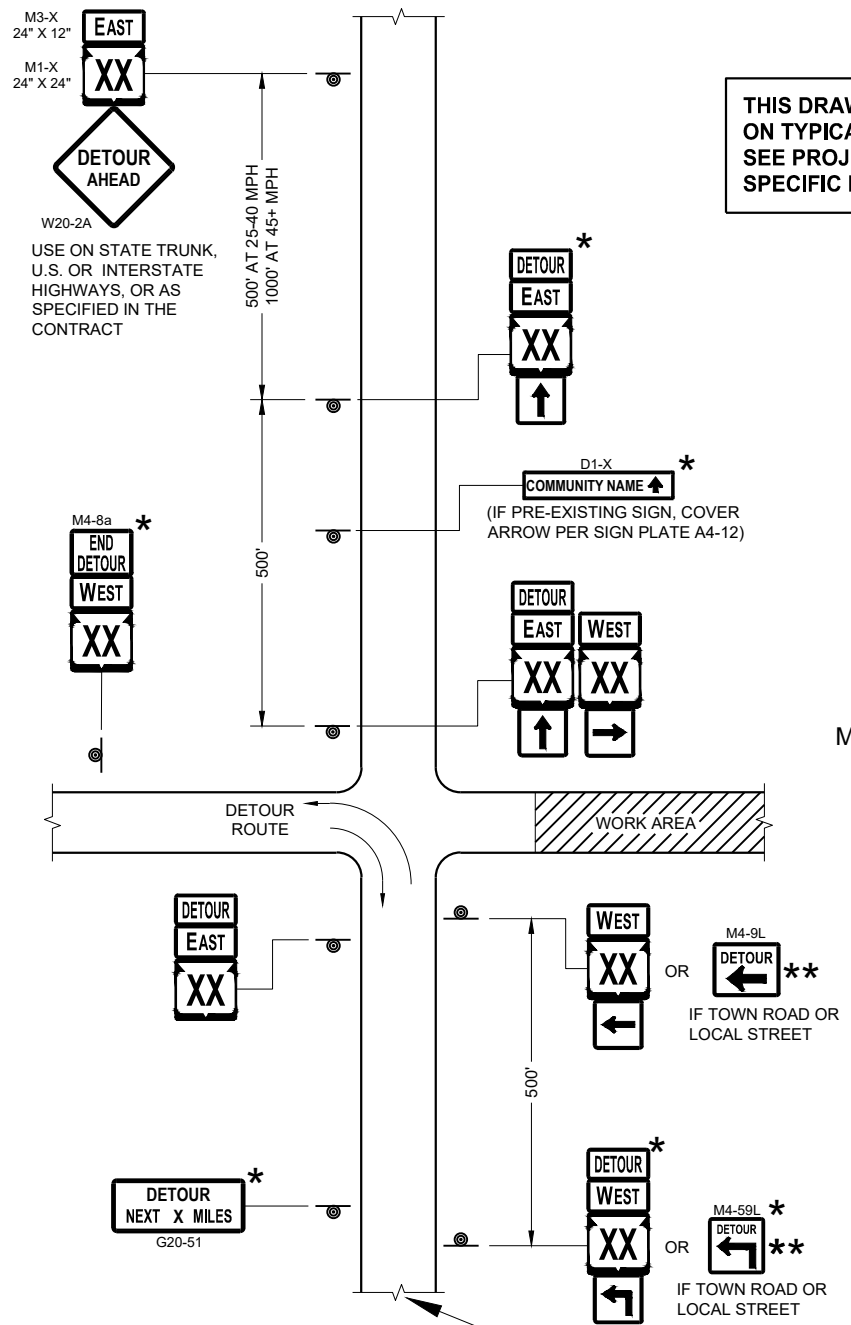
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

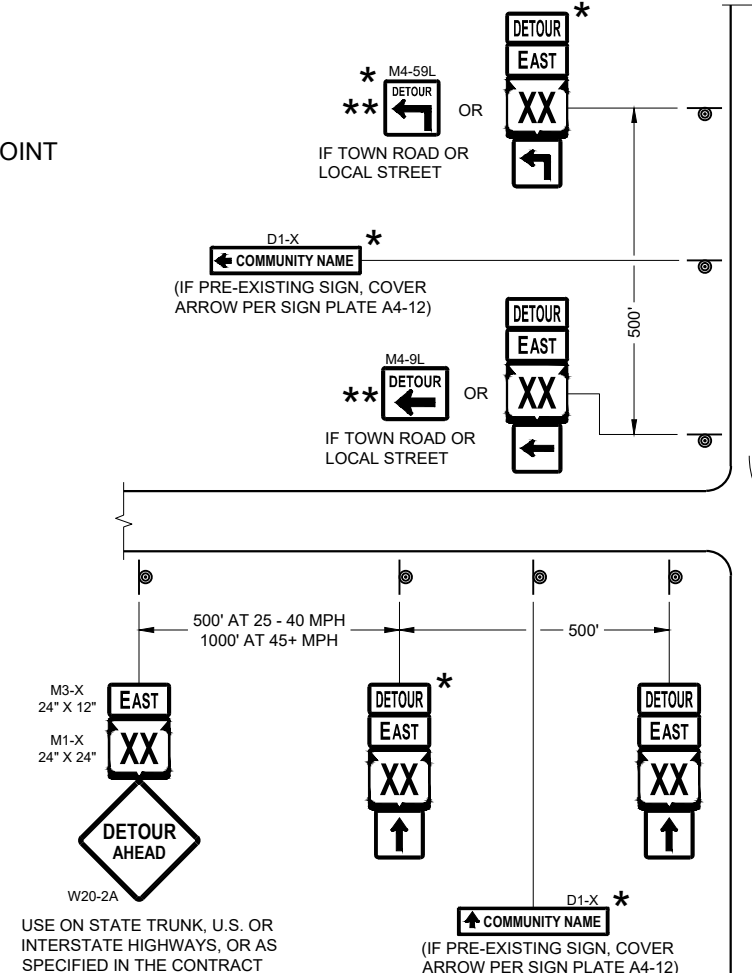
- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-9 AND M4-59 SHALL BE 30" X 24"
- M4-8a SHALL BE 24" X 18"
- G20-51 SHALL BE 60" X 24"
- W20-2A SHALL BE 48" X 48"
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

- * OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.
- ** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.

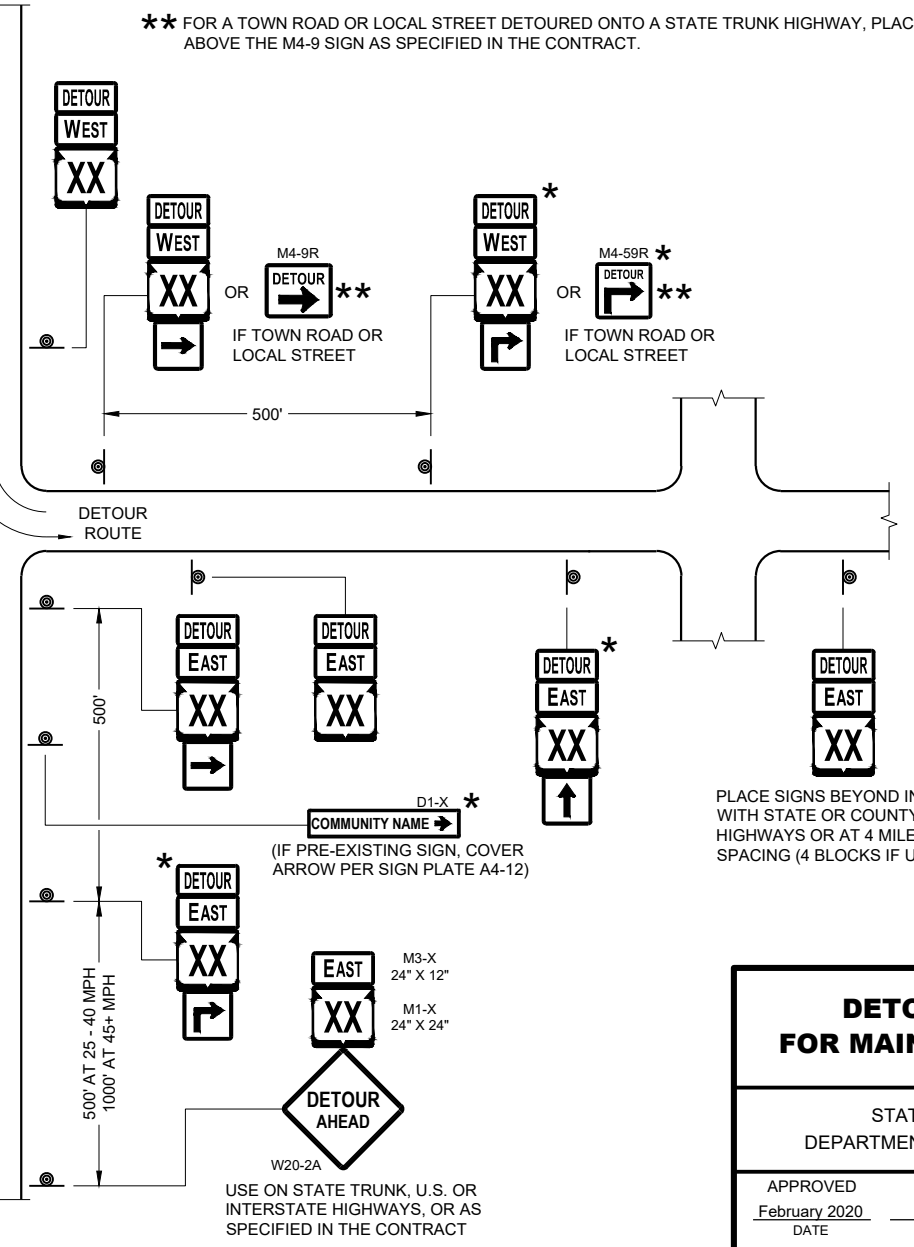
THIS DRAWING PROVIDES GENERAL GUIDANCE ON TYPICAL DETOUR SIGN LAYOUT AND SPACING. SEE PROJECT DETOUR SIGNING SHEETS FOR SPECIFIC DETAILS FOR EACH PROJECT.



