MAD

APRIL 2015

PROJECT ID: 5310-00-78

COUNTY: DANE COUNTY

ORDER OF SHEETS

TOTAL SHEETS = 120

N

DESIGN DESIGNATION

A.A.D.T.	2015	= 12,400
A.A.D.T.	2035	= 13,100
D.H.V.		= N/A
D.D.		= 50/50
T.		= 5.5%
DESIGN SPEED		= 60 MPH
ESALS	FLEXIBLE	= 1,839,600

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES

- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

SPRING GREEN - MADISON

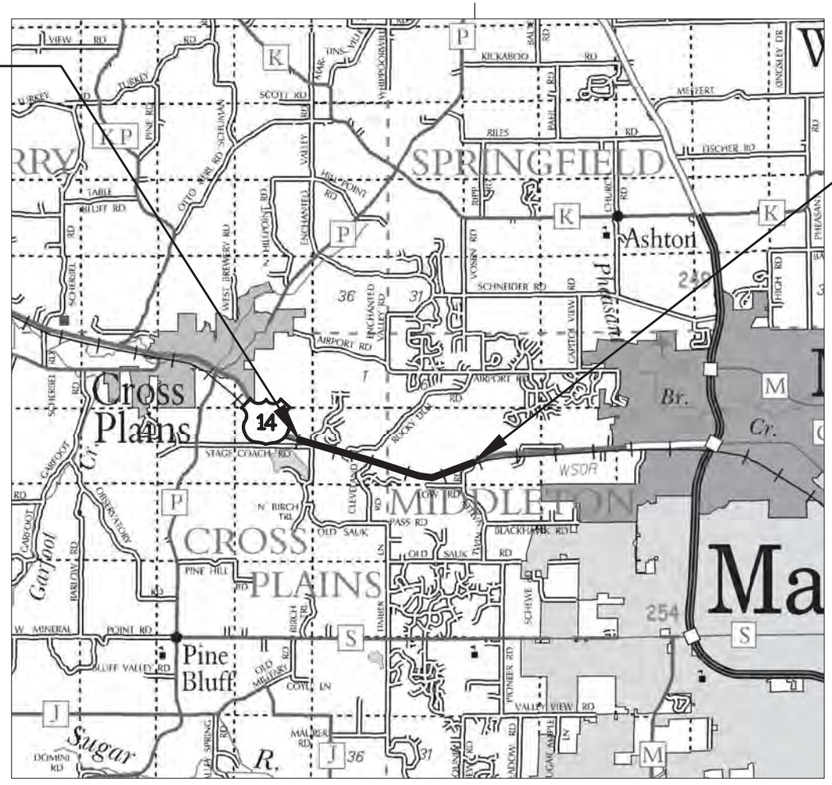
STAGECOACH ROAD TO TWIN VALLEY ROAD.

USH 14

DANE COUNTY

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
5310-00-78	WISC 2015178	1

STATE PROJECT NUMBER
5310-00-78



LAYOUT
SCALE 0 1 Mile

TOTAL NET LENGTH OF CENTERLINE = 2.519 MI.

-"COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEMS (WCCS), 'DANE' COUNTY."

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	JOHN MORAN
Designer	EMRAN BHUIYAN
Project Manager	SUE NAST
Regional Examiner	MIKE RUD
Regional Supervisor	KURT JOHNSON
C.O. Examiner	

APPROVED FOR THE DEPARTMENT

DATE: 01/22/2015 Kurt A. Johnson (Signature)

E

FILE NAME : N:\PDS\C3D\53100008\010101_TI.DWG

PLOT DATE : 1/22/2015 9:48 AM PLOT BY : JOHNSON, JOHN R PLOT NAME :

WISDOT/CADDS SHEET 10

2

GENERAL NOTES

HMA PAVEMENT TYPE E-3 WEIGHT CALCULATION CONVERSION TO 112 LB/SY/IN.

PLACE THE 5.5 INCH HMA PAVEMENT IN THREE LAYERS.

APPLY TACK COAT TO THE MILLED PAVEMENT SURFACE AND BETWEEN ASPHALT LAYERS.

THE LOCATIONS OF THE EXISTING UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. THE CONTRACTOR SHALL COORDINATE HIS CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA.

THE ENGINEER MAY ADJUST THE LOCATIONS OF ITEMS UNDER THIS CONTRACT TO AVOID CONFLICT WITH THE EXISTING UTILITY FACILITIES.

THE CONTRACTOR IS RESPONSIBLE FOR SEEDING, MULCHING & FERTILIZING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY HIS OPERATIONS OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.

THE EROSION CONTROL ITEMS SHOWN ON THE PLANS ARE AT SUGGESTED LOCATIONS. THE ENGINEER SHALL CONFIRM THE LOCATION OF EROSION CONTROL ITEMS. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY. AT THAT TIME, THE CONTRACTOR SHALL REMOVE THE TEMPORARY EROSION CONTROL ITEM INCIDENTAL TO THE COST OF THE RESPECTIVE BID ITEM.

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

PRIOR TO ORDERING DRAINAGE PIPES AND STRUCTURES, THE CONTRACTOR SHALL VERIFY RELATED DRAINAGE INFORMATION IN THE PLAN WITH THE ENGINEER.

DURING PAVING OPERATIONS CONSTRUCT ROADWAY CONSISTANT WITH THE PLAN TYPICAL SECTIONS AND PLAN OPERATIONS TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, PASSING, OR PARKING LANE.

SAWCUTS AS SHOWN ON THE PLANS ARE AT SUGGESTED LOCATIONS AND MAY BE ADJUSTED AT THE DISCRETION OF THE ENGINEER TO BETTER SUIT FIELD CONDITIONS.

EXISTING SHOULDER AGGREGATE SHALL BE INCORPORATED INTO THE NEW SHOULDERS UNLESS OTHERWISE DIRECTED BY THE ENGINEER IN THE FIELD.

FILL QUANTITIES HAVE BEEN EXPANDED BY THE FACTOR OF 1.25 ON YARDAGE SHEETS.

A SAWED JOINT WILL BE REQUIRED WHERE NEW PAVEMENT IS TO MEET AN EXISTING PAVED SURFACE.

THE ENGINEER WILL REVIEW SIGN LOCATIONS PRIOR TO INSTALLATION.

CROSS SECTIONS SHOWN INCLUDE THE THICKNESS OF TOPSOIL WHERE REQUIRED.

ASPHALTIC MATEIRIAL HAS BEEN ESTIMATED AT 5.5% OF HMA PAVEMENT TONNAGE.

CURB AND GUTTER GRADES AND OFFSETS ARE TO THE FLANGE.

THE ENGINEER WILL ADJUST CURB & GUTTER ELEVATIONS TO FIT FIELD CONDITIONS.

MATCH EXISTING CROWN TRANSITION AT RAILROAD TRACKS.

PLACEMENT LOCATION	TYPE	LAYERS	NOMINAL MAXIMUM SIZE GRADATION
USH 14	E-3	1.75" UPPER LAYER	12.5 mm
SHOULDERS	E-3	3.5" SINGLE LAYER	12.5 mm

ORDER OF SECTION 2 DETAIL SHEETS:

DIGGERS HOTLINE

Dial 811 or (800)242-8511

www.DiggersHotline.com

UTILITIES, MUNICIPILITIES, & COUNTY

DOUG VOSBERG
ATC MANAGEMENT, INC.-ELECTRICITY
2489 RINDEN RD
COTTEGE GROVE, WI 53527
(608)877-2650 office, (608) 438-7650
dvosberg@atcllc.com

GERALD MYERS
TDS TELECOM-COMMUNICATION LINE
525 JUNCTION RD
MADISON, WI 53717
(608) 664-4404
jerry.myers@tdstelecom.com

RANDY LETTMAN
CHARTER COMMUNICATIONS-COMMUNICATION LANE
2701 DANIELS ST.
MADISON, WI 53718
(608) 274-3822, (608)575-6415
randall.lettman@chartercom.com

RICH PARKER
MADISON GAS AND ELECTRIC -ELECTRICITY
133 S. Blair St.
MADISON, WI 53788
(608) 252-7379 office, (608)444-9619 Mobile
rparker@mge.com

DENNIS MOORE
MID-PLAINS TELEPHONE LLC - COMMUNICATION LINE
525 JUNCTION RD, 5TH FLOOR
P.O. BOX 5158
MADISON, WI 53705-0158
(608) 513-2171
dennis.moore@tdstelecom.com

STEVE BEVERSDORF
MADISON GAS AND ELECTRIC
COMPANY - GAS/PETROLEUM
133 S BLAIR ST.
MADISON, WI 53788
(608) 252-1552
sbeversdorf@mge.com

CONTACTS

DNR — WISDNR LIASON
SOUTHWEST REGIONAL OFFICE
ATTN: ERIC HEGGELUND
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711
(608) 275-3301

WSOR — WSOR SUPERINTENDENT
ROGER SCHAALMA
1890 EAST JOHNSON ST.
MADISON, WI 53704
(414) 750-3702

WisDOT DESIGN CONTACTS:

SUE NAST, P.E.
PROJECT MANAGER
SW REGION-MADISON OFFICE
2101 WRIGHT ST.
MADISON, WI 53704
PH: (608)242-8051

MOHAMMAD EMRAN BHUIYAN, P.E.
PROJECT ENGINEER
SW REGION-MADISON OFFICE
2101 WRIGHT ST.
MADISON, WI 53704
PH: (608)246-7549

2

STANDARD ABBREVIATIONS

AP	ACCESS POINT
AC	ACRE
ADJ	ADJUST
AECPRC	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE
AH	AHEAD
AC	ASPHALT CEMENT
ASPH	ASPHALTIC
ACP	ASPHALTIC CONCRETE PAVEMENT
AVG	AVERAGE
ADT	AVERAGE DAILY TRAFFIC
BK	BACK
BAD	BASE AGGREGATE DENSE
BM	BENCH MARK
CB	CATCH BASIN
C/L	CENTER LINE
C/L CONST	CENTER LINE CONSTRUCTION
△	CENTRAL ANGLE OR DELTA
CL	CLASS
CMCP	CORRUGATED METAL CULVERT PIPE
CTH	COUNTY TRUNK HIGHWAY
CABC	CRUSHED AGGREGATE BASE COURSE
CFS	CUBIC FEET PER SECOND
CY	CUBIC YARD
CP	CULVERT PIPE
CPCS	CULVERT PIPE CORRUGATED STEEL
CPRC	CULVERT PIPE REINFORCED CONCRETE
CPRCHE	CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL
D	DEGREE OF CURVE
DHV	DESIGN HOUR VOLUME
DIA	DIAMETER
DD	DIRECTIONAL DISTRIBUTION
DWY	DRIVEWAY
E	EAST
X	EAST GRID COORDINATE
EB	EASTBOUND
EL	ELEVATION
ESALS	EQUIVALENT SINGLE AXLE LOADS
EBS	EXCAVATION BELOW SUBGRADE
EXIST	EXISTING
FPS	FEET PER SECOND
FERT	FERTILIZE
FE	FIELD ENTRANCE
FL	FLOW LINE
FT	FOOT
GN	GRID NORTH
BG	BEAM GUARD/GUARD RAIL
FO	FIBER OPTICS
TEL	TELEPHONE
OH	OVERHEAD ELECTRIC
G/GAS	GAS LINE
HES	HIGH EARLY STRENGTH
HP	HIGH POINT
HW	HIGH WATER
HMA	HOT MIX ASPHALT
CWT	HUNDREDWEIGHT
HYD	HYDRANT
INL	INLET
ID	INSIDE DIAMETER
INV	INVERT
IP	IRON PIPE OR PIN
JT	JOINT
LT	LEFT
LC	LENGTH OF CURVE
LF	LINEAR FOOT
LP	LOW POINT
LS	LUMP SUM
MH	MANHOLE
MAX	MAXIMUM
Mgal	MEGAGALLON
MPH	MILES PER HOUR
MON	MONUMENT
NOM	NOMINAL
NC	NORMAL CROWN
N	NORTH
Y	NORTH GRID COORDINATE
NB	NORTHBOUND
OPT	OPTIONAL
OD	OUTSIDE DIAMETER
PAVT	PAVEMENT
PLE	PERMANENT LIMITED EASEMENT
PACS	PIPE ARCH CORRUGATED STEEL
PT	POINT
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
PVC	POLYVINYL CHLORIDE
PCC	PORTLAND CEMENT CONCRETE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PE	PRIVATE ENTRANCE
PGL	PROFILE GRADE LINE
PL	PROPERTY LINE
Q100	100-YEAR FLOW RATE
R	RADIUS
RR	RAILROAD
R	RANGE
R/L	REFERENCE LINE
REINF	REINFORCING OR REINFORCEMENT
REQD	REQUIRED
RT	RIGHT
R/W	RIGHT-OF-WAY
RDWY	ROADWAY
SEC	SECTION
SHLDR	SHOULDER
S	SOUTH
SB	SOUTHBOUND
SQ	SQUARE
SF	SQUARE FEET
SW	SIDEWALK
SY	SQUARE YARD
SDD	STANDARD DETAIL DRAWINGS
STA	STATION
SS	STORM SEWER
SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
ST	STREET
STR	STRUCTURE OR STRUCTURAL
SE	SUPERELEVATION
TEMP	TEMPORARY
TI	TEMPORARY INTEREST
TLE	TEMPORARY LIMITED EASEMENT
t	TON
T	TOWN
T/L	TRANSIT LINE
T	TRUCKS (PERCENT OF)
TYP	TYPICAL
USH	UNITED STATES HIGHWAY
VAR	VARIABLE
V	VELOCITY OF DESIGN SPEED
VERT	VERTICAL
VC	VERTICAL CURVE
VOL	VOLUME
WM	WATER MAIN
WV	WATER VALVE
W	WEST
WB	WESTBOUND
WSOR	WISCONSIN AND SOUTHERN RAILROAD
YD	YARD

2

2

N

Begin Project
Sta. 557+00

End Construction
Sta. 16+53

End Project
Sta. 690+00

Begin Construction
Sta. 14+14

Stagecoach Rd.

Stagecoach Rd.

N. Birch Tr.

Rocky Dell Rd.

Railroad

Cleveland Rd.

Railroad

Railroad

Wi. DNR P.E.

Twin Valley Rd.

560

570

580

590

600

610

620

630

640

650

660

670

680

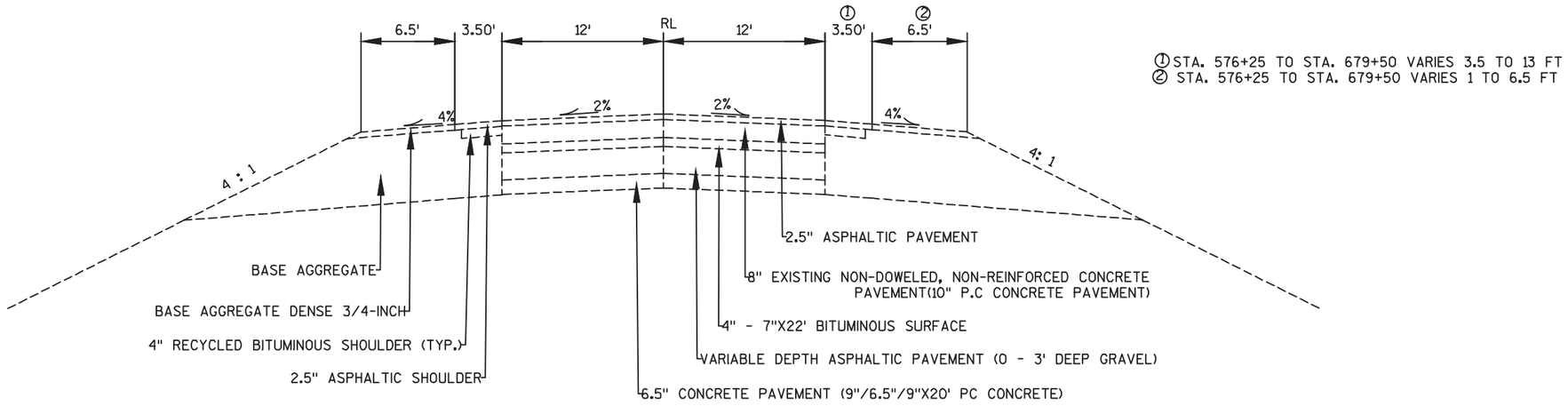
690

PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	PROJECT OVERVIEW	SHEET	E

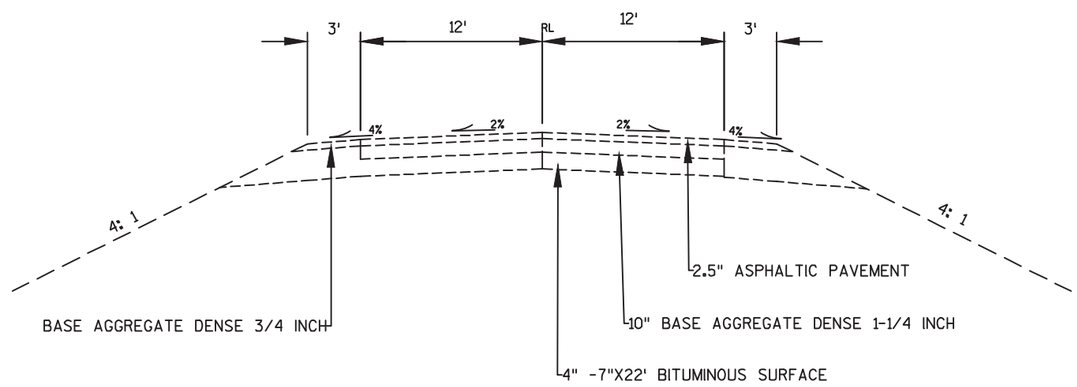
FILE NAME : N:\PDS\C3D\53100008\020201_PO.DWG

PLOT DATE : 10/22/2014 12:19 PM PLOT BY : BHUIYAN, MOHAMMAD E PLOT NAME : PLOT SCALE : 0.001248

WISDOT/CADDS SH 4

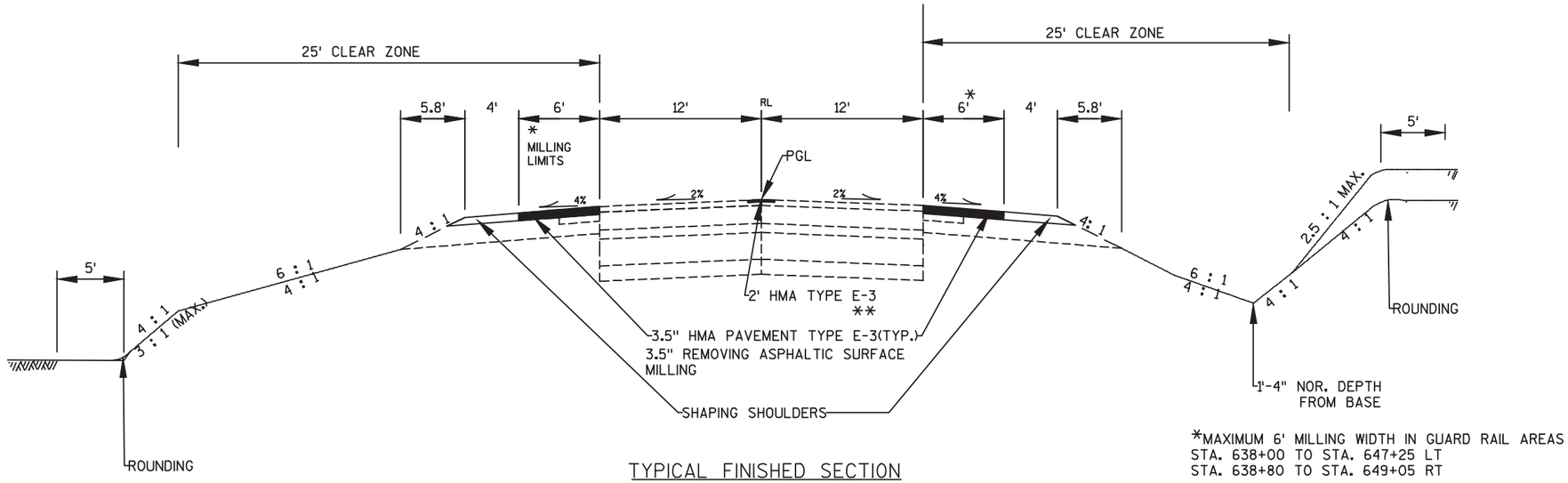


TYPICAL EXISTING SECTION
USH 14
STA. 557+00 TO STA. 690+00



TYPICAL EXISTING SECTION
STAGECOACH RD
STA. 14+13 TO STA. 16+53

PROJECT NO:5310-00-78	HWY: USH 14	COUNTY: DANE	TYPICAL SECTION	SHEET 5	E



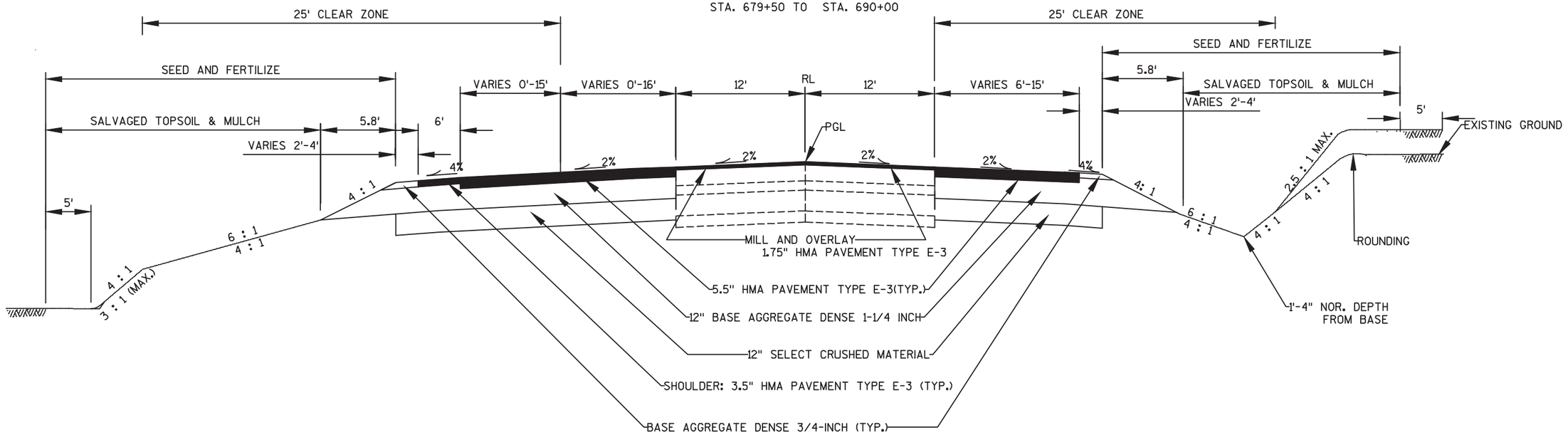
TYPICAL FINISHED SECTION

USH 14

STA. 557+00 TO STA. 562+44.8 RT
STA. 574+24.1 TO STA. 582+50 RT
STA. 582+50 TO STA. 676+25
STA. 676+25 TO STA. 679+50 LT
STA. 679+50 TO STA. 690+00

*MAXIMUM 6' MILLING WIDTH IN GUARD RAIL AREAS
STA. 638+00 TO STA. 647+25 LT
STA. 638+80 TO STA. 649+05 RT

** MILL AND OVERLAY 2 FT WIDE X 2 INCH DEEP AT CENTERLINE

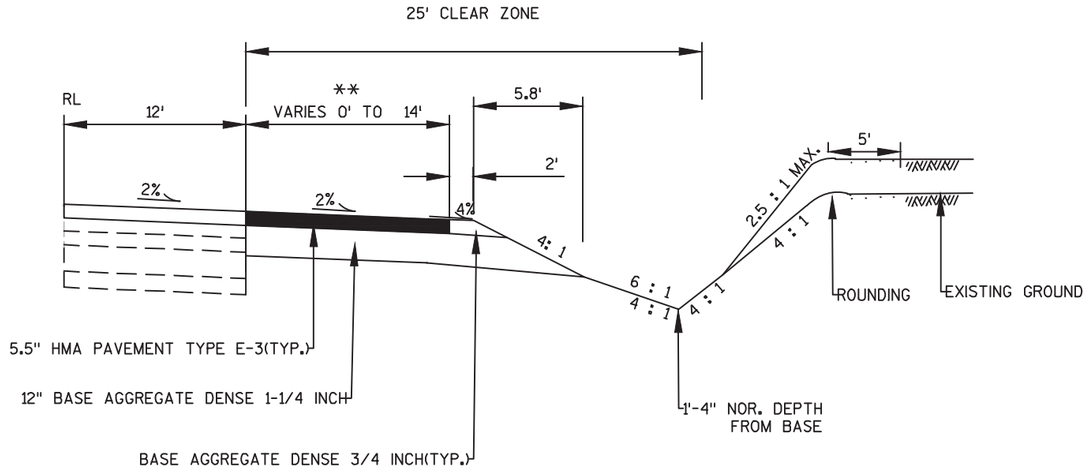


TYPICAL FINISHED SECTION

USH 14

STA. 557+00 TO STA. 562+44.8 LT
STA. 562+44.8 TO STA. 574+24.1 RT
STA. 562+44.8 TO STA. 582+50 LT

PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	TYPICAL SECTION	SHEET 6	E

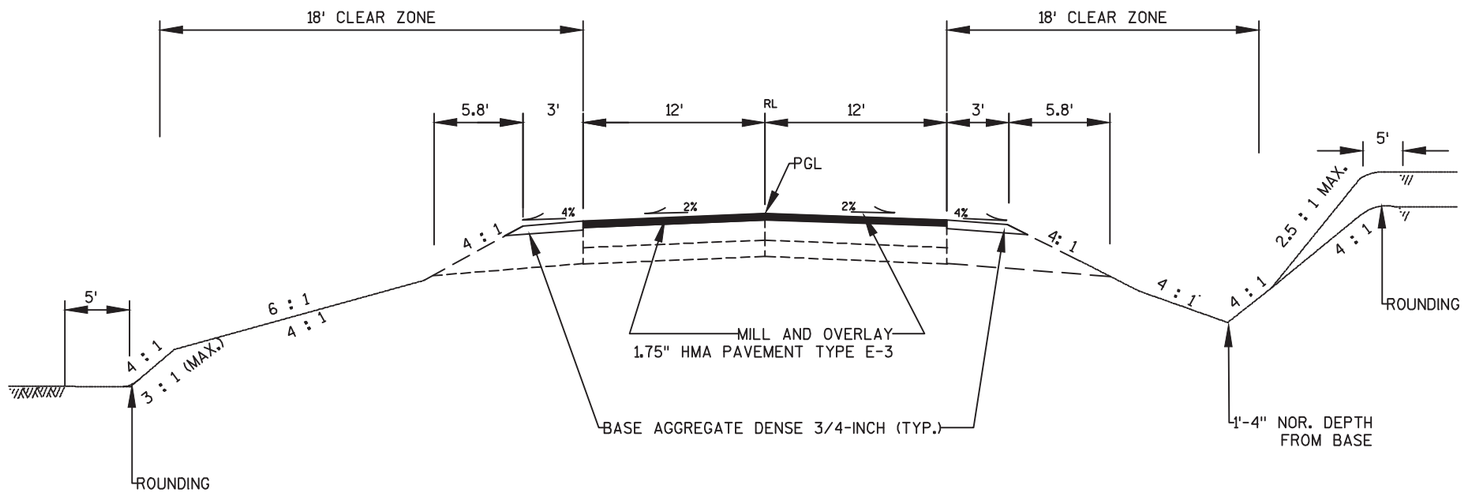


BYPASS LANE AND RIGHT TURN LANE AT TWIN VALLEY ROAD

TYPICAL FINISHED SECTION

USH 14

STA. 676+25 TO STA. 679+50 RT



TYPICAL FINISHED SECTION

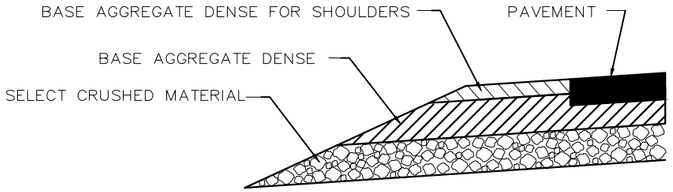
STAGECOACH ROAD

STA. 14+13 TO STA. 16+53

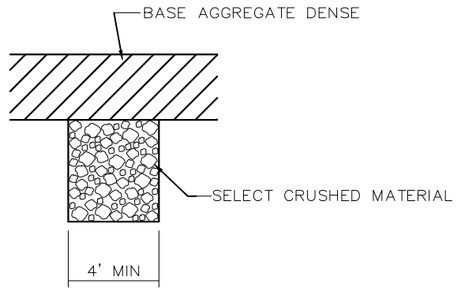
PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	TYPICAL SECTION - STAGECOACH ROAD	SHEET 7	E

FILE NAME : N:\PDS\C3D\53100008\USH 14_TYPICAL SECTION.DWG PLOT DATE : 11/24/2014 1:52 PM PLOT BY : WALDSCHMIDT, HUNTER PLOT NAME : PLOT SCALE : 1 IN:10 FT

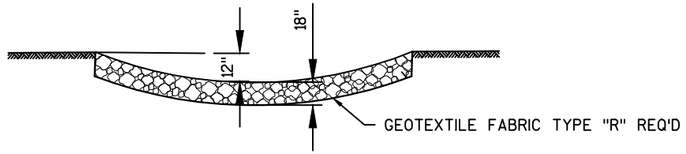
WISDOT/CADDS SHEET 42



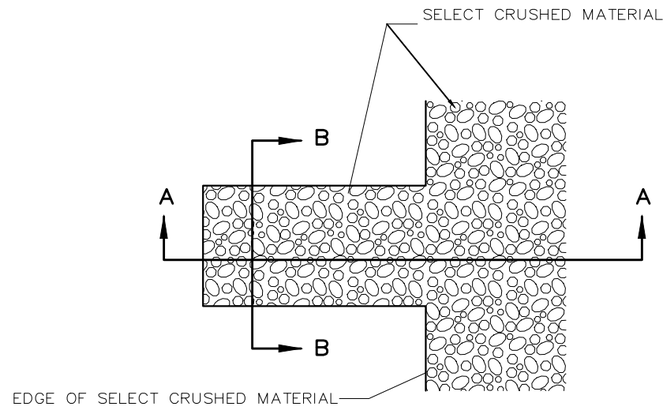
SECTION A–A



SECTION B–B



SECTION A-A

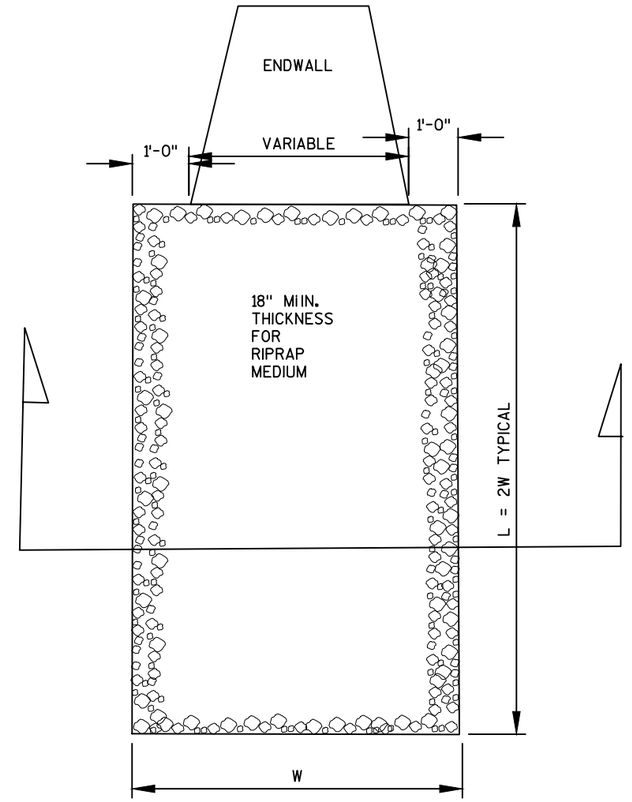


DETAIL FOR FRENCH DRAINS

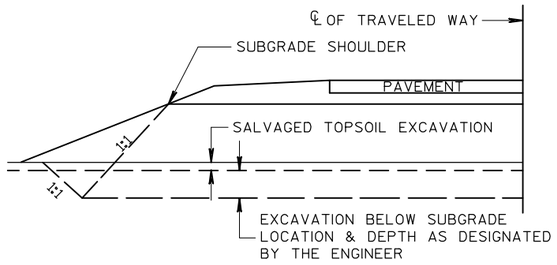
STA. 559+00 LT.
STA. 562+00 LT.
STA. 565+00 LT. & RT.
STA. 570+00 LT. & RT.
STA. 572+00 LT. & RT.
STA. 575+00 LT.
STA. 577+00 LT.
STA. 579+00 LT.
STA. 581+00 LT.

LOCATIONS TO BE VERIFIED IN THE FIELD BY THE ENGINEER

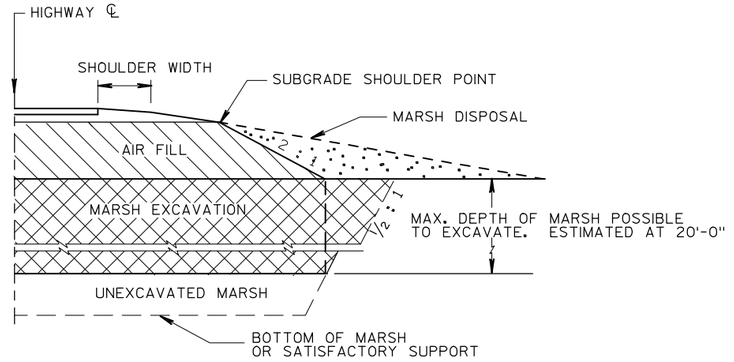
EXCAVATION REQUIRED TO CONSTRUCT FRENCH DRAINS SHALL BE CONSIDERED INCIDENTAL TO THE ITEM SELECT CRUSHED MATERIAL.



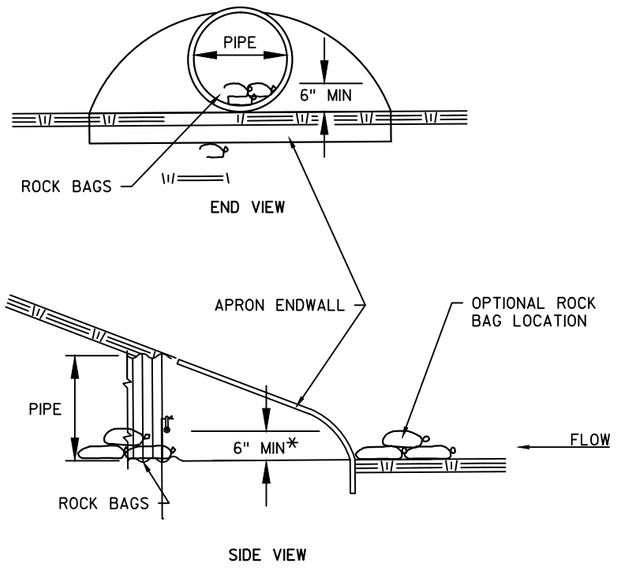
RIPRAP MEDIUM TREATMENT AT CULVERTS



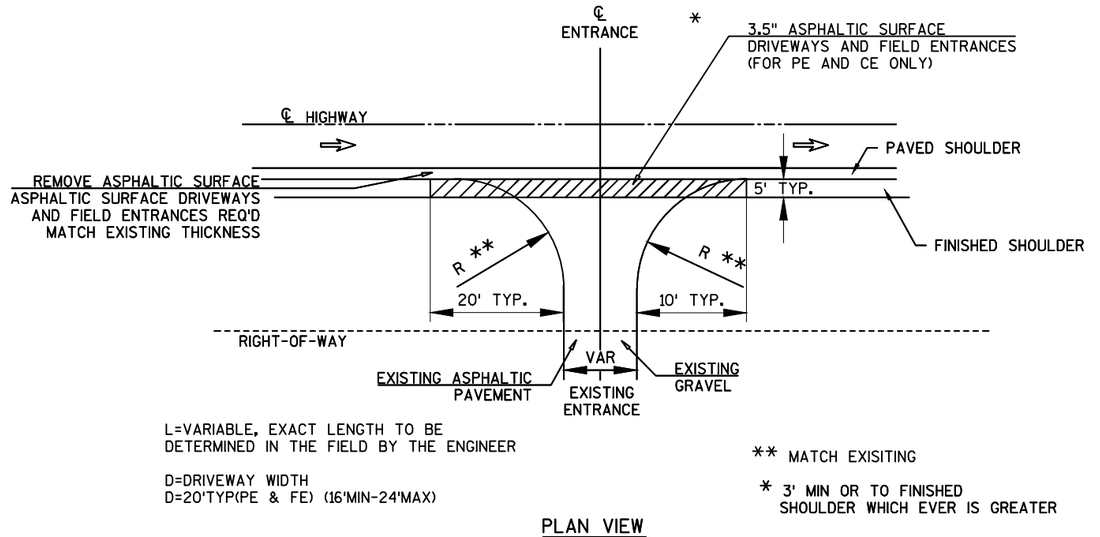
DETAIL FOR EXCAVATION BELOW SUBGRADE



PARTIAL MARSH EXCAVATION

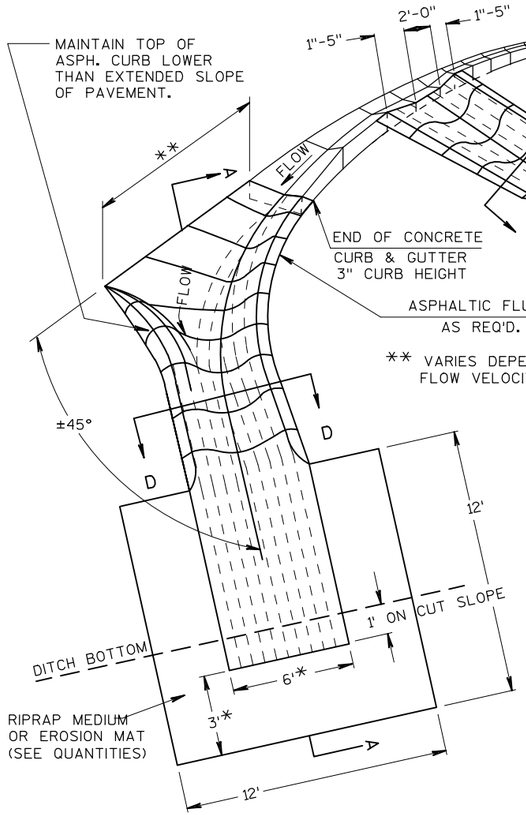


CULVERT PIPE CHECK

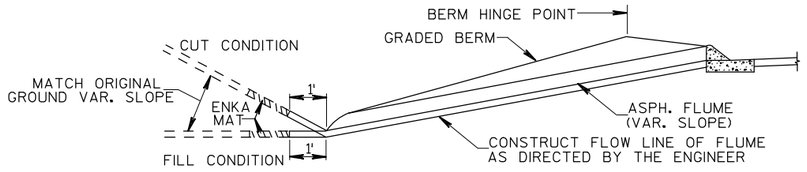


PLAN VIEW

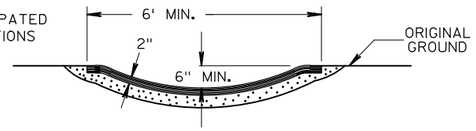
FIELD ENTRANCES, RURAL DRIVEWAYS,
AND TEE INTERSECTIONS
(PE, FE & CE)



** VARIES DEPENDING UPON ANTICIPATED FLOW VELOCITY & FIELD CONDITIONS (10' MIN.)

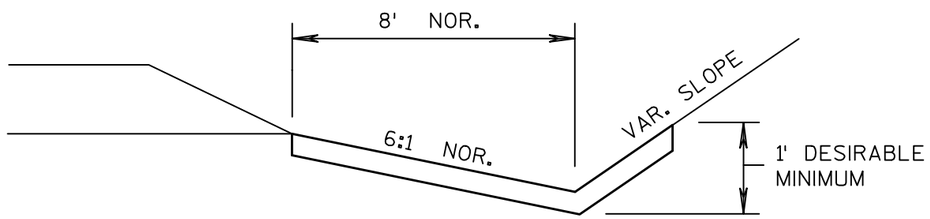


SECTION A-A



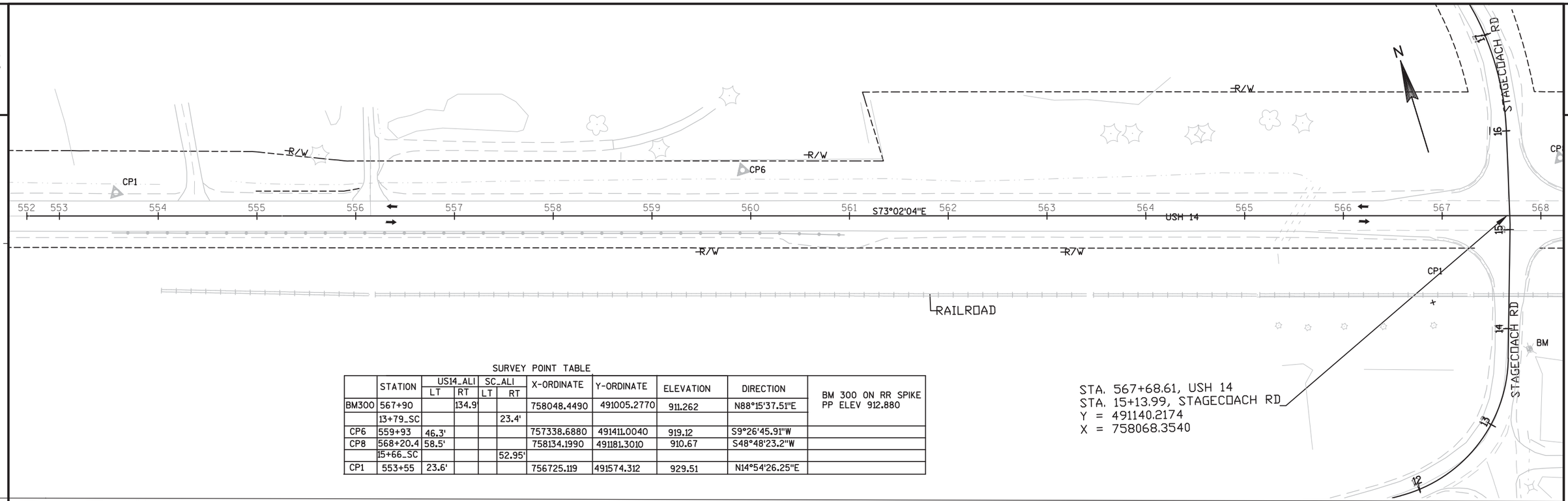
SECTION D-D

ASPHALTIC FLUME DETAIL
AT RURAL INTERSECTIONS



EROSION MAT DETAIL FOR DITCHES

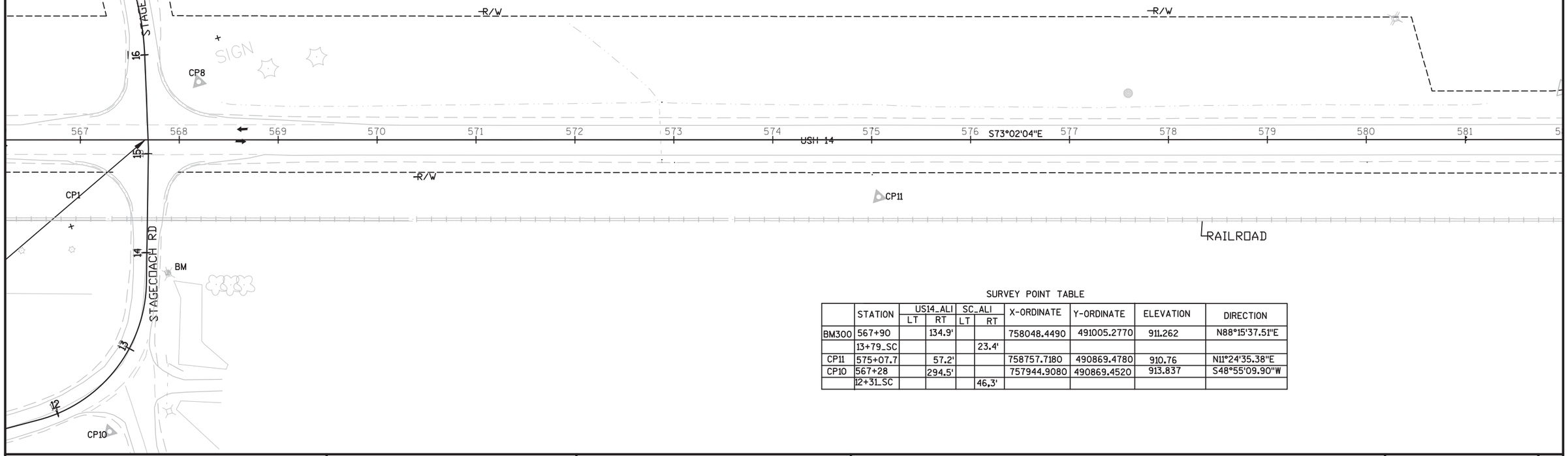
PROJECT NO:5310-00-78	HWY:USH 14	COUNTY:DANE	CONSTRUCTION DETAILS	SHEET 10	E



SURVEY POINT TABLE

	STATION	US14_ALI		SC_ALI		X-ORDINATE	Y-ORDINATE	ELEVATION	DIRECTION	BM 300 ON RR SPIKE PP ELEV 912.880
		LT	RT	LT	RT					
BM300	567+90		134.9'			758048.4490	491005.2770	911.262	N88°15'37.51"E	
	13+79_SC				23.4'					
CP6	559+93	46.3'				757338.6880	491411.0040	919.12	S9°26'45.91"W	
CP8	568+20.4	58.5'				758134.1990	491181.3010	910.67	S48°48'23.2"W	
	15+66_SC				52.95'					
CP1	553+55	23.6'				756725.119	491574.312	929.51	N14°54'26.25"E	

STA. 567+68.61, USH 14
STA. 15+13.99, STAGECOACH RD
Y = 491140.2174
X = 758068.3540



SURVEY POINT TABLE

	STATION	US14_ALI		SC_ALI		X-ORDINATE	Y-ORDINATE	ELEVATION	DIRECTION
		LT	RT	LT	RT				
BM300	567+90		134.9'			758048.4490	491005.2770	911.262	N88°15'37.51"E
	13+79_SC				23.4'				
CP11	575+07.7		57.2'			758757.7180	490869.4780	910.76	N11°24'35.38"E
CP10	567+28		294.5'			757944.9080	490869.4520	913.837	S48°55'09.90"W
	12+31_SC				46,3'				

PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	ALIGNMENT DETAILS	SHEET 11	E

2

N

TDS

CHARTER-TEL

CHARTER

MG&E

4' C

R/W

STA. 557+00
3' PAVED SHOULDER

R/W

STA. 557+00, 12' LT
BEGIN THROUGH LANE TAPER

SI

SI

STA. 557+60
6' PAVED SHOULDER

OH

GUY

554 555 556 557 S73° 02' 42"E 558 559

SAWCUT REQ'D.

12'

12'

12'

VARIE

USH 14

R/W-

R/W

STA. 555+00, USH14 ALI
Y= 491519.2554
X= 756855.5222

STA. 557+00, 0.00 LT
BEGIN MEDIAN TAPER

STA. 557+60
6' PAVED SHOULDER

BEGIN OF PROJECT
STA. 557+00, USH14 ALI
Y= 491451.8960
X= 757046.8182

EXISTING BEAM GUARD TO REMAIN
FROM STA. 557+00 TO STA. 561+00

RAILROAD

STATE OF WISCONSIN
DEPT. OF TRANSPORTATION

PROJECT NO:5310-00-78	HWY:USH 14	COUNTY:DANE	USH 14 - INTERSECTION DETAIL	SHEET	E

FILE NAME : N:\PDS\C3D\53100008\DESIGN\EDGELINES\USH14SCPLANFINAL_40SCALE.DWG PLOT DATE : 1/21/2015 1:11 PM PLOT BY : BHUIYAN, MOHAMMAD E PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

2

N

TDS

CHARTER

WETLAND LIMIT

R/W

CHARTER-TEL

MG&E

STA. 565+00, 28' LT
END THROUGH LANE TAPER

3- 42"X29"CSPA, 22' EXTENSION REQ'D
3- 42"X29" ENDWALL REQ'D

4' GRAVEL SHOULDER

SI

125'

6' PAVED SHOULDER

STA. 563+50, 0.00' LT
BEGIN TURN LANE TAPER

STA. 565+00, 16' LT
END 16' TAPER &
BEGIN 4' MEDIAN

12'

VARIES

560 561 562 563 S73° 02' 42"E 564 565 56

SAWCUT REQ'D.

USH 14

16'

15'

82'

STA. 562+04.56, 12' RT
BEGIN TURN LANE TAPER

STA. 563+92.06, 27' RT
END TAPER

EXISTING BEAM GUARD TO REMAIN
FROM STA. 557+00 TO STA. 561+00

4' GRAVEL SHOULDER

RAILROAD

STATE OF WISCONSIN
DEPT. OF TRANSPORTATION

3- 42"X29"CSPA, 20' EXTENSION REQ'D
3- 42"X29" ENDWALL REQ'D

MG&E
ATC

PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	USH 14 - INTERSECTION DETAIL	SHEET 13	E

NOTE:
* CONCRETE CURB & GUTTER 6-INCH
· SLOPED 36-INCH TYPE D

STA. 16+53.31, STAGECOACH RD
Y=491276.0114
X=758098.3631

STAGECOACH RD

WETLAND LIMIT

ASPHALTIC FLUME REQ'D.

STA. 567+79.25, 96.86' LT

CHARTER

MG&E

TDS

R/W

ASPHALTIC FLUME REQ'D.

STA. 567+49.34', 84.82" LT

16+17
910.55

568+38.3
-103.02

MODIFIED TYPE B INTERSECTION
STA. 567+68.61, USH 14 ALI
STA. 15+13.99, STAGECOACH RD
Y=491140.2174
X=758068.3540

WETLAND LIMIT

567+09.35
-82.83

* 40'R

16+00
910.58

STA. 567+11.15', 43' LT

SI

STA. 566+11.15, 28' LT

911.44
567+25

911.55

910.83
568+00

ASPHALTIC FLUME REQ'D.

STA. 568+41.30, 43' LT

910.54

STA. 571+41.30, 43' LT
BEGIN TURN LN TAPER

SI

N14° 39' 39"E

87°41'56"

66 567 568 569 570 571 VARIES 572 S73

USH 14

SAWCUT REQ'D.

SAWCUT REQ'D.

911.94

911.59
567+25

911.51

568+00
911.29

STA. 569+22.88', 12' RT

R/W

MG&E

STA. 571+37.99, 4' LT
BEGIN MEDIAN TAPER

8' PAVED SHOULDER

SI

STA. 568+22.88, 27' RT

STA. 566+92.06, 27' RT

* 60'R

911.02
14+40.5

14+47.3
911.06

* 40'R

568+22.88
66.87

N17° 50' 30"E

STA. 567+80.29, 65.15' RT

566+92.06
87.13

STA. 567+50.50, 73.25' RT
STA. 14+40.54, 17' LT

RR TRACK HMA PAVEMENT REQ'D
SEE SDD 13B1-10

RAILROAD

TDS

BM 300 ON RR SPIKE PP ELE. 912.880
Y=491005.2770
X = 758048.4490
ELEV. 911.261 ON GROUND

STA.14+13.70, STAGECOACH RD
Y=491044.6073
X=758038.0899

STAGECOACH RD

TDS

MG&E

MG&E
ATC

STATE OF WISCONSIN
DEPT. OF TRANSPORTATION

PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	USH 14 - INTERSECTION DETAIL	SHEET 14	E

2

N

TDS

RYW

MG&E

CHARTER

1- 24" DIA RCCP, 18' EXTENSION REQ'D
1- 24" ENDWALL REQ'D

STA. 572+91.30, 16' LT
BEGIN THROUGH LANE TAPER

STA. 573+28.80, 27.76' LT
END TURN LANE TAPER

6' PAVED SHOULDER

SI

SI

12'

12'

S73° 02' 42"E

573

574

575

576

577

578

VARIES

VARIES

VARIES

12'

12'

SAWCUT REQ'D.

USH 14

R/W

STA. 573+22.88, 20' RT
BEGIN TAPER
8' PAVED SHOULDER

STA. 574+22.88', 12' RT
END TAPER

6' PAVED SHOULDER

1- 24" DIA RCCP, 8' EXTENSION REQ'D
1- 24" ENDWALL REQ'D

RAILROAD

STATE O

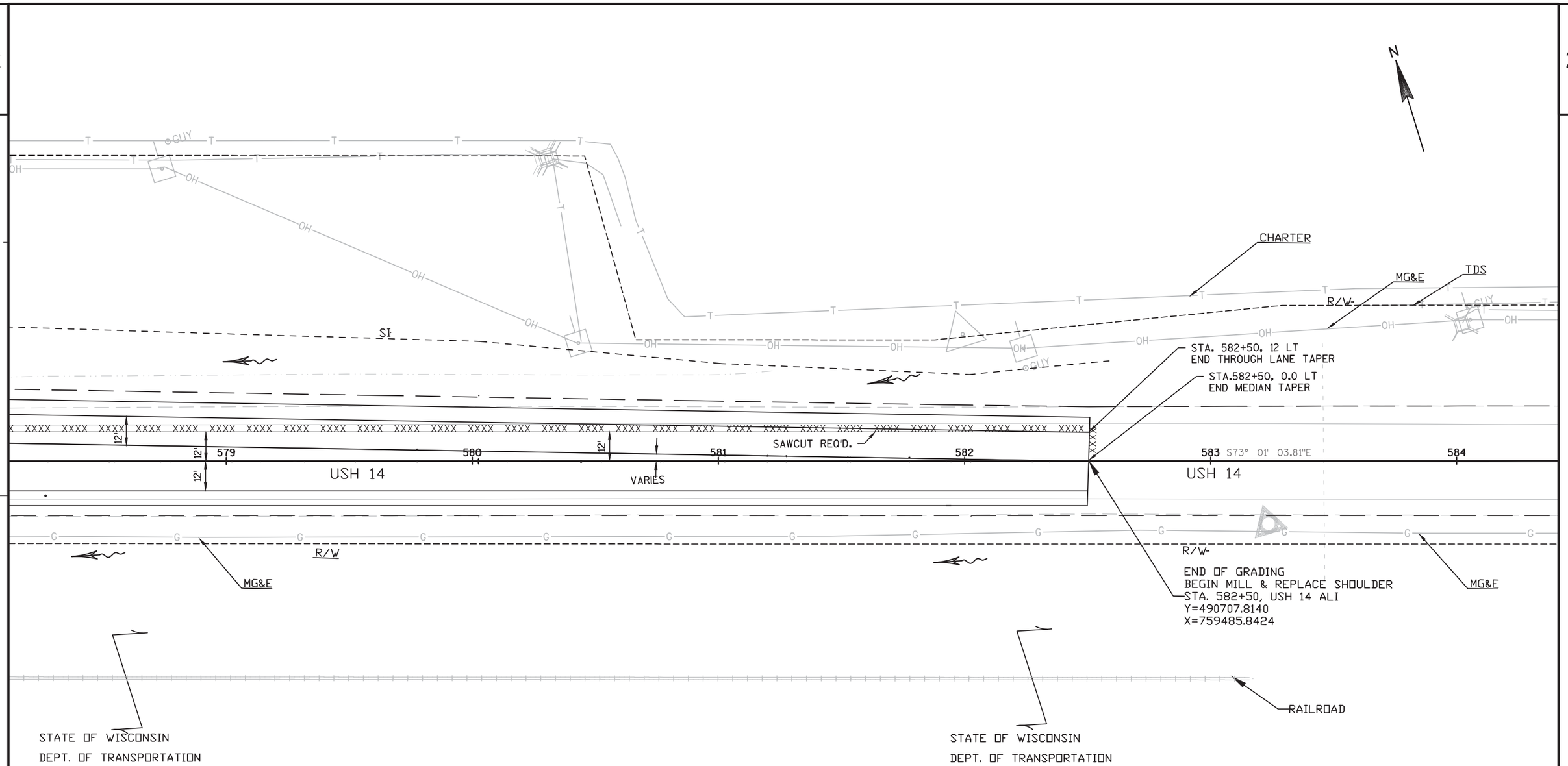
DEPT. OF

PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	USH 14 - INTERSECTION DETAIL	SHEET	E

FILE NAME : N:\PDS\C3D\53100008\DESIGN\EDGELINES\USH14SCPLANFINAL_40SCALE.DWG PLOT DATE : 1/21/2015 1:11 PM PLOT BY : BHUIYAN, MOHAMMAD E PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

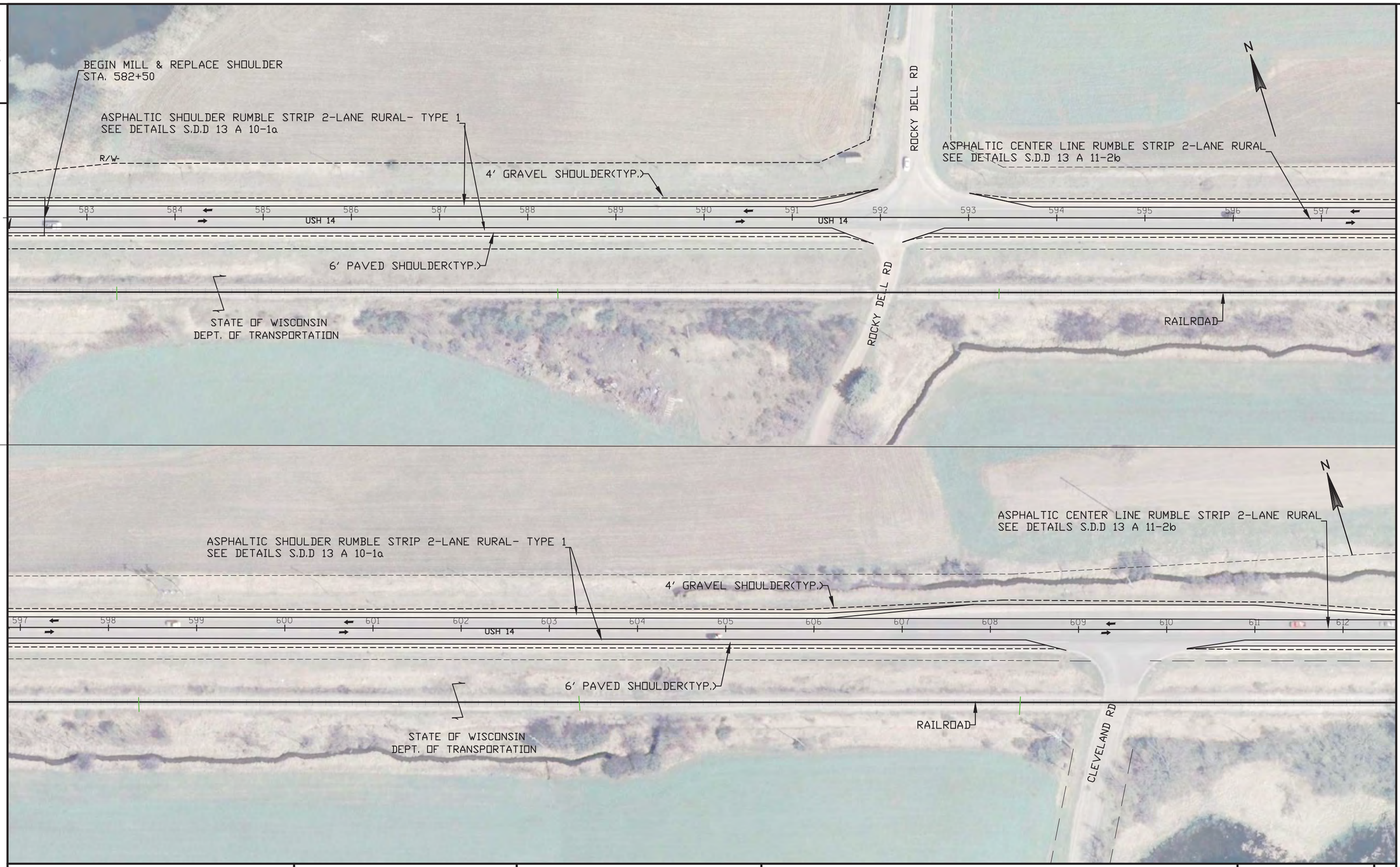
2



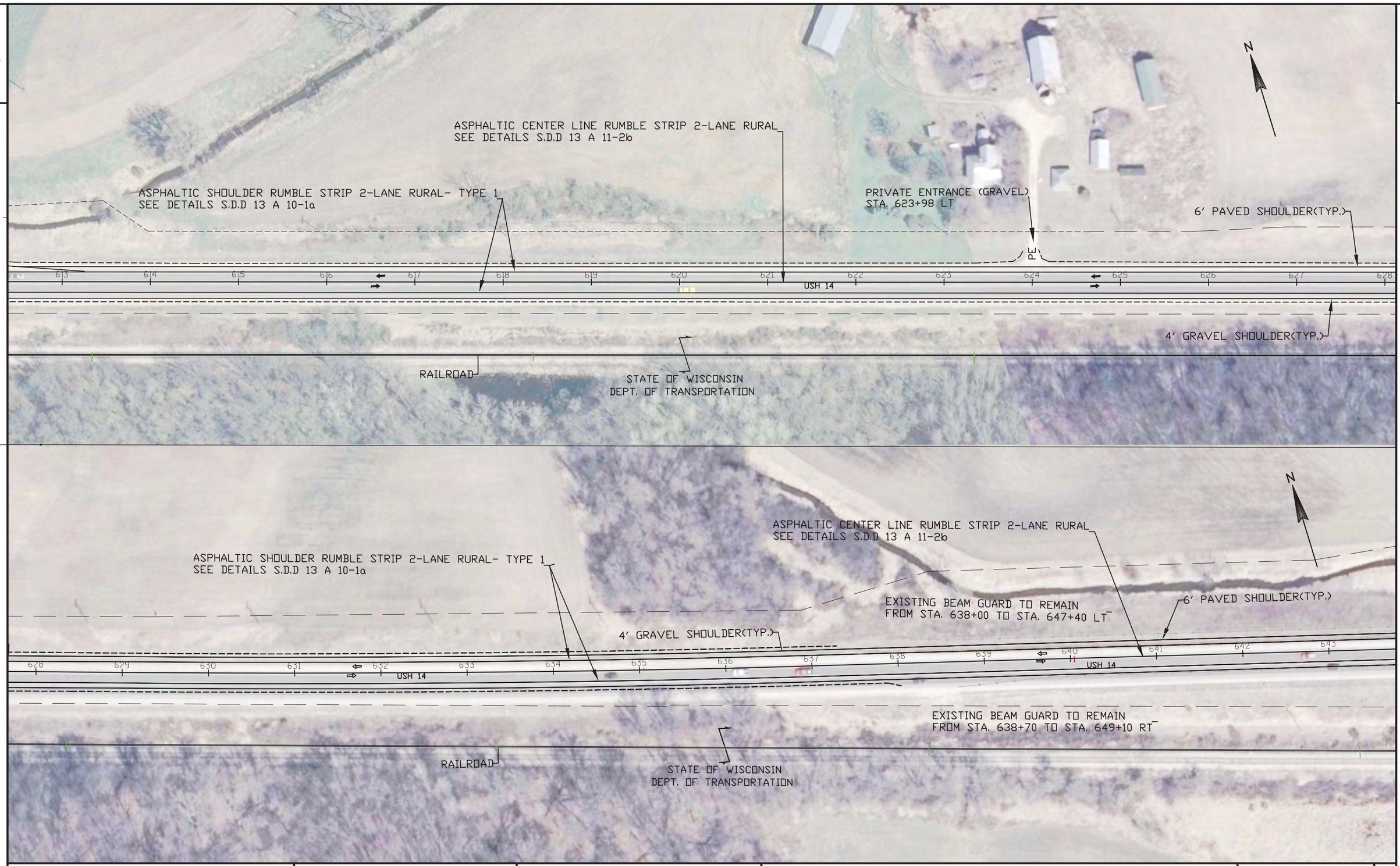
PROJECT NO:5310-00-78	HWY:USH 14	COUNTY:DANE	USH 14 - INTERSECTION DETAIL	SHEET	E

FILE NAME : N:\PDS\C3D\53100008\DESIGN\EDGELINES\USH14SCPLANFINAL_40SCALE.DWG PLOT DATE : 1/21/2015 1:11 PM PLOT BY : BHUIYAN, MOHAMMAD E PLOT NAME : PLOT SCALE : 1:40_XREF
WISDOT/CADDS SHEET 42

2



PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	USH 14 PLAN - SHOULDER REPLACEMENT	SHEET 17	E



PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	USH 14 PLAN - SHOULDER REPLACEMENT	SHEET	E

FILE NAME : N:\PDS\C3D\53100008\DESIGN\EDGELINES\USH14SCRUMBLE_100SCALE.DWG PLOT DATE : 1/21/2015 5:16 PM PLOT BY : BHUIYAN, MOHAMMAD E PLOT NAME : PLOT SCALE : 1:100_XREF

2

2

DER(TYP.)

