

EAU PROJECT ID: 8938-00-70 WITH: N/A COUNTY: ST. CROIX

NOVEMBER 2022
 ORDER OF SHEETS
 Section No. 1 Title
 Section No. 2 Typical Sections and Details (Includes Erosion Control 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. 8 Computer Earthwork Data
 Section No. 8 Cross Sections

TOTAL SHEETS = 30



61

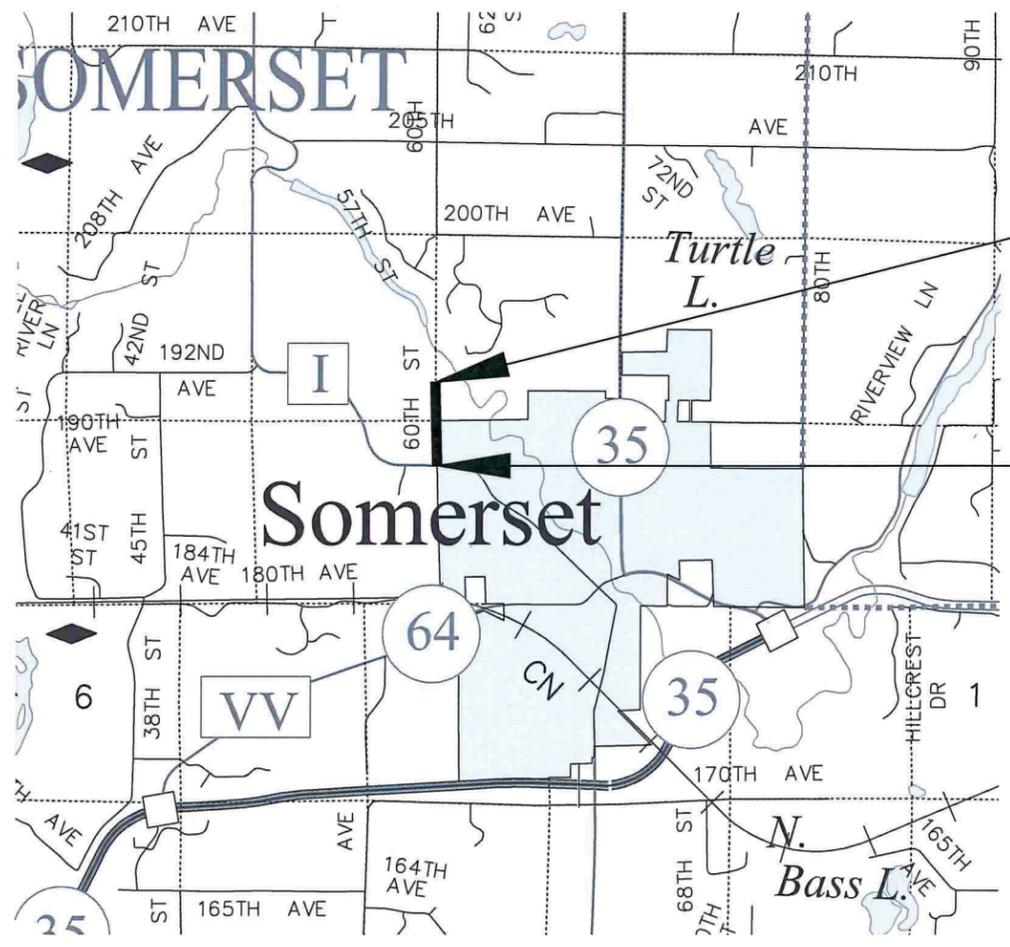
DESIGN DESIGNATION
 A.A.D.T. (2023) = 100
 A.A.D.T. (2043) = 100
 D.H.V. = N/A
 D.D. = 50/50
 T. = 5.0%
 DESIGN SPEED = 30 MPH
 ESALS = 7,300

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
 T SOMERSET, 60TH STREET
 CTH I TO TERMINUS
 LOCAL STREET
 ST. CROIX COUNTY

STATE PROJECT NUMBER
 8938-00-70



END PROJECT 8938-00-70
 STA 34+26
 X = 527,549.8823
 Y = 402,708.9055

BEGIN PROJECT 8938-00-70
 STA 10+17
 X = 527,605.5191
 Y = 400,300.5479

LAYOUT
 SCALE 0 1 MI
 TOTAL NET LENGTH OF CENTERLINE = 0.456 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), ST. CROIX COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. POSITIONS SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES ARE THE SAME AS GROUND DISTANCES. ELEVATIONS ARE REFERENCED TO NAVD 88 (2012). GPS DERIVED ELEVATIONS ARE BASED ON GEOID 12A.

| STATE PROJECT | FEDERAL PROJECT | |
|---------------|-----------------|----------|
| | PROJECT | CONTRACT |
| 8938-00-70 | WISC 2023058 | 1 |
| | | |
| | | |

ACCEPTED FOR
 TOWN of SOMERSET
 7-20-22 Jim Wilgman
 (Date) TOWN SUPERVISOR

ORIGINAL PLANS PREPARED BY
MSA
 60 Plato Blvd East, St. Paul MN 55107-1835
 (612) 548-3132

WISCONSIN PROFESSIONAL ENGINEER
 SEAN M. SPROMBERG
 E 37771-008
 SCHOFIELD, WI
 7/20/2022
 (Professional Engineer Signature)

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION
 PREPARED BY
 Surveyor N/A
 Designer MSA PROFESSIONAL SERVICES, INC.
 Project Manager PAULA GROOM
 Regional Examiner TOU YANG
 Regional Supervisor TYLER RONGSTAD

APPROVED FOR THE DEPARTMENT
 DATE: 07/20/22 Paula Groom
 (Signature)

GENERAL NOTES

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

R/W APPROXIMATED ON PLAN SHEETS BASED ON AS-BUILTS/GIS DATA.

THE 3" HMA PAVEMENT SHALL CONSIST OF A 1.25" UPPER LAYER OF 5 LT 58-34 S (9.5 MM NOMINAL-SIZE AGGREGATE) AND A 1.75" LOWER LAYER OF 4 LT 58-28 S (12.5 MM NOMINAL-SIZE AGGREGATE).

SECTION 2 ORDER

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS

AS-BUILTS

TOWN OF SOMERSET, 60TH STREET; DJ FEDDERLY MANAGEMENT CONSULTANT LLC
DESIGN COMPLETED: 2017
CONSTRUCTION COMPLETED: 2020

STANDARD ABBREVIATIONS

| | | | | | |
|------------|-----------------------|----------|----------------------------|-------------|----------------------------|
| AC | ACRE | F/L | FLOW LINE | SALV | SALVAGED |
| AGG | AGGREGATE | FT | FOOT | SAN | SANITARY SEWER |
| < | ANGLE | GN | GRID NORTH | SECT | SECTION |
| ASPH | ASPHALTIC | HR | HANDICAP RAMP | SHLDR | SHOULDER |
| AC | ASPHALT CEMENT | HT | HEIGHT | SW | SIDEWALK |
| ADT | AVERAGE DAILY TRAFFIC | CWT | HUNDREDWEIGHT | S | SOUTH |
| B & B | BALLED AND BURLAPPED | HYD | HYDRANT | SB | SOUTHBOUND |
| BM | BENCH MARK | IN DIA | INCH DIAMETER | SPECS | SPECIFICATIONS |
| CB | CATCH BASIN | INL | INLET | SQ | SQUARE |
| OR C/L | CENTER LINE | ID | INSIDE DIAMETER | SF OR SQ FT | SQUARE FEET |
| C-C | CENTER TO CENTER | I | INTERSECTION ANGLE | SY | SQUARE YARD |
| CONC | CONCRETE | IE | INVERT ELEVATION | SSPRC | STORM SEWER |
| CO | COUNTY | IP | IRON PIPE OR PIN | | PIPE REINFORCED CONCRETE |
| CTH | COUNTY TRUNK HIGHWAY | JCT | JUNCTION | STD | STANDARD |
| CY | CUBIC YARD | L | LENGTH OF CURVE | SDD | STANDARD DETAIL DRAWINGS |
| CULV | CULVERT | LF | LINEAR FOOT | STH | STATE TRUNK HIGHWAYS |
| CP | CULVERT PIPE | LC | LONG CHORD OF CURVE | STA | STATION |
| CPRC | CULVERT PIPE | LCB | LONG CHORD BEARING | SS | STORM SEWER |
| | REINFORCED CONCRETE | LS | LUMP SUM | T | TANGENT |
| C & G | CURB AND GUTTER | MH | MANHOLE | TEL | TELEPHONE |
| D | DEGREE OF CURVE | N | NORTH | TEMP | TEMPORARY |
| DHV | DESIGN HOUR VOLUME | Y | NORTH GRID COORDINATE | TLE | TEMPORARY LIMITED EASEMENT |
| DIA OR I | DIAMETER | OE | OUTLET ELEVATION | T | TON |
| DIST | DISTRICT | OL | OUT LOT | TC | TOP OF CURB |
| DWY | DRIVEWAY | OD | OUTSIDE DIAMETER | TN | TOWN |
| E | EAST | OH | OVERHEAD LINES | TRANS | TRANSITION |
| X | EAST GRID COORDINATE | PAVT | PAVEMENT | T | TRUCKS (percent of) |
| EB | EASTBOUND | PLE | PERMANENT LIMITED EASEMENT | TYP | TYPICAL |
| ELEC | ELECTRIC | PC | POINT OF CURVATURE | UNCL | UNCLASSIFIED |
| EL OR ELEV | ELEVATION | PI | POINT OF INTERSECTION | USH | UNITED STATES HIGHWAY |
| EMB | EMBANKMENT | PT | POINT OF TANGENCY | VAR | VARIABLE |
| EW | ENDWALL | PCC | PORTLAND CEMENT CONCRETE | VERT | VERTICAL |
| ESALS | EQUIVALENT SINGLE | LB | POUND | VC | VERTICAL CURVE |
| | AXLE LOADS | PE | PRIVATE ENTRANCE | VOL | VOLUME |
| EXC | EXCAVATION | R OR RAD | RADIUS | WM | WATER MAIN |
| EBS | EXCAVATION BELOW | RR | RAILROAD | WV | WATER VALVE |
| | SUBGRADE | R | RANGE | W | WEST |
| EXIST | EXISTING | ~ OR R/L | REFERENCE LINE | WB | WESTBOUND |
| EXP | EXPANSION | REQD | REQUIRED | YD | YARD |
| F-F | FACE TO FACE | RT | RIGHT | | |
| FERT | FERTILIZER | R / W | RIGHT-OF-WAY | | |
| FE | FIELD ENTRANCE | RD | ROAD | | |

UTILITY CONTACTS

GAS

MIDWEST NATURAL GAS
RANDY RISEN
3600 STATE HWY 157, STE 200
P.O. BOX 429
LA CROSSE, WI 54602-0429
PHONE (OFFICE): (608) 781-1011
EMAIL: RANDYR@MIDWESTNATURALGAS.COM

TELEPHONE

SOMERSET TELEPHONE COMPANY
GREG CARDINAL
116 HARRIMAN AVE N
AMERY, WI 54001
PHONE (OFFICE): (715) 268-3379
PHONE (CELL): (715) 554-1620
EMAIL: GREGCARDINAL@AMERYTEL.NET

ELECTRIC

XCEL ENERGY
BILL JOHNSON
2001 OLD HWY 35 S
HUDSON, WI 54015
PHONE (OFFICE): (715) 377-1825
PHONE (CELL): (715) 977-7229
EMAIL: WILLIAM.D.JOHNSON@XCELENERGY.COM

RUNOFF COEFFICIENT TABLE

| LAND USE: | HYDROLOGIC SOIL GROUP | | | | | | | | | | | |
|-------------------------|-----------------------|------|----------|-----------------------|------|----------|-----------------------|------|----------|-----------------------|------|----------|
| | A | | | B | | | C | | | D | | |
| | SLOPE RANGE (PERCENT) | | | SLOPE RANGE (PERCENT) | | | SLOPE RANGE (PERCENT) | | | SLOPE RANGE (PERCENT) | | |
| | 0-2 | 2-6 | 6 & OVER | 0-2 | 2-6 | 6 & OVER | | 2-6 | 6 & OVER | 0-2 | 2-6 | 6 & OVER |
| MEDIAN STRIP TURF | 0.19 | 0.20 | 0.24 | 0.19 | 0.22 | 0.26 | 0.20 | 0.23 | 0.30 | 0.20 | 0.25 | 0.30 |
| SIDE SLOPE TURF | | | 0.25 | | | 0.27 | | | 0.28 | | | 0.30 |
| PAVEMENT: | 0.40 - 0.60 | | | | | | | | | | | |
| ASPHALT: | 0.70 - 0.95 | | | | | | | | | | | |
| CONCRETE: | 0.80 - 0.95 | | | | | | | | | | | |
| BRICK: | 0.70 - 0.80 | | | | | | | | | | | |
| DRIVES, WALKS: | 0.75 - 0.85 | | | | | | | | | | | |
| ROOFS: | 0.75 - 0.95 | | | | | | | | | | | |
| GRAVEL ROADS, SHOULDERS | 0.40 - 0.60 | | | | | | | | | | | |

TOTAL PROJECT AREA = 3.65 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 0 ACRES

MSA DESIGN CONTACT

MSA PROFESSIONAL SERVICES, INC.
CHUCK SCHWARTZ
60 PLATO BLVD EAST
SUITE 140
ST. PAUL, MN 55107-1835
PHONE: (612) 548-3141
EMAIL: CSCHWARTZ@MSA-PS.COM

DNR LIAISON

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
AMY LESIK
DNR WEST CENTRAL REGION HEADQUARTERS
1300 W CLAIREMONT AVE
EAU CLAIRE, WI 54701-6127
PHONE: (715) 495-1903
EMAIL: AMYL.LESIK@WISCONSIN.GOV

TOWN CONTACT

TOWN OF SOMERSET
JERI KOESTER
748 STATE HWY 35
SOMERSET, WI 54025
PHONE: (715) 247-5982
EMAIL: TOWNCLERK@TOWNOFSOMERSETWI.COM

* NOT A DIGGERS HOTLINE MEMBER



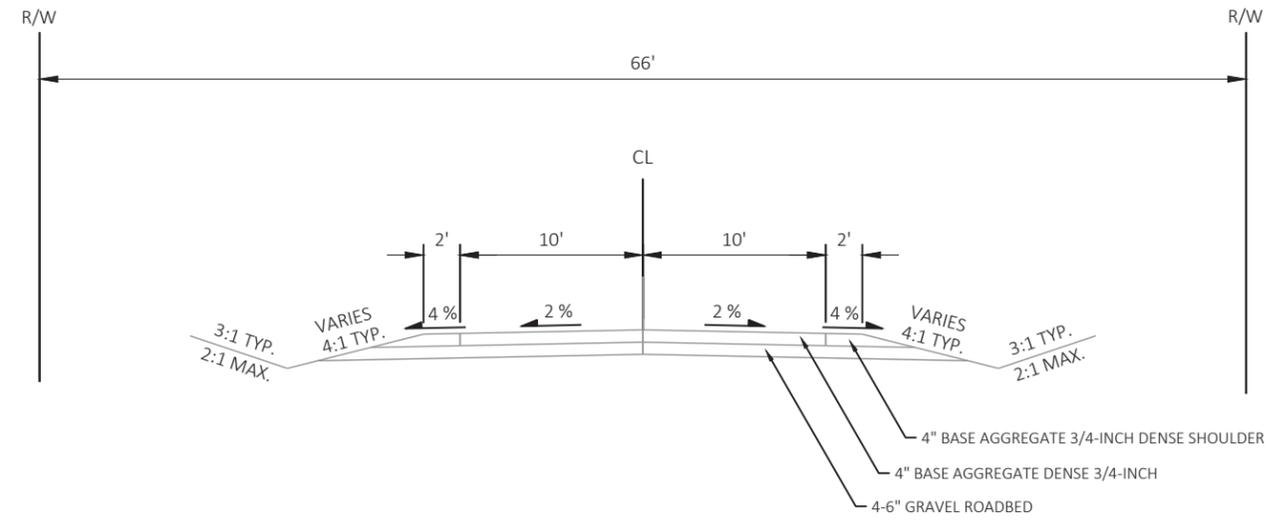
Dial **811** or (800)242-8511
www.DiggersHotline.com