MATCH POINT



DETAIL F
DETOUR SIGNING



**DETOUR SIGNING
FOR MAINLINE CLOSURES**

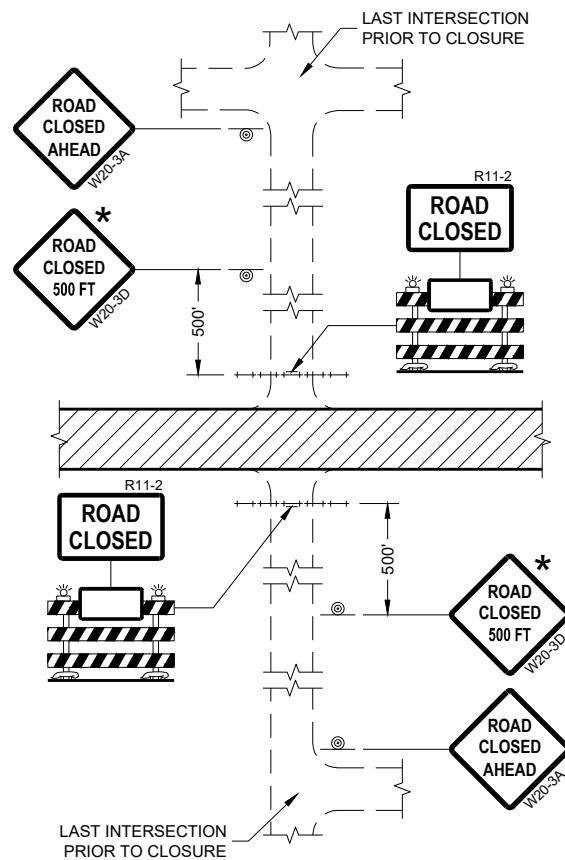
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2020 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

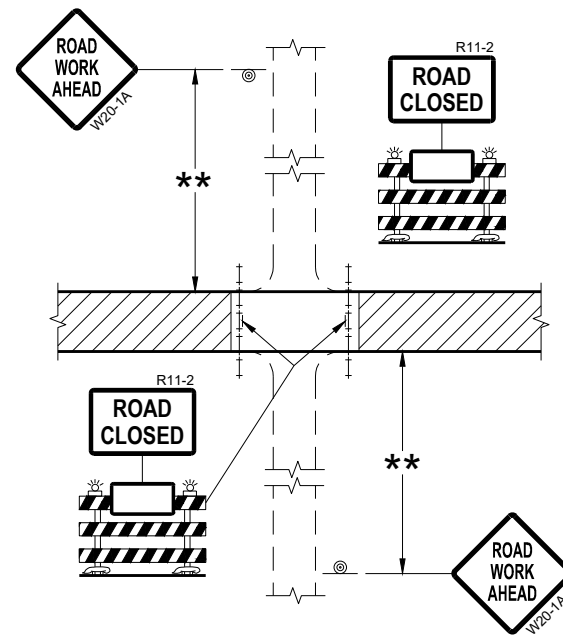
FHWA

SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD SHEET 15C02 - SHEET "a"

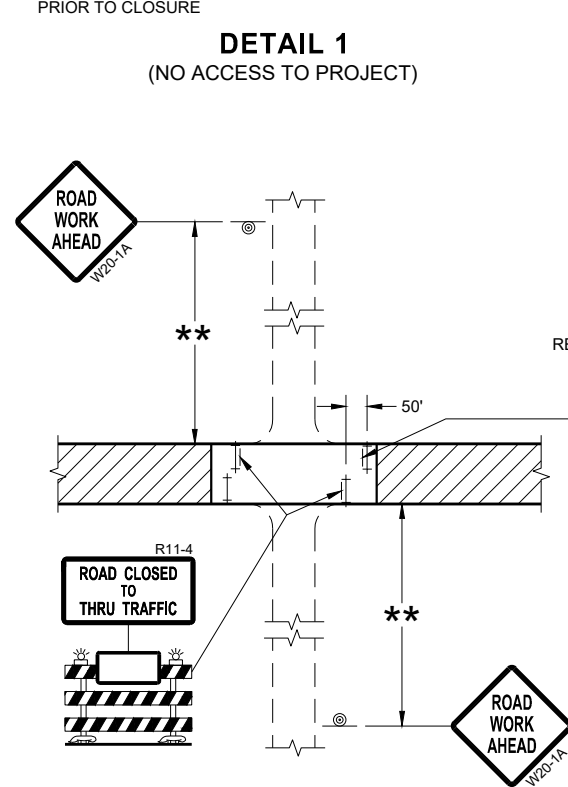
PLACE SIGNS BEYOND INTERSECTIONS WITH STATE OR COUNTY TRUNK HIGHWAYS OR AT 4 MILE MAXIMUM SPACING (4 BLOCKS IF URBAN AREA)



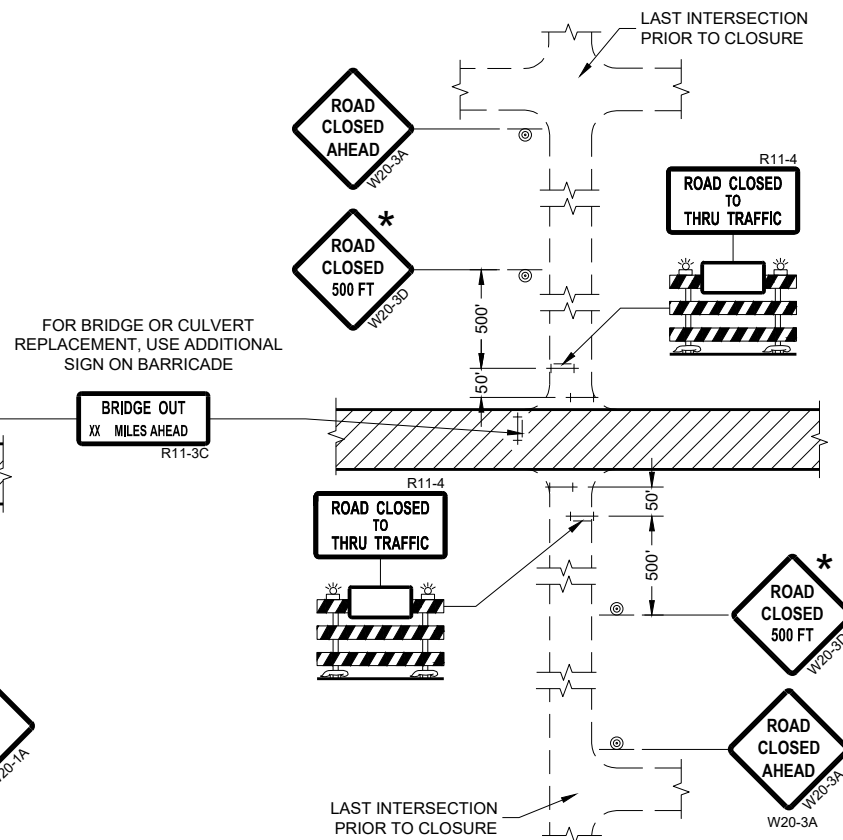
DETAIL 1
(NO ACCESS TO PROJECT)



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



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

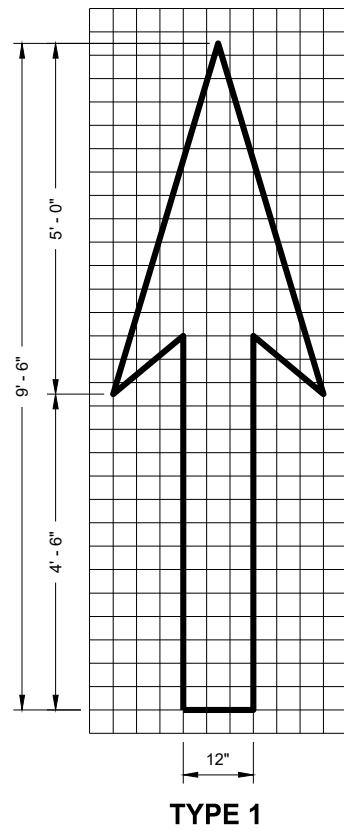
LEGEND

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

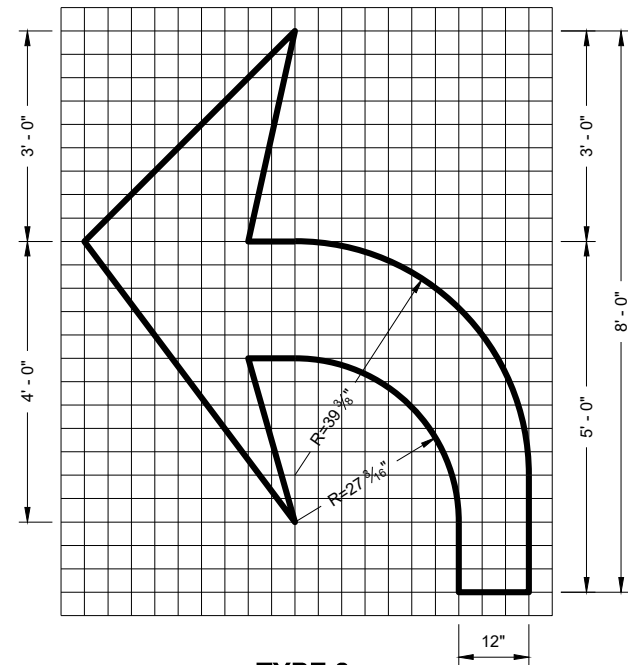
**BARRICADES AND SIGNS
FOR
SIDEROAD CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

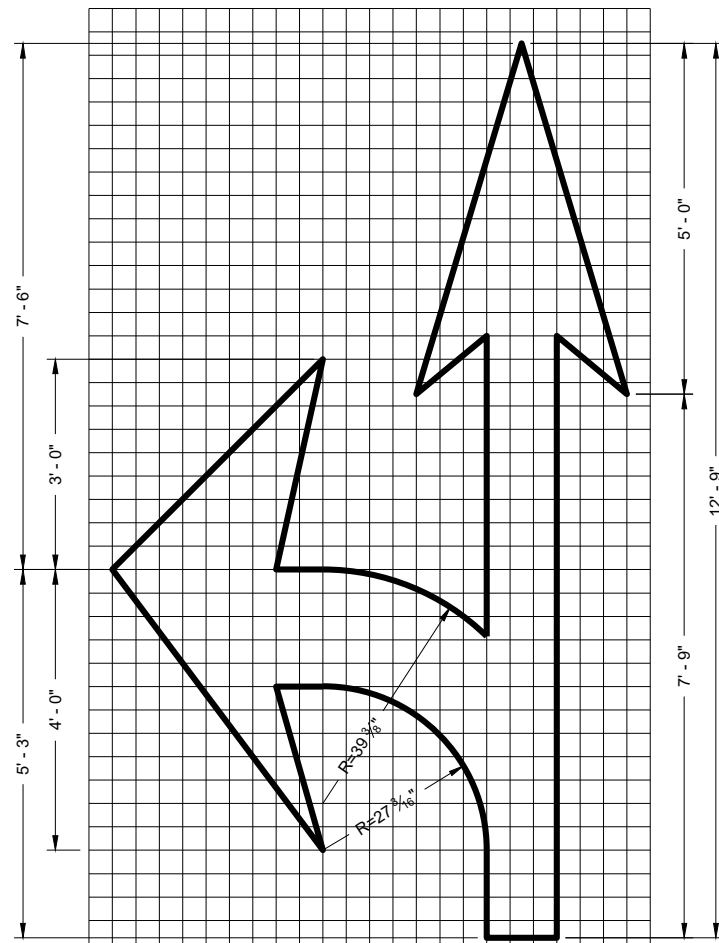
APPROVED
July 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER



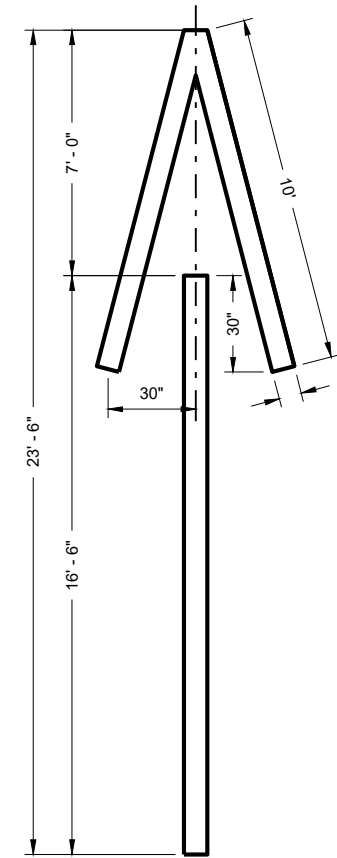
TYPE 1



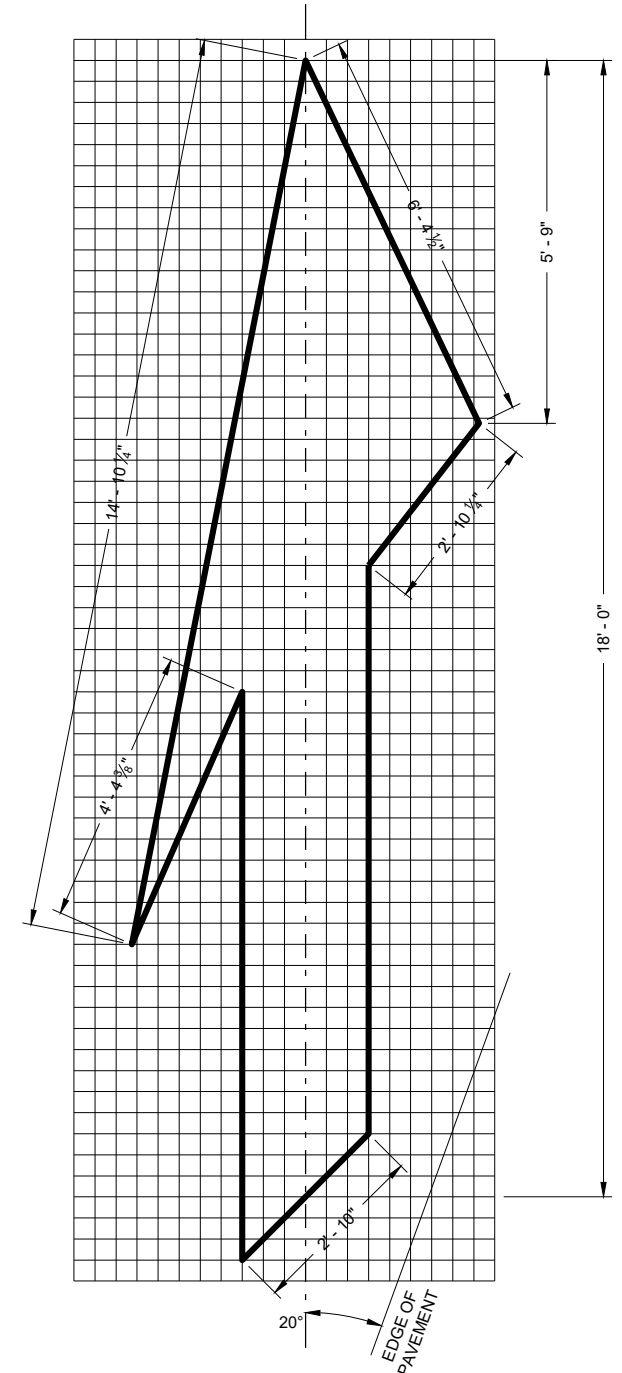
TYPE 2



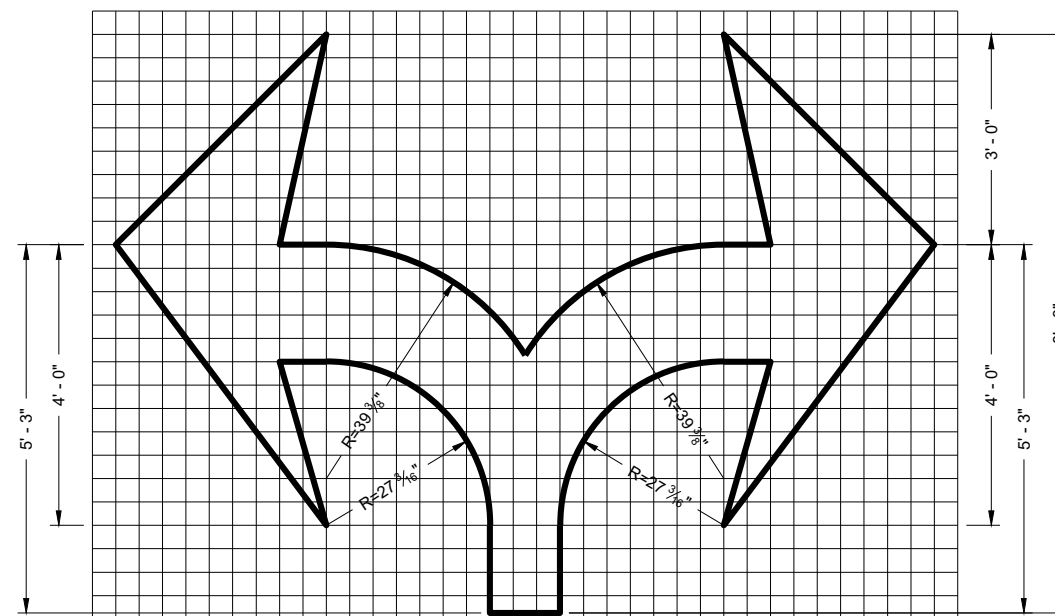
TYPE 3



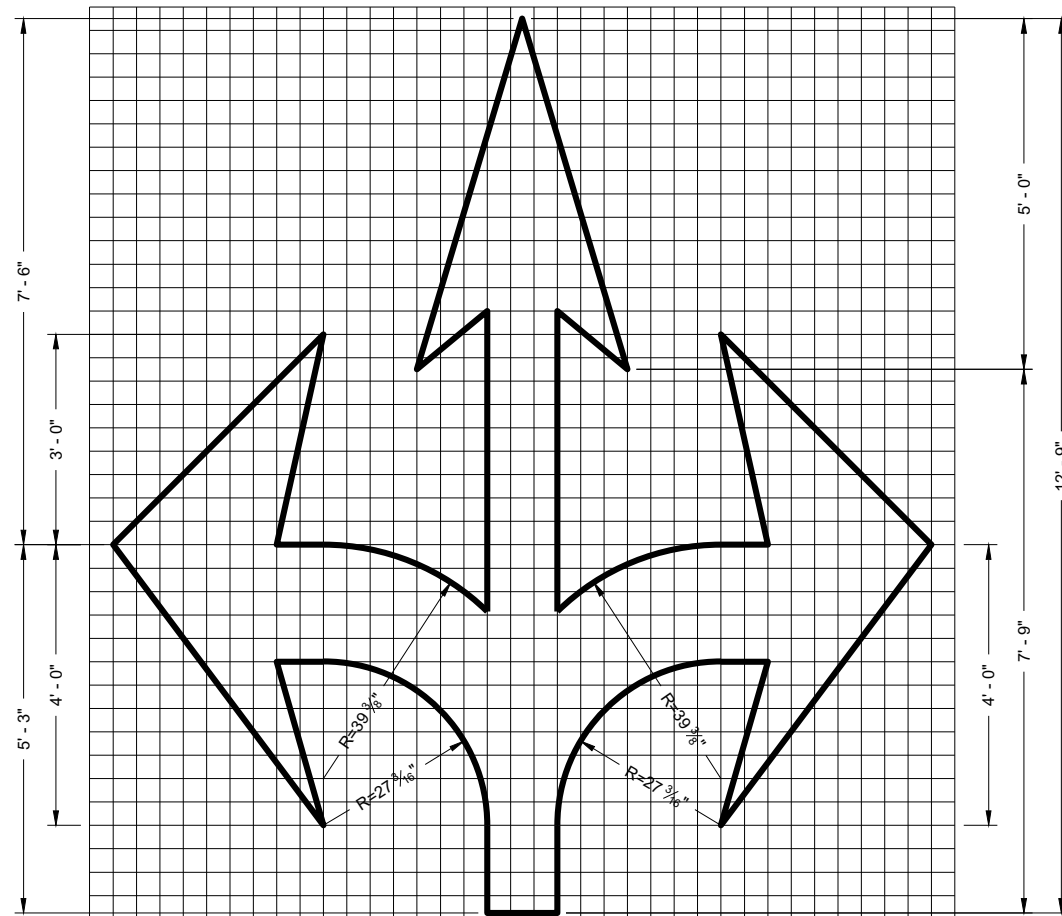
TYPE 4



TYPE 5 LANE DROP ARROW



TYPE 7



TYPE 6

GENERAL NOTES

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

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

November 2019

DATE

FHWA




/s/ Matthew Rauch
STATE SIGNING AND MARKING
ENGINEER

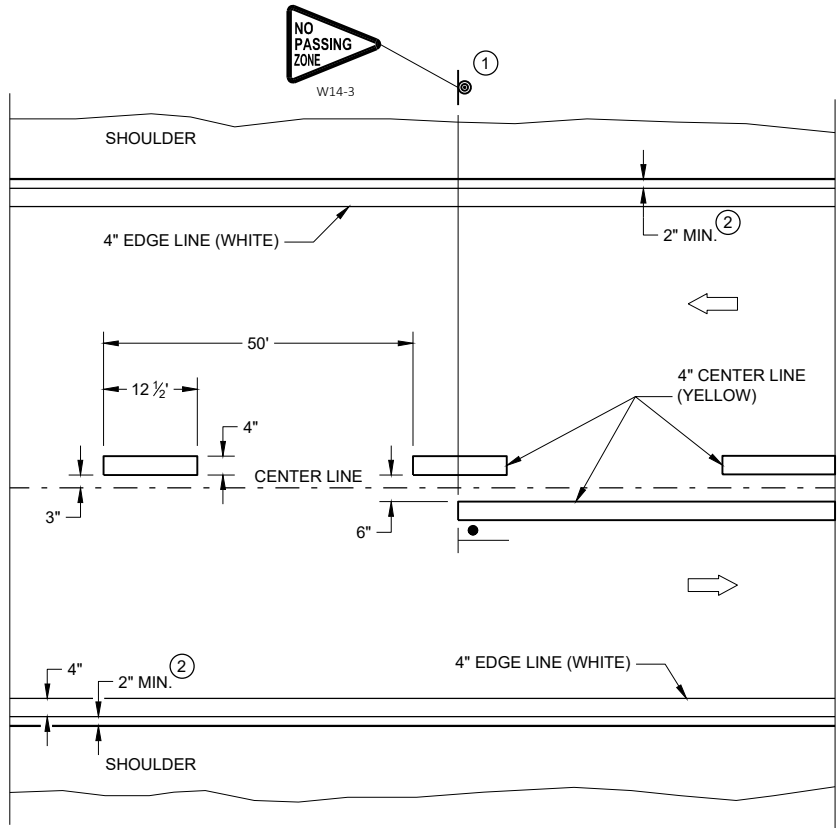
GENERAL NOTES

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

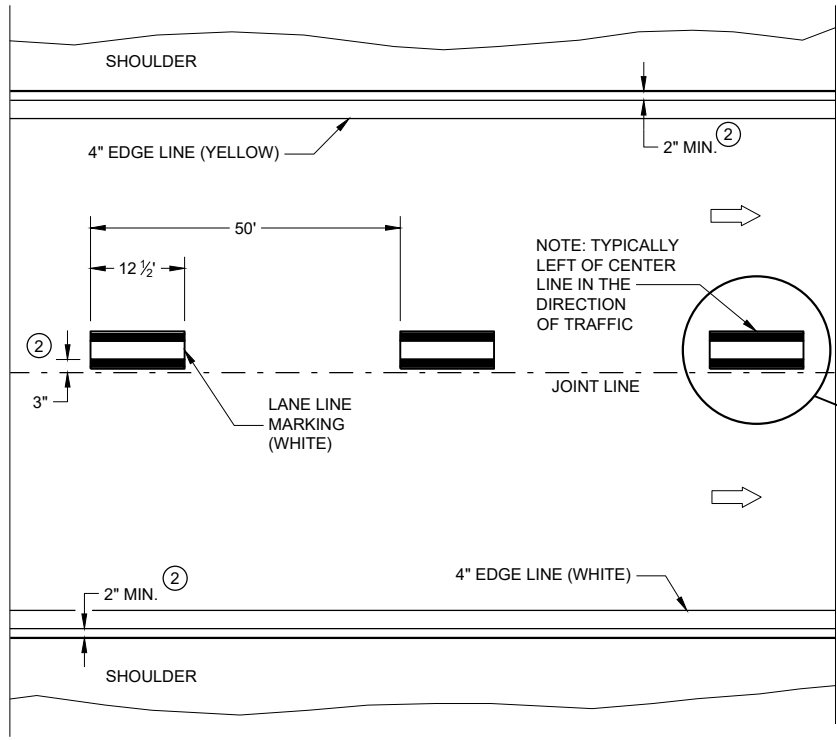
- ① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
- ② MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

