GRE

NOVEMBER 2024

PROJECT ID: 4995-03-02

WITH: N/A

COUNTY: SHEBOYGAN

ORDER OF SHEETS

TOTAL SHEETS = 220

32

N

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

CITY OF PLYMOUTH
SIDEWALK GAP IMPROVEMENTS
CTH E
SHEBOYGAN COUNTY

STATE PROJECT NUMBER
4995-03-02

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4995-03-02	WISC 2025043	1

END PROJECT
STA 40+17.42

T-15-N

R-21-E

END PROJECT
STA 109+89.37

BEGIN PROJECT
STA 99+98.15
X=147403.475
Y=174760.085

BEGIN PROJECT
STA 10+17.64
X=153,295.351
Y=177,354.644

DESIGN DESIGNATION

A.A.D.T.	=	3,000 TO 3,600 (2017)
A.A.D.T.	=	
D.H.V.	=	
D.D.	=	
T.	=	
DESIGN SPEED	=	60 MPH
ESALS	=	

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

LAYOUT
SCALE 0 1.5 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.762 MI.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF NAVD 88(2012)

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), SHEBOYGAN COUNTY, NAD 1983(2011)

ACCEPTED FOR SHEBOYGAN COUNTY
10/26/22 (Date) (Signature)

kapur

WISCONSIN NEAL STYKA E-43008-6 MILWAUKEE WI. PROFESSIONAL ENGINEER

24 Oct. 2022 (Date) Neal Styka (Signature)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	Kapur & Associates, Inc
Designer	Kapur & Associates, Inc
Project Manager	Doug Kirst
Regional Examiner	
Regional Supervisor	Brian Edwards

APPROVED FOR THE DEPARTMENT
DATE: 10/26/22 (Signature)

E

2

GENERAL NOTES

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

ALL PRIVATE EXISTING UTILITIES NOT INCLUDED IN THE PLAN ARE TO BE ADJUSTED BY THE UTILITIES CONCERNED.

THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY LOCAL MUNICIPAL UTILITY WHICH IS NOT A MEMBER OF DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.

COORDINATE WITH DIGGERS HOTLINE TO FIELD LOCATE UTILITIES. ANY UTILITIES DAMAGED DUE TO CONTRACTOR ACTIVITIES SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE COMPLETE SATISFACTION OF THE UTILITY FACILITY.

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

CURB AND GUTTER GRADES ARE GIVEN TO THE FLANGE LINE. CURB AND GUTTER RADII ARE MEASURED TO THE FACE.

EXISTING DRIVEWAYS WILL BE RESTORED IN KIND AS DIRECTED BY THE ENGINEER IN THE FIELD AND AT THE LOCATION DETERMINED BY THE ENGINEER.

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

LOCATION OF STRUCTURES IN CURB AND GUTTER REFER TO CURB AND GUTTER FLOW LINE. LOCATION OF STRUCTURES NOT IN CURB AND GUTTER SECTION REFER TO CENTER OF STRUCTURE OR AS NOTED ON PLAN.

RIM ELEVATIONS ARE GIVEN AT FLOW LINE OF INLET OR AT CENTER OF MANHOLE. SEE STRUCTURE LOCATION DETAIL.

USE MONOLITHIC CONCRETE SHIMMING AS SHOWN ON PLANS FOR FINAL ADJUSTMENT OF DRAINAGE STRUCTURES LOCATED WITHIN THE CONCRETE PAVEMENT, AND CONCRETE CURB AND GUTTER. IF THE ADJUSTMENT IS LESS THAN 4-INCHES, THE ENGINEER MAY CHOOSE TO DIRECT THE CONTRACTOR TO USE GRADE RINGS FOR ADJUSTMENTS FOR STORM SEWER STRUCTURES.

INLET AND DISCHARGE ELEVATIONS FOR DRAINAGE STRUCTURES AND PIPES SHOWN ON THE PLANS MAY BE ADJUSTED BY THE ENGINEER TO FIT EXISTING FIELD CONDITIONS.

VERIFY THE EXISTING STORM SEWER SYSTEM CONNECTION LOCATIONS AND ELEVATIONS PRIOR TO ORDERING DRAINAGE STRUCTURES AND PIPES. NOTIFY THE ENGINEER OF ANY DEVIATIONS FROM THE INFORMATION SHOWN ON THE PLANS PRIOR TO INSTALLING THE PROPOSED STORM SEWER.

ALL DRAINAGE STRUCTURES, EXISTING OR PROPOSED, SUBJECT TO TRAFFIC LOADING SHALL HAVE NON-ROCKING COVERS AS DIRECTED BY THE ENGINEER IN THE FIELD. COST INCIDENTAL TO NEW COVER ON PROPOSED STRUCTURE.

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

UTILITY/AGENCY CONTACTS

CHARTER COMMUNICATIONS
MR. CHARLES BRASILE
1320 N. DR. MARTIN LUTHER KING JR. DR.
MILWAUKEE, WI 53212
414-908-4822
CHARLES.BRASILE@CHARTER.COM

FRONTIER COMMUNICATIONS
MR. RUSSEL RYAN
118 DIVISION STREET
PLYMOUTH, WI 53073
RUSSEL.W.RYAN@FTR.COM

PLYMOUTH UTILITIES - SEWER AND WATER
MS. CATHERINE AUSTIN
DIRECTOR OF PUBLIC WORKS/UTILITIES
900 CTH PP
P.O. BOX 277
PLYMOUTH, WI 53073
920-893-1471
CAUSTIN@PLYMOUTHUTILITIES.COM

PLYMOUTH UTILITIES - ELECTRIC
MR. RYAN ROEHRBORN
900 CTH PP
PLYMOUTH, WI 53073
920-893-1471
RROEHRBORN@PLYMOUTHUTILITIES.COM

WISCONSIN PUBLIC SERVICE - GAS
MR. MARTY SCHAUB
GAS ENGINEER
933 S. WILDWOOD AVE.
SHEBOYGAN, WI 53081
920-433-1289
MARTIN.SCHAUB@WISCONSINPUBLICSERVICE.COM

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
MR. JAY SCHIEFELBEIN
2984 SHAWANO WI 54313
920-360-3784
JEREMIAH.SCHIEFELBEIN@WI.GOV

KAPUR & ASSOCIATES, INC.
MR. KURT FARRENKOPF, P.E.
7711 N PORT WASHINGTON ROAD
MILWAUKEE, WI 53213
414-751-7226
KFARRENKOPF@KAPURINC.COM

WISCONSIN DEPARTMENT OF TRANSPORTATION
MS. KATIE SCHWARTZ P.E.
LOCAL PROGRAM PROJECT MANAGER
944 VANDERPERREN WAY
GREEN BAY, WI 54304
920-362-0389
KATIEA.SCHWARTZ@DOT.WI.GOV

DESIGN INDEX

STANDARD ABBREVIATIONS

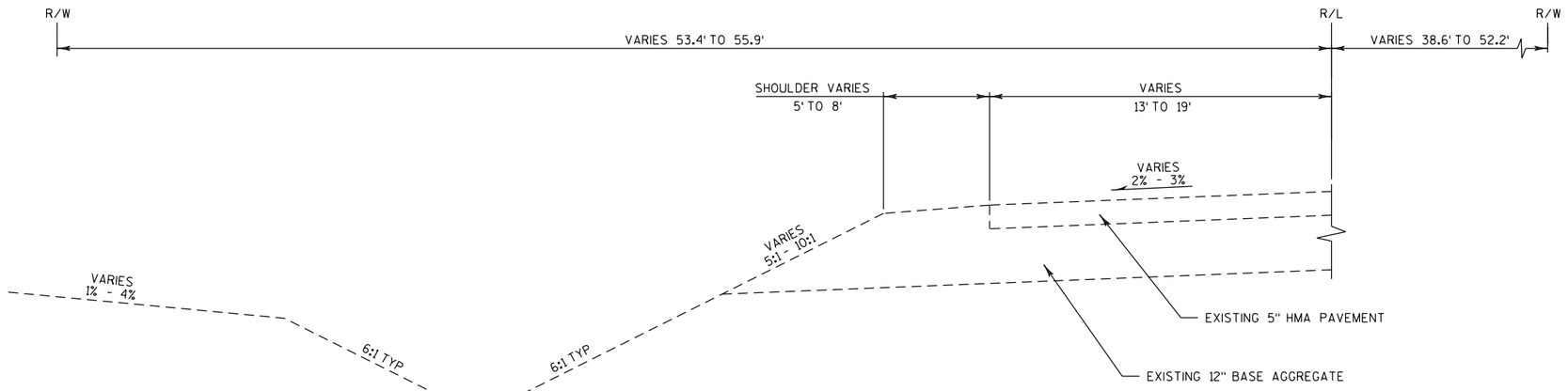
<	ANGLE
ADT	AVERAGE DAILY TRAFFIC
AC	ACRE
AE, AEW	APRON ENDWALL
AGG	AGGREGATE
AH	AHEAD
ASPH	ASPHALTIC
BC	BACK OF CURB
BF	BACK FACE
BIT	EXISTING BITUMINOUS
BM	BENCH MARK
BEG	BEGIN
BK	BACK
C & G	CURB AND GUTTER
CABC	CRUSHED AGGREGATE BASE COURSE
CB	CATCH BASIN
CMCP	CORRUGATED METAL CULVERT PIPE
CMP	CORRUGATED METAL PIPE
CP	CULVERT PIPE
CY	CUBIC YARD
CL OR C/L	CENTER LINE
CO	COUNTY
CONC	CONCRETE
CONST	CONSTRUCTION
CR	CREEK
CSO	COMBINED SEWER OVERFLOW
CTH	COUNTY TRUNK HIGHWAY
CWT	HUNDRED WEIGHT
D	DEGREE OF CURVE
△	DELTA
DHV	DESIGN HOUR VOLUME
DIA	DIAMETER
DISCH	DISCHARGE
E	EAST
EA	EACH
EB	EASTBOUND
EBS	EXCAVATION BELOW SUBGRADE
EL, ELEV	ELEVATION
ELEC	ELECTRIC(AL), ELEC CABLE
EMB	EMBANKMENT
ESALS	EQUIVALENT SINGLE AXEL LOADS
ESMT	EASEMENT
EW	ENDWALL
EXC	EXCAVATION
EXIST	EXISTING BITUMINOUS
EXP	EXPANSION
FC	FACE OF CURB
FE	FIELD ENTRANCE
FF	FACE TO FACE
F/L, FL	FLOW LINE
FERT	FERTILIZER
FHWA	FEDERAL HIGHWAY
FT	FOOT (FEET)
G	GAS
GN	GRID NORTH
H	HOUSE
HMA	HOT MIX ASPHALT
HP	HIGH POINT
HR	HANDICAP RAMP
HYD	HYDRANT
I	INTERSECTION ANGLE
ID	INSIDE DIAMETER
INL	INLET
INTER	INTERSECTION
INV	INVERT
IP	IRON PIPE
JT	JOINT
K	RATE OF VERTICAL CURVATURE
L	LENGTH OF CURVE
LB	POUND
LC	LONG CHORD OF CURVE
LP	LOW POINT
LF	LINEAR FOOT(FEET)
LHF	LEFT HAND FORWARD
LS	LUMP SUM
LT	LEFT
M	MARSH
MATL	MATERIAL
MP	MARKER POST
MAX	MAXIMUM
MGAL	1000 GALLONS
MH	MANHOLE
MIN	MINIMUM
ML OR M/L	MATCH LINE
N	NORTH
NB	NORTHBOUND
NC	NORMAL CROWN OR NO CHANGE
NO	NUMBER
NW OR N/W	NORMAL WATER
OBLIT	OBLITERATE
OD	OUTSIDE DIAMETER
PAVT	PAVEMENT
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVE
PE	PRIVATE ENTRANCE
PGL	PROFILE GRADE LINE
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
PLE	PERMANENT LIMITED EASEMENT
PRC	POINT OF REVERSE CURVE
PROJ	PROJECT
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
PAV'T	PAVEMENT
PCC	PORTLAND CEMENT CONCRETE
R	RADIUS OR RANGE
RC	REVERSE CURVE
RCCP	REINFORCED CONCRETE CULVERT PIPE
RCHECP	REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CULVERT PIPE
RCPSS	REINFORCED CONCRETE PIPE STORM SEWER
RHF	RIGHT HAND FORWARD
R/L	REFERENCE LINE
R/W	RIGHT OF WAY
RD	ROAD
RDWY	ROADWAY
REL	RELOCATE
REM	REMAINING
REQD	REQUIRED
RO	RUN OFF LENGTH
RT	RIGHT
RW	RETAINING WALL
S	SOUTH
SALV	SALVAGED
SAN/SA	SANITARY
SB	SOUTHBOUND
SDD	STANDARD DETAIL DRAWINGS
SE	SUPERELEVATION
SEC	SECTION
SF	SQUARE FOOT (FEET)
S/L	SURVEY LINE
SHLDR	SHOULDER(S)
SHR	SHRINKAGE
SPECS	SPECIFICATIONS
SS	STORM SEWER
STA	STATION
STH	STATE TRUNK HIGHWAY
STR	STRUCTURE
SW	SIDEWALK
SY	SQUARE YARD
TAN	TANGENT
TEL	TELEPHONE
T	(TRUCKS) PERCENT OF
TC	TOP OF CURB
TAN	TANGENT
TEMP	TEMPORARY
TL OR T/L	TRANSIT LINE
TLE	TEMPORARY LIMITED EASEMENT
TYP	TYPICAL
UG	UNDERGROUND (CABLE)
UNCL	UNCLASSIFIED
VAR	VARIABLE
VCL	VERTICAL CURVE LENGTH
VPC	VERTICAL POINT OF CURVATURE
VPCC	VERTICAL POINT OF COMPOUND CURVE
VPI	VERTICAL POINT OF INTERSECTION
VPRC	VERTICAL POINT OF REVERSE CURVE
VPT	VERTICAL POINT OF TANGENCY
VLV	VALVE
VOL	VOLUME
W	WEST
WB	WESTBOUND
WV	WATER VALVE
X	EASTING OR EAST GRID COORDINATE
Y	NORTHING OR NORTH GRID COORDINATE
YD	YARD

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	PROJECT OVERVIEW	SHEET 4	E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\020201_PO.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:700

WISDOT/CADDS SHEET 42

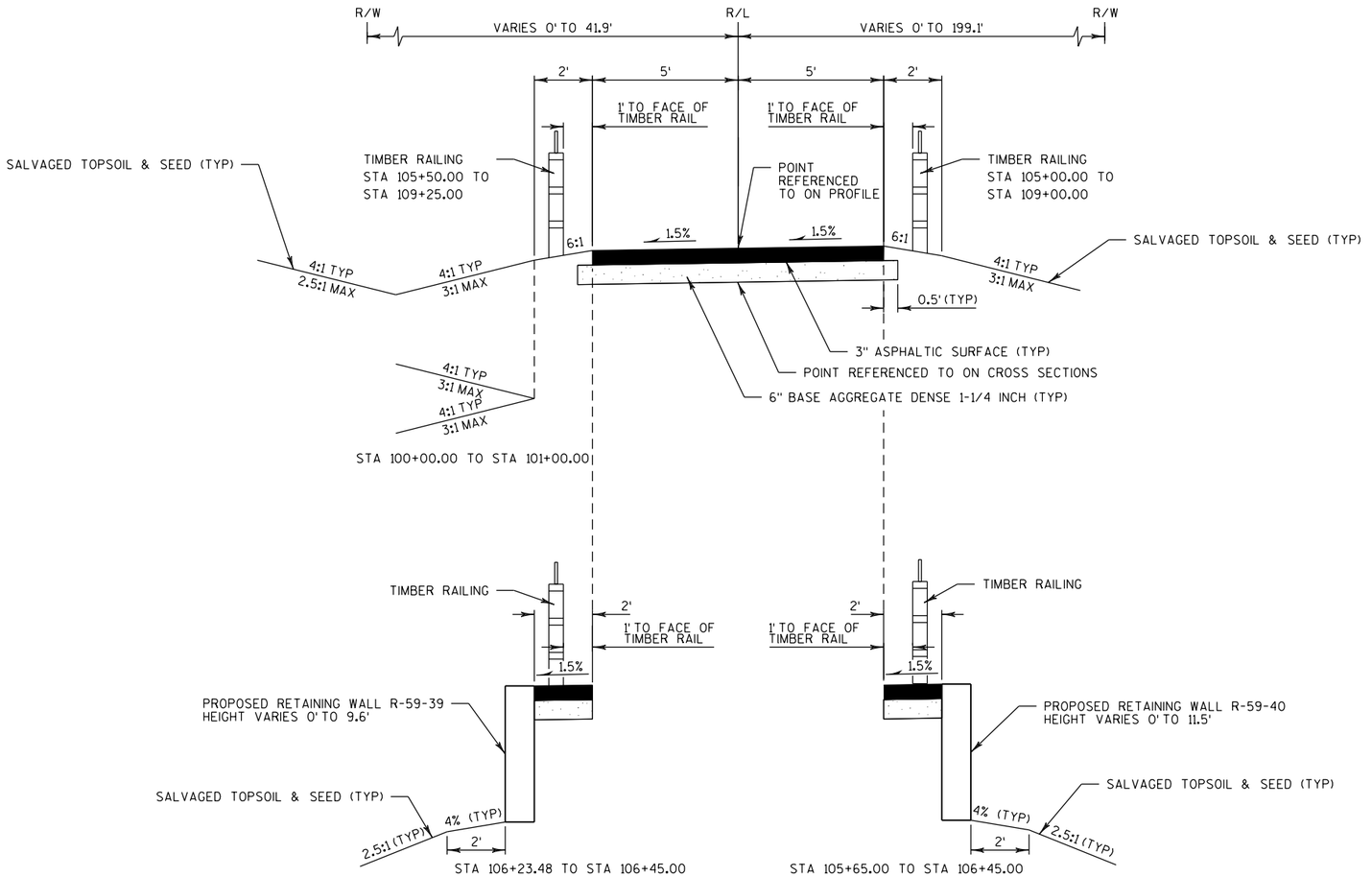
2



TYPICAL EXISTING SECTION - CTH E

STA 10+17.64 TO STA 40+17.42

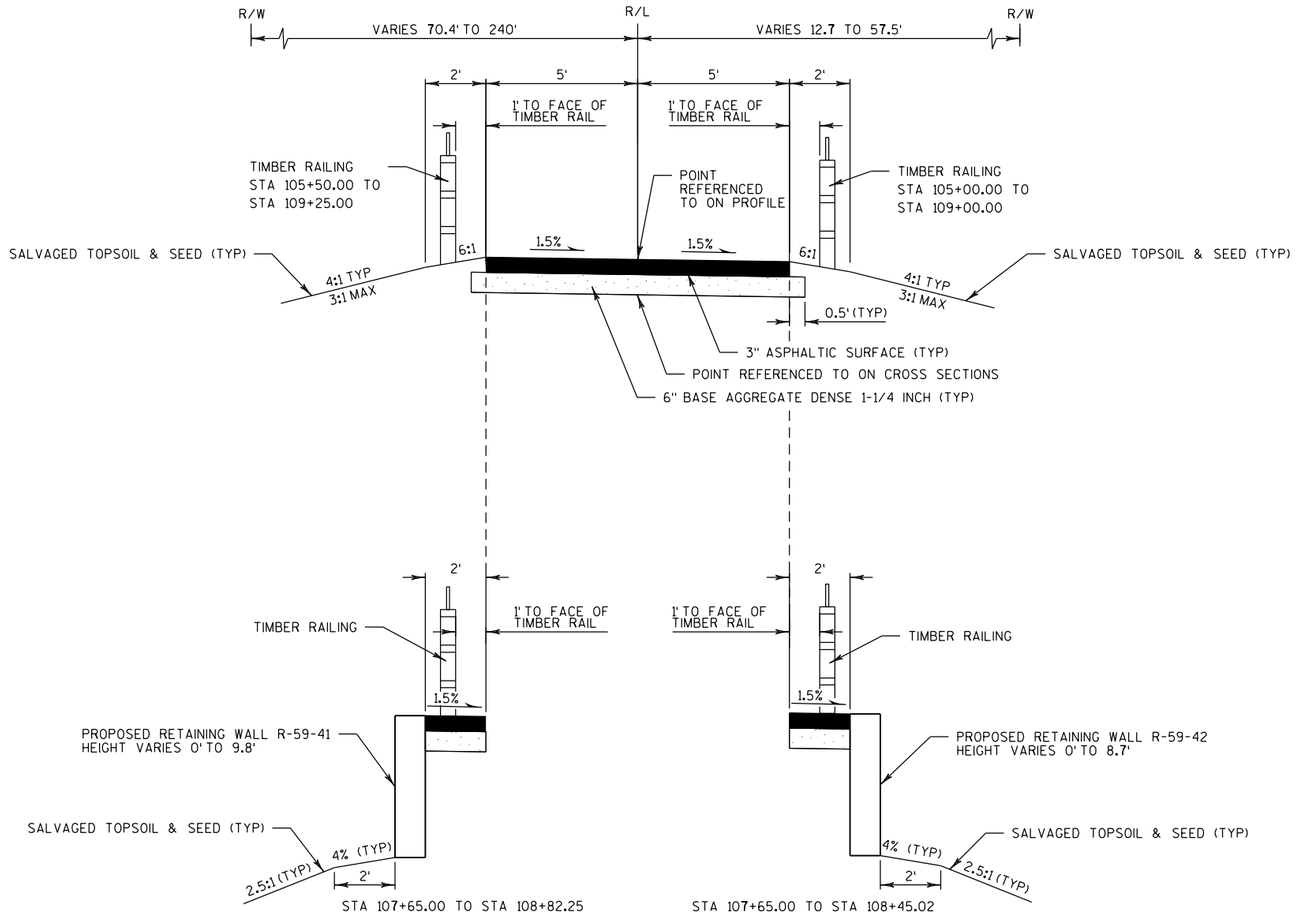
PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	TYPICAL SECTIONS	SHEET 5	E



TYPICAL PROPOSED SECTION - SOUTH OF MULLET RIVER

STA 100+00.00 TO STA 106+45.00

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	TYPICAL SECTIONS	SHEET 6	E

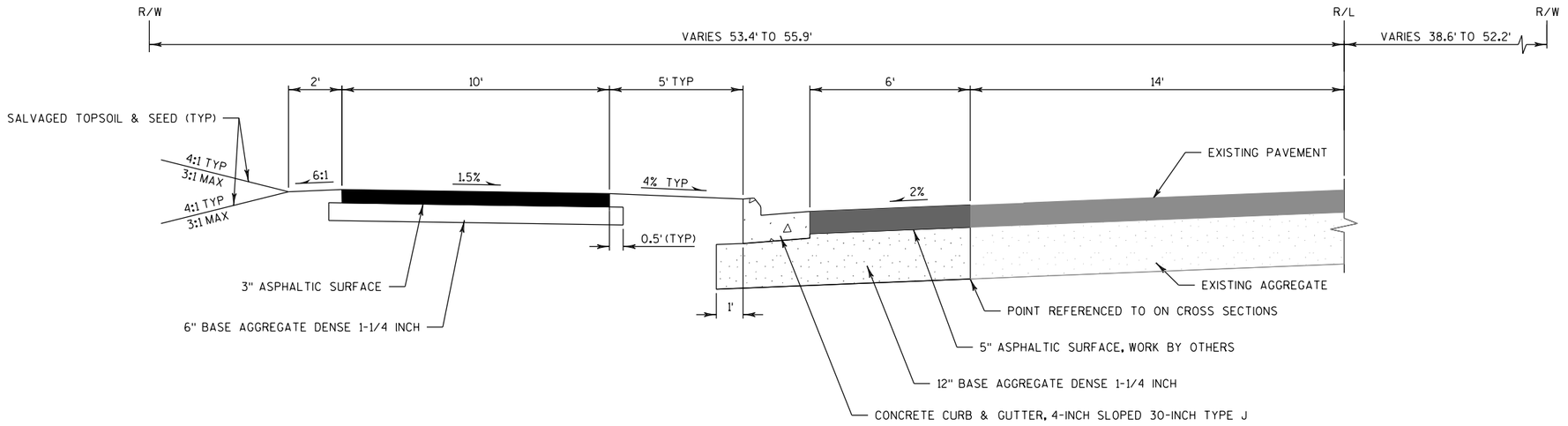


TYPICAL PROPOSED SECTION - NORTH OF MULLET RIVER

STA 107+65.00 TO STA 109+89.37

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	TYPICAL SECTIONS	SHEET 7	E

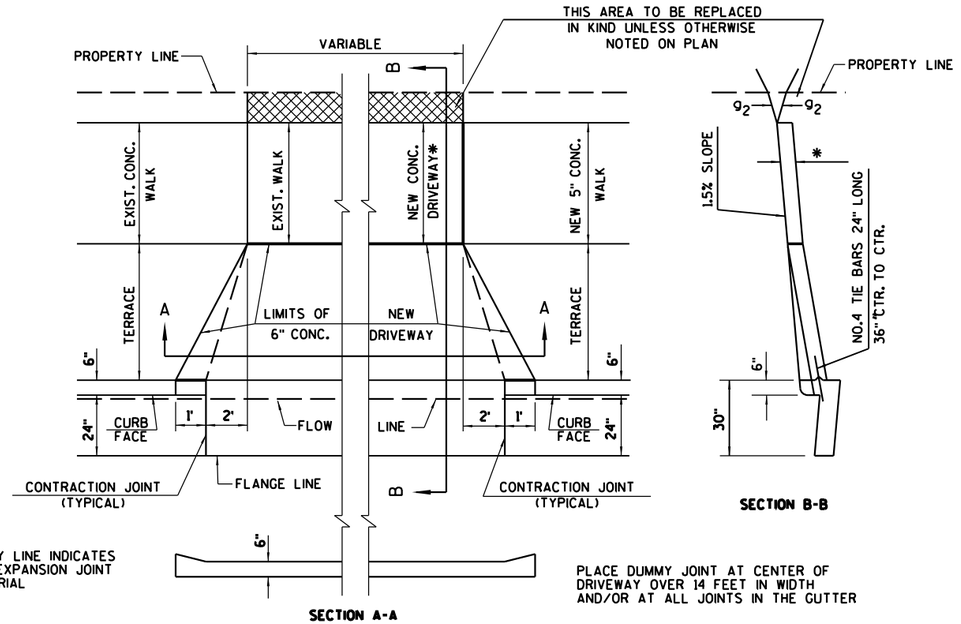
2



TYPICAL PROPOSED SECTION - CTH E

STA 10+17.64 TO STA 40+17.42

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	TYPICAL SECTIONS	SHEET 8	E



HEAVY LINE INDICATES 1/2" EXPANSION JOINT MATERIAL

PLACE DUMMY JOINTS AT CENTER OF DRIVEWAY AND/OR AT ALL JOINTS IN THE GUTTER

PLACE DUMMY JOINT AT CENTER OF DRIVEWAY OVER 14 FEET IN WIDTH AND/OR AT ALL JOINTS IN THE GUTTER

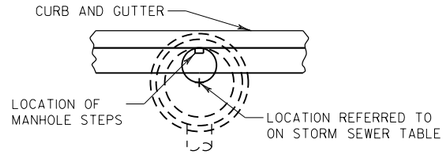
FLARED CONCRETE DRIVEWAY

MILWAUKEE ST
STA 200+94 TO 201+20

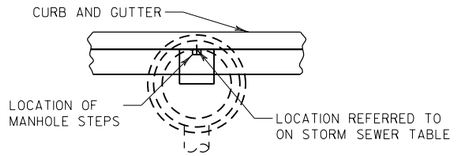
MAXIMUM DIFFERENCE BETWEEN g_1 & g_2 NOT TO EXCEED 15%
DESIRABLE MAXIMUM = 10%

MAXIMUM DIFFERENCE BETWEEN g_1 & g_2 IN FILL = 14%

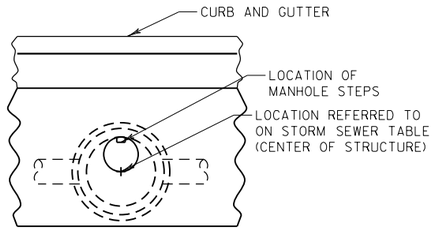
* 6-INCH MINIMUM



MANHOLE IN CURB AND GUTTER

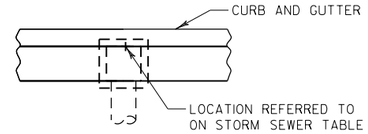


MANHOLE WITH INLET COVER IN CURB AND GUTTER

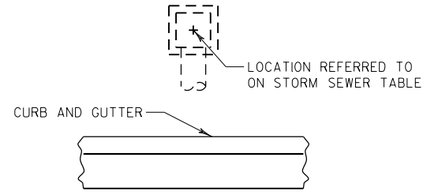


MANHOLE NOT IN CURB AND GUTTER

NOTE
1) LOCATION OF STRUCTURE MAY BE ADJUSTED TO FIT FIELD CONDITIONS.
2) LOCATION AND SIZE OF STRUCTURE COVER OPENING DEPENDS ON TYPE OF CASTING. CASTING TYPES ARE SHOWN ON THE STORM SEWER TABLE.



INLET IN CURB AND GUTTER

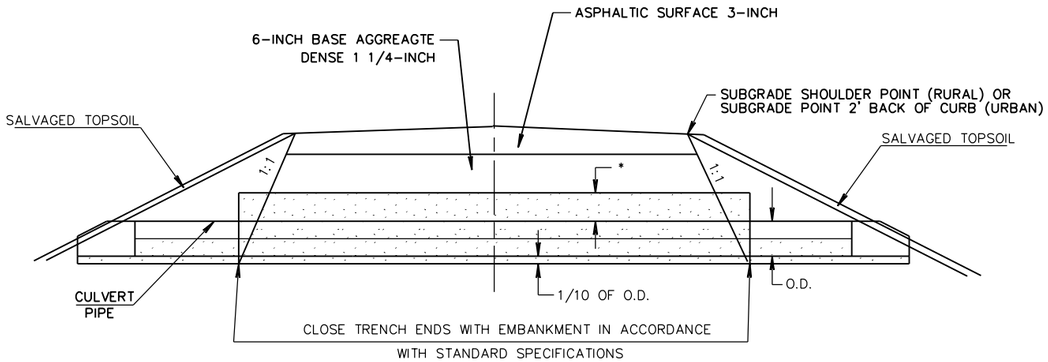


INLET NOT IN CURB AND GUTTER

STRUCTURE LOCATION DETAIL

LEGEND:

BASE AGGREGATE DENSE 1 1/4-INCH



OD = OUTSIDE DIAMETER
* CULVERT PIPE IN NEW EMBANKMENT = 1' MIN
* CULVERT PIPE IN EXISTING EMBANKMENT = TO EXISTING GROUND ELEVATION

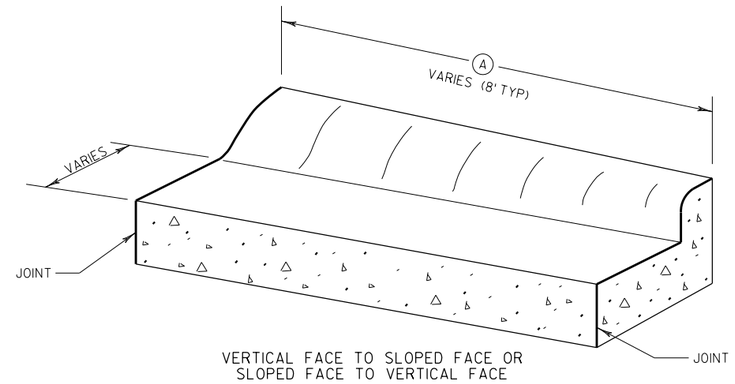
CULVERT BACKFILL DETAIL

SEE PLAN DETAIL FOR CROSS CULVERT LOCATIONS

NOTES

(A) 30-INCH CURB & GUTTER TYPE D TO CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J (TO BE MEASURED & PAID FOR AS 30-INCH CURB & GUTTER TYPE D).

30-INCH CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE J TO 18" CURB & GUTTER (TO BE MEASURED AND PAID FOR AS CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J).



CURB & GUTTER TRANSITION

SEE PLAN DETAILS FOR LOCATIONS

2

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											

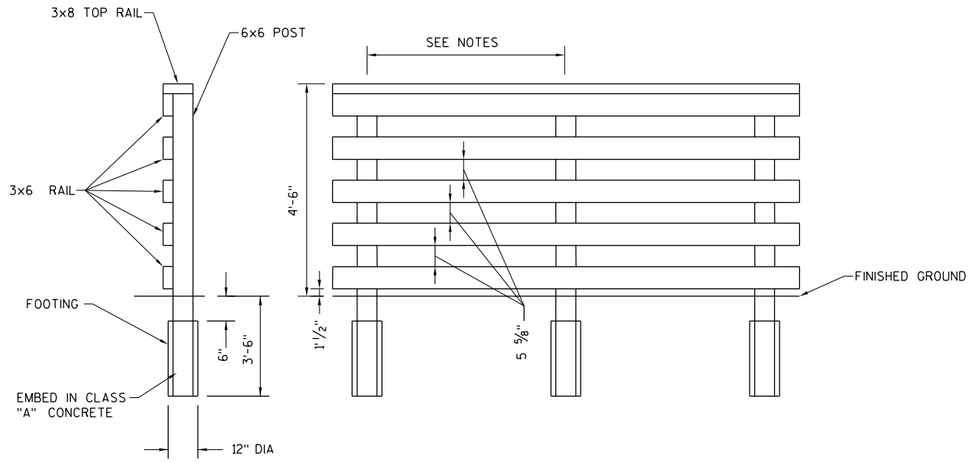
TOTAL PROJECT AREA = 2.37 ACRES
TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 2.37 ACRES

NOTES

8'-0" MAX POST SPACING FOR RAILING THAT IS CONTINUOUS OVER 3 SPANS/4 POSTS.
6'-0" MAX POST SPACING OTHERWISE .

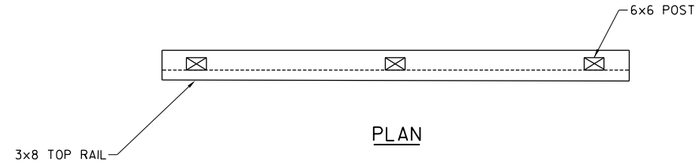
SLEEVES MAY BE USED. SLEEVES ARE INCIDENTAL TO ITEM "TIMBER RAILING".

COORDINATE POST LOCATION TO MISS SOIL REINFORCEMENT AT RETAINING WALL R-59-39, R-59-40, R-59-41 AND R-59-42.



SECTION

ELEVATION



PLAN

TIMBER RAILING DETAIL

2

2

LEGEND

AG01	BASE AGGREGATE DENSE 3/4-INCH
AG02	BASE AGGREGATE DENSE 1 1/4-INCH
AP13	HMA PAVEMENT 5-INCH
CG01	CONCRETE CURB AND GUTTER 30-INCH
CG02	CONCRETE CURB AND GUTTER 18-INCH
CG04	CURB RAMP TYPE 3 MODIFIED
CG06	CURB RAMP TYPE 4B1
CG10	CURB RAMP TYPE 7B
CG22	CONCRETE CURB PEDESTRIAN
CG23	CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE J
CS01	CONCRETE SIDEWALK 5-INCH
DR06	CONCRETE DRIVEWAY 6-INCH
PV10	SHARED USE PATH, 3" ASPHALTIC SURFACE
PV15	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES, 4-INCH
	SAWING ASPHALT
	SAWING CONCRETE
	PROPOSED INLET LOCATION
	PROPOSED MANHOLE LOCATION
	GRASS
L	LEVEL LANDING AREA
NTF	NONTRANSVERSABLE FLARE (MAX 6:1 SLOPE)
	CONCRETE DRIVEWAY ADJACENT TO ASPHALTIC SURFACE

NOTE:

1) CURB RADIUS GIVEN TO CURB FLANGE, UNLESS NOTED OTHERWISE.

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	PLAN DETAIL / CURB RAMP DETAIL LEGEND	SHEET 12 E

2

N

NOTE:
1) SEE PLAN DETAILS FOR ADDITIONAL CALLOUTS.

STA 99+99.89
-21.00
EL=822.97

6.25%

STA 99+97.91
-21.00
EL=823.09

STA 100+00.48
-15.00
EL=822.90

STA 99+99.98
-14.99
EL=822.88

STA 99+98.06
-14.97
EL=822.96

STA 100+00.60
-4.93
EL=822.87

STA 100+00.10
-4.92
EL=822.85

STA 99+98.10
-4.90
EL=822.93

STA 100+00.34
-21.00
EL=823.41

STA 100+02.65
-5.00
EL=822.93

STA 100+08.48
-15.00
EL=823.35

3.0%

NTF

SLOPE INTERCEPT (TYP)

STA 100+06.59
-5.00
EL=822.97

R/L MULLET RIVER PATH

1.5%

PV15

3.0%

PV15

AG01

STA 100+16.59
-5.00
EL=823.12

2.8%

4.0%

1.0%

1.5%

CG06

1.6%

10'

1.6%

DR06

DR06

2.8%

1.5%

AP13
2' X 10'

4.0%

STA 99+98.21
5.03
EL=822.70

CG01

NTF
5.8%

STA 100+16.71
5.00
EL=822.96

STA 100+06.71
5.00
EL=822.81

STA 100+00.62
11.00
EL=822.99

PV10

BEGIN PROJECT
STA 99+98.15

STA 100+00.21
5.01
EL=822.62

STA 100+00.71
5.00
EL=822.64

STA 99+98.28
11.00
EL=822.68

6.25%

STA 100+00.17
11.00
EL=822.56

SLOPE INTERCEPT (TYP)

FREDERICK ST

OH SAN SS FO T GUY

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	CURB RAMP DETAILS	SHEET 13	E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\021101_CR.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:10

2

NOTE:
1) SEE PLAN DETAILS FOR ADDITIONAL CALLOUTS.

N

EXISTING R/W

R/L S MILWAUKEE ST

S MILWAUKEE ST

STA 200+48.09
-20.34
EL=821.65

STA 200+51.50
-20.19
EL=822.11

STA 200+51.59
-19.89
EL=821.61

STA 200+55.61
-25.63
EL=821.71

STA 200+55.81
-35.63
EL=821.81

STA 200+48.11
-25.82
EL=821.95

STA 200+48.31
-35.78
EL=822.05

STA 200+51.59
-17.89
EL=821.66

STA 200+48.08
-19.86
EL=821.63

STA 200+48.06
-17.86
EL=821.71

STA 200+38.06
-17.97
EL=821.72

STA 200+38.08
-19.95
EL=821.64

STA 200+32.94
-18.04
EL=821.80

STA 200+32.94
-20.04
EL=821.69

STA 200+33.11
-20.51
EL=822.19

STA 200+38.31
-35.92
EL=822.13

STA 200+38.11
-25.98
EL=822.03

STA 200+30.76
-33.63
EL=822.29

STA 200+30.64
-27.72
EL=822.41

STA 200+38.09
-20.46
EL=821.72

STA 200+53.63
21.09
EL=821.43

STA 200+53.77
19.12
EL=821.56

STA 200+45.58
20.87
EL=821.54

STA 200+45.61
20.38
EL=821.52

STA 200+45.59
18.37
EL=821.60

STA 200+40.75
17.99
EL=821.61

STA 200+40.61
19.98
EL=821.53

STA 200+30.79
17.22
EL=821.68

STA 200+30.61
19.18
EL=821.55

STA 200+50.56
21.26
EL=822.04

STA 200+53.56
25.04
EL=822.21

STA 200+53.54
29.60
EL=822.26

STA 200+45.56
24.91
EL=821.82

STA 200+45.54
29.62
EL=821.91

STA 200+45.57
34.82
EL=822.17

STA 200+40.87
34.80
EL=822.15

STA 200+40.54
29.63
EL=821.90

STA 200+40.56
24.82
EL=821.83

STA 200+25.54
29.54
EL=822.40

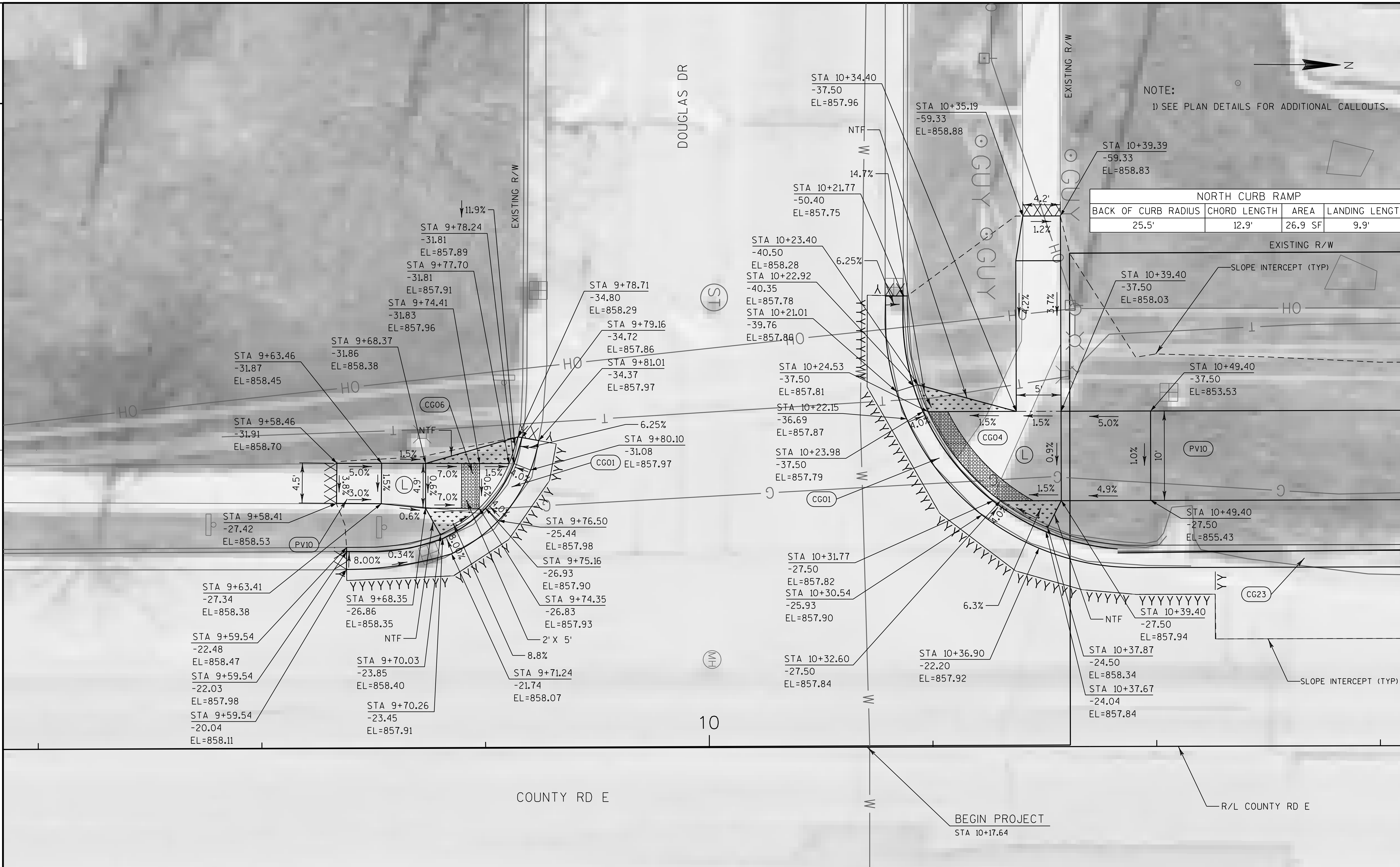
STA 200+25.56
24.58
EL=822.53

STA 200+40.58
20.89
EL=821.56

STA 200+35.60
20.00
EL=822.05

CS01
CG10
CG01
AP13
SA
NTF
OH

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	CURB RAMP DETAILS	SHEET 14	E



NORTH CURB RAMP			
BACK OF CURB RADIUS	CHORD LENGTH	AREA	LANDING LENGTH
25.5'	12.9'	26.9 SF	9.9'

PROJECT NO:4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	CURB RAMP DETAILS	SHEET 15	E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\021103_CR.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:10

NOTE:

1) SEE PLAN DETAILS FOR ADDITIONAL CALLOUTS.

SOUTH CURB RAMP			
BACK OF CURB RADIUS	CHORD LENGTH	AREA	LANDING LENGTH
29.5'	13.1'	27.1 SF	18'

NORTH CURB RAMP			
BACK OF CURB RADIUS	CHORD LENGTH	AREA	LANDING LENGTH
29.5'	16.1'	27.3 SF	16.1'

EXISTING R/W

EXISTING R/W

STA 14+31.27
-37.50
EL=858.40

STA 14+26.27
-37.50
EL=858.43

STA 14+49.22
-37.50
EL=858.31

NTF

15.4%

6.25%

STA 14+50.56
-40.50
EL=858.82

STA 14+51.02
-40.32
EL=858.32

STA 14+51.96
-39.97
EL=858.36

STA 14+50.55
-36.81
EL=858.33

STA 14+49.66
-37.27
EL=858.29

STA 14+81.48
-40.32
EL=858.06

STA 14+80.55
-39.95
EL=858.10

STA 14+82.85
-37.27
EL=858.00

STA 14+81.97
-36.81
EL=858.04

STA 14+91.80
-27.50
EL=857.83

STA 14+91.72
-27.12
EL=857.81

STA 14+90.90
-26.30
EL=857.85

STA 14+81.94
-40.50
EL=858.56

16.4%

NTF
STA 14+83.30
-37.50
EL=858.02

STA 14+99.66
-37.47
EL=858.10

STA 15+13.65
-37.50
EL=858.18

SLOPE INTERCEPT (TYP)

PV10 10' 1.2% 1.6%

CG04

CG02

0.5% 0.5% 0.5% 0.6%

4.0%

0.4% 1.5% 1.5% 0.7%

REMOVING ASPHALTIC SURFACE

STA 14+26.27
-27.50
EL=858.31

NTF

STA 14+41.73
-26.31
EL=858.17

STA 14+41.21
-27.10
EL=858.13

6.2%

STA 14+40.82
-27.50
EL=858.15

6.0%

STA 15+13.60
-27.50
EL=858.04

CG23

CG23

NTF

STA 14+99.62
-27.50
EL=857.94

STA 14+96.26
-23.15
EL=857.72

STA 14+96.92
-24.50
EL=858.18

STA 14+96.70
-24.05
EL=857.68

STA 14+31.27
-27.50
EL=858.29

STA 14+35.95
-24.50
EL=858.53

STA 14+36.17
-24.05
EL=858.03

STA 14+36.61
-23.15
EL=858.07

SLOPE INTERCEPT (TYP)

14

15

R/L COUNTY RD E

COUNTY RD E

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	CURB RAMP DETAILS	SHEET 16	E

2

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	PLAN DETAILS	SHEET	E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\021201_PD.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

NOTES

1) SEE CURB RAMP DETAILS FOR ADDITIONAL INFORMATION.

W MILL ST

EXISTING R/W

SLOPE INTERCEPT (TYP)

MULLET RIVER

GRUBBING

FACE OF TIMBER RAILING

SLOPE INTERCEPT (TYP)

R-59-41

R/L MULLET RIVER PATH

PEDESTRIAN BRIDGE B-59-328

R-59-39

R-59-42

R-59-40

FACE OF TIMBER RAILING

REMOVING CONCRETE STEPS, SUPPORTS AND RAILINGS

REMOVING STRUCTURE OVER WATERWAY, REMOVE DEBRIS PEDESTRIAN BRIDGE

MULLET RIVER

S MILWAUKEE ST

EXISTING R/W

R/L S MILWAUKEE ST

PV10

PV15

CS01

CG01

CG10

CG22

DR06

AP13

STA 109+84.63
-6.29

STA 109+77.89
-5.00

STA 109+90.44
-5.98

END PROJECT
STA 109+89.37

STA 201+17.26
42.82

STA 201+20.44
-16.31

STA 109+25.00
-6.00

STA 109+00.00
6.00

STA 200+94.43
-16.43

STA 200+97.09
43.04

STA 108+59.54
20.70

STA 200+51.58
-16.85

STA 200+53.54
29.60

STA 200+40.87
34.80

STA 107+65.41
15.00

STA 107+26.87
15.00

STA 107+26.87
7.00

STA 108+58.46
5.00

STA 200+40.81
-35.92

STA 200+30.76
-33.63

STA 200+30.64
-27.72

STA 200+30.54
29.64

STA 200+33.13
-16.96

STA 105+50.00
-6.00

STA 105+00.00
6.00

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	PLAN DETAILS	SHEET 18 E

NOTES
1) SEE CURB RAMP DETAILS FOR ADDITIONAL INFORMATION.

DOUGLAS DR
EXISTING R/W
EXISTING R/W
EXISTING R/W
EXISTING R/W
COUNTY RD E
R/L COUNTY RD E

STA 10+34.40
-37.50
STA 10+19.77
-48.09
STA 10+17.77
-48.10
STA 10+39.39
-59.33
STA 10+47.77
-48.00
R=28'
STA 10+39.40
-37.50
CURB AND GUTTER TRANSITION
SEE CONSTRUCTION DETAILS
STA 9+64.26
-37.24
R=17'
STA 9+58.46
-31.91
STA 9+81.01
-34.37
STA 10+47.77
-20.00
SLOPE INTERCEPT (TYP)
STA 14+53.79
-53.69
STA 14+53.90
-48.69
STA 14+22.99
-51.00
R=31'
STA 14+23.98
-20.00
STA 14+78.77
-53.82
STA 14+78.54
-48.81
STA 15+09.88
-51.00
R=31'
STA 15+09.88
-20.00
CG02
AP13
PV10
CG04
CG06
CG01
CG23
AG02
10'
8'
STA 10+56.58
-17.00
STA 14+21.38
-12.00
STA 9+59.59
-22.50
STA 10+17.64
-12.00
CURB AND GUTTER TRANSITION
SEE CONSTRUCTION DETAILS
STA 15+12.73
-12.00
SLOPE INTERCEPT (TYP)
CURB AND GUTTER
TRANSITION
SEE CONSTRUCTION
DETAILS

BEGIN PROJECT
STA 10+17.64

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	PLAN DETAILS	SHEET 19	E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\021203_PD.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

NOTES

1) SEE CURB RAMP DETAILS FOR ADDITIONAL INFORMATION.

BENCHMARKS			
NUMBER	LOCATION	DESCRIPTION	ELEVATION
BM-102	STA 17+01.10, 0.13'RT	IRON PIPE	-

N

SLOPE INTERCEPT (TYP)

EXISTING R/W

TLE

PV10

10'

8'

AG02

CG23

16 17 18 19 20 21

COUNTY RD E

BM-102

R/L COUNTY RD E

SLOPE INTERCEPT (TYP)

EXISTING R/W

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	PLAN DETAILS	SHEET 20	E

2

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	PLAN DETAILS	SHEET 21	E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\021205_PD.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:40

2

N

SLOPE INTERCEPT (TYP)

+65.88

20'

+93.95

EXISTING R/W

AG01

PV10

PV10

PV10

10'

8"

AP13

PV15

CG23

AG02

28

29

30

31

32

33

COUNTY RD E

SLOPE INTERCEPT (TYP)

R/L COUNTY RD E

EXISTING R/W

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	PLAN DETAILS	SHEET 22	E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\021206_PD.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:40

2

N

SLOPE INTERCEPT (TYP)

+39.95

12.5'

+56.09

+59.34

EXISTING R/W

+33.10

16.1'

+56.05

+00.13

25.4'

+31.21

PV10

PV10

PV10

10'

8'

PV10

AG01

PV15

PV10

34

35

PV15

36

PV15

AG02

37

38

CG23

PV15

39

COUNTY RD E

SLOPE INTERCEPT (TYP)

BMB

CMP

EXISTING R/W

R/L COUNTY RD E

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	PLAN DETAILS	SHEET	E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\021207_PD.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:40

2

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	PLAN DETAILS	SHEET 24	E

2

BEGIN PROJECT
STA 99+98.15

NOTES
1) SEE CURB RAMP DETAILS FOR ADDITIONAL INFORMATION.

N

100 823.55 823.76
101 823.38 823.59 823.10 821.97 820.72 819.47 818.52
102 823.23 823.44 822.95 821.82 820.57 819.32 818.37 817.99 818.10 818.25 818.40 818.55
103 818.14 818.25 818.40 818.55 818.70 818.85 819.00 819.15
104 818.70 818.85 819.00 819.15 819.30 819.45 819.83 820.67
105 819.30 819.68 820.52 821.75 822.98 824.23 825.45 821.88 823.13 824.38 825.48

R/L MULLET RIVER PATH

WILLOWBROOK DR

FREDERICK ST

MULLET RIVER

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	PAVING GRADES	SHEET 25	E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\021221_PG.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:40
WISDOT/CADDS SHEET 42

NOTES

1) SEE CURB RAMP DETAILS FOR ADDITIONAL INFORMATION.

W MILL ST
EXISTING R/W
N
R/L MULLET RIVER PATH
END PROJECT
STA 109+89.37
MULLET RIVER
PROPOSED PEDESTRIAN BRIDGE
R/L S MILWAUKEE ST
S MILWAUKEE ST
MULLET RIVER
PLE
TLE
110
107
106
105
822.45
823.45
823.48
822.10
822.38
822.60
822.25
822.53
824.70
824.73
824.88
825.95
827.20
827.23
828.52
828.53
828.58
828.59
827.38
827.41
829.06
828.16
828.13
827.98
827.95
826.88
826.70
826.73
825.63
825.48
825.45
824.38
824.23
823.13
822.98
821.88
821.73
10'

PROJECT NO:4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	PAVING GRADES	SHEET 26	E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\021222_PG.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:40

NOTES

1) SEE CURB RAMP DETAILS FOR ADDITIONAL INFORMATION.

N

DOUGLAS DR

EXISTING R/W

EXISTING R/W

EXISTING R/W

5'

858.36 858.57 858.75 858.71 858.75 858.83 858.89 858.93 858.90 858.87 858.82 858.77 858.68 858.61 858.53 858.06 857.96

858.21 858.42 858.60 858.56 858.60 858.68 858.74 858.78 858.75 858.72 858.67 858.62 858.53 858.46 858.38 858.48 857.91 857.81

857.85 858.06 858.24 858.20 858.24 858.32 858.38 858.42 858.39 858.36 858.31 858.26 858.17 858.16 857.97 857.90 858.01 857.88 857.58 857.45 857.35

10' 8'

10 11 12 13 14 15

COUNTY RD E

R/L COUNTY RD E

EXISTING R/W

BEGIN PROJECT
STA 10+17.64

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	PAVING GRADES	SHEET 27	E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\021223_PG.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

N

EXISTING R/W

TLE

857.96	857.83	857.69	857.56	857.43	857.40	857.18	857.05	856.92	856.77	10'	856.62	856.46	856.29	856.11	856.01	855.92	855.80	855.66	855.53	855.38	855.21	855.04	854.92	854.85	854.78
857.81	857.68	857.54	857.41	857.28	857.25	857.03	856.90	856.77	856.62		856.47	856.31	856.14	855.96	855.86	855.77	855.65	855.51	855.38	855.23	855.06	854.89	854.77	854.70	854.63
857.35	857.22	857.08	856.95	856.82	856.79	856.57	856.44	856.31	856.16		856.01	8"	855.85	855.68	855.50	855.40	855.31	855.19	855.05	854.92	854.77	854.60	854.43	854.31	854.24	854.17

16 17 18 19 20 21

COUNTY RD E

R/L COUNTY RD E

EXISTING R/W

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	PAVING GRADES	SHEET 28	E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\021224_PG.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	PAVING GRADES	SHEET 29	E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\021225_PG.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:40

2

N

EXISTING R/W

848.83	848.46	848.12	847.78	847.39	846.99	846.61	10'	846.24	845.89	845.56	845.24	844.87	844.50	844.18	843.91	843.60	843.28	843.02	842.76	842.55	842.38	842.22	842.06	841.91	841.82
848.68	848.31	847.97	847.63	847.24	846.84	846.46		846.09	845.74	845.41	845.09	844.72	844.35	844.03	843.76	843.45	843.13	842.87	842.61	842.40	842.23	842.07	841.91	841.76	841.67
848.22	847.85	847.51	847.17	846.78	846.38	846.00		845.63	8'	845.28	844.95	844.63	844.26	843.89	843.57	843.30	842.99	842.67	842.41	842.15	841.94	841.77	841.61	841.45	841.30	841.21

28 29 30 31 32 33

COUNTY RD E

R/L COUNTY RD E

EXISTING R/W

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	PAVING GRADES	SHEET 30	E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\021226_PG.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:40


N
EXISTING R/W
841.82 841.74 841.62 841.54 841.04 840.94 840.81 840.75 840.75 840.65 840.54 840.49 840.36 840.21 840.08 839.97 839.83 839.66 839.55 839.48 839.84 840.06 840.39 840.66
841.67 841.59 841.47 841.39 840.89 840.79 840.66 840.60 840.60 840.50 840.39 840.34 840.21 840.06 839.93 839.82 839.68 839.51 839.40 839.33 839.69 839.91 840.24 840.51
841.21 841.13 841.01 840.93 840.74 840.64 840.51 840.46 840.25 840.16 840.05 840.00 839.75 839.60 839.47 839.36 839.22 839.05 838.94 838.87 839.23 839.45 839.78 840.05
10'
8'
34
35
36
37
38
39
COUNTY RD E
R/L COUNTY RD E
EXISTING R/W

PROJECT NO:4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	PAVING GRADES	SHEET 31	E

2

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	PAVING GRADES	SHEET 32	E

2

BEGIN PROJECT
STA 99+98.15

N

SLOPE INTERCEPT (TYP)

R/L MULLET RIVER PATH

WILLOWBROOK DR

FREDERICK ST

MULLET RIVER

LEGEND

EROSION MAT CLASS I, TYPE B SEED MIXTURE NO. 40	RIPRAP MEDIUM
EROSION MAT URBAN CLASS I, TYPE B SEED MIXTURE NO. 60	CULVERT PIPE CHECK
SLOPE INTERCEPT	TEMPORARY DITCH CHECK
INLET PROTECTION TYPE #	WETLAND BOUNDARY
SURFACE WATER FLOW	SILT FENCE

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	EROSION CONTROL PLAN	SHEET	E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\022001_EC.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:40

W MILL ST

EXISTING R/W

R/L MULLET RIVER PATH

HEAVY RIP RAP PLACED AS PART OF R-59-41
(SEE STRUCTURE PLANS)

SLOPE INTERCEPT (TYP)

MULLET RIVER

PROPOSED PEDESTRIAN BRIDGE

SLOPE INTERCEPT (TYP)

HEAVY RIP RAP PLACED AS PART OF B-59-328
(SEE STRUCTURE PLANS)

MULLET RIVER

END PROJECT
STA 109+89.37

R/L S MILWAUKEE ST

S MILWAUKEE ST

NOTE:
1) DO NOT APPLY FERTILIZER WITHIN 20 FEET OF WATER BODY.

N

LEGEND

EROSION MAT CLASS I, TYPE B SEED MIXTURE NO. 40	RIPRAP MEDIUM
EROSION MAT URBAN CLASS I, TYPE B SEED MIXTURE NO. 60	CULVERT PIPE CHECK
SLOPE INTERCEPT	TEMPORARY DITCH CHECK
INLET PROTECTION TYPE #	WETLAND BOUNDARY
SURFACE WATER FLOW	SILT FENCE

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	EROSION CONTROL PLAN	SHEET 34	E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\022002_EC.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

N

DOUGLAS DR

EXISTING R/W

EXISTING R/W

EXISTING R/W

SLOPE INTERCEPT (TYP)

10 11 12 13 14 15

COUNTY RD E

R/L COUNTY RD E

SLOPE INTERCEPT (TYP)

EXISTING R/W

BEGIN PROJECT
STA 10+17.64

LEGEND

EROSION MAT CLASS I, TYPE B SEED MIXTURE NO. 40	RIPRAP MEDIUM
EROSION MAT URBAN CLASS I, TYPE B SEED MIXTURE NO. 60	CULVERT PIPE CHECK
SLOPE INTERCEPT	TEMPORARY DITCH CHECK
INLET PROTECTION TYPE #	WETLAND BOUNDARY
SURFACE WATER FLOW	SILT FENCE

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	EROSION CONTROL PLAN	SHEET 35	E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\022003_EC.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:40

2

N

SLOPE INTERCEPT (TYP)

EXISTING R/W

TLE

16 17 18 19 20 21

COUNTY RD E

R/L COUNTY RD E

SLOPE INTERCEPT (TYP)

EXISTING R/W

LEGEND

EROSION MAT CLASS I, TYPE B SEED MIXTURE NO. 40	RIPRAP MEDIUM
EROSION MAT URBAN CLASS I, TYPE B SEED MIXTURE NO. 60	CULVERT PIPE CHECK
SLOPE INTERCEPT	TEMPORARY DITCH CHECK
INLET PROTECTION TYPE #	WETLAND BOUNDARY
SURFACE WATER FLOW	SILT FENCE

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	EROSION CONTROL PLAN	SHEET 36	E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\022004_EC.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:40

2

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	EROSION CONTROL PLAN	SHEET 37	E

2

2

N

SLOPE INTERCEPT (TYP)

EXISTING R/W

28 29 30 31 32 33

COUNTY RD E

SLOPE INTERCEPT (TYP)

R/L COUNTY RD E

EXISTING R/W

LEGEND

#######	EROSION MAT CLASS I, TYPE B SEED MIXTURE NO. 40		RIPRAP MEDIUM
	EROSION MAT URBAN CLASS I, TYPE B SEED MIXTURE NO. 60		CULVERT PIPE CHECK
	SLOPE INTERCEPT		TEMPORARY DITCH CHECK
#	INLET PROTECTION TYPE #		WETLAND BOUNDARY
	SURFACE WATER FLOW		SILT FENCE

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	EROSION CONTROL PLAN	SHEET 38	E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\022006_EC.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

2

N

SLOPE INTERCEPT (TYP)

EXISTING R/W

34 35 36 37 38 39

COUNTY RD E

SLOPE INTERCEPT (TYP)

R/L COUNTY RD E

EXISTING R/W

LEGEND

- EROSION MAT CLASS I, TYPE B SEED MIXTURE NO. 40
- EROSION MAT URBAN CLASS I, TYPE B SEED MIXTURE NO. 60
- SLOPE INTERCEPT
- INLET PROTECTION TYPE #
- SURFACE WATER FLOW
- RIPRAP MEDIUM
- CULVERT PIPE CHECK
- TEMPORARY DITCH CHECK
- WETLAND BOUNDARY
- SILT FENCE

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	EROSION CONTROL PLAN	SHEET 39	E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\022007_EC.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

2

STH 23

EXISTING R/W

SLOPE INTERCEPT (TYP)

HO

SS

R/L COUNTY RD E

40

41

COUNTY RD E

SLOPE INTERCEPT (TYP)

END PROJECT
STA 40+17.42

EXISTING R/W

GUY POLE

N

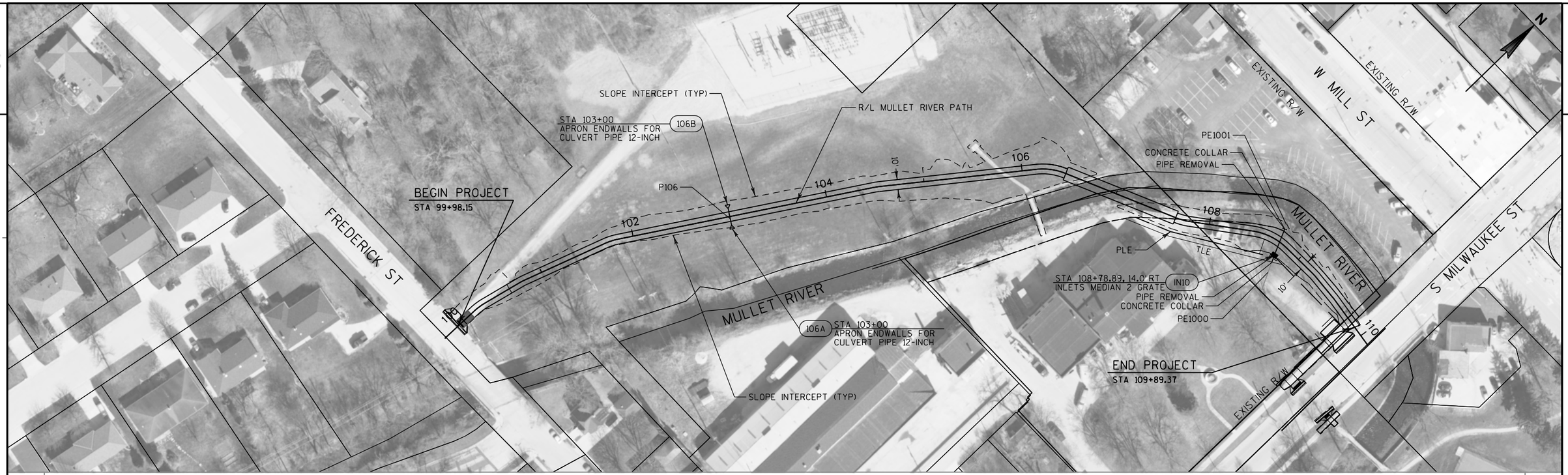
LEGEND

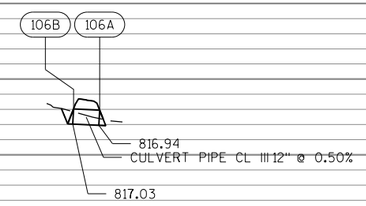
EROSION MAT CLASS I, TYPE B SEED MIXTURE NO. 40	RIPRAP MEDIUM
EROSION MAT URBAN CLASS I, TYPE B SEED MIXTURE NO. 60	CULVERT PIPE CHECK
SLOPE INTERCEPT	TEMPORARY DITCH CHECK
INLET PROTECTION TYPE #	WETLAND BOUNDARY
SURFACE WATER FLOW	SILT FENCE

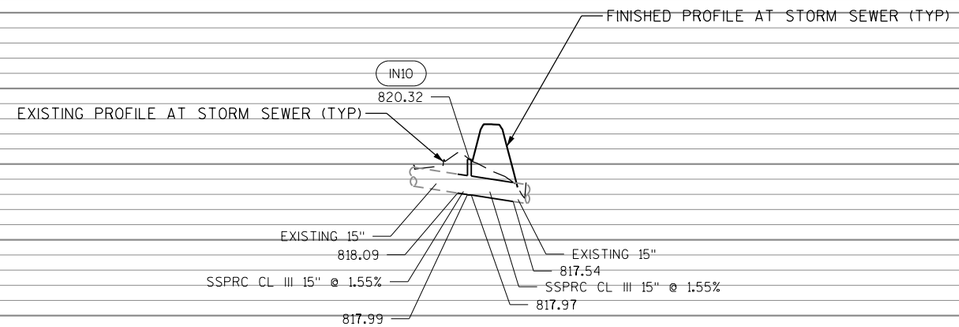
PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	EROSION CONTROL PLAN	SHEET 40	E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\022008_EC.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

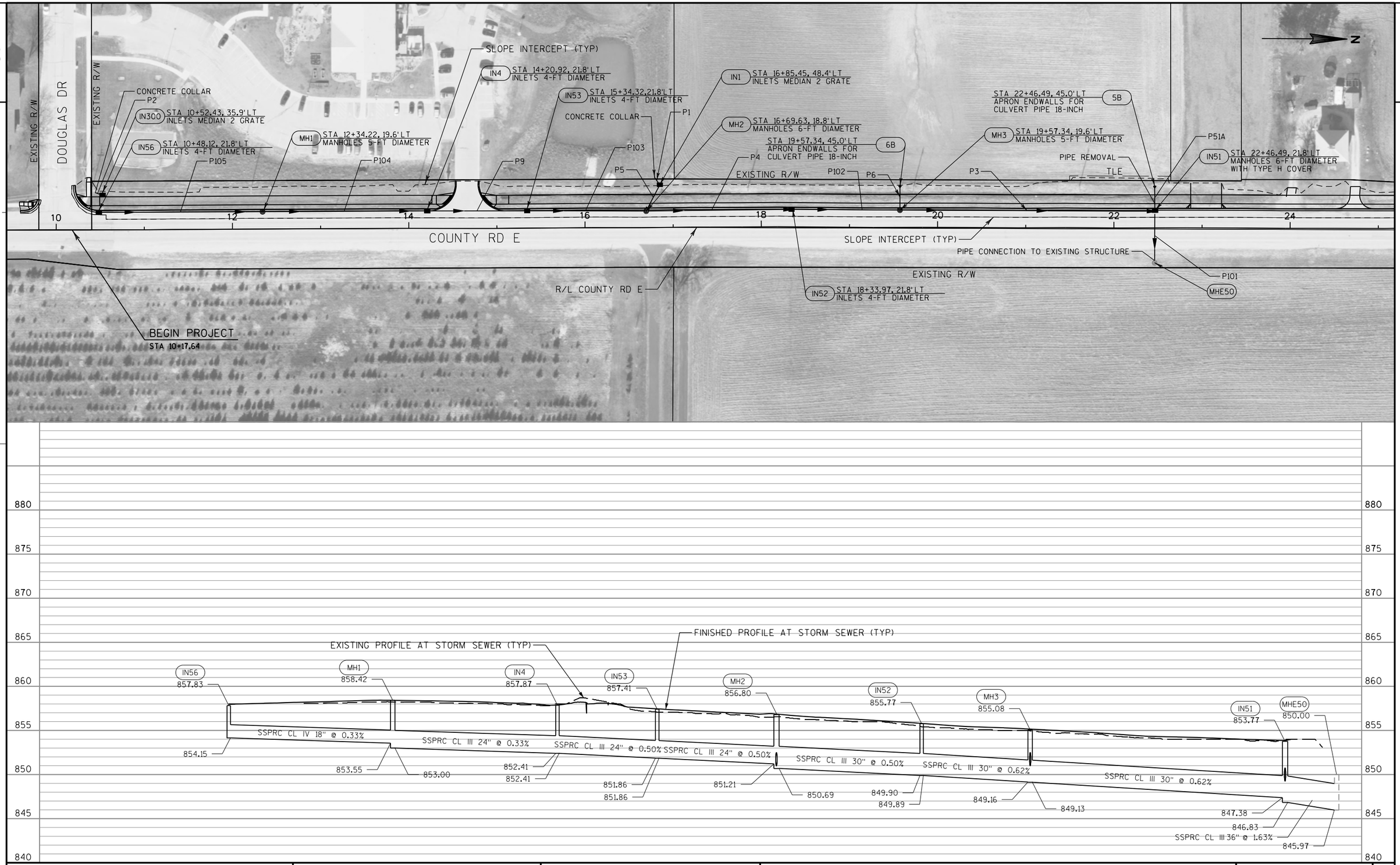






PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	STORM SEWER PLAN AND PROFILE	SHEET 41	E

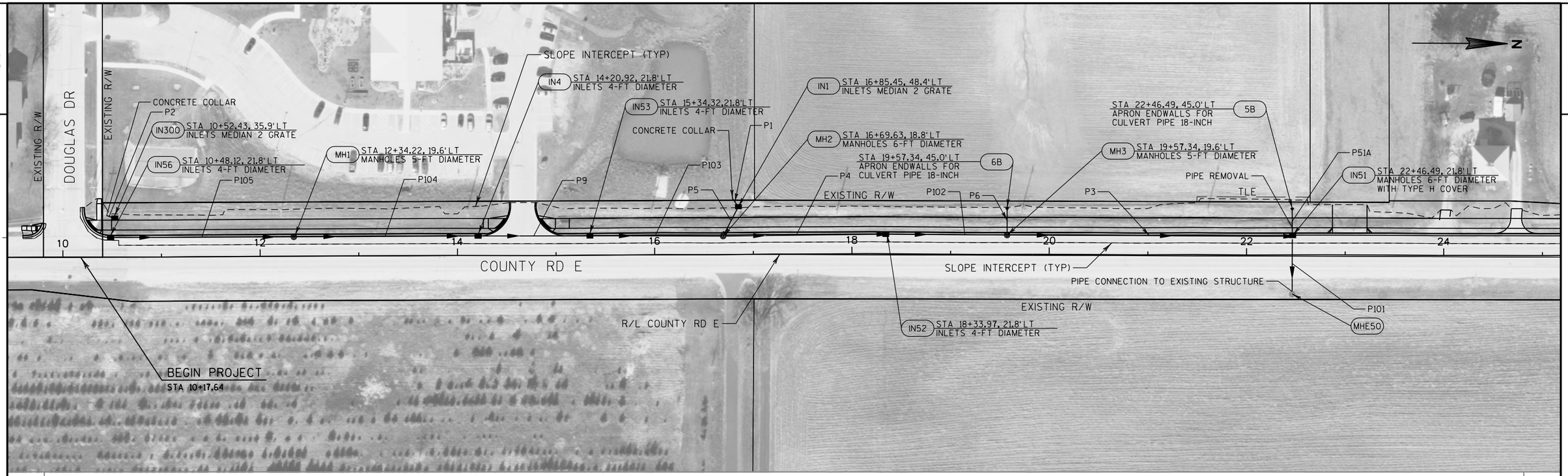
FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\022501_SS.dgn PLOT DATE : 9/30/2024 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

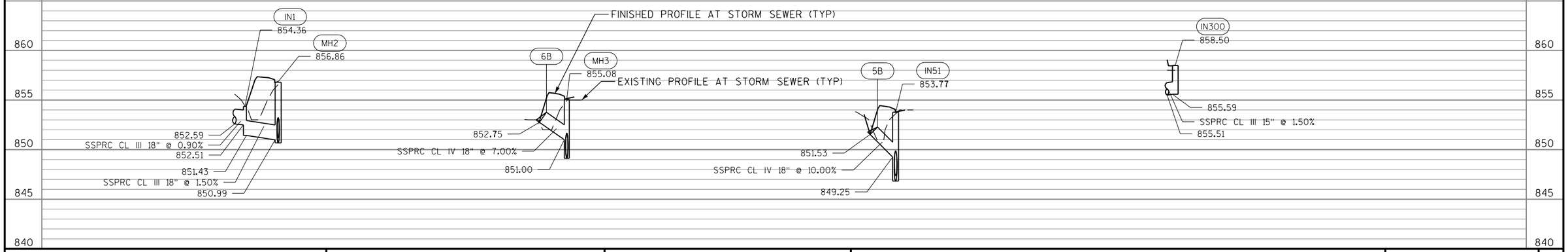


PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	STORM SEWER PLAN AND PROFILE	SHEET 42	E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\022502_SS.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

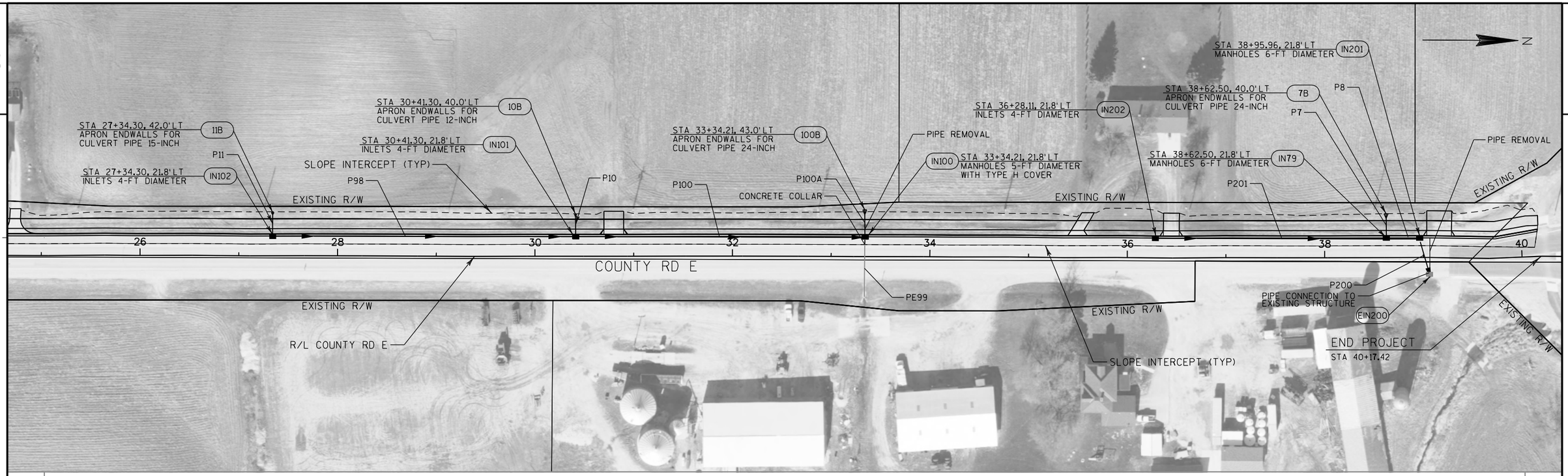
2

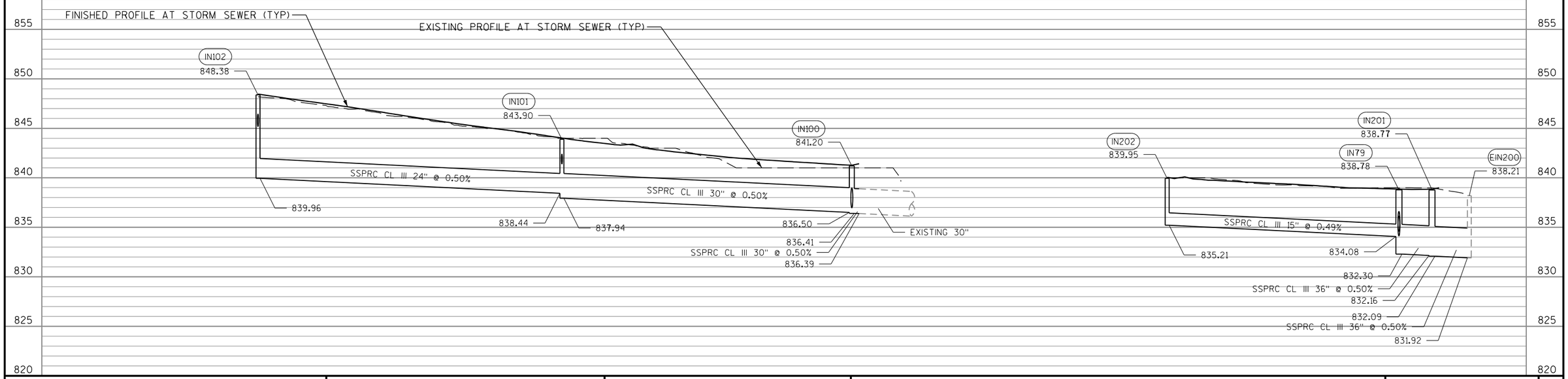




PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	STORM SEWER PLAN AND PROFILE	SHEET 43	E

2



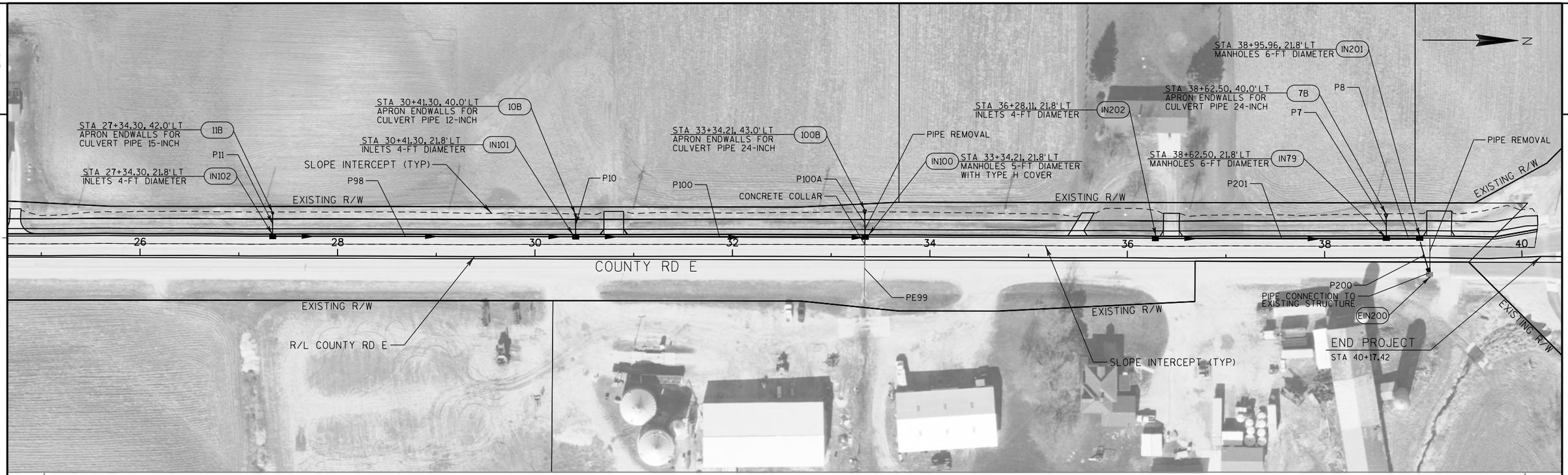


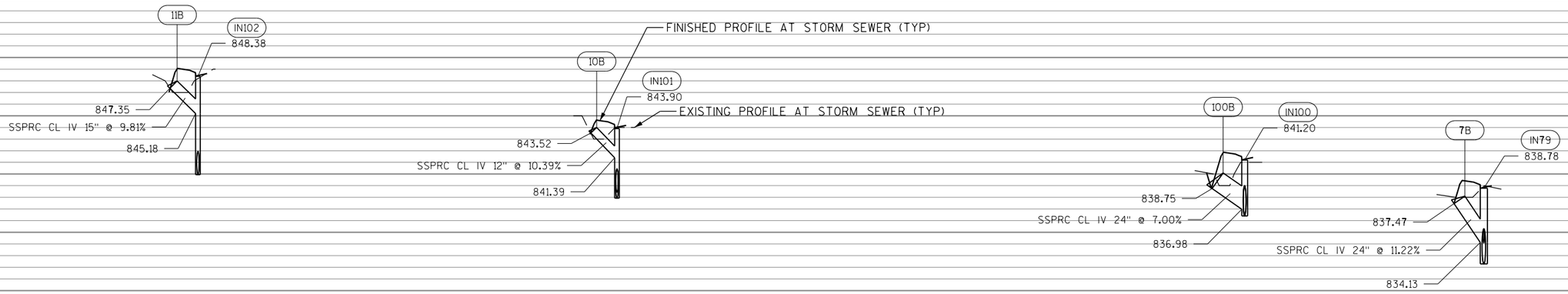
PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	STORM SEWER PLAN AND PROFILE	SHEET 44	E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\022504_SS.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:100

WISDOT/CADDS SHEET 41

2





PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	STORM SEWER PLAN AND PROFILE	SHEET 45	E

2

BEGIN PROJECT
STA 99+98.15

100
101
102
103
104
105

N

WILLOWBROOK DR

FREDERICK ST

MULLET RIVER

R/L MULLET RIVER PATH

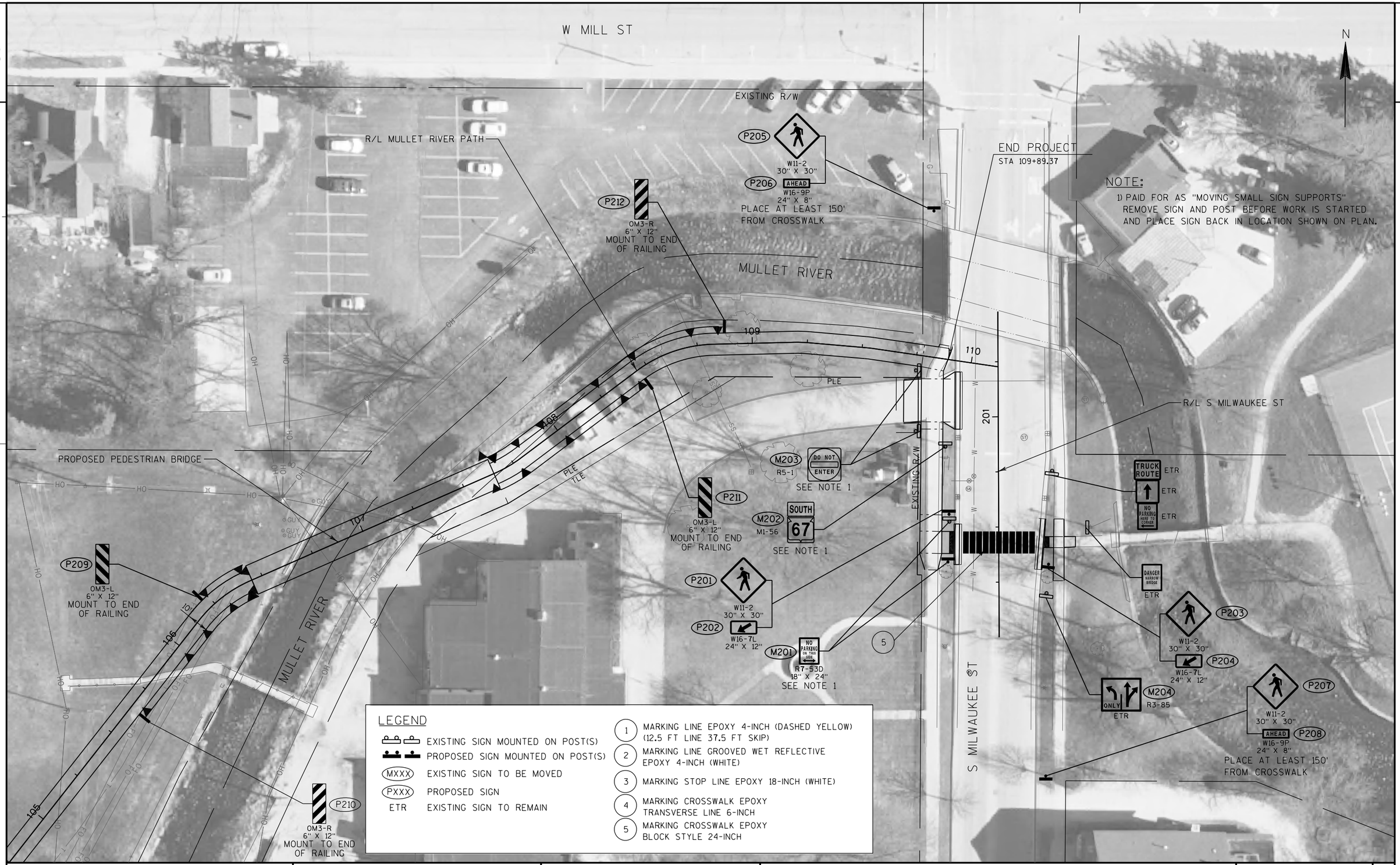
P210
OM3-R
6" X 12"
MOUNT TO END
OF RAILING

LEGEND

EXISTING SIGN MOUNTED ON POST(S)
PROPOSED SIGN MOUNTED ON POST(S)
(MXXX) EXISTING SIGN TO BE MOVED
(PXXX) PROPOSED SIGN
ETR EXISTING SIGN TO REMAIN

1. MARKING LINE EPOXY 4-INCH (DASHED YELLOW) (12.5 FT LINE 37.5 FT SKIP)
2. MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE)
3. MARKING STOP LINE EPOXY 18-INCH (WHITE)
4. MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH
5. MARKING CROSSWALK EPOXY BLOCK STYLE 24-INCH

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	SIGNING AND MARKING PLAN	SHEET 46	E



PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	SIGNING AND MARKING PLAN	SHEET 47	E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\023202_PS.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

NOTE:

1) PAID FOR AS "MOVING SMALL SIGN SUPPORTS"
REMOVE SIGN AND POST BEFORE WORK IS STARTED
AND PLACE SIGN BACK IN LOCATION SHOWN ON PLAN.

N

DOUGLAS DR

EXISTING R/W

EXISTING R/W

EXISTING R/W

NO PARKING (ON CITY STREETS) 2AM - 6AM DEC 1 - MARCH 15 CITY ORDINANCE

M301

M302

SEE NOTE 1

COUNTY FAIR GROUNDS

M303

SEE NOTE 1

Plymouth
POPULATION 18,441

M304
12-3

HOME OF OLYMPIC GOLD MEDALIST DEAN HOFFMAN

M305

SEE NOTE 1

3

4

2

10

11

12

13

14

15

+47.76

+47.76

COUNTY RD E

R/L COUNTY RD E

BEGIN PROJECT
STA 10+17.64

EXISTING R/W

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON POST(S)
- (MXXX) EXISTING SIGN TO BE MOVED
- (PXXX) PROPOSED SIGN
- ETR EXISTING SIGN TO REMAIN

1. MARKING LINE EPOXY 4-INCH (DASHED YELLOW) (12.5 FT LINE 37.5 FT SKIP)
2. MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE)
3. MARKING STOP LINE EPOXY 18-INCH (WHITE)
4. MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH
5. MARKING CROSSWALK EPOXY BLOCK STYLE 24-INCH

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	SIGNING AND MARKING PLAN	SHEET 48	E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\023203_PS.dgn
PLOT DATE : 7/31/2024
PLOT BY : wwolak
PLOT NAME :
PLOT SCALE : 1:40
WISDOT/CADDS SHEET 42

NOTE:

1) PAID FOR AS "MOVING SMALL SIGN SUPPORTS"
REMOVE SIGN AND POST BEFORE WORK IS STARTED
AND PLACE SIGN BACK IN LOCATION SHOWN ON PLAN.

N

SPEED LIMIT 35 M401 R2-1

SEE NOTE 1

EXISTING R/W

TLE

16 17 18 19 20 21

COUNTY RD E

R/L COUNTY RD E

EXISTING R/W

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON POST(S)
- (MXXX) EXISTING SIGN TO BE MOVED
- (PXXX) PROPOSED SIGN
- ETR EXISTING SIGN TO REMAIN

1. MARKING LINE EPOXY 4-INCH (DASHED YELLOW) (12.5 FT LINE 37.5 FT SKIP)
2. MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE)
3. MARKING STOP LINE EPOXY 18-INCH (WHITE)
4. MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH
5. MARKING CROSSWALK EPOXY BLOCK STYLE 24-INCH

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	SIGNING AND MARKING PLAN	SHEET 49	E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\023204_PS.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:40

NOTE:

1) PAID FOR AS "MOVING SMALL SIGN SUPPORTS"
REMOVE SIGN AND POST BEFORE WORK IS STARTED
AND PLACE SIGN BACK IN LOCATION SHOWN ON PLAN.

N

M501

SPEED LIMIT 35

W3-5
36" X 36"
SEE NOTE 1

TLE

EXISTING R/W

COUNTY RD E

+42.66

+50.06

R/L COUNTY RD E

EXISTING R/W

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON POST(S)
- MXXX EXISTING SIGN TO BE MOVED
- PXXX PROPOSED SIGN
- ETR EXISTING SIGN TO REMAIN

1. MARKING LINE EPOXY 4-INCH (DASHED YELLOW) (12.5 FT LINE 37.5 FT SKIP)
2. MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE)
3. MARKING STOP LINE EPOXY 18-INCH (WHITE)
4. MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH
5. MARKING CROSSWALK EPOXY BLOCK STYLE 24-INCH

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	SIGNING AND MARKING PLAN	SHEET 50	E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\023205_PS.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

2

N

2

EXISTING R/W

28 29 30 31 32 33

COUNTY RD E

R/L COUNTY RD E

EXISTING R/W

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON POST(S)
- (MXXX) EXISTING SIGN TO BE MOVED
- (PXXX) PROPOSED SIGN
- ETR EXISTING SIGN TO REMAIN

1. MARKING LINE EPOXY 4-INCH (DASHED YELLOW) (12.5 FT LINE 37.5 FT SKIP)
2. MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE)
3. MARKING STOP LINE EPOXY 18-INCH (WHITE)
4. MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH
5. MARKING CROSSWALK EPOXY BLOCK STYLE 24-INCH

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	SIGNING AND MARKING PLAN	SHEET 51	E

2

N

EXISTING R/W

34 35 36 37 38 39

COUNTY RD E

R/L COUNTY RD E

EXISTING R/W

+2.80
+10.20
+48.67

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON POST(S)
- (MXXX) EXISTING SIGN TO BE MOVED
- (PXXX) PROPOSED SIGN
- ETR EXISTING SIGN TO REMAIN

1. MARKING LINE EPOXY 4-INCH (DASHED YELLOW) (12.5 FT LINE 37.5 FT SKIP)
2. MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE)
3. MARKING STOP LINE EPOXY 18-INCH (WHITE)
4. MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH
5. MARKING CROSSWALK EPOXY BLOCK STYLE 24-INCH

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	SIGNING AND MARKING PLAN	SHEET 52	E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\023207_PS.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:40

NOTE:

1) PAID FOR AS "MOVING SMALL SIGN SUPPORTS" REMOVE SIGN AND POST BEFORE WORK IS STARTED AND PLACE SIGN BACK IN LOCATION SHOWN ON PLAN.

N

M801
STOP
SEE NOTE 1

STH 23

EXISTING R/W

R/L COUNTY RD E

COUNTY RD E 40 +15.57 41

+48.67

2

END PROJECT
STA 40+17.42

EXISTING R/W

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON POST(S)
- (MXXX) EXISTING SIGN TO BE MOVED
- (PXXX) PROPOSED SIGN
- ETR EXISTING SIGN TO REMAIN

1. MARKING LINE EPOXY 4-INCH (DASHED YELLOW) (12.5 FT LINE 37.5 FT SKIP)
2. MARKING LINE GROOVED WET REFLECTIVE EPOXY 4-INCH (WHITE)
3. MARKING STOP LINE EPOXY 18-INCH (WHITE)
4. MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH
5. MARKING CROSSWALK EPOXY BLOCK STYLE 24-INCH

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	SIGNING AND MARKING PLAN	SHEET 53	E

2

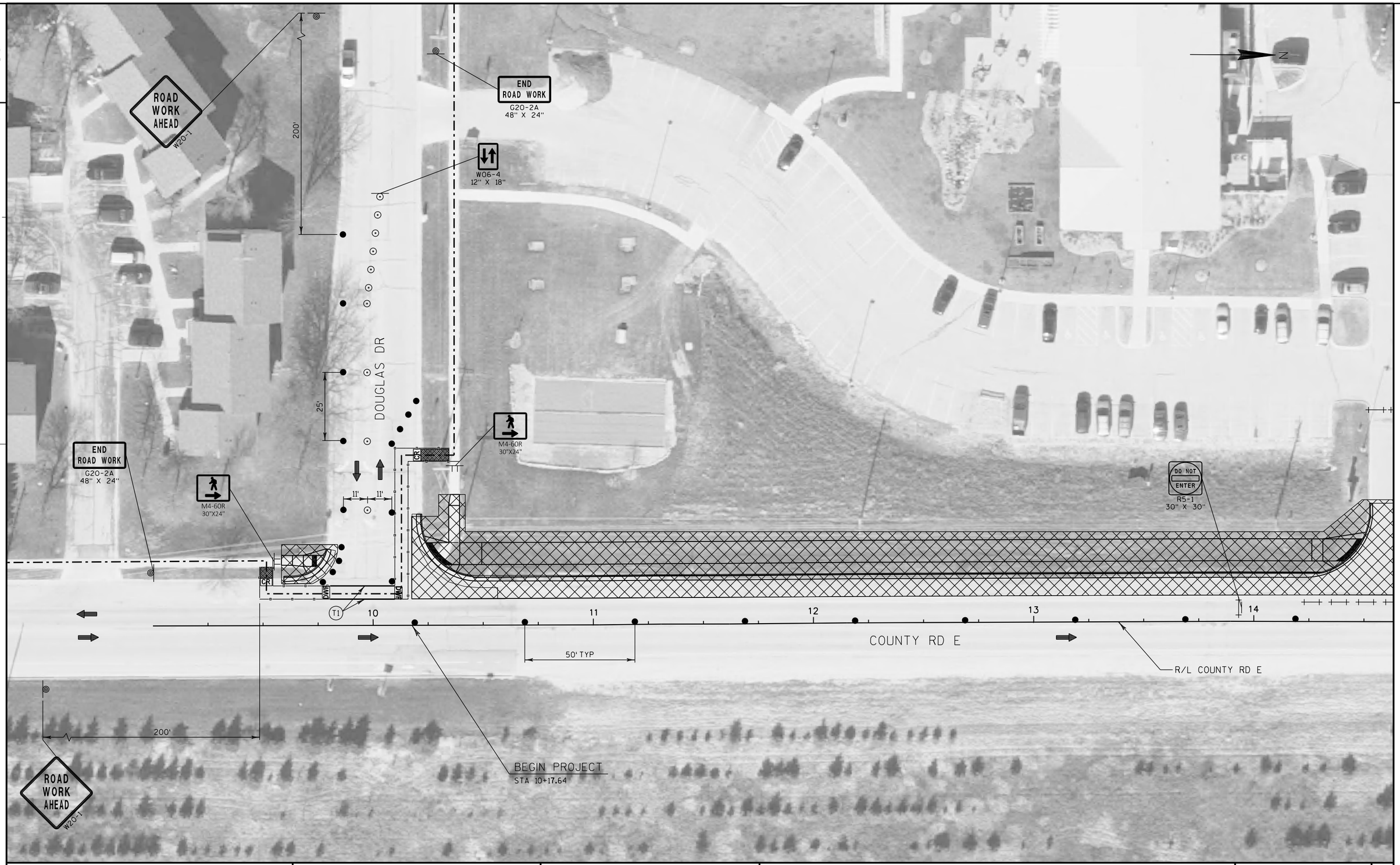
2

LEGEND

- TYPE III BARRICADE WITH TWO TYPE "A" WARNING LIGHTS
- TYPE III BARRICADE WTH ATTACHED SIGN AND TWO TYPE "A" WARNING LIGHTS
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL FLEXIBLE TUBULAR MARKER POSTS
- DIRECTION OF TRAFFIC
- WORKZONE
- OPEN PEDESTRIAN ROUTE
- X X X X X CLOSED PEDESTRIAN ROUTE
- TEMPORARY PEDESTRIAN BARRICADE
- TEMPORARY PEDESTRIAN SURFACE
- CR TEMPORARY PEDESTRIAN CURB RAMP
- DWF TEMPORARY PEDESTRIAN DETECTABLE WARNING FIELD
- T1 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	TRAFFIC CONTROL LEGEND	SHEET 54	E

2



PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	TRAFFIC CONTROL STAGE 1	SHEET 55	E

2

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	TRAFFIC CONTROL STAGE 1	SHEET 56	E

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	TRAFFIC CONTROL STAGE 1	SHEET 57	E

2

N

DO NOT ENTER
R5-1
30" X 30"

ONE WAY
R6-2R
24" X 30"

27 28 29 30 31 32

50' TYP

COUNTY RD E

R/L COUNTY RD E

ONE WAY
R6-2L
24" X 30"

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	TRAFFIC CONTROL STAGE 1	SHEET 58	E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\025114_TC.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:40

WISDOT/CADDS SHEET 42

2

N

DO NOT ENTER
R5-1
30" X 30"

ONE WAY
R6-2R
24" X 30"

ONE WAY
R6-2R
24" X 30"

ONE WAY
R6-2R
24" X 30"

33 34 35 36 37 38

50' TYP

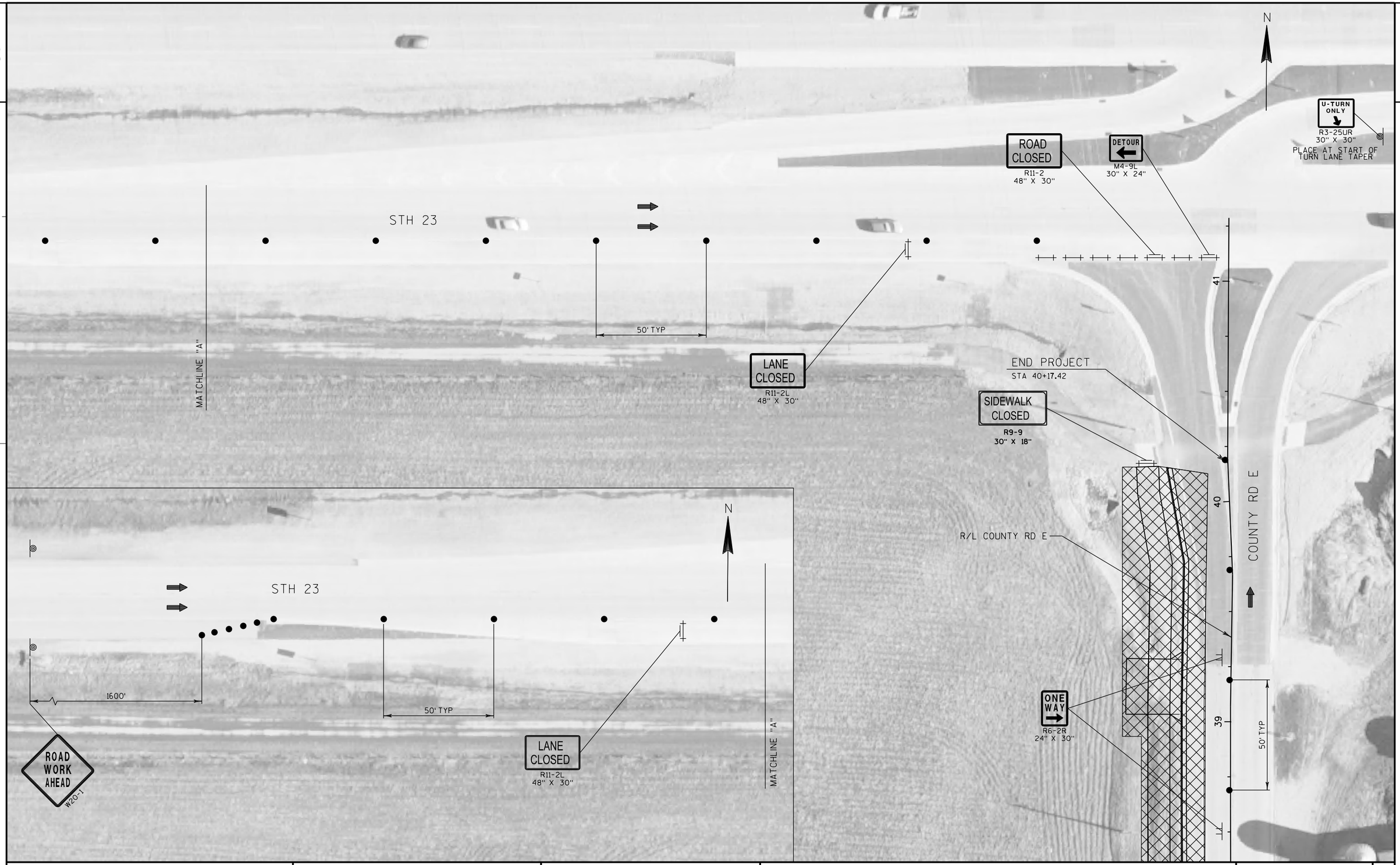
COUNTY RD E

ONE WAY
R6-2L
24" X 30"

R/L COUNTY RD E

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	TRAFFIC CONTROL STAGE 1	SHEET 59	E

2



PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	TRAFFIC CONTROL STAGE 1	SHEET 60	E

2

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	TRAFFIC CONTROL STAGE 1	SHEET 61	E

2

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	TRAFFIC CONTROL STAGE 1	SHEET 62	E

2

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	TRAFFIC CONTROL STAGE 1	SHEET 63	E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\025123_TC.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:40

2

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	TRAFFIC CONTROL STAGE 2	SHEET 64	E

2

N

MULLET RIVER

W MILL ST

S MILWAUKEE ST

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

SIDEWALK CLOSED
R9-9
24"X12"

ROAD WORK AHEAD
W20-1
30"X18"

109

110

201

25' TYP

SIDEWALK CLOSED
R9-9
24"X12"

SIDEWALK CLOSED
R9-9
24"X12"

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

SIDEWALK CLOSED AHEAD
R9-9A
30"X18"

DETOUR
M4-9BR
30"X24"

ROAD WORK AHEAD
W20-1

SIDEWALK CLOSED AHEAD
R9-9A
30"X18"

DETOUR
M4-9BR
30"X24"

DETOUR
M4-9BL
30"X24"

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	TRAFFIC CONTROL STAGE 2	SHEET 65	E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\025223_TC.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : PLOT SCALE : 1:40

2

1 — SOUTH M3-3 24" X 12" / COUNTY E M1-5A 24" X 24" / DETOUR AHEAD W20-2

2 — DETOUR M4-8 24" X 12" / SOUTH M3-3 24" X 12" / COUNTY E M1-5A 24" X 24" / M6-1 21" X 21"

3 — DETOUR M4-8 24" X 12" / SOUTH M3-3 24" X 12" / COUNTY E M1-5A 24" X 24"

4 — DETOUR M4-8 24" X 12" / SOUTH M3-3 24" X 12" / COUNTY E M1-5A 24" X 24" / M5-1R 21" X 21"

5 — DETOUR M4-8 24" X 12" / SOUTH M3-3 24" X 12" / COUNTY E M1-5A 24" X 24" / M6-1 21" X 21"

6 — DETOUR M4-8 24" X 12" / SOUTH M3-3 24" X 12" / COUNTY E M1-5A 24" X 24" / M5-1L 21" X 21"

7 — DETOUR M4-8 24" X 12" / SOUTH M3-3 24" X 12" / COUNTY E M1-5A 24" X 24" / M6-1 21" X 21"

8 — END DETOUR M4-8A 24" X 18" / SOUTH M3-3 24" X 12" / COUNTY E M1-5A 24" X 24"

LEGEND

- DETOUR ROUTE
- WORKZONE
- SIGN ON PERMANENT SUPPORT

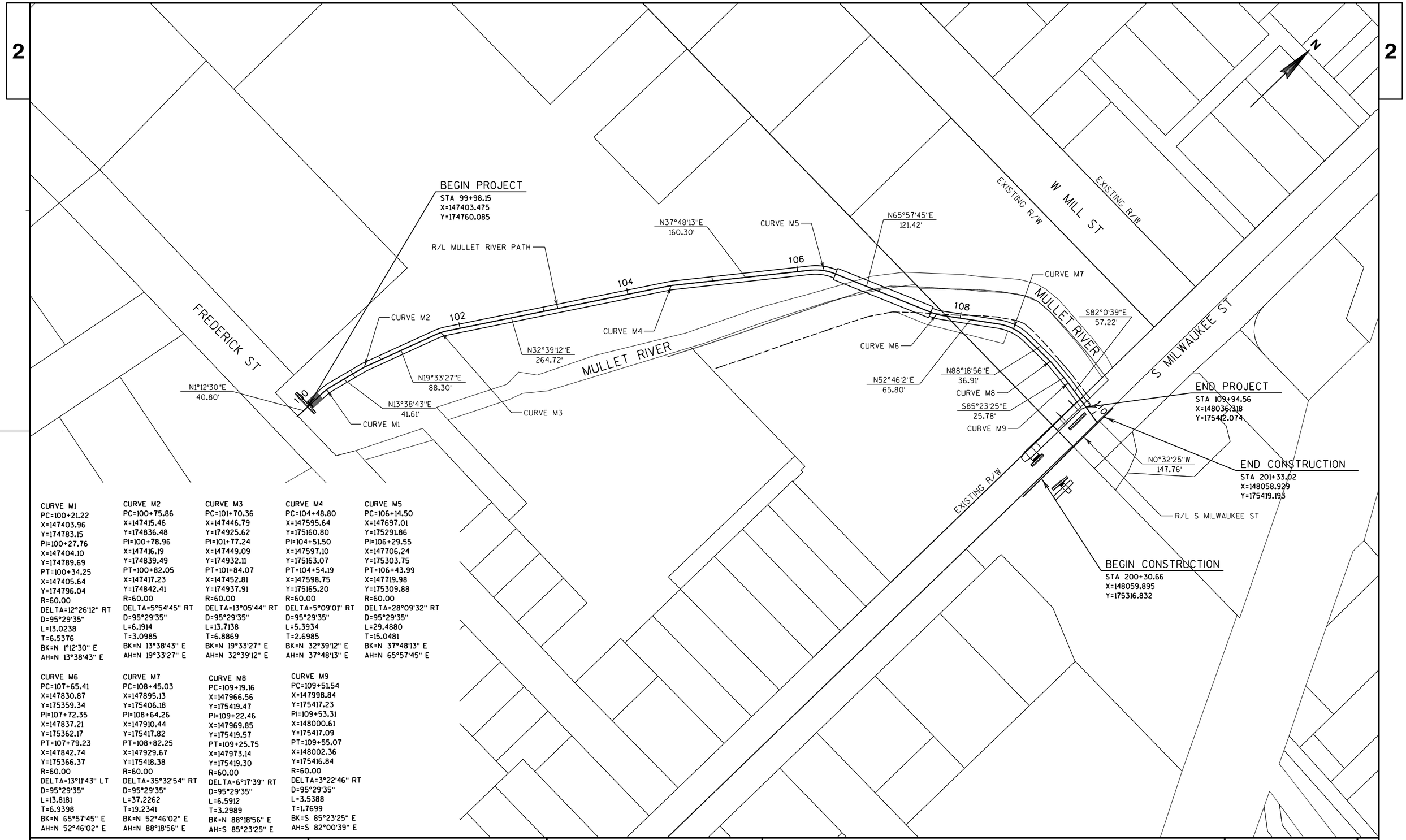
NOTE:

1) SEE TRAFFIC CONTROL PLANS FOR ADDITIONAL INFORMATION.
2) COVER SIGNS IN CONFLICT WITH DETOUR SIGNS.

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	DETOUR ROUTE	SHEET 66	E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\027001_DT.dgn
PLOT DATE : 7/31/2024
PLOT BY : wwolak
PLOT NAME :
PLOT SCALE : 1:600
WISDOT/CADDS SHEET 42

2



CURVE M1
PC=100+21.22
X=147403.96
Y=174783.15
PI=100+27.76
X=147404.10
Y=174789.69
PT=100+34.25
X=147405.64
Y=174796.04
R=60.00
DELTA=12°26'12" RT
D=95°29'35"
L=13.0238
T=6.5376
BK=N 1°12'30" E
AH=N 13°38'43" E

CURVE M2
PC=100+75.86
X=147415.46
Y=174836.48
PI=100+78.96
X=147416.19
Y=174839.49
PT=100+82.05
X=147417.23
Y=174842.41
R=60.00
DELTA=5°54'45" RT
D=95°29'35"
L=6.1914
T=3.0985
BK=N 13°38'43" E
AH=N 19°33'27" E

CURVE M3
PC=101+70.36
X=147446.79
Y=174925.62
PI=101+77.24
X=147449.09
Y=174932.11
PT=101+84.07
X=147452.81
Y=174937.91
R=60.00
DELTA=13°05'44" RT
D=95°29'35"
L=13.7138
T=6.8869
BK=N 19°33'27" E
AH=N 32°39'12" E

CURVE M4
PC=104+48.80
X=147595.64
Y=175160.80
PI=104+51.50
X=147597.10
Y=175163.07
PT=104+54.19
X=147598.75
Y=175165.20
R=60.00
DELTA=5°09'01" RT
D=95°29'35"
L=5.3934
T=2.6985
BK=N 32°39'12" E
AH=N 37°48'13" E

CURVE M5
PC=106+14.50
X=147697.01
Y=175291.86
PI=106+29.55
X=147706.24
Y=175303.75
PT=106+43.99
X=147719.98
Y=175309.88
R=60.00
DELTA=28°09'32" RT
D=95°29'35"
L=29.4880
T=15.0481
BK=N 37°48'13" E
AH=N 65°57'45" E

CURVE M6
PC=107+65.41
X=147830.87
Y=175359.34
PI=107+72.35
X=147837.21
Y=175362.17
PT=107+79.23
X=147842.74
Y=175366.37
R=60.00
DELTA=13°11'43" LT
D=95°29'35"
L=13.8181
T=6.9398
BK=N 65°57'45" E
AH=N 52°46'02" E

CURVE M7
PC=108+45.03
X=147895.13
Y=175406.18
PI=108+64.26
X=147910.44
Y=175417.82
PT=108+82.25
X=147929.67
Y=175418.38
R=60.00
DELTA=35°32'54" RT
D=95°29'35"
L=37.2262
T=19.2341
BK=N 52°46'02" E
AH=N 88°18'56" E

CURVE M8
PC=109+19.16
X=147966.56
Y=175419.47
PI=109+22.46
X=147969.85
Y=175419.57
PT=109+25.75
X=147973.14
Y=175419.30
R=60.00
DELTA=6°17'39" RT
D=95°29'35"
L=6.5912
T=3.2989
BK=N 88°18'56" E
AH=S 85°23'25" E

CURVE M9
PC=109+51.54
X=147998.84
Y=175417.23
PI=109+53.31
X=148000.61
Y=175417.09
PT=109+55.07
X=148002.36
Y=175416.84
R=60.00
DELTA=3°22'46" RT
D=95°29'35"
L=3.5388
T=1.7699
BK=S 85°23'25" E
AH=S 82°00'39" E

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	ALIGNMENT PLAN	SHEET 67	E

Estimate Of Quantities

4995-03-02

Line	Item	Item Description	Unit	Total	Qty
0002	201.0220	Grubbing	ID	27.000	27.000
0004	203.0250	Removing Structure Over Waterway Remove Debris (structure) 01. Pedestrian Bridge	EACH	1.000	1.000
0006	204.0110	Removing Asphaltic Surface	SY	70.000	70.000
0008	204.0130	Removing Curb	LF	99.000	99.000
0010	204.0150	Removing Curb & Gutter	LF	131.000	131.000
0012	204.0155	Removing Concrete Sidewalk	SY	273.000	273.000
0014	204.0245	Removing Storm Sewer (size) 01. 15-Inch	LF	37.000	37.000
0016	204.0245	Removing Storm Sewer (size) 02. 30-Inch	LF	17.000	17.000
0018	204.0245	Removing Storm Sewer (size) 03. 36-Inch	LF	49.000	49.000
0020	204.9165.S	Removing (item description) 01. Concrete Steps, Supports, and Railings	SF	136.000	136.000
0022	205.0100	Excavation Common	CY	3,719.000	3,719.000
0024	206.1001	Excavation for Structures Bridges (structure) 01. B-59-0328	EACH	1.000	1.000
0026	208.0100	Borrow	CY	2,609.000	2,609.000
0028	210.1500	Backfill Structure Type A	TON	10.000	10.000
0030	213.0100	Finishing Roadway (project) 01. 4995-03-02	EACH	1.000	1.000
0032	305.0110	Base Aggregate Dense 3/4-Inch	TON	27.000	27.000
0034	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	4,578.000	4,578.000
0036	455.0605	Tack Coat	GAL	14.000	14.000
0038	460.2000	Incentive Density HMA Pavement	DOL	40.000	40.000
0040	460.6223	HMA Pavement 3 MT 58-28 S	TON	26.000	26.000
0042	460.6224	HMA Pavement 4 MT 58-28 S	TON	26.000	26.000
0044	465.0105	Asphaltic Surface	TON	650.000	650.000
0046	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	120.000	120.000
0048	502.0100	Concrete Masonry Bridges	CY	37.000	37.000
0050	505.0400	Bar Steel Reinforcement HS Structures	LB	2,680.000	2,680.000
0052	505.0600	Bar Steel Reinforcement HS Coated Structures	LB	720.000	720.000
0054	506.8006.S	Prefabricated Steel Truss Pedestrian Bridge LRFD (structure) 01. B-59-0328	EACH	1.000	1.000
0056	511.2200	Temporary Shoring Left in Place (structure) 01. B-59-0328	SF	225.000	225.000
0058	516.0500	Rubberized Membrane Waterproofing	SY	6.000	6.000
0060	520.8000	Concrete Collars for Pipe	EACH	5.000	5.000
0062	522.0112	Culvert Pipe Reinforced Concrete Class III 12-Inch	LF	17.000	17.000
0064	522.1012	Apron Endwalls for Culvert Pipe Reinforced Concrete 12-Inch	EACH	3.000	3.000
0066	522.1015	Apron Endwalls for Culvert Pipe Reinforced Concrete 15-Inch	EACH	1.000	1.000
0068	522.1018	Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch	EACH	2.000	2.000
0070	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	2.000	2.000
0072	550.0020	Pre-Boring Rock or Consolidated Materials	LF	30.000	30.000
0074	550.1100	Piling Steel HP 10-Inch X 42 Lb	LF	250.000	250.000
0076	601.0407	Concrete Curb & Gutter 18-Inch Type D	LF	129.000	129.000
0078	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	165.000	165.000
0080	601.0576	Concrete Curb & Gutter 4-Inch Sloped 30-Inch Type J	LF	2,883.000	2,883.000
0082	601.0600	Concrete Curb Pedestrian	LF	16.000	16.000
0084	602.0410	Concrete Sidewalk 5-Inch	SF	1,571.000	1,571.000
0086	602.0505	Curb Ramp Detectable Warning Field Yellow	SF	60.000	60.000
0088	602.0605	Curb Ramp Detectable Warning Field Radial Yellow	SF	81.000	81.000
0090	602.0810	Concrete Driveway 6-Inch	SY	116.000	116.000
0092	606.0200	Riprap Medium	CY	2.000	2.000
0094	606.0300	Riprap Heavy	CY	329.000	329.000
0096	608.0315	Storm Sewer Pipe Reinforced Concrete Class III 15-Inch	LF	279.000	279.000
0098	608.0318	Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	LF	45.000	45.000

4995-03-02

Line	Item	Item Description	Unit	Total	Qty
0100	608.0324	Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	LF	742.000	742.000
0102	608.0330	Storm Sewer Pipe Reinforced Concrete Class III 30-Inch	LF	877.000	877.000
0104	608.0336	Storm Sewer Pipe Reinforced Concrete Class III 36-Inch	LF	129.000	129.000
0106	608.0412	Storm Sewer Pipe Reinforced Concrete Class IV 12-Inch	LF	16.000	16.000
0108	608.0415	Storm Sewer Pipe Reinforced Concrete Class IV 15-Inch	LF	18.000	18.000
0110	608.0418	Storm Sewer Pipe Reinforced Concrete Class IV 18-Inch	LF	228.000	228.000
0112	608.0424	Storm Sewer Pipe Reinforced Concrete Class IV 24-Inch	LF	49.000	49.000
0114	611.0535	Manhole Covers Type J-Special	EACH	3.000	3.000
0116	611.0624	Inlet Covers Type H	EACH	11.000	11.000
0118	611.0642	Inlet Covers Type MS	EACH	6.000	6.000
0120	611.2005	Manholes 5-FT Diameter	EACH	3.000	3.000
0122	611.2006	Manholes 6-FT Diameter	EACH	4.000	4.000
0124	611.3004	Inlets 4-FT Diameter	EACH	7.000	7.000
0126	611.3902	Inlets Median 2 Grate	EACH	3.000	3.000
0128	612.0206	Pipe Underdrain Unperforated 6-Inch	LF	165.000	165.000
0130	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	370.000	370.000
0132	612.0700	Drain Tile Exploration	LF	250.000	250.000
0134	619.1000	Mobilization	EACH	1.000	1.000
0136	623.0200	Dust Control Surface Treatment	SY	1,280.000	1,280.000
0138	624.0100	Water	MGAL	31.100	31.100
0140	625.0500	Salvaged Topsoil	SY	5,984.000	5,984.000
0142	628.1504	Silt Fence	LF	4,961.000	4,961.000
0144	628.1520	Silt Fence Maintenance	LF	4,961.000	4,961.000
0146	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0148	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0150	628.2004	Erosion Mat Class I Type B	SY	4,585.000	4,585.000
0152	628.2008	Erosion Mat Urban Class I Type B	SY	1,400.000	1,400.000
0154	628.7020	Inlet Protection Type D	EACH	27.000	27.000
0156	628.7504	Temporary Ditch Checks	LF	151.000	151.000
0158	628.7555	Culvert Pipe Checks	EACH	15.000	15.000
0160	628.7560	Tracking Pads	EACH	1.000	1.000
0162	629.0210	Fertilizer Type B	CWT	5.000	5.000
0164	630.0140	Seeding Mixture No. 40	LB	142.000	142.000
0166	630.0160	Seeding Mixture No. 60	LB	20.000	20.000
0168	630.0200	Seeding Temporary	LB	108.000	108.000
0170	630.0500	Seed Water	MGAL	101.000	101.000
0172	633.5200	Markers Culvert End	EACH	8.000	8.000
0174	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	2.000	2.000
0176	634.0814	Posts Tubular Steel 2x2-Inch X 14-FT	EACH	4.000	4.000
0178	637.2210	Signs Type II Reflective H	SF	33.700	33.700
0180	638.4000	Moving Small Sign Supports	EACH	12.000	12.000
0182	642.5201	Field Office Type C	EACH	1.000	1.000
0184	643.0300	Traffic Control Drums	DAY	15,818.000	15,818.000
0186	643.0420	Traffic Control Barricades Type III	DAY	3,613.000	3,613.000
0188	643.0500	Traffic Control Flexible Tubular Marker Posts	EACH	13.000	13.000
0190	643.0600	Traffic Control Flexible Tubular Marker Bases	EACH	13.000	13.000
0192	643.0705	Traffic Control Warning Lights Type A	DAY	7,226.000	7,226.000
0194	643.0900	Traffic Control Signs	DAY	150.000	150.000
0196	643.0920	Traffic Control Covering Signs Type II	EACH	4.000	4.000

Estimate Of Quantities

4995-03-02

Line	Item	Item Description	Unit	Total	Qty
0198	643.1050	Traffic Control Signs PCMS	DAY	75.000	75.000
0200	643.3150	Temporary Marking Line Removable Tape 4-Inch	LF	59.000	59.000
0202	643.5000	Traffic Control	EACH	1.000	1.000
0204	644.1410	Temporary Pedestrian Surface Asphalt	SF	115.000	115.000
0206	644.1601	Temporary Pedestrian Curb Ramp	DAY	305.000	305.000
0208	644.1605	Temporary Pedestrian Detectable Warning Field	SF	45.000	45.000
0210	644.1810	Temporary Pedestrian Barricade	LF	259.000	259.000
0212	645.0111	Geotextile Type DF Schedule A	SY	32.000	32.000
0214	645.0120	Geotextile Type HR	SY	525.000	525.000
0216	646.1020	Marking Line Epoxy 4-Inch	LF	14.000	14.000
0218	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	2,980.000	2,980.000
0220	646.6120	Marking Stop Line Epoxy 18-Inch	LF	17.000	17.000
0222	646.7420	Marking Crosswalk Epoxy Transverse Line 6-Inch	LF	92.000	92.000
0224	646.7520	Marking Crosswalk Epoxy Block Style 24-Inch	LF	110.000	110.000
0226	650.4000	Construction Staking Storm Sewer	EACH	50.000	50.000
0228	650.4500	Construction Staking Subgrade	LF	3,871.000	3,871.000
0230	650.5000	Construction Staking Base	LF	3,871.000	3,871.000
0232	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	3,145.000	3,145.000
0234	650.6000	Construction Staking Pipe Culverts	EACH	1.000	1.000
0236	650.6501	Construction Staking Structure Layout (structure) 01. R-59-39	EACH	1.000	1.000
0238	650.6501	Construction Staking Structure Layout (structure) 02. R-59-40	EACH	1.000	1.000
0240	650.6501	Construction Staking Structure Layout (structure) 03. R-59-41	EACH	1.000	1.000
0242	650.6501	Construction Staking Structure Layout (structure) 04. R-59-42	EACH	1.000	1.000
0244	650.6501	Construction Staking Structure Layout (structure) 05. B-59-0328	EACH	1.000	1.000
0246	650.9000	Construction Staking Curb Ramps	EACH	7.000	7.000
0248	650.9500	Construction Staking Sidewalk (project) 01. 4995-03-02	EACH	1.000	1.000
0250	650.9911	Construction Staking Supplemental Control (project) 01. 4995-03-02	EACH	1.000	1.000
0252	650.9920	Construction Staking Slope Stakes	LF	3,871.000	3,871.000
0254	690.0150	Sawing Asphalt	LF	541.000	541.000
0256	690.0250	Sawing Concrete	LF	93.000	93.000
0258	715.0502	Incentive Strength Concrete Structures	DOL	500.000	500.000
0260	999.1501.S	Crack and Damage Survey	EACH	1.000	1.000
0262	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,200.000	1,200.000
0264	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	600.000	600.000
0266	SPV.0090	Special 01. Timber Railing	LF	537.000	537.000
0268	SPV.0165	Special 01. Wall Mod Block Mech Stabilized Earth R-59-39	SF	187.000	187.000
0270	SPV.0165	Special 02. Wall Mod Block Mech Stabilized Earth R-59-40	SF	653.000	653.000
0272	SPV.0165	Special 03. Wall Mod Block Mech Stabilized Earth R-59-41	SF	880.000	880.000
0274	SPV.0165	Special 04. Wall Mod Block Mech Stabilized Earth R-59-42	SF	637.000	637.000

3

GRUBBING

CATEGORY	STATION	LOCATION	201.0220 GRUBBING ID
0010	108+58	LT	9
0010	108+96	LT	9
0010	109+26	RT	9
		TOTAL 0010	27

REMOVING STRUCTURE

CATEGORY	STATION	TO	STATION	LOCATION	203.0250.01 REMOVING STRUCTURE OVER WATERWAY REMOVE DEBRIS PEDESTRIAN BRIDGE EACH
0010	106+00	-	106+15	MULLET RIVER TRAIL	1
				TOTAL 0010	1

REMOVING ASPHALTIC SURFACE

CATEGORY	STATION	TO	STATION	LOCATION	204.0110 REMOVING ASPHALTIC SURFACE SY
0010	107+27	-	109+77	MULLET RIVER TRAIL	43
0010	200+37	-	201+20	MILWAUKEE ST	23
0010	9+71	-	9+83	CTH E	4
				TOTAL 0010	70

3

REMOVING CURB

CATEGORY	STATION	TO	STATION	LOCATION	204.0130 REMOVING CURB LF	204.0150 REMOVING CURB & GUTTER LF
0010	9+59	-	15+00	CTH E	88	41
0010	107+65	-	109+89	MULLET RIVER TRAIL	11	23
0010	200+10	-	201+50	MILWAUKEE STREET	--	67
				TOTAL 0010	99	131

REMOVING CONCRETE SIDEWALK

CATEGORY	STATION	TO	STATION	LOCATION	204.0155 REMOVING CONCRETE SIDEWALK SY
0010	99+98	-	100+01	MULLET RIVER TRAIL	9
0010	100+07	-	100+12	MULLET RIVER TRAIL	6
0010	105+75		106+05	MULLET RIVER TRAIL	13
0010	200+31	-	201+34	MILWAUKEE ST	116
0010	200+31	-	200+54	MILWAUKEE ST	20
0010	9+58	-	9+79	CTH E	12
0010	10+23	-	10+49	CTH E	38
0010	14+26	-	14+51	CTH E	26
0010	14+82	-	15+14	CTH E	33
				TOTAL 0010	273

REMOVING STORM SEWER PIPE

CATEGORY	STATION	OFFSET	TO	STATION	OFFSET	LOCATION	204.0245.01 REMOVING STORM SEWER 15-INCH LF	204.0245.02 REMOVING STORM SEWER 30-INCH LF	204.0245.03 REMOVING STORM SEWER 36-INCH LF
0010	108+71.00	-13.8435	-	108+82.83	21.2156	MULLET RIVER TRAIL	37	--	--
0010	22+46.45	-33.92	-	22+46.65	-19.99	CTH E	--	--	14
0010	33+34.09	-34.222	-	33+34.16	-16.833	CTH E	--	17	--
0010	39+06.51	-20	-	39+06.35	14.7893	CTH E	--	--	35
						TOTAL 0010	37	17	49

REMOVING CONCRETE STEPS

CATEGORY	STATION	TO	STATION	OFFSET	LOCATION	204.9165.S.01 REMOVING CONCRETE STEPS, SUPPORTS, AND RAILINGS SF
0010	105+50	-	105+77	LT	MULLET RIVER TRAIL	136
					TOTAL 0010	136

3

EARTH WORK SUMMARY

Division	From/To Station	Location	205.0100 Excavation Common (CY) (1)		Salvaged/ Unusable Pavement Material (CY) (2)	Available Material (4)	EBS Backfill (CY) (3)	Unexpanded Fill	Expanded Fill (5)	Mass Ordinate +/- (6)	Waste (7)	Borrow	Comment:
			Cut (2)	EBS Excavation (3)			Factor 1.15		Factor 1.15			Item 208.0100	
	100+01 TO 109+84	MULLET RIVER	128	370	0	128	426	1,460	1,679	-1,551	-1,181	1,181	
	10+48 TO 39+50	CTH E	2,110	1,111	0	2,110	1,278	4,043	4,649	-2,539	-1,428	1,428	
Total			2,238	1,481	0	2,238	1,703	5,503	6,328	-4,090	-2,609	2,609	
Grand Total Category 0010			3,719		0	2,238	1,703	5,503	6,328	-4,090	-2,609	2,609	

NOTES:

1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100.
2) Salvaged/Unsuable Pavement Material is included in Cut.
3) All EBS Excavation to be wasted offsite and to be backfilled with Borrow. EBS Backfill Factor = 1.15
   Actual extents and depths of EBS Excavation will be determined by the engineer in the field and may differ from the plan
4) Available Material = Cut - Salvaged/Unusuable Pavement Material
5) Expanded Fill. Factor = 1.15 Expanded Fill = Unexpanded Fill * Fill Factor
   Due to potential soil variability, actual quantities may vary. No quantity adjustments will be made for differing soil expansion factors encountered in the field.
6) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.
7) The storm sewer excavation is not included in this table and should be considered additional waste and are considered incidental to the storm sewer items.

3

BASE AGGREGATE

	STATION	TO	STATION	LOCATION	305.0110 BASE AGGREGATE DENSE 3/4-INCH TON	305.0120 BASE AGGREGATE DENSE 1 1/4-INCH TON
00010	9+58	-	40+32	CTH E	11	4,124
00010	107+65	-	109+72	MULLET RIVER TRAIL	--	98
00010	99+98	-	106+45	MULLET RIVER TRAIL	16	301
00010	200+30	-	201+34	MILWAUKEE ST	--	64
				Total	27	4,587

ASPHALT

CATEGORY	STATION	TO	STATION	LOCATION	455.0605 TACK COAT GAL	460.6223 HMA PAVEMENT 3 MT 58-28 S TON	460.6224 HMA PAVEMENT 4 MT 58-28 S TON	465.0105 ASPHALTIC SURFACE TON	465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON
00010	9+58	-	40+17	CTH E	--	--	--	490	79
00010	10+17		10+57	CTH E	2	3	3	--	--
00010	14+23		15+09	CTH E	10	21	21	--	--
00010	100+12	-	100+63	MULLET RIVER TRAIL	--	--	--	--	30
00010	100+63	-	106+45	MULLET RIVER TRAIL	--	--	--	117	--
00010	107+65	-	109+78	MULLET RIVER TRAIL	--	--	--	43	--
00010	107+27	-	108+60	MULLET RIVER TRAIL - PARKING LOT	--	--	--	--	7
00010	200+36	-	201+20	MILWAUKEE ST	1	1	1	--	4
00010				FREDERICK ST	1	1	1	--	--
				TOTAL 0010	14	26	26	650	120

ASPHALT - WORK, BY OTHERS

STATION	TO	STATION	LOCATION	455.0605** TACK COAT GAL	465.0105** ASPHALTIC SURFACE TON
9+58	-	40+17	CTH E	184	795
			TOTAL 0010	184	795

** WORK DONE BY OTHERS, FOR INFORMATION ONLY

3

CONCRETE SIDEWALK & DRIVEWAY

CATEGORY	STATION	TO	STATION	LOCATION	602.0810 CONCRETE DRIVEWAY 6-INCH SY	602.0410 CONCRETE SIDEWALK 5-INCH SF	602.0505 CURB RAMP DETECTABLE WARNING FIELD YELLOW SF	602.0605 CURB RAMP DETECTABLE WARNING FIELD RADIAL YELLOW SF
0010	9+58	-	15+00	CTH E	--	525	10	81
0010	100+01	-	100+12	MULLET RIVER TRAIL	29	--	20	--
0010	109+72	-	109+90	MULLET RIVER TRAIL	52	--	--	--
0010	200+30	-	201+33	MILWAUKEE STREET	35	1,046	30	--
				TOTAL 0010	116	1,571	60	81

CONCRETE COLLAR

CATEGORY	STATION	OFFSET	LOCATION	520.8000 CONCRETE COLLARS FOR PIPE EACH
0010	10+44.54	-42.20	CTH E	1
0010	16+79.42	-57.03	CTH E	1
0010	33+34.14	-12.00	CTH E	1
0010	108+71	-13.84	MULLET RIVER TRAIL	1
0010	108+82	21.21	MULLET RIVER TRAIL	1
			TOTAL 0010	5

CURB & GUTTER

CATEGORY	STATION	TO	STATION	LOCATION	601.0407 CONCRETE CURB & GUTTER 18-INCH TYPE D LF	601.0411 CONCRETE CURB & GUTTER 30-INCH TYPE D LF	601.0576 CONCRETE CURB & GUTTER 4-INCH SLOPED 30-INCH TYPE J LF	601.0600 CONCRETE CURB PEDESTRIAN LF
0010	10+21	-	40+00	CTH E	129	66	2,883	--
0010	200+10	-	201+47	MILWAUKEE	--	67	--	16
0010	99+98	-	99+98	MULLET RIVER TRAIL	--	32	--	--
				TOTAL 0010	129	165	2,883	16

3

CULVERT PIPES

CATEGORY	FROM STATION	FROM OFFSET	TO STATION	TO OFFSET	INVERT ELEV	DISCH ELEV	SLOPE	LOCATION	522.0112 CULVERT PIPE REINFORCED CONCRETE CLASS III 12-INCH LF	522.1012 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 12-INCH EACH	522.1015 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 15-INCH EACH	522.1018 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 18-INCH EACH	522.1024 APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH EACH	633.5200 MARKERS CULVERT END EACH
	---	---	19+57	45' LT	---	---	---	CTH E	---	---	---	1	---	1
	---	---	22+46	45' LT	---	---	---	CTH E	---	---	---	1	---	1
	---	---	27+34	42' LT	---	---	---	CTH E	---	---	1	---	---	1
	---	---	30+41	40' LT	---	---	---	CTH E	---	1	---	---	---	1
	---	---	33+34	43' LT	---	---	---	CTH E	---	---	---	---	1	1
	---	---	38+62	40' LT	---	---	---	CTH E	---	---	---	---	1	1
0010	103+00	8.7' LT	103+00	8.7' RT	817.03	816.94	0.5%	MULLET RIVER TRAIL	17	2	---	---	---	2
								TOTAL 0010	17	3	1	2	2	8

DRAIN TILE EXPLORATION

CATEGORY	LOCATION	612.0700 DRAIN TILE EXPLORATION LF
0010	UNDISTRIBUTED - WEST SIDE OF CTH E	250
	TOTAL 0010	250

DUST CONTROL

CATEGORY	LOCATION	623.0200 DUST CONTROL SURFACE TREATMENT SY
0010	PROJECT	1,280
	TOTAL 0010	1,280

WATER

LOCATION	624.0100 WATER MGAL
PROJECT-BASE AGGREGATE	0.9
PROJECT- EXCAVATION	30.2
TOTAL 0010	31.1

EROSION CONTROL & RESTORATION

CATEGORY	STATION	TO	STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.1905 MOBILIZATIONS EROSION CONTROL EACH	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH	628.2004 EROSION MAT CLASS I TYPE B SY	628.2008 EROSION MAT URBAN CLASS I TYPE B SY	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH	628.7560 TRACKING PADS EACH	629.0210 FERTILIZER TYPE B CWT	630.0140 SEEDING MIXTURE NO. 40 LB	630.0160 SEEDING MIXTURE NO. 60 LB	630.0200 SEEDING TEMPORARY LB	630.0500 SEED WATER MGAL
0010	10+33	-	40+17	CTH E	4,154	2,814	2,814	--	--	4,154	--	--	12	--	3	119	--	64	59
0010	200+46	-	200+98	MILWAUKEE ST	14	48	48	--	--	14	--	28	--	--	1	7	--	7	7
0010	99+98	-	106+76	MULLET RIVER TRAIL	1,016	1,324	1,324	--	--	--	1,016	64	1	--	1	3	14	18	17
0010	107+42	-	109+93	MULLET RIVER TRAIL	256	538	538	--	--	--	256	45	--	--	1	--	4	9	8
				SUBTOTAL	5,440	4,724	4,724	0	0	4,168	1,272	137	13	0	4	129	18	98	91
				UNDISTRIBUTED	544	237	237	4	4	417	128	14	2	1	1	13	2	10	10
				TOTAL 0010	5,984	4,961	4,961	4	4	4,585	1,400	151	15	1	5	142	20	108	101

TRAFFIC CONTROL

CATEGORY	STAGE	STAGE DURATION DAYS	LOCATION	643.0300 TRAFFIC CONTROL DRUMS EACH**	643.0300 DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III EACH**	643.0420 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	643.0900 TRAFFIC CONTROL SIGNS EACH	643.0920 TRAFFIC CONTROL COVERING SIGNS TYPE II CYCLES**	643.0920 # OF SIGNS**	643.0920 EACH	643.1050 TRAFFIC CONTROL SIGNS PCMS EACH**	643.1050 DAY	643.3150 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH LF	644.1410 TEMPORARY PEDESTRIAN SURFACE ASPHALT SF	644.1601 TEMPORARY PEDESTRIAN CURB RAMP EACH**	644.1601 DAY	644.1605 TEMPORARY PEDESTRIAN DETECTABLE WARNING FIELD EACH**	644.1605 SF	644.1810 TEMPORARY PEDESTRIAN BARRICADE LF
0010	DETOUR	122	DETOUR	18	2,196	8	976	--	--	1,952	67	--	--	--	--	--	--	--	--	--	--	--	--
0010	STAGE 1	122	CTH E	76	9,272	15	1,830	10	10	3,660	22	--	--	--	--	--	59	92	2	244	2	36	259
0010	STAGE 1	110	MULLET RIVER TRAIL	9	990	--	--	--	--	--	5	--	--	--	--	--	--	--	--	--	--	--	--
0010	STAGE 1	14	MILWAUKEE ST	6	84	2	28	--	--	56	11	--	--	--	--	--	--	--	--	--	--	--	--
0010	STAGE 2	14	MILWAUKEE ST	8	112	4	56	--	--	112	15	--	--	--	--	--	--	--	--	--	--	--	--
			UNDISTRIBUTED		3,164	--	723	3	3	1,446	30	1	4	4	3	75	--	23	--	61	--	9	--
			TOTAL 0010		15,818		3,613	13	13	7,226	150	1	4	4		75	59	115		305		45	259

** FOR INFORMATION ONLY

3

SIGNING

CATEGORY	SIGN NO.	SIGN CODE	SIGN MESSAGE	SIGN SIZE	** 634.0614 POSTS WOOD 4X6-INCH X 14-FT EACH	634.0814 POSTS TUBULAR STEEL 2X2-INCH X 14-FT EACH	637.2210 SIGNS TYPE II REFLECTIVE H SF	638.4000 MOVING SMALL SIGN SUPPORTS EACH	REMARKS
0010	P201	W11-2	-	30 X 30	--	1	6.3	--	
0010	P202	W16-7L	-	24 X 12	--	--	2.0	--	MOUNTED ON P201
0010	P203	W11-2	-	30 X 30	--	1	6.3	--	
0010	P204	W16-7L	-	24 X 12	--	--	2.0	--	MOUNTED ON P203
0010	P205	W11-2	-	30 X 30	--	1	6.3	--	
0010	P206	W16-9P	-	24x8	--	--	1.3	--	MOUNTED ON P205
0010	P207	W11-2	-	30 X 30	--	1	6.3	--	
0010	P208	W16-9P	-	24x8	--	--	1.3	--	MOUNTED ON P207
0010	P209	OM-3R	-	6X12	--	--	.5	--	MOUNTED ON END OF TIMBER RAILING
0010	P210	OM-3L	-	6X12	--	--	.5	--	MOUNTED ON END OF TIMBER RAILING
0010	P211	OM-3R	-	6X12	--	--	.5	--	MOUNTED ON END OF TIMBER RAILING
0010	P212	OM-3L	-	6X12	--	--	.5	--	MOUNTED ON END OF TIMBER RAILING
0010	M201	R7-53D	NO PARKING On This Side	-	--	--	--	1	
0010	M202	M1-56	-	-	--	--	--	1	
0010	M203	R5-2M	DO NOT ENTER	-	--	--	--	1	
0010	M204	R3-85	-	-	--	--	--	1	
0010	M301	-	NO PARKING ALL CITY STREETS . . .	-	--	--	--	1	
0010	M302	-	CHEESE CAPITOL . . .	-	--	--	--	1	
0010	M303	-	County Fair Grounds	-	--	--	--	1	
0010	M304	I2-3	PLYMOUTH POP.	-	--	--	--	1	
0010	M305	-	HOME OF OLYMPIC . . .	-	--	--	--	1	
0010	M401	R2-1	SPEED LIMIT 35	-	--	--	--	1	
0010	M501	W3-5	-	-	--	--	--	1	
0010	M801	R1-1	STOP	-	--	--	--	1	
		UNDISTRIBUTED		-	2	--	--	--	
				TOTAL 0010	2	4	33.7	12	

** TO BE USED AS ENGINEER DIRECTS IF EXISTING POSTS ALONG CTH E ARE NOT IN GOOD QUALITY

3

RIPRAP

CATEGORY	STATION	TO	STATION	LOCATION	606.0200 RIPRAP MEDIUM CY	645.0120 GEOTEXTILE TYPE HR SY
0010	102+98	-	103+01	MULLET RIVER TRAIL	2	3
				TOTAL 0010	2	3

SEE STRUCTURE PLANS FOR ADDITIONAL RIPRAP & GEOTEXTILE FABRIC QUANTITIES

INLET PROTECTION

CATEGORY	STATION	TO	STATION	LOCATION	628.7020 INLET PROTECTION TYPE D EACH
0010	108+64	-	109+22	MULLET RIVER TRAIL	5
0010	9+00	-	39+66	CTH E	18
0010	200+10	-	201+50	MILWAUKEE ST.	4
				TOTAL 0010	27

CONSTRUCTION STAKING

STATION	TO	STATION	LOCATION	650.4000 CONSTRUCTION STAKING STORM SEWER EACH	650.4500 CONSTRUCTION STAKING SUBGRADE LF	650.5000 CONSTRUCTION STAKING BASE LF	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF	650.6000 CONSTRUCTION STAKING PIPE CULVERTS EACH	650.6501.01 CONSTRUCTION STAKING STRUCTURE LAYOUT R-59-39 EACH	650.6501.02 CONSTRUCTION STAKING STRUCTURE LAYOUT R-59-40 EACH	650.6501.03 CONSTRUCTION STAKING STRUCTURE LAYOUT R-59-41 EACH	650.6501.04 CONSTRUCTION STAKING STRUCTURE LAYOUT R-59-42 EACH	650.6501.05 CONSTRUCTION STAKING STRUCTURE LAYOUT B-59-0328 EACH	650.9000 CONSTRUCTION STAKING CURB RAMPS EACH	650.9500.01 CONSTRUCTION STAKING SIDEWALK 4995-03-02 EACH	650.9911.01 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL 4995-03-02 EACH	650.9920 CONSTRUCTION STAKING SLOPE STAKES LF
99+98	-	109+89	MULLET RIVER TRAIL TRAIL	6	871	871	--	1	--	--	--	--	--	1	--	--	871
200+30	-	200+55	MILWAUKEE ST	--	--	--	67	--	--	--	--	--	--	2	--	--	--
9+58	-	40+17	CTH E	--	3,000	3,000	3,078	--	--	--	--	--	--	4	--	--	3,000
			PROJECT	44	--	--	--	--	1	1	1	1	1	--	1	1	--
				50 CAT 0010	3,871 CAT 0010	3,871 CAT 0010	3,145 CAT 0010	1 CAT 0010	1 CAT 0030	1 CAT 0040	1 CAT 0050	1 CAT 0060	1 CAT 0020	7 CAT 0010	1 CAT 0010	1 CAT 0010	3,871 CAT 0010

PAVEMENT MARKING

CATEGORY	STATION	TO	STATION	LOCATION	646.1020 MARKING LINE EPOXY 4-INCH LF	646.1040 MARKING LINE GROOVED WET REF EPOXY 4-INCH LF	646.6120 MARKING STOP LINE EPOXY 18-INCH LF	646.7420 MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH LF	646.7520 MARKING CROSSWALK EPOXY BLOCK STYLE 24-INCH LF
0010	9+70	-	10+00	CTH E	--	--	17	--	--
0010	9+66	-	10+19	CTH E	--	--	--	41	--
0010	9+50	-	10+27	CTH E	--	--	--	51	--
0010	10+47	-	40+16	CTH E	--	2,966	--	--	--
0010	22+46	-	22+50	CTH E	--	7	--	--	--
0010	22+46	-	22+50	CTH E	7	--	--	--	--
0010	39+02	-	39+10	CTH E	--	7	--	--	--
0010	39+02	-	39+10	CTH E	7	--	--	--	--
0010		200+43		MILWAUKEE STREET	--	--	--	--	110
				TOTAL 0010	14	2,980	17	92	110

SAWING

CATEGORY	STATION	TO	STATION	LOCATION	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF
0010	9+59	-	9+81	CTH E	35	5
0010	10+40	-	10+44	CTH E	-	4
0010	10+17	-	10+56	CTH E	67	-
0010	14+23	-	15+09	CTH E	95	25
0010	40+16	-	40+41	CTH E	54	10
0010	99+97	-	99+98	MULLET RIVER TRAIL	34	5
0010	107+26	-	108+58	MULLET RIVER TRAIL	164	-
0010	200+30	-	200+30	MILWAUKEE ST	-	6
0010	200+30	-	200+54	MILWAUKEE ST	25	-
0010	200+30	-	200+30	MILWAUKEE ST	-	5
0010	200+30	-	200+30	MILWAUKEE ST	-	5
0010	200+33	-	200+52	MILWAUKEE ST	20	-
0010	200+40	-	200+44	MILWAUKEE ST	-	5
0010	200+51	-	200+52	MILWAUKEE ST	-	5
0010	200+53	-	200+53	MILWAUKEE ST	-	5
0010	200+94	-	200+94	MILWAUKEE ST	-	2
0010	200+94	-	201+20	MILWAUKEE ST	28	-
0010	200+98	-	201+18	MILWAUKEE ST	19	
0010	200+98	-	200+98	MILWAUKEE ST	-	5
0010	201+20	-	201+20	MILWAUKEE ST	-	6
				TOTAL 0010	541	93

3

3

CRACK AND DAMAGE SURVEY

LOCATION	999.1501.S CRACK AND DAMAGE SURVEY EACH
MULLET RIVER TRAIL 105+60 TO 107+70	
Former Plymouth Electric and Water Utilities Building	1
TOTAL 0010	1

TIMBER RAILING

CATEGORY	STATION	TO	STATION	OFFSET	LOCATION	SPV.0090.01 TIMBER RAILING LF
0010	105+50	-	106+45	LT	MULLET RIVER TRAIL	99
0010	105+00	-	106+45	RT	MULLET RIVER TRAIL	142
0010	107+65	-	109+25	LT	MULLET RIVER TRAIL	164
0010	107+65	-	109+00	RT	MULLET RIVER TRAIL	132
					TOTAL 0010	537

STORM SEWER STRUCTURES											STORM SEWER PIPES											
ROADWAY	STRUCTURE NO.	STRUCTURE STAGE	STATION	OFFSET (FT)	LOCATION	RIM OR FLOW ELEV	STRUCTURE TYPE	INLET/MANHOLE COVERS TYPE	DEPTH [1] (FT)	STRUCTURE COMMENTS	PIPE ID	STAGE	FROM STR	TO STR	INLET ELEV	DISCH ELEV	SLOPE [A] %	PIPE LENGTH [B] (FT)	PLAN LENGTH [C] (FT)	PIPE CLASS	PIPE SIZE (INCH)	PIPE COMMENTS
MULLET RIVER TRAIL	---	---	---	---	---	---	---	---	--	---	PE1000	---	---	P13	---	818.09	---	---	---	---	15	EXIST PIPE INTERPOL ELEV
MULLET RIVER TRAIL	---	---	---	---	---	---	---	---	--	---	P13	---	PE1000	IN10	818.09	817.99	1.55	7	8	III	15	---
MULLET RIVER TRAIL	IN10	---	108+78.89	14.0	RT	820.32	INLETS MEDIAN 2 GRATE	MS	2.35	---	P14	---	IN10	PE1001	817.97	817.54	1.55	28	29	III	15	---
MULLET RIVER TRAIL	---	---	---	---	---	---	---	---	--	---	PE1001	---	P14	---	817.54	---	---	---	---	---	15	EXIST PIPE INTERPOL ELEV
---	---	---	---	---	---	---	---	---	--	---	---	---	---	---	--	---	---	---	---	---	---	---
CTH E	IN300	---	10+52.43	39.5	LT	858.50	INLETS MEDIAN 2 GRATE	MS	2.91	---	P2	---	IN300	2A	855.59	855.51	1.50	6	8	III	15	---
CTH E	IN56	---	10+48.12	21.8	LT	857.83	INLETS 4-FT DIAMETER	H	3.68	---	P105	---	IN56	MH1	854.15	853.55	0.33	182	186	IV	18	---
CTH E	MH1	---	12+34.22	19.6	LT	858.42	MANHOLES 5-FT DIAMETER	J-SPECIAL	5.42	---	P104	---	MH1	IN4	853.00	852.41	0.33	182	187	III	24	---
CTH E	IN4	---	14+20.92	21.8	LT	857.87	INLETS 4-FT DIAMETER	H	5.46	---	P9	---	IN4	IN53	852.41	851.86	0.50	109	113	III	24	---
CTH E	IN53	---	15+34.32	21.8	LT	857.41	INLETS 4-FT DIAMETER	H	5.55	---	P103	---	IN53	MH2	851.86	851.21	0.50	130	135	III	24	---
CTH E	MH2	---	16+69.63	18.8	LT	856.80	MANHOLES 6-FT DIAMETER	J-SPECIAL	6.10	---	P4	---	MH2	IN52	850.70	849.90	0.50	160	165	III	30	---
CTH E	---	---	---	---	---	---	---	---	--	---	P1	---	1B	IN1	852.59	852.51	0.90	9	11	III	18	---
CTH E	IN1	---	16+85.45	48.4	LT	854.36	INLETS MEDIAN 2 GRATE	MS	2.93	---	P5	---	IN1	MH2	851.43	850.99	1.50	29	34	III	18	---
CTH E	IN52	---	18+33.97	21.8	LT	855.77	INLETS 4-FT DIAMETER	H	5.88	---	P102	---	IN52	MH3	849.89	849.16	0.62	119	123	III	30	---
CTH E	---	---	---	---	---	---	---	---	--	---	P6	---	6B	MH3	852.75	851.00	7.00	19	22	IV	18	---
CTH E	MH3	---	19+57.34	19.6	LT	855.08	MANHOLES 5-FT DIAMETER	J-SPECIAL	5.95	---	P3	---	MH3	IN51	849.13	847.38	0.62	284	289	III	30	---
CTH E	---	---	---	---	---	---	---	---	--	---	P51A	---	51B	IN51	851.53	849.25	10.00	17	20	IV	18	---
CTH E	IN51	---	22+46.49	21.8	LT	853.77	MANHOLES 6-FT DIAMETER	H	6.94	---	P101	---	IN51	E50	846.83	845.97	1.63	53	58	III	36	---
CTH E	E50	---	22+46.13	39.7	RT	850.00	---	---	---	---	---	---	---	---	--	---	---	---	---	---	---	---
CTH E	---	---	---	---	---	---	---	---	--	---	P11	---	11B	IN102	847.35	845.18	9.81	16	18	IV	15	---
CTH E	IN102	---	27+34.3	21.8	LT	848.38	INLETS 4-FT DIAMETER	H	8.42	---	P98	---	IN102	IN101	839.96	838.44	0.50	303	307	III	24	---
CTH E	---	---	---	---	---	---	---	---	--	---	P10	---	10B	IN101	843.52	841.39	10.39	14	16	IV	12	---
CTH E	IN101	---	30+41.3	21.8	LT	843.90	INLETS 4-FT DIAMETER	H	5.96	---	P100	---	IN101	IN100	837.94	836.50	0.50	288	293	III	30	---
CTH E	---	---	---	---	---	---	---	---	--	---	P100A	---	100B	IN100	838.75	836.98	7.00	19	22	IV	24	---
CTH E	IN100	---	33+34.21	21.8	LT	841.20	MANHOLES 5-FT DIAMETER	H	4.79	---	P12	---	IN100	E99	836.41	836.39	0.50	5	7	III	30	---
CTH E	---	---	---	---	---	---	---	---	--	---	PE99	---	12	---	836.39	---	---	---	---	---	30	EXIST PIPE INTERPOL ELEV
CTH E	---	---	---	---	---	---	---	---	--	---	P7	---	7B	IN79	837.47	834.13	11.22	24	27	IV	24	---
CTH E	IN202	---	36+28.11	21.8	LT	839.95	INLETS 4-FT DIAMETER	H	4.74	---	P201	---	IN202	IN79	835.21	834.08	0.49	229	234	III	15	---
CTH E	IN79	---	38+62.5	21.8	LT	838.78	MANHOLES 6-FT DIAMETER	H	6.48	---	P8	---	IN79	IN201	832.30	832.16	0.50	27	33	III	36	---
CTH E	IN201	---	38+95.96	21.8	LT	838.77	MANHOLES 6-FT DIAMETER	H	6.68	---	P200	---	IN201	EIN200	832.09	831.92	0.50	33	38	III	36	---
CTH E	EIN200	---	39+06.51	19.3	RT	838.21	---	---	---	---	---	---	---	---	--	---	---	---	---	---	---	---

PLAN LENGTH REPRESENTS LENGTH OF PIPE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE AND IS USED FOR ESTIMATING. PIPE LENGTH REPRESENTS LENGTH OF PIPE MEASURED FROM INSIDE FACE OF STRUCTURE TO INSIDE FACE OF STRUCTURE AND IS USED TO COMPUTE PIPE SLOPE.

[1]DEPTH = RIM OR FLOW ELEV - LOWEST PIPE INVERT ELEVATION

[A] SLOPE CALCULATED BASED ON PIPE LENGTH. PIPE LENGTH REPRESENTS LENGTH OF PIPE MEASURED FROM INSIDE FACE OF STRUCTURE TO INSIDE FACE OF STRUCTURE

[B]PIPE LENGTH SHOWN FOR SLOPE CALCULATION ONLY. NOT INTENDED FOR PAY QUANTITY.

[C]PLAN LENGTH SHOWN FOR PAY QUANTITY.

3

STORM SEWER STRUCTURE SUMMARY

611.2005 MANHOLES 5-FT DIAMETER EACH	611.2006 MANHOLES 6-FT DIAMETER EACH	611.3004 INLETS 4-FT DIAMETER EACH	611.3902 INLETS MEDIAN 2 GRATE EACH	611.0535 MANHOLE COVERS TYPE J-SPECIAL EACH	611.0642 INLET COVERS TYPE MS EACH	611.0624 INLET COVERS TYPE H EACH
3	4	7	3	3	6	11

STORM SEWER PIPE SUMMARY

608.0315 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH LF	608.0318 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH LF	608.0324 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH LF	608.0330 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 30-INCH LF	608.0336 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 36-INCH LF	608.0412 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 12-INCH LF	608.0415 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 15-INCH LF	608.0418 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 18-INCH LF	608.0424 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 24-INCH LF
279	45	742	877	129	16	18	228	49

NOTE: ALL WORK IS CATEGORY 0010

3

STORM SEWER STRUCTURE SUMMARY

611.2005 MANHOLES 5-FT DIAMETER EACH	611.2006 MANHOLES 6-FT DIAMETER EACH	611.3004 INLETS 4-FT DIAMETER EACH	611.3902 INLETS MEDIAN 2 GRATE EACH	611.0535 MANHOLE COVERS TYPE J-SPECIAL EACH	611.0642 INLET COVERS TYPE MS EACH	611.0624 INLET COVERS TYPE H EACH
3	4	7	3	3	6	11

STORM SEWER PIPE SUMMARY

608.0315 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 15-INCH LF	608.0318 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH LF	608.0324 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 24-INCH LF	608.0330 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 30-INCH LF	608.0336 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 36-INCH LF	520.4112 CULVERT PIPE CLASS IV 12-INCH LF	608.0415 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 15-INCH LF	608.0418 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 18-INCH LF	608.0424 STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 24-INCH LF
279	45	742	877	129	33	18	228	49

NOTE: ALL WORK IS CATEGORY 0010

CONVENTIONAL SYMBOLS

SECTION LINE
QUARTER LINE
SIXTEENTH LINE
NEW REFERENCE LINE
NEW R/W LINE
EXISTING R/W LINE
PROPERTY LINE
LOT, TIE, AND OTHER MINOR LINES
SLOPE INTERCEPT
CORPORATE LIMITS
UNDERGROUND FACILITY (COMMUNICATIONS, ELECTRIC, ETC)
FEE ACQUISITION AREA (HATCHING VARIES BY OWNER)
TEMP. LIMITED EASEMENT AREA
EASEMENT AREA (HIGHWAY, PERMANENT LIMITED, OR RESTRICTED DEVELOPMENT)
TRANSMISSION STRUCTURES
BUILDING
BUILDING (TO BE REMOVED)
BRIDGE

PARCEL NUMBER 25
SECTION CORNER
NOTATION FOR COMBUSTABLE FLUIDS
NOTATION FOR HIGH VOLTAGE TRANSMISSION LINES

UTILITY NUMBER 40
R/W MONUMENT
NON-MONUMENTED R/W POINT
FOUND IRON PIN
VALVE (GAS, WATER, ETC.)
SIGN
OFF-PREMISE SIGN

ACCESS CONTROLLED BY ACQUISITION
NO ACCESS (BY STATUTORY AUTHORITY)
ACCESS RESTRICTED (BY PREVIOUS PROJECT OR CONTROL)
NO ACCESS (NEW HIGHWAY)
NATIONAL GEODETIC SURVEY MONUMENT
SIXTEENTH CORNER MONUMENT
PARALLEL OFFSETS

CONVENTIONAL UTILITY SYMBOLS

WATER	W
GAS	G
TELEPHONE	T
OVERHEAD TRANSMISSION LINES	OH
ELECTRIC	E
CABLE TELEVISION	TV
FIBER OPTIC	FO
SANITARY SEWER	SAN
STORM SEWER	SS
ELECTRIC TOWER	

	NON-COMPENSABLE	COMPENSABLE
POWER POLE		
TELEPHONE POLE		
TELEPHONE PEDESTAL		

CURVE DATA ABBREVIATIONS

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

CONVENTIONAL ABBREVIATIONS

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

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE BASED ON THE WISCONSIN COUNTY COORDINATE SYSTEM, SHEBOYGAN COUNTY ZONE, NAD-83 (1991) ADJUSTMENT (IN US SURVEY FEET). COORDINATES SHOWN ARE GRID COORDINATES AND ARE TO BE USED AS GRID OR GROUND VALUES ON THIS PLAT.

RIGHT OF WAY MONUMENTS ARE TYPE 2 MONUMENTS (TYPICALLY 3/4"X24" REBAR) AND WILL BE PLACED PRIOR TO COMPLETION OF THE PROJECT.

RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER "SURVEYS OF PUBLIC RECORD".

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

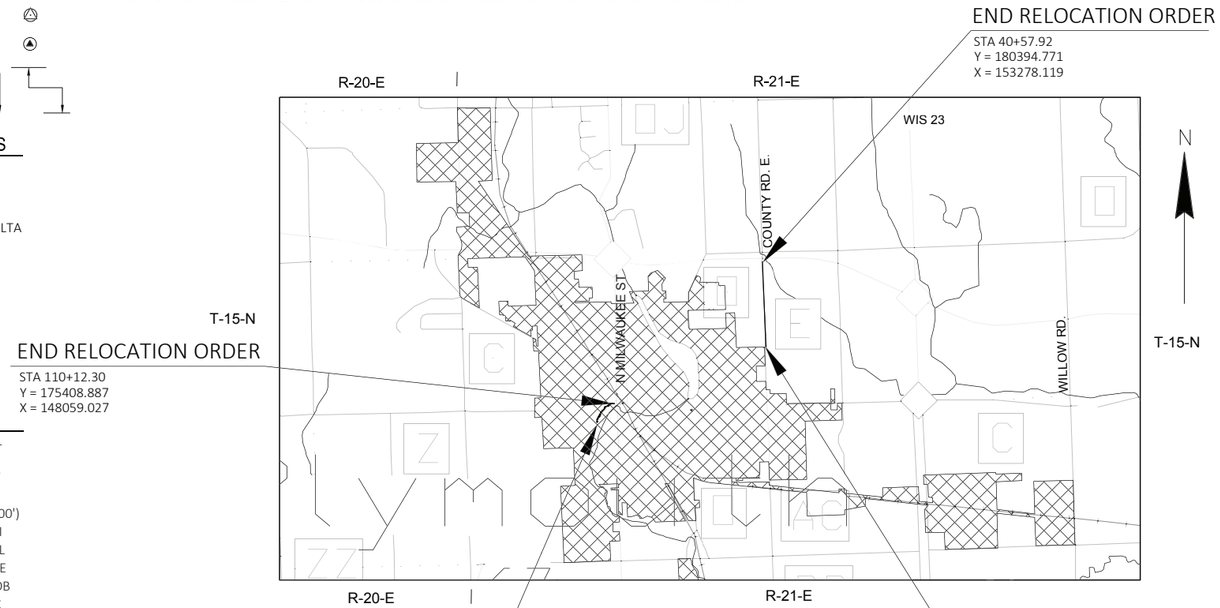
FOR CURRENT ACCESS/DRIVEWAY INFORMATION, CONTACT THE PLANNING UNIT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN WAUKESHA.

INFORMATION FOR BASIS OF EXISTING HIGHWAY RIGHT-OF-WAY POINTS OF REFERENCE AND ACCESS CONTROL ARE LISTED ON DETAIL SHEETS.

DIMENSIONING FOR THE NEW RIGHT-OF-WAY IS MEASURED ALONG AND PERPENDICULAR TO NEW REFERENCE LINE.

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

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES. AS DEFINED HEREIN. INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON. THE RIGHT OF INGRESS AND EGRESS. AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE, OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM DESIRABLE. ALL (TLEs) ON THIS PLAT EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.



END RELOCATION ORDER
STA 40+57.92
Y = 180394.771
X = 153278.119

END RELOCATION ORDER
STA 110+12.30
Y = 175408.887
X = 148059.027

BEGIN RELOCATION ORDER
STA 99+97.49
Y = 174759.537
X = 147403.463

BEGIN RELOCATION ORDER
STA 10+17.64
Y=177354.644
X=153295.351

LAYOUT
SCALE 0 2 MI

TOTAL NET LENGTH OF CENTERLINE = 0.762 MI

R/W PROJECT NUMBER 4995-03-01	SHEET NUMBER	TOTAL SHEETS
CONSTRUCTION PROJECT NUMBER 4995-03-02	1	2

PLAT OF RIGHT OF WAY REQUIRED FOR

SIDEWALK GAP IMPROVEMENT
CITY OF PLYMOUTH

S.T.H. 67 & C.T.H. E	SHEBOYGAN COUNTY

kapur all in
7711 N. Port Washington Road
Milwaukee, Wisconsin 53217
414.751.7200
kapurinc.com

ORIGINAL PLANS PREPARED BY

WISCONSIN
ERIK A. GUSTAFSON
S-2329
GREEN BAY, WISCONSIN
LAND SURVEYOR

JUNE 28, 2021 (Date)

Erik A Gustafson
ERIK A. GUSTAFSON
KAPUR & ASSOCIATES
P.L.S. NUMBER 2329

REVISION DATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED FOR THE DEPARTMENT

DATE: _____ (Signatur

FILE NAME : S:\SHEB_CO\PLYMOUTH\GOV\190405 - PLYMOUTH SIDEWALK GAPS\SURVEY\190405_RW_PLAT_SHEETS.DWG
PLOT DATE : 7/28/2021 8:48 AM
PLOT BY : RAISA KHAYTINA
PLOT NAME :

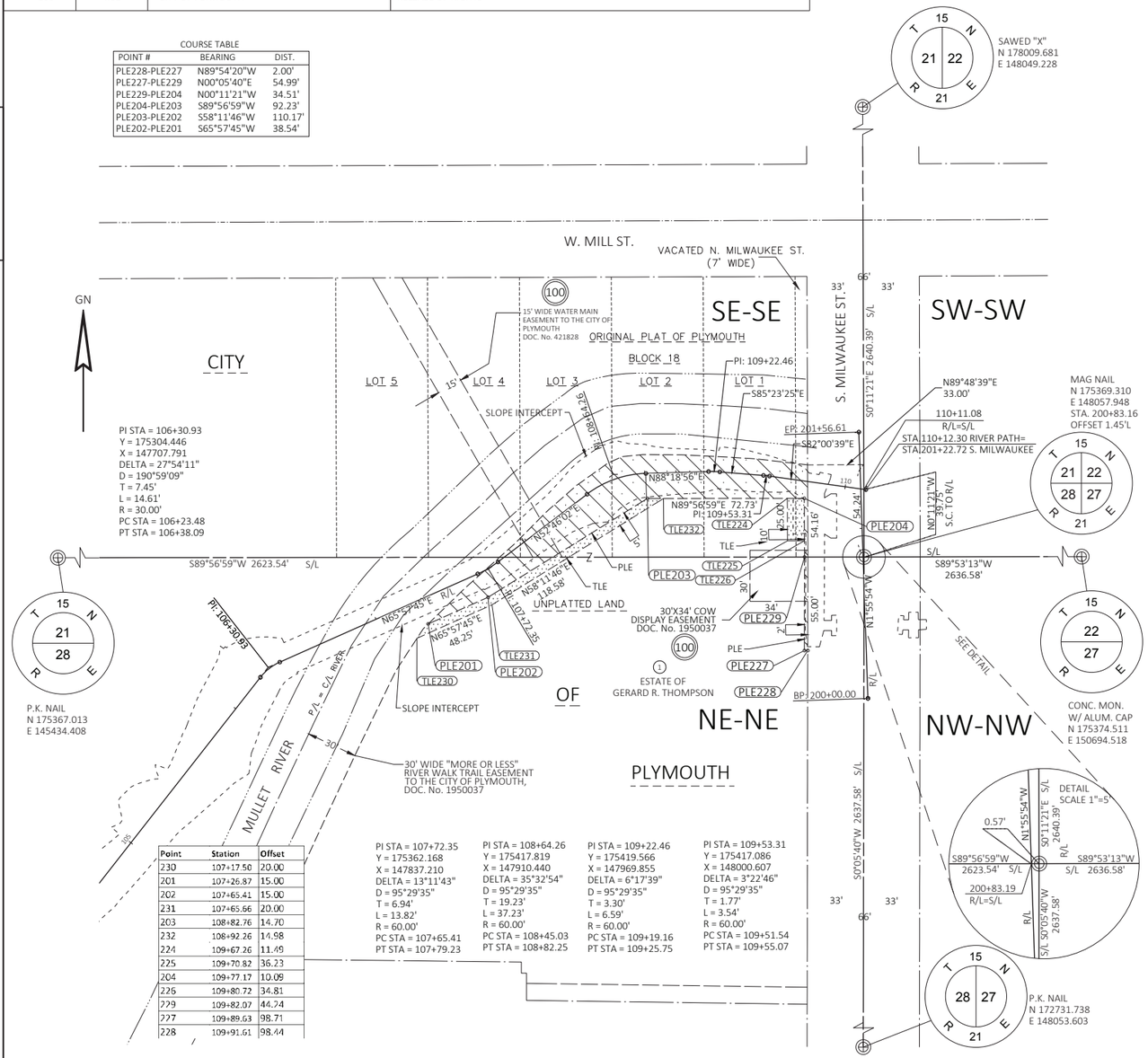
SCHEDULE OF LANDS & INTERESTS REQUIRED

AREAS SHOWN IN THE TOTAL ACRES COLUMN MAY BE APPROXIMATE AND ARE DERIVED FROM TAX ROLLS OR OTHER AVAILABLE SOURCES AND MAY NOT INCLUDE LANDS OF THE OWNER WHICH ARE NOT CONTIGUOUS TO THE AREA TO BE ACQUIRED.

PARCEL NUMBER	SHEET NUMBER	OWNER(S)	INTEREST REQUIRED	R/W REQUIRED (ACRES)			PLE ACRES	TLE ACRES
				NEW	EXISTING	TOTAL		
1	4.02	ESTATE OF GERARD R. THOMPSON	PLE, TLE	0.000	0.000	0.000	0.125	0.024
2	4.02	SUSAN ANN PROPERTY LLC	TLE	0.000	0.000	0.000	-	0.011
100	4.02	CITY OF PLYMOUTH	RELEASE OF RIGHTS					

COURSE TABLE

POINT #	BEARING	DIST.
PLE228-PLE227	N89°54'20"W	2.00'
PLE227-PLE229	N00°05'40"E	54.99'
PLE229-PLE204	N00°11'21"W	34.51'
PLE204-PLE203	S89°56'59"W	92.23'
PLE203-PLE202	S58°11'46"W	110.17'
PLE202-PLE201	S65°57'45"W	38.54'



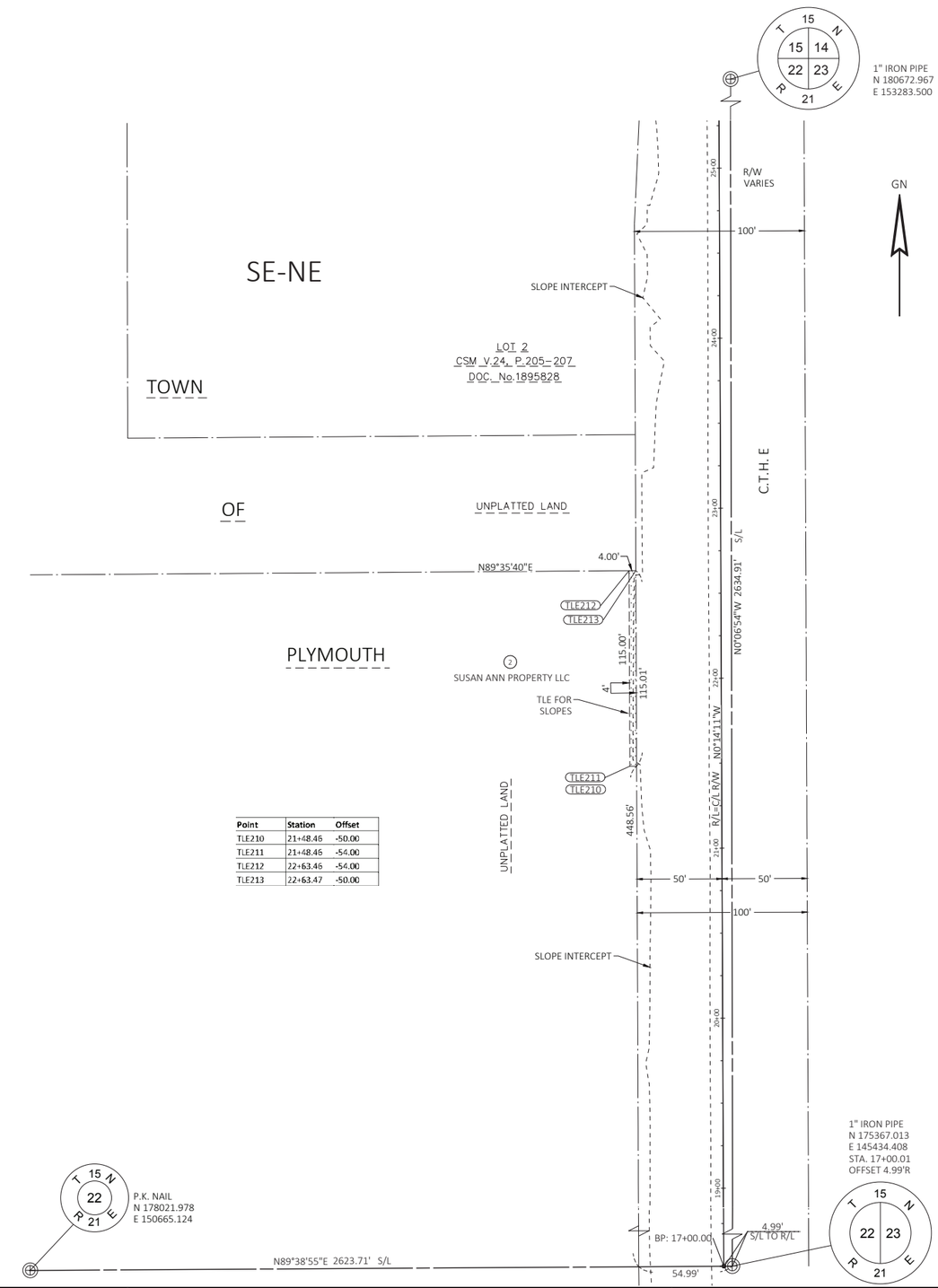
Point	Station	Offset
230	107+17.50	20.00
201	107+26.87	15.00
202	107+65.41	15.00
231	107+65.66	20.00
203	108+82.76	14.70
232	108+92.26	14.98
224	109+67.26	11.49
225	109+70.82	36.23
204	109+77.17	10.09
226	109+80.72	34.81
229	109+82.07	44.24
227	109+89.63	98.71
228	109+91.61	98.44

PI STA = 107+72.35
Y = 175362.168
X = 147837.210
DELTA = 13°11'43"
D = 95°29'35"
T = 6.94'
L = 13.82'
R = 60.00'
PC STA = 107+65.41
PT STA = 107+79.23

PI STA = 108+64.26
Y = 175417.819
X = 147910.440
DELTA = 35°32'54"
D = 95°29'35"
T = 19.23'
L = 37.23'
R = 60.00'
PC STA = 108+45.03
PT STA = 108+82.25

PI STA = 109+22.46
Y = 175419.566
X = 147969.855
DELTA = 6°17'39"
D = 95°29'35"
T = 3.30'
L = 6.59'
R = 60.00'
PC STA = 109+19.16
PT STA = 109+25.75

PI STA = 109+53.31
Y = 175417.086
X = 148000.607
DELTA = 3°22'46"
D = 95°29'35"
T = 1.77'
L = 3.54'
R = 60.00'
PC STA = 109+51.54
PT STA = 109+55.07



Point	Station	Offset
TLE210	21+48.46	-50.00
TLE211	21+48.46	-54.00
TLE212	22+63.46	-54.00
TLE213	22+63.47	-50.00

REVISION DATE	DATE 06/28/2021	SCALE, FEET 0 40 80	HWY: STH 67 / CTH E
	GRID FACTOR		COUNTY: SHEBOYGAN

STATE R/W PROJECT NUMBER	4995-03-01	PLAT SHEET 4. 02
CONSTRUCTION PROJECT NUMBER	4995-03-02	PS&E SHEET 85

E

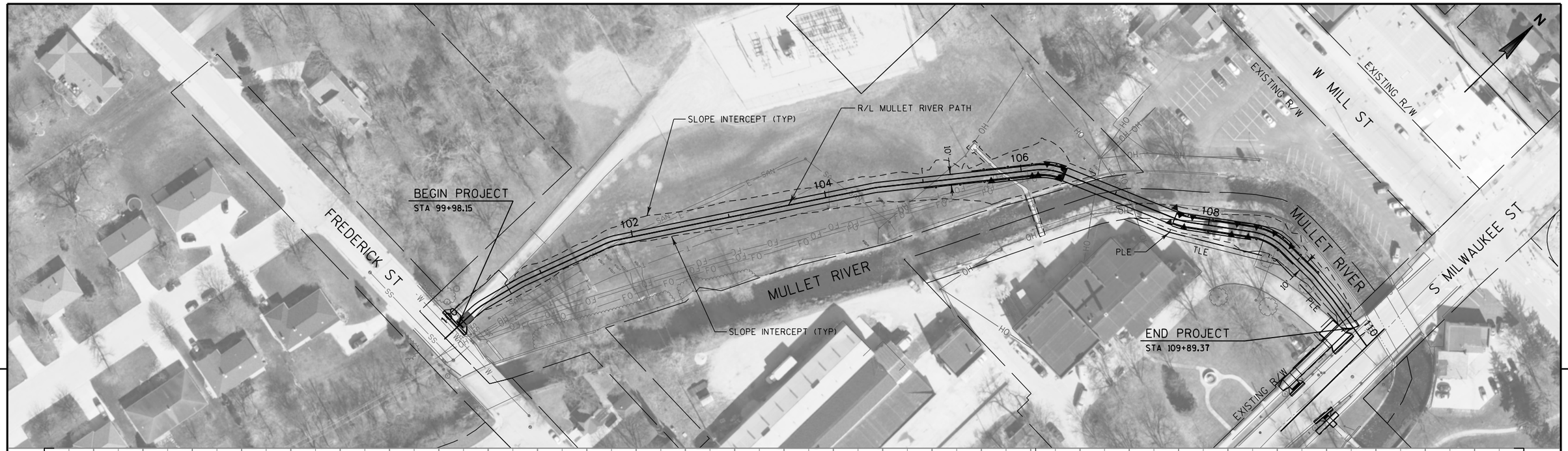
FILE NAME : 190405_RW_PLAT_SHEETS.DWG
LAYOUT NAME - 4.02

PLOT DATE : 12/2/2021 12:59 PM PLOT BY : RAISA KHAYTINA PLOT NAME : PLOT SCALE : ##########

WISDOT/CADDS SHEET 75

4

4

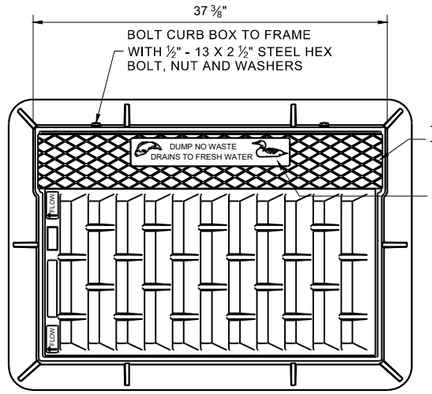


PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	PLAN AND PROFILE	SHEET 86	E

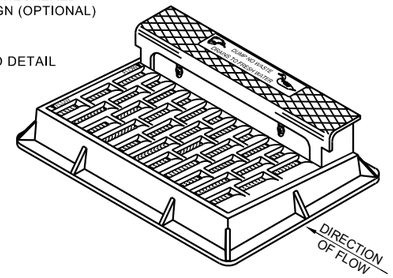
Standard Detail Drawing List

08A05-21A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-21B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-21D	INLET COVERS TYPE V, V-B, & VV-B
08A05-21E	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08A08-03	CATCH BASINS 3-FT, 4-FT, 5-FT AND 6-FT DIAMETER
08B09-04	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT, 10-FT DIAMETER
08C06-03	INLETS 3-FT AND 4-FT DIAMETER
08C08-03	INLETS MEDIAN 1 AND 2 GRATE
08D01-23A	CONCRETE CURB & GUTTER
08D01-23B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D05-21A	CURB RAMPS TYPES 1 AND 1-A
08D05-21B	CURB RAMPS TYPES 2 AND 3
08D05-21C	CURB RAMPS TYPES 4A AND 4A1
08D05-21D	CURB RAMPS TYPE 4B AND 4B1
08D05-21E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D05-21F	CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS
08D05-21G	CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E11-02	TURBIDITY BARRIER
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
12A03-10	NAME PLATE (STRUCTURES)
13C19-03	HMA LONGITUDINAL JOINTS
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C11-10A	CHANNELIZING DEVICES FLEXIBLE TUBULAR MARKER POST
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C33-05	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D28-04	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY
15D30-09B	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-09F	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

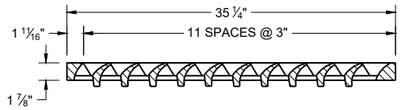
6

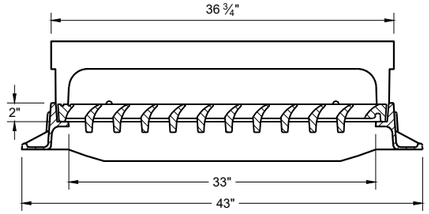


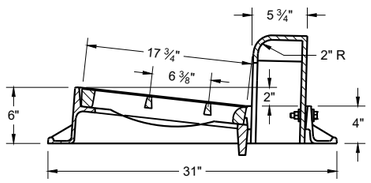
NOTE: EITHER CASTING IS ACCEPTABLE

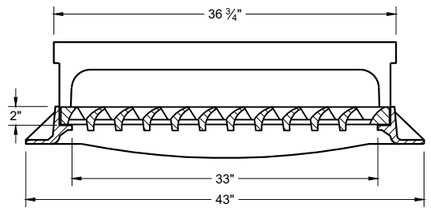


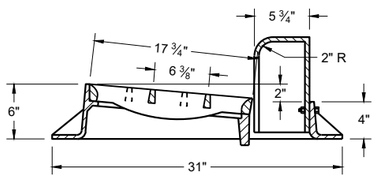
NOTE: CURB BOX HEIGHT ADJUSTABLE 6" - 9"







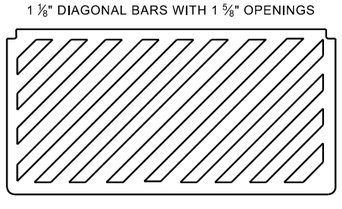




TYPE "H"

NOTE: EITHER CASTING IS ACCEPTABLE

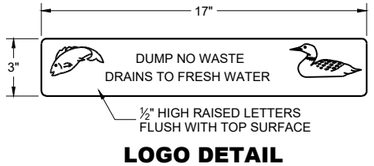
1 1/8" DIAGONAL BARS WITH 1 5/8" OPENINGS



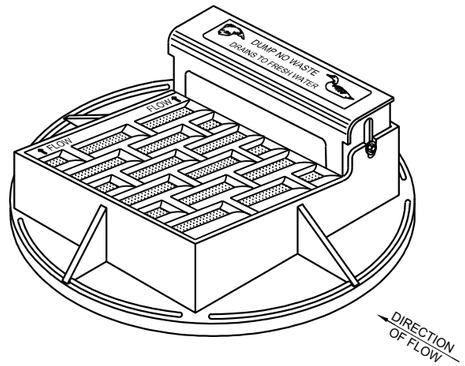
SPECIAL GRATE FOR TYPE "H" COVER

(MEASURES 35" X 17 3/4" X 2")

(NOTED AS TYPE H-S ON DRAINAGE TABLE)

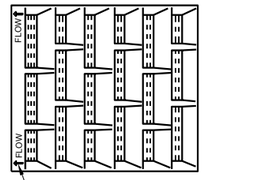


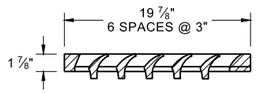
LOGO DETAIL

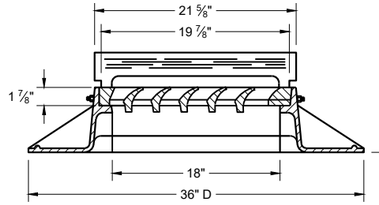


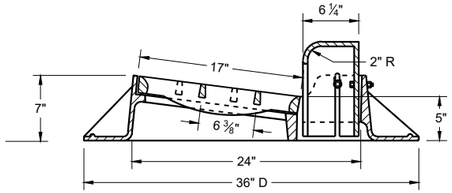
NOTE: CURB BOX HEIGHT ADJUSTABLE 6" - 9"

NOTE: EITHER CASTING IS ACCEPTABLE









TYPE "A"

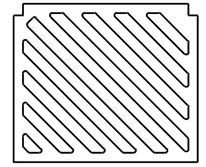
GENERAL NOTES

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.

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

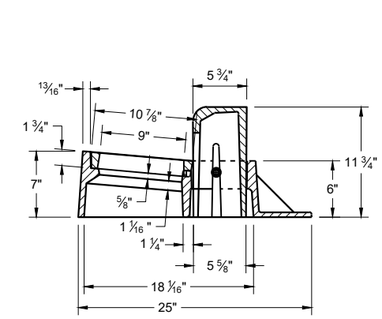
1" DIAGONAL BARS WITH 1 1/2" OPENINGS

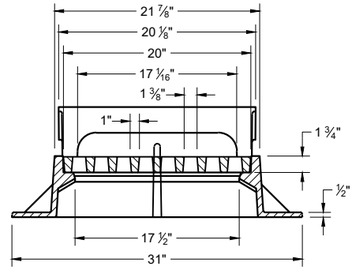


SPECIAL GRATE FOR TYPE "A" COVER

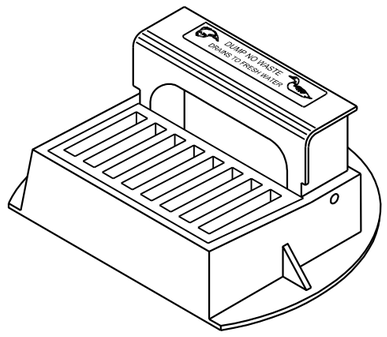
(MEASURES 19 3/4" X 17" X 1 7/8")

(NOTED AS TYPE A-S ON DRAINAGE TABLE)





TYPE "Z"



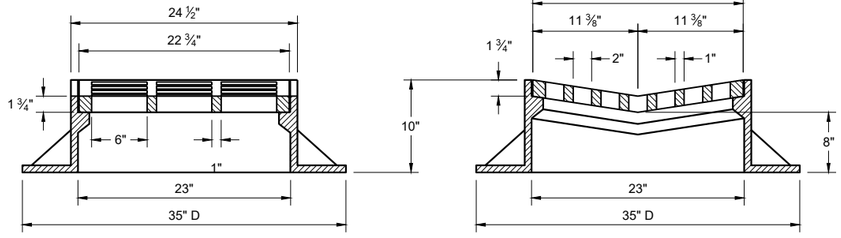
INLET COVERS
TYPES A, H, A-S, H-S AND Z

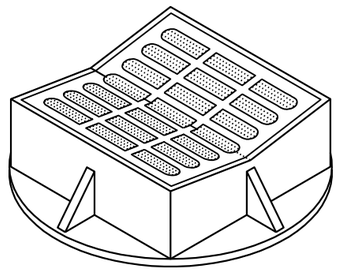
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2023
DATE

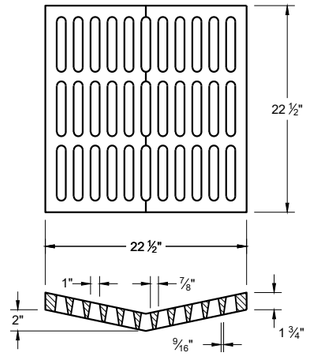
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA





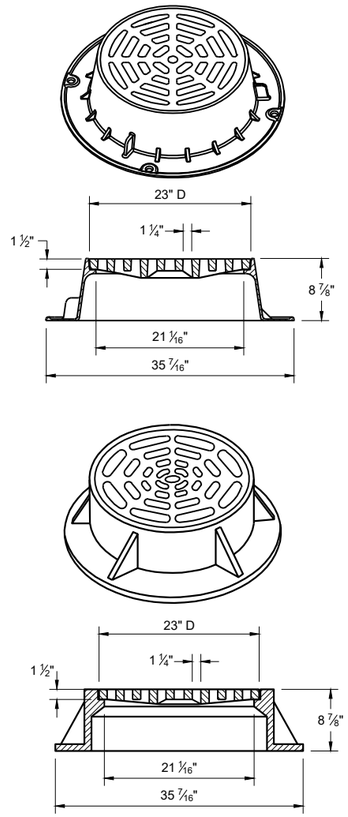
TYPE "B"



ALTERNATIVE GRATE FOR TYPE "B" COVER

USE WHERE PEDESTRIAN OF BICYCLE TRAFFIC IS POSSIBLE

NOTED AS TYPE B - A ON THE DRAINAGE TABLE



TYPE "C"

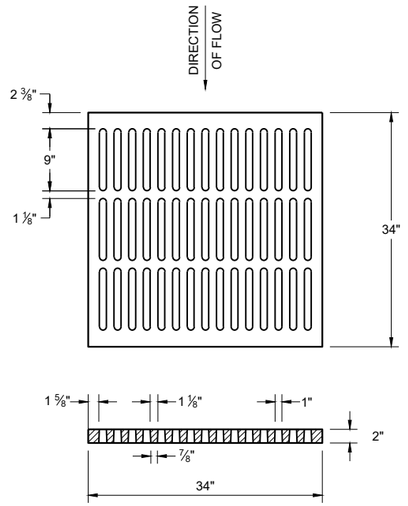
NOTE: EITHER CASTING IS ACCEPTABLE

GENERAL NOTES

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

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

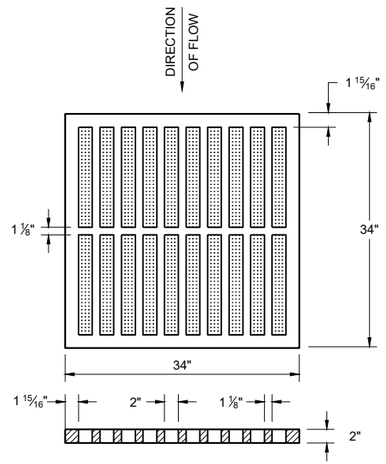
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.



ALTERNATIVE TYPE "MS"

USE WHERE PEDESTRIAN OF BICYCLE TRAFFIC IS PERMITTED

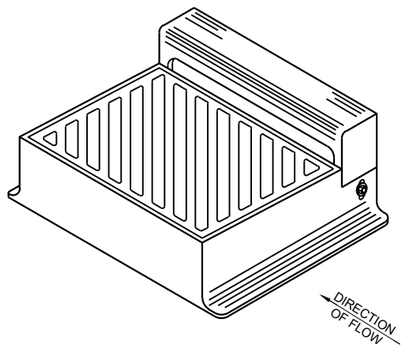
NOTED AS TYPE MS-A ON THE DRAINAGE TABLE



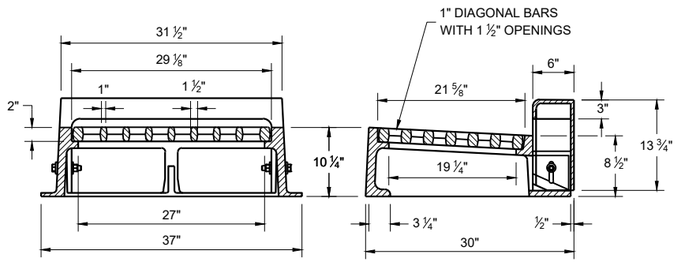
TYPE "MS"

USE ON FREEWAYS AND EXPRESSWAYS

NOTED AS TYPE MS ON THE DRAINAGE TABLE



DIAGONAL SLOTS SHALL BE ORIENTEDTO THE DIRECTION OF FLOW AS ILLUSTRATED.
GRATES ARE MANUFACTURED TO BE REVERSIBLE.



TYPE "WM"

NOTE: CURB BOX HEIGHT ADJUSTABLE 6" - 9"

INLET COVERS TYPES B, B-A, C, MS, MS-A AND WM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2023 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

6

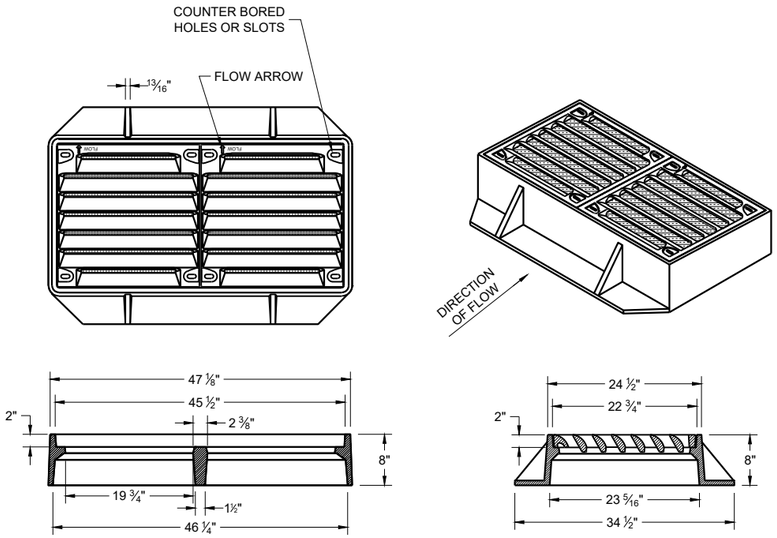
SDD 08A05-21b

SDD 08A05-21b

GENERAL NOTES

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

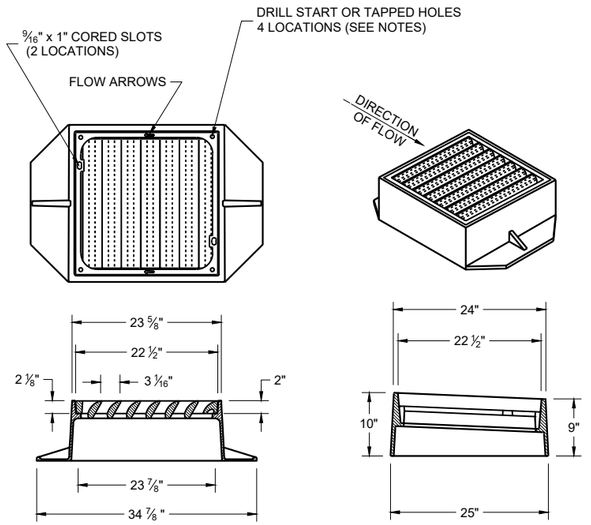
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.



TYPE "VV-B"

NOTES: ALL HARDWARE TO BE SUPPLIED BY CASTING MANUFACTURER
ALL DRILLING AND TAPPING GRATES AND FRAMES BY CASTING MANUFACTURER

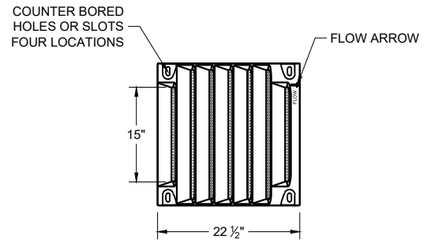
TYPE V
FRAME - CAST GRAY IRON ASTM A48 CLASS 35B
⅜" DIA. X 1/16" DRILL START IN 8 LOCATIONS
GRATE - CAST GRAY IRON ASTM A-48, CLASS 35B



TYPE "V"

NOTES: ALL HARDWARE TO BE SUPPLIED BY CASTING MANUFACTURER ALL DRILLING AND TAPPING GRATES AND FRAMES BY CASTING MANUFACTURER

TYPE V
FRAME - CAST GRAY IRON ASTM A48 CLASS 40A
⅜" DIA. X 1/16" DRILL START IN 4 LOCATIONS
GRATE - CAST GRAY IRON ASTM A-48, CLASS 35B



BOLT DOWN GRATE FOR TYPE "V" AND "VV-B" COVER

NOTES: ALL HARDWARE TO BE SUPPLIED BY CASTING MANUFACTURER NOTED AS TYPE "V-B" OR "VV-B" (FOR DOUBLE GRATE) ON DRAINAGE TABLE

TAP ½" -13 HOLES IN FOUR LOCATIONS PER GRATE IN FRAME TO BOLT GRATE(S).
FRAME - CAST GRAY IRON ASTM A48 CLASS 40A

GRATE - CAST DUCTILE IRON ASTM A536, 55+KSI YIELD
BOLTS - ½" -13 STAINLESS STEEL BOLTS WITH WASHERS
TORQUE BOLTS TO MANUFACTURER SPECIFICATION DO NOT OVERTIGHTEN.

INLET COVERS
TYPES V, V-B, AND VV-B

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2023 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA

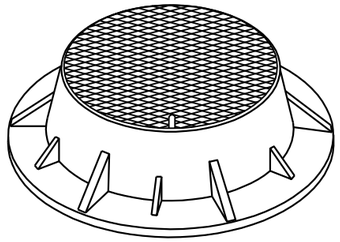
6
SDD 08A05-21d

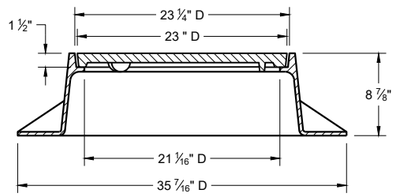
GENERAL NOTES

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

DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

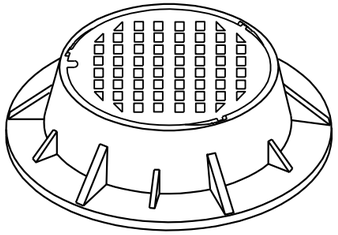
ROUND FRAMES AND COVERS SHALL HAVE CONTINUOUSLY MACHINED BEARING SURFACES TO PREVENT ROCKING AND RATTLING.

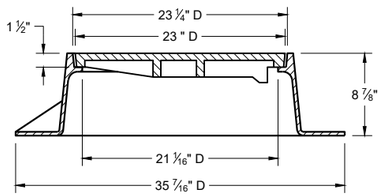




TYPE "J"

NOTE: EITHER CASTING IS ACCEPTABLE

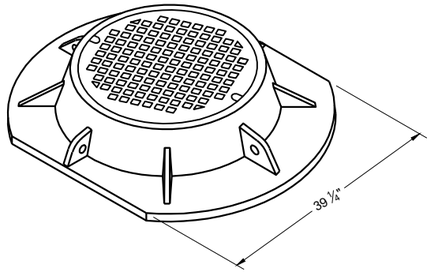


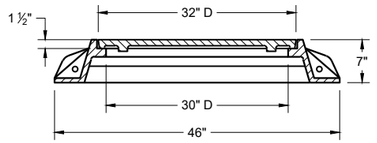


TYPE "J" SPECIAL

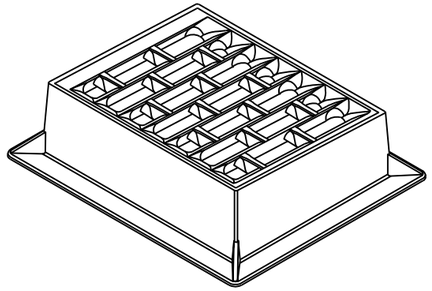
TYPE "B" NON-ROCKING SELF-SEAL LID
(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)

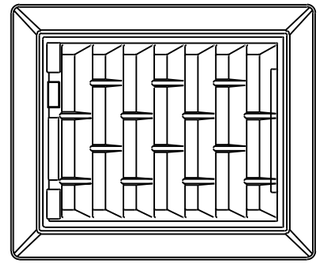
NOTE: EITHER CASTING IS ACCEPTABLE

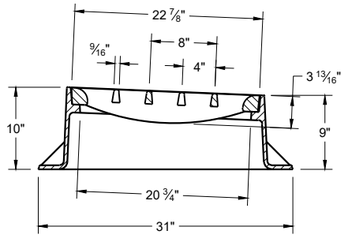


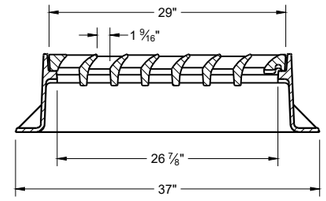


TYPE "K"

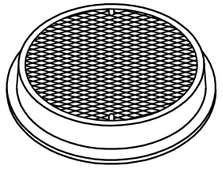


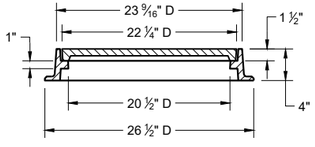




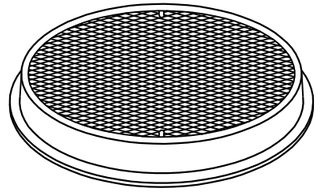


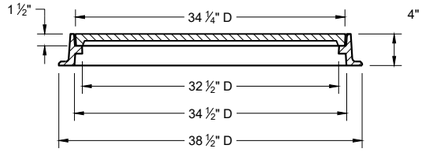
INLET COVER TYPE "BW"





TYPE "L"





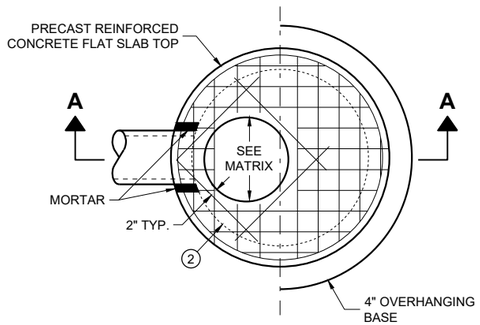
TYPE "M"

INLET COVERS TYPES BW
MANHOLE COVERS TYPES K, J, J-S, L, AND M

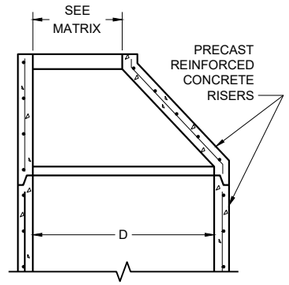
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2023 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

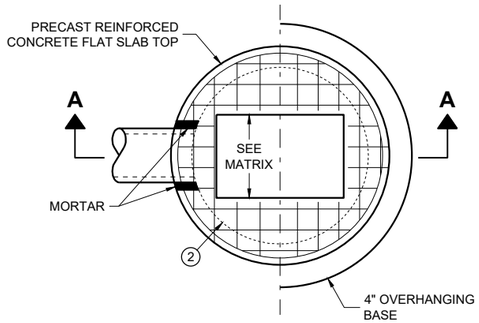
FHWA



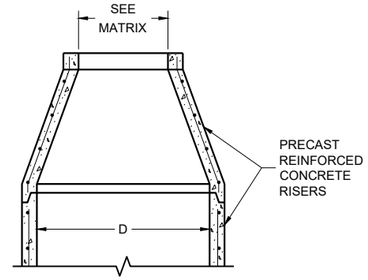
PLAN VIEW CIRCULAR OPENING



OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP



PLAN VIEW RECTANGULAR OPENING



OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

COVER MATRIX

CATCH BASIN SIZE	INLET COVER TYPE	ALL A'S	ALL B'S	BW	C	F	ALL H'S	S	T	V V-B	VV-B	WM	Z
	OPENING SIZE (FT.)												
3-FT	2 X 2	X	X					X		X			
	2 DIA.				X								X
4-FT TO 6-FT	2 X 2	X	X					X		X			
	2 X 2.5			X				X	X	X		X	
	2 DIA.				X								X
	2 X 3						X						
	2.5 X 3					X							
	2 X 3.5*										X*		

* REQUIRES 5-FT DIAMETER OR LARGER STRUCTURE

PIPE MATRIX

CATCH BASIN SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	30

CATCH BASINS 3-FT, 4-FT, 5-FT AND 6-FT DIAMETER

GENERAL NOTES

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

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

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

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

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

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

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

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

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF ½ INCH AND MEET THE REQUIREMENTS OF ASTM A615.

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

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

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

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

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

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

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

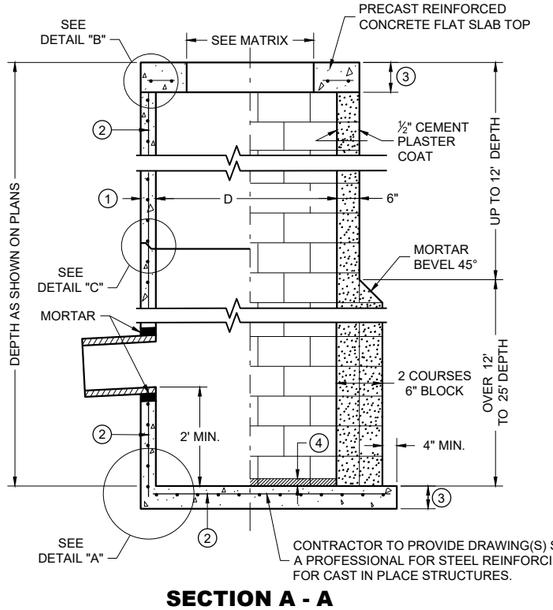
(1) MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT AND 7 INCHES FOR 6-FT DIAMETER PRECAST CATCH BASINS.

(2) FOR PRECAST CATCH BASINS AND REINFORCED CONCRETE BASES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

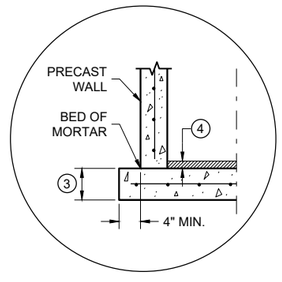
(3) PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

(4) 1" CONCRETE KEY POURED AFTER INSTALLATION. 2' SUMP MEASURED FROM TOP OF KEY.

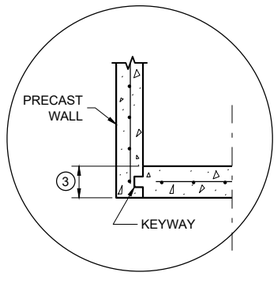
(5) JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 OR RUBBER GASKETS CONFROMING TO ASTM C443.



SECTION A - A



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

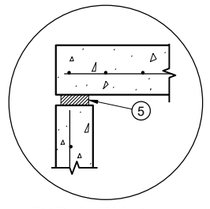


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

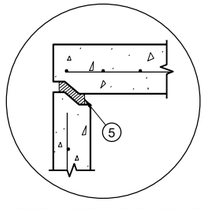
DETAIL "A"

PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

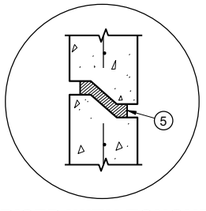
CONCRETE BLOCK WITH CAST IN PLACE OR PRECAST REINFORCED CONCRETE BASE (2)



TOP WITH PLAIN END JOINT

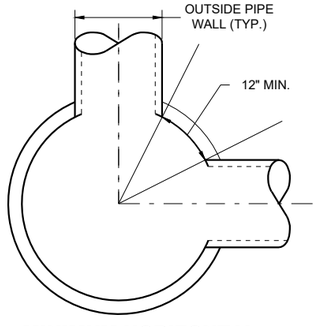


TOP WITH TONGUE AND GROOVE JOINT



RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B" **DETAIL "C"**



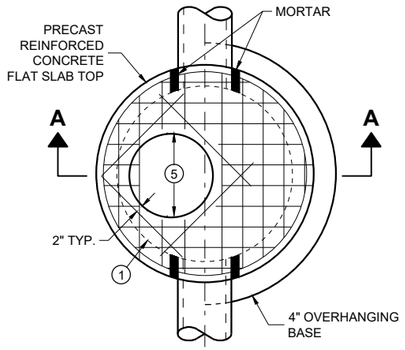
MINIMUM HORIZONTAL PIPE SEPARATION

DETAIL "D"

CATCH BASINS, 3-FT. 4-FT., 5 FT., AND 6-FT. DIAMETER

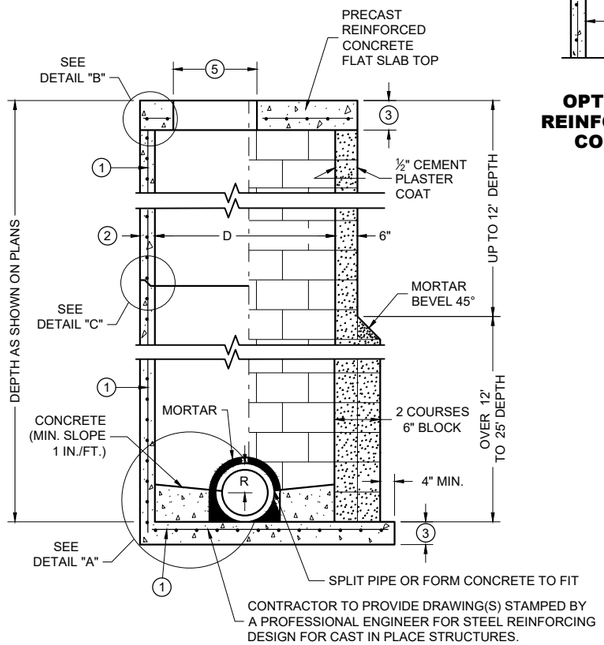
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December 2023 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA



PLAN VIEW

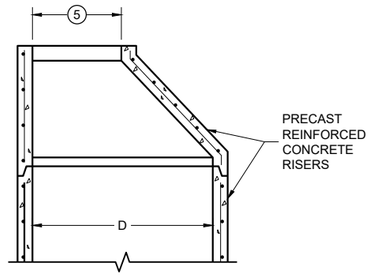
CIRCULAR OPENING



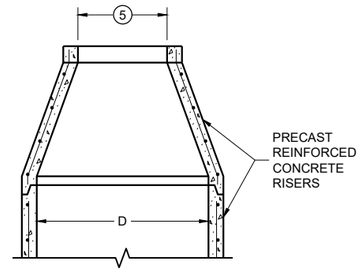
SECTION A - A

PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

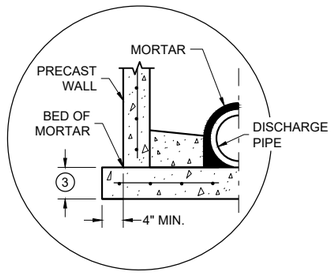
CONCRETE BLOCK WITH CAST IN PLACE OR PRECAST REINFORCED CONCRETE BASE (1)



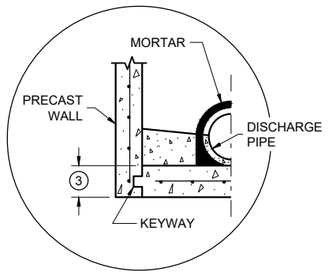
OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP



OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

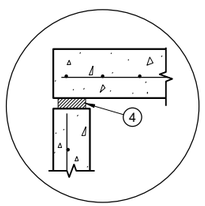


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

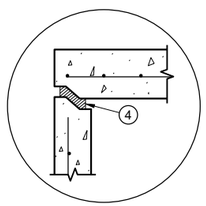


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

DETAIL "A"

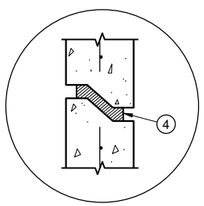


TOP WITH PLAIN END JOINT



TOP WITH TONGUE AND GROOVE JOINT

DETAIL "B"



RISER WITH TONGUE AND GROOVE JOINT

DETAIL "C"

MANHOLE COVER OPENING MATRIX

OPENING SIZE (FT.) (5) \ MANHOLE COVER TYPE	C	ALL J'S	K	L	M
2 DIA.	X	X		X	
3 DIA.			X		X

PIPE MATRIX

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

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

GENERAL NOTES

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

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

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

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

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

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

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

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

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF ½ INCH AND MEET THE REQUIREMENTS OF ASTM A615.

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

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

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

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

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

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

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

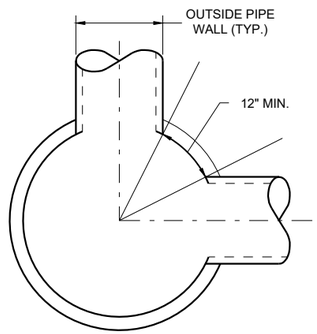
(1) FOR PRECAST MANHOLES AND REINFORCED CONCRETE BASES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

(2) SEE PIPE MATRIX TABLE FOR MINIMUM WALL THICKNESS FOR PRECAST MANHOLES

(3) SEE PIPE MATRIX TABLE FOR MINIMUM THICKNESS OF PRECAST FLAT SLAB TOPS AND BASES.

(4) JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 OR RUBBER GASKETS CONFORMING TO ASTM C443.

(5) SEE MANHOLE COVER OPENING MATRIX.



MINIMUM HORIZONTAL PIPE SEPARATION

DETAIL "D"

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

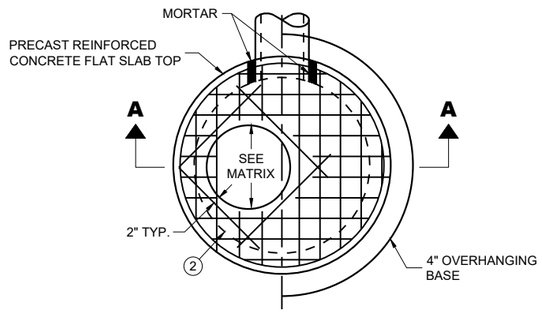
MANHOLES, 3-FT, 4-FT 5-FT, 6-FT, 7-FT, 8-FT, 9-FT AND 10-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

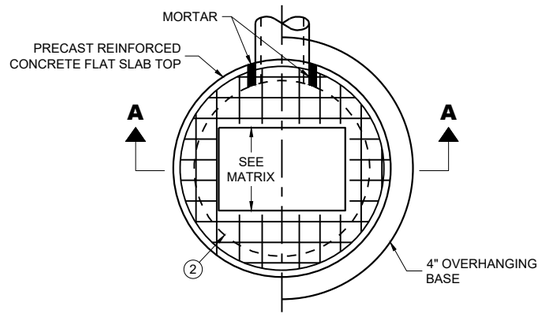
APPROVED
December 2023 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

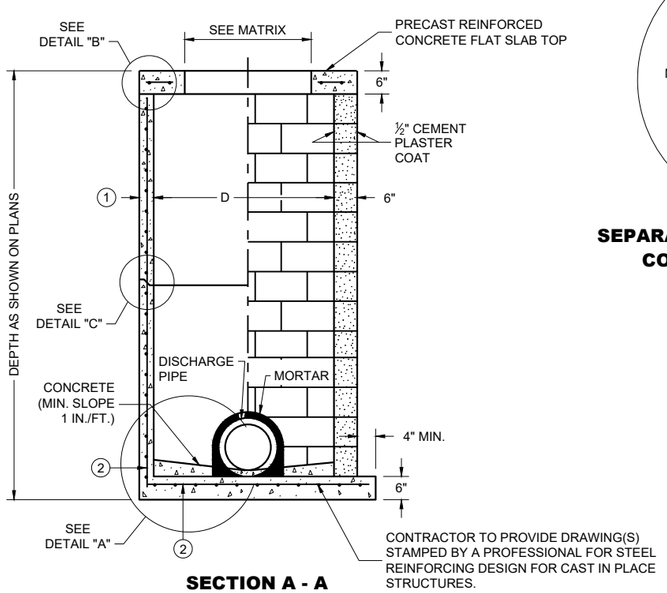
SDD 08B09-04



PLAN VIEW CIRCULAR OPENING



PLAN VIEW RECTANGULAR OPENING



SECTION A - A

PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST IN PLACE OR PRECAST REINFORCED CONCRETE BASE (2)

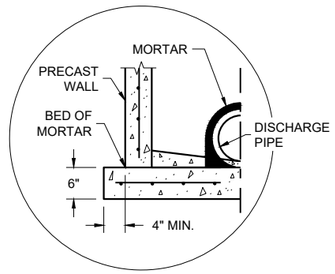
CIRCULAR INLETS WITH FLAT TOP

CATCH BASIN COVER OPENING MATRIX

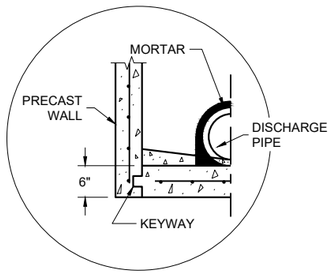
INLET SIZE	INLET COVER TYPE	ALL A'S	ALL B'S	BW	C	F	ALL H'S	S	T	V	WM	Z
	OPENING SIZE (FT.)											
3-FT	2 DIA.				X							X
	2 X 2	X	X					X		X		
4-FT	2 DIA.				X							X
	2 X 2	X	X					X		X		
	2 X 2.5			X				X	X	X	X	
	2 X 3						X					
	2.5 X 3					X						

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18

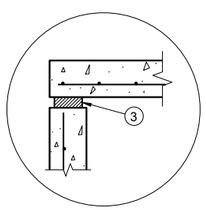


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

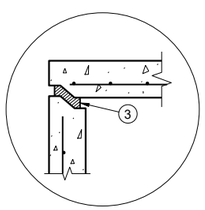


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

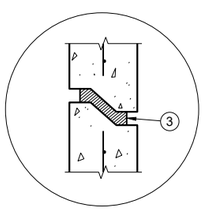
DETAIL "A"



TOP WITH PLAIN END JOINT



TOP WITH TONGUE AND GROOVE JOINT



RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B" **DETAIL "C"**

INLETS 3-FT AND 4-FT DIAMETER

GENERAL NOTES

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

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

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

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

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

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

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

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

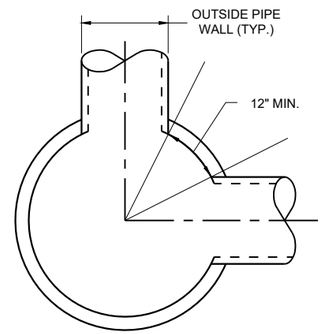
4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

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

(1) MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT DIAMETER AND 5 INCHES FOR 4-FT DIAMTER PRECAST INLETS.

(2) FOR PRECAST INLETS AND REINFORCED CONCRETE BASES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

(3) JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 OR RUBBER GASKETS CONFORMING TO ASTM C443.



MINIMUM HORIZONTAL PIPE SEPARATION

DETAIL "D"

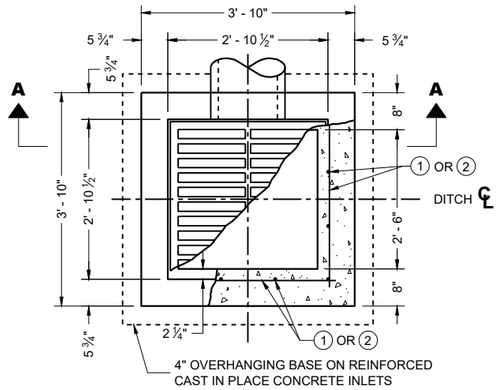
INLETS 3-FT AND 4-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

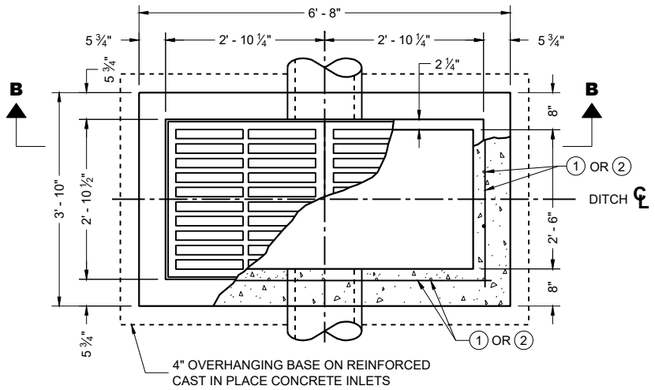
APPROVED
December 2023 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

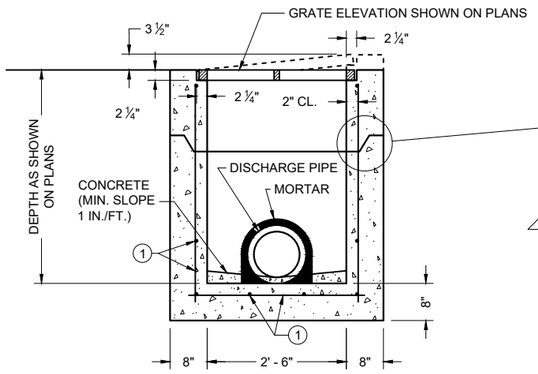
6
SDD 08C06-03



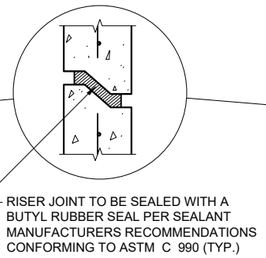
PLAN VIEW

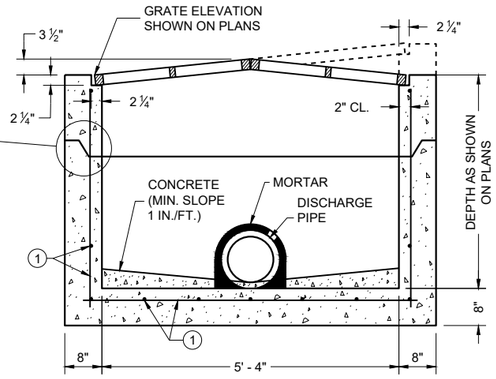


PLAN VIEW

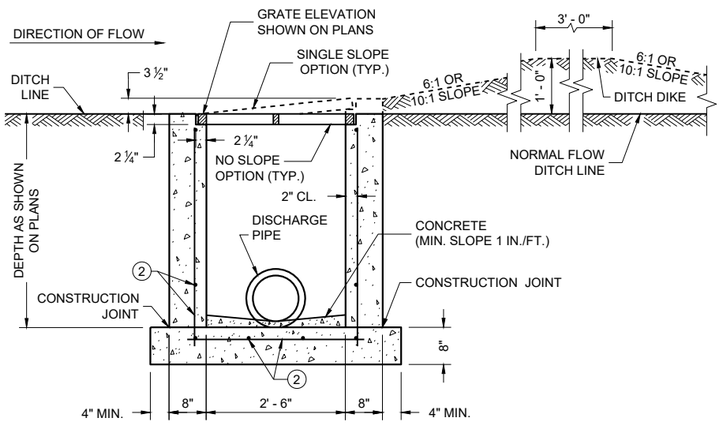


PRECAST REINFORCED CONCRETE SECTION A - A



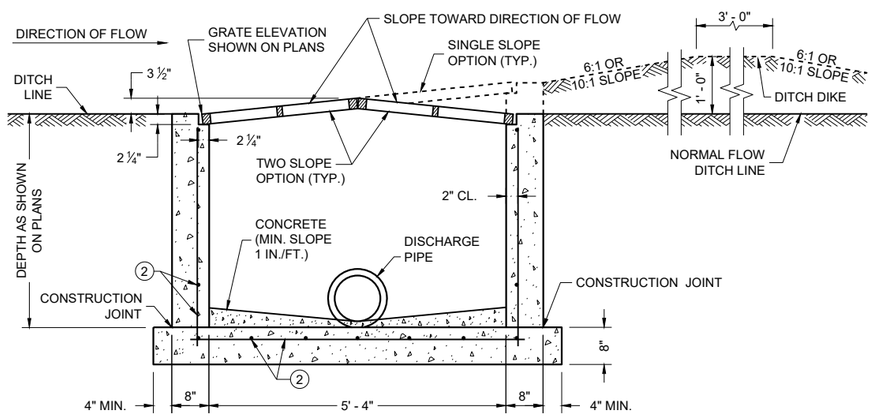


PRECAST REINFORCED CONCRETE SECTION B - B



REINFORCED CAST IN PLACE CONCRETE SECTION A - A

INLETS MEDIAN 1 GRATE



REINFORCED CAST IN PLACE CONCRETE SECTION B - B

INLETS MEDIAN 2 GRATE

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP N0T SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, 1G-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT.

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

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

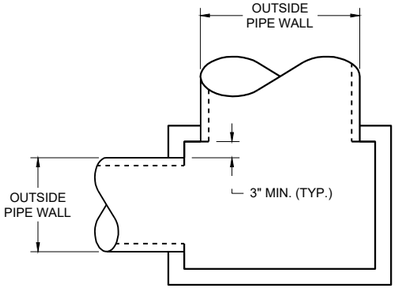
ALL BAR STEEL REINFORCEMENT SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE SHOWN OR NOTED.

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

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

(1) FOR PRECAST INLETS AND REINFORCED CONCRETE BASES PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

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



DETAIL "A"

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
1 GRATE	18	18
2 GRATE	18	42

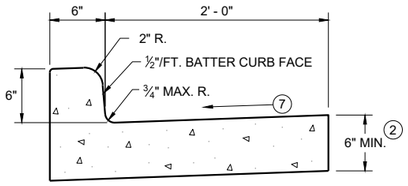
INLETS
MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

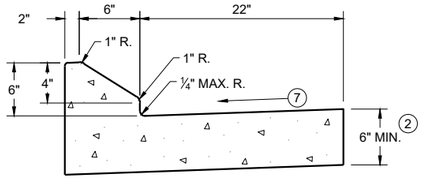
APPROVED
December 2023 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

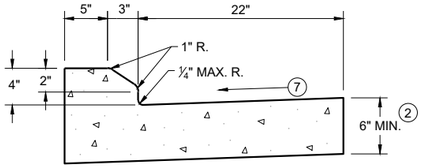
6
SDD 08C08-03



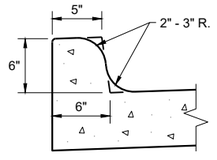
TYPES A (1) & D



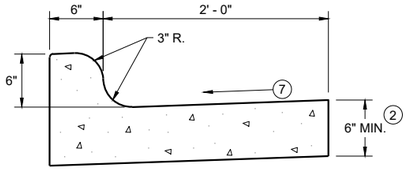
6" SLOPED CURB TYPES G (1) & J



4" SLOPED CURB TYPES G (1) & J

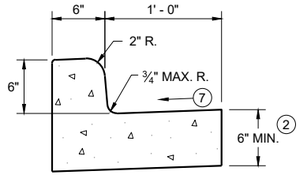


TYPES K (1) & L
(OPTIONAL CURB SHAPE)



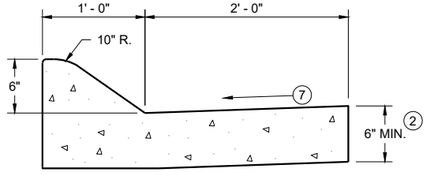
TYPES K (1) & L

CONCRETE CURB AND GUTTER 30"

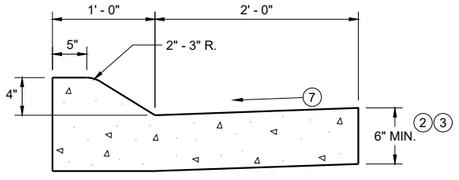


TYPES A (1) & D

CONCRETE CURB AND GUTTER 18"

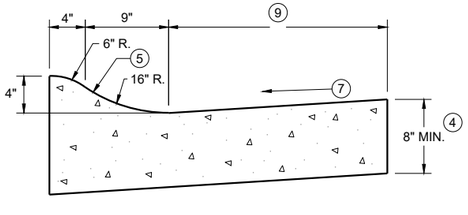


6" SLOPED CURB TYPES A (1) & D



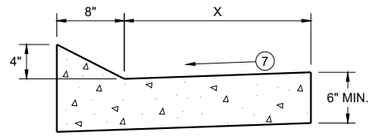
4" SLOPED CURB TYPES A (1) & D

CONCRETE CURB AND GUTTER 36"



4" SLOPED CURB TYPES R (1) & T

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

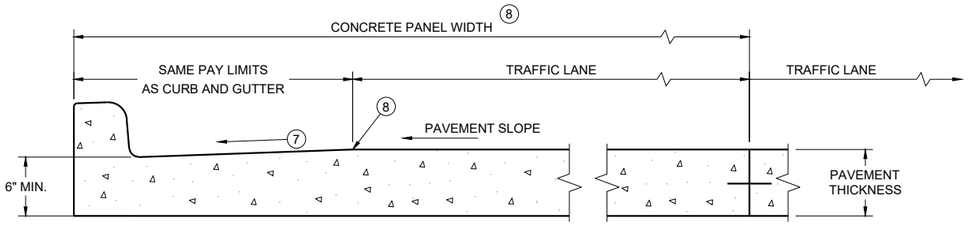


TYPES TBT & TBTT (1)

CONCRETE CURB AND GUTTER

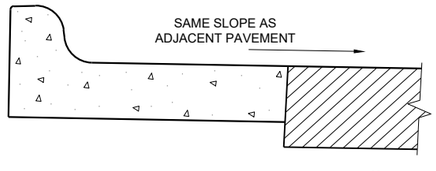
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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



PARTIAL SECTION OF PAVEMENT * WITH INTEGRAL CURB AND GUTTER

* BIKE LANE IS NOT SHOWN



REVERSE SLOPE GUTTER (6)
(TYPICAL FOR ALL CURB & GUTTER TYPES)

GENERAL NOTES

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

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

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

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

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

(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(3) USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.

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

(5) UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.

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

(7) USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.

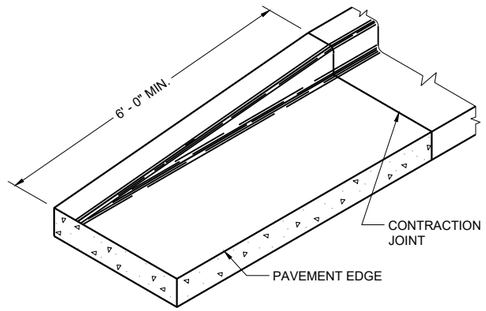
(8) INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.

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

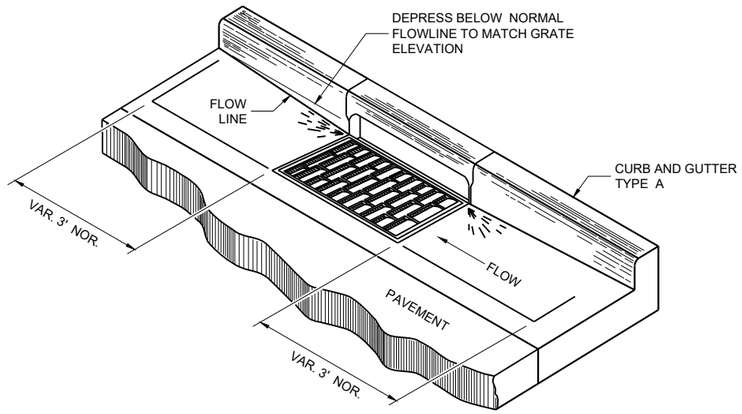
CONCRETE CURB AND GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

SDD 08D01-23a



END SECTION CURB AND GUTTER



DETAIL OF CURB AND GUTTER AT INLETS

(TYPICAL H INLET COVER SHOWN)

GENERAL NOTES

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

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

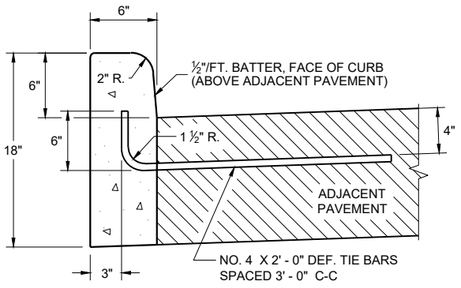
UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

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

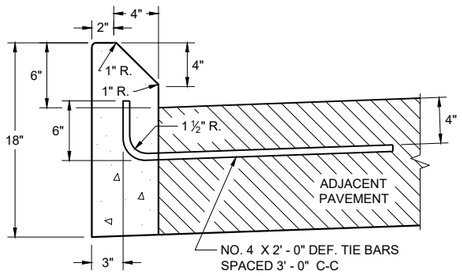
(2) THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.

(10) REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.

(11) PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.

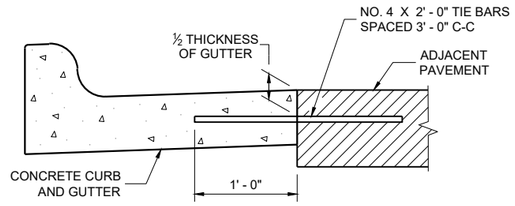


TYPES A (1) & D

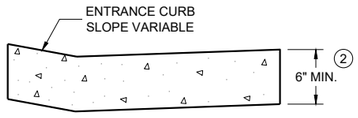


TYPES G (1) & J

CONCRETE CURB

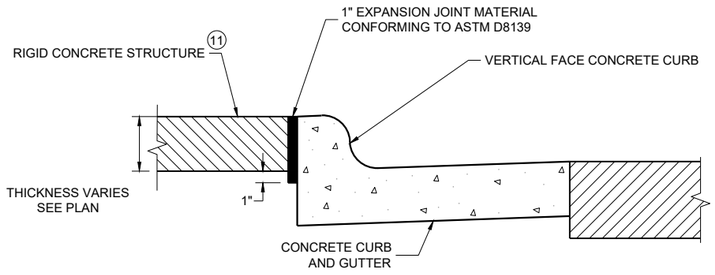


TYPICAL TIE BAR LOCATION (1)

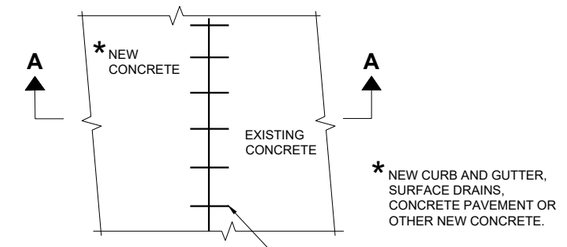


DRIVEWAY ENTRANCE CURB (10)

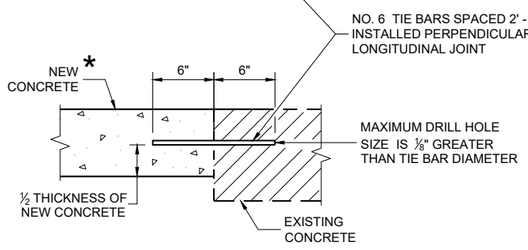
(WHEN DIRECTED BY THE ENGINEER)



EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE (11)



PLAN VIEW



SECTION A - A

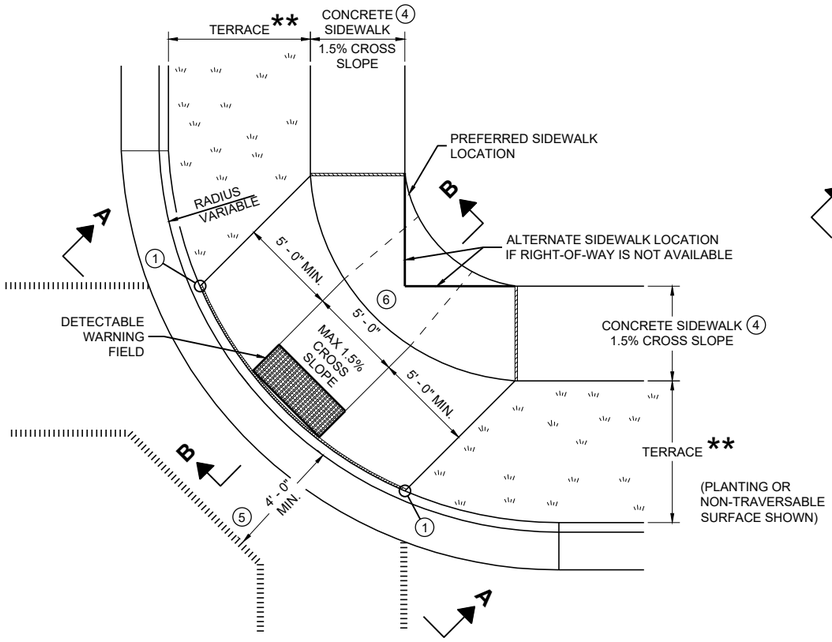
TIE BARS DRILLED INTO EXISTING PAVEMENT

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Rodnery Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

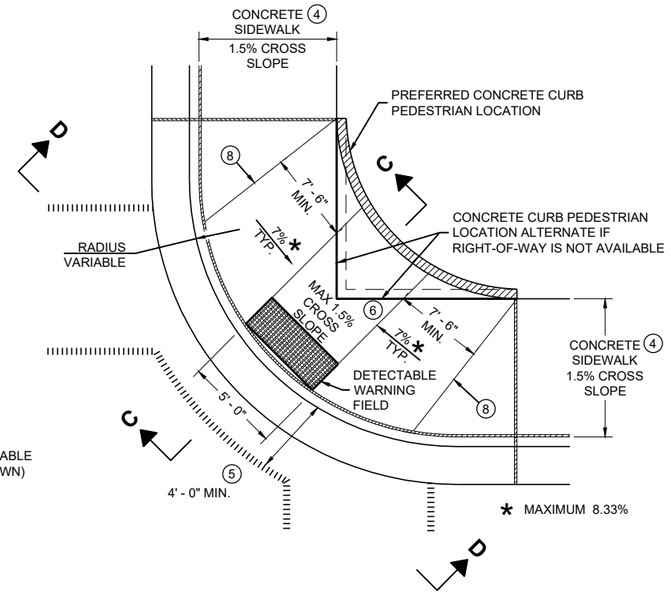
FHWA



PLAN VIEW

CURB RAMP TYPE 1

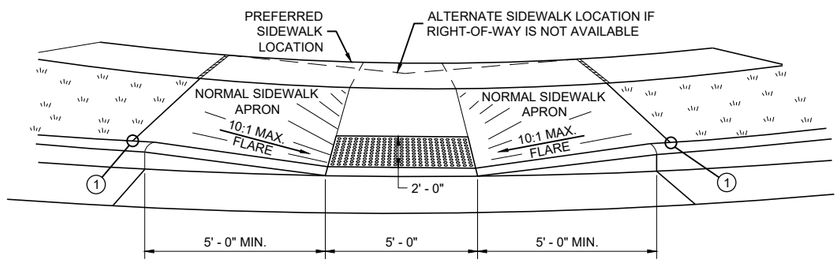
(CENTER OF CORNER RADIUS)



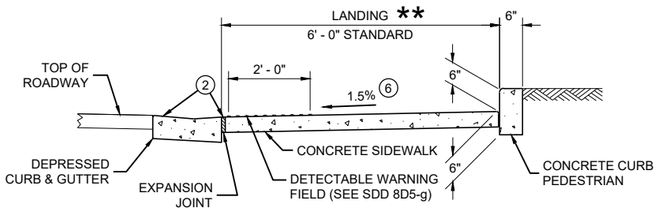
PLAN VIEW

CURB RAMP TYPE 1 - A

(NO TERRACE)

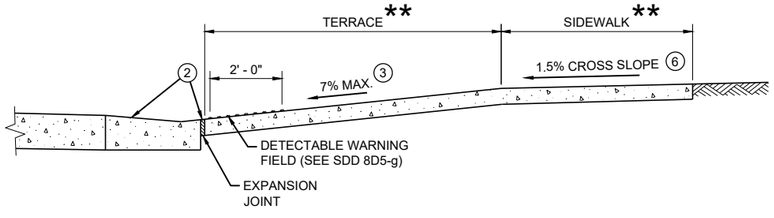


VIEW A - A FOR TYPE 1

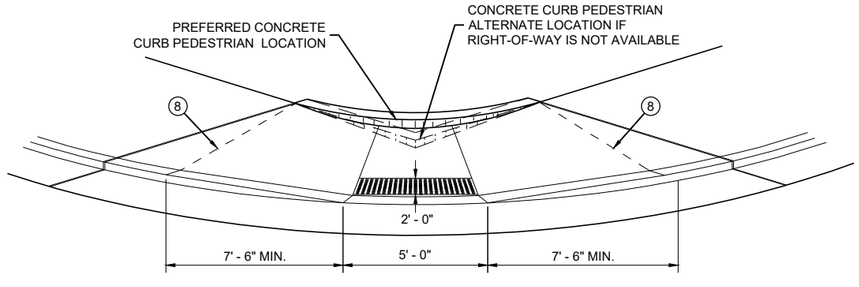


SECTION C - C FOR TYPE 1 - A

** WIDTH SHOWN ELSEWHERE IN THE PLANS



SECTION B - B FOR TYPE 1



VIEW D - D FOR TYPE 1 - A

GENERAL NOTES

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

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

WHEN NECESSARY, THE SIDEWALK ELEVATION MAY BE LOWERED TO MEET THE HIGH POINT ON THE RAMP.

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

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

SELECT CURB RAMP DETECTABLE WARNING FIELD MATERIALS AND DEVICES FROM THE DEPARTMENT'S APPROVED MATERIALS LIST. THE COLOR OF THE DETECTABLE WARNING FIELD IS SPECIFIED ELSEWHERE AND IS INCIDENTAL TO THE BID ITEM OF "CURB RAMP DETECTABLE WARNING FIELD"

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

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

(1) THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB. POINT LOCATION MAY BE ADJUSTED TO ALIGN WITH BEGINNING OF FULL-HEIGHT CURB IF THIS DISTANCE IS SHORT.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ½ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) MAXIMUM 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(5) PROVIDE A LEVEL LANDING IN THE STREET AND GUTTER AREA (2% MAXIMUM SLOPE IN ANY DIRECTION). WHEN THE GUTTER SLOPE EXCEEDS 2%, CONSTRUCT THE LEVEL LANDING IN THE STREET AREA. 4 FOOT WIDTH IS MEASURED FROM THE FLANGE LINE

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

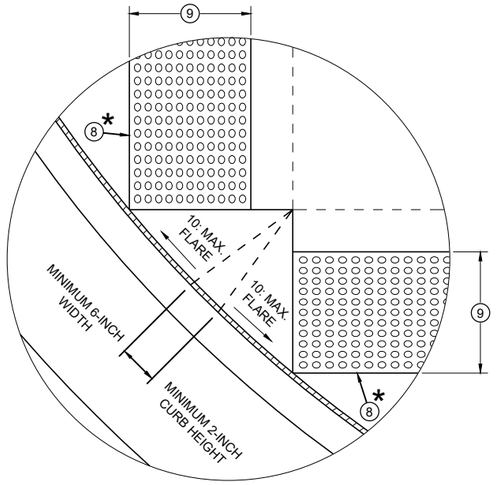
LEGEND

- ½" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

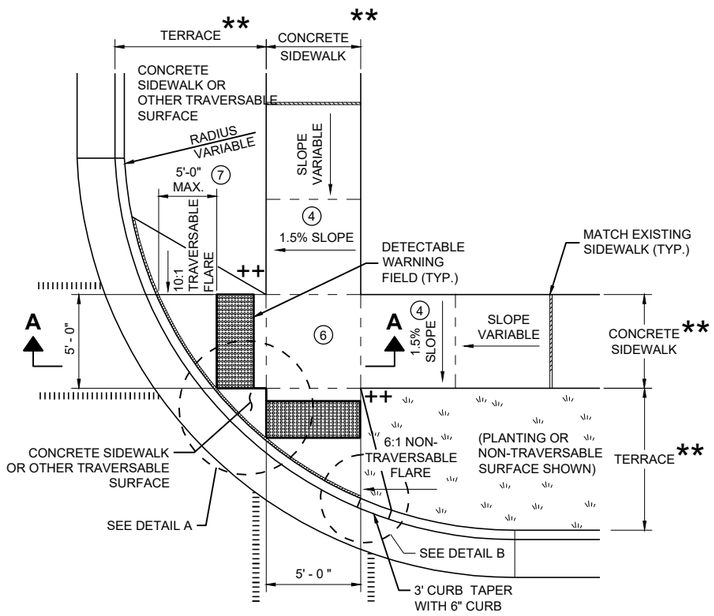
CURB RAMPS TYPE 1 AND 1-A

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

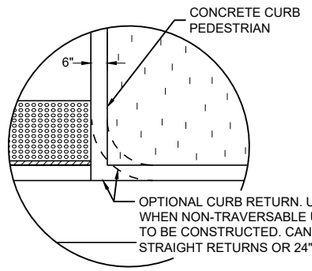
6
SDD 08D05-21a



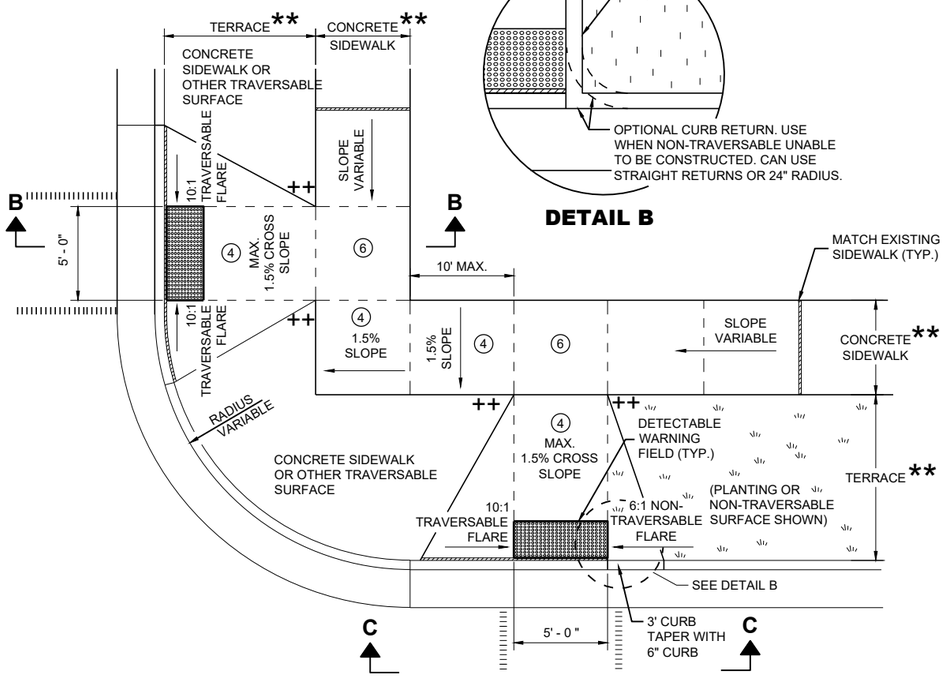
DETAIL A



PLAN VIEW
CURB RAMP TYPE 2
(CENTER OF CORNER RADIUS)



DETAIL B



PLAN VIEW
CURB RAMP TYPE 3
(OUTSIDE OF CROSSWALK AREA)

GENERAL NOTES

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

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

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE (2.67% OR LESS) AND NOT TO EXCEED 11% GRADE CHANGE.

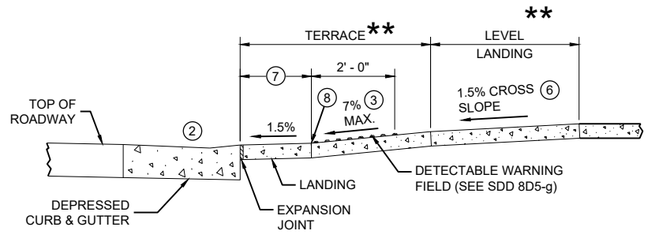
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET X 5 FEET.

(7) WHEN GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

(9) WHEN DISTANCE IS LESS THAN 6' - 0", IT MAY BE DIFFICULT TO ACHIEVE A 7% SLOPE OR FLATTER ALONG THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 7% SLOPE OR FLATTER ON RAMP. CONSTRUCT 2-INCH MINIMUM CURB HEIGHT BETWEEN 10:1 FLARES.

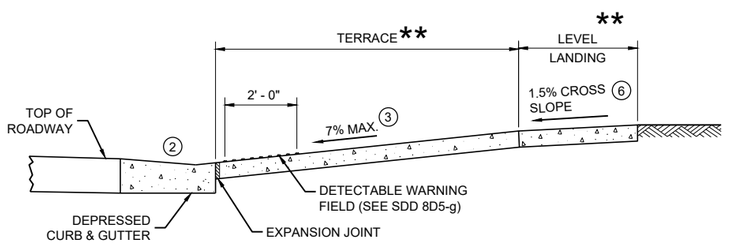


SECTION A - A FOR TYPE 2

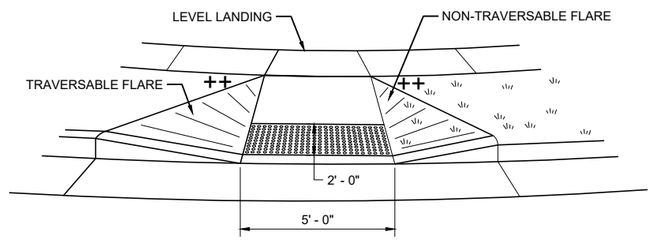
* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

** WIDTH SHOWN ELSEWHERE IN THE PLANS

++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE



SECTION B - B FOR TYPE 3



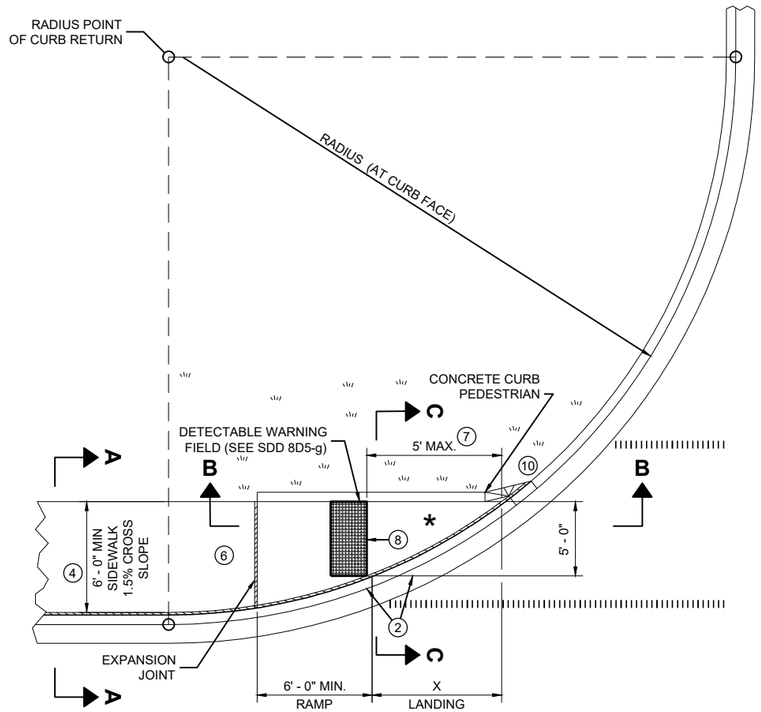
VIEW C - C FOR TYPE 3

LEGEND

- ½" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS TYPE 2 AND 3

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

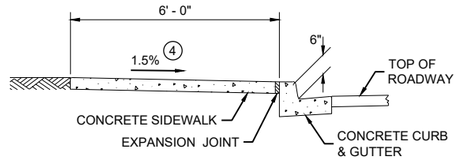


PLAN VIEW

CURB RAMP TYPE 4A

RADIUS (AT CURB FACE)	X
10 FEET	4' - 7"

INTERMEDIATE RADII CAN BE INTERPOLATED



SECTION A - A FOR TYPE 4A

GENERAL NOTES

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

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

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.

(7) WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

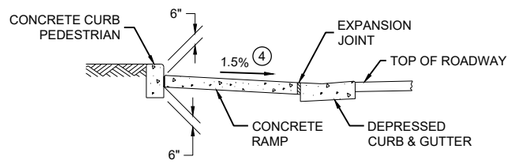
(10) INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

LEGEND

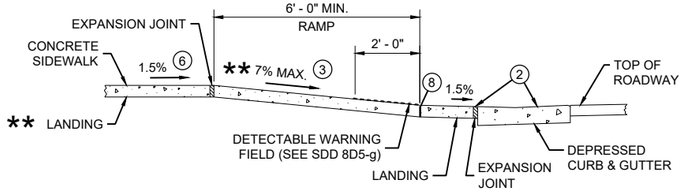
½" EXPANSION JOINT SIDEWALK

CONTRACTION JOINT SIDEWALK

PAVEMENT MARKING CROSSWALK (WHITE)

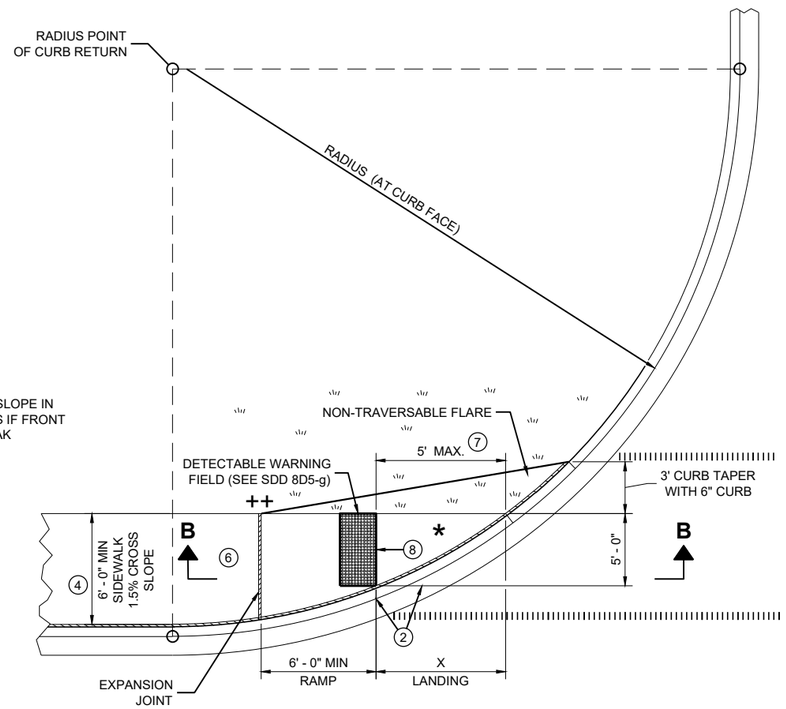


SECTION C - C FOR TYPE 4A



SECTION B - B FOR TYPE 4A AND TYPE 4A1

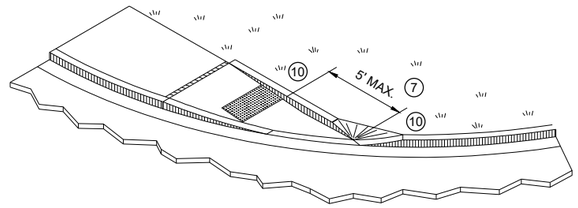
** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED



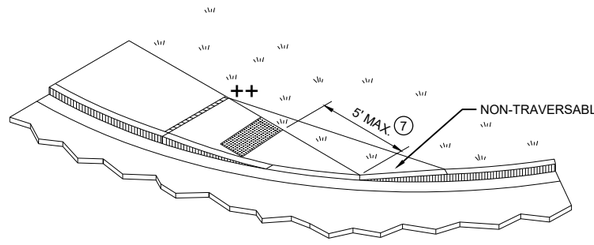
PLAN VIEW

CURB RAMP TYPE 4A1

++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE



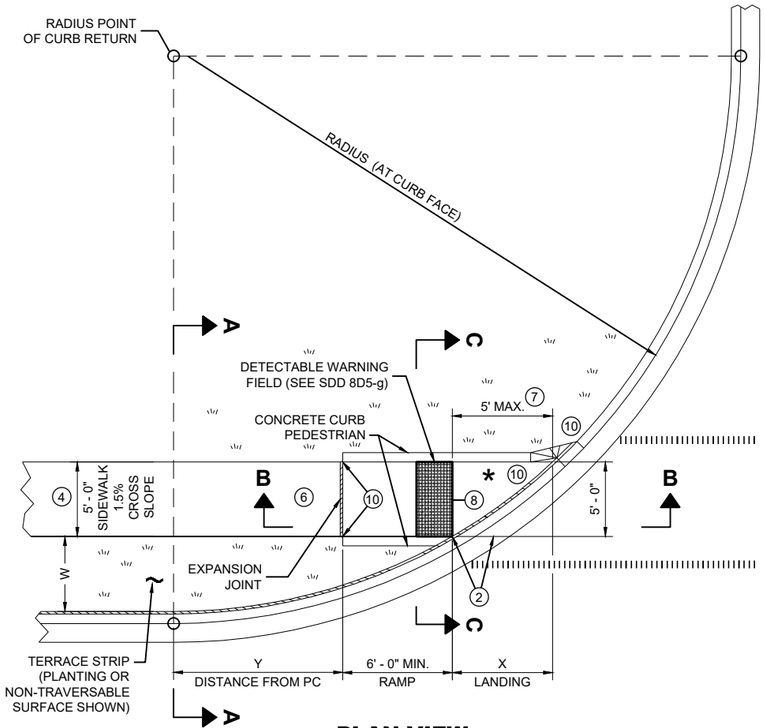
ISOMETRIC VIEW FOR TYPE 4A



ISOMETRIC VIEW FOR TYPE 4A1

CURB RAMPS
TYPE 4A AND 4A1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



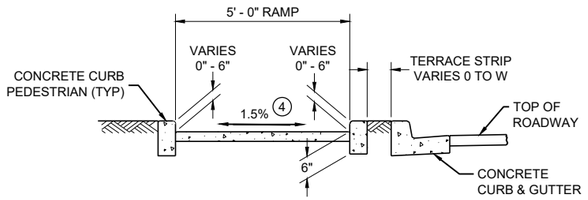
PLAN VIEW
CURB RAMP TYPE 4B

RADIUS (AT CURB FACE)	W = 3' - 0"		W = 4' - 0"		W = 5' - 0"		W = 6' - 0"		W = 7' - 0"		W = 8' - 0"		W = 9' - 0"		W = 10' - 0"	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
10 FEET	2' - 10 1/4"	0' - 5"	2' - 1"	1' - 4 1/2"	1' - 5"	2' - 1"	0' - 10"	2' - 7 1/2"	0' - 3 1/4"	3' - 0 1/4"						
15 FEET	4' - 6 3/4"	2' - 1 3/4"	3' - 9"	3' - 5 3/4"	3' - 1 1/4"	4' - 6"	2' - 6 3/4"	5' - 4 1/2"	2' - 1"	6' - 1"	1' - 8"	6' - 8 1/2"	1' - 3 1/4"	7' - 2 1/2"	0' - 10 3/4"	7' - 7 1/4"
20 FEET			4' - 11 1/2"	5' - 1 3/4"	4' - 3 1/4"	6' - 5 1/2"	3' - 8 3/4"	7' - 7"	3' - 3"	8' - 6 1/2"	2' - 10"	9' - 4 1/2"	2' - 5 1/2"	10' - 1 1/4"	2' - 1 1/4"	10' - 9"
30 FEET									4' - 10 3/4"	12' - 5 3/4"	4' - 5 1/2"	13' - 7 3/4"	4' - 0 3/4"	14' - 8 1/2"	3' - 8 1/2"	15' - 8 1/4"
40 FEET															4' - 10 3/4"	19' - 8 1/4"

INTERMEDIATE RADII CAN BE INTERPOLATED
DIMENSION "Y" IS CALCULATED BASED ON 6'-0" RAMP LENGTH
DIMENSION "X" IS CALCULATED BASED ON 5'-0" SIDEWALK WIDTH

LEGEND

- ½" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- PAVEMENT MARKING CROSSWALK (WHITE)



SECTION C - C FOR TYPE 4B

GENERAL NOTES

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

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

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

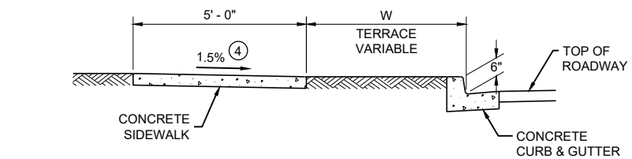
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.

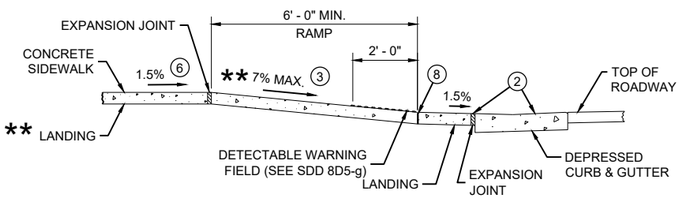
(7) WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

(10) INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

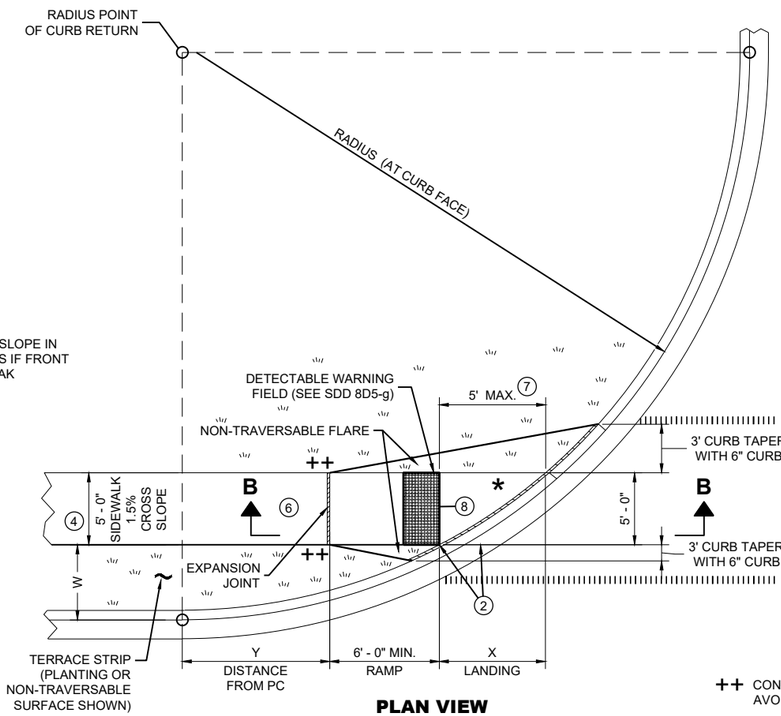


SECTION A - A FOR TYPE 4B



SECTION B - B FOR TYPE 4B AND TYPE 4B1

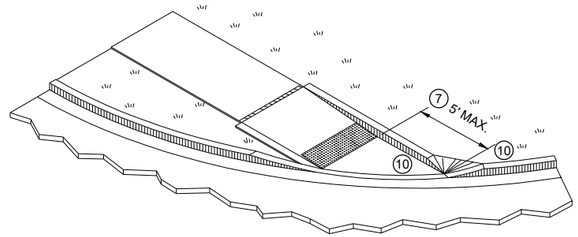
** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED



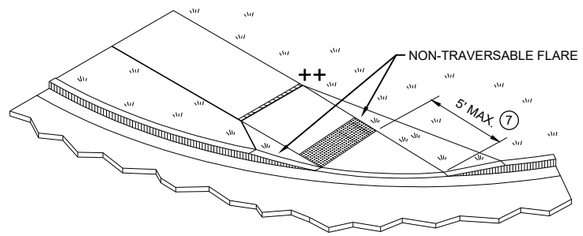
PLAN VIEW
CURB RAMP TYPE 4B1

* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IF FRONT OF GRADE BREAK

++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE



ISOMETRIC VIEW FOR TYPE 4B



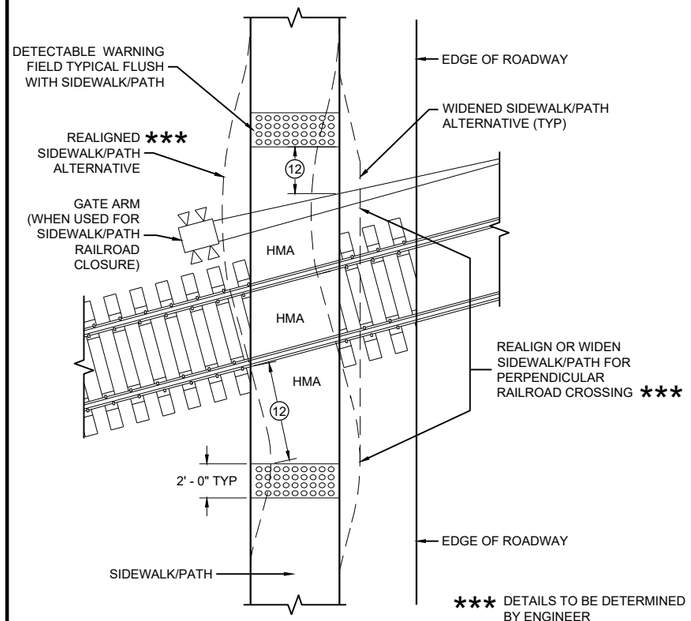
ISOMETRIC VIEW FOR TYPE 4B1

CURB RAMPS
TYPE 4B AND 4B1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

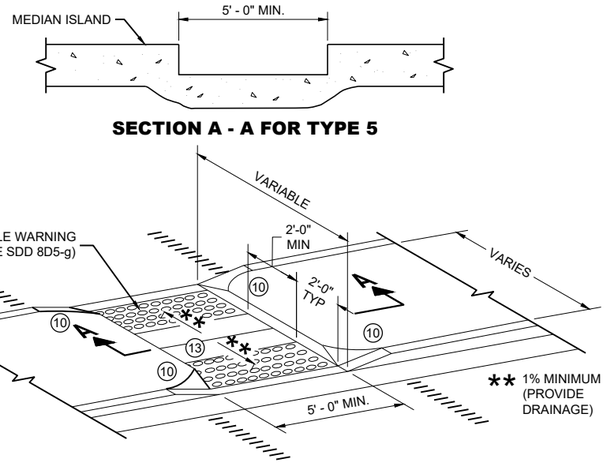
6

SDD 08D05-21d



CURB RAMP TYPE 8

DETECTABLE WARNINGS FOR SIDEWALKS OR SHARED USE PATHS AT RAILROAD CROSSINGS



SECTION A - A FOR TYPE 5

CURB RAMP TYPE 5

MEDIAN ISLAND NON-ELEVATED PEDESTRIAN CROSSING

GENERAL NOTES

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

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

SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.

(10) INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

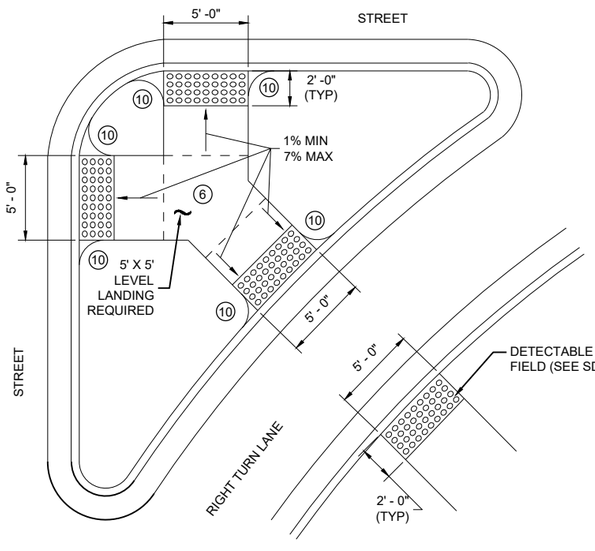
(11) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

(12) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ±0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK/PATH. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD TRACK IS 15 FEET MAXIMUM AND 12 FEET MINIMUM, 15 FEET TYPICAL FROM THE NEAREST RAIL.

(13) DO NOT INSTALL DETECTABLE WARNING FIELDS AT THE EDGES OF STEET-LEVEL PEDESTRIAN REFUGE ISLANDS IF A MINIMUM 2 FOOT CONCRETE SURFACE WITHOUT DETECTABLE WARNINGS (MEASURED IN THE DIRECTION OF PEDESTRIAN TRAVEL) CANNOT BE ACHIEVED.

LEGEND

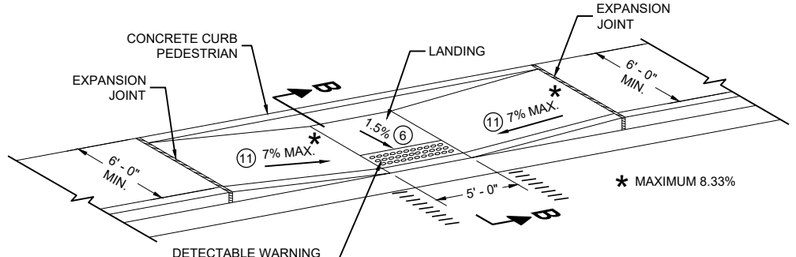
- ½" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)



CURB RAMP TYPE 6

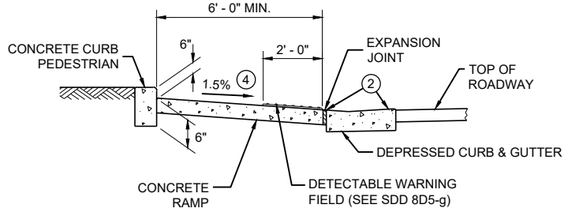
DETECTABLE WARNING AT ISLANDS

REFER TO GENERAL NOTES (2) AND (3) FOR ALL ISLAND CURB RAMPS

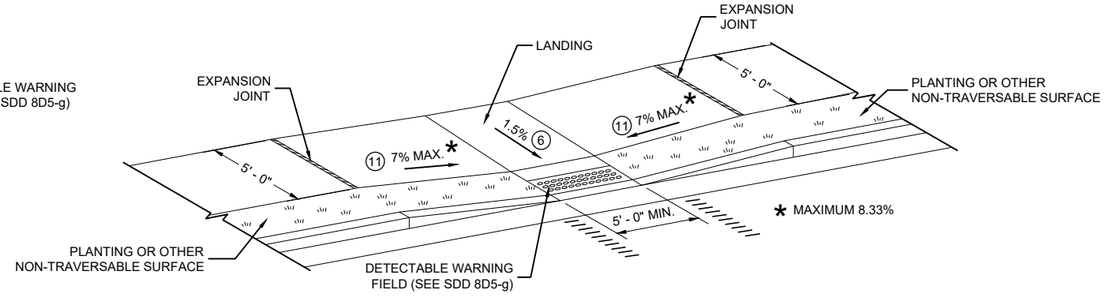


CURB RAMP TYPE 7A

FOR INTERSECTIONS AND MID BLOCK CROSSINGS



SECTION B - B FOR TYPE 7A



CURB RAMP TYPE 7B

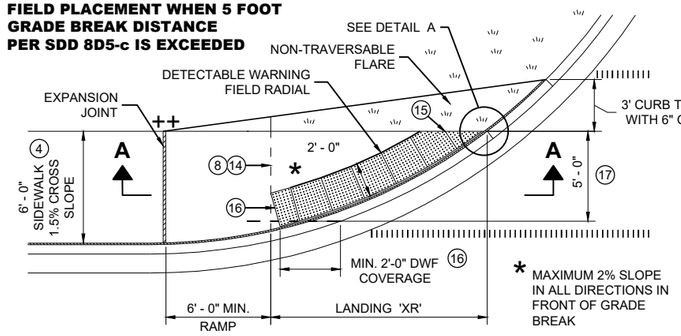
FOR INTERSECTIONS AND MID BLOCK CROSSINGS

CURB RAMPS TYPE 5, 6, 7A, 7B & 8

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

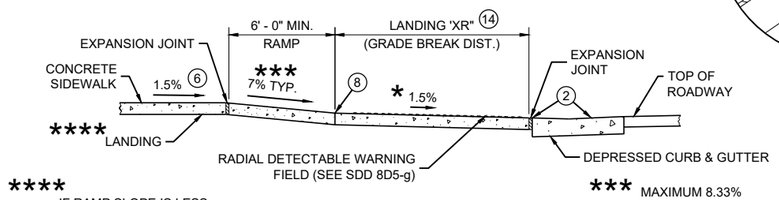
SDD 08D05-21e

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



PLAN VIEW

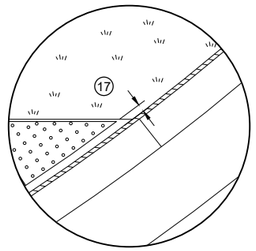
CURB RAMP TYPE 4A1
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)



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

*** MAXIMUM 8.33%

SECTION A - A FOR TYPE 4A1



DETAIL A

LEGEND

- ½" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- PAVEMENT MARKING CROSSWALK (WHITE)

GENERAL NOTES

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

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

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.

APPLY RADIAL DETECTABLE WARNING PLACEMENT SIMILARLY FOR TYPE 4A AND 4A1 CURB RAMPS AND SIMILARLY FOR TYPE 4B AND 4B1 CURB RAMPS. TYPE 4A AND 4B CURB RAMPS ARE NOT SHOWN.

REFER TO SDD 8D5-g FOR ADDITIONAL RADIAL PLATE REQUIREMENTS.

FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FILED ARE PROHIBITED.

DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AD ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

(2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN ¼ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.

(3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET BY 5 FEET.

(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

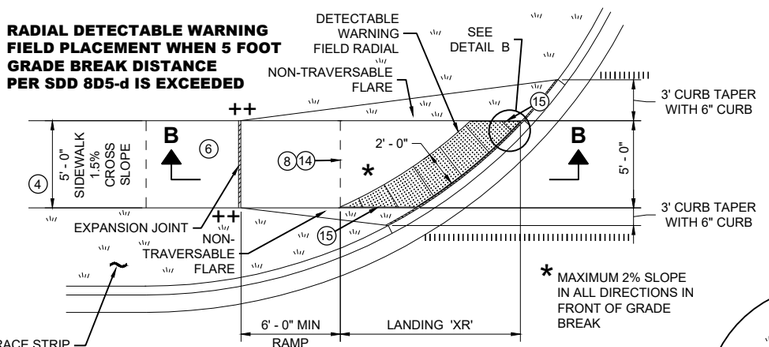
(14) CONSULT ENGINEER IF GRADE BREAK LOCATION (END OF LANDING DIMENSION "XR") REQUIRES FIELD ADJUSTMENT WHEN ESTABLISHING FINAL RADIAL DETECTABLE WARNING FIELD LOCATION.

(15) FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN ⅛" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.

(16) USE 1' X 2" RECTANGULAR END PLATE AT END OF TYPE 4A1 RAMP AND PROVIDE MINIMUM 2' - 0" DETECTABLE WARNING FIELD COVERAGE (IN DIRECTION OF PEDESTRIAN TRAVEL) ALONG THE ENTIRE CURB RAMP WIDTH.

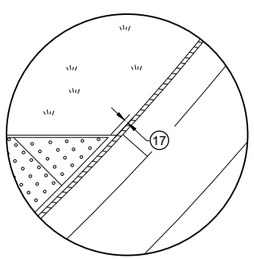
(17) A MAXIMUM 3 INCH CONCRETE BORDER WIDTH IS ALLOWABLE IN FRONT OF RADIAL DETECTABLE WARNING FIELD FOR CONSTRUCTABILITY PURPOSES. CONCRETE BORDER WIDTH MAY VARY UP TO 1 INCH.

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

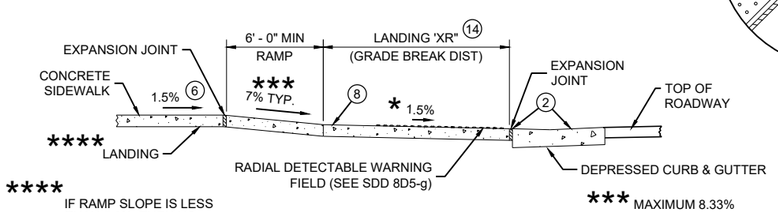


PLAN VIEW

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



DETAIL B

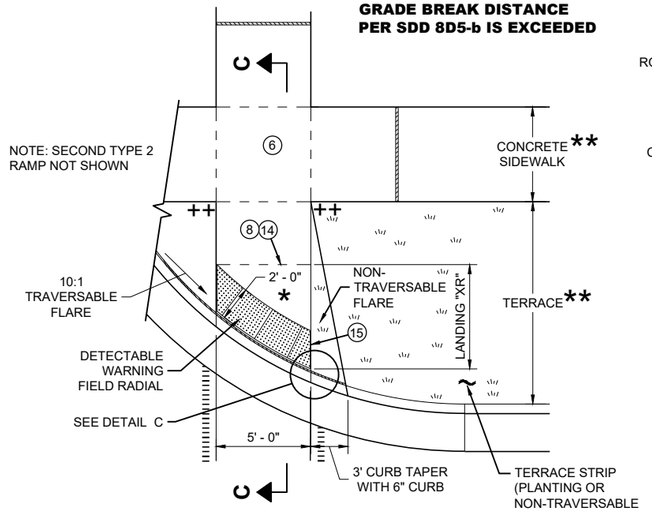


**** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

*** MAXIMUM 8.33%

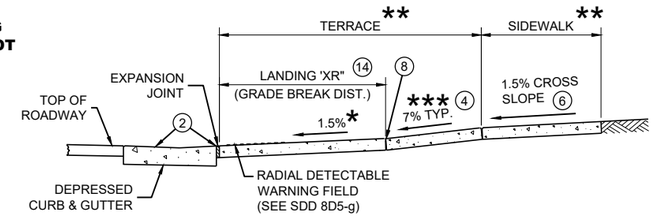
SECTION B - B FOR TYPE 4B1

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

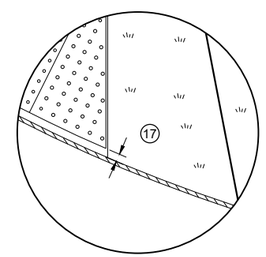


PLAN VIEW

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



SECTION C - C FOR TYPE 2



DETAIL C

* MAXIMUM 2% SLOPE IN ALL DIRECTIONS IN FRONT OF GRADE BREAK

** WIDTH SHOWN ELSEWHERE IN THE PLANS

*** MAXIMUM 8.33%

++ CONSTRUCT 6" WEDGE TO AVOID CONCRETE BREAKAGE

CURB RAMPS
RADIAL DETECTABLE WARNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

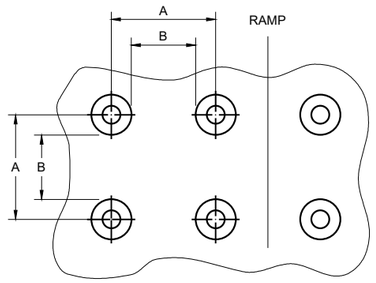
SDD 08D05-21f

6

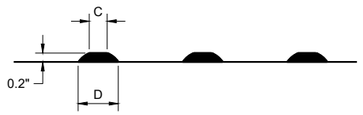
SDD 08D05-21f

	MIN.	MAX.
A	1.6"	2.4"
B	0.65"	1.5"
C	*	*
D	0.9"	1.4"

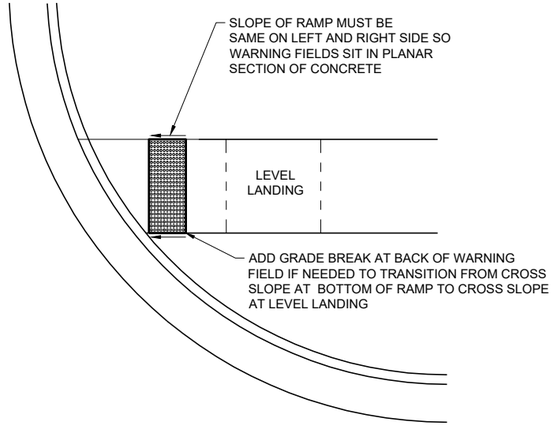
* THE C DIMENSION IS 50% TO 65% OF THE D DIMENSION.



PLAN VIEW



ELEVATION VIEW



DETECTABLE WARNING FIELD
PLANAR INSTALLATION

GENERAL NOTES

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AT A CURB RAMP SHALL BE FROM THE SAME MANUFACTURER.

PLACE ALL DETECTABLE WARNING FIELD SYSTEMS IN ACCORDANCE TO THE MANUFACTURER'S RECOMMENDATION.

FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FILED ARE PROHIBITED.

DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

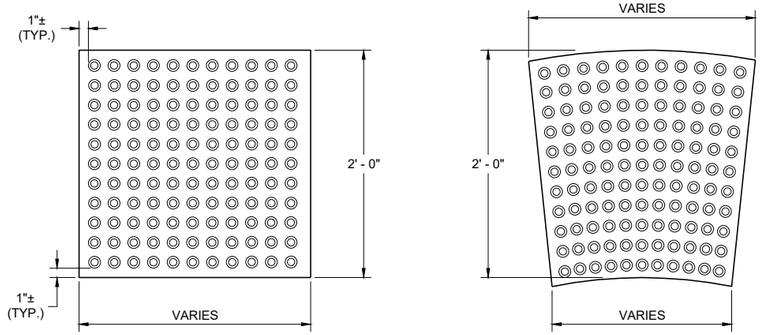
FOR RADIAL DETECTABLE WARNING FIELD APPLICATIONS WHERE STANDARD RADIAL PLATES ARE NOT AVAILABLE AT AN INTERSECTION CURB RADIUS, A COMBINATION OF SQUARE OR RECTANGULAR PLATES AND RADIAL PLATES MAY BE USED TO FORM RADIAL CONFIGURATION. RADIAL WEDGE PLATES IN COMBINATION WITH SQUARE PLATES ARE ALSO ACCEPTABLE. FOLLOW MANUFACTURER'S RECOMMENDATIONS.

REFER TO CONTRACT AND STANDARD SPECIFICATIONS FOR FIELD CUTTING REQUIREMENTS.

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

(15) FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN ⅛" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.

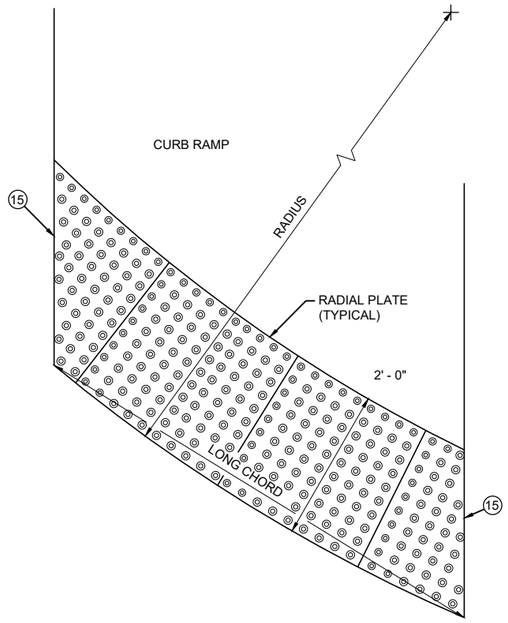
TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL



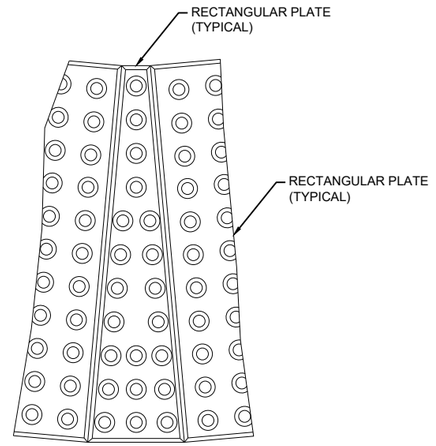
RECTANGULAR PLATES

RADIAL PLATES

PLAN VIEW
DETECTABLE WARNING FIELDS (TYPICAL)



PLAN VIEW
RADIAL DETECTABLE WARNING FIELD ATTRIBUTES



PLAN VIEW
RADIAL WEDGE PLATE CONNECTION DETAIL

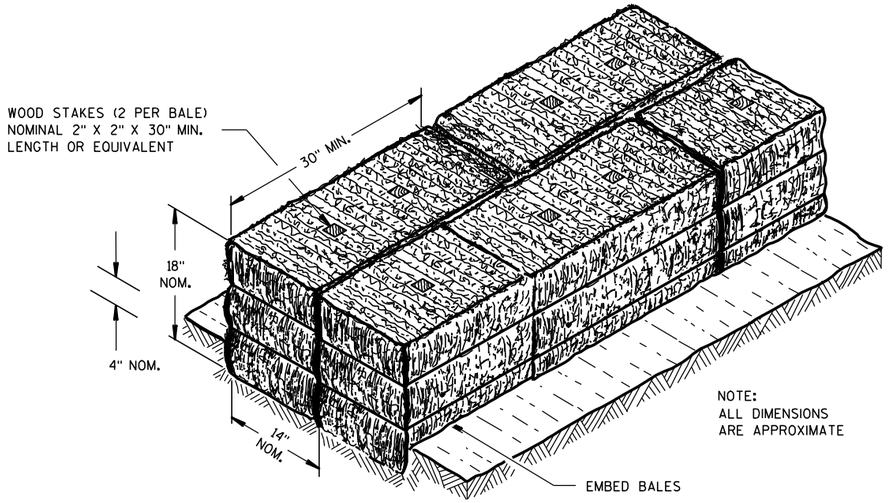
CURB RAMPS
RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

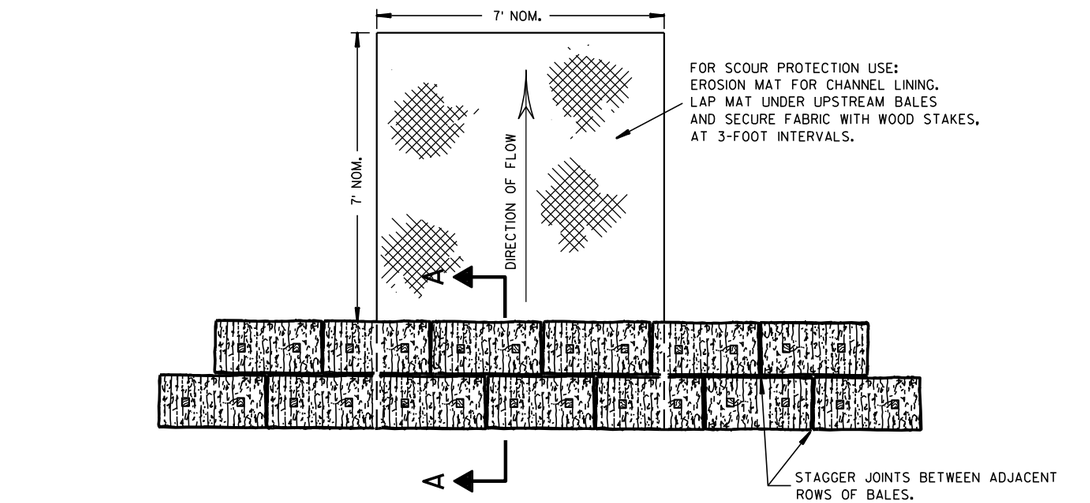
APPROVED
July 2023 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

FHWA

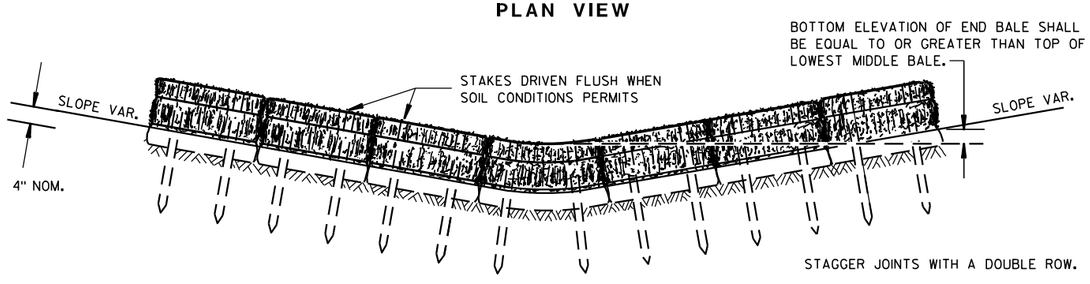
6
SDD 08D05-21g



SECTION A-A



PLAN VIEW



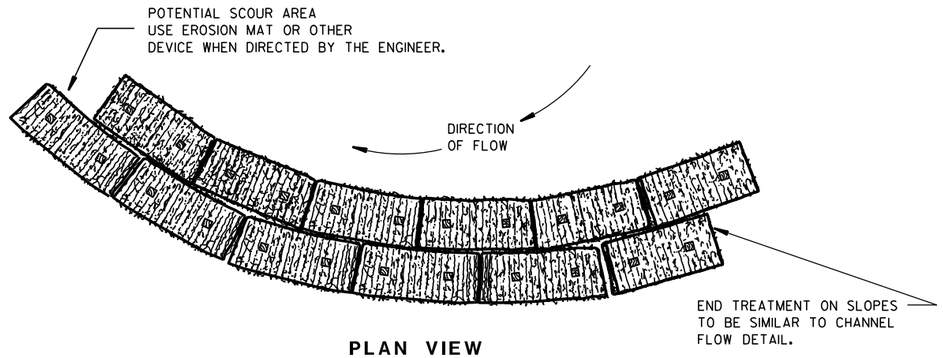
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

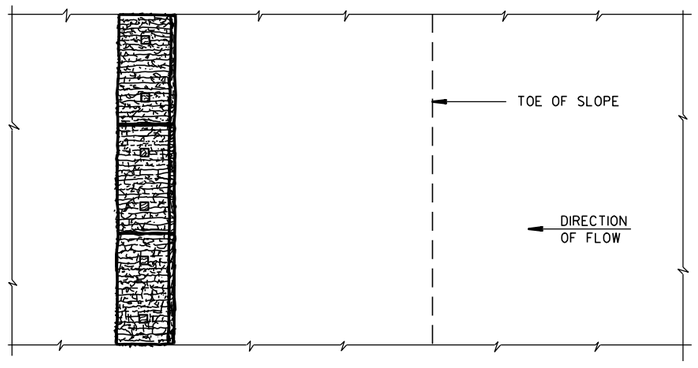
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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.

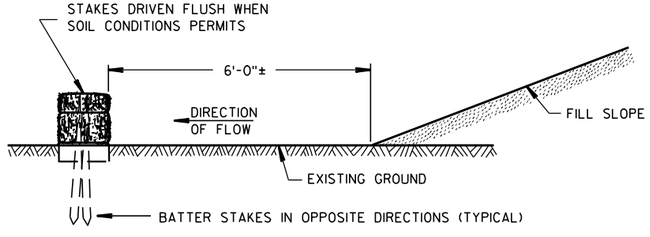


PLAN VIEW

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

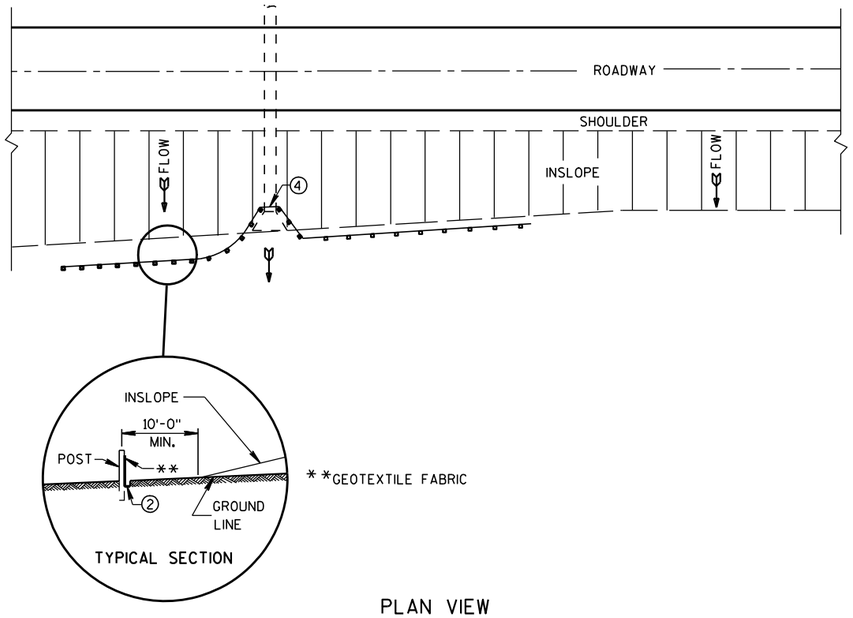
APPROVED
6/04/02 DATE
/S/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 E 8-3

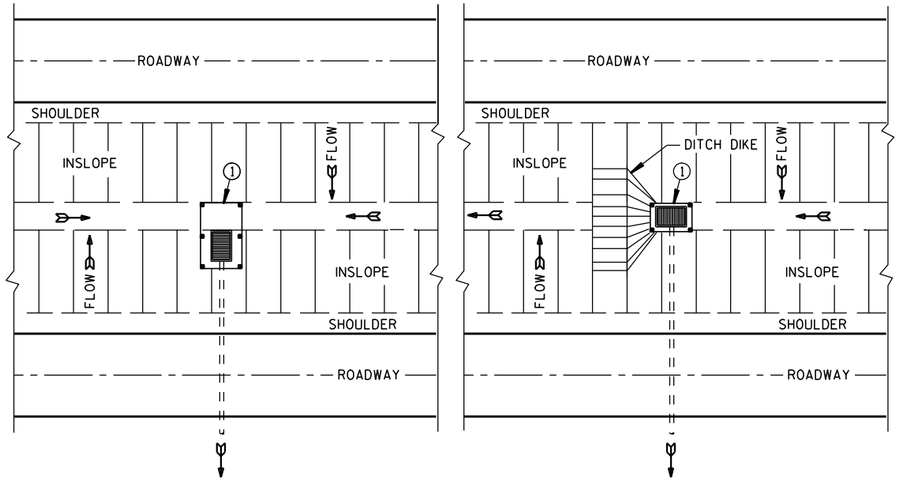
6

S.D.D. 8 E 8-3



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



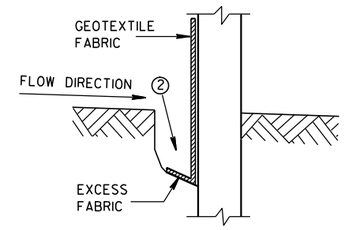
PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

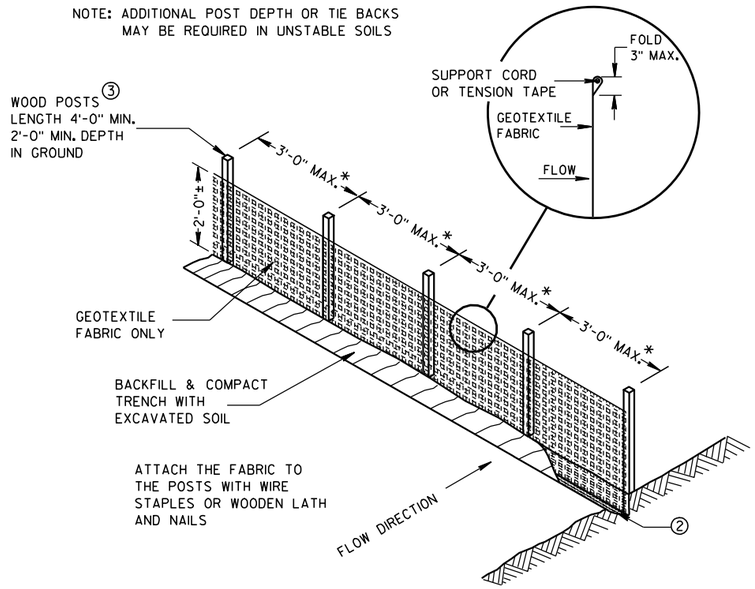
GENERAL NOTES

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

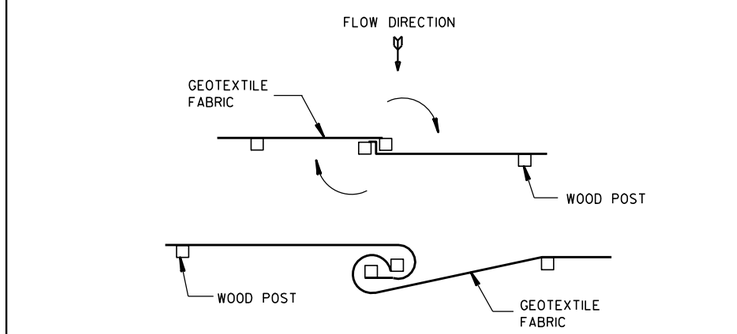
1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 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.



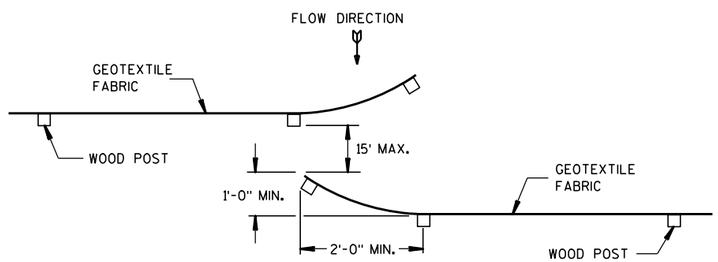
TRENCH DETAIL



SILT FENCE

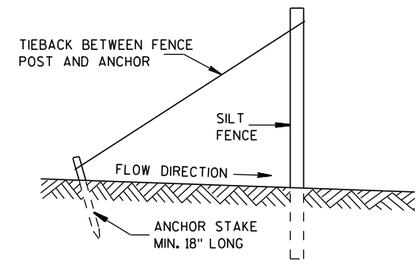


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE 5



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

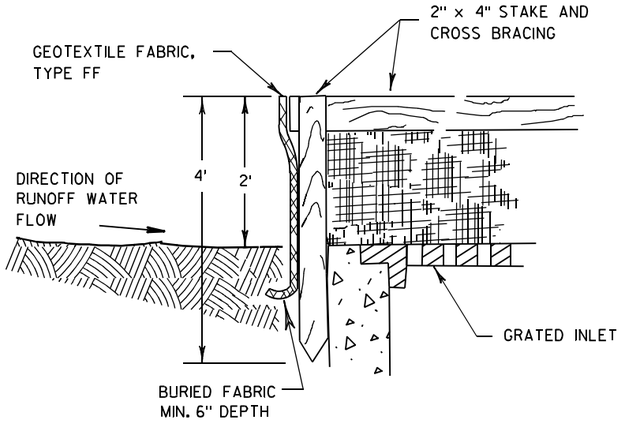
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

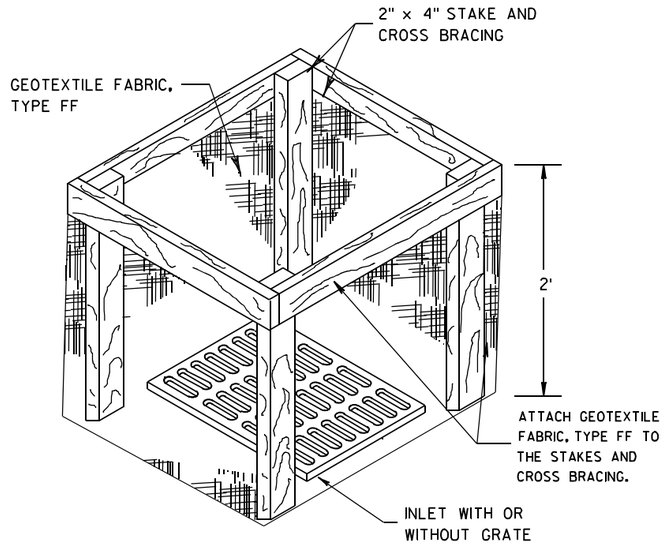
6

S.D.D. 8 E 9-6

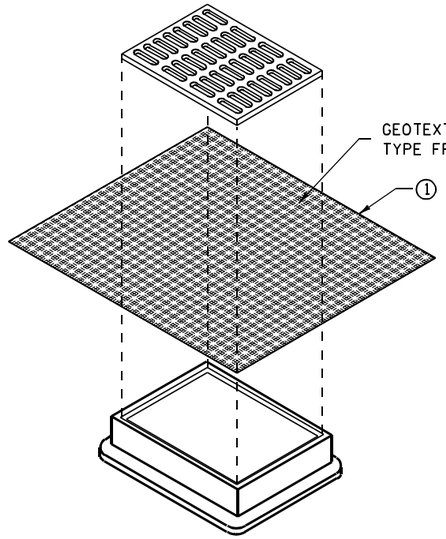
6

S.D.D. 8 E 9-6



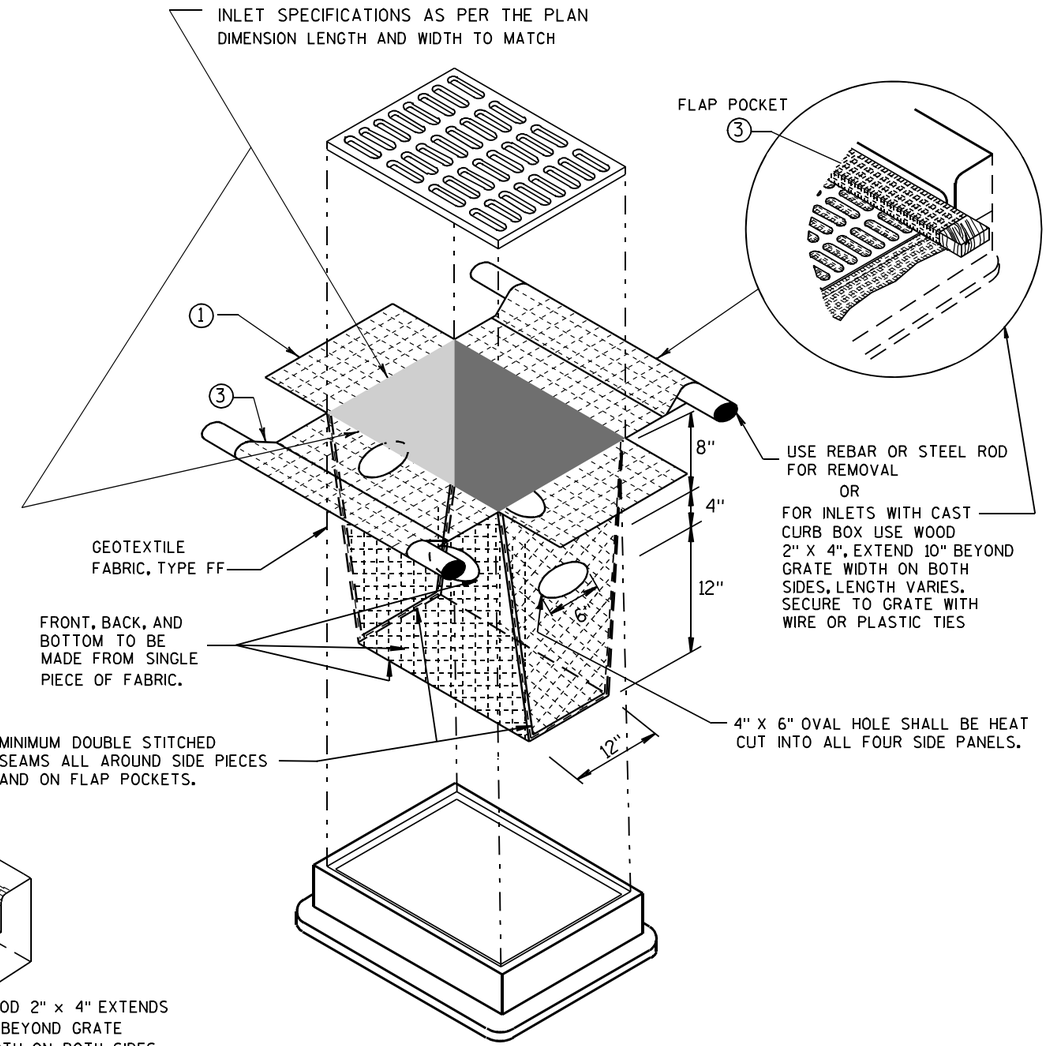


INLET PROTECTION, TYPE A



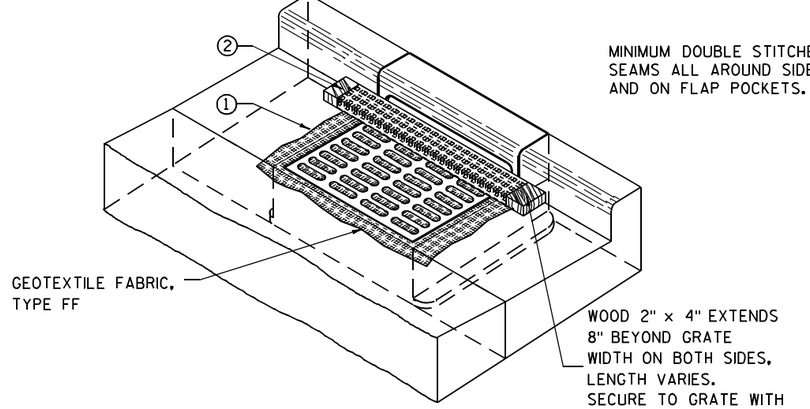
INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE D

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

GENERAL NOTES

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

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

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

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.

③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

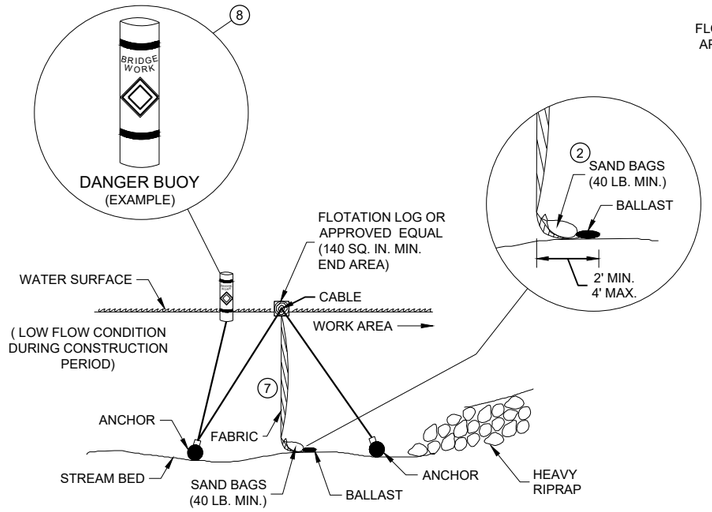
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE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

INLET PROTECTION
TYPE A, B, C, AND D

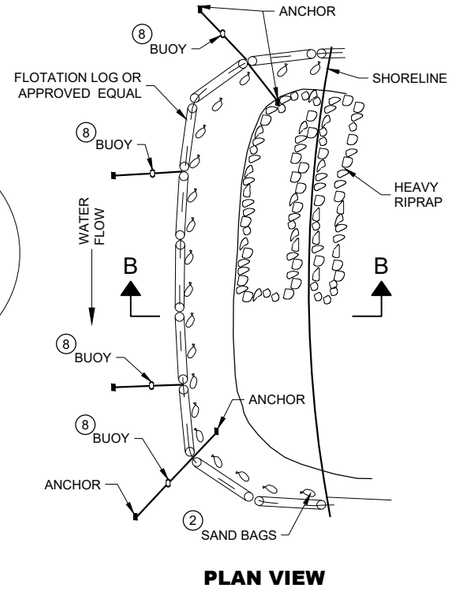
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
S.D.D. 8 E 10-2

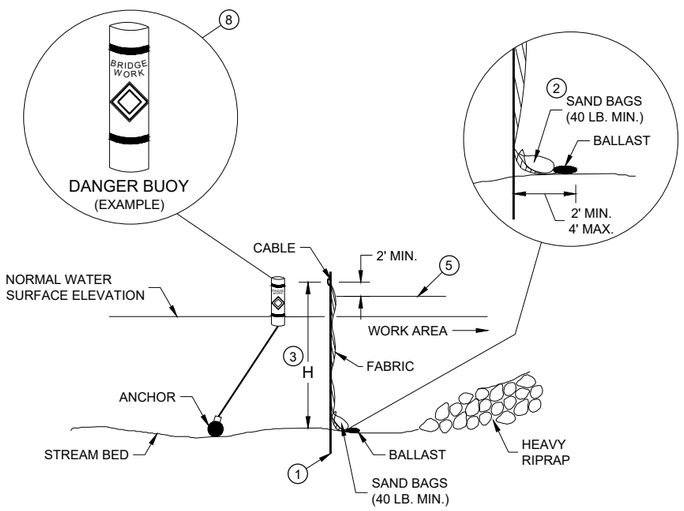


SECTION B - B

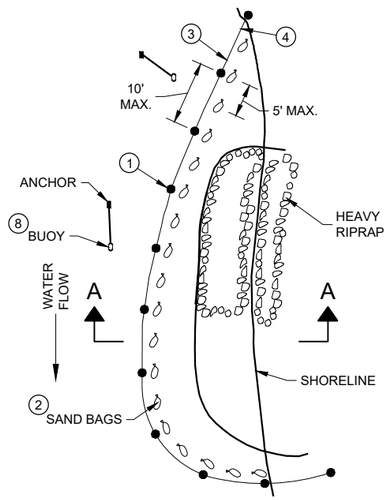


PLAN VIEW

TURBIDITY BARRIER - FLOAT ALTERNATIVE
CAUTION - SEE NOTE 6



SECTION A - A



PLAN VIEW

TURBIDITY BARRIER - STANDARD POST INSTALLATION

TURBIDITY BARRIER PLACEMENT DETAILS

GENERAL NOTES

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

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

(1) DRIVEN STEEL POSTS, PIPES, OR CHANNELS. LENGTH SHALL BE SUFFICIENT TO SECURELY SUPPORT BARRIER AT HIGH WATER ELEVATIONS.

(2) SAND BAGS TO BE USED AS ADDITIONAL BALLAST WHEN ORDERED BY THE ENGINEER TO MEET ADVERSE FIELD CONDITIONS. SPACE AS APPROPRIATE FOR SITE CONDITIONS.

(3) WHEN BARRIER HEIGHT "H" EXCEEDS 8 FEET, POST SPACING MAY NEED TO BE DECREASED.

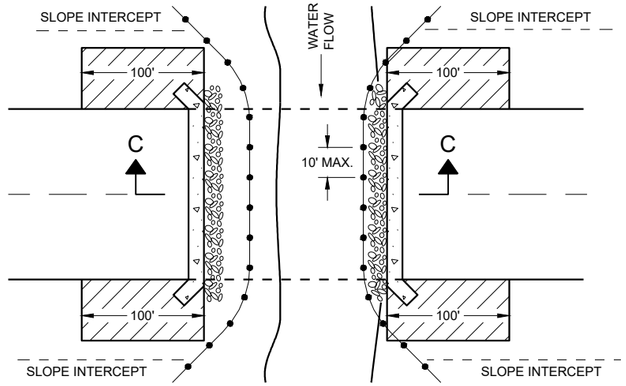
(4) IN WATERWAYS SUBJECT TO FLUCTUATING WATER ELEVATIONS, PROVISIONS SHOULD BE MADE TO ALLOW THE WATER TO EQUALIZE ON EACH SIDE OF THE BARRIER. THIS MAY BE ACCOMPLISHED BY LEAVING A PORTION OF THE BARRIER OPEN ON THE UPSTREAM END.

(5) ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION PERIOD. MINIMUM BARRIER HEIGHT SHALL BE 2' GREATER THAN EITHER THE Q2 ELEVATION OR THE ESTIMATED HIGH WATER ELEVATION DURING CONSTRUCTION, WHICHEVER IS GREATER.

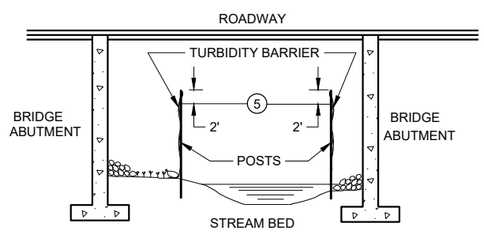
(6) FLOAT ALTERNATIVE WILL ONLY BE ALLOWED WITH WRITTEN APPROVAL OF THE ENGINEER, AND IS MEANT FOR LOCATIONS WHERE BEDROCK PREVENTS THE INSTALLATION OF POSTS.

(7) ALLOW SUFFICIENT SLACK VERTICALLY AND HORIZONTALLY SO THAT SEDIMENT BUILD UP WILL NOT SEPARATE OR LOWER THE TURBIDITY BARRIER.

(8) USE AS DIRECTED BY COAST GUARD OR DNR PERMIT WHEN WORKING IN NAVIGABLE WATERWAYS.



PLAN VIEW



SECTION C - C

TURBIDITY BARRIER DETAIL SHOWING TYPICAL PLACEMENT AT STRUCTURES

TURBIDITY BARRIER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

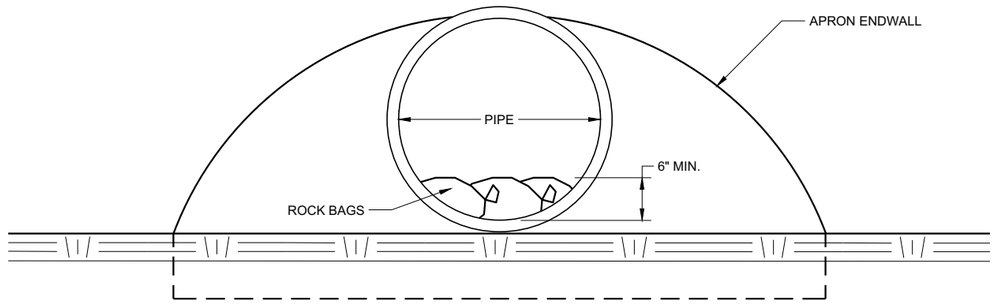
FHWA

6

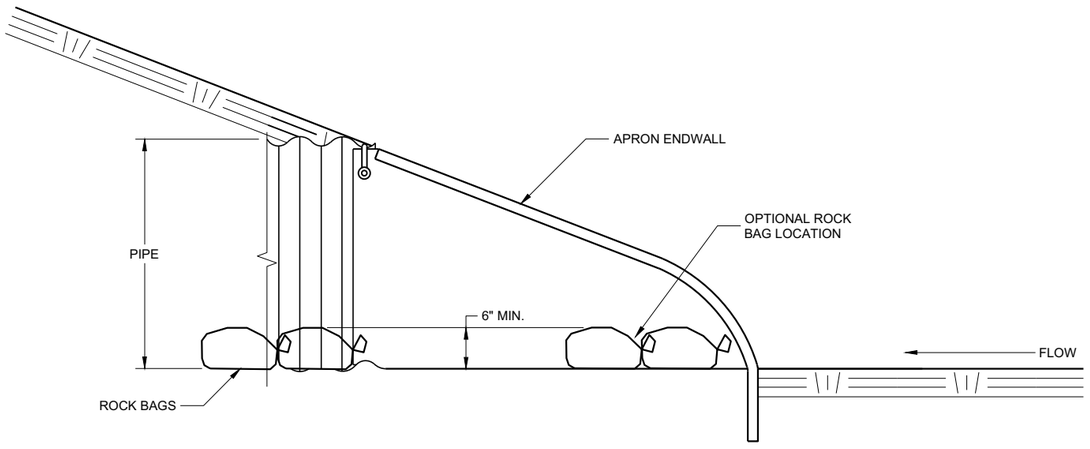
SDD 08E11 - 02

6

SDD 08E11 - 02



END VIEW



SIDE VIEW

CULVERT PIPE CHECK

(INSTALL ON INLET END ONLY)

CULVERT PIPE CHECK

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019
DATE

/S/ Daniel Schave
EROSION CONTROL ENGI

FHWA

6

SDD 08E15 - 01

6

SDD 08E15 - 01

METAL APRON ENDWALLS

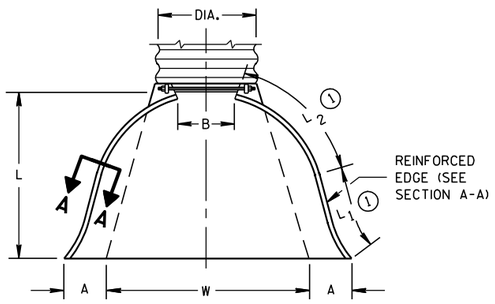
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4	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

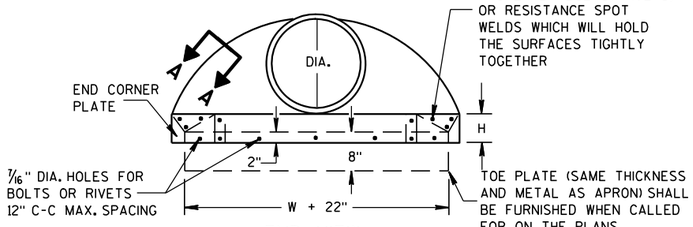
REINFORCED CONCRETE APRON ENDWALLS

PIPE DIA. (IN.)	DIMENSIONS (Inches) T	A	B	C	D	E	G	APPROX. SLOPE
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

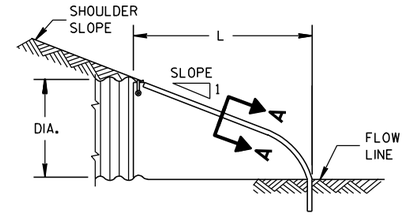
*MINIMUM
**MAXIMUM



PLAN VIEW

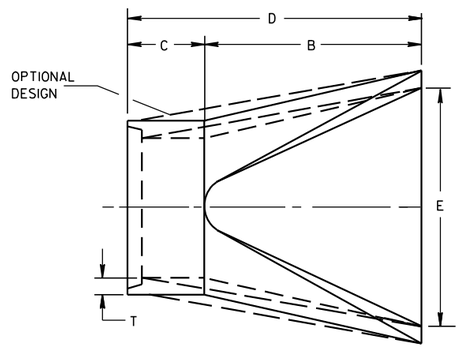


END VIEW

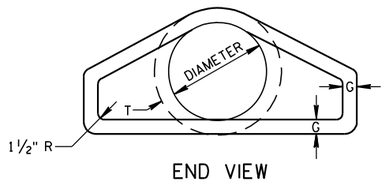


SIDE ELEVATION

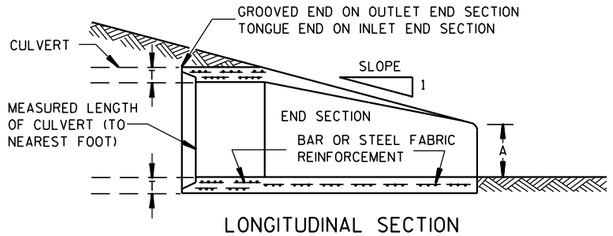
METAL ENDWALLS



PLAN

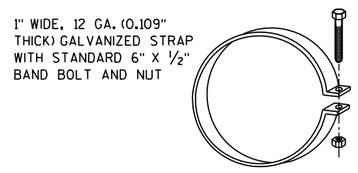


END VIEW



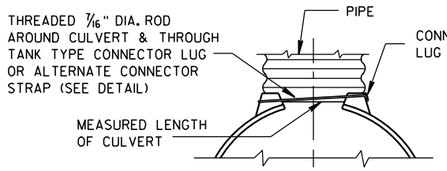
LONGITUDINAL SECTION

CONCRETE ENDWALLS

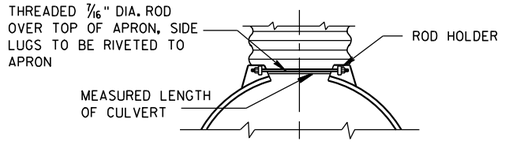


ALTERNATE FOR TYPE 1 CONNECTION

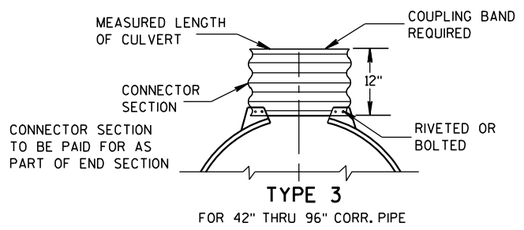
END SECTION CONNECTOR STRAP



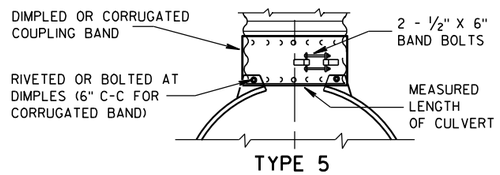
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

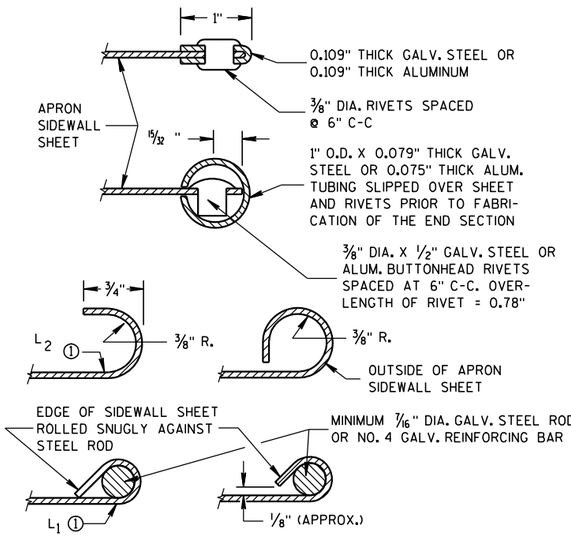
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

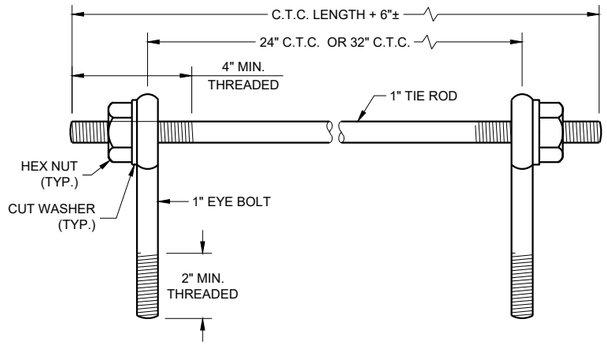
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

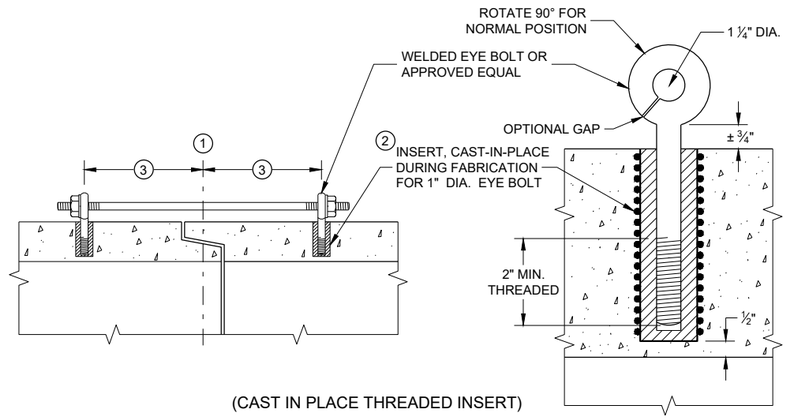
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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



EYE BOLTS AND TIE ROD



(CAST IN PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

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

GENERAL NOTES

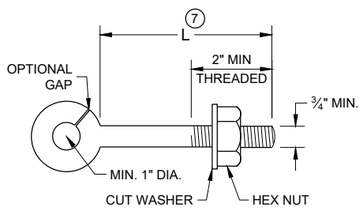
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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.

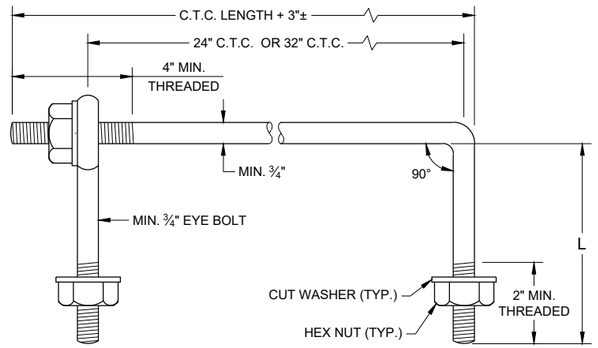
JOINT TIES TO BE HOT-DIP GALVANIZED PER ASTM A 153.

1. CENTER LINE 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 PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.
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 ½ INCH OF THE INNER SURFACE OF THE PIPE.
7. EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.

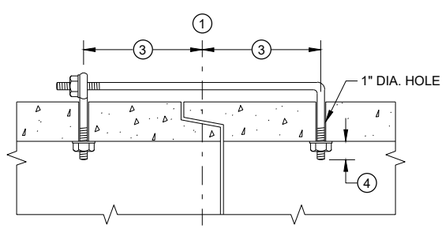


EYE BOLT 7

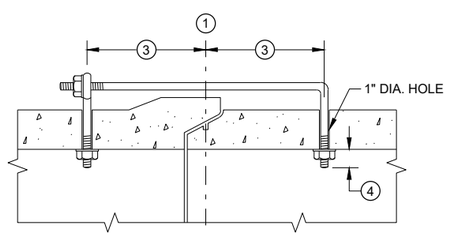
NOTE: TWO EYE BOLTS MAY BE USED WITH A 30" OR 38" LONG THREADED ROD IN LIEU OF THE 90° BENT TIE ROD.



EYE BOLT AND TIE ROD



(TONGUE AND GROOVE PIPE)



(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

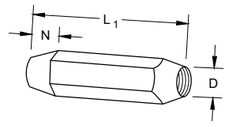
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

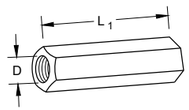
ADJUSTABLE TIE ROD TABLE

PIPE DIAMETER	TIE ROD DIAMETER	D	L_1	N
12 - 60	⅝	⅝	5	½
66 - 84	¾	¾	5	½
90 - 144	1	1	7	1 7/16

DIMENSIONS SHOWN ARE IN INCHES



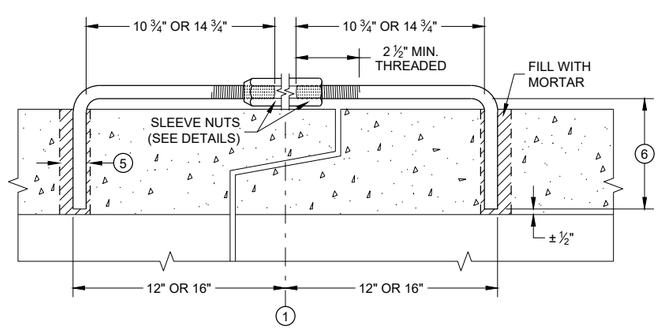
TAPERED



PLAIN

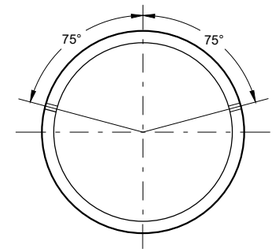
RIGHT AND LEFT THREADS

SLEEVE NUTS



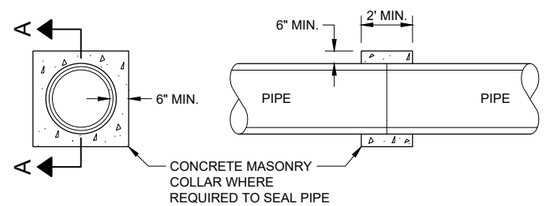
LONGITUDINAL SECTION

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

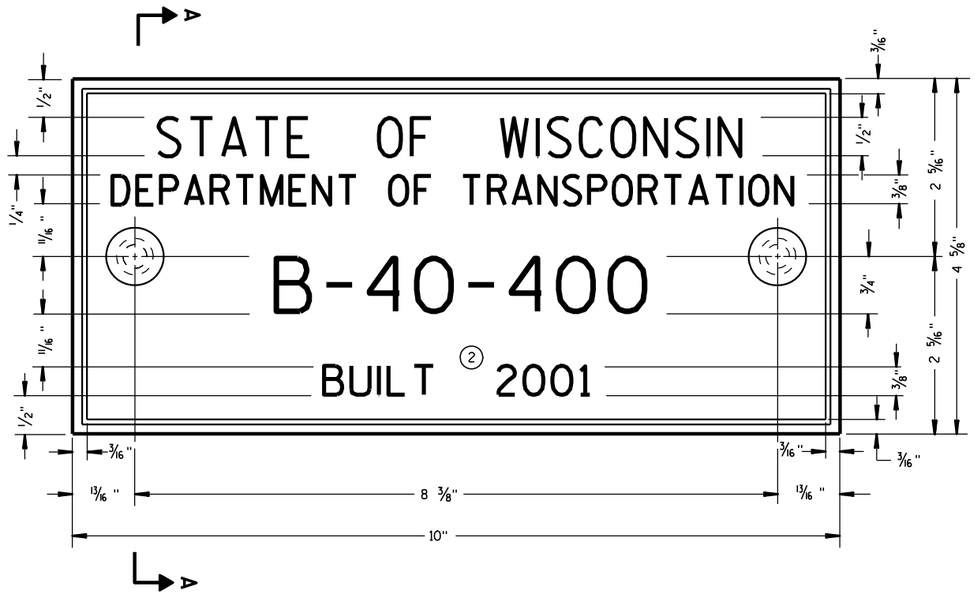
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2021 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVE ENGINEER

FHWA

SDD 08F04 - 08

SDD 08F04 - 08



TYPICAL NAME PLATE
(BRIDGES, CULVERTS, AND RETAINING WALLS)

FOR MULTI-UNIT STRUCTURES
LINE 3 ABOVE SHALL READ

B = BRIDGE
C = CULVERT
R = RETAINING WALL

COUNTY NO.

BRIDGE NO.

UNIT NO. FOR MULTIPLE UNIT BRIDGE

B-40-400-1A

NUMBERING DESIGNATION
MULTI-UNIT STRUCTURES

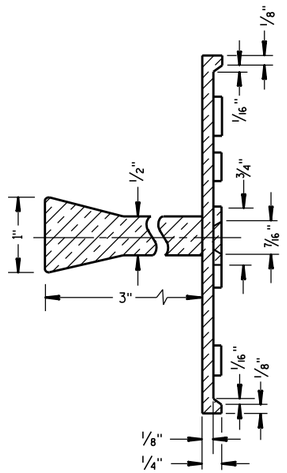
GENERAL NOTES

NAME PLATES TO BE INSTALLED ON BRIDGES, CULVERTS, AND RETAINING WALLS SHALL CONFORM TO THE REQUIREMENTS OF SECTION 502.3.11 OF THE STANDARD SPECIFICATIONS.

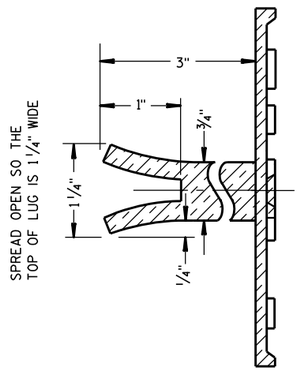
THE BRIDGE NUMBER AND YEAR BUILT SHOWN ON THIS DRAWING ARE EXAMPLES ONLY. SEE CONSTRUCTION PLANS FOR INDIVIDUAL NUMBERING AND YEAR BUILT.

(1) EPOXY RESIN SHALL BE FROM AN APPROVED MANUFACTURER AND USED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

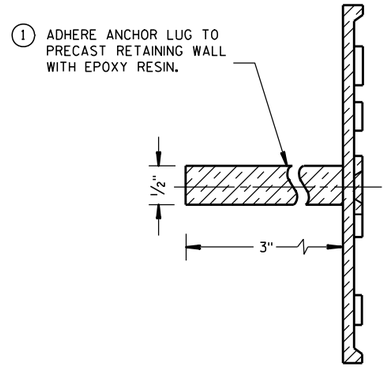
(2) REHABILITATION OF AN EXISTING STRUCTURE SHOULD USE THE DATE OF ORIGINAL STRUCTURE CONSTRUCTION.



SECTION A-A



ALTERNATE LUG



ALTERNATE LUG
(FOR ATTACHMENT TO PRECAST STRUCTURES)

NAME PLATE (STRUCTURES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

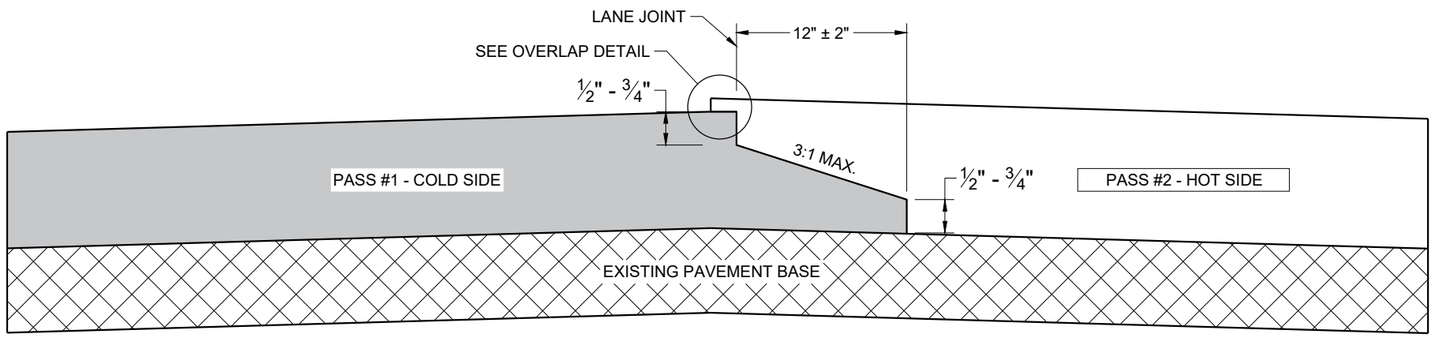
3/26/10 DATE

/S/ Scot Beck CHIEF STRUCTURAL DEVELOPMENT ENGINEER

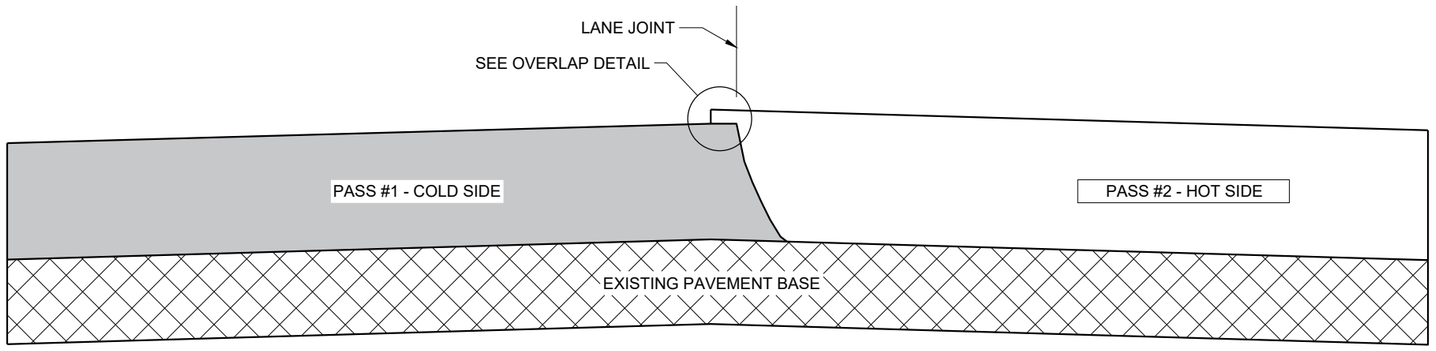
FHWA

6

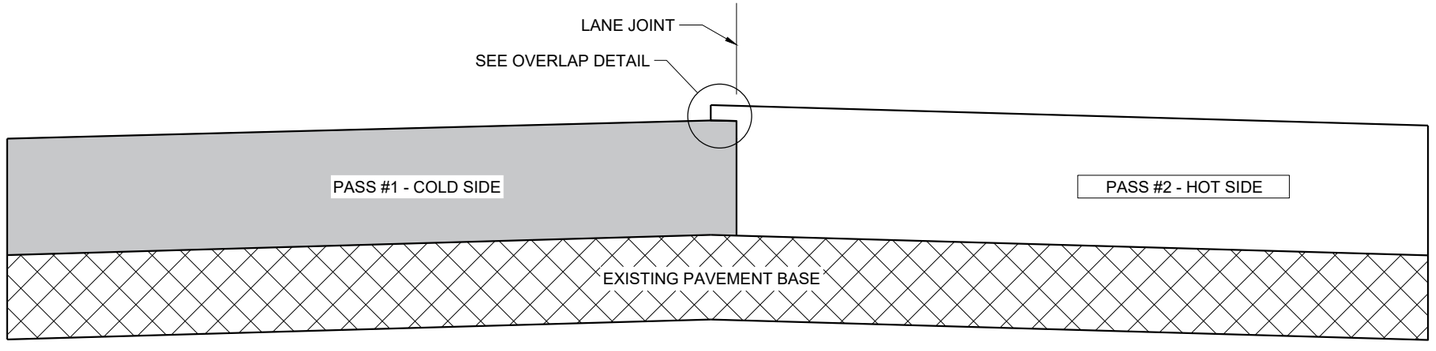
S.D.D. 12 A 3-10



TYPICAL PAVEMENT CROSS SECTION
NOTCHED WEDGE JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT



TYPICAL PAVEMENT CROSS SECTION
VERTICAL JOINT (MILLED)

GENERAL NOTES

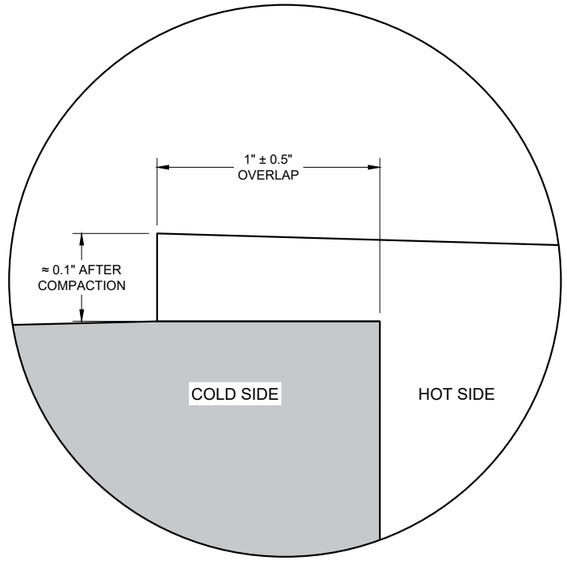
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



OVERLAP DETAIL (TYPICAL)

6

6

SDD 13C19 - 03

SDD 13C19 - 03

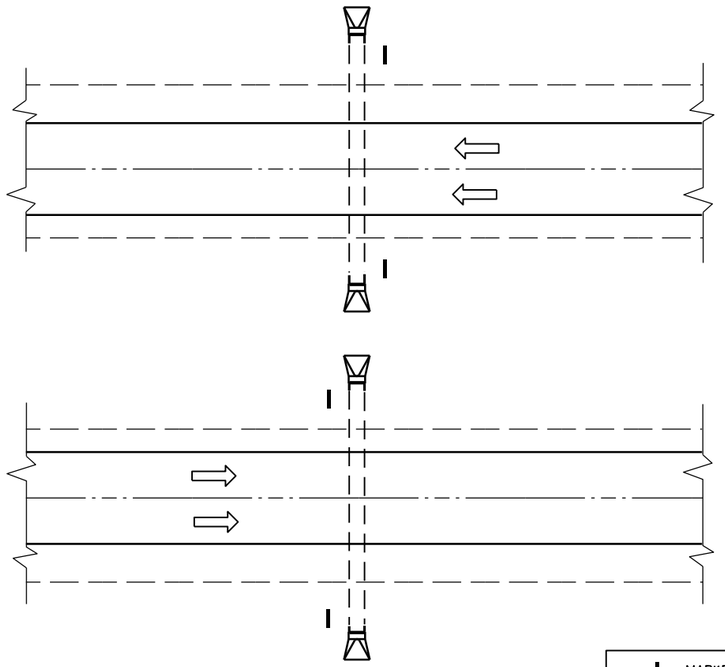
HMA LONGITUDINAL JOINTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2020
DATE

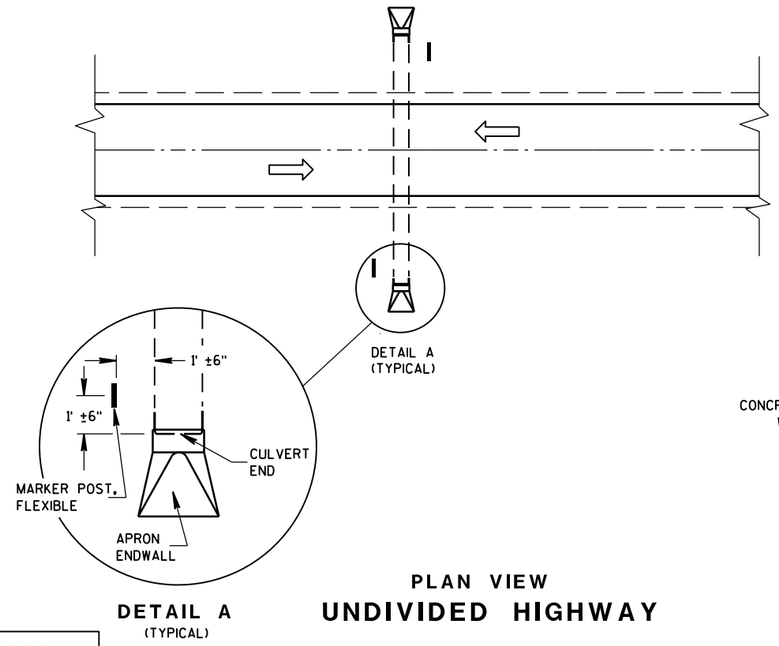
/S/ Steven Hefel
HMA PAVEMENT ENGIN

FHWA



PLAN VIEW

DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

PLAN VIEW

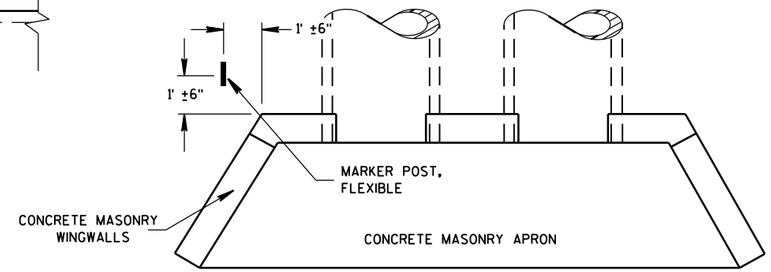
UNDIVIDED HIGHWAY

MARKER POST, FLEXIBLE

DIRECTION OF TRAFFIC FLOW

GENERAL NOTES

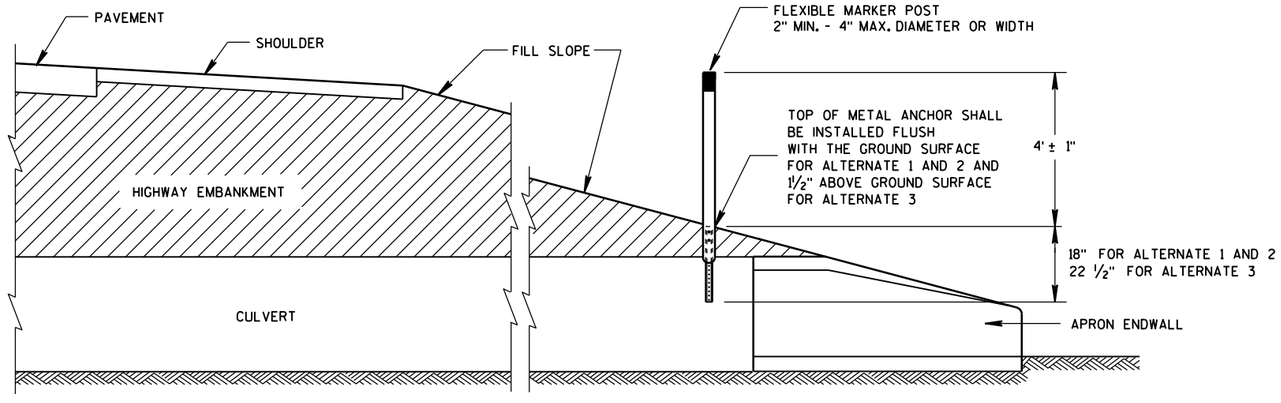
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.



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

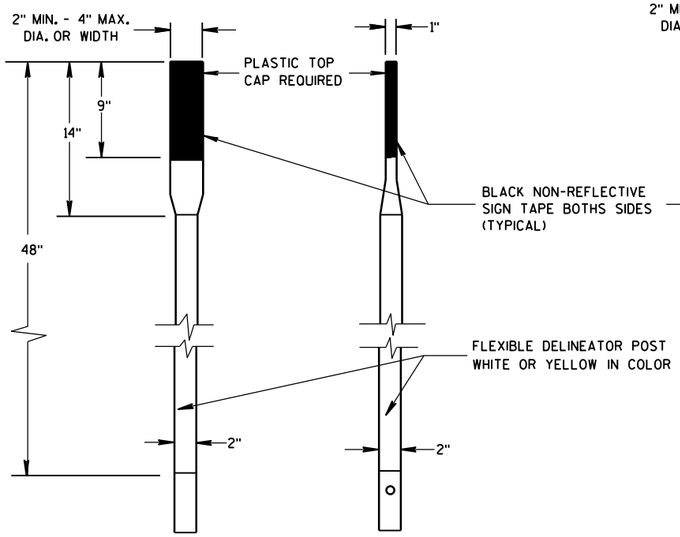
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

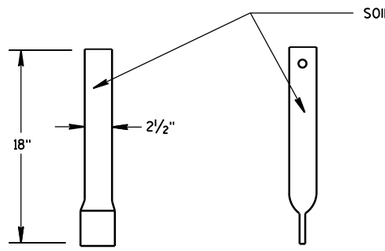
6

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

6

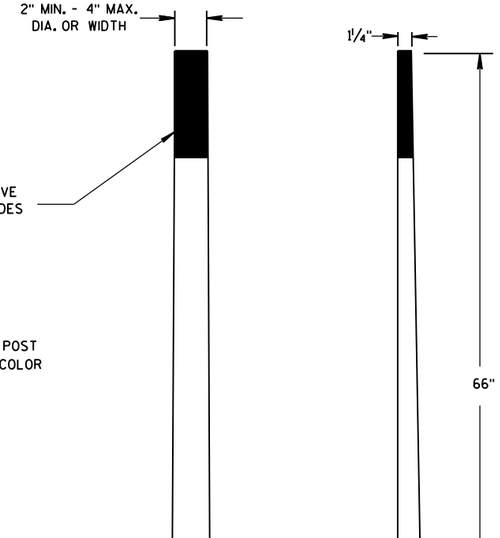
S.D.D. 15 A 3-2a





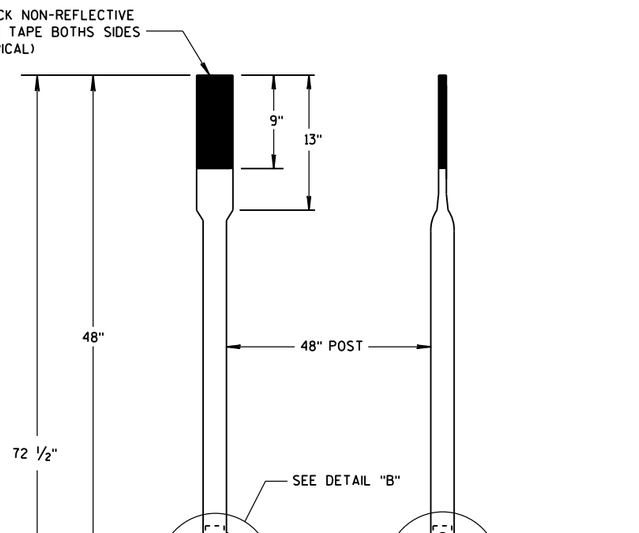
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

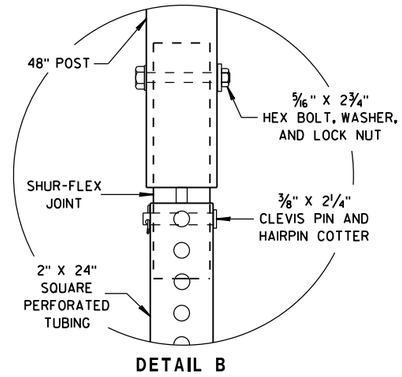
ALTERNATE 2



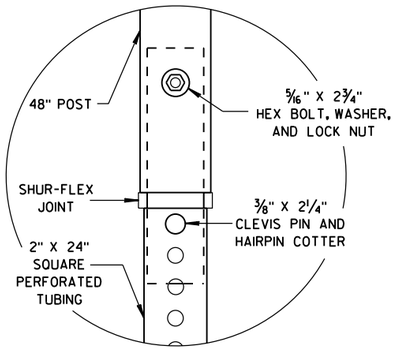
FRONT VIEW SIDE VIEW

ALTERNATE 3

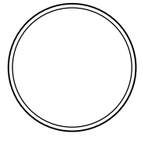
FLEXIBLE MARKER POSTS



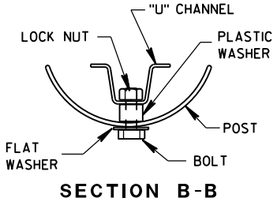
DETAIL B



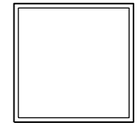
DETAIL C



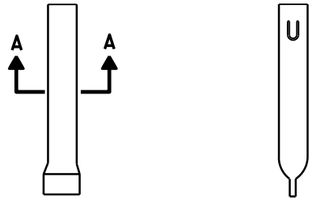
SECTION A-A



SECTION B-B

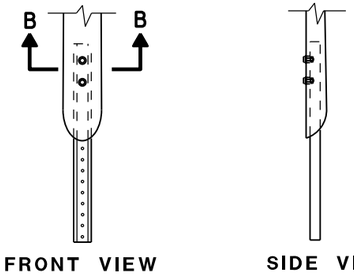


SECTION C-C



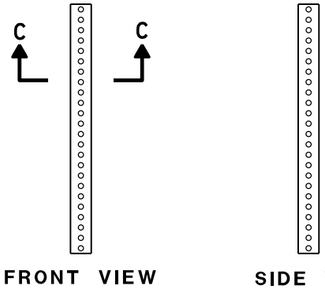
FRONT VIEW SIDE VIEW

ALTERNATE 1



FRONT VIEW SIDE VIEW

ALTERNATE 2



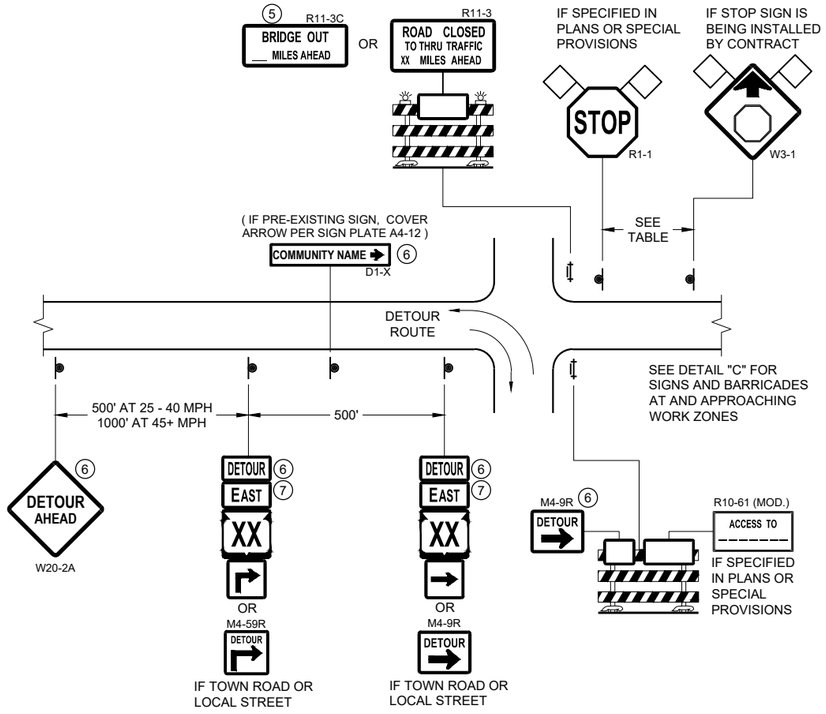
FRONT VIEW SIDE VIEW

ALTERNATE 3

FLEXIBLE MARKER POST ANCHORS

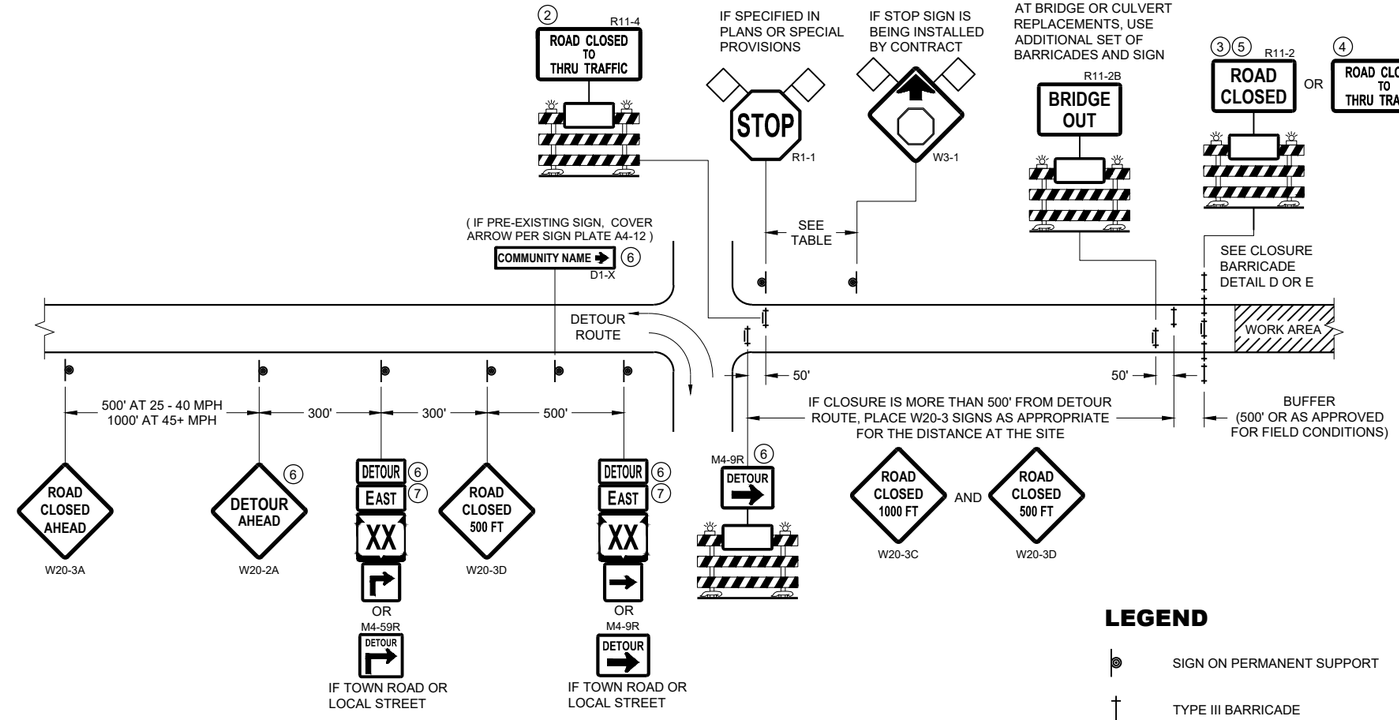
FLEXIBLE MARKER POST FOR CULVERT END	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
10/1/2012 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER
FHWA	

6
S.D.D. 15 A 3-2b



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

WORK ZONE GREATER THAN OR EQUAL TO 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)

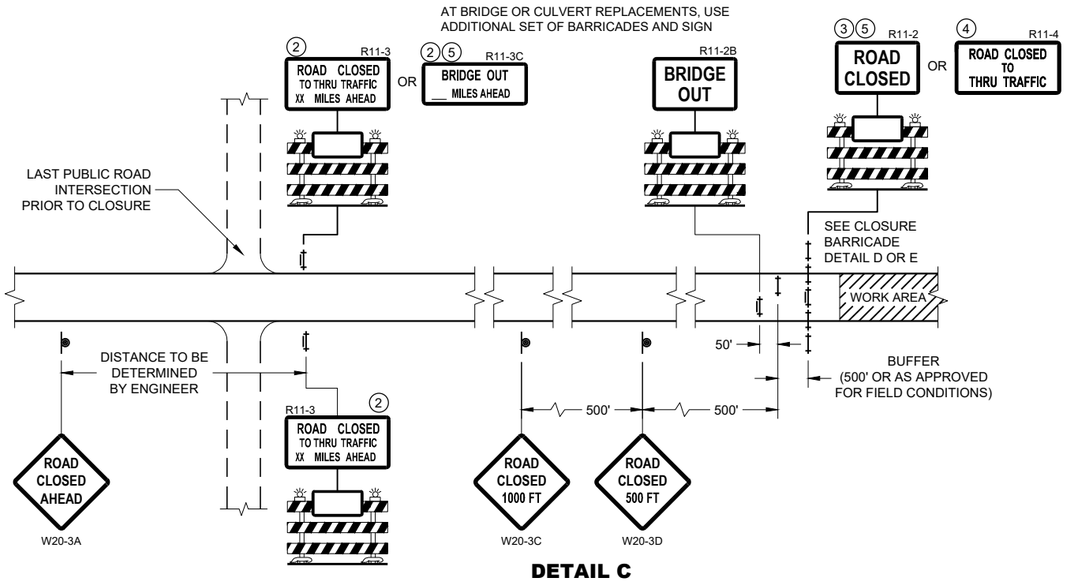
SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

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
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)

DETOUR M4 - 8
EAST M3 - X
XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A
M05 - 1 OR M06 - 1



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

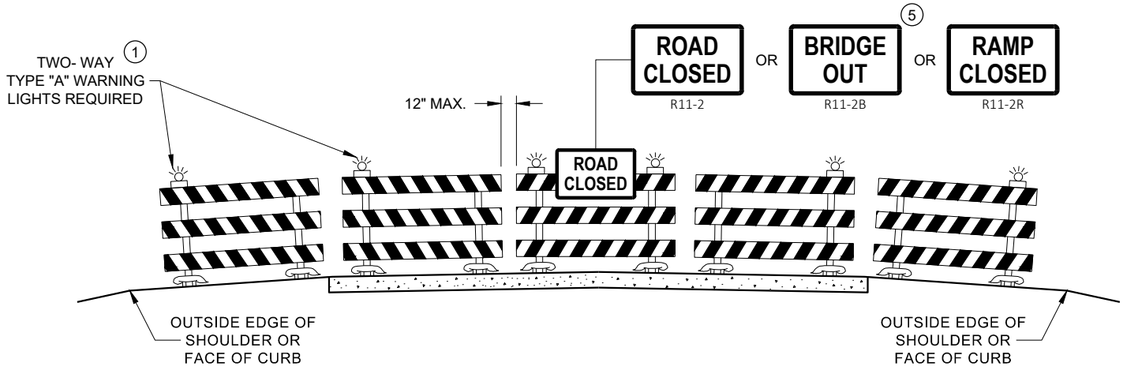
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEER

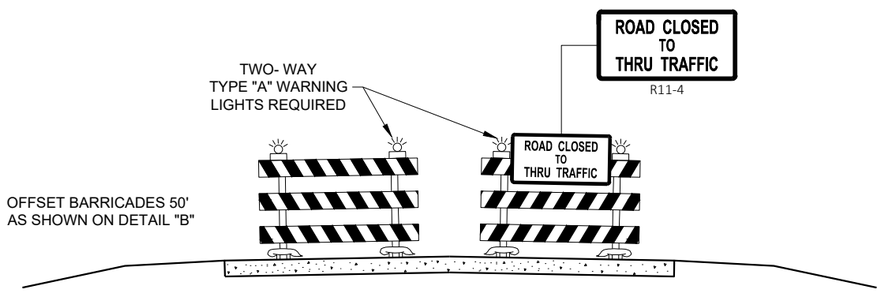
FHWA

6

SDD 15C02 - 09a



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60 " X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- MO5 - 1 AND MO6 - 1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS)
- D1 - X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1 - 1 SHALL BE 36" X 36"

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023
DATE
/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C02 - 09b

6

SDD 15C02 - 09b

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

LEGEND

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

GENERAL NOTES

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

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

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

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

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

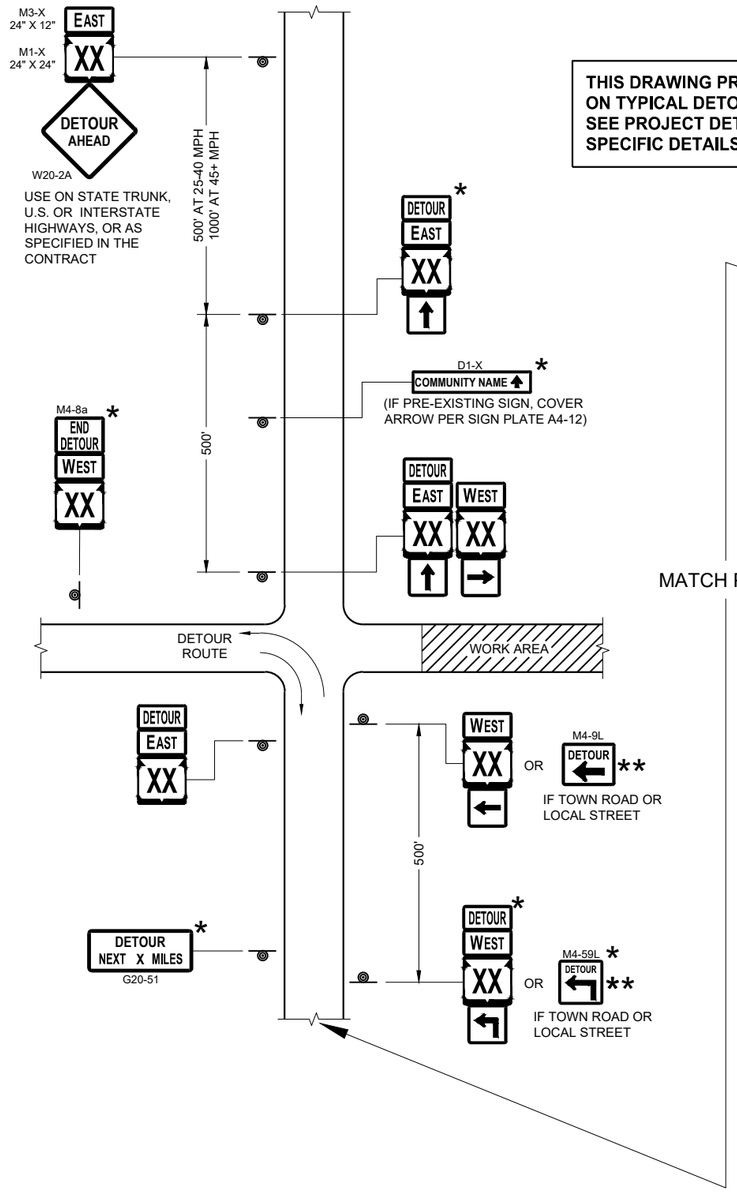
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

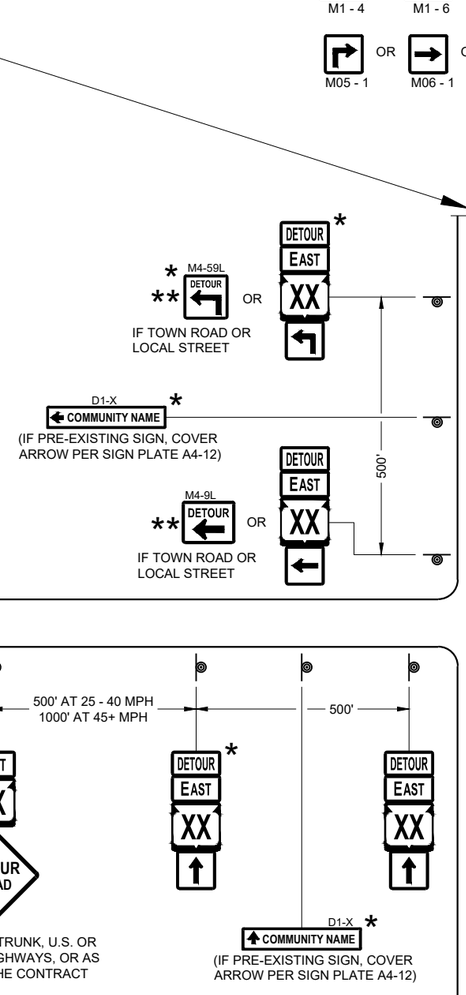
- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING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

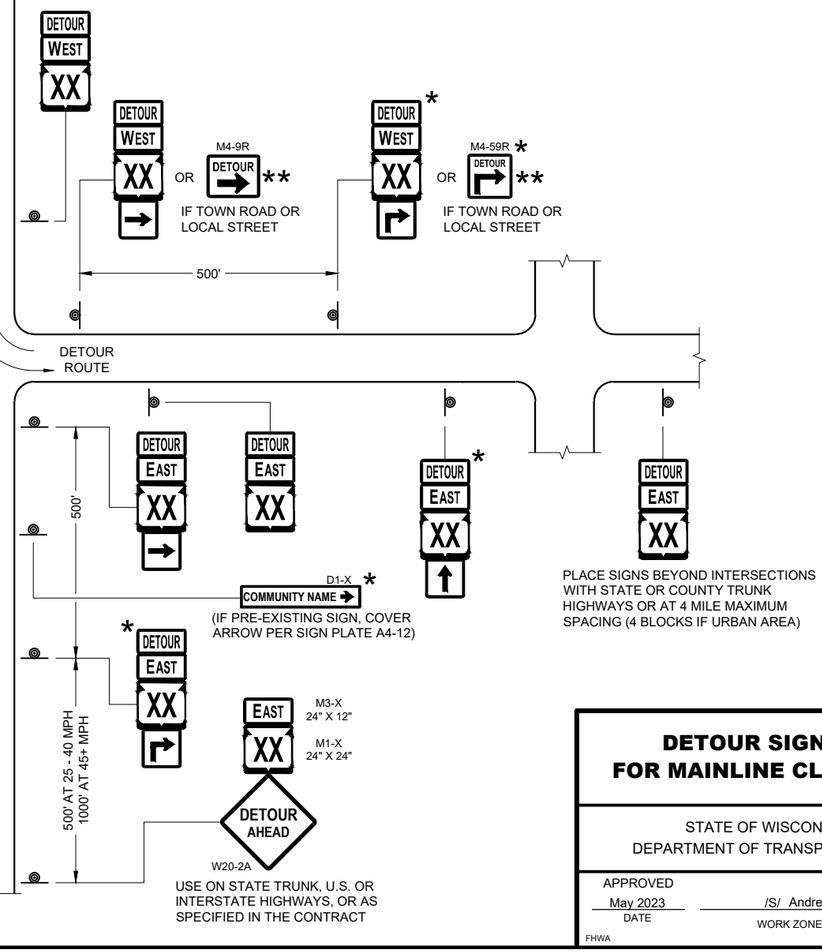
* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.

** FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT



MATCH POINT





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

DETAIL F
DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Andrew Heidtke — WORK ZONE ENGINEER

FHWA

6

SDD 15C02 - 09c

GENERAL NOTES

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

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

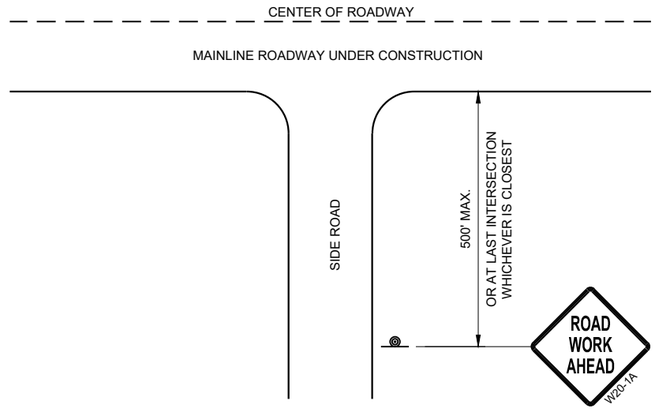
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

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

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

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

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



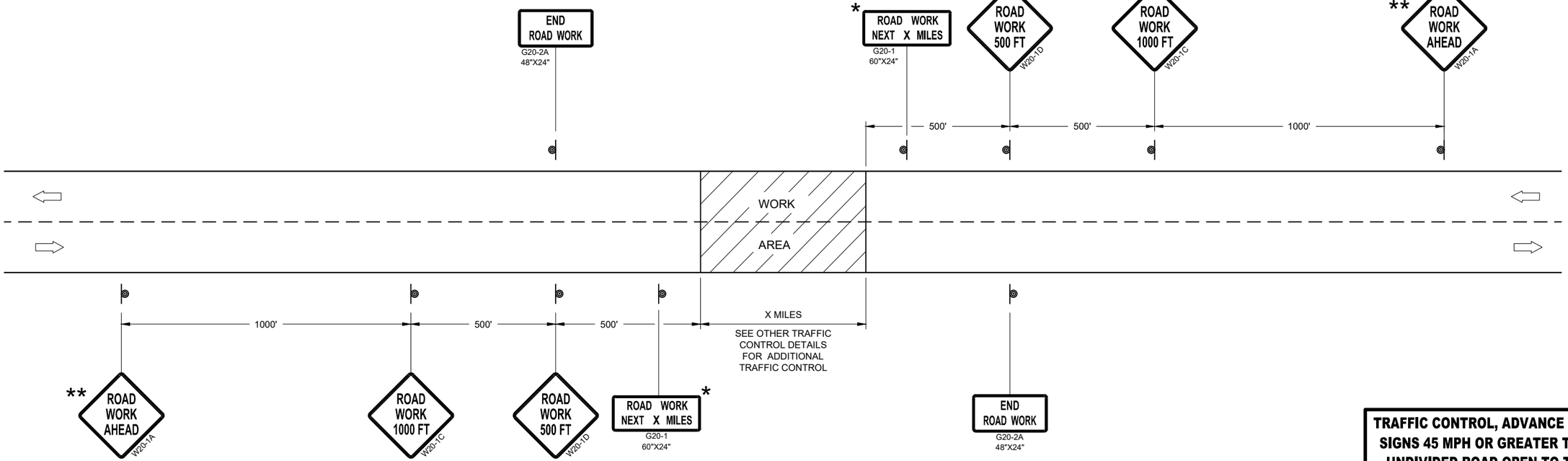
TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C04 - 05

GENERAL NOTES

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

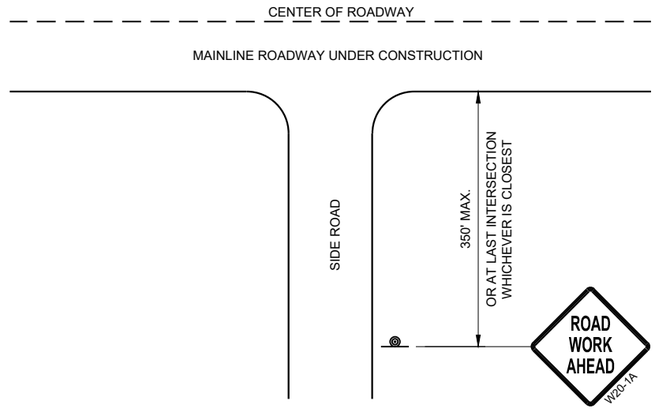
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

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

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

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

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



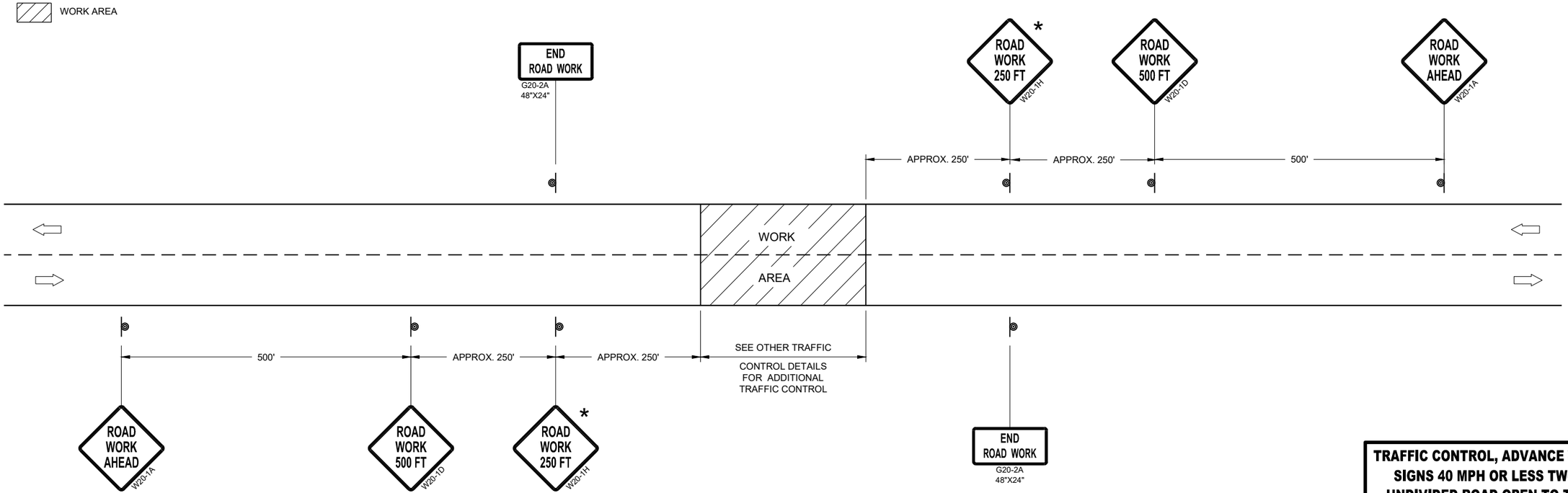
TYPICAL SIDE ROAD APPROACH WARNING SIGN DETAIL

LEGEND

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC

WORK AREA



TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
July 2018
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C05 - 05

*CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

GENERAL NOTES

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

(1) LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING

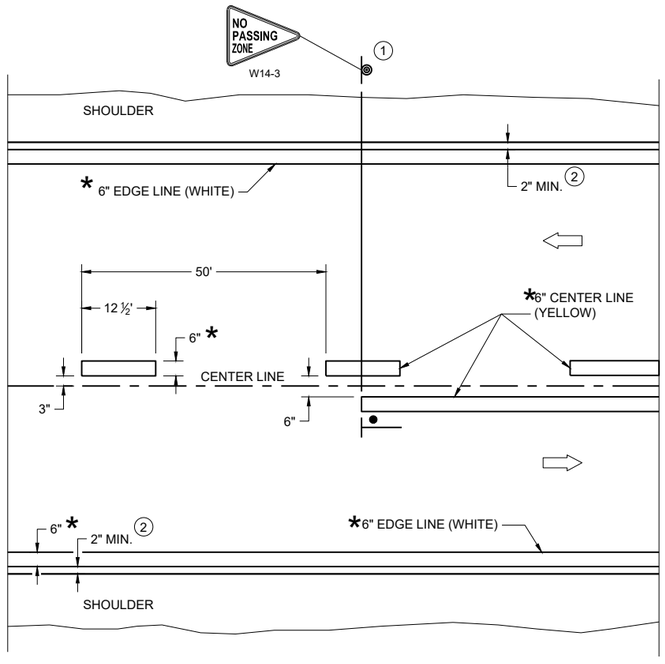
(2) MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

LEGEND

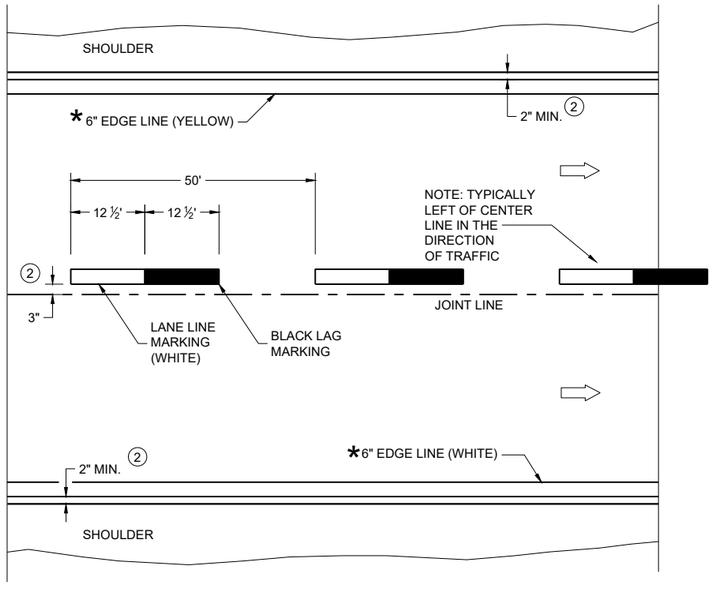
"T" MARKING

SIGN ON PERMANENT SUPPORT

DIRECTION OF TRAFFIC



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

6

PERMANENT LONGITUDINAL PAVEMENT MARKINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

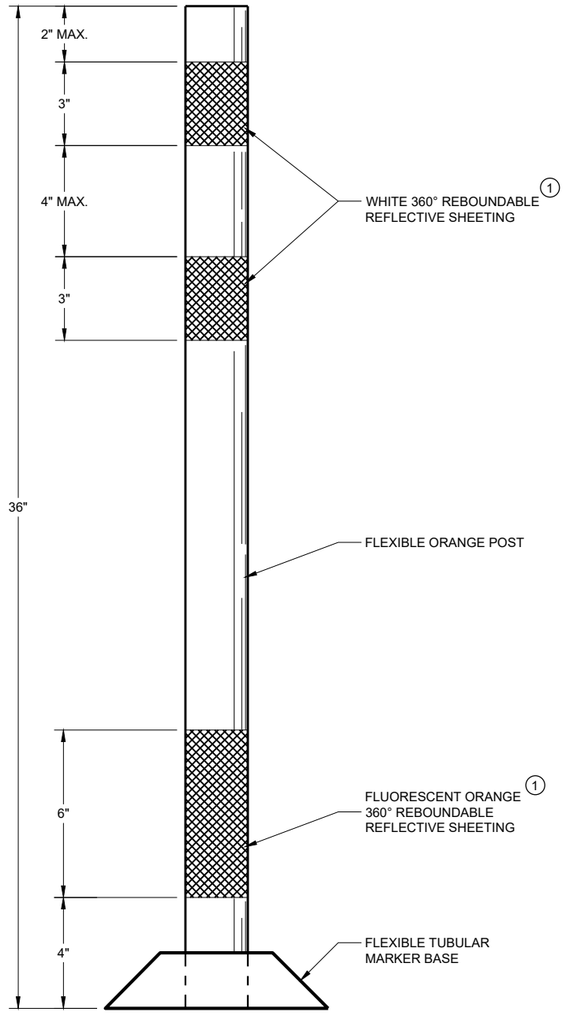
May 2023
DATE

/S/ Jeannie Silver
Statewide Pavement Marking Engineer

FHWA

SDD 15C08-23a

SDD 15C08-23a



FLEXIBLE TUBULAR MARKER POST WORK ZONE

GENERAL NOTES

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

THE ASPHALTIC ADHESIVE OR BUTYL PAD FURNISHED SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS, UNLESS DIRECTED BY THE ENGINEER TO USE BOLTS.

(1) REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.

6

SDD 15C11 - 10a

CHANNELIZING DEVICES
FLEXIBLE TUBULAR MARKER POST

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

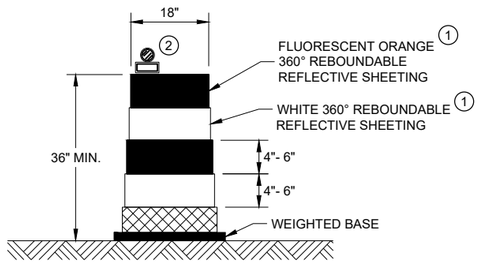
FHWA

6

SDD 15C11 - 10a

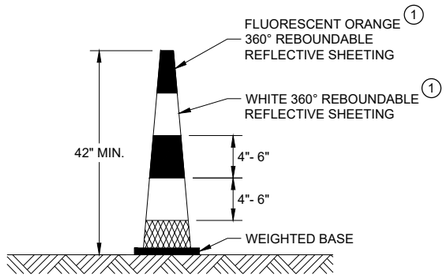
GENERAL NOTES

1. REFLECTIVE SHEETING SHALL FOLLOW THE REQUIREMENTS IN THE APPROVED PRODUCTS LISTING FOR SIGN SHEETING.
2. LOCATION OF WARNING LIGHTS WHEN SHOWN ON THE PLAN.



DRUM

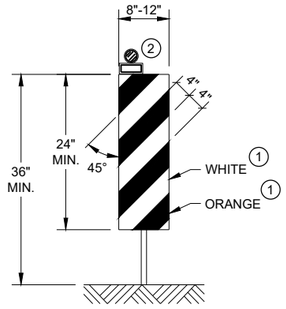
BALLAST WIDTHS
RANGE FROM 24"-36"



42" CONE

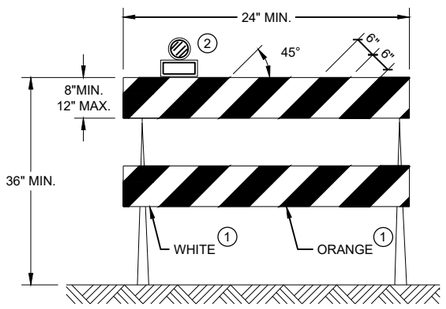
DO NOT USE IN TAPERS
½ SPACING OF DRUMS

BALLAST WIDTHS
RANGE FROM 14"-20"



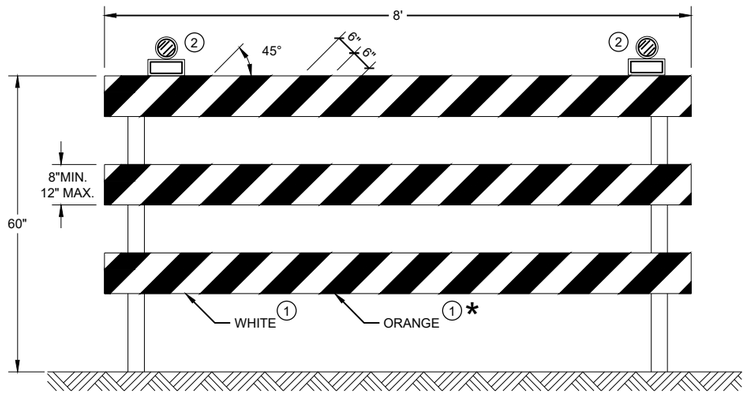
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

IF SIGN MOUNTED, DO NOT COVER MORE THAN 50% OF THE TOP
TWO RAILS OR 33% OF THE TOTAL AREA OF THE THREE RAILS.

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C11 - 10b

6

SDD 15C11 - 10b

LEGEND

SIGN ON PORTABLE OR PERMANENT SUPPORT

TEMPORARY PORTABLE RUMBLE STRIP ARRAY

DIRECTION OF TRAFFIC

WORK AREA

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

GENERAL NOTES

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

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

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

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

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

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

FLAGGING

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

(1) FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

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

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

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

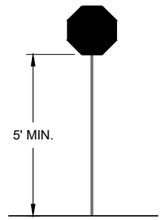
(3) EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

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

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

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



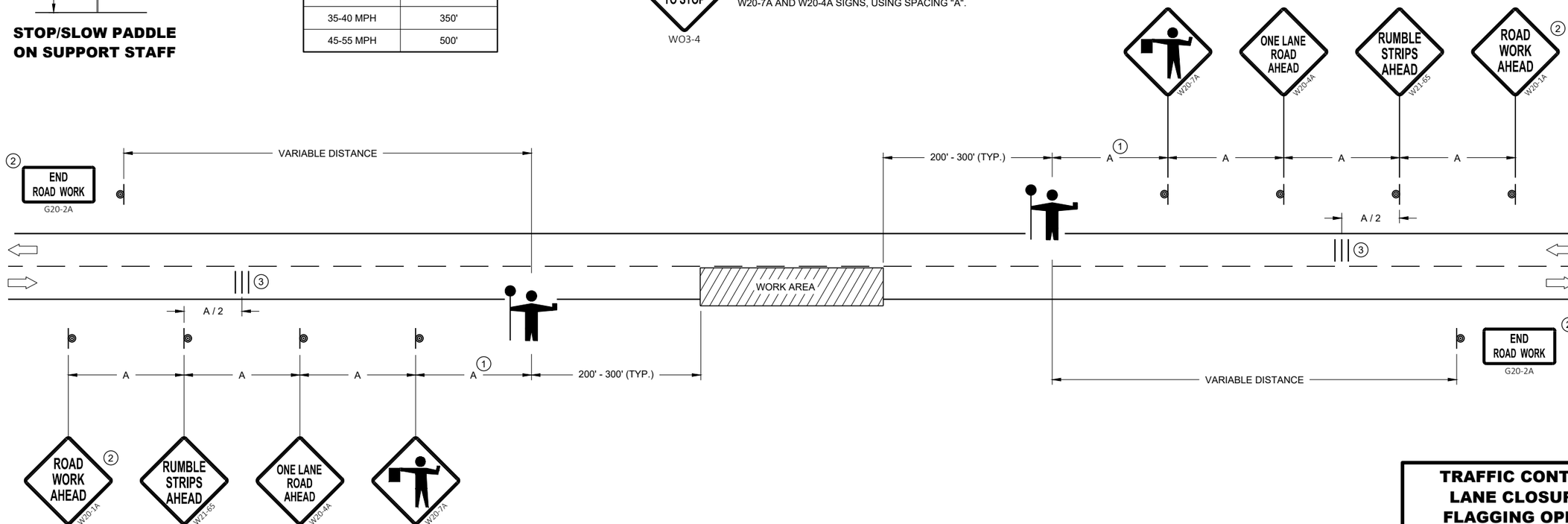
STOP/SLOW PADDLE ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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

WO3-4

USE OF WO3-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2022
DATE

/S/ Andrew Heidtke
WORK ZONE ENGINEE

FHWA

6

SDD 15C12 - 09a

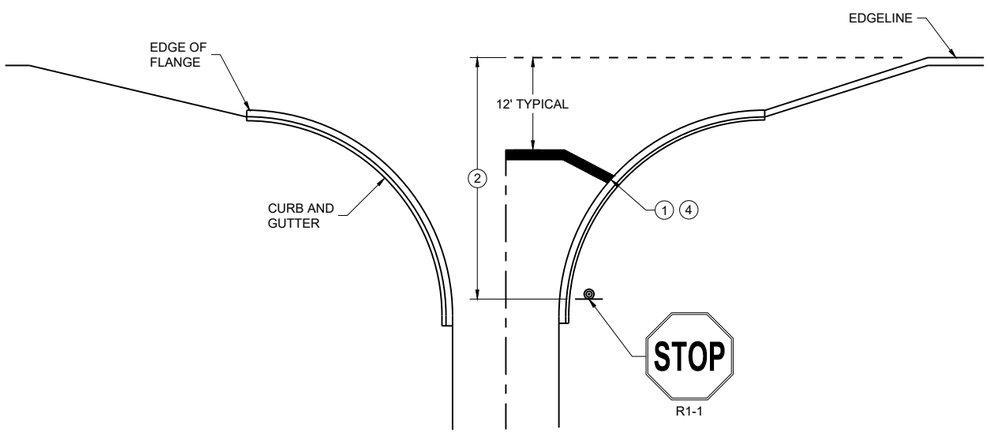
6

SDD 15C12 - 09a

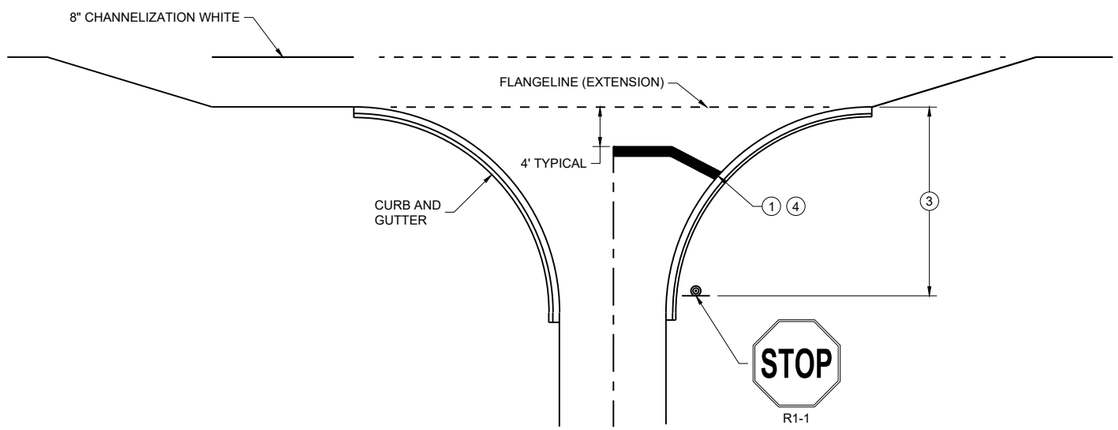
GENERAL NOTES

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

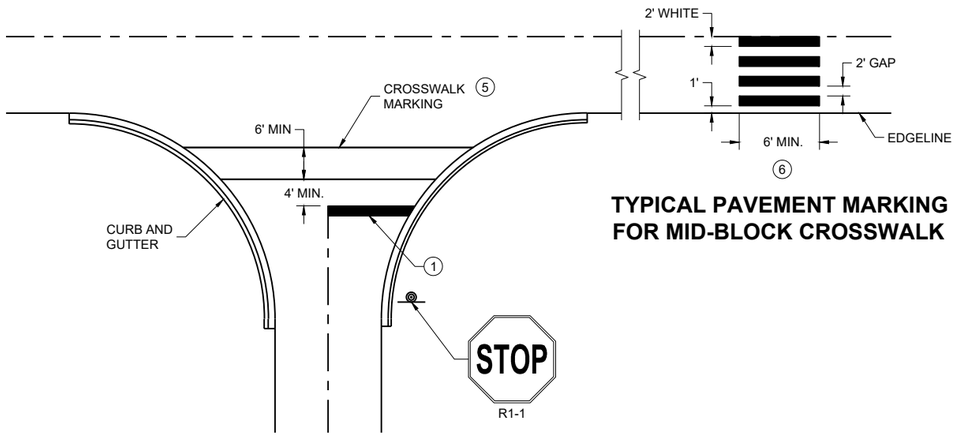
1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
3. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGE LINE EXTENSION.
4. MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
5. LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES.
6. POSTED SPEED LIMITS OF 40 MPH OR GREATER USE A MINIMUM WIDTH OF 8' FOR MIDBLOCK CROSSWALKS



TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER

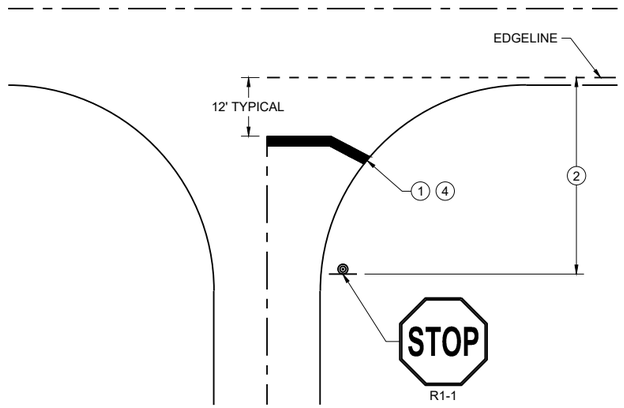


TYPICAL STOP LINE PAVEMENT MARKING FOR SIDE ROADS WITH RIGHT TURN LANE



TYPICAL PAVEMENT MARKING FOR MID-BLOCK CROSSWALK 5

TYPICAL STOP LINE PAVEMENT MARKING FOR SIDE ROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

March 2024 — DATE

/S/ Matthew Rauch — STATE SIGNING AND MARKING ENGINEER

FHWA

6

SDD 15C33-05

LEGEND

SIGN ON PERMANENT SUPPORT

TRAFFIC CONTROL DRUM

DIRECTION OF TRAFFIC

WORK ZONE

GENERAL NOTES

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

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

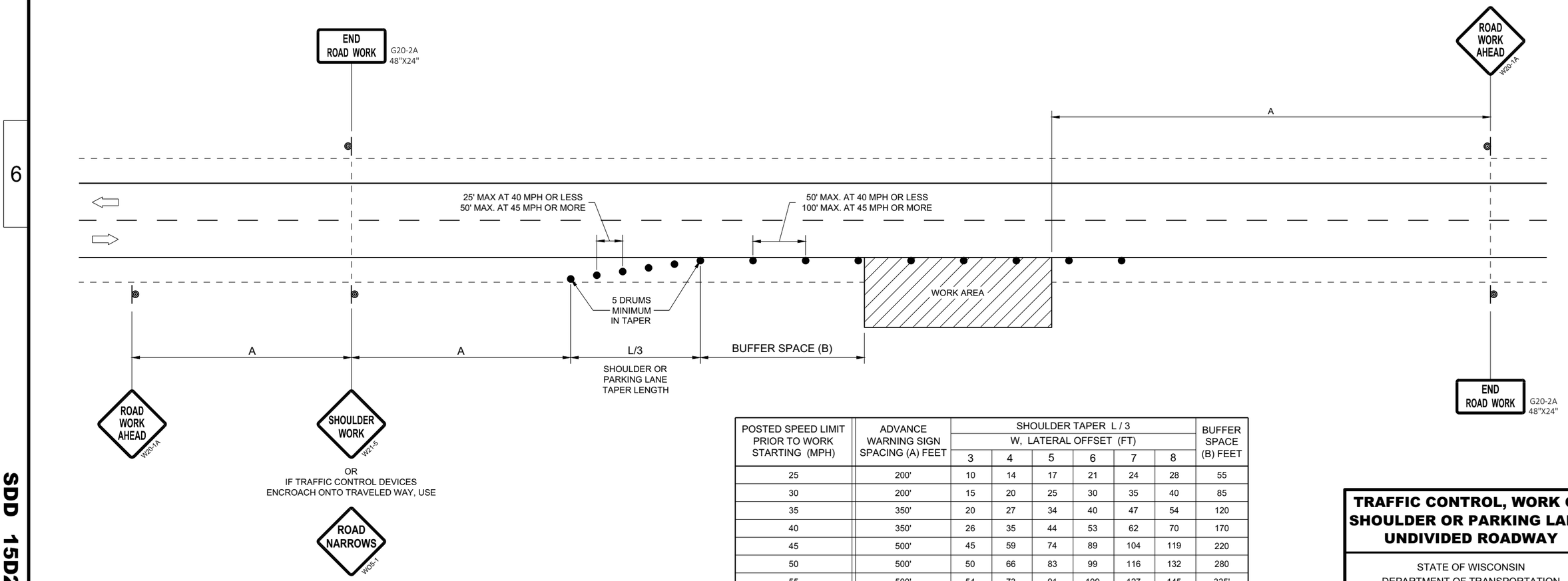
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

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

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

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

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



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

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

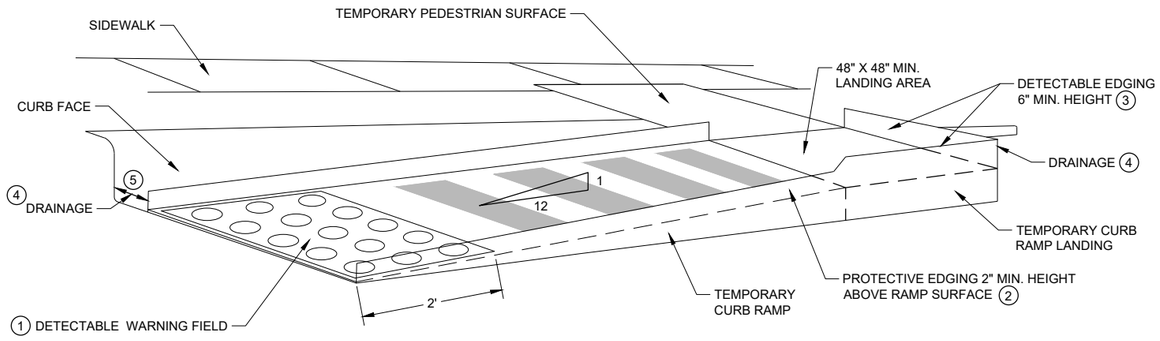
APPROVED
May 2020
DATE

/S/ Andrew Heidtke
STATEWIDE WORK ZONE T SAFETY ENGINEER

FHWA

SDD 15D28 - 04

SDD 15D28 - 04



PERSPECTIVE VIEW

GENERAL NOTES

CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.

CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.

CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN ½" WIDTH.

CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED ½". LATERAL EDGES MAY BE VERTICAL UP TO ¼" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN ¼" AND ½".

(1) INSTALL CONTRASTING TEMPORARY DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS, AS SHOWN IN THE PLANS.

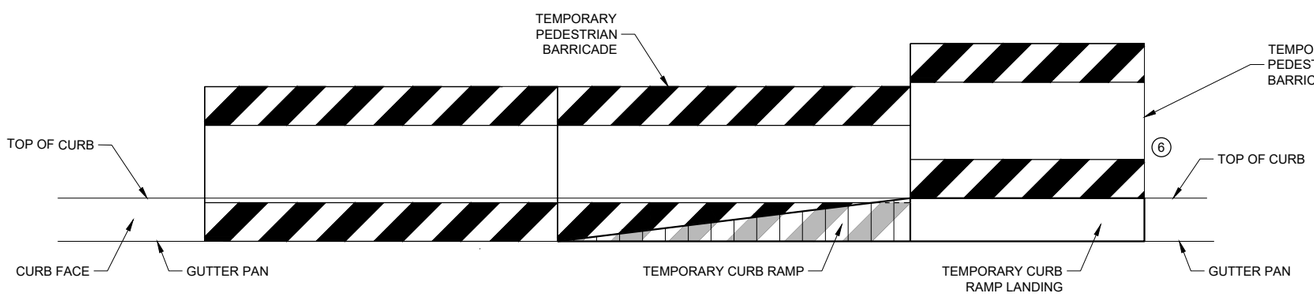
(2) PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.

(3) DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).

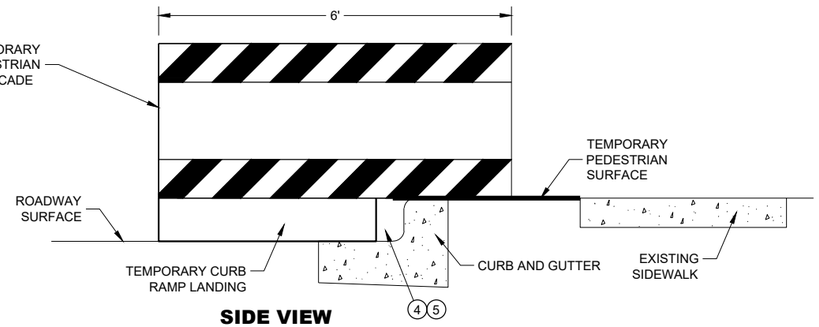
(4) DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.

(5) ENSURE CURB RAMP IS OUT OF THE GUTTER PAN.

(6) IF ONLY PART OF THE END PANEL OF TEMPORARY PEDESTRIAN BARRICADE PANEL IS NEEDED, EXTEND EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL HERE.



FRONT VIEW



SIDE VIEW

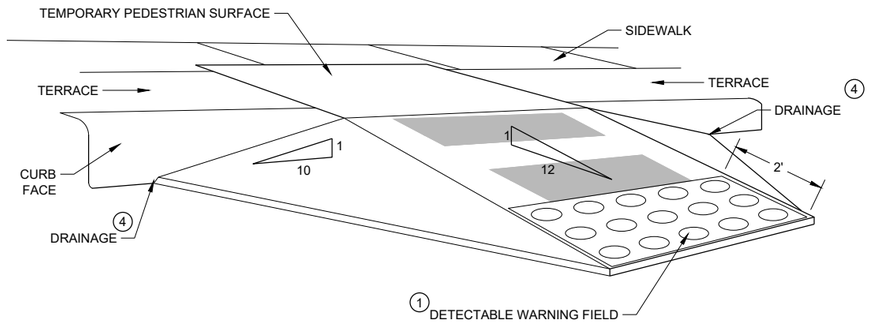
TEMPORARY CURB RAMP PARALLEL TO CURB

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

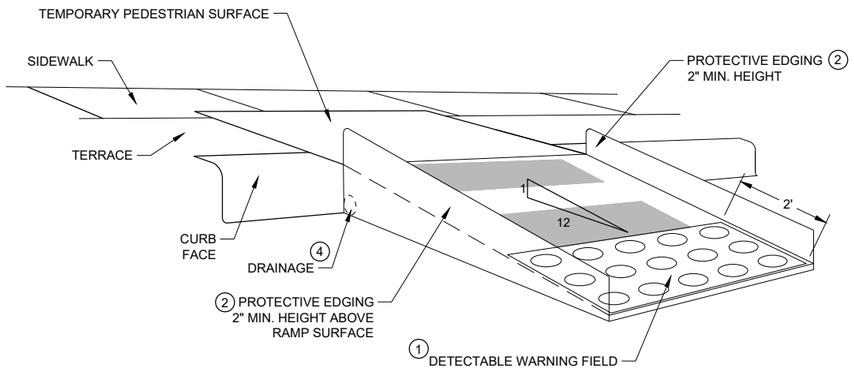
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTA

6

SDD 15D30 - 09b



WITH SIDE APRON (5)



WITH PROTECTIVE EDGE

TEMPORARY CURB RAMP PERPENDICULAR TO CURB

GENERAL NOTES

CURB RAMPS SHALL BE 48" MINIMUM WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE.

ALTERNATE SIDEWALK WORK BETWEEN LEFT AND RIGHT SIDE OF ROADWAY TO MAINTAIN PEDESTRIAN ACCESS.

CURB RAMPS AND LANDINGS SHALL HAVE A 1:50 (2%) MAX. CROSS-SLOPE.

CLEAR SPACE OF 48" X 48" SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.

LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN ½" WIDTH.

CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED ½". LATERAL EDGES MAY BE VERTICAL UP TO ¼" HIGH AND SHALL BE BEVELED AT 1:2 BETWEEN ¼" AND ½".

(1) INSTALL CONTRASTING TEMPORARY DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS, AS SHOWN IN THE PLANS

(2) PROTECTIVE EDGING WITH A 2" MIN. HEIGHT SHALL BE INSTALLED WHEN A CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.

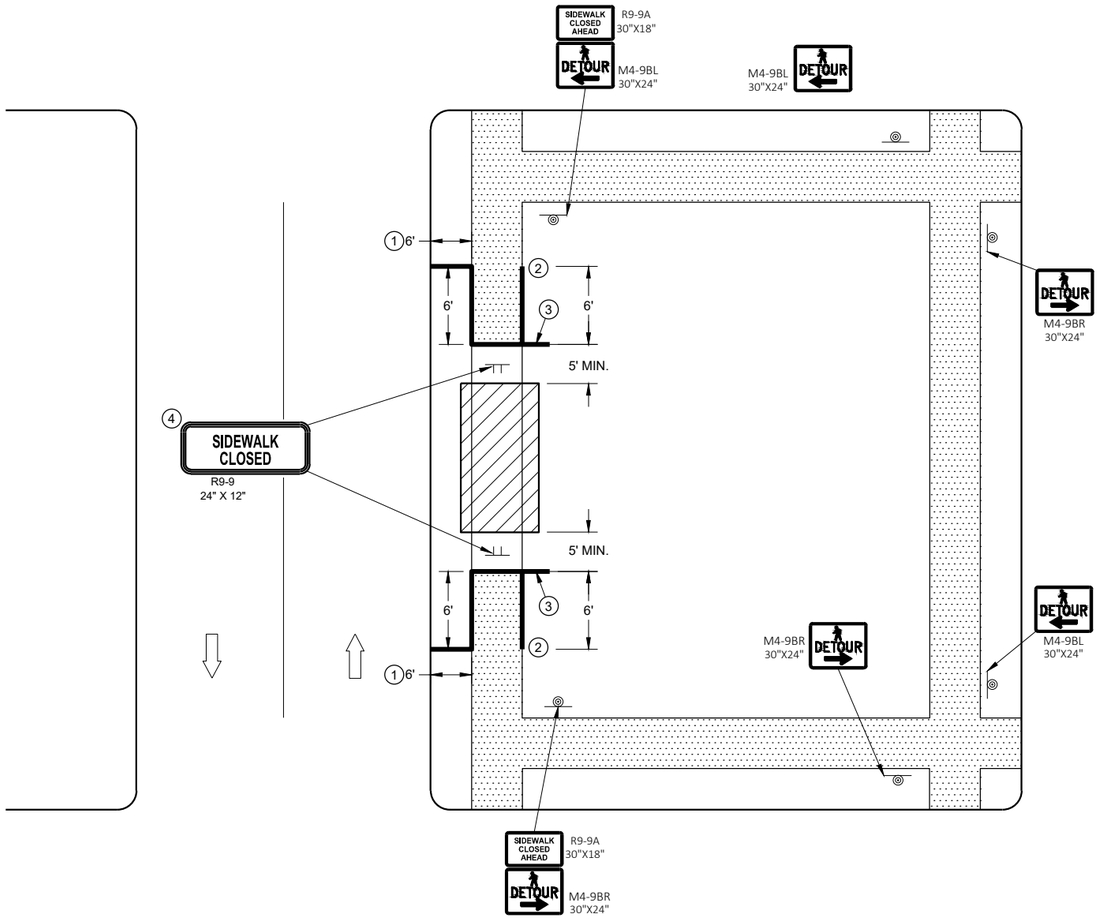
(3) DETECTABLE EDGING WITH 6" MIN. HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).

(4) DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.

(5) CAN ONLY BE USED FOR RAMPS WITH 6" OR LESS OF VERTICAL CHANGE.

LEGEND

- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- UNDER PEDESTRIAN TRAFFIC
- WORK AREA
- TEMPORARY PEDESTRIAN BARRICADE
- DIRECTION OF TRAFFIC



SIDEWALK DETOUR, SIDEWALK ONLY ON ONE SIDE

GENERAL NOTES

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISCONSIN STANDARD SIGN PLATES.

WHERE TEMPORARY BARRICADE RUNS PARALLEL ALONG SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.

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

PLACE TEMPORARY PEDESTRIAN BARRICADE TO FIT FIELD CONDITIONS, AVOIDING CONFLICTS WITH DRIVEWAYS AND OTHER EXISTING FEATURES.

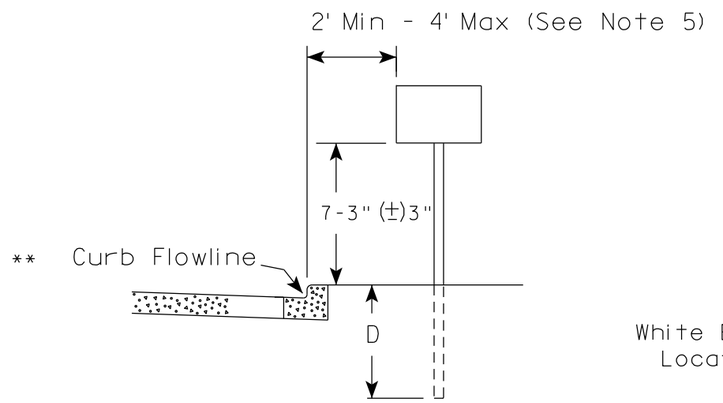
1. IF TERRACE IS LESS THAN 6 FEET WIDE, OMIT TEMPORARY PEDESTRIAN BARRICADE FROM THE SIDEWALK TO THE CURB.
2. PLACE BARRICADE CLOSURE SO THAT THE TEMPORARY PEDESTRIAN BARRICADE END IS AT THE LAST OPEN SIDEWALK ACCESS TO RESIDENCES OR BUSINESSES BEFORE THE SIDEWALK CLOSURE.
3. IF TEMPORARY PEDESTRIAN BARRICADE PANEL IS WIDER THAN THE SIDEWALK WIDTH, THE PORTION OF EXCESS PANEL SHOULD EXTEND INTO THE TERRACE.
4. MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF SIGN.

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

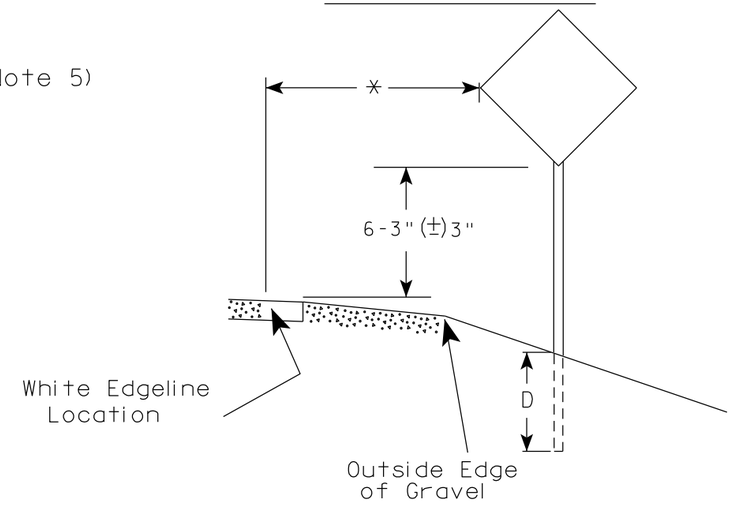
6

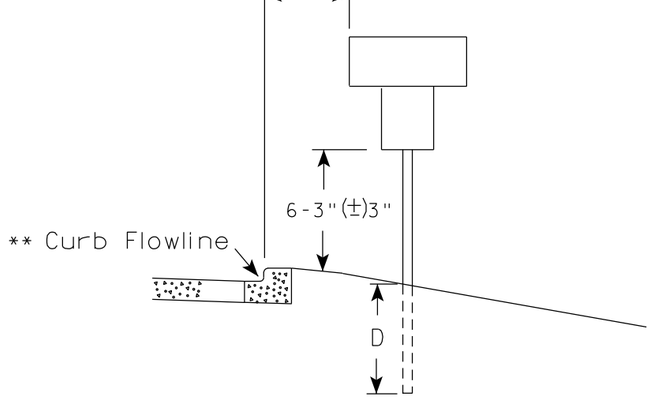
SDD 15D30 - 09f

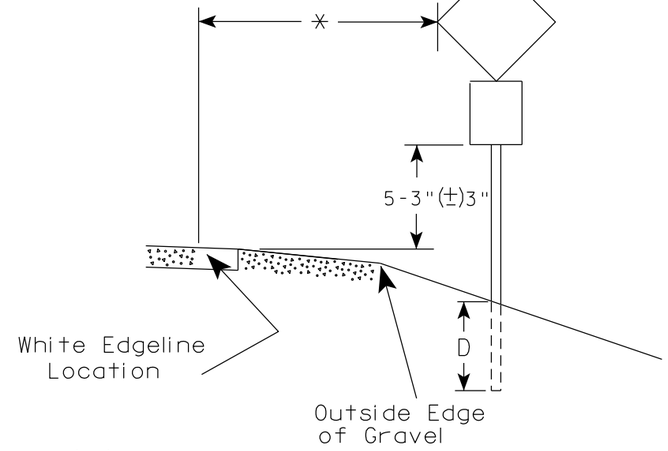
URBAN AREA



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

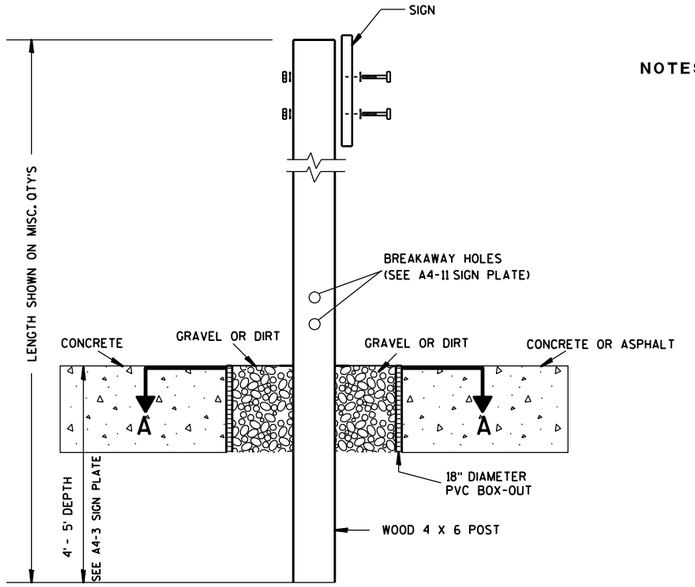
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-3.23

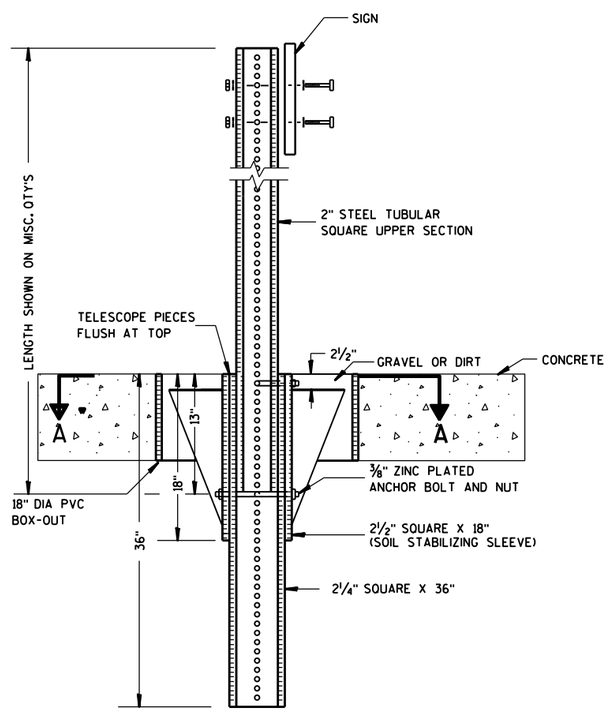
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 130	E



ELEVATION VIEW

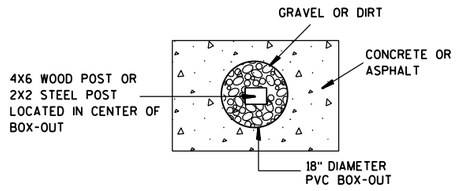
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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

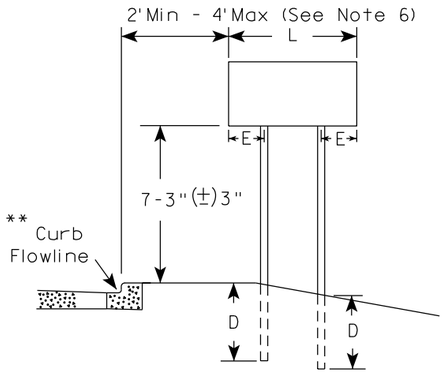
APPROVED Matthew R Rauch
for State Traffic Engineer

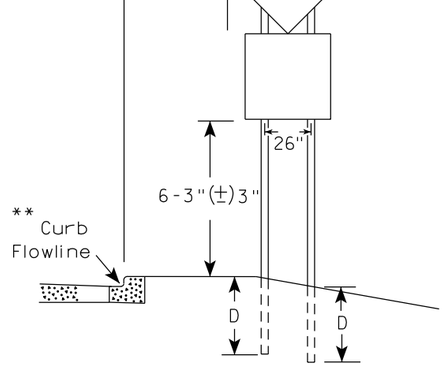
DATE 1/27/14 PLATE NO. A4-3B.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A43B.DGN PLOT DATE : 27-JAN-2014 09:48 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 WISDOT/CADDS SHEET 42

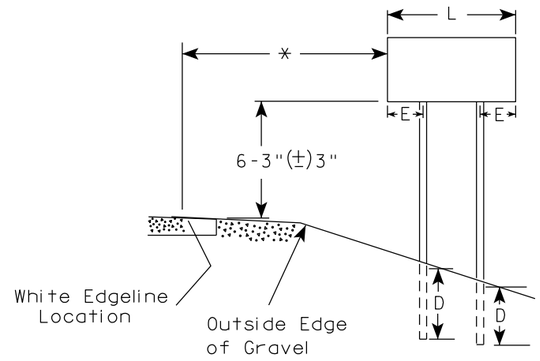
URBAN AREA

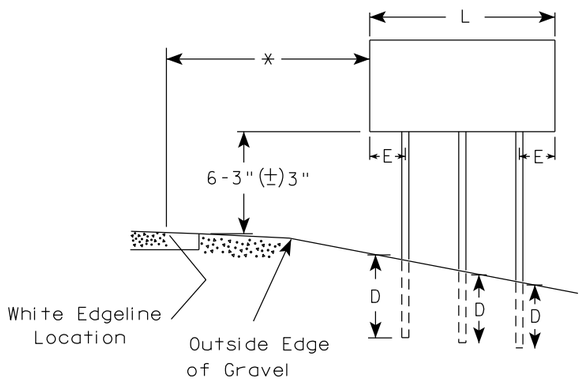


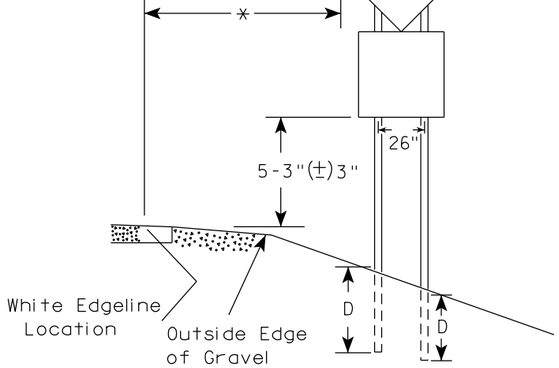


48" DIAMOND WARNING SIGN

RURAL AREA (See Note 3)







48" DIAMOND WARNING SIGN

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

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

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" (±) 3" or 6'-3" (±) 3" depending upon existence of sub-sign.
4. The (±) tolerance for mounting height is 3 inches.
5. J-Assemblies are considered to be one sign for mounting height.
6. Offset distance shall be consistent with existing signs or consistent throughout length of project.
7. Folding signs shall be mounted at a height of 5'-3" (±) 3" or as directed by the engineer.
8. The Double Arrow sign (W12-1) shall be mounted at a height of 2'-3" (±) 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" (±) 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 and less than 20 S.F. in area.

POST EMBEDMENT DEPTH

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

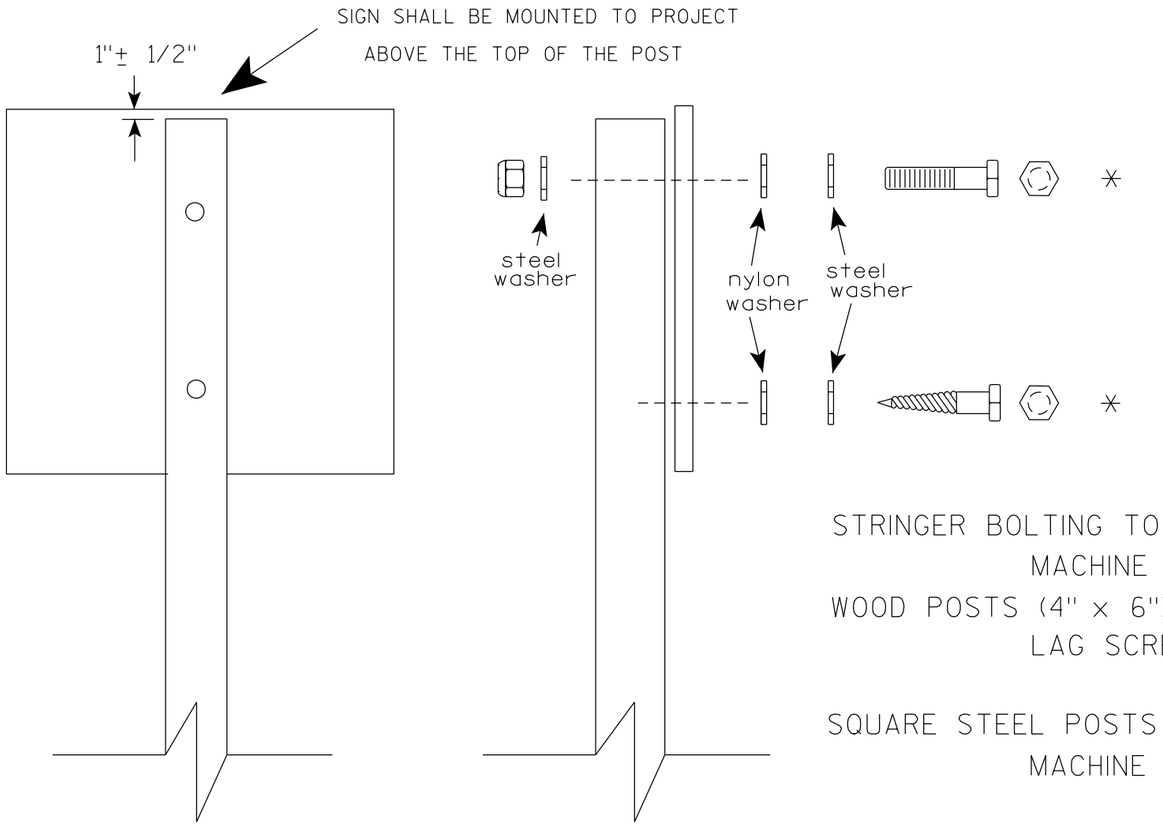
TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/6/23 PLATE NO. A4-4.16

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 132	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.

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

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

WOOD POSTS (4" x 6")

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

SQUARE STEEL POSTS (2" x 2")

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

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

WASHERS (ALL POSTS) -

1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON

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

ATTACHMENT OF SIGNS TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

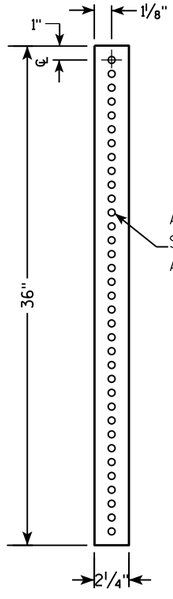
DATE 4/1/2020 PLATE NO. A4-8.9

PROJECT NO:

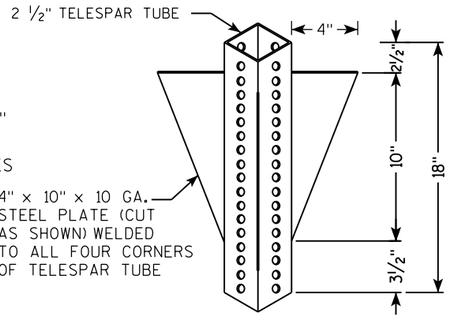
SHEET NO: 133 E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

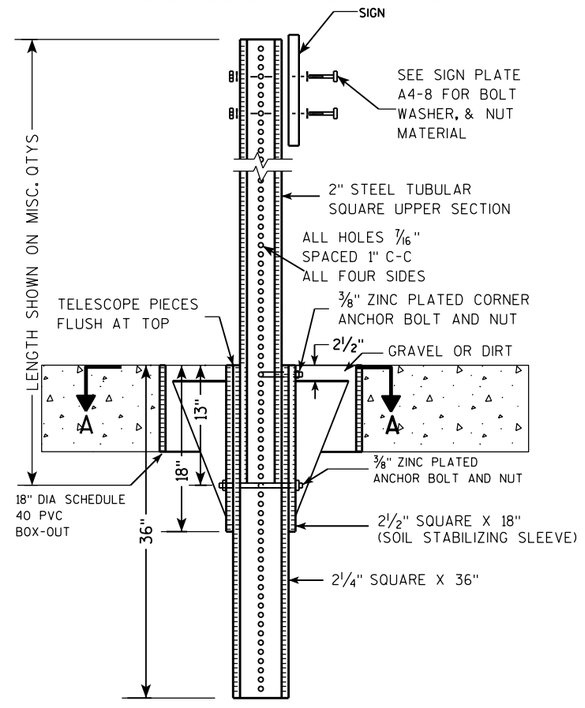
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



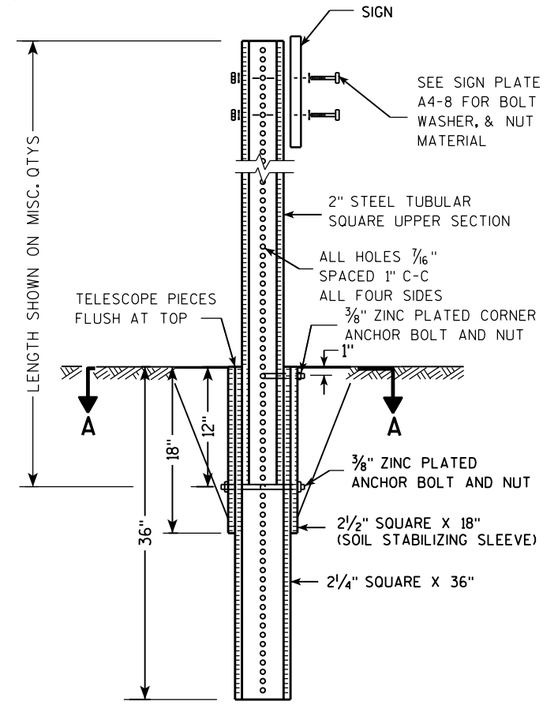
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

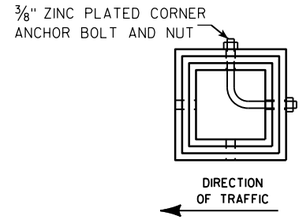


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





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

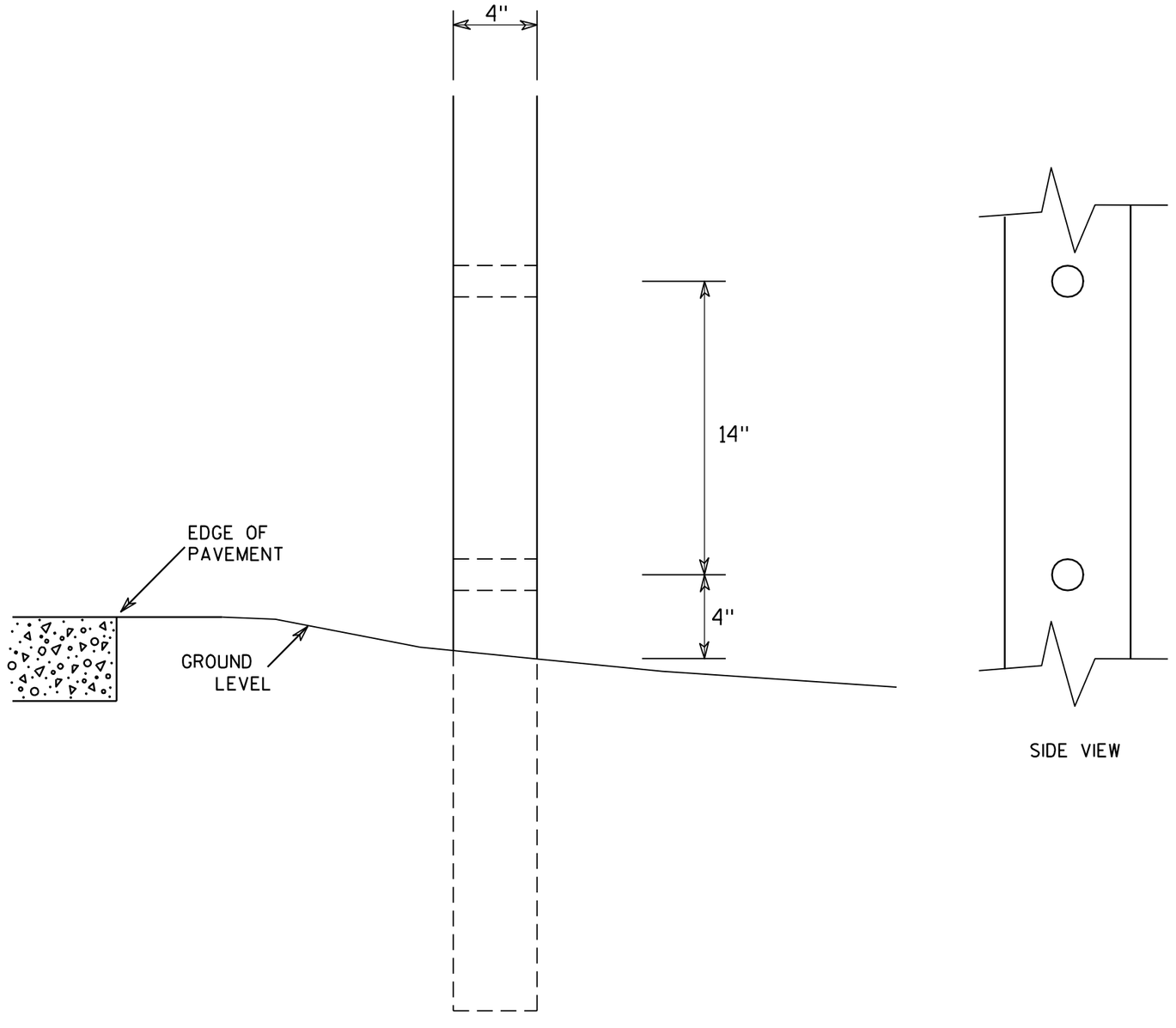
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/05/15 PLATE A4-9.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEFiles\Projects\tr_stdplate\A49.DGN PLOT DATE : 05-FEB-2015 17:09 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 13.659812:1.000000 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.

7

7

4 X 6 WOOD POST MODIFICATIONS

WISCONSIN DEPT OF TRANSPORTATION

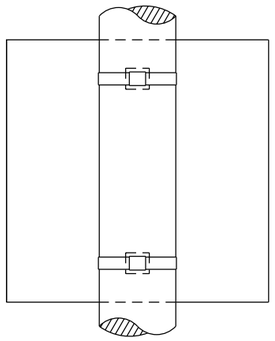
APPROVED Chester J Spang for State Traffic Engineer

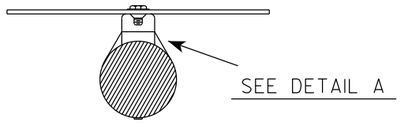
DATE 3/27/97 PLATE NO. A4-11.2

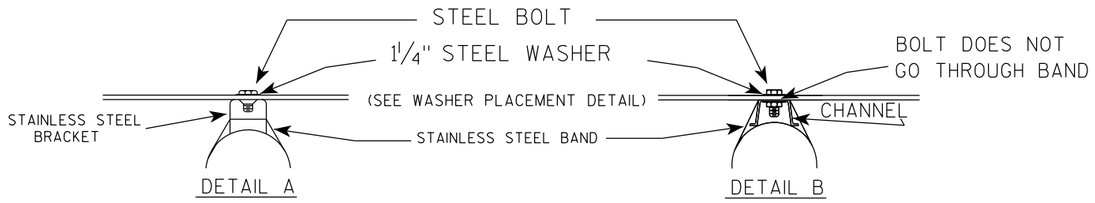
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 135	E

BANDING

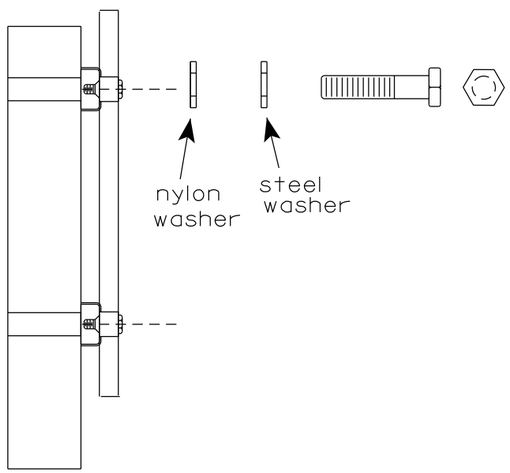
SINGLE SIGN







WASHER PLACEMENT

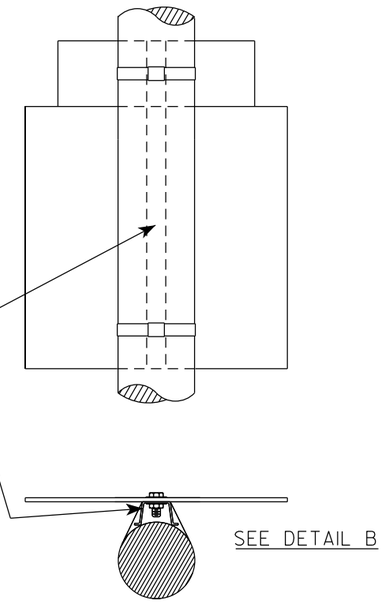


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

GENERAL NOTES

1. Any sign over 3 feet in width shall use the V-Block banding method. See A5-10 standard plate.
2. Signs 3 feet or greater in height shall have three bracket bands installed. Signs less than 3 feet in height shall have two bracket bands installed.
3. Banding and assembly bracket shall be stainless steel. All bands shall be ¾" in width and 0.025" thickness.
4. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM designation: B 633, Type III, SC 3

"J" ASSEMBLY



STANDARD SIGN
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

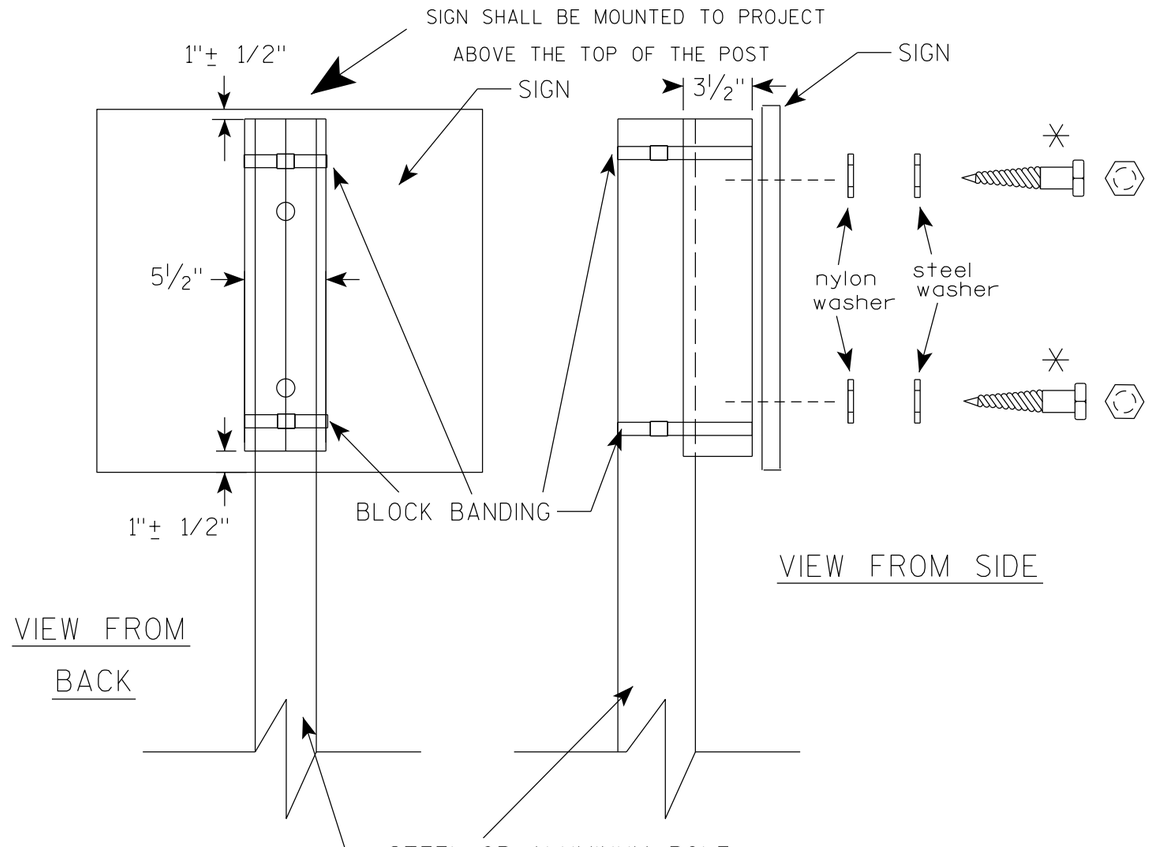
DATE 6/10/19 PLATE NO. A5-9.4

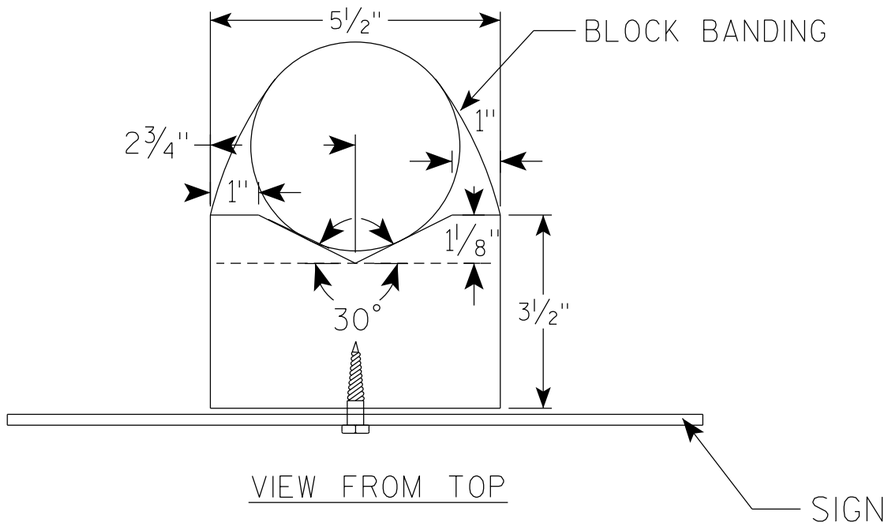
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 136	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\A59.dgn PLOT DATE : 10-JUN 2019 4:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7

7





GENERAL NOTES

1. WOOD 4"X6" POST MATERIAL SHALL CONFORM TO 507.2.2 OF THE WisDOT STANDARD SPECIFICATIONS
2. BLOCK BANDING AND CLIPS SHALL BE STAINLESS STEEL, ¾" WIDTH AND 0.025" THICKNESS
3. SIGNS 3' OR GREATER IN HEIGHT SHALL UTILIZE 3 BLOCK BANDS. SIGNS UNDER 3' IN HEIGHT SHALL UTILIZE 2 BLOCK BANDS
4. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA, BUT NORNALLY THERE ARE TWO. FOR SIGNS GREATER THAN 9 S.F. 3 FASTENERS SHALL BE USED.
5. ALL SIGN MOUNTING BOLTS AND WASHERS SHALL BE EITHER:
   a. Hot dip or mechanically galvanized in accordance with ASTM Designation: A 153, Class D
   b. Electro-galvanized in accordance with ASTM Designation : B 633, TYPE III, SC 3
6. ALL BOLTS SHALL HAVE HEXAGONAL HEADS.
7. STEEL WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1¼" O.D. X ⅜" I.D. X .080 FOR TYPE H OR TYPE F FACE SIGN

✳ LAG BOLTS SHALL BE ⅜" X 2½"

BLOCK BANDING DETAIL (V-BLOCK OPTION)

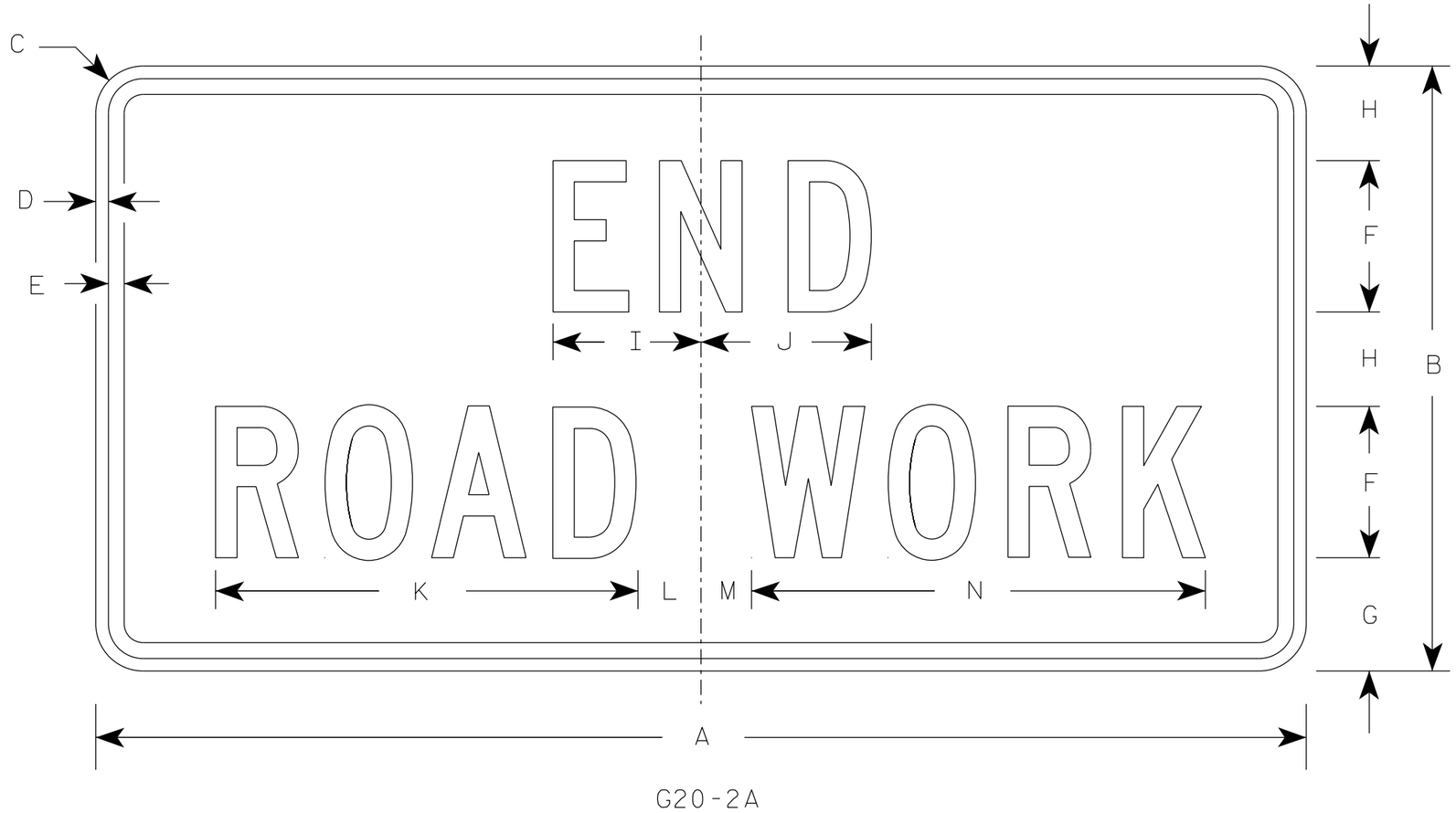
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 4/19/2022 PLATE NO. A5-10.3

PROJECT NO:

SHEET NO: 137 E



G20-2A

NOTES

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

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

STANDARD SIGN

G20-2A

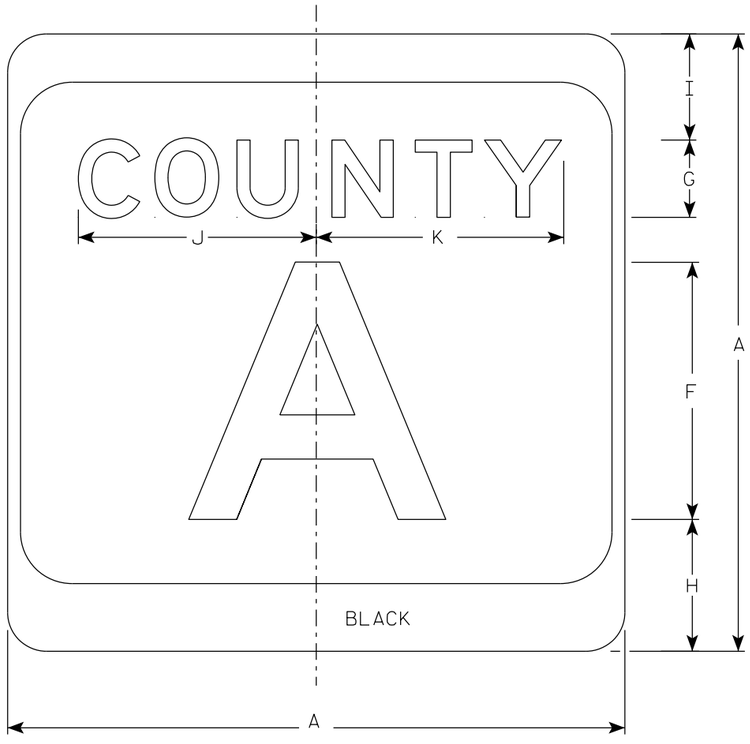
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

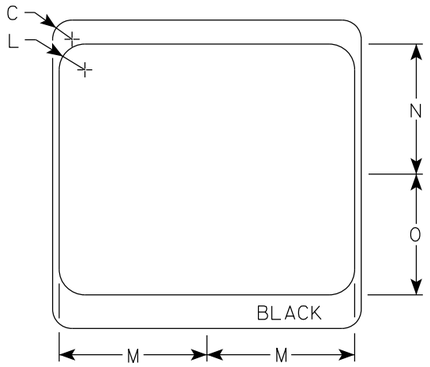
DATE 1/26/2023 PLATE NO. G20-2A.10

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

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\G202A.dgn PLOT DATE : 26-JAN 2023 8:27 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

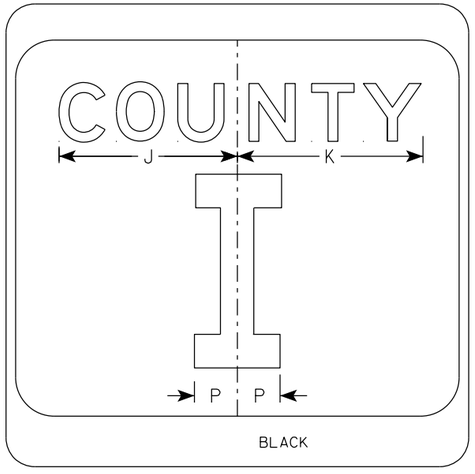


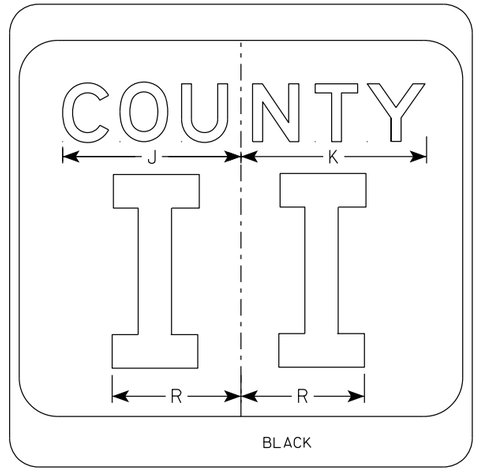
M1-5A



NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White & Black
   Message - Black
3. Message Series - see Note 4
4. Message Series E for 1 letter.
   Message Series D for 2 letters unless message is too big then Series C.
   Message Series C for 3 letters unless message is too big then Series B.
5. Substitute appropriate letters & optically center to achieve proper balance.





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		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
2M	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

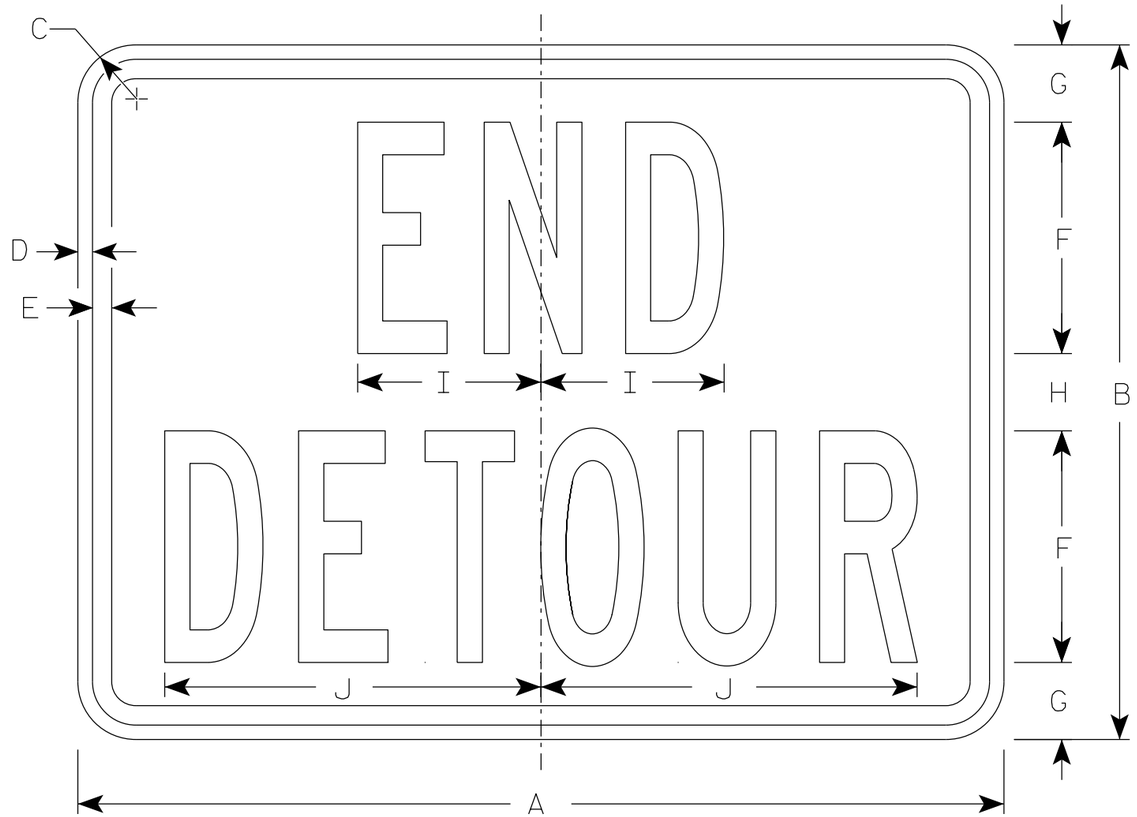
DATE 11/8/2022 PLATE NO. M1-5A.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M15A.dgn PLOT DATE : 8-NOV 2022 8:26 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

7

7



M4-8A

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - B
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																											
2	24	18	1 ½	⅜	½	6	2	2	4 ¾	9 ¾																	3.0
2M	24	18	1 ½	⅜	½	6	2	2	4 ¾	9 ¾																	3.0
3	30	24	1 ½	⅜	½	8	2 ½	3	6 ¾	13																	5.0
4	30	24	1 ½	⅜	½	8	2 ½	3	6 ¾	13																	5.0
5	30	24	1 ½	⅜	½	8	2 ½	3	6 ¾	13																	5.0

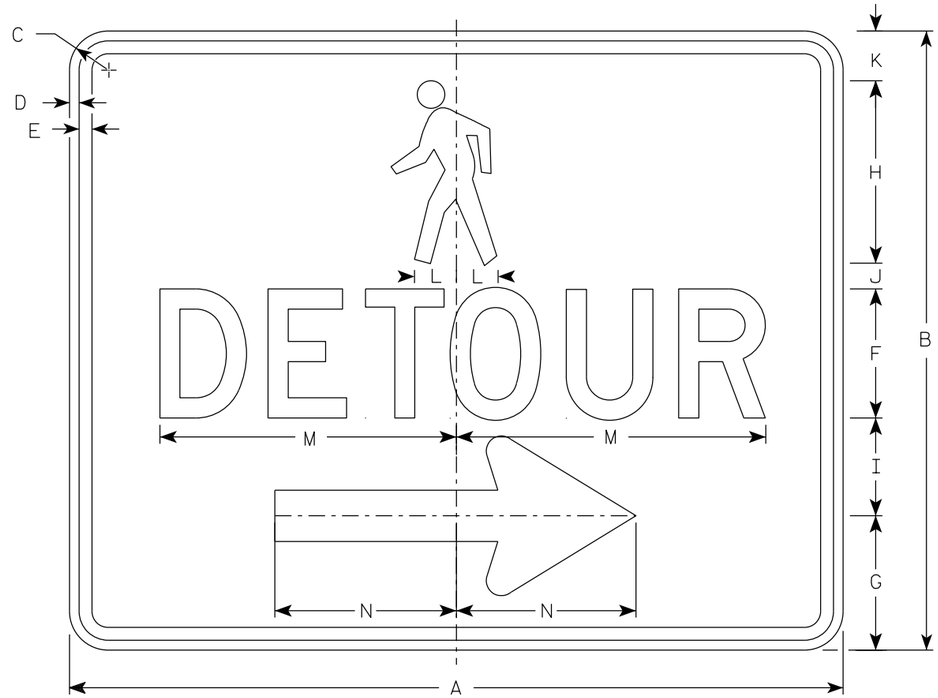
STANDARD SIGN
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-8A.4

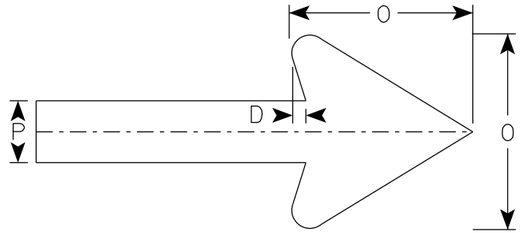
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 140 | E



M4-9BR

NOTES

1. Sign is Type II-Type F Reflective
2. Color:
   Background - Orange
   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.
5. M4-9BL is the same as M4-9BR except the arrow is reversed.



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	30	24	1 1/2	3/8	1/2	5	5 1/4	7 1/8	3 3/4	1	1 1/8	1 5/8	11 3/4	7	6	2											5.0
2M	30	24	1 1/2	3/8	1/2	5	5 1/4	7 1/8	3 3/4	1	1 1/8	1 5/8	11 3/4	7	6	2											5.0
3																											
4																											
5																											

STANDARD SIGN
M4-9B L&R

WISCONSIN DEPT OF TRANSPORTATION

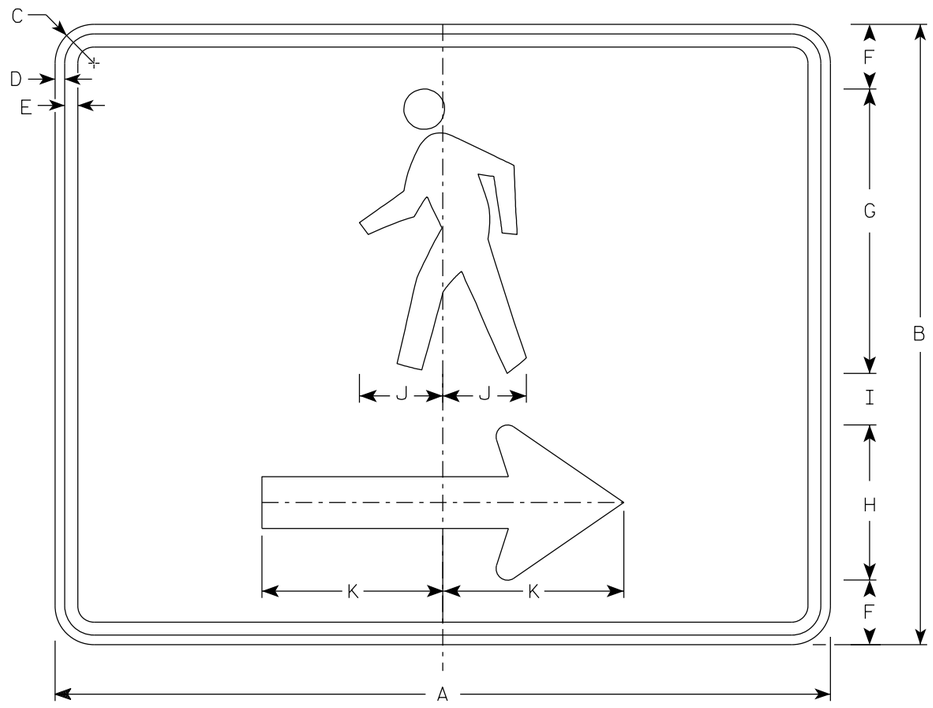
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 2/9/2023 PLATE NO. M4-9B.4

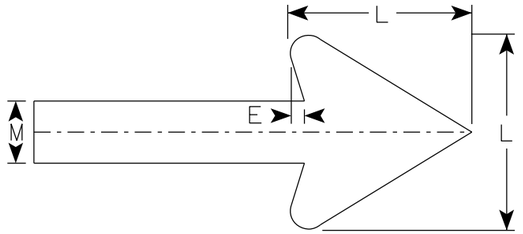
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 141 | E

NOTES

1. Sign is Type II- Type F Reflective
2. Color:
   Background - Orange
   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. M4-60L is the same as M4-60R except the arrow is reversed.



M4-60R



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	30	24	1 ½	⅜	½	2 ½	11	6	2	3 ¼	7	6	2														5.00
2M	30	24	1 ½	⅜	½	2 ½	11	6	2	3 ¼	7	6	2														5.00
3																											
4																											
5																											

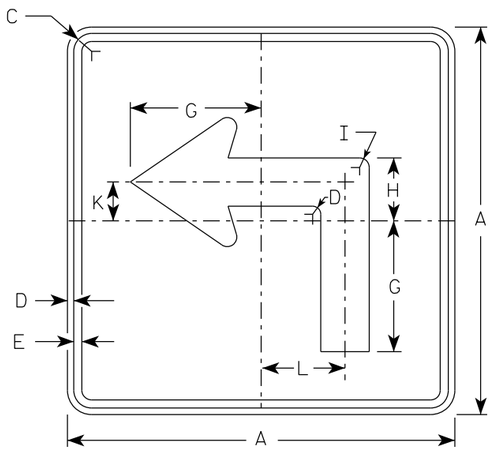
STANDARD SIGN
M4-60 L&R

WISCONSIN DEPT OF TRANSPORTATION

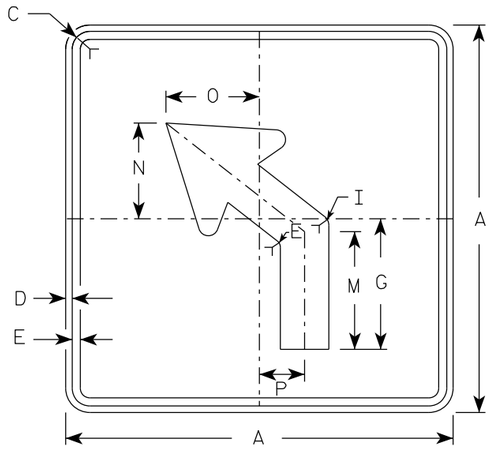
APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 2/14/2023 PLATE NO. M4-60.2

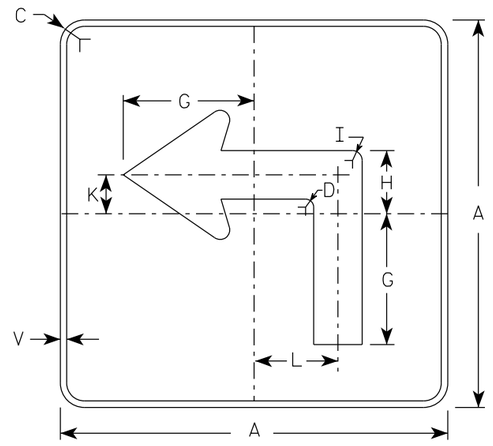
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 142 | E



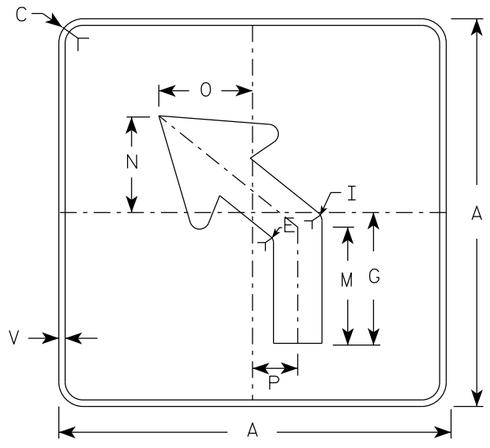
M5-1L
MM5-1L
MO5-1L
MP5-1L



M5-2L
MM5-2L
MO5-2L
MP5-2L



MB5-1L
MK5-1L
MN5-1L
MR5-1L

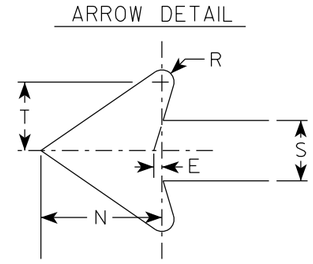


MB5-2L
MK5-2L
MN5-2L
MR5-2L

NOTES

1. Signs are Type II - Type H reflective except as shown
2. Color:
   Background - See note 4
   Message - See note 4
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. M5-1 and M5-2 Background - White
   Message - Black
   MB5-1 and MB5-2 Background - Blue
   Message - White
   MK5-1 and MK5-2 Background - Green
   Message - White
   MM5-1 and MM5-2 Background - White
   Message - Green
   MN5-1 and MN5-2 Background - Brown
   Message - White
   MO5-1 and MO5-2 Background - Orange - Type F Reflective
   Message - Black
   MP5-1 and MP5-2 Background - White
   Message - Blue
   MR5-1 and MR5-2 Background - Brown
   Message - Yellow
5. M5-1R same as M5-1L except arrow points right.
6. M5-2R same as M5-2L except arrow tilts right.

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	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
2M	21		1 1/2	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3		1/2					3.06
3	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25
4	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25
5	30		1 7/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4		1/2					6.25

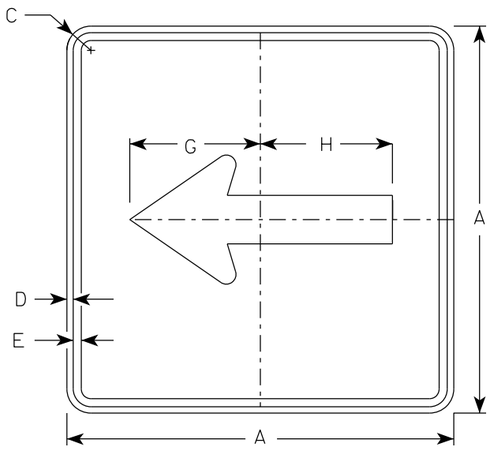
STANDARD SIGN
M5-1 & M5-2

WISCONSIN DEPT OF TRANSPORTATION

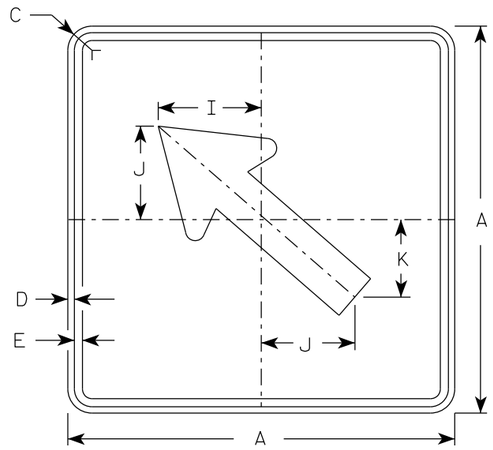
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/13/2023 PLATE NO. M5-1.15

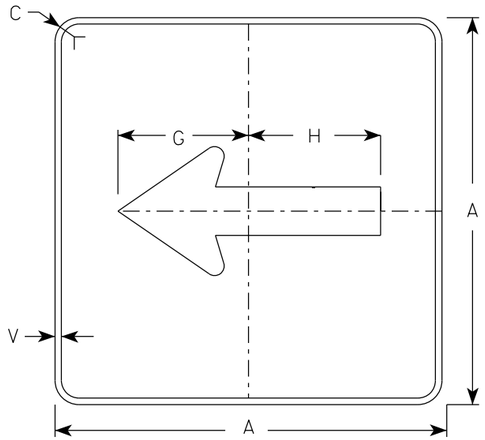
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 143 | E



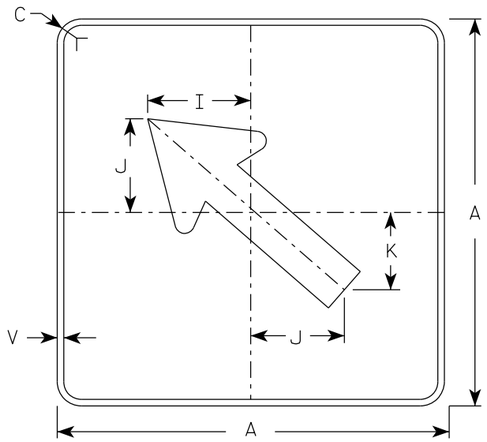
M6-1
MM6-1
MO6-1
MP6-1



M6-2
MM6-2
MO6-2
MP6-2



MB6-1
MK6-1
MN6-1
MR6-1

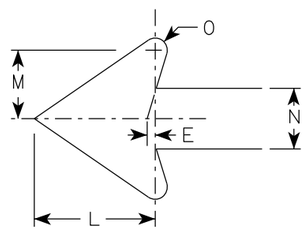


MB6-2
MK6-2
MN6-2
MR6-2

NOTES

1. Signs are Type II - Type H Reflective except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
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. M6-1 and M6-2 Background - White
   Message - Black
   MB6-1 and MB6-2 Background - Blue
   Message - White
   MK6-1 and MK6-2 Background - Green
   Message - White
   MM6-1 and MM6-2 Background - White
   Message - Green
   MN6-1 and MN6-2 Background - Brown
   Message - White
   MO6-1 and MO6-2 Background - Orange - Type F Reflective
   Message - Black
   MP6-1 and MP6-2 Background - White
   Message - Blue
   MR6-1 and MR6-2 Background - Brown
   Message - Yellow

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	21		1 1/2	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2							1/2					3.06
2M	21		1 1/2	3/8	3/8		7 1/2	7 1/8	5 5/8	5	4 1/4	5 1/4	3	2 5/8	1/2							1/2					3.06
3	30		1 7/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1/2					6.25
4	30		1 7/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1/2					6.25
5	30		1 7/8	1/2	5/8		10 3/4	10 1/4	8	7 1/4	6	7 1/2	4 1/4	3 3/4	3/4							1/2					6.25

STANDARD SIGN
M6-1 & M6-2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

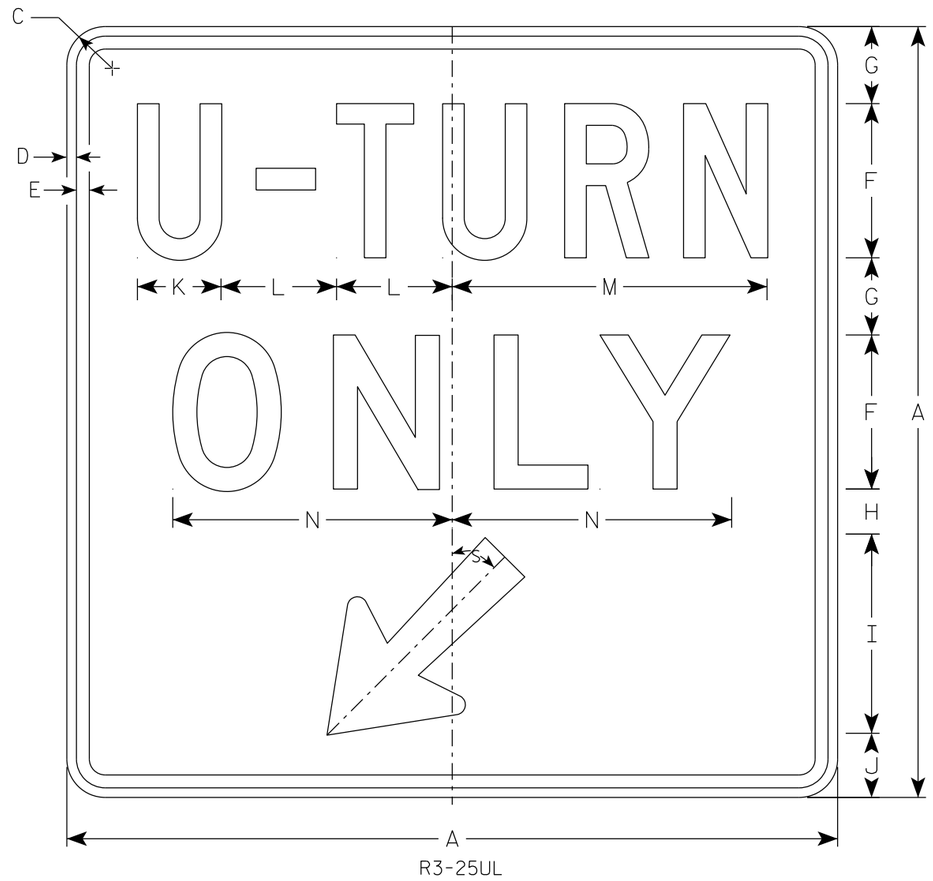
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/13/2023 PLATE NO. M6-1.16

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 144 | E

7

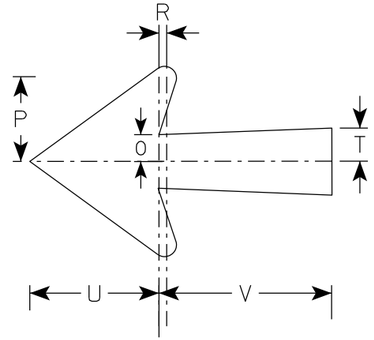
7



R3-25UL

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C Line 1, Series D Line 2
4. R3-25UR is same as R3-25L except the arrow is reversed along 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																											
2S	24		1 1/2	3/8	1/2	4	2 1/4	1 5/8	7 3/4	2 1/8	3	3	8 3/8	7	7/8	2 3/4	5	1/4	45°	1 1/8	4 1/4	5 5/8					4.0
2M	30		1 7/8	3/8	1/2	6	3	1 3/4	7 3/4	2 1/2	3 1/4	4 1/2	12 1/4	10 7/8	7/8	2 3/4	5	1/4	45°	1 1/8	4 1/4	5 5/8					6.25
3																											
4																											
5																											

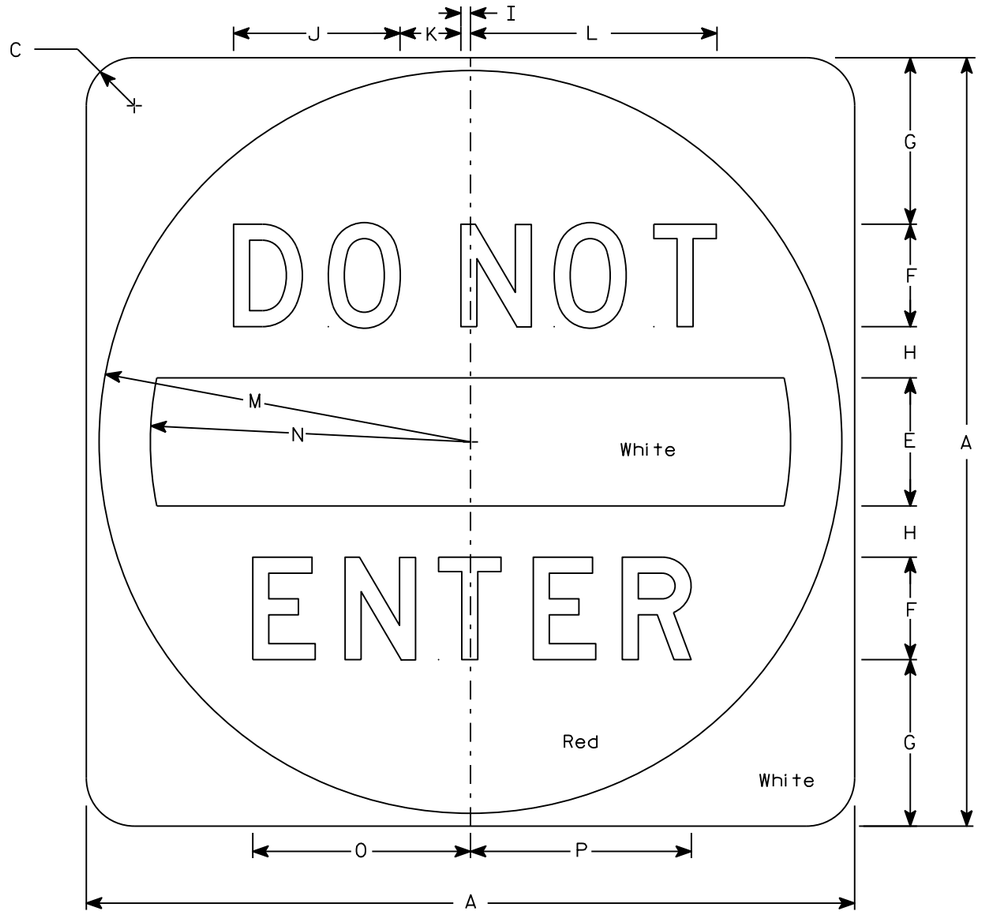
STANDARD SIGN
R3-25U

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/23/23 PLATE NO. R3-25U.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 145 E



R5-1

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - See detail
   Message - White
3. Message Series - D

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	30		1 7/8		5	4	6 1/2	2	3/8	6 1/2	2 3/8	9 5/8	14 1/2	12 1/2	8 1/2	8 5/8											6.25
2M	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
3	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
4	36		2 1/4		6	5	7 1/2	2 1/2	1/2	8 1/8	3	12 1/8	17 1/2	15	10 5/8	10 3/4											9.0
5	48		3		8	6	11	3	5/8	9 3/4	3 5/8	14 1/2	23 1/2	20	12 3/4	12 7/8											16.0

STANDARD SIGN
R5-1

WISCONSIN DEPT OF TRANSPORTATION

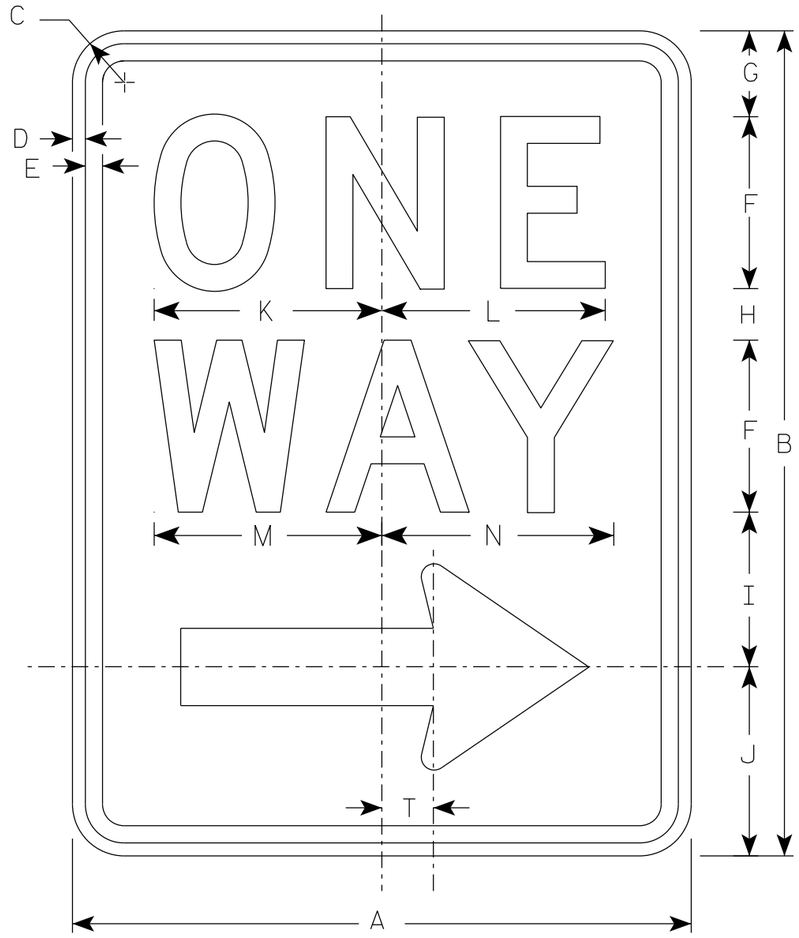
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/15/18 PLATE NO. R5-1.16

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 146 | E

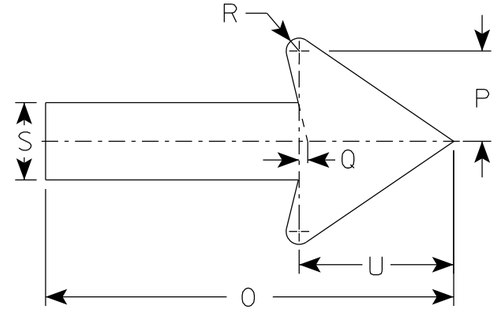
NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. R6-2L same as R6-2R except arrow points to the left.



R6-2R

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
1	18	24	1 1/2	3/8	1/2	5	2 1/2	1 1/2	4 1/2	5 1/2	6 5/8	6 1/2	6 5/8	6 3/4	11 7/8	2 5/8	1/4	3/8	2 1/4	1 1/2	4 1/2					
2S	24	1 1/2	1 1/2	3/8	1/2	6	3	2 1/2	5 1/2	7	8 1/8	8 1/8	8 1/2	8 5/8	16	3 1/2	3/8	1/2	3	2	6					
2M	30	36	1 7/8	1/2	5/8	8	2 1/2	2 5/8	6 7/8	8	10 1/2	10 1/2	11 1/4	11 1/4	20	4 3/8	1/2	5/8	3 3/4	2 1/2	7 1/2					
3	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
4	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
5																										

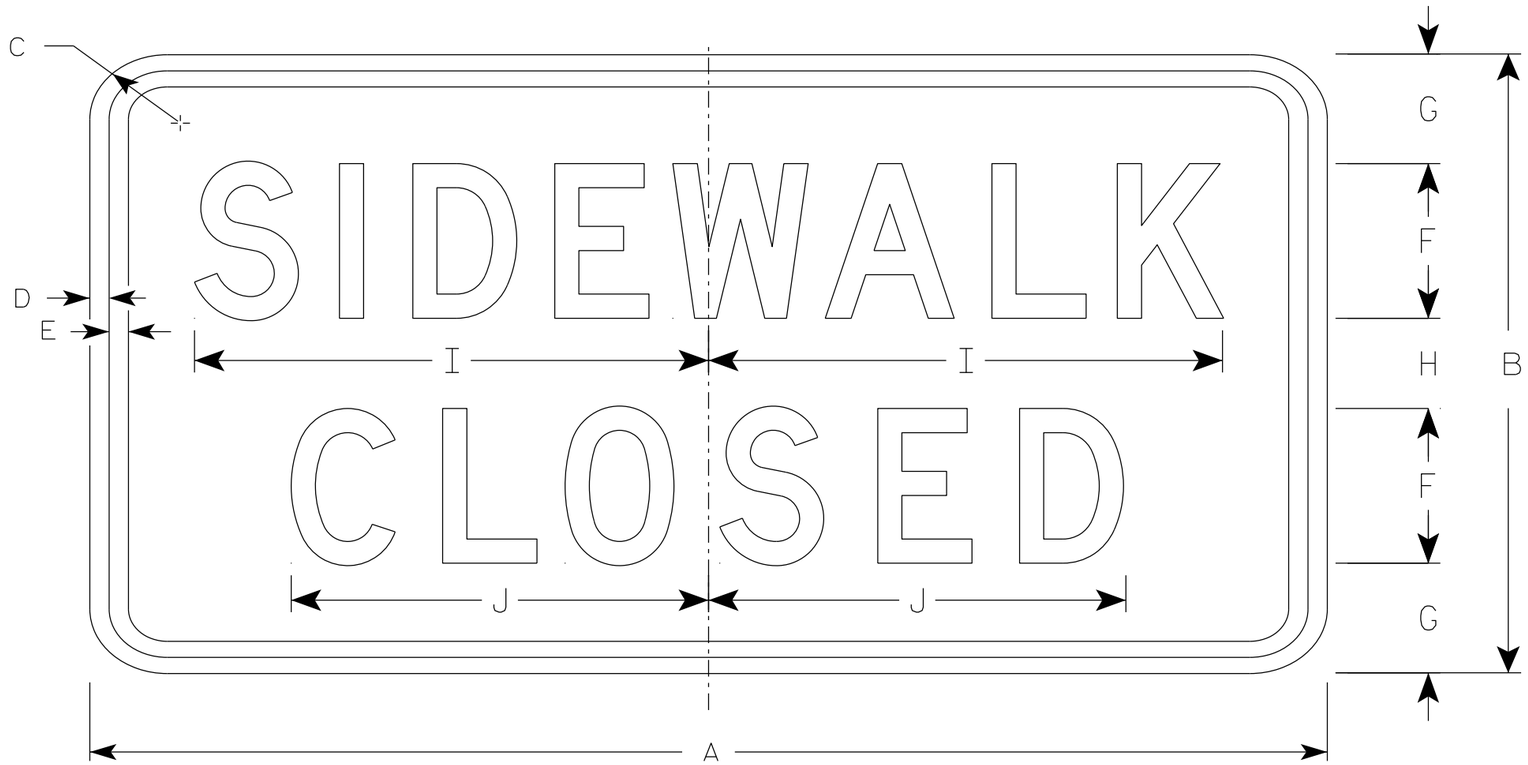
STANDARD SIGN
R6-2 R&L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/2/10 PLATE NO. R6-2.8

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 147 | E



R9-9

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Use Size 2 for Sidewalks. Use Size 3 for Paths and Trails.

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	24	12	1 ½	½	½	3	2 ⅛	1 ¾	10	8 ⅛																	2.0
2M	24	12	1 ½	½	½	3	2 ⅛	1 ¾	10	8 ⅛																	2.0
3	30	18	1 ½	½	½	4	3 ½	3	12 ½	10 ¼																	3.75
4																											
5																											

STANDARD SIGN
R9-9

WISCONSIN DEPT OF TRANSPORTATION

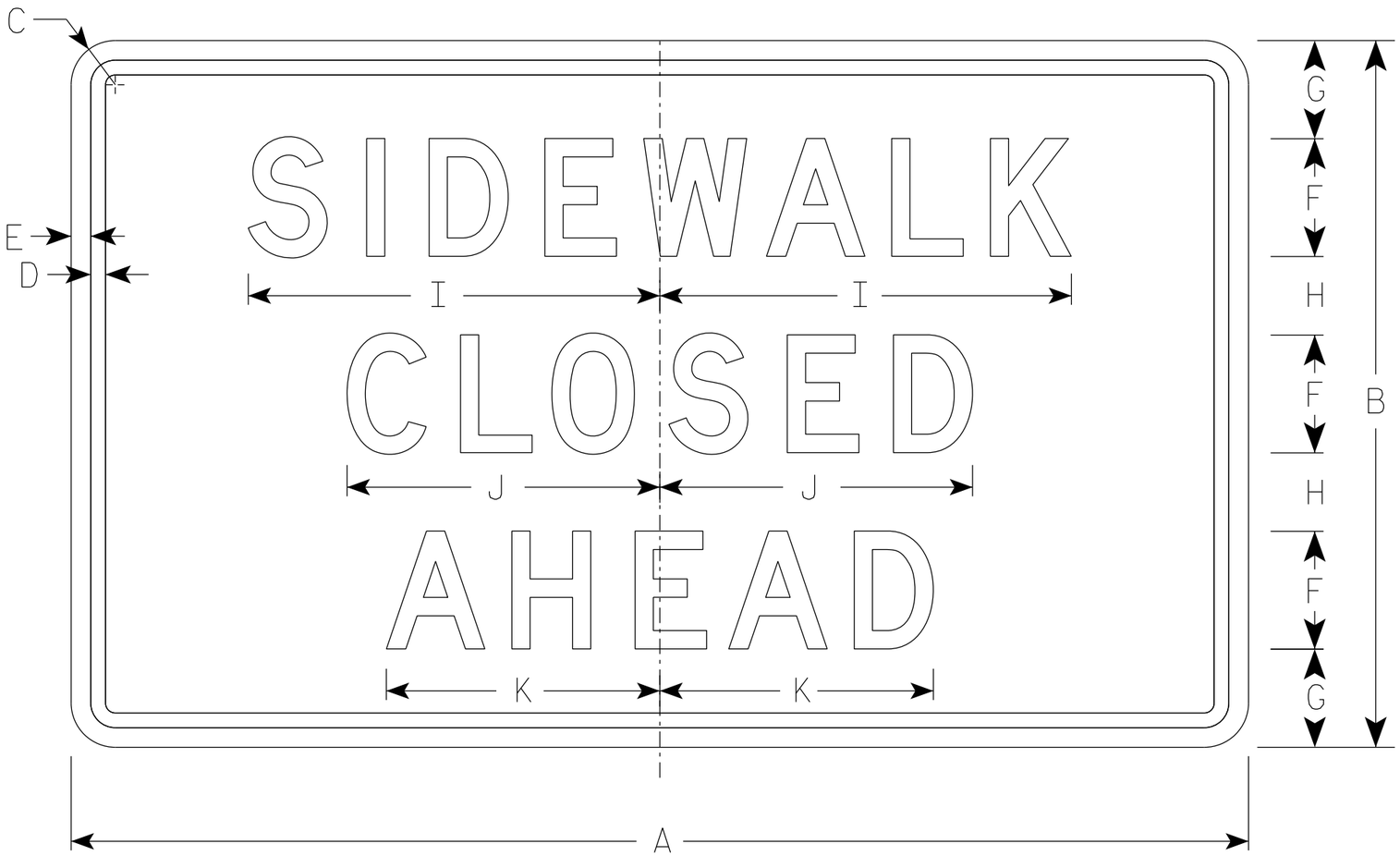
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/24/24 PLATE NO. R9-9.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 148 | E

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D



R9-9A

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	30	18	1 ½	⅜	½	3	2 ½	2	10 ½	8	7																3.75
2M	30	18	1 ½	⅜	½	3	2 ½	2	10 ½	8	7																3.75
3																											
4																											
5																											

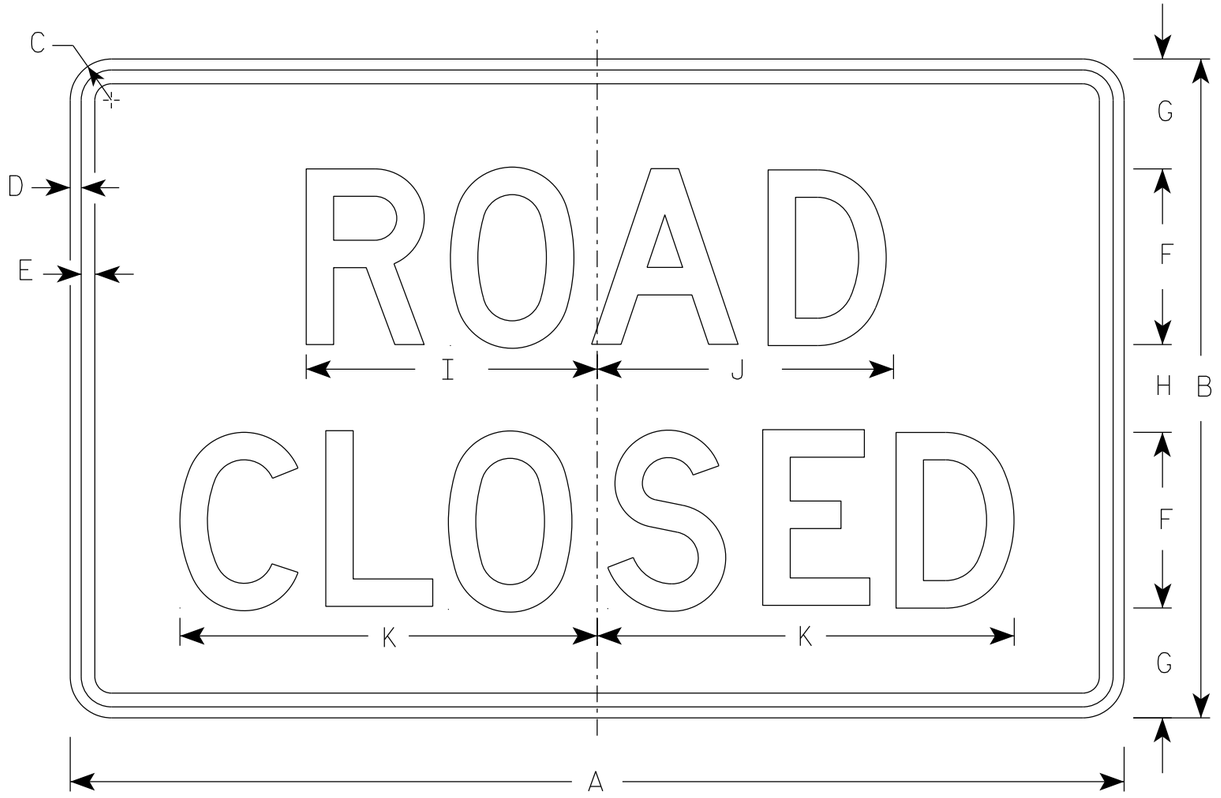
STANDARD SIGN
R9-9A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/24/24 PLATE NO. R9-9A.2

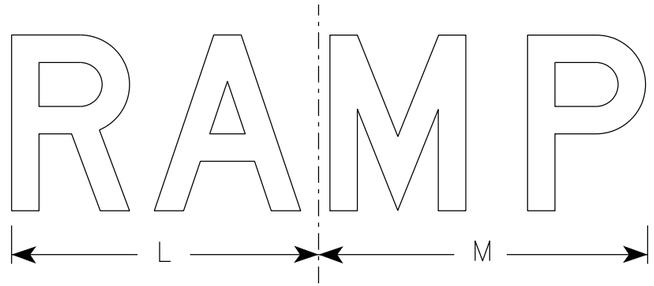
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 149	E



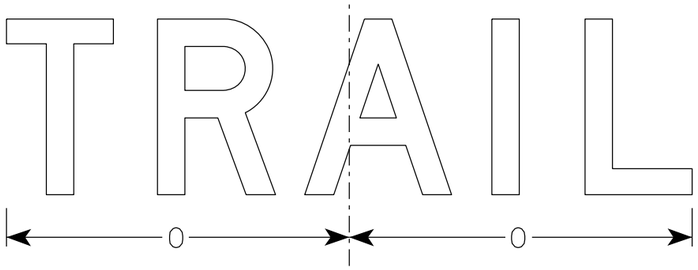
R11-2

NOTES

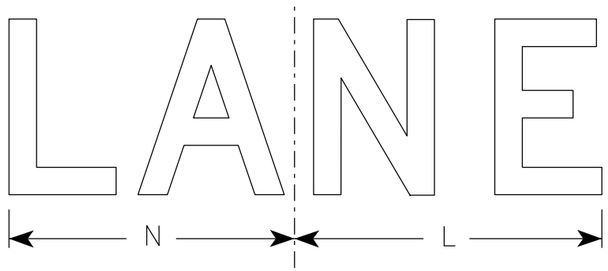
1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Modify the message as required.



R11-2R



R11-2T



R11-2L

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	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
2M	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
3	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
4	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0
5	48	30	1 7/8	1/2	5/8	8	5	4	13 1/4	13 1/2	19	14	15	13	15 5/8												10.0

STANDARD SIGN
R11-2

WISCONSIN DEPT OF TRANSPORTATION

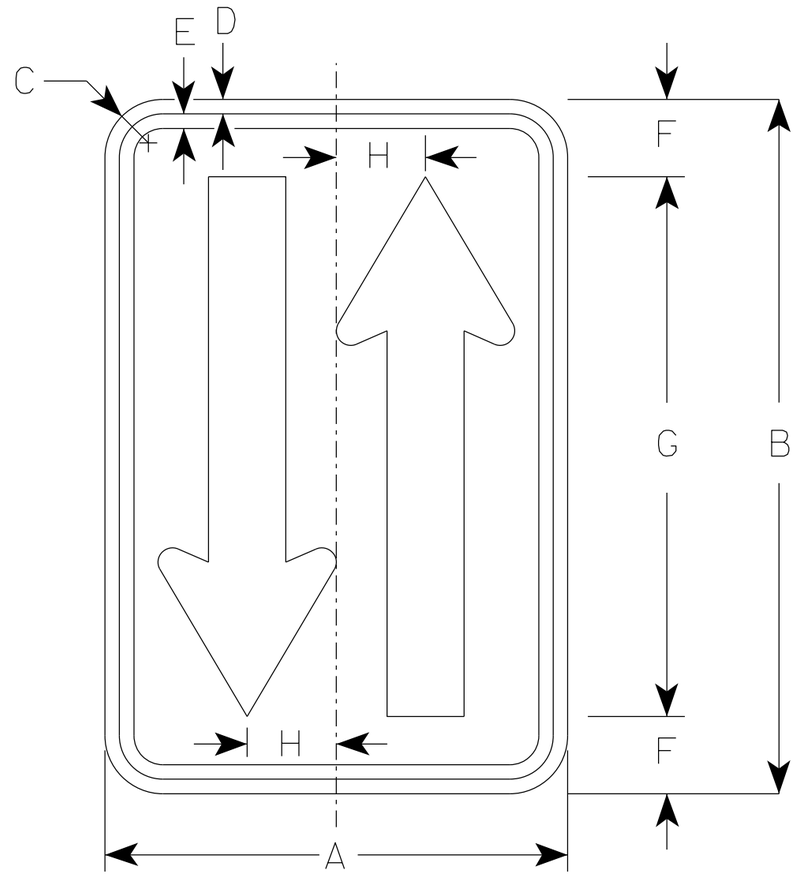
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 2/5/24 PLATE NO. R11-2.12

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R112.dgn PLOT DATE : 5-FEB 2024 2:10 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42

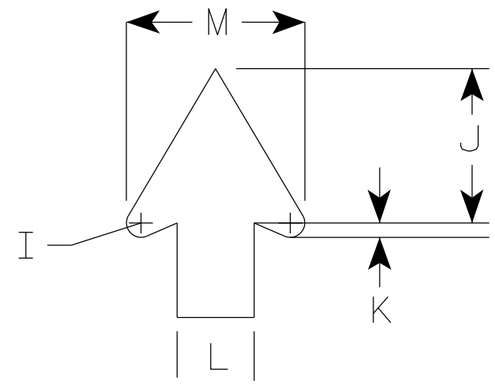
7



W6-4

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black



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	12	18	1 1/2	3/8	3/8	2	14	2 1/4	3/8	4	1/8	2	4 5/8														1.5
2M	12	18	1 1/2	3/8	3/8	2	14	2 1/4	3/8	4	1/8	2	4 5/8														1.5
3																											
4																											
5																											

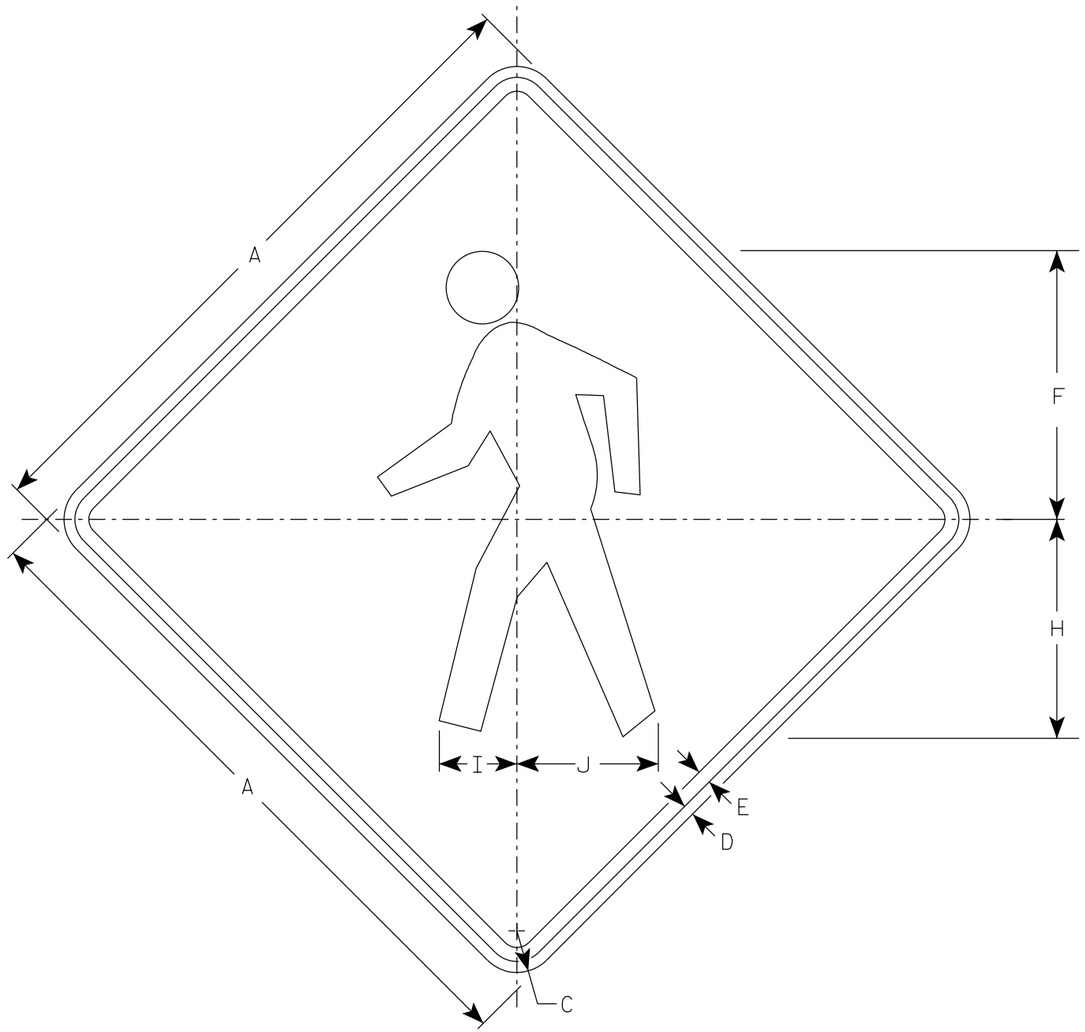
STANDARD SIGN
W6-4

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/6/2023 PLATE NO. W6-4.2

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 151	E



W11-2

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Yellow
   Message - Black

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 1/2	3/8	1/2	9 3/4		7 7/8	2 7/8	5 1/8																	4.0
2S	30		1 7/8	1/2	5/8	12 1/8		9 7/8	3 1/2	6 3/8																	6.25
2M	36		2 1/4	5/8	3/4	14 1/2		11 7/8	4 1/4	7 5/8																	9.0
3	36		2 1/4	5/8	3/4	14 1/2		11 7/8	4 1/4	7 5/8																	9.0
4	48		3	3/4	1	19 3/8		15 3/4	5 5/8	10 1/4																	16.0
5																											

STANDARD SIGN

W11-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch

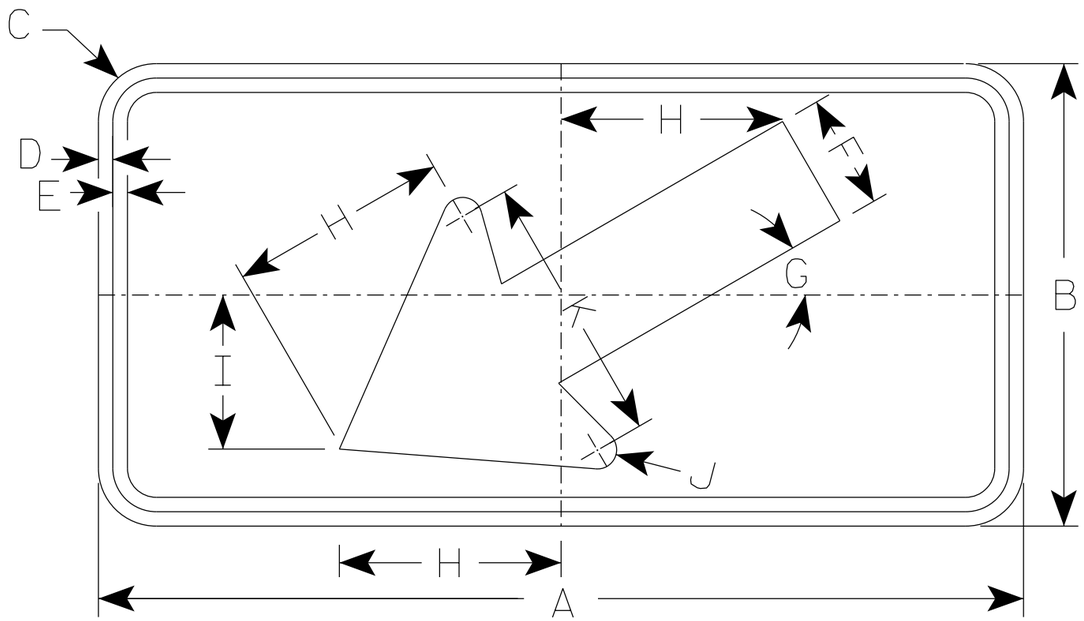
For State Traffic Engineer

DATE 6/15/2023 PLATE NO. W11-2.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 152 E

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Yellow
   Message - Black
3. W16-7R is the same as W16-7L
   except the arrow is reversed along the vertical centerline.



W16-7L

* For 36" x 36" Warning Signs, use 30" x 18" W16-7L signs.
* For 48" x 48" Warning Signs, use 48" x 24" W16-7L signs.

	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	24	12	1 1/2	3/8	3/8	3	30°	5 3/4	4	1/2	7																2.0
*	2M	30	18	1 1/2	3/8	1/2	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
*	3	30	18	1 1/2	3/8	1/2	4 1/2	30°	8 1/2	6	5/8	10 1/4																3.75
*	4	48	24	1 7/8	1/2	5/8	6	30°	11 1/2	8	1	14																8.0
	5																											

STANDARD SIGN
W16-7

WISCONSIN DEPT OF TRANSPORTATION

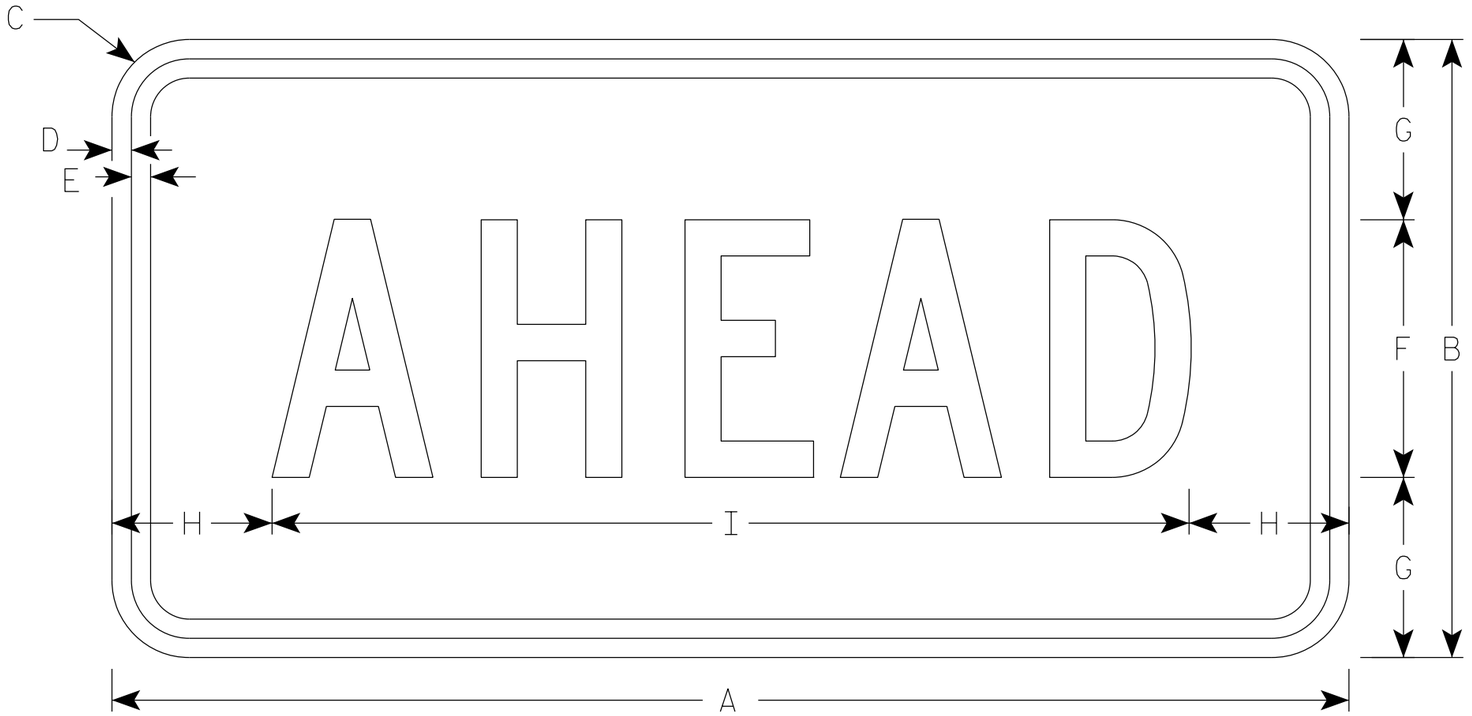
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/9/2024 PLATE NO. W16-7.9

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 153 E

NOTES

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



W16-9P

* For 36" x 36" Warning Signs, use 30" x 18" W16-9P signs.
* For 48" x 48" Warning Signs, use 48" x 24" W16-9P signs.

	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	24	12	1 1/2	3/8	3/8	5	3 1/2	3 1/8	17 3/4																		2.0
*	2M	30	18	1 1/2	3/8	1/2	7	5 1/2	2 3/4	24 1/2																		3.75
*	3	30	18	1 1/2	3/8	1/2	7	3 1/2	2 3/4	24 1/2																		3.75
*	4	48	24	1 7/8	1/2	5/8	10	7	6 1/8	35 3/4																		8.0
	5																											

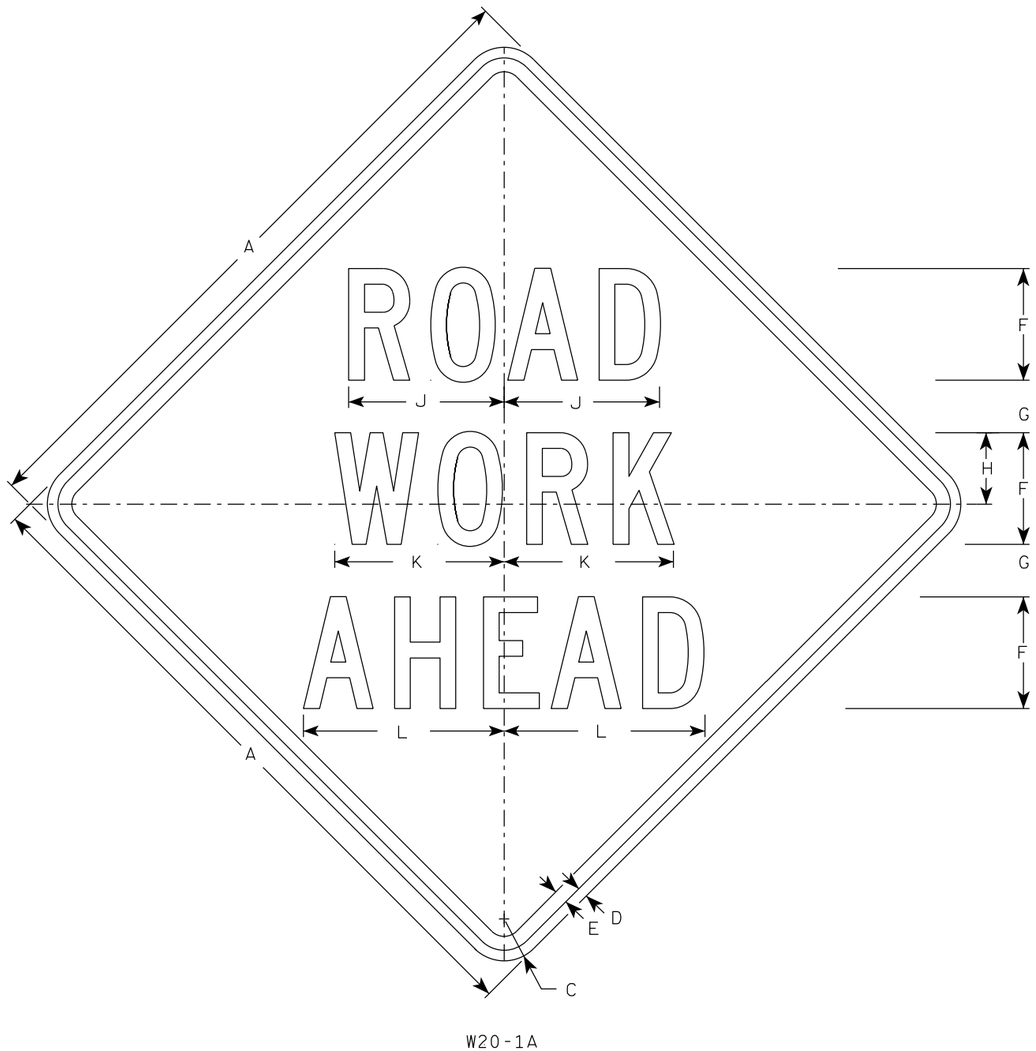
STANDARD SIGN
W16-9P

WISCONSIN DEPT OF TRANSPORTATION

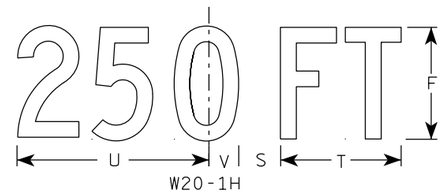
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 1/9/2024 PLATE NO. W16-9P.9

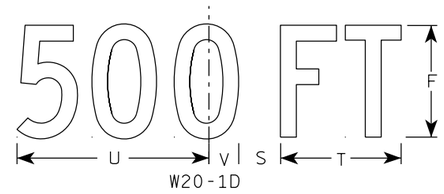
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 154 E



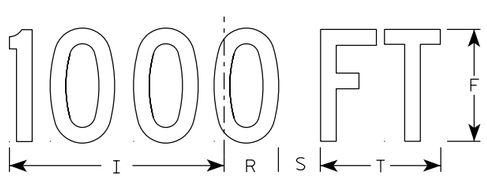
W20-1A



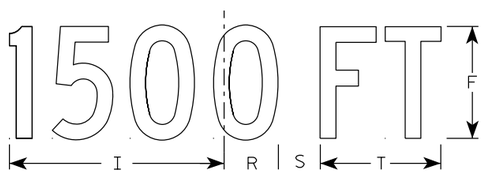
W20-1H



W20-1D



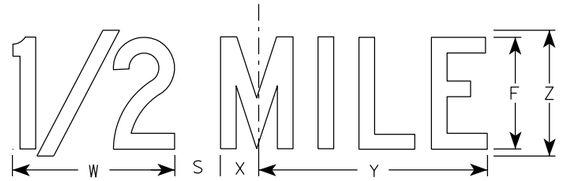
W20-1C



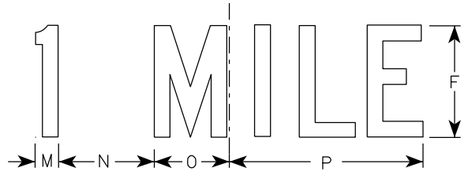
W20-1B

NOTES

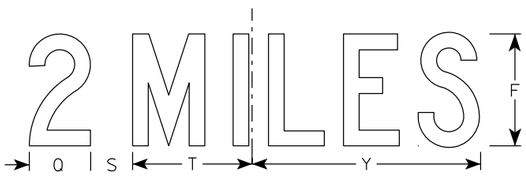
1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.



W20-1G



W20-1F



W20-1E

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		2 1/4	5/8	3/4	5	2 5/8	3 1/4	10 1/8	7	7 5/8	8 7/8	1 1/8	4 1/2	3 1/2	9	3 1/4	2 1/2	2 1/4	5 5/8	9	1 3/8	8	1 3/4	10 3/4	6	9.0
2S	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
2M	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
3	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
4	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0
5	48		3	3/4	1	8	3 3/4	5 1/8	15 3/8	11 1/8	12 1/8	14 3/8	1 5/8	6 7/8	5 3/8	13 7/8	4 3/8	3 7/8	3	8 5/8	13 3/4	2 1/8	11 7/8	2 3/4	16 3/8	9	16.0

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

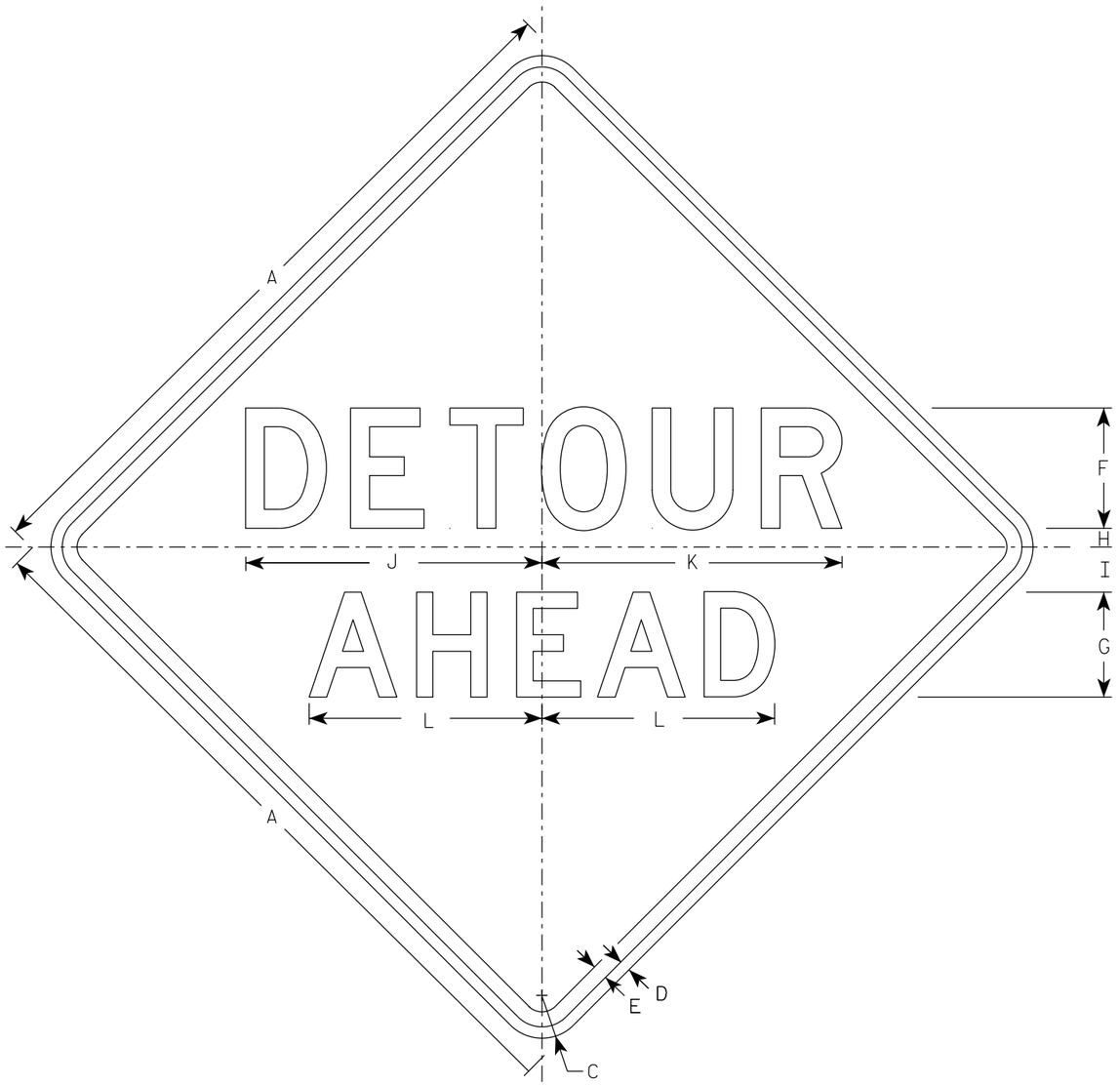
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

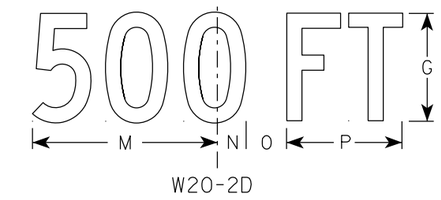
DATE 1/10/2024 PLATE NO. W20-1.12

PROJECT NO:

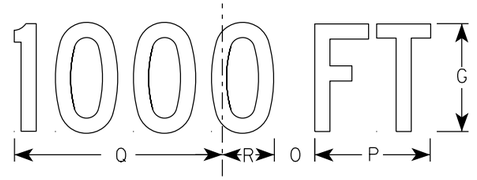
SHEET NO: 155 E



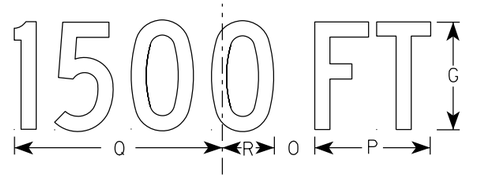
W20-2A



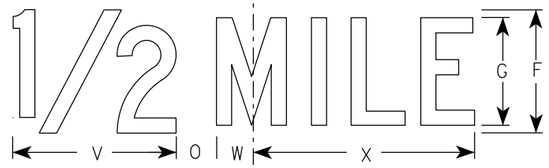
W20-2D



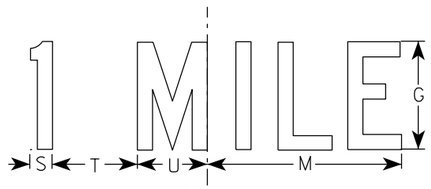
W20-2C



W20-2B



W20-2G



W20-2F

NOTES

1. Sign is Type II - Type F Reflective
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. Line 1 is Series D.
   Line 2 is Series D for AHEAD and Series C for all other distances.

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		2 1/4	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		3	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

STANDARD SIGN
W20-2A,B,C,D,F & G

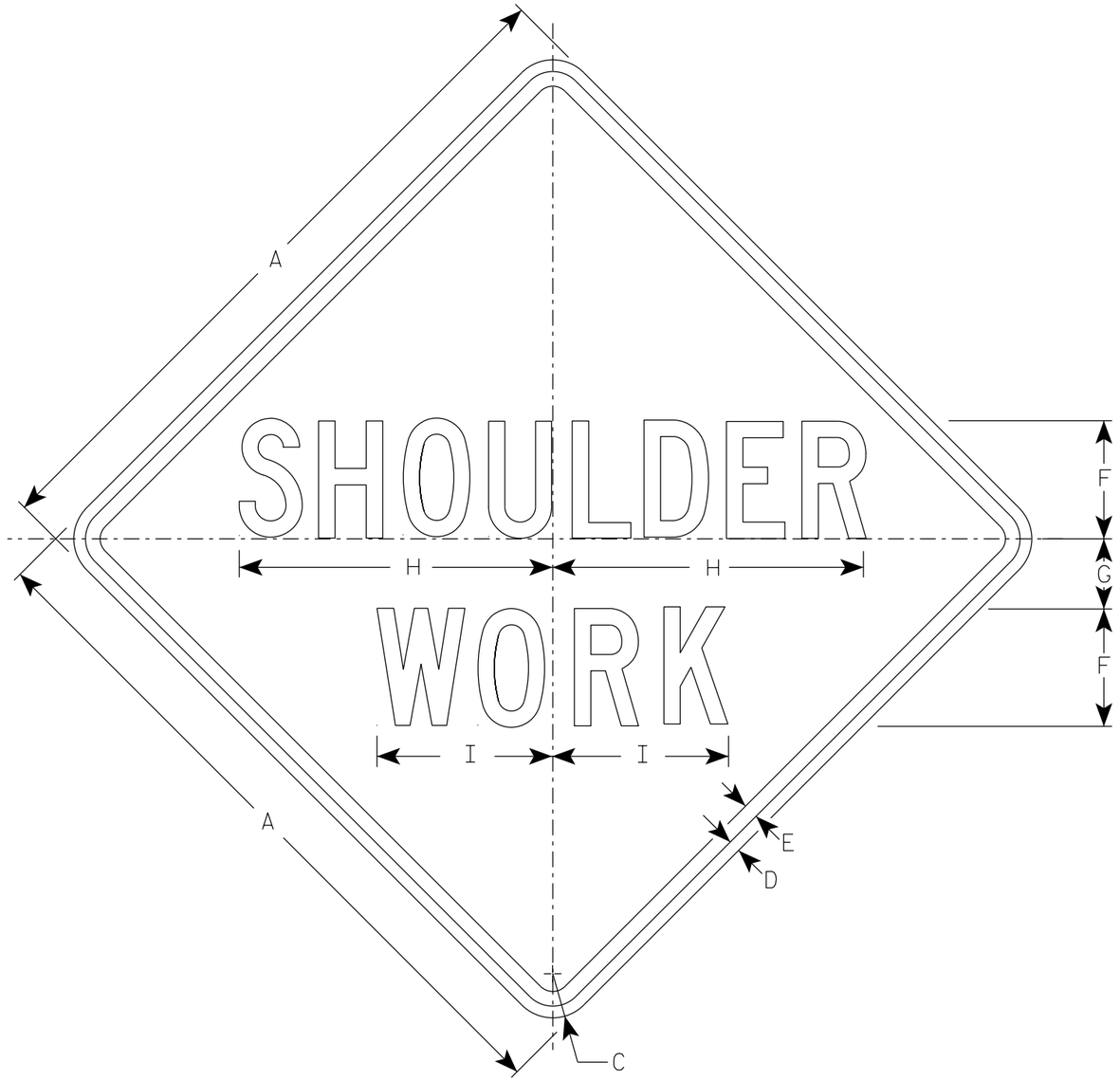
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 1/10/2024 PLATE NO. W20-2.7

PROJECT NO:	HWY:	COUNTY:		SHEET NO: E

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\W202.DGN PLOT DATE : 10-JAN 2024 11:36 PLOT BY : dotc4c PLOT NAME : PLOT SCALE : $$.....plotscale.....$$ WISDOT/CADDS SHEET 42



W21-5

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   Message - Black
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	36		2 1/4	5/8	3/4	6	3 1/2	16	9																		9.0
2S	48		3	3/4	1	8	5	21 3/8	11 1/4																		16.0
2M	48		3	3/4	1	8	5	21 3/8	11 1/4																		16.0
3	48		3	3/4	1	8	5	21 3/8	11 1/4																		16.0
4	48		3	3/4	1	8	5	21 3/8	11 1/4																		16.0
5	48		3	3/4	1	8	5	21 3/8	11 1/4																		16.0

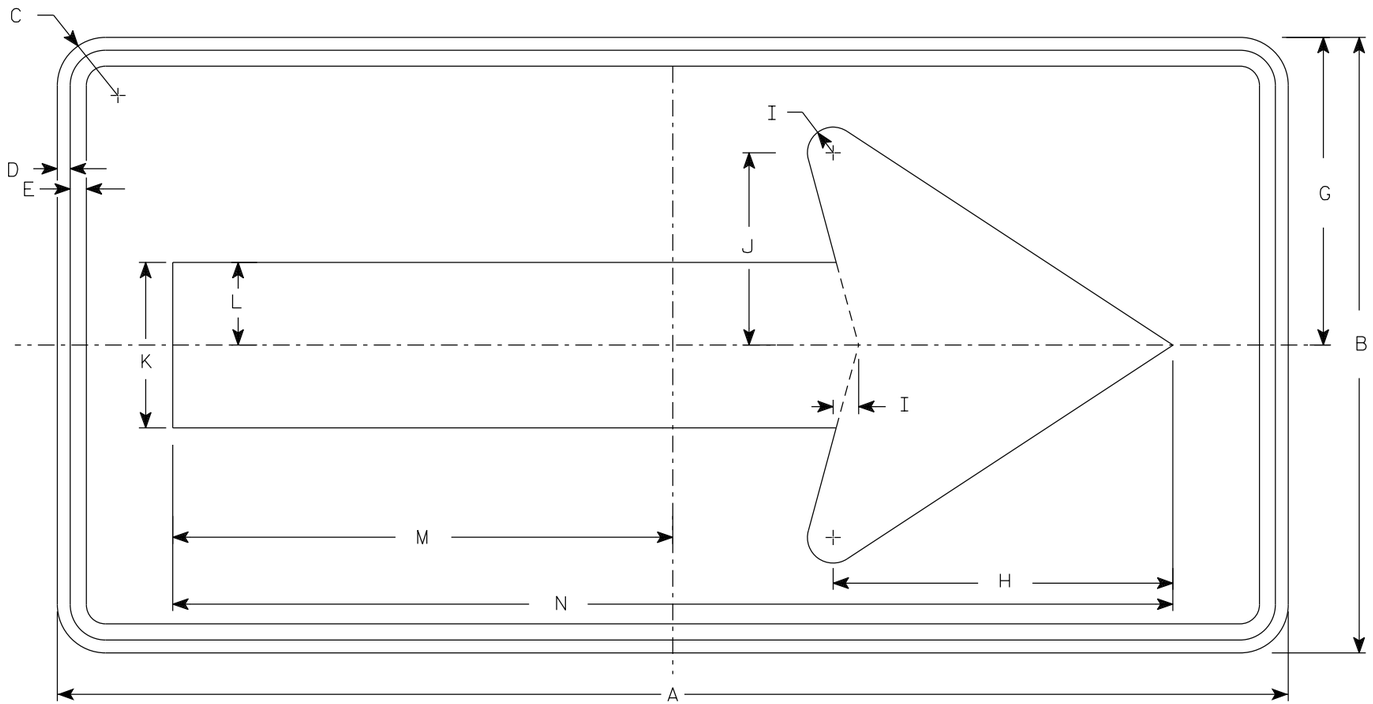
STANDARD SIGN
W21-5

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
For State Traffic Engineer

DATE 1/11/2024 PLATE NO. W21-5.7

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 157 | E



WO1-6

NOTES

1. Sign is Type II - Type F Reflective
2. Color:
   Background - Orange
   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																											
2S	48	24	1 7/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 7/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 7/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 7/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	60	30	1 7/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5

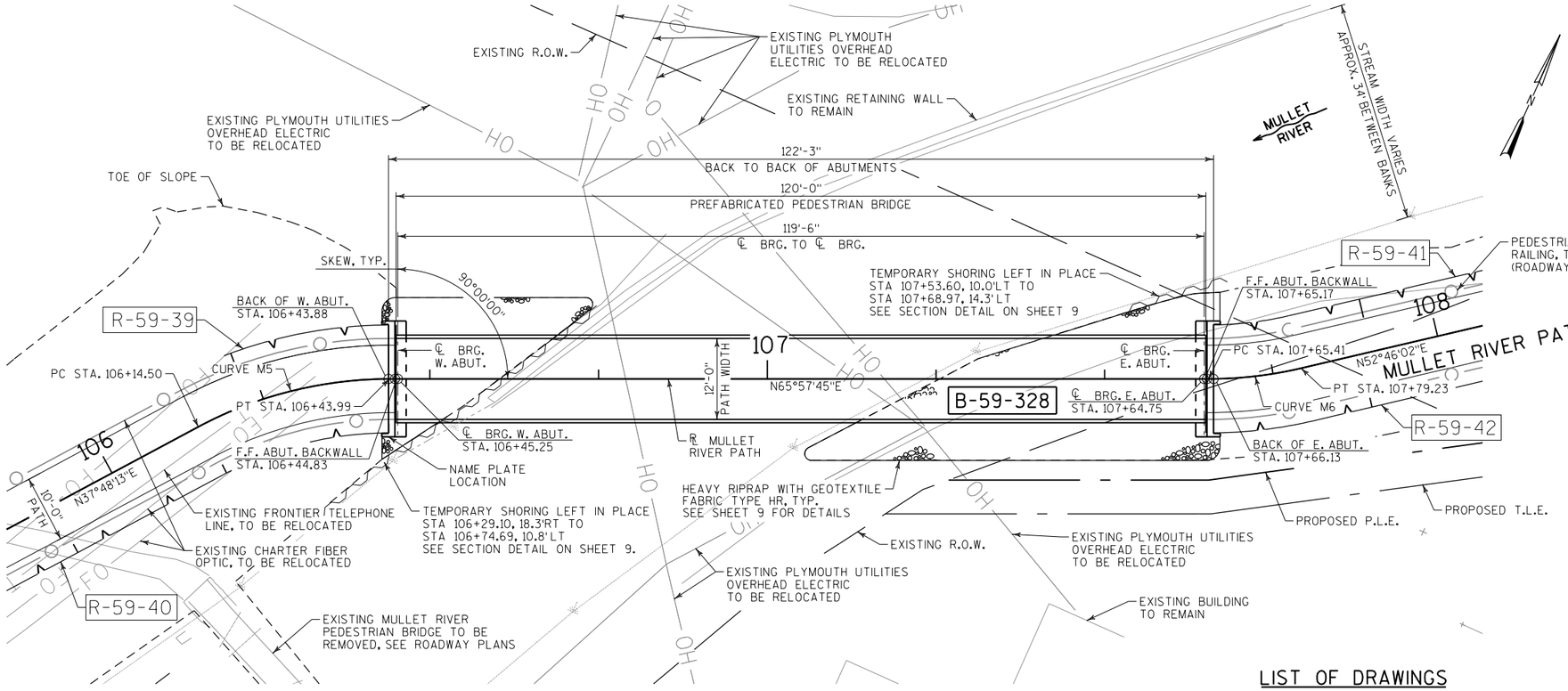
STANDARD SIGN
WO1-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

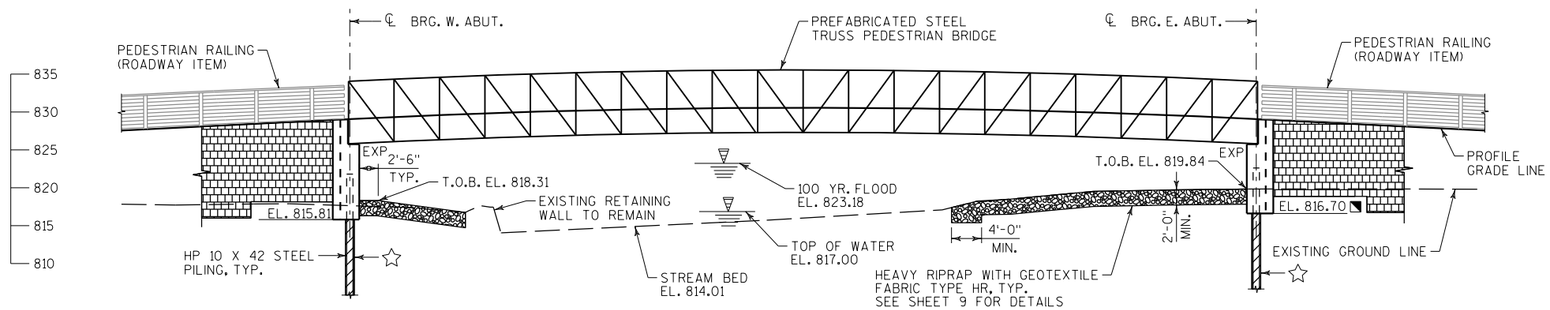
DATE 1/24/2024 PLATE NO. WO1-6.2

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



PLAN

SINGLE SPAN PREFABRICATED STEEL TRUSS PEDESTRIAN BRIDGE



ELEVATION

(LOOKING NORTH)

LEGEND

T.O.B. TOP OF BERM

◥ BOTTOM OF EAST ABUTMENT ELEVATION IS TO BE 2'-6" LOWER THAN THE FINISHED GRADE ELEVATION AT THE END OF MSE WALL R-59-41.
FINISHED GRADE ELEVATION AT R-59-41 = 819.20

☆ CONCRETE FILL SHALL BE PLACED FROM TOP OF ROCK TO BOTTOM OF ABUTMENT. IF CASING IS USED, IT MAY BE REMOVED OR LEFT IN PLACE. CONCRETE FILL AND CASING SHALL BE INCIDENTAL TO BID ITEM "PILING STEEL HP 10-INCH X 42 LB." SEE SHEETS 5 AND 7 FOR ADDITIONAL DETAILS.

STATE PROJECT NUMBER

4995-03-02

DESIGN DATA

LIVE LOAD:

DESIGN LOADING: 90 PSF PEDESTRIAN LOAD OR 20,000 LB MAINTENANCE VEHICLE (H-10)

MATERIAL PROPERTIES:

CONCRETE MASONRY	f'c = 3,500 psi
BAR STEEL REINFORCEMENT	fy = 60,000 psi
STEEL PILING	Fy = 50,000 psi

HYDRAULIC DATA:

100 YEAR FREQUENCY

DRAINAGE AREA	58.6 SQ. MI.
VELOCITY	2.91 F.P.S.
WATERWAY AREA	1421 SQ. FT.
Q (100)	3200 C.F.S.
HIGH WATER (100) ELEVATION	823.18 FT.
ROADWAY OVERTOPPING	N/A
SCOUR CODE	8

2 YEAR FREQUENCY

Q (2)	540 C.F.S.
HIGH WATER (2) ELEVATION	818.76 FT.
VELOCITY	1.94 F.P.S.

FOUNDATION DATA

ABUTMENTS SUPPORTED ON PILING STEEL HP 10-INCH X 42 LB SEATED IN PREBORED HOLES CORED A MINIMUM OF 3 FEET INTO SOUND BEDROCK. THE ANNULAR SPACE BETWEEN THE WALL OF THE PREBORED HOLE AND THE PILING TO BE BACKFILLED WITH CONCRETE.

PILES PLACED IN PREBORED HOLES BORED INTO ROCK DO NOT REQUIRE DRIVING. PILING SHALL BE FIRMLY SEATED AFTER PLACEMENT. THE FACTORED AXIAL RESISTANCE OF PILES IN COMPRESSION USED FOR DESIGN IS 180 TONS MULTIPLIED BY A RESISTANCE FACTOR OF 0.5.

ESTIMATED PILE LENGTHS:

WEST ABUTMENT	25 FEET
EAST ABUTMENT	25 FEET

LIST OF DRAWINGS

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
AARON BONK (608) 261-0261
CONSULTANT:
MOHAMMED ZAGLOUL (414) 751-7200

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY

kapur

7711 N. Port Washington Road
Milwaukee, Wisconsin 53217
kapurinc.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 11/08/22
CHIEF STRUCTURES DESIGN ENGINEER DATE

STRUCTURE B-59-328

PEDESTRIAN BRIDGE OVER MULLET RIVER

COUNTY	CITY
SHEBOYGAN	PLYMOUTH

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
SMC	MHZ	SSK	MHZ

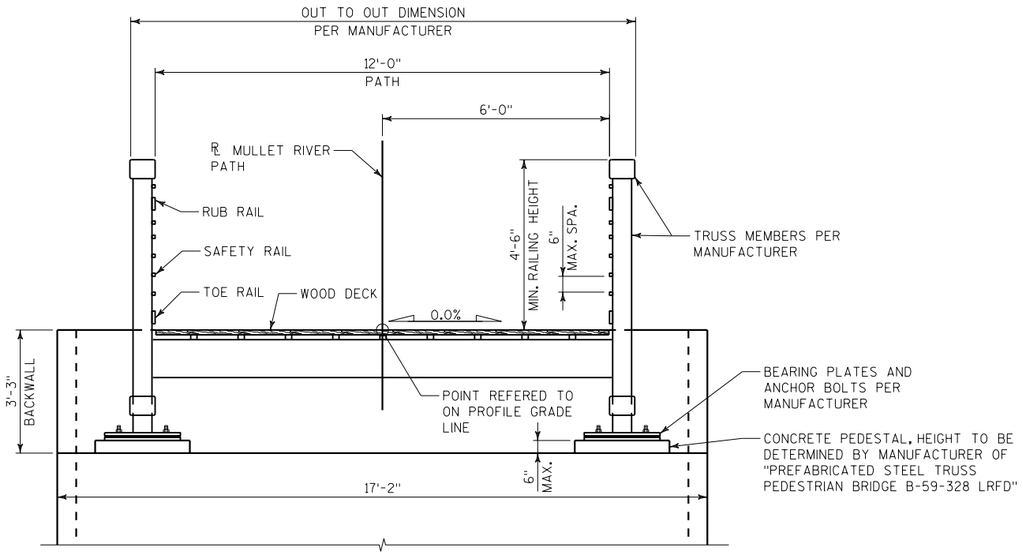
GENERAL PLAN & ELEVATION

SHEET 1 OF 9

WISCONSIN
SHANNON CONNOLLY
E-44309-6
MILWAUKEE, WI.
PROFESSIONAL ENGINEER

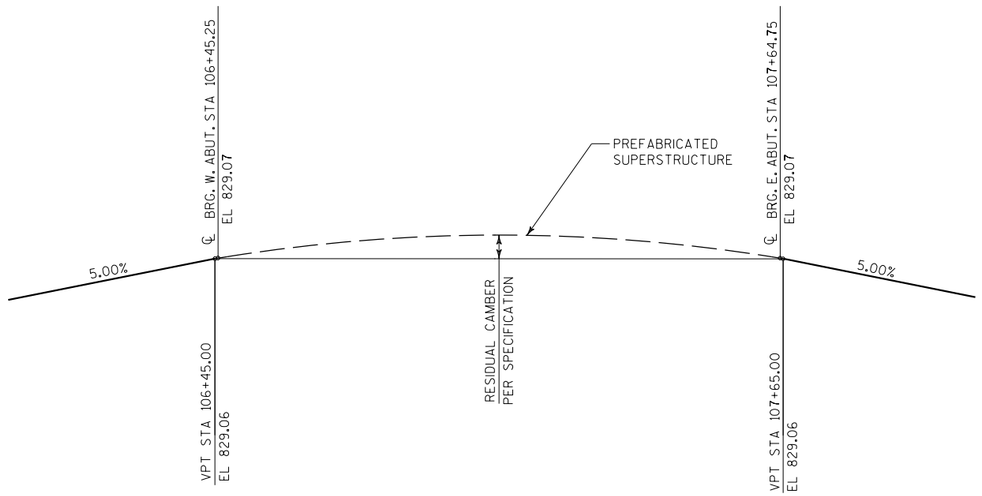
FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Structure\Pedestrian Bridge\cds\Ped-Bridge_080101_gp.dgn PLOT DATE : 11/8/2022 PLOT BY : sconnolly PLOT NAME : $FILE$ PLOT SCALE : 1:20

STATE PROJECT NUMBER
4995-03-02



TYPICAL SECTION

(LOOKING EAST)



PROFILE GRADE LINE - MULLET RIVER PATH

ESTIMATED STEEL TRUSS BRIDGE REACTIONS

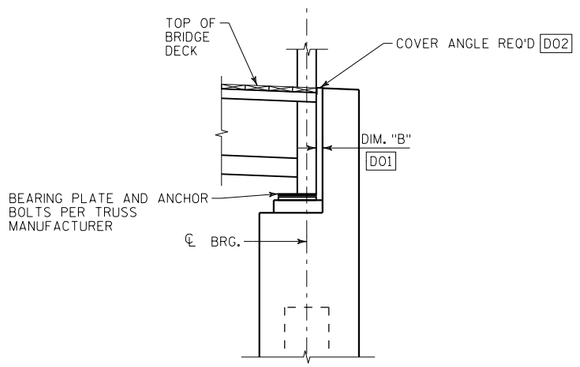
LOAD TYPE	P (LBS)	H (LBS)	L (LBS)
DEAD LOAD	16,000	--	--
UNIFORM LIVE LOAD	32,400	--	--
VEHICLE LOAD	10,000	--	--
WIND UPLIFT (20 PSF)		--	--
WINDWARD/LEEWARD	-12,000/-4,000	--	--
WIND	±7,000	17,000	--
THERMAL	--	--	2,500

"P" VERTICAL LOAD EACH BASE PLATE (4 PER BRIDGE)
"H" HORIZONTAL LOAD EACH ABUTMENT (2 PER BRIDGE)
"L" LONGITUDINAL LOAD EACH BASE PLATE (4 PER BRIDGE)

ESTIMATED BRIDGE LIFTING WEIGHT = 63,700 LBS

(+) DOWNWARD LOAD
(-) UPWARD LOAD

VALUES IN THIS TABLE ARE ESTIMATES. ACTUAL VALUES SHALL BE PROVIDED BY THE PREFABRICATED TRUSS MANUFACTURER. NOTIFY ENGINEER IF FINAL DESIGN REACTIONS DIFFER FROM ESTIMATED REACTIONS.



EXPANSION DETAIL

HORIZONTAL CURVE DATA

CURVE M5	CURVE M6
PI = STA. 106+29.55	PI = STA. 107+72.35
Y = 175303.75	Y = 175362.17
X = 147706.24	X = 147837.21
DELTA = 28°09'32" RT	DELTA = 13°11'43" LT
D = 95°29'35"	D = 95°29'35"
T = 15.05'	T = 6.94'
L = 29.49'	L = 13.82'
R = 60.00'	R = 60.00'
PC = STA. 106+14.50	PC = STA. 107+65.41
Y = 175291.86	Y = 175359.34
X = 147697.01	X = 147830.87
PT = STA. 106+43.99	PT = STA. 107+79.23
Y = 175309.88	Y = 175366.37
X = 147719.98	X = 147842.74

LEGEND

D01 DIMENSION "B" TO BE DETERMINED BY TRUSS MANUFACTURER. TRUSS MANUFACTURER TO ALLOW FOR AN ADDITIONAL $\frac{1}{2}$" IN ADDITION TO WHAT IS REQUIRED FOR THERMAL EXPANSION TO ALLOW FOR ABUTMENT DEFLECTION.

D02 INCIDENTAL TO ITEM "PREFABRICATED STEEL TRUSS PEDESTRIAN BRIDGE B-59-328 LRFD".

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-328

DRAWN BY SMC | PLANS CK'D. MHZ

TYPICAL SECTION, PROFILE, & BRIDGE REACTIONS

SHEET 2 OF 9

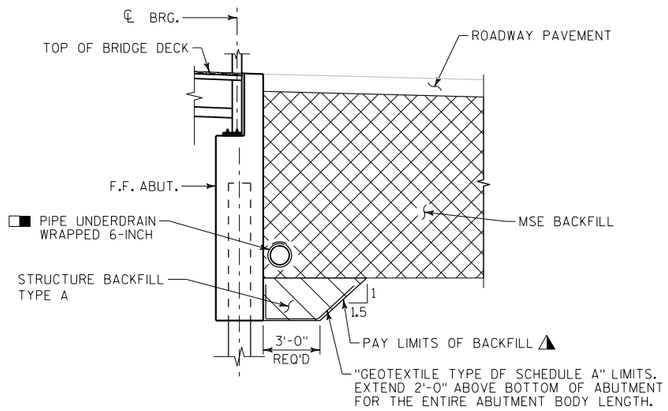
FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Structure\Pedestrian Bridge\cds\Ped-Bridge_080102_ts.dgn PLOT DATE : 11/8/2022 PLOT BY : sconnolly PLOT NAME : $FILE$ PLOT SCALE : 1:8

STATE PROJECT NUMBER
4995-03-02

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	WEST ABUTMENT	EAST ABUTMENT	SUPER.	TOTAL
206.1001.01	EXCAVATION FOR STRUCTURES BRIDGES B-59-328	EACH	-	-	-	1
210.1500	BACKFILL STRUCTURE TYPE A	TON	5	5	-	10
502.0100	CONCRETE MASONRY BRIDGES	CY	19.3	17.7	-	37
505.0400	BAR STEEL REINFORCEMENT HS STRUCTURES	LB	1,360	1,320	-	2,680
505.0600	BAR STEEL REINFORCEMENT HS COATED STRUCTURES	LB	360	360	-	720
506.8006.S.01	PREFABRICATED STEEL TRUSS PEDESTRIAN BRIDGE B-59-328 LRFD	EACH	-	-	1	1
511.2200.01	TEMPORARY SHORING LEFT IN PLACE B-59-328	SF	165	60	-	225
516.0500	RUBBERIZED MEMBRANE WATERPROOFING	SY	3	3	-	6
550.0020	PRE-BORING ROCK OR CONSOLIDATED MATERIALS	LF	15	15	-	30
550.1100	PILING STEEL HP 10-INCH X 42 LB	LF	125	125	-	250
606.0300	RIPRAP HEAVY	CY	26	87	-	113
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	20	20	-	40
645.0111	GEOTEXTILE TYPE DF SCHEDULE A	SY	16	16	-	32
645.0120	GEOTEXTILE TYPE HR	SY	47	144	-	191
	NON-BID ITEMS					
	PREFORMED JOINT FILLER	SIZE				1"
	NON-BITUMINOUS JOINT FILLER	SIZE				1"
	NAME PLATE	EACH				1
	BRIDGE SEAT PROTECTION					

ALL ITEMS ARE CATEGORY 0020



BACKFILL LIMITS

LEGEND

⚠ BACKFILL PAY LIMITS. BACKFILL PLACED BEYOND BACKFILL PAY LIMITS SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES. LIMITS OF EXCAVATION SHALL BE DETERMINED BY THE CONTRACTOR.

CONNECT PIPE UNDERDRAIN BEHIND ABUTMENT TO PIPE UNDERDRAIN BEHIND RETAINING WALLS R-59-39 AND R-59-42. CONNECTIONS ARE INCIDENTAL TO BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH". PIPE UNDERDRAIN TO DISCHARGE A MINIMUM OF 1 FOOT ABOVE OBSERVED WATER LEVEL. PIPE UNDERDRAIN TO BE SLOPED MIN. 0.5%.

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

BAR STEEL REINFORCEMENT SHALL BE PLACED WITH 2" OF CLEAR CONCRETE COVER UNLESS OTHERWISE NOTED.

BEVEL EXPOSED EDGES OF CONCRETE ¾" UNLESS OTHERWISE NOTED.

ALL DIMENSIONS ARE IN FEET AND INCHES UNLESS OTHERWISE NOTED.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), SHEBOYGAN COUNTY, NAD 1983 (2011). ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF NAVD 88 (2012).

THE UTILITY INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE. UTILITIES LABELED AS PROPOSED MAY BE INSTALLED BY OTHERS PRIOR TO THIS CONTRACT.

THE FIRST DIGIT OF A THREE DIGIT BAR MARK OR THE FIRST TWO DIGITS OF A FOUR DIGIT BAR MARK SIGNIFY THE BAR SIZE.

THE UPPER LIMITS OF "EXCAVATION FOR STRUCTURES B-40-328" SHALL BE THE EXISTING GROUND LINE & THE EXISTING STREAM BED.

AT THE BACK FACE OF ABUTMENT, ALL SPACES EXCAVATED AND NOT OCCUPIED BY THE NEW STRUCTURE OR BY ADJACENT MSE WALLS SHALL BE BACKFILLED WITH STRUCTURE BACKFILL.

THE BACKFILL QUANTITIES ARE BASE ON THE PAY LIMITS SHOWN ON THE PLANS AND MAY NOT REFLECT ACTUAL PLACED QUANTITIES. "BACKFILL STRUCTURE TYPE A" REQUIRED DIRECTLY BEHIND ABUTMENTS FOR 3 FEET. BACKFILL PLACED BEYOND PAY LIMITS OR EXCEEDING PLAN QUANTITIES SHALL BE INCIDENTAL TO EXCAVATION FOR STRUCTURES.

EXCAVATION BELOW THE ABUTMENT AND ABUTMENT BEDDING MATERIALS REQUIRES ENGINEER APPROVAL. GEOTEXTILE SHALL BE SET AT BOTTOM OF EXCAVATION AND EXTEND 2'-0" ABOVE BOTTOM OF ABUTMENT.

SEE ROADWAY PLANS FOR DESCRIPTION OF THE EXISTING BRIDGE. REMOVAL PAID FOR UNDER ROADWAY BID ITEMS.

COORDINATE CONSTRUCTION OF ABUTMENTS WITH RETAINING WALLS R-59-39, R-59-40, R-59-41 & R-59-42.

THE "PREFABRICATED STEEL TRUSS PEDESTRIAN BRIDGE B-59-328 LRFD" BID ITEM INCLUDES PREFABRICATED BRIDGE, BEARING PLATES, PADS, BOLTS, ANCHOR BOLTS, GROUT, AND DECKING MATERIALS INCLUDING STRUCTURAL LUMBER AND CONNECTIONS.

THE TRUSS SHALL BE ANCHORED TO THE ABUTMENTS IN A MANNER TO:
-ALLOW THERMAL MOVEMENTS ALONG THE C/L OF PATH
-PREVENT HORIZONTAL TRANSLATION OF THE SUPERSTRUCTURE PERPENDICULAR TO THE C/L OF THE PATH

MINIMUM CAMBER FOR PREFABRICATED BRIDGE TO BE DETERMINED BY MANUFACTURER AND IN ACCORDANCE WITH THE SPECIFICATIONS.

THE APPEARANCE OF THE TRUSS SHALL RESEMBLE WHAT IS SHOWN IN THE ELEVATION VIEW ON THE "GENERAL PLAN & ELEVATION" SHEET, NUMBER OF PANELS MAY DIFFER FROM WHAT IS SHOWN.

THE "PREFABRICATED STEEL TRUSS PEDESTRIAN BRIDGE B-59-328 LRFD" SHALL BE FABRICATED FROM WEATHERING STEEL PER THE SPECIFICATIONS.

APPLY BRIDGE SEAT PROTECTION, AS PER SECTION 502.3.12 OF THE STANDARD SPECIFICATIONS, TO THE TOP SURFACE OF ABUTMENTS.

THE SLOPE OF FILL IN FRONT OF THE ABUTMENTS SHALL BE COVERED WITH HEAVY RIPRAP AND GEOTEXTILE FABRIC TYPE 'HR' TO THE EXTENT SHOWN ON SHEET 1 AND IN THE ABUTMENT DETAILS.

ARTESIAN PRESSURE WAS ENCOUNTERED AT BORING B-3. SEE SUBSURFACE EXPLORATION SHEET. DRILLER WAS ABLE TO SEAL THE BORING WITH GROUT.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

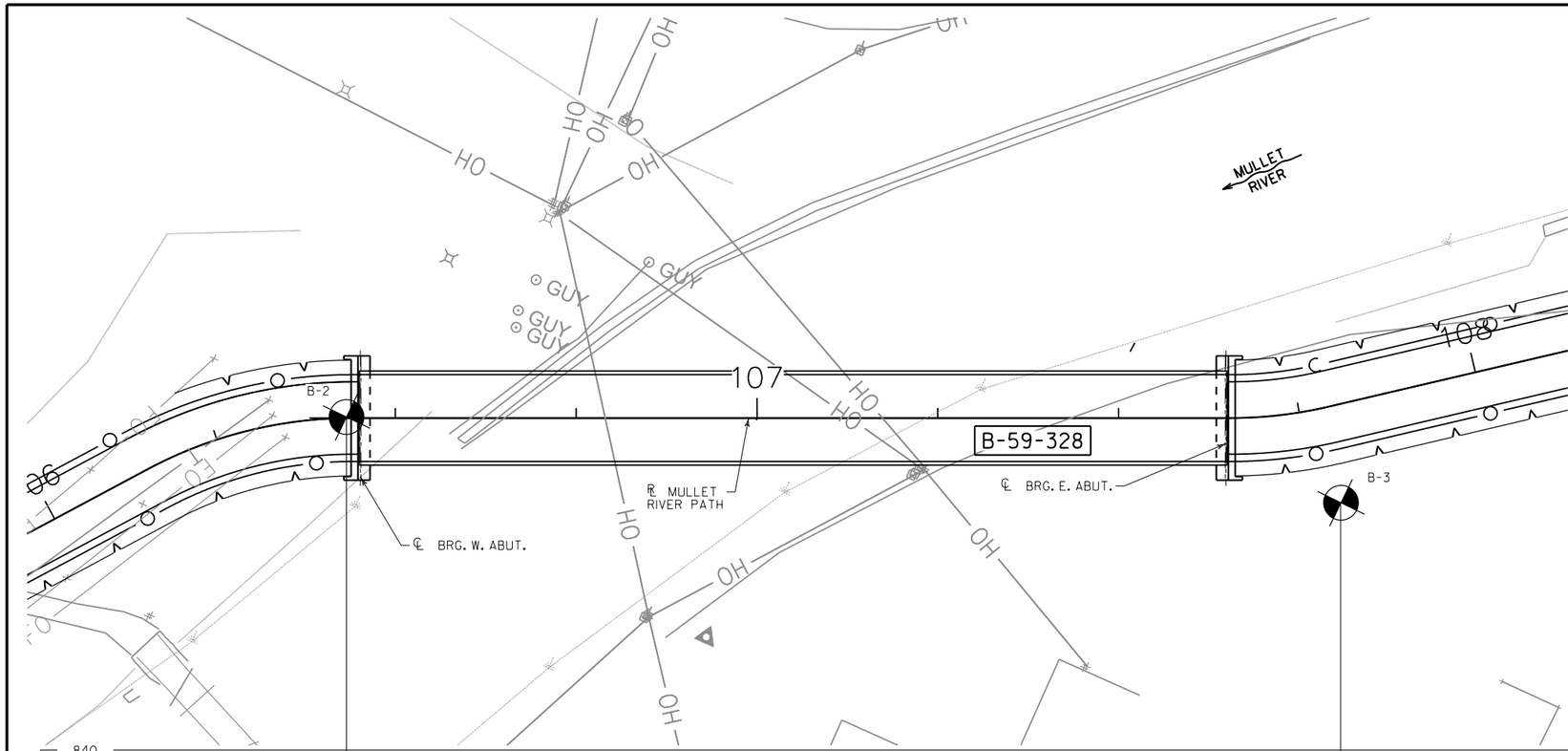
STRUCTURE B-59-328

DRAWN BY SMC | PLANS CK'D. MHZ

GENERAL NOTES & QUANTITIES

SHEET 3 OF 9

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Structure\Pedestrian Bridge\cds\Ped-Bridge_080102_gu.dgn PLOT DATE : 11/8/2022 PLOT BY : sconnolly PLOT NAME : $FILE$ PLOT SCALE : 1:8



NOTE:

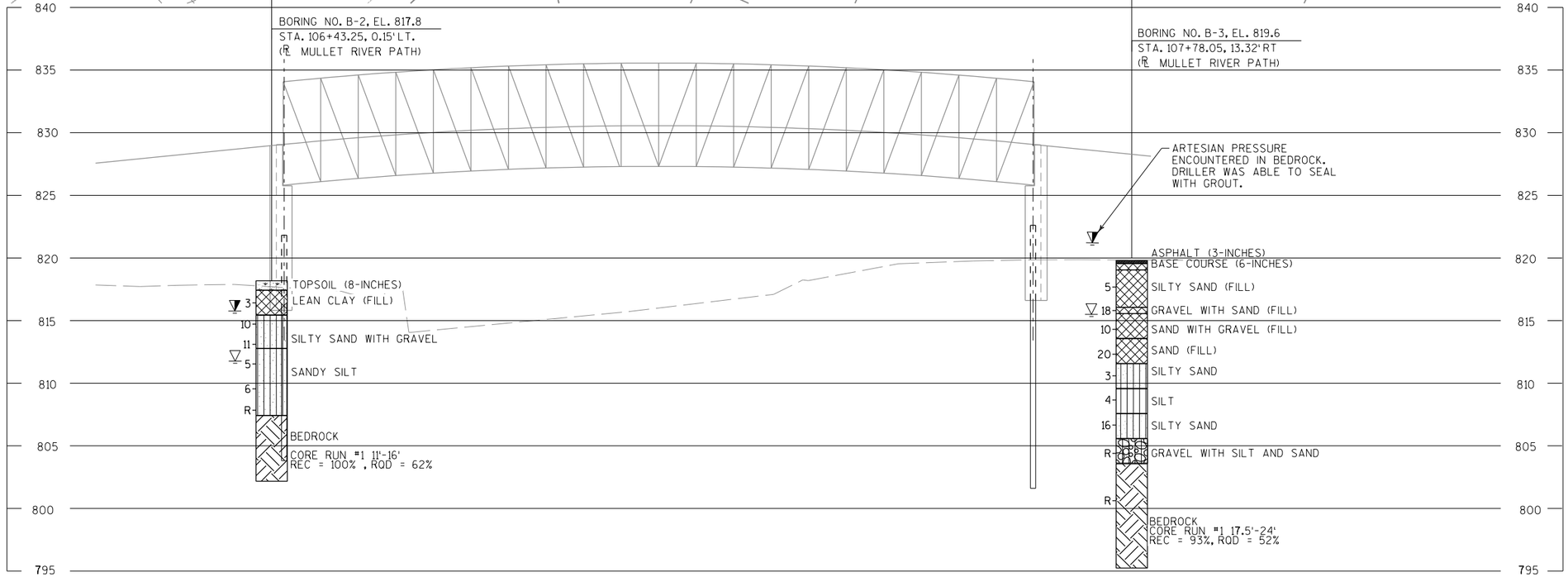
THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

WATER LEVELS INDICATED MAY NOT BE REPRESENTATIVE OF HYDROSTATIC WATER LEVELS.

⊕ DENOTES SOIL BORING LOCATION

SOIL BORINGS COMPLETED BY:
GESTRA ENGINEERING, INC.

SOIL BORING TAKEN:
MAY 27TH, 2021 - BORING B-2
MAY 27TH, 2021 - BORING B-3



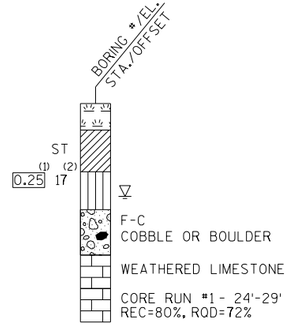
STATE PROJECT NUMBER

4995-03-02

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/ META

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

▽ AT TIME OF DRILLING

▼ AFTER DRILLING

▼ END OF DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-328

DRAWN BY SMC | PLANS CK'D. MHZ

SUBSURFACE EXPLORATION

SHEET 4 OF 9

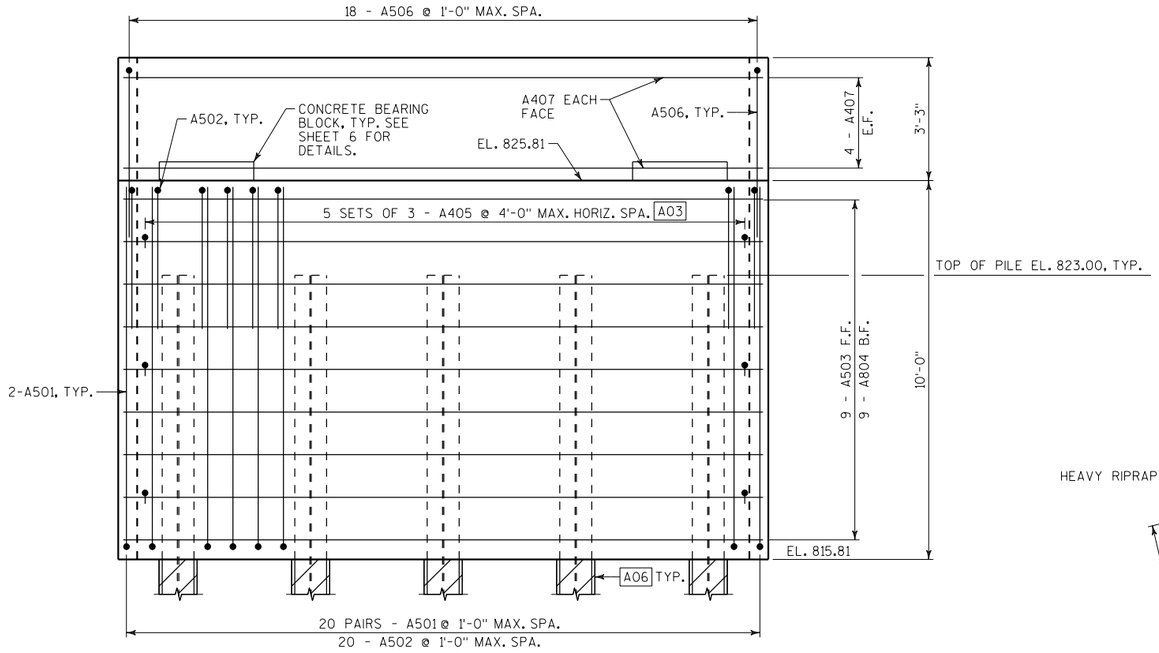
8

8

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Structure\Pedestrian Bridge\cds\Ped-Bridge_080201_se.dgn PLOT DATE : 11/8/2022 PLOT BY : sconnolly PLOT NAME : $FILE$ PLOT SCALE : 1:20

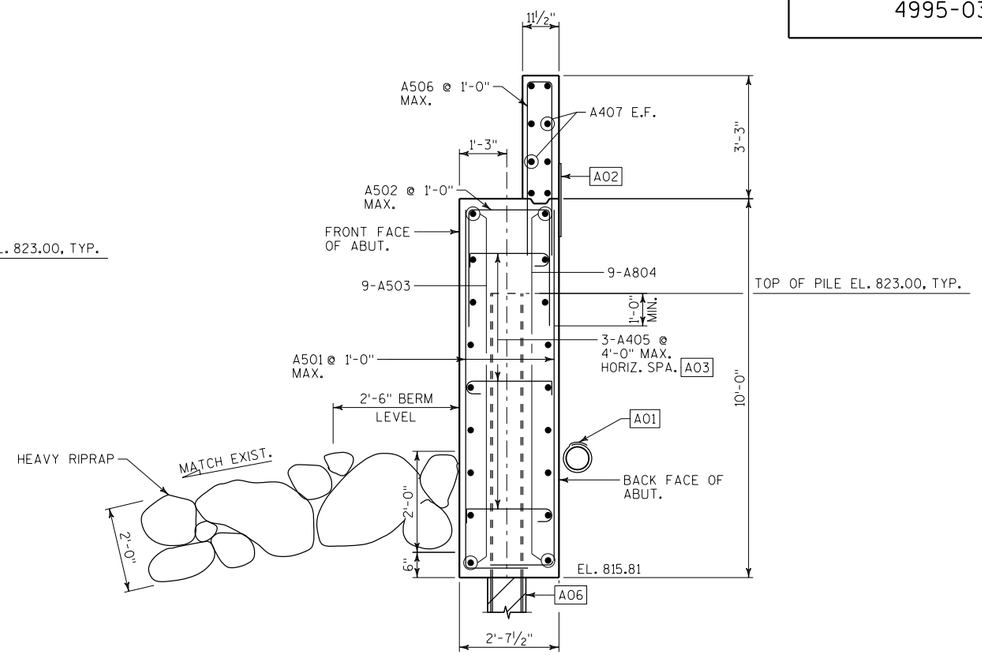
STATE PROJECT NUMBER

4995-03-02



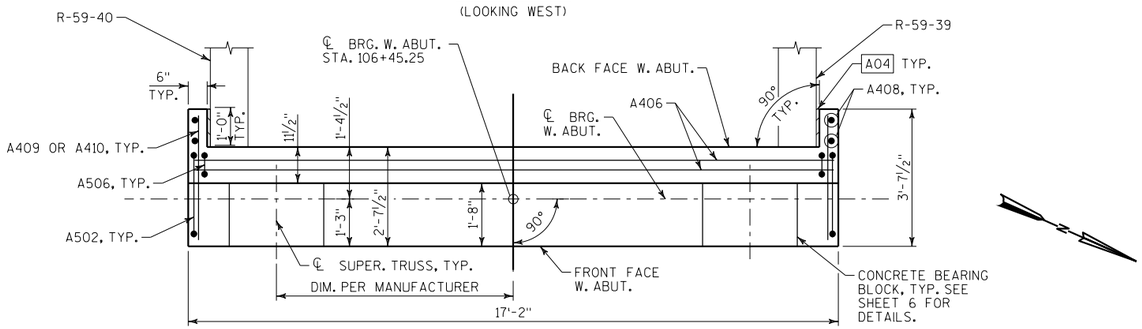
ELEVATION

(LOOKING WEST)



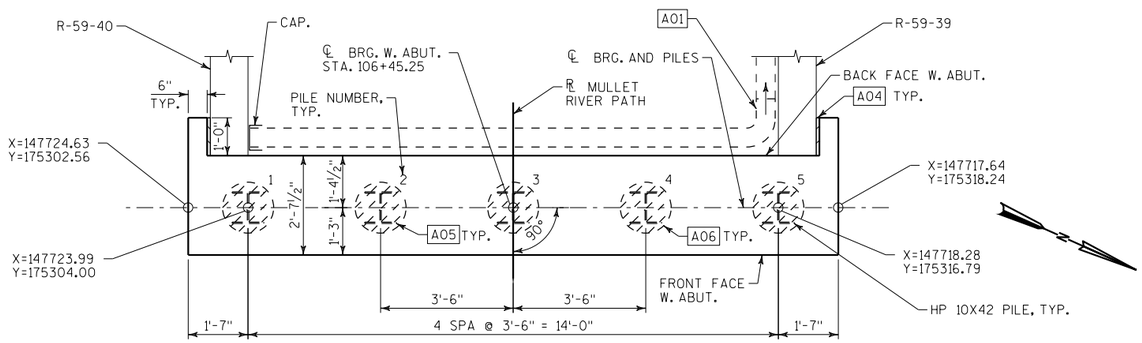
SECTION THRU ABUTMENT BODY

(LOOKING SOUTH)



PLAN

(DIMENSIONS GIVEN ALONG ℄ BRG.)



PILE PLAN

(DIMENSIONS GIVEN ALONG ℄ BRG.)

LEGEND

A01 PIPE UNDERDRAIN WRAPPED 6-INCH. CONNECT TO PIPE UNDERDRAIN BEHIND WALL R-59-39. CONNECTIONS INCIDENTAL TO ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH. PIPE UNDERDRAIN TO SLOPE 0.5% MIN. & TO DISCHARGE TO A MINIMUM ELEVATION OF 818.00.

A02 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE OF ABUTMENTS.

A03 ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.

A04 1" FILLER. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)

A05 SUPPORT ABUTMENT ON HP 10X42 PILING SEATED IN PREBORED HOLES CORED A MINIMUM OF 3 FEET INTO SOUND BEDROCK. THE ANNULAR SPACE BETWEEN THE WALL OF PREBORED HOLE AND THE PILING TO BE BACKFILLED WITH CONCRETE. ESTIMATED PILE LENGTH = 25 FEET.

A06 CONCRETE FILL SHALL BE PLACED FROM TOP OF ROCK TO BOTTOM OF ABUTMENT. IF CASING IS USED, IT MAY BE REMOVED OR LEFT IN PLACE. CONCRETE FILL AND CASING SHALL BE INCIDENTAL TO BID ITEM "PILING STEEL HP 10-INCH X 42 LB."

NOTES

DO NOT PLACE FILL ABOVE 3'-0" FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

FOR ABUTMENT SIDE ELEVATIONS, SEE SHEET 6.

FOR CONCRETE BEARING BLOCK DETAILS, SEE SHEET 6.

FOR BILL OF BARS, SEE SHEET 6.

FOR PILE SPLICE DETAIL SEE SHEET 6.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-328

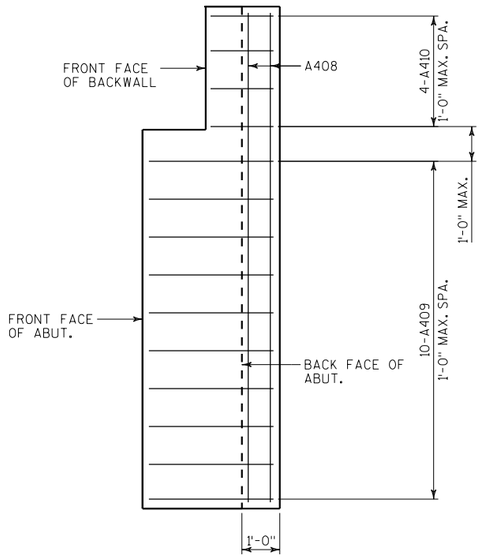
DRAWN BY SMC | PLANS CK'D. MHZ

WEST ABUTMENT

SHEET 5 OF 9

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Structure\Pedestrian Bridge\cds\Ped-Bridge_080301_ab.dgn PLOT DATE : 11/8/2022 PLOT BY : sconnolly PLOT NAME : $FILE$ PLOT SCALE : 1:4

STATE PROJECT NUMBER
4995-03-02



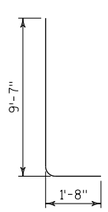
ABUTMENT SIDE ELEVATION

(LOOKING SOUTH)

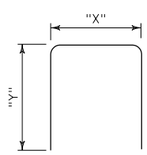
BILL OF BARS

BAR MARK	COAT	NO REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
A501	-	40	11'-2"	X	-	ABUTMENT BODY - VERT.
A502	-	20	10'-0"	X	-	ABUTMENT BODY - VERT.
A503	-	9	16'-10"	-	-	ABUTMENT BODY - LONG.
A804	-	9	19'-4"	X	-	ABUTMENT BODY - LONG.
A405	-	15	3'-1"	X	-	ABUTMENT BODY - TIE
A506	X	18	9'-10"	X	-	ABUTMENT BACKWALL - VERT.
A407	X	8	16'-10"	-	-	ABUTMENT BACKWALL - LONG.
A408	X	4	12'-10"	-	-	ABUTMENT SIDES - VERT.
A409	X	20	3'-3"	-	-	ABUTMENT SIDES - HORIZ.
A410	X	8	1'-7"	-	-	ABUTMENT SIDES - HORIZ.
A411	-	8	4'-2"	X	-	ABUT. BEARING BLOCK - VERT.
A412	-	6	2'-2"	-	-	ABUT. BEARING BLOCK - HORIZ.

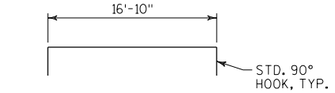
NOTE:
BAR DIMENSIONS ARE OUT TO OUT OF BAR. THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE



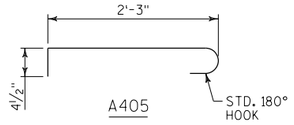
A501



BAR MARK	DIM "X"	DIM "Y"
A502	2'-3"	4'-0"
A506	8"	4'-9"
A411	1'-4"	1'-6"

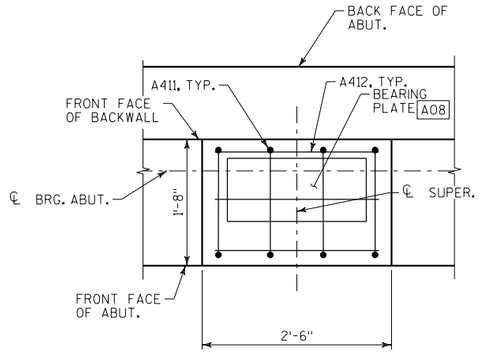


A804

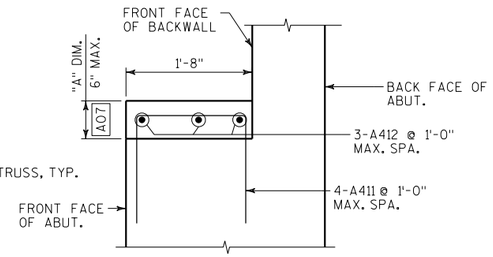


A405

BENDING DIAGRAMS



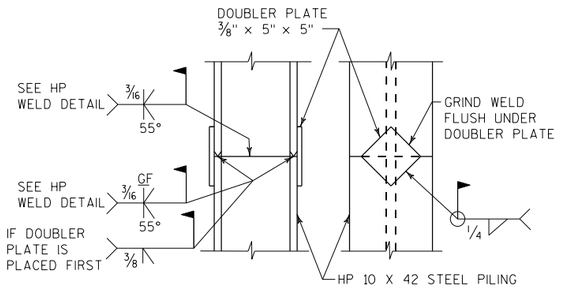
PLAN



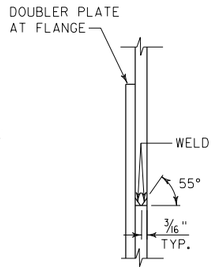
SECTION

CONCRETE BEARING BLOCK DETAIL

	DIM "A"
DIM. USED FOR QTY	6"
AS-BUILT:	



STEEL 'HP' SHAPE



'HP' WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

PILE SPLICE DETAIL

NOTE

FOR ABUTMENT PLAN, ELEVATION, AND SECTION, SEE SHEET 5.

LEGEND

A07 FOR PEDESTAL "A" DIMENSION LESS THAN 5 INCHES, POUR INTEGRAL WITH ABUTMENT BODY. FOR PEDESTAL "A" DIMENSION LESS THAN 1 INCH, CONTRACTOR MAY OMIT REINFORCEMENT AND PLACE HIGH STRENGTH GROUT AS SPECIFIED BY THE STEEL TRUSS MANUFACTURER, TO BE PAID FOR AS "CONCRETE MASONRY STRUCTURES".

A08 BEARING PLATE DIMENSIONS, ANCHOR BOLT SIZE & CONFIGURATION BY STEEL TRUSS MANUFACTURER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-328

DRAWN BY	SMC	PLANS CK'D.	MHZ

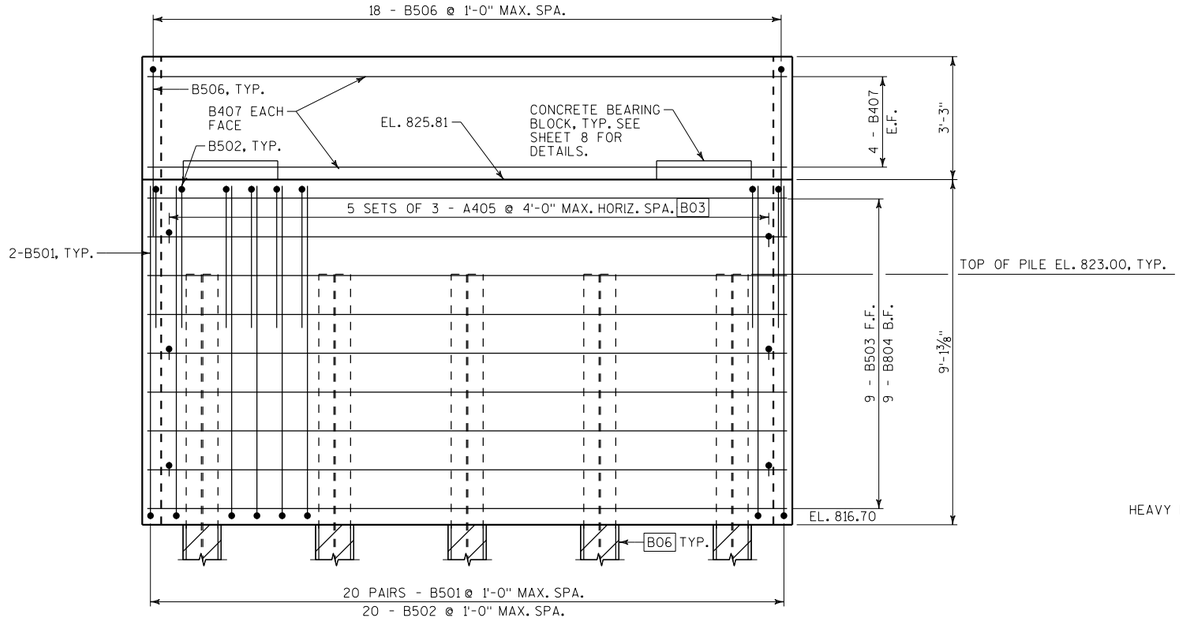
WEST ABUTMENT DETAILS

SHEET 6 OF 9

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Structure\Pedestrian Bridge\cds\Ped-Bridge_080302_ab.dgn PLOT DATE : 11/8/2022 PLOT BY : sconnolly PLOT NAME : $FILE$ PLOT SCALE : 1:4

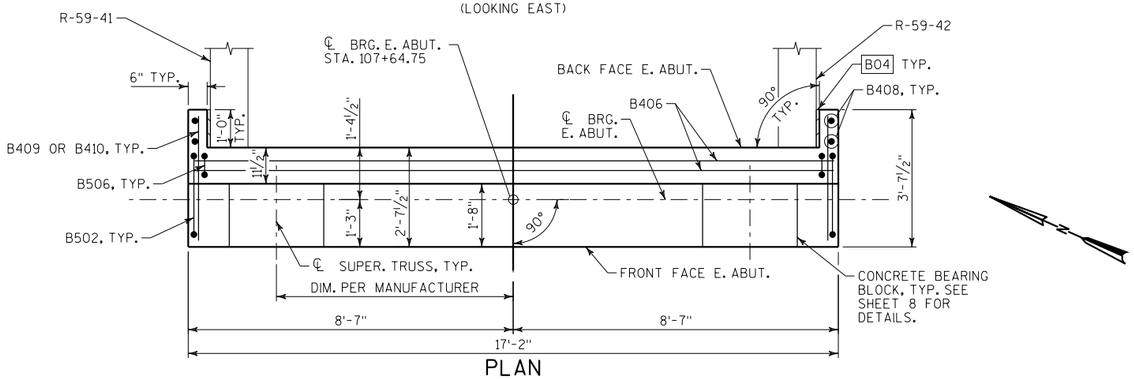
STATE PROJECT NUMBER

4995-03-02



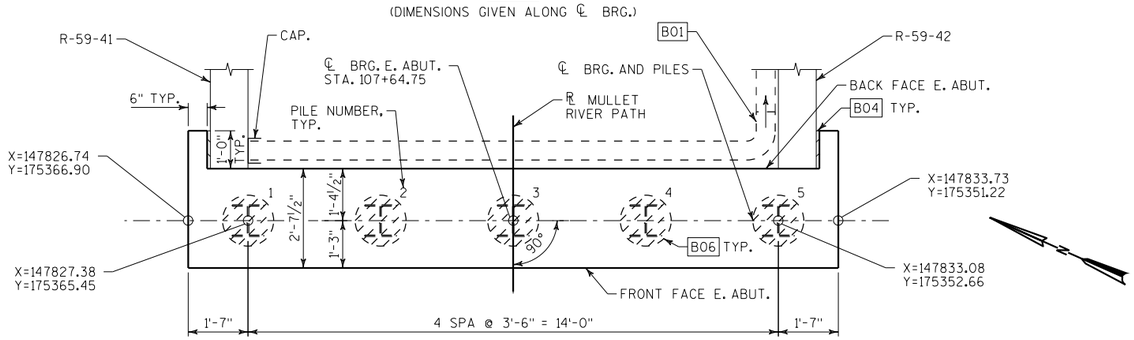
ELEVATION

(LOOKING EAST)



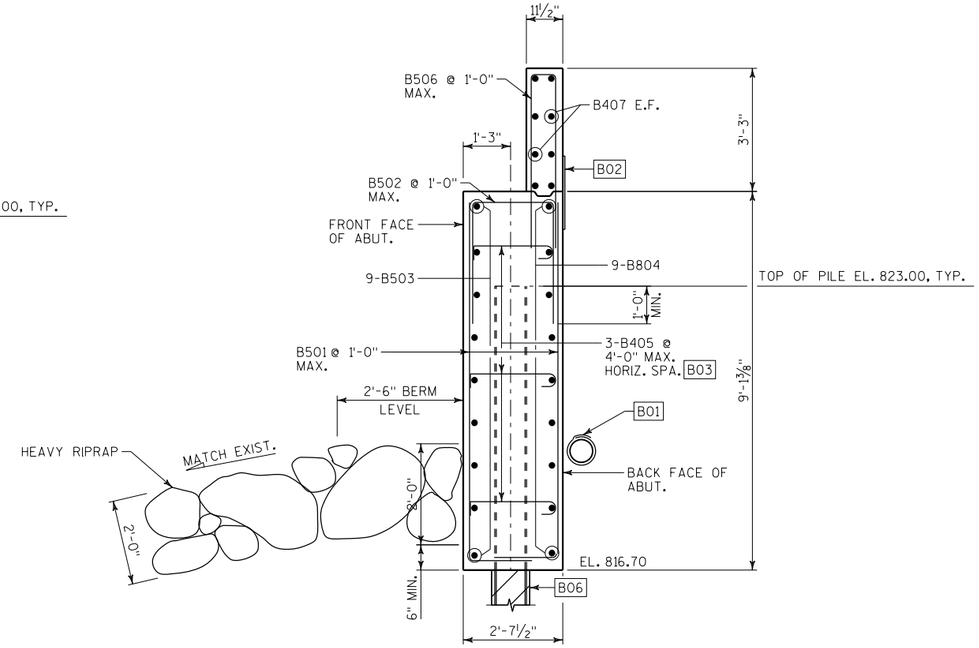
PLAN

(DIMENSIONS GIVEN ALONG ℄ BRG.)



PILE PLAN

(DIMENSIONS GIVEN ALONG ℄ BRG.)



SECTION THRU ABUTMENT BODY

(LOOKING NORTH)

LEGEND

B01 PIPE UNDERDRAIN WRAPPED 6-INCH. CONNECT TO PIPE UNDERDRAIN BEHIND WALL R-59-42. CONNECTIONS INCIDENTAL TO ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH. PIPE UNDERDRAIN TO SLOPE 0.5% MIN. & TO DISCHARGE TO A MINIMUM ELEVATION OF 818.00.

B02 18" RUBBERIZED MEMBRANE WATERPROOFING. SEAL ALL HORIZONTAL AND VERTICAL JOINTS ON BACKFACE OF ABUTMENTS.

B03 ALTERNATE THE POSITION OF THE 90° AND 180° HOOKS AT EACH VERTICAL LAYER OF TIES.

B04 1" FILLER. SEAL ALL EXPOSED HORIZONTAL AND VERTICAL SURFACES OF FILLER WITH NON-STAINING GRAY NON-BITUMINOUS JOINT SEALER. (1" DEEP AND HOLD ⅛" BELOW SURFACE OF CONCRETE.)

B05 SUPPORT ABUTMENT ON HP 10X42 PILING SEATED IN PREBORED HOLES CORED A MINIMUM OF 3 FEET INTO SOUND BEDROCK. THE ANNULAR SPACE BETWEEN THE WALL OF PREBORED HOLE AND THE PILING TO BE BACKFILLED WITH CONCRETE. ESTIMATED PILE LENGTH = 25 FEET.

B06 CONCRETE FILL SHALL BE PLACED FROM TOP OF ROCK TO BOTTOM OF ABUTMENT. IF CASING IS USED, IT MAY BE REMOVED OR LEFT IN PLACE. CONCRETE FILL AND CASING SHALL BE INCIDENTAL TO BID ITEM "PILING STEEL HP 10-INCH X 42 LB."

NOTES

DO NOT PLACE FILL ABOVE 3'-0" FROM BOTTOM OF ABUTMENT UNTIL SUPERSTRUCTURE IS IN PLACE.

FOR ABUTMENT SIDE ELEVATION, SEE SHEET 8.

FOR CONCRETE BEARING BLOCK DETAILS, SEE SHEET 8.

FOR BILL OF BARS, SEE SHEET 8.

FOR PILE SPLICE DETAIL SEE SHEET 8.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-328

DRAWN BY SMC | PLANS CK'D. MHZ

EAST ABUTMENT

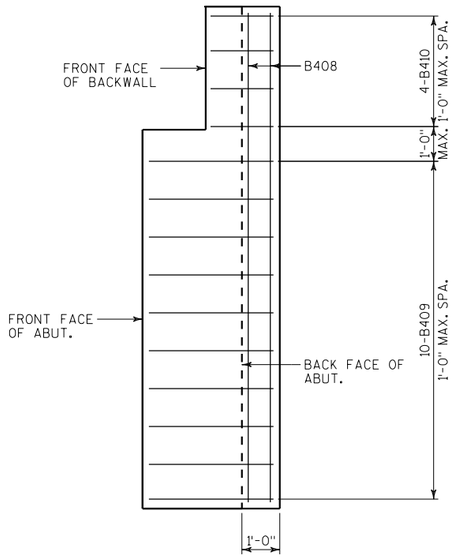
SHEET 7 OF 9

8

8

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Structure\Pedestrian Bridge\cds\Ped-Bridge_080303_ab.dgn PLOT DATE : 11/8/2022 PLOT BY : sconnolly PLOT NAME : $FILE$ PLOT SCALE : 1:4

STATE PROJECT NUMBER
4995-03-02



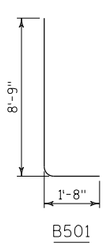
ABUTMENT SIDE ELEVATION

(LOOKING NORTH)

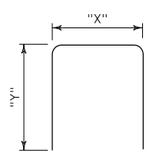
BILL OF BARS

BAR MARK	COAT	NO REQ'D	LENGTH	BENT	BAR SERIES	LOCATION
B501	-	40	10'-4"	X	-	ABUTMENT BODY - VERT.
B502	-	20	10'-0"	X	-	ABUTMENT BODY - VERT.
B503	-	9	16'-10"	-	-	ABUTMENT BODY - LONG.
A804	-	9	19'-4"	X	-	ABUTMENT BODY - LONG.
B405	-	15	3'-1"	X	-	ABUTMENT BODY - TIE
B506	X	18	9'-10"	X	-	ABUTMENT BACKWALL - VERT.
B407	X	8	16'-10"	-	-	ABUTMENT BACKWALL - LONG.
B408	X	4	11'-11"	-	-	CHEEK WALL - VERT.
B409	X	20	3'-3"	-	-	CHEEK WALL - HORIZ.
B410	X	8	1'-7"	-	-	CHEEK WALL - HORIZ.
B411	-	8	4'-2"	X	-	ABUT. BEARING BLOCK - VERT.
B412	-	6	2'-2"	-	-	ABUT. BEARING BLOCK - HORIZ.

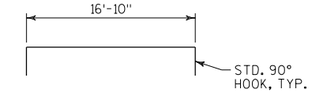
NOTE:
BAR DIMENSIONS ARE OUT TO OUT OF BAR. THE FIRST OR FIRST TWO DIGITS OF A BAR MARK SIGNIFIES THE BAR SIZE



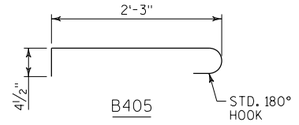
B501



BAR MARK	DIM "X"	DIM "Y"
B502	2'-3"	4'-0"
B506	8"	4'-9"
B411	1'-4"	1'-6"

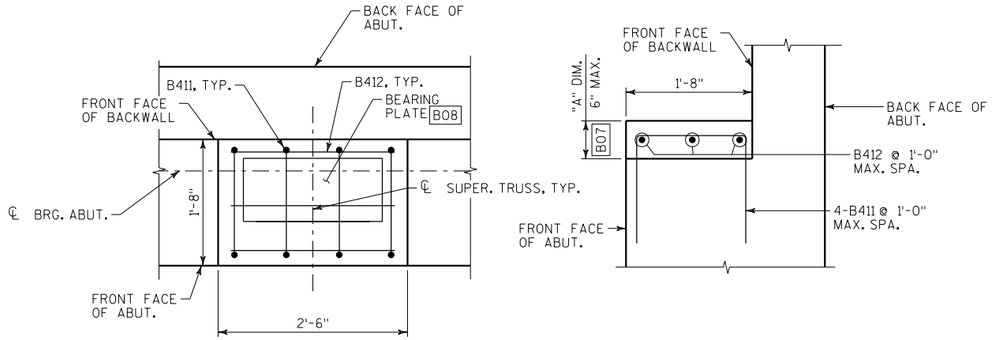


B804



B405

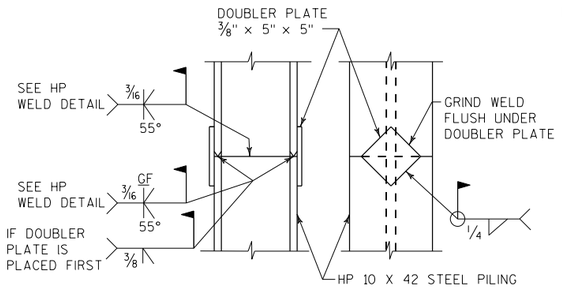
BENDING DIAGRAMS



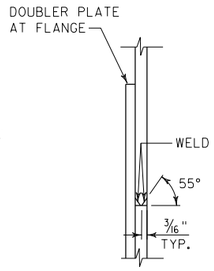
PLAN SECTION

CONCRETE BEARING BLOCK DETAIL

	DIM "A"
DIM. USED FOR QTY	6"
AS-BUILT:	



STEEL 'HP' SHAPE



'HP' WELD DETAIL

FLANGE SHOWN, WEB SIMILAR

PILE SPLICE DETAIL

NOTE

FOR ABUTMENT PLAN, ELEVATION, AND SECTION, SEE SHEET 7.

LEGEND

B07 FOR PEDESTAL "A" DIMENSION LESS THAN 5 INCHES, POUR INTEGRAL WITH ABUTMENT BODY. FOR PEDESTAL "A" DIMENSION LESS THAN 1 INCH, CONTRACTOR MAY OMIT REINFORCEMENT AND PLACE HIGH STRENGTH GROUT AS SPECIFIED BY THE STEEL TRUSS MANUFACTURER, TO BE PAID FOR AS "CONCRETE MASONRY STRUCTURES".

B08 BEARING PLATE DIMENSIONS, ANCHOR BOLT SIZE & CONFIGURATION BY STEEL TRUSS MANUFACTURER.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-59-328

DRAWN BY SMC | PLANS CK'D. MHZ

EAST ABUTMENT DETAILS

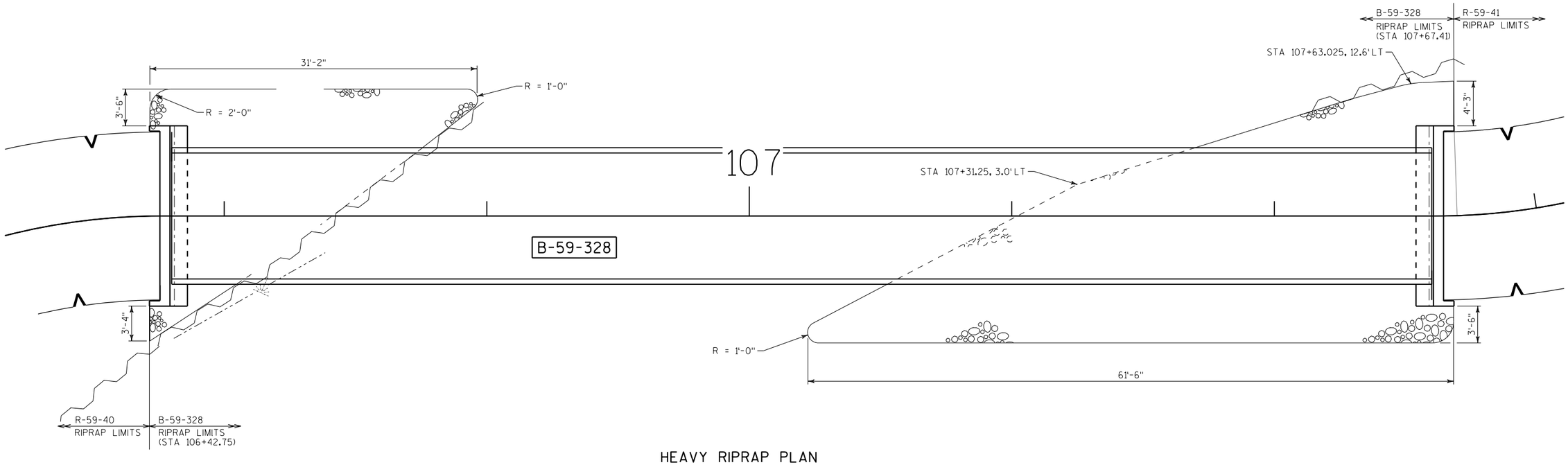
SHEET 8 OF 9

8

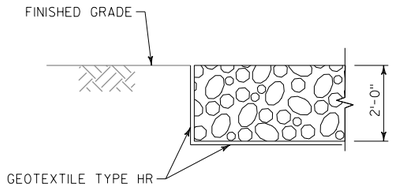
8

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Structure\Pedestrian Bridge\cds\Ped-Bridge_080304_ab.dgn PLOT DATE : 11/8/2022 PLOT BY : sconnolly PLOT NAME : $FILE$ PLOT SCALE : 1:4

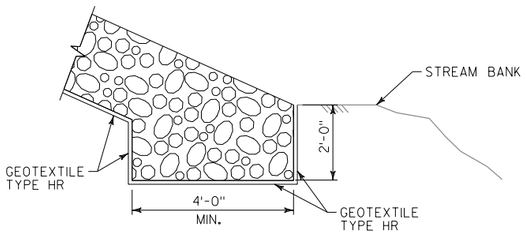
STATE PROJECT NUMBER
4995-03-02



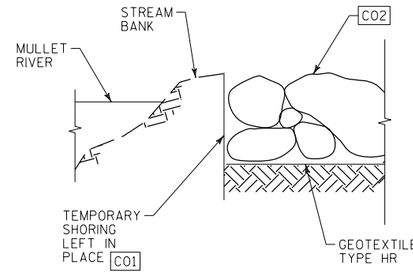
HEAVY RIPRAP PLAN



HEAVY RIPRAP SECTION



HEAVY RIPRAP TOE DETAIL



TEMPORARY SHORING LEFT IN PLACE - SECTION

(LOOKING SOUTHWEST)

LEGEND

CO1 TEMPORARY SHORING TO BE LEFT IN PLACE BELOW GRADE. ANY SHORING EXPOSED ABOVE FINISHED GRADE TO BE REMOVED.

CO2 HEAVY RIPRAP WITH GEOTEXTILE FABRIC TYPE HR. PLACE TO LIMITS SHOWN IN HEAVY RIPRAP PLAN AND ABUTMENT DETAILS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

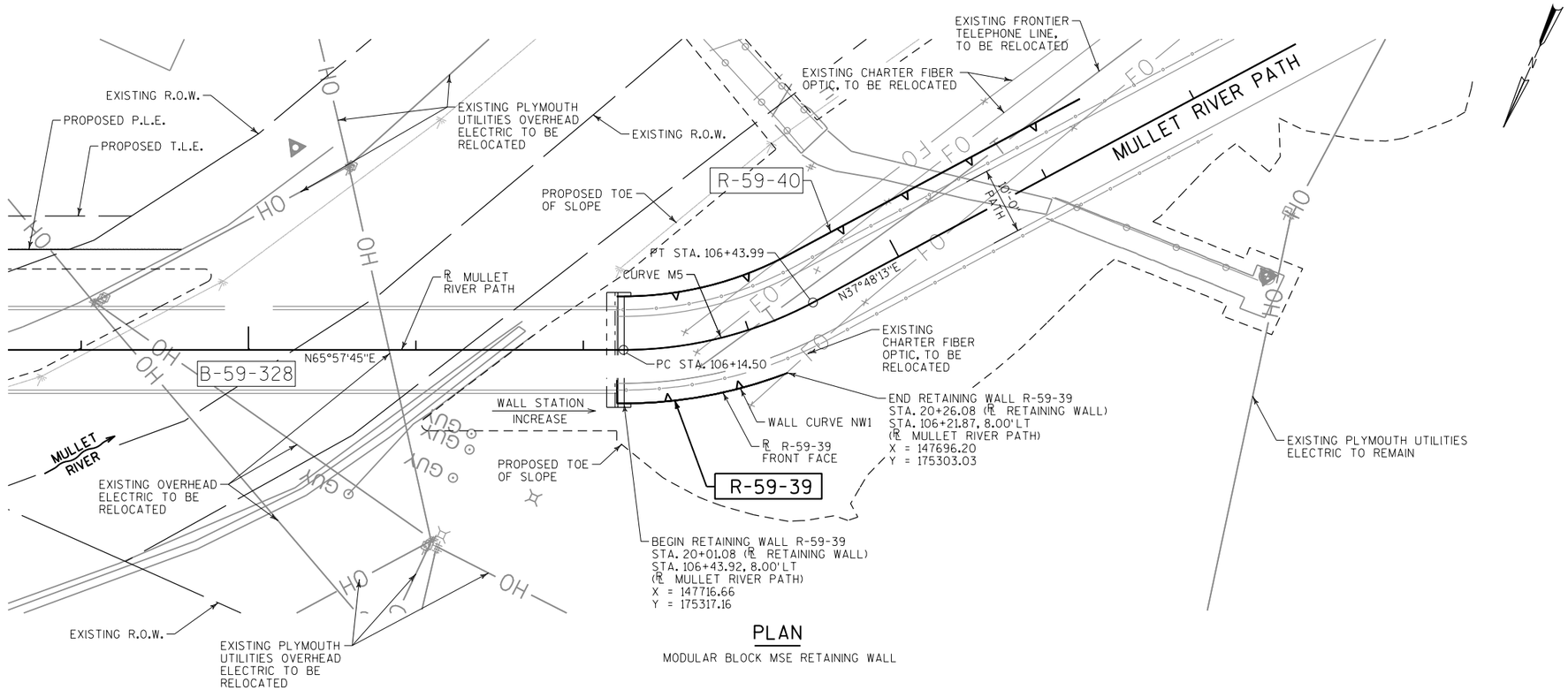
STRUCTURE B-59-328

DRAWN BY SMC | PLANS CK'D. MHZ

HEAVY RIPRAP DETAILS

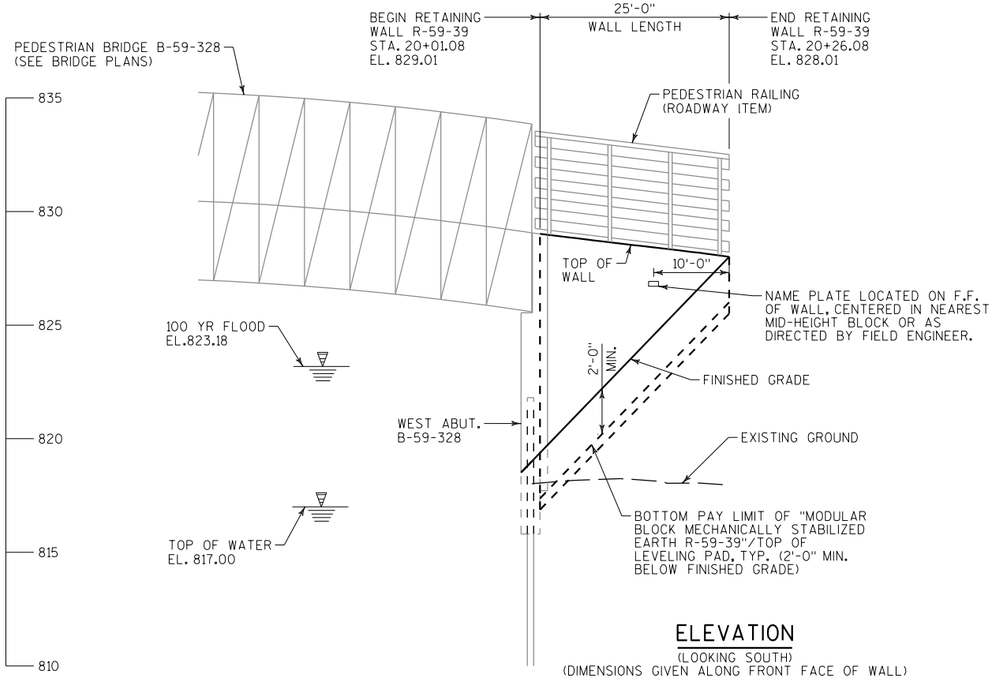
SHEET 9 OF 9

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Structure\Pedestrian Bridge\cds\Ped-Bridge_080401_dt.dgn PLOT DATE : 11/8/2022 PLOT BY : sconnolly PLOT NAME : $FILE$ PLOT SCALE : 1:10



PLAN

MODULAR BLOCK MSE RETAINING WALL



ELEVATION

(LOOKING SOUTH)
(DIMENSIONS GIVEN ALONG FRONT FACE OF WALL)

STATE PROJECT NUMBER

4995-03-02

DESIGN DATA

LIVE LOAD:

LIVE LOAD SURCHARGE (CONSTRUCTION): 100 PSF

MATERIAL PROPERTIES:

DRY CAST MODULAR BLOCK ..... f'c = 5,000 psi
WET CAST MODULAR BLOCK ..... f'c = 4,000 psi
CONCRETE LEVELING PAD ..... f'c = 4,000 psi

DESIGN THE RETAINING WALL FOR A HORIZONTAL FINISHED GRADE BEHIND THE WALL, AND A LIVE LOAD SURCHARGE OF 100 PSF, UNLESS NOTED OTHERWISE

LIST OF DRAWINGS

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
AARON BONK (608) 261-0261
CONSULTANT:
MOHAMMED ZAGLOUL (414) 751-7200

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY
kapur
7711 N. Port Washington Road
Milwaukee, Wisconsin 53217
kapurinc.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 12/06/22
CHIEF STRUCTURES DESIGN ENGINEER DATE

WISCONSIN
SHANNON CONNOLLY
E-44309-6
MILWAUKEE, WI
PROFESSIONAL ENGINEER
12/6/2022

STRUCTURE R-59-39

RETAINING WALL ALONG MULLET RIVER PATH

COUNTY	CITY
SHEBOYGAN	PLYMOUTH

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

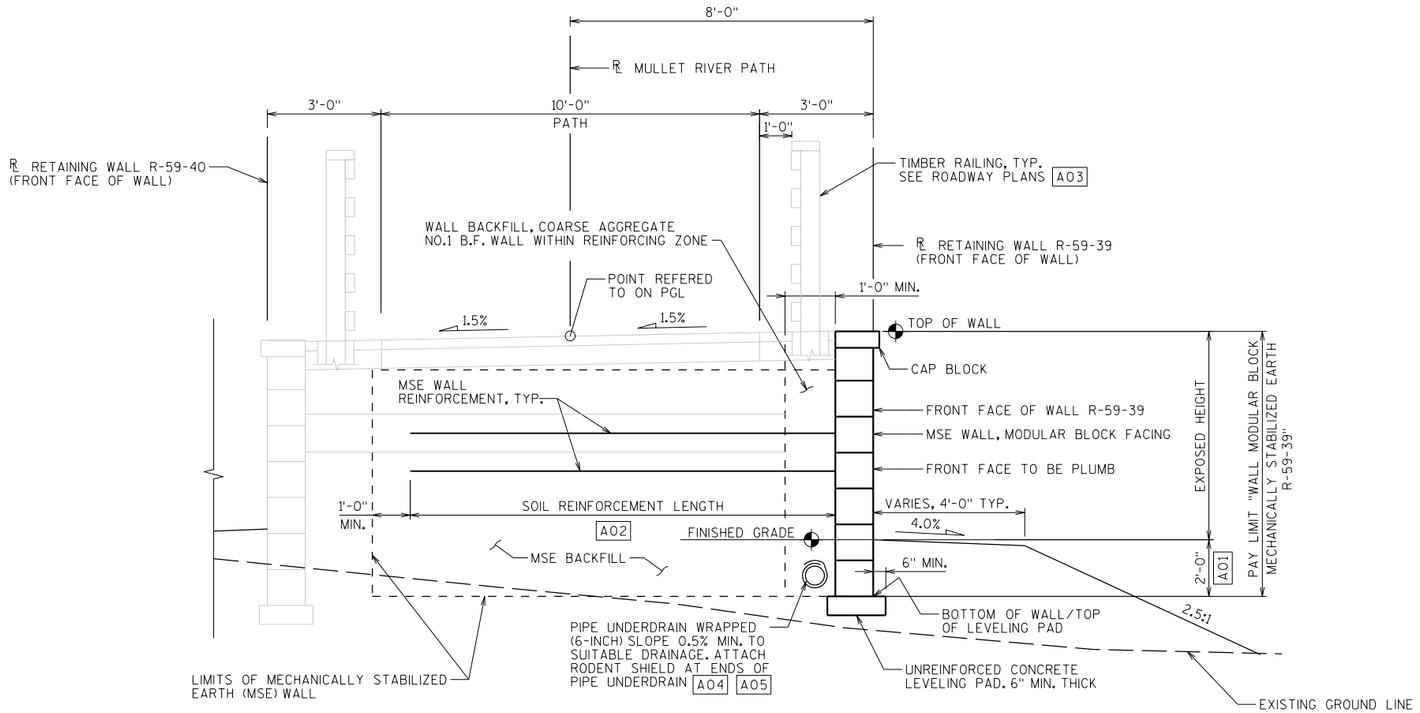
DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
SMC	MHZ	SMC	MHZ

GENERAL PLAN & ELEVATION

SHEET 1 OF 5

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Structure\R-59-39 NW Wall\cds\R-59-39-NW_080101_gp.dgn PLOT DATE : 12/6/2022 PLOT BY : sconnolly PLOT NAME : $FILE$ PLOT SCALE : 1:20

STATE PROJECT NUMBER
4995-03-02



TYPICAL WALL SECTION

(LOOKING WEST)
(WALL STA. 20+01.08 TO WALL STA. 20+26.08)

LEGEND

A01 MINIMUM DIMENSION FROM FINISHED GRADE AT FRONT FACE OF WALL TO TOP OF LEVELING PAD AS SHOWN. COORDINATE CONSTRUCTION OF THE LEVELING PAD WITH THE WALL SYSTEM FABRICATOR. PAY LIMITS BASED ON MINIMUM DIMENSION.

A02 SEE WALL EXTERNAL STABILITY EVALUATION TABLE ON THE "PROFILE & DESIGN DATA" SHEET FOR MINIMUM LENGTH OF MSE WALL REINFORCING STRIPS. SOIL REINFORCEMENT MUST EXTEND A MINIMUM OF 3.0 FEET BEYOND THE FAILURE PLANE FOR INTERNAL STABILITY AS DEFINED BY AASHTO SPECIFICATIONS.

A03 COORDINATE RAILING POST LOCATIONS WITH MSE WALL REINFORCEMENT.

A04 USE PIPE UNDERDRAIN UNPERFORATED 6-INCH TO DRAIN TO A MINIMUM EL. 818.00 (CONNECTIONS ARE INCIDENTAL TO "PIPE UNDERDRAIN UNPERFORATED 6-INCH")

A05 CONNECT PIPE UNDERDRAIN BEHIND B-59-328 W. ABUT. TO PIPE UNDERDRAIN AT BACK OF WALL. (CONNECTIONS ARE INCIDENTAL TO "PIPE UNDERDRAIN WRAPPED 6-INCH")

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-59-39

DRAWN BY SMC | PLANS CK'D. MHZ

TYPICAL SECTION

SHEET 2 OF 5

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Structure\R-59-39 NW Wall\cds\R-59-39-NW_080102_ts.dgn PLOT DATE : 12/6/2022 PLOT BY : sconnolly PLOT NAME : $FILE$ PLOT SCALE : 1:4

STATE PROJECT NUMBER
4995-03-02

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), SHEBOYGAN COUNTY, NAD 83 (2011). ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM, NAVD 88 (2012).

THESE PLANS ARE FOR A MODULAR BLOCK MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALL.

THE CONTRACTOR SHALL DESIGN THE WALL CONSIDERING THE OBSERVED WATER ELEVATION AND 100 YEAR FLOOD ELEVATIONS SHOWN IN THE PLANS.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS IS INCLUDED IN THE BID ITEM "WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH R-59-39".

THE COST OF FURNISHING AND PLACING MSE BACKFILL WITHIN THE REINFORCED SOIL ZONE IS TO BE INCLUDED IN THE BID ITEM "WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH R-59-39".

THE COST OF FURNISHING AND PLACING THE UNREINFORCED CONCRETE LEVELING PAD UNDER THE MODULAR BLOCK FACING IS INCLUDED IN THE BID ITEM "WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH R-59-39".

ALL STATIONS AND DIMENSIONS ARE ALONG THE FRONT FACE OF WALL, UNLESS SHOWN OTHERWISE.

SOIL REINFORCEMENT MAY BE PLACED UP TO A MAXIMUM OF 15° FROM PERPENDICULAR IF NECESSARY TO AVOID INTERFERENCE WITH ITEMS BEHIND THE WALL. ANGLES GREATER THAN 15° REQUIRE APPROVAL FROM THE BUREAU OF STRUCTURES DESIGN SECTION.

THE CONTRACTOR MUST COORDINATE THE CONSTRUCTION OF WALL R-59-39 WITH THE CONSTRUCTION OF R-59-40 AND B-59-328.

THE PLAN QUANTITY FOR THE ITEM "WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH R-59-39" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF THE LEVELING PAD TO THE TOP OF WALL AS SHOWN IN THE PLANS. THE TOP OF LEVELING PAD IS TAKEN AS A CONSTANT 2'-0" BELOW FINISHED GRADE FOR MEASUREMENT PURPOSES. WALL AREAS CONSTRUCTED OUTSIDE THESE LIMITS WILL NOT BE MEASURED FOR PAYMENT.

PLANS, ELEVATIONS, AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

THE UTILITY AND STORM SEWER INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATIONS AS TO TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE. UTILITIES LABELED AS PROPOSED MAY BE INSTALLED BY OTHERS PRIOR TO THIS CONTRACT.

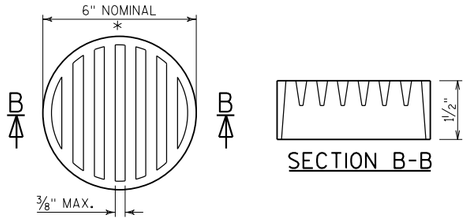
REFER TO S.D.D. "NAME PLATE (STRUCTURES)" FOR NAME PLATE DETAILS. NAME PLATE SHALL BE CONSIDERED INCIDENTAL TO BIT ITEM "WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH R-59-39".

MODULAR BLOCK COLOR AND TEXTURE TO MATCH WALLS R-59-40, R-59-41, & R-59-42 AND TO BE APPROVED BY THE OWNER.

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	TOTAL
612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	30
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	30
SPV.0165.01	WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH R-59-39	SF	187
	NON-BID ITEMS		
	NAME PLATE	EACH	1
	RODENT SHIELD	EACH	2

ALL ITEMS ARE CATEGORY 0030



RODENT SHIELD DETAIL

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-59-39

DRAWN BY SMC | PLANS CK'D. MHZ

GENERAL NOTES & QUANTITIES

SHEET 3 OF 5

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Structure\R-59-39 NW Wall\cds\R-59-39-NW_080103_gn.dgn PLOT DATE : 12/6/2022 PLOT BY : sconnolly PLOT NAME : $FILE$ PLOT SCALE : 1:4

STATE PROJECT NUMBER
4995-03-02

WALL EXTERNAL & OVERALL STABILITY EVALUATION

DIMENSIONS	EVALUATED LOCATIONS
WALL HEIGHT (FEET)	12.0
EXPOSED WALL HEIGHT (FEET)	10.0
MINIMUM LENGTH OF REINFORCEMENT (FEET) **	10.0
WALL STATION	20+01.08
BORING USED	B2
CAPACITY TO DEMAND RATIO (CDR)	
SLIDING (CDR>1.0)	1.21
ECCENTRICITY (CDR>1.0)	1.27
OVERALL STABILITY (CDR>1.0)	1.24
BEARING RESISTANCE (CDR>1.0)	1.48
FACTORED BEARING RESISTANCE (PSF)	8900

** THE LENGTHS PROVIDED IN THE TABLE ARE THE MINIMUM REQUIRED REINFORCEMENT LENGTHS BASED UPON THE MINIMUM DESCRIBED IN THE WALL SYSTEM SPECIAL PROVISIONS OR EXTERNAL AND OVERALL STABILITY AT THE DESIGNATED LOCATIONS. THESE DESIGNATED LOCATIONS REPRESENT TYPICAL AND CRITICAL WALL LOCATIONS, BUT SHALL NOT BE CONSIDERED ALL INCLUSIVE. THE CONTRACTOR DESIGN LENGTHS SHALL MEET OR EXCEED THE MINIMUM VALUES REPRESENTED IN THE TABLE AT THESE DESIGNATED LOCATIONS.

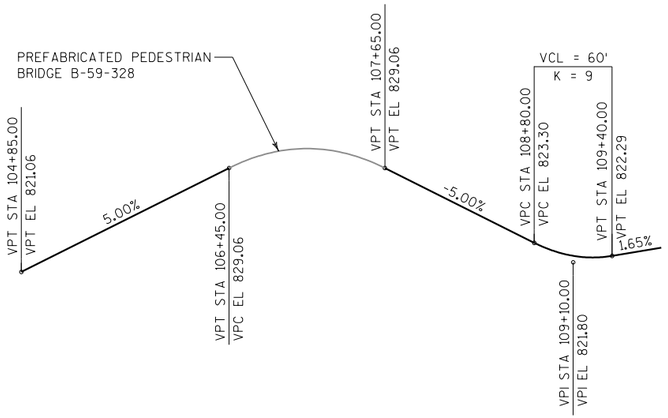
SOIL PARAMETERS

STRATUM LOCATIONS & SOIL DESCRIPTIONS	UNIT WEIGHT (PCF)	SHORT-TERM (UNDRAINED)		LONG-TERM (DRAINED)	
		FRICTION ANGLE (DEGREES)	COHESION (PCF)	FRICTION ANGLE (DEGREES)	COHESION (PCF)
GRANULAR BACKFILL (REINFORCING ZONE OR BACKFILL)	120	30	0	30	0
(INSERT SOIL TYPE) RETAINED SOIL *	120	30	0	30	0
EXISTING FILL EL. 816.5 - EL. 815.1	120	28	0	28	0
SILTY SAND EL. 812.5 - EL. 815.1	120	31	0	31	0
SILT EL. 807.1 - EL. 812.5	120	29	0	29	0

* DESIGN WALL FOR THESE VALUES

WALL ELEVATIONS ◥

STATION & OFFSET	WALL STATION	TOP OF WALL ELEVATION	FINISHED GRADE ELEVATION
106+43.92, 8.00'LT	20+01.08	829.01	819.37
106+21.87, 8.00'LT	20+26.08	828.01	828.01



PROFILE GRADE LINE - MULLET RIVER PATH

HORIZONTAL CURVE DATA

CURVE M5

PI = STA. 106+29.55
Y = 175303.75
X = 147706.24
DELTA = 28°09'32" RT
D = 95°29'35"
T = 15.05'
L = 29.49'
R = 60.00'
PC = STA. 106+14.50
Y = 175291.86
X = 147697.01
PT = STA. 106+43.99
Y = 175309.88
X = 147719.98

WALL CURVE NW1

PI = STA. 20+13.69
Y = 175312.02
X = 147705.14
DELTA = 21°07'30" LT
D = 84°15'31"
T = 12.68'
L = 25.07'
R = 68.00'
PC = STA. 20+01.01
Y = 175317.19
X = 147716.72
PT = STA. 20+26.08
Y = 175303.03
X = 147696.20

LEGEND

◥ LINEARLY INTERPOLATE WALL ELEVATIONS BETWEEN STATIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

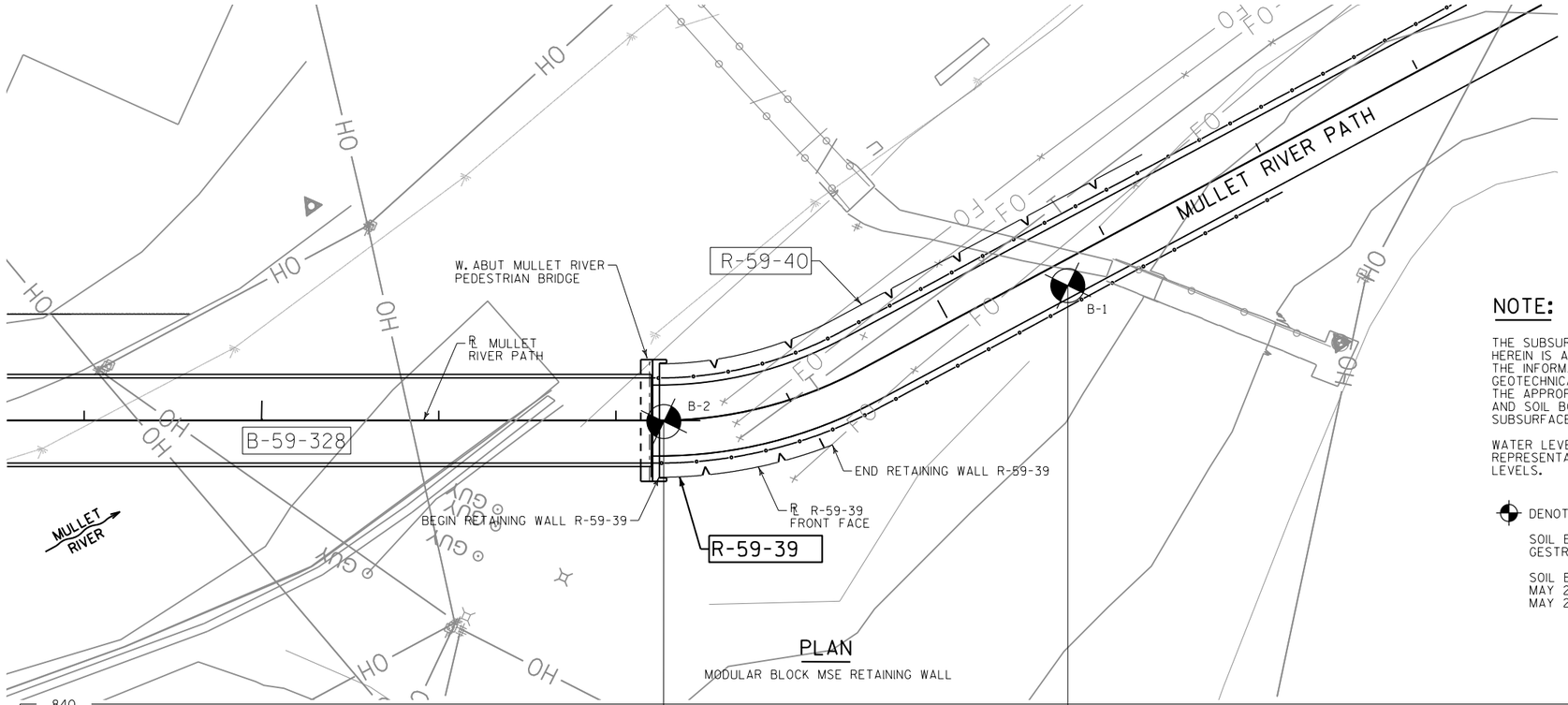
STRUCTURE R-59-39

DRAWN BY SMC | PLANS CK'D. MHZ

PROFILES & DESIGN DATA

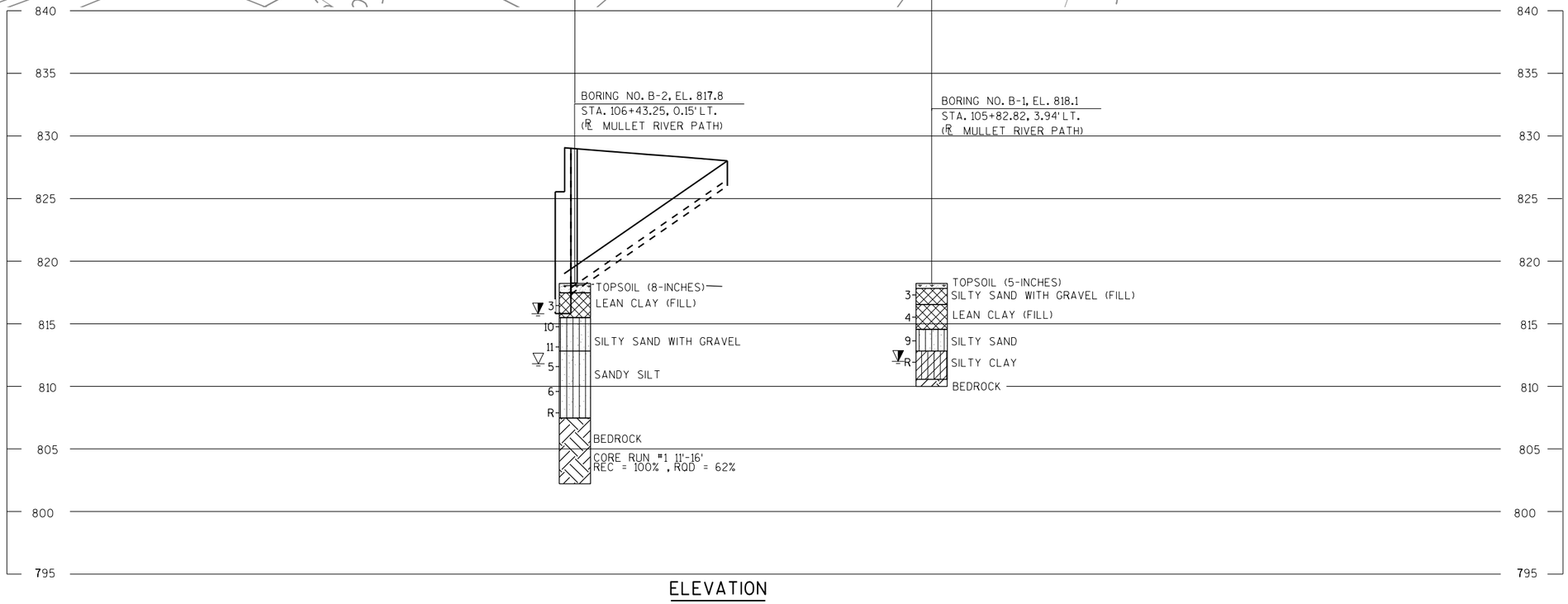
SHEET 4 OF 5

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Structure\R-59-39 NW Wall\cds\R-59-39-NW_080104_pr.dgn PLOT DATE : 12/6/2022 PLOT BY : sconnolly PLOT NAME : $FILE$ PLOT SCALE : 1:4



PLAN

MODULAR BLOCK MSE RETAINING WALL



ELEVATION

NOTE:

THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

WATER LEVELS INDICATED MAY NOT BE REPRESENTATIVE OF HYDROSTATIC WATER LEVELS.

⌖ DENOTES SOIL BORING LOCATION

SOIL BORINGS COMPLETED BY:
GESTRA ENGINEERING, INC.

SOIL BORING TAKEN:
MAY 27TH, 2021 - BORING B-1
MAY 27TH, 2021 - BORING B-2

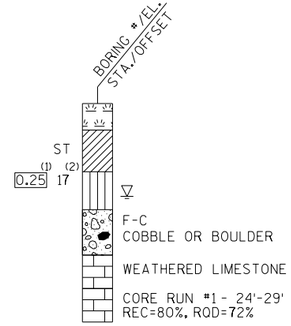
STATE PROJECT NUMBER

4995-03-02

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/ META

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

▽ AT TIME OF DRILLING

▼ AFTER DRILLING

▽ END OF DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-59-39

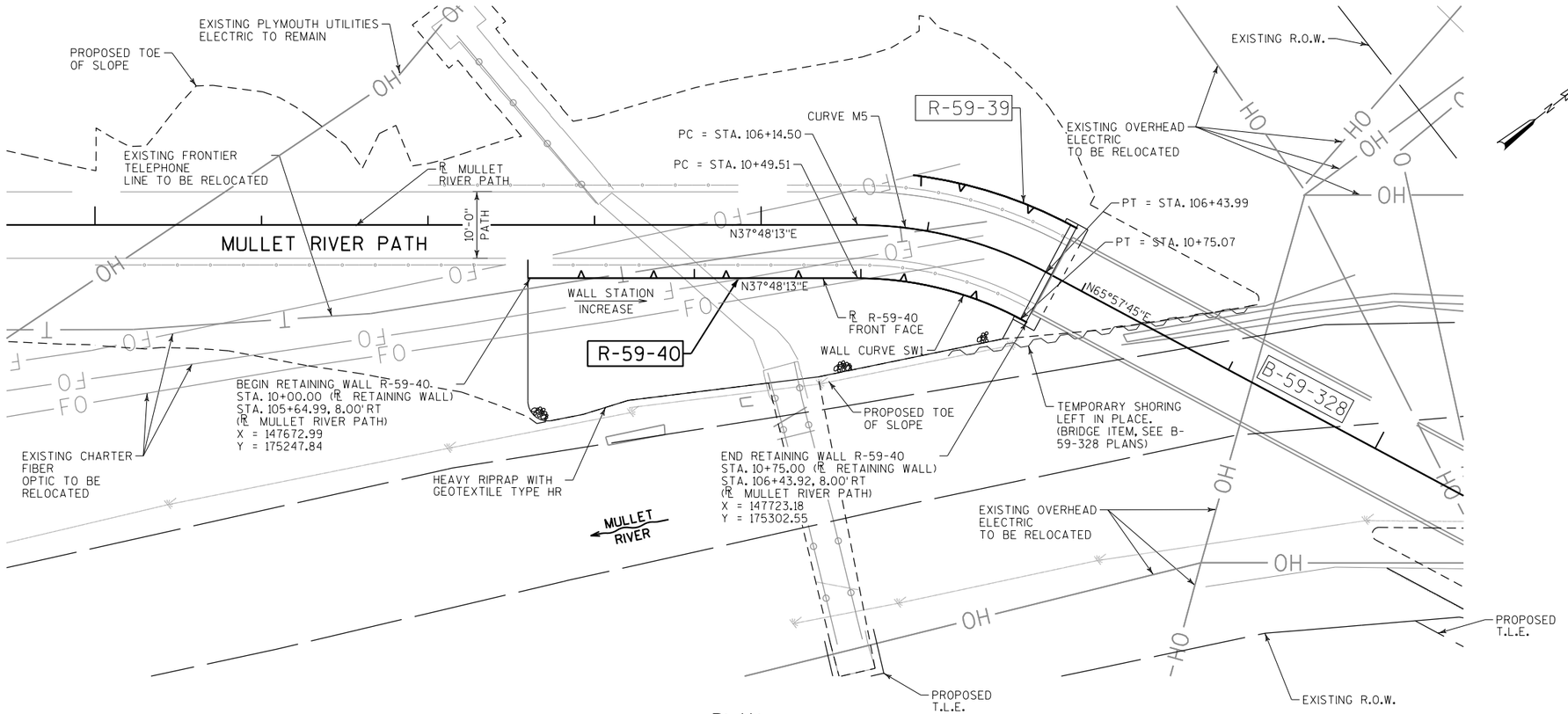
DRAWN BY SMC | PLANS CK'D. MHZ

SUBSURFACE EXPLORATION

SHEET 5 OF 5

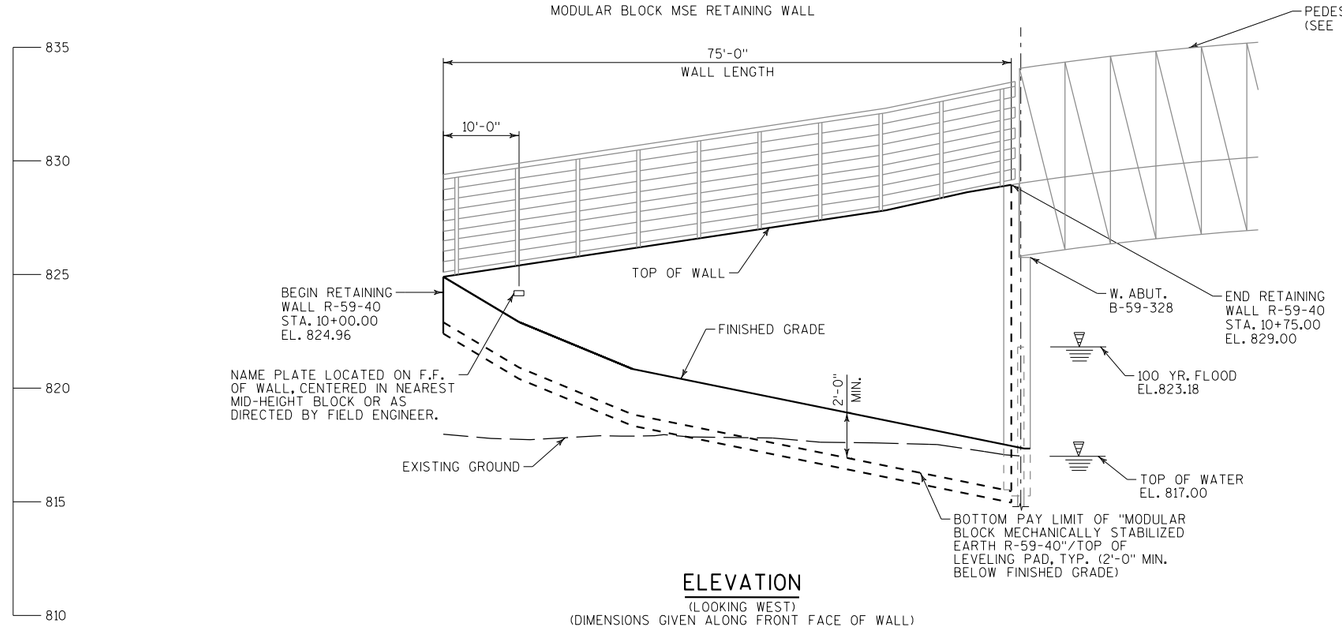
FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Structure\R-59-39 NW Wall\cds\R-59-39-NW_080201_se.dgn PLOT DATE : 12/6/2022 PLOT BY : sconnolly PLOT NAME : $FILE$ PLOT SCALE : 1:20

STATE PROJECT NUMBER
4995-03-02



PLAN

MODULAR BLOCK MSE RETAINING WALL



ELEVATION

(LOOKING WEST)
(DIMENSIONS GIVEN ALONG FRONT FACE OF WALL)

DESIGN DATA

LIVE LOAD:

LIVE LOAD SURCHARGE (CONSTRUCTION): 100 PSF

MATERIAL PROPERTIES:

DRY CAST MODULAR BLOCK ..... f'c = 5,000 psi
WET CAST MODULAR BLOCK ..... f'c = 4,000 psi
CONCRETE LEVELING PAD ..... f'c = 4,000 psi

DESIGN THE RETAINING WALL FOR A HORIZONTAL FINISHED GRADE BEHIND THE WALL, AND A LIVE LOAD SURCHARGE OF 100 PSF, UNLESS NOTED OTHERWISE

LIST OF DRAWINGS

1. GENERAL PLAN & ELEVATION
2. TYPICAL SECTIONS
3. GENERAL NOTES & QUANTITIES
4. PROFILES & DESIGN DATA
5. RIPRAP DETAILS
6. SUBSURFACE EXPLORATION

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
AARON BONK (608) 261-0261
CONSULTANT:
MOHAMMED ZAGLOUL (414) 751-7200

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY

kapur
7711 N. Port Washington Road
Milwaukee, Wisconsin 53217
kapurinc.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED _____ SDR 12/06/22
CHIEF STRUCTURES DESIGN ENGINEER — DATE

WISCONSIN
SHANNON CONNOLLY
E-44309-6
MILWAUKEE, WI
PROFESSIONAL ENGINEER
12/6/22

STRUCTURE R-59-40

RETAINING WALL ALONG MULLET RIVER PATH

COUNTY	CITY
SHEBOYGAN	PLYMOUTH

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
SMC	MHZ	SMC	MHZ

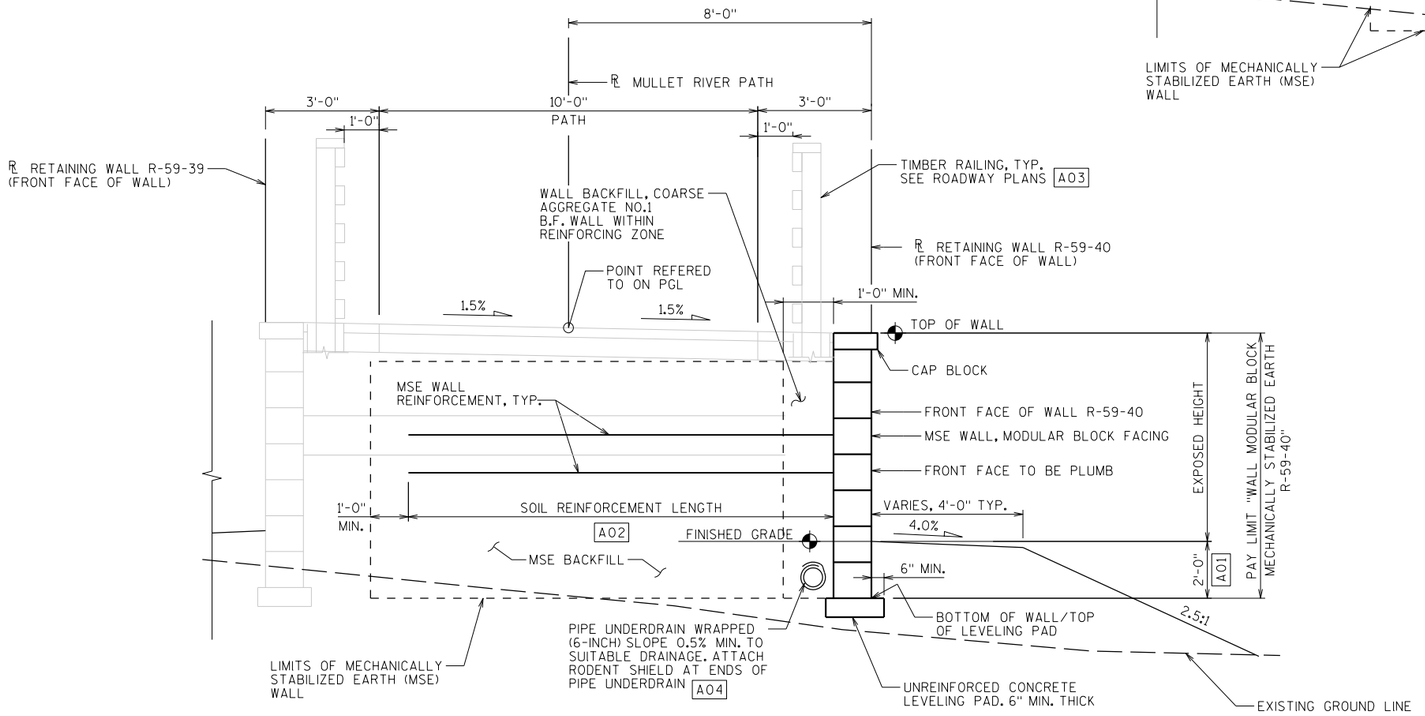
GENERAL PLAN & ELEVATION

SHEET 1 OF 6

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Structure\R-59-40 SW Wall\cds\R-59-40-SW_080101_gp.dgn PLOT DATE : 12/6/2022 PLOT BY : sconnolly PLOT NAME : $FILE$ PLOT SCALE : 1:20

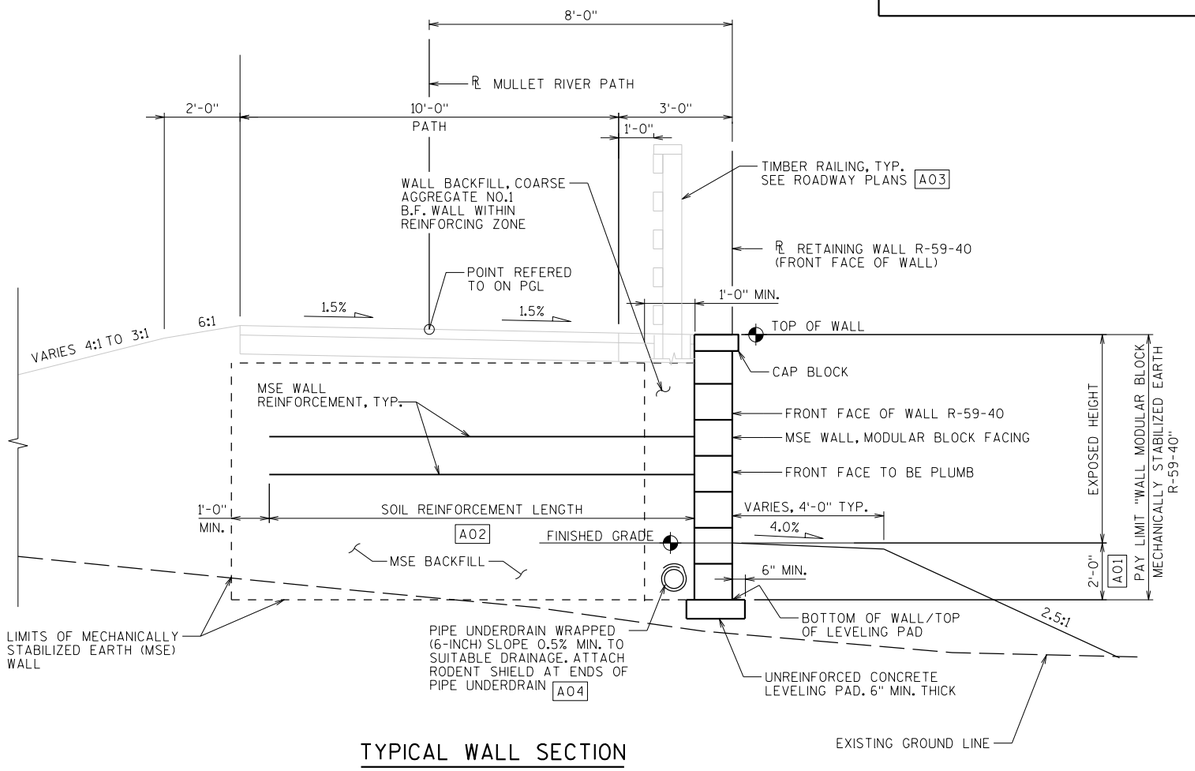
STATE PROJECT NUMBER

4995-03-02



TYPICAL WALL SECTION

(LOOKING EAST)
(WALL STA. 10+55.89 TO WALL 10+75.00)



TYPICAL WALL SECTION

(LOOKING EAST)
(WALL STA. 10+00.00 TO WALL 10+55.89)

LEGEND

A01 MINIMUM DIMENSION FROM FINISHED GRADE AT FRONT FACE OF WALL TO TOP OF LEVELING PAD AS SHOWN. COORDINATE CONSTRUCTION OF THE LEVELING PAD WITH THE WALL SYSTEM FABRICATOR. PAY LIMITS BASED ON MINIMUM DIMENSION.

A02 SEE WALL EXTERNAL STABILITY EVALUATION TABLE ON THE "PROFILES & DESIGN DATA" SHEET FOR MINIMUM LENGTH OF MSE WALL REINFORCING STRIPS. SOIL REINFORCEMENT MUST EXTEND A MINIMUM OF 3.0 FEET BEYOND THE FAILURE PLANE FOR INTERNAL STABILITY AS DEFINED BY AASHTO SPECIFICATIONS.

A03 COORDINATE RAILING POST LOCATIONS WITH MSE WALL REINFORCEMENT.

A04 USE PIPE UNDERDRAIN UNPERFORATED 6-INCH TO DRAIN TO A MINIMUM EL. 818.00 (CONNECTIONS ARE INCIDENTAL TO "PIPE UNDERDRAIN UNPERFORATED 6-INCH")

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-59-40

DRAWN BY SMC | PLANS CK'D. MHZ

TYPICAL SECTIONS

SHEET 2 OF 6

8

8

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Structure\R-59-40 SW Wall\cds\R-59-40-SW_080102_ts.dgn PLOT DATE : 12/6/2022 PLOT BY : sconnolly PLOT NAME : $FILE$ PLOT SCALE : 1:4

STATE PROJECT NUMBER
4995-03-02

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), SHEBOYGAN COUNTY, NAD 83 (2011). ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM, NAVD 88 (2012).

THE CONTRACTOR SHALL DESIGN THE WALL CONSIDERING THE OBSERVED WATER ELEVATION AND 100 YEAR FLOOD ELEVATIONS SHOWN IN THE PLANS.

THESE PLANS ARE FOR A MODULAR BLOCK MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALL.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS IS INCLUDED IN THE BID ITEM "WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH R-59-40".

THE COST OF FURNISHING AND PLACING MSE BACKFILL WITHIN THE REINFORCED SOIL ZONE IS TO BE INCLUDED IN THE BID ITEM "WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH R-59-40".

THE COST OF FURNISHING AND PLACING THE UNREINFORCED CONCRETE LEVELING PAD UNDER THE MODULAR BLOCK FACING IS INCLUDED IN THE BID ITEM "WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH R-59-40".

ALL STATIONS AND DIMENSIONS ARE ALONG THE FRONT FACE OF WALL, UNLESS SHOWN OTHERWISE.

SOIL REINFORCEMENT MAY BE PLACED UP TO A MAXIMUM OF 15° FROM PERPENDICULAR IF NECESSARY TO AVOID INTERFERENCE WITH ITEMS BEHIND THE WALL. ANGLES GREATER THAN 15° REQUIRE APPROVAL FROM THE BUREAU OF STRUCTURES DESIGN SECTION.

THE CONTRACTOR MUST COORDINATE THE CONSTRUCTION OF WALL R-59-40 WITH THE CONSTRUCTION OF R-59-39 AND B-59-328.

THE PLAN QUANTITY FOR THE ITEM "WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH R-59-40" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF THE LEVELING PAD TO THE TOP OF WALL AS SHOWN IN THE PLANS. THE TOP OF LEVELING PAD IS TAKEN AS A CONSTANT 2'-0" BELOW FINISHED GRADE FOR MEASUREMENT PURPOSES. WALL AREAS CONSTRUCTED OUTSIDE THESE LIMITS WILL NOT BE MEASURED FOR PAYMENT.

PLANS, ELEVATIONS, AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

THE UTILITY AND STORM SEWER INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATIONS AS TO TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE. UTILITIES LABELED AS PROPOSED MAY BE INSTALLED BY OTHERS PRIOR TO THIS CONTRACT.

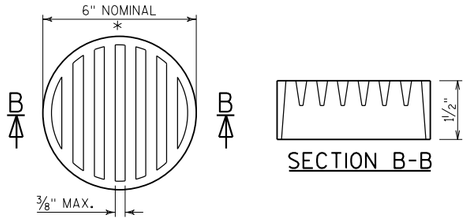
REFER TO S.D.D. "NAME PLATE (STRUCTURES)" FOR NAME PLATE DETAILS. NAME PLATE SHALL BE CONSIDERED INCIDENTAL TO BIT ITEM "WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH R-59-40".

MODULAR BLOCK COLOR AND TEXTURE TO MATCH WALLS R-59-39, R-59-41, & R-59-42 AND TO BE APPROVED BY THE OWNER.

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	TOTAL
606.0300	HEAVY RIPRAP	CY	108
612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	45
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	80
645.0120	GEOTEXTILE TYPE HR	SY	167
SPV.0165.02	WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH R-59-40	SF	653
	NON-BID ITEMS		
	NAME PLATE	EACH	1
	RODENT SHIELD	EACH	3

ALL ITEMS ARE CATEGORY 0040



RODENT SHIELD DETAIL

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-59-40

DRAWN BY SMC | PLANS CK'D. MHZ

GENERAL NOTES & QUANTITIES

SHEET 3 OF 6

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Structure\R-59-40 SW Wall\cds\R-59-40-SW_080103_gn.dgn PLOT DATE : 12/6/2022 PLOT BY : sconnolly PLOT NAME : $FILE$ PLOT SCALE : 1:4

STATE PROJECT NUMBER
4995-03-02

WALL EXTERNAL & OVERALL STABILITY EVALUATION

DIMENSIONS	EVALUATED LOCATIONS
WALL HEIGHT (FEET)	13.7
EXPOSED WALL HEIGHT (FEET)	11.7
MINIMUM LENGTH OF REINFORCEMENT (FEET) **	10.0
WALL STATION	10+75.00
BORING USED	B2
CAPACITY TO DEMAND RATIO (CDR)	
SLIDING (CDR>1.0)	1.07
ECCENTRICITY (CDR>1.0)	1.03
OVERALL STABILITY (CDR>1.0)	1.24
BEARING RESISTANCE (CDR>1.0)	1.16
FACTORED BEARING RESISTANCE (PSF)	9200

** THE LENGTHS PROVIDED IN THE TABLE ARE THE MINIMUM REQUIRED REINFORCEMENT LENGTHS BASED UPON THE MINIMUM DESCRIBED IN THE WALL SYSTEM SPECIAL PROVISIONS OR EXTERNAL AND OVERALL STABILITY AT THE DESIGNATED LOCATIONS. THESE DESIGNATED LOCATIONS REPRESENT TYPICAL AND CRITICAL WALL LOCATIONS, BUT SHALL NOT BE CONSIDERED ALL INCLUSIVE. THE CONTRACTOR DESIGN LENGTHS SHALL MEET OR EXCEED THE MINIMUM VALUES REPRESENTED IN THE TABLE AT THESE DESIGNATED LOCATIONS.

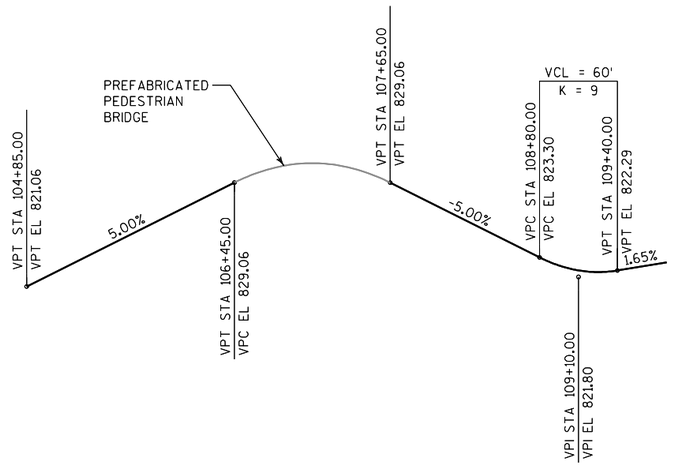
SOIL PARAMETERS

STRATUM LOCATIONS & SOIL DESCRIPTIONS	UNIT WEIGHT (PCF)	SHORT-TERM (UNDRAINED)		LONG-TERM (DRAINED)	
		FRICTION ANGLE (DEGREES)	COHESION (PCF)	FRICTION ANGLE (DEGREES)	COHESION (PCF)
GRANULAR BACKFILL (REINFORCING ZONE OR BACKFILL)	120	30	0	30	0
(INSERT SOIL TYPE) RETAINED SOIL *	120	30	0	30	0
EXISTING FILL EL. 816.5 - EL. 815.1	120	28	0	28	0
SILTY SAND EL. 812.5 - EL. 815.1	120	31	0	31	0
SILT EL. 807.1 - EL. 812.5	120	29	0	29	0

* DESIGN WALL FOR THESE VALUES

WALL ELEVATIONS ◥

STATION & OFFSET	WALL STATION	TOP OF WALL ELEVATION	FINISHED GRADE ELEVATION
105+64.99, 8.00' RT	10+00.00	824.96	824.96
105+74.99, 8.00' RT	10+10.00	825.46	822.96
105+89.99, 8.00' RT	10+25.00	826.21	820.90
106+14.99, 8.00' RT	10+50.00	827.46	819.19
106+24.85, 8.00' RT	10+58.48	827.88	818.61
106+43.92, 8.00' RT	10+75.00	829.00	817.49



PROFILE GRADE LINE - MULLET RIVER PATH

HORIZONTAL CURVE DATA

CURVE M5

PI = STA. 106+29.55
Y = 175303.75
X = 147706.24
DELTA = 28°09'32" RT
D = 95°29'35"
T = 15.05'
L = 29.49'
R = 60.00'
PC = STA. 106+14.50
Y = 175291.86
X = 147697.01
PT = STA. 106+43.99
Y = 175309.88
X = 147719.98

WALL CURVE SW1

PI = STA. 10+62.55
Y = 175297.26
X = 147711.33
DELTA = 28°09'32" RT
D = 110°11'03"
T = 13.04'
L = 25.56'
R = 52.00'
PC = STA. 10+49.51
Y = 175286.96
X = 147703.34
PT = STA. 10+75.07
Y = 175302.58
X = 147723.24

LEGEND

◥ LINEARLY INTERPOLATE WALL ELEVATIONS BETWEEN STATIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-59-40

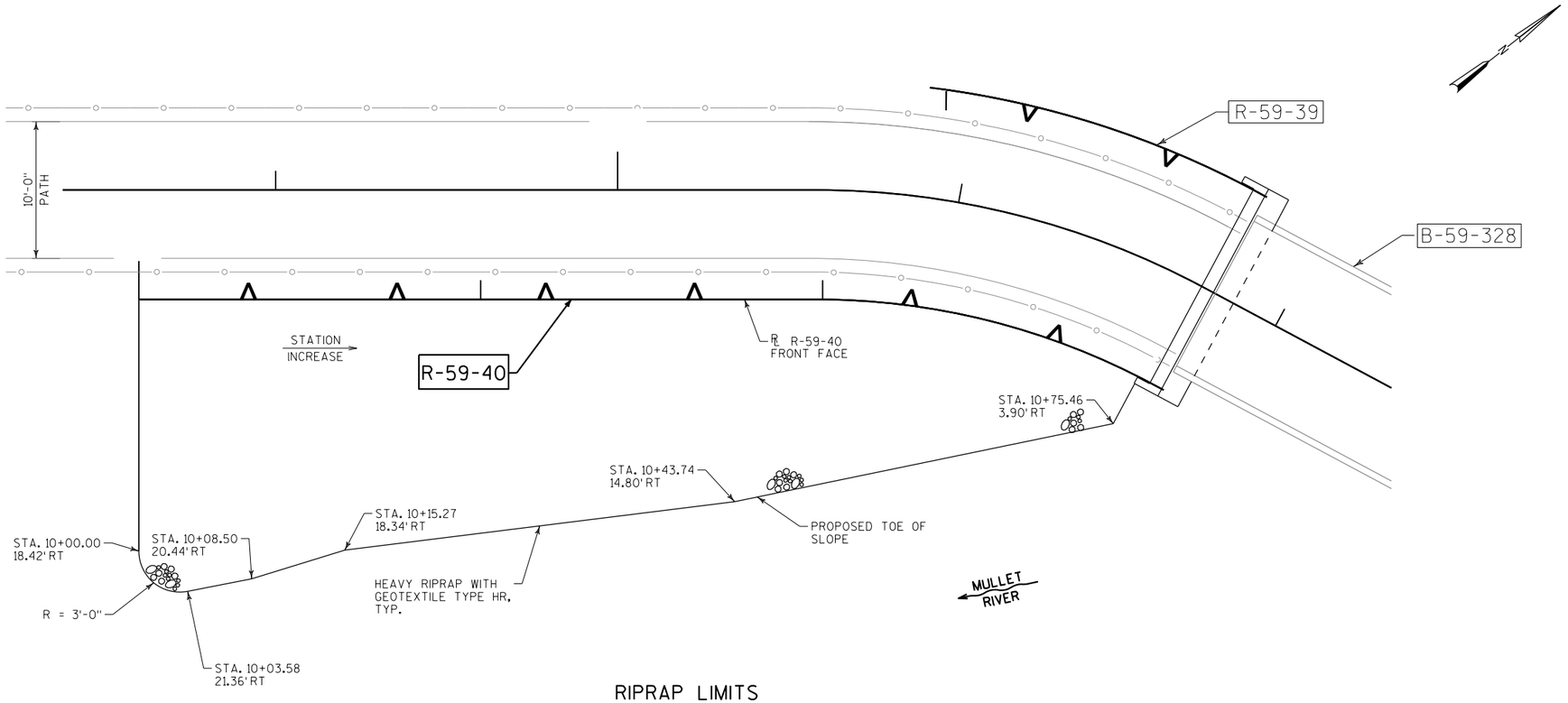
DRAWN BY SMC | PLANS CK'D. MHZ

PROFILES & DESIGN DATA

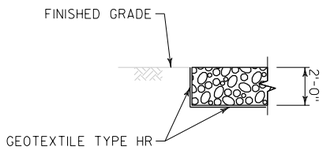
SHEET 4 OF 6

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Structure\R-59-40 SW Wall\cds\R-59-40-SW_080104_pr.dgn PLOT DATE : 12/6/2022 PLOT BY : sconnolly PLOT NAME : $FILE$ PLOT SCALE : 1:4

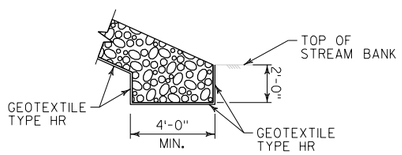
STATE PROJECT NUMBER
4995-03-02



RIPRAP LIMITS



HEAVY RIPRAP SECTION



HEAVY RIPRAP TOE DETAIL

8

8

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

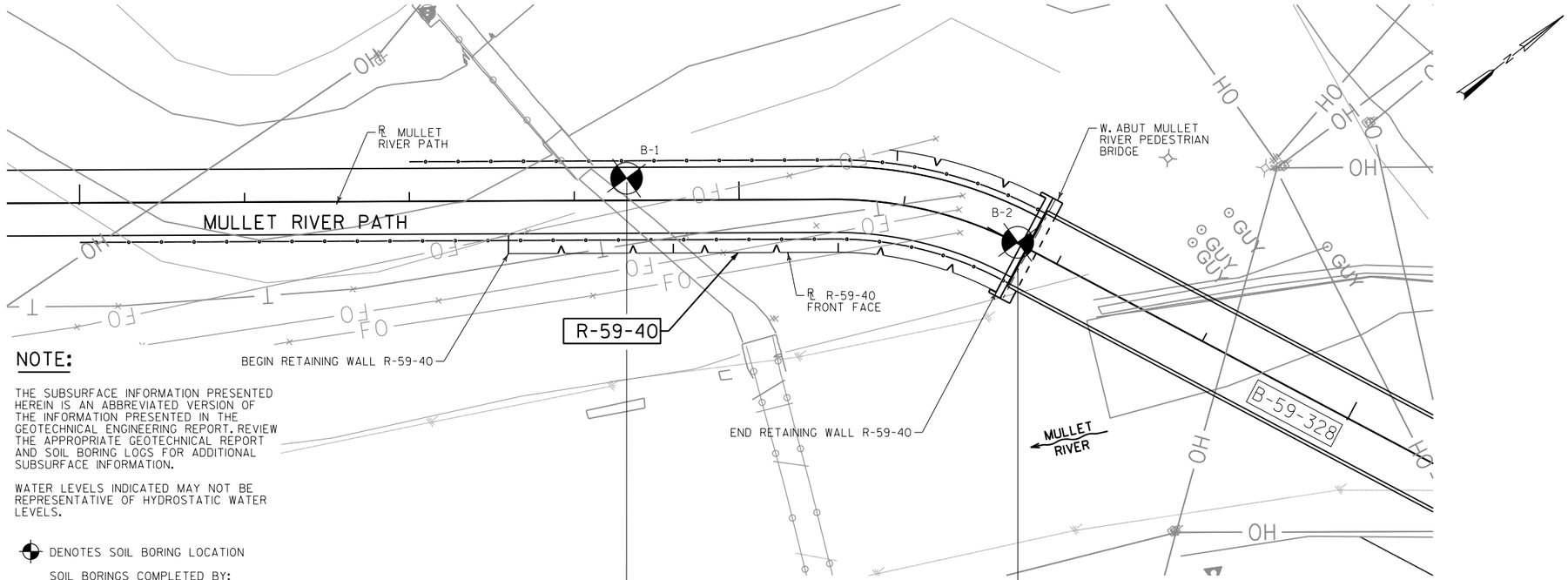
STRUCTURE R-59-40

DRAWN BY SMC | PLANS CK'D. MHZ

RIPRAP DETAILS

SHEET 5 OF 6

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Structure\R-59-40 SW Wall\cds\R-59-40-SW_080105_pr.dgn PLOT DATE : 12/6/2022 PLOT BY : sconnolly PLOT NAME : $FILE$ PLOT SCALE : 1:10



NOTE:

THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

WATER LEVELS INDICATED MAY NOT BE REPRESENTATIVE OF HYDROSTATIC WATER LEVELS.

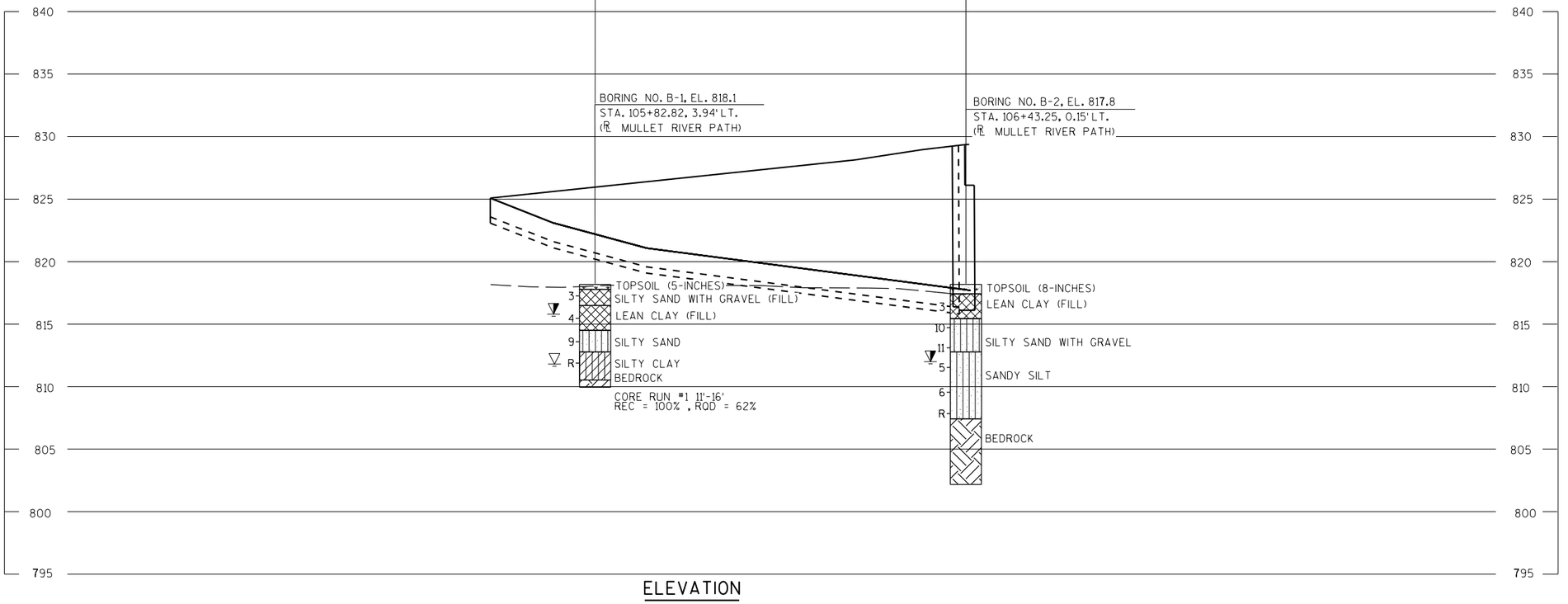
⊕ DENOTES SOIL BORING LOCATION

SOIL BORINGS COMPLETED BY:
GESTRA ENGINEERING, INC.

SOIL BORING TAKEN:
MAY 27TH, 2021 - BORING B-1
MAY 27TH, 2021 - BORING B-2

PLAN

MODULAR BLOCK MSE RETAINING WALL



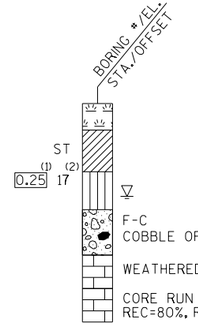
ELEVATION

STATE PROJECT NUMBER
4995-03-02

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/ META

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- ▽ AT TIME OF DRILLING
- ▼ AFTER DRILLING
- ▼ END OF DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-59-40

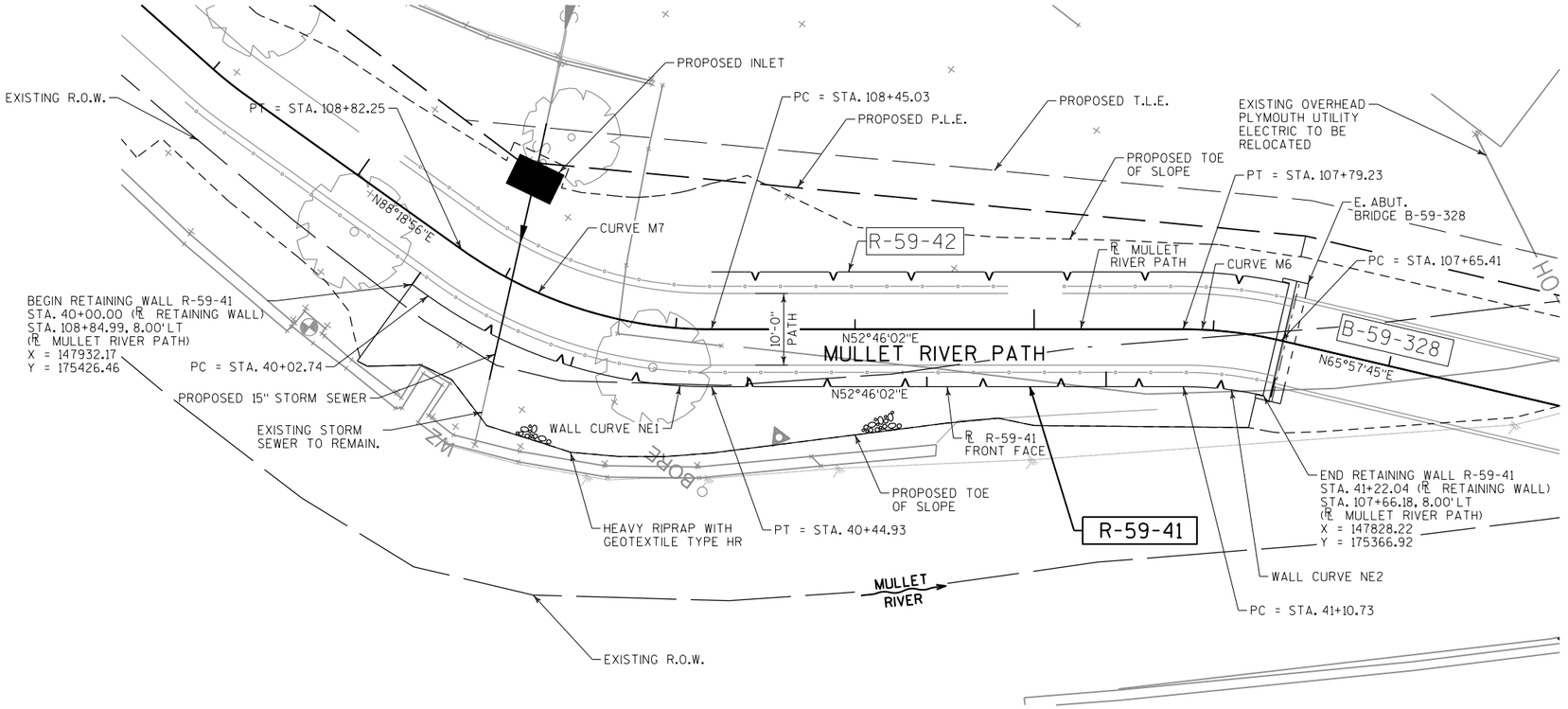
DRAWN BY	SMC	PLANS CK'D.	MHZ

SUBSURFACE EXPLORATION

SHEET 6 OF 6

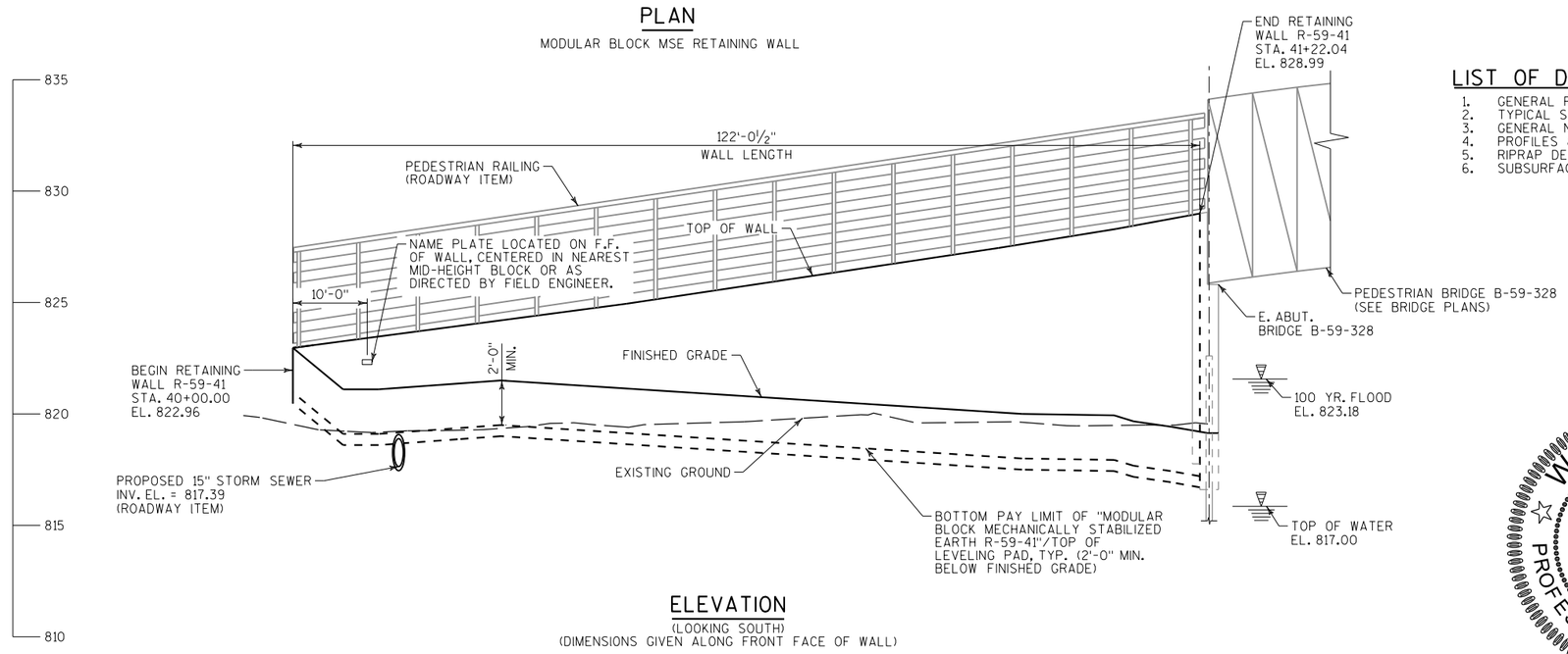
FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Structure\R-59-40 SW Wall\cds\R-59-40-SW_080201_se.dgn PLOT DATE : 12/6/2022 PLOT BY : sconnolly PLOT NAME : $FILE$ PLOT SCALE : 1:20

STATE PROJECT NUMBER
4995-03-02



PLAN

MODULAR BLOCK MSE RETAINING WALL



ELEVATION

(LOOKING SOUTH)
(DIMENSIONS GIVEN ALONG FRONT FACE OF WALL)

DESIGN DATA

LIVE LOAD:

LIVE LOAD SURCHARGE (CONSTRUCTION): 100 PSF

MATERIAL PROPERTIES:

DRY CAST MODULAR BLOCK ..... f'c = 5,000 psi
WET CAST MODULAR BLOCK ..... f'c = 4,000 psi
CONCRETE LEVELING PAD ..... f'c = 4,000 psi

DESIGN THE RETAINING WALL FOR A HORIZONTAL FINISHED GRADE BEHIND THE WALL, AND A LIVE LOAD SURCHARGE OF 100 PSF, UNLESS NOTED OTHERWISE

LIST OF DRAWINGS

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
AARON BONK (608) 261-0261
CONSULTANT:
MOHAMMED ZAGLOUL (414) 751-7200

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY

kapur
7711 N. Port Washington Road
Milwaukee, Wisconsin 53217
kapurinc.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED _____ SDR 12/06/22
CHIEF STRUCTURES DESIGN ENGINEER — DATE

WISCONSIN
SHANNON CONNOLLY
E-44309-6
MILWAUKEE, WI
12/6/2022
PROFESSIONAL ENGINEER

STRUCTURE R-59-41

RETAINING WALL ALONG MULLET RIVER PATH

COUNTY	CITY
SHEBOYGAN	PLYMOUTH

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

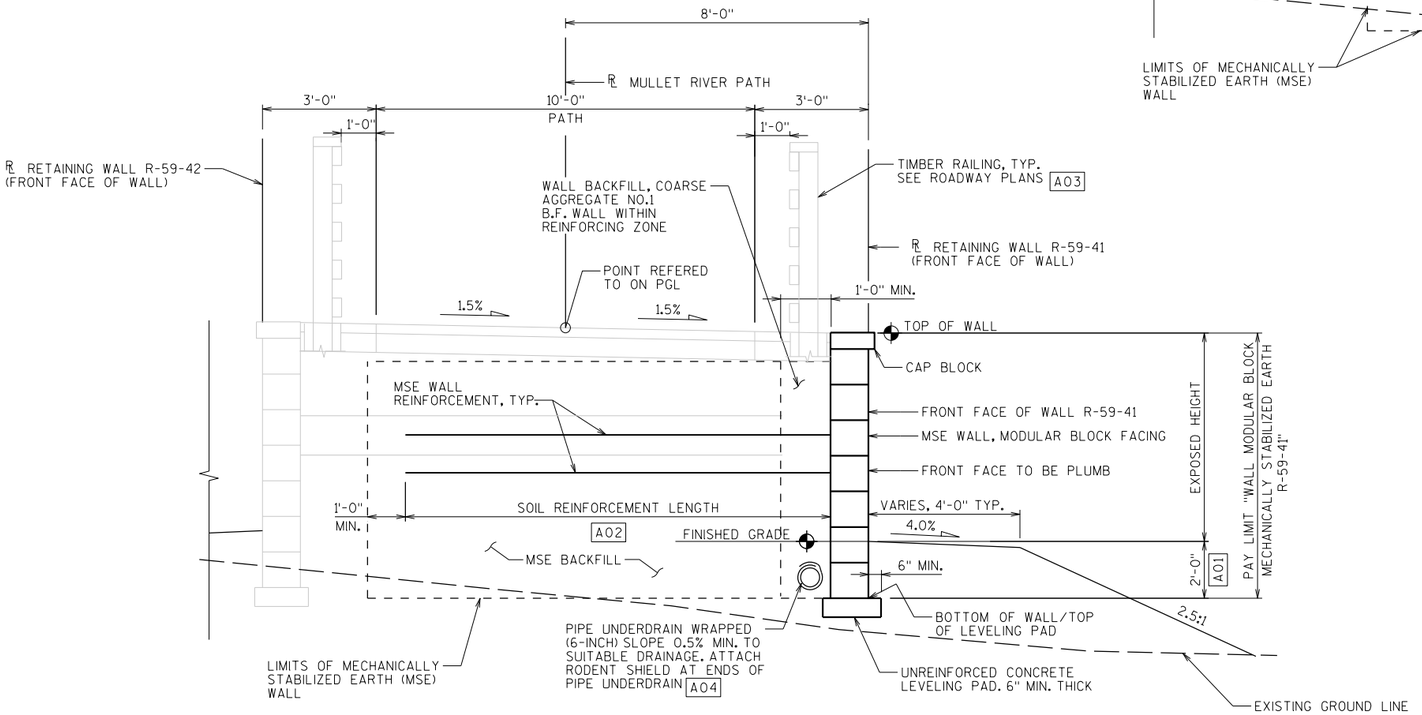
DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
SMC	MHZ	SMC	MHZ

GENERAL PLAN & ELEVATION

SHEET 1 OF 6

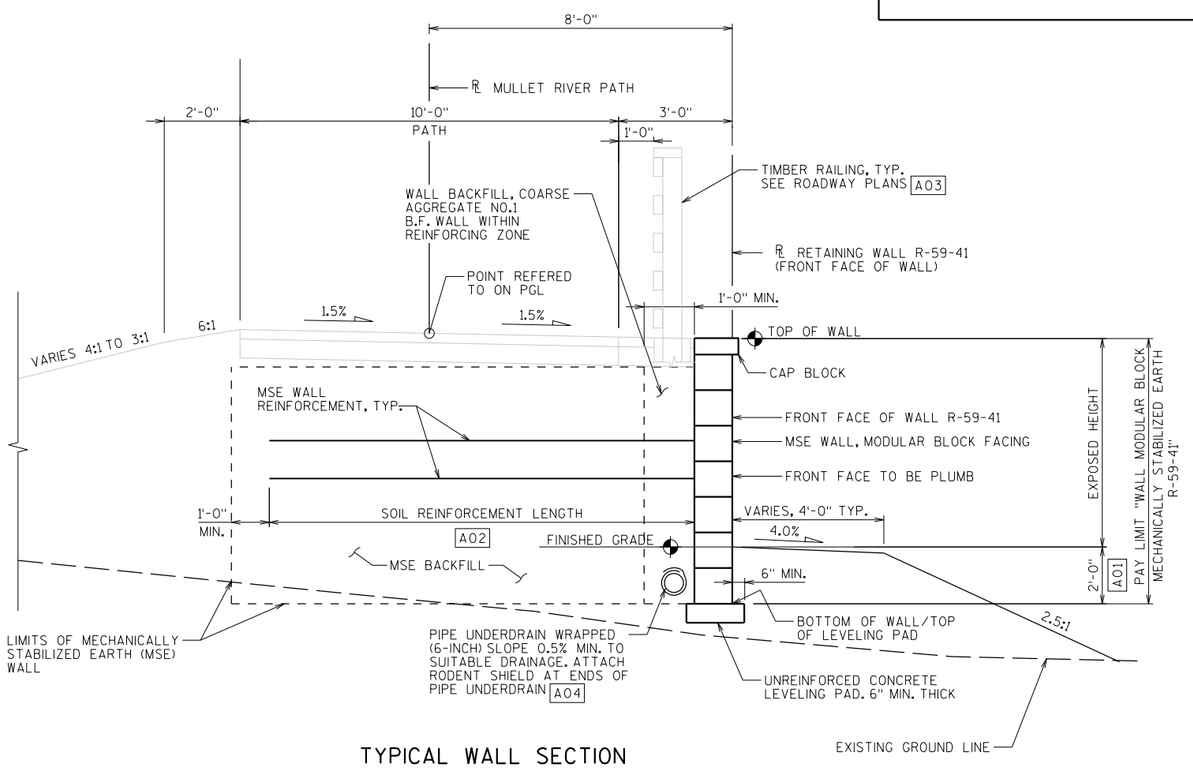
FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Structure\R-59-41 NE Wall\cds\R-59-41-NE_080101_gp.dgn PLOT DATE : 12/6/2022 PLOT BY : sconnolly PLOT NAME : $FILE$ PLOT SCALE : 1:20

STATE PROJECT NUMBER
4995-03-02



TYPICAL WALL SECTION

(LOOKING WEST)
(WALL STA. 40+44.93 TO WALL 41+22.04)



TYPICAL WALL SECTION

(LOOKING WEST)
(WALL STA. 40+00.00 TO WALL 40+44.93)

LEGEND

A01 MINIMUM DIMENSION FROM FINISHED GRADE AT FRONT FACE OF WALL TO TOP OF LEVELING PAD AS SHOWN. COORDINATE CONSTRUCTION OF THE LEVELING PAD WITH THE WALL SYSTEM FABRICATOR. PAY LIMITS BASED ON MINIMUM DIMENSION.

A02 SEE WALL EXTERNAL STABILITY EVALUATION TABLE ON THE "PROFILES & DESIGN DATA" SHEET FOR MINIMUM LENGTH OF MSE WALL REINFORCING STRIPS. SOIL REINFORCEMENT MUST EXTEND A MINIMUM OF 3.0 FEET BEYOND THE FAILURE PLANE FOR INTERNAL STABILITY AS DEFINED BY AASHTO SPECIFICATIONS.

A03 COORDINATE RAILING POST LOCATIONS WITH MSE WALL REINFORCEMENT.

A04 USE PIPE UNDERDRAIN UNPERFORATED 6-INCH TO DRAIN TO A MINIMUM EL. 818.00 (CONNECTIONS ARE INCIDENTAL TO "PIPE UNDERDRAIN UNPERFORATED 6-INCH")

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-59-41

DRAWN BY	SMC	PLANS CK'D.	MHZ

TYPICAL SECTIONS

SHEET 2 OF 6

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Structure\R-59-41 NE Wall\cds\R-59-41-NE_080102_ts.dgn PLOT DATE : 12/6/2022 PLOT BY : sconnolly PLOT NAME : $FILE$ PLOT SCALE : 1:4

STATE PROJECT NUMBER
4995-03-02

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), SHEBOYGAN COUNTY, NAD 83 (2011). ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM, NAVD 88 (2012).

THE CONTRACTOR SHALL DESIGN THE WALL CONSIDERING THE OBSERVED WATER ELEVATION AND 100 YEAR FLOOD ELEVATIONS SHOWN IN THE PLANS.

THESE PLANS ARE FOR A MODULAR BLOCK MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALL.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS IS INCLUDED IN THE BID ITEM "WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH R-59-41".

THE COST OF FURNISHING AND PLACING MSE BACKFILL WITHIN THE REINFORCED SOIL ZONE IS TO BE INCLUDED IN THE BID ITEM "WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH R-59-41".

THE COST OF FURNISHING AND PLACING THE UNREINFORCED CONCRETE LEVELING PAD UNDER THE MODULAR BLOCK FACING IS INCLUDED IN THE BID ITEM "WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH R-59-41".

ALL STATIONS AND DIMENSIONS ARE ALONG THE FRONT FACE OF WALL, UNLESS SHOWN OTHERWISE.

SOIL REINFORCEMENT MAY BE PLACED UP TO A MAXIMUM OF 15° FROM PERPENDICULAR IF NECESSARY TO AVOID INTERFERENCE WITH ITEMS BEHIND THE WALL. ANGLES GREATER THAN 15° REQUIRE APPROVAL FROM THE BUREAU OF STRUCTURES DESIGN SECTION.

THE CONTRACTOR MUST COORDINATE THE CONSTRUCTION OF WALL R-59-41 WITH THE CONSTRUCTION OF R-59-42 AND B-59-328.

THE PLAN QUANTITY FOR THE ITEM "WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH R-59-41" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF THE LEVELING PAD TO THE TOP OF WALL AS SHOWN IN THE PLANS. THE TOP OF LEVELING PAD IS TAKEN AS A CONSTANT 2'-0" BELOW FINISHED GRADE FOR MEASUREMENT PURPOSES. WALL AREAS CONSTRUCTED OUTSIDE THESE LIMITS WILL NOT BE MEASURED FOR PAYMENT.

PLANS, ELEVATIONS, AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

THE UTILITY AND STORM SEWER INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATIONS AS TO TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE. UTILITIES LABELED AS PROPOSED MAY BE INSTALLED BY OTHERS PRIOR TO THIS CONTRACT.

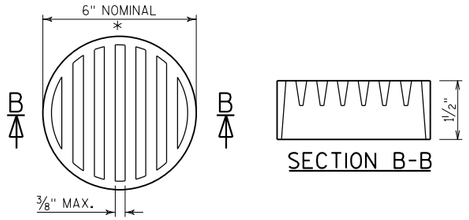
REFER TO S.D.D. "NAME PLATE (STRUCTURES)" FOR NAME PLATE DETAILS. NAME PLATE SHALL BE CONSIDERED INCIDENTAL TO BIT ITEM "WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH R-59-41".

MODULAR BLOCK COLOR AND TEXTURE TO MATCH WALLS R-59-42, R-59-39, & R-59-40 AND TO BE APPROVED BY THE OWNER.

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	TOTAL
606.0300	RIPRAP HEAVY	CY	108
612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	45
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	130
645.0120	GEOTEXTILE TYPE HR	SY	164
SPV.0165.03	WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH R-59-41	SF	880
	NON-BID ITEMS		
	NAME PLATE	EACH	1
	RODENT SHIELD	EACH	3

ALL ITEMS ARE CATEGORY 0050



SECTION B-B

RODENT SHIELD DETAIL

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-59-41

DRAWN BY SMC | PLANS CK'D. MHZ

GENERAL NOTES & QUANTITIES

SHEET 3 OF 6

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Structure\R-59-41 NE Wall\cds\R-59-41-NE_080103_gn.dgn PLOT DATE : 12/6/2022 PLOT BY : sconnolly PLOT NAME : $FILE$ PLOT SCALE : 1:4

STATE PROJECT NUMBER
4995-03-02

WALL EXTERNAL & OVERALL STABILITY EVALUATION

DIMENSIONS	EVALUATED LOCATIONS
WALL HEIGHT (FEET)	11.9
EXPOSED WALL HEIGHT (FEET)	9.9
MINIMUM LENGTH OF REINFORCEMENT (FEET) **	10.0
WALL STATION	41+22.04
BORING USED	B3
CAPACITY TO DEMAND RATIO (CDR)	
SLIDING (CDR>1.0)	1.07
ECCENTRICITY (CDR>1.0)	1.03
OVERALL STABILITY (CDR>1.0)	1.27
BEARING RESISTANCE (CDR>1.0)	1.16
FACTORED BEARING RESISTANCE (PSF)	9300

** THE LENGTHS PROVIDED IN THE TABLE ARE THE MINIMUM REQUIRED REINFORCEMENT LENGTHS BASED UPON THE MINIMUM DESCRIBED IN THE WALL SYSTEM SPECIAL PROVISIONS OR EXTERNAL AND OVERALL STABILITY AT THE DESIGNATED LOCATIONS. THESE DESIGNATED LOCATIONS REPRESENT TYPICAL AND CRITICAL WALL LOCATIONS, BUT SHALL NOT BE CONSIDERED ALL INCLUSIVE. THE CONTRACTOR DESIGN LENGTHS SHALL MEET OR EXCEED THE MINIMUM VALUES REPRESENTED IN THE TABLE AT THESE DESIGNATED LOCATIONS.

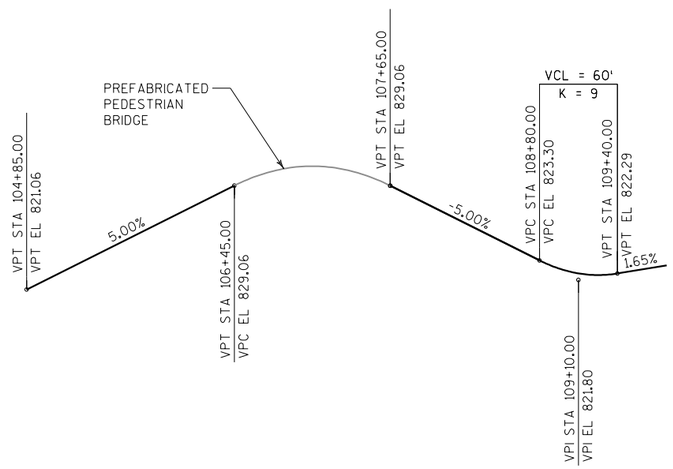
SOIL PARAMETERS

STRATUM LOCATIONS & SOIL DESCRIPTIONS	UNIT WEIGHT (PCF)	SHORT-TERM (UNDRAINED)		LONG-TERM (DRAINED)	
		FRICTION ANGLE (DEGREES)	COHESION (PCF)	FRICTION ANGLE (DEGREES)	COHESION (PCF)
GRANULAR BACKFILL (REINFORCING ZONE OR BACKFILL)	120	30	0	30	0
(INSERT SOIL TYPE) RETAINED SOIL *	120	30	0	30	0
EXISTING FILL & SILT EL. 814.8 - EL. 808.0	120	28	0	28	0
SILTY SAND EL. 808.0 - EL. 805.9	120	33	0	33	0
GRAVEL EL. 805.9 - EL. 804.2	120	40	0	40	0

* DESIGN WALL FOR THESE VALUES

WALL ELEVATIONS ◥

STATION & OFFSET	WALL STATION	TOP OF WALL ELEVATION	FINISHED GRADE ELEVATION
108+84.99, 8.00' LT	40+00.00	822.96	822.96
108+82.25, 8.00' LT	40+02.74	823.09	822.21
108+78.71, 8.00' LT	40+06.76	823.26	821.10
108+62.61, 8.00' LT	40+25.00	824.07	821.43
108+59.98, 8.00' LT	40+27.98	824.20	821.50
108+45.03, 8.00' LT	40+44.93	824.95	821.14
108+39.96, 8.00' LT	40+50.00	825.20	821.03
108+14.96, 8.00' LT	40+75.00	826.46	820.49
107+89.96, 8.00' LT	41+00.00	827.72	820.00
107+79.45, 8.00' LT	41+10.51	828.28	819.94
107+66.18, 8.00' LT	41+22.04	828.99	819.20



PROFILE GRADE LINE - MULLET RIVER PATH

HORIZONTAL CURVE DATA

CURVE M6

PI = STA. 107+72.35
Y = 175362.17
X = 147837.21
DELTA = 13°11'43" LT
D = 95°29'35"
T = 6.94'
L = 13.82'
R = 60.00'
PC = STA. 107+65.41
Y = 175359.34
X = 147830.87
PT = STA. 107+79.23
Y = 175366.37
X = 147842.74

CURVE M7

PI = STA. 108+64.26
Y = 175417.82
X = 147910.44
DELTA = 35°32'54" RT
D = 95°29'35"
T = 19.23'
L = 37.23'
R = 60.00'
PC = STA. 108+45.03
Y = 175406.18
X = 147895.13
PT = STA. 108+82.25
Y = 175418.38
X = 147929.67

WALL CURVE NE1

PI = STA. 40+24.54
Y = 175425.74
X = 147907.64
DELTA = 35°32'54" LT
D = 84°15'31"
T = 21.80'
L = 42.19'
R = 68.00'
PC = STA. 40+02.74
Y = 175426.38
X = 147929.43
PT = STA. 40+44.93
Y = 175412.55
X = 147890.29

WALL CURVE NE2

PI = STA. 41+16.75
Y = 175369.10
X = 147833.11
DELTA = 13°11'43" RT
D = 110°11'03"
T = 6.01'
L = 11.98'
R = 52.00'
PC = STA. 41+10.73
Y = 175372.74
X = 147837.89
PT = STA. 41+22.71
Y = 175366.65
X = 147827.61

LEGEND

◥ LINEARLY INTERPOLATE WALL ELEVATIONS BETWEEN STATIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-59-41

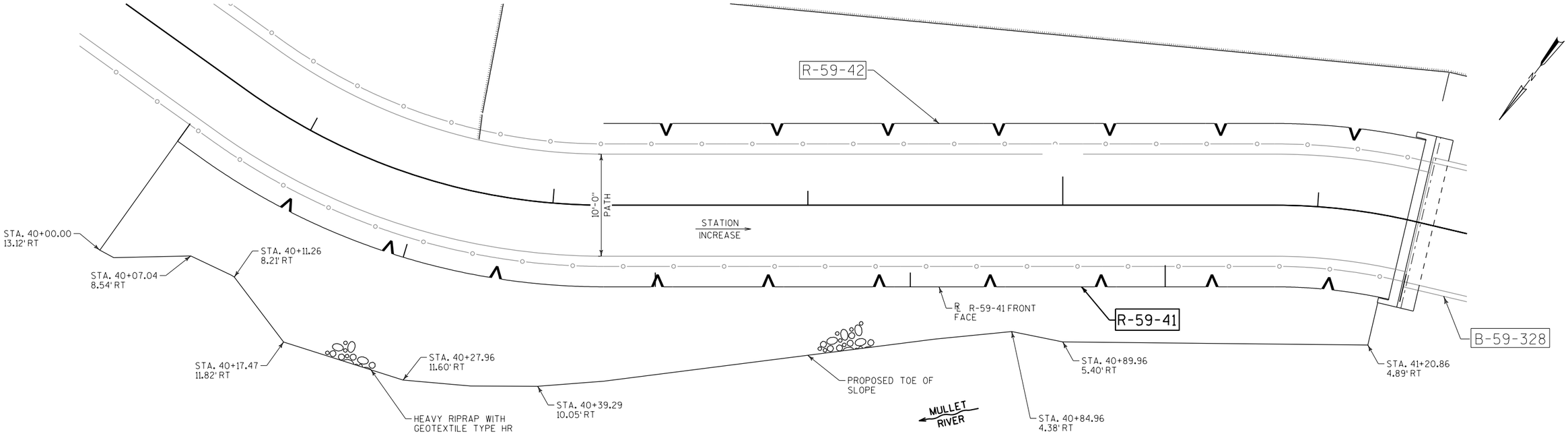
DRAWN BY SMC | PLANS CK'D. MHZ

PROFILES & DESIGN DATA

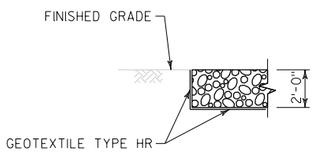
SHEET 4 OF 6

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Structure\R-59-41 NE Wall\cds\R-59-41-NE_080104_pr.dgn PLOT DATE : 12/6/2022 PLOT BY : sconnolly PLOT NAME : $FILE$ PLOT SCALE : 1:4

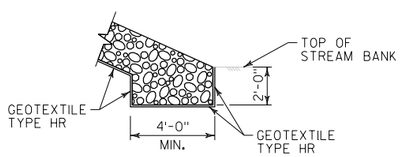
STATE PROJECT NUMBER
4995-03-02



RIPRAP LIMITS



HEAVY RIPRAP SECTION



HEAVY RIPRAP TOE DETAIL

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

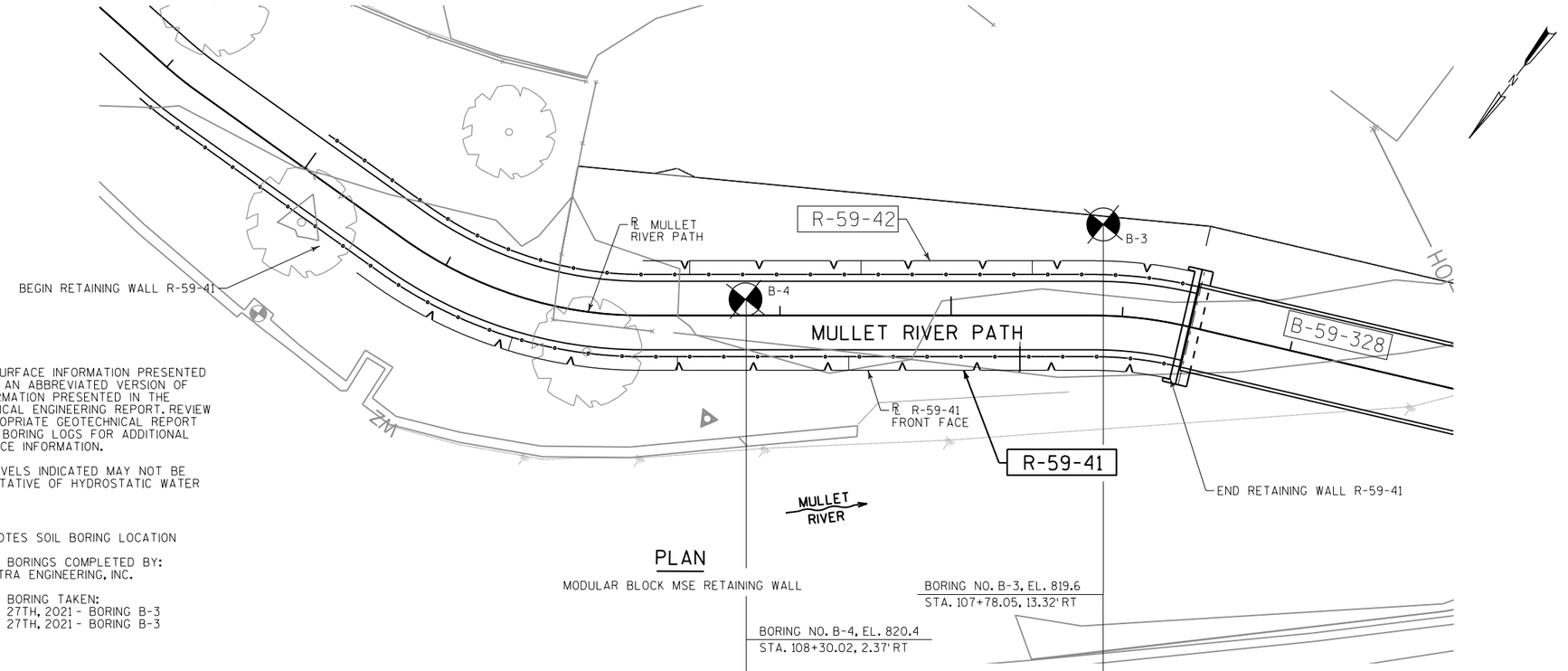
STRUCTURE R-59-41

DRAWN BY SMC | PLANS CK'D. MHZ

RIPRAP DETAILS

SHEET 5 OF 6

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Structure\R-59-41 NE Wall\cds\R-59-41-NE_080105_de.dgn PLOT DATE : 12/6/2022 PLOT BY : sconnolly PLOT NAME : $FILE$ PLOT SCALE : 1:10



PLAN

MODULAR BLOCK MSE RETAINING WALL

BORING NO. B-3, EL. 819.6
STA. 107+78.05, 13.32' RT

BORING NO. B-4, EL. 820.4
STA. 108+30.02, 2.37' RT

NOTE:

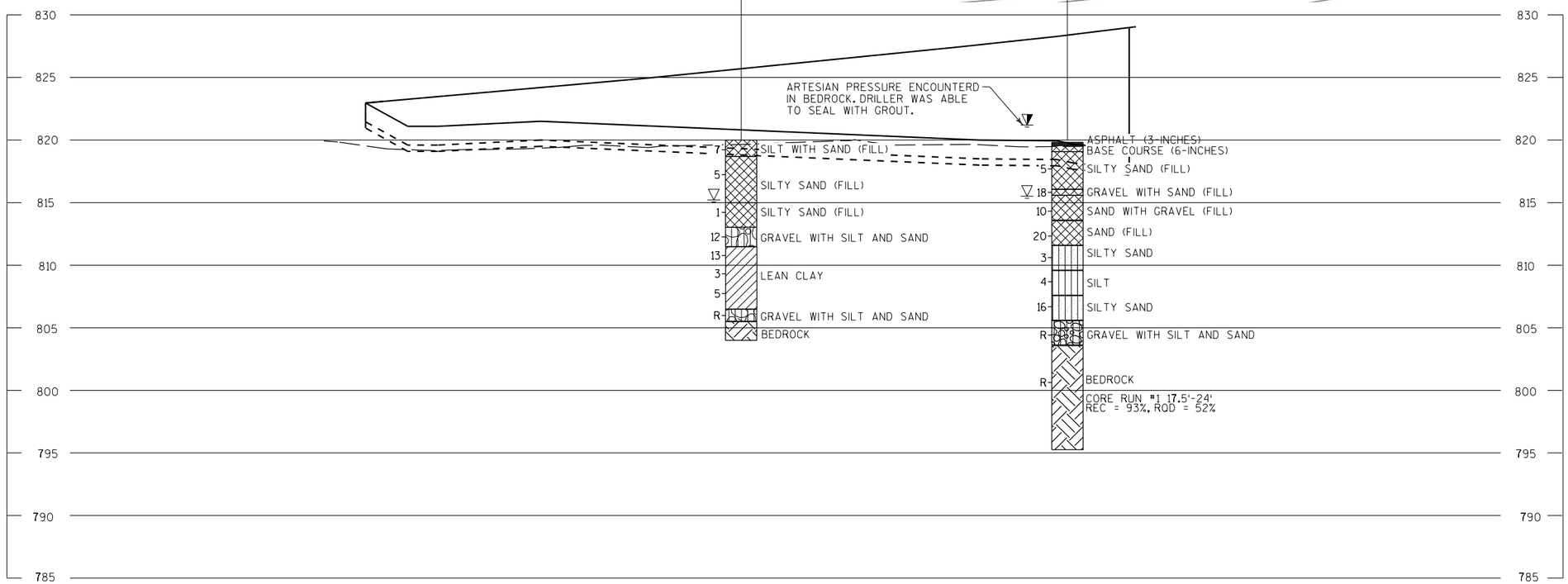
THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

WATER LEVELS INDICATED MAY NOT BE REPRESENTATIVE OF HYDROSTATIC WATER LEVELS.

DENOTES SOIL BORING LOCATION

SOIL BORINGS COMPLETED BY:
GESTRA ENGINEERING, INC.

SOIL BORING TAKEN:
MAY 27TH, 2021 - BORING B-3
MAY 27TH, 2021 - BORING B-3



ELEVATION

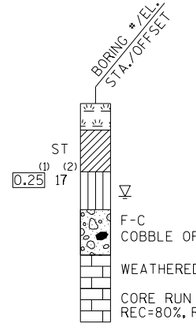
STATE PROJECT NUMBER

4995-03-02

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/ META

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

- AT TIME OF DRILLING
- AFTER DRILLING
- END OF DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-59-41

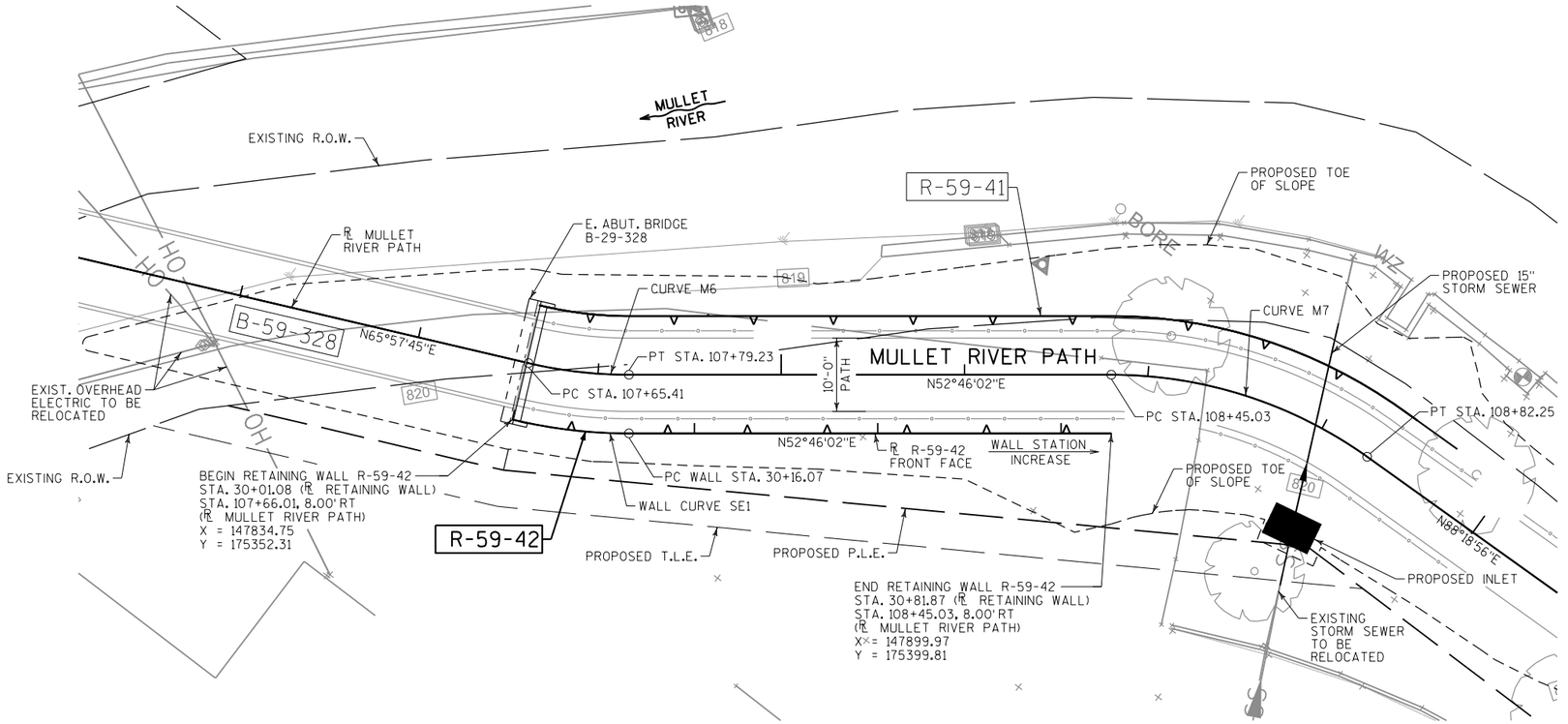
DRAWN BY SMC | PLANS CK'D. MHZ

SUBSURFACE EXPLORATION

SHEET 6 OF 6

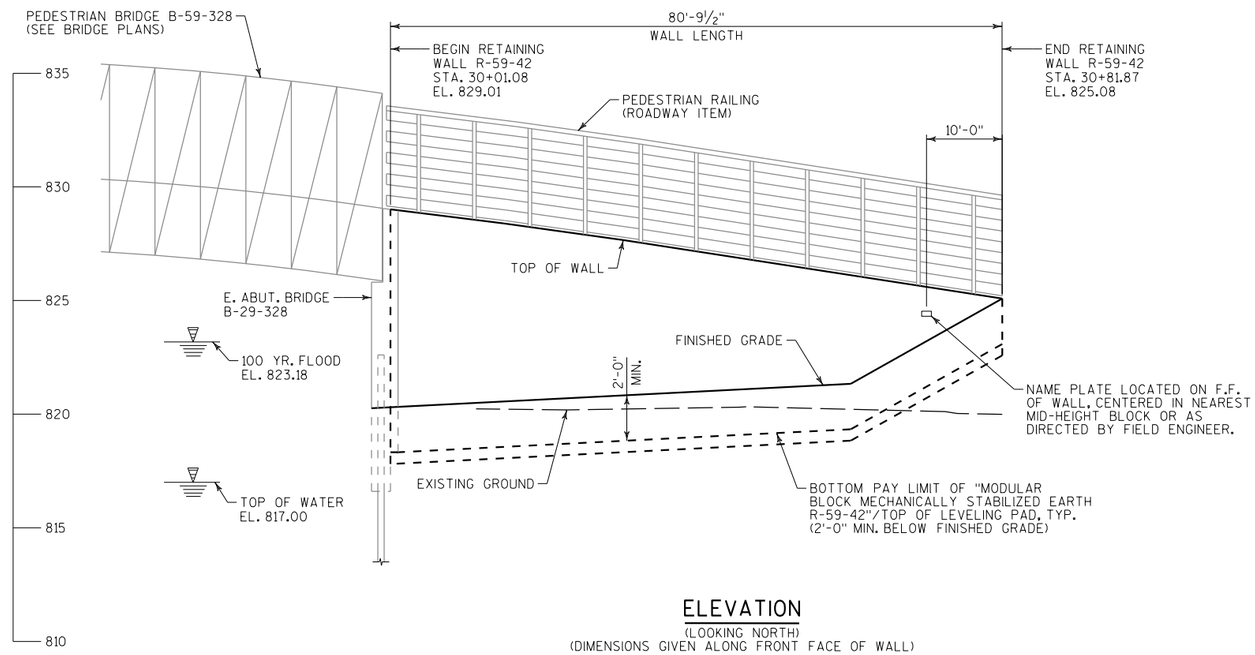
FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Structure\R-59-41 NE Wall\cds\R-59-41-NE_080201_se.dgn PLOT DATE : 12/6/2022 PLOT BY : sconnolly PLOT NAME : $FILE$ PLOT SCALE : 1:20

STATE PROJECT NUMBER
4995-03-02



PLAN

MODULAR BLOCK MSE RETAINING WALL



ELEVATION

(LOOKING NORTH)
(DIMENSIONS GIVEN ALONG FRONT FACE OF WALL)

DESIGN DATA

LIVE LOAD:

LIVE LOAD SURCHARGE (CONSTRUCTION): 100 PSF

MATERIAL PROPERTIES:

DRY CAST MODULAR BLOCK ..... f'c = 5,000 psi
WET CAST MODULAR BLOCK ..... f'c = 4,000 psi
CONCRETE LEVELING PAD ..... f'c = 4,000 psi

DESIGN THE RETAINING WALL FOR A HORIZONTAL FINISHED GRADE BEHIND THE WALL, AND A LIVE LOAD SURCHARGE OF 100 PSF, UNLESS NOTED OTHERWISE

LIST OF DRAWINGS

STRUCTURES DESIGN CONTACTS

BRIDGE OFFICE:
AARON BONK (608) 261-0261
CONSULTANT:
MOHAMMED ZAGLOUL (414) 751-7200

NO.	DATE	REVISION	BY

ORIGINAL PLANS PREPARED BY

kapur
7711 N. Port Washington Road
Milwaukee, Wisconsin 53217
kapurinc.com

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

ACCEPTED SDR 12/06/22
CHIEF STRUCTURES DESIGN ENGINEER — DATE

WISCONSIN
SHANNON CONNOLLY
E-44309-6
MILWAUKEE, WI
PROFESSIONAL ENGINEER
12/6/2022

STRUCTURE R-59-42

RETAINING WALL ALONG MULLET RIVER PATH

COUNTY	CITY
SHEBOYGAN	PLYMOUTH

DESIGN SPEC.
AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS

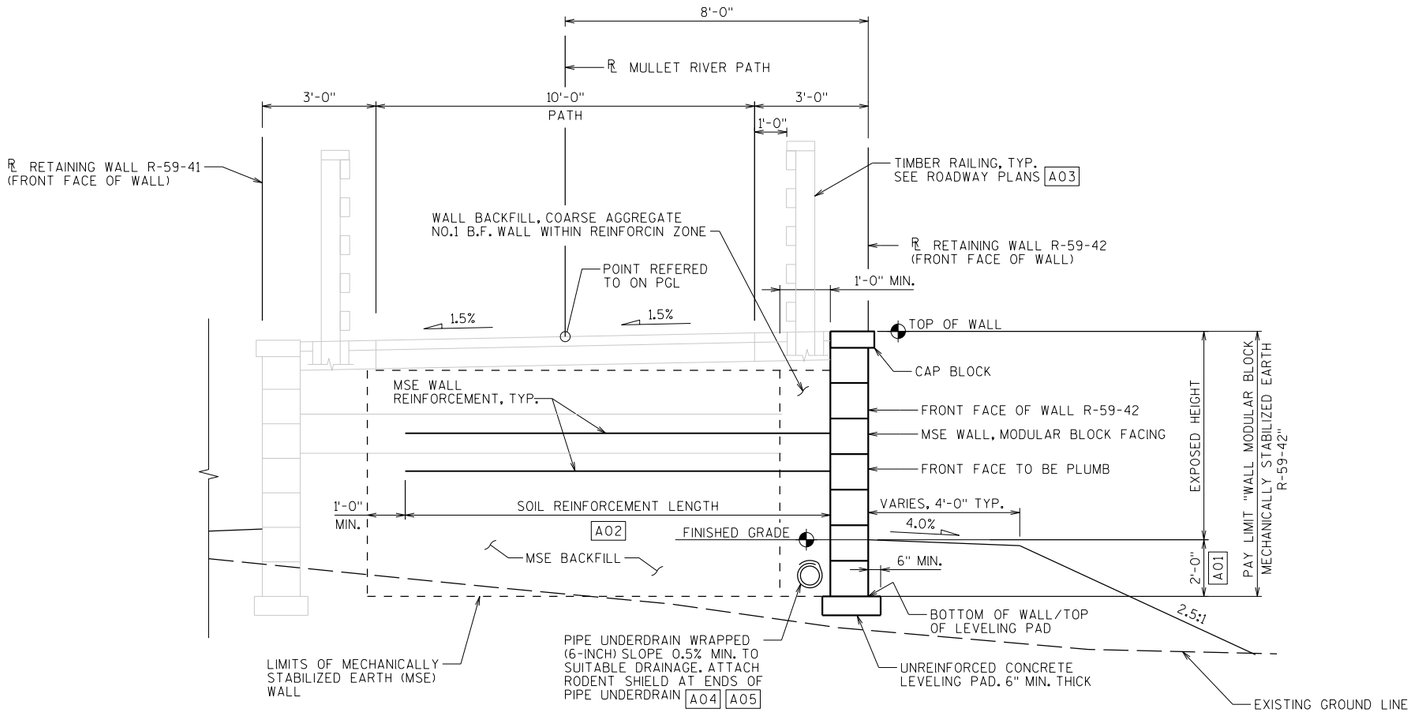
DESIGNED BY	DESIGN CK'D.	DRAWN BY	PLANS CK'D.
SMC	MHZ	SMC	MHZ

GENERAL PLAN & ELEVATION

SHEET 1 OF 5

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Structure\R-59-42 SE Wall\cds\R-59-42-SE_080101_gp.dgn PLOT DATE : 12/6/2022 PLOT BY : sconnolly PLOT NAME : $FILE$ PLOT SCALE : 1:20

STATE PROJECT NUMBER
4995-03-02



TYPICAL WALL SECTION

(LOOKING EAST)
(WALL STA. 30+01.08 TO WALL STA. 30+81.87)

LEGEND

A01 MINIMUM DIMENSION FROM FINISHED GRADE AT FRONT FACE OF WALL TO TOP OF LEVELING PAD AS SHOWN. COORDINATE CONSTRUCTION OF THE LEVELING PAD WITH THE WALL SYSTEM FABRICATOR. PAY LIMITS BASED ON MINIMUM DIMENSION.

A02 SEE WALL EXTERNAL STABILITY EVALUATION TABLE ON THE "PROFILES & DESIGN DATA" SHEET FOR MINIMUM LENGTH OF MSE WALL REINFORCING STRIPS. SOIL REINFORCEMENT MUST EXTEND A MINIMUM OF 3.0 FEET BEYOND THE FAILURE PLANE FOR INTERNAL STABILITY AS DEFINED BY AASHTO SPECIFICATIONS.

A03 COORDINATE RAILING POST LOCATIONS WITH MSE WALL REINFORCEMENT.

A04 USE PIPE UNDERDRAIN UNPERFORATED 6-INCH TO DRAIN TO A MINIMUM EL. 818.00. (CONNECTIONS ARE INCIDENTAL TO "PIPE UNDERDRAIN UNPERFORATED 6-INCH").

A05 CONNECT PIPE UNDERDRAIN BEHIND B-59-328 E. ABUT. TO PIPE UNDERDRAIN AT BACK OF WALL. (CONNECTIONS ARE INCIDENTAL TO "PIPE UNDERDRAIN WRAPPED 6-INCH"

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-59-42

DRAWN BY SMC | PLANS CK'D. MHZ

TYPICAL SECTION

SHEET 2 OF 5

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Structure\R-59-42 SE Wall\cds\R-59-42-SE_080102_ts.dgn PLOT DATE : 12/6/2022 PLOT BY : sconnolly PLOT NAME : $FILE$ PLOT SCALE : 1:4

STATE PROJECT NUMBER
4995-03-02

GENERAL NOTES

DRAWINGS SHALL NOT BE SCALED.

COORDINATES ON THIS PLAN ARE REFERENCED TO THE WISCONSIN COORDINATE REFERENCE SYSTEM (WISCRS), SHEBOYGAN COUNTY, NAD 83 (2011). ALL STATIONS AND ELEVATIONS ARE IN FEET. ELEVATIONS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM, NAVD 88 (2012).

THESE PLANS ARE FOR A MODULAR BLOCK MECHANICALLY STABILIZED EARTH (MSE) RETAINING WALL.

THE CONTRACTOR SHALL DESIGN THE WALL CONIDERING THE OBSERVED WATER ELEVATION AND 100 YEAR FLOOD ELEVATIONS SHOWN IN THE PLANS.

THE CONTRACTOR SHALL PROVIDE COMPLETE DESIGN, PLANS, DETAILS, SPECIFICATIONS, AND SHOP DRAWINGS FOR THE RETAINING WALLS IN ACCORDANCE WITH THE SPECIAL PROVISIONS. THE RETAINING WALL MANUFACTURER SHALL PROVIDE TECHNICAL ASSISTANCE TO THE CONTRACTOR DURING CONSTRUCTION. THE COST OF FURNISHING THESE ITEMS IS INCLUDED IN THE BID ITEM "WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH R-59-42".

THE COST OF FURNISHING AND PLACING MSE BACKFILL WITHIN THE REINFORCED SOIL ZONE IS TO BE INCLUDED IN THE BID ITEM "WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH R-59-42".

THE COST OF FURNISHING AND PLACING THE UNREINFORCED CONCRETE LEVELING PAD UNDER THE MODULAR BLOCK FACING IS INCLUDED IN THE BID ITEM "WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH R-59-42".

ALL STATIONS AND DIMENSIONS ARE ALONG THE FRONT FACE OF WALL, UNLESS SHOWN OTHERWISE.

SOIL REINFORCEMENT MAY BE PLACED UP TO A MAXIMUM OF 15° FROM PERPENDICULAR IF NECESSARY TO AVOID INTERFERENCE WITH ITEMS BEHIND THE WALL. ANGLES GREATER THAN 15° REQUIRE APPROVAL FROM THE BUREAU OF STRUCTURES DESIGN SECTION.

THE CONTRACTOR MUST COORDINATE THE CONSTRUCTION OF WALL R-59-42 WITH THE CONSTRUCTION OF R-59-41 AND B-59-328.

THE PLAN QUANTITY FOR THE ITEM "WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH R-59-42" IS BASED ON A WALL HEIGHT MEASURED FROM THE TOP OF THE LEVELING PAD TO THE TOP OF WALL AS SHOWN IN THE PLANS. THE TOP OF LEVELING PAD IS TAKEN AS A CONSTANT 2'-0" BELOW FINISHED GRADE FOR MEASUREMENT PURPOSES. WALL AREAS CONSTRUCTED OUTSIDE THESE LIMITS WILL NOT BE MEASURED FOR PAYMENT.

PLANS, ELEVATIONS, AND DETAILS SHOWN ON THESE DRAWINGS ARE INTENDED TO INDICATE WALL LOCATIONS, LENGTHS, HEIGHTS, AND DETAILS COMMON TO THE WALL SYSTEM SELECTED. THE CONTRACTOR SHALL VERIFY THAT THE WALL SYSTEM SELECTED WILL CONFORM TO THE REQUIRED ALIGNMENTS AND DETAILS.

THE MAXIMUM VALUE OF THE ANGLE OF INTERNAL FRICTION OF THE WALL BACKFILL MATERIAL IN THE REINFORCED ZONE SHALL BE ASSUMED TO BE 30° WITHOUT CERTIFIED TEST VALUES.

THE UTILITY AND STORM SEWER INFORMATION SHOWN ON THESE DRAWINGS CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL-INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING THEIR OWN DETERMINATIONS AS TO TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE. UTILITIES LABELED AS PROPOSED MAY BE INSTALLED BY OTHERS PRIOR TO THIS CONTRACT.

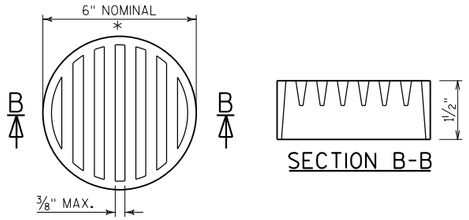
REFER TO S.D.D. "NAME PLATE (STRUCTURES)" FOR NAME PLATE DETAILS. NAME PLATE SHALL BE CONSIDERED INCIDENTAL TO BIT ITEM "WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH R-59-42".

MODULAR BLOCK COLOR AND TEXTURE TO MATCH WALLS R-59-41, R-59-39, & R-59-40 AND TO BE APPROVED BY THE OWNER.

TOTAL ESTIMATED QUANTITIES

ITEM NO.	BID ITEMS	UNIT	TOTAL
612.0206	PIPE UNDERDRAIN UNPERFORATED 6-INCH	LF	45
612.0406	PIPE UNDERDRAIN WRAPPED 6-INCH	LF	90
SPV.0165.04	WALL MODULAR BLOCK MECHANICALLY STABILIZED EARTH R-59-42	SF	637
	NON-BID ITEMS		
	NAME PLATE	EACH	1
	RODENT SHIELD	EACH	3

ALL ITEMS ARE CATEGORY 0060



RODENT SHIELD DETAIL

* DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING. ORIENT SO SLOTS ARE VERTICAL.

THE RODENT SHIELD, PIPE COUPLING AND SCREWS SHALL BE CONSIDERED INCIDENTAL TO THE BID ITEM "PIPE UNDERDRAIN WRAPPED 6-INCH".

THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALLY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE EXPOSED END OF THE PIPE UNDERDRAIN. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-59-42

DRAWN BY SMC | PLANS CK'D. MHZ

GENERAL NOTES & QUANTITIES

SHEET 3 OF 5

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Structure\R-59-42 SE Wall\cds\R-59-42-SE_080103_gn.dgn PLOT DATE : 12/6/2022 PLOT BY : sconnolly PLOT NAME : $FILE$ PLOT SCALE : 1:4.00004

STATE PROJECT NUMBER
4995-03-02

WALL EXTERNAL & OVERALL STABILITY EVALUATION

DIMENSIONS	EVALUATED LOCATIONS
WALL HEIGHT (FEET)	10.8
EXPOSED WALL HEIGHT (FEET)	8.8
MINIMUM LENGTH OF REINFORCEMENT (FEET) **	10.0
WALL STATION	30+01.08
BORING USED	B3
CAPACITY TO DEMAND RATIO (CDR)	
SLIDING (CDR>1.0)	1.07
ECCENTRICITY (CDR>1.0)	1.03
OVERALL STABILITY (CDR>1.0)	1.27
BEARING RESISTANCE (CDR>1.0)	1.16
FACTORED BEARING RESISTANCE (PSF)	9200

** THE LENGTHS PROVIDED IN THE TABLE ARE THE MINIMUM REQUIRED REINFORCEMENT LENGTHS BASED UPON THE MINIMUM DESCRIBED IN THE WALL SYSTEM SPECIAL PROVISIONS OR EXTERNAL AND OVERALL STABILITY AT THE DESIGNATED LOCATIONS. THESE DESIGNATED LOCATIONS REPRESENT TYPICAL AND CRITICAL WALL LOCATIONS, BUT SHALL NOT BE CONSIDERED ALL INCLUSIVE. THE CONTRACTOR DESIGN LENGTHS SHALL MEET OR EXCEED THE MINIMUM VALUES REPRESENTED IN THE TABLE AT THESE DESIGNATED LOCATIONS.

SOIL PARAMETERS

STRATUM LOCATIONS & SOIL DESCRIPTIONS	UNIT WEIGHT (PCF)	SHORT-TERM (UNDRAINED)		LONG-TERM (DRAINED)	
		FRICTION ANGLE (DEGREES)	COHESION (PCF)	FRICTION ANGLE (DEGREES)	COHESION (PCF)
GRANULAR BACKFILL (REINFORCING ZONE OR BACKFILL)	120	30	0	30	0
(INSERT SOIL TYPE) RETAINED SOIL *	120	30	0	30	0
EXISTING FILL & SILT EL. 814.8 - EL. 808.0	120	28	0	28	0
SILTY SAND EL. 808.0 - EL. 805.9	120	33	0	33	0
GRAVEL EL. 805.9 - EL. 804.2	120	40	0	40	0

* DESIGN WALL FOR THESE VALUES

WALL ELEVATIONS ◥

STATION & OFFSET	WALL STATION	TOP OF WALL ELEVATION	FINISHED GRADE ELEVATION
107+66.01, 8.00' RT	30+01.08	829.01	820.31
107+79.23, 8.00' RT	30+16.07	828.39	820.56
107+88.16, 8.0' RT	30+25.00	827.92	820.71
108+13.16, 8.00' RT	30+50.00	826.75	821.13
108+25.03, 8.00' RT	30+60.78	826.21	821.31
108+38.16, 8.00' RT	30+75.00	825.49	823.79
108+45.03, 8.00' RT	30+81.87	825.15	825.08

HORIZONTAL CURVE DATA

CURVE M6

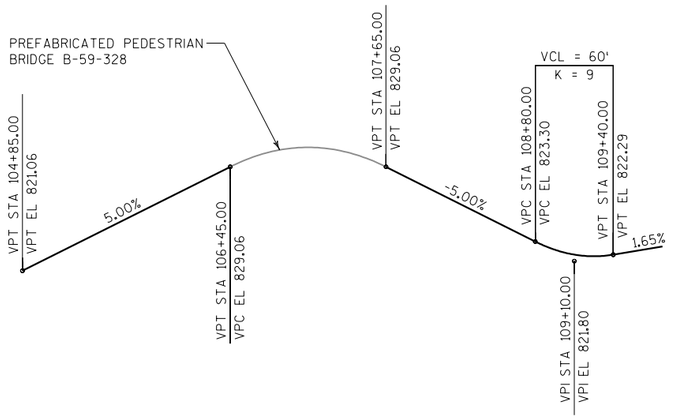
PI = STA. 107+72.35
Y = 175362.17
X = 147837.21
DELTA = 13°11'43" LT
D = 95°29'35"
T = 6.94'
L = 13.82'
R = 60.00'
PC = STA. 107+65.41
Y = 175359.34
X = 147830.87
PT = STA. 107+79.23
Y = 175366.37
X = 147842.74

CURVE M7

PI = STA. 108+64.26
Y = 175417.82
X = 147910.44
DELTA = 35°32'54" RT
D = 95°29'35"
T = 19.23'
L = 37.23'
R = 60.00'
PC = STA. 108+45.03
Y = 175406.18
X = 147895.13
PT = STA. 108+82.25
Y = 175418.38
X = 147929.67

WALL CURVE SE1

PI = STA. 30+08.27
Y = 175355.24
X = 147841.31
DELTA = 13°11'43" LT
D = 84°15'31"
T = 7.87'
L = 15.66'
R = 68.00'
PC = STA. 30+00.41
Y = 175352.04
X = 147834.13
PT = STA. 30+16.07
Y = 175360.00
X = 147847.58



PROFILE GRADE LINE - MULLET RIVER PATH

LEGEND

◥ LINEARLY INTERPOLATE WALL ELEVATIONS BETWEEN STATIONS.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

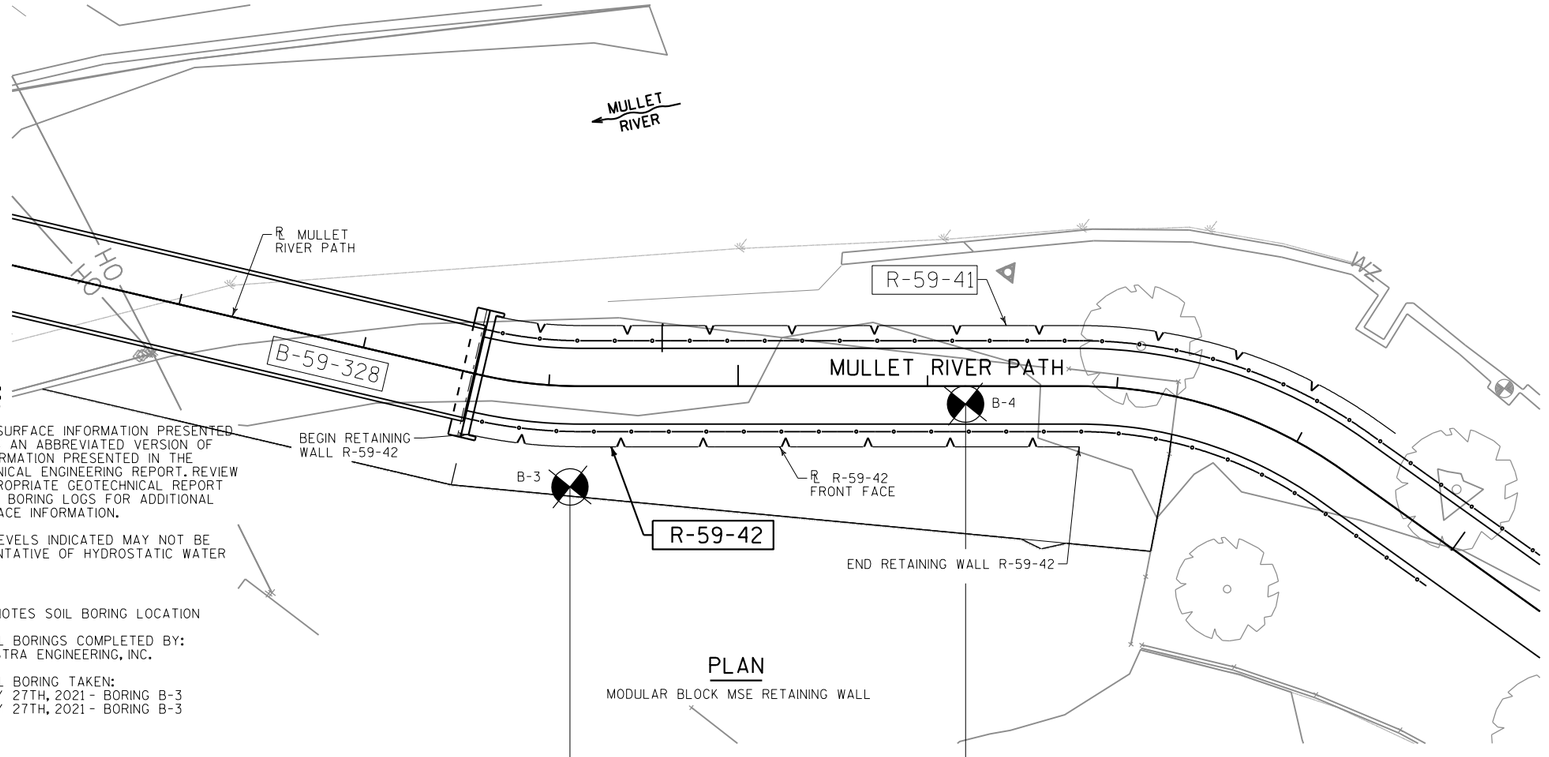
STRUCTURE R-59-42

DRAWN BY SMC | PLANS CK'D. MHZ

PROFILES & DESIGN DATA

SHEET 4 OF 5

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Structure\R-59-42 SE Wall\cds\R-59-42-SE_080104_pr.dgn PLOT DATE : 12/6/2022 PLOT BY : sconnolly PLOT NAME : $FILE$ PLOT SCALE : 1:4



NOTE:

THE SUBSURFACE INFORMATION PRESENTED HEREIN IS AN ABBREVIATED VERSION OF THE INFORMATION PRESENTED IN THE GEOTECHNICAL ENGINEERING REPORT. REVIEW THE APPROPRIATE GEOTECHNICAL REPORT AND SOIL BORING LOGS FOR ADDITIONAL SUBSURFACE INFORMATION.

WATER LEVELS INDICATED MAY NOT BE REPRESENTATIVE OF HYDROSTATIC WATER LEVELS.

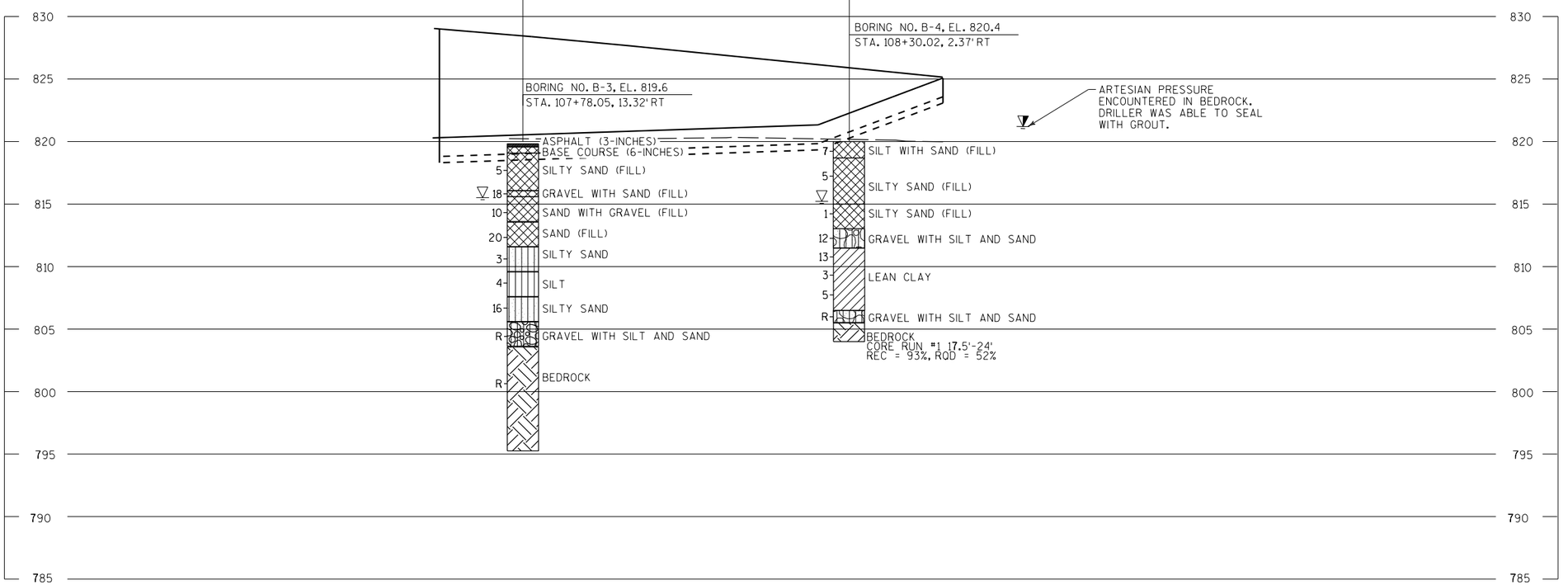
⊕ DENOTES SOIL BORING LOCATION

SOIL BORINGS COMPLETED BY:
GESTRA ENGINEERING, INC.

SOIL BORING TAKEN:
MAY 27TH, 2021 - BORING B-3
MAY 27TH, 2021 - BORING B-3

PLAN

MODULAR BLOCK MSE RETAINING WALL



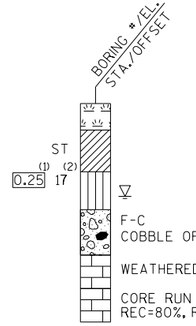
ELEVATION

STATE PROJECT NUMBER
4995-03-02

MATERIAL SYMBOLS

ASPHALT	TOPSOIL	PEAT
CONCRETE	FILL	GRAVEL
SAND	CLAY	SILT
BOULDERS OR COBBLES	LIMESTONE	BEDROCK (UNKNOWN)
SHALE	SANDSTONE	IGNEOUS/ META

LEGEND OF BORING



(1) UNCONFINED STRENGTH, AS DETERMINED BY A POCKET PENETROMETER (TSF)

(2) UNLESS OTHERWISE, SPECIFIED THE SPT 'N' VALUE IS BASED ON AASHTO T-206, STANDARD PENETRATION TEST. THE SPT 'N' VALUE PRESENTED HAS NOT BEEN CORRECTED FOR OVERBURDEN PRESSURE OR HAMMER EFFICIENCY.

GROUND WATER ELEVATION

▽ AT TIME OF DRILLING

▼ AFTER DRILLING

▼ END OF DRILLING

ABBREVIATIONS

F-FINE M-MEDIUM C-COARSE ST-SHELBY TUBE

SUBSURFACE EXPLORATION FOR FOUNDATION DESIGN AND BIDDERS INFORMATION

BORINGS WERE COMPLETED AT POINTS APPROXIMATELY AS INDICATED ON THIS DRAWING TO OBTAIN INFORMATION CONCERNING THE CHARACTER OF SUBSURFACE MATERIALS FOUND AT THE SITE. BECAUSE THE INVESTIGATED DEPTHS ARE LIMITED AND THE AREA OF THE BORINGS IS VERY SMALL IN RELATION TO THE ENTIRE SITE, THE WISCONSIN DEPARTMENT OF TRANSPORTATION DOES NOT WARRANT SIMILAR SUBSURFACE CONDITIONS BELOW, BETWEEN, OR BEYOND THESE BORINGS. VARIATIONS IN SOIL CONDITIONS SHOULD BE EXPECTED AND FLUCTUATIONS IN GROUNDWATER LEVELS MAY OCCUR.

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE R-59-42

DRAWN BY SMC | PLANS CK'D. MHZ

SUBSURFACE EXPLORATION

SHEET 5 OF 5

8

8

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Structure\R-59-42 SE Wall\cds\R-59-42-SE_080201_se.dgn PLOT DATE : 12/6/2022 PLOT BY : sconnolly PLOT NAME : $FILE$ PLOT SCALE : 1:20

CTH E

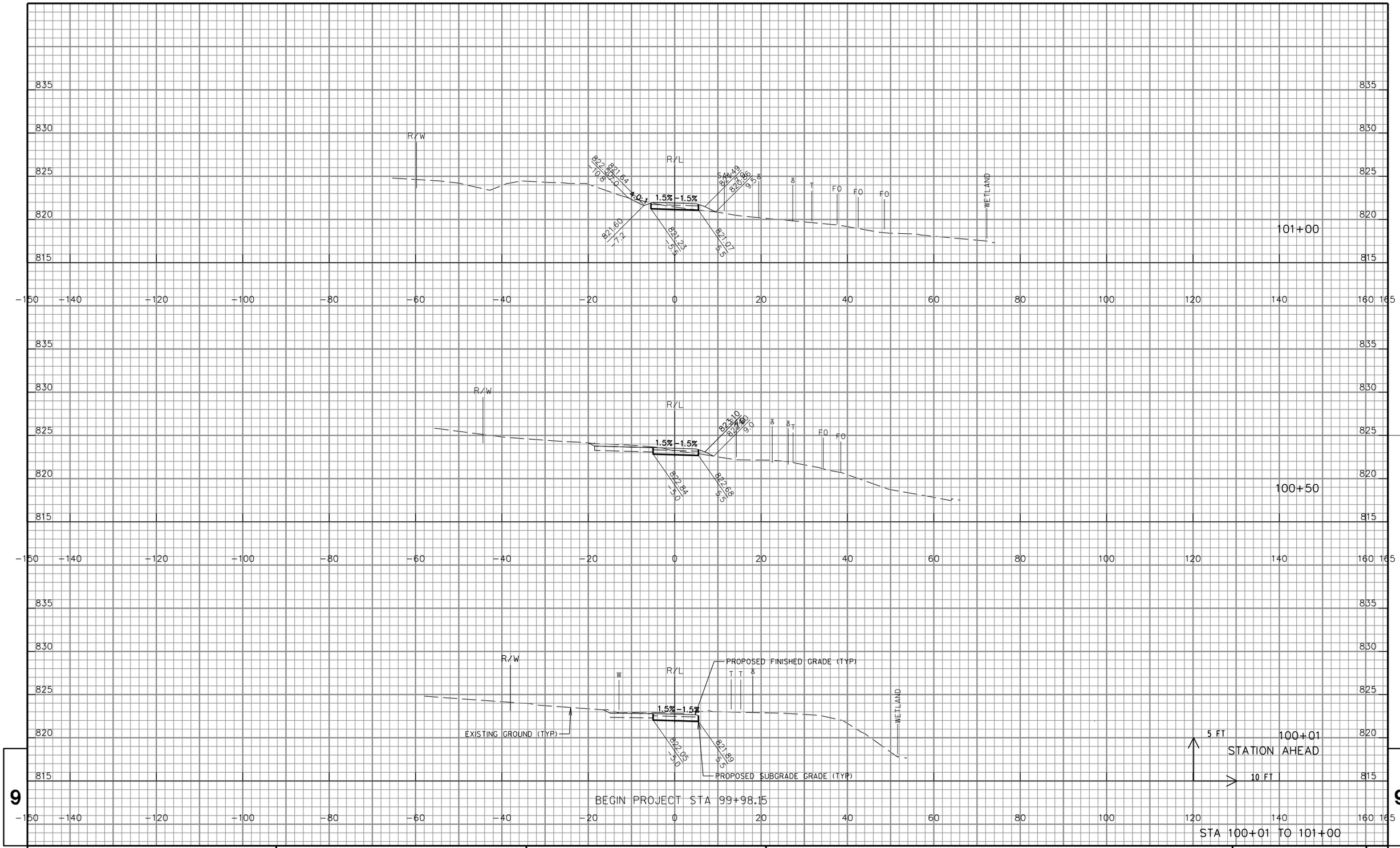
STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/ Unusable Pavement Material	AREA (SF) Fill	AREA (SF) EBS	Incremental Vol (CY) (Unadjusted) Cut Note 1	Incremental Vol (CY) (Unadjusted) Salvaged/ Unusable Pavement Material Note 2	Incremental Vol (CY) (Unadjusted) Fill Note 3	Incremental Vol (CY) (Unadjusted) EBS	Cumulative Vol (CY) Cut 1.0	Cumulative Vol (CY) Expanded Fill 1.2	Cumulative Vol (CY) Expanded EBS Backfill 1.3 Note 4	Cumulative Vol (CY) Reduced EBS In Fill 0.8 Note 5	Mass Ordinate Note 6
10+48 AH	1047.78	0.00	17.63	0.00	22.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10+50	1050.00	2.22	17.14	0.00	27.32	0.00	1.43	0.00	2.05	0.00	1.43	2.46	0.00	0.00	-1.03
11+00	1100.00	50.00	19.68	0.00	24.08	0.00	34.09	0.00	47.59	0.00	35.52	59.57	0.00	0.00	-24.05
11+50	1150.00	50.00	17.88	0.00	23.64	0.00	34.78	0.00	44.19	0.00	70.30	112.60	0.00	0.00	-42.30
12+00	1200.00	50.00	16.74	0.00	26.35	0.00	32.06	0.00	46.29	0.00	102.36	168.14	0.00	0.00	-65.78
12+50	1250.00	50.00	16.32	0.00	24.93	0.00	30.61	0.00	47.48	0.00	132.97	225.12	0.00	0.00	-92.15
13+00	1300.00	50.00	16.36	0.00	30.52	0.00	30.26	0.00	51.34	0.00	163.23	286.73	0.00	0.00	-123.50
13+50	1350.00	50.00	16.69	0.00	28.58	0.00	30.60	0.00	54.72	0.00	193.83	352.39	0.00	0.00	-158.56
14+00	1400.00	50.00	16.66	0.00	31.87	0.00	30.88	0.00	55.97	0.00	224.71	419.56	0.00	0.00	-194.85
14+50	1450.00	50.00	48.93	0.00	0.00	0.00	60.73	0.00	29.51	0.00	285.44	454.97	0.00	0.00	-169.53
14+66	1466.00	16.00	44.73	0.00	0.00	0.00	27.75	0.00	0.00	0.00	313.19	454.97	0.00	0.00	-141.78
15+00	1500.00	34.00	19.88	0.00	0.00	0.00	40.68	0.00	0.00	0.00	353.87	454.97	0.00	0.00	-101.10
15+50	1550.00	50.00	14.25	0.00	75.47	0.00	31.60	0.00	69.88	0.00	385.47	538.82	0.00	0.00	-153.35
16+00	1600.00	50.00	14.47	0.00	74.11	0.00	26.59	0.00	138.50	0.00	412.06	705.02	0.00	0.00	-292.96
16+50	1650.00	50.00	14.62	0.00	71.44	0.00	26.94	0.00	134.77	0.00	439.00	866.75	0.00	0.00	-427.75
17+00	1700.00	50.00	14.94	0.00	71.51	0.00	27.37	0.00	132.36	0.00	466.37	1025.58	0.00	0.00	-559.21
17+50	1750.00	50.00	14.81	0.00	72.39	0.00	27.55	0.00	133.24	0.00	493.92	1185.47	0.00	0.00	-691.55
18+00	1800.00	50.00	14.89	0.00	70.11	0.00	27.50	0.00	131.94	0.00	521.42	1343.80	0.00	0.00	-822.38
18+50	1850.00	50.00	15.21	0.00	67.37	0.00	27.87	0.00	127.30	0.00	549.29	1496.56	0.00	0.00	-947.27
19+00	1900.00	50.00	15.45	0.00	66.79	0.00	28.39	0.00	124.22	0.00	577.68	1645.62	0.00	0.00	-1067.94
19+50	1950.00	50.00	14.93	0.00	67.18	0.00	28.13	0.00	124.05	0.00	605.81	1794.48	0.00	0.00	-1188.67
20+00	2000.00	50.00	14.64	0.00	64.49	0.00	27.38	0.00	121.92	0.00	633.19	1940.78	0.00	0.00	-1307.59
20+50	2050.00	50.00	15.19	0.00	59.86	0.00	27.62	0.00	115.14	0.00	660.81	2078.95	0.00	0.00	-1418.14
21+00	2100.00	50.00	15.69	0.00	58.14	0.00	28.59	0.00	109.26	0.00	689.40	2210.06	0.00	0.00	-1520.66
21+50	2150.00	50.00	17.83	0.00	56.30	0.00	31.04	0.00	105.96	0.00	720.44	2337.22	0.00	0.00	-1616.78
22+00	2200.00	50.00	20.50	0.00	56.99	0.00	35.49	0.00	104.90	0.00	755.93	2463.10	0.00	0.00	-1707.17
22+50	2250.00	50.00	18.93	0.00	38.67	0.00	36.51	0.00	88.57	0.00	792.44	2569.38	0.00	0.00	-1776.94
23+00	2300.00	50.00	17.17	0.00	10.91	0.00	33.43	0.00	45.91	0.00	825.87	2624.47	0.00	0.00	-1798.60
23+50	2350.00	50.00	16.46	0.00	17.86	0.00	31.14	0.00	26.64	0.00	857.01	2656.44	0.00	0.00	-1799.43
24+00	2400.00	50.00	39.21	0.00	0.00	0.00	51.55	0.00	16.54	0.00	908.56	2676.29	0.00	0.00	-1767.73
24+50	2450.00	50.00	17.75	0.00	14.70	0.00	52.74	0.00	13.61	0.00	961.30	2692.62	0.00	0.00	-1731.32
24+74	2474.00	24.00	40.14	0.00	0.00	0.00	25.73	0.00	6.53	0.00	987.03	2700.46	0.00	0.00	-1713.43
25+00	2500.00	26.00	18.38	0.00	20.02	0.00	28.18	0.00	9.64	0.00	1015.21	2712.02	0.00	0.00	-1696.81
25+50	2550.00	50.00	16.21	0.00	33.33	0.00	32.03	0.00	49.40	0.00	1047.24	2771.30	0.00	0.00	-1724.06
26+00	2600.00	50.00	15.58	0.00	40.11	0.00	29.44	0.00	68.00	0.00	1076.68	2852.90	0.00	0.00	-1776.22
26+50	2650.00	50.00	15.68	0.00	41.99	0.00	28.94	0.00	76.02	0.00	1105.62	2944.13	0.00	0.00	-1838.51
27+00	2700.00	50.00	16.08	0.00	41.96	0.00	29.41	0.00	77.73	0.00	1135.03	3037.40	0.00	0.00	-1902.37
27+50	2750.00	50.00	15.70	0.00	43.33	0.00	29.43	0.00	78.97	0.00	1164.46	3132.17	0.00	0.00	-1967.71
28+00	2800.00	50.00	15.69	0.00	44.81	0.00	29.06	0.00	81.61	0.00	1193.52	3230.10	0.00	0.00	-2036.58
28+50	2850.00	50.00	16.20	0.00	44.28	0.00	29.53	0.00	82.49	0.00	1223.05	3329.09	0.00	0.00	-2106.04
29+00	2900.00	50.00	16.68	0.00	40.04	0.00	30.44	0.00	78.07	0.00	1253.49	3422.77	0.00	0.00	-2169.28
29+50	2950.00	50.00	17.15	0.00	32.96	0.00	31.32	0.00	67.59	0.00	1284.81	3503.88	0.00	0.00	-2219.07
30+00	3000.00	50.00	16.23	0.00	32.35	0.00	30.91	0.00	60.47	0.00	1315.72	3576.44	0.00	0.00	-2260.72
30+50	3050.00	50.00	17.47	0.00	25.46	0.00	31.20	0.00	53.53	0.00	1346.92	3640.68	0.00	0.00	-2293.76
30+76	3076.00	26.00	24.30	0.00	1.68	0.00	20.11	0.00	13.07	0.00	1367.03	3656.36	0.00	0.00	-2289.33
31+00	3100.00	24.00	17.31	0.00	23.76	0.00	18.49	0.00	11.31	0.00	1385.52	3669.94	0.00	0.00	-2284.42
31+50	3150.00	50.00	16.66	0.00	26.30	0.00	31.45	0.00	46.35	0.00	1416.97	3725.56	0.00	0.00	-2308.59
32+00	3200.00	50.00	16.52	0.00	26.55	0.00	30.72	0.00	48.94	0.00	1447.69	3784.28	0.00	0.00	-2336.59
32+50	3250.00	50.00	16.40	0.00	31.57	0.00	30.48	0.00	53.81	0.00	1478.17	3848.86	0.00	0.00	-2370.69
33+00	3300.00	50.00	16.45	0.00	38.28	0.00	30.42	0.00	64.68	0.00	1508.59	3926.47	0.00	0.00	-2417.88
33+50	3350.00	50.00	19.87	0.00	48.92	0.00	33.63	0.00	80.74	0.00	1542.22	4023.36	0.00	0.00	-2481.14
34+00	3400.00	50.00	17.16	0.00	47.49	0.00	34.29	0.00	89.27	0.00	1576.51	4130.48	0.00	0.00	-2553.97
34+50	3450.00	50.00	16.86	0.00	40.83	0.00	31.50	0.00	81.78	0.00	1608.01	4228.62	0.00	0.00	-2620.61
35+00	3500.00	50.00	16.13	0.00	38.50	0.00	30.55	0.00	73.45	0.00	1638.56	4316.76	0.00	0.00	-2678.20
35+50	3550.00	50.00	33.01	0.00	0.68	0.00	45.50	0.00	36.28	0.00	1684.06	4360.30	0.00	0.00	-2676.24
36+00	3600.00	50.00	17.37	0.00	20.98	0.00	46.65	0.00	20.06	0.00	1730.71	4384.37	0.00	0.00	-2653.66
36+50	3650.00	50.00	30.85	0.00	1.54	0.00	44.65	0.00	20.85	0.00	1775.36	4409.39	0.00	0.00	-2634.03
37+00	3700.00	50.00	17.33	0.00	25.51	0.00	44.61	0.00	25.05	0.00	1819.97	4439.45	0.00	0.00	-2619.48
37+50	3750.00	50.00	17.35	0.00	26.79	0.00	32.11	0.00	48.43	0.00	1852.08	4497.56	0.00	0.00	-2645.48
38+00	3800.00	50.00	17.55	0.00	26.07	0.00	32.31	0.00	48.94	0.00	1884.39	4556.29	0.00	0.00	-2671.90
38+50	3850.00	50.00	16.94	0.00	32.90	0.00	31.94	0.00	54.60	0.00	1916.33	4621.81	0.00	0.00	-2705.48
39+00	3900.00	50.00	17.42	0.00	31.44	0.00	31.81	0.00	59.57	0.00	1948.14	4693.30	0.00	0.00	-2745.16
39+50	3950.00	50.00	16.39	0.00	39.29	0.00	31.31	0.00	65.49	0.00	1979.45	4771.88	0.00	0.00	-2792.43
40+00	4000.00	50.00	34.28	0.00	11.38	0.00	46.92	0.00	46.92	0.00	2026.37	4828.19	0.00	0.00	-2801.82
40+50	4050.00	50.00	41.74	0.00	6.19	0.00	70.39	0.00	16.27	0.00	2096.76	4847.71	0.00	0.00	-2750.95
40+58 BK	4058.00	8.00	45.66	0.00	15.49	0.00	12.95	0.00	3.21	0.00	2109.71	4851.56	0.00	0.00	-2741.85
					Column totals		2109.71	0.00	4042.97	0.00					

Notes:	
1 - Cut	Cut includes Salvaged/Unusable Pavement material
2 - Salvaged/Unusable Pavement Material	This does not show up in cross sections nor is it shown in these sheets. Refer to Summary Table for this roadway's quantity.
3 - Fill	Does not include Unusable Pavement Exc volume
4 - Expanded EBS	Will be backfilled with Borrow

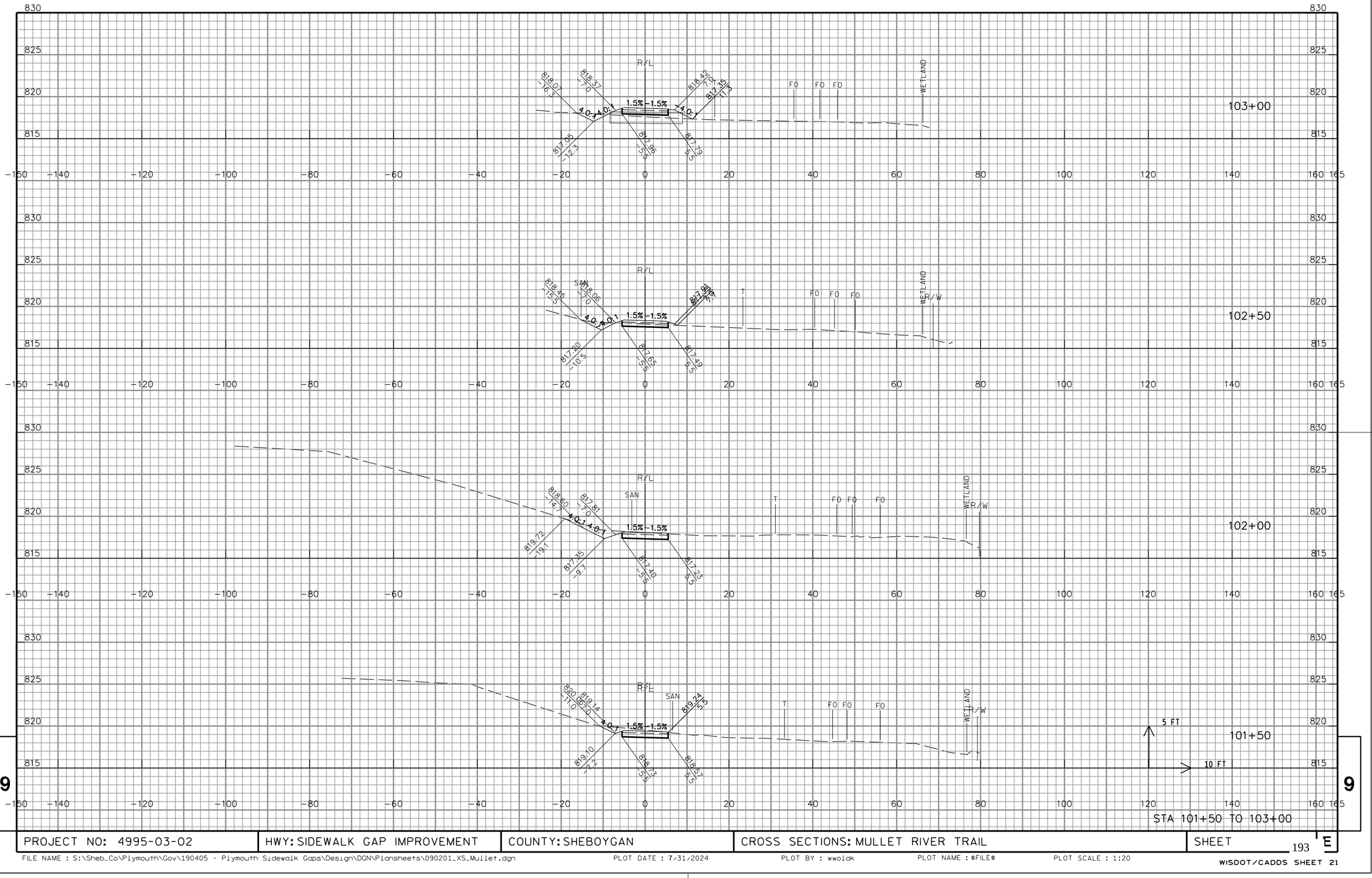
MULLET RIVER

			AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)				
			Salvaged/ Unusable Pavement Material				Salvaged/ Pavement Material				1.0	Expanded 1.2	Expanded 1.3	Reduced 0.8	Mass
							Note 1	Note 2	Note 3				Note 4	Note 5	Note 6
100+01 AH	10001	0.00	16.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100+50	10050	49.00	15.15	0.00	0.95	0.00	28.37	0.00	0.86	0.00	28.37	1.03	0.00	0.00	27.34
101+00	10100	50.00	4.86	0.00	1.46	0.00	18.53	0.00	2.23	0.00	46.90	3.71	0.00	0.00	43.19
101+50	10150	50.00	11.35	0.00	0.00	0.00	15.01	0.00	1.35	0.00	61.91	5.33	0.00	0.00	56.58
102+00	10200	50.00	15.09	0.00	0.00	0.00	24.48	0.00	0.00	0.00	86.39	5.33	0.00	0.00	81.06
102+50	10250	50.00	7.43	0.00	0.69	0.00	20.85	0.00	0.64	0.00	107.24	6.10	0.00	0.00	101.14
103+00	10300	50.00	3.11	0.00	8.14	0.00	9.76	0.00	8.18	0.00	117.00	15.91	0.00	0.00	101.09
103+50	10350	50.00	0.97	0.00	14.00	0.00	3.78	0.00	20.50	0.00	120.78	40.51	0.00	0.00	80.27
104+00	10400	50.00	0.16	0.00	16.99	0.00	1.05	0.00	28.69	0.00	121.83	74.94	0.00	0.00	46.89
104+50	10450	50.00	0.00	0.00	22.55	0.00	0.15	0.00	36.61	0.00	121.98	118.87	0.00	0.00	3.11
105+00	10500	50.00	0.02	0.00	51.76	0.00	0.02	0.00	68.81	0.00	122.00	201.44	0.00	0.00	-79.44
105+50	10550	50.00	0.01	0.00	95.85	0.00	0.03	0.00	136.68	0.00	122.03	365.46	0.00	0.00	-243.43
105+65	10565	15.00	0.07	0.00	161.83	0.00	0.02	0.00	71.58	0.00	122.05	451.36	0.00	0.00	-329.31
105+65	10565	0.00	0.07	0.00	161.10	0.00	0.00	0.00	0.00	0.00	122.05	451.36	0.00	0.00	-329.31
106+00	10600	35.00	0.00	0.00	154.55	0.00	0.05	0.00	204.59	0.00	122.10	696.86	0.00	0.00	-574.76
106+22	10621.87	56.87	0.02	0.00	205.93	0.00	0.02	0.00	379.64	0.00	122.12	1152.43	0.00	0.00	-1030.31
106+22	10621.87	21.87	0.02	0.00	216.21	0.00	0.00	0.00	175.13	0.00	122.12	1362.59	0.00	0.00	-210.16
106+45 BK	10645	23.13	2.09	0.00	18.82	0.00	0.90	0.00	100.67	0.00	123.02	1483.39	0.00	0.00	-330.06
107+65 AH	10765.00	0.00	0.60	0.00	-82.27	0.00	0.00	0.00	0.00	0.00	123.02	1152.43	0.00	0.00	0.00
108+00	10800.00	35.00	0.03	0.00	-27.47	0.00	0.41	0.00	-71.13	0.00	123.43	1067.08	0.00	0.00	85.77
108+50	10850.00	50.00	0.00	0.00	32.99	0.00	0.03	0.00	5.11	0.00	123.46	1073.21	0.00	0.00	79.66
108+85	10885.12	35.12	0.00	0.00	57.79	0.00	0.00	0.00	59.04	0.00	123.46	1144.06	0.00	0.00	8.82
108+85	10885.12	0.00	0.01	0.00	69.56	0.00	0.00	0.00	0.00	0.00	123.46	1144.06	0.00	0.00	8.82
109+00	10900.00	14.88	0.00	0.00	57.70	0.00	0.00	0.00	35.07	0.00	123.46	1186.14	0.00	0.00	-33.27
109+50	10950.00	50.00	0.00	0.00	64.80	0.00	0.00	0.00	113.43	0.00	123.46	1322.26	0.00	0.00	-169.38
109+84 BK	10983.88	33.88	7.59	0.00	66.22	0.00	4.76	0.00	82.20	0.00	128.22	1420.90	0.00	0.00	-263.26
						Column totals	128.22	0.00	1459.88	0.00					

Notes:	
1 - Cut	Cut includes Salvaged/Unusable Pavement material
2 - Salvaged/Unusable Pavement Material	This does not show up in cross sections nor is it shown in these sheets. Refer to Summary Table for this roadway's quantity.
3 - Fill	Does not include Unusable Pavement Exc volume
4 - Expanded EBS	Will be backfilled with Borrow



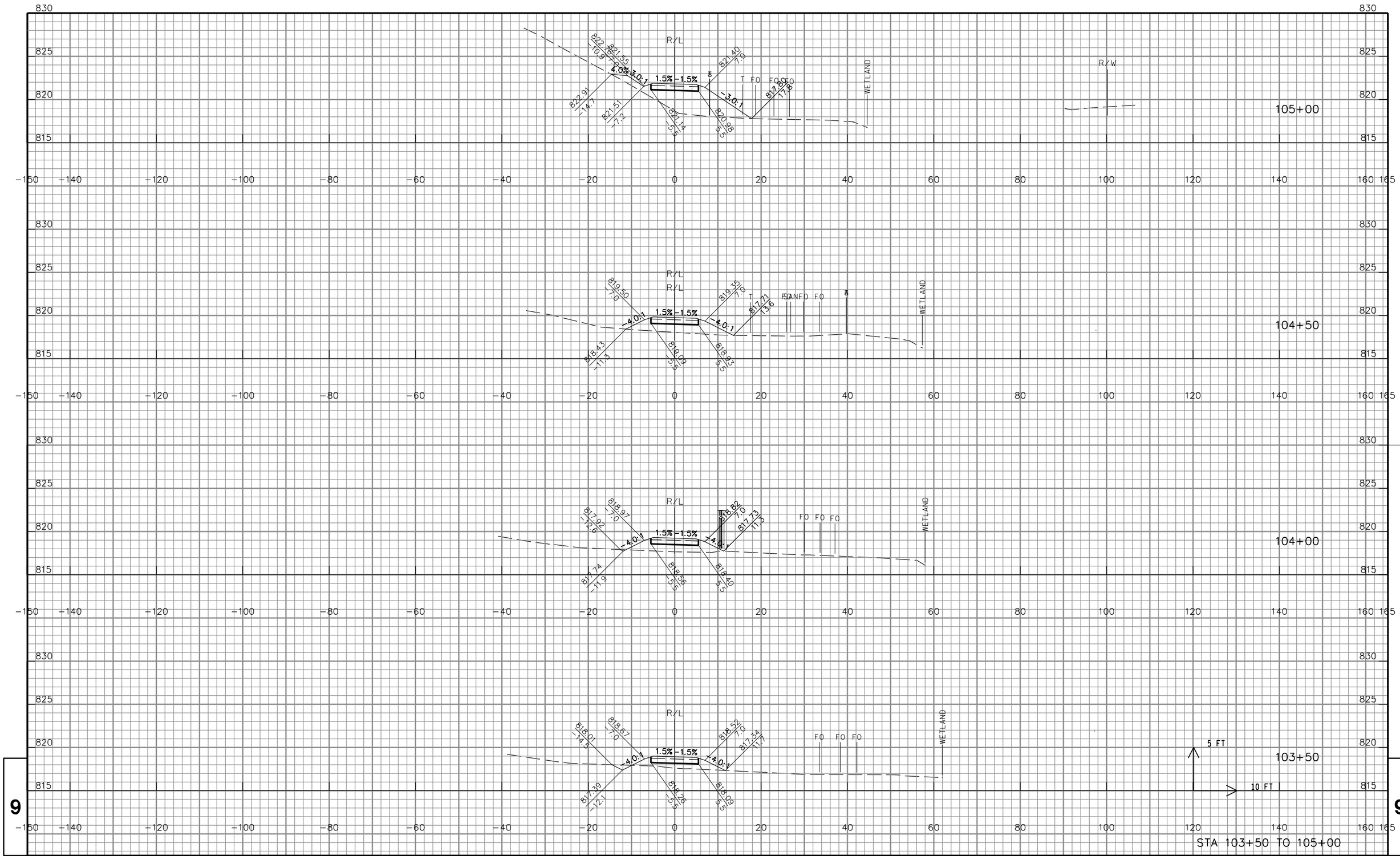
PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	CROSS SECTIONS: MULLET RIVER TRAIL	SHEET 192 E



PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	CROSS SECTIONS: MULLET RIVER TRAIL	SHEET 193 E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\090201_XS_Mullet.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : $FILE$ PLOT SCALE : 1:20

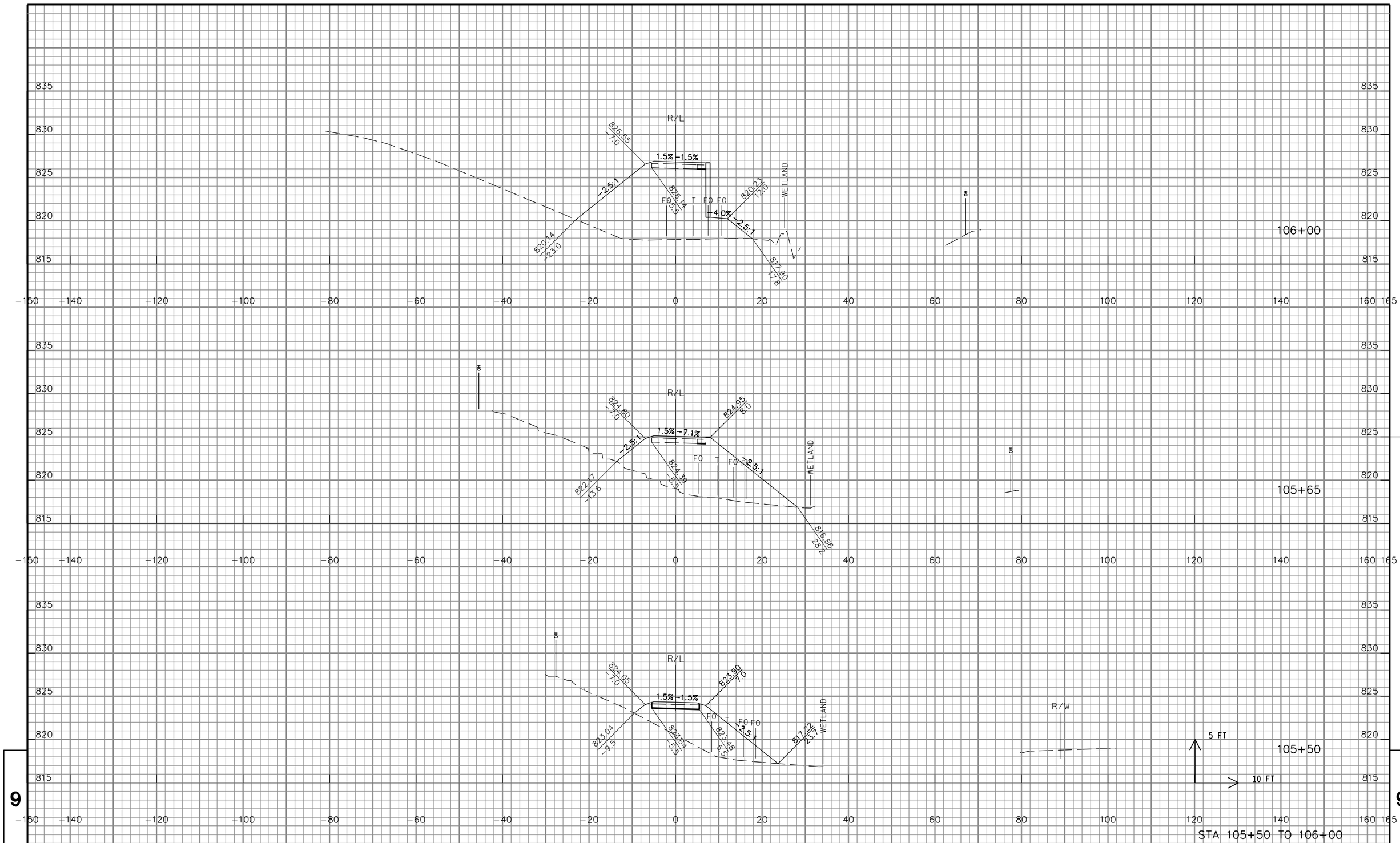
WISDOT/CADDS SHEET 21



PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	CROSS SECTIONS: MULLET RIVER TRAIL	SHEET 194 E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\090201_XS_Mullet.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : $FILE$ PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

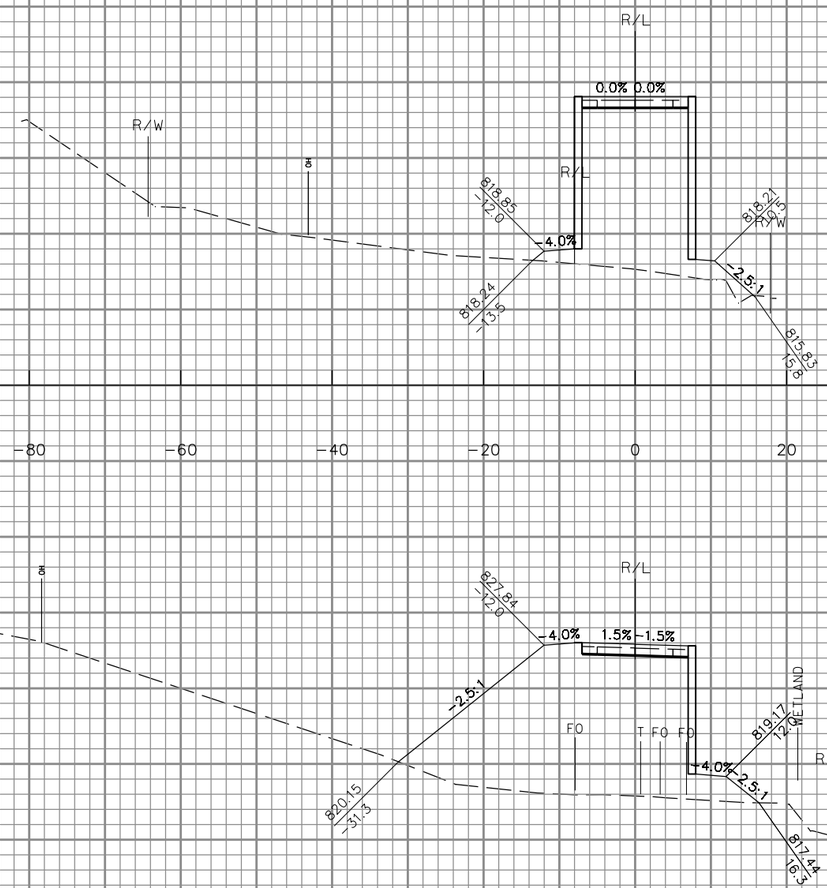


9

9

STA 105+50 TO 106+00

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	CROSS SECTIONS: MULLET RIVER TRAIL	SHEET 195 E

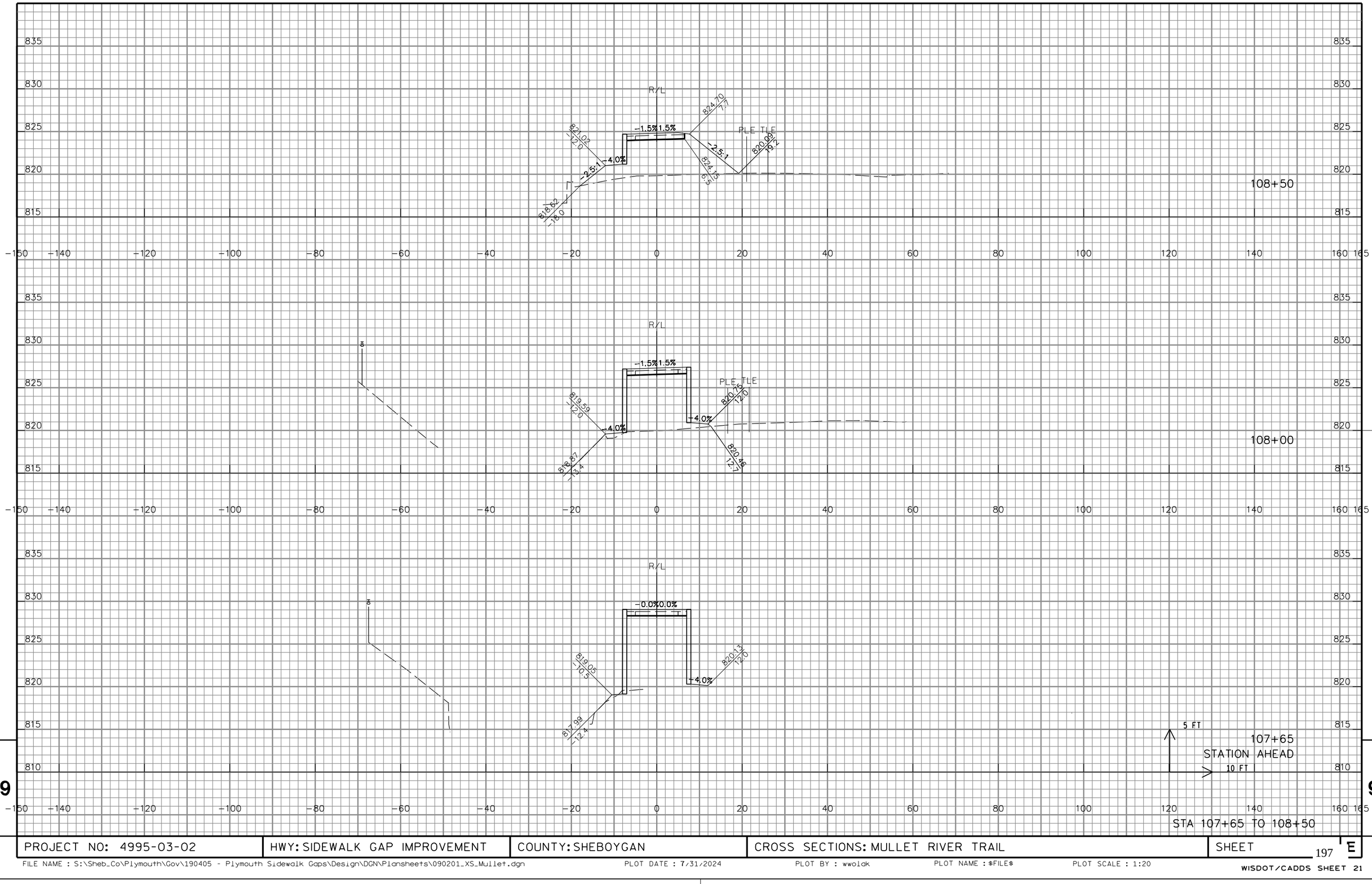


STA 106+21.89 TO 106+44.98

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	CROSS SECTIONS: MULLET RIVER TRAIL	SHEET 196 E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\090201_XS_Mullet.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : $FILE$ PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

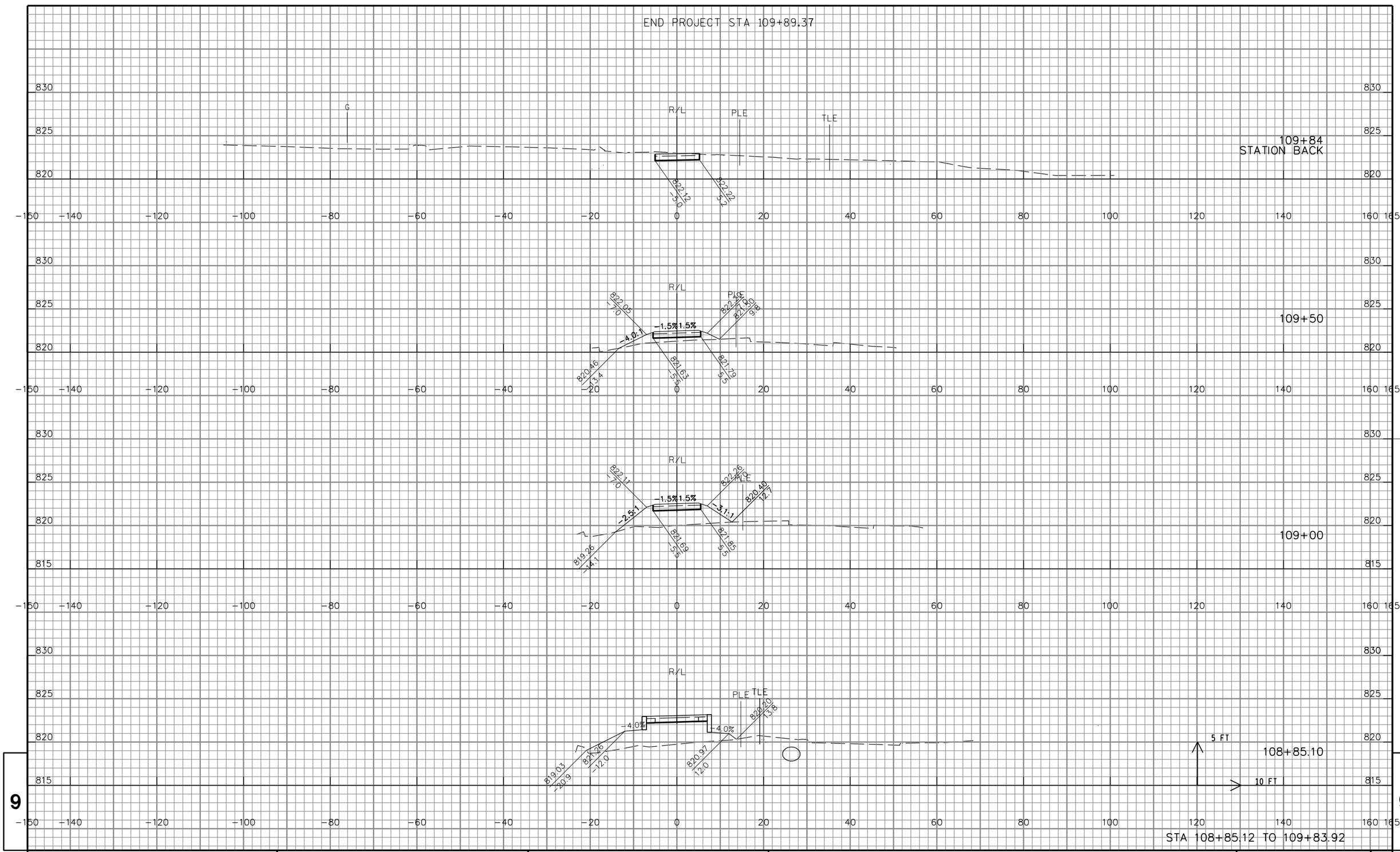


PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	CROSS SECTIONS: MULLET RIVER TRAIL	SHEET 197 E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\090201_XS_Mullet.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : $FILE$ PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

END PROJECT STA 109+89.37

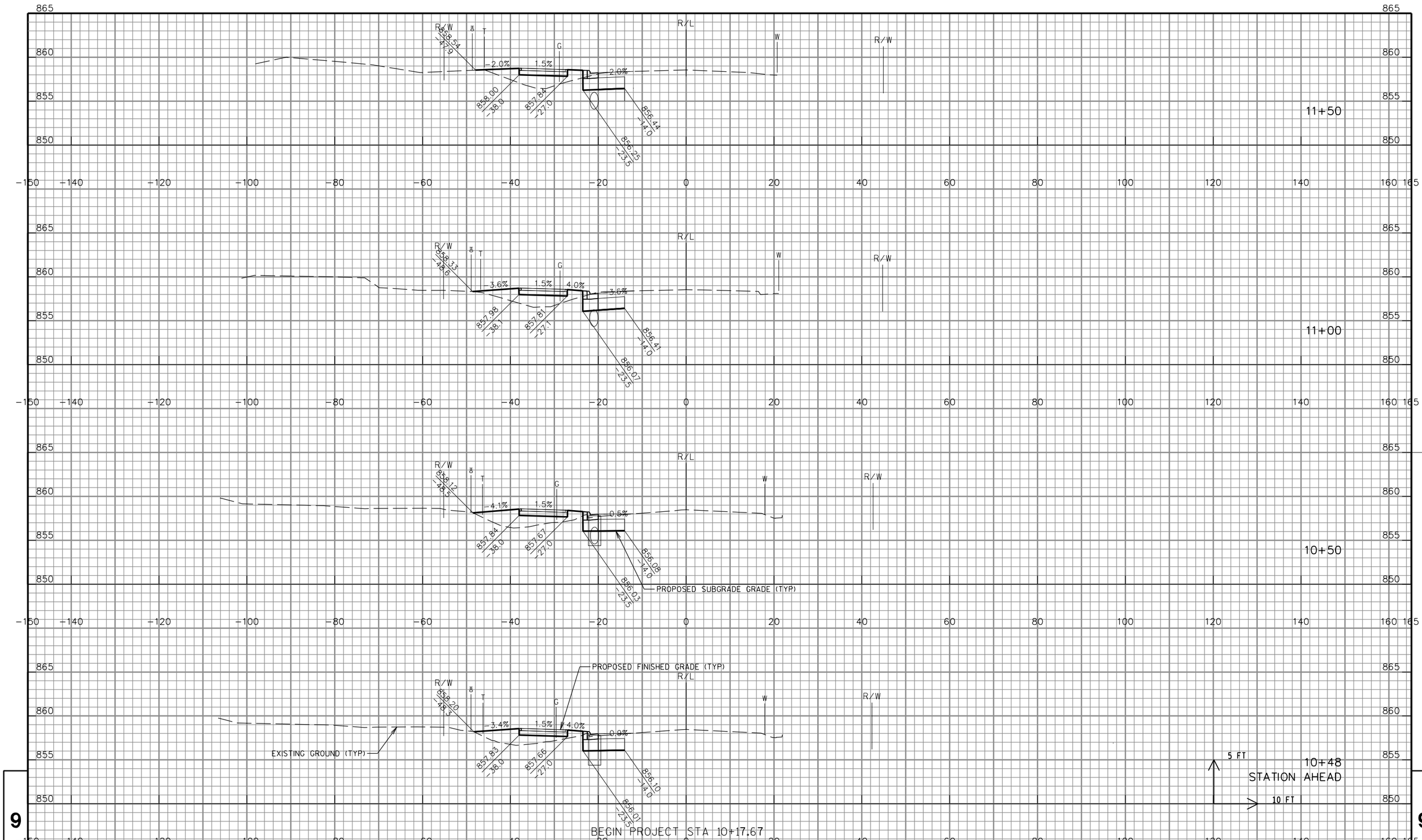


STA 108+85.12 TO 109+83.92

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	CROSS SECTIONS: MULLET RIVER TRAIL	SHEET 198 E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\090201_XS_Mullet.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : $FILE$ PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21



9

9

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	CROSS SECTIONS: CTH E	SHEET 199 E

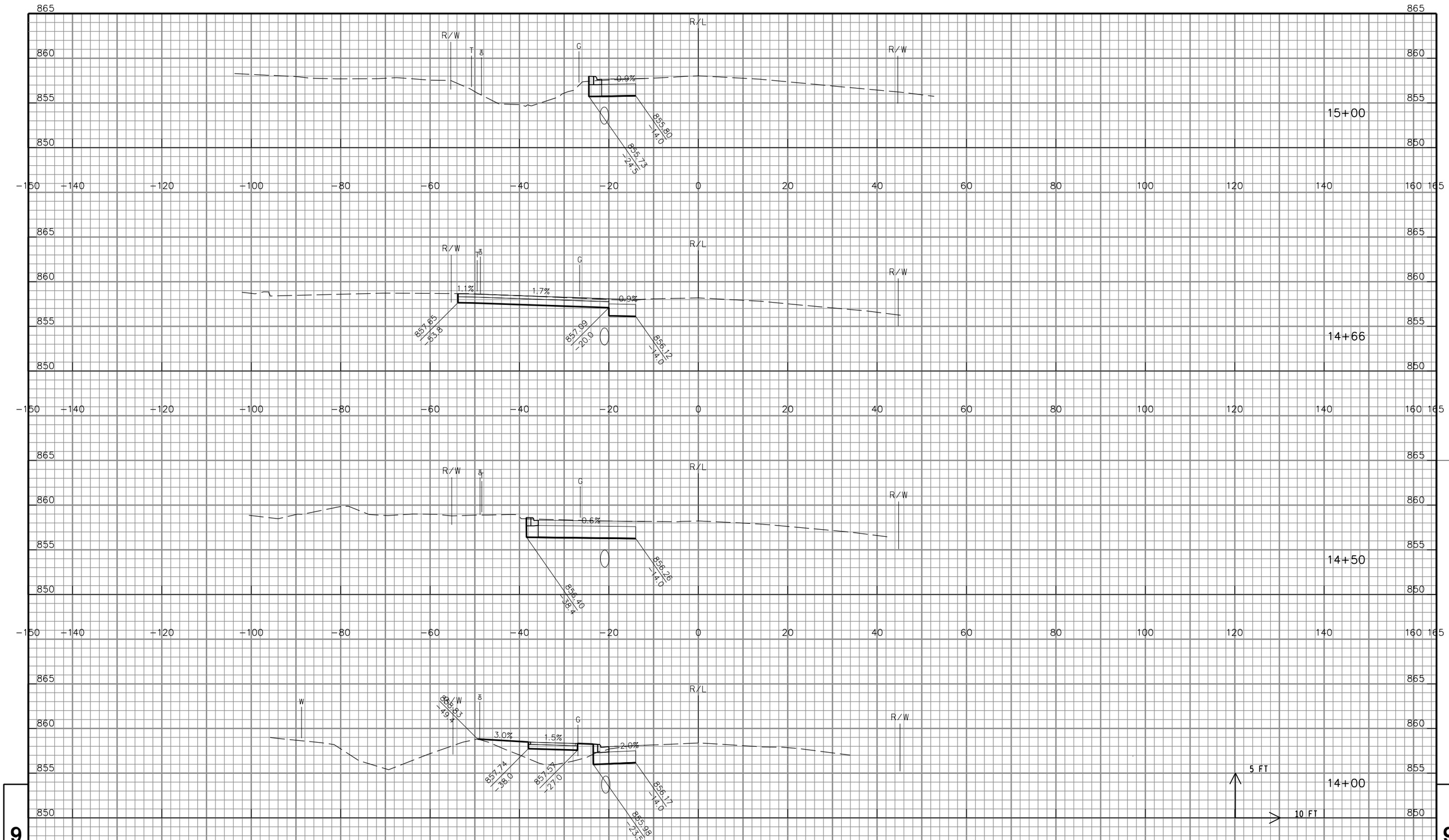
FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\090202_XS_CTH_E.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : $FILE$ PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	CROSS SECTIONS: CTH E	SHEET 200 E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\090202_XS_CTH_E.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : $FILE$ PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21



STA 14+00 TO 15+00

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	CROSS SECTIONS: CTH E	SHEET 201 E

STA 15+50 TO 17+00

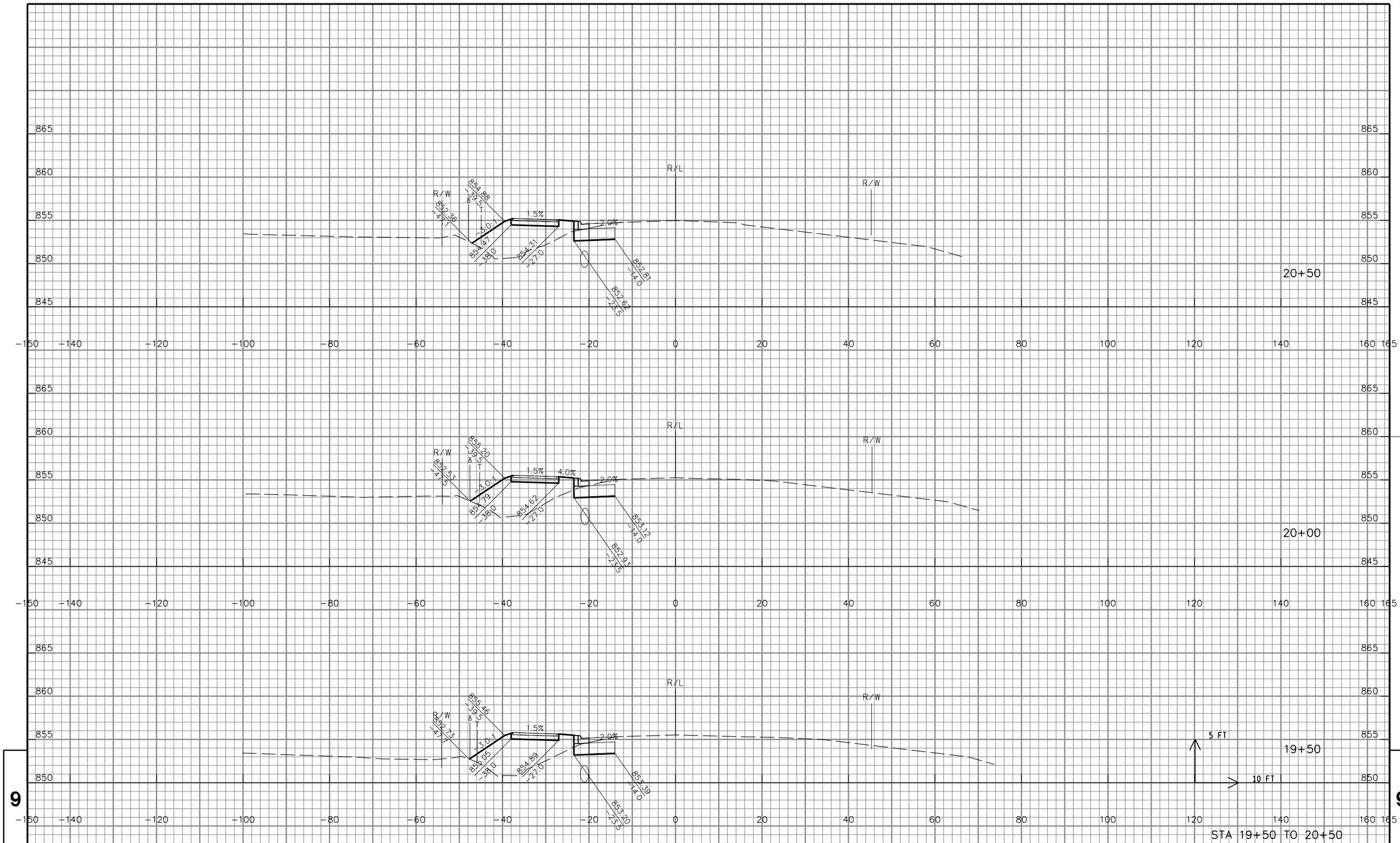
PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	CROSS SECTIONS: CTH E	SHEET 202 E

9

9

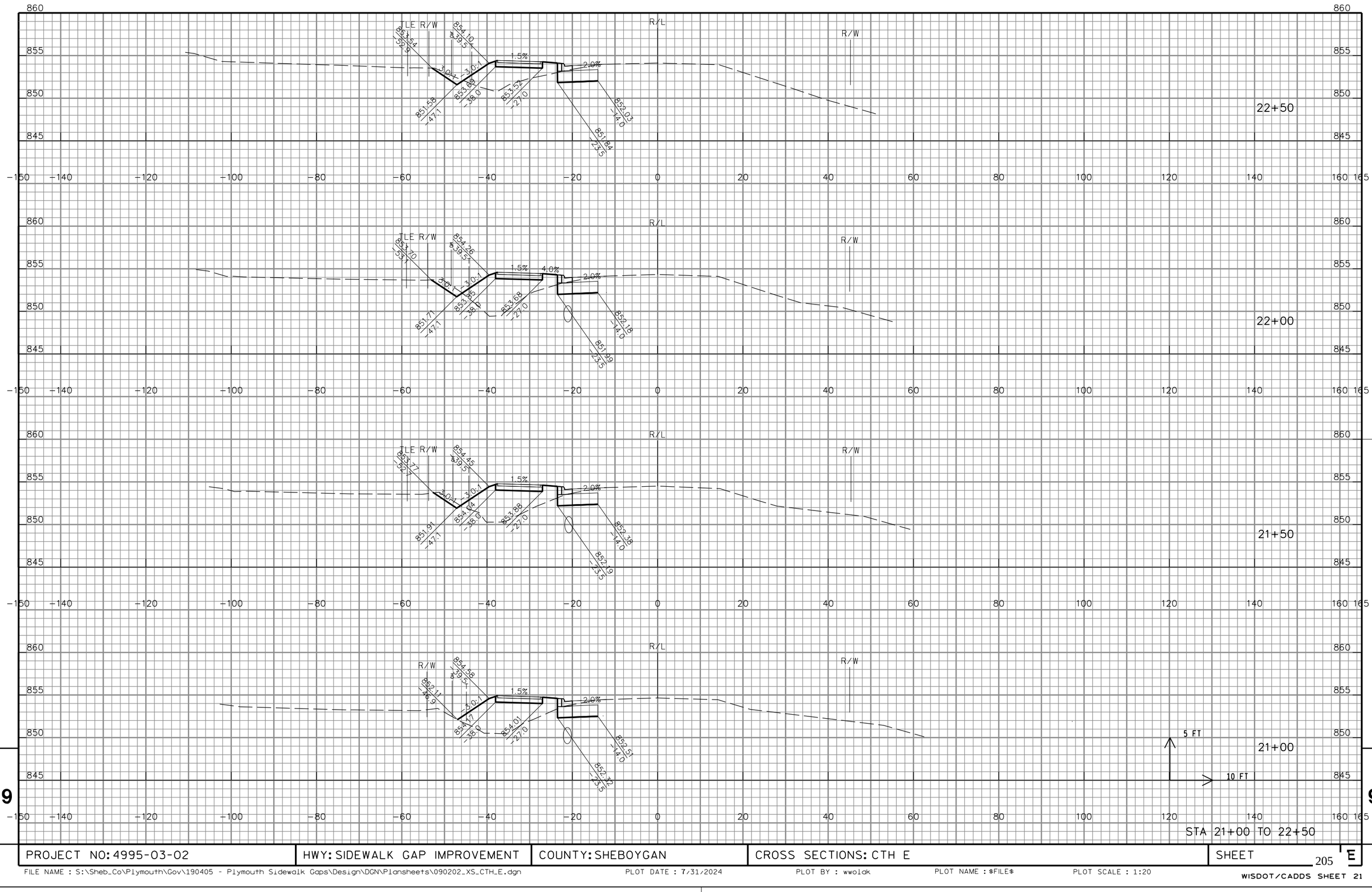
STA 17+50 TO 19+00

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	CROSS SECTIONS: CTH E	SHEET 203 E



STA 19+50 TO 20+50

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	CROSS SECTIONS: CTH E	SHEET 204 E



9

9

STA 21+00 TO 22+50

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	CROSS SECTIONS: CTH E	SHEET 205 E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\090202_XS_CTH_E.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : $FILE$ PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

9

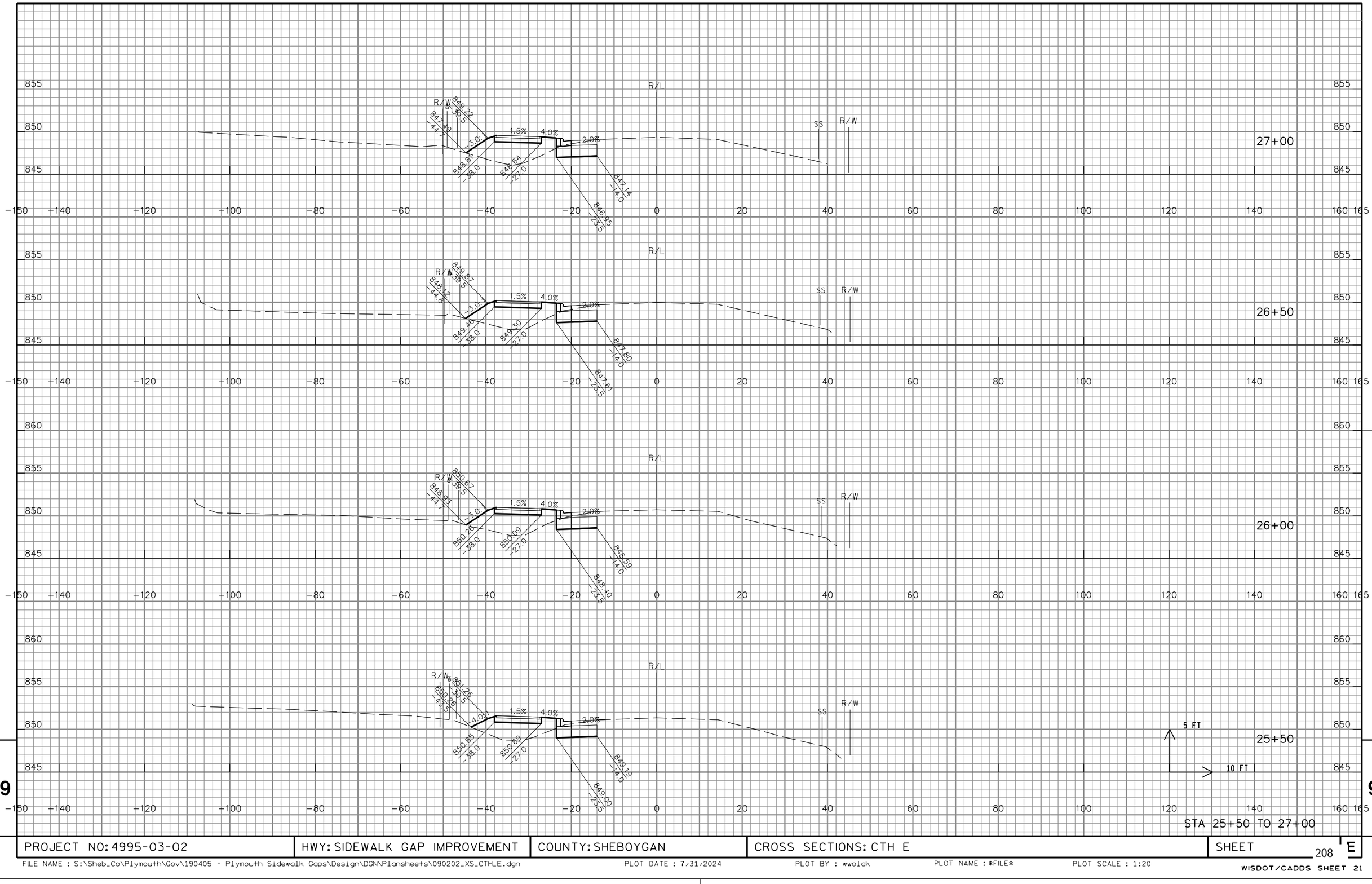
9

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	CROSS SECTIONS: CTH E	SHEET 206 E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\090202_XS_CTH_E.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : $FILE$ PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	CROSS SECTIONS: CTH E	SHEET 207 E



9

9

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	CROSS SECTIONS: CTH E	SHEET 208 E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\090202_XS_CTH_E.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : $FILE$ PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

9

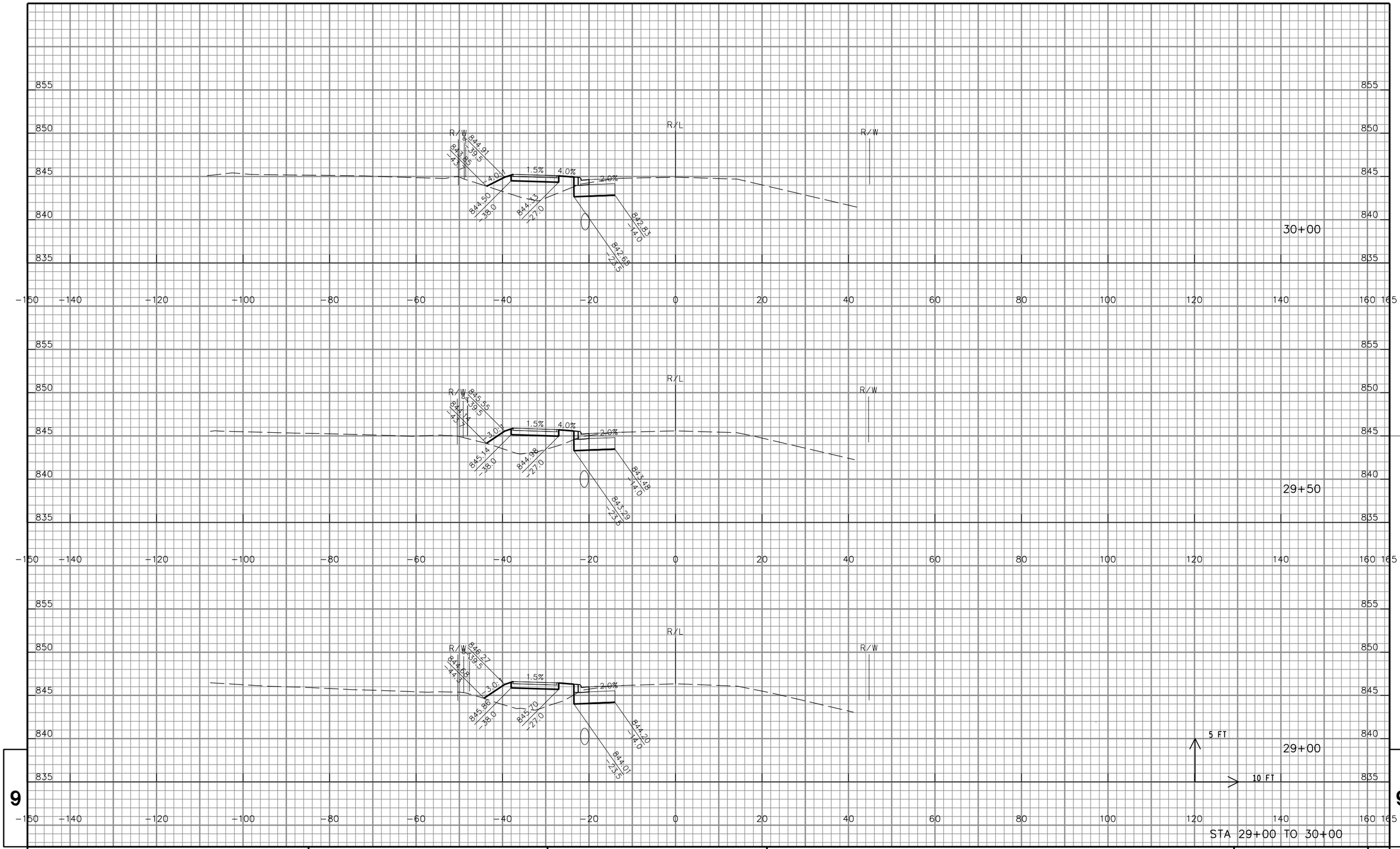
9

STA 27+50 TO 28+50

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	CROSS SECTIONS: CTH E	SHEET 209 E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\090202_XS_CTH_E.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : $FILE$ PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21



PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	CROSS SECTIONS: CTH E	SHEET 210 E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\090202_XS_CTH_E.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : $FILE$ PLOT SCALE : 1:20
WISDOT/CADDS SHEET 21

9

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	CROSS SECTIONS: CTH E	SHEET 211 E

STA 30+50 TO 31+00

9

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\090202_XS_CTH_E.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : $FILE$ PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

STA 31+50 TO 32+50

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	CROSS SECTIONS: CTH E	SHEET 212 E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\090202_XS_CTH_E.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : $FILE$ PLOT SCALE : 1:20

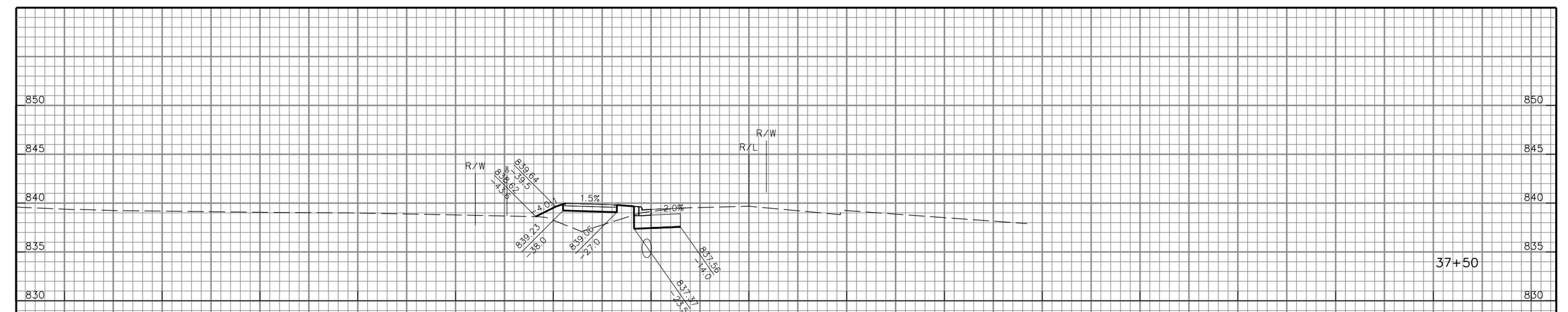
WISDOT/CADDS SHEET 21

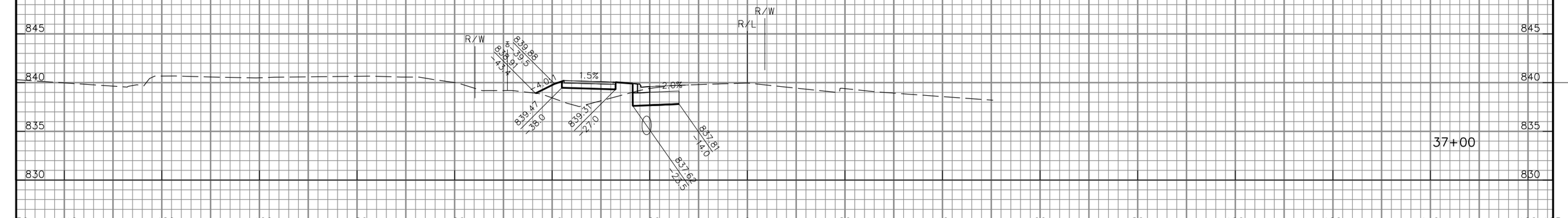
STA 33+00 TO 34+50

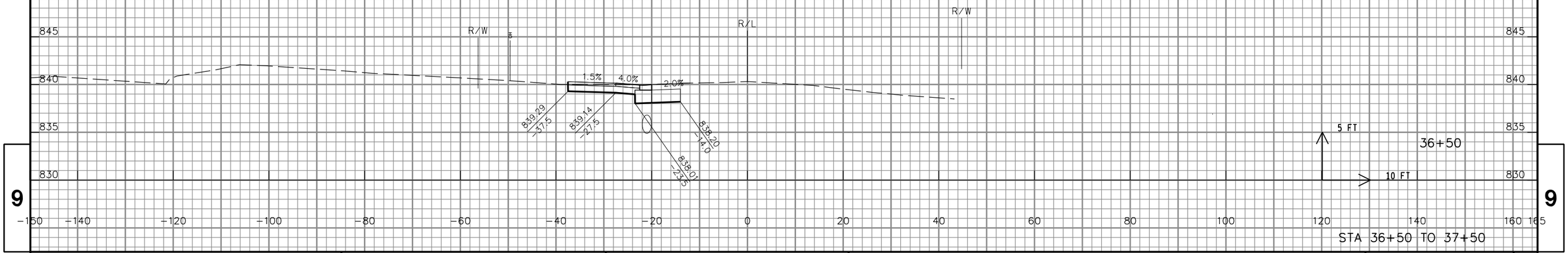
PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	CROSS SECTIONS: CTH E	SHEET 213 E

STA 35+00 TO 36+00

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	CROSS SECTIONS: CTH E	SHEET 214 E







9

9

STA 36+50 TO 37+50

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	CROSS SECTIONS: CTH E	SHEET 215 E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\090202_XS_CTH_E.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : $FILE$ PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

9

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	CROSS SECTIONS: CTH E	SHEET 216 E

STA 38+00 TO 39+00

9

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\090202_XS_CTH_E.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : $FILE$ PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

STA 39+50 TO 40+50

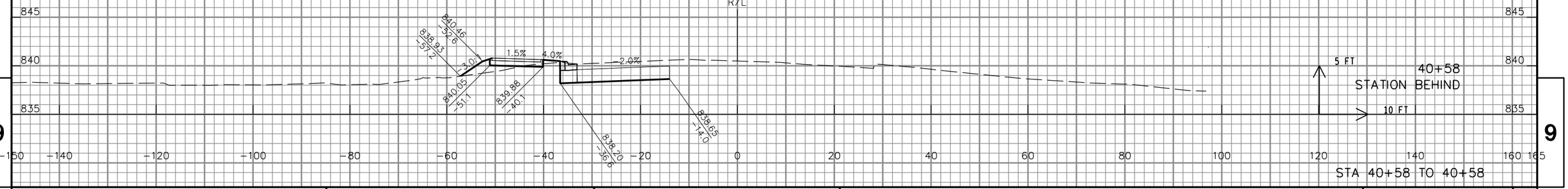
PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	CROSS SECTIONS: CTH E	SHEET 217 E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\090202_XS_CTH_E.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : $FILE$ PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

END PROJECT STA 40+17.42

R/L



9

9

PROJECT NO: 4995-03-02	HWY: SIDEWALK GAP IMPROVEMENT	COUNTY: SHEBOYGAN	CROSS SECTIONS: CTH E	SHEET 218 E

FILE NAME : S:\Sheb_Co\Plymouth\Gov\190405 - Plymouth Sidewalk Gaps\Design\DGN\Plansheets\090202_XS_CTH_E.dgn PLOT DATE : 7/31/2024 PLOT BY : wwolak PLOT NAME : $FILE$ PLOT SCALE : 1:20

WISDOT/CADDS SHEET 21

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions
through innovation and exceptional service.

http://www.dot.wisconsin.gov