

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 Plates |
| Section No. | 8 | Structure Plans |
| Section No. | 9 | Computer Earthwork Data |
| Section No. | 9 | Cross Sections |

TOTAL SHEETS = 36



47

DESIGN DESIGNATION

| | | |
|-----------------|---|---------|
| A.A.D.T. (2023) | = | 2500 |
| A.A.D.T. (2043) | = | 3050 |
| D.H.V. | = | UNKNOWN |
| D.D. | = | 50/50 |
| T. | = | 1% |
| DESIGN SPEED | = | 35 MPH |
| ESALS | = | 30,000 |

CONVENTIONAL SYMBOLS

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

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

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

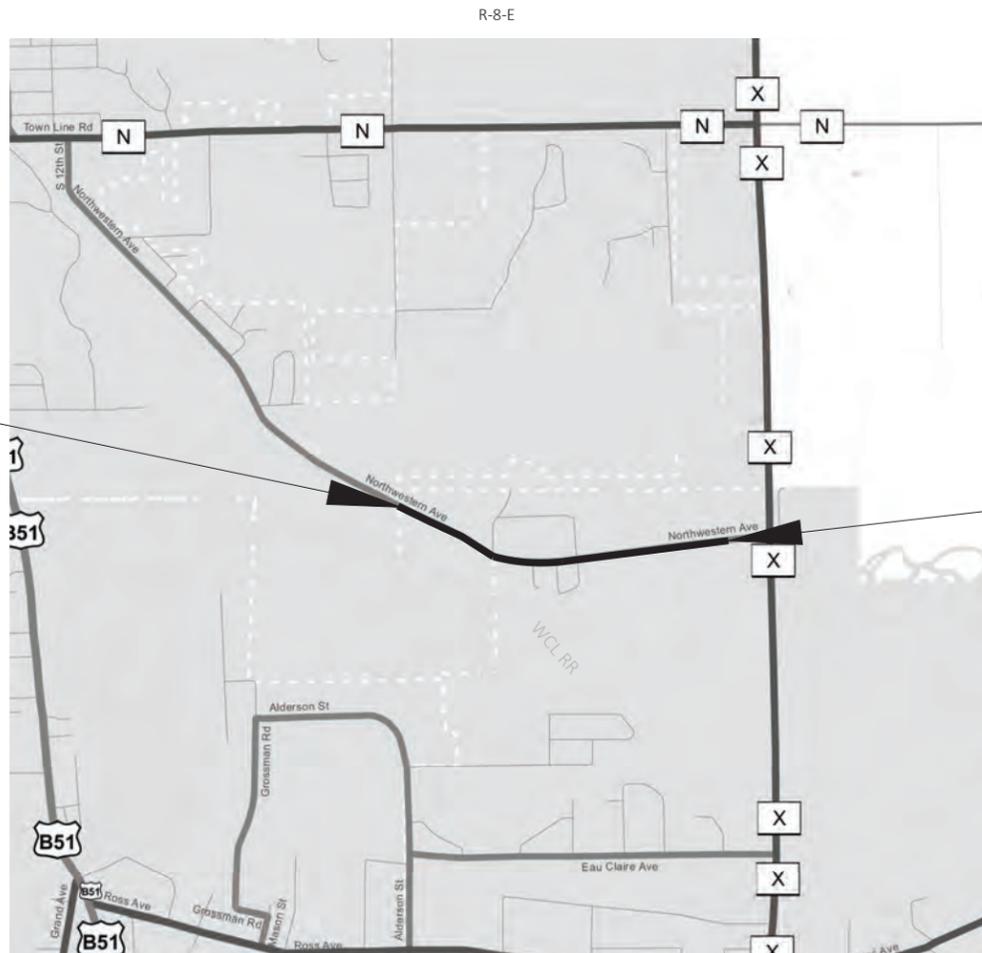
V WESTON, NORTHWESTERN AVENUE

GOLD RIDGE WAY TO COUNTY ROAD X

LOCAL STREET

MARATHON COUNTY

| |
|----------------------|
| STATE PROJECT NUMBER |
| 6999-13-72 |



BEGIN PROJECT
STA 18+00
Y = 191421.412
X = 290788.522

END PROJECT
STA 70+25

LAYOUT
SCALE 0 0.5 MI
TOTAL NET LENGTH OF CENTERLINE = 0.990 MI

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

ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 18.

| STATE PROJECT | FEDERAL PROJECT | |
|---------------|-----------------|----------|
| | PROJECT | CONTRACT |
| 6999-13-72 | WISC 2023050 | 1 |
| | | |
| | | |

ACCEPTED FOR
VILLAGE OF WESTON
7-19-22 *Matthew J. ...* Public Works Director
Date (Signature and Title of Official)

ORIGINAL PLANS PREPARED BY
ISAAC W. DOLAN
E-45008
WAUSAU, WI
PROFESSIONAL ENGINEER
7/19/22 *Isaac Dolan*
Date (Professional Engineer Signature)

STEPHANIE G. CHRISTENSEN
E-35808
WAUSAU, WI
PROFESSIONAL ENGINEER
7-19-22 *Stephanie G. Christensen*
Date (Professional Engineer Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY
Surveyor EMCS, INC
Designer CLARK DIETZ, INC. / EMCS, INC.
Project Manager MIKE GRAGE
Regional Examiner MIKE GRAGE
Regional Supervisor DAN ERVA

APPROVED FOR THE DEPARTMENT
DATE: 7/19/2022 *Will ...*
Date (Signature)

E

PROJECT ID: 6999-13-72
WITH: N/A

COUNTY: MARATHON

GENERAL NOTES

1. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON PLANS ARE APPROXIMATE.
2. THERE MAY BE OTHER UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.
3. THE DISPLAYED EXISTING RIGHT OF WAY AND PROPERTY LINES ARE APPROXIMATE AND FOR GENERAL REFERENCE ONLY. PROPERTY DATA OBTAINED FROM MARATHON COUNTY CONSERVATION, PLANNING AND ZONING GIS DATABASE.
4. THE DISPLAYED EXISTING WETLANDS ARE APPROXIMATE, NON-DELINEATED WETLAND BOUNDARIES AND FOR GENERAL REFERENCE ONLY. WETLAND DATA OBTAINED FROM WISCONSIN DEPARTMENT OF NATURAL RESOURCES WETLAND INVENTORY GEODATABASE.

ORDER OF SECTION 2 SHEETS

- PROJECT OVERVIEW
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- TRAFFIC CONTROL

SOIL BORING SUMMARY

| BORING | STATION, L/R | ASPHALT DEPTH (INCH) | EXISTING PULVERIZED MATERIAL DEPTH (INCH) |
|--------|--------------|----------------------|---|
| B1 | 65+78.69, R | 2.75 | 5.00 |
| B2 | 61+76.63, L | 3.75 | 5.25 |
| B3 | 57+93.04, R | 4.00 | 5.50 |
| B4 | 53+79.93, L | 3.50 | 6.00 |
| B5 | 49+83.00, R | 3.50 | 7.00 |
| B6 | 45+87.53, L | 4.25 | 6.50 |
| B7 | 41+93.40, R | 3.50 | 7.25 |
| B8 | 37+84.47, L | 4.25 | 4.00 |
| B9 | 33+57.08, R | 5.00 | 5.00 |
| B10 | 29+98.48, L | 4.00 | --- |
| B11 | 26+09.88, R | 3.50 | 6.75 |
| B12 | 22+47.33, L | 3.75 | 5.25 |

UTILITIES

COMMUNICATIONS

FRONTIER COMMUNICATIONS OF WI LLC
 JEREMY ZEHR
 1851 N 14TH AVE
 WAUSAU, WI, 54401
 PHONE: 715-243-9293
 EMAIL: JEREMY.ZEHR@FTR.COM

NET LEC LLC
 RICK VINCENT
 470 SECURITY BLVD
 GREEN BAY, WI, 54313
 PHONE: 920-617-7316
 EMAIL: RICK.VINCENT@NSIGHT.COM

SPECTRUM
 SCOTT GOHDES
 853 MCINTOSH ST
 WAUSAU, WI, 54403
 PHONE: 715-803-2989
 MOBILE: 715-519-0065
 EMAIL: SCOTT.GOHDES@CHARTER.COM

TDS METROCOM LLC
 DENNIS RUESS
 410 4TH ST
 MOSINEE, WI, 54455
 PHONE: 715-693-0906
 EMAIL: DENNIS.RUESS@TDSTELECOM.COM

ELECTRIC

WISCONSIN PUBLIC SERVICE
 JESSE PATTEN
 P.O. BOX 1166
 WAUSAU, WI, 54448
 PHONE: 715-848-7405
 MOBILE: 715-573-0349
 EMAIL: JESSE.PATTEN@WISCONSINPUBLICSERVICE.COM

GAS/PETROLEUM

ANR PIPELINE COMPANY
 JASON JENSEN
 6827 CONSOLIDATED SCHOOL RD
 JANESVILLE, WI, 53545
 PHONE: 608-373-6940
 MOBILE: 608-373-6940
 EMAIL: JASON_JENSEN@TCENERGY.COM

WISCONSIN PUBLIC SERVICE
 SHANE SARKKINEN
 1700 SHERMAN ST
 WAUSAU, WI, 54402
 PHONE: 715-848-7387
 MOBILE: 715-966-1040
 EMAIL: SHANE.SARKKINEN@WISCONSINPUBLICSERVICE.COM

RUNOFF COEFFICIENT TABLE

| | HYDROLOGIC SOIL GROUP | | | | | | | | | | | |
|-------------------------|-----------------------|------------|------------|-----------------------|------------|------------|-----------------------|------------|------------|-----------------------|------------|------------|
| | A | | | B | | | C | | | D | | |
| | SLOPE RANGE (PERCENT) | | | SLOPE RANGE (PERCENT) | | | SLOPE RANGE (PERCENT) | | | SLOPE RANGE (PERCENT) | | |
| LAND USE: | 0-2 | 2-6 | 6 & OVER |
| ROW CROPS | .08 .22 | .16 .30 | .22 .38 | .12 .26 | .20 .34 | .27 .44 | .15 .30 | .24 .37 | .33 .50 | .19 .34 | .28 .41 | .38 .56 |
| MEDIAN STRIP-TURF | .19 .24 | .20 .26 | .24 .30 | .19 .25 | .22 .28 | .26 .33 | .20 .26 | .23 .30 | .30 .37 | .20 .27 | .25 .32 | .30 .40 |
| SIDE SLOPE-TURF | | | .25 .32 | | | .27 .34 | | | .28 .36 | | | .30 .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 = 7.910 ACRES
 TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0 ACRES



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

OTHER CONTACTS

VILLAGE OF WESTON

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 DIRECTOR OF PUBLIC WORKS
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 WESTON, WI 54476
 PHONE: 715-241-2636
 EMAIL: MWODALSKI@WESTONWI.GOV

DAN RACZKOWSKI
 DEPUTY DIRECTOR OF PUBLIC WORKS
 5500 SCHOFIELD AVENUE
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 PHONE:
 EMAIL: DRACZKOWSKI@WESTONWI.GOV

JOSH SWENSON
 UTILITY SUPERINTENDENT
 5500 SCHOFIELD AVENUE
 WESTON, WI 54476
 PHONE: 715-241-2637
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WISCONSIN DNR LIAISON

CASEY JONES
 DNR OSHKOSH SERVICE CENTER
 625 E. COUNTRY ROAD Y, STE 700
 OSHKOSH, WI 54901
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 EMAIL: CASEY.JONES@WISCONSIN.GOV

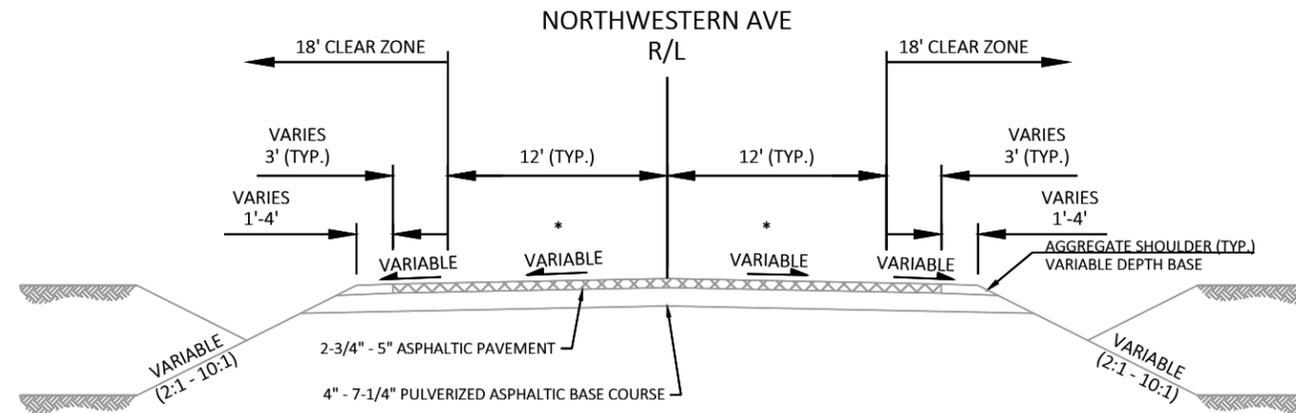
DESIGN CONTACTS

EMCS, INC.
 500 NORTH 17TH AVENUE
 WAUSAU, WI 54401
 PHONE: 715-845-1081

CLARK DIETZ, INC.
 500 NORTH 3RD STREET, SUITE 703
 WAUSAU, WI 54403
 PHONE: 715-845-1333



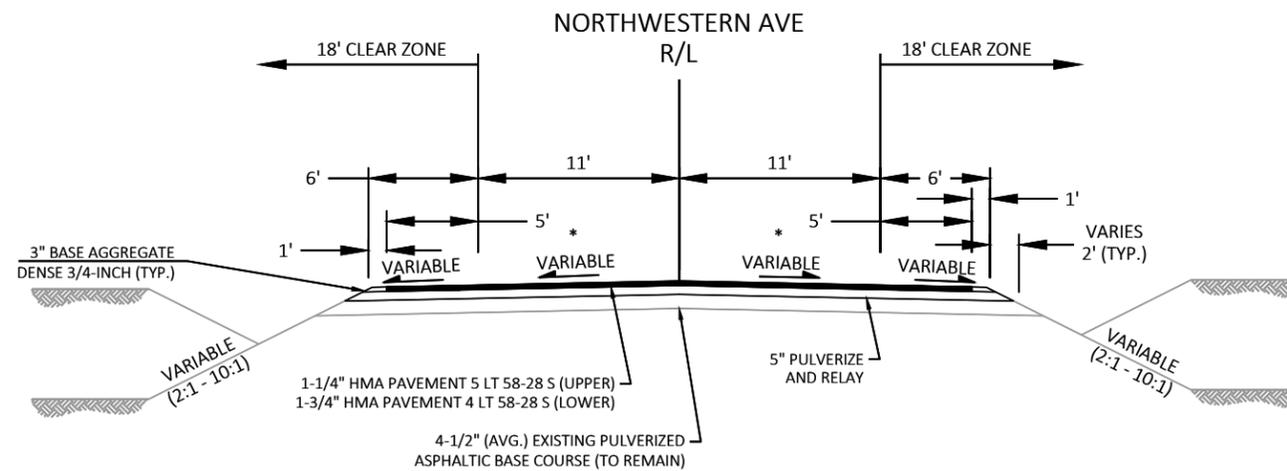
| | | | | |
|------------------------|--------------------------|------------------|------------------|----------------|
| PROJECT NO: 6999-13-72 | HWY: NORTHWESTERN AVENUE | COUNTY: MARATHON | PROJECT OVERVIEW | SHEET E |
|------------------------|--------------------------|------------------|------------------|----------------|



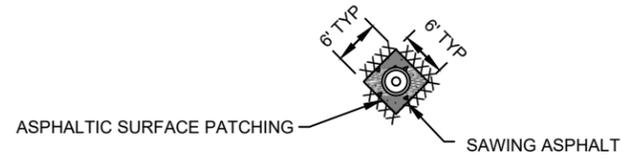
EXISTING TYPICAL SECTION
STA 18+00 - 70+25

- LEGEND**
- EXISTING ASPHALTIC PAVEMENT
 - EXISTING AGGREGATE COURSE
 - FINISHED HMA PAVEMENT
 - FINISHED BASE AGGREGATE DENSE 3/4-INCH

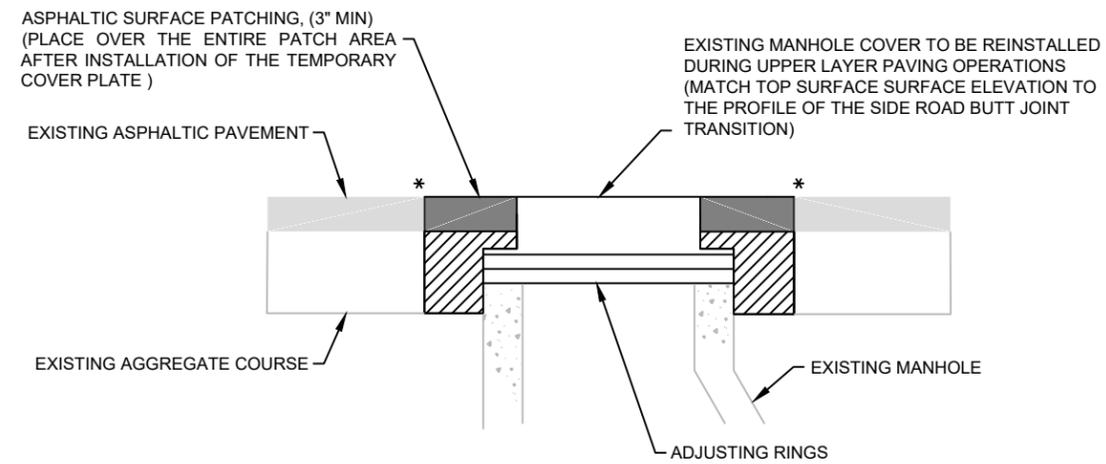
SUPERELEVATION
* CROSS SLOPE VARIES THROUGH SUPERELEVATION;
4.0% SE - STA. 30+50 TO STA. 39+00 (APPROXIMATE)



FINISHED TYPICAL SECTION
STA 18+00 - 70+25

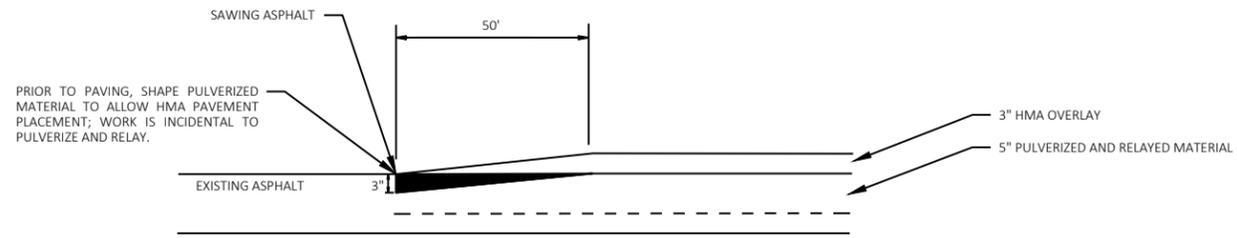


PLAN VIEW



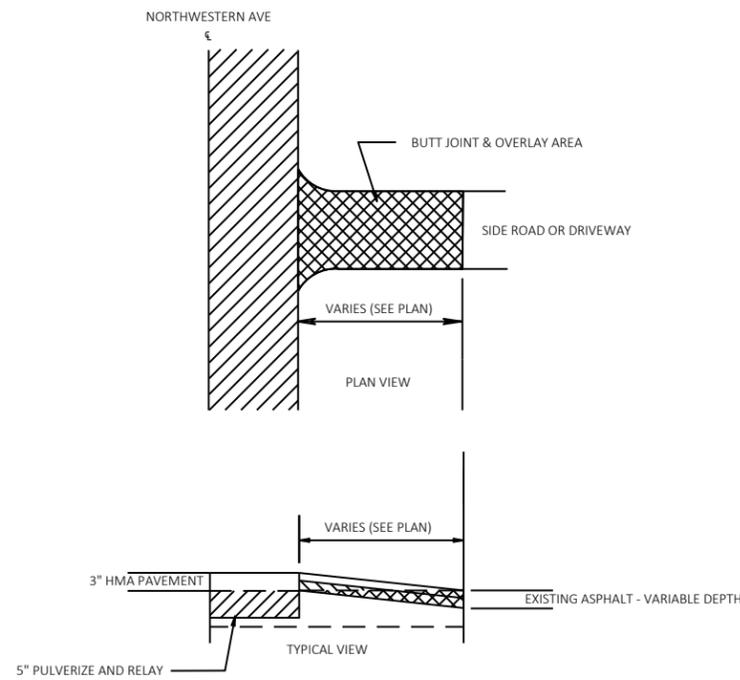
CROSS SECTION

ADJUSTING MANHOLE COVERS (STORM SEWER) DETAIL

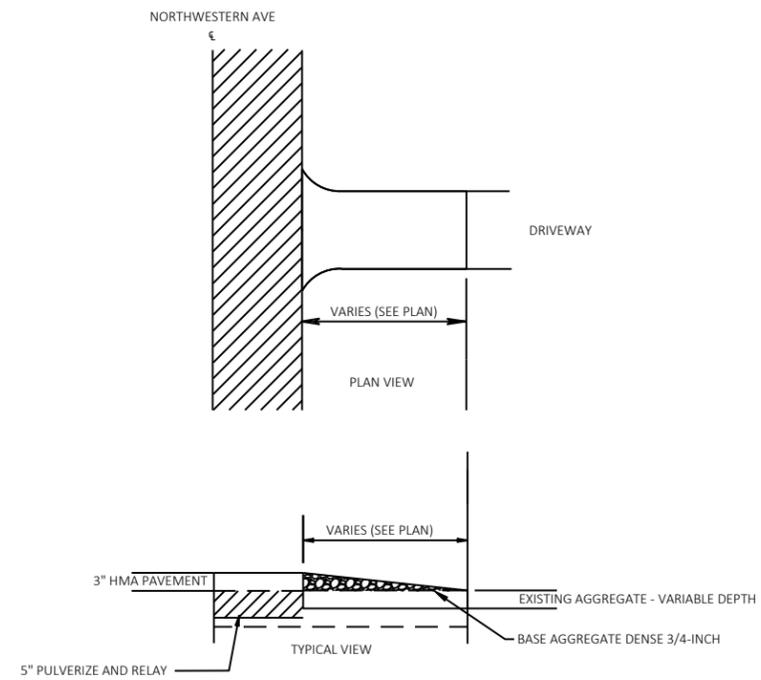


NORTHWESTERN AVENUE PROFILE RAISE TRANSITION DETAIL

STA 18+00 - STA 18+50
STA 69+75 - STA 70+25



SIDE ROAD AND ASPHALT DRIVEWAY DETAIL



AGGREGATE DRIVEWAY DETAIL

NOTES

-  PULVERIZE AND RELAY
-  REMOVE MATERIAL UNDER ITEM 'REMOVING ASPHALT SURFACE, BUTT JOINTS' MATERIAL SHALL NOT BE REMOVED UNDER THIS ITEM UNTIL 24 HOURS BEFORE SIDE ROAD PAVING.
- SIDE ROAD PAVEMENT IS 3". MATCH MAINLINE PAVEMENT LAYERS.
- DRIVEWAY PAVEMENT IS 3". USE ASPHALTIC SURFACE FOR DRIVEWAYS AND FIELD ENTRANCES.