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

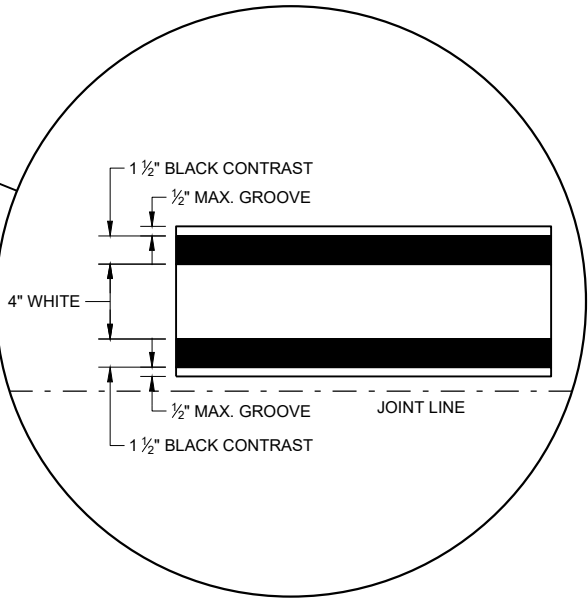


TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



6

6

SDD 15C08 - 21a

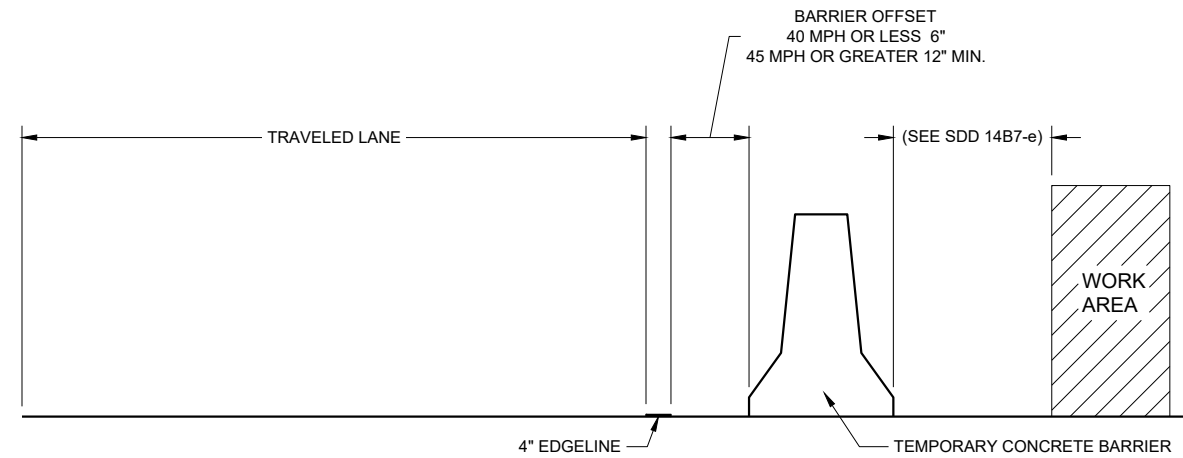
SDD 15C08 - 21a

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE: May 2022 /S/ Jeannie Silver
STATEWIDE SIGNING AND MARKING ENGINEER

FHWA



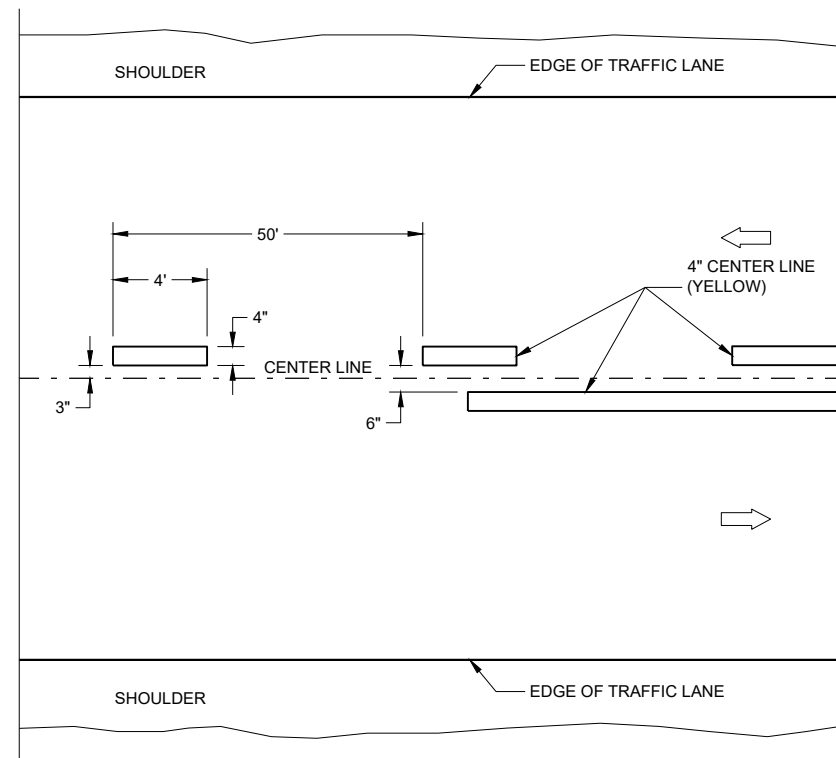
TEMPORARY BARRIER OFFSET FROM EDGELINE

GENERAL NOTES

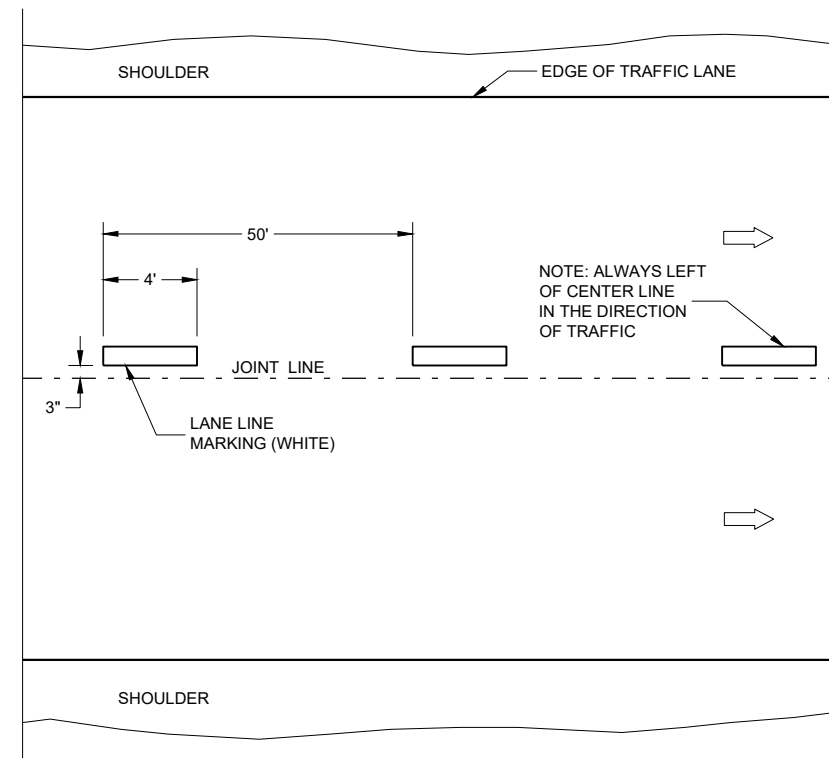
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

LEGEND

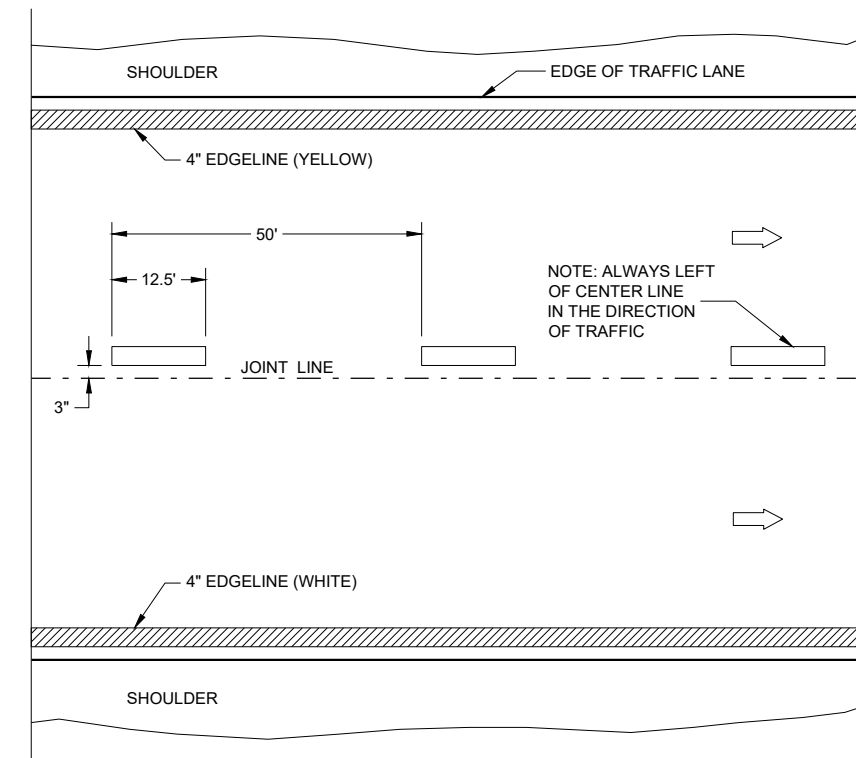
➡ DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC



FREEWAYS AND EXPRESSWAYS

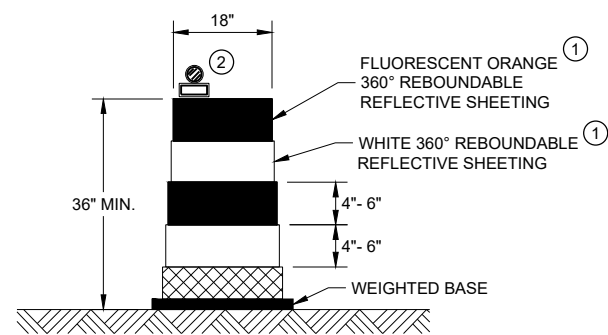
TEMPORARY PAVEMENT MARKING

TEMPORARY LONGITUDINAL PAVEMENT MARKING

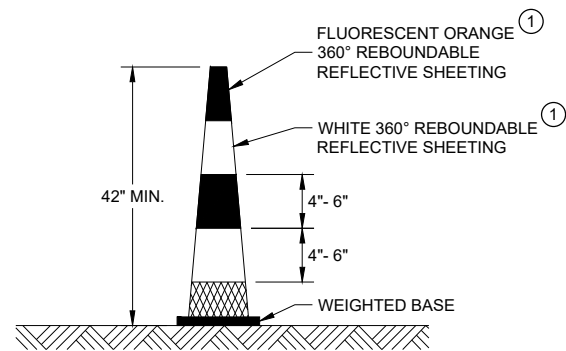
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022 DATE /S/ Jeannie Silver
STATEWIDE SIGNING AND MARKING ENGINEER

FHWA

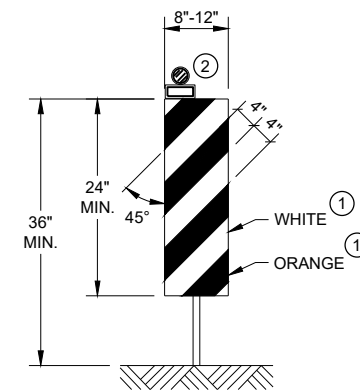


DRUM



42" CONE

DO NOT USE IN TAPERS
 1/2 SPACING OF DRUMS

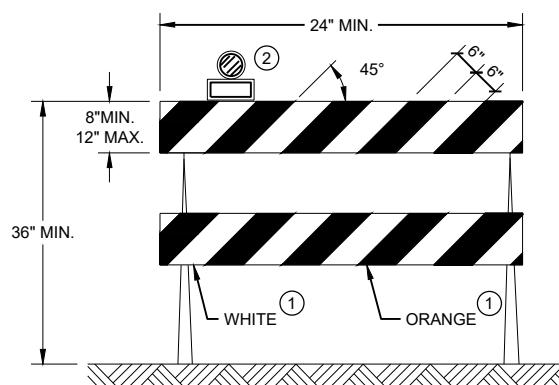


VERTICAL PANEL

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

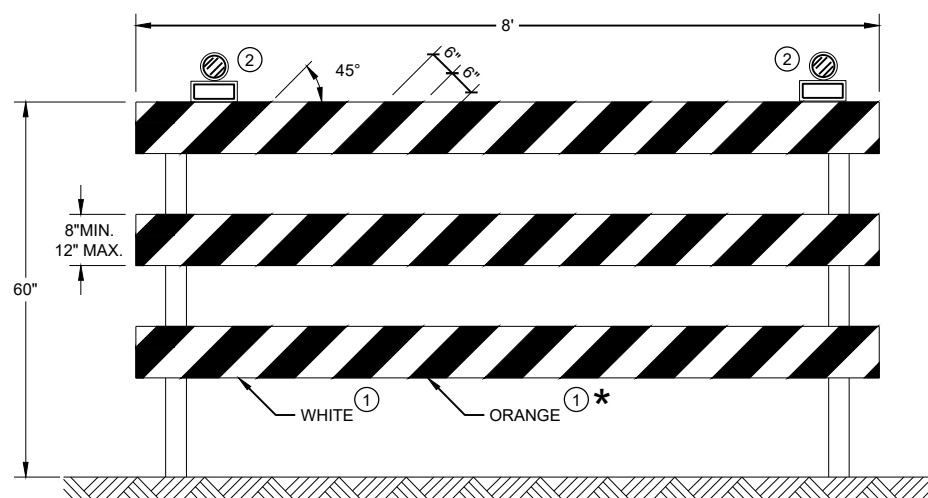
GENERAL NOTES

- 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.



TYPE II BARRICADE

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES MAY BE USED. ALL 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.

| | |
|--|--|
| CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | |
| APPROVED May 2021 DATE | /S/ Andrew Heidtke WORK ZONE ENGINEER |
| <small>FHWA</small> | |

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  FLASHING ARROW BOARD
-  DIRECTION OF TRAFFIC
-  REMOVE PAVEMENT MARKING (SEE GENERAL NOTES)
-  WORK AREA

GENERAL NOTES

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

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 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. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON TEMPORARY SUPPORTS.

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

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

W20-1A, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROW BOARDS AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

BARRICADES IN A CLOSED LANE 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.

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

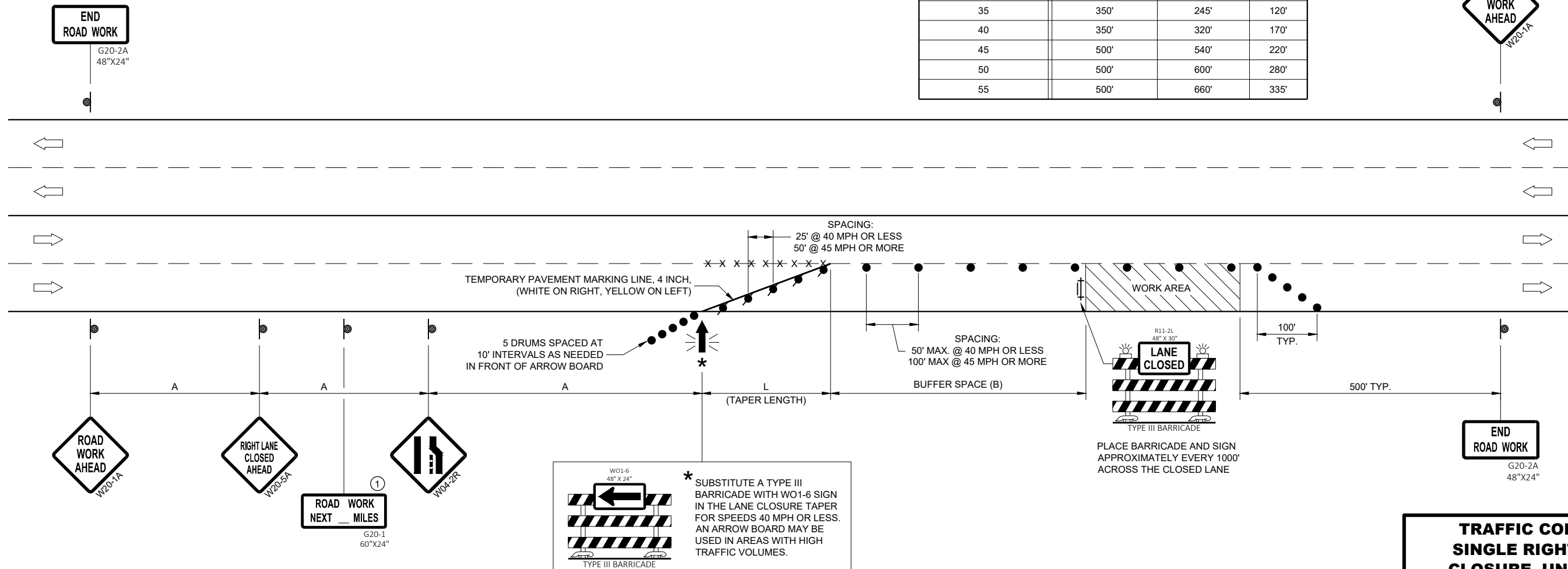
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

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

| POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH) | ADVANCE WARNING SIGN SPACING (A) FEET | TAPER LENGTH (12 FT. LANE) (L) FEET | BUFFER SPACE (B) FEET |
|---|---------------------------------------|-------------------------------------|-----------------------|
| 25 | 200' | 125' | 55' |
| 30 | 200' | 180' | 85' |
| 35 | 350' | 245' | 120' |
| 40 | 350' | 320' | 170' |
| 45 | 500' | 540' | 220' |
| 50 | 500' | 600' | 280' |
| 55 | 500' | 660' | 335' |

