

MAY 2019

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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

# SHERWOOD - HILBERT

**STH 114**

# CALUMET

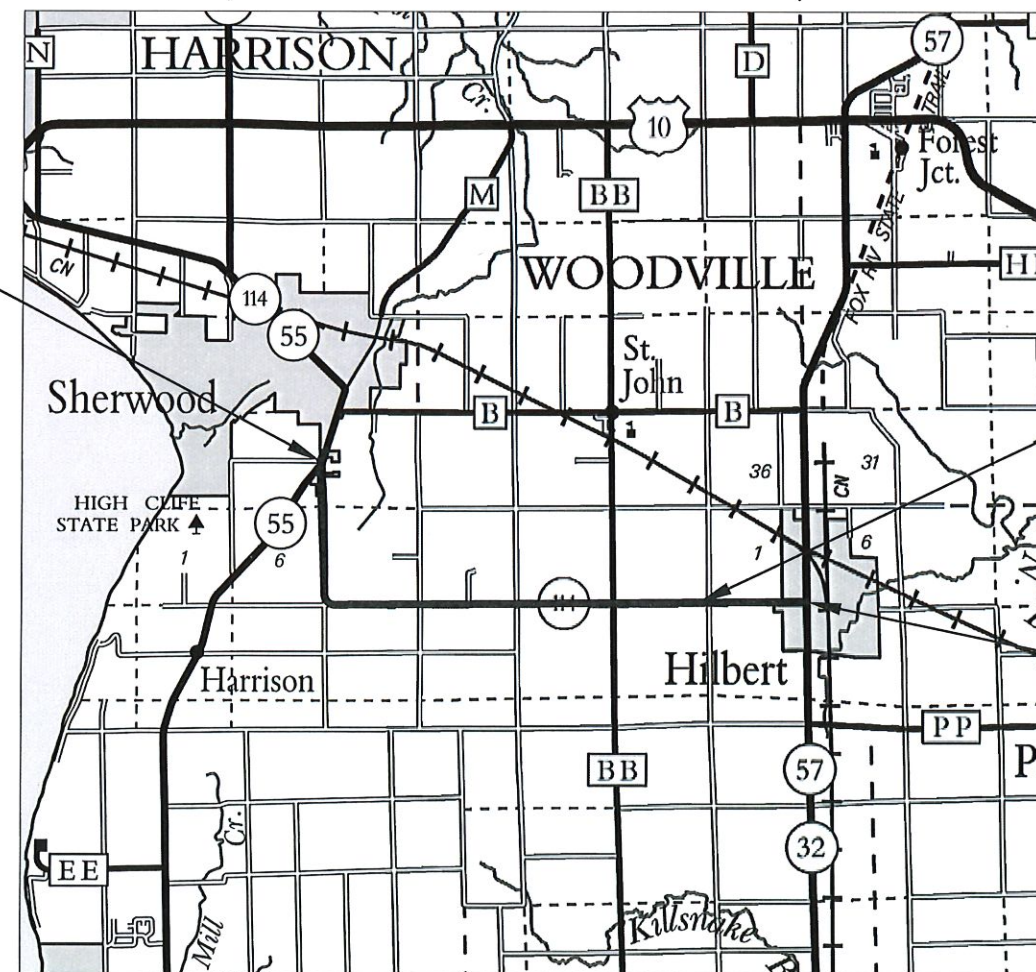
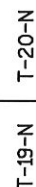
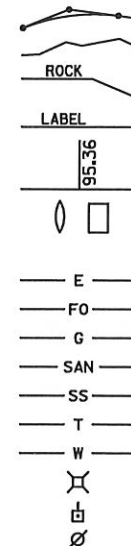
| STATE PROJECT | FEDERAL PROJECT             |               |
|---------------|-----------------------------|---------------|
|               | PROJECT                     | CONTRACT      |
| 4580-11-60    | <u>                    </u> | <u>      </u> |
|               |                             |               |
|               |                             |               |
|               |                             |               |



|              |      |   |           |
|--------------|------|---|-----------|
| A.A.D.T.     | 2019 | = | 4,200     |
| A.A.D.T.     | 2039 | = | 5,100     |
| D.H.V.       |      | = | 570       |
| D.D.         |      | = | 60/40     |
| T.           |      | = | 10.6%     |
| DESIGN SPEED |      | = | 55 MPH    |
| ESALS        |      | = | 1,100,000 |

WOODED OR SHRUB AREA

TELEPHONE POLE



SCALE 0 2 MILES

TOTAL NET LENGTH OF CENTERLINE = 6.36 MILES

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, CALUMET COUNTY, NAD83 (2011), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ELEVATIONS ARE REFERENCED TO NAVD88 (2012). GPS DERIVED  
ELEVATIONS ARE BASED ON GEOID 12A

STA. 287+15  
STRUCTURE B-8-119

END PROJECT  
STA. 342+17.55

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor \_\_\_\_\_ SURVEYOR

Designer JOSH LANG

Project Manager TIM VERHAGENRegional Examiner REGIONAL EXAMINERRegional Supervisor CHAD DEGRAVE

APPROVED FOR THE DEPARTMENT

DATE: 3/4/19 Tim Nerhagen  
(Signature)

### III

FILE NAME : N:\PDS\C3D\45801130\SHEETSP\AN\010101-TI.DWG  
LAYOUT NAME - 010101-TI

PLOT DATE : 1/29/2019 9:32 AM

PLOT BY : MARTIN, THOMAS S

PLOT NAME :

WISDOT/CADDS SHEET 10

GENERAL NOTES

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

THIS PROJECT WILL INCLUDE CENTER AND EDGELINE RUMBLE STRIPS TYPE 2 AND TYPE II SIGN REPLACEMENT.

ANY LOCAL OR MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF THE DIGGERS HOTLINE MUST BE CONTRACTED SEPARATELY.

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

EROSION CONTROL FEATURES ARE AT SUGGESTED LOCATIONS AND THE EXACT LOCATION WILL BE DETERMINED BY THE ENGINEER.

PROTECT ALL DISTURBED SLOPES 3:1 OR STEEPER WITH EROSION MAT AFTER SEEDING AND FERTILIZING.

STATIONING, DISTANCES AND OFFSETS FOR SIGNS ARE APPROXIMATE AND THE EXACT LOCATIONS OF SIGNS ARE TO BE DETERMINED IN THE FIELD BY THE ENGINEER.

A BUTT JOINT AND VERTICAL FACE IS REQUIRED WHERE NEW HMA PAVEMENT MEETS EXISTING HMA PAVEMENT.

THE GUTTER SLOPE OF CURB & GUTTER CONSTRUCTED WITH THE PROJECT SHALL MATCH THAT OF ADJACENT CURB & GUTTER EXCEPT AS SHOWN OR APPROVED BY THE ENGINEER AND PROVIDE A POSITIVE DRAINAGE.

TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

CURB AND CURB & GUTTER GRADES AND ALIGNMENT WILL BE DETERMINED BY THE ENGINEER IN THE FIELD.

DISTURBED AREAS REQUIRING RESTORATION, TOPSOIL, SEED, FERTILIZER AND EROSION MAT SHALL NOT EXTEND GREATER THAN 3-FEET BEYOND PROPOSED CURB & GUTTER OF SIDEWALK REPLACEMENT.

BASE AGGREGATE DENSE 3/4 -INCH INCLUDED IN THE CONTRACT FOR CURB, CURB & GUTTER AND SIDEWALK CONSTRUCTION IS INTENDED FOR LEAVING THE EXISTING GRADE FOR ANCILLARY CONCRETE CONSTRUCTION, EXISTING BASE COURSE MATERIALS DO NOT NEED TO BE REMOVED WITH THE APPROVAL OF THE ENGINEER.

ORDER OF SECTION 2 DETAIL SHEETS

- GENERAL NOTES
- PLAN OVERVIEW
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- INTERSECTION DETAIL
- PAVEMENT MARKING
- TRAFFIC CONTROL

UTILITY CONTACTS

MATTHEW HISCHKE  
ANR PIPELINE CO - GAS/PETROLEUM  
N4956 OAKCREST DRIVE  
BONDUEL, WI 54107  
(715) 758-3345, cell: (715) 460-4042  
[Matthew\\_hischke@transcanada.com](mailto:Matthew_hischke@transcanada.com)

DOUG VOSBERG  
ATC MANAGEMENT, INC. - ELECTRICTY-TRANSMISSION  
5303 FEN OAK DRIVE  
MADISON, WI 53718  
(608) 877-7650  
[dvosberg@atcllc.com](mailto:dvosberg@atcllc.com)

VINCENT ALBIN  
CHARTER COMMUNICATIONS - COMMUNICATION LINE  
3520 EAST DESTINATION DR  
APPLETON, WI 54915  
(920) 831-9249, cell: (920) 378-0444  
[Vince.Albin@charter.com](mailto:Vince.Albin@charter.com)

JASON BADER  
GUARDIAN PIPELINE - GAS/PETROLEUM  
128 M B LANE  
CHILTON, WI 53014  
(920) 241-0190  
[Jason.bader@oneok.com](mailto:Jason.bader@oneok.com)

STEVE JAKUBIEC  
TDS TELECOM - COMMUNICATION LINE  
10 COLLEGE AVENUE, SUITE 218A  
APPLETON, WI 54911  
(920) 882-4166, cell: (920) 562-7221  
[steve.jakubiec@tdstelecom.com](mailto:steve.jakubiec@tdstelecom.com)

CALVIN KLADE  
FRONTIER COMMUNICATIONS OF WI LLC  
COMMUNICATION LINE  
1851 NORTH 14TH AVENUE  
WAUSAU, WI 54401  
(715) 847-1525, cell: (715) 573-2110  
[Calvin.klade@ftr.com](mailto:Calvin.klade@ftr.com)

KENNETH J. VAN OSS  
WE ENERGIES - ELECTRIC  
800 SOUTH LYNNDALE DRIVE  
APPLETON, WI 54912  
(920) 380-3318  
[Kenneth.vanoss@we-energies.com](mailto:Kenneth.vanoss@we-energies.com)

JANELLE KING  
WE ENERGIES - GAS/PETROLEUM  
800 SOUTH LYNNDALE DRIVE  
APPLETON, WI 54912  
(920) 251-3483  
[Janelle.king@we-energies.com](mailto:Janelle.king@we-energies.com)

BRUCE GENSKOW  
VILLAGE OF SHERWOOD - SEWER  
W482 CLIFTON RD  
SHERWOOD, WI 54169  
(920) 989-4096, cell: (920) 858-2591  
[Sherwoodutility@tds.net](mailto:Sherwoodutility@tds.net)

BRUCE GENSKOW  
VILLAGE OF SHERWOOD - WATER  
W482 CLIFTON RD  
SHERWOOD, WI 54169  
(920) 989-4096, cell: (920) 858-2591  
[Sherwoodutility@tds.net](mailto:Sherwoodutility@tds.net)

CHARLES FOCHS  
VILLAGE OF HILBERT - SEWER  
26 NORTH 6TH STREET  
P.O. BOX 266  
HILBERT, WI 54129  
(920) 853-3556, cell: (920) 418-3272  
[hilbertdpw@villageofhilbert.com](mailto:hilbertdpw@villageofhilbert.com)

CHARLES FOCHS  
VILLAGE OF HILBERT - WATER  
26 NORTH 6TH STREET  
P.O. BOX 266  
HILBERT, WI 54129  
(920) 853-3556, cell: (920) 418-3272  
[hilbertdpw@villageofhilbert.com](mailto:hilbertdpw@villageofhilbert.com)

DNR LIASION

MATT SCHAEVE  
DEPARTMENT OF NATURAL RESOURCES  
NORTHEAST REGION  
2984 SHAWANO AVE  
GREEN BAY, WI 54313  
(920) 366-1544  
[matthew.schaeve@wisconsin.gov](mailto:matthew.schaeve@wisconsin.gov)

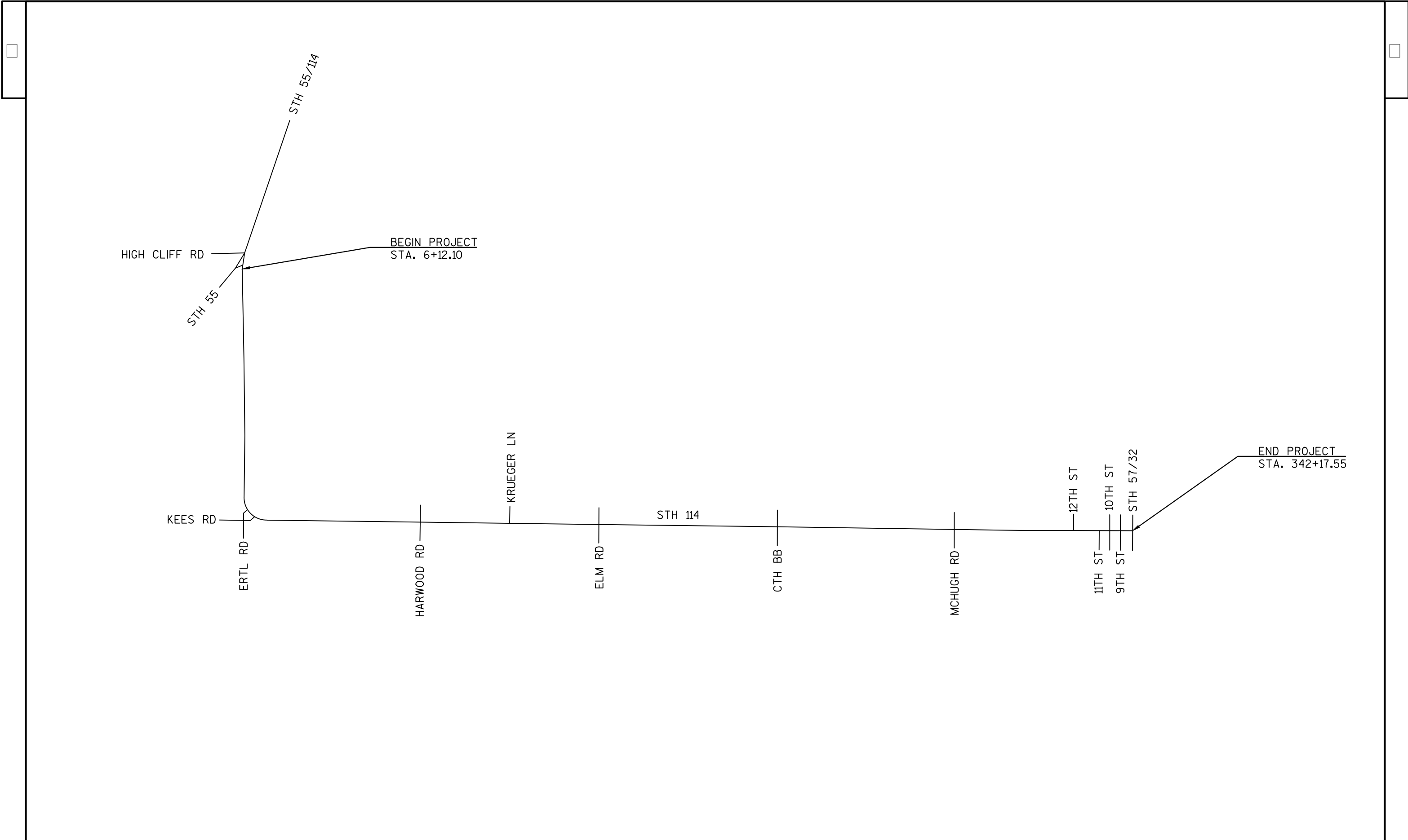
CALUMET COUNTY COMMISSIONER

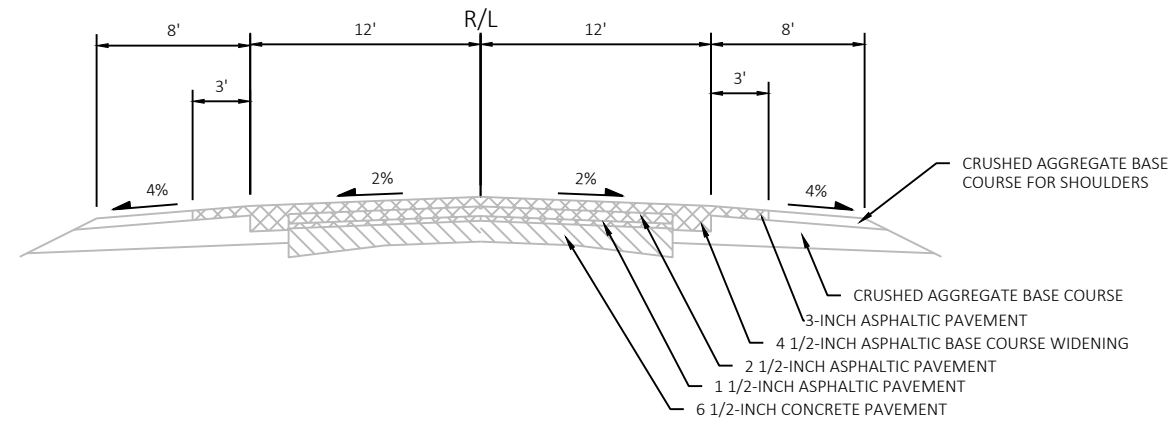
BRIAN GLAESER  
HIGHWAY COMMISSIONER  
241 E. CHESTNUT ST.  
CHILTON, WI 53014  
(920) 849-1434  
[glaeser.brian@co.calumet.wi.us](mailto:glaeser.brian@co.calumet.wi.us)

NE REGION SURVEY COORDINATOR

CORMAC MCINNIS, RLS  
944 VANDERPERREN WAY  
GREEN BAY, WI 54304  
(920) 492-5638  
[cormac.mcinnis@dot.wi.gov](mailto:cormac.mcinnis@dot.wi.gov)

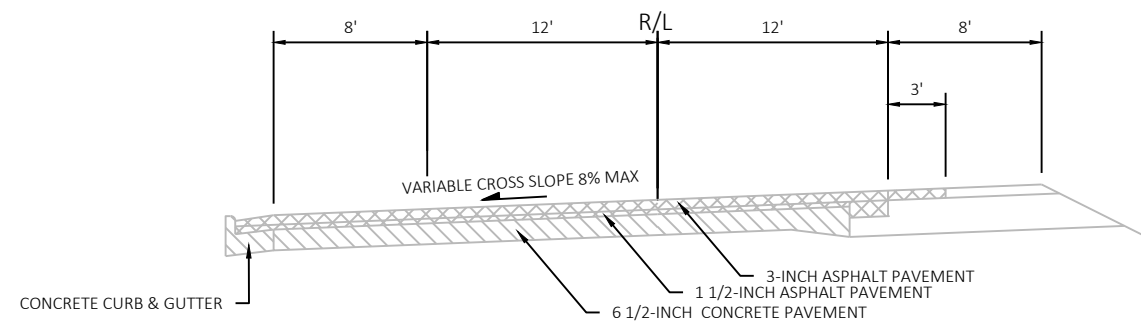






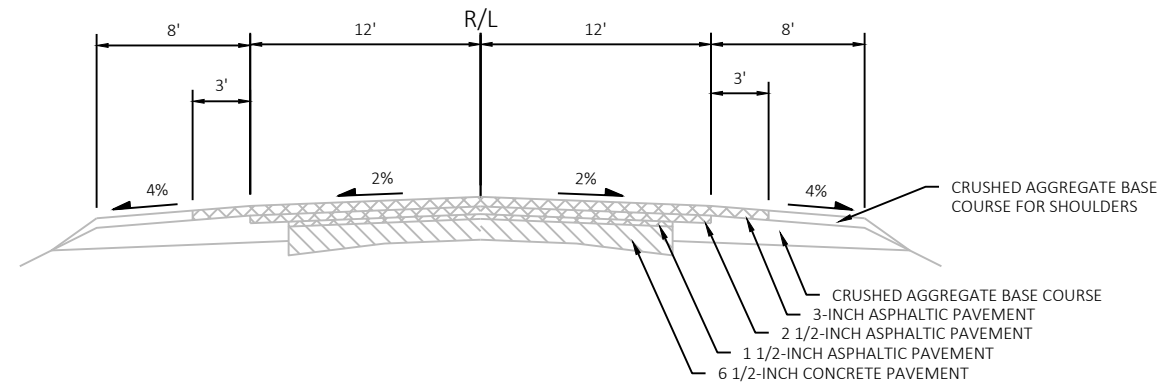
EXISTING TYPICAL SECTION FOR STH 114

STA 6+12 TO STA 74+12  
STA 83+97 TO STA 102+83  
STA 127+76 TO STA 285+61  
STA 285+94 TO STA 328+33



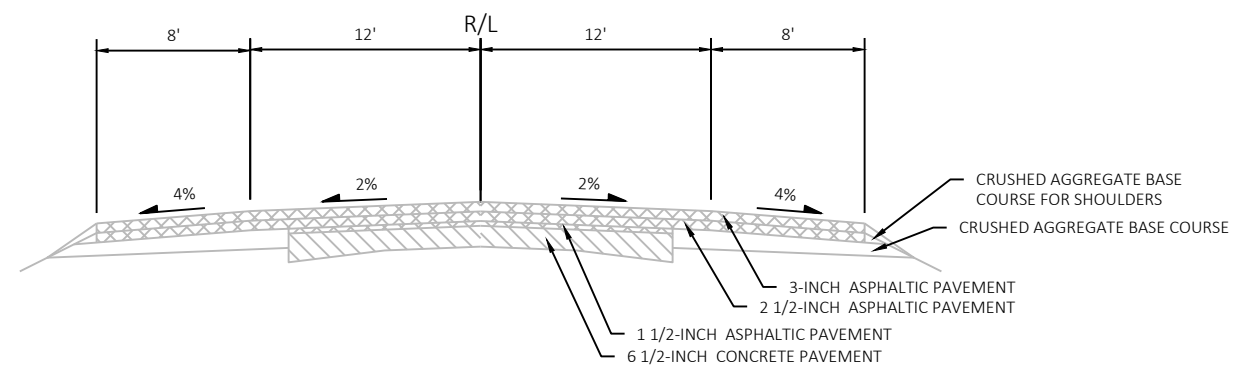
EXISTING TYPICAL SECTION FOR STH 114

STA 74+12 TO STA 83+97



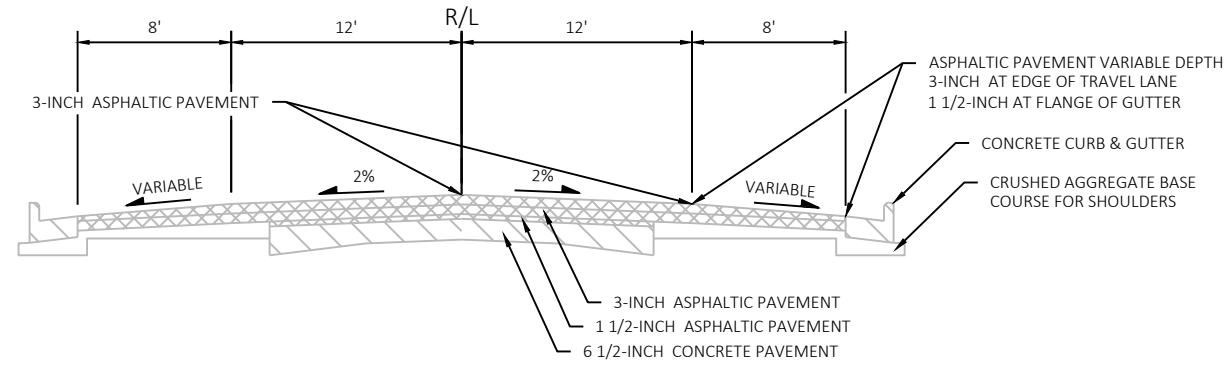
EXISTING TYPICAL SECTION FOR STH 114

STA 102+83 TO STA 127+76  
STA 285+61 TO STA 285+94



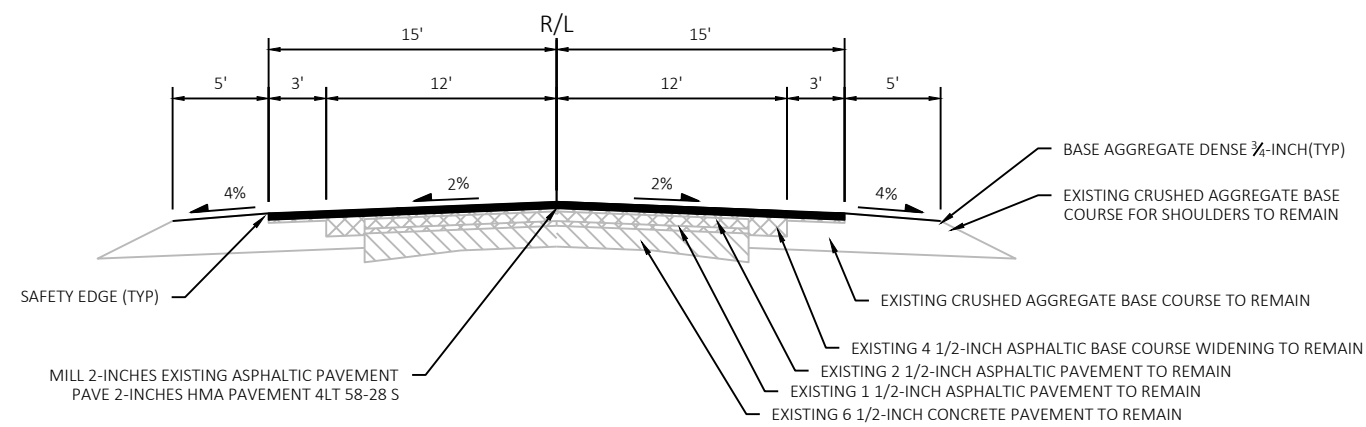
EXISTING TYPICAL SECTION FOR STH 114

STA 328+33 TO STA 338+83



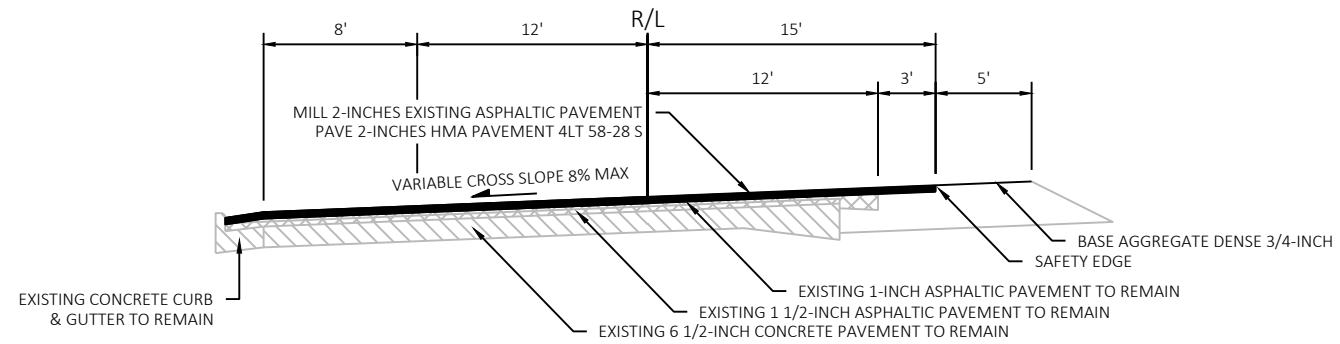
EXISTING TYPICAL SECTION FOR STH 114

STA 338+83 TO STA 342+18



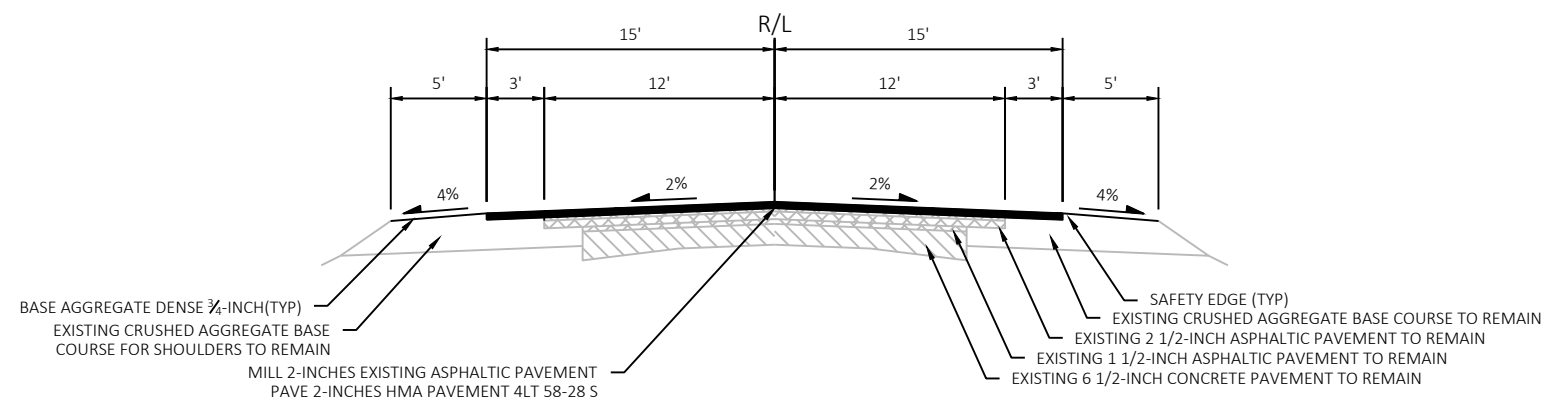
FINISHED TYPICAL SECTION FOR STH 114

STA 6+12 TO STA 74+12  
STA 83+97 TO STA 102+83  
STA 127+76 TO STA 285+61  
STA 285+94 TO STA 328+07



FINISHED TYPICAL SECTION FOR STH 114

STA 74+12 TO STA 83+97



FINISHED TYPICAL SECTION FOR STH 114

STA 102+83 TO STA 127+76  
STA 285+61 TO STA 285+94

PROJECT NO: 4580-11-60

HWY: STH 114

COUNTY: CALUMET

PLAN: TYPICAL SECTIONS

SHEET

E

FILE NAME : N:\PDS\C3D\45801130\SHEETSPLAN\020301-TS.DWG  
LAYOUT NAME - 020304-ts

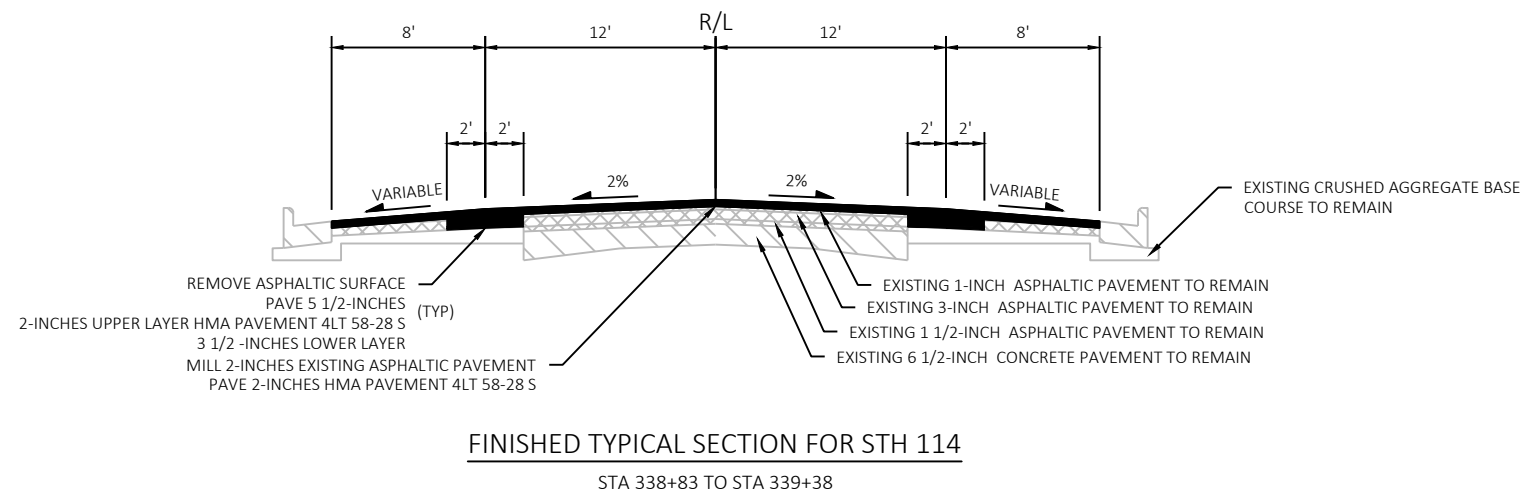
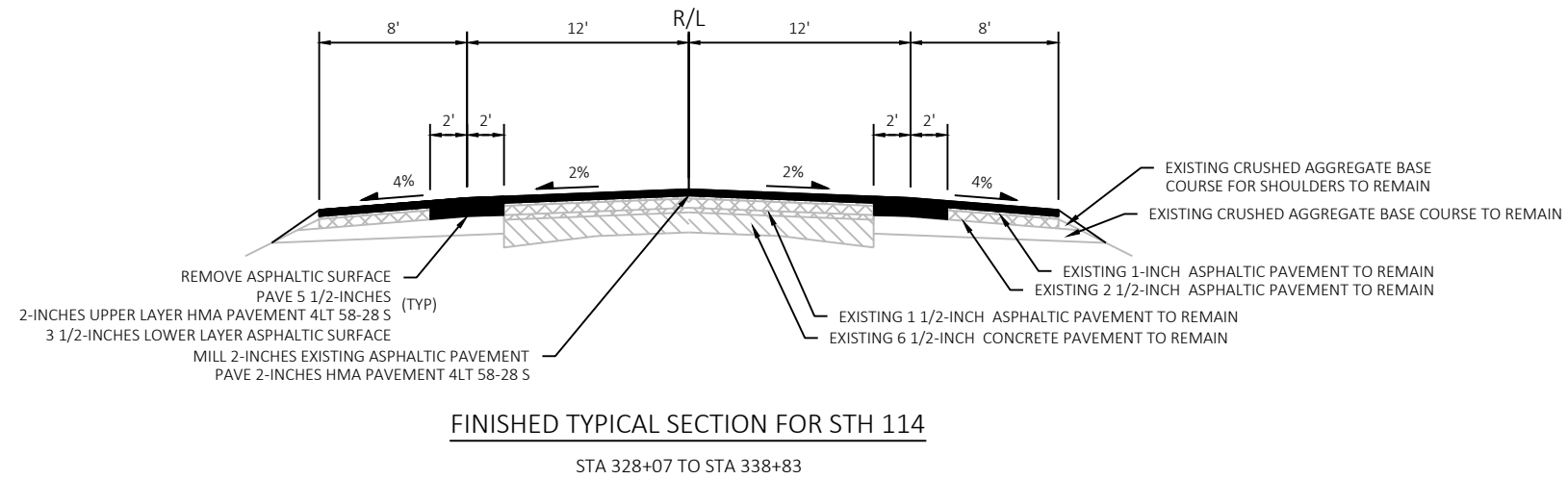
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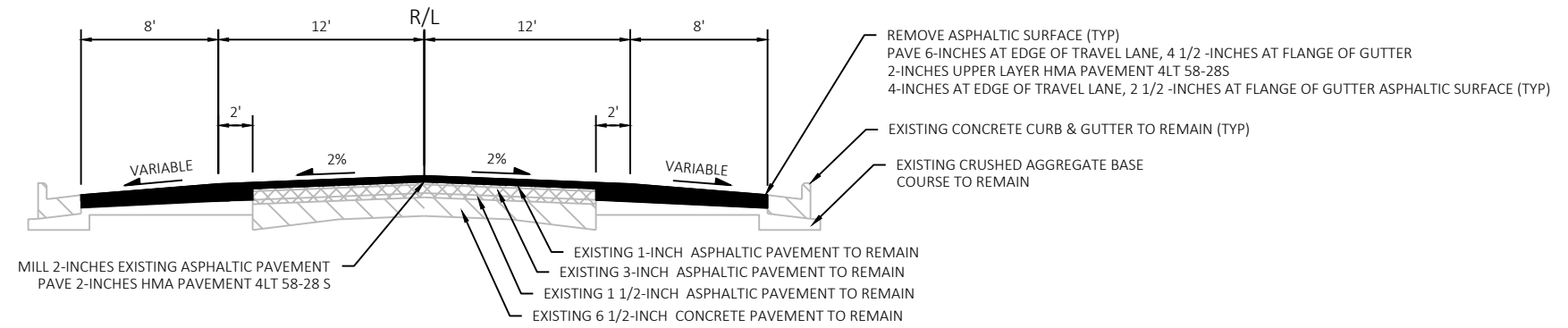
PLOT BY : MARTIN, THOMAS S

PLOT NAME :

PLOT SCALE : 1 IN:10 FT

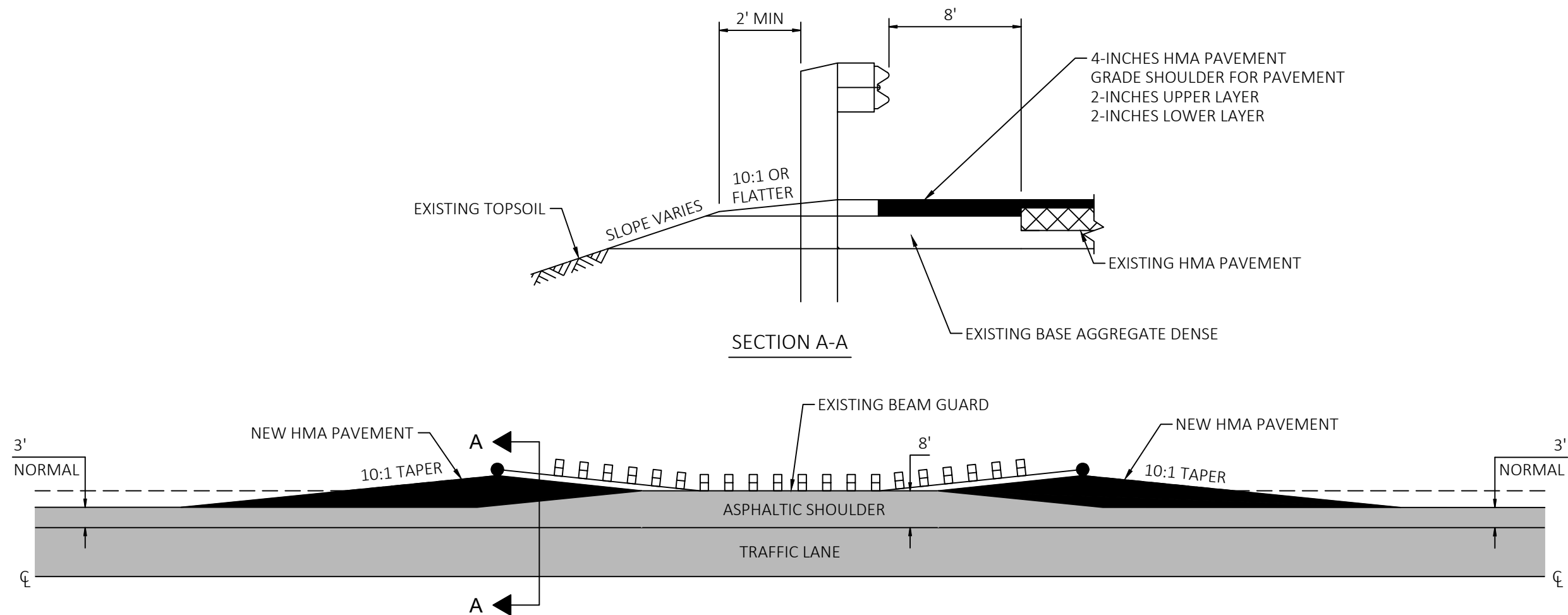
WISDOT/CADD5 SHEET 42



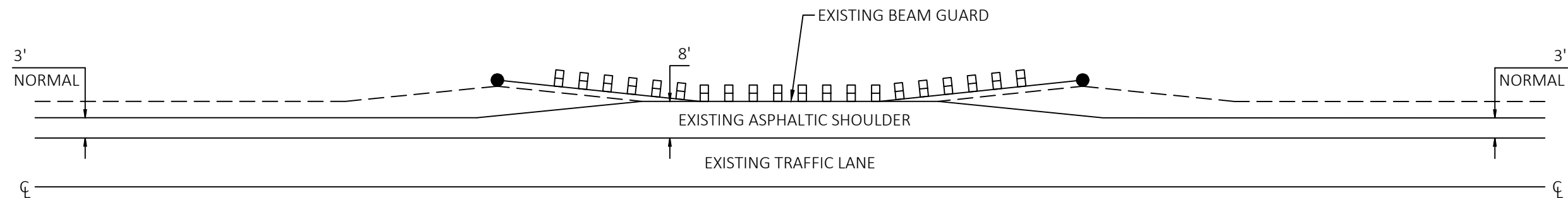


FINISHED TYPICAL SECTION FOR STH 114

STA 339+38 TO STA 342+18

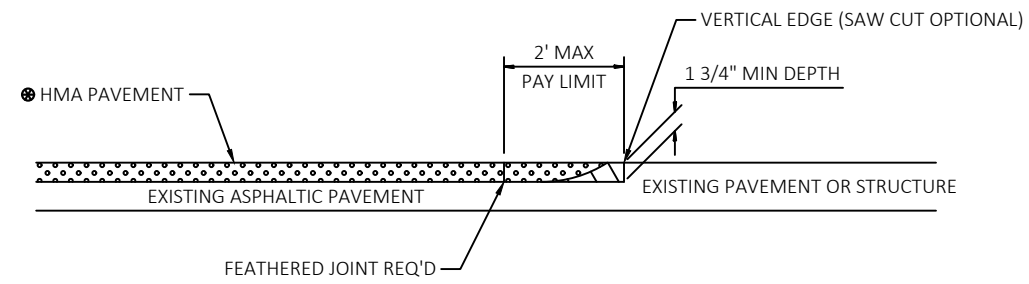


DETAIL FOR FINISHED ASPHALTIC SHOULDER AT BEAM GUARD



DETAIL OF EXISTING ASPHALTIC SHOULDER AT BEAM GUARD

STA 15+35 - STA 18+51 RT  
STA 15+93 - STA 18+36 LT  
STA 27+71 - STA 30+38 RT  
STA 27+91 - STA 31+07 LT  
STA 284+15 - STA 285+05 RT  
STA 283+36 - STA 283+81 LT



⊗ SEE TYPICAL CROSS SECTION FOR PAVEMENT TYPE AND THICKNESS OF INDIVIDUAL LAYERS

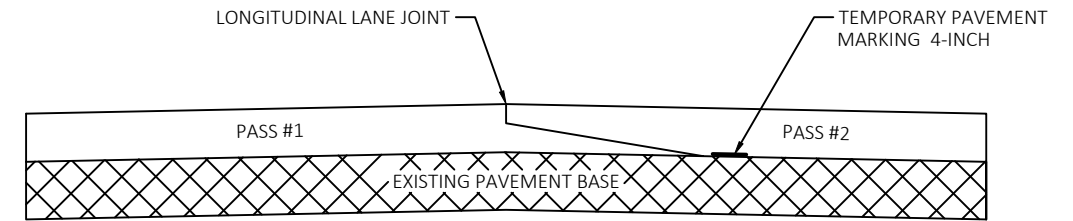


REMOVING ASPHALTIC SURFACE, MILLING



REMOVE ASPHALTIC SURFACE WEDGE AT BUTT JOINT TO CREATE VERTICAL EDGE

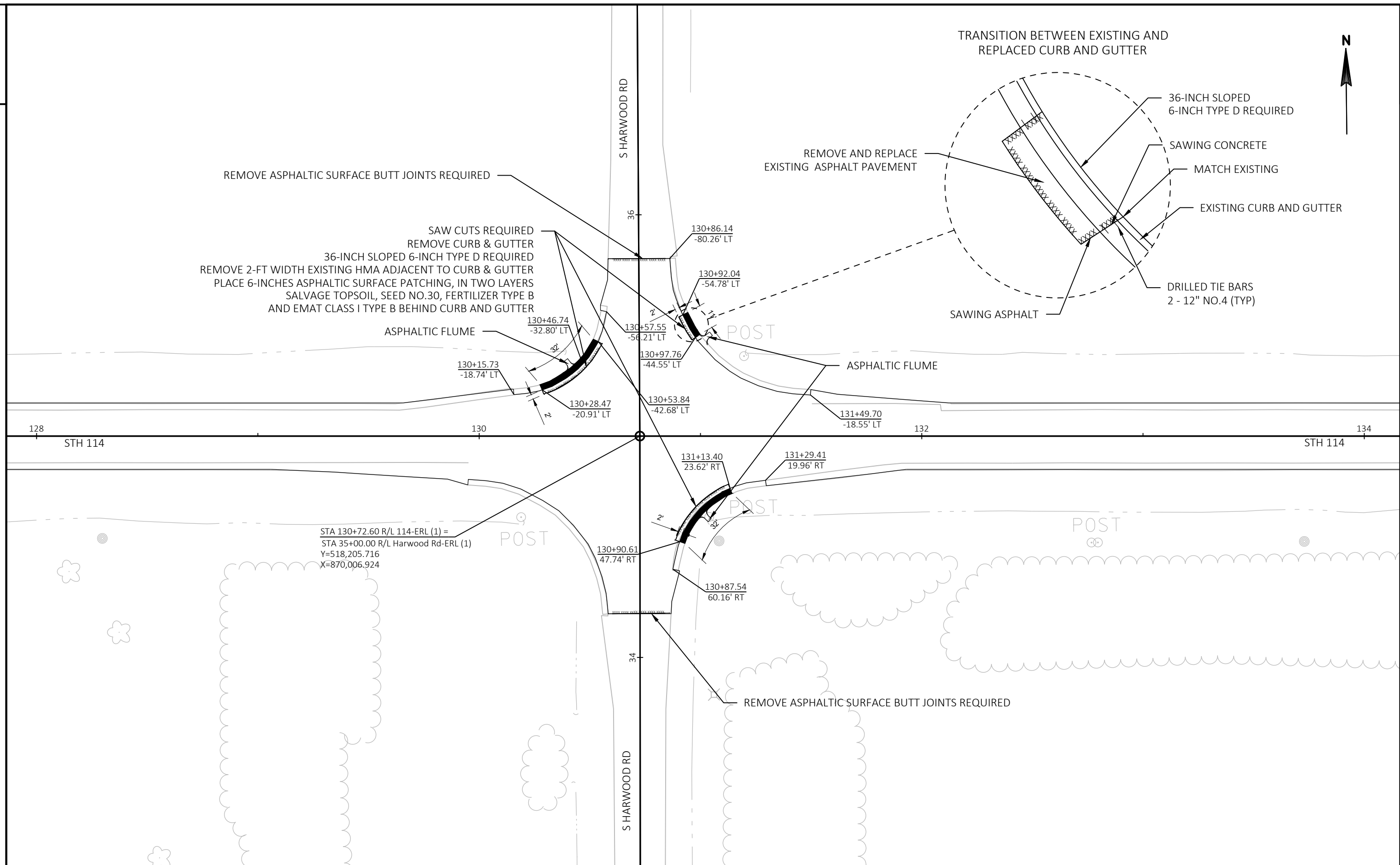
#### BUTT JOINT DETAIL FOR ASPHALTIC PAVEMENTS (NO PROFILE CHANGE)