EXISTING BEAM GUARD TO REMAIN
FROM STA. 638+00 TO STA. 647+40 LT

FIELD ENTRANCE (GRAVEL)
STA. 647+52 LT

PRIVATE ENTRANCE (ASPHALTIC)
STA. 655+92, LT,

PRIVATE ENTRANCE (ASPHALTIC)
STA. 657+83, LT, MAIL BOX # 7750

N

643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658

FE

PE

RW

ASPHALTIC CENTER LINE RUMBLE STRIP 2-LANE RURAL
SEE DETAILS S.D.D 13 A 11-2b

6' PAVED SHOULDER(TYP.)

USH 14

4' GRAVEL SHOULDER(TYP.)

EXISTING BEAM GUARD TO REMAIN
FROM STA. 638+70 TO 649+10 RT

RAILROAD

STATE OF WISCONSIN
DEPT. OF TRANSPORTATION

ASPHALTIC SHOULDER RUMBLE STRIP 2-LANE RURAL- TYPE 1
SEE DETAILS S.D.D 13 A 10-1a

N

ENTRANCE (ASPHALTIC)
83, LT, MAIL BOX # 7750

ASPHALTIC SHOULDER RUMBLE STRIP 2-LANE RURAL- TYPE 1
SEE DETAILS S.D.D 13 A 10-1a

PRIVATE ENTRANCE (GRAVEL)
STA. 660+98, LT

ASPHALTIC CENTER LINE RUMBLE STRIP 2-LANE RURAL
SEE DETAILS S.D.D 13 A 11-2b

6' PAVE

PE

RW

658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673

USH 14

USH 14

FE

FIELD ENTRANCE (GRAVEL)
STA. 657+79, RT

6' PAVED SHOULDER(TYP.)

4' GRAVEL SHOULDER(TYP.)

RAILROAD

STATE OF WISCONSIN
DEPT. OF TRANSPORTATION

PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	USH 14 PLAN - SHOULDER REPLACEMENT	SHEET 19	E

FILE NAME : N:\PDS\C3D\53100008\DESIGN\EDGELINES\USH14SCRUMBLE_100SCALE.DWG PLOT DATE : 1/21/2015 5:16 PM PLOT BY : BHUIYAN, MOHAMMAD E PLOT NAME : PLOT SCALE : 1:100_XREF

WDNR WILDLIFE ENTRANCE
TOWN OF MIDDLETON, WI
BLACK EARTH CREEK WILDLIFE (GRAVEL PARKING AREA)

6' PAVED SHOULDER (TYP.)

RW

673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 68

USH 14

225'

10'

** PASSING LANE MERGE WITH RIGHT TURN LANE
SEE DETAILS AT TYPICAL SECTION.

RAILROAD

TWIN VALLEY RD

ASPHALTIC SHOULDER RUMBLE STRIP 2-LANE RURAL- TYPE 1
SEE DETAILS S.D.D 13 A 10-1a

6' PAVED SHOULDER(TYP.)

4' GRAVEL SHOULDER (TYP.)

ASPHALTIC CENTER LINE RUMBLE STRIP 2-LANE RURAL
SEE DETAILS S.D.D 13 A 11-2b

N

ASPHALTIC SHOULDER RUMBLE STRIP 2-LANE RURAL- TYPE 1
SEE DETAILS S.D.D 13 A 10-1a

6' PAVED SHOULDER(TYP.)

END MILL & REPLACE
SHOULDER
END PROJECT
STA. 690+00

681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697

4' GRAVEL SHOULDER (TYP.)

RW

RAILROAD

TWIN VALLEY RD

ASPHALTIC CENTER LINE RUMBLE STRIP 2-LANE RURAL
SEE DETAILS S.D.D 13 A 11-2b

N

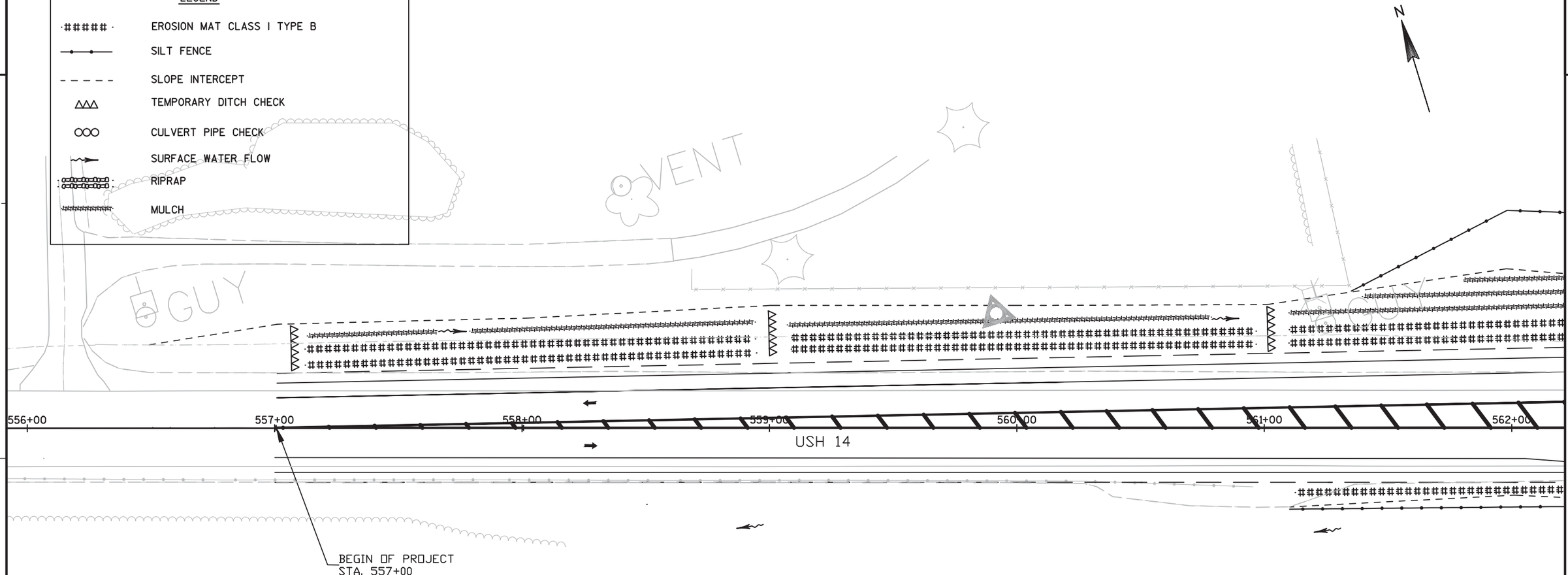
PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	USH 14 PLAN - SHOULDER REPLACEMENT	SHEET	E

FILE NAME : N:\PDS\C3D\53100008\DESIGN\EDGELINES\USH14SCRUMBLE_100SCALE.DWG PLOT DATE : 1/21/2015 5:17 PM PLOT BY : BHUIYAN, MOHAMMAD E PLOT NAME : PLOT SCALE : 1:100_XREF
WISDOT/CADDS SHEET 42

2

LEGEND

- EROSION MAT CLASS I TYPE B
- SILT FENCE
- SLOPE INTERCEPT
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- SURFACE WATER FLOW
- RIPRAP
- MULCH



STATE OF WISCONSIN
DEPT. OF TRANSPORTATION

RUNOFF COEFFICIENT TABLE

	HYDROLOGIC SOIL GROUP											
	A			B			C			D		
	SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)			SLOPE RANGE (PERCENT)		
LAND USE:	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER	0-2	2-6	6 & OVER
ROW CROPS	.08 .22	.16 .30	.22 .38	.12 .26	.20 .34	.27 .44	.15 .30	.24 .37	.33 .50	.19 .34	.28 .41	.38 .56
MEDIAN STRIP-TURF	.19 .24	.20 .26	.24 .30	.19 .25	.22 .28	.26 .33	.20 .26	.23 .30	.30 .37	.20 .27	.25 .32	.30 .40
SIDE SLOPE-TURF			.25 .32			.27 .34			.28 .36			.30 .38
PAVEMENT:												
ASPHALT	.70 - .95											
CONCRETE	.80 - .95											
BRICK	.70 - .80											
DRIVES, WALKS	.75 - .85											
ROOFS	.75 - .95											
GRAVEL ROADS, SHOULDERS	.40 - .60											

TOTAL PROJECT AREA = 8.3 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 5.3 ACRES

PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	EROSION CONTROL	SHEET 21	E

2

LEGEND

- EROSION MAT CLASS I TYPE B
- SILT FENCE
- SLOPE INTERCEPT
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- SURFACE WATER FLOW
- RIPRAP
- MULCH

N

STAGECOACH RD

562+00 563+00 564+00 565+00 566+00 567+00 568+00

USH 14

16

15

14

STAGECOACH RD

STATE OF WISCONSIN
DEPT. OF TRANSPORTATION

PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	EROSION CONTROL	SHEET 22	E

2

LEGEND

- EROSION MAT CLASS I TYPE B
- SILT FENCE
- SLOPE INTERCEPT
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- SURFACE WATER FLOW
- RIPRAP
- MULCH

N

STAGECOACH RD

567+00 568+00 569+00 570+00 571+00 572+00 573+00

USH 14

STAGECOACH RD

STATE OF WISCONSIN
DEPT. OF TRANSPORTATION

PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	EROSION CONTROL	SHEET	E

FILE NAME : N:\PDS\C3D\53100008\022001_EC.DWG PLOT DATE : 1/21/2015 11:21 AM PLOT BY : BHUIYAN, MOHAMMAD E PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

2

2

LEGEND

EROSION MAT CLASS I TYPE B

SILT FENCE

SLOPE INTERCEPT

TEMPORARY DITCH CHECK

CULVERT PIPE CHECK

SURFACE WATER FLOW

RIPRAP

MULCH

N

GUY

573+00 574+00 575+00 576+00 577+00 578+00 579+00

USH 14

STATE OF WISCONSIN
DEPT. OF TRANSPORTATION

PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	EROSION CONTROL	SHEET	E

FILE NAME : N:\PDS\C3D\53100008\022001_EC.DWG PLOT DATE : 1/21/2015 11:21 AM PLOT BY : BHUIYAN, MOHAMMAD E PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

2

LEGEND

EROSION MAT CLASS I TYPE B

SILT FENCE

SLOPE INTERCEPT

TEMPORARY DITCH CHECK

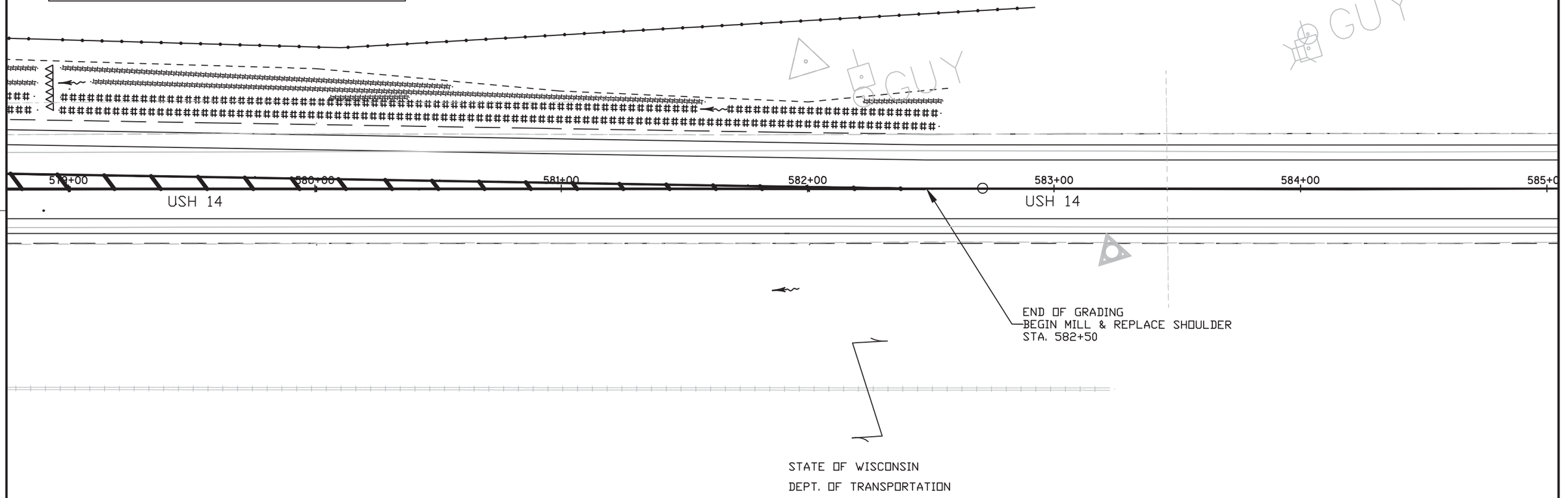
CULVERT PIPE CHECK

SURFACE WATER FLOW

RIPRAP

MULCH

N



PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	EROSION CONTROL	SHEET 25	E

FILE NAME : N:\PDS\C3D\53100008\022001_EC.DWG PLOT DATE : 1/21/2015 11:21 AM PLOT BY : BHUIYAN, MOHAMMAD E PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

2

SEE S.D.D. "PAVEMENT MARKING (INTERSECTIONS)"
SEE S.D.D. "PAVEMENT MARKING (MAINLINE)"
SEE S.D.D. "MEDIAN ISLAND MARKING"

LEGEND

- EXISTING SIGN ON SINGLE/DOUBLE POST(S)
- NEW SIGN ON SINGLE/DOUBLE POST(S)
- ESTR EXISTING SIGN TO REMAIN
- (1-02) SIGN NUMBER

N

MATCH EXISTING PAVEMENT MARKING EPOXY 4-INCH CENTERLINE (YELLOW)

PAVEMENT MARKING EPOXY 4-INCH EDGELINE

PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW)

PAVEMENT MARKING EPOXY 4-INCH CENTERLINE (YELLOW)

PAVEMENT MARKING EPOXY 4-INCH DOUBLE YELLOW CENTERLINE

PAVEMENT MARKING EPOXY 8-INCH CHANNELIZING (WHITE)

556+00 557+00 558+00 559+00 560+00 561+00 562+00 563+00 564+00 565+00 566+00 567+00 568+00 569+00 570+00 571+00

USH 14

S73° USH

STAGECOACH RD

BEGIN OF PROJECT
STA. 557+00

(1-01) W10-2 36"X36"

(1-02) REMOVE

(1-03) Stage Coach Rd. D1-61

(1-04) Stage Coach Rd. REMOVE

(1-05) ONLY ONLY ONLY R3-8W 54"X30"

(1-06) STOP REMOVE

(1-07) STOP R1-1 30"X30"

PAVEMENT MARKING EPOXY 8-INCH CHANNELIZING (WHITE)

ESTR RAIL ROAD CROSSING YIELD ESTR

(1-08) STOP STOP R1-1 30"X30" REMOVE

ESTR RAIL ROAD CROSSING YIELD ESTR

(1-09) NO PASSING ZONE REMOVE

PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	PERMANENT SIGNING & PAVEMENT MARKING	SHEET 26	E

FILE NAME : N:\PDS\C3D\53100008\023201_PS_100SC.DWG PLOT DATE : 1/21/2015 11:24 AM PLOT BY : BHUIYAN, MOHAMMAD E PLOT NAME : PLOT SCALE : 1:100_XREF

2

2

N

2-01
ONLY ONLY ONLY
R3-8W
54"X30"

2-02
Stage Coach Rd.
REMOVE

2-03
Stage Coach Rd.
D1-61

2-04
REMOVE

2-05
W10-2
36"X36"

PAVEMENT MARKING EPOXY
4-INCH DOUBLE YELLOW CENTERLINE

PAVEMENT MARKING EPOXY
4-INCH EDGELINE (WHITE)

25'

571+00 572+00 573+00 574+00 575+00 576+00 577+00 578+00 579+00 580+00 581+00 582+00 583+00 584+00 585+00 586+00

S73° 03' 42"E

USH 14

USH 14

S 12° 12' 25" E

PAVEMENT MARKING DIAGONAL
EPOXY 12-INCH (YELLOW)

-09

2-06
W10-2
36"X36"

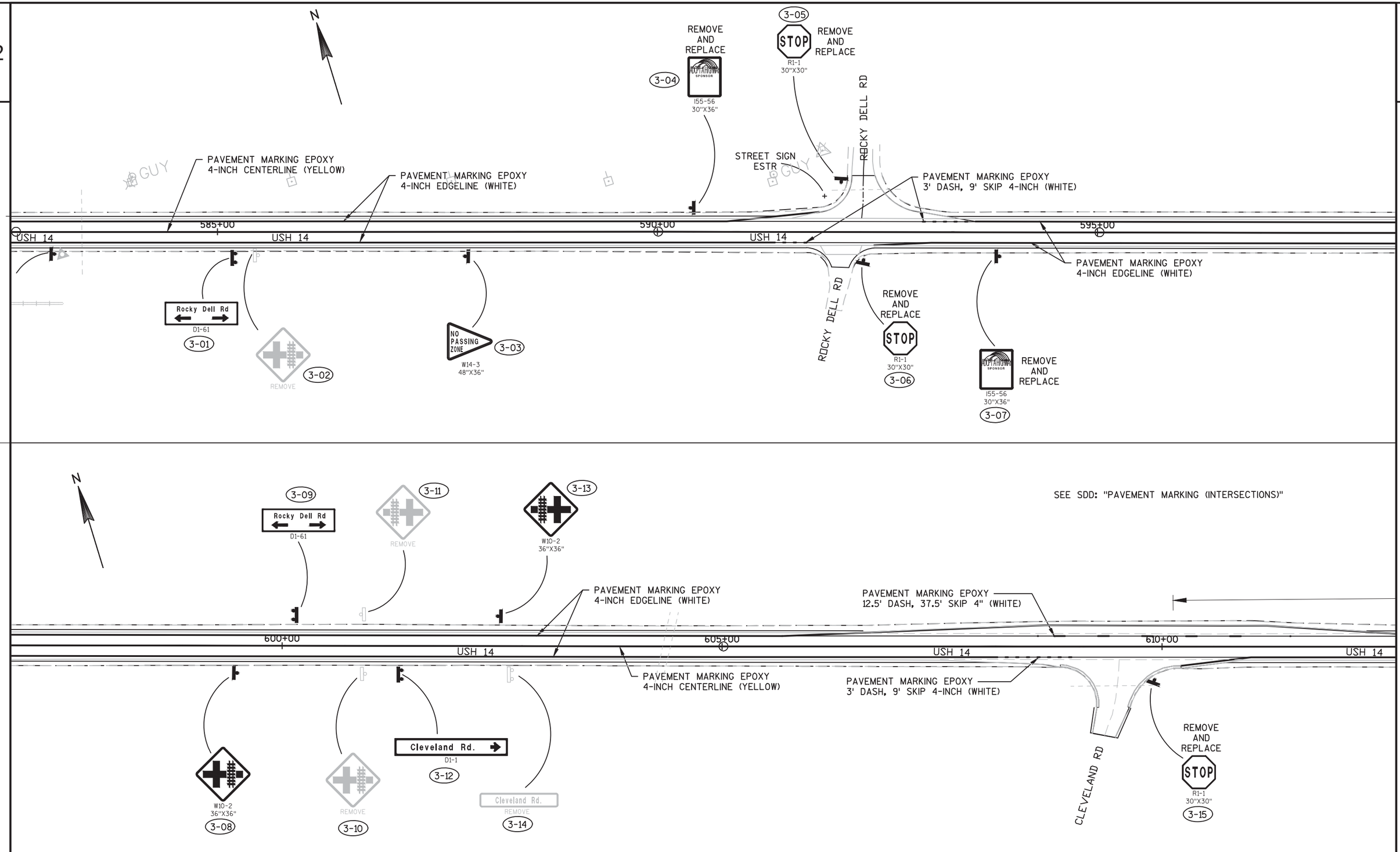
Rocky Dell Rd
D1-61
2-07

REMOVE
2-08

PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	PERMANENT SIGNING & PAVEMENT MARKING	SHEET	E

FILE NAME : N:\PDS\C3D\53100008\023201_PS_100SC.DWG PLOT DATE : 1/21/2015 11:24 AM PLOT BY : BHUIYAN, MOHAMMAD E PLOT NAME : PLOT SCALE : 1:100_XREF

WISDOT/CADDS SHEET 42

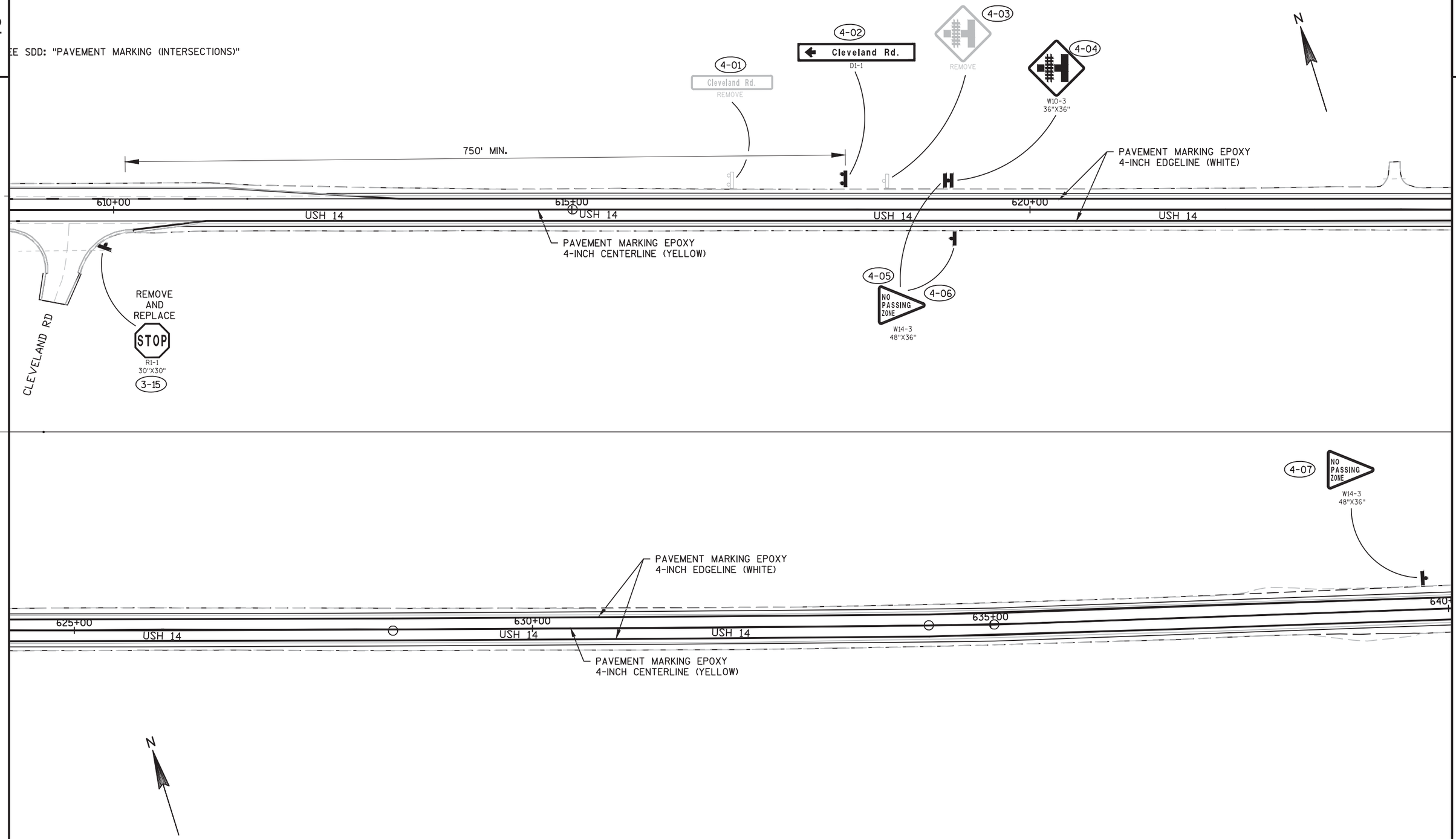


PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	PERMANENT SIGNING & PAVEMENT MARKING	SHEET	E

FILE NAME : N:\PDS\C3D\53100008\023202_PS.DWG PLOT DATE : 1/20/2015 3:33 PM PLOT BY : BHUIYAN, MOHAMMAD E PLOT NAME : PLOT SCALE : 1:100_XREF

2

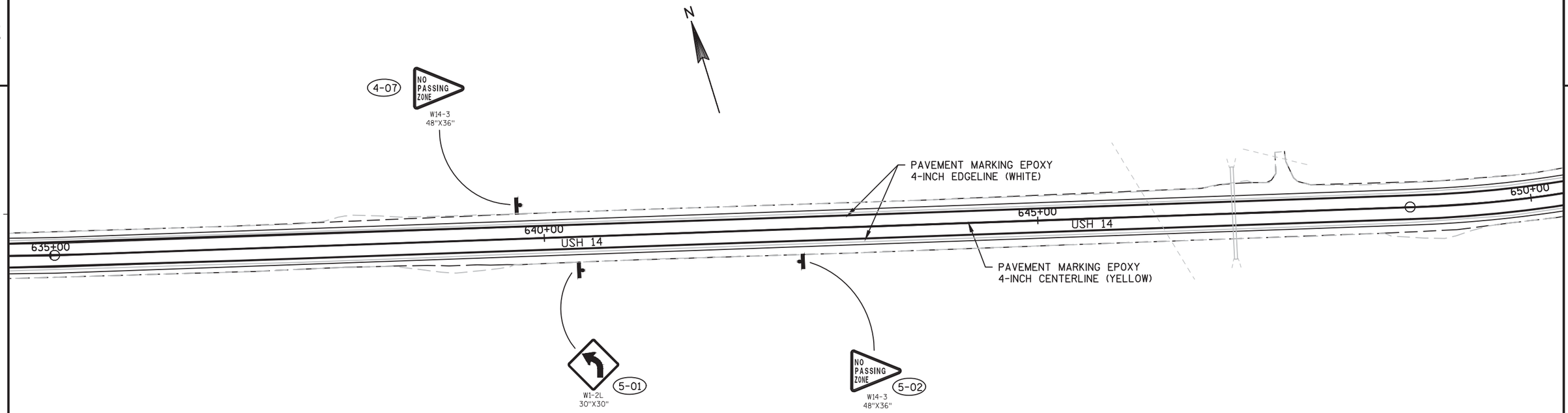
EE SDD: "PAVEMENT MARKING (INTERSECTIONS)"

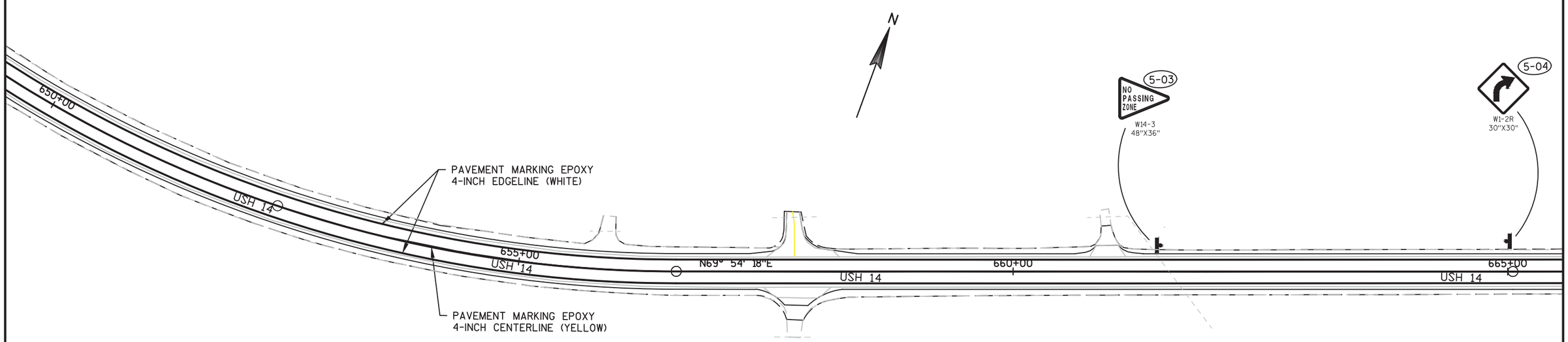


2

PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	PERMANENT SIGNING & PAVEMENT MARKING	SHEET	E

2





PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	PERMANENT SIGNING & PAVEMENT MARKING	SHEET 30	E

2

N

5-04
W1-2R
30"X30"

SEE SDD: "PAVEMENT MARKING (INTERSECTIONS)"

SEE SDD: "SIGNING AND MARKING FOR COMBINATION RIGHT TURN AND BYPASS LANE"

STOP
R1-1
30"X30"
6-04

PAVEMENT MARKING EPOXY
8-INCH CHANNELIZING (WHITE)

℄ PAVEMENT MARKING EPOXY
4-INCH EDGELINE (WHITE)

PAVEMENT MARKING EPOXY
4-INCH EDGELINE (WHITE)

665+00
670+00
675+00
680+00
14
USH 14
USH 14

PAVEMENT MARKING EPOXY
4-INCH CENTERLINE (YELLOW)

200'
750' MIN.

PAVEMENT MARKING EPOXY
4-INCH CENTERLINE (YELLOW)

PAVEMENT MARKING EPOXY
12.5' DASH 37.5' SKIP 4-INCH (WHITE)

6-01
NO PASSING ZONE
W14-3
48"X36"

6-02
REMOVE AND REPLACE
W10-3
36"X36"

Twin Valley Rd.
D1-1
6-03

Twin Valley Rd.
REMOVE

SEE SDD: "PAVEMENT MARKING (INTERSECTIONS)"

SEE SDD: "SIGNING AND MARKING FOR COMBINATION RIGHT TURN AND BYPASS LANE"

STOP
R1-1
30"X30"
6-04

N

PAVEMENT MARKING EPOXY
8-INCH CHANNELIZING (WHITE)

NG EPOXY
(WHITE)

℄ PAVEMENT MARKING EPOXY
4-INCH EDGELINE (WHITE)

675+00
680+00
685+00
USH 14

PAVEMENT MARKING EPOXY
8-INCH CHANNELIZING (WHITE)

TWIN VALLEY RD

200'
750' MIN.

PAVEMENT MARKING EPOXY
4-INCH CENTERLINE (YELLOW)

PAVEMENT MARKING EPOXY
12.5' DASH 37.5' SKIP 4-INCH (WHITE)

6-02
REMOVE AND REPLACE
W10-3
36"X36"

Twin Valley Rd.
D1-1
6-03

Twin Valley Rd.
REMOVE

PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	PERMANENT SIGNING & PAVEMENT MARKING	SHEET	E

FILE NAME : N:\PDS\C3D\53100008\023202_PS.DWG PLOT DATE : 1/20/2015 3:33 PM PLOT BY : BHUIYAN, MOHAMMAD E PLOT NAME : PLOT SCALE : 1:100_XREF

WISDOT/CADDS SHEET 42

2

* SHALL BE REMOVED ON THE FIRST DAY OF CONSTRUCTION.
** SHALL ONLY BE DISPLAYED FOR STAGE 2.

N

CTH P

AIRPORT RD.

USH 12

HWY 14
UNDER CONSTR
XXX XX-XXX XX
G20-57
96"X48"

USH 14

ROAD
WORK
AHEAD
W20-1

END
ROAD WORK
G20-2A
48" X 24"

STAGECOACH RD.

ROCKY DELL RD.

ROAD
WORK
500 FT
W20-1

N BIRCH TRAIL

CLEVELAND RD.

TWIN VALLEY RD.

OLD SAUK RD.

N PLEASANT VIEW RD.

MAX.
13'
WIDTH
W12-52

2 MILES
AHEAD
W057-52
36" X 24"

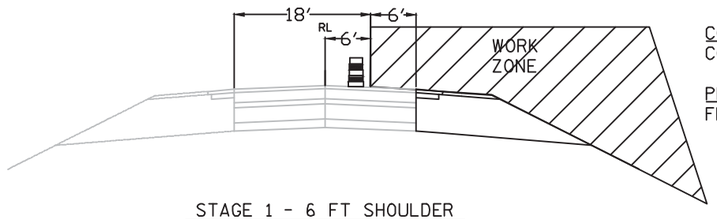
WEST
M3-4
36"X18"

14
M1-4
36"X36"

PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	TRAFFIC CONTROL ADVANCED SIGNING	SHEET	E

FILE NAME : N:\PDS\C3D\53100008\SHEETSOTHER\TRAFFIC CONTROL FINAL\MAP.DWG PLOT DATE : 11/20/2014 9:34 AM PLOT BY : WALDSCHMIDT, HUNTER PLOT NAME : PLOT SCALE : 1.422429
WISDOT/CADDS SHEET 44

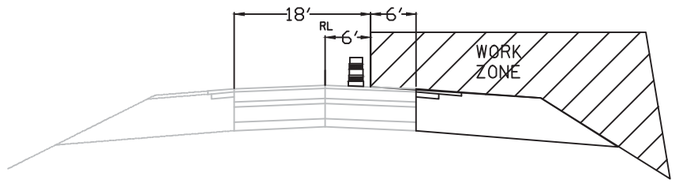
STAGE 1



CONSTRUCTION ACTIVITY
CONSTRUCT EB SHOULDER

PRIMARY TRAFFIC CONTROL
FLAGGING OPERATION

STAGE 1 - 6 FT SHOULDER
USH 14
STA. 557+00 - 562+05
STA. 574+24 - 582+50

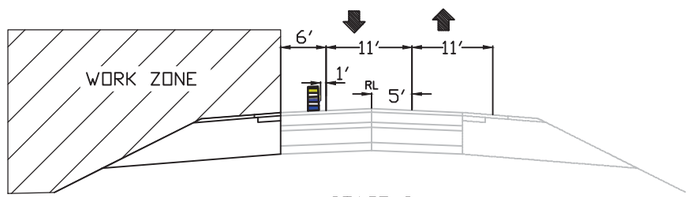


CONSTRUCTION ACTIVITY
CONSTRUCT RIGHT TURN LANE & SHOULDER

PRIMARY TRAFFIC CONTROL
FLAGGING OPERATION

STAGE 1 - (0-15') FT RIGHT TURN LANE & 8' SHOULDER
USH 14 (INTERSECTION)
STA. 562+05 - 574+24

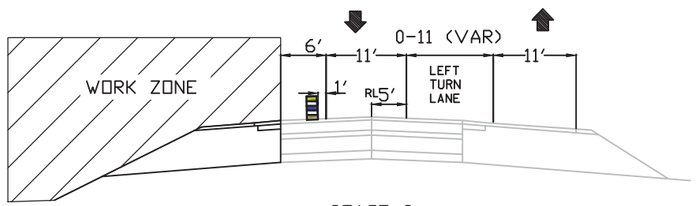
STAGE 2



CONSTRUCTION ACTIVITY
INTERSECTION WIDENING:
WB GRADING AND PAVING

PRIMARY TRAFFIC CONTROL
FLEXIBLE DELINEATORS, AND DRUMS

STAGE 2
USH 14
STA. 555+00 - STA. 565+39
STA. 568+88 - STA. 587+85

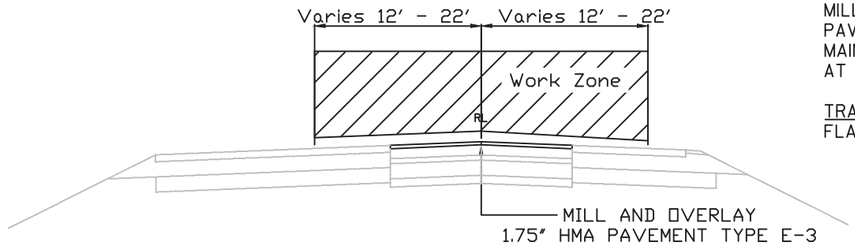


CONSTRUCTION ACTIVITY
INTERSECTION WIDENING:
WB GRADING AND PAVING

PRIMARY TRAFFIC CONTROL
FLEXIBLE DELINEATORS, AND DRUMS

STAGE 2
USH 14 (INTERSECTION)
STA. 565+39 - STA. 568+88

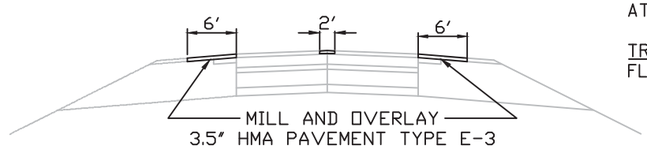
STAGE 3



CONSTRUCTION ACTIVITY
MILL AND OVERLAY EXISTING PAVEMENT 1.75"
MAINTAIN ONE 12 FOOT LANE AT ALL TIMES

TRAFFIC CONTROL
FLAGGING OPERATION

STAGE 3
USH 14 (INTERSECTION)
STA. 557+00 - STA. 582+50



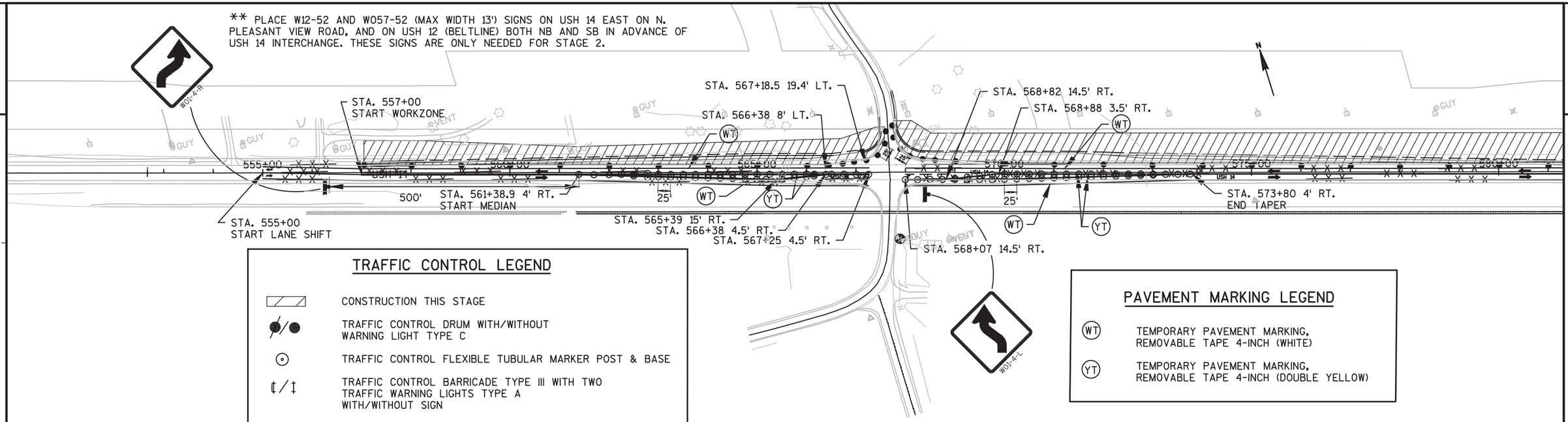
CONSTRUCTION ACTIVITY
MILL AND OVERLAY CENTERLINE 2" AND WIDEN PAVED SHOULDER
MAINTAIN ONE 12 FOOT LANE AT ALL TIMES

TRAFFIC CONTROL
FLAGGING OPERATION

STAGE 3
USH 14
STA. 582+50 - STA. 690+00

PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	TRAFFIC CONTROL - TYPICAL SECTIONS - STAGES 1 - 3	SHEET 33	E

** PLACE W12-52 AND W057-52 (MAX WIDTH 13') SIGNS ON USH 14 EAST ON N. PLEASANT VIEW ROAD, AND ON USH 12 (BELTLINE) BOTH NB AND SB IN ADVANCE OF USH 14 INTERCHANGE. THESE SIGNS ARE ONLY NEEDED FOR STAGE 2.

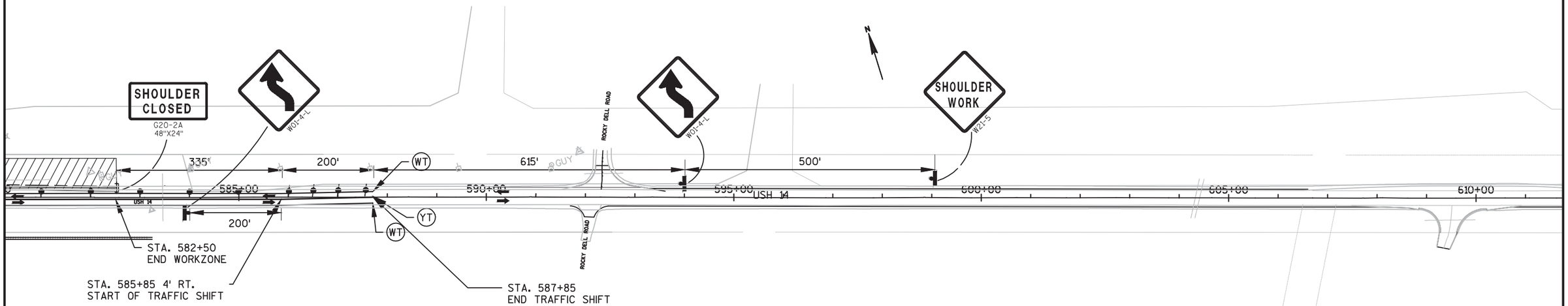


TRAFFIC CONTROL LEGEND

- CONSTRUCTION THIS STAGE
- TRAFFIC CONTROL DRUM WITH/WITHOUT WARNING LIGHT TYPE C
- TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POST & BASE
- TRAFFIC CONTROL BARRICADE TYPE III WITH TWO TRAFFIC WARNING LIGHTS TYPE A WITH/WITHOUT SIGN
- REMOVE PAVEMENT MARKING
- POST MOUNTED SIGN

PAVEMENT MARKING LEGEND

- (WT) TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH (WHITE)
- (YT) TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE 4-INCH (DOUBLE YELLOW)



** PLACE W12-52 AND W057-52 (MAX WIDTH 13') SIGNS ON USH 14 EAST ON N. PLEASANT VIEW ROAD, AND ON USH 12 (BELTLINE) BOTH NB AND SB IN ADVANCE OF USH 14 INTERCHANGE. THESE SIGNS ARE ONLY NEEDED FOR STAGE 2.

PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	CONSTRUCTION STAGING - STAGE 2	SHEET 34	E

DATE 28JAN15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	5310-00-78 QUANTITY
0010	204.0110	Removing Asphaltic Surface	SY	35.000	35.000
0020	204.0120	Removing Asphaltic Surface Milling	SY	19,170.000	19,170.000
0030	204.0150	Removing Curb & Gutter	LF	300.000	300.000
0040	204.9060.S	Removing (item description) 01.Apron Endwall	EACH	8.000	8.000
0050	205.0100	Excavation Common	CY	6,780.000	6,780.000
0060	205.0400	Excavation Marsh	CY	460.000	460.000
0070	213.0100	Finishing Roadway (project) 01. 5310-00-78	EACH	1.000	1.000
0080	305.0110	Base Aggregate Dense 3/4-Inch	TON	1,800.000	1,800.000
0090	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	7,900.000	7,900.000
0100	305.0500	Shaping Shoulders	STA	220.000	220.000
0110	312.0110	Select Crushed Material	TON	7,600.000	7,600.000
0120	440.4410.S	Incentive IRI Ride	DOL	2,550.000	2,550.000
0130	455.0105	Asphaltic Material PG58-28	TON	370.000	370.000
0140	455.0605	Tack Coat	GAL	2,060.000	2,060.000
0150	460.1103	HMA Pavement Type E-3	TON	6,670.000	6,670.000
0160	460.2000	Incentive Density HMA Pavement	DOL	4,280.000	4,280.000
0170	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	60.000	60.000
0180	465.0315	Asphaltic Flumes	SY	45.000	45.000
0190	465.0425	Asphaltic Shoulder Rumble Strips 2-Lane Rural	LF	24,600.000	24,600.000
0200	465.0475	Asphalt Center Line Rumble Strips 2-Lane Rural	LF	10,100.000	10,100.000
0210	520.7000	Cleaning Culvert Pipes	EACH	4.000	4.000
0220	520.8000	Concrete Collars for Pipe	EACH	8.000	8.000
0230	521.0742	Pipe Arch Corrugated Steel 42x29-Inch	LF	126.000	126.000
0240	521.1242	Apron Endwalls for Pipe Arch Steel 42x29-Inch	EACH	6.000	6.000
0250	522.0124	Culvert Pipe Reinforced Concrete Class III 24-Inch	LF	26.000	26.000
0260	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	2.000	2.000
0270	601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF	295.000	295.000
0280	606.0200	Riprap Medium	CY	20.000	20.000
0290	618.0100	Maintenance And Repair of Haul Roads (project) 01.5310-00-78	EACH	1.000	1.000
0300	619.1000	Mobilization	EACH	1.000	1.000
0310	624.0100	Water	MGAL	120.000	120.000
0320	625.0500	Salvaged Topsoil	SY	10,800.000	10,800.000
0330	627.0200	Mulching	SY	3,100.000	3,100.000
0340	628.1504	Silt Fence	LF	4,670.000	4,670.000
0350	628.1520	Silt Fence Maintenance	LF	9,340.000	9,340.000
0360	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0370	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0380	628.2004	Erosion Mat Class I Type B	SY	5,600.000	5,600.000
0390	628.7504	Temporary Ditch Checks	LF	315.000	315.000
0400	628.7555	Culvert Pipe Checks	EACH	20.000	20.000
0410	629.0210	Fertilizer Type B	CWT	8.000	8.000
0420	630.0130	Seeding Mixture No. 30	LB	280.000	280.000
0430	633.5200	Markers Culvert End	EACH	8.000	8.000
0440	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	33.000	33.000
0450	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	10.000	10.000

3

DATE 28JAN15 E S T I M A T E O F Q U A N T I T I E S

LINE NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	5310-00-78 QUANTITY
0460	637.2210	Signs Type II Reflective H	SF	162.000	162.000
0470	637.2230	Signs Type II Reflective F	SF	118.000	118.000
0480	638.2602	Removing Signs Type II	EACH	21.000	21.000
0490	638.3000	Removing Small Sign Supports	EACH	26.000	26.000
0500	642.5001	Field Office Type B	EACH	1.000	1.000
0510	643.0100	Traffic Control (project) 01.5310-00-78	EACH	1.000	1.000
0520	643.0300	Traffic Control Drums	DAY	3,135.000	3,135.000
0530	643.0420	Traffic Control Barricades Type III	DAY	65.000	65.000
0540	643.0500	Traffic Control Flexible Tubular Marker Posts	EACH	100.000	100.000
0550	643.0600	Traffic Control Flexible Tubular Marker Bases	EACH	100.000	100.000
0560	643.0705	Traffic Control Warning Lights Type A	DAY	130.000	130.000
0570	643.0715	Traffic Control Warning Lights Type C	DAY	325.000	325.000
0580	643.0900	Traffic Control Signs	DAY	2,050.000	2,050.000
0590	645.0130	Geotextile Fabric Type R	SY	85.000	85.000
0600	646.0106	Pavement Marking Epoxy 4-Inch	LF	42,600.000	42,600.000
0610	646.0126	Pavement Marking Epoxy 8-Inch	LF	1,750.000	1,750.000
0620	646.0406	Pavement Marking Same Day Epoxy 4-Inch	LF	5,360.000	5,360.000
0630	646.0600	Removing Pavement Markings	LF	35,000.000	35,000.000
0640	647.0726	Pavement Marking Diagonal Epoxy 12-Inch	LF	930.000	930.000
0650	648.0100	Locating No-Passing Zones	MI	2.000	2.000
0660	649.0200	Temporary Pavement Marking Reflective Paint 4-Inch	LF	12,600.000	12,600.000
0670	649.0400	Temporary Pavement Marking Removable Tape 4-Inch	LF	13,850.000	13,850.000
0680	650.4500	Construction Staking Subgrade	LF	4,000.000	4,000.000
0690	650.5000	Construction Staking Base	LF	4,000.000	4,000.000
0700	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	310.000	310.000
0710	650.6000	Construction Staking Pipe Culverts	EACH	8.000	8.000
0720	650.9910	Construction Staking Supplemental Control (project) 04.5310-00-78	LS	1.000	1.000
0730	650.9920	Construction Staking Slope Stakes	LF	7,000.000	7,000.000
0740	690.0150	Sawing Asphalt	LF	5,800.000	5,800.000
0750	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	250.000	250.000
0760	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	150.000	150.000
0770	SPV.0090	Special 01. Removing HMA Pavement Notched Wedge Longitudinal Joint Milling	LF	2,550.000	2,550.000

3

3

EARTHWORK SUMMARY

		205.0100 Common Excavation (1) CY		Salvaged/Unusable Pavement Material (4)	Available Material (5)	Marsh Excavation (6) CY	Reduced Marsh in Fill (8)	Reduced EBS in Fill (6)	Expanded Marsh Backfill (10)	Expanded EBS Backfill (7) CY	Expanded Fill (8)	Mass Ordinate +/- (9)	Waste	Select Crushed Materials (CY)	Comment :
From/To Station	Location	Cut (2)	EBS Excavation (3) (10)			(205.0500)	Factor 0.60	Factor 0.80	Factor 1.50	Factor 1.30	Factor 1.25			(item#312.0110)	
557+00 - 582+50 676+25 - 679+50	RT & LT RT	6,335 125	320	0	6,335	460	275	255	690	410	994	5,340	5,340	415	
	Subtotal	6,460	320		6,335	460		255		410	994	5,340	5,340	415	
	Total Common Exc.	6,780			MARSH	460			Total EBS	410			Marsh(1:1)	415	

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100
2) Salvaged/Unusable Pavement Material is included in Cut.
3) EBS Excavation to be backfilled with Select Crushed Material.
4) Salvaged/Unusable Pavement Material
5) Available Material = Cut - Salvaged/Unusable Pavement Material
6) Reduced EBS in Fill - Excavated EBS material is useable in Fills outside the 1:1 slope. EBS in Fill Reduction factor = 0.8
7) Expanded EBS Backfill - This is to be filled with Select Crushed Material. EBS Backfill Factor = 1.80.
8) Expanded Fill Factor is 1.20
9) Mass ordinate = Available Material (5) - Expanded Fill (8)
10) EBS calculated as 5% of pavement surface area to a depth of 2 FT.
** Backfill marsh excavation beyond 1:1 slopes with common excavations
** Backfill marsh excavation within 1:1 slopes with select crushed materials.
** Item #312.0110 shown in miscellaneous quantities

3

REMOVING ENDWALL

CATEGORY	STATION	LOCATION	204.9060.S REMOVING APRON ENDWALL EACH	REMARKS
		USH 14		
0010	565+25	RT	3	
	565+75	LT	3	
	572+86	RT	1	
	572+88	LT	1	
		TOTAL 0010	8	

REMOVING ASPHALT

CATEGORY	STATION	TO	STATION	LOCATION	204.0110 REMOVING ASPHALTIC SURFACE SY	204.0120 REMOVING ASPHALTIC SURFACE MILLING SY	SPV.0090.01 REMOVING HMA PAVEMENT NOTCHED WEDGE LONGITUDINAL JOINT MILLING LF	REMARKS
				USH 14	STAGECOACH RD			
0010	557+00	-	562+45	RT	-	210	-	STAGE 1
	574+24	-	582+50	RT	-	320	-	STAGE 1
	557+00	-	582+50	RT	-	3400	-	STAGE 3
	557+00	-	582+50	LT	-	3400	-	STAGE 3
	14+13	-	14+99	RT, STAGECOACH RD	-	520	-	
	14+26	-	-	RR TRACK (BETWEEN TRACKS)	35	100	-	ASPHALTIC SURFACE REMOVAL BETWEEN RR TRACK & MILLING 15' EACH SIDE OF TRACK
	15+30	-	16+53	LT, STAGECOACH RD	-	630	-	
	582+50	-	591+76	RT SHOULDER	-	360	-	ROCKY DELL RD
	592+32	-	608+84	RT SHOULDER	-	640	-	CLEVELAND RD
	610+21	-	682+20	RT SHOULDER	-	2800	-	TWIN VALLEY RD
	683+13	-	690+00	RT SHOULDER	-	270	-	END OF PROJECT
	582+50	-	591+80	LT SHOULDER	-	360	-	CLEVELAND RD
	593+37	-	690+00	LT SHOULDER	-	3760	-	END OF PROJECT
	582+50	-	690+00	CENTERLINE	-	2400	2550	2' WIDE 2" THICK CENTERLINE MILLING
				TOTAL 0010	35	19170	2550	

3

BASE AGGREGATE

CATEGORY	STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE-3/4 INCH TON	305.0120 BASE AGGREGATE DENSE-1 1/4-INCH TON	305.0500 SHAPING SHOULDERS STA	312.0110 SELECT CRUSHED MATERIAL TON	REMARKS
0010				USH 14					
	557+00	-	566+92	RT(EB)	60	660	-	470	STAGE 1
	568+23	-	574+24	RT(EB)	70	640	-	430	
	574+24	-	582+50	RT(EB)	95	40	-	-	
	557+00	-	567+11	LT(WB)	290	1820	-	1350	STAGE 2
	567+11	-	568+41	LT(WB)	40	530	-	460	NW & SW RADII
	568+41	-	582+50	LT(WB)	350	2800	-	2150	
	566+92	-	568+23	RT(EB)	40	360	-	310	STAGE 1, SW & SE RADII
	582+50	-	690+00	RT(EB)	300	-	105	-	STAGE 3
	582+50	-	690+00	LT(WB)	300	-	105	-	
	14+13	-	16+52	S'LT/RT	10	20	-	30	STAGECOACH ROAD
	559+00	-	581+00	LT&RT	-	-	-	45	FRENCH DRAINS
	676+40	-	679+65	RT(EB)	-	300	-	180	WEST OF TWIN VALLEY ROAD
	623+98	-	-	LT(WB)	20	-	-	-	PE, GRAVEL
	647+52	-	-	LT(WB)	20	-	-	-	FE, GRAVEL
	655+92	-	-	LT(WB)	10	-	-	-	PE, ASPHALTIC
	657+79	-	-	RT(EB)	20	-	-	-	FE, GRAVEL
	657+83	-	-	LT(WB)	10	-	-	-	PE, ASPHALTIC
	660+98	-	-	LT(WB)	20	-	-	-	PE, GRAVEL
				EBS	-	-	-	740	2 FT DEEP
				MARSH EXCAVATION	-	-	-	750	FILL WITHIN 1:1 SLOPES
				USH 14 & STAGE COACH RD	-	-	-	-	INTERSECTION
				UNDISTRIBUTED	145	730	10	685	
				TOTAL 0010	1800	7900	220	7600	

HMA PAVEMENT

CATEGORY	STATION	TO	STATION	LOCATION	455.0105 ASPHALTIC MATERIAL PG58-28 TON	455.0605 TACK COAT GAL	460.1103 HMA PAVEMENT TYPE E-3 TON	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCE TON	REMARKS
0010				USH 14/STAGECOACH RD					
	557+00	-	566+92	RT	15	80	265	-	STAGE 1
	568+23	-	582+50	RT	15	80	265	-	
	557+00	-	567+11	LT	25	150	475	-	STAGE 2
	567+11	-	568+41	LT	15	70	235	-	
	568+39	-	582+50	LT	45	250	830	-	
	566+92	-	568+23	RT	10	50	155	-	
	557+00	-	582+50	LT & RT	35	200	660	-	STAGE 3
	567+11	-	568+41	INTERSECTION (NORTH)	5	30	75	-	
	566+91	-	568+20	INTERSECTION (SOUTH)	5	20	60	-	
	582+50	-	690+00	RT	75	430	1400	-	SHOULDER WIDENING
	582+50	-	690+00	LT	75	430	1400	-	
	582+50	-	690+00	CL	15	80	265	-	CENTERLINE OVERLAY
	14+13	-	16+52	STAGECOACH RD	15	70	225	-	STAGECOACH RD
	14+29	-	14+39	STAGECOACH RD RR TRACKS	5	20	70	-	15'EACH SIDE OF RR TRACK
	582+50	-	690+00	DRIVEWAYS	-	-	-	55	PE, GRAVEL
				UNDISTRIBUTED	15	100	290	5	
				TOTAL 0010	370	2060	6670	60	

ASPHALTIC FLUME

CATEGORY	STATION	LOCATION	465.0315 ASPHALTIC FLUMES SY	REMARKS
0010				
	567+49	LT (NW QUARDANT)	14	
	567+79	LT (NE QUARDANT)	14	
	568+41	LT (NE QUARDANT)	14	
		UNDISTRIBUTED	3	
		TOTAL 0010	45	

RUMBLE STRIP

CATEGORY	STATION	TO	STATION	LOCATION	465.0425 ASPHALTIC SHOULDER RUMBLE STRIP 2-LANE RURAL LF	465.0475 ASPHALTIC CENTER LINE RUMBLE STRIP 2-LANE RURAL LF	REMARKS
0010				USH 14			
	557+00	-	690+00	LT	11600	-	
	557+00	-	690+00	RT	11800	-	
	582+50	-	690+00	CL	-	9600	
				UNDISTRIBUTED	1200	500	
				TOTAL 0010	24600	10100	

CURB & GUTTER

CATEGORY	STATION	TO	STATION	LOCATION	204.0150 REMOVING CURB & GUTTER LF	601.0557 CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D LF	REMARKS
0010				USH 14			
	566+92	-	567+51	RT	85	80	SW RADII
	567+80	-	568+23	RT	65	65	SE RADII
	567+11	-	567+49	LT	60	60	NW RADII
	567+78	-	568+38	LT	90	90	NE RADII
				TOTAL 0010	300	295	

DRAINAGE

CATEGORY	STATION	LOCATION	520.7000 CLEANING CULVERT PIPES EACH	520.8000 CONCRETE COLLARS FOR PIPE EACH	MINIMUM STEEL THICKNESS INCHES	521.0742 PIPE ARCH CORRUGATED STEEL 42x29-INCH LF	521.1242 APRON ENDWALLS FOR PIPE ARCH STEEL 42x29-INCH EACH	522.0124 CULVERT PIPE REINFORCED CONCRETE CLASS III 24-INCH LF	522.1024 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH EACH	645.0130 GEOTEXTILE FABRIC TYPE R SY	REMARKS
0010		USH 14									BOTH CONCRETE &
	565+31	RT	1	1	0.109	20	1	-	-	-	METAL PIPES, JOINT
	565+38	RT	-	1	0.109	20	1	-	-	-	TIE's ARE REQ'D
	565+45	RT	1	1	0.109	20	1	-	-	40	
	565+64	LT	-	1	0.109	22	1	-	-	-	
	565+71	LT	1	1	0.109	22	1	-	-	-	
	565+78	LT	-	1	0.109	22	1	-	-	-	
	572+87	RT	1	1	-	-	-	18	1	-	
	572+89	LT	-	1	-	-	-	8	1	15	
	16+17	LT	-	-	-	-	-	-	-	10	FLUME, NW STAGECOACH RD
	16+18	RT	-	-	-	-	-	-	-	10	FLUME, NE STAGECOACH RD
	568+42	LT	-	-	-	-	-	-	-	10	FLUME, NE STAGECOACH RD
	557+00 - 582+50	LT & RT	-	-	-	-	-	-	-	-	CONTRACT DURATION 4 MONTHS
		TOTAL 0010	4	8		126	6	26	2	85	

WATER

CATEGORY	TYPE OF WORK	LOCATION	624.0100 MGAL	REMARKS
0010		USH 14		
	BASE AGGREGATES		107	
	UNDISTRIBUTED (DUST CONTROL)		13	
	TOTAL 0010		120	

EROSION CONTROL

CATEGORY	STATION	TO	STATION	LOCATION	606.0200 RIPRAP MEDIUM CY	625.0500 SALVAGED TOPSOIL SY	627.0200 MULCHING SY	628.1504 SILT FENCE LF	629.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1905 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.1520 SILT FENCE MAINTENANCE LF	628.2004 EROSION MAT CLASS 1 TYPE B SY	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH	629.0210 FERTILIZER TYPE B CWT	630.0130 SEEDING MIXTURE NO. 30 LB	633.5200 MARKERS CULVERT END EACH	REMARKS
0010				US 14														
	557+00	-	582+50	LT	-	6550	2755	2750	1	2	5500	3570	210	-	4	160	-	
	557+00	-	574+00	RT	-	3310	155	1490	1	2	2980	1730	70	-	3	95	-	
	565+72	-	-	-	-	-	-	-	-	-	-	-	-	15	-	-	-	
	572+33	-	-	LT	3	-	-	-	-	-	-	-	-	-	-	-	2	
	565+72	-	-	LT	-	-	-	-	-	-	-	-	-	-	-	-	2	
	565+20	-	-	RT	15	-	-	-	-	-	-	-	-	-	-	-	2	
	572+86	-	-	RT	-	-	-	-	-	-	-	-	-	3	-	-	2	
	ASPHALTIC FLUMES			INTERSECTION	-	-	-	-	-	-	-	30	-	-	-	-	-	
				UNDISTRIBUTED	2	940	190	430	-	-	860	270	35	2	1.00	25	-	
				TOTAL 0010	20	10800	3100	4670	2	4	9340	5600	315	20	8	280	8	

TRAFFIC CONTROL

CATEGORY	STAGE	STATION		STATION	LOCATION	643.0300 TRAFFIC CONTROL DRUMS DAY	643.0420 TRAFFIC CONTROL BARRICADE TYPE III DAY	643.0500 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS EACH	643.0600 TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER BASES EACH	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A DAY	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C DAY	643.0900 TRAFFIC CONTROL SIGNS DAY	REMARKS
					USH 14								
0010	1	551+65	-	585+85	RT	1350	25	-	-	50	125	355	
	2	555+00	-	587+85	LT	1500	35	-	-	70	170	885	
	2	561+39	-	576+80	CT	-		90	90	-	-	-	
	3	557+00	-	690+00	LT & RT	-	-	-	-	-	-	625	ARE ADVANCE WARNING SIGNS
					UNDISTRIBUTED	285	5	10	10	10	30	185	
					TOTAL 0010	3135	65	100	100	130	325	2050	

