

GRE

MARCH 2024

PROJECT ID: 4636-05-72

COUNTY: WINNEBAGO

# STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION

## PLAN OF PROPOSED IMPROVEMENT

### C OSHKOSH, CTH I

W RIPPLE AVE - W WAUKAU AVE

### CTH I WINNEBAGO

STATE PROJECT NUMBER  
**4636-05-72**

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4636-05-72	WISC 2024287	1

#### ORDER OF SHEETS

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

TOTAL SHEETS = 174



# 20

DESIGN DESIGNATION 4636-05-00

A.A.D.T. 2023	=	3702
A.A.D.T. 2043	=	4515
D.H.V.	=	4146
D.D.	=	0.5
T.	=	13.3
DESIGN SPEED	=	45
ESALS	=	1,100,000

#### CONVENTIONAL SYMBOLS

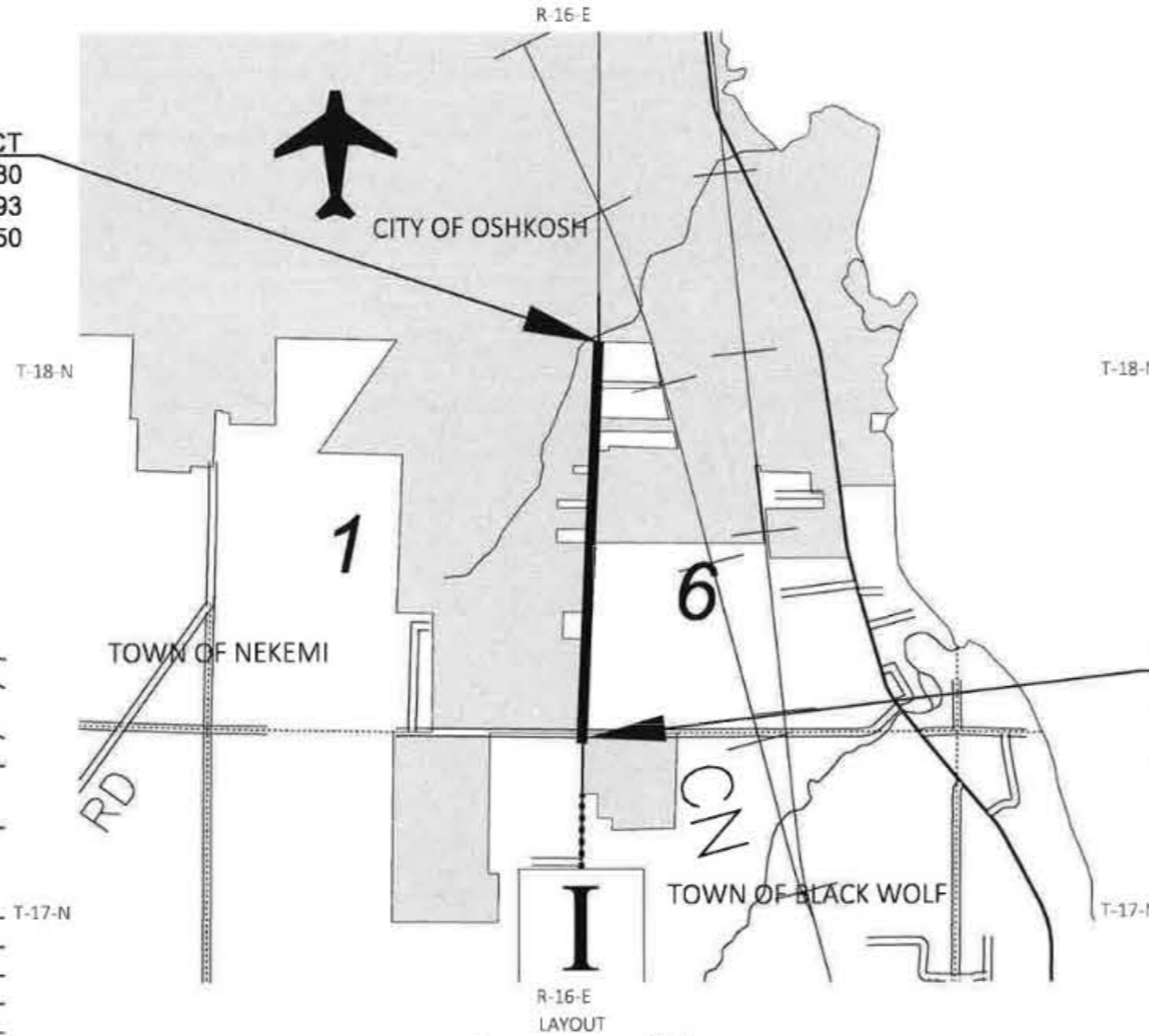
##### PLAN

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

##### PROFILE

GRADE LINE	
ORIGINAL GROUND	
MARSH OR ROCK PROFILE (To be noted as such)	
SPECIAL DITCH	
GRADE ELEVATION	
CULVERT (Profile View)	
UTILITIES	
ELECTRIC	
FIBER OPTIC	
GAS	
SANITARY SEWER	
STORM SEWER	
TELEPHONE	
WATER	
UTILITY PEDESTAL	
POWER POLE	
TELEPHONE POLE	

END PROJECT  
STA 116+98.80  
Y = 459885.293  
X = 791814.150



BEGIN PROJECT  
STA 53+28.09  
Y = 453519.486  
X = 791575.318

SCALE 0 0.5 MI  
TOTAL NET LENGTH OF CENTERLINE = 1.207

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

ACCEPTED FOR

WINNEBAGO COUNTY

Date: 10/30/23 *R. J. Dool*  
(Signature and Title of Official)  
HIGHWAY COMMISSIONER

ORIGINAL PLANS PREPARED BY

EXP US SERVICES



DATE: 10-30-2023 *Rowland P. Zingler-Hoslet*  
(Professional Engineer Signature)

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

PREPARED BY	
Surveyor	NATHAN ANDEREGG
Designer	JOHN BOURGEOIS, EIT
Project Manager	ROWLAND HOSLET, PE
Regional Examiner	MICHAEL COHEN, PE
Regional Supervisor	ROBERT WAGNER, PE

APPROVED FOR THE DEPARTMENT  
DATE: 10-31-2023 *Mike Cohen, PE*  
(Signature)

E

STANDARD ABBREVIATIONS:

ASPH ASPHALT  
 AVE. AVENUE  
 APT. APARTMENT  
 BAD BASE AGGREGATE DENSE  
 BLDG. BUILDING  
 BM# BENCH MARK  
 C&g CURB AND GUTTER  
 \*\* CENTERLINE  
 CL CLASS  
 CONC CONCRETE  
 CONST. CONSTRUCTION  
 COR. CORNER  
 CP# CONTROL POINT  
 CP CULVERT PIPE  
 D/W DRIVEWAY  
 EX. EXISTING  
 EXC EXCAVATION  
 FE FIELD OF ENTRANCE  
 F.L FLOWLINE  
 FT FEET  
 GV GAS VALVE  
 HS. HOUSE  
 INL. INLET  
 L.F LINEAR FOOT  
 N.T.S NOT TO SCALE  
 P.C POINT OF CURVE  
 PCC. PORTLAND CONCRETE CEMENT  
 PE PRIVATE ENTRANCE  
 P.I. POINT OF INTERSECT  
 P.L.E PERMANENT LIMITED EASEMENT  
 P.T POINT OF TANGENCY  
 R RADIUS  
 REQ'D REQUIRED  
 REMO REMOVE  
 R/W RIGHT OF WAY  
 SEC SECTION  
 S.F. SQUARE FOOT  
 STH STATE TRUNK HIGHWAY  
 T TANGENT  
 TLE TEMPORARY LIMITED EASEMENT  
 VPC VERTICAL POINT OF CURVE  
 VPT VERTICAL POINT OF TANGENCY  
 W/L WETLAND  
 WV WATER VALVE

PROJECT CONTACTS

EXP US SERVICES, INC.  
 MR. ROWLAND HOSLET  
 4321 COLLEGE AVE.  
 APPLETON, WI 54911  
 PHONE: 920-857-6304  
 EMAIL: rowland.hoslet@exp.com

EXP US SERVICES, INC.  
 MR. JOHN BOURGEOIS  
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 APPLETON, WI 54911  
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 EMAIL: john.bourgeois@exp.com

WINNEBAGO COUNTY HIGHWAY DEPT.  
 MR. ROBERT DOEMEL  
 901 COUNTY RD. Y  
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 PHONE: 920-232-1750  
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MR. MIKE COHEN  
 944 VAN DER PERREN WAY,  
 GREEN BAY, WI 54304  
 PHONE: 920-360-1476  
 EMAIL: michael.cohen@dot.wi.gov

GENERAL NOTES

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

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

ALL DISTURBED AREAS WITHIN THE RIGHT-OF-WAY SHALL BE TOPSOILED, FERTILIZED, AND SEEDS AS DIRECTED BY THE ENGINEER.

SEED, FERTILIZER, AND EROSION MAT MUST BE PLACED WITHIN 5 DAYS OF TOPSOIL PLACEMENT.

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

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

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE.

UTILITY CONTACT LIST

AT&T  
 TELECOMMUNICATIONS  
 CHUCK BARTELT  
 70 E DIVISION ST  
 FOND DU LAC, WI 54935  
 PHONE: 920-410-5104  
 EMAIL: CB1461@ATT.COM

CHARTER COMMUNICATIONS  
 FIBER OPTIC  
 KEVIN FLYNN  
 3545 PLANK RD.  
 APPLETON, WISCONSIN 54915  
 PHONE: 920-740-6689  
 EMAIL: KEVIN.FLYNN@CHARTER.COM

CITY OF OSHKOSH  
 SANITARY  
 DAN GABRILSKA  
 215 CHURCH AVE - P.O. BOX 1130  
 OSHKOSH, WI 54903-1130  
 PHONE: 920-236-5065  
 EMAIL: DGABRILSKA@CI.OSHKOSH.WI.US

CITY OF OSHKOSH  
 WATER  
 RYAN LEMKE, CITY OF OSHKOSH WATER  
 DISTRIBUTION MANAGER  
 757 W 3RD AVENUE  
 OSHKOSH, WI 54902  
 PHONE: 920-232-5332  
 EMAIL: RLEMKE@CI.OSHKOSH.WI.US

NORTHERN TELEPHONE & DATA  
 FIBER OPTIC  
 BILL MILLER  
 PHONE: 920-420-6101  
 EMAIL: WMILLER@NTDCORP.COM

OSHKOSH AREA SCHOOL DISTRICT  
 FIBER OPTIC  
 DAN BECKER - MCE  
 PO BOX 110604  
 GREEN BAY, WI 54307-1064  
 PHONE: 920-718-3710  
 EMAIL: DBECKER@MCEWI.COM

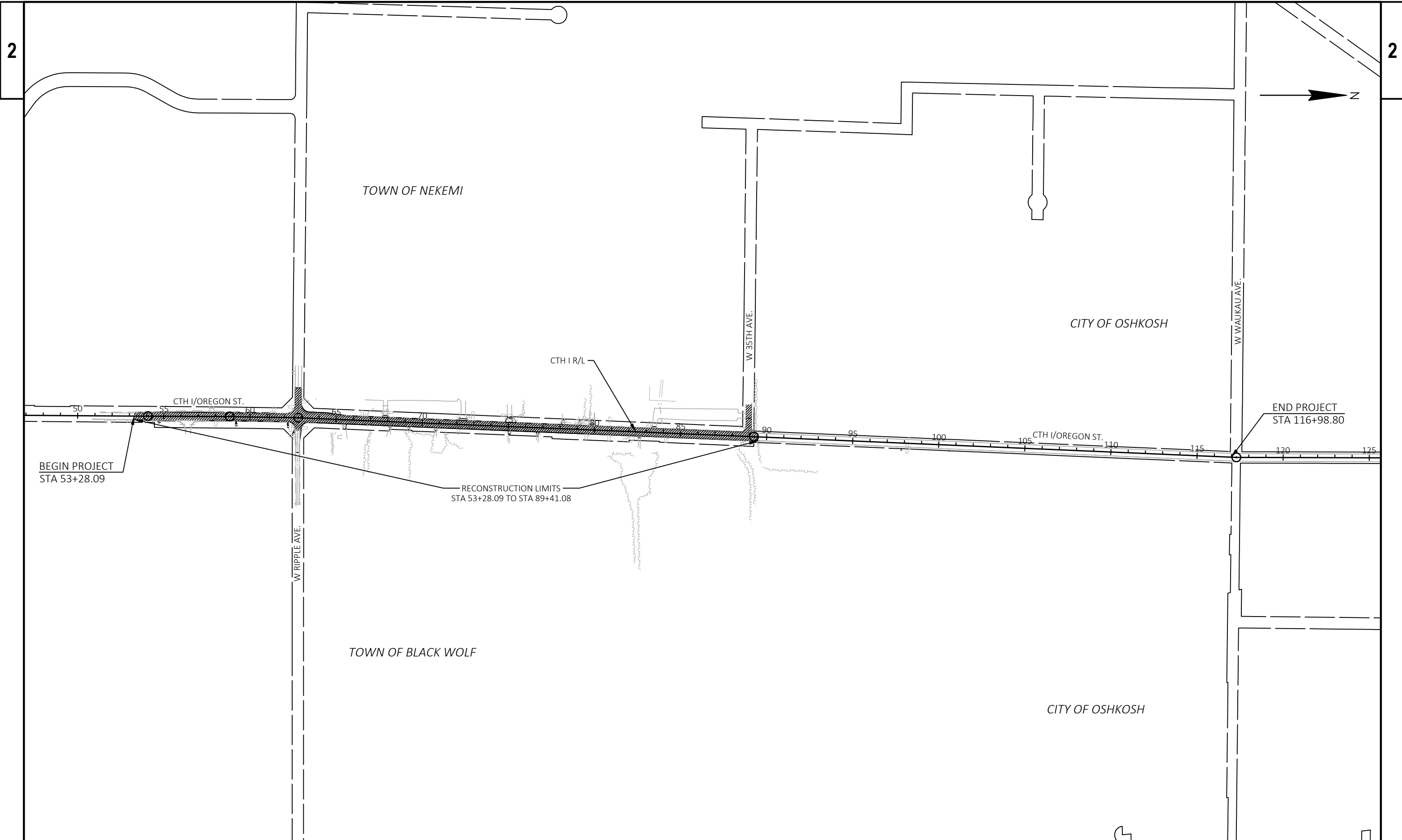
WINDSTREAM  
 FIBER OPTIC  
 LORI KETTER  
 969 WAUBE LANE  
 GREEN BAY, WI 54304  
 PHONE: 920-410-6902  
 EMAIL: LORI.KETTER@WINDSTREAM.COM

WISCONSIN PUBLIC SERVICE  
 ELECTRIC  
 LINDA TREBIATOWSKI  
 3300 N. MAIN ST  
 OSHKOSH, WI 54901  
 PHONE: 920-660-3266  
 EMAIL: LINDA.TREBIATOWSKI@WISCONSINPUBLICSERVICE.COM

WISCONSIN PUBLIC SERVICE  
 GAS  
 CHUCK CORNISH  
 330 N MAIN ST  
 OSHKOSH, WI 54901  
 PHONE: 920-236-5902  
 EMAIL: CHARLES.CORNISH@WISCONSINPUBLICSERVICE.COM



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



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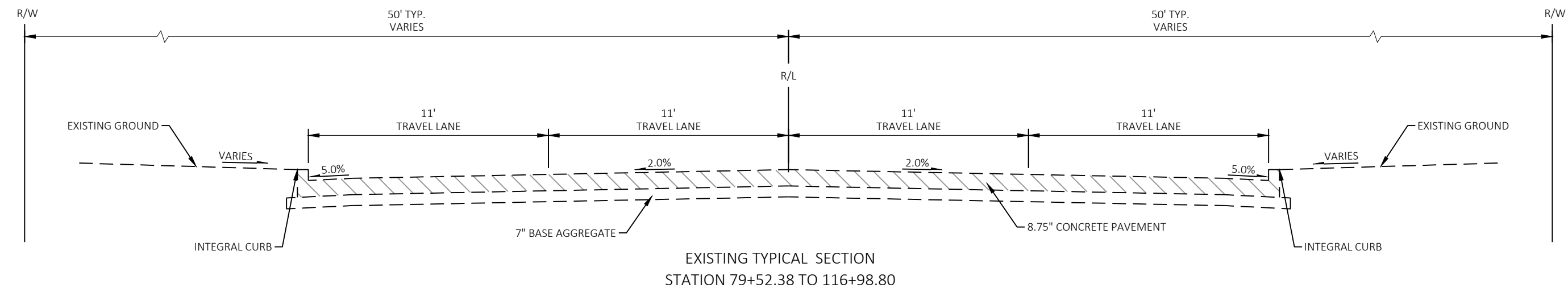
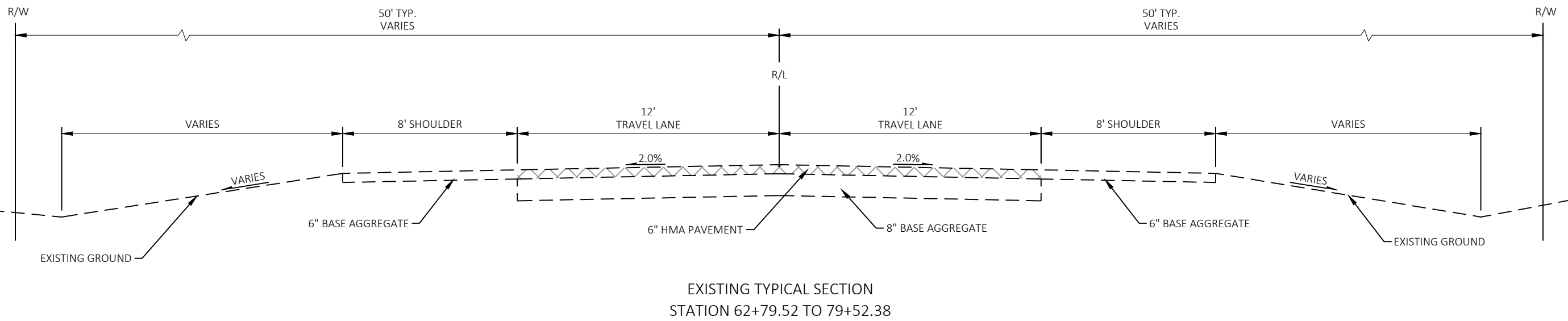
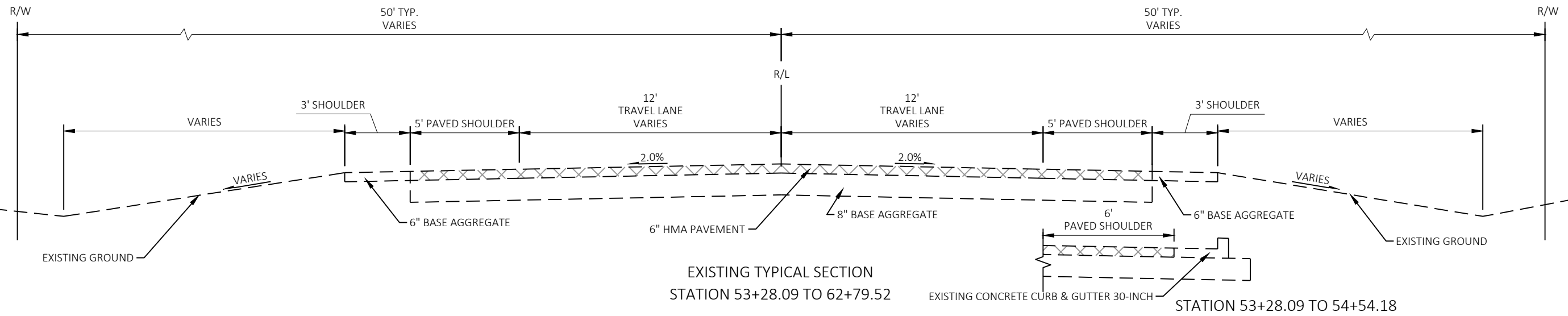
HWY: CTH I

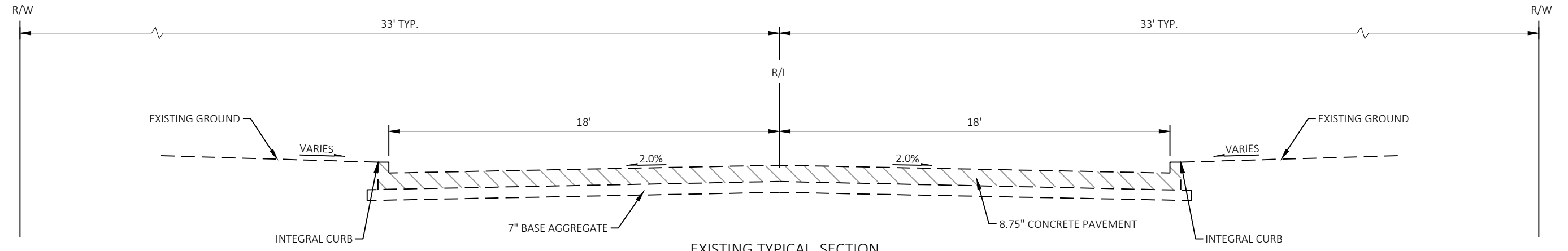
COUNTY: WINNEBAGO

PROJECT OVERVIEW

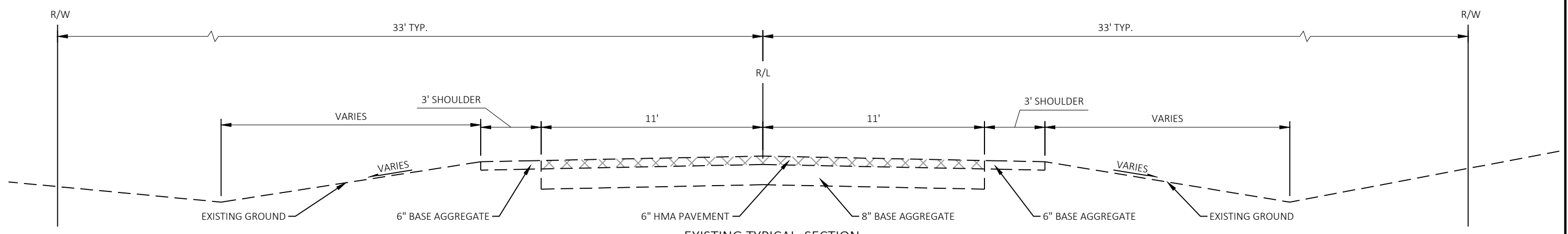
SHEET

E

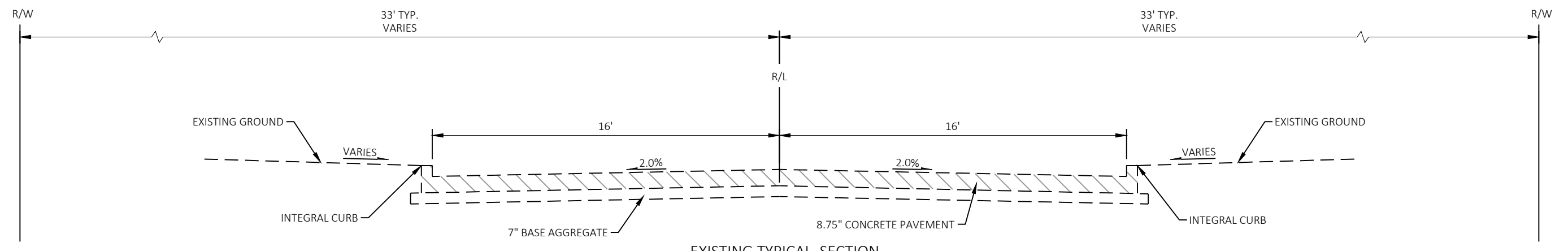




EXISTING TYPICAL SECTION  
 RIPPLE AVENUE STATION 224+45.43 TO 225+97.38

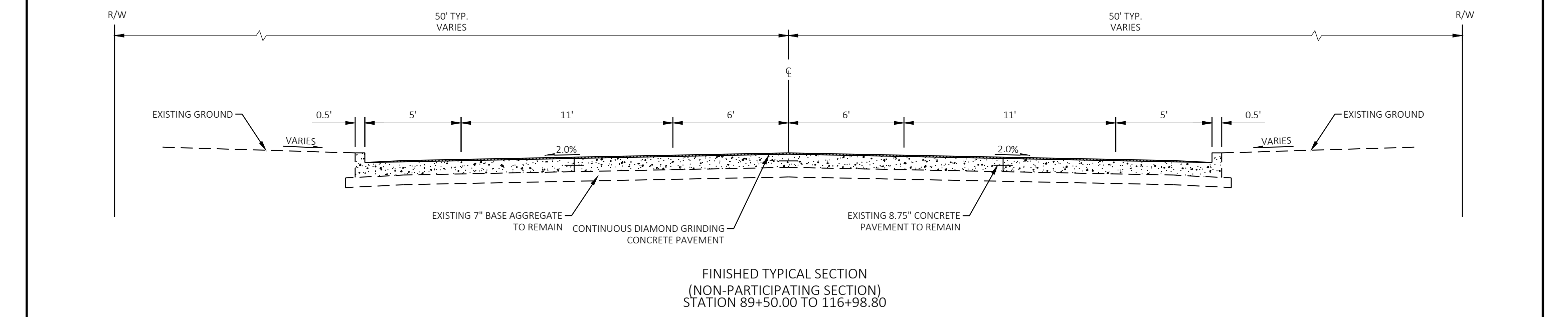
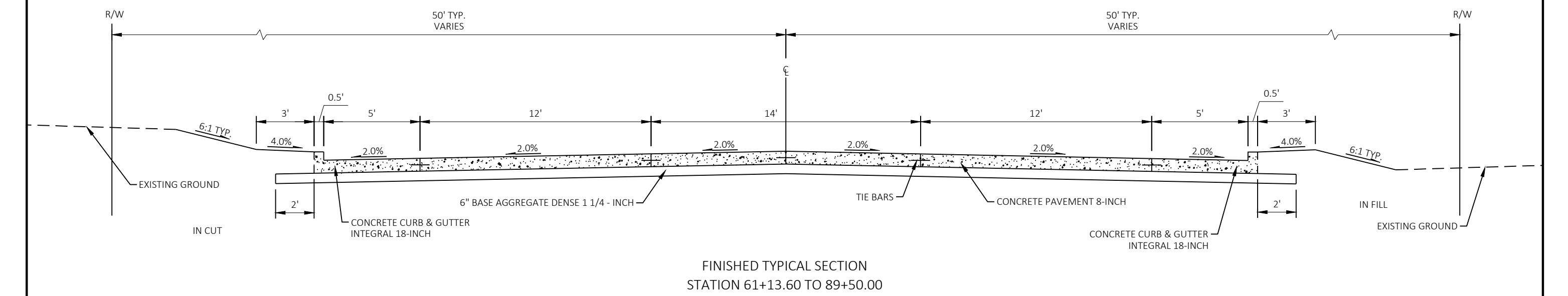
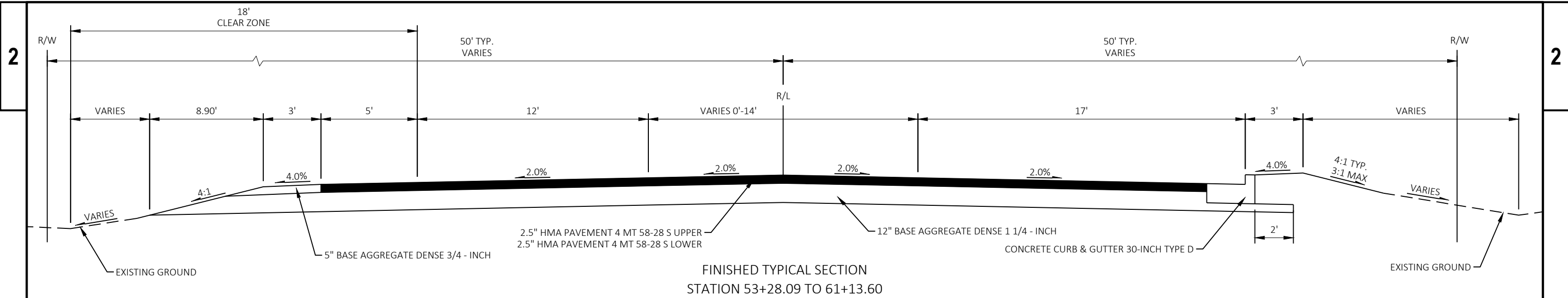


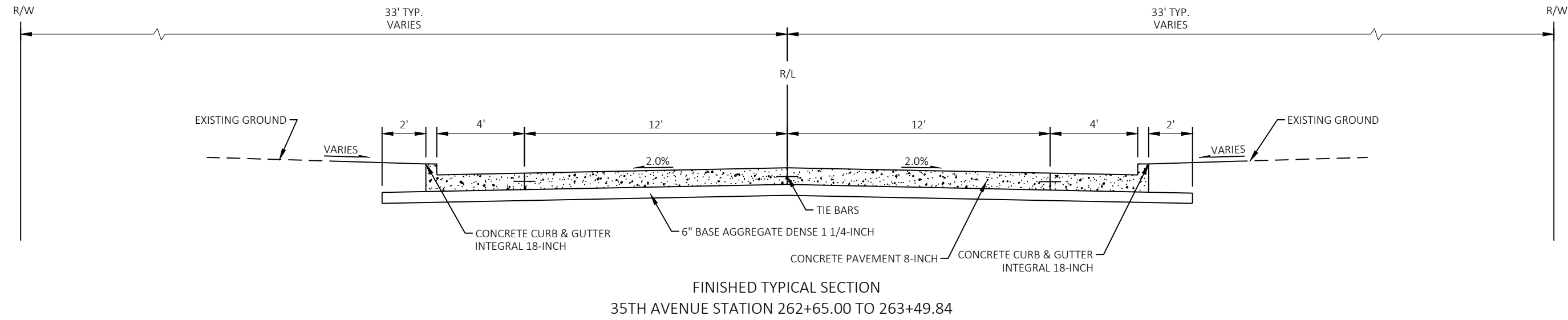
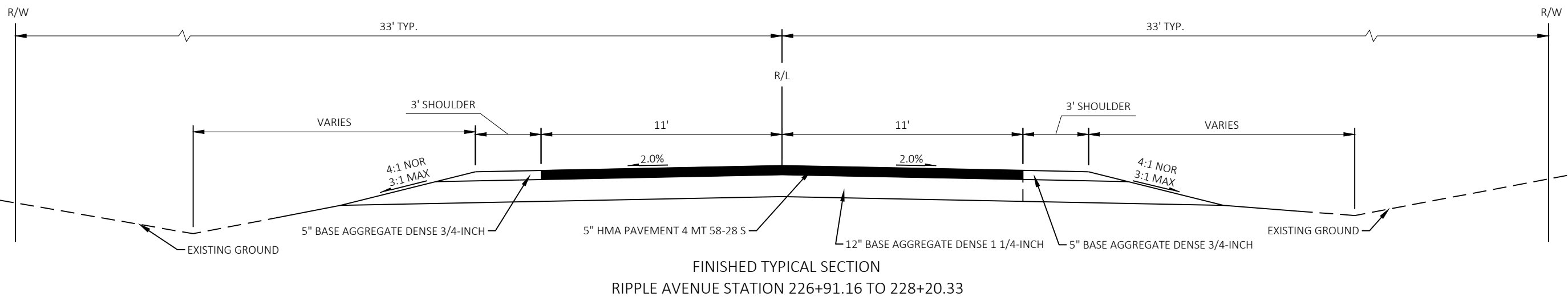
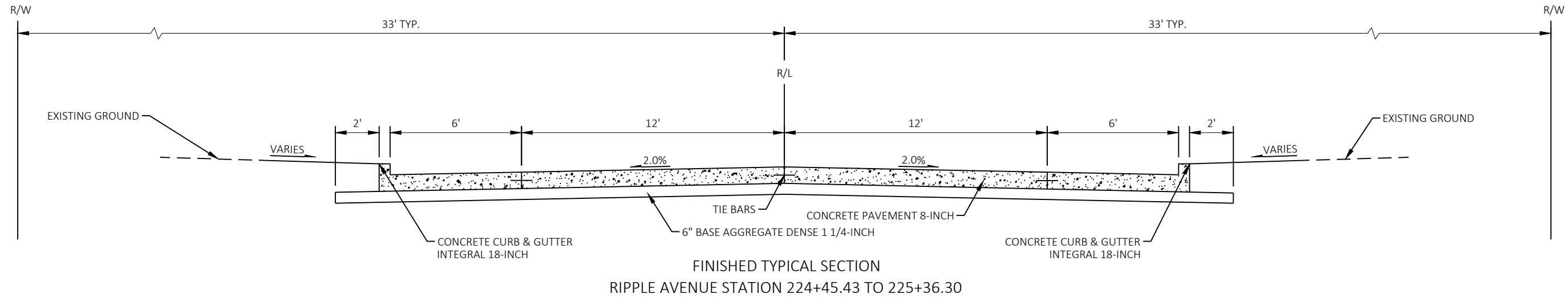
EXISTING TYPICAL SECTION  
 RIPPLE AVENUE STATION 226+45.55 TO 228+20.13

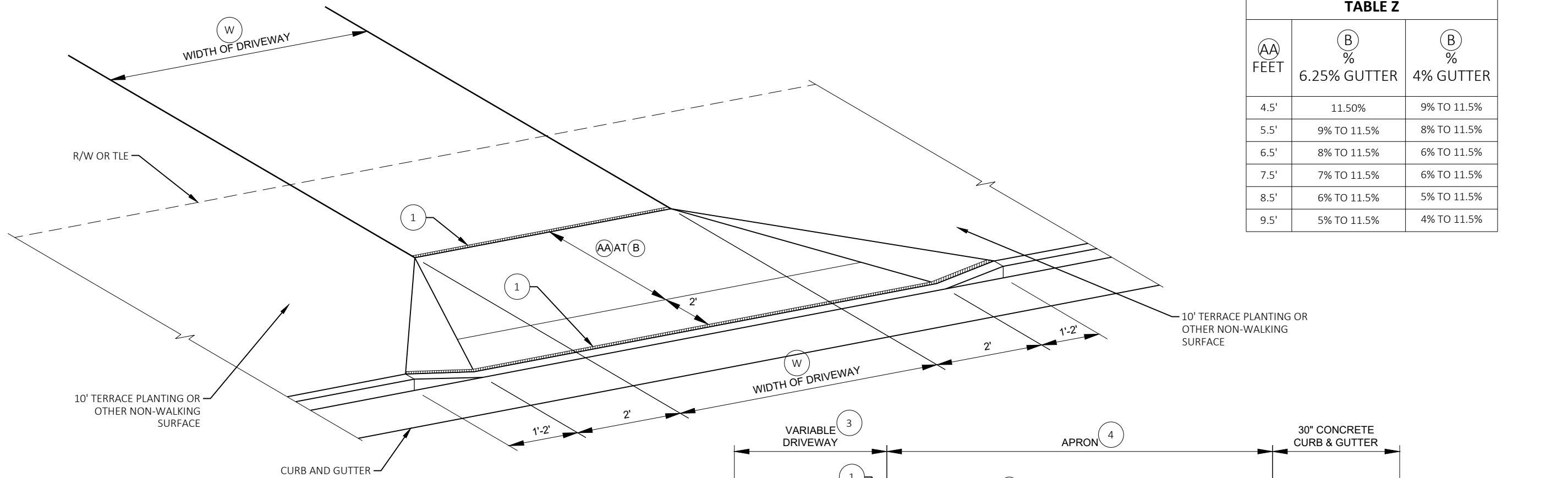


EXISTING TYPICAL SECTION  
 35TH AVENUE STATION 225+19.33 TO 226+63.74

PROJECT NO: 4636-05-72	HWY: CTH I	COUNTY: WINNEBAGO	TYPICAL SECTIONS	SHEET	E
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(AA) FEET	(B) % 6.25% GUTTER	(B) % 4% GUTTER
4.5'	11.50%	9% TO 11.5%
5.5'	9% TO 11.5%	8% TO 11.5%
6.5'	8% TO 11.5%	6% TO 11.5%
7.5'	7% TO 11.5%	6% TO 11.5%
8.5'	6% TO 11.5%	5% TO 11.5%
9.5'	5% TO 11.5%	4% TO 11.5%

**GENERAL NOTES**

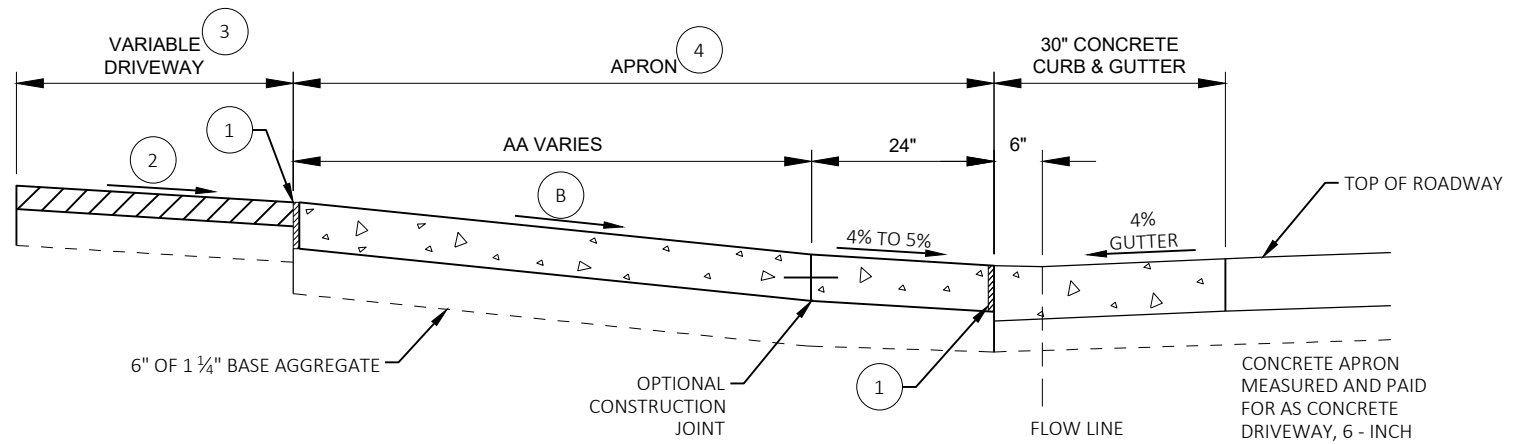
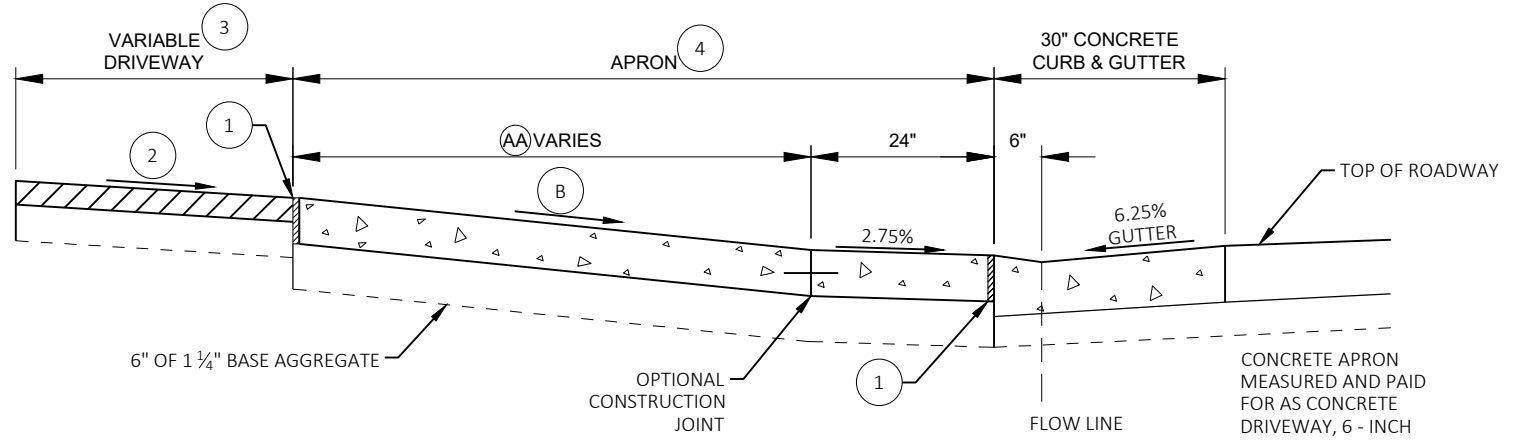
PROVIDE CONSTRUCTION JOINTS ALONG THE CENTER OF THE CONCRETE FOR DRIVEWAYS UNDER 20 FEET IN WIDTH AND AT THE THIRD POINTS OVER 20 FEET IN WIDTH.

(W) IS SHOWN ON PLAN AND PROFILE SHEETS

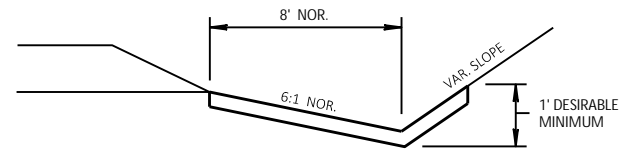
OFFSETS, ELEVATIONS, AND PERCENT GRADE ARE SHOWN ON THE CROSS SECTIONS.

- 1 1/2" EXPANSION JOINT FILLER.
- 2 DRIVEWAY SLOPES: DESIRABLE MAXIMUM  
10.5% UP AWAY FROM SIDEWALK (SAG)  
8.5% DOWN AWAY FROM SIDEWALK (CREST)  
ABSOLUTE MAXIMUM 15% FOR BOTH CREST AND SAG
- 3 DRIVEWAY TYPES  
6-INCH CONCRETE DRIVEWAY PAVEMENT OVER 6-INCH BASE AGGREGATE  
2-INCH TO 3-INCH ASPHALTIC SURFACE OVER 6-INCH BASE AGGREGATE  
6-INCH BASE AGGREGATE (MAY BE INCREASED FOR CLAY SUBGRADES)
- 4 APRON SURFACE MATERIAL TO MATCH THE DRIVEWAY.  
7-INCH CONCRETE APRON  
3-INCH ASPHALTIC SURFACE APRON  
4-INCH 1 1/4" BASE AGGREGATE APRON

(W) :12' MIN. - 24' MAX. RESIDENTIAL AND NON-COMMERCIAL (PE & FE)  
16' MIN. - 35' MAC. COMMERCIAL (CE)





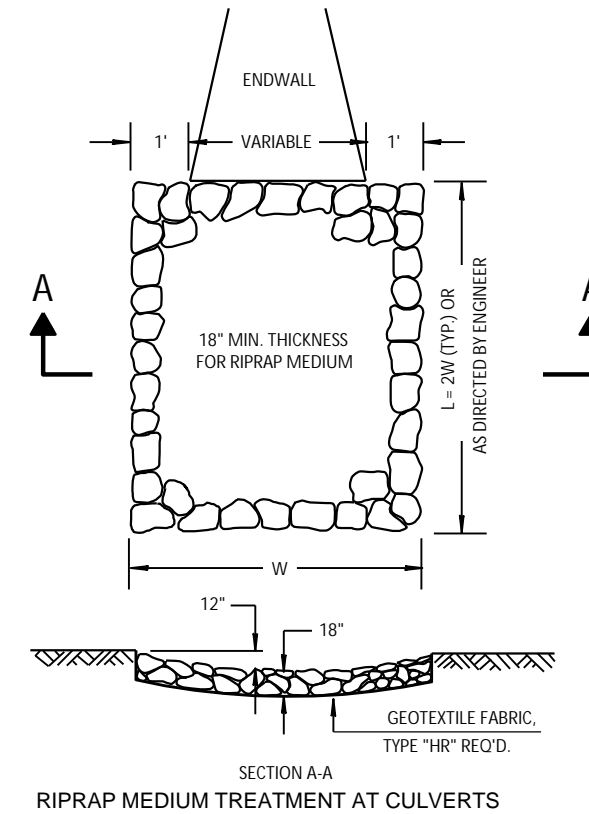


**EROSION MAT DETAIL FOR DITCHES**

**RUNOFF COEFFICIENT TABLE**

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

TOTAL PROJECT AREA = 33.3 ACRES  
 TOTAL AREA EXPECTED TO BE DISTURBED BY CONSTRUCTION ACTIVITIES = 2.9 ACRES



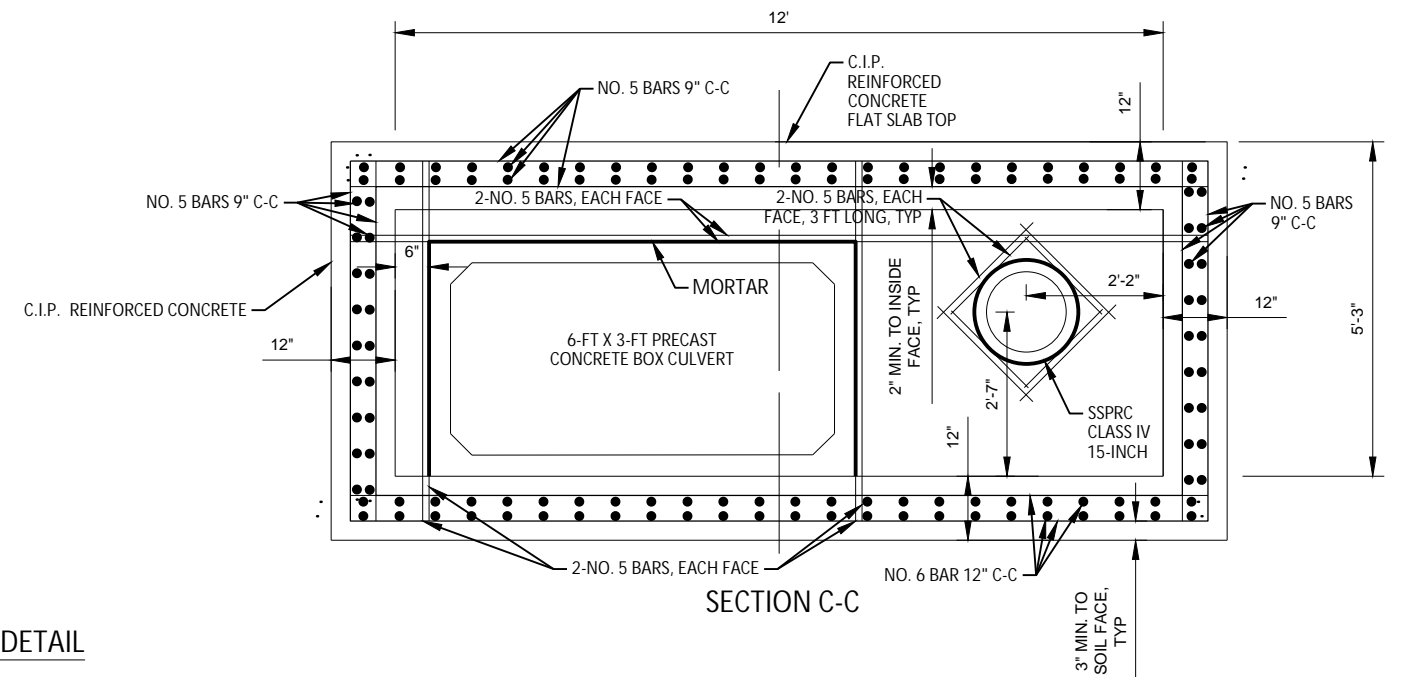
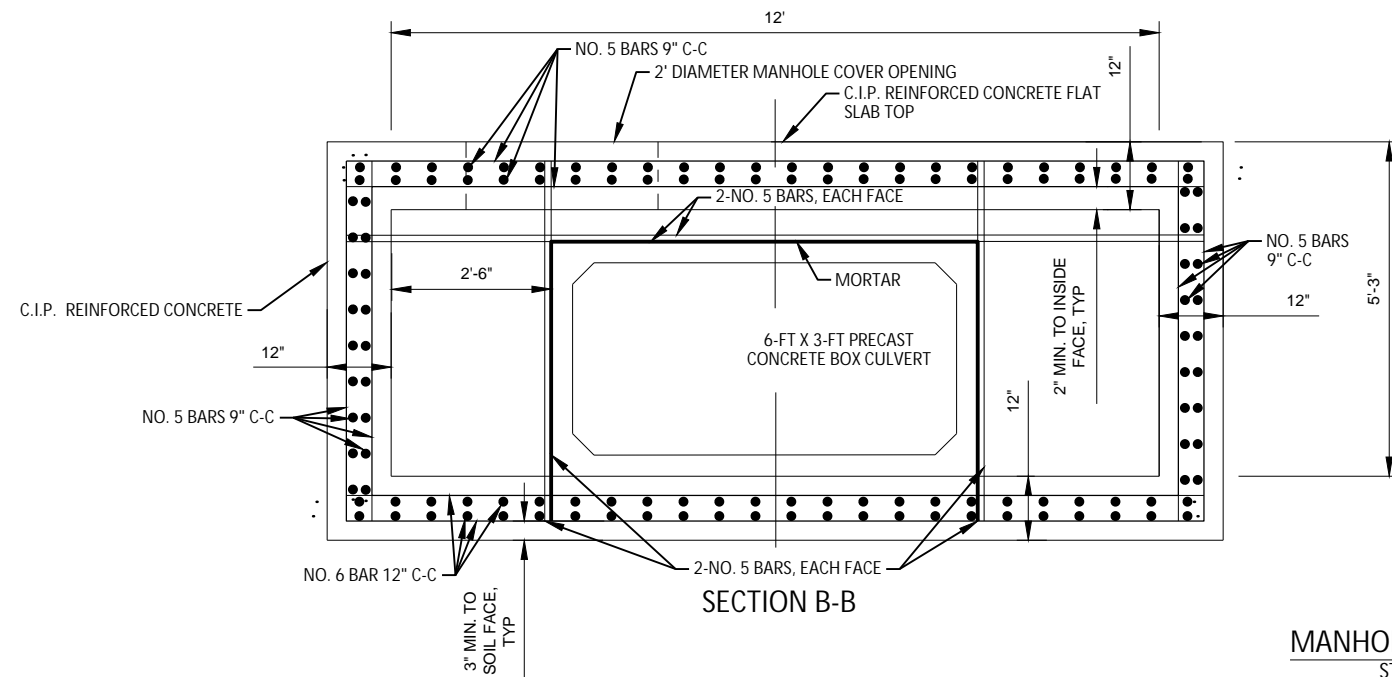
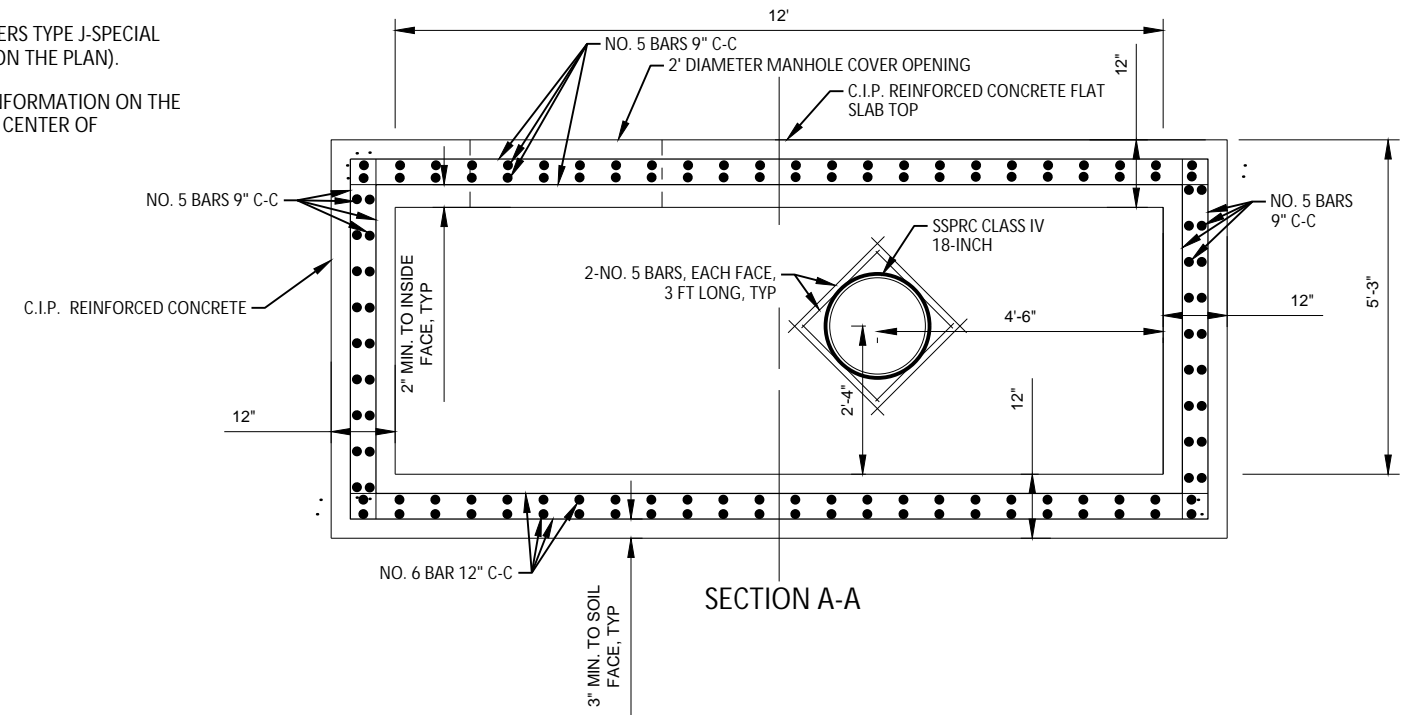
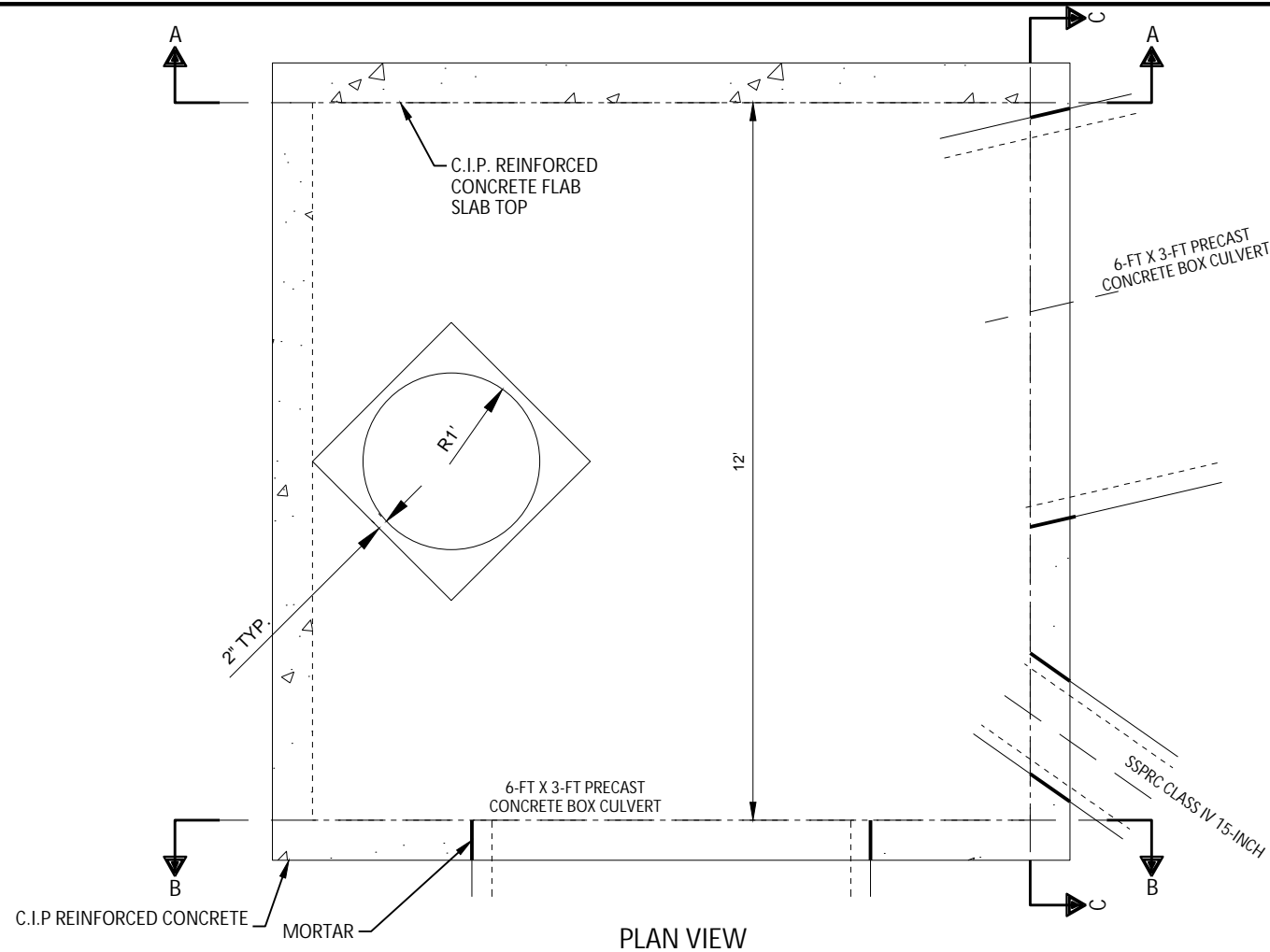
**SECTION A-A  
 RIPRAP MEDIUM TREATMENT AT CULVERTS**

GENERAL NOTES  
 IF CONTRACTOR CHOOSES TO USE PRECAST  
 MANHOLES PROVIDE REINFORCING STEEL IN  
 ACCORDANCE WITH AASHTO M199

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

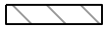


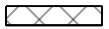
INSTALL MANHOLE COVERS TYPE J-SPECIAL  
 (LOCATION AS SHOWN ON THE PLAN).

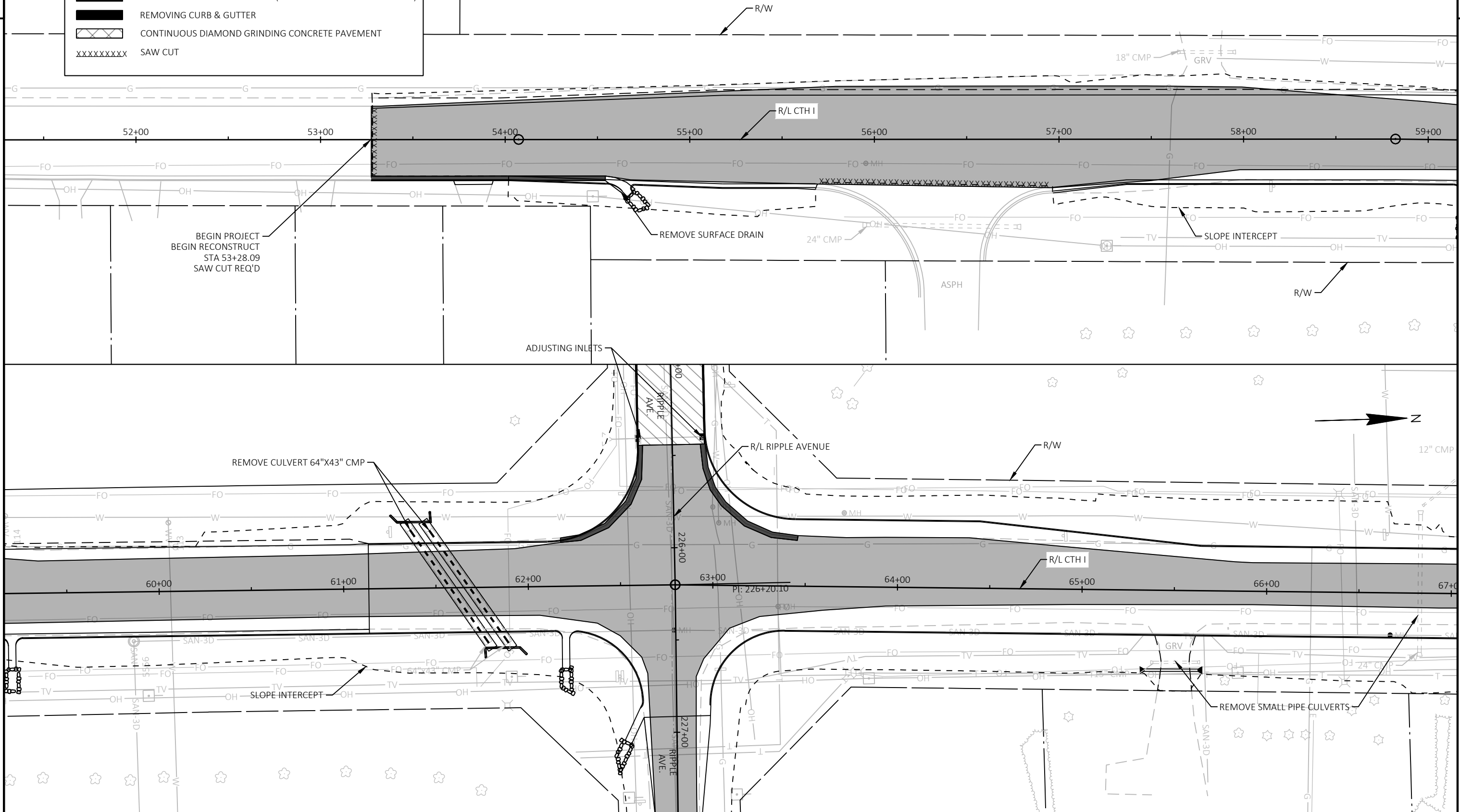
STATION AND OFFSET INFORMATION ON THE  
 PLAN IS SHOWN TO THE CENTER OF  
 STRUCTURE.