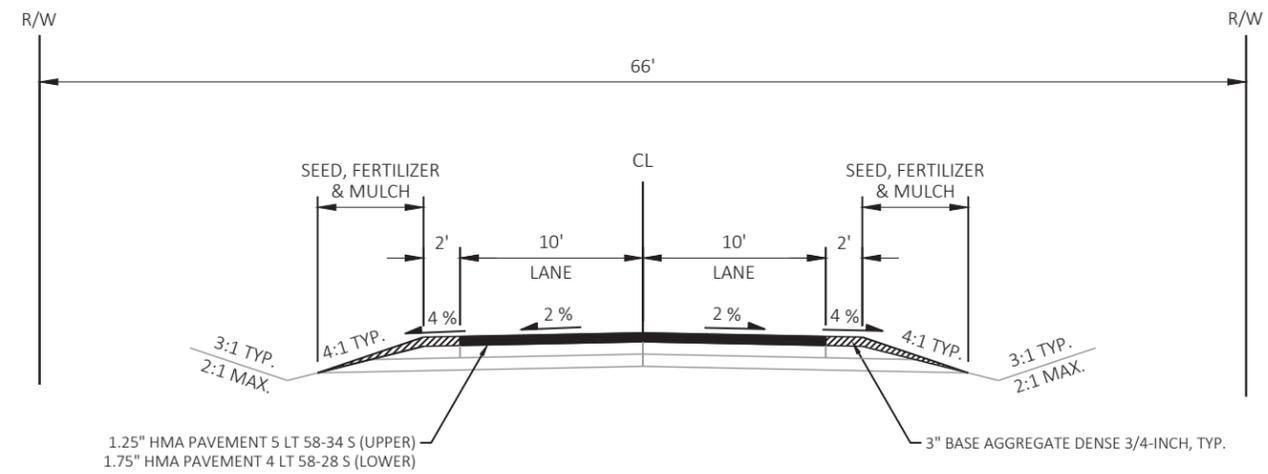
2

2

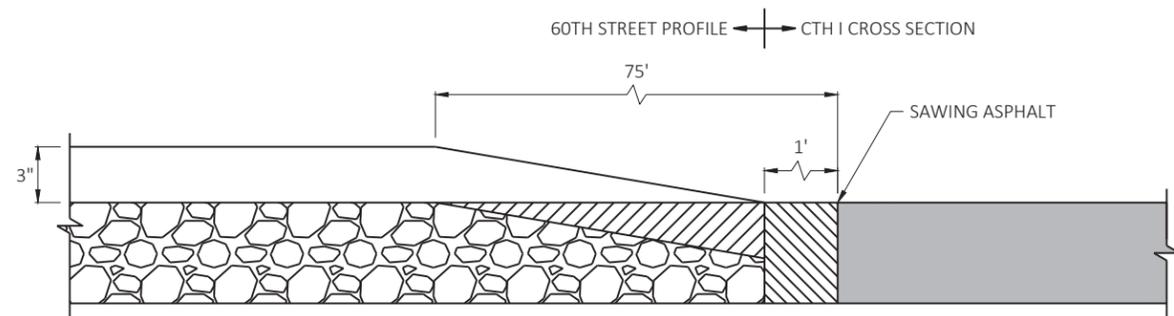
| | | | | | |
|------------------------|--------------|-------------------|------------------|-------|---|
| PROJECT NO: 8938-00-70 | HWY: 60TH ST | COUNTY: ST. CROIX | PROJECT OVERVIEW | SHEET | E |
|------------------------|--------------|-------------------|------------------|-------|---|

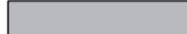


EXISTING TYPICAL SECTION
STA. 10+17 - STA. 33+60



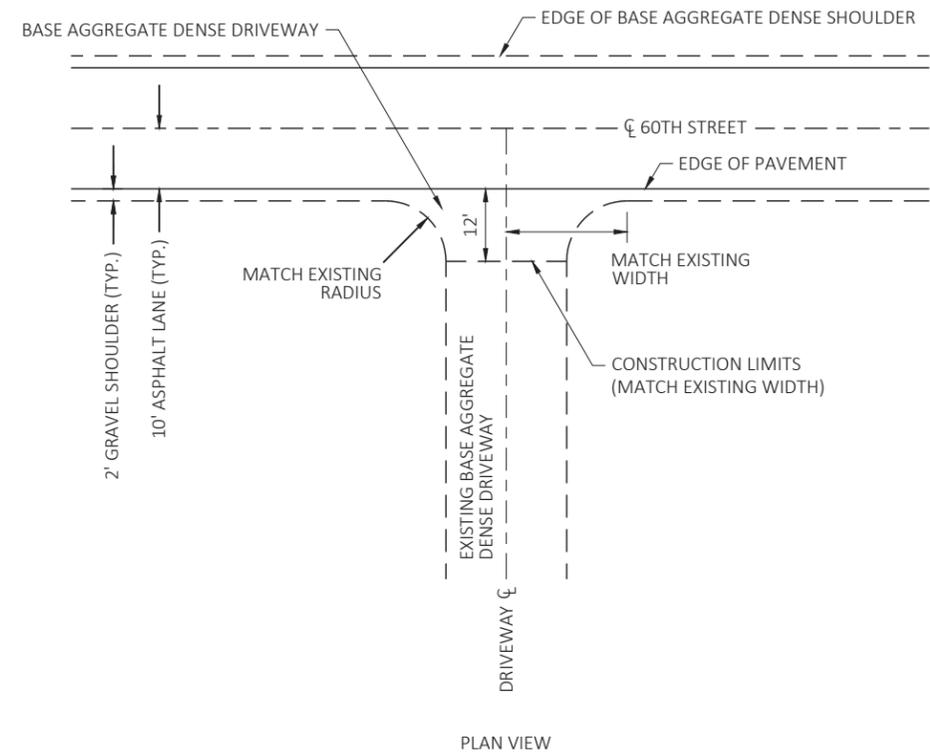
FINISHED TYPICAL SECTION
STA. 10+17 - STA. 33+60



-  EXISTING PAVEMENT (TO REMAIN)
-  EXISTING BASE AGGREGATE DENSE (TO REMAIN)
-  REMOVING PAVEMENT BUTT JOINT*; REPLACING WITH HMA PAVEMENT
-  REMOVING BASE AGGREGATE DENSE*; REPLACING WITH HMA PAVEMENT
-  PAVING HMA PAVEMENT

BUTT JOINT DETAIL

NOT TO SCALE
 USE WHERE 60TH STREET ABUTS CTH I
 *INCIDENTAL TO REMOVING ASPHALTIC SURFACE BUTT JOINTS



PRIVATE ENTRANCE AND FIELD ENTRANCE

BASE AGGREGATE DENSE DETAIL

NOT TO SCALE
 USE FOR ALL GRAVEL DRIVEWAY ENTRANCES



LEGEND:

-  TYPE III BARRICADE WITH SIGN
-  TYPE III BARRICADE
-  SIGN POST

PROJECT NO: 8938-00-70 HWY: 60TH ST COUNTY: ST. CROIX TRAFFIC CONTROL SHEET **E**

Estimate Of Quantities

8938-00-70

| Line | Item | Item Description | Unit | Total | Qty |
|------|----------|--|------|-----------|-----------|
| 0002 | 204.0115 | Removing Asphaltic Surface Butt Joints | SY | 200.000 | 200.000 |
| 0004 | 211.0101 | Prepare Foundation for Asphaltic Paving (project) 01. 8938-00-70 | EACH | 1.000 | 1.000 |
| 0006 | 213.0100 | Finishing Roadway (project) 01. 8938-00-70 | EACH | 1.000 | 1.000 |
| 0008 | 305.0110 | Base Aggregate Dense 3/4-Inch | TON | 392.000 | 392.000 |
| 0010 | 450.4000 | HMA Cold Weather Paving | TON | 911.000 | 911.000 |
| 0012 | 455.0605 | Tack Coat | GAL | 380.000 | 380.000 |
| 0014 | 460.2000 | Incentive Density HMA Pavement | DOL | 590.000 | 590.000 |
| 0016 | 460.5224 | HMA Pavement 4 LT 58-28 S | TON | 531.000 | 531.000 |
| 0018 | 460.5245 | HMA Pavement 5 LT 58-34 S | TON | 380.000 | 380.000 |
| 0020 | 618.0100 | Maintenance And Repair of Haul Roads (project) 01. 8938-00-70 | EACH | 1.000 | 1.000 |
| 0022 | 619.1000 | Mobilization | EACH | 1.000 | 1.000 |
| 0024 | 624.0100 | Water | MGAL | 7.900 | 7.900 |
| 0026 | 627.0200 | Mulching | SY | 2,790.000 | 2,790.000 |
| 0028 | 628.1905 | Mobilizations Erosion Control | EACH | 2.000 | 2.000 |
| 0030 | 628.1910 | Mobilizations Emergency Erosion Control | EACH | 1.000 | 1.000 |
| 0032 | 629.0210 | Fertilizer Type B | CWT | 2.000 | 2.000 |
| 0034 | 630.0120 | Seeding Mixture No. 20 | LB | 76.000 | 76.000 |
| 0036 | 630.0500 | Seed Water | MGAL | 63.000 | 63.000 |
| 0038 | 634.0616 | Posts Wood 4x6-Inch X 16-FT | EACH | 1.000 | 1.000 |
| 0040 | 637.2210 | Signs Type II Reflective H | SF | 5.000 | 5.000 |
| 0042 | 642.5001 | Field Office Type B | EACH | 1.000 | 1.000 |
| 0044 | 643.0300 | Traffic Control Drums | DAY | 120.000 | 120.000 |
| 0046 | 643.0420 | Traffic Control Barricades Type III | DAY | 24.000 | 24.000 |
| 0048 | 643.0705 | Traffic Control Warning Lights Type A | DAY | 48.000 | 48.000 |
| 0050 | 643.0900 | Traffic Control Signs | DAY | 36.000 | 36.000 |
| 0052 | 643.5000 | Traffic Control | EACH | 1.000 | 1.000 |
| 0054 | 650.5000 | Construction Staking Base | LF | 2,343.000 | 2,343.000 |
| 0056 | 650.8000 | Construction Staking Resurfacing Reference | LF | 2,343.000 | 2,343.000 |
| 0058 | 650.9911 | Construction Staking Supplemental Control (project) 01. 8938-00-70 | EACH | 1.000 | 1.000 |
| 0060 | 690.0150 | Sawing Asphalt | LF | 52.000 | 52.000 |
| 0062 | 740.0440 | Incentive IRI Ride | DOL | 1,840.000 | 1,840.000 |
| 0064 | ASP.1T0A | On-the-Job Training Apprentice at \$5.00/HR | HRS | 300.000 | 300.000 |
| 0066 | ASP.1T0G | On-the-Job Training Graduate at \$5.00/HR | HRS | 300.000 | 300.000 |

| | | | | 204.0115 REMOVING ASPHALTIC SURFACE BUTT JOINTS SY |
|------------|----|---------|-------------|---|
| STATION | TO | STATION | LOCATION | |
| 10+17 | - | 10+92 | 60TH STREET | 200 |
| TOTAL 0010 | | | | 200 |

| | | | | 305.0110 BASE AGGREGATE DENSE 3/4-INCH TON | 624.0100 WATER MGAL |
|------------|----|---------|-----------|--|---------------------------|
| STATION | TO | STATION | LOCATION | | |
| 10+17 | - | 34+26 | SHOULDERS | 360 | 7.2 |
| 33+95 | - | 34+26 | RT | 3 | 0.1 |
| 13+33 | - | 34+26 | DRIVEWAYS | 29 | 0.6 |
| TOTAL 0010 | | | | 392 | 7.9 |

| | | | | 455.0605 TACK COAT GAL | 460.5224 HMA PAVEMENT 4 LT 58-28 S TON | 460.5245 HMA PAVEMENT 5 LT 58-34 S TON |
|------------|----|----------|-------------------------|------------------------------|---|---|
| STATION | TO | STATION | LOCATION | | | |
| 10+17 | - | 34+24 | MAINLINE LOWER LAYER | 376 | 526 | -- |
| 10+17 | - | 34+24 | MAINLINE UPPER LAYER | -- | -- | 376 |
| 33+56.25 | - | 34+06.25 | TURN-AROUND LOWER LAYER | 4 | 5 | -- |
| 33+56.25 | - | 34+06.25 | TURN-AROUND UPPER LAYER | -- | -- | 4 |
| TOTAL 0010 | | | | 380 | 531 | 380 |