SIGNING

CATEGORY	SIGN CODE	STATION	LOCATION (RT/LT)	SIGN MESSAGE	SIZE (IN X IN)	634.0616 POSTS WOOD 4X6-INCH X 16-FT EACH	634.0618 POSTS WOOD 4X6-INCH X 18-FT EACH	637.221 SIGNS TYPE II REFLECTIVE H SF	637.2230 SIGNS TYPE II REFLECTIVE F SF	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
			USH 14									
0010	1-01, W10-2	557+60	RT	RAIL CROSSING	36" X 36"	1	-	-	9.00	-	-	
	1-02, W10-2	559+00	RT	RAIL CROSSING	-	-	-	-	-	1	1	
	1-03, 01-61	559+50	RT	STAGECOACH RD W/ARROW	84" X 24"	2	-	14.00	-	-	-	
	1-04, D1-1	562+00	RT	STAGECOACH RD	-	-	-	-	-	1	2	
	1-05, R3-8W	562+05	RT	DIRECTIONAL ARROWS	54" X 30"	-	2	11.25	-	-	-	
	1-06, R1-1	567+30, 15+50 LT	LT	STOP	-	-	-	-	-	1	1	USH 14 & STAGECOACH RD NW QUARDANT
	1-07, R1-1	567+35, 15+85	LT	STOP	30" x 30"	1	-	5.18	-	-	-	USH 14 & STAGECOACH RD NW QUARDANT
	1-08, R1-1	567+95, 14+25	RT	STOP	30" X 30"	1	-	5.18	-	1	1	USH 14 & STAGECOACH RD SE QUARDANT
	1-09, W14-3	568+65	RT	NO PASSING ZONE	-	-	-	-	-	1	1	
	2-01, R3-8W	573+05	LT	DIRECTIONAL ARROWS	54" X 30"	-	2	11.25	-	-	-	
	2-02, D1-1	575+05	LT	STAGECOACH RD	-	-	-	-	-	1	2	
	2-03, D1-61	576+10	LT	STAGECOACH RD W/ARROW	84" X 24"	2	-	13.00	-	-	-	
	2-04, W10-2	576+90	LT	RAIL CROSSING	-	-	-	-	-	1	1	
	2-05, W10-2	578+00	LT	RAIL CROSSING	36" X 36"	1	-	-	9.00	-	-	
	2-06, W10-2	582+10	RT	RAIL CROSSING	36" X 36"	1	-	-	9.00	-	-	
	2-07, D1-61	584+10	RT	ROCKY DELL RD W/ARROW	78" x 24"	2	-	13.00	-	-	-	
	2-08, W10-2	584+35	RT	RAIL CROSSING	-	-	-	-	-	1	1	
	3-01, D1-61	585+50	RT	ROCKY DELL RD W/ARROW	78" x 24"	2	-	13.00	-	-	-	
	3-02, W10-2	586+00	RT	RAIL CROSSING	-	-	-	-	-	1	1	
	3-03, W14-3	587+50	RT	NO PASSING ZONE	48" x 36"	1	-	-	6.00	-	-	
	3-04, I55-56	591+00	LT	ADOPT-A- HWY	30" x 36"	1	-	7.50	-	1	1	ADOPT HWY SIGN
	3-05, R1-1	592+00	LT	STOP	30" x 30"	1	-	5.18	-	1	1	USH 14 & ROCKY DELL NW QUARDANT
	3-06, R1-1	592+50	RT	STOP	30" X 30"	1	-	5.18	-	1	1	USH 14 & ROCKY DELL SE QUARDANT
	3-07, W10-2	593+75	RT	ADOPT-A- HWY	30" x 36"	1	-	7.50	-	1	1	
	3-08, D1-60	599+00	RT	RAIL CROSSING	36" X 36"	1	-	-	9.00	-	-	
	3-09, D1-61	600+50	LT	ROCKY DELL RD W/ARROW	78" X 24"	2	-	13.00	-	-	-	
	3-10, W10-2	601+50	RT	RAIL CROSSING	-	-	-	-	-	1	1	
	3-11, W10-2	601+50	LT	RAIL CROSSING	-	-	-	-	-	1	1	
	3-12, D1-1	602+00	RT	CLEVELAND RD W/ARROW	84" X 24"	-	2	8.75	-	-	-	
	3-13, W10-2	603+25	LT	RAIL CROSSING	36" X 36"	1	-	-	9.00	-	-	
	3-14, D1-1	603+30	RT	CLEVELAND RD	-	-	-	-	-	1	2	
	3-15, R1-1	609+95	RT	STOP	30" X 30"	1	-	5.18	-	1	1	USH 14 & CLEVELAND SE QUARDANT
	4-01, D1-1	616+95	LT	CLEVELAND RD	-	-	-	-	-	1	2	
	4-02, D1-1	618+00	LT	CLEVELAND RD W/ARROW	84" X 15"	-	2	8.75	-	-	-	
	4-03, W10-3	618+50	LT	RAIL CROSSING	-	-	-	-	-	1	1	
	4-04, W10-3	619+25	LT	RAIL CROSSING	36" X 36"	1	-	-	9.00	-	-	
	4-05, W14-3	619+25	LT	NO PASSING ZONE	48" x 36"	-	-	-	6.00	-	-	
	4-06, W14-3	619+25	RT	NO PASSING ZONE	48" x 36"	1	-	-	6.00	-	-	
	4-07, W14-3	639+50	LT	NO PASSING ZONE	48" x 36"	1	-	-	6.00	-	-	
	5-01, W1-2L	640+75	RT	LEFT TURN ARROW	30" X 30"	1	-	-	6.25	-	-	
	5-02, W14-3	642+50	RT	NO PASSING ZONE	48" x 36"	1	-	-	6.00	-	-	
	5-03, W14-3	661+75	LT	NO PASSING ZONE	48" x 36"	1	-	-	6.00	-	-	
	5-04, W1-2R	665+00	LT	RIGHT TURN ARROW	30" X 30"	1	-	-	6.25	-	-	
	6-01, W14-3	666+00	RT	NO PASSING ZONE	48" x 36"	1	-	-	6.00	-	-	
	6-02, W10-3	672+75	RT	RAIL CROSSING	36" X 36"	1	-	-	9.00	1	1	
	6-03, D1-1	674+50	RT	TWIN VALLEY RD W/ARROW	96" X 15"	-	2	10.00	-	1	2	
	6-04, R1-1	675+10	LT	STOP	30" x 30"	1	-	5.18	-			USH 14/TWIN VALLEY NW QUARDANT
		TOTAL 0010				33	10	162	118	21	26	

PAVEMENT MARKING

CATEGORY	STATION	TO	STATION	LOCATION	646.0106 PAVEMENT MARKING EPOXY 4-INCH (WHITE) LF	646.0106 PAVEMENT MARKING EPOXY 4-INCH (YELLOW) LF	646.0126 PAVEMENT MARKING EPOXY 8-INCH (WHITE) LF	646.0406 PAVEMENT MARKING SAME DAY EPOXY 4-INCH LF	646.0600 PAVEMENT MARKING REMOVAL LF	647.0726 PAVEMENT MARKING DIAGONAL EPOXY 12-INCH (YELLOW) LF	649.0200 TEMPORARTY PAVEMENT MARKING REFLECTIVE PAINT 4-INCH (YELLOW) LF	649.0200 TEMPORARTY PAVEMENT MARKING REFLECTIVE PAINT (WHITE) LF	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE 4-INCH (YELLOW) LF	649.0400 TEMPORARY PAVEMENT MARKING REMOVABLE TAPE (WHITE) LF	REMARKS
0010	557+00	-	567+00	CENTERLINE DOUBLE YELLOW	-	2000	-	-	-	315	-	-	-	-	
	557+00	-	566+90	EDGELINE (RT)	990	-	-	-	-	-	-	-	-	-	
	557+00	-	567+00	EDGELINE (LT)	1010	-	-	-	-	-	-	-	-	-	
	563+50	-	567+00	EASTBOUND LT TURN LN	-	-	345	-	-	-	-	-	-	-	
	564+00	-	567+00	EASTBOUND RT TURN LN	-	-	300	-	-	-	-	-	-	-	
	568+36	-	582+47	CENTERLINE DOUBLE YELLOW	-	2825	-	-	-	530	-	-	-	-	
	568+31	-	591+10	EDGELINE (RT)	2320	-	-	-	-	-	-	-	-	-	
	591+10	-	591+69	LANE LINE	15	-	-	-	-	-	-	-	-	-	
	568+39	-	594+94	EDGELINE (LT)	2360	-	-	-	-	-	-	-	-	-	
	582+47	-	591+25	CENTERLINE DASHED (EB) SOLID (WB)	-	1100	-	-	-	-	-	-	-	-	
	568+36	-	571+34	WESTBOUND RT TURN LN	-	-	300	-	-	-	-	-	-	-	
	568+30	-	571+34	WESTBOUND LT TURN LN	-	-	305	-	-	-	-	-	-	-	
	591+25	-	609+70	CENTERLINE DASHED	-	460	-	-	-	-	-	-	-	-	
	392+46	-	608+24	EDGELINE (RT)	1580	-	-	-	-	-	-	-	-	-	
	608+24	-	608+97	LANE LINE	20	-	-	-	-	-	-	-	-	-	
	593+60	-	674+93	EDGELINE (LT)	5440	-	-	-	-	-	-	-	-	-	
	592+90	-	593+60	LANE LINE	20	-	-	-	-	-	-	-	-	-	
	608+58	-	611+45	BYPASS LANE DASHED (WB)	70	-	-	-	-	-	-	-	-	-	
	609+70	-	619+20	CENTERLINE DASHED (EB) SOLID (WB)	-	1190	-	-	-	-	-	-	-	-	
	610+21	-	682+13	EDGELINE (RT)	7200	-	-	-	-	-	-	-	-	-	
	619+20	-	629+76	CENTERLINE SOLID (EB) DASHED (WB)	-	1320	-	-	-	-	-	-	-	-	
	629+76	-	632+93	CENTERLINE DASHED	-	80	-	-	-	-	-	-	-	-	
	632+93	-	640+32	CENTERLINE DASHED (EB) SOLID (WB)	-	925	-	-	-	-	-	-	-	-	
	640+32	-	644+29	CENTERLINE DOUBLE YELLOW	-	795	-	-	-	-	-	-	-	-	
	644+29	-	652+74	CENTERLINE SOLID (EB) DASHED (WB)	-	1050	-	-	-	-	-	-	-	-	
	652+74	-	653+80	CENTERLINE DOUBLE YELLOW	-	210	-	-	-	-	-	-	-	-	
	653+80	-	662+78	CENTERLINE DASHED (EB) SOLID (WB)	-	1120	-	-	-	-	-	-	-	-	
	662+78	-	667+00	CENTERLINE DOUBLE YELLOW	-	840	-	-	-	-	-	-	-	-	
	667+00	-	675+45	CENTERLINE SOLID (EB) DASHED (WB)	-	1050	-	-	-	-	-	-	-	-	
	673+22	-	676+63	BYPASS LN DASHED (EB)	85	-	-	-	-	-	-	-	-	-	
	675+85	-	677+10	RT TURN LN (WB)	-	-	125	-	-	-	-	-	-	-	
	675+85	-	682+19	EDGELINE (LT)	630	-	-	-	-	-	-	-	-	-	
	679+63	-	682+19	RT TURN LN (EB)	-	-	255	-	-	-	-	-	-	-	
	675+45	-	682+19	CENTERLINE DASHED (EB) SOLID (WB)	-	845	-	-	-	-	-	-	-	-	
	682+19	-	690+00	EDGELINE LT	780	-	-	-	-	-	-	-	-	-	
	682+19	-	690+00	EDGELINE RT	780	-	-	-	-	-	-	-	-	-	
	682+19	-	684+50	CENTERLINE DASHED EB & SOLID (WB)	-	290	-	-	-	-	-	-	-	-	
	684+50	-	690+00	CENTERLINE DOUBLE YELLOW	-	1100	-	-	-	-	-	-	-	-	
	555+00	-	587+85	STAGE2	-	-	-	-	-	-	11000	475	8350	3630	
	555+00	-	587+85	STAGE 2 RT	-	-	-	-	3220	-	-	-	-	-	
	555+00	-	587+85	STAGE 2 LT	-	-	-	-	3220	-	-	-	-	-	
	561+39	-	576+80	STAGE 2 CT	-	-	-	-	6450	-	-	-	-	-	
	557+00	-	582+50	STAGE 3 CT	-	-	-	5100	-	-	-	-	-	-	
	587+85	-	690+00	STAGE 3 RT	-	-	-	-	10220	-	-	-	-	-	
	587+85	-	690+00	STAGE 3 LT	-	-	-	-	10220	-	-	-	-	-	
				UNDISTRIBUTED	1200	900	120	260	1670	85	1075	50	650	1220	
				TOTAL 0010	24500	18100	1750	5360	35000	930	12075	525	9000	4850	
						42600						12600		13850	

CONSTRUCTION STAKING

CATEGORY	STATION	TO	STATION	LOCATION	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.5500 CONSTRUCTION STAKING CURB & GUTTER LF	650.6000 CONSTRUCTION STAKING PIPE CULVERTS EACH	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF	REMARKS
0010				USH 14						
	562+45	-	566+91	RT	445	445	-	3	550	
	568+20	-	574+24	RT	605	605	-	1	700	
	557+00	-	567+10	LT	1010	1010	-	3	2250	
	568+37	-	582+50	LT	1415	1415	-	1	2815	
	676+40	-	679+65	RT	325	325	-	-	325	
	566+91	-	567+49	RT, SW RADII	-	-	80	-	-	
	567+80	-	568+20	RT, SE RADII	-	-	60	-	-	
	567+10	-	567+48	LT, NW RADII	-	-	60	-	-	
	567+77	-	568+37	LT, NE RADII	-	-	90	-	-	
			UNDISTRIBUTED		200	200	20	-	360	
				TOTAL 0010	4000	4000	310	8	7000	

SAWING ASPHALT

CATEGORY	STATION	TO	STATION	LOCATION	690.0150 SAW CUT LF	REMARKS
				USH 14		
0010	557+00	-	561+47	RT	450	STAGE 1
	561+47	-	566+95	RT	550	
	568+25	-	568+69	RT	45	
	568+69	-	574+25	RT	555	
	574+25	-	582+50	RT	825	
	557+00	-	-	LT	5	STAGE 2
	557+00	-	567+10	LT	1010	
	568+37	-	582+50	LT	1415	
	582+50	-	566+95	LT & RT	30	
	13+60	-	-	LT & RT	20	STAGECOACH RD
	16+50	-	-	LT & RT	20	STAGECOACH RD
	676+40	-	679+65	RT	350	
				UNDISTRIBUTED	525	
				TOTAL 0010	5800	

PI STA = 16+84.12
Y = 491304.81
X = 758111.41
DELTA = 33°40'52"
D = 20°10'40"
T = 85.95
L = 166.92
R = 283.95
PC STA = 15+98.17
PT STA = 17+65.09

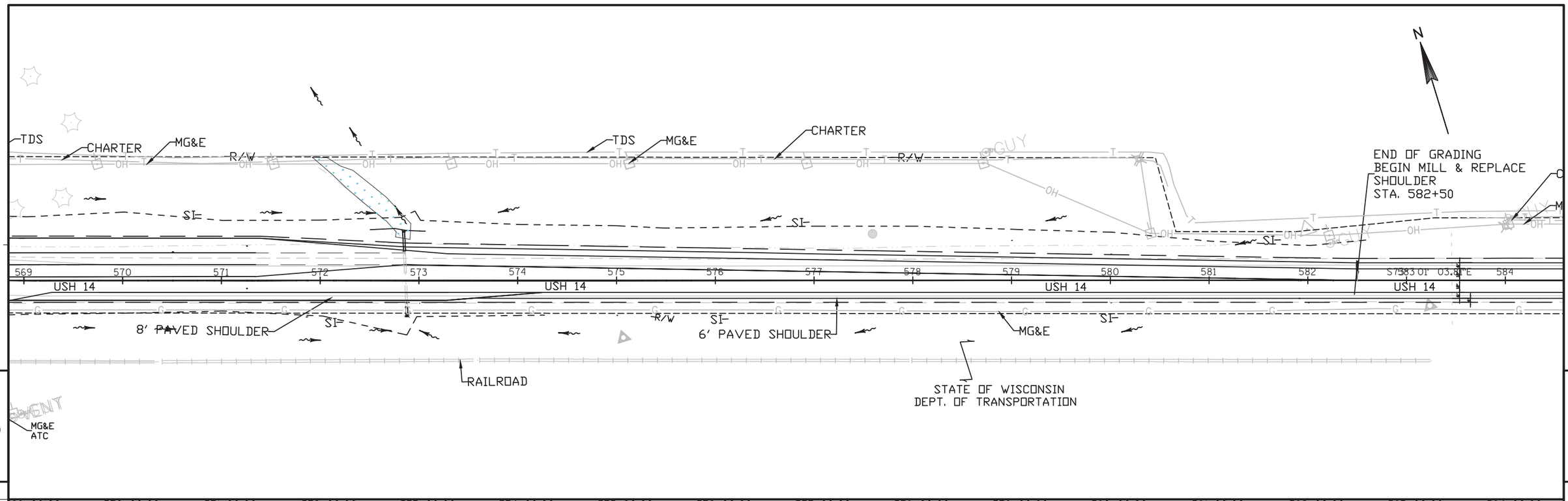
PI STA = 12+91.03
Y = 490897.41
X = 757990.71
DELTA = 74°19'44"
D = 39°13'09"
T = 110.75
L = 189.52
R = 146.09
PC STA = 11+80.28
PT STA = 13+69.80

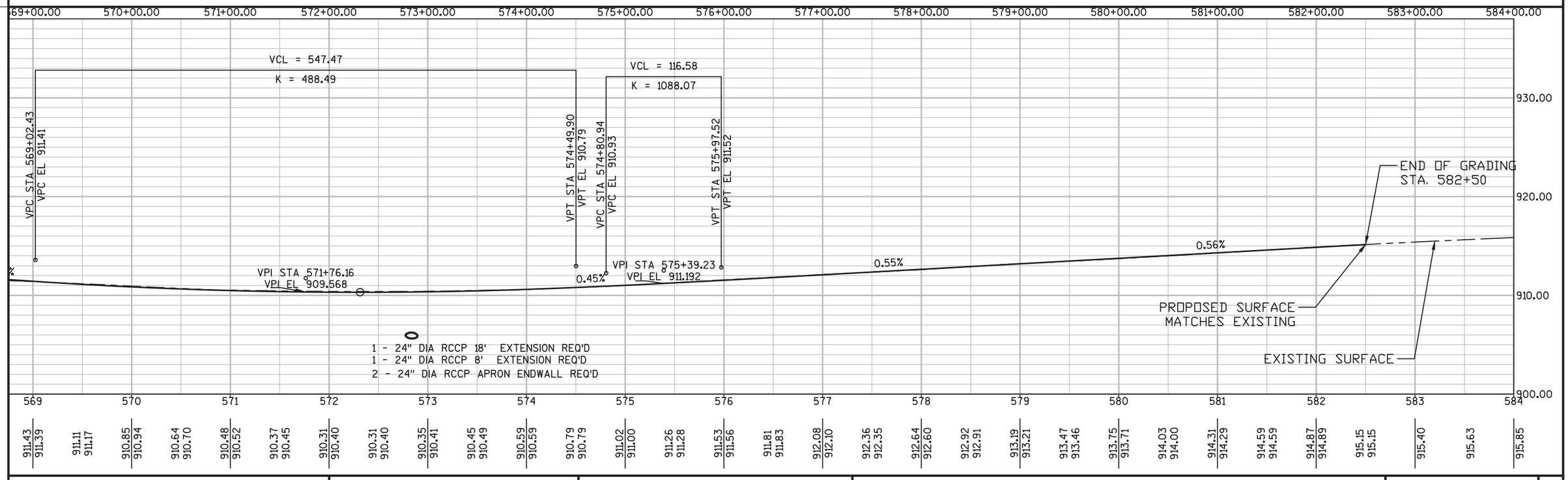
CHARTER-TEL
TDS
CHARTER
MG&E
R/W
USH 14
BEGIN OF PROJECT
STA. 557+00
STATE OF WISCONSIN
DEPT. OF TRANSPORTATION
RAIL TRACK BRIDGE
6' PAVED SHOULDER
RAILROAD
STAGECOACH RD
MG&E ATC
8' P

VCL = 199.77
K = 159.08
VPC STA 557+00.56
VPC EL 927.89
VPT STA 559+00.33
VPT EL 922.96
VPI STA 558+00.44
VPI EL 926.050
-1.84%
VCL = 437.73
K = 140.05
VPC STA 560+11.83
VPC EL 919.50
VPT STA 564+49.56
VPT EL 912.78
VPI STA 562+30.70
VPI EL 912.722
-3.10%
VCL = 270.75
K = 386.13
VPC STA 565+53.44
VPC EL 912.81
VPT STA 568+24.19
VPT EL 911.94
VPC STA 569+02.43
VPC EL 911.41
VPI STA 566+88.81
VPI EL 912.849
0.03%
-0.67%
EXISTING SURFACE
BEGIN OF CONSTRUCTION
STA. 557+00
PROPOSED SURFACE
MATCHES EXISTING
3 - 42" X 29" X 22' CSPA EXTENSION REQ'D
3 - 42" X 29" X 20' CSPA EXTENSION REQ'D
6 - 42" X 29" CSPA APRON ENDWALL REQ'D

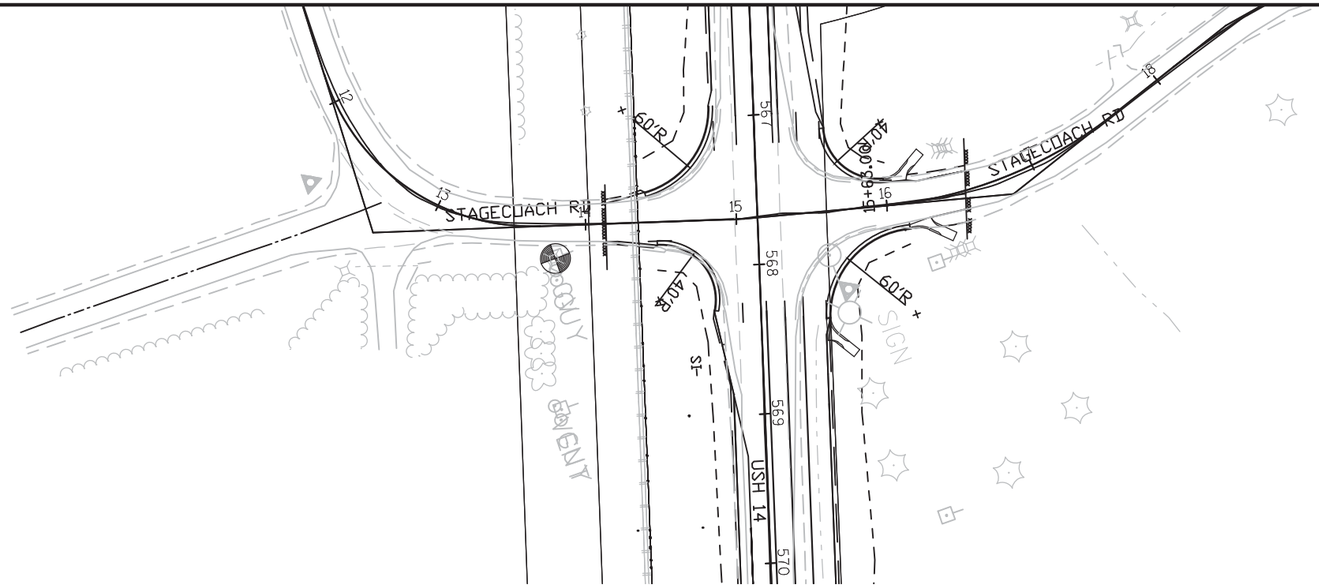
930.38 929.98 929.44 928.77 927.90 927.90 926.90 926.91 925.75 925.73 924.43 924.35 922.97 922.89 921.42 921.38 919.87 919.86 918.37 918.32 917.05 916.88 915.90 915.72 914.94 914.78 914.15 914.08 913.54 913.59 913.11 913.29 912.86 913.10 912.78 912.98 912.80 912.87 912.81 912.82 912.80 912.75 912.72 912.60 912.57 912.45 912.37 912.25 912.09 911.94 911.76 911.61 911.43 911.39 911.11 911.17 910.85 910.94

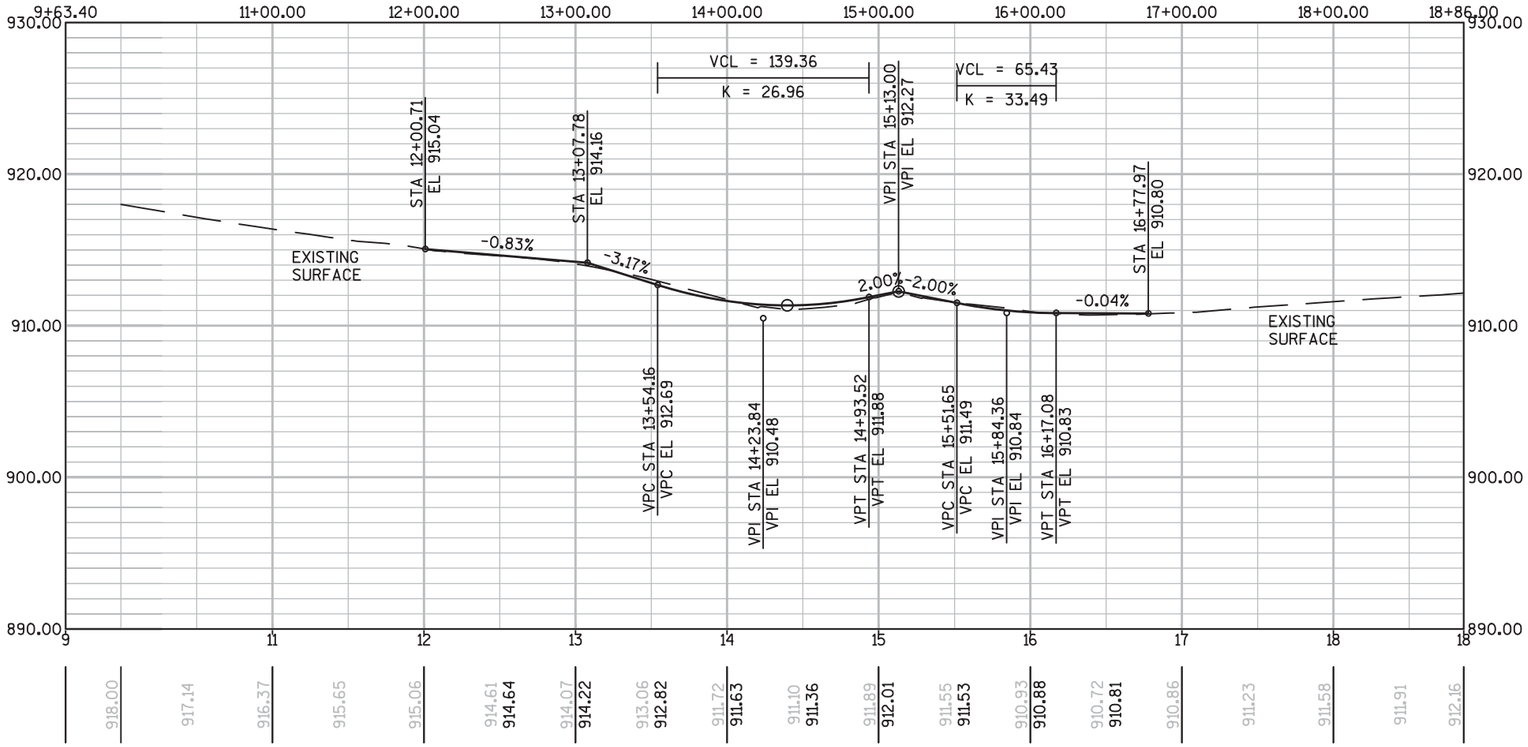
PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	PLAN AND PROFILE: USH 14	SHEET 47	E





PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	PLAN AND PROFILE: USH 14	SHEET 48	E

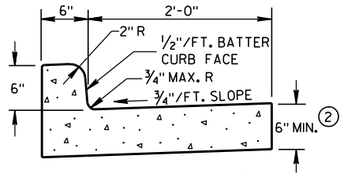




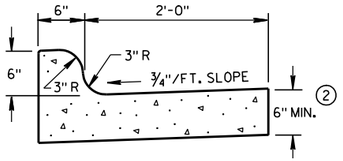
PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	PLAN AND PROFILE: STAGECOACH RD	SHEET 49	E

Standard Detail Drawing List

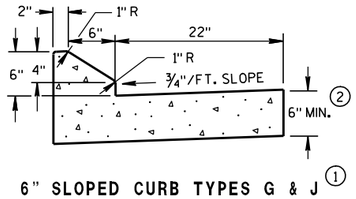
08D01-17	CONCRETE CURB, CONCRETE CURB AND GUTTER AND TIES
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F02-01	APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
13A10-01A	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-01C	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-01D	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A11-02A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-02B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13B01-10	PAVEMENT DETAILS FOR RAILROAD APPROACH
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-05A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-05B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C04-02	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16B	PAVEMENT MARKING (INTERSECTIONS)
15C08-16E	PAVEMENT MARKING (LEFT TURN LANE)
15C09-09A	SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD-HIGHWAY GRADE CROSSINGS
15C11-05	FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES
15C12-04	TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)
15C18-03	MEDIAN ISLAND MARKING
15C19-02A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C28-02	SIGNING AND MARKING FOR COMBINATION RIGHT TURN AND BYPASS LANE
15D21-02	TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE
15D28-02	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY



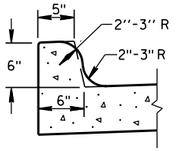
TYPES A & D (1)



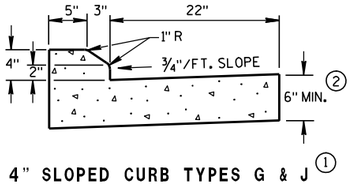
TYPES K & L (1)



6" SLOPED CURB TYPES G & J (1)

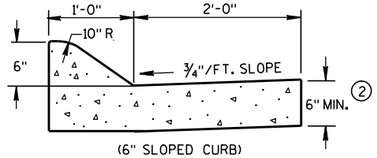


OPTIONAL CURB SHAPE FOR TYPES K & L (1)

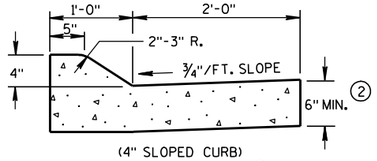


4" SLOPED CURB TYPES G & J (1)

CONCRETE CURB & GUTTER 30"

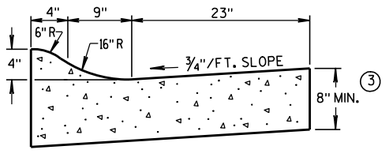


(6" SLOPED CURB)



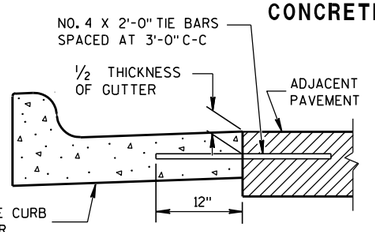
(4" SLOPED CURB)

TYPES A & D (1)



4" SLOPED CURB TYPES R & T (1) (4)

CONCRETE CURB & GUTTER 36"



TYPICAL TIE BAR LOCATION (1)

REVERSE SLOPE GUTTER (5)
(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. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

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.

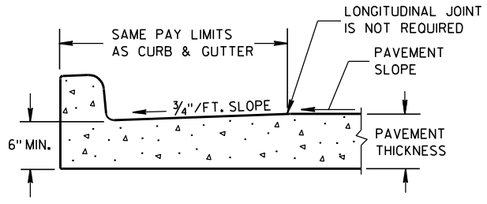
(1) TIE BARS ARE REQUIRED FOR CURB AND GUTTER TYPES A, G, K AND R.

(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.

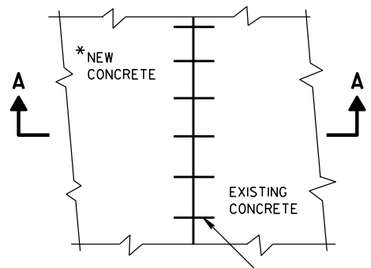
(3) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(4) THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

(5) WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.

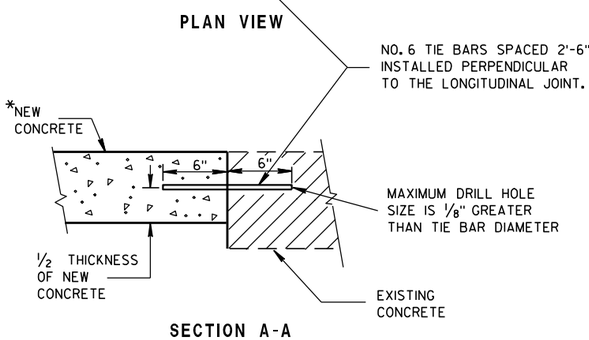


PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER



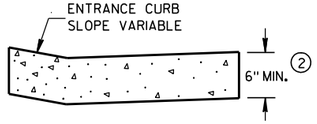
PLAN VIEW

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

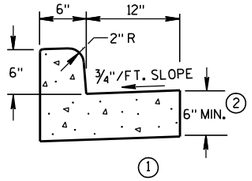


SECTION A-A

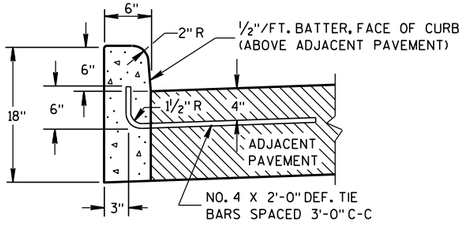
TIE BARS DRILLED INTO EXISTING PAVEMENT



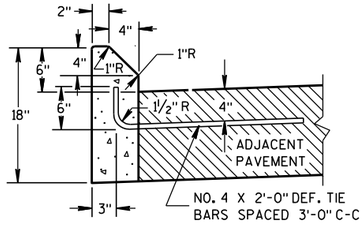
DRIVEWAY ENTRANCE CURB
(WHEN DIRECTED BY THE ENGINEER)



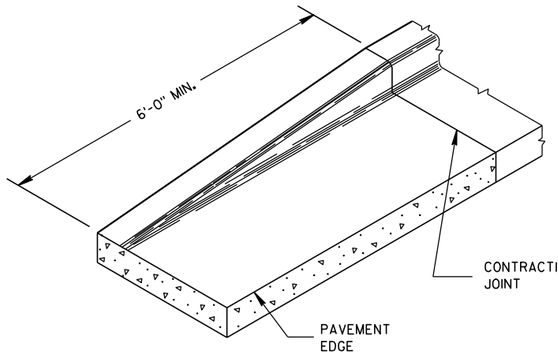
(1)
TYPES A & D
CONCRETE CURB & GUTTER 18"



(1)
TYPES A & D



(1)
TYPES G & J



END SECTION CURB & GUTTER

CONCRETE CURB

CONCRETE CURB, CONCRETE CURB & GUTTER AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9/4/08 DATE
/S/ Jerry H. [illegible]
ROADWAY STANDARDS ENGINEER

FHWA

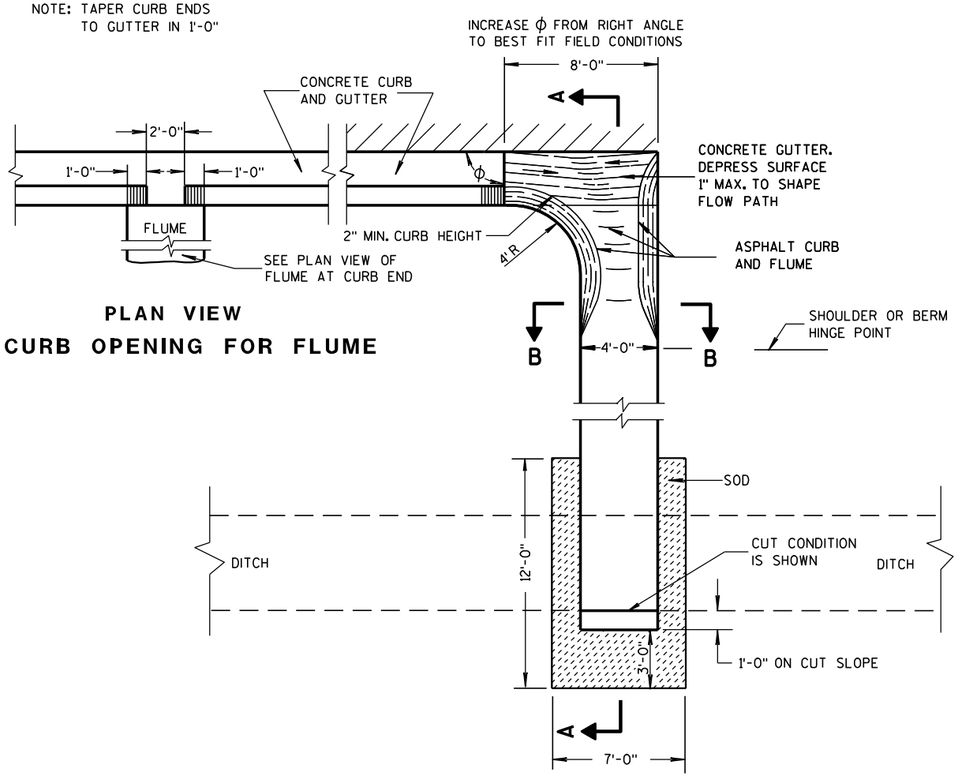
6

S.D.D. 8 D 1-17

6

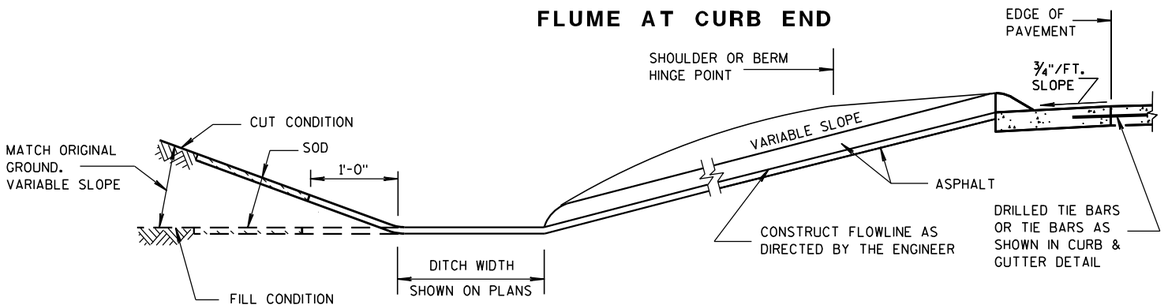
S.D.D. 8 D 1-17

ASPHALTIC FLUME

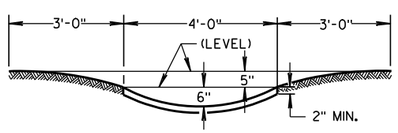


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

GENERAL NOTES

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

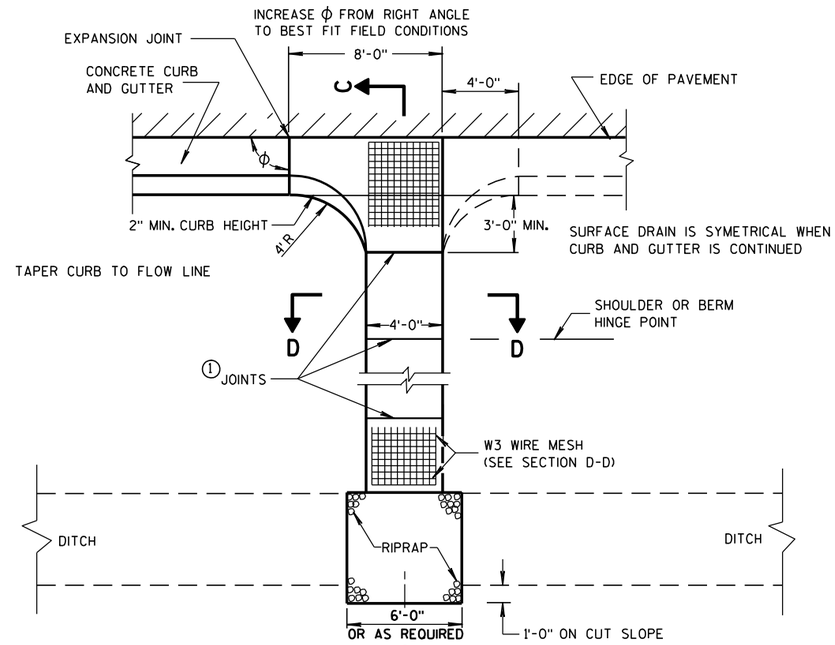
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

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.

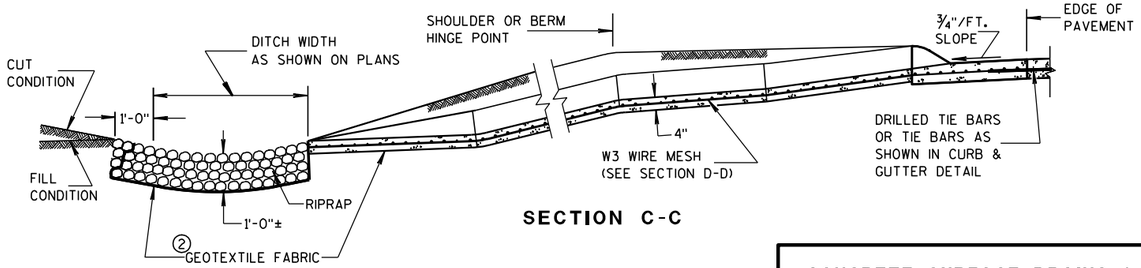
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED

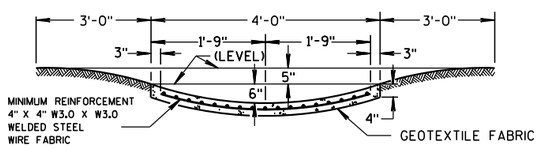
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9-4-08 DATE — /S/ Jerry H. ... ROADWAY STANDARDS ENGINEER — MENT

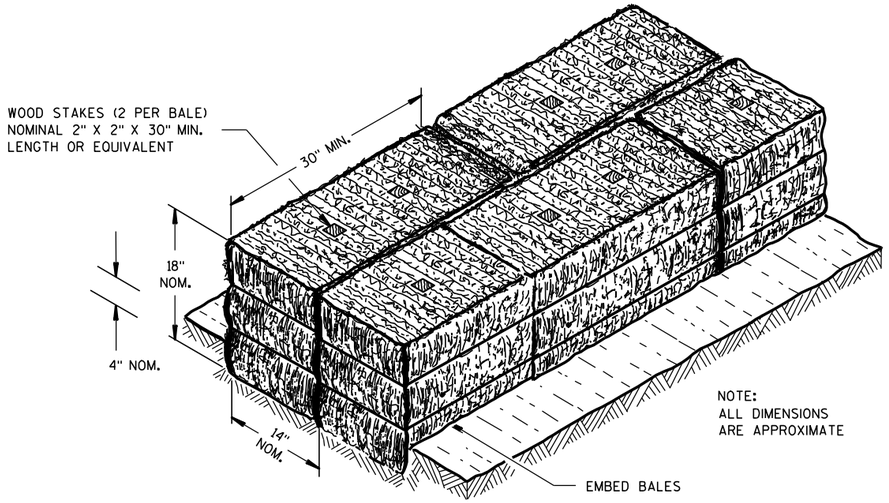
FHWA

6

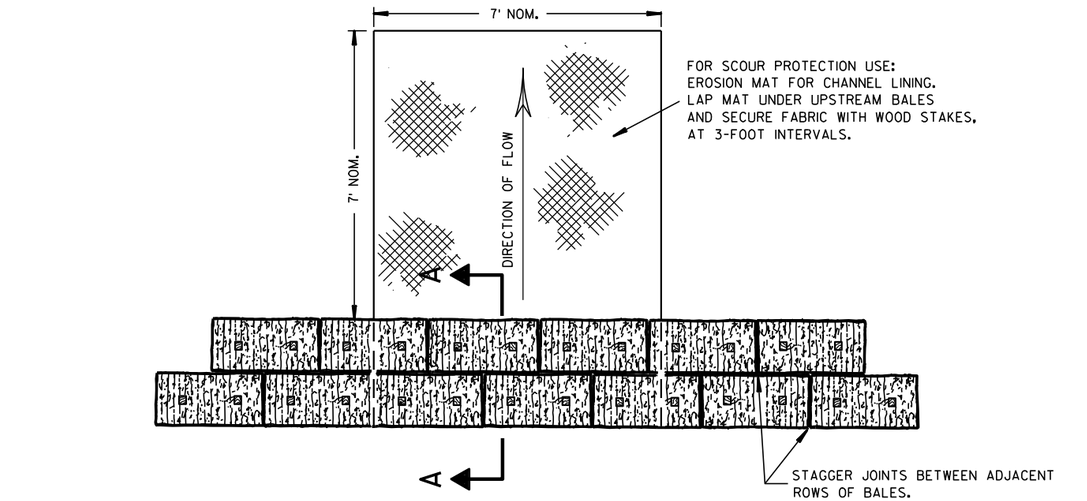
S.D.D. 8 D 4-5

6

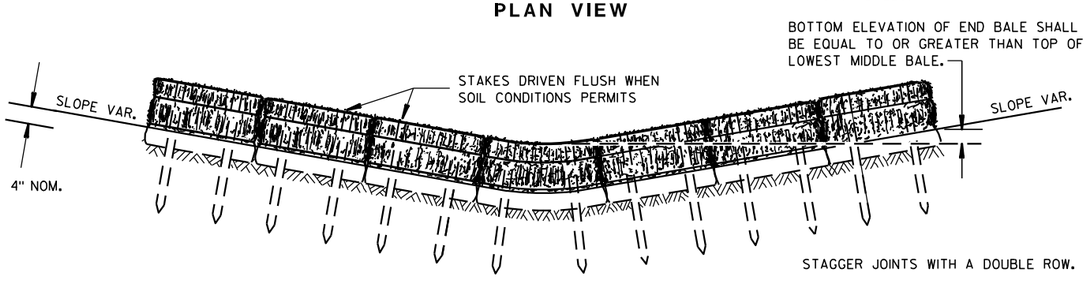
S.D.D. 8 D 4-5



SECTION A-A



PLAN VIEW



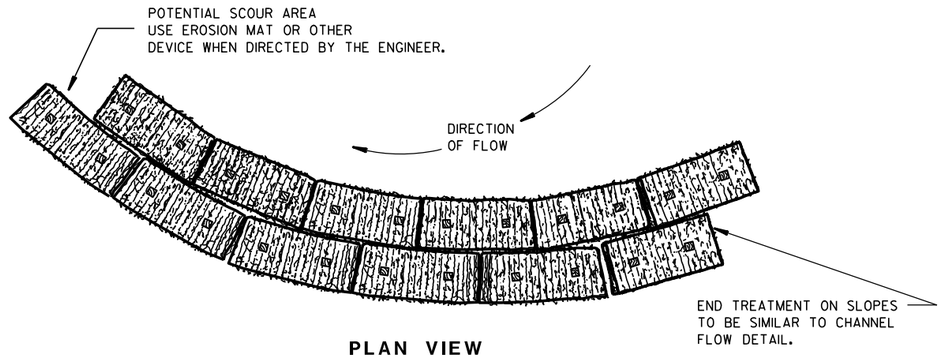
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES (1)

GENERAL NOTES

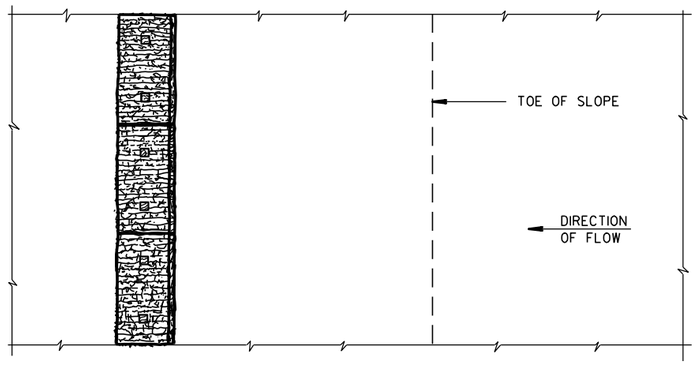
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

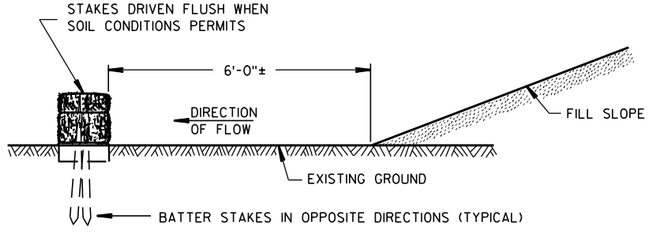


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

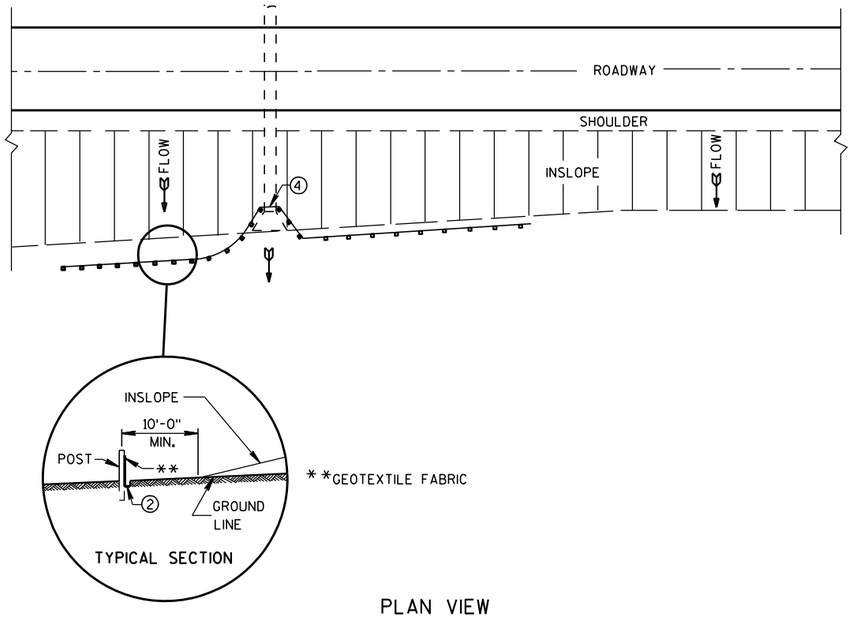
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

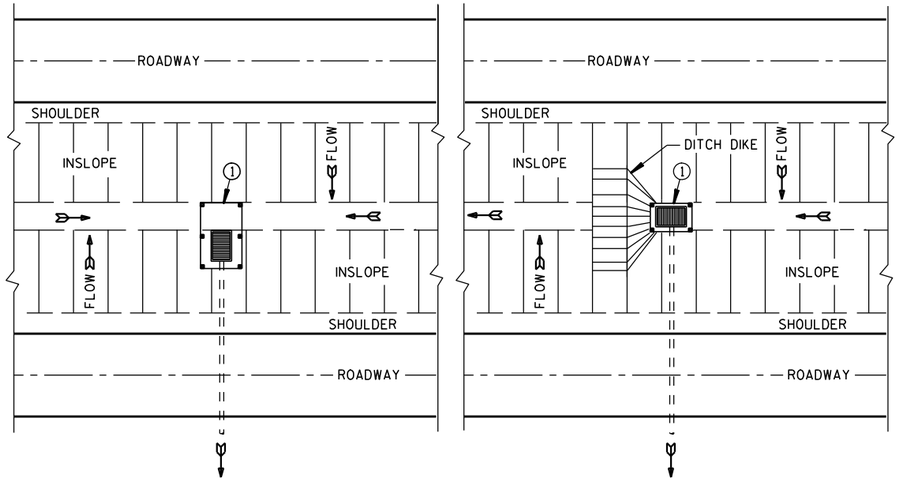
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
6/04/02 — DATE
/S/ Beth Cannestra — CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA



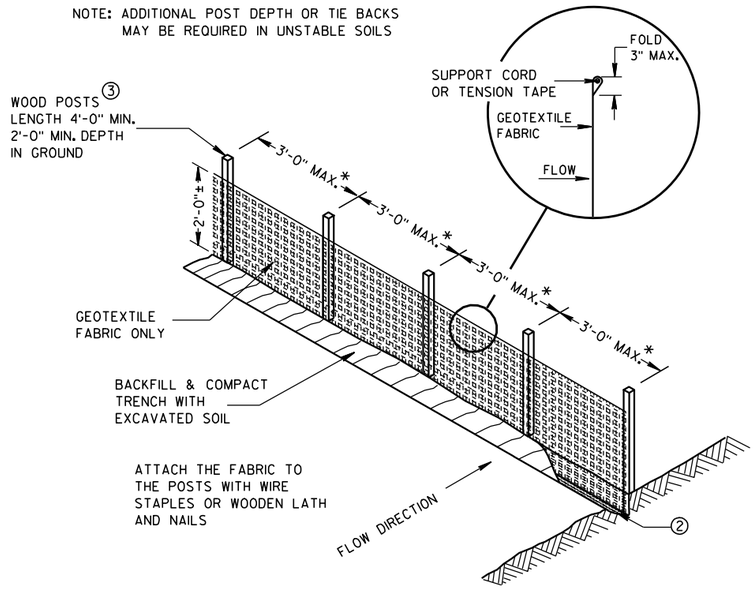
PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE

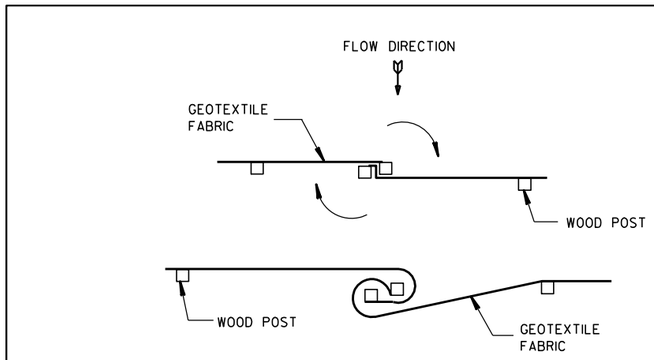


PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS



SILT FENCE

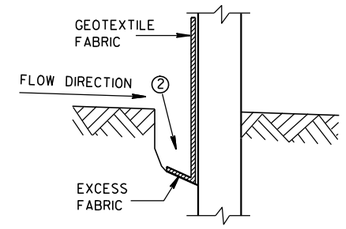


JOINING TWO LENGTHS OF SILT FENCE 5

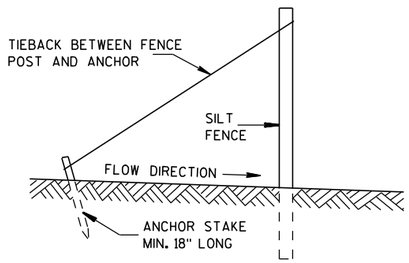
GENERAL NOTES

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

1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



TRENCH DETAIL



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 9-6

6

S.D.D. 8 E 9-6

METAL APRON ENDWALLS

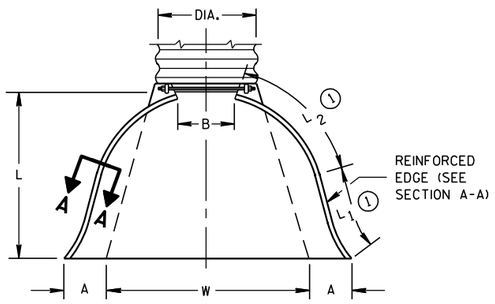
PIPE DIA. (IN.)	MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")		
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.
60	.109×	.105×	18	33	12	87	—	—	114	2 to 1	3 Pc.
66	.109×	.105×	18	36	12	87	—	—	120	2 to 1	3 Pc.
72	.109×	.105×	18	39	12	87	—	—	126	2 to 1	3 Pc.
78	.109×	.105×	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.
84	.109×	.105×	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.
90	.109×	.105×	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.
96	.109×	.105×	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.

× EXCEPT CENTER PANEL SEE GENERAL NOTES

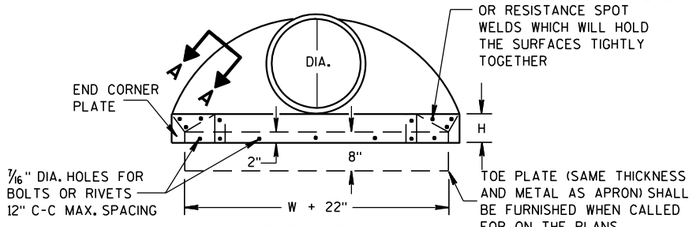
REINFORCED CONCRETE APRON ENDWALLS

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

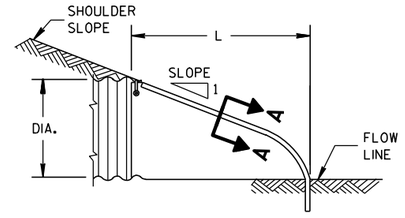
*MINIMUM
**MAXIMUM



PLAN VIEW

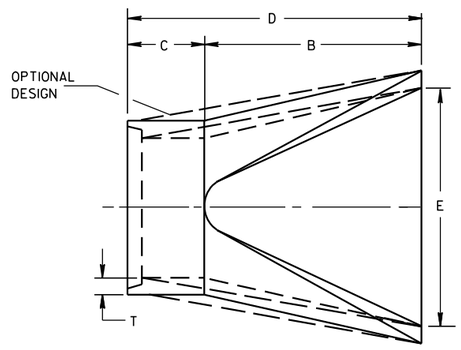


END VIEW

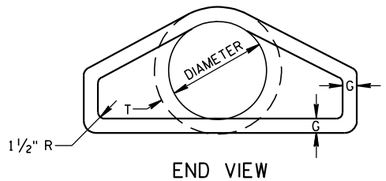


SIDE ELEVATION

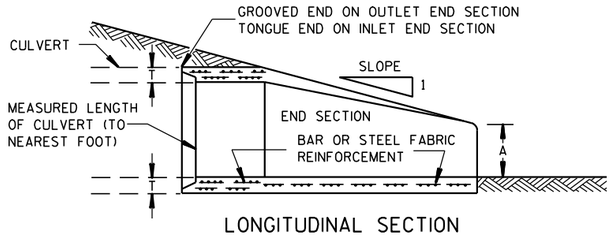
METAL ENDWALLS



PLAN

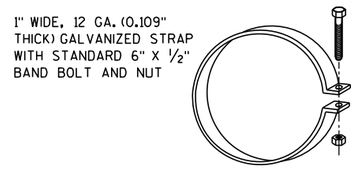


END VIEW



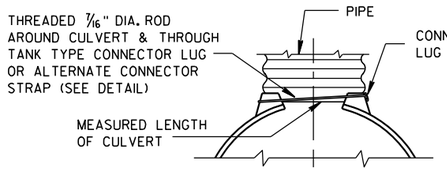
LONGITUDINAL SECTION

CONCRETE ENDWALLS

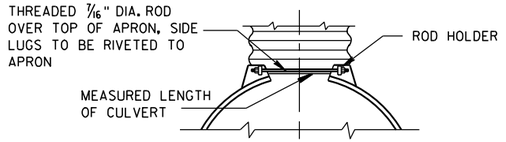


ALTERNATE FOR TYPE 1 CONNECTION

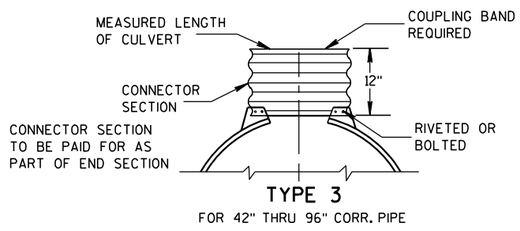
END SECTION CONNECTOR STRAP



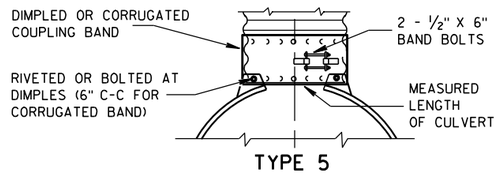
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

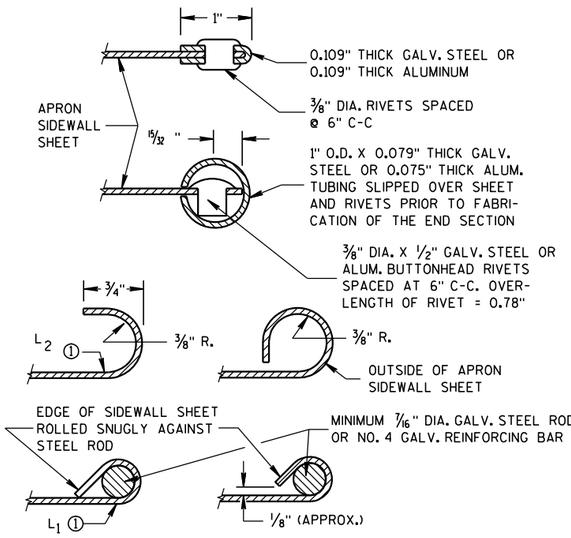
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

FOR CIRCUMFERENTIALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2, 3 OR 5 AS APPLICABLE.

FOR HELICALLY CORRUGATED PIPE USE ENDWALL CONNECTION DETAILS 1, 2 OR 5.

FOR HELICALLY CORRUGATED PIPES WITH TWO CIRCUMFERENTIAL CORRUGATIONS AT EACH END USE ENDWALL CONNECTION DETAILS 1, 2 OR 3.

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

LAP SEAMS SHALL BE TIGHTLY JOINED BY GALVANIZED RIVETS OR BOLTS FOR STEEL UNITS AND ALUMINUM RIVETS AND BOLTS FOR ALUMINUM UNITS. FOR THE 60" THROUGH 96" DIAMETER APRON ENDWALL SIZES, THE REINFORCED EDGES AND CENTER PANEL SEAMS SHALL BE FURTHER REINFORCED WITH GALVANIZED STEEL OR ALUMINUM STIFFENER ANGLES. THE ANGLES SHALL BE ATTACHED BY GALVANIZED NUTS AND BOLTS FOR STEEL UNITS AND ALUMINUM NUTS AND BOLTS FOR ALUMINUM UNITS.