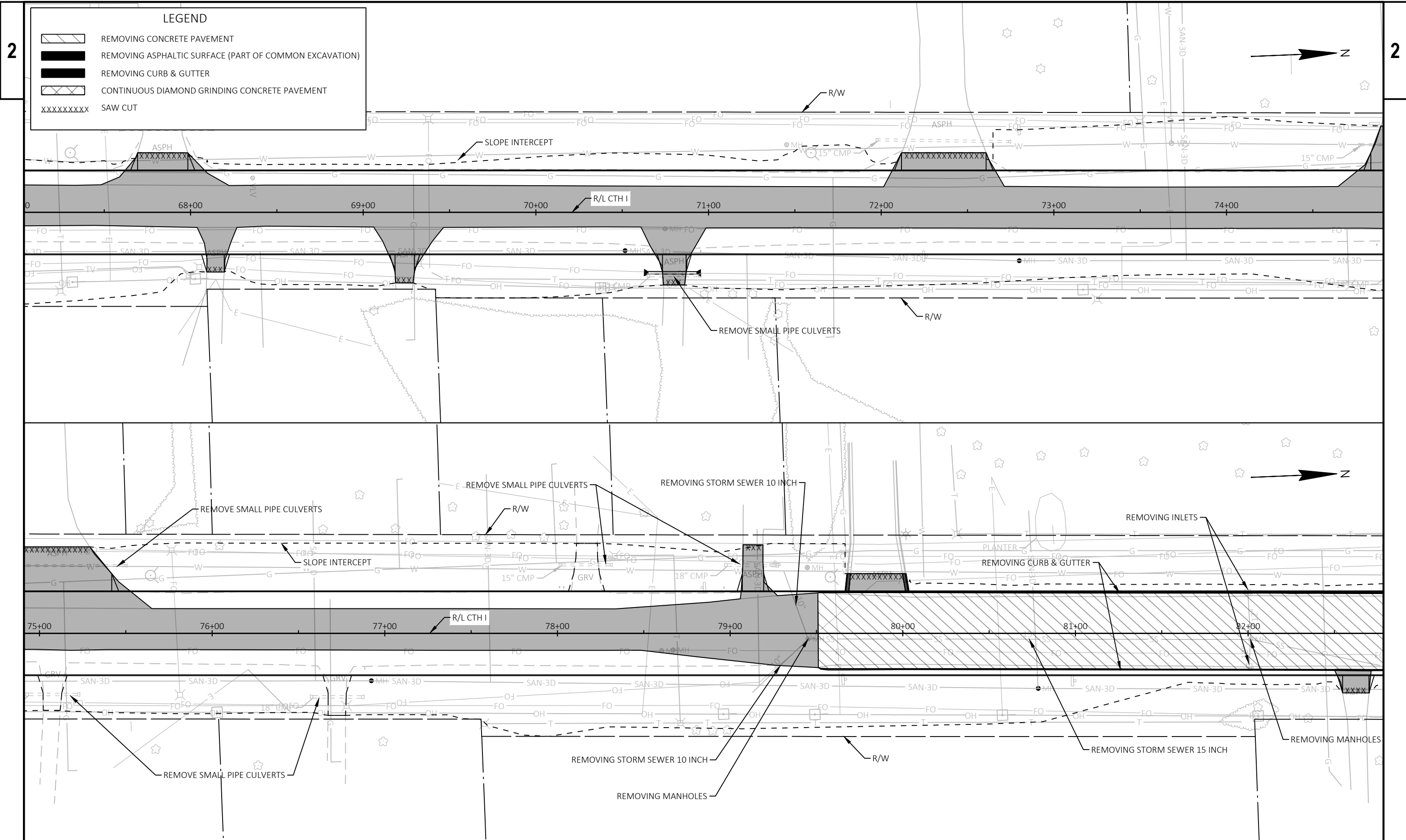
MANHOLE 12X12 DETAIL  
 STA 84+00, RT

**LEGEND**

-  REMOVING CONCRETE PAVEMENT
-  REMOVING ASPHALTIC SURFACE (PART OF COMMON EXCAVATION)
-  REMOVING CURB & GUTTER
-  CONTINUOUS DIAMOND GRINDING CONCRETE PAVEMENT
- XXXXXXXXXX SAW CUT



PROJECT NO: 4636-05-72	HWY: CTH I	COUNTY: WINNEBAGO	REMOVALS	SHEET	<b>E</b>
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PROJECT NO: 4636-05-72

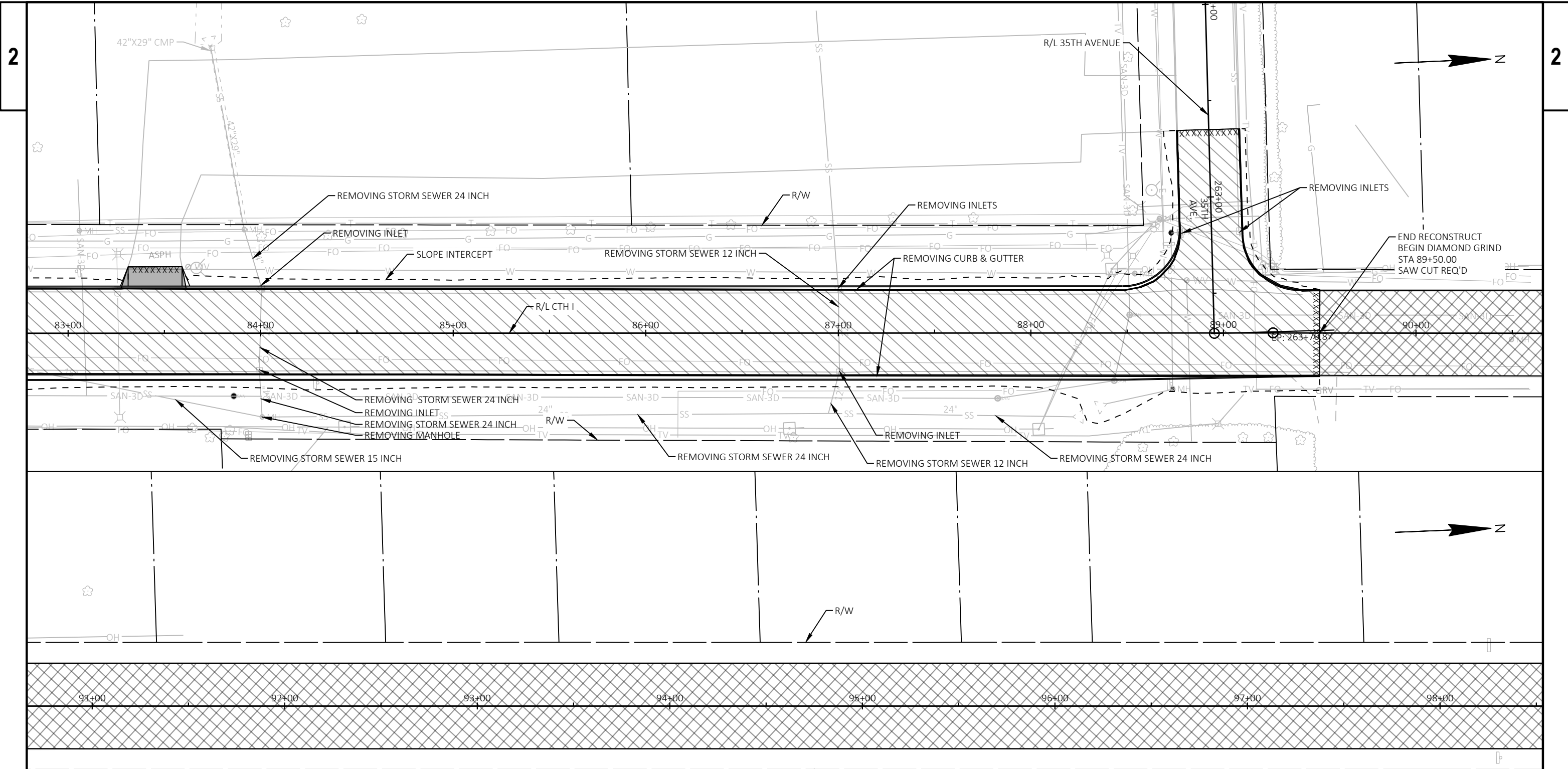
HWY: CTH I

COUNTY: WINNEBAGO

REMOVALS

SHEET

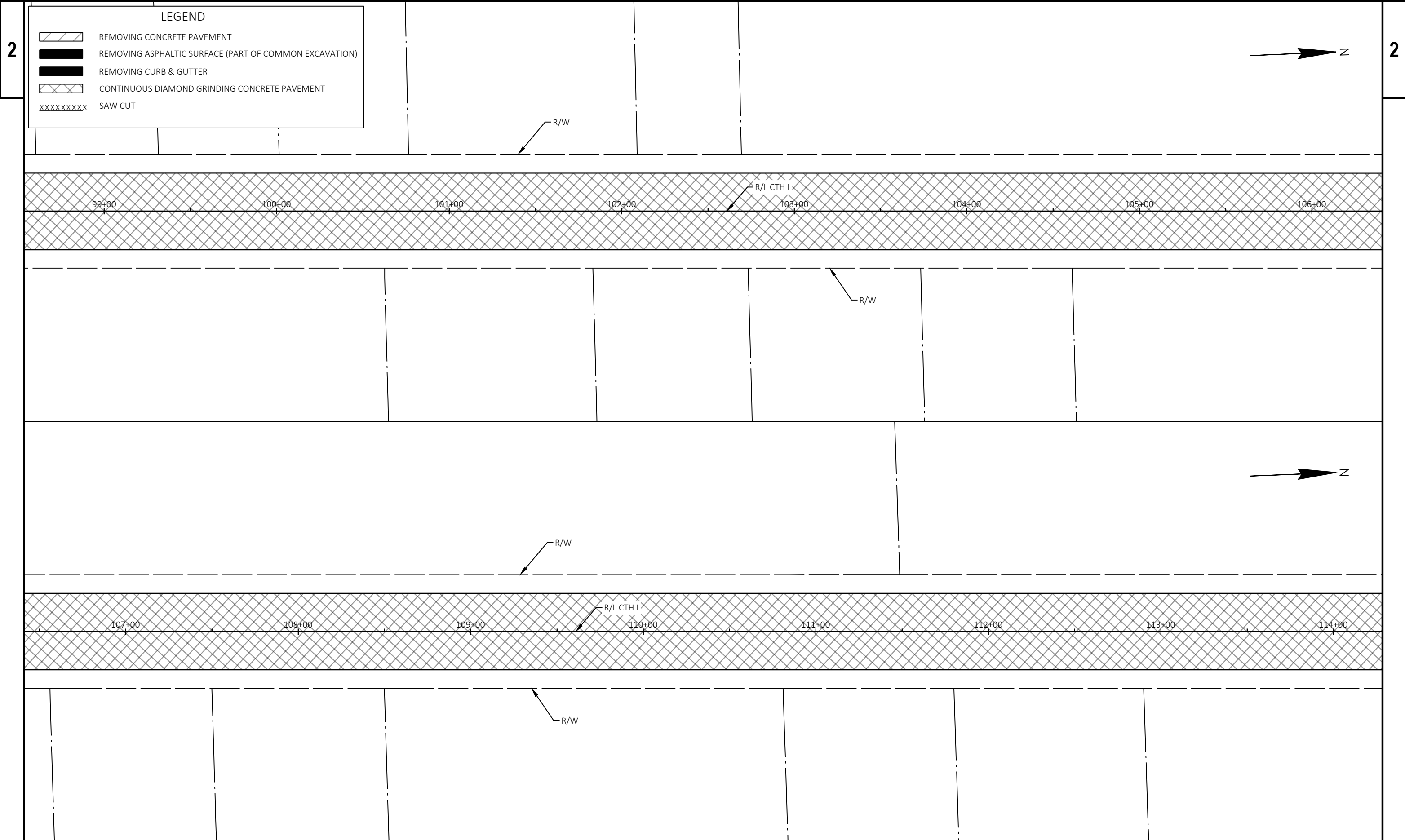
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**LEGEND**

	REMOVING CONCRETE PAVEMENT
	REMOVING ASPHALTIC SURFACE (PART OF COMMON EXCAVATION)
	REMOVING CURB & GUTTER
	CONTINUOUS DIAMOND GRINDING CONCRETE PAVEMENT
	SAW CUT

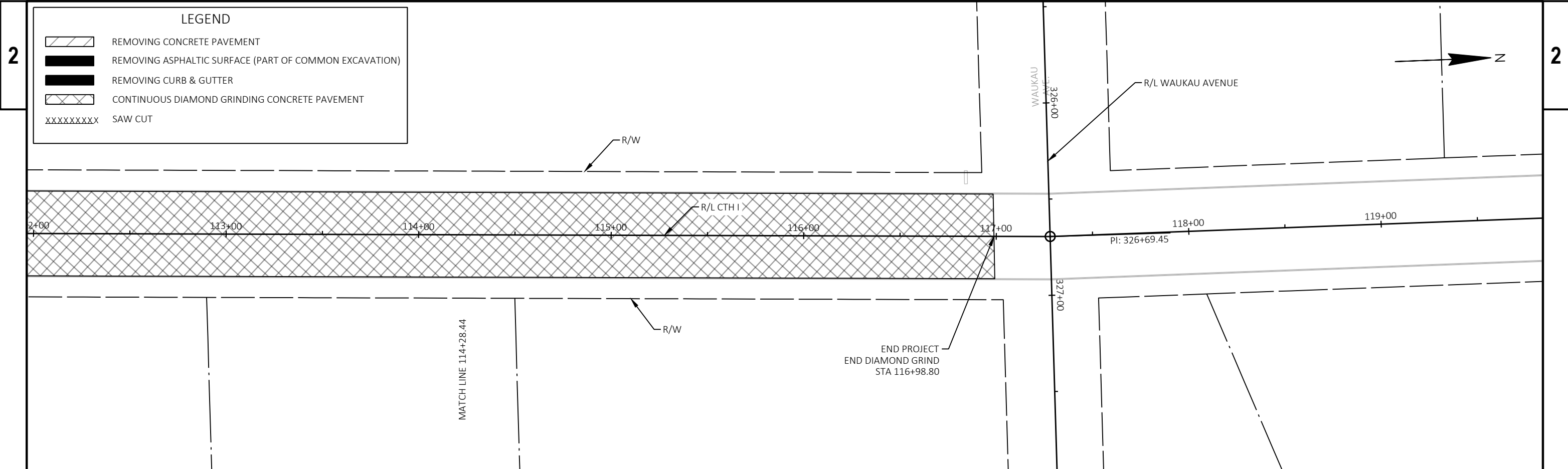
PROJECT NO: 4636-05-72	HWY: CTH I	COUNTY: WINNEBAGO	REMOVALS	SHEET	<b>E</b>
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**LEGEND**






- REMOVING CONCRETE PAVEMENT
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- REMOVING CURB & GUTTER
- CONTINUOUS DIAMOND GRINDING CONCRETE PAVEMENT
- XXXXXXXXX SAW CUT

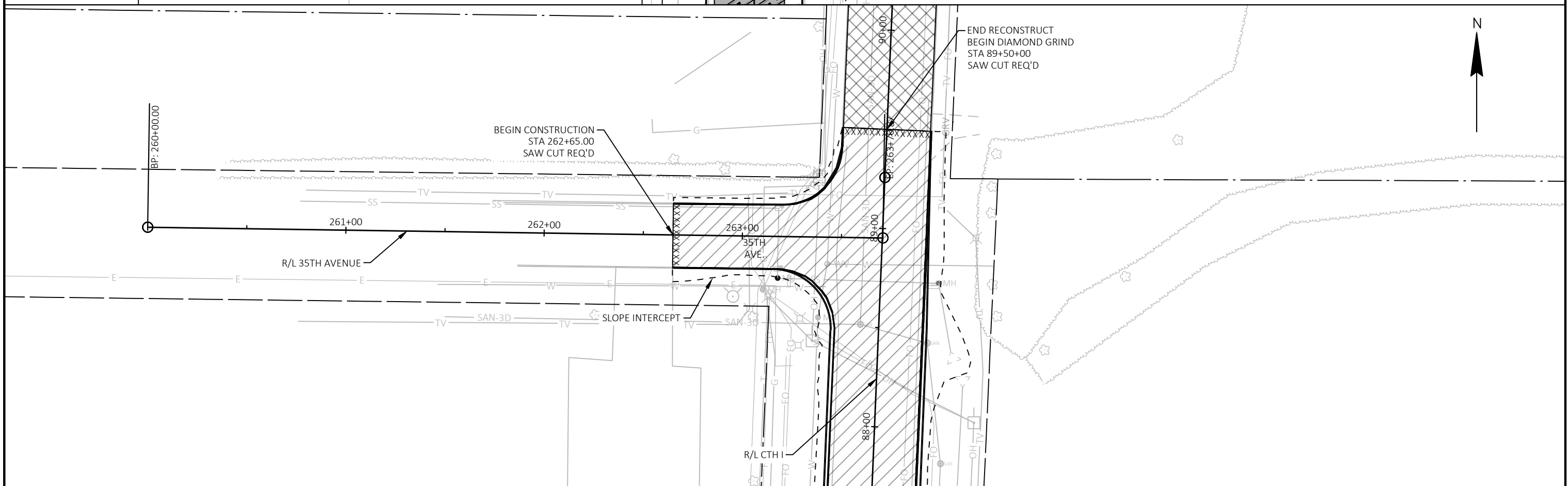
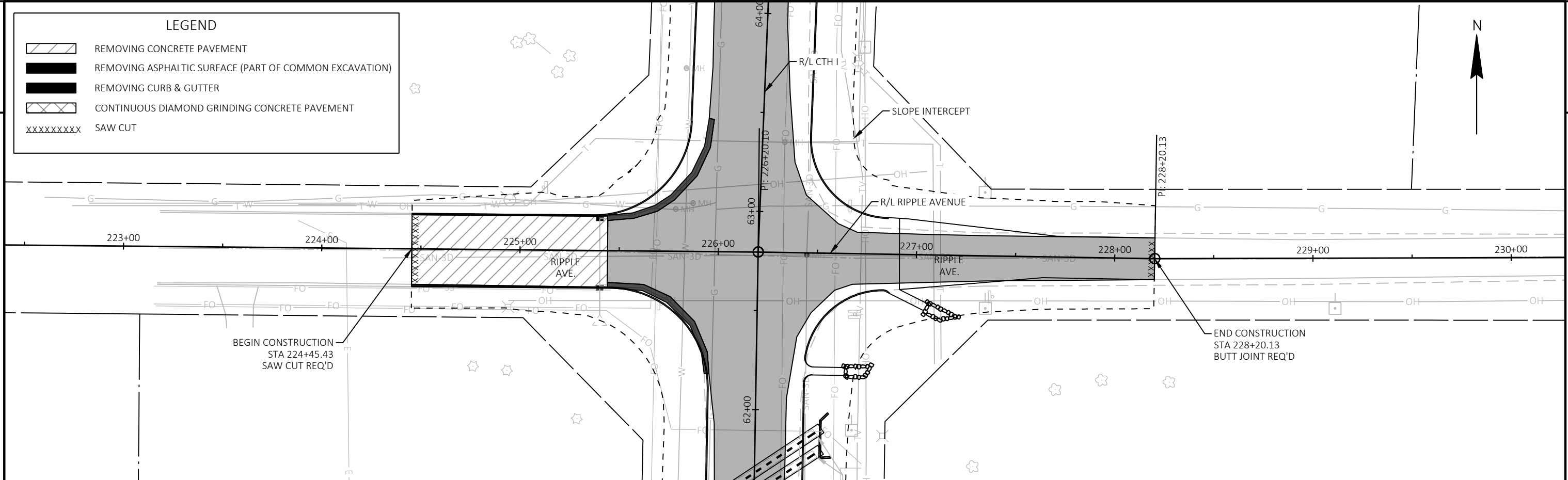
PROJECT NO: 4636-05-72	HWY: CTH I	COUNTY: WINNEBAGO	REMOVALS	SHEET	<b>E</b>
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PROJECT NO: 4636-05-72	HWY: CTH I	COUNTY: WINNEBAGO	REMOVALS	SHEET	<b>E</b>
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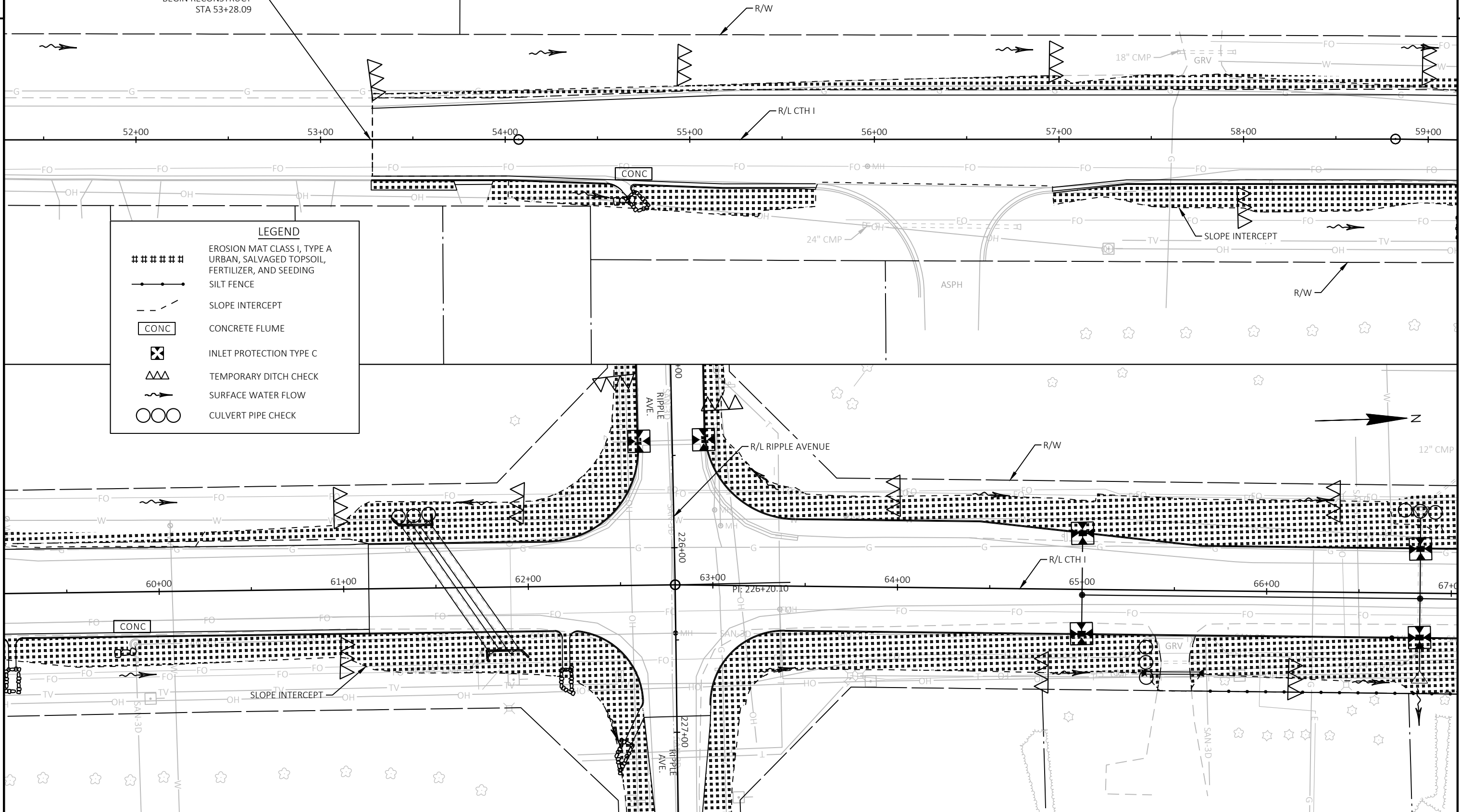
**LEGEND**

-  REMOVING CONCRETE PAVEMENT
-  REMOVING ASPHALTIC SURFACE (PART OF COMMON EXCAVATION)
-  REMOVING CURB & GUTTER
-  CONTINUOUS DIAMOND GRINDING CONCRETE PAVEMENT
-  SAW CUT

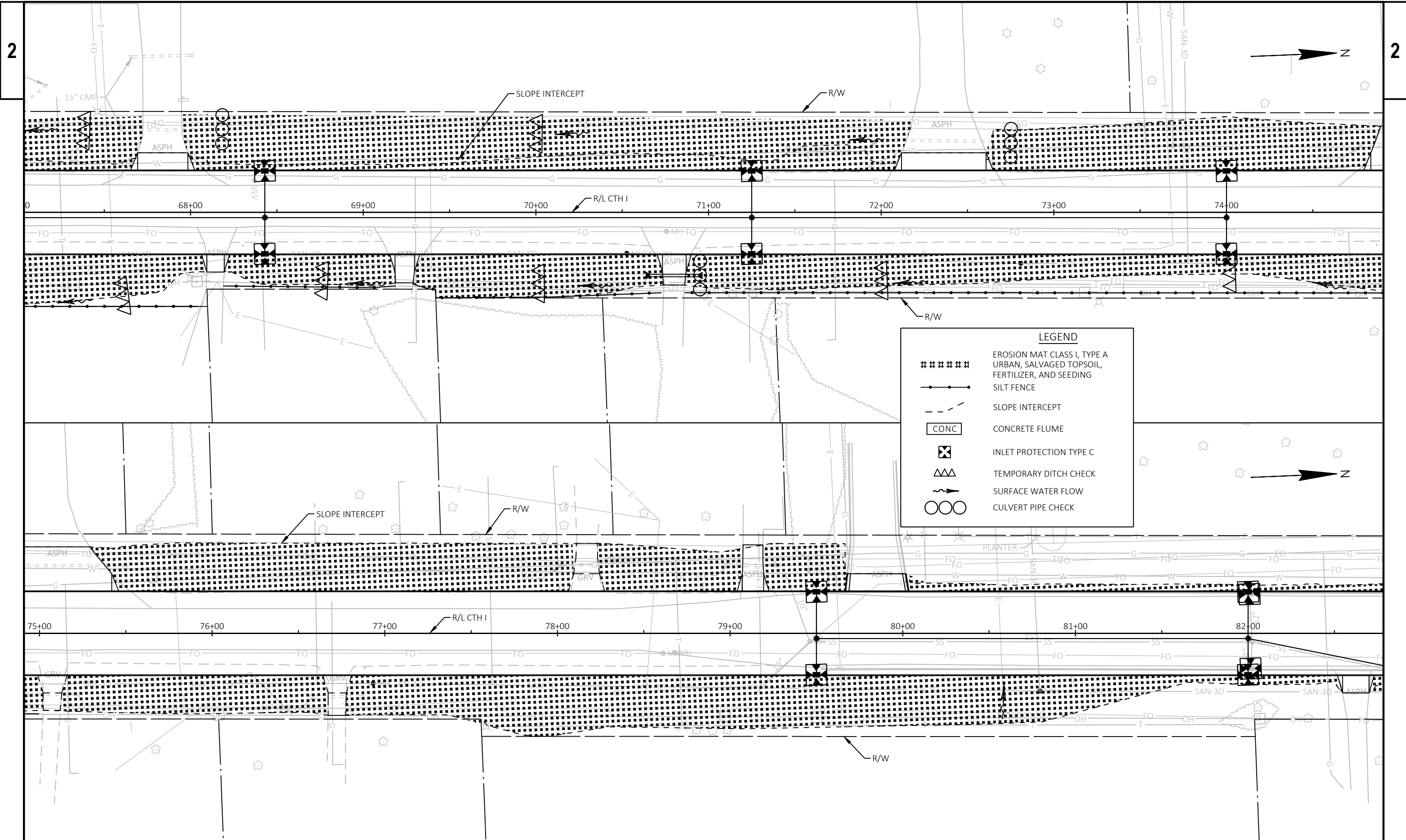




BEGIN PROJECT  
BEGIN RECONSTRUCT  
STA 53+28.09



LEGEND	
#####	EROSION MAT CLASS I, TYPE A URBAN, SALVAGED TOPSOIL, FERTILIZER, AND SEEDING
—●—●—●—	SILT FENCE
- - - - -	SLOPE INTERCEPT
CONC	CONCRETE FLUME
⊗	INLET PROTECTION TYPE C
△△△	TEMPORARY DITCH CHECK
~>	SURFACE WATER FLOW
○○○	CULVERT PIPE CHECK



PROJECT NO: 4636-05-72

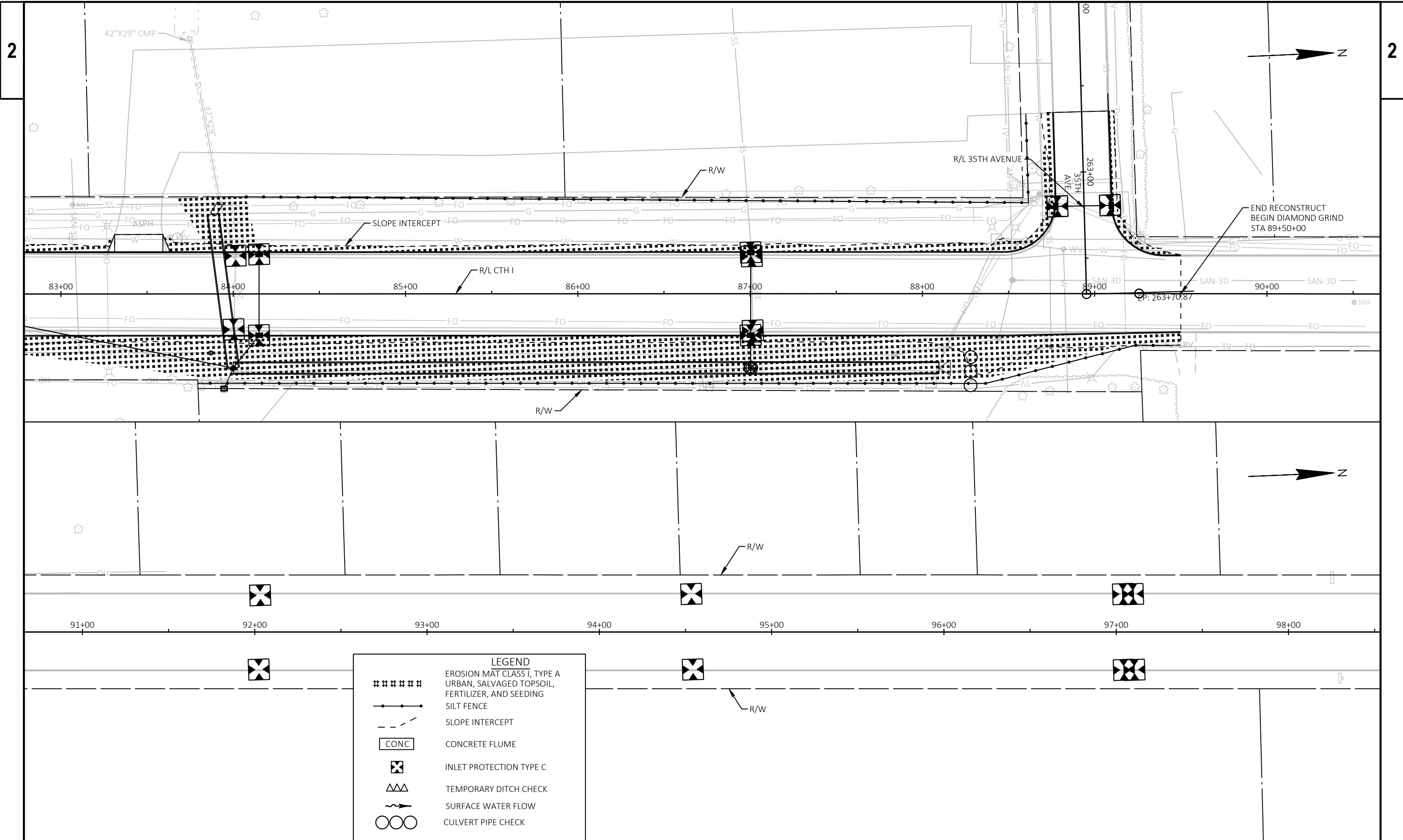
HWY: CTH I

COUNTY: WINNEBAGO

EROSION CONTROL

SHEET

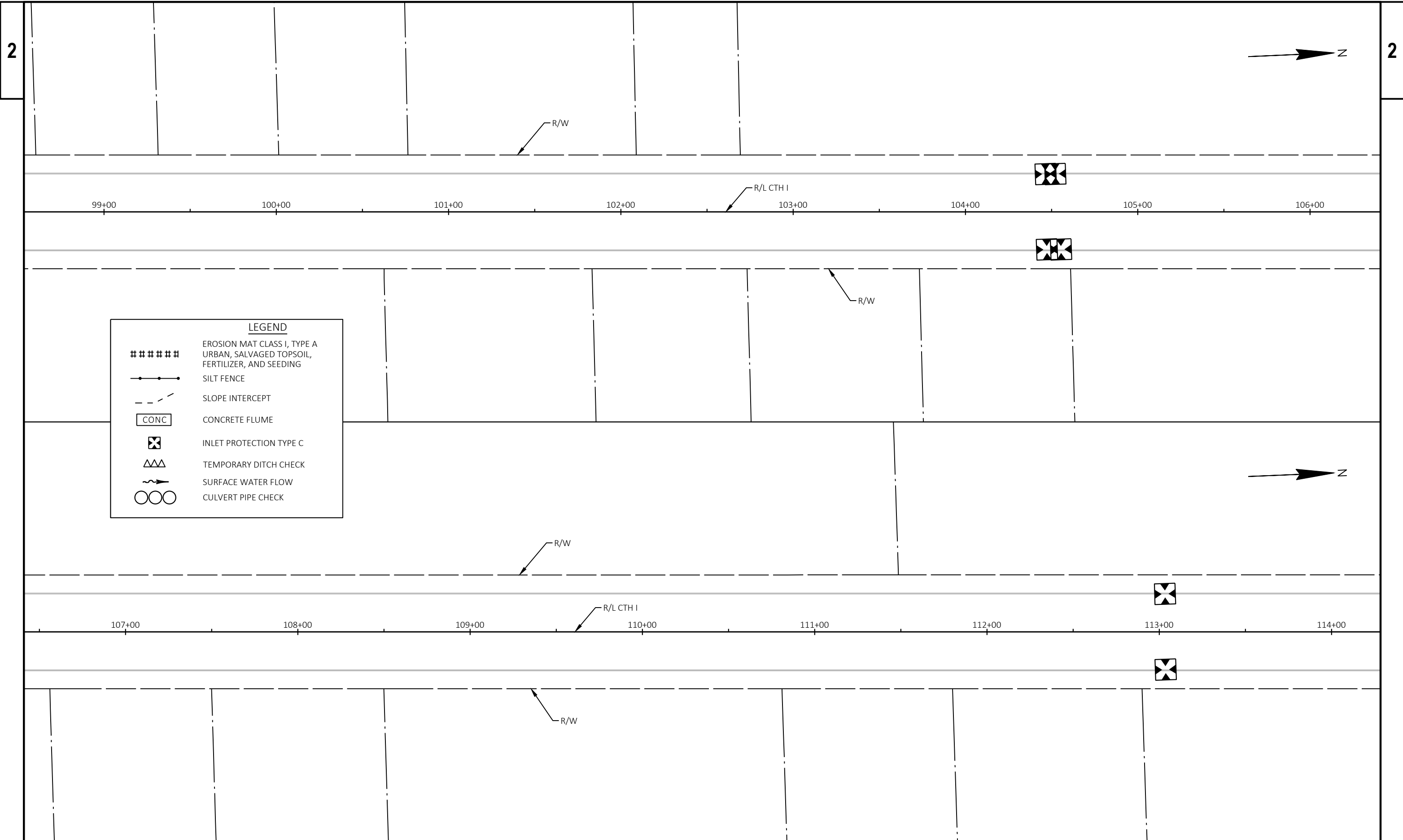
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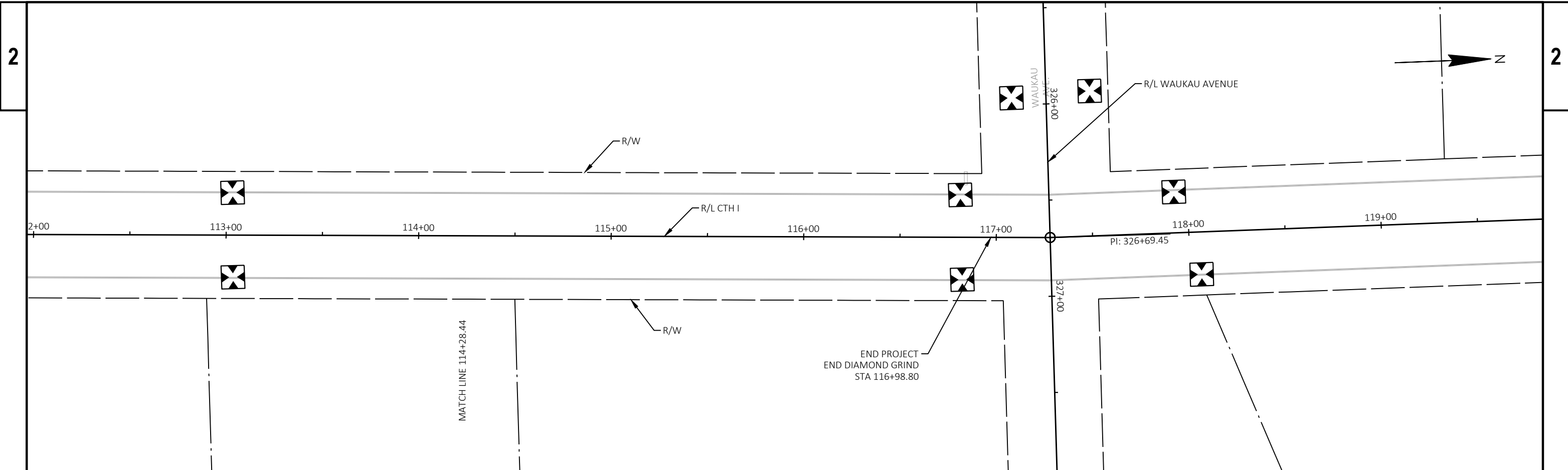
**LEGEND**

#####	EROSION MAT CLASS I, TYPE A URBAN, SALVAGED TOPSOIL, FERTILIZER, AND SEEDING
—●—	SILT FENCE
- - -	SLOPE INTERCEPT
CONC	CONCRETE FLUME
⊗	INLET PROTECTION TYPE C
△△△	TEMPORARY DITCH CHECK
~>	SURFACE WATER FLOW
○○○	CULVERT PIPE CHECK

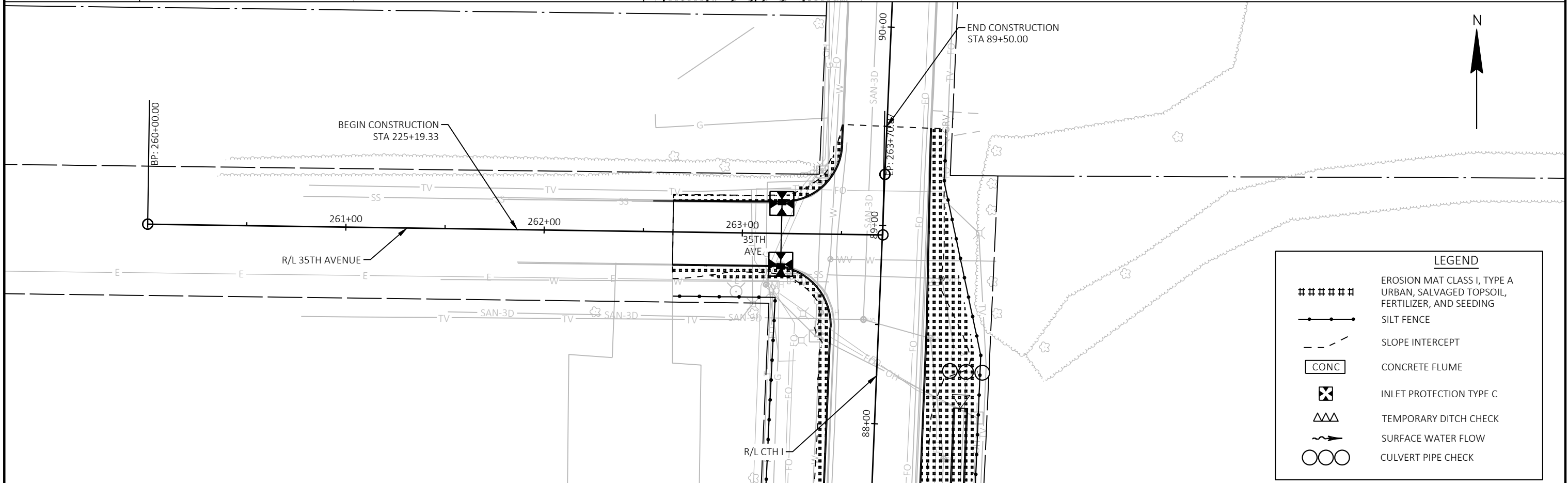
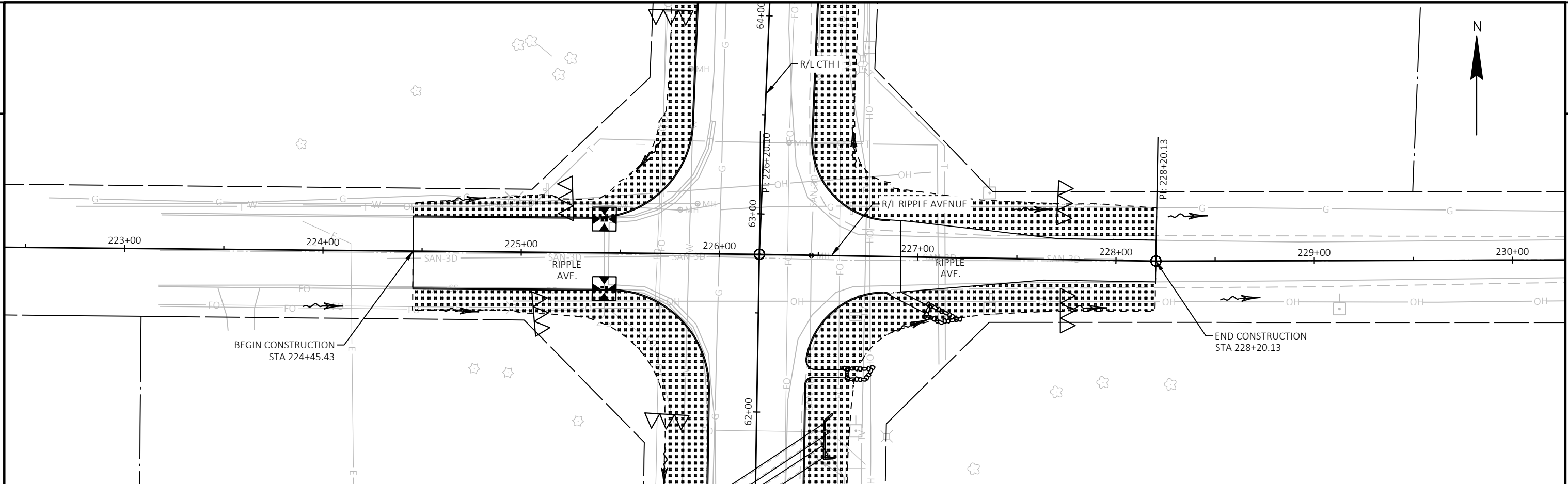
PROJECT NO: 4636-05-72	HWY: CTH 1	COUNTY: WINNEBAGO	EROSION CONTROL	SHEET	<b>E</b>
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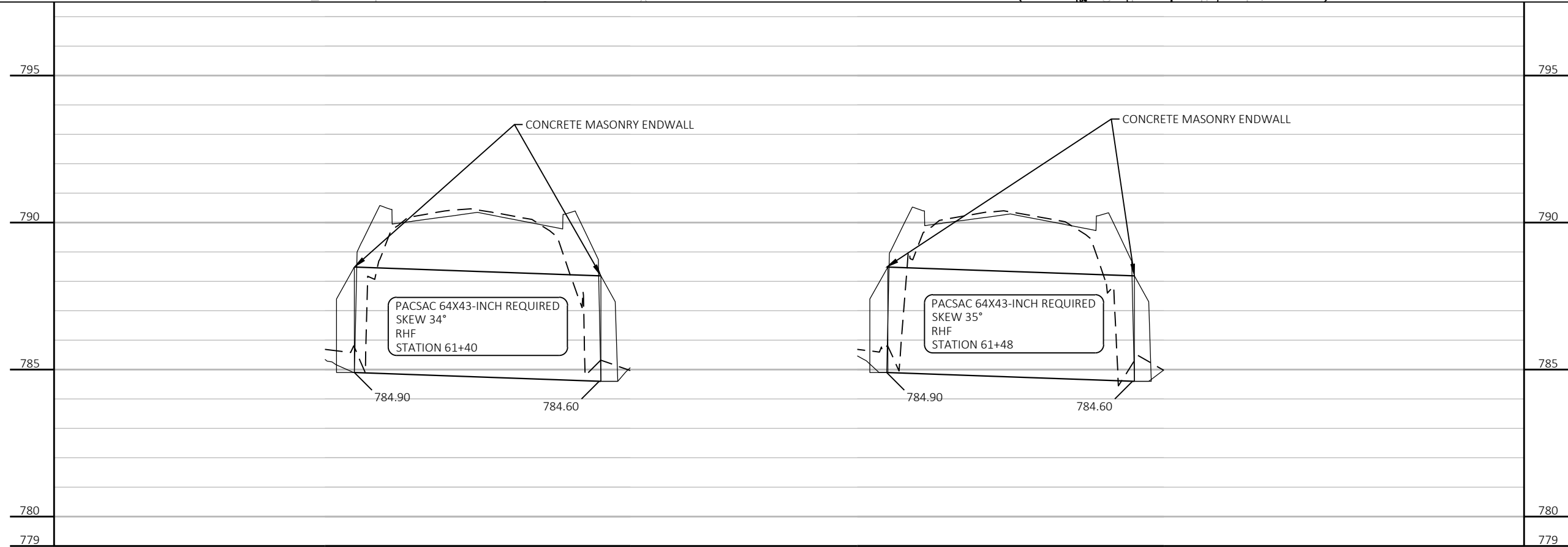
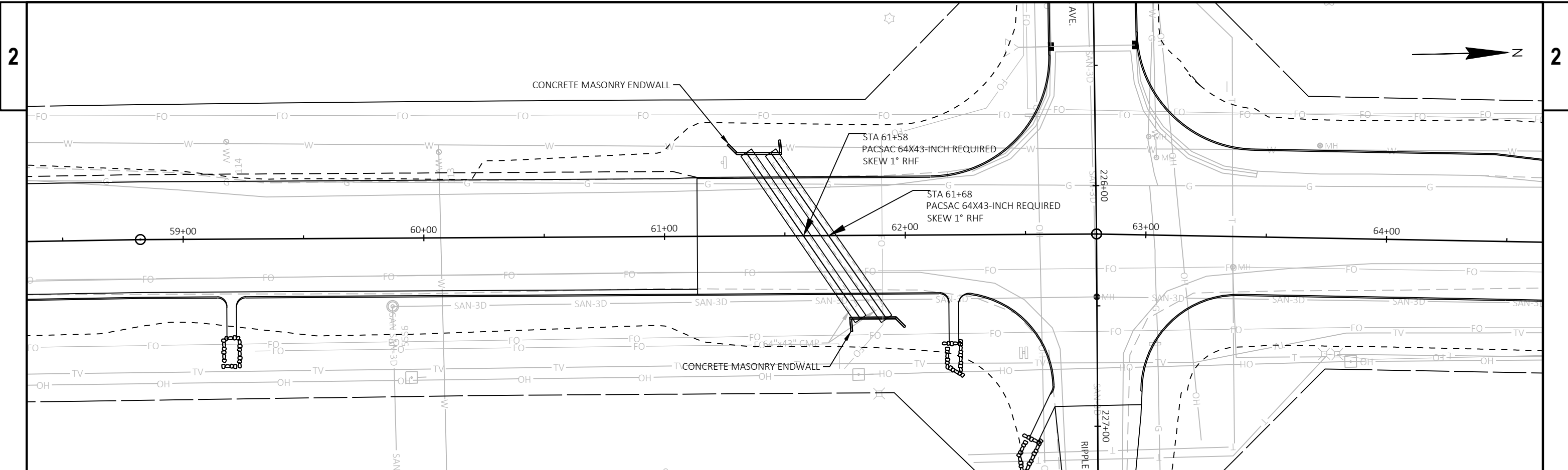
PROJECT NO: 4636-05-72      HWY: CTH I      COUNTY: WINNEBAGO      EROSION CONTROL      SHEET      E



LEGEND	
#####	EROSION MAT CLASS I, TYPE A URBAN, SALVAGED TOPSOIL, FERTILIZER, AND SEEDING
—●—	SILT FENCE
- - -	SLOPE INTERCEPT
CONC	CONCRETE FLUME
⊗	INLET PROTECTION TYPE C
△△△	TEMPORARY DITCH CHECK
~→	SURFACE WATER FLOW
○○○	CULVERT PIPE CHECK



LEGEND	
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—●—	SILT FENCE
- - -	SLOPE INTERCEPT
CONC	CONCRETE FLUME
⊗	INLET PROTECTION TYPE C
△△△	TEMPORARY DITCH CHECK
~>	SURFACE WATER FLOW
○○○	CULVERT PIPE CHECK



PROJECT NO: 4636-05-72

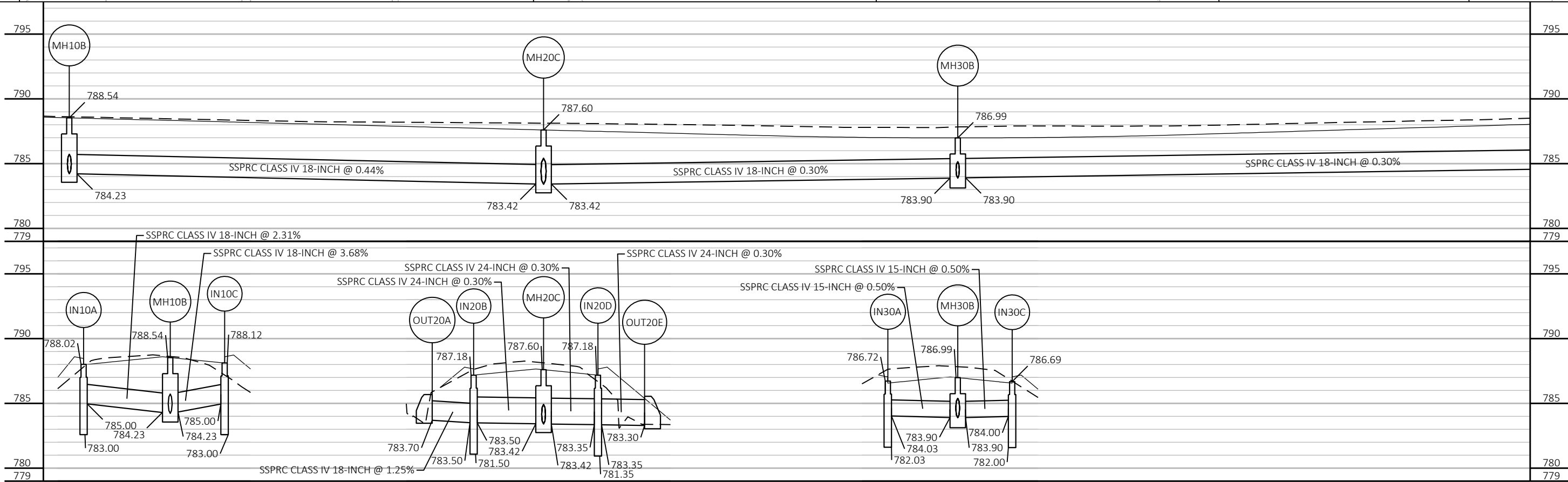
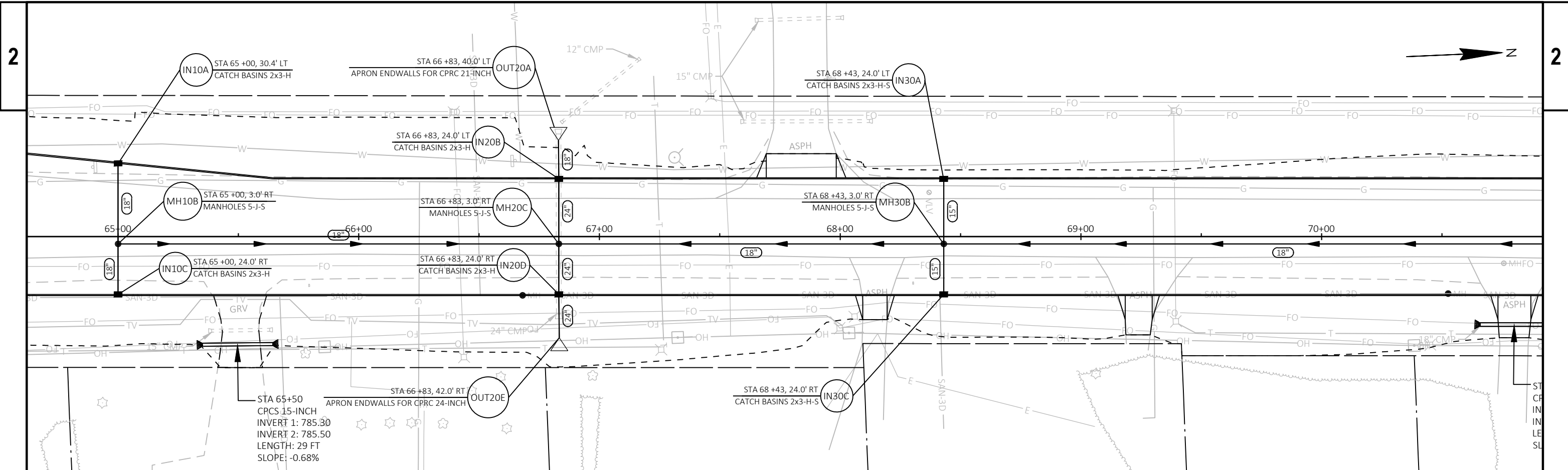
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COUNTY: WINNEBAGO

STORM SEWER

SHEET

E



PROJECT NO: 4636-05-72

HWY: CTH I

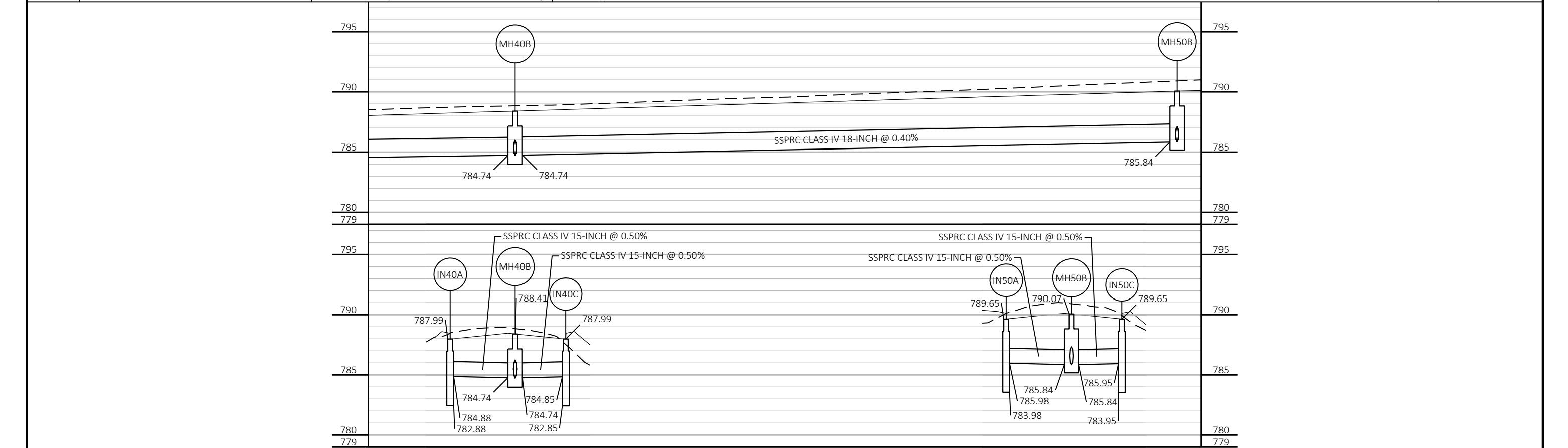
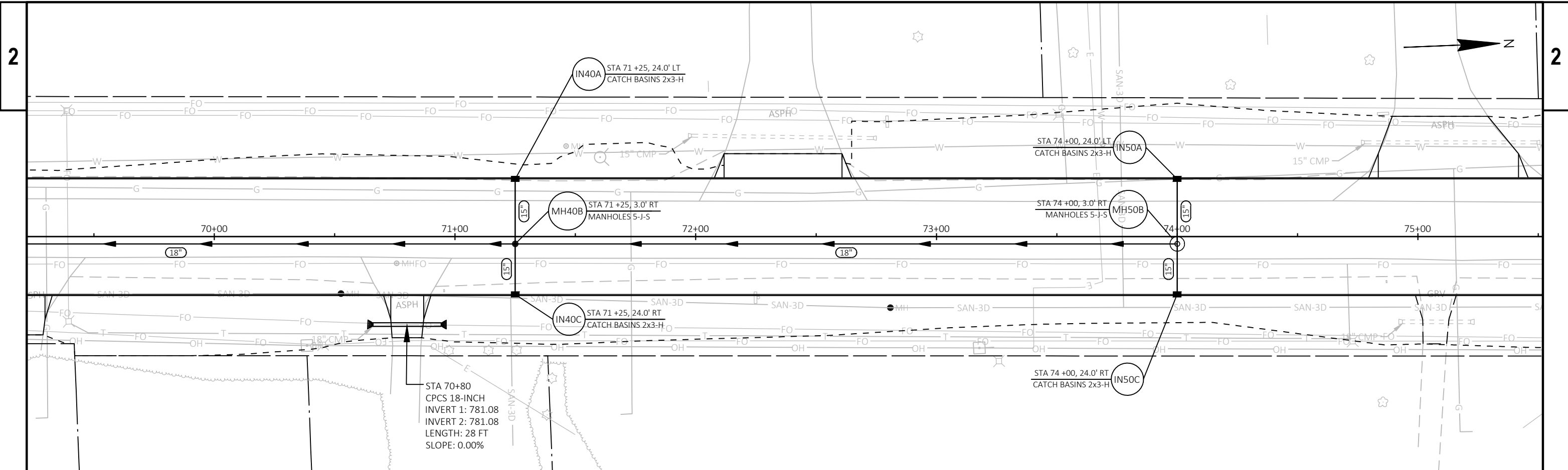
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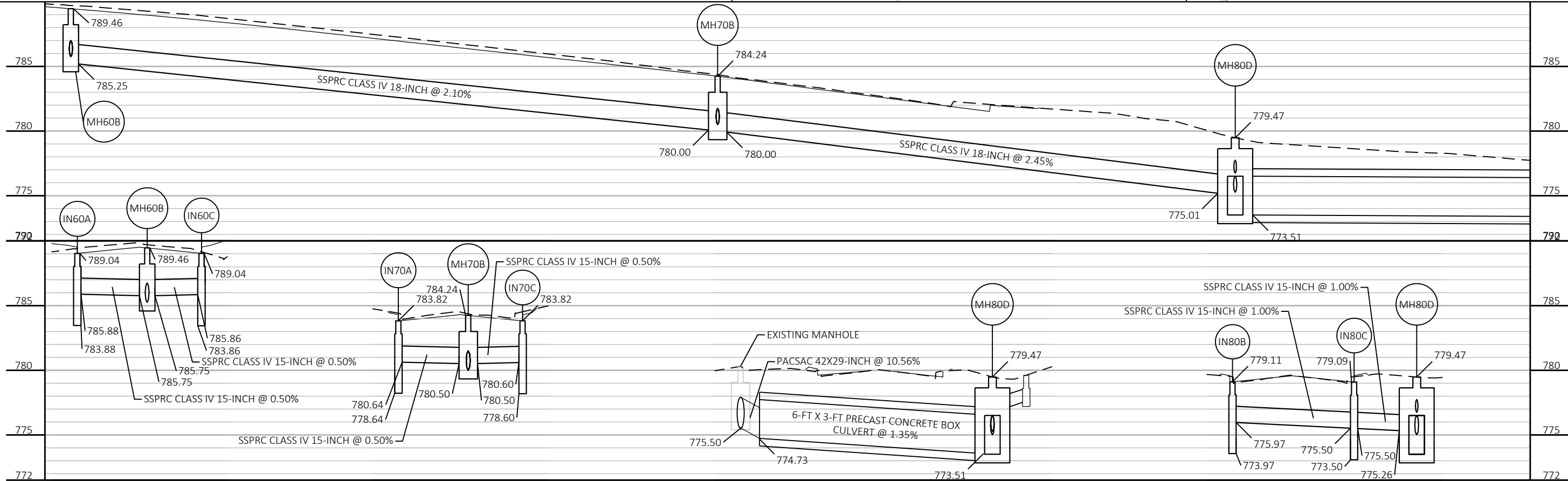
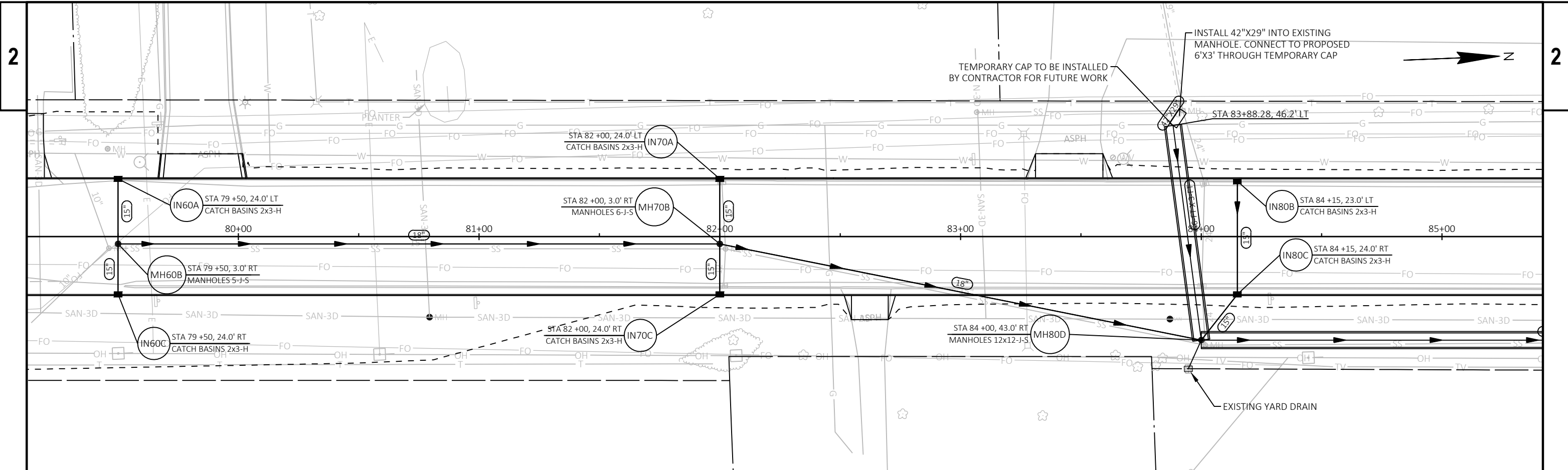
STORM SEWER

SHEET

E







PROJECT NO: 4636-05-72

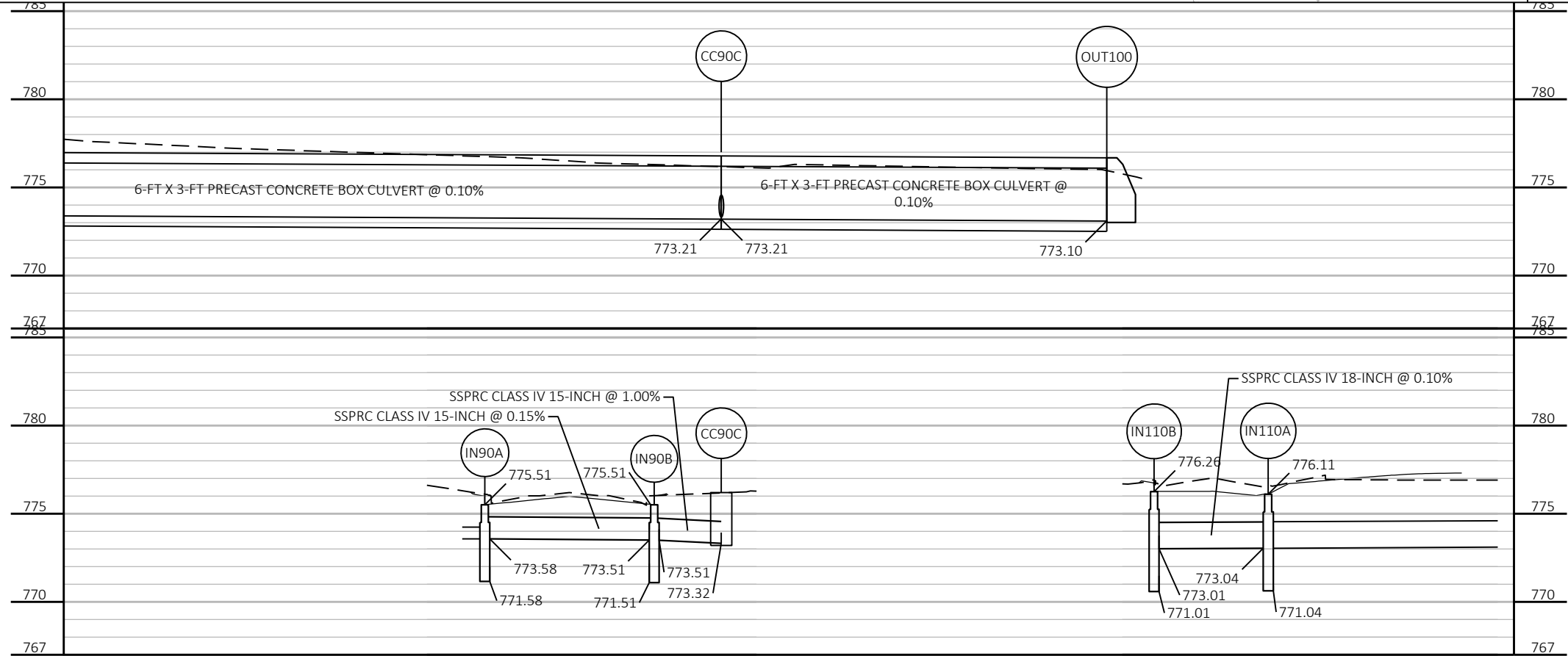
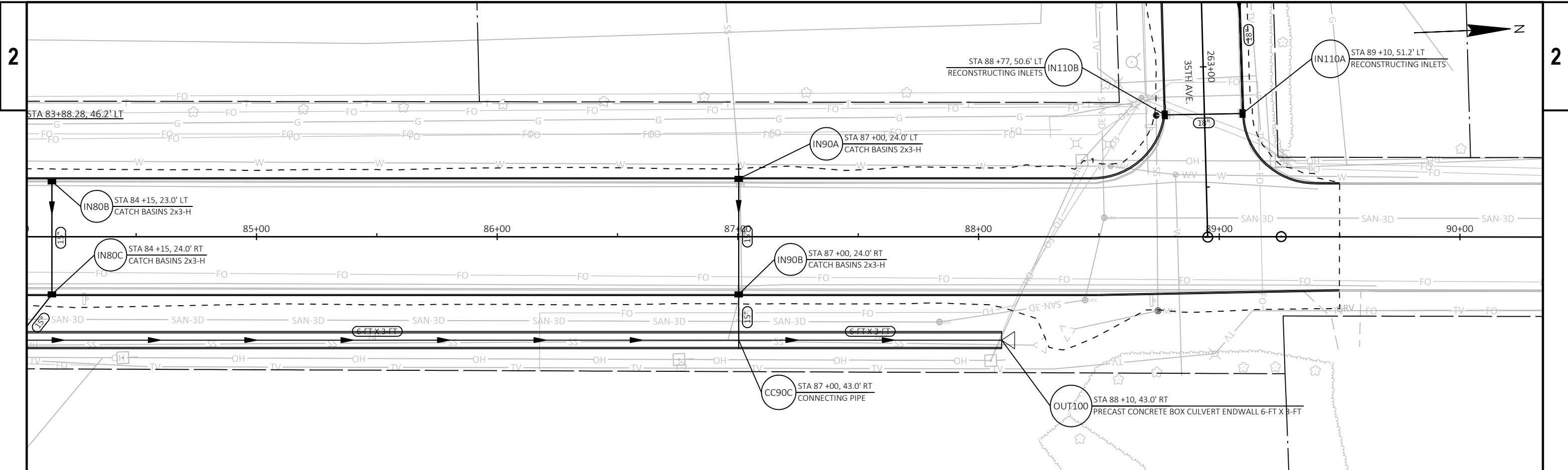
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COUNTY: WINNEBAGO

STORM SEWER

SHEET

E



PROJECT NO: 4636-05-72

HWY: CTH I

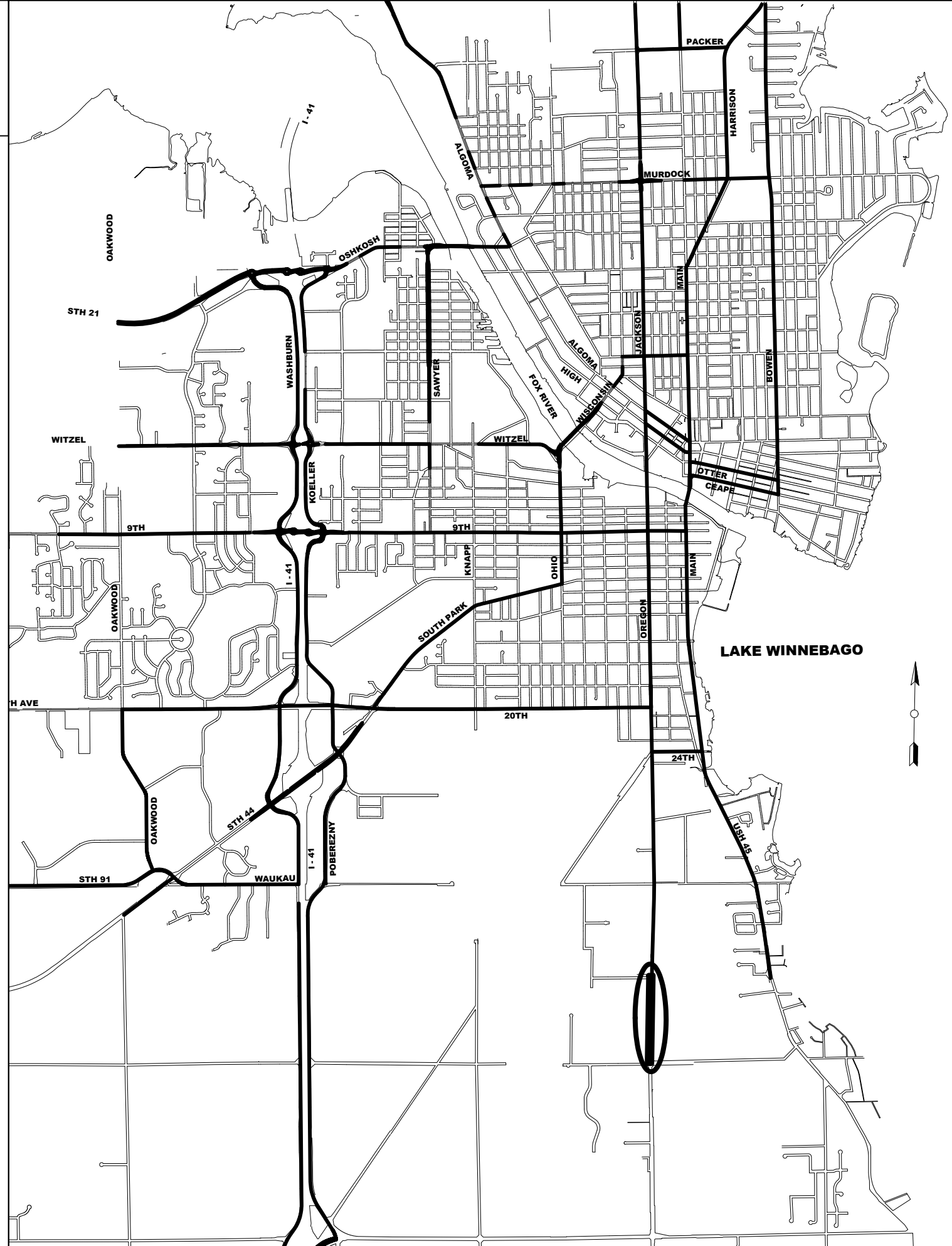
COUNTY: WINNEBAGO

STORM SEWER

SHEET

E

# CITY CONTRACT 24-01 OREGON STREET SANITARY SEWER INTERCEPTOR CONSTRUCTION OSHKOSH, WISCONSIN



SHEET NO.		DESCRIPTION
<b>GENERAL</b>	1	<b>TITLE SHEET</b>
	2	<b>DESIGNATED HAUL ROUTES</b>
	3	<b>UTILITY SUMMARY SHEET</b>
<b>UTILITIES</b>	4	<b>OREGON STREET, STA. 62+00 TO STA.66+00</b>
	5	<b>OREGON STREET, STA. 66+00 TO STA. 70+50</b>
	6	<b>OREGON STREET, STA. 70+50 TO STA. 75+00</b>
	7	<b>OREGON STREET, STA. 75+00 TO STA. 79+50</b>
	8	<b>OREGON STREET, STA. 79+50 TO STA. 84+00</b>
9	<b>OREGON STREET, STA. 84+00 TO STA. 89+00</b>	
<b>QUANTITIES</b>	10	<b>SANITARY SEWER QUANTITIES</b>

	STREETS TO BE PAVED/UTILITY WORK
	DESIGNATED TRUCK ROUTES

### MANHOLE VERTICAL CALCULATION FORMULA

FOR ALL SANITARY & STORM MANHOLES  
DEPTH=RIM ELEVATION MINUS FRAME DEPTH MINUS INVERT ELEVATION  
(FRAME & GRATE PROVIDED BY CITY OF OSHKOSH)

FOR ALL STORM INLET MANHOLE RISERS  
DEPTH=RIM ELEVATION MINUS ELEVATION AT TOP  
OF BOX CULVERT (FRAME & LID PROVIDED BY CONTRACTOR)

FOR ALL STORM MANHOLE RISERS  
DEPTH=RIM ELEVATION MINUS FRAME DEPTH MINUS ELEVATION AT TOP  
OF BOX CULVERT (FRAME & LID PROVIDED BY CITY OF OSHKOSH)

FOR ALL STORM INLETS & INLET MANHOLES  
DEPTH=FLOWLINE ELEVATION MINUS INVERT ELEVATION PLUS SUMP  
DEPTH (FRAME & GRATE PROVIDED BY CONTRACTOR)

### GENERAL NOTES FOR CONTRACT 24-01

- 1 THE CONTRACTOR SHALL FIELD VERIFY SANITARY LATERAL LOCATIONS AND SHALL DETERMINE WHICH LATERALS ARE LIVE AND NEED TO BE RECONNECTED. THE ENGINEER WILL ASSIST THE CONTRACTOR IN DETERMINING WHICH LATERALS ARE TO BE RECONNECTED.
2. ALL NEW SANITARY SEWER STRUCTURE SHALL HAVE MANHOLE CASTING SUPPLIED BY THE CITY OF OSHKOSH AND INSTALLED BY THE CONTRACTOR WITH AN EXTERNAL CHIMNEY SEAL. CONTRACTOR SHALL COORDINATE CASTING PICK WITH CITY OF OSHKOSH ENGINEERING DIVISION. ALL CASTING FOR THE CONTRACT SHALL BE PICKED UP ONCE AT THE SAME TIME.
3. ALL CATCH BASINS, MANHOLES AND INLETS TO BE ABANDONED SHALL HAVE A TOP 3 FEET REMOVED, THE BOTTOM BROKEN UP AND THE REMAINING STRUCTURE BACKFILLED WITH GRANULAR BACKFILL.
4. ALL CASTINGS FROM ABANDONED CITY MANHOLES AND INLETS SHALL BECOME THE PROPERTY OF THE CITY OF OSHKOSH. THE CONTRACTOR MUST HAUL ALL SALVAGED CASTINGS TO THE CITY GARAGE AT 639 WITZEL AVE., UNLESS OTHERWISE NOTED.
5. THE LOCATION OF EXISTING UTILITY FACILITIES AS SHOWN ON THE PLAN SHEETS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY FACILITIES WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. THE CONTRACTOR SHALL BE REQUIRED TO CONFIRM ALL UNDERGROUND FACILITIES BY REQUESTING AN UNDERGROUND LOCATE THROUGH DIGGERS HOTLINE PRIOR TO WORK. THE UTILITIES SHALL ADJUST THEIR FACILITIES TO FIT THE NEW STREET CONSTRUCTION IF CONFLICTS EXIST.