6

6



**TRAFFIC CONTROL,
SINGLE RIGHT LANE
CLOSURE, UNDIVIDED
NON-FREEWAY/EXPRESSWAY**

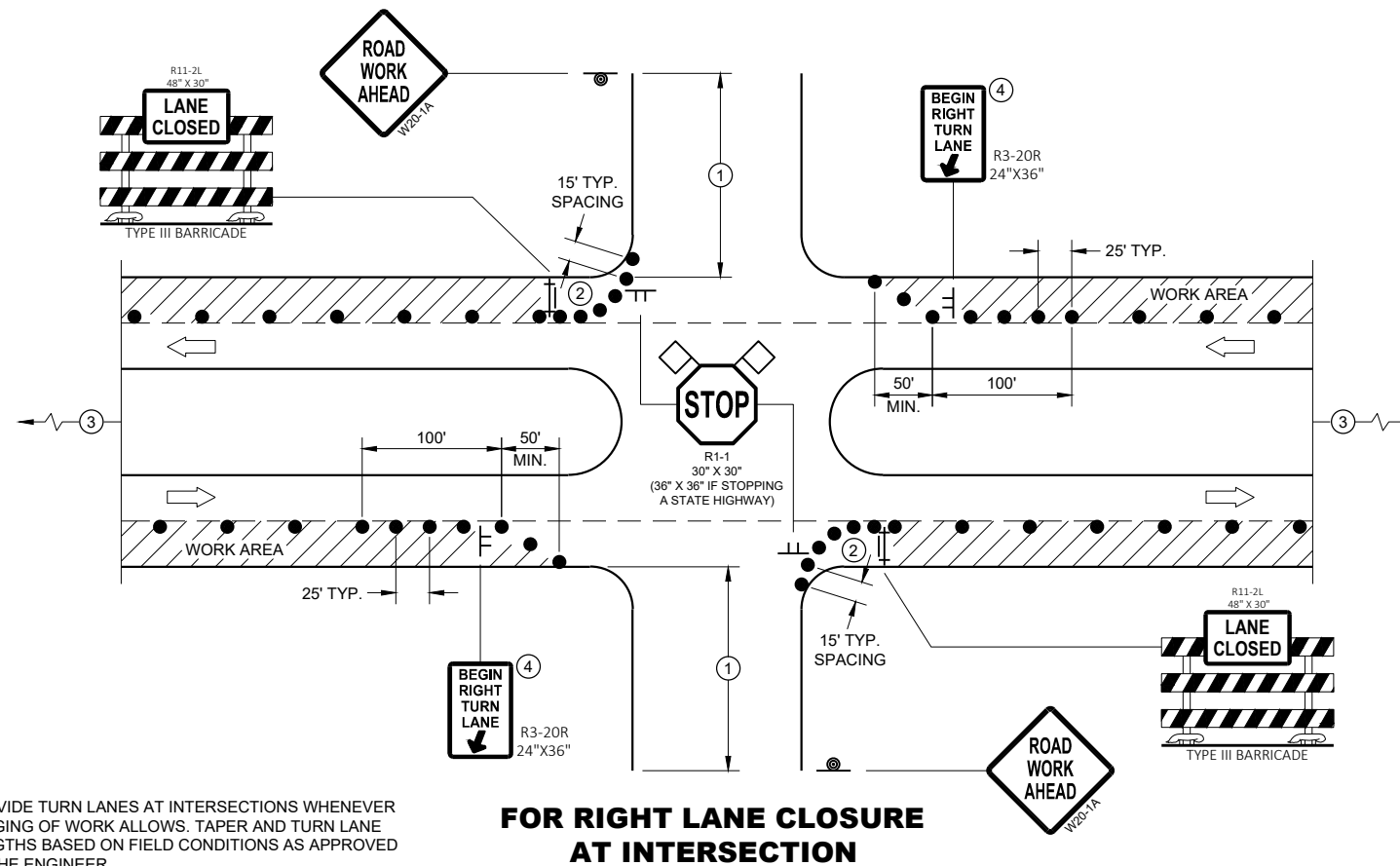
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2022 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

SDD 15D20 - 06b

SDD 15D20 - 06b



PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" MAY BE USED IF APPROVED BY THE DISTRICT 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. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

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

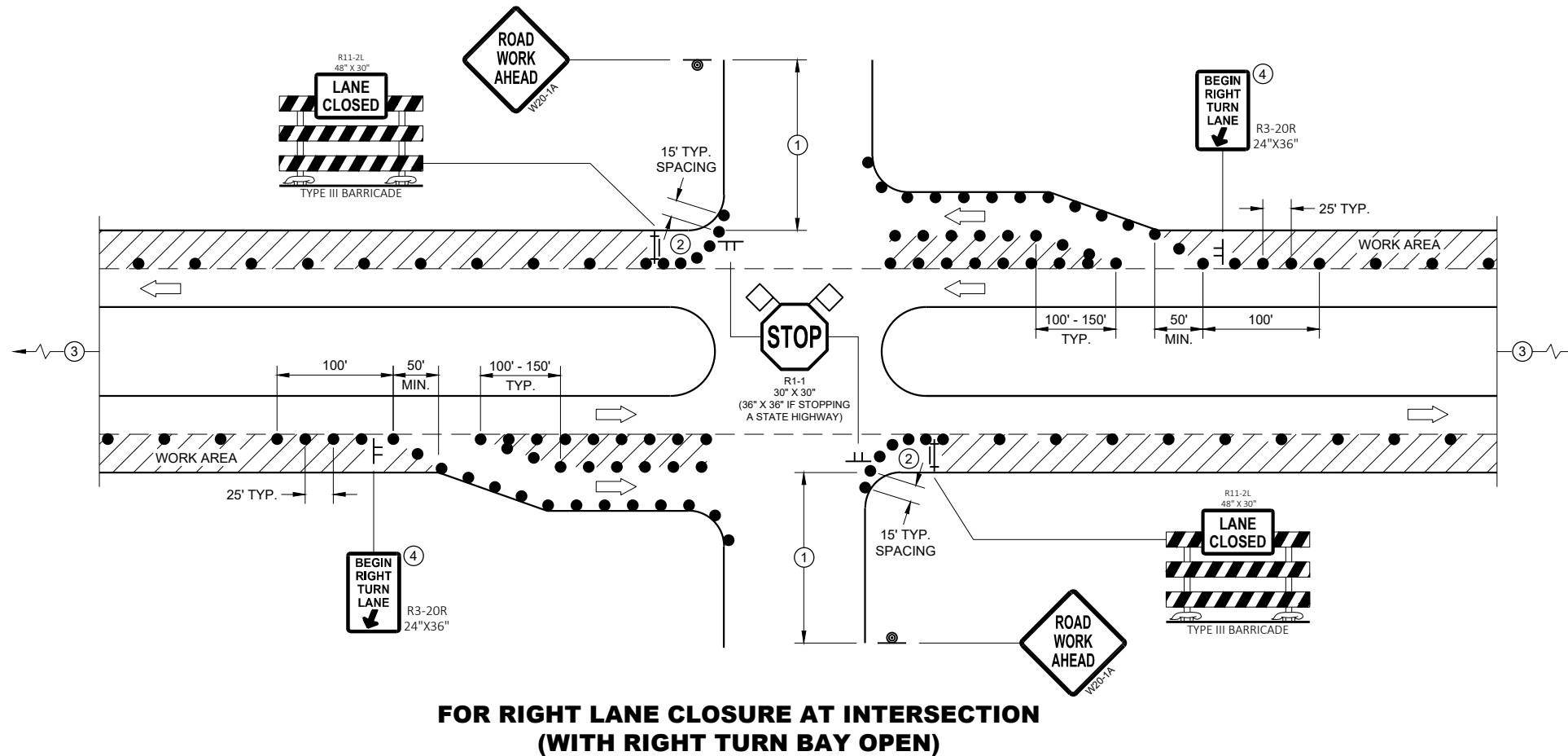
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

SIGNS THAT WILL REMAIN IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON PORTABLE SUPPORTS.

BARRICADES IN A CLOSED LANE 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.

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

- ① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35 - 40 MPH.
200' IF 25 - 30 MPH.
- ② ALSO USE BARRICADE AND 15 FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS
- ③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.
- ④ MINIMUM MOUNTING HEIGHT OF 5 FEET FROM EDGE OF PAVEMENT (AT EDGE LINE LOCATION) TO BOTTOM OF SIGN.

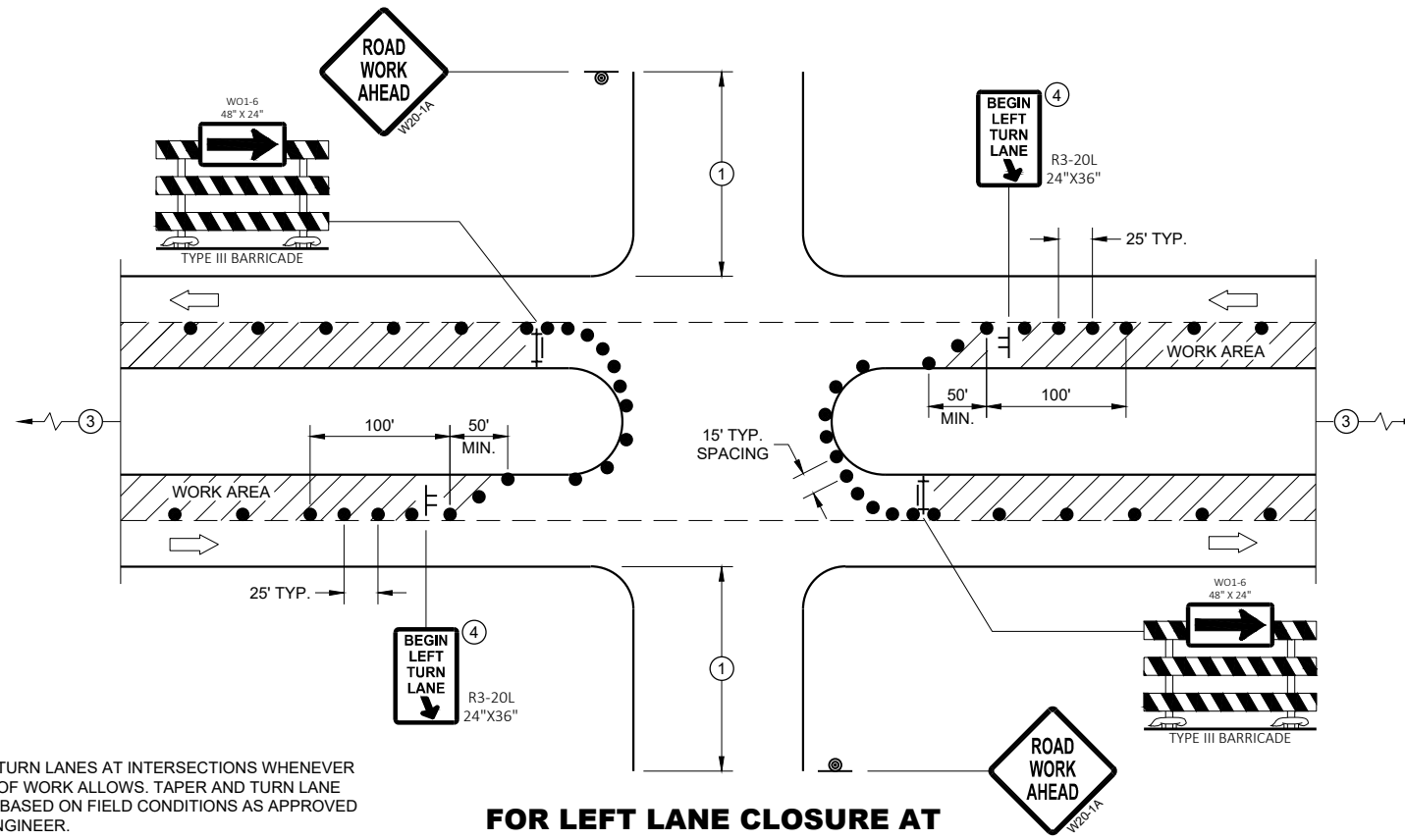


LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., ORANGE
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE RIGHT LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" MAY BE USED IF APPROVED BY THE DISTRICT 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. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