CITY OF WAUSAU

TOWN OF WESTON

CITY OF SCHOFIELD

TOWN OF WESTON

VILLAGE OF WESTON

TRAFFIC CONTROL SIGNS FIXED MESSAGE

| FIXED MESSAGE SIGN LOCATION | FIXED MESSAGE |
|---|---|
| NORTHWESTERN AVE WB 100-FEET WEST OF COUNTY ROAD X | NORTHWESTERN AVE WORK STARTS STARTING DATE |
| NORTHWESTERN AVE EB 0.1 MILES WEST OF BEGIN PROJECT LIMITS | NORTHWESTERN AVE WORK STARTS STARTING DATE |

FIXED MESSAGE GENERAL NOTES

ADJUST TRAFFIC CONTROL SIGNS FIXED MESSAGE AS NEEDED BASED ON CONSTRUCTION SCHEDULE.

CONSIDER GEOMETRICS WHEN LOCATING MESSAGE BOARDS SO THE DRIVER HAS A CLEAR VIEW OF THE BOARD FOR A MINIMUM OF 1,000 FEET IN FRONT OF THE MESSAGE BOARD. PLACED MESSAGE BOARDS AS FAR AWAY FROM LIVE TRAFFIC LANES AS POSSIBLE WITHOUT HAMPERING VISIBILITY.

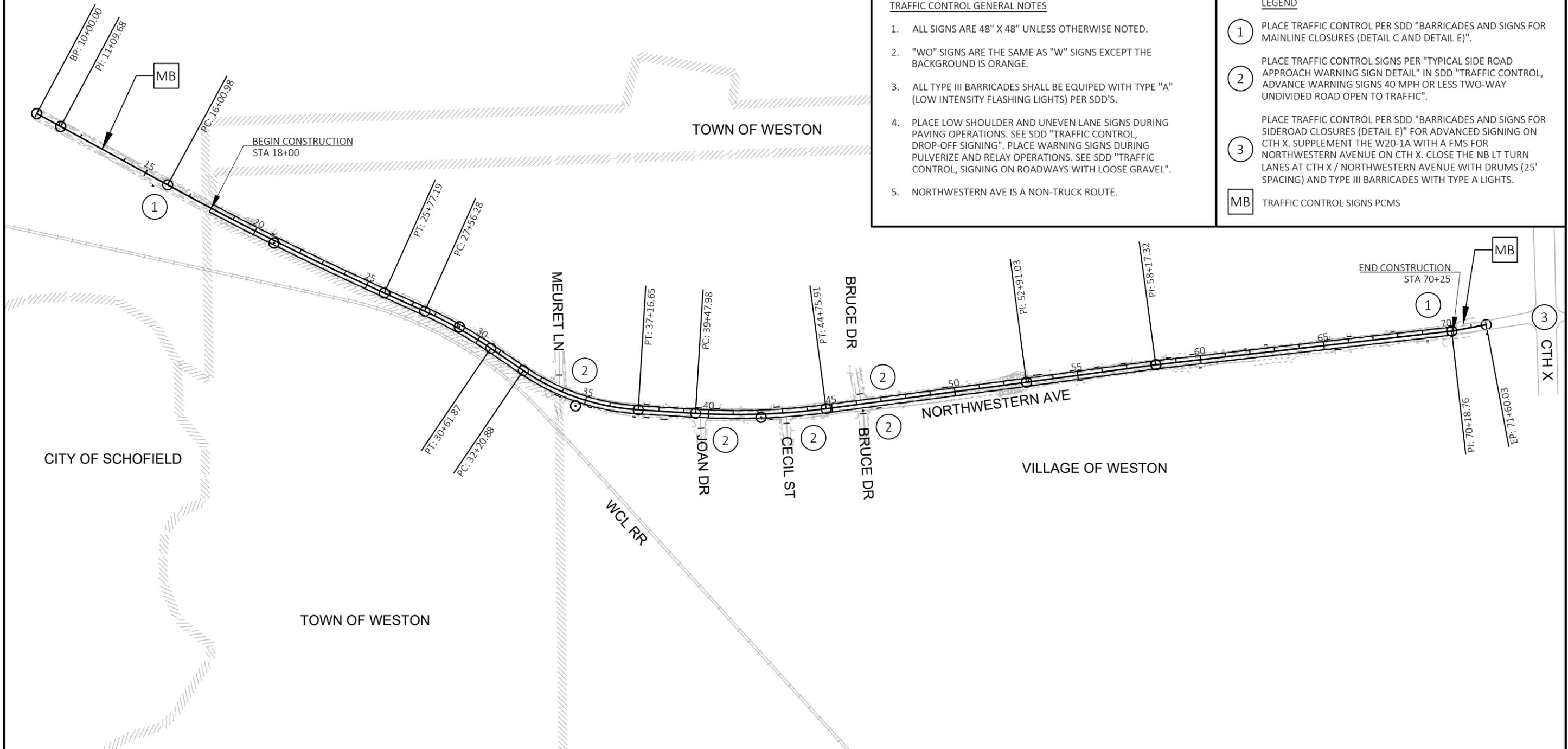
PLACE TRAFFIC CONTROL SIGNS FIXED MESSAGE AND DISPLAY THE MESSAGE 7 DAYS PRIOR TO THE EXPECTED START OF THE PROPOSED WORK. ADJUST THE MESSAGE DATE ACCORDINGLY.

TRAFFIC CONTROL GENERAL NOTES

1. ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
2. "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
3. ALL TYPE III BARRICADES SHALL BE EQUIPED WITH TYPE "A" (LOW INTENSITY FLASHING LIGHTS) PER SDD'S.
4. PLACE LOW SHOULDER AND UNEVEN LANE SIGNS DURING PAVING OPERATIONS. SEE SDD "TRAFFIC CONTROL, DROP-OFF SIGNING". PLACE WARNING SIGNS DURING PULVERIZE AND RELAY OPERATIONS. SEE SDD "TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL".
5. NORTHWESTERN AVE IS A NON-TRUCK ROUTE.

LEGEND

- ① PLACE TRAFFIC CONTROL PER SDD "BARRICADES AND SIGNS FOR MAINLINE CLOSURES (DETAIL C AND DETAIL E)".
 - ② PLACE TRAFFIC CONTROL SIGNS PER "TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL" IN SDD "TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 MPH OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC".
 - ③ PLACE TRAFFIC CONTROL PER SDD "BARRICADES AND SIGNS FOR SIDEROAD CLOSURES (DETAIL E)" FOR ADVANCED SIGNING ON CTH X. SUPPLEMENT THE W20-1A WITH A FMS FOR NORTHWESTERN AVENUE ON CTH X. CLOSE THE NB LT TURN LANES AT CTH X / NORTHWESTERN AVENUE WITH DRUMS (25' SPACING) AND TYPE III BARRICADES WITH TYPE A LIGHTS.
- MB TRAFFIC CONTROL SIGNS PCMS



PROJECT NO: 6999-13-72

HWY: NORTHWESTERN AVENUE

COUNTY: MARATHON

TRAFFIC CONTROL - OVERVIEW

SHEET

E

Estimate Of Quantities

6999-13-72

| Line | Item | Item Description | Unit | Total | Qty |
|------|------------|--|------|------------|------------|
| 0002 | 204.0110 | Removing Asphaltic Surface | SY | 4.000 | 4.000 |
| 0004 | 204.0115 | Removing Asphaltic Surface Butt Joints | SY | 820.000 | 820.000 |
| 0006 | 213.0100 | Finishing Roadway (project) 01. 6999-13-72 | EACH | 1.000 | 1.000 |
| 0008 | 305.0110 | Base Aggregate Dense 3/4-Inch | TON | 260.000 | 260.000 |
| 0010 | 305.0120 | Base Aggregate Dense 1 1/4-Inch | TON | 2.000 | 2.000 |
| 0012 | 325.0100 | Pulverize and Relay | SY | 22,060.000 | 22,060.000 |
| 0014 | 455.0605 | Tack Coat | GAL | 985.000 | 985.000 |
| 0016 | 460.2000 | Incentive Density HMA Pavement | DOL | 2,070.000 | 2,070.000 |
| 0018 | 460.5224 | HMA Pavement 4 LT 58-28 S | TON | 1,890.000 | 1,890.000 |
| 0020 | 460.5225 | HMA Pavement 5 LT 58-28 S | TON | 1,340.000 | 1,340.000 |
| 0022 | 465.0110 | Asphaltic Surface Patching | TON | 1.000 | 1.000 |
| 0024 | 465.0120 | Asphaltic Surface Driveways and Field Entrances | TON | 75.000 | 75.000 |
| 0026 | 611.8110 | Adjusting Manhole Covers | EACH | 1.000 | 1.000 |
| 0028 | 611.8120.S | Cover Plates Temporary | EACH | 1.000 | 1.000 |
| 0030 | 618.0100 | Maintenance And Repair of Haul Roads (project) 01. 6999-13-72 | EACH | 1.000 | 1.000 |
| 0032 | 619.1000 | Mobilization | EACH | 1.000 | 1.000 |
| 0034 | 628.1905 | Mobilizations Erosion Control | EACH | 2.000 | 2.000 |
| 0036 | 628.1910 | Mobilizations Emergency Erosion Control | EACH | 1.000 | 1.000 |
| 0038 | 628.7010 | Inlet Protection Type B | EACH | 4.000 | 4.000 |
| 0040 | 642.5001 | Field Office Type B | EACH | 1.000 | 1.000 |
| 0042 | 643.0300 | Traffic Control Drums | DAY | 976.000 | 976.000 |
| 0044 | 643.0420 | Traffic Control Barricades Type III | DAY | 280.000 | 280.000 |
| 0046 | 643.0705 | Traffic Control Warning Lights Type A | DAY | 560.000 | 560.000 |
| 0048 | 643.0900 | Traffic Control Signs | DAY | 1,600.000 | 1,600.000 |
| 0050 | 643.1000 | Traffic Control Signs Fixed Message | SF | 8.560 | 8.560 |
| 0052 | 643.1050 | Traffic Control Signs PCMS | DAY | 14.000 | 14.000 |
| 0054 | 643.5000 | Traffic Control | EACH | 1.000 | 1.000 |
| 0056 | 646.1020 | Marking Line Epoxy 4-Inch | LF | 20,560.000 | 20,560.000 |
| 0058 | 650.8000 | Construction Staking Resurfacing Reference | LF | 5,225.000 | 5,225.000 |
| 0060 | 650.9911 | Construction Staking Supplemental Control (project) 01. 6999-13-72 | EACH | 1.000 | 1.000 |
| 0062 | 690.0150 | Sawing Asphalt | LF | 89.000 | 89.000 |
| 0064 | 740.0440 | Incentive IRI Ride | DOL | 4,000.000 | 4,000.000 |
| 0066 | ASP.1T0A | On-the-Job Training Apprentice at \$5.00/HR | HRS | 300.000 | 300.000 |
| 0068 | ASP.1T0G | On-the-Job Training Graduate at \$5.00/HR | HRS | 600.000 | 600.000 |

REMOVAL ITEMS

| LOCATION | STATION | TO | STATION | OFFSET | 204.0115 | 325.0100 | 690.0150* |
|---------------------|---------|----|---------|--------|---|------------------------|-------------------|
| | | | | | REMOVING ASPHALTIC SURFACE BUTT JOINTS SY | PULVERIZE AND RELAY SY | SAWING ASPHALT LF |
| NORTHWESTERN AVENUE | 18+00 | - | 70+25 | LT&RT | -- | 22,060 | 65 |
| MEURET LN | 33+37 | - | 34+04 | LT | 160 | -- | -- |
| JOAN DR | 39+40 | - | 40+02 | RT | 160 | -- | -- |
| CECIL ST | 42+86 | - | 43+39 | RT | 90 | -- | -- |
| BRUCE DR | 45+94 | - | 46+47 | LT&RT | 150 | -- | -- |
| DRIVEWAYS | 18+00 | - | 70+25 | LT&RT | 260 | -- | -- |
| TOTALS | | | | | 820 | 22,060 | 65 |

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

BASE AGGREGATE DENSE 3/4-INCH

| LOCATION | STATION | TO | STATION | OFFSET | 305.0110 |
|-------------------------------|---------|----|---------|--------|----------|
| | | | | | TON |
| NORTHWESTERN AVENUE DRIVEWAYS | 18+00 | - | 70+25 | LT&RT | 245 |
| | 18+00 | - | 70+25 | LT&RT | 15 |
| TOTAL | | | | | 260 |

ASPHALTIC ITEMS

| LOCATION | STATION | TO | STATION | OFFSET | 455.0605 | 460.5224 | 460.5225 | 465.0120 |
|---------------------|---------|----|---------|--------|---------------|-------------------------------|-------------------------------|---|
| | | | | | TACK COAT GAL | HMA PAVEMENT 4 LT 58-28 S TON | HMA PAVEMENT 5 LT 58-28 S TON | ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON |
| NORTHWESTERN AVENUE | 18+00 | - | 70+25 | LT&RT | 930 | 1,820 | 1,300 | -- |
| MEURET LN | 33+37 | - | 34+04 | LT | 9 | 20 | 10 | -- |
| JOAN DR | 39+40 | - | 40+02 | RT | 9 | 20 | 10 | -- |
| CECIL ST | 42+86 | - | 43+39 | RT | 5 | 10 | 10 | -- |
| BRUCE DR | 45+94 | - | 46+47 | LT&RT | 9 | 20 | 10 | -- |
| DRIVEWAYS | 18+00 | - | 70+25 | LT&RT | 23 | -- | -- | 75 |
| TOTALS | | | | | 985 | 1,890 | 1,340 | 75 |

ADJUSTING SEWER MANHOLE ITEMS

| STATION | OFFSET | 204.0110 | 305.0120 | 465.0110 | 611.8110 | 611.8120.S | 690.0150* |
|---------|----------|-------------------------------|-------------------------------------|--------------------------------|-------------------------------|-----------------------------|-------------------|
| | | REMOVING ASPHALTIC SURFACE SY | BASE AGGREGATE DENSE 1 1/4-INCH TON | ASPHALTIC SURFACE PATCHING TON | ADJUSTING MANHOLE COVERS EACH | COVER PLATES TEMPORARY EACH | SAWING ASPHALT LF |
| 46+22 | 27.2' RT | 4 | 2 | 1 | 1 | 1 | 24 |
| TOTALS | | 4 | 2 | 1 | 1 | 1 | 24 |

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE

3

3

EROSION CONTROL MOBILIZATION

| LOCATION | 628.1905 | | 628.1910 | |
|----------|--|-------------------------|--|--------------------------------------|
| | MOBILIZATIONS EROSION CONTROL EACH | EROSION CONTROL EACH | MOBILIZATIONS EROSION CONTROL EACH | EMERGENCY EROSION CONTROL EACH |
| PROJECT | 2 | | 1 | |
| TOTALS | 2 | | 1 | |

INLET PROTECTION TYPE B

| STATION | OFFSET | 628.7010 | |
|---------------|--------|----------|------|
| | | STATION | EACH |
| 45+93 | RT | | 1 |
| 46+59 | RT | | 1 |
| 47+33 | RT | | 1 |
| UNDISTRIBUTED | | | 1 |
| TOTAL | | | 4 |

TRAFFIC CONTROL SIGNS FIXED MESSAGE

| LOCATION | NUMBER REQUIRED | SIGN SIZE W X H IN X IN | 643.1000 | |
|------------------------------|--------------------|-------------------------------|----------|--------------------|
| | | | SF | SIGN MESSAGE |
| CTH X NB/SB ADVANCED WARNING | 2 | 34.25"x18" | 8.56 | "NORTHWESTERN AVE" |
| TOTAL | | | 8.56 | |

TRAFFIC CONTROL ITEMS

| LOCATION | STAGE DURATION DAYS | 643.0300 | | 643.0420 | | 643.0705 | | 643.0900 | | 643.1050 | |
|--|---------------------------|------------------------------------|-----|--|-----|--|-----|------------------------------------|-------|---|-----|
| | | TRAFFIC CONTROL DRUMS NO. | DAY | TRAFFIC CONTROL BARRICADES TYPE III NO. | DAY | TRAFFIC CONTROL WARNING LIGHTS TYPE A NO. | DAY | TRAFFIC CONTROL SIGNS NO. | DAY | TRAFFIC CONTROL SIGNS PCMS NO. | DAY |
| | | PRIOR TO CONSTRUCTION | 7 | 8 | 56 | -- | -- | -- | -- | -- | -- |
| PROJECT ADVANCED WARNING & CTH X TURNING LANES | 40 | 20 | 800 | 7 | 280 | 14 | 560 | 37 | 1,480 | -- | -- |
| PULVERIZE AND RELAY/OVERLAY OPERATIONS | 30 | 4 | 120 | -- | -- | -- | -- | 4 | 120 | -- | -- |
| TOTALS | | | 976 | | 280 | | 560 | | 1,600 | | 14 |