### TYPICAL DESIGNATION SYMBOLS SHOWN ON SHEETS

- A** = ABANDON INLET/MANHOLE - PLUG & BLOCK. CONTRACTOR SHALL INSPECT STRUCTURE FOR EXISTING CONNECTIONS AND VERIFY THAT ALL CONNECTIONS ARE DEAD PRIOR TO ABANDONING STRUCTURE (TYP.).
- ST** = PROP. 6" STORM LATERAL & STORM LATERAL INLET REQ'D. LATERAL SHALL BE INSTALLED IN OPEN TRENCH TO STORM LATERAL INLET OR TO BACK EDGE OF EX. SIDEWALK IF EXISTING LATERAL EXISTS. EXACT LOCATION TO BE DETERMINED IN THE FIELD BY THE ENGINEER. (TYP)
- IP** = TYPE D "MODIFIED" INLET PROTECTION REQ'D. ON NEAREST DOWNSTREAM INLET OR AT EXISTING INLET (TYP).  
\*\*\*UNLESS OTHERWISE NOTED ON PLAN\*\*\*
- SB** = STONE BAG REQ'D. AT NEAREST RAT HOLE OR SPECIFIED LOCATION IF IN A DITCH OR SLOPE (TYP)

### TYPICAL LATERAL CONNECTION NOTES

- 1 CORE AND CONNECT SANITARY LATERAL RISER TO SANITARY INTERCEPTOR SEWER
- 2 RELAY LIVE SANITARY LATERALS AND INCLUDES RISERS, BENDS, FITTINGS, 2 MARKER BALLS MIN. (TYP)
- 3 RELAY LIVE STORM LATERALS (6") TO BACK OF WALK WITH RISERS, BENDS, 2 MARKER BALLS MIN. (TYP)
- 4 NEW 4" SANITARY LATERAL AND 1" WATER SERVICE REQUIRED TO BACK OF WALK WITH RISERS, BENDS, 2 MARKER BALLS MIN. (TYP)
- 5 CONTRACTOR TO PERFORM UTILITY LINE OPENING (ULO), PAID FOR UNDER BID ITEM #2914, #3890, #4950. CONTRACTOR TO VERIFY IF LATERAL IS LIVE OR DEAD.

SECTION LEFT BLANK INTENTIONALLY

CITY OF OSHKOSH, WISCONSIN

REVISIONS

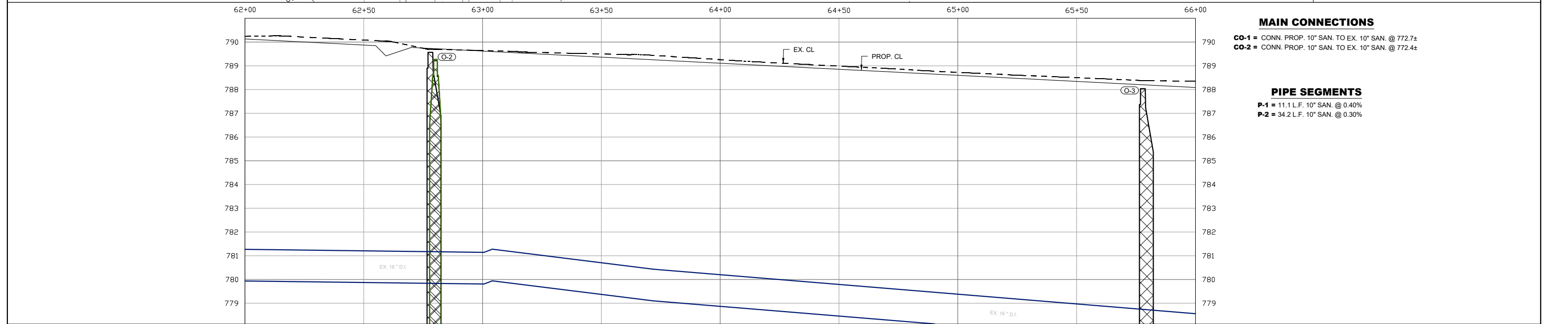
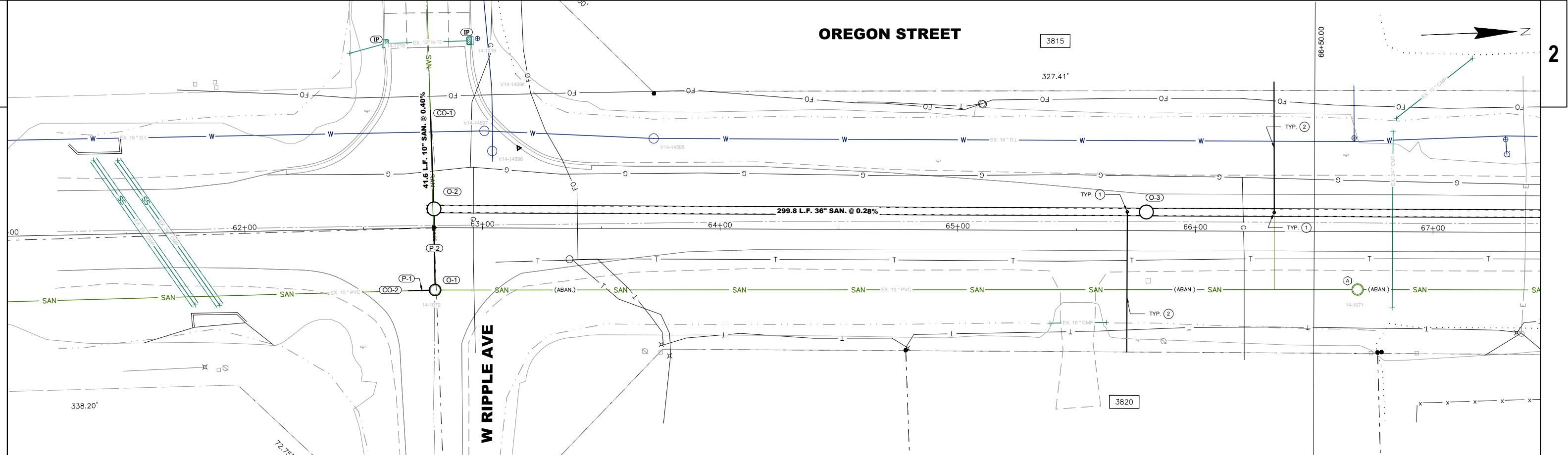
### UTILITY SUMMARY - CONTRACT 24-01

# OREGON STREET

3815

327.41'

66+50.00

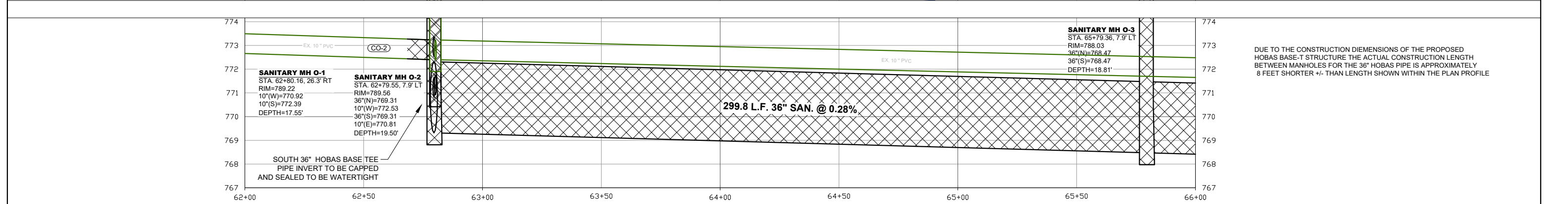


### MAIN CONNECTIONS

- CO-1 = CONN. PROP. 10" SAN. TO EX. 10" SAN. @ 772.7±
- CO-2 = CONN. PROP. 10" SAN. TO EX. 10" SAN. @ 772.4±

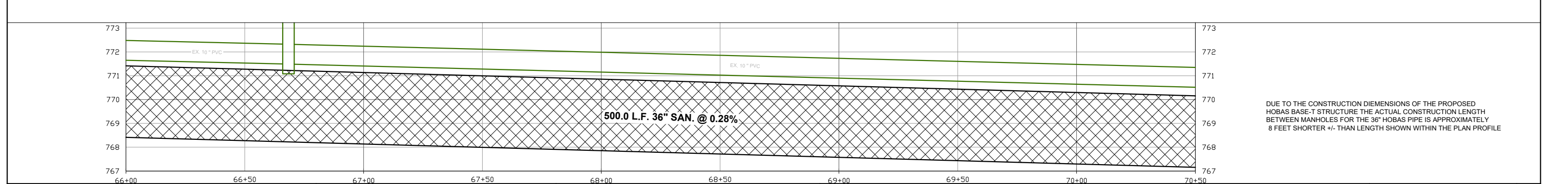
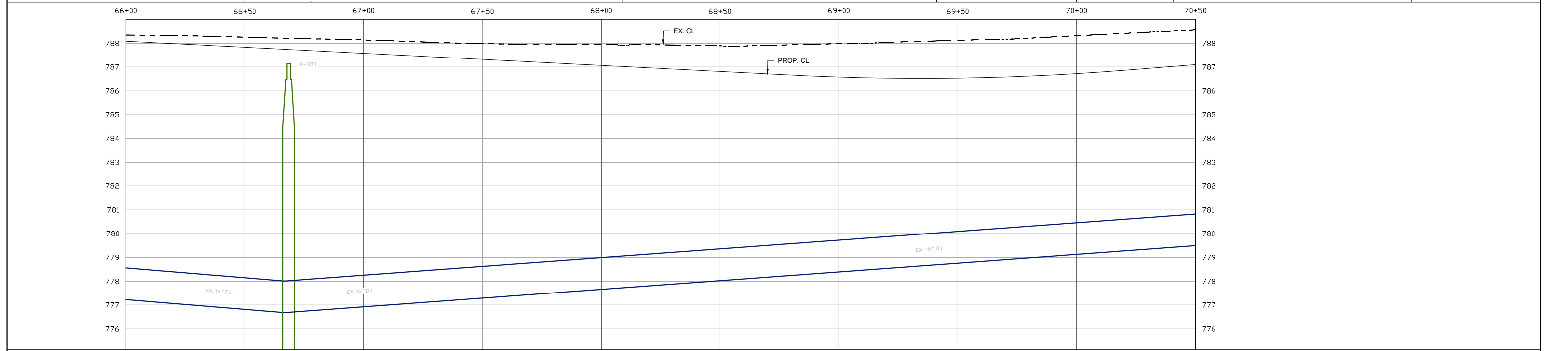
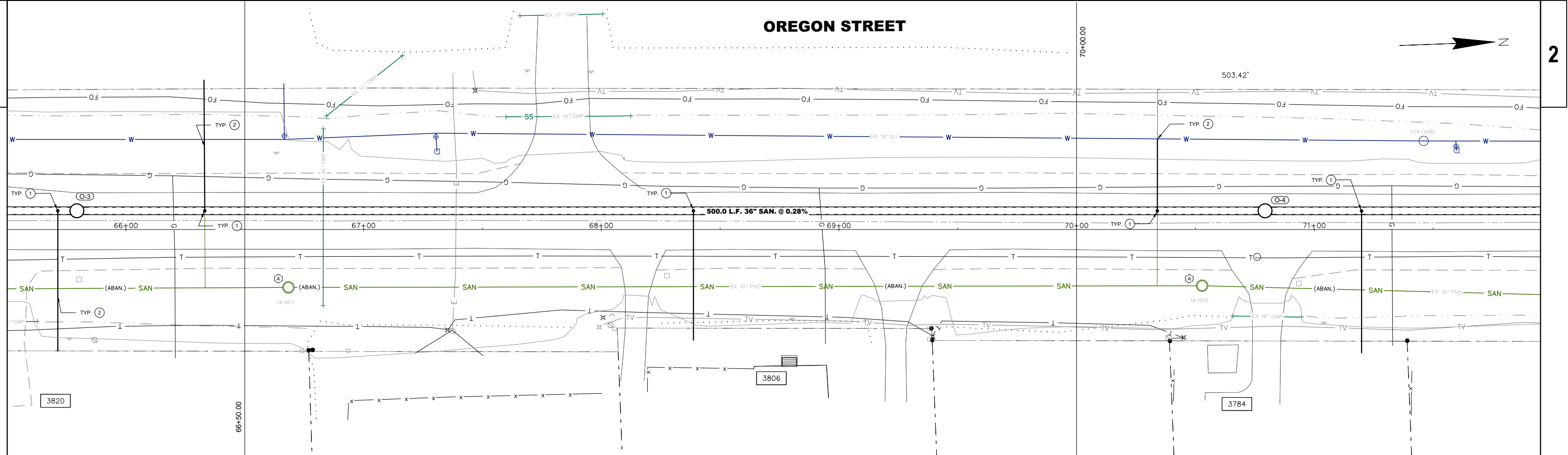
### PIPE SEGMENTS

- P-1 = 11.1 L.F. 10" SAN. @ 0.40%
- P-2 = 34.2 L.F. 10" SAN. @ 0.30%



DUE TO THE CONSTRUCTION DIMENSIONS OF THE PROPOSED HOBAS BASE-T STRUCTURE THE ACTUAL CONSTRUCTION LENGTH BETWEEN MANHOLES FOR THE 36" HOBAS PIPE IS APPROXIMATELY 8 FEET SHORTER +/- THAN LENGTH SHOWN WITHIN THE PLAN PROFILE

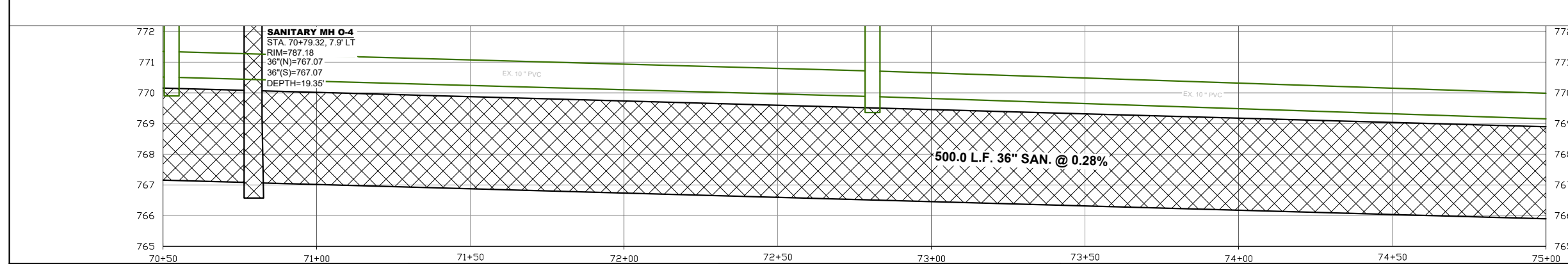
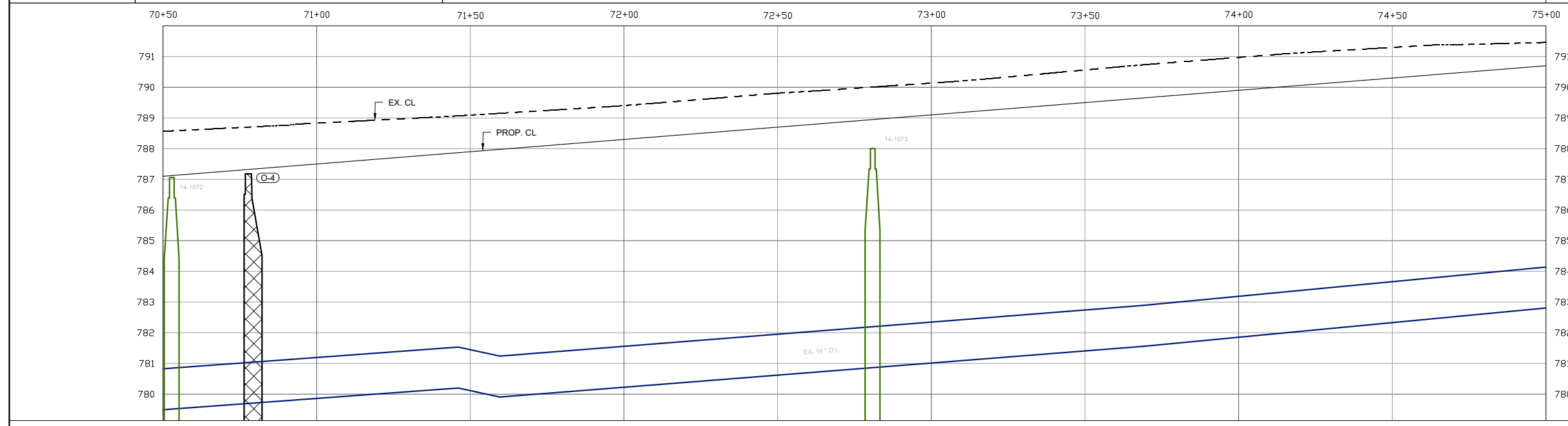
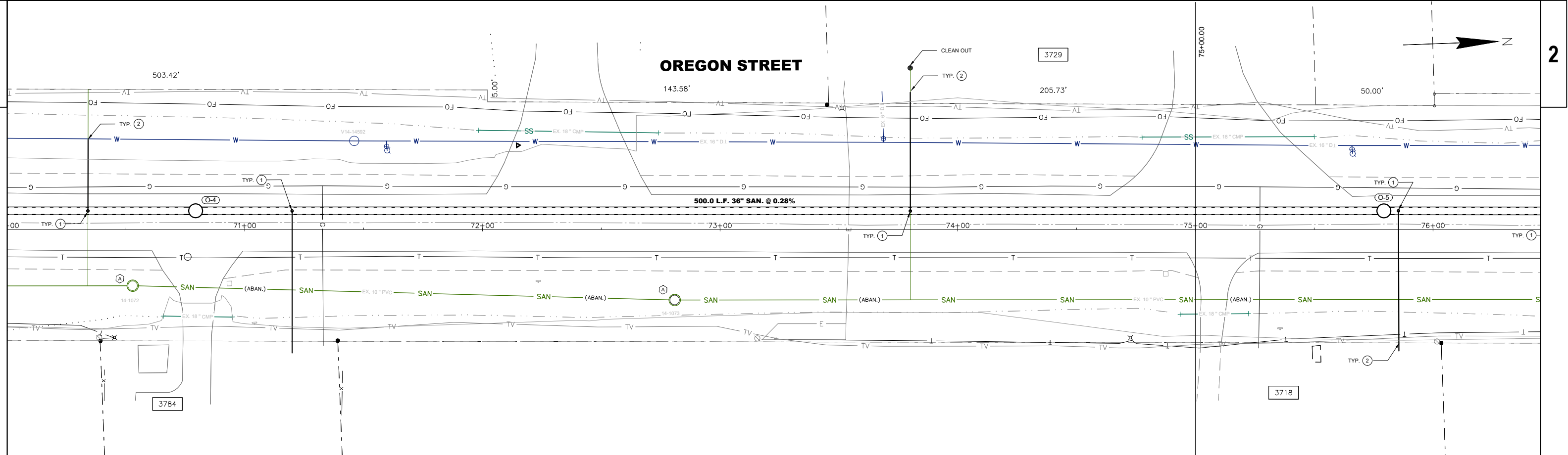
# OREGON STREET



DUE TO THE CONSTRUCTION DIMENSIONS OF THE PROPOSED HOBAS BASE-T STRUCTURE THE ACTUAL CONSTRUCTION LENGTH BETWEEN MANHOLES FOR THE 36" HOBAS PIPE IS APPROXIMATELY 8 FEET SHORTER +/- THAN LENGTH SHOWN WITHIN THE PLAN PROFILE

9/6/2023  
Nett, Matthew

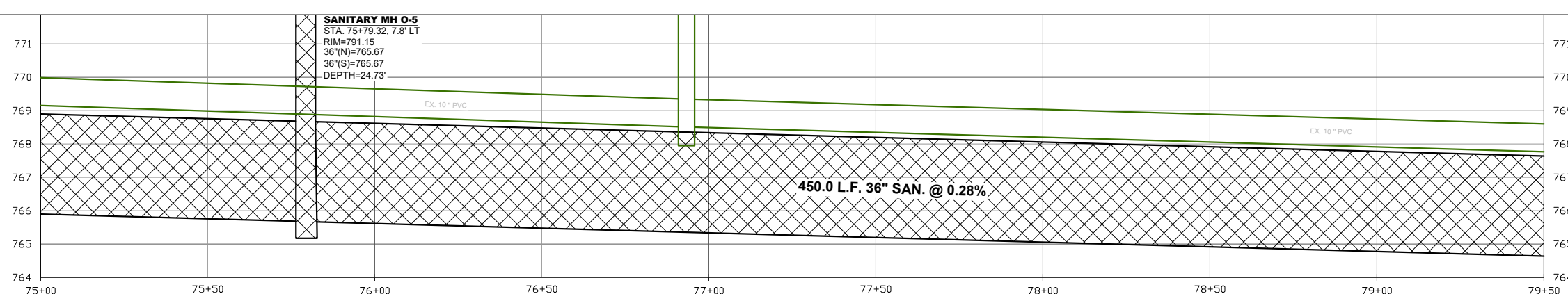
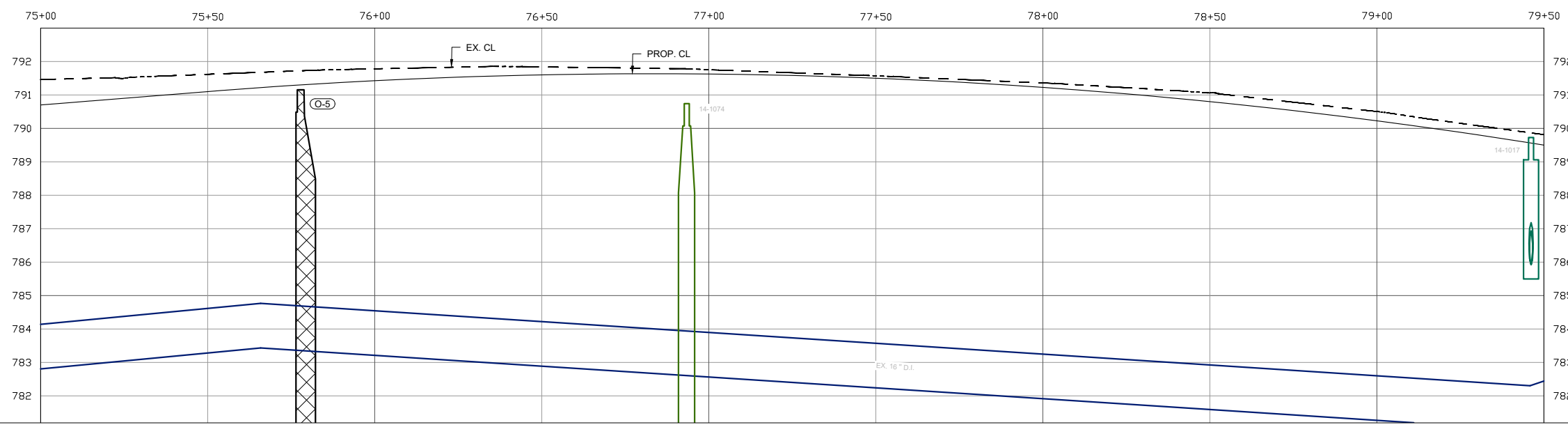
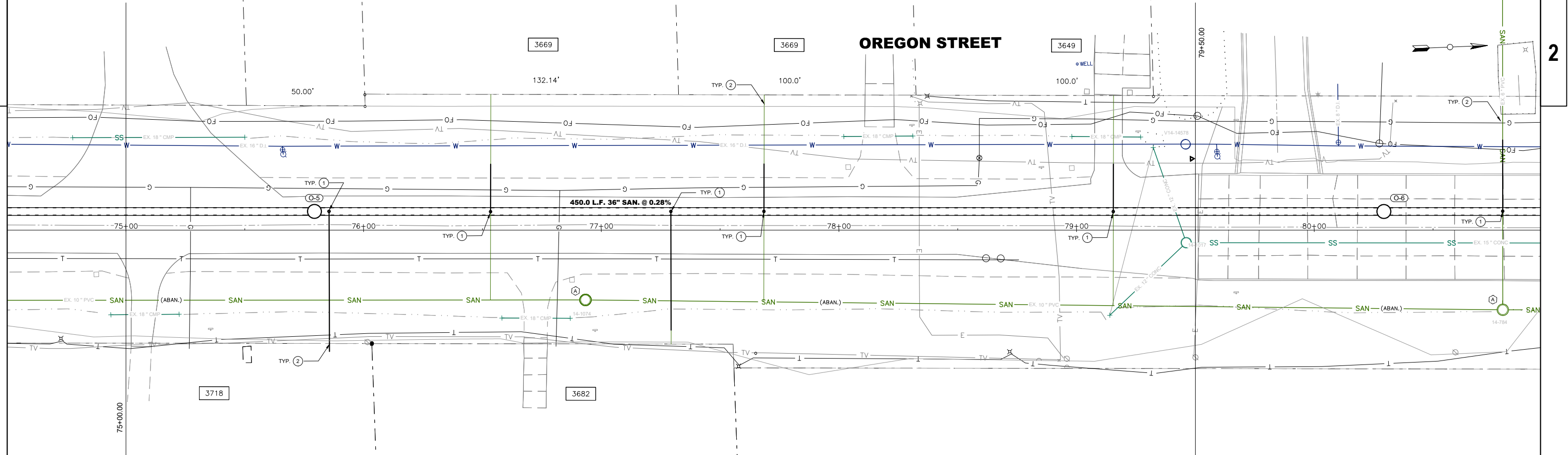
# OREGON STREET



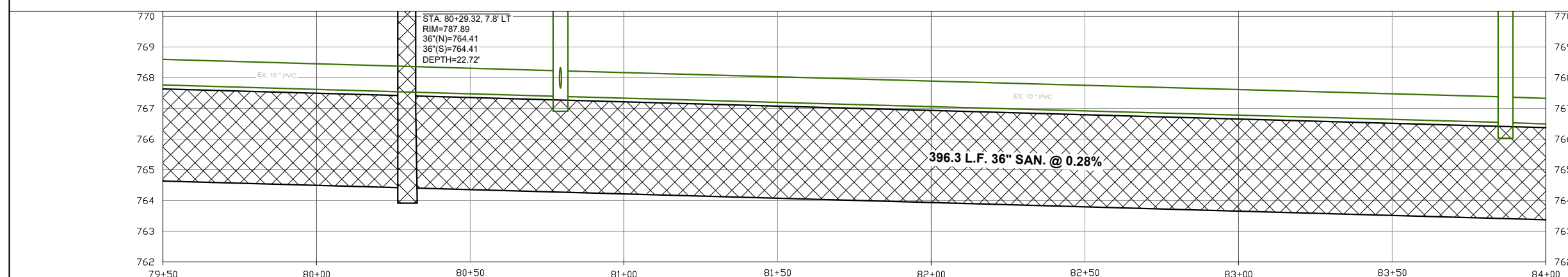
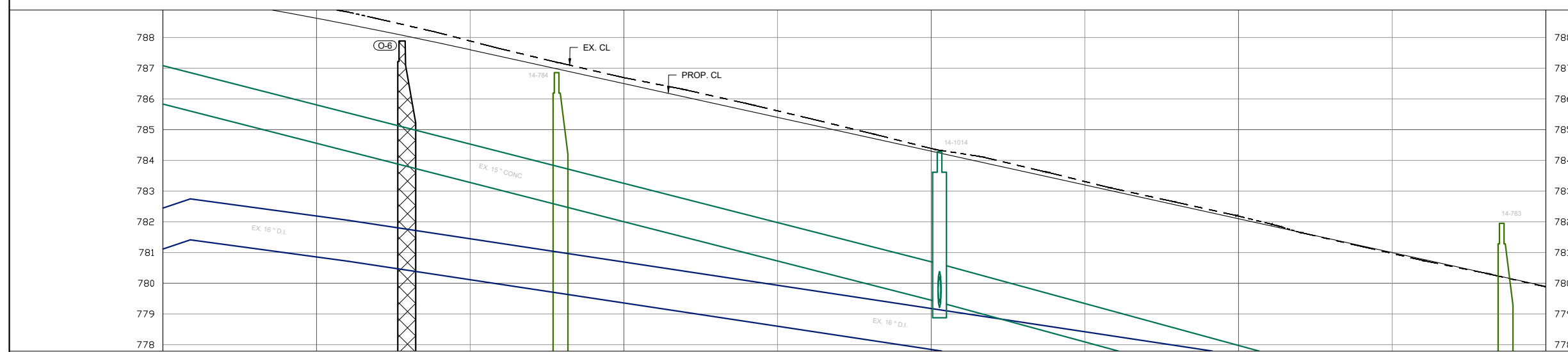
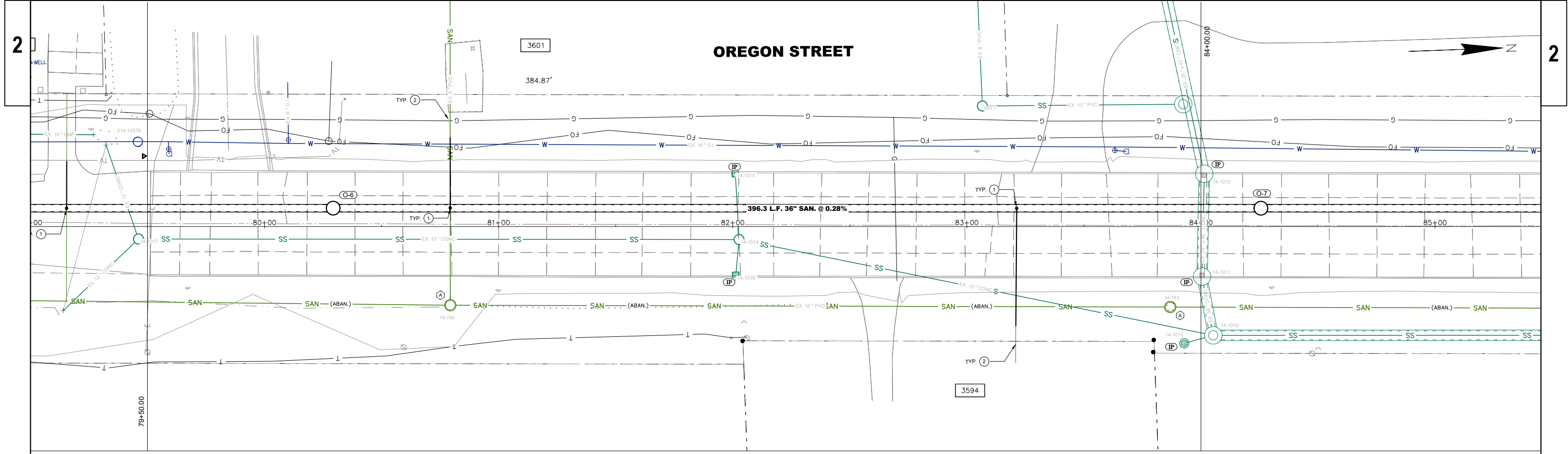
DUE TO THE CONSTRUCTION DIMENSIONS OF THE PROPOSED HOBAS BASE-T STRUCTURE THE ACTUAL CONSTRUCTION LENGTH BETWEEN MANHOLES FOR THE 36\"/>



# OREGON STREET



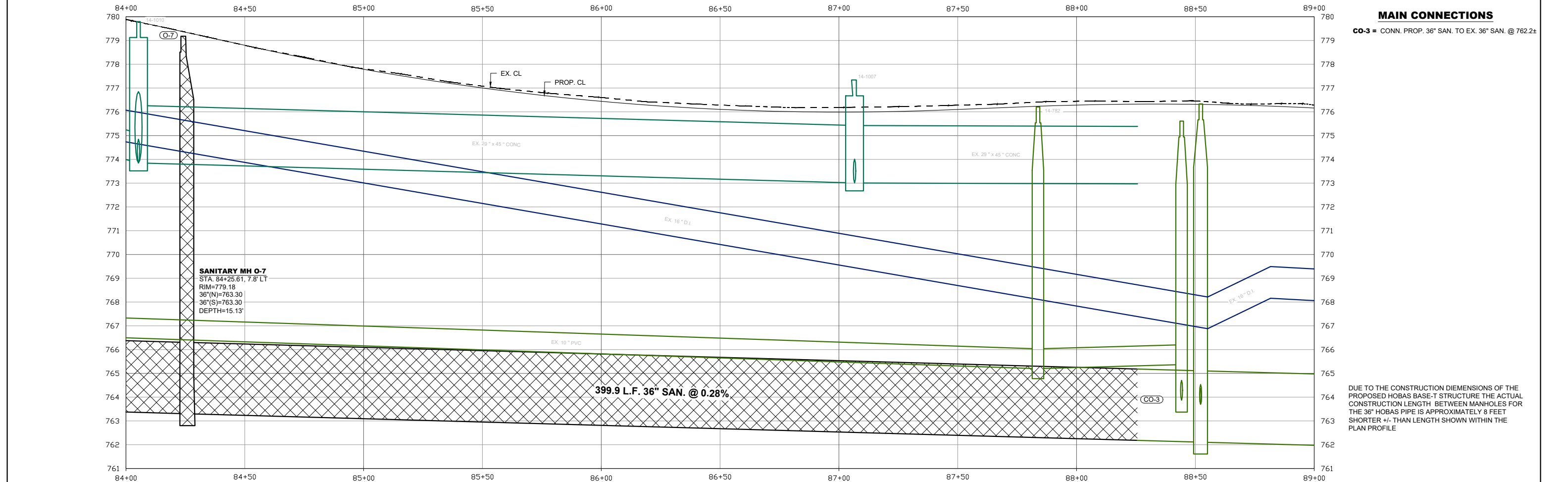
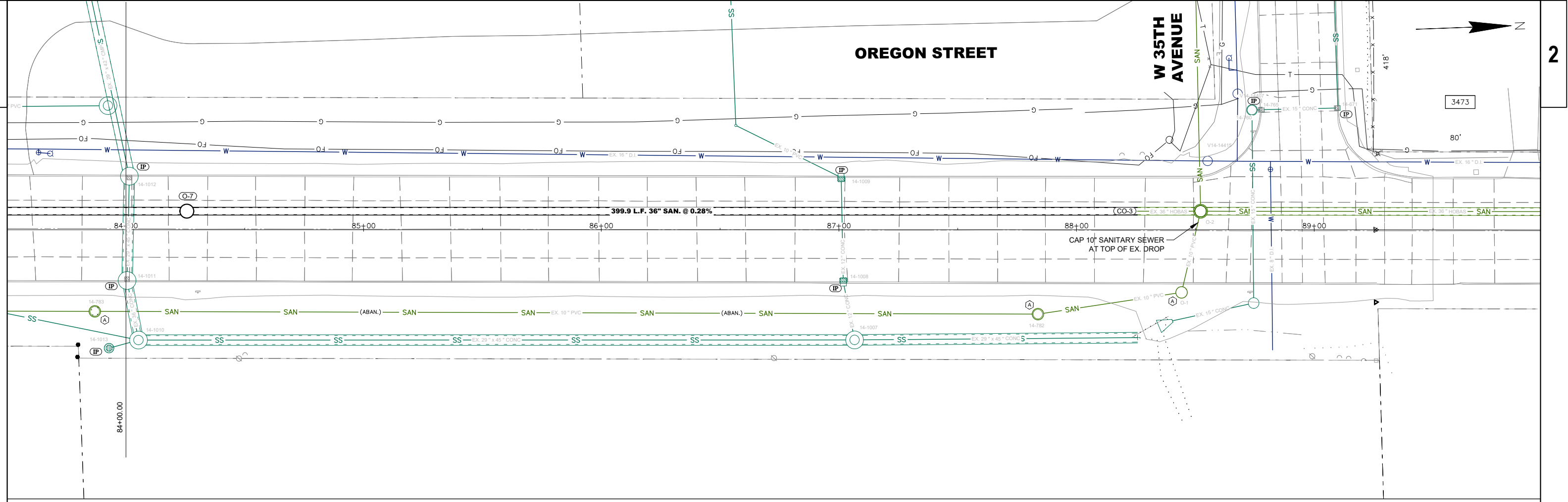
DUE TO THE CONSTRUCTION DIMENSIONS OF THE PROPOSED HOBAS BASE-T STRUCTURE THE ACTUAL CONSTRUCTION LENGTH BETWEEN MANHOLES FOR THE 36" HOBAS PIPE IS APPROXIMATELY 8 FEET SHORTER +/- THAN LENGTH SHOWN WITHIN THE PLAN PROFILE



DUE TO THE CONSTRUCTION DIMENSIONS OF THE PROPOSED HOBAS BASE-T STRUCTURE THE ACTUAL CONSTRUCTION LENGTH BETWEEN MANHOLES FOR THE 36" HOBAS PIPE IS APPROXIMATELY 8 FEET SHORTER +/- THAN LENGTH SHOWN WITHIN THE PLAN PROFILE

# OREGON STREET

# W 35TH AVENUE



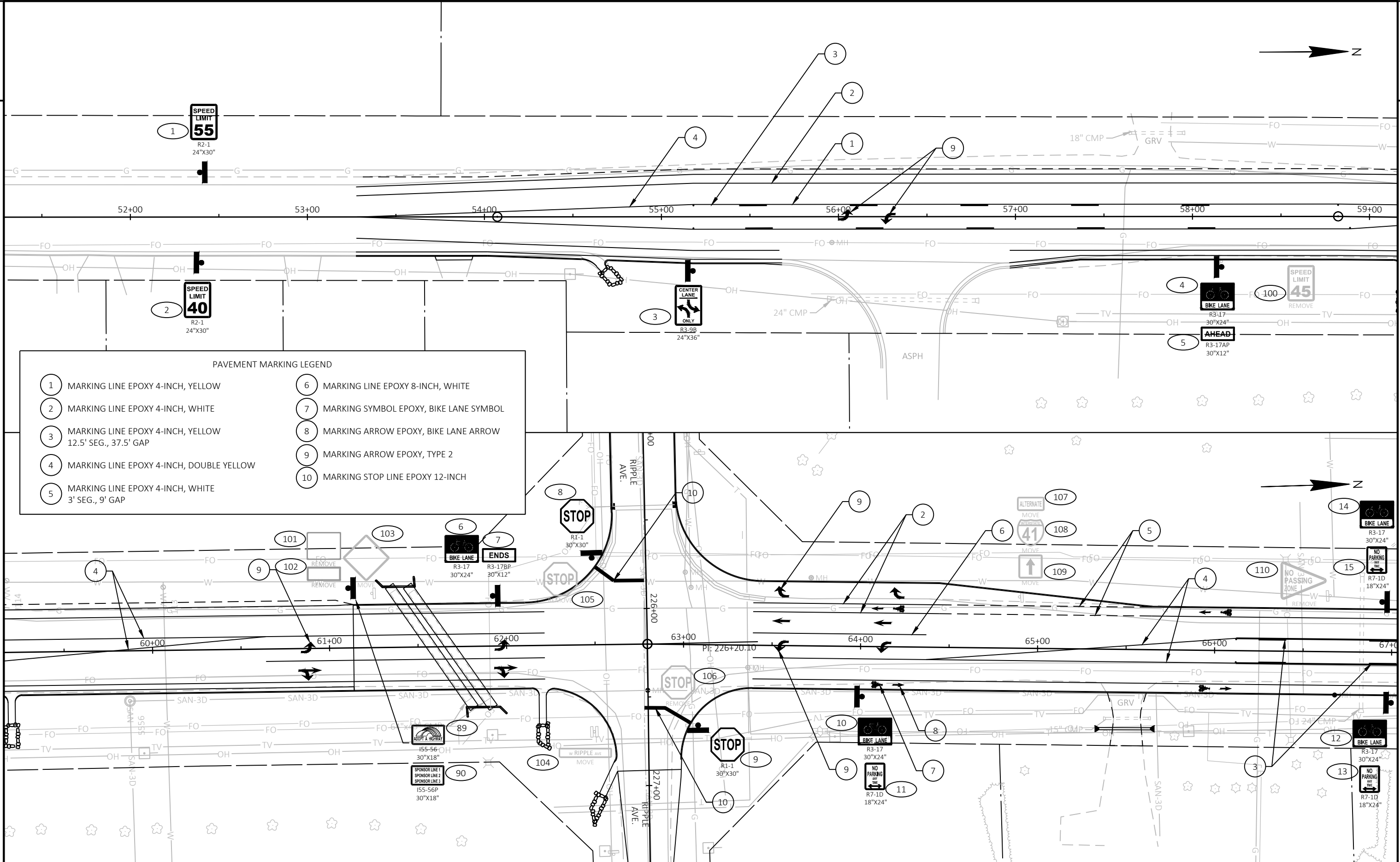
### MAIN CONNECTIONS

CO-3 = CONN. PROP. 36" SAN. TO EX. 36" SAN. @ 762.2±

**SANITARY MH O-7**  
 STA. 84+25.61, 7.8' LT  
 RIM=779.18  
 36"(N)=763.30  
 36"(S)=763.30  
 DEPTH=15.13'

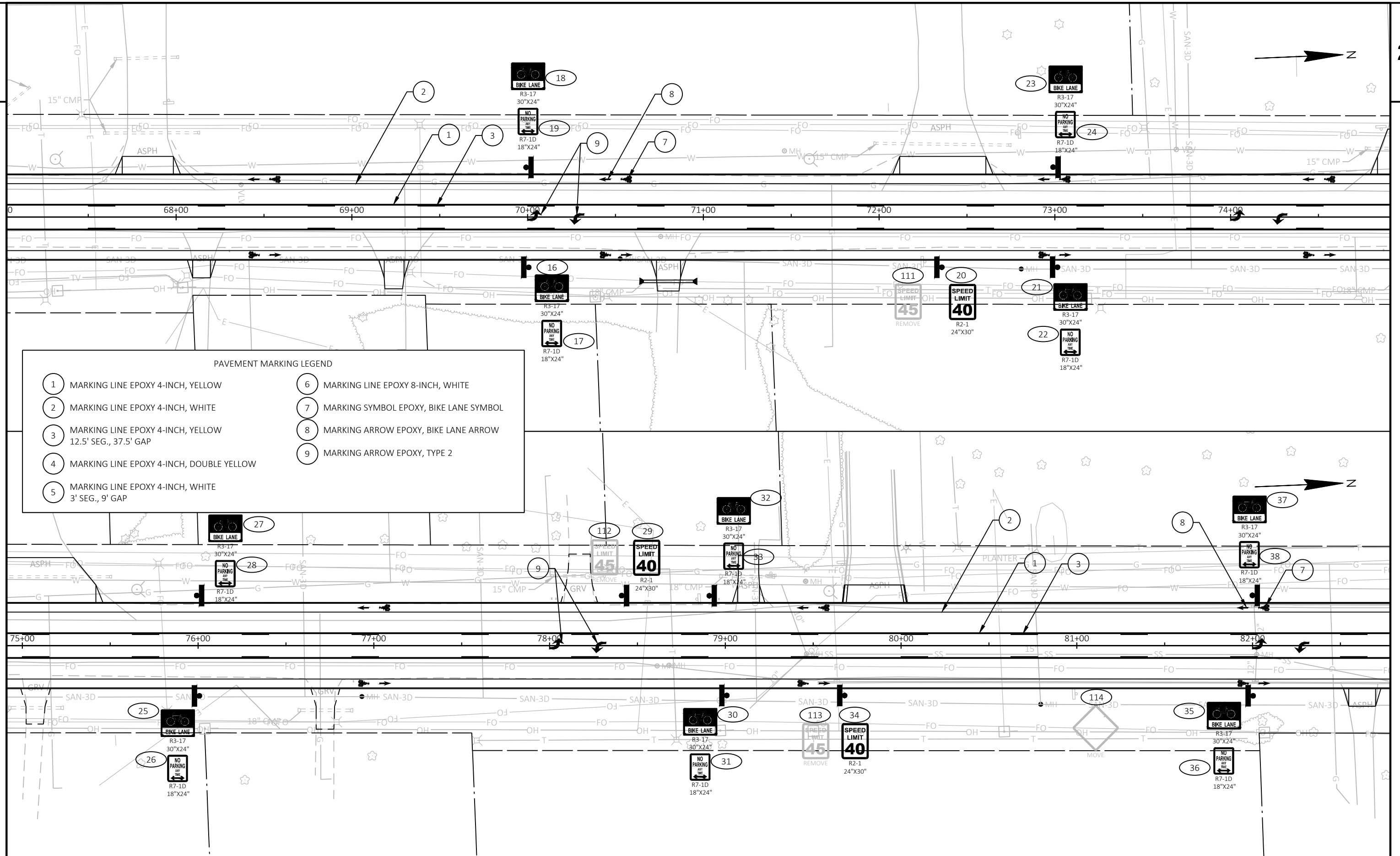
399.9 L.F. 36" SAN. @ 0.28%

DUE TO THE CONSTRUCTION DIMENSIONS OF THE PROPOSED HOBAS BASE-T STRUCTURE THE ACTUAL CONSTRUCTION LENGTH BETWEEN MANHOLES FOR THE 36" HOBAS PIPE IS APPROXIMATELY 8 FEET SHORTER +/- THAN LENGTH SHOWN WITHIN THE PLAN PROFILE



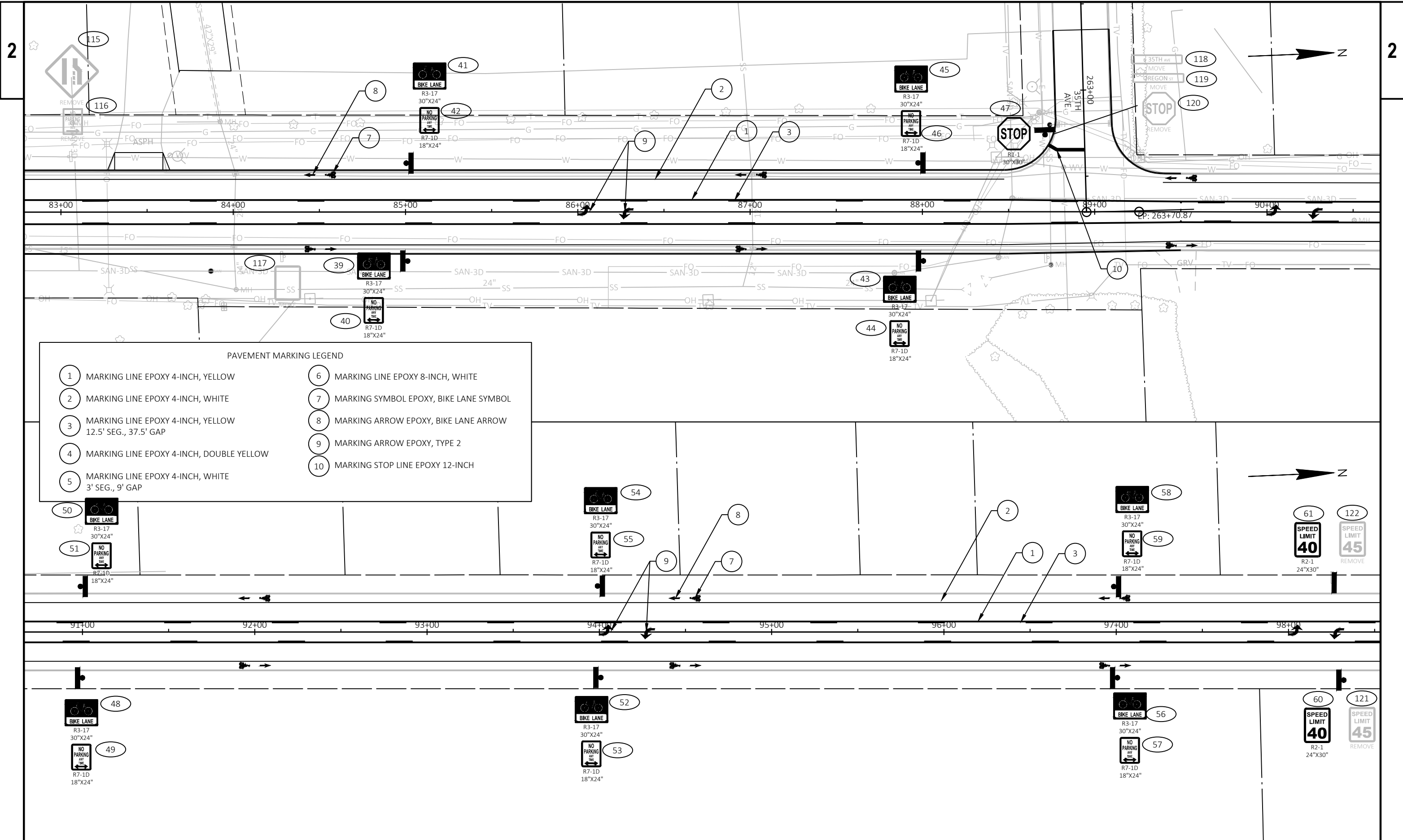
PAVEMENT MARKING LEGEND

1	MARKING LINE EPOXY 4-INCH, YELLOW	6	MARKING LINE EPOXY 8-INCH, WHITE
2	MARKING LINE EPOXY 4-INCH, WHITE	7	MARKING SYMBOL EPOXY, BIKE LANE SYMBOL
3	MARKING LINE EPOXY 4-INCH, YELLOW 12.5' SEG., 37.5' GAP	8	MARKING ARROW EPOXY, BIKE LANE ARROW
4	MARKING LINE EPOXY 4-INCH, DOUBLE YELLOW	9	MARKING ARROW EPOXY, TYPE 2
5	MARKING LINE EPOXY 4-INCH, WHITE 3' SEG., 9' GAP	10	MARKING STOP LINE EPOXY 12-INCH



PAVEMENT MARKING LEGEND

1 MARKING LINE EPOXY 4-INCH, YELLOW	6 MARKING LINE EPOXY 8-INCH, WHITE
2 MARKING LINE EPOXY 4-INCH, WHITE	7 MARKING SYMBOL EPOXY, BIKE LANE SYMBOL
3 MARKING LINE EPOXY 4-INCH, YELLOW 12.5' SEG., 37.5' GAP	8 MARKING ARROW EPOXY, BIKE LANE ARROW
4 MARKING LINE EPOXY 4-INCH, DOUBLE YELLOW	9 MARKING ARROW EPOXY, TYPE 2
5 MARKING LINE EPOXY 4-INCH, WHITE 3' SEG., 9' GAP	



PAVEMENT MARKING LEGEND

- |  |  |
|--|--|
| 1 MARKING LINE EPOXY 4-INCH, YELLOW                          | 6 MARKING LINE EPOXY 8-INCH, WHITE       |
| 2 MARKING LINE EPOXY 4-INCH, WHITE                           | 7 MARKING SYMBOL EPOXY, BIKE LANE SYMBOL |
| 3 MARKING LINE EPOXY 4-INCH, YELLOW<br>12.5' SEG., 37.5' GAP | 8 MARKING ARROW EPOXY, BIKE LANE ARROW   |
| 4 MARKING LINE EPOXY 4-INCH, DOUBLE YELLOW                   | 9 MARKING ARROW EPOXY, TYPE 2            |
| 5 MARKING LINE EPOXY 4-INCH, WHITE<br>3' SEG., 9' GAP        | 10 MARKING STOP LINE EPOXY 12-INCH       |

PROJECT NO: 4636-05-72

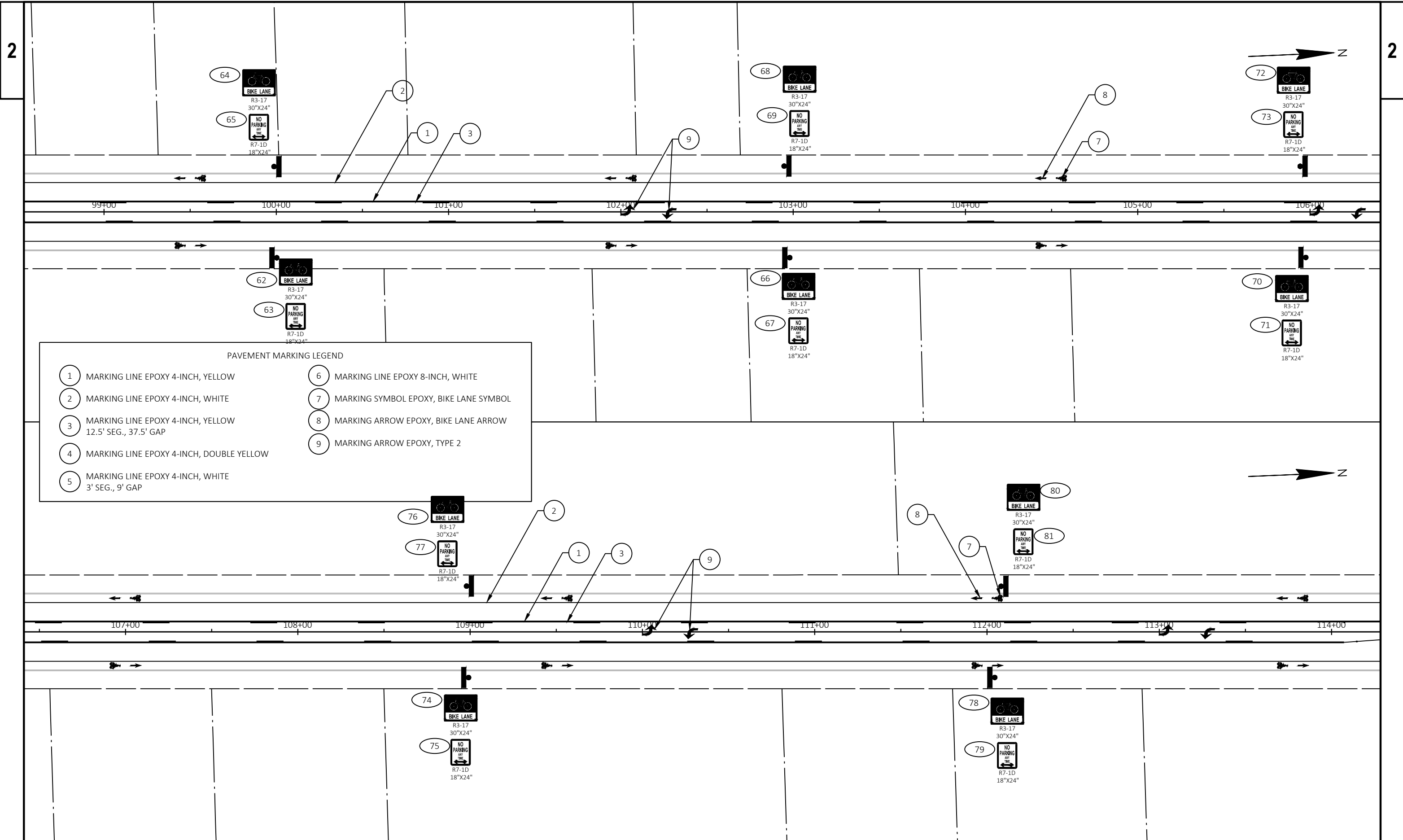
HWY: CTH I

COUNTY: WINNEBAGO

PAVEMENT MARKING AND PERMANENT SIGNING

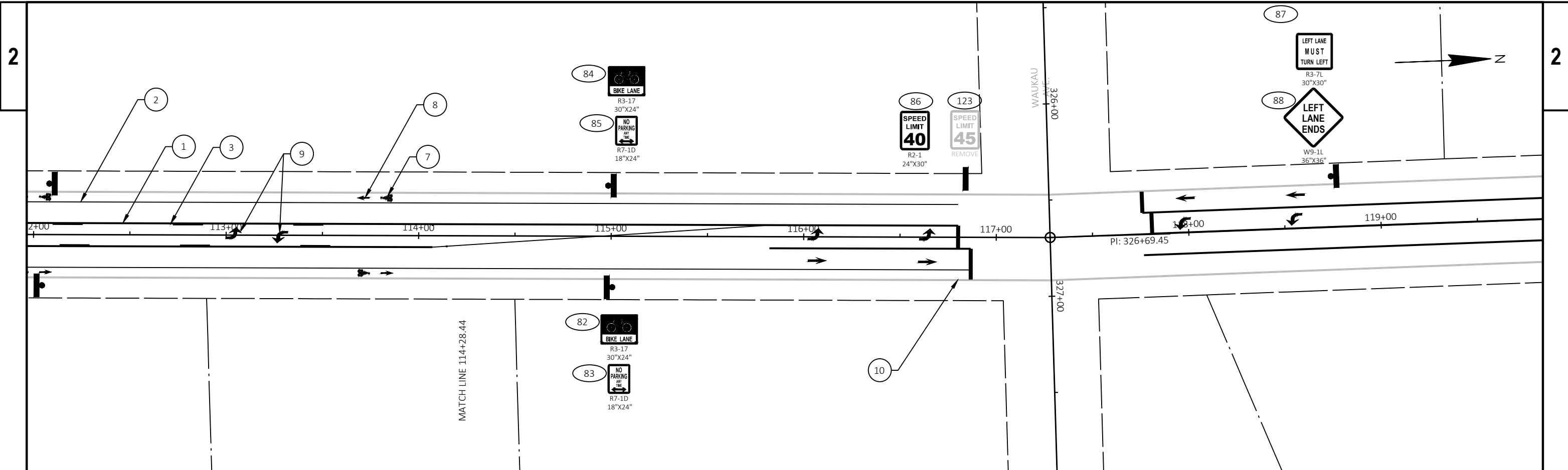
SHEET

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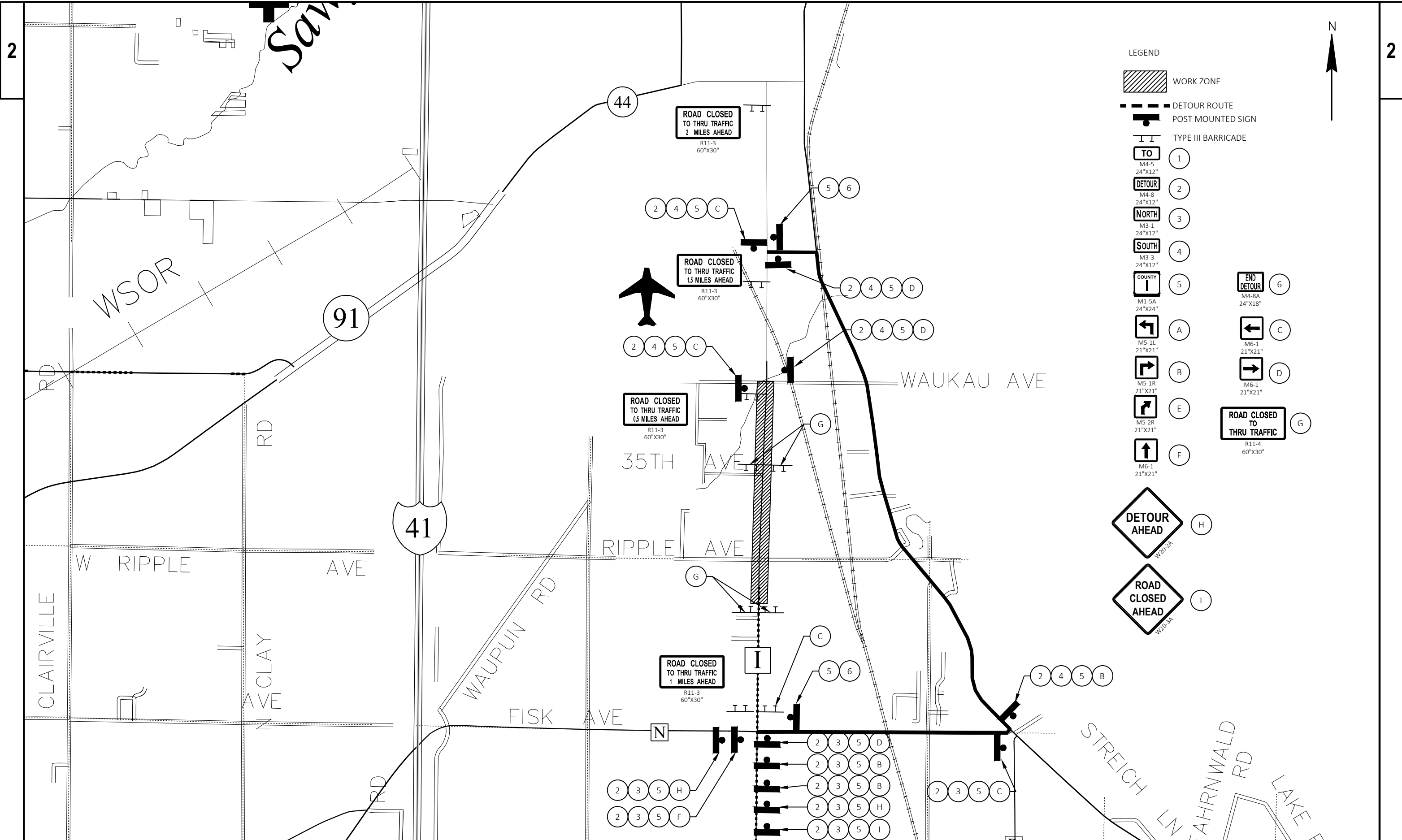
PAVEMENT MARKING LEGEND

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2 MARKING LINE EPOXY 4-INCH, WHITE	7 MARKING SYMBOL EPOXY, BIKE LANE SYMBOL
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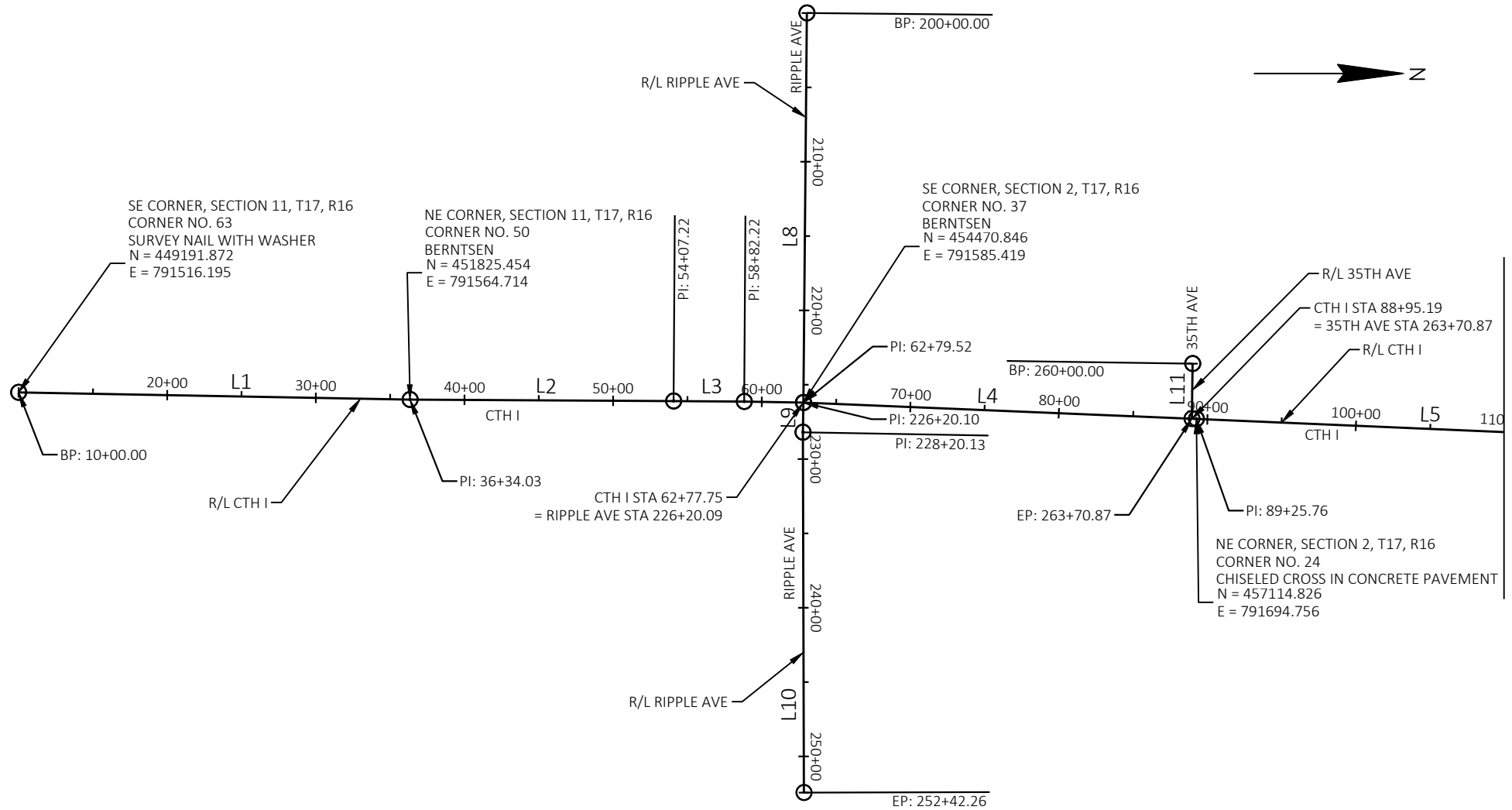