#### PAVEMENT MARKING DETAIL FOR TAPERED OVERLAPPING JOINTS IN HMA PAVEMENTS

2

2



PROJECT NO: 4580-11-60

HWY: STH 114

COUNTY: CALUMET

INTERSECTION DETAIL

SHEET

**E**

FILE NAME : N:\PDS\C3D\45801130\SHEETSPLAN\021102-ID.DWG  
LAYOUT NAME - 021102-id

PLOT DATE : 1/29/2019 9:33 AM


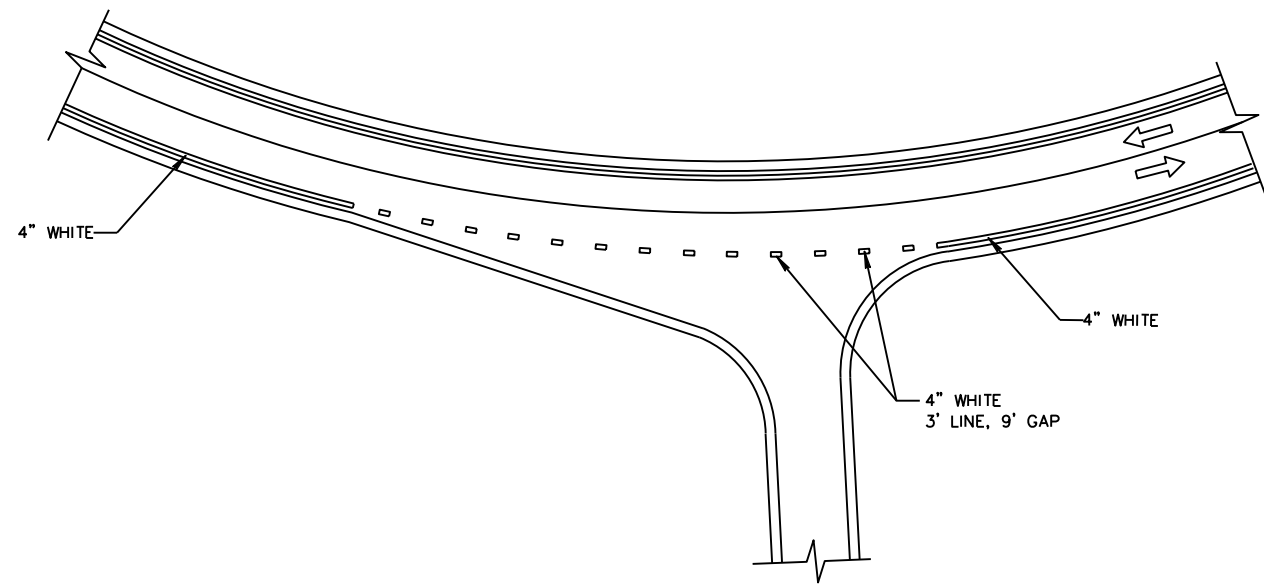
PLOT BY : MARTIN, THOMAS S

PLOT NAME :

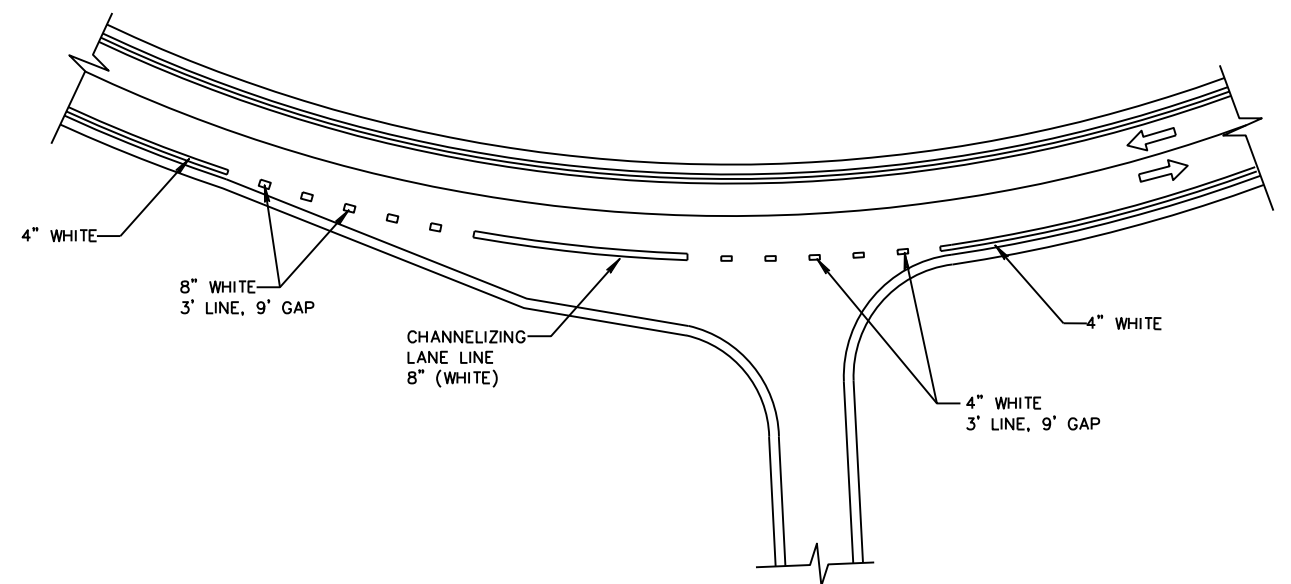
PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

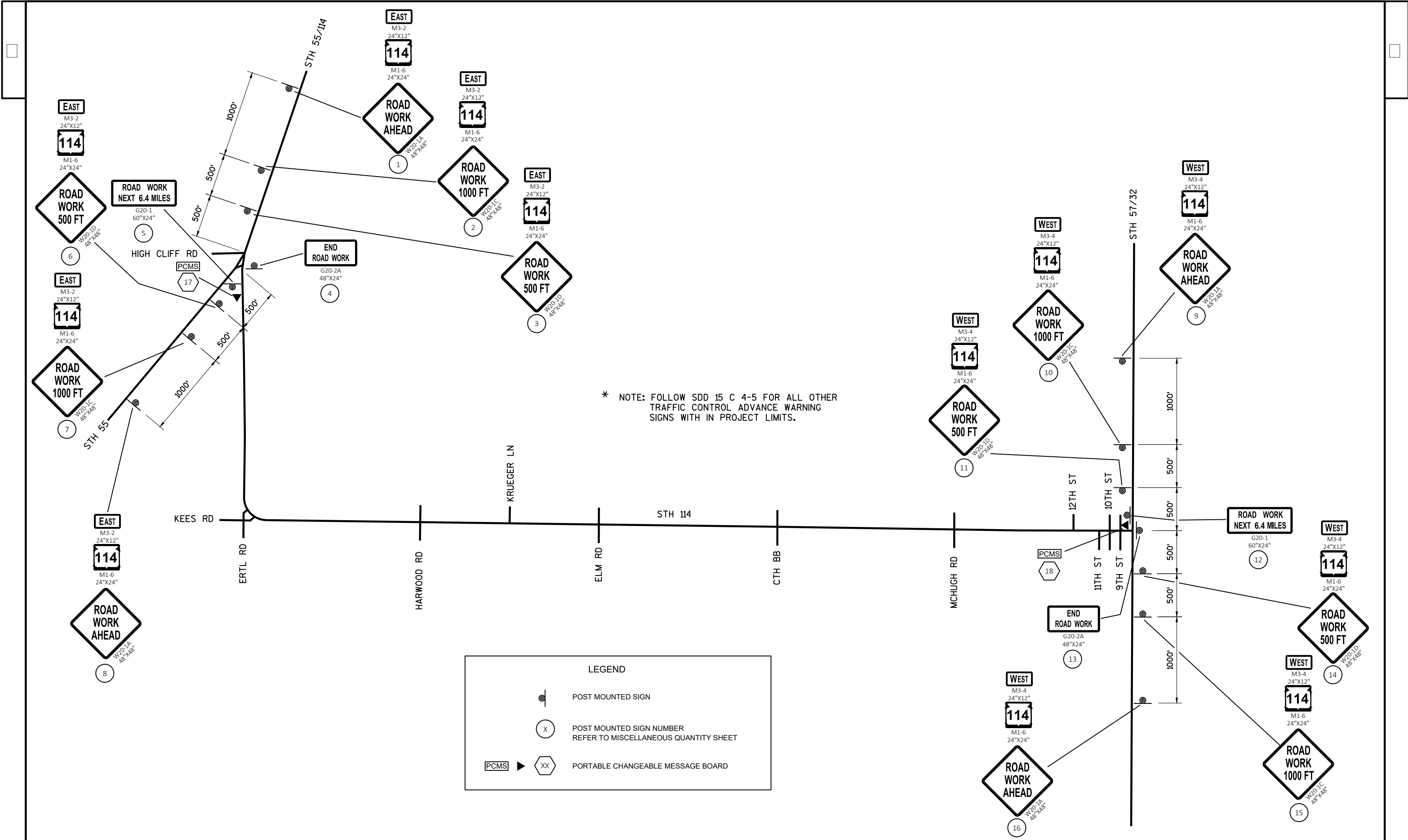
## GENERAL NOTES

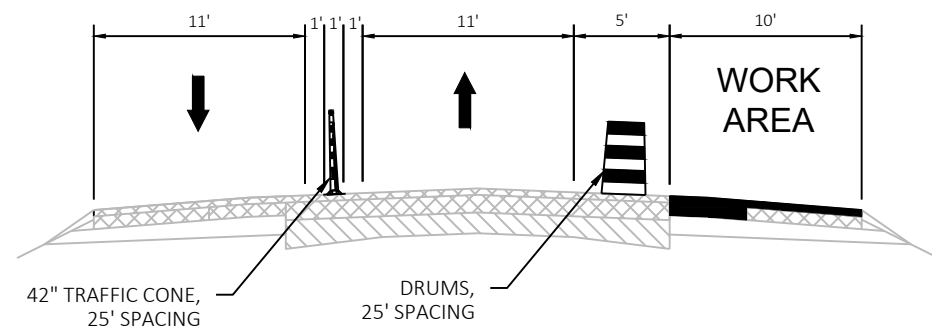
ARROW SYMBOL (  ) SHOWS DIRECTION OF TRAVEL

INTERSECTION ON OUTSIDE OF CURVE  
ERTL ROAD



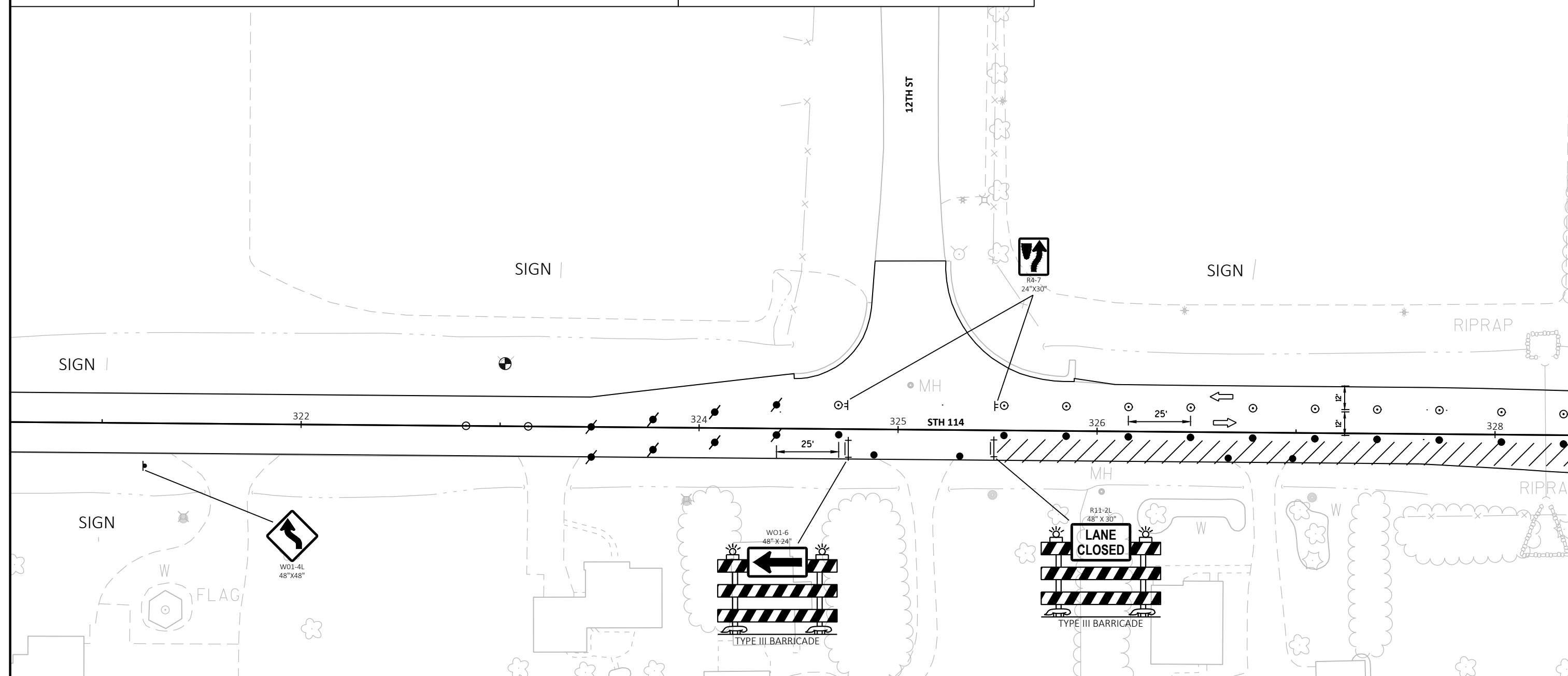
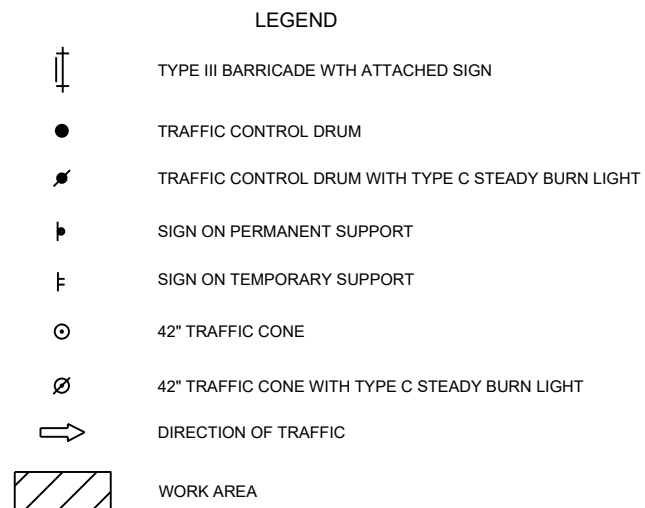
INTERSECTION ON OUTSIDE OF CURVE  
KESS ROAD





### TYPICAL SECTION FOR TRAFFIC CONTROL

STA 328+07 TO STA 338+83



PROJECT NO: 4580-11-60

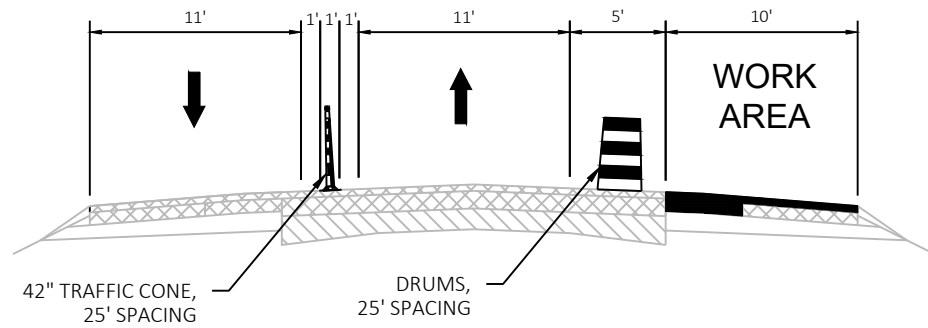
HWY: STH 114

COUNTY: CALUMET

TRAFFIC CONTROL - FULL DEPTH REMOVAL - STAGE 1

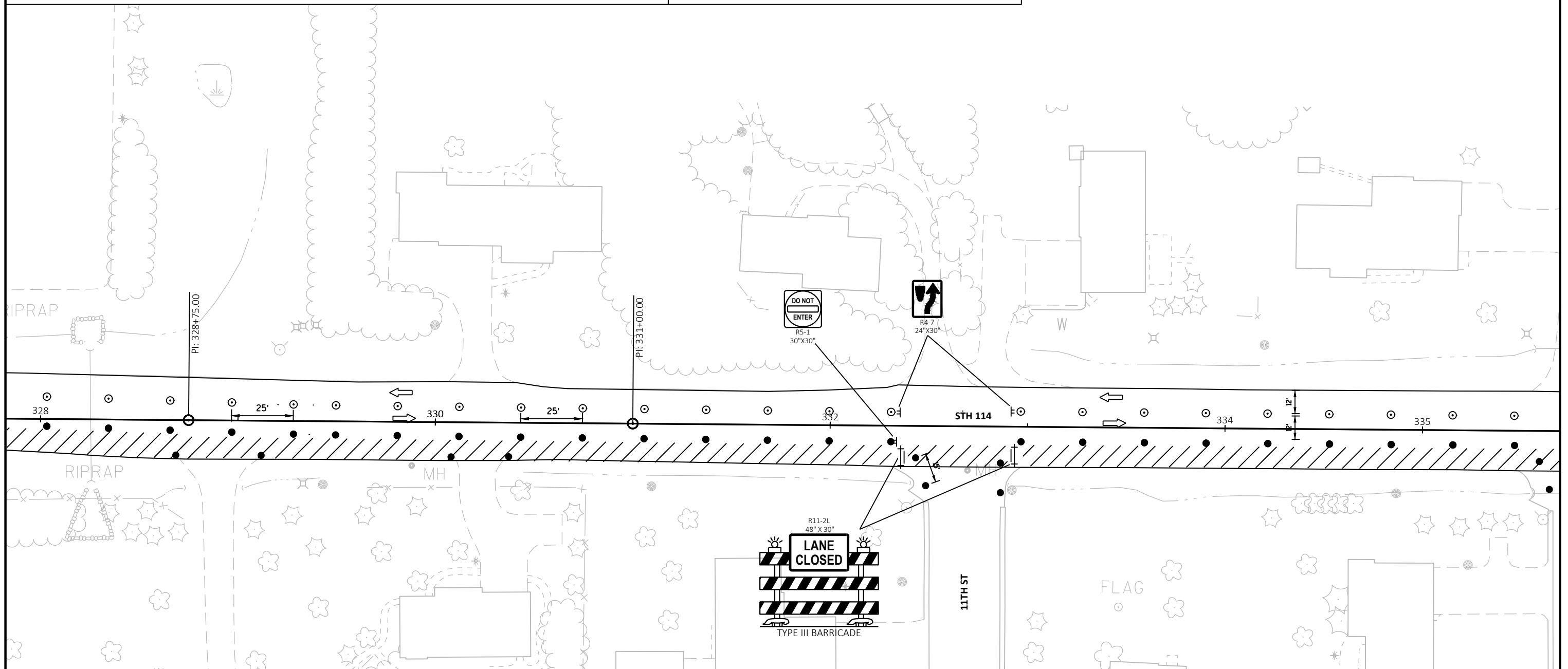
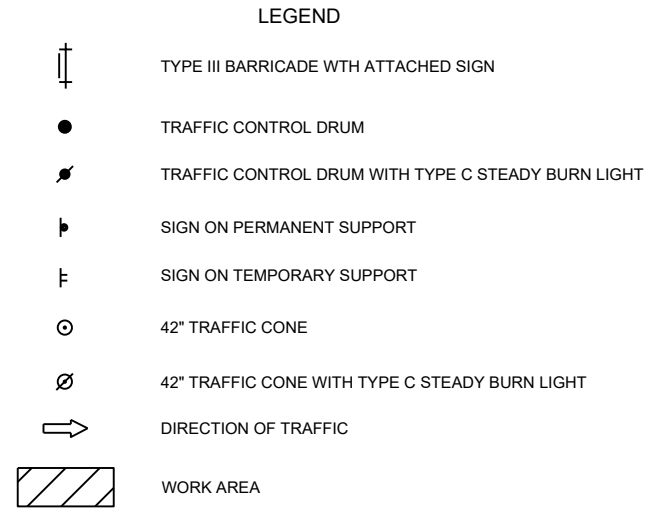
SHEET

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### TYPICAL SECTION FOR TRAFFIC CONTROL

STA 328+07 TO STA 338+83



PROJECT NO: 4580-11-60

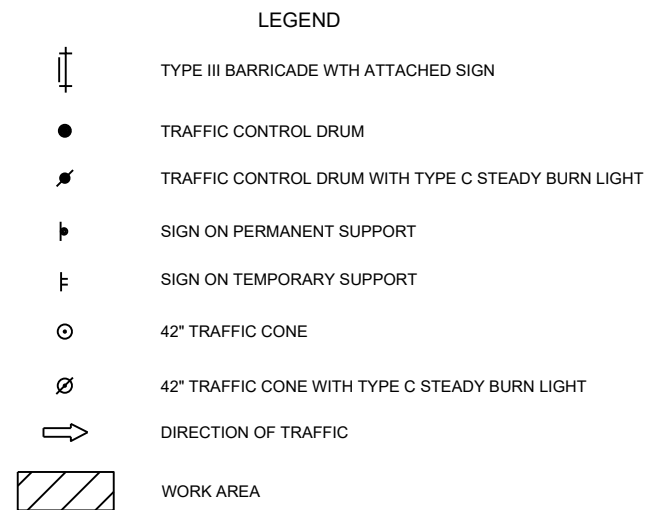
HWY: STH 114

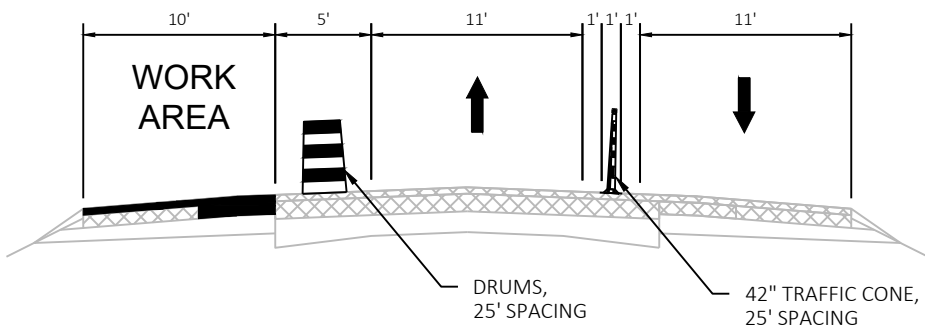
COUNTY: CALUMET

TRAFFIC CONTROL - FULL DEPTH REMOVAL - STAGE 1

SHEET

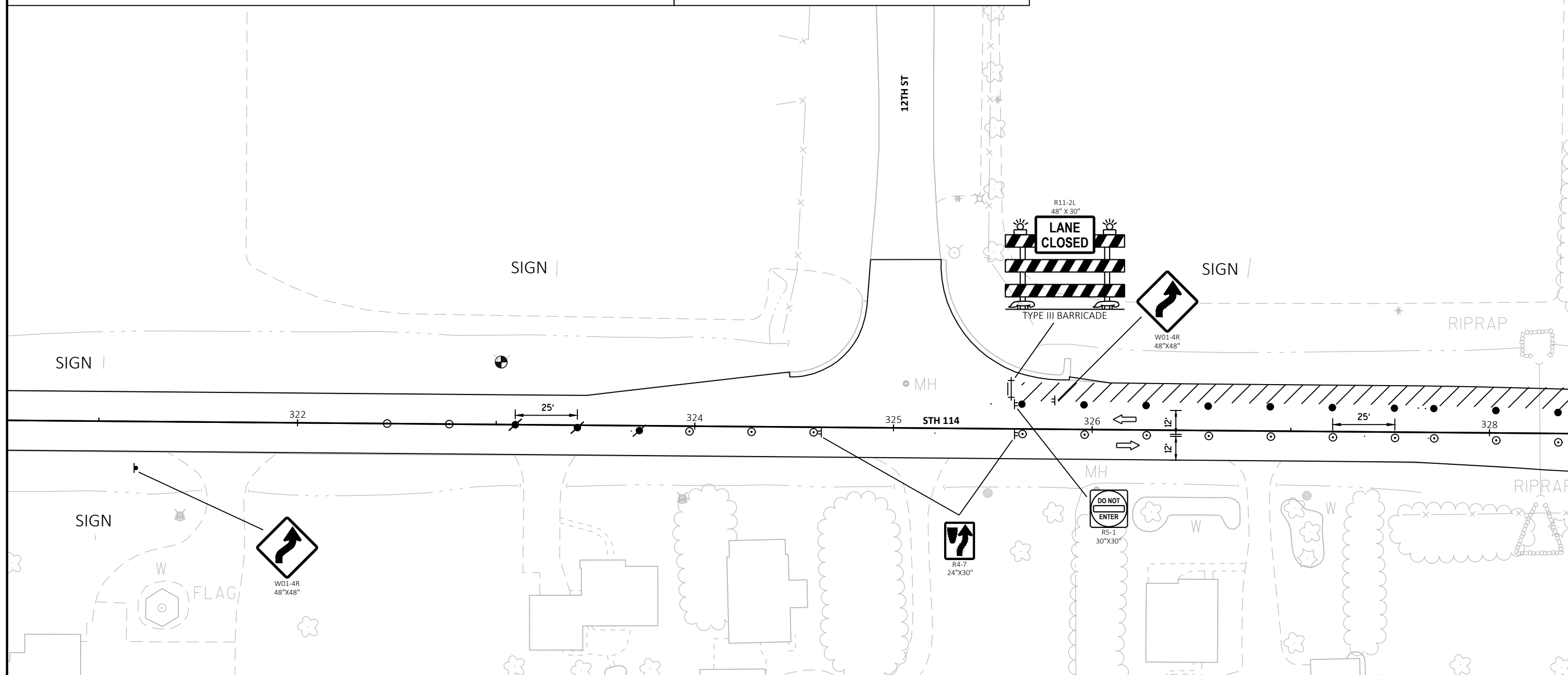
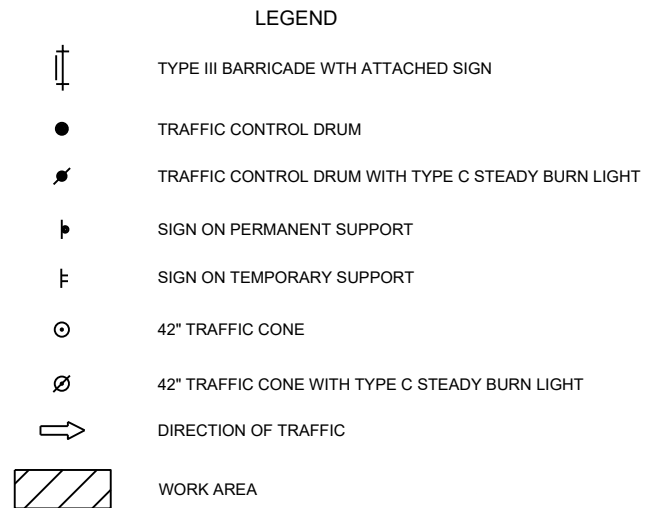
E





### TYPICAL SECTION FOR TRAFFIC CONTROL - STAGE 2

STA 328+07 TO STA 338+83



PROJECT NO: 4580-11-60

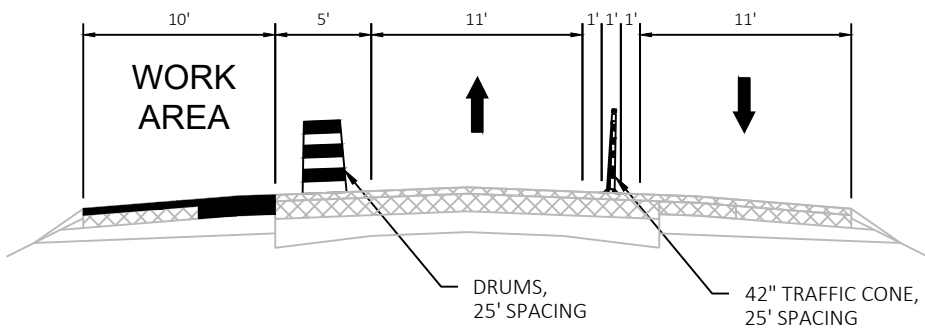
HWY: STH 114

COUNTY: CALUMET

TRAFFIC CONTROL - FULL DEPTH REMOVAL - STAGE 2

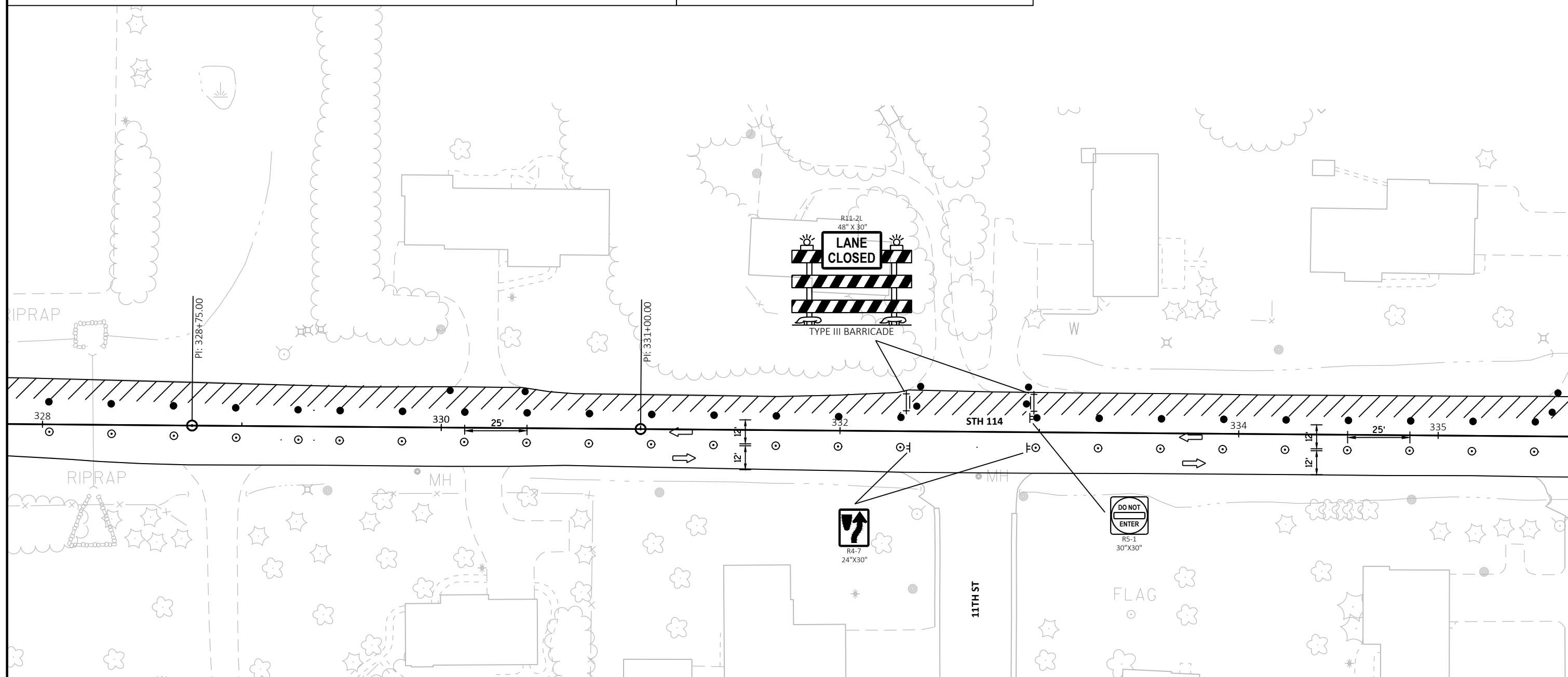
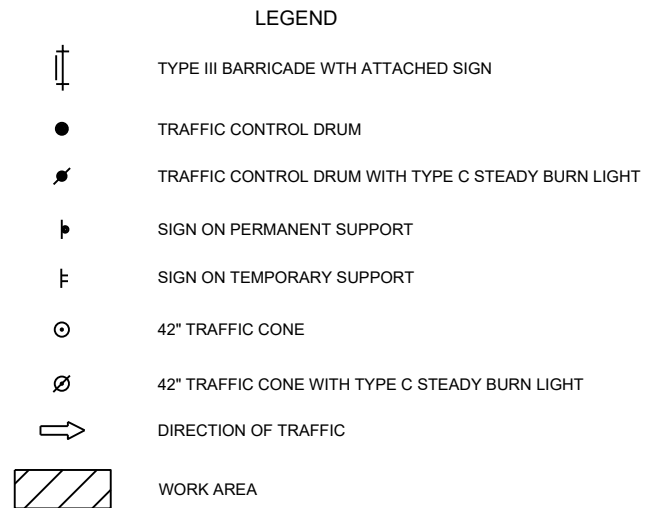
SHEET

E



### TYPICAL SECTION FOR TRAFFIC CONTROL - STAGE 2

STA 328+07 TO STA 338+83



PROJECT NO: 4580-11-60

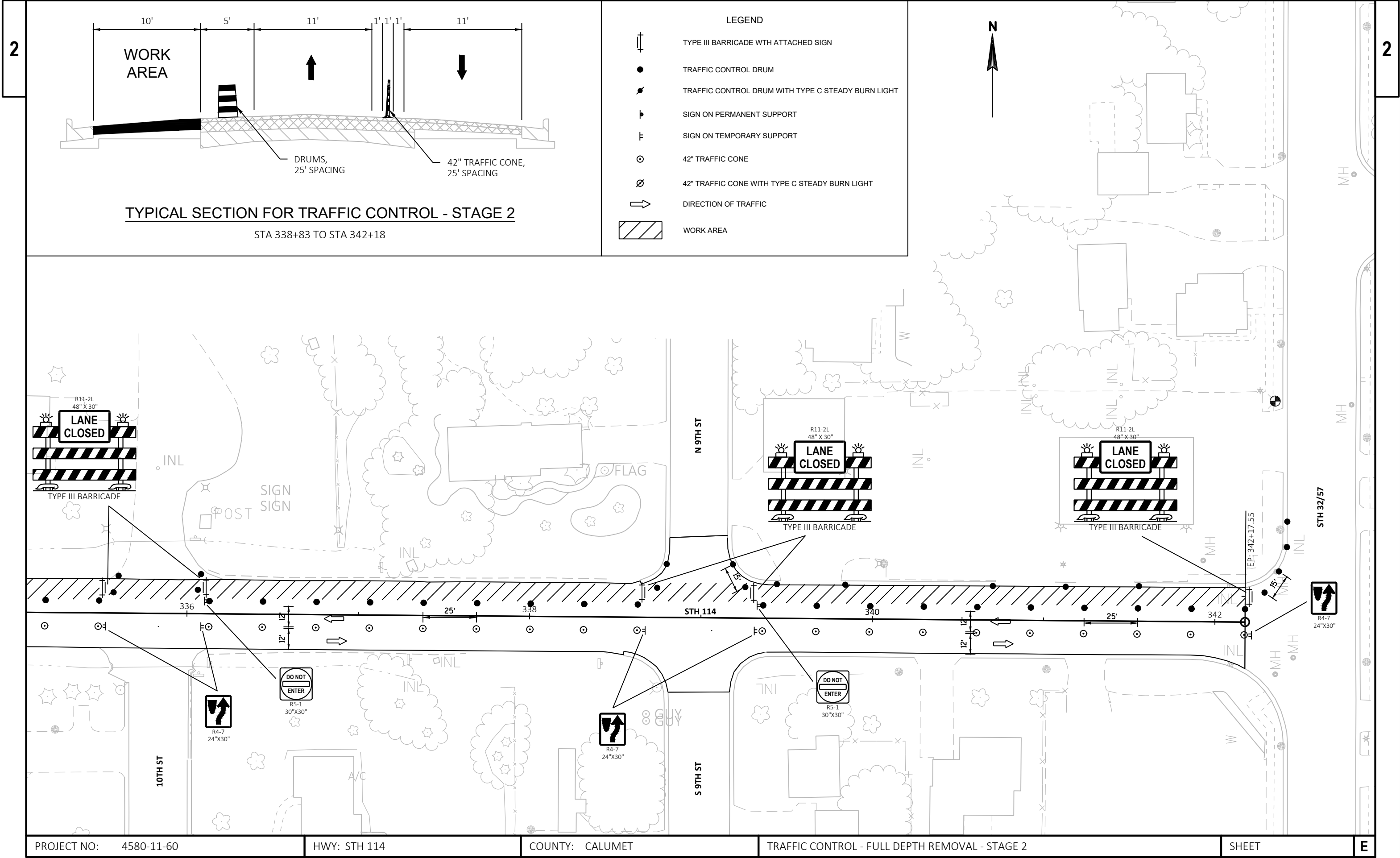
HWY: STH 114

COUNTY: CALUMET

TRAFFIC CONTROL - FULL DEPTH REMOVAL - STAGE 2

SHEET

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Estimate Of Quantities

4580-11-60

| Line | Item       | Item Description   | Unit | Total       | Qty         |
|------|------------|--|------|-------------|-------------|
| 0002 | 204.0110   | Removing Asphaltic Surface                                       | SY   | 1,648.000   | 1,648.000   |
| 0004 | 204.0115   | Removing Asphaltic Surface Butt Joints                           | SY   | 112.000     | 112.000     |
| 0006 | 204.0120   | Removing Asphaltic Surface Milling                               | SY   | 121,390.000 | 121,390.000 |
| 0008 | 204.0150   | Removing Curb & Gutter   | LF   | 75.000      | 75.000      |
| 0010 | 211.0100   | Prepare Foundation for Asphaltic Paving (project) 01. 4580-11-60 | LS   | 1.000       | 1.000       |
| 0012 | 213.0100   | Finishing Roadway (project) 01. 4580-11-60                       | EACH | 1.000       | 1.000       |
| 0014 | 305.0110   | Base Aggregate Dense 3/4-Inch                                    | TON  | 2,003.000   | 2,003.000   |
| 0016 | 305.0500   | Shaping Shoulders  | STA  | 618.000     | 618.000     |
| 0018 | 416.0610   | Drilled Tie Bars   | EACH | 12.000      | 12.000      |
| 0020 | 455.0605   | Tack Coat  | GAL  | 8,520.000   | 8,520.000   |
| 0022 | 460.0105.S | HMA Percent Within Limits (PWL) Test Strip Volumetrics           | EACH | 2.000       | 2.000       |
| 0024 | 460.0110.S | HMA Percent Within Limits (PWL) Test Strip Density               | EACH | 2.000       | 2.000       |
| 0026 | 460.2005   | Incentive Density PWL HMA Pavement                               | DOL  | 9,858.000   | 9,858.000   |
| 0028 | 460.2010   | Incentive Air Voids HMA Pavement                                 | DOL  | 14,938.000  | 14,938.000  |
| 0030 | 460.4110.S | Reheating HMA Pavement Longitudinal Joints                       | LF   | 33,605.000  | 33,605.000  |
| 0032 | 460.5224   | HMA Pavement 4 LT 58-28 S  | TON  | 14,938.000  | 14,938.000  |
| 0034 | 465.0105   | Asphaltic Surface  | TON  | 320.000     | 320.000     |
| 0036 | 465.0110   | Asphaltic Surface Patching                                       | TON  | 56.000      | 56.000      |
| 0038 | 465.0315   | Asphaltic Flumes   | SY   | 11.000      | 11.000      |
| 0040 | 465.0425   | Asphaltic Shoulder Rumble Strips 2-Lane Rural                    | LF   | 43,656.000  | 43,656.000  |
| 0042 | 465.0475   | Asphalt Centerline Rumble Strips 2-Lane Rural                    | LF   | 28,740.000  | 28,740.000  |
| 0044 | 601.0557   | Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D              | LF   | 75.000      | 75.000      |
| 0046 | 614.0400   | Adjusting Steel Plate Beam Guard                                 | LF   | 1,425.000   | 1,425.000   |
| 0048 | 614.0950   | Replacing Guardrail Posts and Blocks                             | EACH | 49.000      | 49.000      |
| 0050 | 614.0951   | Replacing Guardrail Rail and Hardware                            | LF   | 50.000      | 50.000      |
| 0052 | 618.0100   | Maintenance And Repair of Haul Roads (project) 01. 4580-11-60    | EACH | 1.000       | 1.000       |
| 0054 | 619.1000   | Mobilization   | EACH | 1.000       | 1.000       |
| 0056 | 624.0100   | Water  | MGAL | 30.000      | 30.000      |
| 0058 | 625.0100   | Topsoil  | SY   | 24.000      | 24.000      |
| 0060 | 625.0500   | Salvaged Topsoil   | SY   | 60.000      | 60.000      |
| 0062 | 628.1905   | Mobilizations Erosion Control                                    | EACH | 2.000       | 2.000       |
| 0064 | 628.1910   | Mobilizations Emergency Erosion Control                          | EACH | 1.000       | 1.000       |
| 0066 | 628.2004   | Erosion Mat Class I Type B                                       | SY   | 83.000      | 83.000      |
| 0068 | 628.7015   | Inlet Protection Type C  | EACH | 5.000       | 5.000       |
| 0070 | 629.0210   | Fertilizer Type B  | CWT  | 0.100       | 0.100       |
| 0072 | 630.0130   | Seeding Mixture No. 30   | LB   | 2.000       | 2.000       |
| 0074 | 630.0200   | Seeding Temporary  | LB   | 1.000       | 1.000       |
| 0076 | 642.5001   | Field Office Type B  | EACH | 1.000       | 1.000       |

Estimate Of Quantities

4580-11-60

| Line | Item       | Item Description   | Unit | Total      | Qty        |
|------|------------|--|------|------------|------------|
| 0078 | 643.0300   | Traffic Control Drums  | DAY  | 780.000    | 780.000    |
| 0080 | 643.0310.S | Temporary Portable Rumble Strips                                   | LS   | 1.000      | 1.000      |
| 0082 | 643.0420   | Traffic Control Barricades Type III                                | DAY  | 34.000     | 34.000     |
| 0084 | 643.0705   | Traffic Control Warning Lights Type A                              | DAY  | 68.000     | 68.000     |
| 0086 | 643.0715   | Traffic Control Warning Lights Type C                              | DAY  | 22.000     | 22.000     |
| 0088 | 643.0900   | Traffic Control Signs  | DAY  | 3,892.000  | 3,892.000  |
| 0090 | 643.1050   | Traffic Control Signs PCMS   | DAY  | 14.000     | 14.000     |
| 0092 | 643.1070   | Traffic Control Cones 42-Inch                                      | DAY  | 320.000    | 320.000    |
| 0094 | 643.5000   | Traffic Control  | EACH | 1.000      | 1.000      |
| 0096 | 646.1020   | Marking Line Epoxy 4-Inch  | LF   | 89,420.000 | 89,420.000 |
| 0098 | 646.3020   | Marking Line Epoxy 8-Inch  | LF   | 285.000    | 285.000    |
| 0100 | 646.4520   | Marking Line Same Day Epoxy 4-Inch                                 | LF   | 2,610.000  | 2,610.000  |
| 0102 | 646.6120   | Marking Stop Line Epoxy 18-Inch                                    | LF   | 27.000     | 27.000     |
| 0104 | 646.7420   | Marking Crosswalk Epoxy Transverse Line 6-Inch                     | LF   | 773.000    | 773.000    |
| 0106 | 649.0105   | Temporary Marking Line Paint 4-Inch                                | LF   | 22,003.000 | 22,003.000 |
| 0108 | 649.0120   | Temporary Marking Line Epoxy 4-Inch                                | LF   | 24,410.000 | 24,410.000 |
| 0110 | 650.8000   | Construction Staking Resurfacing Reference                         | LF   | 33,605.000 | 33,605.000 |
| 0112 | 650.9910   | Construction Staking Supplemental Control (project) 01. 4580-11-60 | LS   | 1.000      | 1.000      |
| 0114 | 690.0150   | Sawing Asphalt   | LF   | 2,899.000  | 2,899.000  |
| 0116 | 690.0250   | Sawing Concrete  | LF   | 2,838.000  | 2,838.000  |
| 0118 | 740.0440   | Incentive IRI Ride   | DOL  | 67,211.000 | 67,211.000 |
| 0120 | ASP.1T0A   | On-the-Job Training Apprentice at \$5.00/HR                        | HRS  | 1,200.000  | 1,200.000  |
| 0122 | ASP.1T0G   | On-the-Job Training Graduate at \$5.00/HR                          | HRS  | 600.000    | 600.000    |
| 0124 | SPV.0090   | Special 01. Milling and Removing Temporary Joint                   | LF   | 31,490.000 | 31,490.000 |