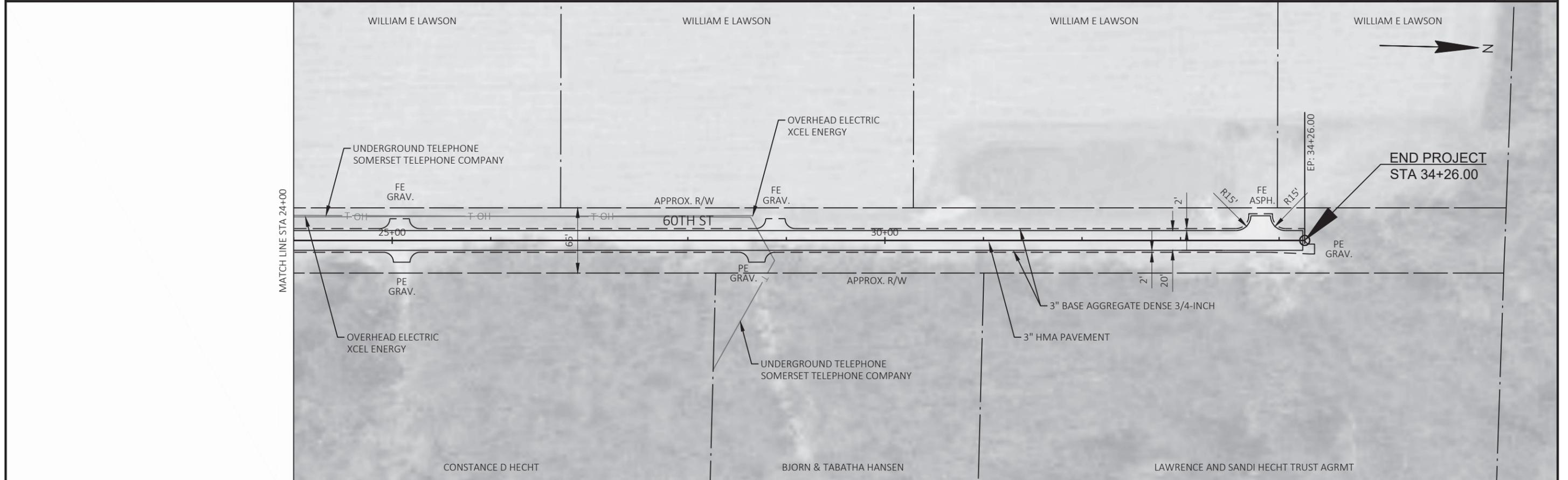
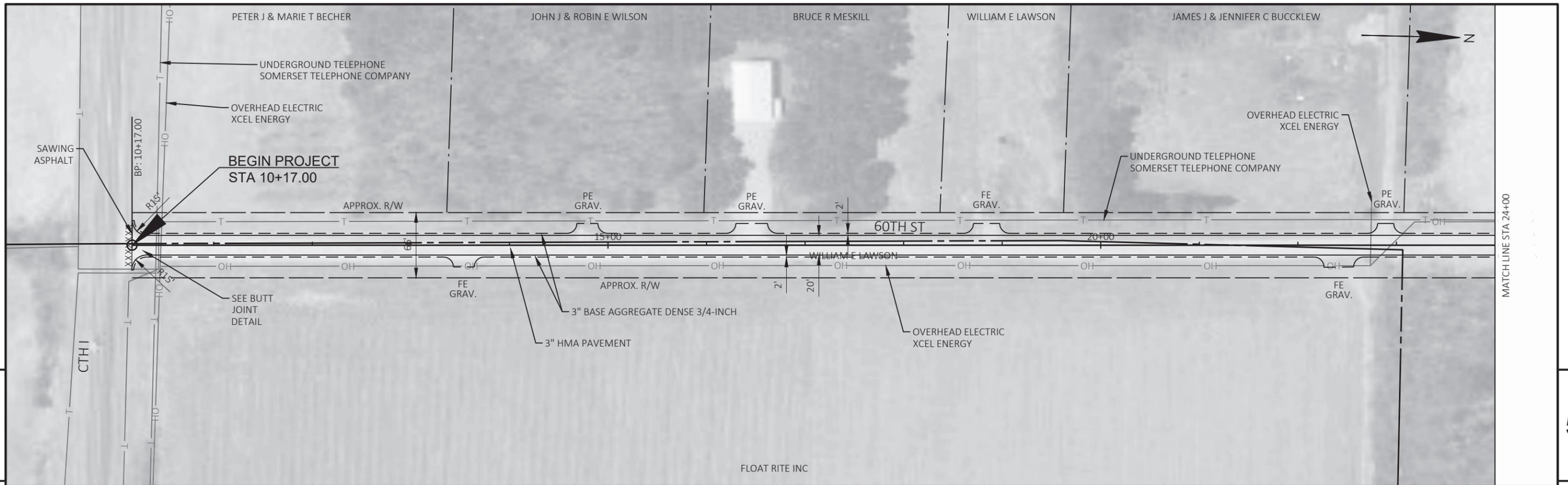
| | | | | 627.0200 MULCHING SY | 628.1905 MOBILIZATIONS EROSION CONTROL EACH | 628.1910 MOBILIZATIONS EROSION CONTROL EACH | 629.0210 FERTILIZER TYPE B CWT | 630.0120 SEEDING MIXTURE NO. 20 LB | 630.0500 SEED WATER MGAL |
|------------|----|---------|-----------------------|----------------------------|---|---|---|---|--------------------------------|
| STATION | TO | STATION | LOCATION | | | | | | |
| 10+17 | - | 34+26 | OUTSIDE ROAD SHOULDER | 2,790 | 2 | 1 | 2 | 76 | 63 |
| TOTAL 0010 | | | | 2,790 | 2 | 1 | 2 | 76 | 63 |

| STATION | LOCATION | 634.0616 POSTS WOOD 4X6-INCH X 16- FT EACH | 637.2210 SIGNS TYPE II REFLECTIVE H SF |
|------------|----------|--|---|
| 12+17 | RT | 1 | 5 |
| TOTAL 0010 | | 1 | 5 |

| STATION | TO | STATION | LOCATION | 643.0300 TRAFFIC CONTROL DRUMS DAY | 643.0420 TRAFFIC CONTROL BARRICADES TYPE III DAY | 643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY | 643.0900 TRAFFIC CONTROL SIGNS DAY | REMARKS |
|------------|----|---------|--------------------------|--|---|---|---|---|
| 10+17 | - | 34+26 | PROJECT UNDISTRIBUTED | -- 120 | 24 -- | 48 -- | 36 -- | PLACE ALONG CTH I AS NECESSARY FOR OPERATIONS |
| TOTAL 0010 | | | | 120 | 24 | 48 | 36 | |

| STATION | TO | STATION | LOCATION | 690.0150 SAWING ASPHALT LF |
|------------|----|---------|-------------|-------------------------------------|
| 10+17 | - | 10+17 | 60TH STREET | 52 |
| TOTAL 0010 | | | | 52 |

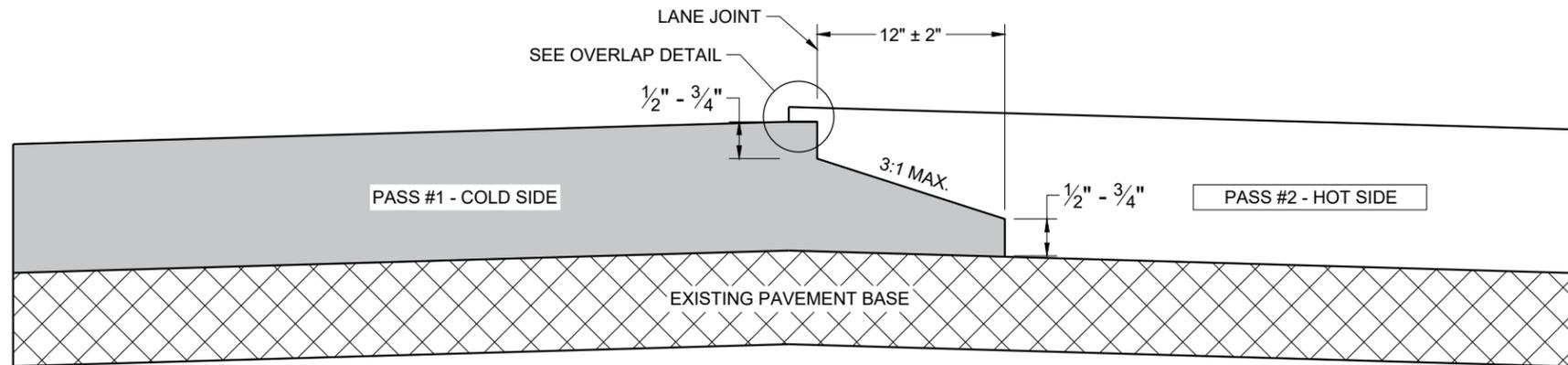
| STATION | TO | STATION | LOCATION | 650.5000 CONSTRUCTION STAKING BASE LF | 650.8000 CONSTRUCTION STAKING RESURFACING REFERENCE LF | 650.9911.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (01. 8938-00-70) EACH | REMARKS |
|------------|----|---------|----------|--|---|--|---------|
| 10+17 | - | 33+60 | PROJECT | 2,343 | 2,343 | 1 | |
| TOTAL 0010 | | | | 2,343 | 2,343 | 1 | |



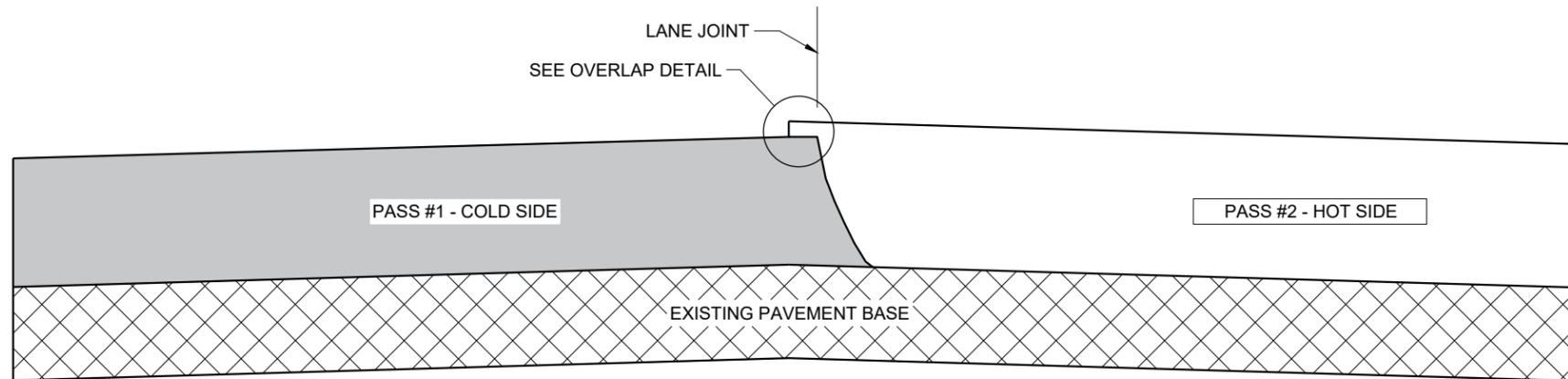
| | | | | | |
|------------------------|--------------|-------------------|------|-------|----------|
| PROJECT NO: 8938-00-70 | HWY: 60TH ST | COUNTY: ST. CROIX | PLAN | SHEET | E |
|------------------------|--------------|-------------------|------|-------|----------|

Standard Detail Drawing List

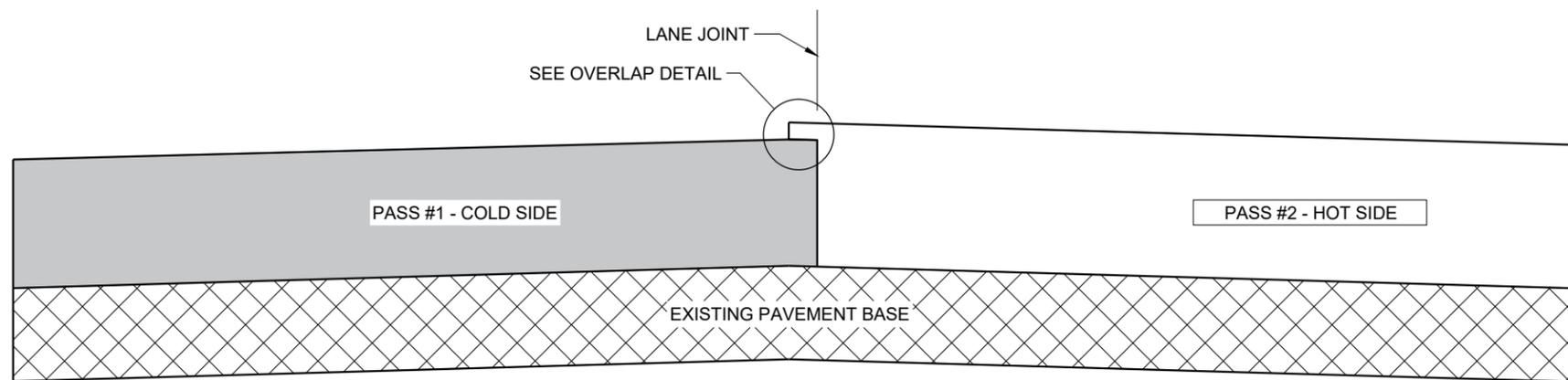
| | |
|-----------|--|
| 13C19-03 | HMA LONGITUDINAL JOINTS |
| 14B29-01 | SAFETY EDGE |
| 15C02-08A | BARRICADES AND SIGNS FOR MAINLINE CLOSURES |
| 15C02-08B | BARRICADES AND SIGNS FOR VARIOUS CLOSURES |
| 15C04-05 | TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M. P. H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC |
| 15C11-09B | CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS |
| 15C12-09A | TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION |
| 15D28-04 | TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY |
| 15D39-02 | TRAFFIC CONTROL, DROP-OFF SIGNING |



**TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT**



**TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT**



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

GENERAL NOTES

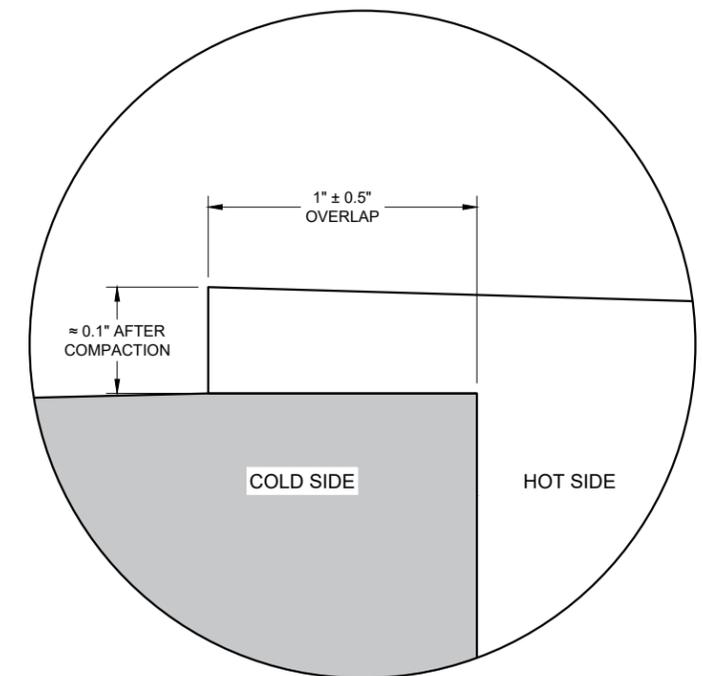
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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)

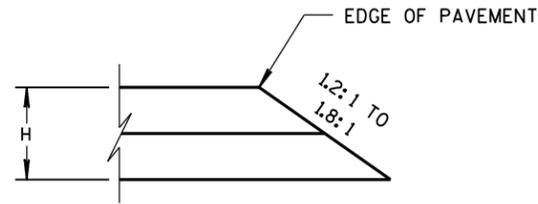
6

6

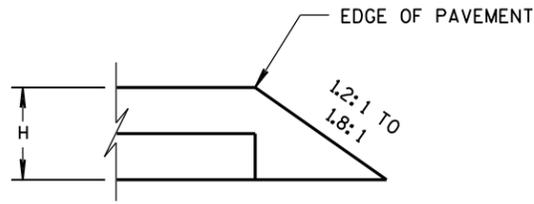
SDD 13C19 - 03

SDD 13C19 - 03

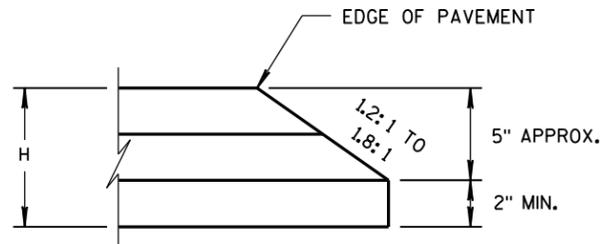
| | |
|--|---|
| HMA LONGITUDINAL JOINTS | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | |
| APPROVED November 2020 DATE | /S/ Steven Hefel HMA PAVEMENT ENGINEER |
| <small>FHWA</small> | |