PAVEMENT MARKING LEGEND	
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2	MARKING LINE EPOXY 4-INCH, WHITE
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7	MARKING SYMBOL EPOXY, BIKE LANE SYMBOL
8	MARKING ARROW EPOXY, BIKE LANE ARROW
9	MARKING ARROW EPOXY, TYPE 2
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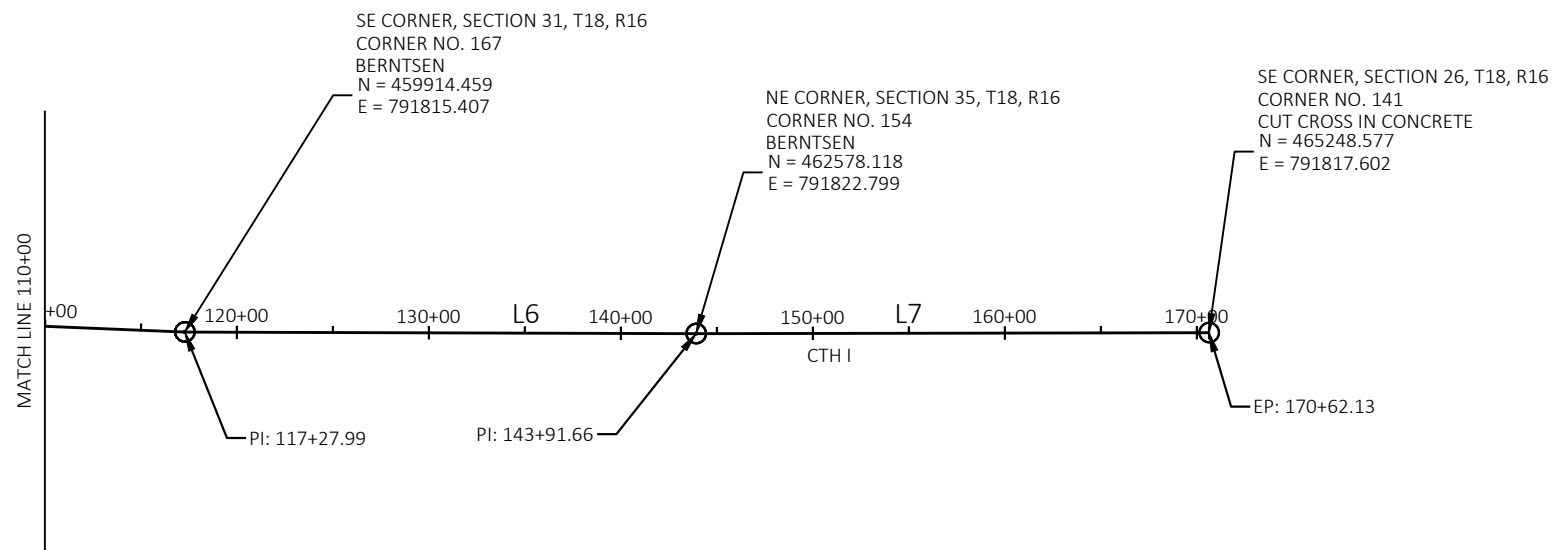
PROJECT NO: 4636-05-72      HWY: CTH I      COUNTY: WINNEBAGO      DETOUR MAP      SHEET E



CTH I				
Line #	Start Point	BEARING	DISTANCE	End Point
L1	10+00.00	N1°03'20"E	2634.03'	36+34.03
L2	36+34.03	N0°21'31"E	1773.19'	54+07.22
L3	54+07.22	N0°20'55"E	475.00'	58+82.22
L4	62+79.52	N2°22'05"E	2646.24'	89+25.76
L5	89+25.76	N2°28'04"E	2802.23'	117+27.99
L6	117+27.99	N0°09'32"E	2663.67'	143+91.66
L7	143+91.66	N0°06'41"W	2670.46'	170+62.13

RIPPLE AVE				
Line #	Start Point	BEARING	DISTANCE	End Point
L8	200+00.00	S89°27'34"E	2620.10'	226+20.10
L9	226+20.10	S89°02'21"E	200.03'	228+20.13
L10	228+20.13	N89°50'29"E	2422.13'	252+42.26

35TH AVE				
Line #	Start Point	BEARING	DISTANCE	End Point
L11	260+00.00	S89°09'34"E	370.87'	263+70.87



Estimate Of Quantities

4636-05-72

Line	Item	Item Description	Unit	Total	Qty
0002	203.0100	Removing Small Pipe Culverts	EACH	10.000	10.000
0004	204.0100	Removing Concrete Pavement	SY	6,060.000	6,060.000
0006	204.0150	Removing Curb & Gutter	LF	540.000	540.000
0008	204.0190	Removing Surface Drains	EACH	1.000	1.000
0010	204.0210	Removing Manholes	EACH	3.000	3.000
0012	204.0220	Removing Inlets	EACH	6.000	6.000
0014	204.0245	Removing Storm Sewer (size) 01. 10-Inch	LF	87.000	87.000
0016	204.0245	Removing Storm Sewer (size) 02. 12-Inch	LF	109.000	109.000
0018	204.0245	Removing Storm Sewer (size) 03. 15-Inch	LF	461.000	461.000
0020	204.0245	Removing Storm Sewer (size) 04. 24-Inch	LF	520.000	520.000
0022	204.0245	Removing Storm Sewer (size) 05. 42x29-Inch	LF	96.000	96.000
0024	205.0100	Excavation Common	CY	11,321.000	11,321.000
0026	211.0101	Prepare Foundation for Asphaltic Paving (project) 01. 4636-05-72	EACH	1.000	1.000
0028	211.0201	Prepare Foundation for Concrete Pavement (project) 01. 4636-05-72	EACH	1.000	1.000
0030	213.0100	Finishing Roadway (project) 01. 4636-05-72	EACH	1.000	1.000
0032	305.0110	Base Aggregate Dense 3/4-Inch	TON	1,390.000	1,390.000
0034	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	2,940.000	2,940.000
0036	415.0080	Concrete Pavement 8-Inch	SY	16,953.000	16,953.000
0038	415.0210	Concrete Pavement Gaps	EACH	2.000	2.000
0040	416.0610	Drilled Tie Bars	EACH	6.000	6.000
0042	416.0620	Drilled Dowel Bars	EACH	100.000	100.000
0044	420.1000	Continuous Diamond Grinding Concrete Pavement	SY	13,700.000	13,700.000
0046	455.0605	Tack Coat	GAL	310.000	310.000
0048	460.2000	Incentive Density HMA Pavement	DOL	790.000	790.000
0050	460.6224	HMA Pavement 4 MT 58-28 S	TON	1,226.000	1,226.000
0052	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	79.000	79.000
0054	504.0900	Concrete Masonry Endwalls	CY	20.000	20.000
0056	504.2000.S	Precast Concrete Box Culvert (ft X ft) 01. 6 FT X 3 FT	LF	501.000	501.000
0058	520.1015	Apron Endwalls for Culvert Pipe 15-Inch	EACH	2.000	2.000
0060	520.1018	Apron Endwalls for Culvert Pipe 18-Inch	EACH	2.000	2.000
0062	521.3115	Culvert Pipe Corrugated Steel 15-Inch	LF	24.000	24.000
0064	521.3118	Culvert Pipe Corrugated Steel 18-Inch	LF	29.000	29.000
0066	521.3742	Pipe Arch Corrugated Steel 42x29-Inch	LF	9.000	9.000
0068	521.6764	Pipe Arch Corrugated Steel Aluminum Coated 64x43-Inch	LF	168.000	168.000
0070	522.1021	Apron Endwalls for Culvert Pipe Reinforced Concrete 21-Inch	EACH	1.000	1.000
0072	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	1.000	1.000
0074	601.0342	Concrete Curb & Gutter Integral 18-Inch	LF	5,900.000	5,900.000
0076	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	660.000	660.000
0078	602.0810	Concrete Driveway 6-Inch	SY	35.000	35.000
0080	602.3010	Concrete Surface Drains	CY	5.000	5.000
0082	606.0200	Riprap Medium	CY	12.000	12.000
0084	608.0005	Storm Sewer Rock Excavation	CY	240.000	240.000
0086	608.0415	Storm Sewer Pipe Reinforced Concrete Class IV 15-Inch	LF	410.000	410.000
0088	608.0418	Storm Sewer Pipe Reinforced Concrete Class IV 18-Inch	LF	1,407.000	1,407.000
0090	608.0421	Storm Sewer Pipe Reinforced Concrete Class IV 21-Inch	LF	16.000	16.000
0092	608.0424	Storm Sewer Pipe Reinforced Concrete Class IV 24-Inch	LF	66.000	66.000
0094	611.0430	Reconstructing Inlets	EACH	2.000	2.000
0096	611.0535	Manhole Covers Type J-Special	EACH	8.000	8.000
0098	611.0624	Inlet Covers Type H	EACH	16.000	16.000
0100	611.0639	Inlet Covers Type H-S	EACH	2.000	2.000

Estimate Of Quantities

4636-05-72

Line	Item	Item Description	Unit	Total	Qty
0102	611.1230	Catch Basins 2x3-FT	EACH	18.000	18.000
0104	611.2005	Manholes 5-FT Diameter	EACH	6.000	6.000
0106	611.2006	Manholes 6-FT Diameter	EACH	1.000	1.000
0108	611.8110	Adjusting Manhole Covers	EACH	14.000	14.000
0110	611.8115	Adjusting Inlet Covers	EACH	2.000	2.000
0112	619.1000	Mobilization	EACH	1.000	1.000
0114	624.0100	Water	MGAL	50.000	50.000
0116	625.0500	Salvaged Topsoil	SY	13,970.000	13,970.000
0118	628.1504	Silt Fence	LF	1,830.000	1,830.000
0120	628.1520	Silt Fence Maintenance	LF	183.000	183.000
0122	628.2006	Erosion Mat Urban Class I Type A	SY	13,970.000	13,970.000
0124	628.7015	Inlet Protection Type C	EACH	48.000	48.000
0126	628.7504	Temporary Ditch Checks	LF	138.000	138.000
0128	628.7555	Culvert Pipe Checks	EACH	18.000	18.000
0130	629.0210	Fertilizer Type B	CWT	21.000	21.000
0132	630.0140	Seeding Mixture No. 40	LB	253.000	253.000
0134	630.0500	Seed Water	MGAL	311.000	311.000
0136	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	25.000	25.000
0138	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	39.000	39.000
0140	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	3.000	3.000
0142	637.2210	Signs Type II Reflective H	SF	505.250	505.250
0144	637.2230	Signs Type II Reflective F	SF	9.000	9.000
0146	638.2102	Moving Signs Type II	EACH	7.000	7.000
0148	638.2602	Removing Signs Type II	EACH	15.000	15.000
0150	638.3000	Removing Small Sign Supports	EACH	11.000	11.000
0152	638.4000	Moving Small Sign Supports	EACH	1.000	1.000
0154	642.5001	Field Office Type B	EACH	1.000	1.000
0156	643.0300	Traffic Control Drums	DAY	7,000.000	7,000.000
0158	643.0420	Traffic Control Barricades Type III	DAY	1,100.000	1,100.000
0160	643.0705	Traffic Control Warning Lights Type A	DAY	2,200.000	2,200.000
0162	643.0900	Traffic Control Signs	DAY	7,800.000	7,800.000
0164	643.1050	Traffic Control Signs PCMS	DAY	28.000	28.000
0166	643.5000	Traffic Control	EACH	1.000	1.000
0168	645.0120	Geotextile Type HR	SY	32.000	32.000
0170	646.1020	Marking Line Epoxy 4-Inch	LF	26,490.000	26,490.000
0172	646.3020	Marking Line Epoxy 8-Inch	LF	516.000	516.000
0174	646.5020	Marking Arrow Epoxy	EACH	38.000	38.000
0176	646.5220	Marking Symbol Epoxy	EACH	92.000	92.000
0178	646.6020	Marking Stop Line Epoxy 12-Inch	LF	72.000	72.000
0180	650.4000	Construction Staking Storm Sewer	EACH	28.000	28.000
0182	650.4500	Construction Staking Subgrade	LF	4,142.000	4,142.000
0184	650.5000	Construction Staking Base	LF	790.000	790.000
0186	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	660.000	660.000
0188	650.6000	Construction Staking Pipe Culverts	EACH	2.000	2.000
0190	650.7000	Construction Staking Concrete Pavement	LF	4,142.000	4,142.000
0192	650.8000	Construction Staking Resurfacing Reference	LF	2,778.000	2,778.000
0194	650.9920	Construction Staking Slope Stakes	LF	4,142.000	4,142.000
0196	690.0150	Sawing Asphalt	LF	58.000	58.000
0198	690.0250	Sawing Concrete	LF	113.000	113.000
0200	715.0720	Incentive Compressive Strength Concrete Pavement	DOL	5,086.000	5,086.000

Estimate Of Quantities

4636-05-72

Line	Item	Item Description	Unit	Total	Qty
0202	740.0440	Incentive IRI Ride	DOL	7,394.000	7,394.000
0204	SPV.0060	Special 01. Precast Concrete Box Culvert Endwall 6-FT X 3-FT	EACH	1.000	1.000
0206	SPV.0060	Special 02. HOBAS Tee Base Manhole System 0-2	EACH	1.000	1.000
0208	SPV.0060	Special 03. HOBAS Tee Base Manhole System 0-3	EACH	1.000	1.000
0210	SPV.0060	Special 04. HOBAS Tee Base Manhole System 0-4	EACH	1.000	1.000
0212	SPV.0060	Special 05. HOBAS Tee Base Manhole System 0-5	EACH	1.000	1.000
0214	SPV.0060	Special 06. HOBAS Tee Base Manhole System 0-6	EACH	1.000	1.000
0216	SPV.0060	Special 07. HOBAS Tee Base Manhole System 0-7	EACH	1.000	1.000
0218	SPV.0060	Special 08. Sanitary Sewer External Manhole Chimney Seal Extension	EACH	2.000	2.000
0220	SPV.0060	Special 09. Six Inch Sanitary Sewer Insert-A-Tee or Kor-N-Tee	EACH	12.000	12.000
0222	SPV.0060	Special 10. Sanitary Sewer Lateral Marker Ball	EACH	24.000	24.000
0224	SPV.0060	Special 11. Clay Dams	EACH	12.000	12.000
0226	SPV.0060	Special 12. Connect to Existing 10-Inch Sanitary Sewer Main	EACH	2.000	2.000
0228	SPV.0060	Special 13. Connect to Existing 36-Inch Sanitary Sewer Main	EACH	1.000	1.000
0230	SPV.0060	Special 14. Sanitary Sewer Concrete Collar	EACH	2.000	2.000
0232	SPV.0060	Special 15. Closed Circuit Televising - Push Camera	EACH	3.000	3.000
0234	SPV.0060	Special 16. Abandon Sanitary Sewer Manhole	EACH	8.000	8.000
0236	SPV.0060	Special 17. Manhole Chemical Protection Coating Setup	EACH	7.000	7.000
0238	SPV.0060	Special 18. Sanitary Sewer External Manhole Chimney Seal	EACH	7.000	7.000
0240	SPV.0060	Special 19. Sanitary Sewer Manhole Grouting Setup	EACH	7.000	7.000
0242	SPV.0060	Special 20. Manholes 12X12-FT	EACH	1.000	1.000
0244	SPV.0070	Special 01. Additional Grout	GAL	20.000	20.000
0246	SPV.0090	Special 01. 10-Inch Sanitary Sewer (Relay)	LF	90.000	90.000
0248	SPV.0090	Special 02. 36-Inch Sanitary Sewer (New)	LF	2,502.000	2,502.000
0250	SPV.0090	Special 03. 4-Inch/6-Inch Sanitary Sewer Riser (Relay)	LF	132.000	132.000
0252	SPV.0090	Special 04. Rock Excavation	LF	850.000	850.000
0254	SPV.0090	Special 05. Closed Circuit Televising	LF	2,640.000	2,640.000
0256	SPV.0090	Special 06. Abandon 10-Inch Sanitary Sewer	LF	2,600.000	2,600.000
0258	SPV.0090	Special 07. 4-Inch/6-Inch Sanitary Sewer Lateral (Relay)	LF	520.000	520.000
0260	SPV.0195	Special 01. Excavation Special (Sanitary)	TON	30.000	30.000
0262	SPV.0200	Special 01. Standard Sanitary Sewer Manhole (4-Foot Diameter)	VF	18.000	18.000
0264	SPV.0200	Special 02. Chemical Protection Coating	VF	117.000	117.000

REMOVING PAVEMENT

CATEGORY	STATION	TO	STATION	LOCATION	204.0100	420.1000	REMARKS
					REMOVING CONCRETE PAVEMENT SY	CONTINUOUS DIAMOND GRINDING CONC. PAVEMENT SY	
0010	53+27		61+14	CTH I	-	-	ROADWAY
	61+14		79+52	CTH I	-	-	ROADWAY
	79+52		89+41	CTH I	5140	-	ROADWAY
	79+69		80+02	LT	30	-	DRIVEWAY
	224+45		228+20	RIPPLE AVE	390	-	ROADWAY
	225+19		226+64	35TH AVE	500	-	ROADWAY
0020	89+41		117+28	CTH I	-	13700	ROADWAY
TOTAL 0010					6060	0	
TOTAL 0020					0	13700	

EARTHWORK SUMMARY

CATEGORY	DIVISION	STATION	TO	STATION	LOCATION	205.0100	SALVAGED/UNUSABLE PAVEMENT MATERIAL	AVAILABLE MATERIAL	UNEXPANDED FILL	EXPANDED FILL	MASS ORDINATE
						EXCAVATION COMMON CY (1) CUT (2)					
0010	1	53+27		89+50	CTH I	10835	2601	8234	2333	2916	5318
	1	224+45		228+20	RIPPLE AVE	320	166	154	188	235	-81
	1	262+65		263+70	35TH AVE	166	121	45	0	0	45
TOTAL 0010						11321	2888	8433	2521	3151	5282

NOTES:  
 (1) COMMON EXCAVATION IS THE TOTAL CUT. ITEM NUMBER 205.0100  
 (2) CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL  
 (3) SALVAGED/UNUSABLE PAVEMENT MATERIAL  
 (4) AVAILABLE MATERIAL = CUT - SALVAGED UNUSABLE PAVEMENT MATERIAL  
 (5) EXPANDED FILL FACTOR = 1.25  
 (8) MASS ORDINATE = [(AVAILABLE MATERIAL) - ((UNEXPANDED FILL) \* FILL FACTOR)]

BASE AGGREGATE ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	305.0110	305.0120	650.5000
					BASE AGGREGATE DENSE 3/4-INCH TON	BASE AGGREGATE DENSE 1 1/4-INCH TON	CONSTRUCTION STAKING BASE LF
0010	53+28		61+14	CTH I	1390	-	790
	61+14		89+41	CTH I	-	2940	-
TOTAL 0010					1390	2940	790

DRIVEWAY ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	602.0810	465.0120
					CONCRETE DRIVEWAY 6-INCH SY	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON
0010	67+65		68+02	LT	-	10
	68+06		68+23	RT	-	4
	69+15		69+32	RT	-	4
	70+70		70+90	RT	-	5
	72+08		72+65	LT	-	16
	74+80		75+46	LT	-	19
	79+04		79+22	LT	-	5
	79+69		80+02	LT	35	-
	82+52		82+73	RT	-	6
	83+27		83+63	LT	-	10
TOTAL 0010					35	79

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PAVEMENT ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	415.0080	415.0210	416.0610	416.0620	455.0605	460.6224
					CONCRETE PAVEMENT 8-INCH SY	CONCRETE PAVEMENT GAPS EACH	DRILLED TIE BARS EACH	DRILLED DOWEL BARS EACH	TACK COAT GAL	HMA 4MT 58-28S TON
0010	53+27		61+14	CTH I	-	-	6	-	280	1116
	61+14		89+50	CTH I	16953	-	-	70	-	-
	72+00		72+75	CTH I LT	-	1	-	-	-	-
	79+60		80+10	CTH I LT	-	1	-	-	-	-
	226+85		228+20	RIPPLE AVE	-	-	-	30	30	110
TOTAL 0010					16953	2	6	100	310	1226

CURB AND GUTTER & SURFACE DRAINS

CATEGORY	STATION	TO	STATION	LOCATION	602.3010	606.0200	645.0120	601.0342	601.0411	650.5500
					CONCRETE SURFACE DRAINS CY	RIP RAP MEDIUM CY	GEOTXTILE TYPE HR SY	CONCRETE CURB & GUTTER INTEGRAL 18-INCH LF	CONCRETE CURB & GUTTER 30-INCH TYPED LF	CONSTRUCTION STAKING CURB LF
0010	53+28		55+68	CTH I	-	-	-	-	240	240
	54+62		-	CTH I	1	3	7	-	-	-
	56+97		61+14	CTH I	-	-	-	-	420	420
	59+20		-	CTH I	1	3	8	-	-	-
	61+14		62+62	CTH I	-	-	-	350	-	-
	62+20		-	CTH I	2	3	8	-	-	-
	62+60		-	CTH I	1	3	9	-	-	-
	224+45		225+46	RIPPLE AVE	-	-	-	110	-	-
	62+94		88+48	CTH I	-	-	-	5120	-	-
	262+65		263+49	35TH AVE	-	-	-	210	-	-
	88+48		89+50	CTH I RT	-	-	-	110	-	-
TOTAL 0010					5	12	32	5900	660	660

PROJECT

CATEGORY	LOCATION	211.0101	211.0201	213.0100	619.1000	642.5001
		PREPARE FOUNDATION FOR ASPHALTIC PAVING (46360575) EACH	PREPARE FOUNDATION FOR CONCRETE PAVING (46360575) EACH	FINISHING ROADWAY (46360572) EACH	MOBILIZATION EACH	FIELD OFFICE TYPE B EACH
0010	PROJECT LIMITS	1	1	1	1	1
TOTAL 0010		1	1	1	1	1

REMOVING CURB AND GUTTER

CATEGORY	STATION	TO	STATION	LOCATION	204.0150	204.0190
					REMOVING CURB & GUTTER LF	REMOVING SURFACE DRAINS EACH
0010	54+60		-	-	-	1
	62+18		62+63	CTH I LT	170	-
	62+92		63+46	CTH I LT	180	-
	89+09		89+50	CTH I LT	190	-
TOTAL 0010					540	1

PROJECT NO: 4636-05-72

HWY: CTH I

COUNTY: WINNEBAGO

MISCELLANEOUS QUANTITIES

SHEET

E

**REMOVING STORM SEWER**

CATEGORY	STATION	TO STATION	LOCATION	DESCRIPTION	203.0100	204.0210	204.0220	204.0245.01	204.0245.02	204.0245.03	204.0245.04	204.0245.05	611.0430	611.8110	611.8115
					REMOVING SMALL PIPE CULVERTS	REMOVING MANHOLES	REMOVING INLETS	REMOVING STORM SEWER 10 INCH	REMOVING STORM SEWER 12 INCH	REMOVING STORM SEWER 15 INCH	REMOVING STORM SEWER 24 INCH	REMOVING STORM SEWER 42X29 INCH	RECONSTRUCTING INLETS	ADJUSTING MANHOLE COVERS	ADJUSTING INLET COVERS
					EACH	EACH	EACH	LF	LF	LF	LF	LF	EACH	EACH	EACH
0010	55+96	-	RT	-	-	-	-	-	-	-	-	-	-	1	-
	59+87	-	RT	-	-	-	-	-	-	-	-	-	-	1	-
	61+50	-	LTRT	64"X43" CMCP	2	-	-	-	-	-	-	-	-	-	-
	63+00	63+03	LT	-	-	-	-	-	-	-	-	-	-	2	2
	63+36	-	RT	-	-	-	-	-	-	-	-	-	-	1	-
	65+50	-	RT	15" CMCP	1	-	-	-	-	-	-	-	-	-	-
	66+80	-	LTRT	24" CMCP	1	-	-	-	-	-	-	-	-	-	-
	68+37	-	LT	-	-	-	-	-	-	-	-	-	-	1	-
	70+76	-	RT	18" CMCP	1	-	-	-	-	-	-	-	-	1	-
	73+69	-	LT	-	-	-	-	-	-	-	-	-	-	1	-
	75+00	-	LT	18" CMCP	1	-	-	-	-	-	-	-	-	-	-
	75+00	-	RT	15" CMCP	1	-	-	-	-	-	-	-	-	-	-
	76+70	-	RT	18" CMCP	1	-	-	-	-	-	-	-	-	-	-
	78+20	-	LT	15" CMCP	1	-	-	-	-	-	-	-	-	-	-
	79+15	-	LT	18" CMCP	1	-	-	-	-	-	-	-	-	-	-
	78+61	78+67	RT	-	-	-	-	-	-	-	-	-	-	2	-
	79+13	79+45	RT	-	-	1	-	45	-	-	-	-	-	-	-
	79+31	79+45	LT	-	-	-	-	42	-	-	-	-	-	-	-
	79+45	82+01	LTRT	-	-	1	2	-	43	257	-	-	-	-	-
	82+01	84+01	LTRT	-	-	1	2	-	-	204	99	96	-	-	-
	84+01	87+01	LTRT	-	-	-	2	-	-	-	295	-	-	-	-
	87+01	88+22	RT	-	-	-	-	-	66	-	126	-	-	-	-
	88+52	88+73	LT	-	-	-	-	-	-	-	-	-	-	4	-
	263+20	-	LTRT	-	-	-	-	-	-	-	-	-	2	-	-
<b>TOTAL 0010</b>					<b>10</b>	<b>3</b>	<b>6</b>	<b>87</b>	<b>109</b>	<b>461</b>	<b>520</b>	<b>96</b>	<b>2</b>	<b>14</b>	<b>2</b>

**CULVERT SUMMARY**

CATEGORY	STATION	LOCATION	504.0900	520.1015	520.1018	521.3115	521.3118	521.3742	521.6764	650.6000
			CONCRETE MASONRY ENDWALLS	APRON ENDWALLS FOR CULVERT PIPE 15-INCH	APRON ENDWALLS FOR CULVERT PIPE 18-INCH	CULVERT PIPE CORRUGATED STEEL 15-INCH	CULVERT PIPE CORRUGATED STEEL 18-INCH	PIPE ARCH CORRUGATED STEEL 42X29-INCH	PIPE ARCH CORRUGATED STEEL ALUMINUM COATED 64X43-INCH	CONSTRUCTION STAKING PIPE CULVERTS
			CY	EACH	EACH	LF	LF	LF	LF	EACH
0010	61+50	CTHI	20	-	-	-	-	-	168	2
	65+50	CTHI	-	2	-	24	-	-	-	-
	70+80	CTHI	-	-	2	-	29	-	-	-
	83+88	CTHI	-	-	-	-	-	9	-	-
<b>TOTAL 0010</b>			<b>20</b>	<b>2</b>	<b>2</b>	<b>24</b>	<b>29</b>	<b>9</b>	<b>168</b>	<b>2</b>

PROJECT NO: 4636-05-72

HWY: CTH I

COUNTY: WINNEBAGO

MISCELLANEOUS QUANTITIES

SHEET

**E**



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STORM SEWER PIPE

CATEGORY	STRUCTURE	TO	STRUCTURE	START INVERT	END INVERT	608.0005	608.0415	608.0418	608.0421	608.0424	504.2000.S
						STORM SEWER ROCK EXCAVATION	STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 15-INCH	STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 18-INCH	STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 21-INCH	STORM SEWER PIPE REINFORCED CONCRETE CLASS IV 24-INCH	PRECAST CONCRETE BOX CULVERT 6-FTX 3-FT
						CY	LF	LF	LF	LF	LF
0010	IN10A		MH10B	785.00	784.23	-	34	-	-	-	-
0010	IN10C		MH10B	785.00	784.23	-	21	-	-	-	-
0010	MH10B		MH20C	784.23	783.24	-	-	184	-	-	-
0010	OUT20A		IN20B	783.70	783.50	-	-	-	16	-	-
0010	IN20B		MH20C	783.50	783.08	-	-	-	-	27	-
0010	MH20C		IN20D	783.42	785.35	-	-	-	-	21	-
0010	IN20C		OUT20E	783.35	783.30	-	-	-	-	18	-
0010	MH30B		MH20C	783.90	783.42	-	-	160	-	-	-
0010	IN30A		MH30B	784.03	783.90	-	27	-	-	-	-
0010	IN30C		MH30B	784.00	783.90	-	21	-	-	-	-
0010	MH40B		MH30B	784.74	783.90	-	-	282	-	-	-
0010	IN40A		MH40B	784.88	784.74	-	27	-	-	-	-
0010	IN40C		MH40B	784.85	784.74	-	21	-	-	-	-
0010	MH50B		MH40B	785.84	784.74	204	-	275	-	-	-
0010	IN50A		MH50B	785.98	785.84	20	27	-	-	-	-
0010	IN50C		MH50B	785.95	785.84	16	21	-	-	-	-
0010	IN60A		MH60B	785.88	785.75	-	27	-	-	-	-
0010	IN60C		MH60B	785.86	785.75	-	21	-	-	-	-
0010	MH60B		MH70B	785.25	780.00	-	-	250	-	-	-
0010	IN70A		MH70B	780.64	780.50	-	27	-	-	-	-
0010	IN70C		MH70B	780.60	780.50	-	21	-	-	-	-
0010	MH70B		MH80D	780.00	775.01	-	-	204	-	-	-
0020	OUT80A		MH80D	776.10	773.51	-	-	-	-	-	90
0010	IN80B		IN80C	774.42	773.77	-	48	-	-	-	-
0010	IN80C		MH80D	773.77	773.51	-	19	-	-	-	-
0020	MH80D		MH90C	773.51	773.48	-	-	-	-	-	301
0010	IN90A		IN90B	773.58	773.51	-	48	-	-	-	-
0010	IN90B		CC90C	773.51	773.48	-	-	19	-	-	-
0020	CC90C		OUT100	773.48	773.10	-	-	-	-	-	110
0010	IN110A		IN110B	773.11	773.04	-	-	33	-	-	-
TOTAL 0010						240	410	1407	16	66	0
TOTAL 0020						0	0	0	0	0	501

STORM SEWER STRUCTURES

CATEGORY	STRUCTURE NO.	STATION	LOCATION	GRATE/RIM ELEV.	522.1021	522.1024	SPV.0060.01	611.0624	611.0639	611.1230	611.2005	611.2006	611.0535	SPV.0060.19	650.4000
					APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 21-INCH EACH	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 24-INCH EACH	PRECAST CONCRETE BOX CULVERT ENDWALL 6-FT X 3-FT EACH	INLET COVERS TYPE H EACH	INLET COVERS TYPE H-S EACH	CATCH BASINS 2X3-FT DIAMETER EACH	MANHOLES 5-FT DIAMETER EACH	MANHOLES 6- FT DIAMETER EACH	MANHOLE COVERS TYPE J- SPECIAL EACH	MANHOLES 12X12-FT EACH	CONSTRUCTION STAKING STORM SEWER EACH
0010	IN10A	65+00	30.4 LT	788.02	-	-	-	1	-	1	-	-	-	-	1
0010	MH10B	65+00	3 RT	788.54	-	-	-	-	-	-	1	-	1	-	1
0010	IN10C	65+00	24 RT	788.12	-	-	-	1	-	1	-	-	-	-	1
0010	OUT20A	66+83	40 LT	-	1	-	-	-	-	-	-	-	-	-	1
0010	IN20B	66+83	24 LT	787.18	-	-	-	1	-	1	-	-	-	-	1
0010	MH20C	66+83	3 RT	787.60	-	-	-	-	-	-	1	-	1	-	1
0010	IN20D	66+83	24 RT	787.18	-	-	-	1	-	1	-	-	-	-	1
0010	OUT20E	66+83	42 RT	-	-	1	-	-	-	-	-	-	-	-	1
0010	IN30A	68+43	24 LT	786.72	-	-	-	-	1	1	-	-	-	-	1
0010	MH30B	68+43	3 RT	786.99	-	-	-	-	-	-	1	-	1	-	1
0010	IN30C	68+43	24 RT	786.69	-	-	-	-	1	1	-	-	-	-	1
0010	IN40A	71+25	24 LT	787.99	-	-	-	1	-	1	-	-	-	-	1
0010	MH40B	71+25	3 RT	788.41	-	-	-	-	-	-	1	-	1	-	1
0010	IN40C	71+25	24 RT	787.99	-	-	-	1	-	1	-	-	-	-	1
0010	IN50A	74+00	24 LT	789.65	-	-	-	1	-	1	-	-	-	-	1
0010	MH50B	74+00	3 RT	790.07	-	-	-	-	-	-	1	-	1	-	1
0010	IN50C	74+00	24 RT	789.65	-	-	-	1	-	1	-	-	-	-	1
0010	IN60A	79+50	24 LT	789.04	-	-	-	1	-	1	-	-	-	-	1
0010	MH60B	79+50	3 RT	789.46	-	-	-	-	-	-	1	-	1	-	1
0010	IN60C	79+50	24 RT	789.04	-	-	-	1	-	1	-	-	-	-	1
0010	IN70A	82+00	24 LT	783.82	-	-	-	1	-	1	-	-	-	-	1
0010	MH70B	82+00	3 RT	784.24	-	-	-	-	-	-	-	1	1	-	1
0010	IN70C	82+00	24 RT	783.82	-	-	-	1	-	1	-	-	-	-	1
0010	IN80B	83+91	24 LT	779.98	-	-	-	1	-	1	-	-	-	-	1
0010	IN80C	83+98	24 RT	779.94	-	-	-	1	-	1	-	-	-	-	1
0020	MH80D	84+00	43 RT	779.47	-	-	-	-	-	-	-	-	1	1	1
0010	IN90A	87+00	24 LT	775.51	-	-	-	1	-	1	-	-	-	-	1
0010	IN90B	87+00	24 RT	775.51	-	-	-	1	-	1	-	-	-	-	1
0020	OUT100	88+10	43 RT	-	-	-	1	-	-	-	-	-	-	-	-
TOTAL 0010					1	1	-	16	2	18	6	1	7	-	27
TOTAL 0020					-	-	1	-	-	-	-	-	1	1	1

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RESTORATION ITEMS

EROSION CONTROL ITEMS

CATEGORY	STATION	TO	STATION	LOCATION	625.0500 SALVAGED TOPSOIL SY	629.0210 FERTILIZER TYPE B CWT	630.0140 SEEDING MIXTURE NO. 40 LB	630.0500 SEED WATER MGAL
0010	53+28		62+59	LT	1020	1	18	23
	54+01		55+68	RT	270	1	5	6
	56+97		62+69	RT	1220	1	22	27
	62+92		67+69	LT	1240	1	22	28
	62+95		65+43	RT	810	1	15	18
	65+59		68+09	RT	640	1	12	14
	67+98		72+12	LT	1420	1	26	32
	68+20		69+18	RT	180	1	3	4
	69+30		70+73	RT	360	1	6	8
	70+87		75+02	RT	730	1	13	16
	72+61		74+84	LT	660	1	12	15
	75+13		76+67	RT	360	1	6	8
	75+42		78+09	LT	820	1	15	18
	76+78		82+55	RT	1480	1	27	33
	78+24		79+07	LT	220	1	4	5
	79+20		79+68	LT	140	1	3	3
	80+03		83+31	LT	150	1	3	3
	82+70		89+50	RT	1660	2	30	37
	83+59		83+73	LT	550	1	10	12
	89+06		89+50	LT	40	1	1	1
TOTAL 0010					13970	21	253	311

CATEGORY	STATION	TO	STATION	LOCATION	624.0100 WATER MGAL	628.2006 EROSION MAT URBAN CLASS I TYPE A SY	628.1504 SILT FENCE LF	628.1520 SILT FENCE MAINTENANCE LF	628.7015 INLET PROTECTION TYPE C EACH	628.7504 TEMPORARY DITCH CHECKS LF	628.7555 CULVERT PIPE CHECKS EACH
0010	53+28		62+59	LT	-	1020	-	-	1	42	-
	53+28		55+68	RT	-	270	-	-	-	-	-
	56+97		62+69	RT	-	1220	-	-	-	18	8
	62+92		67+69	LT	-	1240	-	-	3	24	2
	62+95		65+43	RT	-	810	-	-	1	12	2
	65+59		68+09	RT	-	640	-	-	1	12	-
	67+98		72+12	LT	-	1420	-	-	2	6	2
	68+20		69+18	RT	-	180	100	10	1	6	-
	69+30		70+73	RT	-	360	150	15	-	6	-
	70+87		75+02	RT	-	730	420	42	2	12	2
	72+61		74+84	LT	-	660	-	-	1	-	2
	75+13		76+67	RT	-	360	-	-	-	-	-
	75+42		78+09	LT	-	820	-	-	-	-	-
	76+78		82+55	RT	-	1480	-	-	3	-	-
	78+24		79+07	LT	-	220	-	-	-	-	-
	79+20		79+68	LT	-	140	-	-	1	-	-
	80+03		83+31	LT	-	150	-	-	2	-	-
	82+70		89+50	RT	-	1660	570	57	4	-	-
	83+59		83+73	LT	-	550	590	59	5	-	-
	89+06		89+50	LT	-	40	-	-	1	-	-
0020	89+50		119+00	LT RT	-	-	-	-	20	-	-
UNDISTRIBUTED					50	-	-	-	-	-	-
TOTAL 0010					50	13970	1830	183	28	138	18
TOTAL 0020					-	-	-	-	20	-	-

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**PERMANENT SIGNING**

CATEGORY	STATION	LOCATION	SIGN #	SIGN CODE	SIZE		638.2602	638.3000	634.0614	634.0616	634.0618	637.2210	637.2230	638.2102	638.4000	MOUNT ON SAME POST AS SIGN #	DESCRIPTION	COMMENTS			
					REMOVING SIGNS TYPE II	REMOVING SMALL SIGN SUPPORTS	POSTS WOOD 4X6 INCH X 14FT	POSTS WOOD 4X6 INCH X 16 FT	POSTS WOOD 4X6 INCH X 18 FT	SIGNS TYPE II REFLECTIVE H	SIGNS TYPE II REFLECTIVE F	MOVING SIGNS TYPE II	MOVING SMALL SIGN SUPPORTS	IN	X				IN	EACH	EACH
0010																					
	52+40	RT	1	R2-1	24	X 30	-	-	1	-	-	5.00	-	-	-	-	REGULATORY SIGN	SPEED LIMIT 40			
	52+40	LT	2	R2-1	24	X 30	-	-	1	-	-	5.00	-	-	-	-	REGULATORY SIGN	SPEED LIMIT 55			
	55+18	RT	3	R3-9B	24	X 36	-	-	-	1	-	6.00	-	-	-	-	REGULATORY SIGN	CENTER LANE LEFT TURN ONLY			
	58+16	RT	100	R2-1	24	X 30	1	1	1	-	-	5.00	-	-	-	-	REGULATORY SIGN	SPEED LIMIT 45			
	58+16	RT	4	R3-17	30	X 24	-	-	1	-	-	5.00	-	-	-	-	REGULATORY SIGN	BIKE LANE			
	58+16	RT	5	R3-17AP	30	X 12	-	-	-	-	-	2.50	-	-	-	5	REGULATORY SIGN	AHEAD			
	61+25	LT	101	-	40	X 24	1	1	-	-	-	6.67	-	-	-	-	INFORMATION SIGN	ADOPT A HIGHWAY			
	61+25	LT	102	-	40	X 18	1	-	-	-	-	5.00	-	-	-	-	INFORMATION SIGN	SPONSOR MAN WORKING FOLDING SIGN			
	61+25	LT	103	-	30	X 30	1	-	-	-	-	6.25	-	-	-	-	-	-			
	61+92	LT	6	R3-17	30	X 24	-	-	1	-	-	5.00	-	-	-	-	REGULATORY SIGN	BIKE LANE			
	61+92	LT	7	R3-17BP	30	X 12	-	-	-	-	-	2.50	-	-	-	6	REGULATORY SIGN	ENDS STREET SIGN W RIPPLE			
	62+48	RT	104	-	9	X 36	-	-	1	-	-	2.25	-	-	-	-	MARKER SIGN	AVE			
	62+48	LT	8	R1-1	30	X 30	-	-	1	-	-	6.25	-	-	-	-	REGULATORY SIGN	STOP			
	62+48	LT	105	R1-1	30	X 30	-	-	1	-	-	6.25	-	-	-	-	REGULATORY SIGN	STOP			
	63+09	RT	9	R1-1	30	X 30	-	-	1	-	-	6.25	-	-	-	-	REGULATORY SIGN	STOP			
	63+09	RT	106	R1-1	30	X 30	1	1	1	-	-	6.25	-	-	-	-	REGULATORY SIGN	STOP			
	64+01	RT	10	R3-17	30	X 24	-	-	-	1	-	5.00	-	-	-	-	REGULATORY SIGN	BIKE LANE			
	64+01	RT	11	R7-1D	18	X 24	-	-	-	-	-	3.00	-	-	-	10	REGULATORY SIGN	NO PARKING ANY TIME (DIRECTIONAL ARROWS)			
	64+89	LT	107	M4-1	36	X 18	-	1	-	-	1	4.50	-	1	-	-	MARKER SIGN	ALTERNATE			
	64+89	LT	108	M1-1	36	X 36	-	-	-	-	-	9.00	-	1	-	107	MARKER SIGN	IH ROUTE MARKER 41			
	64+89	LT	109	M6-1	30	X 30	-	-	-	-	-	6.25	-	1	-	107	MARKER SIGN	DIRECTIONAL ARROW			
	66+65	LT	110	W14-3	48	X 36	1	1	-	1	-	12.00	-	-	-	-	WARNING SIGN	NO PASSING ZONE			
	66+94	RT	12	R3-17	30	X 24	-	-	-	1	-	5.00	-	-	-	-	REGULATORY SIGN	BIKE LANE			
	66+94	RT	13	R7-1D	18	X 24	-	-	-	-	-	3.00	-	-	-	12	REGULATORY SIGN	NO PARKING ANY TIME (DIRECTIONAL ARROWS)			
	66+94	LT	14	R3-17	30	X 24	-	-	-	1	-	5.00	-	-	-	-	REGULATORY SIGN	BIKE LANE			
	66+94	LT	15	R7-1D	18	X 24	-	-	-	-	-	3.00	-	-	-	14	REGULATORY SIGN	NO PARKING ANY TIME (DIRECTIONAL ARROWS)			
	70+00	RT	16	R3-17	30	X 24	-	-	-	1	-	5.00	-	-	-	-	REGULATORY SIGN	BIKE LANE			
	70+00	RT	17	R7-1D	18	X 24	-	-	-	-	-	3.00	-	-	-	16	REGULATORY SIGN	NO PARKING ANY TIME (DIRECTIONAL ARROWS)			
	70+00	LT	18	R3-17	30	X 24	-	-	-	1	-	5.00	-	-	-	-	REGULATORY SIGN	BIKE LANE			
	70+00	LT	19	R7-1D	18	X 24	-	-	-	-	-	3.00	-	-	-	18	REGULATORY SIGN	NO PARKING ANY TIME (DIRECTIONAL ARROWS)			
	72+35	RT	20	R2-1	24	X 30	-	-	1	-	-	5.00	-	-	-	-	REGULATORY SIGN	SPEED LIMIT 40			
	72+35	RT	111	R2-1	24	X 30	1	1	1	-	-	5.00	-	-	-	-	REGULATORY SIGN	SPEED LIMIT 45			
<b>TOTAL 0010</b>							<b>7</b>	<b>6</b>	<b>12</b>	<b>7</b>	<b>1</b>	<b>162.92</b>	<b>0.00</b>	<b>3</b>	<b>0</b>						

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PERMANENT SIGNING

CATEGORY	STATION	LOCATION	#	SIGN CODE	SIZE IN X IN	638.2602	638.3000	634.0614	634.0616	634.0618	637.2210	637.2230	638.2102	638.4000	MOUNT ON SAME POST AS SIGN #	DESCRIPTION	COMMENTS
						REMOVING SIGNS TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH	POSTS WOOD 4X6 INCH X 14FT EACH	POSTS WOOD 4X6 INCH X 16 FT EACH	POSTS WOOD 4X6 INCH X 18 FT EACH	SIGNS TYPE II REFLECTIVE H SF	SIGNS TYPE II REFLECTIVE F SF	MOVING SIGNS TYPE II EACH	MOVING SMALL SIGN SUPPORTS EACH			
0010	73+01	RT	21	R3-17	30 X 24	-	-	-	1	-	5.00	-	-	-	-	REGULATORY SIGN	BIKE LANE NO PARKING ANY TIME
	73+01	RT	22	R7-1D	18 X 24	-	-	-	-	-	3.00	-	-	-	21	REGULATORY SIGN	(DIRECTIONAL ARROWS)
	73+01	LT	23	R3-17	30 X 24	-	-	-	1	-	5.00	-	-	-	-	REGULATORY SIGN	BIKE LANE NO PARKING ANY TIME
	73+01	LT	24	R7-1D	18 X 24	-	-	-	-	-	3.00	-	-	-	23	REGULATORY SIGN	(DIRECTIONAL ARROWS)
	76+00	RT	25	R3-17	30 X 24	-	-	-	1	-	5.00	-	-	-	-	REGULATORY SIGN	BIKE LANE NO PARKING ANY TIME
	76+00	RT	26	R7-1D	18 X 24	-	-	-	-	-	3.00	-	-	-	26	REGULATORY SIGN	(DIRECTIONAL ARROWS)
	76+00	LT	27	R3-17	30 X 24	-	-	-	1	-	5.00	-	-	-	-	REGULATORY SIGN	BIKE LANE NO PARKING ANY TIME
	76+00	LT	28	R7-1D	18 X 24	-	-	-	-	-	3.00	-	-	-	28	REGULATORY SIGN	(DIRECTIONAL ARROWS)
	78+41	LT	29	R2-1	24 X 30	-	-	1	-	-	5.00	-	-	-	-	REGULATORY SIGN	SPEED LIMIT 40
	78+41	LT	112	R2-1	24 X 30	1	1	1	-	-	5.00	-	-	-	-	REGULATORY SIGN	SPEED LIMIT 45
	78+91	LT	30	R3-17	30 X 24	-	-	-	1	-	5.00	-	-	-	-	REGULATORY SIGN	BIKE LANE NO PARKING ANY TIME
	78+91	LT	31	R7-1D	18 X 24	-	-	-	-	-	3.00	-	-	-	30	REGULATORY SIGN	(DIRECTIONAL ARROWS)
	79+00	RT	32	R3-17	30 X 24	-	-	-	1	-	5.00	-	-	-	-	REGULATORY SIGN	BIKE LANE NO PARKING ANY TIME
	79+00	RT	33	R7-1D	18 X 24	-	-	-	-	-	3.00	-	-	-	32	REGULATORY SIGN	(DIRECTIONAL ARROWS)
	79+67	RT	34	R2-1	24 X 30	-	-	1	-	-	5.00	-	-	-	-	REGULATORY SIGN	SPEED LIMIT 40
	79+67	RT	113	R2-1	24 X 30	1	1	1	-	-	5.00	-	-	-	-	REGULATORY SIGN	SPEED LIMIT 45 UNKNOWN TYPE F
	80+99	RT	114	-	30 X 30	-	-	-	1	-	6.25	-	1	-	-	-	FOLDING SIGN
	82+00	RT	35	R3-17	30 X 24	-	-	-	1	-	5.00	-	-	-	-	REGULATORY SIGN	BIKE LANE NO PARKING ANY TIME
	82+00	RT	36	R7-1D	18 X 24	-	-	-	-	-	3.00	-	-	-	35	REGULATORY SIGN	(DIRECTIONAL ARROWS)
	82+00	LT	37	R3-17	30 X 24	-	-	-	1	-	5.00	-	-	-	-	REGULATORY SIGN	BIKE LANE NO PARKING ANY TIME
	82+00	LT	38	R7-1D	18 X 24	-	-	-	-	-	3.00	-	-	-	37	REGULATORY SIGN	(DIRECTIONAL ARROWS)
	83+05	LT	115	W4-2R	36 X 36	1	1	-	-	1	9.00	-	-	-	-	WARNING SIGN	RIGHT LANE ENDS
	83+05	LT	116	-	18 X 24	1	-	-	-	-	3.00	-	-	-	115	REGULATORY SIGN	NO PARKING SYMBOL
	84+30	RT	117	-	18 X 24	-	1	1	-	-	3.00	-	1	-	-	REGULATORY SIGN	PARKING INFORMATION
	85+00	RT	39	R3-17	30 X 24	-	-	-	1	-	5.00	-	-	-	-	REGULATORY SIGN	BIKE LANE NO PARKING ANY TIME
	85+00	RT	40	R7-1D	18 X 24	-	-	-	-	-	3.00	-	-	-	39	REGULATORY SIGN	(DIRECTIONAL ARROWS)
	85+00	LT	41	R3-17	30 X 24	-	-	-	1	-	5.00	-	-	-	-	REGULATORY SIGN	BIKE LANE NO PARKING ANY TIME
	85+00	LT	42	R7-1D	18 X 24	-	-	-	-	-	3.00	-	-	-	41	REGULATORY SIGN	(DIRECTIONAL ARROWS)
<b>TOTAL 0010</b>						4	4	5	11	1	121.25	0.00	2	0			

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**PERMANENT SIGNING**

CATEGORY	STATION	LOCATION	SIGN #	SIGN CODE	SIZE		638.2602	638.3000	634.0614	634.0616	634.0618	637.2210	637.2230	638.2102	638.4000	MOUNT ON SAME POST AS SIGN #	DESCRIPTION	COMMENTS
					REMOVING SIGNS TYPE II	REMOVING SMALL SIGN SUPPORTS	POSTS WOOD 4X6 INCH X 14 FT	POSTS WOOD 4X6 INCH X 16 FT	POSTS WOOD 4X6 INCH X 18 FT	SIGNS TYPE II REFLECTIVE H SF	SIGNS TYPE II REFLECTIVE F SF	MOVING SIGNS TYPE II EACH	MOVING SMALL SIGN SUPPORTS EACH					
0010	88+00	RT	43	R3-17	30	X 24	-	-	-	1	-	5.00	-	-	-	REGULATORY SIGN	BIKE LANE	
																	NO PARKING ANY TIME	
	88+00	RT	44	R7-1D	18	X 24	-	-	-	-	-	3.00	-	-	43	REGULATORY SIGN	(DIRECTIONAL ARROWS)	
	88+00	LT	45	R3-17	30	X 24	-	-	-	1	-	5.00	-	-	-	REGULATORY SIGN	BIKE LANE	
																	NO PARKING ANY TIME	
	88+00	LT	46	R7-1D	18	X 24	-	-	-	-	-	3.00	-	-	45	REGULATORY SIGN	(DIRECTIONAL ARROWS)	
	88+71	LT	47	R1-1	30	X 30	-	-	-	1	-	6.25	-	-	-	REGULATORY SIGN	STOP	
	88+71	LT	118	-	9	X 36	-	-	-	-	-	2.25	-	1	120	MARKER SIGN	STREET SIGN W 35TH AVE	
	88+71	LT	119	-	9	X 36	-	-	-	-	-	2.25	-	1	120	MARKER SIGN	STREET SIGN OREGON ST	
	88+71	LT	120	R1-1	30	X 30	1	-	1	-	-	6.25	-	-	1	REGULATORY SIGN	STOP	
0020	91+00	RT	48	R3-17	30	X 24	-	-	-	1	-	5.00	-	-	-	REGULATORY SIGN	BIKE LANE	
																	NO PARKING ANY TIME	
	91+00	RT	49	R7-1D	18	X 24	-	-	-	-	-	3.00	-	-	48	REGULATORY SIGN	(DIRECTIONAL ARROWS)	
	91+00	LT	50	R3-17	30	X 24	-	-	-	1	-	5.00	-	-	-	REGULATORY SIGN	BIKE LANE	
																	NO PARKING ANY TIME	
	91+00	LT	51	R7-1D	18	X 24	-	-	-	-	-	3.00	-	-	50	REGULATORY SIGN	(DIRECTIONAL ARROWS)	
	94+00	RT	52	R3-17	30	X 24	-	-	-	1	-	5.00	-	-	-	REGULATORY SIGN	BIKE LANE	
																	NO PARKING ANY TIME	
	94+00	RT	53	R7-1D	18	X 24	-	-	-	-	-	3.00	-	-	52	REGULATORY SIGN	(DIRECTIONAL ARROWS)	
	94+00	LT	54	R3-17	30	X 24	-	-	-	1	-	5.00	-	-	-	REGULATORY SIGN	BIKE LANE	
																	NO PARKING ANY TIME	
	94+00	LT	55	R7-1D	18	X 24	-	-	-	-	-	3.00	-	-	54	REGULATORY SIGN	(DIRECTIONAL ARROWS)	
	97+00	RT	56	R3-17	30	X 24	-	-	-	1	-	5.00	-	-	-	REGULATORY SIGN	BIKE LANE	
																	NO PARKING ANY TIME	
	97+00	RT	57	R7-1D	18	X 24	-	-	-	-	-	3.00	-	-	56	REGULATORY SIGN	(DIRECTIONAL ARROWS)	
	97+00	LT	58	R3-17	30	X 24	-	-	-	1	-	5.00	-	-	-	REGULATORY SIGN	BIKE LANE	
																	NO PARKING ANY TIME	
	97+00	LT	59	R7-1D	18	X 24	-	-	-	-	-	3.00	-	-	58	REGULATORY SIGN	(DIRECTIONAL ARROWS)	
	98+27	RT	60	R2-1	24	X 30	-	-	1	-	-	5.00	-	-	-	REGULATORY SIGN	SPEED LIMIT 40	
	98+27	RT	121	R2-1	24	X 30	1	1	1	-	-	5.00	-	-	-	REGULATORY SIGN	SPEED LIMIT 45	
	98+27	LT	61	R2-1	24	X 30	-	-	1	-	-	5.00	-	-	-	REGULATORY SIGN	SPEED LIMIT 40	
	98+27	LT	122	R2-1	24	X 30	1	-	1	-	-	5.00	-	-	-	REGULATORY SIGN	SPEED LIMIT 45	
	100+00	RT	62	R3-17	30	X 24	-	-	-	1	-	5.00	-	-	-	REGULATORY SIGN	BIKE LANE	
																	NO PARKING ANY TIME	
	100+00	RT	63	R7-1D	18	X 24	-	-	-	-	-	3.00	-	-	62	REGULATORY SIGN	(DIRECTIONAL ARROWS)	
	100+00	LT	64	R3-17	30	X 24	-	-	-	1	-	5.00	-	-	-	REGULATORY SIGN	BIKE LANE	
																	NO PARKING ANY TIME	
	100+00	LT	65	R7-1D	18	X 24	-	-	-	-	-	3.00	-	-	64	REGULATORY SIGN	(DIRECTIONAL ARROWS)	
	<b>TOTAL 0010</b>							1	0	1	3	0	33	0	2	1		
	<b>TOTAL 0020</b>							2	1	4	8	0	84	0	0	0		

3

3

PERMANENT SIGNING

3

3

CATEGORY	STATION	LOCATION	SIGN#	SIGNCODE	SIZE	638.2602	638.3000	634.0614	634.0616	634.0618	637.2210	637.2230	638.2102	638.4000	MOUNT ON SAME POST AS SIGN #	DESCRIPTION	COMMENTS
						REMOVING SIGNS TYPE II EACH	REMOVING SMALL SIGN SUPPORTS EACH	POSTS WOOD 4X6 INCH X 14FT EACH	POSTS WOOD 4X6 INCH X 16 FT EACH	POSTS WOOD 4X6 INCH X 18 FT EACH	SIGNS TYPE II REFLECTIVE H SF	SIGNS TYPE II REFLECTIVE F SF	MOVING SIGNS TYPE II EACH	MOVING SMALL SIGN SUPPORTS EACH			
0020	103+00	RT	66	R3-17	30 X 24	-	-	-	1	-	5.00	-	-	-	-	REGULATORY SIGN	BIKE LANE
	103+00	RT	67	R7-1D	18 X 24	-	-	-	-	-	3.00	-	-	-	66	REGULATORY SIGN	NO PARKING ANYTIME (DIRECTIONAL ARROWS)
	103+00	LT	68	R3-17	30 X 24	-	-	-	1	-	5.00	-	-	-	-	REGULATORY SIGN	BIKE LANE
	103+00	LT	69	R7-1D	18 X 24	-	-	-	-	-	3.00	-	-	-	68	REGULATORY SIGN	NO PARKING ANYTIME (DIRECTIONAL ARROWS)
	106+00	RT	70	R3-17	30 X 24	-	-	-	1	-	5.00	-	-	-	-	REGULATORY SIGN	BIKE LANE
	106+00	RT	71	R7-1D	18 X 24	-	-	-	-	-	3.00	-	-	-	70	REGULATORY SIGN	NO PARKING ANYTIME (DIRECTIONAL ARROWS)
	106+00	LT	72	R3-17	30 X 24	-	-	-	1	-	5.00	-	-	-	-	REGULATORY SIGN	BIKE LANE
	106+00	LT	73	R7-1D	18 X 24	-	-	-	-	-	3.00	-	-	-	72	REGULATORY SIGN	NO PARKING ANYTIME (DIRECTIONAL ARROWS)
	109+00	RT	74	R3-17	30 X 24	-	-	-	1	-	5.00	-	-	-	-	REGULATORY SIGN	BIKE LANE
	109+00	RT	75	R7-1D	18 X 24	-	-	-	-	-	3.00	-	-	-	74	REGULATORY SIGN	NO PARKING ANYTIME (DIRECTIONAL ARROWS)
	109+00	LT	76	R3-17	30 X 24	-	-	-	1	-	5.00	-	-	-	-	REGULATORY SIGN	BIKE LANE
	109+00	LT	77	R7-1D	18 X 24	-	-	-	-	-	3.00	-	-	-	76	REGULATORY SIGN	NO PARKING ANYTIME (DIRECTIONAL ARROWS)
	112+00	RT	78	R3-17	30 X 24	-	-	-	1	-	5.00	-	-	-	-	REGULATORY SIGN	BIKE LANE
	112+00	RT	79	R7-1D	18 X 24	-	-	-	-	-	3.00	-	-	-	78	REGULATORY SIGN	NO PARKING ANYTIME (DIRECTIONAL ARROWS)
	112+00	LT	80	R3-17	30 X 24	-	-	-	1	-	5.00	-	-	-	-	REGULATORY SIGN	BIKE LANE
	112+00	LT	81	R7-1D	18 X 24	-	-	-	-	-	3.00	-	-	-	80	REGULATORY SIGN	NO PARKING ANYTIME (DIRECTIONAL ARROWS)
	115+00	RT	82	R3-17	30 X 24	-	-	-	1	-	5.00	-	-	-	-	REGULATORY SIGN	BIKE LANE
	115+00	RT	83	R7-1D	18 X 24	-	-	-	-	-	3.00	-	-	-	82	REGULATORY SIGN	NO PARKING ANYTIME (DIRECTIONAL ARROWS)
	115+00	LT	84	R3-17	30 X 24	-	-	-	1	-	5.00	-	-	-	-	REGULATORY SIGN	BIKE LANE
	115+00	LT	85	R7-1D	18 X 24	-	-	-	-	-	3.00	-	-	-	84	REGULATORY SIGN	NO PARKING ANYTIME (DIRECTIONAL ARROWS)
	116+84	LT	86	R2-1	24 X 30	-	-	1	-	-	5.00	-	-	-	-	REGULATORY SIGN	SPEED LIMIT 40
	116+84	LT	123	R2-1	24 X 30	1	-	1	-	-	5.00	-	-	-	-	REGULATORY SIGN	SPEED LIMIT 45
	118+75	LT	87	R3-7	30 X 30	-	-	-	-	1	6.25	-	-	-	-	REGULATORY SIGN	LEFT LANE MUST TURN LEFT
	118+75	LT	88	W9-1L	36 X 36	-	-	-	-	-	-	9.00	-	-	87	WARNING SIGN	LEFT LANE ENDS
0010	61+25	LT	89	I55-56	30 X 18	-	-	1	-	-	3.75	-	-	-	-		
	61+25	LT	90	I56-56P	30 X 18	-	-	-	-	-	3.75	-	-	-	89		
	<b>TOTAL 0010</b>					0	0	1	0	0	7.50	0.00	0	0			
	<b>TOTAL 0020</b>					1	0	2	10	1	96.25	9	0	0			

TRAFFIC CONTROL ITEMS

CATEGORY	STATION N	TO	STATION N	DAYS	643.0300	643.0420	643.0705	643.0900	643.1050	643.5000
					TRAFFIC CONTROL DRUMS	TRAFFIC CONTROL BARRICADES TYPE III	TRAFFIC CONTROL WARNING LIGHTS TYPE A	TRAFFIC CONTROL SIGNS	TRAFFIC CONTROL SIGNS PCMS	TRAFFIC CONTROL
					DAY	DAY	DAY	DAY	DAY	EACH
0010	53+27	-	117+28	120	7000	1100	2200	7800	28	1
TOTAL					7000	1100	2200	7800	28	1

PAVEMENT MARKINGS

CATEGORY	STATION	TO	STATION	LOCATION	646.1020	646.3020	646.6020	646.5020	646.5220
					MARKING LINE EPOXY 4-INCH	MARKING LINE EPOXY 8-INCH	MARKING STOP LINE EPOXY 12-INCH	MARKING ARROW EPOXY	MARKING SYMBOL EPOXY
					LF	LF	LF	EACH	EACH
0010	53+28		62+22	CTH I	3170	320	33	4	-
0010	63+39		89+50	CTH I	11710	196	17	14	48
0020	89+50		116+92	CTH I	11610	-	22	20	44
TOTAL 0010					14880	516	50	18	48
TOTAL 0020					11610	-	22	20	44

SAWING

CATEGORY	STATION	LOCATION	690.0150	690.0250
			SAWING ASPHALT LF	SAWING CONCRETE LF
0010	53+28	CTH I	37	-
	89+50	CTH I	-	45
	224+45	RIPPLE	-	36
	228+20	RIPPLE	21	-
	262+65	35TH	-	32
TOTAL 0010			58	113

CONSTRUCTION STAKING

CATEGORY	STATION	TO	STATION	LOCATION	650.4500	650.7000	650.8000	650.9920
					CONSTRUCTION STAKING SUBGRADE LF	CONSTRUCTION STAKING CONCRETE PAVEMENT LF	CONSTRUCTION STAKING RESURFACE REFERENCE LF	CONSTRUCTION STAKING SLOPE STAKES LF
0010	53+28		89+50	CTH I	3622	3622	-	3622
0020	89+50		117+28	CTH I	-	-	2778	-
0010	224+45		228+20	RIPPLEAVE	375	375	-	375
0010	225+19		226+64	35TH AVE	145	145	-	145
TOTAL 0010					4142	4142	-	4142
TOTAL 0020					-	-	2778	-



3

			BID ITEM SPV.0090.01
			10-INCH SANITARY SEWER (RELAY)
STREET	START STRUCTURE	END STRUCTURE	L.F.
OREGON STREET	O-2	CO-1	41.6
OREGON STREET	O-2	O-1	34.2
OREGON STREET	O-1	CO-2	11.1
UNDISTRIBUTED			3.1
BID ITEM - SPV.0090.01 TOTALS			90.0

			BID ITEM SPV.0090.02
			36-INCH SANITARY SEWER (NEW)
STREET	START STRUCTURE	END STRUCTURE	L.F.
OREGON STREET	CO-2	O-7	395.9
OREGON STREET	O-7	O-6	388.3
OREGON STREET	O-6	O-5	442.0
OREGON STREET	O-5	O-4	492.0
OREGON STREET	O-4	O-3	492.0
OREGON STREET	O-3	O-2	291.8
UNDISTRIBUTED			
BID ITEM - SPV.0090.02 TOTALS			2502.0

				BID ITEM	BID ITEM
				SPV.0060.16	SPV.0090.06
				ABANDON SANITARY SEWER MANHOLE	ABANDON 10-INCH SANITARY SEWER
STREET	MH	MH	OFFSET	EACH	L.F.
OREGON STREET		14-1071	24.4 RT	1	
OREGON STREET		14-1072	23.6 RT	1	
OREGON STREET		14-1073	29.9 RT	1	
OREGON STREET		14-1074	29.4 RT	1	
OREGON STREET		14-784	33.4 RT	1	
OREGON STREET		14-783	34.3 RT	1	
OREGON STREET		14-782	35.4 RT	1	
OREGON STREET		14-872B	26.5 RT	1	
OREGON STREET	14-1070	14-1071	24.4 RT		388.2
OREGON STREET	14-1071	14-1072	23.6 RT		384.5
OREGON STREET	14-1072	14-1073	29.9 RT		228.2
OREGON STREET	14-1073	14-1074	29.3 RT		412.5
OREGON STREET	14-1074	14-784	33.4 RT		386.1
OREGON STREET	14-784	14-783	33.3 RT		307.5
OREGON STREET	14-783	14-782	35.3 RT		396.9
OREGON STREET	14-782	14-782B	VARIES		61.1
OREGON STREET	14-782B	14-782C	VARIES		33.0
OREGON STREET TOTALS				8.0	2598.0
UNDISTRIBUTED TOTALS				0.0	2.0
CONTRACT TOTALS				8.0	2600.0

		BID ITEM SPV.0200.01	BID ITEM SPV.0060.18	BID ITEM SPV.0060.08	BID ITEM SPV.0200.02	BID ITEM SPV.0060.17
		STANDARD SANITARY SEWER MANHOLE (4-FOOT DIAMETER)	SANITARY SEWER EXTERNAL MANHOLE CHIMNEY SEAL	SANITARY SEWER EXTERNAL MANHOLE CHIMNEY SEAL EXTENSION	CHEMICAL PROTECTION COATING	MANHOLE CHEMICAL PROTECTION COATING SETUP
STREET	NUMBER	V.F.	EACH	EACH	V.F.	EACH
OREGON STREET	O-1	17.6	1.0		17.6	1.0
OREGON STREET	O-2		1.0		16.0	1.0
OREGON STREET	O-3		1.0		15.3	1.0
OREGON STREET	O-4		1.0		15.9	1.0
OREGON STREET	O-5		1.0		21.2	1.0
OREGON STREET	O-6		1.0		19.2	1.0
OREGON STREET	O-7		1.0		11.6	1.0
OREGON STREET TOTALS		17.6	7.0	0.0	116.8	7.0
UNDISTRIBUTED TOTAL		0.45	0.00	2.00	0.21	0.00
CONTRACT TOTALS		18.00	7.00	2.00	117.00	7.00

				BID ITEM SPV.0060.12	BID ITEM SPV.0060.13	BID ITEM SPV.0060.14
				CONNECT TO EXISTING 10-INCH SANITARY SEWER MAIN	CONNECT TO EXISTING 36- INCH SANITARY SEWER MAIN	SANITARY SEWER CONCRETE COLLAR
STREET	NUMBER	STA.	OFFSET	EACH	EACH	EACH
OREGON ST	CO-1	62+79.0	49.5 LT	1.0		
OREGON ST	CO-2	62+68.4	26.6 RT	1.0		
OREGON ST	CO-3	88+25.7	7.8 LT		1.0	
OREGON STREET TOTAL				2.0	1.0	0.0
UNDISTRIBUTED TOTAL				0.0	0.0	2.0
CONTRACT TOTAL				2.0	1.0	2.0

		BID ITEM SPV.0060.02	BID ITEM SPV.0060.03	BID ITEM SPV.0060.04	BID ITEM SPV.0060.05	BID ITEM SPV.0060.06	BID ITEM SPV.0060.07
		HOBAS TEE BASE MANHOLE SYSTEM 0-2	HOBAS TEE BASE MANHOLE SYSTEM 0-3	HOBAS TEE BASE MANHOLE SYSTEM 0-4	HOBAS TEE BASE MANHOLE SYSTEM 0-5	HOBAS TEE BASE MANHOLE SYSTEM 0-6	HOBAS TEE BASE MANHOLE SYSTEM 0-7
STREET	NUMBER	EACH	EACH	EACH	EACH	EACH	EACH
OREGON ST	O-2	1.00					
OREGON ST	O-3		1.00				
OREGON ST	O-4			1.00			
OREGON ST	O-5				1.00		
OREGON ST	O-6					1.00	
OREGON ST	O-7						1.00
OREGON STREET TOTALS		1.00	1.00	1.00	1.00	1.00	1.00
UNDISTRIBUTED TOTAL		0.00	0.00	0.00	0.00	0.00	0.00
CONTRACT TOTALS		1.00	1.00	1.00	1.00	1.00	1.00

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			BID ITEM SPV.0090.04
			ROCK EXCAVATION
STREET	STA.	STA.	LINEAR FEET
UNDISTRIBUTED			850.0
CONTRACT TOTALS			850.0