REMOVAL SUMMARY

|                |         |    |         |                   | 204. 0110 | 204. 0115    | 204. 0120 | 204. 0150 |   |  |
|----------------|---------|----|---------|-------------------|-----------|--------------|-----------|-----------|---|--|
|                |         |    |         |                   | REMOVING  | REMOVING     | REMOVING  | REMOVING  |   |  |
|                |         |    |         |                   | ASPHALTIC | ASPHALTIC    | ASPHALTIC | CURB &    |   |  |
|                |         |    |         |                   | SURFACE   | SURFACE BUTT | SURFACE   | GUTTER    |   |  |
|                |         |    |         |                   |           | JOINTS       | MILLING   |           |   |  |
| CATEGORY       | STATION | TO | STATION | LOCATION          | SY        | SY           | SY        | LF        | REMARKS   |  |
| 0010           | 6+12    | -  | 6+12    | STH 114           | -         | 9            | -         | -         | BEGIN PROJECT   |  |
|                | 6+12    | -  | 74+12   | STH 114           | -         | -            | 23275     | -         |   |  |
|                | 74+12   | -  | 83+97   | STH 114           | -         | -            | 4089      | -         |   |  |
|                | 83+97   | -  | 328+33  | STH 114           | -         | -            | 82805     | -         |   |  |
|                | 328+33  | -  | 338+83  | STH 114           | -         | -            | 4633      | -         | INCLUDES FULL DEPTH REPLACEMENT AREA  |  |
|                | 338+83  | -  | 342+18  | STH 114           | -         | -            | 1486      | -         | INCLUDES FULL DEPTH REPLACEMENT AREA  |  |
|                | 14+35   | -  | 14+90   | KEES RD. SOUTH    | -         | 7            | 307       | -         |   |  |
|                | 24+06   | -  | 24+98   | ERTL RD. SOUTH    | -         | 7            | 434       | -         |   |  |
|                | 35+18   | -  | 35+80   | HARWOOD RD. NORTH | -         | 6            | 378       | -         |   |  |
|                | 34+18   | -  | 34+80   | HARWOOD RD. SOUTH | -         | 6            | 408       | -         |   |  |
|                | 45+12   | -  | 45+48   | KRUEGER LN. NORTH | -         | 5            | 133       | -         |   |  |
|                | 55+19   | -  | 55+82   | ELM RD. NORTH     | -         | 6            | 397       | -         |   |  |
|                | 54+17   | -  | 54+80   | ELM RD. SOUTH     | -         | 6            | 411       | -         |   |  |
|                | 65+24   | -  | 65+77   | CTH BB NORTH      | -         | 7            | 444       | -         |   |  |
|                | 64+17   | -  | 64+78   | CTH BB SOUTH      | -         | 6            | 457       | -         |   |  |
|                | 75+20   | -  | 75+83   | MCHUGH RD. NORTH  | -         | 6            | 399       | -         |   |  |
|                | 74+19   | -  | 74+80   | MCHUGH RD. SOUTH  | -         | 6            | 350       | -         |   |  |
|                | 85+26   | -  | 85+87   | 12TH ST. NORTH    | -         | 8            | 719       | -         |   |  |
|                | 94+59   | -  | 94+80   | 11TH ST. SOUTH    | -         | -            | -         | -         |   |  |
|                | 104+57  | -  | 104+80  | 10TH ST. SOUTH    | -         | -            | -         | -         |   |  |
|                | 115+20  | -  | 115+49  | 9TH ST. NORTH     | -         | 7            | 135       | -         |   |  |
|                | 114+55  | -  | 114+80  | 9TH ST. SOUTH     | -         | 8            | 131       | -         |   |  |
|                | 328+07  | -  | 339+38  | STH 114 10' RT    | 503       | -            | -         | -         | FULL DEPTH / SHOULDER REPLACEMENT   |  |
|                | 328+07  | -  | 339+35  | STH 114 10' LT    | 501       | -            | -         | -         | FULL DEPTH / SHOULDER REPLACEMENT   |  |
|                | 339+38  | -  | 342+18  | STH 114 10' RT    | 317       | -            | -         | -         | FULL DEPTH / SHOULDER REPLACEMENT   |  |
|                | 339+35  | -  | 342+18  | STH 114 10' LT    | 310       | -            | -         | -         | FULL DEPTH / SHOULDER REPLACEMENT   |  |
|                | 342+18  | -  | 342+18  | STH 114           | -         | 11           | -         | -         | END PROJECT   |  |
|                |         |    |         | STH 114           | 17        | -            | -         | 75        | CURB AND GUTTER REMOVAL TOTALS, LOCATIONS BROKEN OUT IN CURB AND GUTTER REMOVAL SUMMARY |  |
| PROJECT TOTALS |         |    |         |                   | 1648      | 112          | 121390    | 75        |   |  |

CURB AND GUTTER REMOVAL SUMMARY

|          |         |    |         |            | 204. 0110 | 204. 0150 | 690. 0150 | 690. 0250 |  |  |
|----------|---------|----|---------|------------|-----------|-----------|-----------|-----------|--|--|
|          |         |    |         |            | REMOVING  | REMOVING  | SAWING    | SAWING    |  |  |
|          |         |    |         |            | ASPHALTIC | CURB AND  | ASPHALT   | CONCRETE  |  |  |
|          |         |    |         |            | SURFACE   | GUTTER    |           |           |  |  |
| CATEGORY | STATION | TO | STATION | LOCATION   | SY        | LF        | LF        | LF        | REMARKS  |  |
| 0010     | 35+21   | -  | 35+43   | HARWOOD RD | 7         | 32        | 36        | 6         | NW CORNER OF STH 114/S HARWOOD RD INTERSECTION |  |
|          | 35+44   | -  | 35+55   | HARWOOD RD | 2         | 11        | 15        | 6         | NE CORNER OF STH 114/S HARWOOD RD INTERSECTION |  |
|          | 34+52   | -  | 34+76   | HARWOOD RD | 7         | 32        | 36        | 6         | SE CORNER OF STH 114/S HARWOOD RD INTERSECTION |  |
| TOTALS   |         |    |         |            | 17        | 75        | 87        | 18        |  |  |

NOTE: THIS TABLE IS FOR INFORMATION ONLY, ADDITIONAL QUANTITIES SHOWN ELSEWHERE

SHOULDER WORK SUMMARY

|                |         |    |         |        |          | 305. 0110<br>BASE AGGREGATE<br>DENSE 3/4- INCH* | 305. 0500<br>SHAPING<br>SHOULDERS | 624. 0100<br>WATER |         |  |
|----------------|---------|----|---------|--------|----------|---|-----------------------------------|--------------------|---------|--|
| CATEGORY       | STATION | TO | STATION | OFFSET | LOCATION | TON   | STA                               | MGAL               | REMARKS |  |
| 0010           | 7+66    | -  | 76+94   | RT     | STH 114  | 225   | 69                                | 3. 2               |         |  |
|                | 77+93   | -  | 80+07   | RT     | STH 114  | 7   | 2                                 | 0. 2               |         |  |
|                | 81+35   | -  | 129+95  | RT     | STH 114  | 157   | 49                                | 2. 3               |         |  |
|                | 131+30  | -  | 183+06  | RT     | STH 114  | 168   | 52                                | 2. 4               |         |  |
|                | 184+39  | -  | 235+94  | RT     | STH 114  | 167   | 52                                | 2. 4               |         |  |
|                | 237+25  | -  | 288+58  | RT     | STH 114  | 166   | 51                                | 2. 4               |         |  |
|                | 289+89  | -  | 328+49  | RT     | STH 114  | 125   | 39                                | 1. 9               |         |  |
|                | 6+12    | -  | 75+69   | LT     | STH 114  | 225   | 70                                | 3. 3               |         |  |
|                | 83+81   | -  | 130+15  | LT     | STH 114  | 150   | 46                                | 2. 3               |         |  |
|                | 131+50  | -  | 157+18  | LT     | STH 114  | 83  | 26                                | 1. 3               |         |  |
|                | 157+42  | -  | 183+24  | LT     | STH 114  | 84  | 26                                | 1. 3               |         |  |
|                | 184+54  | -  | 236+14  | LT     | STH 114  | 167   | 52                                | 2. 4               |         |  |
|                | 237+43  | -  | 288+73  | LT     | STH 114  | 166   | 51                                | 2. 4               |         |  |
|                | 290+11  | -  | 324+47  | LT     | STH 114  | 111   | 34                                | 1. 7               |         |  |
| PROJECT TOTALS |         |    |         |        |          | 2003  | 618                               | 30                 |         |  |

\*BASE AGGREGATE QUANTITY BASED ON NEEDING 1-INCH OF GRAVEL AT A 5-FOOT WIDTH FOR THE LENGTH OF THE EXISTING GRAVEL SHOULDER.

| HMA SUMMARY    |         |    |         |               |         |           |           |               |            |           |           |  |
|----------------|---------|----|---------|---------------|---------|-----------|-----------|---------------|------------|-----------|-----------|--|
|                |         |    |         |               |         | 440. 4410 | 455. 0605 | 460. 4110. S  | 460. 5224  | 465. 0105 | 465. 0110 |  |
|                |         |    |         |               |         | INCENTIVE | TACK COAT | REHEATING HMA | HMA        | ASPHALTIC | ASPHALTIC |  |
|                |         |    |         |               |         | IRI RIDE  |           | PAVEMENT      | PAVEMENT 4 | SURFACE   | SURFACE   |  |
|                |         |    |         |               |         |           |           | LONGITUDINAL  | LT 58-28 S |           | PATCHING  |  |
|                |         |    |         |               |         |           |           | JOINTS        |            |           |           |  |
| CATEGORY       | STATION | TO | STATION | LOCATION      | OFFSET  | DOL       | GAL       | LF            | TON        | TON       | TON       | REMARKS  |
| 0010           | 6+12    | -  | 342+18  | STH 114       | LT & RT | 67211     | -         | -             | -          | -         | -         | 2-IN UPPER LAYER MAINLINE  |
|                | 6+12    | -  | 74+12   | STH 114       | LT & RT | -         | 1648      | 6800          | 2895       | -         | -         | 2-INCHES UPPER LAYER MAINLINE  |
|                | 74+12   | -  | 83+97   | STH 114       | LT & RT | -         | 286       | 985           | 499        | -         | -         | 2-INCHES UPPER LAYER MAINLINE  |
|                | 83+97   | -  | 328+33  | STH 114       | LT & RT | -         | 5800      | 24436         | 10196      | -         | -         | 2-INCHES UPPER LAYER MAINLINE  |
|                | 328+33  | -  | 338+83  | STH 114       | LT & RT | -         | 324       | 1050          | 556        | -         | -         | 2-IN UPPER LAYER MAINLINE, INCLUDES UPPER LAYER OF FULL DEPTH REPLACEMENT AREA |
|                | 338+83  | -  | 342+18  | STH 114       | LT & RT | -         | 104       | 335           | 178        | -         | -         | 2-IN UPPER LAYER MAINLINE, INCLUDES UPPER LAYER OF FULL DEPTH REPLACEMENT AREA |
|                | 14+35   | -  | 14+90   | KEES RD.      | LT & RT | -         | 21        | -             | 37         | -         | -         | KESS RD. SOUTH, UPPER LAYER  |
|                | 24+06   | -  | 24+98   | ERTL RD.      | LT & RT | -         | 30        | -             | 52         | -         | -         | ERTL RD. SOUTH, UPPER LAYER  |
|                | 34+18   | -  | 34+80   | HARWOOD RD.   | LT & RT | -         | 29        | -             | 49         | -         | -         | HARWOOD RD. SOUTH, UPPER LAYER   |
|                | 35+18   | -  | 35+80   | HARWOOD RD.   | LT & RT | -         | 26        | -             | 45         | -         | -         | HARWOOD RD. NORTH, UPPER LAYER   |
|                | 34+18   | -  | 35+80   | HARWOOD RD.   | LT & RT | -         | -         | -             | -          | -         | 6         | HMA FOR PATCHING CURB AND GUTTER REPLACEMENT                                   |
|                | 45+12   | -  | 45+48   | KRUEGER LN.   | LT & RT | -         | 9         | -             | 16         | -         | -         | KRUEGER LN. NORTH, UPPER LAYER   |
|                | 54+17   | -  | 54+80   | ELM RD.       | LT & RT | -         | 29        | -             | 49         | -         | -         | ELM RD. SOUTH, UPPER LAYER   |
|                | 55+19   | -  | 55+82   | ELM RD.       | LT & RT | -         | 28        | -             | 48         | -         | -         | ELM RD. NORTH, UPPER LAYER   |
|                | 64+17   | -  | 64+78   | CTH BB        | LT & RT | -         | 31        | -             | 53         | -         | -         | CTH BB SOUTH, UPPER LAYER  |
|                | 65+24   | -  | 65+77   | CTH BB        | LT & RT | -         | 32        | -             | 55         | -         | -         | CTH BB NORTH, UPPER LAYER  |
|                | 74+19   | -  | 74+80   | MCHUGH RD.    | LT & RT | -         | 24        | -             | 42         | -         | -         | MCHUGH RD. SOUTH, UPPER LAYER  |
|                | 75+20   | -  | 75+83   | MCHUGH RD.    | LT & RT | -         | 28        | -             | 48         | -         | -         | MCHUGH RD. NORTH, UPPER LAYER  |
|                | 85+26   | -  | 85+87   | 12TH ST.      | LT & RT | -         | 50        | -             | 86         | -         | -         | 12TH ST. NORTH, UPPER LAYER  |
|                | 94+59   | -  | 94+80   | 11TH ST.      | LT & RT | -         | -         | -             | -          | -         | -         | 11TH ST. SOUTH, UPPER LAYER  |
|                | 104+57  | -  | 104+80  | 10TH ST.      | LT & RT | -         | -         | -             | -          | -         | -         | 10TH ST. SOUTH, UPPER LAYER  |
|                | 114+55  | -  | 114+80  | 9TH ST.       | LT & RT | -         | 9         | -             | 16         | -         | -         | 9TH ST. SOUTH, UPPER LAYER   |
|                | 115+20  | -  | 115+49  | 9TH ST.       | LT & RT | -         | 9         | -             | 16         | -         | -         | 9TH ST. NORTH, UPPER LAYER   |
|                | 328+07  | -  | 339+38  | STH 114       | 10' RT  | -         | -         | -             | -          | 102       | -         | 3 1/2-INCH LOWER LAYER FULL DEPTH REPLACEMENT                                  |
|                | 328+07  | -  | 339+35  | STH 114       | 10' LT  | -         | -         | -             | -          | 102       | -         | 3 1/2-INCH LOWER LAYER FULL DEPTH REPLACEMENT                                  |
|                | 339+38  | -  | 342+18  | STH 114       | 10' RT  | -         | -         | -             | -          | 59        | -         | 2 TO 4-INCH LOWER LAYER FULL DEPTH REPLACEMENT                                 |
|                | 339+35  | -  | 342+18  | STH 114       | 10' LT  | -         | -         | -             | -          | 58        | -         | 2 TO 4-INCH LOWER LAYER FULL DEPTH REPLACEMENT                                 |
|                |         |    |         | UNDISTRIBUTED | LT & RT | -         | -         | -             | -          | -         | 50        | TO BE USED TO MAKE MINOR PAVEMENT REPAIRS                                      |
| PROJECT TOTALS |         |    |         |               |         | 67211     | 8520      | 33605         | 14938      | 320       | 56        |  |

| PWL SUMMARY  |         |    |         |          |         |  |      |  |      |  |               |  |  |
|--|---------|----|---------|----------|---------|--|------|--|------|--|---------------|--|--|
| 460. 0105. S   |         |    |         |          |         | 460. 0110. S   |      |  |      | 460. 2005                                    |               | 460. 2010                              |  |
| HMA PERCENT WITHIN<br>LIMITS (PWL) TEST STRIP<br>VOLUMETRICS |         |    |         |          |         | HMA PERCENT WITHIN<br>LIMITS (PWL) TEST STRIP<br>DENSITY |      |  |      | INCENTIVE<br>DENSITY PWL<br>HMA<br>PAVEMENT* |               | INCENTIVE<br>AIR VOIDS<br>HMA PAVEMENT |  |
| CATEGORY   | STATION | TO | STATION | LOCATION | OFFSET  | EACH   | EACH |  | DOL  | DOL  | REMARKS       |  |  |
| 0010   | 6+12    | -  | 342+18  | STH 114  | LT & RT | 1  | 1    |  | 9858 | 14938  |               |  |  |
|  |         |    |         | STH 114  | LT & RT | 1  | 1    |  | -    | -  | UNDISTRIBUTED |  |  |
| PROJECT TOTALS   |         |    |         |          |         | 2  | 2    |  | 9858 | 14938  |               |  |  |

\*NOTE: INCENTIVE DENSITY PWL HMA PAVEMENT APPLIES TO THE 2 12-FT DRIVING LANES ONLY

SPECIAL (01.) MILLING AND REMOVING TEMPORARY JOINT

ASPHALTIC SHOULDER RUMBLE STRIPS 2-LANE RURAL

ASPHALT CENTER LINE RUMBLE STRIPS 2-LANE RURAL

|               |         |    |         |                    |              | 465.0425      |         |    |         |          |       | 465.0475      |         |    |         |          |       |
|---------------|---------|----|---------|--------------------|--------------|---------------|---------|----|---------|----------|-------|---------------|---------|----|---------|----------|-------|
|               |         |    |         |                    | SPV. 0090.01 |               |         |    |         |          |       |               |         |    |         |          |       |
| CATEGORY      | STATION | TO | STATION | LOCATION           | LF           | CATEGORY      | STATION | TO | STATION | LOCATION | LF    | CATEGORY      | STATION | TO | STATION | LOCATION | LF    |
| 0010          | 8+17    | -  | 323+07  | STH 114 CENTERLINE | 31490        | 0010          | 7+67    | -  | 322+98  | RT       | 22245 | 0010          | 8+17    | -  | 323+07  | LT & RT  | 28740 |
|               |         |    |         |                    |              |               | 6+12    | -  | 74+62   | LT       | 6851  |               |         |    |         |          |       |
|               |         |    |         |                    |              |               | 84+63   | -  | 322+98  | LT       | 14560 |               |         |    |         |          |       |
|               |         |    |         |                    |              |               |         |    |         |          |       |               |         |    |         |          |       |
| PROJECT TOTAL |         |    |         |                    | 31490        | PROJECT TOTAL |         |    |         |          | 43656 | PROJECT TOTAL |         |    |         |          | 28740 |

CONCRETE CURB AND GUTTER SUMMARY

|          |                |        |    |         |        |              |      | 416.0610                     | 465.0315                          | 601.0557  |  |  |
|----------|----------------|--------|----|---------|--------|--------------|------|------------------------------|-----------------------------------|---|--|--|
|          |                |        |    |         |        |              |      | DRI L L E D<br>T I E B A R S | A S P H A L T I C<br>F L U M E S* | C O N C R E T E<br>G U T T E R 6 - I N C H<br>S L O P E D 36 - I N C H<br>T Y P E D |  |  |
| CATEGORY | STATION        | OFFSET | TO | STATION | OFFSET | LOCATION     | EACH | SY                           | LF                                | REMARKS   |  |  |
| 0010     | 35+21          | 44' LT | -  | 35+43   | 19' LT | S HARWOOD RD | 4    | 3.6                          | 32                                | NW CORNER OF STH 114/S HARWOOD RD INTERSECTION                                      |  |  |
|          | 35+44          | 25' RT | -  | 35+55   | 20' RT | S HARWOOD RD | 4    | 3.6                          | 11                                | NE CORNER OF STH 114/S HARWOOD RD INTERSECTION                                      |  |  |
|          | 34+52          | 18' RT | -  | 34+76   | 41' RT | S HARWOOD RD | 4    | 3.6                          | 32                                | SE CORNER OF STH 114/S HARWOOD RD INTERSECTION                                      |  |  |
|          | PROJECT TOTALS |        |    |         |        |              |      | 12                           | 11                                | 75  |  |  |

\*NOTE: ASPHALTIC FLUMES CALCULATED TO AN 8-FOOT LENGTH

STEEL PLATE BEAM GUARD REPAIRS AND ADJUSTMENTS SUMMARY

|                |         |        |    |         |        |          | *          | **        | **        |                        |  |
|----------------|---------|--------|----|---------|--------|----------|------------|-----------|-----------|------------------------|--|
|                |         |        |    |         |        |          | 614.0400   | 614.0950  | 614.0951  |                        |  |
|                |         |        |    |         |        |          | ADJUSTING  | REPLACING | REPLACING |                        |  |
|                |         |        |    |         |        |          | STEEL      | GUARDRAIL | GUARDRAIL |                        |  |
|                |         |        |    |         |        |          | PLATE BEAM | POSTS AND | RAIL AND  |                        |  |
|                |         |        |    |         |        |          | GUARD      | BLOCKS    | HARDWARE  |                        |  |
| CATEGORY       | STATION | OFFSET | TO | STATION | OFFSET | LOCATION | LF         | EACH      | LF        | REMARKS                |  |
| 0010           | 15+35   | 20' RT | -  | 18+51   | 20' RT | STH 114  | 242        | 10        | 12.5      | NORTH #1 BEAM GUARD RT |  |
|                | 15+93   | 20' LT | -  | 18+36   | 20' LT | STH 114  | 243        | 6         | -         | NORTH #1 BEAM GUARD LT |  |
|                | 27+71   | 20' RT | -  | 30+38   | 20' RT | STH 114  | 267        | 13        | -         | NORTH #2 BEAM GUARD RT |  |
|                | 27+91   | 20' LT | -  | 31+07   | 20' LT | STH 114  | 154        | 12        | 38        | NORTH #2 BEAM GUARD LT |  |
|                | 284+15  | 20' RT | -  | 285+05  | 20' RT | STH 114  | 252        | 3         | -         | EAST BEAM GUARD RT     |  |
|                | 283+36  | 20' LT | -  | 283+81  | 20' LT | STH 114  | 267        | 5         | -         | EAST BEAM GUARD LT     |  |
| PROJECT TOTALS |         |        |    |         |        |          | 1425       | 49        | 50        |                        |  |

\*NOTE: ADJUST BEAM GUARD HEIGHTS AFTER THE FINAL HMA PAVEMENT HAS BEEN PLACED. ADJUST BEAM GUARD TO BETWEEN 27 3/4" AND 29" TOP OF RAIL HEIGHT LEVEL TO THE ASPHALTIC PAVEMENT SURFACE ADJACENT TO THE BEAMGUARD RAIL. QUANTITIES AND LOCATIONS IN PLAN ARE ESTIMATES OF SECTIONS OF BEAM GUARD THAT ARE OUT OF HEIGHT TOLERANCE. CHECK AND ADJUST HEIGHT OF ALL SECTIONS OF BEAM GUARD HEIGHT TO ENSURE ALL BEAM GUARD TOP OF RAIL HEIGHTS ARE BETWEEN 27 3/4" AND 29" WHEN FINISHED.

\*\*NOTE: QUANTITIES AND LOCATIONS IN PLAN ARE ESTIMATES OF WHAT GUARDRAIL POSTS, BLOCKS, RAIL, AND HARDWARE WILL NEED TO BE REPLACED DUE TO BEING UNSERVICABLE OR TOO FAR OUT OF ADJUSTMENT. CHECK BEAM GUARD INSTALLTIONS AND REPAIR WHAT IS DEEMED UNSERVICABLE OR UNADJUSTABLE. VERIFY WITH THE ENGINEER ALL GUARDRAIL POSTS, BLOCKS, RAIL, AND HARDWARE IS EITHER ACCEPTABLE TO LEAVE IN PLACE OR HAS BEEN REPLACED.

EROSION CONTROL AND LANDSCAPING SUMMARY

|                 |         |    |         |        |              | *         |                  |                               |   |                            |                   |                        |                   |   |  |
|-----------------|---------|----|---------|--------|--------------|-----------|------------------|-------------------------------|---|----------------------------|-------------------|------------------------|-------------------|---|--|
|                 |         |    |         |        |              | 625. 0100 | 625. 0500        | 628. 1905                     | 628. 1910                               | 628. 2004                  | 629. 0210         | 630. 0130              | 630. 0200         |   |  |
|                 |         |    |         |        |              | TOPSOIL   | SALVAGED TOPSOIL | MOBILIZATIONS EROSION CONTROL | MOBILIZATIONS EMERGENCY EROSION CONTROL | EROSION MAT CLASS I TYPE B | FERTILIZER TYPE B | SEEDING MIXTURE NO. 30 | SEEDING TEMPORARY |   |  |
| CATEGORY        | STATION | TO | STATION | OFFSET | LOCATION     | SY        | SY               | EACH                          | EACH                                    | SY                         | CWT               | LB                     | LB                | REMARKS   |  |
| 0010            | 35+21   | -  | 35+43   | LT     | S HARWOOD RD | -         | 28               | -                             | -                                       | 28                         | 0. 018            | 0. 5                   | -                 | NW CORNER OF STH 114/S HARWOOD RD INTERSECTION  |  |
|                 | 35+44   | -  | 35+55   | RT     | S HARWOOD RD | -         | 10               | -                             | -                                       | 10                         | 0. 006            | 0. 2                   | -                 | NE CORNER OF STH 114/S HARWOOD RD INTERSECTION  |  |
|                 | 34+52   | -  | 34+76   | RT     | S HARWOOD RD | 19        | 9                | -                             | -                                       | 28                         | 0. 006            | 0. 2                   | -                 | SE CORNER OF STH 114/S HARWOOD RD INTERSECTION  |  |
|                 | PROJECT |    |         |        |              | -         | -                | 2                             | -                                       | -                          | -                 | -                      | -                 | FIRST EROISION CONTROL MOBILIZATION IS FOR DEPLOYING INLET PROTECTION, SECOND EROSION CONTROL MOBILIZATION IS FOR RESTORING BEHIND CURB AND GUTTER REPLACEMENTS |  |
| UNDI STRI BUTED |         |    |         |        | STH 114      | 5         | 12               | -                             | 1                                       | 17                         | 0. 030            | 1. 1                   | 1                 | TO BE USED TO ADDRESS UNFORESEEN EROSION CONTROL ISSUES   |  |
| PROJECT TOTALS  |         |    |         |        |              | 24        | 60               | 2                             | 1                                       | 83                         | 0. 1              | 2. 0                   | 1                 |   |  |

NOTE: LANDSCAPING QUANTITIES CALCULATED BASED UPON LENGTH OF CURB AND GUTTER BY 8- FT WIDTH  
\*NOTE: SEEDING TEMPORARY TO BE USED ONLY IF LANDSCAPING OCCURS AFTER SEPTEMBER 1ST.

INLET PROTECTION TYPE C

|               |         |        |           |      | 628. 7015 |
|---------------|---------|--------|-----------|------|-----------|
| CATEGORY      | STATION | OFFSET | LOCATION  | EACH |           |
| 0010          | 342+09  | RT     | STH 114   | 1    |           |
|               | 342+09  | LT     | STH 114   | 1    |           |
|               | 342+41  | LT     | STH 32/57 | 1    |           |
|               | 115+49  | RT     | 9TH ST.   | 1    |           |
|               | 115+49  | LT     | 9TH ST.   | 1    |           |
| PROJECT TOTAL |         |        |           |      | 5         |

TRAFFIC CONTROL ITEMS

ALL ITEMS CATEGORY 0010

| SIGN NO. | LOCATION                                   | SIGN CODE | SIZE<br>WXH | NUMBER<br>IN<br>SERVICE | APPROX.<br>SERCIVE<br>PERIOD<br><br>DAYS | 643.0300<br>DRUMS | 643.0310.S<br>TEMPORARY<br>PORTABLE<br>RUMBLE<br>STRIPS | 643.0420<br>BARRICADES<br>TYPE III | 643.0705 | 643.0715 | 643.0900 | 643.1050      | 643.1070         | REMARKS  |
|----------|--|-----------|-------------|-------------------------|--|-------------------|---|------------------------------------|----------|----------|----------|---------------|------------------|--|
|          |  |           |             |                         |  | DAY               | LS  | DAY                                | WARNING  | LIGHTS   | SIGNS    | SIGNS<br>PCMS | CONES<br>42-INCH |  |
|          |  |           |             |                         |  |                   |   |                                    | TYPE A   | TYPE C   |          |               |                  |  |
|          |  |           |             |                         |  | DAY               | LS  | DAY                                | DAY      | DAY      | DAY      | DAY           | DAY              |  |
|          | SIDEROADS ADVANCE WARNING                  |           |             | 36.00                   | 45.00                                    | -                 | -   | -                                  | -        | -        | 1620     | -             | -                | SEE SDD 15 C 4-5                                 |
| 1        | STH 55, 2000' N OF NORTH PROJECT LIMITS    | W20-1A    | 48"x48"     | 1.00                    | 45.00                                    | -                 | -   | -                                  | -        | -        | 54       | -             | -                | SEE TRAFFIC CONTROL -<br>ADVANCED WARNING DETAIL |
|          | "  | M1-6      | 24"x24"     | 1.00                    | 45.00                                    | -                 | -   | -                                  | -        | -        | 54       | -             | -                | "  |
|          | "  | M3-2      | 24"x12"     | 1.00                    | 45.00                                    | -                 | -   | -                                  | -        | -        | 54       | -             | -                | "  |
| 2        | STH 55, 1000' N OF NORTH PROJECT LIMITS    | W20-1C    | 48"x48"     | 1.00                    | 45.00                                    | -                 | -   | -                                  | -        | -        | 54       | -             | -                | "  |
|          | "  | M1-6      | 24"x24"     | 1.00                    | 45.00                                    | -                 | -   | -                                  | -        | -        | 54       | -             | -                | "  |
|          | "  | M3-2      | 24"x12"     | 1.00                    | 45.00                                    | -                 | -   | -                                  | -        | -        | 54       | -             | -                | "  |
| 3        | STH 55, 500' N OF NORTH PROJECT LIMITS     | W20-1D    | 48"x48"     | 1.00                    | 45.00                                    | -                 | -   | -                                  | -        | -        | 54       | -             | -                | "  |
|          | "  | M1-6      | 24"x24"     | 1.00                    | 45.00                                    | -                 | -   | -                                  | -        | -        | 54       | -             | -                | "  |
|          | "  | M3-2      | 24"x12"     | 1.00                    | 45.00                                    | -                 | -   | -                                  | -        | -        | 54       | -             | -                | "  |
| 4        | STH 114 W, PLACE ON LT SIDE OF ROAD        | G20-2A    | 48"x24"     | 1.00                    | 45.00                                    | -                 | -   | -                                  | -        | -        | 54       | -             | -                | "  |
| 5        | STH 114 E, PLACE ON RT SIDE OF ROAD        | G20-1     | 60"x24"     | 1.00                    | 45.00                                    | -                 | -   | -                                  | -        | -        | 54       | -             | -                | "  |
| 6        | STH 55, 500' S OF STH 114 INTERSECTION     | W20-1D    | 48"x48"     | 1.00                    | 45.00                                    | -                 | -   | -                                  | -        | -        | 54       | -             | -                | "  |
|          | "  | M1-6      | 24"x24"     | 1.00                    | 45.00                                    | -                 | -   | -                                  | -        | -        | 54       | -             | -                | "  |
|          | "  | M3-2      | 24"x12"     | 1.00                    | 45.00                                    | -                 | -   | -                                  | -        | -        | 54       | -             | -                | "  |
| 7        | STH 55, 1000' S OF STH 114 INTERSECTION    | W20-1C    | 48"x48"     | 1.00                    | 45.00                                    | -                 | -   | -                                  | -        | -        | 54       | -             | -                | "  |
|          | "  | M1-6      | 24"x24"     | 1.00                    | 45.00                                    | -                 | -   | -                                  | -        | -        | 54       | -             | -                | "  |
|          | "  | M3-2      | 24"x12"     | 1.00                    | 45.00                                    | -                 | -   | -                                  | -        | -        | 54       | -             | -                | "  |
| 8        | STH 55, 2000' S OF STH 114 INTERSECTION    | W20-1A    | 48"x48"     | 1.00                    | 45.00                                    | -                 | -   | -                                  | -        | -        | 54       | -             | -                | "  |
|          | "  | M1-6      | 24"x24"     | 1.00                    | 45.00                                    | -                 | -   | -                                  | -        | -        | 54       | -             | -                | "  |
|          | "  | M3-2      | 24"x12"     | 1.00                    | 45.00                                    | -                 | -   | -                                  | -        | -        | 54       | -             | -                | "  |
| 9        | STH 57/32, 2000' N OF STH 114 INTERSECTION | W20-1A    | 48"x48"     | 1.00                    | 45.00                                    | -                 | -   | -                                  | -        | -        | 54       | -             | -                | "  |
|          | "  | M1-6      | 24"x24"     | 1.00                    | 45.00                                    | -                 | -   | -                                  | -        | -        | 54       | -             | -                | "  |
|          | "  | M3-4      | 24"x12"     | 1.00                    | 45.00                                    | -                 | -   | -                                  | -        | -        | 54       | -             | -                | "  |

PAGE SUBTOTAL

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TRAFFIC CONTROL ITEMS CONTINUED

ALL ITEMS CATERGORY 0010

| SIGN NO.      | LOCATION  | SIGN CODE | SIZE WXH | NUMBER IN SERVICE | APPROX. SERCIVE PERIOD DAYS | 643. 0300 | 643. 0310. S                     | 643. 0420            | 643. 0705      | 643. 0715  | 643. 0900 | 643. 1050  | 643. 1070      | REMARKS  |
|---------------|---|-----------|----------|-------------------|-----------------------------|-----------|----------------------------------|----------------------|----------------|------------|-----------|------------|----------------|--|
|               |   |           |          |                   |                             | DRUMS     | TEMPORARY PORTABLE RUMBLE STRIPS | BARRI CADES TYPE III | WARNING LIGHTS |            | SIGNS     | SIGNS PCMS | CONES 42- INCH |  |
|               |   |           |          |                   |                             | DAY       | LS                               | DAY                  | TYPE A DAY     | TYPE C DAY | DAY       | DAY        | DAY            |  |
| 10            | STH 57/32, 1000' N OF STH 114 INTERSECTION            | W20- 1C   | 48" X48" | 1. 00             | 45. 00                      | -         | -                                | -                    | -              | -          | 54        | -          | -              | SEE TRAFFIC CONTROL - ADVANCED WARNING DETAIL          |
|               | "   | M1- 6     | 24" X24" | 1. 00             | 45. 00                      | -         | -                                | -                    | -              | -          | 54        | -          | -              | "  |
|               | "   | M3- 4     | 24" X12" | 1. 00             | 45. 00                      | -         | -                                | -                    | -              | -          | 54        | -          | -              | "  |
| 11            | STH 57/32, 500' N OF STH 114 INTERSECTION             | W20- 1D   | 48" X48" | 1. 00             | 45. 00                      | -         | -                                | -                    | -              | -          | 54        | -          | -              | "  |
|               | "   | M1- 6     | 24" X24" | 1. 00             | 45. 00                      | -         | -                                | -                    | -              | -          | 54        | -          | -              | "  |
|               | "   | M3- 4     | 24" X12" | 1. 00             | 45. 00                      | -         | -                                | -                    | -              | -          | 54        | -          | -              | "  |
| 12            | NW QUADRANT OF INTERSECTION STH 114 & STH 32/57       | G20- 1    | 60" X24" | 1. 00             | 45. 00                      | -         | -                                | -                    | -              | -          | 54        | -          | -              | "  |
| 13            | STH 114 & STH57/32 INTERSECTION                       | G20- 2A   | 48" X24" | 1. 00             | 45. 00                      | -         | -                                | -                    | -              | -          | 54        | -          | -              | "  |
| 14            | STH 57/32, 500' S OF STH 114 INTERSECTION             | W20- 1D   | 48" X48" | 1. 00             | 45. 00                      | -         | -                                | -                    | -              | -          | 54        | -          | -              | "  |
|               | "   | M1- 6     | 24" X24" | 1. 00             | 45. 00                      | -         | -                                | -                    | -              | -          | 54        | -          | -              | "  |
|               | "   | M3- 4     | 24" X12" | 1. 00             | 45. 00                      | -         | -                                | -                    | -              | -          | 54        | -          | -              | "  |
| 15            | STH 57/32, 1000' S OF STH 114 INTERSECTION            | W20- 1C   | 48" X48" | 1. 00             | 45. 00                      | -         | -                                | -                    | -              | -          | 54        | -          | -              | "  |
|               | "   | M1- 6     | 24" X24" | 1. 00             | 45. 00                      | -         | -                                | -                    | -              | -          | 54        | -          | -              | "  |
|               | "   | M3- 4     | 24" X12" | 1. 00             | 45. 00                      | -         | -                                | -                    | -              | -          | 54        | -          | -              | "  |
| 16            | STH 57/32, 2000' S OF STH 114 INTERSECTION            | W20- 1A   | 48" X48" | 1. 00             | 45. 00                      | -         | -                                | -                    | -              | -          | 54        | -          | -              | "  |
|               | "   | M1- 6     | 24" X24" | 1. 00             | 45. 00                      | -         | -                                | -                    | -              | -          | 54        | -          | -              | "  |
|               | "   | M3- 4     | 24" X12" | 1. 00             | 45. 00                      | -         | -                                | -                    | -              | -          | 54        | -          | -              | "  |
| 17            | STH 114 E, PLACE ON RT SIDE OF ROAD                   | PCMS      |          | 1. 00             | 7. 00                       | -         | -                                | -                    | -              | -          | -         | 7          | -              | "  |
| 18            | NW QUADRANT OF INTERSECTION STH 114 & STH 32/57       | PCMS      |          | 1. 00             | 7. 00                       | -         | -                                | -                    | -              | -          | -         | 7          | -              | "  |
|               | HARWOOD ROAD INTERSECTION CURB AND GUTTER REPLACEMENT |           |          | 18. 00            | 10. 00                      | 180       | -                                | -                    | -              | -          | -         | -          | -              | SEE TRAFFIC CONTROL - HARWOOD ROAD INTERSECTION DETAIL |
|               | "   | R3- 1     | 24" X24" | 2. 00             | 2. 00                       | -         | -                                | -                    | -              | -          | 4         | -          | -              | "  |
|               | "   | R1- 1     |          | 2. 00             | 2. 00                       | -         | -                                | -                    | -              | -          | 4         | -          | -              | "  |
|               | PROJECT   |           |          |                   |                             | -         | 1                                | -                    | -              | -          | -         | -          | -              | SEE SDD 15 C 12- 06                                    |
| PAGE SUBTOTAL |   |           |          |                   |                             | 180       | 1                                | 0                    | 0              | 0          | 926       | 14         | 0              |  |

TRAFFIC CONTROL ITEMS CONTINUED

ALL ITEMS CATEGORY 0010

| SIGN NO.       | LOCATION   | SIGN CODE | SIZE WXH | NUMBER IN SERVICE | APPROX. SERCIVE PERIOD DAYS | 643. 0300 DRUMS DAY | 643. 0310. S TEMPORARY PORTABLE RUMBLE STRIPS LS | 643. 0420 BARRI CADES TYPE III DAY | 643. 0705 643. 0715 WARNING LIGHTS |        | 643. 0900 SIGNS DAY | 643. 1050 SIGNS PCMS DAY | 643. 1070 CONES 42- INCH DAY | REMARKS   |
|----------------|--|-----------|----------|-------------------|-----------------------------|---------------------|--|------------------------------------|------------------------------------|--------|---------------------|--------------------------|------------------------------|---|
|                |  |           |          |                   |                             |                     |  |                                    | TYPE A                             | TYPE C |                     |                          |                              |   |
|                |  |           |          |                   |                             |                     |  |                                    | DAY                                | DAY    |                     |                          |                              |   |
|                | FULL DEPTH REPLACEMENT IN VILLAGE OF HILBERT - STAGE 1 | W1- 4L    | 36" X36" | 1. 00             | 2. 00                       | -                   | -  | -                                  | -                                  | -      | 2                   | -                        | -                            | SEE TRAFFIC CONTROL - FULL DEPTH REMOVAL DETAIL STAGE 1 |
|                | "  | W01- 6    | 48" X24" | 1. 00             | 2. 00                       | -                   | -  | -                                  | -                                  | -      | 2                   | -                        | -                            | "   |
|                | "  | R4- 7     | 24" x30" | 9. 00             | 2. 00                       | -                   | -  | -                                  | -                                  | -      | 18                  | -                        | -                            | "   |
|                | "  | R11- 2L   | 48" X30" | 8. 00             | 2. 00                       | -                   | -  | -                                  | -                                  | -      | 16                  | -                        | -                            | "   |
|                | "  | R5- 1     | 30" x30" | 4. 00             | 2. 00                       | -                   | -  | -                                  | -                                  | -      | 8                   | -                        | -                            | "   |
|                | "  |           |          | 91. 00            | 2. 00                       | 182                 | -  | -                                  | -                                  | -      | -                   | -                        | -                            | "   |
|                | "  |           |          | 9. 00             | 2. 00                       | -                   | -  | 18                                 | -                                  | -      | -                   | -                        | -                            | "   |
|                | "  |           |          | 18. 00            | 2. 00                       | -                   | -  | -                                  | 36                                 | -      | -                   | -                        | -                            | "   |
|                | "  |           |          | 8. 00             | 2. 00                       | -                   | -  | -                                  | -                                  | 16     | -                   | -                        | -                            | "   |
|                | "  |           |          | 54. 00            | 2. 00                       | -                   | -  | -                                  | -                                  | -      | -                   | -                        | 108                          | "   |
|                | FULL DEPTH REPLACEMENT IN VILLAGE OF HILBERT - STAGE 2 | W1- 4R    | 36" X36" | 2. 00             | 2. 00                       | -                   | -  | -                                  | -                                  | -      | 4                   | -                        | -                            | SEE TRAFFIC CONTROL - FULL DEPTH REMOVAL DETAIL STAGE 2 |
|                | "  | R4- 7     | 24" X30" | 9. 00             | 2. 00                       | -                   | -  | -                                  | -                                  | -      | 18                  | -                        | -                            | "   |
|                | "  | R11- 2L   | 48" X30" | 8. 00             | 2. 00                       | -                   | -  | -                                  | -                                  | -      | 16                  | -                        | -                            | "   |
|                | "  | R5- 1     | 30" X30" | 4. 00             | 2. 00                       | -                   | -  | -                                  | -                                  | -      | 8                   | -                        | -                            | "   |
|                | "  |           |          | 77. 00            | 2. 00                       | 154                 | -  | -                                  | -                                  | -      | -                   | -                        | -                            | "   |
|                | "  |           |          | 8. 00             | 2. 00                       | -                   | -  | 16                                 | -                                  | -      | -                   | -                        | -                            | "   |
|                | "  |           |          | 16. 00            | 2. 00                       | -                   | -  | -                                  | 32                                 | -      | -                   | -                        | -                            | "   |
|                | "  |           |          | 3. 00             | 2. 00                       | -                   | -  | -                                  | -                                  | 6      | -                   | -                        | -                            | "   |
|                | "  |           |          | 56. 00            | 2. 00                       | -                   | -  | -                                  | -                                  | -      | -                   | -                        | 112                          | "   |
|                | BEAM GUARD REPAIR AND ADJUSTMENTS                      | W21- 5    | 48" X48" | 6. 00             | 2. 00                       | -                   | -  | -                                  | -                                  | -      | 12                  | -                        | -                            |   |
|                | "  |           |          | 82. 00            | 2. 00                       | 164                 | -  | -                                  | -                                  | -      | -                   | -                        | -                            |   |
|                | UNDI STRI BUTED  |           |          | 10. 00            | 10. 00                      | 100                 | -  | -                                  | -                                  | -      | -                   | -                        | 100                          | "   |
| PAGE SUBTOTAL  |  |           |          |                   |                             | 600                 | 0  | 34                                 | 68                                 | 22     | 104                 | 0                        | 320                          |   |
| PROJECT TOTALS |  |           |          |                   |                             | 780                 | 1  | 34                                 | 68                                 | 22     | 3892                | 14                       | 320                          |   |

## \*

646. 1020

646. 3020

646. 4520

646. 6120

\* \*

649. 0105

\* \* \*

649. 0120

MARKING LINE  
EPOXY 8-INCH

PAVEMENT  
MARKING SAME  
DAY EPOXY 4-  
INCH

MARKING  
STOP LINE  
EPOXY 18-  
INCH

TEMPORARY MARKING  
LINE PAINT 4-INCH

TEMPORARY MARKING  
LINE EPOXY 4-INCH

\* NOTE: PAVEMENT MARKING EPOXY 4-INCH FOR FINAL APPLICATION AFTER CENTER LINE AND SHOULDER RUMBLE STRIPS PLACED  
 \*\* NOTE: TEMPORARY MARKING LINE PAINT 4-INCH APPLIED TO MILLED SURFACE  
 \*\*\* NOTE: TEMPORARY PAVEMENT MARKING LINE EPOXY 4-INCH APPLIED TO FINAL SURFACE BEFORE CENTER LINE RUMBLE STRIPS PLACED

## 646. 7420

|                      |            |
|----------------------|------------|
| <b>PROJECT TOTAL</b> | <b>773</b> |
|----------------------|------------|

CONSTRUCTION STAKING SUMMARY

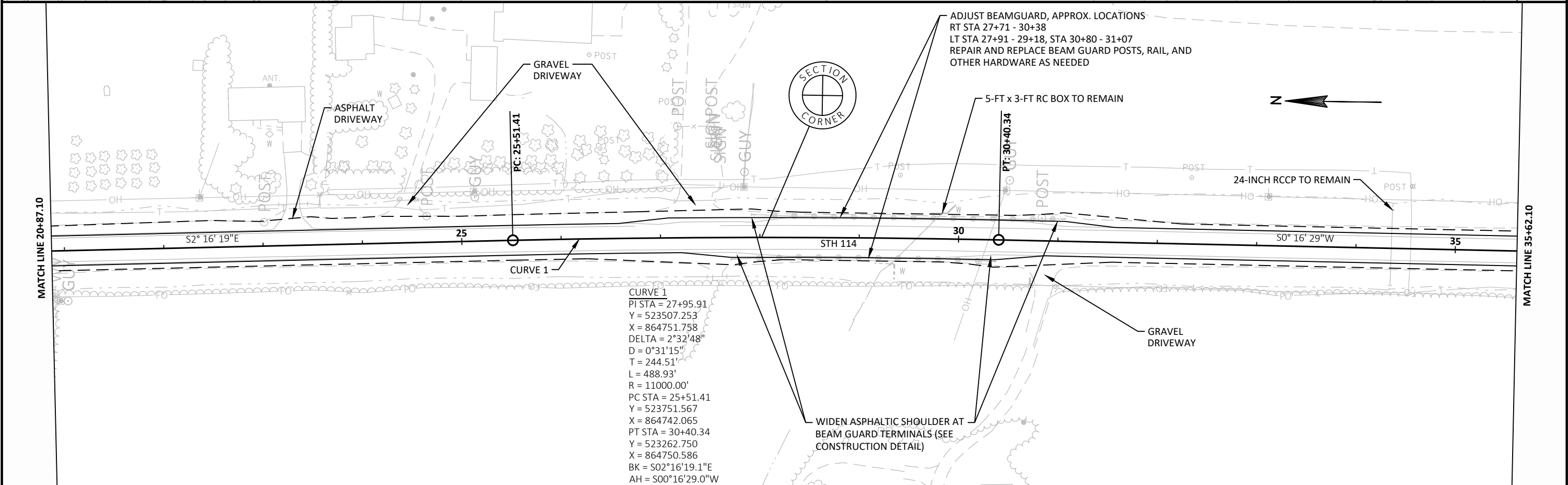
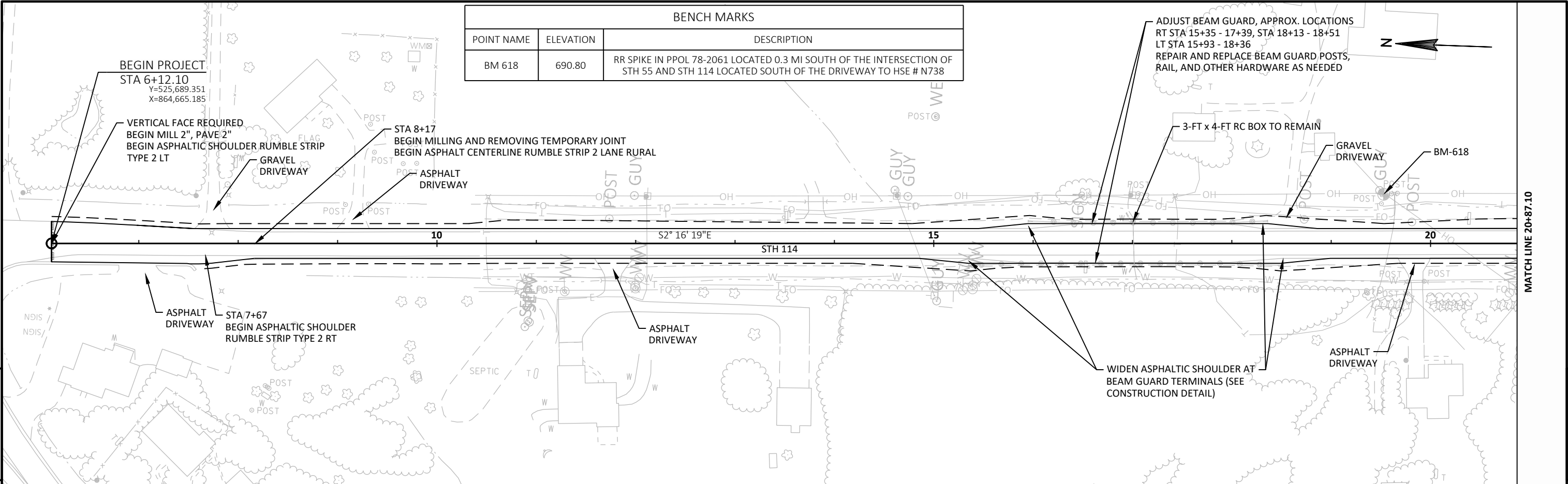
|                |         |    |         |          | 650. 8000<br>CONSTRUCTI ON<br>STAKI NG<br>RESURFACING<br>REFERENCE | 650. 9910<br>CONSTRUCTI ON<br>STAKI NG<br>SUPPLEMENTAL<br>CONTROL |
|----------------|---------|----|---------|----------|--|---|
| CATEGORY       | STATION | TO | STATION | LOCATION | LF   | LS  |
| 0010           | 6+12    | -  | 342+18  | STH 114  | 33605  | 1   |
| PROJECT TOTALS |         |    |         |          | 33605  | 1   |