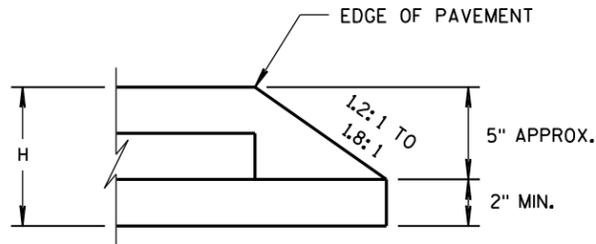
CONSTRUCTED WITH FINAL TWO LAYERS
FOR H 5" OR LESS



CONSTRUCTED WITH FINAL LAYER
FOR H 5" OR LESS

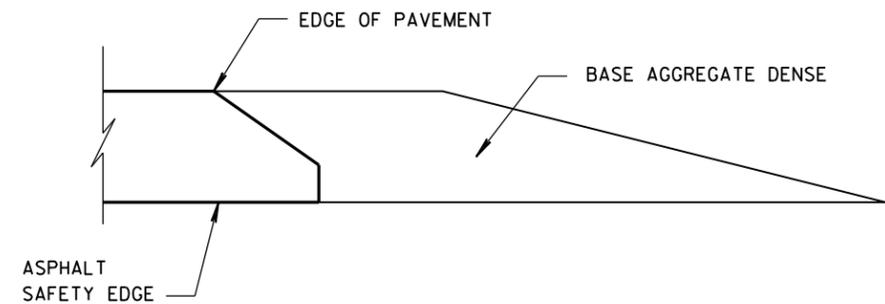


CONSTRUCTED WITH FINAL TWO LAYERS
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER
FOR H GREATER THAN 5"

HMA PAVEMENT AND HMA OVERLAYS



FINISHED SHOULDER AGGREGATE PLACEMENT

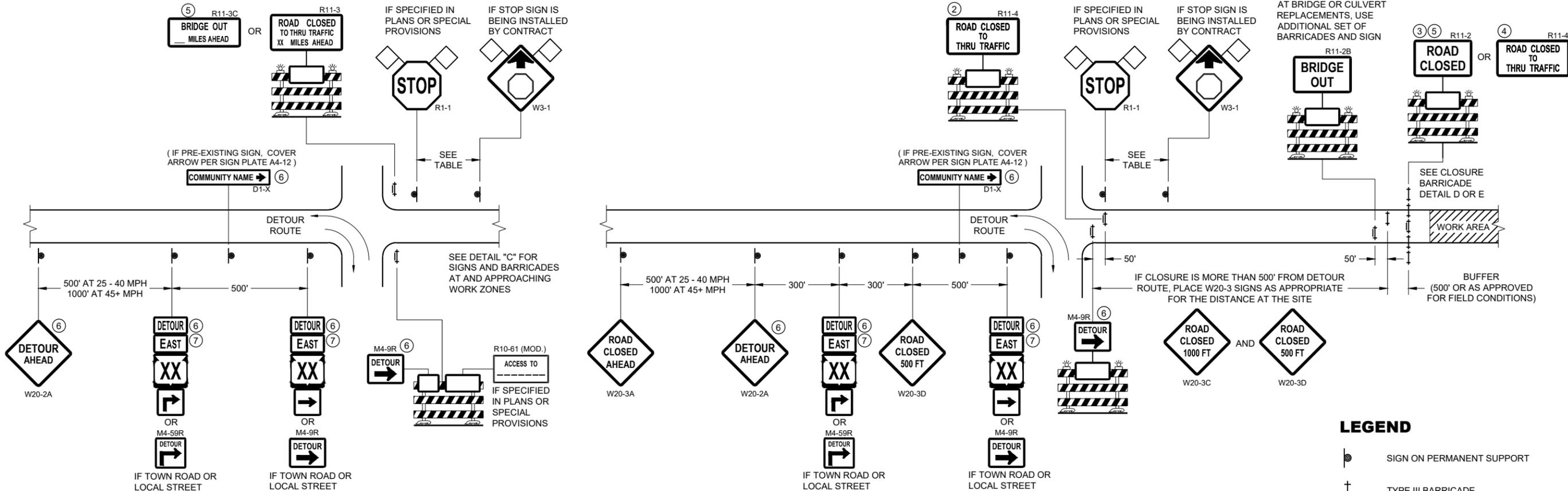
6

6

S.D.D. 14 B 29-1

S.D.D. 14 B 29-1

| | |
|--|--|
| SAFETY EDGE _{SM} | |
| STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION | |
| APPROVED DATE | /s/ Jerry H. Zogg ROADWAY STANDARDS DEVELOPMENT 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**

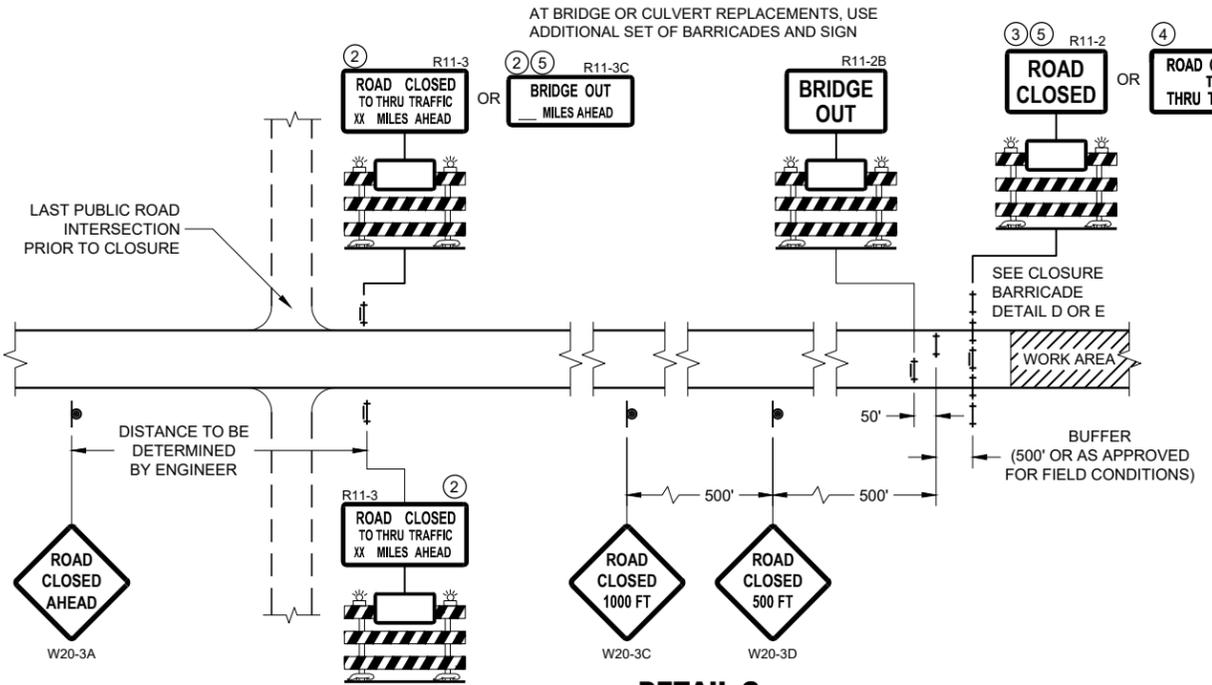
WORK ZONE LESS THAN 1/2 MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

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



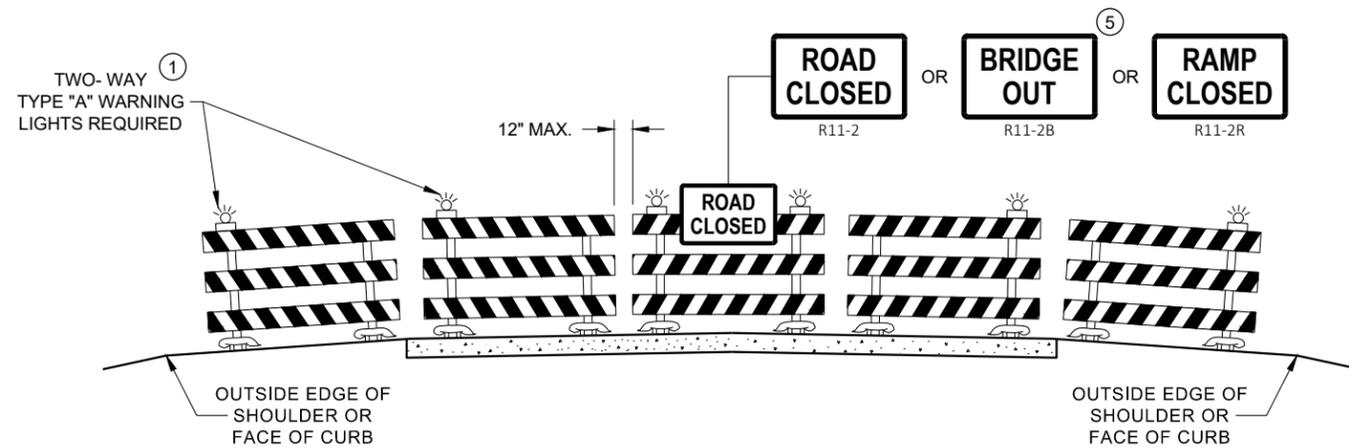
**DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR**

**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

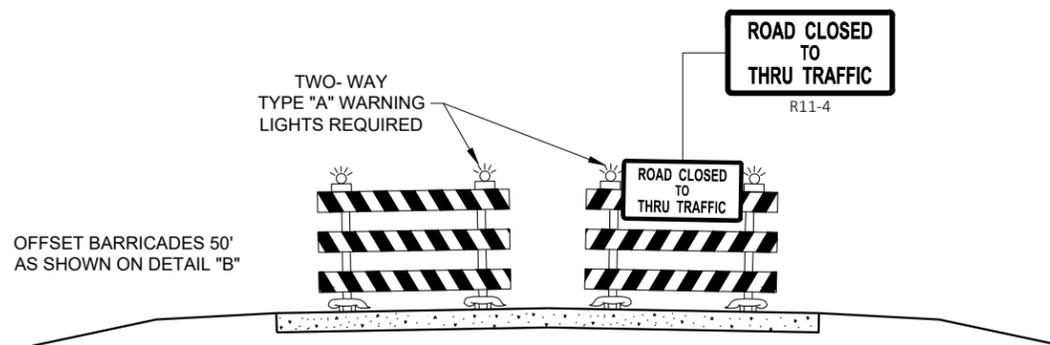
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

GENERAL NOTES

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

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

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

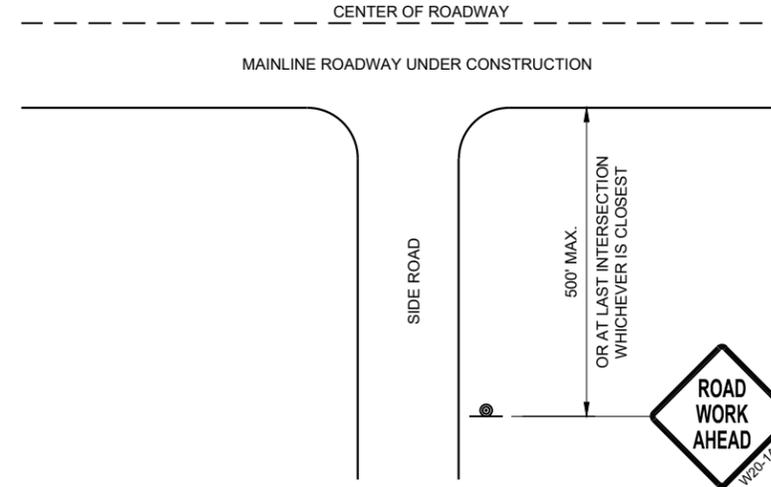
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

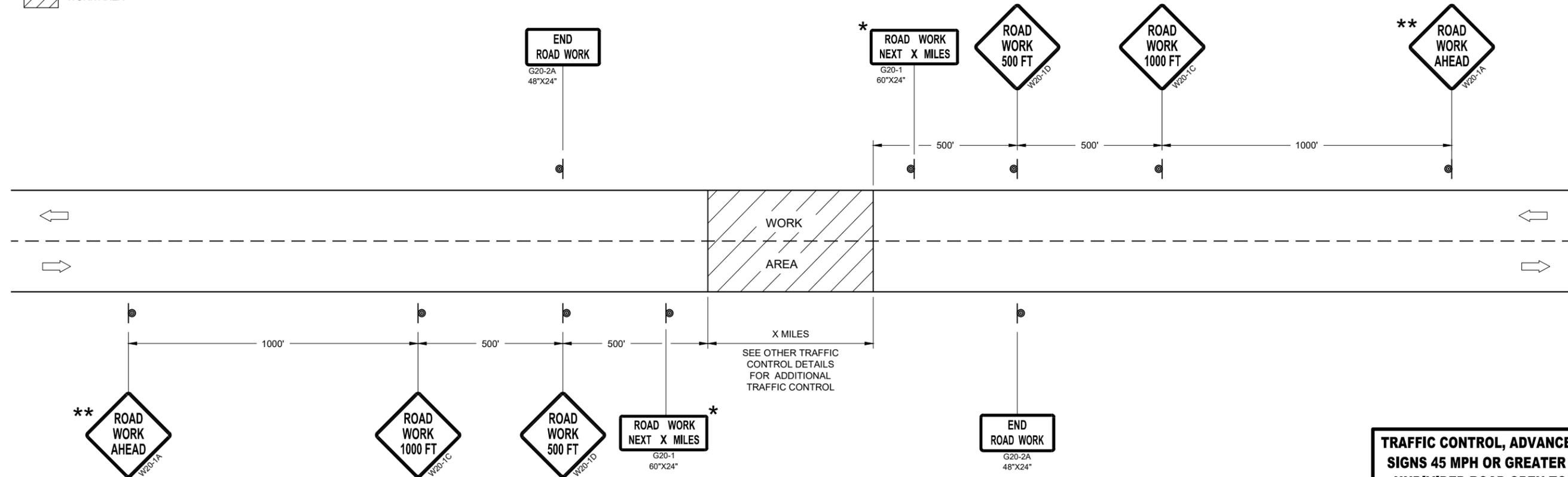
- * OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS
- ** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.