		BID ITEM
		SPV.0195.01
		EXCAVATION SPECIAL (SANITARY)
		TON
UNDISTRIBUTED TOTAL		30
CONTRACT TOTAL		30

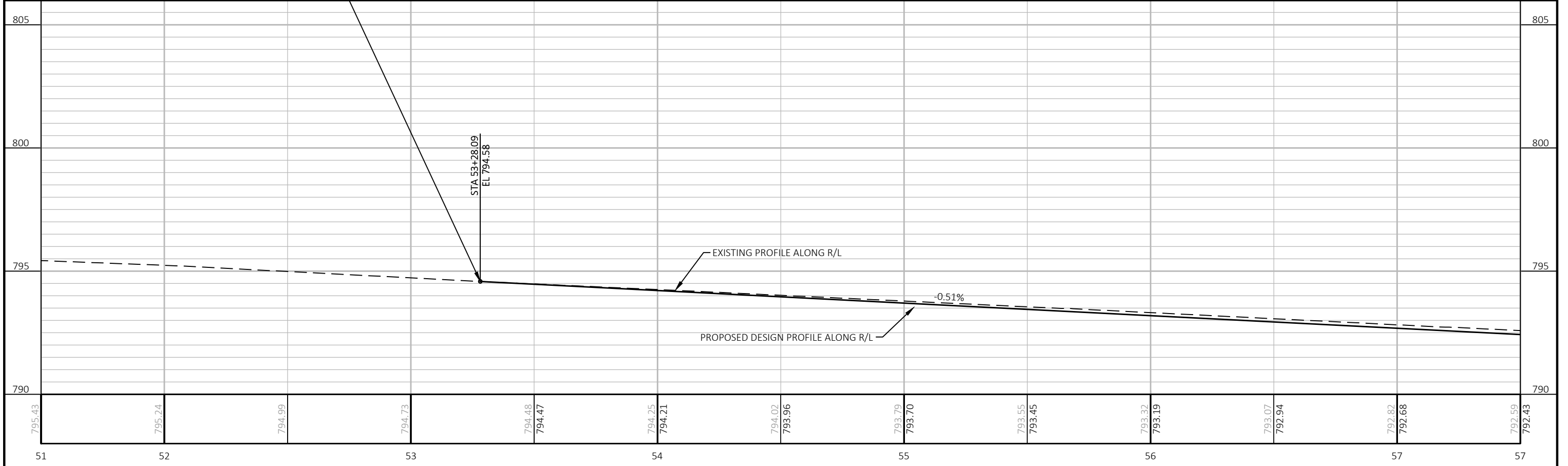
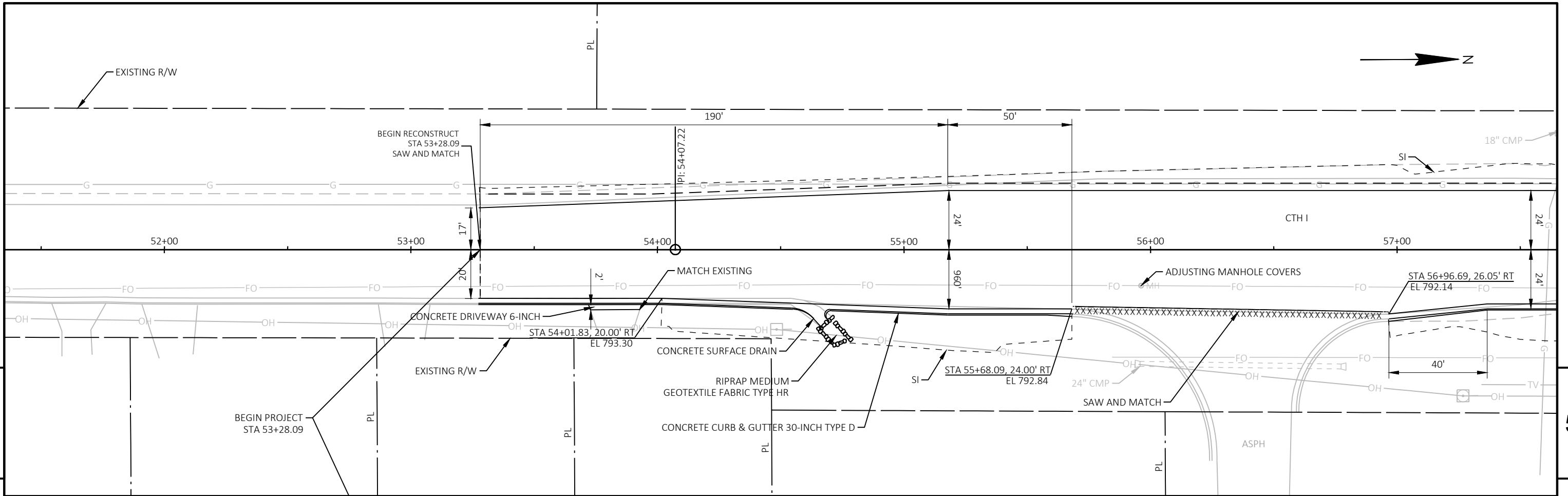
BID ITEM SPV.0090.05
CLOSED CIRCUIT TELEVISIONING
LINEAR FOOT
2640.0

BID ITEM SPV.0060.15
CLOSED CIRCUIT TELEVISIONING - PUSH CAMERA
LINEAR FOOT
3.0

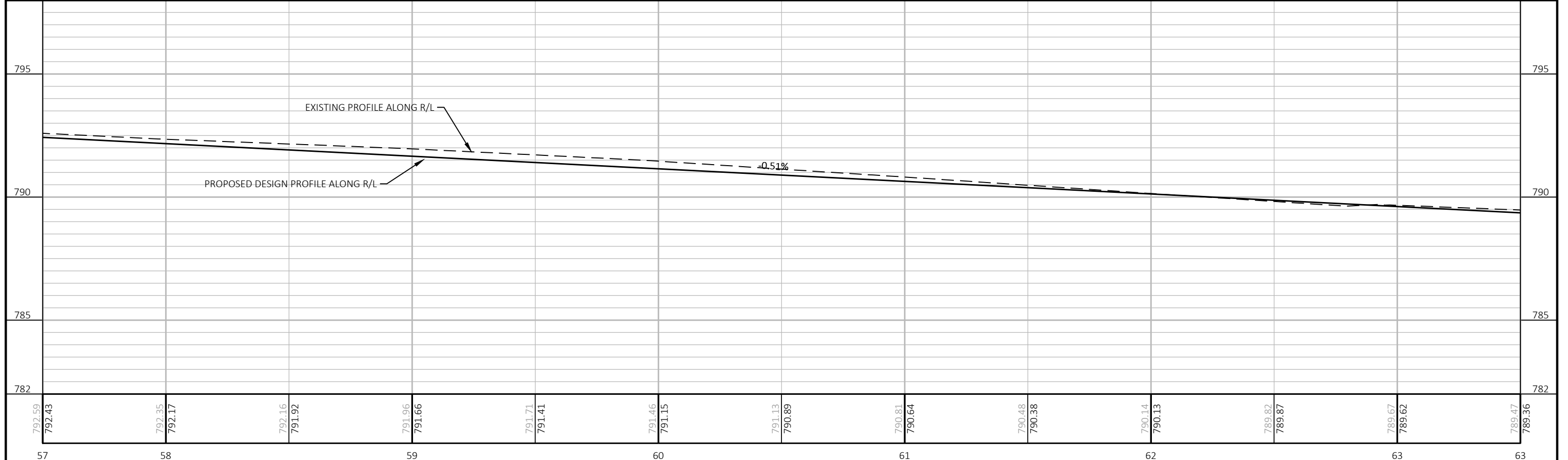
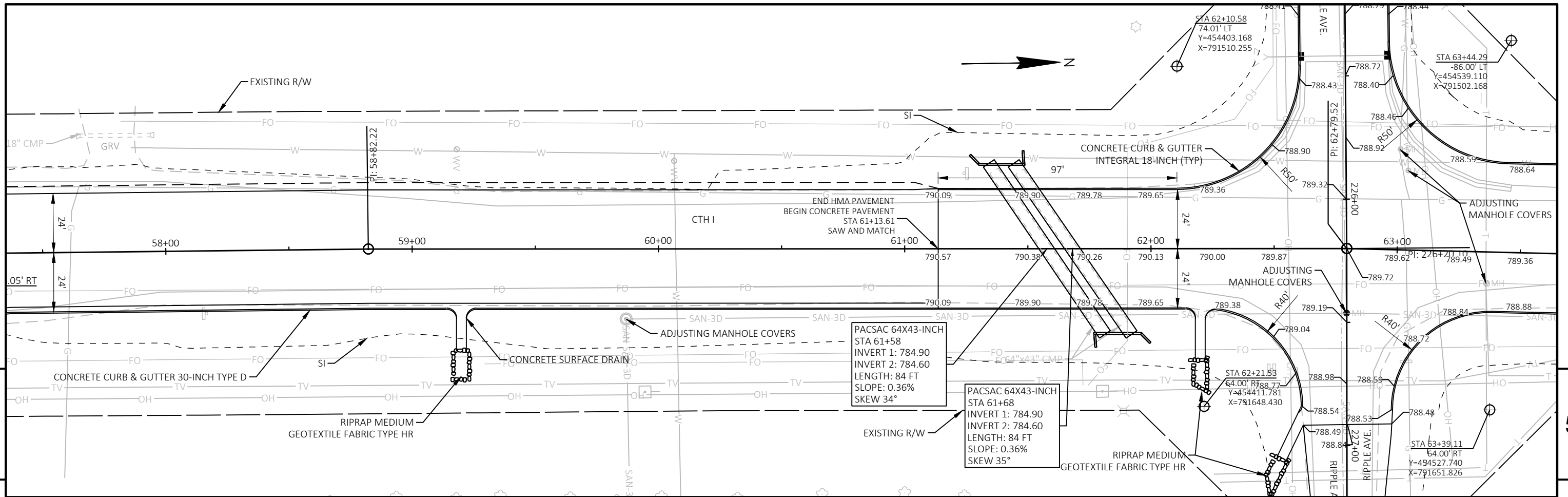
BID ITEM SPV.0060.19
SANITARY SEWER MANHOLE GROUTING SETUP
EACH
4.0

BID ITEM SPV.0070.01
ADDITIONAL GROUT
GALLON
20.0

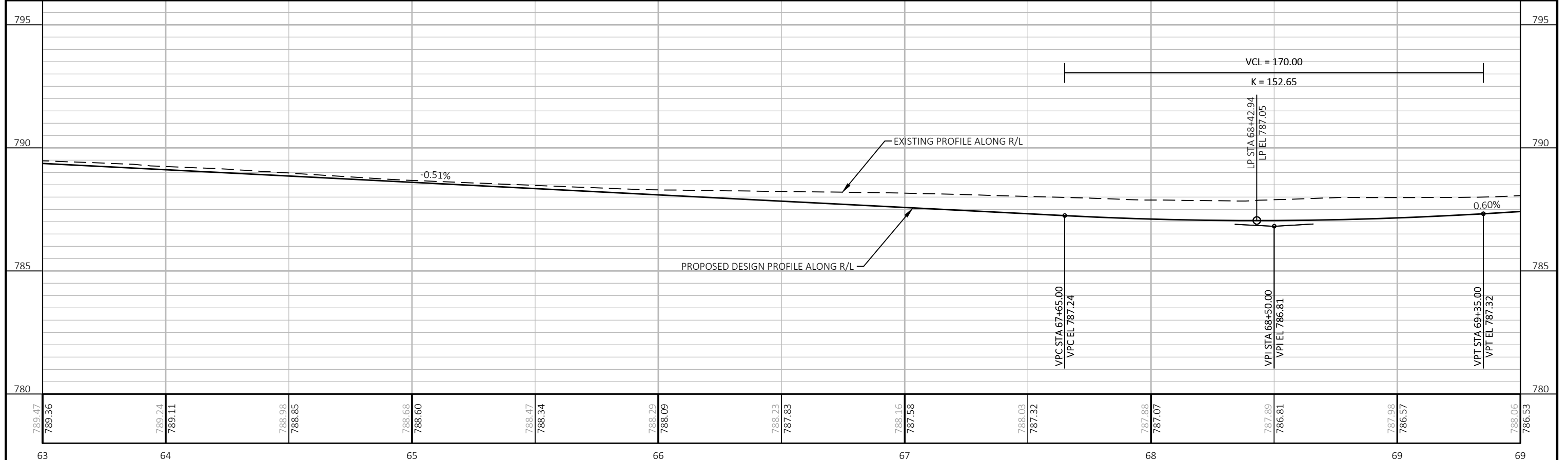
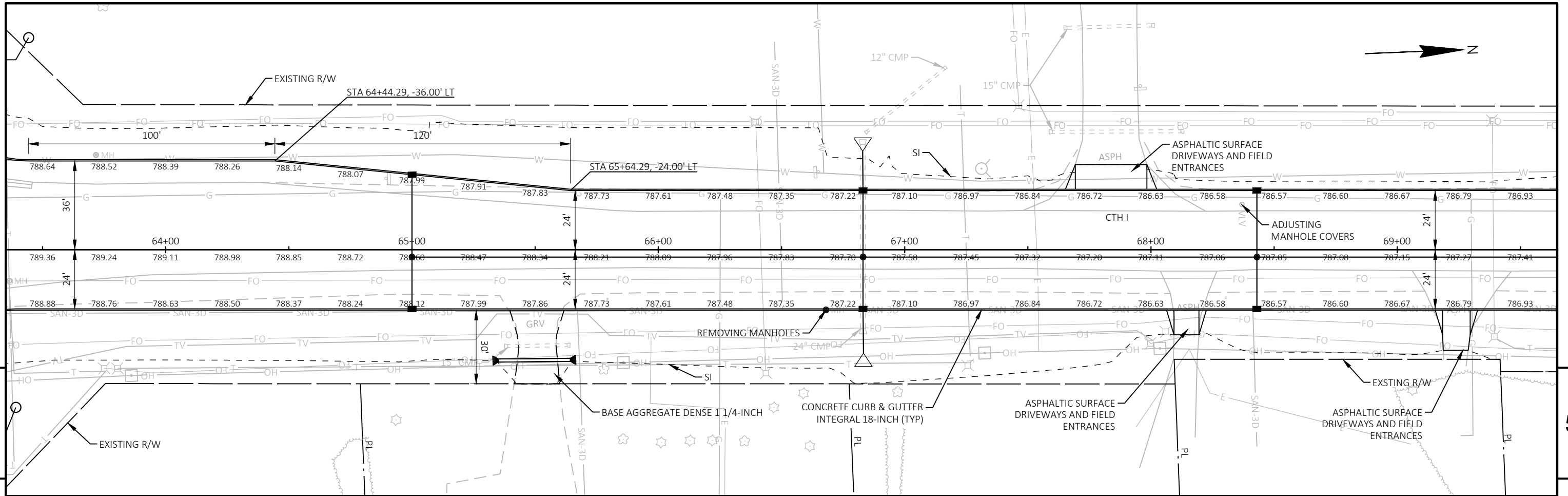
SANITARY LATERALS						
		BID ITEM	BID ITEM	BID ITEM	BID ITEM	BID ITEM
		SPV.0060.09	SPV.0090.07	SPV.0090.03	SPV.0060.10	SPV.0060.11
		SIX INCH SANITARY SEWER "INSERT-A-TEE" OR "KOR-N-TEE"	4-INCH/6-INCH SANITARY SEWER LATERAL (RELAY)	4-INCH/6-INCH SANITARY SEWER RISER (RELAY)	SANITARY SEWER LATERAL MARKER BALL	CLAY DAMS
HOUSE NUMBER	STREET	EACH	L.F.	L.F.	EACH	EACH
3815	OREGON ST	1	80	16	2	1
3820	OREGON ST	1	40	8	2	1
3806	OREGON ST	1	40	8	2	1
3784	OREGON ST	1	40	8	2	1
3729	OREGON ST	1	40	10	2	1
3718	OREGON ST	1	40	12	2	1
3669	OREGON ST	1	40	12	2	1
VAC LOT	12002003	1	40	12	2	1
3682	OREGON ST	1	40	12	2	1
3649	OREGON ST	1	40	12	2	1
3601	OREGON ST	1	40	12	2	1
3594	OREGON ST	1	40	10	2	1
<b>BEECH STREEET</b>		<b>12</b>	<b>520</b>	<b>132</b>	<b>24</b>	<b>12</b>
UNDISTRIBUTED		0	0	0	0	0
<b>CONTRACT TOTALS</b>		<b>12</b>	<b>520</b>	<b>132</b>	<b>24</b>	<b>12</b>



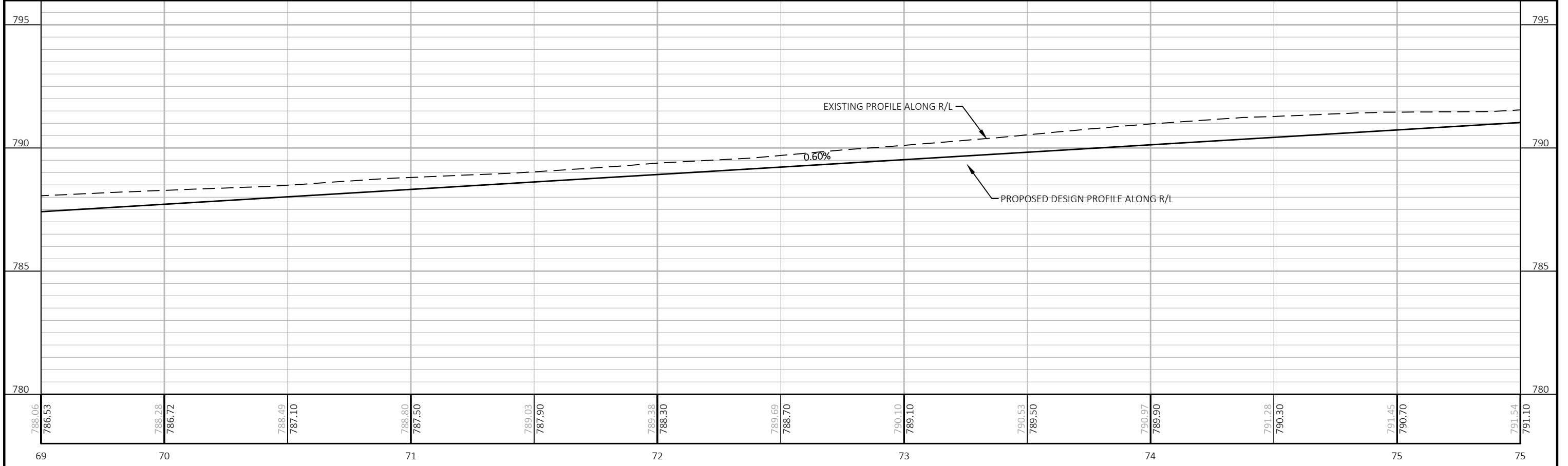
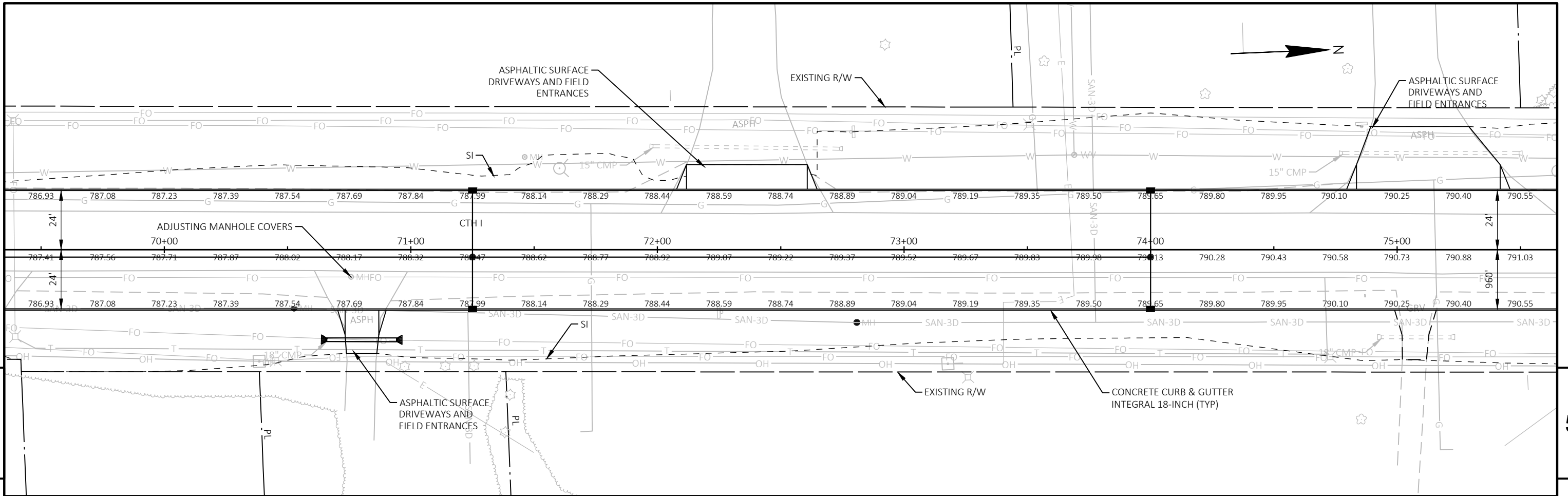
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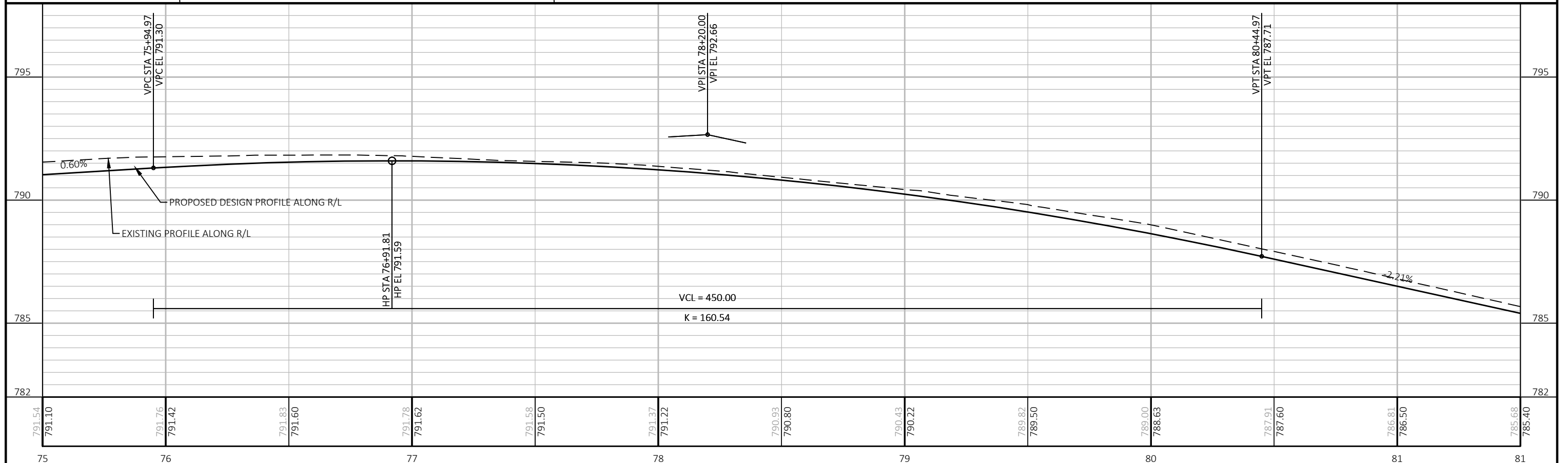
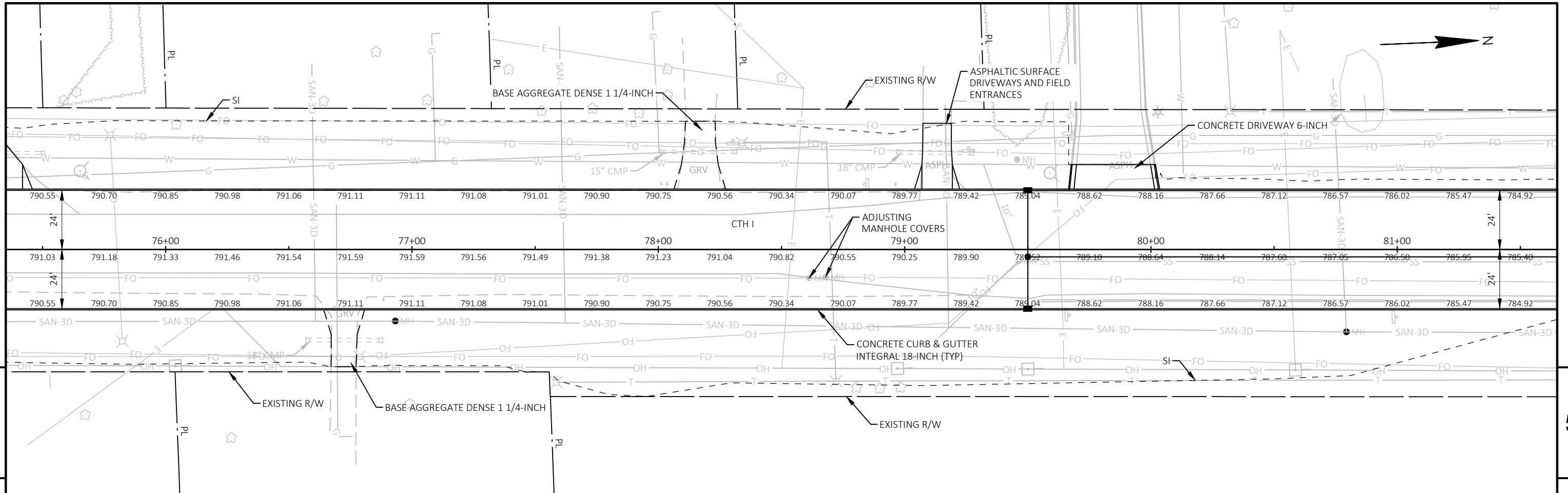
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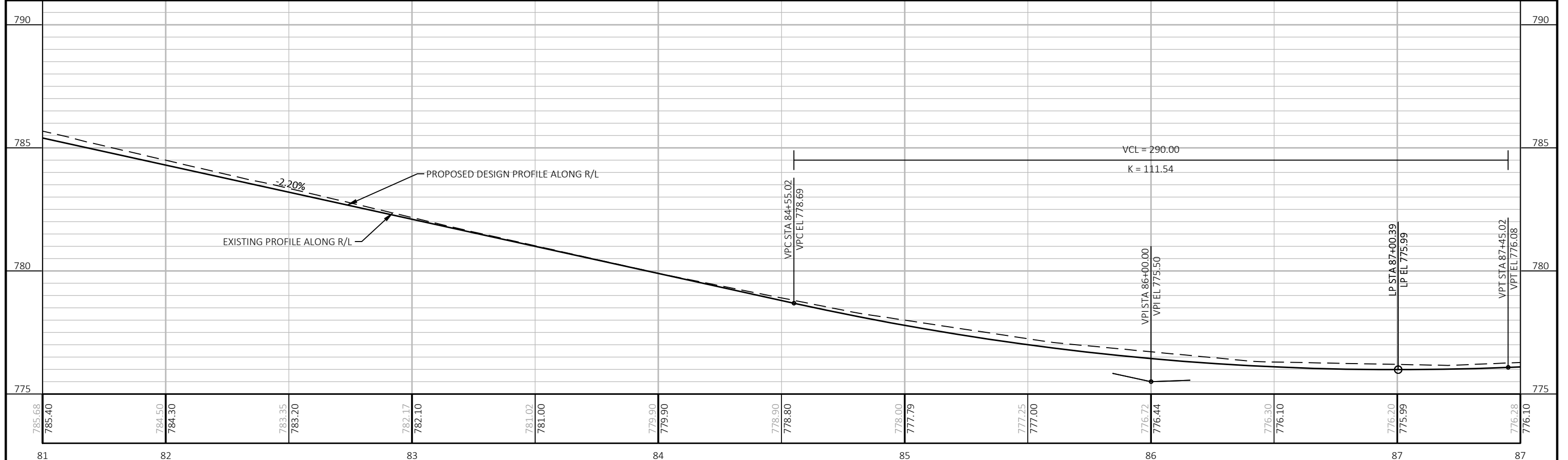
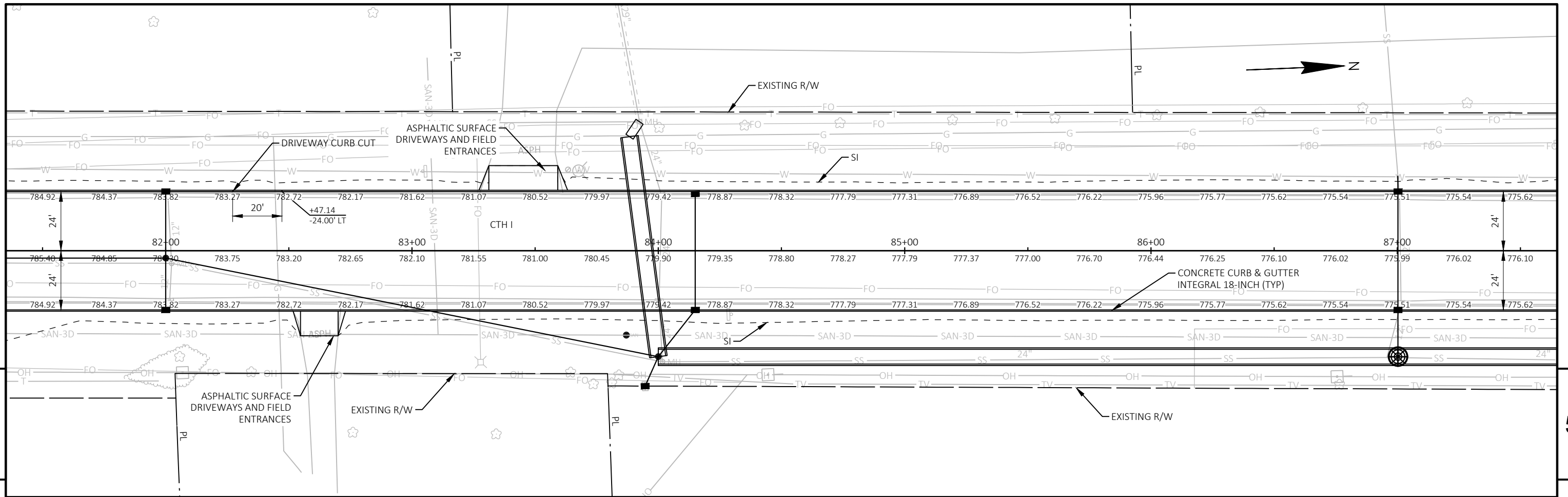
PROJECT NO: 4636-05-72	HWY: CTH I	COUNTY: WINNEBAGO	PLAN AND PROFILE: STA 63+50 TO 69+50	SHEET	<b>E</b>
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PROJECT NO: 4636-05-72	HWY: CTH I	COUNTY: WINNEBAGO	PLAN AND PROFILE: STA 69+50 TO 75+50	SHEET	<b>E</b>
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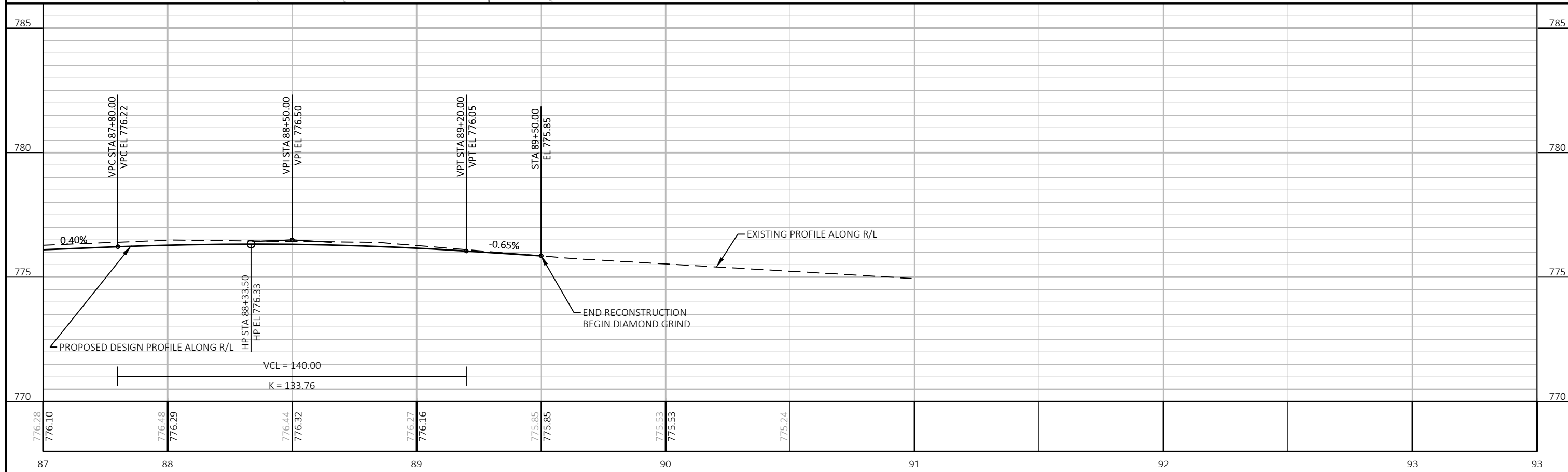
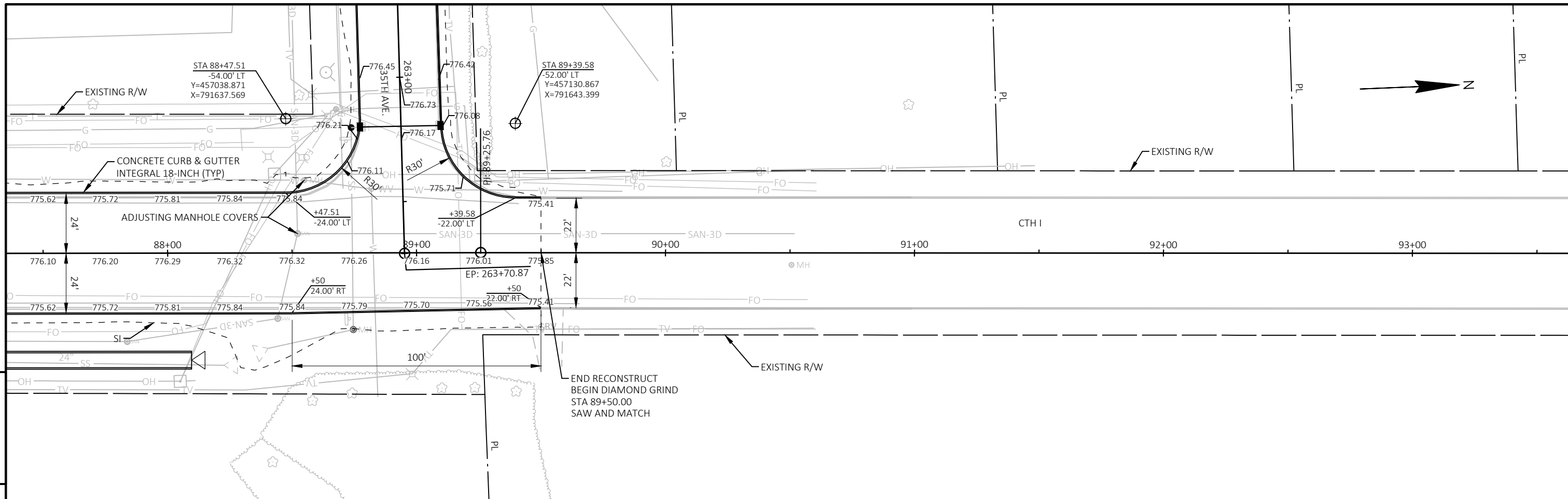


PROJECT NO: 4636-05-72	HWY: CTH I	COUNTY: WINNEBAGO	PLAN AND PROFILE: STA 75+50 TO 81+50	SHEET E
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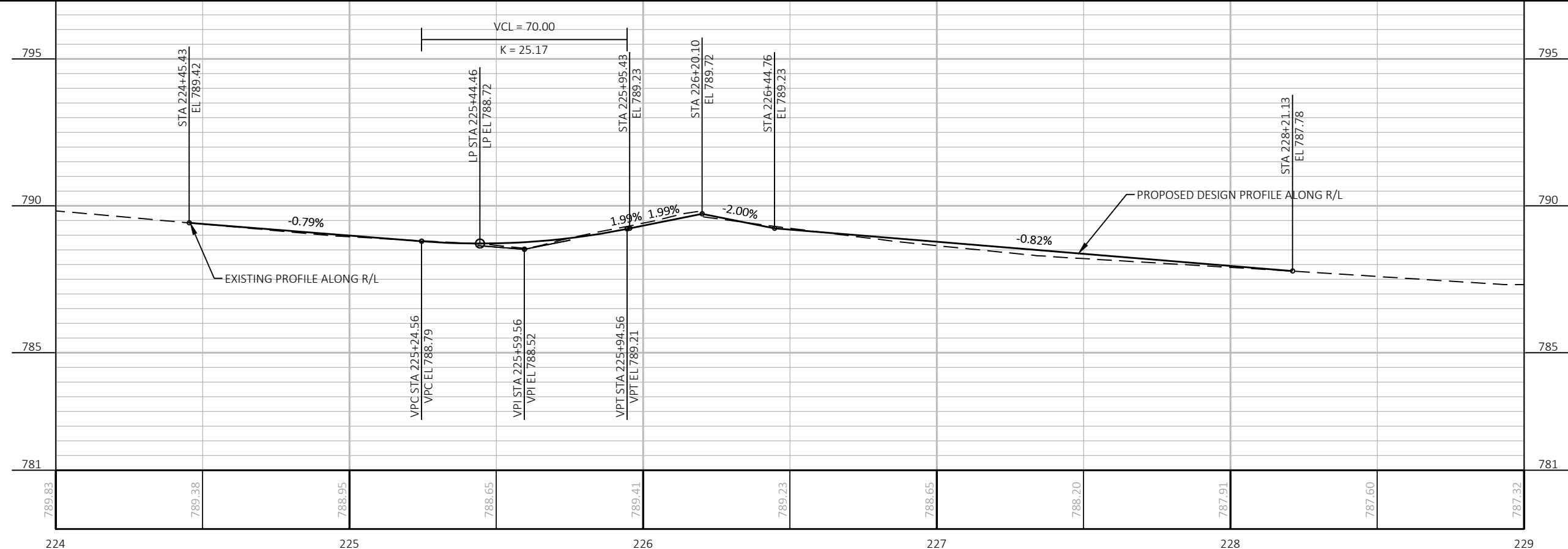
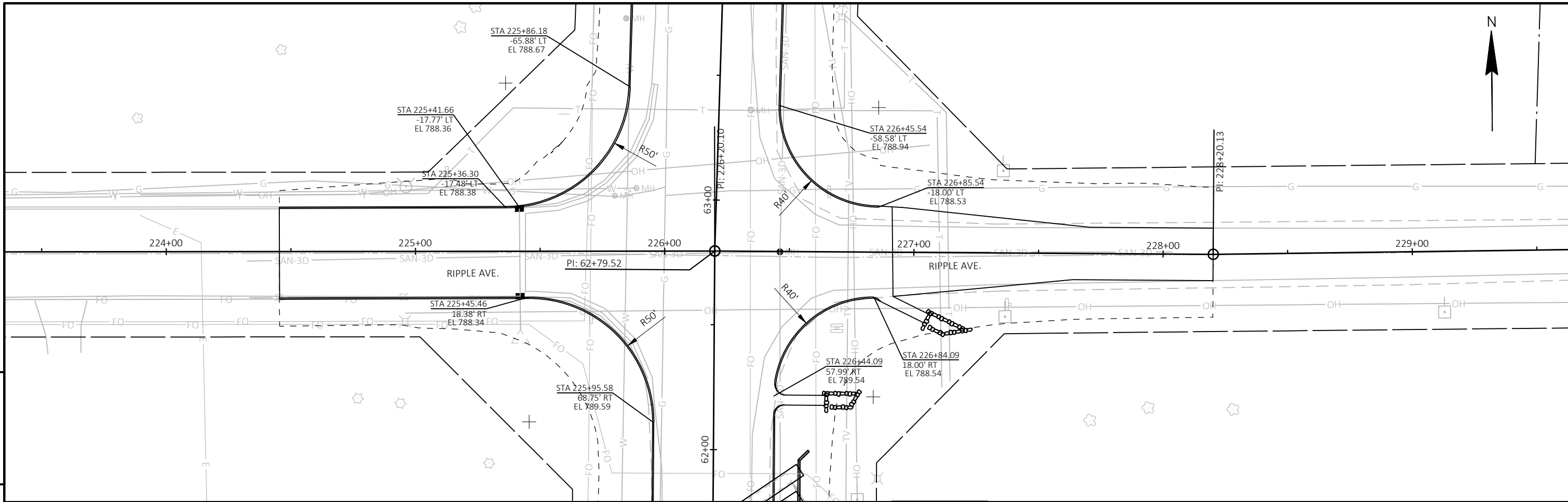


PROJECT NO: 4636-05-72	HWY: CTH I	COUNTY: WINNEBAGO	PLAN AND PROFILE: STA 81+50 TO 87+50	SHEET	<b>E</b>
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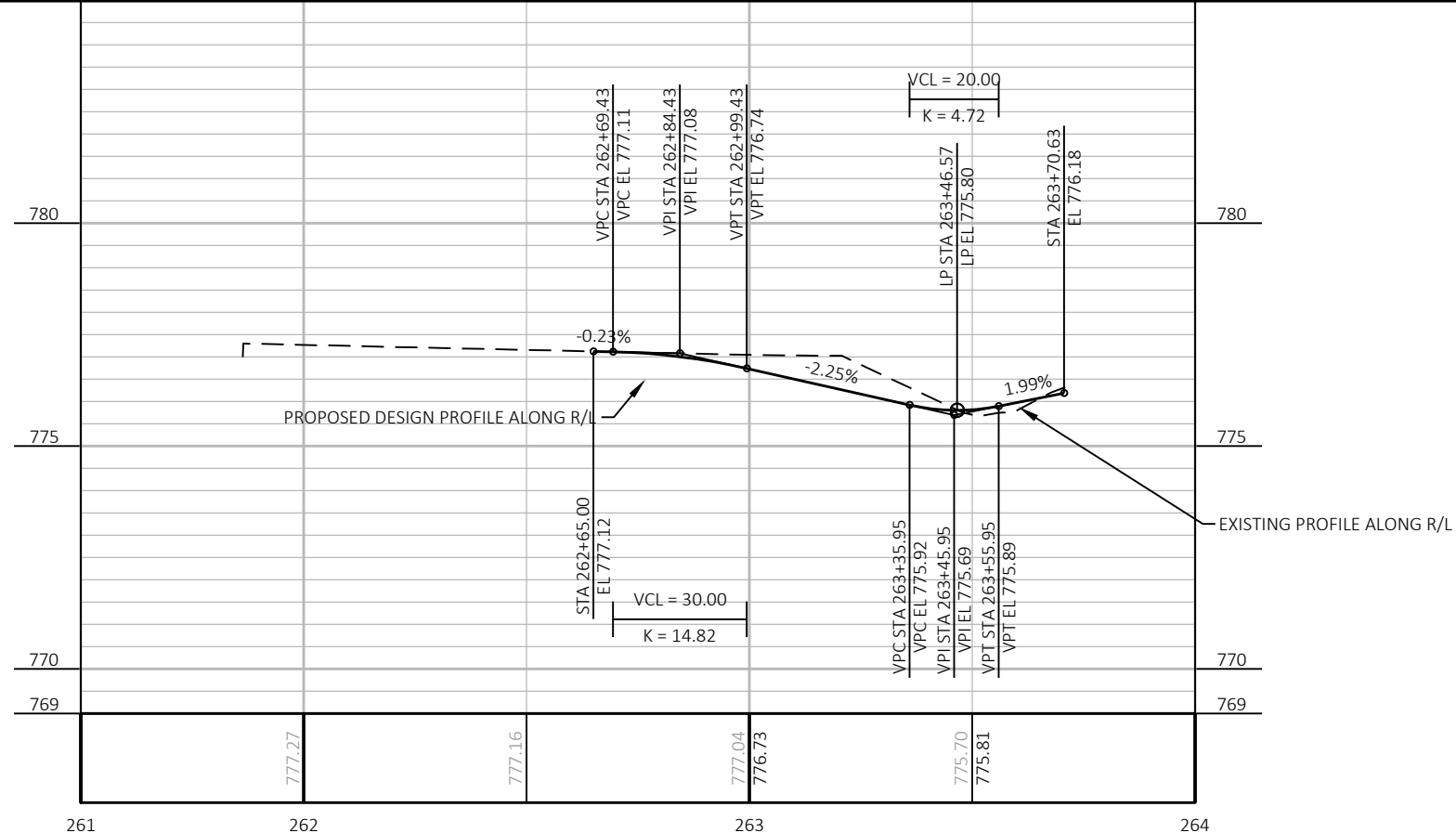
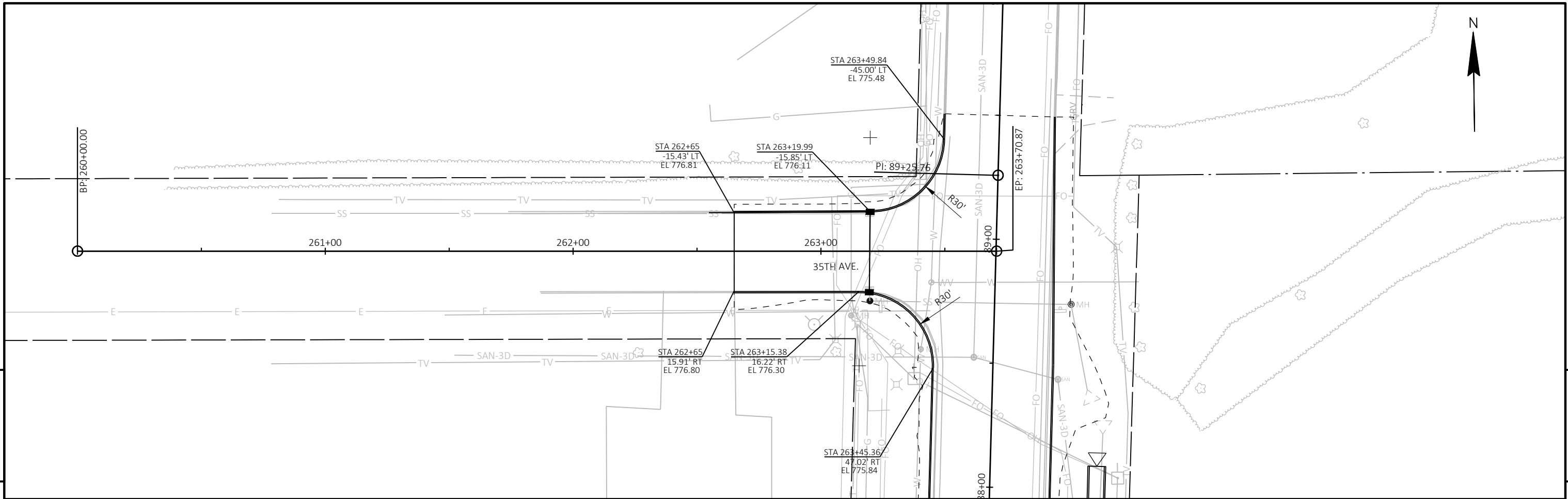




PROJECT NO: 4636-05-72	HWY: CTH I	COUNTY: WINNEBAGO	PLAN AND PROFILE: STA 87+50 TO 93+50	SHEET	<b>E</b>
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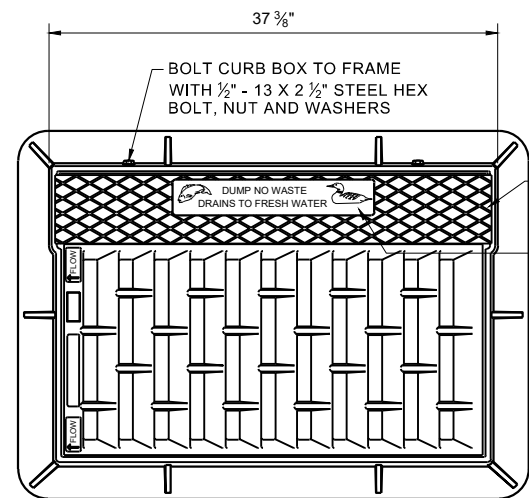


PROJECT NO: 4636-05-72      HWY: CTH I      COUNTY: WINNEBAGO      PLAN AND PROFILE: ----      SHEET: **E**

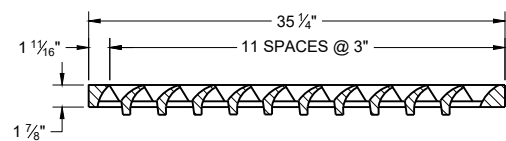
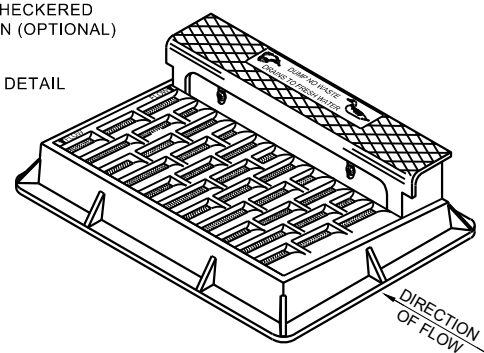


## Standard Detail Drawing List

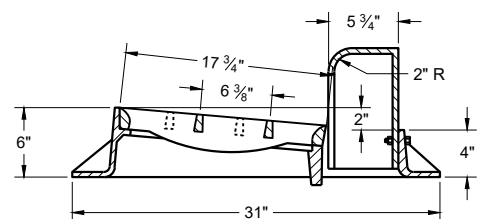
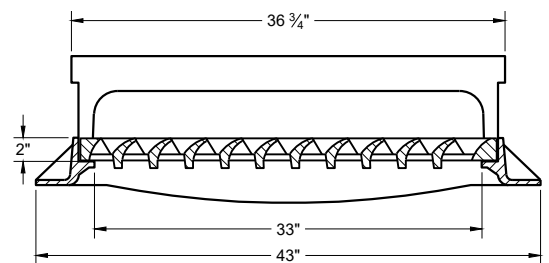
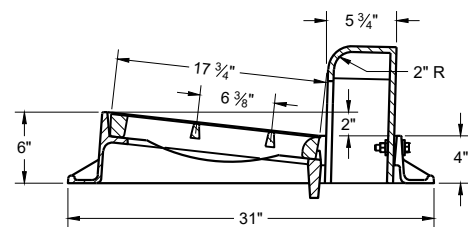
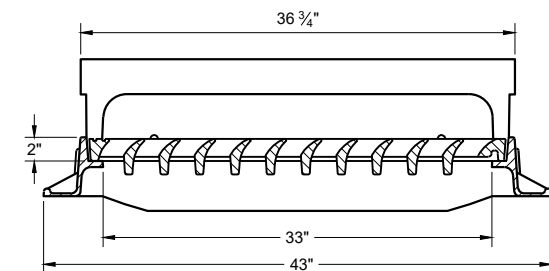
08A05-20A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-20D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08A09-02	CATCH BASINS 2X3-FT AND 2.5X3-FT
08B09-03	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT, 8-FT, 9-FT, 10-FT DIAMETER
08D01-23A	CONCRETE CURB & GUTTER
08D01-23B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D04-07	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D20-01	DRIVEWAYS WITH CURB & GUTTER RETURNS
08D21-01	DRIVEWAYS WITHOUT CURB & GUTTER
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E15-01	CULVERT PIPE CHECK
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F04-08	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
08F10-02	CONCRETE MASONRY ENDWALLS FOR CULVERT PIPE AND PIPE ARCH
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C13-11	URBAN DOWELED CONCRETE PAVEMENT
13C16-02A	DETAIL FOR RIGHT TURN LANE/TEE INTERSECTION BYPASS LANE ON A CONCRETE ROADWAY
13C18-08A	CONCRETE PAVEMENT JOINTING
13C18-08B	CONCRETE PAVEMENT STEEL REINFORCEMENT
13C18-08C	CONCRETE PAVEMENT JOINT TYPES
13C18-08D	CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES
13C18-08F	CONCRETE PAVEMENT INTERSECTION BOXOUT FOR INTEGRAL CURB AND GUTTER
13C19-03	HMA LONGITUDINAL JOINTS
14A01-03	TREE PRESERVATION DETAILS
15C02-09A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-09B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-09C	DETOUR SIGNING FOR MAINLINE CLOSURES
15C02-09H	MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING
15C05-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-15C	PAVEMENT MARKING ARROWS
15C07-15E	PAVEMENT MARKING FOR BIKE LANES
15C08-23A	PERMANENT LONGITUDINAL PAVEMENT MARKINGS
15C08-23C	PAVEMENT MARKING (TURN LANES)
15C08-23D	PAVEMENT MARKING (TURN LANES)
15C11-10B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C12-09A	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C12-09B	TRAFFIC CONTROL, LANE CLOSURE WITH AUTOMATED FLAGGER ASSISTANCE DEVICE
15C19-08A	MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY
15C19-08B	MOVING PAVEMENT MARKING OPERATION MULTI-LANE UNDIVIDED ROADWAY
15C29-08A	BICYCLE LANE MARKING
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-06A	PAVEMENT MARKING (INTERSECTIONS)
15D06-06	TRAFFIC CONTROL, TWO LANE TWO WAY OPERATION
15D12-11A	TRAFFIC CONTROL, LANE CLOSURE
15D12-11B	TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
15D32-07	TRAFFIC CONTROL, ONE LANE ROAD STOP CONDITION
15D44-02	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES
15D45-03	TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH LOOSE GRAVEL



NOTE: EITHER CASTING IS ACCEPTABLE



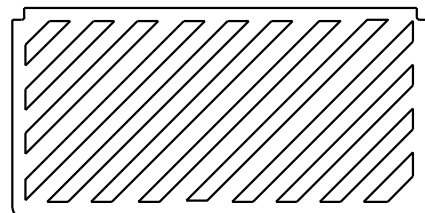
NOTE: CURB BOX HEIGHT ADJUSTABLE 6" - 9"



**TYPE "H"**

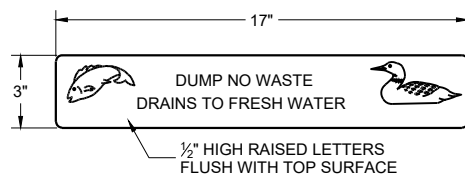
NOTE: EITHER CASTING IS ACCEPTABLE

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



**SPECIAL GRATE FOR TYPE "H" COVER**

(MEASURES 35" X 17 3/4" X 2")  
(NOTED AS TYPE H-S ON DRAINAGE TABLE)



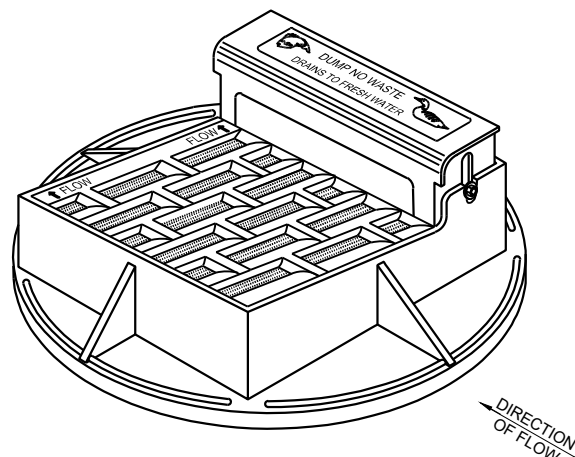
**LOGO DETAIL**

**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.

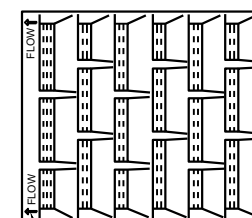
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



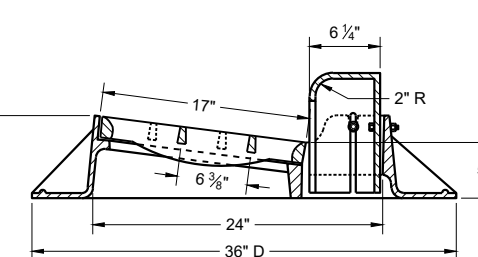
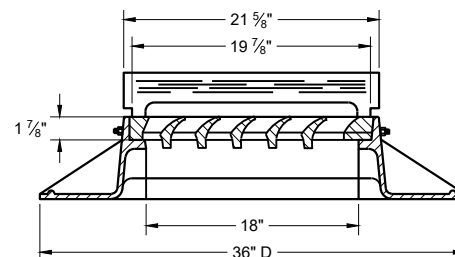
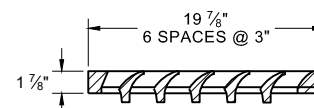
NOTE: CURB BOX HEIGHT ADJUSTABLE 6" - 9"

NOTE: EITHER CASTING IS ACCEPTABLE

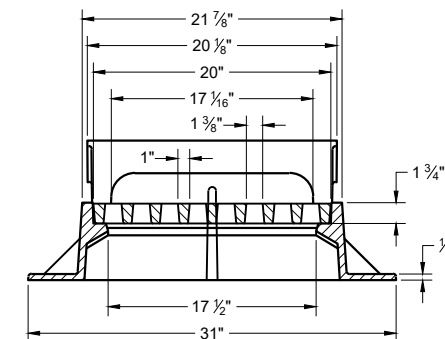
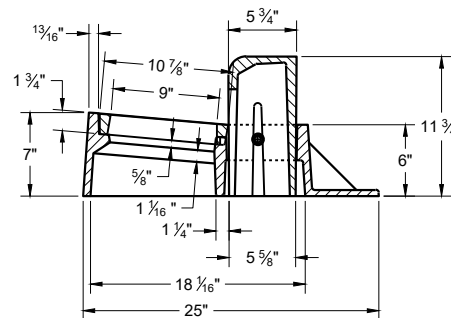


1" DIAGONAL BARS WITH 1 1/2" OPENINGS

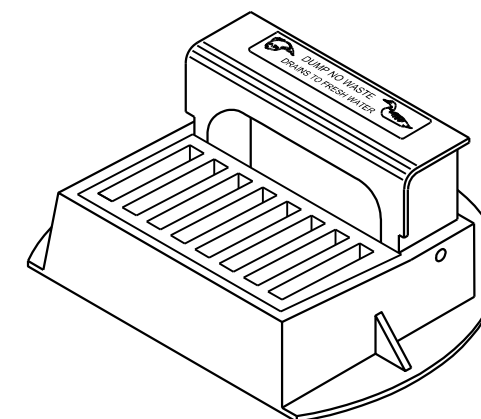
DIRECTION OF FLOW ARROWS



**TYPE "A"**



**TYPE "Z"**



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

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

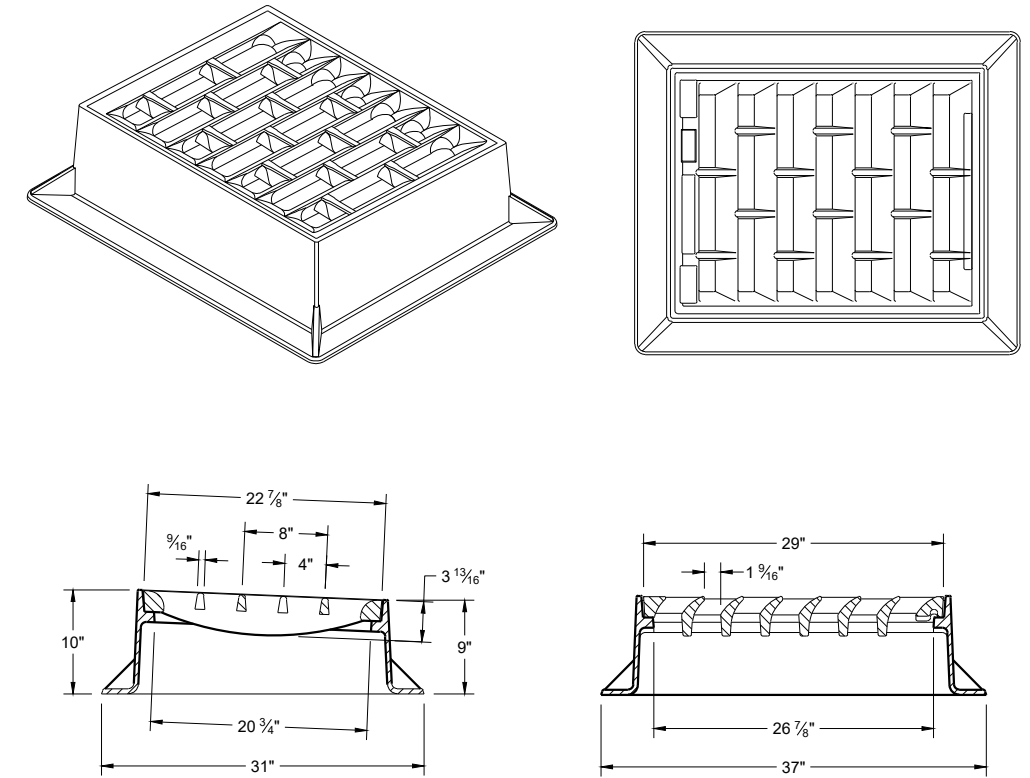
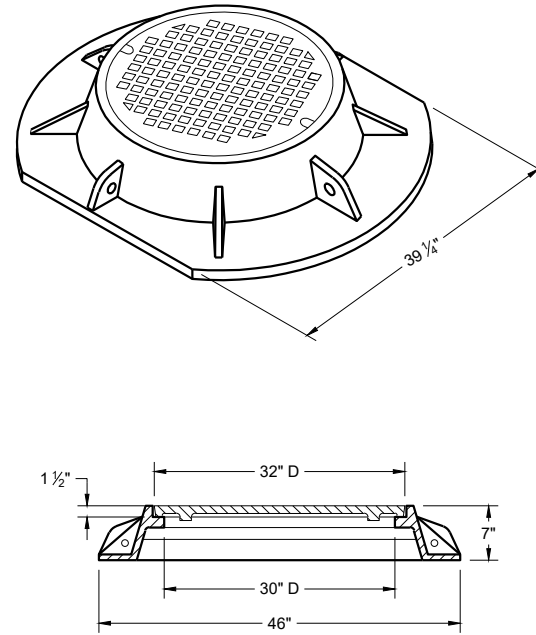
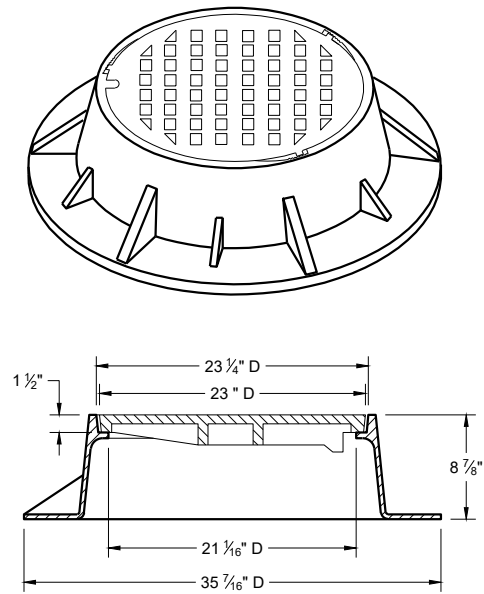
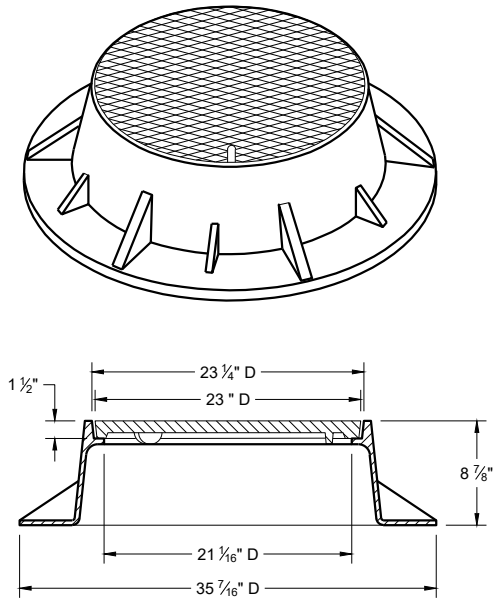
APPROVED  
July 2023 DATE /S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR

**GENERAL NOTES**

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

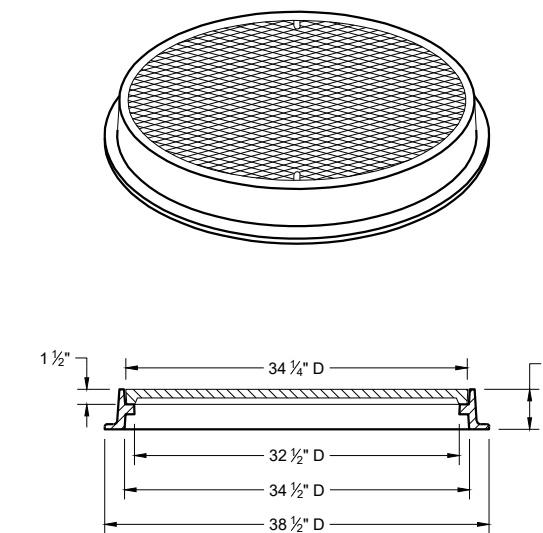
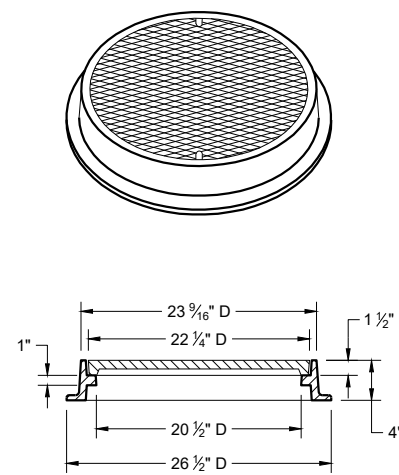
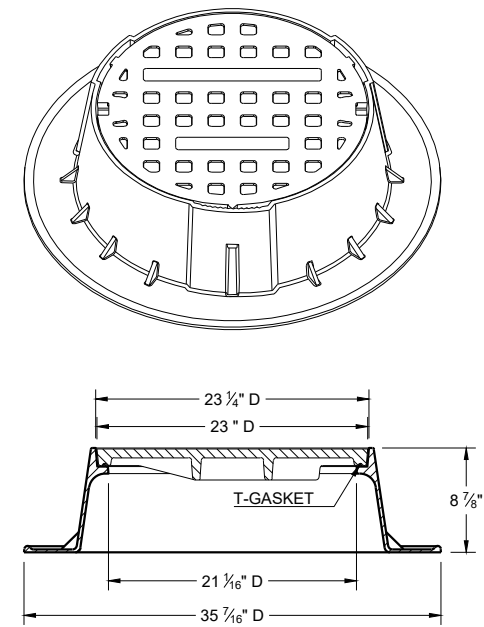
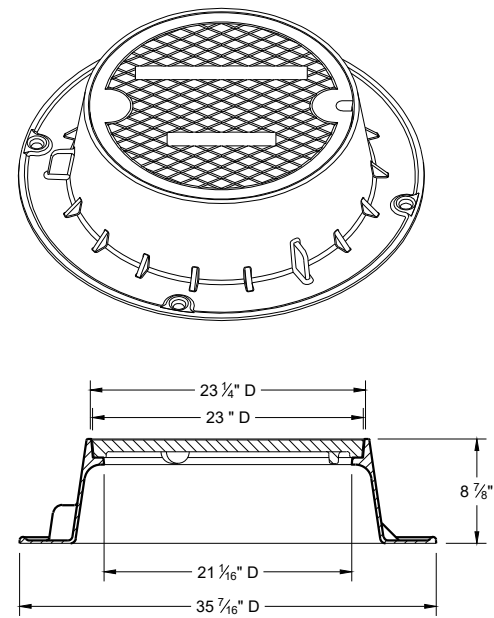
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR MANHOLE COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



**TYPE "K"**

**INLET COVER TYPE "BW"**



**TYPE "J"**

NOTE: EITHER CASTING IS ACCEPTABLE

**TYPE "J" SPECIAL**

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

NOTE: EITHER CASTING IS ACCEPTABLE

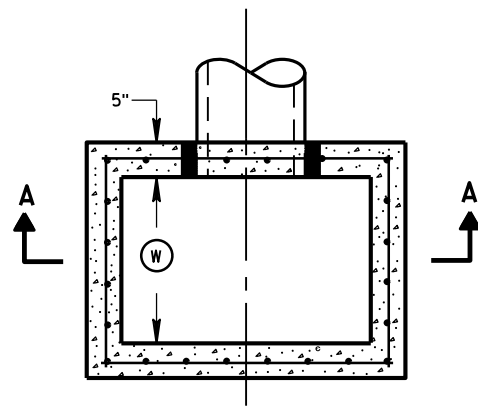
**TYPE "L"**

**TYPE "M"**

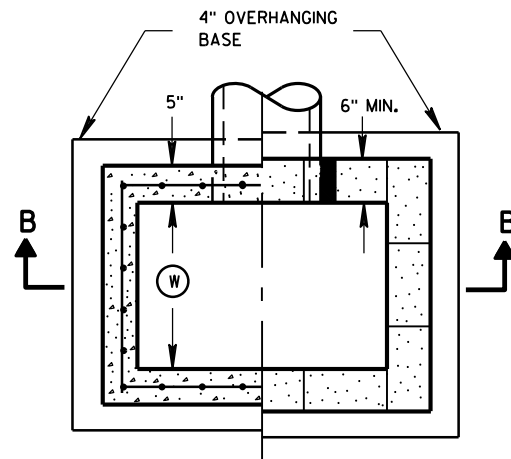
**INLET COVERS TYPES BW  
MANHOLE COVERS TYPES K,  
J, J-S, L, AND M**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

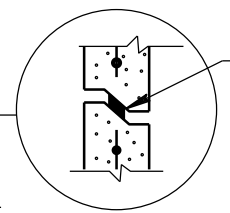
APPROVED  
July 2023 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT  
UNIT SUPERVISOR



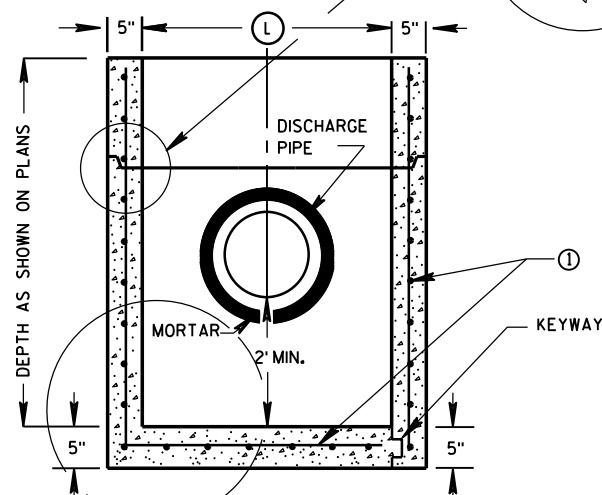
PLAN VIEW



PLAN VIEW

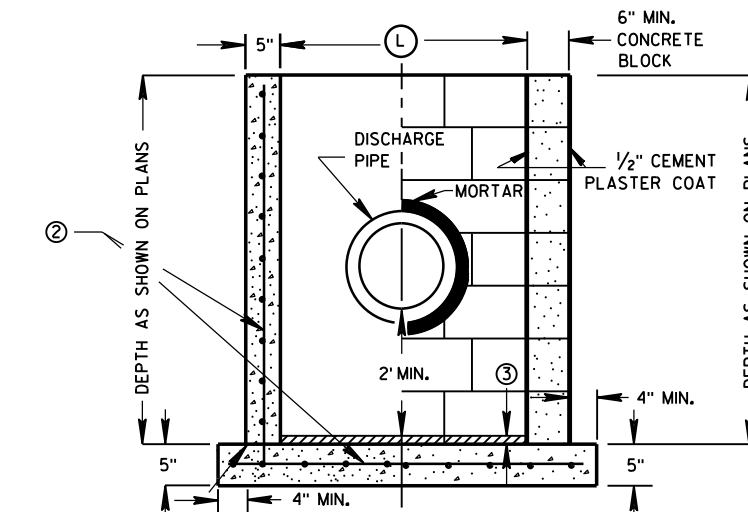


RISER JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE

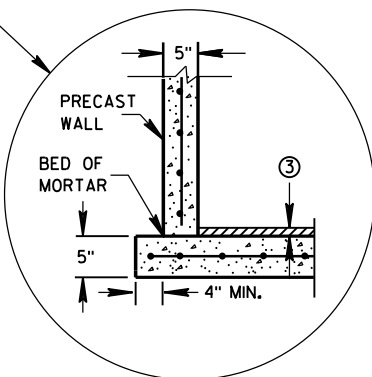
SECTION A-A



CAST-IN-PLACE REINFORCED CONCRETE

CONCRETE BLOCK ON CAST-IN-PLACE WITH PRECAST REINFORCED CONCRETE BASE ①

SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

### GENERAL NOTES

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

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

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

ALL 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.