SAW CUT SUMMARY

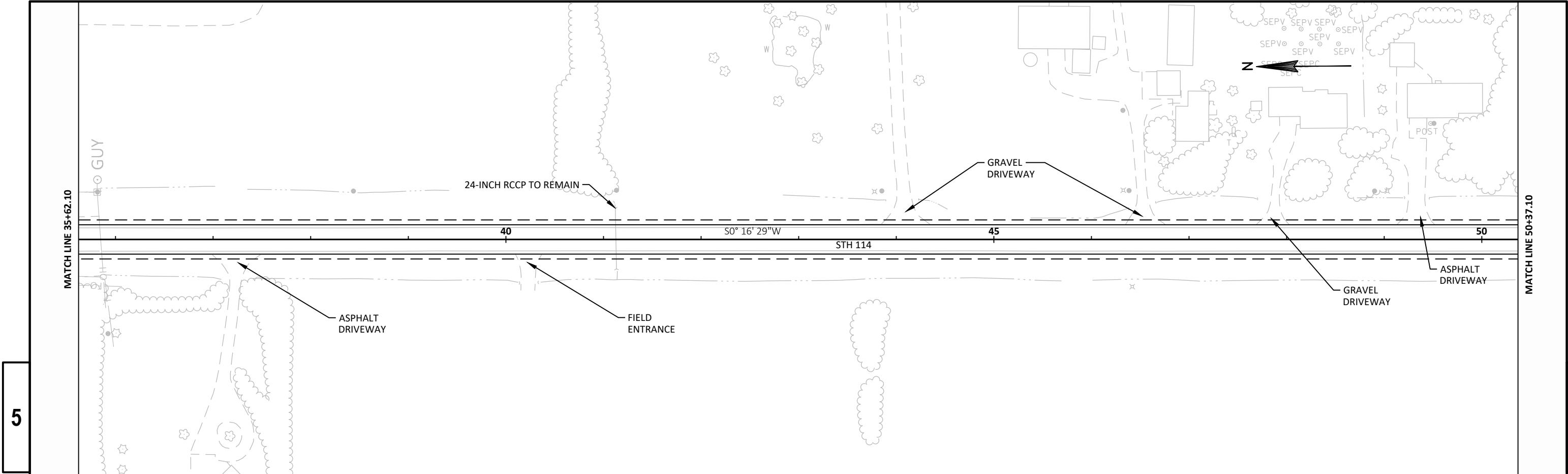
|                |         |    |         |                |                   | 690. 0150<br>SAWI NG<br>ASPHALT | 690. 0250<br>SAWI NG<br>CONCRETE |   |
|----------------|---------|----|---------|----------------|-------------------|---------------------------------|----------------------------------|---|
| CATEGORY       | STATION | TO | STATION | OFFSET         | LOCATION          | LF                              | LF                               | REMARKS   |
| 0010           | 6+12    | -  | 6+12    | LT & RT        | STH 114           | 41                              | -                                | BEGIN PROJECT   |
|                | 14+35   | -  | 14+90   | LT & RT        | KEES RD. SOUTH    | 32                              | -                                |   |
|                | 24+06   | -  | 24+98   | LT & RT        | ERTL RD. SOUTH    | 33                              | -                                |   |
|                | 35+18   | -  | 35+80   | LT & RT        | HARWOOD RD. SOUTH | 28                              | -                                |   |
|                | 34+18   | -  | 34+80   | LT & RT        | HARWOOD RD. NORTH | 28                              | -                                |   |
|                | 45+12   | -  | 45+48   | LT & RT        | KRUEGER LN. NORTH | 24                              | -                                |   |
|                | 55+19   | -  | 55+82   | LT & RT        | ELM RD. SOUTH     | 29                              | -                                |   |
|                | 54+17   | -  | 54+80   | LT & RT        | ELM RD. NORTH     | 28                              | -                                |   |
|                | 65+24   | -  | 65+77   | LT & RT        | CTH BB SOUTH      | 28                              | -                                |   |
|                | 64+17   | -  | 64+78   | LT & RT        | CTH BB NORTH      | 30                              | -                                |   |
|                | 75+20   | -  | 75+83   | LT & RT        | MCHUGH RD. SOUTH  | 25                              | -                                |   |
|                | 74+19   | -  | 74+80   | LT & RT        | MCHUGH RD. NORTH  | 28                              | -                                |   |
|                | 85+26   | -  | 85+87   | LT & RT        | 12TH ST. NORTH    | 35                              | -                                |   |
|                | 94+59   | -  | 94+80   | LT & RT        | 11TH ST. SOUTH    | -                               | -                                |   |
|                | 104+57  | -  | 104+80  | LT & RT        | 10TH ST. SOUTH    | -                               | -                                |   |
|                | 115+20  | -  | 115+49  | LT & RT        | 9TH ST SOUTH      | 36                              | -                                |   |
|                | 114+55  | -  | 114+80  | LT & RT        | 9TH ST NORTH      | 34                              | -                                |   |
|                |         |    |         |                |                   |                                 |                                  | CURB AND GUTTER SAW CUT TOTALS, LOCATIONS<br>BROKEN OUT IN CURB AND GUTTER REMOVAL<br>SUMMARY |
|                |         |    |         | LT & RT        | HARWOOD RD.       | 87                              | 18                               |   |
|                | 328+07  | -  | 339+38  | STH 114 10' RT | STH 114           | 1135                            | 1131                             | FULL DEPTH / SHOULDER REPLACEMENT   |
|                | 328+07  | -  | 339+35  | STH 114 10' LT | STH 114           | 1132                            | 1128                             | FULL DEPTH / SHOULDER REPLACEMENT   |
|                | 339+38  | -  | 342+18  | STH 114 10' RT | STH 114           | 23                              | 279                              | FULL DEPTH / SHOULDER REPLACEMENT   |
|                | 339+35  | -  | 342+18  | STH 114 10' LT | STH 114           | 16                              | 282                              | FULL DEPTH / SHOULDER REPLACEMENT   |
|                | 342+18  | -  | 342+18  | LT & RT        | STH 114           | 47                              | -                                | END PROJECT   |
| PROJECT TOTALS |         |    |         |                |                   | 2899                            | 2838                             |   |

NOTE: IF A VERTICAL FACE CAN BE OBTAINED WITHOUT A SAW CUT, SAW CUT CAN BE OMITTED

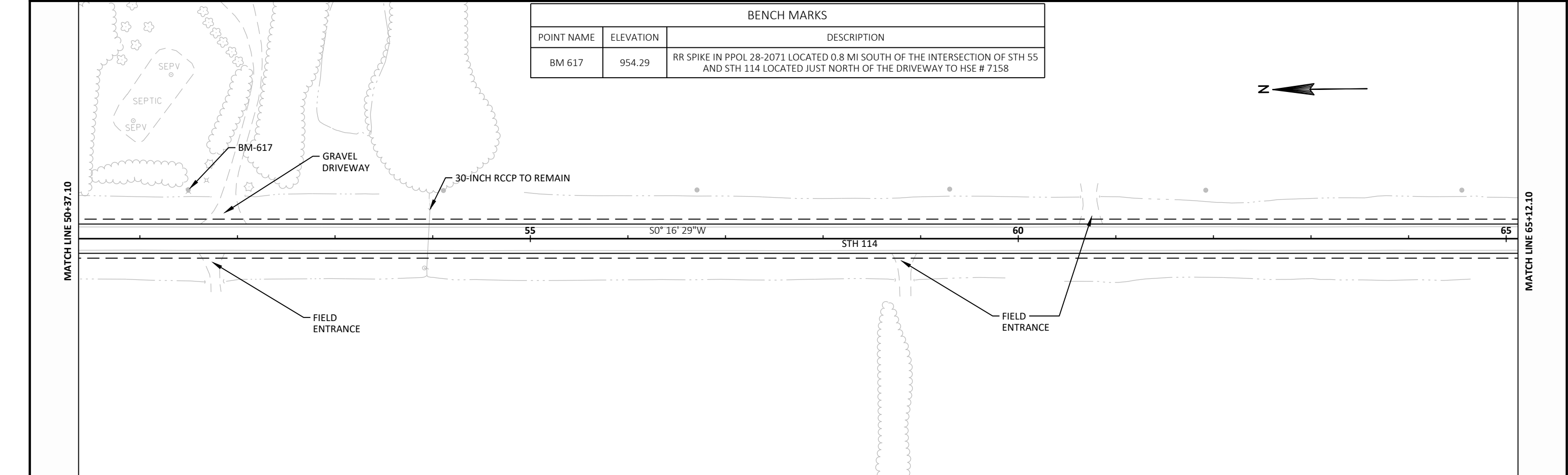
| BENCH MARKS |           |   |
|-------------|-----------|---|
| POINT NAME  | ELEVATION | DESCRIPTION   |
| BM 618      | 690.80    | RR SPIKE IN PPOL 78-2061 LOCATED 0.3 MI SOUTH OF THE INTERSECTION OF STH 55 AND STH 114 LOCATED SOUTH OF THE DRIVEWAY TO HSE # N738 |

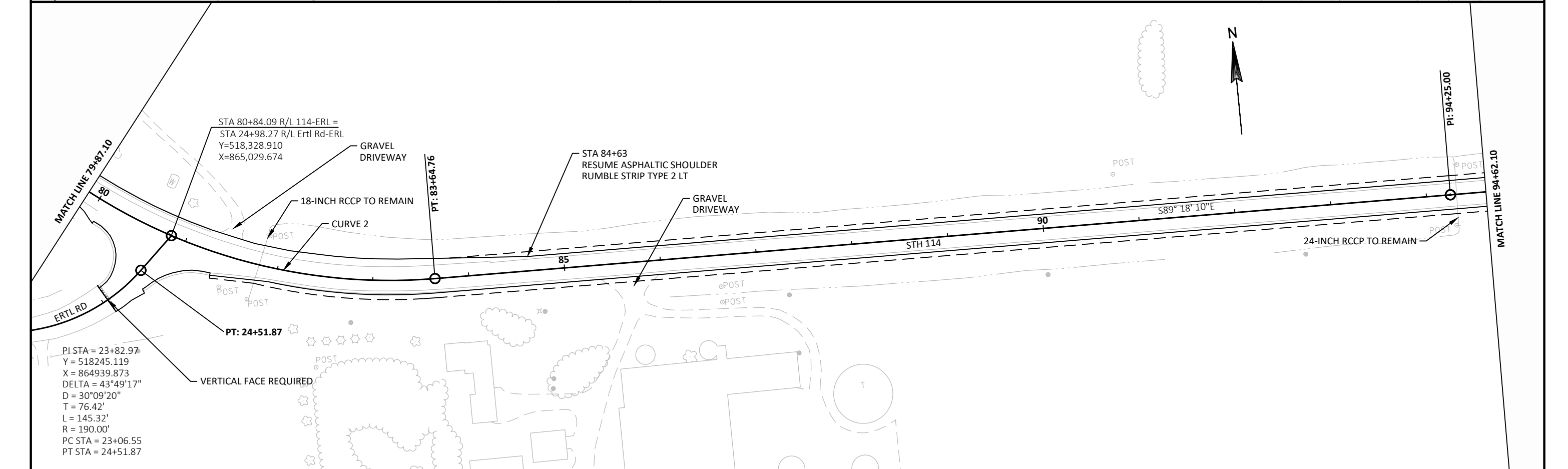
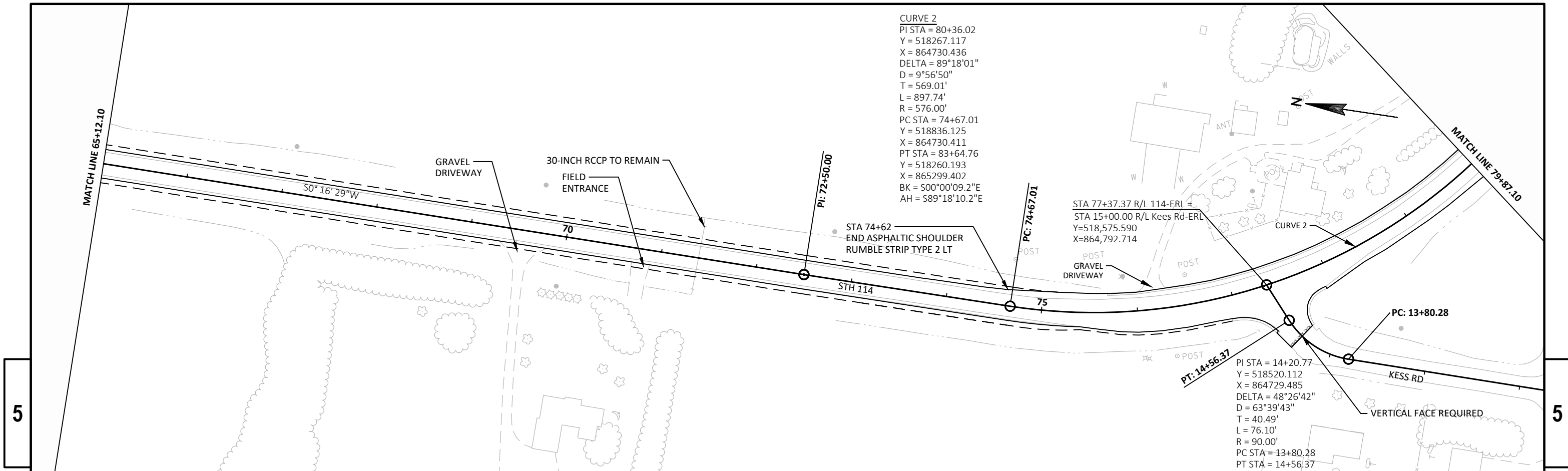


|                        |              |                 |      |       |   |
|------------------------|--------------|-----------------|------|-------|---|
| PROJECT NO: 4580-11-60 | HWY: STH 114 | COUNTY: CALUMET | PLAN | SHEET | E |
|------------------------|--------------|-----------------|------|-------|---|

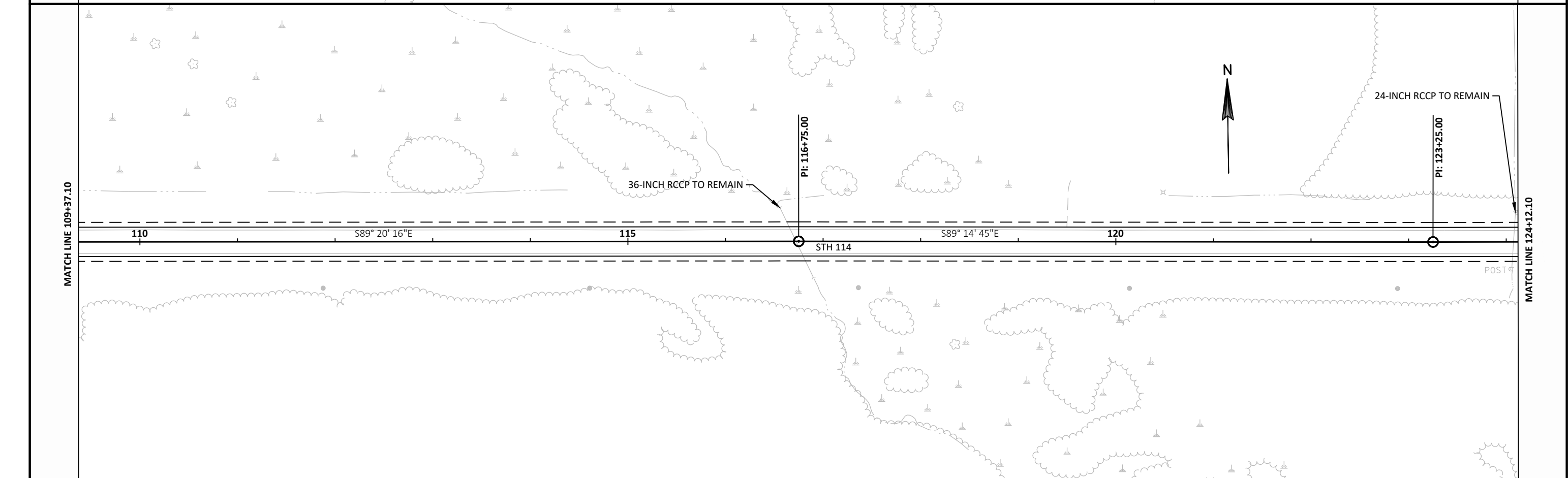
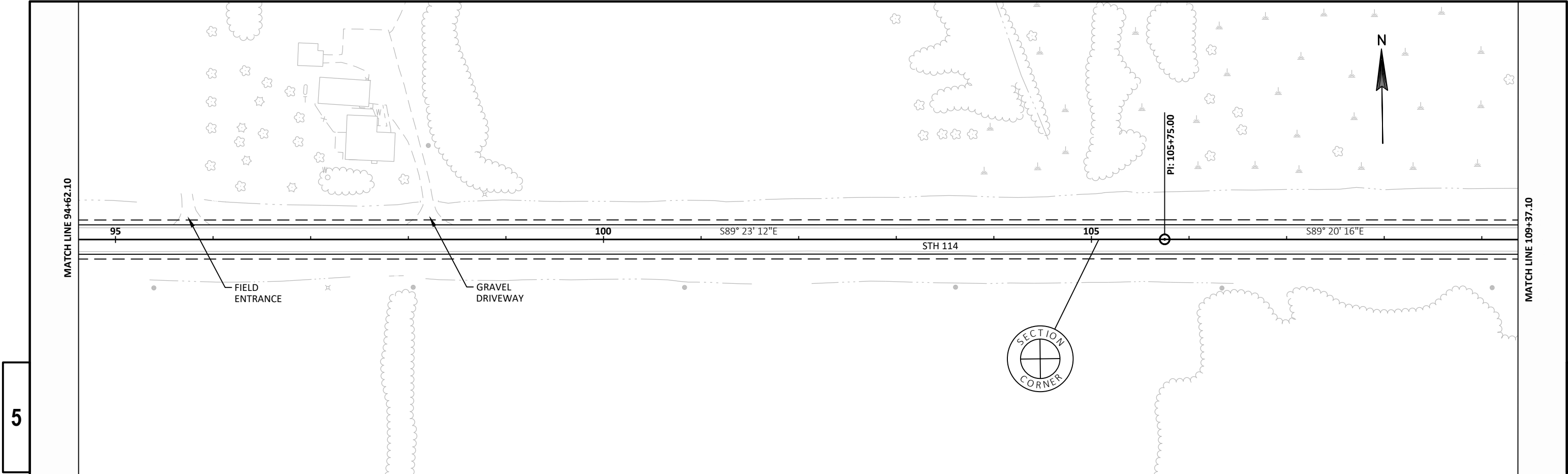


| BENCH MARKS |           |  |
|-------------|-----------|--|
| POINT NAME  | ELEVATION | DESCRIPTION  |
| BM 617      | 954.29    | RR SPIKE IN PPOL 28-2071 LOCATED 0.8 MI SOUTH OF THE INTERSECTION OF STH 55 AND STH 114 LOCATED JUST NORTH OF THE DRIVEWAY TO HSE # 7158 |

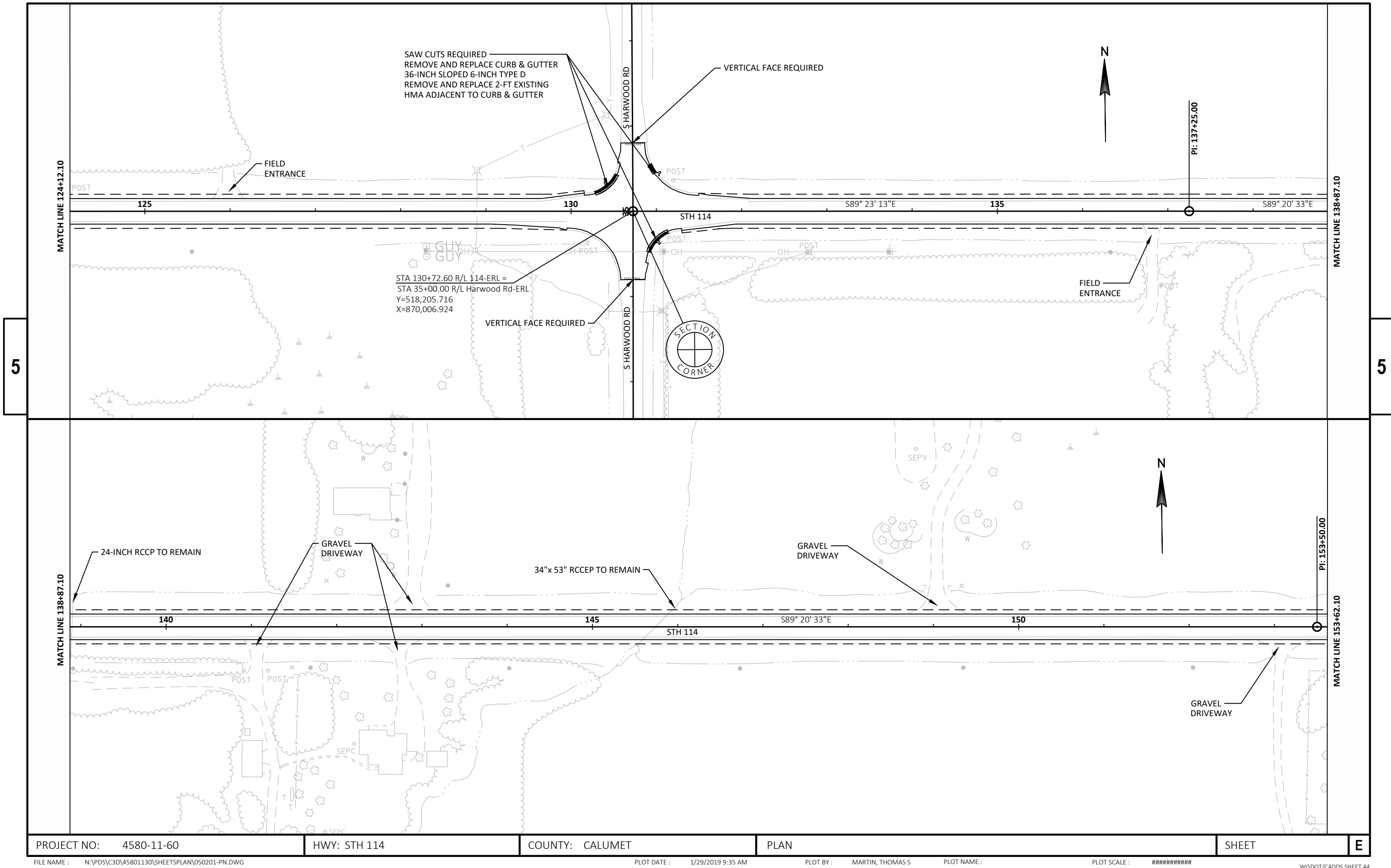




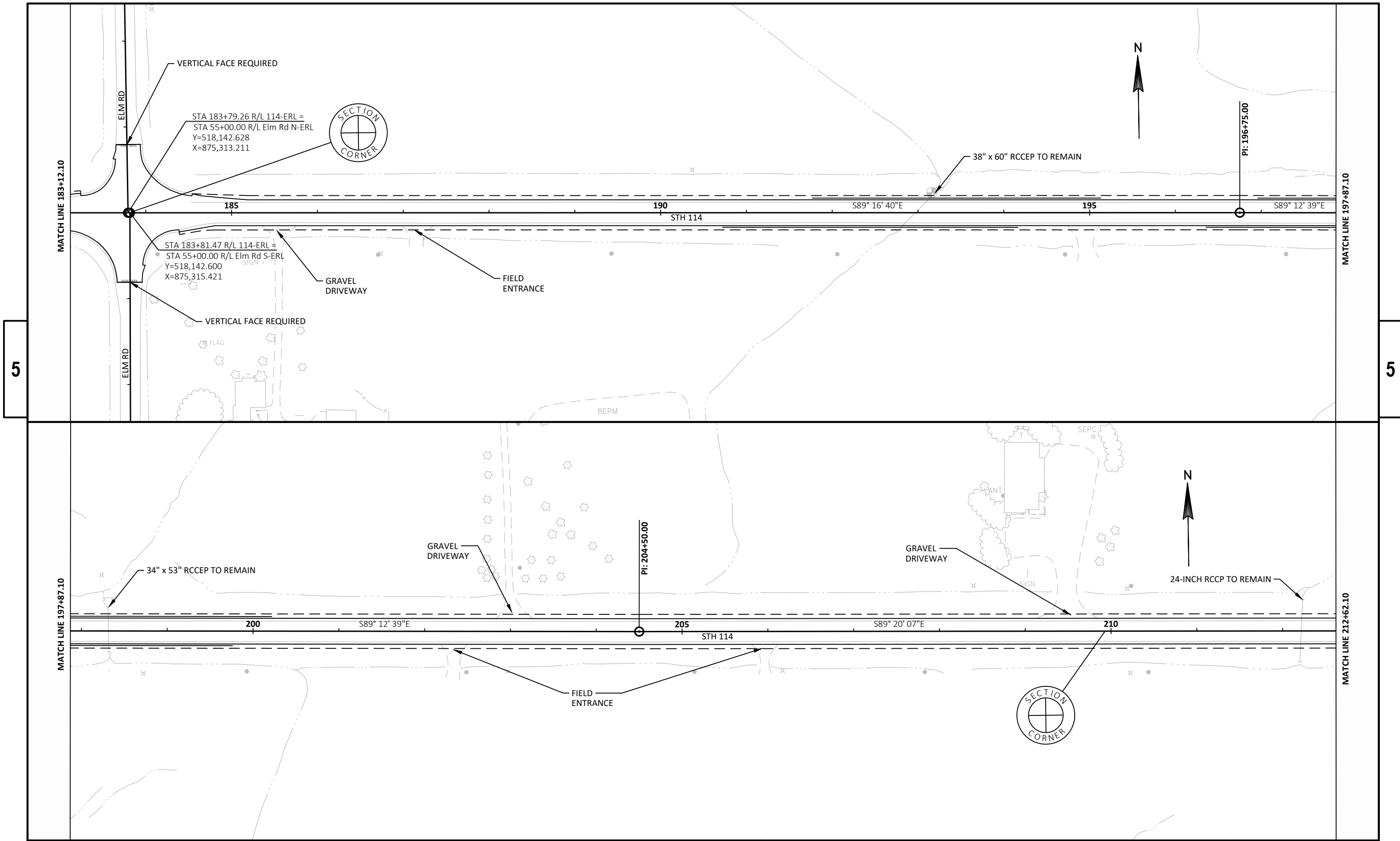
|                        |              |                 |      |       |   |
|------------------------|--------------|-----------------|------|-------|---|
| PROJECT NO: 4580-11-60 | HWY: STH 114 | COUNTY: CALUMET | PLAN | SHEET | E |
|------------------------|--------------|-----------------|------|-------|---|



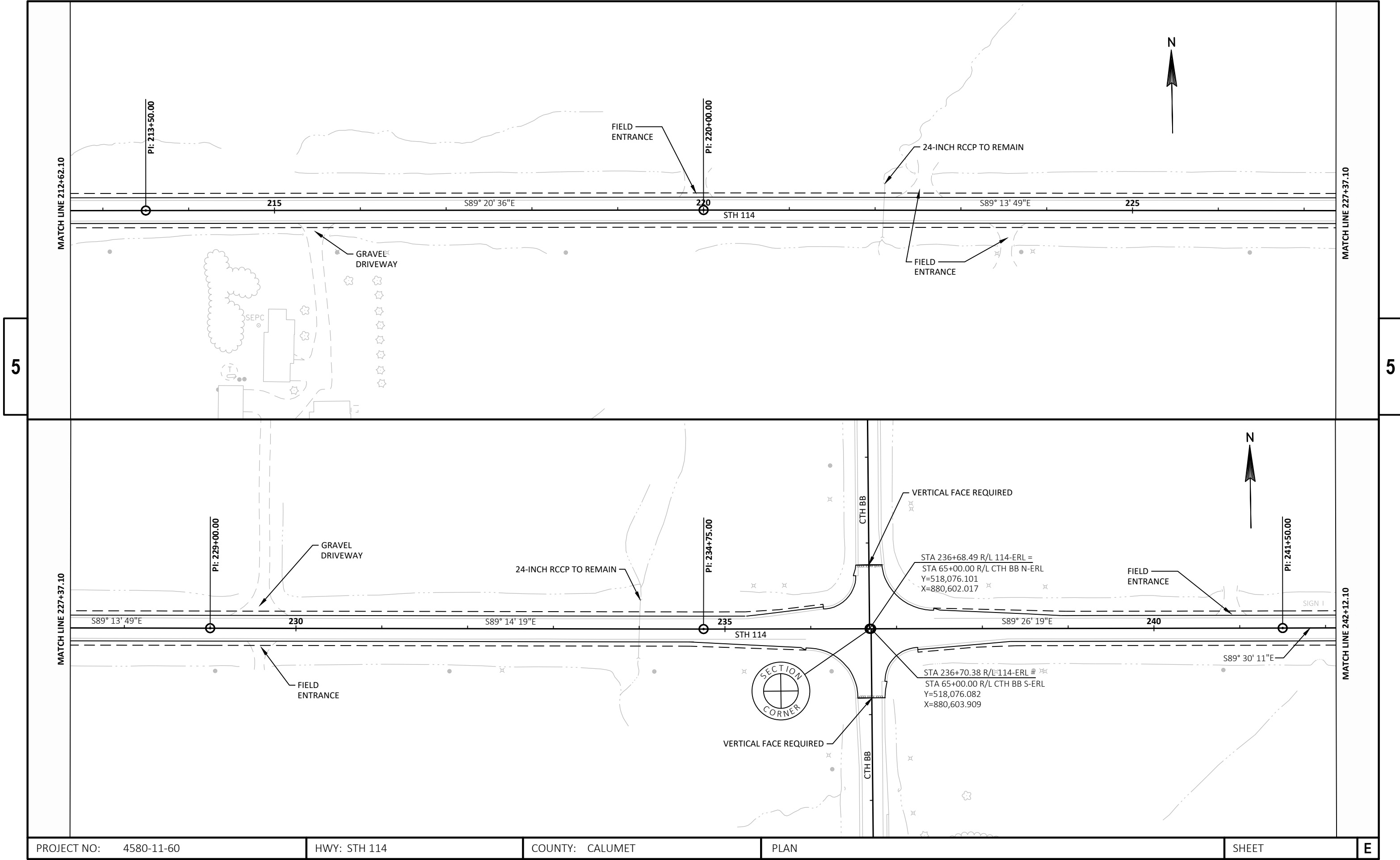
|                        |              |                 |      |       |   |
|------------------------|--------------|-----------------|------|-------|---|
| PROJECT NO: 4580-11-60 | HWY: STH 114 | COUNTY: CALUMET | PLAN | SHEET | E |
|------------------------|--------------|-----------------|------|-------|---|

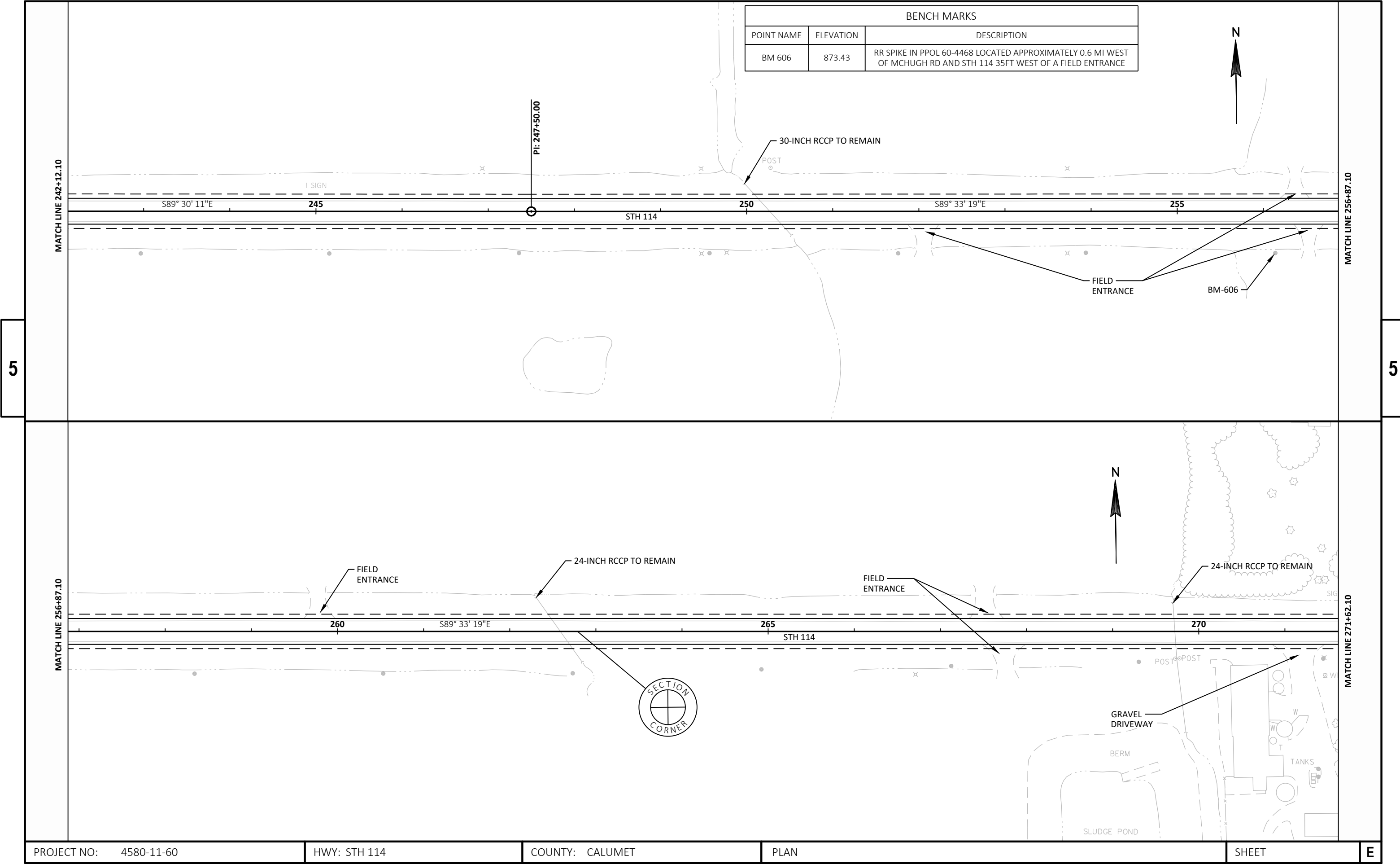


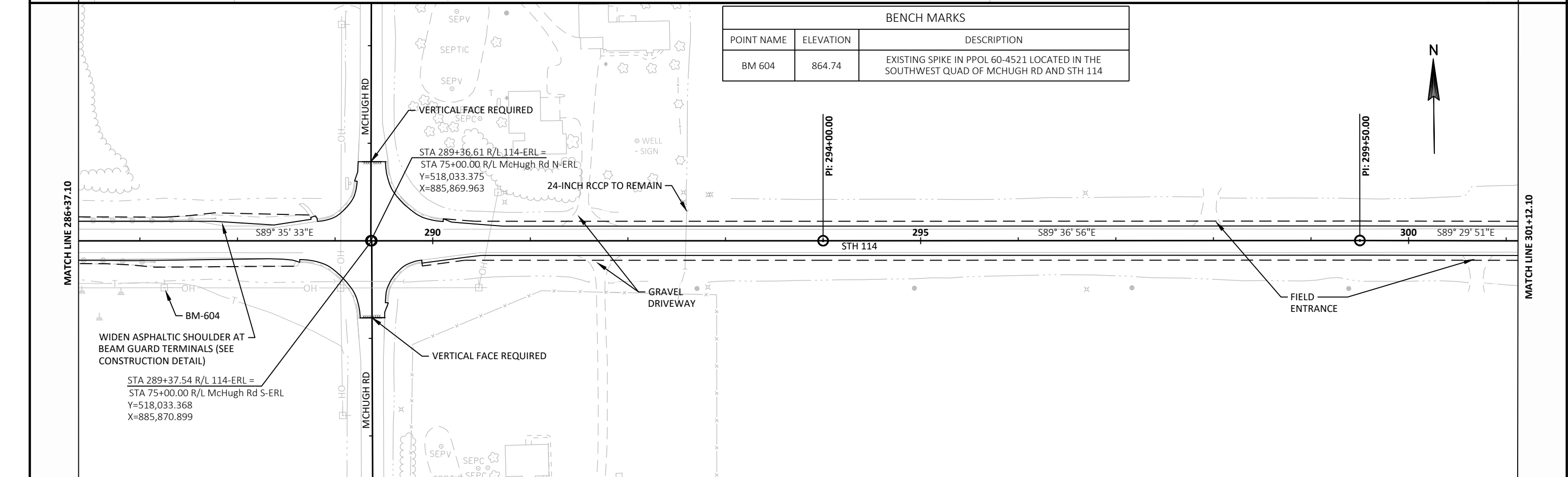
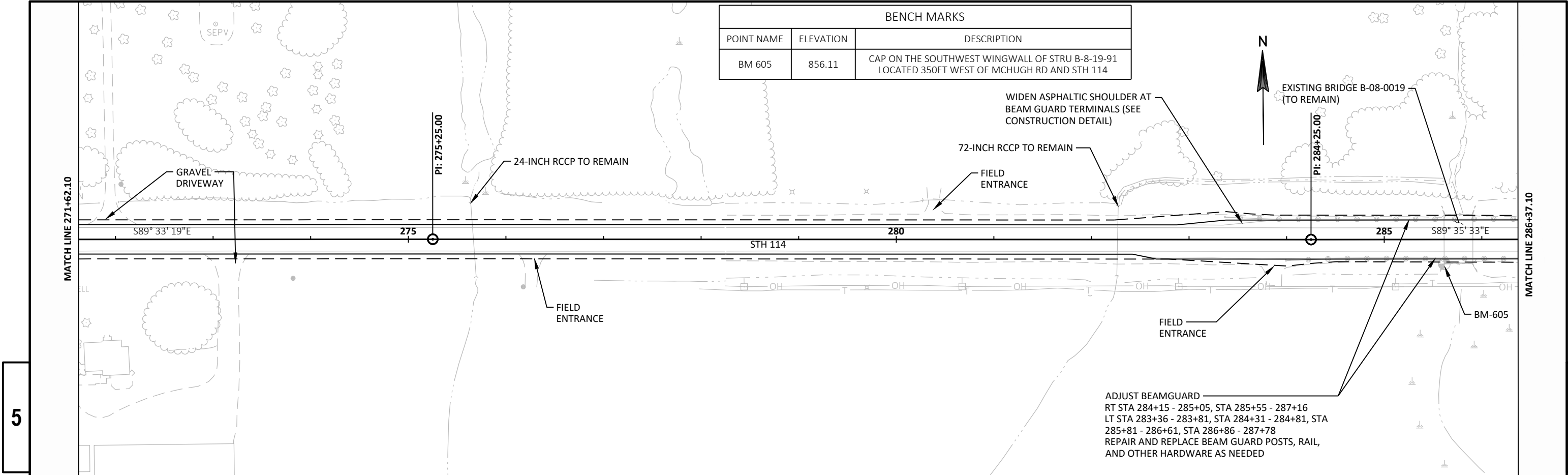


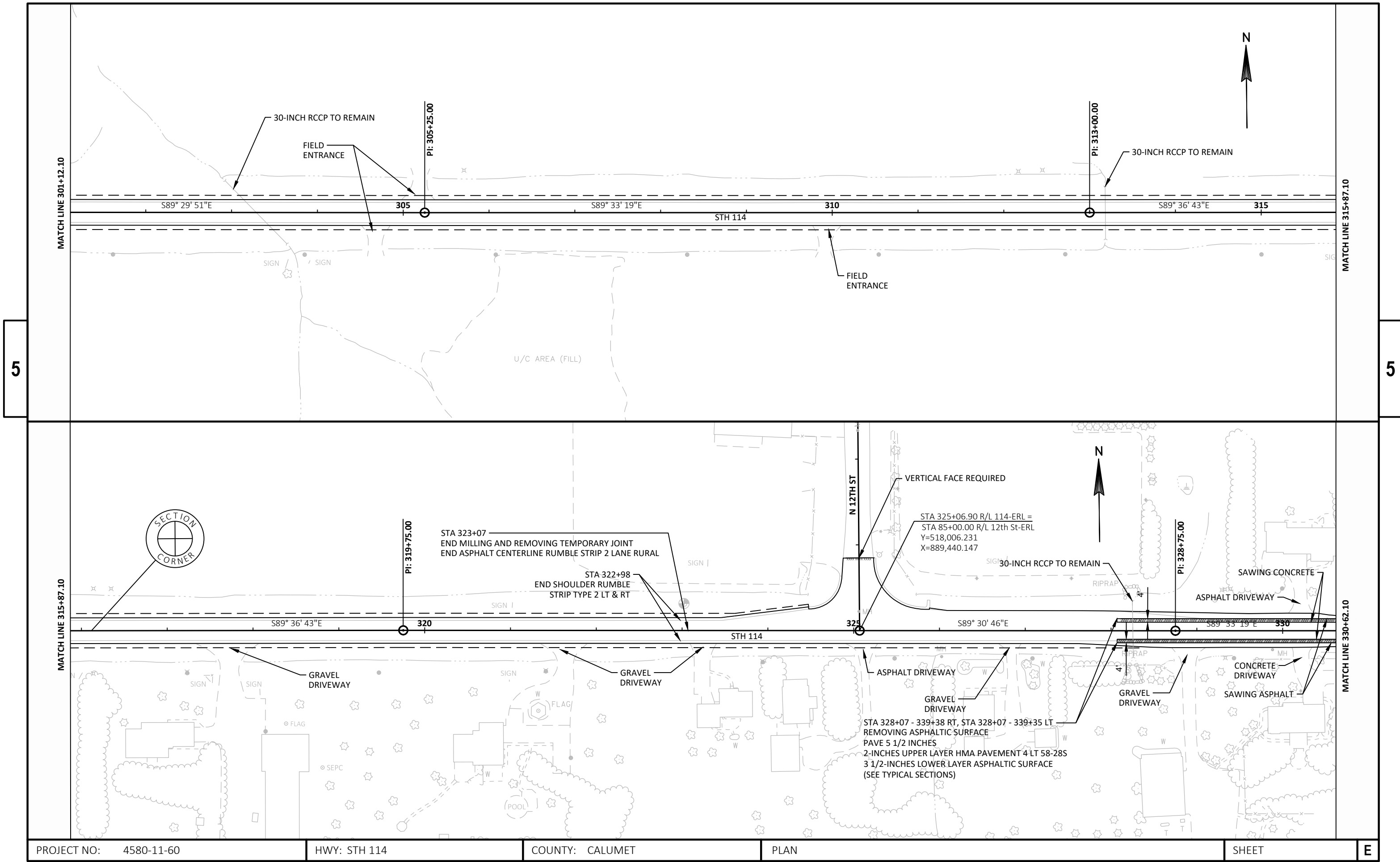


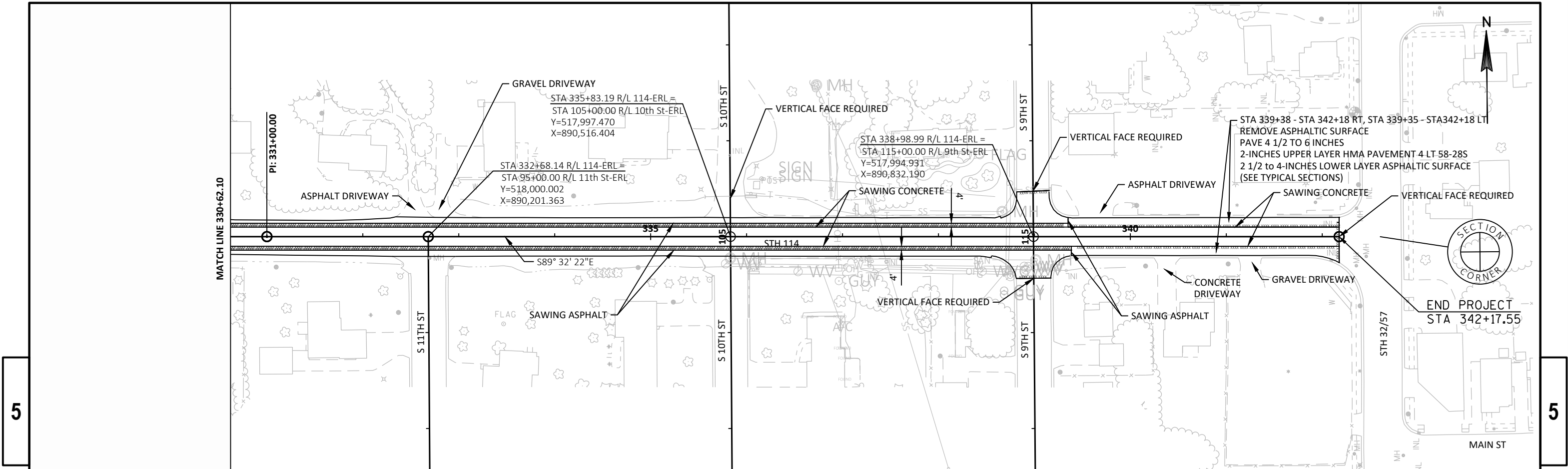
|                        |              |                 |      |       |   |
|------------------------|--------------|-----------------|------|-------|---|
| PROJECT NO: 4580-11-60 | HWY: STH 114 | COUNTY: CALUMET | PLAN | SHEET | E |
|------------------------|--------------|-----------------|------|-------|---|