LEGEND

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



**TYPICAL SIDE ROAD APPROACH
WARNING SIGN DETAIL**



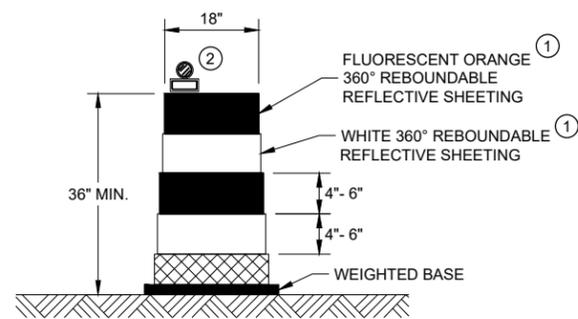
TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

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

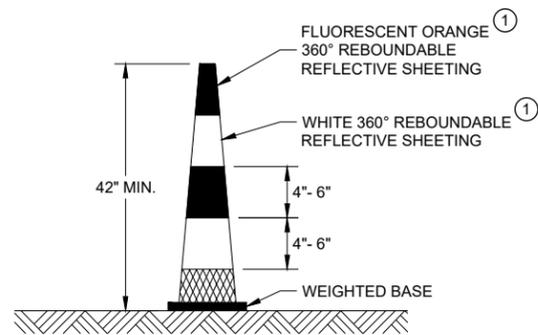
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

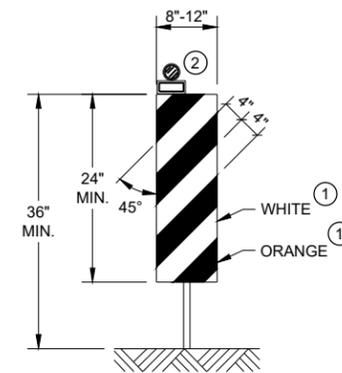


DRUM



42" CONE

DO NOT USE IN TAPERS
1/2 SPACING OF DRUMS

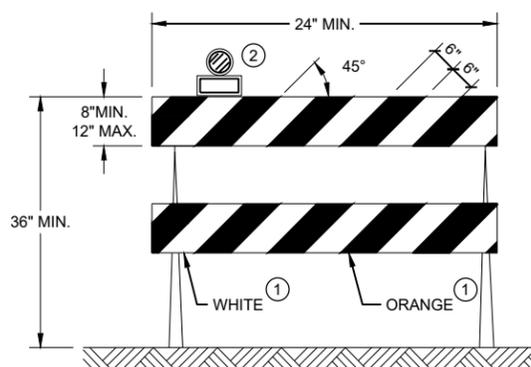


VERTICAL PANEL

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

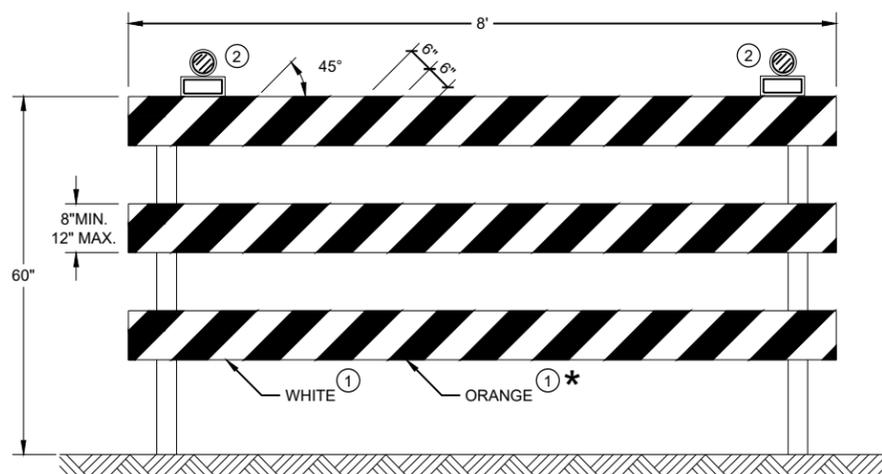
GENERAL NOTES

- 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.

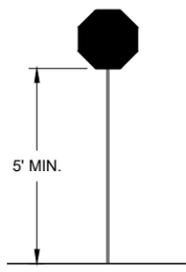
- ③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

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.



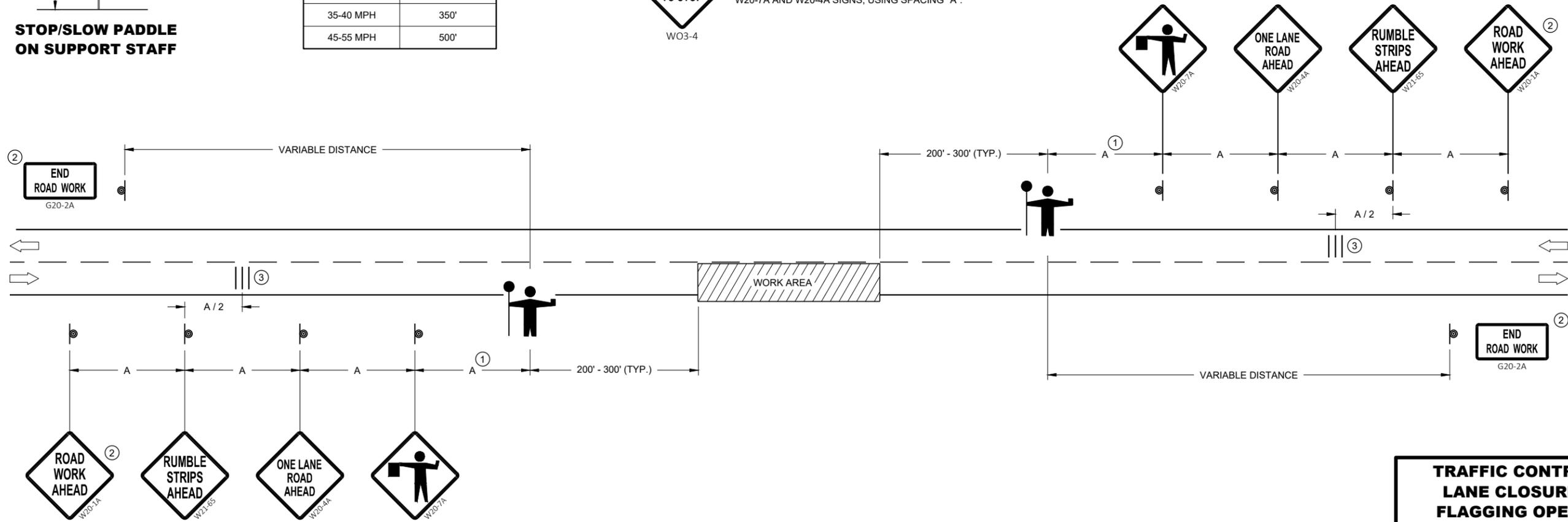
STOP/SLOW PADDLE ON SUPPORT STAFF

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".



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

LEGEND

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

GENERAL NOTES

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

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

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

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

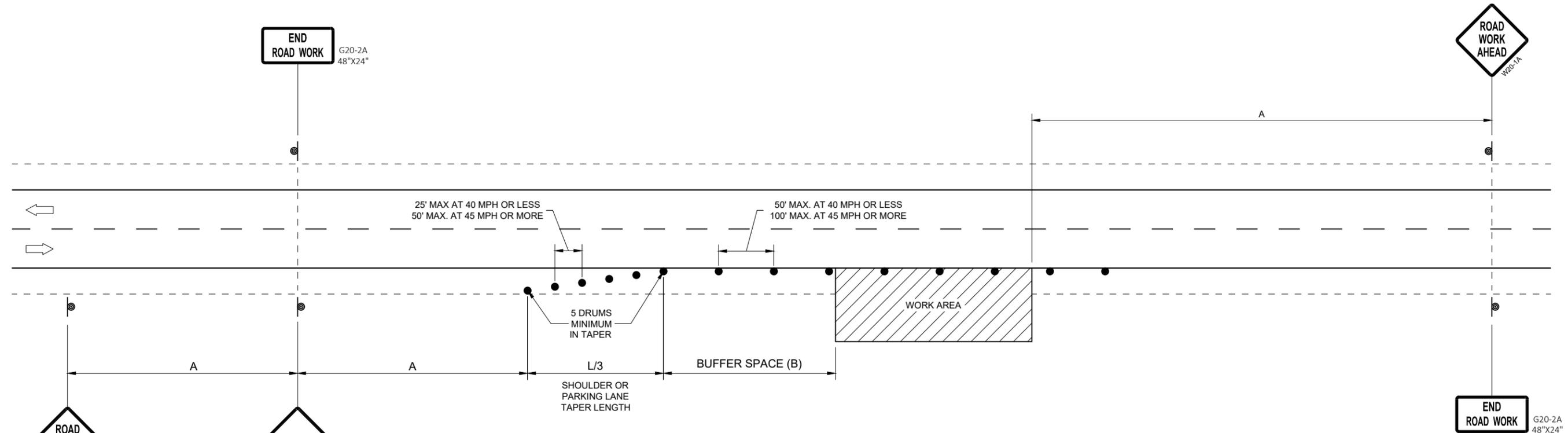
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

6

6



| POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH) | ADVANCE WARNING SIGN SPACING (A) FEET | SHOULDER TAPER L / 3 W, LATERAL OFFSET (FT) | | | | | | BUFFER SPACE (B) FEET |
|---|---------------------------------------|---|----|----|-----|-----|-----|-----------------------|
| | | 3 | 4 | 5 | 6 | 7 | 8 | |
| 25 | 200' | 10 | 14 | 17 | 21 | 24 | 28 | 55 |
| 30 | 200' | 15 | 20 | 25 | 30 | 35 | 40 | 85 |
| 35 | 350' | 20 | 27 | 34 | 40 | 47 | 54 | 120 |
| 40 | 350' | 26 | 35 | 44 | 53 | 62 | 70 | 170 |
| 45 | 500' | 45 | 59 | 74 | 89 | 104 | 119 | 220 |
| 50 | 500' | 50 | 66 | 83 | 99 | 116 | 132 | 280 |
| 55 | 500' | 54 | 73 | 91 | 109 | 127 | 145 | 335' |

SDD 15D28 - 04

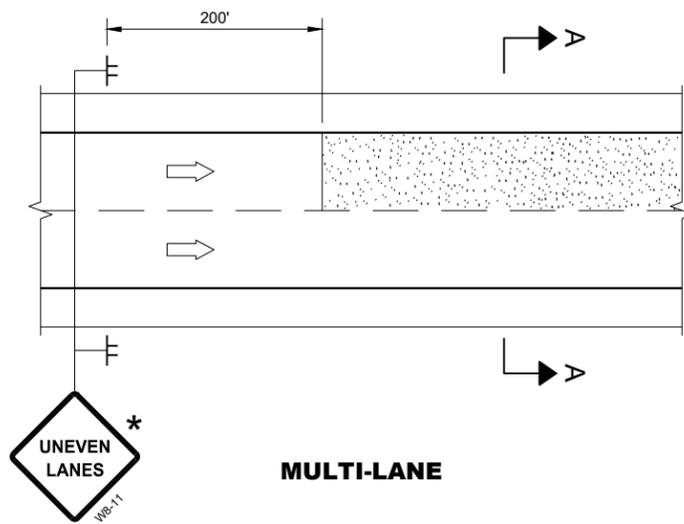
SDD 15D28 - 04

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

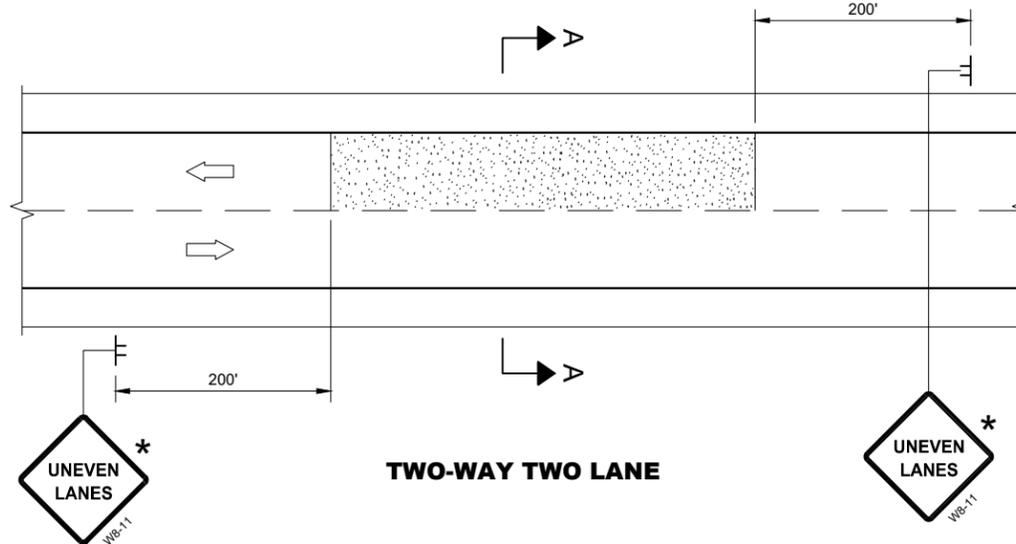
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2020 /S/ Andrew Heidtke
DATE STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER

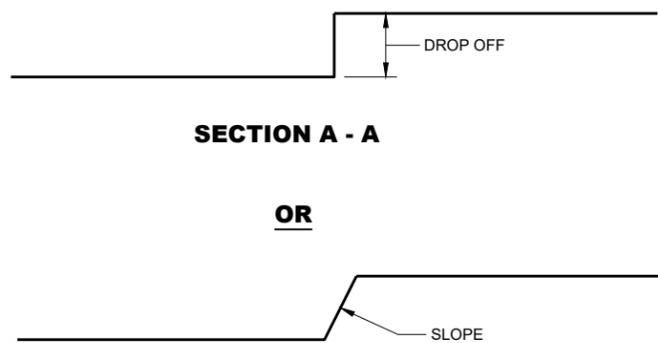
FHWA



MULTI-LANE



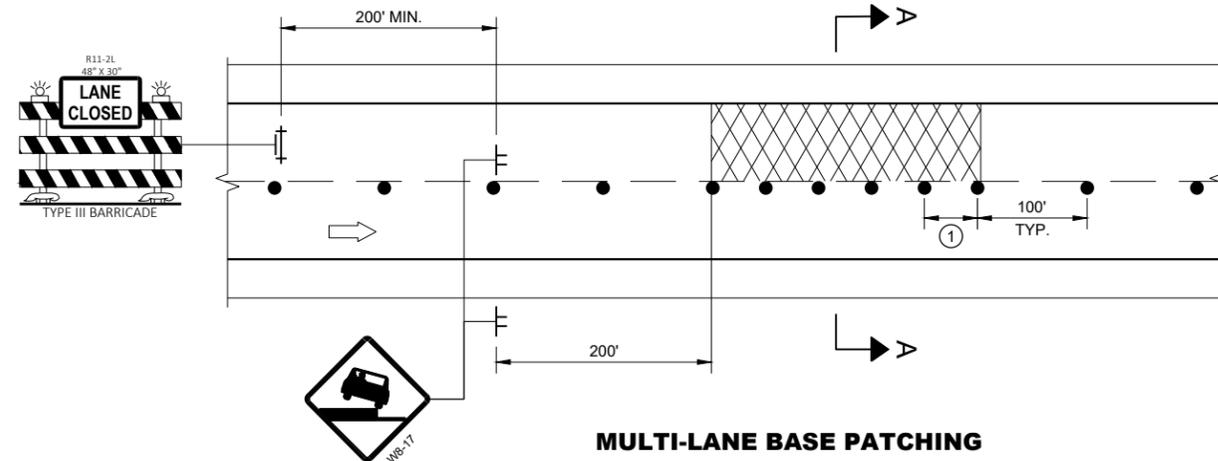
TWO-WAY TWO LANE



SECTION A - A

OR

SECTION A - A



MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS

GENERAL NOTES

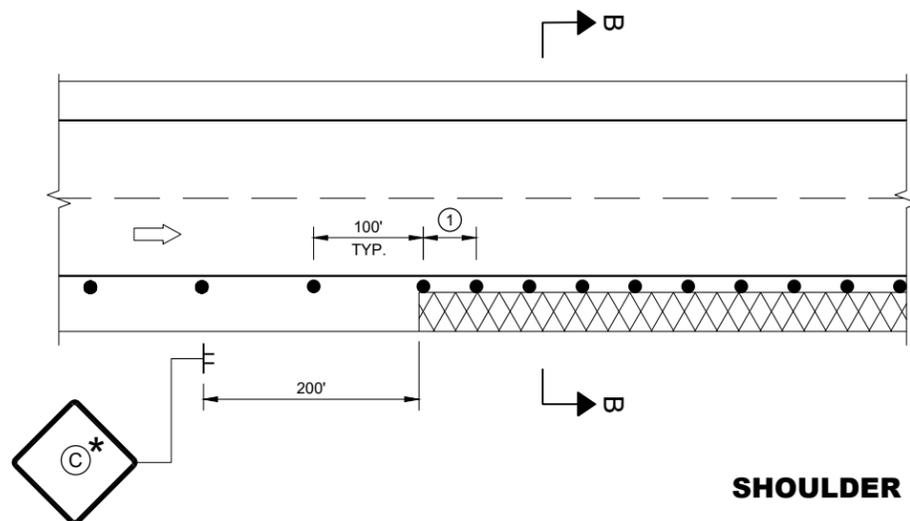
- FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.
- ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
- "WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
- WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.
- * IF THE DROP-OFF 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