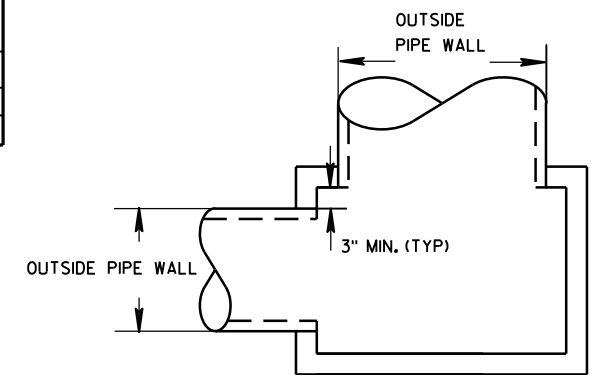
- ① FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- ② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.
- ③ 1" CONCRETE KEY POURED AFTER INSTALLATION. 2" SUMP MEASURED FROM TOP OF KEY.

### 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

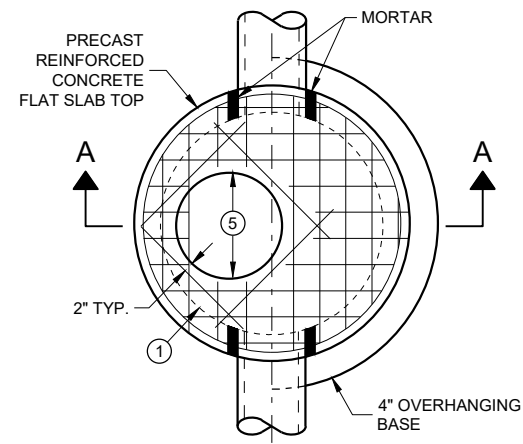


DETAIL "A"

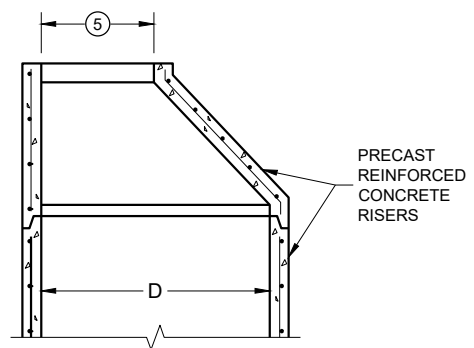
CATCH BASINS 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

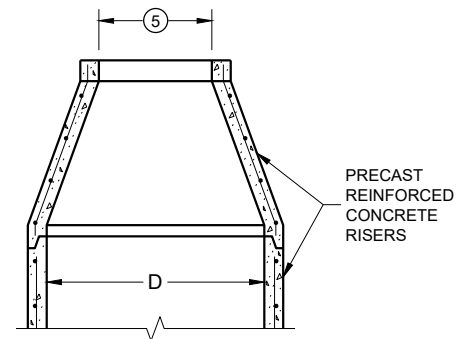
APPROVED  
DATE: Sept., 2016 /S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT  
UNIT SUPERVISOR



**PLAN VIEW  
CIRCULAR OPENING**



**OPTIONAL PRECAST  
REINFORCED CONCRETE  
ECCENTRIC TOP**



**OPTIONAL PRECAST  
REINFORCED CONCRETE  
CONCENTRIC TOP**

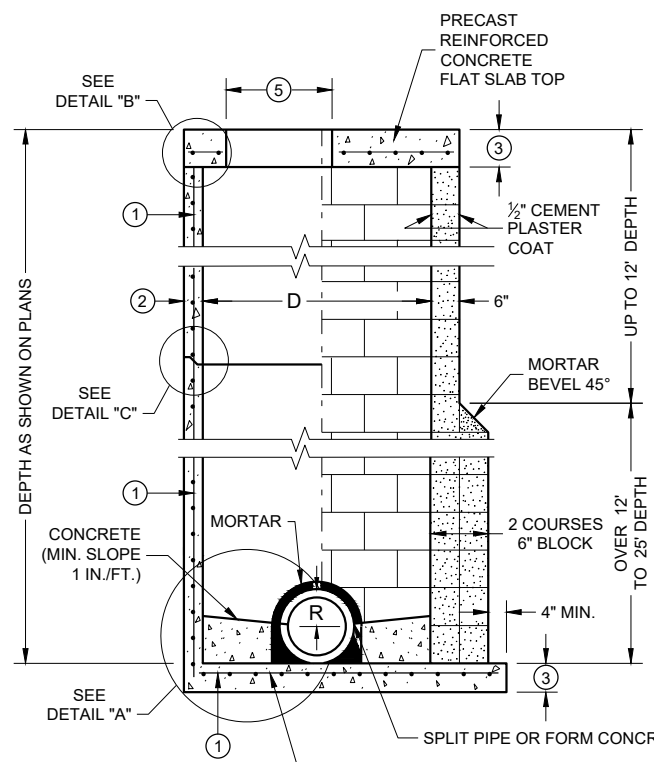
**MANHOLE COVER OPENING MATRIX**

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

**PIPE MATRIX**

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

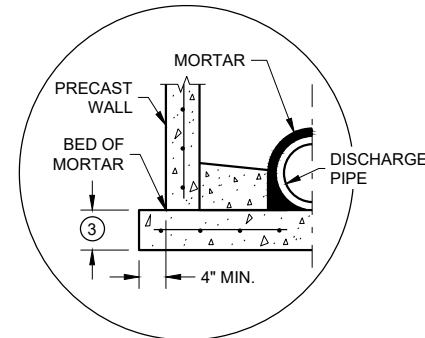
\*A 36" PIPE AND A 42" PIPE CAN BE PLACED WITHIN 90 DEGREES. SEE MINIMUM HORIZONTAL PIPE SEPARATION DETAIL.



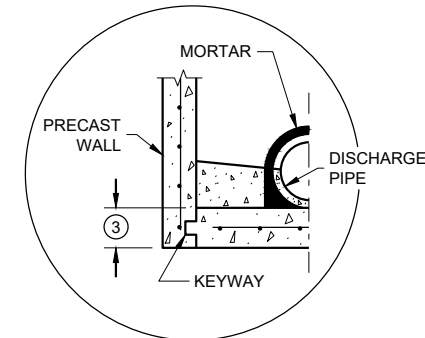
**SECTION A - A**

**PRECAST REINFORCED CONCRETE WITH MONOLITHIC BASE**

**CONCRETE BLOCK WITH CAST IN PLACE OR PRECAST REINFORCED CONCRETE BASE ①**

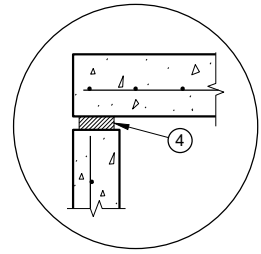


**SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION**

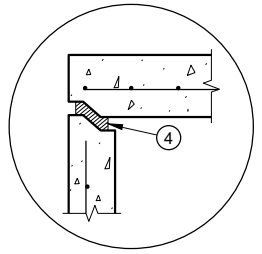


**PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION**

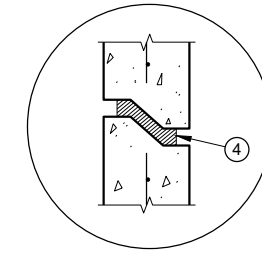
**DETAIL "A"**



**TOP WITH PLAIN END JOINT**



**TOP WITH TONGUE AND GROOVE JOINT**



**RISER WITH TONGUE AND GROOVE JOINT**

**DETAIL "B"**

**DETAIL "C"**

**GENERAL NOTES**

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

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

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

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

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

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

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

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

STEPS OF APPROVED POLYPROPYLENE PLASTIC COATED REINFORCEMENT BAR ARE ACCEPTABLE. REINFORCING BAR MUST BE A MINIMUM OF 1/2 INCH AND MEET THE REQUIREMENTS OF ASTM A615.

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

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

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

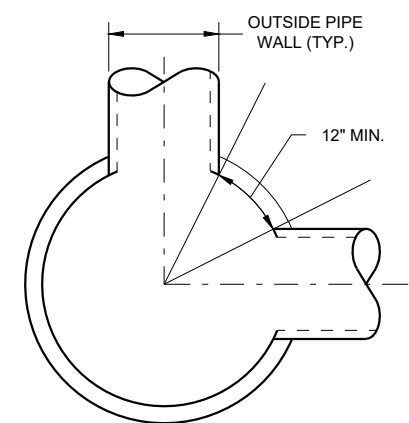
PRECAST REINFORCED RISERS SHALL HAVE A TONGUE AND GROOVE JOINT WITH TONGUE UP OR DOWN.

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

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

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

- ① FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.
- ② SEE PIPE MATRIX TABLE FOR MINIMUM WALL THICKNESS FOR PRECAST MANHOLES
- ③ SEE PIPE MATRIX TABLE FOR MINIMUM THICKNESS OF PRECAST FLAT SLAB TOPS AND BASES.
- ④ JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP.).
- ⑤ SEE MANHOLE COVER OPENING MATRIX.



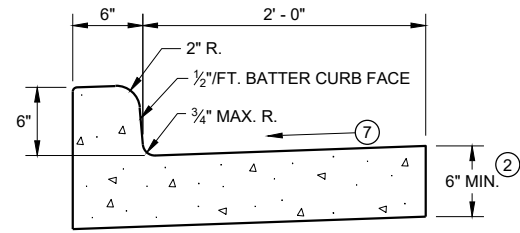
**MINIMUM HORIZONTAL PIPE SEPARATION**

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

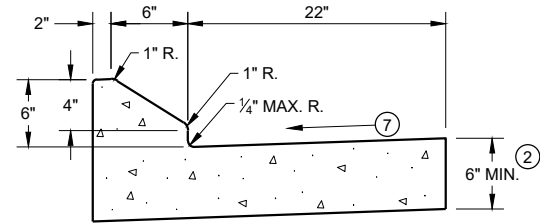
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2021 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER  
FHWA

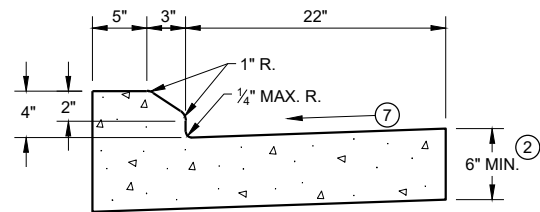




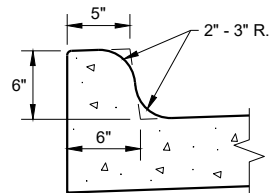
**TYPES A<sup>1</sup> & D**



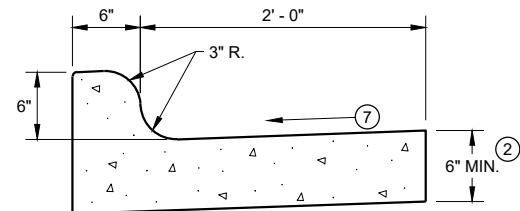
**6" SLOPED CURB TYPES G<sup>1</sup> & J**



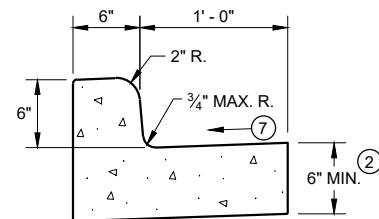
**4" SLOPED CURB TYPES G<sup>1</sup> & J**



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

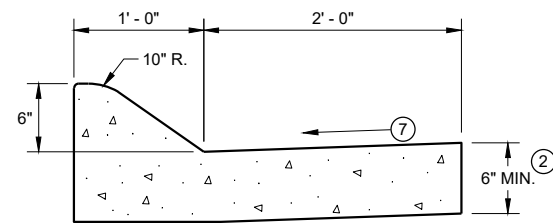


**TYPES K<sup>1</sup> & L**  
**CONCRETE CURB AND GUTTER 30"**

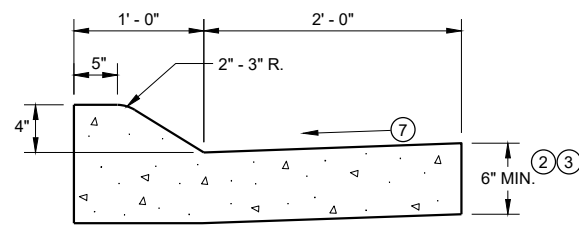


**TYPES A<sup>1</sup> & D**

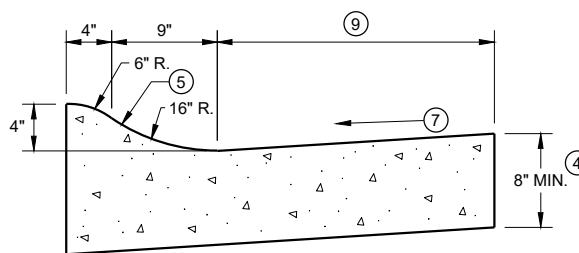
**CONCRETE CURB AND GUTTER 18"**



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

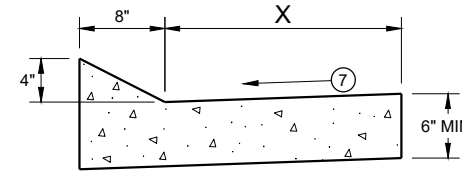


**4" SLOPED CURB TYPES A<sup>1</sup> & D**  
**CONCRETE CURB AND GUTTER 36"**



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

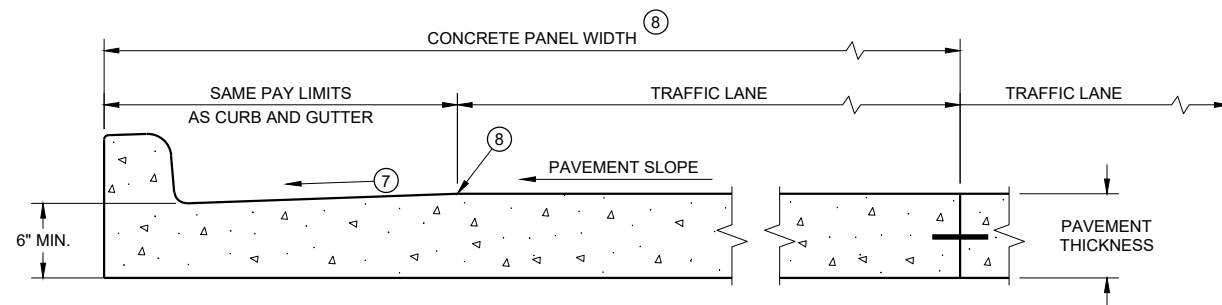
TBT & TBTT	X
30"	22"
36"	28"



**TYPES TBT & TBTT<sup>1</sup>**  
**CONCRETE CURB AND GUTTER**

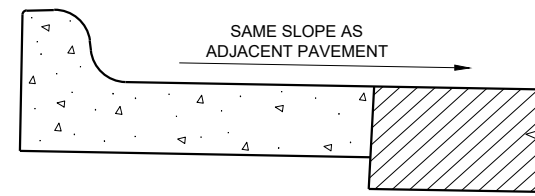
**PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE**

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



**PARTIAL SECTION OF PAVEMENT\* WITH INTEGRAL CURB AND GUTTER**

\* BIKE LANE IS NOT SHOWN



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

**GENERAL NOTES**

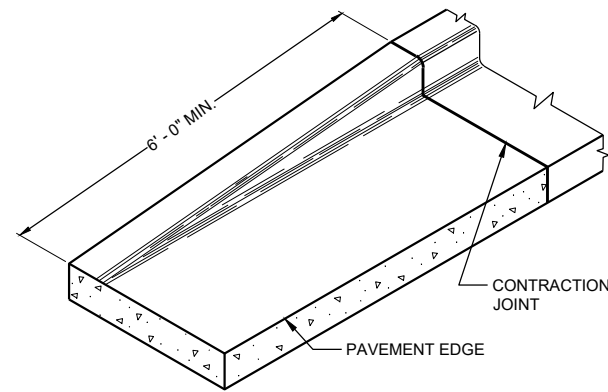
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

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

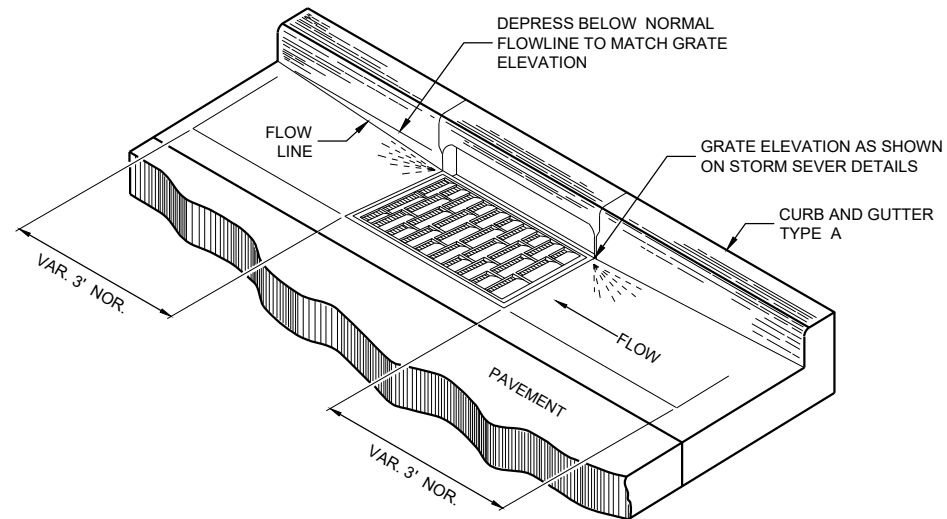
INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

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

- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ③ USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
- ④ THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑤ UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
- ⑥ WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
- ⑦ USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
- ⑧ INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.
- ⑨ CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES  
CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES



**END SECTION CURB AND GUTTER**



**DETAIL OF CURB AND GUTTER AT INLETS**

(TYPICAL H INLET COVER SHOWN)

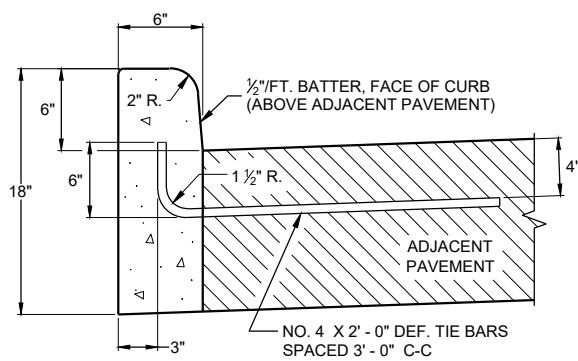
**GENERAL NOTES**

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

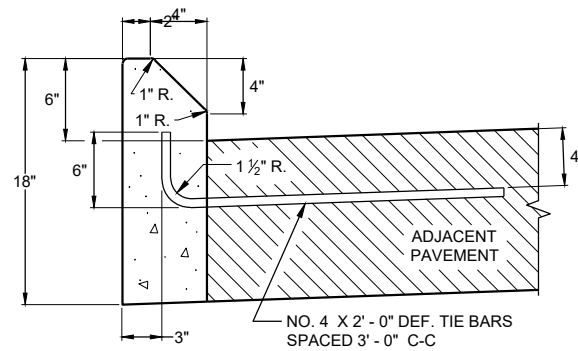
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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

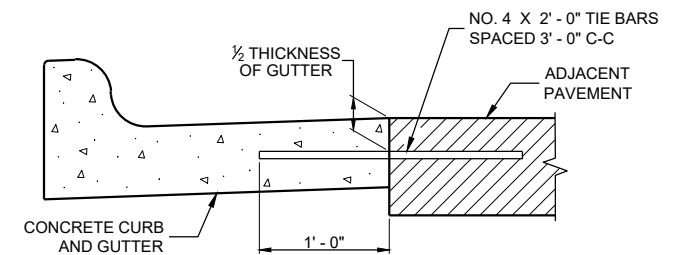
- ① TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
- ② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
- ⑩ REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.
- ⑪ PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.



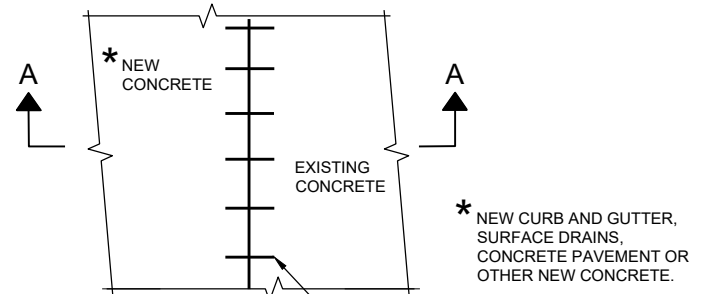
**TYPES A<sup>①</sup> & D**



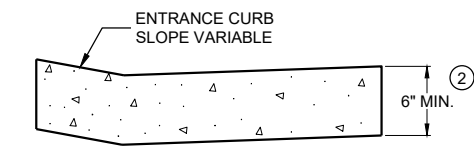
**TYPES G<sup>①</sup> & J  
CONCRETE CURB**



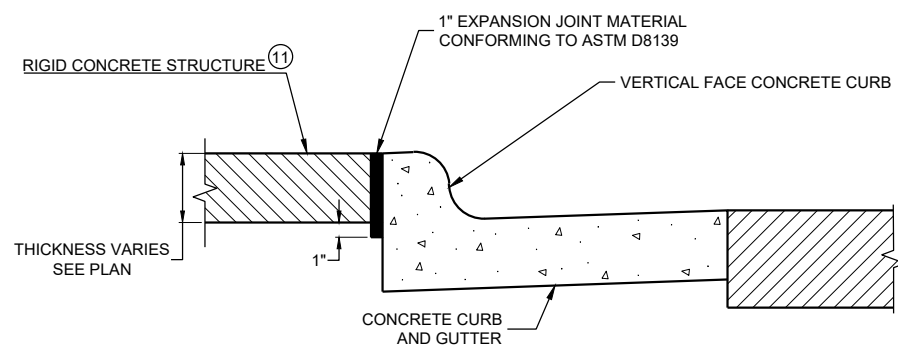
**TYPICAL TIE BAR LOCATION<sup>①</sup>**



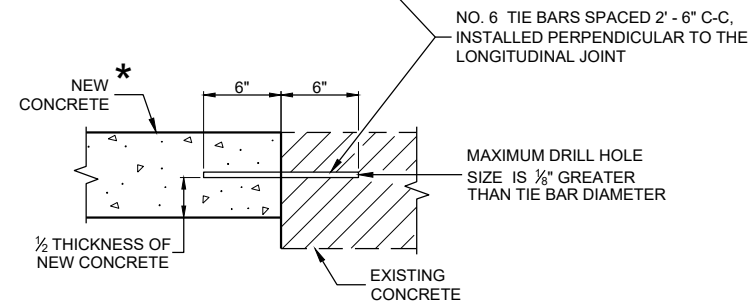
**PLAN VIEW**



**DRIVEWAY ENTRANCE CURB<sup>⑩</sup>  
(WHEN DIRECTED BY THE ENGINEER)**



**EXPANSION JOINT DETAIL FOR VERTICAL CURB ABUTTING A RIGID STRUCTURE<sup>⑪</sup>**



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

**CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS**

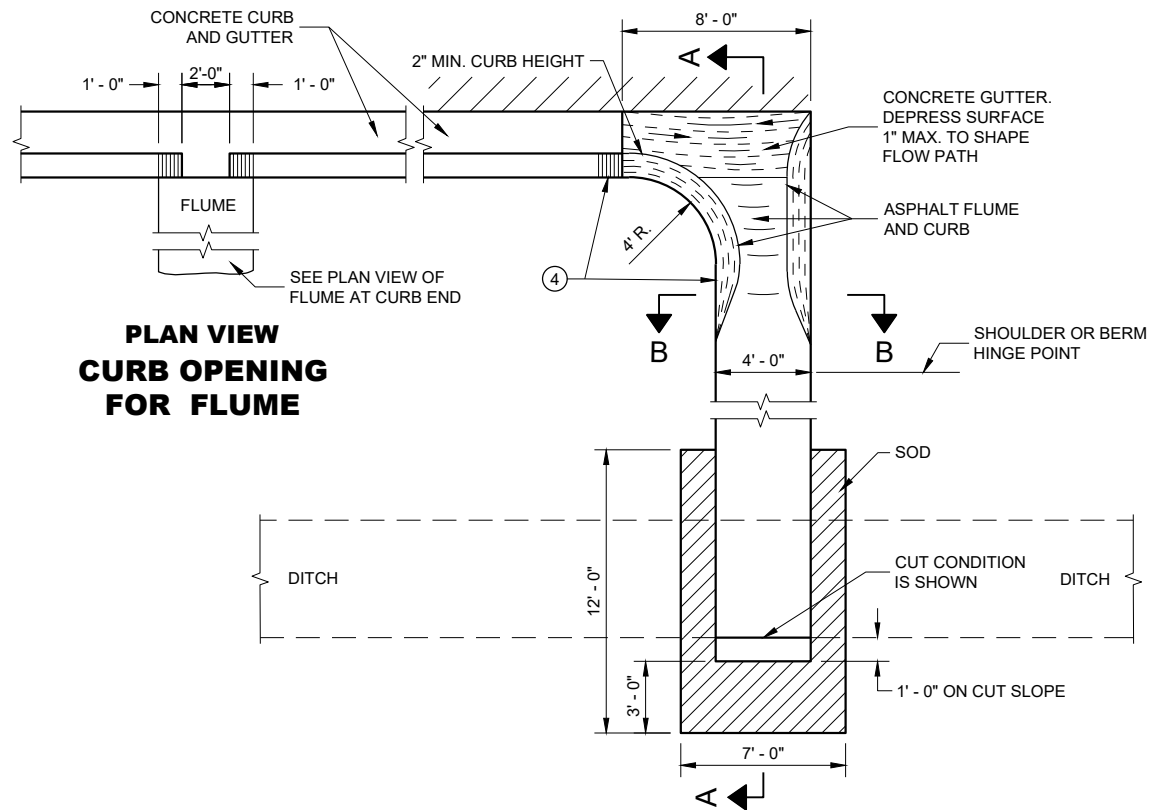
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
DATE May 2023 /S/ Rodney Taylor  
ROADWAY STANDARDS DEVELOPMENT ENGINEER

FHWA

NOTE: TAPER CURB ENDS TO GUTTER IN 1' - 0"

### ASPHALTIC FLUME



**PLAN VIEW  
CURB OPENING  
FOR FLUME**

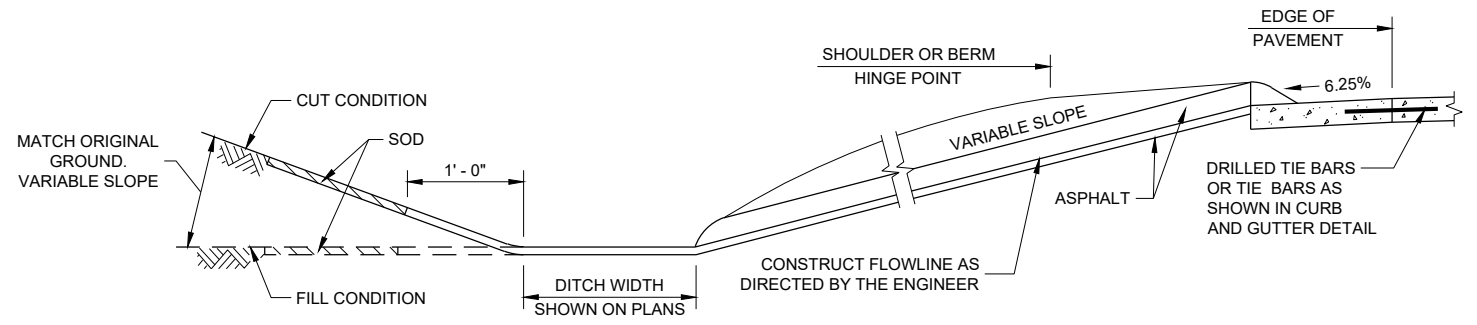
**PLAN VIEW  
FLUME AT CURB END**

### GENERAL NOTES

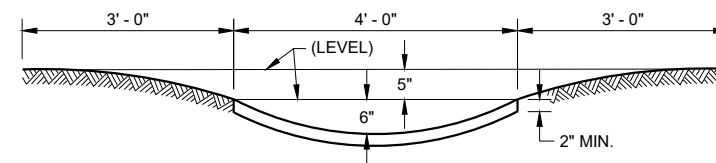
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

4" X 4" - W3.0 X W3.0 CONCRETE REINFORCEMENT SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

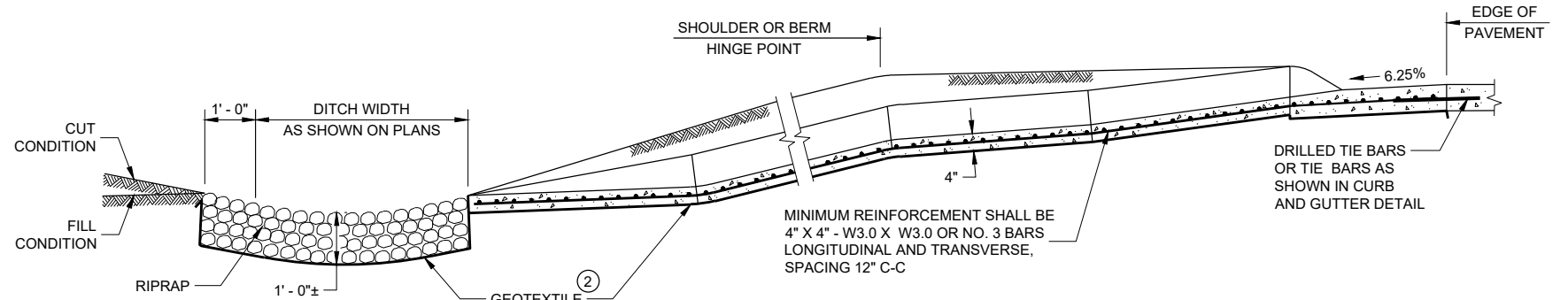
- ① JOINTS SHALL BE 1/8" TO 1/4" WIDE BY 1 1/2" DEEP AND SPACED AT UNIFORM INTERVALS OF APPROXIMATELY 4 FEET.
- ② GEOTEXTILE TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.
- ③ CONCRETE SURFACE DRAIN WITHOUT CURB AND GUTTER MAY BE USED ON BACKSLOPES WHEN SPECIFIED.
- ④ ANGLE OF FLUME IN RELATION TO BACK OF CURB TO BE CONSTRUCTED PER THE PLAN DETAILS OR AS DIRECTED BY THE ENGINEER. ANGLE OF FLUME MAY BE OTHER THAN 90 DEGREES AS SHOWN.



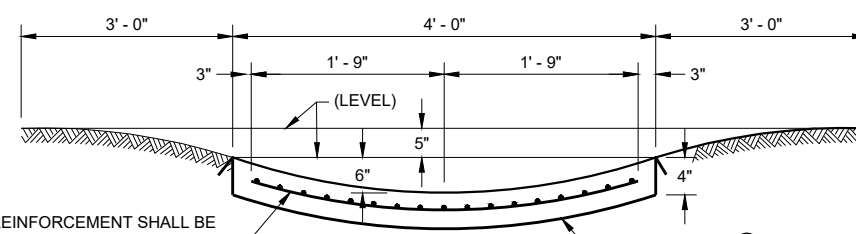
**SECTION A - A**



**SECTION B - B**



**SECTION C - C**



**SECTION D - D**

MINIMUM REINFORCEMENT SHALL BE 4" X 4" - W3.0 X W3.0 OR NO. 3 BARS LONGITUDINAL AND TRANSVERSE, SPACING 12" C-C

6

6

SDD 08D04 - 07

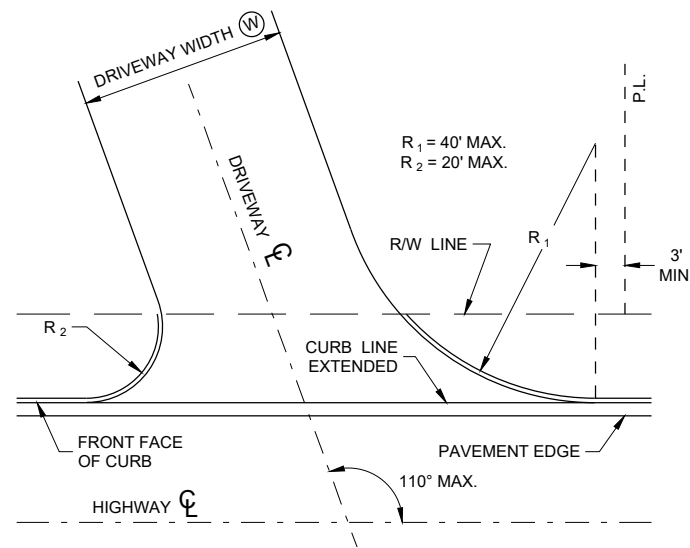
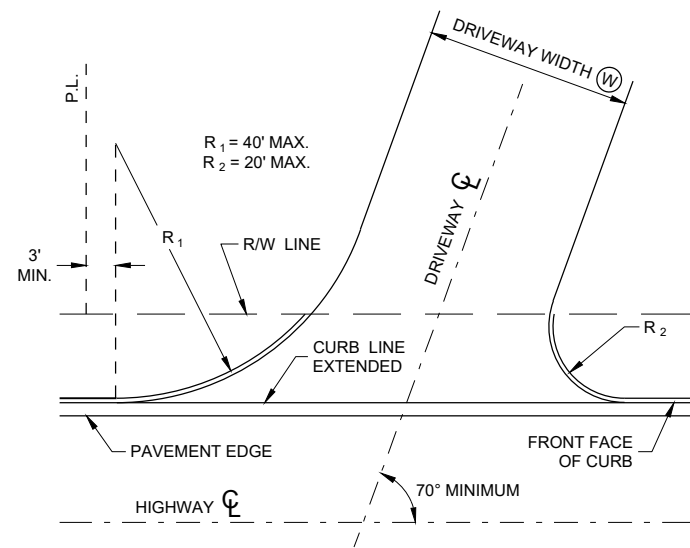
SDD 08D04 - 07

### CONCRETE SURFACE DRAINS AND ASPHALTIC FLUMES

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2023 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT  
ENGINEER

FHWA



**SKewed DRIVEWAY DETAILS  
(COMMERCIAL AND NON-COMMERCIAL)  
SIDEWALK NOT SHOWN**

**GENERAL NOTES**

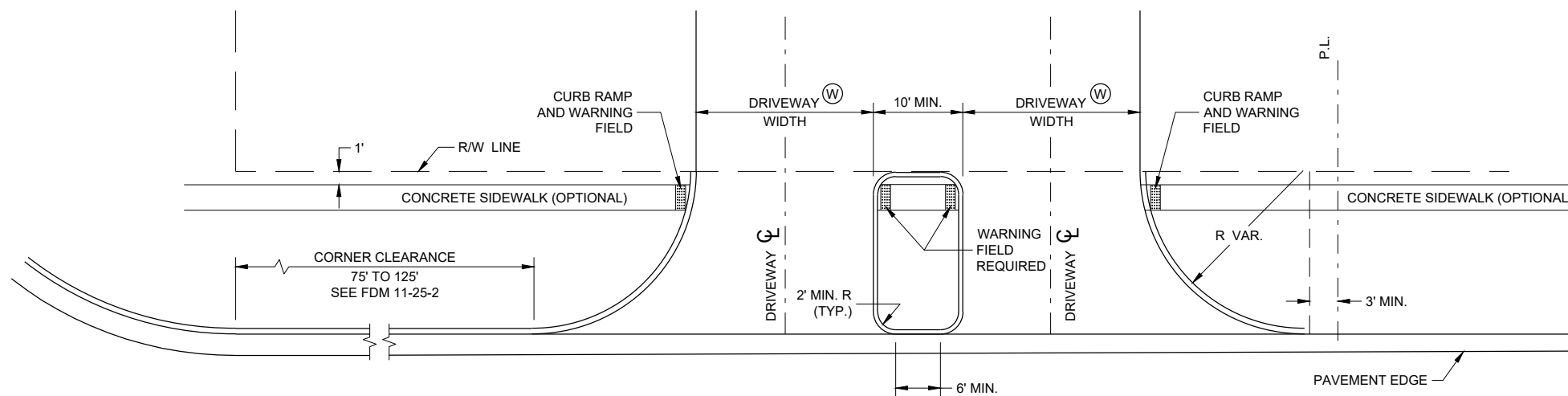
A MAXIMUM RADIUS OF 10 FEET SHALL BE USED FOR NON-COMMERCIAL PRIVATE ENTRANCES. RADII FOR COMMERCIAL DRIVEWAYS SHALL BE DETERMINED BY THE ENGINEER BASED ON TRAFFIC AND DRIVEWAY PERMIT RESTRICTIONS.

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.

Ⓜ: 12' MIN. - 24' MAX. RESIDENTIAL AND NON-COMMERCIAL (PE & FE)  
16' MIN. - 35' MAX. COMMERCIAL (CE)



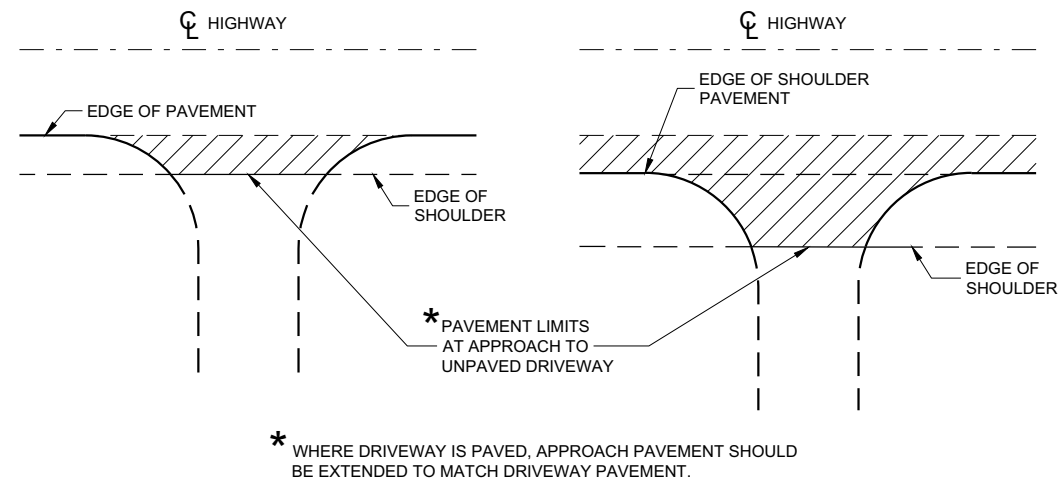
**DRIVEWAY LOCATION AND SPACING DETAILS  
SIDEWALK SHOWN**

**DRIVEWAYS WITH  
CURB AND GUTTER  
RETURNS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
00-00-00 /S/ <AUTHOR>  
DATE ROADWAY STANDARDS DEVELOPMENT  
ENGINEER

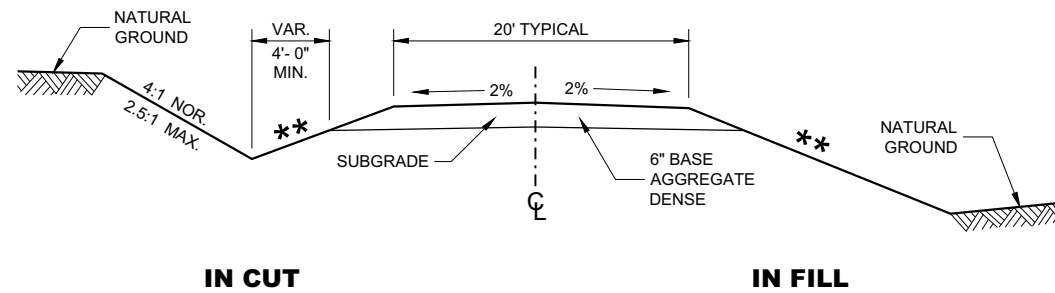
FHWA



**PLAN VIEW**  
(UNPAVED SHOULDER ON HIGHWAY)

**PLAN VIEW**  
(PAVED SHOULDER ON HIGHWAY)

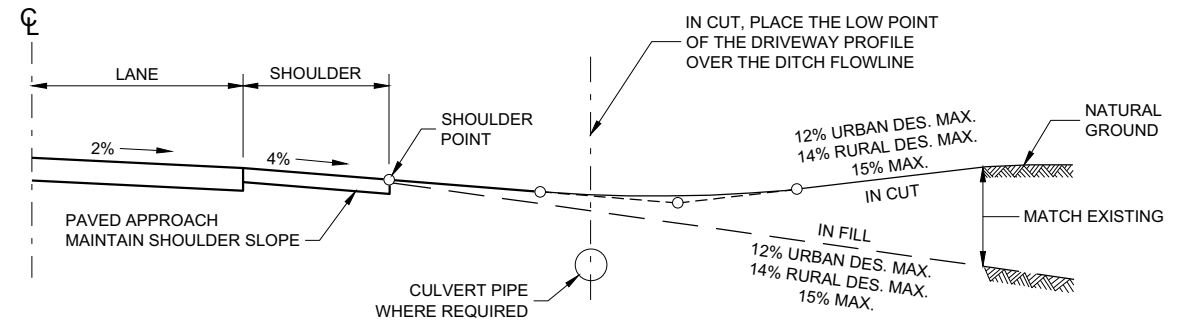
**RURAL DRIVEWAY INTERSECTION DETAIL  
(NO CURB AND GUTTER OR SIDEWALK)**



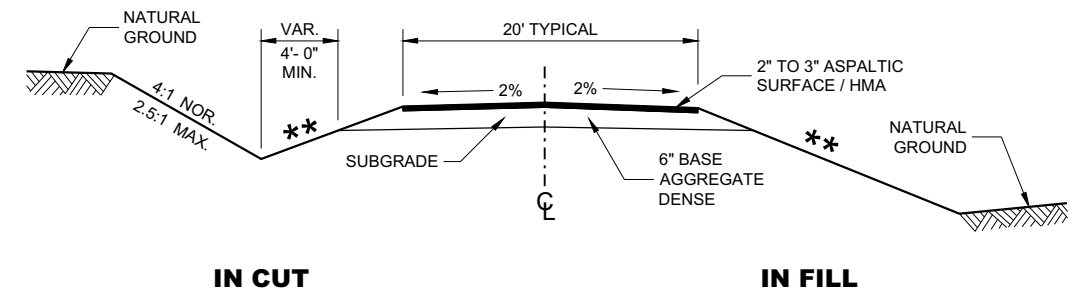
**TYPICAL CROSS SECTION FOR  
PRIVATE DRIVE OR FIELD ENTRANCE  
AGGREGATE SURFACE**

\*\* SLOPE CAN VARY WITH SPEED. SEE 11-45-30.6.2

POSTED SPEED MPH	MAX. SLOPE
<35	4:1
≥ 35 TO < 60	6:1
≥60	10:1



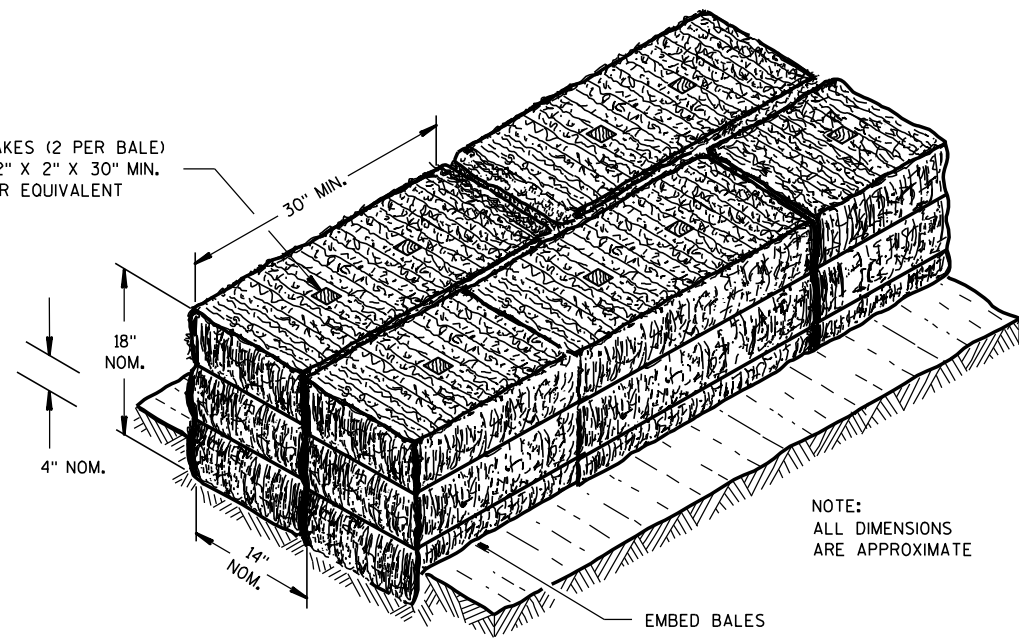
**TYPICAL DRIVEWAY PROFILES**



**TYPICAL CROSS SECTION FOR  
PRIVATE DRIVE OR FIELD ENTRANCE  
ASPHALTIC SURFACE**

<b>DRIVEWAYS WITHOUT CURB AND GUTTER</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED December 2017 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA	

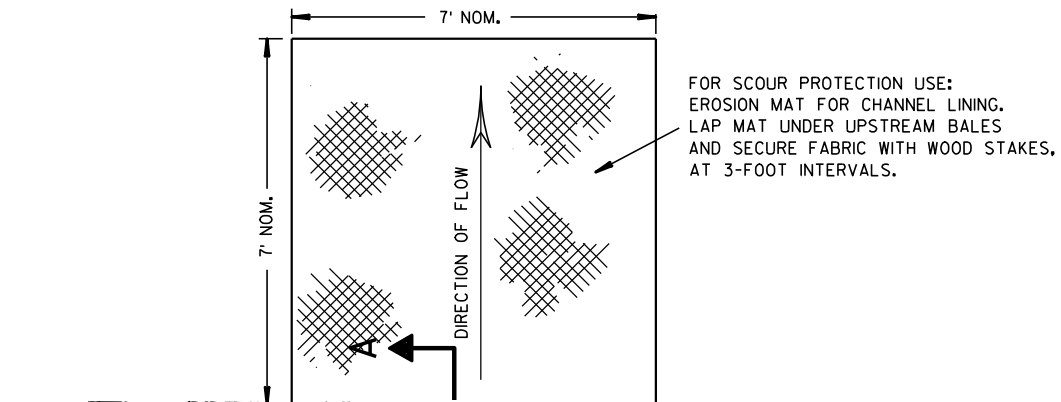
WOOD STAKES (2 PER BALE)  
NOMINAL 2" X 2" X 30" MIN.  
LENGTH OR EQUIVALENT



NOTE:  
ALL DIMENSIONS  
ARE APPROXIMATE

EMBED BALES

SECTION A-A

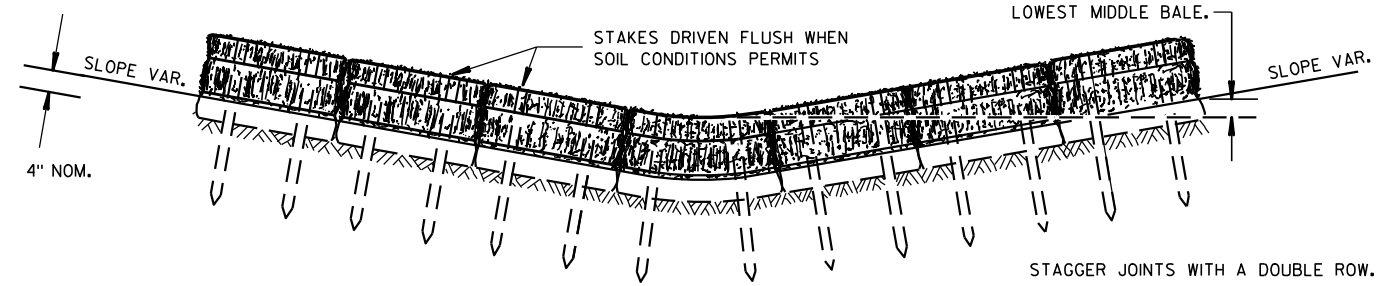


FOR SCOUR PROTECTION USE:  
EROSION MAT FOR CHANNEL LINING.  
LAP MAT UNDER UPSTREAM BALES  
AND SECURE FABRIC WITH WOOD STAKES,  
AT 3-FOOT INTERVALS.

PLAN VIEW

STAGGER JOINTS BETWEEN ADJACENT  
ROWS OF BALES.

BOTTOM ELEVATION OF END BALE SHALL  
BE EQUAL TO OR GREATER THAN TOP OF  
LOWEST MIDDLE BALE.



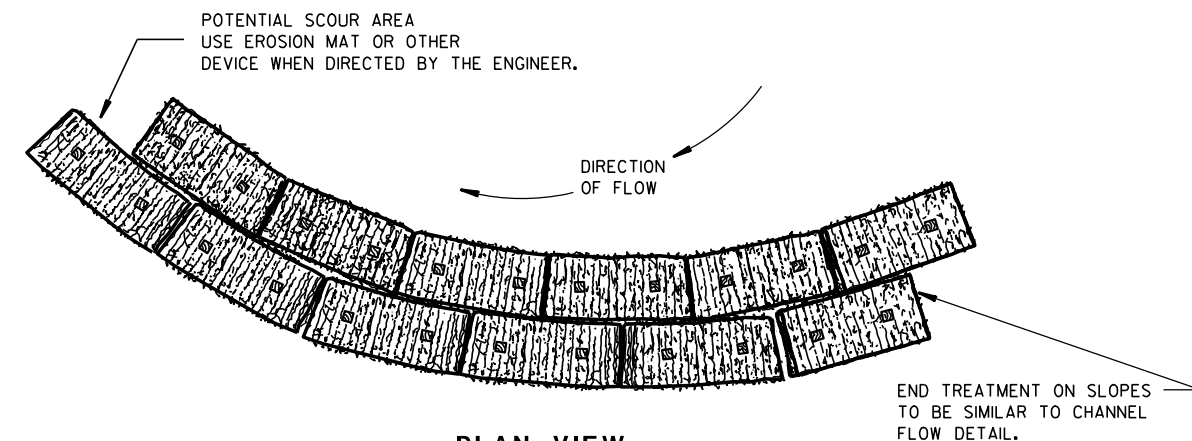
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

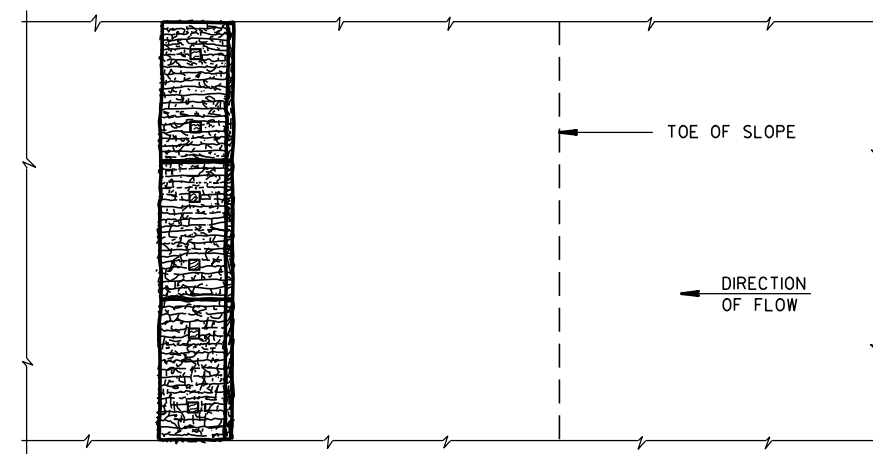
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- 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.

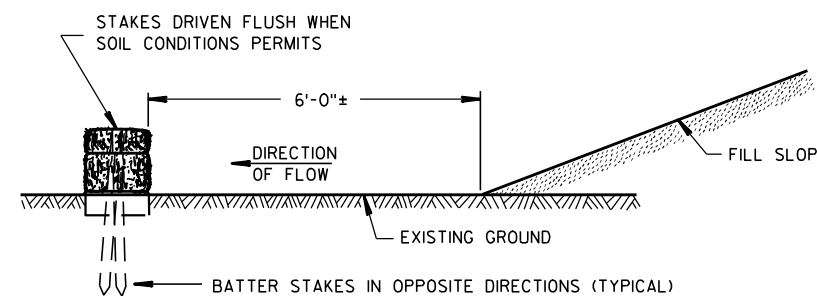


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

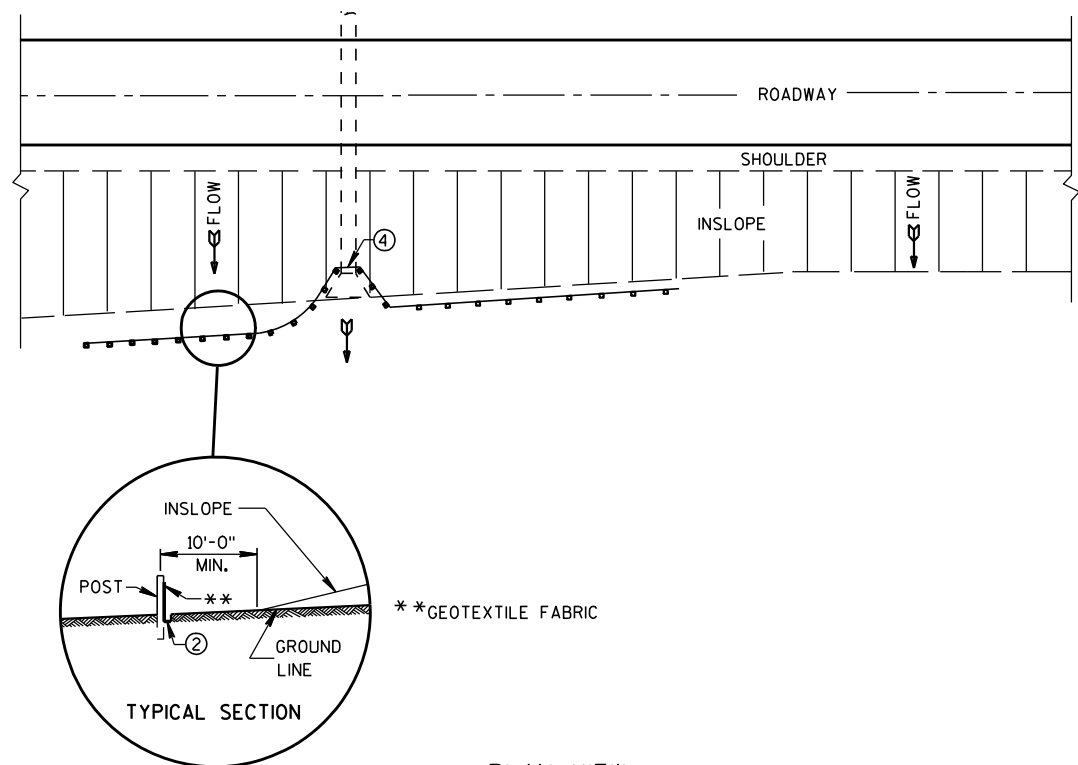
WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

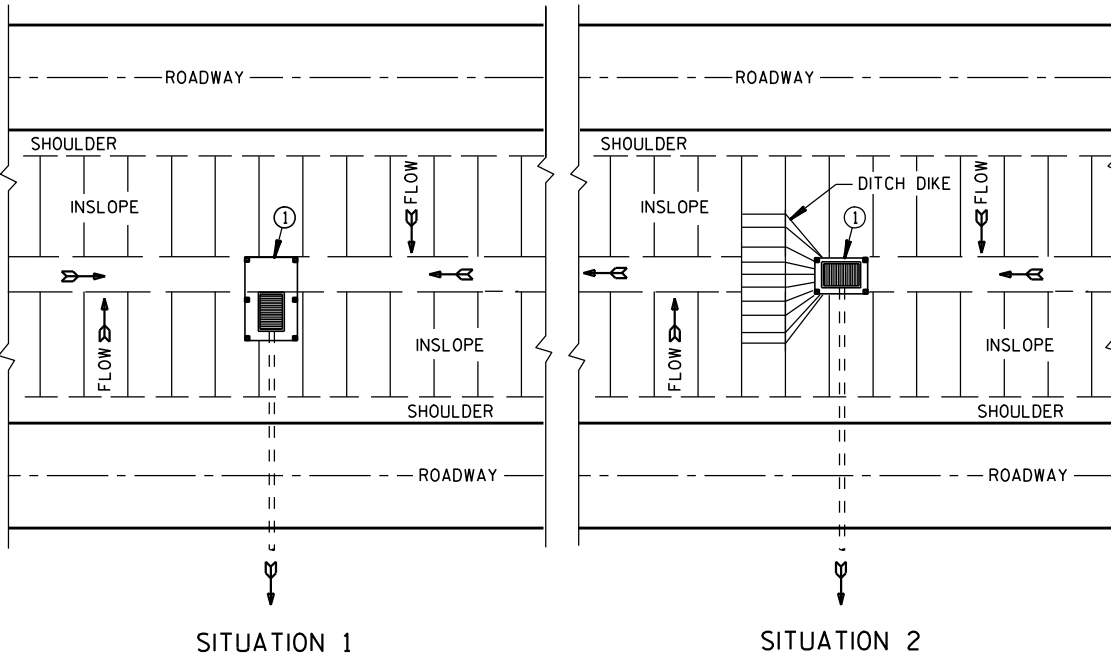
TYPICAL INSTALLATIONS OF  
EROSION BALES / TEMPORARY  
DITCH CHECKS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



PLAN VIEW  
TYPICAL APPLICATION OF SILT FENCE

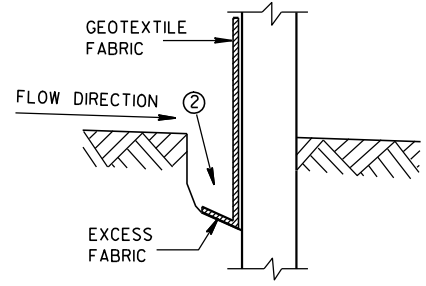


SITUATION 1 SITUATION 2  
PLAN VIEW  
SILT FENCE AT MEDIAN SURFACE DRAINS

**GENERAL NOTES**

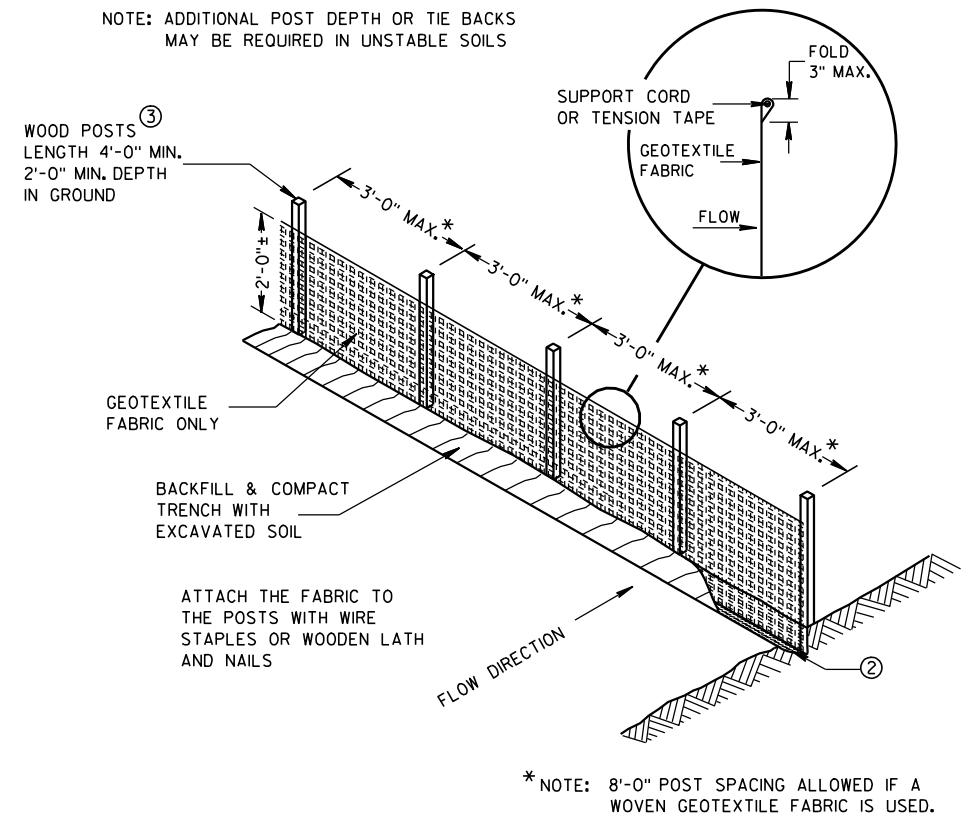
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

- 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 1 1/8" X 1 1/8" 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.