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

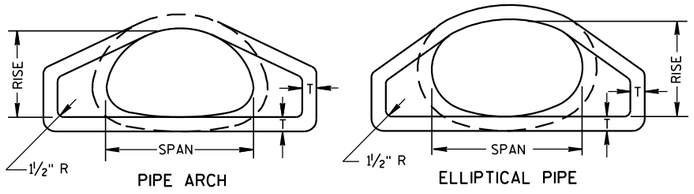
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

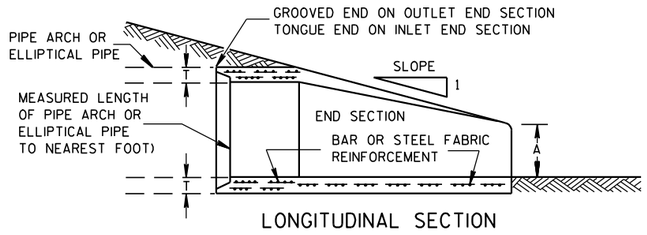
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

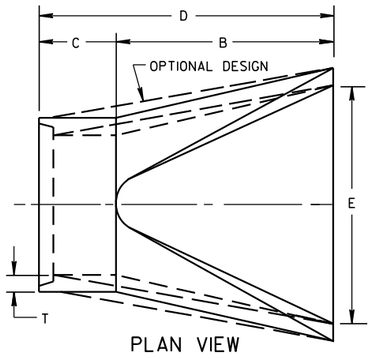
6
S.D.D. 8 F 1-11



END VIEW

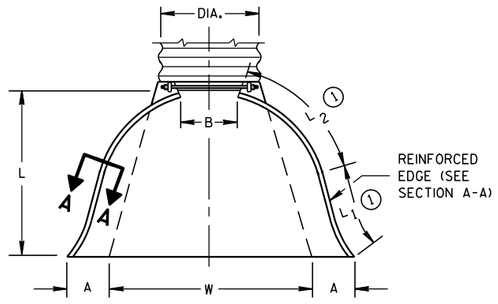


LONGITUDINAL SECTION

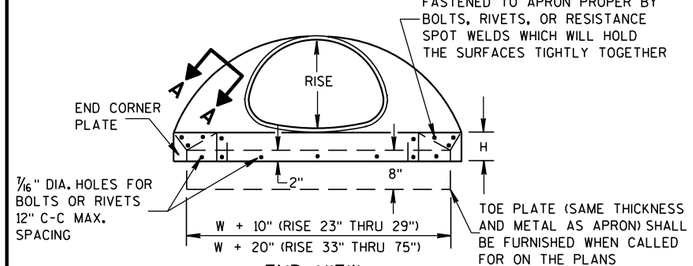


PLAN VIEW

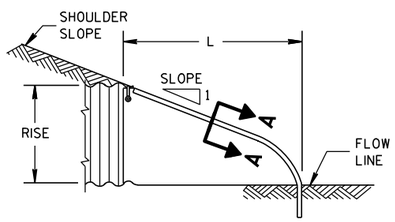
CONCRETE ENDWALLS



PLAN VIEW

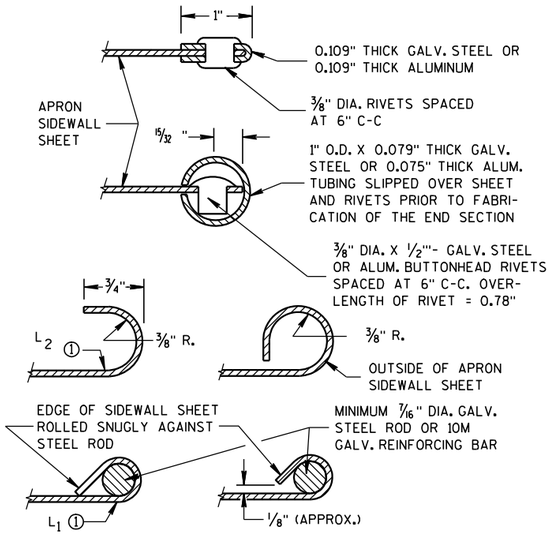


END VIEW



SIDE ELEVATION

METAL ENDWALLS



SECTION A-A

2- 2/3" X 1/2" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches) SPAN	(Inches) RISE	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
15	17	13	.064	.060	7	9	6	19	14	16	30	2½ to 1	1 Pc.
18	21	15	.064	.060	7	10	6	23	14	19⅜	36	2½ to 1	1 Pc.
21	24	18	.064	.060	8	12	6	28	18	21¾	42	2½ to 1	1 Pc.
24	28	20	.064	.060	9	14	6	32	18	27½	48	2½ to 1	1 Pc.
30	35	24	.079	.075	10	16	6	39	18	37⅝	60	2½ to 1	1 Pc.
36	42	29	.079	.075	12	18	8	46	24	45⅜	75	2½ to 1	1 Pc.
42	49	33	.109	.105	13	21	9	53	24	54¾	85	2½ to 1	2 Pc.
48	57	38	.109	.105	18	26	12	63	24	68	90	2½ to 1	3 Pc.
54	64	43	.109	.105	18	30	12	70	24	72¾	102	2¼ to 1	3 Pc.
60	71	47	.109*	.105*	18	33	12	77	30	82¼	114	2¼ to 1	3 Pc.
66	77	52	.109*	.105*	18	36	12	77	—	—	126	2 to 1	3 Pc.
72	83	57	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.

3" X 1" CORRUGATIONS

EQUIV. DIA. (Inches)	(Inches) SPAN	(Inches) RISE	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
48	53	41	.109	.105	18	26	12	63	24	72¾	90	2½ to 1	2 Pc.
54	60	46	.109	.105	18	30	12	70	30	82¼	102	2 to 1	2 Pc.
60	66	51	.109*	.105*	18	33	12	77	—	—	114	1½ to 1	3 Pc.
66	73	55	.109*	.105*	18	36	12	77	—	—	126	1½ to 1	3 Pc.
72	81	59	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.
78	87	63	.109*	.105*	22	38	12	77	—	—	148	1½ to 1	3 Pc.
84	95	67	.109*	.105*	22	34	12	77	—	—	162	1½ to 1	3 Pc.
90	103	71	.109*	.105*	22	38	12	77	—	—	174	1½ to 1	3 Pc.
96	112	75	.109*	.105*	24	40	12	77	—	—	174	1½ to 1	3 Pc.

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED.

* EXCEPT CENTER PANEL SEE GENERAL NOTES

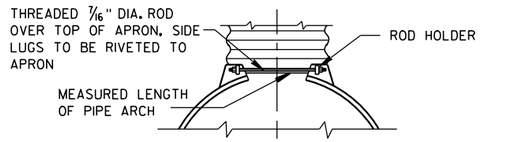
REINFORCED CONCRETE PIPE ARCH

EQUIV. DIA. (Inches)	DIMENSIONS (Inches) ** SPAN	** RISE	T	A	B	C	D	E	APPROX. SLOPE
24	29	18	3	8½	39	33	72	48	3 to 1
30	36	22	3½	9½	50	46	96	60	3 to 1
36	44	27	4	11⅛	60	36	96	72	3 to 1
42	51	31	4½	15 13/16	60	36	96	78	3 to 1
48	58	36	5	21	60	36	96	84	3 to 1
54	65	40	5½	25½	60	36	96	90	3 to 1
60	73	45	6	31	60	36	96	96	3 to 1
72	88	54	7	31	60	39	99	120	2 to 1
84	102	62	8	28½	83	19	102	144	2 to 1

REINFORCED CONCRETE ELLIPTICAL PIPE

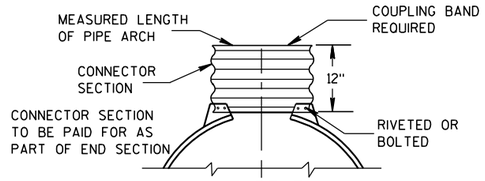
EQUIV. DIA. (Inches)	DIMENSIONS (Inches) ** SPAN	** RISE	T	A	B	C	D	E	APPROX. SLOPE
24	30	19	3¼	8½	39	33	72	48	3 to 1
30	38	24	3¾	9½	54	18	72	60	3 to 1
36	45	29	4½	11⅛	60	24	84	72	2½ to 1
42	53	34	5	15¾	60	36	96	78	2½ to 1
48	60	38	5½	21	60	36	96	84	2½ to 1
54	68	43	6	25½	60	36	96	90	2½ to 1
60	76	48	6½	30	60	36	96	96	2½ to 1

**NOMINAL SIZE



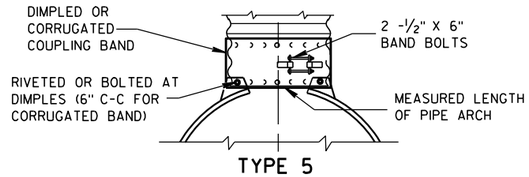
TYPE 2

FOR 17" X 13" THRU 112" X 75" PIPE ARCH



TYPE 3

FOR 64" X 43" THRU 112" X 75" PIPE ARCH



TYPE 5

ALTERNATE FOR:

ALL SIZES CORRUGATED PIPE ARCHES

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

CONNECTION DETAILS

GENERAL NOTES

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

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

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

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

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

① FOR PIPE ARCH SIZES UP TO 73" X 55" A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/94 — DATE

/S/ Rory L. Rhinesmith — CHIEF ROADWAY DEVELOPMENT ENGINEER

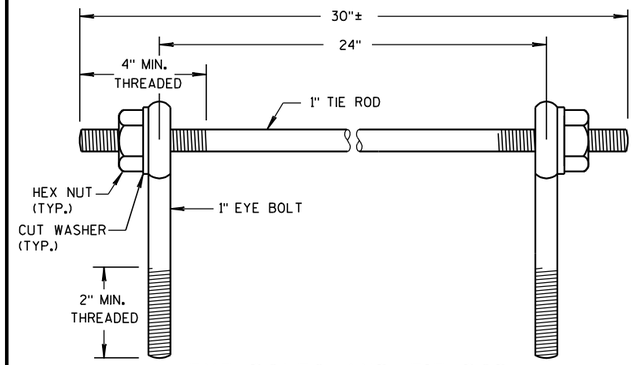
FHWA

6

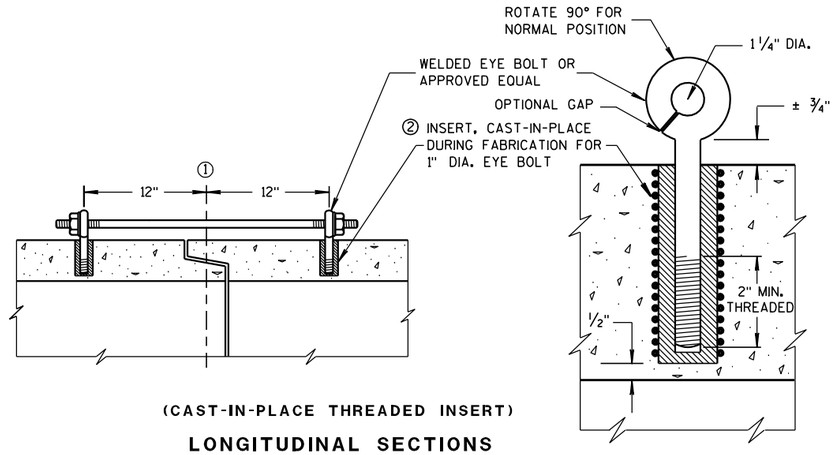
S.D.D. 8 F 2-1

6

S.D.D. 8 F 2-1



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

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

GENERAL NOTES

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

CONCRETE CULVERT AND STORM SEWER PIPE SHALL BE TIED TOGETHER IN THE MANNER ILLUSTRATED BY THIS DETAIL AT LOCATIONS DESIGNATED IN THE STANDARD SPECIFICATIONS AND THE PLAN. THE CONTRACTOR MAY USE EITHER ALTERNATE 1, 2 OR 3 FOR DRAINAGE STRUCTURES. ONLY ALTERNATE 1 AND 3 MAY BE USED FOR CATTLE PASSES, UNLESS OTHERWISE STATED IN THE CONTRACT. THE MATERIALS, FABRICATION AND WORK NECESSARY TO TIE THE PIPE BY THIS DETAIL WILL BE CONSIDERED INCIDENTAL TO THE PIPE AND APRON ENDWALLS IF REQUIRED.

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR JOINT TIES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.

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

① ℄ OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.

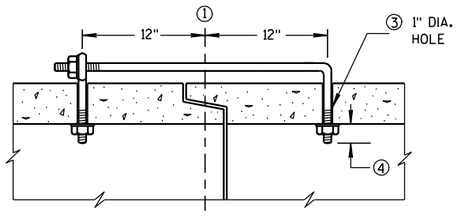
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED 12 INCHES FROM ℄ OF TONGUE AND GROOVE.

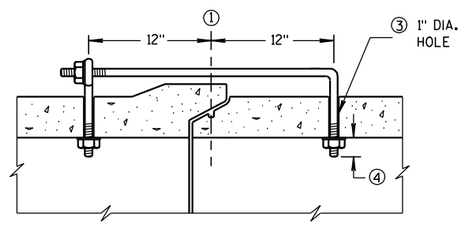
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.



(TONGUE & GROOVE PIPE)

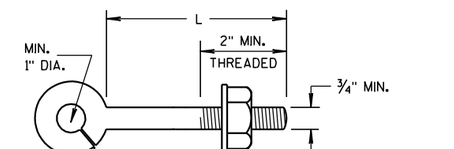


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

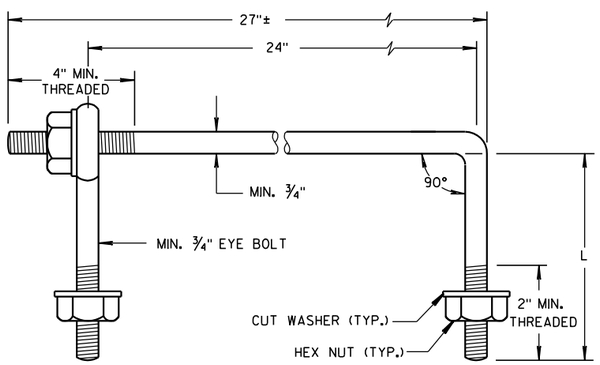
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

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



EYE BOLT AND TIE ROD

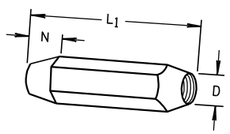
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

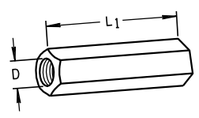
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12-60	5/8	5/8	5	1/2
66-84	3/4	3/4	5	1/2
90-108	1	1	7	1 7/16

DIMENSIONS SHOWN ARE IN INCHES



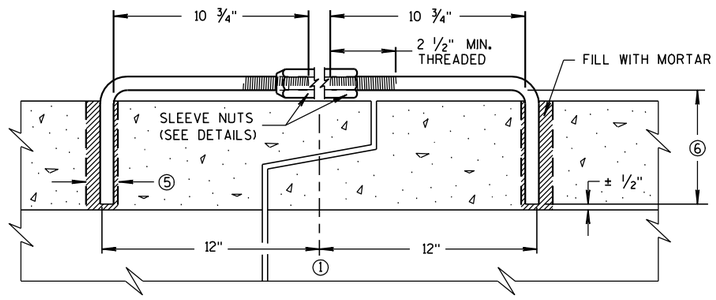
TAPERED



PLAIN

RIGHT AND LEFT THREADS

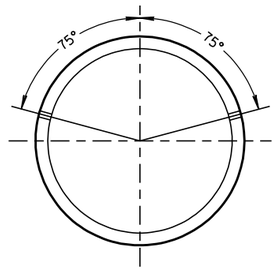
SLEEVE NUTS



LONGITUDINAL SECTION

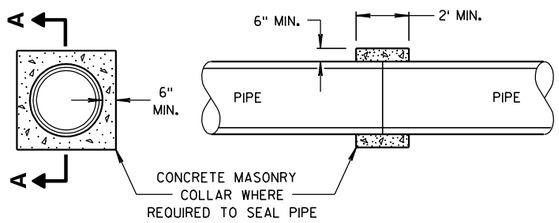
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



PLACEMENT OF (2) CAST-IN-PLACE INSERTS OR HOLES DURING FABRICATION FOR PIPE SECTIONS REQUIRING TIE RODS

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

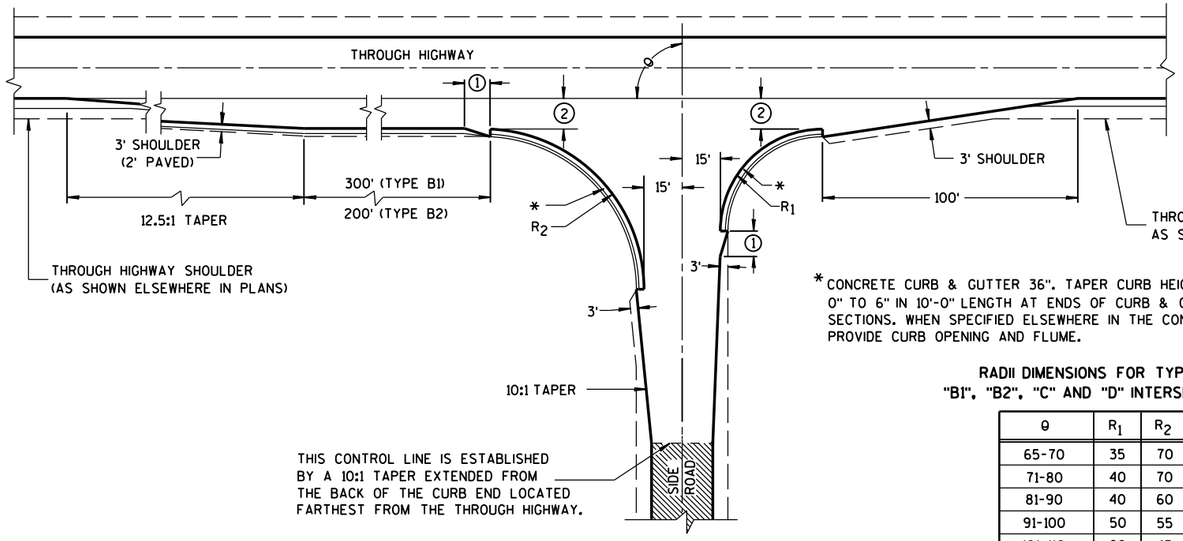
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
57
FHWA

6

S.D.D. 8 F 4-7

6

S.D.D. 8 F 4-7

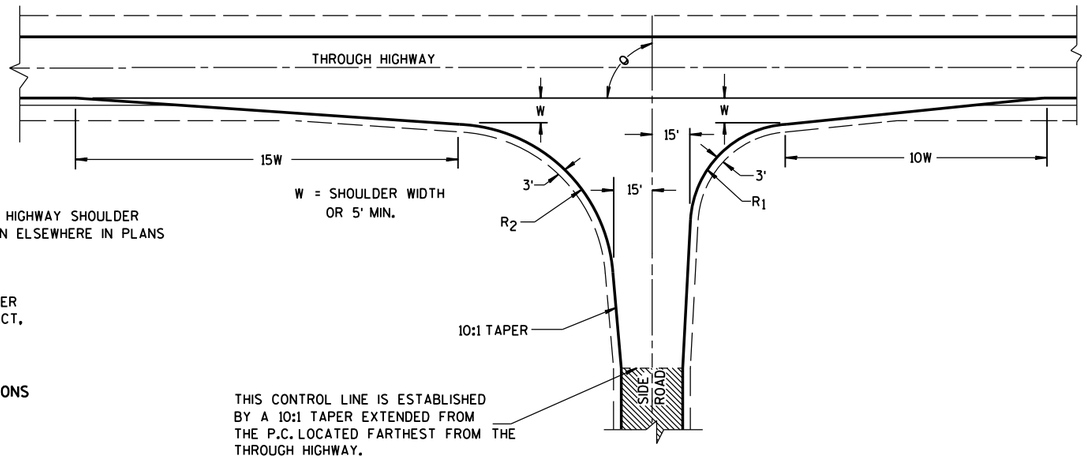


TYPE "B1" AND "B2"

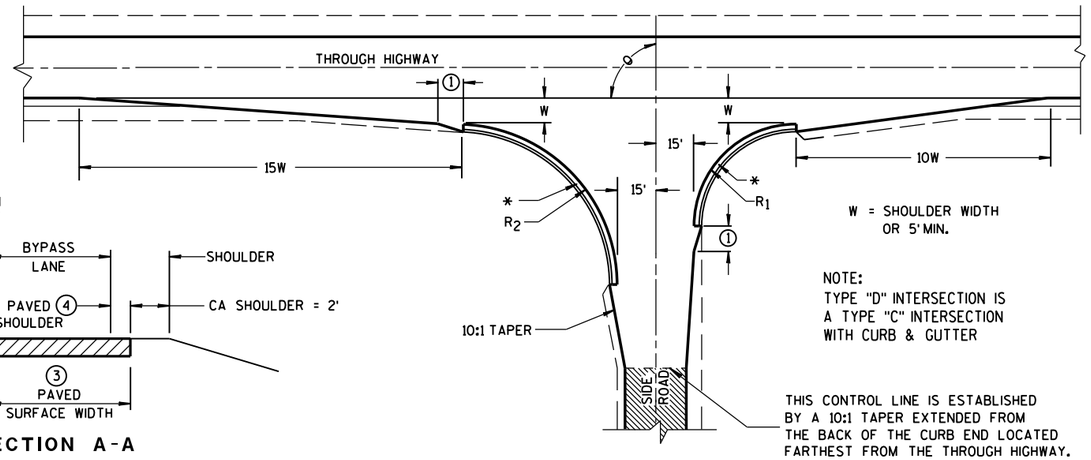
*CONCRETE CURB & GUTTER 36". TAPER CURB HEIGHT 0" TO 6" IN 10'-0" LENGTH AT ENDS OF CURB & GUTTER SECTIONS. WHEN SPECIFIED ELSEWHERE IN THE CONTRACT, PROVIDE CURB OPENING AND FLUME.

RADII DIMENSIONS FOR TYPES "B1", "B2", "C" AND "D" INTERSECTIONS

θ	R_1	R_2
65-70	35	70
71-80	40	70
81-90	40	60
91-100	50	55
101-110	60	45



TYPE "C"



TYPE "D"

GENERAL NOTES

DESIGNS MAY BE USED INTERCHANGEABLY IN COMBINATION OR SEPARATELY FOR ANY ONE COMPLETE INTERSECTION DEPENDING UPON INTERSECTION ANGLE AND SURFACING OF EACH APPROACH ROADWAY.

SIDE ROAD SURFACING NOTE

WHEN THE SIDE ROAD IS NOT PRESENTLY PAVED, PAVEMENT SHALL BE PLACED TO THE LIMITS SHOWN UNLESS OTHERWISE PROVIDED IN THE CONTRACT. WHERE THE CONSTRUCTION LIMITS ARE BEYOND THE PAVING LIMITS, CRUSHED AGGREGATE SURFACING SHALL BE PLACED BETWEEN THE PAVING LIMITS AND CONSTRUCTION LIMITS.

WHEN THE SIDE ROAD IS PRESENTLY PAVED, NEW PAVEMENT SHALL BE PLACED TO THE LIMITS OF DESIGN AS SHOWN AND BEYOND, IF NECESSARY, TO MEET EXISTING PAVEMENT.

WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

EXISTING PAVED SURFACE

BYPASS LANE

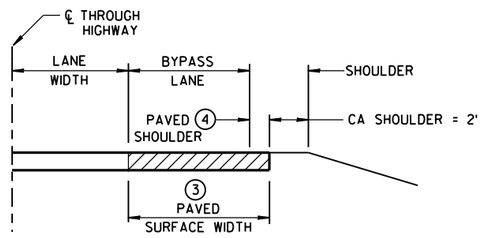
(1) 10-FT TYPICAL.

(2) 12-FT** PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.

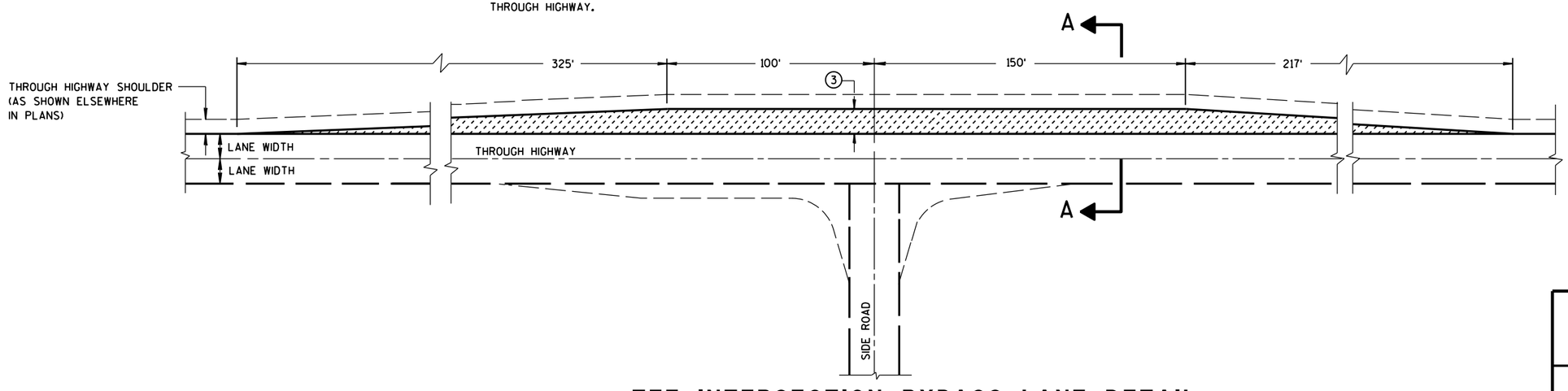
**10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.

(3) BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
-ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH.
-PC CPNCRETE = 13-FT PLUS PAVED SHOULDER WIDTH.

(4) BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.



SECTION A-A
(SHOWING BYPASS LANE AND SHOULDER)

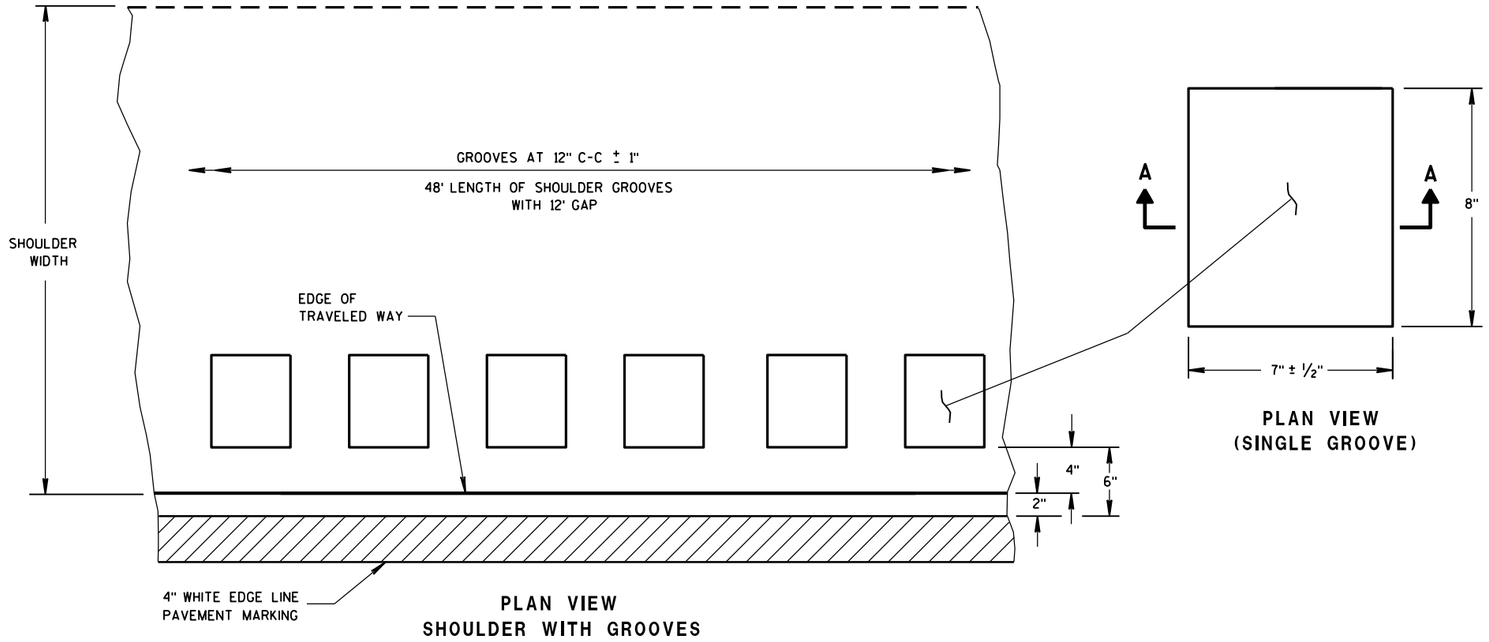


TEE INTERSECTION BYPASS LANE DETAIL

AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND "D" AND TEE INTERSECTION BYPASS LANE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6
S.D.D. 9 A 1-13a



PLAN VIEW
SHOULDER WITH GROOVES

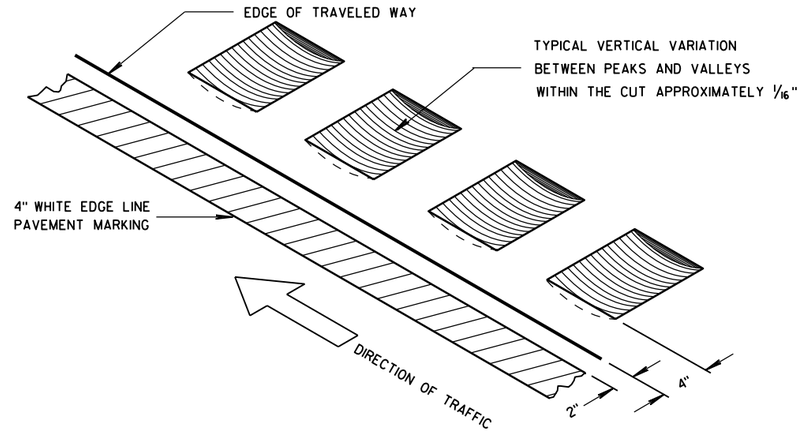
PLAN VIEW
(SINGLE GROOVE)

GENERAL NOTES

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

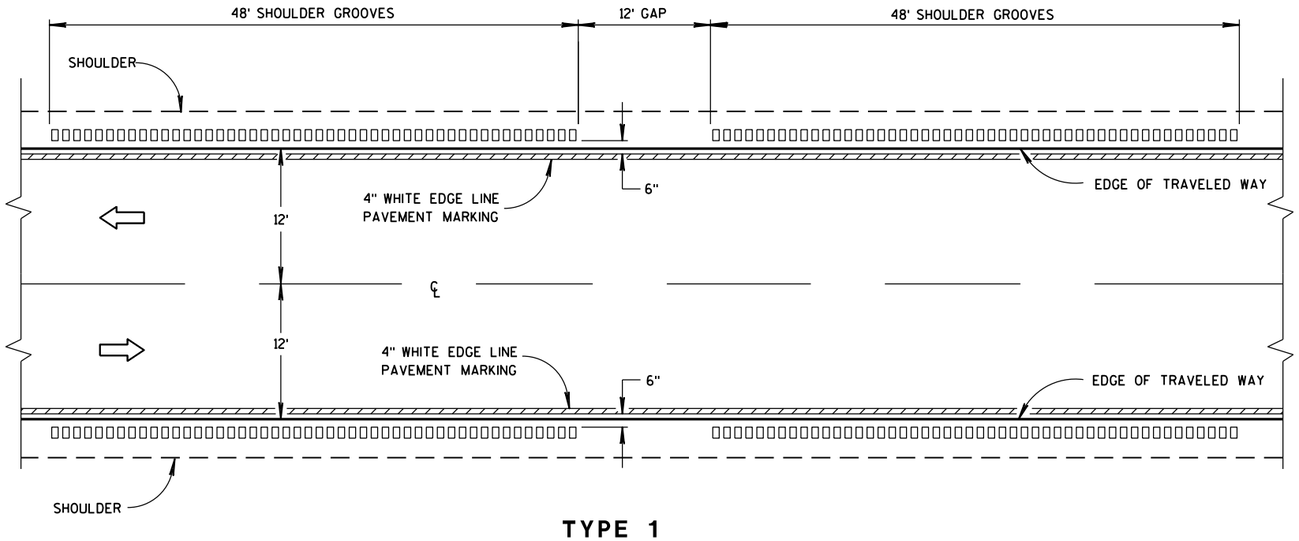
DO NOT MILL SHOULDER GROOVES THROUGH ANY INTERSECTION, MARKED CROSSWALK, NON-MOTORIZED PATH CROSSING, OR SNOWMOBILE CROSSING.

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

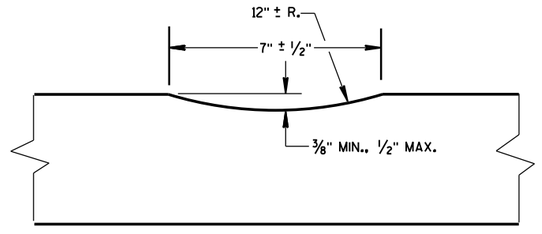


ISOMETRIC

PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP



TYPE 1
2-LANE SHOULDER RUMBLE STRIP



SECTION A-A

6

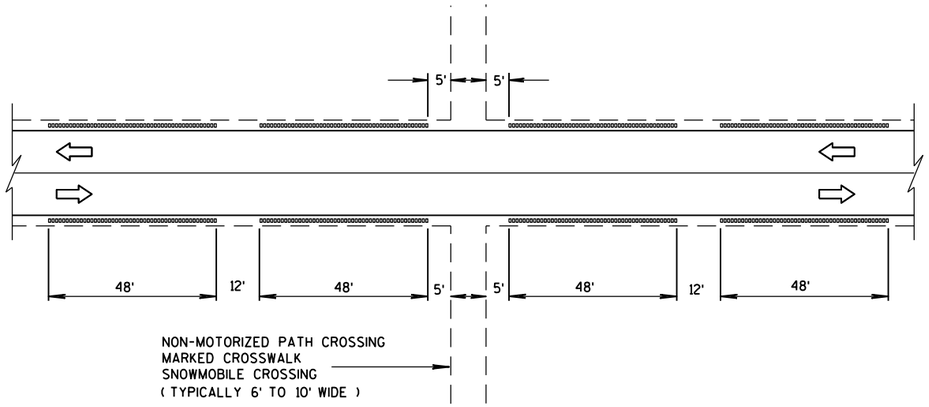
S.D.D. 13 A 10-1a

2-LANE RURAL
SHOULDER RUMBLE STRIP, MILLING

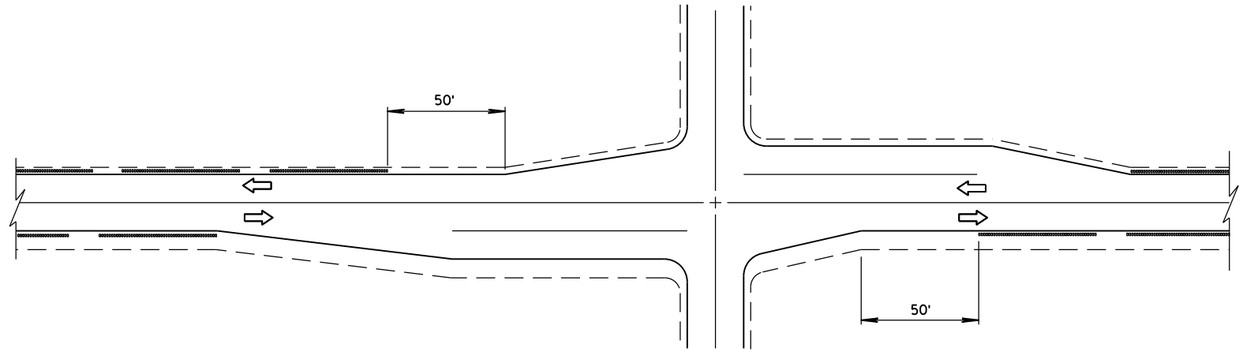
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

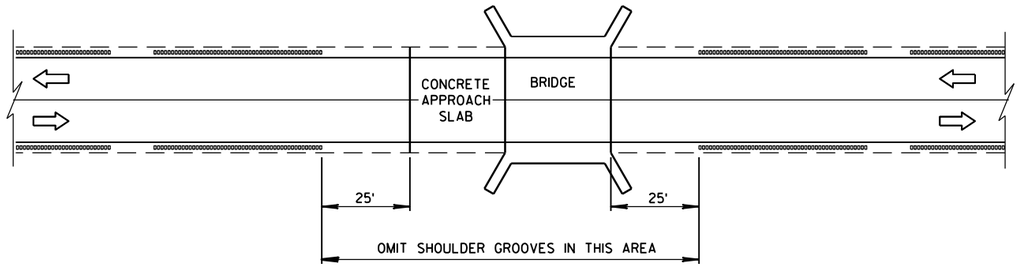
S.D.D. 13 A 10-1a



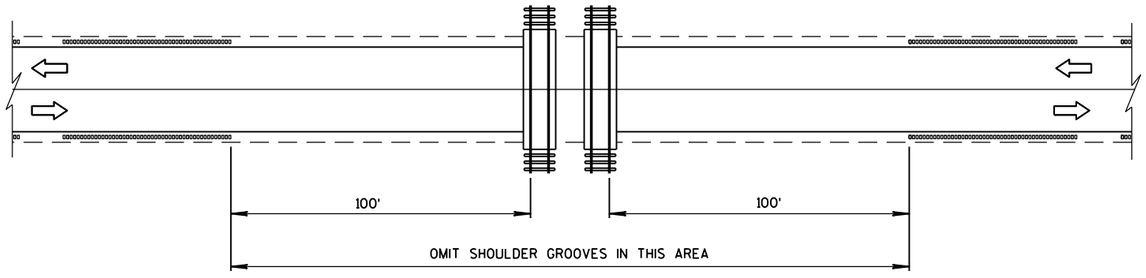
SHOULDER GROOVES AT MISCELLANEOUS CROSSINGS



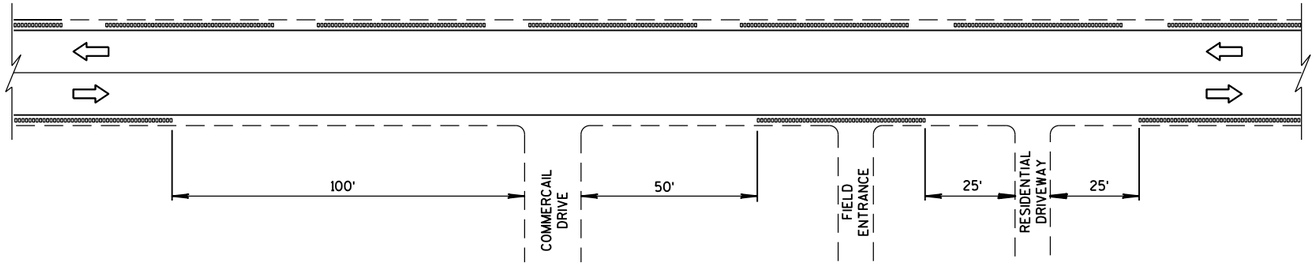
SHOULDER GROOVES AT INTERSECTIONS



SHOULDER GROOVES AT BRIDGES



SHOULDER GROOVES AT RAILROADS



SHOULDER GROOVES AT DRIVEWAYS (1)

2-LANE RURAL
SHOULDER RUMBLE STRIP, MILLING

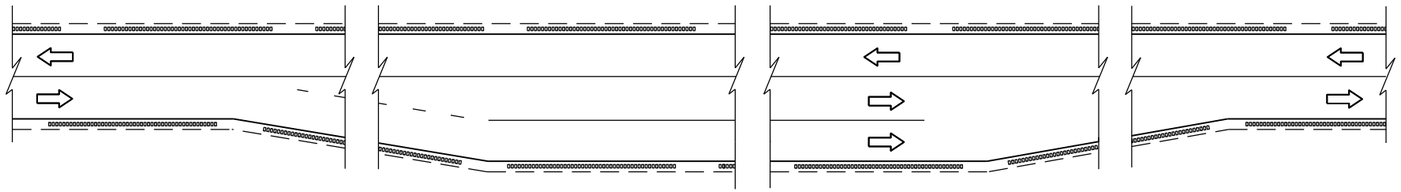
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

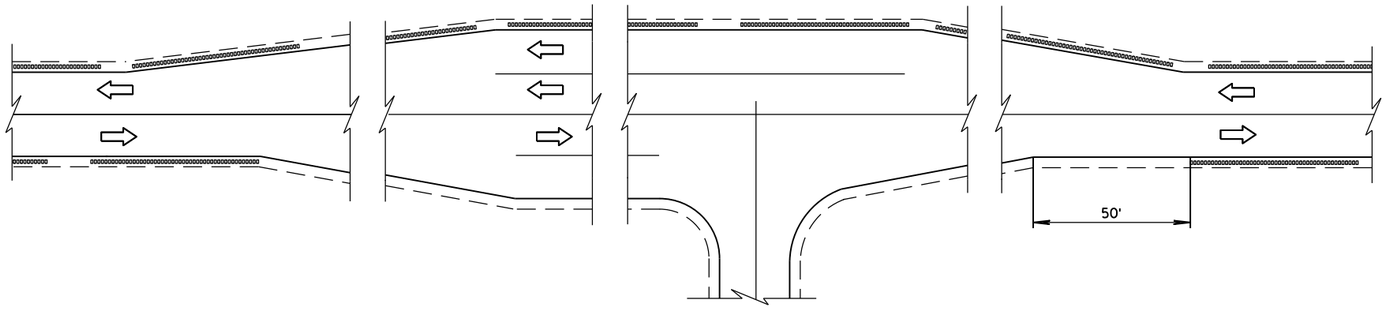
S.D.D. 13 A 10-1c

6

S.D.D. 13 A 10-1c



SHOULDER GROOVES AT PASSING AND CLIMBING LANES



SHOULDER GROOVES AT BYPASS LANES

6

6

S.D.D. 13 A 10-1d

S.D.D. 13 A 10-1d

2-LANE RURAL
SHOULDER RUMBLE STRIP, MILLING

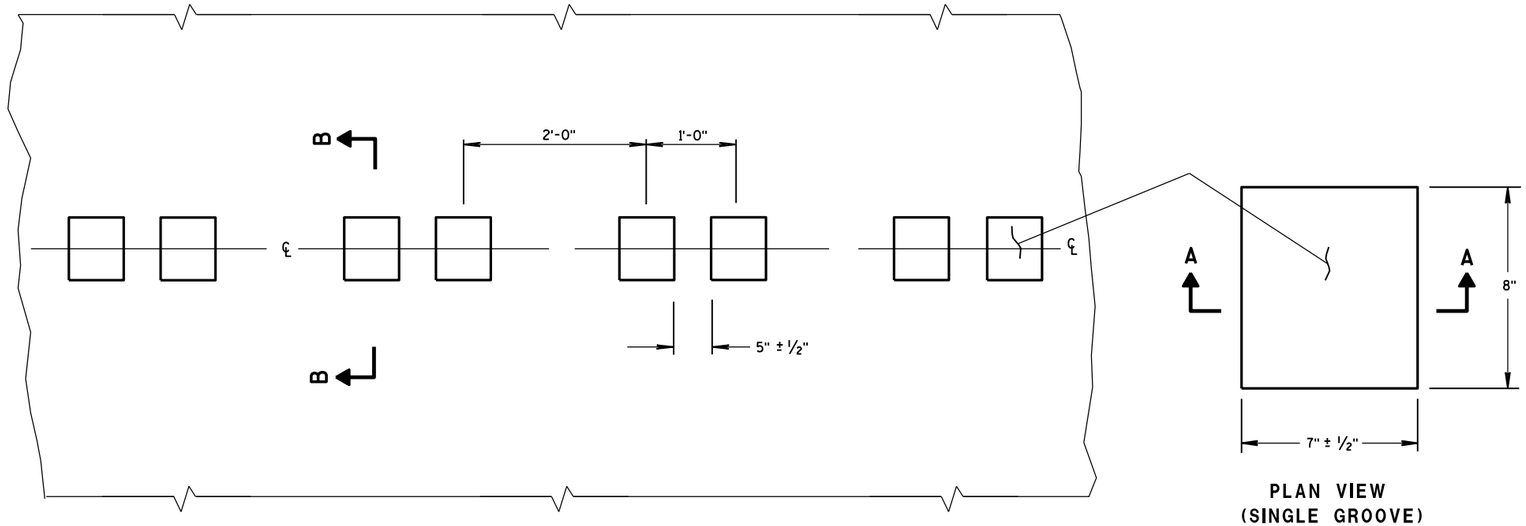
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

12/17/2012
DATE

/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER

FHWA



PLAN VIEW
CENTER LINE WITH GROOVES

PLAN VIEW
(SINGLE GROOVE)

PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

GENERAL NOTES

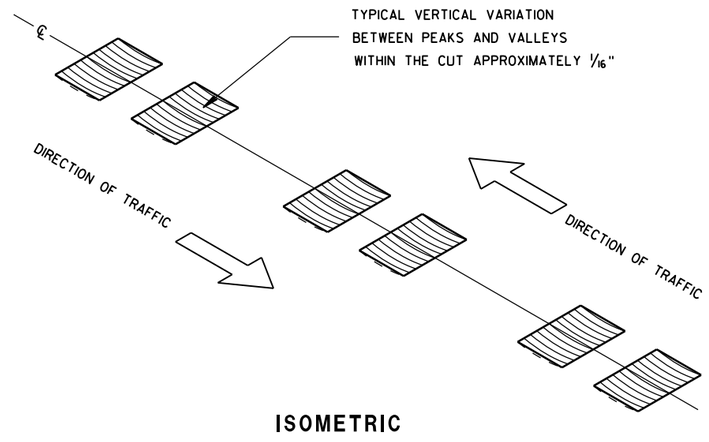
DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

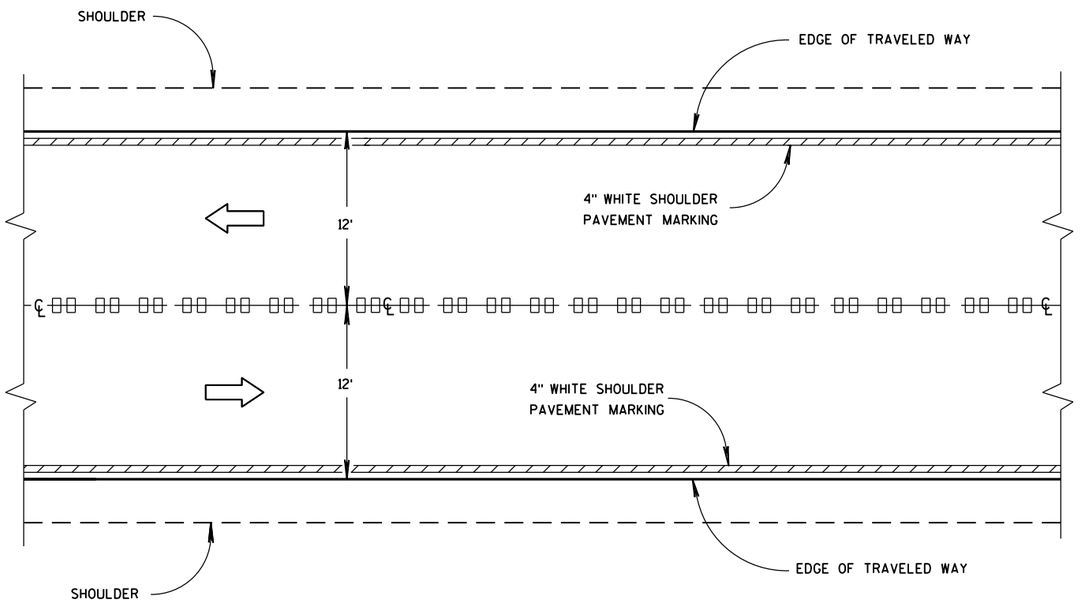
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

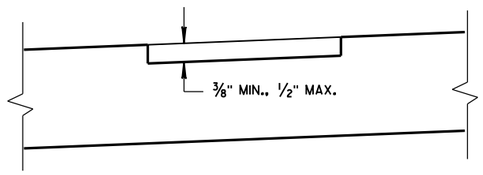
(1) CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS, WHEN DIRECTED BY THE ENGINEER.



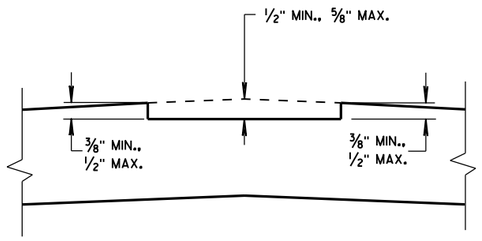
ISOMETRIC



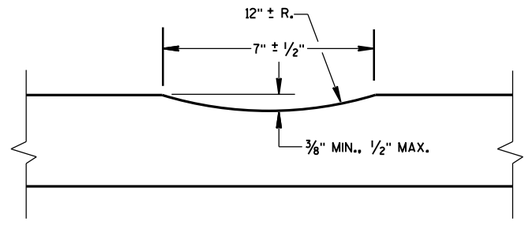
CENTER LINE GROOVES ON TWO-WAY ROADWAYS



SECTION B-B
SUPERELEVATED ROADWAY



SECTION B-B
CROWNED ROADWAY



SECTION A-A

6

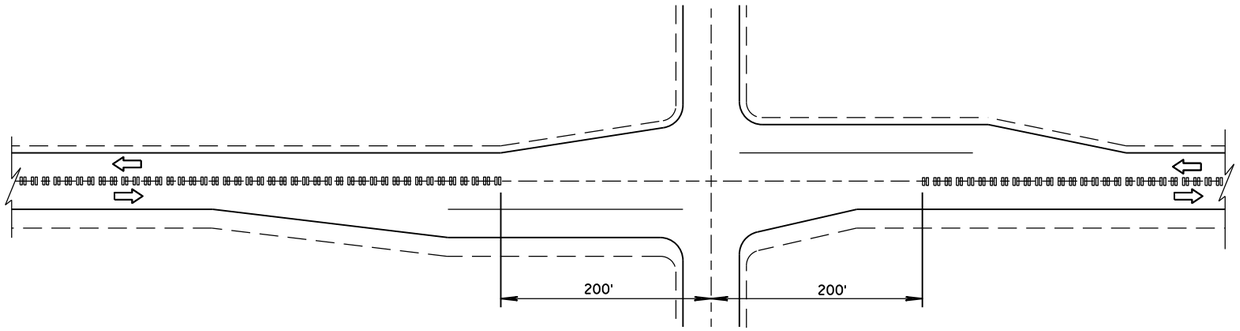
S.D.D. 13 A 11-2a

2-LANE RURAL
CENTER LINE RUMBLE STRIP,
MILLING

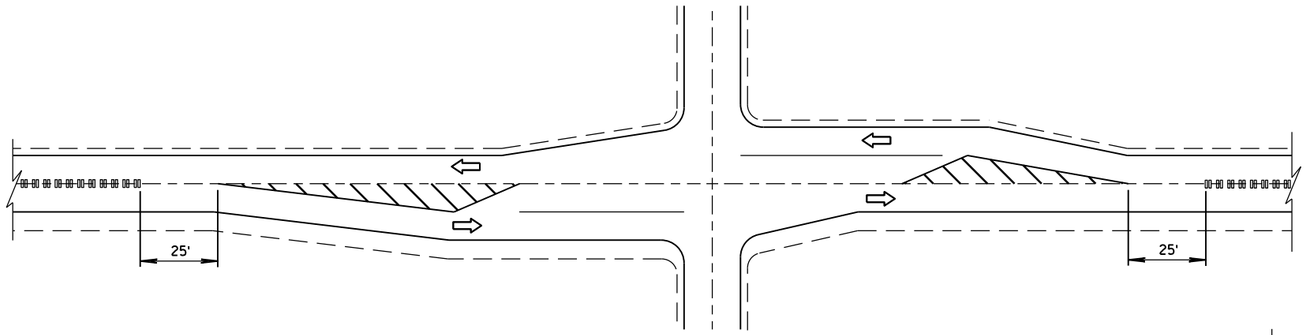
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

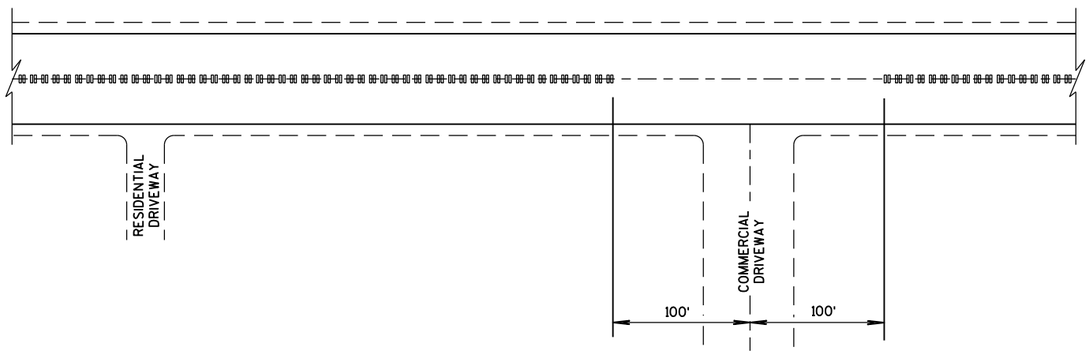
S.D.D. 13 A 11-2a



CENTER LINE GROOVES AT INTERSECTIONS

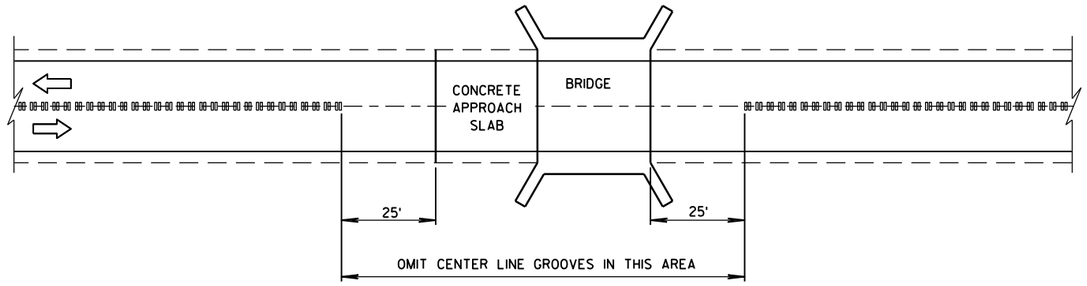


CENTER LINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)

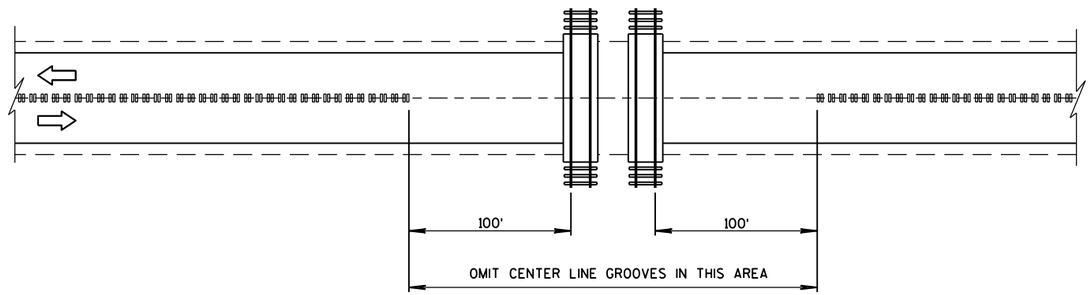


CENTER LINE GROOVES AT DRIVEWAYS (1)

(1) 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

6

S.D.D. 13 A 11-2b

6

S.D.D. 13 A 11-2b

2-LANE RURAL
CENTER LINE RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

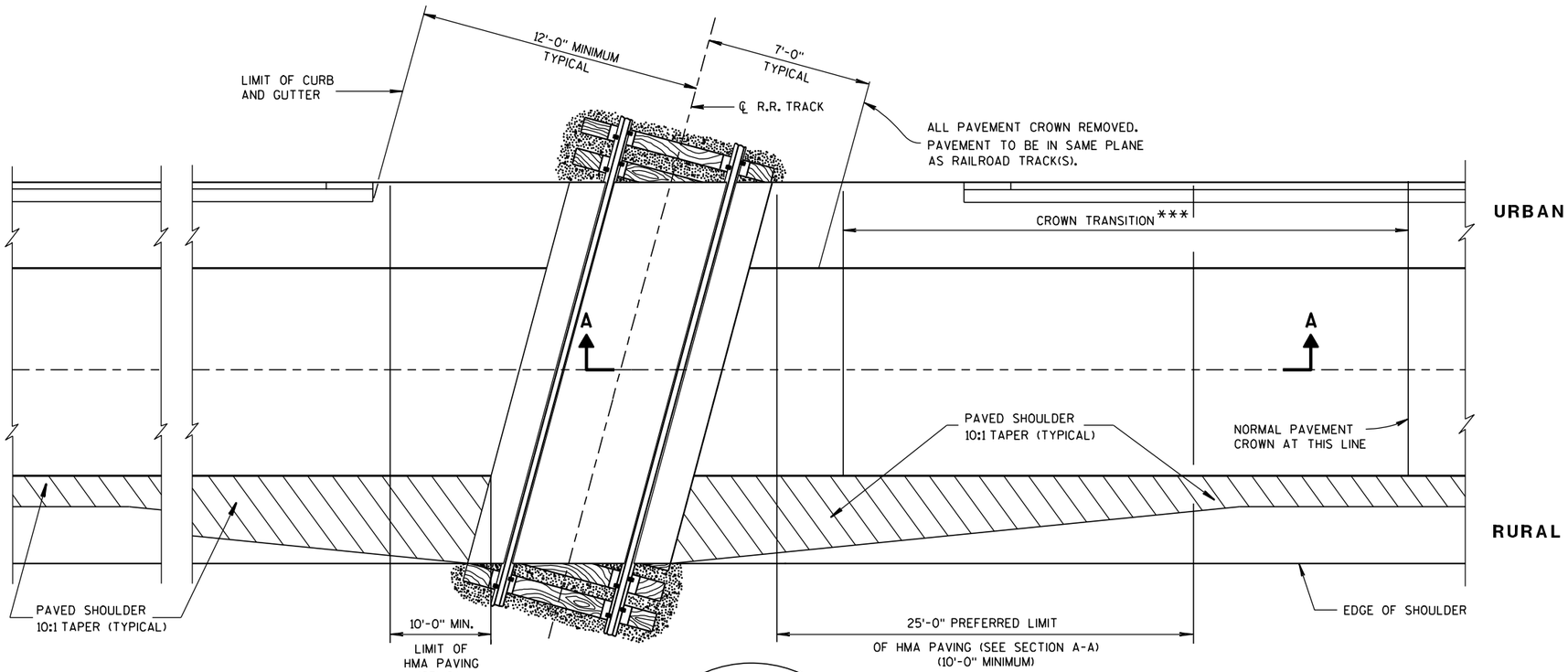
APPROVED

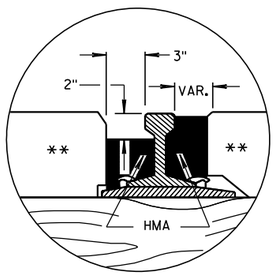
5/15/2013 — DATE

/S/ Jerry H. Zoda — ROADWAY STANDARDS DEVELOPMENT ENGINEER

NT

FHWA





DETAIL B

HMA FLANGEWAY AND FIELD FILLERS

GENERAL NOTES

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

TIMBER, CONCRETE OR RUBBER CROSSING SURFACE MATERIAL, RAILS, TIES, BALLAST, GEOTEXTILE FABRIC AND CROSSING DRAINAGE SYSTEM BY OTHERS UNLESS OTHERWISE PROVIDED.

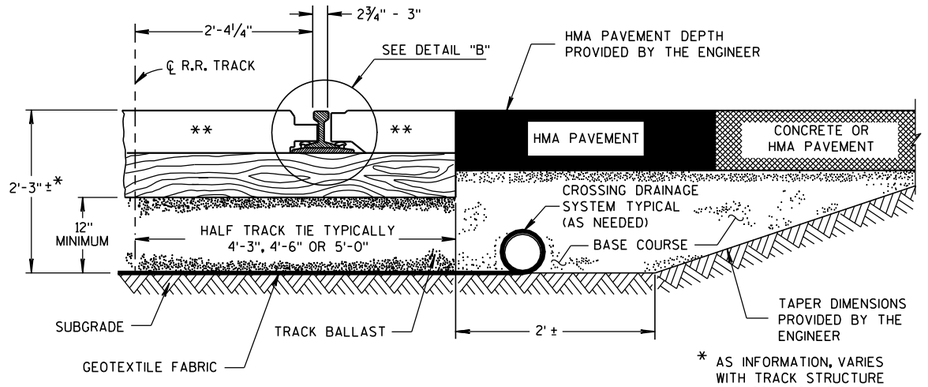
HMA PAVEMENT APPROACHES AND HMA PAVEMET CROSSING SURFACES TO BE PLACED BY CONTRACTOR UNLESS OTHERWISE PROVIDED.

HMA FLANGEWAY AND FIELD FILLERS TO BE PLACED AND THOROUGHLY HAND COMPACTED BY THE CONTRACTOR WHEN NOT PROVIDED BY OTHERS. SEE DETAIL B. HMA FILLERS NOT REQUIRED WHEN RUBBER FILLERS ARE PROVIDED.

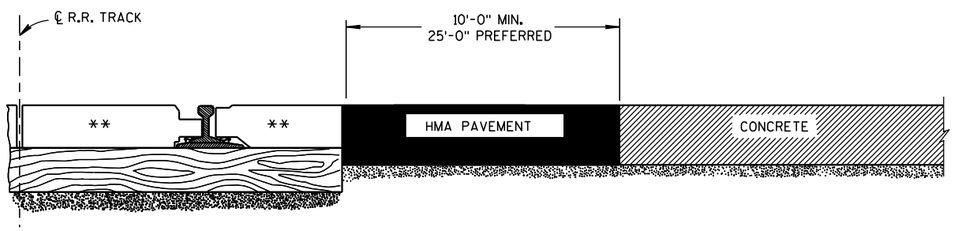
HMA PAVEMENT SHALL BE ROLLED PARALLEL TO THE TRACK.