LONG LINE PAVEMENT MARKING ITEMS

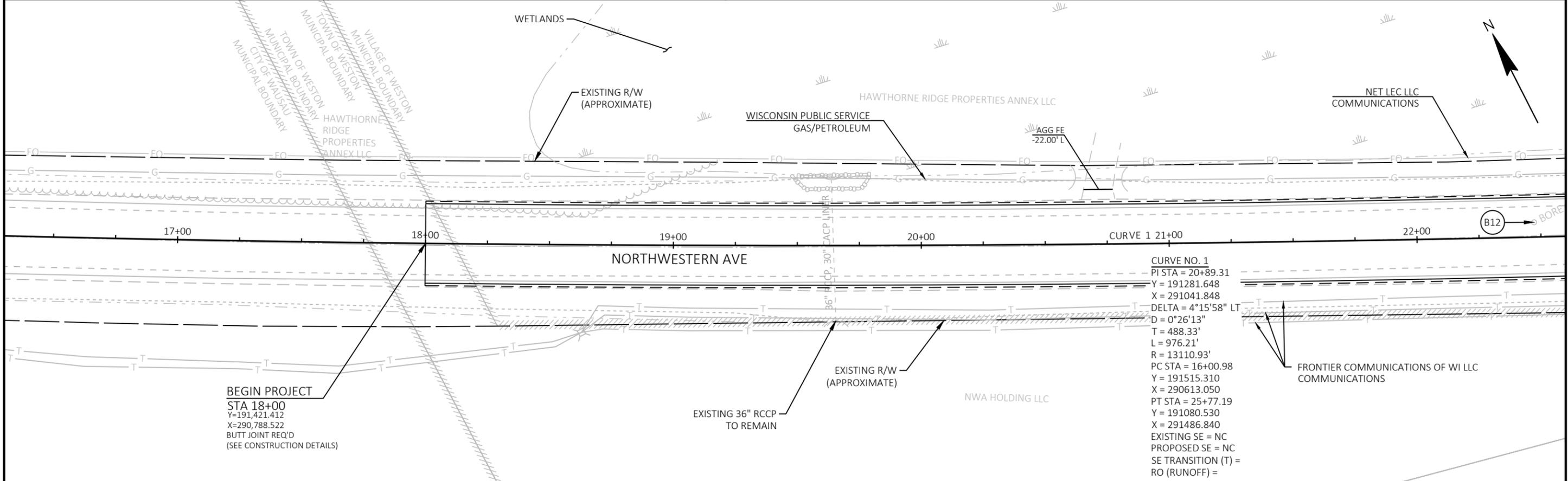
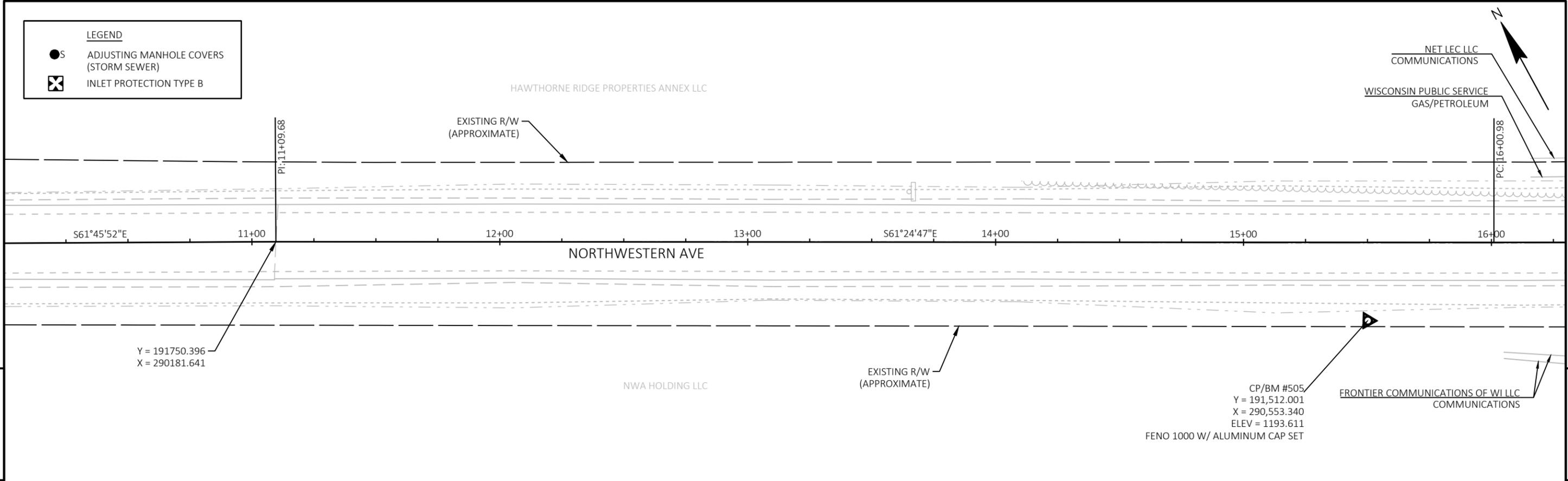
| LOCATION | STATION | TO | STATION | OFFSET | 646.1020 | |
|---------------------|---------|----|---------|--------|----------------------------------|--------------------|
| | | | | | <u>MARKING LINE EPOXY 4-INCH</u> | |
| | | | | | SOLID WHITE LF | SOLID YELLOW LF |
| NORTHWESTERN AVENUE | 18+00 | - | 70+25 | LT&RT | 10,110 | 10,450 |
| TOTAL | | | | | 10,110 | 10,450 |
| | | | | | 20,560 | |

CONSTRUCTION STAKING ITEMS

| STATION | TO | STATION | OFFSET | 650.8000 | | 650.9911 | |
|---------|----|---------|--------|---|--|----------|---|
| | | | | CONSTRUCTION STAKING RESURFACING REFERENCE LF | CONSTRUCTION STAKING SUPPLEMENTAL CONTROL 6999-13-72 EACH | | |
| 18+00 | - | 70+25 | LT&RT | 5,225 | -- | -- | 1 |
| PROJECT | | | | -- | -- | -- | 1 |
| TOTALS | | | | 5,225 | -- | -- | 1 |

LEGEND

- S ADJUSTING MANHOLE COVERS (STORM SEWER)
- ⊗ INLET PROTECTION TYPE B



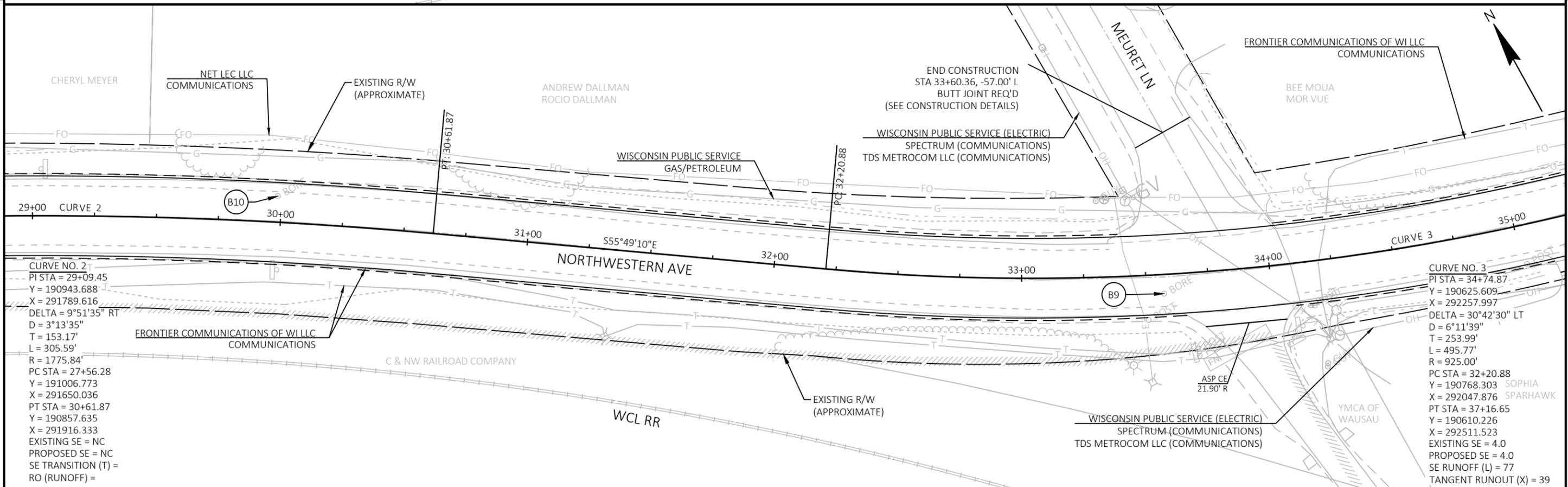
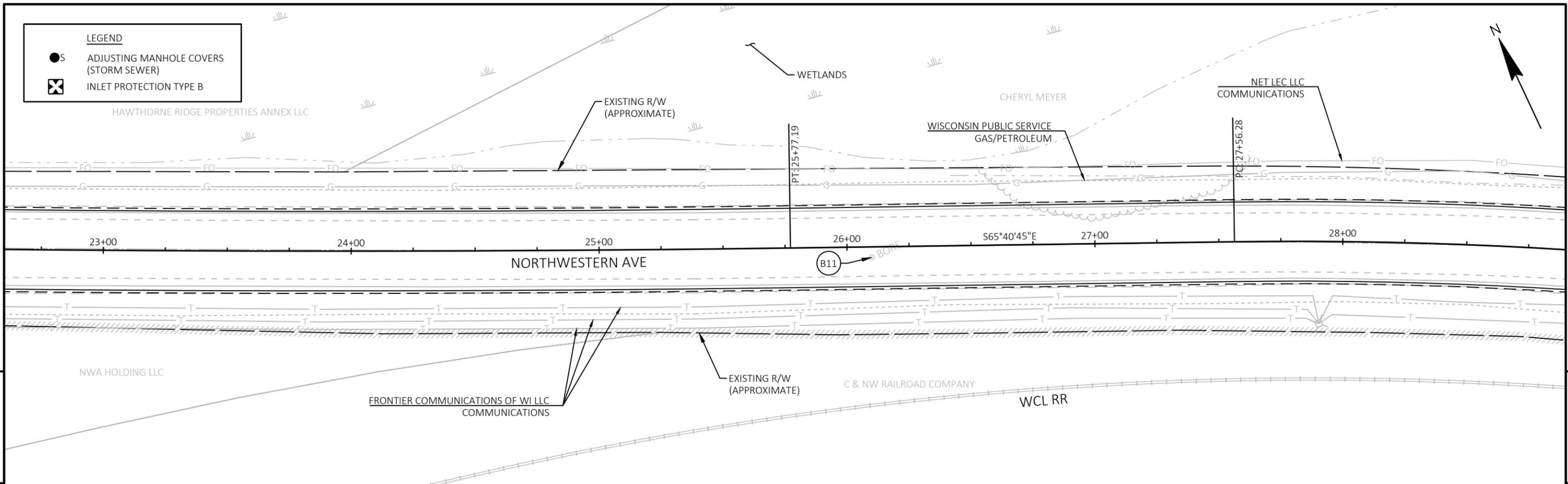
BEGIN PROJECT
 STA 18+00
 Y=191,421.412
 X=290,788.522
 BUTT JOINT REQ'D
 (SEE CONSTRUCTION DETAILS)

CURVE NO. 1
 PI STA = 20+89.31
 Y = 191281.648
 X = 291041.848
 DELTA = 4°15'58" LT
 D = 0°26'13"
 T = 488.33'
 L = 976.21'
 R = 13110.93'
 PC STA = 16+00.98
 Y = 191515.310
 X = 290613.050
 PT STA = 25+77.19
 Y = 191080.530
 X = 291486.840
 EXISTING SE = NC
 PROPOSED SE = NC
 SE TRANSITION (T) =
 RO (RUNOFF) =

| | | | | |
|------------------------|--------------------------|------------------|------|----------------|
| PROJECT NO: 6999-13-72 | HWY: NORTHWESTERN AVENUE | COUNTY: MARATHON | PLAN | SHEET E |
|------------------------|--------------------------|------------------|------|----------------|

LEGEND

- S ADJUSTING MANHOLE COVERS (STORM SEWER)
- ⊠ INLET PROTECTION TYPE B



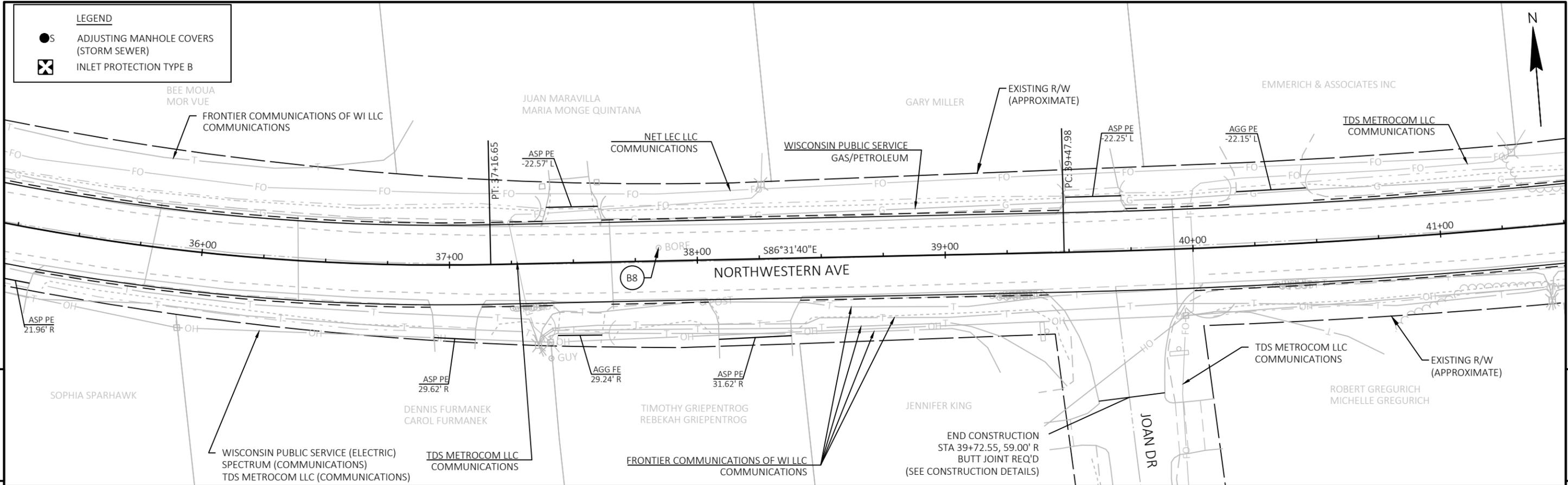
CURVE NO. 2
 PI STA = 29+09.45
 Y = 190943.688
 X = 291789.616
 DELTA = 9°51'35" RT
 D = 3°13'35"
 T = 153.17'
 L = 305.59'
 R = 1775.84'
 PC STA = 27+56.28
 Y = 191006.773
 X = 291650.036
 PT STA = 30+61.87
 Y = 190857.635
 X = 291916.333
 EXISTING SE = NC
 PROPOSED SE = NC
 SE TRANSITION (T) =
 RO (RUNOFF) =

CURVE NO. 3
 PI STA = 34+74.87
 Y = 190625.609
 X = 292257.997
 DELTA = 30°42'30" LT
 D = 6°11'39"
 T = 253.99'
 L = 495.77'
 R = 925.00'
 PC STA = 32+20.88
 Y = 190768.303
 X = 292047.876
 PT STA = 37+16.65
 Y = 190610.226
 X = 292511.523
 EXISTING SE = 4.0
 PROPOSED SE = 4.0
 SE RUNOFF (L) = 77
 TANGENT RUNOUT (X) = 39

| | | | |
|------------------------|--------------------------|------------------|----------|
| PROJECT NO: 6999-13-72 | HWY: NORTHWESTERN AVENUE | COUNTY: MARATHON | PLAN |
| SHEET | | | E |

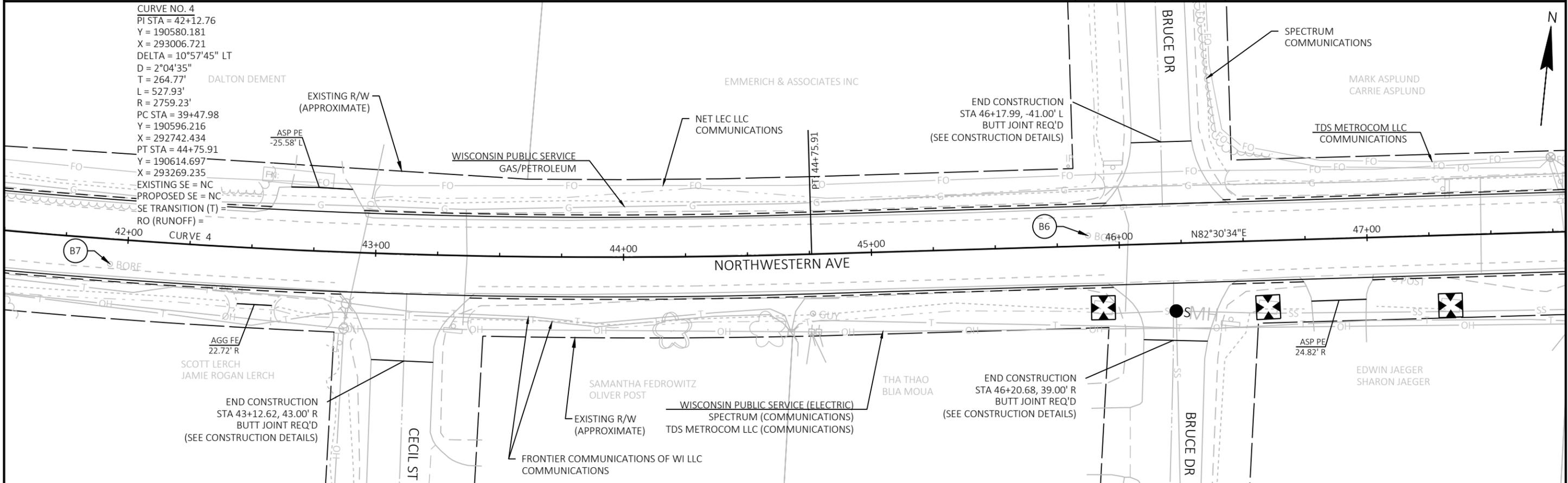
LEGEND

- S ADJUSTING MANHOLE COVERS (STORM SEWER)
- ⊠ INLET PROTECTION TYPE B



5

CURVE NO. 4
 PI STA = 42+12.76
 Y = 190580.181
 X = 293006.721
 DELTA = 10°57'45" LT
 D = 2°04'35"
 T = 264.77'
 L = 527.93'
 R = 2759.23'
 PC STA = 39+47.98
 Y = 190596.216
 X = 292742.434
 PT STA = 44+75.91
 Y = 190614.697
 X = 293269.235
 EXISTING SE = NC
 PROPOSED SE = NC
 SE TRANSITION (T) =
 RO (RUNOFF) =