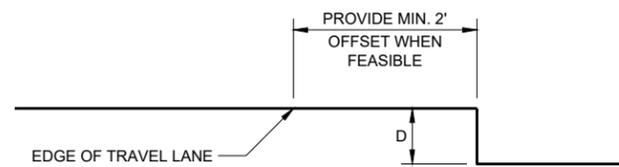
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE

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**

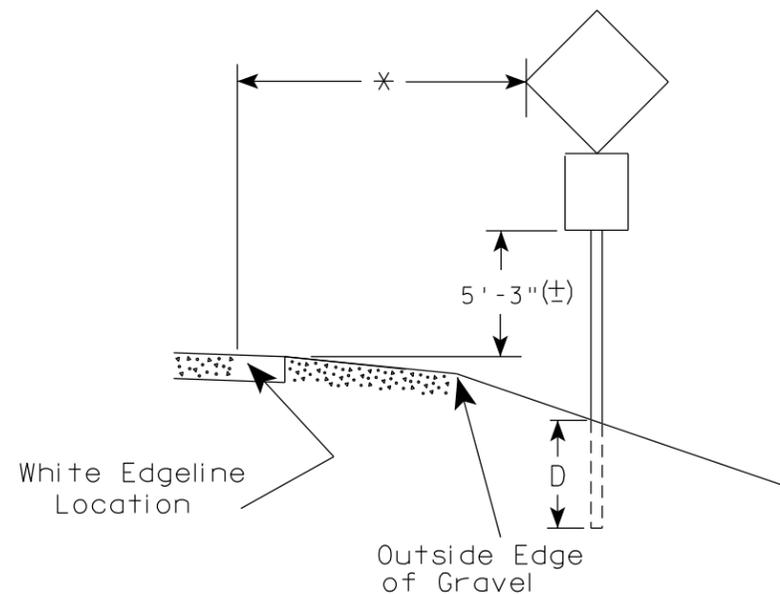
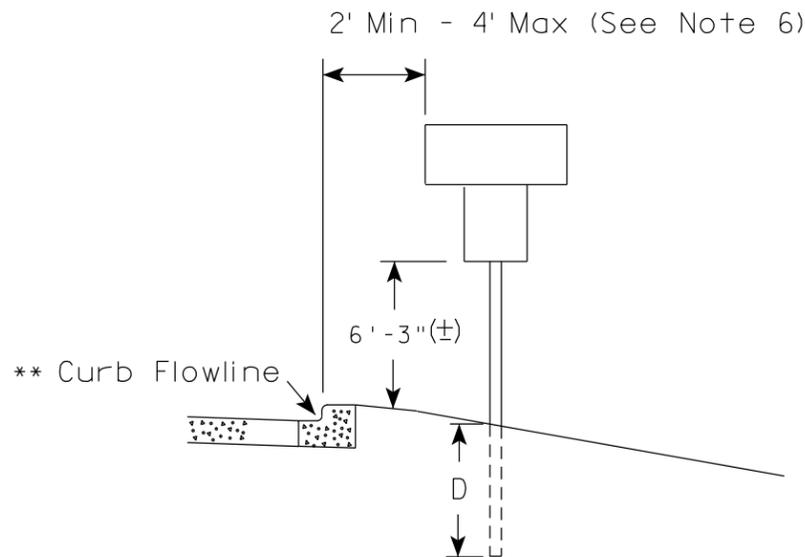
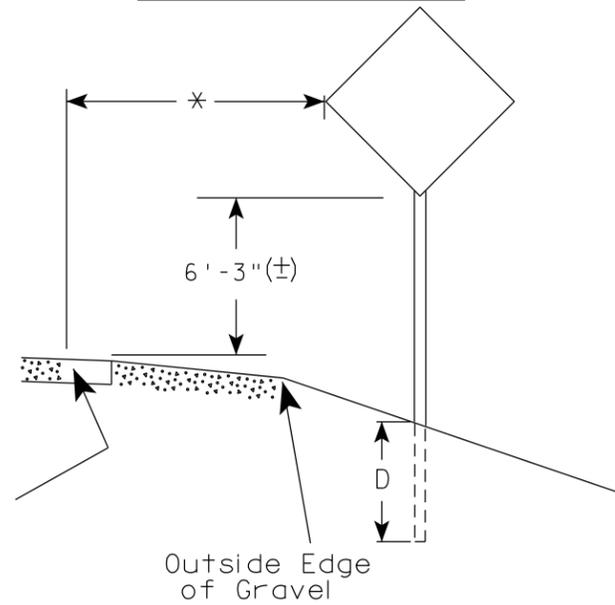
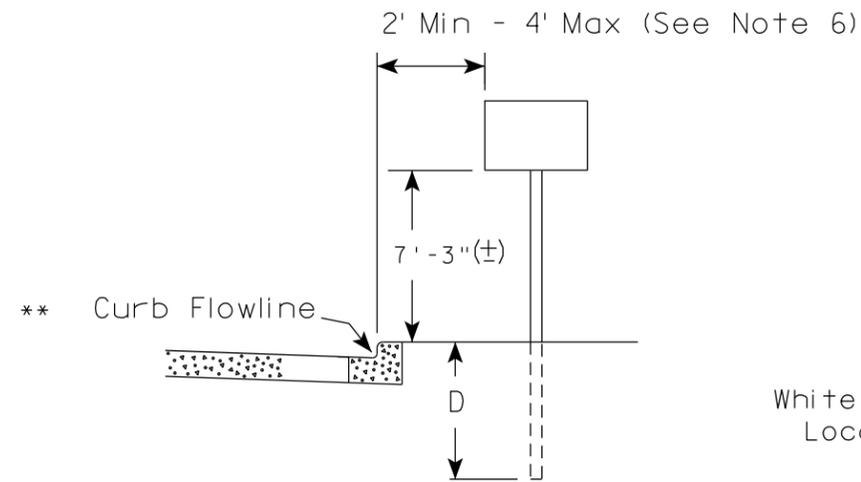
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

FHWA

URBAN AREA

RURAL AREA (See Note 2)



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.

* * 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.

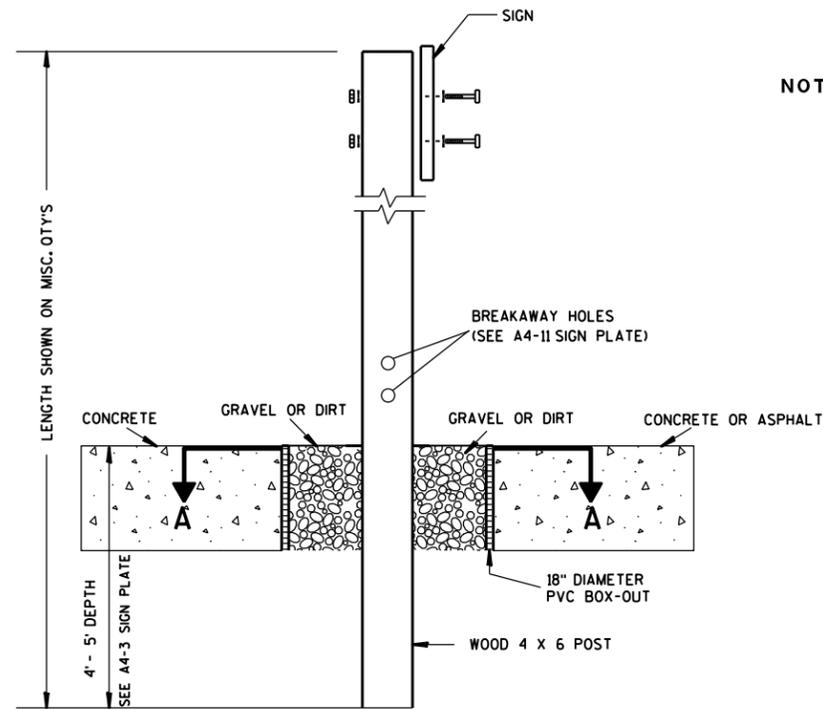
* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

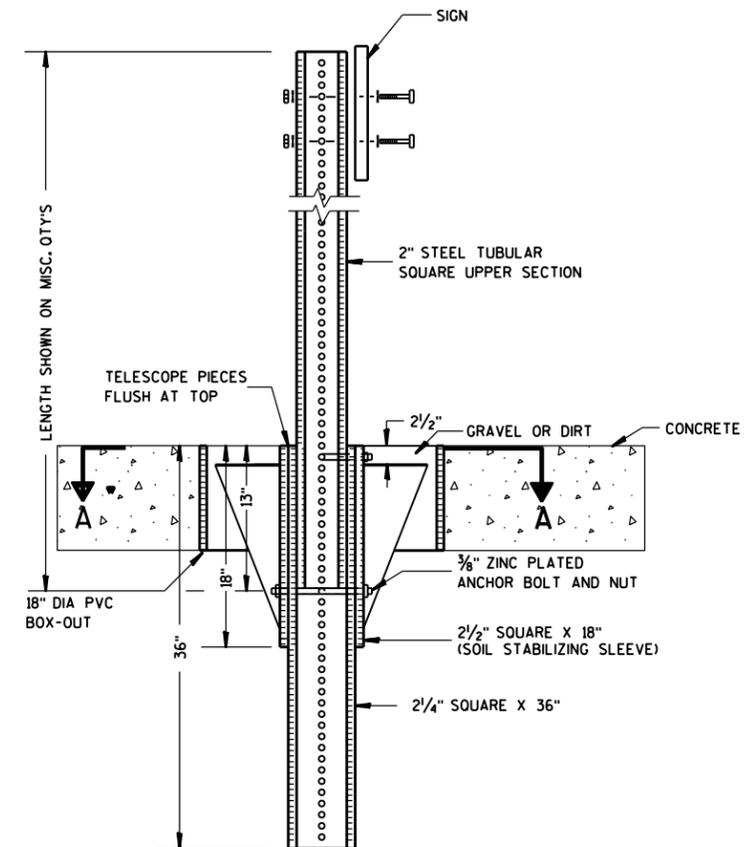
DATE 5/13/2020 PLATE NO. A4-3.22



ELEVATION VIEW

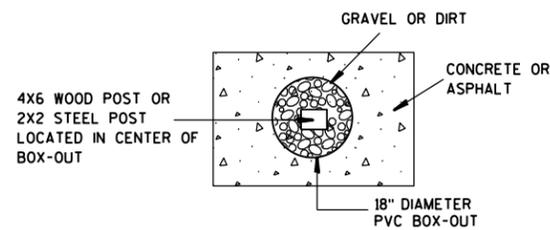
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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

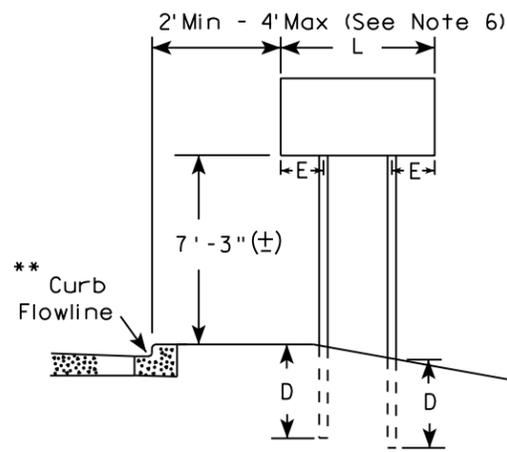
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

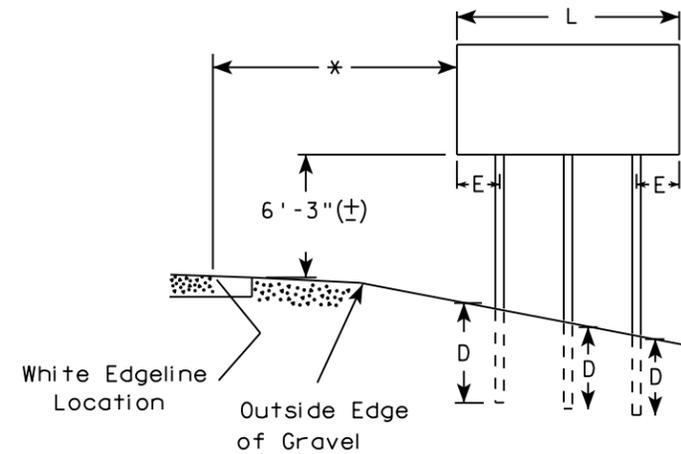
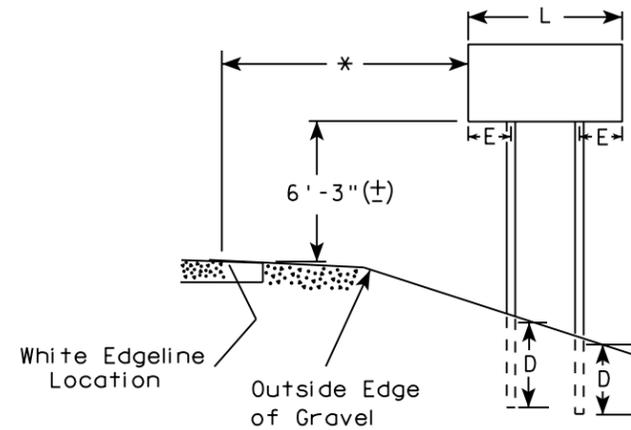
GENERAL NOTES

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" (±).

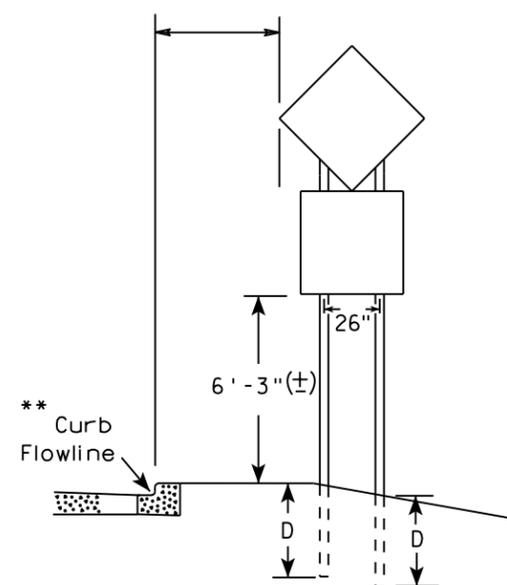
URBAN AREA



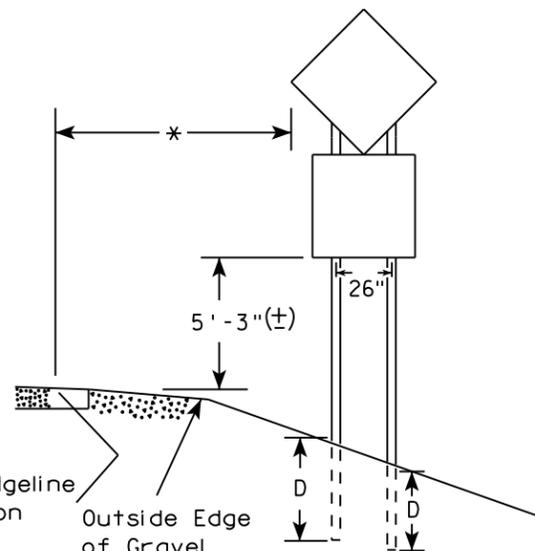
RURAL AREA (See Note 3)



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 |

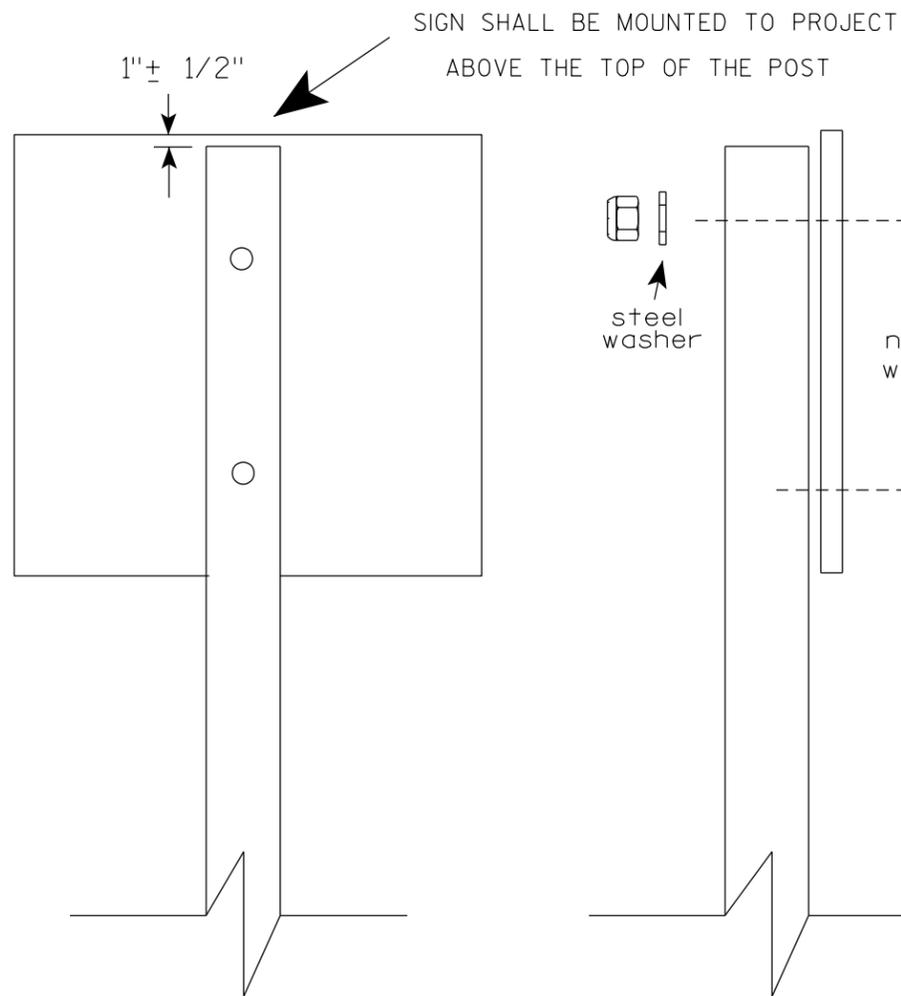
| SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED) | |
|--|-----|
| L | E |
| Greater than 108" to 144" | 12" |

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 :

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

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

STRINGER BOLTING TO ALUMINUM SIGNS (SEE SIGN PLATE A4-18)

MACHINE BOLTS - 5/16" X 1-3/4" Length w/ lock nuts

WOOD POSTS (4" x 6")

LAG SCREWS - 3/8" X 3" (NO STRINGERS ON BACK OF SIGN)
3/8" X 4" (STRINGERS ON BACK OF SIGN)

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" Length w/ nuts (NO STRINGER ON BACK OF SIGN)
3/8" X 5" Length w/ nuts (STRINGERS ON BACK OF SIGN)

RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL
O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL

1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS
TO POSTS

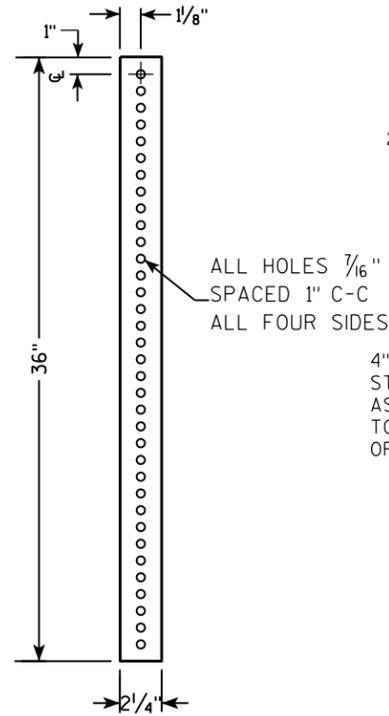
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*
For State Traffic Engineer

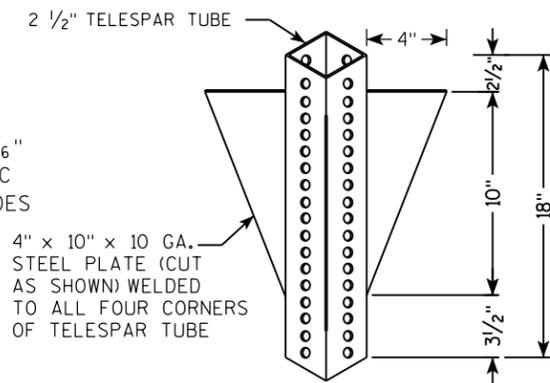
DATE 4/1/2020 PLATE NO. A4-8.9

**TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM**

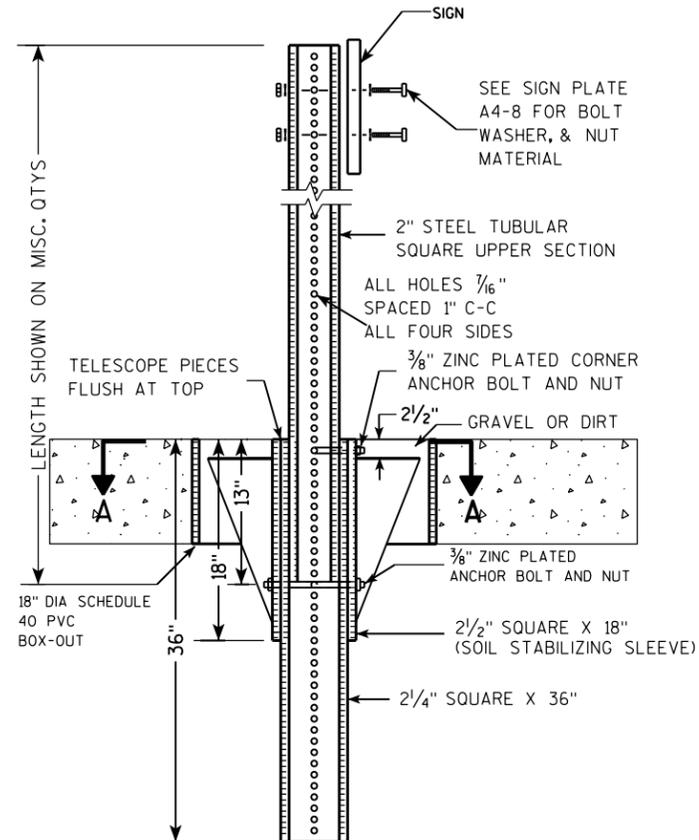
2 1/4" SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



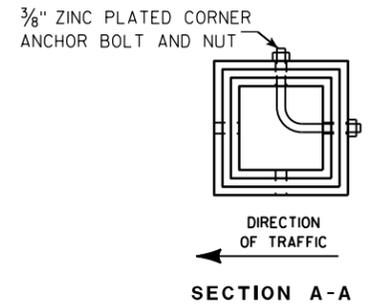
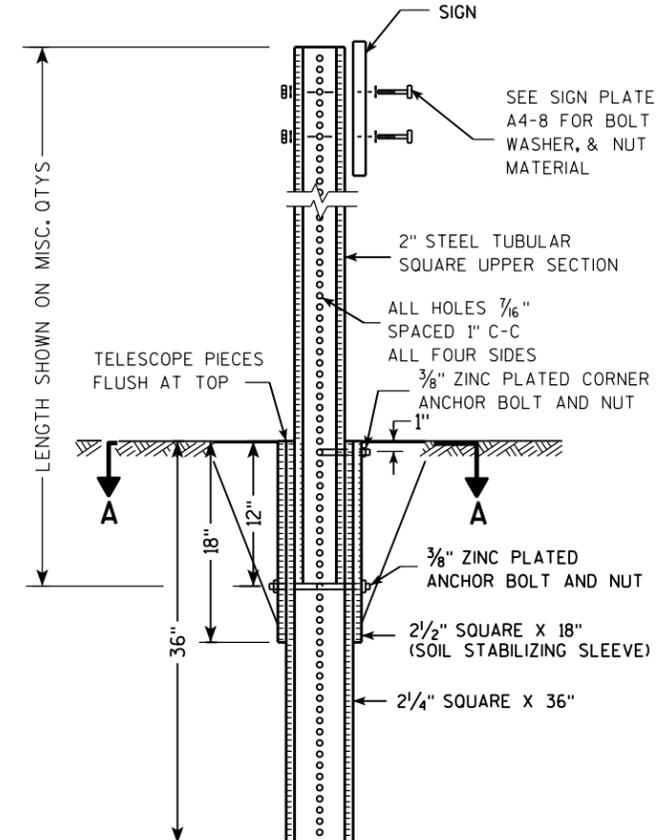
2 1/2" SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH



**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

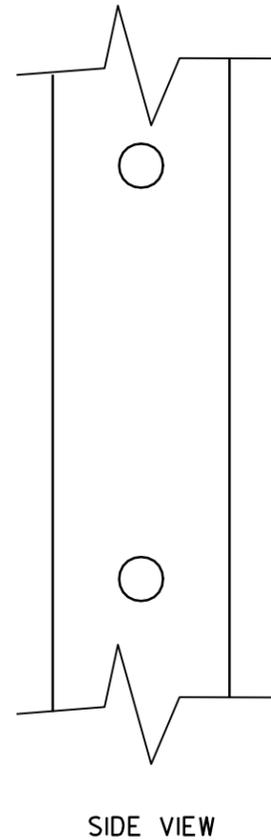
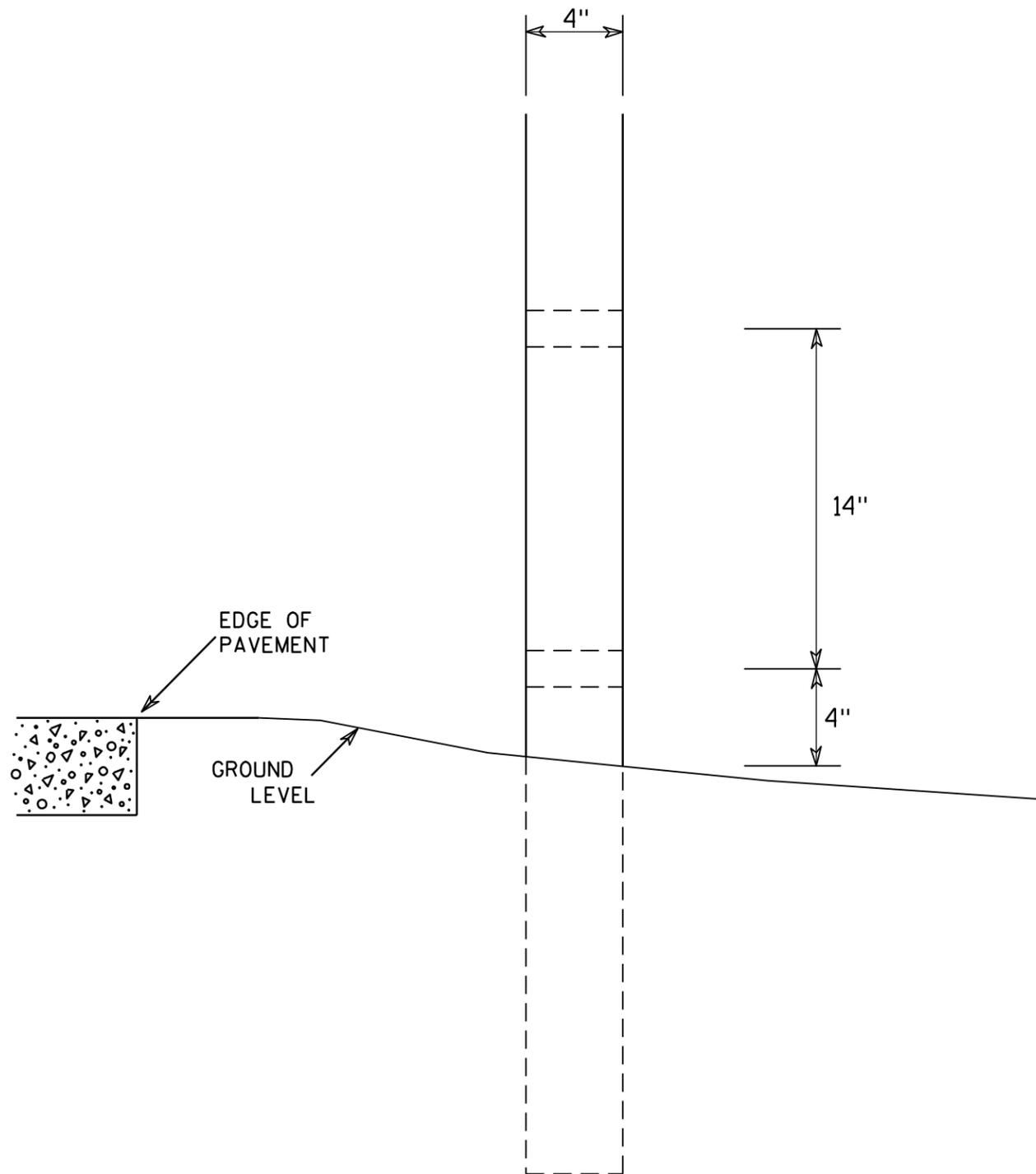
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