** CROSSING SURFACE MAY BE TIMBER, RUBBER, CONCRETE, HMA PAVEMENT OR A COMBINATION OF SUCH MATERIALS.

*** CROWN TRANSITION LENGTH SHOWN ELSEWHERE IN THE PLAN.



TYPICAL HALF SECTION



SECTION A-A

CONCRETE PAVEMENT APPROACH

SECTION A-A

HMA PAVEMENT APPROACH

EXAMPLES OF PAVEMENT APPROACHES

PAVEMENT DETAILS FOR RAILROAD APPROACH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

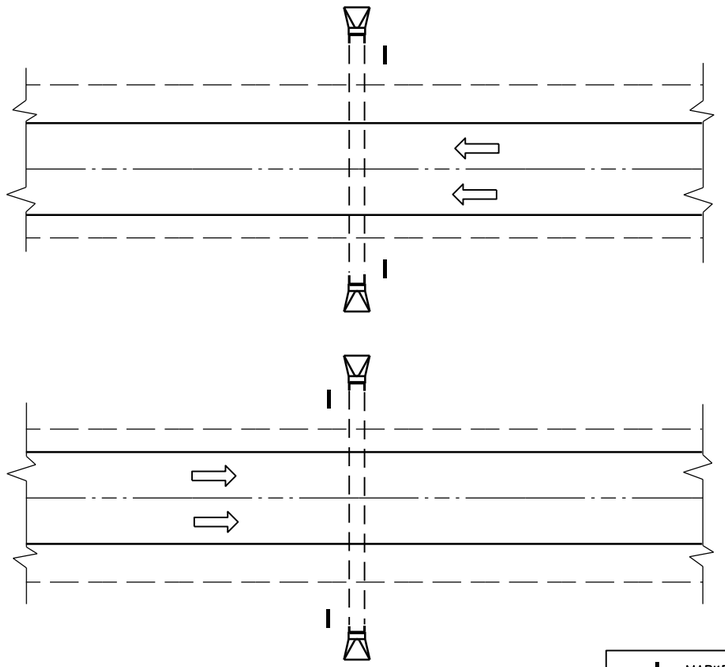
APPROVED
8-28-09 DATE
/S/ Ronald E. Adams
CHIEF, RAILROADS & HAI[illegible]CTION
FHWA

6

S.D.D. 13 B 1-10

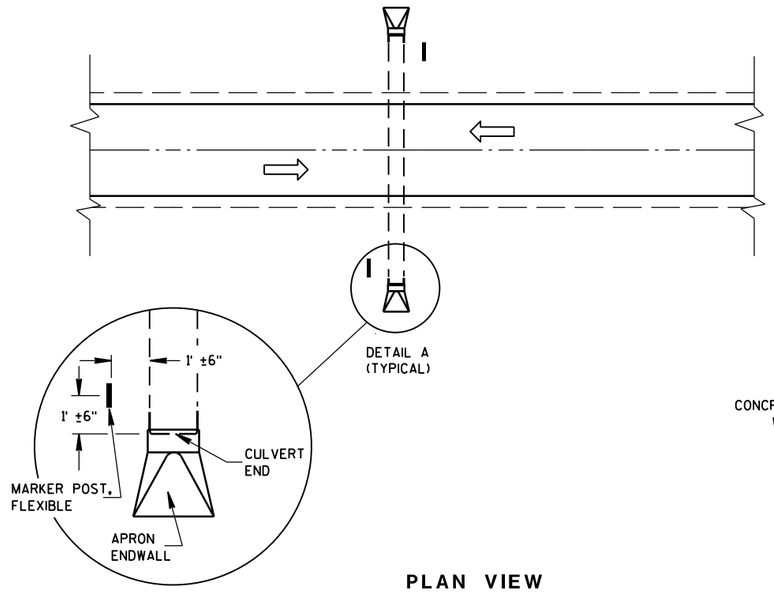
6

S.D.D. 13 B 1-10



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

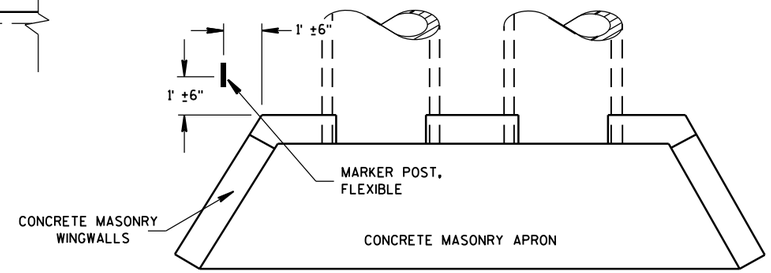
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

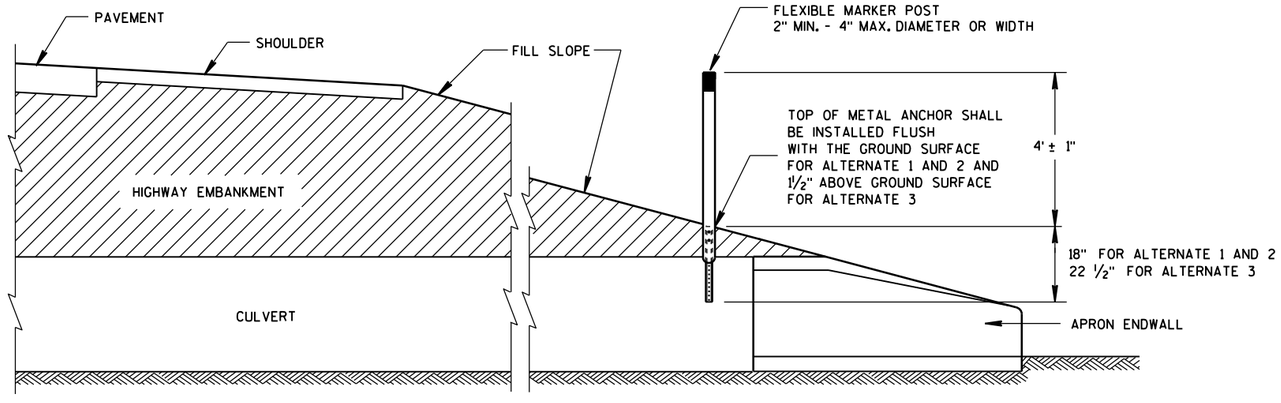
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



PLAN VIEW

CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH

FLEXIBLE MARKER POST LOCATION



CROSS SECTION

FLEXIBLE MARKER POST

FLEXIBLE MARKER POST FOR CULVERT END

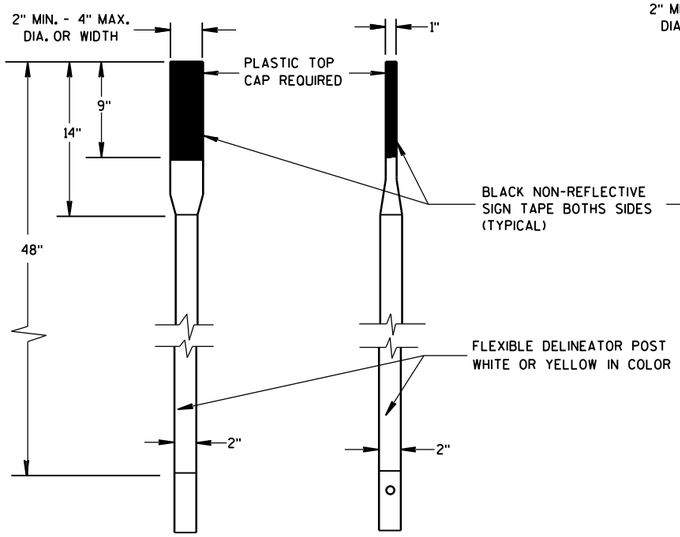
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

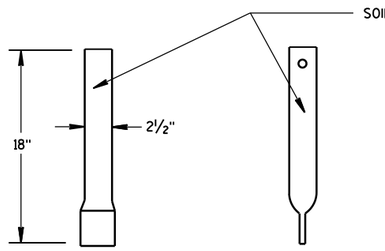
6

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

6

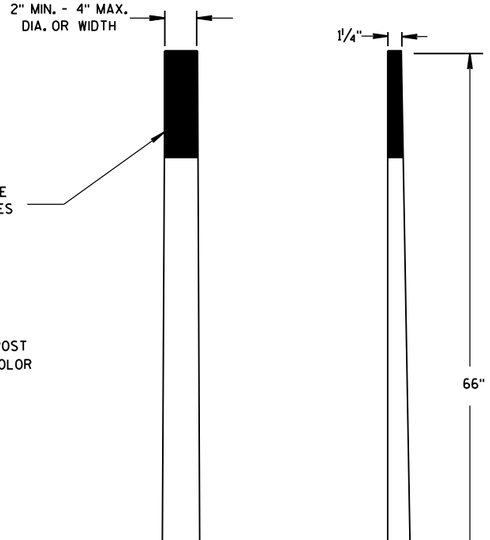
S.D.D. 15 A 3-2a





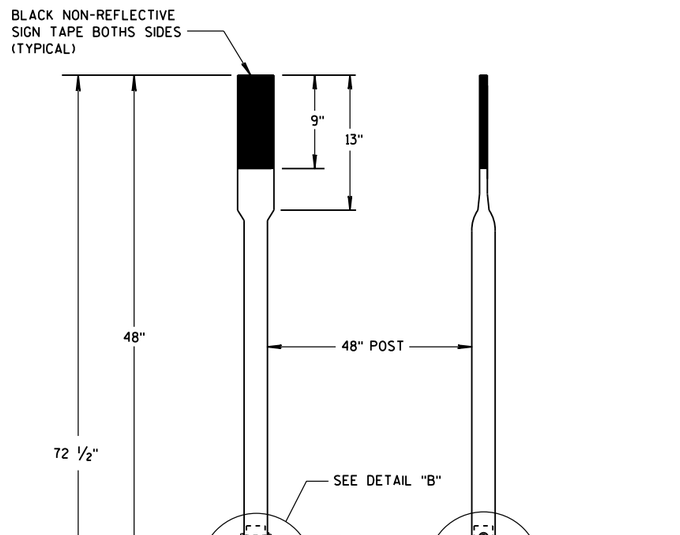
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

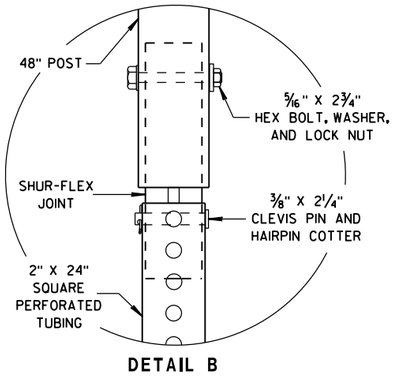
ALTERNATE 2



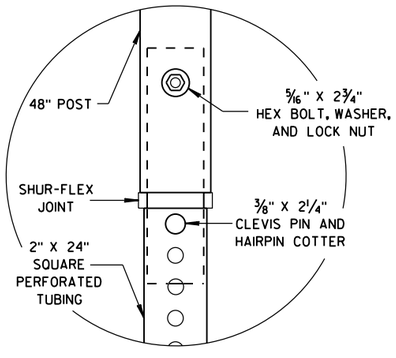
FRONT VIEW SIDE VIEW

ALTERNATE 3

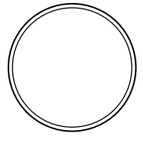
FLEXIBLE MARKER POSTS



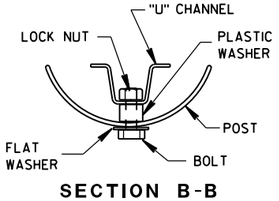
DETAIL B



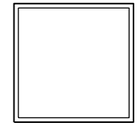
DETAIL C



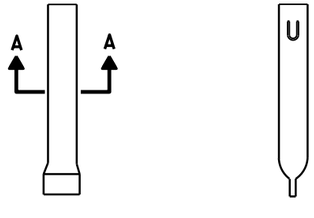
SECTION A-A



SECTION B-B

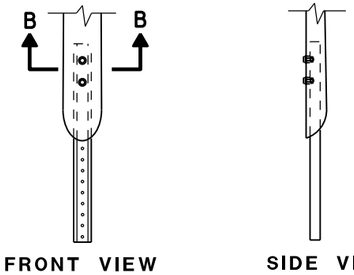


SECTION C-C



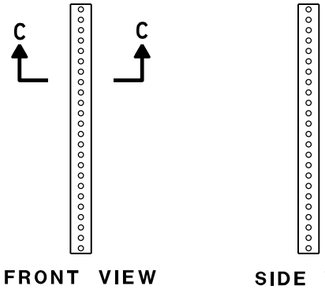
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

ALTERNATE 2



FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS

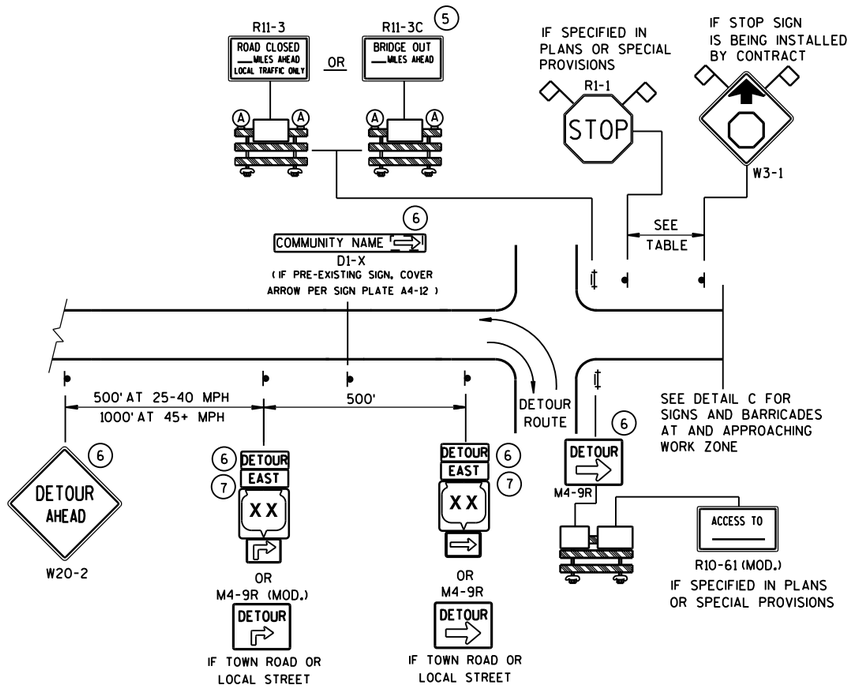
FLEXIBLE MARKER POST FOR CULVERT END	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
10/1/2012 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER
FHWA	IGN

6

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

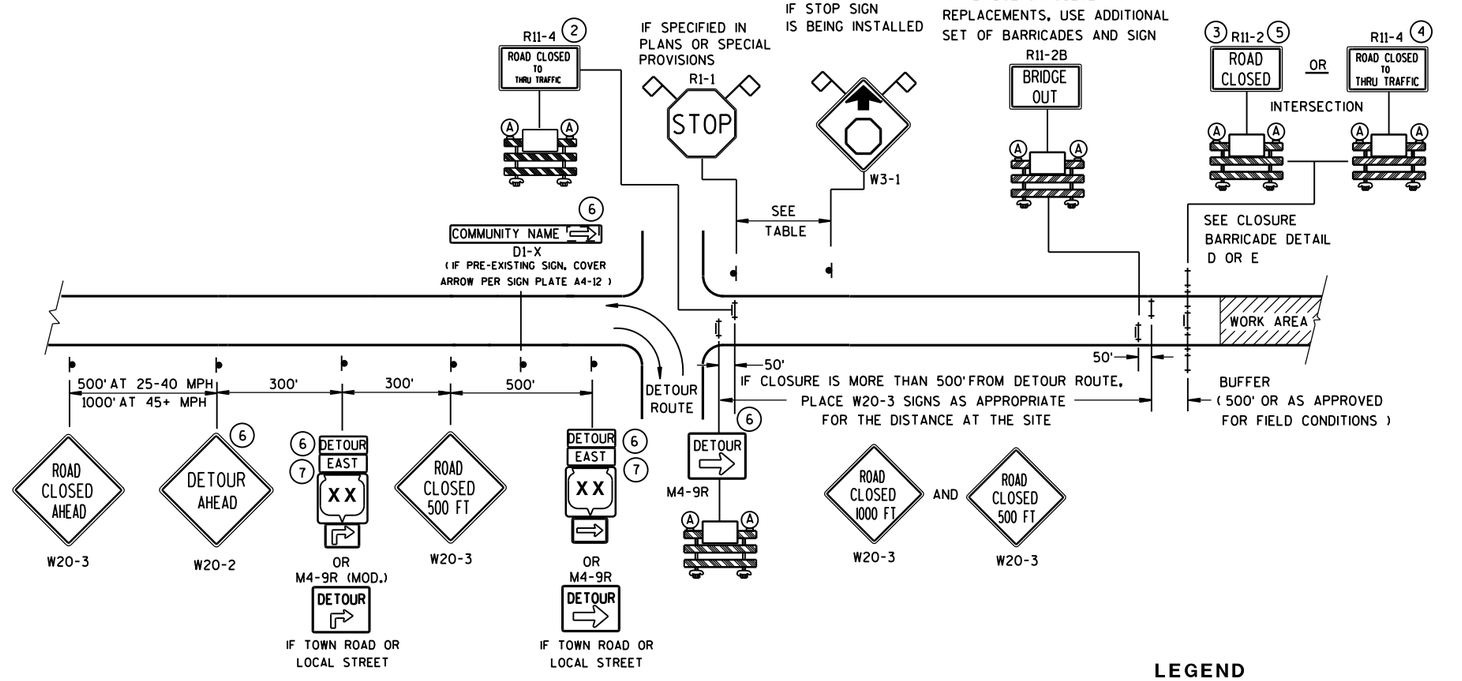
6

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



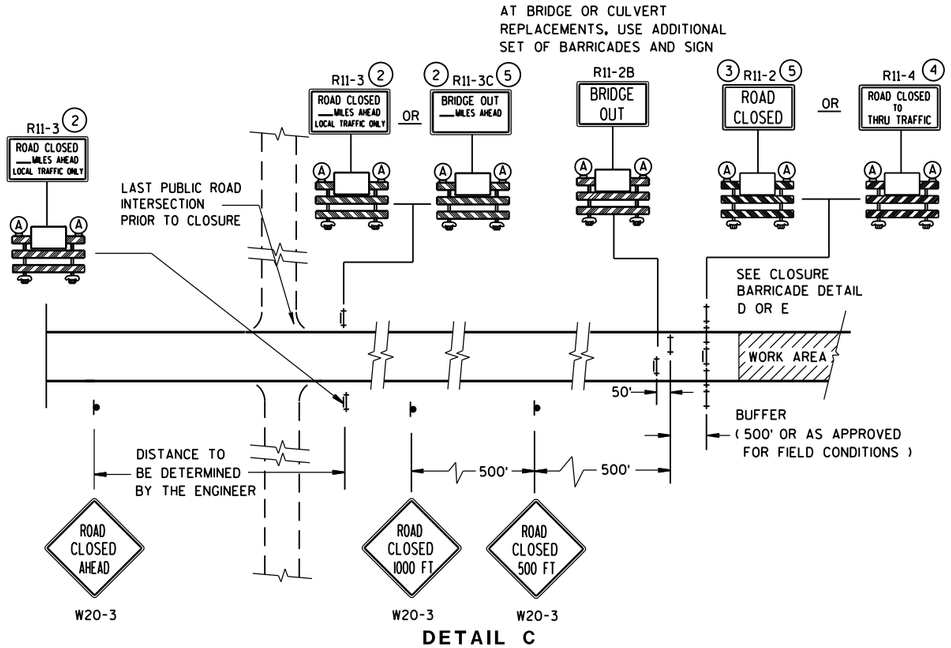
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE LESS THAN ½ MILE FROM DETOUR ROUTE (1000 FEET IF URBAN)



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

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

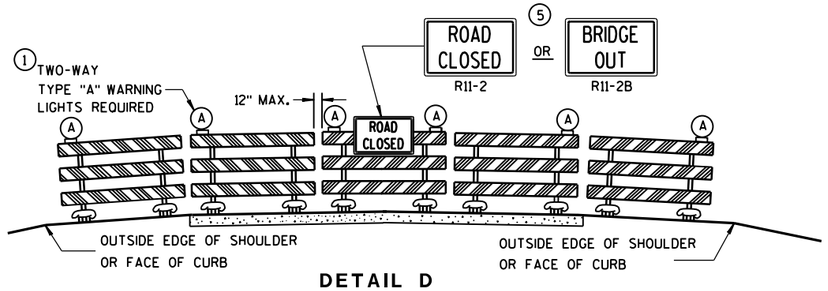
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 DATE — /S/ Travis Feltes STATE TRAFFIC ENGINEER — DESIGN

FHWA

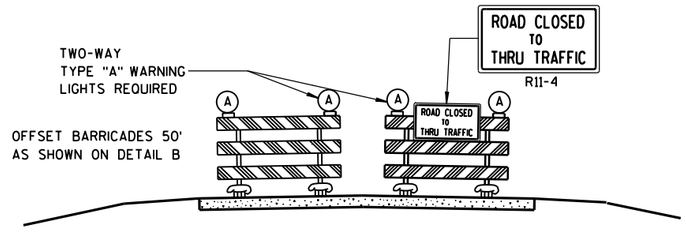
6
S.D.D. 15 C 2-5a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

SEE SDD 15C2-SHEET "**a**" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

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

(2) THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.

(3) FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.

(4) FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.

(5) FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.

(6) INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.

(7) "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

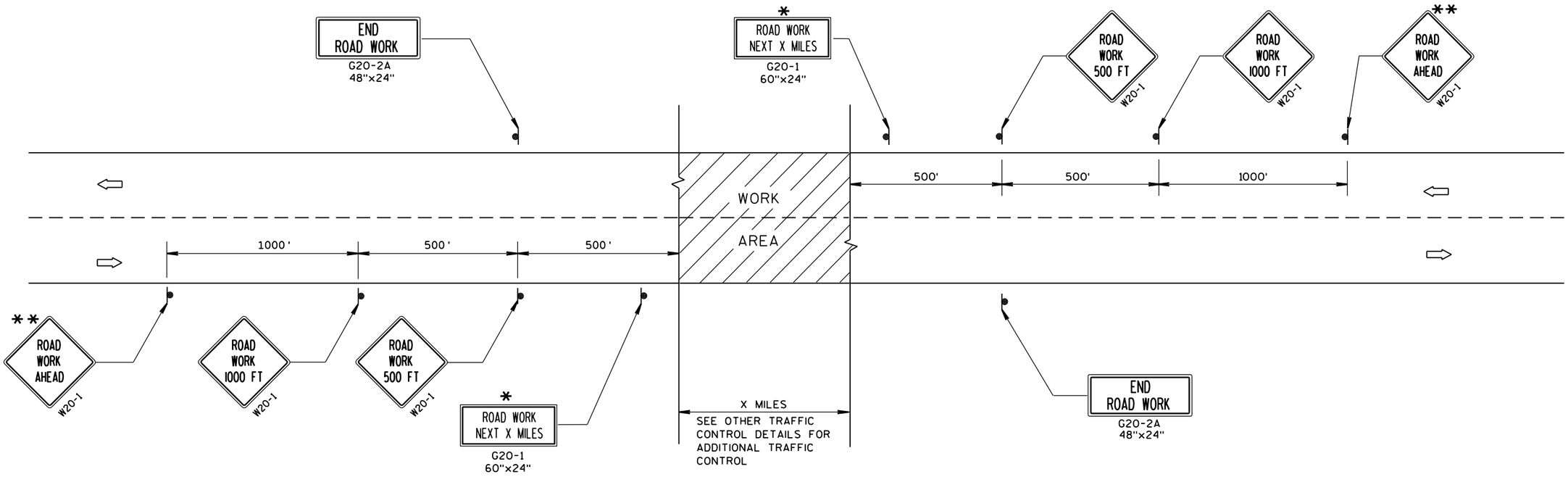
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

8/2013 DATE — /S/ Travis Feltes STATE TRAFFIC ENGINEER — DESIGN

FHWA

6

S.D.D. 15 C 2-5b



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.

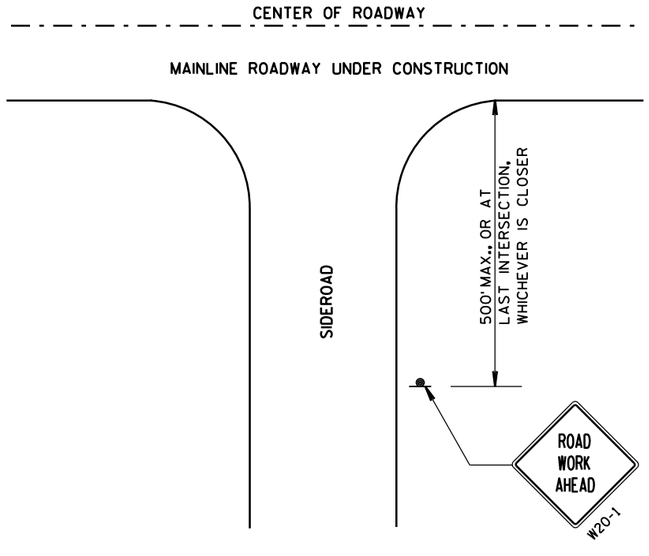
ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

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 W20-1 "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

8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

SIGN

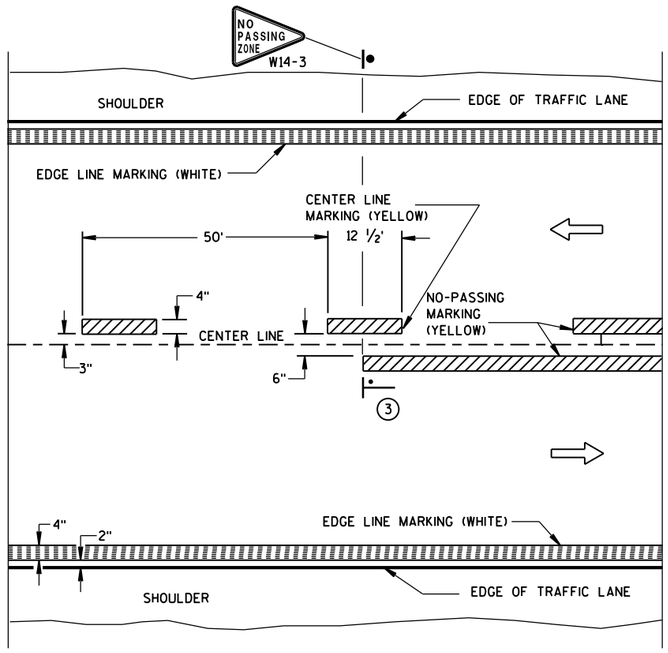
FHWA

6

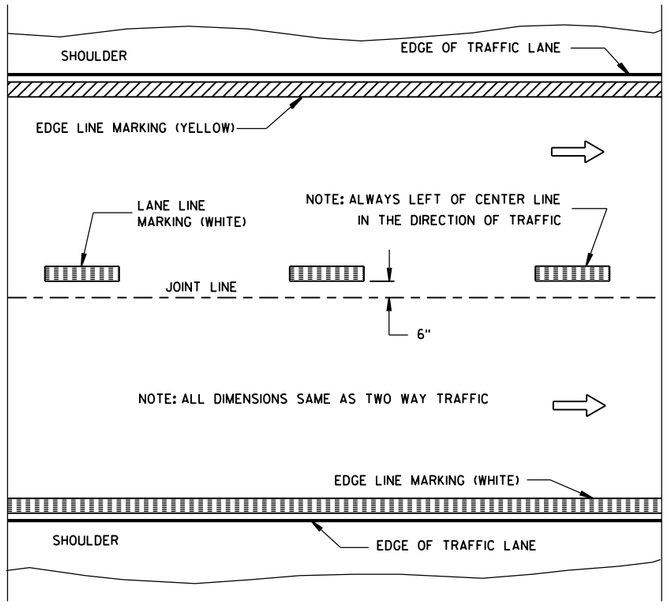
S.D.D. 15 C 4-2

6

S.D.D. 15 C 4-2

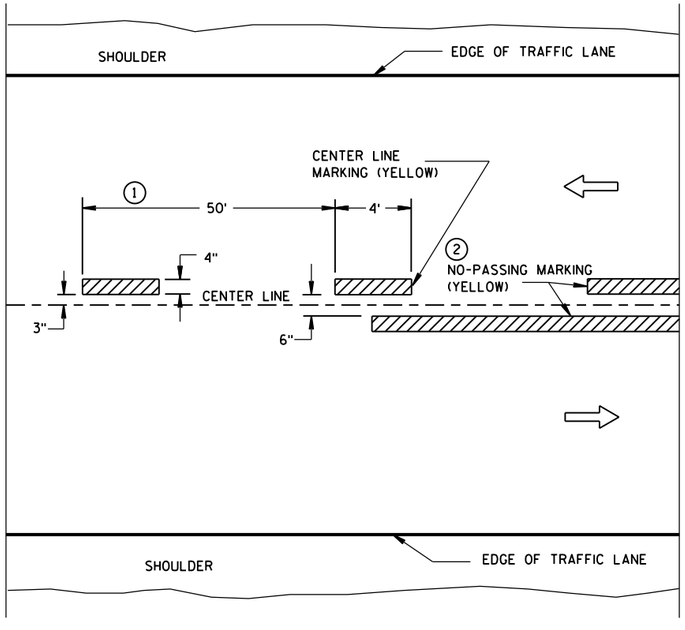


TWO WAY TRAFFIC

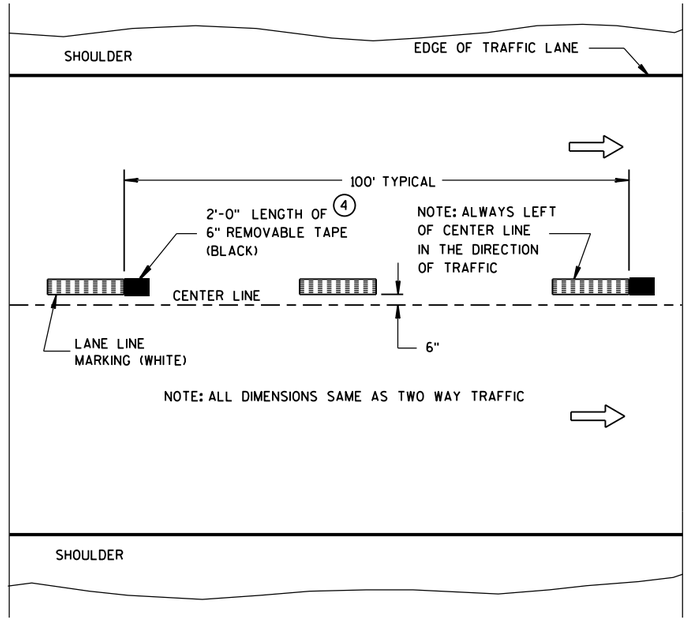


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY (INTERMEDIATE) PAVEMENT MARKING

(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

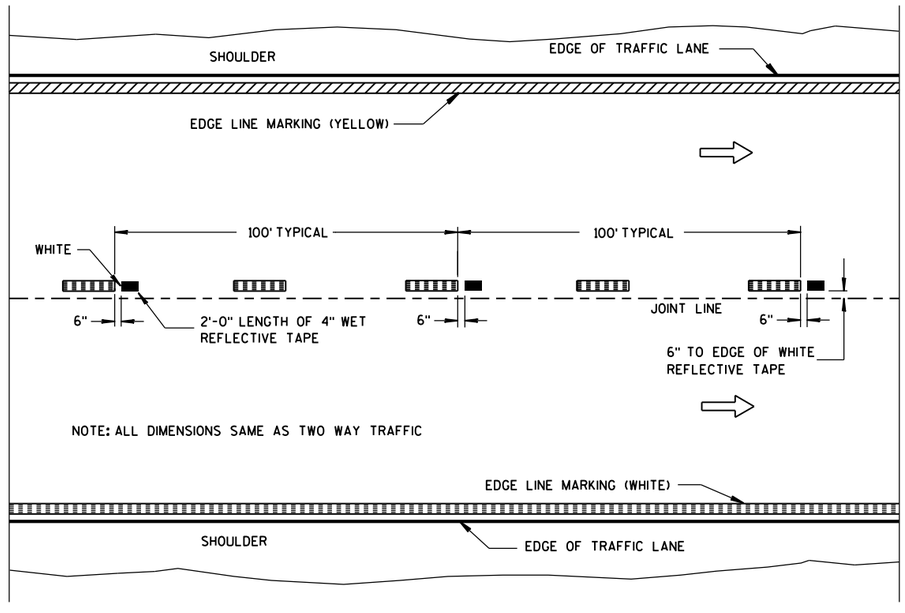
GENERAL NOTES

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

1. HALF CYCLE LENGTHS (25'±) WITH 2' MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
2. NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
3. NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
4. CONCRETE ONLY.

NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

"T" MARKING

POST MOUNTED SIGN

PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

5-13-2013
DATE

/S/ Travis Feltes
STATE TRAFFIC E

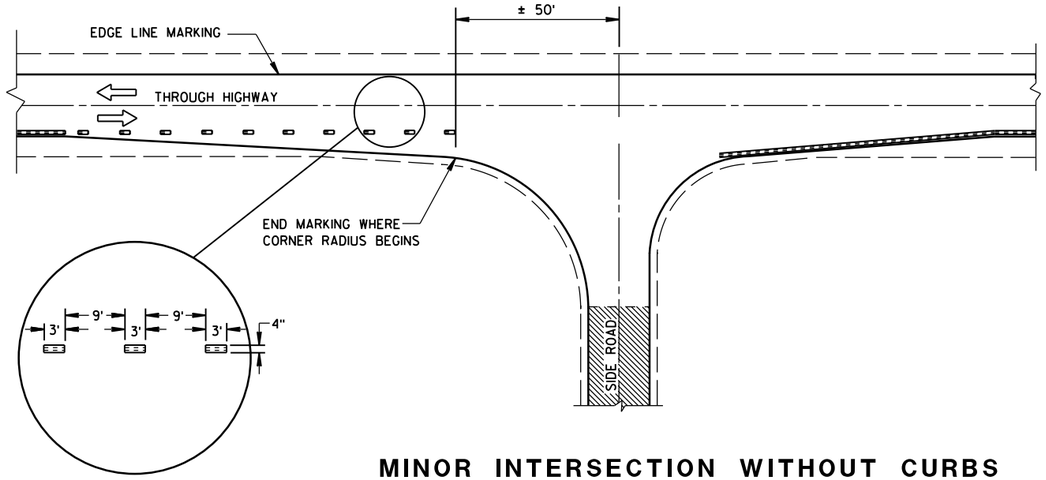
FHWA

6

S.D.D. 15 C 8-16a

6

S.D.D. 15 C 8-16a



MINOR INTERSECTION WITHOUT CURBS

GENERAL NOTES

EDGE LINES SHALL BE OMITTED THROUGH INTERSECTIONS. EDGE LINES SHALL BE CONTINUED 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) ALTERNATIVE MARKING SHALL BE PROVIDED WHEN SPECIFIED IN THE CONTRACT. TYPICAL SITUATIONS WHERE THIS MARKING MAY BE REQUIRED ARE WHERE THE INTERSECTION IS ON A SHARP HORIZONTAL CURVE OR CREST VERTICAL CURVE IN AN UNLIGHTED AREA SUCH THAT THE EDGE LINE MAY BE MISLEADING TO THE MOTORIST OR DISAPPEAR FROM SIGHT.

(4) THE EDGE LINE IN THE TAPER AREAS OF THE BYPASS LANE AND THE BYPASS LANE SHALL BE LOCATED 1-FOOT FROM EDGE OF PAVEMENT TO THE OUTSIDE EDGE OF EDGE LINE.

(5) BARRIER LINE ENDS AT SIDE ROAD PAVEMENT/SURFACE EDGE EXTENSION.

(6) BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.

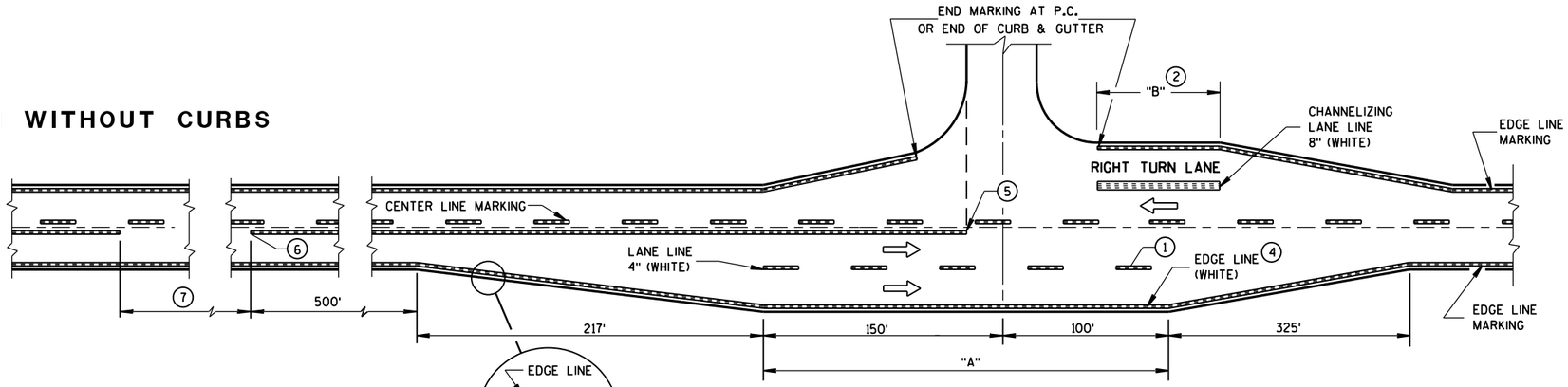
(7) IF THE DISTANCE BETWEEN 2 SUCCESSIVE NO-PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE 2 ZONES.

(8) 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

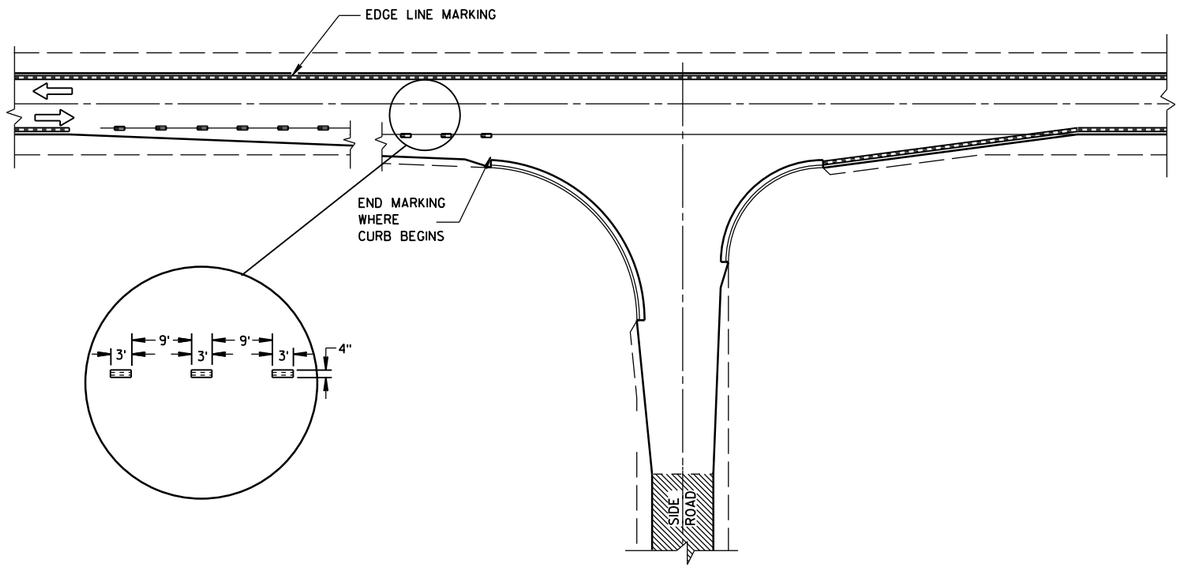
(7)

POSTED SPEED (MPH)	MINIMUM DISTANCE BETWEEN ZONES (FEET)
25 - 30	528
35 - 40	528
45 - 50	686
55	792



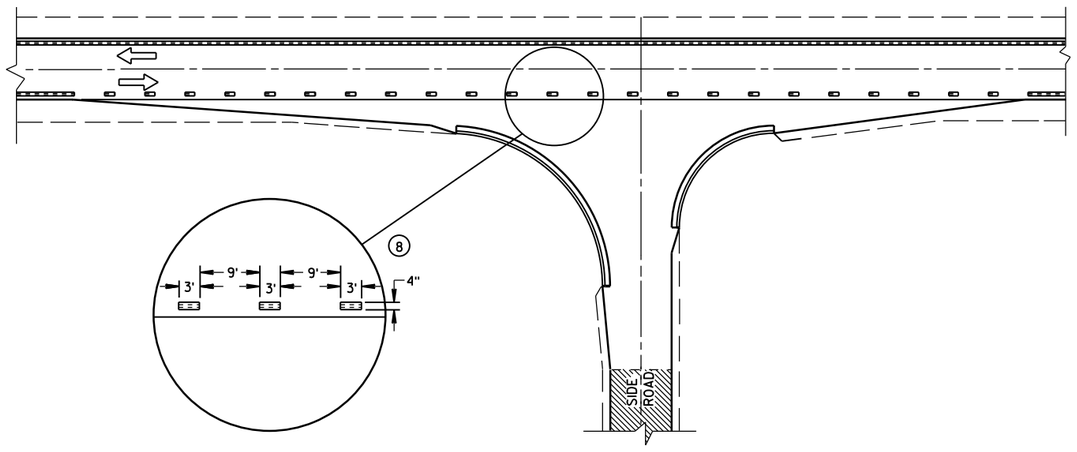
MAJOR INTERSECTIONS

(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANES)



MINOR INTERSECTION WITH CURBS

(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS

(3) (FOR SPECIAL CONDITIONS AS SPECIFIED)

PAVEMENT MARKING
(INTERSECTIONS)

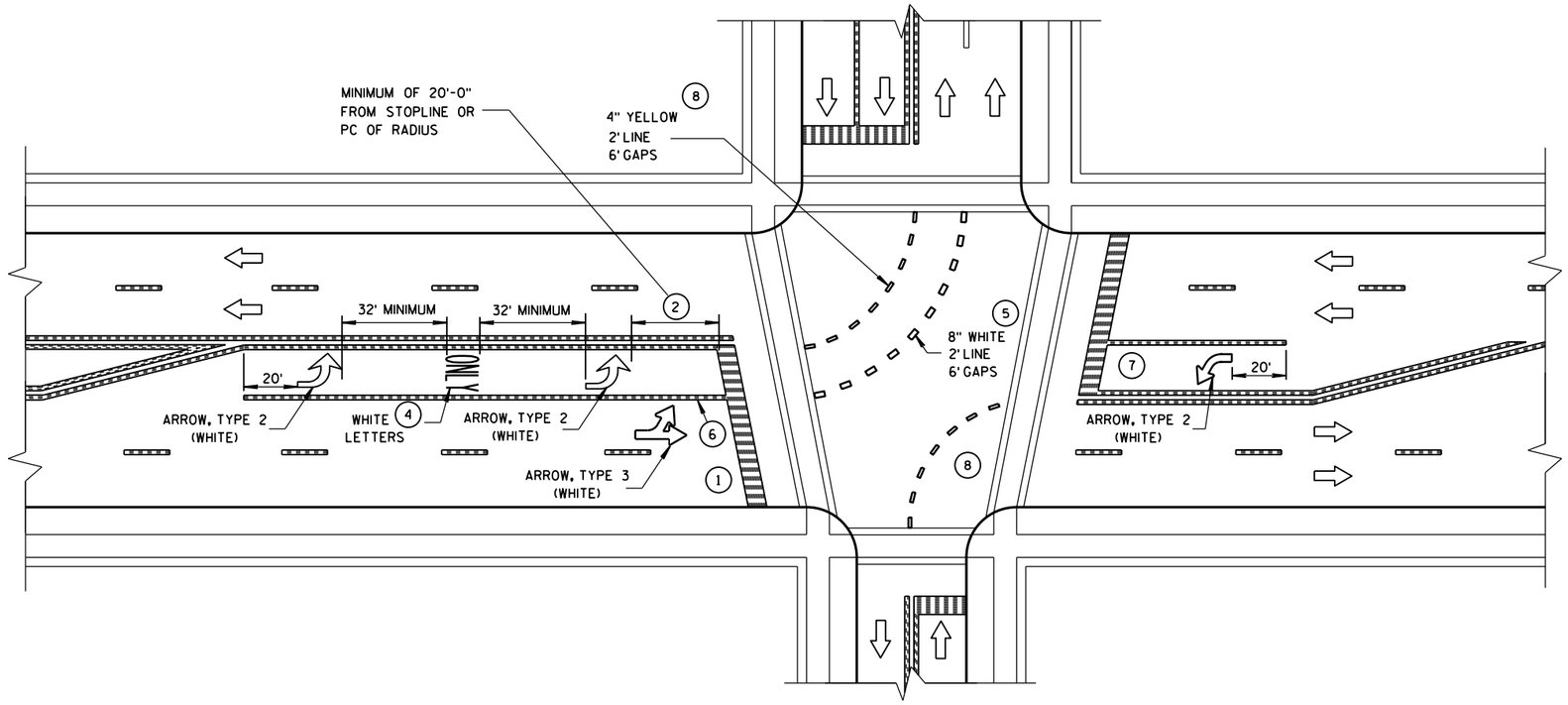
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 15 C 8-16b

6

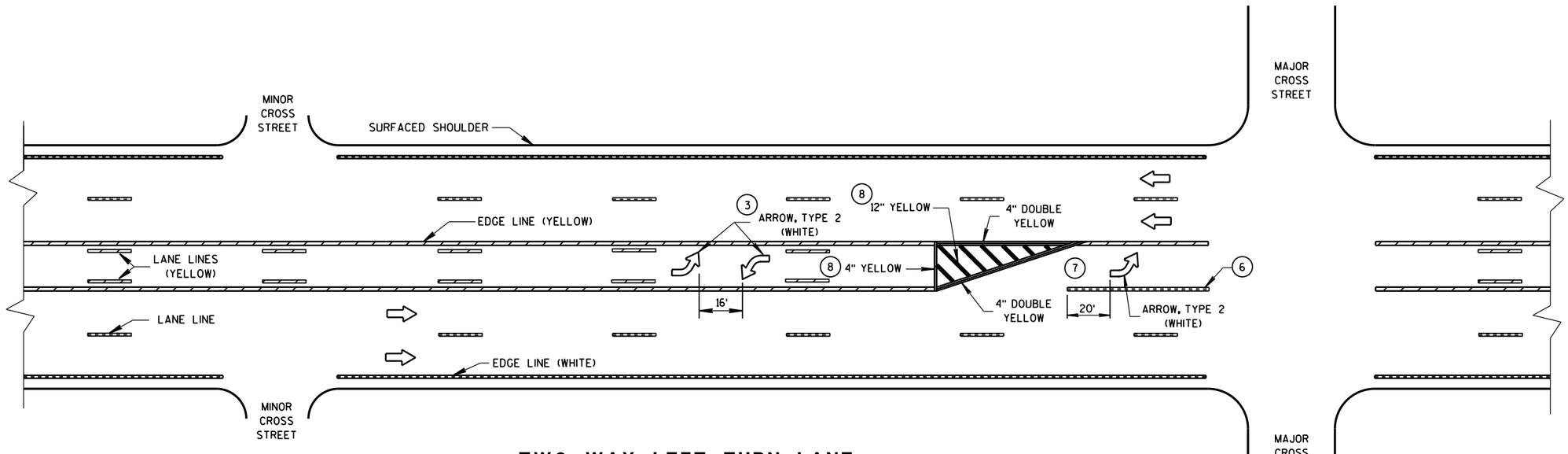
S.D.D. 15 C 8-16b



GENERAL NOTES

1. STOP BAR IS REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.
2. DISTANCE MAY BE ADJUSTED TO ACCOMODATE SHORT LEFT TURN LANES. AS APPROVED BY THE ENGINEER.
3. A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
4. ADD EXTRA SETS OF ONE ARROW AND ONE ONLY PER 160 FEET OR WHEN ON A CURVE.
5. 8" WHITE WITH 2' LINE 6' GAPS FOR DUAL TURN LANE.
6. 8" WHITE
7. ADD SECOND ARROW WHEN TURN BAY IS GREATER THAN OR EQUAL TO 108 FEET.
8. REQUIRED ONLY WHEN SPECIFIED IN THE CONTRACT.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL



TWO WAY LEFT TURN LANE

PAVEMENT MARKING (LEFT TURN LANE)

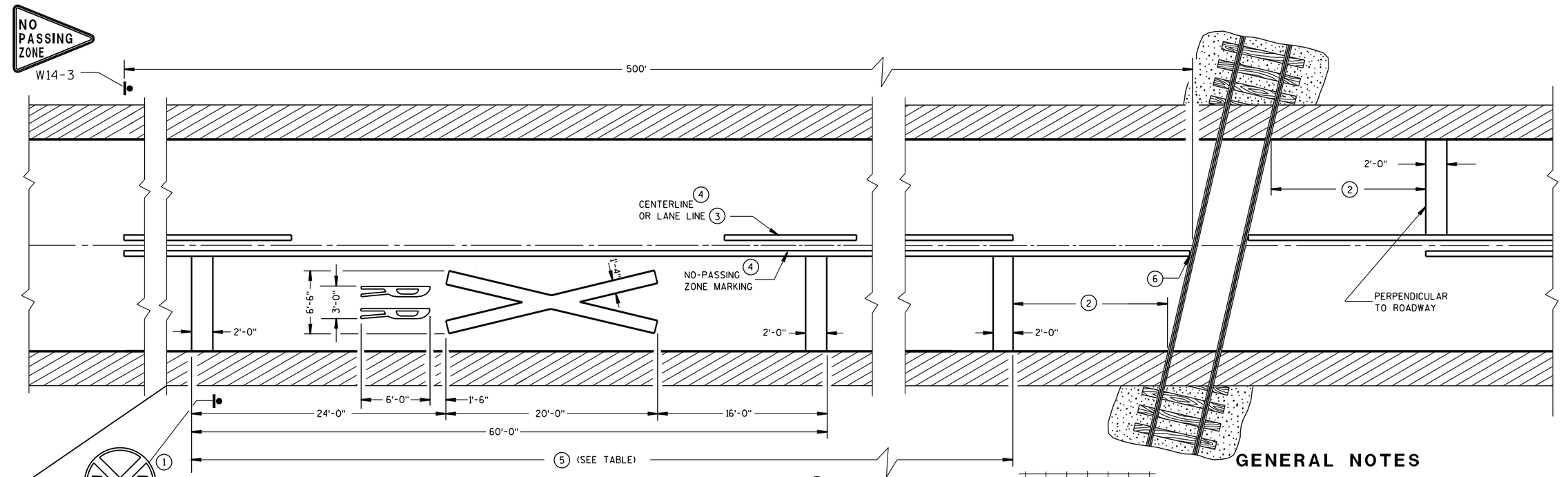
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

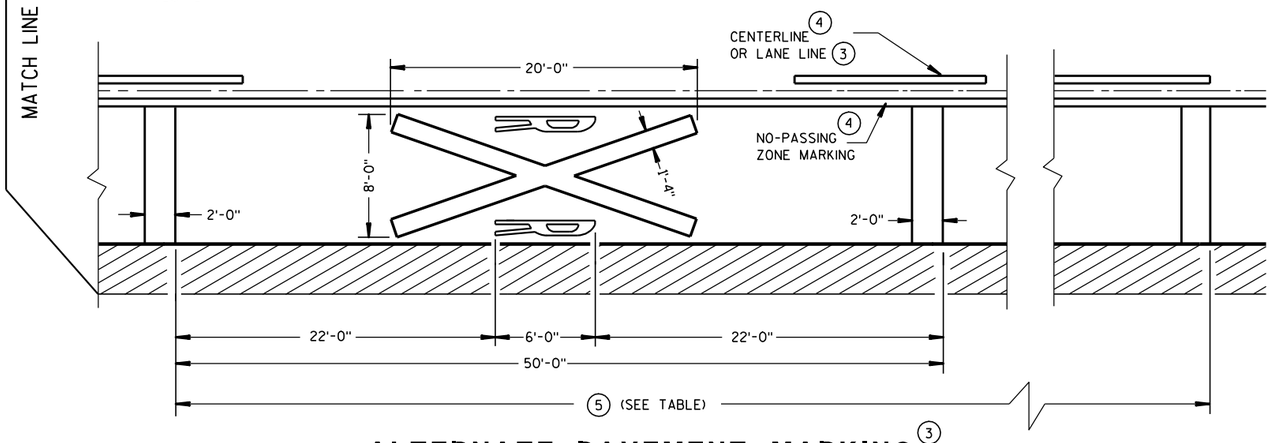
S.D.D. 15 C 8-16e

6

S.D.D. 15 C 8-16e



PREFERRED PAVEMENT MARKING 3

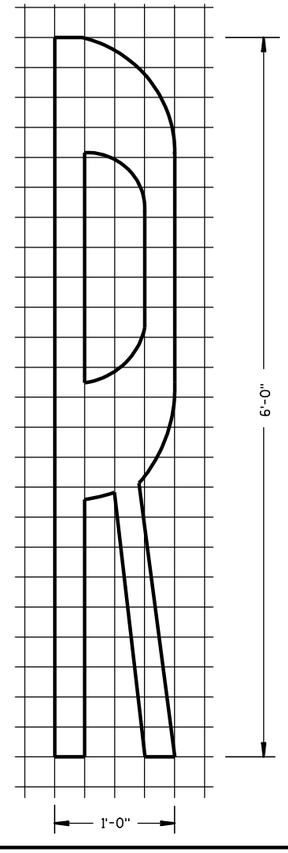


ALTERNATE PAVEMENT MARKING 3

5

Posted Speed (M.P.H.)	Dimension Range (Feet)
25	150*- 250
30	200*- 300
35	250*- 450
40	300*- 500
45	400*- 650
50	550*- 800
55	750*- 1000
60	1000*- 1250
65	1000*- 1250

* THE MINIMUM DISTANCES IN THE TABLE ARE DESIRABLE AND SHOULD BE USED. THE DISTANCES MAY BE INCREASED UP TO THE MAXIMUM TO ALLOW FOR FIELD CONDITIONS SUCH AS THE CLOSE PROXIMITY OF DRIVEWAYS, BRIDGES, SIDEROADS OR OTHER FEATURES THAT WOULD PROHIBIT THE MINIMUM DISTANCES FROM BEING USED.



GENERAL NOTES

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

A THREE-LANE ROADWAY SHOULD BE MARKED WITH A CENTERLINE FOR TWO-LANE APPROACH OPERATION ON THE APPROACH TO A CROSSING.

ON MULTI-LANE ROADS THE TRANSVERSE BANDS SHOULD EXTEND ACROSS ALL APPROACH LANES, AND INDIVIDUAL R X R SYMBOLS SHOULD BE USED IN EACH APPROACH LANE. ALL LETTERS AND SYMBOLS SHALL BE IN CONFORMANCE WITH THE "STANDARD ALPHABETS FOR HIGHWAY SIGNS AND PAVEMENT MARKINGS" (ADOPTED BY THE FEDERAL HIGHWAY ADMINISTRATION).

CENTER OR LANE LINES AND NO-PASSING ZONE MARKINGS SHOWN ON THIS DRAWING ARE REQUIRED AND PAID FOR UNDER OTHER ITEMS IN THE CONTRACT.

1. A PORTION OF THE PAVEMENT MARKING SYMBOL SHOULD BE DIRECTLY OPPOSITE THE ADVANCE WARNING SIGN (W10-1).
2. MINIMUM 8' FROM ANY RAILROAD WARNING DEVICES (SIGNALS, GATES, ETC.) OR 25' FROM THE NEAREST RAIL, WHICHEVER DISTANCE IS GREATER.
3. REFLECTIVE WHITE.
4. REFLECTIVE YELLOW 500' MINIMUM. MARKING LIMITS MAY BE EXTENDED AS DIRECTED BY THE ENGINEER TO MEET ADJACENT NO-PASSING ZONE MARKINGS.
5. TABLE BASED UPON 2C-4 WISCONSIN SUPPLEMENT OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
6. FOR MULTIPLE TRACK CROSSINGS, THE BARRIER LINE SHALL EXTEND TO THE NEAR RAIL OF THE FURTHEST TRACK IN THE DIRECTION OF HIGHWAY TRAVEL.

SIGNING AND PAVEMENT MARKING DETAILS FOR RAILROAD-HIGHWAY GRADE CROSSINGS

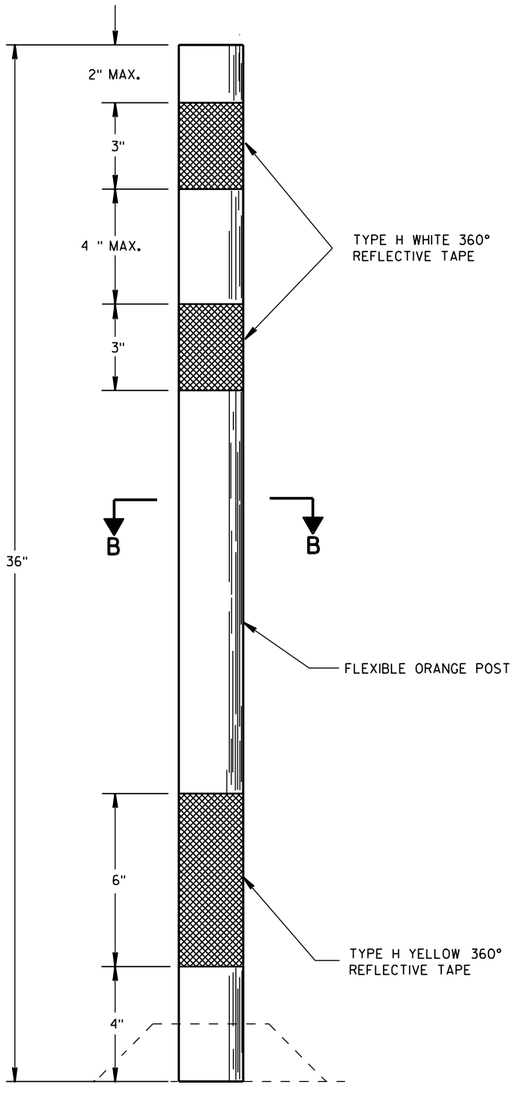
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

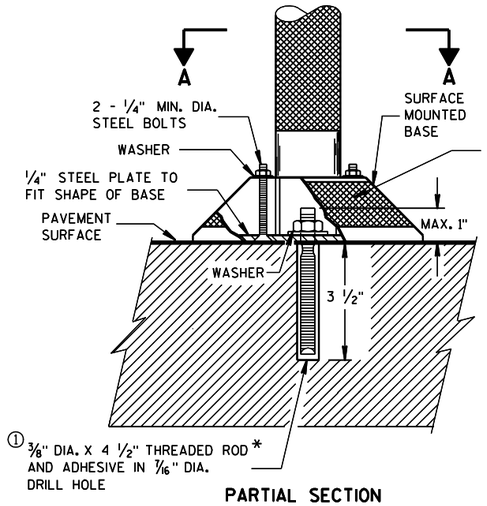
1-9-2012
DATE

/S/ Thomas N. [illegible]
STATE TRAFFIC ENGINEER

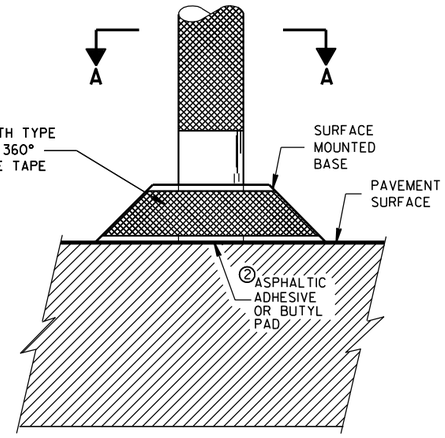
FHWA



FLEXIBLE TUBULAR MARKER POST



PARTIAL SECTION TO SHOW BOLTS



POST BASES ON NEW OR EXISTING PAVEMENT

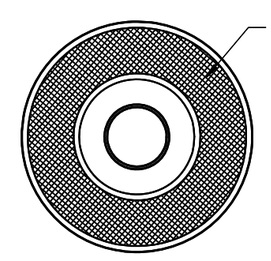
GENERAL NOTES

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

SURFACE MOUNTED BASES SHALL BE FURNISHED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS TO BE COMPATIBLE WITH FLEXIBLE TUBULAR MARKER POSTS TO A SIZE AND SHAPE THAT WILL PROVIDE A STABLE POST FOUNDATION WHEN SECURED TO THE PAVEMENT.

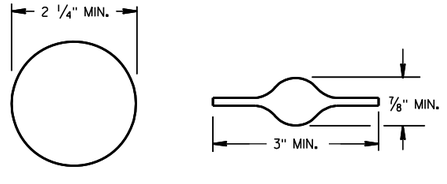
① THREADED ROD SHALL BE MACHINED DOWN TO 0.280 INCH DIA. 1 1/4 INCHES FROM THE TOP.

② THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.



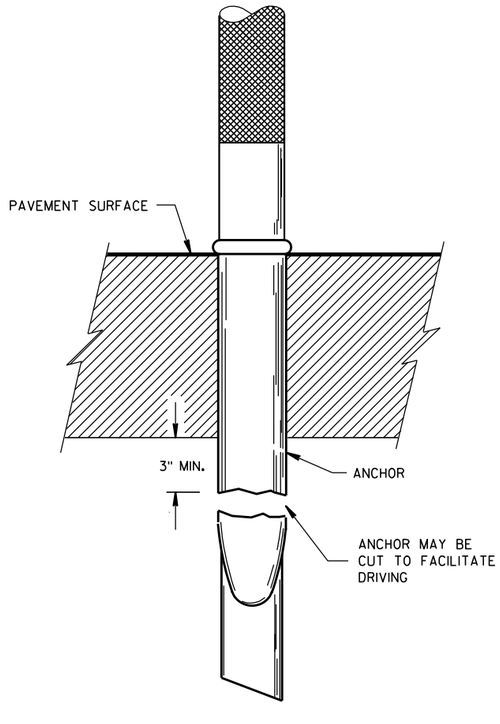
SECTION A-A

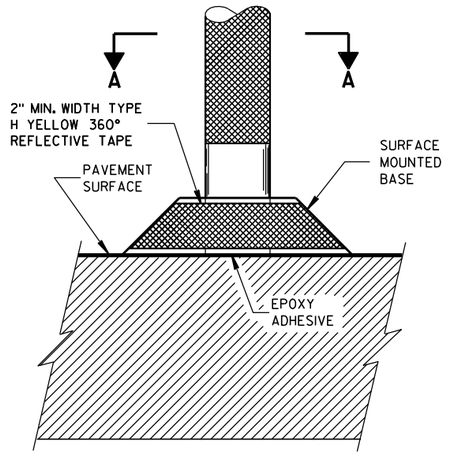
SURFACE MOUNTED BASE



SECTION B-B

ALTERNATIVE SHAPES





POST ANCHOR AND BASE ON PAVEMENT WHICH WILL BE REMOVED

FLEXIBLE TUBULAR MARKER POST, ANCHOR & BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

2/17/94 DATE

/S/ Chester J. [illegible] DIRECTOR, OFFICE O

FHWA

6

S.D.D. 15 C 11-5

6

S.D.D. 15 C 11-5

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA

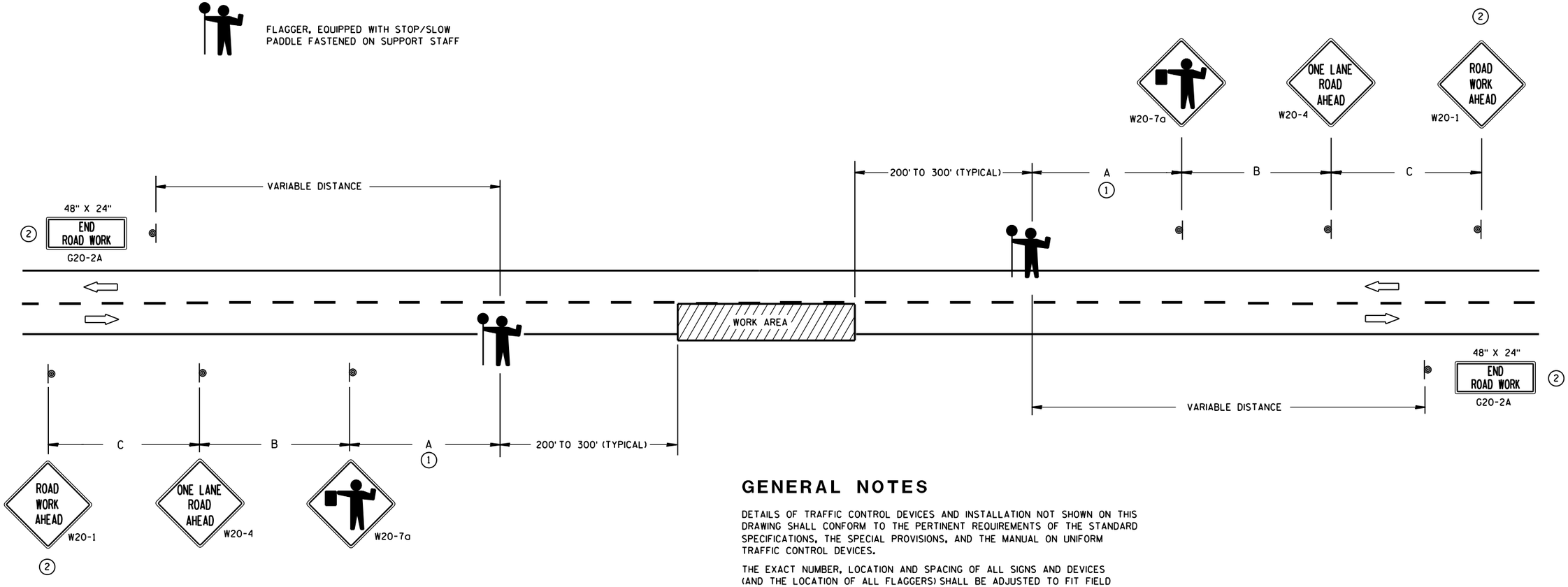
FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN SPACING TABLE

SPEED LIMIT	SIGN SPACING A,B,C
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

W3-4

USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7a AND W20-4 SIGNS. A 500' TYPICAL SPACING SHALL BE PROVIDED BETWEEN THE SIGNS.