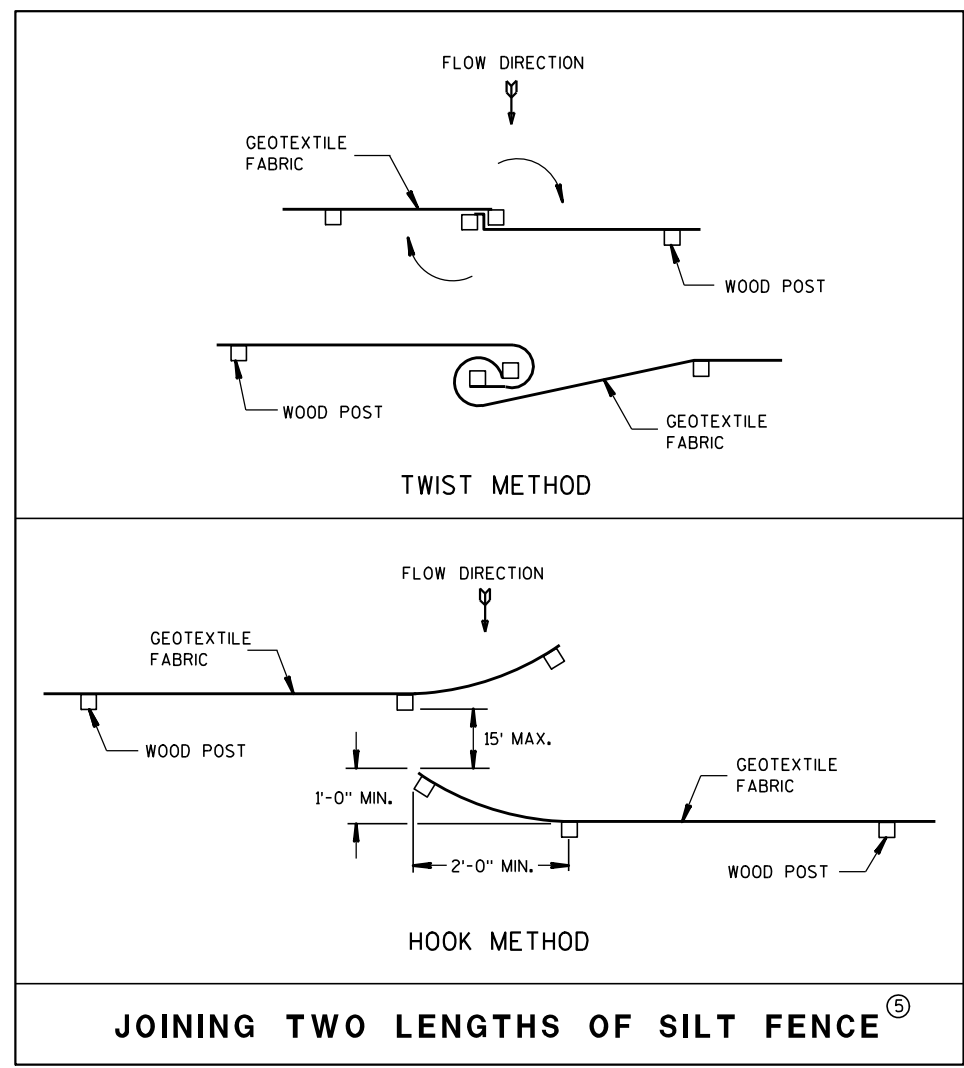


TRENCH DETAIL

6

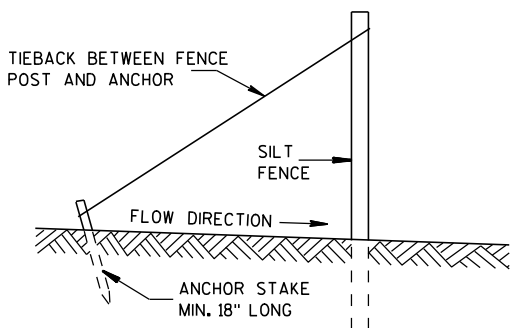


SILT FENCE



JOINING TWO LENGTHS OF SILT FENCE ⑤

6

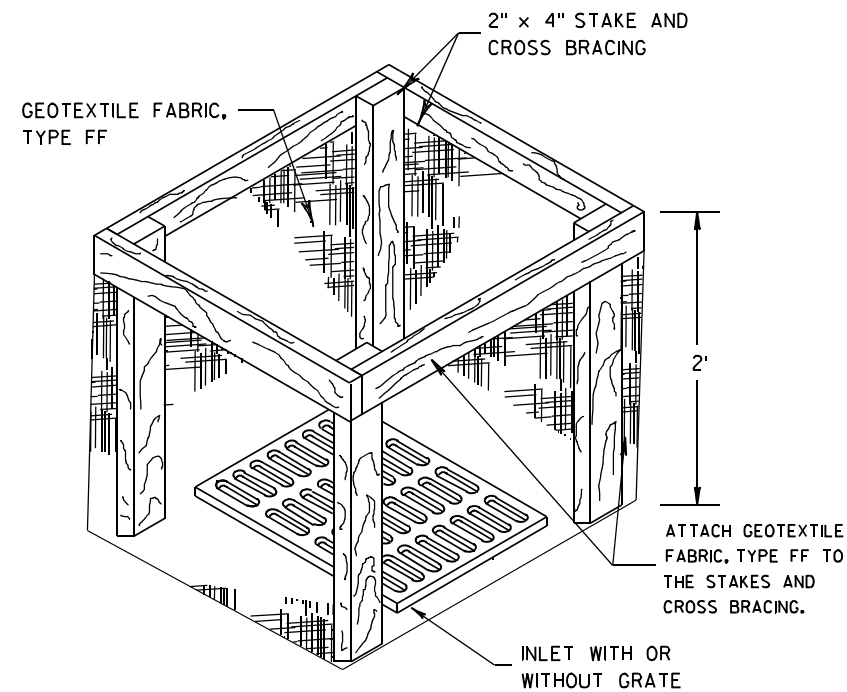
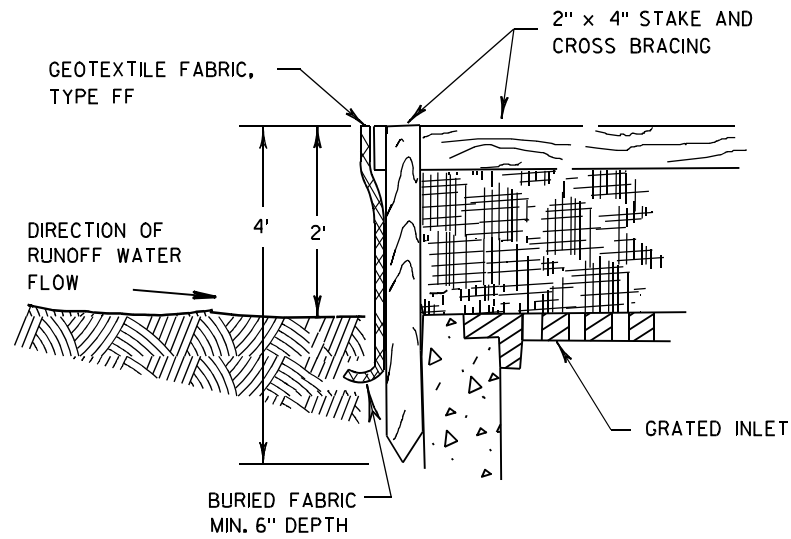


SILT FENCE TIE BACK  
(WHEN REQUIRED BY THE ENGINEER)

<b>SILT FENCE</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 4-29-05 DATE	/S/ Beth Canestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	

S.D.D. 8 E 9-6

S.D.D. 8 E 9-6



**INLET PROTECTION, TYPE A**

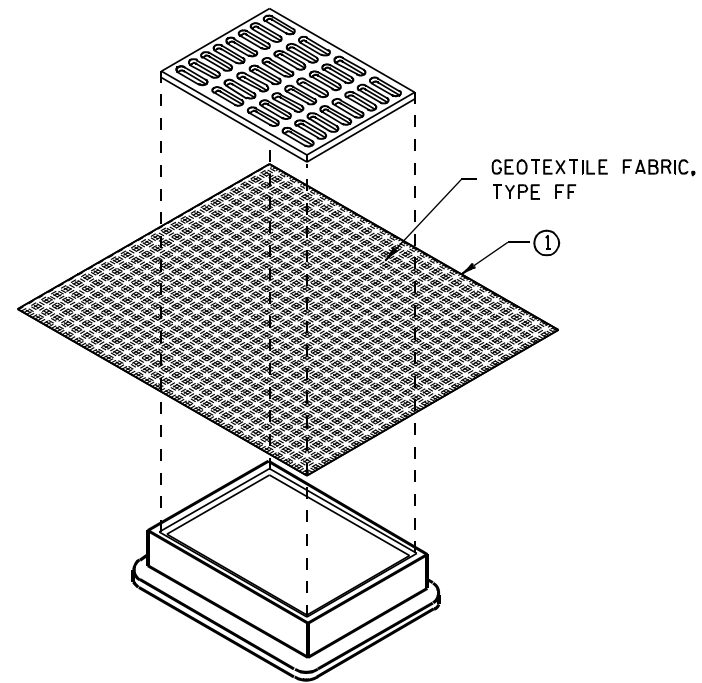
**GENERAL NOTES**

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

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

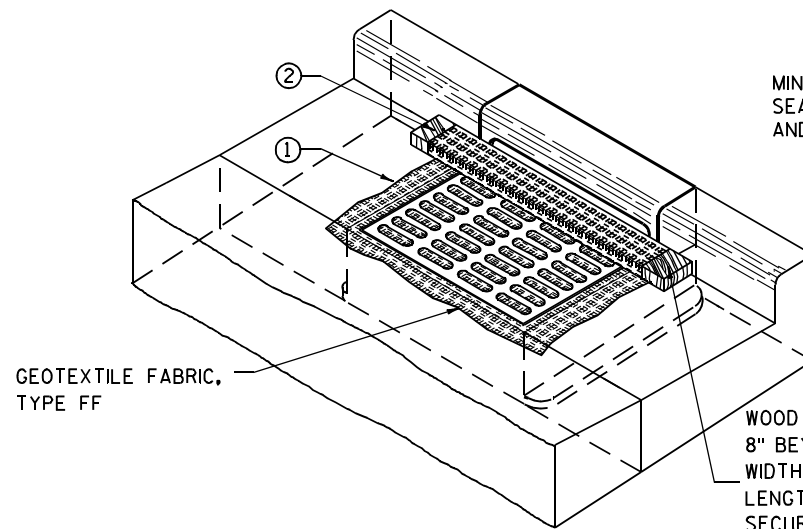
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- ① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
- ③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

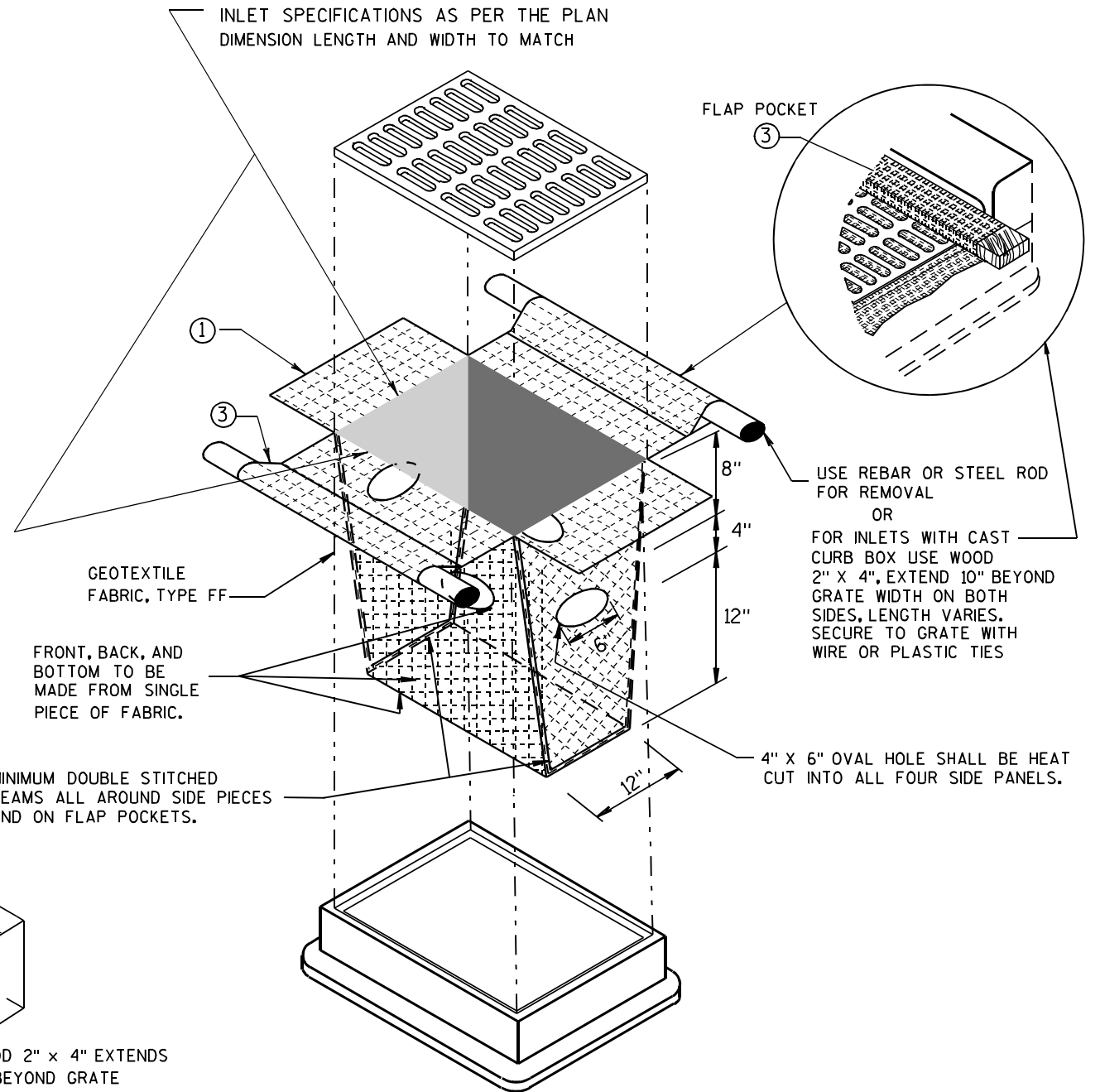


**INLET PROTECTION, TYPE B  
(WITHOUT CURB BOX)**

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



**INLET PROTECTION, TYPE C (WITH CURB BOX)**



**INLET PROTECTION, TYPE D**

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

**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**

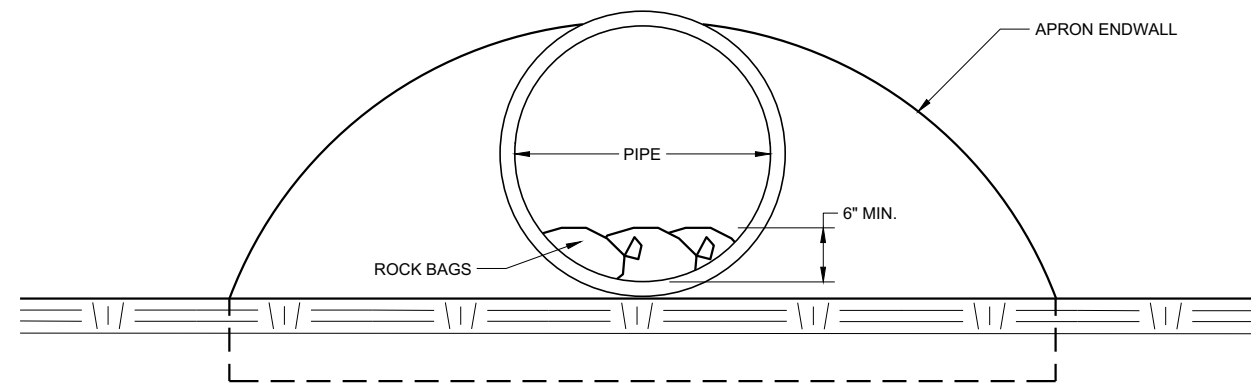
DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

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

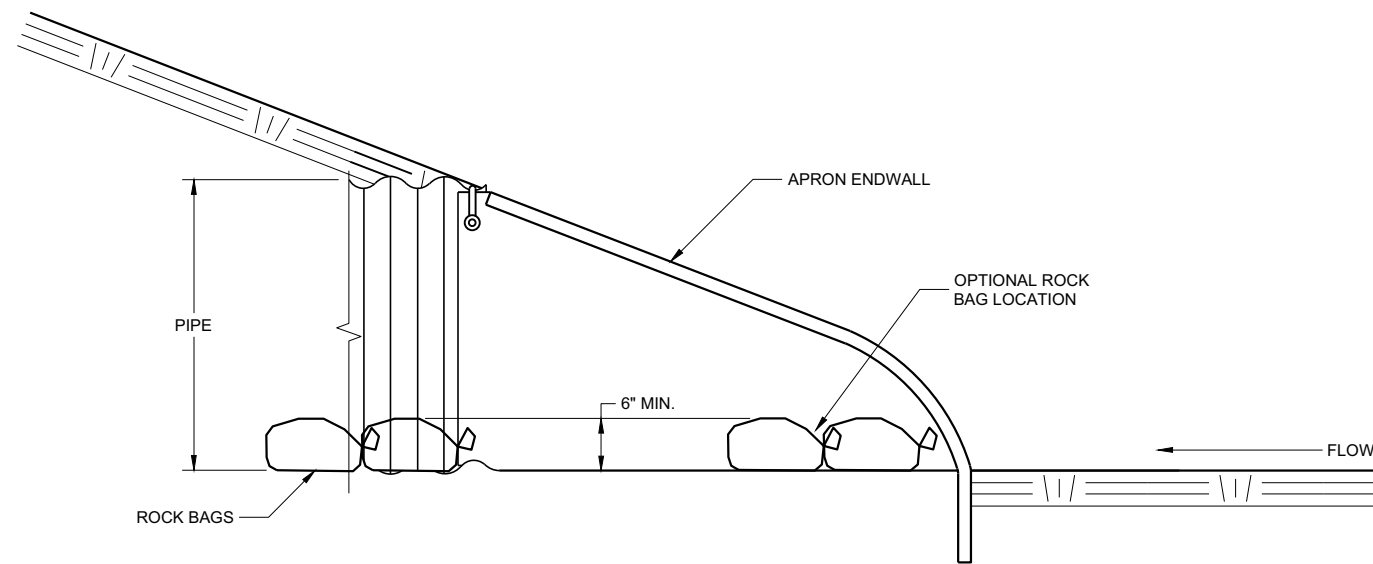
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE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

<b>INLET PROTECTION TYPE A, B, C, AND D</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/16/02 DATE	/s/ Beth Connestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	





**END VIEW**



**SIDE VIEW**

**CULVERT PIPE CHECK**  
(INSTALL ON INLET END ONLY)

6

6

SDD 08E15 - 01

SDD 08E15 - 01

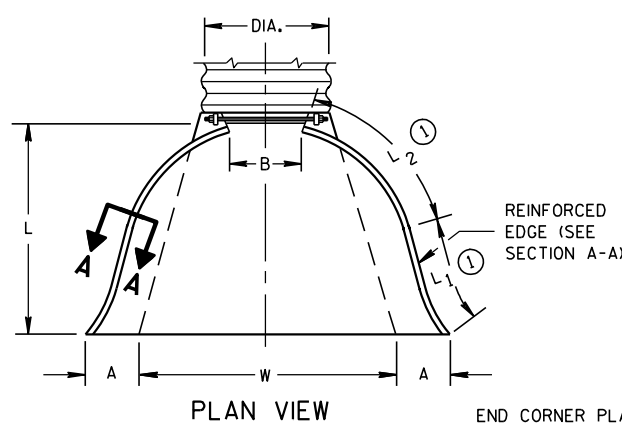
<b>CULVERT PIPE CHECK</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2019 DATE	/S/ Daniel Schave EROSION CONTROL ENGINEER
<small>FHWA</small>	

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

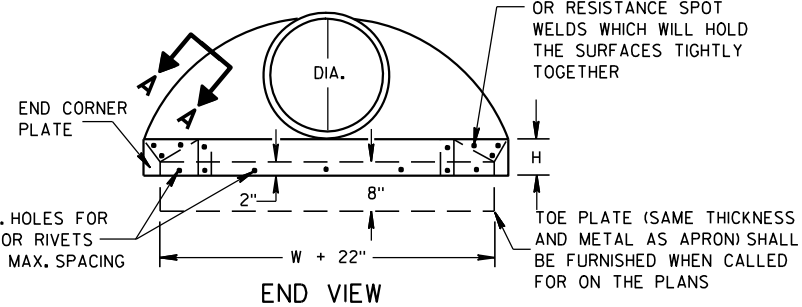
\* EXCEPT CENTER PANEL SEE GENERAL NOTES

REINFORCED CONCRETE APRON ENDWALLS									
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE	
	T	A	B	C	D	E	G		
12	2	4	24	48 1/8	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 1/2 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	

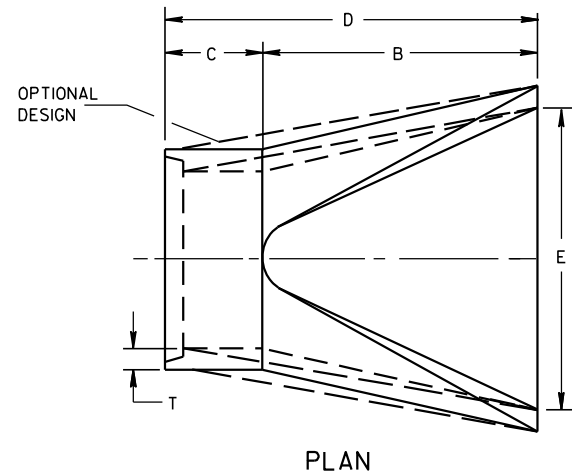
\* MINIMUM  
\*\* MAXIMUM



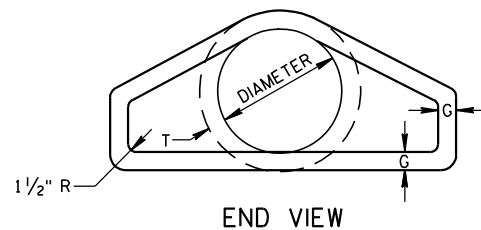
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER



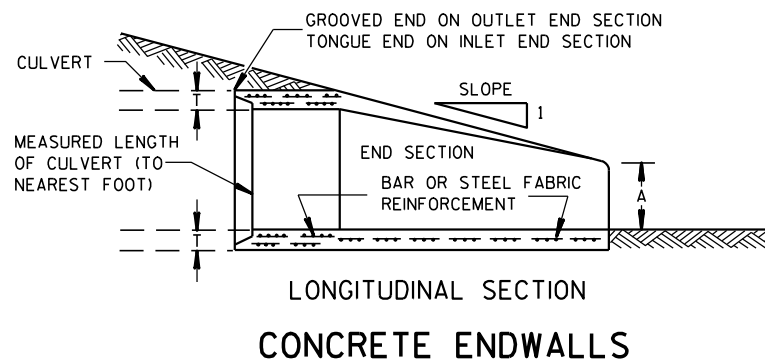
SIDE ELEVATION  
METAL ENDWALLS



PLAN

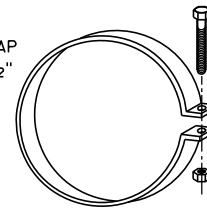


END VIEW

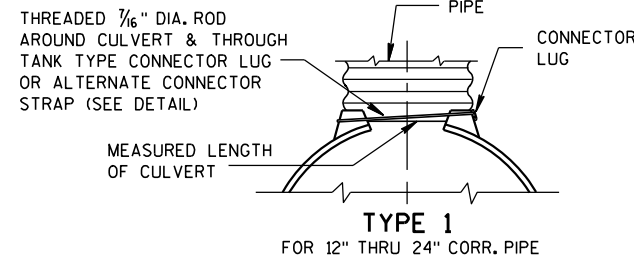


LONGITUDINAL SECTION  
CONCRETE ENDWALLS

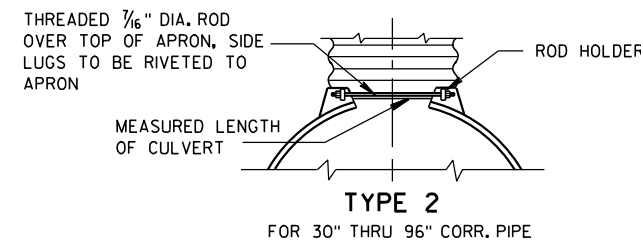
1" WIDE, 12 GA. (0.109" THICK) GALVANIZED STRAP WITH STANDARD 6" X 1/2" BAND BOLT AND NUT



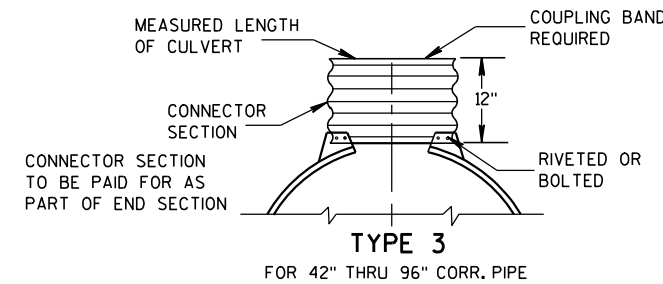
ALTERNATE FOR TYPE 1 CONNECTION  
END SECTION CONNECTOR STRAP



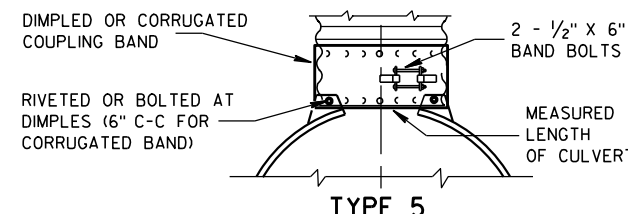
TYPE 1  
FOR 12" THRU 24" CORR. PIPE



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

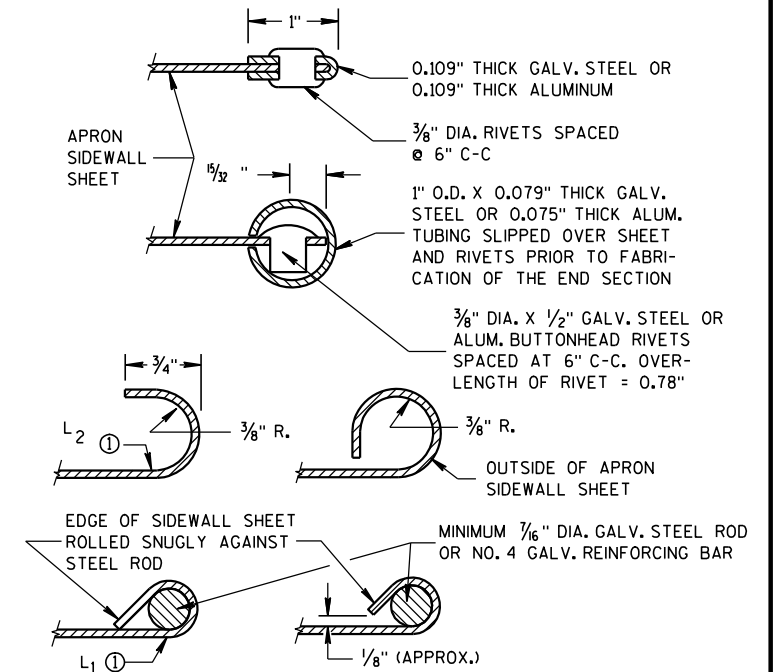
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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 VICE 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.

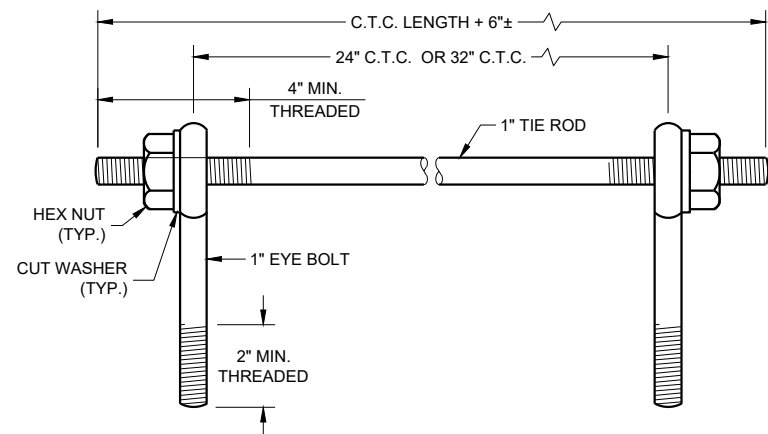
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

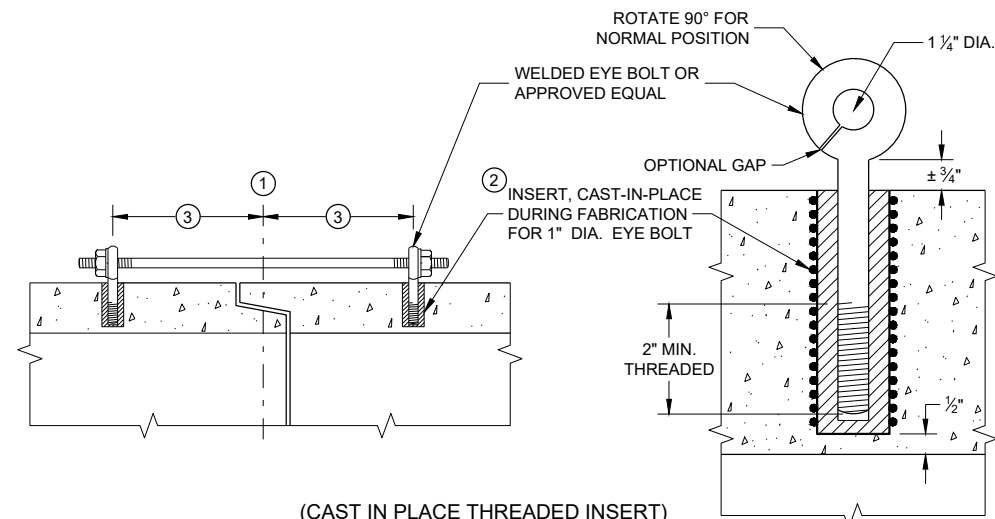
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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



**EYE BOLTS AND TIE ROD**

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



(CAST IN PLACE THREADED INSERT)  
**LONGITUDINAL SECTIONS**

**GENERAL NOTES**

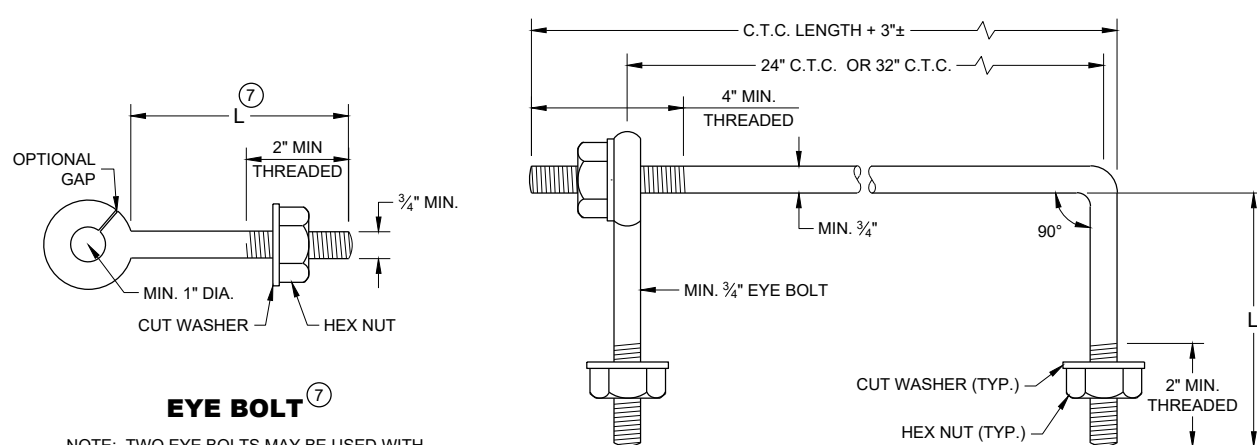
DETAILS OF CONSTRUCTION, MATERIALS, AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

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

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

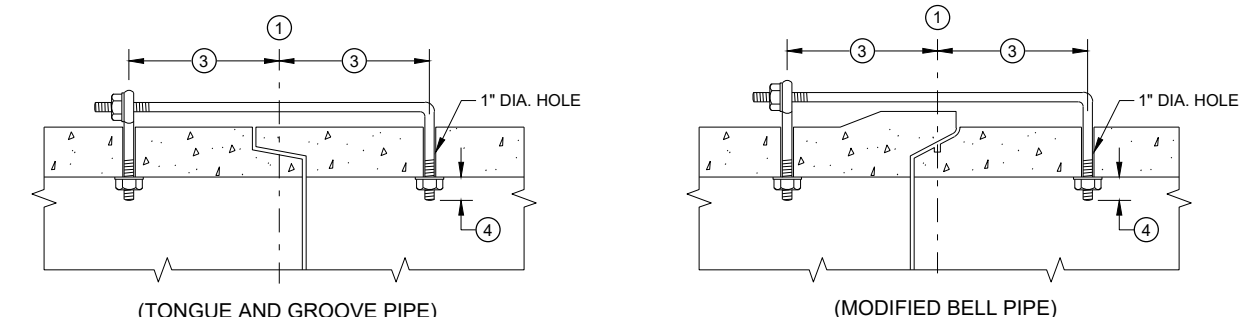
- ① CENTER LINE OF TONGUE AND GROOVE OR BELL AND SPIGOT JOINTS.
- ② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.
- ③ HOLES SHALL BE CAST-IN-PLACE OR DRILLED PER THE APPLICABLE DETAIL, AND EQUAL DISTANCE FROM THE CENTERLINE OF THE JOINT.
- ④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.
- ⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.
- ⑥ LENGTH ADEQUATE TO EXTEND TO WITHIN 1/2 INCH OF THE INNER SURFACE OF THE PIPE.
- ⑦ EYE BOLT LENGTH DETERMINED BY WALL THICKNESS, BELL THICKNESS AND BOLT PROJECTION INSIDE PIPE.



**EYE BOLT AND TIE ROD**

**EYE BOLT ⑦**

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



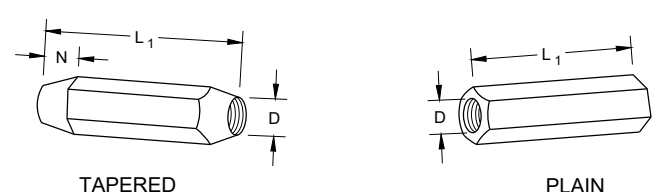
**LONGITUDINAL SECTION**  
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

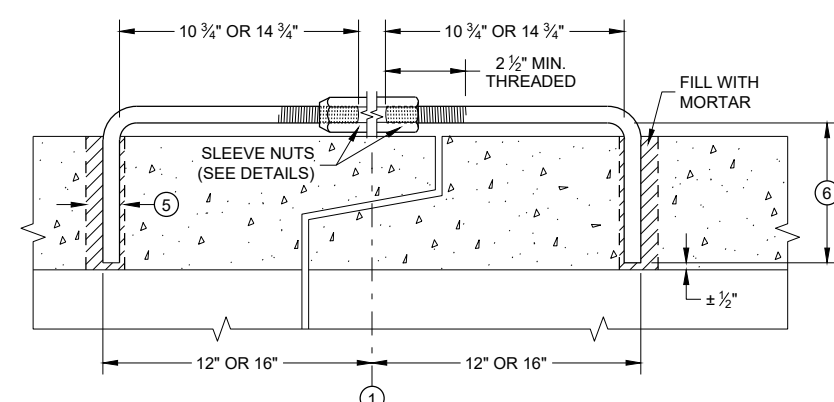
**ADJUSTABLE TIE ROD TABLE**

PIPE DIAMETER	TIE ROD DIAMETER	D	L <sub>1</sub>	N
12 - 60	5/8	5/8	5	1/2
66 - 84	3/4	3/4	5	1/2
90 - 144	1	1	7	1 7/16

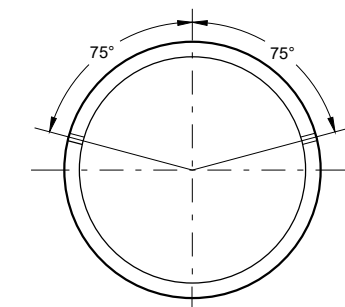
DIMENSIONS SHOWN ARE IN INCHES



**RIGHT AND LEFT THREADS SLEEVE NUTS**

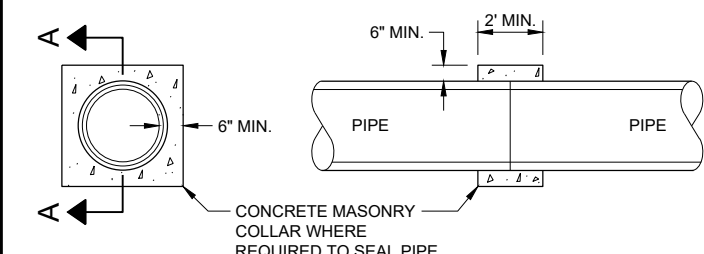


**LONGITUDINAL SECTION**  
**ADJUSTABLE TIE ROD (ALTERNATE NO. 3)**



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

**TRANSVERSE SECTION**



**SECTION A - A**  
**CONCRETE COLLAR DETAIL**

**JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2021 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT  
ENGINEER

**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.

FILL SLOPES FLATTER THAN 2 1/2:1 SHALL BE WARPED TO MEET THE TOP OF THE WINGWALLS.

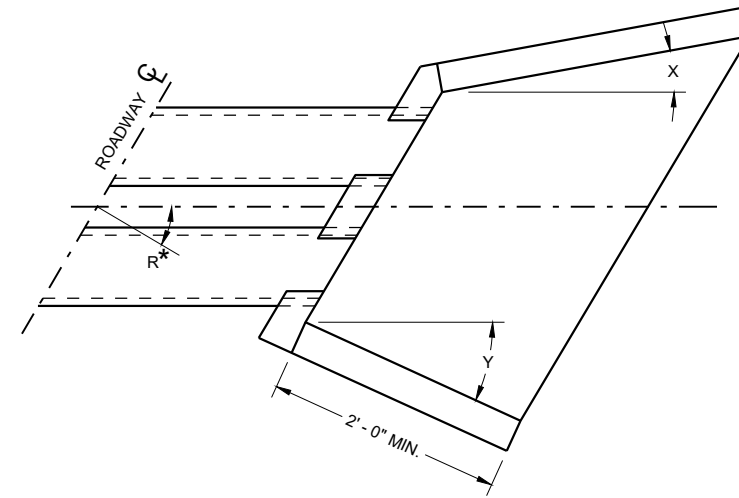
ALL STEEL REINFORCEMENT AND WELDED STEEL WIRE FABRIC SHALL BE EMBEDDED 2 INCHES CLEAR UNLESS OTHERWISE NOTED.

① MINIMUM REINFORCEMENT SHALL BE 6" X 6" - W4.0 X W4.0 OR NO. 3 BARS SPACED 12" C-C IN BOTH DIRECTIONS.

② THE SPACE BETWEEN PIPES SHALL BE AS FOLLOWS:

DIAMETER OR SPAN	SPACE
UP TO AND INCLUDING 48"	2' - 0"
OVER 48" TO 72"	1/2 DIA. OR SPAN
OVER 72"	3' - 0"

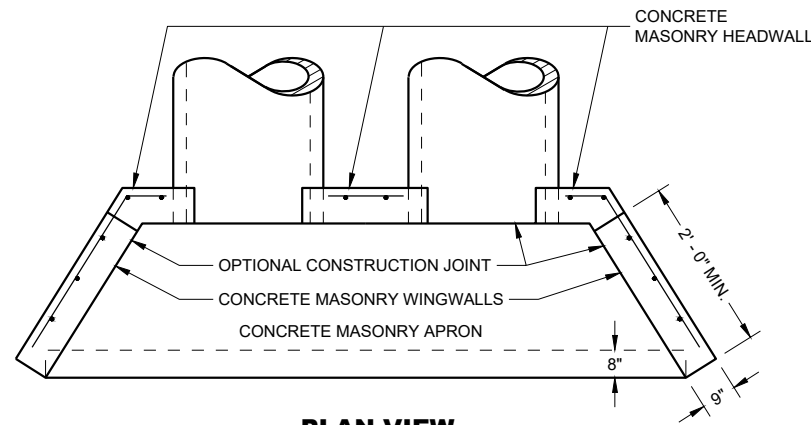
- ③ LIMITS OF TRENCH BACKFILL
- ④ LIMITS OF FOUNDATION BACKFILL
- ⑤ FOUNDATION AND TRENCH BACKFILL ARE MATERIALS INCLUDED IN PAYMENT FOR CULVERT PIPE, PIPE ARCH, CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPSE OR CONCRETE MASONRY ENDWALLS.
- ⑥ DO NOT PLACE FOUNDATION BACK FILL OR ANY OTHER GRANULAR BACKFILL AROUND OR BELOW CUT OFF WALL. POUR CUT OFF WALL AGAINST NATIVE SOIL.
- ⑦ MINIMUM HEIGHT SHALL BE THE GREATER OF 1'- 0" OR 1/4 HEIGHT OF CULVERT PIPE.



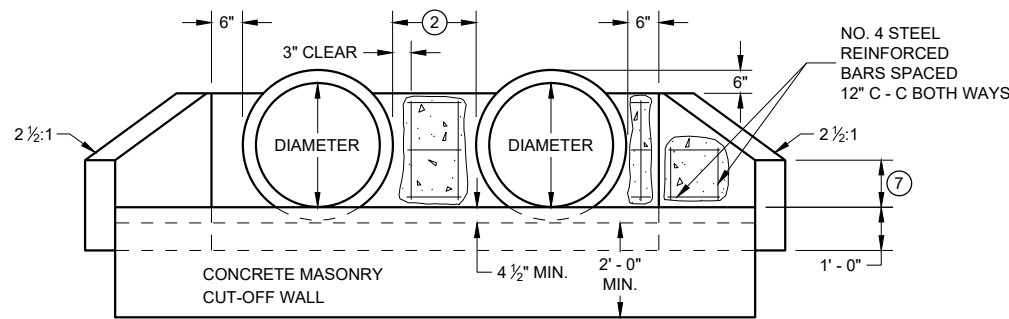
INLET			OUTLET		
R*	X	Y	R*	X	Y
0 - 7°	30°	30°	0 - 15°	15°	15°
8 - 22°	25°	30°	16 - 45°	10°	15°
23 - 37°	20°	30°	46 - 75°	5°	15°
38 - 52°	15°	30°	OVER 75°	0°	15°
53 - 67°	10°	30°			
68 - 82°	5°	30°			
OVER 82°	0°	30°			

R\* = NUMBER OF DEGREES RIGHT OR LEFT HAND FORWARD

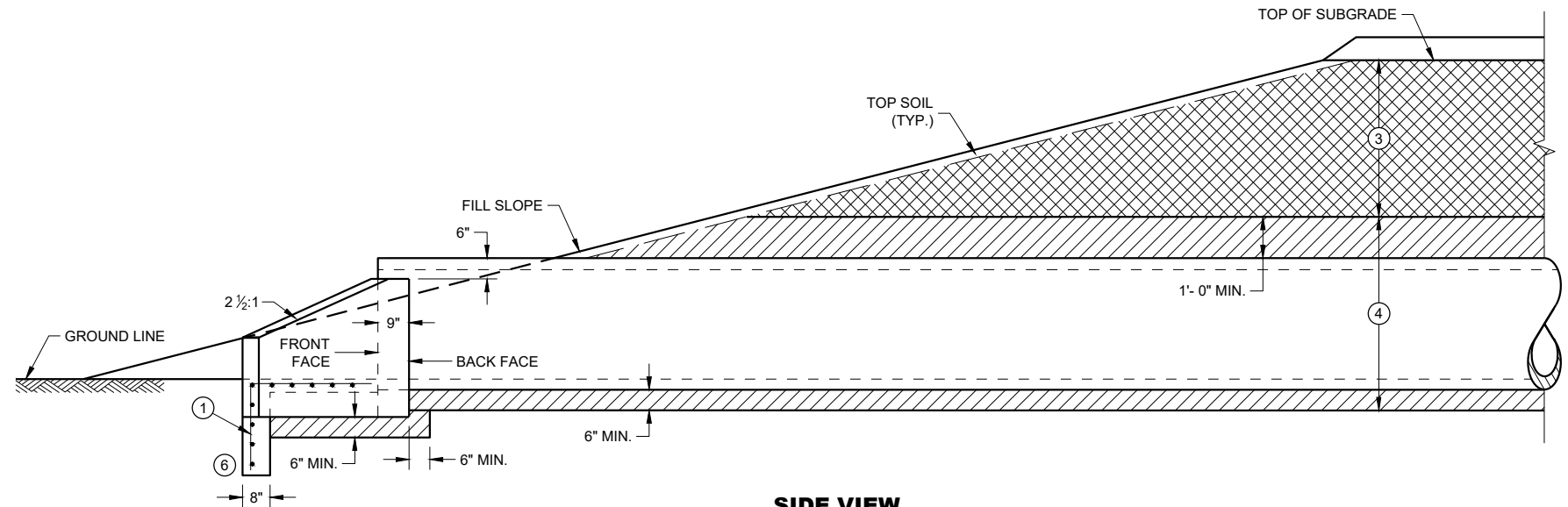
**WINGWALL ANGLE DETAILS**



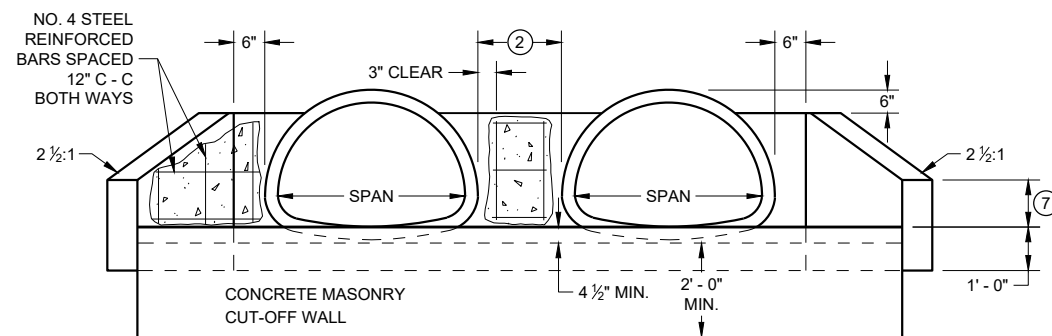
**PLAN VIEW**



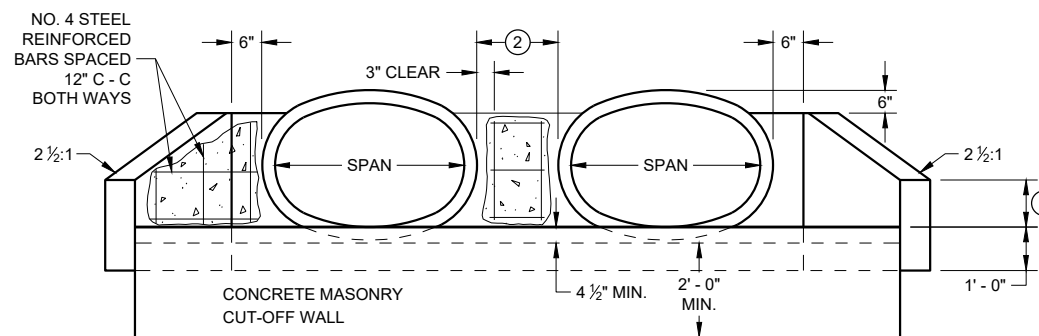
**END VIEW  
CIRCULAR PIPE**



**SIDE VIEW  
CIRCULAR PIPE, PIPE ARCH OR HORIZONTAL ELLIPSE**



**END VIEW  
PIPE ARCH**



**END VIEW  
HORIZONTAL ELLIPSE**

**CONCRETE MASONRY  
ENDWALLS FOR CULVERT  
PIPE AND PIPE ARCH**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2022 /S/ Rodney Taylor  
DATE ROADWAY STANDARDS DEVELOPMENT  
ENGINEER

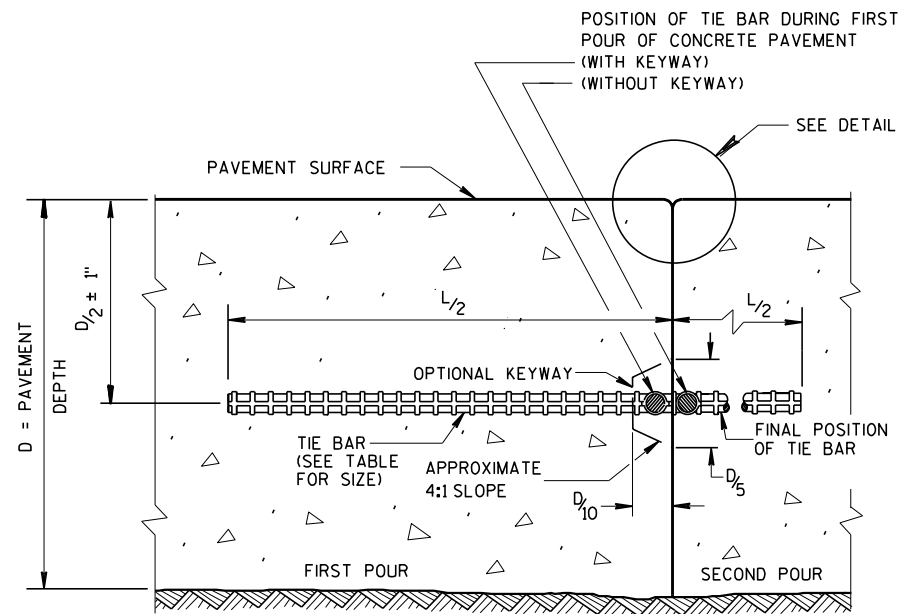
FHWA

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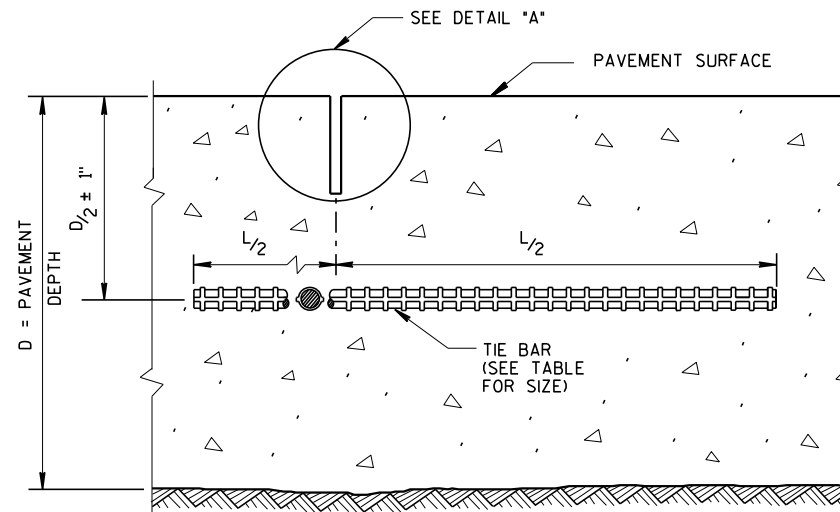
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SDD 08F10 - 02

SDD 08F10 - 02



**CONSTRUCTION JOINT**



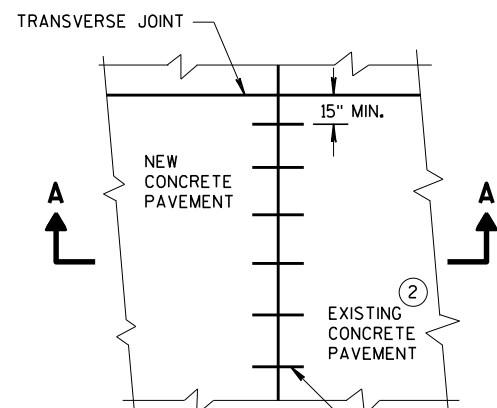
**SAWED JOINT**

**GENERAL NOTES**

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

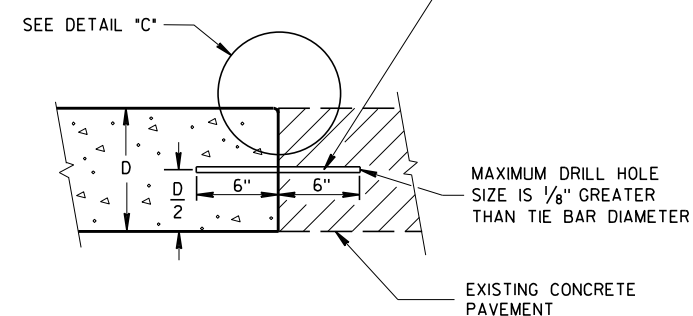
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

- ① ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.
- ② PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.

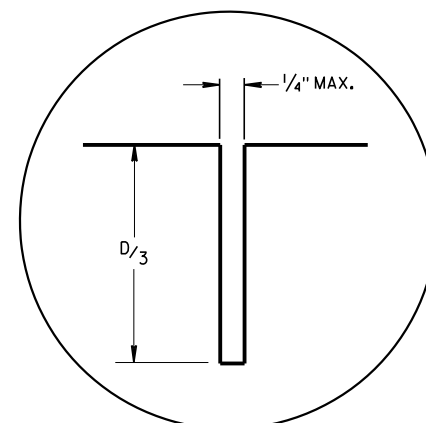


**PLAN VIEW**

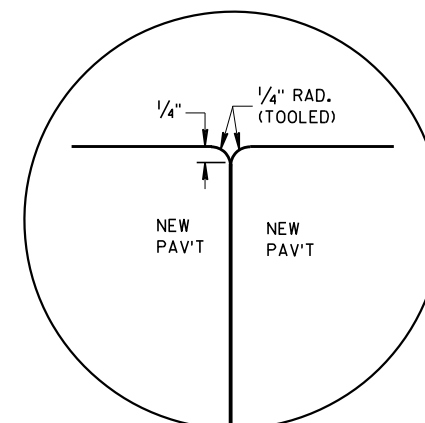
NO. 6 TIE BARS SPACED 30" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT. ①



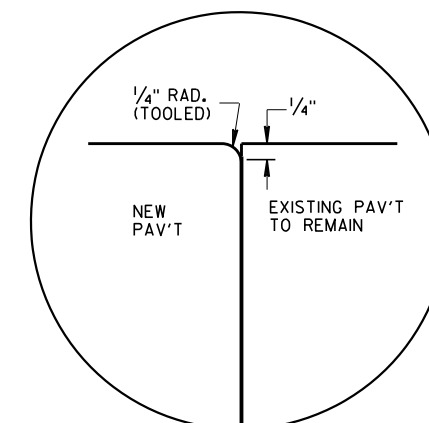
**SECTION A-A  
LONGITUDINAL CONSTRUCTION JOINT  
TIE BARS ANCHORED  
INTO EXISTING PAVEMENT**



**DETAIL "A"**



**DETAIL "B"**



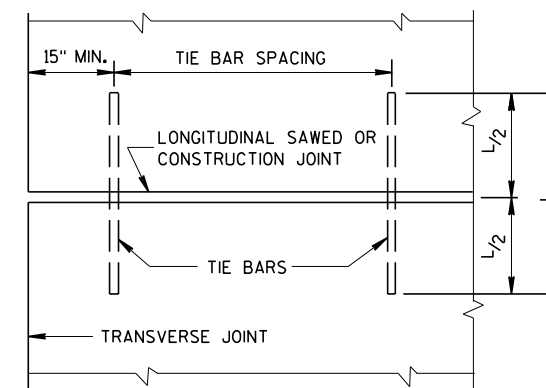
**DETAIL "C"**

**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" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

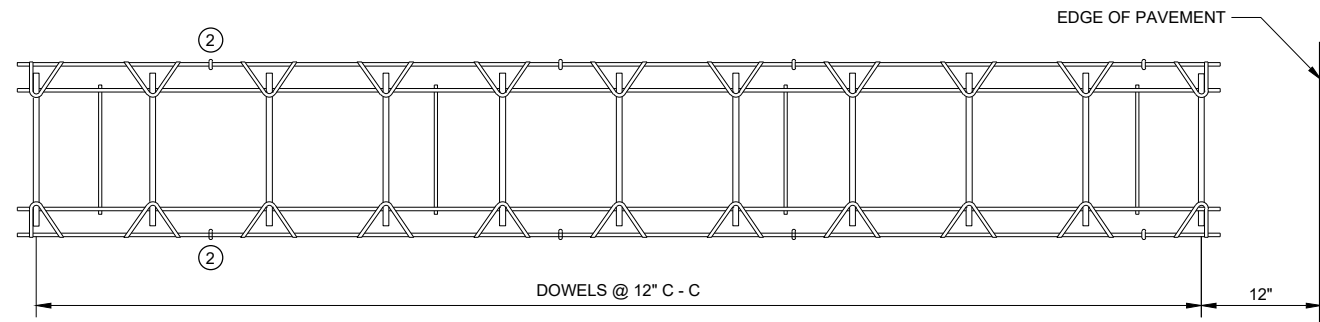


**PLAN VIEW  
SHOWING LOCATION OF TIE BARS**

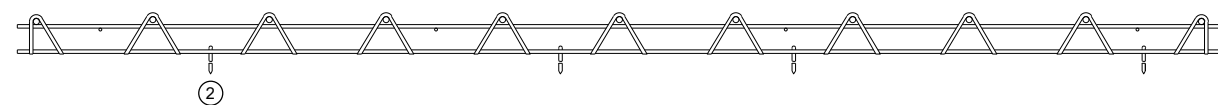
**CONCRETE PAVEMENT  
LONGITUDINAL JOINTS AND TIES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
March 2018 /S/ Peter Kemp, P.E.  
DATE PAVEMENT SUPERVISOR  
FHWA

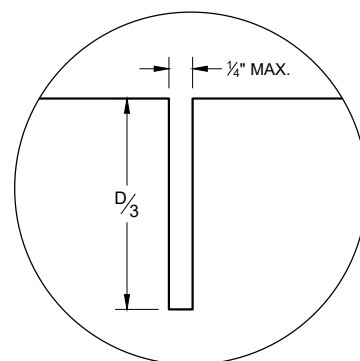


**PLAN VIEW**



**SIDE VIEW**

**CONTRACTION JOINT DOWEL ASSEMBLY** ①



**JOINT DETAIL**

**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.

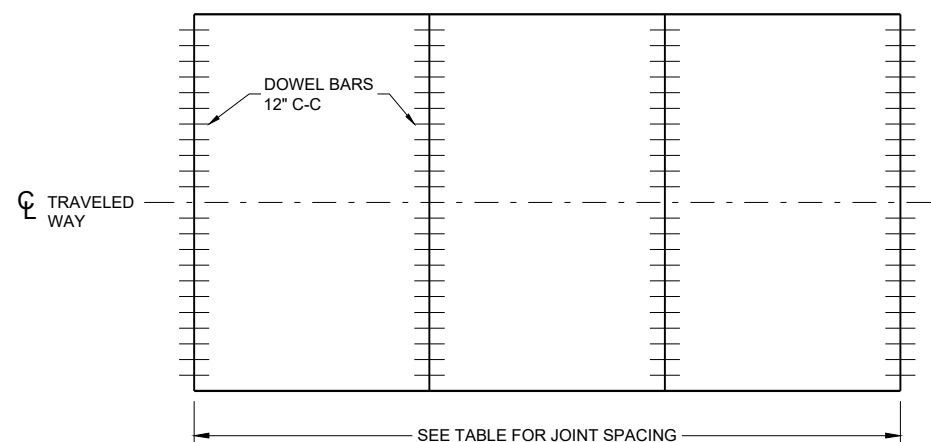
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

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 FROM AND A MAXIMUM OF 18 INCHES FROM THE FREE EDGE OF PAVEMENT.

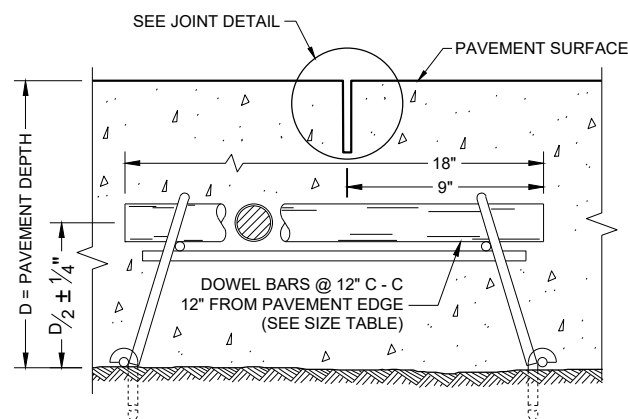
**CONSTRUCTION JOINTS**

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO THE 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 CONSTRUCTION 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 1/4" 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 THE "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 AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY. MAXIMUM DRILLED HOLE SIZE IS 1/8" GREATER THAN DOWEL BAR DIAMETER, 9 INCHES IN LENGTH.