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

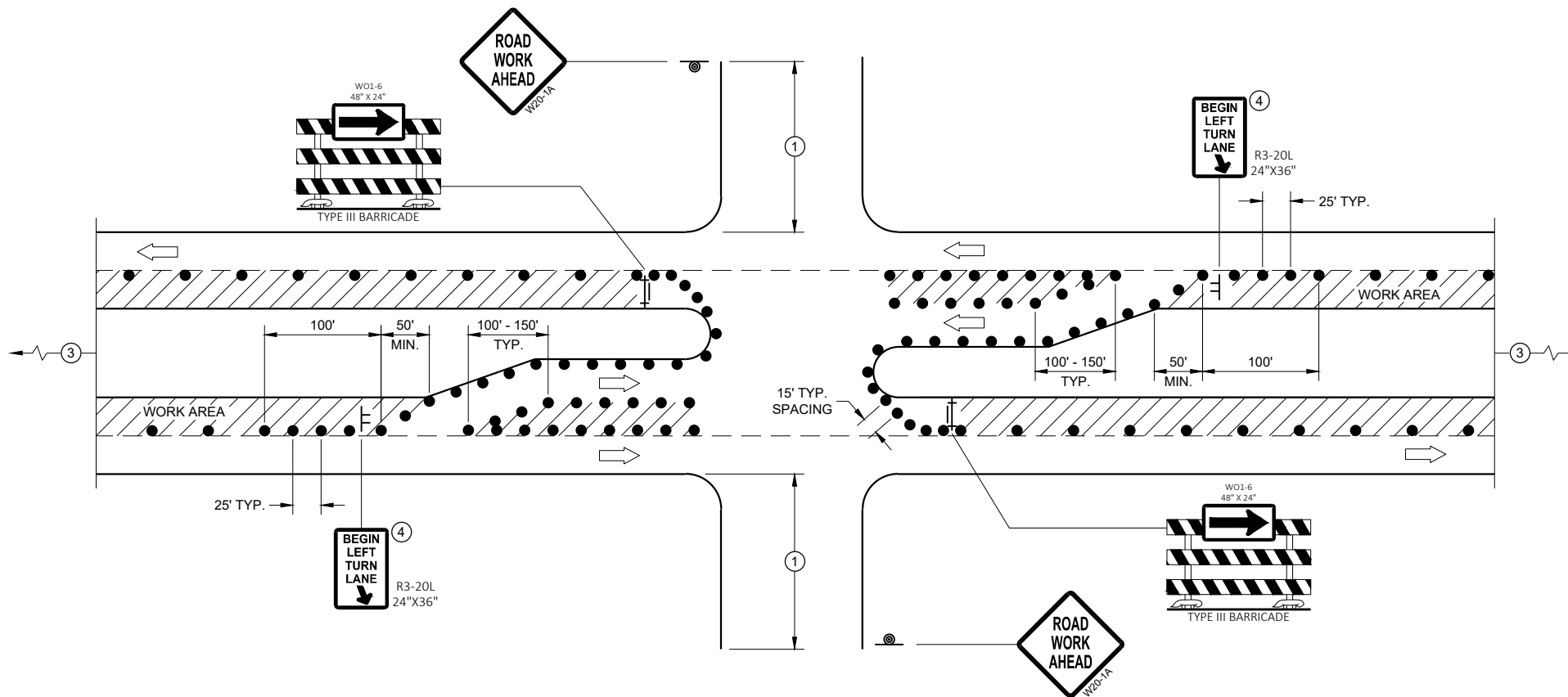
SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

SIGNS THAT WILL REMAIN IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS OR THAT WILL BE PLACED IN A CLOSED LANE MAY BE MOUNTED ON PORTABLE SUPPORTS.

BARRICADES IN A CLOSED LANE 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.

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

- ① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35 - 40 MPH.
200' IF 25 - 30 MPH.
- ② ALSO USE BARRICADE AND 15 FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS
- ③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.
- ④ MINIMUM MOUNTING HEIGHT OF 5 FEET FROM EDGE OF PAVEMENT (AT EDGE LINE LOCATION) TO BOTTOM OF SIGN.










FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)

LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., ORANGE
- WORK AREA

| | |
|--|--|
| TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LEFT LANE CLOSURE | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | |
| APPROVED August 2020 DATE | /S/ Andrew Heidtke WORK ZONE ENGINEER |
| FHWA | |

LEGEND

-  TYPE III BARRICADE WITH ATTACHED SIGN
-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE "A" WARNING LIGHT (FLASHING)
-  DIRECTION OF TRAFFIC
-  WORK AREA

| POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH) | ADVANCE WARNING SIGN SPACING (A) FEET | SHIFTING TAPER $L/2$ | | | | | |
|---|---|------------------------|----|----|-----|-----|-----|
| | | W, LATERAL OFFSET (FT) | | | | | |
| | | 3 | 4 | 5 | 6 | 7 | 8 |
| 25 | 200 | 10 | 14 | 17 | 21 | 24 | 28 |
| 30 | 200 | 15 | 20 | 25 | 30 | 35 | 40 |
| 35 | 350 | 20 | 27 | 34 | 40 | 47 | 54 |
| 40 | 350 | 26 | 35 | 44 | 53 | 62 | 70 |
| 45 | 500 | 45 | 59 | 74 | 89 | 104 | 119 |
| 50 | 500 | 50 | 66 | 83 | 99 | 116 | 132 |
| 55 | 500 | 54 | 73 | 91 | 109 | 127 | 145 |

GENERAL NOTES

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36"x36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

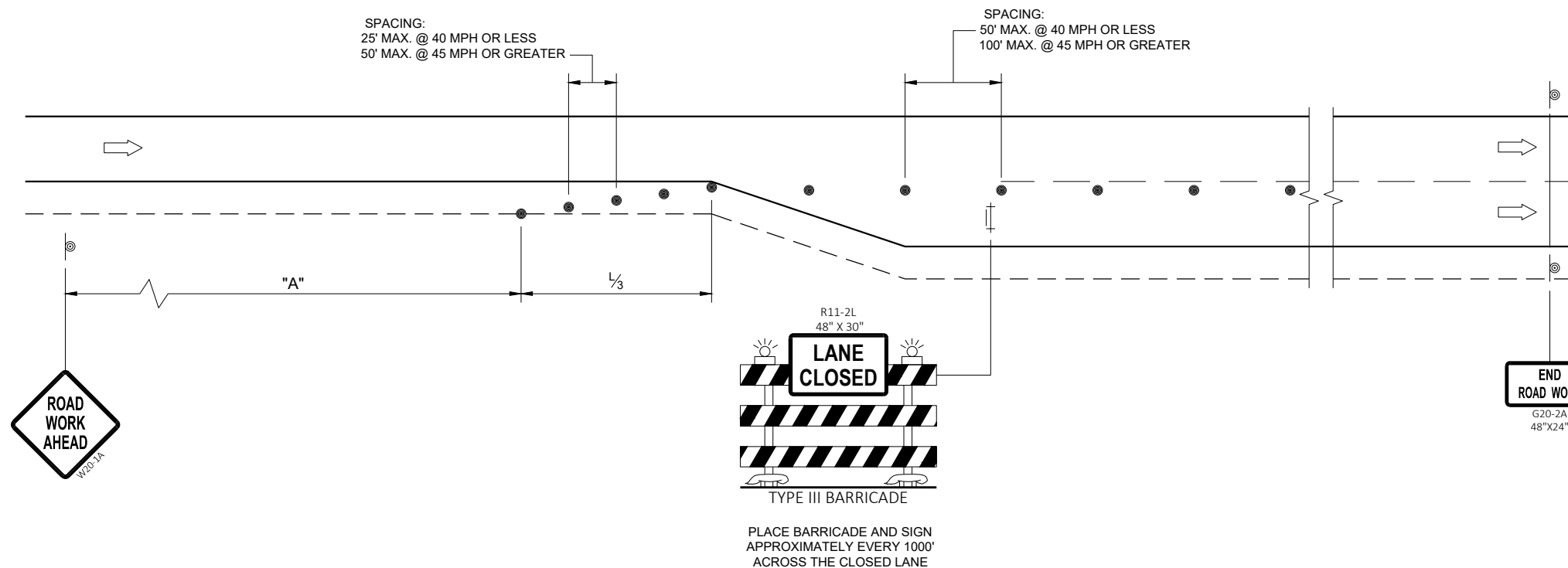
"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

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

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.

W20-1 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 WORK IS LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS.



6








6

SDD 15D50 - 02a

SDD 15D50 - 02a

| | |
|--|--|
| TRAFFIC CONTROL ADDED LANE CLOSURE WITHOUT LANE SHIFT | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | |
| APPROVED February 2022 DATE | /S/ Andrew Heidtke WORK ZONE ENGINEER |
| FHWA | |

LEGEND

-  TYPE III BARRICADE WITH ATTACHED SIGN
-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE "A" WARNING LIGHT (FLASHING)
-  DIRECTION OF TRAFFIC
-  WORK AREA

| POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH) | ADVANCE WARNING SIGN SPACING (A) FEET | SHIFTING TAPER (L/2) FEET |
|---|---------------------------------------|---------------------------|
| 25 | 200 | 60 |
| 30 | 200 | 90 |
| 35 | 350 | 120 |
| 40 | 350 | 160 |
| 45 | 500 | 270 |
| 50 | 500 | 300 |
| 55 | 500 | 330 |

GENERAL NOTES

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36"x36" SIGNS MAY BE USED IF APPROVED BY THE REGIONAL TRAFFIC UNIT.

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

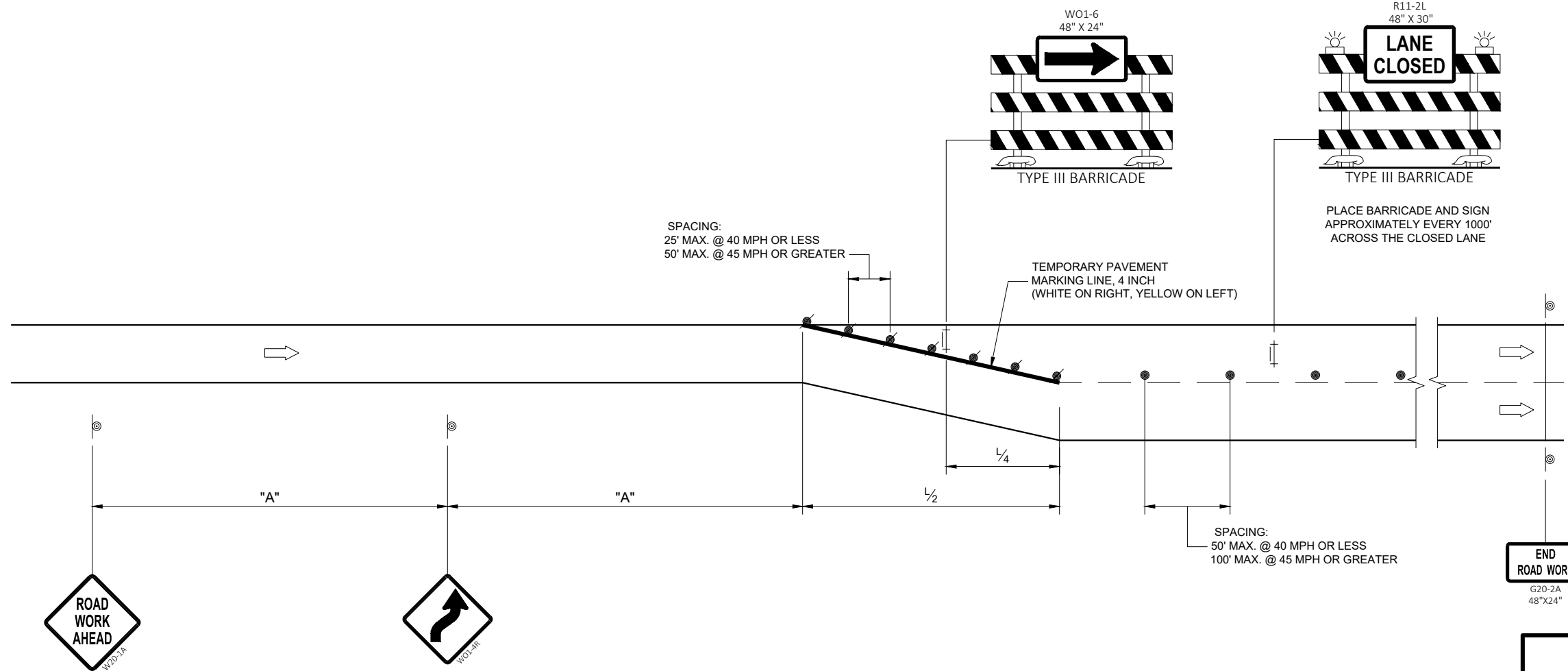
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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 SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

W20-1 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 WORK IS LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS.