(1) FOR A MOVING WORK OPERATION,
SIGNING FOR BOTH DIRECTIONS SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

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

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.

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.

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, COVER OR REMOVE ALL TEMPORARY TRAFFIC CONTROL SIGNS.

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

TRAFFIC CONTROL FOR LANE CLOSURE (SUITABLE FOR MOVING OPERATIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

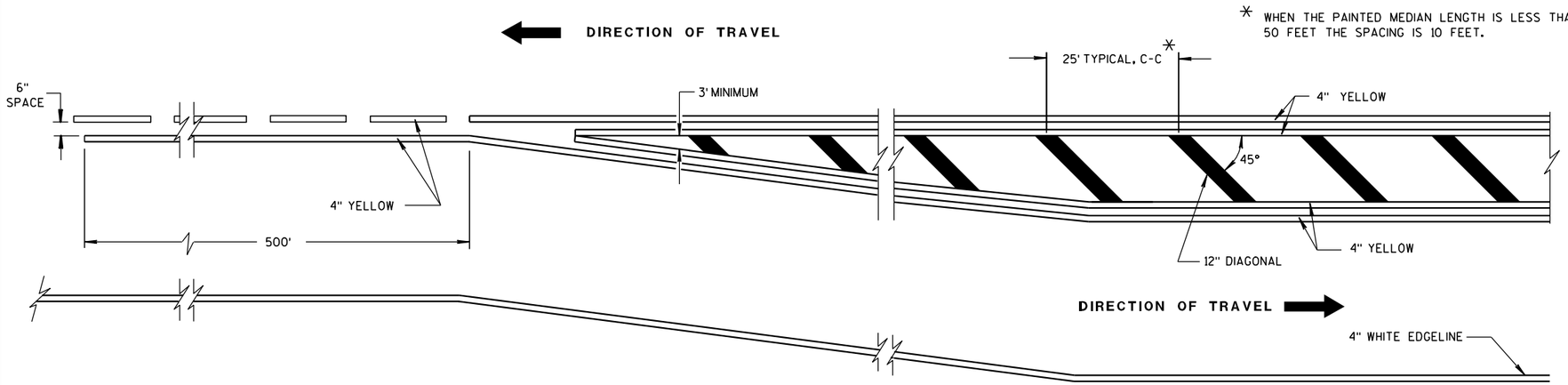
APPROVED
8/2013 — DATE
/S/ Travis Feltes — STATE TRAFFIC ENGINEER
DESIGN
FHWA

6

S.D.D. 15 C 12-4

6

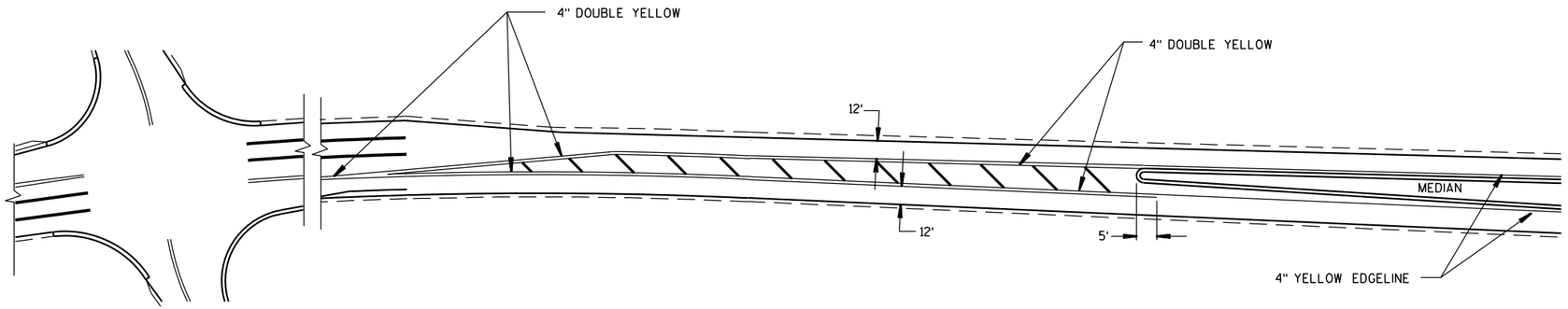
S.D.D. 15 C 12-4



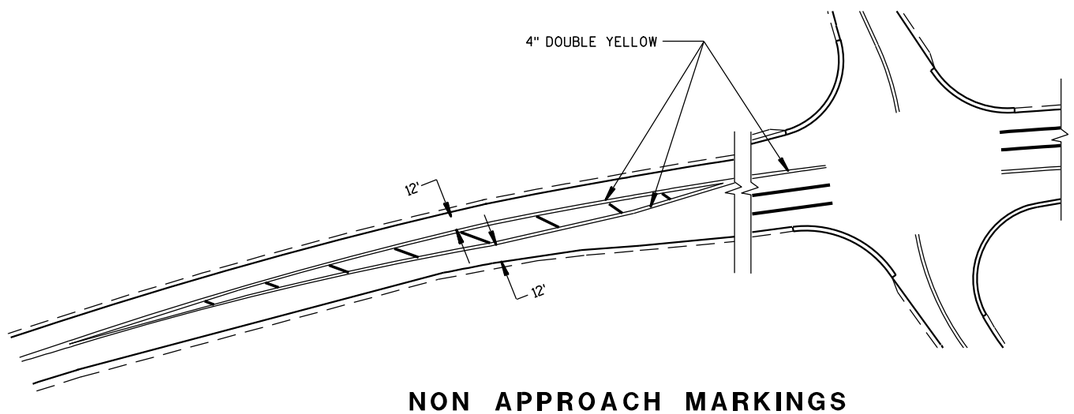
MEDIAN ISLAND DETAIL

GENERAL NOTE

DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT WIDEST POINT.



APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON APPROACH MARKINGS

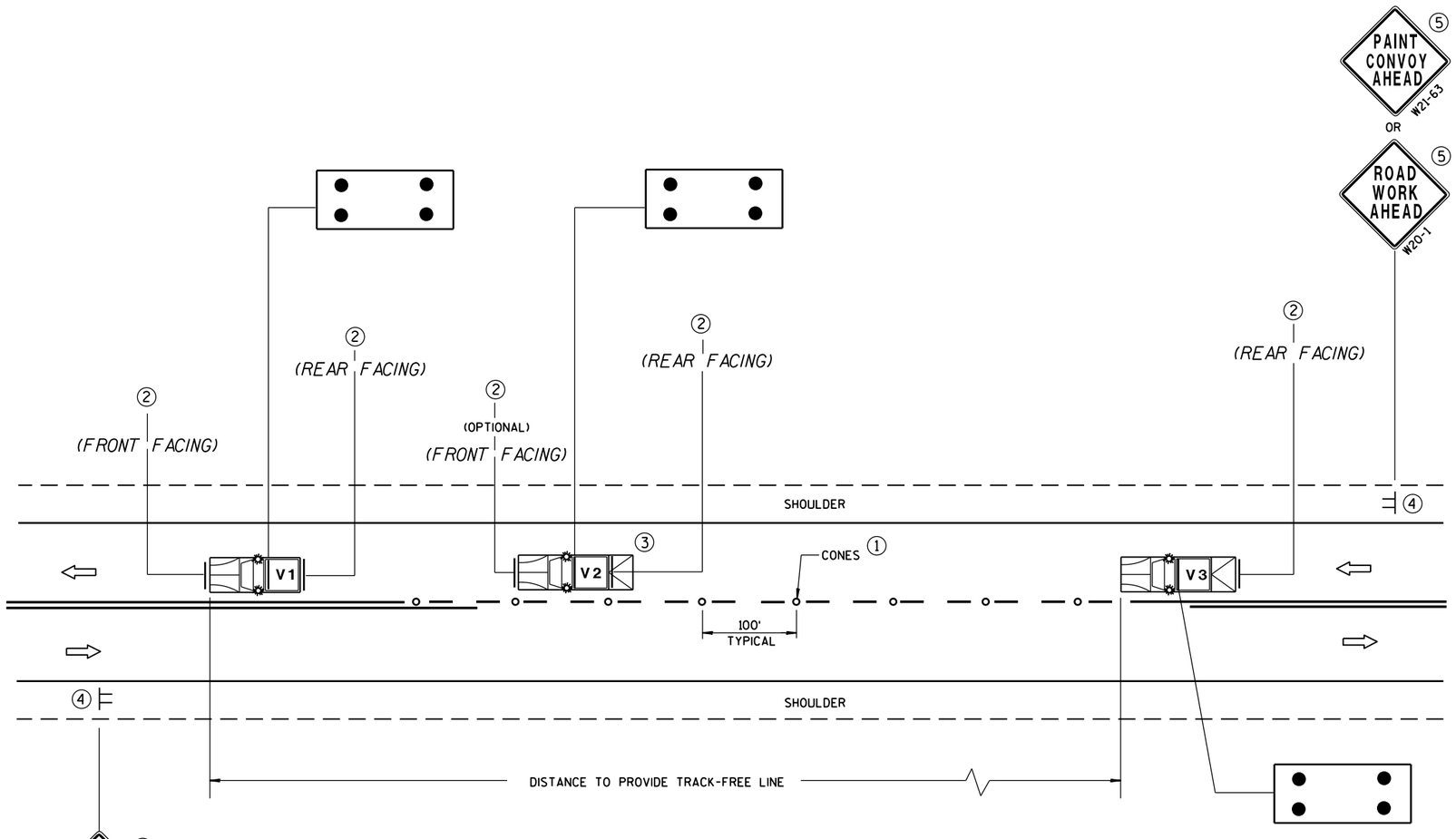
MEDIAN ISLAND MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 2-5-09 DATE	/S/ Thomas N. Nothohm STATE TRAFFIC ENGINEER
FHWA	

6

S.D.D. 15 C 18-3

6

S.D.D. 15 C 18-3



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.

WET PAINT W21-64 OR WET PAINT W21-64

(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.

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

5/3/2013 DATE

/S/ Travis Feltes STATE TRAFFIC E

FHWA

6

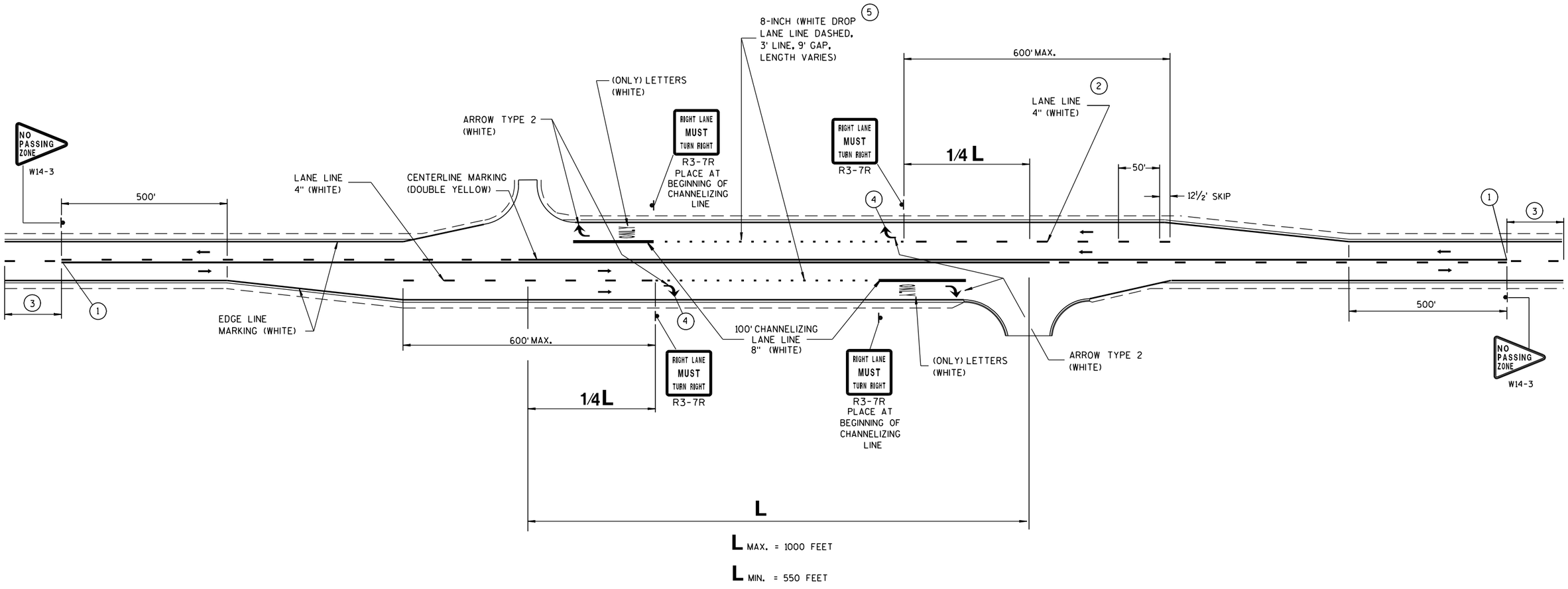
S.D.D. 15 C 19-2a

6

S.D.D. 15 C 19-2a

GENERAL NOTES

1. BARRIER LINE STARTS AT 500 FEET PRIOR TO THE BYPASS TAPER.
2. PLACE R3-7R SIGNS AT BEGINNING OF WHITE DROP LANE LINE DASHED AND WHITE CHANNEL LINE.
3. IF THE DISTANCE BETWEEN TWO SUCCESSIVE NO PASSING ZONES IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES, CONNECT THE TWO ZONES.
4. REQUIRED ONLY WHEN SPECIFIED IN THE PLANS.
5. 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE - GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.



LEGEND

⇄ DIRECTION OF TRAFFIC

SIGNING AND MARKING FOR COMBINATION RIGHT TURN AND BYPASS LANE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

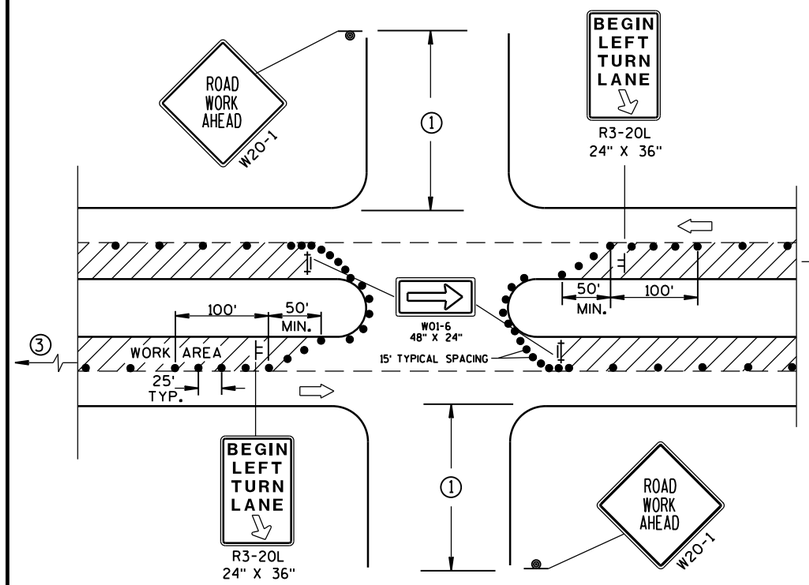
5-13-10 DATE

/S/ Thomas N. Notbohm
STATE TRAFFIC ENGINEER

FHWA

6

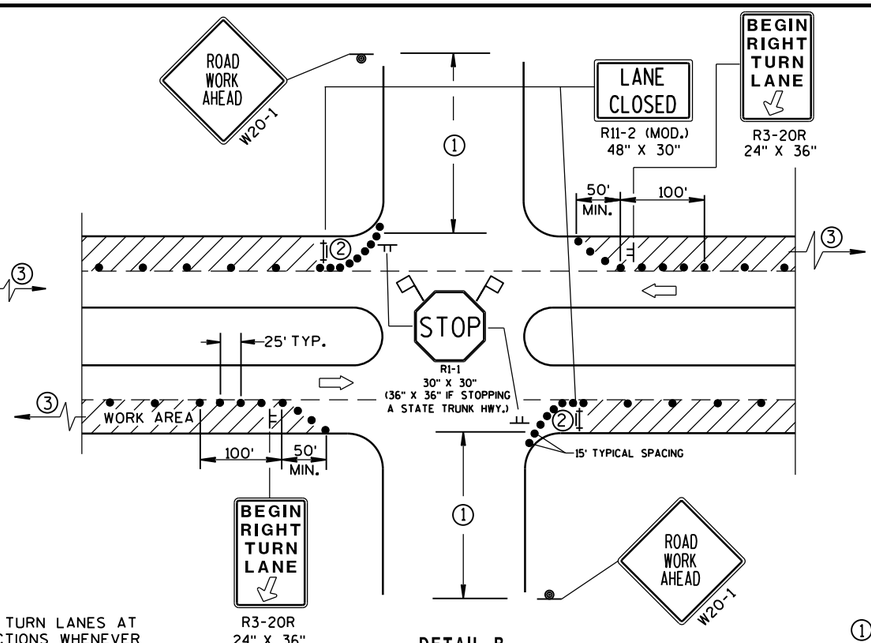
S.D.D. 15 C 28-2



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 B

FOR RIGHT LANE CLOSURE AT INTERSECTION

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.

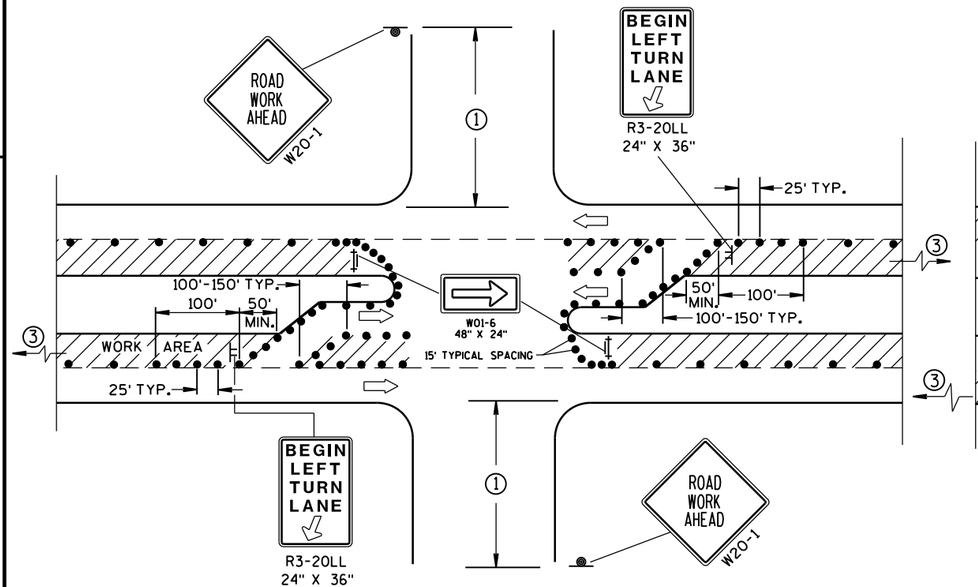
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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.

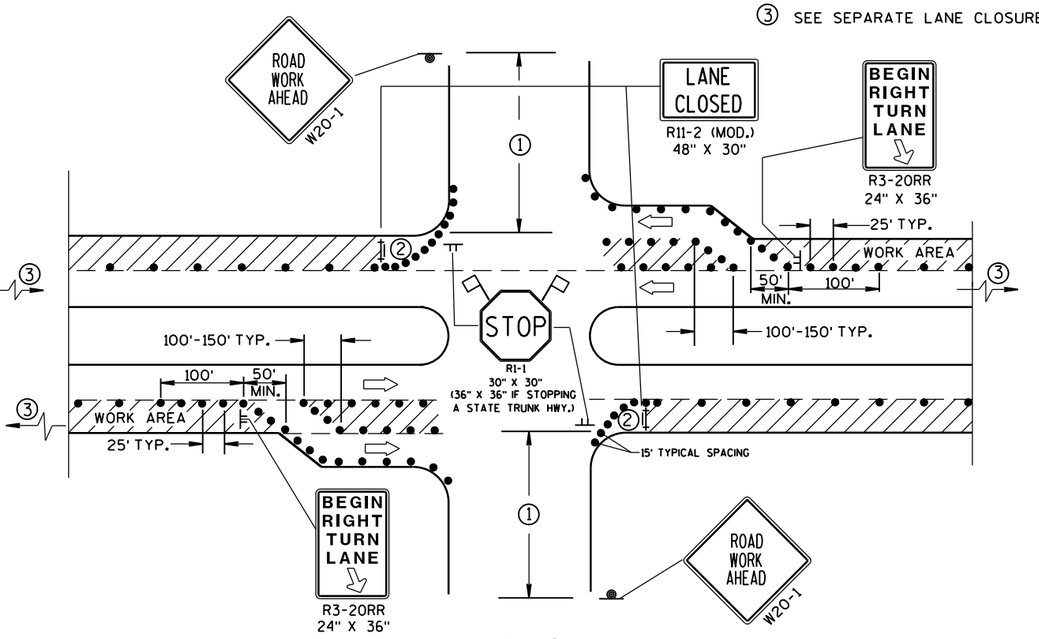
② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.

③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.



DETAIL C

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



DETAIL D

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

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

8/2013 — DATE

/S/ Travis Feltes — STATE TRAFFIC ENGINEER

DESIGN

FHWA

6

S.D.D. 15 D 21-2

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.

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

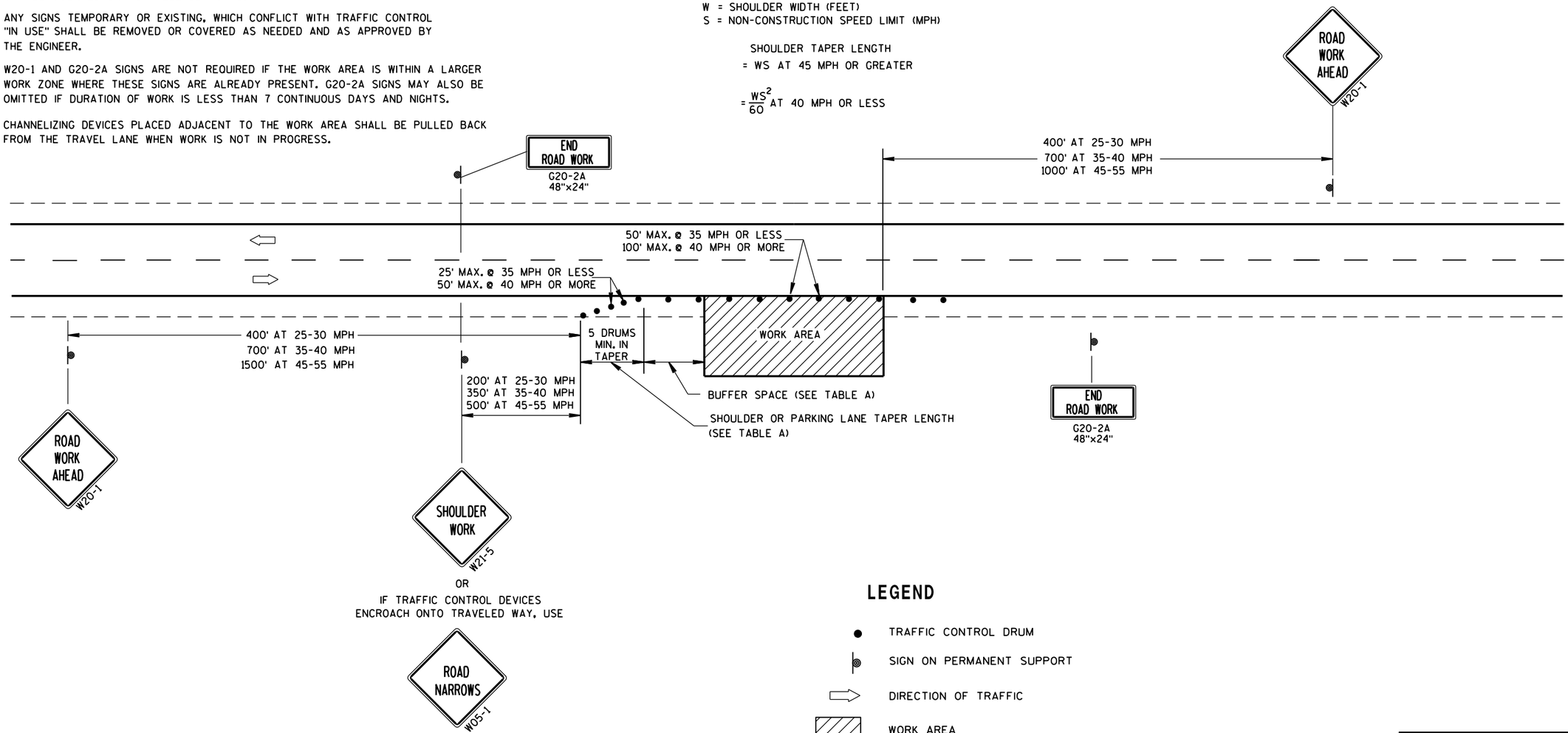
TABLE A

S \ W	SHOULDER TAPER LENGTH (FEET) 4	6	8	10	BUFFER SPACE (FEET)
30	20	30	40	50	85
35	30	45	55	70	120
40	40	55	75	90	170
45	60	90	120	150	220
50	70	100	135	170	280
55	75	110	150	185	335

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

SHOULDER TAPER LENGTH
= WS AT 45 MPH OR GREATER

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



LEGEND

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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

8/2013 DATE

/S/ Travis Feltes
STATE TRAFFIC ENGINEER

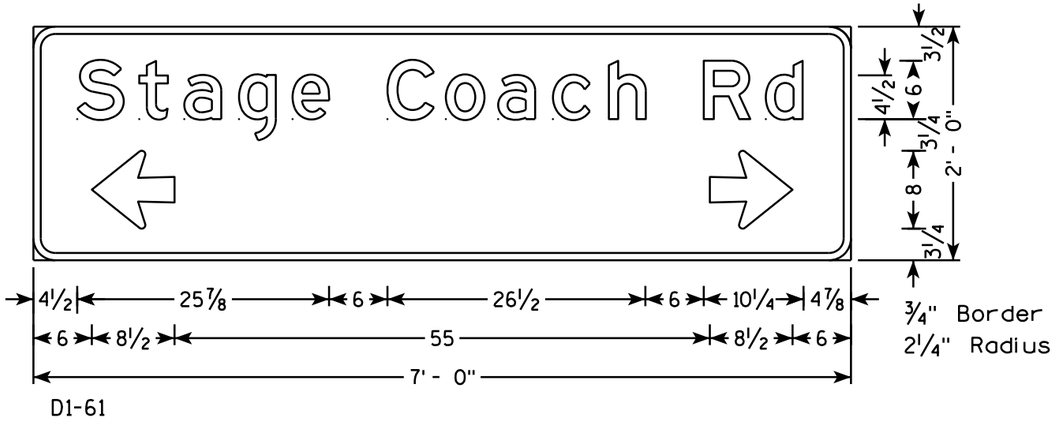
FHWA

6

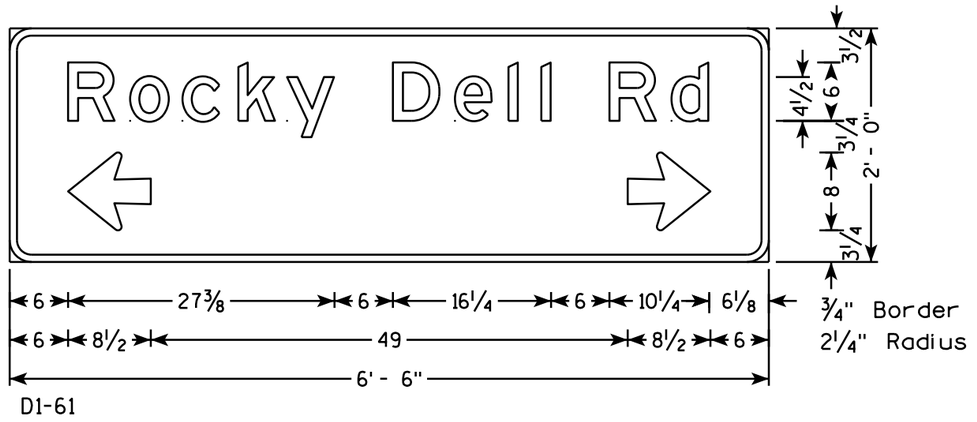
S.D.D. 15 D 28-2

NOTES

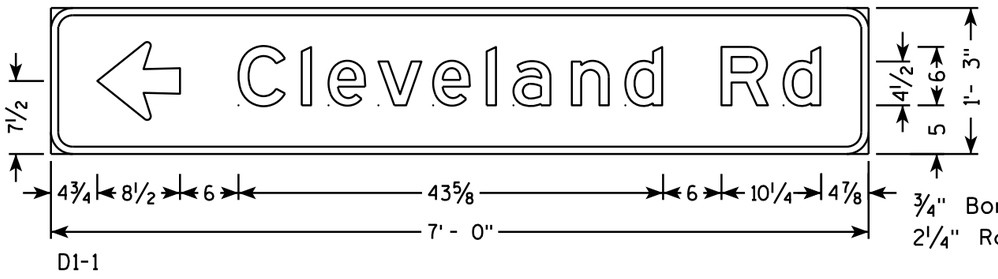
1. All Signs Type II - Type H Reflective
2. Color:
   Background - GREEN
   Message - WHITE
3. Message Series - E



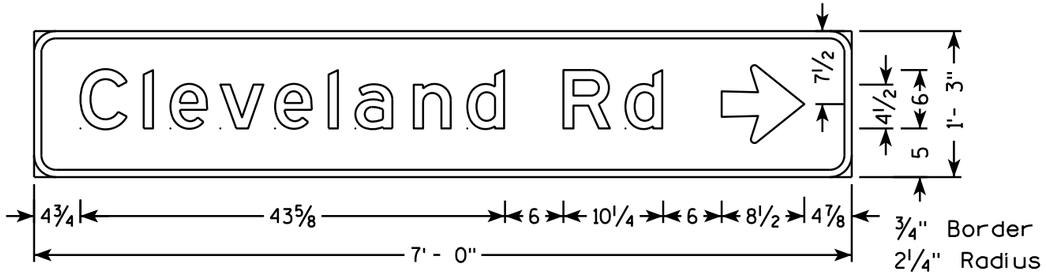
D1-61



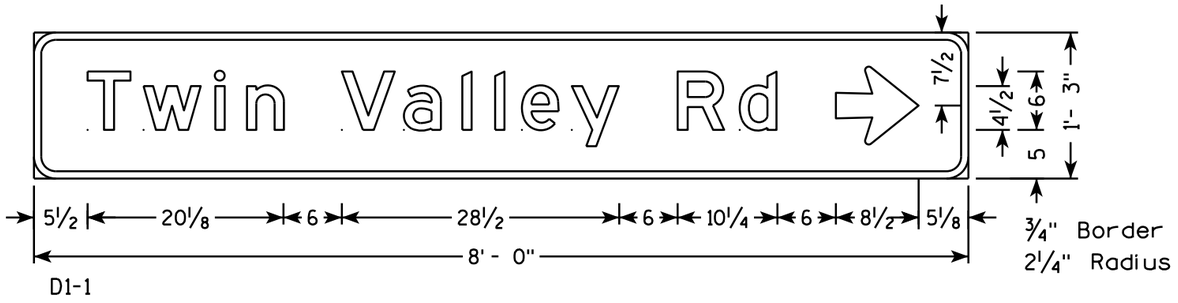
D1-61



D1-1



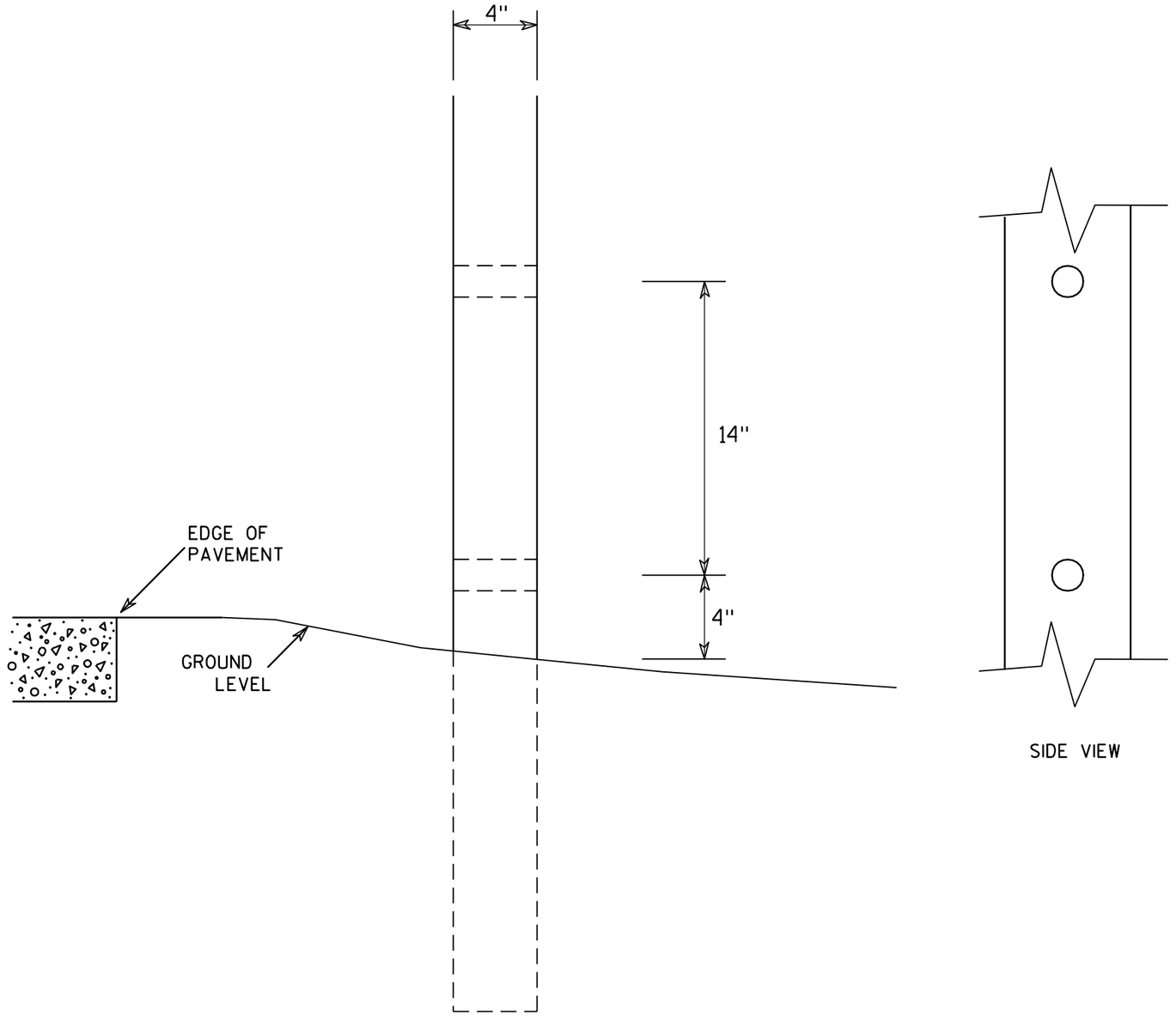
D1-1



D1-1

PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	PERMANENT SIGNING	SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_d1\1136A614.dgn PLOT DATE : 16-JUN-2014 09:36 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 15.566735:1.000000 WISDOT/CADDS SHEET 42



SIDE VIEW

GENERAL NOTES

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

4 X 6 WOOD POST MODIFICATIONS

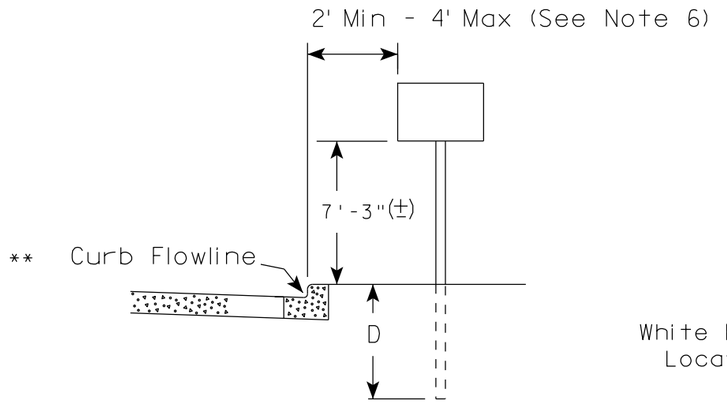
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Chester J Spang for State Traffic Engineer

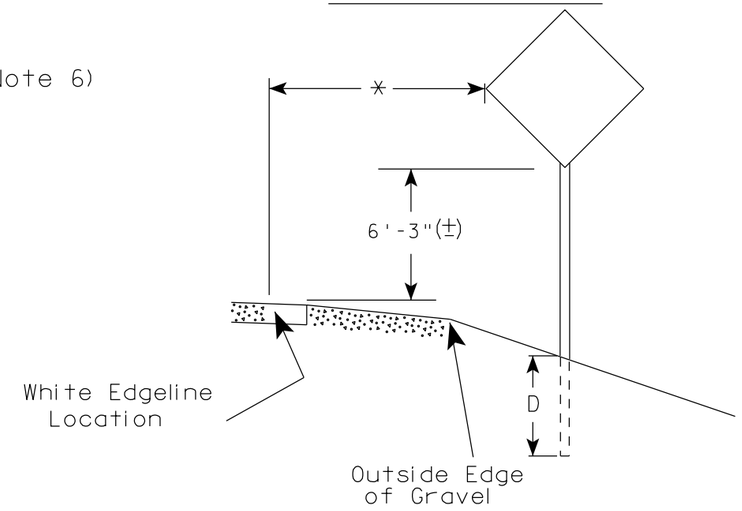
DATE 3/27/97 PLATE NO. A4-11.2

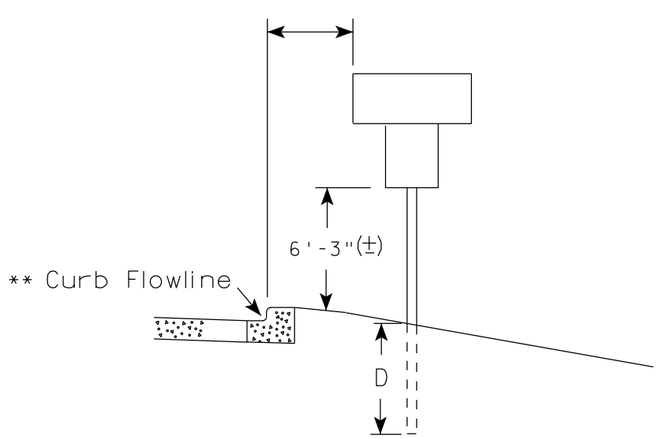
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 82	E

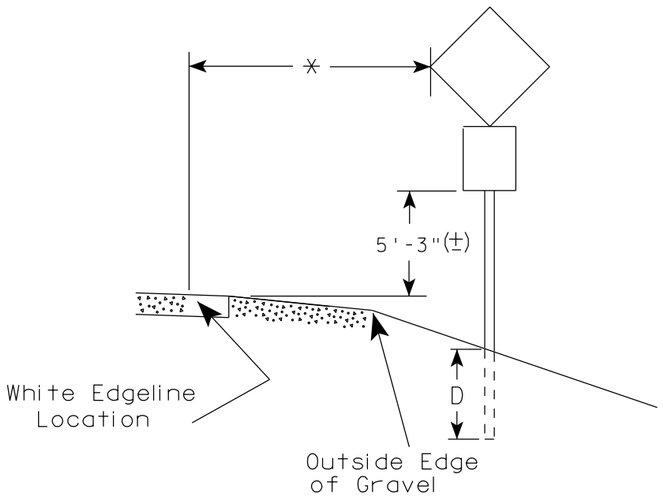
URBAN AREA



RURAL AREA (See Note 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. Offset of signs is measured from the flow line.

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

POST EMBEDMENT DEPTH

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

GENERAL NOTES

1. Signs wider than 4 feet, 20 sq.ft or larger, shall be mounted on multiple posts. Refer to plate A4-4.
2. If signs are mounted on barrier wall, see A4-10 sign plate.
3. For expressways and freeways, mounting height is 7'- 3" (±) or 6'-3" (±) depending upon existence of a sub-sign.
4. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
5. Minimum mounting height for signs mounted on traffic signal poles is 5'- 3" (±).
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. The (±) tolerance for mounting height is 3 inches.
8. Folding signs shall be mounted at a height of 5'-3" (±) or as directd by the Engineer.
9. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Enhanced Reference Markers, Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4'-3" (±).

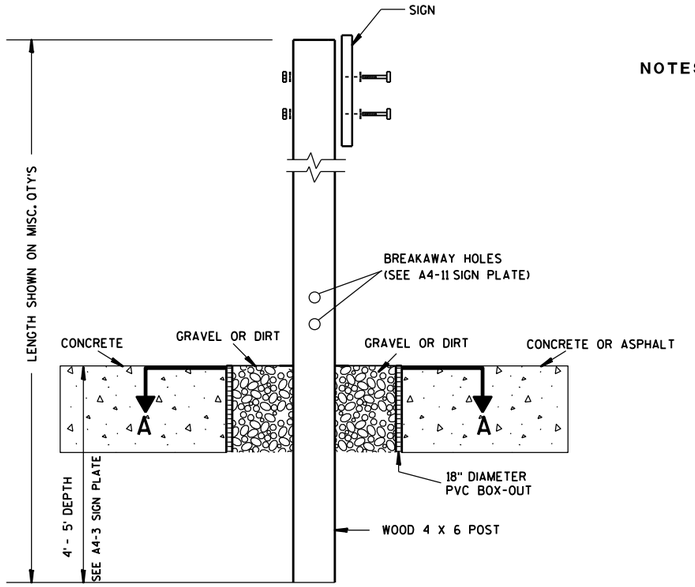
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/14 PLATE NO. A4-3.19

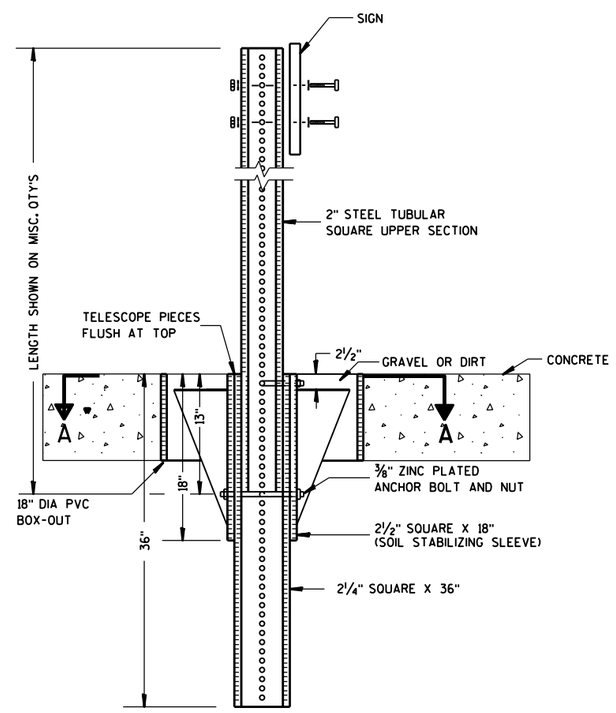
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



ELEVATION VIEW

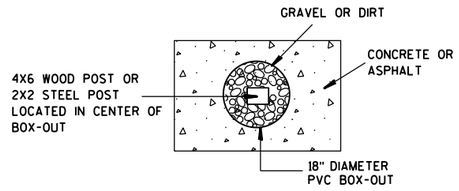
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

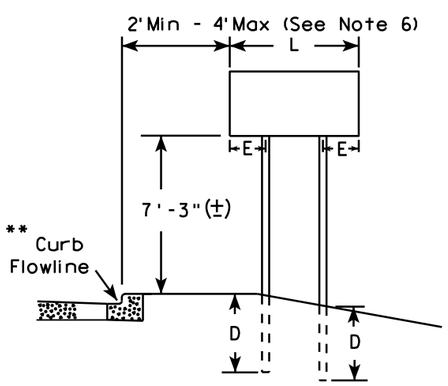
WISCONSIN DEPT OF TRANSPORTATION

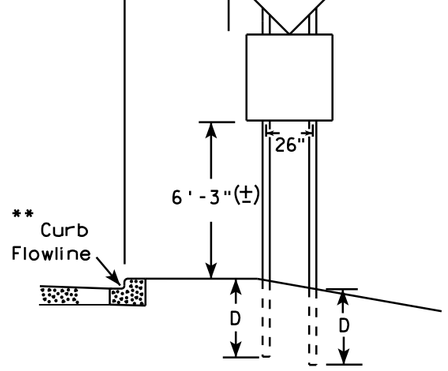
APPROVED Matthew R Rauch
for State Traffic Engineer

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

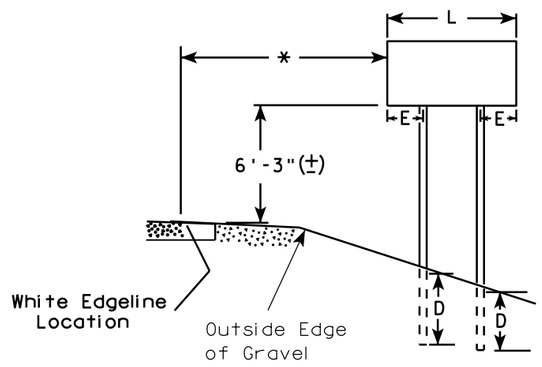
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

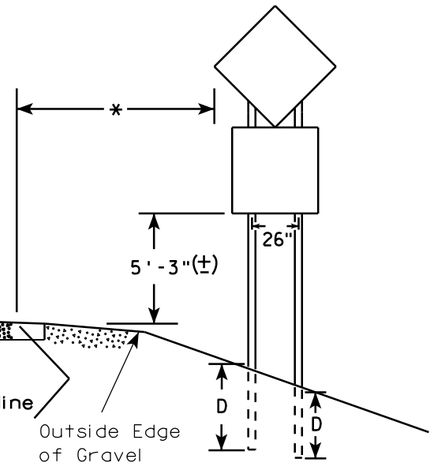
URBAN AREA

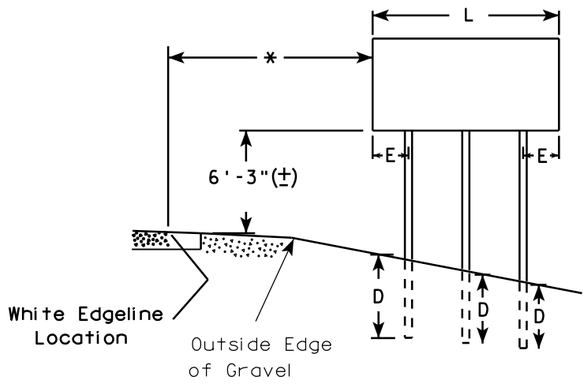




RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN

48" DIAMOND WARNING SIGN

GENERAL NOTES

1. For 3 or 4 post installations, individual post spacing shall be greater than 3'-6".
2. See tables below for required number of posts.
3. For expressways and freeways, mounting height is 7'-3" (±) or 6'-3" (±) depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±). The Chevron sign (W1-8), Roundabout Chevron panel (R6-4B), Clearance Markers (W5-52), Mile Markers (D10 series), In Road Object Markers (W5-54) & End of Road Markers (W5-56) shall be mounted at a height of 4"-3" (±).

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

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

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

SIGN SHAPE OTHER THAN DIAMOND (TWO POSTS REQUIRED)	
L	E
Greater than 48" Less than 60"	12"
60" to 120"	L/5

***

SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 120" less than 168"	12"

SIGN SHAPE OTHER THAN DIAMOND (FOUR POSTS REQUIRED)	
L	E
168" and greater	12"

POST EMBEDMENT DEPTH

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

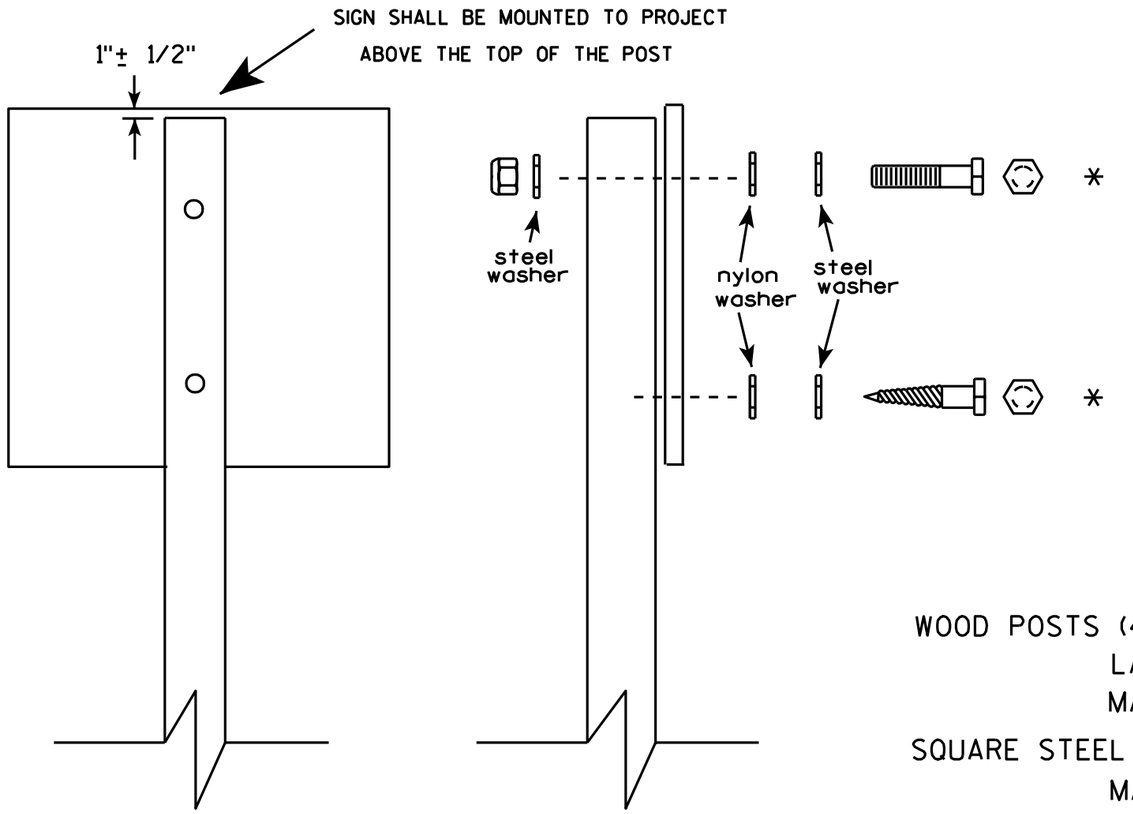
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/14 PLATE NO. A4-4 13
85

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



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

a. Hot dip galvanized in accordance with ASTM Designation: A 153, Class D, or SC 3

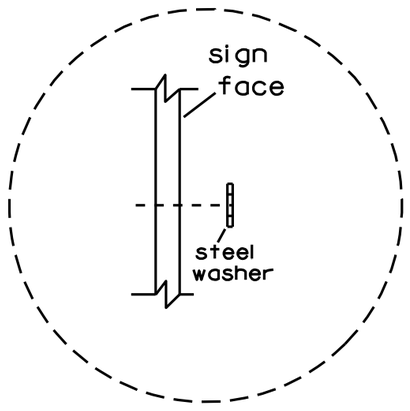
b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3.

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

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.



Washer Placement when Sign Has Other Than Type H or Type F Face

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/23/10 PLATE NO. A4-8.7

7

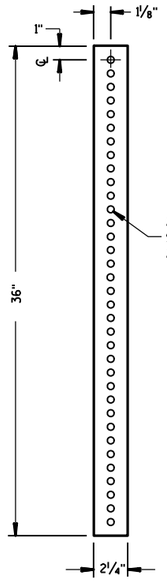
7

PROJECT NO:

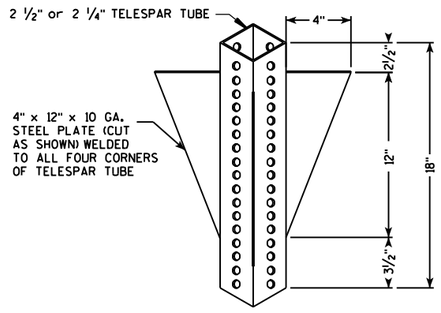
SHEET NO: 86 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

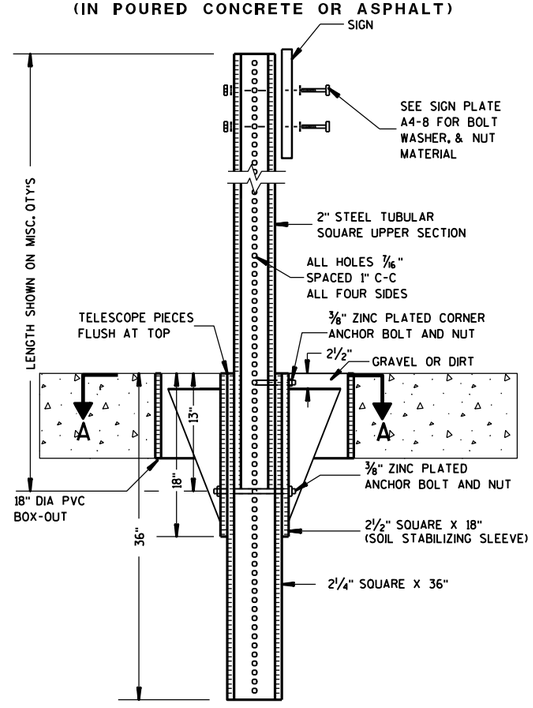
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



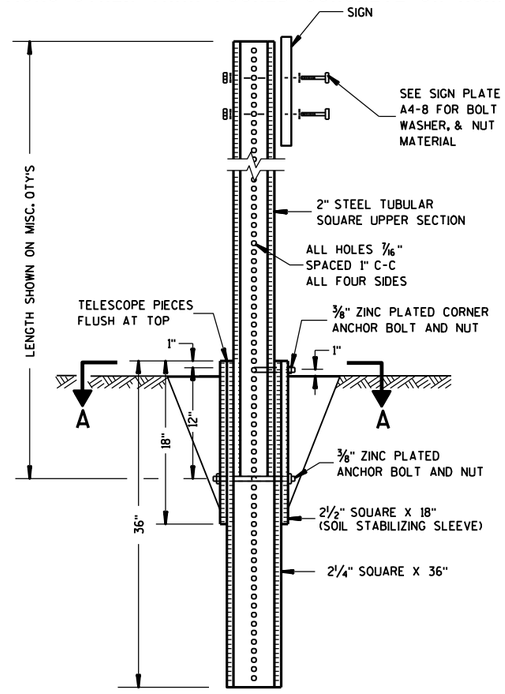
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

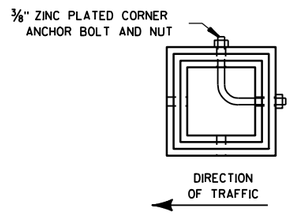


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

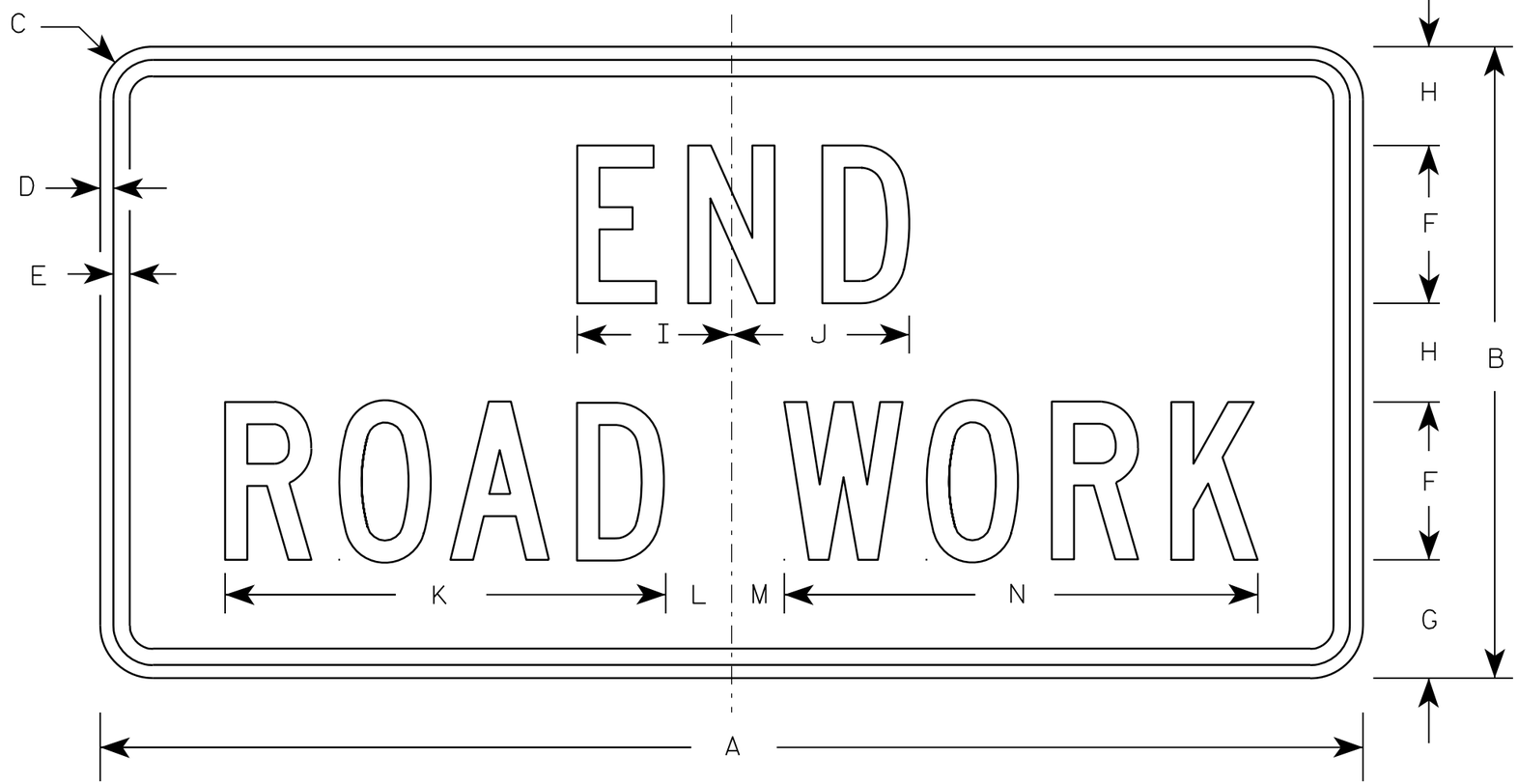
Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

TUBULAR STEEL SIGN POST A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer
DATE 5/30/12 PLATE NO. A4-9.7

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 87	E



G20-2A

NOTES

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

Metric equivalent for this sign is:

SIZE	
1	900 mm X 450 mm
2	1200 mm X 600 mm
3	1200 mm X 600 mm
4	1200 mm X 600 mm
5	1200 mm X 600 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1	36	18	1 1/8	3/8	1/2	4	3 3/4	2 1/2	4 1/8	4 1/8	11 1/8	2	1	12 1/8													4.5	0.41
2	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
3	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
4	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72
5	48	24	1 1/2	1/2	5/8	6	4 1/2	3 3/4	5 7/8	6 3/4	16 3/4	2 1/2	1 3/4	18 1/2													8.0	0.72

STANDARD SIGN
G20-2A

WISCONSIN DEPT OF TRANSPORTATION

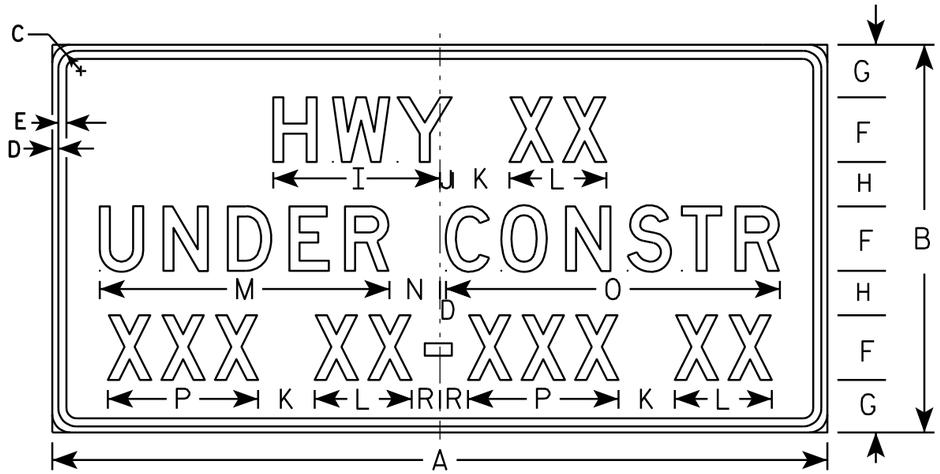
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/30/09 PLATE NO. G20-2A.8

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 88	E

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D
4. Substitute appropriate numeral and adjust spacing to achieve proper balance.



G20-57

Metric equivalent for this sign is:

SIZE	
1	
2	
3	
4	2400 mm X 1200 mm
5	

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2																												
3																												
4	96	48	2 1/4	3/4	1	8	6 1/2	5 1/2	20 5/8	1 5/8	7	12	35 7/8	6 1/4	41 3/8	18 5/8		3 1/2									32.0	2.88
5																												

STANDARD SIGN
G20-57

WISCONSIN DEPT OF TRANSPORTATION

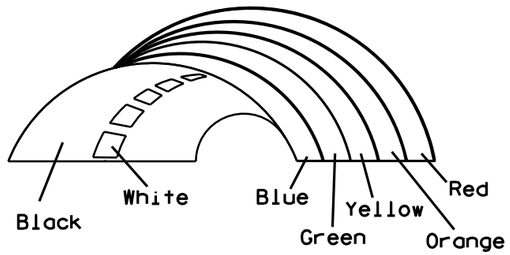
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/13/09 PLATE NO. G20-57.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 89	E

* VARIES

Background Colors of Symbol*



*1/4" Black Border between each color of rainbow and border of rainbow

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - (See Note 5)
3. Message Series - (See Note 6)
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Border - Blue
   Line 1 - Red
   Line 2 - Black
   Line 3-5 - Blue
6. Line 1 - Dutch 8011L
   Line 2 - Series E
   Line 3-5 - Series C
7. Contractor shall provide and install a new post bracket in accordance with the I55-56B sign detail.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	36	1 1/2	1/2	5/8	3	2	3 1/2	2 7/8	1	8	2 1/8	11 1/4	11 1/8	9 3/8	1 1/4		3/4	12 5/8	7 1/2							7.5
3																											
4																											
5																											

STANDARD SIGN
I55-56

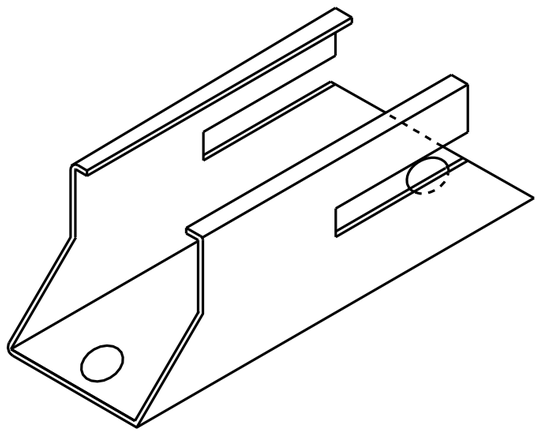
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/27/11 PLATE NO. 155-56.3

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 90

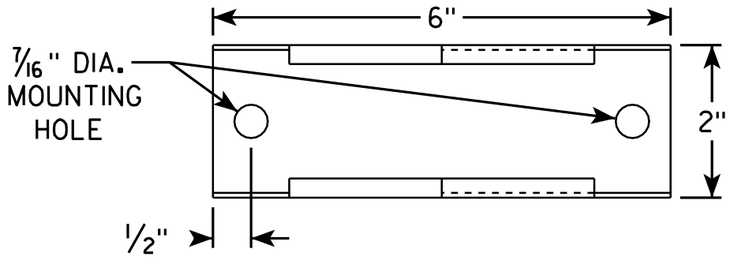
ISOMETRIC VIEW



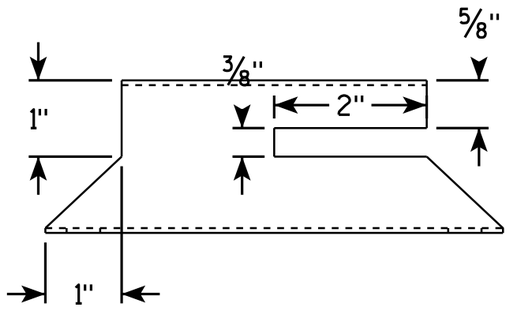
NOTES

1. Must be capable of permanent attachment to a wood or steel channel sign post utilizing the fastening hardware specified on the A4-8 sign plate.
2. Shall be entirely primed and painted with two coats of a black powder coated enamel paint.
3. Shall be made with 12 gauge steel, and incorporate no welds, no hinged components, no threaded lock-type components, and no parts which are loose or can be separated from the main body.
4. Shall have rounded edges with at least 1/8" radii.
5. Shall not have unrounded and uncoated metal edges which can contact the back surface of the roll-up sign.
6. Top of bracket shall be mounted 2' below the bottom of the I55-56 sign.
7. Cost of bracket and fastening hardware shall be incidental to the I55-56 sign.