PROJECT NO: 4580-11-60

HWY: STH 114

COUNTY: CALUMET

PLAN

SHEET

E

FILE NAME : N:\PDS\C3D\45801130\SHEETS\PLAN\050201-PN.DWG  
LAYOUT NAME - 050212-pn

PLOT DATE : 1/29/2019 9:37 AM

PLOT BY : MARTIN, THOMAS S

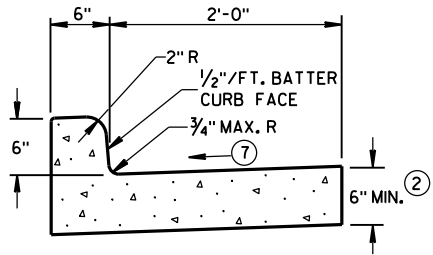
PLOT NAME :

PLOT SCALE : 1 IN:100 FT

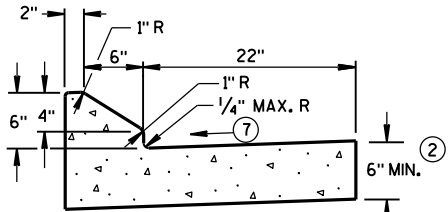
WISDOT/CADD5 SHEET 44

Standard Detail Drawing List

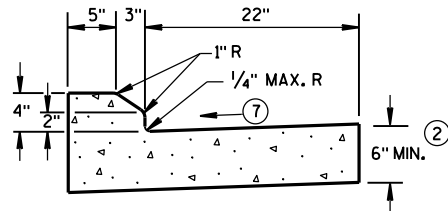
|           |  |
|-----------|--|
| 08D01-20A | CONCRETE CURB & GUTTER   |
| 08D01-20B | CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS   |
| 08D04-05  | CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES   |
| 08E10-02  | INLET PROTECTION TYPE A, B, C AND D  |
| 13A10-02B | 2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING  |
| 13A10-02C | 2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING  |
| 13A11-03A | 2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING   |
| 13A11-03B | 2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING   |
| 14B15-11A | STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS  |
| 14B15-11B | STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS  |
| 14B15-11C | STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS   |
| 14B24-09A | STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL   |
| 14B24-09B | STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL   |
| 14B24-09C | STEEL PLATE BEAM GUARD ENERGY ABSORBING TERMINAL   |
| 14B29-01  | SAFETY EDGE  |
| 15C04-05  | TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC |
| 15C08-19A | LONGITUDINAL MARKING (MAINLINE)  |
| 15C11-07B | CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS                                  |
| 15C12-06  | TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION   |
| 15C19-05A | MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY   |
| 15C33-03  | STOP LINE AND CROSSWALK PAVEMENT MARKING   |
| 15C35-03A | PAVEMENT MARKING (INTERSECTIONS)   |
| 15D20-04  | TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY                                       |
| 15D21-06  | TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE   |
| 15D28-03  | TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY                               |
| 15D38-02A | TEMPORARY TRAFFIC CONTROL SIGN MOUNTING  |
| 15D38-02B | ATTACHMENT OF SIGNS TO POSTS   |
| 15D39-02  | TRAFFIC CONTROL, DROP-OFF SIGNING  |



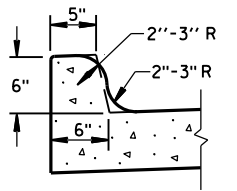
TYPES A<sup>①</sup> & D



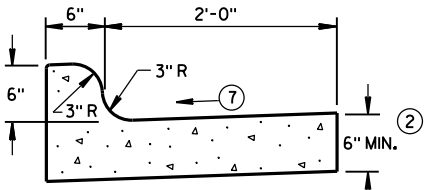
6" SLOPED CURB TYPES G<sup>①</sup> & J



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

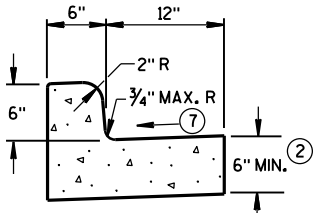


TYPES K<sup>①</sup> & L  
(OPTIONAL CURB SHAPE)



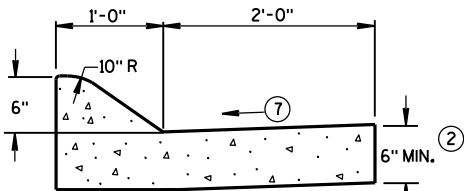
TYPES K<sup>①</sup> & L

CONCRETE CURB & GUTTER 30"

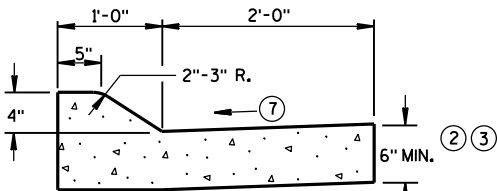


TYPES A<sup>①</sup> & D

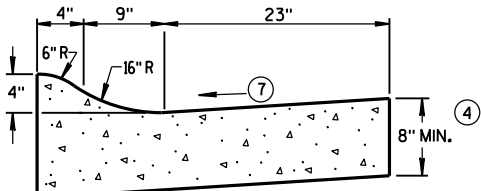
CONCRETE CURB & GUTTER 18"



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

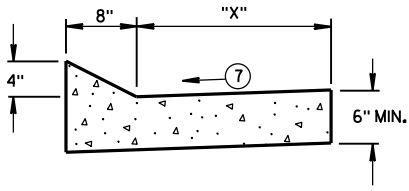


4" SLOPED CURB TYPES A<sup>①</sup> & D



4" SLOPED CURB TYPES R<sup>①</sup> & T<sup>⑤</sup>

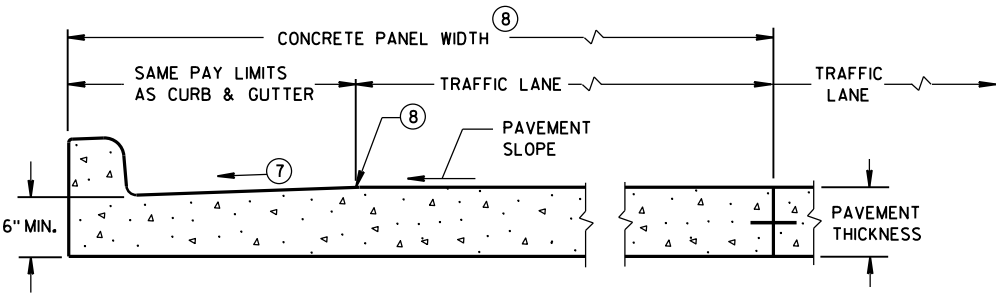
CONCRETE CURB & GUTTER 36"



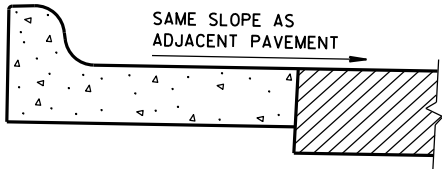
TYPES TBT & TBTT<sup>①</sup>

CONCRETE CURB & GUTTER

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



PARTIAL SECTION OF PAVEMENT  
WITH INTEGRAL CURB & GUTTER



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

GENERAL NOTES

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

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

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

WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

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

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
- ④ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑤ THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
- ⑦ USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- ⑧ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

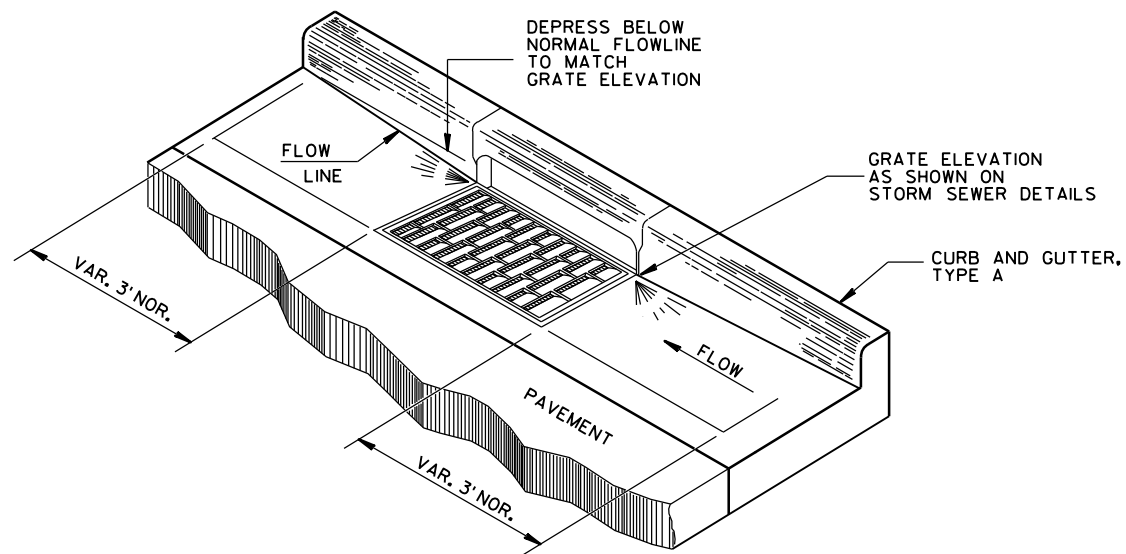
PAVEMENT THICKNESS  
AND MAXIMUM CONCRETE  
PANEL WIDTH TABLE

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

\* BIKE LANE IS NOT SHOWN.

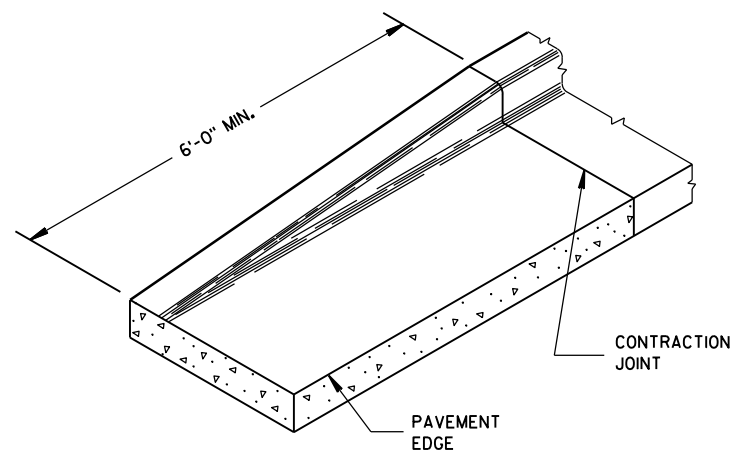
CONCRETE CURB & GUTTER

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

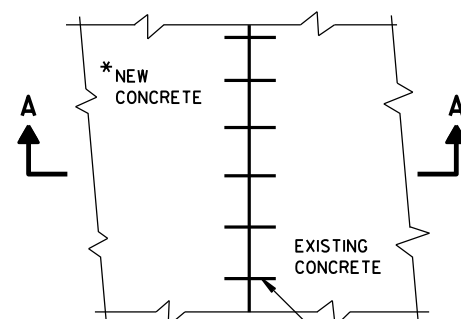


**DETAIL OF CURB AND GUTTER AT INLETS**

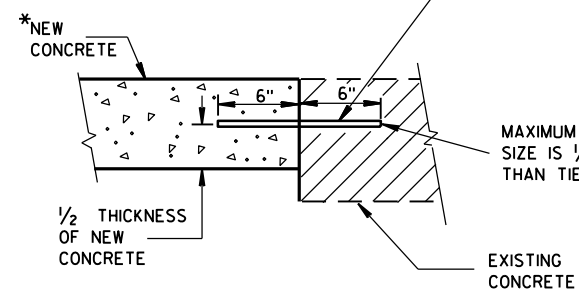
(TYPE H INLET COVER SHOWN)



**END SECTION CURB & GUTTER**



**PLAN VIEW**



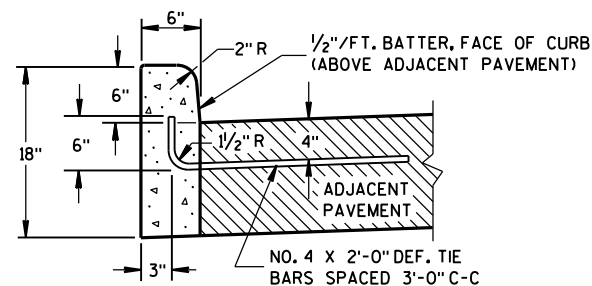
**SECTION A-A  
TIE BARS DRILLED  
INTO EXISTING PAVEMENT**

\*NEW CURB & GUTTER,  
SURFACE DRAINS,  
CONCRETE PAVEMENT  
OR OTHER NEW CONCRETE.

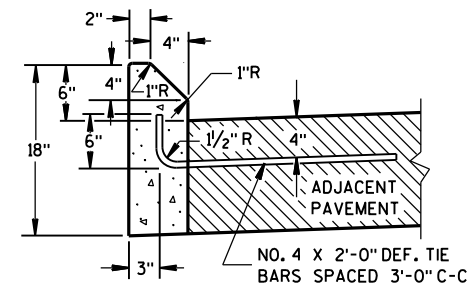
NO. 6 TIE BARS SPACED 2'-6" C-C,  
INSTALLED PERPENDICULAR  
TO THE LONGITUDINAL JOINT.

MAXIMUM DRILL HOLE  
SIZE IS 1/8" GREATER  
THAN TIE BAR DIAMETER

EXISTING  
CONCRETE



**TYPES A<sup>①</sup> & D**



**TYPES G<sup>①</sup> & J**

## GENERAL NOTES

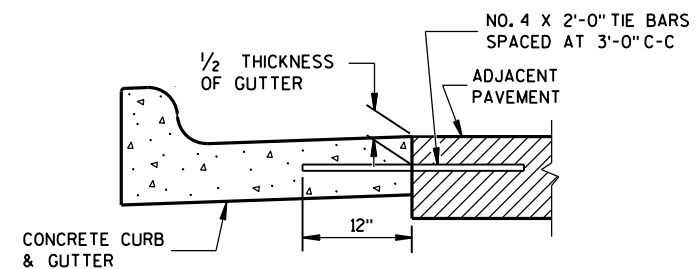
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

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

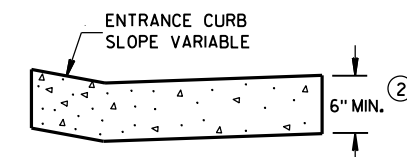
UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K, R AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑨ REFER TO SDD 8D18 AND SDD 8D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.

## CONCRETE CURB



**TYPICAL TIE BAR LOCATION<sup>①</sup>**



**DRIVEWAY ENTRANCE CURB<sup>⑨</sup>**  
(WHEN DIRECTED BY THE ENGINEER)

## CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

June, 2017

DATE

FHWA

/S/ Rodney Taylor

ROADWAY STANDARDS DEVELOPMENT

UNIT SUPERVISOR

## 6



PLAN VIEW  
FLUME AT CURB END



## 6

S.D.D. 8 D 4-5

- ① JOINTS SHALL BE  $\frac{1}{8}$  TO  $\frac{1}{4}$  INCH WIDE BY  $1\frac{1}{2}$  INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
- ② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
- ③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

EXPANSION JOINT

CONCRETE CURB AND GUTTER

8'-0"

4'-0"

EDGE OF PAVEMENT

2" MIN. CURB HEIGHT

4" R

3'-0" MIN.

SURFACE DRAIN IS SYMMETRICAL WHEN CURB AND GUTTER IS CONTINUED

TAPER CURB TO FLOW LINE

JOINTS

SHOULDER OR BERM HINGE POINT

W3 WIRE MESH (SEE SECTION D-D)

RIPRAP

6'-0"

OR AS REQUIRED

1'-0" ON CUT SLOPE

DITCH

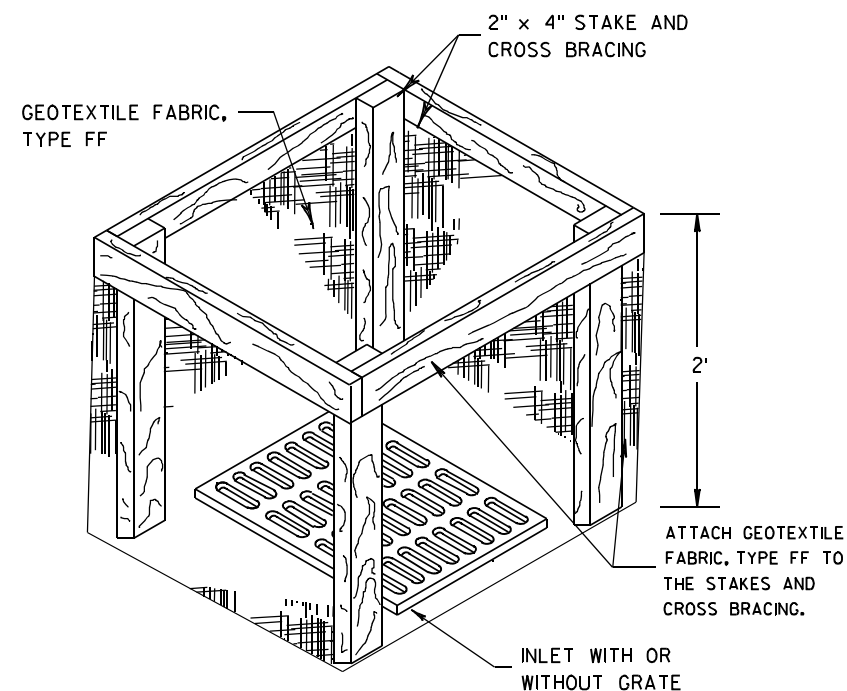
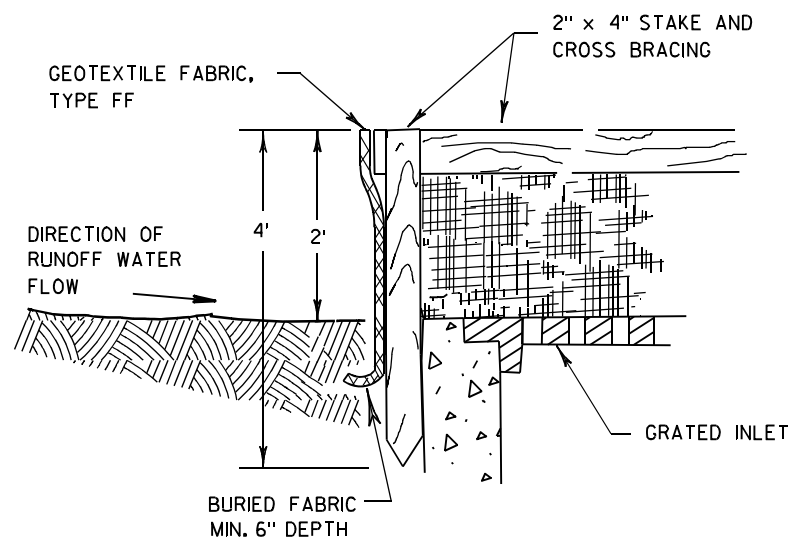
PLAN VIEW

### PLAN VIEW



STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
9-4-08 /S/ Jerry H. Zogg  
DATE ROADWAY STANDARDS DEVELOPMENT  
ENGINEER



**INLET PROTECTION, TYPE A**

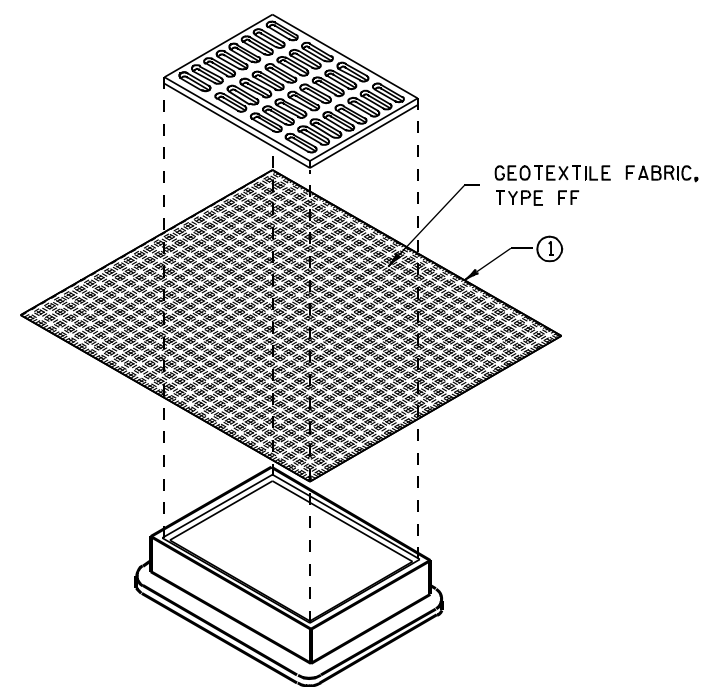
**GENERAL NOTES**

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.

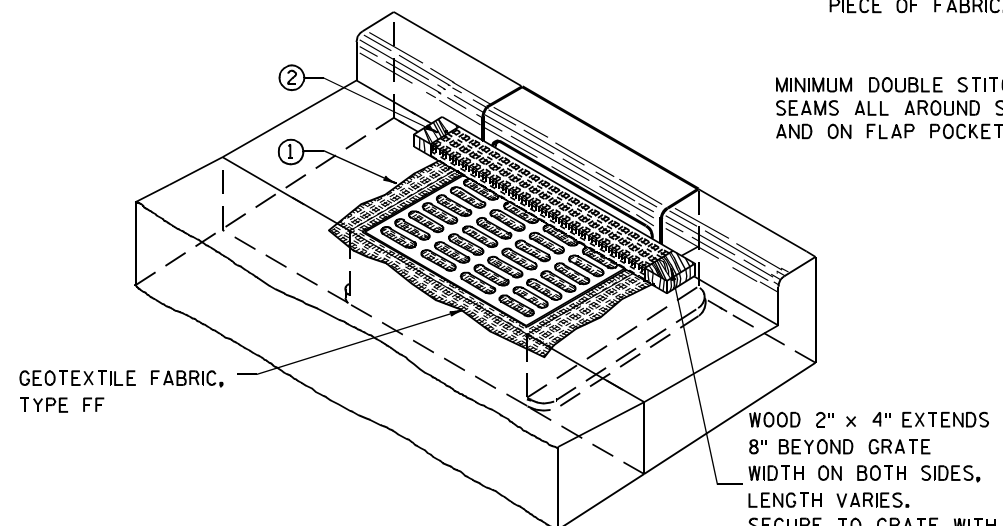
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.

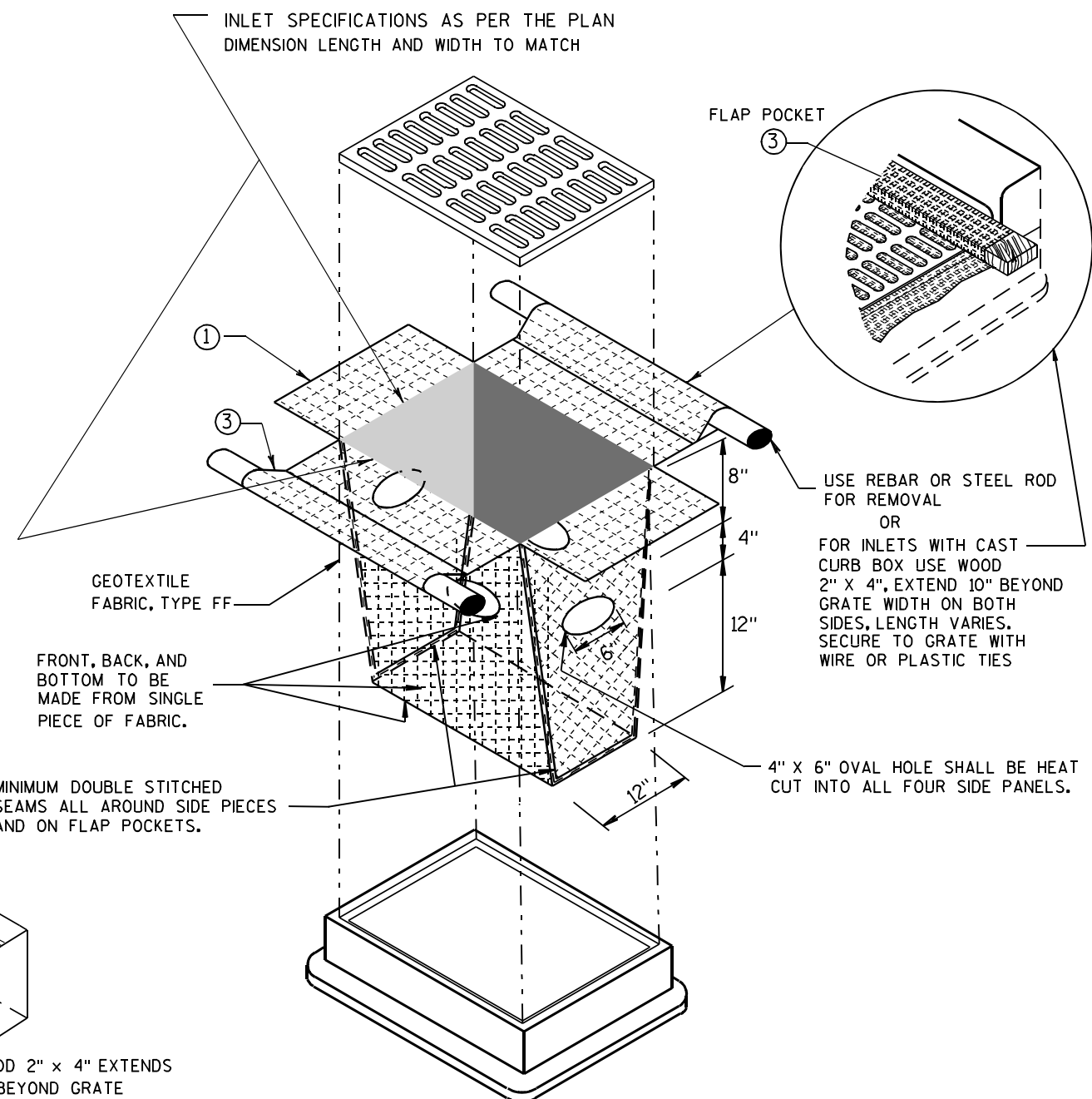
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

**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.



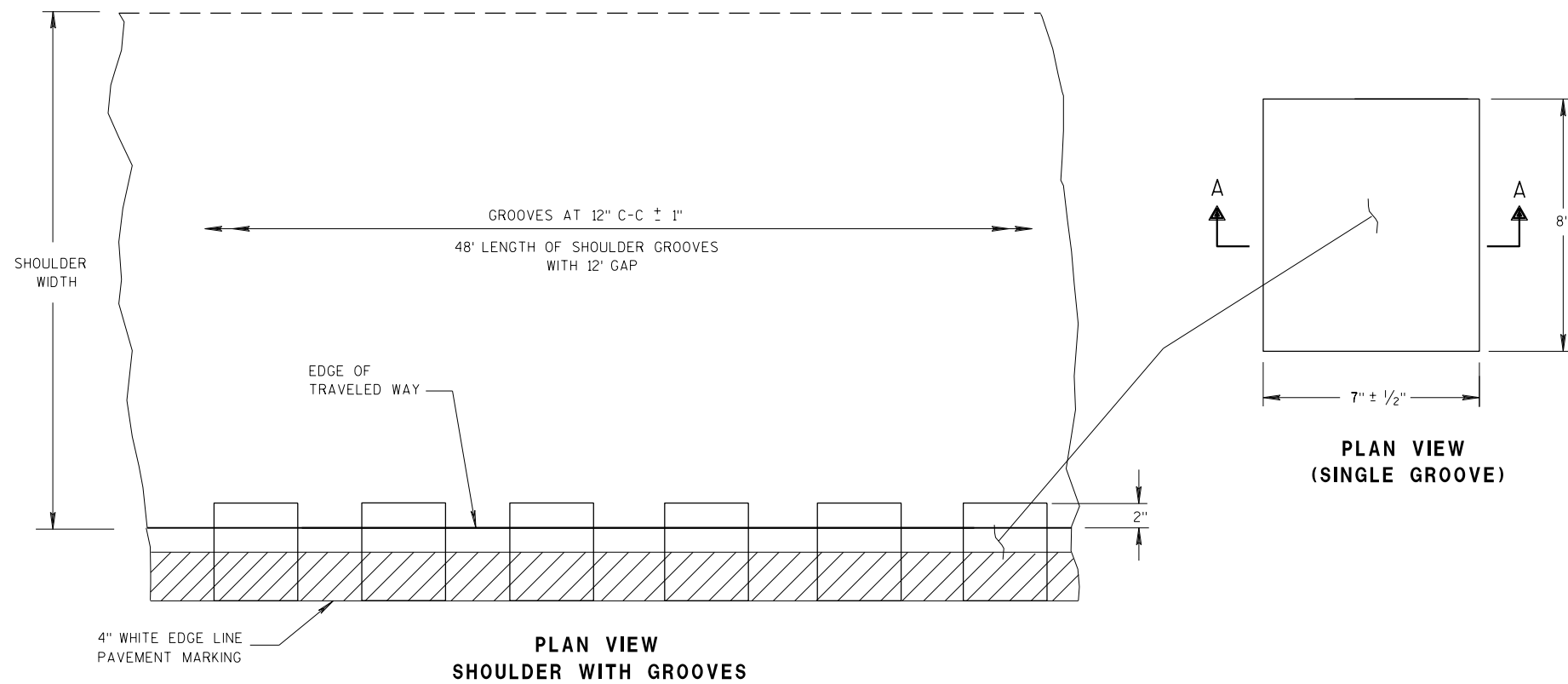
**INLET PROTECTION, TYPE D**

(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 Cannestra  
DATE  
FHWA CHIEF ROADWAY DEVELOPMENT ENGINEER



PLAN VIEW  
SHOULDER WITH GROOVES

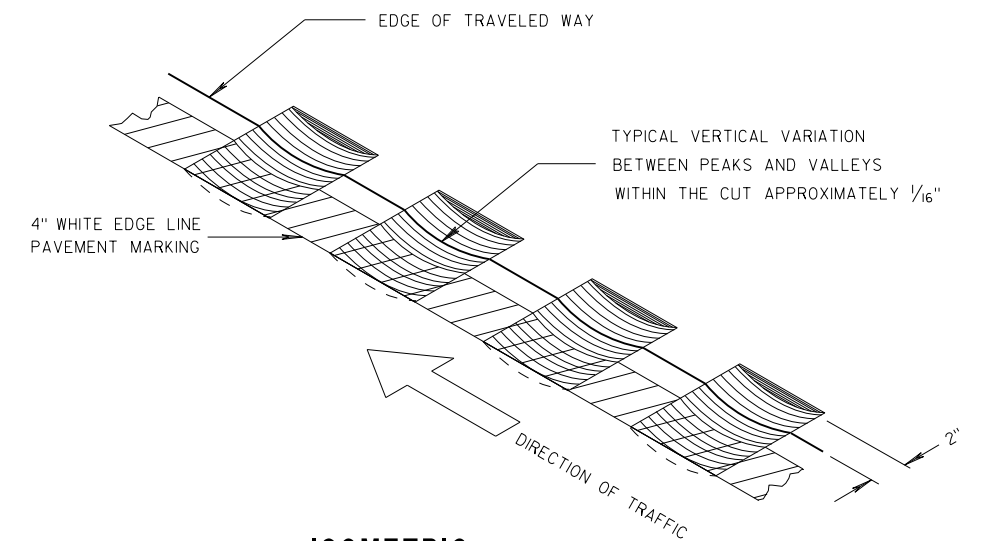
PLAN VIEW  
(SINGLE GROOVE)

## GENERAL NOTES

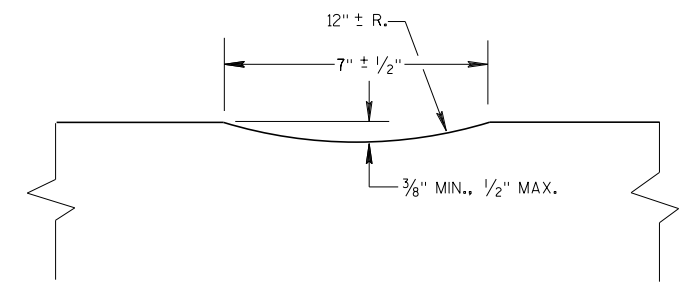
DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

DO NOT MILL SHOULDER GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

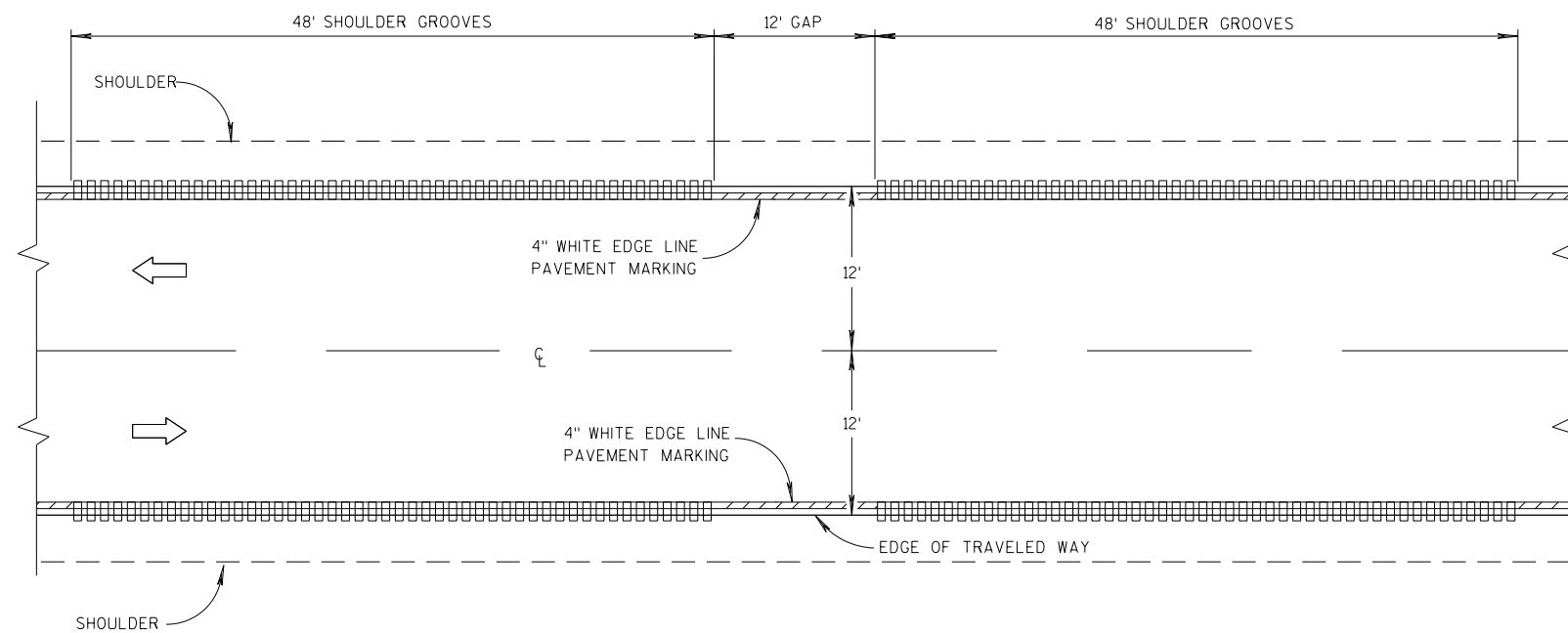
① SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.



## ISOMETRIC



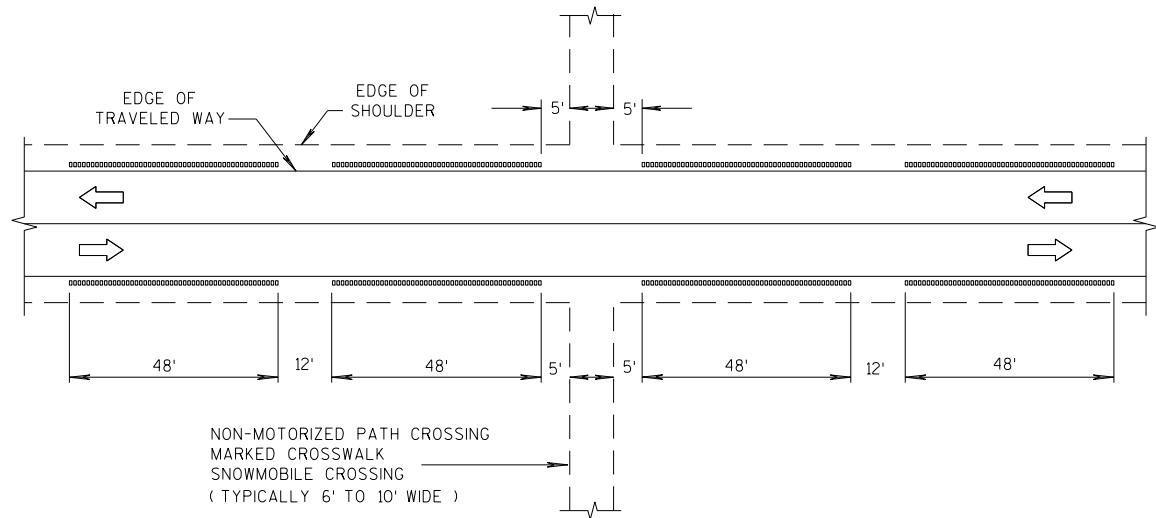
**SECTION A-A**



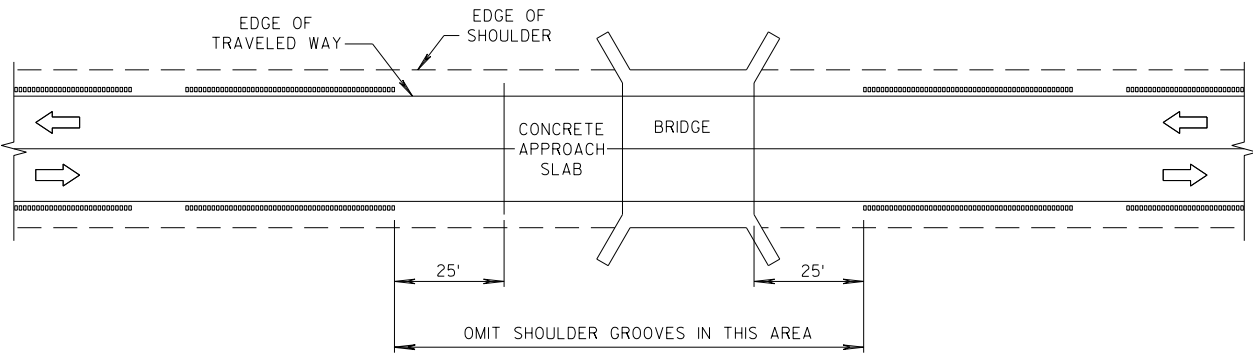
**TYPE 2**  
**2-LANE SHOULDER RUMBLE STRIP**

2-LANE RURAL  
SHOULDER RUMBLE STRIP, MILLING

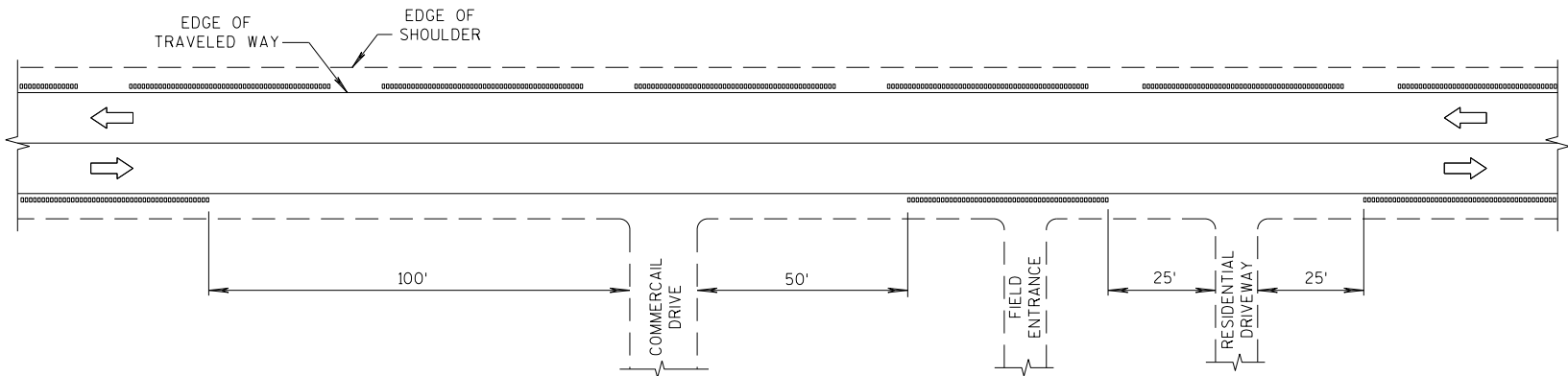
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



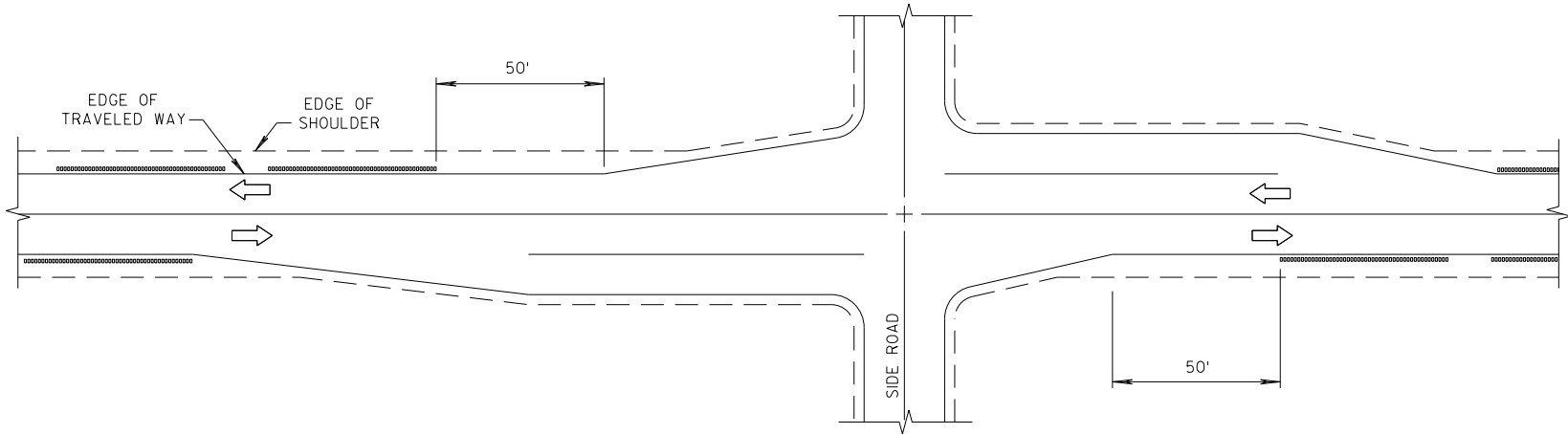
SHOULDER GROOVES AT MISCELLANEOUS CROSSINGS



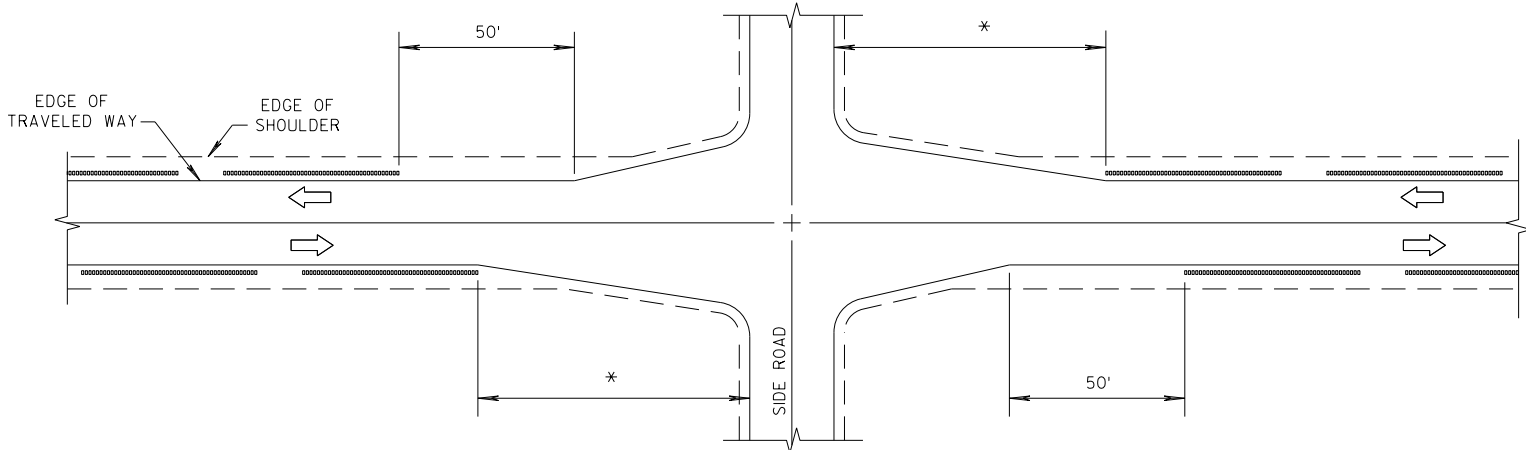
SHOULDER GROOVES AT BRIDGES



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

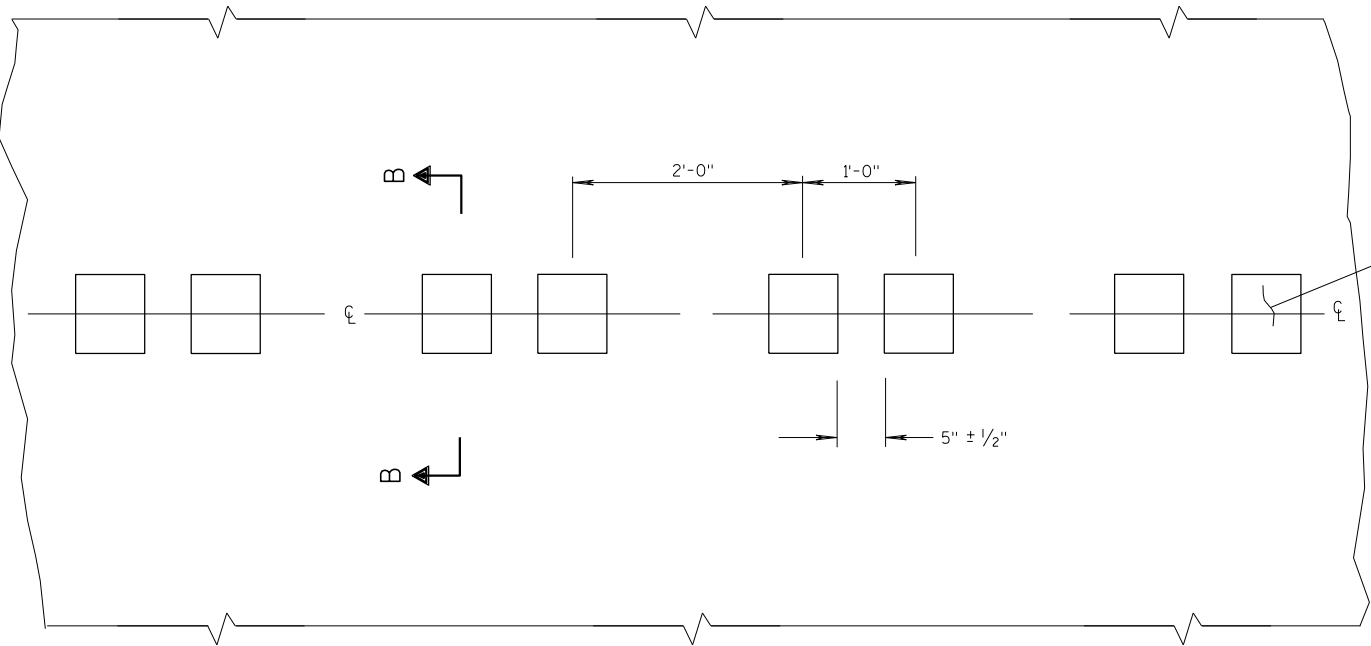


SHOULDER GROOVES AT WITH RIGHT TURN LANE



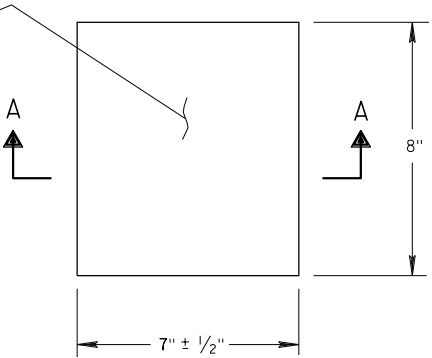
\* GREATER OF 100' OR APPROACH TAPER LENGTH