PLACE TEMPORARY PAVEMENT MARKING AND PLACE TEMPORARY PAVEMENT LINE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.



**TRAFFIC CONTROL,
ADDED LANE CLOSURE
WITH LANE SHIFT**

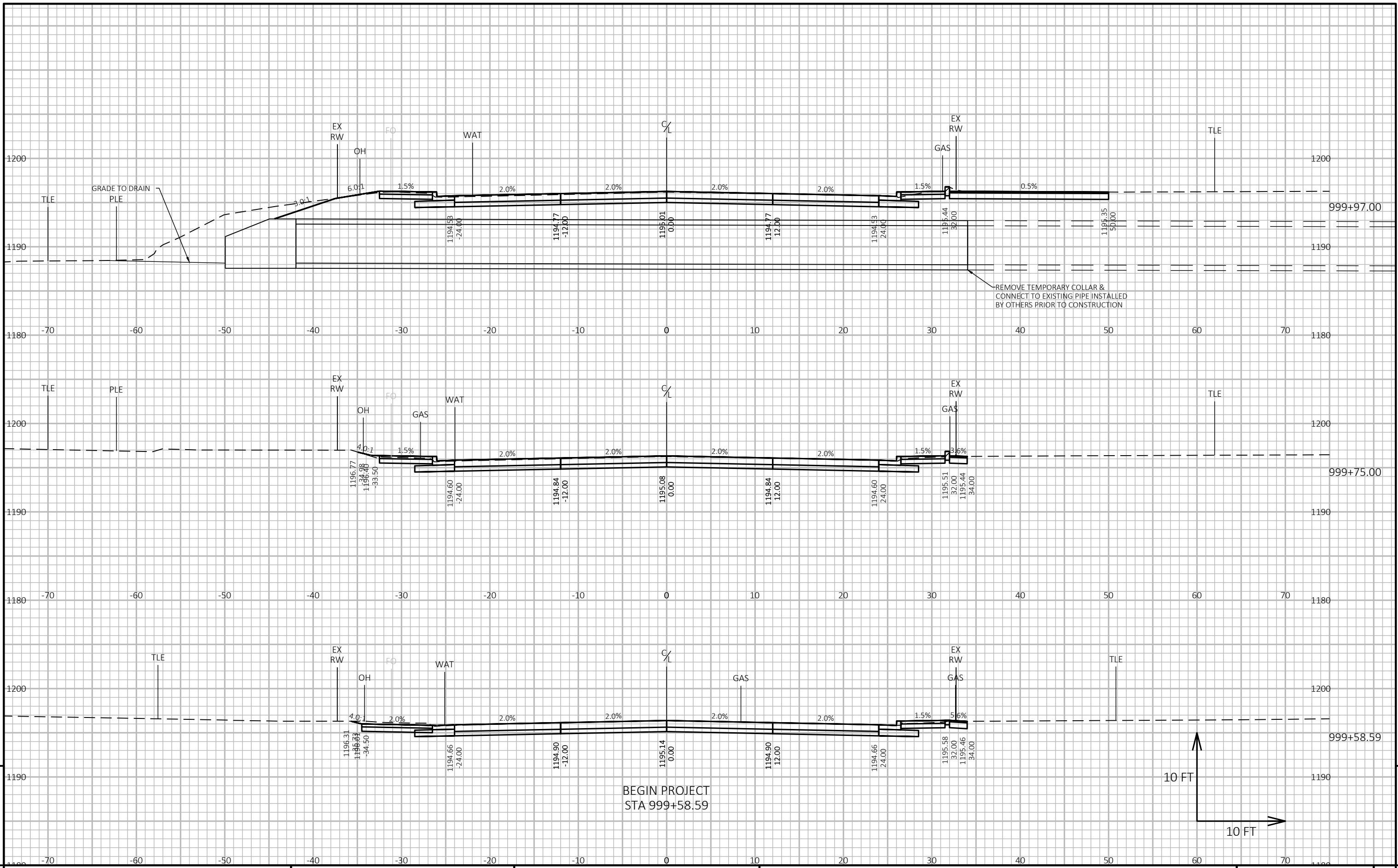
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2022 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

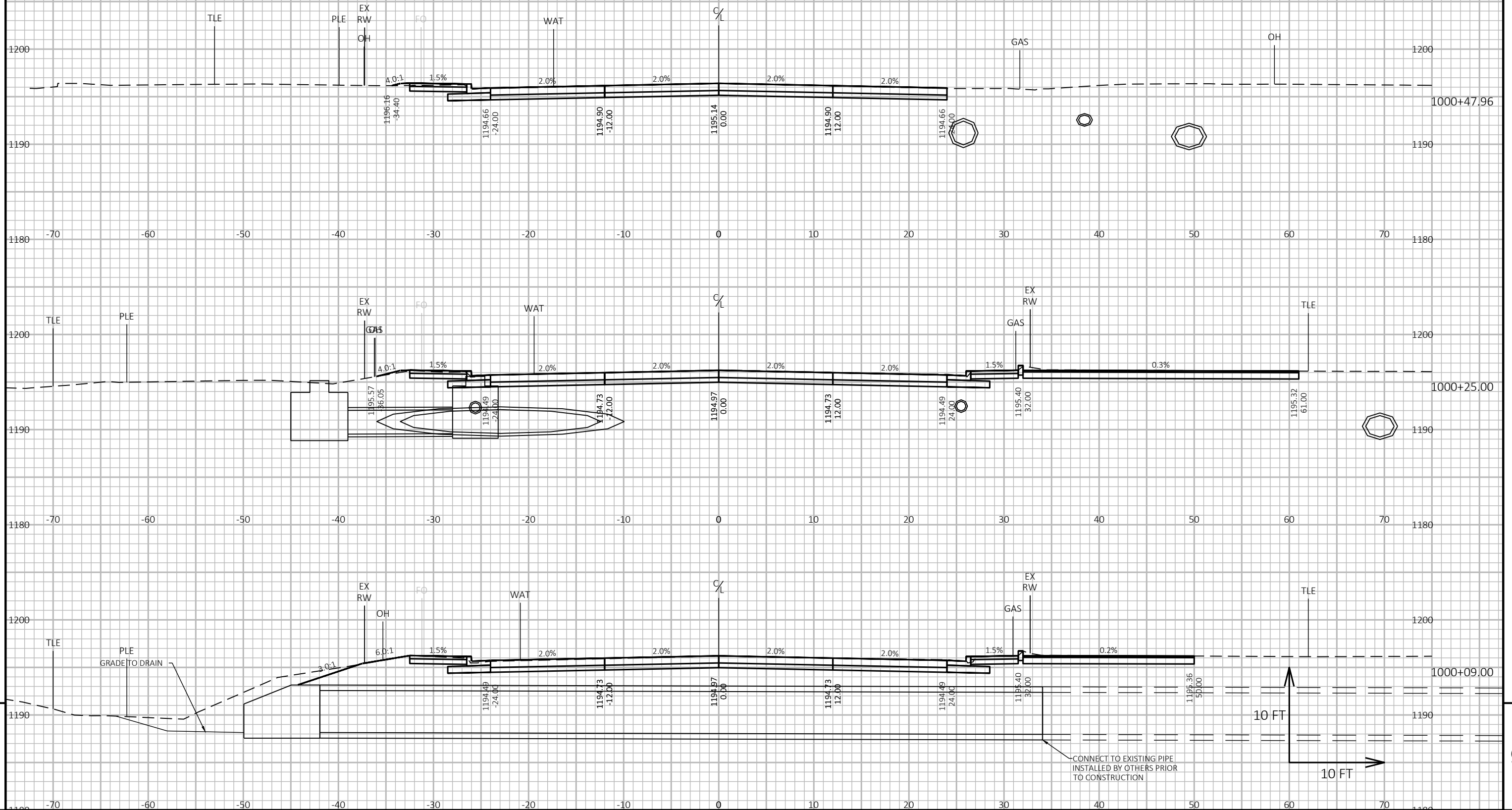
| USH 63 | | | | | | | | |
|---------|----------|-----------|------|-----------------------------------|------|---------------------|---------------|---------------|
| Station | Distance | AREA (SF) | | Incremental Vol (CY) (Unadjusted) | | Cumulative Vol (CY) | | Mass Ordinate |
| | | Cut | Fill | Cut | Fill | Cut | Expanded Fill | |
| Note 7 | | Note 1, 6 | | Note 1,6 | | Note 2, 6 | Note 4 | Note 5 |
| 999+59 | 0.0 | 81.8 | 0.0 | 0.0 | 0 | 0 | 0 | 0 |
| 999+75 | 16.4 | 76.5 | 0.3 | 48.1 | 0.1 | 48 | 0 | 48 |
| 999+97 | 22.0 | 94.5 | 0.3 | 69.7 | 0.2 | 118 | 0 | 117 |
| 1000+09 | 12.0 | 96.4 | 0.2 | 42.4 | 0.1 | 160 | 1 | 160 |
| 1000+25 | 16.0 | 105.7 | 0.4 | 59.9 | 0.2 | 220 | 1 | 219 |
| 1000+48 | 23.0 | 67.6 | 0.3 | 73.6 | 0.3 | 294 | 1 | 292 |

Notes: For information only. Cut and backfill required within excavation for structures limits (approx. Sta 999+59 to Sta 1000+48) is paid for as Excavation for Structures Culverts with the exception of removing concrete pavement, concrete sidewalk, and concrete curb & gutter and is shown for informaion only. See plan details for additional information.



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END PROJECT
STA 1000+47.96



PROJECT NO: 1560-00-75

HWY: USH 63

COUNTY: SAWYER

CROSS SECTIONS

SHEET

E



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