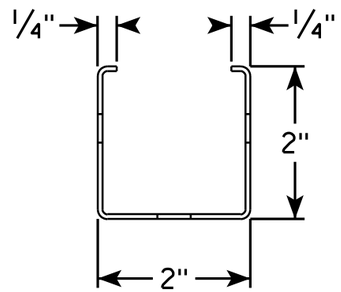
TOP VIEW



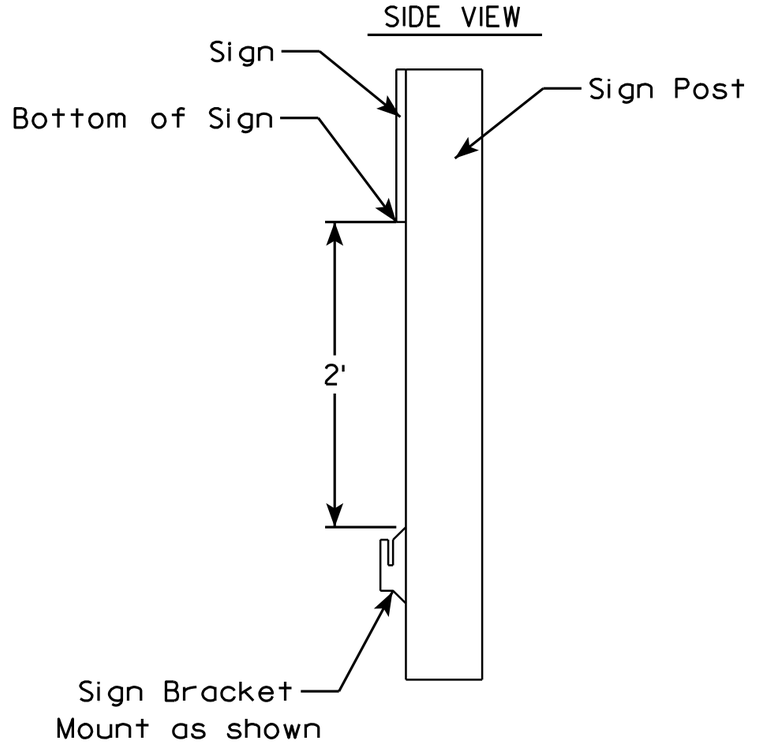
SIDE VIEW



END VIEW



SIDE VIEW



7

7

ROLLUP SIGN BRACKET I55-56B

WISCONSIN DEPT OF TRANSPORTATION

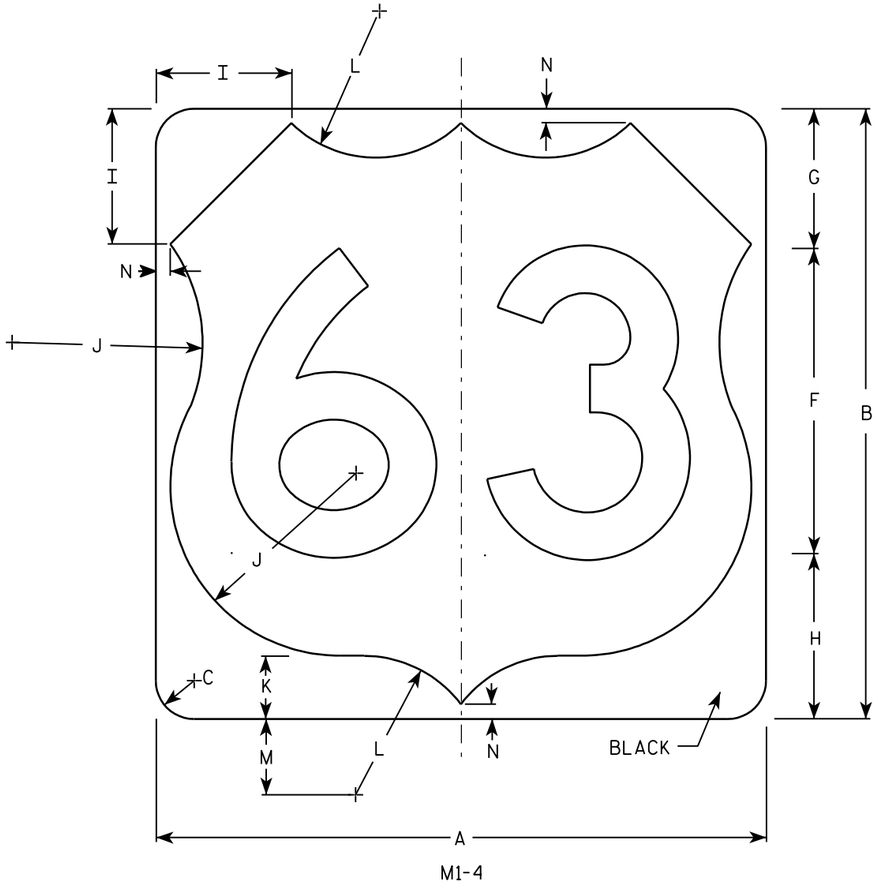
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 2/5/10 PLATE NO. I55-56B.1

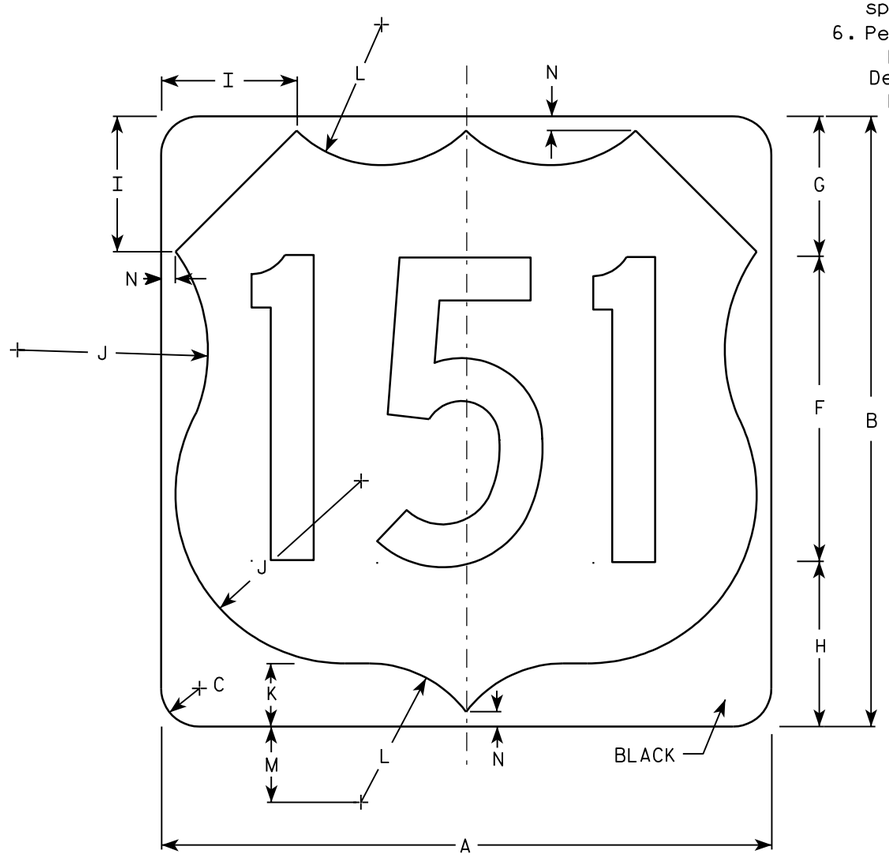
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 91	E

NOTES

1. Sign is Type II - See Note 6 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 6
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals and adjust spacing as per Plate A10-1.
6. Permanent Signs
   Background - Type H Reflective
   Detour or other temporary signs
   Background - Reflective



M1-4



M1-4

7

7

Metric equivalent for this sign is:

SIZE	
1	
2	600 mm X 600 mm
3	900 mm X 900 mm
4	900 mm X 900 mm
5	900 mm X 900 mm

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.	Area m2
1																												
2	24	24	1 ½			12	5 ½	6 ½	5	7 ½	2 ½	5 ½	3	½													4.0	.36
3	36	36	2 ¼			18	8 ¼	9 ¼	7 ¼	11 ¼	3 ¾	8 ¼	4 ½	¾													9.0	.81
4	36	36	2 ¼			18	8 ¼	9 ¼	7 ¼	11 ¼	3 ¾	8 ¼	4 ½	¾													9.0	.81
5	36	36	2 ¼			18	8 ¼	9 ¼	7 ¼	11 ¼	3 ¾	8 ¼	4 ½	¾													9.0	.81

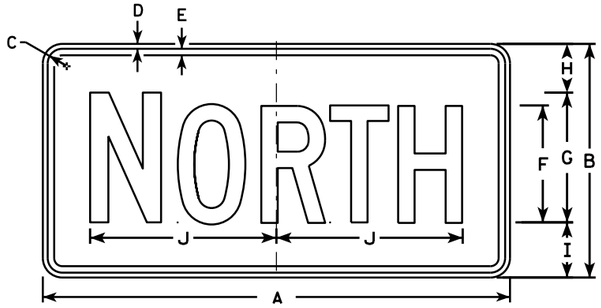
USH MARKER
M1-4 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

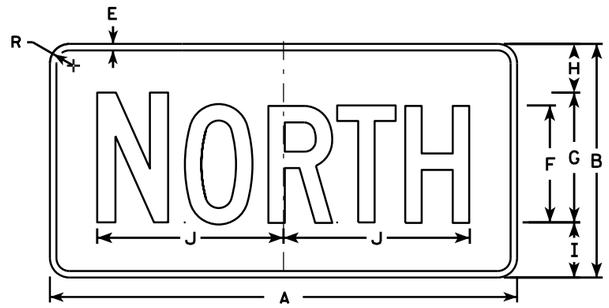
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 08/25/05 PLATE NO. M1-4.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 92 | E

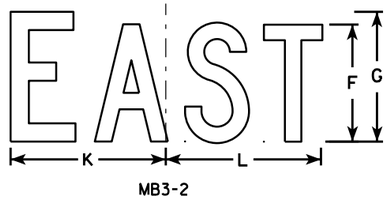


M3-1
MK3-1
MM3-1
MN3-1

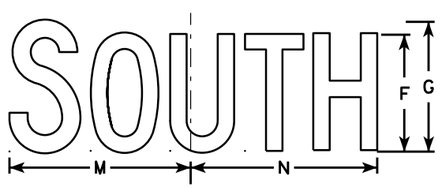


MB3-1

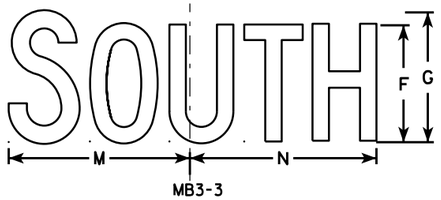
M3-2
MK3-2
MM3-2
MN3-2



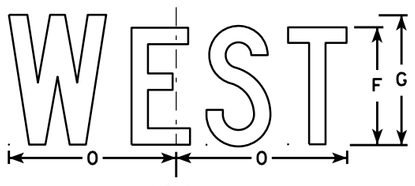
MB3-2



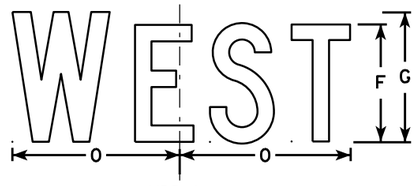
M3-3
MK3-3
MM3-3
MN3-3



MB3-3



M3-4
MK3-4
MM3-4
MN3-4



MB3-4

NOTES

1. All Signs Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M3-1 thru M3-4 Background - White
   Message - Black
   MB3-1 thru MB3-4 Background - Blue
   Message - White
   MK3-1 thru MK3-4 Background - Green
   Message - White
   MM3-1 thru MM3-4 Background - White
   Message - Green
   MN3-1 thru MN3-4 Background - Brown
   Message - White
6. Note the first letter of each direction is larger than the remainder of the message.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
5	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5

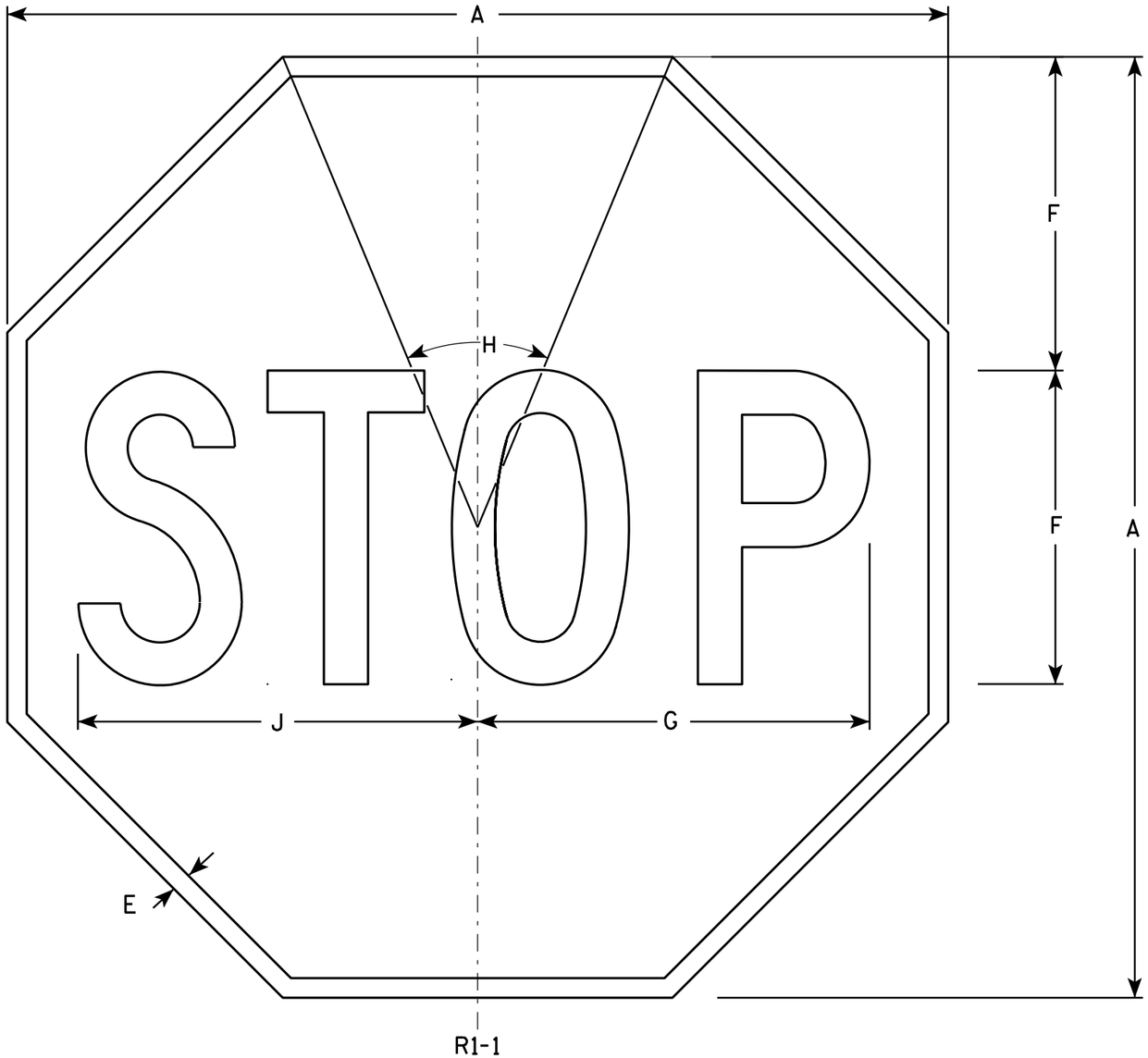
STANDARD SIGNS
M3-1 thur M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 6/30/14 PLATE NO M3-1.13

PROJECT NO: | HWY: | COUNTY: | | SHEET NO: E



NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24				3/8	8	10	45°		10 1/4																	3.31
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°		20 1/2																	13.25
5	48				1	16	20	45°		20 1/2																	13.25
6	18				3/8	6	7 3/4	45°		7 3/4																	1.86
7	12				1/4	4	5	45°		5 1/8																	0.78

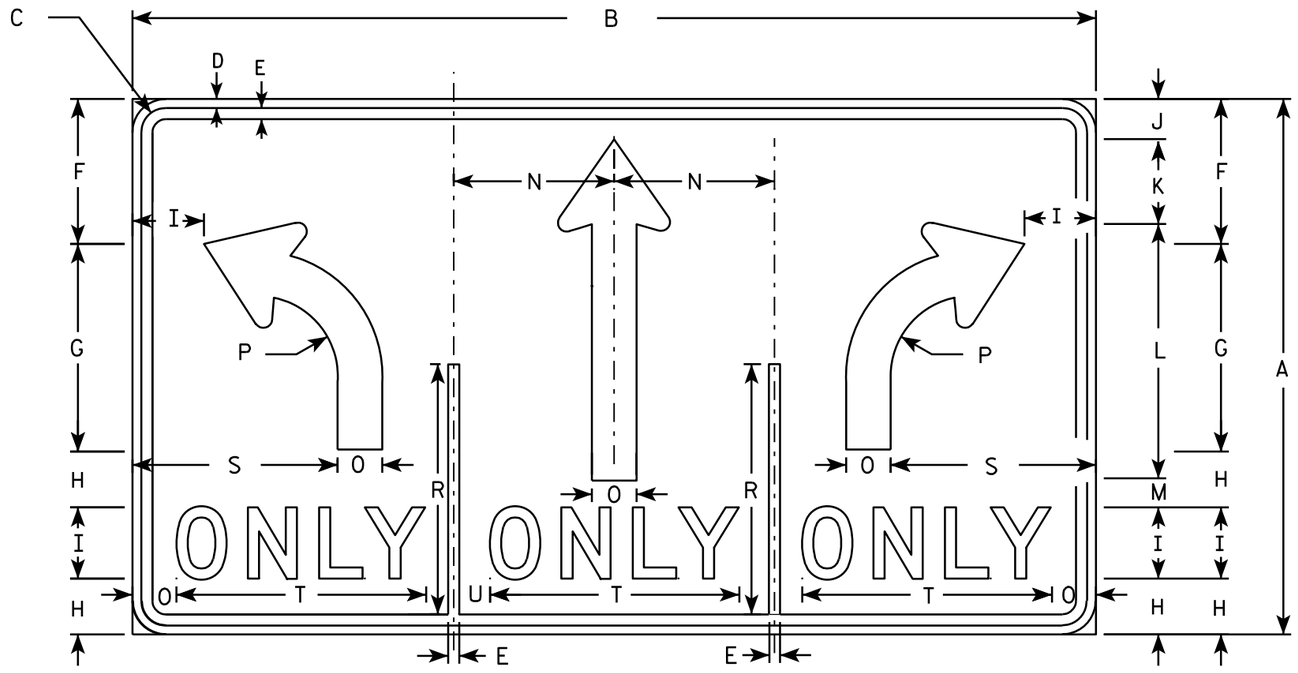
STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1.12

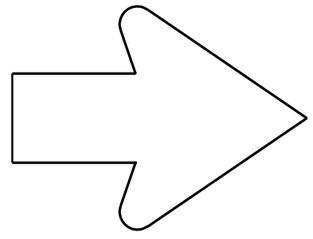
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 94	E



R3-8W

NOTES

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



SEE R3-8 FOR ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	54	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	2 1/4	4 3/4	14 1/4	1 5/8	9	2 1/2	4 1/2		14	11 1/2	14	2						11.25
2M	30	54	1 3/8	1/2	5/8	8 1/8	11 5/8	3 1/8	4	2 1/4	4 3/4	14 1/4	1 5/8	9	2 1/2	4 1/2		14	11 1/2	14	2						11.25
3																											
4	48	84	2 1/4	3/4	1	13	18 1/2	5 1/4	6	3 3/4	7	29 1/8	2 3/8	14	3 3/4	7 1/4		22 3/8	17 1/4	20 1/2	3 1/4						28.0
5	48	84	2 1/4	3/4	1	13	18 1/2	5 1/4	6	3 3/4	7	29 1/8	2 7/8	14	3 3/4	7 1/4		22 3/8	17 1/4	20 1/2	3 1/4						28.0

STANDARD SIGN
R3-8W

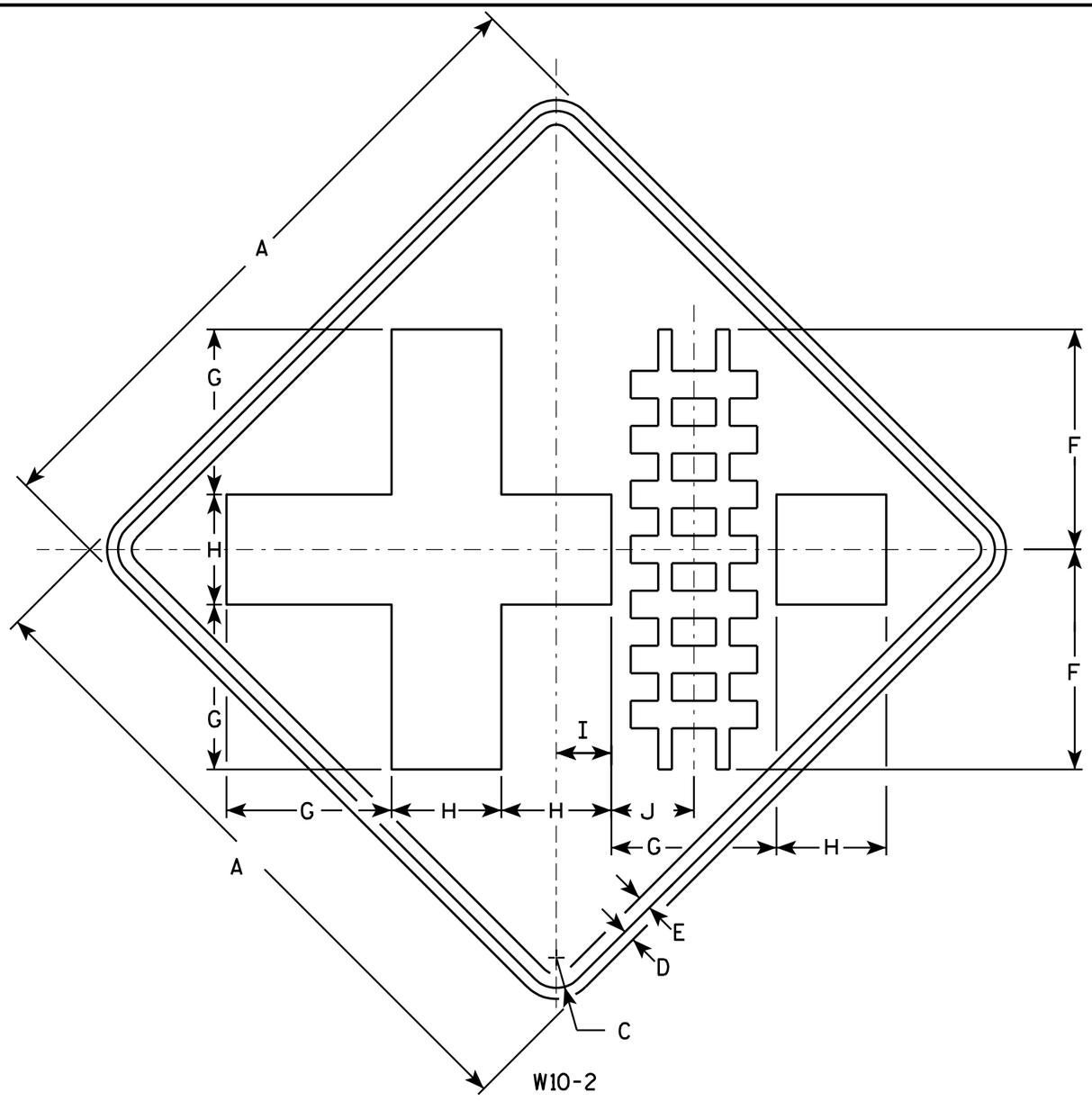
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/24/2011 PLATE NO. R3-8W.4

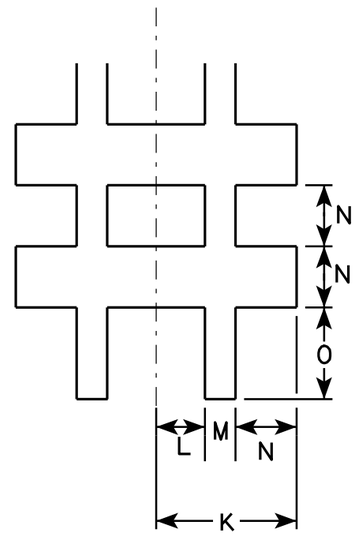
PROJECT NO:

SHEET NO: 95 E



NOTES

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



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	10	7 1/2	5	2 1/2	3 3/4	2 7/8	1	5/8	1 1/4	1 7/8												6.25
2S	36		1 5/8	5/8	3/4	12	9	6	3	4 1/2	3 3/8	1 1/8	3/4	1 1/2	2 1/4												9.0
2M	36		1 5/8	5/8	3/4	12	9	6	3	4 1/2	3 3/8	1 1/8	3/4	1 1/2	2 1/4												9.0
3	36		1 5/8	5/8	3/4	12	9	6	3	4 1/2	3 3/8	1 1/8	3/4	1 1/2	2 1/4												9.0
4	48		2 1/4	3/4	1	16	12	8	4	6	4 1/2	1 1/2	1	2	3												16.0
5																											

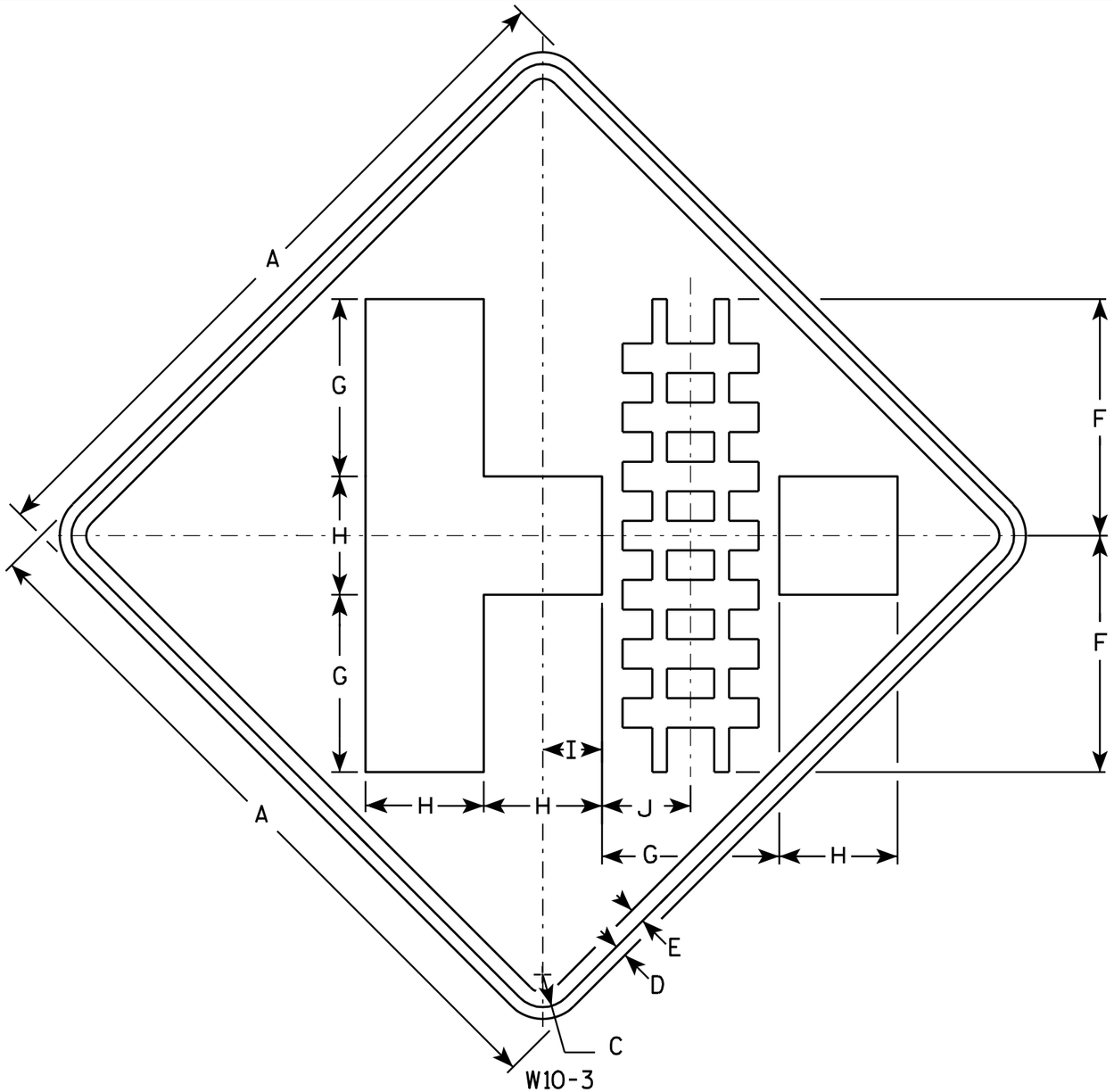
STANDARD SIGN
W10-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

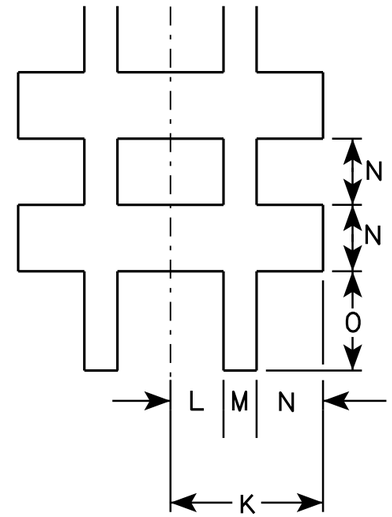
DATE 3/13/13 PLATE NO. W10-2.8

PROJECT NO: | HWY: | COUNTY: | | SHEET NO: 96 | E



NOTES

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



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	10	7 1/2	5	2 1/2	3 3/4	2 7/8	1	5/8	1 1/4	1 7/8												6.25
2S	36		1 5/8	5/8	3/4	12	9	6	3	4 1/2	3 3/8	1 1/8	3/4	1 1/2	2 1/4												9.0
2M	36		1 5/8	5/8	3/4	12	9	6	3	4 1/2	3 3/8	1 1/8	3/4	1 1/2	2 1/4												9.0
3	36		1 5/8	5/8	3/4	12	9	6	3	4 1/2	3 3/8	1 1/8	3/4	1 1/2	2 1/4												9.0
4	48		2 1/4	3/4	1	16	12	8	4	6	4 1/2	1 1/2	1	2	3												16.0
5																											

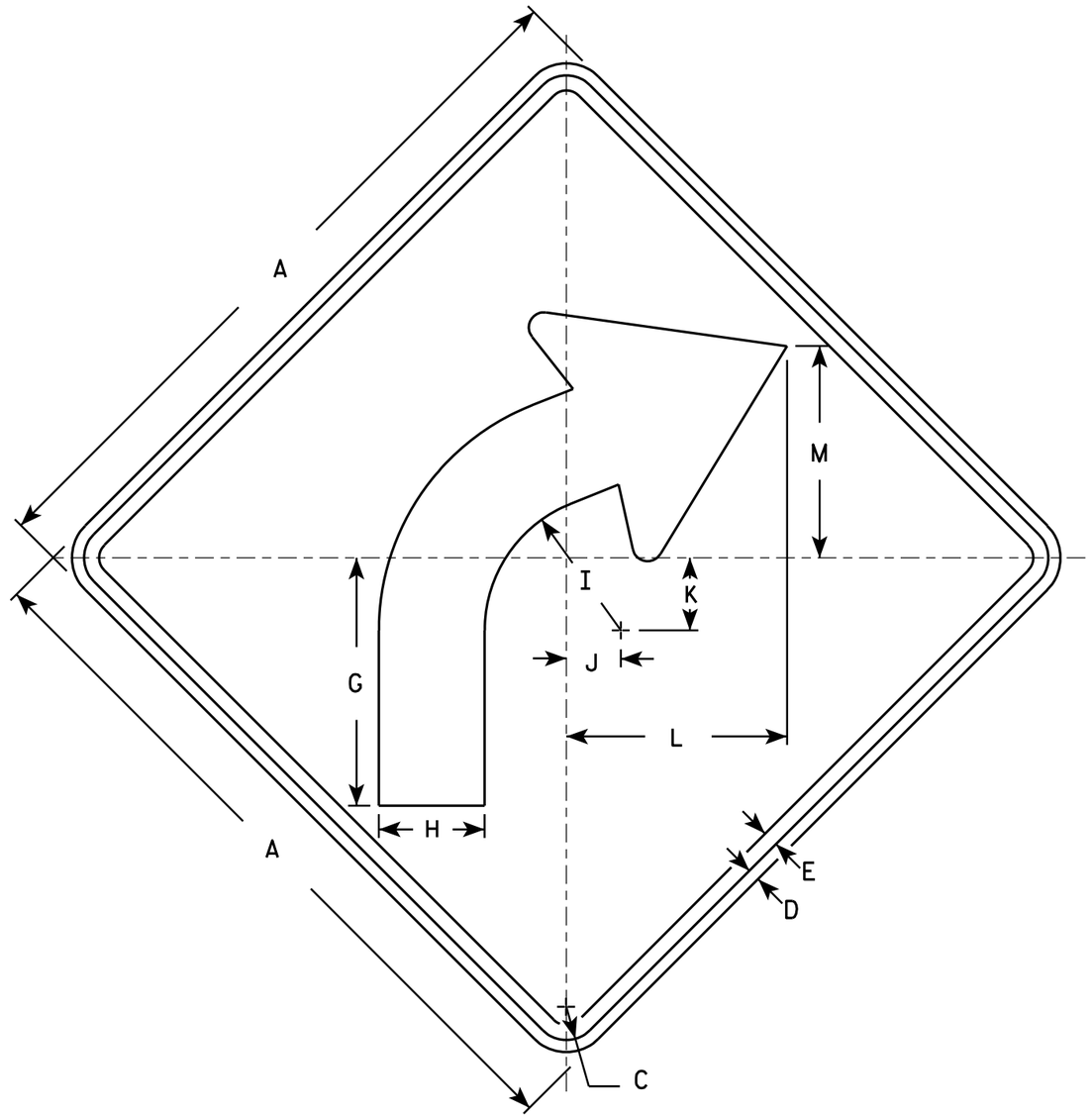
STANDARD SIGN
W10-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W10-3.8

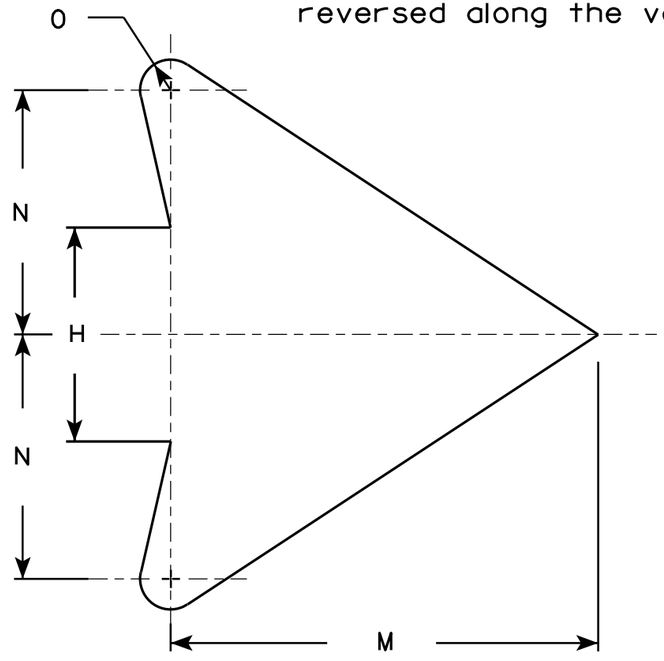
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 97 | E



W1-2R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W1-2L is the same as W1-2R except the arrow is reversed along the vertical centerline.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2		8 1/4	3 1/2	4 1/2	1 3/4	2 3/8	7 1/4	7	4	1/2												4.0
2S	30		1 3/8	1/2	5/8		10 1/4	4 3/8	5 5/8	2 1/4	3	9 1/8	8 3/4	5	5/8												6.25
2M	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
3	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
4	36		1 5/8	5/8	3/4		12 3/8	5 1/4	6 3/4	2 5/8	3 1/2	10 7/8	10 1/2	6	3/4												9.0
5	48		2 1/4	3/4	1		16 1/2	7	9	3 1/2	4 5/8	14 1/2	14	8	1												16.0

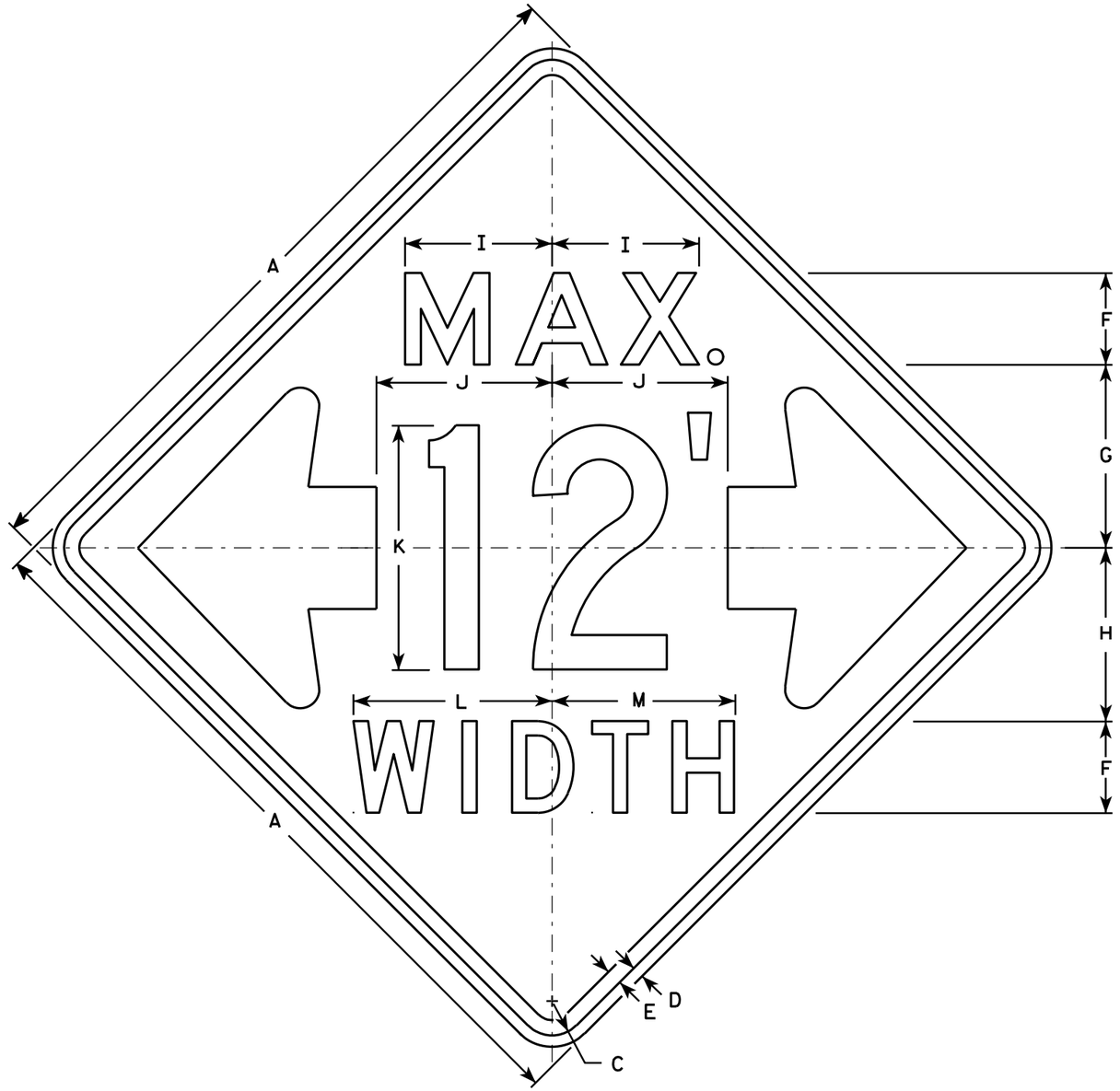
STANDARD SIGN
W1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 5/15/12 PLATE NO. W1-2.10

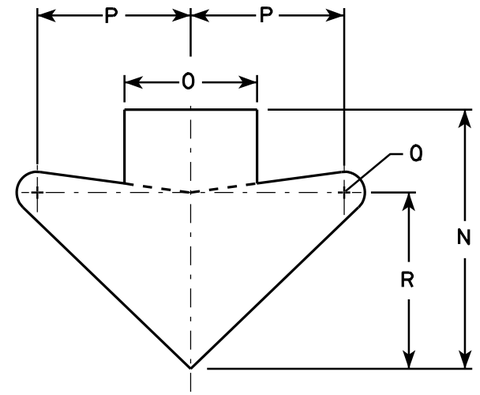
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 98	E



W12-52

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. The top line is series E, the numerals are series C, and the bottom line is series D.
6. Substitute appropriate numerals and adjust spacing as required.



ARROW DETAIL

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

STANDARD SIGN
W12-52

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/16/11 PLATE NO. W12-52.7

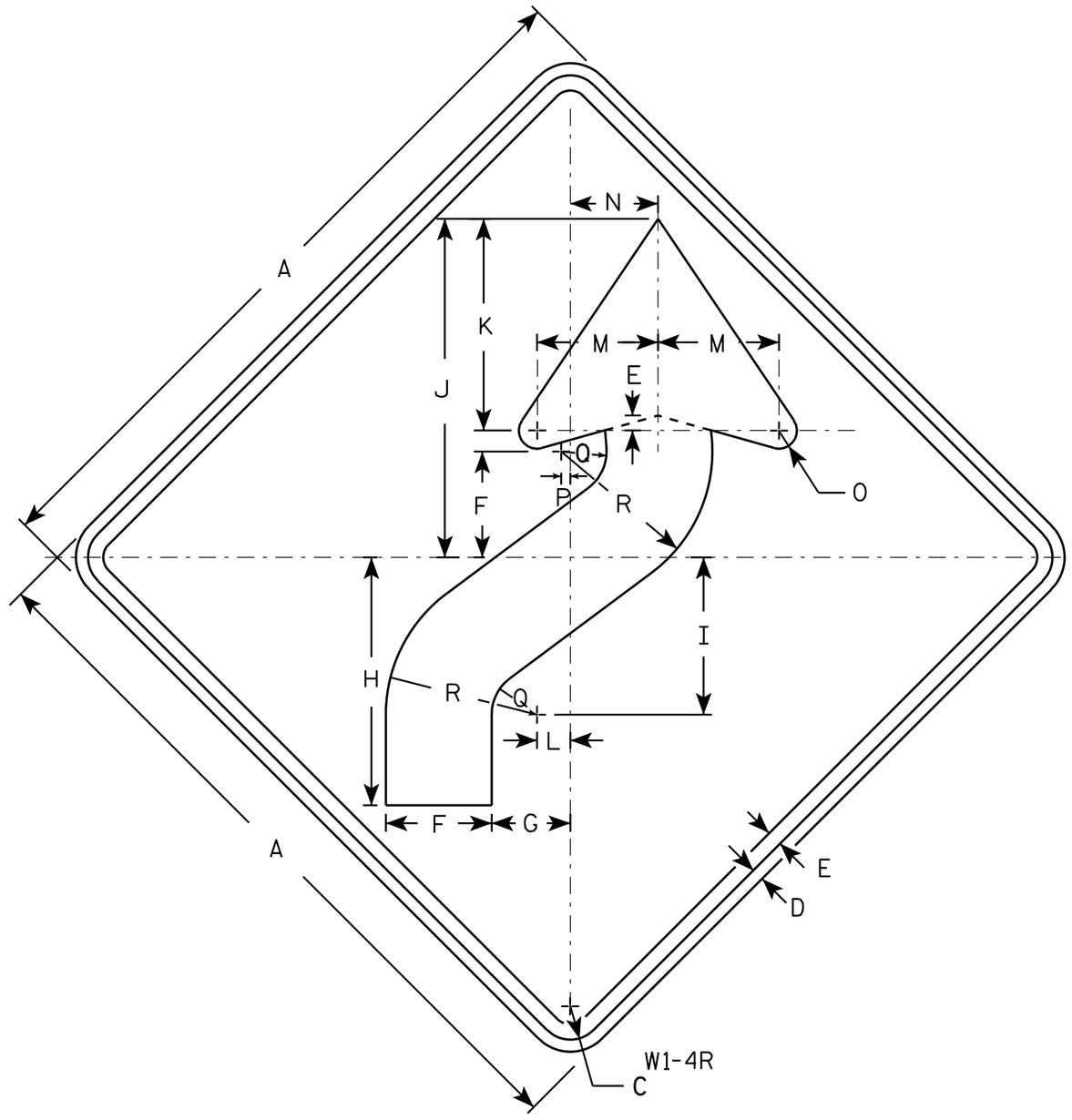
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 99	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W1252.DGN PLOT DATE : 16-MAR-2011 14:45 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.137199:1.000000

WISDOT/CADDS SHEET 42

7

7



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. W1-4L is the same as W1-4R except the arrow is reversed along the vertical centerline.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	3 1/2	2 5/8	8 1/4	5 1/4	11 1/4	7	1 1/8	4	3	5/8	1/4	1 1/2	5									4.0
2S	30		1 3/8	1/2	5/8	4 3/8	3 1/4	10 1/4	6 1/2	14	8 3/4	1 3/8	5	3 5/8	3/4	3/8	1 7/8	6 1/4									6.25
2M	36		1 5/8	5/8	3/4	5 1/4	4	12 3/8	7 7/8	16 7/8	10 1/2	1 5/8	6	4 1/2	1	1/2	2 1/4	7 1/2									9.0
3	36		1 5/8	5/8	3/4	5 1/4	4	12 3/8	7 7/8	16 7/8	10 1/2	1 5/8	6	4 1/2	1	1/2	2 1/4	7 1/2									9.0
4	36		1 5/8	5/8	3/4	5 1/4	4	12 3/8	7 7/8	16 7/8	10 1/2	1 5/8	6	4 1/2	1	1/2	2 1/4	7 1/2									9.0
5	48		2 1/4	3/4	1	7	5 1/4	16 1/2	10 1/2	22 1/2	14	2 1/4	8	6	1 1/4	5/8	3	10									16.0

STANDARD SIGN

W1-4

WISCONSIN DEPT OF TRANSPORTATION

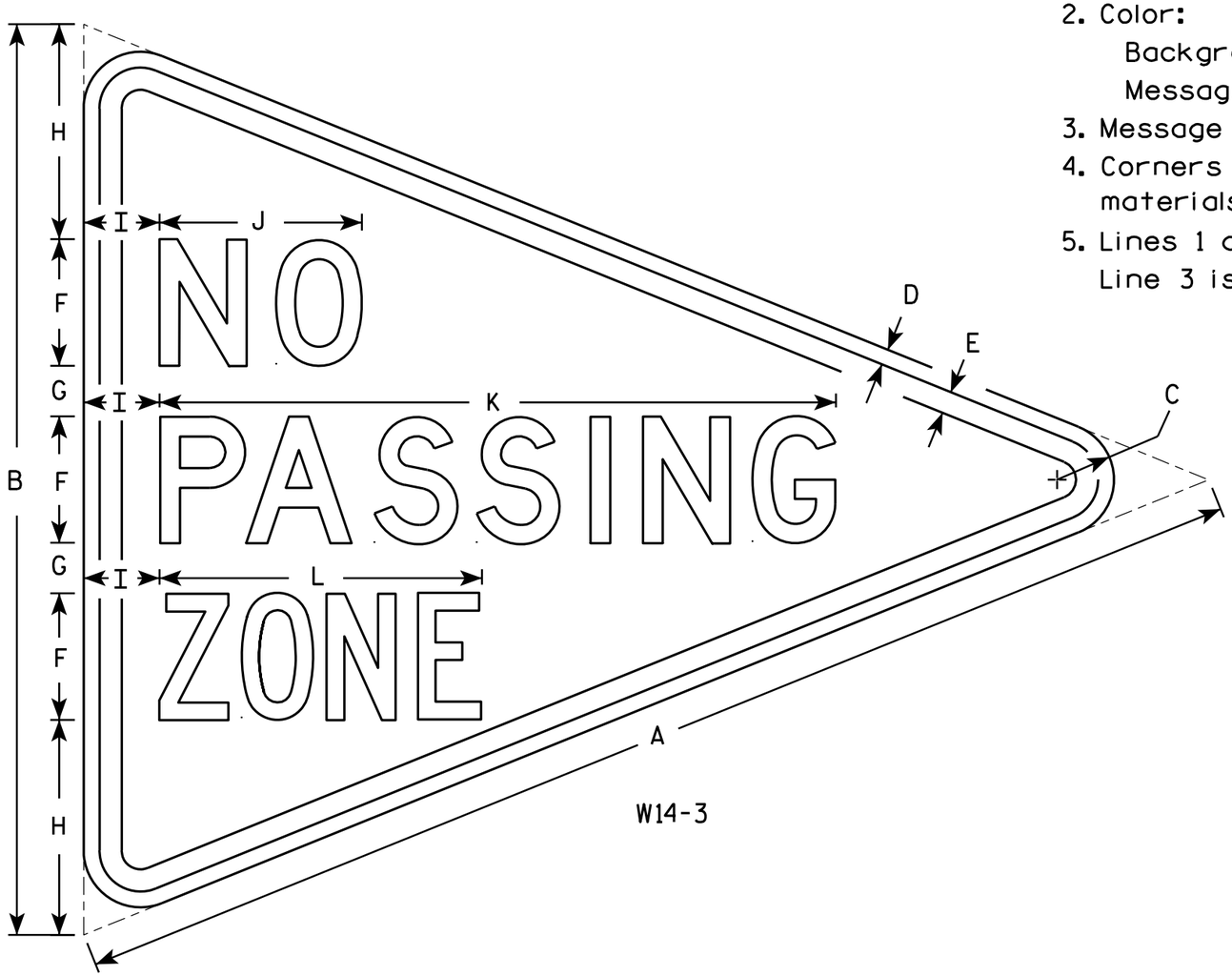
APPROVED Matthew R Rauch for State Traffic Engineer

DATE 5/17/12 PLATE NO. W1-4.11

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 100 | E

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Yellow
   Message - Black
3. Message Series - See note 5
4. Corners and borders shall be rounded on all base materials for this sign.
5. Lines 1 and 2 are Series D.
   Line 3 is series C.



W14-3

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															6.0
2M	48	36	2 1/4	5/8	7/8	5	2	8 1/2	3	8	26 3/4	12 3/4															6.0
3	64	48	3	3/4	1 1/4	6	3	12	4	10 3/4	33 5/8	16 1/2															10.7
4																											
5																											

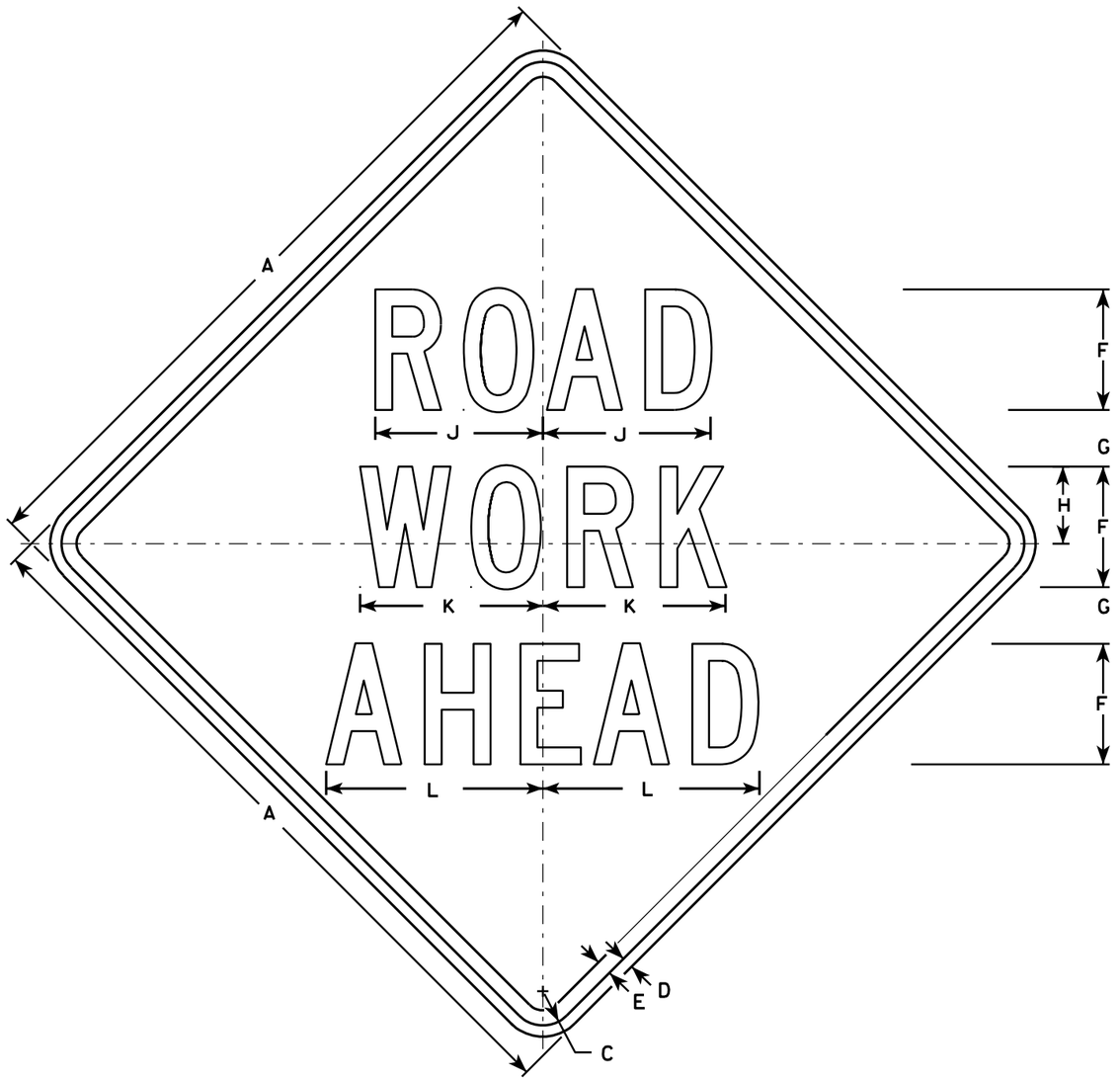
STANDARD SIGN
W14-3

WISCONSIN DEPT OF TRANSPORTATION

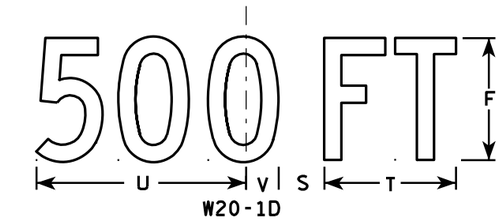
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W14-3.9

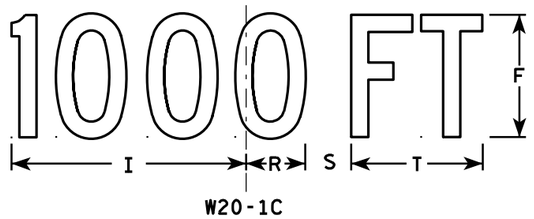
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 101	E



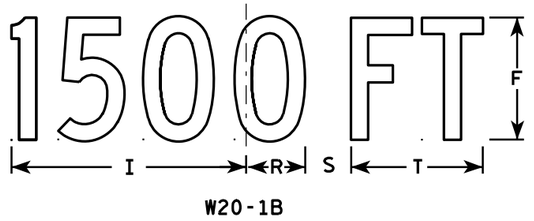
W20-1A



W20-1D

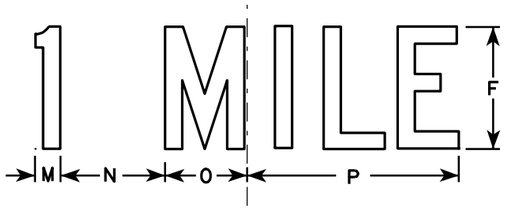


W20-1C



W20-1B

W20-1G



W20-1F

NOTES

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

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

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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-1.9

PROJECT NO:

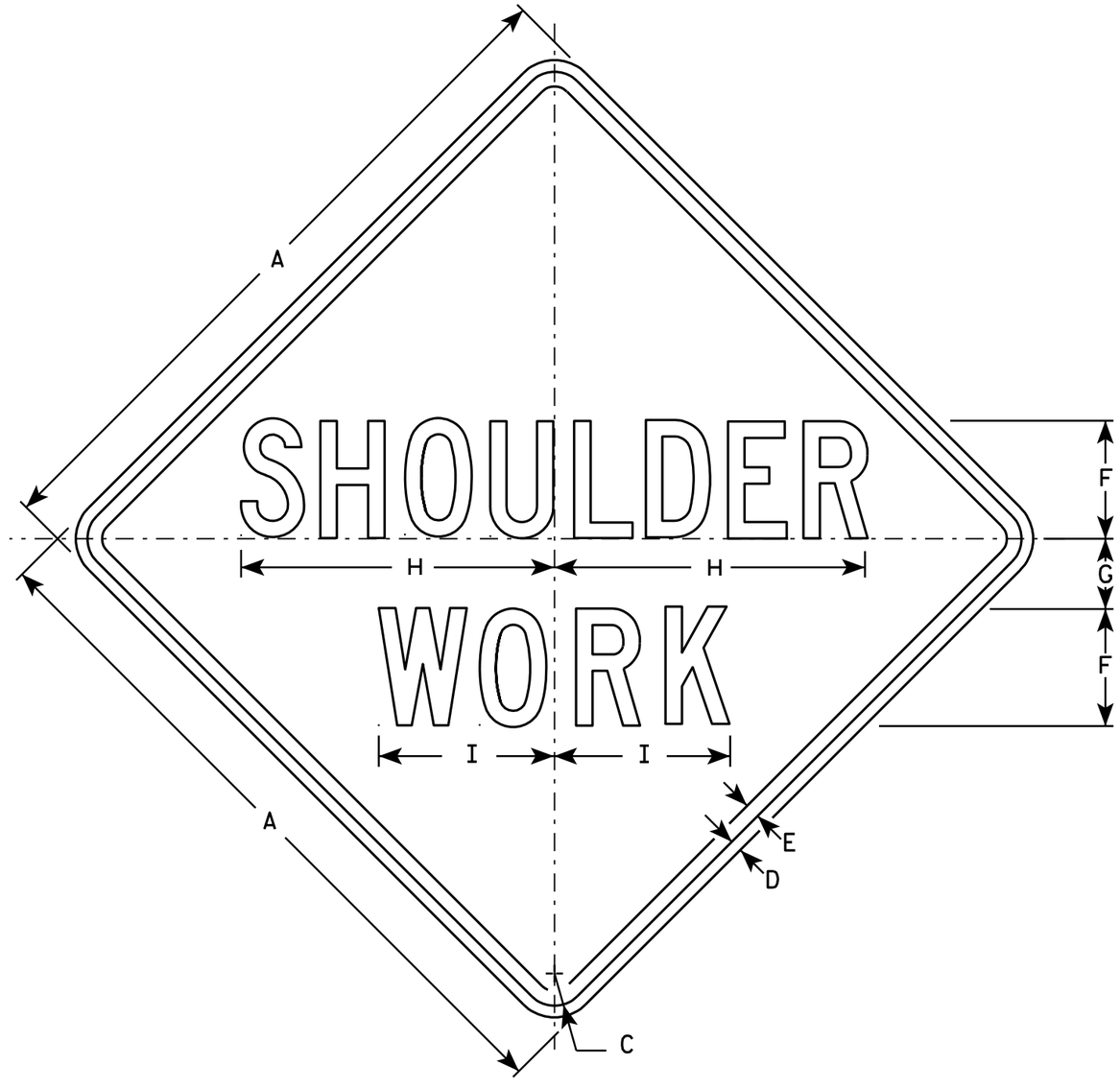
SHEET NO: 102 E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W201.DGN PLOT DATE : 18-MAR-2011 09:56 PLOT BY : mscj9h

WISDOT/CADDS SHEET 42

7

7



W21-5

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	4	2 1/2	10 3/4	6																		4.0
2S	30		1 3/8	1/2	5/8	5	3	13 3/8	7 1/2																		6.25
2M	30		1 3/8	1/2	5/8	5	3	13 3/8	7 1/2																		6.25
3	36		1 5/8	5/8	3/4	6	3 1/2	16	9																		9.0
4	48		2 1/4	3/4	1	8	5	21 3/8	11 1/4																		16.0
5	48		2 1/4	3/4	1	8	5	21 3/8	11 1/4																		16.0