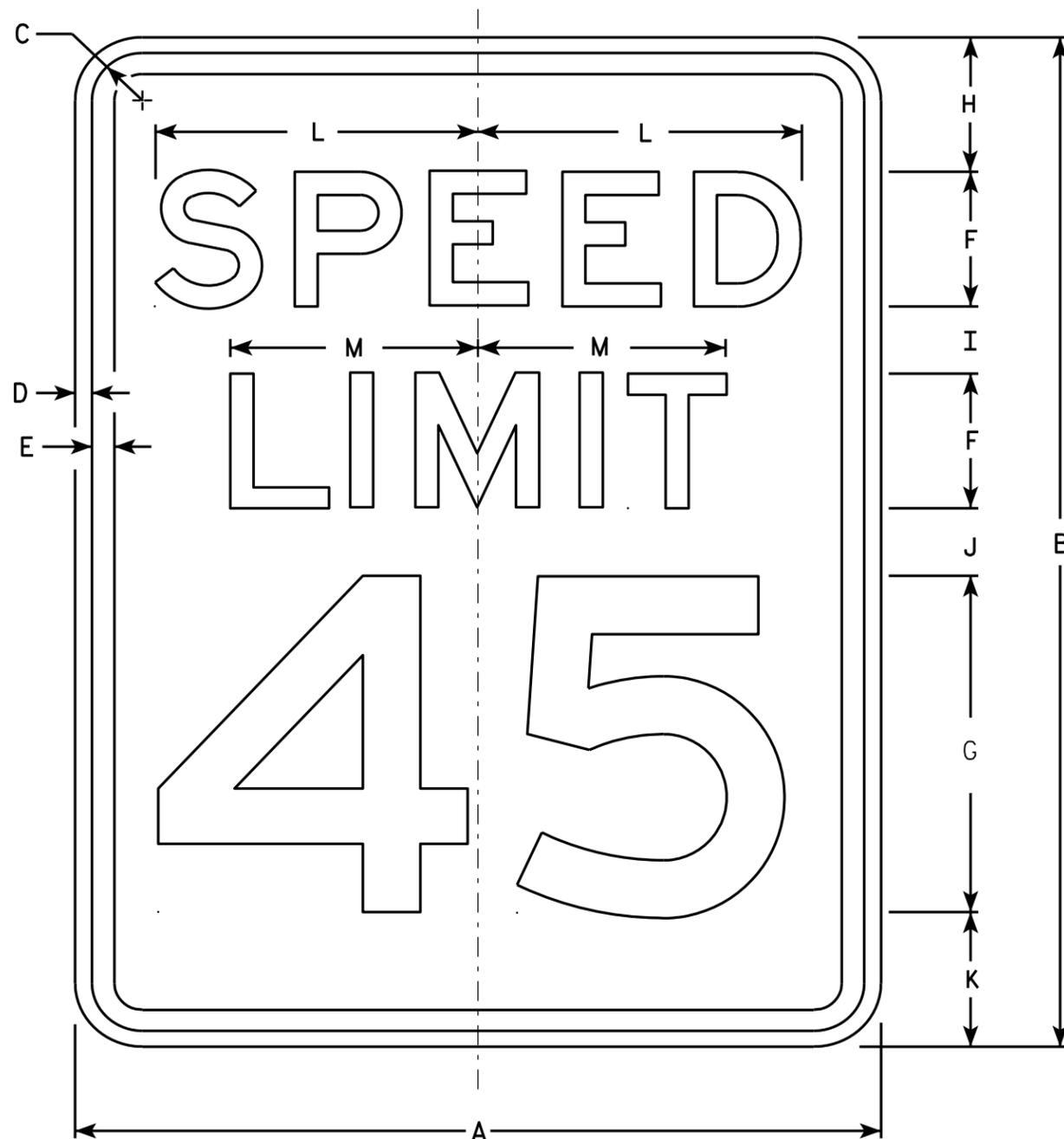
GENERAL NOTES

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 <u>3/27/97</u> | PLATE NO. <u>A4-11.2</u> |



R2-1

NOTES

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

7

7

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

STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

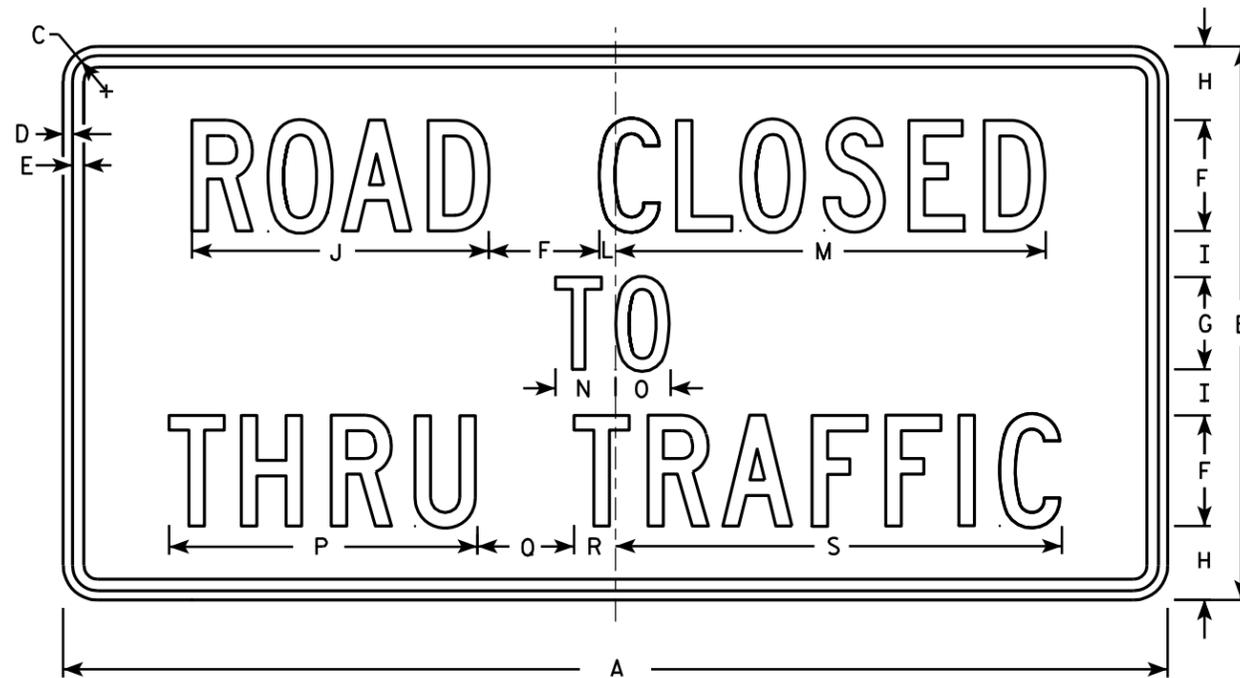
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 5/26/10 PLATE NO. R2-1.13

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

NOTES

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



R11-4

7

7

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

STANDARD SIGN
R11 - 4

WISCONSIN DEPT OF TRANSPORTATION

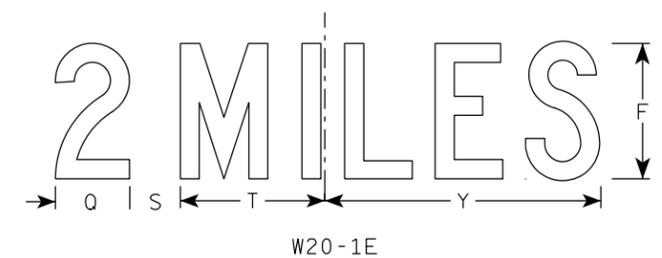
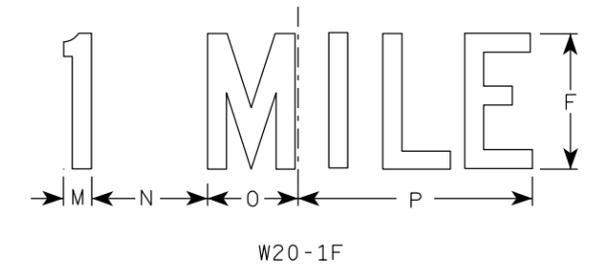
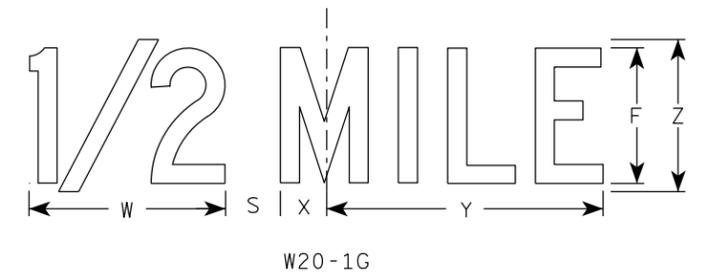
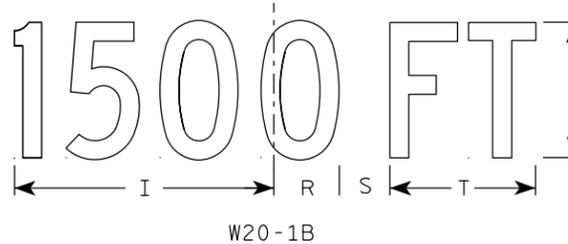
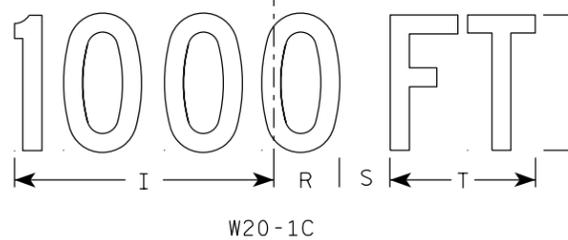
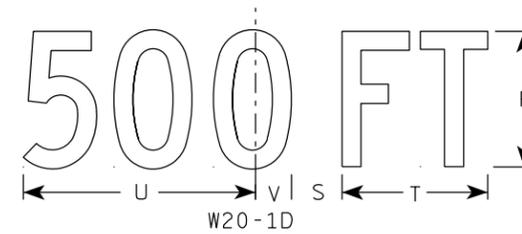
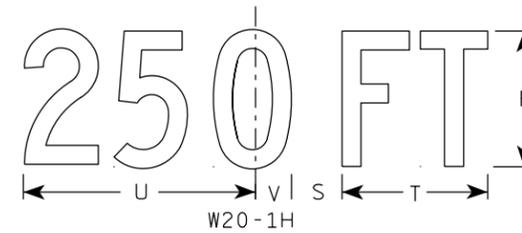
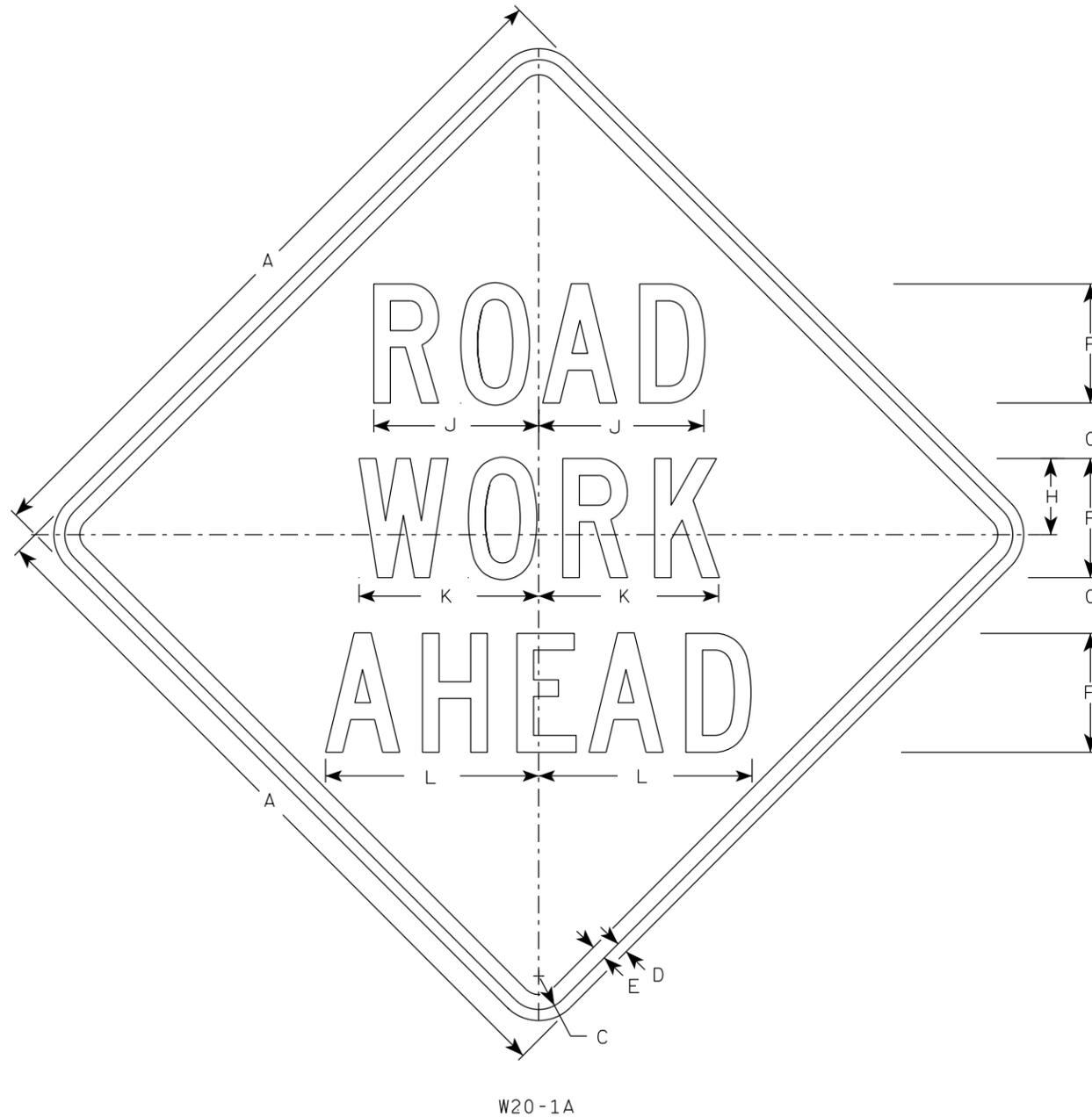
APPROVED *Matthew R. Raush*
for State Traffic Engineer

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

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

NOTES

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



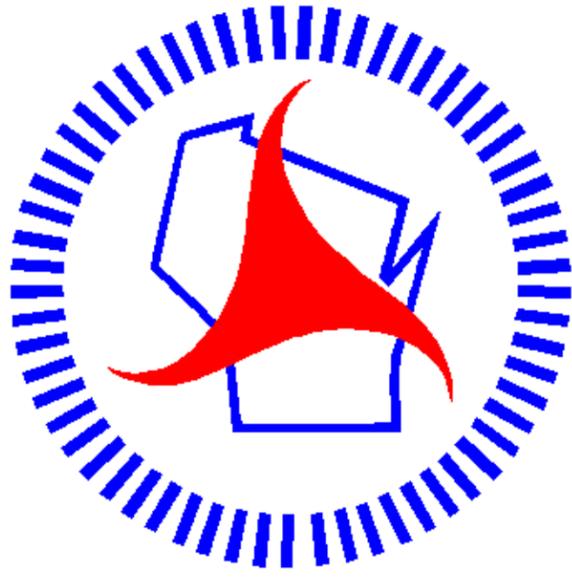
| SIZE | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z | Area sq. ft. |
|------|----|---|-------|-----|-----|---|-------|-------|--------|--------|--------|--------|-------|-------|-------|--------|-------|-------|-------|-------|--------|-------|--------|-------|--------|---|--------------|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

STANDARD SIGN
W20-1A, B, C, D, E, F, G & H

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 3/25/2020 PLATE NO. W20-1.11



Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

<http://www.dot.wisconsin.gov>