HWY: NORTHWESTERN AVENUE

COUNTY: MARATHON

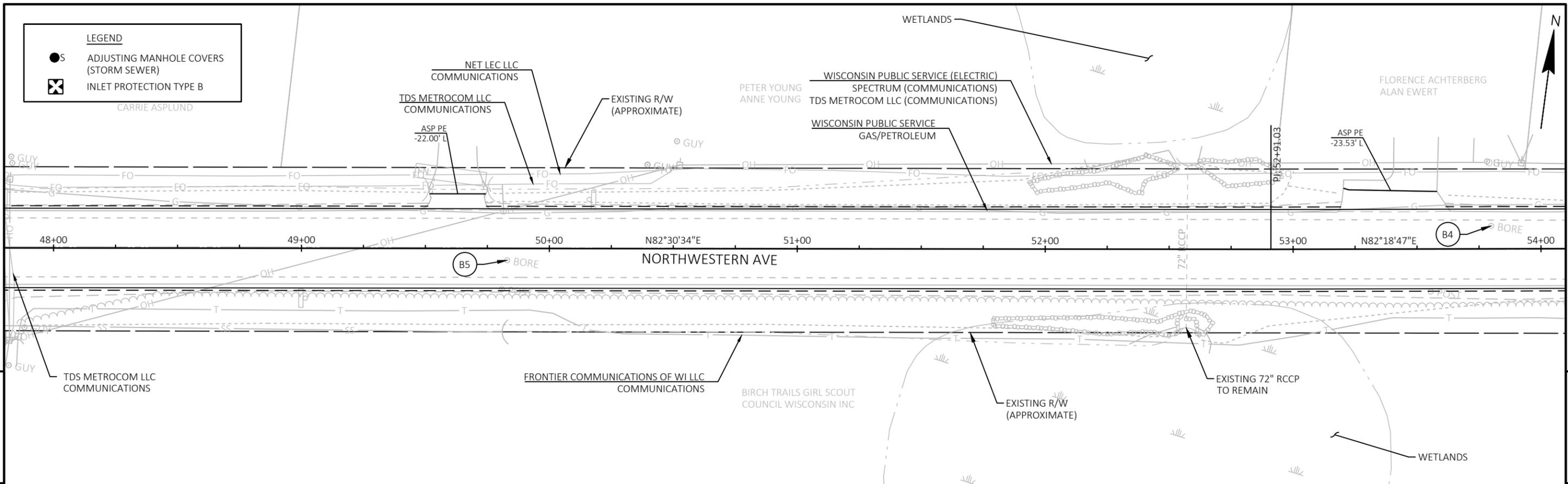
PLAN

SHEET

E

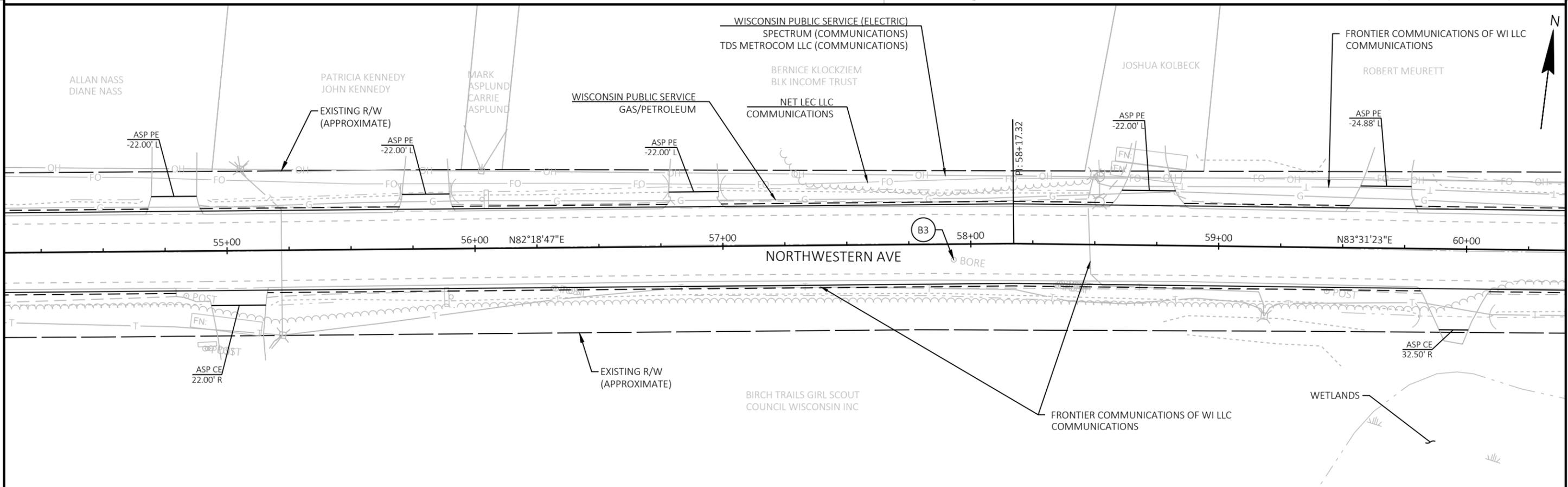
LEGEND

- ADJUSTING MANHOLE COVERS (STORM SEWER)
- ⊗ INLET PROTECTION TYPE B



5

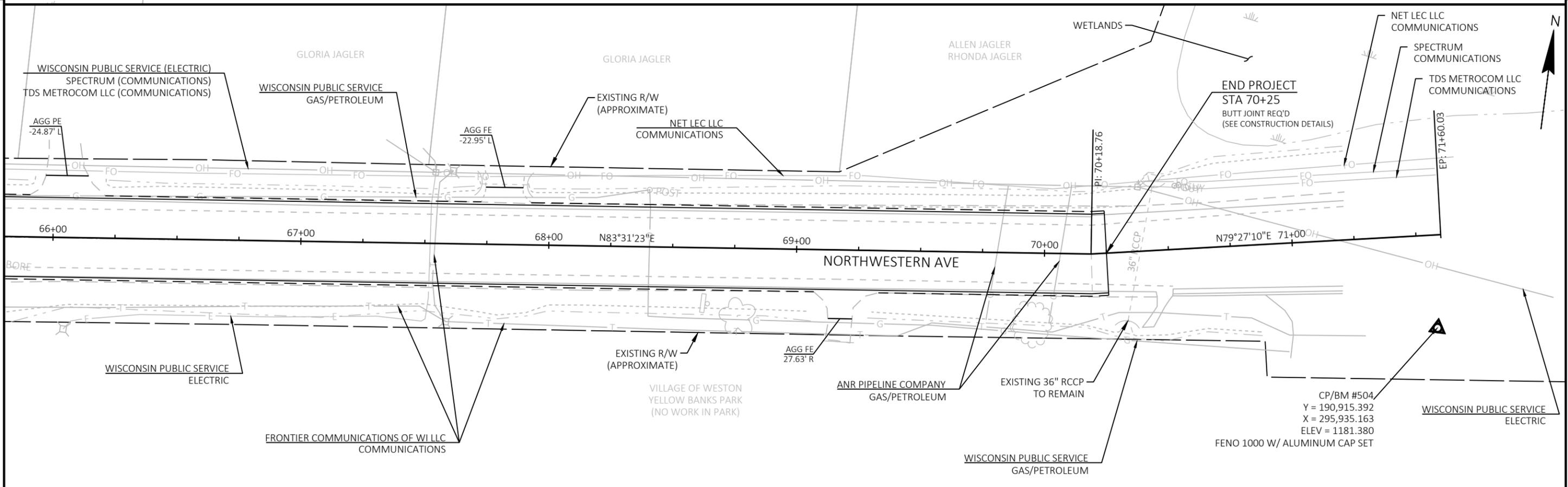
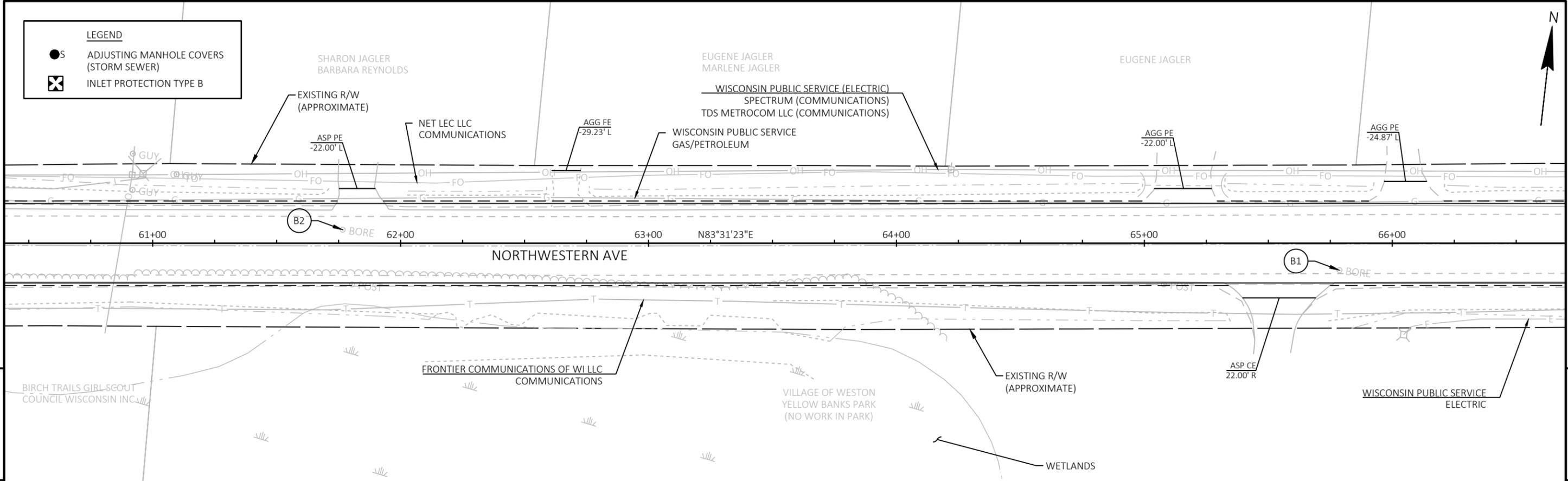
5



| | | | | | |
|------------------------|--------------------------|------------------|------|-------|----------|
| PROJECT NO: 6999-13-72 | HWY: NORTHWESTERN AVENUE | COUNTY: MARATHON | PLAN | SHEET | E |
|------------------------|--------------------------|------------------|------|-------|----------|

LEGEND

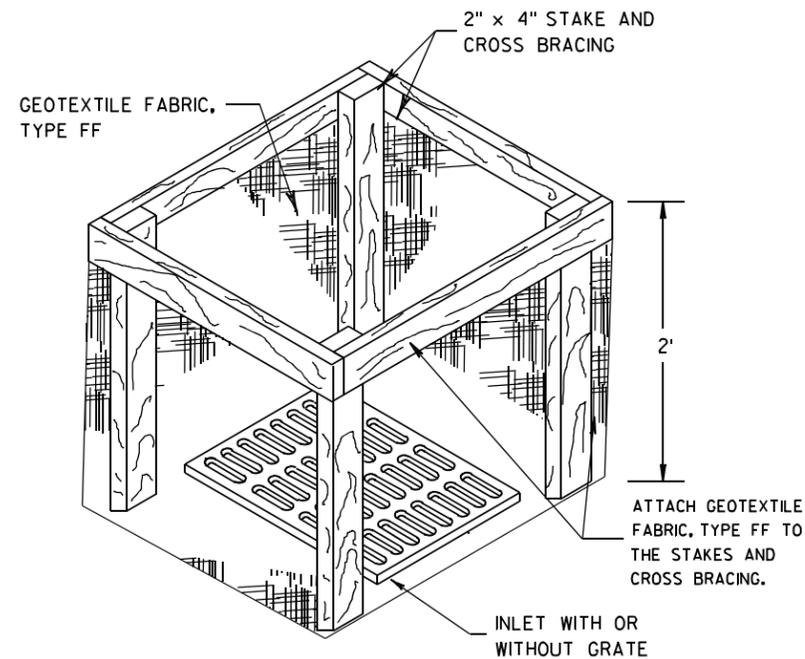
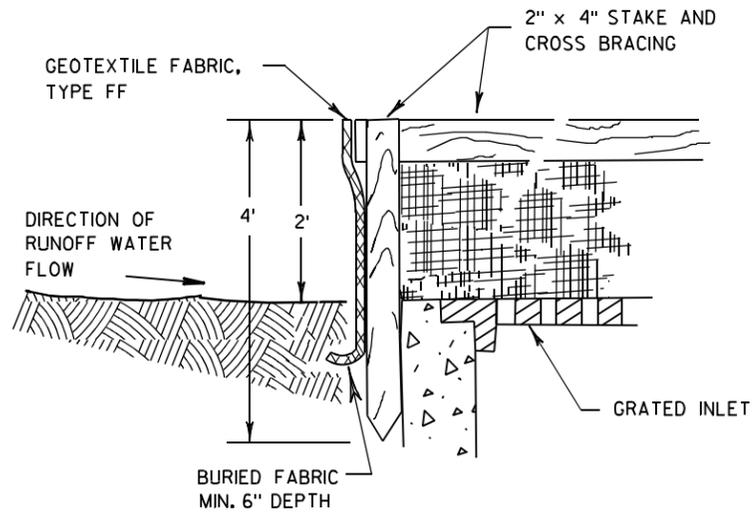
- S ADJUSTING MANHOLE COVERS (STORM SEWER)
- ⊗ INLET PROTECTION TYPE B



| | | | | | |
|------------------------|--------------------------|------------------|------|-------|----------|
| PROJECT NO: 6999-13-72 | HWY: NORTHWESTERN AVENUE | COUNTY: MARATHON | PLAN | SHEET | E |
|------------------------|--------------------------|------------------|------|-------|----------|

Standard Detail Drawing List

| | |
|-----------|---|
| 08E10-02 | INLET PROTECTION TYPE A, B, C AND D |
| 13C19-03 | HMA LONGITUDINAL JOINTS |
| 15C02-08A | BARRICADES AND SIGNS FOR MAINLINE CLOSURES |
| 15C02-08B | BARRICADES AND SIGNS FOR VARIOUS CLOSURES |
| 15C03-05 | BARRICADES AND SIGNS FOR SIDEROAD CLOSURES |
| 15C05-05 | TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS |
| 15C08-21A | LONGITUDINAL MARKING (MAINLINE) |
| 15C11-09B | CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS |
| 15C12-09A | TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION |
| 15D39-02 | TRAFFIC CONTROL, DROP-OFF SIGNING |
| 15D45-03 | TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL |



INLET PROTECTION, TYPE A

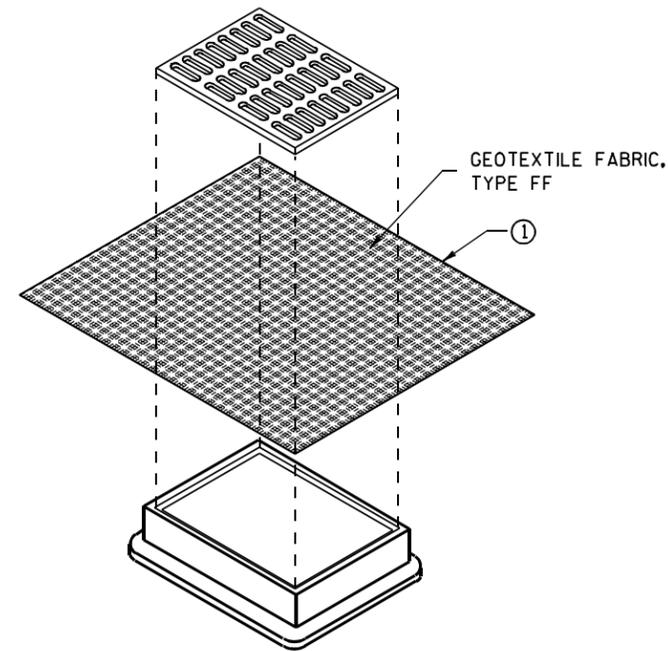
GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

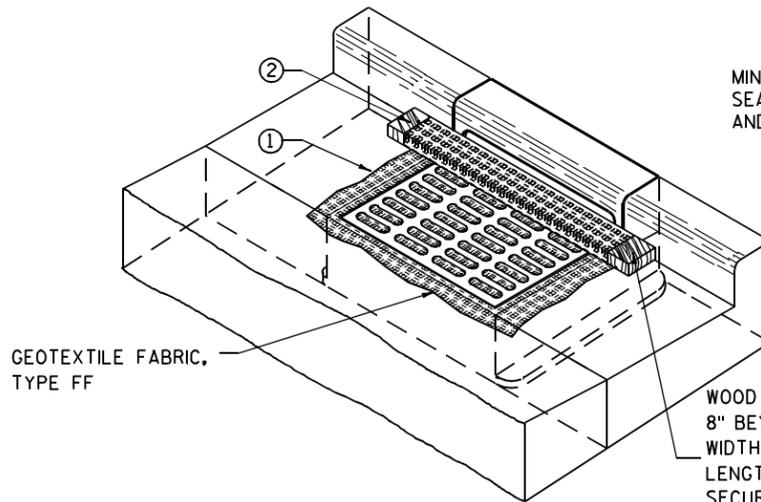
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- ① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
- ③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.



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

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

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

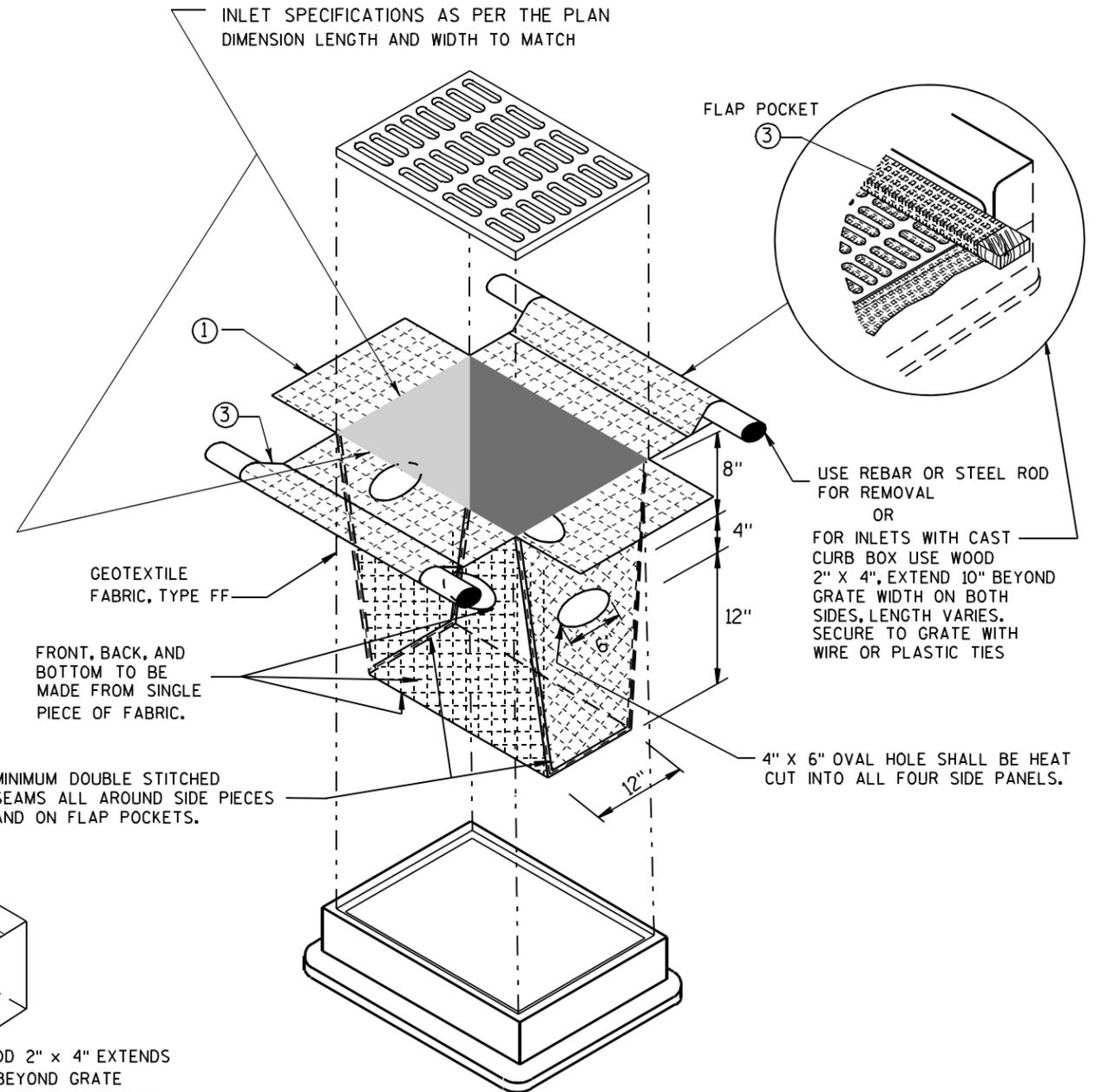
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

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

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



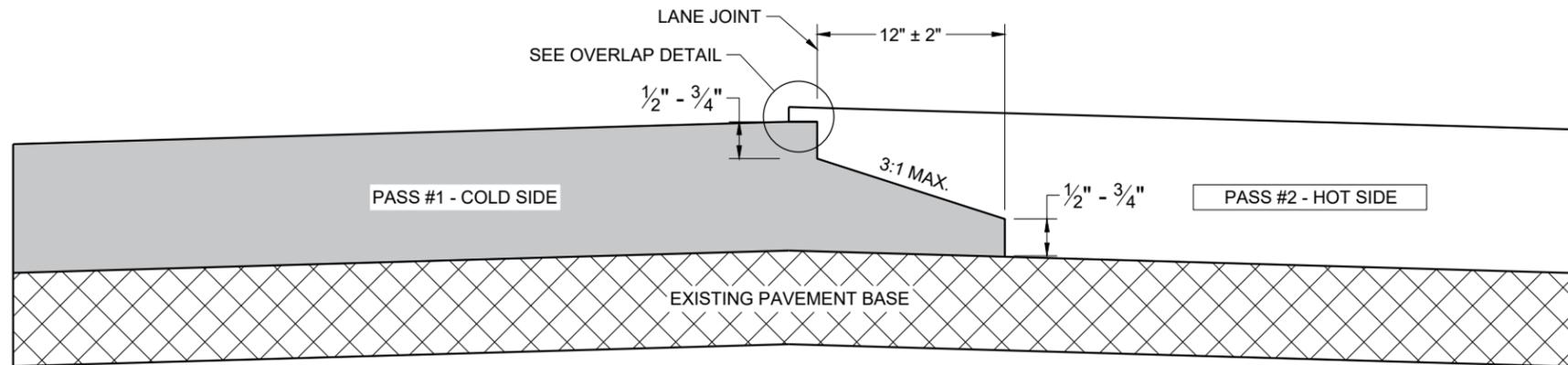
INLET PROTECTION, TYPE D

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

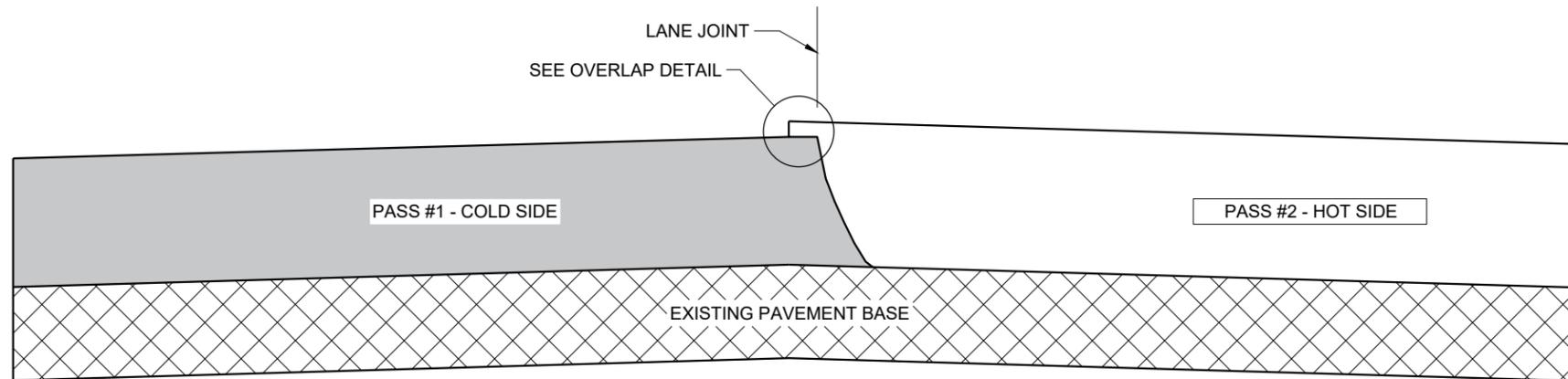
**INLET PROTECTION
TYPE A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

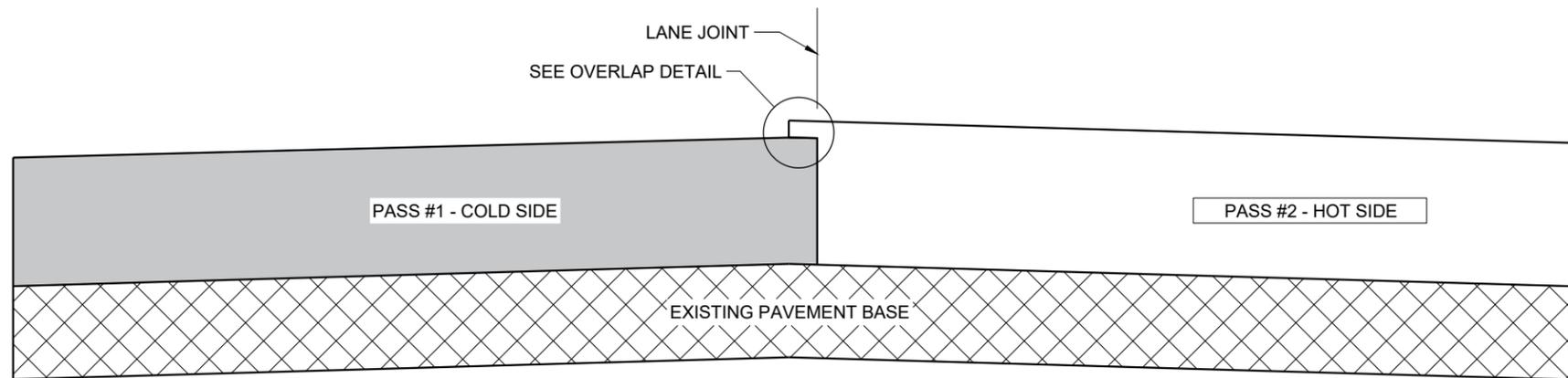
APPROVED
10/16/02 /S/ Beth Connestra
DATE
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



**TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT**



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT**



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)**

GENERAL NOTES

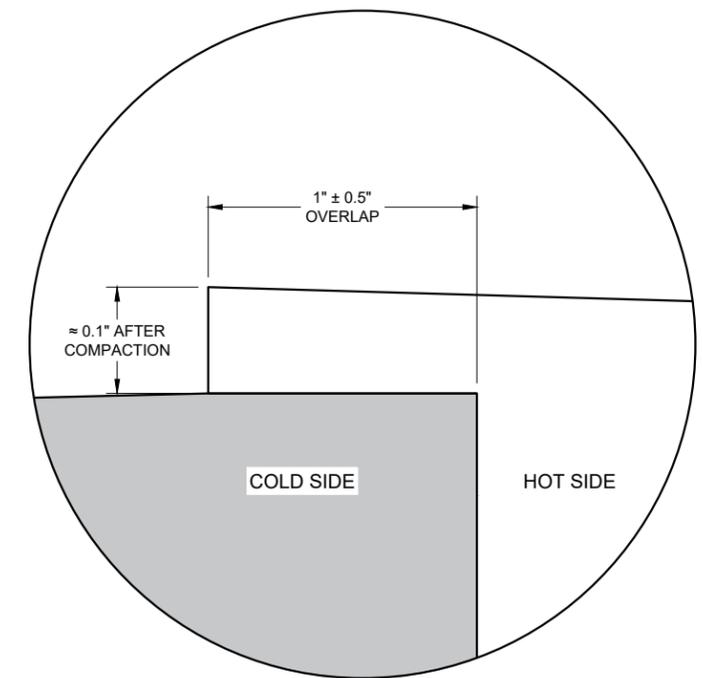
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

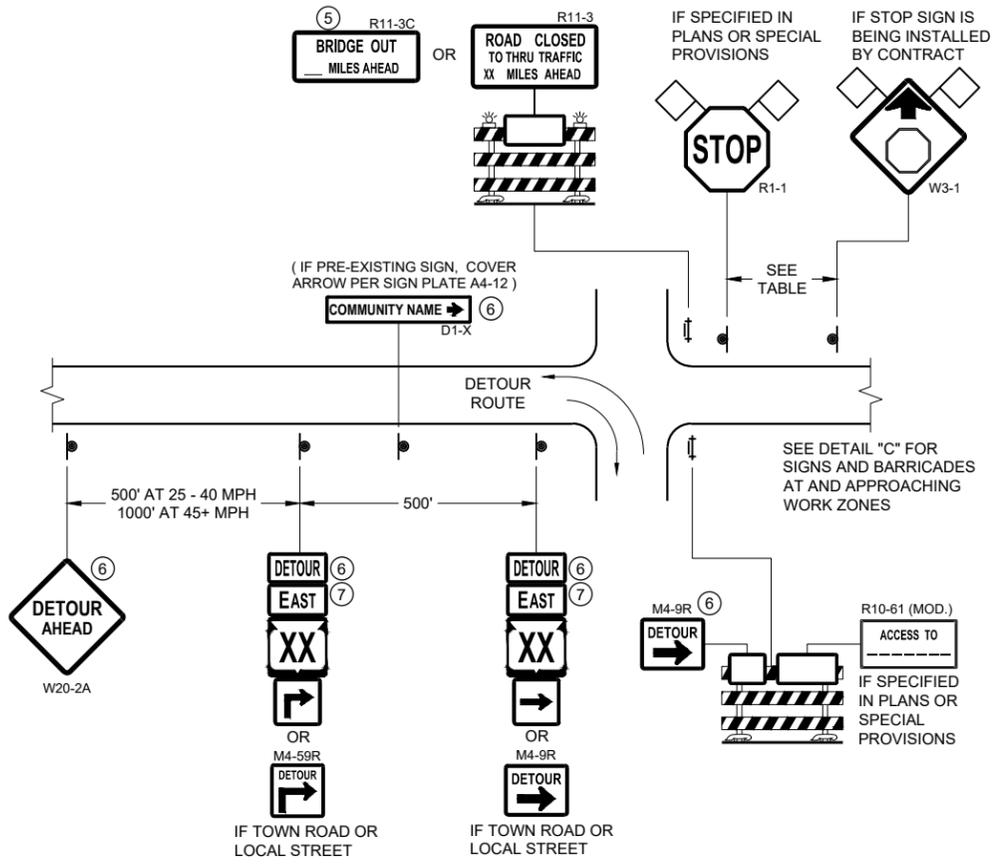
6

6

SDD 13C19 - 03

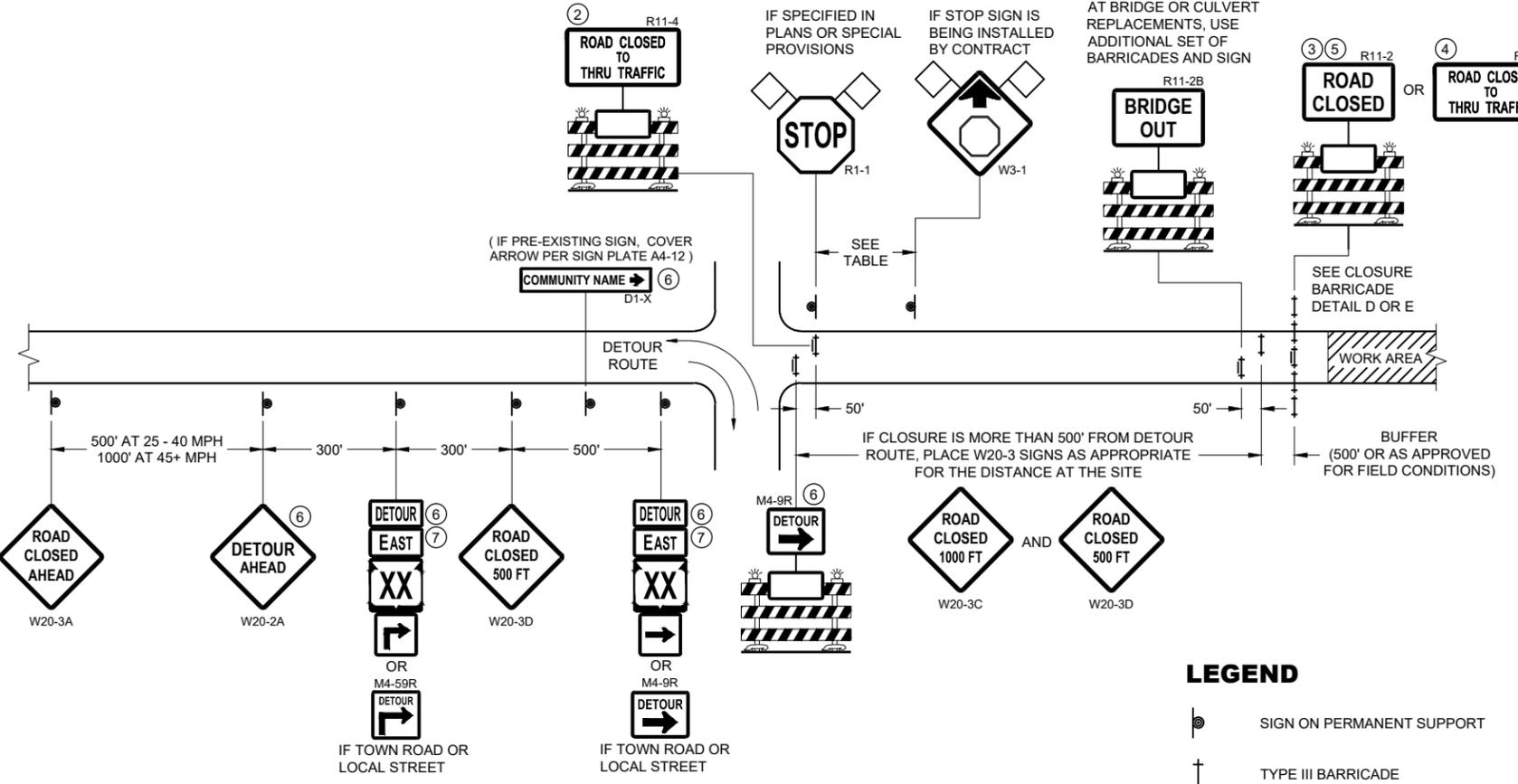
SDD 13C19 - 03

| | |
|--|---|
| HMA LONGITUDINAL JOINTS | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | |
| APPROVED November 2020 DATE | /S/ Steven Hefel HMA PAVEMENT ENGINEER |
| FHWA | |



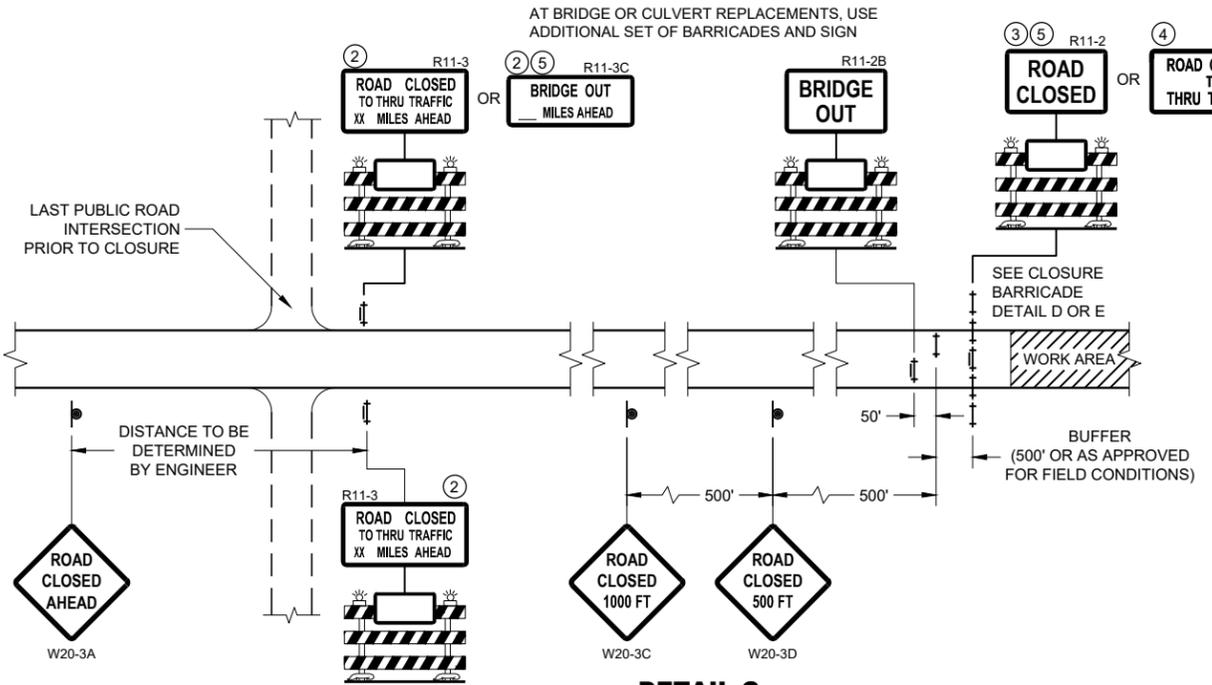
**DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR**

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)



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

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)
- M4 - 8
- M3 - X
- M1 - 4 OR M1 - 6 OR M1 - 5A
- M05 - 1 OR M06 - 1

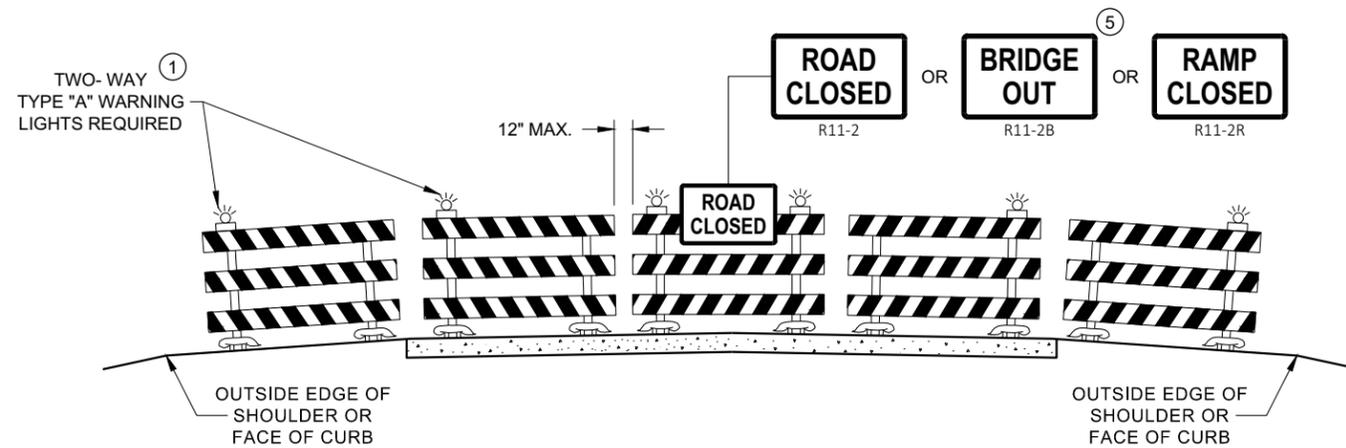
| SPEED LIMIT (MPH) | "STOP AHEAD" ADVANCE WARNING DISTANCE (FT) |
|-------------------|--|
| 25 | 200 |
| 30 | 200 |
| 35 | 350 |
| 40 | 350 |
| 45 | 500 |
| 50 | 550 |
| 55 | 750 |

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

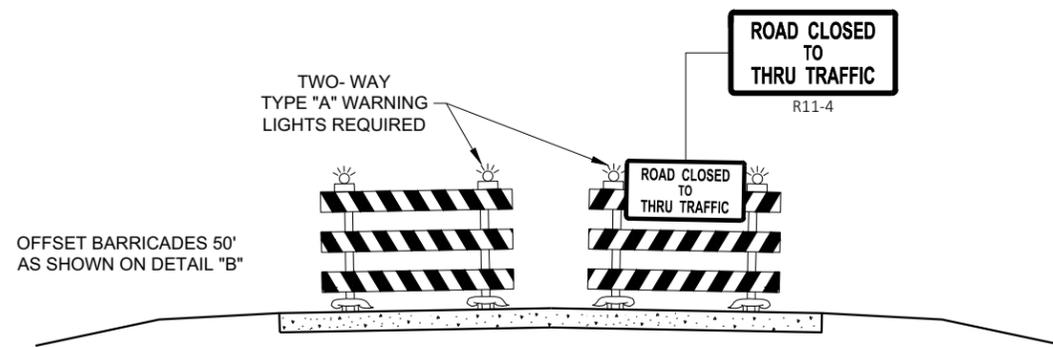
**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

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"

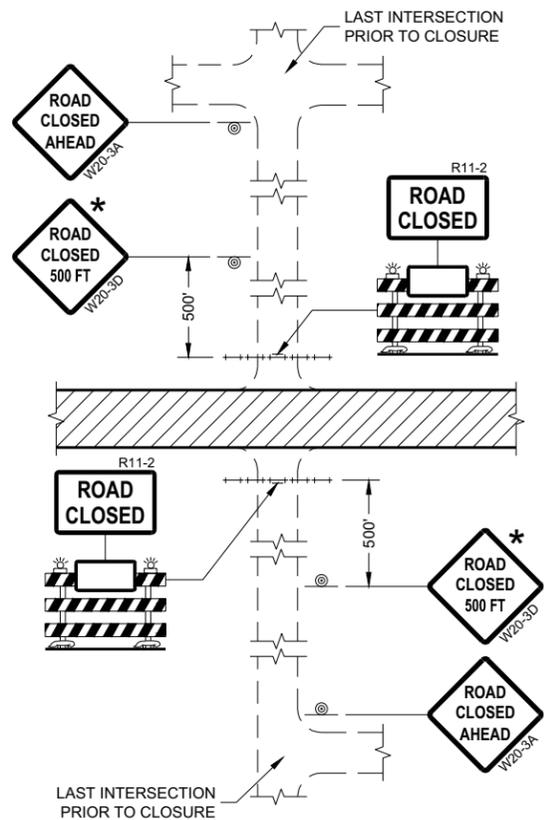
- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- ② THESE SIGNS 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**

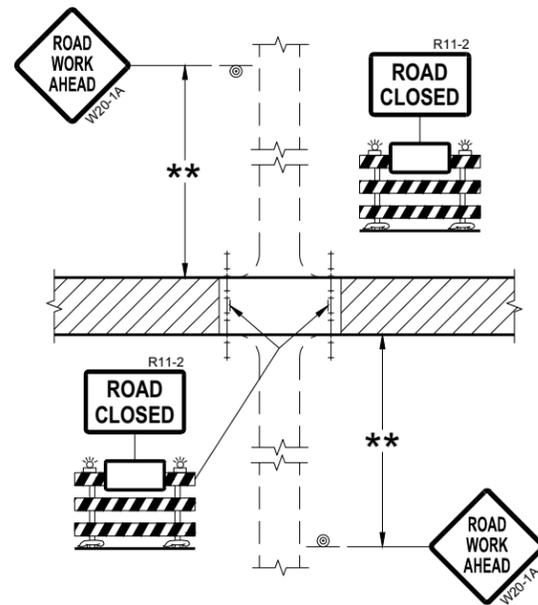
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

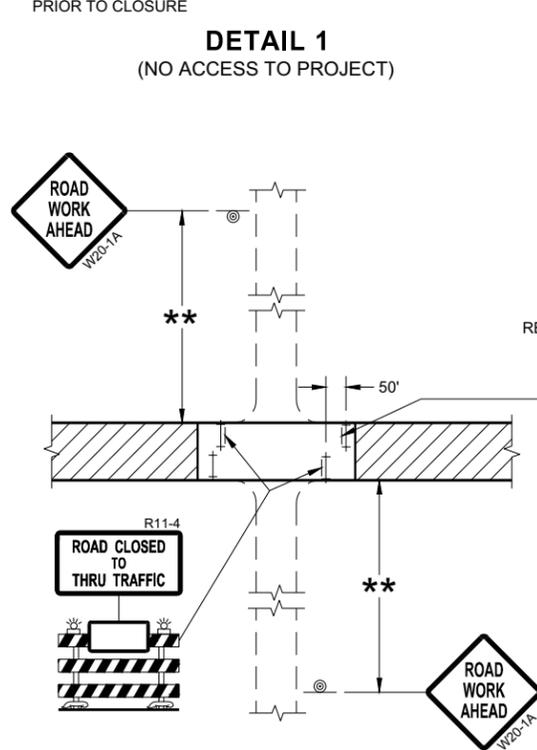
FHWA



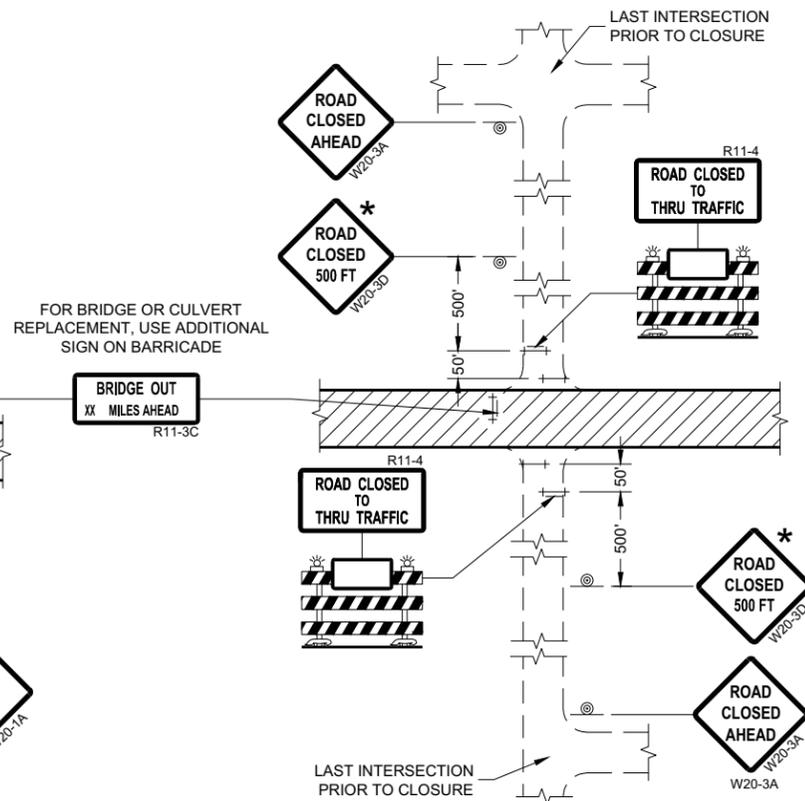
DETAIL 1
(NO ACCESS TO PROJECT)



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

GENERAL NOTES

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

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

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

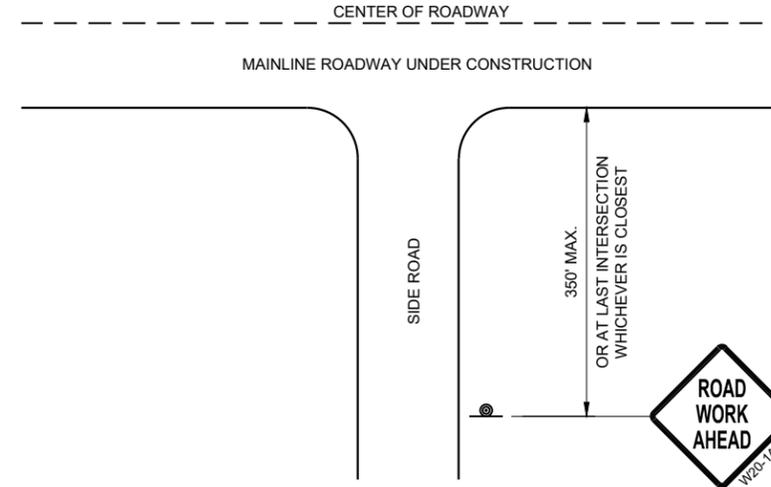
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

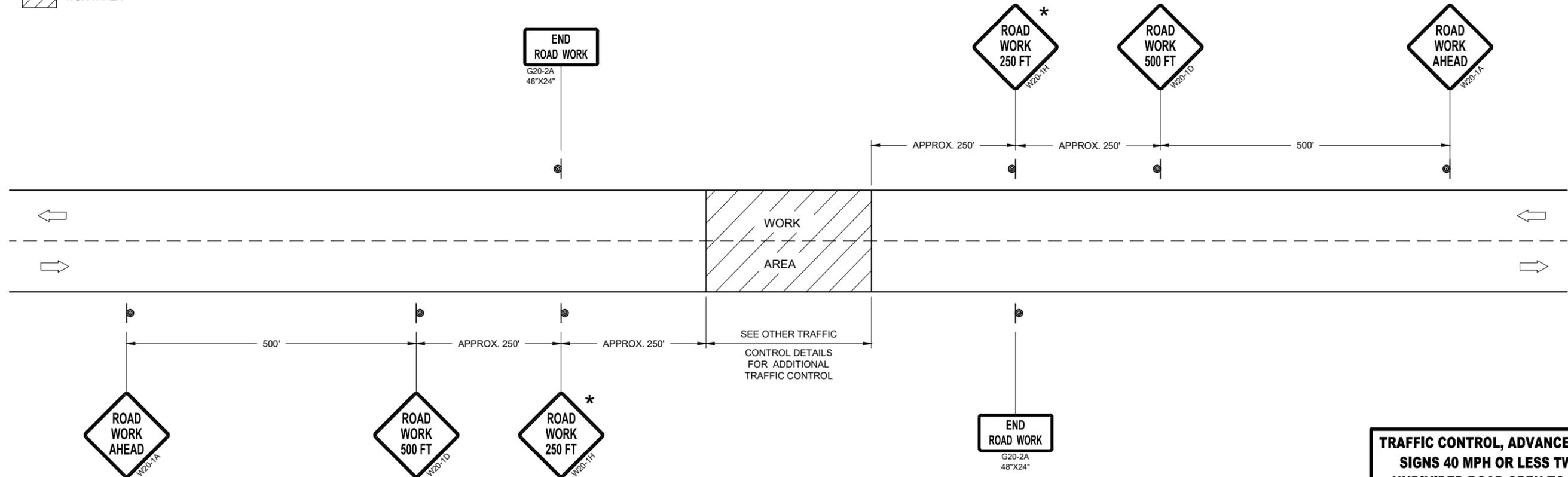
* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.

LEGEND

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



**TYPICAL SIDE ROAD APPROACH
WARNING SIGN DETAIL**



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

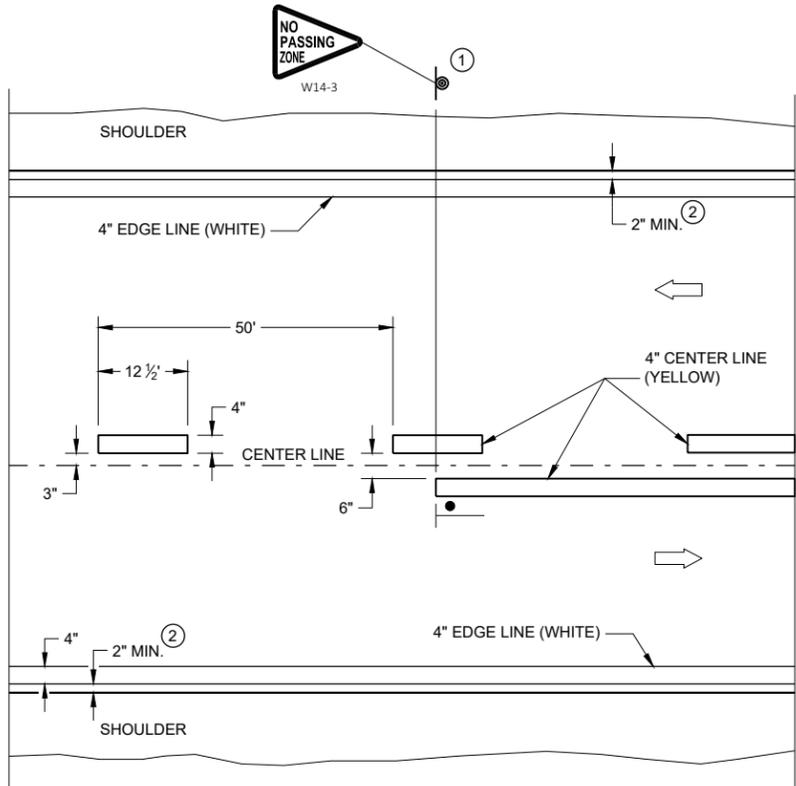
GENERAL NOTES

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

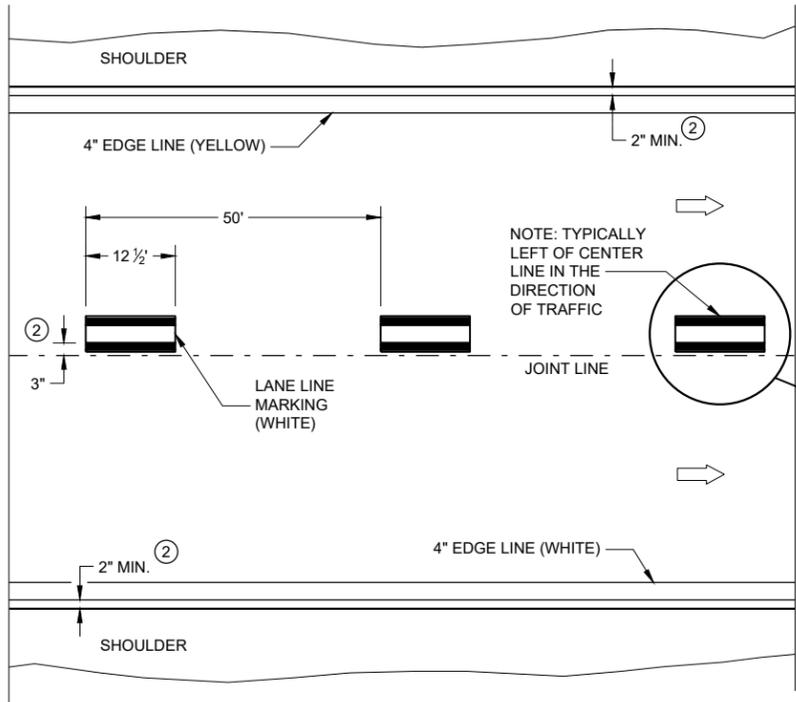
- ① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
- ② MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

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

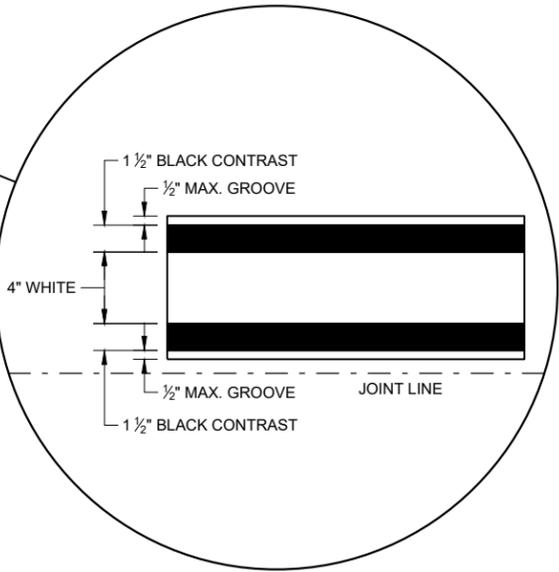


TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



6

6

SDD 15C08 - 21a

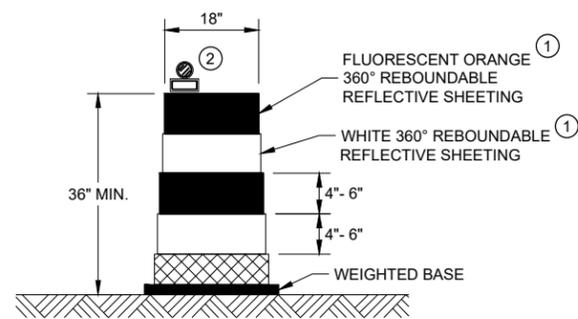
SDD 15C08 - 21a

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

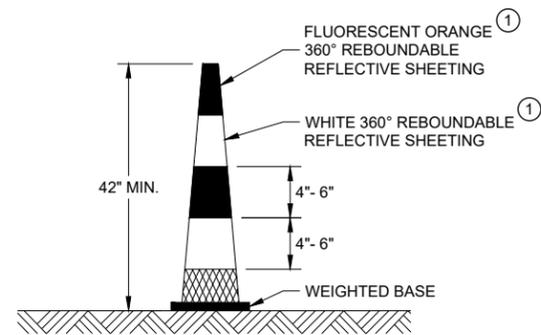
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

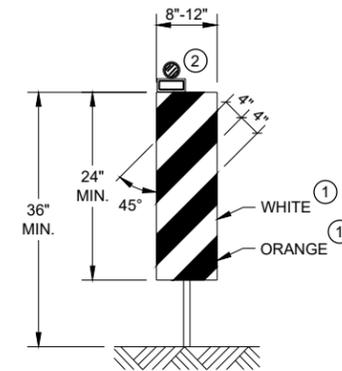


DRUM



42" CONE

DO NOT USE IN TAPERS
 1/2 SPACING OF DRUMS

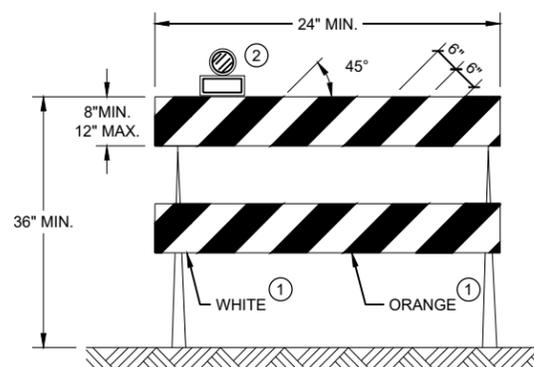


VERTICAL PANEL

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

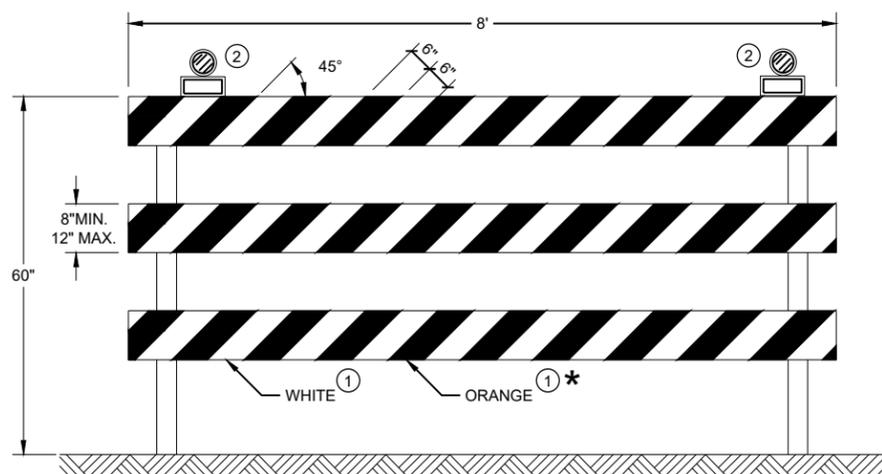
GENERAL NOTES

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

GENERAL NOTES

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

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

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

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

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

FLAGGING

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

- ① FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- ② SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

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

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

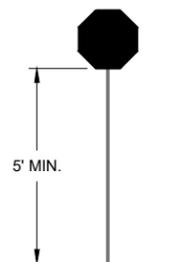
- ③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

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

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

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



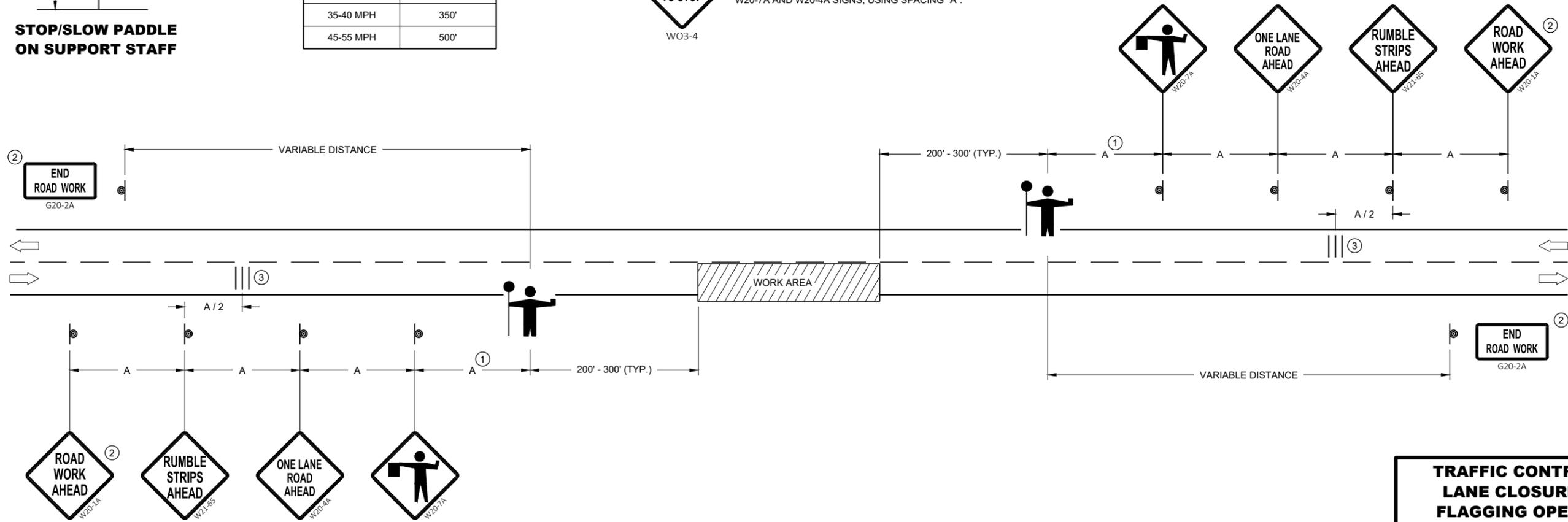
STOP/SLOW PADDLE ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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



USE OF W03-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



6

6

SDD 15C12 - 09a

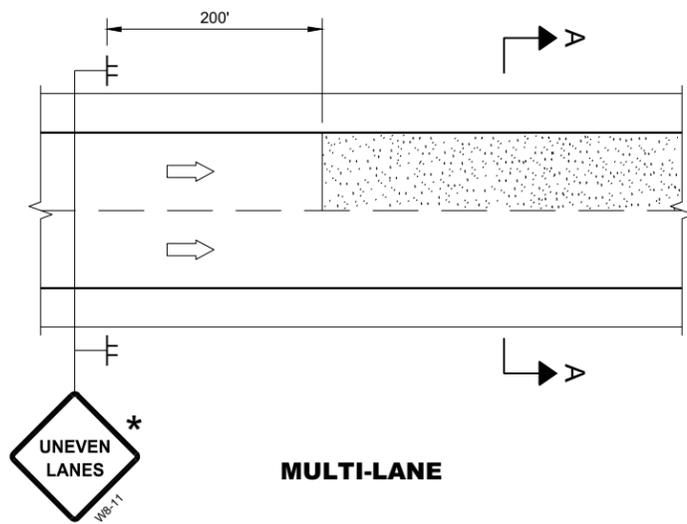
SDD 15C12 - 09a

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

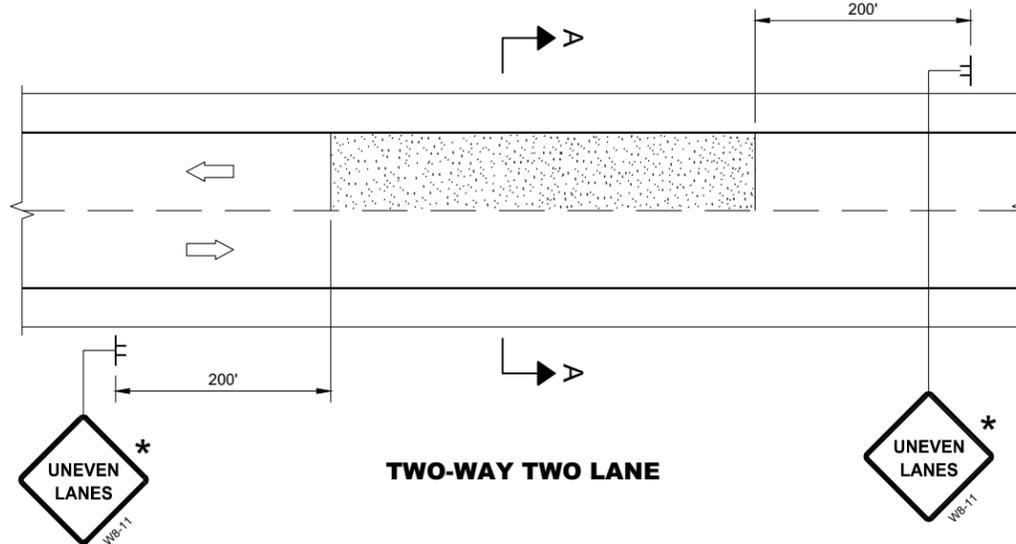
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

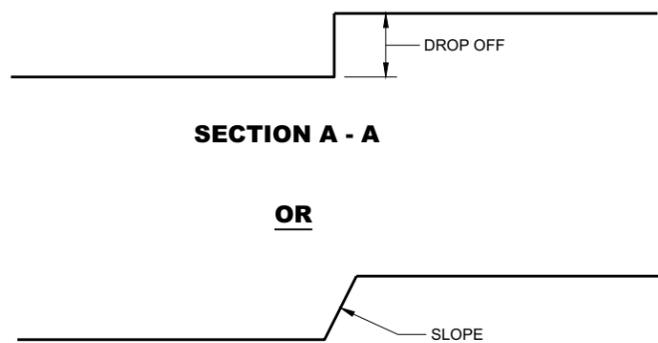
FHWA



MULTI-LANE



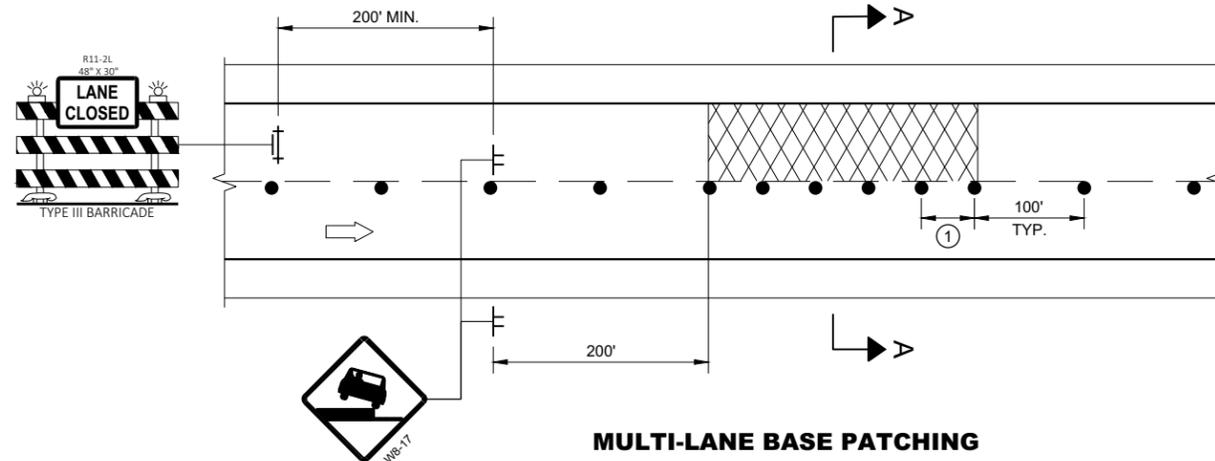
TWO-WAY TWO LANE



SECTION A - A

OR

SECTION A - A



MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS

GENERAL NOTES

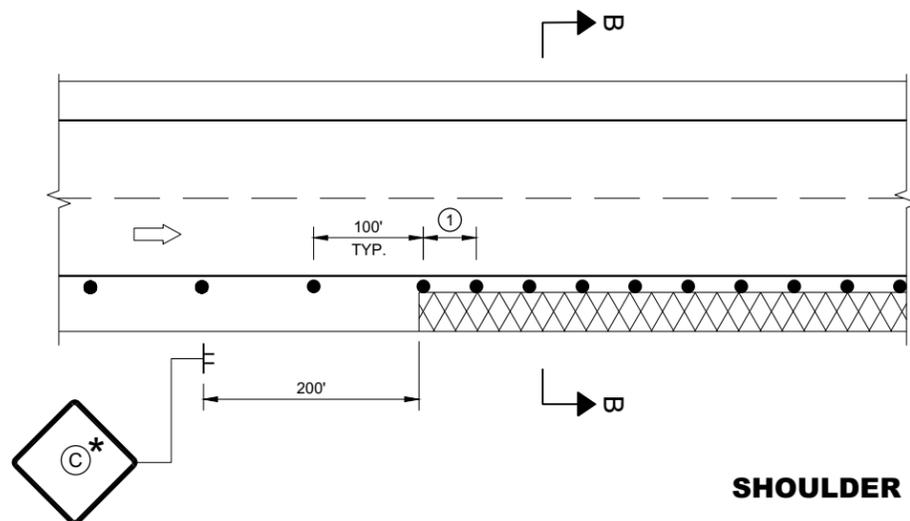
- FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.
- ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
- "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.
- * IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EVERY ENTRANCE RAMP.
- ① USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

LEGEND

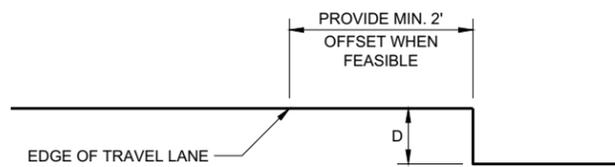
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE

6

6



SHOULDER DROP-OFFS



SECTION B - B

| | |
|---------------------------------------|---|
| D | SIGN (C) |
| < 2" WITH A SLOPE STEEPER THAN 3:1 | LOW SHOULDER WO8-9 |
| 2" < 6" WITH A SLOPE STEEPER THAN 3:1 | SHOULDER DROP - OFF W8-9A PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT |

SDD 15D39 - 02

SDD 15D39 - 02

**TRAFFIC CONTROL,
DROP-OFF SIGNING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

GENERAL NOTES

DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM. ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD). SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISDOT STANDARD SIGN PLATES.

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

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

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

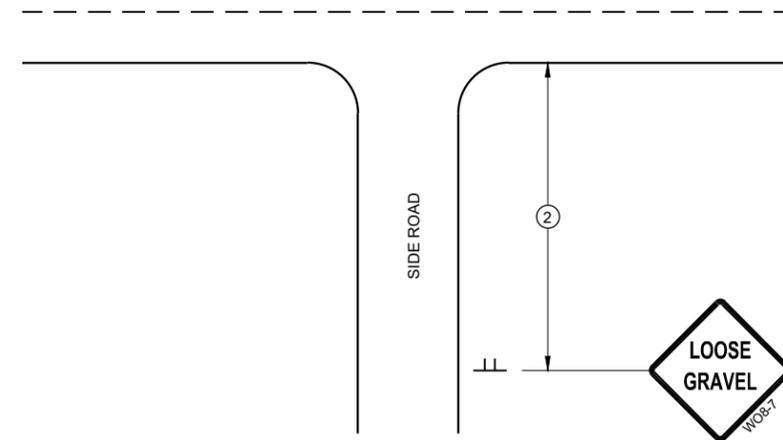
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

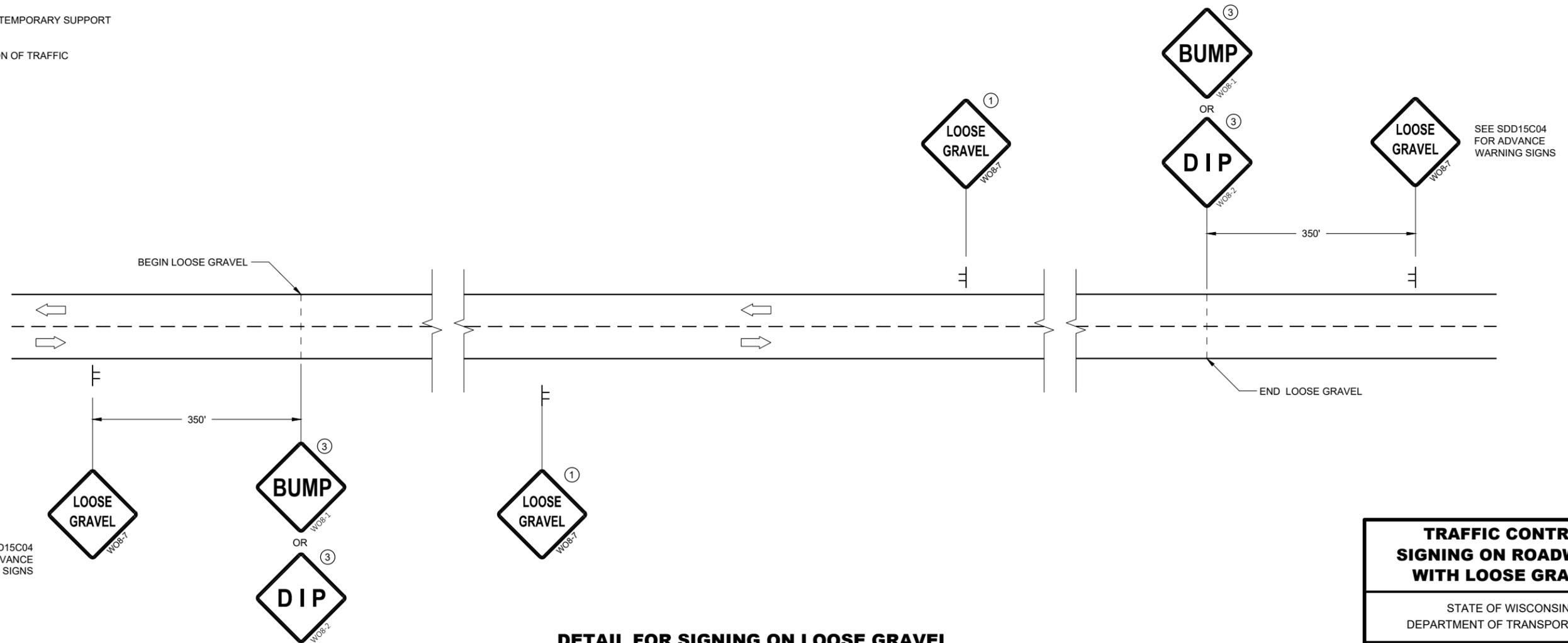
- ① PLACE SIGNS 350' IN ADVANCE OF CHIP SEALED OR LOOSE GRAVEL SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- ② PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.
- ③ ADD WO8-1 OR WO8-2 SIGN WHEN THE CONDITION IS PRESENT.

LEGEND

- ⊥ SIGN ON TEMPORARY SUPPORT
- ➡ DIRECTION OF TRAFFIC



TYPICAL SIDE ROAD APPROACH SIGN DETAIL



DETAIL FOR SIGNING ON LOOSE GRAVEL OR CHIP SEALED SURFACES

SEE SDD15C04 FOR ADVANCE WARNING SIGNS

TRAFFIC CONTROL SIGNING ON ROADWAYS WITH LOOSE GRAVEL

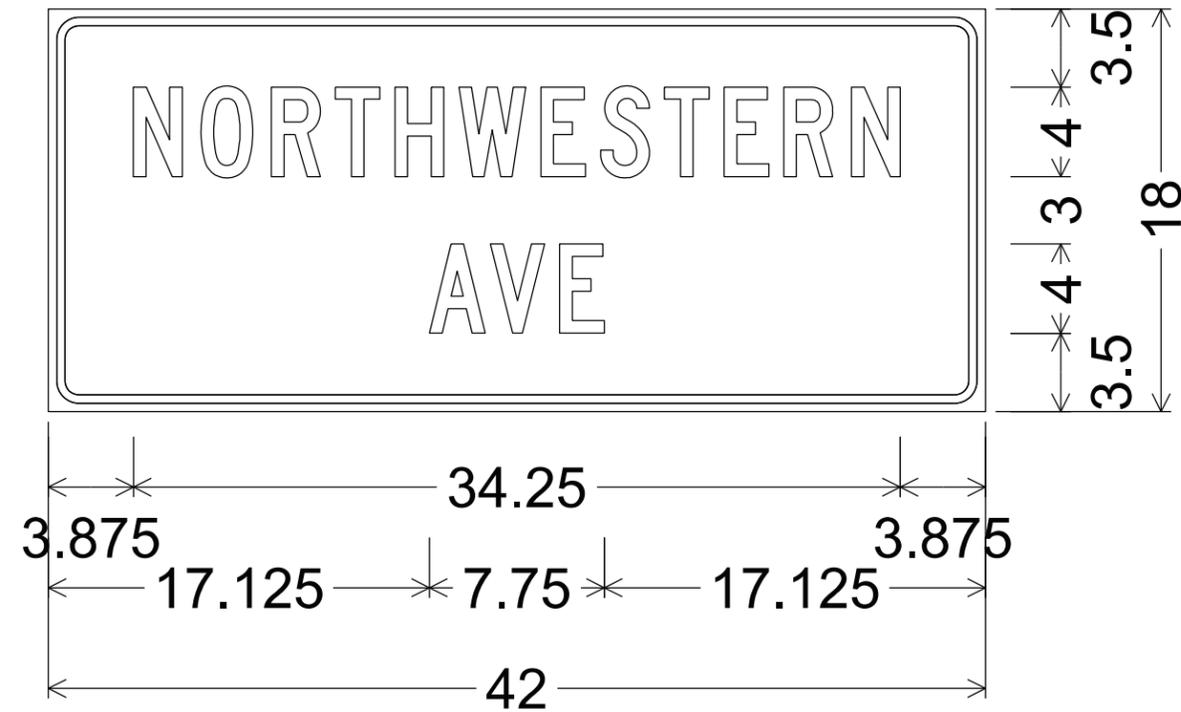
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
February 2021 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

NOTES

- 1. Fixed Message Sign Type II - Type F Reflective
- 2. Color:
 - Background - Orange
 - Message - Black
- 3. Message Series - C



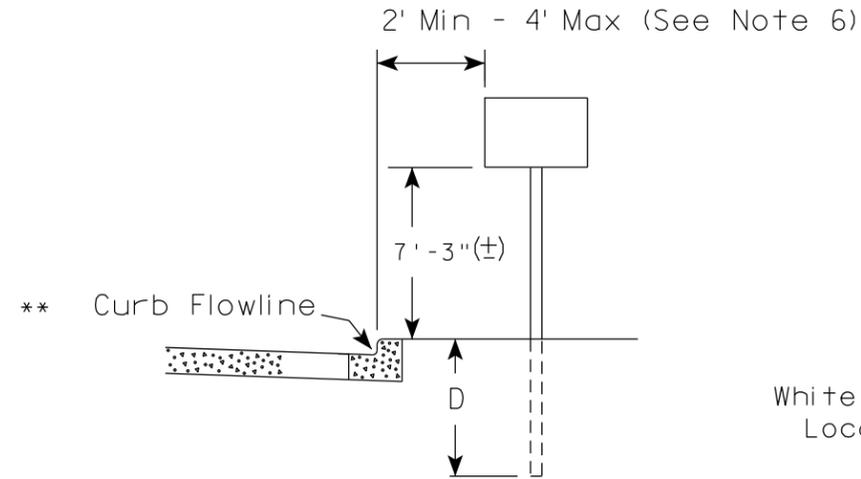
1.375" Radius, 0.375" Border, 0.375" Indent

7

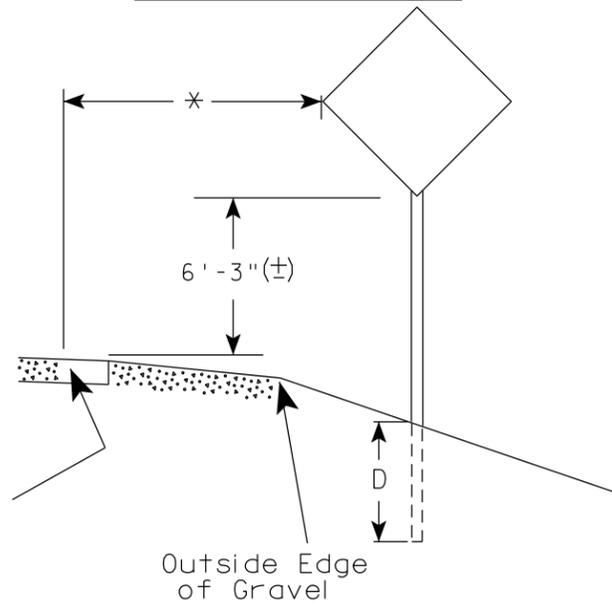
7

URBAN AREA

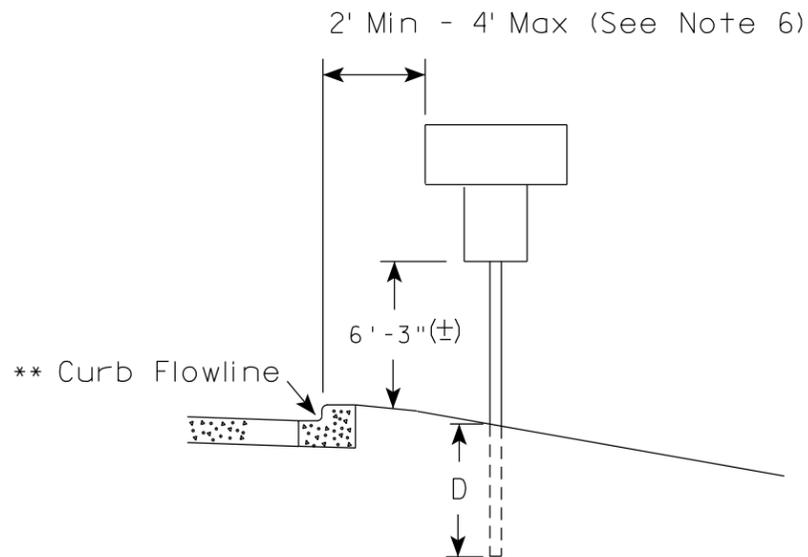
RURAL AREA (See Note 2)



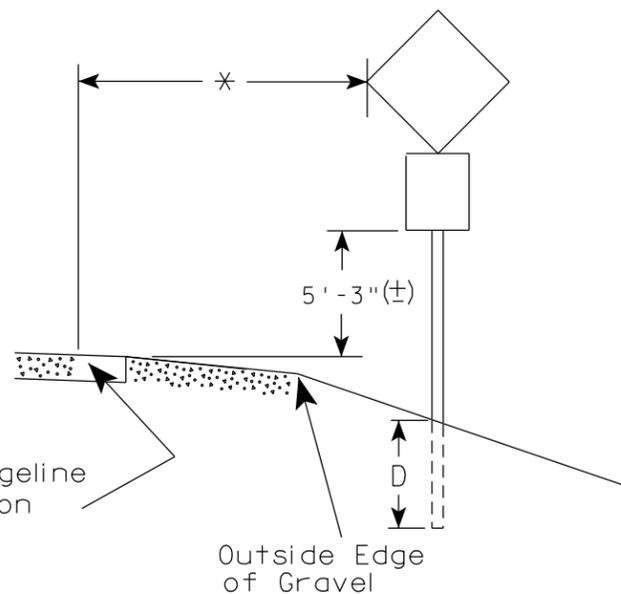
White Edgeline Location



Outside Edge of Gravel



White Edgeline Location



Outside Edge of Gravel

POST EMBEDMENT DEPTH

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

GENERAL NOTES

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

7

7

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

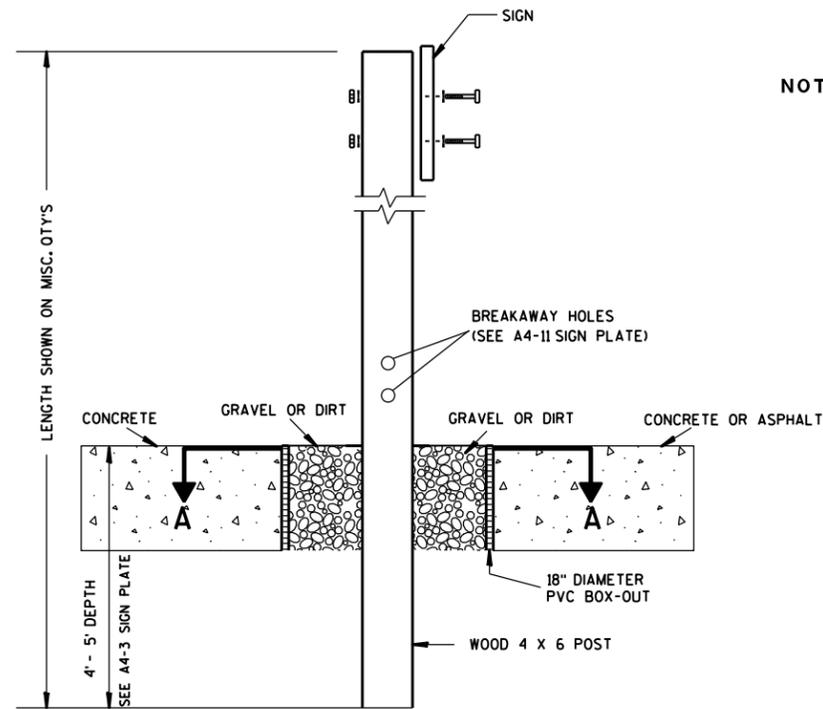
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

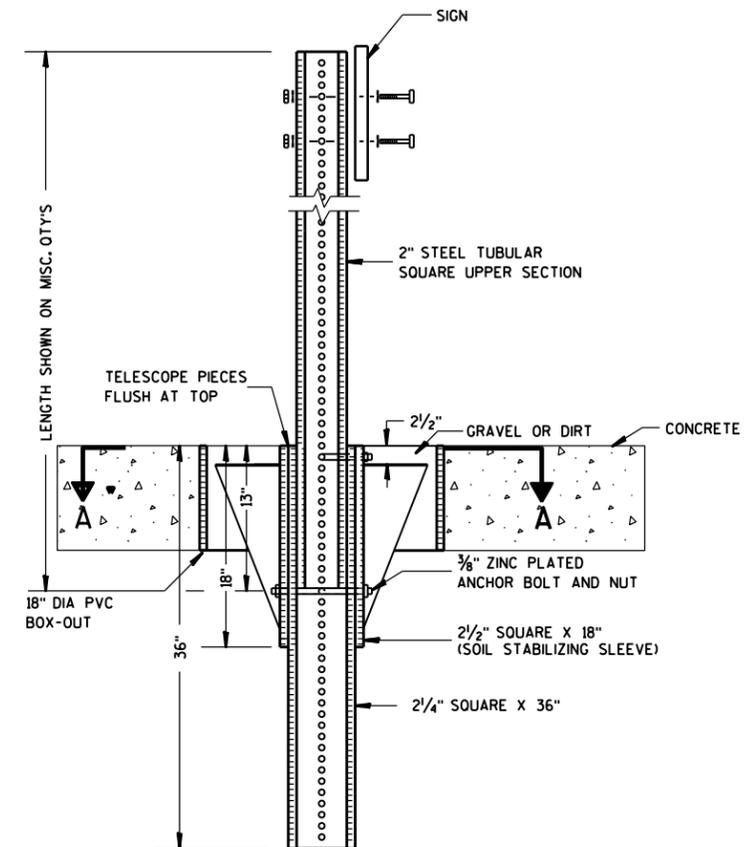
DATE 5/13/2020 PLATE NO. A4-3.22



ELEVATION VIEW

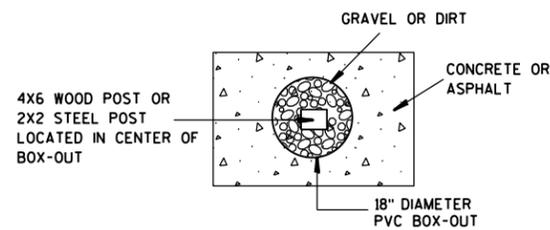
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ ASPHALT INSTALLATIONS

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

WISCONSIN DEPT OF TRANSPORTATION

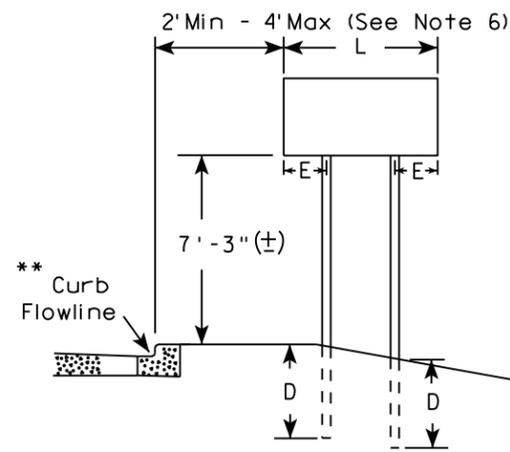
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

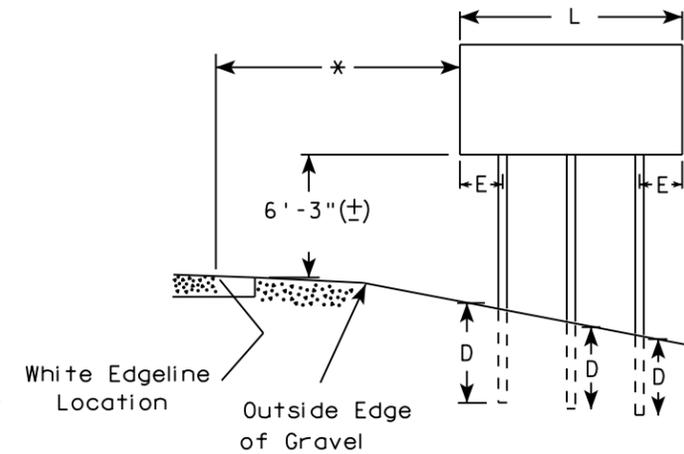
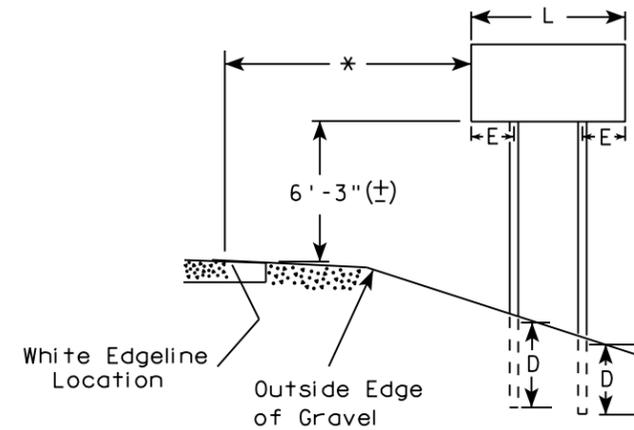
GENERAL NOTES

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

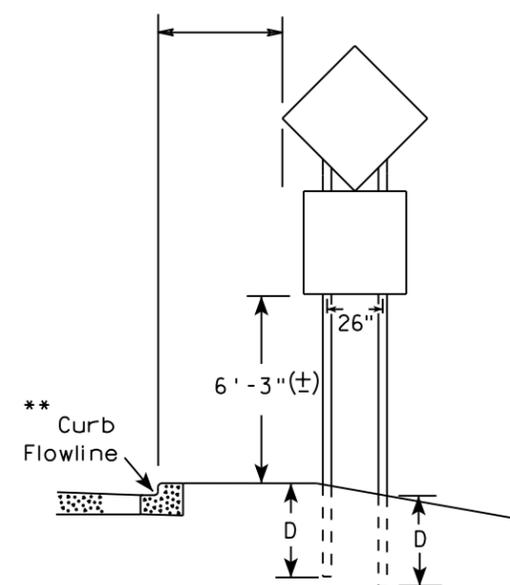
URBAN AREA



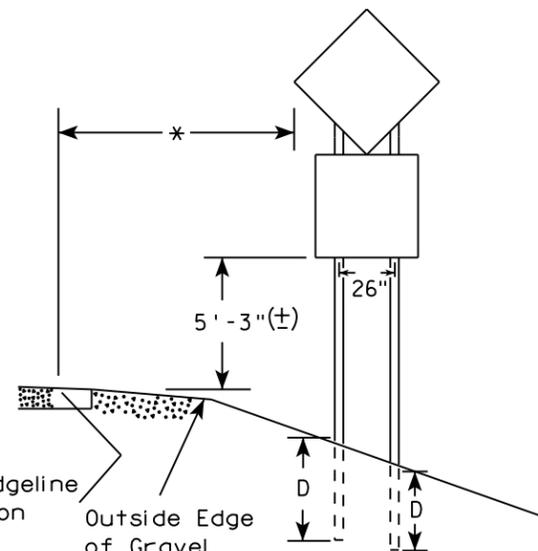
RURAL AREA (See Note 3)



2' Min - 4' Max (See Note 6)



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

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

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

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

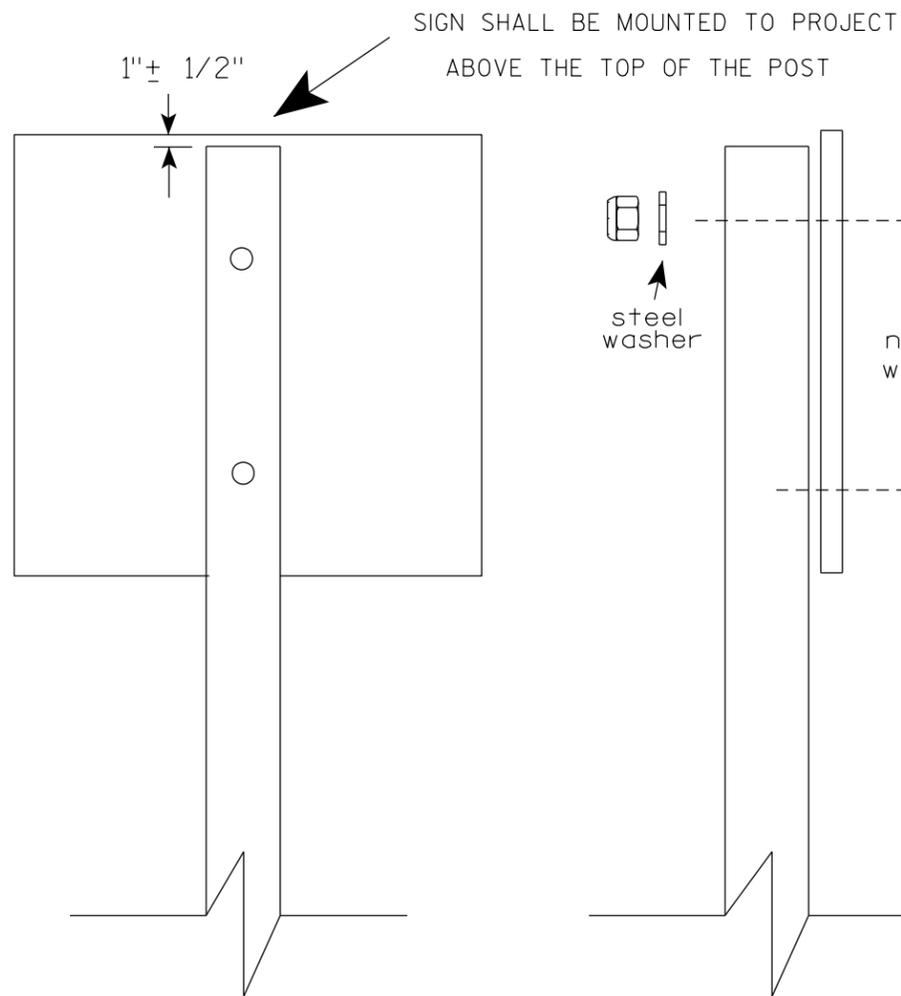
| SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED) | |
|--|-----|
| L | E |
| Greater than 108" to 144" | 12" |

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION
 APPROVED *Matthew R. Rauch*
 For State Traffic Engineer
 DATE 8/21/17 PLATE NO. A4-4.15



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

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

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

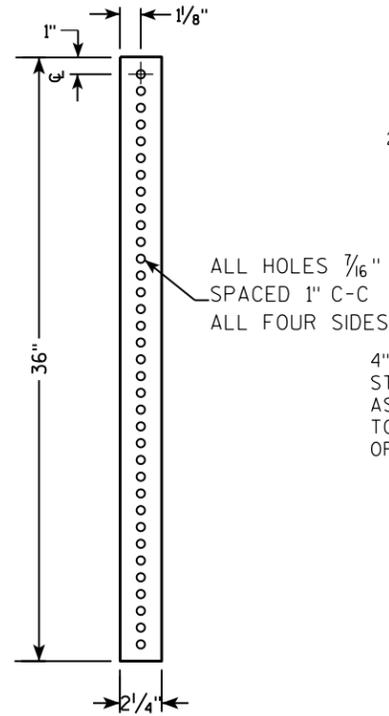
- STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)
- MACHINE BOLTS - $\frac{5}{16}$ " X 1-3/4" Length w/ lock nuts
- WOOD POSTS (4" x 6")
- LAG SCREWS - $\frac{3}{8}$ " X 3" (NO STRINGERS ON BACK OF SIGN)
 - $\frac{3}{8}$ " X 4" (STRINGERS ON BACK OF SIGN)
- SQUARE STEEL POSTS (2" x 2")
- MACHINE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

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

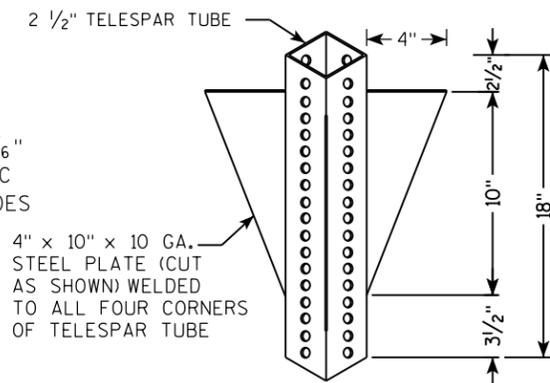
| | |
|----------------------------------|--|
| ATTACHMENT OF SIGNS TO POSTS | |
| WISCONSIN DEPT OF TRANSPORTATION | |
| APPROVED | <i>Matthew R Rauch</i> For State Traffic Engineer |
| DATE 4/1/2020 | PLATE NO. A4-8.9 |

**TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM**

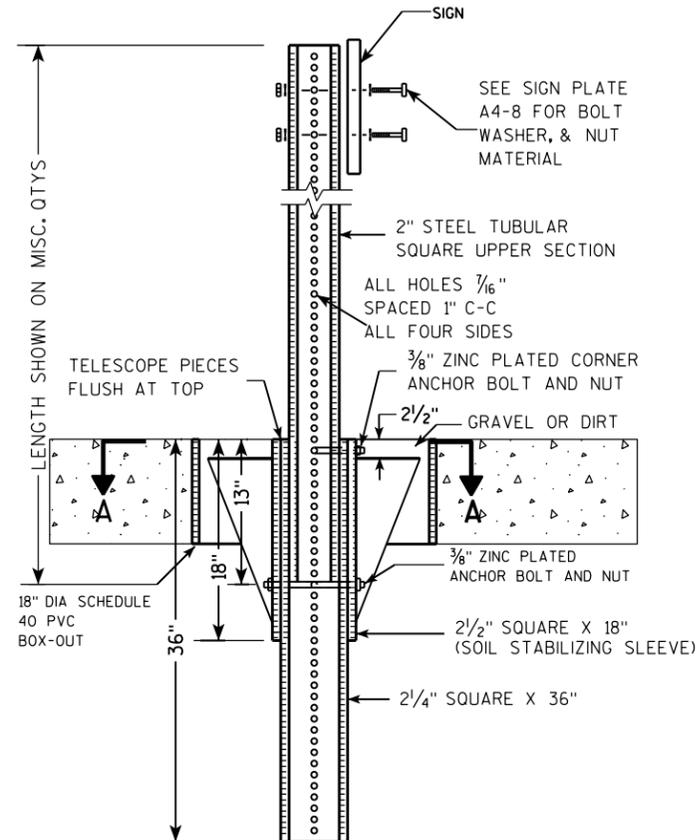
2 1/4" SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



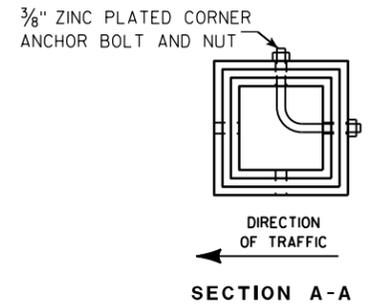
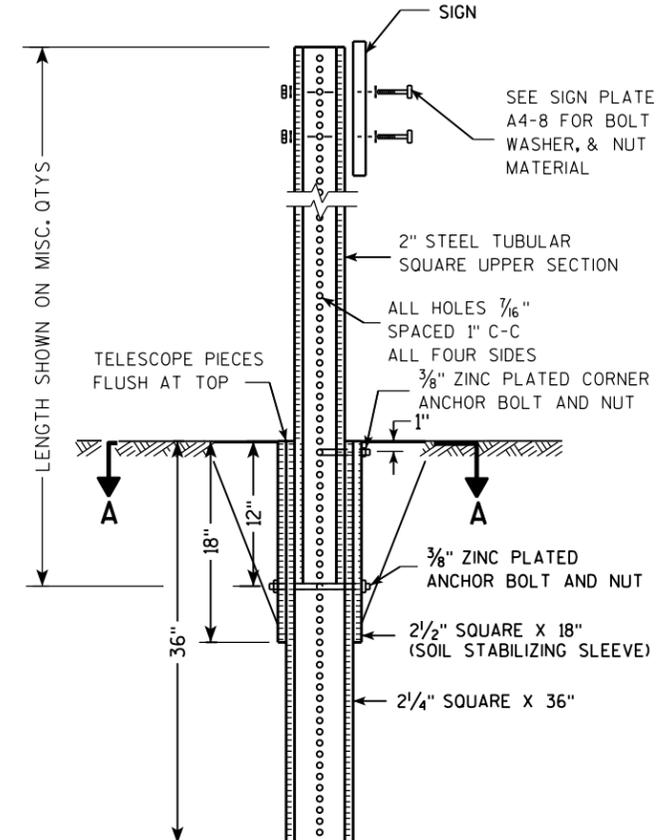
2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH



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



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



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

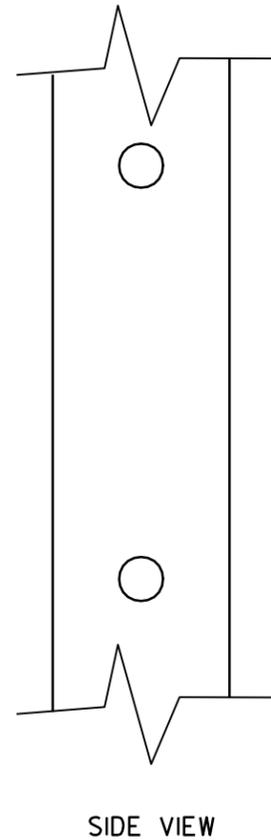
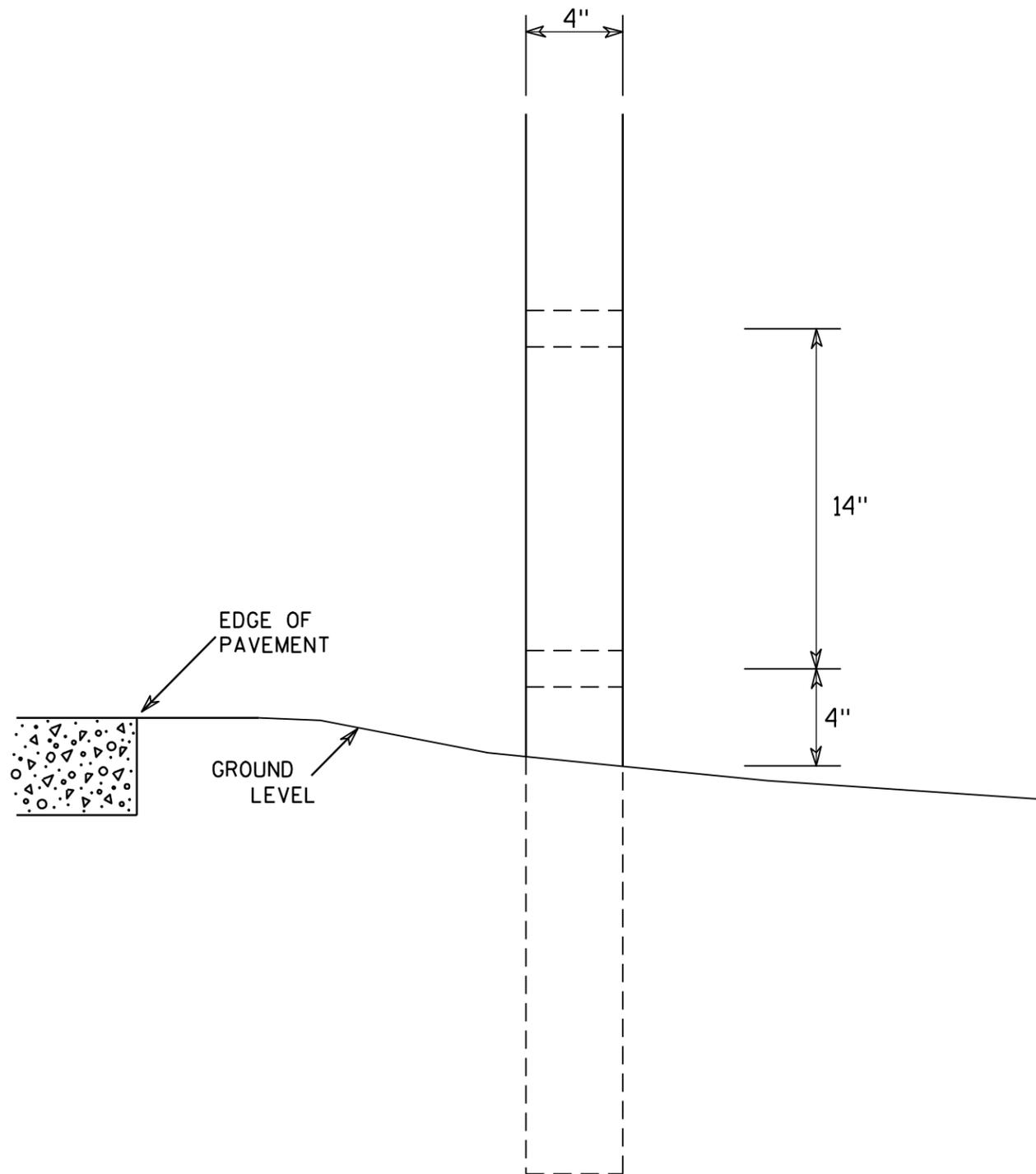
Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

**TUBULAR STEEL
SIGN POST
A4-9**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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



GENERAL NOTES

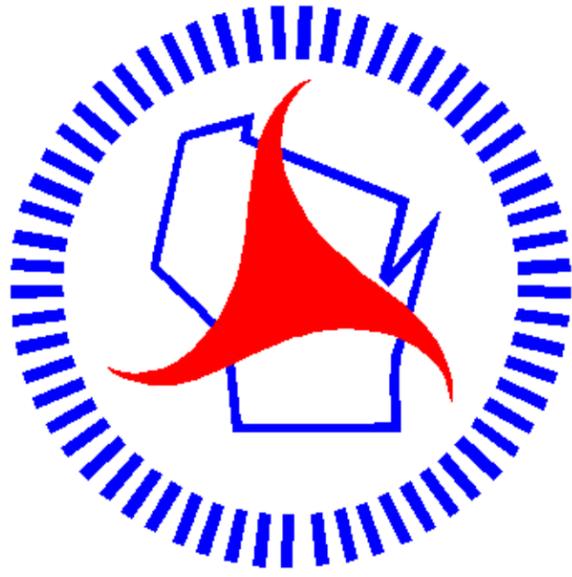
1. All 4 x 6 Wood Posts shall be modified by having two 1½" diameter holes drilled perpendicular to the roadway centerline.

7

7

| | |
|---|--|
| 4 X 6 WOOD POST MODIFICATIONS | |
| <i>WISCONSIN DEPT OF TRANSPORTATION</i> | |
| APPROVED | <i>Chester J Spang</i> for State Traffic Engineer |
| DATE 3/27/97 | PLATE NO. A4-11.2 |

Notes



Wisconsin Department of Transportation

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