STANDARD SIGN
W21-5

WISCONSIN DEPT OF TRANSPORTATION

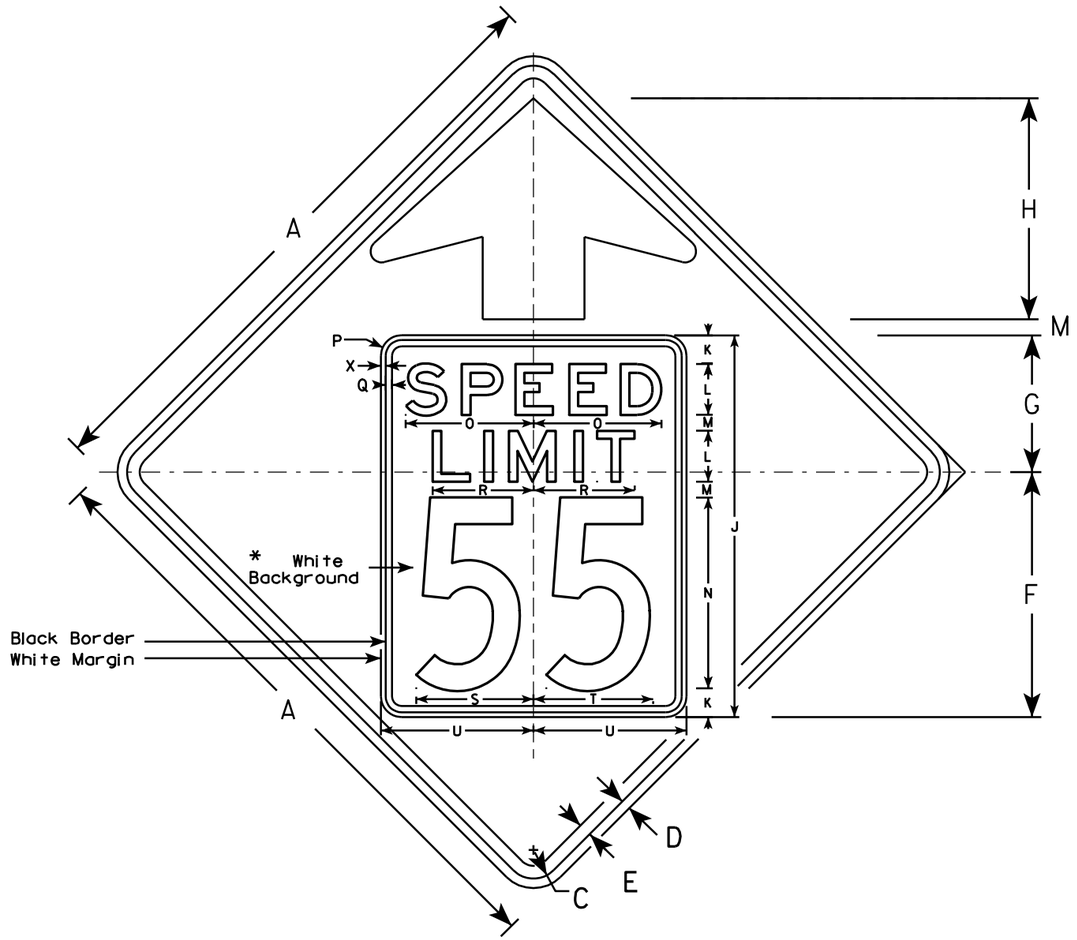
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/21/11 PLATE NO. W21-5.5

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 103 | E

7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W215.DGN PLOT DATE : 21-MAR-2011 08:01 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 6.207338:1.000000
WISDOT/CADDS SHEET 42

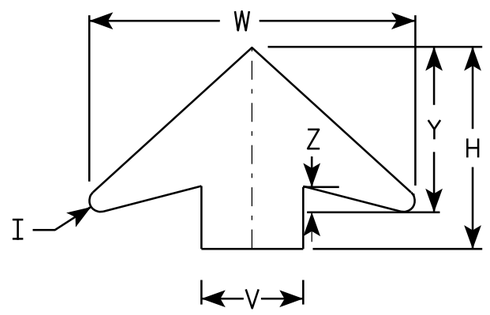


W3-5

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color: *
   Background - YELLOW*
   Message - BLACK
3. Message Series - C for numbers Series E for wording
4. Substitute appropriate numerals and optically adjust spacing to achieve proper balance

*Speed Limit Sign shall have a White Background



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
2M	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
3	36		1 5/8	5/8	3/4	14 1/2	9 1/2	11 1/2	5/8	24	2	3	1	12	7 1/8	1 1/2	3/8	5 3/4	7 1/4	7 1/8	9	6	19 1/4	3/8	9 3/4	1 5/8	9.0
4	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0
5	48		2 1/4	3/4	1	19 1/4	10 3/4	17 3/8	7/8	30	2 1/4	4	1 1/4	15	10	1 5/8	1/2	8	9 1/4	9 3/8	12	8	25 5/8	3/8	13	2	16.0

STANDARD SIGN
W3-5

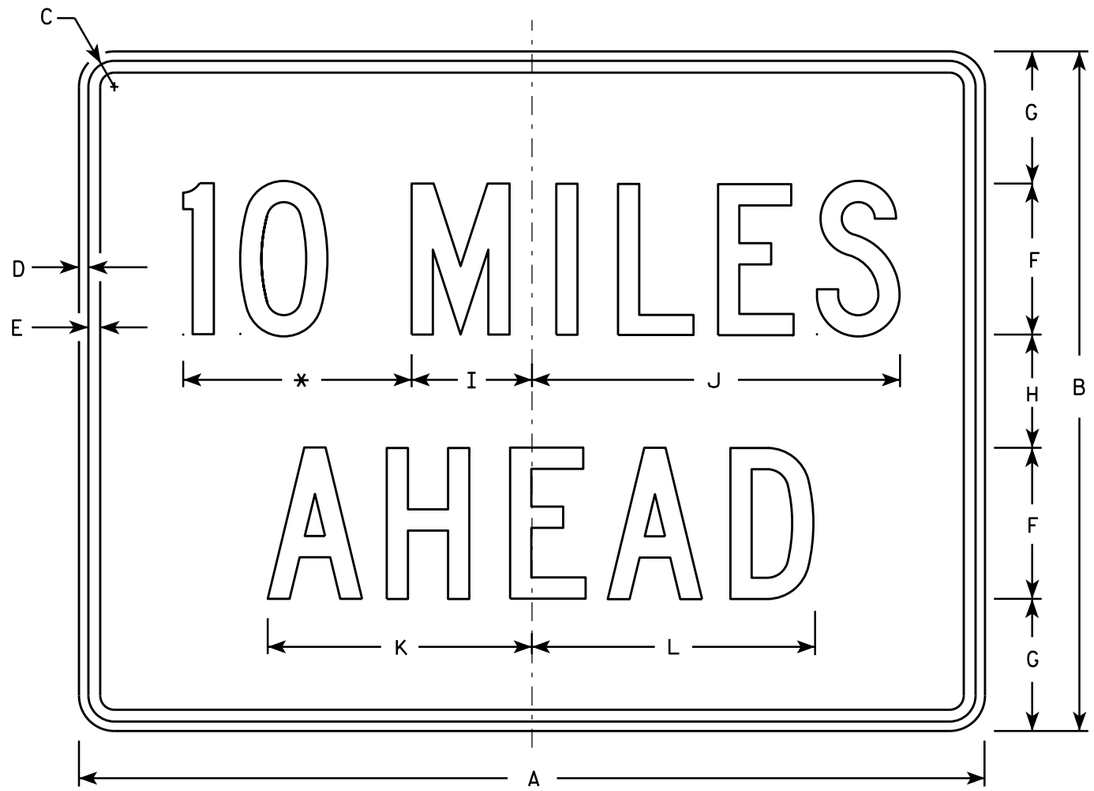
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

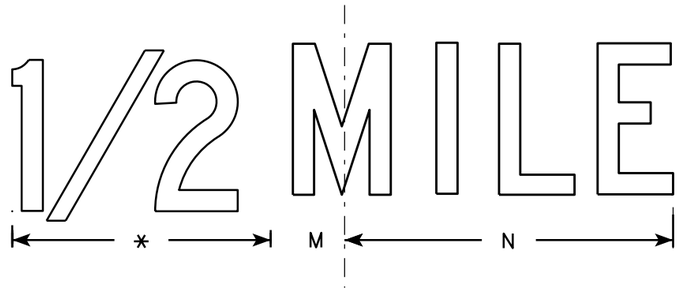
DATE 5/29/12 PLATE NO. W3-5.5

PROJECT NO:

SHEET NO: 104 E



W057-52



NOTES

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

* See note 5

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	24	1 1/8	3/8	1/2	6	4 1/2	3	4 3/4	14 5/8	10 5/8	11 3/8	2	13													6.0
2S	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
2M	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
3	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
4	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0
5	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	17 3/8													12.0

STANDARD SIGN
W057-52

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/20/13 PLATE W057-52.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W05752.DGN PLOT DATE : 28-FEB-2014 11:42 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 8.026599:1.000000 WISDOT/CADDS SHEET 42

EARTHWORK TABLE

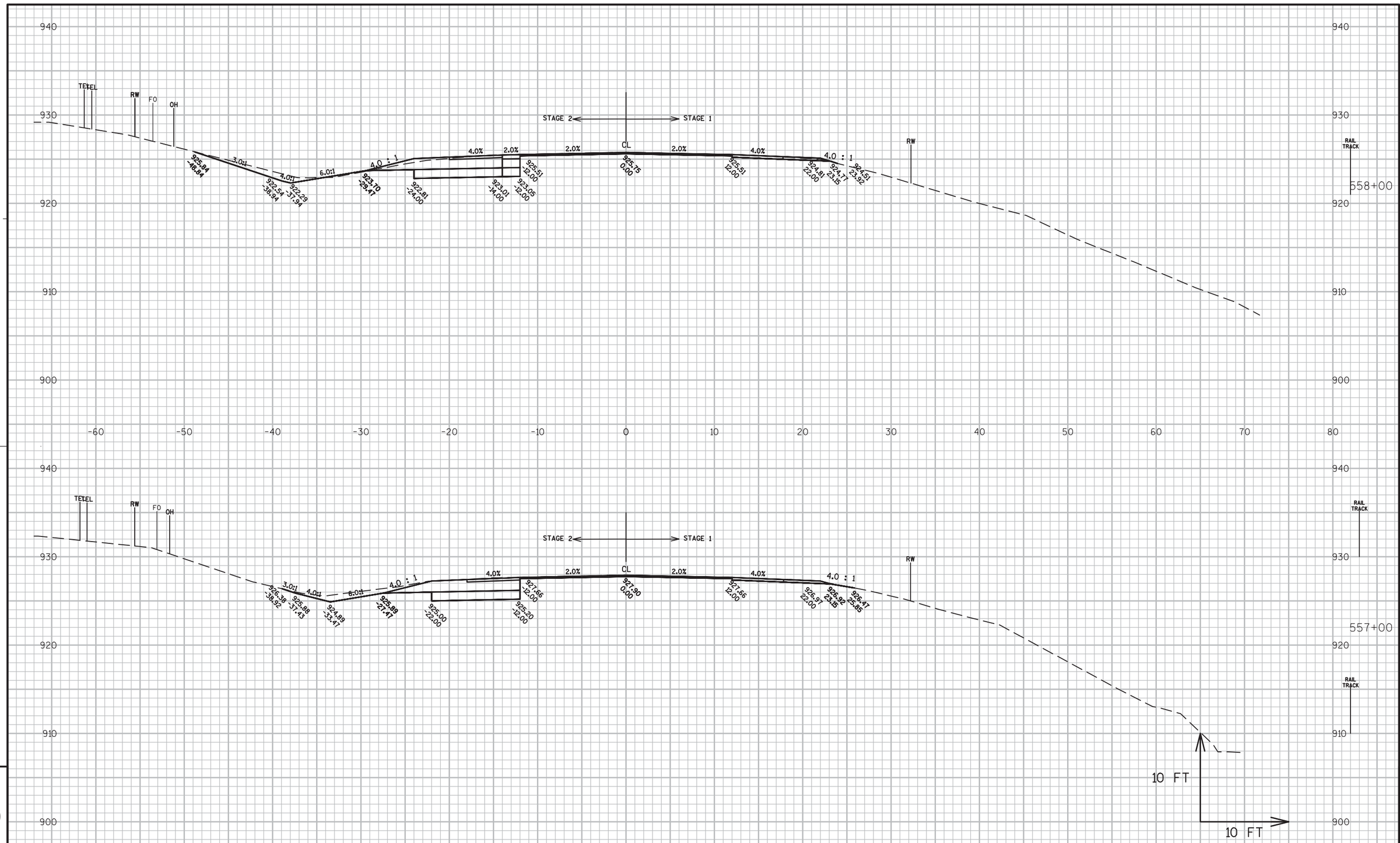
START STATIOI	LENGTH (FT)	TOTAL AREA		INCREMENTAL VOLUME (CY)		CUMULATIVE VOL (CY)			MASS	
STATION	DISTANCE	CUT (SF)	FILL (SF)	CUT	FILL	CUT	FILL	EXPENDED FILL 1.25	ORDINATE	REMARKS
557+00	0	30.5	0.0							
558+00	100	32.8	0.0	117	0	117	0	0	117	
559+00	100	38.8	0.0	133	0	250	0	0	250	
560+00	100	46.0	2.0	157	4	407	4	5	402	
561+00	100	47.5	1.0	173	6	580	9	12	568	
562+00	100	72.6	3.1	222	8	802	17	21	781	
563+00	100	75.4	8.0	274	21	1076	37	47	1029	
564+00	100	90.5	15.0	307	43	1383	80	100	1283	
565+00	100	88.9	20.0	332	65	1716	145	181	1535	
566+00	100	79.0	24.0	311	81	2027	226	283	1744	
567+00	100	94.9	25.0	322	91	2349	317	396	1952	
568+00	100	179.7	29.0	508	100	2857	417	521	2336	
569+00	100	105.9	1.0	529	56	3386	473	591	2795	
570+00	100	119.1	1.0	417	4	3802	476	595	3207	
571+00	100	74.9	2.2	359	6	4162	482	603	3559	
572+00	100	72.6	6.5	273	16	4435	498	623	3812	
573+00	100	70.0	14.0	264	38	4699	536	670	4028	
574+00	100	71.8	11.8	262	48	4961	584	730	4231	
575+00	100	49.1	10.1	224	40	5185	625	781	4404	
576+00	100	42.9	10.0	170	37	5355	662	827	4528	
577+00	100	52.1	5.0	176	28	5531	690	862	4669	
578+00	100	53.9	3.9	196	16	5727	706	883	4845	
579+00	100	50.0	1.7	192	10	5920	716	896	5024	
580+00	100	36.4	5.0	160	12	6080	729	911	5169	
581+00	100	29.4	8.0	122	24	6202	753	941	5261	
582+00	100	28.2	7.5	107	29	6308	782	977	5331	
582+50	50	0.0	7.5	26	14	6335	795	994	5340	
	2550	0		6335						

CUT	FILL	WASTE
6335	994	5340

9

9

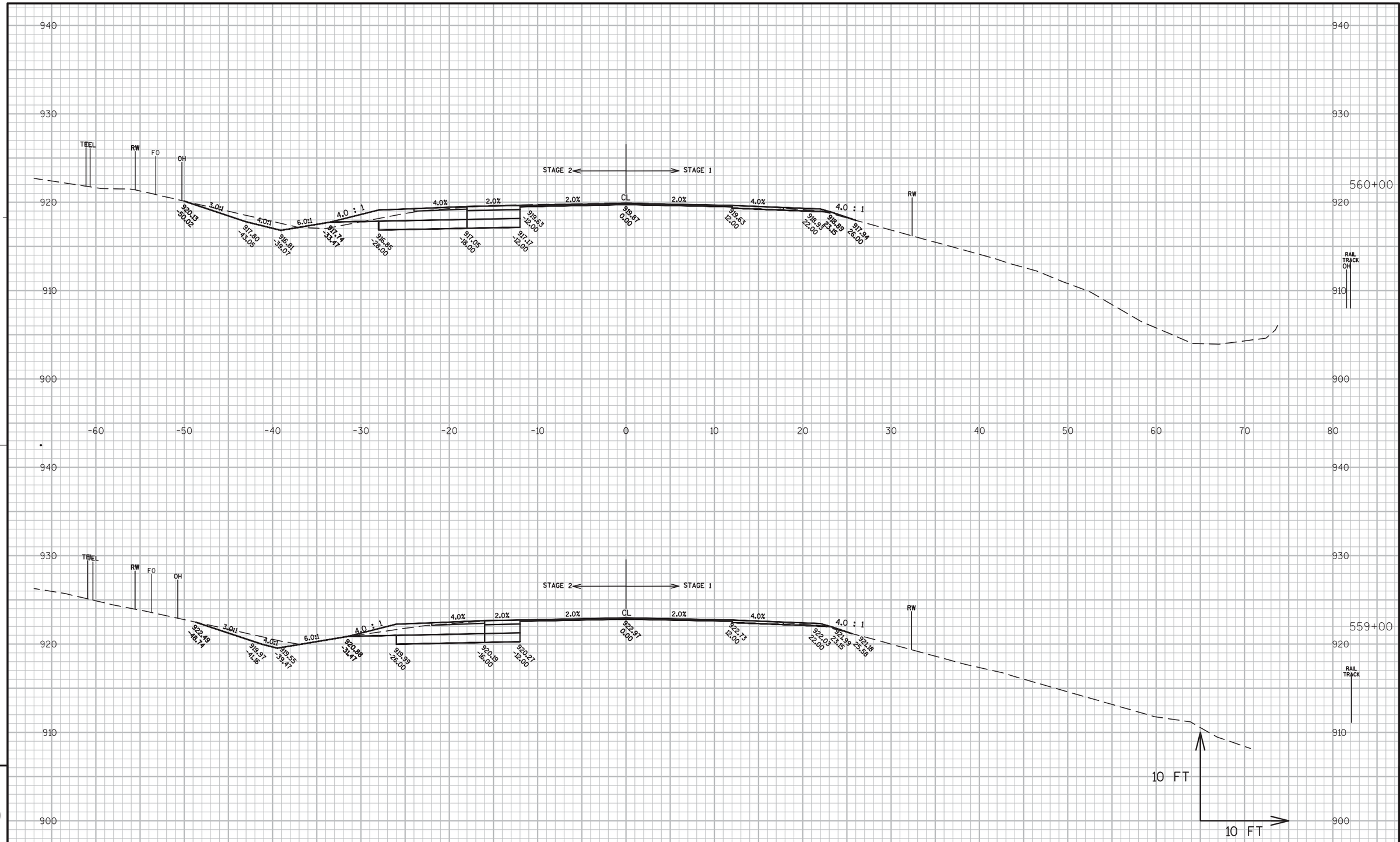
PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	EARTHWORK QUANTITIES	SHEET	E



PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	USH 14 - STAGE 1 & 2	SHEET	E

FILE NAME : N:\PDS\C3D\53100008\DESIGN\XSECTIONS\USH 14 SC_XSECTION_FINAL.DWG PLOT DATE : 11/25/2014 12:14 PM PLOT BY : BHUIYAN, MOHAMMAD E PLOT NAME : PLOT SCALE : 1:10_XREF

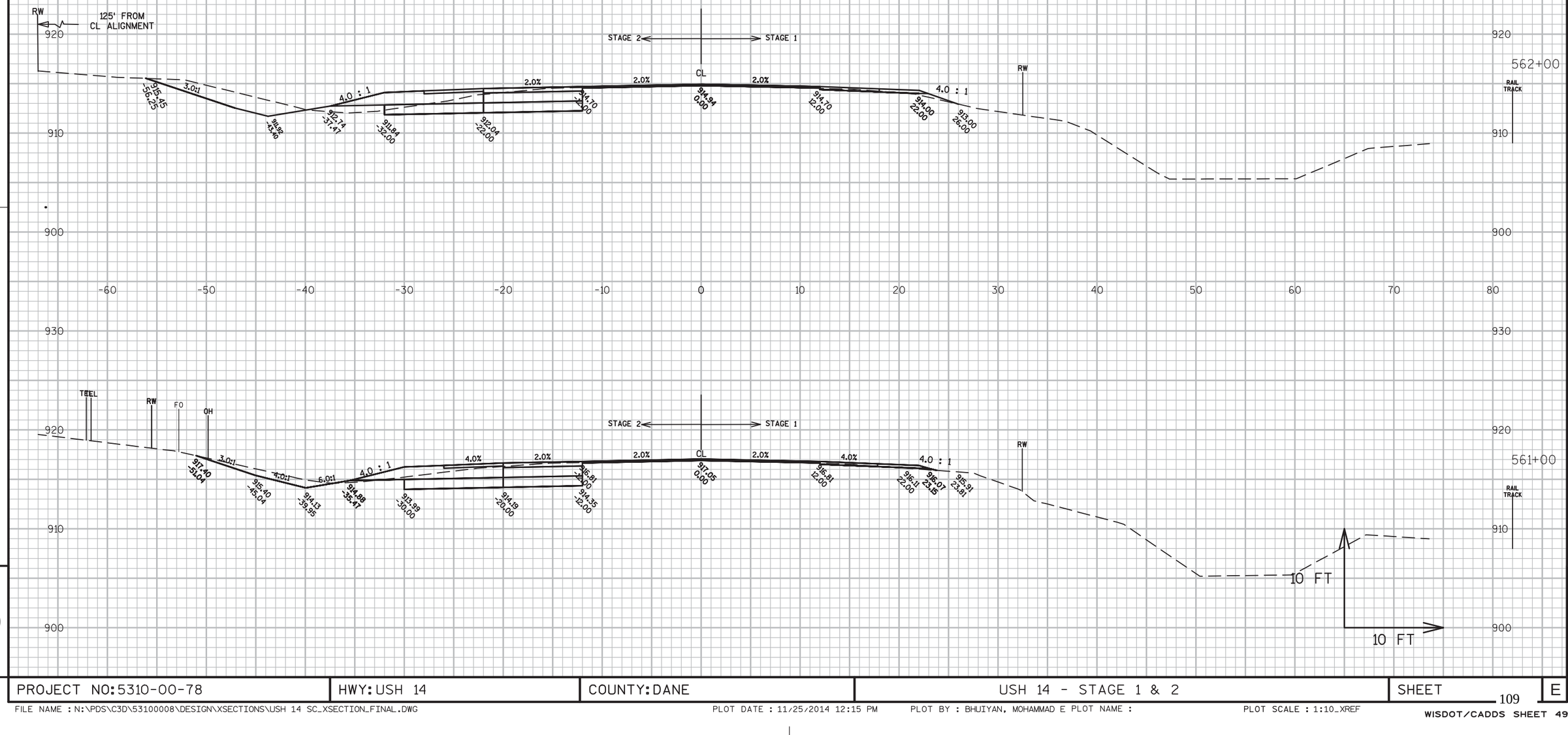
WISDOT/CADDS SHEET 49



PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	USH 14 - STAGE 1 & 2	SHEET	E

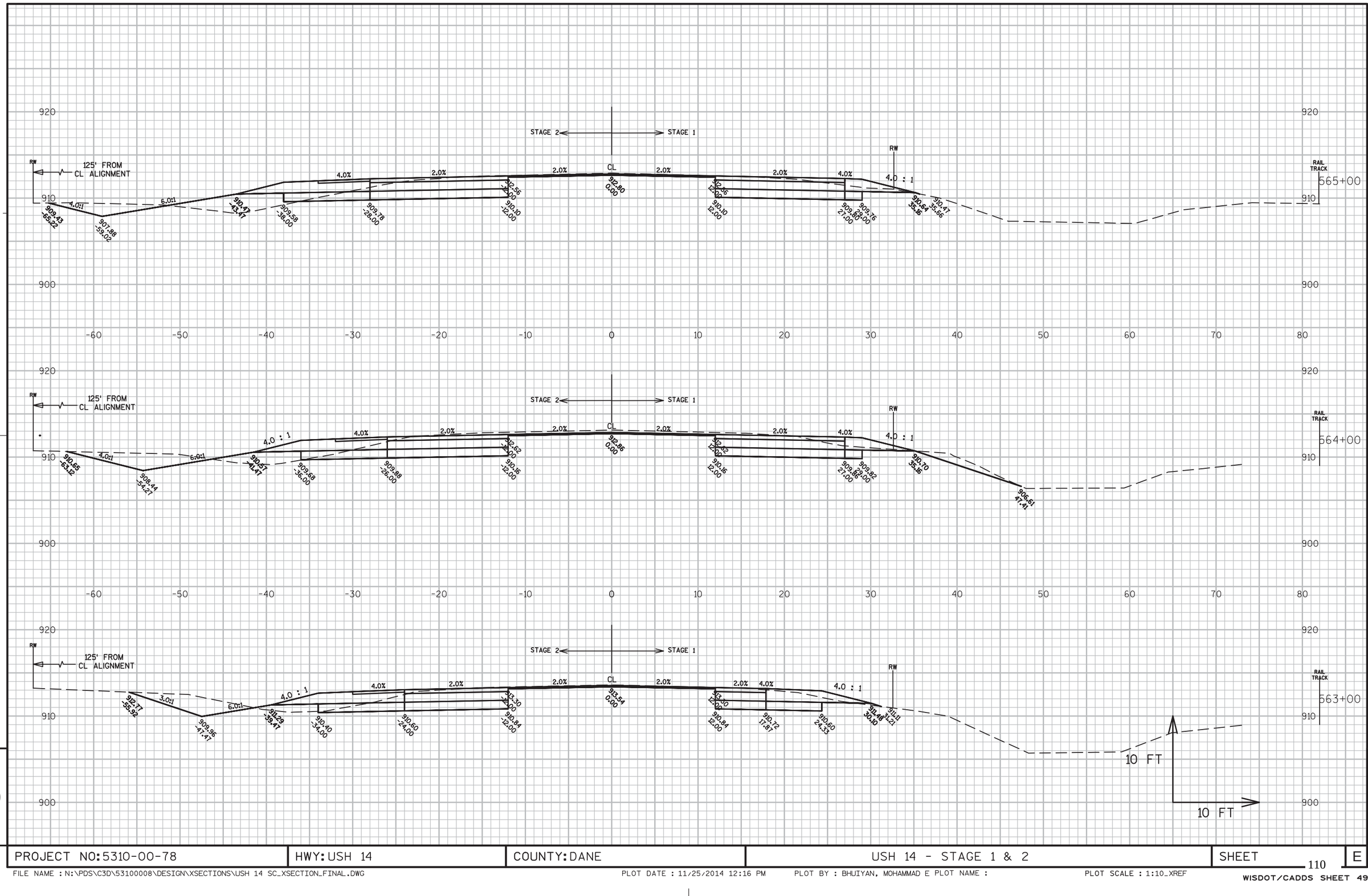
FILE NAME : N:\PDS\C3D\53100008\DESIGN\XSECTIONS\USH 14 SC_XSECTION_FINAL.DWG PLOT DATE : 11/25/2014 12:14 PM PLOT BY : BHUIYAN, MOHAMMAD E PLOT NAME : PLOT SCALE : 1:10_XREF

WISDOT/CADDS SHEET 49



PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	USH 14 - STAGE 1 & 2	SHEET	E

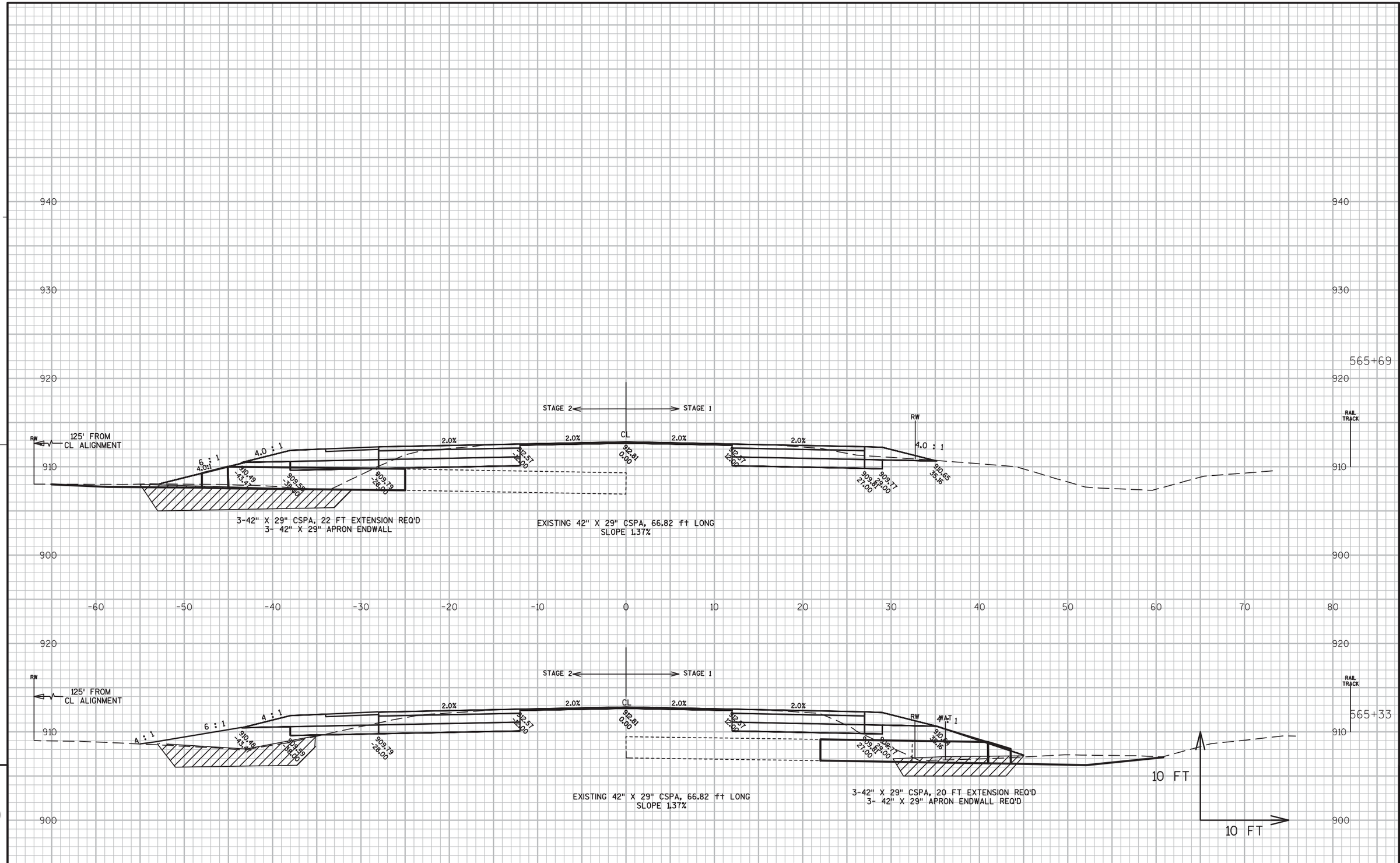
FILE NAME : N:\PDS\C3D\53100008\DESIGN\XSECTIONS\USH 14 SC_XSECTION_FINAL.DWG PLOT DATE : 11/25/2014 12:15 PM PLOT BY : BHUIYAN, MOHAMMAD E PLOT NAME : PLOT SCALE : 1:10_XREF



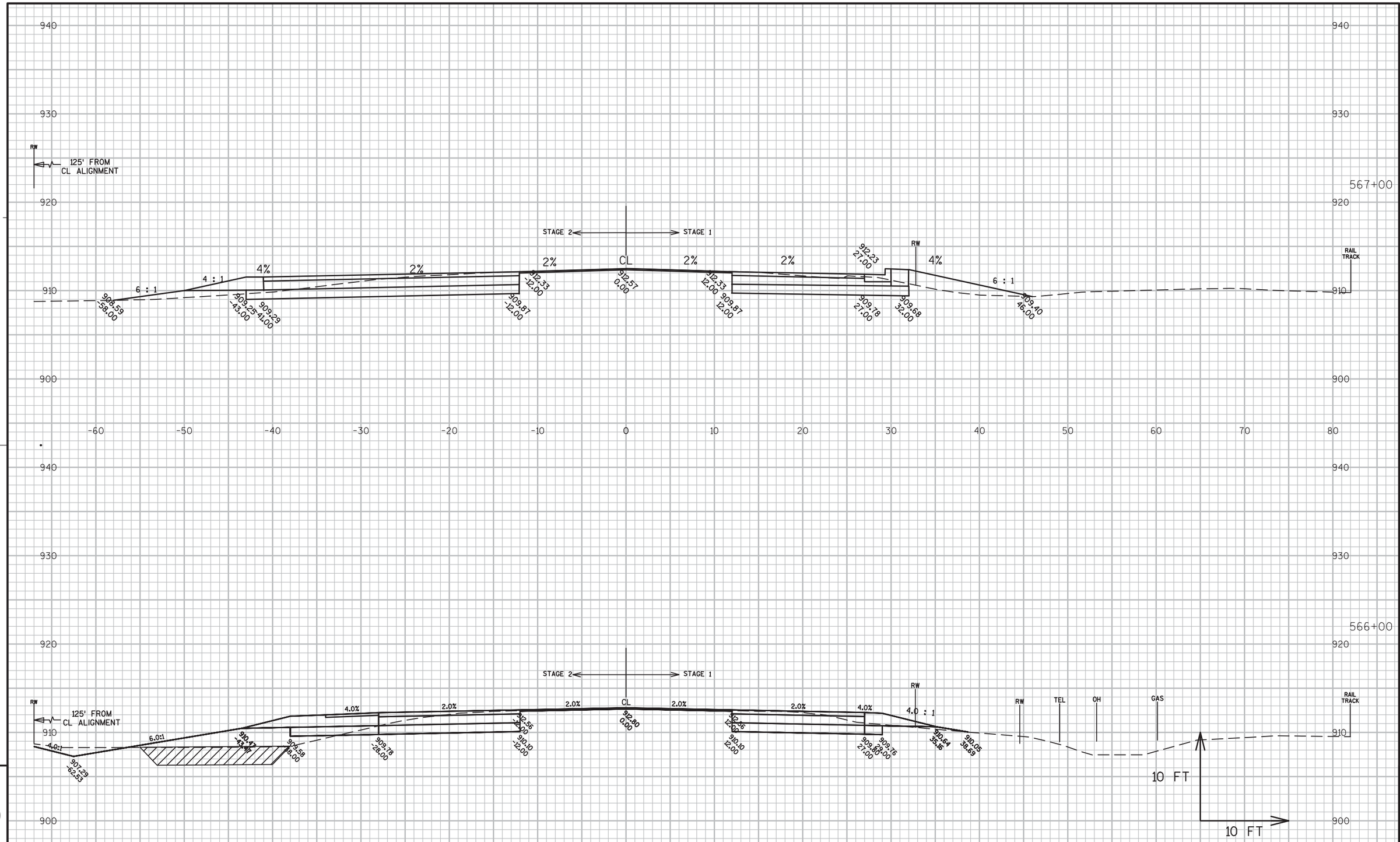
PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	USH 14 - STAGE 1 & 2	SHEET 110	E

FILE NAME : N:\PDS\C3D\53100008\DESIGN\XSECTIONS\USH 14 SC_XSECTION_FINAL.DWG PLOT DATE : 11/25/2014 12:16 PM PLOT BY : BHUIYAN, MOHAMMAD E PLOT NAME : PLOT SCALE : 1:10_XREF

WISDOT/CADDS SHEET 49



PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	USH 14 - STAGE 1 & 2	SHEET	E



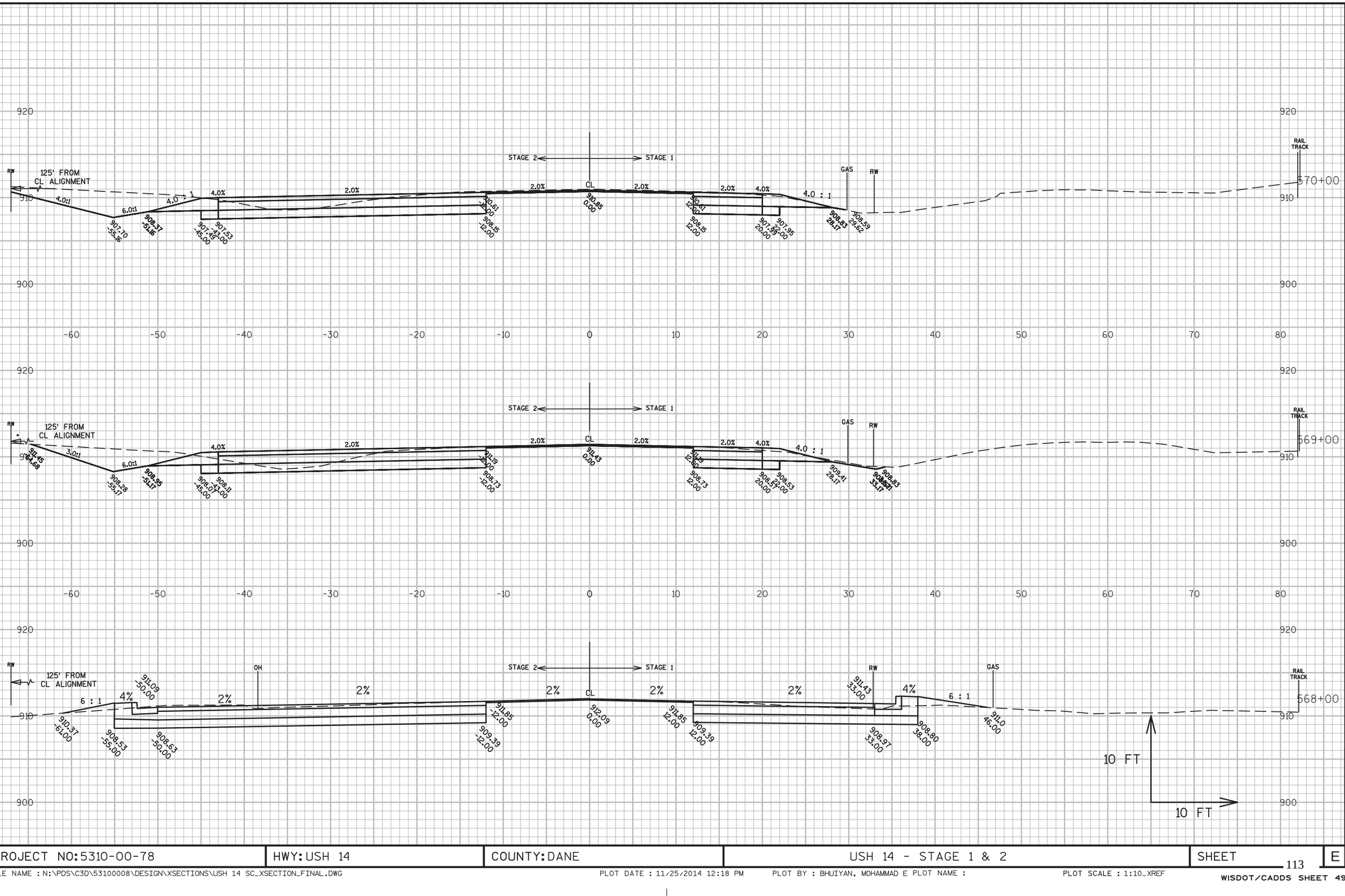
9

9

PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	USH 14 - STAGE 1 & 2	SHEET	E

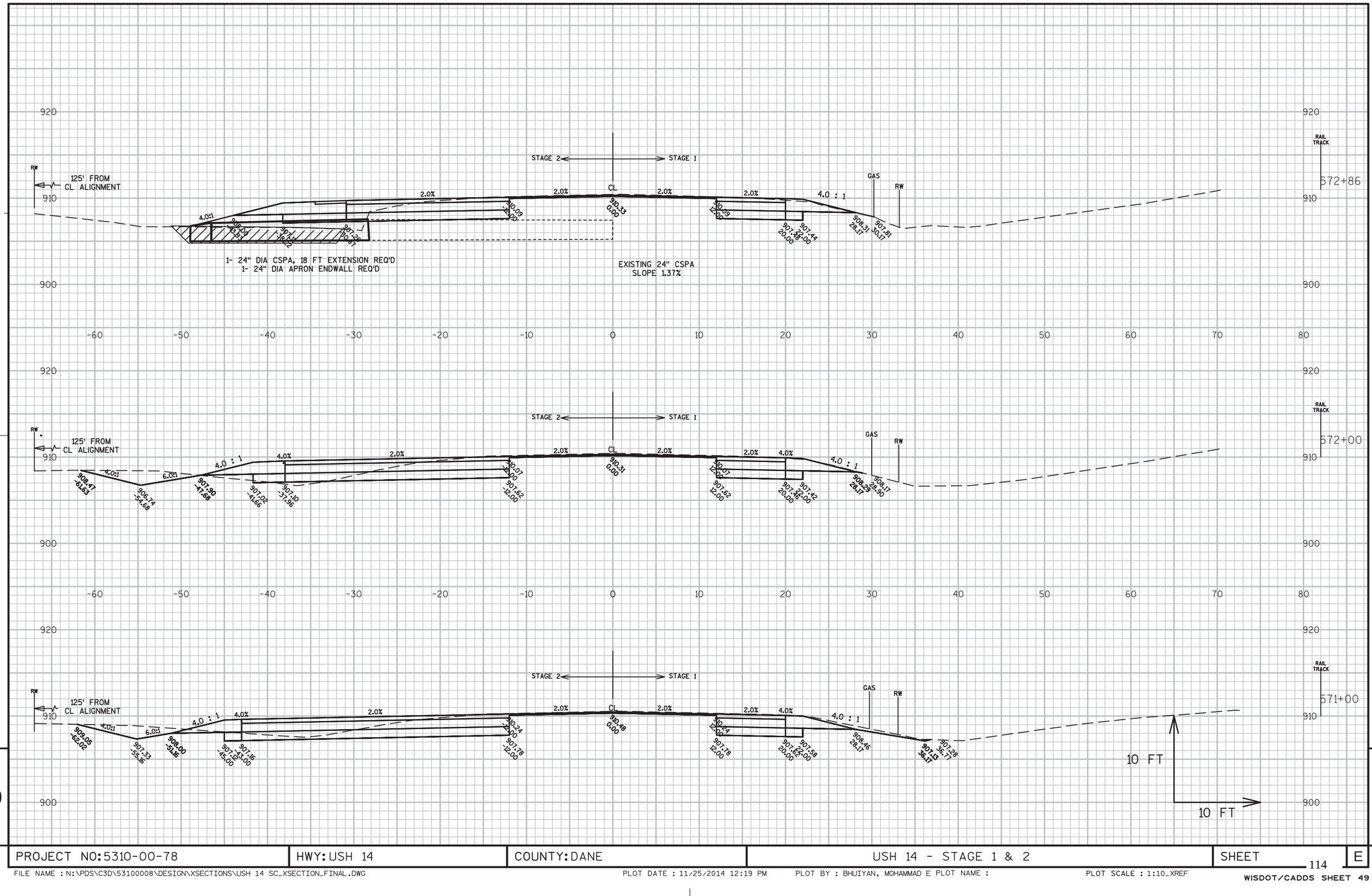
FILE NAME : N:\PDS\C3D\53100008\DESIGN\XSECTIONS\USH 14 SC_XSECTION_FINAL.DWG PLOT DATE : 11/25/2014 12:17 PM PLOT BY : BHUIYAN, MOHAMMAD E PLOT NAME : PLOT SCALE : 1:10_XREF

WISDOT/CADDS SHEET 49



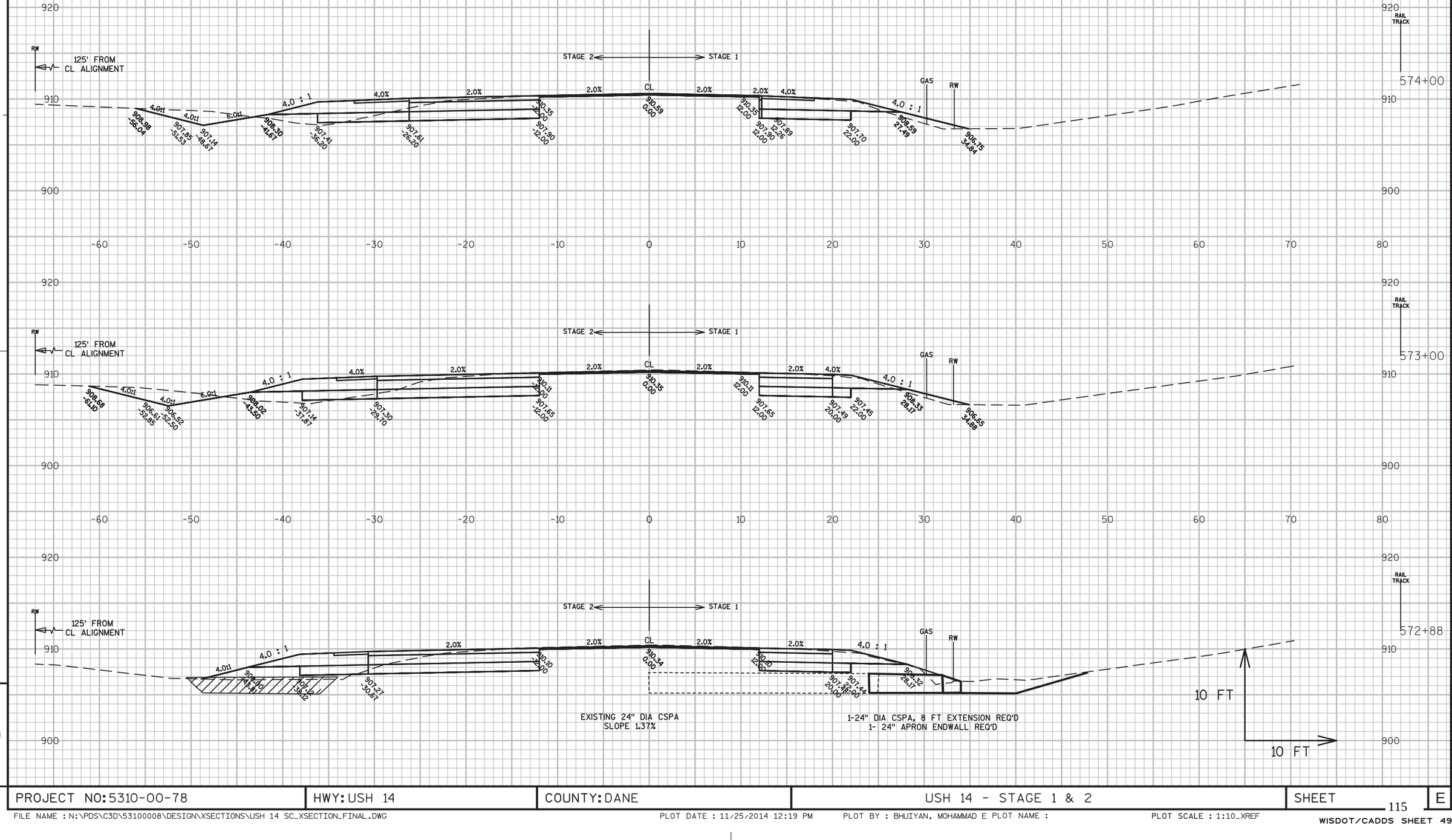
PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	USH 14 - STAGE 1 & 2	SHEET	E

FILE NAME : N:\PDS\C3D\53100008\DESIGN\XSECTIONS\USH 14 SC_XSECTION_FINAL.DWG PLOT DATE : 11/25/2014 12:18 PM PLOT BY : BHUIYAN, MOHAMMAD E PLOT NAME : PLOT SCALE : 1:10_XREF



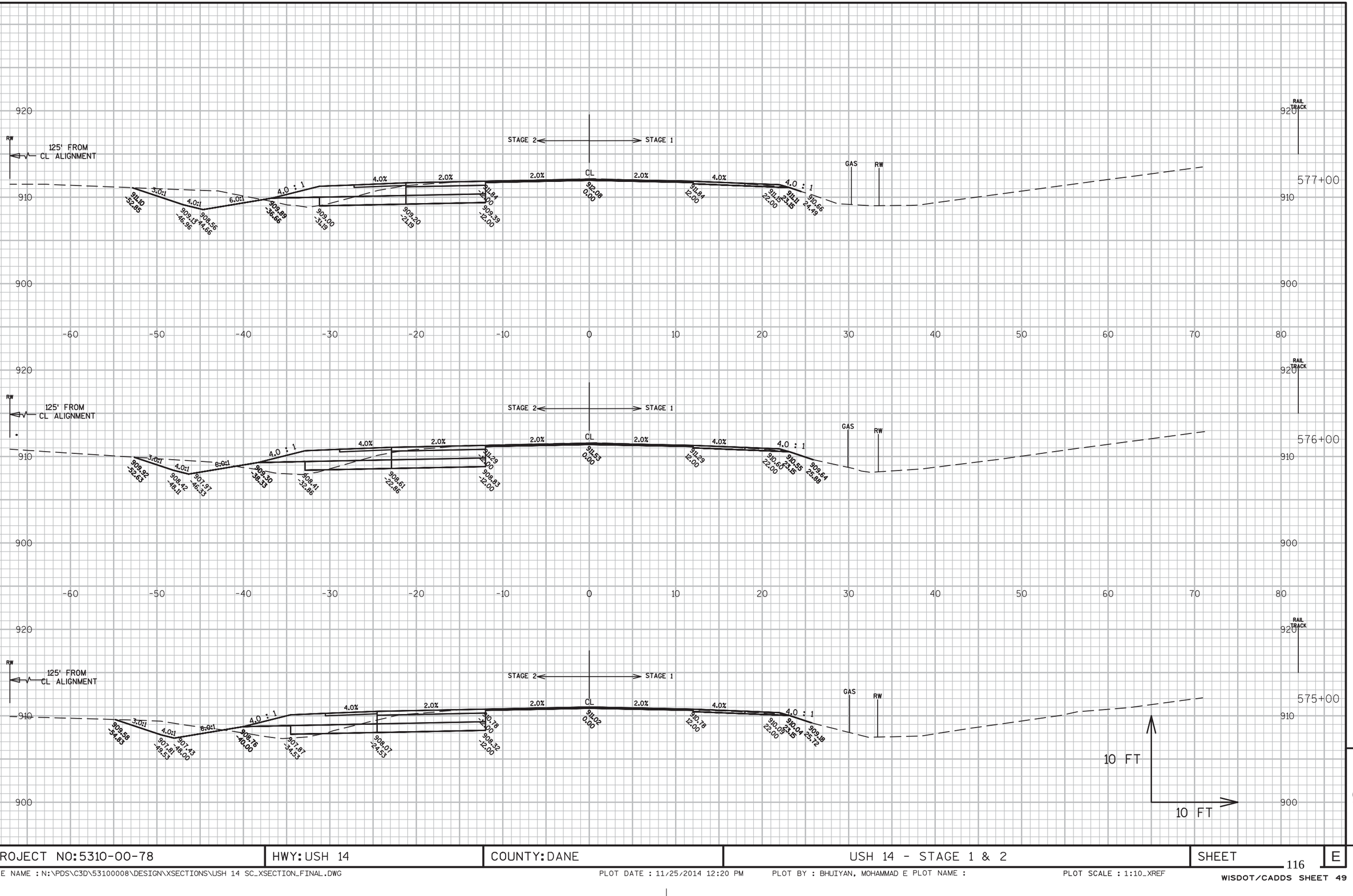
PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	USH 14 - STAGE 1 & 2	SHEET	E

FILE NAME : N:\PDS\C3D\53100008\DESIGN\XSECTIONS\USH 14 SC_XSECTION_FINAL.DWG PLOT DATE : 11/25/2014 12:19 PM PLOT BY : BHUIYAN, MOHAMMAD E PLOT NAME : PLOT SCALE : 1:10_XREF



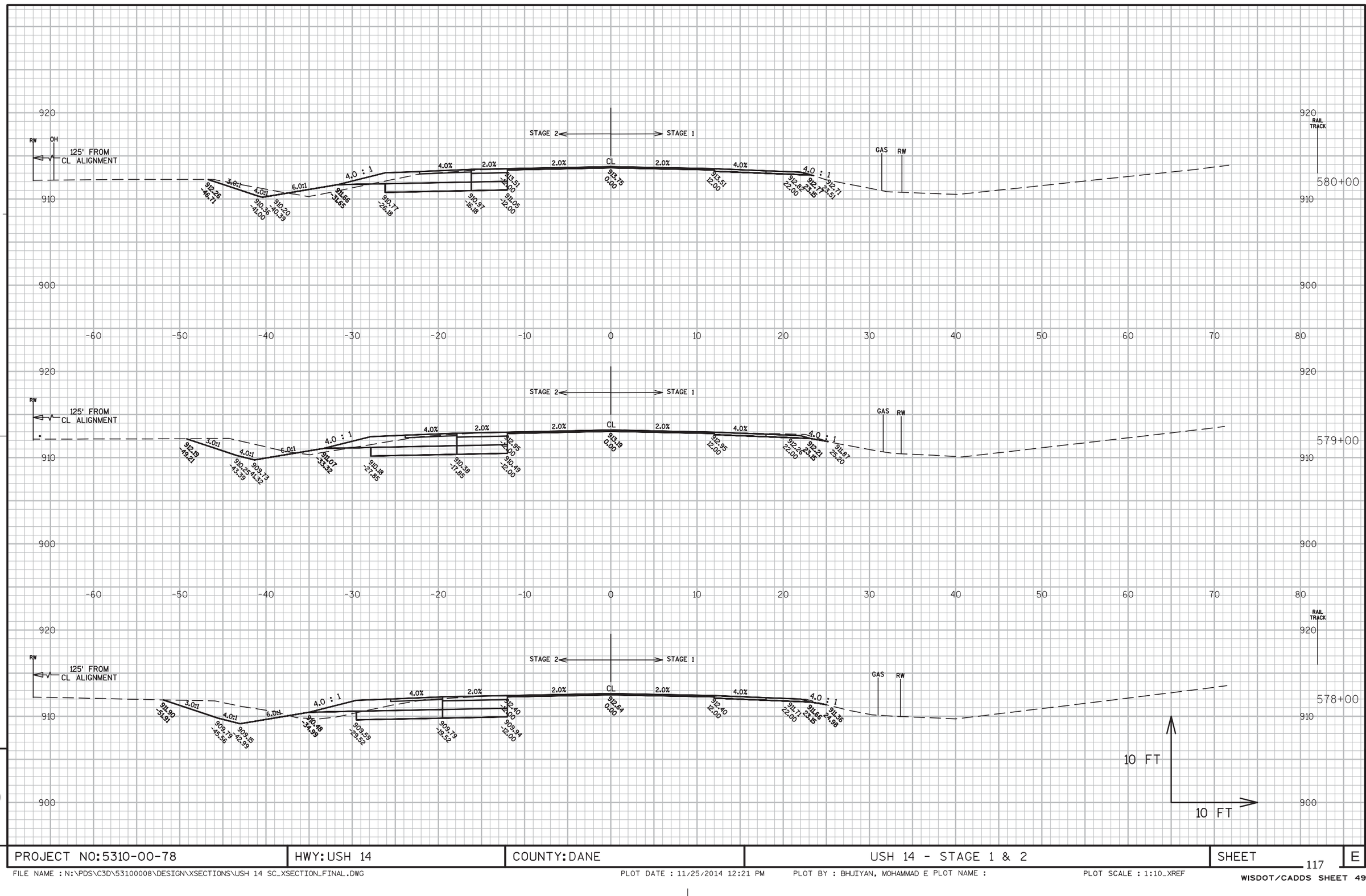
PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	USH 14 - STAGE 1 & 2	SHEET	E

FILE NAME : N:\PDS\C3D\53100008\DESIGN\XSECTIONS\USH 14 SC_XSECTION_FINAL.DWG PLOT DATE : 11/25/2014 12:19 PM PLOT BY : BHUIYAN, MOHAMMAD E PLOT NAME : PLOT SCALE : 1:10_XREF



PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	USH 14 - STAGE 1 & 2	SHEET	E

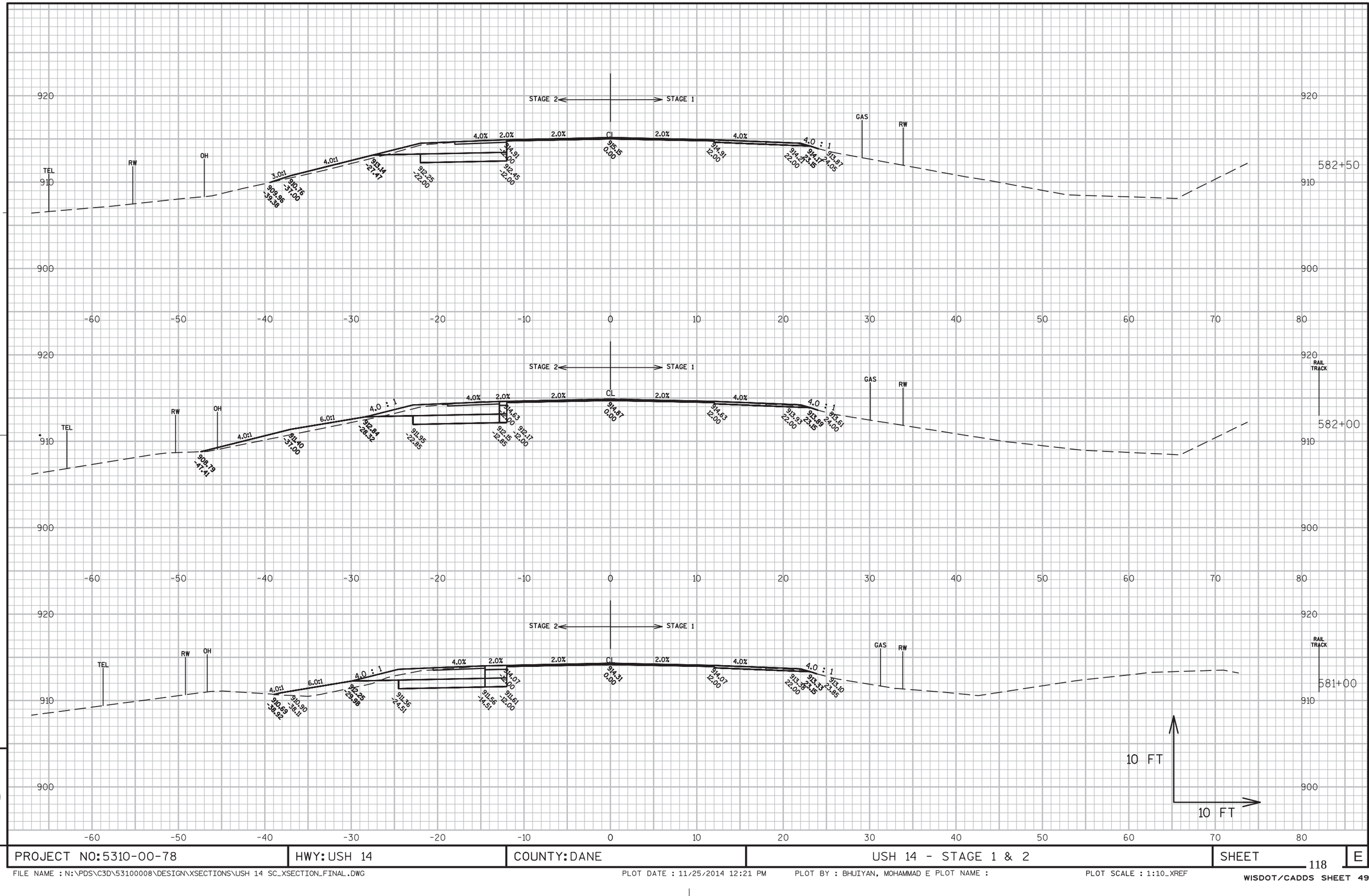
FILE NAME : N:\PDS\C3D\53100008\DESIGN\XSECTIONS\USH 14 SC_XSECTION_FINAL.DWG PLOT DATE : 11/25/2014 12:20 PM PLOT BY : BHUIYAN, MOHAMMAD E PLOT NAME : PLOT SCALE : 1:10_XREF
WISDOT/CADDS SHEET 49



PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	USH 14 - STAGE 1 & 2	SHEET	E

FILE NAME : N:\PDS\C3D\53100008\DESIGN\XSECTIONS\USH 14 SC_XSECTION_FINAL.DWG PLOT DATE : 11/25/2014 12:21 PM PLOT BY : BHUIYAN, MOHAMMAD E PLOT NAME : PLOT SCALE : 1:10_XREF

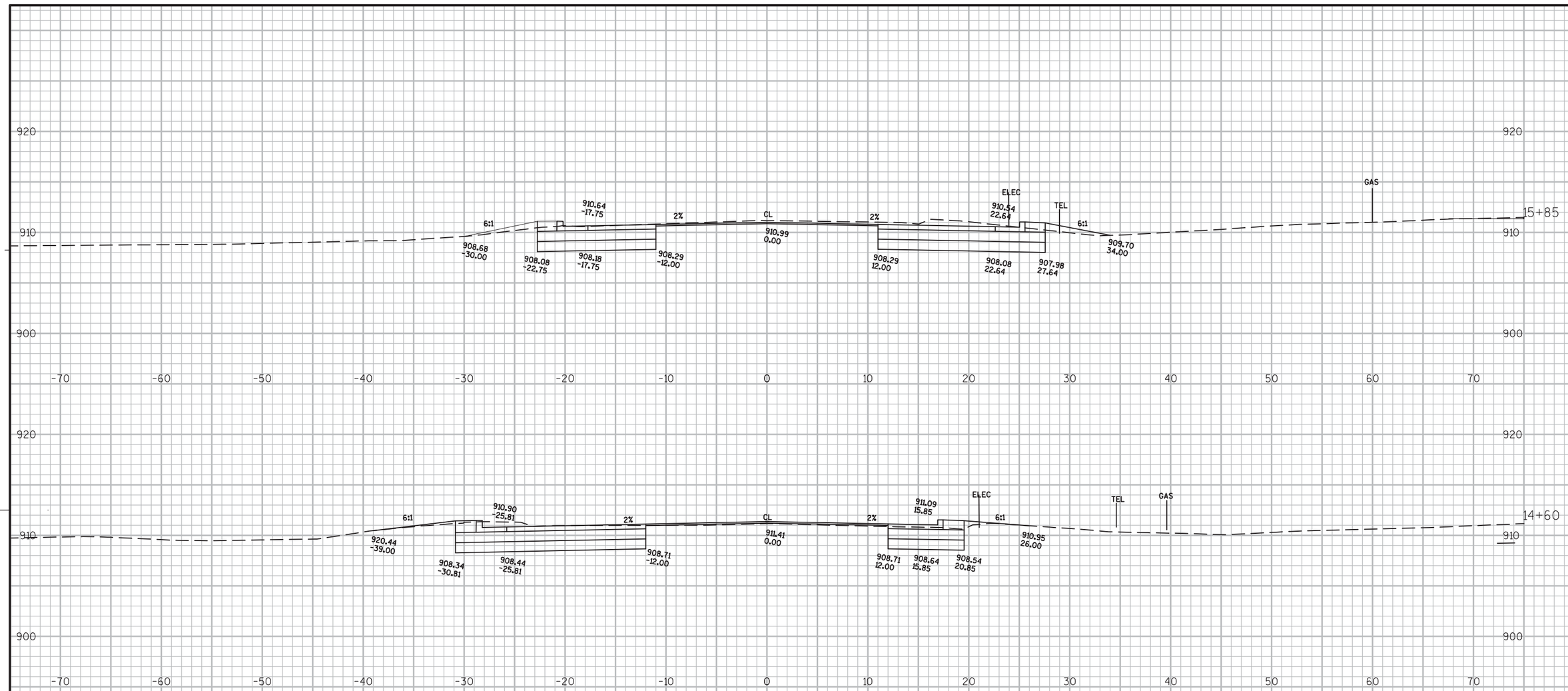
WISDOT/CADDS SHEET 49



PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	USH 14 - STAGE 1 & 2	SHEET	E

FILE NAME : N:\PDS\C3D\53100008\DESIGN\XSECTIONS\USH 14 SC_XSECTION_FINAL.DWG PLOT DATE : 11/25/2014 12:21 PM PLOT BY : BHUIYAN, MOHAMMAD E PLOT NAME : PLOT SCALE : 1:10_XREF

WISDOT/CADDS SHEET 49



PROJECT NO: 5310-00-78	HWY: USH 14	COUNTY: DANE	CROSS SECTIONS: STAGECOACH RD	SHEET	E

FILE NAME : N:\PDS\C3D\53100008\DESIGN\XSECTIONS\STAGECOACH RD_FINAL.DWG PLOT DATE : 11/25/2014 12:25 PM PLOT BY : BHUIYAN, MOHAMMAD E PLOT NAME : PLOT SCALE : 1:10_XREF

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov