WKE

MAR 2018

PROJECT ID: 2707-00-79

WITH: N/A

COUNTY: WASHINGTON

ORDER OF SHEETS

Section No.	1	Title
Section No.	2	Typical Sections and Details
Section No.	3	Estimate of Quantities
Section No.	3	Miscellaneous Quantities
Section No.	4	Right of Way Plat
Section No.	5	Plan and Profile
Section No.	6	Standard Detail Drawings
Section No.	7	Sign Plates
~~Section No.~~	~~8~~	~~Structure Plans~~
Section No.	9	Computer Earthwork Data
Section No.	9	Cross Sections

TOTAL SHEETS = 160



N

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

18TH AVENUE

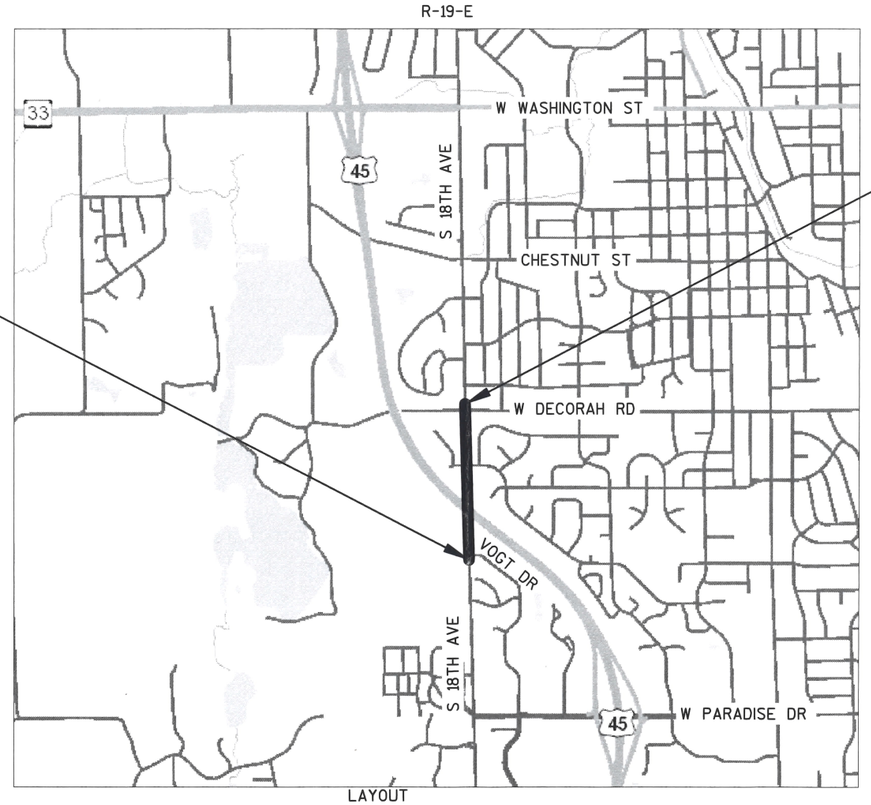
VOGT DRIVE TO DECORAH ROAD

LOCAL STREET

WASHINGTON COUNTY

STATE PROJECT NUMBER
2707-00-79

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
2707-00-79	WISC 2018152	1



BEGIN PROJECT
STA 40+86.00
Y = 177,631.56
X = 357,552.54

END PROJECT
STA 68+18.70

LAYOUT

SCALE 0 1/2 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.518

DESIGN DESIGNATION

A.A.D.T.	2018	= 7,500
A.A.D.T.	2038	= 8,700
D.H.V.		= 1027
D.D.		= 59/41
T.		= 3.6%
DESIGN SPEED		= 40 MPH
ESALS		= 901,732

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 (300'EB')
- 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 —
- OVERHEAD UTILITY — OH —
- FIBER OPTIC — FO —
- GAS — G —
- SANITARY SEWER — SAN —
- STORM SEWER — SS —
- TELEPHONE — T —
- WATER — W —
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

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

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO NAVD 88 (2012)

ACCEPTED FOR
CITY OF WEST BEND, WI

DATE: Sept 26 2017 City Engineer
(Signature & Title of Official)

ORIGINAL PLANS PREPARED BY

benesch
Alfred Benesch & Company
1300 West Canal Street, Suite 150
Milwaukee, Wisconsin 53233
414-308-4310 Job No. 20217.00

WISCONSIN
AMANDA E. ZACHARIAS
E-35716
MILWAUKEE
WISCONSIN
PROFESSIONAL ENGINEER

Amanda Zacharias

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	THE SIGMA GROUP
Designer	ALFRED BENESCH & CO
Management Consultant	DAAR ENGINEERING
C.O. Examiner	

APPROVED FOR THE DEPARTMENT

DATE: 10/19/17 (Management Consultant Signature)

E

GENERAL NOTES

1. NO TREES OR SHRUBS ARE TO BE REMOVED WITHOUT THE APPROVAL OF THE ENGINEER.
2. UNLESS NOTED ON THE PLAN, ALL STATIONS AND OFFSETS ARE REFERENCED FROM ℄ 18TH AVE.
3. DISTURBED AREAS WITHIN THE RIGHT-OF-WAY SHALL BE FINISHED WITH SOD UNLESS OTHERWISE NOTED.
4. EROSION CONTROL FEATURES AS SHOWN IN THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.
5. EXISTING DRIVEWAYS BEHIND THE BACK OF WALK SHALL BE RESTORED IN KIND AS DIRECTED BY THE ENGINEER IN THE FIELD AT THE LOCATIONS DETERMINED BY THE ENGINEER.
6. TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER. NO WORK MAY BEGIN UNTIL PROPER TRAFFIC CONTROL DEVICES ARE PLACED AND APPROVED BY THE ENGINEER.
7. A SAWED JOINT IS REQUIRED WHERE NEW PAVEMENT MEETS EXISTING PAVEMENT.
8. ALL ELEVATIONS AND OFFSETS SHOWN IN THE PLAN SHALL BE VERIFIED IN THE FIELD.
9. THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK. ANY LOCAL MUNICIPALITY OR PUBLIC AGENCY WHICH IS NOT A MEMBER OF DIGGERS HOTLINE MUST BE CONTACTED SEPARATELY.
10. EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF CONSTRUCTION AND SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DEEMS THE MEASURE NO LONGER NECESSARY.
11. CROSS SECTIONS ARE REFERENCED TO THE ℄ 18TH AVE.
12. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY FACILITIES AS SHOWN ON THE PLAN AND CROSS SECTIONS ARE APPROXIMATE AND ARE BASED ON UTILITY LOCATES OBTAINED FROM THE UTILITIES WHEN THE SURVEY DATA WAS COLLETED PRIOR TO THE FINAL DESIGN OF THE PROJECT. IT IS ANTICIPATED THAT UTILITY FACILITIES WILL BE RELOCATED AS PART OF THIS PROJECT AS DESCRIBED IN THE SPECIAL PROVISIONS. LOCATIONS OF THE PROPOSED RELOCATED UTILITY FACILITIES ARE NOT SHOWN ON THE PLAN SHEETS OR CROSS SECTIONS.
13. CURB RADII MEASUREMENTS GIVEN TO THE FLANGE OF THE CURB

UTILITY CONTACTS

WE ENERGIES - GAS

500S. 116TH ST
WEST ALLIS, WI 53214
MS. PATRICIA FINN
(414) 944-5760

WE ENERGIES - ELECTRIC

245 SAND DR
WEST BEND, WI 53095
MR. AL SCHMITT
(262) 338-7662
alan.schmitt@we-energies.com

WINDSTREAM, INC - COMMUNICATION

13935 BISHOPS DR
BROOKFIELD, WI 53005
MR. NATHAN BECKER
(414)313-9032
Nathan.becker@windstream.com

ATT

2005 PEWAUKEE RD
WAUKEHSA, WI 53188
MR. JEFF OLDENBURG
(262) 896-7522
jo2376@att.com

CITY OF WEST BEND - STORM SEWER

251 MUNICIPAL DR
WEST BEND, WI 53095
MR. DOUG NEUMANN
PUBLIC WORKS DIRECTOR
(262) 335-5079

CITY OF WEST BEND - WATER UTILITY

251 MUNICIPAL DR
WEST BEND, WI 53095
MR. TRAVIS THULL
WATER UTILITY MANAGER
(262) 335-5040
thullt@ci.west-bend.wi.us

CITY OF WEST BEND - SEWER UTILITY

512 MUNICIPAL DR
WEST BEND, WI 53095
MR. STEVE RANDALL
SEWER UTILITY MANAGER
(262) 334-3925
wbsewer@ci.west-bend.wi.us

CHARTER COMMUNICATIONS (COMMUNICATION LINE)

2312 CONTINENTAL DR
WEST BEND, WI 53095
MR. TOM HARYCKI
(262) 306-8756 EXT. 20702

OTHER AGENCIES

DNR

DNR SOUTHEAST REGION
2300 N MARTIN LUTHER KING DR
MILWAUKEE, WI 53212
MS. KRISTINA BETZOLD
(414) 263-8517
kristina.betzold@wisconsin.gov

CITY OF WEST BEND

1115 SOUTH MAIN ST
WEST BEND, WI 53095
MR. MAX MARECHAL
CITY OF WEST BEND ENGINEER
(262) 335-5130
marecham@ci.west-bend.wi.us

DESIGN

ALFRED BENESCH & COMPANY
1300 W CANAL ST, SUITE 150
MILWAUKEE, WI 53233
MS. AMANDA ZACHARIAS
(414) 308-1320
azacharias@benesch.com

LIST OF STANDARD ABBREVIATIONS

ABUT	ABUTMENT
AC	ACRE
AGG	AGGREGATE
AADT	ANNUAL AVERAGE DAILY TRAFFIC
ASPH	ASPHALT
AVG	AVERAGE
ADT	AVERAGE DAILY TRAFFIC
BF	BACK FACE
BL	BASE LINE
BM	BENCH MARK
CB	CATCH BASIN
℄	CENTERLINE
CC	CENTER TO CENTER
CE	COMMERCIAL ENTRANCE
CONC	CONCRETE
CO	COUNTY
CTH	COUNTY TRUNK HIGHWAY
CY	CUBIC YARD
CULV	CULVERT
C&G	CURB AND GUTTER
DHV	DESIGN HOUR VOLUME
DIA	DIAMETER
DD	DIRECTIONAL DISTRIBUTION
E	EAST
X	EAST GRID COORDINATE
EB	EASTBOUND
ELEC	ELECTRIC
ELEV	ELEVATION
ESALS	EQUIVALENT SINGLE AXLE LOADS
EXC	EXCAVATION
EBS	EXCAVATION BELOW SUBGRADE
EXIST	EXISTING
FF	FACE TO FACE
FE	FIELD ENTRANCE
FG	FINISHED GRADE
FL	FLOW LINE
FT	FOOT
FTMS	FREEWAY TRAFFIC MANAGEMENT SYSTEM
HES	HIGH EARLY STRENGTH
CWT	HUNDREDWEIGHT
HYD	HYDRANT
IN DIA	INCH DIAMETER
INL	INLET
ID	INSIDE DIAMETER
INV	INVERT
IP	IRON PIPE
JT	JOINT
JCT	JUNCTION
LT	LEFT
L	LENGTH OF CURVE
LHF	LEFT-HAND FORWARD
LF	LINEAR FOOT
L	LITER
LS	LUMP SUM
MH	MANHOLE
MB	MESSAGE BOARD
MLB	MAILBOX
ML	MATCH LINE
NC	NORMAL CROWN
N	NORTH
Y	NORTH GRID COORDINATE
NB	NORTHBOUND
NO	NUMBER
OD	OUTSIDE DIAMETER
PAVT	PAVEMENT
PERM	PERMANENT
PGL	PROFILE GRADE LINE
PLE	PERMANENT LIMITED EASEMENT
PT	POINT
PVC	POLYVINYL CHLORIDE
PCC	PORTLAND CEMENT CONCRETE
PE	PRIVATE ENTRANCE
PROJ	PROJECT
PL	PROPERTY LINE
R	RADIUS
℄	REFERENCE LINE
RCCP	REINFORCED CONCRETE CULVERT PIPE
REQD	REQUIRED
RT	RIGHT
RHF	RIGHT HAND FORWARD
R/W	RIGHT-OF-WAY
RD	ROAD
RDWY	ROADWAY
SALV	SALVAGED
SSS	SANITARY AND STORM SEWER
SAN S	SANITARY SEWER
SEC	SECTION
SHLDR	SHOULDER
SW	SIDEWALK
S	SOUTH
SB	SOUTHBOUND
SP	SPECIAL
SPECS	SPECIFICATIONS
SQ	SQUARE
SF	SQUARE FEET
SY	SQUARE YARD
STD	STANDARD
SDD	STANDARD DETAIL DRAWINGS
STH	STATE TRUNK HIGHWAYS
STA	STATION
SS	STORM SEWER
STR	STRUCTURE OR STRUCTURAL
SL	SURVEY LINE
TEL	TELEPHONE
TEMP	TEMPORARY
TLE	TEMPORARY LIMITED EASEMENT
T	TON
TC	TOP OF CURB
T	TRUCKS (PERCENT OF)
TYP	TYPICAL
UG	UNDERGROUND
USH	UNITED STATES HIGHWAY
VAR	VARIABLE
VERT	VERTICAL
W	WATER
WM	WATER MAIN
WV	WATER VALVE
W	WEST
WB	WESTBOUND
YD	YARD

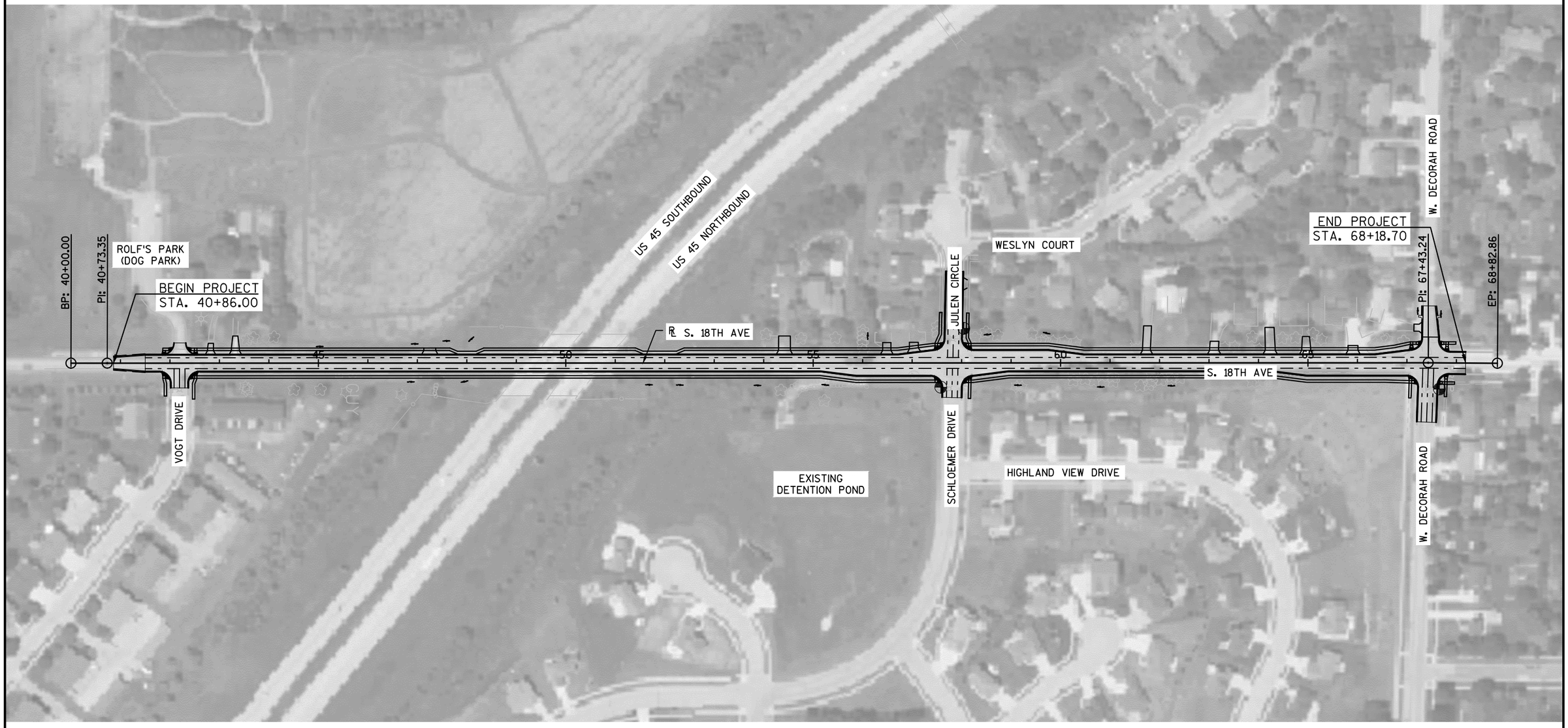
ORDER OF SECTION 2 SHEETS

GENERAL NOTES
PROJECT OVERVIEW
TYPICAL SECTIONS
CONSTRUCTION DETAILS
INTERSECTION DETAILS - CURB RAMPS
PAVEMENT DETAILS
EROSION CONTROL
STORM SEWER AND UTILITIES
PERMANENT SIGNING AND PAVEMENT MARKINGS
DETOUR PLAN
ALIGNMENT PLAN

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

2

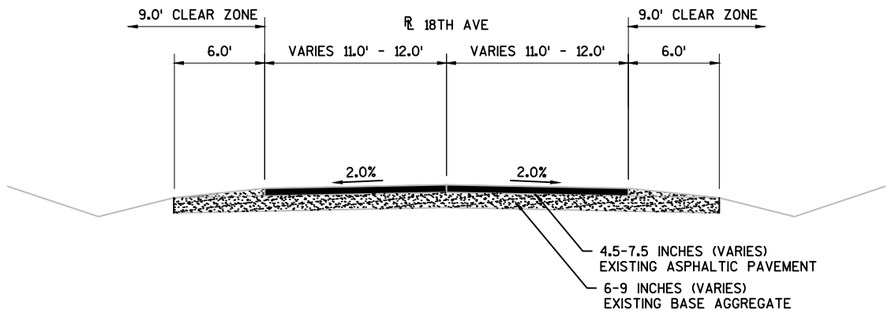
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PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	PROJECT OVERVIEW	SHEET 3	E

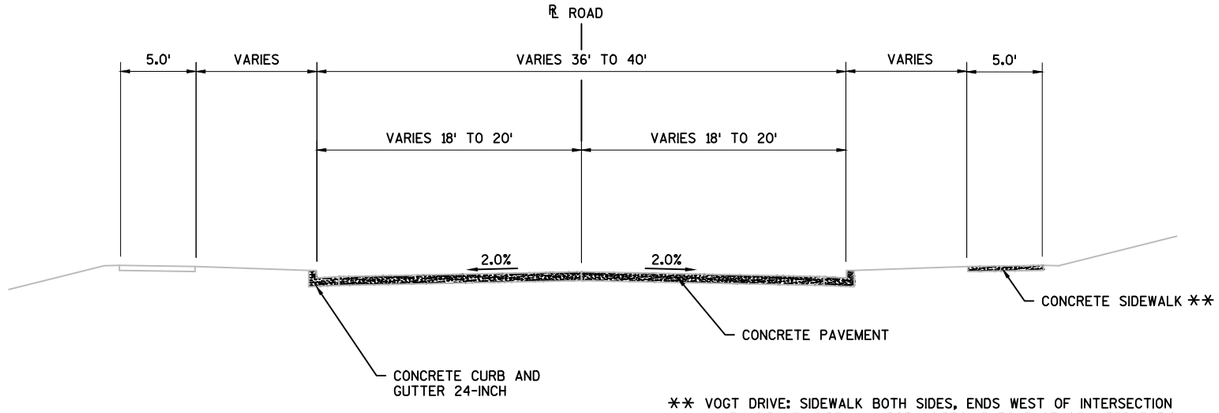
FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\020201_PO.DWG
LAYOUT NAME - 020201_PO
PLOT DATE : 10/26/2017 4:56 PM PLOT BY : WEIGAND, BEN PLOT NAME : PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 42

2



TYPICAL EXISTING SECTION

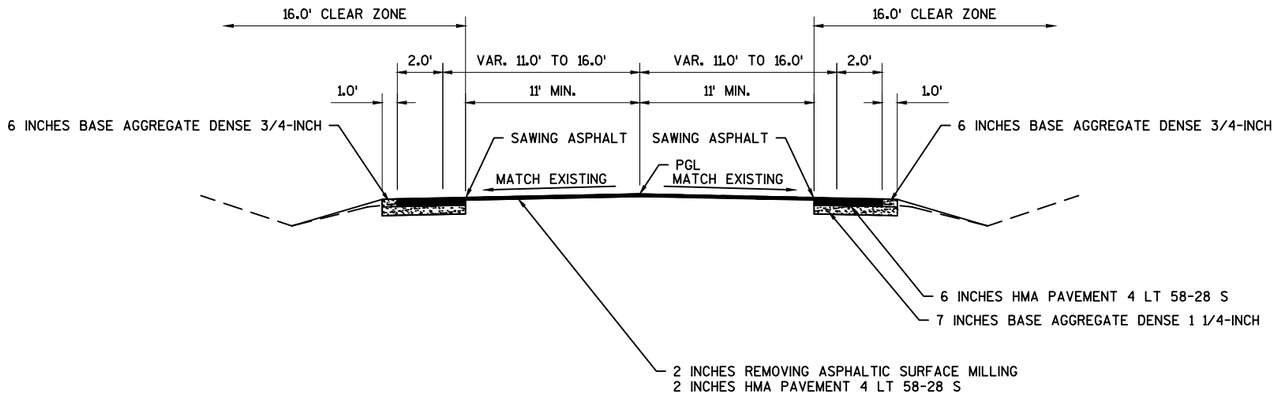
STA. 40+86.00 TO STA. 68+18.70



** VOGT DRIVE: SIDEWALK BOTH SIDES, ENDS WEST OF INTERSECTION
JULEN CIRCLE: SIDEWALK BOTH SIDES, ENDS EAST OF INTERSECTION
SCHLOEMER DRIVE: SIDEWALK NORTH SIDE ONLY
DECORAH ROAD: SIDEWALK BOTH SIDES EAST OF 18TH,
NO SIDEWALK WEST OF 18TH

TYPICAL EXISTING SECTION

VOGT DRIVE
JULEN CIRCLE
SCHLOEMER DRIVE
DECORAH ROAD

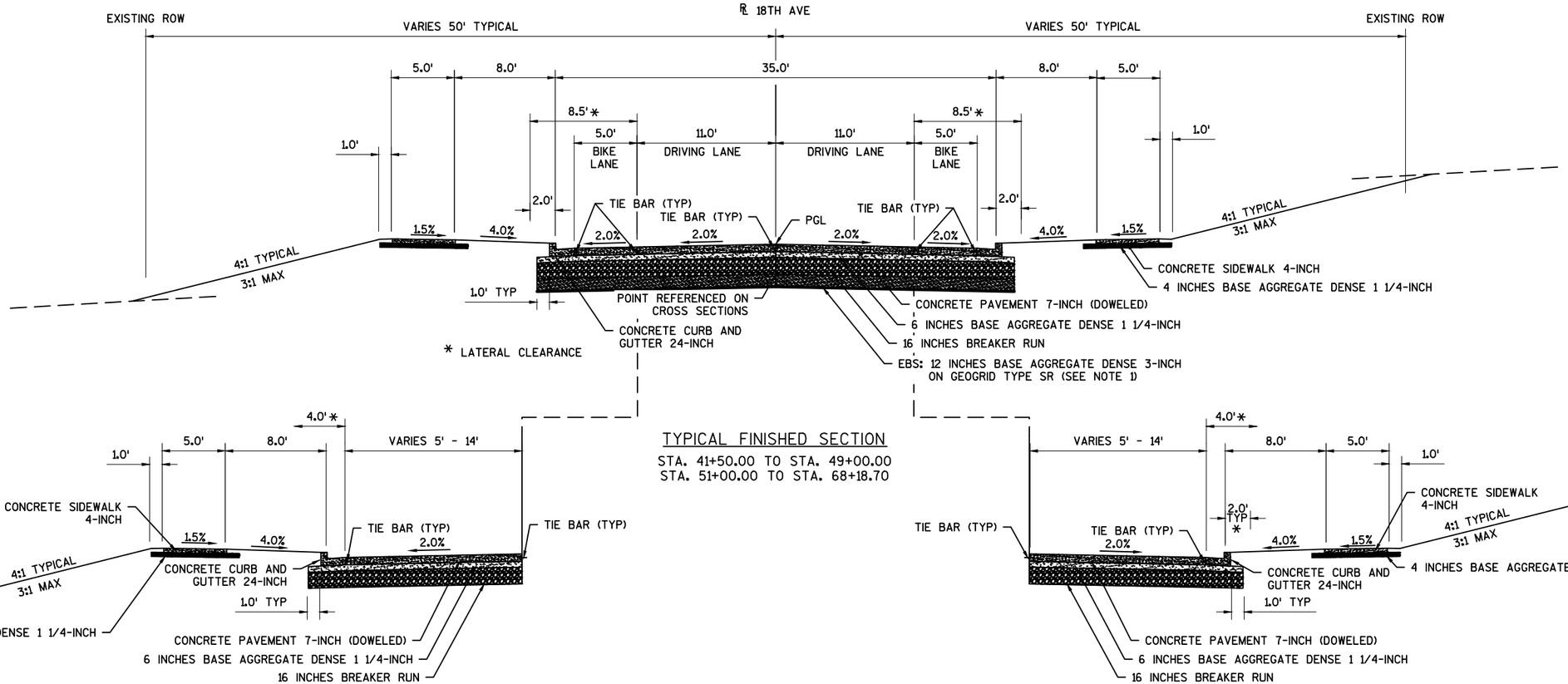


TYPICAL FINISHED SECTION

STA. 40+86.00 TO STA. 41+50.00

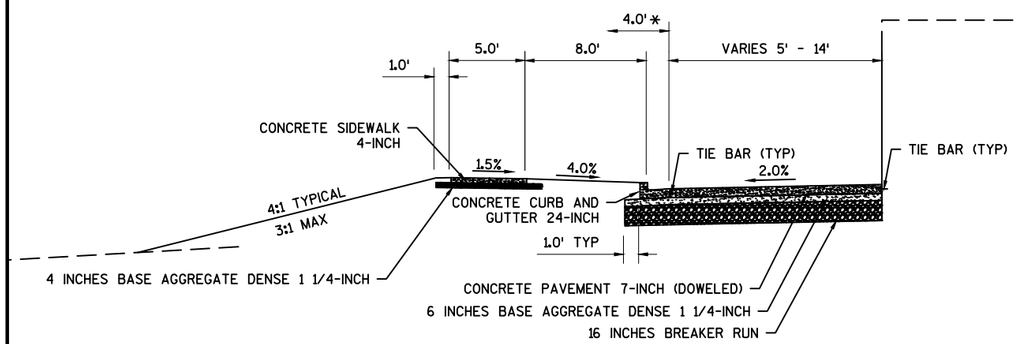
PROJECT NO:2707-00-79	18TH AVENUE	COUNTY:WASHINGTON	TYPICAL SECTIONS	SHEET 4	E

2



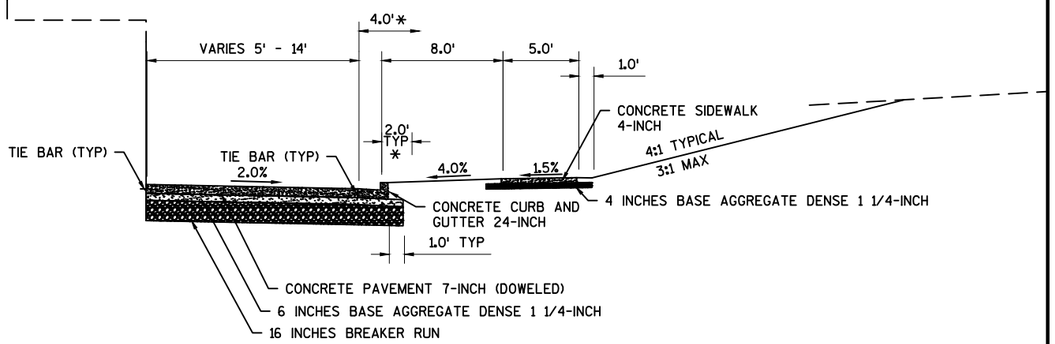
TYPICAL FINISHED SECTION

STA. 41+50.00 TO STA. 49+00.00
STA. 51+00.00 TO STA. 68+18.70



TYPICAL FINISHED SECTION

STA. 56+41.68 TO STA. 61+37.06
STA. 66+08.00 TO 68+18.70



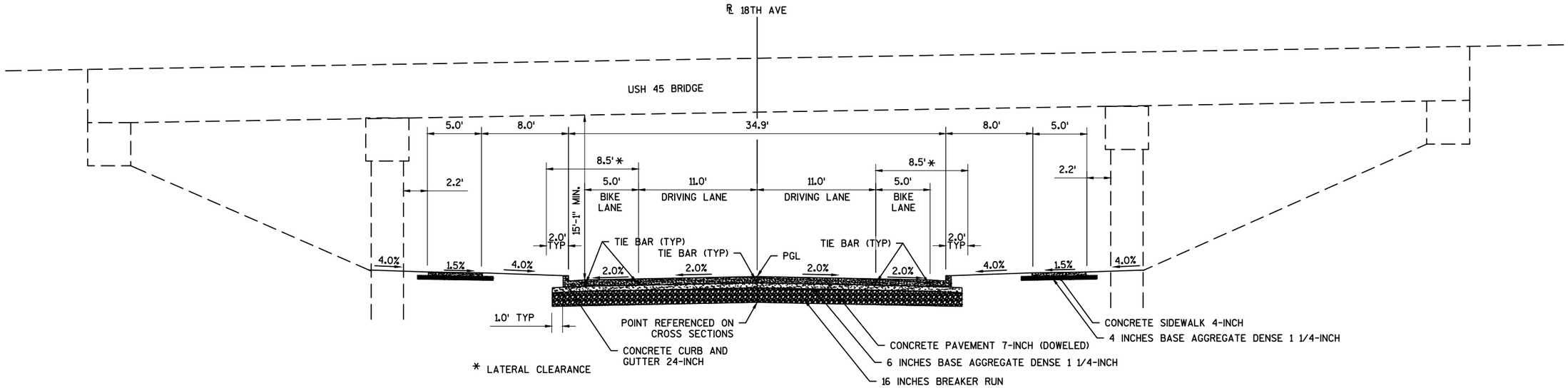
TYPICAL FINISHED SECTION

STA. 54+25.22 TO STA. 59+21.95
STA. 63+86.40 TO STA. 68+18.70

NOTES:

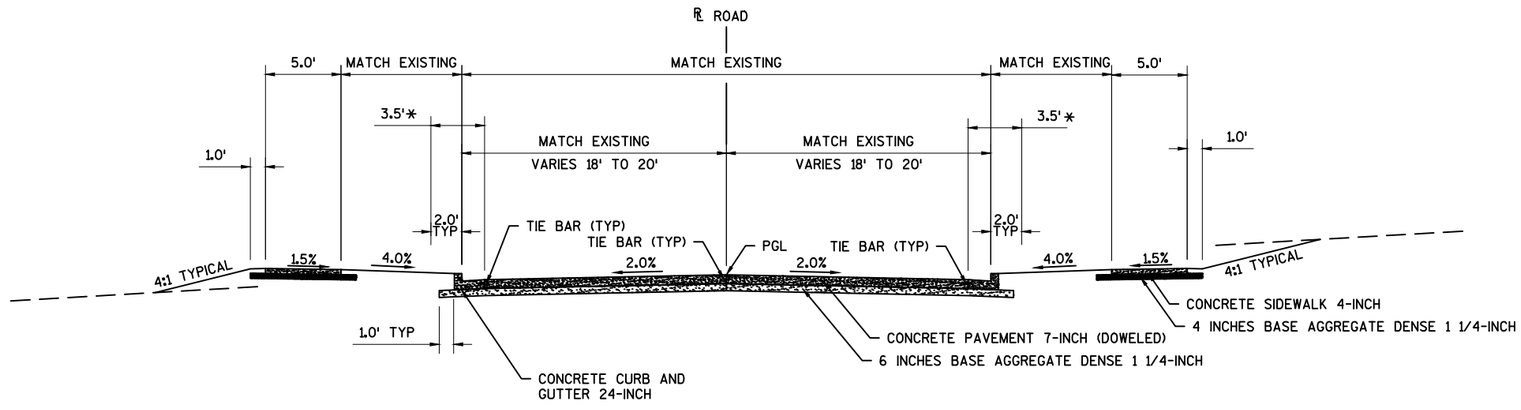
1. EXCAVATION BELOW SUBGRADE (EBS). LIMITS AS DETERMINED BY THE ENGINEER. FOR ESTIMATION, EBS ASSUMED TO BE NECESSARY FROM STATION 45+67 TO 49+00 AND STATION 53+61 TO 59+48.

PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	TYPICAL SECTIONS	SHEET 5	E



TYPICAL FINISHED SECTION

STA. 49+00.00 TO STA. 51+00.00



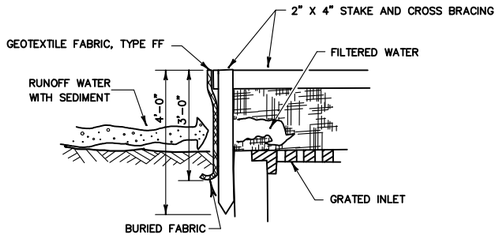
TYPICAL FINISHED SECTION

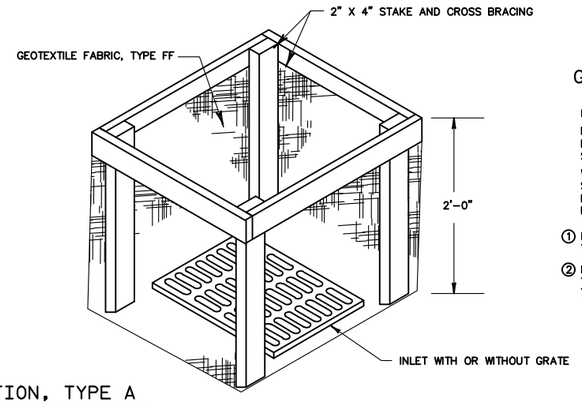
VOGT DRIVE
JULEN CIRCLE
SCHLOEMER DRIVE
DECORAH ROAD

PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	TYPICAL SECTIONS	SHEET 6	E

2

NOTE: ATTACH GEOTEXTILE FABRIC, TYPE FF TO THE TOP OF STAKES AND CROSS BRACINGS.





INLET PROTECTION, TYPE A

GENERAL NOTES:

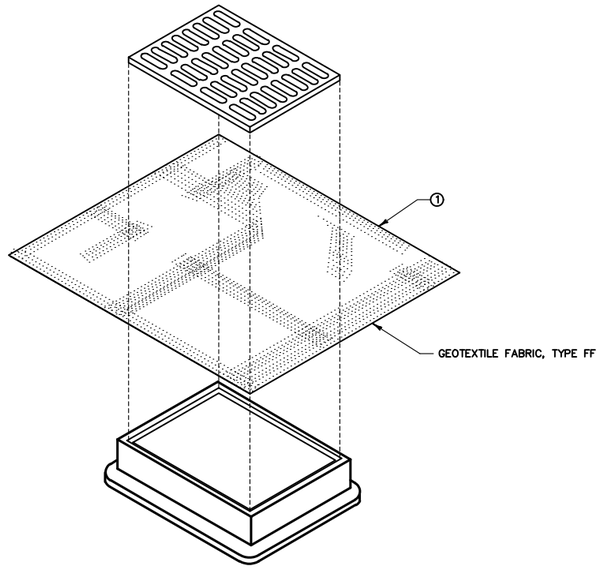
FABRIC SHALL BE REPLACED AT THE ENGINEERS DISCRETION.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTIBILITY LIST MAY BE SUBSTITUTED FOR THE INLET PROTECTION TYPE SPECIFIED.

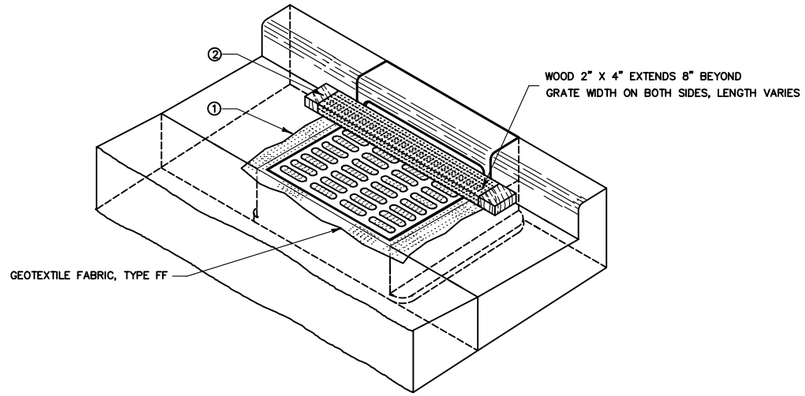
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

① FABRIC SIZE SHALL BE 8" (MIN) GREATER ON ALL SIDES OF THE INLET COVER TO PROVIDE A HAND HOLD WHEN MAINTENANCE OR REMOVAL IS REQUIRED.

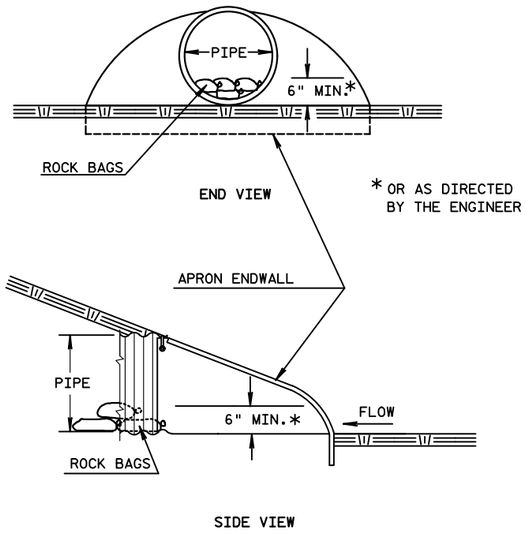
② FOR INLET PROTECTION, TYPE C, WITH A CURB BOX, AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX.



INLET PROTECTION, TYPE B (WITHOUT CURB BOX)
(CAN BE INSTALLED ON ANY INLET TYPE)

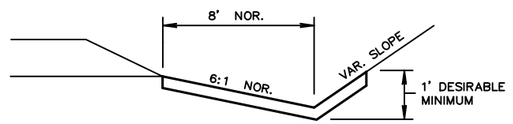


INLET PROTECTION, TYPE C (WITH CURB BOX)

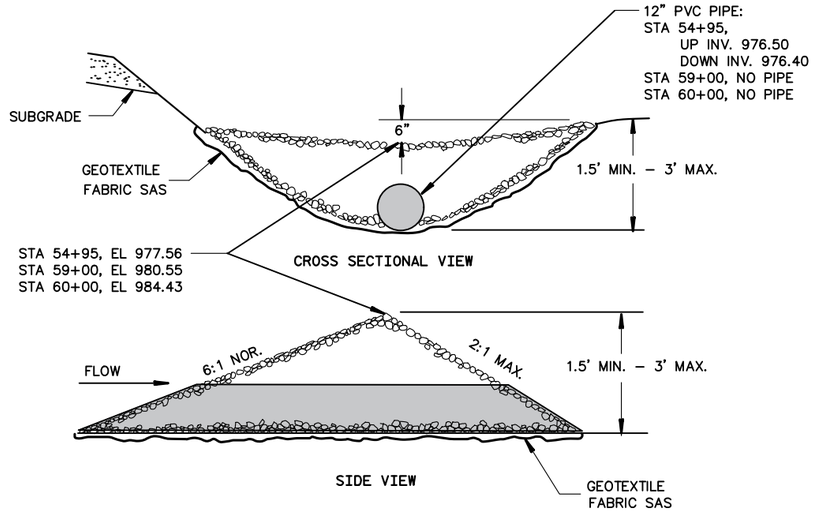


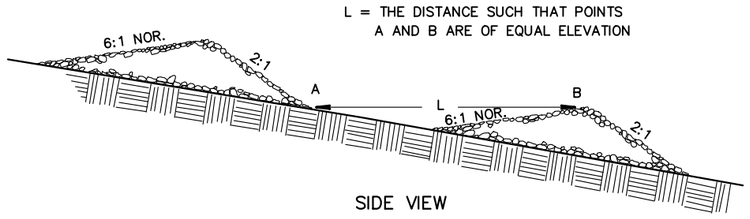
CULVERT PIPE CHECK

EROSION MAT TREATMENT AT CULVERTS



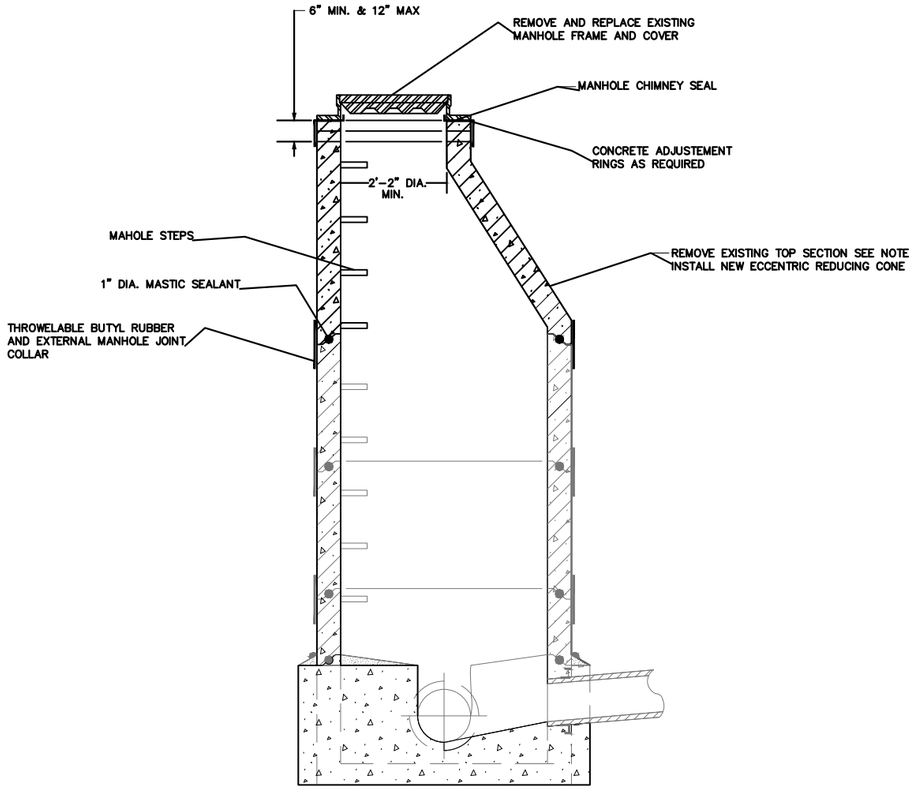
EROSION MAT DETAIL FOR DITCHES





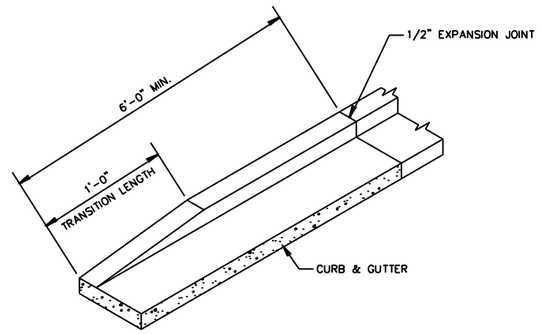
PERMANENT STONE DITCH CHECK
STA 59+00 & 60+00 RT

2

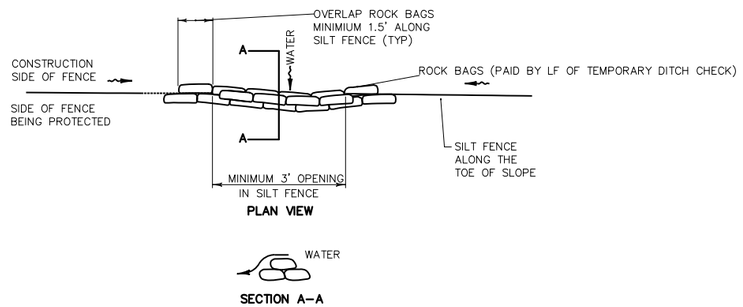


MANHOLE RECONSTRUCT/ADJUST

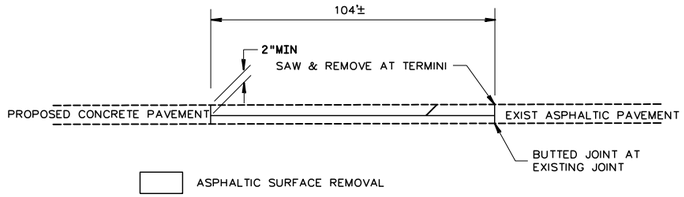
NOTE:
1. CONTRACTOR TO DETERMINE EXACT DIMENSIONS OF EXISTING STRUCTURE AND SIZE CONE SECTION ACCORDINGLY.



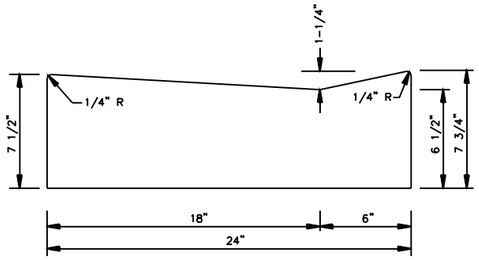
END SECTION CURB AND GUTTER



SILT FENCE DRAINAGE OUTLET, ROCK BAGS



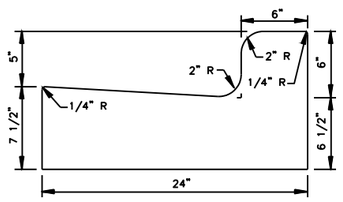
BEGIN PROJECT MATCH EXISTING BUTT JOINT



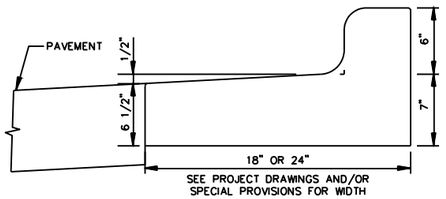
DRIVEWAY CURB AND GUTTER

NOTES:

1.) FOR CONSTRUCTION OF CURB & GUTTER, HALF INCH EXPANSION JOINTS SHALL BE PLACED AT A MAXIMUM SPACING OF 250 FEET AND CONSTRUCTION JOINTS SHALL BE SAWED OR SCORED ON 10 FOOT CENTERS.



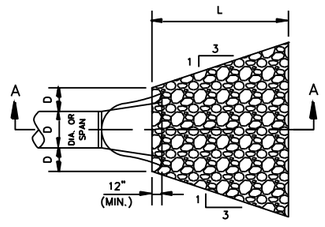
STANDARD CURB AND GUTTER



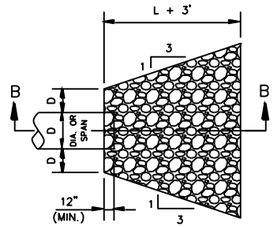
REVERSE SLOPE CURB AND GUTTER

NOTES:

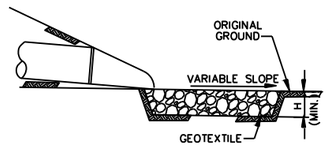
1. FOR CONSTRUCTION OF CURB & GUTTER, HALF INCH EXPANSION JOINTS SHALL BE PLACED AT A MAXIMUM SPACING OF 250 FEET AND CONSTRUCTION JOINTS SHALL BE SAWED OR SCORED ON 10 FOOT CENTERS.
2. HALF INCH EXPANSION JOINTS SHALL BE PLACED 10 FEET FROM EACH SIDE OF STORM INLETS OR CATCH BASINS.
3. REVERSE SLOPE GUTTER SHALL ONLY BE USED WHERE SPECIFICALLY INDICATED ON THE PROJECT DRAWINGS.



PLAN VIEW

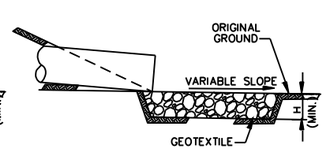


PLAN VIEW



SECTION A–A

PIPE WITH STANDARD END SECTION



SECTION B–B

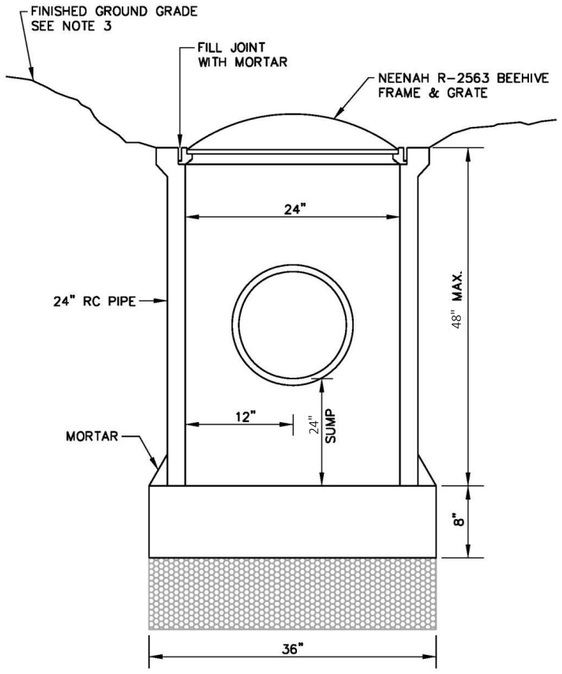
PIPE WITHOUT STANDARD END SECTION

PIPE DIAMETER (INCHES)	RIPRAP GRADE	MIN. LENGTH OF APRON L (FEET)	DEPTH OF APRON H (FEET)
UP THROUGH 24"	LIGHT	5 x D	2.0
GREATER THAN 24"	MEDIUM	6 x D	2.5

NOTES:

1. RIPRAP GRADE (STONE SIZING) TO BE DETERMINED BY CALCULATIONS BASED UPON PIPE FLOW VELOCITIES AND TO BE SPECIFIED IN THE CONTRACT DOCUMENTS. THE RIPRAP GRADE SHALL BE AT LEAST AS HEAVY AS THE GRADES SHOWN IN THE TABLE ABOVE.
2. RIRAP MATERIALS AND INSTALLATION TO BE AS PER WDOT 606.2
3. AVERAGE DIMENSION RANGES FOR EACH RIPRAP GRADE TO BE AS PER WDOT 606.2
4. USE GROUTED RIPRAP WHEN SPECIFIED IN THE CONTRACT DOCUMENTS.
5. GEOTEXTILE FABRIC MATERIALS AND INSTALLATION TO BE AS PER WDOT 645 FOR TYPE HR FABRIC (FOR HEAVY RIPRAP).

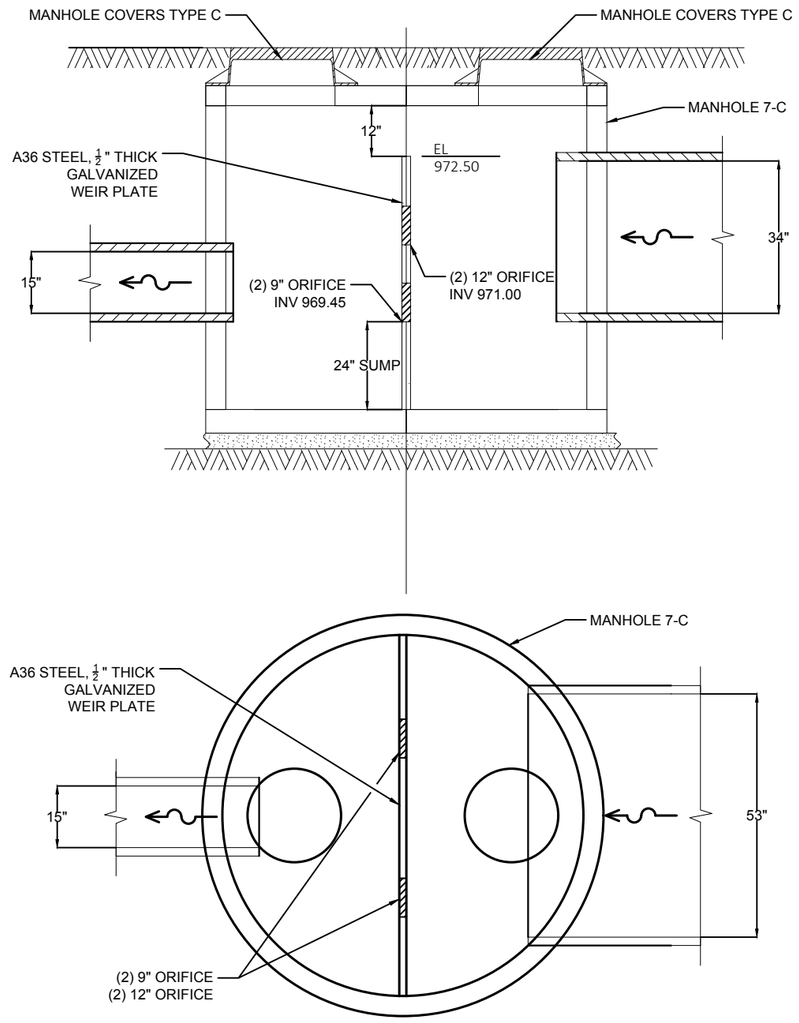
RIPRAP APRON AT STORM WATER PIPE OUTFALLS



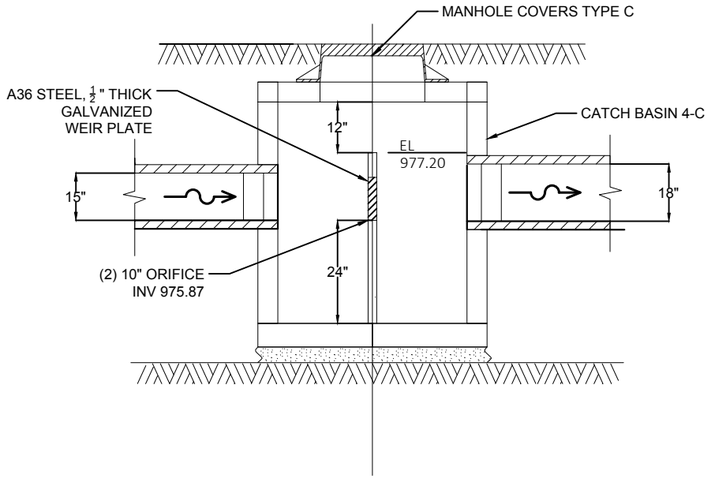
NOTES

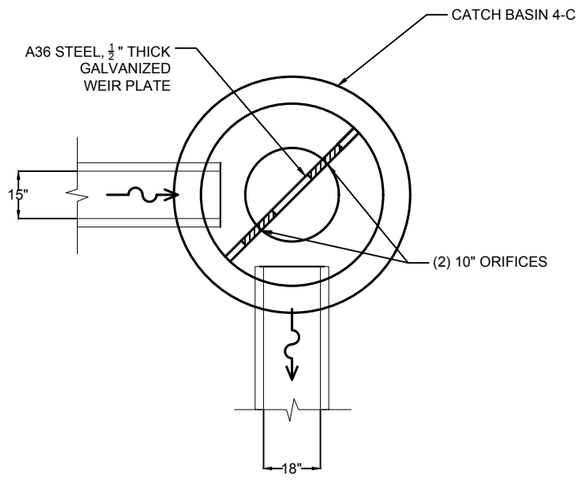
1. THE MAXIMUM DEPTH OF THE STRUCTURE SHALL BE FOUR (4') MEASURED TO THE FLOOR OF THE SUMP ON CATCH BASIN.
2. THE AREA BETWEEN THE FRAME AND THE BELL OF THE PIPE SHALL BE MORTARED TO PREVENT STANDING WATER (INCIDENTAL TO THE COST OF CATCH BASIN)
3. AREA WITHIN 5' OF STRUCTURE SHALL BE RESTORED WITH STAKED SOD (INCIDENTAL TO THE COST OF CATCH BASIN)

FIELD CATCH BASIN TYPE B

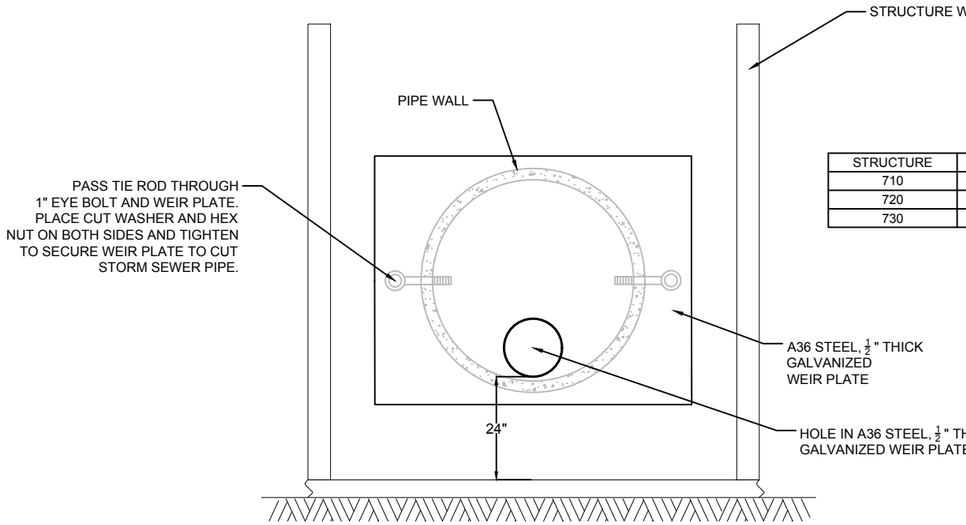


CONTROL STRUCTURE 630

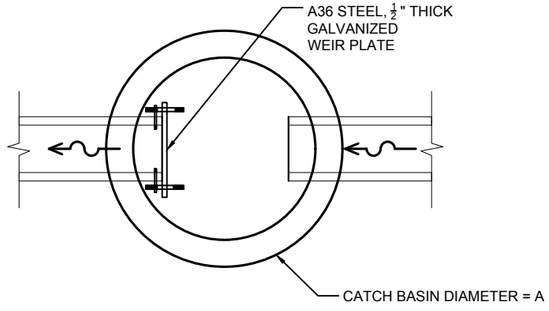


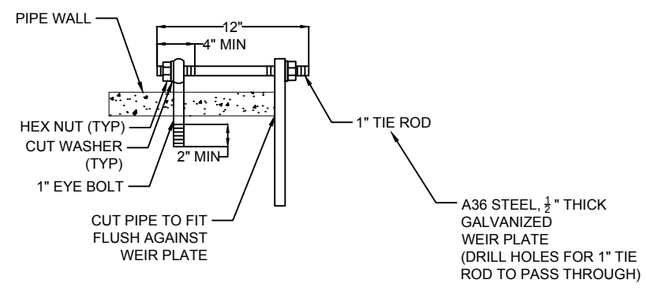


CONTROL STRUCTURE 311



STRUCTURE	A	B
710	6'-0"	0'-8"
720	6'-0"	0'-8"
730	6'-0"	0'-8"

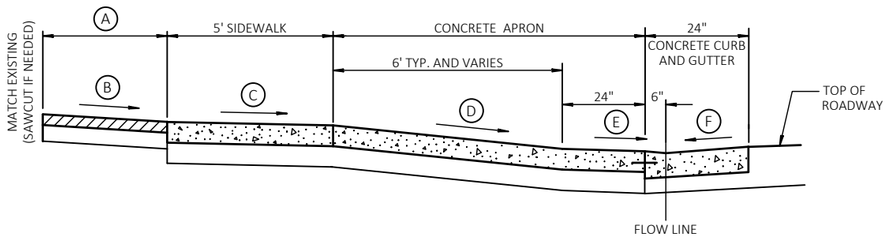




ORIFICE PLATE RESTRICTOR

STR 710
STR 720
STR 730

2



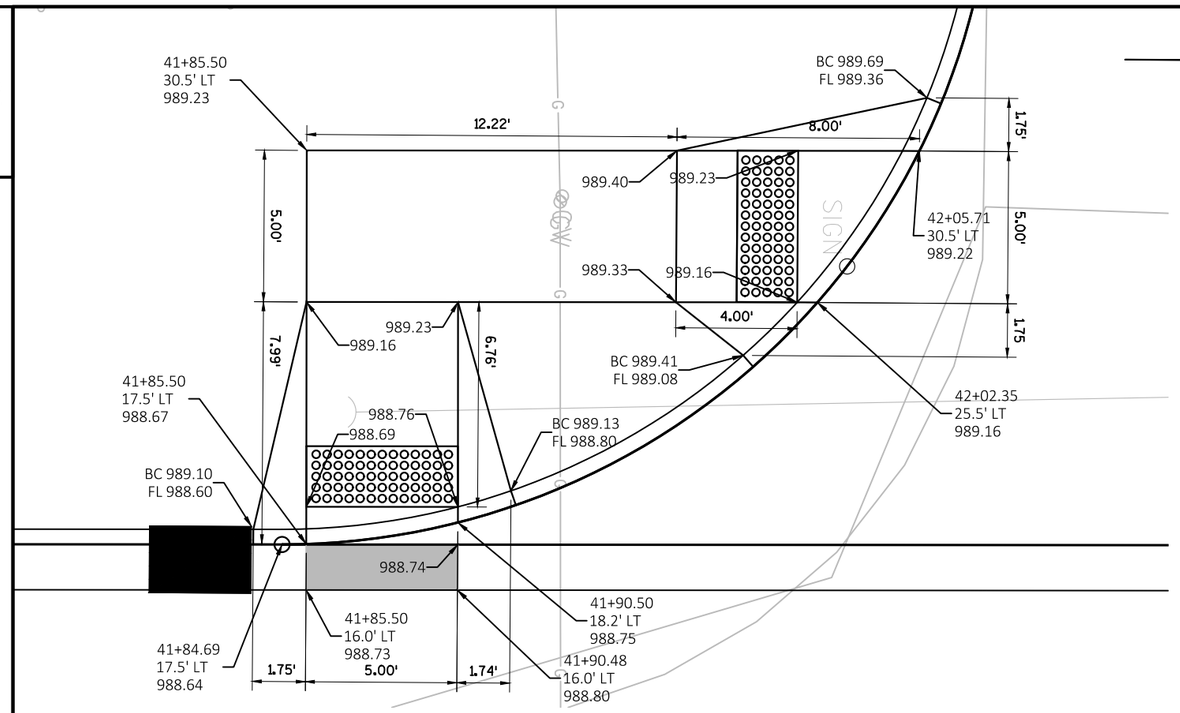
LOCATION	SIDE	A	B	C	D	E	F
42+76 - 42+88	LT	9.60	5.40%	1.50%	7.84%	2.75%	6.25%
43+24 - 43+40	LT	24.60	9.90%	1.50%	10.09%	2.75%	6.25%
47+13 - 47+37	LT	N/A	N/A	1.50%	8.00%	2.75%	6.25%
54+30 - 54+54	LT	24.00	-7.97%	-1.50%	4.88%	2.75%	6.25%
56+40 - 56+57	LT	10.60	-8.68%	-1.50%	3.36%	2.75%	6.25%
56+95 - 57+13	LT	6.90	-6.79%	-1.50%	3.29%	2.75%	6.25%
61+66 - 61+82	LT	44.35	-7.23%	1.50%	9.82%	5.00%	4.00%
63+01 - 63+19	LT	13.00	7.56%	1.50%	10.09%	5.00%	4.00%
64+14 - 64+34	LT	41.00	4.27%	1.50%	4.00%	4.00%	4.00%
64+87 - 65+05	LT	22.75	8.41%	1.50%	4.45%	5.00%	4.00%
65+91 - 66+01	LT	4.30	6.05%	1.50%	10.45%	5.00%	4.00%
7+22 - 7+37	RT	8.50	-7.49%	N/A	N/A	2.75%	6.25%

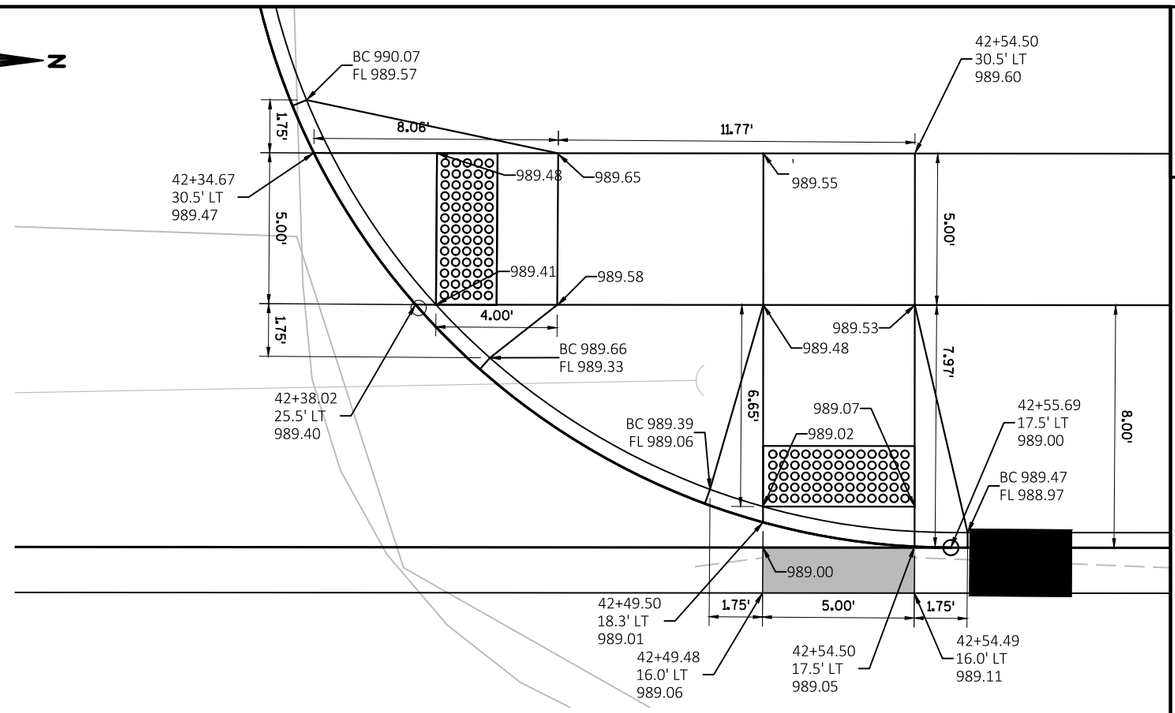
SEE STANDARD DETAIL DRAWING FOR DRIVEWAY AND SIDEWALK RAMPS TYPE Z FOR MORE INFORMATION

SLOPES AND LENGTHS ARE APPROXIMATE AND REPRESENT THE AVERAGE SLOPE ACROSS THE DRIVEWAY.
ADJUSTMENTS TO BE MADE TO FIT CONDITIONS IN THE FIELD AS DIRECTED BY THE ENGINEER.
SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

MAX GRADE CHANGE IN CREST = 10%
MAX GRADE CHANGE IN SAG = 9%

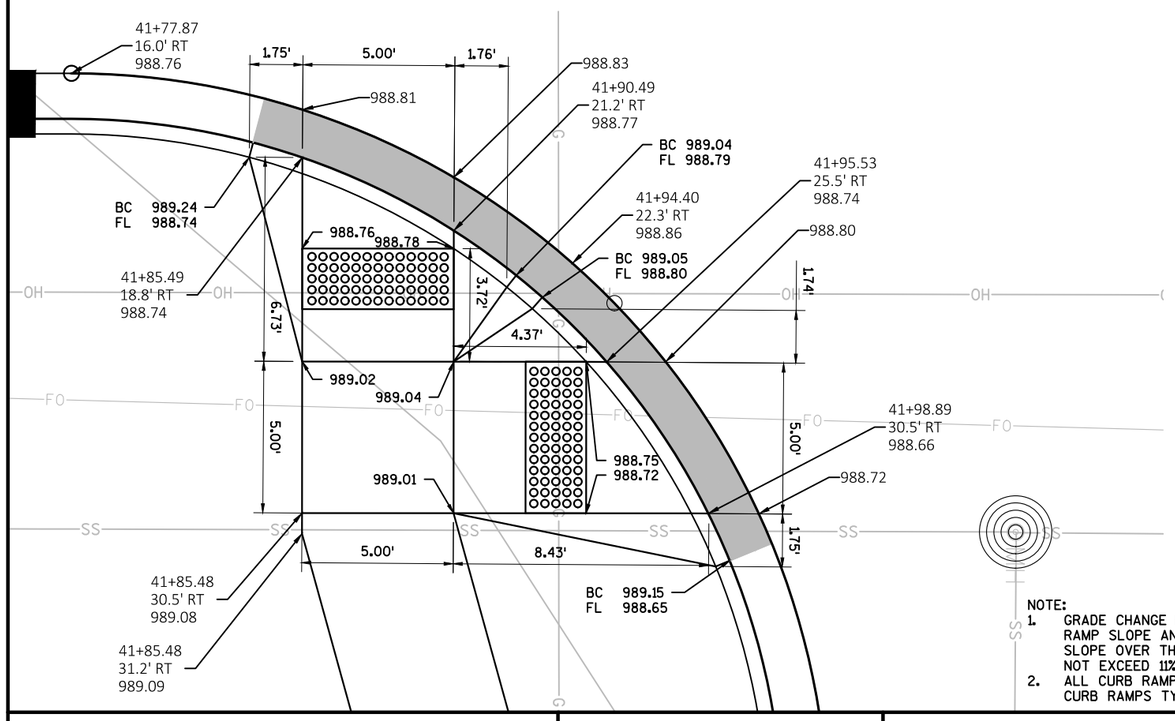
DRIVEWAY ENTRANCE DETAIL WITH SIDEWALK, CURB & GUTTER

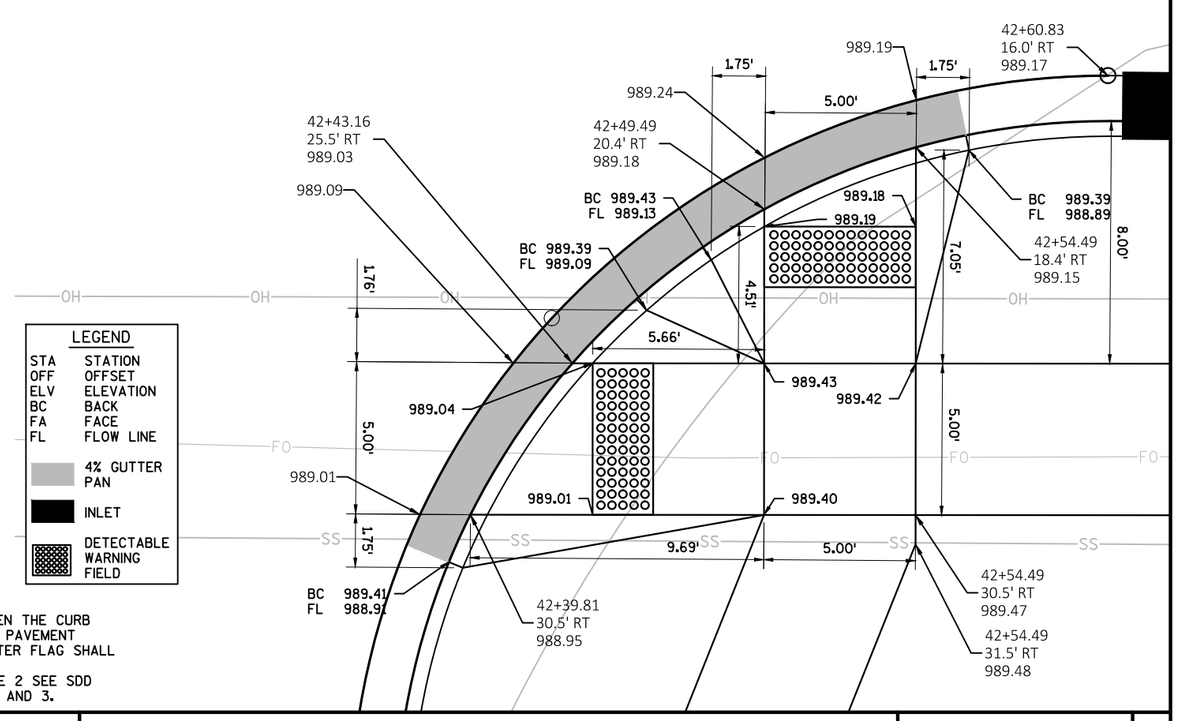




ROLF'S PARK DRIVEWAY

VOGT DRIVE





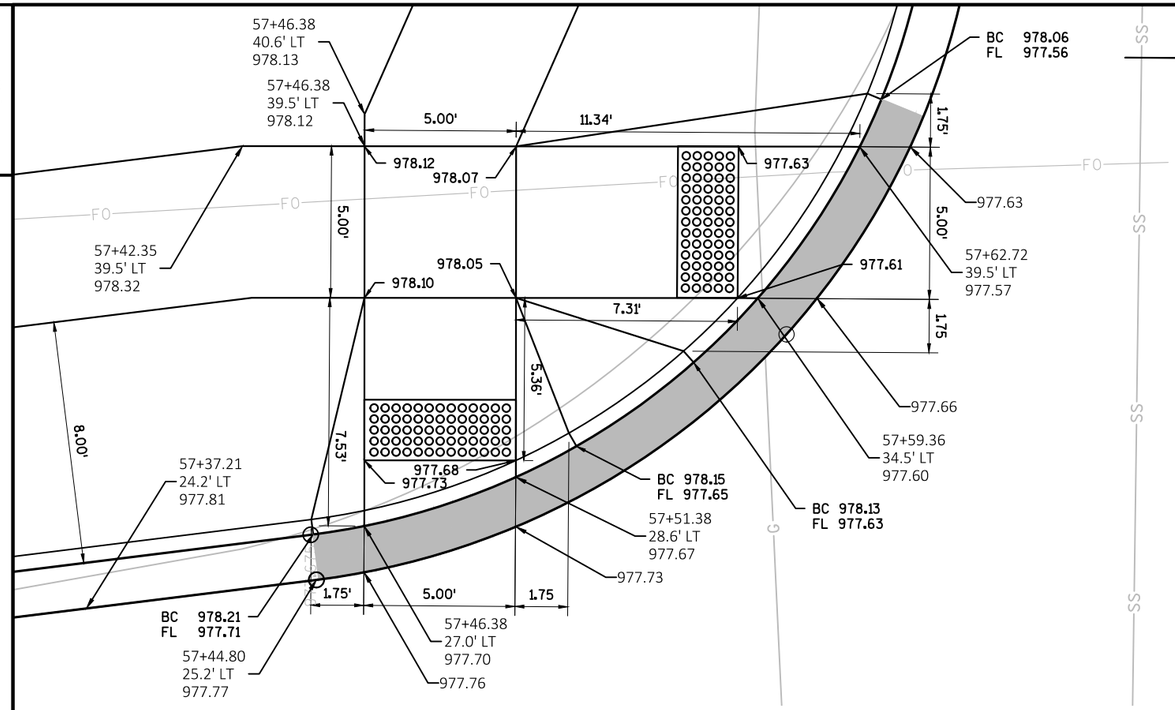
LEGEND

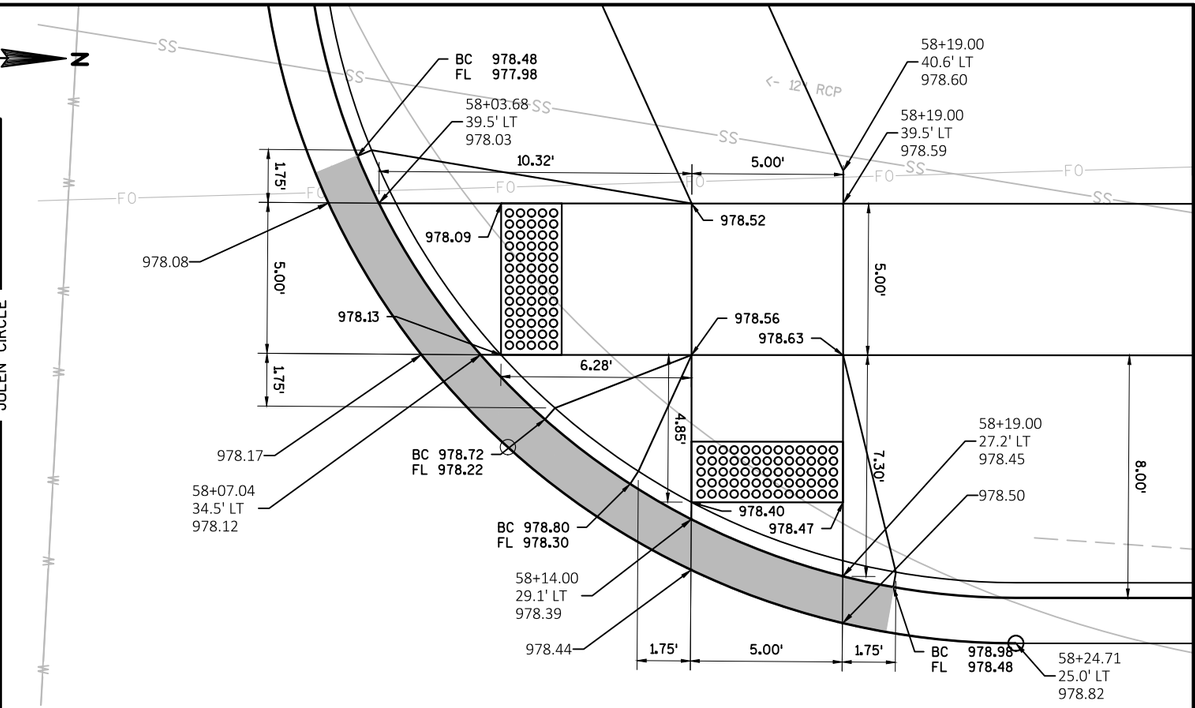
STA	STATION
OFF	OFFSET
ELV	ELEVATION
BC	BACK
FA	FACE
FL	FLOW LINE
	4% GUTTER PAN
	INLET
	DETECTABLE WARNING FIELD

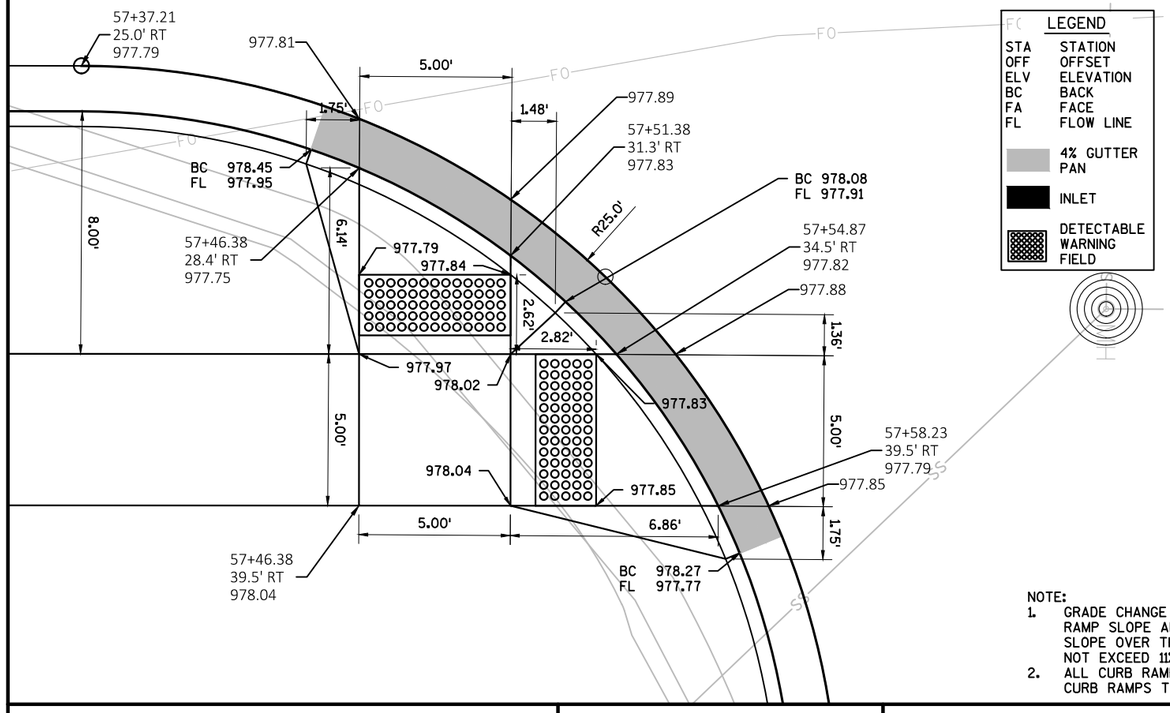
NOTE:
1. GRADE CHANGE BETWEEN THE CURB RAMP SLOPE AND THE PAVEMENT SLOPE OVER THE GUTTER FLAG SHALL NOT EXCEED 11%.
2. ALL CURB RAMPS TYPE 2 SEE SDD CURB RAMPS TYPES 2 AND 3.

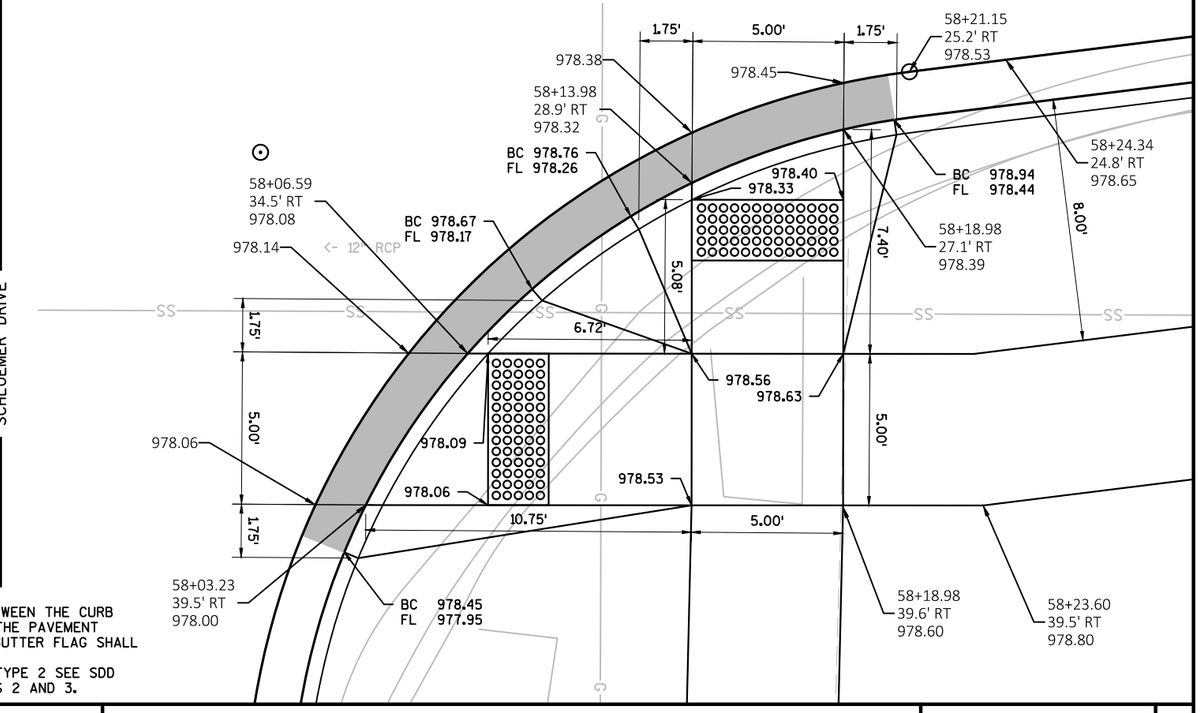
PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	INTERSECTION DETAILS - CURB RAMPS	SHEET 14 E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\021101_ID.DWG
LAYOUT NAME - 021101_id
PLOT DATE : 10/26/2017 4:59 PM PLOT BY : WEIGAND, BEN PLOT NAME : PLOT SCALE : ##########
WISDOT/CADDS SHEET 42

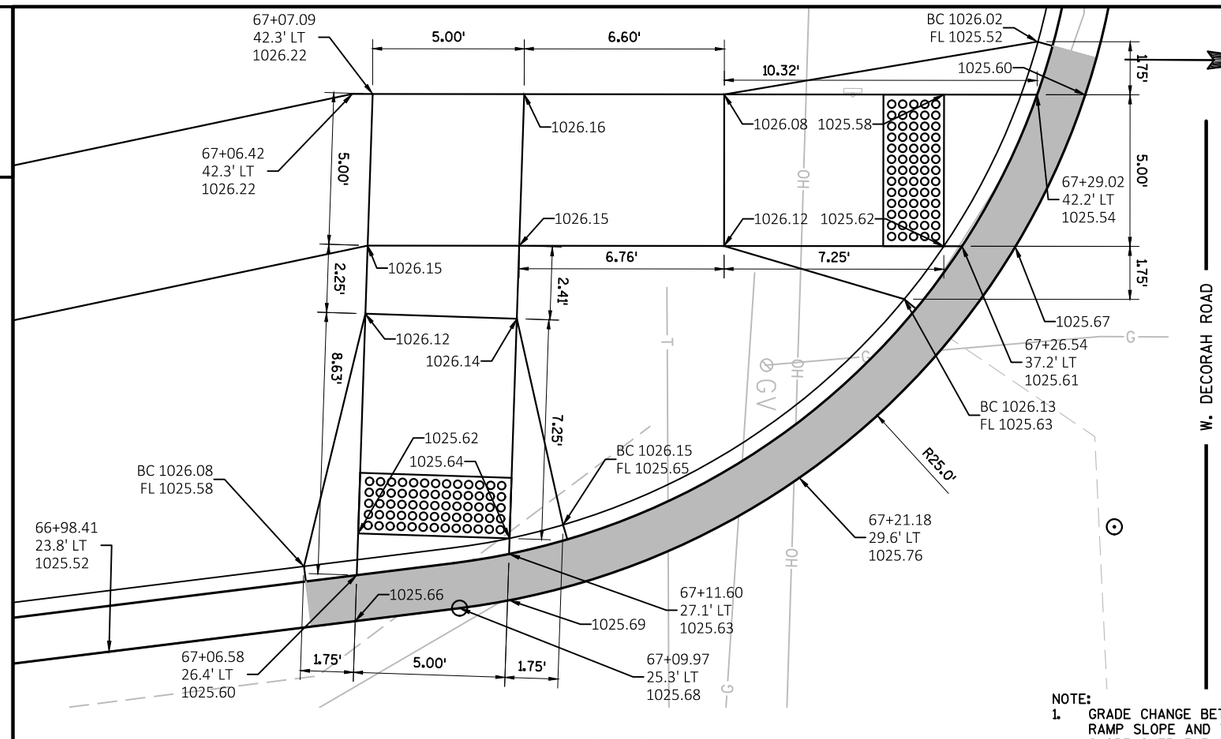


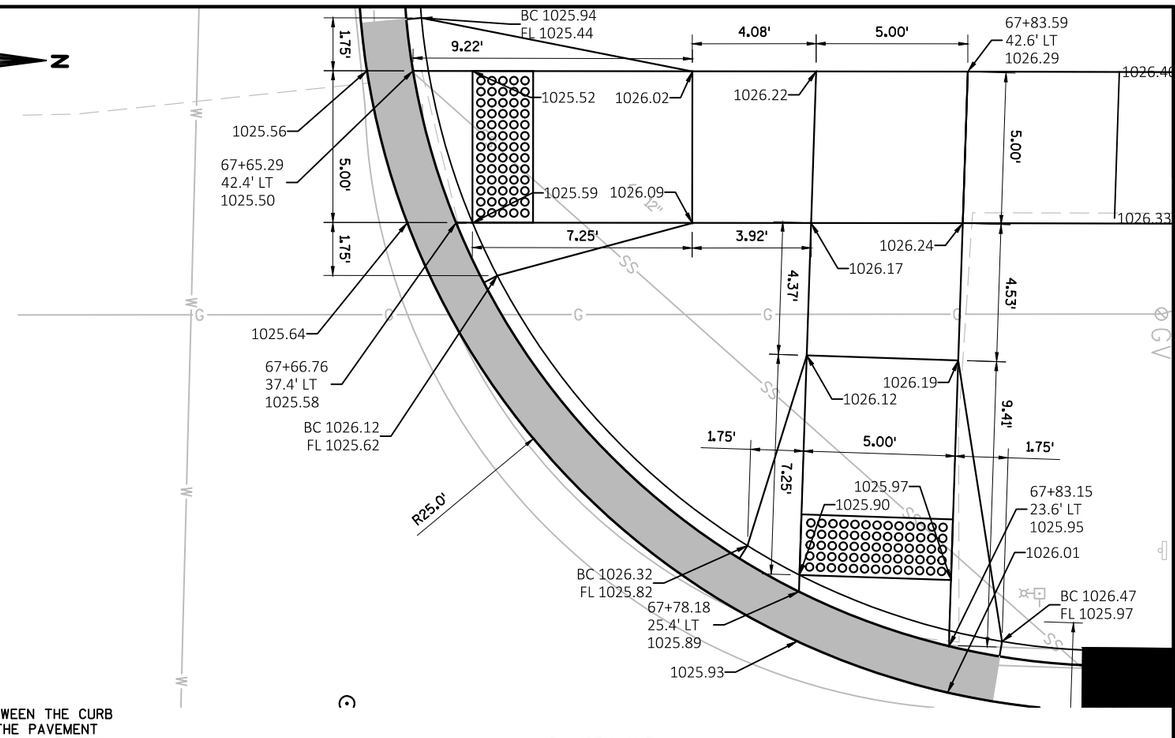






PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	INTERSECTION DETAILS - CURB RAMPS	SHEET 15	E

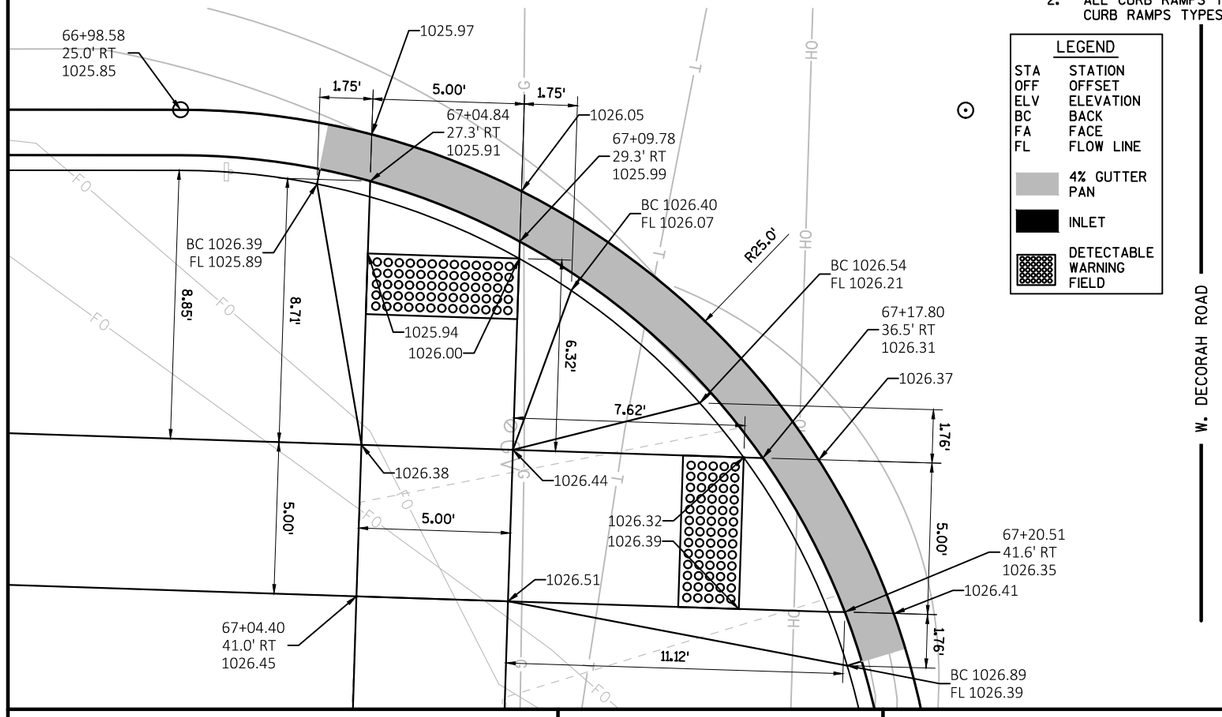


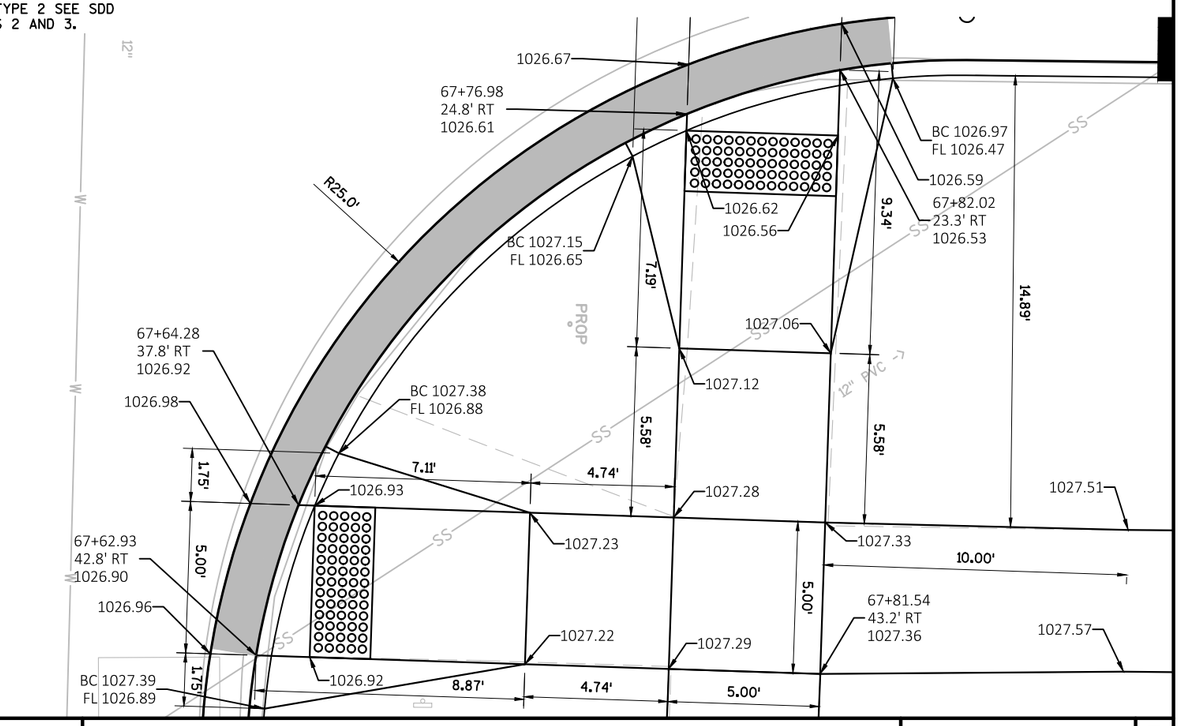


NOTE:
1. GRADE CHANGE BETWEEN THE CURB RAMP SLOPE AND THE PAVEMENT SLOPE OVER THE GUTTER FLAG SHALL NOT EXCEED 11%.
2. ALL CURB RAMPS TYPE 2 SEE SDD CURB RAMPS TYPES 2 AND 3.

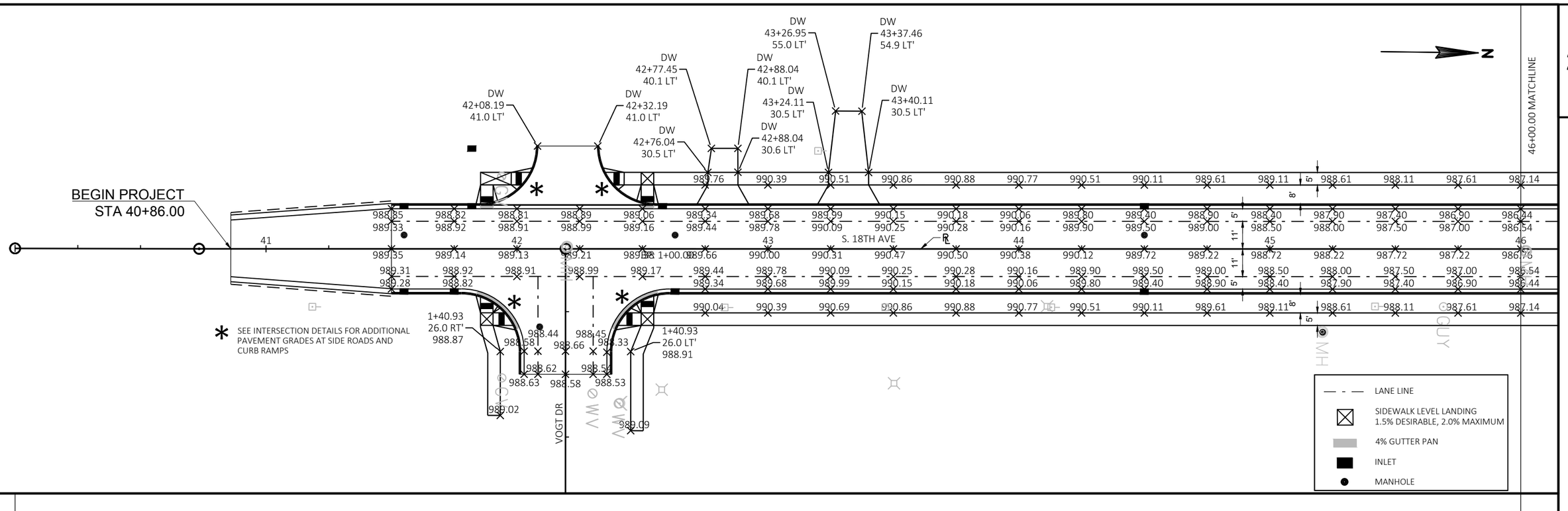
LEGEND

STA	STATION
OFF	OFFSET
ELV	ELEVATION
BC	BACK
FA	FACE
FL	FLOW LINE
	4% GUTTER PAN
	INLET
	DETECTABLE WARNING FIELD

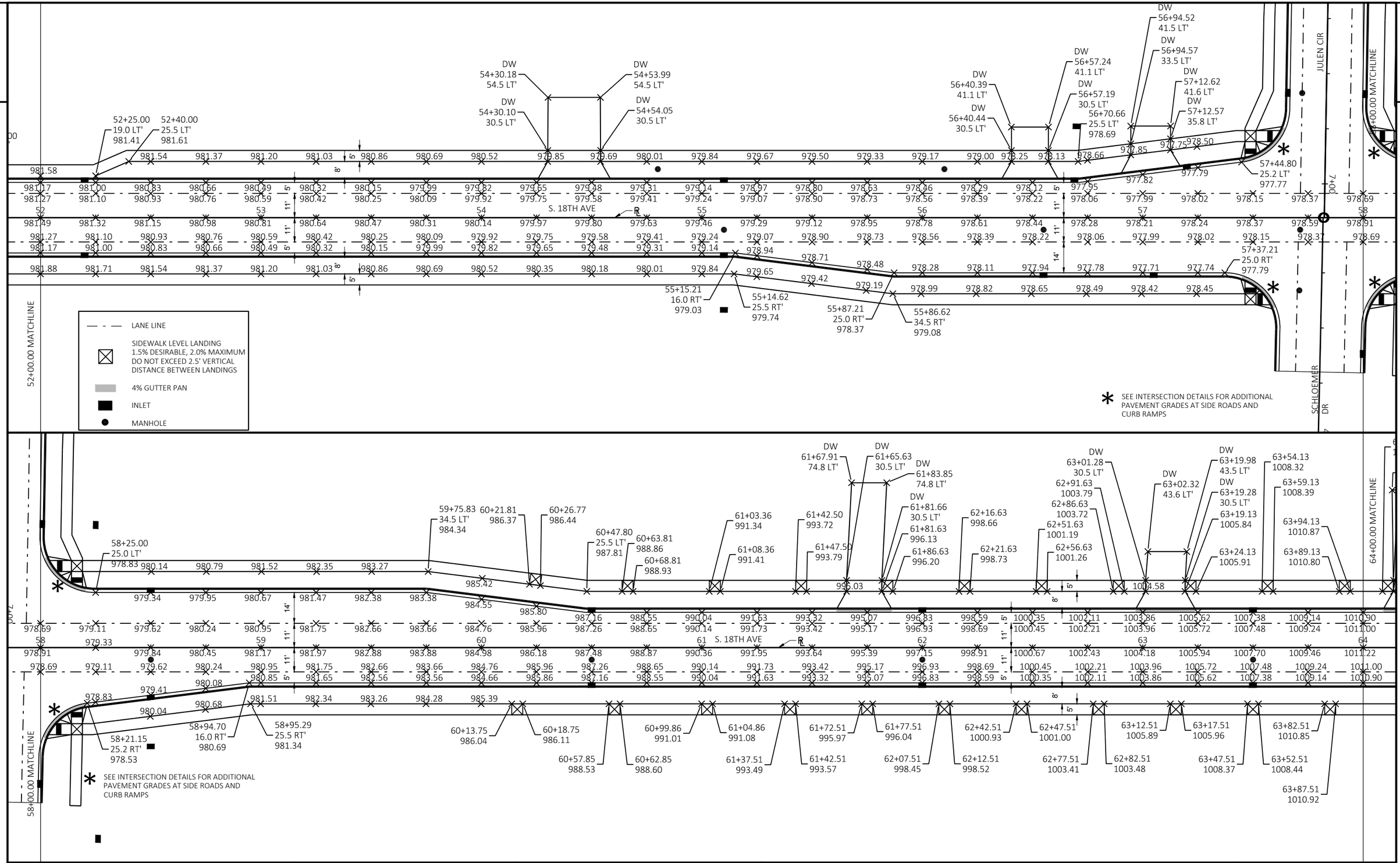




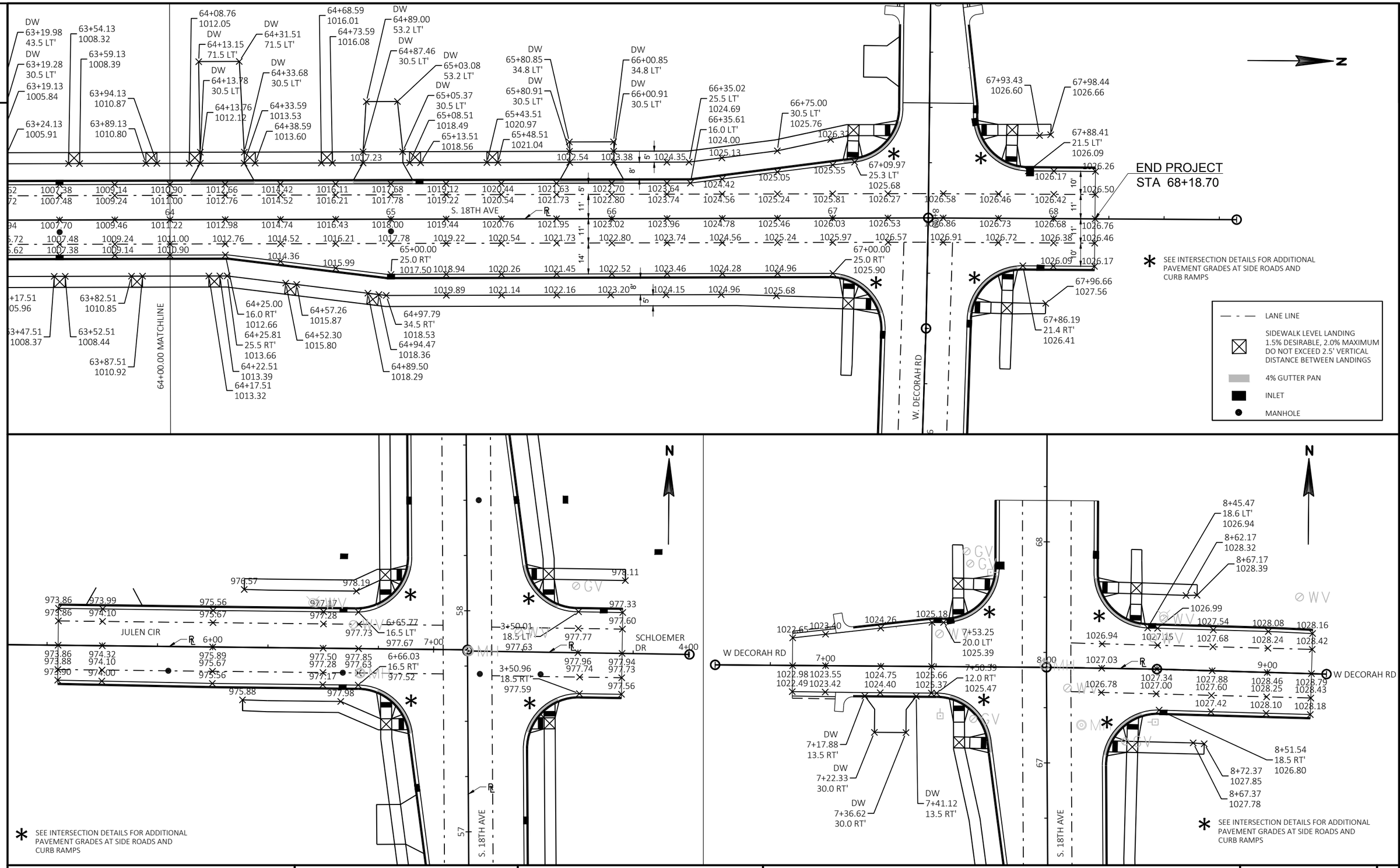
PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	INTERSECTION DETAILS - CURB RAMPS	SHEET 16	E



PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	PAVEMENT DETAILS	SHEET 17	E



PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	PAVEMENT DETAILS	SHEET 18 E



PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	PAVEMENT DETAILS	SHEET 19	E

2

N

EXIST R/W

PROPOSED TLE

PROPOSED R/W

EXIST R/W

46+00.00 MATCHLINE

BEGIN PROJECT
STA 40+86.00

41 42 43 S. 18TH AVE 44 45 46

℄

NOTE
1. INLET PROTECTION SHOWN ON EXISTING STRUCTURES ONLY. ADDITIONAL INLET PROTECTION WILL BE REQUIRED ON ALL PROPOSED INLETS.

LEGEND

- EROSION MAT URBAN CLASS I TYPE B
- SOD
- SILT FENCE
- EROSION BALE, BARRIER
- STONE DITCH CHECK
- SLOPE INTERCEPT
- RIPRAP
- CONC — CONCRETE SURFACE DRAIN
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- SURFACE WATER FLOW
- INLET PROTECTION (SEE NOTE)

VØGT DR

STA 42+61

EXIST R/W

STA 46+00

PROPOSED TLE

PROPOSED TLE

STA 47+78

EXIST R/W

STA 47+94.25
OFF 46.72

STA 48+18.81
OFF 71.77

STA 48+41.48
OFF 71.73

STA 48+21.95
OFF 44.37

STA 49+53

N

STA 51+85.00
OFF 43.41

STA 51+79.04
OFF 41.29

STA 51+50

52+00.00 MATCHLINE

46 47 48 49 S. 18TH AVE 50 51 52

℄

STA 46+00

46+00.00 MATCHLINE

EXIST R/W

STA 50+92

STA 51+96

EXIST R/W

PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 20	E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022001_ec
PLOT DATE : 1/10/2018 8:15 AM
PLOT BY : WEIGAND, BEN
PLOT NAME :
PLOT SCALE : ##########
WISDOT/CADDS SHEET 44

STA 52+69.62
OFF 94.94

STA 52+37.91
OFF 59.00

STA 52+43.71
OFF 50.88

PROPOSED TLE

STA 54+22

STA 54+60

EXIST R/W

STA 56+39

STA 57+14

STA 6+13

JULEN DR

52+00.00 MATCHLINE

52

53

54

S. 18TH AVE

55

56

57

58

EXIST R/W

PROPOSED TLE

STA 54+95
PERMANENT STONE DITCH CHECK

SCHLOEMER DR

NOTE

1. INLET PROTECTION SHOWN ON EXISTING STRUCTURES ONLY. ADDITIONAL INLET PROTECTION WILL BE REQUIRED ON ALL PROPOSED INLETS.

LEGEND

- EROSION MAT URBAN CLASS I TYPE B
- SOD
- SILT FENCE
- EROSION BALE, BARRIER
- STONE DITCH CHECK
- SLOPE INTERCEPT
- RIPRAP
- CONC — CONCRETE SURFACE DRAIN
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- SURFACE WATER FLOW
- INLET PROTECTION (SEE NOTE)

JULEN CIR

STA 6+12

PROPOSED PLE

EXIST R/W

STA 61+51

PROPOSED TLE

STA 61+96

PROPOSED R/W

54+00.00 MATCHLINE

58

59

60

61

S. 18TH AVE

62

63

64

58+00.00 MATCHLINE

SCHLOEMER DR

STA 58+55

STA 59+00
PERMANENT STONE DITCH CHECK

STA 60+00
PERMANENT STONE DITCH CHECK

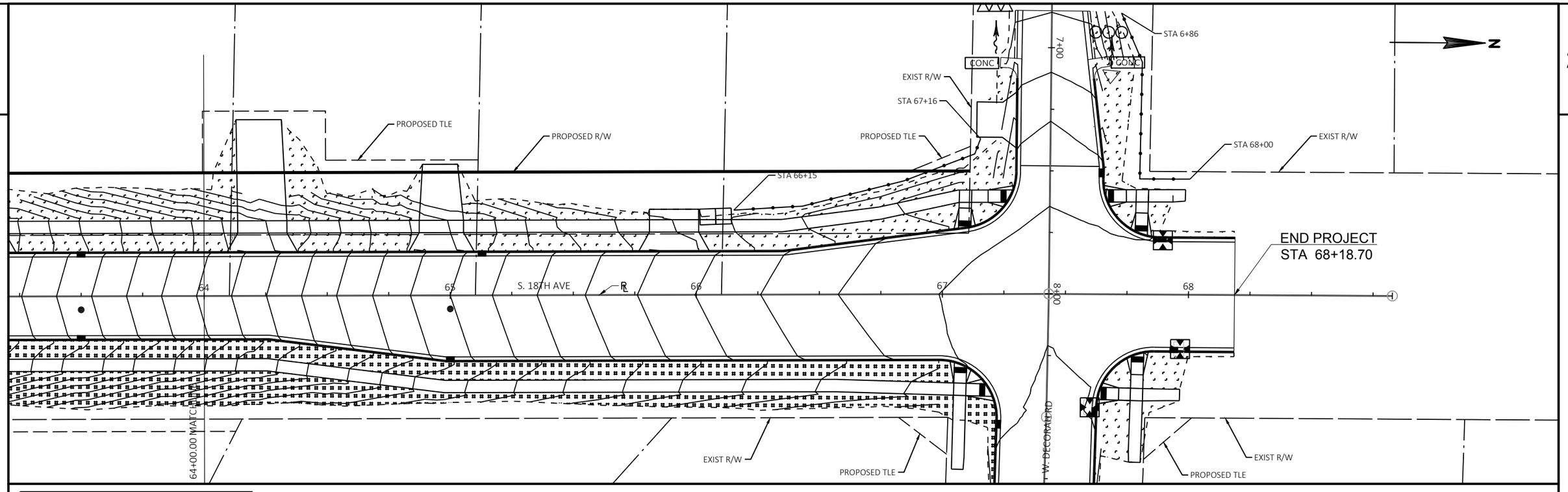
EXIST R/W

PROPOSED TLE

STA 62+86

PROPOSED TLE

PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 21	E



LEGEND

- EROSION MAT URBAN CLASS I TYPE B
- SOD
- SILT FENCE
- EROSION BALE, BARRIER
- STONE DITCH CHECK
- SLOPE INTERCEPT
- RIPRAP
- CONC — CONCRETE SURFACE DRAIN
- TEMPORARY DITCH CHECK
- CULVERT PIPE CHECK
- SURFACE WATER FLOW
- INLET PROTECTION (SEE NOTE)

NOTE

1. INLET PROTECTION SHOWN ON EXISTING STRUCTURES ONLY. ADDITIONAL INLET PROTECTION WILL BE REQUIRED ON ALL PROPOSED INLETS.

PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	EROSION CONTROL	SHEET 22	E

BEGIN PROJECT
STA 40+86.00

42+20, 0.8' LT
ADJUST SAN MH COVER
EXIST ELEV: 989.16
PR ELEV: 989.15

STA 41+82, 40.0' LT
FIELD CB TYPE B (130)

STA 41+82, 17.0' LT
CATCH BASINS 4-H (127)

STA 41+55, 17.0' LT
CATCH BASINS 4-H (126)

STA 41+55, 5.5' LT
MANHOLES 5-C (125)

STA 41+55, 17.0' RT
INLETS 4-H (128)

STA 41+75, 17.0' RT
CATCH BASINS 2x3-H (129)

PROPOSED TLE

EXIST R/W

℄ S. 18TH AVE

S 18TH AVE

41+00 | 42+00 | 43+00 | 44+00 | 45+00 | 46+00

46+00.00

STA 42+58, 17.0' LT
CATCH BASINS 2x3-H (121)

STA 42+63, 5.5' LT
MANHOLES 5-C (120)

PROPOSED TLE

PROPOSED R/W

EXIST R/W

EXIST R/W

STA 42+63, 17.0' RT
CATCH BASINS 2x3-H (122)

PROPOSED TLE

STA 42+09, 31.1' RT
ADJUSTING MANHOLE COVER (EX-2)

VOGT DR

STA 44+50, 17.0' LT
CATCH BASINS 2x3-H (116)

STA 44+50, 5.5' LT
MANHOLES 5-C (115)

EXIST R/W

STA 44+50, 17.0' RT
CATCH BASINS 2x3-H (117)

STA 45+21, 33.7' RT
RECONSTRUCTING MANHOLE (EX-3)

AT&T Copper

WE Energies UG Electric

WE Energies & Charter Fiber

Charter Fiber

Charter Coaxial

4" PE

36" RCP ->

<- 42" RCP

15" PVC ->

8" RCP ->

11¼" PE

995 | 990 | 985 | 980 | 977

125 — 989.09

120 — 989.39

115 — 989.59

SSPRC CLASS IV 24-INCH @ 0.20%

SSPRC CLASS IV 30-INCH @ 0.25%

SSPRC CLASS IV 30-INCH @ 1.29%

984.56

984.34

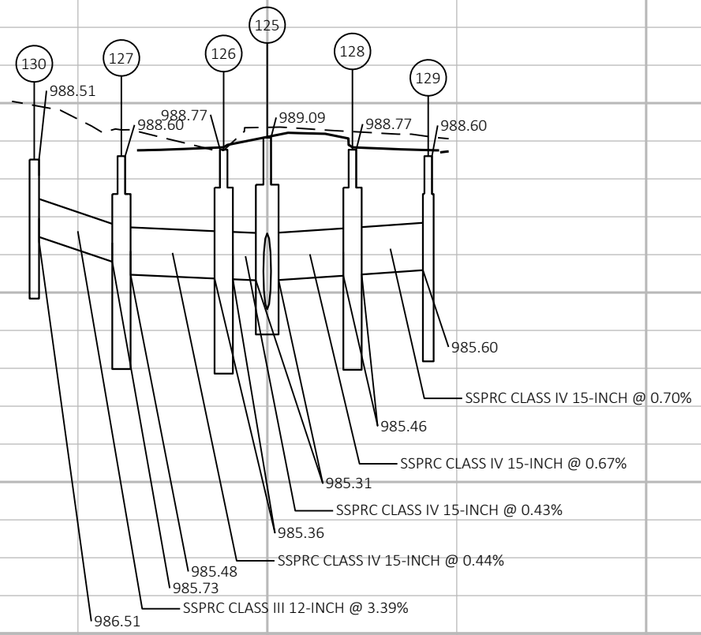
983.84

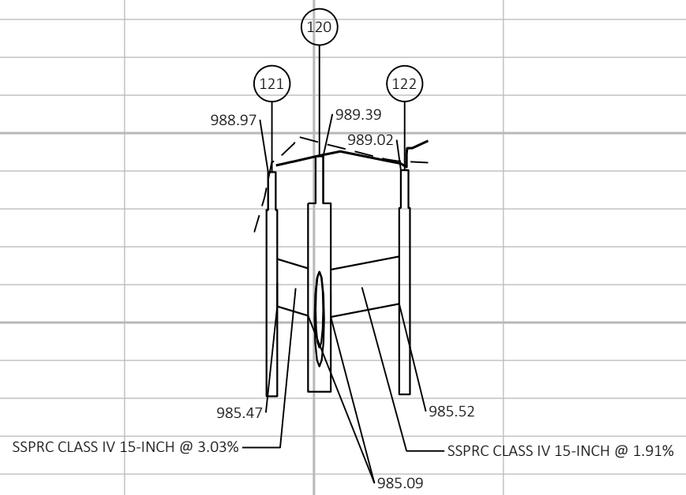
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PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	STORM SEWER AND UTILITIES	SHEET 23	E

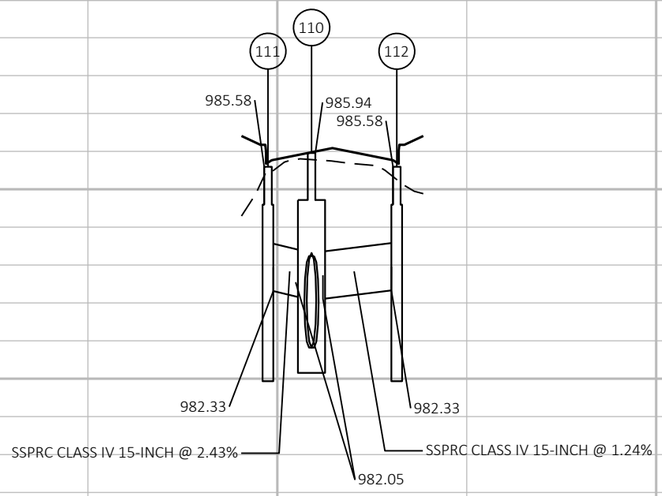
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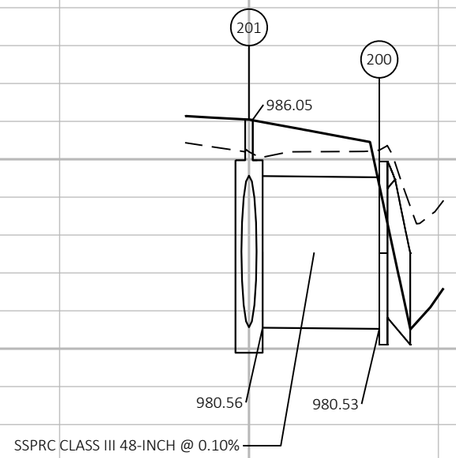
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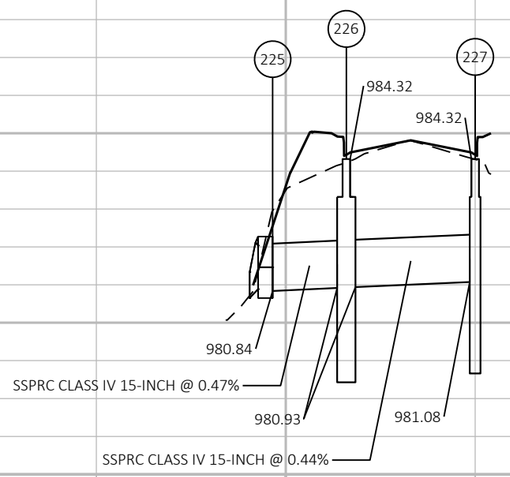












PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	STORM SEWER AND UTILITIES	SHEET 24	E

EXIST R/W

46+02, 0.9' RT
RECONSTRUCT SAN MH
EXIST ELEV: 985.95
PR ELEV: 986.69

STA 47+96, 33.6' LT
APRON ENDWALLS FOR CPRC 18-INCH (190)

STA 47+82, 32.2' LT
APRON ENDWALLS FOR CPRCHE 29x45-INCH (100)

(111) STA 46+50, 17.0' LT
CATCH BASINS 2x3-H

(110) STA 46+50, 5.5' LT
MANHOLES 6-C

STA 47+67, 5.5' LT
MANHOLES 6-C (105)

(192) STA 48+01, 33.1' LT
APRON ENDWALLS FOR CPRC 18-INCH

(225) STA 48+14, 33.2' LT
APRON ENDWALLS FOR CPRC 15-INCH

(226) STA 48+25, 17.0' LT
CATCH BASINS 4-H

(227) STA 48+25, 17.0' RT
CATCH BASINS 2x3-H

(112) STA 46+50, 17.0' RT
CATCH BASINS 2x3-H

STA 47+00, 33.1' RT
MANHOLES 6-L (201)

STA 47+32, 44.9' RT
APRON ENDWALLS FOR CPRC 48-INCH (200)

STA 47+54, 41.3' RT
APRON ENDWALLS FOR CPRC 18-INCH (191)

(193) STA 47+59, 41.1' RT
APRON ENDWALLS FOR CPRC 18-INCH

REMOVE STORM SEWER (48-INCH)

℄ S. 18TH AVE

S 18TH AVE

50+02, 1.0' RT
ADJUST SAN MH COVER
EXIST ELEV: 983.04
PR ELEV: 983.02

US 45 SB

US 45 NB

46+00 47+00 48+00 49+00 50+00 51+00 52+00

46+00.00

52+00.00

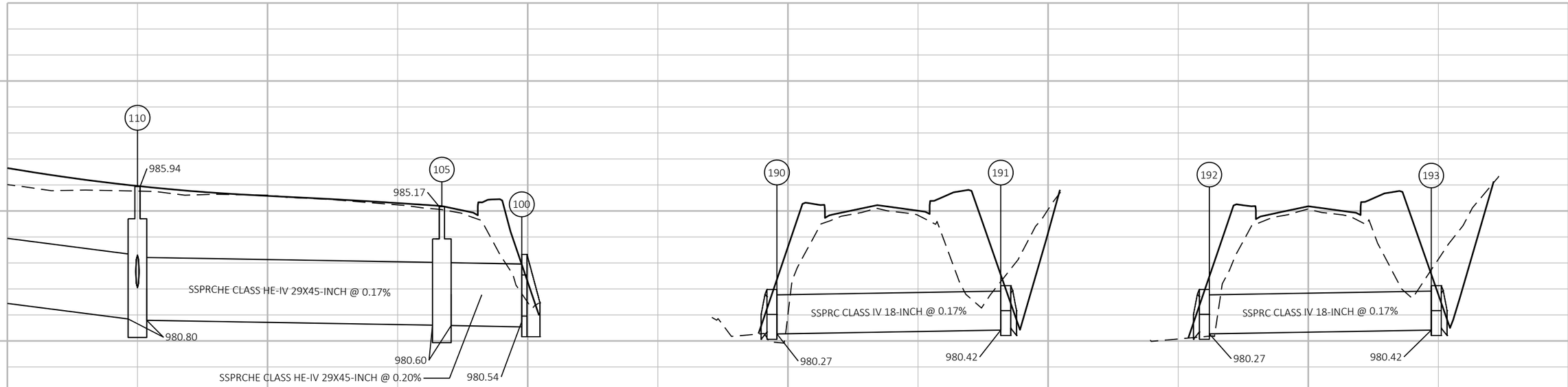
EXIST R/W

15" PVC ->

48" RCP ->

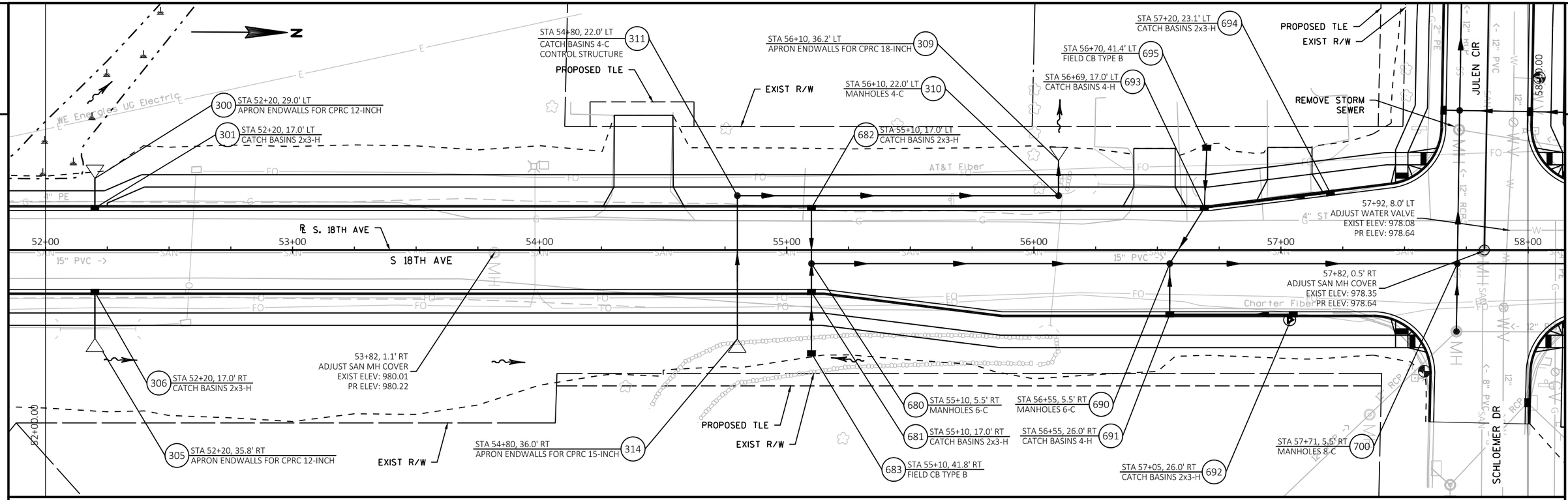
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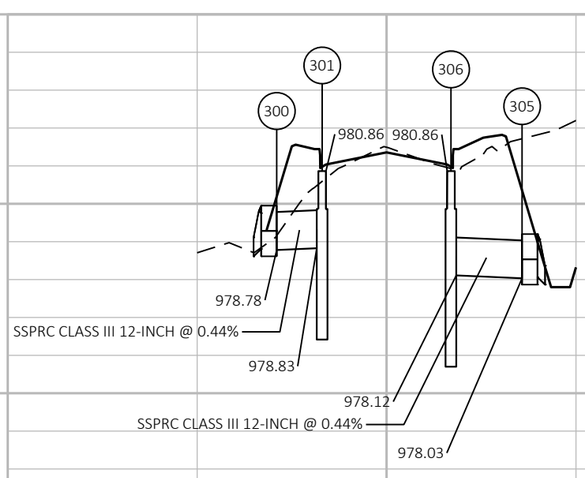
AT&T Fiber

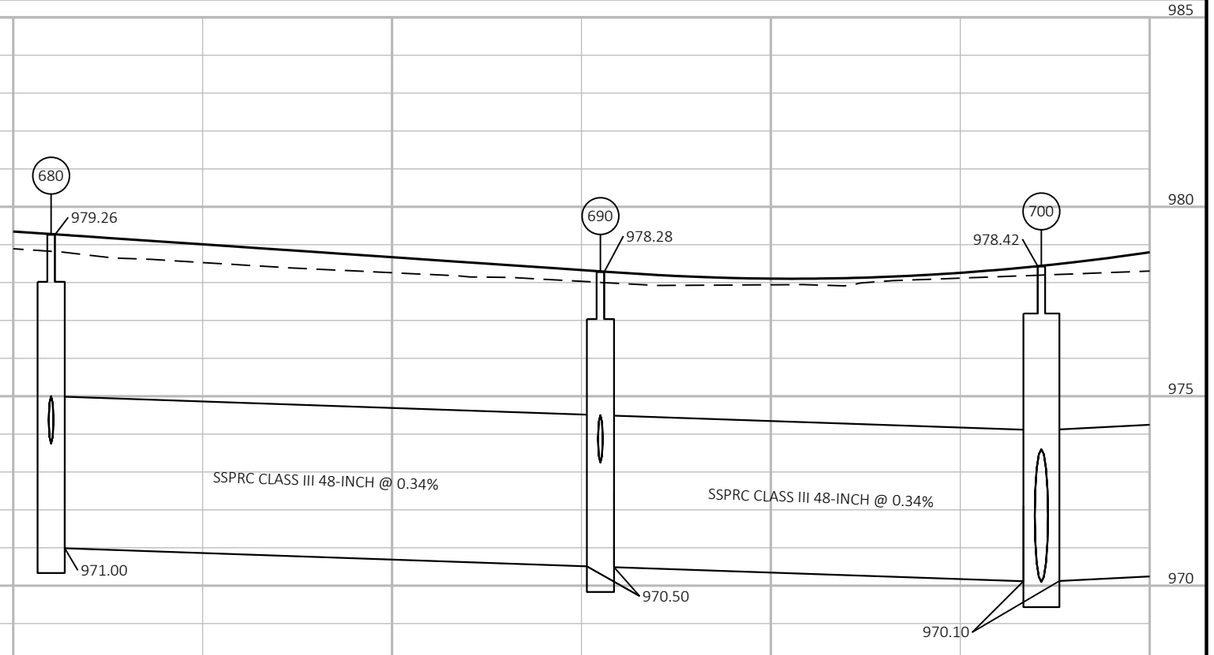


PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	STORM SEWER AND UTILITIES	SHEET 25	E

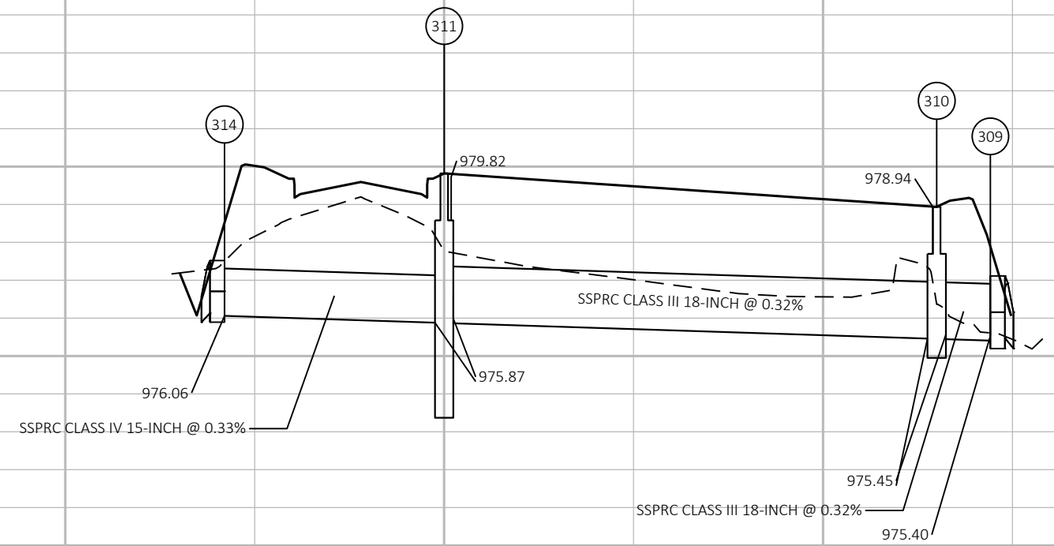
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PLOT NAME :
PLOT SCALE : ##########
WISDOT/CADDS SHEET 41

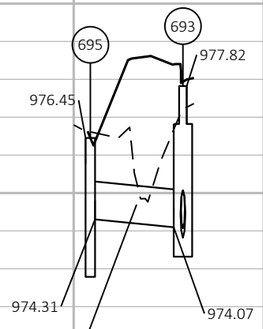


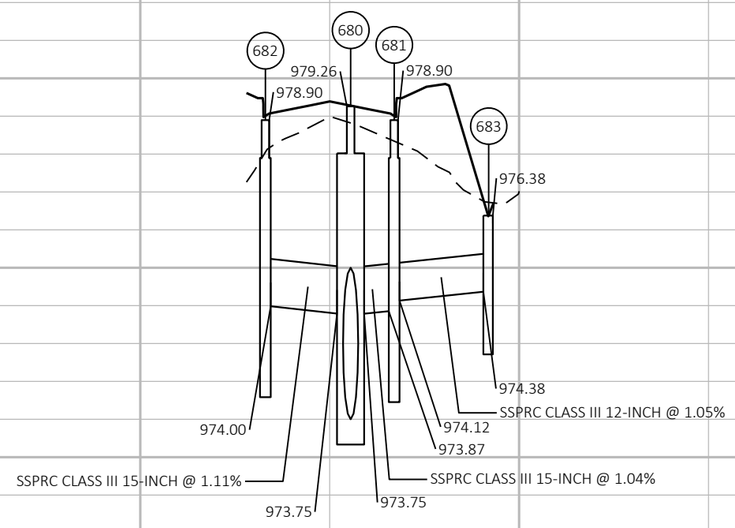


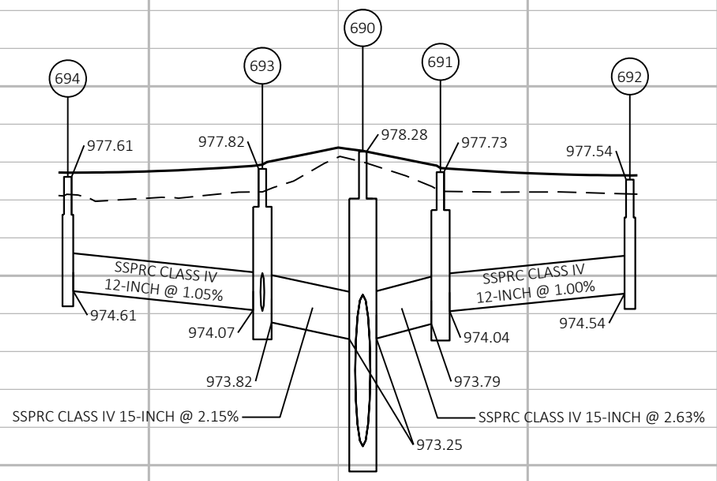


PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	STORM SEWER AND UTILITIES	SHEET 26	E



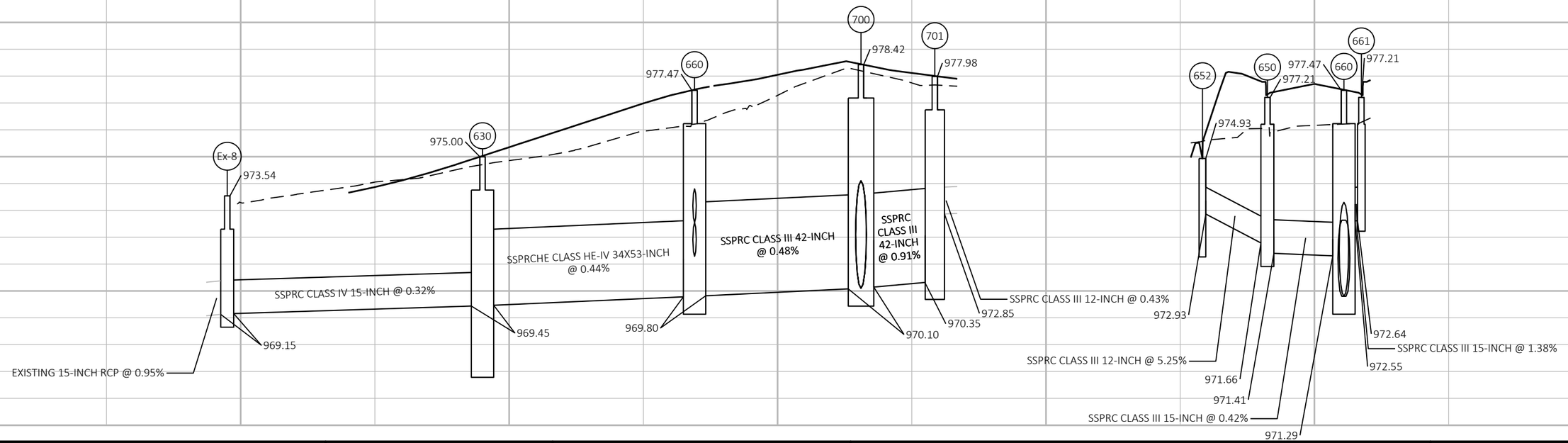






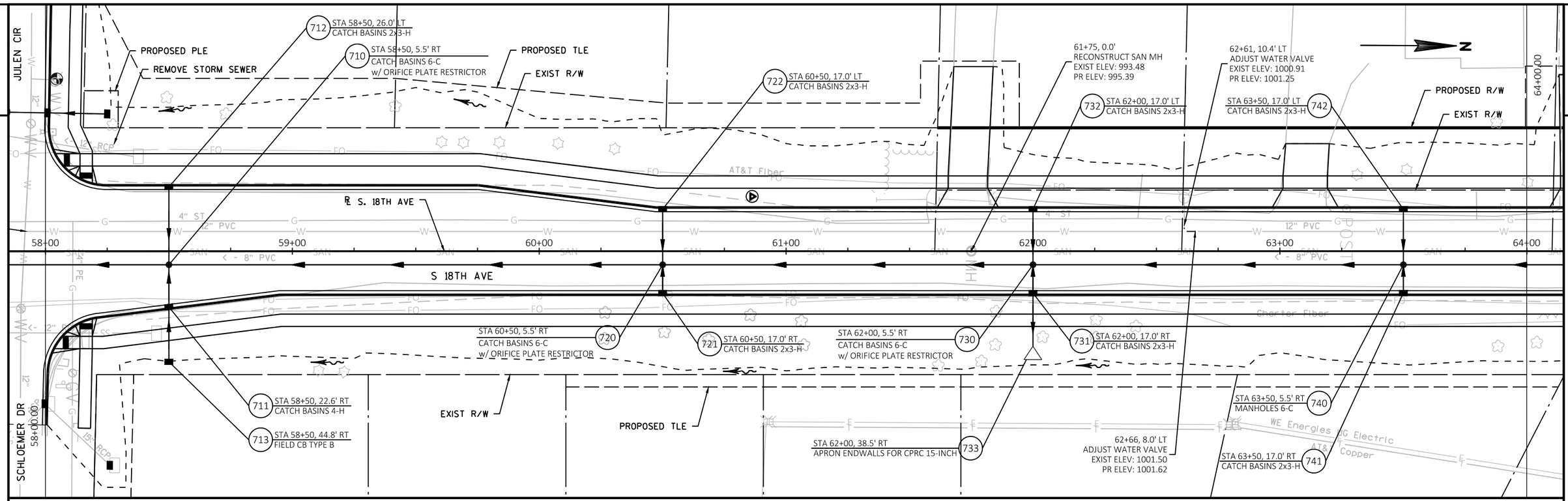
PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	STORM SEWER AND UTILITIES	SHEET 27	E

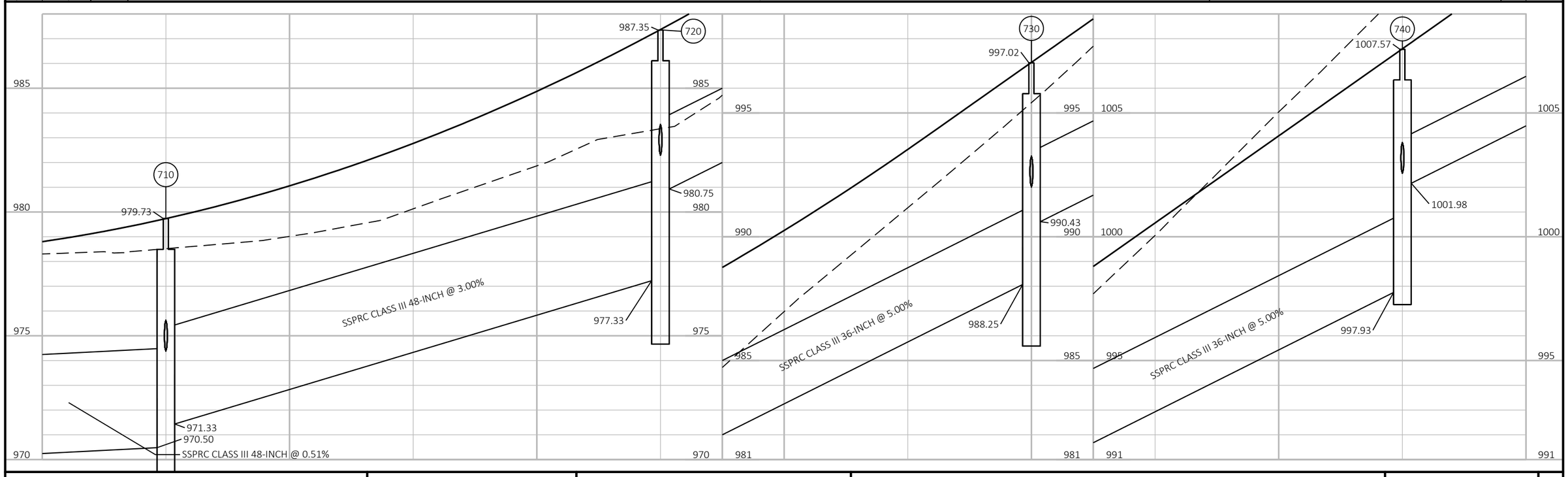
EXIST R/W
PROPOSED TLE
STA 58+25, 55.6' LT
FIELD CB TYPE B
652
PROPOSED PLE
STA 58+01, 56.0' LT
CATCH BASINS 4-H
650
58+04, 68.5' LT
ADJUST WATER VALVE
EXIST ELEV: 975.65
PR ELEV: 977.50
EX-14
STA 58+00, 61.8' RT
RECONSTRUCTING INLET
EX-13
STA 58+26, 86.7' RT
ADJUSTING INLET
PROPOSED TLE
EXIST R/W
℄ SCHLOEMER DR
SCHLOEMER DR
STA 57+74, 135.5' LT
MANHOLE 7-C
CONTROL STRUCTURE
630
℄ JULEN CIR
6+00
7+00
4+00
JULEN CIR
57+90, 23.3' RT
ADJUST WATER VALVE
EXIST ELEV: 977.87
PR ELEV: 978.32
701
STA 57+71, 33.0' RT
MANHOLES 6-C
EXIST R/W
REMOVE STORM SEWER
EX-8
STA 57+77, 230.5' LT
MANHOLES 4-C
57+94, 51.7' LT
ADJUST WATER VALVE
EXIST ELEV: 976.36
PR ELEV: 977.58
STA 57+72, 56.5' LT
MANHOLES 7-C
660
STA 57+66, 56.6' LT
CATCH BASINS 2x3-H
661
PROPOSED TLE
℄ S. 18TH AVE
S 18TH AVE
700
STA 57+71, 5.5' RT
MANHOLES 8-C
PROPOSED TLE
N



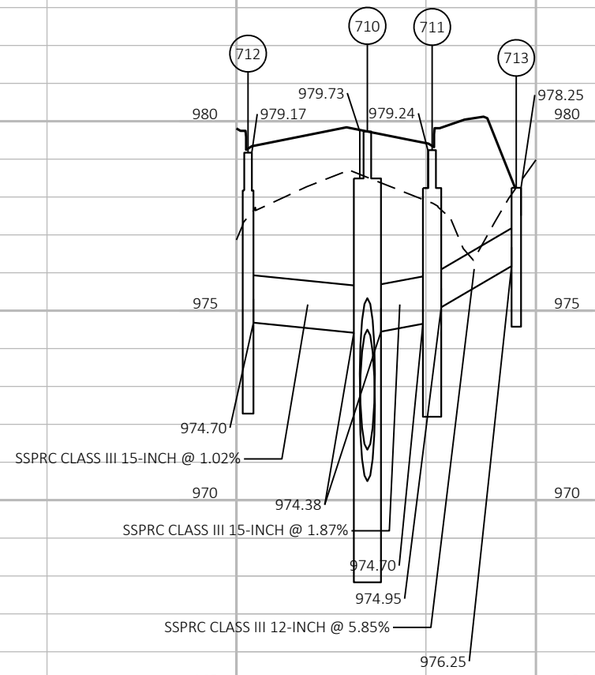
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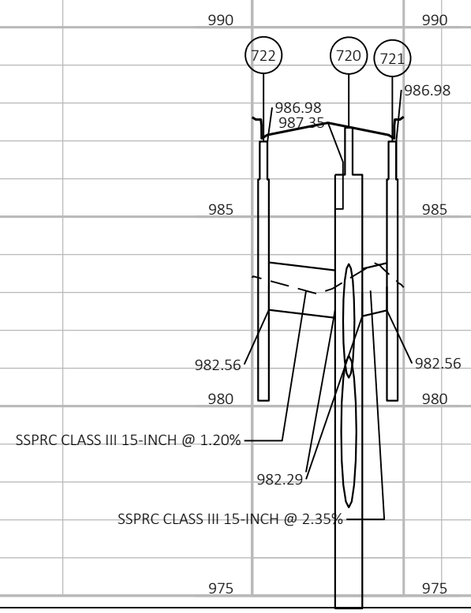
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PLOT NAME :
PLOT SCALE : ##########
WISDOT/CADDS SHEET 41

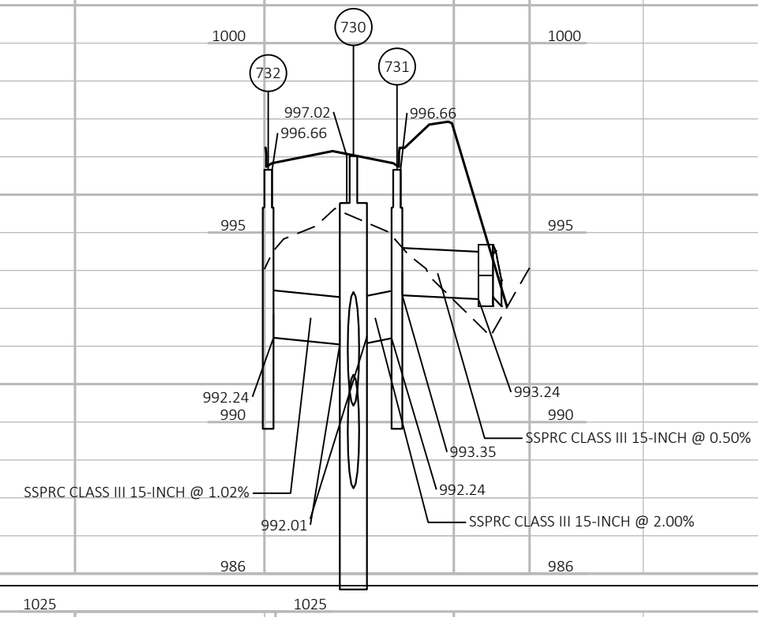


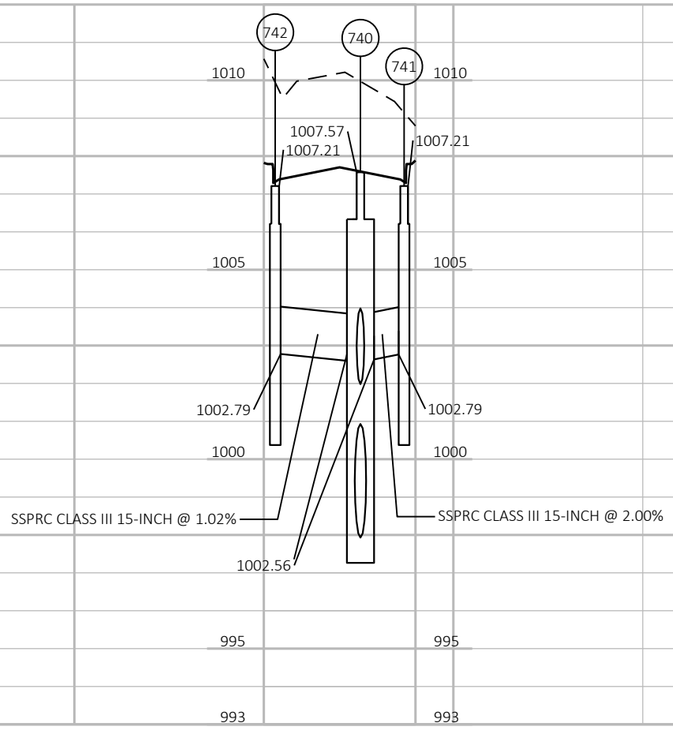


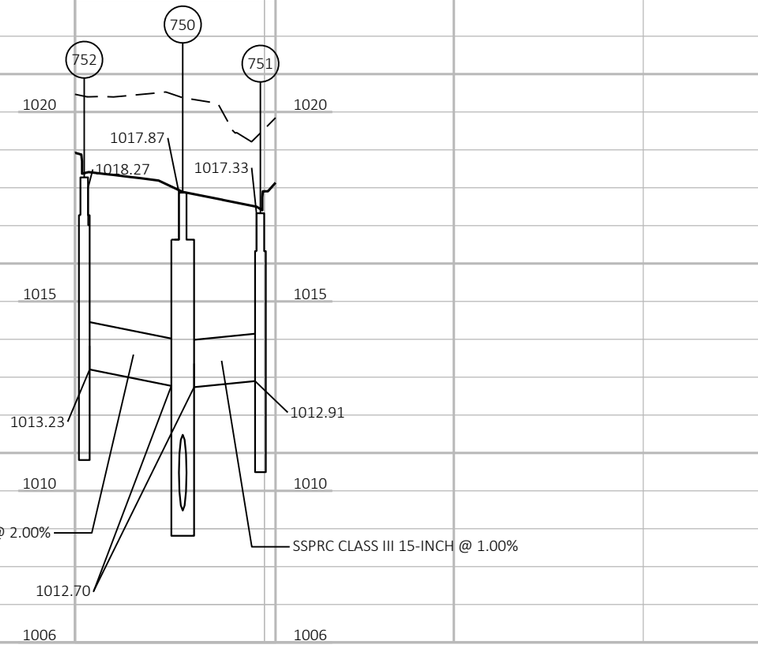
PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	STORM SEWER AND UTILITIES	SHEET 29	E





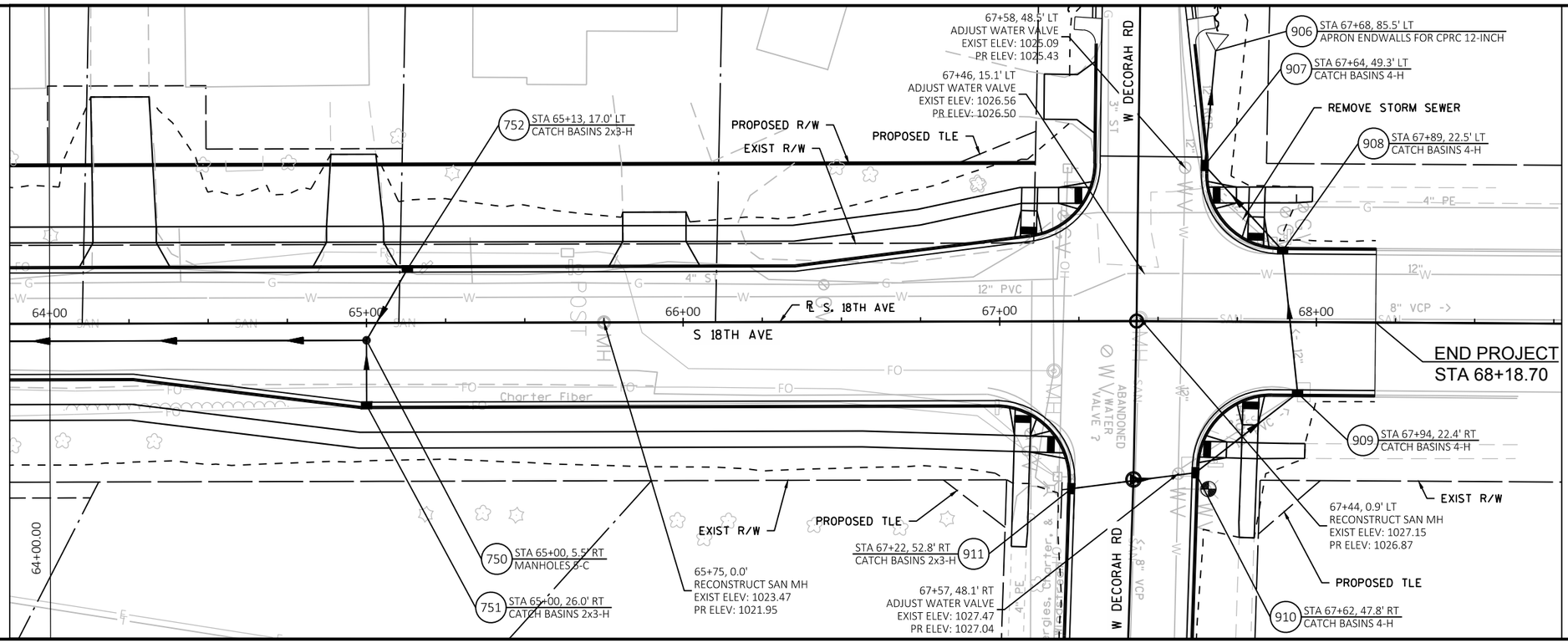


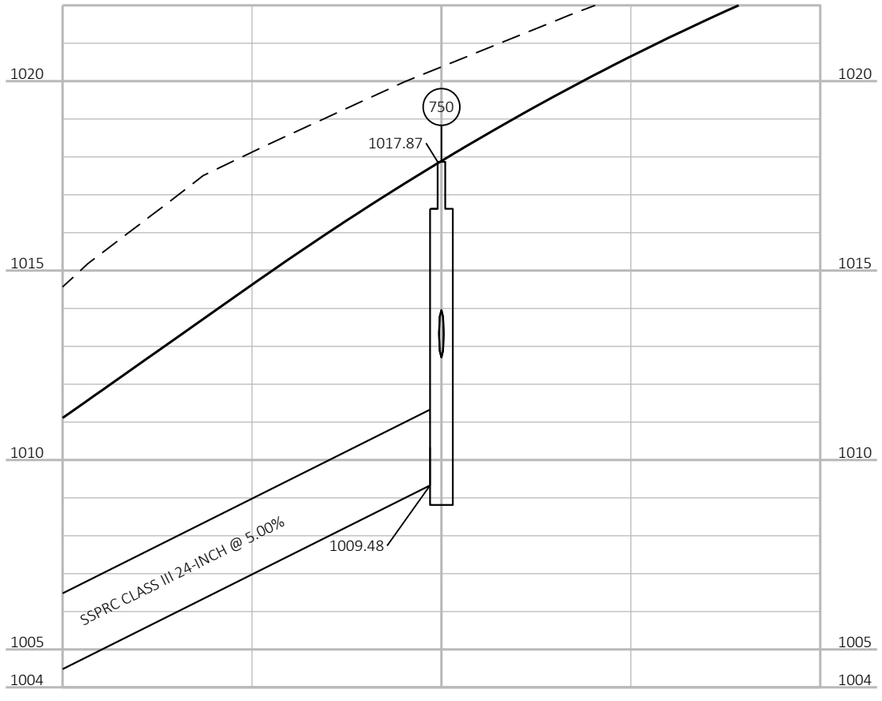


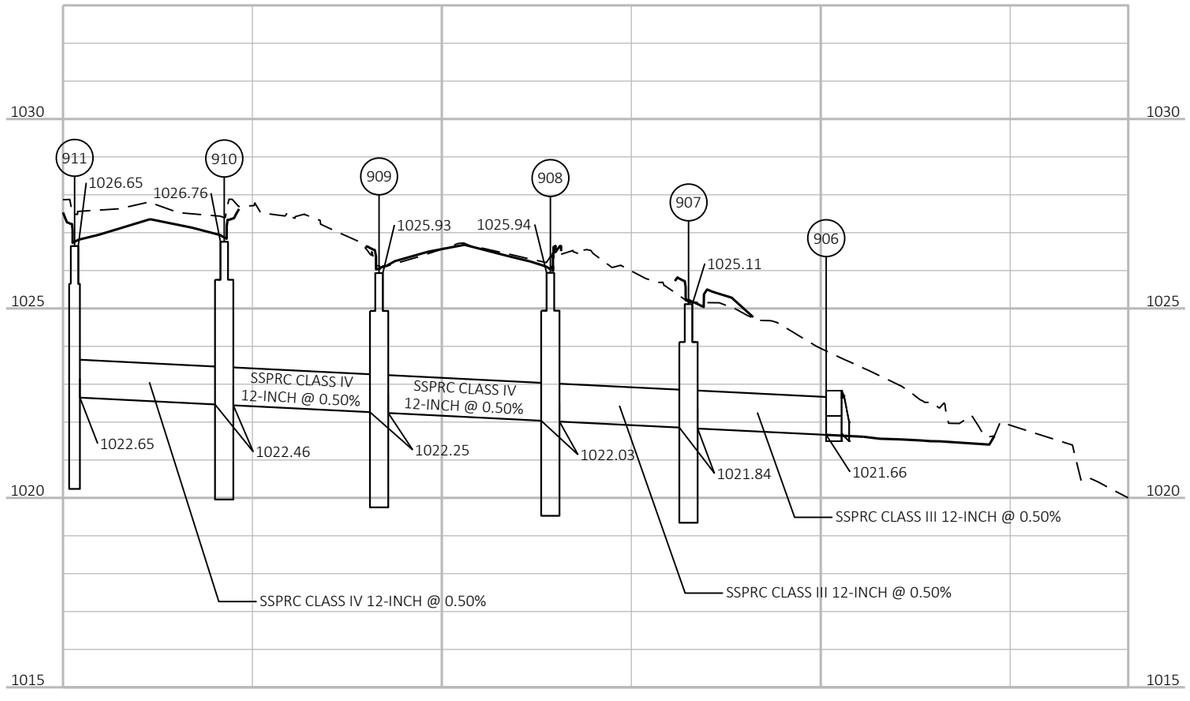


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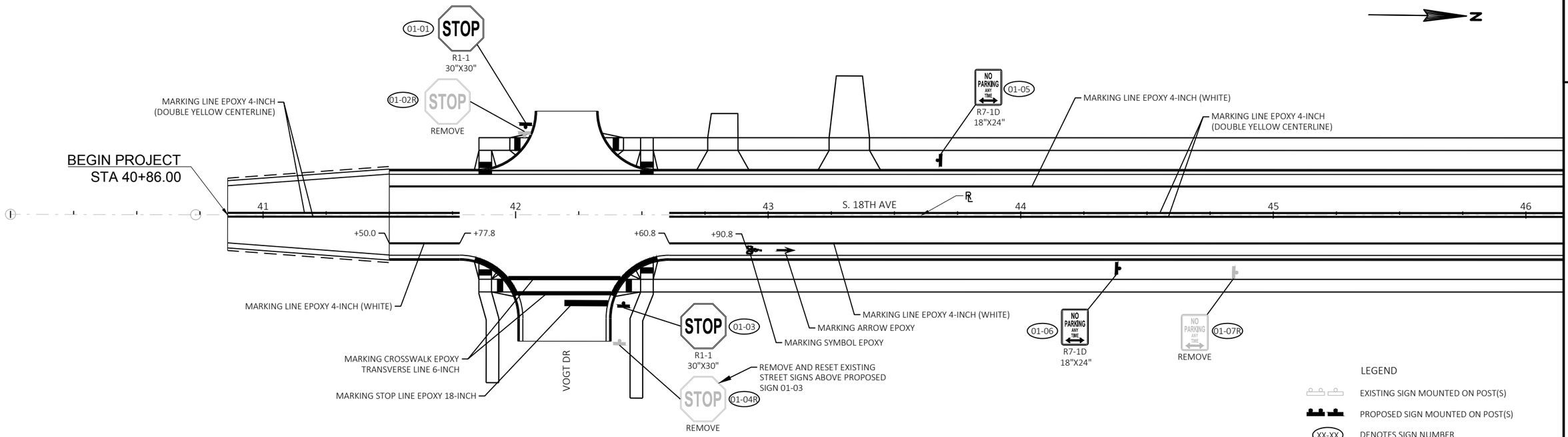
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WISDOT/CADDS SHEET 41

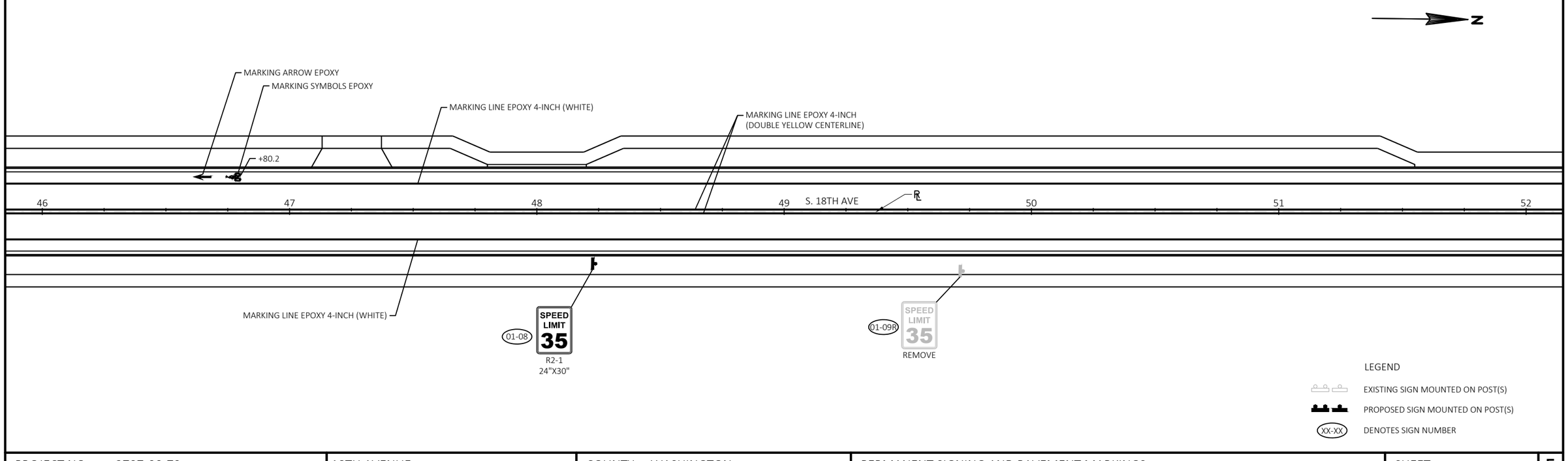




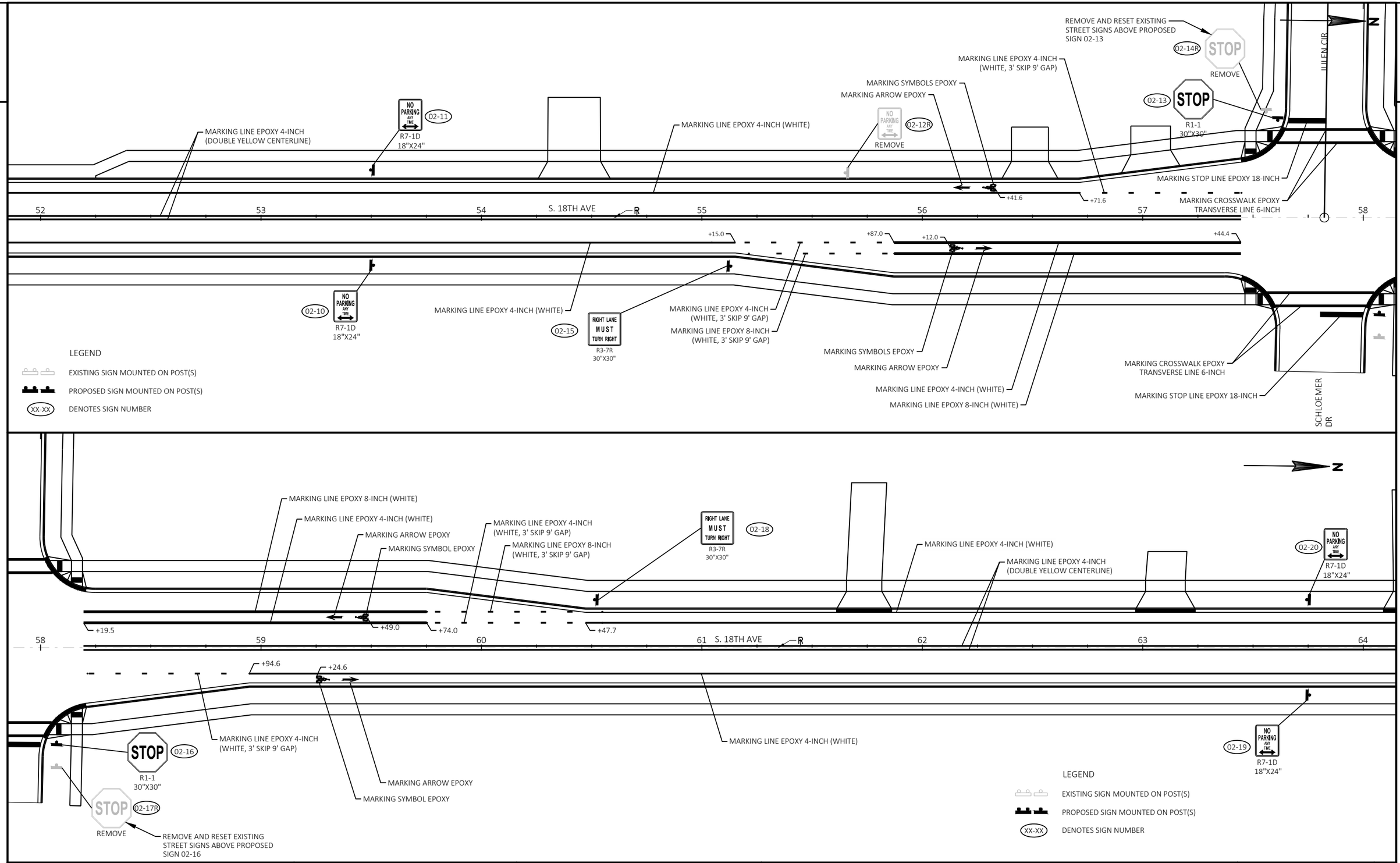


PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	STORM SEWER AND UTILITIES	SHEET 31 E

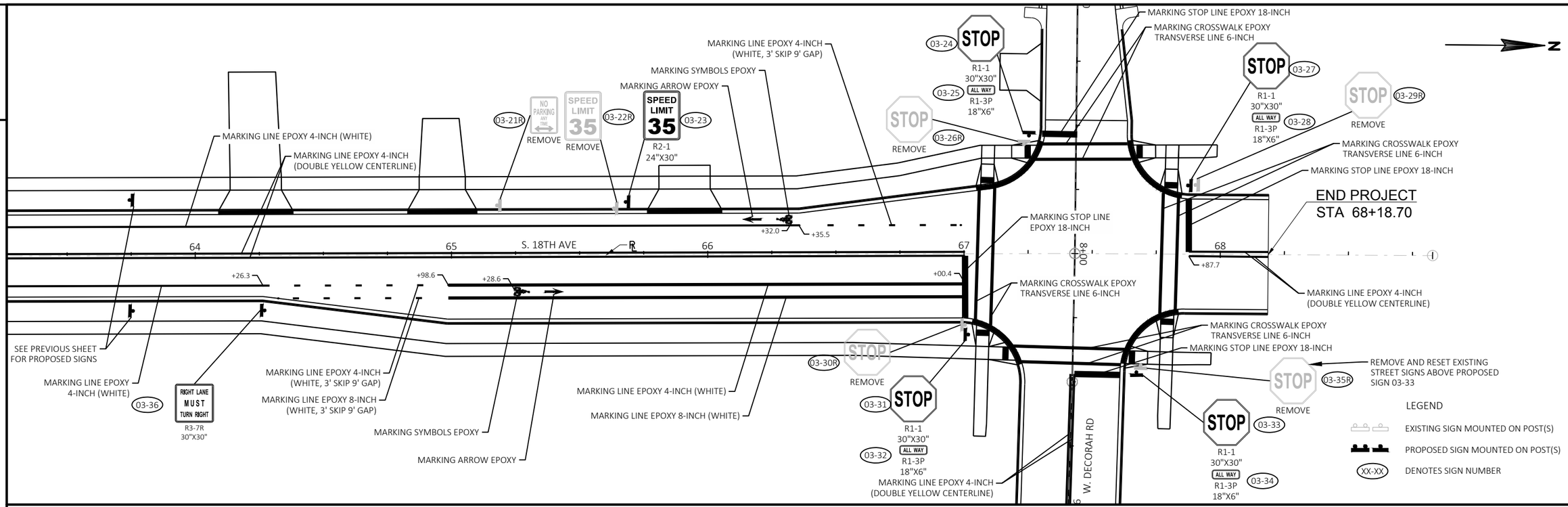




PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	PERMANENT SIGNING AND PAVEMENT MARKINGS	SHEET 32	E

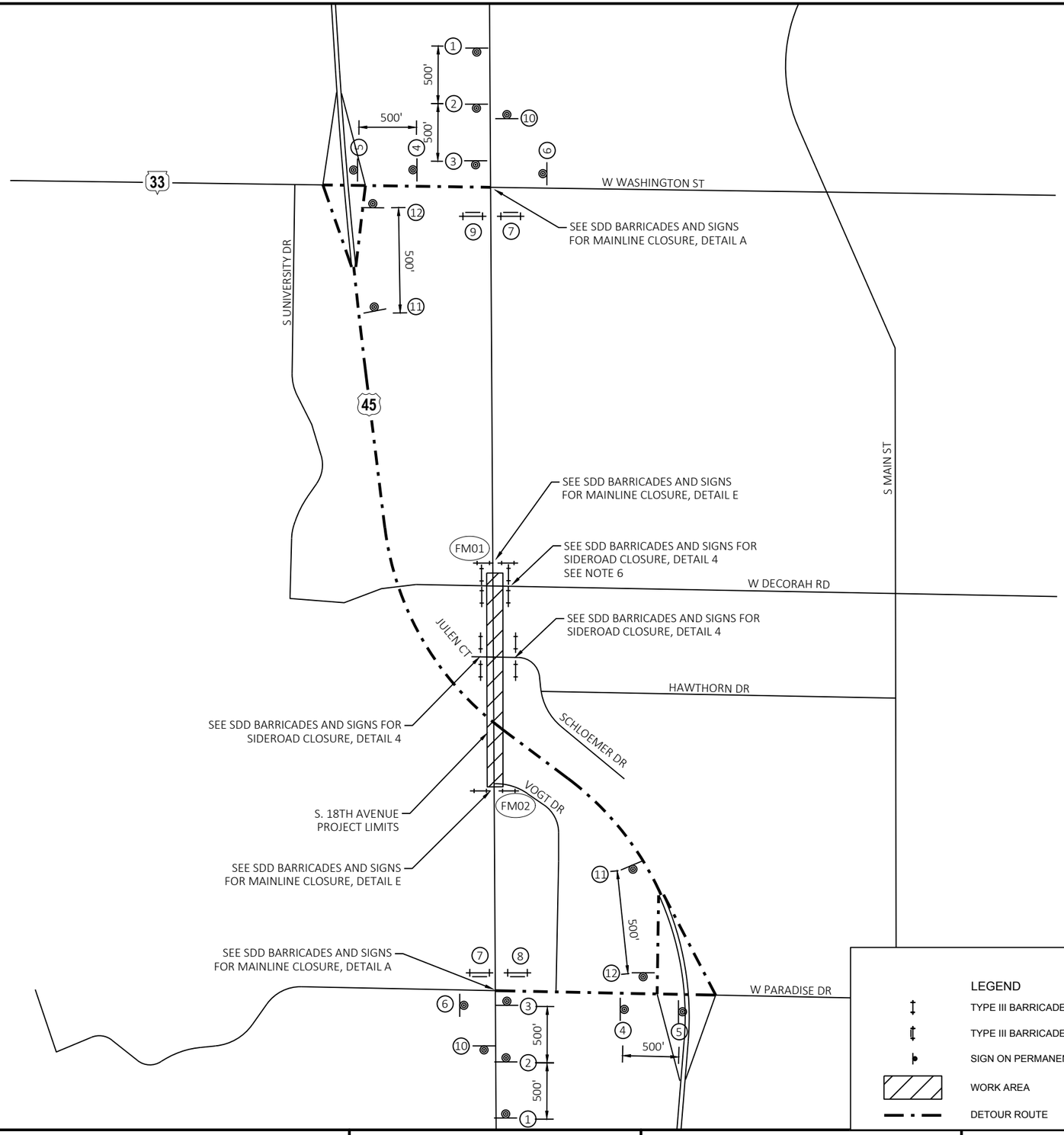


PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	PERMANENT SIGNING AND PAVEMENT MARKINGS	SHEET 33	E



PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	PERMANENT SIGNING AND PAVEMENT MARKINGS	SHEET 34	E

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WISDOT/CADDS SHEET 44



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WTH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR ROUTE

① DETOUR AHEAD — W20-2R — 48"X48"

② 18th Ave — M1-94 — 30"X12"
DETOUR — M4-59R — 30"X30"

③ 18th Ave — M1-94 — 30"X12"
DETOUR — M4-9R — 30"X24"

④ 18th Ave — M1-94 — 30"X12"
DETOUR — M4-59L — 30"X30"

⑤ 18th Ave — M1-94 — 30"X12"
DETOUR — M4-9L — 30"X24"

⑥ 18th Ave — M1-94 — 30"X12"
DETOUR — M4-8 — 24"X12"
MO6-1 — 21"X21"

⑦ M4-9R 30"x24" — DETOUR

⑧ R11-3 — 60" X 30" — ROAD CLOSED 0.5 MILES AHEAD LOCAL TRAFFIC ONLY
TYPE III BARRICADE

⑨ R11-3 — 60" X 30" — ROAD CLOSED 1.0 MILES AHEAD LOCAL TRAFFIC ONLY
TYPE III BARRICADE

⑩ END — M4-6 — 24"X12"
18th Ave — M1-94 — 30"X12"
DETOUR — M4-8 — 24"X12"

⑪ 18th Ave — M1-94 — 44"X18"
DETOUR — M4-59R — 48"X48"

⑫ 18th Ave — M1-94 — 44"X18"
DETOUR — M4-9R — 48"X36"

NOTES:

1. THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
2. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE ADJUST THE LOCATION OF THE DETOUR SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE.
3. 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.
4. 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.
5. "MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.
6. LIMIT DURATION OF FULL CLOSURE ON W DECORAH RD TO 14 CALENDAR DAYS. COORDINATE CLOSURE TIMES WITH JOHANN SAND AND GRAVEL LLC.

PROJECT NO: 2707-00-79	HWY: 18TH AVENUE	COUNTY: WASHINGTON	DETOUR PLAN / TRAFFIC CONTROL	SHEET	E

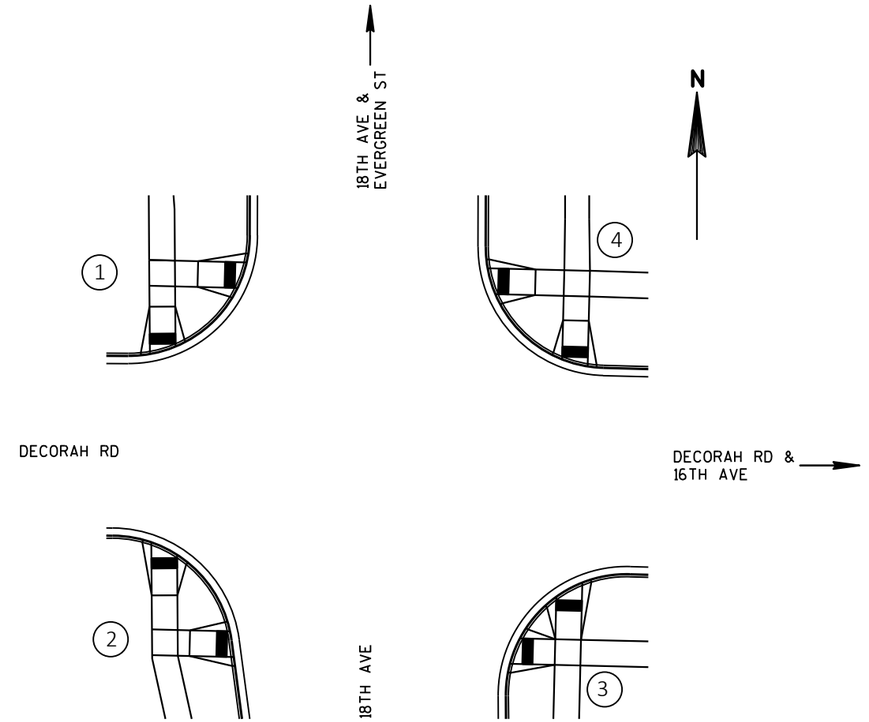
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WISDOT/CADDS SHEET 42



FIXED MESSAGE SIGN DETAIL

FIXED MESSAGE NOTES

1. ALL SIGNS TO HAVE FLUORESCENT REFLECTIVE SHEETING - REFERENCE: WISDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION.
2. AFTER SIGNS HAVE BEEN LOCATED IN THE FIELD, BUT BEFORE INSTALLATION, THE PROJECT ENGINEER WILL VERIFY EACH SIGN LOCATION.
3. SIGNS ARE BLACK NON-REFLECTIVE MESSAGE ON ORANGE FLUORESCENT REFLECTIVE BACKGROUND PER SPEC. 637 & 643.
4. ALL SIGNS HAVE CAPITAL LETTERS AND NUMERALS: 6" CAPS ARE SERIES "C".
5. 1" BORDER SHALL BE BLACK.
6. THE CONTRACTOR WILL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR REVIEW PRIOR TO MANUFACTURING. CONTRACTOR WILL VERIFY DIMENSIONS.
7. SIGN BASE MATERIAL IS ACCORDING TO SECTION 637 & 643.
8. PLACE FIXED MESSAGE SIGNS 7 DAYS BEFORE STARTING CONSTRUCTION.



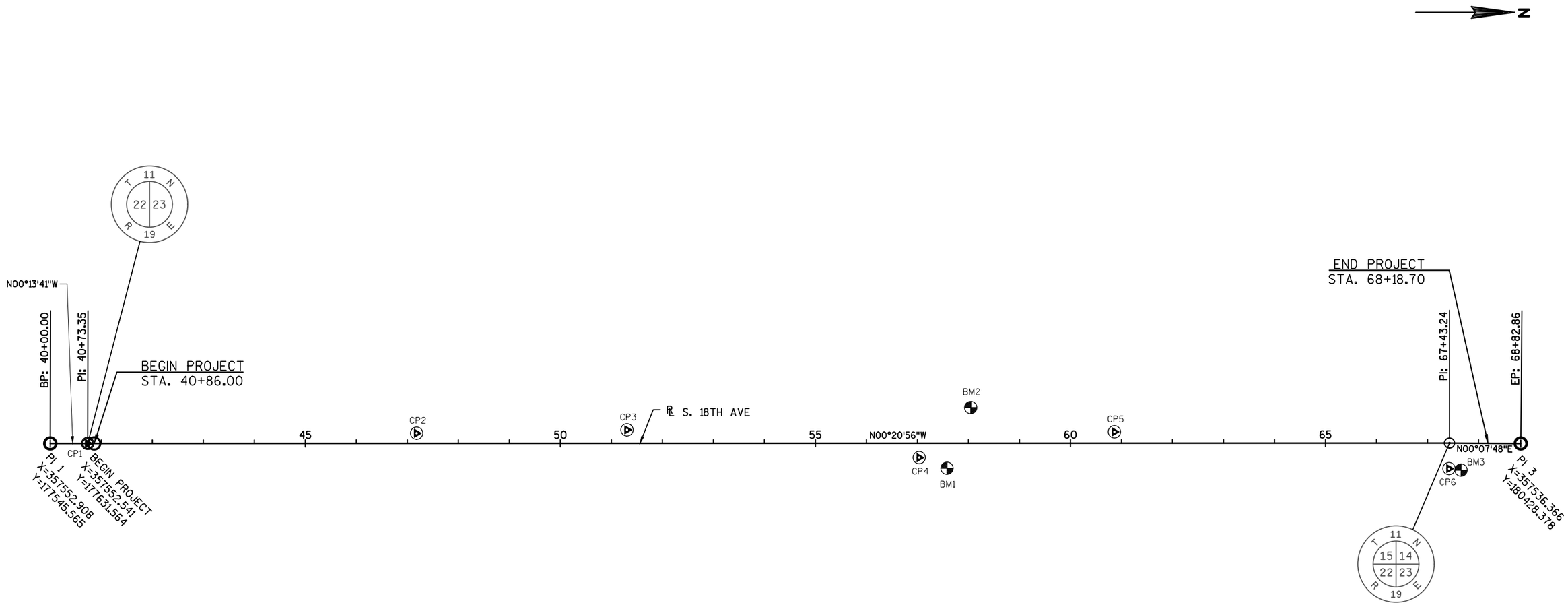
PEDESTRIAN STAGING

NOTES

1. EXISTING SIDEWALKS AT JULEN CT DO NOT EXTEND TO 18TH AVE
2. EXISTING SIDEWALK ON NORTH SIDE OF SCHLOEMER AVE AND ON BOTH SIDES OF VOGT DR END AT 18TH AVE. MAINTAIN PEDESTRIAN ACCESS TO STREET FOLLOWING STANDARD DETAIL DRAWING (SDD) FOR TRAFFIC CONTROL, TEMPORARY ADA COMPLIANT PEDESTRIAN ACCOMMODATION
3. NO EXISTING SIDEWALK EXISTS ALONG 18TH AVE SOUTH OF DECORAH RD. PEDESTRIAN ACCOMMODATION AT DECORAH RD TO BE MAINTAINED WITH PEDESTRIAN DETOUR AND STAGING AS FOLLOWS:
   A. CONSTRUCT QUADRANTS 1 & 2 BY DIRECTING PEDESTRIAN TRAFFIC ONTO THE EAST SIDE OF 18TH AVENUE AT EVERGREEN ST
   B. CONSTRUCT QUADRANT 3 BY DIRECTING PEDESTRIAN TRAFFIC ONTO THE NORTH SIDE OF DECORAH RD AT 16TH AVE
   C. CONSTRUCT QUADRANT 4 BY DIRECTING PEDESTRIAN TRAFFIC ONTO THE WEST SIDE OF 18TH AVE AT EVERGREET ST AND THE SOUTH SIDE OF DECORAH RD AT 16TH AVE

   ALL PEDESTRIAN DETOURS TO FOLLOW SDD FOR TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

2



I.D.	DESCRIPTION	STATION	OFFSET	ELEVATION	NORTHING	EASTING
CP1	CONC. MON. W. BRASS CAP	40+73.35	0.00	989.668	177618.923	357552.618
CP2	REBAR	47+18.30	-19.95	-	178263.736	357528.744
CP3	NAIL	51+30.72	-26.38	-	178676.111	357519.803
CP4	REBAR	57+03.52	28.23	-	179249.233	357570.92
CP5	NAIL	60+86.21	-22.16	-	179631.611	357518.203
CP6	CONC. WITNESS MON. W. BRASS CAP	67+42.12	33.99	1027.583	180287.935	357586.354

I.D.	DESCRIPTION	STATION	OFFSET	ELEVATION
BM1	CHISELED X ON CURB HEAD	57+58	49.1	978.089
BM2	HYDRANT FLANGE BOLT	58+05	-69.8	975.278
BM3	HYDRANT FLANGE BOLT	67+66	52.9	1030.227

PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	ALIGNMENT PLAN	SHEET 37	E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\027201_AD.DWG
LAYOUT NAME - 027201_AD
PLOT DATE : 9/26/2017 10:10 AM PLOT BY : WEIGAND, BEN PLOT NAME : PLOT SCALE : 1 IN:200 FT
WISDOT/CADDS SHEET 42

2707-00-79

Line	Item	Item Description	Unit	Total	Qty
0002	201.0120	Clearing	ID	400.000	400.000
0004	201.0220	Grubbing	ID	400.000	400.000
0006	203.0100	Removing Small Pipe Culverts	EACH	3.000	3.000
0008	204.0120	Removing Asphaltic Surface Milling	SY	227.000	227.000
0010	204.0150	Removing Curb & Gutter	LF	552.000	552.000
0012	204.0155	Removing Concrete Sidewalk	SY	152.000	152.000
0014	204.0210	Removing Manholes	EACH	2.000	2.000
0016	204.0220	Removing Inlets	EACH	3.000	3.000
0018	204.0245	Removing Storm Sewer (size) 01. 12-Inch RCP	LF	467.000	467.000
0020	204.0245	Removing Storm Sewer (size) 02. 48-Inch RCP	LF	44.000	44.000
0022	204.9090.S	Removing (item description) 01. SMALL RETAINING WALL	LF	50.000	50.000
0024	205.0100	Excavation Common	CY	13,629.000	13,629.000
0026	208.0100	Borrow	CY	7,027.000	7,027.000
0028	213.0100	Finishing Roadway (project) 01. 2707-00-79	EACH	1.000	1.000
0030	305.0110	Base Aggregate Dense 3/4-Inch	TON	12.000	12.000
0032	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	5,420.000	5,420.000
0034	305.0130	Base Aggregate Dense 3-Inch	TON	3,090.000	3,090.000
0036	311.0110	Breaker Run	TON	12,658.000	12,658.000
0038	415.0070	Concrete Pavement 7-Inch	SY	12,416.000	12,416.000
0040	415.5110.S	Concrete Pavement Joint Layout	LS	1.000	1.000
0042	416.0160	Concrete Driveway 6-Inch	SY	380.000	380.000
0044	416.1010	Concrete Surface Drains	CY	1.000	1.000
0046	440.4410	Incentive IRI Ride	DOL	2,072.000	2,072.000
0048	455.0605	Tack Coat	GAL	11.000	11.000
0050	460.5224	HMA Pavement 4 LT 58-28 S	TON	67.000	67.000
0052	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	76.000	76.000
0054	522.1012	Apron Endwalls for Culvert Pipe Reinforced Concrete 12-Inch	EACH	3.000	3.000
0056	522.1015	Apron Endwalls for Culvert Pipe Reinforced Concrete 15-Inch	EACH	3.000	3.000
0058	522.1018	Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch	EACH	5.000	5.000
0060	522.1048	Apron Endwalls for Culvert Pipe Reinforced Concrete 48-Inch	EACH	1.000	1.000
0062	522.2629	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 29x45-Inch	EACH	1.000	1.000
0064	602.0405	Concrete Sidewalk 4-Inch	SF	26,675.000	26,675.000
0066	602.0505	Curb Ramp Detectable Warning Field Yellow	SF	240.000	240.000
0068	606.0100	Riprap Light	CY	15.000	15.000
0070	606.0200	Riprap Medium	CY	70.000	70.000

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Line	Item	Item Description	Unit	Total	Qty
0072	608.0312	Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	LF	221.000	221.000
0074	608.0315	Storm Sewer Pipe Reinforced Concrete Class III 15-Inch	LF	290.000	290.000
0076	608.0318	Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	LF	144.000	144.000
0078	608.0324	Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	LF	150.000	150.000
0080	608.0336	Storm Sewer Pipe Reinforced Concrete Class III 36-Inch	LF	300.000	300.000
0082	608.0342	Storm Sewer Pipe Reinforced Concrete Class III 42-Inch	LF	89.000	89.000
0084	608.0348	Storm Sewer Pipe Reinforced Concrete Class III 48-Inch	LF	574.000	574.000
0086	608.0412	Storm Sewer Pipe Reinforced Concrete Class IV 12-Inch	LF	227.000	227.000
0088	608.0415	Storm Sewer Pipe Reinforced Concrete Class IV 15-Inch	LF	440.000	440.000
0090	608.0418	Storm Sewer Pipe Reinforced Concrete Class IV 18-Inch	LF	171.000	171.000
0092	608.0424	Storm Sewer Pipe Reinforced Concrete Class IV 24-Inch	LF	108.000	108.000
0094	608.0430	Storm Sewer Pipe Reinforced Concrete Class IV 30-Inch	LF	387.000	387.000
0096	608.2334	Storm Sewer Pipe Reinforced Concrete Horizontal Elliptical Class HE-III 34x53-Inch	LF	79.000	79.000
0098	608.2429	Storm Sewer Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 29x45-Inch	LF	148.000	148.000
0100	611.0420	Reconstructing Manholes	EACH	1.000	1.000
0102	611.0430	Reconstructing Inlets	EACH	1.000	1.000
0104	611.0612	Inlet Covers Type C	EACH	20.000	20.000
0106	611.0624	Inlet Covers Type H	EACH	37.000	37.000
0108	611.1004	Catch Basins 4-FT Diameter	EACH	13.000	13.000
0110	611.1006	Catch Basins 6-FT Diameter	EACH	3.000	3.000
0112	611.1230	Catch Basins 2x3-FT	EACH	25.000	25.000
0114	611.2004	Manholes 4-FT Diameter	EACH	1.000	1.000
0116	611.2005	Manholes 5-FT Diameter	EACH	4.000	4.000
0118	611.2006	Manholes 6-FT Diameter	EACH	7.000	7.000
0120	611.2007	Manholes 7-FT Diameter	EACH	2.000	2.000
0122	611.2008	Manholes 8-FT Diameter	EACH	1.000	1.000
0124	611.3004	Inlets 4-FT Diameter	EACH	1.000	1.000
0126	611.8110	Adjusting Manhole Covers	EACH	1.000	1.000

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Line	Item	Item Description	Unit	Total	Qty
0128	611.8115	Adjusting Inlet Covers	EACH	1.000	1.000
0130	616.0700.S	Fence Safety	LF	319.000	319.000
0132	618.0100	Maintenance And Repair of Haul Roads (project) 01. 2707-00-09	EACH	1.000	1.000
0134	619.1000	Mobilization	EACH	1.000	1.000
0136	624.0100	Water	MGAL	129.000	129.000
0138	625.0100	Topsoil	SY	10,626.000	10,626.000
0140	627.0200	Mulching	SY	500.000	500.000
0142	628.1104	Erosion Bales	EACH	26.000	26.000
0144	628.1504	Silt Fence	LF	3,004.000	3,004.000
0146	628.1520	Silt Fence Maintenance	LF	3,004.000	3,004.000
0148	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0150	628.1910	Mobilizations Emergency Erosion Control	EACH	3.000	3.000
0152	628.2008	Erosion Mat Urban Class I Type B	SY	9,327.000	9,327.000
0154	628.7005	Inlet Protection Type A	EACH	11.000	11.000
0156	628.7015	Inlet Protection Type C	EACH	52.000	52.000
0158	628.7504	Temporary Ditch Checks	LF	200.000	200.000
0160	628.7515.S	Stone or Rock Ditch Checks	CY	49.000	49.000
0162	628.7555	Culvert Pipe Checks	EACH	4.000	4.000
0164	628.7560	Tracking Pads	EACH	2.000	2.000
0166	628.7570	Rock Bags	EACH	60.000	60.000
0168	629.0205	Fertilizer Type A	CWT	7.400	7.400
0170	630.0140	Seeding Mixture No. 40	LB	210.000	210.000
0172	630.0200	Seeding Temporary	LB	359.000	359.000
0174	631.0300	Sod Water	MGAL	85.000	85.000
0176	631.1000	Sod Lawn	SY	3,324.000	3,324.000
0178	637.2210	Signs Type II Reflective H	SF	92.000	92.000
0180	638.2102	Moving Signs Type II	EACH	7.000	7.000
0182	638.2602	Removing Signs Type II	EACH	13.000	13.000
0184	638.3000	Removing Small Sign Supports	EACH	13.000	13.000
0186	642.5001	Field Office Type B	EACH	1.000	1.000
0188	643.0420	Traffic Control Barricades Type III	DAY	3,872.000	3,872.000
0190	643.0705	Traffic Control Warning Lights Type A	DAY	4,224.000	4,224.000
0192	643.0900	Traffic Control Signs	DAY	7,040.000	7,040.000
0194	643.1000	Traffic Control Signs Fixed Message	SF	36.000	36.000
0196	643.5000	Traffic Control	EACH	1.000	1.000
0198	644.1420.S	Temporary Pedestrian Surface Plywood	SF	500.000	500.000
0200	644.1601.S	Temporary Curb Ramp	EACH	4.000	4.000
0202	645.0120	Geotextile Type HR	SY	82.000	82.000
0204	645.0130	Geotextile Type R	SY	22.000	22.000

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Line	Item	Item Description	Unit	Total	Qty
0206	645.0220	Geogrid Type SR	SY	4,213.000	4,213.000
0208	646.1020	Marking Line Epoxy 4-Inch	LF	9,669.000	9,669.000
0210	646.3020	Marking Line Epoxy 8-Inch	LF	568.000	568.000
0212	646.5020	Marking Arrow Epoxy	EACH	8.000	8.000
0214	646.5220	Marking Symbol Epoxy	EACH	8.000	8.000
0216	646.6020	Marking Stop Line Epoxy 12-Inch	LF	96.000	96.000
0218	646.7420	Marking Crosswalk Epoxy Transverse Line 6-Inch	LF	600.000	600.000
0220	650.4000	Construction Staking Storm Sewer	EACH	74.000	74.000
0222	650.4500	Construction Staking Subgrade	LF	2,746.000	2,746.000
0224	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	6,091.000	6,091.000
0226	650.7000	Construction Staking Concrete Pavement	LF	2,733.000	2,733.000
0228	650.9000	Construction Staking Curb Ramps	EACH	24.000	24.000
0230	650.9910	Construction Staking Supplemental Control (project) 01. 2707-00-79	LS	1.000	1.000
0232	650.9920	Construction Staking Slope Stakes	LF	5,492.000	5,492.000
0234	690.0150	Sawing Asphalt	LF	392.000	392.000
0236	690.0250	Sawing Concrete	LF	88.000	88.000
0238	715.0415	Incentive Strength Concrete Pavement	DOL	6,131.000	6,131.000
0240	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	1,400.000	1,400.000
0242	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	1,200.000	1,200.000
0244	SPV.0060	Special 01. FIELD CATCH BASIN TYPE B	EACH	5.000	5.000
0246	SPV.0060	Special 02. ORIFICE PLATE RESTRICTOR	EACH	3.000	3.000
0248	SPV.0060	Special 03. CONTROL STRUCTURE 311	EACH	1.000	1.000
0250	SPV.0060	Special 04. CONTROL STRUCTURE 630	EACH	1.000	1.000
0252	SPV.0060	Special 05. ADJUSTING WATER VALVE	EACH	9.000	9.000
0254	SPV.0060	Special 06. RECONSTRUCTING SANITARY MANHOLE	EACH	4.000	4.000
0256	SPV.0060	Special 07. ADJUSTING SANITARY MANHOLE COVERS	EACH	4.000	4.000
0258	SPV.0060	Special 08. V-LOC SOCKET SYSTEM	EACH	19.000	19.000
0260	SPV.0060	Special 09. SIGN POST 10-FT	EACH	6.000	6.000
0262	SPV.0060	Special 10. SIGN POST 12-FT	EACH	13.000	13.000
0264	SPV.0090	Special 01. CONCRETE CURB & GUTTER 24-INCH	LF	6,091.000	6,091.000
0266	SPV.0090	Special 02. CONSTRUCTION STAKING CONCRETE SIDEWALK	LF	5,335.000	5,335.000

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EARTHWORK SUMMARY

Division	From/To Station	Location	205.0100 Common Excavation (1)		Salvaged/Unusable Pavement Material (4)	Available Material (5)	Unexpanded Fill	Expanded Fill (13)	Mass Ordinate +/- (14)	Waste	208.0100 Borrow	Comment:
			Cut (2)	EBS Excavation (3)				Factor 1.20				
Division 1 (Project Limits)												
18th Ave	STA 40+86 to 68+18	18th Ave	11,383	1,478	1,214	0	5,726	6,871	-6,871	12,861	6,871	
Decorah	STA 6+85 to 9+20	Side Road	573	0	122	0	37	45	-45	573	45	
Julen	STA 5+30 to 6+64	Side Road	96	0	60	0	91	109	-109	96	109	
Schloemer	STA 3+50 to 3+70	Side Road	54	0	12	0	1	1	-1	54	1	
Vogt	STA 1+41 to 1+59.42	Side Road	45	0	10	0	0	0	0	45	0	
Grand Total			12,151	1,478	1,417	0	5,855	7,027	-7,027	13,629	**7,027**	
Total Common Exc			**13,629**									

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) EBS Excavation to be backfilled with Base Aggregate Dense 3-Inch on Geogrid Type SR

(4) Salvaged/Unusable Pavement Material

(5) Available Material = ZERO (All Common Excavation below Salvaged/Unusable Pavement Material AND EBS Excavation is considered Waste)

(13) Expanded Fill Factor = 1.2

Expanded Fill = Unexpanded Fill * Fill Factor

(14) 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.

ALL ITEMS ON THIS PAGE ARE CATEGORY 0010

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REMOVALS

LOCATION	ITEM 201.0120 CLEARING (ID)	ITEM 201.0220 GRUBBING (ID)	ITEM 203.0100 REMOVING SMALL PIPE CULVERTS (EACH)	ITEM 204.0120 REMOVING ASPHALTIC SURFACE MILLING (SY)	ITEM 204.0150 REMOVING CURB & GUTTER (LF)	ITEM 204.0155 REMOVING CONCRETE SIDEWALK (SY)	ITEM 204.0210 REMOVING MANHOLES (EACH)	ITEM 204.0220 REMOVING INLETS (EACH)	ITEM 204.0244 REMOVING STORM SEWER 12 INCH RCP (LF)	ITEM 204.0245 REMOVING STORM SEWER 48 INCH RCP (LF)	ITEM 204.9090.S.01 REMOVING SMALL RETAINING WALL (LF)
41+50 to 68+18	355	355	3	-	526	144	2	3	444	41	50
BEGIN PROJECT BUTT JOINT	-	-	-	164	-	-	-	-	-	-	-
DECORAH BUTT JOINT	-	-	-	54	-	-	-	-	-	-	-
UNDISTRIBUTED	45	45	-	8	26	8	-	-	23	3	-
TOTALS	**400**	**400**	**3**	**227**	**552**	**152**	**2**	**3**	**467**	**44**	**50**

PAVEMENT

LOCATION	ITEM 305.0110 BASE AGGREGATE DENSE 3/4-INCH (TON)	ITEM 305.0120 BASE AGGREGATE DENSE 1 1/4-INCH (TON)	ITEM 305.0130 BASE AGGREGATE DENSE 3-INCH (TON)	ITEM 311.0110 BREAKER RUN (TON)	ITEM 415.0070 CONCRETE PAVEMENT 7-INCH (SY)	ITEM 415.5110.S CONCRETE PAVEMENT JOINT LAYOUT (LS)	ITEM 416.0160 CONCRETE DRIVEWAY 6-INCH (SY)	ITEM 416.1010 CONCRETE SURFACE DRAIN (CY)	ITEM 455.0605 TACK COAT (GAL)	ITEM 460.5224 HMA PAVEMENT 4 LT 58-28 S (TON)	ITEM 465.0120 ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES (TON)	ITEM 602.0405 CONCRETE SIDEWALK 4-INCH (SF)	ITEM 602.0505 CURB RAMP DETECTABLE WARNING FIELD YELLOW (SF)	ITEM 645.0220 GEOGRID TYPE SR (SY)	SPV.0090.01 CONCRETE CURB & GUTTER 24-INCH (LF)
BEGIN PROJECT BUTT JOINT	4	-	-	-	-	-	-	-	5	39	-	-	-	-	-
41+50 to 68+18	-	4440	2942	12055	10549	-	372	-	-	-	-	26151	40	4012	5276
PROJECT	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
VOGT DRIVE	-	53	-	-	155	-	-	-	-	-	-	-	40	-	18
SCHLOEMER ROAD	-	75	-	-	214	-	-	-	-	-	-	-	40	-	40
JULEN CIRCLE	-	211	-	-	552	-	-	-	-	-	-	-	40	-	350
DECORAH (EAST)	-	157	-	-	427	-	-	-	-	-	-	-	40	-	143
DECORAH (WEST)	2	101	-	-	275	-	-	1	5	26	-	-	40	-	158
DRIVEWAYS	4	124	-	-	-	-	-	-	-	-	74	-	-	-	-
UNDISTRIBUTED	2	259	148	603	244	-	8	-	1	2	2	524	-	201	106
TOTALS	**12**	**5420**	**3090**	**12658**	**12416**	**1**	**380**	**1**	**11**	**67**	**76**	**26675**	**240**	**4213**	**6091**

ALL ITEMS ON THIS PAGE ARE CATEGORY 0010

STORM SEWER PIPES

FROM	-	TO	608.0312 Storm Sewer Pipe Reinforced Concrete Class III 12-Inch LF	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	608.0336 Storm Sewer Pipe Reinforced Concrete Class III 36-Inch LF	608.0342 Storm Sewer Pipe Reinforced Concrete Class III 42-Inch LF	608.0348 Storm Sewer Pipe Reinforced Concrete Class III 48-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	608.0430 Storm Sewer Pipe Reinforced Concrete Class IV 30-Inch LF	608.2334 Storm Sewer Pipe Reinforced Concrete Horizontal Elliptical Class HE-III 34x53-Inch LF	608.2429 Storm Sewer Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 29x45-Inch LF	JOINT TIES* EACH	INLET ELEVATION	DISCHARGE ELEVATION	SLOPE FT/FT
105	-	100	-	-	-	-	-	-	-	-	-	-	-	-	-	31	3	979.93	979.87	0.0019
110	-	105	-	-	-	-	-	-	-	-	-	-	-	-	-	117	-	980.13	979.93	0.0017
111	-	110	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	982.33	982.05	0.0233
112	-	110	-	-	-	-	-	-	-	-	23	-	-	-	-	-	-	982.33	982.05	0.0122
115	-	110	-	-	-	-	-	-	-	-	-	-	-	200	-	-	-	983.38	980.80	0.0129
116	-	115	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	985.23	985.00	0.0192
117	-	115	-	-	-	-	-	-	-	-	23	-	-	-	-	-	-	985.23	985.00	0.0100
120	-	115	-	-	-	-	-	-	-	-	-	-	-	187	-	-	-	983.84	983.38	0.0025
121	-	120	-	-	-	-	-	-	-	-	13	-	-	-	-	-	-	985.47	985.09	0.0292
122	-	120	-	-	-	-	-	-	-	-	23	-	-	-	-	-	-	985.52	985.09	0.0187
125	-	120	-	-	-	-	-	-	-	-	-	-	108	-	-	-	-	984.56	984.34	0.0020
126	-	125	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-	985.36	985.31	0.0042
127	-	126	-	-	-	-	-	-	-	-	27	-	-	-	-	-	-	985.48	985.36	0.0044
128	-	125	-	-	-	-	-	-	-	-	23	-	-	-	-	-	-	985.46	985.31	0.0065
129	-	128	-	-	-	-	-	-	-	-	20	-	-	-	-	-	-	985.60	985.46	0.0070
130	-	127	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	986.51	985.73	0.0339
191	-	190	-	-	-	-	-	-	-	-	-	86	-	-	-	-	6	980.42	980.27	0.0017
193	-	192	-	-	-	-	-	-	-	-	-	85	-	-	-	-	6	980.42	980.27	0.0018
201	-	200	-	-	-	-	-	-	34	-	-	-	-	-	-	-	3	980.56	980.53	0.0009
226	-	225	-	-	-	-	-	-	-	-	19	-	-	-	-	-	3	980.93	980.84	0.0047
227	-	226	-	-	-	-	-	-	-	-	34	-	-	-	-	-	-	981.08	980.93	0.0044
301	-	300	12	-	-	-	-	-	-	-	-	-	-	-	-	-	3	978.83	978.78	0.0042
306	-	305	19	-	-	-	-	-	-	-	-	-	-	-	-	-	3	978.12	978.03	0.0047
310	-	309	-	-	14	-	-	-	-	-	-	-	-	-	-	-	3	975.45	975.40	0.0036
311	-	310	-	-	130	-	-	-	-	-	-	-	-	-	-	-	-	975.87	975.45	0.0032
314	-	311	-	-	-	-	-	-	-	-	58	-	-	-	-	-	3	976.06	975.87	0.0033
630	-	EX-8	-	-	-	-	-	-	-	-	95	-	-	-	-	-	-	969.45	969.15	0.0032
650	-	660	-	28	-	-	-	-	-	-	-	-	-	-	-	-	-	971.41	971.29	0.0043
652	-	650	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	972.93	971.66	0.0529
660	-	630	-	-	-	-	-	-	-	-	-	-	-	-	79	-	-	969.01	968.66	0.0044
661	-	660	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	972.64	972.55	0.0129
680	-	690	-	-	-	-	-	-	145	-	-	-	-	-	-	-	-	971.00	970.50	0.0034
681	-	680	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	973.87	973.75	0.0100
682	-	680	-	23	-	-	-	-	-	-	-	-	-	-	-	-	-	974.00	973.75	0.0109

* NON-BID ITEM: FOR INFORMATION ONLY

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STORM SEWER PIPES

FROM	-	TO	608.0312 Storm Sewer Pipe Reinforced Concrete Class III 12-Inch LF	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	608.0336 Storm Sewer Pipe Reinforced Concrete Class III 36-Inch LF	608.0342 Storm Sewer Pipe Reinforced Concrete Class III 42-Inch LF	608.0348 Storm Sewer Pipe Reinforced Concrete Class III 48-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	608.0430 Storm Sewer Pipe Reinforced Concrete Class IV 30-Inch LF	608.2334 Storm Sewer Pipe Reinforced Concrete Horizontal Elliptical Class HE-III 34x53-Inch LF	608.2429 Storm Sewer Pipe Reinforced Concrete Horizontal Elliptical Class HE-IV 29x45-Inch LF	JOINT TIES* EACH	INLET ELEVATION	DISCHARGE ELEVATION	SLOPE FT/FT
683	-	681	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	974.38	974.12	0.0104
690	-	700	-	-	-	-	-	-	116	-	-	-	-	-	-	-	-	970.50	970.10	0.0034
691	-	690	-	-	-	-	-	-	-	-	20	-	-	-	-	-	-	973.79	973.25	0.0270
692	-	691	-	-	-	-	-	-	-	50	-	-	-	-	-	-	-	974.54	974.04	0.0100
693	-	690	-	-	-	-	-	-	-	-	26	-	-	-	-	-	-	973.82	973.25	0.0219
694	-	693	-	-	-	-	-	-	-	51	-	-	-	-	-	-	-	974.61	974.07	0.0106
695	-	693	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	974.31	974.07	0.0100
700	-	660	-	-	-	-	-	62	-	-	-	-	-	-	-	-	-	970.10	969.80	0.0048
701	-	700	-	-	-	-	-	27	-	-	-	-	-	-	-	-	-	970.35	970.10	0.0093
710	-	700	-	-	-	-	-	-	79	-	-	-	-	-	-	-	-	970.50	970.10	0.0051
711	-	710	-	17	-	-	-	-	-	-	-	-	-	-	-	-	-	974.70	974.38	0.0188
712	-	710	-	31	-	-	-	-	-	-	-	-	-	-	-	-	-	974.70	974.38	0.0103
713	-	711	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	976.25	974.95	0.0591
720	-	710	-	-	-	-	-	-	200	-	-	-	-	-	-	-	-	977.33	971.33	0.0300
721	-	720	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	982.56	982.29	0.0225
722	-	720	-	23	-	-	-	-	-	-	-	-	-	-	-	-	-	982.56	982.29	0.0117
730	-	720	-	-	-	-	150	-	-	-	-	-	-	-	-	-	-	988.25	980.75	0.0500
731	-	730	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	992.24	992.01	0.0192
731	-	733	-	21	-	-	-	-	-	-	-	-	-	-	-	-	3	993.35	993.24	0.0052
732	-	730	-	23	-	-	-	-	-	-	-	-	-	-	-	-	-	992.24	992.01	0.0100
740	-	730	-	-	-	-	150	-	-	-	-	-	-	-	-	-	-	997.93	990.43	0.0500
741	-	740	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	1002.79	1002.56	0.0192
742	-	740	-	23	-	-	-	-	-	-	-	-	-	-	-	-	-	1002.79	1002.56	0.0100
750	-	740	-	-	-	150	-	-	-	-	-	-	-	-	-	-	-	1009.48	1001.98	0.0500
751	-	750	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	1012.91	1012.71	0.0100
752	-	750	-	26	-	-	-	-	-	-	-	-	-	-	-	-	-	1013.23	1012.71	0.0200
907	-	906	36	-	-	-	-	-	-	-	-	-	-	-	-	-	3	1021.84	1021.66	0.0050
908	-	907	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1022.03	1021.84	0.0053
909	-	908	-	-	-	-	-	-	-	45	-	-	-	-	-	-	-	1022.25	1022.03	0.0049
910	-	909	-	-	-	-	-	-	-	41	-	-	-	-	-	-	-	1022.46	1022.25	0.0051
911	-	910	-	-	-	-	-	-	-	40	-	-	-	-	-	-	-	1022.65	1022.46	0.0047
			221	**290**	**144**	**150**	**300**	**89**	**574**	**227**	**440**	**171**	**108**	**387**	**79**	**148**				

* NON-BID ITEM: FOR INFORMATION ONLY

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STORM SEWER STRUCTURES

STRUCTURE	STATION	OFFSET*	611.0612 Inlet Covers Type C EACH	611.0624 Inlet Covers Type H EACH	611.1004 Catch Basins 4-FT Diameter EACH	611.1006 Catch Basins 6-FT EACH	611.1230 Catch Basins 2x3-FT EACH	611.2004 Manholes 4-FT Diameter EACH	611.2005 Manholes 5-FT Diameter EACH	611.2006 Manholes 6-FT Diameter EACH	611.2007 Manholes 7-FT Diameter EACH	611.2008 Manholes 8-FT Diameter EACH	611.3004 Inlets 4-FT Diameter EACH	650.4000 + Construction Staking Storm Sewer EACH	SPV.0060.01 Field Catch Basin Type B EACH	SPV.0060.02 Orifice Plate Restrictor EACH	SPV.0060.03 Control Structure 311 EACH	SPV.0060.04 Control Structure 630 EACH	RIM ELEVATION	INVERT** ELEVATION	DEPTH*** FT
105	47+67	5.5' LT	1	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	985.17	979.93	4.37
110	46+50	5.5' LT	1	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	985.94	980.13	4.94
111	46+50	17' LT	-	1	-	-	1	-	-	-	-	-	-	1	-	-	-	-	985.58	980.33	4.25
112	46+50	17' RT	-	1	-	-	1	-	-	-	-	-	-	1	-	-	-	-	985.58	980.33	4.25
115	44+50	5.5' LT	1	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	989.59	983.38	5.26
116	44+50	17' LT	-	1	-	-	1	-	-	-	-	-	-	1	-	-	-	-	989.23	983.23	5.00
117	44+50	17' RT	-	1	-	-	1	-	-	-	-	-	-	1	-	-	-	-	989.23	983.23	5.00
120	42+63	5.5' LT	1	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	989.39	983.84	4.60
121	42+58	17' LT	-	1	-	-	1	-	-	-	-	-	-	1	-	-	-	-	988.97	983.47	4.50
122	42+63	17' RT	-	1	-	-	1	-	-	-	-	-	-	1	-	-	-	-	989.02	983.52	4.50
125	41+55	5.5' LT	1	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	989.09	984.56	3.54
126	41+55	17' LT	-	1	1	-	-	-	-	-	-	-	-	1	-	-	-	-	988.77	983.36	4.41
127	41+82	17' LT	-	1	1	-	-	-	-	-	-	-	-	1	-	-	-	-	988.60	983.48	4.12
128	41+55	17' RT	-	1	-	-	-	-	-	-	-	-	1	1	-	-	-	-	988.77	983.46	4.31
129	41+75	17' RT	-	1	-	-	1	-	-	-	-	-	-	1	-	-	-	-	988.60	983.60	4.00
130	41+82	40' LT	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	988.51	984.51	4.00
201	47+00	33.1' RT	1	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	986.05	980.56	4.83
226	48+25	17' LT	-	1	1	-	-	-	-	-	-	-	-	1	-	-	-	-	984.32	978.93	4.39
227	48+25	17' RT	-	1	-	-	1	-	-	-	-	-	-	1	-	-	-	-	984.32	979.08	4.24
301	52+20	17' LT	-	1	-	-	1	-	-	-	-	-	-	1	-	-	-	-	980.86	976.83	3.03
306	52+20	17' RT	-	1	-	-	1	-	-	-	-	-	-	1	-	-	-	-	980.86	976.12	3.75
310	56+10	22' LT	1	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	978.94	975.45	2.45
311	54+80	22' LT	1	-	1	-	-	-	-	-	-	-	-	1	-	-	1	-	979.82	973.87	4.71
630	57+74	135.5' LT	1	-	-	-	-	-	-	-	1	-	-	1	-	-	-	1	975.00	967.45	6.31
650	58+01	56' LT	-	1	1	-	-	-	-	-	-	-	-	1	-	-	-	-	977.21	971.41	4.80
652	58+25	55.6' LT	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	974.93	970.93	4.00
660	57+72	56.5' LT	1	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-	977.47	969.01	7.64
661	57+66	56.6' LT	-	1	-	-	1	-	-	-	-	-	-	1	-	-	-	-	977.21	972.64	3.57
680	55+10	5.5' RT	1	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	979.26	971.00	7.44
681	55+10	17' RT	-	1	-	-	1	-	-	-	-	-	-	1	-	-	-	-	978.90	971.87	6.03
682	55+10	17' LT	-	1	-	-	1	-	-	-	-	-	-	1	-	-	-	-	978.90	972.00	5.90
683	55+10	41.8' RT	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	976.38	972.38	4.00
690	56+55	5.5' RT	1	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	978.28	970.50	6.95
691	56+55	26' RT	-	1	1	-	-	-	-	-	-	-	-	1	-	-	-	-	977.73	973.79	2.94
692	57+05	26' RT	-	1	-	-	1	-	-	-	-	-	-	1	-	-	-	-	977.54	974.54	2.00
693	56+69	17' LT	-	1	1	-	-	-	-	-	-	-	-	1	-	-	-	-	977.82	973.82	3.00
694	57+20	23.1' LT	-	1	-	-	1	-	-	-	-	-	-	1	-	-	-	-	977.61	974.61	2.00
695	56+70	41.4' LT	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	976.45	972.45	4.00
700	57+71	5.5' RT	1	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	978.42	970.10	7.46
701	57+71	33' RT	1	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	977.98	970.35	6.77
710	58+50	5.5' RT	1	-	-	1	-	-	-	-	-	-	-	1	-	1	-	-	979.73	968.50	9.99
711	58+50	22.6' RT	-	1	1	-	-	-	-	-	-	-	-	1	-	-	-	-	979.24	972.70	5.54
712	58+50	26' LT	-	1	-	-	1	-	-	-	-	-	-	1	-	-	-	-	979.17	972.70	5.47
713	58+50	44.8' RT	1	-	1	-	-	-	-	-	-	-	-	1	1	-	-	-	978.25	974.25	4.00
720	60+50	5.5' RT	1	-	-	1	-	-	-	-	-	-	-	1	-	1	-	-	987.35	975.33	10.78
721	60+50	17' RT	-	1	-	-	1	-	-	-	-	-	-	1	-	-	-	-	986.98	980.56	5.42
722	60+50	17' LT	-	1	-	-	1	-	-	-	-	-	-	1	-	-	-	-	986.98	980.56	5.42
730	62+00	5.5' RT	1	-	-	1	-	-	-	-	-	-	-	1	-	1	-	-	997.02	986.25	9.53
731	62+00	17' RT	-	1	-	-	1	-	-	-	-	-	-	1	-	-	-	-	996.66	990.24	5.42
732	62+00	17' LT	-	1	-	-	1	-	-	-	-	-	-	1	-	-	-	-	996.66	990.24	5.42
740	63+50	5.5' RT	1	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	1007.57	997.93	8.74

REMARKS
* STATIONS AND OFFSETS ARE TO CENTER OF STRUCTURE
** FOR STRUCTURES WITH SUMPS, THE INVERT ELEVATION IS THE ELEVATION OF THE SUMP. FOR STRUCTURES WITHOUT SUMPS, THE INVERT ELEVATION IS THE ELEVATION OF THE LOWEST PIPE FLOW LINE
*** DEPTH = RIM ELEV - TOP OF STRUCTURE BASE ELEV - COVER HEIGHT - 4 -INCH ADJUSTMENT RING HEIGHT
+ ADDITIONAL QUANTITY SHOWN ELSEWHERE

ALL ITEMS ON THIS PAGE ARE CATEGORY 0010

STORM SEWER STRUCTURES

STRUCTURE	STATION	OFFSET*	611.0612 Inlet Covers Type C EACH	611.0624 Inlet Covers Type H EACH	611.1004 Catch Basins 4-FT Diameter EACH	611.1006 Catch Basins 6-FT EACH	611.1230 Catch Basins 2x3-FT EACH	611.2004 Manholes 4-FT Diameter EACH	611.2005 Manholes 5-FT Diameter EACH	611.2006 Manholes 6-FT Diameter EACH	611.2007 Manholes 7-FT Diameter EACH	611.2008 Manholes 8-FT Diameter EACH	611.3004 Inlets 4-FT Diameter EACH	650.4000 + Construction Staking Storm Sewer EACH	SPV.0060.01 Field Catch Basin Type B EACH	SPV.0060.02 Orifice Plate Restrictor EACH	SPV.0060.03 Control Structure 311 EACH	SPV.0060.04 Control Structure 630 EACH	RIM ELEVATION	INVERT** ELEVATION	DEPTH*** FT
741	63+50	17' RT	-	1	-	-	1	-	-	-	-	-	-	1	-	-	-	-	1007.21	1000.79	5.42
742	63+50	17' LT	-	1	-	-	1	-	-	-	-	-	-	1	-	-	-	-	1007.21	1000.79	5.42
750	65+00	5.5' RT	1	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	1017.87	1009.48	7.40
751	65+00	26' RT	-	1	-	-	1	-	-	-	-	-	-	1	-	-	-	-	1017.33	1010.91	5.42
752	65+13	17' LT	-	1	-	-	1	-	-	-	-	-	-	1	-	-	-	-	1018.27	1011.23	6.04
907	67+64	49.3' LT	-	1	1	-	-	-	-	-	-	-	-	1	-	-	-	-	1025.11	1019.84	4.27
908	67+89	22.5' LT	-	1	1	-	-	-	-	-	-	-	-	1	-	-	-	-	1025.94	1020.03	4.91
909	67+94	22.4' RT	-	1	1	-	-	-	-	-	-	-	-	1	-	-	-	-	1025.93	1020.25	4.68
910	67+62	47.8' RT	-	1	1	-	-	-	-	-	-	-	-	1	-	-	-	-	1026.76	1020.46	5.30
911	67+22	52.8' RT	-	1	-	-	1	-	-	-	-	-	-	1	-	-	-	-	1026.65	1020.65	4.99
			20	**37**	**13**	**3**	**25**	**1**	**4**	**7**	**2**	**1**	**1**	**61**	**5**	**3**	**1**	**1**			

REMARKS
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** FOR STRUCTURES WITH SUMPS, THE INVERT ELEVATION IS THE ELEVATION OF THE SUMP. FOR STRUCTURES WITHOUT SUMPS, THE INVERT ELEVATION IS THE ELEVATION OF THE LOWEST PIPE FLOW LINE
*** DEPTH = RIM ELEV - TOP OF STRUCTURE BASE ELEV - COVER HEIGHT - 4 -INCH ADJUSTMENT RING HEIGHT
+ ADDITIONAL QUANTITY SHOWN ELSEWHERE

APRON ENDWALLS

STRUCTURE	STATION	OFFSET*	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	522.1048 Apron Endwalls for Culvert Pipe Reinforced Concrete 48-Inch EACH	522.2629 Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 29x45-Inch EACH	650.4000 + Construction Staking Storm Sewer EACH	INVERT** ELEVATION
100	47+82	32.2' LT	-	-	-	-	1	1	983.33
190	47+96	33.6' LT	-	-	1	-	-	1	981.98
191	47+54	41.3' RT	-	-	1	-	-	1	982.13
192	48+01	33.1' LT	-	-	1	-	-	1	981.98
193	47+59	41.1' RT	-	-	1	-	-	1	982.13
200	47+32	44.9' RT	-	-	-	1	-	1	984.94
225	48+14	33.2' LT	-	1	-	-	-	1	982.28
300	52+20	29.0' LT	1	-	-	-	-	1	979.95
305	52+20	35.8' RT	1	-	-	-	-	1	979.20
309	56+10	36.2' LT	-	-	1	-	-	1	977.11
314	54+80	36.0' RT	-	1	-	-	-	1	977.52
733	62+00	38.5' RT	-	1	-	-	-	1	994.68
906	67+68	85.5' LT	1	-	-	-	-	1	1022.83
			3	**3**	**5**	**1**	**1**	**13**	

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+ ADDITIONAL QUANTITY SHOWN ELSEWHERE

ALL ITEMS ON THIS PAGE ARE CATEGORY 0010

RECONSTRUCT & ADJUSTS

STA	OFF		CATEGORY	ITEM 611.0420 RECONSTRUCTING MANHOLES CATEGORY 10 (EACH)	ITEM 611.0430 RECONSTRUCTING INLETS CATEGORY 10 (EACH)	ITEM 611.8100 ADJUSTING MANHOLE COVERS CATEGORY 10 (EACH)	ITEM 611.8115 ADJSUTING INLET COVERS CATEGORY 10 (EACH)	SPV.0060.05 ADJUSTING WATER VALVE CATEGORY 20 (EACH)	SPV.0060.06 RECONSTRUCTING SANITARY MANHOLE CATEGORY 20 (EACH)	SPV.0060.07 ADJUSTING SANITARY MANHOLE COVERS CATEGORY 20 (EACH)
42+09	31.1	RT	10	-	-	1	-	-	-	-
42+20	0.8	LT	20	-	-	-	-	-	-	1
45+21	33.2	RT	10	1	-	-	-	-	-	-
46+02	0.9	RT	20	-	-	-	-	-	1	-
50+02	1.0	RT	20	-	-	-	-	-	-	1
53+82	1.1	RT	20	-	-	-	-	-	-	1
57+82	0.5	RT	20	-	-	-	-	-	-	1
57+92	8.0'	LT	20	-	-	-	-	1	-	-
57+94	51.7'	LT	20	-	-	-	-	1	-	-
57+90	23.3'	RT	20	-	-	-	-	1	-	-
58+04	68.5'	LT	20	-	-	-	-	1	-	-
58+26	86.7'	RT	10	-	-	-	1	-	-	-
58+00	61.8'	RT	10	-	1	-	-	-	-	-
61+75	0.0'		20	-	-	-	-	-	1	-
62+61	10.4'	LT	20	-	-	-	-	1	-	-
62+66	8.0'	LT	20	-	-	-	-	1	-	-
65+75	0.0'		20	-	-	-	-	-	1	-
67+44	0.9'	LT	20	-	-	-	-	-	1	-
67+46	15.1'	LT	20	-	-	-	-	1	-	-
67+57	48.1'	RT	20	-	-	-	-	1	-	-
67+58	48.5'	LT	20	-	-	-	-	1	-	-
TOTALS				**1**	**1**	**1**	**1**	**9**	**4**	**4**

PAVEMENT MARKING

LOCATION			CENTER LINE (DBL YELLOW) (LF)	ITEM 646.1020 MARKING LINE EPOXY 4-INCH EDGE LINES (WHITE) (LF)	3' LINE/9' GAP (WHITE) (LF)	ITEM 646.3020 MARKING LINE EPOXY 8-INCH (WHITE) (LF)	3' LINE/9' GAP (WHITE) (LF)	ITEM 646.5020 MARKING ARROW EPOXY (EACH)	ITEM 646.5220 MARKING SYMBOL EPOXY (EACH)	ITEM 646.6020 MARKING STOP LINE EPOXY 12-INCH (WHITE) (LF)	ITEM 646.7420 MARKING CROSSWALK EPOXY TRANSVERSE LINE 6-INCH (WHITE) (LF)	COMMENTS
40+86	to	41+78	184	56	-	-	-	-	-	-	-	
41+78	to	42+60	-	82	-	-	-	-	-	-	-	
42+60	to	57+45	2970	2823	37	158	18	-	-	-	-	
58+19	to	67+00	1762	1477	71	356	36	-	-	-	-	
67+88	to	68+19	62	-	-	-	-	-	-	-	-	
VOGT DRIVE			-	-	-	-	-	-	-	12	81	
ROLFS PARK			-	-	-	-	-	-	-	12	-	
SCHLOEMER DRIVE			-	-	-	-	-	-	-	12	89	
JULIEN DRIVE			-	-	-	-	-	-	-	12	81	
W. DECORAH DRIVE			146	-	-	-	-	-	-	24	154	
18TH AVE			-	-	-	-	-	8	8	24	195	
TOTALS				**9669**		**568**		**8**	**8**	**96**	**600**	

ALL ITEMS ON THIS PAGE ARE CATEGORY 0010
UNLESS OTHERWISE SHOWN

PERMANENT SIGNING

STA	SIGN NO.	SIGN CODE	SIGN TYPE	SIGN MESSAGE	TYPE II SIGN SIZE		ITEM 637.2210 SIGNS TYPE II REFLECTIVE H	ITEM 638.2102 MOVING SIGNS TYPE II	ITEM 638.2602 REMOVING SIGNS TYPE II	ITEM 638.3000 REMOVING SMALL SIGN SUPPORTS	SPV.0060.08 V-LOC SOCKET SYSTEM	SPV.0060.09 SIGN POST 10-FT	SPV.0060.10 SIGN POST 12-FT
					W [IN.]	H [IN.]	[SF]	(EA)	[EA]	[EA]	[EA]	[EA]	[EA]
42+05 LT	01-01	R1-1	II	STOP	30	30	5.18	-	-	-	1	-	1
42+05 LT	01-02(R)	R1-1	II	STOP	30	30	-	-	1	1	-	-	-
42+41 RT	01-03*	R1-1	II	STOP	30	30	5.18	2	-	-	1	-	1
42+41 RT	01-04(R)	R1-1	II	STOP	30	30	-	-	1	1	-	-	-
43+60 LT	01-05	R7-1D	II	NO PARKING ANYTIME	18	24	3.00	-	-	-	1	1	-
44+35 RT	01-06	R7-1D	II	NO PARKING ANYTIME	18	24	3.00	-	-	-	1	1	-
44+59 RT	01-07(R)	R7-1D	II	NO PARKING ANYTIME	18	24	-	-	1	1	-	-	-
49+22 RT	01-08	R2-1	II	SPEED LIMIT 35	24	30	5.00	-	-	-	1	-	1
49+70 RT	01-09(R)	R2-1	II	SPEED LIMIT 35	24	30	-	-	1	1	-	-	-
53+50 RT	02-10	R7-1D	II	NO PARKING ANYTIME	18	24	3.00	-	-	-	1	1	-
53+50 LT	02-11	R7-1D	II	NO PARKING ANYTIME	18	24	3.00	-	-	-	1	1	-
55+62 LT	02-12(R)	R7-1D	II	NO PARKING ANYTIME	18	24	-	-	1	1	-	-	-
57+56 LT	02-13*	R1-1	II	STOP	30	30	5.18	2	-	-	1	-	1
57+56 LT	02-14(R)	R1-1	II	STOP	30	30	-	-	1	1	-	-	-
55+15 RT	02-15	R3-7R	II	RIGHT LANE MUST TURN RIGHT	30	30	6.25	-	-	-	1	-	1
58+07 RT	02-16*	R1-1	II	STOP	30	30	5.18	1	-	-	1	-	1
58+07 RT	02-17(R)	R1-1	II	STOP	30	30	-	-	1	1	-	-	-
60+48 LT	02-18	R3-7R	II	RIGHT LANE MUST TURN RIGHT	30	30	6.25	-	-	-	1	-	1
63+75 RT	02-19	R7-1D	II	NO PARKING ANYTIME	18	24	3.00	-	-	-	1	1	
63+75 LT	02-20	R7-1D	II	NO PARKING ANYTIME	18	24	3.00	-	-	-	1	1	-
65+18 LT	03-21(R)	R7-1D(R)	II	NO PARKING ANYTIME	18	24	-	-	1	1	-	-	-
65+63 LT	03-22(R)	R2-1	II	SPEED LIMIT 35	24	30	-	-	1	1	-	-	-
65+65 LT	03-23	R2-1	II	SPEED LIMIT 35	24	30	5.00	-	-	-	1	-	1
67+25 LT	03-24	R1-1	II	STOP	30	30	5.18	-	-	-	1	-	1
	03-25	R1-3P	II	ALL WAY	18	6	0.75	-	-	-	-	-	-
67+25 LT	03-26(R)	R1-1	II	STOP	30	30	-	-	1	1	-	-	-
67+88 LT	03-27	R1-1	II	STOP	30	30	5.18	-	-	-	1	-	1
	03-28	R1-3P	II	ALL WAY	18	6	0.75	-	-	-	-	-	-
67+88 LT	03-29(R)	R1-1	II	STOP	30	30	-	-	1	1	-	-	-
67+00 RT	03-30(R)	R1-1	II	STOP	30	30	-	-	1	1	-	-	-
67+00 RT	03-31	R1-1	II	STOP	30	30	5.18	-	-	-	1	-	1
	03-32	R1-3P	II	ALL WAY	18	6	0.75	-	-	-	-	-	-
67+65 RT	03-33	R1-1	II	STOP	30	30	5.18	2	-	-	1	-	1
	03-34	R1-3P	II	ALL WAY	18	6	0.75	-	-	-	-	-	-
67+65 RT	03-35(R)	R1-1	II	STOP	30	30	-	-	1	1	-	-	-
64+26 RT	03-36	R3-7R	II	RIGHT LANE MUST TURN RIGHT	30	30	6.25	-	-	-	1	-	1
					TOTALS		**92**	**7**	**13**	**13**	**19**	**6**	**13**

***MOVING SIGNS FOR EXISTING STREET NAME SIGNS FROM EXISTING SIGN TO BE REMOVED**

(R) DENOTES SIGN REMOVAL

ALL ITEMS ON THIS PAGE ARE CATEGORY 0010

3

3

TRAFFIC CONTROL

STAGE	DURATION CALANDAR DAYS	ITEM 643.0420 TRAFFIC CONTROL BARRICADES TYPE III #	(DAYS)	ITEM 643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A #	(DAYS)	ITEM 643.0900 TRAFFIC CONTROL SIGNS #	(DAYS)	ITEM 643.1000 TRAFFIC CONTROL SIGNS FIXED MESSAGE (SF)	COMMENTS
PROJECT	176	*18*	*3168*	*24*	*4224*	*6*	*1056*	*36*	
DETOUR	176	*4*	*704*	-	-	*34*	*5984*	-	
UNDISTRIBUTED			-		-		-	-	
TOTALS		**3,872**		**4,224**		**7,040**		**36**	

TEMPORARY PEDESTRIAN ACCOMODATIONS

LOCATION	ITEM 644.1420.S TEMPORARY PEDESTRIAN SURFACE PLYWOOD (SF)	ITEM 644.1601.S TEMPORARY CURB RAMP (EACH)	COMMENTS
PROJECT	500	4	
TOTALS	**500**	**4**	

RESTORATION

LOCATION	SQ FT	ITEM 624.0100 WATER (MGAL)	ITEM 625.0100 TOPSOIL (SY)	ITEM 627.0200 MULCHING (SY)	ITEM 629.0205 FERTILIZER TYPE A (CWT)	ITEM 630.0140 SEEDING MIXTURE NO. 40 (LBS)	ITEM 630.0200 SEEDING TEMPORARY (LBS)	ITEM 631.0300 SOD WATER (MGAL)	ITEM 631.1000 SOD LAWN (SY)
40+86 to 68+19	95631	20	10626	-	5.9	168	287	75	3165
UNDISTRIBUTED		109	-	500	1.5	42	72	10	159
TOTALS		**129**	**10626**	**500**	**7.4**	**210**	**359**	**85**	**3324**

RIPRAP

	ITEM 606.0100 RIPRAP LIGHT (CY)	ITEM 606.0200 RIPRAP MEDIUM (CY)	ITEM 645.0120 GEOTEXTILE TYPE HR (SY)	ITEM 645.0130 GEOTEXTILE TYPE R (SY)
47+32 RT	-	43	51	-
47+90 LT	8	-	-	12
54+75 RT	-	19	22	-
56+10 LT	4	-	-	6
UNDISTRIBUTED	3	8	9	4
TOTALS	**15**	**70**	**82**	**22**

EROSION CONTROL

LOCATION	SQ FT	ITEM 616.0700.S SAFETY FENCE (LF)	ITEM 628.1104 EROSION BALES (EACH)	ITEM 628.1504 SILT FENCE (LF)	ITEM 628.1520 SILT FENCE MAINTENANCE (LF)	ITEM 628.1905 MOBILIZATIONS EROSION CONTROL (EACH)	ITEM 628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL (EACH)	ITEM 628.2008 EROSION MAT URBAN CLASS I TYPE B (SY)	ITEM 628.7005 INLET PROTECTION TYPE A (EACH)	ITEM 628.7015 INLET PROTECTION TYPE C (EACH)	ITEM 628.7504 TEMPORARY DITCH CHECKS (LF)	ITEM 628.7515.S ROCK DITCH CHECK (CY)	ITEM 628.7555 CULVERT PIPE CHECKS (EACH)	ITEM 628.7560 TRACKING PADS (EACH)	ITEM 628.7570 ROCK BAGS (EACH)
40+86 to 68+19	95631	255	16	2403	2403	-	-	7461	9	43	160	44	2	-	48
UNDISTRIBUTED		64	10	601	601	4	3	1866	2	9	40	5	2	2	12
TOTALS		**319**	**26**	**3004**	**3004**	**4**	**3**	**9327**	**11**	**52**	**200**	**49**	**4**	**2**	**60**

CONSTRUCTION STAKING

LOCATION	ITEM 650.4500 CONSTRUCTION STAKING SUBGRADE (LF)	ITEM 650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER (LF)	ITEM 650.7000 CONSTRUCTION STAKING CONCRETE PAVEMENT (LF)	ITEM 650.9000 CONSTRUCTION STAKING CURB RAMPS (EACH)	ITEM 650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL (PROJECT) (LS)	ITEM 650.9920 CONSTRUCTION STAKING SLOPE STAKES (LF)	SPV.0090.02 CONSTRUCTION STAKING CONCRETE SIDEWALK (LF)	COMMENTS
PROJECT	2733	6091	2733	24	1	5466	5335	
UNDISTRIBUTED	13	-	-	-	-	26	-	
TOTALS	**2746**	**6091**	**2733**	**24**	**1**	**5492**	**5335**	

SAWING

LOCATION	ITEM 690.0150 SAWING ASPHALT (LF)	ITEM 690.0250 SAWING CONCRETE (LF)
41+50 to 68+18	373	83
UNDISTRIBUTED	19	5
TOTALS	**392**	**88**

ALL ITEMS ON THIS PAGE ARE CATEGORY 0010

R/W PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
2707-00-29	4.01	4
FEDERAL PROJECT NUMBER: N/A		

PLAT OF RIGHT-OF-WAY REQUIRED FOR

18TH AVENUE

FROM VOGT DRIVE TO DECORAH ROAD, CITY OF WEST BEND

CONSTRUCTION PROJECT NUMBER: 2707-00-79

4

CONVENTIONAL ABBREVIATIONS

ACCESS POINT	AP	RELEASE OF RIGHTS	ROR
ACCESS RIGHTS	AR	REMAINING	REM.
ACRES	AC.	RIGHT-OF-WAY	R/W
AND OTHERS	ET.AL.	SECTION	SEC.
CENTERLINE	C/L	STATION	STA.
CERTIFIED SURVEY MAP	CSM	TEMPORARY LIMITED EASEMENT	TLE
CORNER	COR.	VOLUME	V.
DOCUMENT	DOC.		
EASEMENT	EASE.		
HIGHWAY EASEMENT	H.E.		
LAND CONTRACT	LC		
MONUMENT	MON.		
PAGE	P.		
PERMANENT LIMITED EASEMENT	PLE		
PROPERTY LINE	PL		
RECORDED AS	(100')		
REFERENCE LINE	R/L		

CURVE DATA

LONG CHORD	LCH
LONG CHORD BEARING	LCB
RADIUS	R
DEGREE OF CURVE	D
CENTRAL ANGLE OR DELTA	DELTA
LENGTH OF CURVE	L
TANGENT	TAN

CONVENTIONAL SYMBOLS

FOUND IRON PIPE/PIN	LP (1" UNLESS NOTED)	PROPOSED R/W LINE	
		EXISTING H.E. LINE	
R/W MONUMENT	○ ●(SET)	PROPERTY LINE	
R/W STANDARD	△ ▲(SET)	LOT & TIE LINES	
SIGN	SIGN	SLOPE INTERCEPTS	
SECTION CORNER MONUMENT	⊕	CORPORATE LIMITS	
SECTION CORNER SYMBOL		NO ACCESS (BY PREVIOUS ACQUISITION/CONTROL)	
FEE (HATCH VARIES)		NO ACCESS (BY ACQUISTION)	
TEMPORARY LIMITED EASEMENT		NO ACCESS (BY STATUTORY AUTHORITY)	
PERMANENT LIMITED EASEMENT		SECTION LINE	
R/W BOUNDARY POINT	RWB20	QUARTER LINE	
PARCEL NUMBER	02	SIXTEENTH LINE	
SIGN NUMBER (OFF PREMISE)	21	EXISTING CENTERLINE	
BUILDING		PROPOSED REFERENCE LINE	
		PARALLEL OFFSET	

CONVENTIONAL UTILITY SYMBOLS

		NON COMPENSABLE	COMPENSABLE
WATER	W		
GAS	G		
TELEPHONE	T		
OVERHEAD TRANSMISSION LINES	OH		
ELECTRIC	E		
CABLE TELEVISION	TV		
FIBER OPTIC	FO		
SANITARY SEWER	SAN		
STORM SEWER	SS		
POWER POLE		○	●
TELEPHONE POLE		⌀	⌀
TELEPHONE PEDESTAL		⌧	⌧
ELECTRIC TOWER		⊠	

NOTES:

COORDINATES AND BEARINGS ON THIS PLAT ARE ORIENTED TO THE WISCONSIN COUNTY COORDINATE SYSTEM, WASHINGTON COUNTY.

RIGHT OF WAY MONUMENTS ARE TYPE 2 AND ARE PLACED PRIOR TO OR AT THE TIME OF LAND TRANSFER, BY CITY OF WEST BEND.

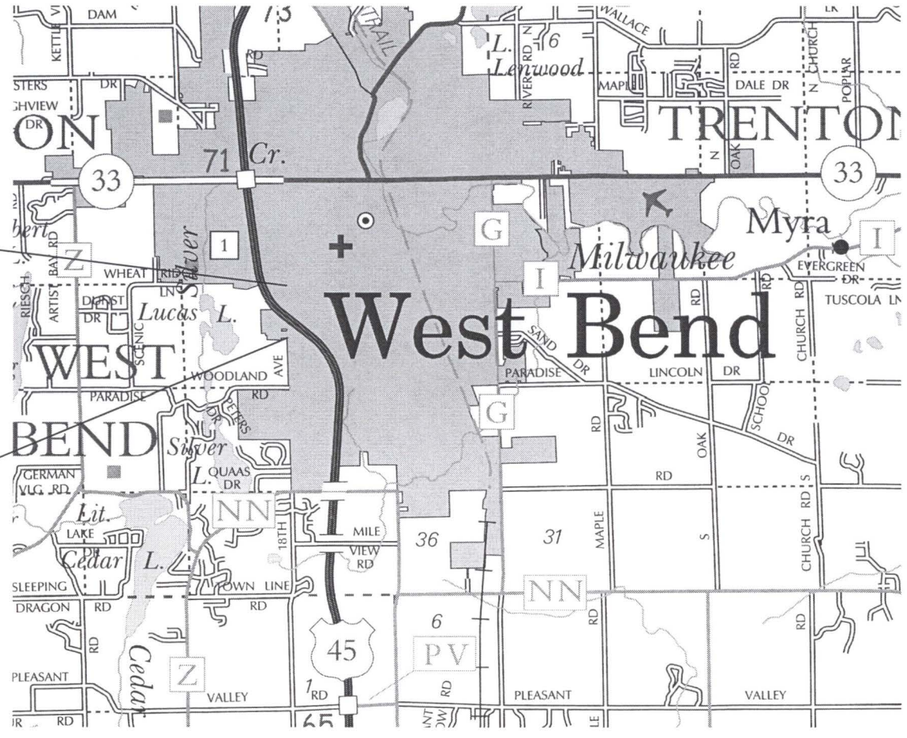
RIGHT-OF-WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS REFERENCED TO THE U.S. PUBLIC LAND SURVEY SYSTEM OR OTHER SURVEYS OF PUBLIC RECORD.

A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION 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 NECESSARY OR DESIRABLE, BUT WITHOUT PREJUDICE TO THE OWNER'S RIGHT TO MAKE OR CONSTRUCT IMPROVEMENT ON SAID LANDS OR TO FLATTEN THE SLOPES, PROVIDING SAID ACTIVITIES WILL NOT IMPAIR OR OTHERWISE ADVERSELY AFFECT THE HIGHWAY FACILITIES.

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 NECESSARY OR DESIRABLE, BUT WITHOUT PREJUDICE TO THE OWNER'S RIGHT TO MAKE OR CONSTRUCT IMPROVEMENT ON SAID LANDS OR TO FLATTEN THE SLOPES, PROVIDING SAID ACTIVITIES WILL NOT IMPAIR OR OTHERWISE ADVERSELY AFFECT THE HIGHWAY FACILITIES.

END RELOCATION ORDER
139.62 FEET NORTH
AND 0.32 FEET EAST
OF THE NORTHWEST
CORNER OF SEC. 23
T11N R19E

BEGIN RELOCATION ORDER
73.36 FEET SOUTH AND
0.54 FEET EAST OF THE
WEST CORNER OF SEC.
23 T11N R19E



R 19 E R 20 E

T 11 N

GN

LAYOUT
SCALE 0 1 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.546 MI.

WISCONSIN
BAIBA M. ROZITE
S-2351
MILWAUKEE, WI
LAND SURVEYOR

DATE: 1-27-17
BAIBA M. ROZITE, PLS

REVISION DATE	CITY OF WEST BEND DEPARTMENT OF PUBLIC WORKS
	APPROVED FOR HIGHWAY PURPOSES DATE: 2/23/17 Douglas Neumann DIRECTOR OF PUBLIC WORKS

E

PLOT DATE: 1/27/2017 PLOT BY : ---- PLOT NAME : ---- PLOT SCALE: 0.9992

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 BEING ACQUIRED.

4

PARCEL NUMBER	SHEET NUMBER	OWNER(S)	TAX KEY NO.	INTEREST REQUIRED	PARCEL AREA ACRES	T.L.E. AREA REQUIRED ACRES	P.L.E. AREA REQUIRED ACRES	R/W AREA REQUIRED NEW ACRES	R/W AREA REQUIRED EXISTING ACRES	R/W AREA REQUIRED TOTAL ACRES	PARCEL NUMBER
1	4.03	GREGORY G. AND DAWN WIESNER	1119-233-2011	T.L.E.	0.48	0.005	--	--	--	--	1
		GRANT K. BAEHMAN, WALTER & KATHLEEN BAEHMAN	1119-233-2012	T.L.E.			--	--	--	--	
2	4.03	CHANDRA M. SCHUBRING, ET. AL. (CONDO)	1119-232-1011 TO 1036	T.L.E.	2.00	0.005	--	--	--	--	2
3	4.03	JAMES CIBOROSKY	T13-0380-500	FEE, T.L.E.	0.73	0.005	--	0.058	0.057	0.115	3
4	4.04 & 4.05	FRIENDS OF ABUSED FAMILIES INC.	1119-221-0101	T.L.E.	0.98	0.010	--	--	--	--	4
5	4.05	ROBERT G AND CYNTHIA ROECKER	1119-221-0102	T.L.E.	0.33	0.013	--	--	--	--	5
6	4.05	JOHN C. AND CHARLENE PEDERSEN	1119-221-0127	P.L.E., T.L.E.	0.43	0.069	0.005	--	--	--	6
7	4.05	JAMES BOSWELL	1119-221-0128	T.L.E.	0.38	0.038	--	--	--	--	7
8	4.05	THOMAS FLASCH	1119-221-0129	T.L.E.	0.38	0.028	--	--	--	--	8
9	4.05 & 4.06	JEFFREY D AND SHELLY E YODER	1119-221-0010	FEE, T.L.E.	0.34	0.020	--	0.058	0.057	0.115	9
10	4.06	ANTHONY J AND MARY SUE BLOEMER	1119-221-0009	FEE, T.L.E.	0.39	0.007	--	0.087	0.085	0.172	10
11	4.06	CHAD AND KOREN WAWRZYN	1119-221-0008	FEE, T.L.E.	0.34	0.029	--	0.058	0.057	0.115	11
12	4.06	NANCY GOSCHEY	1119-221-0007	FEE	0.34	--	--	0.058	0.057	0.115	12
13	4.06	MITCHEL GUTBROD/MAXWELL GUTBROD	1119-221-0006	FEE, T.L.E.	0.37	0.003	--	0.058	0.095	0.153	13
							--	--	--	--	15
15	4.06	JAMES CARLSON	1119-143-0110	T.L.E.	0.33	0.004					
16	4.06	JILL M SMITH/KEITH A BORZICK	1119-232-0508	T.L.E.	0.72	0.003	--	--	--	--	16
18	4.06	LARRY W AND CHRISTINE A OETZEL	1119-232-0506	T.L.E.	0.39	0.015	--	--	--	--	18
19	4.05 & 4.06	TODD AND CHERYL WOLFF	1119-232-0505	T.L.E.	0.30	0.013	--	--	--	--	19
20	4.05	ROBERT J AND ERICA H STOLTZ	1119-232-0504	T.L.E.	0.26	0.009	--	--	--	--	20
21	4.05	CHRISTOPHER M. & ANGELA S. MARTINEZ	1119-232-0503	T.L.E.	0.26	0.009	--	--	--	--	21
23	4.05	TOM AND PATTY KREBS	1119-232-0501	T.L.E.	0.34	0.018	--	--	--	--	23
24	4.04 & 4.05	CITY OF WEST BEND	1119-232-0570	T.L.E.	4.28	0.038	--	--	--	--	24
40	4.03	WE ENERGIES (GAS)		CONVEYANCE OF RIGHTS							40
41	4.03	A T & T (TELEPHONE)		CONVEYANCE OF RIGHTS							41
42	4.03	CHARTER COMMUNICATIONS (TV)		CONVEYANCE OF RIGHTS							42
43	4.05	CITY OF WEST BEND (STORM SEWER)		CONVEYANCE OF RIGHTS							43
44	4.06	A T & T (LOCAL/FIBER OPTIC)		CONVEYANCE OF RIGHTS							44

	DATE:		HWY: 18TH AVENUE	R/W PROJECT NO. 2707-00-29	PLAT SHEET NO: 4.02	
			COUNTY: WASHINGTON	CONSTRUCTION PROJECT NO. 2707-00-79		E

FILE NAME : $$....designfile....$$ PLOT DATE: 1/27/2017 PLOT BY : ----- PLOT NAME : ----- PLOT SCALE: 0.9992

4

1/4 SECTION LINE N88° 50' 37"W

BEGIN RELOCATION ORDER
STA. 40+00.00
Y 177545.57
X 357552.91

BP: 40+00.00

PI: 40+73.36

T 11 N
R 19 E
22 23

SECTION LINE = R/L

41+00 42+00 43+00 44+00 45+00 46+00 47+00

18TH AVE.

P.L.

50'

CORPORATE LIMITS TOWN OF WEST BEND
CITY OF WEST BEND

CORPORATE LIMITS CITY OF WEST BEND
TOWN OF WEST BEND

GN

SE - NE

41 A T & T
DOC 252149 100' WIDE TO C/L

40 WE ENERGIES (GAS)
DOC 466987 15.25' WIDE

SLOPE INTERCEPTS

T 11 N
R 19 E
15 14
22 23

N0° 20' 56"W
22.38'

T.L.E. FOR SLOPES

3
CIBOROSKY

43+22.72
-60.00'

43+45.11
-60.00'

N89° 39' 04"E
10.00'

S0° 20' 56"E 100.00

43+22.46
-50.00'

44+22.46
-50.00'

S88° 49' 45"E

S88° 49' 45"W

N0° 20' 56"W
2669.88'

33' CITY OF WEST BEND
WATER AND SEWER EASEMENT
DOC 541870 (IN R/W)

N0° 20' 56"W
15.00'

41+71.65
50.00'

N89° 39' 05"E
30.00'

S89° 39' 05"W
30.00'

S63° 05' 08"W
33.54'

41+86.65
80.00'

42+67.65
50.00'

N0° 20' 56"W
15.00'

42+52.65
80.00'

S63° 47' 01"E
33.54'

T.L.E. FOR SLOPES

NO ACCESS PER PLAT OF DIDIER ESTATES

NO ACCESS PER PLAT OF DIDIER ESTATES

1
WIESNER/BAEHMAN

UNIT A-1 & A-2
BUILDING A
WEST VIEW VILLAS CONDO
AMENDMENT NO. 2
LOT 1
DIDIER ESTATES

T.L.E. FOR SLOPES

2
CONDO OWNERS

42 CHARTER COMMUNICATIONS

41 AT & T
DOC. 556141 10' WIDE

40 WE ENERGIES
DOC. 556141 10' WIDE

66'

VOGT DR.

1/4 SECTION LINE N88° 35' 28"W

3' AND 6' UTILITY EASEMENT
PLAT OF DIDIER ESTATES AND
DOC. 550424 (WEPCO)

LOT 2
DIDIER ESTATES

10' U.E. DOC. 556141

LOT 51
DIDIER ESTATES

VOGT VALLEY CONDOMINIUM

SW - NW

20' U.E. PLAT OF DIDIER ESTATES

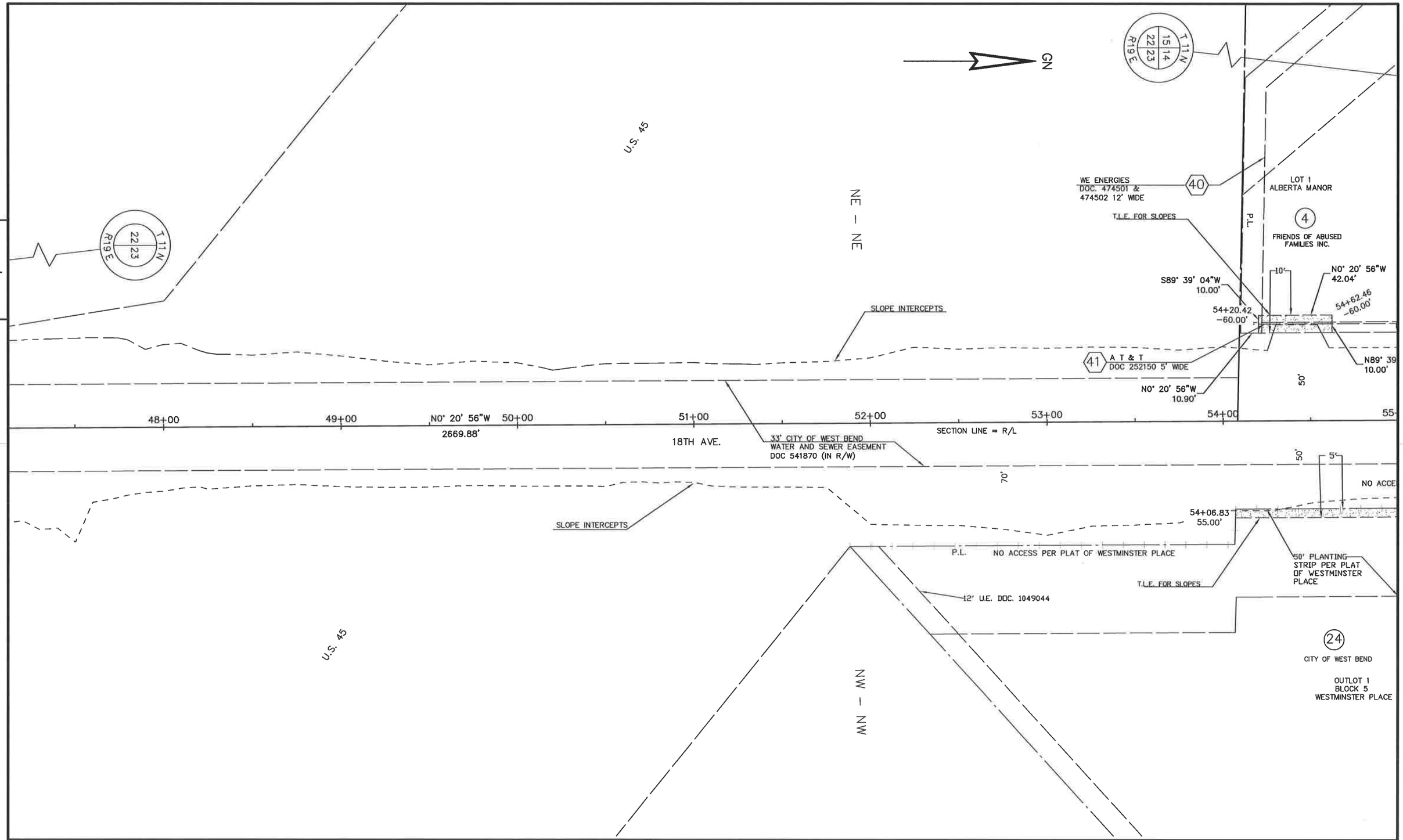
20' U.E. DOC. 550425

U.S. 45

	DATE:	SCALE, FEET 0 25 50	HWY: 18TH AVENUE	R/W PROJECT NO. 2707-00-29	PLAT SHEET NO: 4.03
			COUNTY: WASHINGTON	CONSTRUCTION PROJECT NO. 2707-00-79	53 E

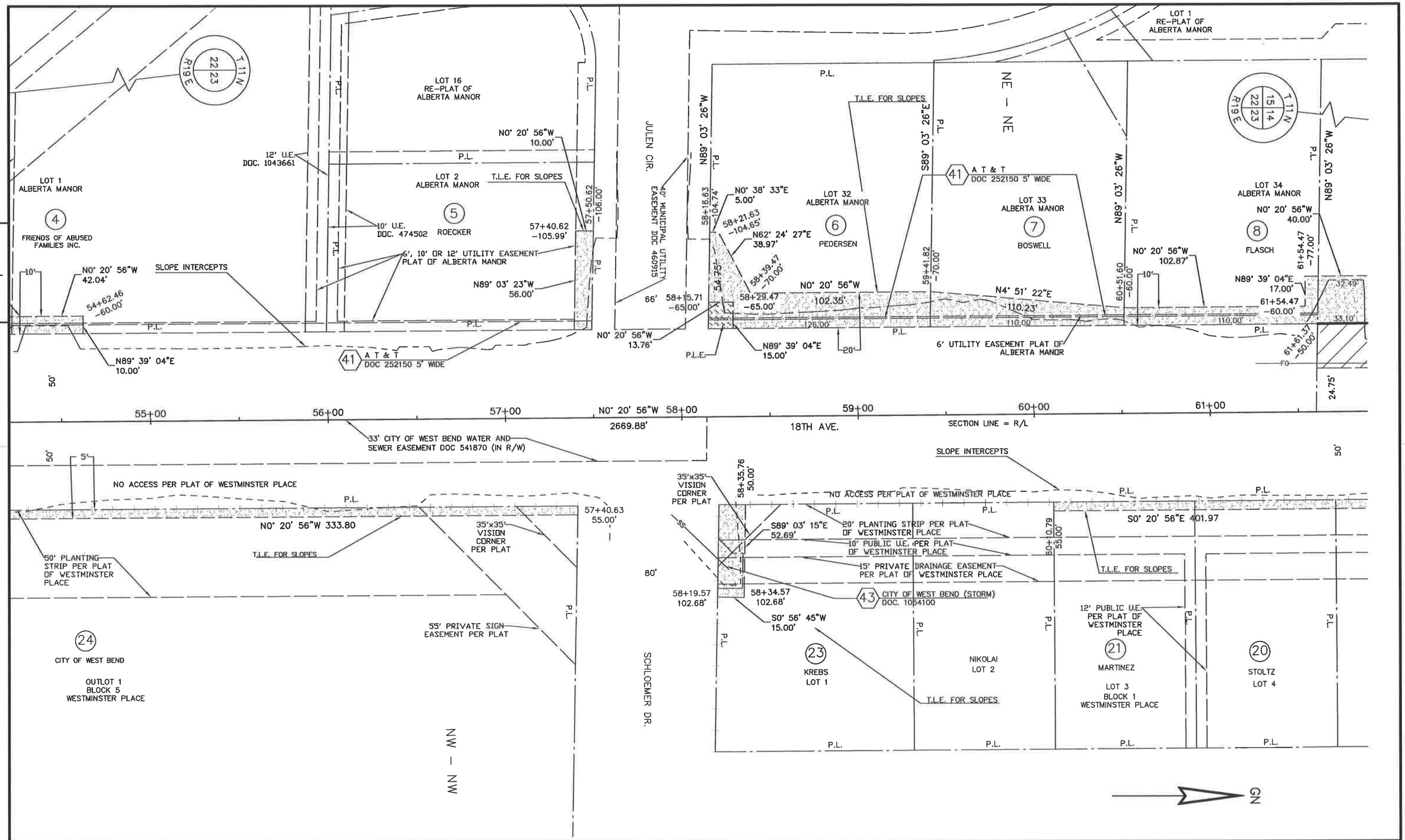
FILE NAME: $$...designfile....$$

PLOT DATE:1/27/2017 PLOT BY : ---- PLOT NAME : ---- PLOT SCALE:1

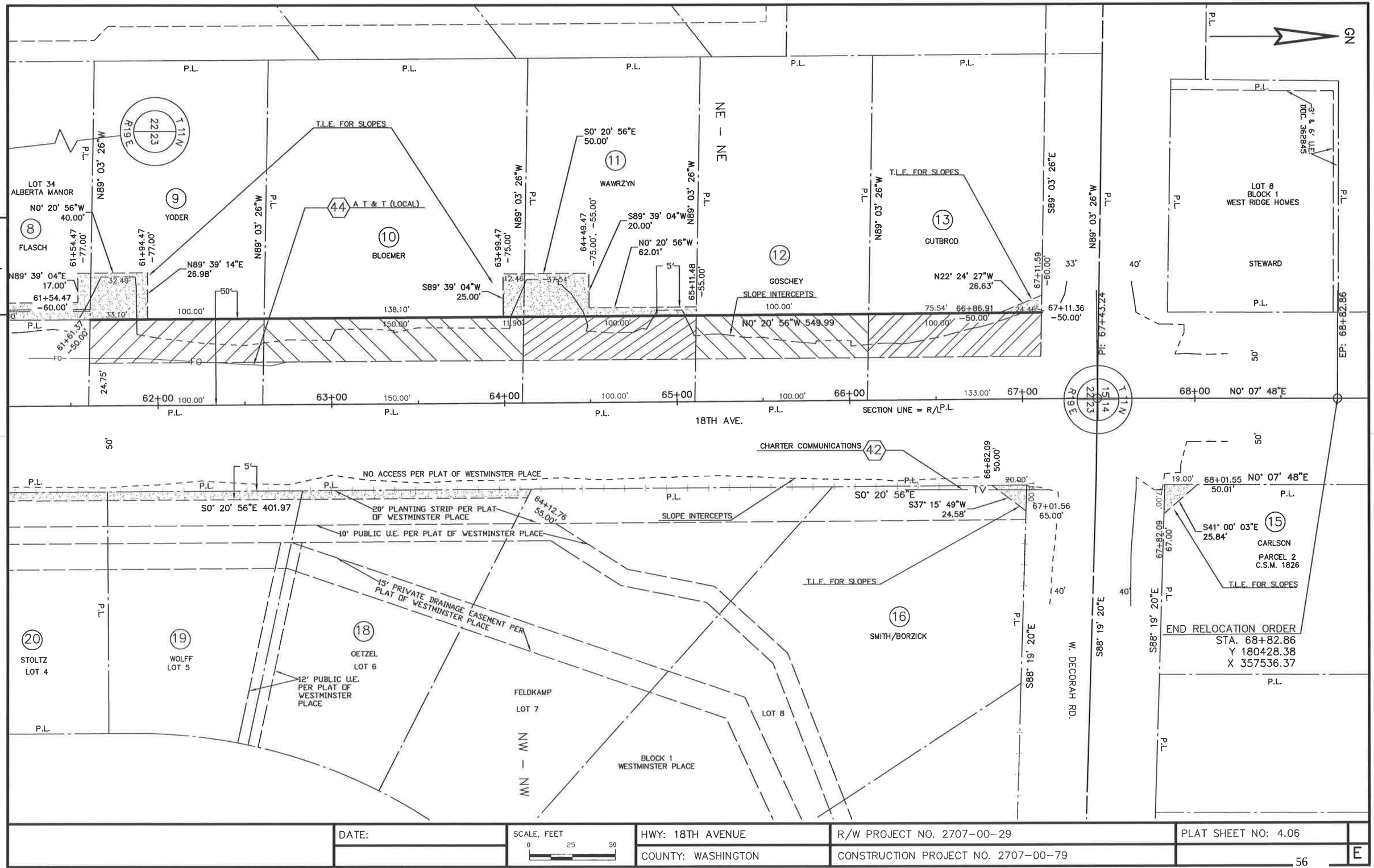


	DATE:	SCALE, FEET 0 25 50	HWY: 18TH AVENUE	R/W PROJECT NO. 2707-00-29	PLAT SHEET NO: 4.04	
			COUNTY: WASHINGTON	CONSTRUCTION PROJECT NO. 2707-00-79	54	E

FILE NAME $$....designfile....$$ PLOT DATE: 1/27/2017 PLOT BY : ----- PLOT NAME : ----- PLOT SCALE: 1



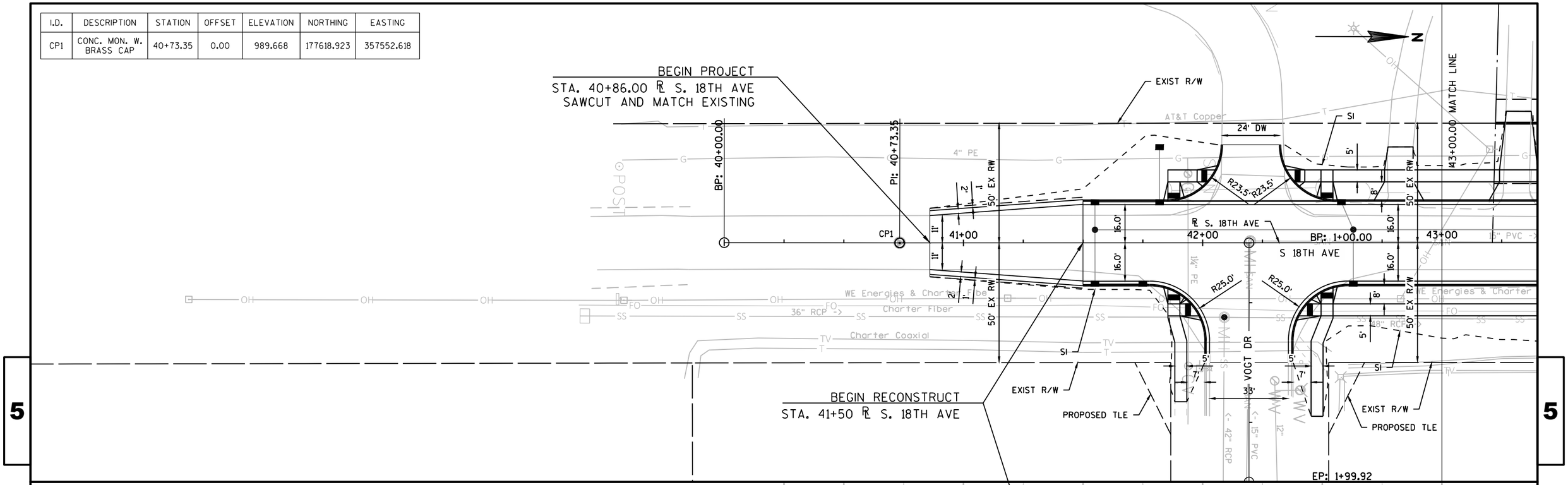
	DATE:	SCALE, FEET 0 25 50	HWY: 18TH AVENUE	R/W PROJECT NO. 2707-00-29	PLAT SHEET NO: 4.05
			COUNTY: WASHINGTON	CONSTRUCTION PROJECT NO. 2707-00-79	55 E



	DATE:	SCALE, FEET 0 25 50	HWY: 18TH AVENUE	R/W PROJECT NO. 2707-00-29	PLAT SHEET NO: 4.06
			COUNTY: WASHINGTON	CONSTRUCTION PROJECT NO. 2707-00-79	E

PLOT DATE: 1/27/2017 PLOT BY : ----- PLOT NAME : ----- PLOT SCALE: 1

I.D.	DESCRIPTION	STATION	OFFSET	ELEVATION	NORTHING	EASTING
CP1	CONC. MON. W. BRASS CAP	40+73.35	0.00	989.668	177618.923	357552.618



PROJECT NO: 2707-00-09	18TH AVENUE	COUNTY: WASHINGTON	PLAN AND PROFILE: 18TH AVENUE	SHEET 57	E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\050101_PP.DWG
LAYOUT NAME - 050101_PP
PLOT DATE : 10/26/2017 5:06 PM PLOT BY : WEIGAND, BEN PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 44

I.D.	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
CP2	REBAR	47+18.30	-19.95	178263.736	357528.744

PROPOSED TLE
EXIST R/W
PROPOSED R/W
EXIST R/W
EXIST R/W
EXIST R/W
16' DW
50' EX RW
24.75' EX RW
5'
8'
16.0'
16.0'
8'
5'
43+00.00 MATCH LINE
48+50.00 MATCH LINE
WETLANDS
CP2
WE Energies UG Electric
4" PE
SI
R S. 18TH AVE
S 18TH AVE
WE Energies & Charter Fiber
Charter Fiber
AT&T Fiber
15" PVC ->
48" RCP ->
43+00
44+00
45+00
46+00
47+00
48+00
5

VCL = 120.00
K = 80.11
VCL = 150.00
K = 44.05
VCL = 120.00
K = 246.77
-2.00%
-0.50%
FINISHED PROFILE
EXISTING PROFILE

VPC STA 43+05.00
VPC EL 990.07
VPI STA 43+80.00
VPI EL 991.12
VPT STA 44+55.00
VPT EL 989.62
VPC STA 45+75.00
VPC EL 987.22
VPI STA 46+35.00
VPI EL 986.02
VPT STA 46+95.00
VPT EL 985.72
VPC STA 47+15.00
VPC EL 985.61
VPI STA 47+75.00
VPI EL 985.31
VPT STA 48+35.00
VPT EL 984.72

994 992 990 988 986 984 982 981

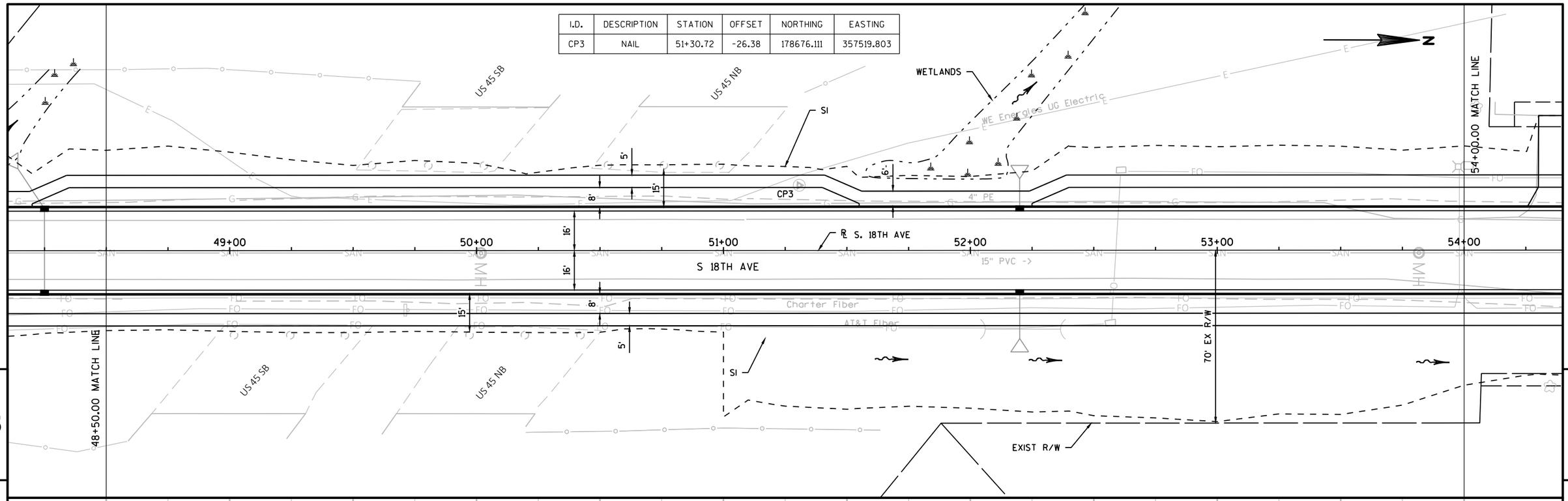
990.06 990.31 | 989.91 990.47 | 989.73 990.50 | 989.36 990.38 | 988.95 990.12 | 988.45 989.72 | 987.96 989.22 | 987.48 988.72 | 987.03 988.22 | 986.67 987.72 | 986.31 987.22 | 986.00 986.76 | 985.77 986.37 | 985.73 986.07 | 985.68 985.84 | 985.63 985.69 | 985.48 985.56 | 985.27 985.41 | 985.11 985.24 | 984.97 985.04 | 984.81 984.81

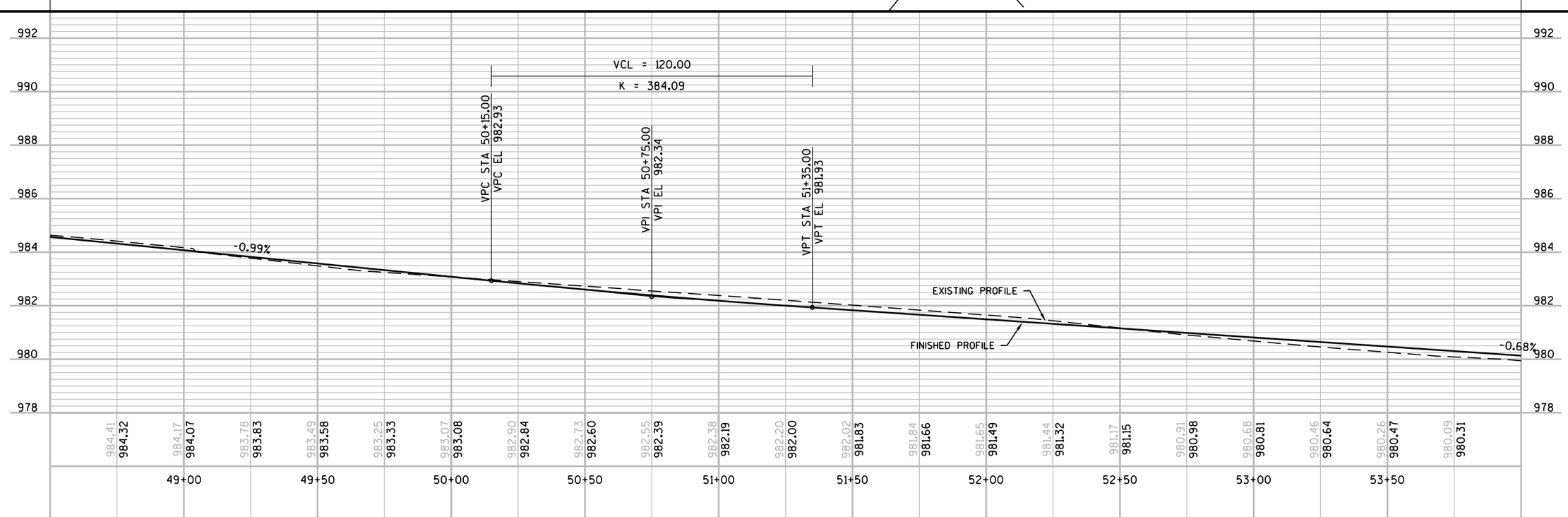
43+50 44+00 44+50 45+00 45+50 46+00 46+50 47+00 47+50 48+00

PROJECT NO: 2707-00-09	18TH AVENUE	COUNTY: WASHINGTON	PLAN AND PROFILE: 18TH AVENUE	SHEET 58	E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\050101_PP.DWG
LAYOUT NAME - 050102_PP
PLOT DATE : 10/26/2017 5:06 PM PLOT BY : WEIGAND, BEN PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 44

I.D.	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
CP3	NAIL	51+30.72	-26.38	178676.111	357519.803



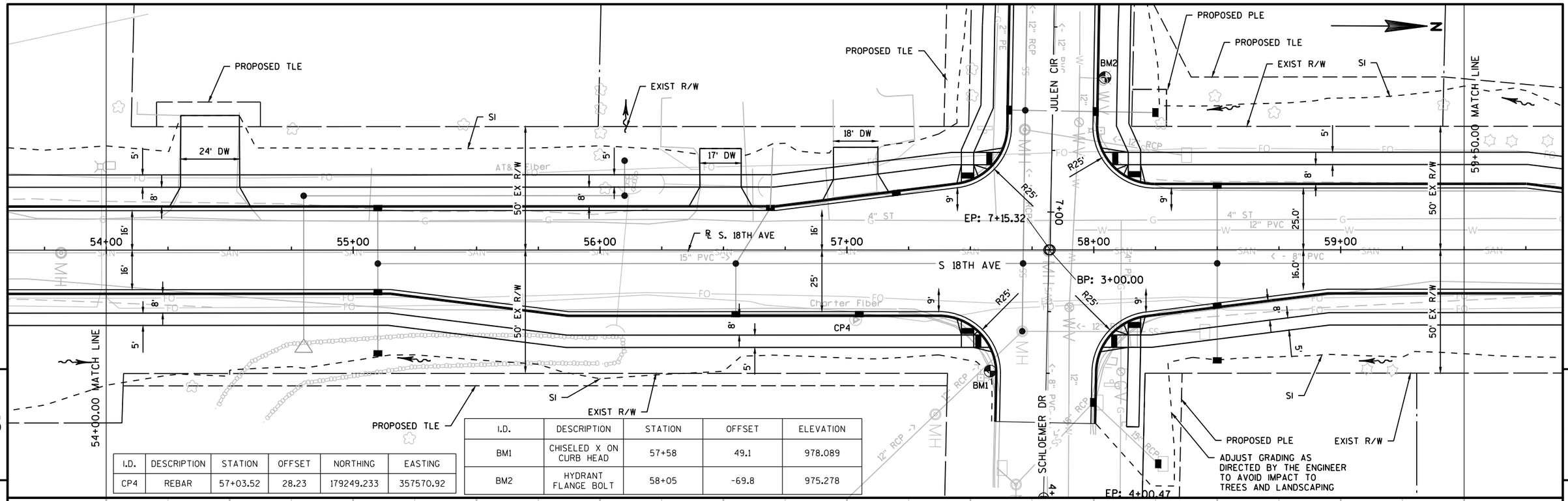


PROJECT NO: 2707-00-09	18TH AVENUE	COUNTY: WASHINGTON	PLAN AND PROFILE: 18TH AVENUE	SHEET 59	E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\050101_PP.DWG
LAYOUT NAME - 050103_PP

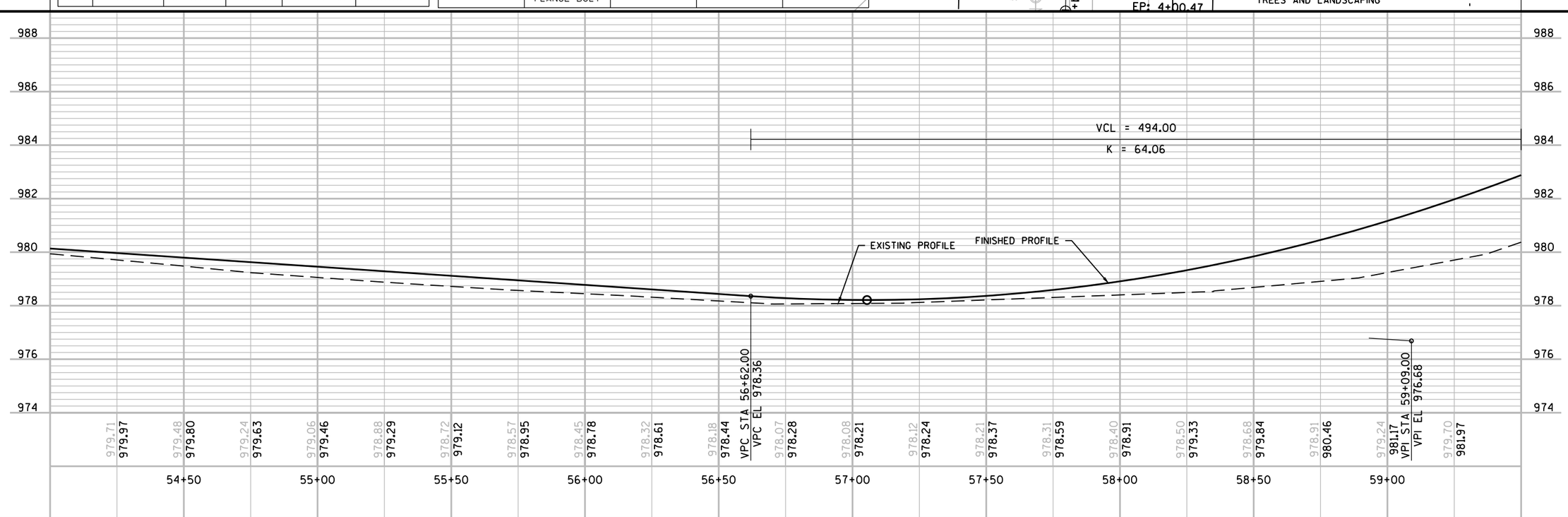
PLOT DATE : 10/26/2017 5:06 PM PLOT BY : WEIGAND, BEN PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 44



I.D.	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
CP4	REBAR	57+03.52	28.23	179249.233	357570.92

I.D.	DESCRIPTION	STATION	OFFSET	ELEVATION
BM1	CHISELED X ON CURB HEAD	57+58	49.1	978.089
BM2	HYDRANT FLANGE BOLT	58+05	-69.8	975.278



PROJECT NO: 2707-00-09	18TH AVENUE	COUNTY: WASHINGTON	PLAN AND PROFILE: 18TH AVENUE	SHEET 60	E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\050101_PP.DWG
LAYOUT NAME - 050104_PP
PLOT DATE : 10/26/2017 5:06 PM PLOT BY : WEIGAND, BEN PLOT NAME : PLOT SCALE : 1 IN:40 FT
WISDOT/CADDS SHEET 44

PROPOSED TLE

'CEDAR' TREES TO REMAIN
ADJUST DRIVEWAY LIMITS AND
SIDESLOPE TO AVOID IMPACT

EXIST R/W

SI

PROPOSED TLE

REMOVE SMALL RETAINING WALL

PROPOSED R/W

PROPOSED TLE

EXIST R/W

N

59+50.00 MATCH LINE

65+00.00 MATCH LINE

50' EX R/W

50' PROPOSED R/W

24.75' EX R/W

25'

9'

16'

16' DW

15'

8'

18' DW

20' DW

20' DW

AT&T Fiber

CP5

4" SI

12" PVC

8" PVC

60+00

61+00

61+50

62+00

63+00

64+00

65+00

E S. 18TH AVE

S 18TH AVE

Charter Fiber

WE Energies UG Electric

AT&T Copper

PROPOSED TLE

EXIST R/W

SI

I.D.	DESCRIPTION	STATION	OFFSET	NORTHING	EASTING
CP5	NAIL	60+86.21	-22.16	179631.611	357518.203

VCL = 494.00

K = 64.06

FINISHED PROFILE

EXISTING PROFILE

FINISHED PROFILE

EXISTING PROFILE

VPT STA 61+56.00
VPT EL 994.06

7.03%

FINISHED PROFILE

EXISTING PROFILE

VPC STA 64+50.00
VPC EL 1014.74

EXISTING PROFILE

FINISHED PROFILE

VCL = 250.00

K = 49.66

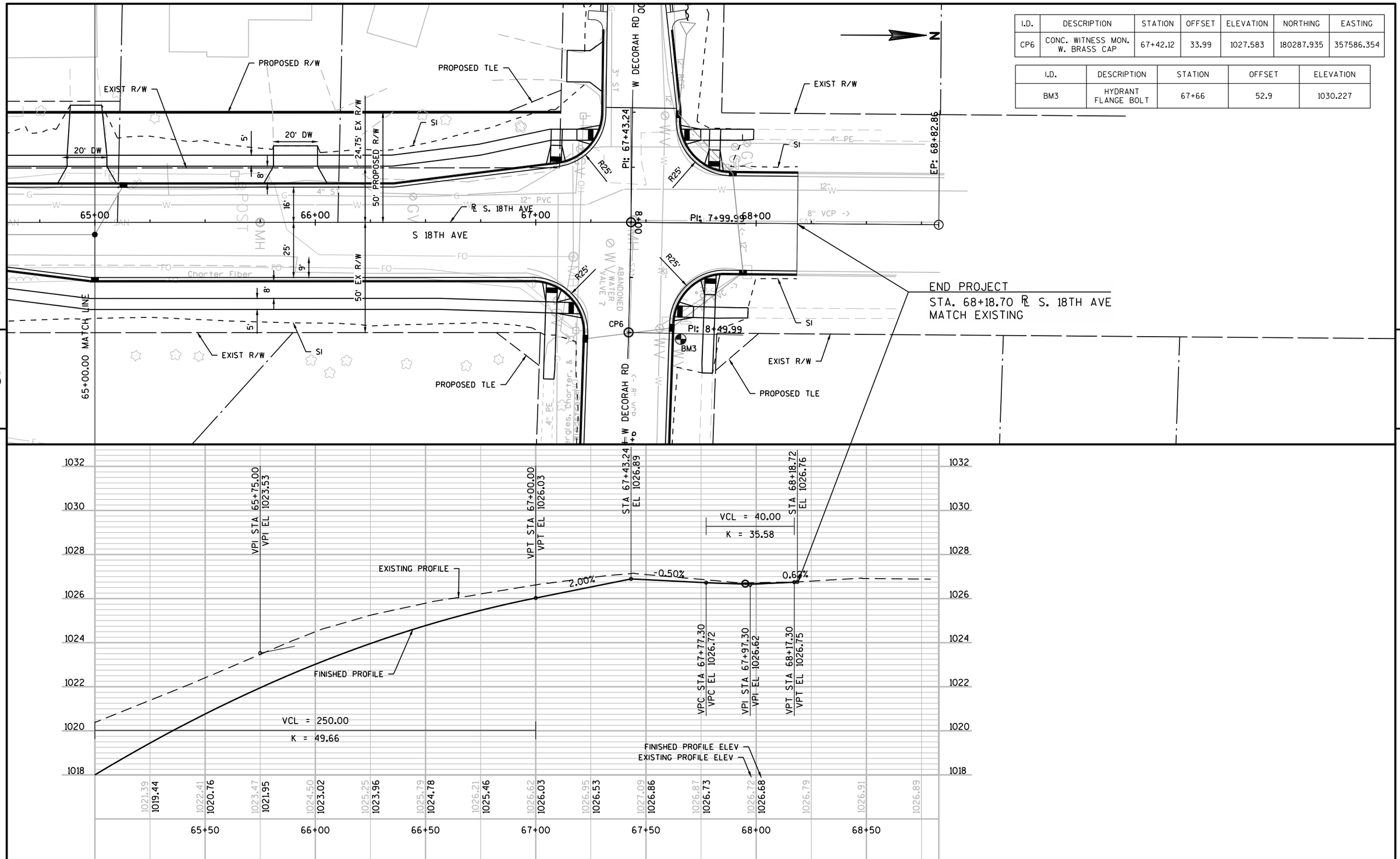
981.24 983.88 | 982.10 984.98 | 982.62 986.18 | 983.06 987.48 | 984.98 988.87 | 987.24 990.36 | 989.33 991.95 | 991.40 993.54 | 993.48 995.39 | 995.58 997.15 | 997.91 998.91 | 1000.25 1000.67 | 1002.70 1002.43 | 1005.20 1004.18 | 1007.70 1005.94 | 1010.19 1007.70 | 1012.44 1009.46 | 1014.68 1011.22 | 1016.66 1012.98 | 1018.15 1014.74 | 1019.30 1016.43

60+00 60+50 61+00 61+50 62+00 62+50 63+00 63+50 64+00 64+50

PROJECT NO: 2707-00-09	18TH AVENUE	COUNTY: WASHINGTON	PLAN AND PROFILE: 18TH AVENUE	SHEET 61	E

I.D.	DESCRIPTION	STATION	OFFSET	ELEVATION	NORTHING	EASTING
CP6	CONC. WITNESS MON. W. BRASS CAP	67+42.12	33.99	1027.583	180287.935	357586.354

I.D.	DESCRIPTION	STATION	OFFSET	ELEVATION
BM3	HYDRANT FLANGE BOLT	67+66	52.9	1030.227

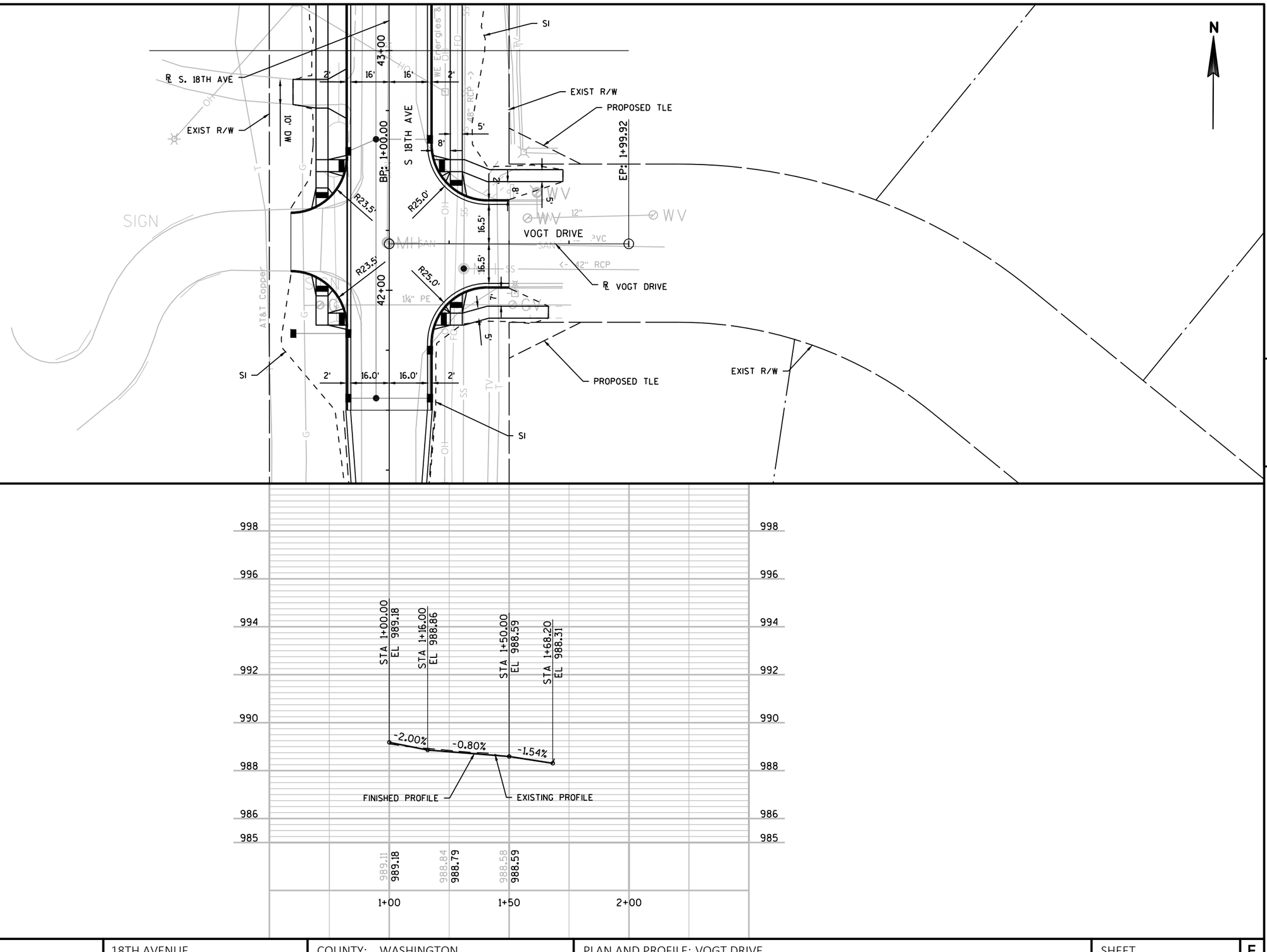


PROJECT NO: 2707-00-09	18TH AVENUE	COUNTY: WASHINGTON	PLAN AND PROFILE: 18TH AVENUE	SHEET 62	E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\050101_PP.DWG
LAYOUT NAME - 050106_PP

PLOT DATE : 10/26/2017 5:06 PM PLOT BY : WEIGAND, BEN PLOT NAME : PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 44



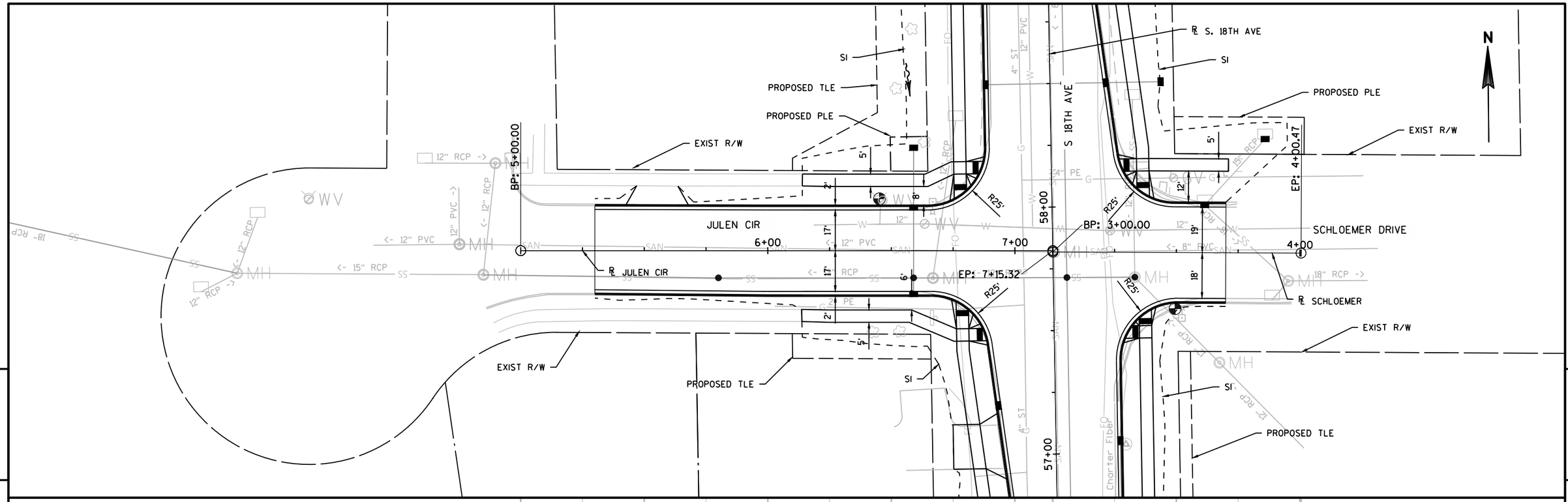
5

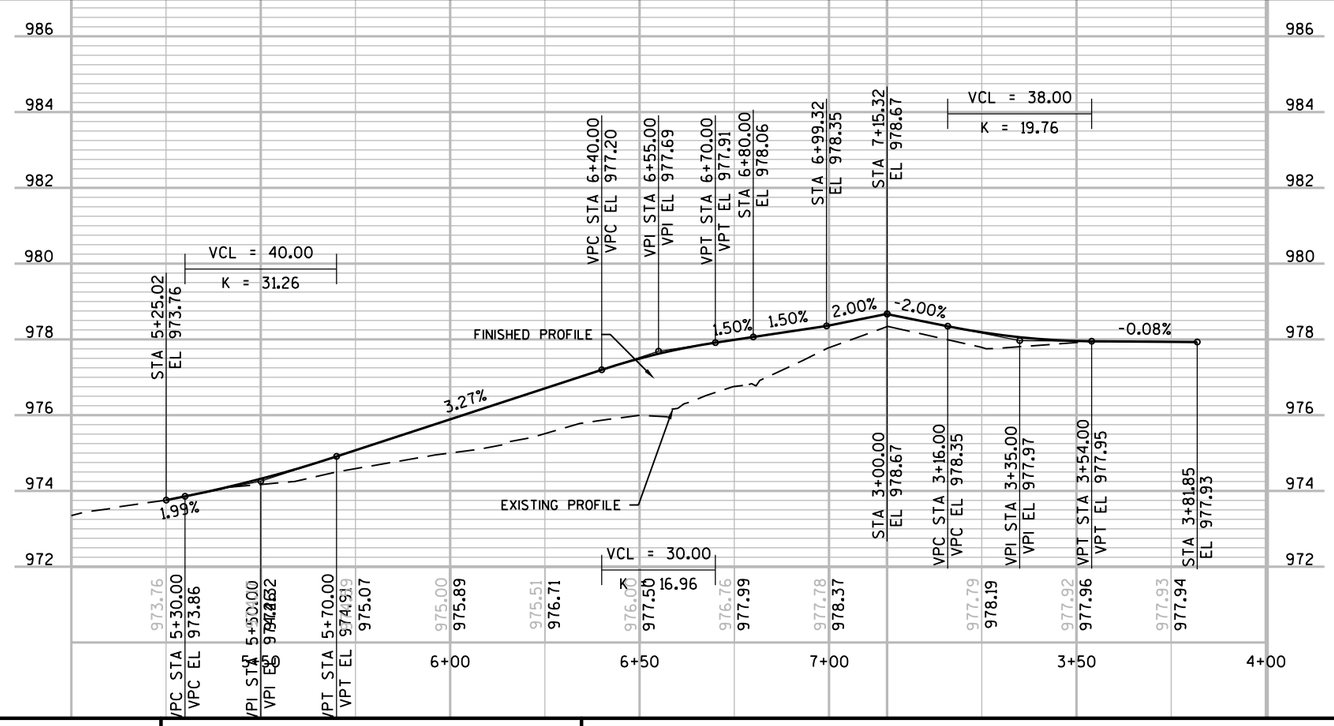
5

PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	PLAN AND PROFILE: VOGT DRIVE	SHEET 63	E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\050101_PP.DWG
LAYOUT NAME - 050107_pp

PLOT DATE : 10/26/2017 5:06 PM PLOT BY : WEIGAND, BEN PLOT NAME : PLOT SCALE : ##########

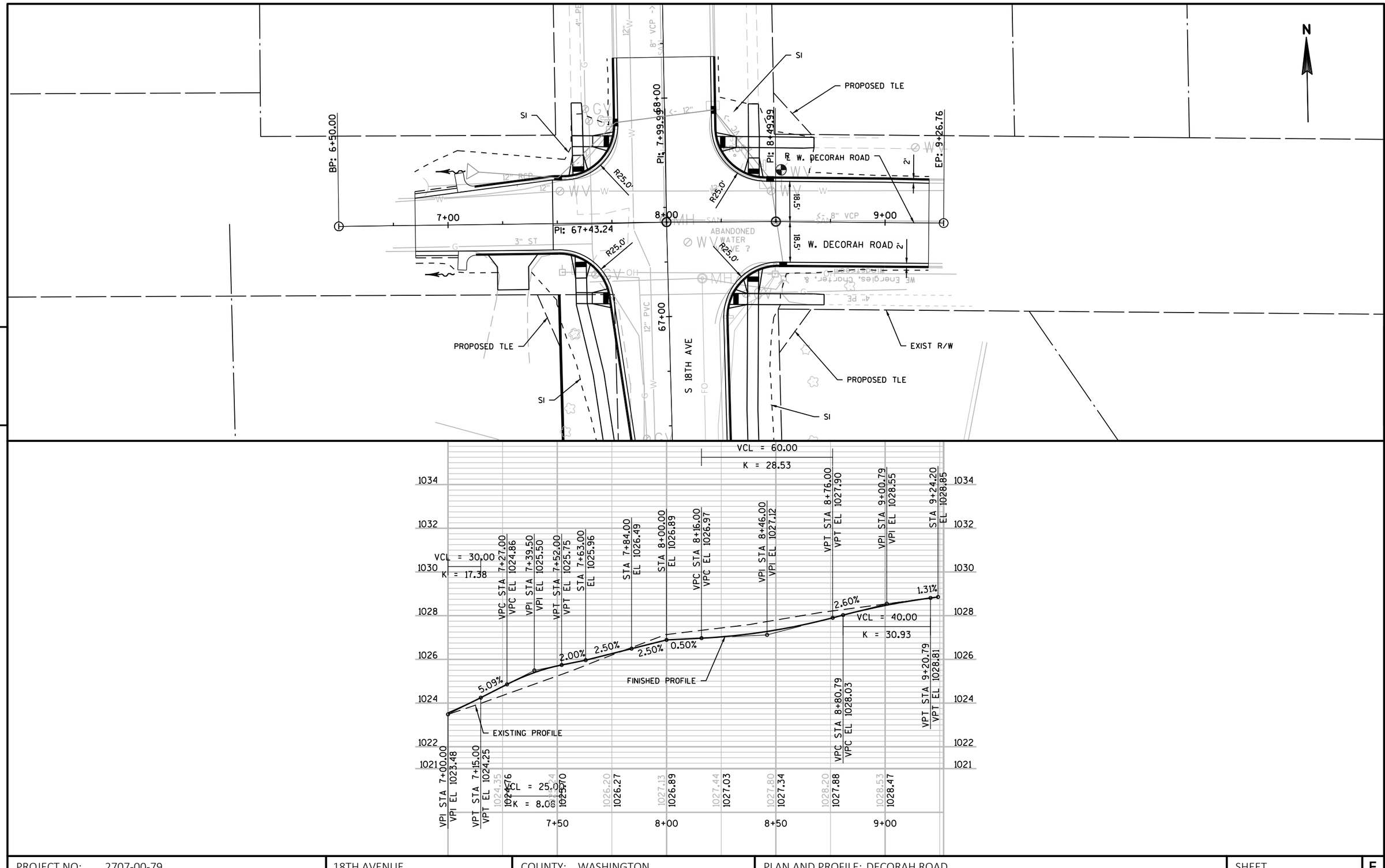




PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	PLAN AND PROFILE: JULEN CIRCLE & SCHLOEMER DRIVE	SHEET 64	E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\050101_PP.DWG
LAYOUT NAME - 050108_pp

PLOT DATE : 10/26/2017 5:06 PM PLOT BY : WEIGAND, BEN PLOT NAME : PLOT SCALE : ##########

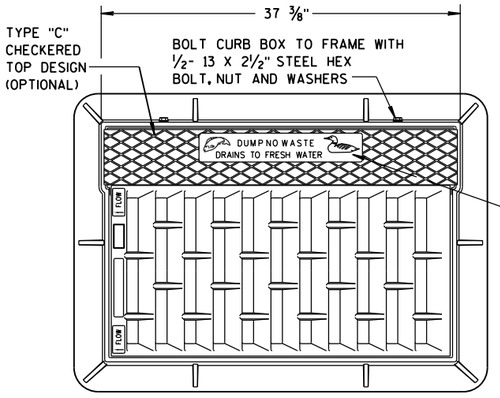


PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	PLAN AND PROFILE: DECORAH ROAD	SHEET 65	E

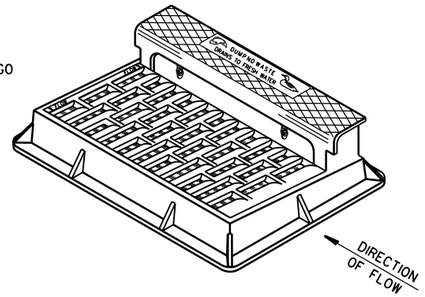
Standard Detail Drawing List

08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A08-02	CATCH BASINS 3-FT, 4-FT, 5-FT AND 6-FT DIAMETER
08A09-02	CATCH BASINS 2X3-FT AND 2.5X3-FT
08B09-02	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C06-02	INLETS 3-FT AND 4-FT DIAMETER
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D05-19A	CURB RAMPS TYPES 1 AND 1-A
08D05-19B	CURB RAMPS TYPES 2 AND 3
08D05-19C	CURB RAMPS TYPES 4A AND 4A1
08D05-19D	CURB RAMPS TYPE 4B AND 4B1
08D05-19E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D05-19F	CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS
08D05-19G	CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES
08D20-01	DRIVEWAYS WITH CURB & GUTTER RETURNS
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E14-01	TRACKING PAD
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F02-01	APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
13C01-18	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C13-08	URBAN DOWELED CONCRETE PAVEMENT
13C18-05A	CONCRETE PAVEMENT JOINTING
13C18-05B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-05C	CONCRETE PAVEMENT JOINT TYPES
13C18-05D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C03-03	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C07-14E	PAVEMENT MARKING FOR BIKE LANES
15C08-17A	LONGITUDINAL MARKING (MAINLINE)
15C08-17C	PAVEMENT MARKING (ISLANDS)
15C08-18A	LONGITUDINAL MARKING (MAINLINE)
15C29-05A	BICYCLE LANE MARKING
15C33-02	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D30-03A	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D30-03B	TRAFFIC CONTROL, TEMPORARY ADA COMPLIANT PEDESTRIAN ACCOMMODATION
15D30-03C	TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS

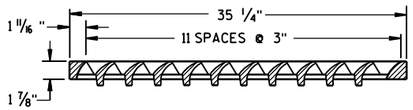
6

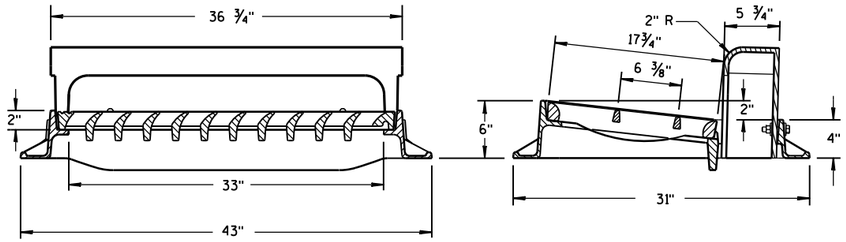


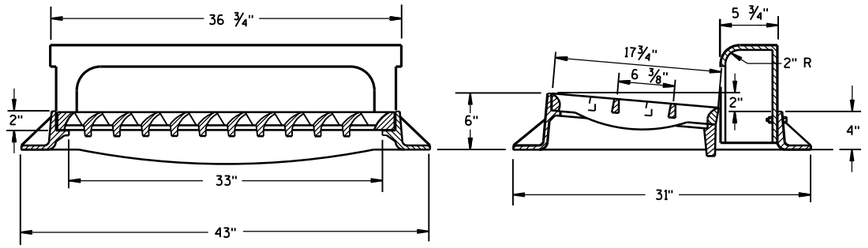
NOTE:
GRATE IS REVERSIBLE.



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

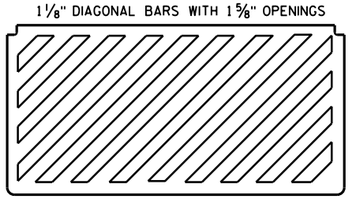






TYPE "H"

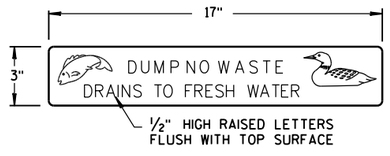
NOTE: EITHER CASTING IS ACCEPTABLE



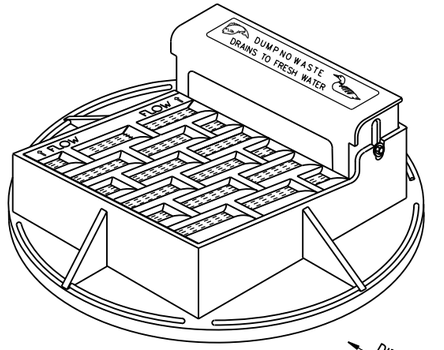
SPECIAL GRATE FOR TYPE "H" COVER

(MEASURES 35 1/4" X 17 3/4" X 2")

(NOTED AS TYPE H-S ON DRAINAGE TABLE)



LOGO DETAIL



NOTE: CURB BOX ADJUSTABLE 4" TO 9"

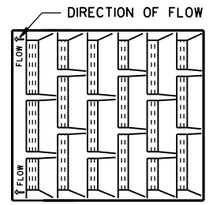
NOTE:
GRATE IS REVERSIBLE.

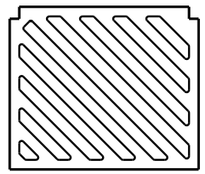
GENERAL NOTES

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.

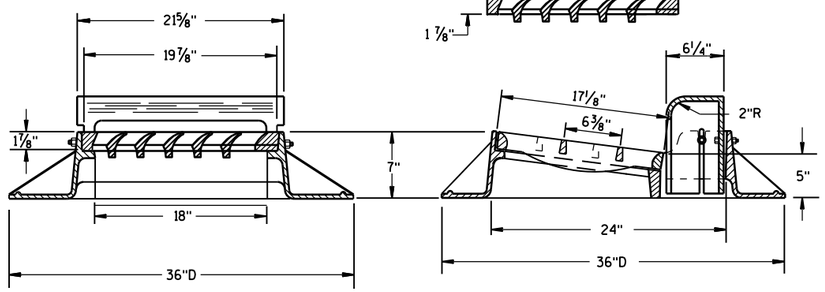




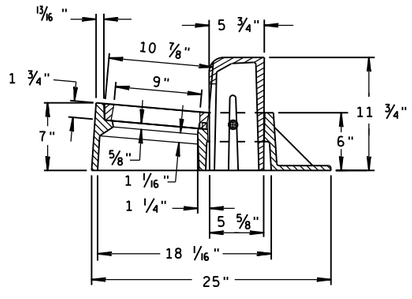
SPECIAL GRATE FOR TYPE "A" COVER

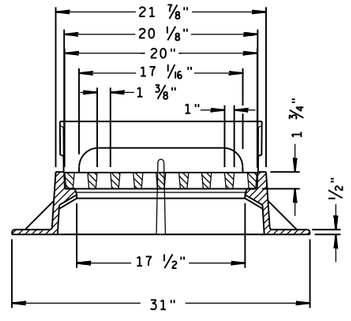
(MEASURES 19 3/4" X 17" X 1 7/8")

(NOTED AS TYPE A-S ON DRAINAGE TABLE)

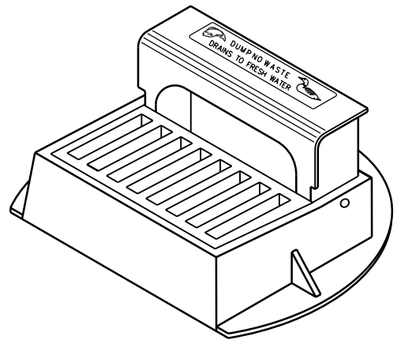


TYPE "A"





TYPE "Z"



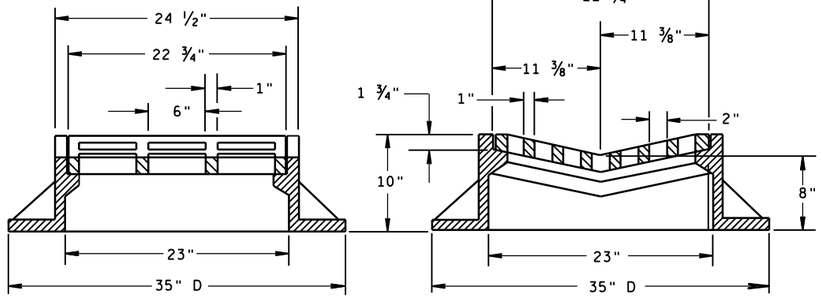
INLET COVERS
TYPE A, H, A-S, H-S & Z

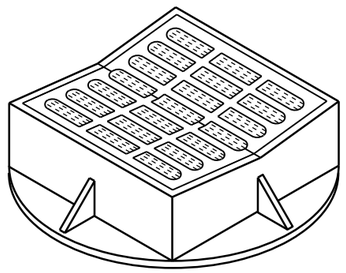
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11-27-13 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

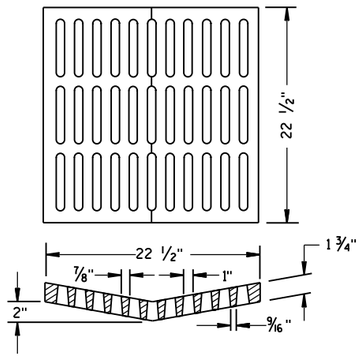
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S.D.D. 8 A 5-19a



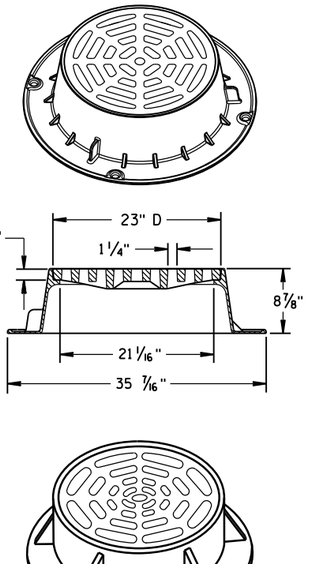


TYPE "B"



ALTERNATIVE GRATE FOR TYPE "B" COVER

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS POSSIBLE.
NOTED AS TYPE B-A ON THE DRAINAGE TABLE



TYPE "C"

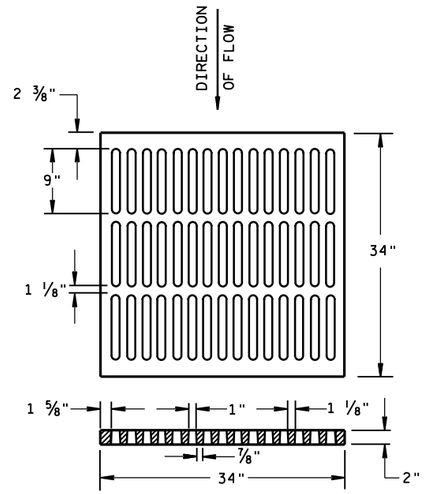
NOTE: EITHER CASTING IS ACCEPTABLE

GENERAL NOTES

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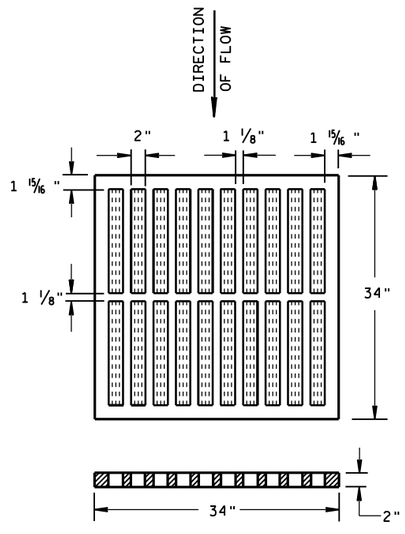
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



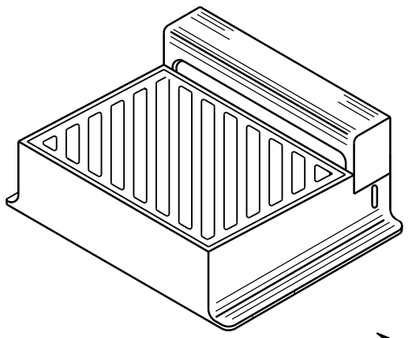
ALTERNATIVE TYPE "MS"

USE WHERE PEDESTRIAN OR BICYCLE TRAFFIC IS PERMITTED
NOTED AS TYPE MS-A ON THE DRAINAGE TABLE

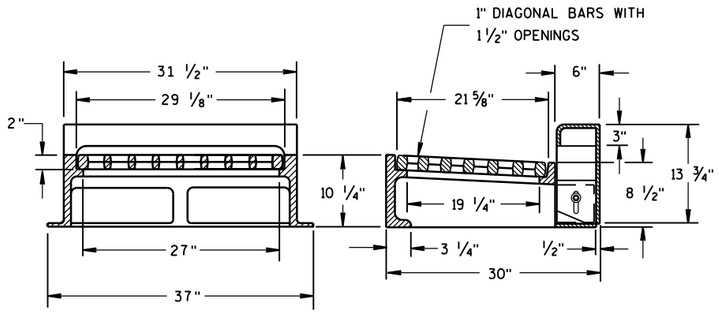


TYPE "MS"

USE ON FREEWAYS AND EXPRESSWAYS
NOTED AS TYPE MS ON DRAINAGE TABLE



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



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

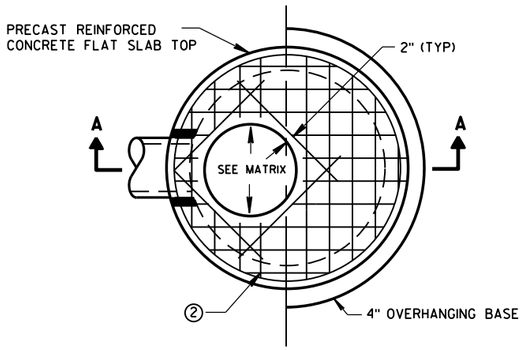
INLET COVERS
TYPE B, B-A, C, MS, MS-A, & WM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

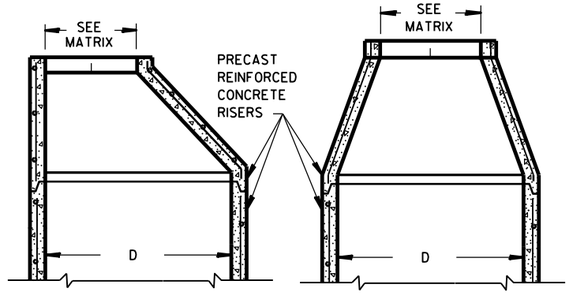
APPROVED
11/27/2013 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA

6

S.D.D. 8 A 5-19b

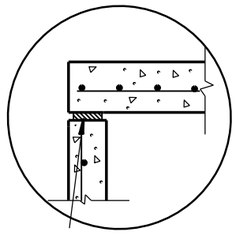


PLAN VIEW CIRCULAR OPENING

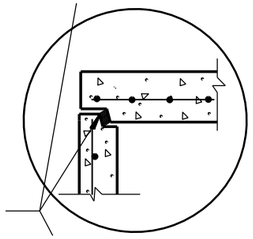


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

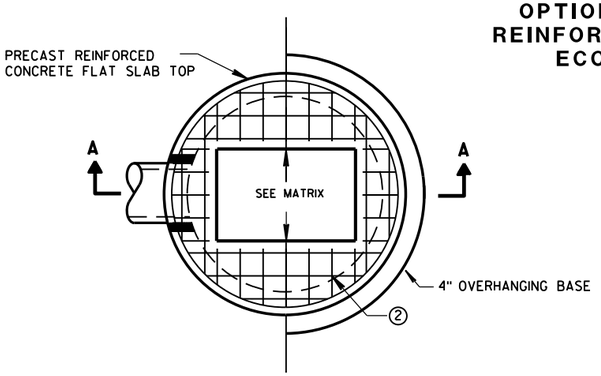
OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP



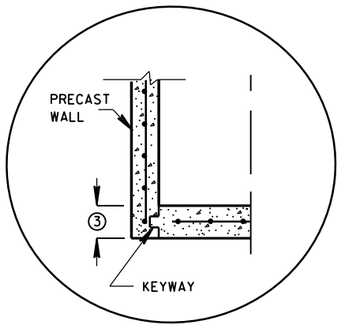
TOP WITH PLAIN END JOINT



TOP WITH TONGUE AND GROOVE JOINT

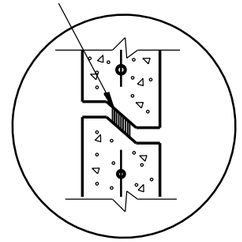


PLAN VIEW RECTANGULAR OPENING



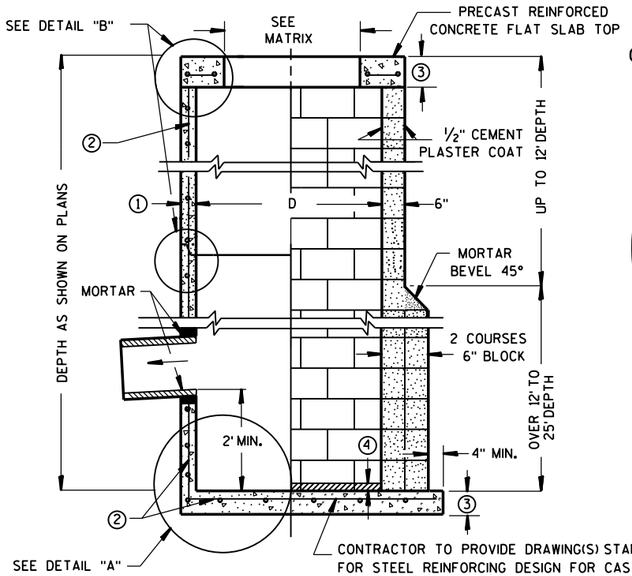
PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



RISER WITH TONGUE AND GROOVE JOINT

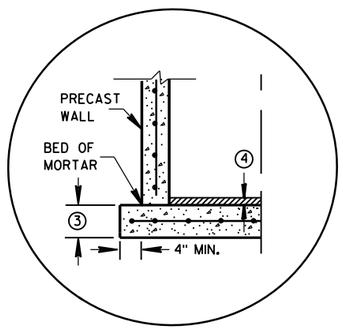
DETAIL "B"



SECTION A-A

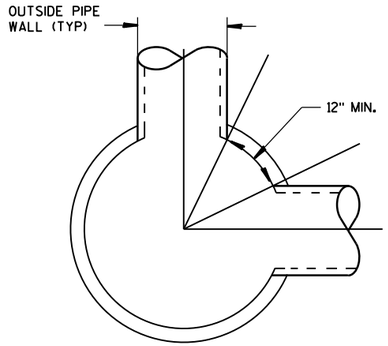
PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"

GENERAL NOTES

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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, AND 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 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 PERMITED 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 "C".

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 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.

CATCH BASIN COVER OPENING MATRIX

CATCH BASIN 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	2X2	X	X					X		X		
	2 DIA.				X							X
4-FT-6-FT	2X2	X	X					X		X		
	2X2.5			X				X	X	X	X	
	2 DIA.				X							X
	2X3						X					
	2.5X3					X						

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

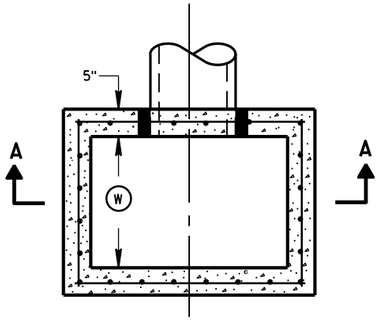
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERVISOR
FHWA

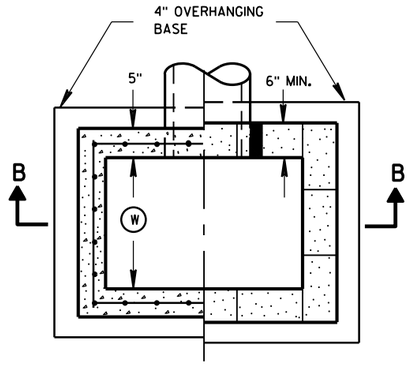
CATCH BASINS 3-FT, 4-FT, 5-FT AND 6-FT DIAMETER

S.D.D. 8 A 8-2

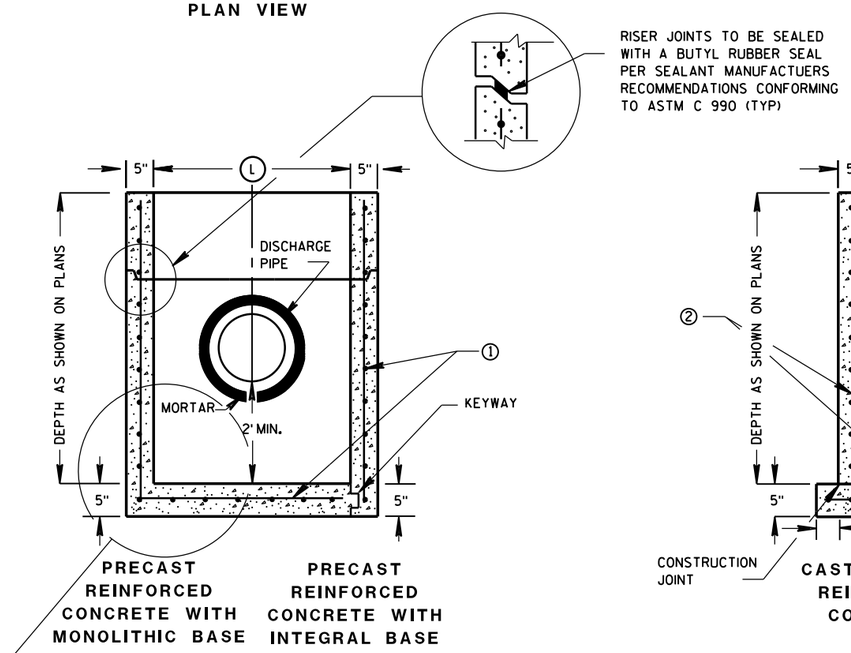
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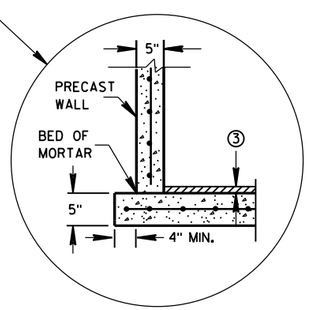
PLAN VIEW



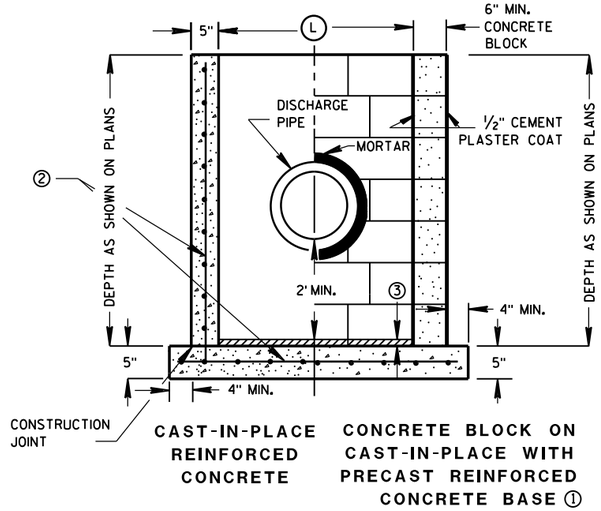
PLAN VIEW



SECTION A-A



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION



SECTION B-B

GENERAL NOTES

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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 PRECAST CATCH BASIN UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

ALL DRAINAGE STRUCTURES ARE DESIGNATED ON THE PLANS AS "MANHOLES 3X3-L", "CATCH BASINS 4-B", "INLETS 2X3-H", ETC. THE FIRST NUMBERS DESIGNATES 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.

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

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND 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.

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 CATCH BASINS 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.

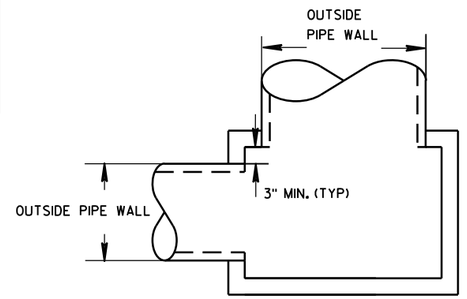
③ 1" CONCRETE KEY POURED AFTER INSTALLATION. 2' SUMP MEASURED FROM TOP OF KEY.

CATCH BASIN COVER MATRIX

CATCH BASIN SIZE		INLET COVER TYPE	F	ALL H'S
	WIDTH (W) (FT)	LENGTH (L) (FT)		
2X3-FT	2	3		X
2.5X3-FT	2.5	3	X	

PIPE MATRIX

CATCH BASIN SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	WIDTH (IN)	LENGTH (IN)
2X3-FT	12	24
2.5X3-FT	18	24



DETAIL "A"

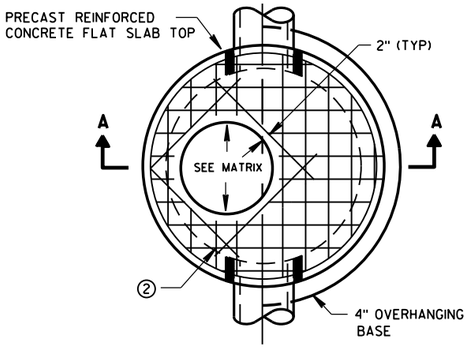
CATCH BASINS 2X3-FT AND 2.5X3-FT

CATCH BASINS 2X3-FT AND 2.5X3-FT

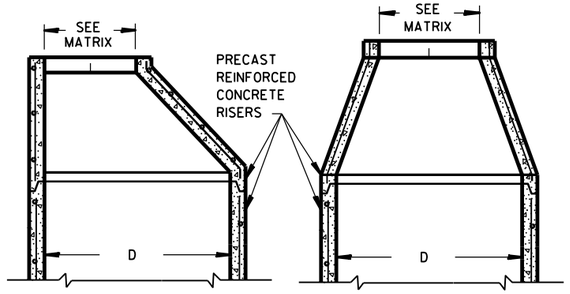
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 — DATE
/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERVISOR
FHWA

6
S.D.D. 8 A 9-2

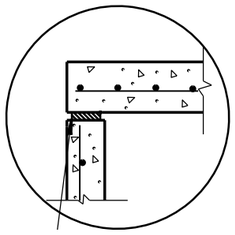


PLAN VIEW CIRCULAR OPENING

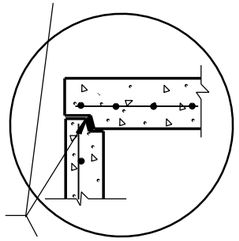


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP

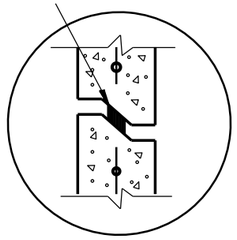


TOP WITH PLAIN END JOINT



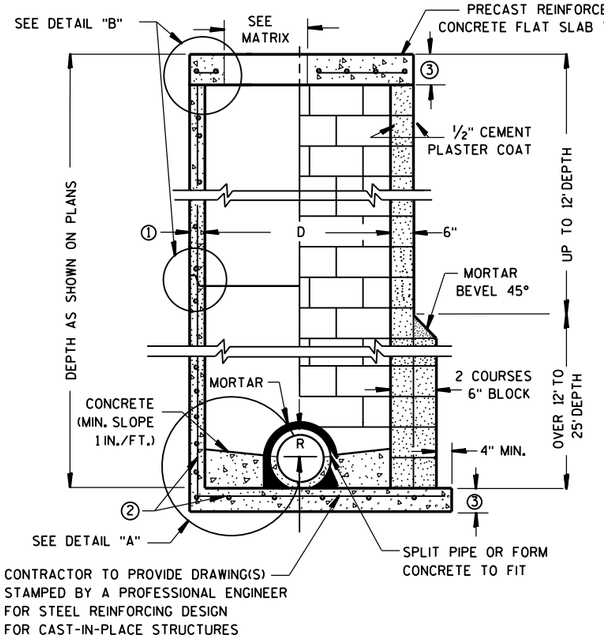
JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C990 (TYP)

TOP WITH TONGUE AND GROOVE JOINT



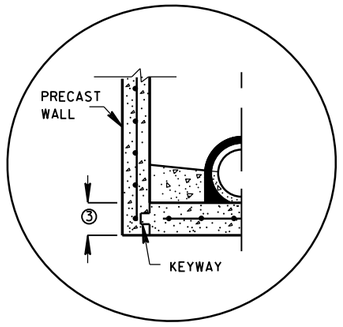
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

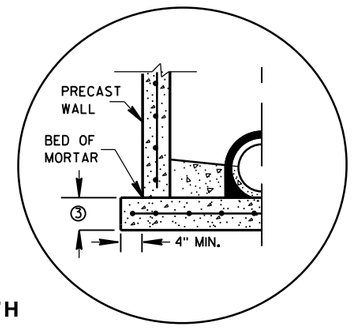


PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②

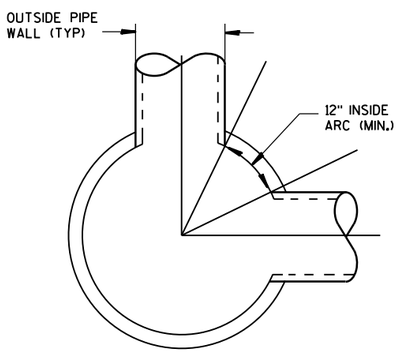


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"

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

ECCENTRIC CONE TOPS MAY BE USED ON ALL STRUCTURES, AND 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 DIMENSION OF 1 INCH.

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF ½" 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.

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

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

ALL PRECAST MANHOLE UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.

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 "C".

① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT, 7 INCHES FOR 6-FT, 8 INCHES FOR 7-FT AND 9 INCHES FOR 8-FT DIAMETER PRECAST MANHOLES.

② FOR PRECAST MANHOLES 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".

MANHOLE COVER OPENING MATRIX

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

PIPE MATRIX

MANHOLE 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	36
7-FT	48	36
8-FT	60	42

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

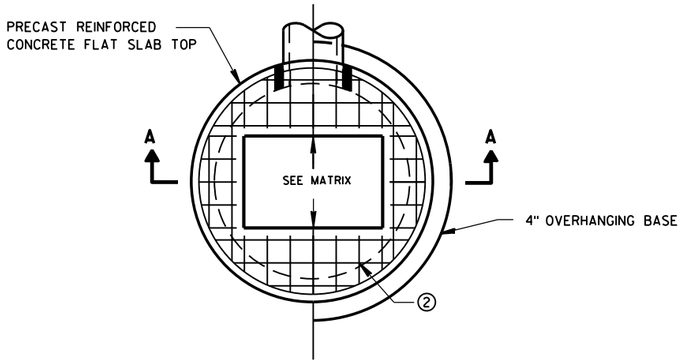
Sept., 2016
DATE

/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
UNIT SUPERV

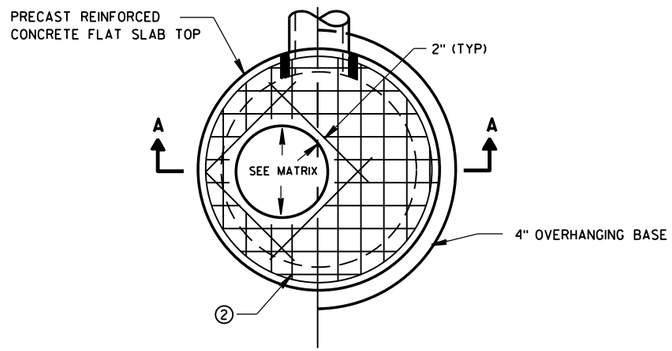
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MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

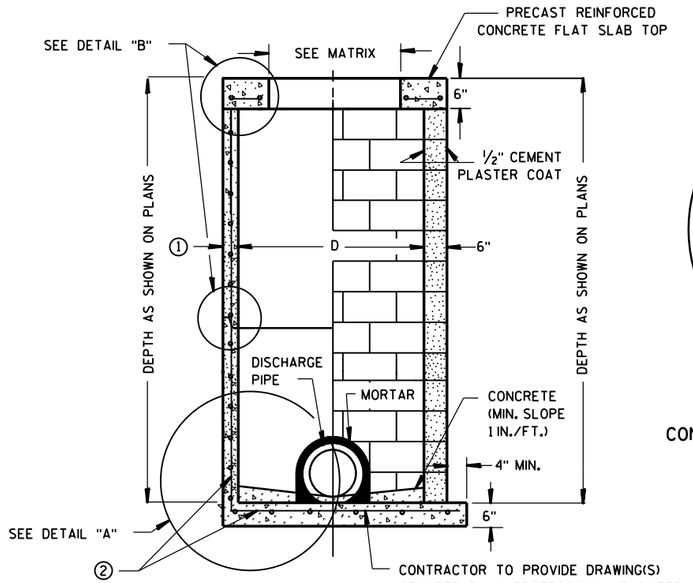
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S.D.D. 8 B 9-2



PLAN VIEW RECTANGULAR OPENING



PLAN VIEW CIRCULAR OPENING

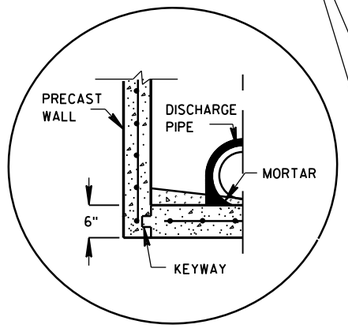


SECTION A-A

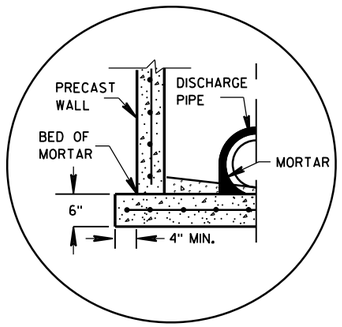
PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

CONCRETE BLOCK WITH CAST-IN-PLACE OR PRECAST REINFORCED CONCRETE BASE ②

CIRCULAR INLETS W/ FLAT TOP

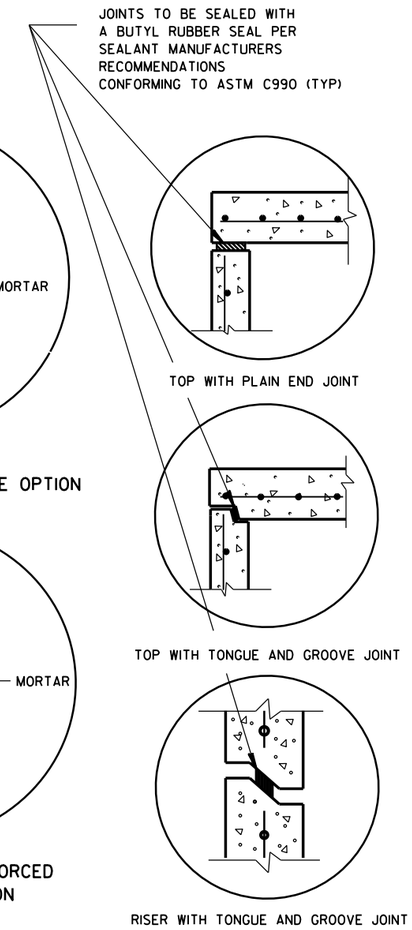


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "B"

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.

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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.

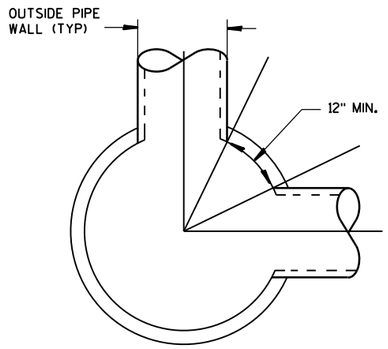
FOR ADDITIONAL CONFIGURATIONS, MAINTAIN A MINIMUM OF 12 INCHES AS MEASURED FROM THE INSIDE OF THE STRUCTURE WALL BETWEEN THE OUTSIDE PIPE WALLS OF ADJACENT PIPES. SEE DETAIL "C".

① MINIMUM WALL THICKNESS SHALL BE 4-IN FOR 3-FT DIAMETER AND 5-IN FOR 4-FT DIAMETER PRECAST INLETS.

② FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

INLET COVER OPENING MATRIX

	INLET COVER TYPE	ALL A'S	ALL B'S	BW	C	F	ALL H'S	S	T	V	WM	Z
INLET SIZE	OPENING SIZE (FT)											
3-FT	2 DIA.				X							X
	2X2	X	X					X		X		
4-FT	2 DIA.				X							X
	2X2	X	X					X		X		
	2X2.5			X				X	X	X	X	
	2X3						X					
	2.5X3					X						



DETAIL "C"

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

INLETS 3-FT AND 4-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

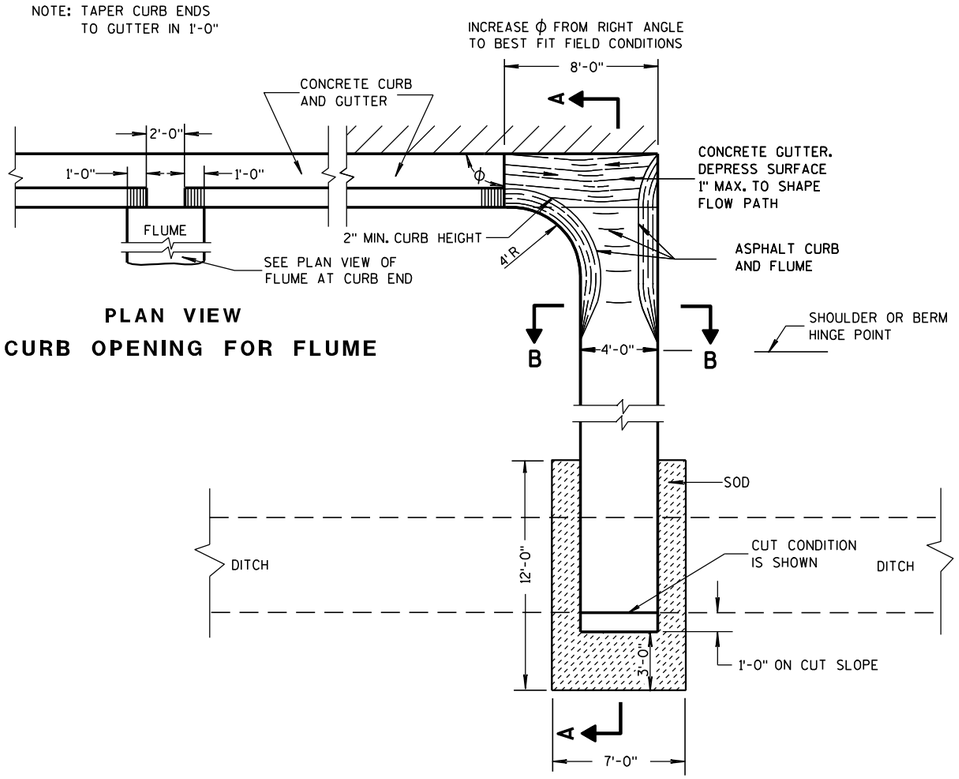
APPROVED
Sept.. 2016 — /S/ Rodney Taylor
DATE — ROADWAY STANDARDS | ENT UNIT SUPERVI
FHWA

INLETS 3-FT AND 4-FT DIAMETER

6

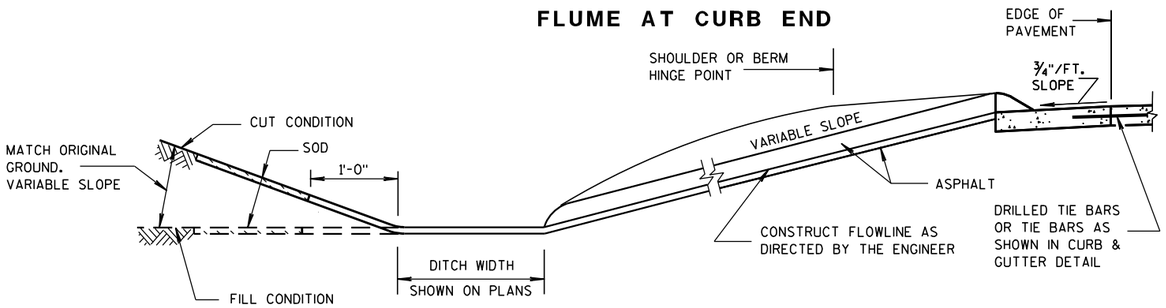
S.D.D. 8 C 6-2

ASPHALTIC FLUME

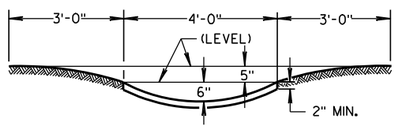


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

GENERAL NOTES

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

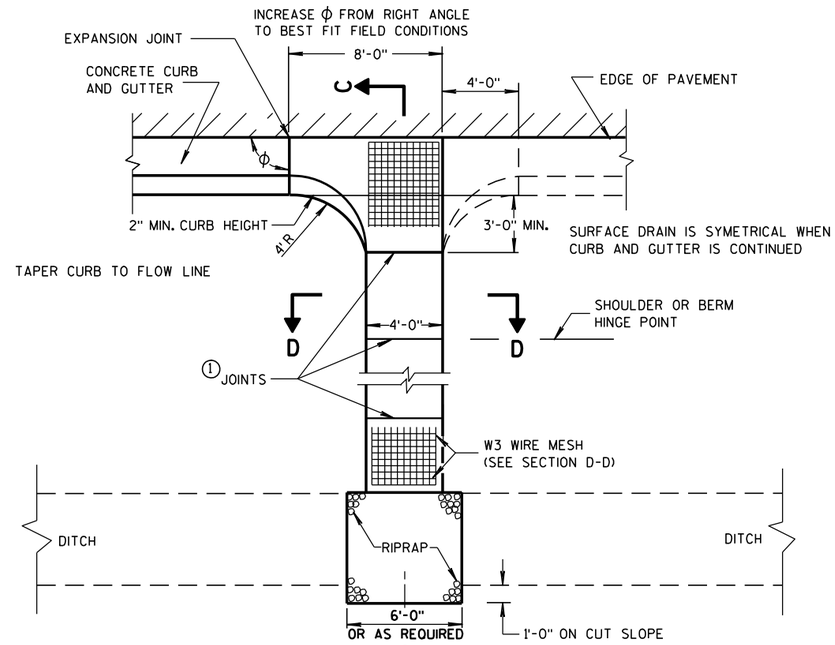
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

① JOINTS SHALL BE $\frac{1}{8}$ TO $\frac{1}{4}$ INCH WIDE BY $1\frac{1}{2}$ INCHES DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.

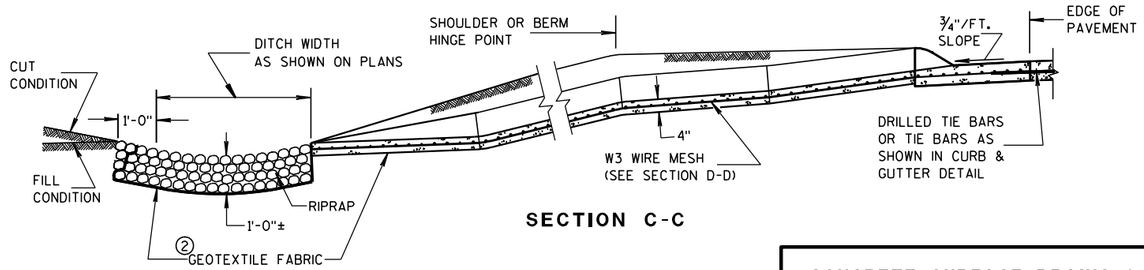
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

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

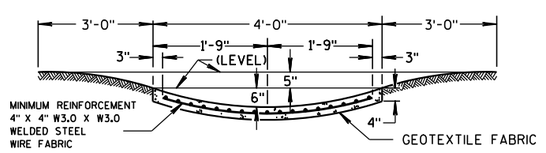
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

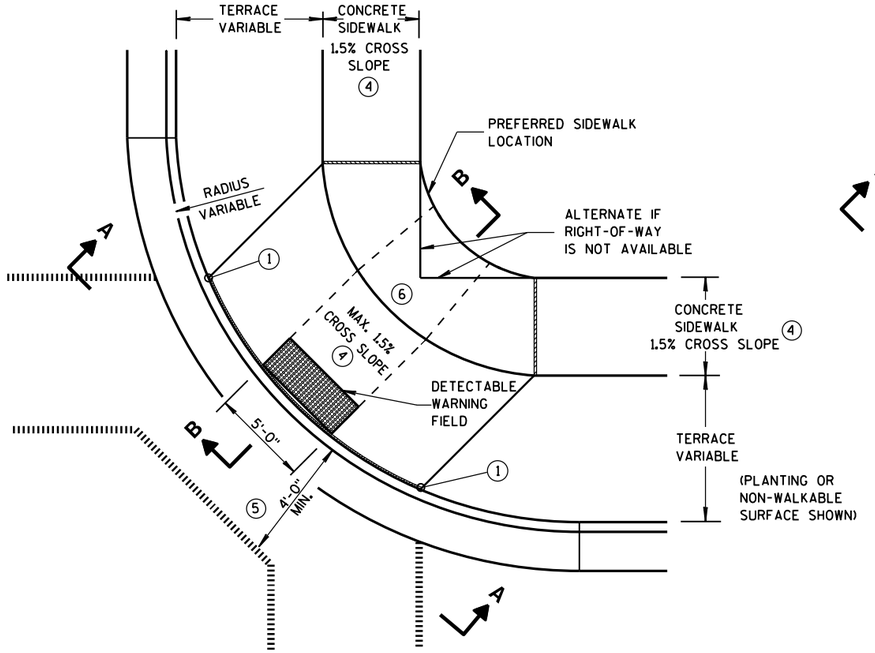
CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

S.D.D. 8 D 4-5

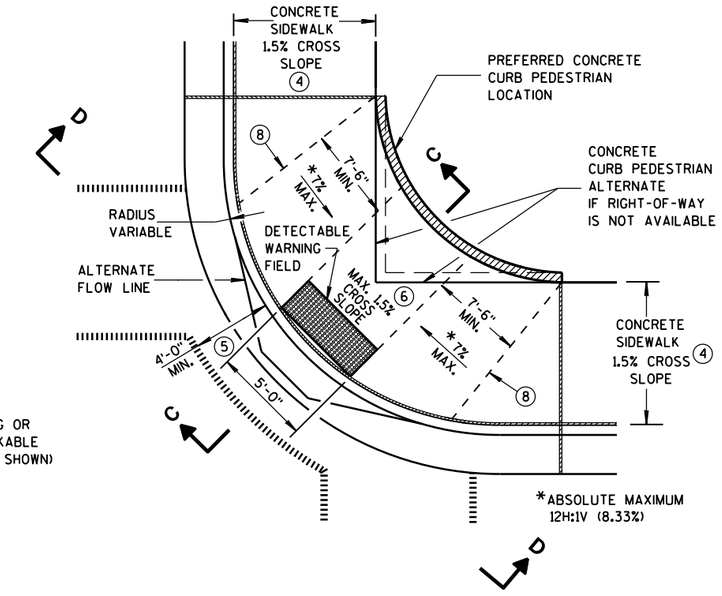
S.D.D. 8 D 4-5



PLAN VIEW

TYPE 1 RAMP

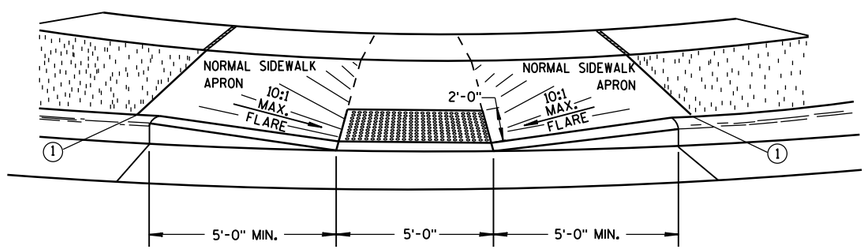
(CENTER OF CORNER RADIUS)



PLAN VIEW

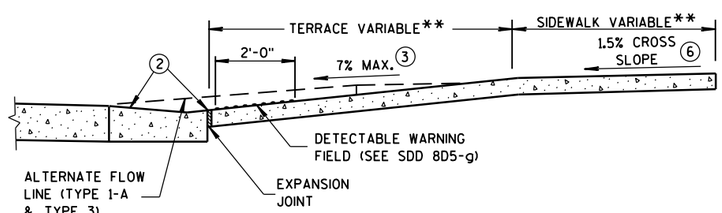
TYPE 1-A RAMP

(NO TERRACE)

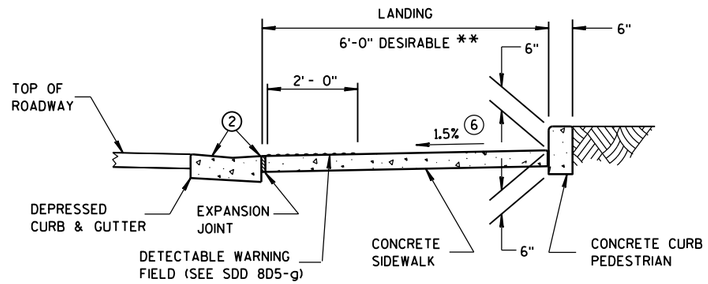


VIEW A-A

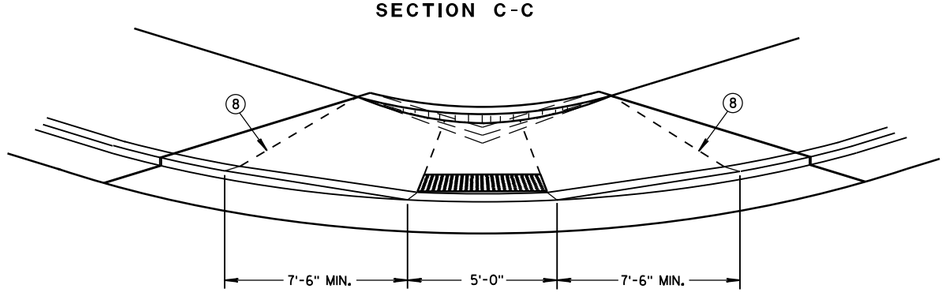
** WIDTH SHOWN ELSEWHERE IN THE PLANS



SECTION B-B



SECTION C-C



VIEW D-D

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

DETECTABLE WARNING FIELD 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 LINEAL 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 1/4-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) ABSOLUTE MAXIMUM 12H:1V (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.

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

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

LEGEND

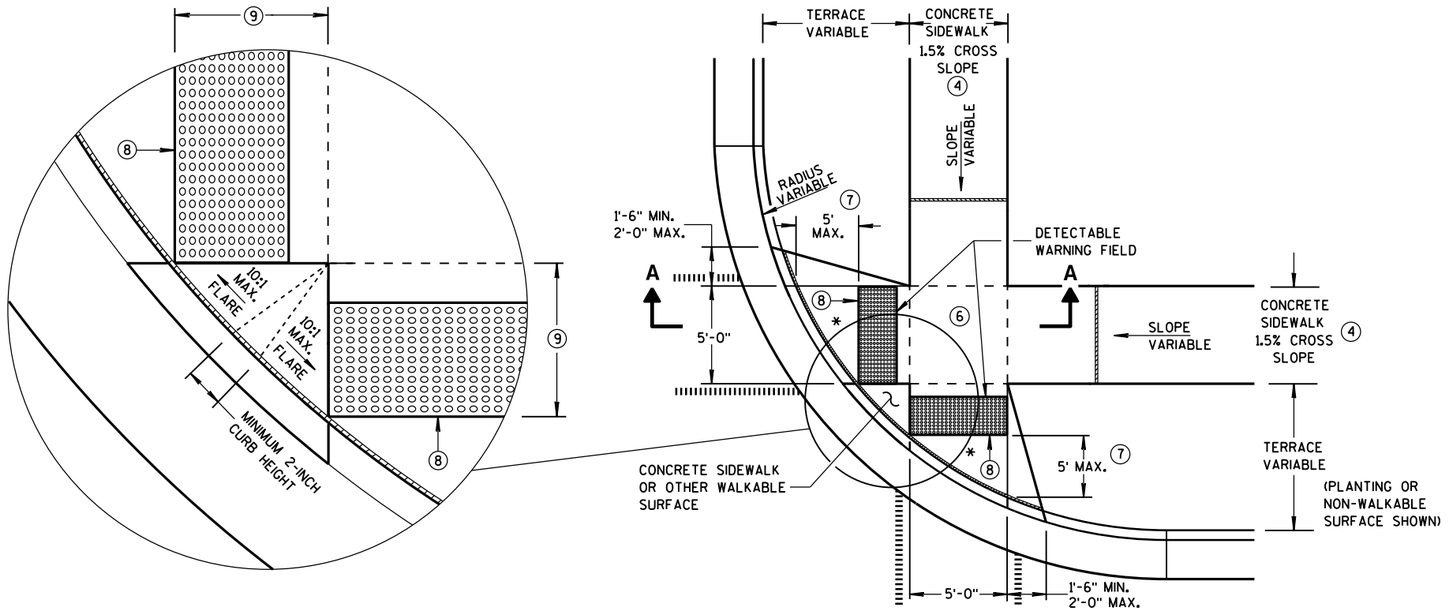
- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT

CURB RAMPS TYPES 1 AND 1-A

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

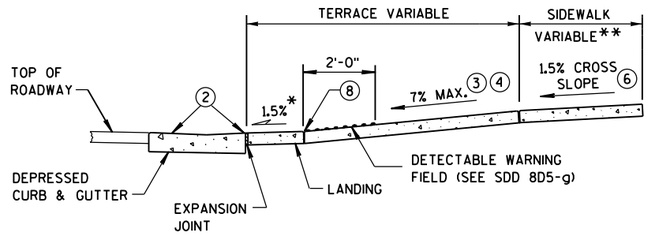
6

S.D.D. 8 D 5-19a



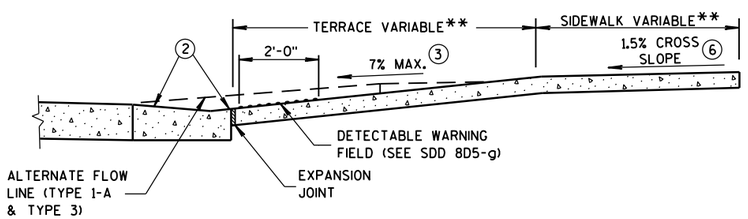
PLAN VIEW
TYPE 2 RAMP
(ON LINE WITH SIDEWALK)

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



SECTION A-A

** WIDTH SHOWN ELSEWHERE IN THE PLANS



SECTION B-B

GENERAL NOTES

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

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 1/4-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) ABSOLUTE MAXIMUM 12H:1V (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 X 5 FEET.

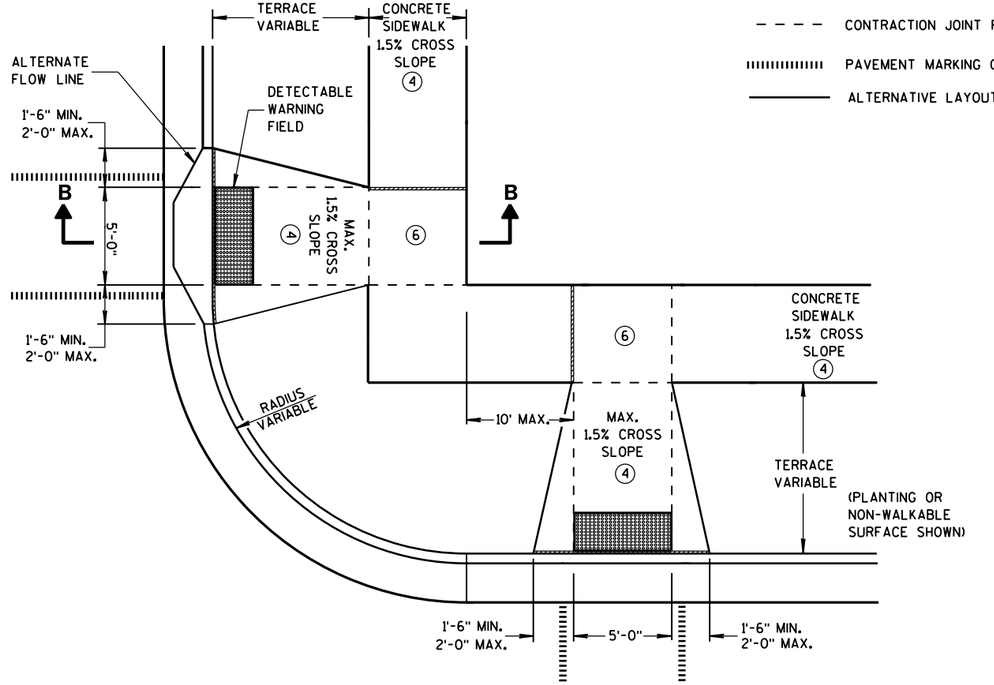
(7) WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

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

(9) WHEN THIS 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.

LEGEND

- 1/2" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)
- ALTERNATIVE LAYOUT



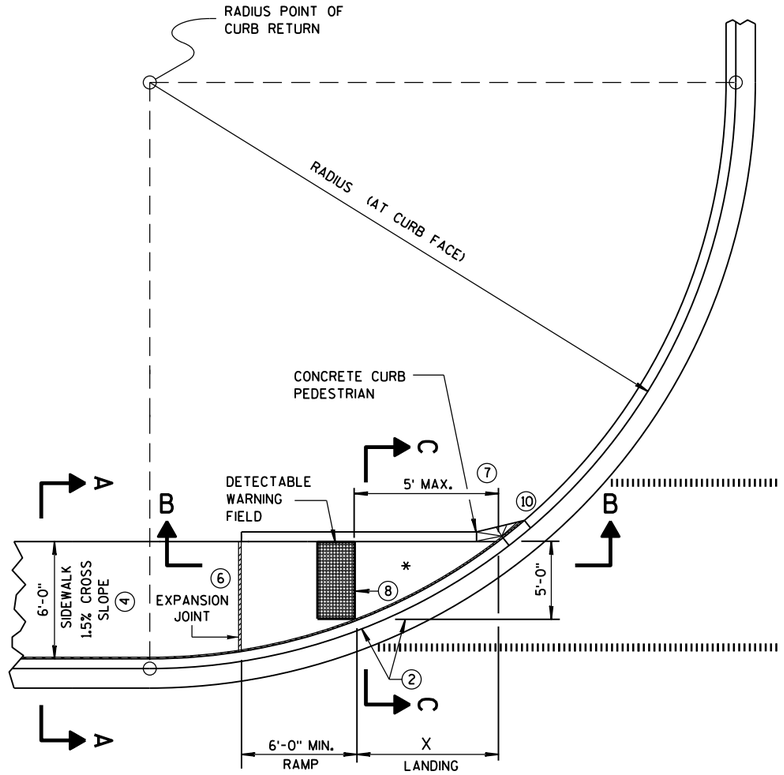
PLAN VIEW
TYPE 3 RAMP
(OUTSIDE OF CROSSWALK AREA)

CURB RAMPS TYPES 2 AND 3

STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

6

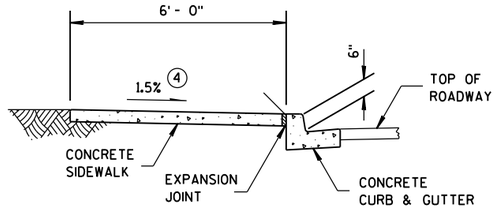
S.D.D. 8 D 5-19b



CURB RAMP TYPE 4A
PLAN VIEW

RADIUS (AT CURB FACE)	X
10 FEET	4'-7"
15 FEET	6'-5½"

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.

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) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

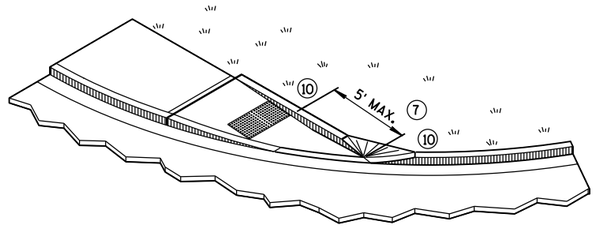
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

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

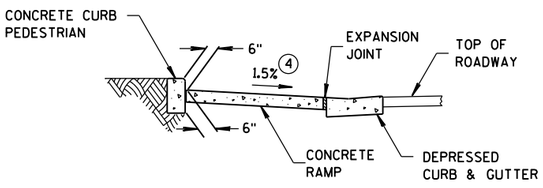
(7) WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

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

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

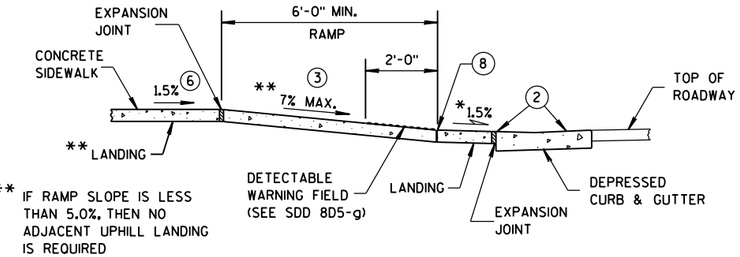


ISOMETRIC VIEW FOR TYPE 4A



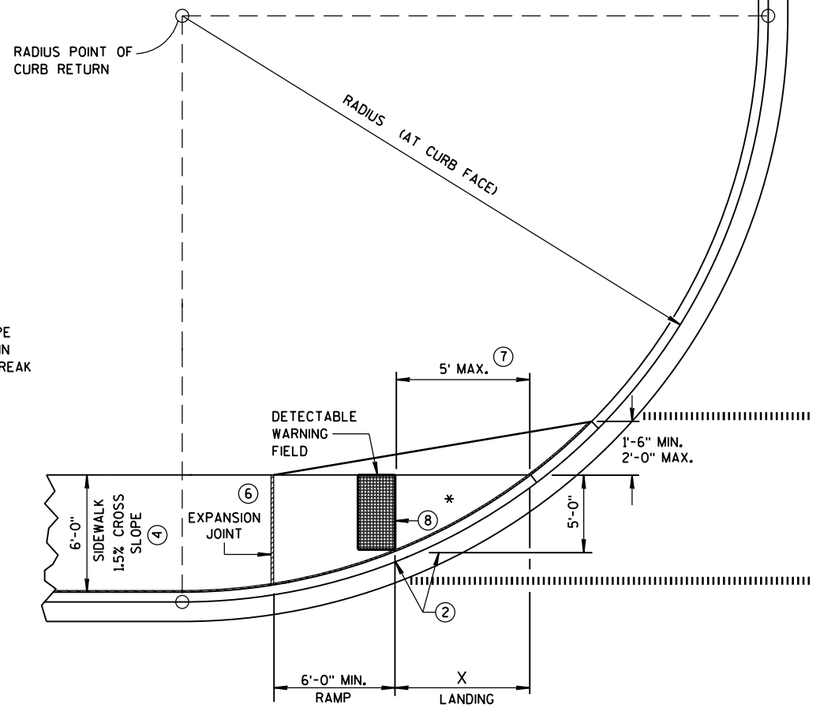
SECTION C-C FOR TYPE 4A

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

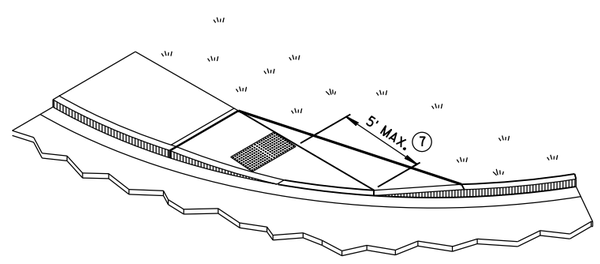


** IF RAMP SLOPE IS LESS THAN 5.0%, THEN NO ADJACENT UPHILL LANDING IS REQUIRED

SECTION B-B FOR TYPE 4A



CURB RAMP TYPE 4A1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4A1

LEGEND

½" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

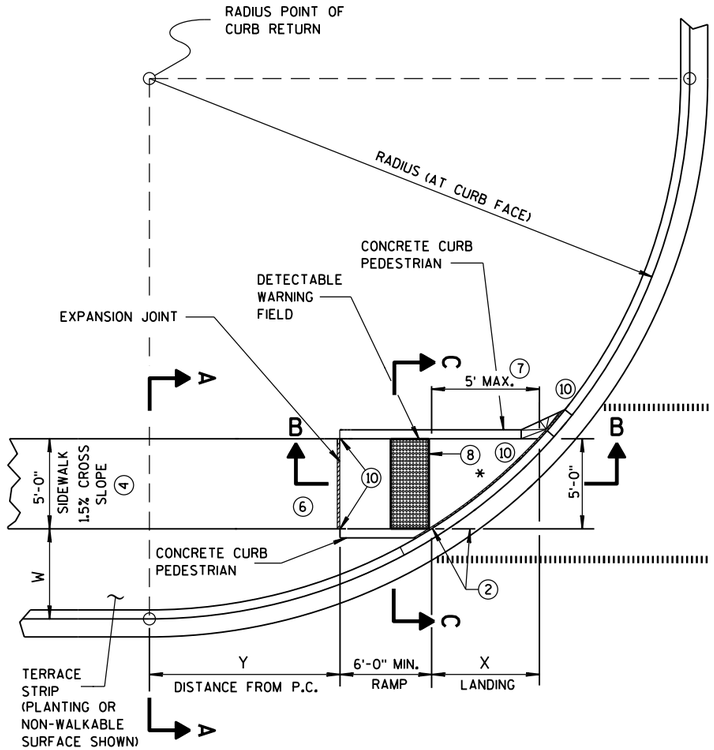
PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS
TYPES 4A AND 4A1

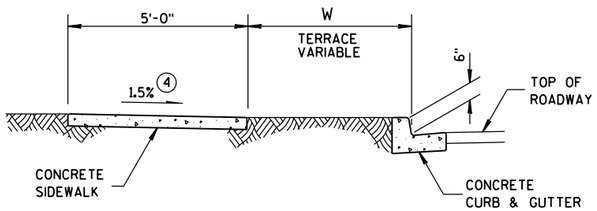
STATE OF WISCONSIN
DEPARTMENT OF TRANSPO

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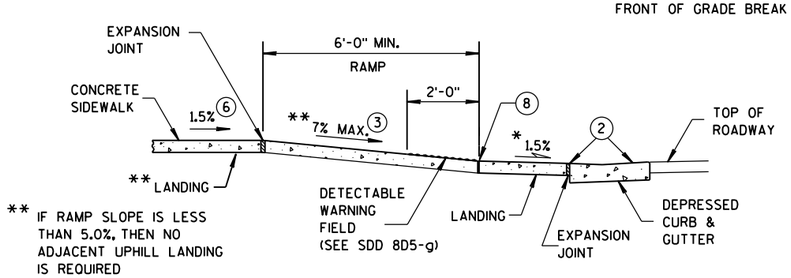
S.D.D. 8 D 5-19c



CURB RAMP TYPE 4B
PLAN VIEW



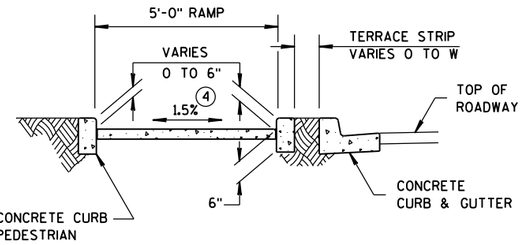
SECTION A-A FOR TYPE 4B



SECTION B-B FOR 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'-10¼"	0'-5"	2'-1"	1'-4½"	1'-5"	2'-1"	0'-10"	2'-7½"	0'-3¼"	3'-0¼"						
15 FEET	4'-6¾"	2'-1¾"	3'-9"	3'-5¼"	3'-1¼"	4'-6"	2'-6¾"	5'-4½"	2'-1"	6'-1"	1'-8"	6'-8½"	1'-3¼"	7'-2½"	0'-10¾"	7'-7¼"
20 FEET	5'-9¾"	3'-6½"	4'-11½"	5'-1¾"	4'-3¼"	6'-5½"	3'-8¾"	7'-7"	3'-3"	8'-6½"	2'-10"	9'-4½"	2'-5½"	10'-1¼"	2'-1¼"	10'-9"
30 FEET			6'-9¼"	7'-11¼"	6'-0¼"	9'-8"	5'-5"	11'-1¾"	4'-10¾"	12'-5¾"	4'-5½"	13'-7¾"	4'-0¾"	14'-8½"	3'-8½"	15'-8¼"
40 FEET									6'-1¾"	15'-8½"	5'-8"	17'-2"	5'-3"	18'-5¾"	4'-10¾"	19'-8¼"
50 FEET															5'-10¼"	23'-2"

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



SECTION C-C FOR TYPE 4B

GENERAL NOTES

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

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) ABSOLUTE MAXIMUM 12H:1V (8.33%) CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.

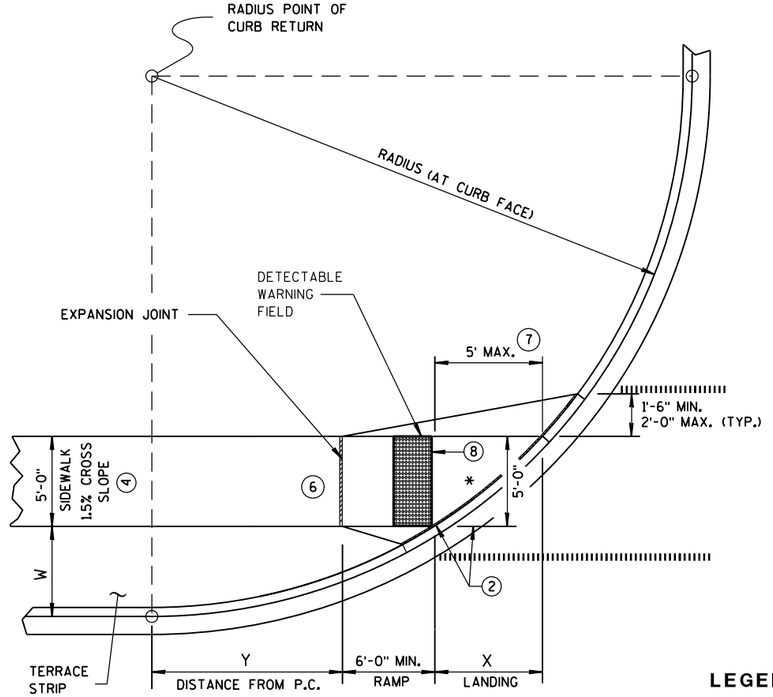
(4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

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

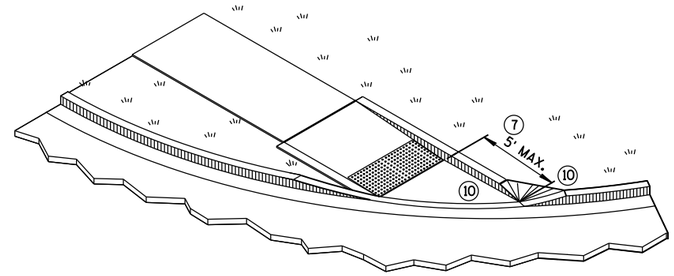
(7) WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.

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

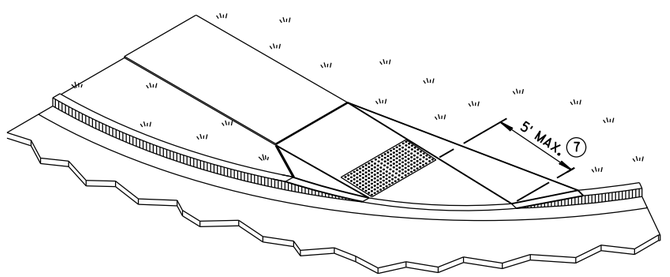
(10) INSTALL TRANSITION NOSE. (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.



CURB RAMP TYPE 4B1
PLAN VIEW



ISOMETRIC VIEW FOR TYPE 4B



ISOMETRIC VIEW FOR TYPE 4B1

LEGEND

½" EXPANSION JOINT-SIDEWALK

CONTRACTION JOINT FIELD LOCATED

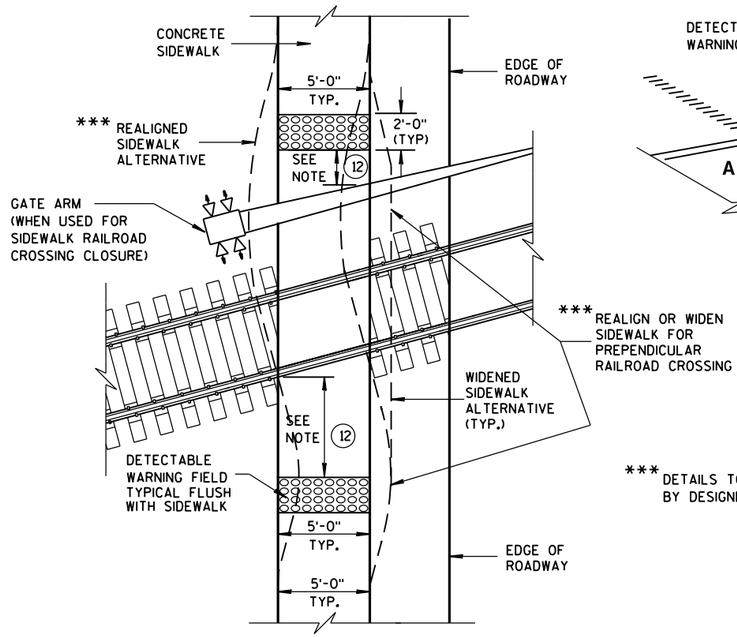
PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS TYPE 4B AND 4B1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

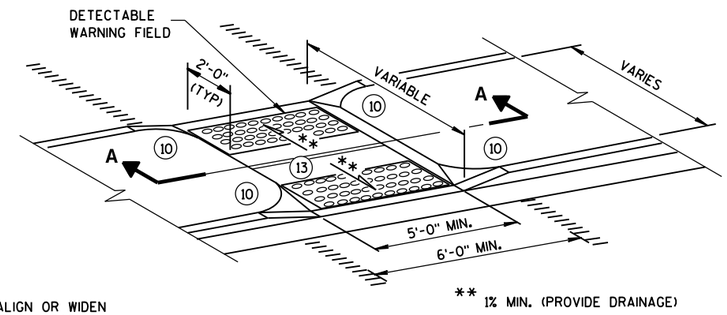
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S.D.D. 8 D 5-19d



TYPE 8
DETECTABLE WARNINGS AT RAILROAD CROSSING

*** DETAILS TO BE DETERMINED BY DESIGNER



** 1% MIN. (PROVIDE DRAINAGE)

MEDIAN ISLAND
NON-ELEVATED PEDESTRIAN CROSSING
TYPE 5

GENERAL NOTES

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

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 1/4-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) ABSOLUTE MAXIMUM 12H:1V (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.

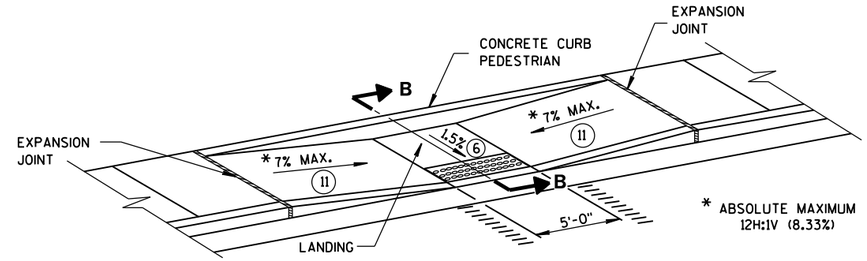
(6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET X 5 FEET.

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

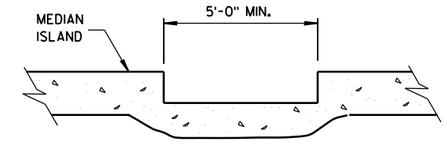
(11) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.

(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. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.

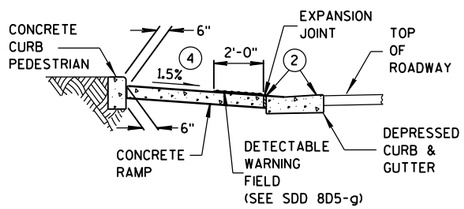
(13) DO NOT INSTALL DETECTABLE WARNING FIELDS AT THE EDGES OF STREET-LEVEL PEDESTRIAN REFUGE ISLANDS IF A MINIMUM 2-FOOT CONCRETE SURFACE WITHOUT DETECTABLE WARNINGS (MEASURED IN THE DIRECTION OF PEDESTRIAN TRAVEL) CANNOT BE ACHIEVED.



MID-BLOCK CROSSING
TYPE 7A

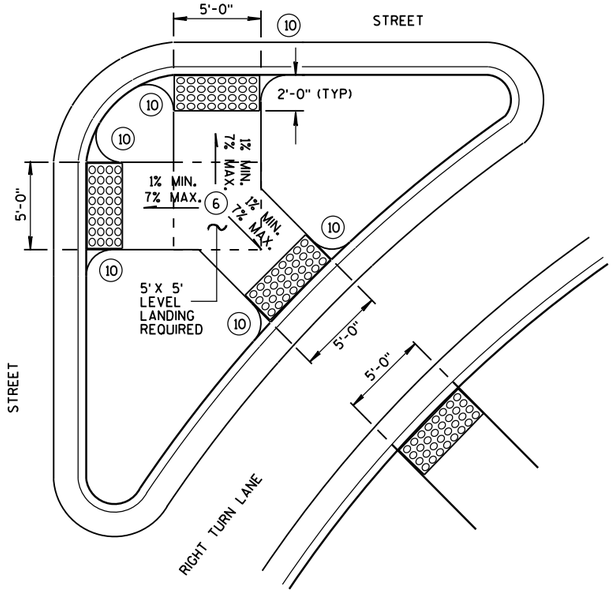


SECTION A-A

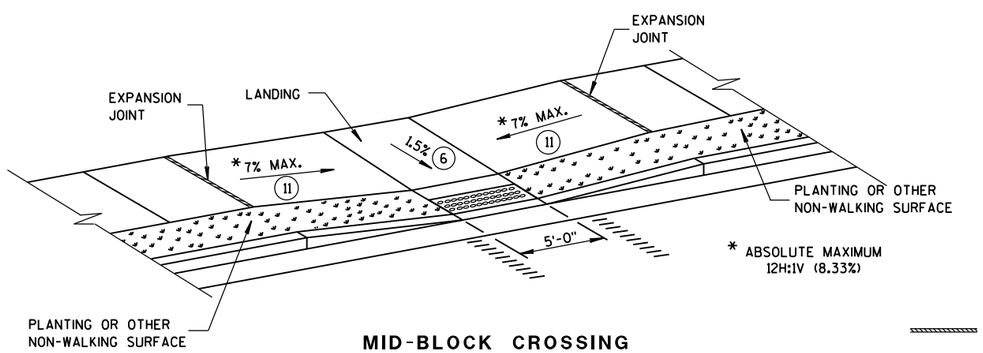


SECTION B-B

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



TYPE 6
DETECTABLE WARNING AT ISLANDS



MID-BLOCK CROSSING
TYPE 7B

NOTE: THESE PARALLEL AND PARALLEL/PERPENDICULAR CURB RAMPS MAY BE USED AT INTERSECTIONS AND MID BLOCK LOCATIONS.

LEGEND

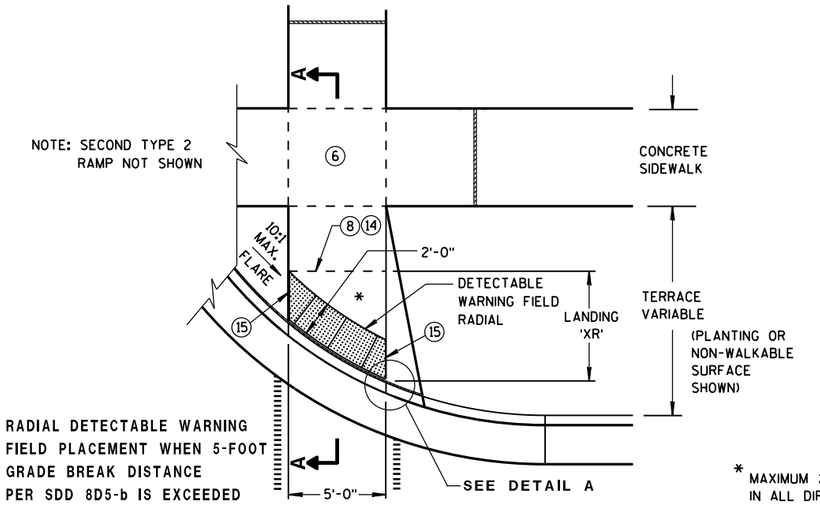
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 8 D 5-19e

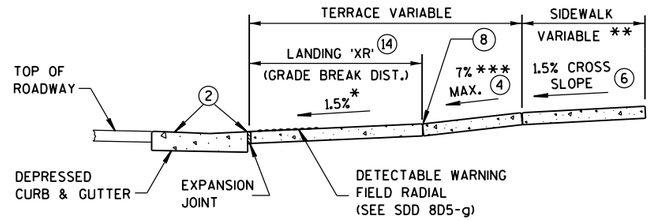


TYPE 2 RAMP
PLAN VIEW
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)
(ON LINE WITH SIDEWALK)

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

LEGEND

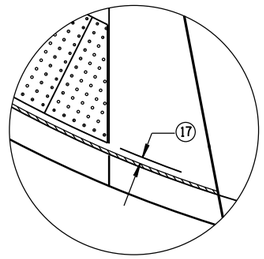
- ½" EXPANSION JOINT-SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)



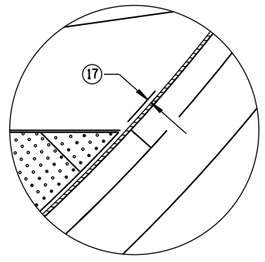
** WIDTH SHOWN ELSEWHERE IN THE PLANS

*** ABSOLUTE MAXIMUM 12H:1V (8.33%)

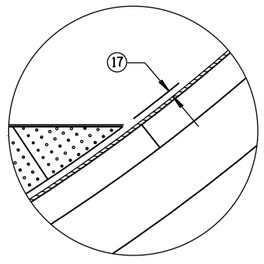
SECTION A-A



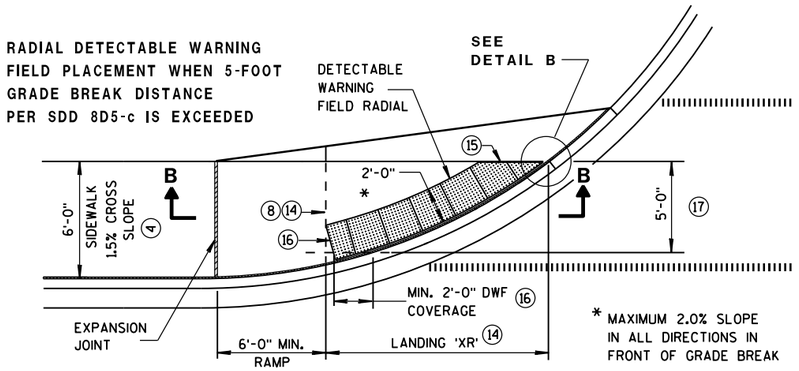
DETAIL A



DETAIL C

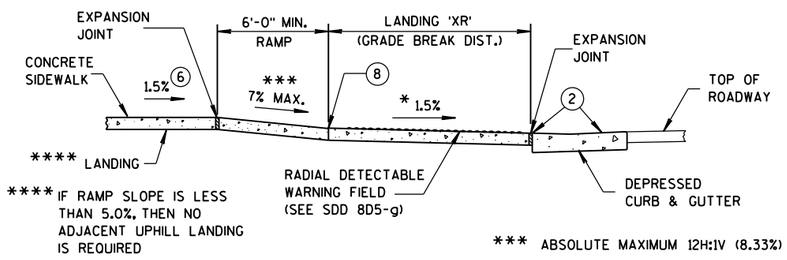


DETAIL B



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

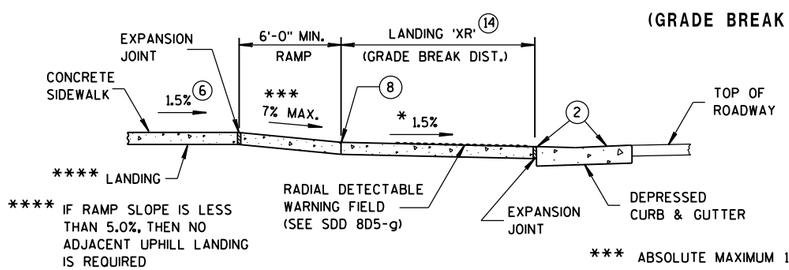
CURB RAMP TYPE 4A1
PLAN VIEW
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)



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

*** ABSOLUTE MAXIMUM 12H:1V (8.33%)

SECTION B-B FOR TYPE 4A1



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

*** ABSOLUTE MAXIMUM 12H:1V (8.33%)

SECTION C-C FOR TYPE 4B1

GENERAL NOTES

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

DETECTABLE WARNING FIELDS (DWFs) 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 FIELD 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.

(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) ABSOLUTE MAXIMUM 12H:1V (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 X 5 FEET.

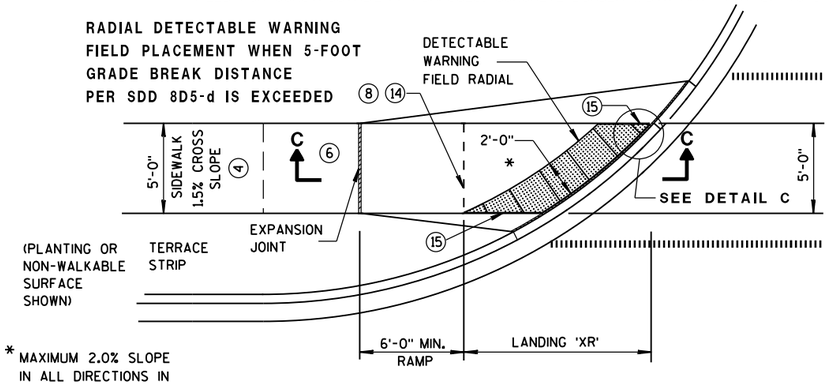
(8) PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

(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 1/8" 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.



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

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

CURB RAMPS
RADIAL DETECTABLE WARNING FIELD APPLICATIONS

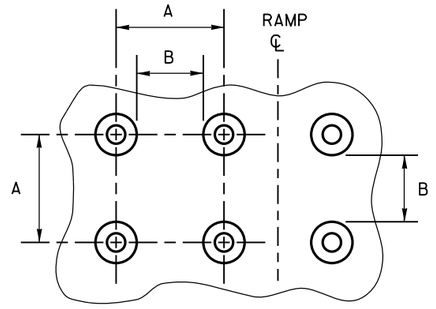
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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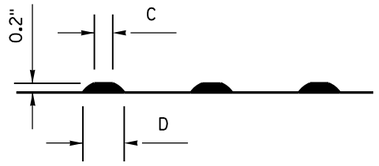
S.D.D. 8 D 5-19f

	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

TRUNCATED DOMES

DETECTABLE WARNING PATTERN DETAIL

GENERAL NOTES

DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, 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 FIELD ARE PROHIBITED.

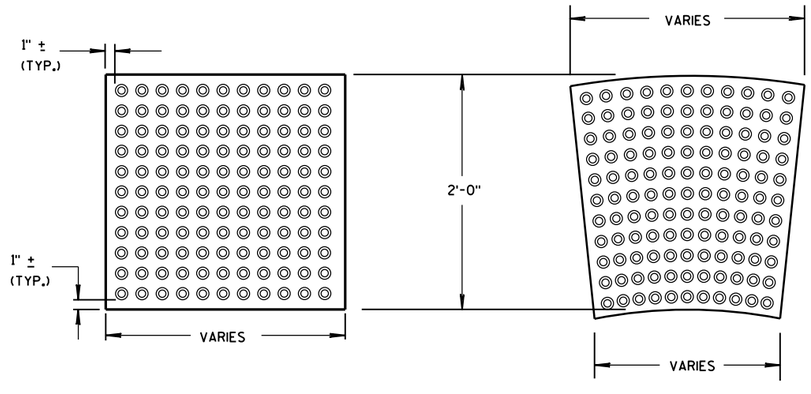
DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

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 WEDGES IN COMBINATION WITH SQUARE PANELS 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 1/8" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.

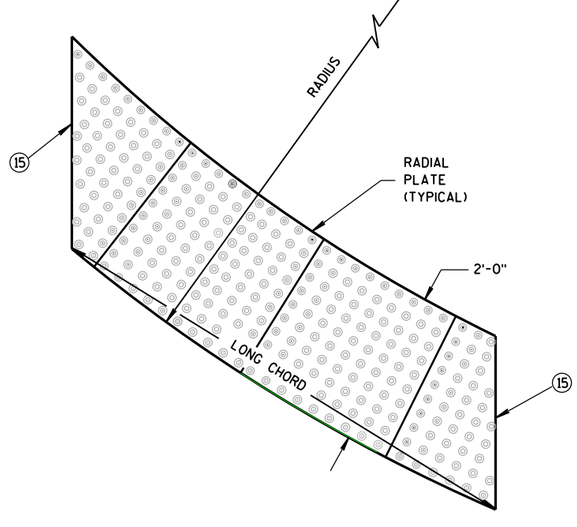


RECTANGULAR PLATES

RADIAL PLATES

DETECTABLE WARNING FIELDS (TYPICAL)

PLAN VIEW



RADIAL DETECTABLE WARNING FIELD ATTRIBUTES

CURB RAMPS
RECTANGULAR AND RADIAL
DETECTABLE WARNING PLATES

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DEPARTMENT OF TRANSPORTATION

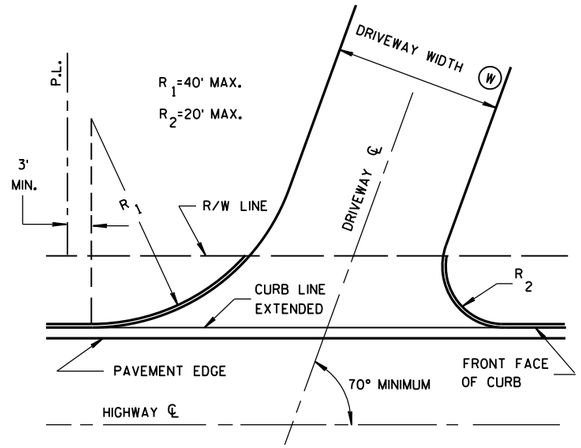
APPROVED
June, 2017 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS UNIT SUPERV
ENT
FHWA

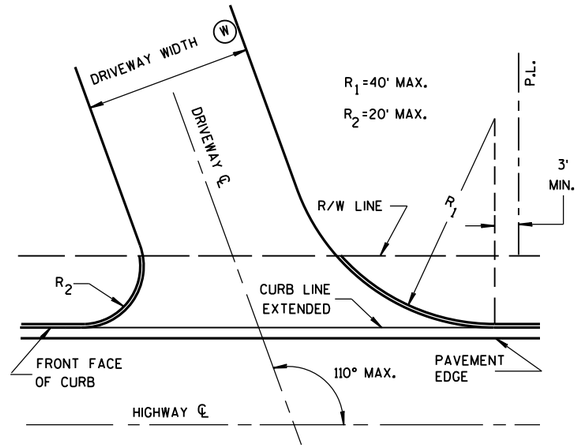
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S.D.D. 8 D 5-19g

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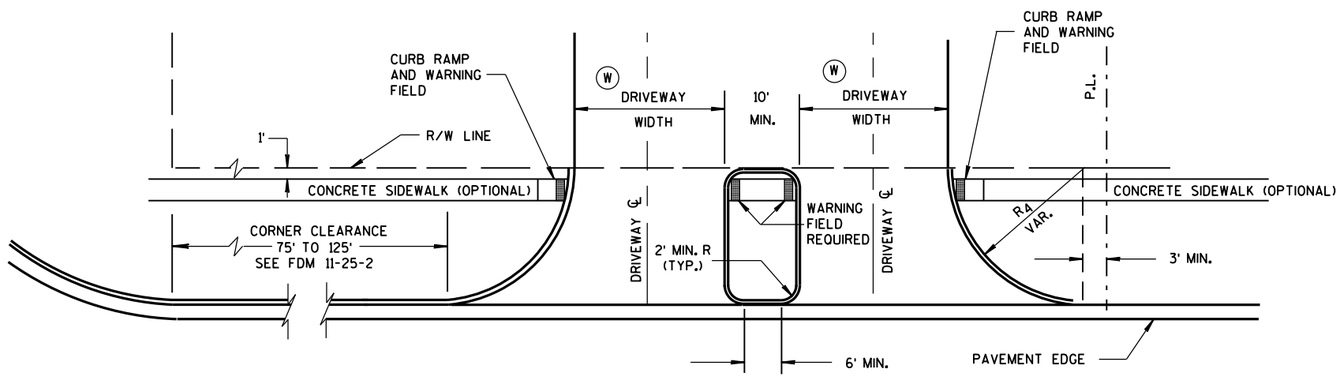
S.D.D. 8 D 5-19g





SKEWED DRIVEWAY DETAILS
(COMMERCIAL AND NON-COMMERCIAL)

SIDEWALK NOT SHOWN



DRIVEWAY LOCATION AND SPACING DETAILS

SIDEWALK SHOWN

NOTES

A MAXIMUM RADIUS OF 10 FEET SHALL BE USED FOR NON-COMMERCIAL PRIVATE ENTRANCES. RADII FOR COMMERCIAL DRIVEWAYS SHALL BE DETERMINED BY THE ENGINEER BASED ON TRAFFIC AND DRIVEWAY PERMIT RESTRICTIONS.

THE MINIMUM ANGLE OF INTERSECTION BETWEEN THE DRIVEWAY AND HIGHWAY CENTERLINES SHALL BE 70°.

ALL CURVILINEAR PRIVATE ENTRANCE OUTLINES SHALL BE CONTAINED WITHIN THE HIGHWAY R/W.

NO DRIVEWAY SHALL BE BUILT WITHIN 3 FEET OF THE PROPERTY LINE EXCEPT FOR EXISTING JOINT DRIVEWAY SHARED BY TWO OWNERS.

Ⓦ DRIVEWAY WIDTHS:

COMMERCIAL - 35' MAX., 16' MIN.

RESIDENTIAL AND NON-COMMERCIAL - 24' MAX., 12' MIN.

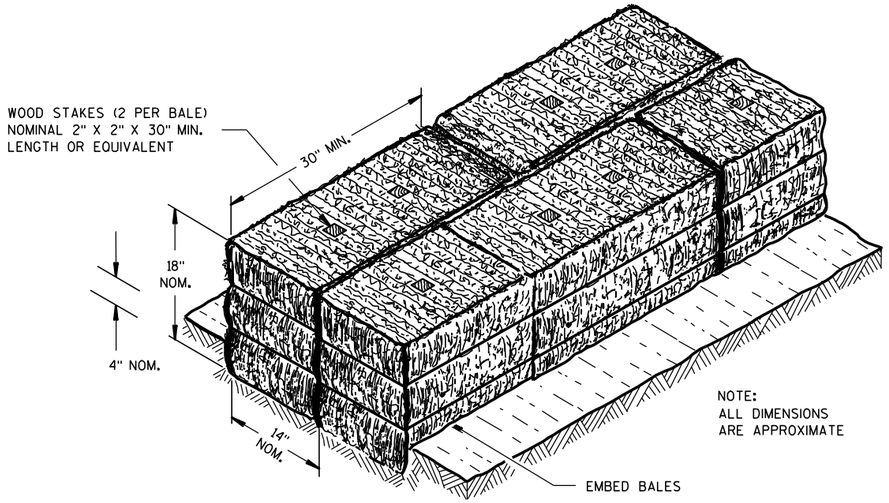
DRIVEWAYS WITH CURB & GUTTER RETURNS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

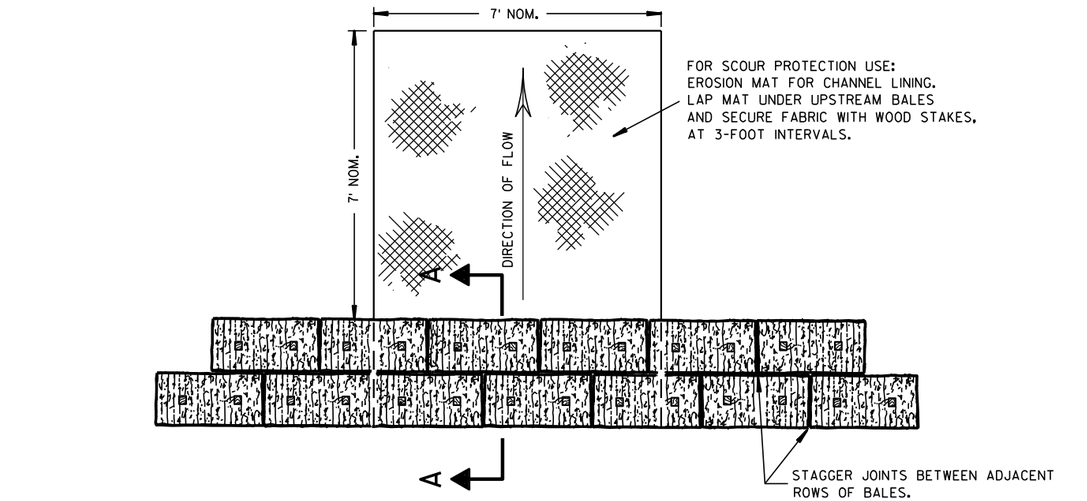
APPROVED
December, 2016 — DATE
/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERV
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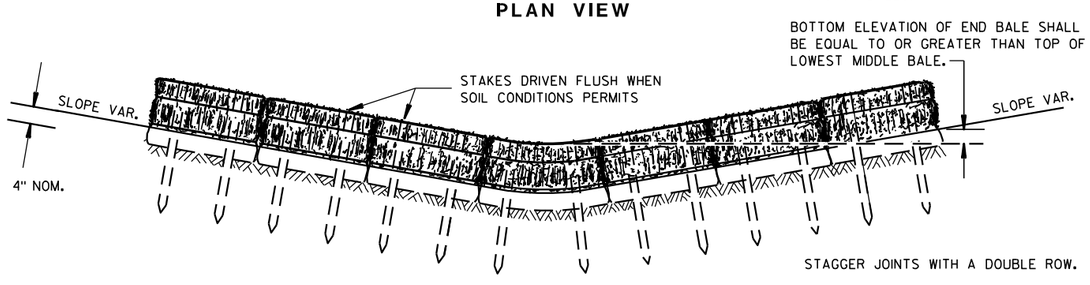
S.D.D. 8 D 20-1



SECTION A-A



PLAN VIEW



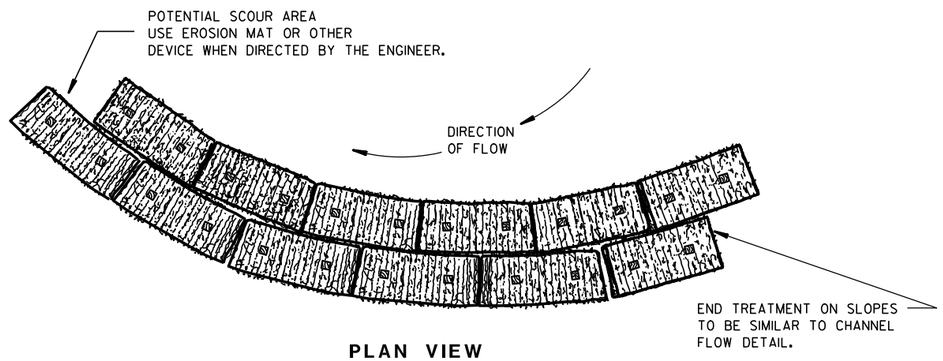
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

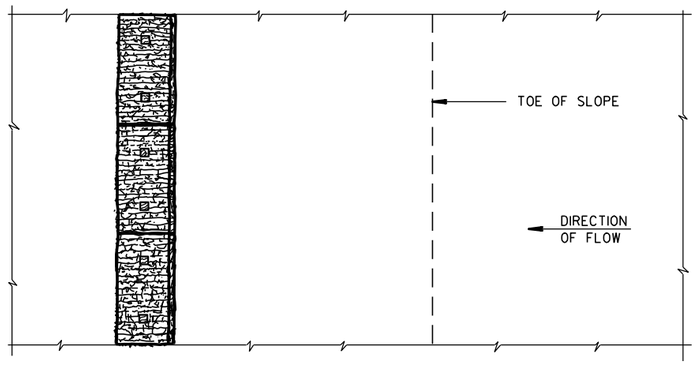
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

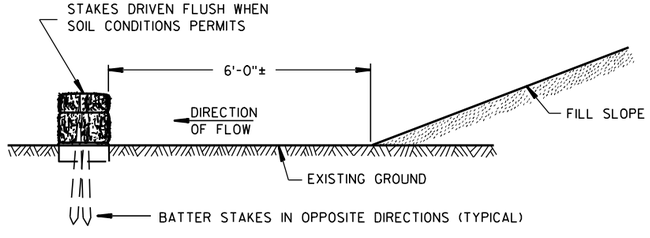


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

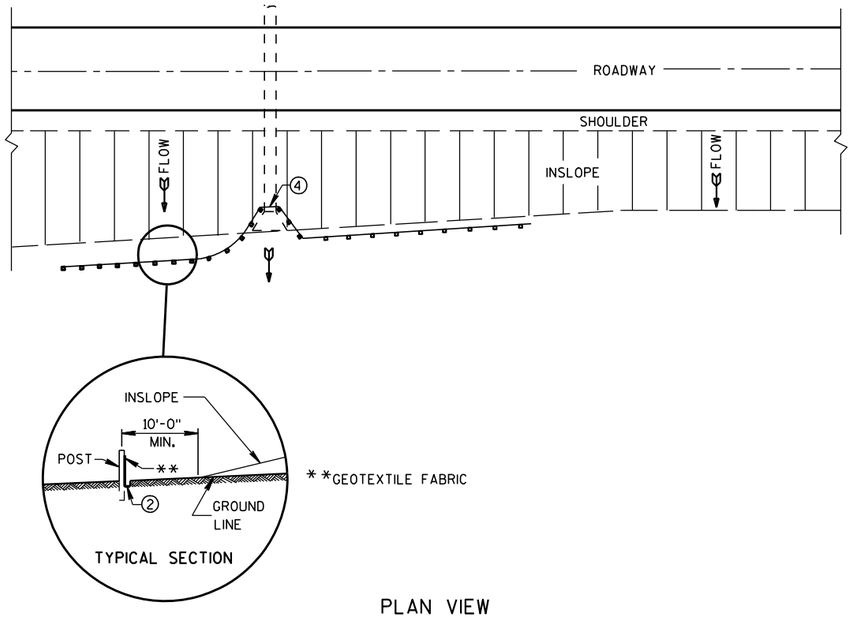
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS

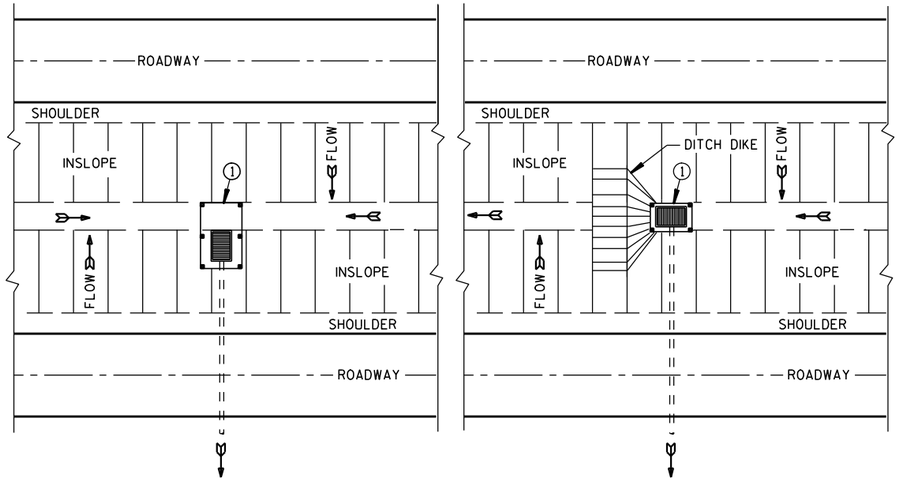
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



PLAN VIEW

TYPICAL APPLICATION OF SILT FENCE



PLAN VIEW

SILT FENCE AT MEDIAN SURFACE DRAINS

GENERAL NOTES

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

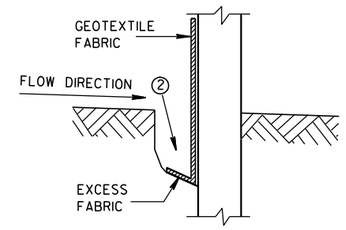
① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

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.

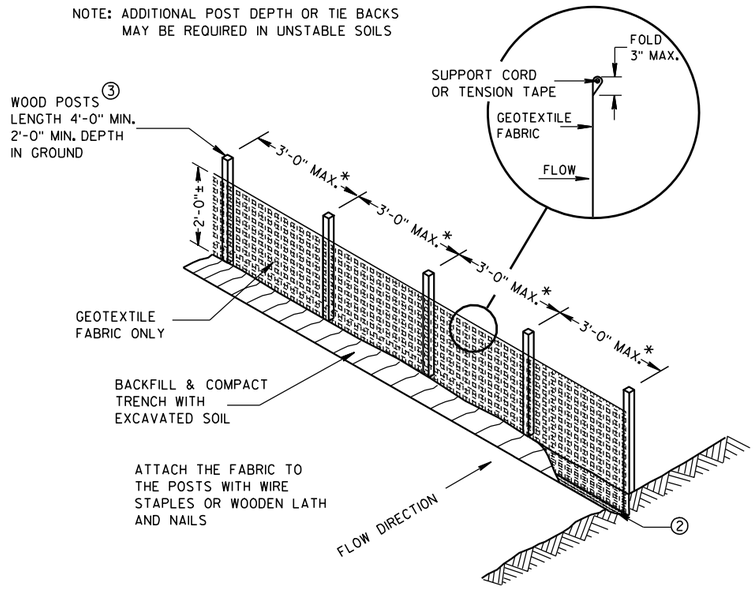
③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1⅛" X 1⅛" OF OAK OR HICKORY.

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.

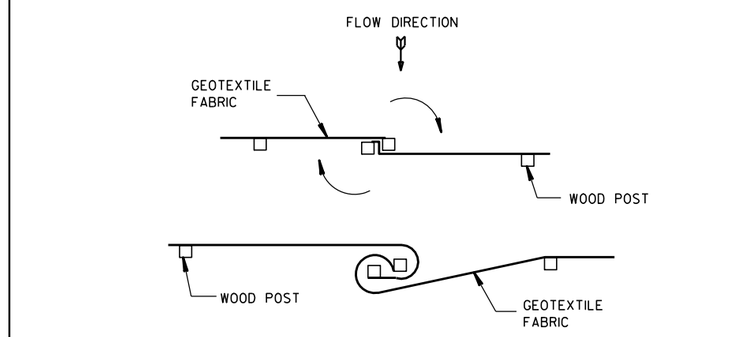


TRENCH DETAIL

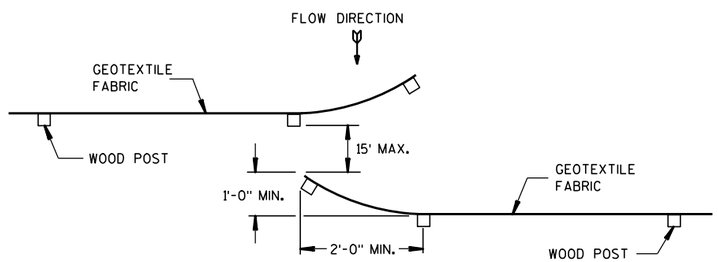


*NOTE: 8'-0" POST SPACING ALLOWED IF A WOVEN GEOTEXTILE FABRIC IS USED.

SILT FENCE

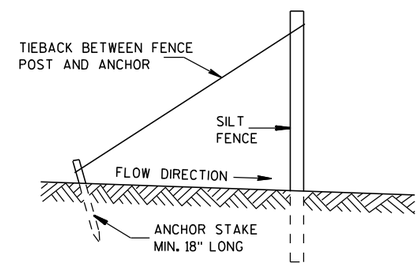


TWIST METHOD



HOOK METHOD

JOINING TWO LENGTHS OF SILT FENCE ⑤



SILT FENCE TIE BACK

(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

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DEPARTMENT OF TRANSPORTATION

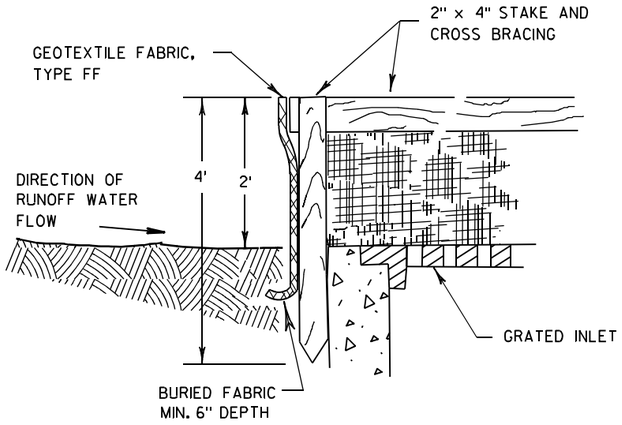
APPROVED
4-29-05 DATE
/S/ Beth Cannestra
CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA

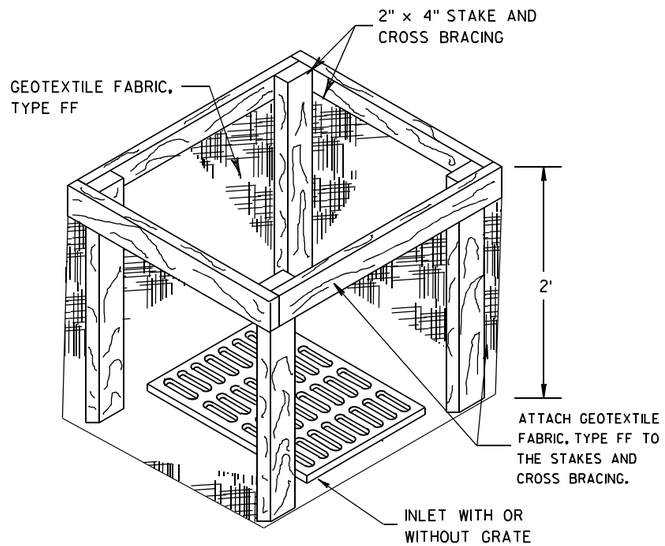
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S.D.D. 8 E 9-6

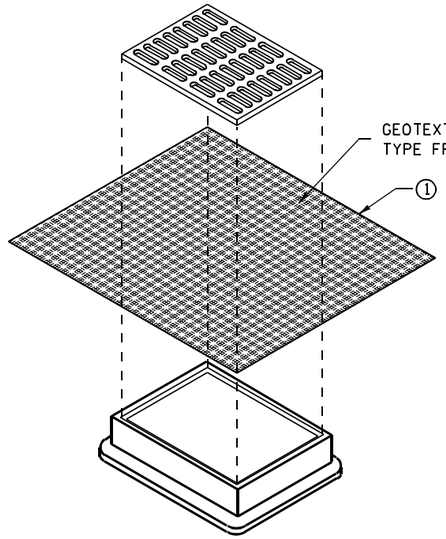
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S.D.D. 8 E 9-6



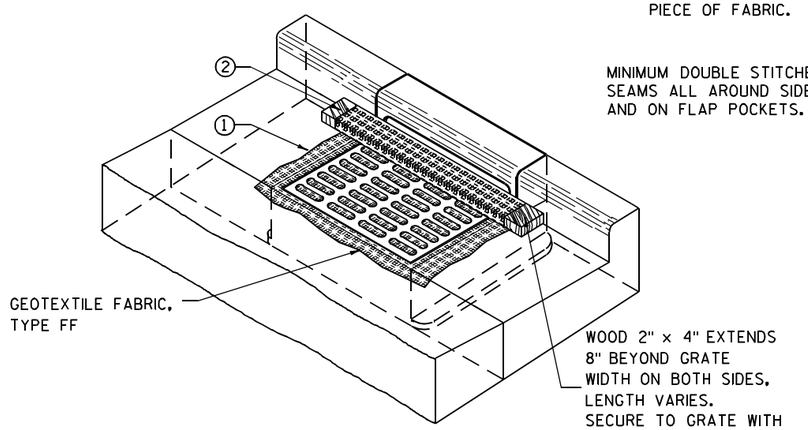


INLET PROTECTION, TYPE A

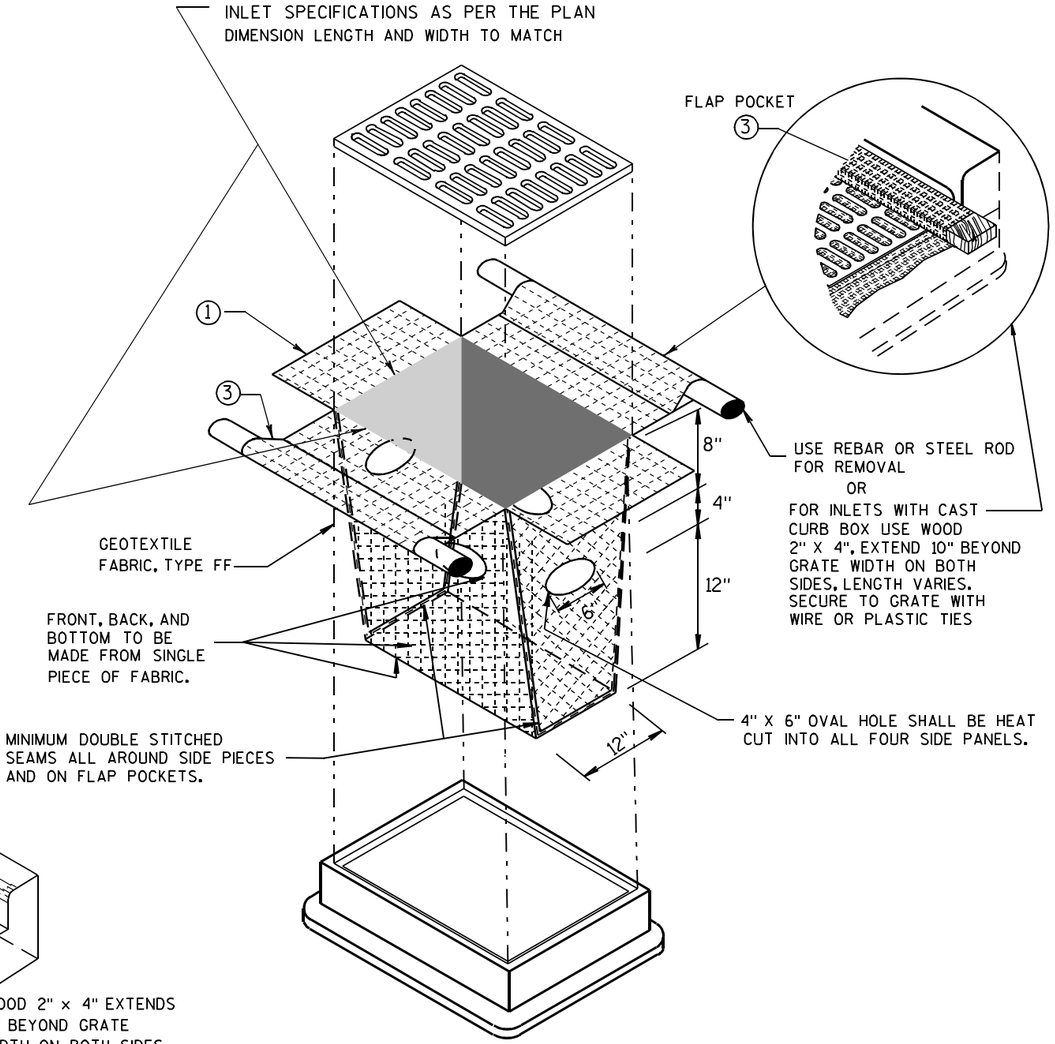


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

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.

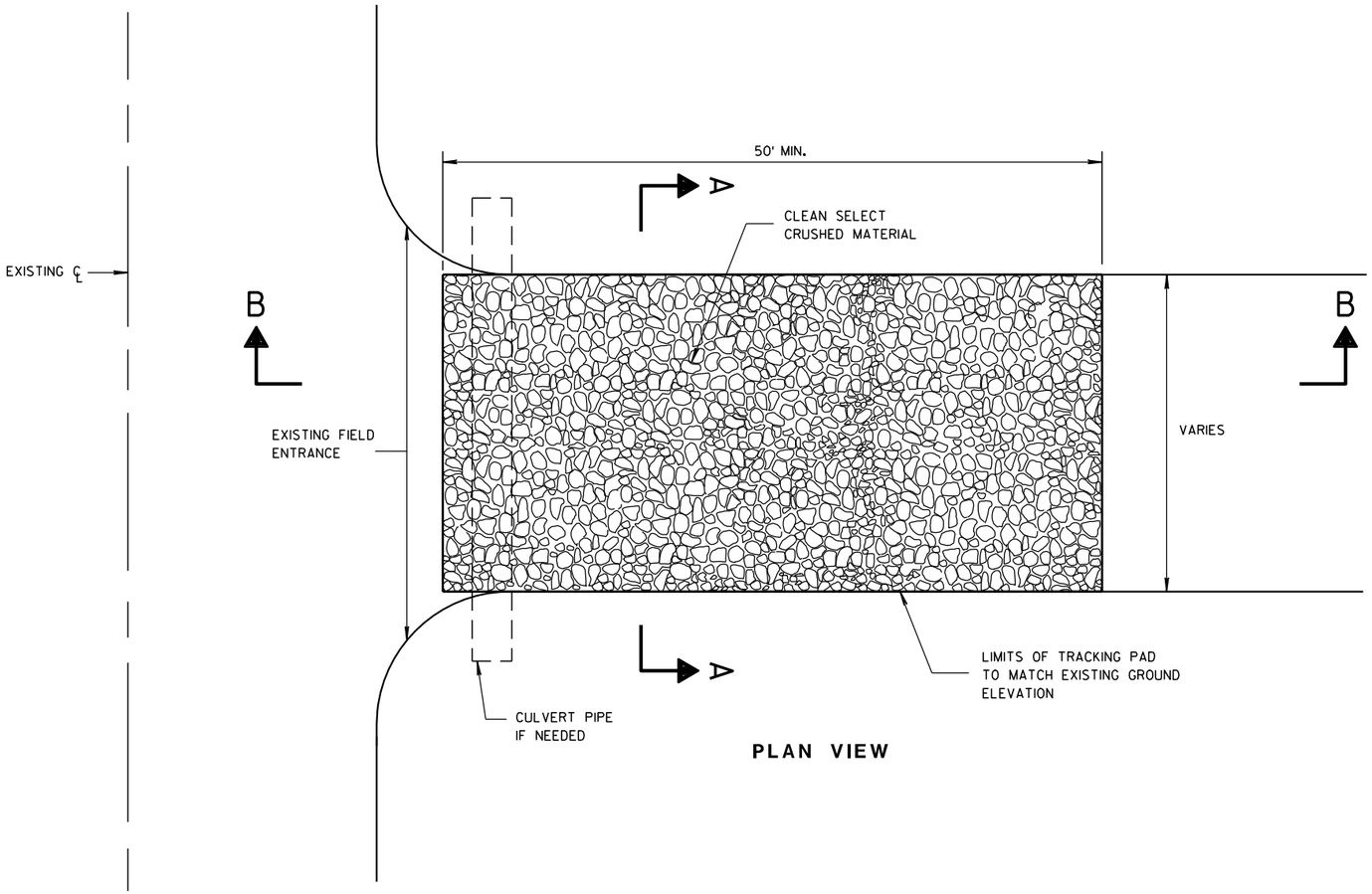
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE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

INLET PROTECTION
TYPE A, B, C, AND D

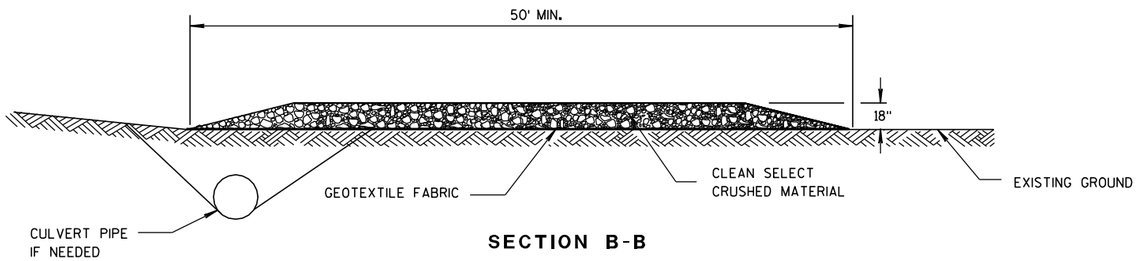
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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



PLAN VIEW



SECTION B-B

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.

TRACKING PAD SHALL BE INSPECTED DAILY. DEFICIENT AREAS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.

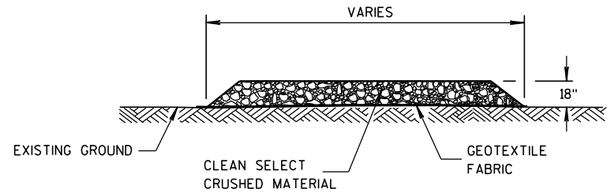
TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT.

SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

CULVERT PIPE OR OTHER BMP USED TO DIVERT WATER AWAY, AROUND OR UNDER THE TRACKING PAD SHALL BE DESIGNED TO CONVEY THE 2 YEAR - 24 HOUR EVENT.

THE COST OF ADDITIONAL BMP TO DIVERT WATER ARE INCIDENTAL TO THE TRACKING PAD BID ITEM.



SECTION A-A

TRACKING PAD

TRACKING PAD

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

3/24/2011	/S/ Jerry H. Zona	
DATE	ROADWAY STANDARDS ENGINEER 85	ENT

FHWA

6

S.D.D. 8 E 14-1

METAL APRON ENDWALLS

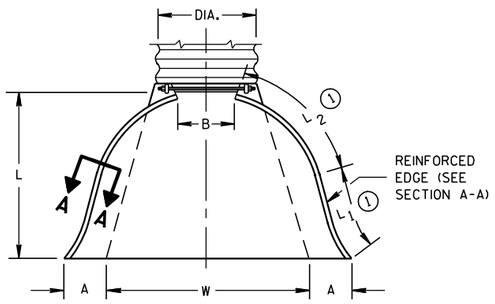
PIPE DIA. (IN.)	MIN. THICK. (Inches) STEEL	MIN. THICK. (Inches) ALUM.	DIMENSIONS (Inches) A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L1 ①	L2 ①	W (±2")	APPROX. SLOPE	BODY
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.
18	.064	.060	8	10	6	31	15	28 1/4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

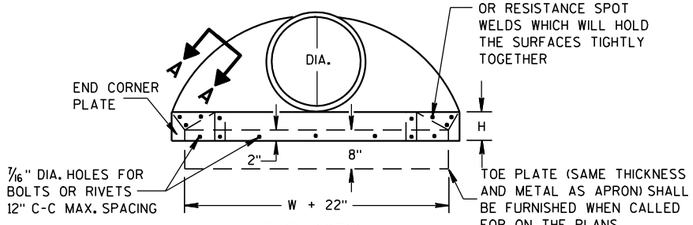
REINFORCED CONCRETE APRON ENDWALLS

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

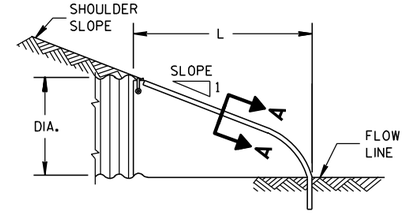
* MINIMUM
** MAXIMUM



PLAN VIEW

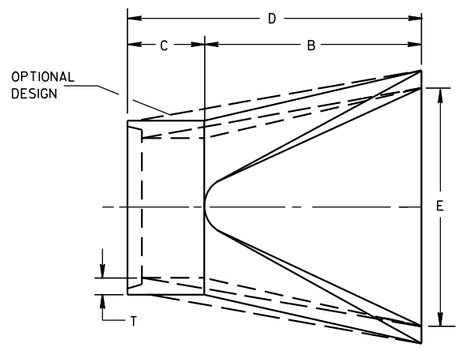


END VIEW

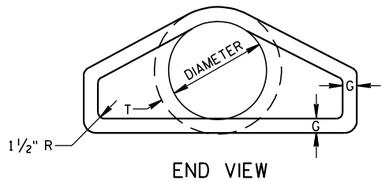


SIDE ELEVATION

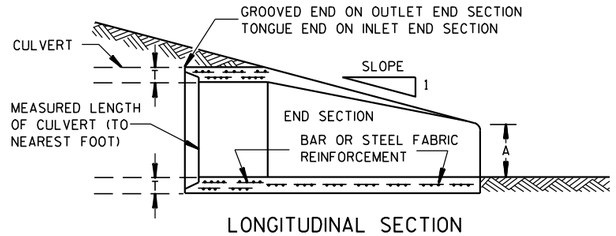
METAL ENDWALLS



PLAN

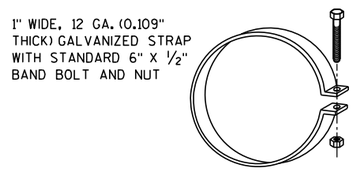


END VIEW



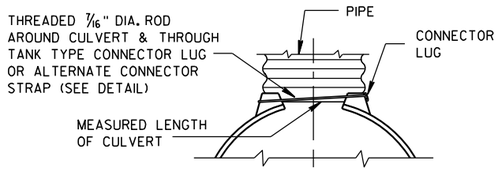
LONGITUDINAL SECTION

CONCRETE ENDWALLS

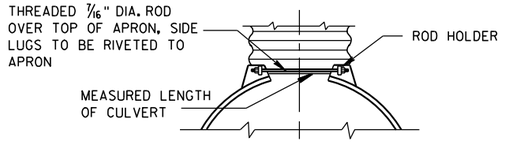


ALTERNATE FOR TYPE 1 CONNECTION

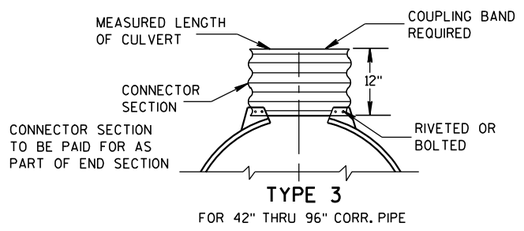
END SECTION CONNECTOR STRAP



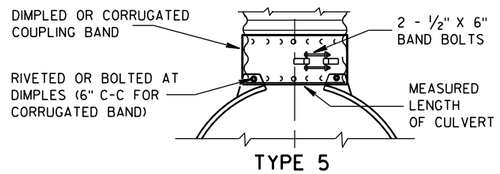
TYPE 1
FOR 12" THRU 24" CORR. PIPE



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

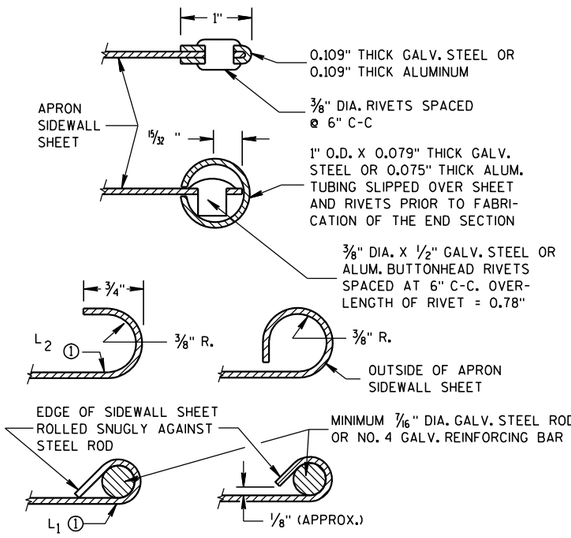
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL. AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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.

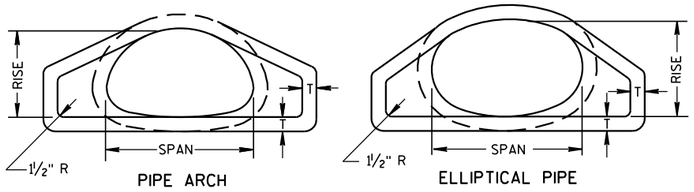
① FOR PIPE SIZES UP TO 60" DIAMETER, A 180° ROLLED EDGE MAY BE USED INSTEAD OF STEEL ROD REINFORCEMENT. SEE SECTION A-A.

APRON ENDWALLS FOR CULVERT PIPE

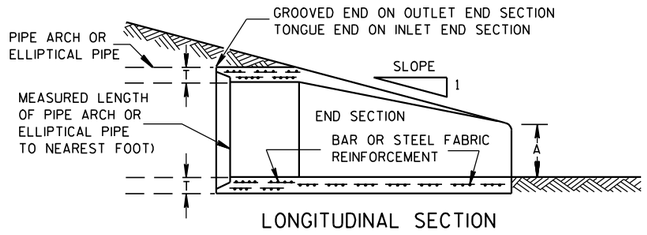
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

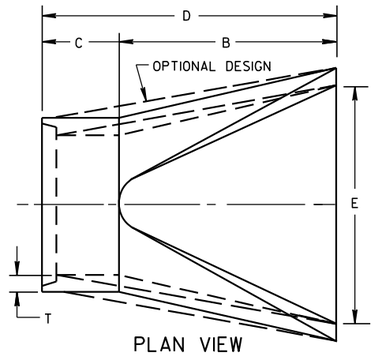
6
S.D.D. 8 F 1-11



END VIEW

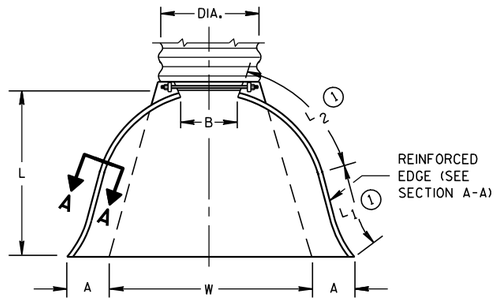


LONGITUDINAL SECTION

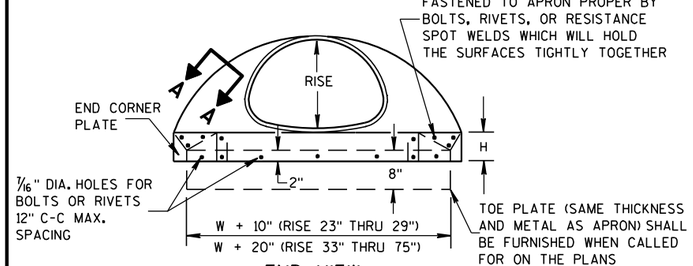


PLAN VIEW

CONCRETE ENDWALLS

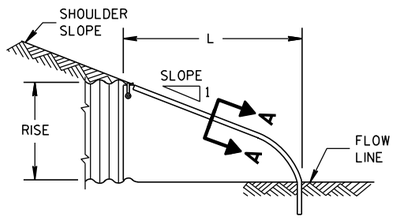


PLAN VIEW



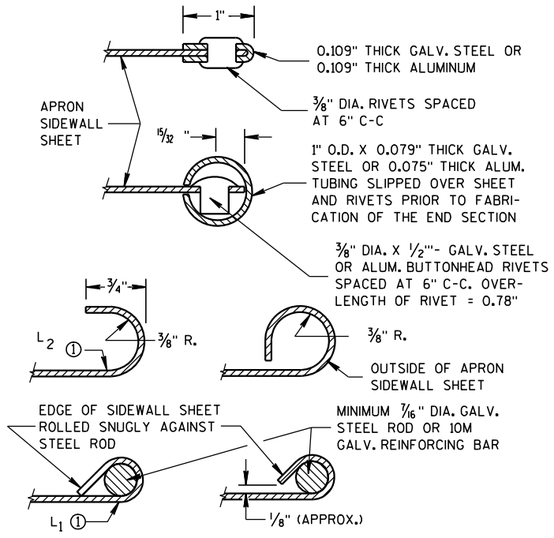
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER

END VIEW



SIDE ELEVATION

METAL ENDWALLS



SECTION A-A

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

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

3" X 1" CORRUGATIONS

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

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED.

* EXCEPT CENTER PANEL SEE GENERAL NOTES

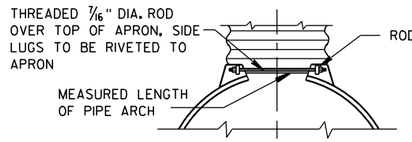
REINFORCED CONCRETE PIPE ARCH

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

REINFORCED CONCRETE ELLIPTICAL PIPE

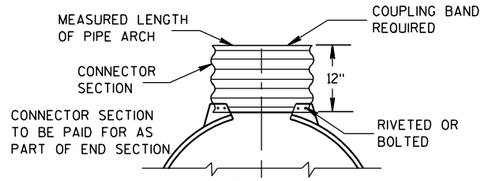
EQUIV. DIA. (Inches)	DIMENSIONS (Inches) ** SPAN	** RISE	T	A	B	C	D	E	APPROX. SLOPE
24	30	19	3¼	8½	39	33	72	48	3 to 1
30	38	24	3¾	9½	54	18	72	60	3 to 1
36	45	29	4½	11⅛	60	24	84	72	2½ to 1
42	53	34	5	15¾	60	36	96	78	2½ to 1
48	60	38	5½	21	60	36	96	84	2½ to 1
54	68	43	6	25½	60	36	96	90	2½ to 1
60	76	48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

**NOMINAL SIZE



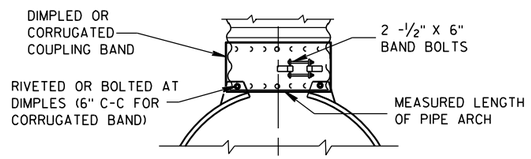
TYPE 2

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



TYPE 3

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



TYPE 5

ALTERNATE FOR:

ALL SIZES CORRUGATED PIPE ARCHES

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

CONNECTION DETAILS

GENERAL NOTES

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

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

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

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

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

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

APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE

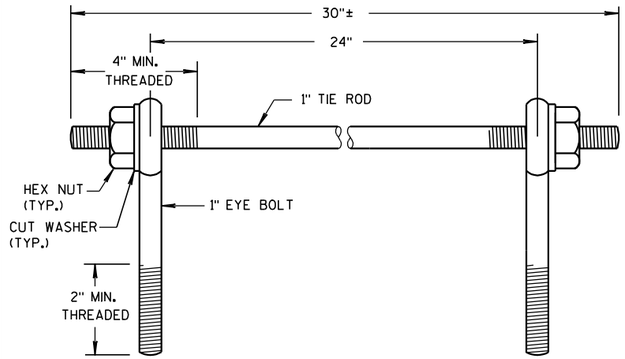
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

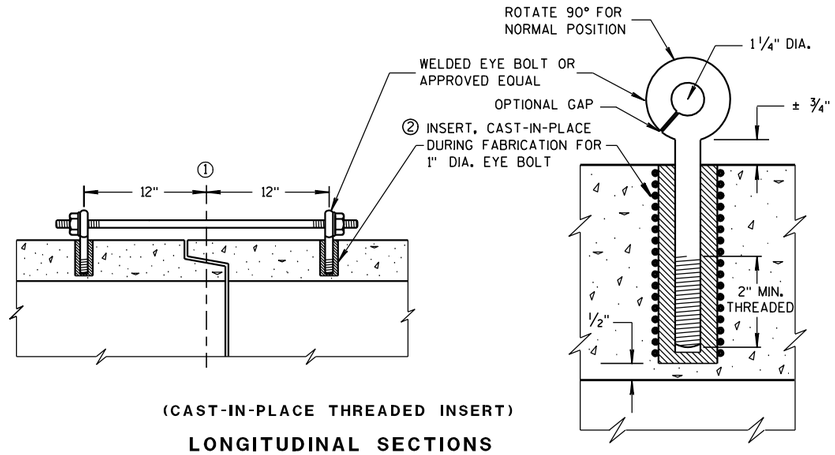
11/30/94 — DATE

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

FHWA



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

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

GENERAL NOTES

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

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

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

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

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

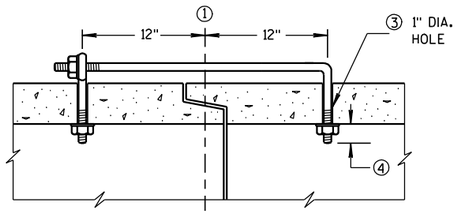
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

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

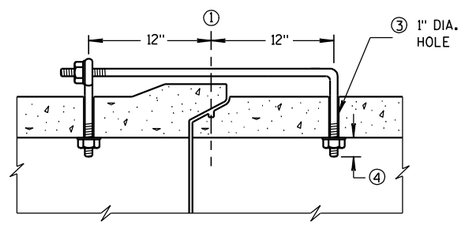
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

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



(TONGUE & GROOVE PIPE)

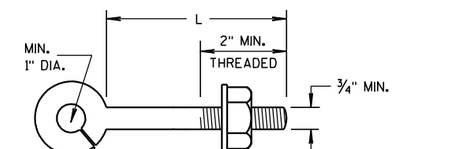


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

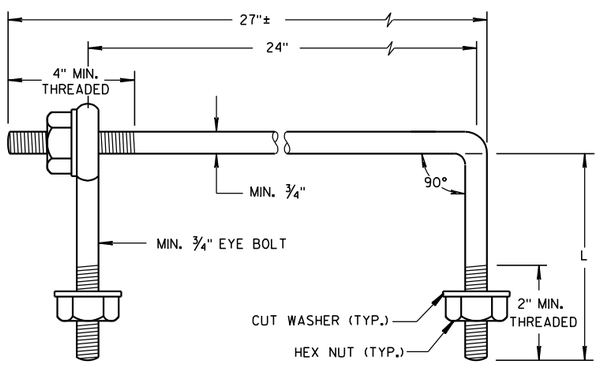
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

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



EYE BOLT AND TIE ROD

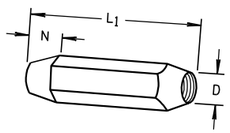
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

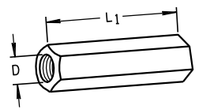
ADJUSTABLE TIE ROD TABLE

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

DIMENSIONS SHOWN ARE IN INCHES



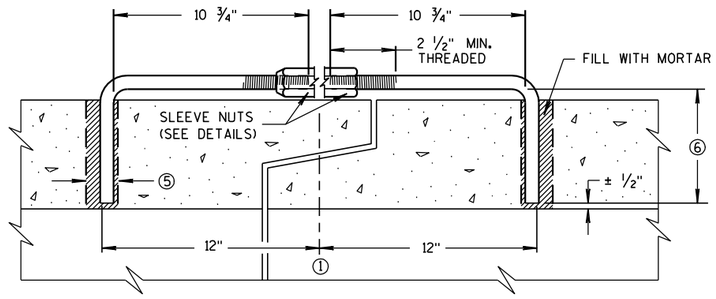
TAPERED



PLAIN

RIGHT AND LEFT THREADS

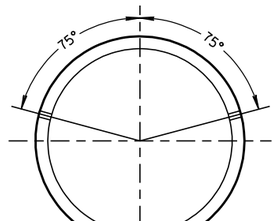
SLEEVE NUTS



LONGITUDINAL SECTION

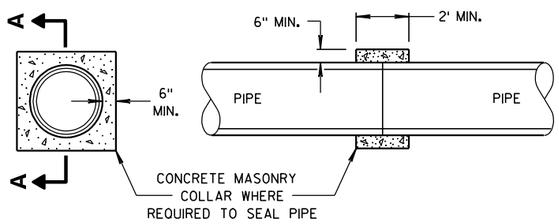
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



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

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

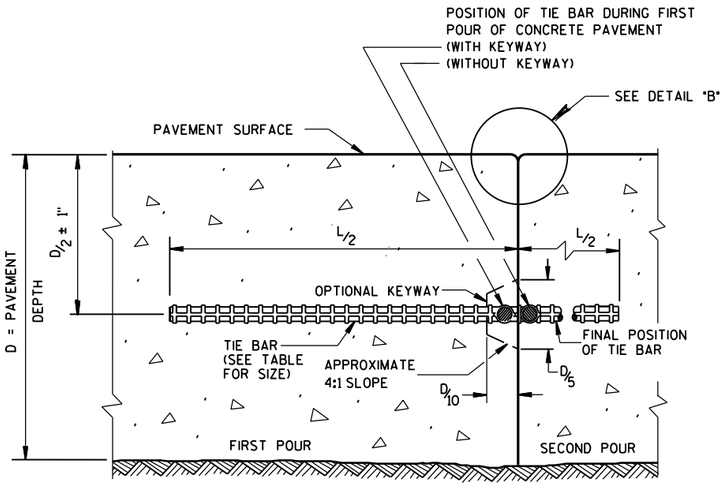
APPROVED
6/5/2012 — DATE
/S/ Jerry H. Zogg — ROADWAY STANDARDS ENGINEER
FHWA

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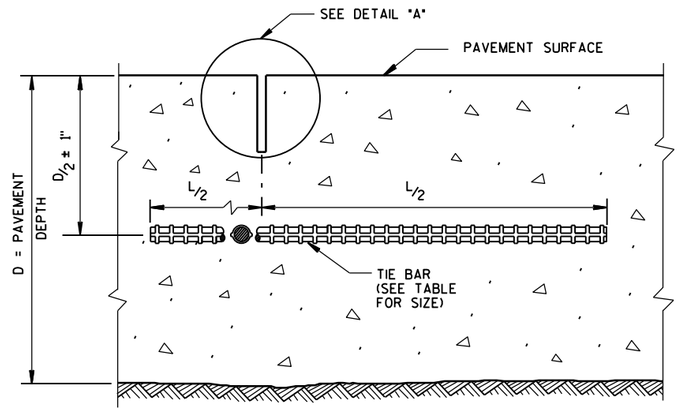
S.D.D. 8 F 4-7

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S.D.D. 8 F 4-7



CONSTRUCTION JOINT



SAWED JOINT

GENERAL NOTES

DO NOT SEAL OR FILL LONGITUDINAL JOINTS.

CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

(1) ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

(2) PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

PLAN VIEW

SECTION A-A

LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT

DETAIL "A"

DETAIL "B"

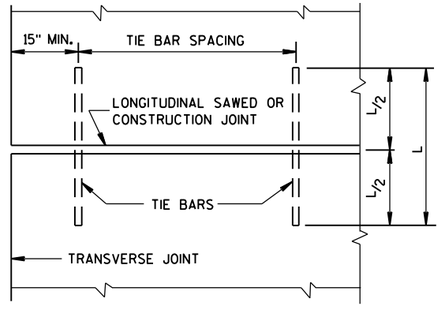
DETAIL "C"

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4 *	30"	24"**

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.



PLAN VIEW
SHOWING LOCATION OF TIE BARS

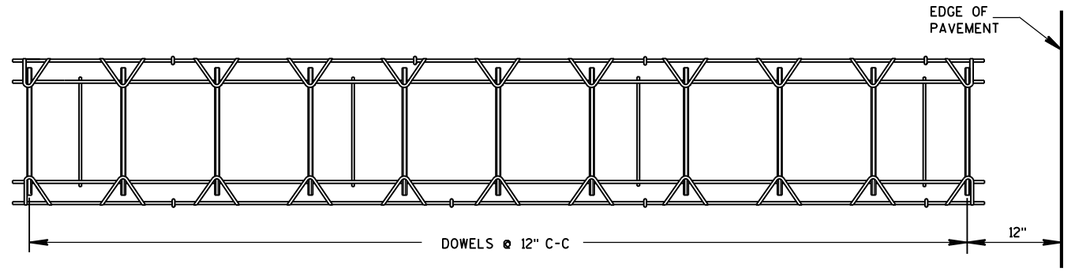
CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Peter Kemp, P.E. — PAVEMENT SUPER
FHWA

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S.D.D. 13 C 1-18

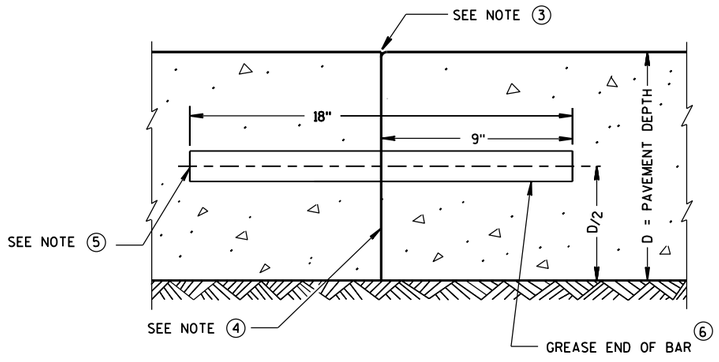


PLAN VIEW

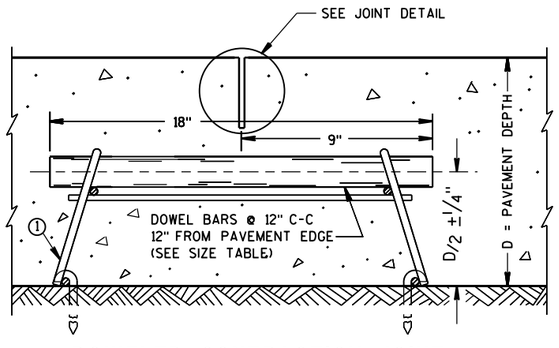


SIDE VIEW

CONTRACTION JOINT DOWEL ASSEMBLY ①



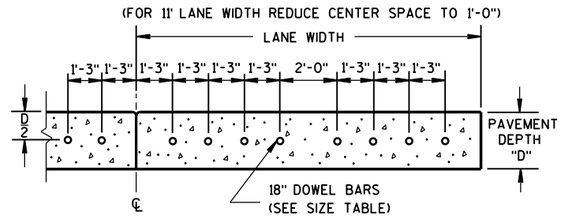
TRANSVERSE CONSTRUCTION JOINT



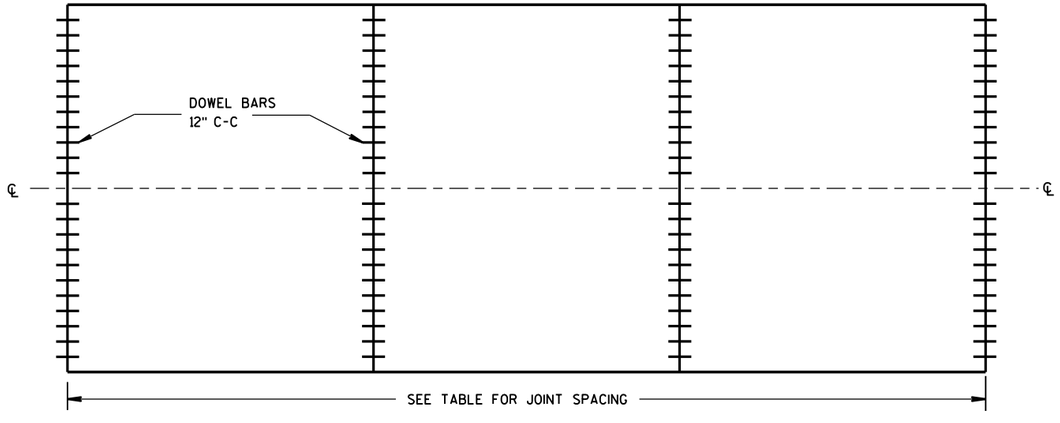
DOWELED CONTRACTION JOINT

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
5 ½", 6", 6 ½"	NONE	12'
7", 7 ½"	1"	14'
8", 8 ½"	1 ¼"	15'
9", 9 ½"	1 ¼"	15'
10" & ABOVE	1 ½"	15'



DRILLED DOWEL BAR CONSTRUCTION JOINT ⑦



CONTRACTION JOINT LOCATIONS

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

DO NOT SEAL OR FILL CONTRACTION JOINTS.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES AND A MAXIMUM OF 18 INCHES FROM THE LONGITUDINAL JOINT AND THE FREE EDGE OF PAVEMENT.

CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.

① **OBTAIN THE ENGINEER'S APPROVAL FOR THE USE OF ALTERNATIVE DESIGNS OF THE DOWEL ASSEMBLY. USE MECHANICAL DOWEL BAR INSERTERS OR DOWEL ASSEMBLIES WHEN CONSTRUCTING CONTRACTION JOINTS.**

② SECURE BASKETS WITH ANCHORS TO HOLD DOWEL BARS IN THE CORRECT POSITION AND ALIGNMENT. TYPE, LOCATION, NUMBER AND LENGTH OF ANCHORS ARE DEPENDENT UPON FIELD CONDITIONS.

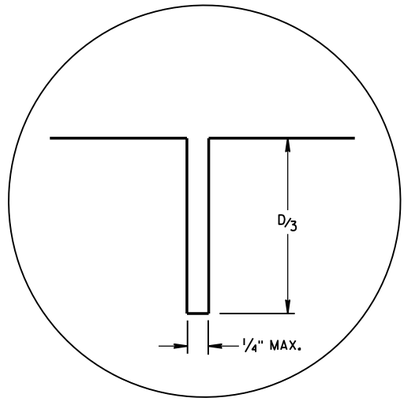
③ FORM OR SAW CONSTRUCTION JOINTS. PROVIDE A ¼-INCH RADIUS AT FORMED JOINTS.

④ PROVIDE A SMOOTH VERTICAL FACE FOR THE ENTIRE DEPTH OF THE PAVEMENT WHEN FORMING CONSTRUCTION JOINTS.

⑤ INSTALL DOWEL BARS AT CONSTRUCTION JOINTS BY FORMING OR DRILLING. INSTALL FORMED DOWEL BARS 12 INCHES C-C AND 12 INCHES FROM PAVEMENT EDGE. REMOVE EXCESS CONCRETE FROM THE FREE END OF THE DOWEL BAR IF DOWEL BARS ARE FORMED THROUGH A HEADER BOARD. INSTALL DRILLED DOWEL BARS ACCORDING TO *DRILLED DOWEL BAR CONSTRUCTION JOINT* DETAIL.

⑥ APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.

⑦ ANCHOR DOWEL BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS ⅛-INCH GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



JOINT DETAIL

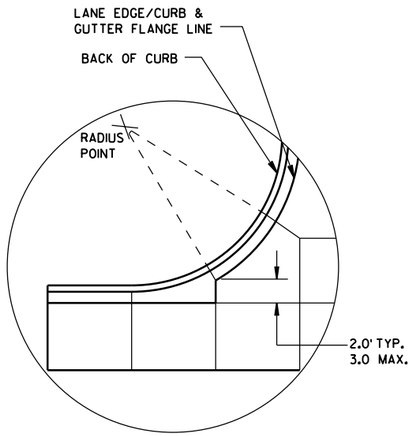
URBAN DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

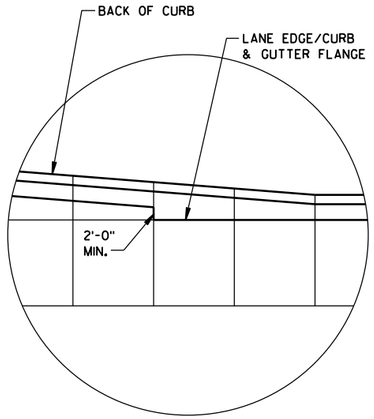
APPROVED
5/3/2013 DATE
/S/ Deb Bischoff
PAVEMENT POLICY & DE ENGINEER
FHWA

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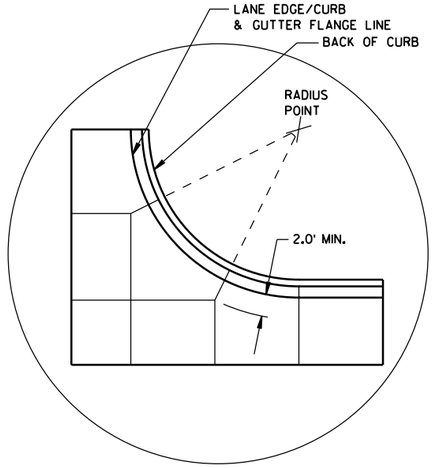
S.D.D. 13 C 13-8



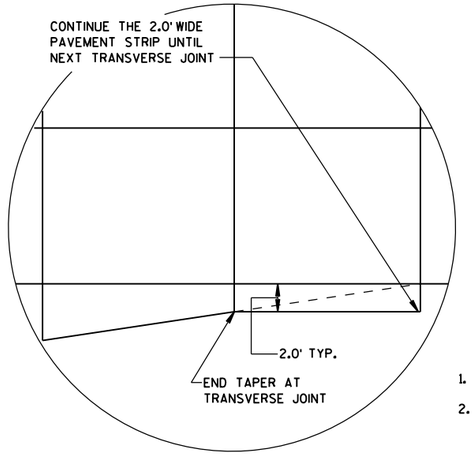
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

GENERAL NOTES

THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.

ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.

CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.

ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G. MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.

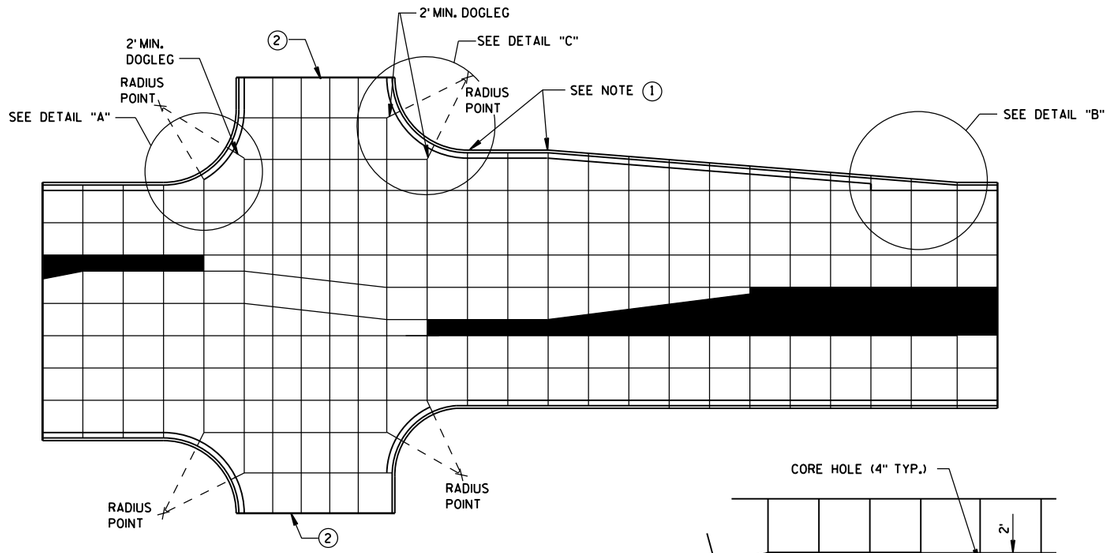
AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.

SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.

AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

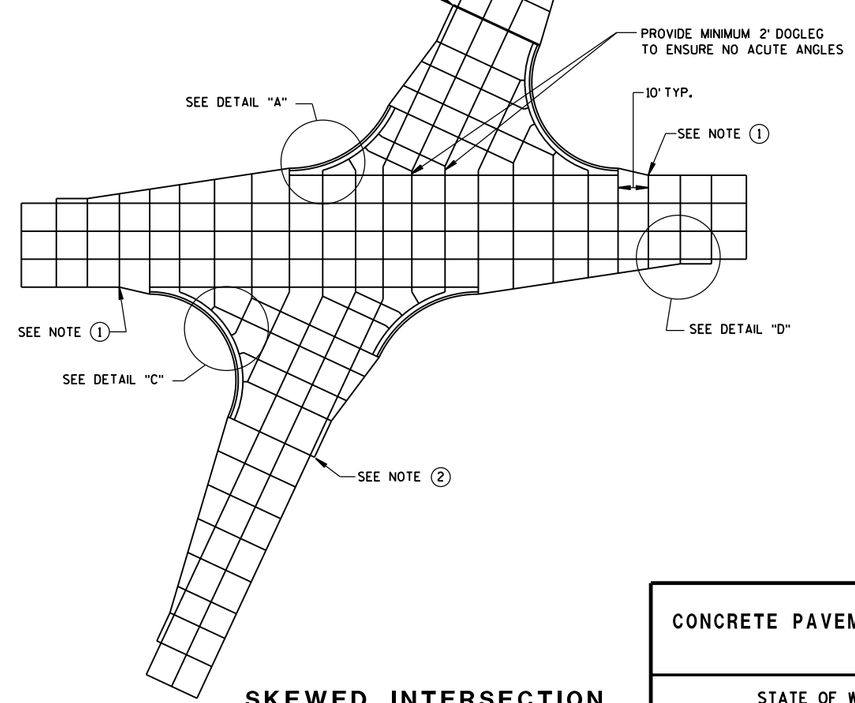
1. PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
2. CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
3. THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



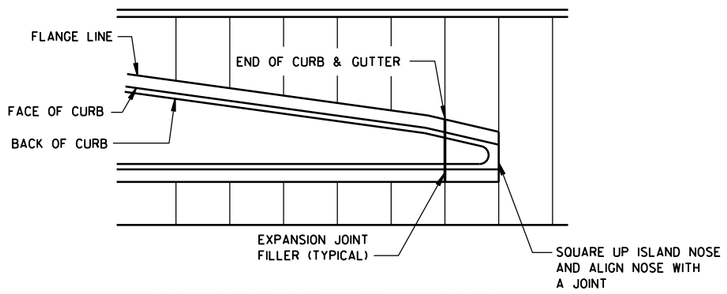
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

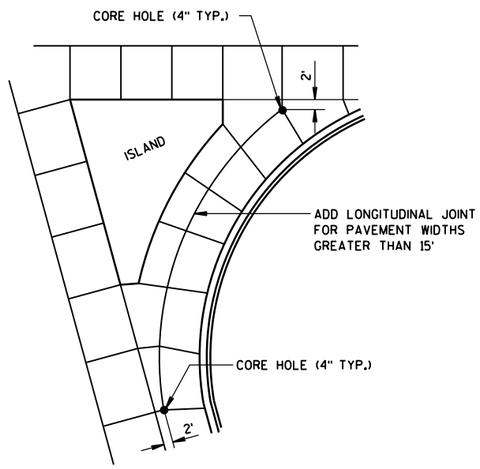
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6½"	12'
7", 7½"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN

CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

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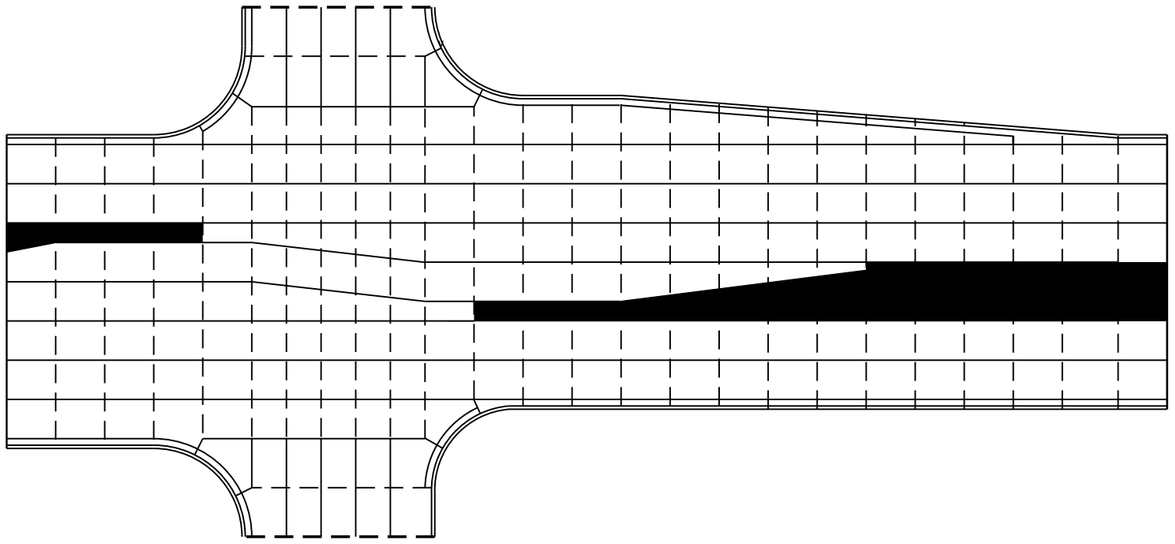
S.D.D. 13 C 18-5a

LEGEND

POTENTIAL DOWELED EXPANSION JOINT

DOWELED JOINT

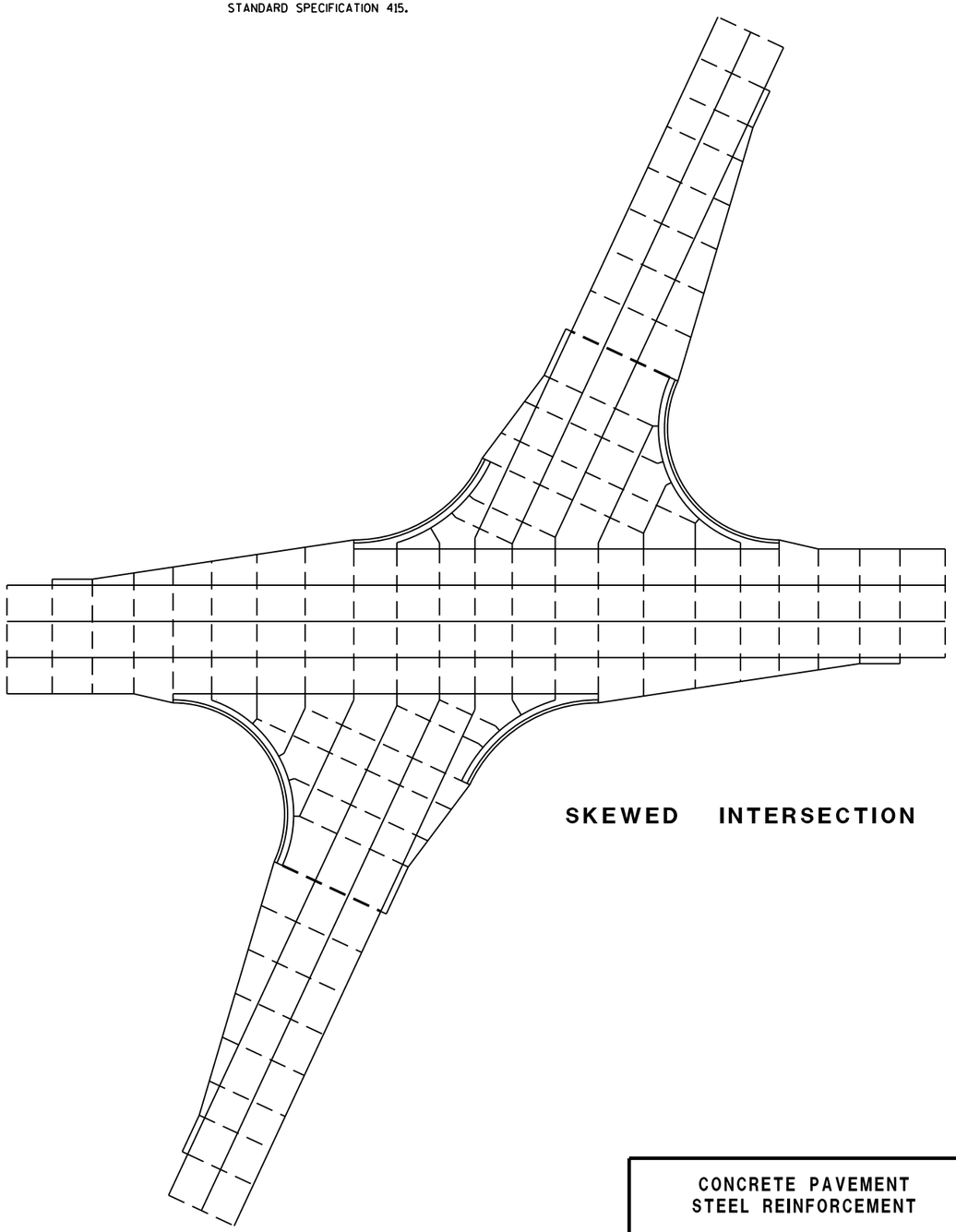
TIED JOINT



STANDARD INTERSECTION

GENERAL NOTES

USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.



SKEWED INTERSECTION

CONCRETE PAVEMENT
STEEL REINFORCEMENT

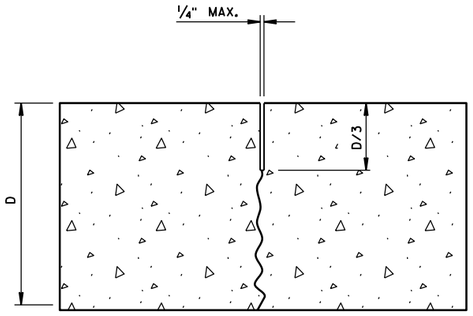
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

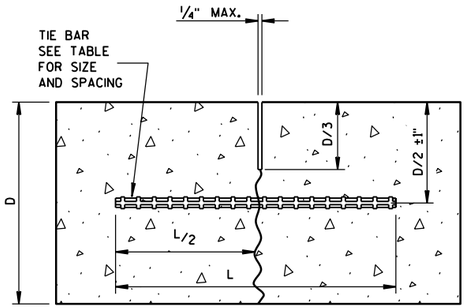
S.D.D. 13 C 18-5b

6

S.D.D. 13 C 18-5b



UNDOWELED-TRANSVERSE



TIED LONGITUDINAL

TIE BAR TABLE

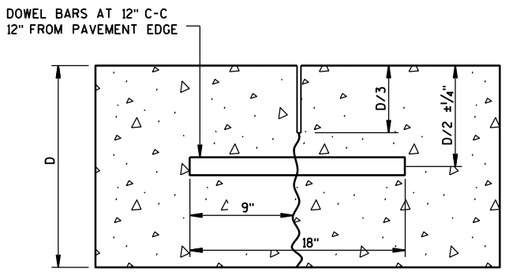
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4*	30"	24"**

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 15" MINUMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

GENERAL NOTES

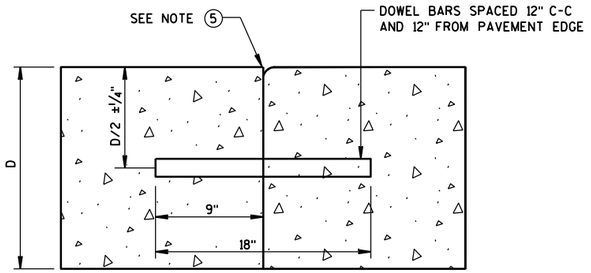
1. USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
2. SPACE CONTRACTION JOINTS IN ACCORDANCE WITH 13C4, 13C11 OR 13C13.
3. LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO CONTRACTION JOINTS.
4. CONSTRUCTION JOINTS CAN BE FORMED OR SAWED.
5. IF JOINT IS FORMED, PROVIDE A 1/4-INCH RADIUS.
6. ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



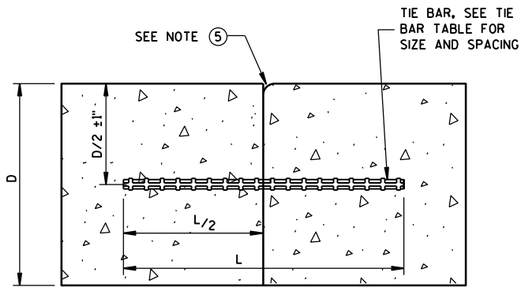
DOWELED-TRANSVERSE

CONTRACTION JOINTS

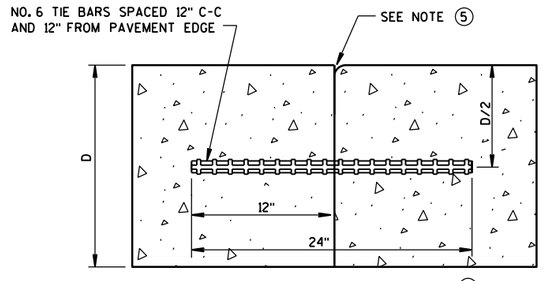
SEE NOTE (2)



DOWELED TRANSVERSE (3)

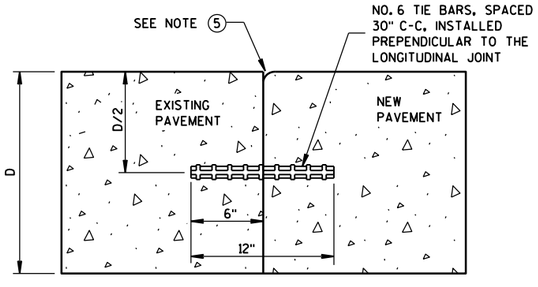


TIED LONGITUDINAL



TIED TRANSVERSE (3)

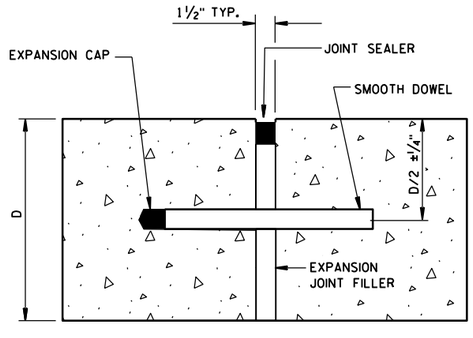
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



TIED LONGITUDINAL TO EXISTING

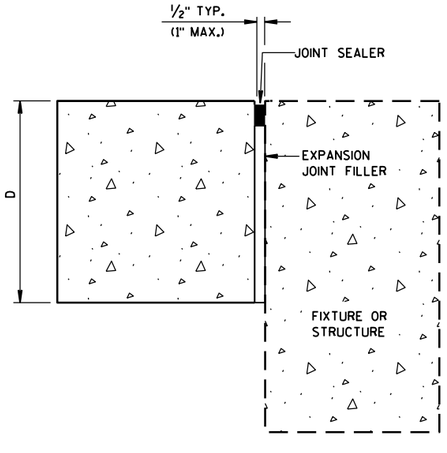
CONSTRUCTION JOINTS

SEE NOTE (4)



DOWELED-TRANSVERSE

SEE NOTE (1)



UNTIED-LONGITUDINAL

EXPANSION JOINTS

6

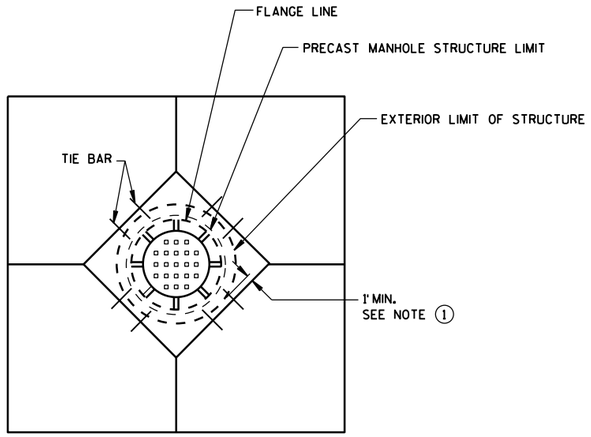
6

S.D.D. 13 C 18-5c

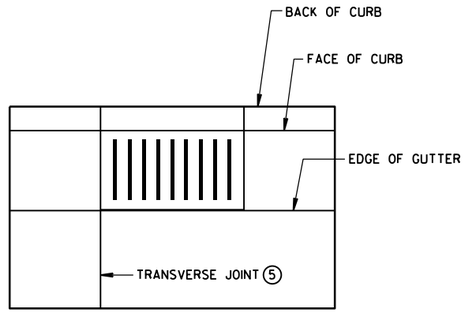
S.D.D. 13 C 18-5c

CONCRETE PAVEMENT
JOINT TYPES

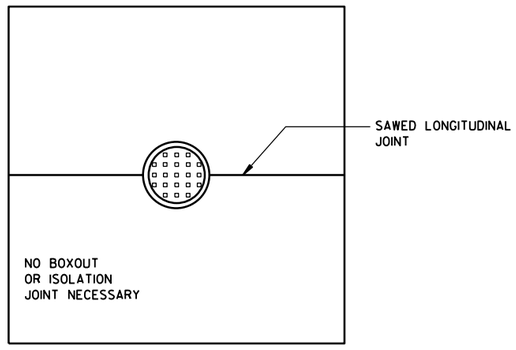
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI



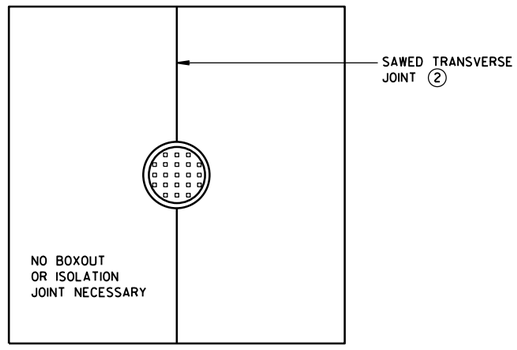
DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS



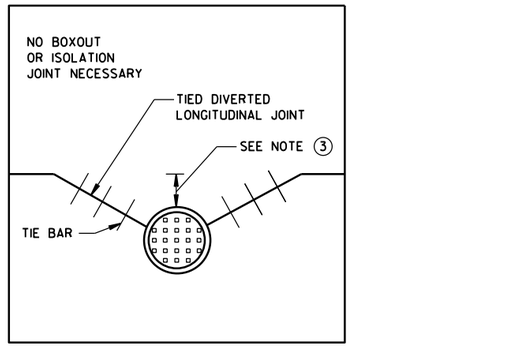
INLET WITH TRANSVERSE JOINT



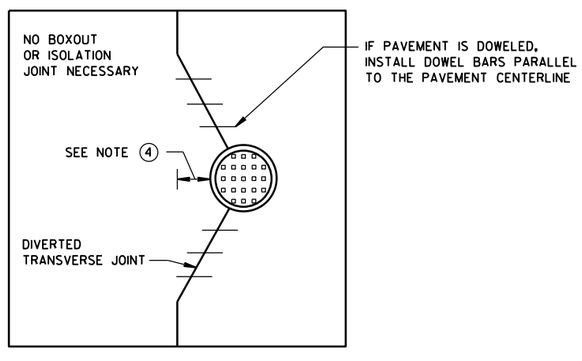
MANHOLE WITH LONGITUDINAL JOINT



MANHOLE WITH TRANSVERSE JOINT



MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT



MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT

GENERAL NOTES

(1) USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1-FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.

(2) ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.

(3) IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDIAL JOINT AT A 2:1 TAPER RATE TO THE CENTER OF THE MANHOLE. IF THE DISTANCE IS GREATER THAN 2 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(4) IF DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS 4 FEET OR LESS, REDIRECT JOINT TO INTERSECT THE CENTER OF THE MANHOLE. IF DISTANCE IS GREATER THAN 4 FEET, DO NOT DIVERT THE JOINT AND SAW AS NORMAL. PLACE REBAR REINFORCEMENT AROUND THE MANHOLE.

(5) ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.

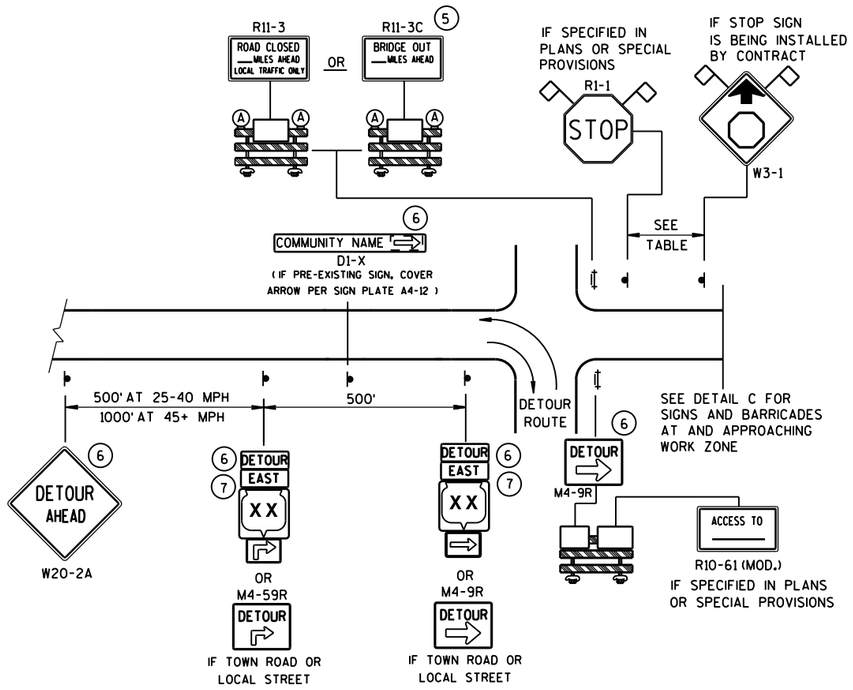
CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December, 2016 — /S/ Peter Kemp, P.E.
DATE — PAVEMENT SUPEF
FHWA

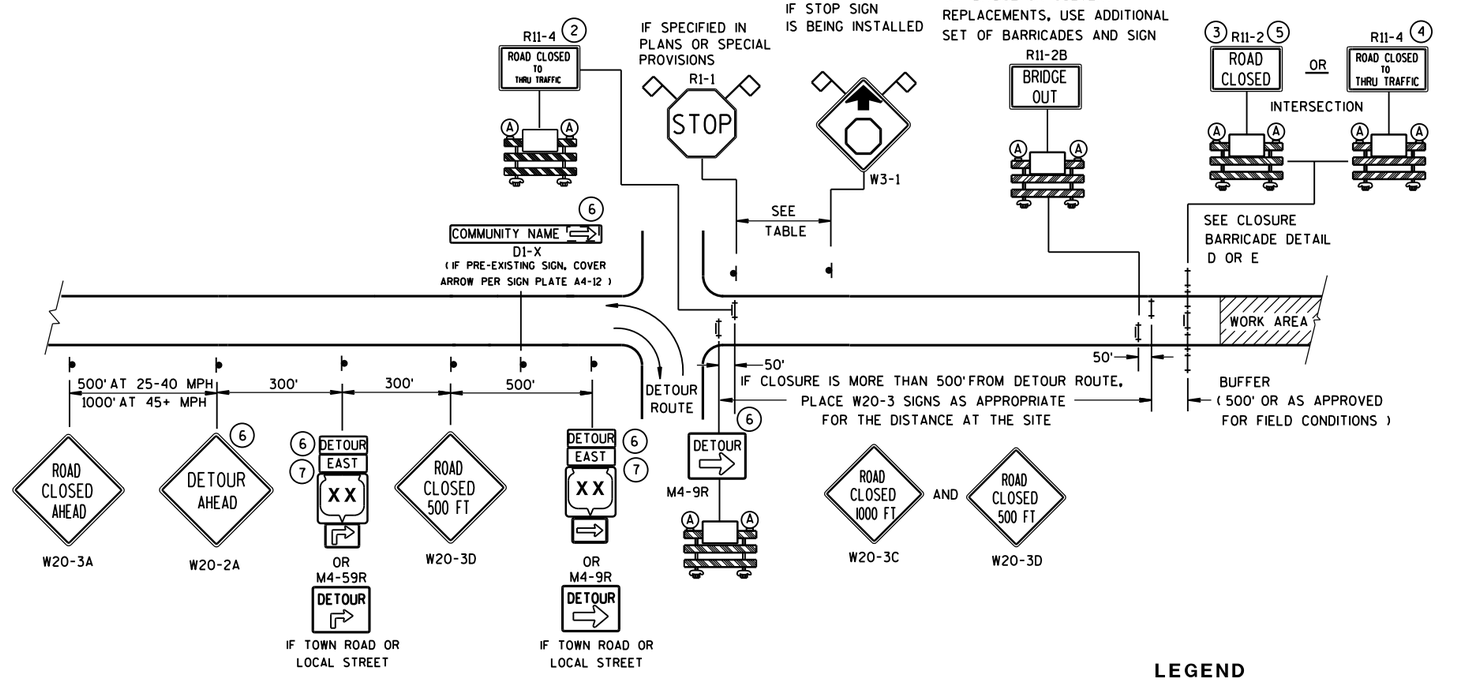
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S.D.D. 13 C 18-5d



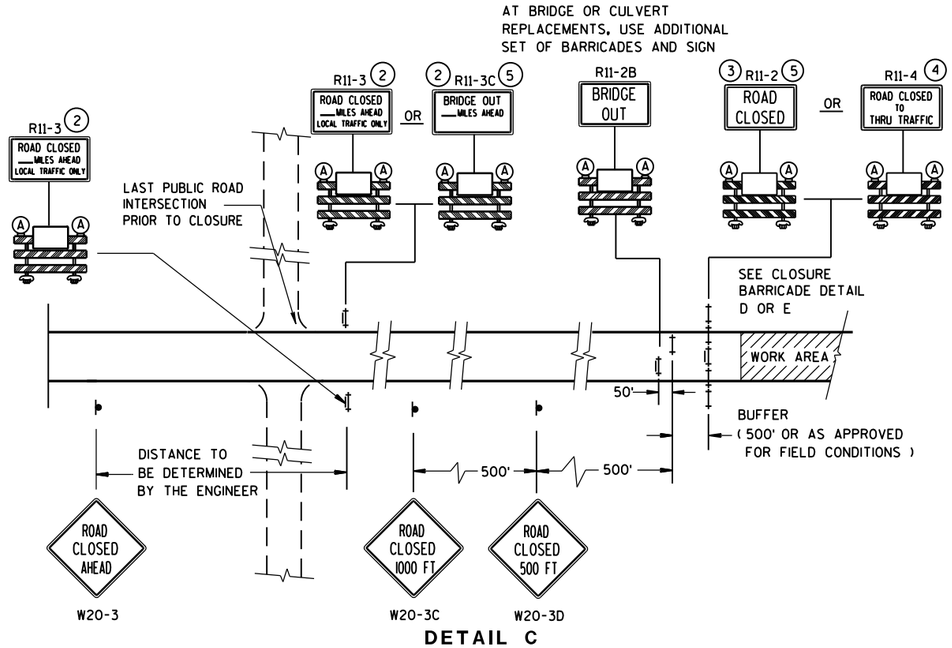
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

LEGEND

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

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

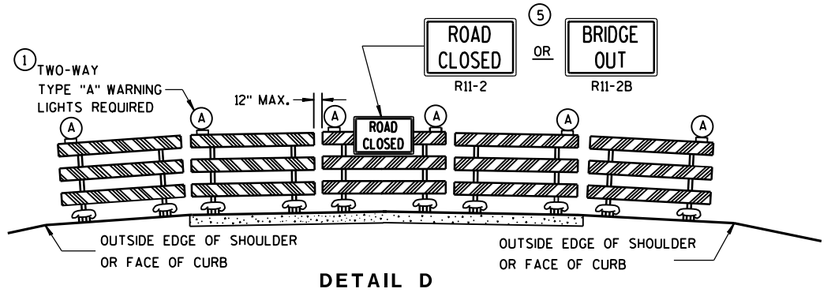
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA

6

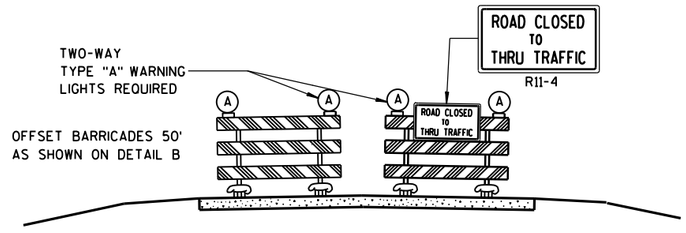
S.D.D. 15 C 2-6a



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 — DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO... SAFETY ENGI... — FHWA — FIC

6

S.D.D. 15 C 2-6b

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

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.

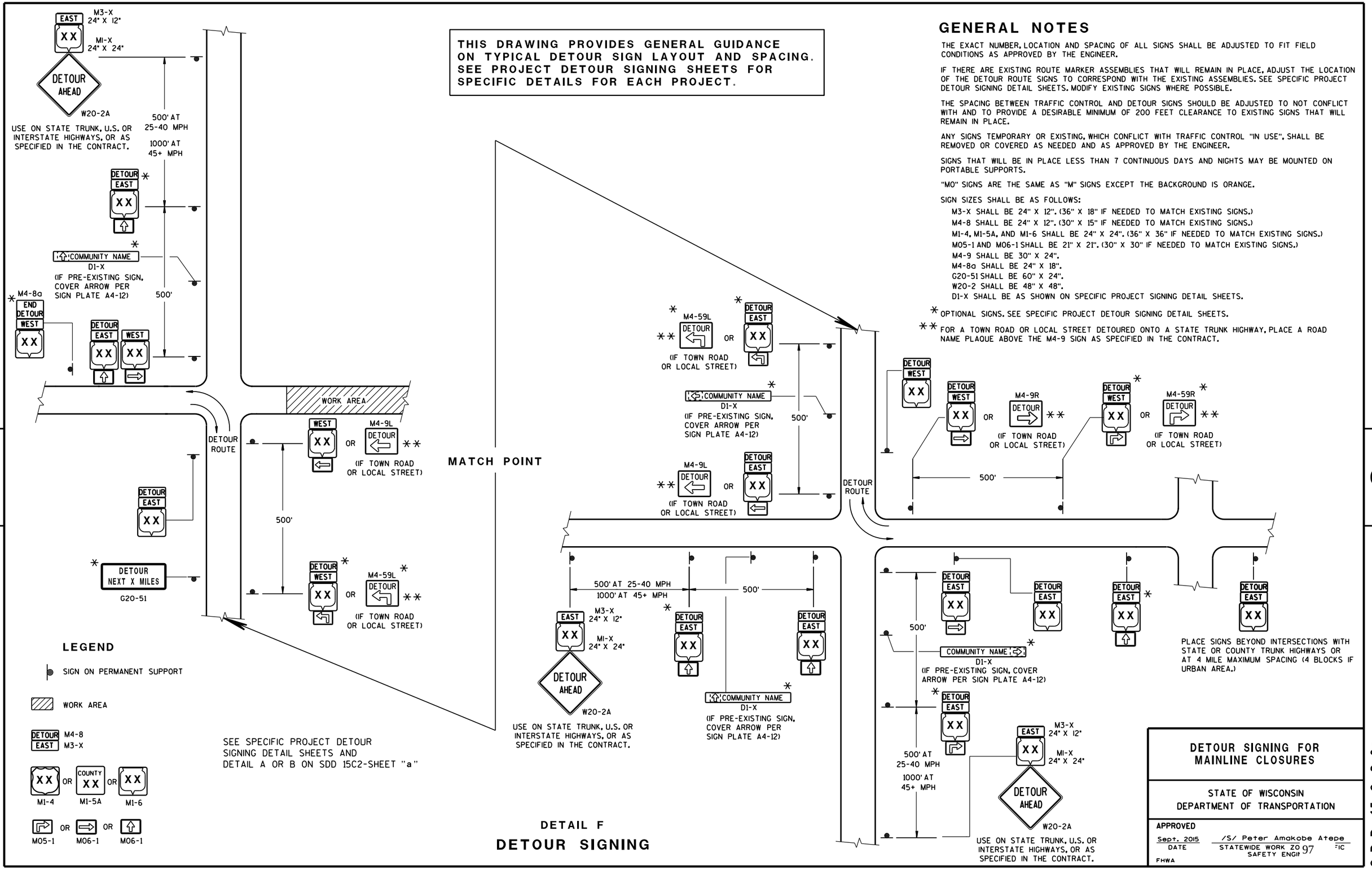
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

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". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- MO5-1 AND MO6-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-9 SHALL BE 30" X 24".
- M4-8a SHALL BE 24" X 18".
- G20-51 SHALL BE 60" X 24".
- W20-2 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.



LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR EAST M4-8 M3-X
- XX OR COUNTY XX OR XX — M1-4, M1-5A, M1-6
- MO5-1 OR MO6-1 OR MO6-1

SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS AND DETAIL A OR B ON SDD 15C2-SHEET "a"

DETAIL F

DETOUR SIGNING

DETOUR SIGNING FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

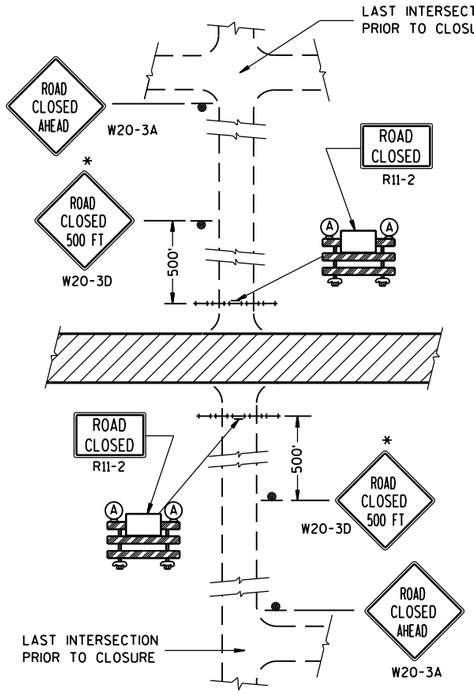
Sept. 2015 — DATE

/S/ Peter Amakobe Atepe — STATEWIDE WORK ZO... SAFETY ENGI... FIC

FHWA

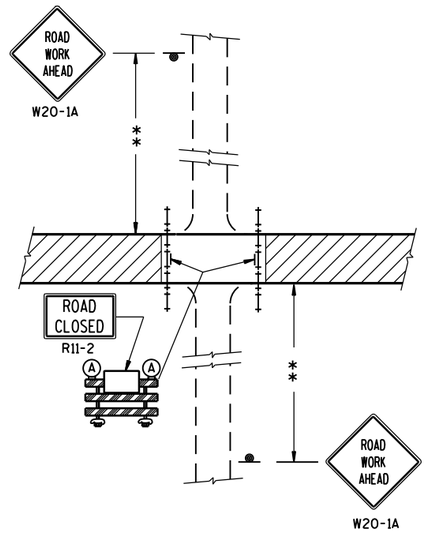
S.D.D. 15 C 2-6c

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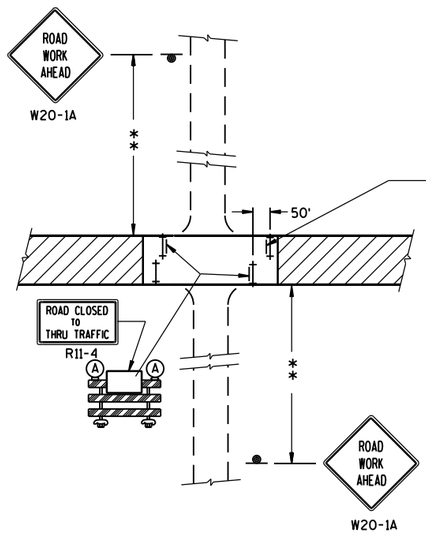
DETAIL 1

(NO ACCESS TO PROJECT)



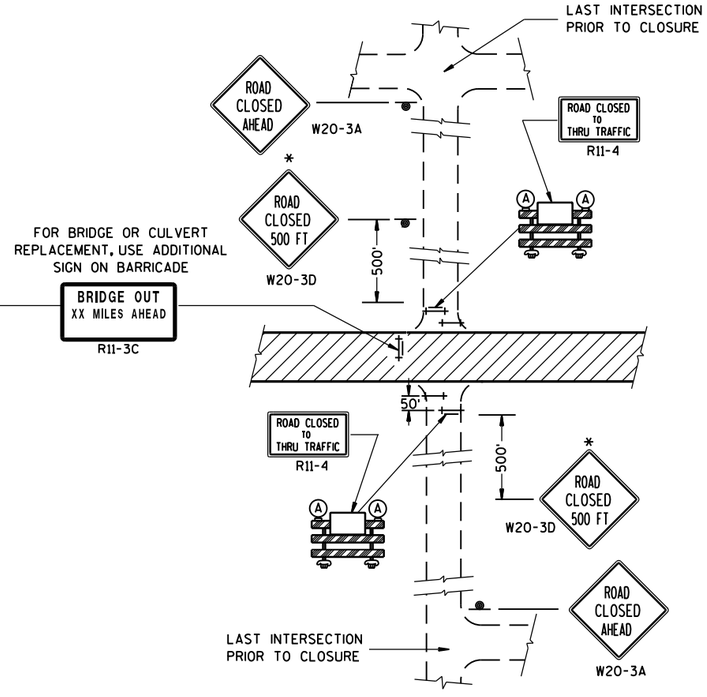
DETAIL 2

(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT).



DETAIL 3

(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR,
LOCAL BUSINESS AND RESIDENT ACCESS).



DETAIL 4

(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)

GENERAL NOTES

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

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

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

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

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 AND R11-4 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:
R11-2 SHALL BE 48" X 30".
R11-4 AND R11-3 SHALL BE 60" X 30".

*OMIT THE "ROAD CLOSED 500 FT." SIGN IF THE LAST INTERSECTION IS 500 FT. OR LESS FROM THE WORK ZONE.

**500' MAX. OR AT LAST INTERSECTION WHICHEVER IS CLOSER.

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- (A) TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

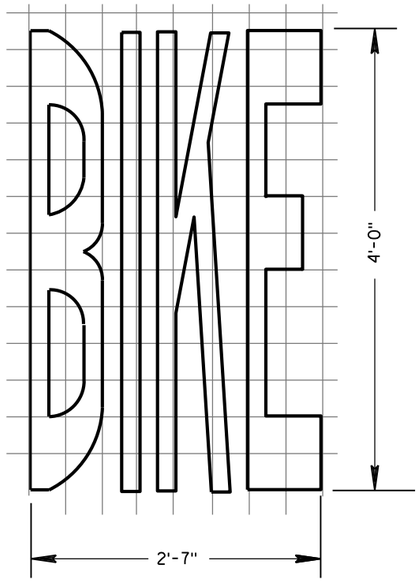
APPROVED
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZO... SAFETY ENGI... — FHWA

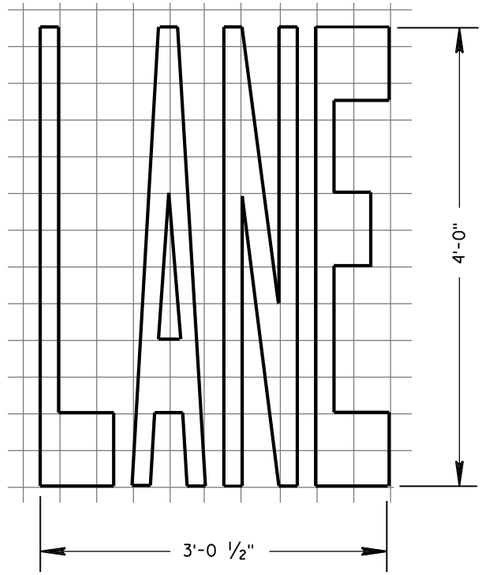
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S.D.D. 15 C 3-3

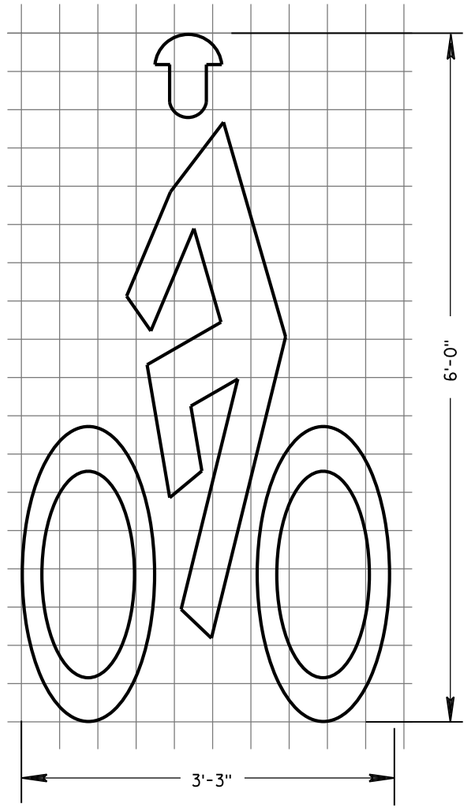
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S.D.D. 15 C 3-3

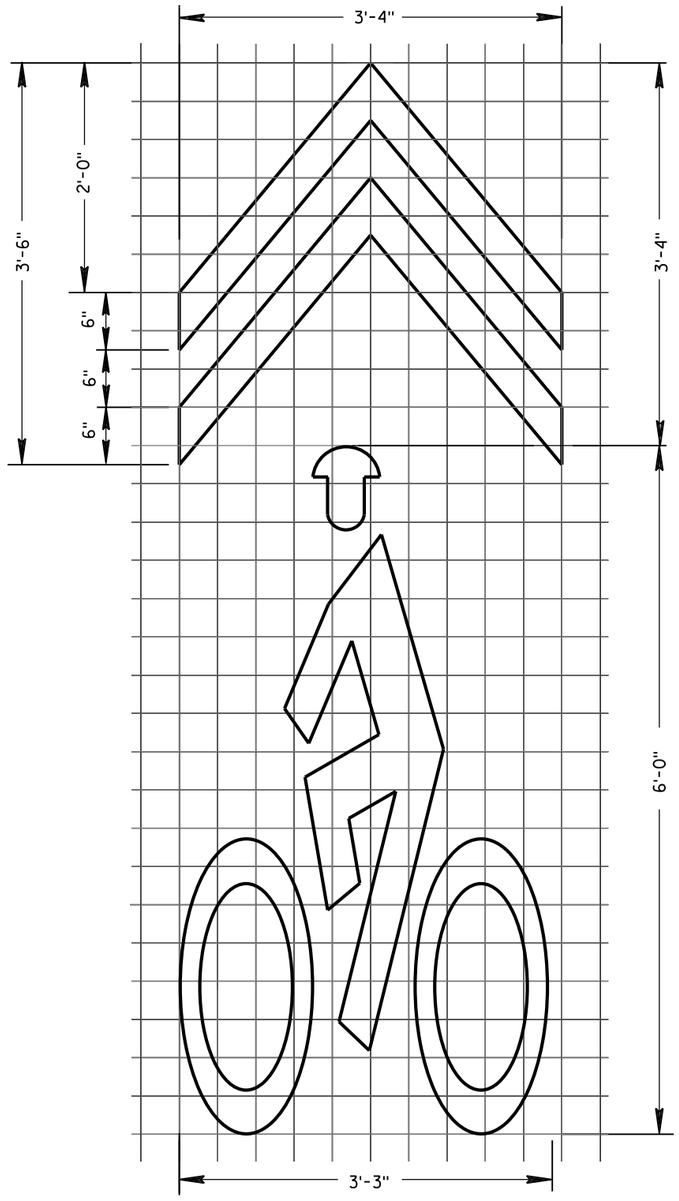




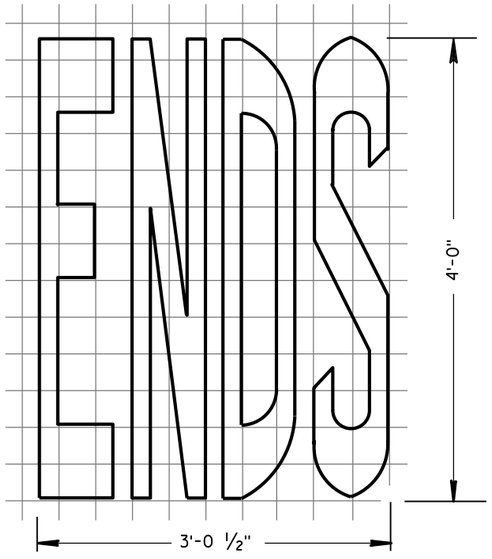
BIKE LANE WORDS



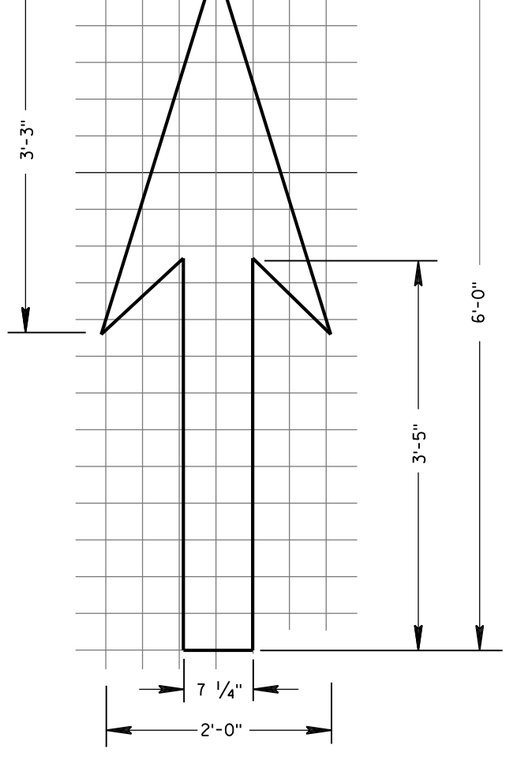
BIKE LANE SYMBOL



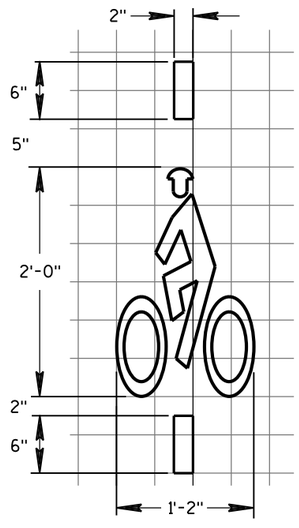
BIKE SYMBOL FOR SHARED LANE



BIKE LANE WORDS



BIKE LANE ARROW



BICYCLE DETECTOR PAVEMENT MARKING

GENERAL NOTES

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

PAVEMENT MARKING FOR BIKE LANES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

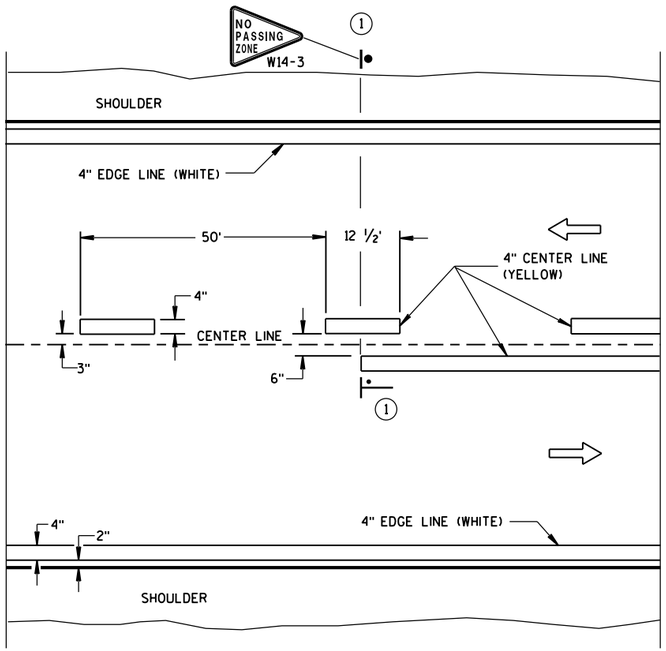
APPROVED
June 2017 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MARKING ENGINEER
FHWA

6

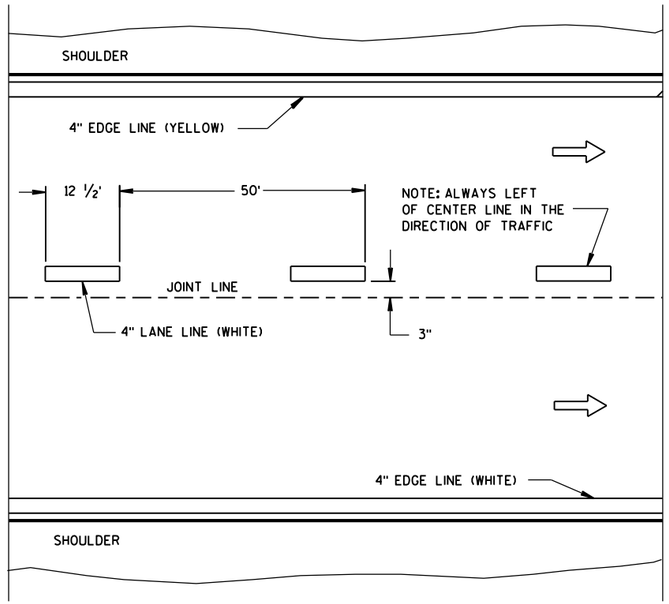
S.D.D. 15 C 7-14e

6

S.D.D. 15 C 7-14e



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

GENERAL NOTES

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

(1) NO PASSING ZONE W14-3 SIGN SHALL BE LOCATED WITHIN 50 FEET OF THE "T" MARKING.

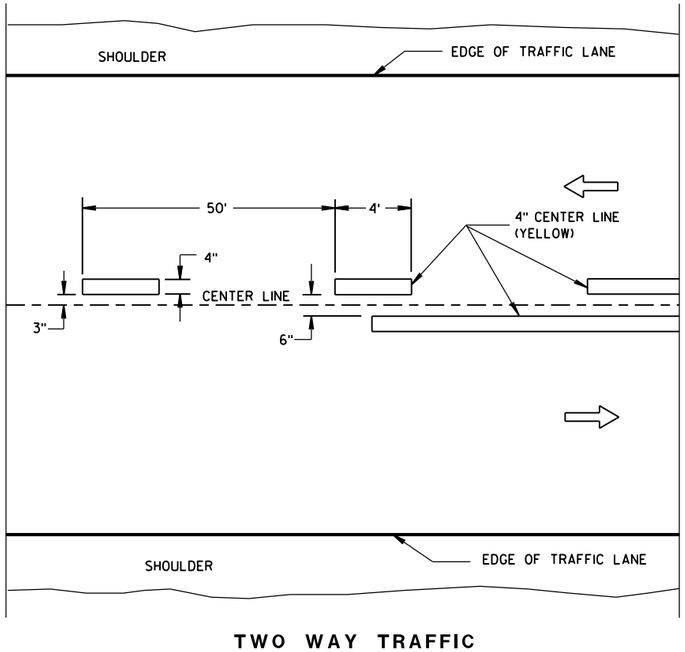
NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

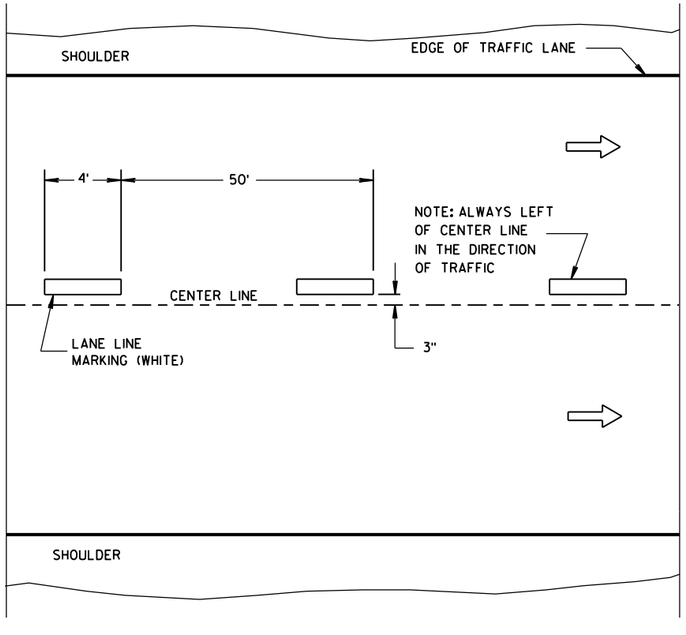
LEGEND

"T" MARKING

POST MOUNTED SIGN



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

LONGITUDINAL MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

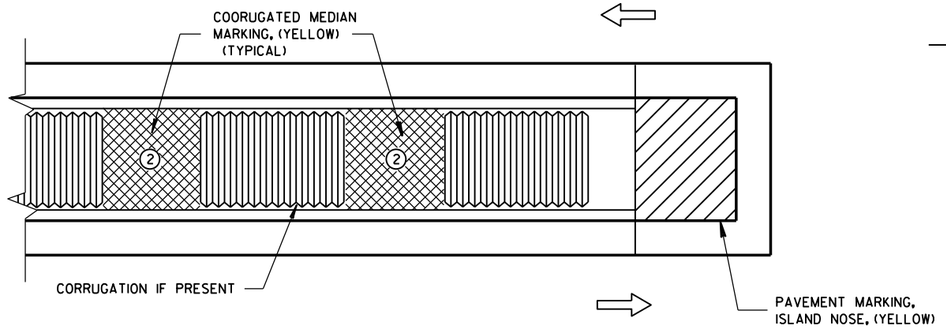
APPROVED
Sept., 2016 — DATE
/S/ Matthew R. Rauch — STATE SIGNING AND MAR[illegible]INEER
FHWA

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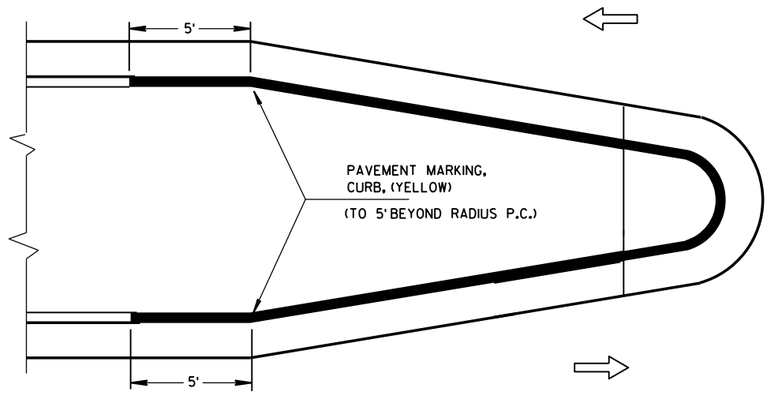
S.D.D. 15 C 8-17a

6

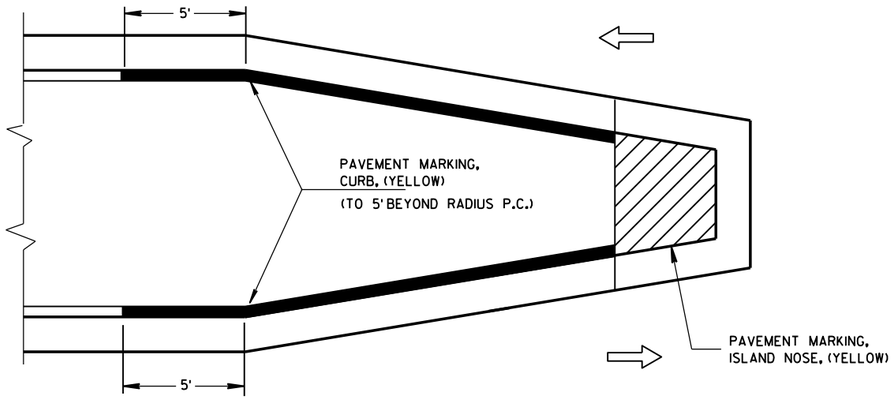
S.D.D. 15 C 8-17a



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

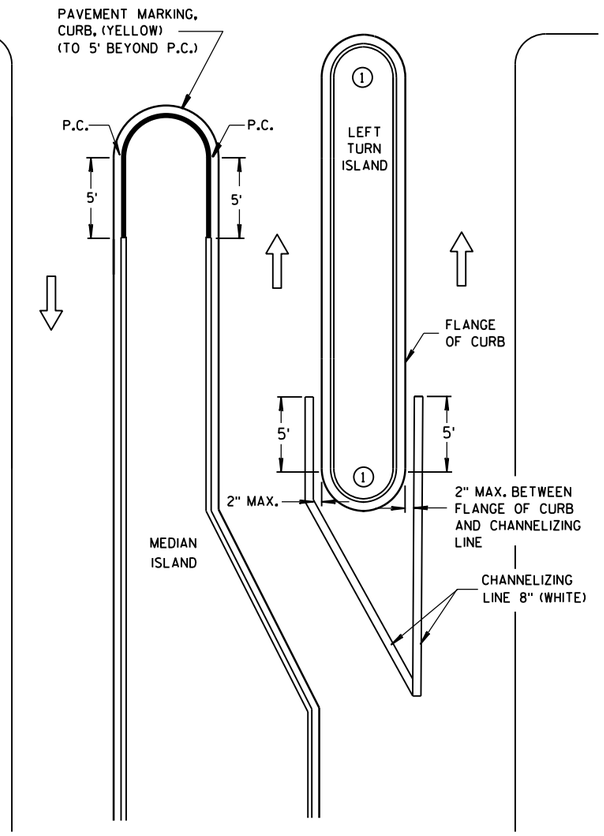


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

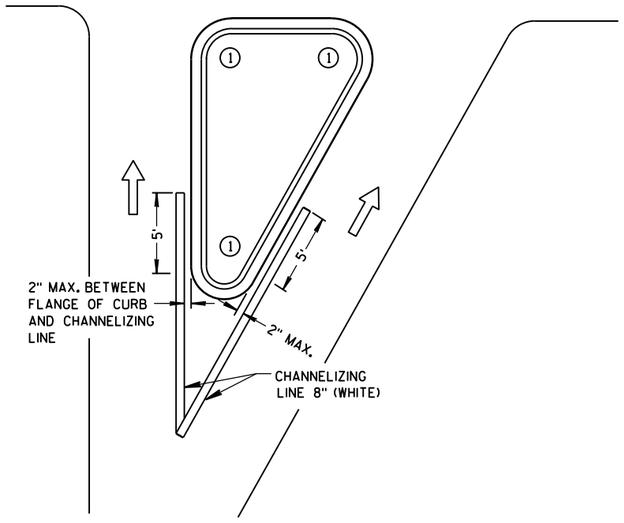


LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

1. DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.

2. WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.



RIGHT TURN ISLAND

LEGEND

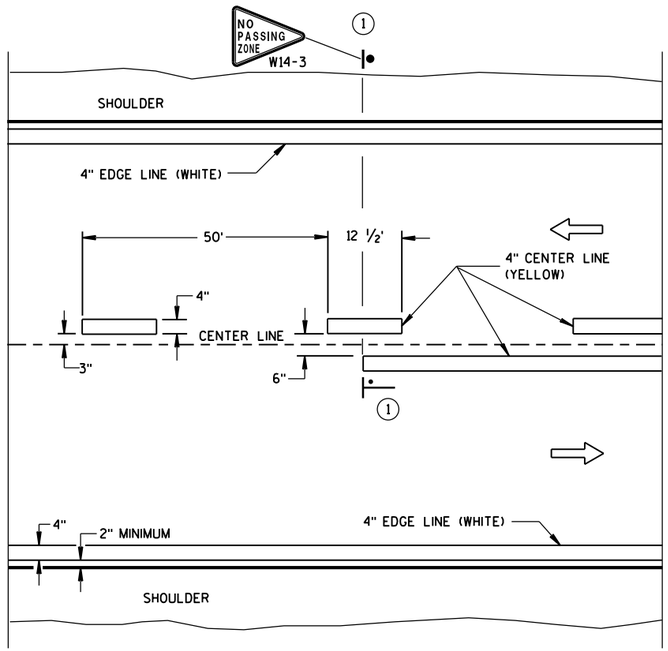
- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL

PAVEMENT MARKING
(ISLANDS)

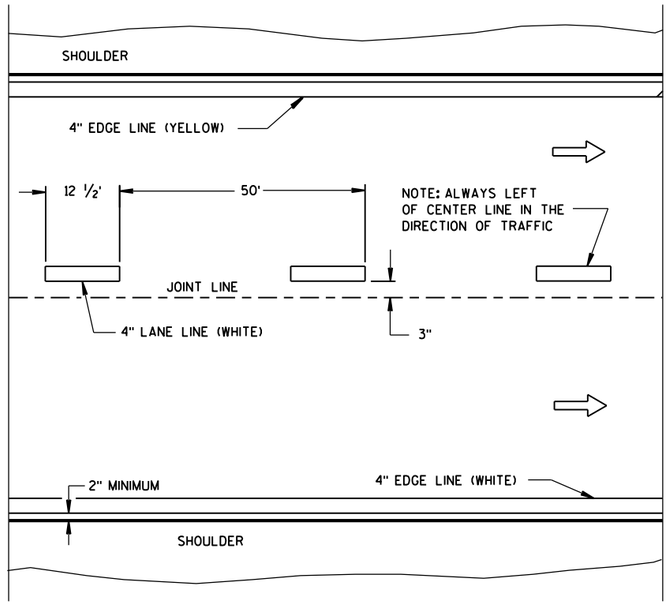
STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 15 C 8-17c



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

GENERAL NOTES

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

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

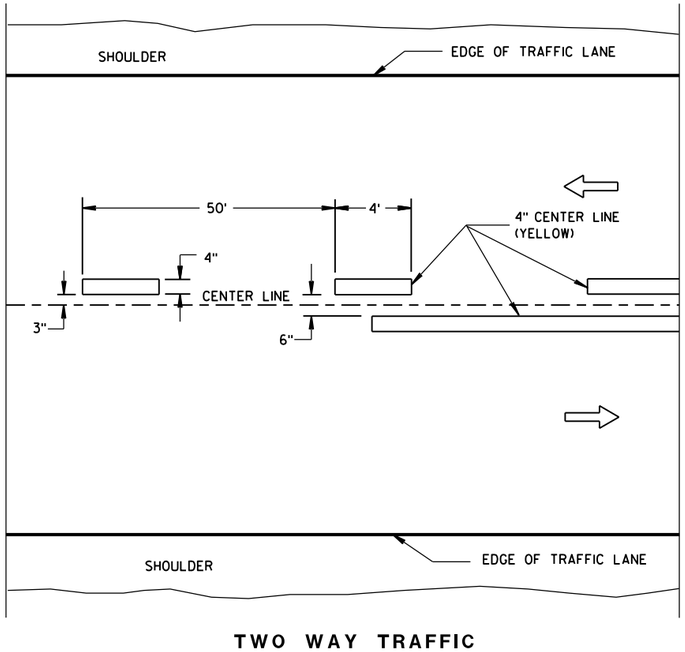
NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

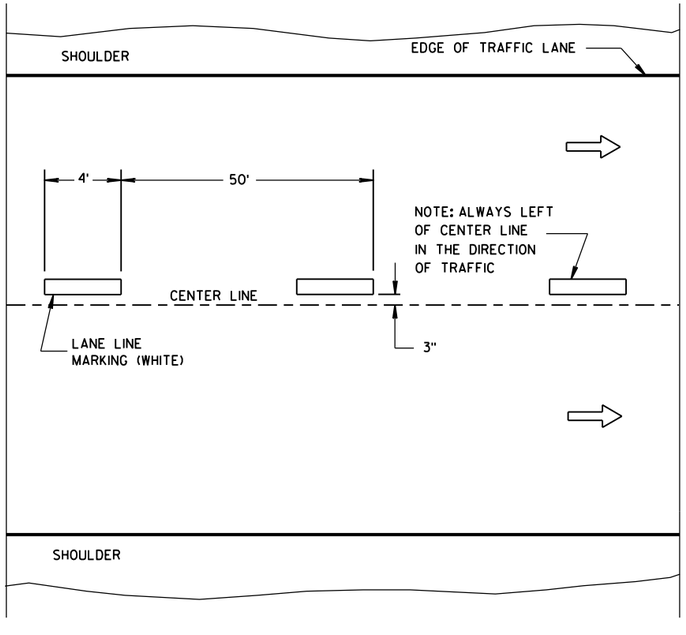
LEGEND

"T" MARKING

POST MOUNTED SIGN



TWO WAY TRAFFIC



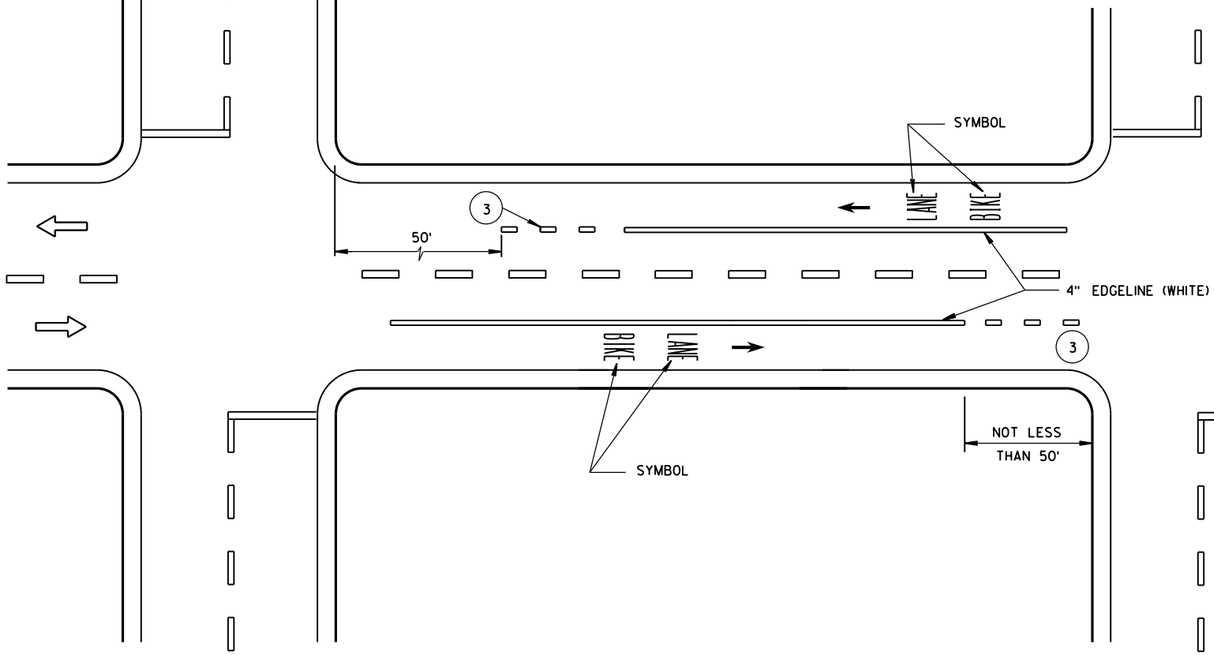
ONE WAY TRAFFIC

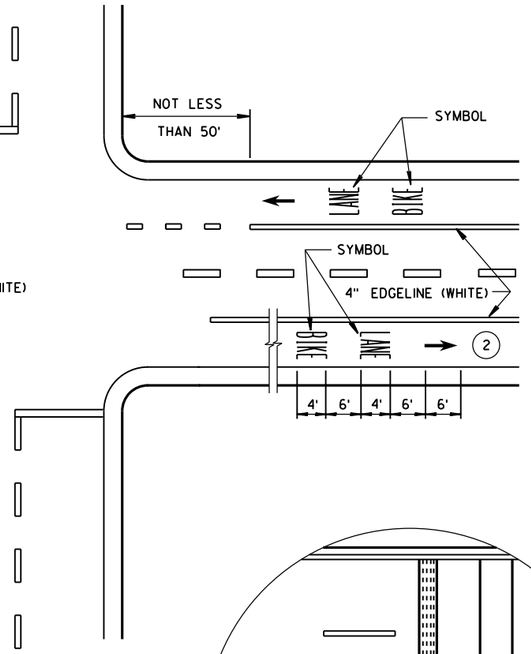
TEMPORARY PAVEMENT MARKING

LONGITUDINAL MARKING (MAINLINE)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Matthew R. Rauch STATE SIGNING AND MAR ENGINEER
FHWA	

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S.D.D. 15 C 8-18a



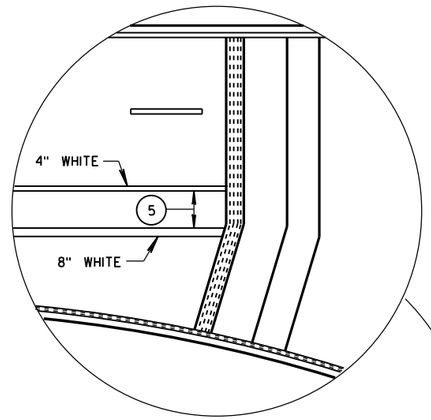


DESIGNATED BICYCLE LANE
NO PARKING

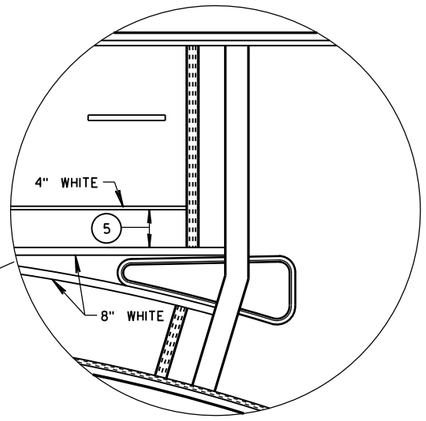
GENERAL NOTES

1. DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.
2. MINIMUM OF ONE PER BLOCK. MAXIMUM OF 250 FEET.
3. DOTTED LINES (3'LINE, 9'GAP) SHOULD BE USED 50 FEET TO 200 FEET IN ADVANCE OF AN INTERSECTION WHERE THERE IS NO RIGHT TURN ONLY LANE AND THERE IS HEAVY RIGHT TURN TRAFFIC OR THERE IS A NEAR-SIDE BUS STOP. AT OTHER INTERSECTIONS WHERE RIGHT TURN TRAFFIC IS LIGHT TO MODERATE, A SOLID LINE CAN BE USED UP TO THE INTERSECTION.
4. IF SIGNED AND/OR MARKED AS A BICYCLE FACILITY INCLUDE SECOND LINE OF LINE-SPACE MARKING, OTHERWISE DO NOT.
5. BIKE ACCOMODATION FOR CONCRETE PAVEMENT IS 5 FEET WIDE. BIKE ACCOMODATION FOR ASPHALT PAVEMENT IS A MINIMUM OF 4 FEET. USE 5 FEET AT ≥45 MPH.
6. OMIT THESE MARKINGS FOR WIDER TURN LANE APPLICATIONS (MINIMUM OF 15 FEET WIDE TURN LANE).
7. REFER TO CONTRACT PLANS FOR LANE WIDTH.

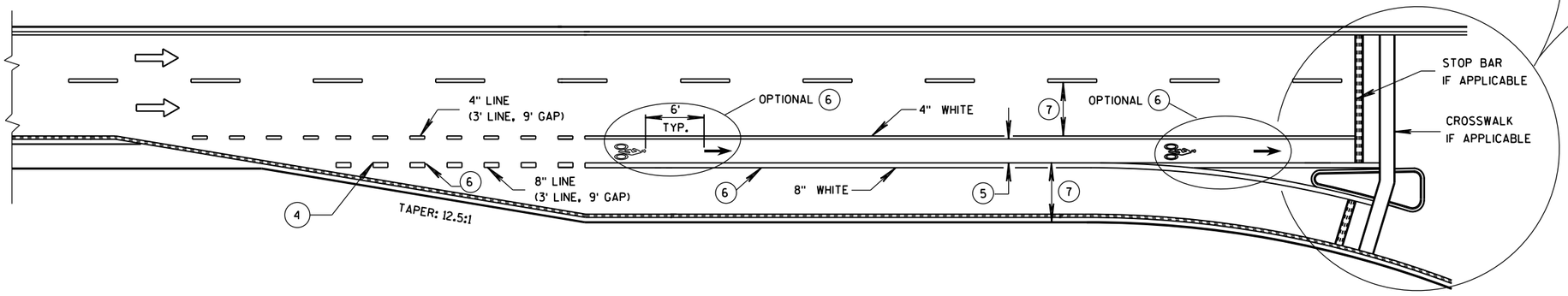
DIRECTION OF TRAVEL



4 LANE DIVIDED WITHOUT ISLAND



4 LANE DIVIDED WITH ISLAND



BIKE LANE - FOR 2-LANE ROADWAYS AND 4-LANE DIVIDED ROADWAYS
(4-LANE DIVIDED WITH RIGHT TURN LANE SHOWN)

BICYCLE LANE MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

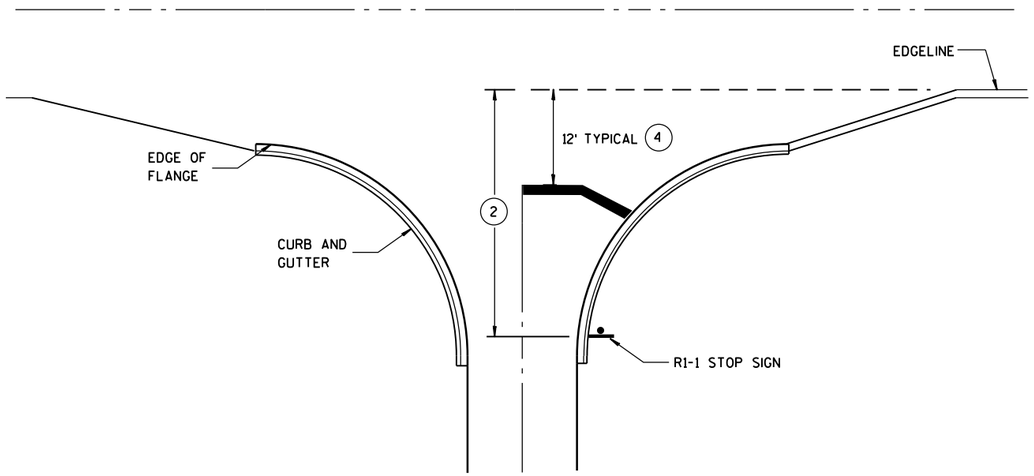
APPROVED
12-2016 DATE
/S/ Matthew R. Rauch
STATE SIGNING AND MARKING ENGINEER
FHWA

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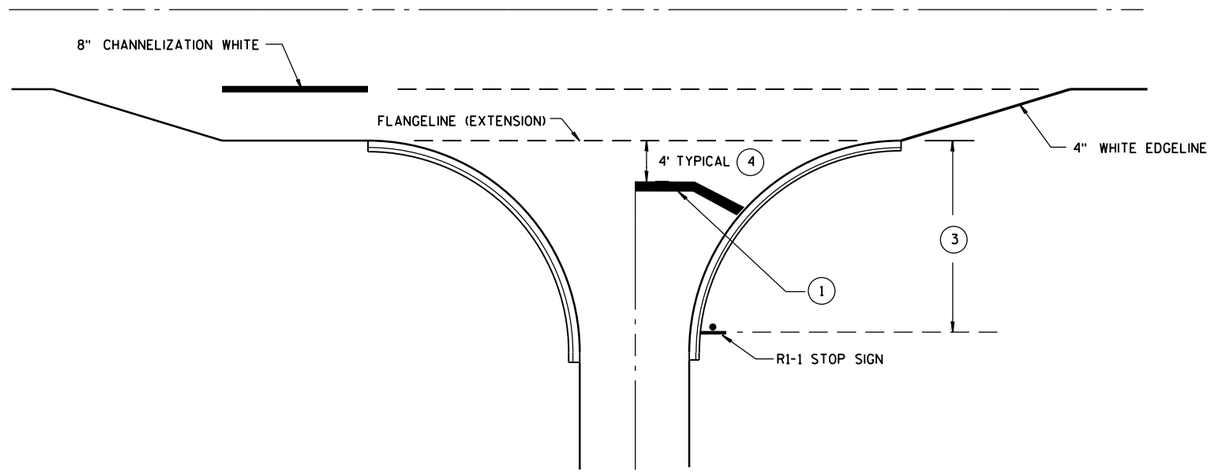
S.D.D. 15 C 29-5a

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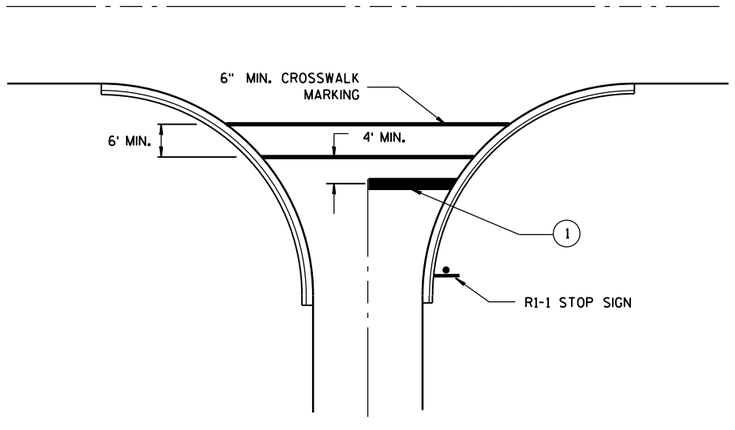
S.D.D. 15 C 29-5a



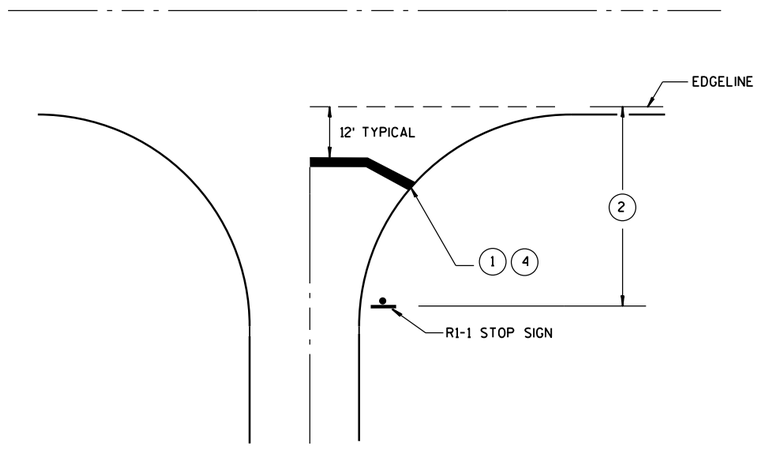
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

GENERAL NOTES

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

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4-18-2016
DATE

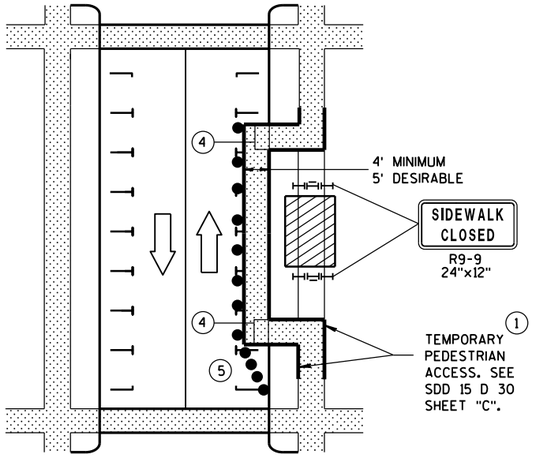
/S/ Matthew R. Rauch
STATE SIGNING AND MAR[illegible]NEER

FHWA

6

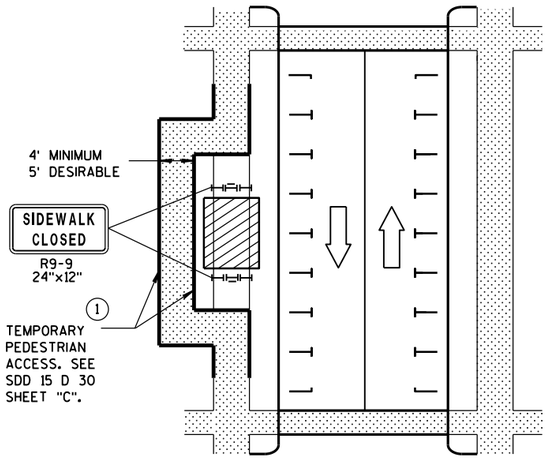
S.D.D. 15 C 33-2

NOTE: MAY BE USED ON ROADWAY WITH POSTED SPEED OF LESS THAN 40 MPH.

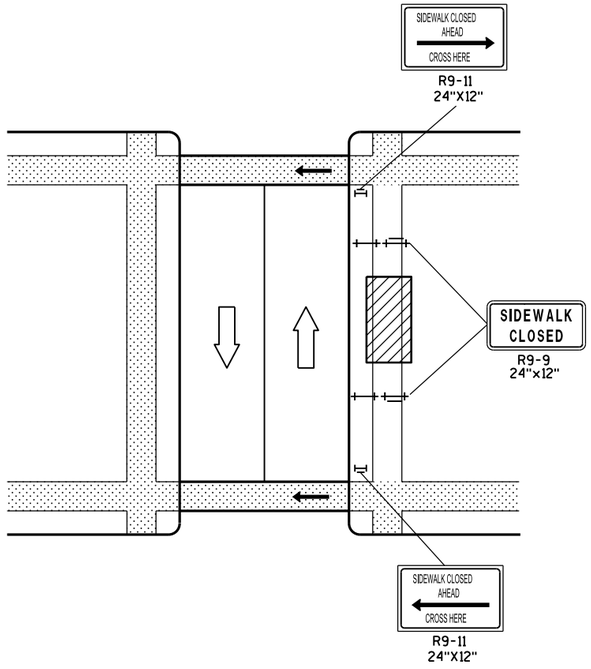


MID-BLOCK SIDEWALK CLOSURE IN PARKING LANE

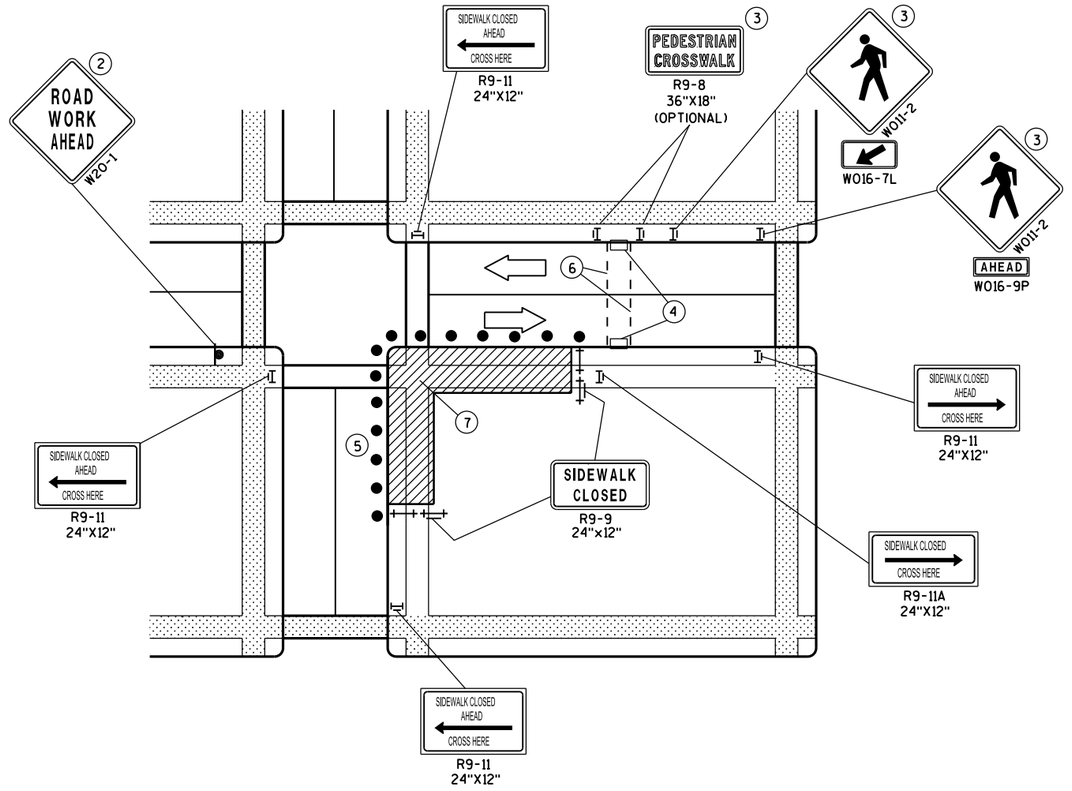
NOTE: LAYOUT SAME AS ABOVE.



SIDEWALK DIVERSION



MID-BLOCK SIDEWALK CLOSURE



CORNER SIDEWALK CLOSURE WITH TEMPORARY CROSSWALK

GENERAL NOTES

WHEN CLOSING OR RELOCATING CROSSWALKS OR SIDEWALKS, PROVIDE DETECABLE TEMPORARY FACILITIES AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH EXISTING PEDESTRIAN FACILITIES.

TEMPORARY TRAFFIC CONTROL DEVICES FOR PEDESTRIANS ARE SHOWN. OTHER DEVICES MAY BE NECESSARY TO CONTROL VEHICULAR TRAFFIC. STAGE WORK, AS NECESSARY, TO PROVIDE A TEMPORARY PEDESTRIAN ACCESS ROUTE AT ALL TIMES. FOR ROADWAYS WITH NO AVAILABLE DETOURS, MAINTAIN ONE OPEN SIDEWALK AT ALL TIMES.

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

FOR NIGHTTIME CLOSURE USE TYPE "A" FLASHING WARNING LIGHTS ON BARRICADES, SUPPORTING SIGNS AND CLOSING SIDEWALK. USE TYPE "C" STEADY BURN LIGHTS ON CHANNELIZING DEVICES SEPARATING THE WORK AREA FROM VEHICULAR TRAFFIC.

PEDESTRIAN TRAFFIC SIGNAL DISPLAY CONTROLLING CLOSED CROSSWALK SHALL BE COVERED OR DEACTIVATED.

POST MOUNTED SIGNS LOCATED ADJACENT TO A SIDEWALK SHALL HAVE A 7 FOOT MINIMUM CLEARANCE FROM THE BOTTOM OF THE SIGN TO THE SIDEWALK SURFACE.

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

(1) IF SIDEWALK CLOSURE AFFECTS AN ACCESSIBLE AND DETECTABLE FACILITY, MAINTAIN ACCESSIBILITY AND DETECTABILITY ALONG THE ALTERNATE PEDESTRIAN ROUTE.

(2) "ROAD WORK AHEAD" SIGNS ARE NOT REQUIRED IF THE SIDEWALK CLOSURE OCCURS WITHIN A LARGER WORK ZONE WHERE ADVANCE WARNING SIGNS ARE ALREADY PRESENT, OR IF THE WORK AREA AND EQUIPMENT ARE MORE THAN 2 FEET BEHIND THE CURB.

(3) IF TEMPORARY PEDESTRIAN CROSSWALK IS NOT PROVIDED, OMIT R9-8 AND W011-2 SIGN ASSEMBLIES. IF PROVIDED INCLUDE ON BOTH SIDES OF THE CROSSWALK.

(4) TEMPORARY CURB RAMPS. SEE SDD 15 D 30 SHEET "B".

(5) DRUMS OR BARRICADES AT 25 FOOT SPACING. STREET PARKING SHALL BE PROHIBITED FOR AT LEAST 50 FEET IN ADVANCE OF THE MID-BLOCK CROSSWALK.

(6) TEMPORARY PAVEMENT MARKING FOR CROSSWALK LINES.

(7) LIMIT WORK TO ONE QUADRANT AT A TIME TO MINIMIZE PEDESTRIAN DISRUPTION.

LEGEND

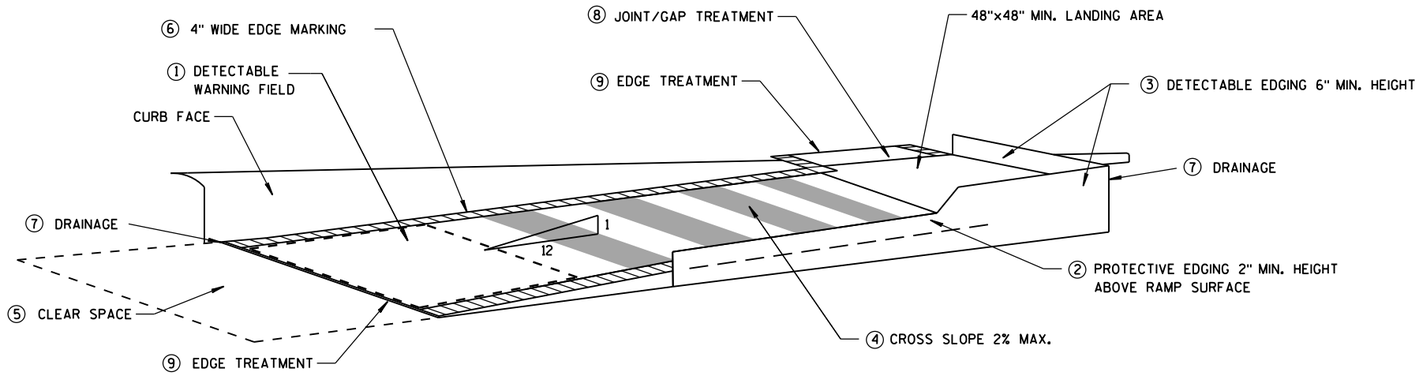
- SIGN ON PERMANENT SUPPORT
- UNDER PEDESTRIAN TRAFFIC
- WORK AREA
- PEDESTRIAN CHANNELIZATION DEVICE
- TYPE II BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- TYPE III BARRICADE WITH/WITHOUT SIGN (ALL WITH ONE WARNING LIGHT, TYPE A, LOW-INTENSITY FLASHING)
- DIRECTION OF TRAFFIC
- TRAFFIC CONTOL DRUM

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOR

6

S.D.D. 15 D 30-3a



TEMPORARY CURB RAMP PARALLEL TO CURB

GENERAL NOTES

NOTIFY THE BUS COMPANY 7 DAYS IN ADVANCE OF THE BUS STOP RELOCATION.

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

① CURB RAMPS SHALL BE 48" MIN. WIDTH WITH A FIRM, STABLE AND SLIP RESISTANT SURFACE. INSTALL CONTRASTING DETECTABLE WARNING FIELD AT PEDESTRIAN STREET CROSSINGS. REFER TO SDD 8D5 SHEET "E".

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

⑤ CLEAR SPACE OF 48"X48" MIN. SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.

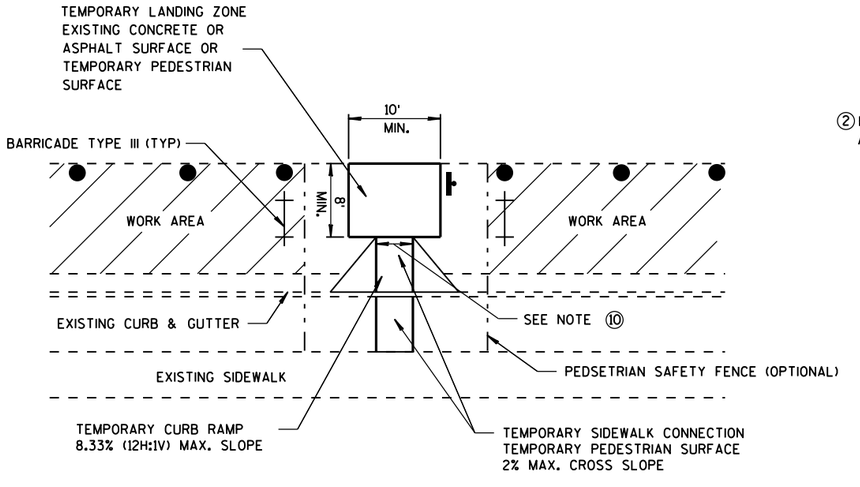
⑥ THE CURB RAMP WALKWAY EDGE SHALL BE MARKED WITH A YELLOW COLOR, 4" WIDE MARKING, UNLESS A CONTRASTING DETECTABLE WARNING FIELD IS PROVIDED.

⑦ DO NOT RESTRICT WATER FLOW IN THE GUTTER SYSTEM.

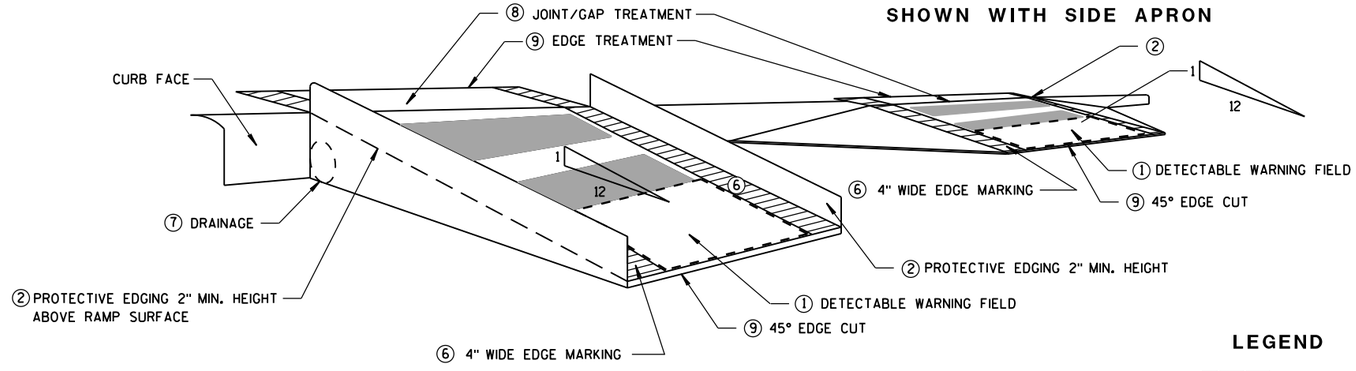
⑧ LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 1/2" WIDTH.

⑨ CHANGES BETWEEN SURFACE HEIGHTS SHALL NOT EXCEED 1/2". LATERAL EDGES SHALL BE VERTICAL UP TO 1/4" HIGH, AND BEVELED AT 1:2 BETWEEN 1/4" AND 1/2".

⑩ 5' WIDE MIN. WITH PEDSETRIAN SAFETY FENCE, 10' WIDE MIN. WITHOUT PEDESTRIAN SAFETY FENCE.



TEMPORARY BUS STOP PAD



SHOWN WITH PROTECTIVE EDGE

SHOWN WITH SIDE APRON

TEMPORARY CURB RAMP PERPENDICULAR TO CURB

LEGEND

WORK AREA

TYPE III BARRICADE

TRAFFIC CONTOL DRUM

TRAFFIC CONTROL, TEMPORARY ADA COMPLIANT PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June 2016 — DATE

/S/ Peter Amakobe Atepe — STATEWIDE WORK ZO SAFETY ENGI IC

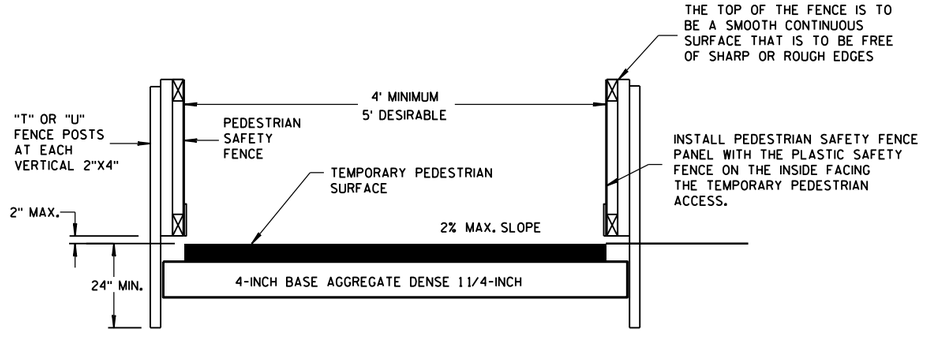
FHWA

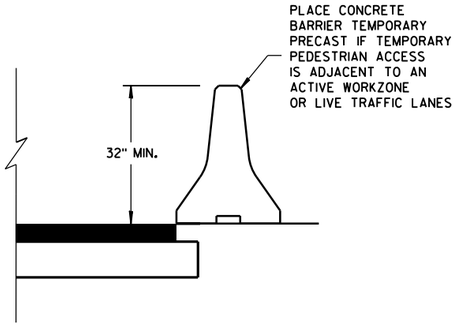
6

S.D.D. 15 D 30-3b

6

S.D.D. 15 D 30-3b

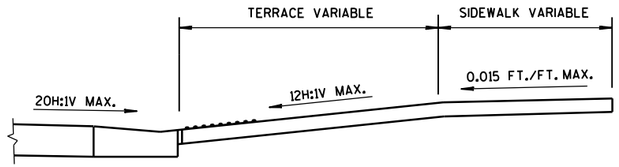




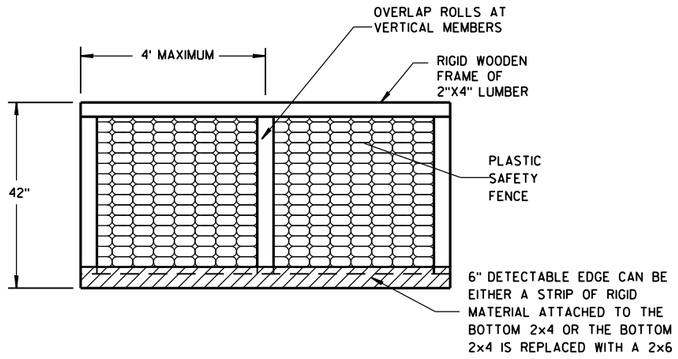
TEMPORARY PEDESTRIAN ACCESS

GENERAL NOTES

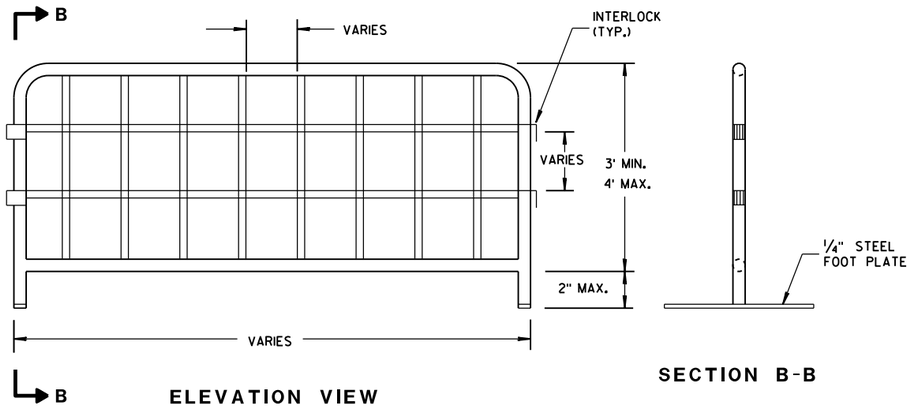
(1) INTERCHANGEABLE WITH THE PEDESTRIAN SAFETY FENCE.



SECTION A-A



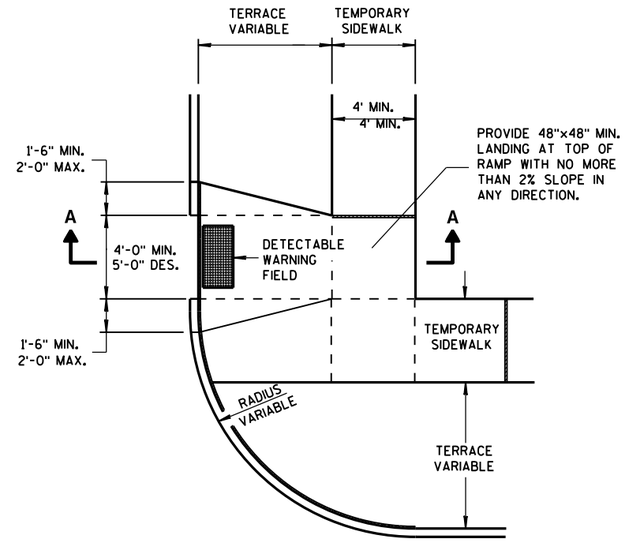
PEDESTRIAN SAFETY FENCE



ELEVATION VIEW

SECTION B-B

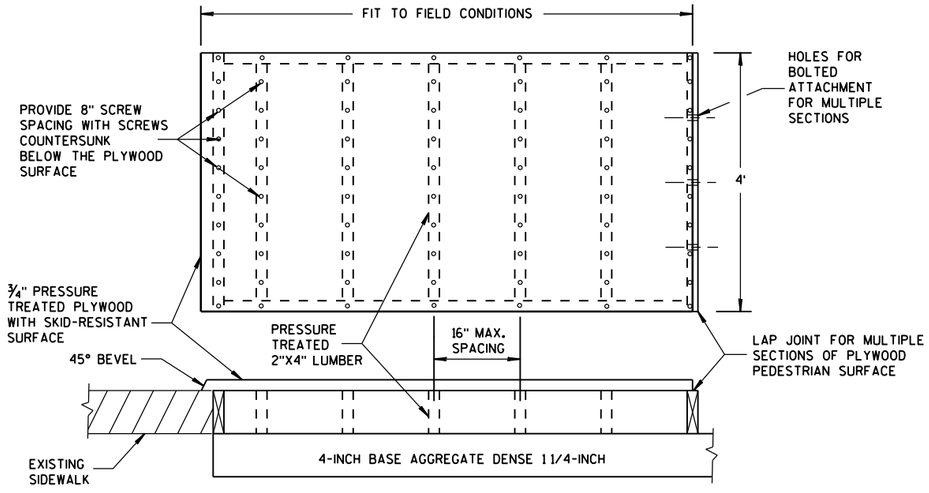
TEMPORARY PEDESTRIAN STEEL BARRICADE (1)



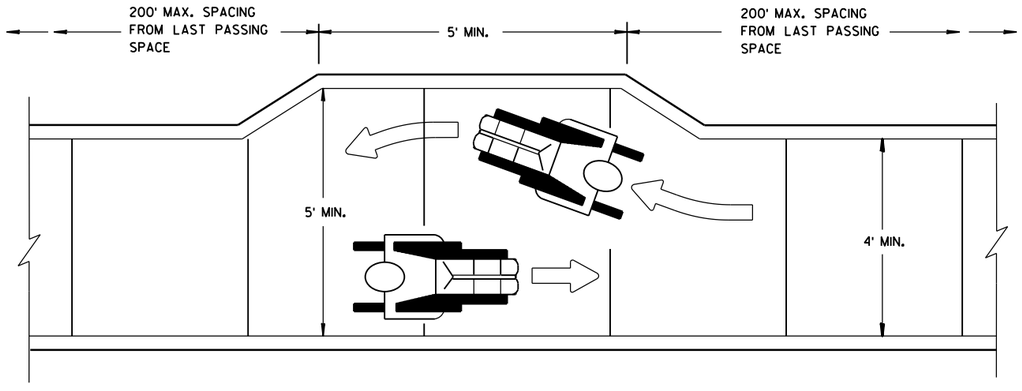
PLAN VIEW

TEMPORARY TYPE 3 RAMP

(OUTSIDE OF CROSSWALK AREA)



TEMPORARY PEDESTRIAN SURFACE PLYWOOD



NARROW SIDEWALK PASSING DETAIL

TRAFFIC CONTROL, PEDESTRIAN ACCOMMODATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

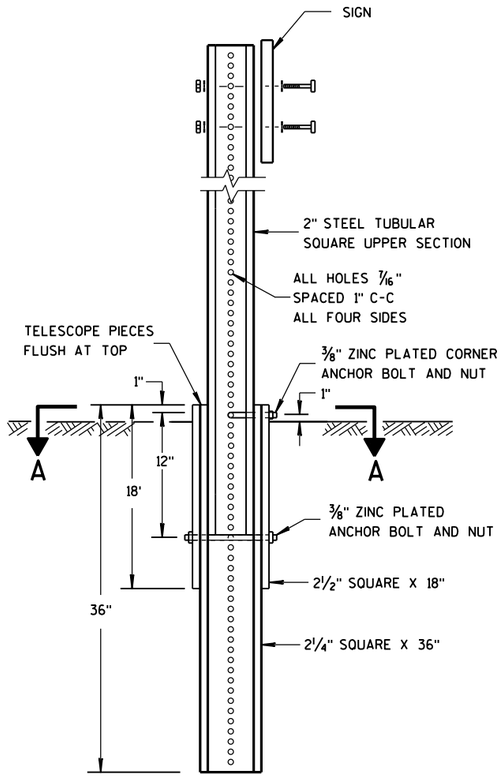
APPROVED
June 2016
DATE
/S/ Peter Amakobe Atepe
STATEWIDE WORK ZON SAFETY ENGIN IC
FHWA

6

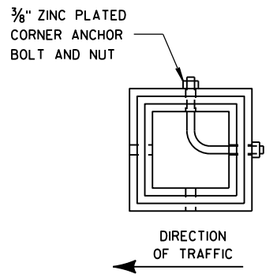
S.D.D. 15 D 30-3c

6

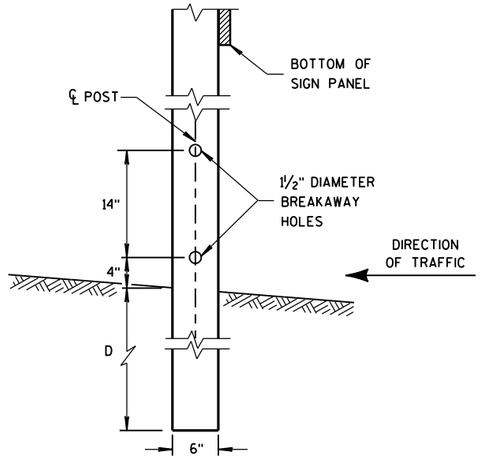
S.D.D. 15 D 30-3c



DETAIL OF TUBULAR STEEL SIGN POST



SECTION A-A



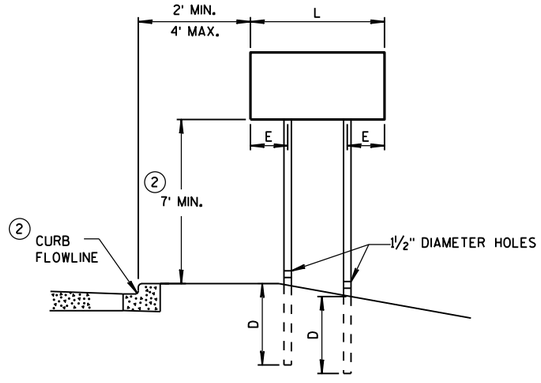
4"x6" WOOD POST MODIFICATION

GENERAL NOTES

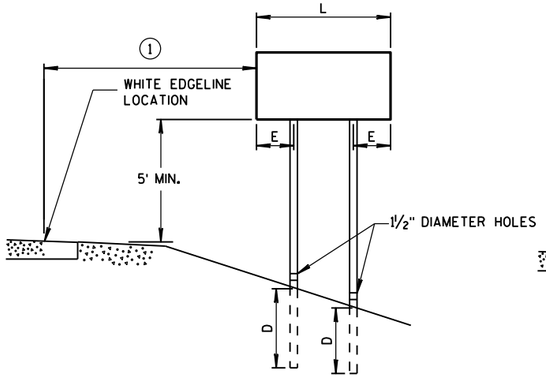
(1) 6 FEET FROM THE EDGE OF PAVEMENT (EDGE LINE LOCATION) UNLESS OTHERWISE DIRECTED BY THE PROJECT ENGINEER. LATERAL OFFSET SHOULD BE ADJUSTED TO AVOID THE DITCH FLOWLINE.

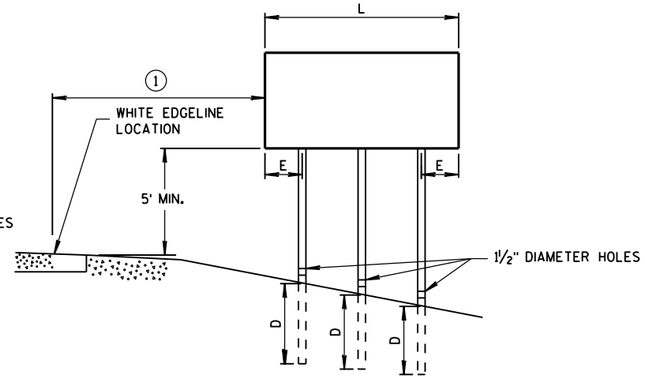
(2) THE EXISTENCE OF CURB AND GUTTER DOES NOT IN ITSELF MANDATE THE VERTICAL CLEARANCE ILLUSTRATED. THAT HEIGHT IS TYPICALLY MEASURED WHERE THERE IS SIDEWALK ADJACENT TO THE ROADWAY OR PARKING IS PERMITTED. IN THE ABSENCE OF SIDEWALK, VERTICAL CLEARANCE IS MEASURED FROM THE TOP OF THE CURB. IF NO SIDEWALK AND NO PARKING, VERTICAL CLEARANCE MAY BE REDUCED TO 5 FOOT MINIMUM. OFFSET OF SIGNS IS MEASURED FROM THE CURB FLOWLINE.

(3) FOR SIGNS REQUIRING 4 POSTS, SPACE INTERMEDIATE POSTS EVENLY.



URBAN AREA





RURAL AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

TUBULAR STEEL POSTS

AREA OF SIGN INSTALLATION (SQ. FT.)	NUMBER OF REQUIRED TUBULAR STEEL 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).

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

WOOD POST EMBEDMENT DEPTH

AREA OF SIGN INSTALLATION (SQ. FT.)	D (MIN)
20 OR LESS	4'
GREATER THAN 20	5'

4" X 6" WOOD POST

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

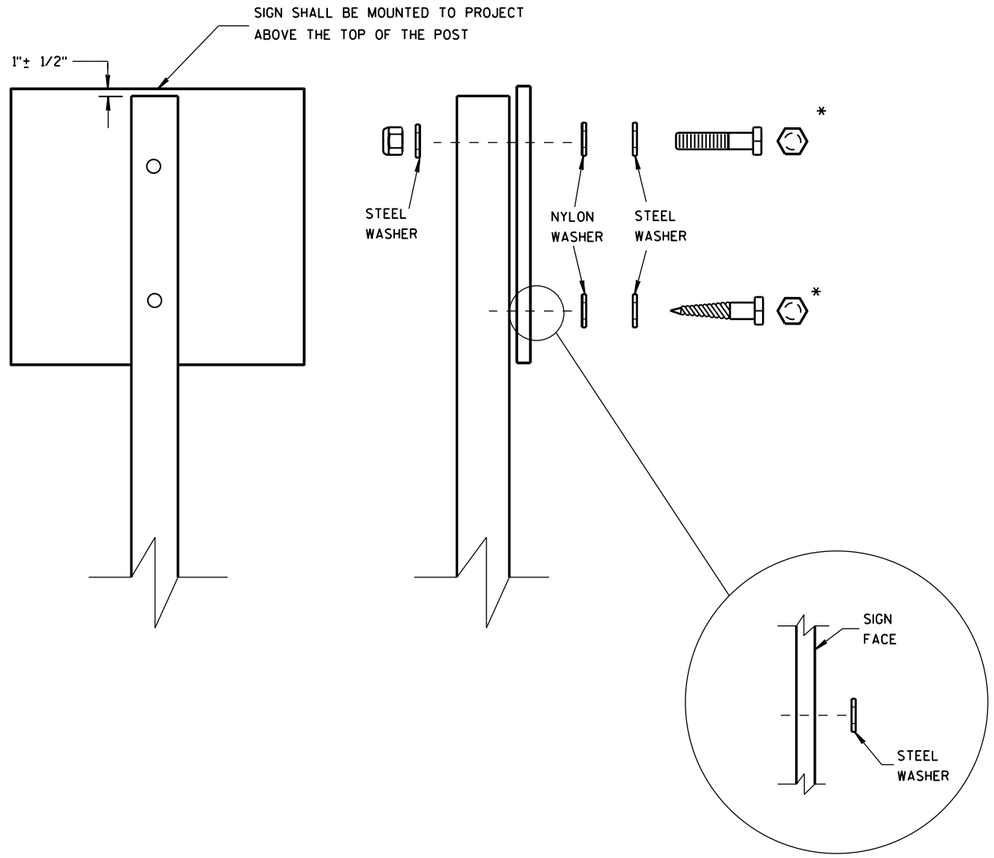
SEE NOTE (3)

TEMPORARY TRAFFIC CONTROL SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

S.D.D. 15 D 38-2a



WASHER PLACEMENT WHEN SIGN HAS OTHER THAN TYPE H OR TYPE F FACE

NUTS, BOLTS AND LAGS USED FOR MOUNTING SIGNS SHALL HAVE HEXAGONAL HEADS AND SHALL BE EITHER:

A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3

B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

THREADS ON BOLTS AND NUTS SHALL BE MANUFACTURED WITH SUFFICIENT ALLOWANCE FOR THE CADMIUM PLATE OR GALVANIZED COATING TO PERMIT THE NUTS TO RUN FREELY ON THE BOLTS.

WOOD POSTS (4" x 4" or 4" x 6")

LAG SCREWS - 3/8" X 3"

MACHINE BOLTS - 5/16" X 6-1/2" OR 7" LENGTH W/ NUTS

SQUARE STEEL POSTS (2" x 2")

MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS

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

WASHERS (ALL POSTS) -

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

1-1/4" O.D. X 3/8" I.D. X .080 NYLON FOR ALL TYPE H SIGNS

* TWO DIFFERENT FASTENING SYSTEMS ARE SHOWN FOR ILLUSTRATION PURPOSES. ON ANY INDIVIDUAL SIGN, EITHER ONE OR THE OTHER SYSTEM SHALL BE USED. ACTUAL NUMBER OF FASTENERS PER SIGN VARIES WITH THE SIGN AREA. FOR A SINGLE POST INSTALLATION, ALL SIGNS GREATER THAN 9 SQ. FT. REQUIRE THE USE OF 3 FASTENERS.

6

6

S.D.D. 15 D 38-2b

S.D.D. 15 D 38-2b

ATTACHMENT OF SIGNS TO POSTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

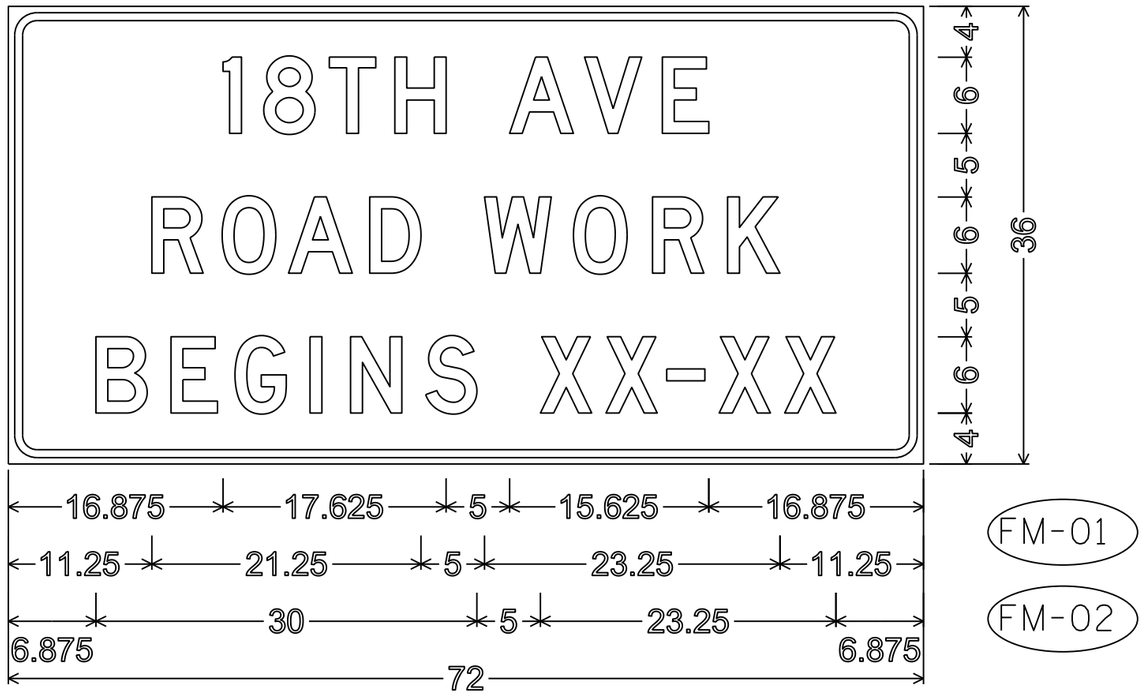
June 2017
DATE

/S/ Andrew Heldtke
WORK ZONE ENG

FHWA

NOTES

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



FM-01

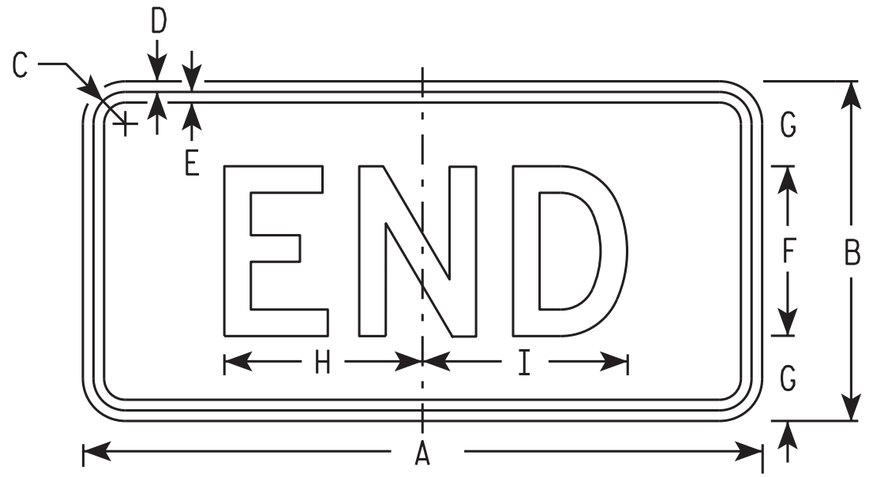
FM-02

2.250" Radius, 0.625" Border, 0.500" Indent

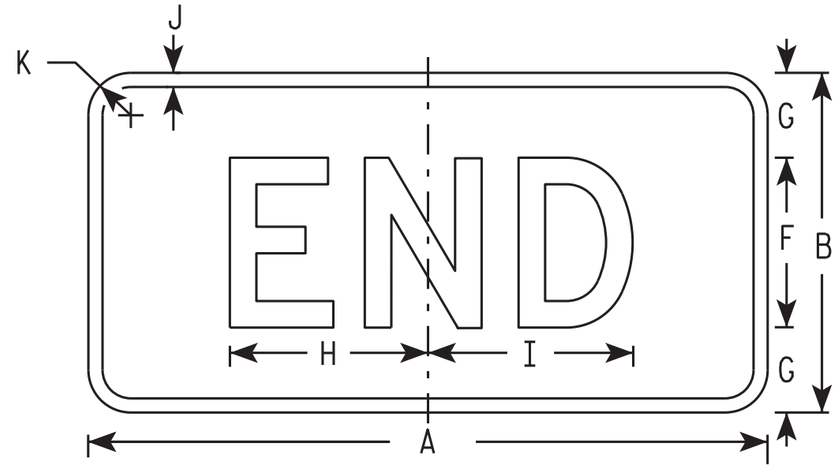
7

7

PROJECT NO: 2707-00-79	HWY: 18TH AVE	COUNTY: WASHINGTON	TEMPORARY SIGNING	SHEET NO: 110	E



M4-6
MM4-6
MP4-6



MB4-6
MK4-6
MN4-6
MR4-6

NOTES

1. Sign is Type II - Type H
2. Color:
   Background - See note 5
   Message - See note 5
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. M4-6 Background - White
   Message - Black

   MB4-6 Background - Blue
   Message - White

   MK4-6 Background - Green
   Message - White

   MM4-6 Background - White
   Message - Green

   MN4-6 Background - Brown
   Message - White

   MP4-6 Background - White
   Message - Blue

   MR4-6 Background - Brown
   Message - Yellow

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	3	7	7 1/4	1/2	1 1/2																2.00
3	36	18	1 1/8	3/8	1/2	9	4 1/2	12	11 7/8	1/2	1 1/2																4.5
4	36	18	1 1/8	3/8	1/2	9	4 1/2	12	11 7/8	1/2	1 1/2																4.5
5	36	18	1 1/8	3/8	1/2	9	4 1/2	12	11 7/8	1/2	1 1/2																4.5

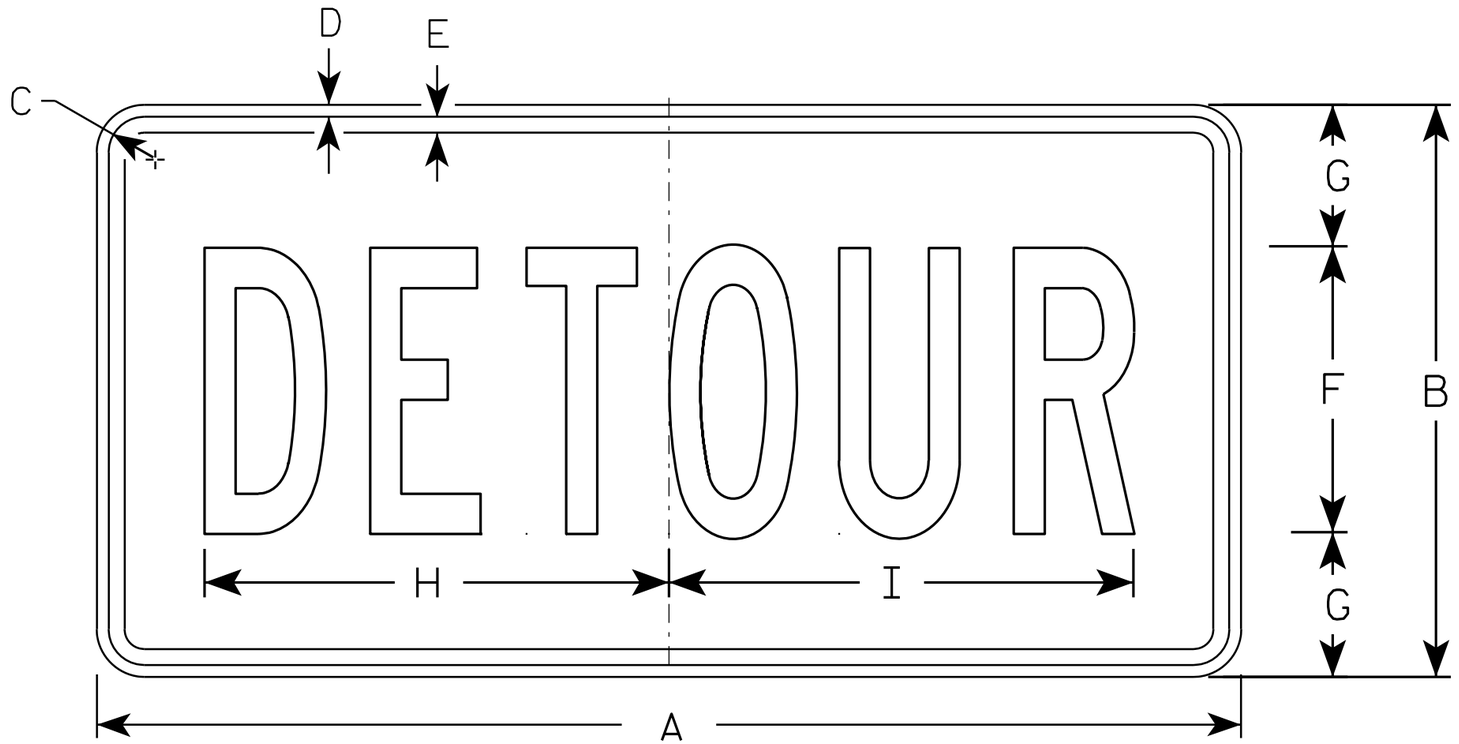
STANDARD SIGN
M4-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M4-7.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



M4-8

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - 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	12	1 1/8	3/8	3/8	6	3	10	10 1/4																		2.0
3	36	18	1 1/8	3/8	1/2	9	4 1/2	14 5/8	14 1/2																		4.5
4																											
5																											

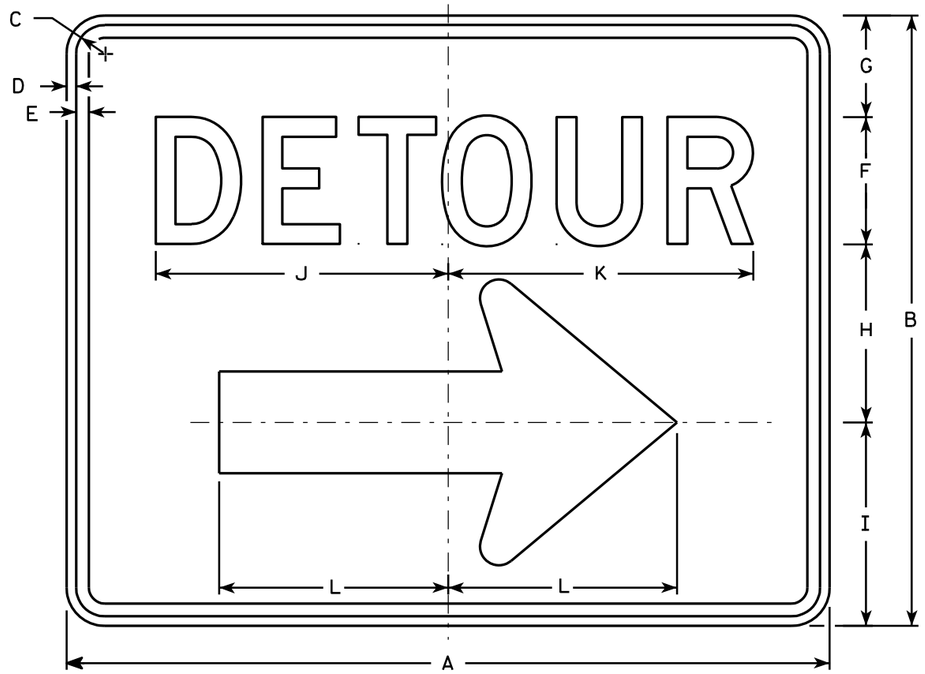
STANDARD SIGN
M4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/10/10 PLATE NO. M4-8.2

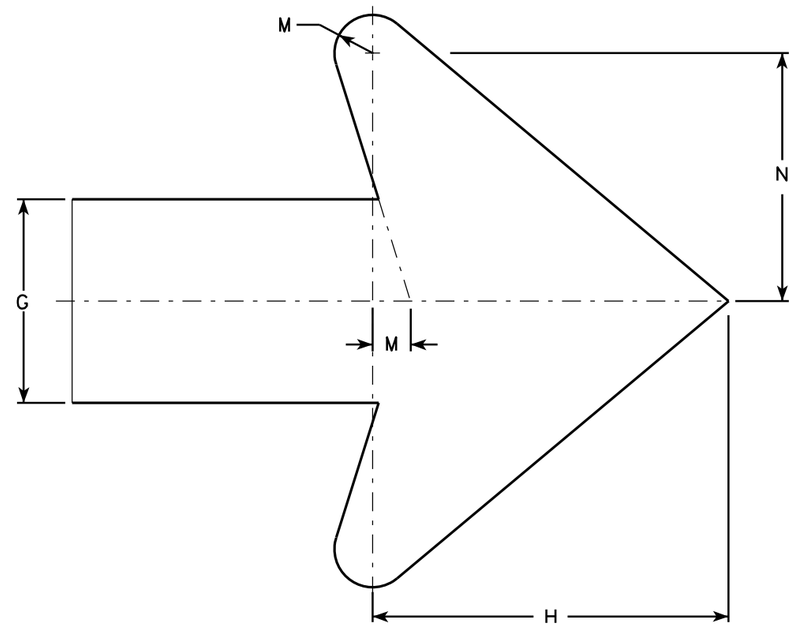
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 112	E



M4-9R

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - D
4. 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. M4-9L is the same as M4-9R 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																											
2	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

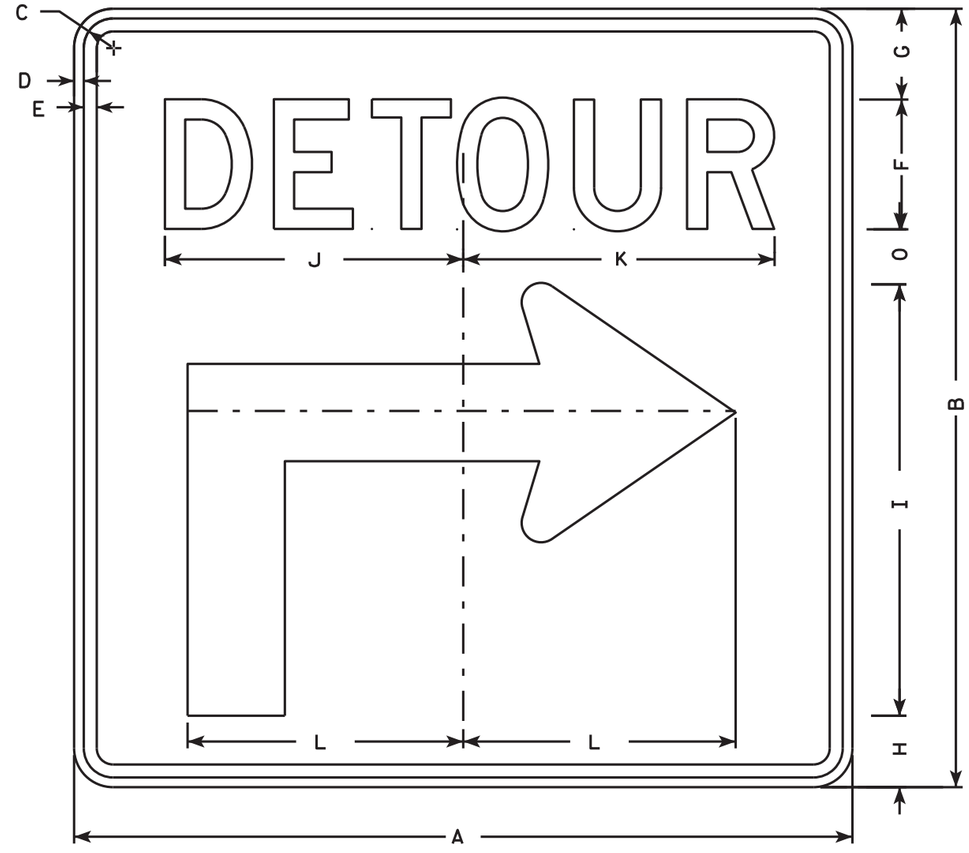
STANDARD SIGN
M4-9 R & L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-9R.4

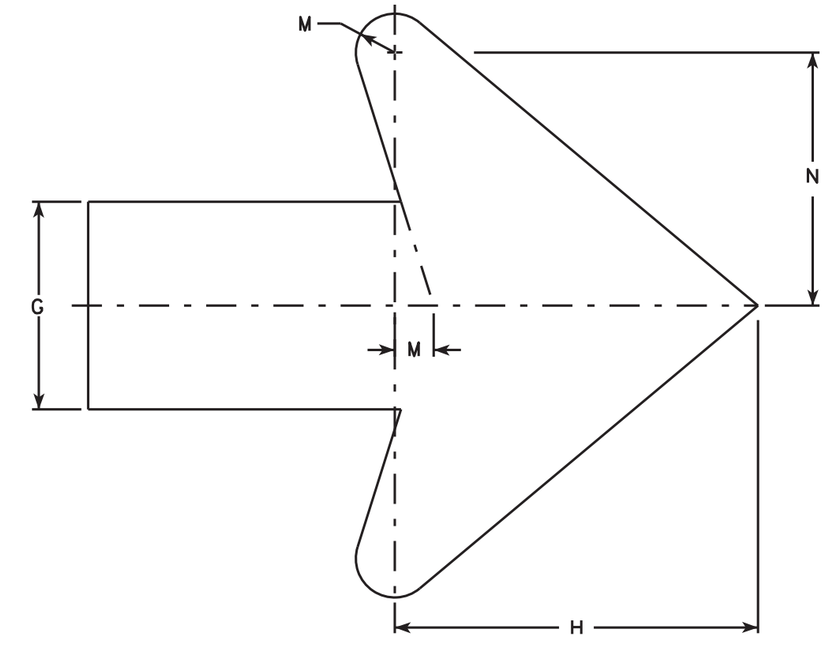
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 113	E



M4-59R

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.
5. M4-59L is the same as M4-59R 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																											
2	30	30	1 1/8	3/8	1/2	5	3 1/2	2 3/4	16 5/8	11 1/2	12	10 1/2	3/4	4 7/8	2 1/8												6.25
3	30	30	1 1/8	3/8	1/2	5	3 1/2	2 3/4	16 5/8	11 1/2	12	10 1/2	3/4	4 7/8	2 1/8												6.25
4	48	48	1 3/8	1/2	5/8	8	5 5/8	4 3/8	26 5/8	20 5/8	20 1/2	17	1 1/8	6 7/8	3 3/8												16.0
5	48	48	1 3/8	1/2	5/8	8	5 5/8	4 3/8	26 5/8	20 5/8	20 1/2	17	1 1/8	6 7/8	3 3/8												16.0

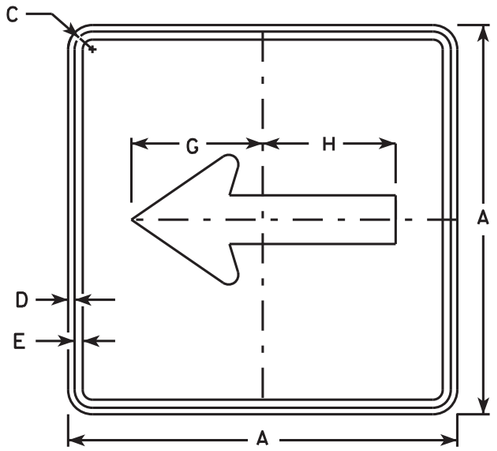
STANDARD SIGN
M4-59 L&R

WISCONSIN DEPT OF TRANSPORTATION

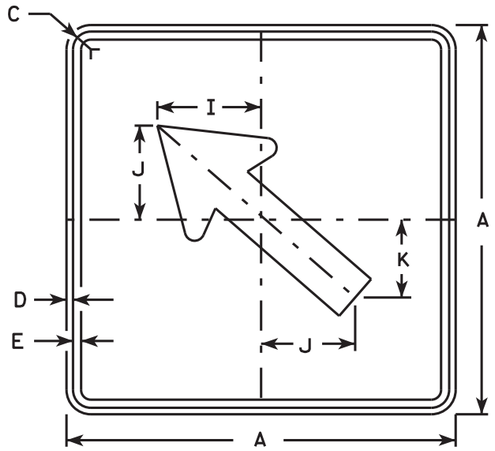
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/10/15 PLATE NO. M4-59.1

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



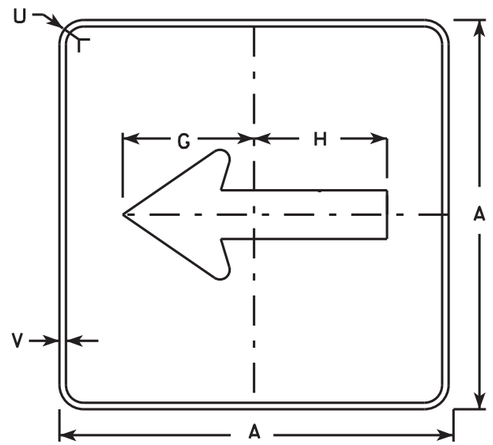
M6-1
MM6-1
MO6-1
MP6-1



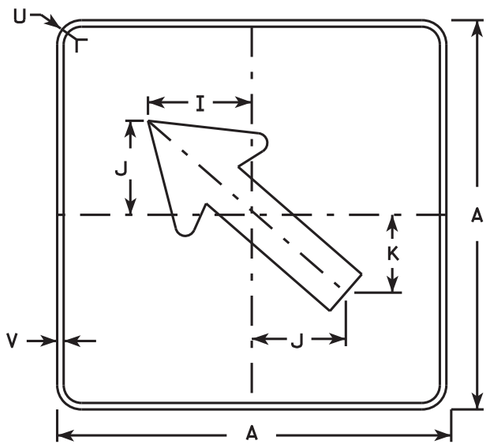
M6-2
MM6-2
MO6-2
MP6-2

NOTES

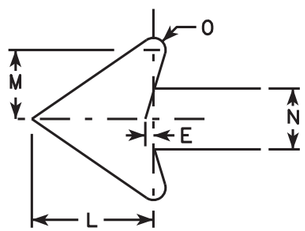
1. Signs are Type II - Type H except as Shown
2. Color:
   Background - See note 4
   Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. M6-1 and M6-2 Background - 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



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



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



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

STANDARD SIGN
M6-1 & M6-2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

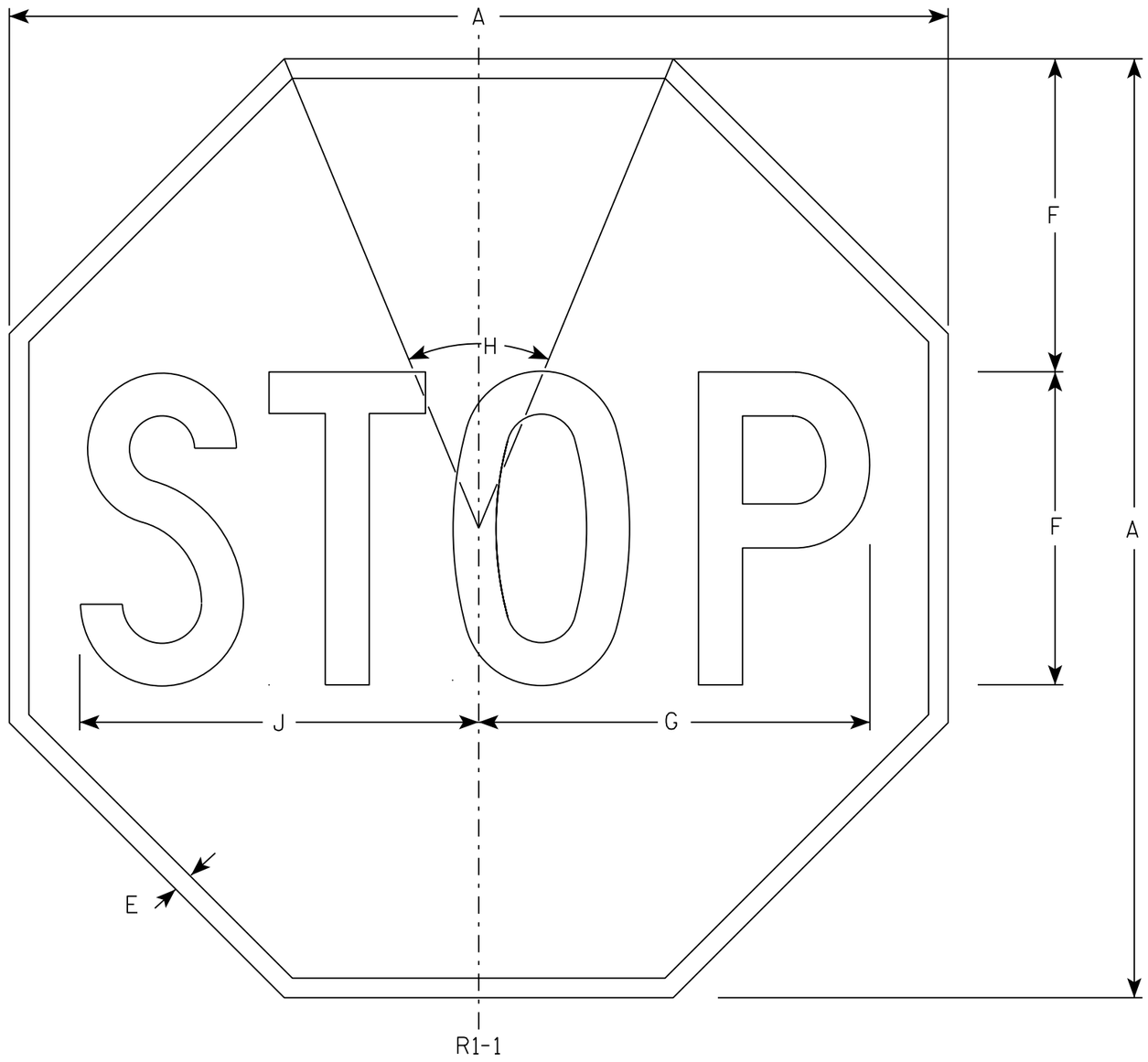
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M6-1.15

PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

7

FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M61.DGN PLOT DATE : 15-OCT-2015 13:17 PLOT BY : ss...plotuser...ss PLOT NAME : PLOT SCALE : 18.607113:1.000000
WISDOT/CADDS SHEET 42



NOTES

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

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

STANDARD SIGN
R1-1

WISCONSIN DEPT OF TRANSPORTATION

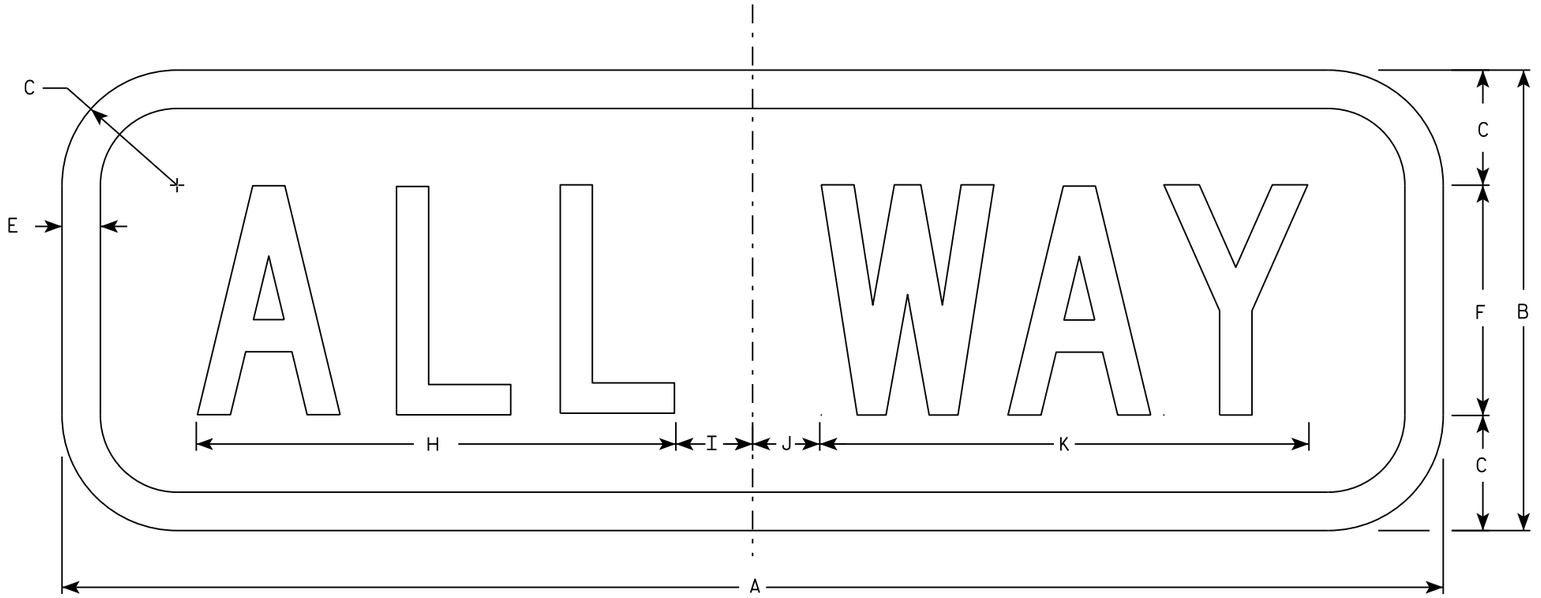
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/12/15 PLATE NO. R1-1.13

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 116	E

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - Red
   Message - White
3. Message Series - C
4. For 30"x30" R1-1 use 18"x6" R1-3P sign
   For 36"x36" R1-1 use 24"x9" R1-3P sign
   For 48"x48" R1-1 use 30"x12" R1-3P sign



R1-3P

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	6	1 1/2		1/2	3		6 1/4	1 1/4	7/8	6 3/8																0.75
2S	18	6	1 1/2		1/2	3		6 1/4	1 1/4	7/8	6 3/8																1.5
2M	24	9	1 1/2		1/2	5		9 1/4	1 1/4	3/4	9 3/4																1.5
3	24	9	1 1/2		1/2	5		9 1/4	1 1/4	3/4	9 3/4																1.5
4	30	12	2 1/4		5/8	6		11	2 1/4	1 1/2	11 3/4																2.5
5	30	12	2 1/4		5/8	6		11	2 1/4	1 1/2	11 3/4																2.5

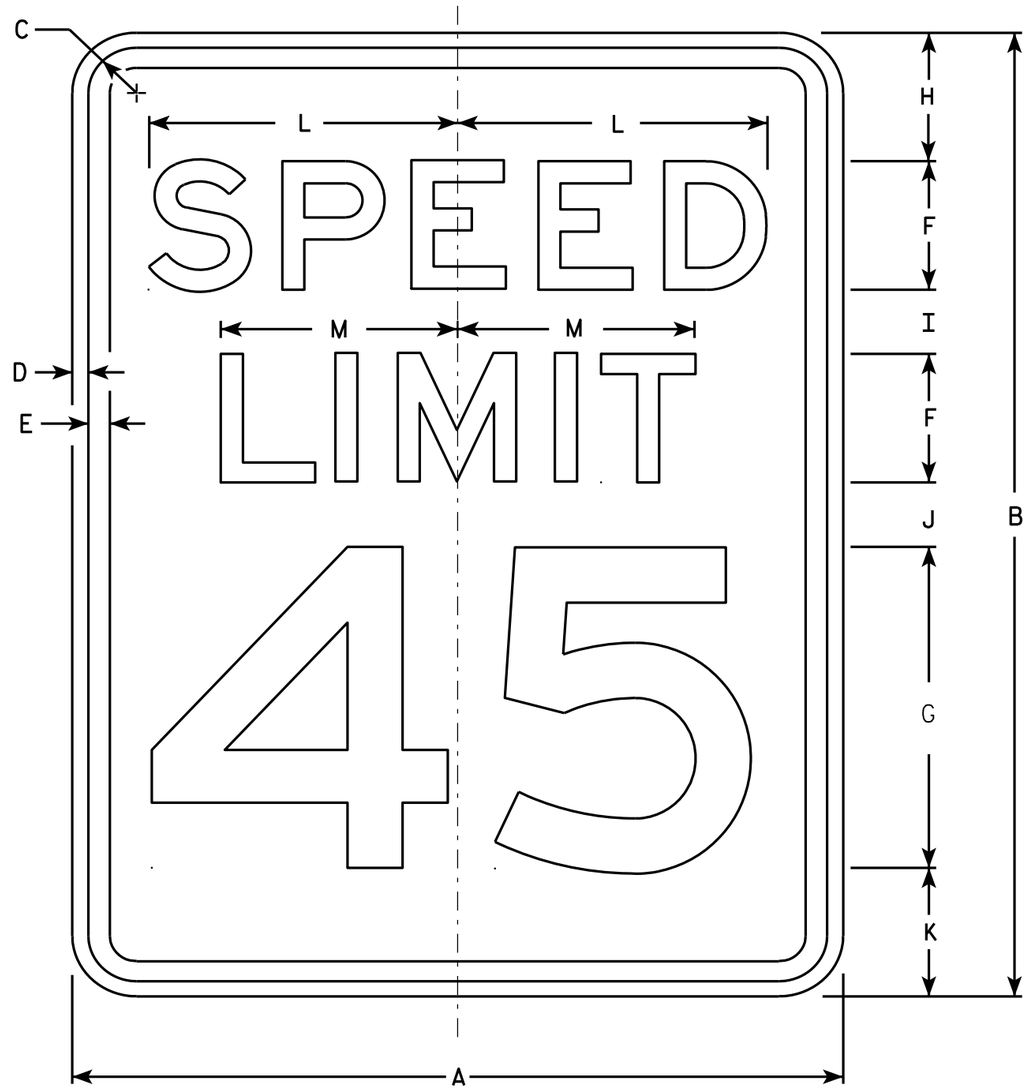
STANDARD SIGN
R1-3P

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 11/29/16 PLATE NO. R1-3P.3

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 117 | E



R2-1

NOTES

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

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

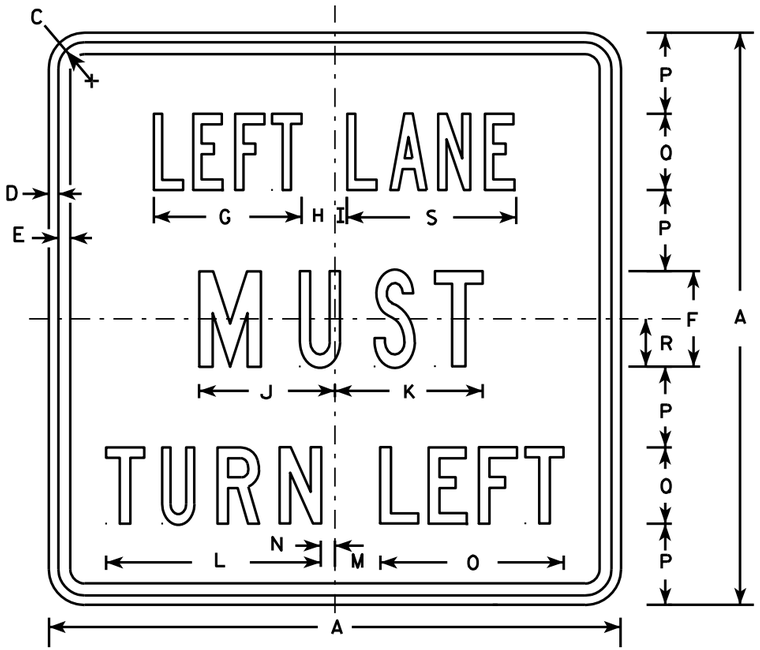
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

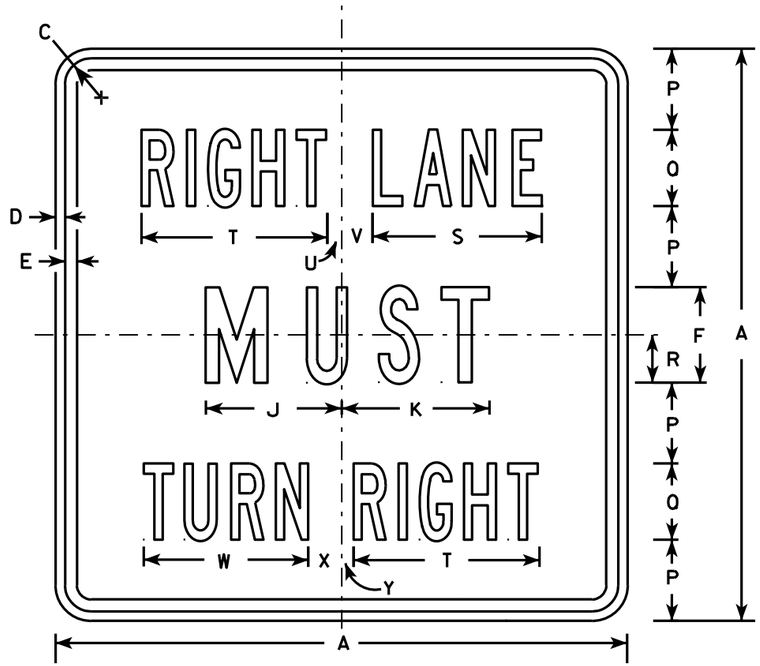
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 118 | E



R3-7L



R3-7R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - Line 1 is Series B.
   Line 2 is Series C.
   Line 3 on plate R3-7R is Series B and Series C on plate R3-7L.
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	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
2S	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
2M	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
3	36		1 5/8	5/8	3/4	6	9 5/8	2	1 1/8	8 3/4	9	13 1/2	3 7/8	1 1/2	12 1/2	5	5	3	10 5/8	12	7/8	2 1/4	10 5/8	2 1/8	1		9.00
4	48		2 1/4	3/4	1	8	13 1/2	2 3/8	1 1/2	11 1/2	11 7/8	17 3/4	3 5/8	2 1/2	16 3/8	6 1/2	7	4	14 3/8	16 7/8	5/8	3 1/4	15 1/8	2 3/4	1 1/8		16.00
5																											

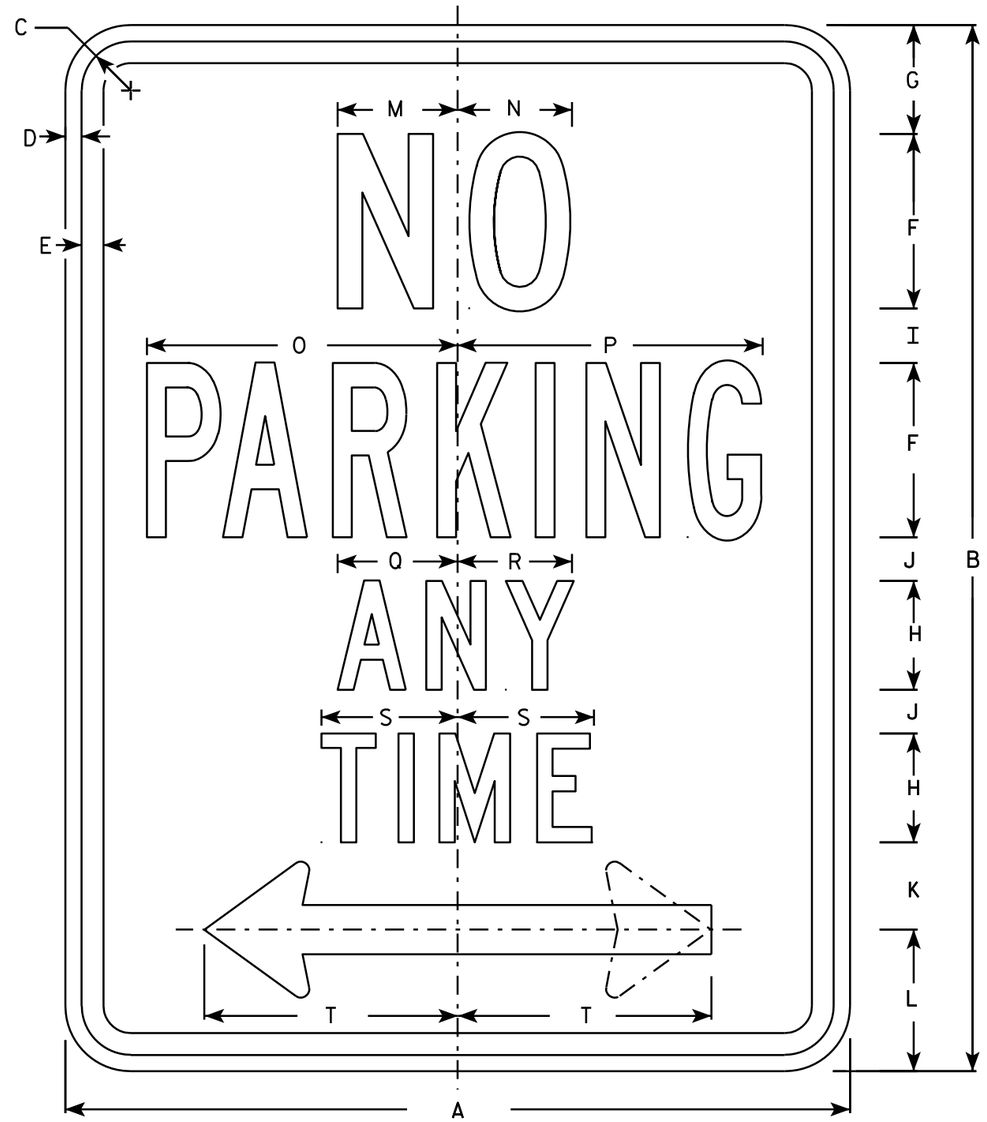
STANDARD SIGN
R3-7L & R3-7R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/18/2011 PLATE NO. R3-7.3

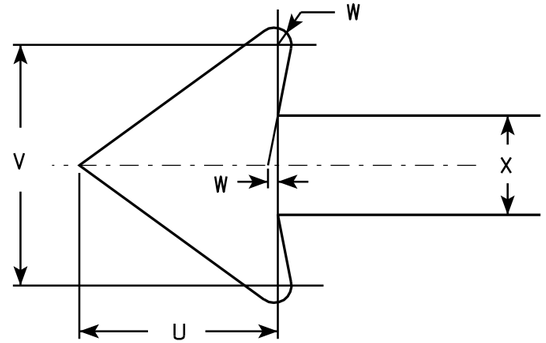
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 119 | E



R7-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Red
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. Lines 1, 3 and 4 are series C, line 2 is series B.
6. R7-1D (double arrow)
   R7-1L (left arrow)
   R7-1R (right arrow)



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	12	18	1 1/8	3/8	3/8	3	1 7/8	2	7/8	5/8	1 1/2	2 1/2	2	2	4 7/8	4 7/8	2 1/4	2 1/8	2 1/2	3 7/8	1 1/2	1 3/4	1/8	3/4			1.5
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	2 3/4	2 5/8	3 1/8	5 7/8	2 1/4	2 5/8	1/4	1 1/8			3.0
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
4																											
5																											

STANDARD SIGN
R7-1

WISCONSIN DEPT OF TRANSPORTATION

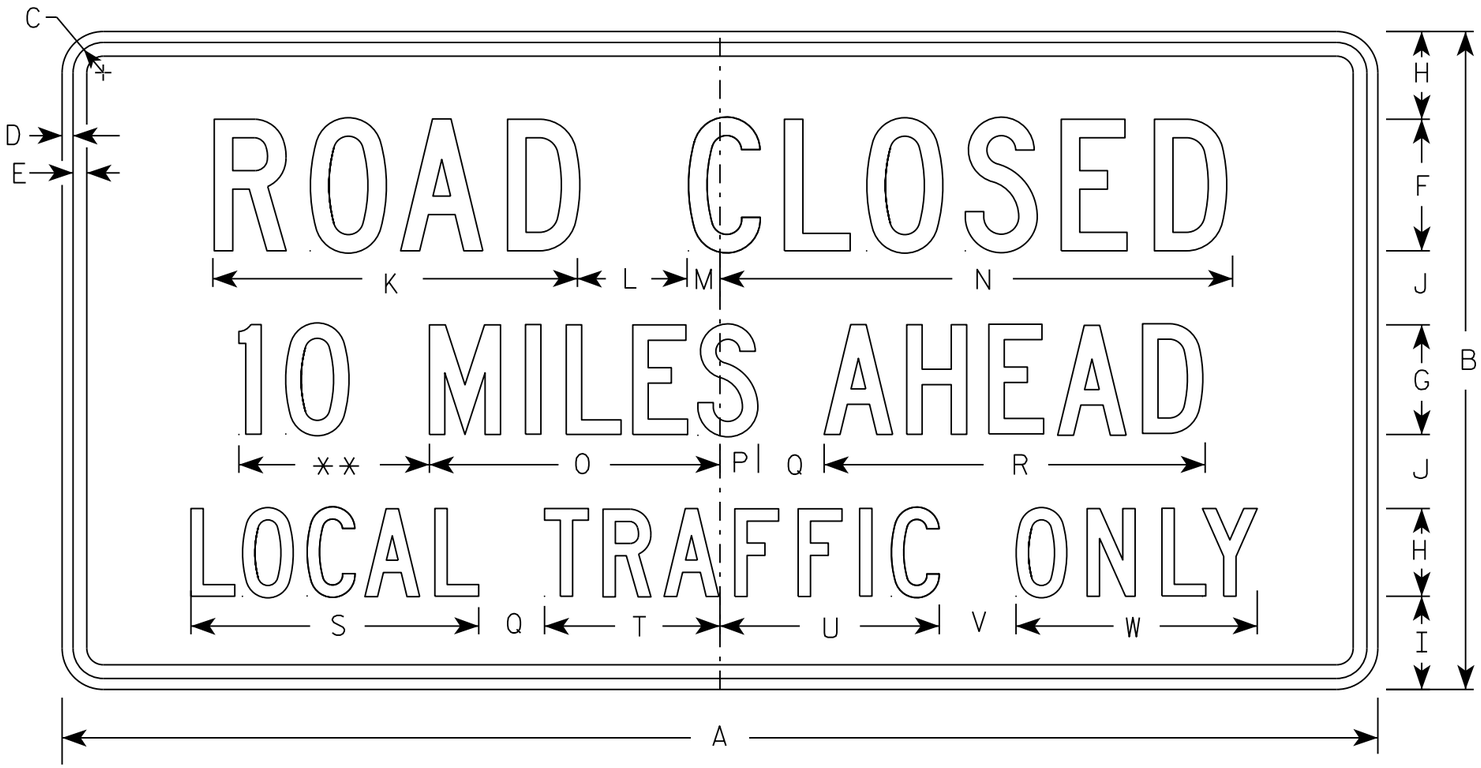
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R7-1.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 120	E

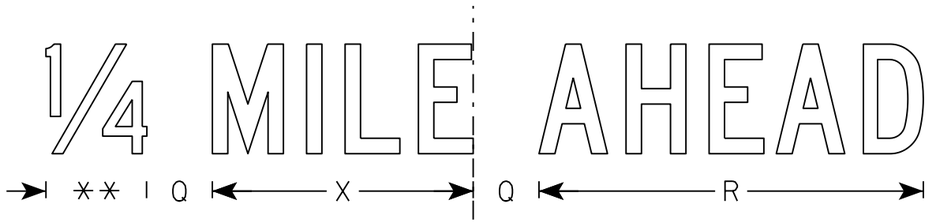
NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - C
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Substitute appropriate numerals to nearest quarter mile and optically adjust spacing to achieve proper balance.



R11-3

** See Note 5



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 3/8	1/2	5/8	4	3	2 1/2	2	2	11 1/8	3	1 1/8	15 1/4	8	1 1/2	2	10 3/4	8 3/8	4 3/4	6 1/2	2	6 3/4	7 1/8			4.5
2S	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	16 5/8	5	1 1/2	23	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
2M	60	30	1 3/8	1/2	5/8	6	5	4	4 1/4	3 3/8	16 5/8	5	1 1/2	23	13 1/4	1 3/4	3	17 3/8	13 1/8	8	10	3 1/2	11	11 7/8			12.5
3																											
4																											
5																											

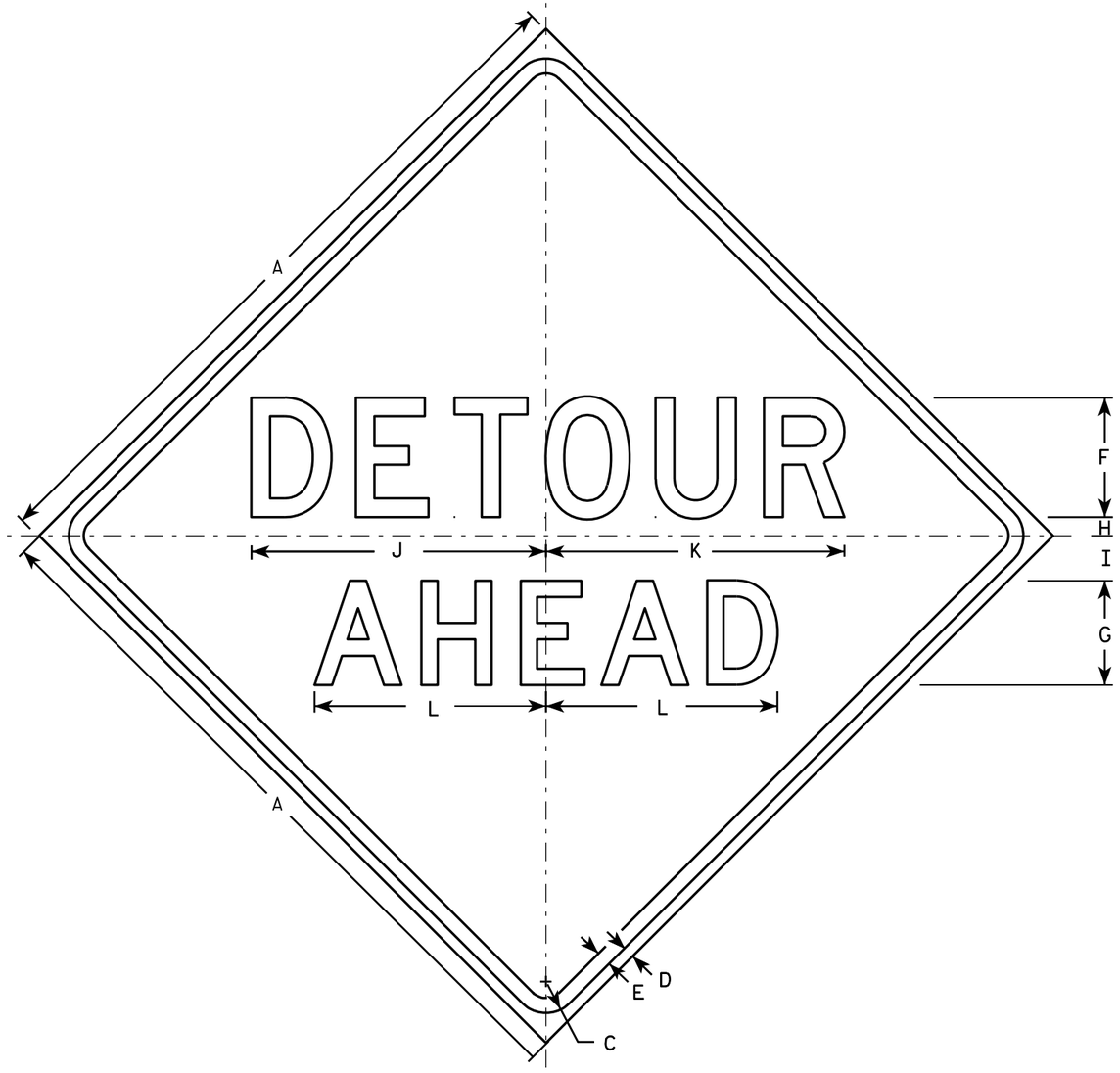
STANDARD SIGN
R11-3

WISCONSIN DEPT OF TRANSPORTATION

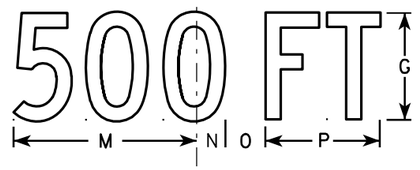
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/15/17 PLATE NO. R11-3.8

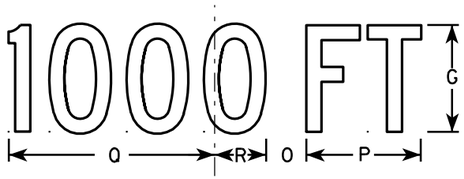
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 121	E



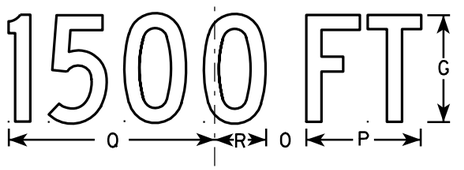
W20-2A



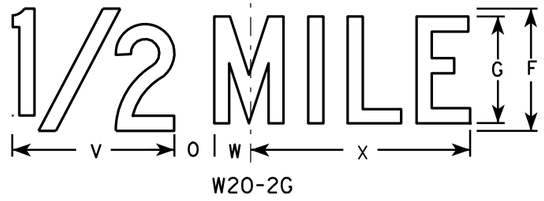
W20-2D



W20-2C



W20-2B



W20-2G



W20-2F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Orange
   Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. 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	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	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		2 1/4	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		2 1/4	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		2 1/4	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		2 1/4	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		2 1/4	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 3/18/11 PLATE NO. W20-2.6

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 122 | E

7

FILE NAME : C:\Users\PROJECTS\tr_stdplate\W202.DGN PLOT DATE : 18-MAR-2011 10:00 PLOT BY : mscj9h PLOT NAME : PLOT SCALE : 9.931739:1.000000
WISDOT/CADDS SHEET 42

18TH AVE EARTHWORK														
			AREA (SF)				Incremental Vol (CY) (Unadjusted)				Cumulative Vol (CY)			
STATION	Real Station	Distance	Cut	Salvaged/Unusable Pavement Material	Fill	EBS	Cut	Salvaged/Unusable Pavement Material	Fill	EBS	Cut 1.00	Expanded Fill 1.20	Mass Ordinate	
40+86	4086.00	0.00	0.00	12.00	0.00	0.00	0	0	0	0	0	0	0	
41+00	4100.00	14.00	0.00	12.00	0.00	0.00	0	6	0	0	0	0	0	
41+50	4150.00	50.00	78.14	12.00	0.04	0.00	72	22	0	0	72	0	0	
42+00	4200.00	50.00	142.47	12.00	0.00	0.00	204	22	0	0	277	0	0	
42+50	4250.00	50.00	98.06	12.00	0.00	0.00	223	22	0	0	499	0	0	
42+83	4283.00	33.00	107.51	12.00	9.95	0.00	126	15	6	0	625	7	7	
43+00	4300.00	17.00	85.98	12.00	38.36	0.00	61	8	15	0	686	26	26	
43+30	4330.00	30.00	89.88	12.00	31.66	0.00	98	13	39	0	784	72	72	
43+50	4350.00	20.00	69.03	12.00	55.35	0.00	59	9	32	0	842	111	111	
44+00	4400.00	50.00	54.47	12.00	66.28	0.00	114	22	113	0	957	246	246	
44+50	4450.00	50.00	46.30	12.00	74.79	0.00	93	22	131	0	1,050	403	403	
45+00	4500.00	50.00	46.77	12.00	67.60	0.00	86	22	132	0	1,136	561	561	
45+50	4550.00	50.00	46.86	12.00	71.36	38.00	87	22	129	35	1,223	715	715	
46+00	4600.00	50.00	63.32	12.00	58.95	38.00	102	22	121	70	1,325	860	860	
46+50	4650.00	50.00	81.93	12.00	44.87	38.00	134	22	96	70	1,459	976	976	
47+00	4700.00	50.00	98.84	12.00	40.76	38.00	167	22	79	70	1,627	1,071	1,071	
47+50	4750.00	50.00	105.61	12.00	98.52	38.00	189	22	129	70	1,816	1,226	1,226	
48+00	4800.00	50.00	86.00	12.00	57.79	38.00	177	22	145	70	1,994	1,399	1,399	
48+10	4810.00	10.00	86.71	12.00	33.78	38.00	32	4	17	14	2,026	1,420	1,420	
48+50	4850.00	40.00	90.77	12.00	34.98	38.00	131	18	51	56	2,157	1,481	1,481	
49+00	4900.00	50.00	93.73	12.00	34.84	38.00	171	22	65	70	2,328	1,558	1,558	
49+50	4950.00	50.00	89.86	12.00	27.57	0.00	170	22	58	35	2,498	1,628	1,628	
50+00	5000.00	50.00	91.78	12.00	27.25	0.00	168	22	51	0	2,666	1,689	1,689	
50+50	5050.00	50.00	94.98	12.00	25.65	0.00	173	22	49	0	2,839	1,747	1,747	
51+00	5100.00	50.00	181.40	12.00	22.89	0.00	256	22	45	0	3,095	1,801	1,801	
51+50	5150.00	50.00	156.87	12.00	30.03	0.00	313	22	49	0	3,408	1,860	1,860	
52+00	5200.00	50.00	155.38	12.00	27.83	0.00	289	22	54	0	3,697	1,924	1,924	
52+50	5250.00	50.00	151.65	12.00	43.61	0.00	284	22	66	0	3,982	2,004	2,004	
53+00	5300.00	50.00	150.23	12.00	47.66	0.00	280	22	85	0	4,261	2,105	2,105	
53+50	5350.00	50.00	145.96	12.00	52.56	38.00	274	22	93	35	4,535	2,216	2,216	
54+00	5400.00	50.00	100.30	12.00	54.39	38.00	228	22	99	70	4,763	2,335	2,335	
54+50	5450.00	50.00	85.10	12.00	46.84	38.00	172	22	94	70	4,935	2,448	2,448	
55+00	5500.00	50.00	70.35	12.00	73.67	38.00	144	22	112	70	5,079	2,582	2,582	
55+50	5550.00	50.00	74.27	12.00	82.60	38.00	134	22	145	70	5,213	2,755	2,755	
56+00	5600.00	50.00	88.66	12.00	70.10	38.00	151	22	141	70	5,364	2,925	2,925	
56+50	5650.00	50.00	91.22	12.00	32.38	38.00	167	22	95	70	5,530	3,039	3,039	
57+00	5700.00	50.00	103.74	12.00	23.96	38.00	181	22	52	70	5,711	3,101	3,101	
57+50	5750.00	50.00	130.76	12.00	0.00	38.00	217	22	22	70	5,928	3,128	3,128	
58+00	5800.00	50.00	165.76	12.00	0.00	38.00	275	22	0	70	6,202	3,128	3,128	
58+50	5850.00	50.00	52.47	12.00	126.22	38.00	202	22	117	70	6,404	3,268	3,268	
59+00	5900.00	50.00	11.33	12.00	175.95	38.00	59	22	280	70	6,464	3,604	3,604	
59+50	5950.00	50.00	0.50	12.00	254.03	38.00	11	22	398	70	6,475	4,082	4,082	
60+00	6000.00	50.00	1.02	12.00	221.92	0.00	1	22	441	35	6,476	4,611	4,611	
60+50	6050.00	50.00	0.00	12.00	289.06	0.00	1	22	473	0	6,477	5,178	5,178	
61+00	6100.00	50.00	0.00	12.00	246.39	0.00	0	22	496	0	6,477	5,773	5,773	
61+50	6150.00	50.00	1.16	12.00	191.11	0.00	1	22	405	0	6,478	6,259	6,259	
61+75	6175.00	25.00	6.92	12.00	151.53	0.00	4	11	159	0	6,482	6,450	6,450	
62+00	6200.00	25.00	20.03	12.00	117.06	0.00	12	11	124	0	6,494	6,599	6,599	
62+50	6250.00	50.00	73.57	12.00	33.99	0.00	87	22	140	0	6,581	6,767	6,767	
63+00	6300.00	50.00	162.55	12.00	6.85	0.00	219	22	38	0	6,799	6,812	6,812	
63+10.28	6310.28	10.28	171.71	12.00	4.49	0.00	64	5	2	0	6,863	6,815	6,815	
63+50	6350.00	39.72	289.22	12.00	0.00	0.00	339	18	3	0	7,202	6,819	6,819	
64+00	6400.00	50.00	350.75	12.00	0.00	0.00	593	22	0	0	7,795	6,819	6,819	
64+25	6425.00	25.00	353.69	12.00	0.00	0.00	326	11	0	0	8,121	6,819	6,819	
64+50	6450.00	25.00	334.02	12.00	0.00	0.00	318	11	0	0	8,439	6,819	6,819	
65+00	6500.00	50.00	287.48	12.00	0.00	0.00	575	22	0	0	9,015	6,819	6,819	
65+50	6550.00	50.00	241.29	12.00	0.00	0.00	490	22	0	0	9,504	6,819	6,819	
65+90	6590.00	40.00	232.24	12.00	0.00	0.00	351	18	0	0	9,855	6,819	6,819	
66+00	6600.00	10.00	229.40	12.00	0.00	0.00	85	4	0	0	9,940	6,819	6,819	
66+50	6650.00	50.00	197.65	12.00	1.30	0.00	395	22	1	0	10,336	6,820	6,820	
67+00	6700.00	50.00	149.56	12.00	22.24	0.00	321	22	22	0	10,657	6,846	6,846	
67+50	6750.00	50.00	212.94	12.00	0.00	0.00	336	22	21	0	10,993	6,871	6,871	
68+00	6800.00	50.00	121.35	12.00	0.13	0.00	310	22	0	0	11,303	6,871	6,871	
68+18	6818.00	18.00	119.37	12.00	0.18	0.00	80	8	0	0	11,383	6,871	6,871	
							11,383	**1,214**	**5,726**	**1,478**				

DECORAH EARTHWORK

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material	Incremental Vol (CY) (Unadjusted) Fill	Cumulative Vol (CY) Cut 1.00	Cumulative Vol (CY) Expanded Fill 1.20	Mass Ordinate
06+85	685.00	0.00	19.61	14.00	0.06	0	0	0	0	0	0
07+00	700.00	15.00	34.44	14.00	0.03	15	8	0	15	0	0
07+50	750.00	50.00	23.34	14.00	14.29	54	26	13	69	16	16
07+57.91	757.91	7.91	83.04	14.00	12.96	16	4	4	84	21	21
08+41.9	841.90	83.99	132.51	14.00	0.00	335	44	20	419	45	45
08+52	852.00	10.10	66.85	14.00	0.00	37	5	0	457	45	45
09+00	900.00	48.00	45.44	14.00	0.02	100	25	0	556	45	45
09+20	920.00	20.00	0.00	14.00	0.00	17	10	0	573	45	45
						573	**122**	**37**			

JULEN EARTHWORK

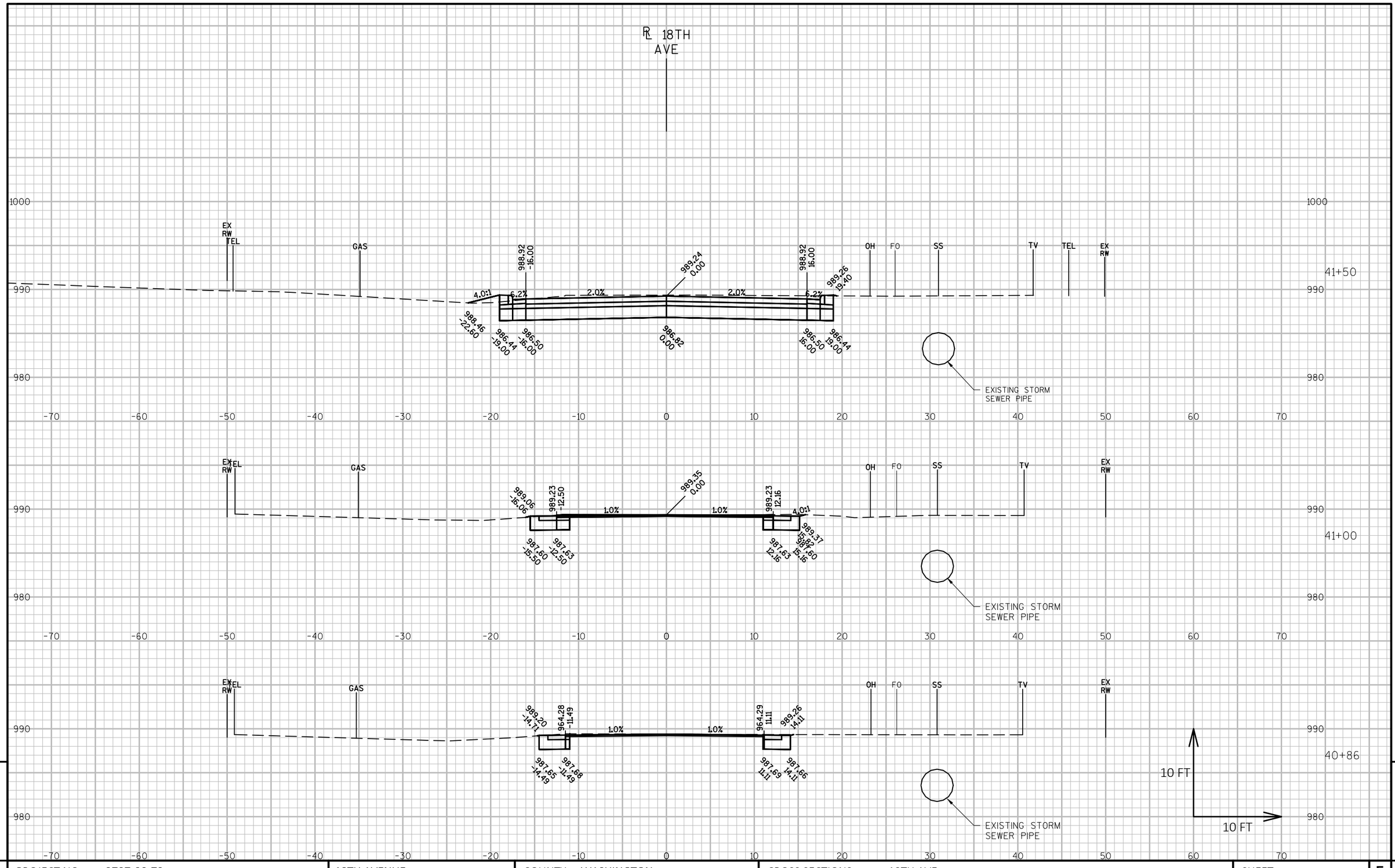
STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material	Incremental Vol (CY) (Unadjusted) Fill	Cumulative Vol (CY) Cut 1.00	Cumulative Vol (CY) Expanded Fill 1.20	Mass Ordinate
05+30	530.00	0.00	47.96	12.00	0.00	0	0	0	0	0	0
05+50	550.00	20.00	42.79	12.00	0.00	34	9	0	34	0	0
06+00	600.00	50.00	13.89	12.00	1.27	52	22	1	86	1	1
06+13.97	613.97	13.97	6.81	12.00	11.25	5	6	3	91	5	5
06+50	650.00	36.03	0.02	12.00	67.83	5	16	53	96	69	69
06+64	664.00	14.00	0.85	12.00	62.54	0	6	34	96	109	109
						96	**60**	**91**			

SCHLOEMER EARTHWORK

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material	Incremental Vol (CY) (Unadjusted) Fill	Cumulative Vol (CY) Cut 1.00	Cumulative Vol (CY) Expanded Fill 1.20	Mass Ordinate
03+50	350.00	0.00	100.26	16.00	0.00	0	0	0	0	0	0
03+70	370.00	20.00	45.42	16.00	1.71	54	12	1	54	1	1
						54	**12**	**1**			

VOGT EARTHWORK

STATION	Real Station	Distance	AREA (SF) Cut	AREA (SF) Salvaged/Unusable Pavement Material	AREA (SF) Fill	Incremental Vol (CY) (Unadjusted) Cut	Incremental Vol (CY) (Unadjusted) Salvaged/Unusable Pavement Material	Incremental Vol (CY) (Unadjusted) Fill	Cumulative Vol (CY) Cut 1.00	Cumulative Vol (CY) Expanded Fill 1.20	Mass Ordinate
01+41	141.00	0.00	81.51	14.00	1.45	0	0	0	0	0	0
01+50	150.00	9.00	60.19	14.00	0.00	24	5	0	24	0	0
01+59.42	159.42	9.42	63.18	14.00	0.00	22	5	0	45	0	0
						45	**10**	**0**			

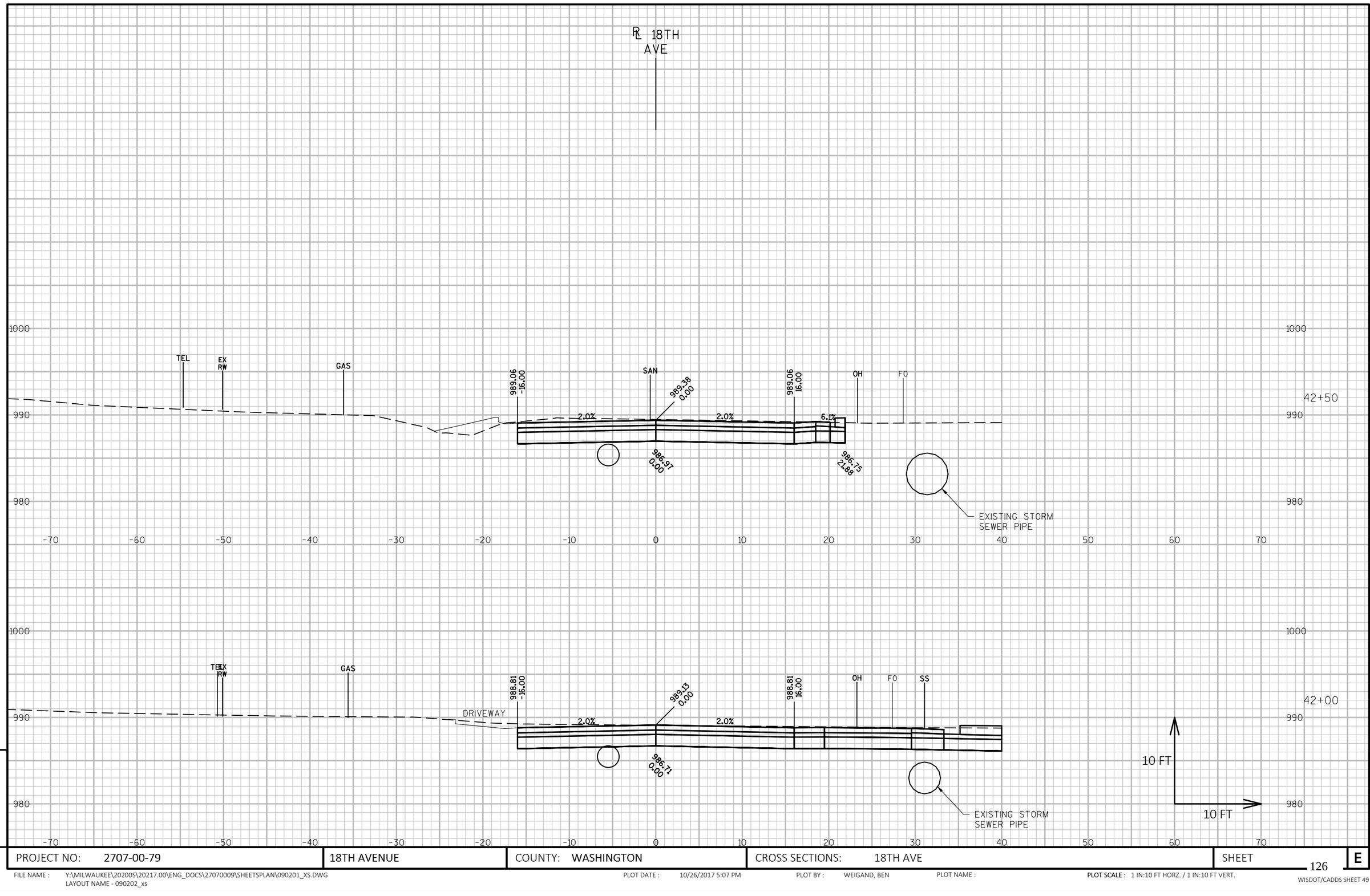


PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: 18TH AVE	SHEET 125	E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090201_xs

PLOT DATE : 10/26/2017 5:07 PM PLOT BY : WEIGAND, BEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

9

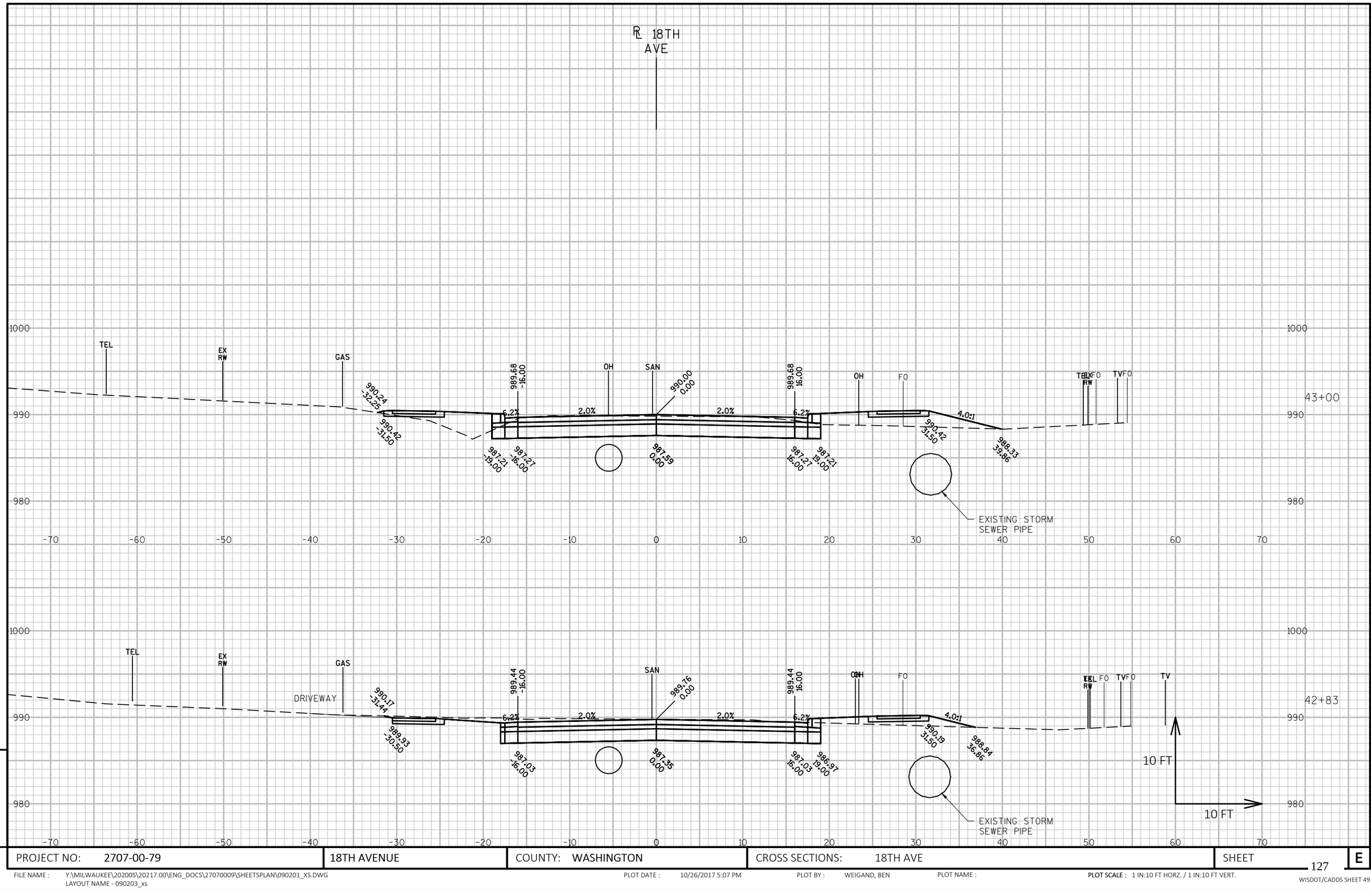
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LAYOUT NAME - 090202_xs

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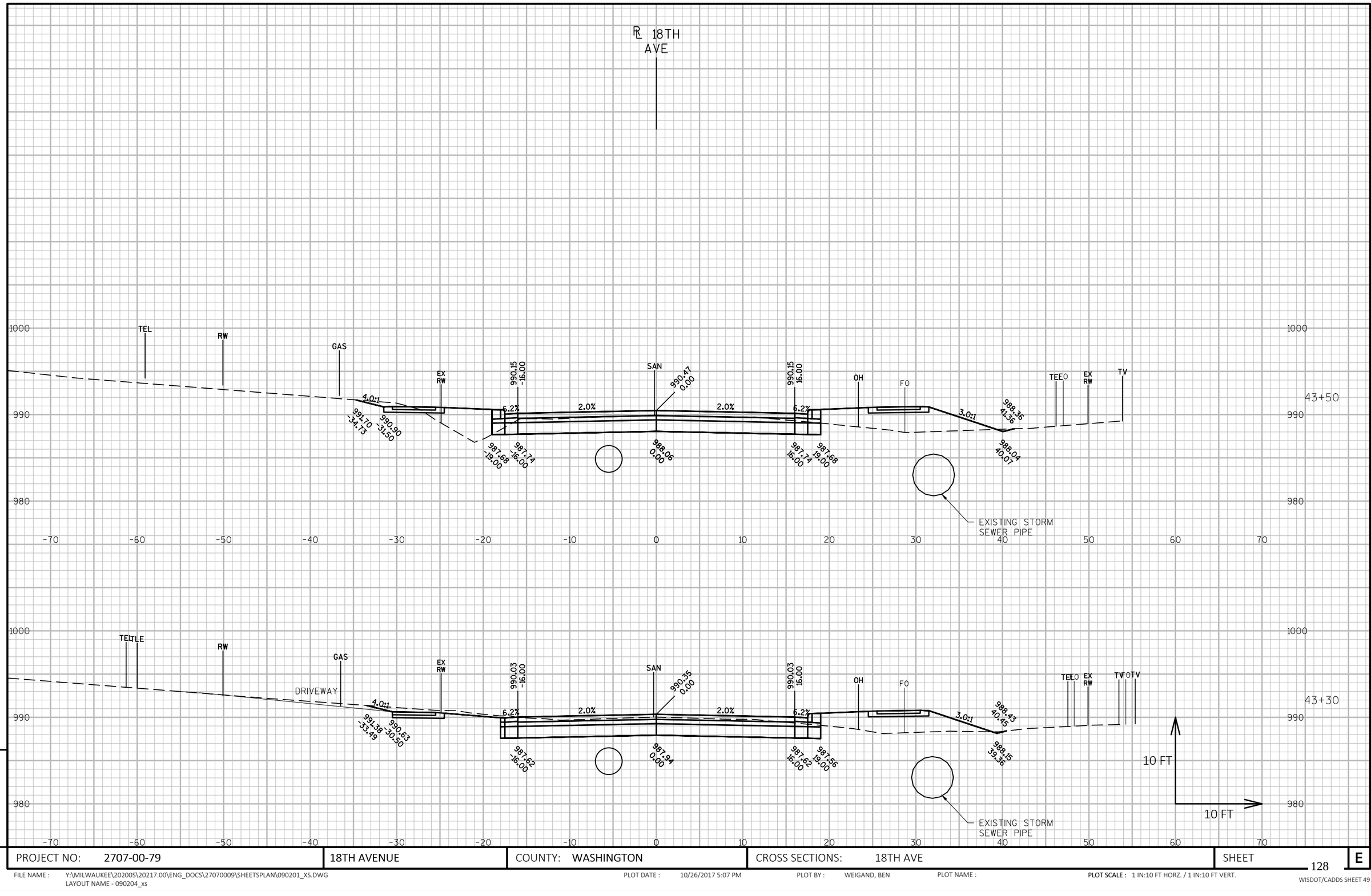
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: 18TH AVE	SHEET 127 E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090203_xs
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PLOT BY : WEIGAND, BEN
PLOT NAME :
PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

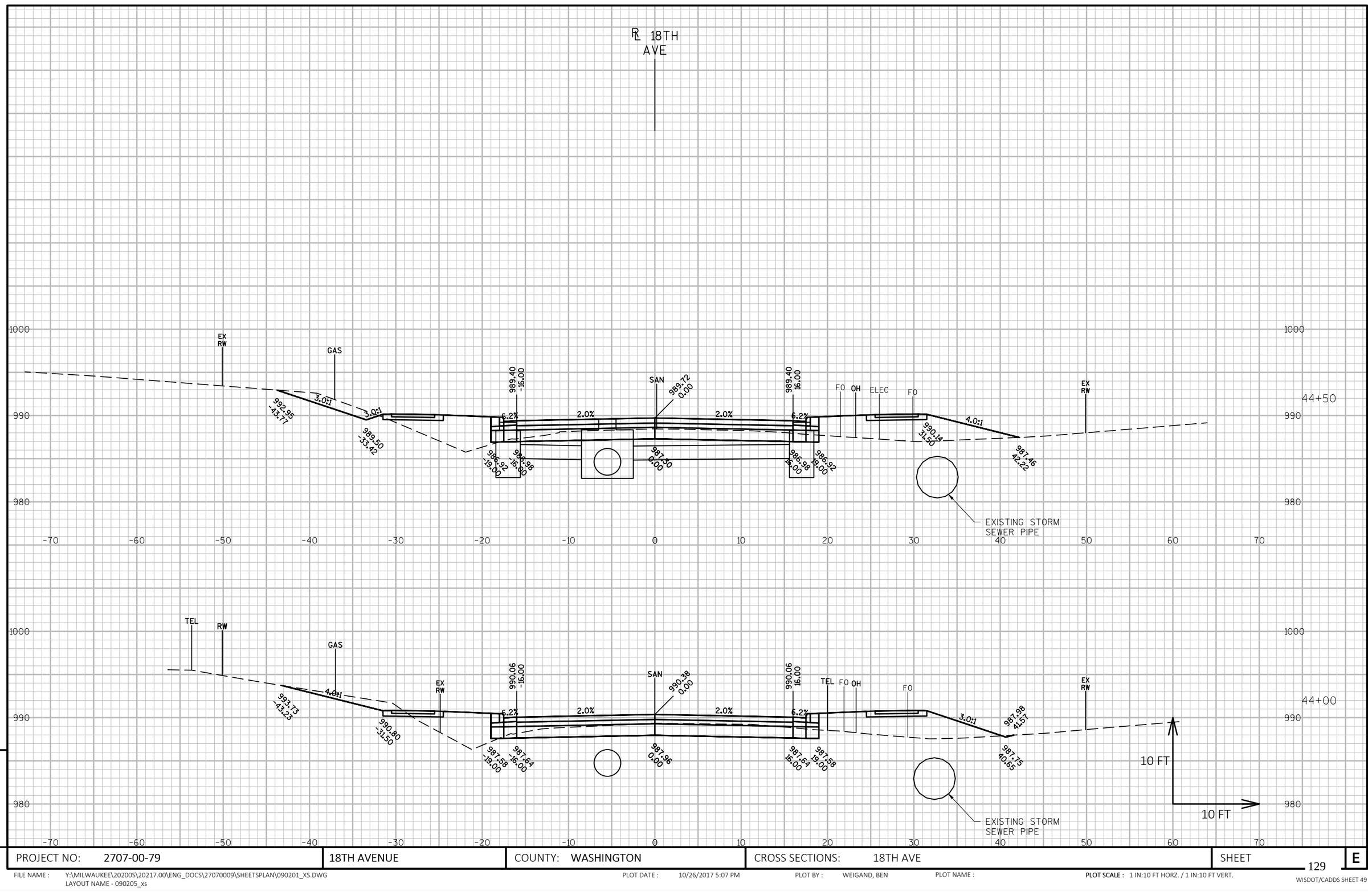


PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: 18TH AVE	SHEET 128 E

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LAYOUT NAME - 090204_xs

PLOT DATE : 10/26/2017 5:07 PM PLOT BY : WEIGAND, BEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

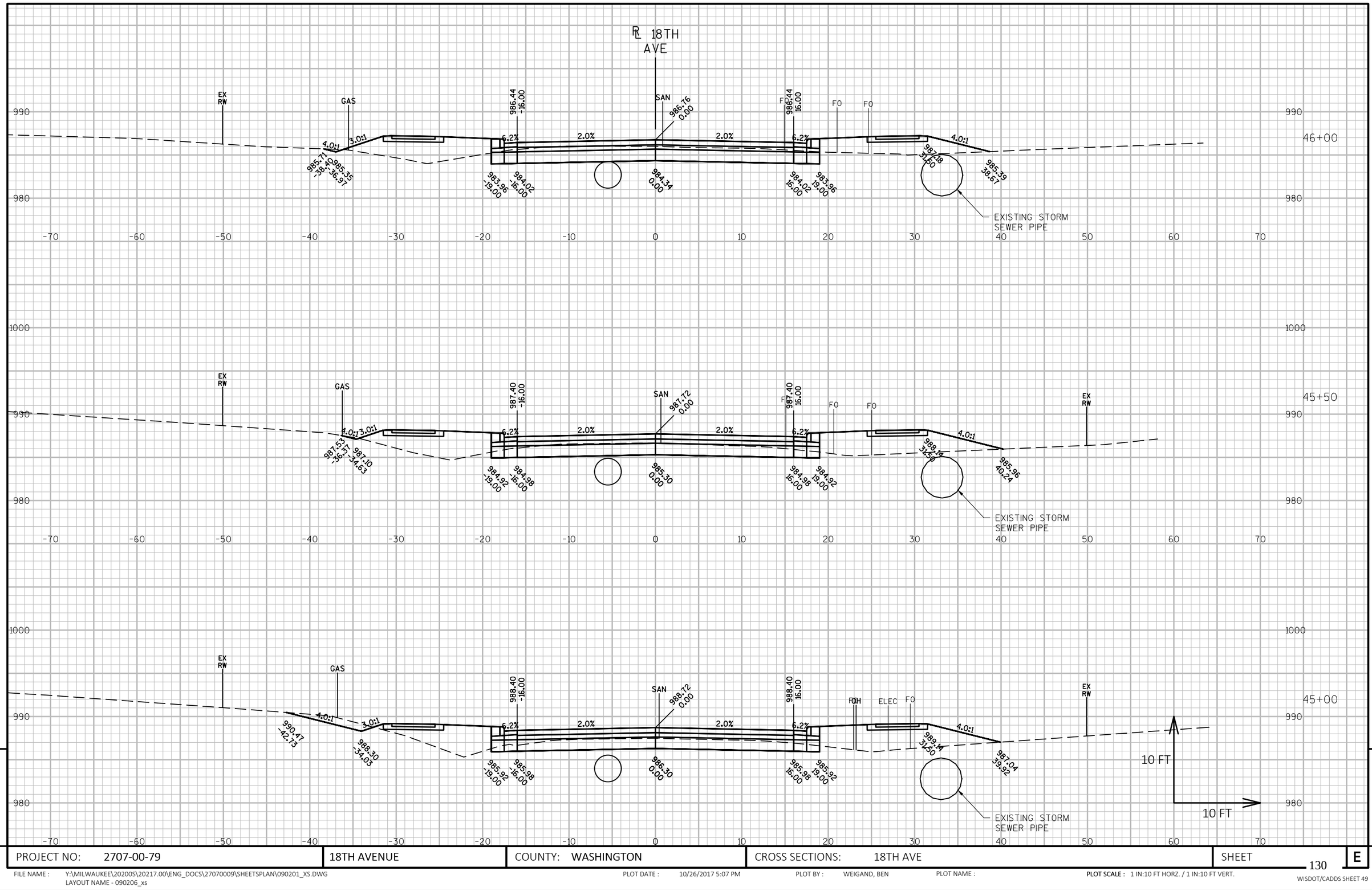


PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: 18TH AVE	SHEET 129 E

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LAYOUT NAME - 090205_xs

PLOT DATE : 10/26/2017 5:07 PM PLOT BY : WEIGAND, BEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: 18TH AVE	SHEET 130 E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090206_xs

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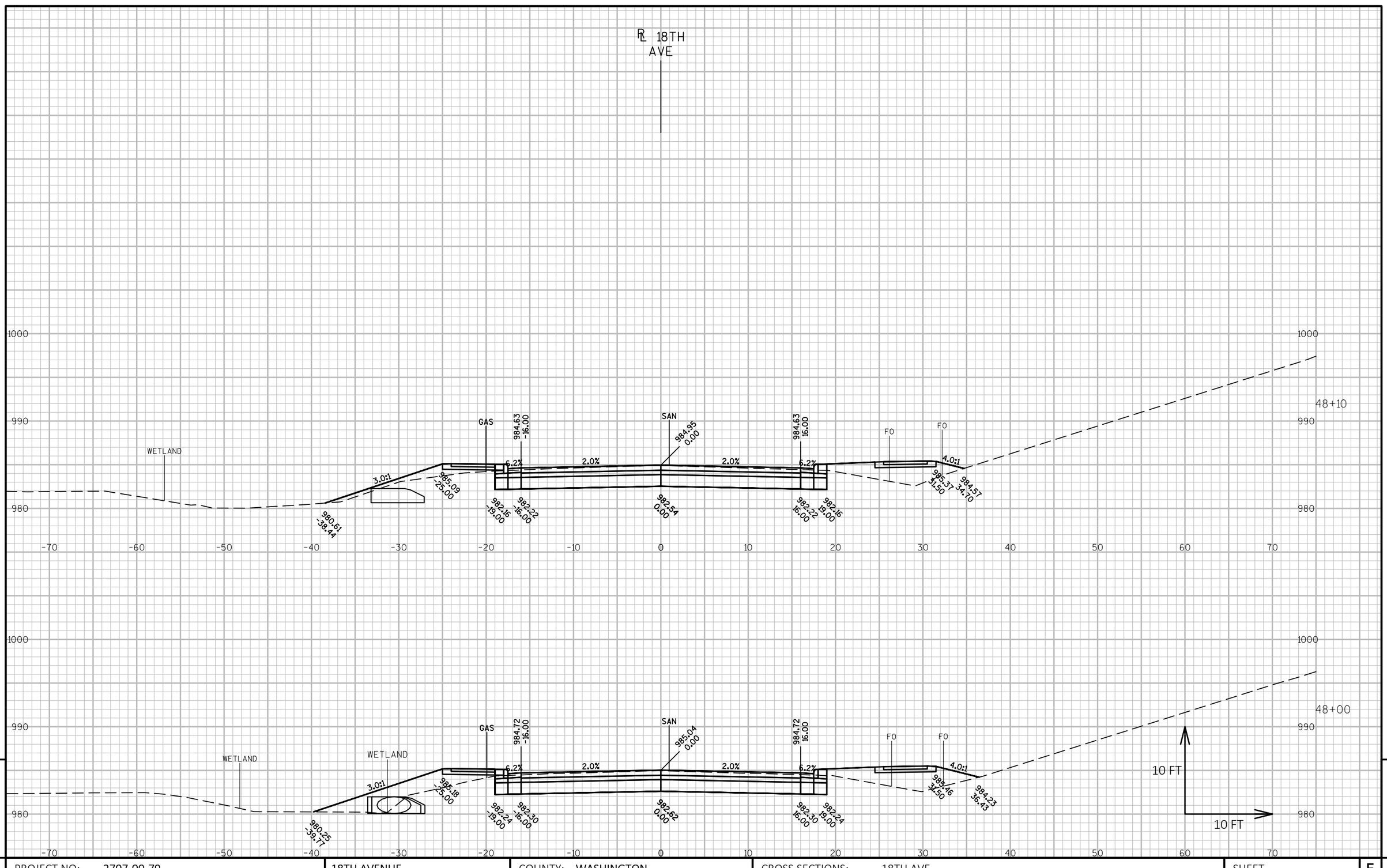
WISDOT/CADDS SHEET 49

PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: 18TH AVE	SHEET 131 E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090207_xs

PLOT DATE : 10/26/2017 5:07 PM PLOT BY : WEIGAND, BEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



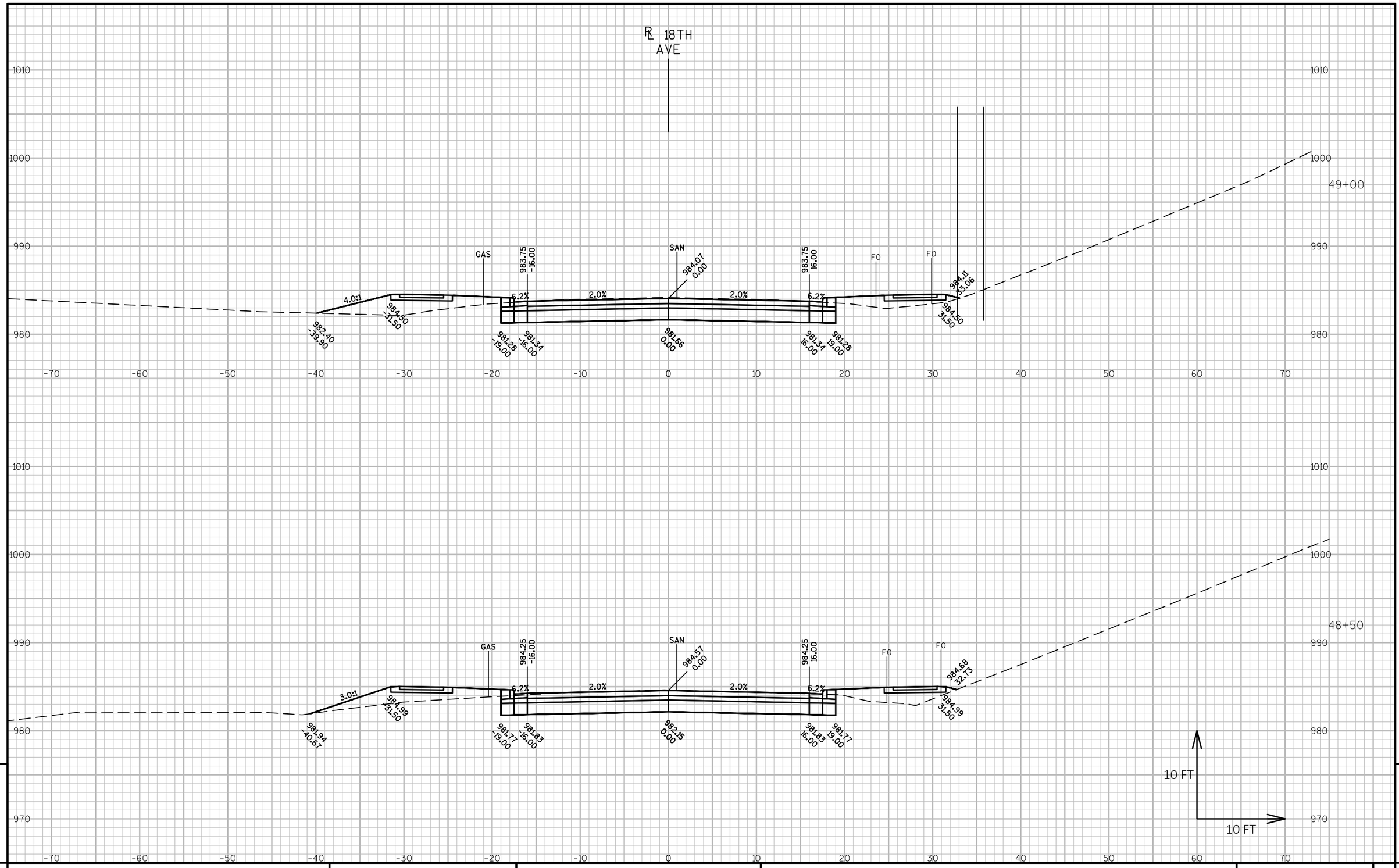
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PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: 18TH AVE	SHEET 132	E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090208_xs

PLOT DATE : 10/26/2017 5:07 PM PLOT BY : WEIGAND, BEN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

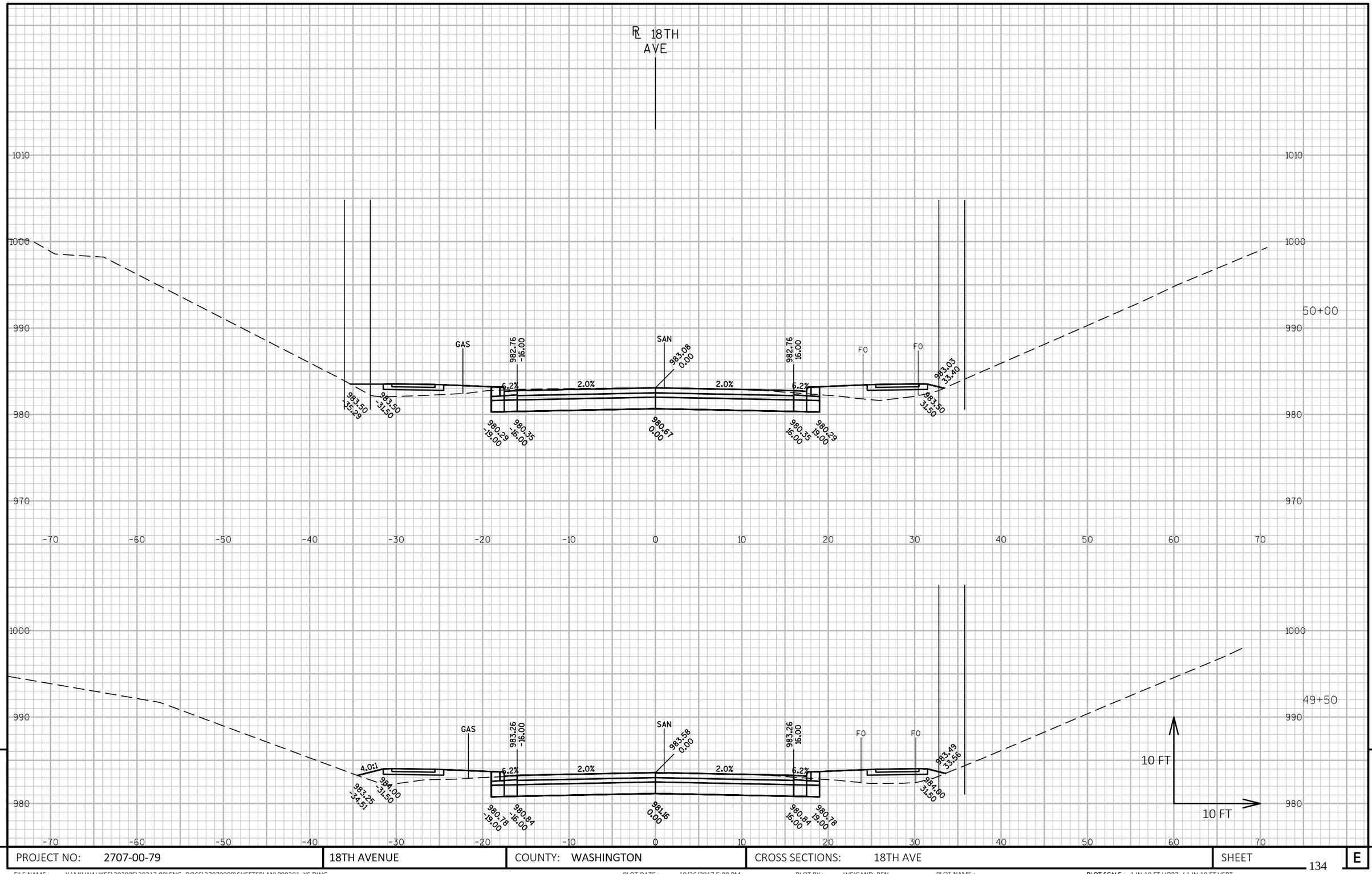


PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: 18TH AVE	SHEET 133	E

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LAYOUT NAME - 090209_xs

PLOT DATE : 10/26/2017 5:07 PM PLOT BY : WEIGAND, BEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: 18TH AVE	SHEET 134	E

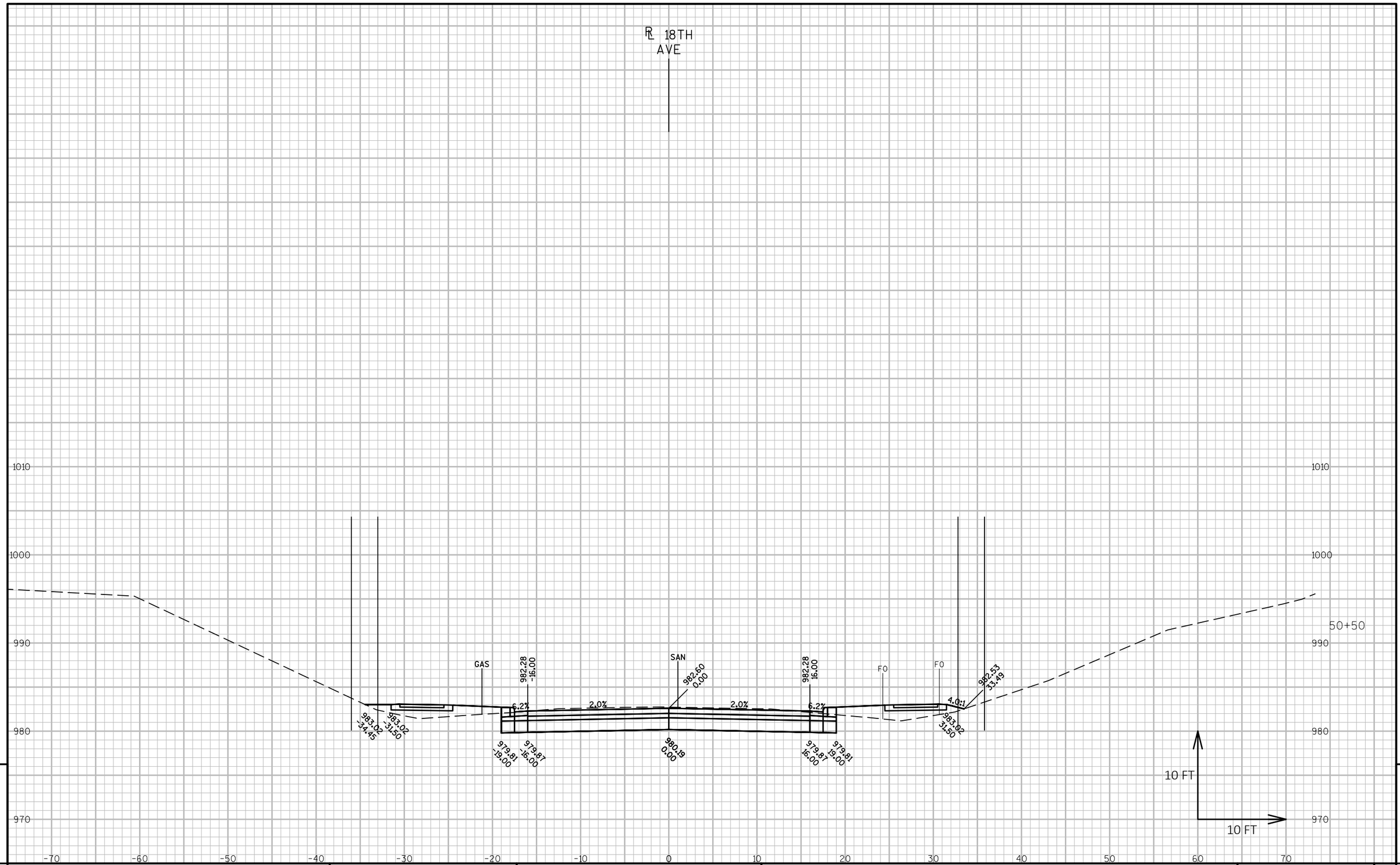
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LAYOUT NAME - 090210_xs

PLOT DATE : 10/26/2017 5:08 PM PLOT BY : WEIGAND, BEN PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

9

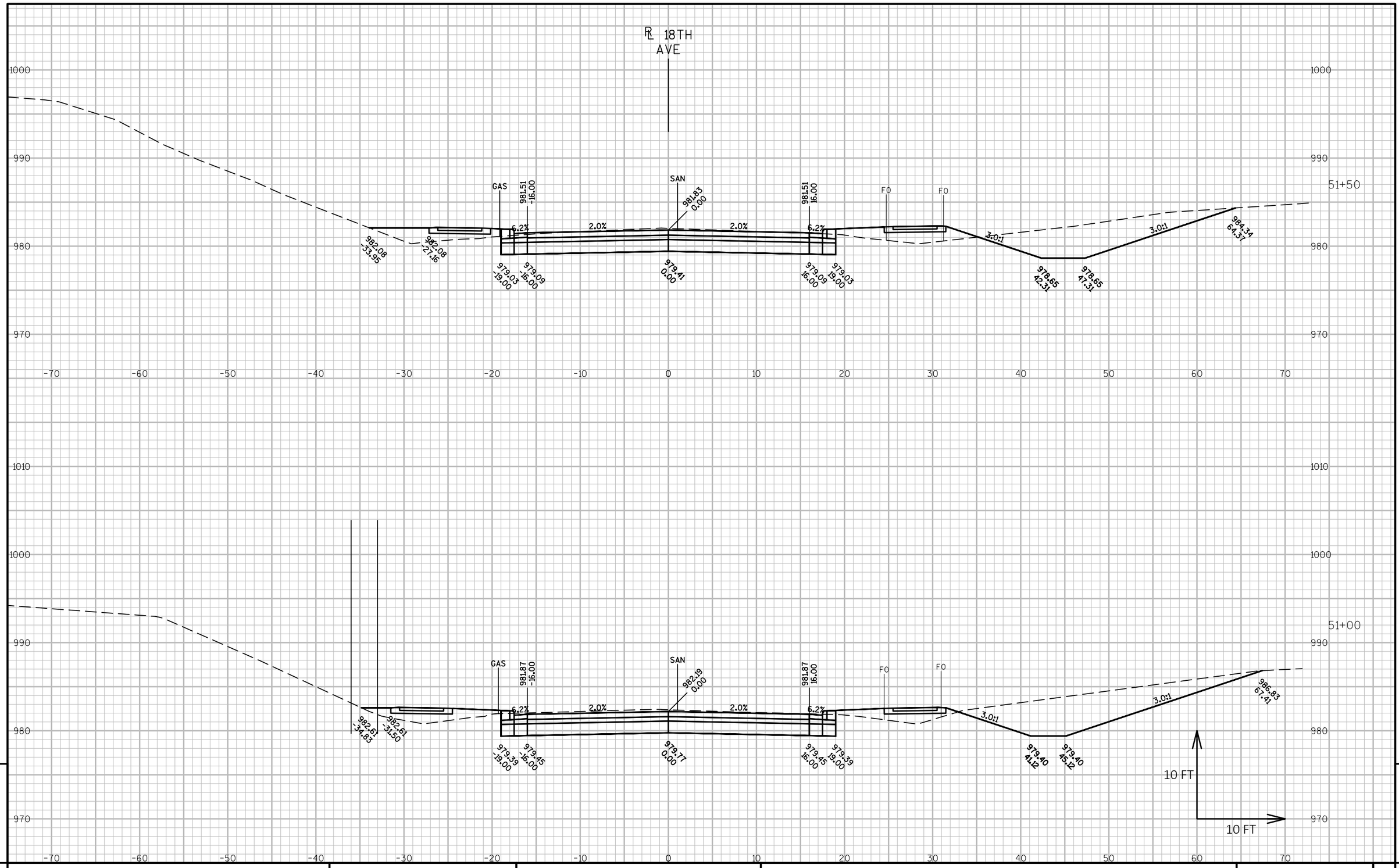


PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: 18TH AVE	SHEET 135 E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090211_xs

PLOT DATE : 10/26/2017 5:08 PM PLOT BY : WEIGAND, BEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

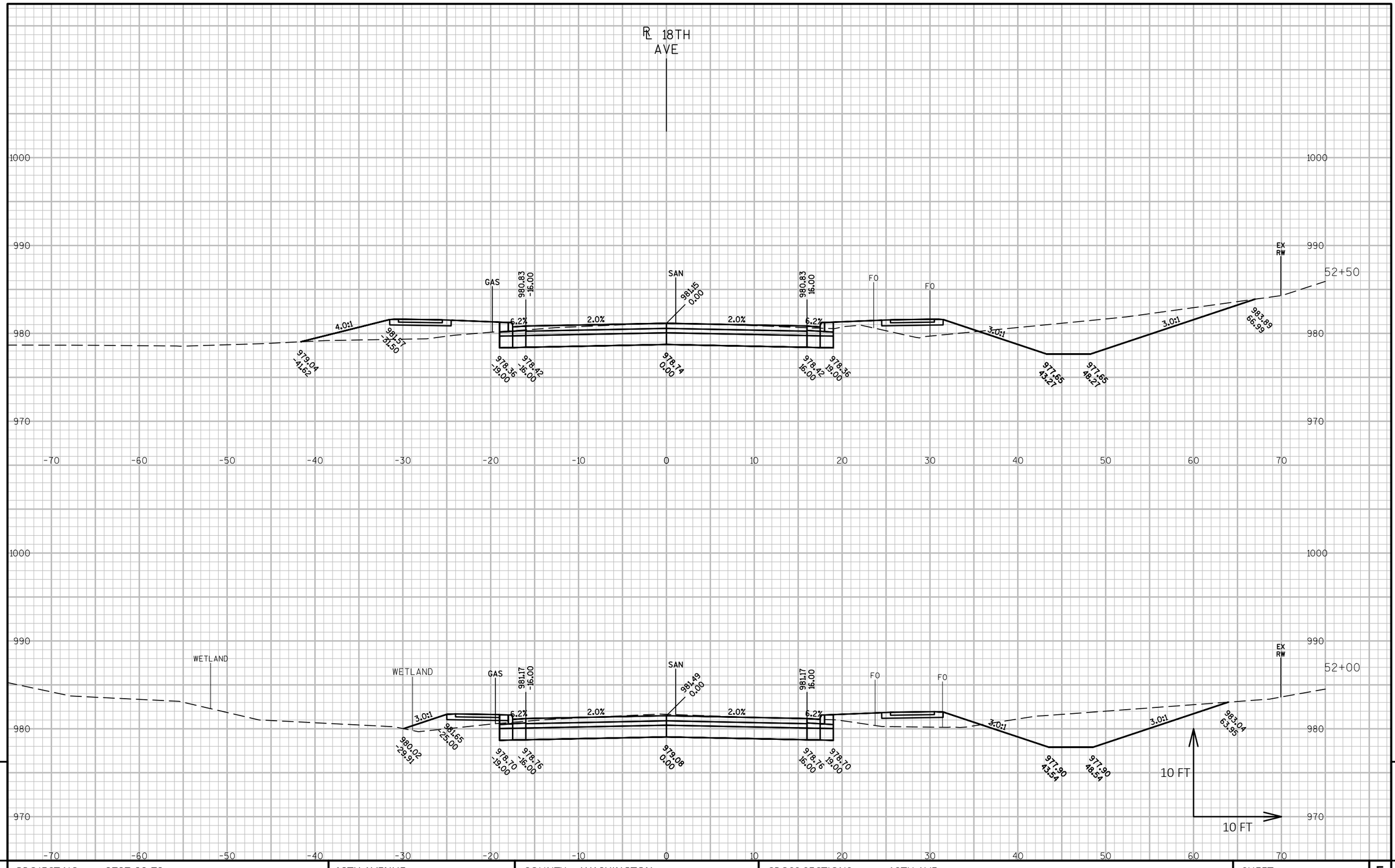


PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: 18TH AVE	SHEET 136 E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090212_xs

PLOT DATE : 10/26/2017 5:08 PM PLOT BY : WEIGAND, BEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

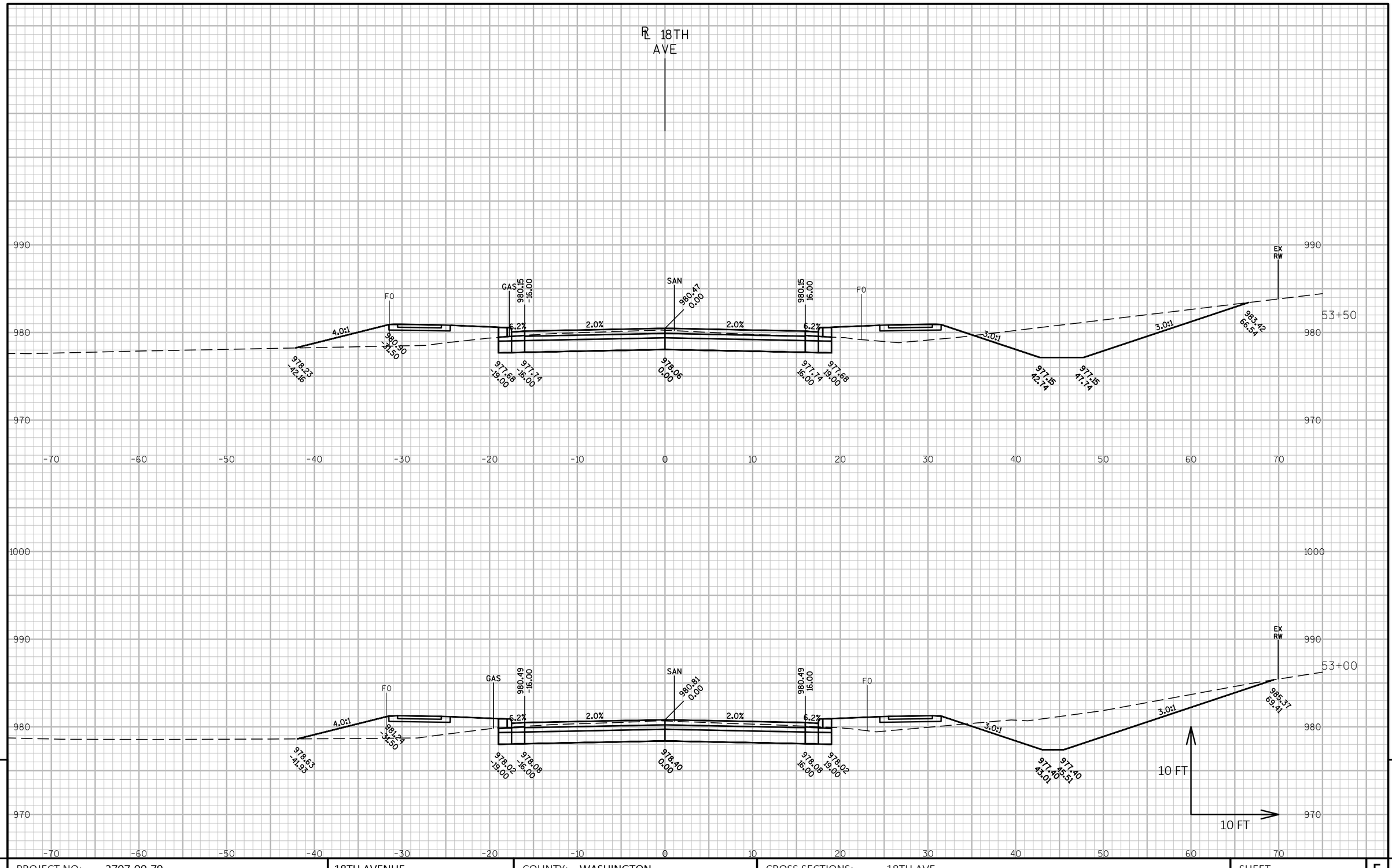


PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: 18TH AVE	SHEET 137 E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090213_xs

PLOT DATE : 10/26/2017 5:08 PM PLOT BY : WEIGAND, BEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

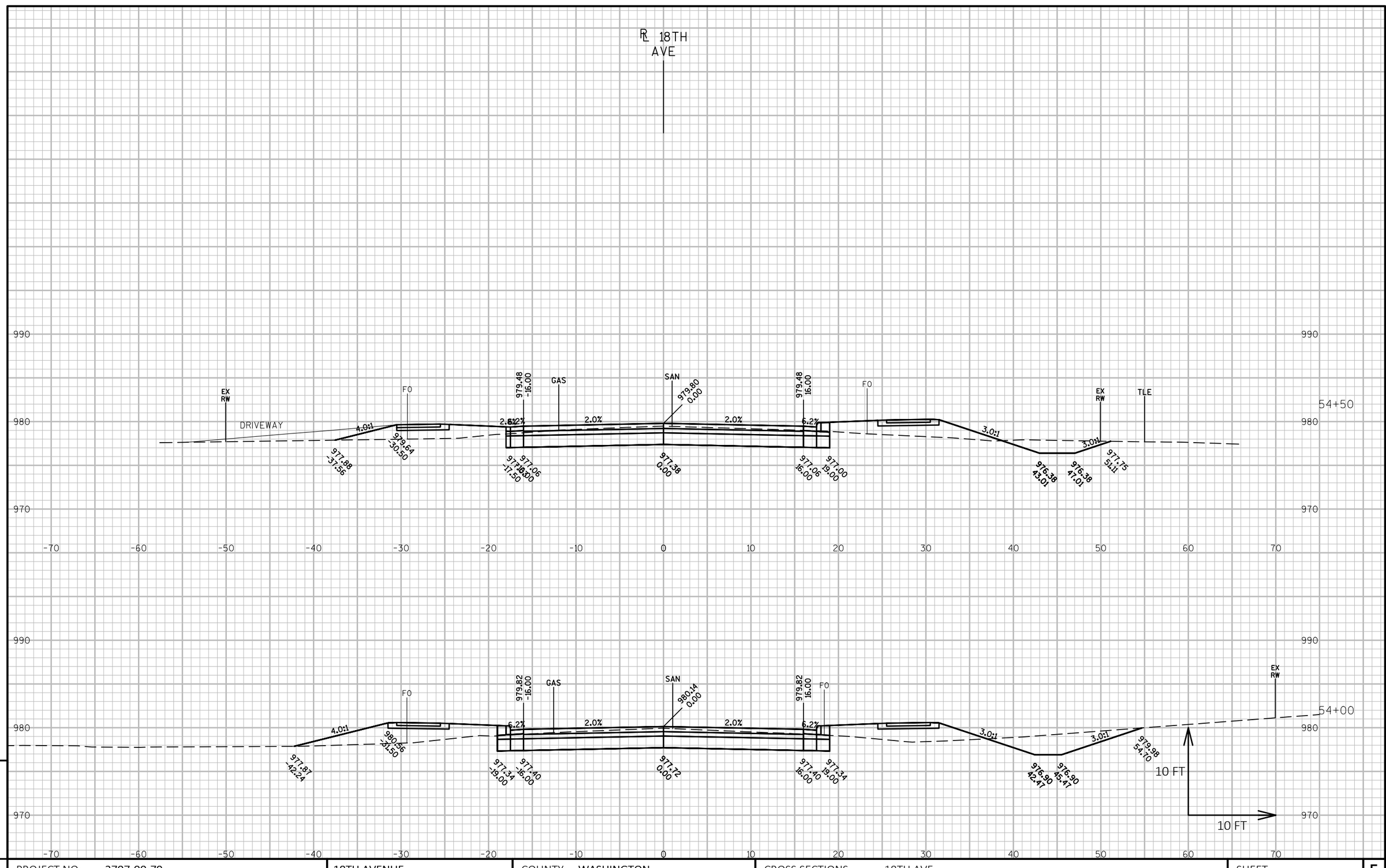


PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: 18TH AVE	SHEET 138	E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090214_xs

PLOT DATE : 10/26/2017 5:08 PM PLOT BY : WEIGAND, BEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

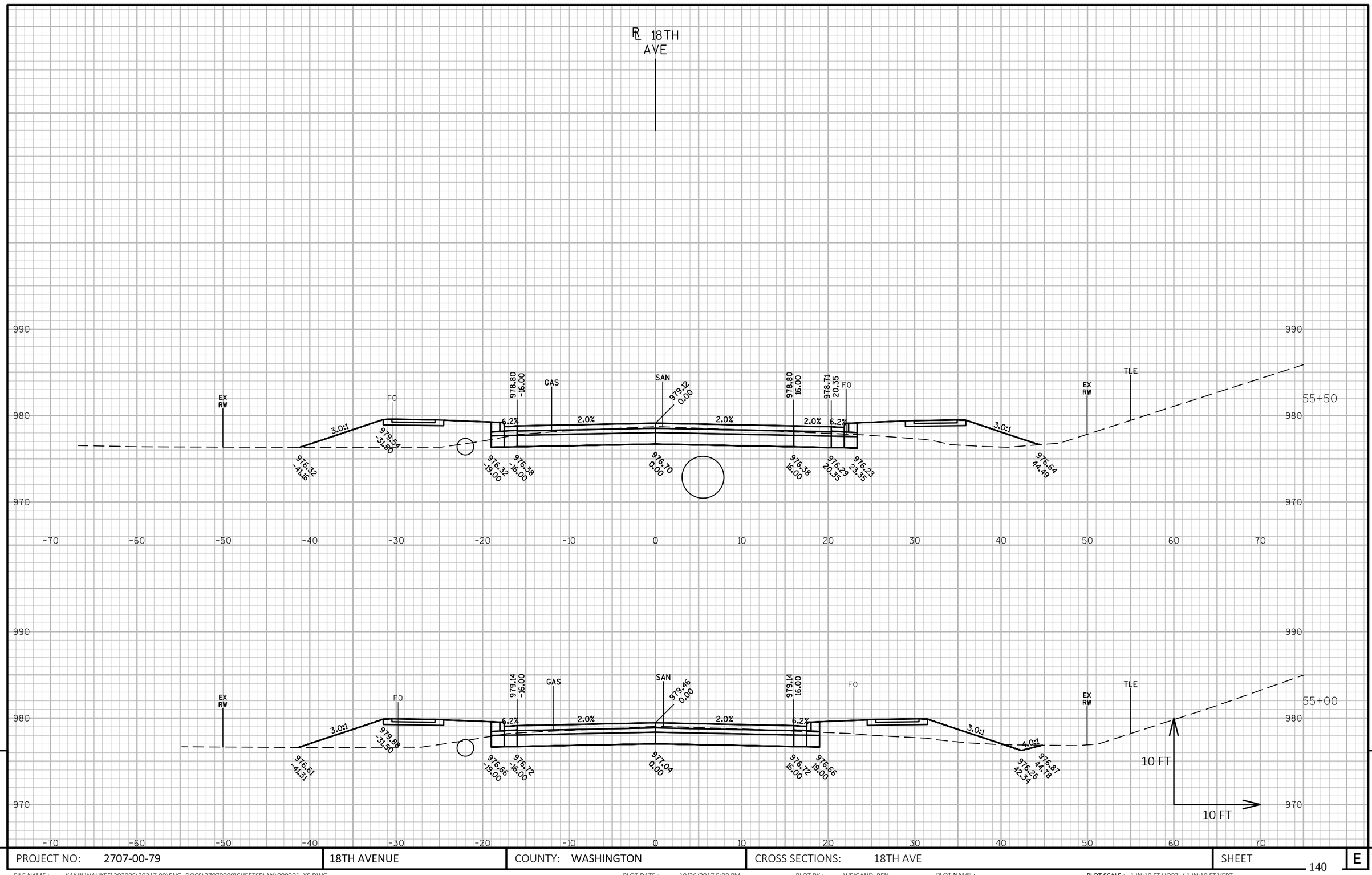


PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: 18TH AVE	SHEET 139 E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090215_xs

PLOT DATE : 10/26/2017 5:08 PM PLOT BY : WEIGAND, BEN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

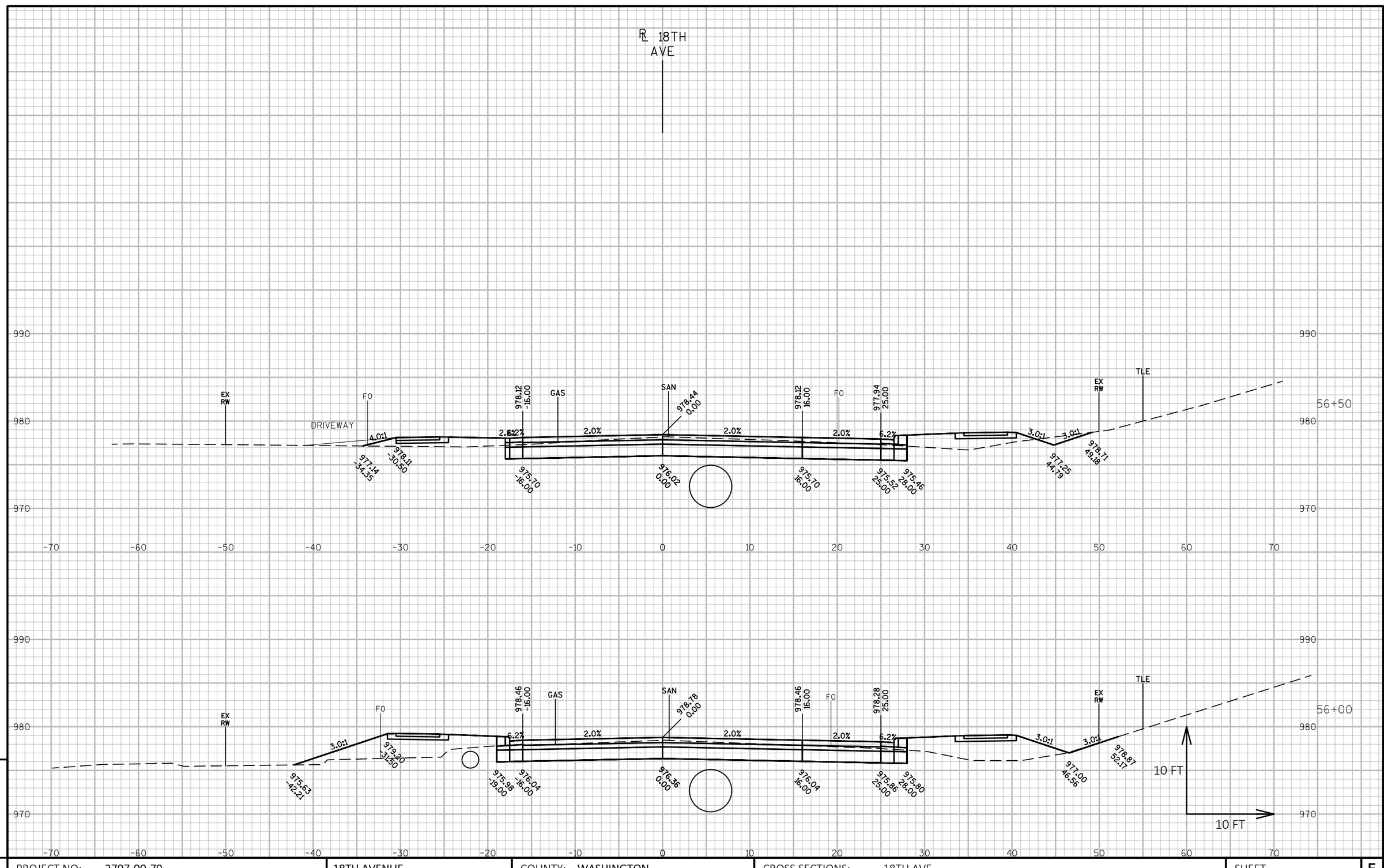


PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: 18TH AVE	SHEET 140 E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090216_xs

PLOT DATE : 10/26/2017 5:08 PM PLOT BY : WEIGAND, BEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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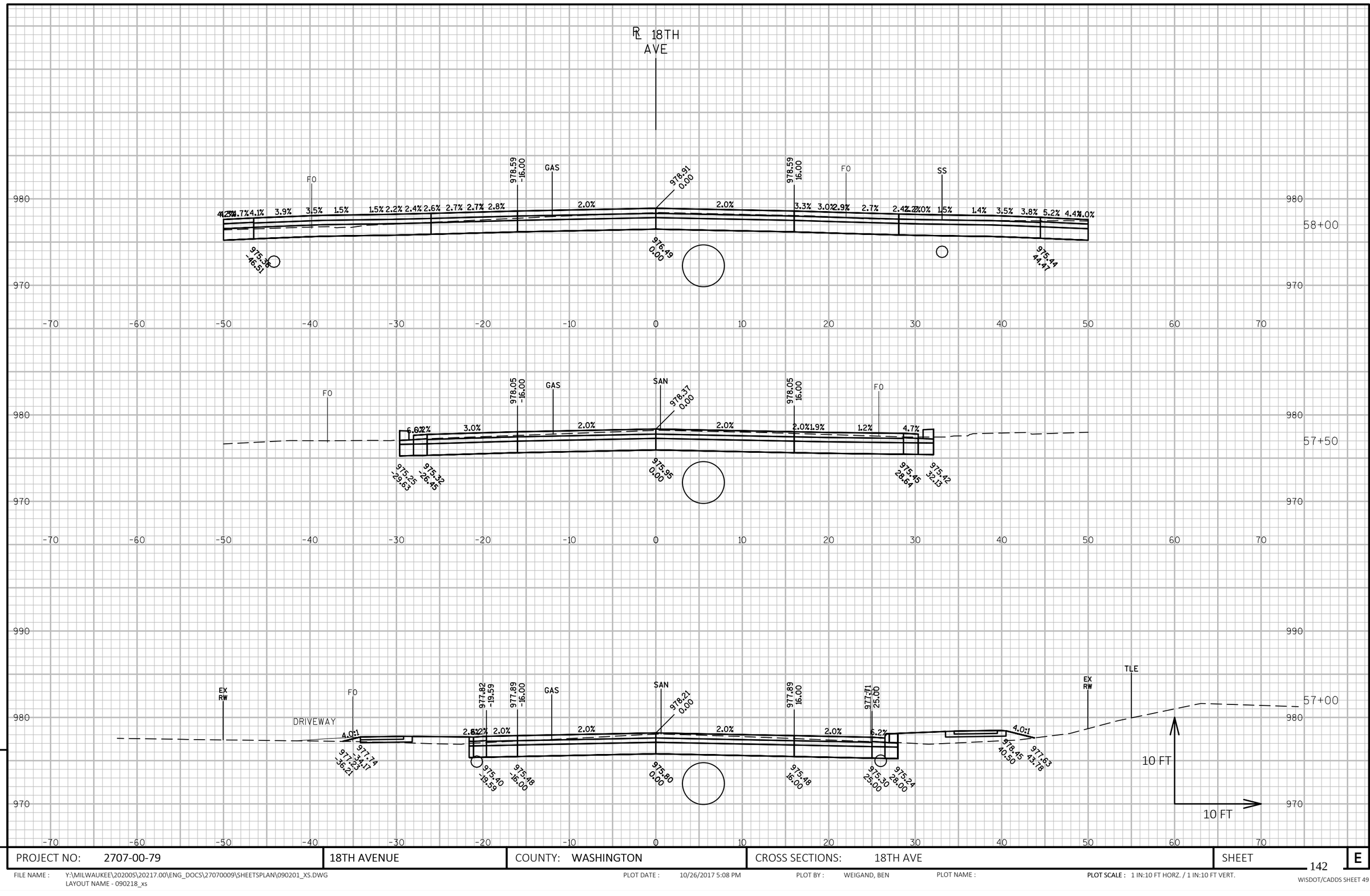
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PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: 18TH AVE	SHEET 141	E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090217_xs

PLOT DATE : 10/26/2017 5:08 PM PLOT BY : WEIGAND, BEN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

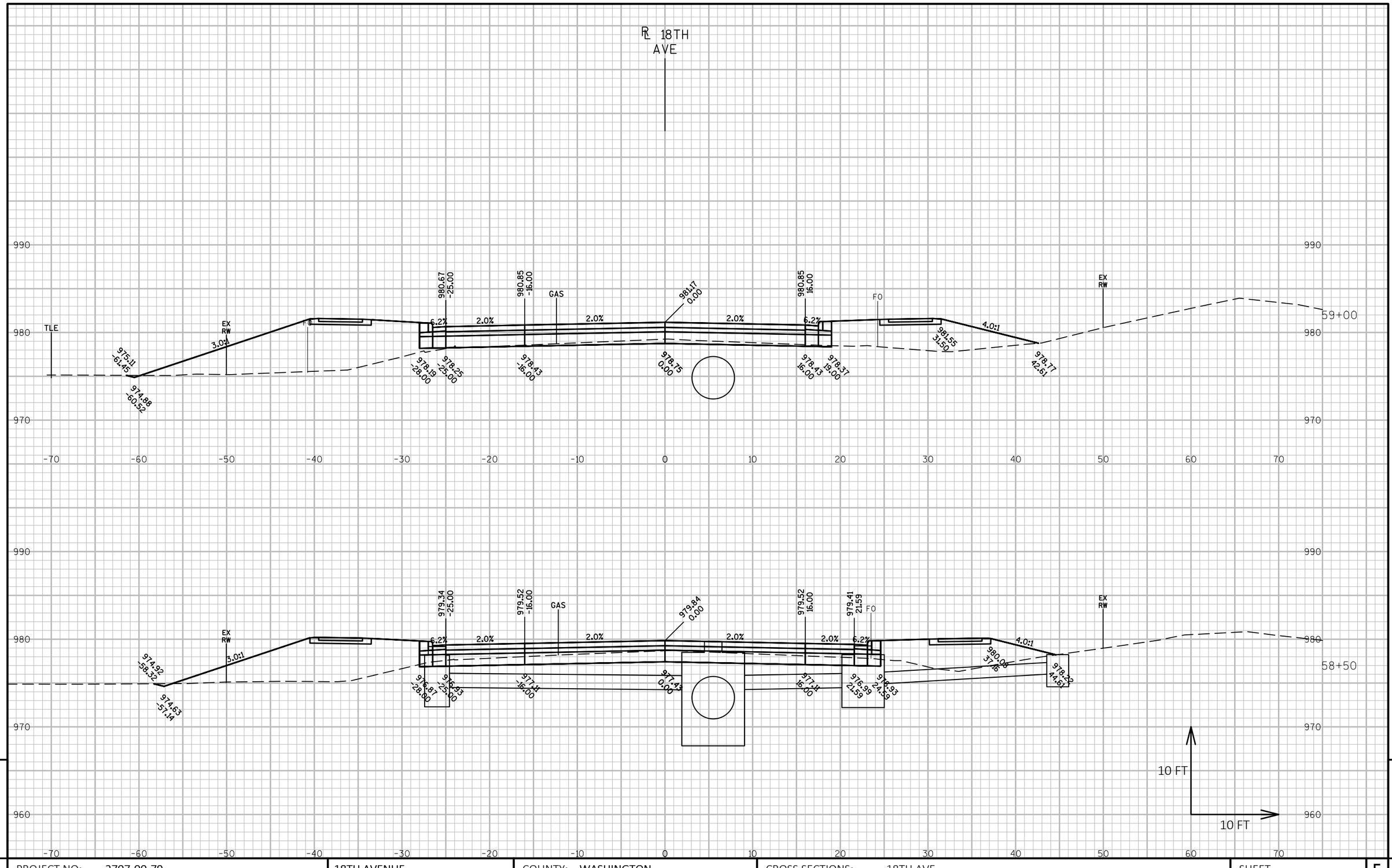


PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: 18TH AVE	SHEET 142 E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090218_xs

PLOT DATE : 10/26/2017 5:08 PM PLOT BY : WEIGAND, BEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

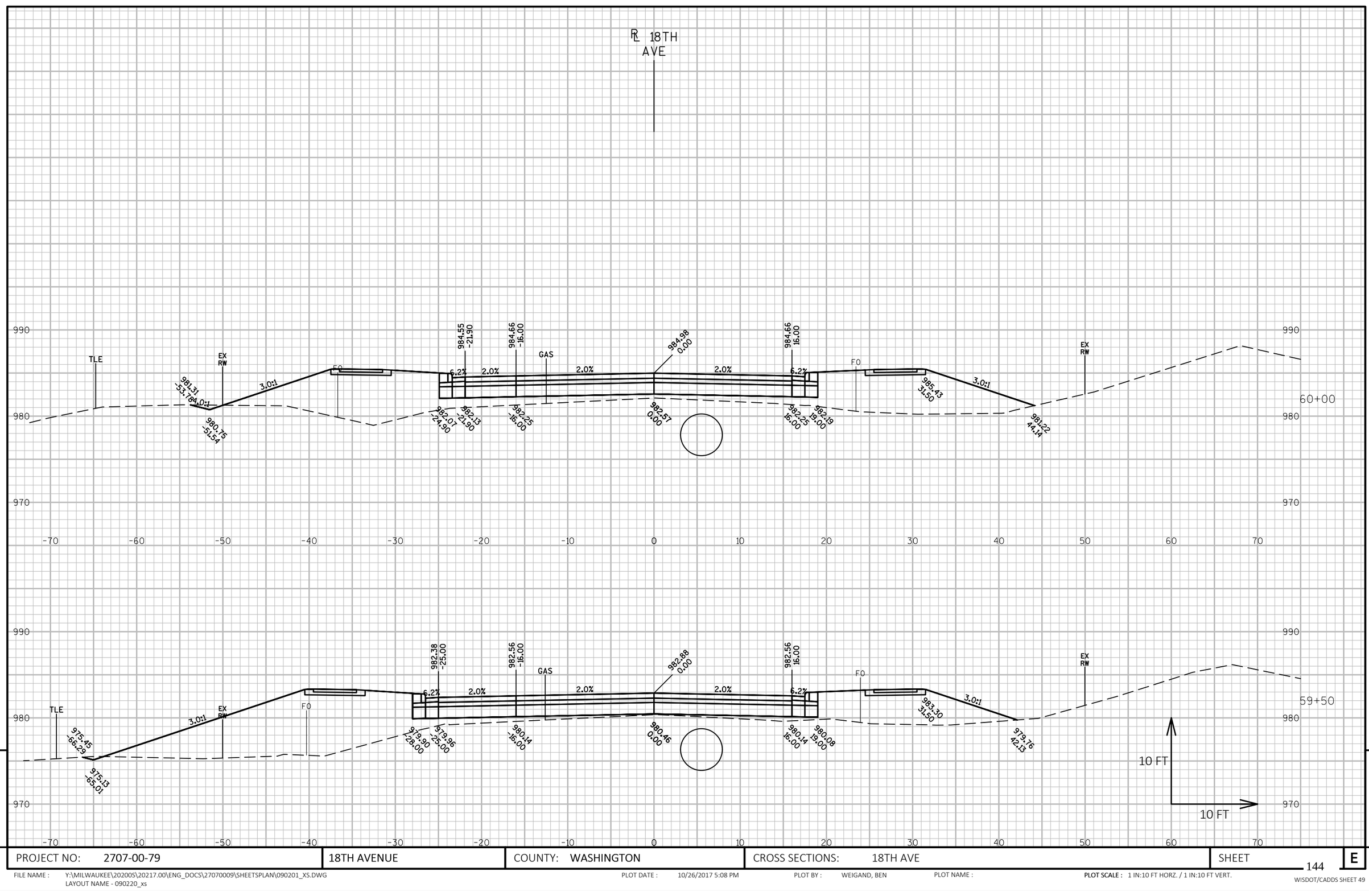


PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: 18TH AVE	SHEET 143 E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090219_xs

PLOT DATE : 10/26/2017 5:08 PM PLOT BY : WEIGAND, BEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



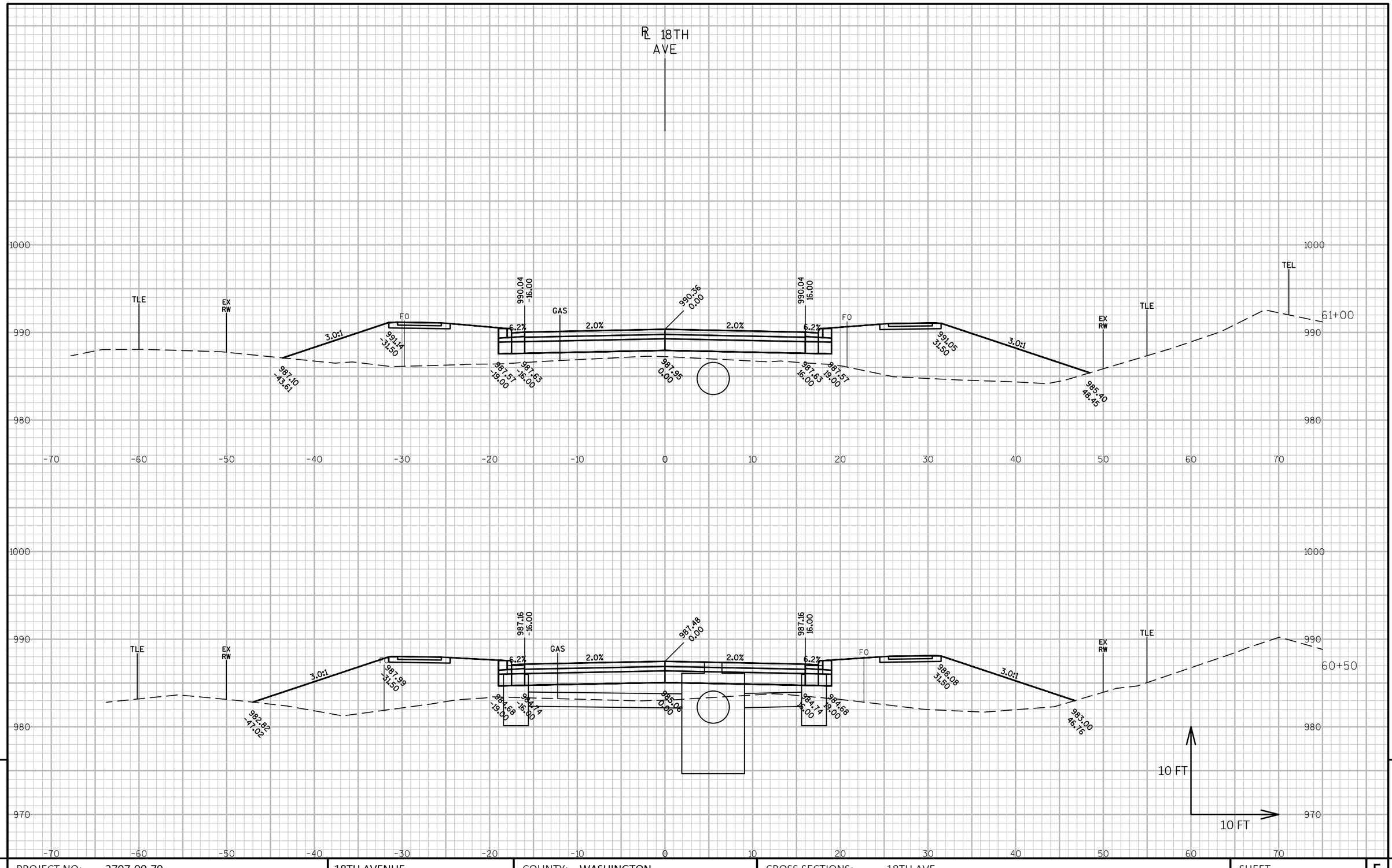
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PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: 18TH AVE	SHEET 144 E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090220_xs

PLOT DATE : 10/26/2017 5:08 PM PLOT BY : WEIGAND, BEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.



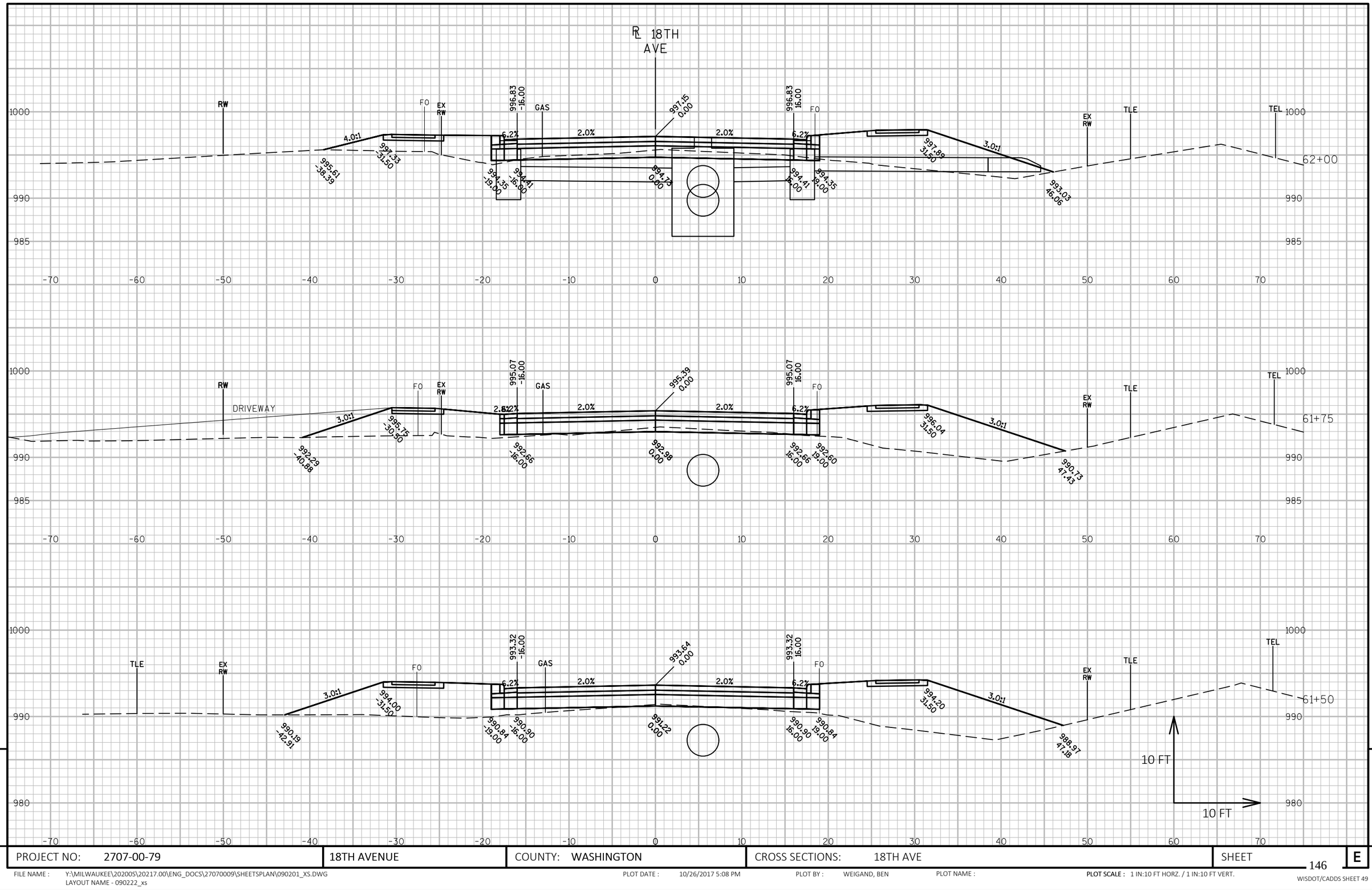
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PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: 18TH AVE	SHEET 145 E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090221_xs

PLOT DATE : 10/26/2017 5:08 PM PLOT BY : WEIGAND, BEN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

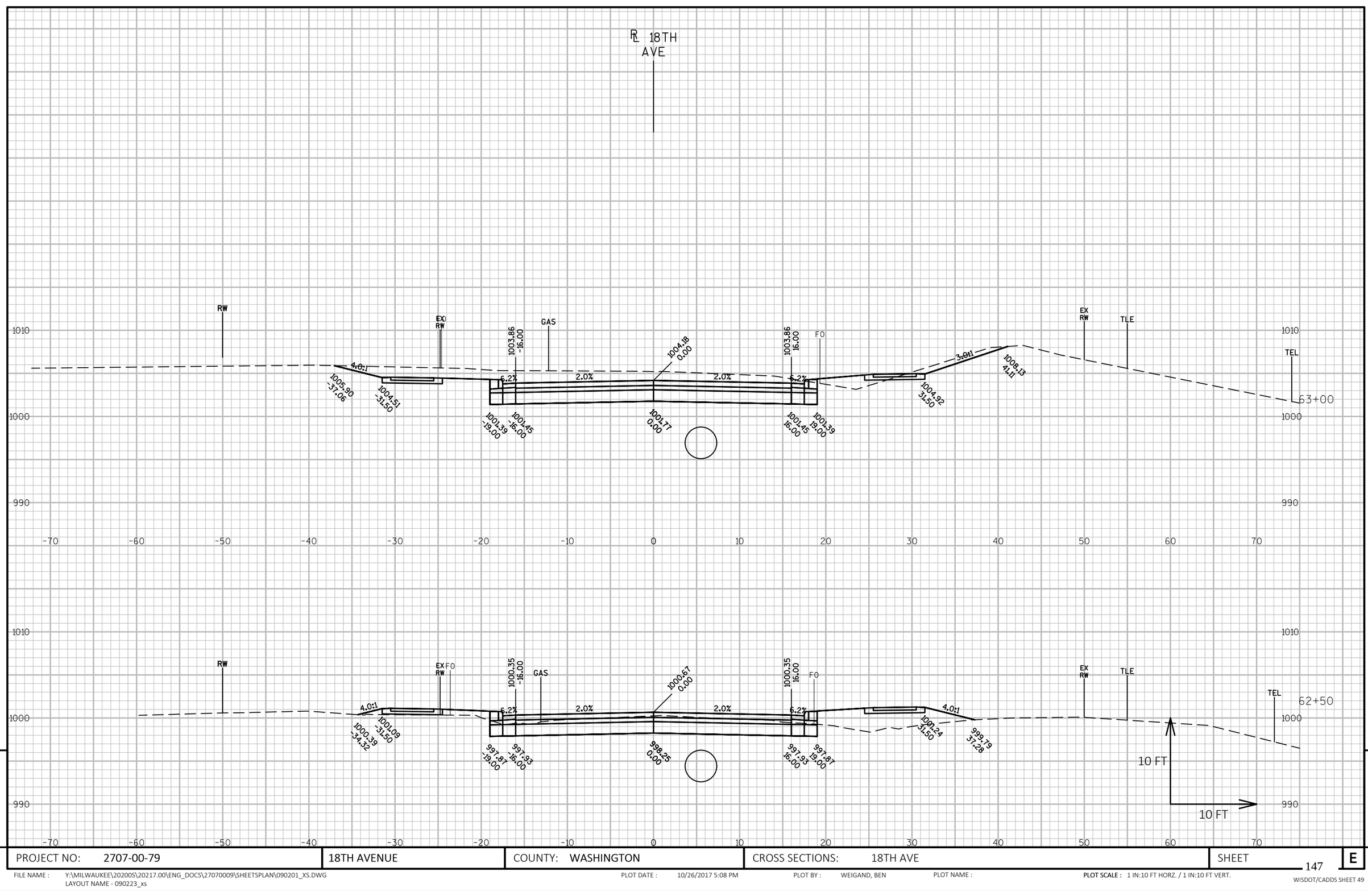


PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: 18TH AVE	SHEET 146 E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090222_xs

PLOT DATE : 10/26/2017 5:08 PM PLOT BY : WEIGAND, BEN PLOT NAME : PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



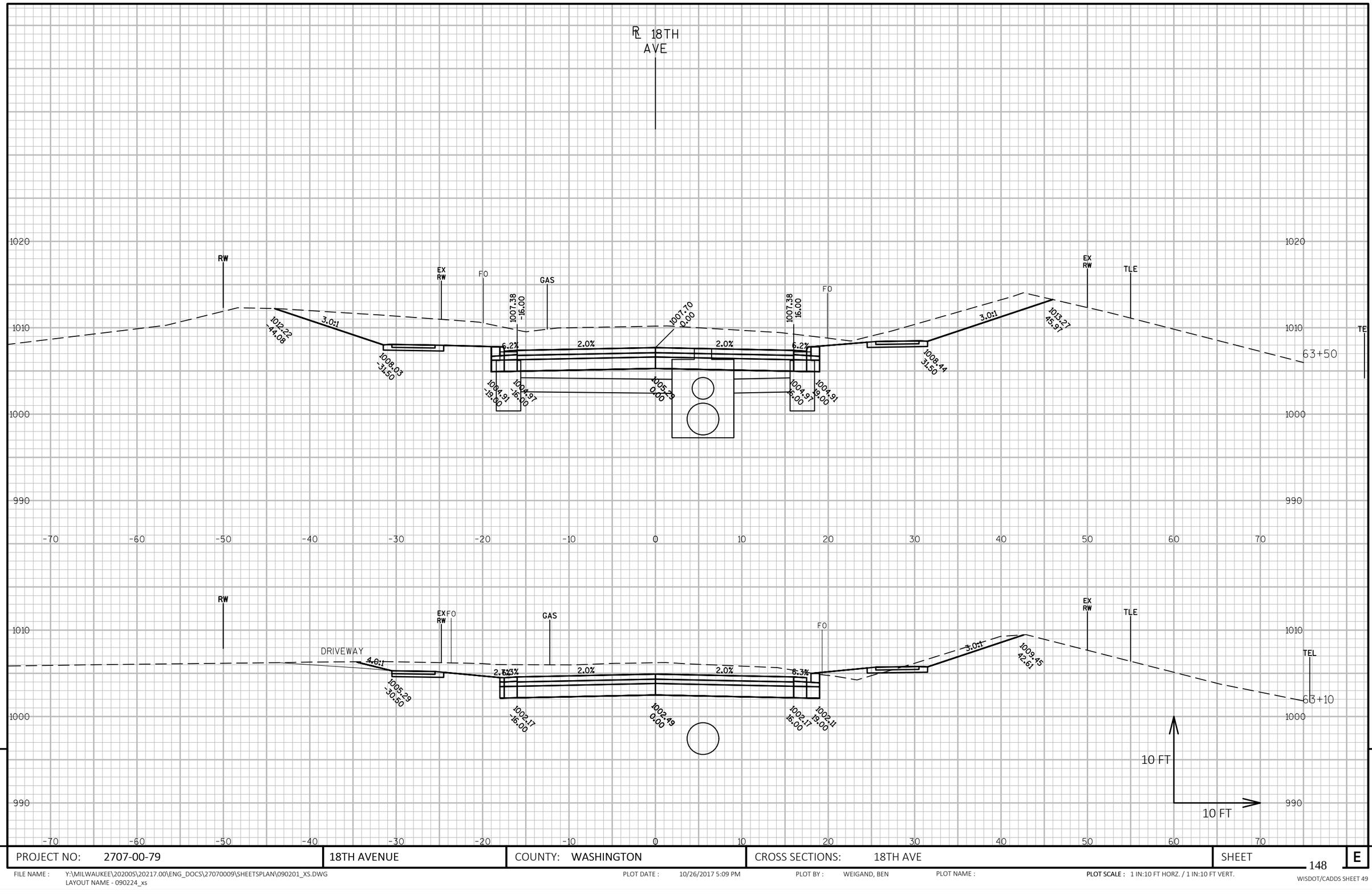
PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: 18TH AVE	SHEET 147 E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090223_xs

PLOT DATE : 10/26/2017 5:08 PM PLOT BY : WEIGAND, BEN PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



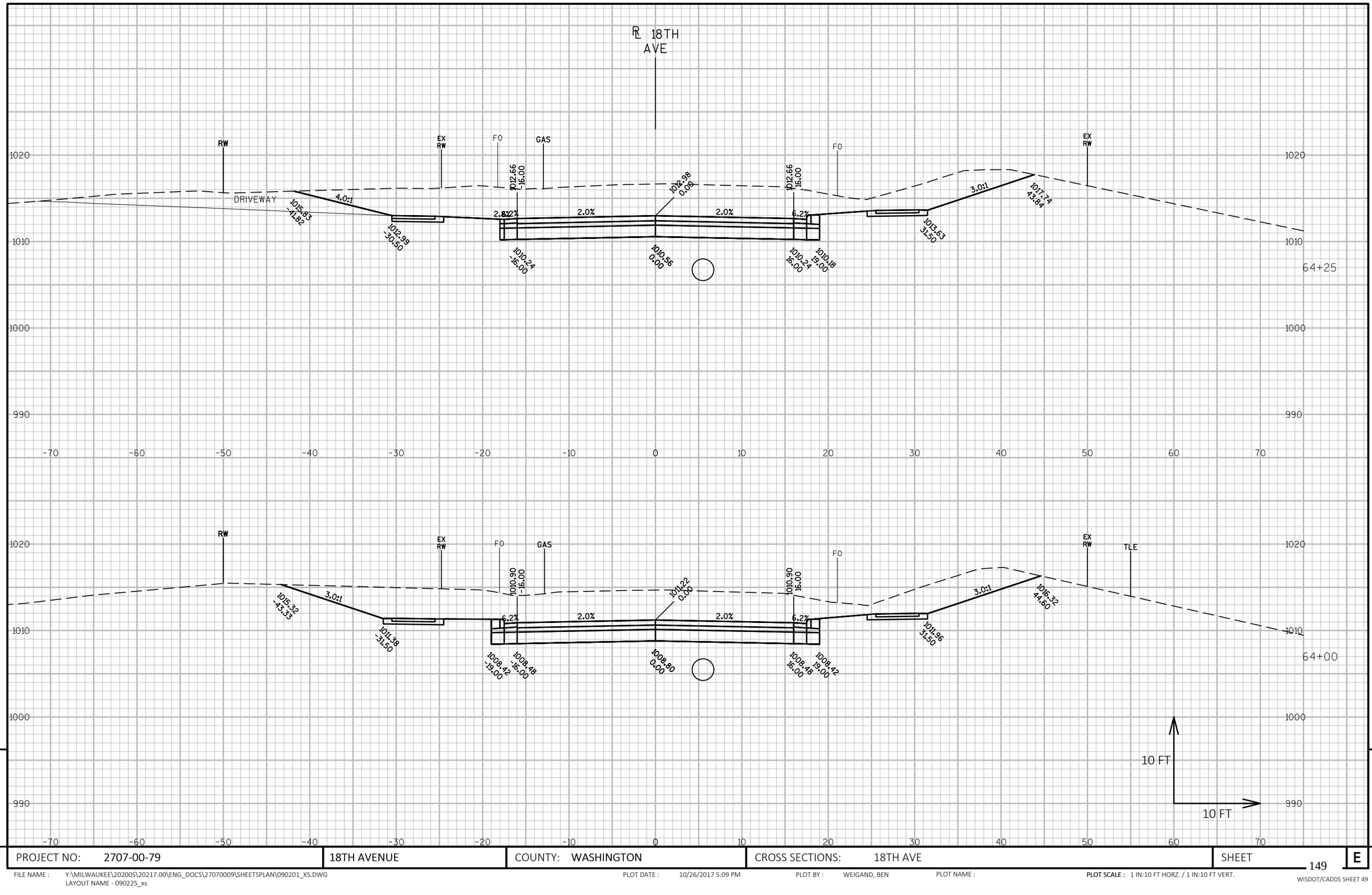
PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: 18TH AVE	SHEET 148 E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090224_xs

PLOT DATE : 10/26/2017 5:09 PM PLOT BY : WEIGAND, BEN PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

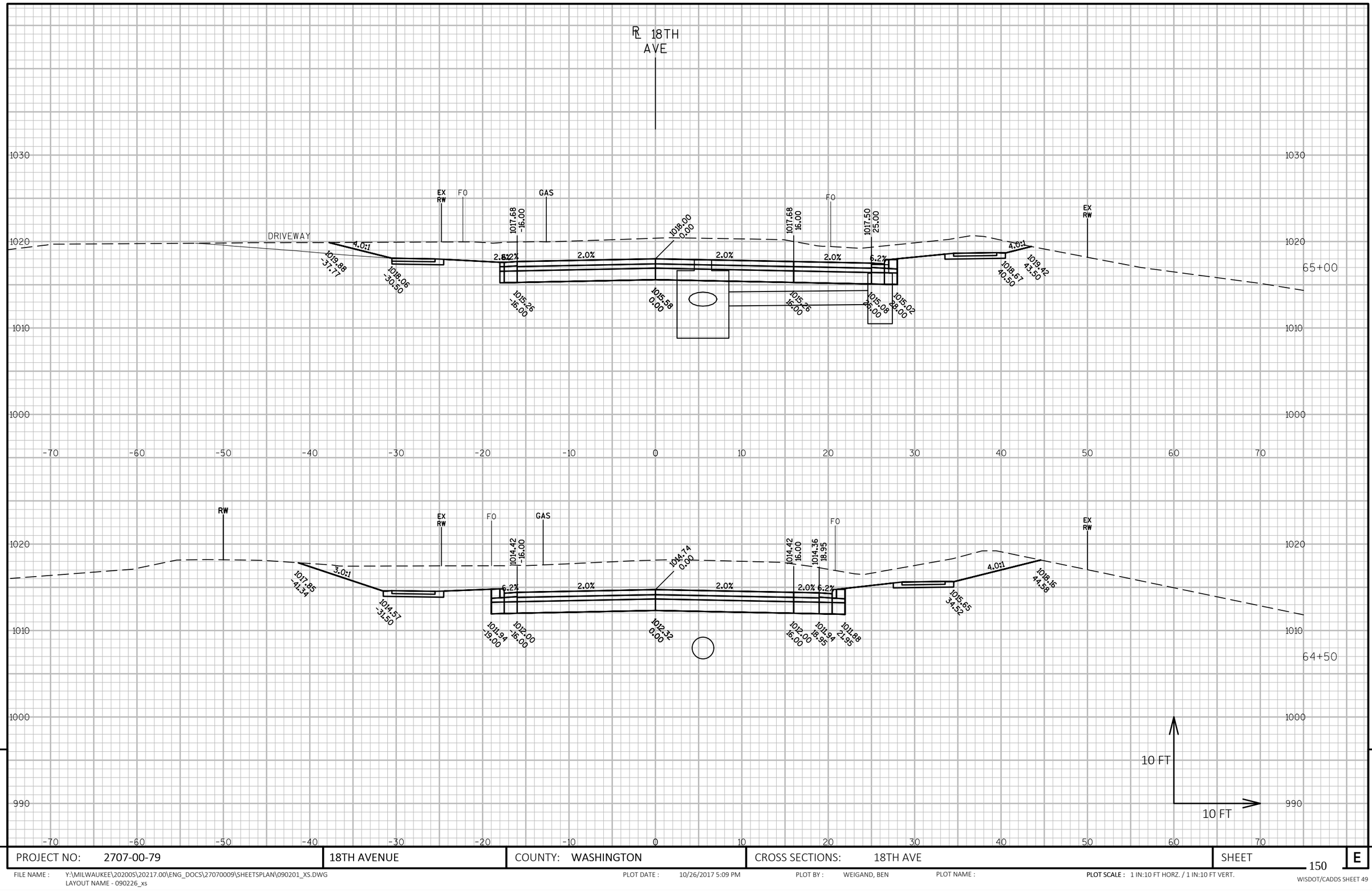


PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: 18TH AVE	SHEET 149 E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090225_xs

PLOT DATE : 10/26/2017 5:09 PM PLOT BY : WEIGAND, BEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

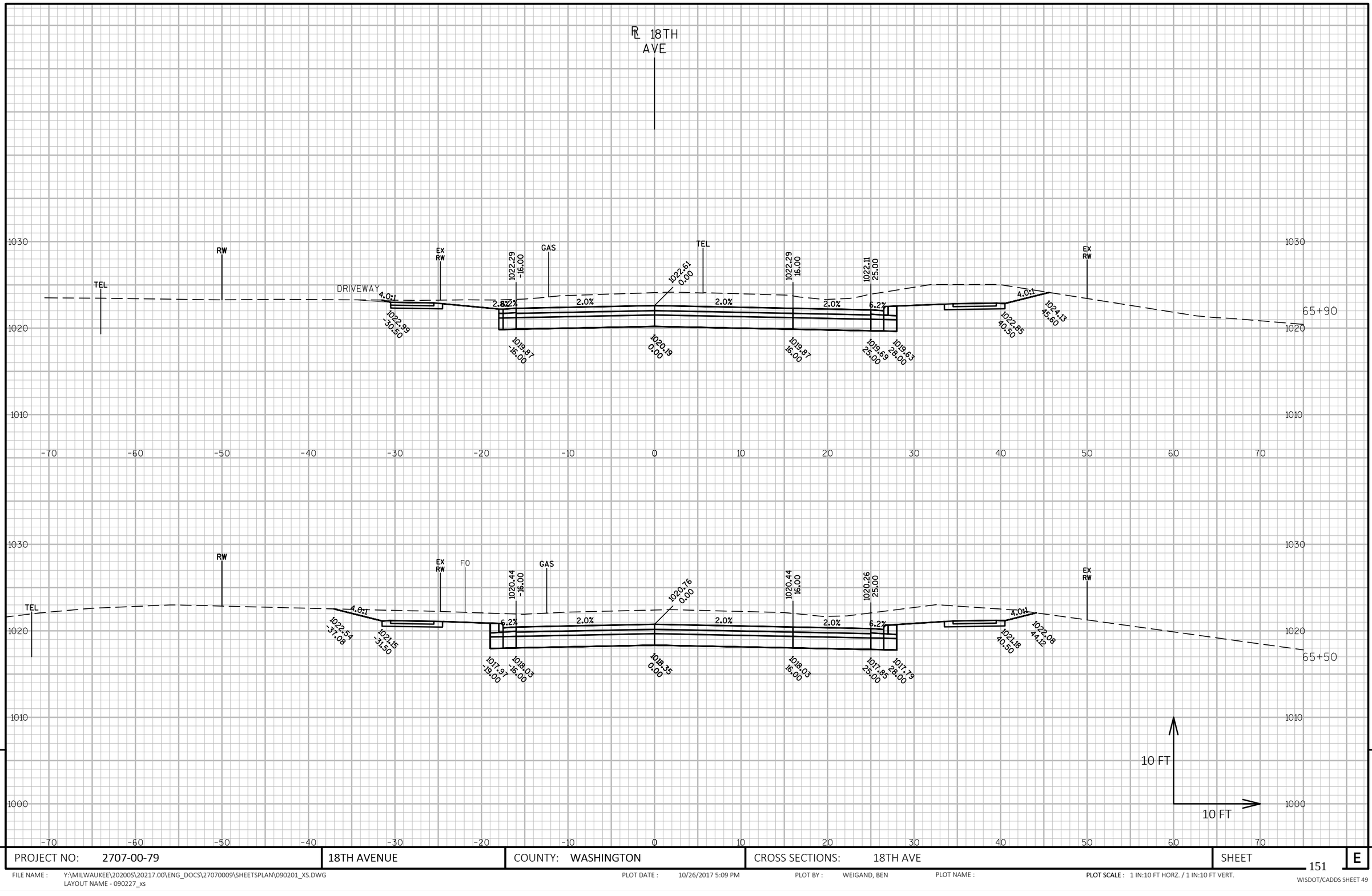


PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: 18TH AVE	SHEET 150 E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090226_xs

PLOT DATE : 10/26/2017 5:09 PM PLOT BY : WEIGAND, BEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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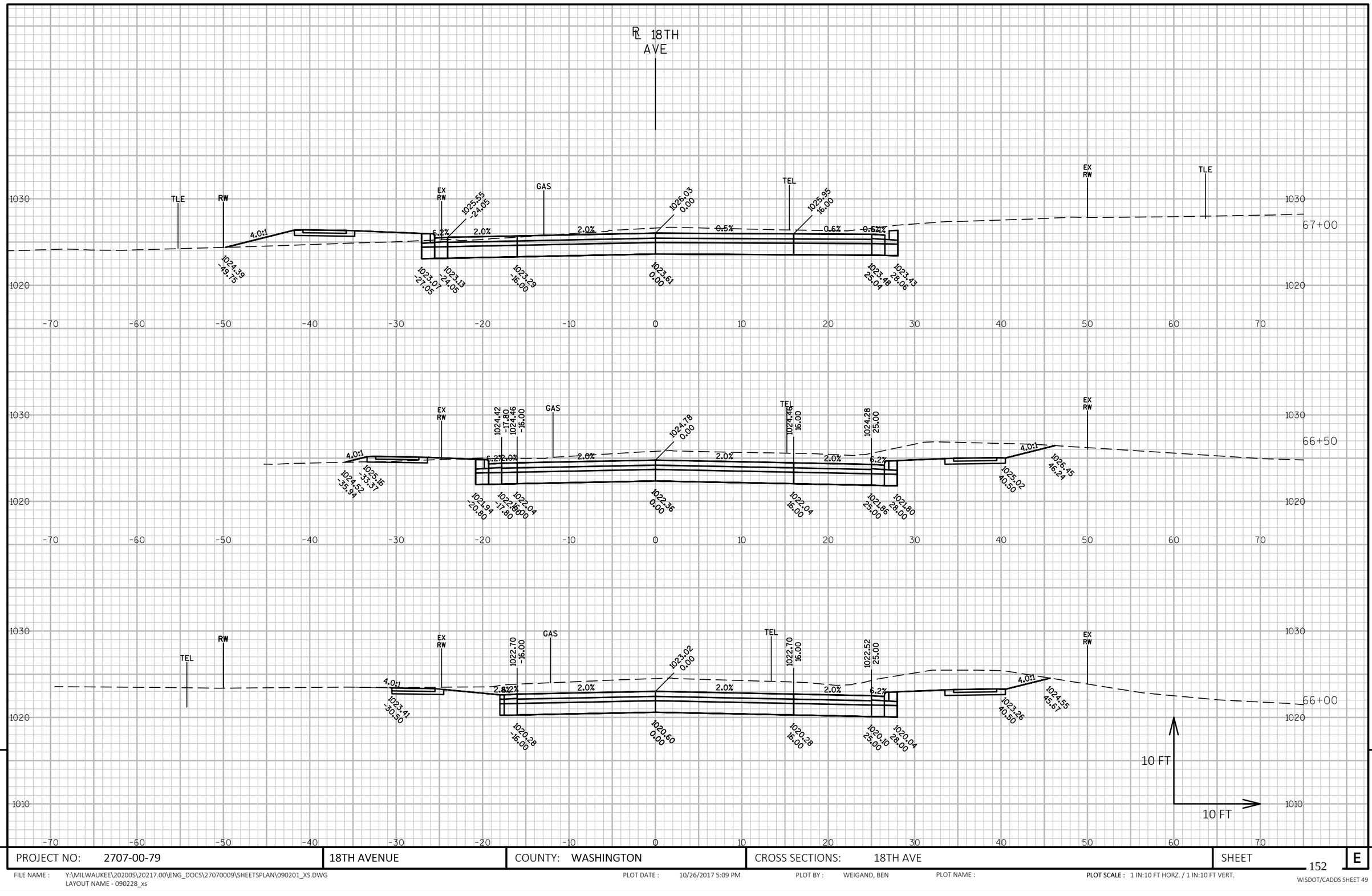
PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: 18TH AVE	SHEET 151	E

9

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090227_xs

PLOT DATE : 10/26/2017 5:09 PM PLOT BY : WEIGAND, BEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: 18TH AVE	SHEET 152 E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090228_xs

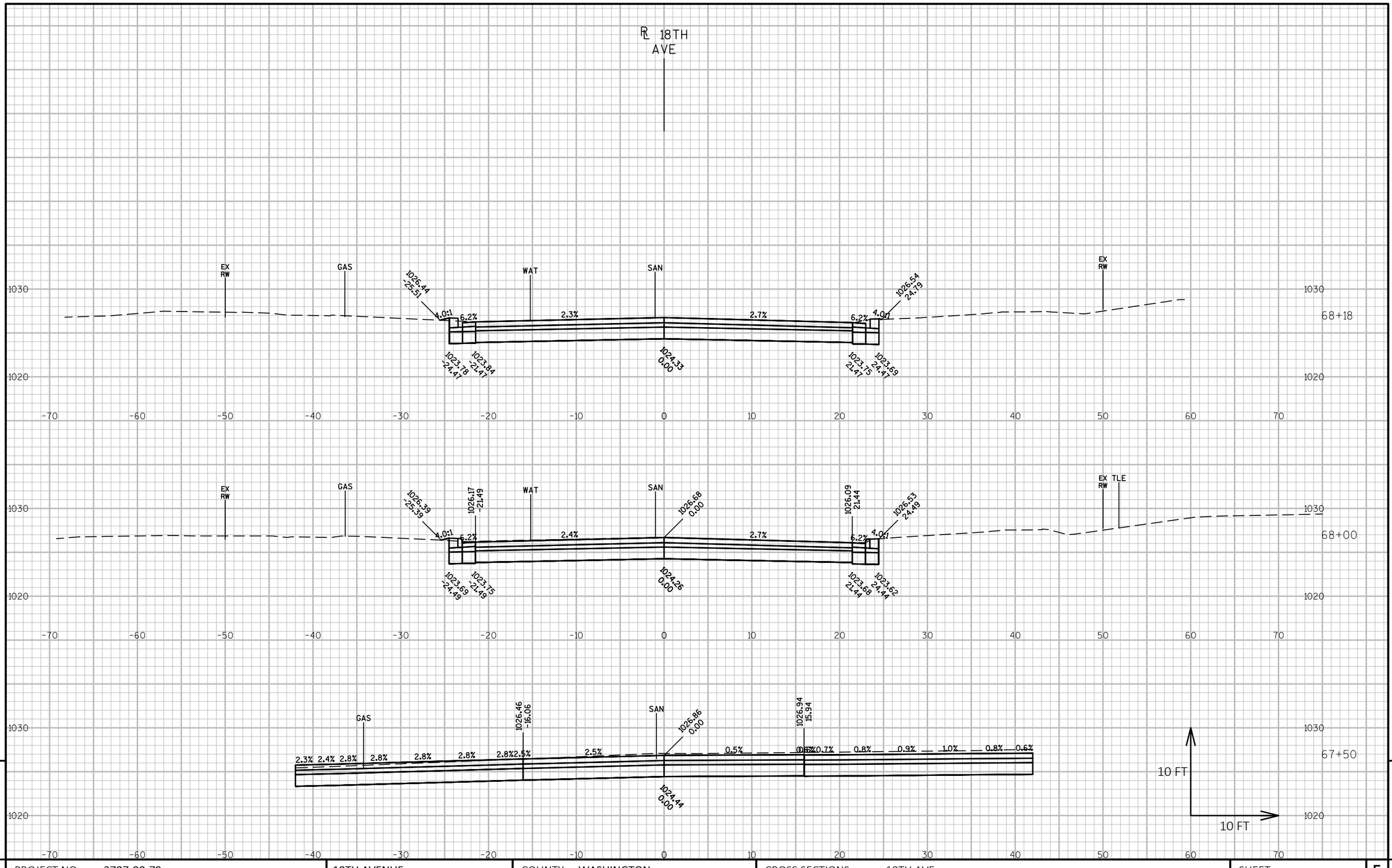
PLOT DATE : 10/26/2017 5:09 PM

PLOT BY : WEIGAND, BEN

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



9

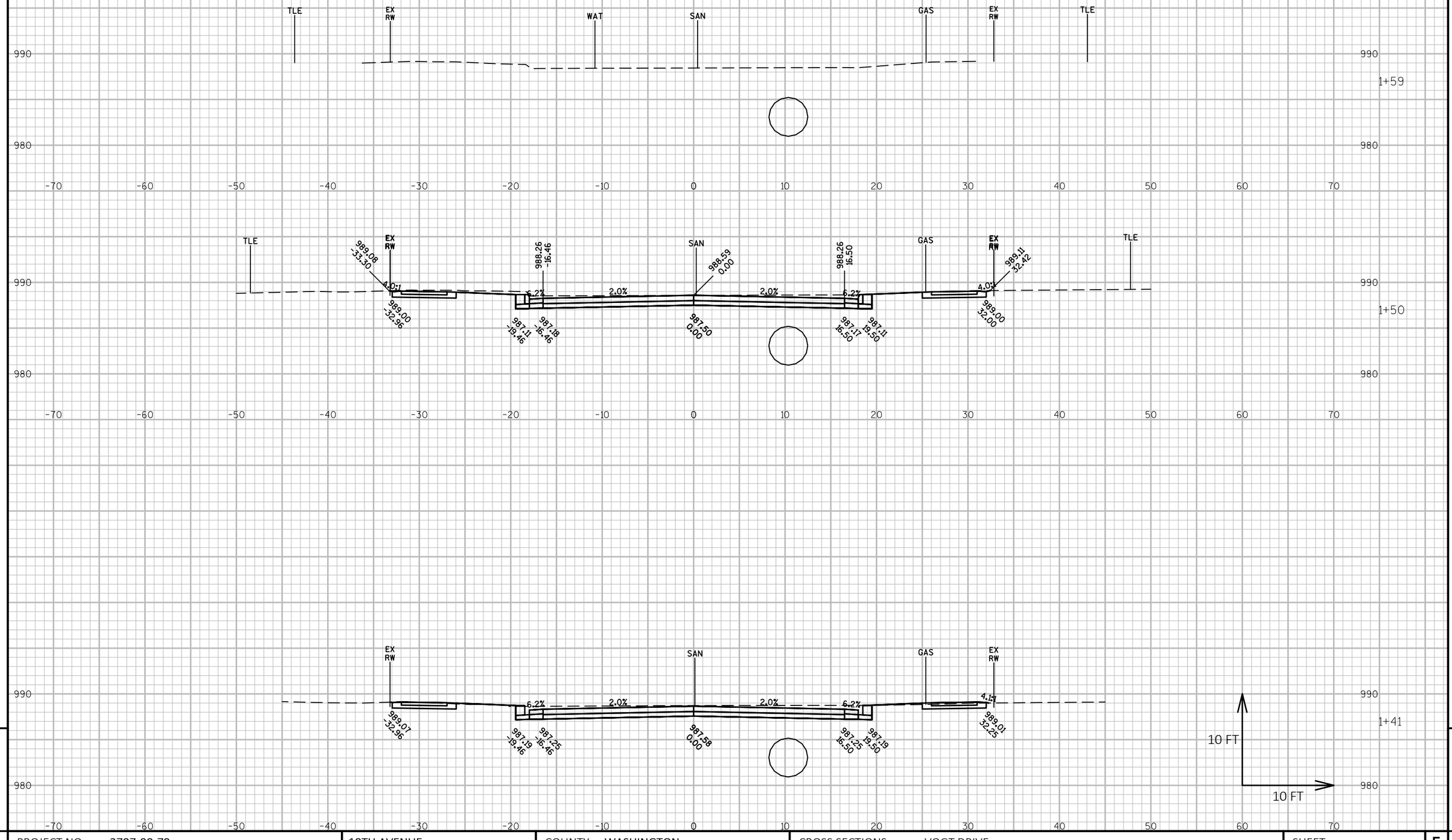
PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: 18TH AVE	SHEET 153 E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090229_xs

PLOT DATE : 10/26/2017 5:09 PM PLOT BY : WEIGAND, BEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

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PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: VOGT DRIVE	SHEET 154	E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090230_xs

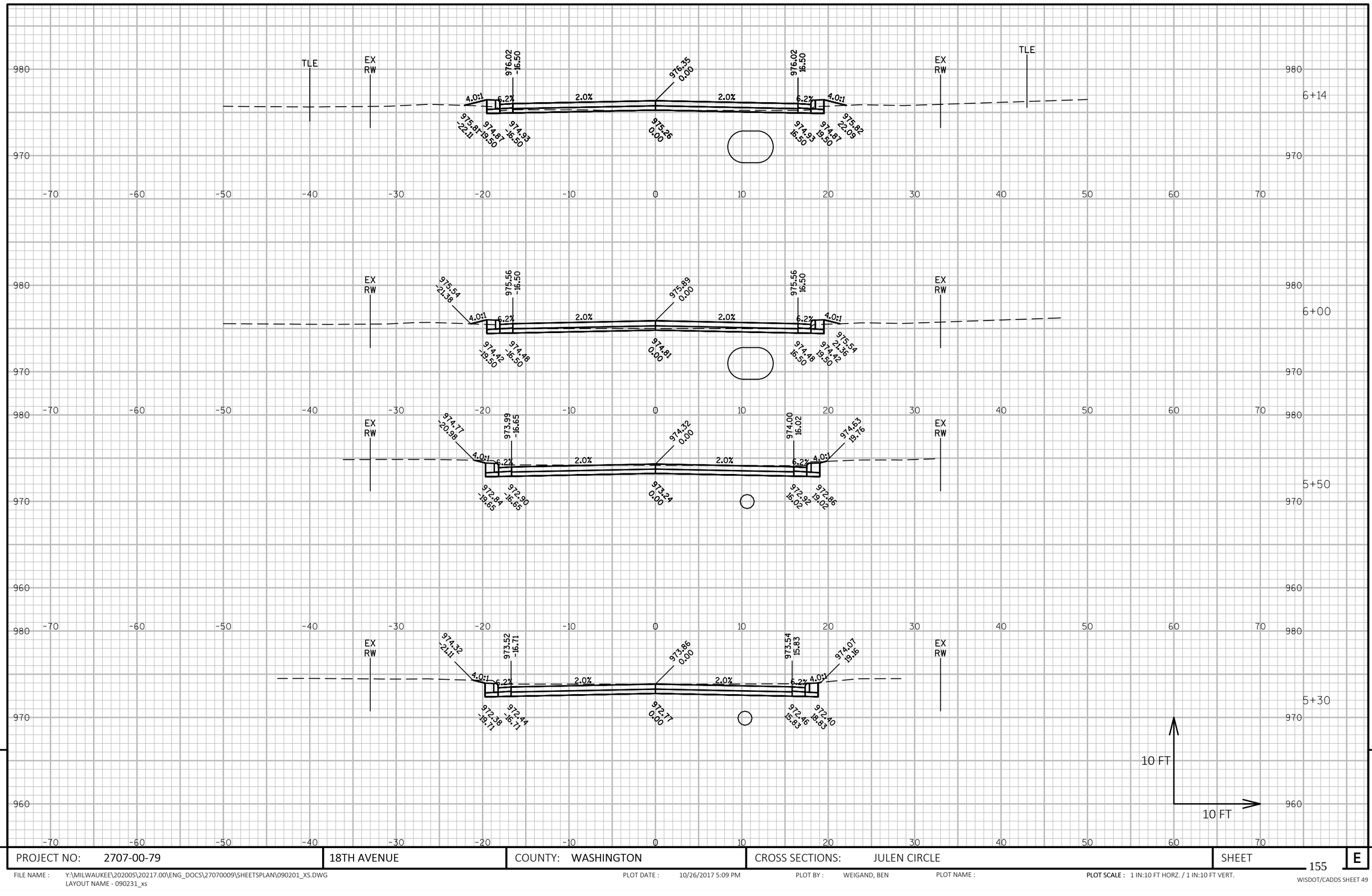
PLOT DATE : 10/26/2017 5:09 PM

PLOT BY : WEIGAND, BEN

PLOT NAME :

PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

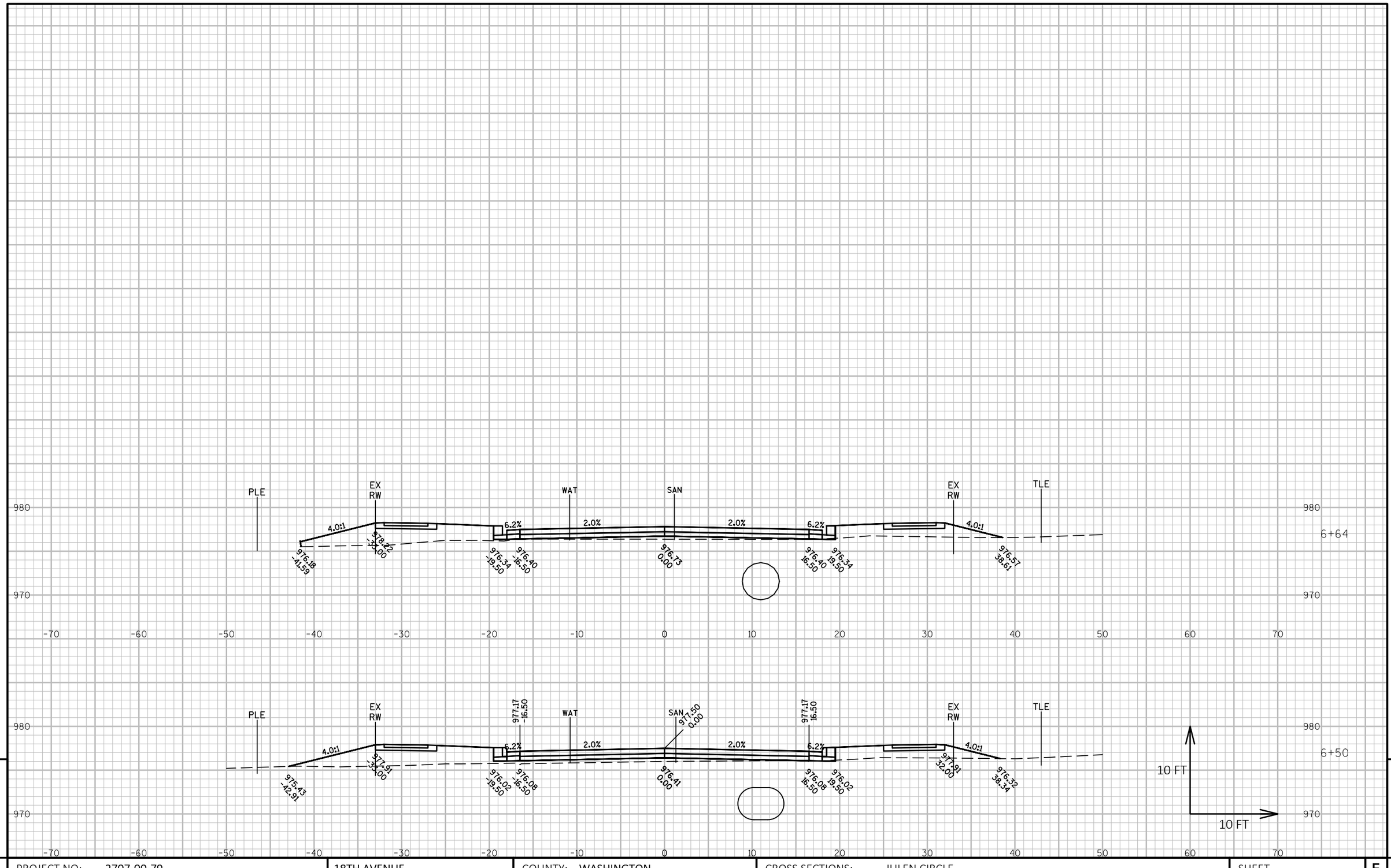


PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: JULEN CIRCLE	SHEET 155 E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090231_xs

PLOT DATE : 10/26/2017 5:09 PM PLOT BY : WEIGAND, BEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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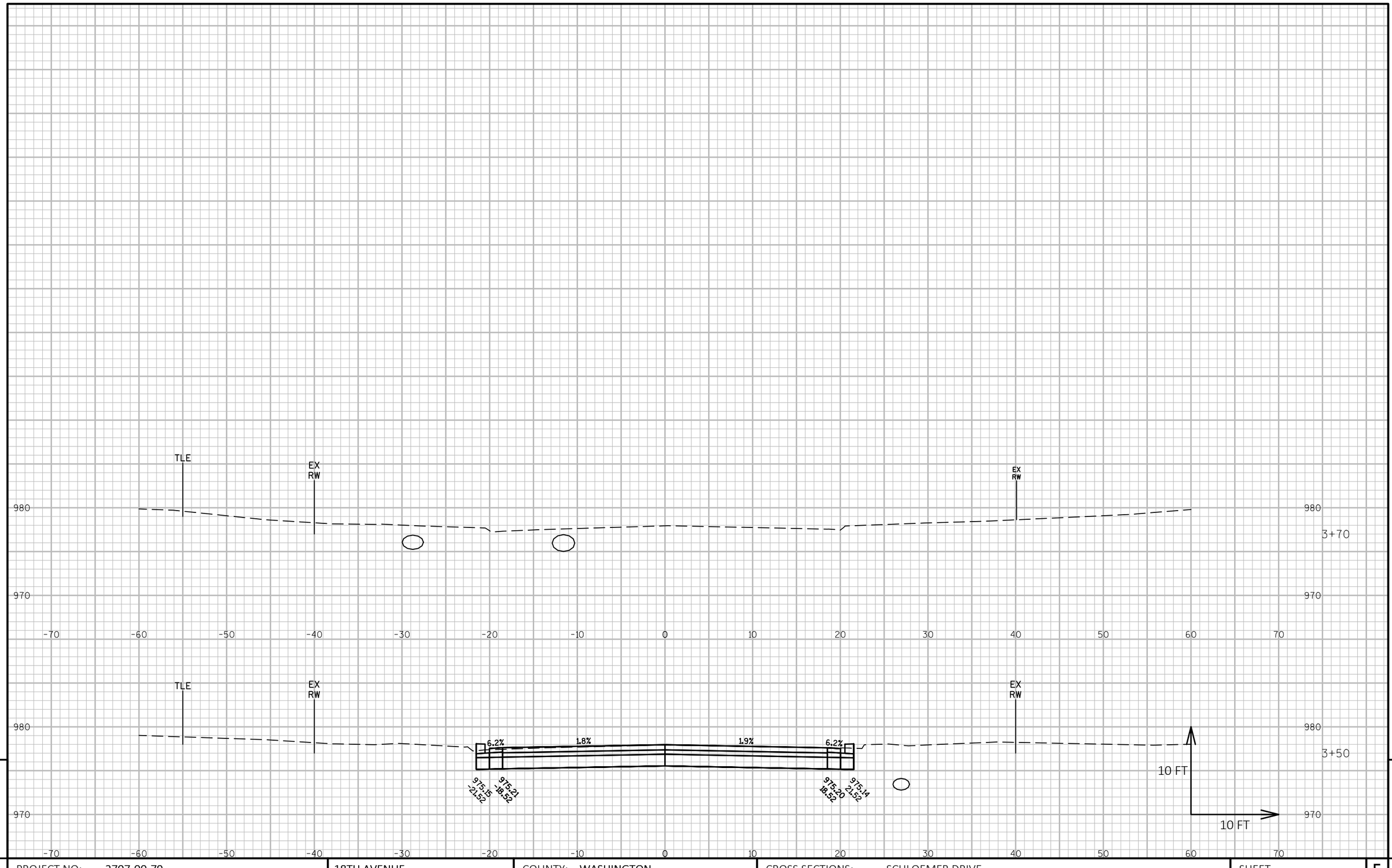
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PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: JULEN CIRCLE	SHEET 156	E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090232_xs

PLOT DATE : 10/26/2017 5:09 PM PLOT BY : WEIGAND, BEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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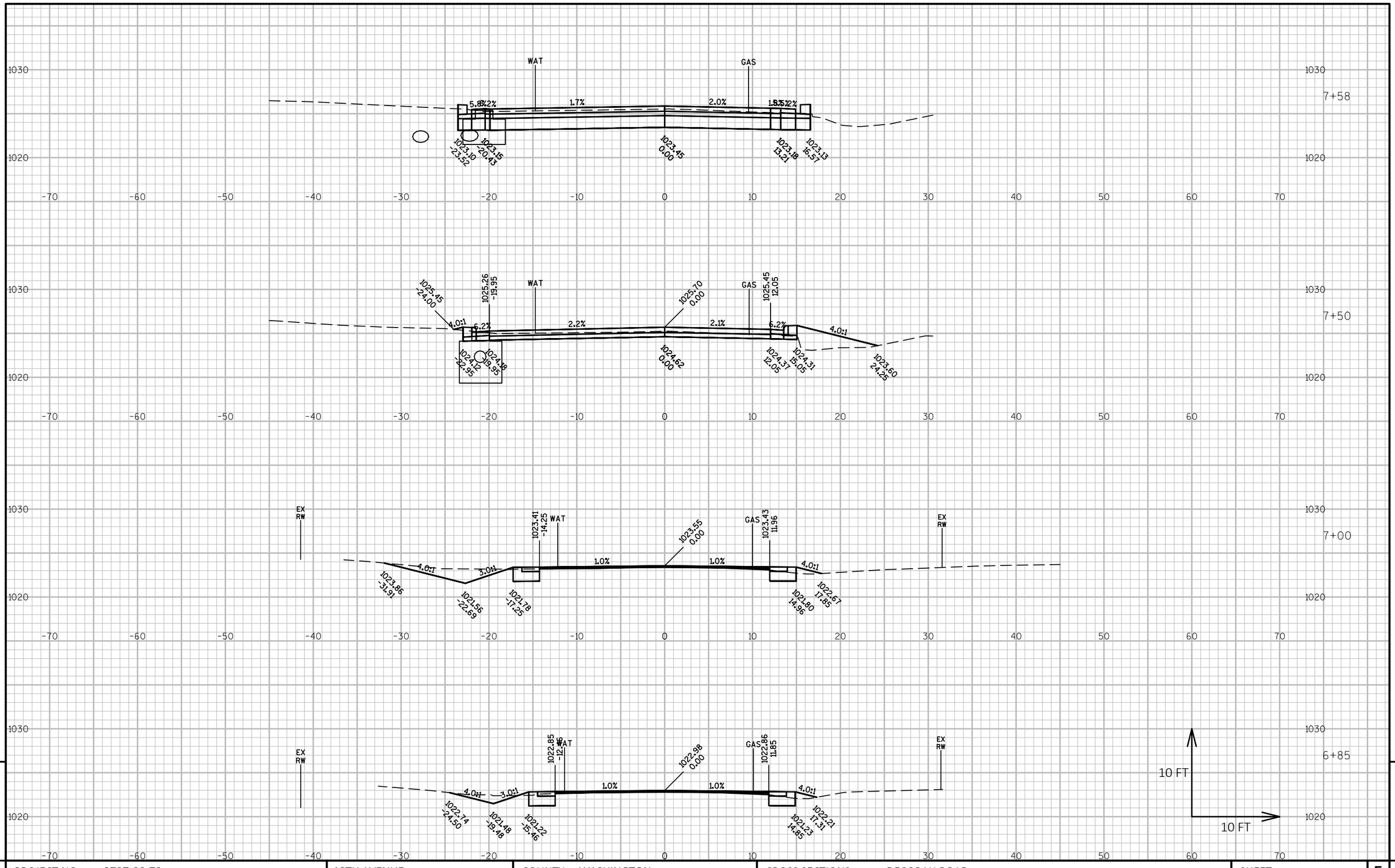
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PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: SCHLOEMER DRIVE	SHEET 157	E

FILE NAME : Y:\MILWAUKEE\202005\20217.00\ENG_DOCS\27070009\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090233_xs

PLOT DATE : 10/26/2017 5:09 PM PLOT BY : WEIGAND, BEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

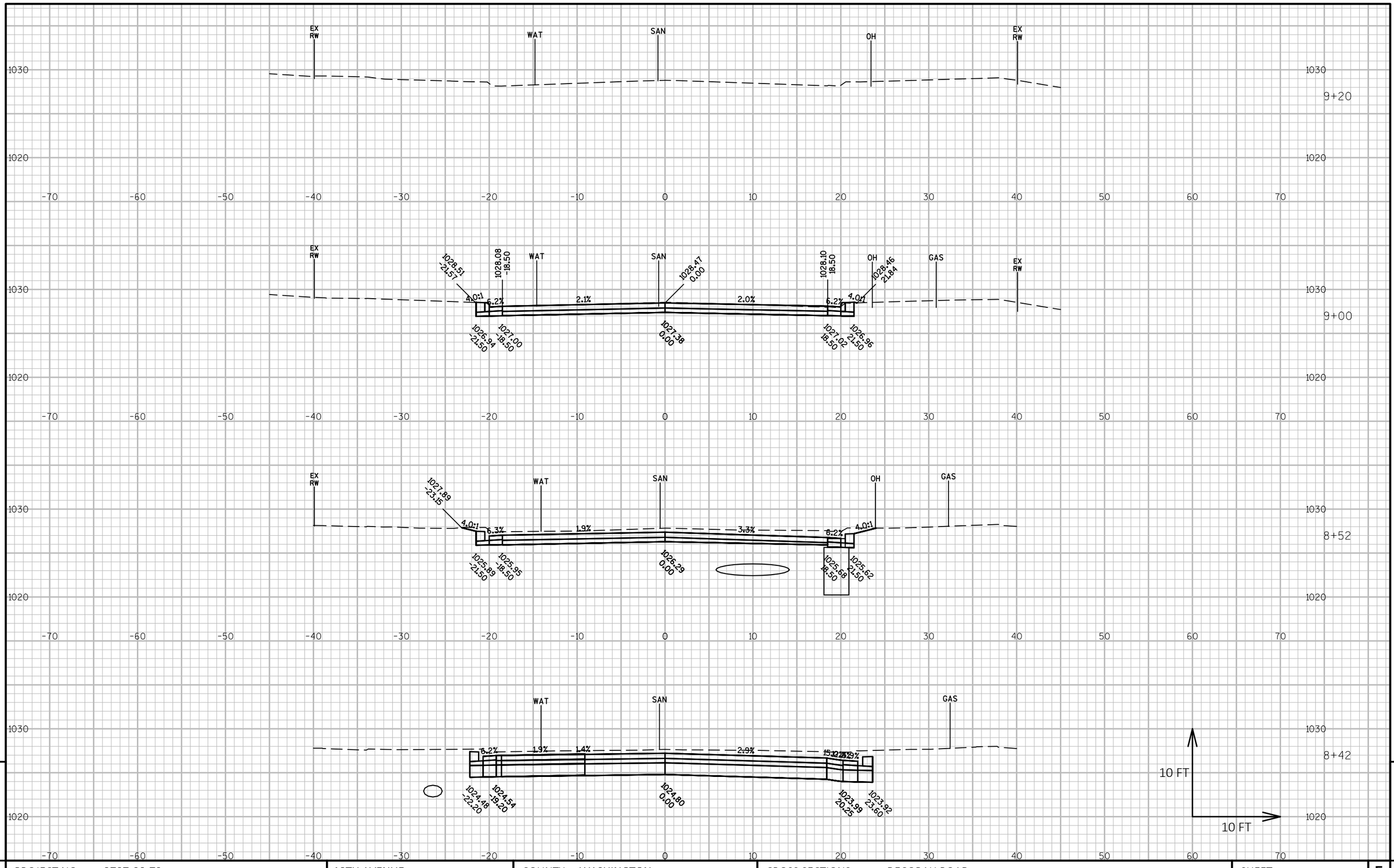


PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: DECORAH ROAD	SHEET 158 E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090234_xs

PLOT DATE : 10/26/2017 5:09 PM PLOT BY : WEIGAND, BEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49



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PROJECT NO: 2707-00-79	18TH AVENUE	COUNTY: WASHINGTON	CROSS SECTIONS: DECORAH ROAD	SHEET 159	E

FILE NAME : Y:\MILWAUKEE\20200S\20217.00\ENG_DOCS\27070009\SHEETSPLAN\090201_XS.DWG
LAYOUT NAME - 090235_xs

PLOT DATE : 10/26/2017 5:09 PM PLOT BY : WEIGAND, BEN PLOT NAME : **PLOT SCALE :** 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

Wisconsin Department of Transportation

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through innovation and exceptional service.

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