SHOULDER GROOVES AT INTERSECTIONS WITH APPROACH TAPER



PLAN VIEW  
CENTER LINE WITH GROOVES

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

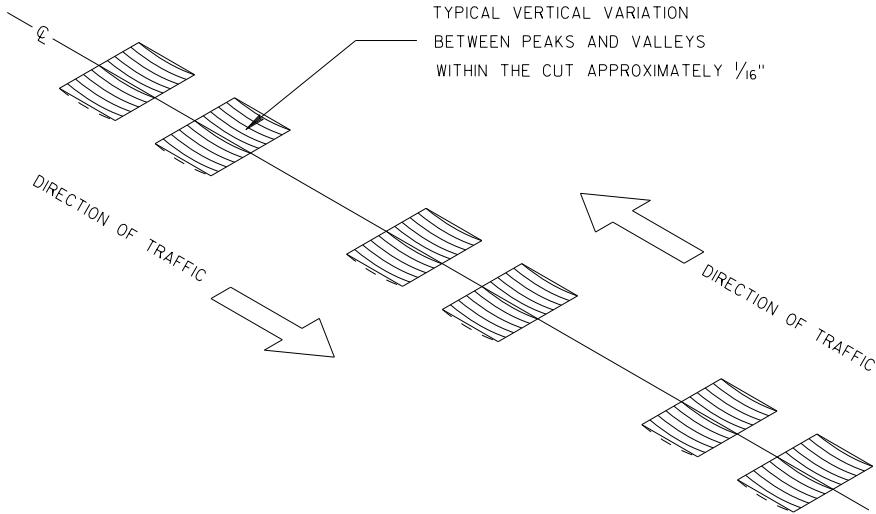


PLAN VIEW  
(SINGLE GROOVE)

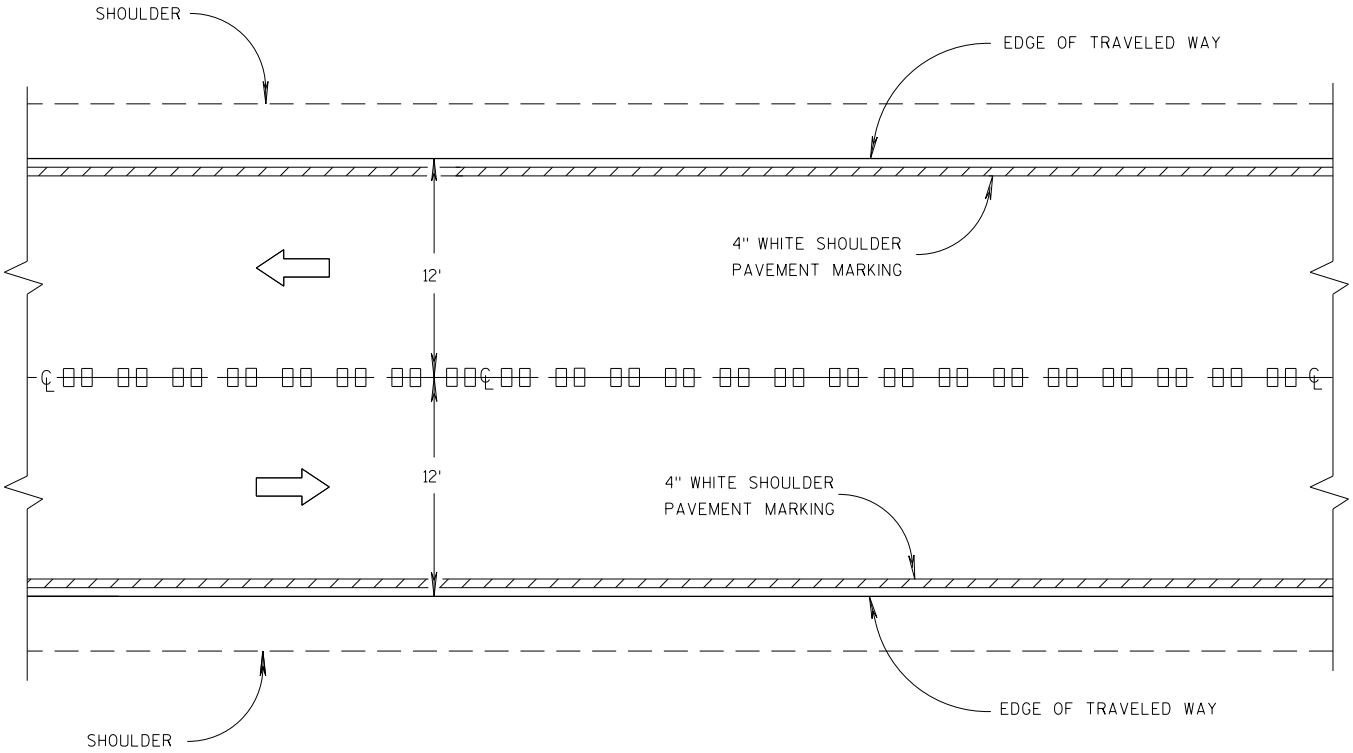
GENERAL NOTES

DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.  
DO NOT MILL CENTER LINE GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.  
INSTALL PERMANENT MARKING EPOXY 4-INCH AFTER THE GROOVES ARE INSTALLED.  
SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

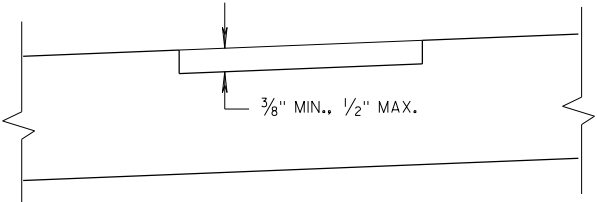
- ① CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.



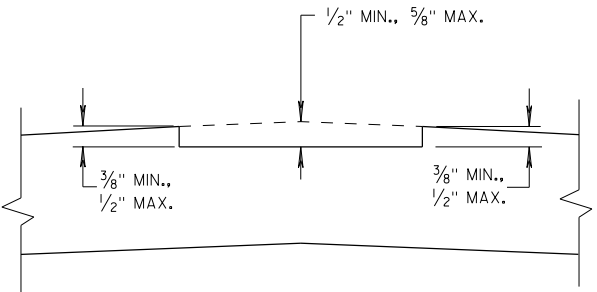
ISOMETRIC



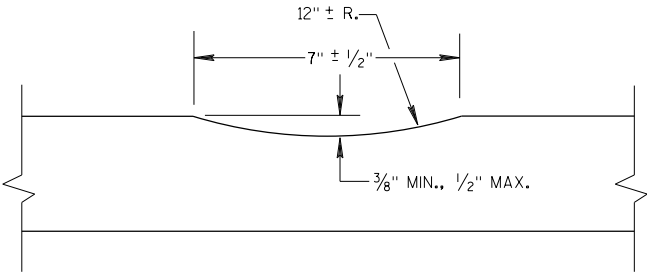
CENTER LINE GROOVES ON TWO-WAY ROADWAYS



SECTION B-B  
SUPERELEVATED ROADWAY



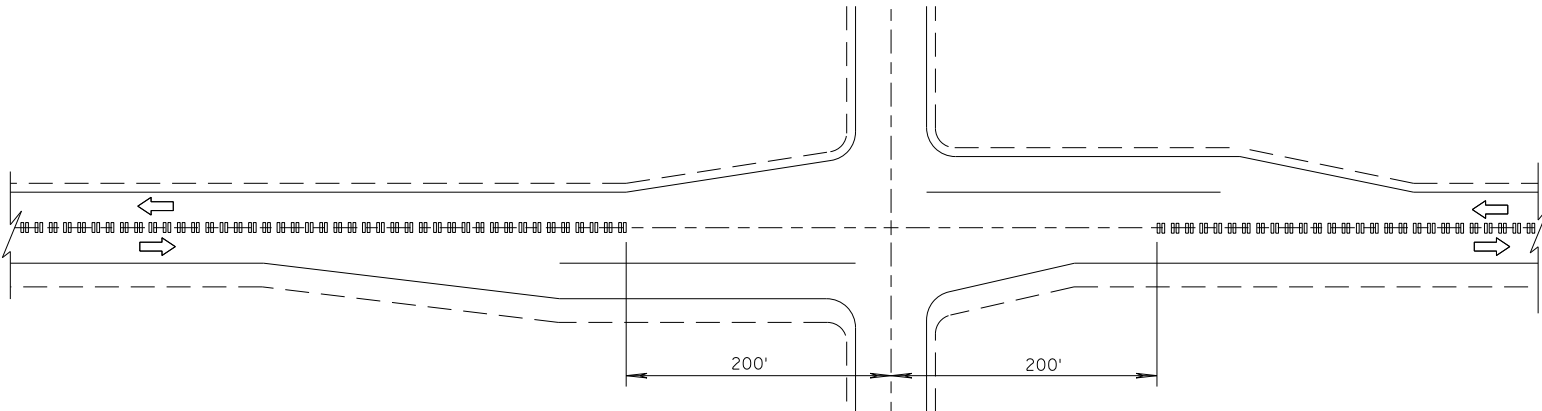
SECTION B-B  
CROWNED ROADWAY



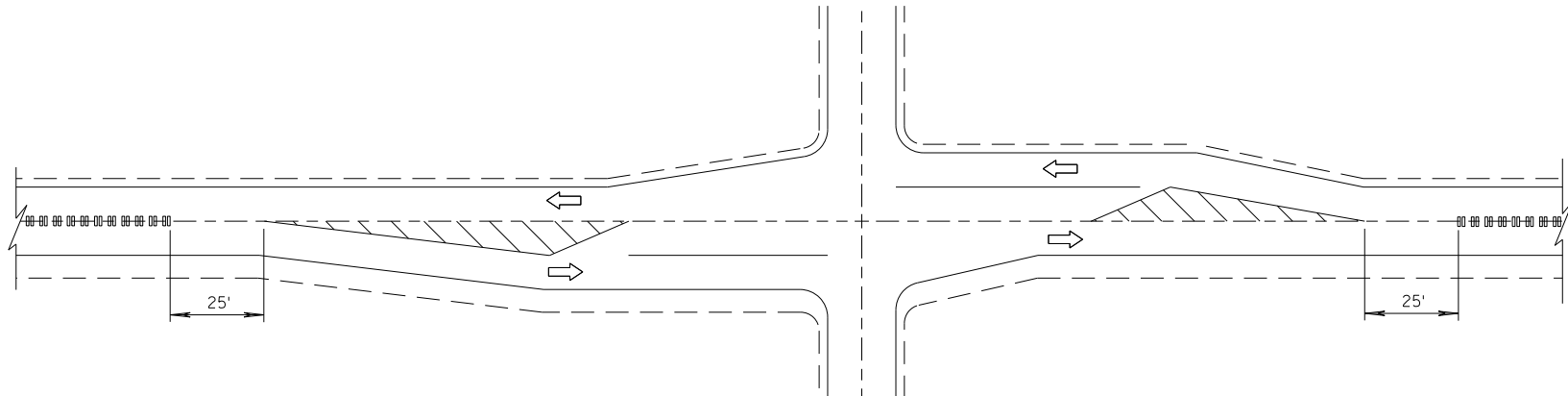
SECTION A-A

2-LANE RURAL  
CENTER LINE RUMBLE STRIP,  
MILLING

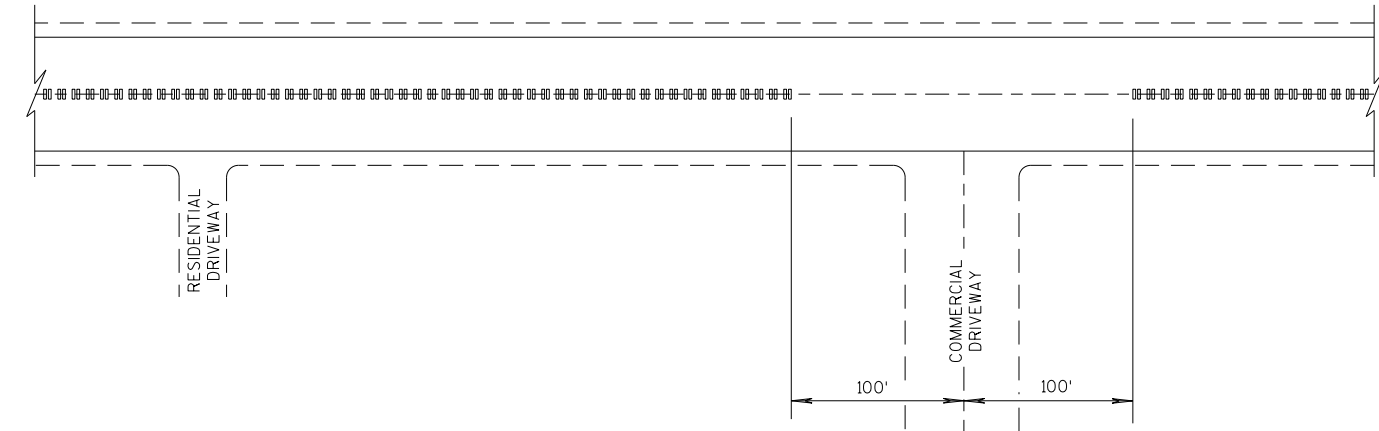
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



CENTER LINE GROOVES AT INTERSECTIONS

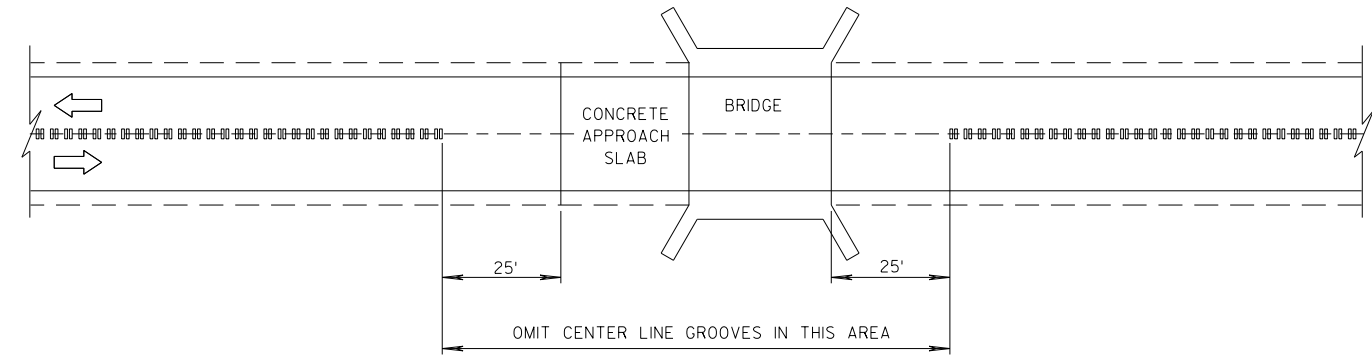


CENTER LINE GROOVES AT INTERSECTIONS  
(WITH LEFT TURN LANES)

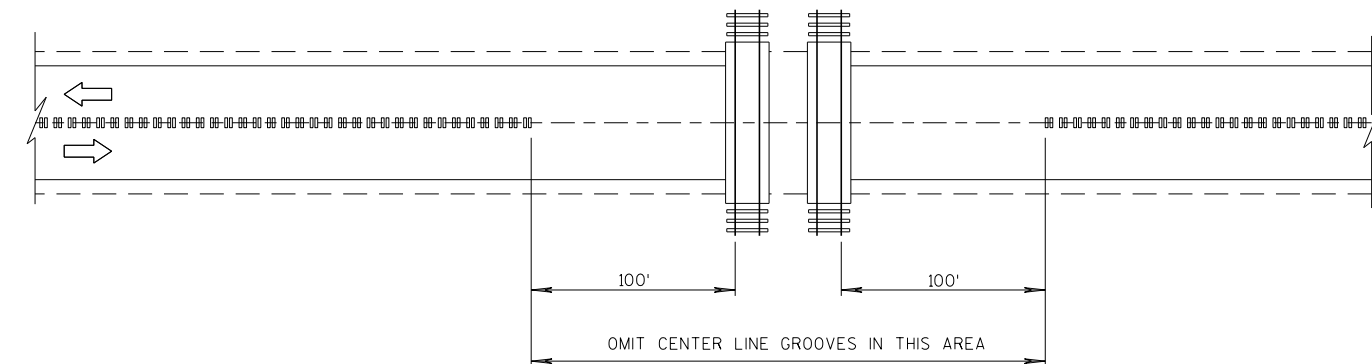


CENTER LINE GROOVES AT DRIVEWAYS<sup>1</sup>

<sup>1</sup> CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.



CENTER LINE GROOVES AT BRIDGES



CENTER LINE GROOVES AT RAILROADS

|   |   |
|---|---|
| <b>2-LANE RURAL<br/>CENTER LINE RUMBLE STRIP,<br/>MILLING</b> |   |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION            |   |
| APPROVED<br>7/2018<br>DATE                                    | /S/ Rodney Taylor<br>ROADWAY STANDARDS DEVELOPMENT<br>UNIT SUPERVISOR |
| FHWA  |   |

## 6

- S.D.D. 14 B 15-11a**

**S.D.D. 14 B 15-11a**



6



**S.D.D. 14 B 15-11a**



6



6



**S.D.D. 14 B 15-11a**

**S.D.D. 14 B 15-11a**



6

6



6



6



6



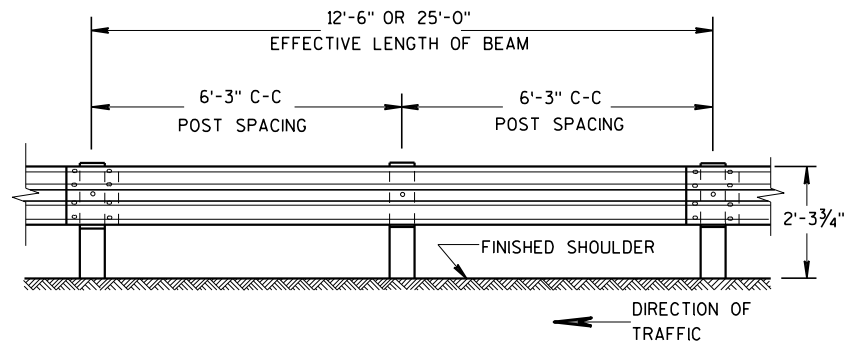
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6

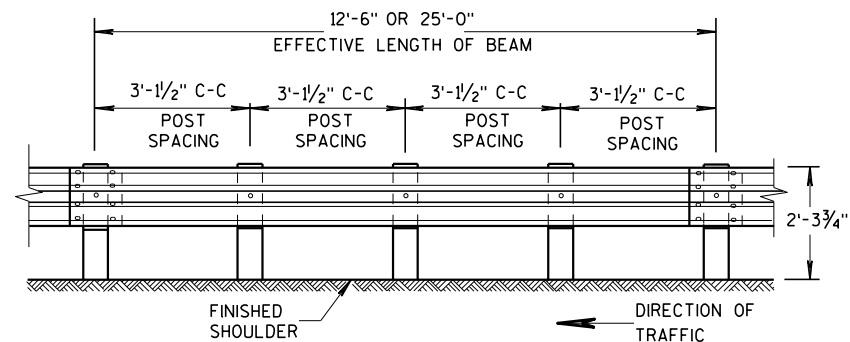
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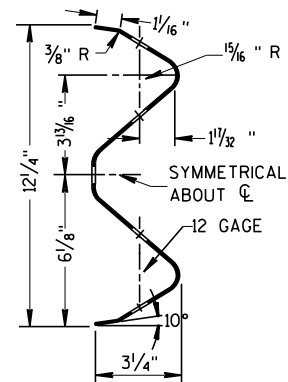
FRONT VIEW

POST SPACING STANDARD INSTALLATION

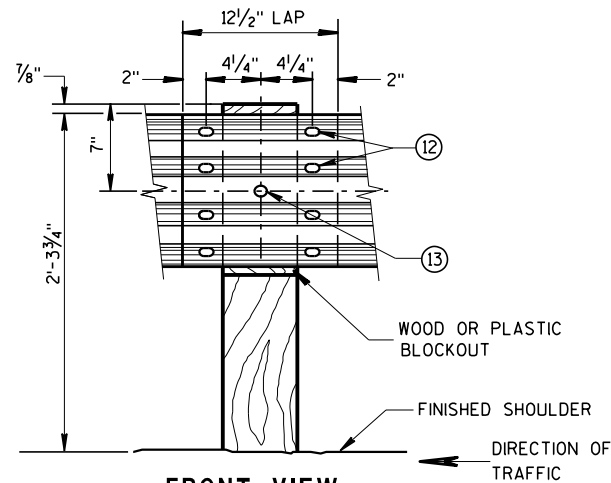


FRONT VIEW

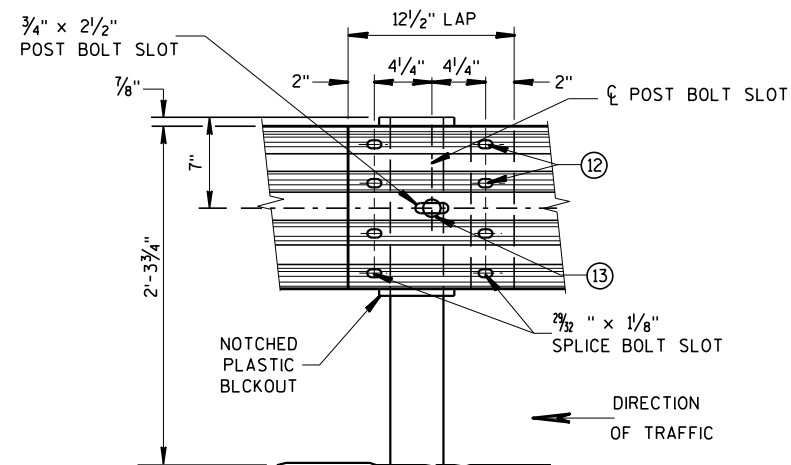
POST SPACING FOR LONGER POST  
AT HALF POST SPACING W BEAM (LHW)



SECTION THRU W BEAM



FRONT VIEW  
BEAM SPLICE AT WOOD POST  
AND POST MOUNTING DETAIL

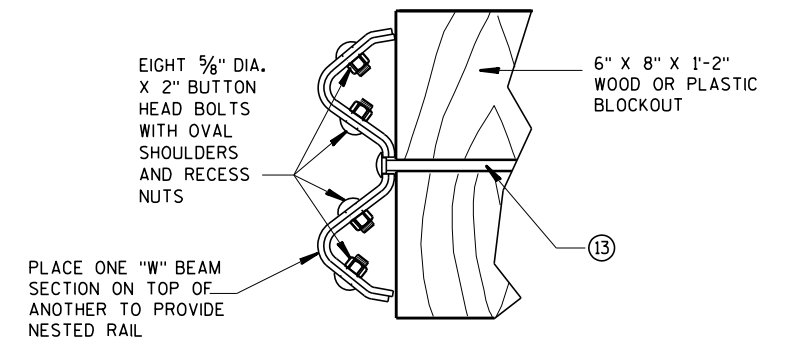


FRONT VIEW  
BEAM SPLICE AT STEEL POST  
TYPICAL SPlicing DETAILS  
OF STEEL PLATE BEAM GUARD

GENERAL NOTES

FURNISH GUARDRAIL DEFLECTORS FROM APPROVED PRODUCTS LIST.

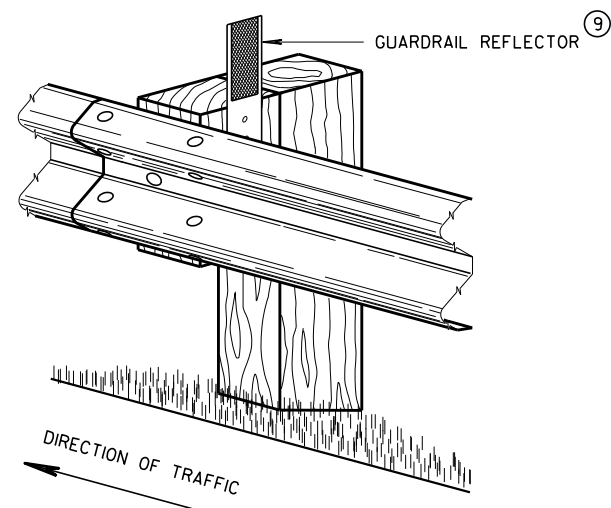
- ⑨ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINA. START REFLECTORS AT POST #9 AND SPACE EVENLY EVERY 100 FEET (MAX.) TO THE END OF GUARDRAIL RUN, USING A MINIMUM OF 3 REFLECTORS.
- ⑫ 8 - 5/8"  $\phi$  X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.
- ⑬ 5/8" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH 5/8" DIA. F844 FLAT WASHER UNDER NUT.



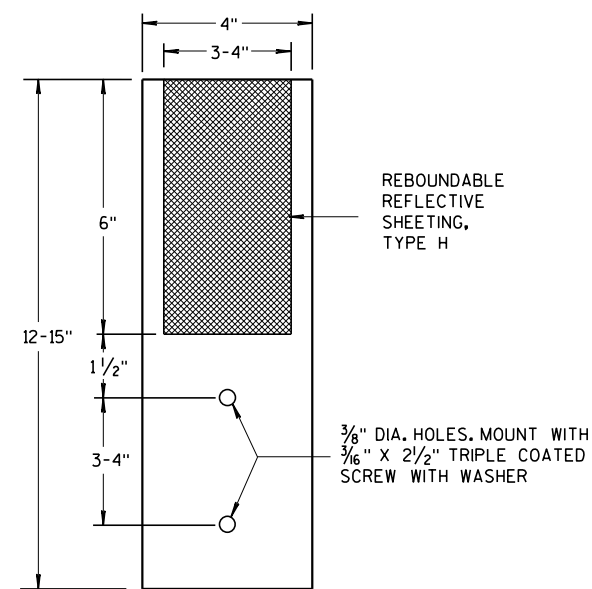
NESTED W BEAM (NW)

USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR  
CONSTRUCTING NESTED W BEAM (NW)

\* USE DOUBLE SIDED WHITE GUADRAIL REFLECTORS ON ROADWAYS WITH BI-DIRECTIONAL TRAFFIC (NO MEDIAN). USE SINGLE SIDED WHITE (RIGHT SIDE) AND SINGLE SIDED YELLOW (LEFT SIDE) ON ROADWAYS WITH MEDIAN SEPARATION.



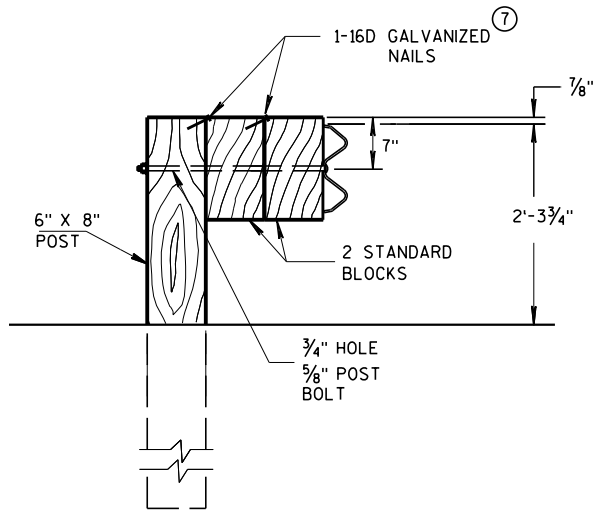
4" X 12" GUARDRAIL REFLECTOR DETAIL  
AND TYPICAL INSTALLATION \*



4"x 12" GUARDRAIL REFLECTOR

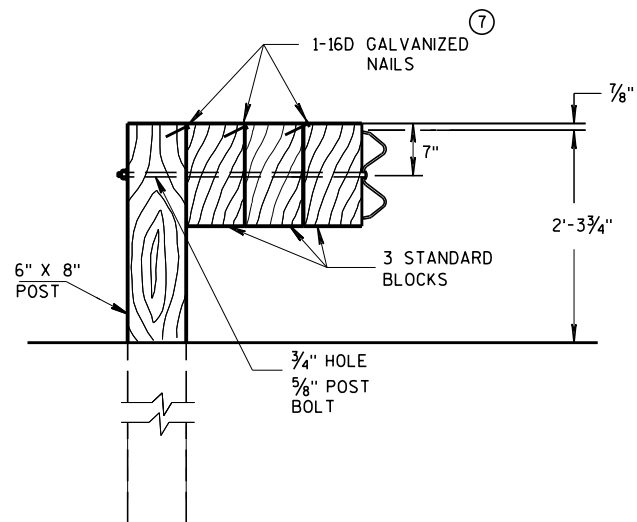
STEEL PLATE BEAM GUARD,  
CLASS "A",  
INSTALLATION & ELEMENTS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



#### DETAIL FOR DOUBLE BLOCKS

THE NUMBER OF DOUBLE BLOCK POSTS  
WITHIN A BARRIER RUN IS UNLIMITED

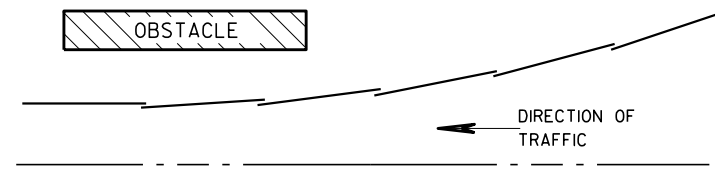


#### DETAIL FOR TRIPLE BLOCKS

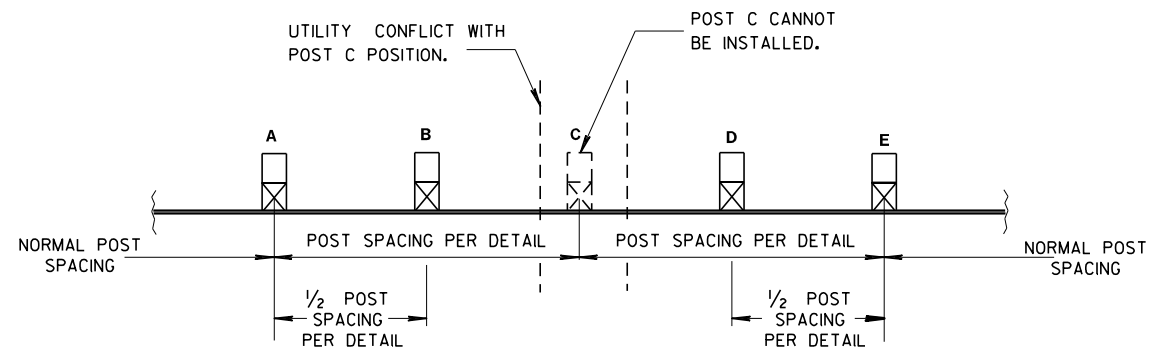
TRIPLE BLOCK DETAIL IS LIMITED TO ONE  
LOCATION WITHIN A BEAM GUARD RUN.

NOTES: USE DOUBLE OR TRIPLE BLOCKS WHEN UNDERGROUND OBSTACLES  
PREVENT THE POST FROM BEING INSTALLED.

DO NOT USE EXTRA BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND  
SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION  
DISTANCE OF THE BARRIER.



#### PLAN VIEW BEAM LAPPING DETAIL



#### POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

### STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

|           |                               |
|-----------|-------------------------------|
| APPROVED  | /S/ Rodney Taylor             |
| June 2017 | ROADWAY STANDARDS DEVELOPMENT |
| DATE      | UNIT SUPERVISOR               |
| FHWA      |                               |

BILL OF MATERIALS

| NOTE NO. | DESCRIPTION  |
|----------|--|
| ①        | WOOD BREAKAWAY TERMINAL POST:<br>5½" X 7½" X 3'-9"   |
| ②        | STEEL TUBE<br>TS 8" X 6" X 0.188", 6'-0"   |
| ④        | WOOD BREAKAWAY CRT POST: 6" X 8" X 6'-0"   |
| ⑤        | WOOD OFFSET BLOCKS: 6' X 8" X 1'-2"  |
| ⑥        | PIPE SLEEVE: 2" X 5 ½" STANDARD PIPE   |
| ⑦        | BEARING PLATE  |
| ⑧        | BCT CABLE ASSEMBLY   |
| ⑨        | CABLE ANCHOR BOX   |
| ⑩        | STRUT & YOKE   |
| ⑪        | STEEL PLATE BEAM, END PANEL 12 GA.   |
| ⑫        | STEEL PLATE BEAM: 12 GA. 13'-6½"   |
| ⑬        | IMPACT HEAD  |
| ⑭        | 0.040" ALUMINUM SHEET WITH REFLECTIVE<br>SHEETING TYPE F PER SECTION 637 OF THE<br>STANDARD SPECIFICATIONS |

GENERAL NOTES

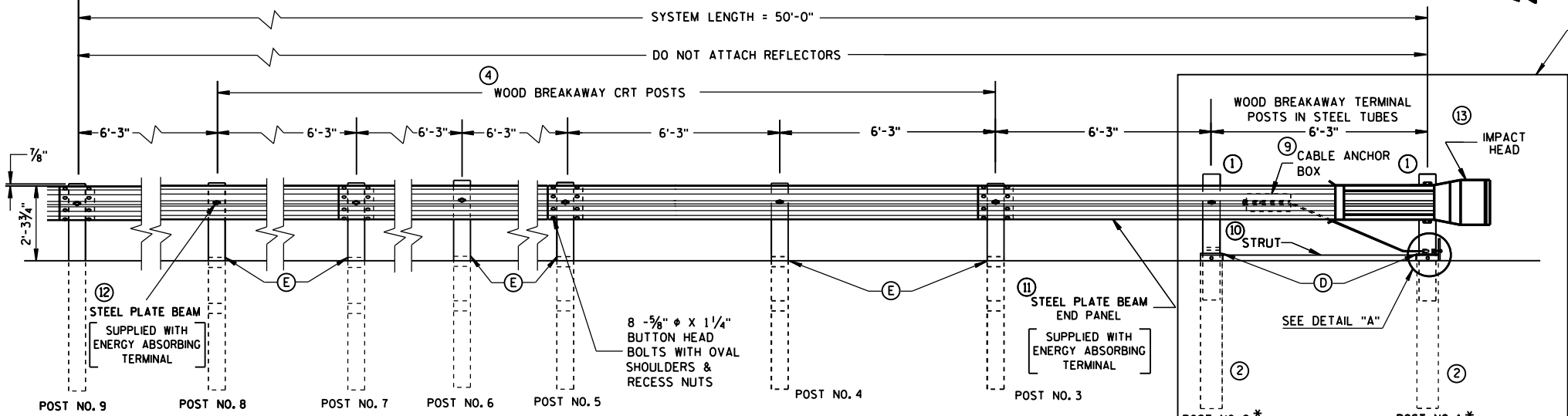
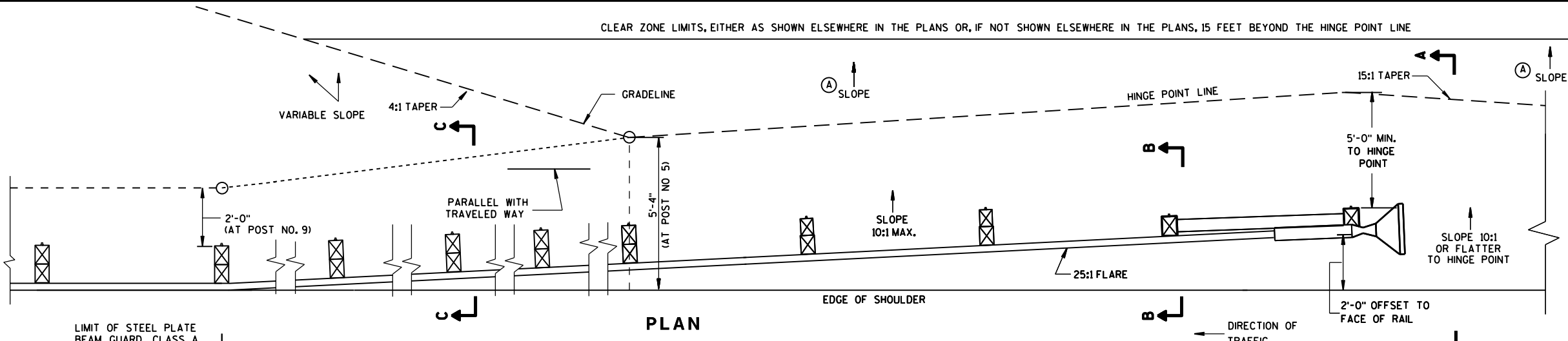
FOLLOW MANUFACTURE'S BOLTING RECOMMENDATIONS.

- (A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
- (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.
- (D) THE TOP OF THE STEEL TUBE ON POSTS 1 AND 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.
- (E) THE CENTER OF THE UPPER 3½" DIAMETER HOLE ON POST 3 THROUGH 8 SHALL BE ¾" ABOVE THE FINISHED GROUND LINE.
- (F) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS, ONE SCREW PER CORNER.

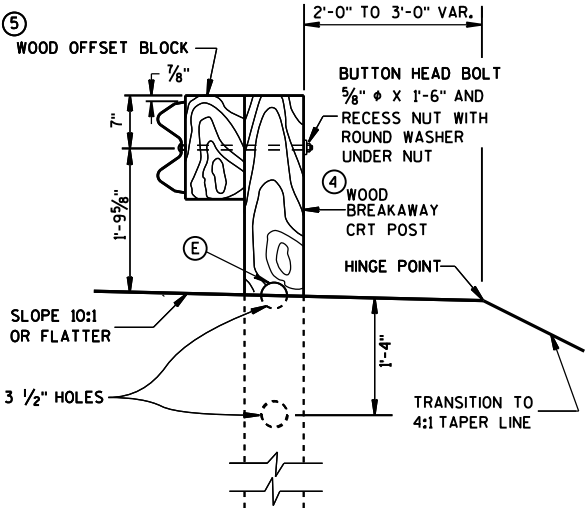
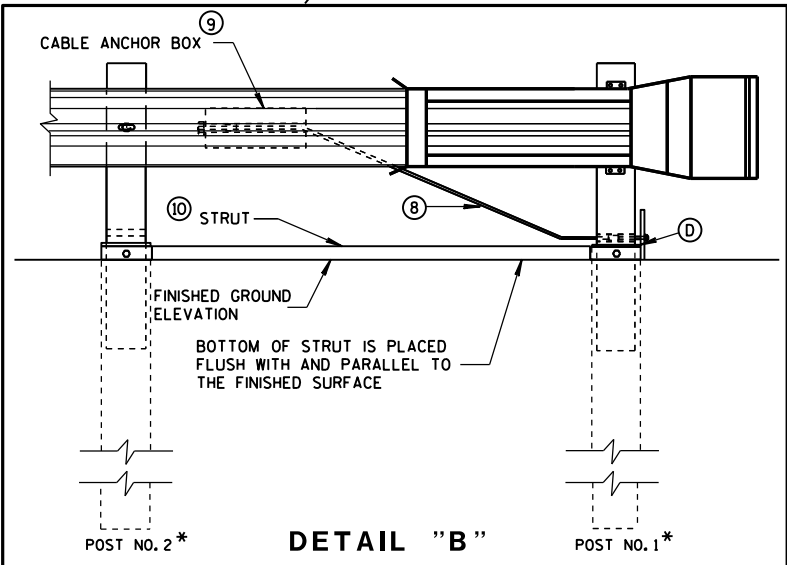
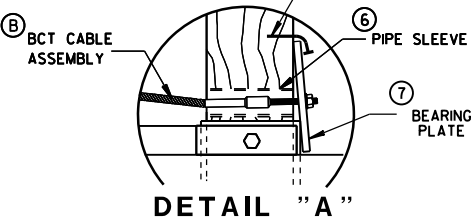
STEEL POSTS SHALL NOT BE ALLOWED FOR USE WITH ENERGY ABSORBING TERMINALS.

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

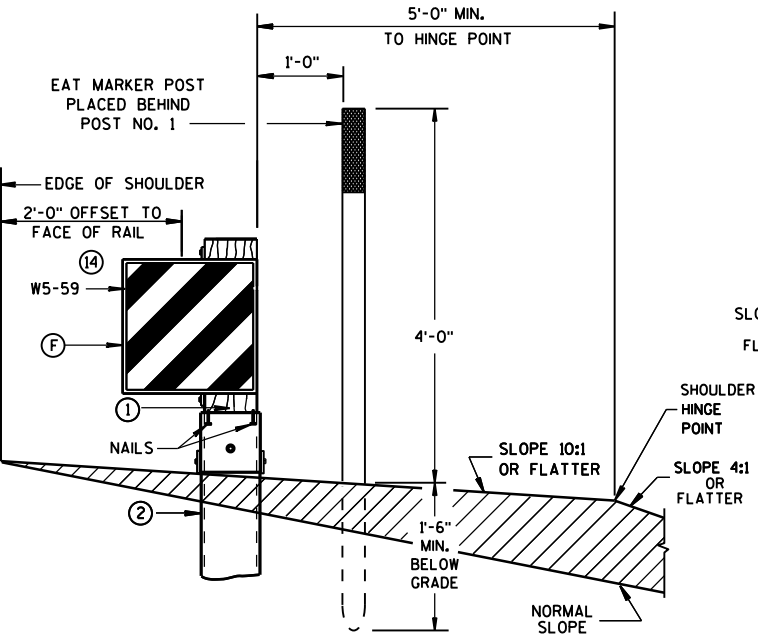
\*DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.



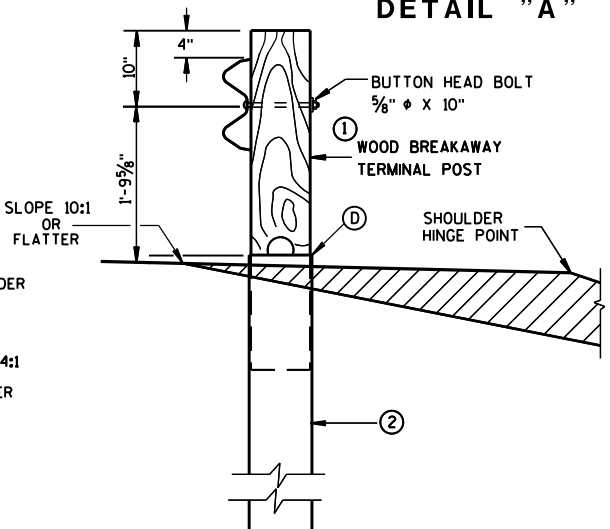
ELEVATION



SECTION C-C  
TYPICAL AT POST NOS. 6, 8



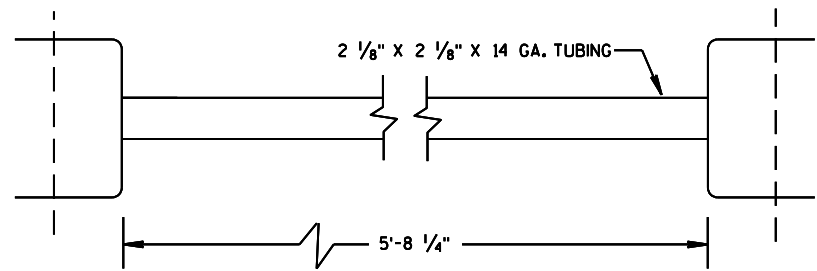
SECTION A-A  
TYPICAL AT POST NO. 1\*



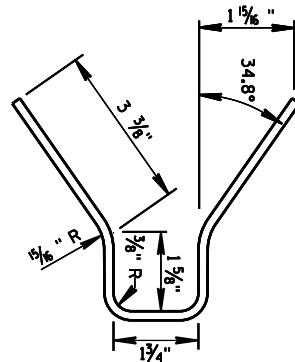
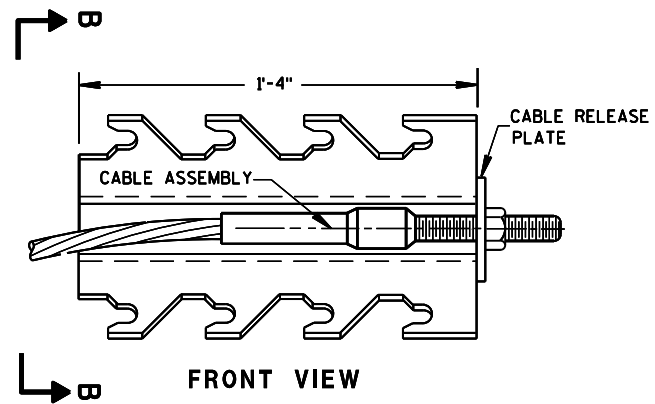
SECTION B-B  
TYPICAL AT POST NO. 2\*

STEEL PLATE BEAM GUARD  
ENERGY ABSORBING TERMINAL

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

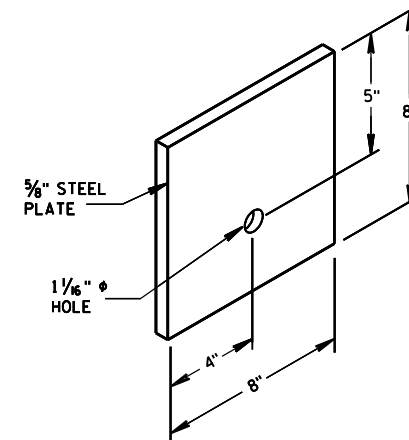


⑩ STRUT DETAIL

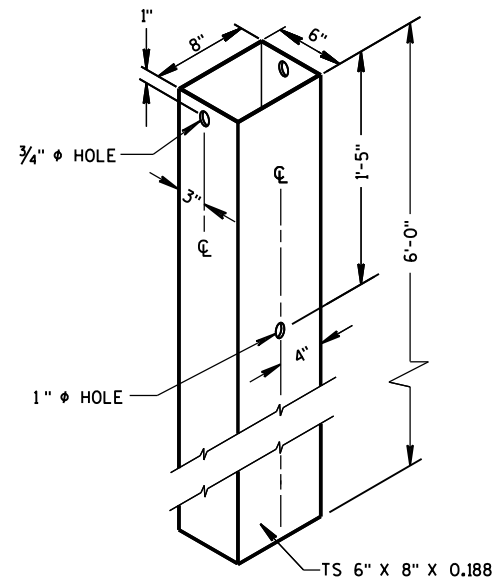


SECTION B-B

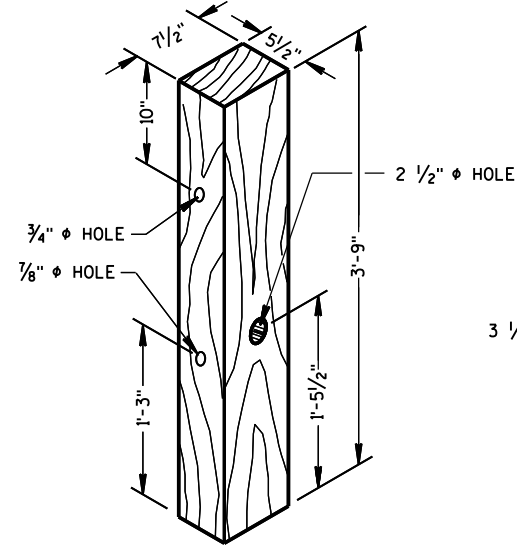
⑨ CABLE ANCHOR BOX



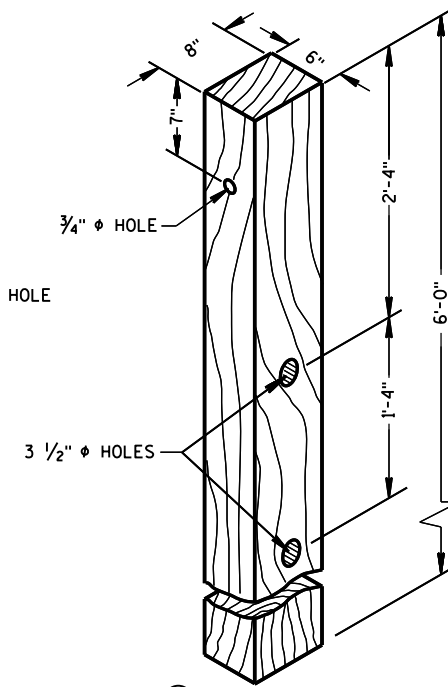
⑦ STEEL BEARING PLATE



② **72" STEEL TUBE**  
(POSTS NO. 1-4)

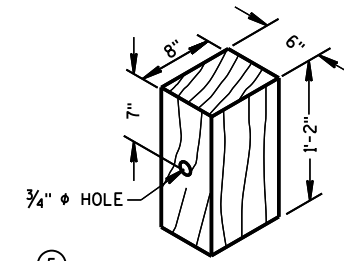


① **TERMINAL POST**



④ **CRT POST**  
(POSTS NO'S 5-8)

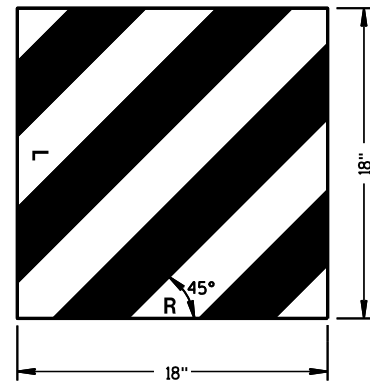
### WOOD BREAKAWAY POSTS



⑤ **WOOD OFFSET BLOCK**  
REQ'D. AT ALL POSTS EXCEPT POST NO'S 1 & 2

### GENERAL NOTES

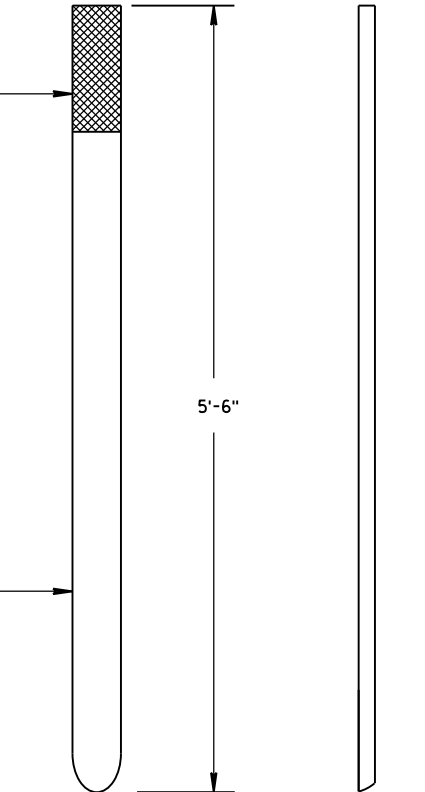
WHEN ROCK IS ENCOUNTERED DURING EXCAVATION, A 12 INCH DIA. POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK MAY BE USED IF APPROVED BY THE ENGINEER. GRANULAR MATERIAL SHALL BE PLACED IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 1/2" INCHES DEEP TO PROVIDE DRAINAGE. THE SOIL TUBES SHALL BE FIELD CUT TO LENGTH, PLACED IN THE HOLE AND BACKFILLED WITH ADEQUATELY COMPACTED MATERIAL EXCAVATED FROM THE HOLE.



⑭ **REFLECTIVE SHEETING DETAILS**

TYPE H  
YELLOW REFLECTIVE  
SHEETING 3" X 9".  
SEE STANDARD  
SPECIFICATION 637.

E.A.T. MARKER  
POST (YELLOW)  
SEE APPROVED  
PRODUCTS LIST

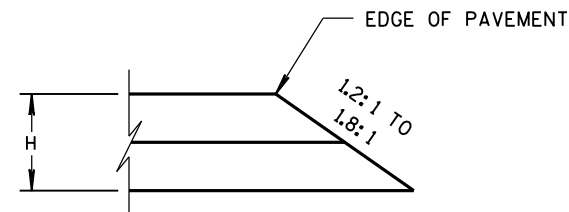


FRONT VIEW SIDE VIEW  
**E.A.T. MARKER POST**

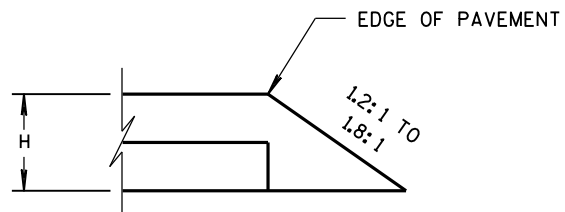
**STEEL PLATE BEAM GUARD  
ENERGY ABSORBING TERMINAL**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

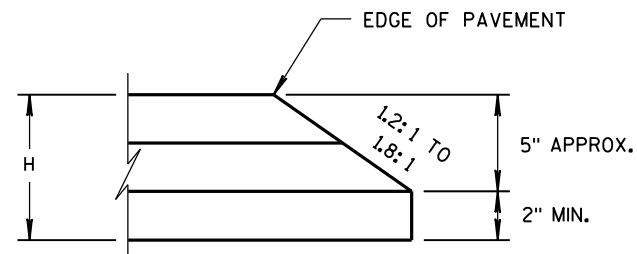
APPROVED  
June 2017 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT  
FHWA UNIT SUPERVISOR



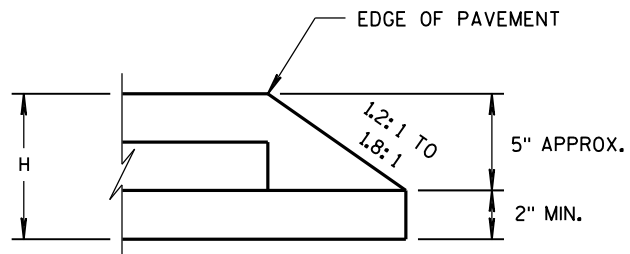
CONSTRUCTED WITH FINAL TWO LAYERS  
FOR H 5" OR LESS



CONSTRUCTED WITH FINAL LAYER  
FOR H 5" OR LESS

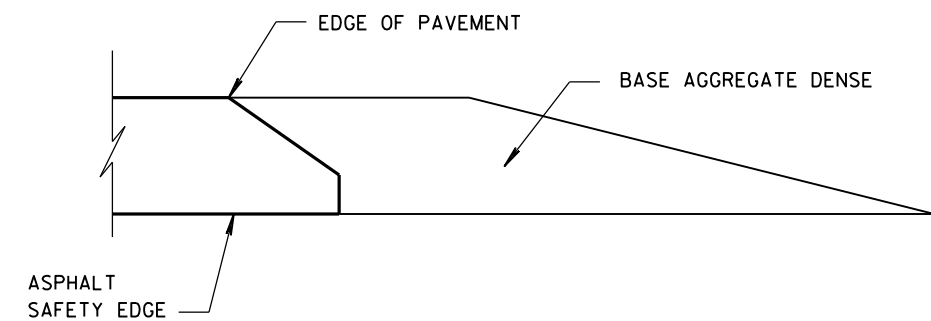


CONSTRUCTED WITH FINAL TWO LAYERS  
FOR H GREATER THAN 5"



CONSTRUCTED WITH FINAL LAYER  
FOR H GREATER THAN 5"

### HMA PAVEMENT AND HMA OVERLAYS



### FINISHED SHOULDER AGGREGATE PLACEMENT

SAFETY EDGE<sub>SM</sub>

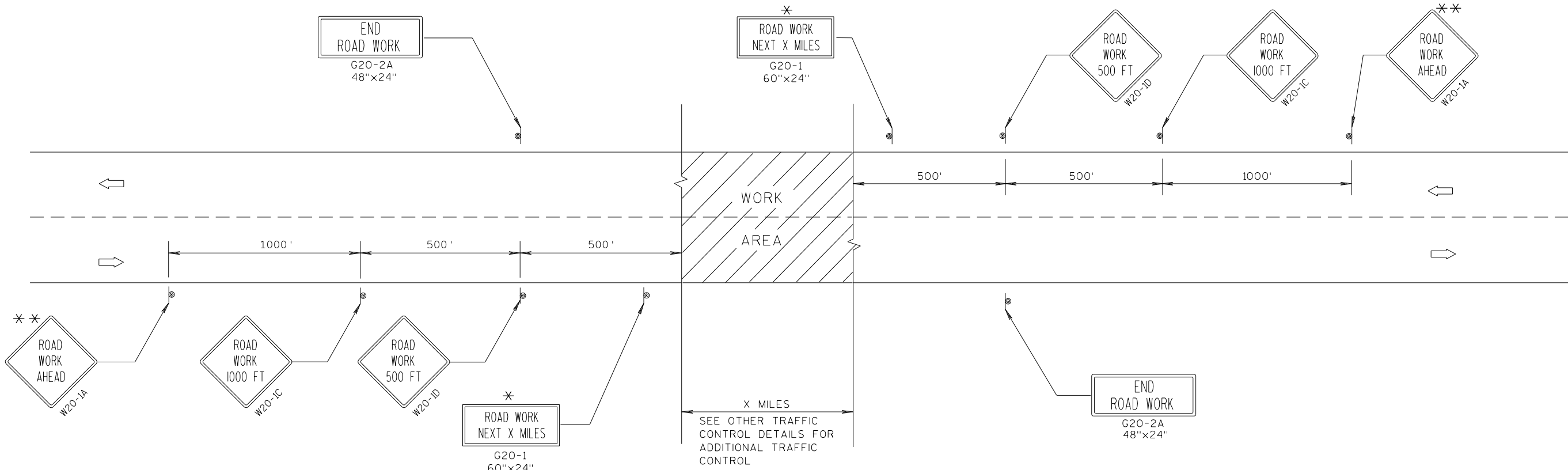
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/2012  
DATE

FHWA

/s/ Jerry H. Zogg  
ROADWAY STANDARDS DEVELOPMENT  
ENGINEER



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

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

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

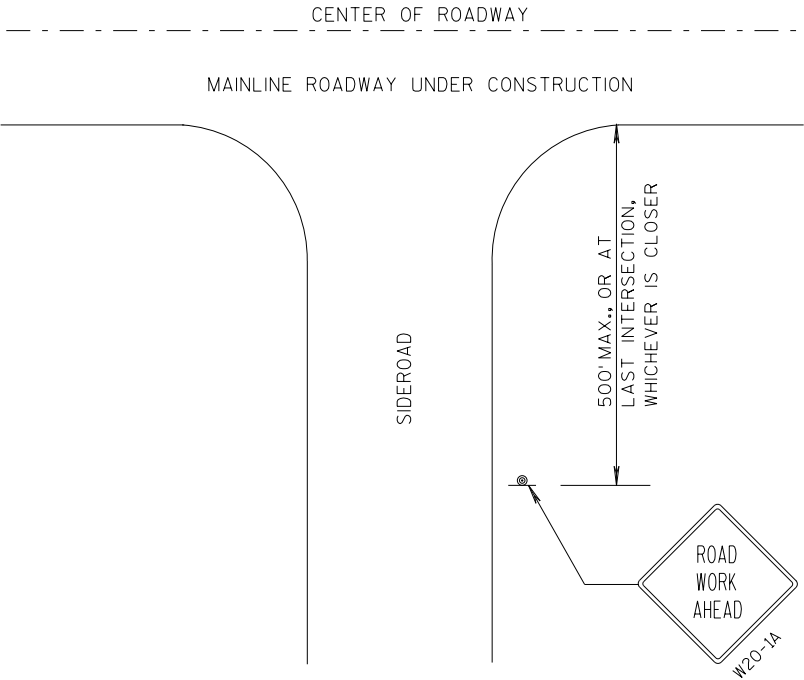
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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

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

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

\* \* PLACE ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



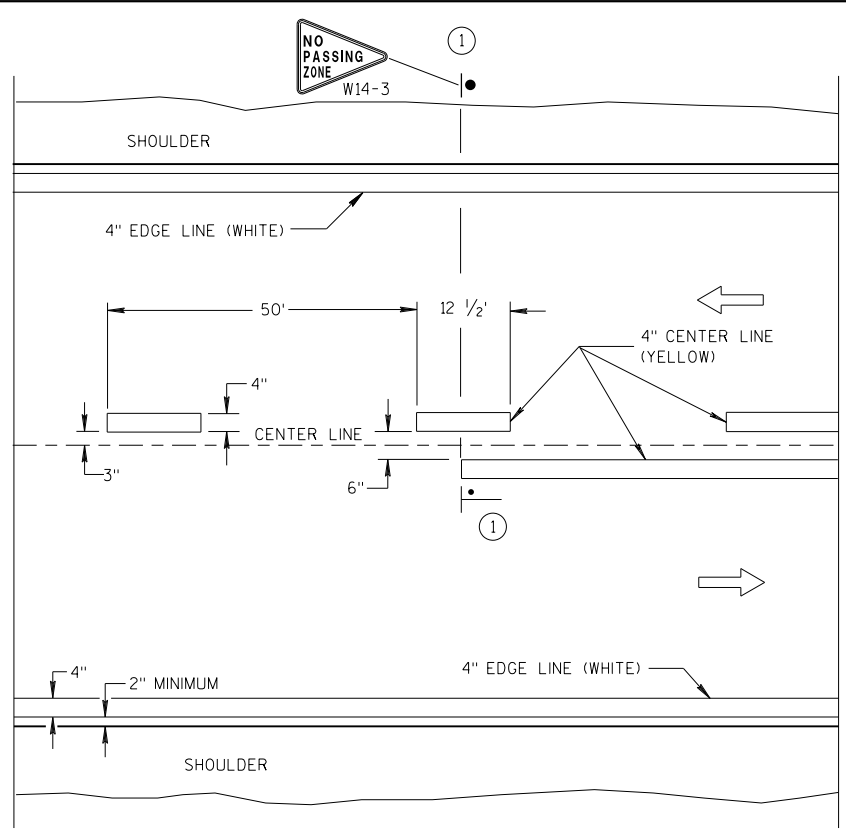
LEGEND

- ⊙ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ▨ WORK AREA

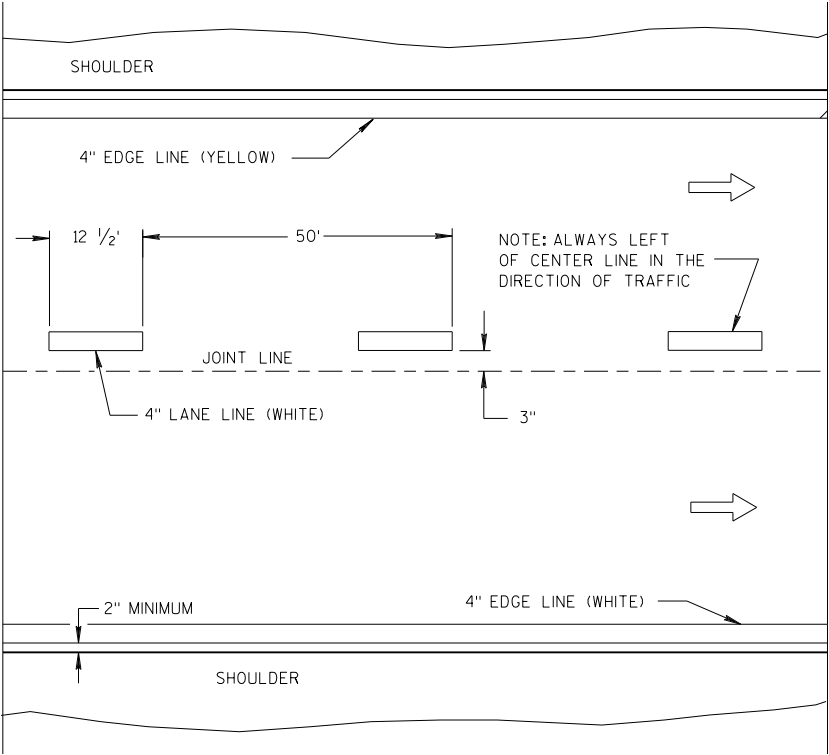
TRAFFIC CONTROL, ADVANCE  
WARNING SIGNS 45 M.P.H.  
OR GREATER TWO-WAY  
UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
7/2018 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER  
FHWA

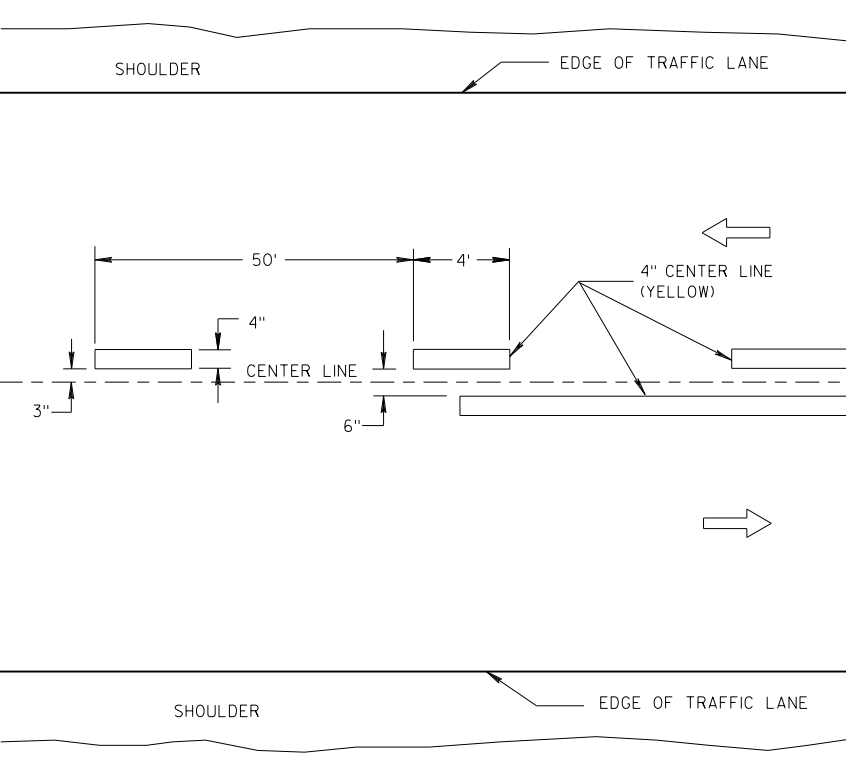


TWO WAY TRAFFIC

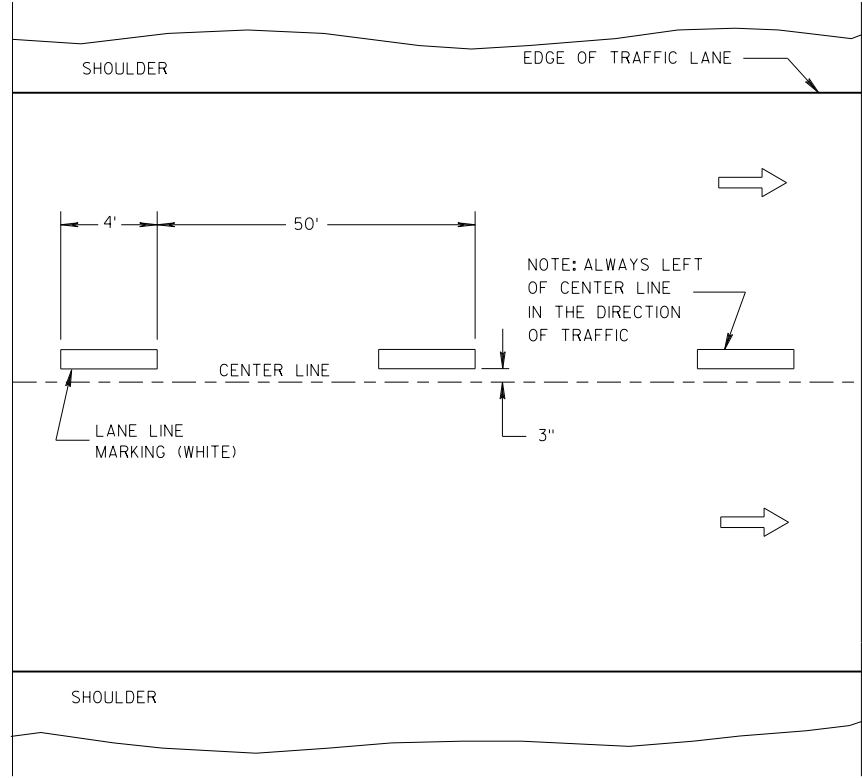


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

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.

NOTE

ARROW SYMBOL (➡) SHOWS DIRECTION OF TRAVEL

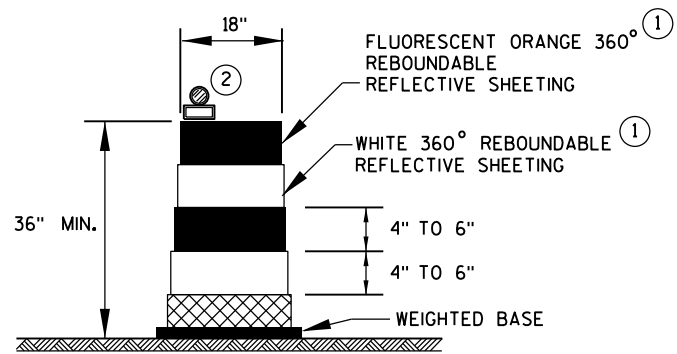
LEGEND

- "T" MARKING
- POST MOUNTED SIGN

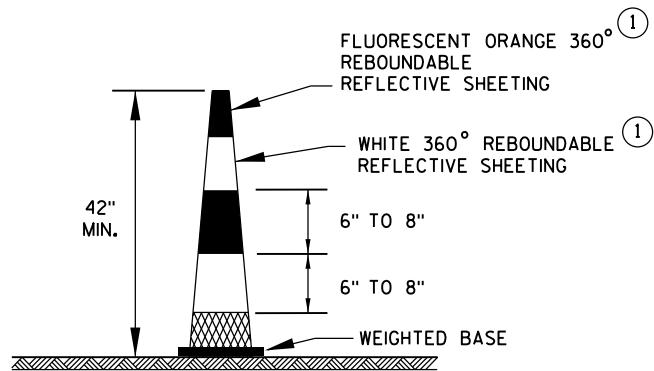
LONGITUDINAL MARKING  
(MAINLINE)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
7/2018 /S/ Matthew R. Rauch  
DATE STATE SIGNING AND MARKING ENGINEER  
FHWA



**DRUM**

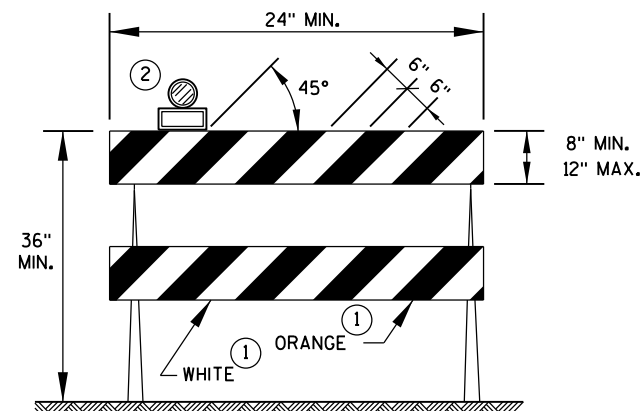


**42" CONE**

DO NOT USE IN TAPERS  
1/2 SPACING OF DRUMS

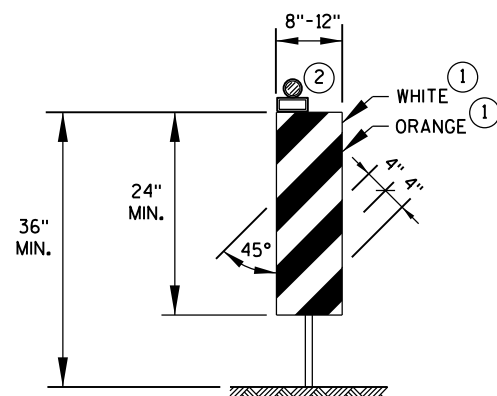
**GENERAL NOTES**

- 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.



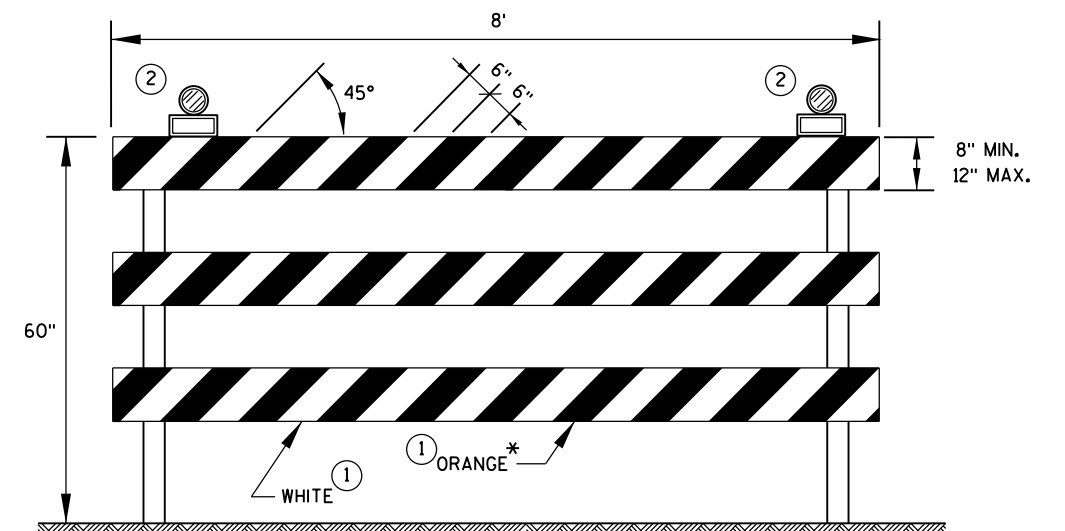
**TYPE 2 BARRICADE**

FOR RAILS LESS THAN 36" LONG, 4" WIDE STRIPES MAY BE USED.  
ALL STRIPES SHALL SLOPE DOWNWARD TO THE TRAFFIC SIDE FOR CHANNELIZATION.



**VERTICAL PANEL**

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



**TYPE 3 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

June 2017  
DATE

/S/ Andrew Heidtke  
WORK ZONE ENGINEER

FHWA

LEGEND

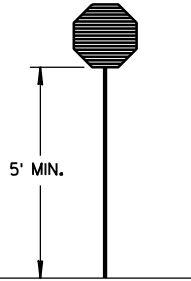
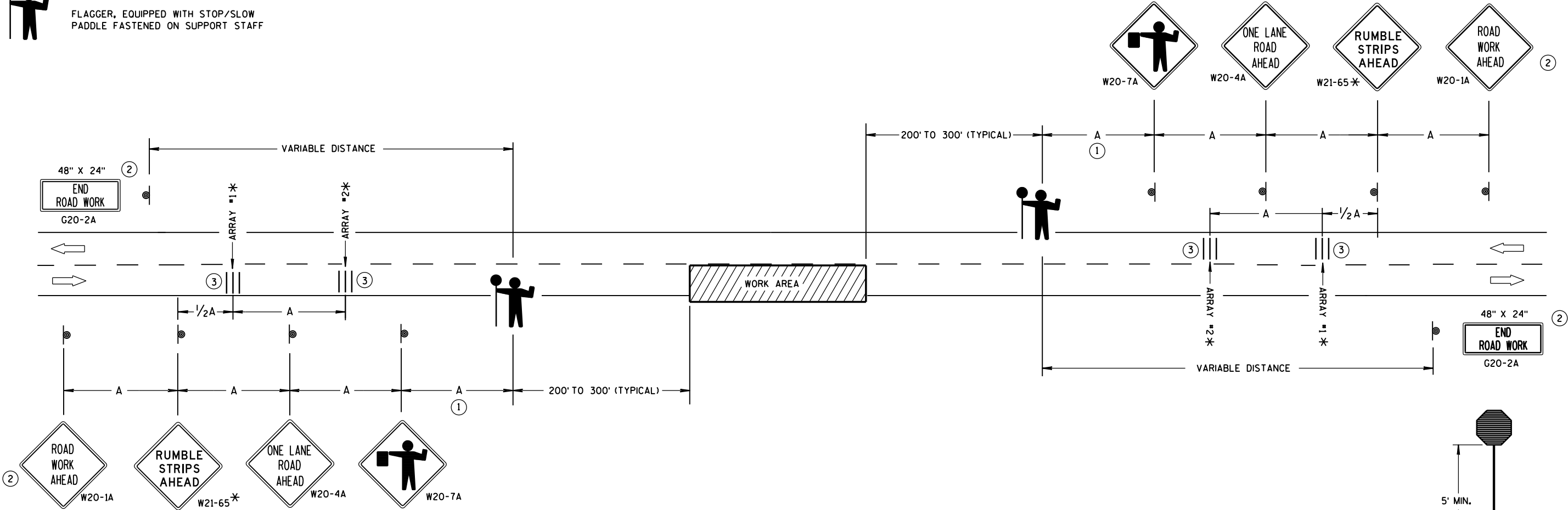
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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



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



STOP/SLOW PADDLE ON SUPPORT STAFF

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

GENERAL NOTES

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

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

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

"W0" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

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

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS. PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

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

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

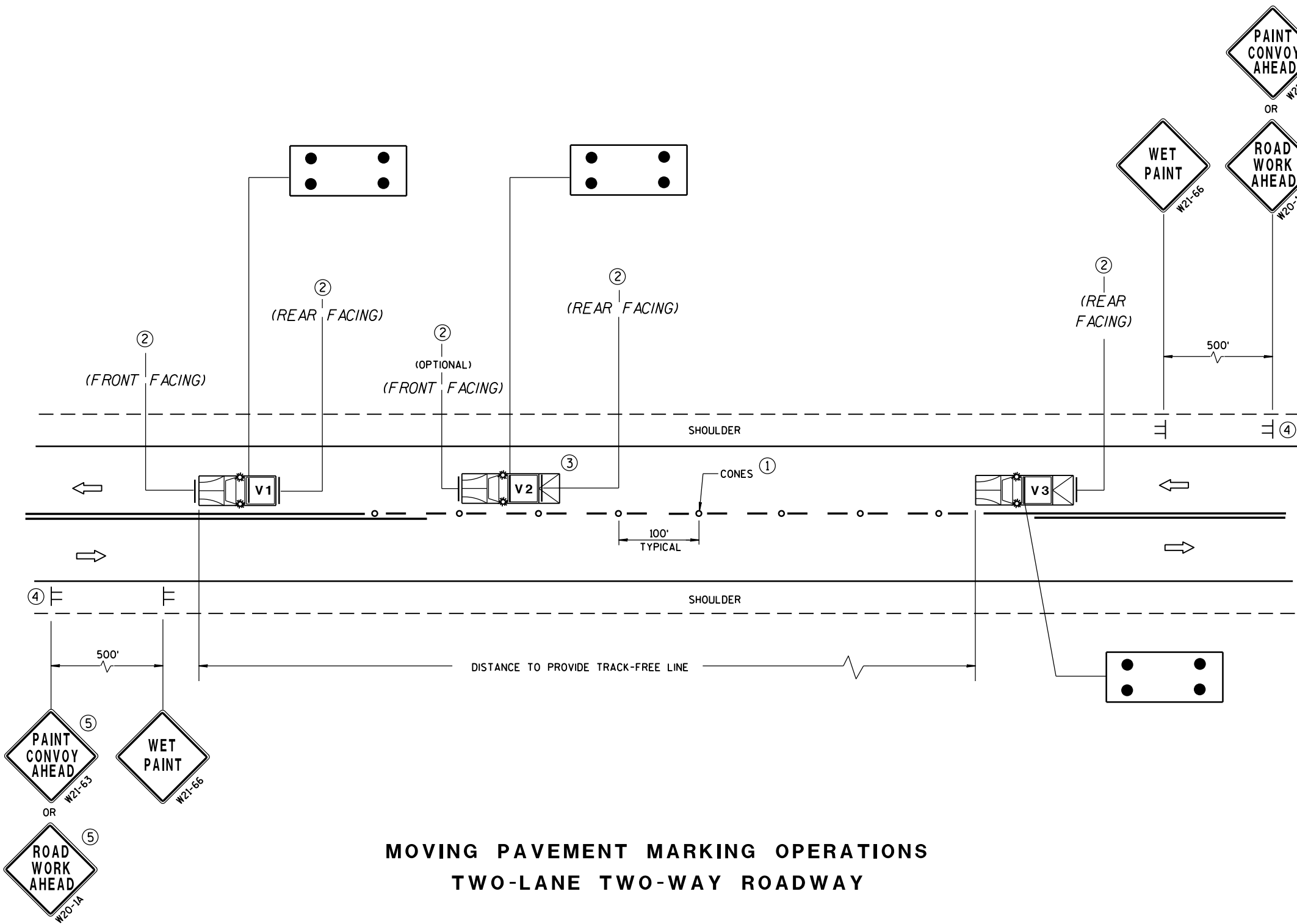
\* UTILIZE TEMPORARY RUMBLE STRIPS WHEN FLAGGING OPERATION IS ANTICIPATED TO BE STATIONARY IN EXCESS OF TWO HOURS.

- FOR A MOVING WORK OPERATION, SIGNING AND TEMPORARY RUMBLE STRIPS (IF USED) SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3,500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.
- EACH TEMPORARY RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

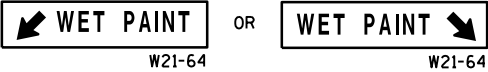
APPROVED  
June 2017 /S/ Andrew Heldtke  
DATE WORK ZONE ENGINEER  
FHWA



MOVING PAVEMENT MARKING OPERATIONS  
TWO-LANE TWO-WAY ROADWAY

GENERAL NOTES

- ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.
- VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.
- ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE SPECIFIED.
- IF SPEED LIMIT IS 40 MPH OR LESS STATIONARY SIGNS MAY BE OMITTED IF CONES ARE USED.
- ALTERNATE SIGN MESSAGES, SUCH AS "PAINT CREW AHEAD" OR "ROAD PAINTING AHEAD" MAY BE USED.
- DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL OR HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.
- THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.
- THIS DRAWING SHALL BE USED FOR CENTERLINE OR EDGELINE MARKING.
- WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR TURN THE STATIONARY WARNING SIGNS AWAY FROM TRAFFIC.
- ① CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.
- ② USE STANDARD SIGN W21-64 WITH APPROPRIATE ARROW.
- ③ OPTIONAL TRUCK-MOUNTED ATTENUATOR.
- ④ SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.
- ⑤ IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1 OR W21-63 ARE NOT REQUIRED.



OR



LEGEND

- V1** LEAD VEHICLE
- V2** SHADOW VEHICLE
- V3** TRAIL VEHICLE WITH TMA
- TMA** TRUCK-MOUNTED ATTENUATOR

≡ SIGN ON TEMPORARY SUPPORT

➡ DIRECTION OF TRAFFIC

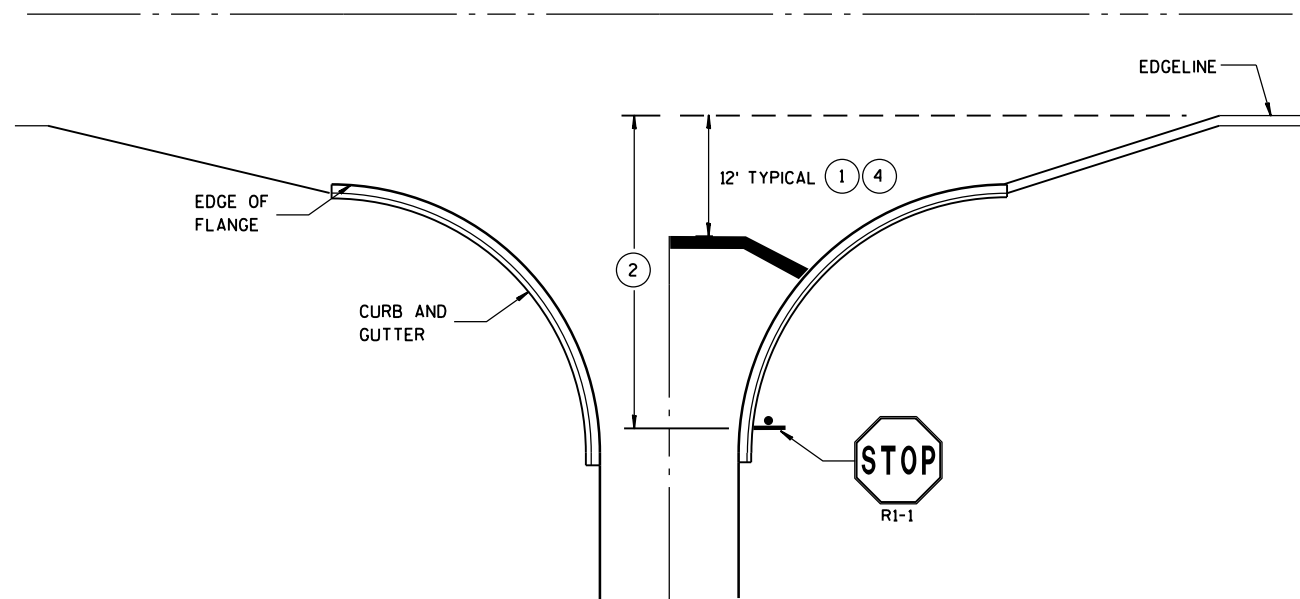
○ CONES

⬢ FLASHING ARROW PANEL (CAUTION)

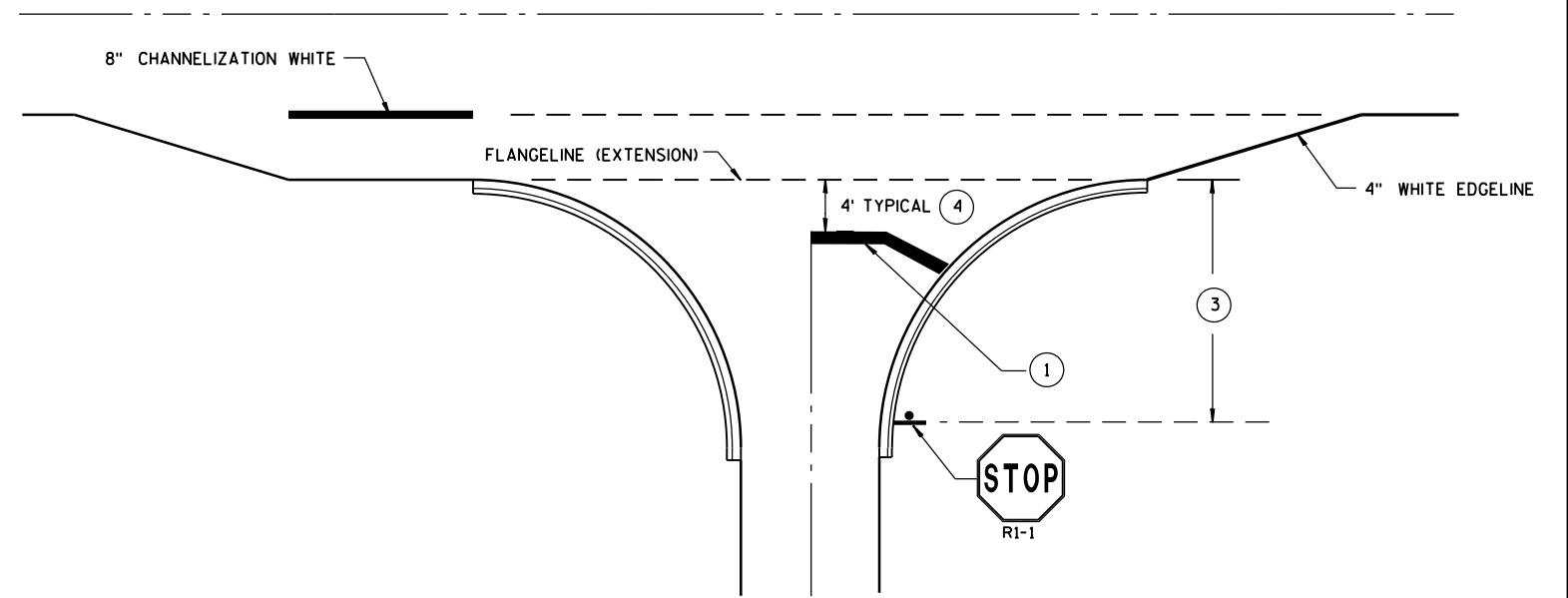
MOVING PAVEMENT MARKING  
OPERATION  
TWO-LANE TWO-WAY ROADWAY

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

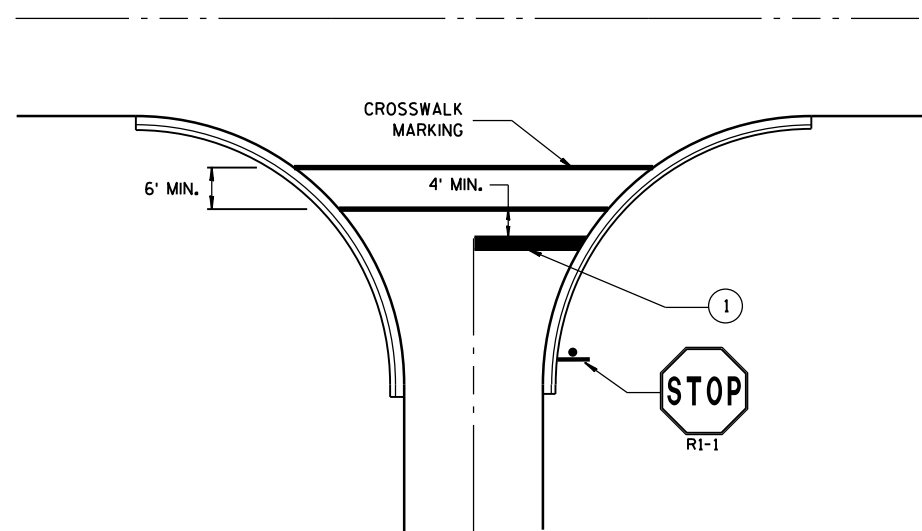
APPROVED  
DATE Sept., 2017 /S/ Andrew Heidtke  
WORK ZONE ENGINEER  
FHWA



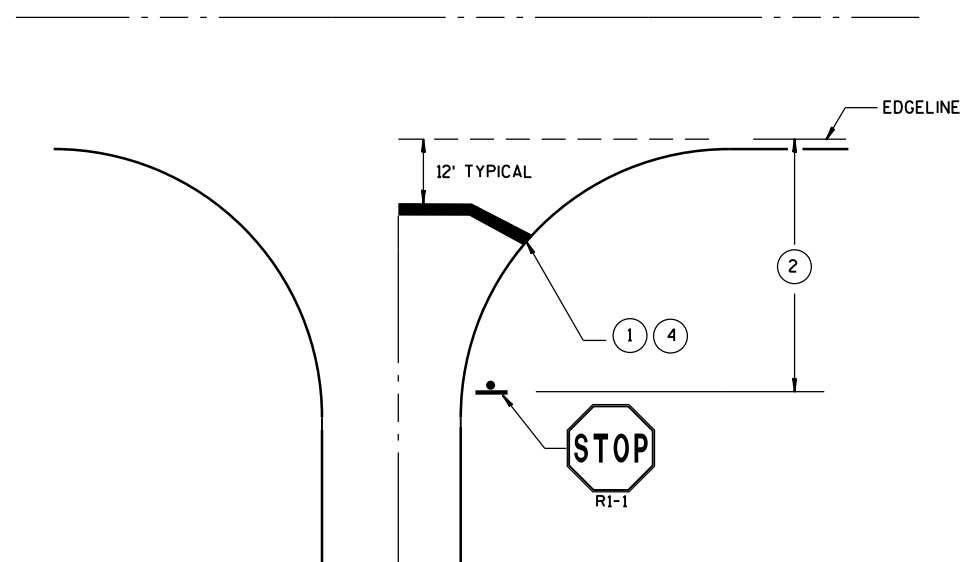
**TYPICAL STOP LINE PAVEMENT MARKING  
WITH CURB AND GUTTER**



**TYPICAL STOP LINE PAVEMENT MARKING  
FOR SIDEROADS WITH RIGHT TURN LANE**



**TYPICAL STOP LINE PAVEMENT MARKING  
FOR SIDEROADS WITH CROSSWALK MARKING**



**TYPICAL STOP LINE PAVEMENT MARKING  
WITHOUT CURB AND GUTTER**

### GENERAL NOTES

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

- ① 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- ② IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGE LINE THAN NO STOP LINE IS REQUIRED.
- ③ IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.
- ④ MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES. (NO CLOSER THAN 4 FEET).

**STOP LINE AND CROSSWALK  
PAVEMENT MARKING**

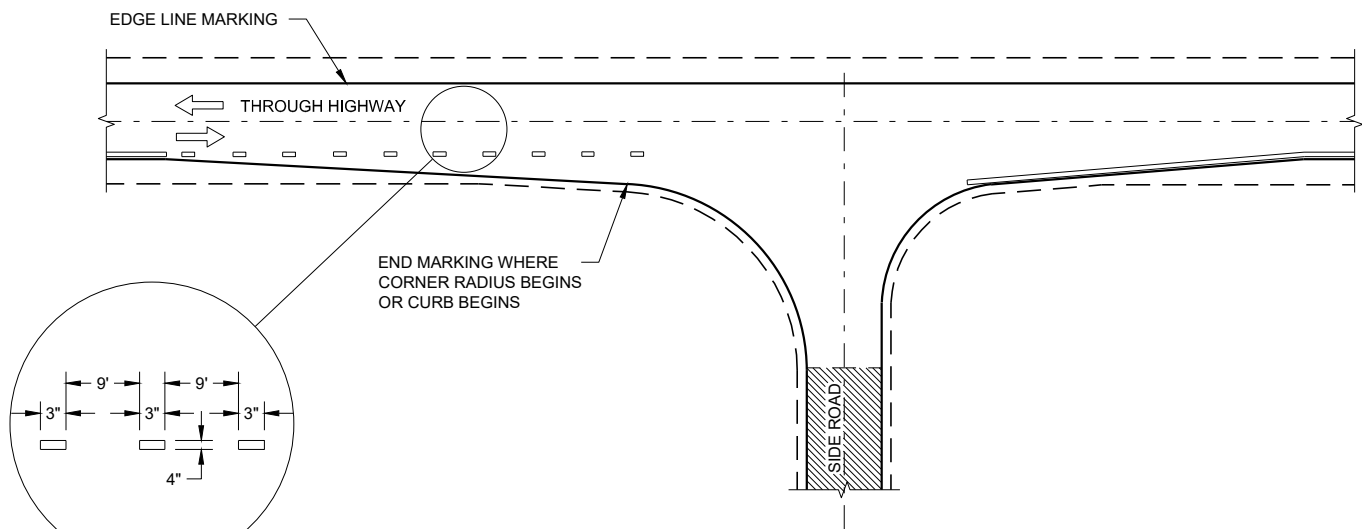
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED

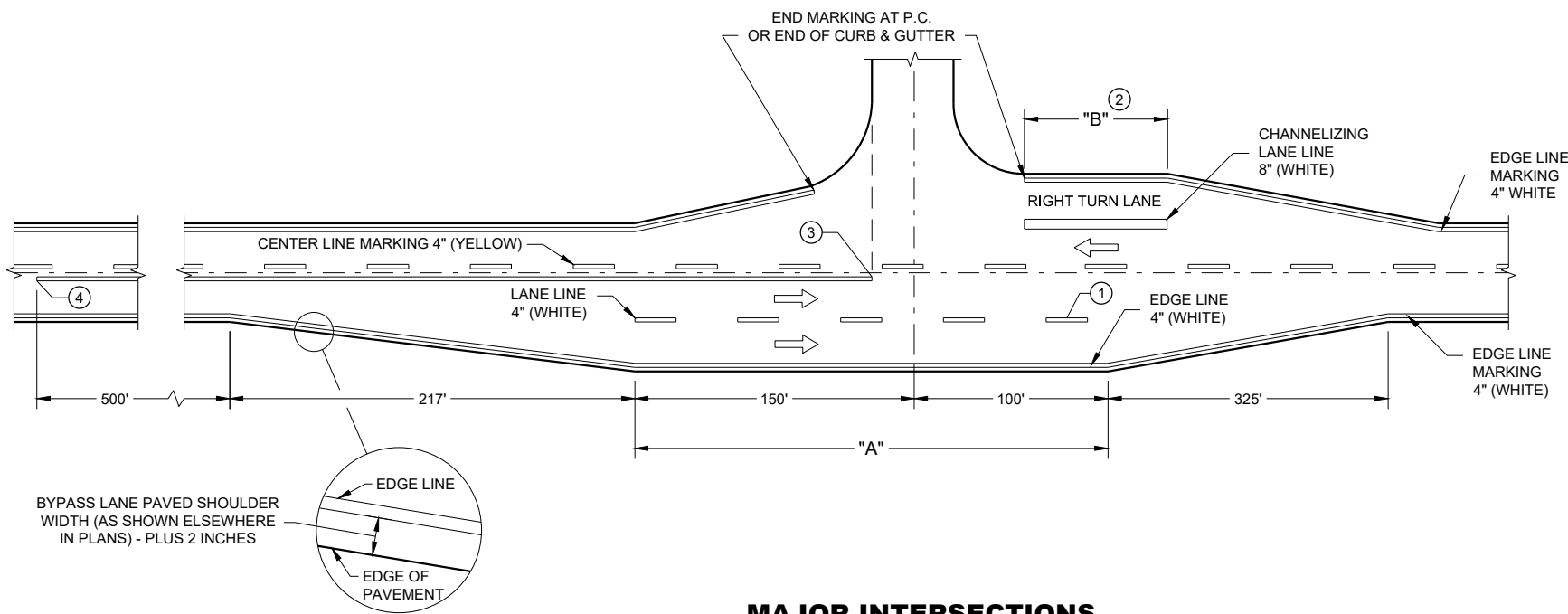
Sept., 2017  
DATE

/S/ Matthew R. Rauch  
STATE SIGNING AND MARKING ENGINEER

FHWA



MINOR INTERSECTION



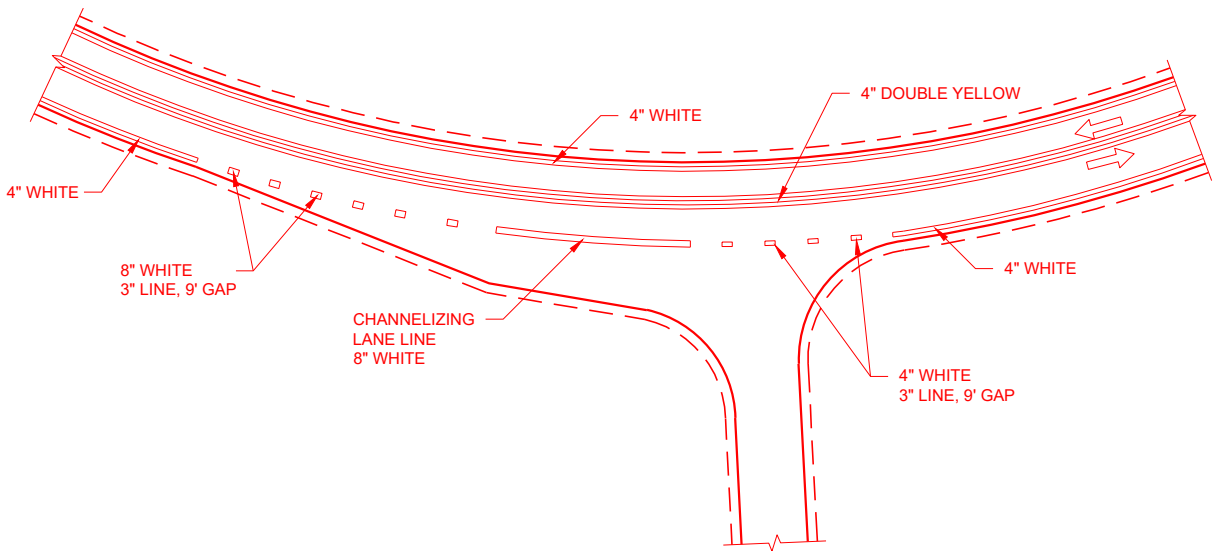
MAJOR INTERSECTIONS  
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

GENERAL NOTES

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

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

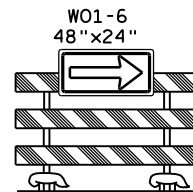
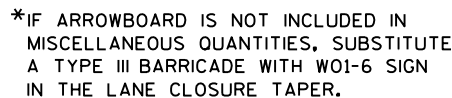
ARROW SYMBOL ( ➡ ) SHOWS DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE

PAVEMENT MARKING  
(INTERSECTIONS)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

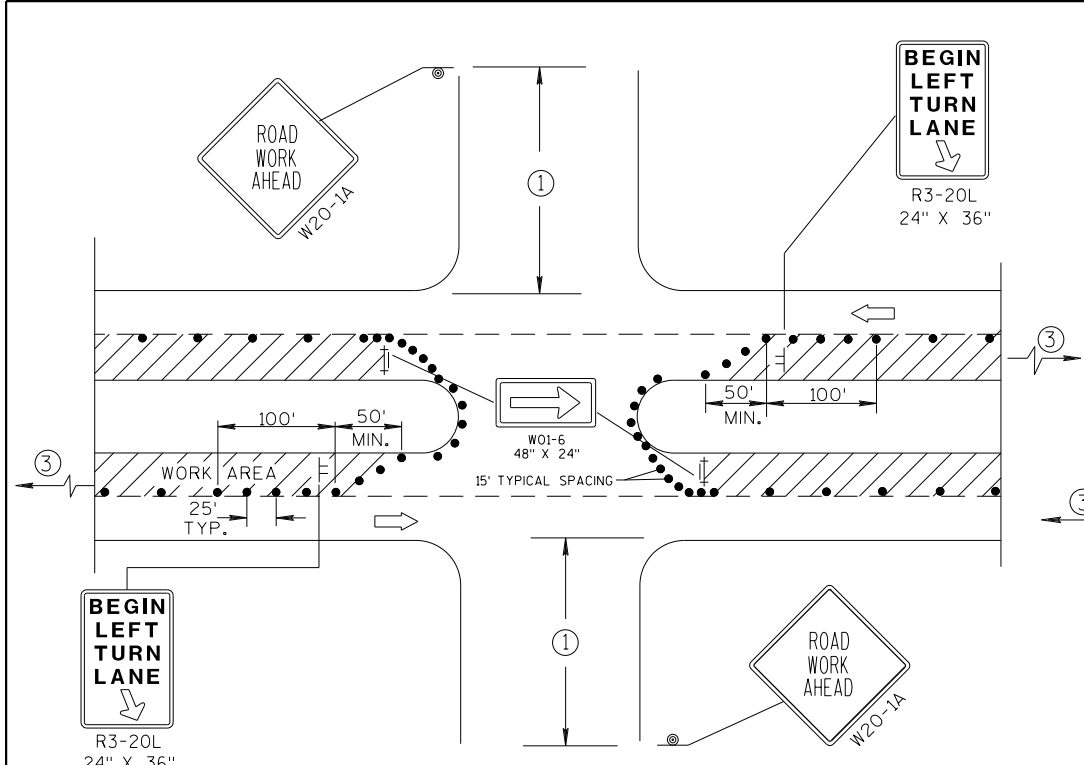


| S  | L    | BUFFER SPACE |
|----|------|--------------|
| 25 | 125' | 55'          |
| 30 | 180' | 85'          |
| 35 | 245' | 120'         |
| 40 | 320' | 170'         |
| 45 | 540' | 220'         |
| 50 | 600' | 280'         |
| 55 | 660' | 335'         |

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

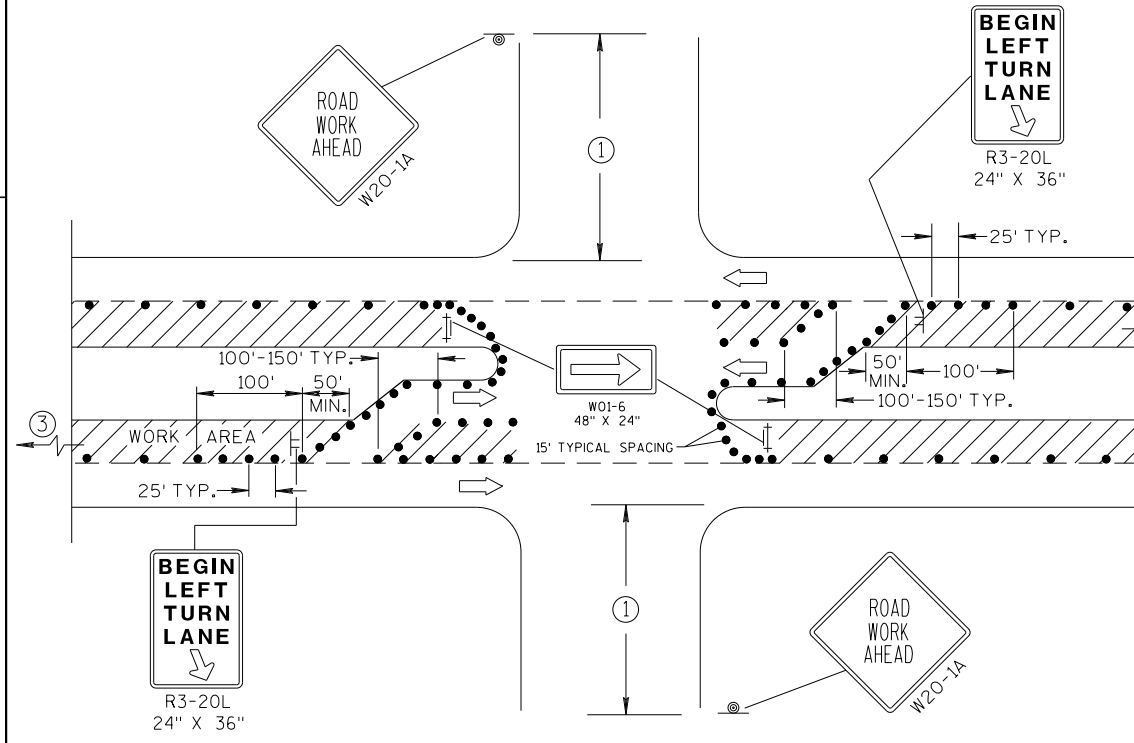
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

|           |                             |
|-----------|-----------------------------|
| APPROVED  |                             |
| June 2016 | /S/ Peter Amakobe Atepe     |
| DATE      | STATEWIDE WORK ZONE TRAFFIC |
|           | SAFETY ENGINEER             |
| FHWA      |                             |

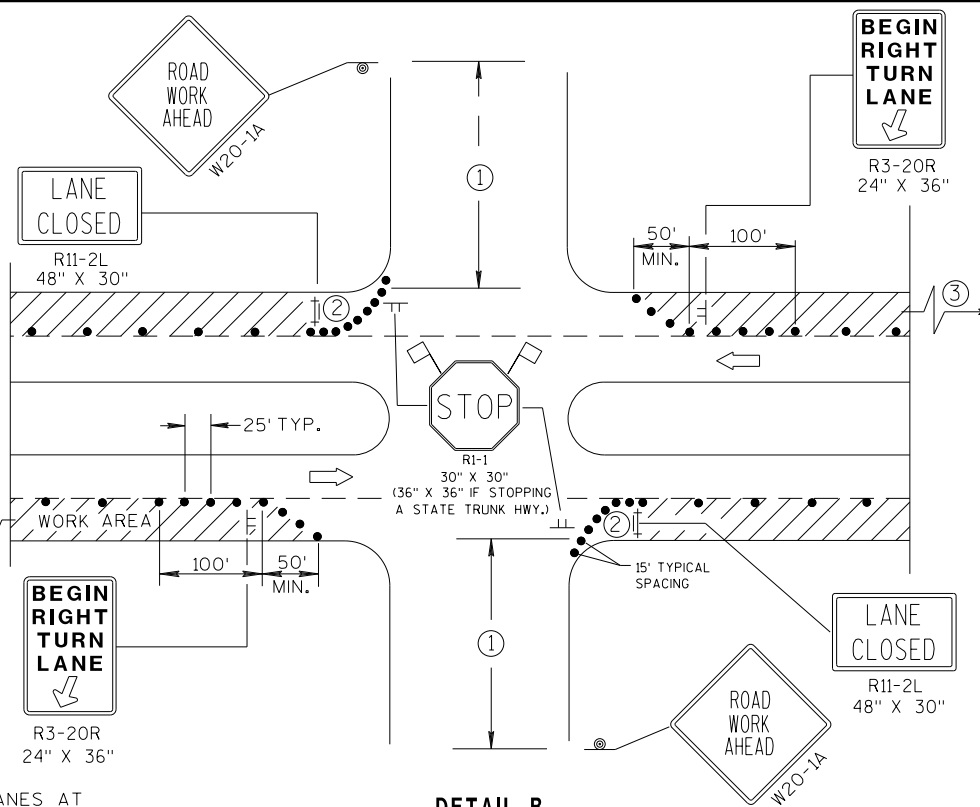


DETAIL A  
FOR LEFT LANE CLOSURE AT  
INTERSECTION OR MEDIAN OPENING

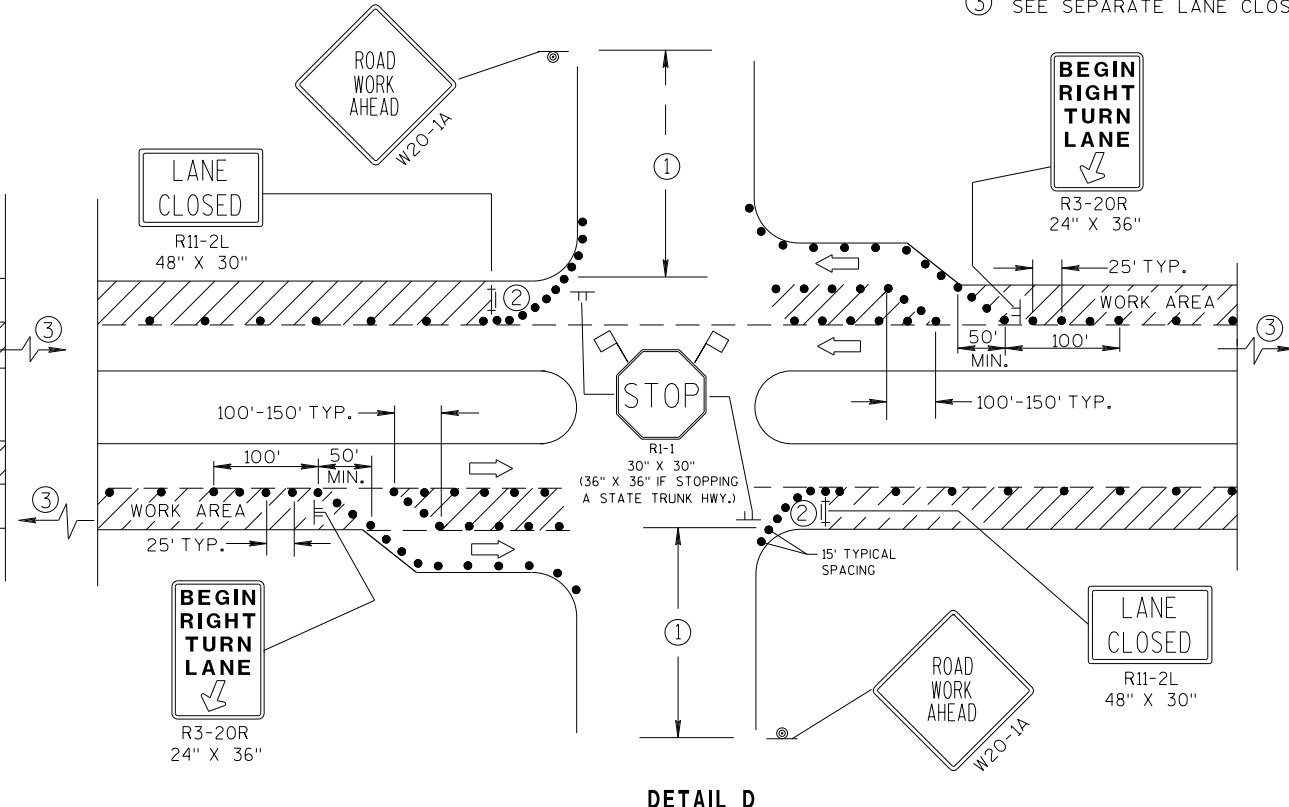
PROVIDE TURN LANES AT  
INTERSECTIONS WHENEVER  
STAGING OF WORK ALLOWS.  
TAPER AND TURN LANE  
LENGTHS BASED ON FIELD  
CONDITIONS AS APPROVED  
BY THE ENGINEER.



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



DETAIL B  
FOR RIGHT LANE CLOSURE  
AT INTERSECTION



DETAIL D  
FOR RIGHT LANE CLOSURE AT INTERSECTION  
(WITH RIGHT TURN BAY OPEN)

## GENERAL NOTES

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

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

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

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

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

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

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

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

BARRICADES IN A CLOSED LANE 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.

- ① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.  
350' IF 35-40 MPH.  
200' IF 25-30 MPH.
- ② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.
- ③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.

## LEGEND

- TRAFFIC CONTROL DRUM
- ⊙ SIGN ON PERMANENT SUPPORT
- ≡ SIGN ON TEMPORARY SUPPORT (5' MIN. MOUNTING HEIGHT)
- ≡ TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" WARNING LIGHT (FLASHING)
- ➡ DIRECTION OF TRAFFIC
- 🚩 FLAGS, 16" X 16" MIN., (ORANGE)
- ▨ WORK AREA

## TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
7/2018 /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 AS APPROVED BY THE ENGINEER.

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

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

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

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

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

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

TABLE A

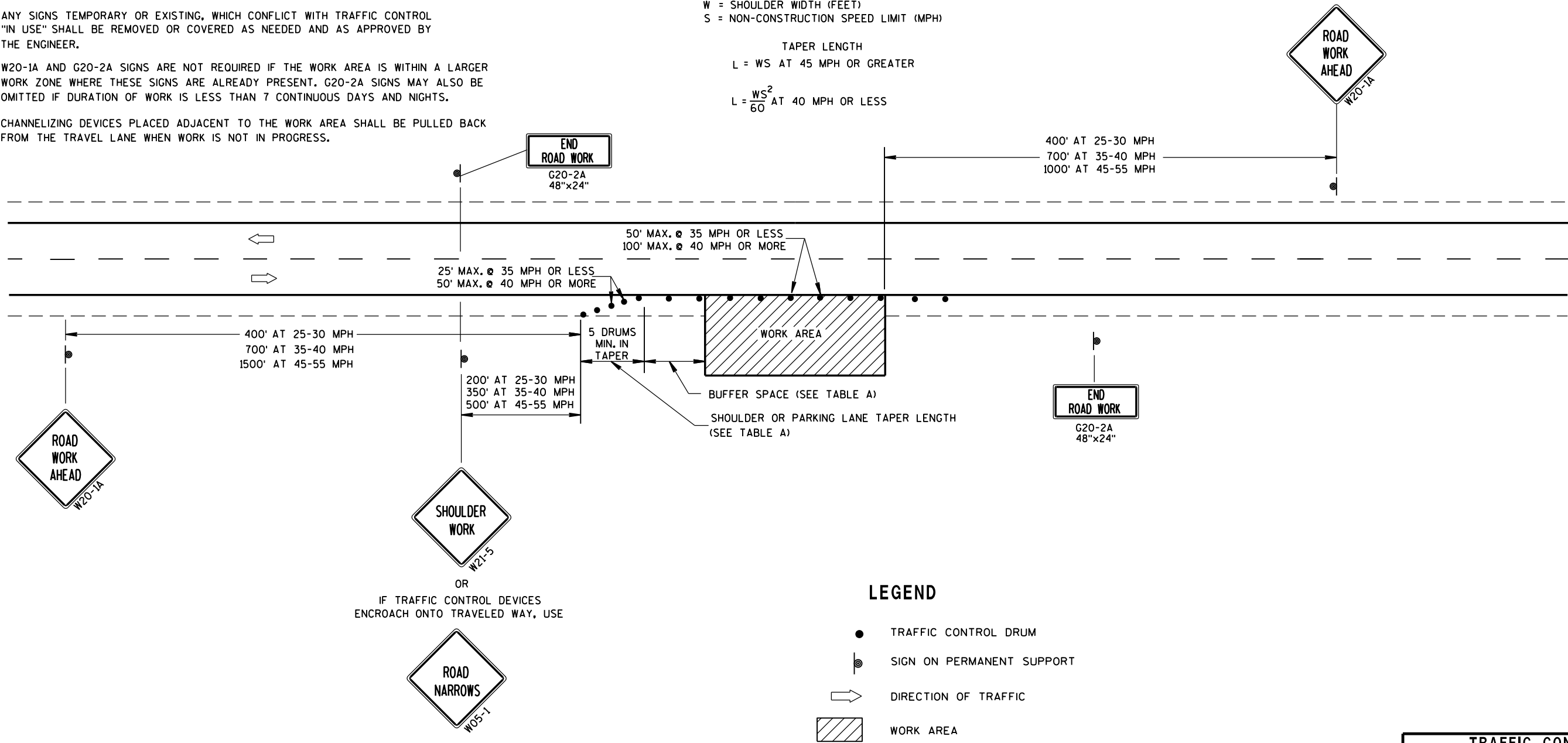
| SHOULDER TAPER LENGTH (FEET) |    |     |     |     | BUFFER SPACE (FEET) |
|------------------------------|----|-----|-----|-----|---------------------|
| S \ W                        | 4  | 6   | 8   | 10  |                     |
| 30                           | 20 | 30  | 40  | 50  | 200                 |
| 35                           | 30 | 45  | 55  | 70  | 250                 |
| 40                           | 40 | 55  | 75  | 90  | 305                 |
| 45                           | 60 | 90  | 120 | 150 | 360                 |
| 50                           | 70 | 100 | 135 | 170 | 425                 |
| 55                           | 75 | 110 | 150 | 185 | 495                 |

W = SHOULDER WIDTH (FEET)  
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

TAPER LENGTH  
L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$  AT 40 MPH OR LESS

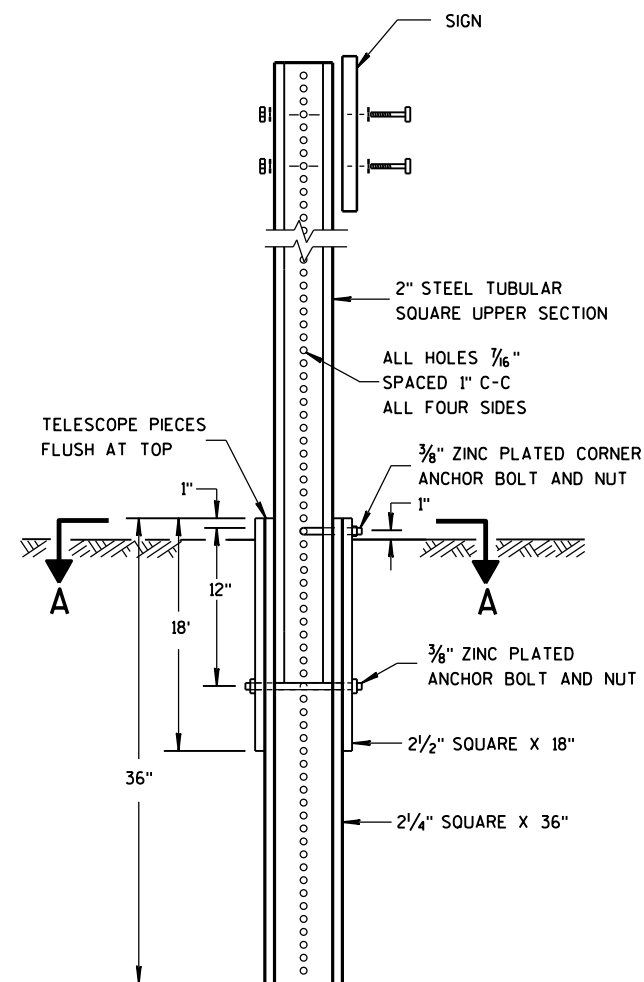
SHOULDER TAPER LENGTH =  $\frac{1}{3}L$



LEGEND

- TRAFFIC CONTROL DRUM
- ⦿ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ▨ WORK AREA

|   |   |
|---|---|
| TRAFFIC CONTROL,<br>WORK ON SHOULDER OR<br>PARKING LANE,<br>UNDIVIDED ROADWAY |   |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION                            |   |
| APPROVED<br>July 14, 2015<br>DATE   | /S/ Peter Amakobe Atepe<br>STATEWIDE WORK ZONE TRAFFIC<br>SAFETY ENGINEER |
| FHWA  |   |



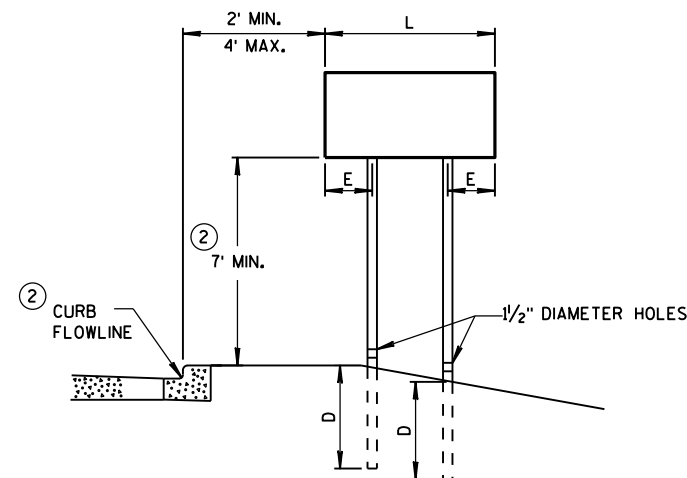
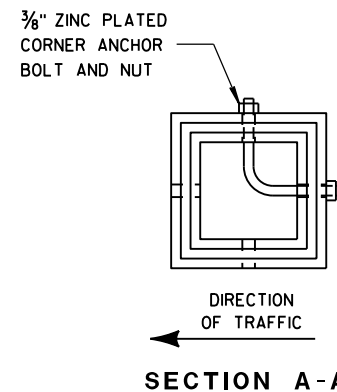
DETAIL OF TUBULAR  
STEEL SIGN POST

TUBULAR STEEL POSTS

| AREA OF SIGN<br>INSTALLATION<br>(SQ. FT.)      | NUMBER OF<br>REQUIRED TUBULAR<br>STEEL POSTS |
|--|--|
| 9 OR LESS                                      | 1  |
| GREATER THAN 9<br>LESS THAN OR EQUAL<br>TO 18  | 2  |
| GREATER THAN 18<br>LESS THAN OR EQUAL<br>TO 27 | 3  |

SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL  
BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).

SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED  
ON TUBULAR STEEL POSTS.

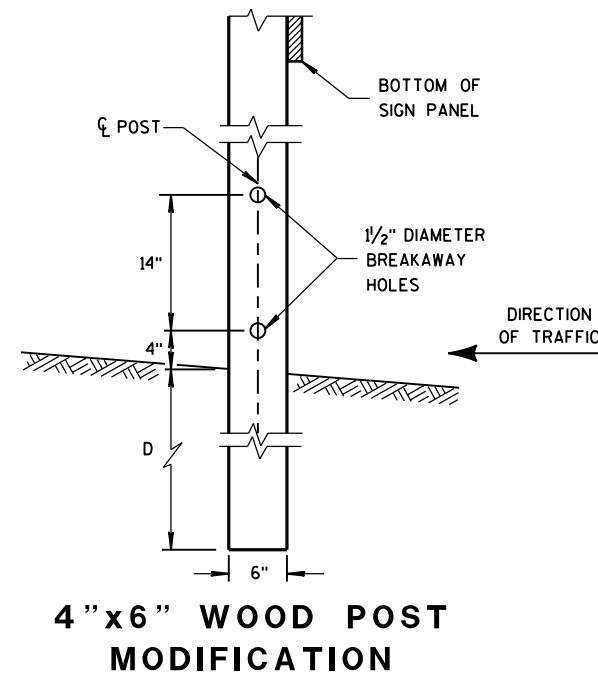


URBAN AREA

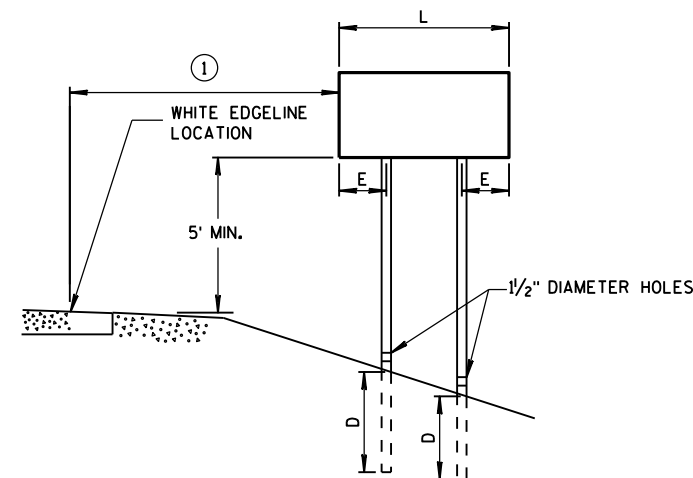
POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

WOOD POST  
EMBEDMENT DEPTH

| AREA OF SIGN<br>INSTALLATION<br>(SQ. FT.) | D<br>(MIN) |
|---|------------|
| 20 OR LESS                                | 4'         |
| GREATER THAN 20                           | 5'         |



4 "x6 " WOOD POST  
MODIFICATION



RURAL AREA

4 " X 6 " WOOD POST

| POST SPACING REQUIREMENTS               |     | NUMBER OF<br>WOOD POSTS<br>REQUIRED |
|---|-----|-------------------------------------|
| L                                       | E   |                                     |
| 48" OR LESS AND<br>LESS THAN 20 SQ. FT. | -   | 1                                   |
| LESS THAN 60"                           | 12" | 2                                   |
| 60" TO 120"                             | L/5 | 2                                   |
| GREATER THAN 120"<br>LESS THAN 168"     | 12" | 3                                   |
| 168" AND GREATER                        | 12" | 4                                   |

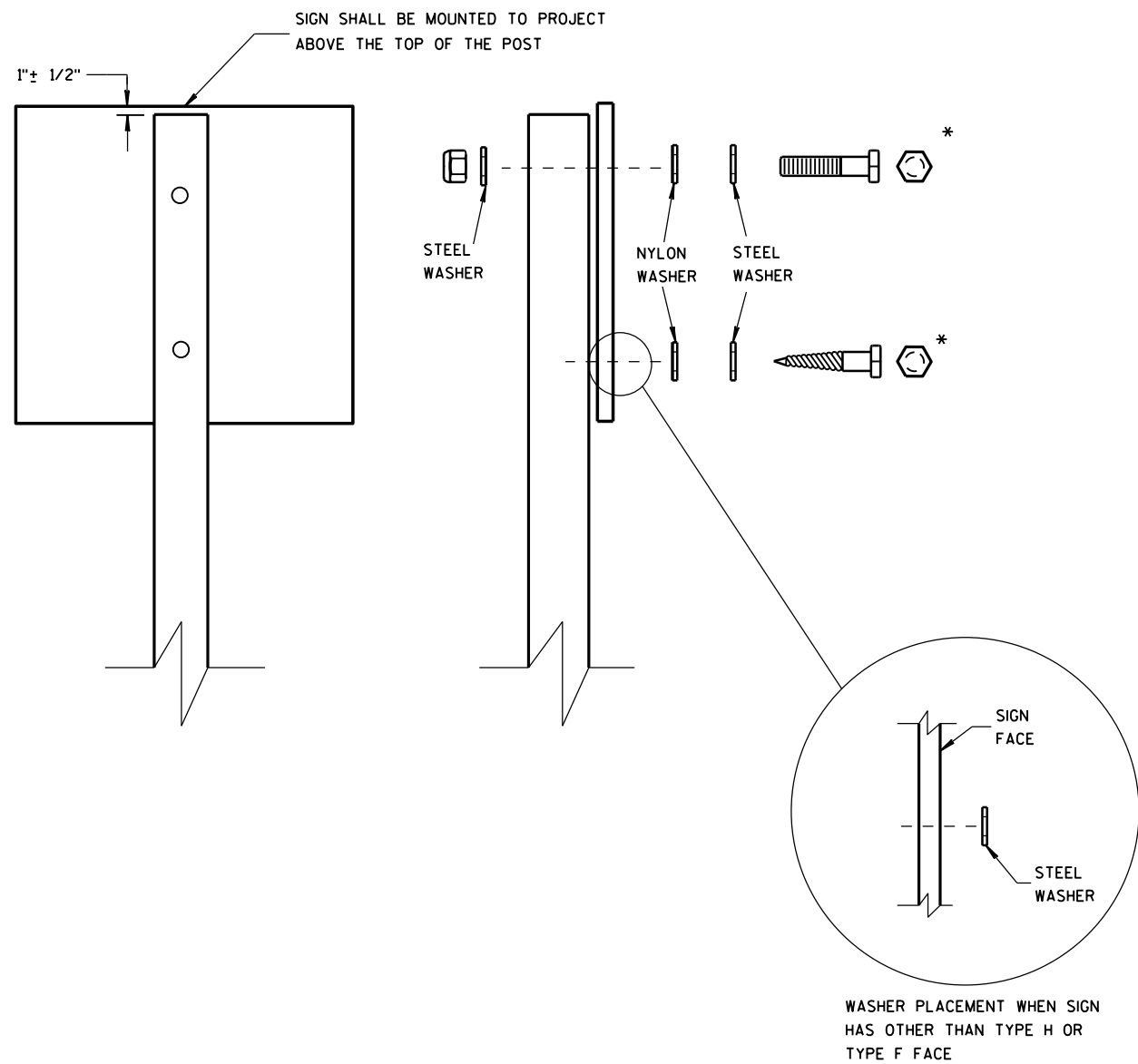
SEE NOTE ③

GENERAL NOTES

- ① 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.
- ② THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.
- ③ FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.

TEMPORARY TRAFFIC CONTROL  
SIGN MOUNTING

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



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.

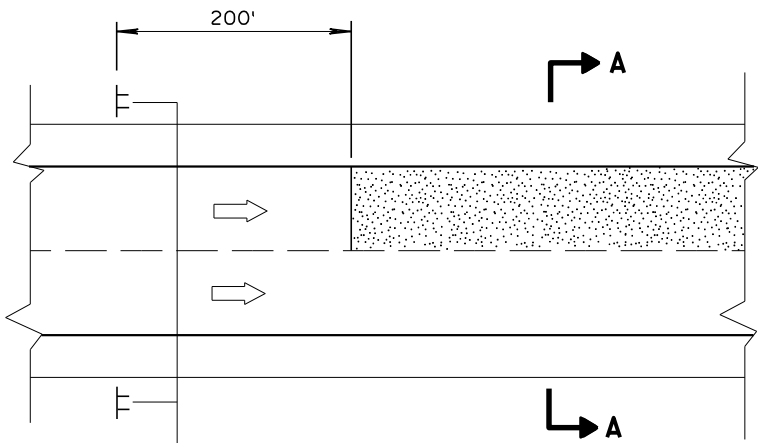
- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" x 3"
  - MACHINE BOLTS - 5/16" x 6-1/2" OR 7" LENGTH W/ NUTS

- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" x 3-1/4" LENGTH W/ NUTS
  - 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 FOR ALL TYPE H SIGNS

\* 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. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

|  |  |
|--|--|
| ATTACHMENT OF SIGNS<br>TO POSTS                    |  |
| STATE OF WISCONSIN<br>DEPARTMENT OF TRANSPORTATION |  |
| APPROVED<br>June 2017<br>DATE                      | /S/ Andrew Heidtke<br>WORK ZONE ENGINEER |
| FHWA   |  |

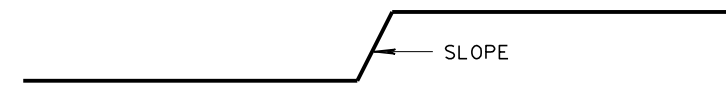


MULTI-LANE

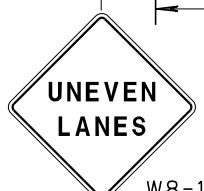
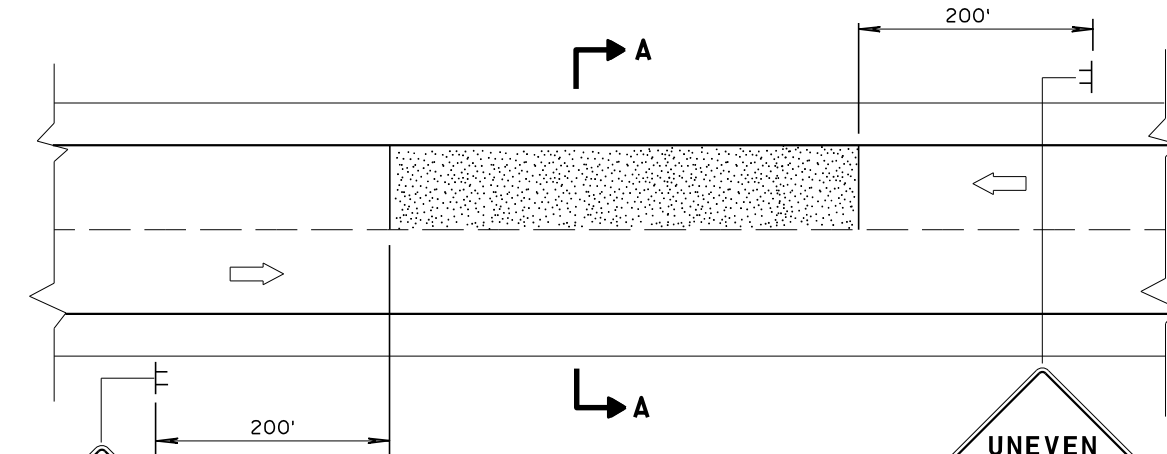


SECTION A-A

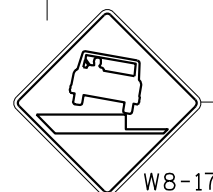
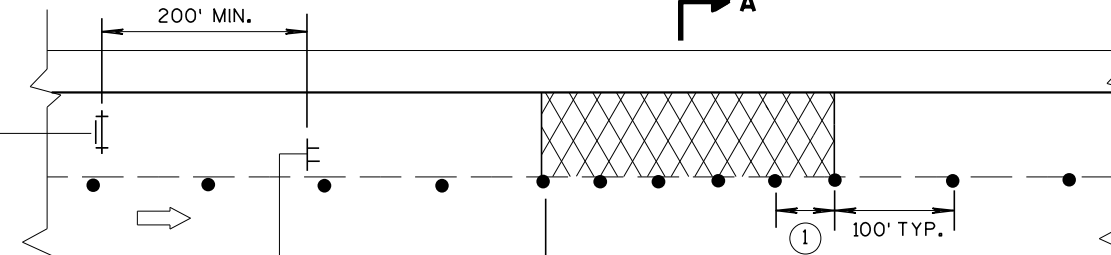
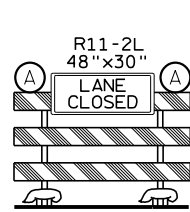
OR



SECTION A-A

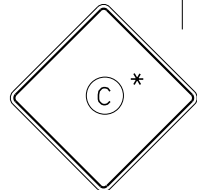
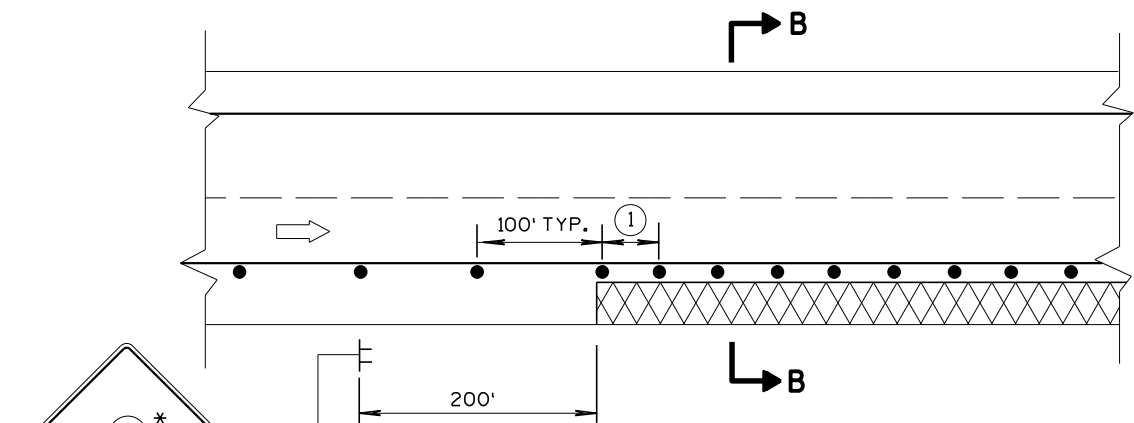


TWO-WAY TWO LANE

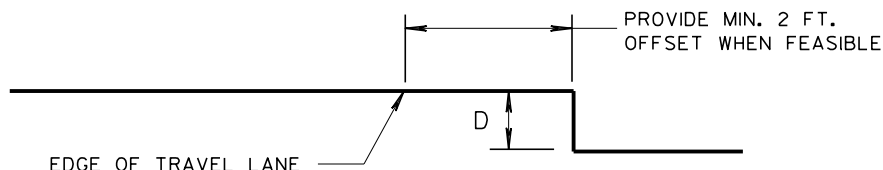


MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS



SHOULDER DROP-OFFS



SECTION B-B

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 EACH ENTRANCE RAMP.

① USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

LEGEND

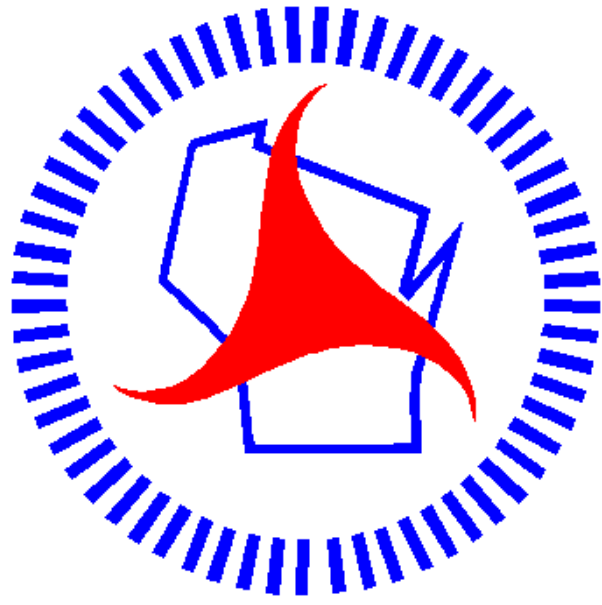
- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE

| D                                     | SIGN (C)   |
|---------------------------------------|--|
| < 2" WITH A SLOPE STEEPER THAN 3:1    | <br>W08-9  |
| 2" < 6" WITH A SLOPE STEEPER THAN 3:1 | <br>W8-9A<br>PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT |

TRAFFIC CONTROL,  
DROP-OFF SIGNING

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



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