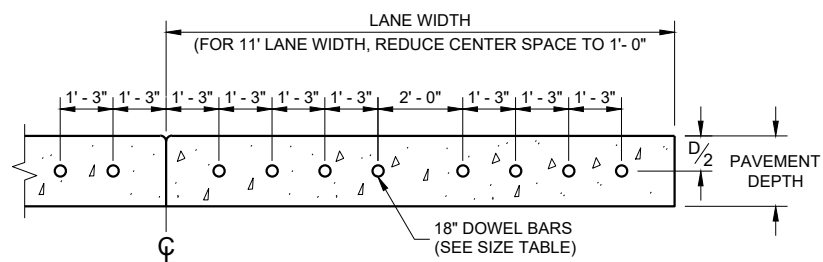
**CONTRACTION JOINT LOCATIONS**



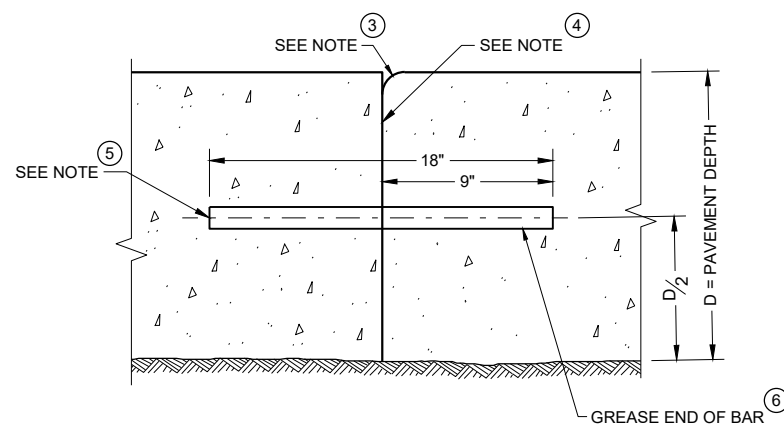
**DOWELED CONTRACTION JOINT**

**PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE**

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
6", 6 1/2"	NONE	12'
7", 7 1/2"	1"	14'
8" & ABOVE	1 1/4"	15'



**DRILLED DOWEL BAR CONSTRUCTION JOINT** ⑦



**TRANSVERSE CONSTRUCTION JOINT**

**URBAN DOWELED CONCRETE PAVEMENT**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2022 /S/ Peter Kemp P.E.  
DATE PAVEMENT SUPERVISOR

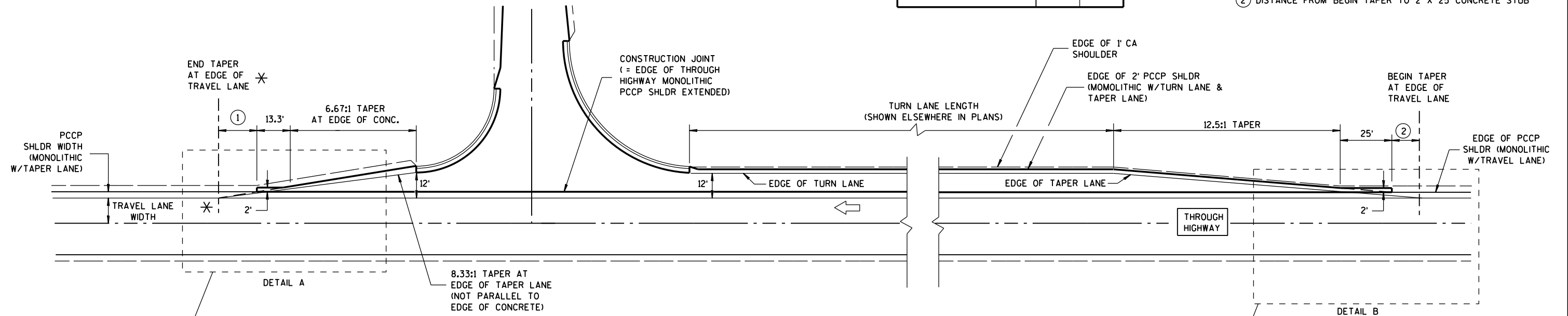
FHWA

### GENERAL NOTES

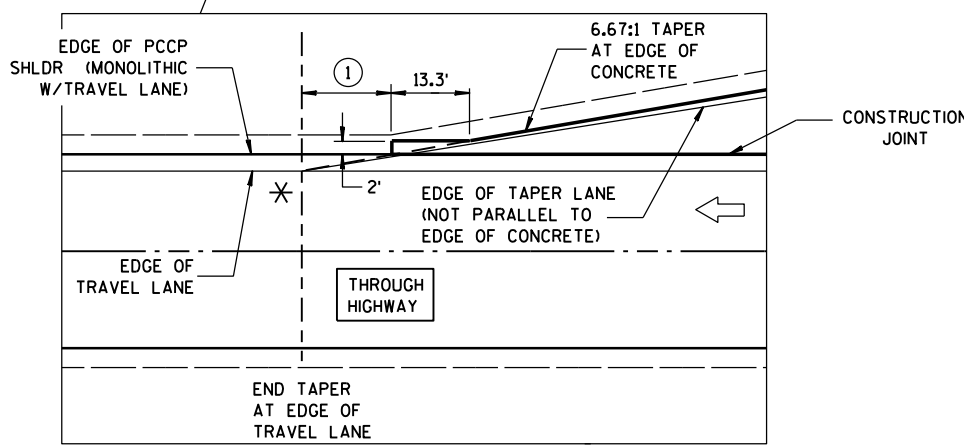
PCCP = PORTLAND CEMENT CONCRETE PAVEMENT.  
 SHLDR = SHOULDER.  
 CONTINUE SAW CUT CONTRACTION JOINT ACROSS TURN LANE,  
 EXIT TAPER AND PASSING LANE.  
 PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE  
 PROVIDED ELSEWHERE IN THE CONTRACT.  
 THROUGH HIGHWAY LANE WIDTH AND PCCP SHOULDER  
 WIDTH ARE SHOWN ELSEWHERE IN PLANS

- ① DISTANCE FROM END TAPER TO 2' X 13.3' CONCRETE STUB
- ② DISTANCE FROM BEGIN TAPER TO 2' X 25' CONCRETE STUB

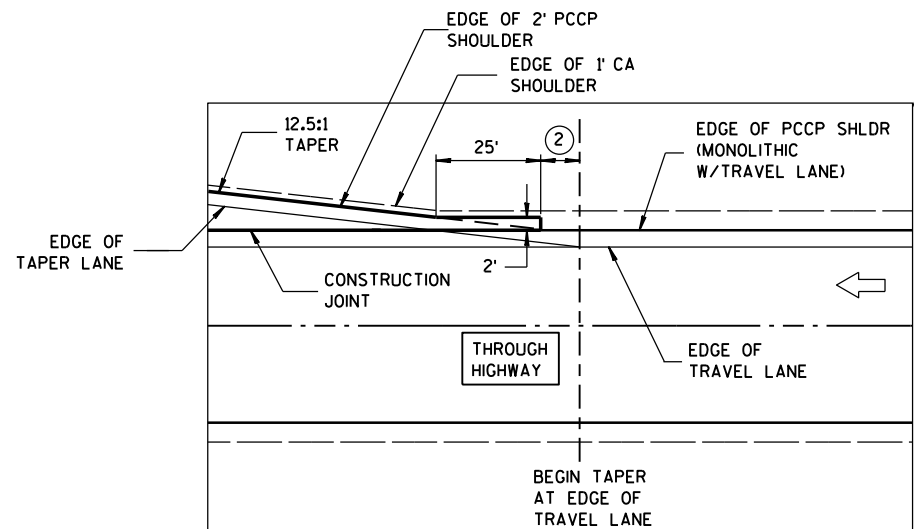
THROUGH HIGHWAY MONOLITHIC PCCP SHOULDER WIDTH (FEET)	DISTANCE (FEET)	
	①	②
2	13.3	0.0
3	20.0	12.5
TAPER RATE : 1	6.67	12.5



\* NOTE: EDGE OF CONCRETE TAPER (EXTENDED) & EDGE OF TAPER LANE CONVERGE



DETAIL A



DETAIL B

### RIGHT TURN LANE AND EXIT TAPER

DETAIL FOR RIGHT TURN LANE/  
 TEE INTERSECTION BYPASS LANE  
 ON A CONCRETE ROADWAY

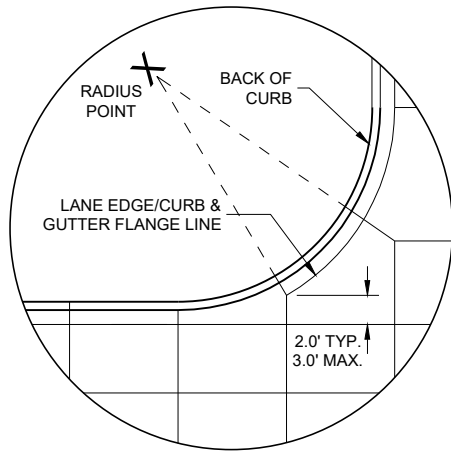
STATE OF WISCONSIN  
 DEPARTMENT OF TRANSPORTATION

6

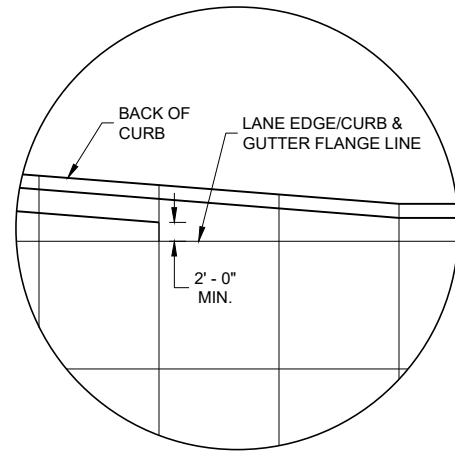
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S.D.D. 13 C 16-2a

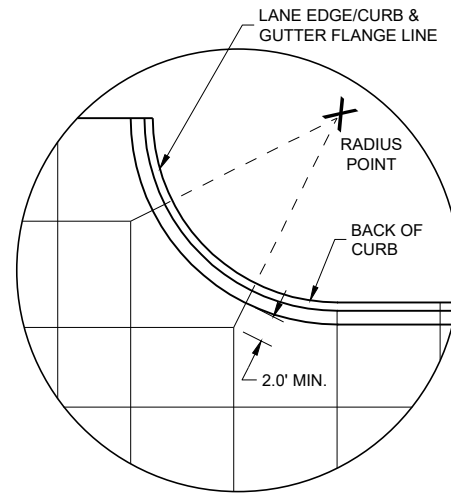
S.D.D. 13 C 16-2a



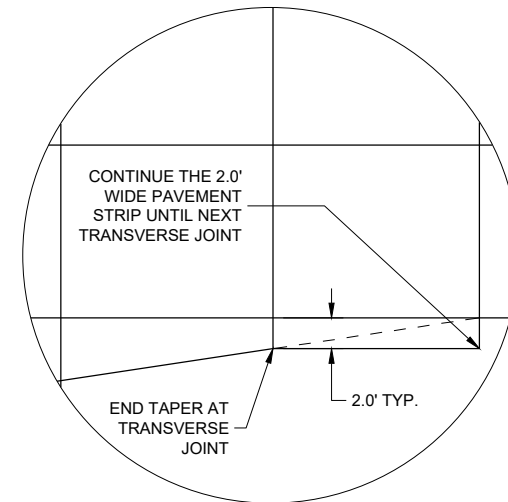
DETAIL "A"



DETAIL "B"



DETAIL "C"

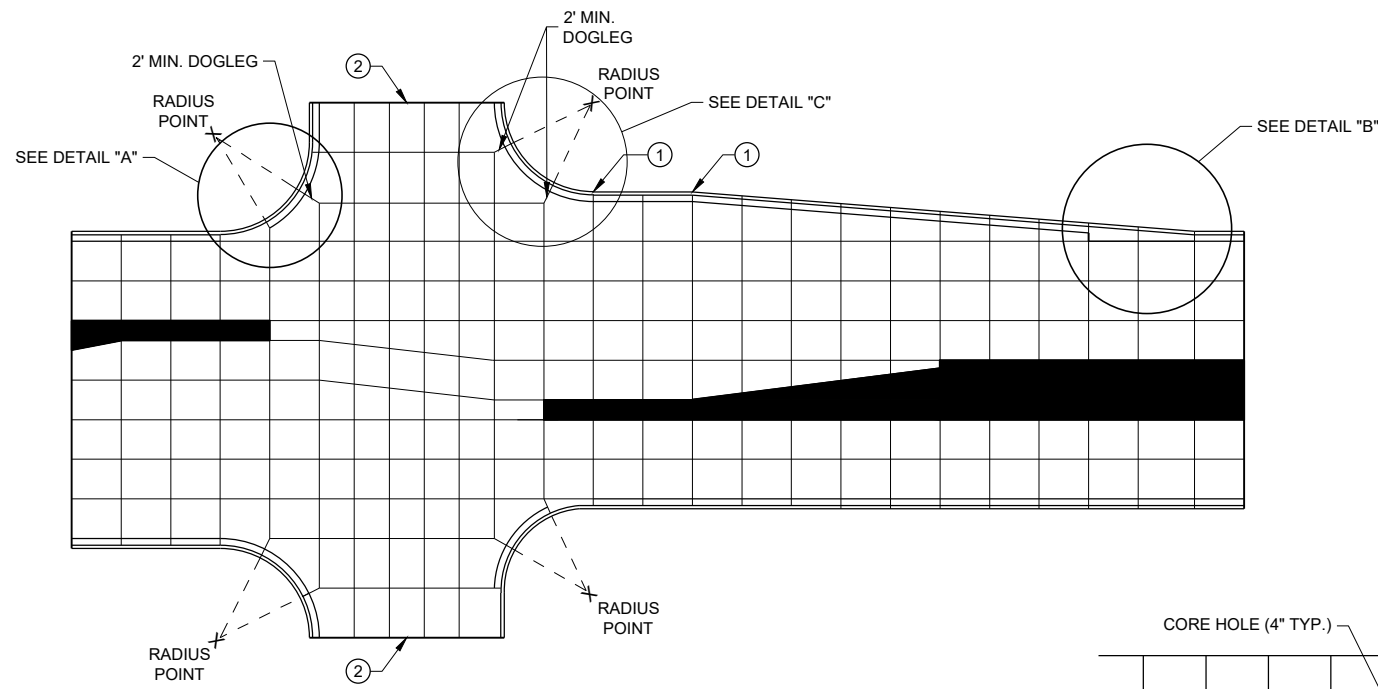


DETAIL "D"

**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.

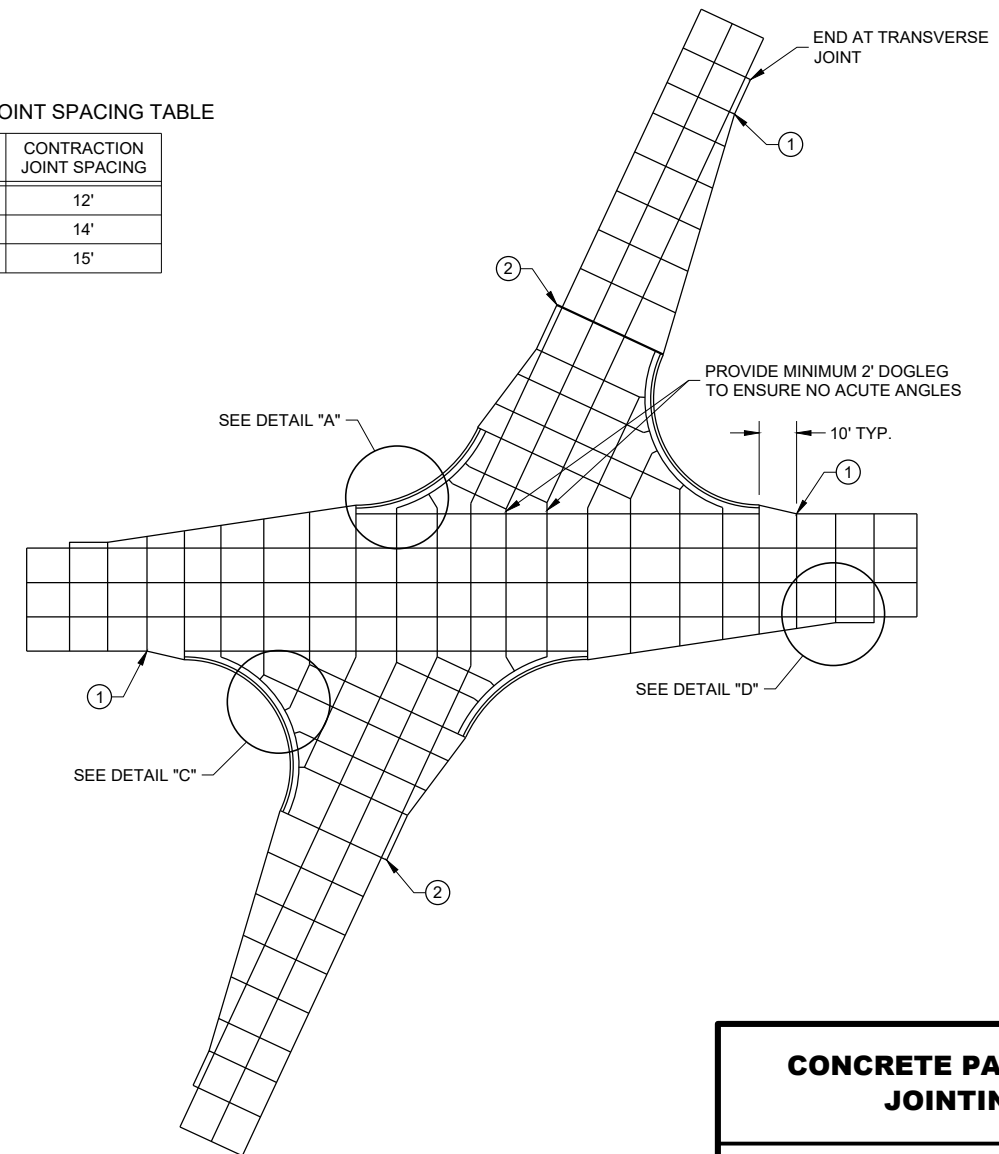
- ① PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
- ② CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH EDGE OF RADIUS.
- ③ THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM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



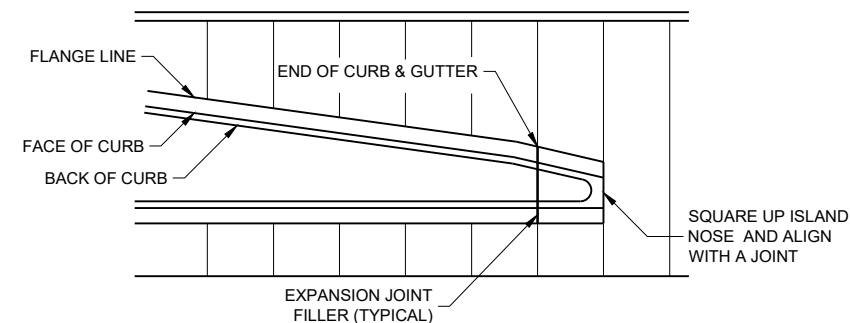
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

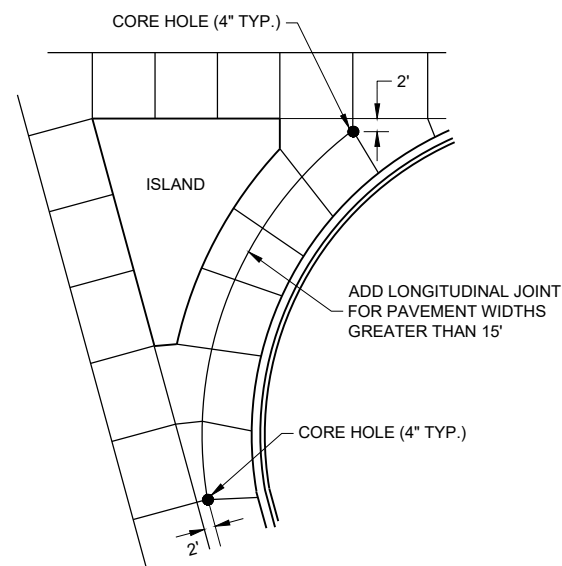
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6 1/2"	12'
7", 7 1/2"	14'
8" & ABOVE	15'



SKEWED INTERSECTION



APPROACH TO MEDIAN



LARGE RIGHT TURN



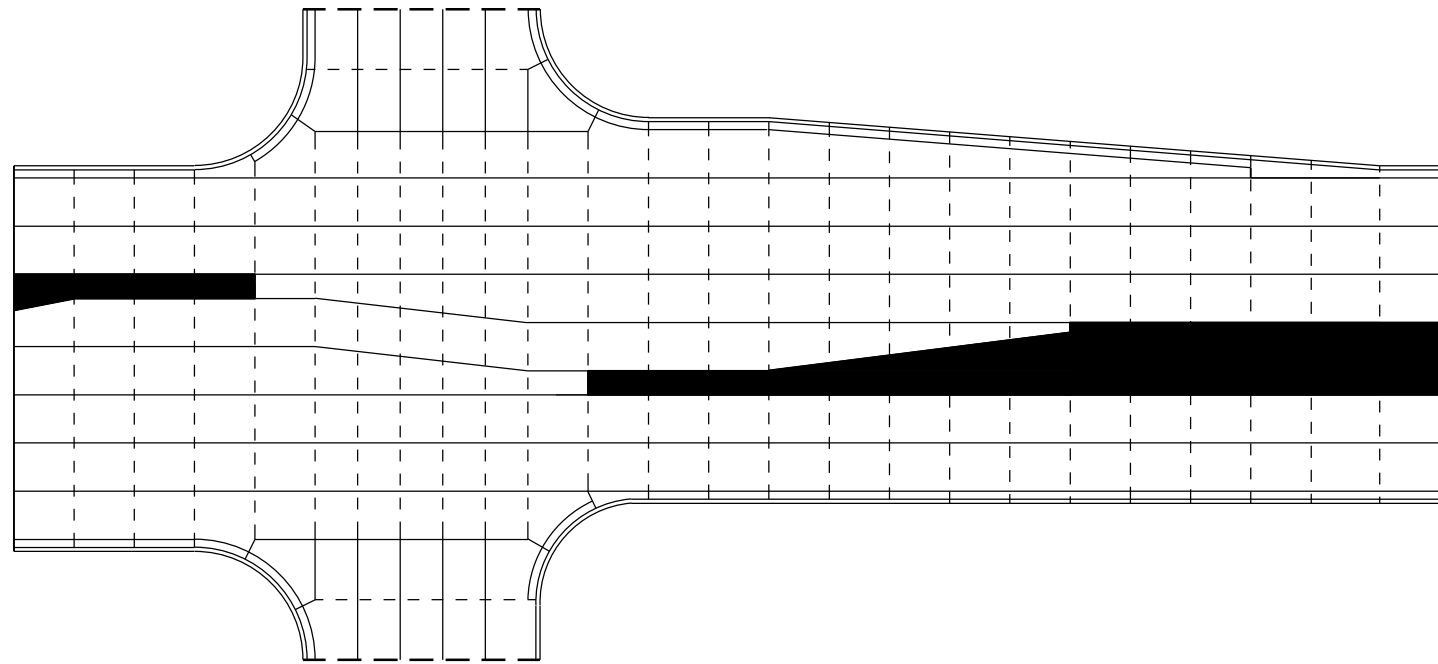
**LEGEND**

- - - - - POTENTIAL DOWELED EXPANSION JOINT
- - - - - DOWELED JOINT
- TIED JOINT

**GENERAL NOTES**

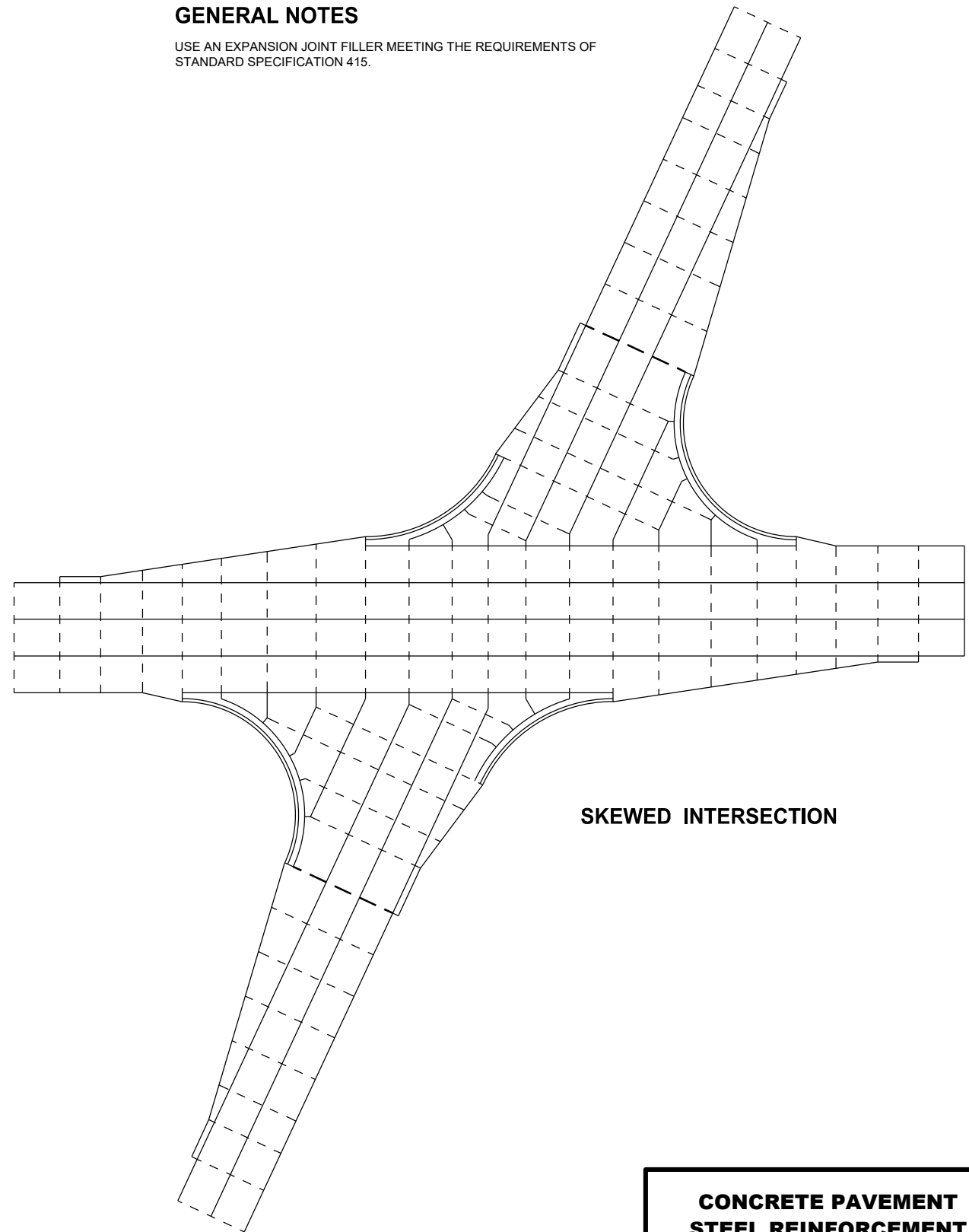
USE AN EXPANSION JOINT FILLER MEETING THE REQUIREMENTS OF STANDARD SPECIFICATION 415.

6



**STANDARD INTERSECTION**

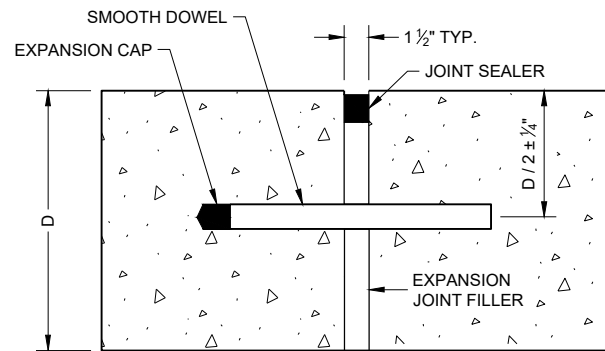
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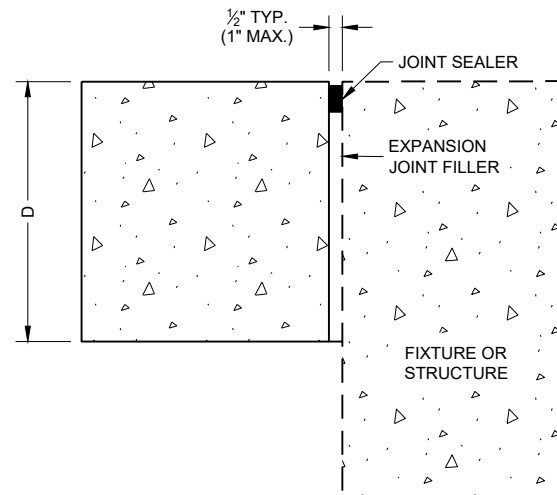
**SKEWED INTERSECTION**

**CONCRETE PAVEMENT  
STEEL REINFORCEMENT**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**DOWELED TRANSVERSE** ①



**UNTIED - LONGITUDINAL**

**EXPANSION JOINTS**

**TIE BAR TABLE**

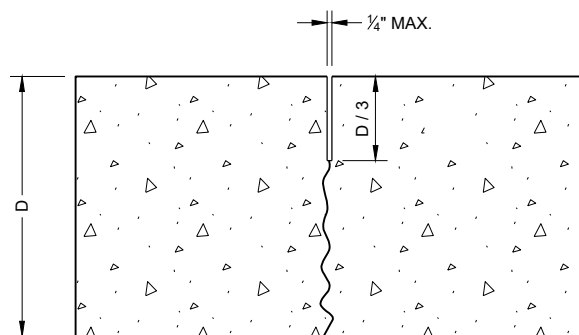
PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 1/2"	NO. 4	30"	36"
≥ 10 1/2"	NO. 5	36"	36"
	NO. 4*	30"	24" **

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

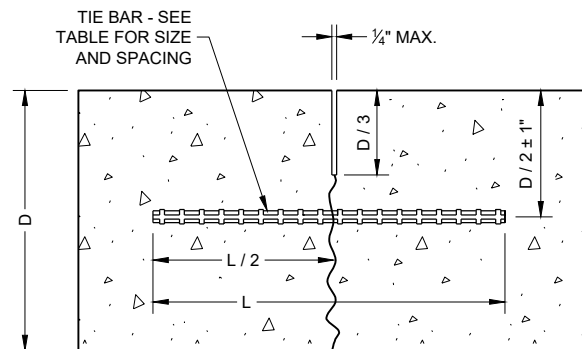
\*\* CONFORM TO 15" MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.

**GENERAL NOTES**

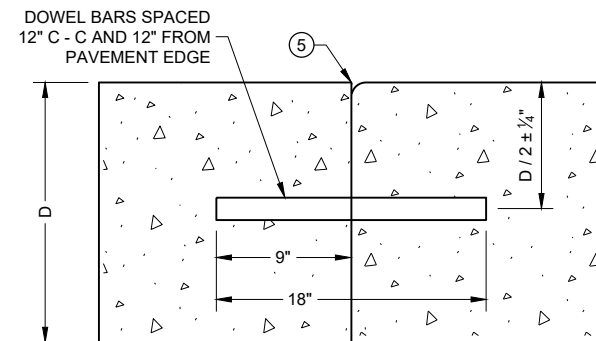
- ① USE DOWELED EXPANSION JOINTS ON SIDE ROADS AT INTERSECTIONS (TO ISOLATE THE SIDE ROAD FROM THE THROUGH STREET) IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH.
- ② SPACE CONTRACTION JOINTS IN ACCORDANCE WITH SDD 13C4, 13C11 OR 13C13.
- ③ LOCATE CONSTRUCTION JOINTS A MINIMUM 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" RADIUS.
- ⑥ ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



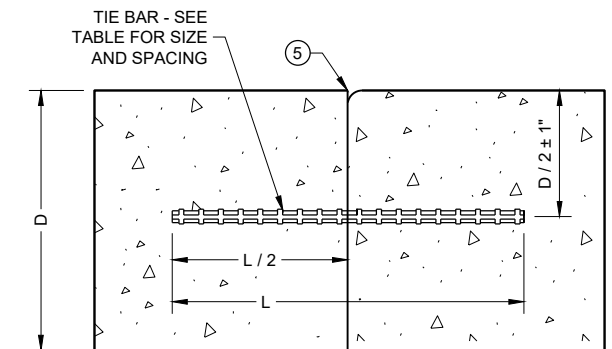
**UNDOWELED TRANSVERSE**



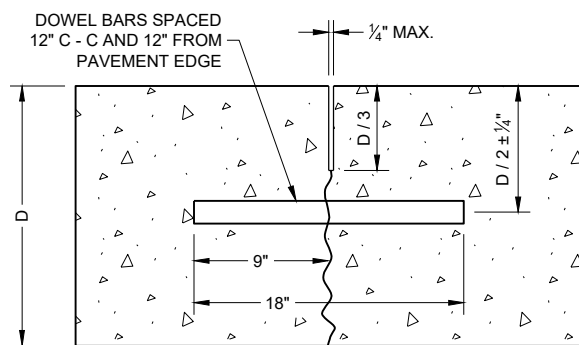
**TIED LONGITUDINAL**



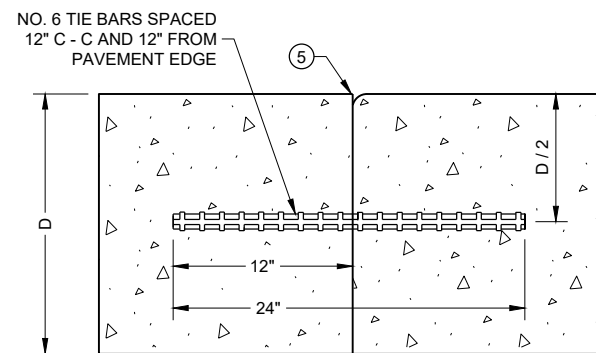
**DOWELED TRANSVERSE** ③



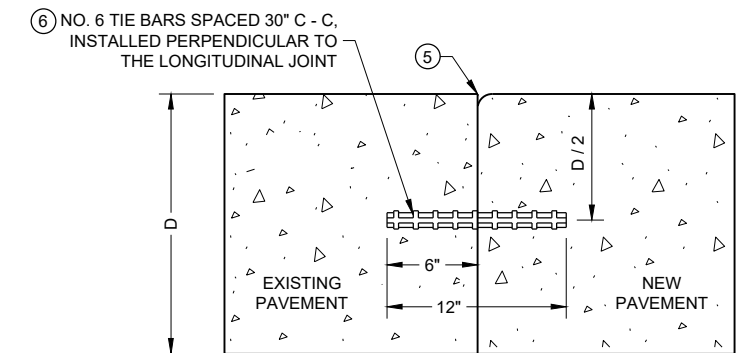
**TIED LONGITUDINAL**



**DOWELED TRANSVERSE**



**TIED TRANSVERSE** ③  
(FOR USE ON NON-DOWELED PAVEMENTS ONLY)



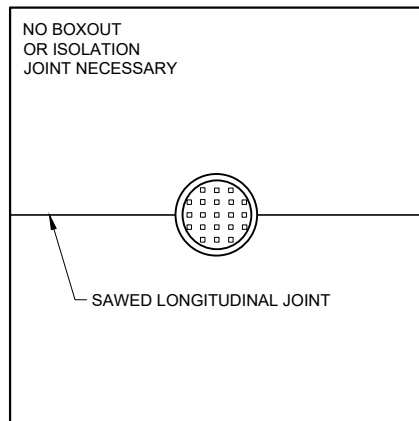
**TIED LONGITUDINAL TO EXISTING**

**CONTRACTION JOINTS** ②

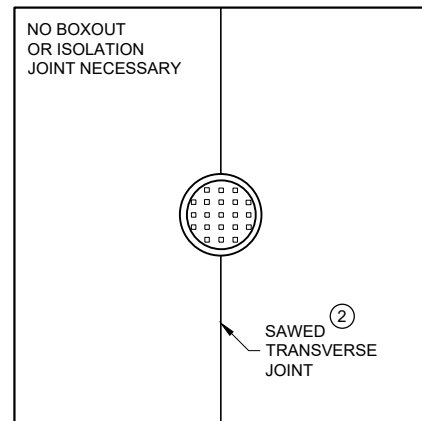
**CONSTRUCTION JOINTS** ④

**CONCRETE PAVEMENT  
JOINT TYPES**

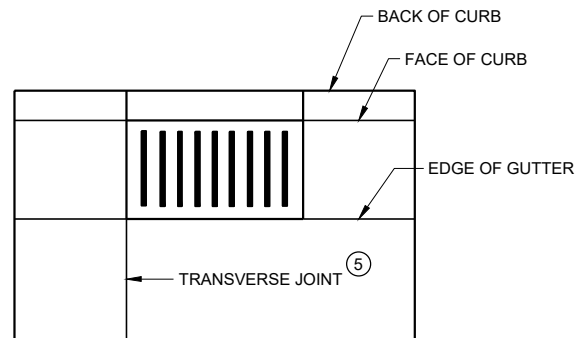
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION



**MANHOLE WITH LONGITUDINAL JOINT**



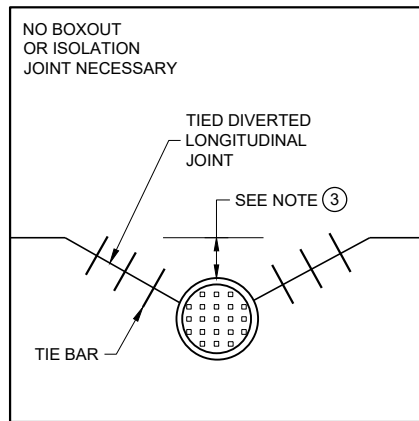
**MANHOLE WITH TRANSVERSE JOINT**



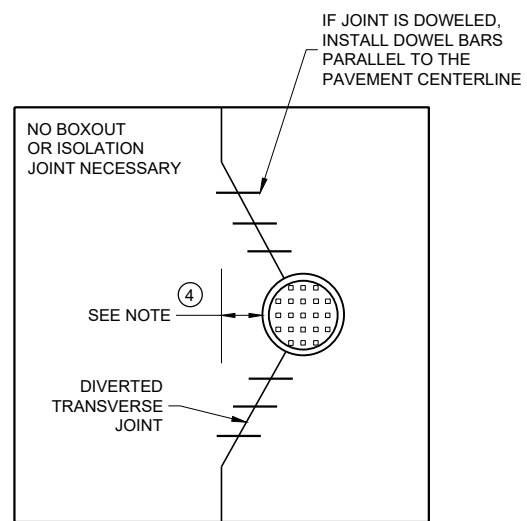
**INLET WITH TRANSVERSE JOINT**

**GENERAL NOTES**

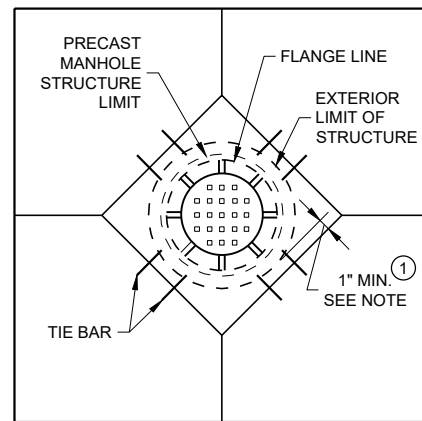
- ① USE BOXOUTS WHEN UTILITY STRUCTURE IS IN THE PATH OF CONSTRUCTION JOINTS. PROVIDE A 1 FOOT MINIMUM CLEARANCE BETWEEN THE EXTERIOR LIMIT OF THE STRUCTURE TO THE DIAMOND BOXOUT.
- ② ADJUST TRANSVERSE JOINT TO INTERSECT MANHOLE IF POSSIBLE.
- ③ IF DISTANCE BETWEEN THE LONGITUDINAL JOINT AND THE EDGE OF MANHOLE IS 2 FEET OR LESS, DIVERT THE LONGITUDINAL 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 REINFORCEMENT REBAR AROUND THE MANHOLE.
- ④ IF THE DISTANCE FROM THE EDGE OF THE MANHOLE TO THE NEAREST TRANSVERSE JOINT IS LESS 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 REINFORCEMENT REBAR AROUND THE MANHOLE.
- ⑤ ALIGN TRANSVERSE JOINT WITH ONE EDGE OF INLET WHEN PRACTICAL.



**MANHOLE WITH DIVERTED LONGITUDINAL CONTRACTION JOINT**



**MANHOLE WITH DIVERTED TRANSVERSE CONTRACTION JOINT**



**DIAGONAL MANHOLE BOXOUT FOR CONSTRUCTION JOINTS**

**CONCRETE PAVEMENT JOINTING AT UTILITY FIXTURES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

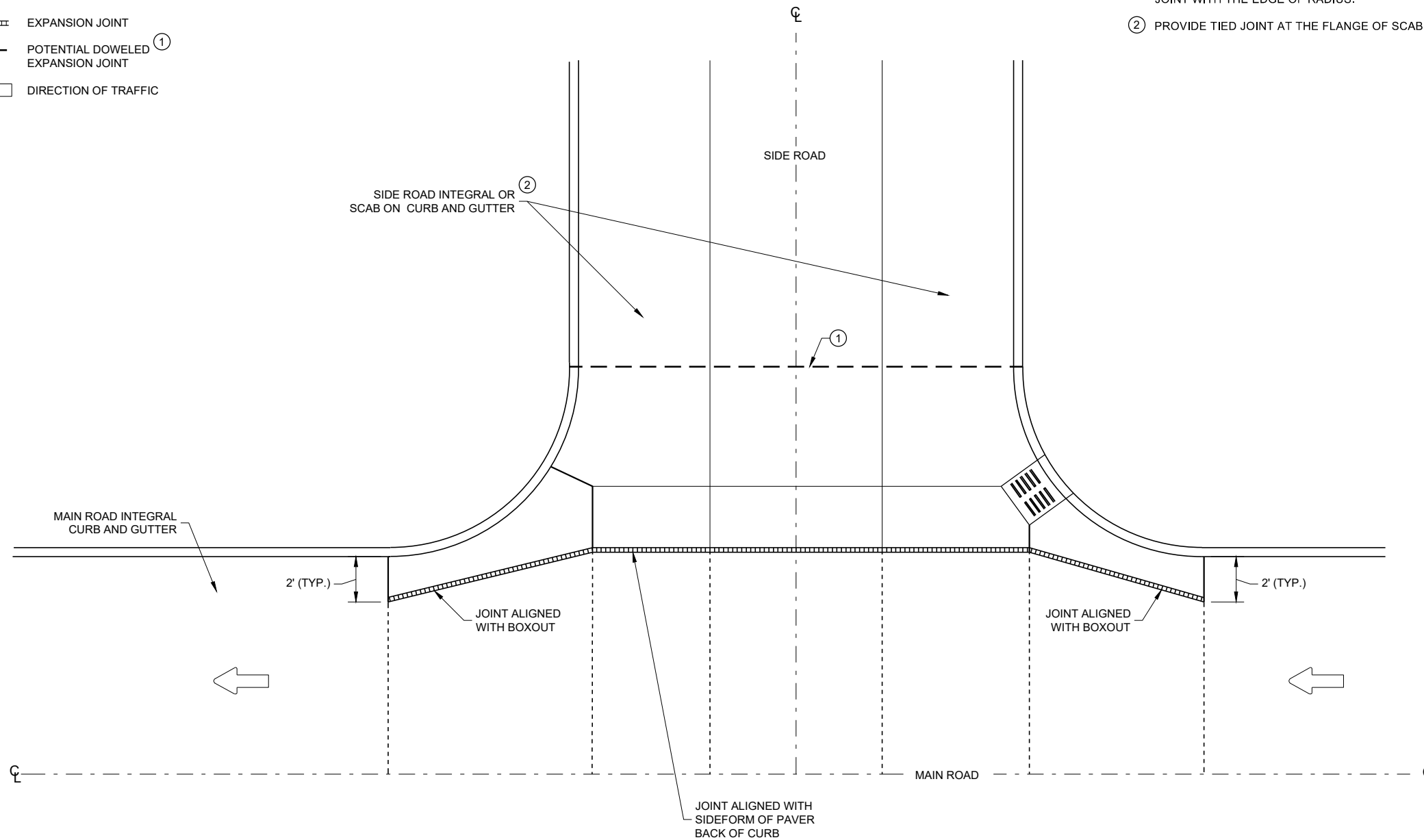
APPROVED	
May 2023	/s/ Peter Kemp P.E.
DATE	PAVEMENT SUPERVISOR

**LEGEND**

- DOWELED JOINT
- TIED JOINT
- ▨▨▨▨ EXPANSION JOINT
- — — — POTENTIAL DOWELED <sup>①</sup> EXPANSION JOINT
- ← DIRECTION OF TRAFFIC

**GENERAL NOTES**

- ① 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 THE EDGE OF RADIUS.
- ② PROVIDE TIED JOINT AT THE FLANGE OF SCAB ON CURB IF SCAB ON CURB AND GUTTER IS USE.



**INTERSECTION BOXOUT FOR INTEGRAL CURB AND GUTTER**

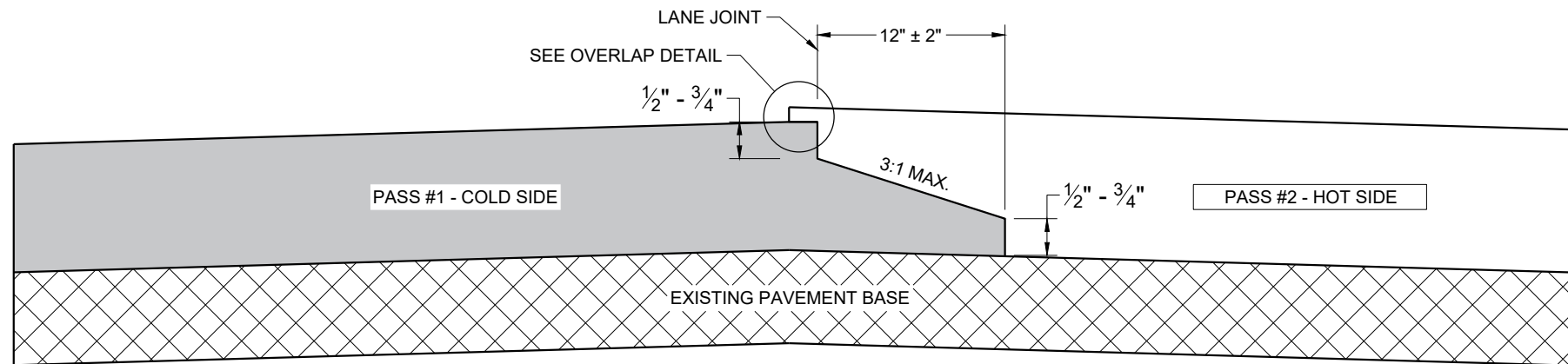
<b>CONCRETE PAVEMENT INTERSECTION BOXOUT FOR INTEGRAL CURB AND GUTTER</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Peter Kemp P.E. PAVEMENT SUPERVISOR
FHWA	

6

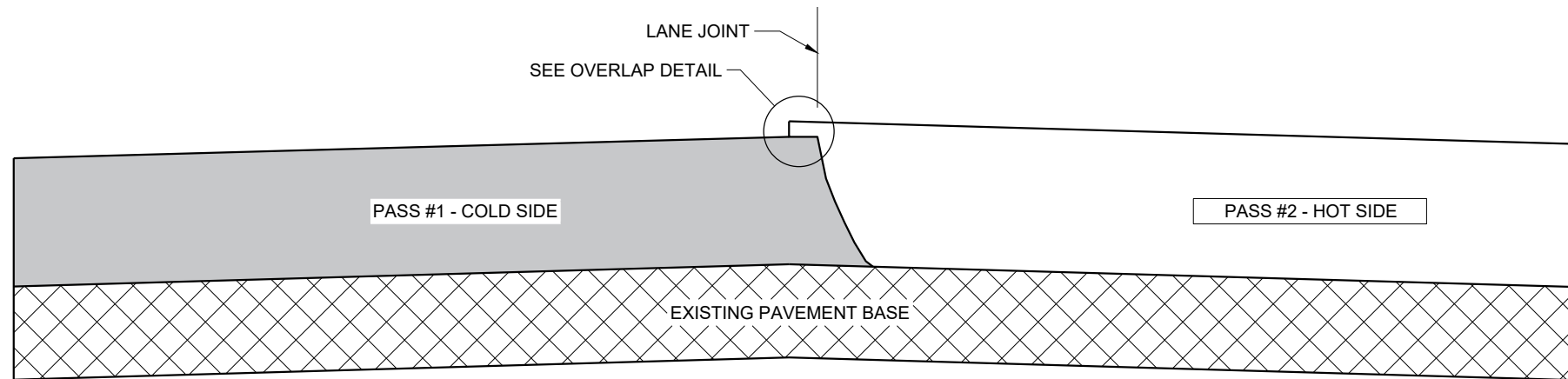
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SDD 13C18 - 08f

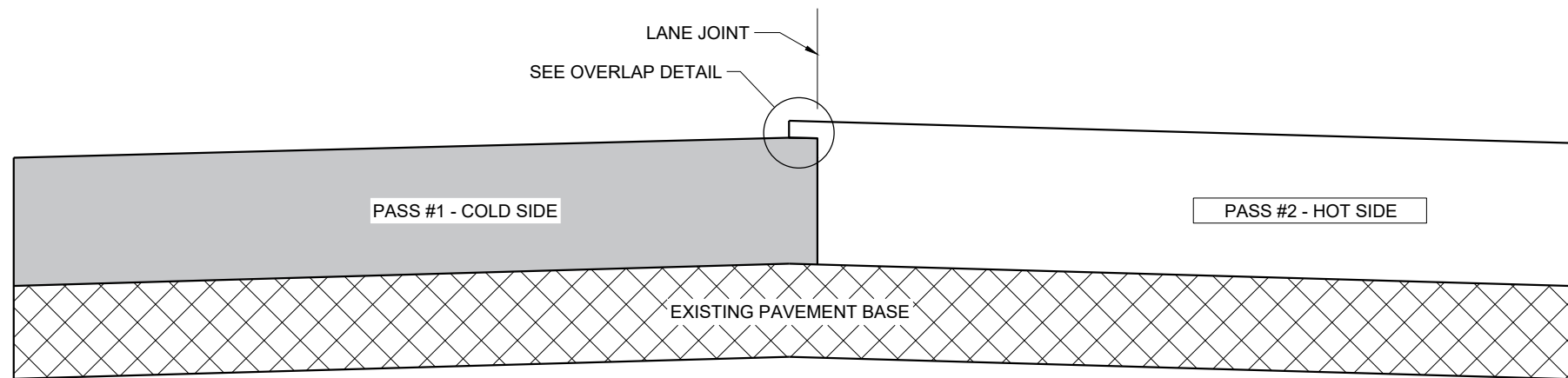
SDD 13C18 - 08f



**TYPICAL PAVEMENT CROSS SECTION  
NOTCHED WEDGE JOINT**



**TYPICAL PAVEMENT CROSS SECTION  
VERTICAL JOINT**



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

**GENERAL NOTES**

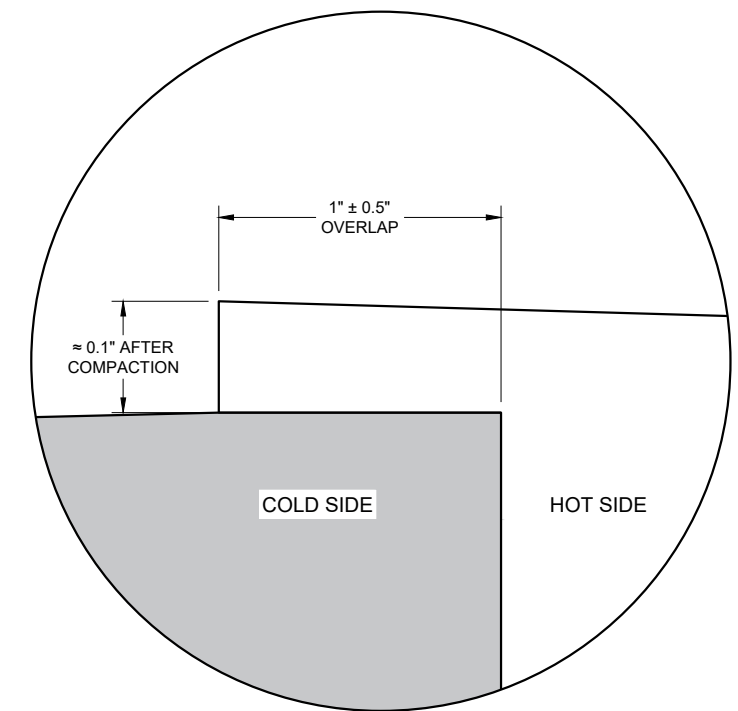
IN ADDITION TO THE DETAILS PROVIDED IN THIS DRAWING, CONFORM TO STANDARD SPECIFICATION 450.3.2.8 FOR WHEN A NOTCHED WEDGE JOINT IS REQUIRED AND FOR GENERAL JOINT CONSTRUCTION REQUIREMENTS.

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

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

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

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



**OVERLAP DETAIL (TYPICAL)**

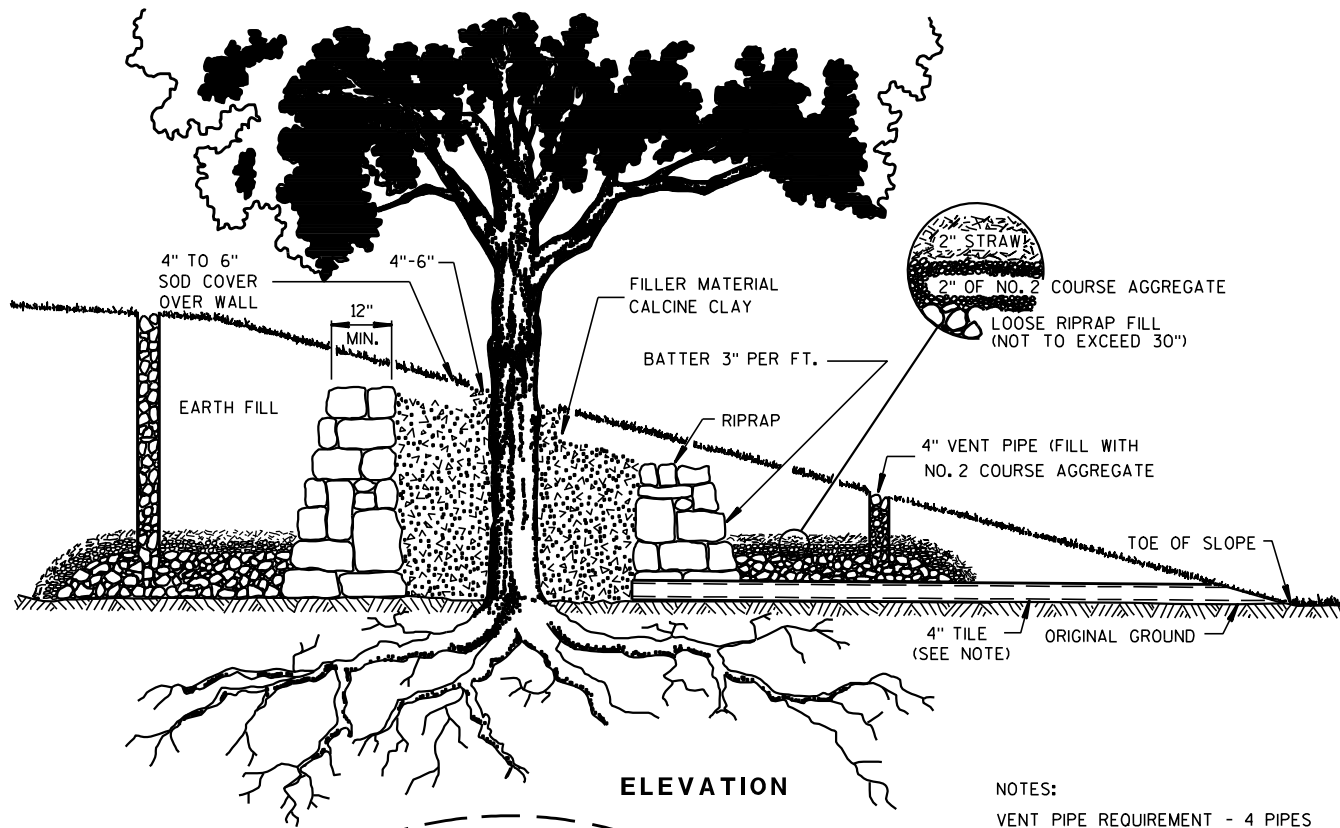
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SDD 13C19 - 03

SDD 13C19 - 03

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



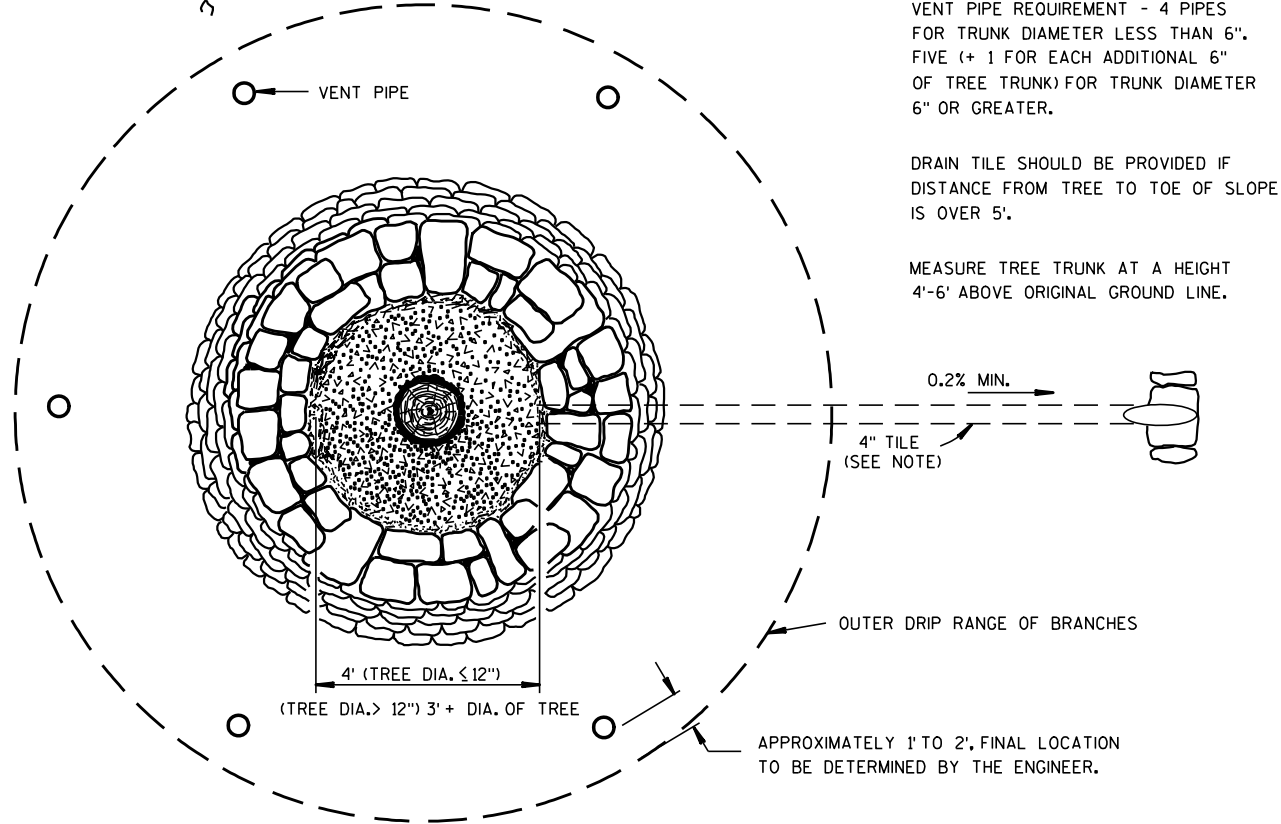
ELEVATION

NOTES:

VENT PIPE REQUIREMENT - 4 PIPES FOR TRUNK DIAMETER LESS THAN 6". FIVE (+ 1 FOR EACH ADDITIONAL 6" OF TREE TRUNK) FOR TRUNK DIAMETER 6" OR GREATER.

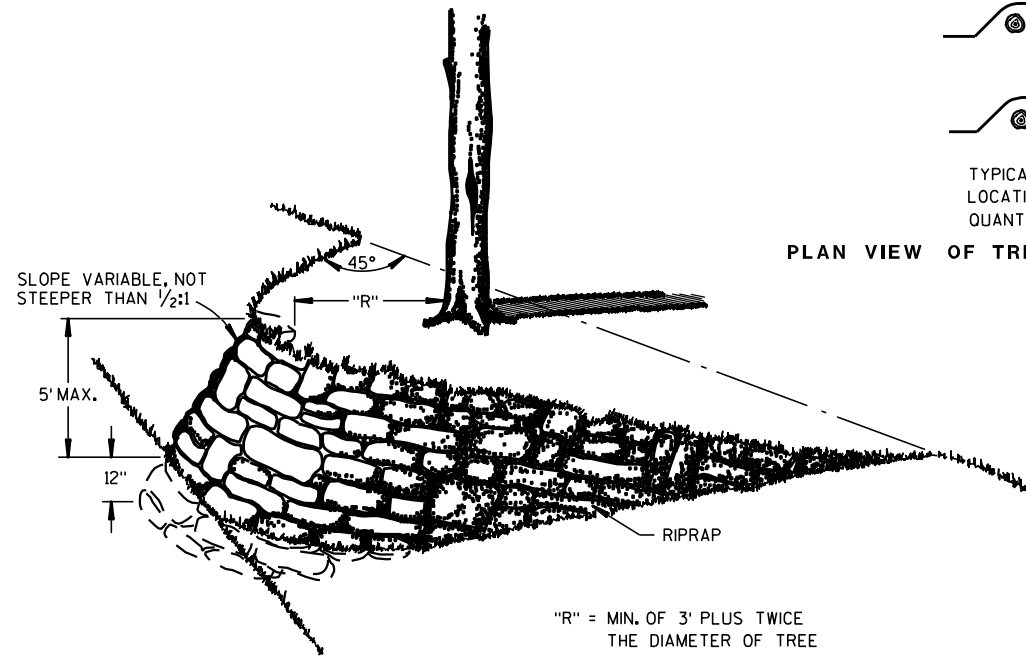
DRAIN TILE SHOULD BE PROVIDED IF DISTANCE FROM TREE TO TOE OF SLOPE IS OVER 5'.

MEASURE TREE TRUNK AT A HEIGHT 4'-6" ABOVE ORIGINAL GROUND LINE.



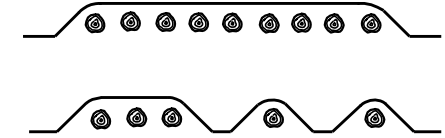
PLAN

FULL TREE WELL WITH RIPRAP WALL



DETAILS OF TREE ISLAND AND ROOT PROTECTION

"R" = MIN. OF 3' PLUS TWICE THE DIAMETER OF TREE



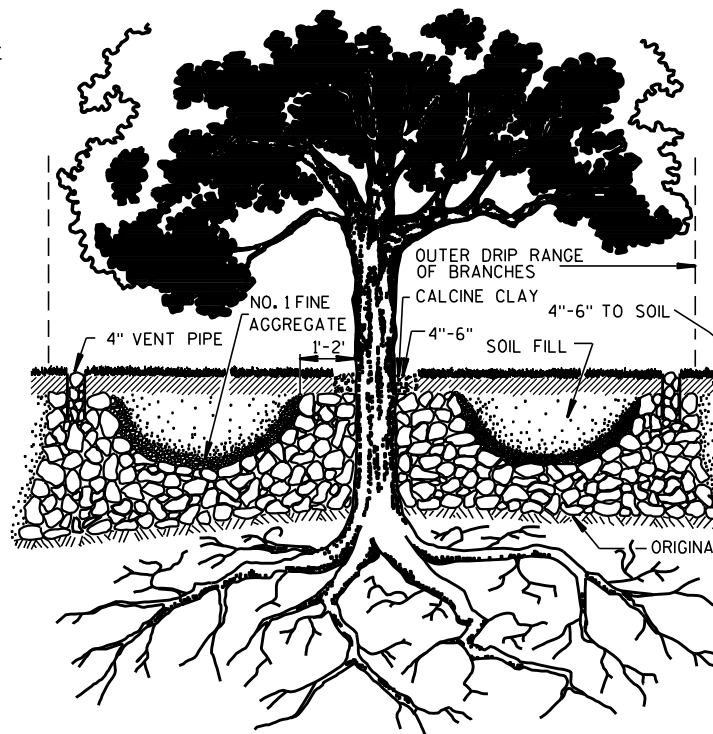
TYPICAL TREATMENTS OF ROOT PROTECTION. LOCATION SHOWN ON MISCELLANEOUS QUANTITIES SHEET.

PLAN VIEW OF TREE ISLANDS FOR ONE OR MORE TREES

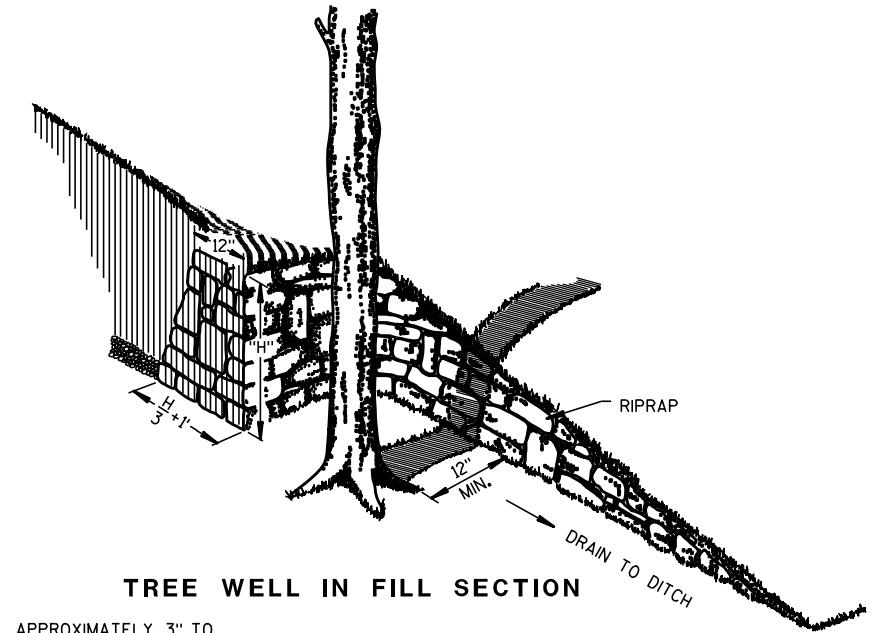
GENERAL NOTES

WALLS TO BE BUILT TO APPROXIMATE SHAPE AND DIMENSIONS SHOWN. STONE TO CONFORM TO SPECIFICATIONS FOR RIPRAP.

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



TREE WELL WITHOUT WALL



TREE WELL IN FILL SECTION

DETAILS FOR TREE WELLS

TREE PRESERVATION DETAILS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

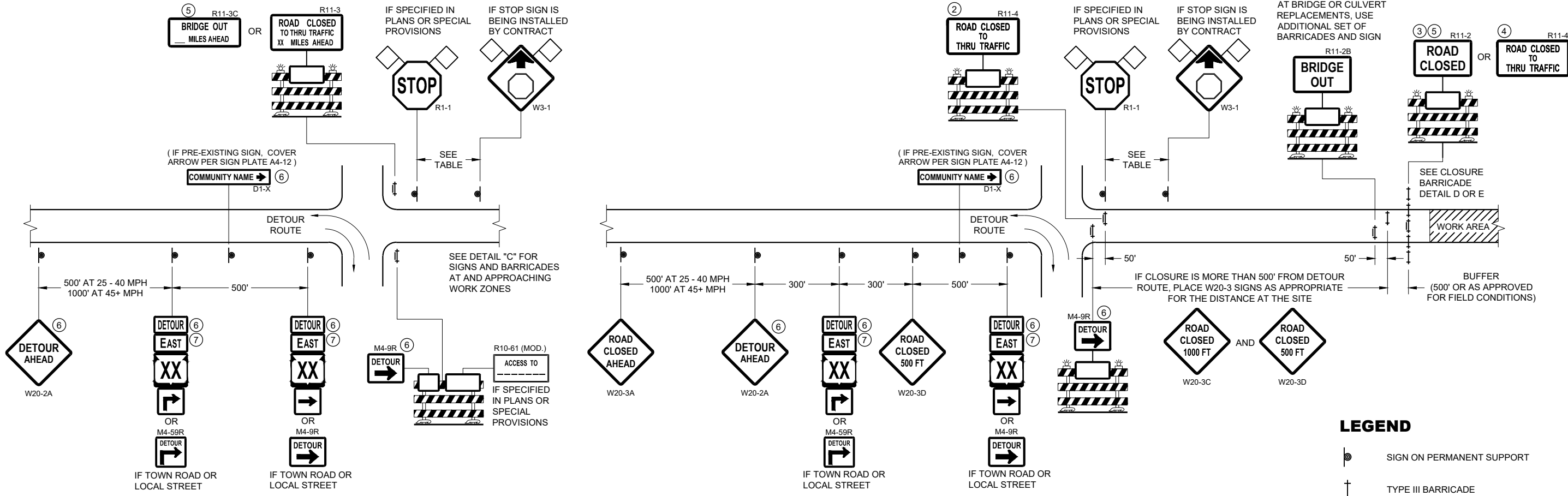
APPROVED

8/25/76

DATE

/S/ D. L. Strand  
STATE DESIGN ENGINEER FOR HWYS

FHWA

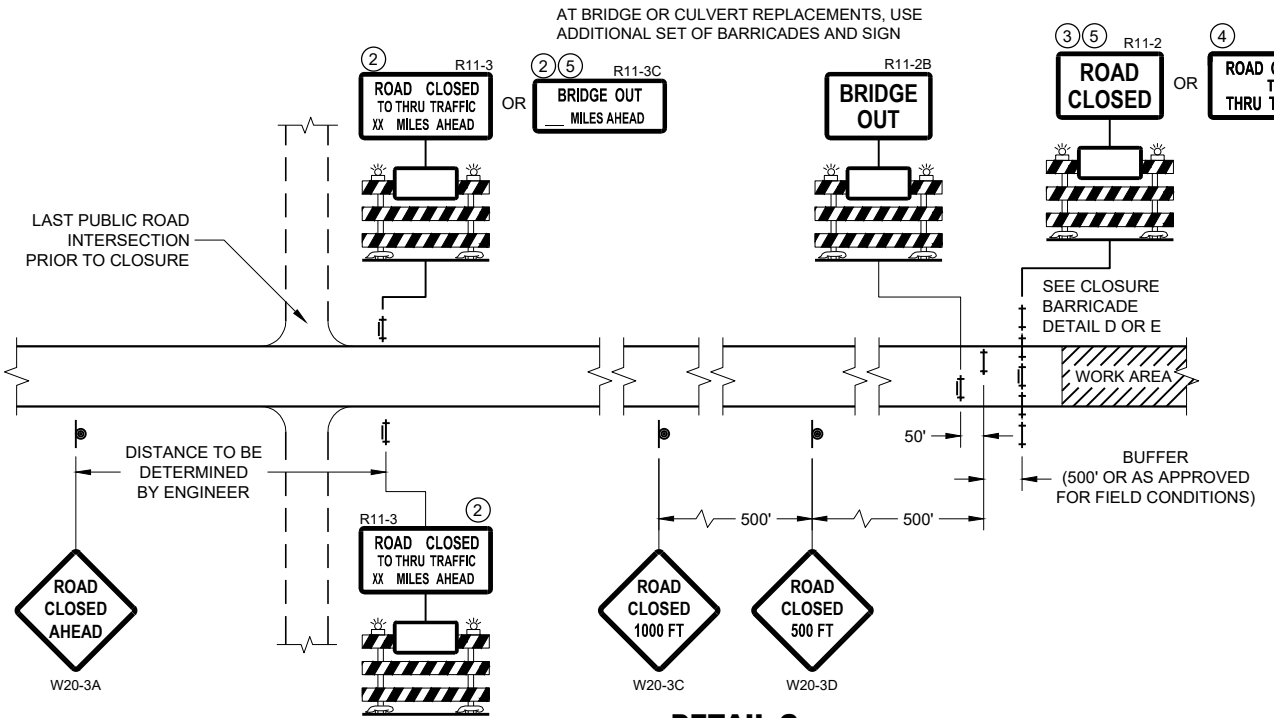


**DETAIL A  
MAINLINE CLOSURE WITH POSTED DETOUR**

WORK ZONE GREATER THAN OR EQUAL TO 1/2 MILE FROM  
DETOUR ROUTE ( 1000 FEET IF URBAN )

**DETAIL B  
MAINLINE CLOSURE WITH POSTED DETOUR**

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



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

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

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

**LEGEND**

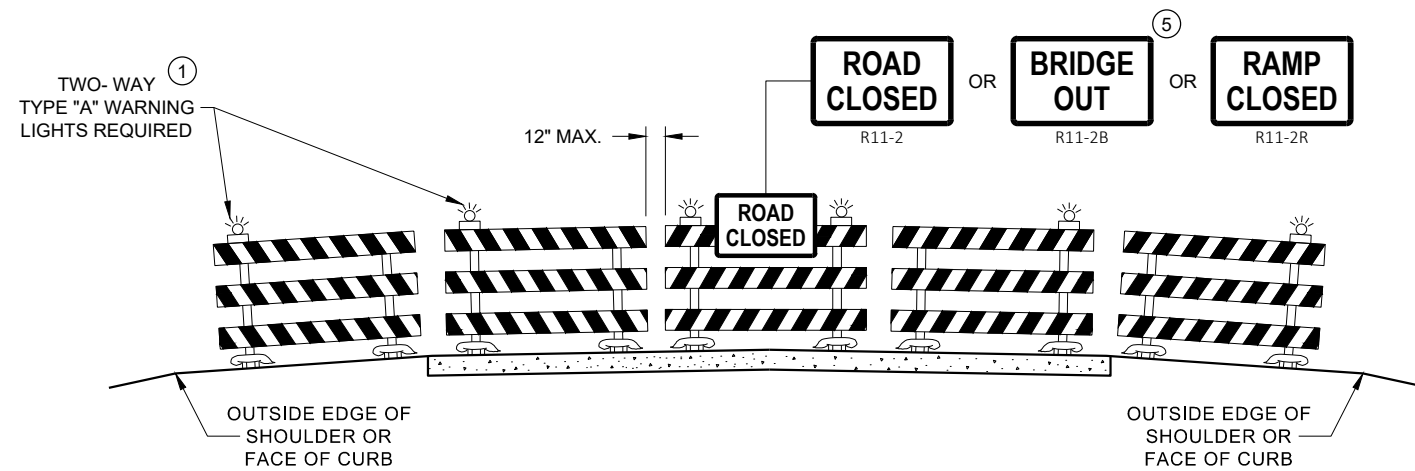
- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)
- DETOUR M4 - 8
- EAST M3 - X
- XX M1 - 4 OR XX M1 - 6 OR COUNTY X M1 - 5A
- M05 - 1 OR M06 - 1

**BARRICADES AND SIGNS  
FOR MAINLINE CLOSURES**

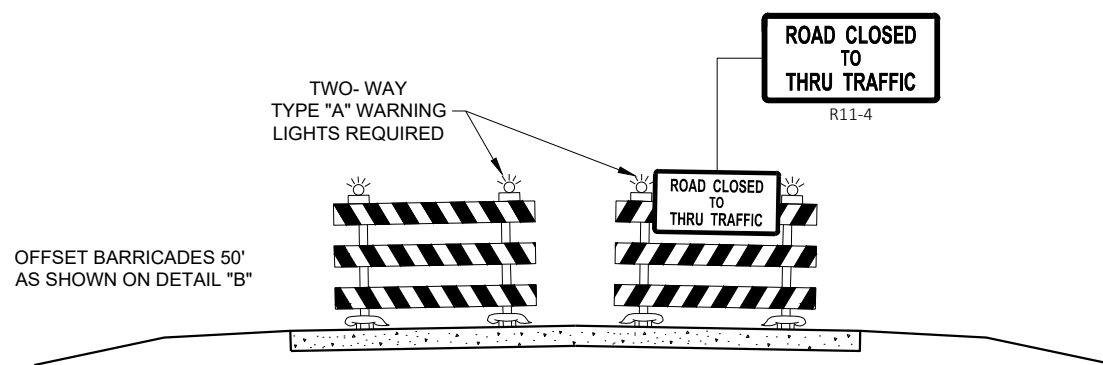
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

FHWA



**DETAIL D  
ROAD CLOSURE BARRICADE DETAIL  
APPROACH VIEW**



**DETAIL E  
LANE CLOSURE BARRICADE DETAIL  
APPROACH VIEW**

SEE SDD 15C2 - SHEET "a" FOR LEGEND

**GENERAL NOTES**

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

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

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

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

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

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

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

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

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

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

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

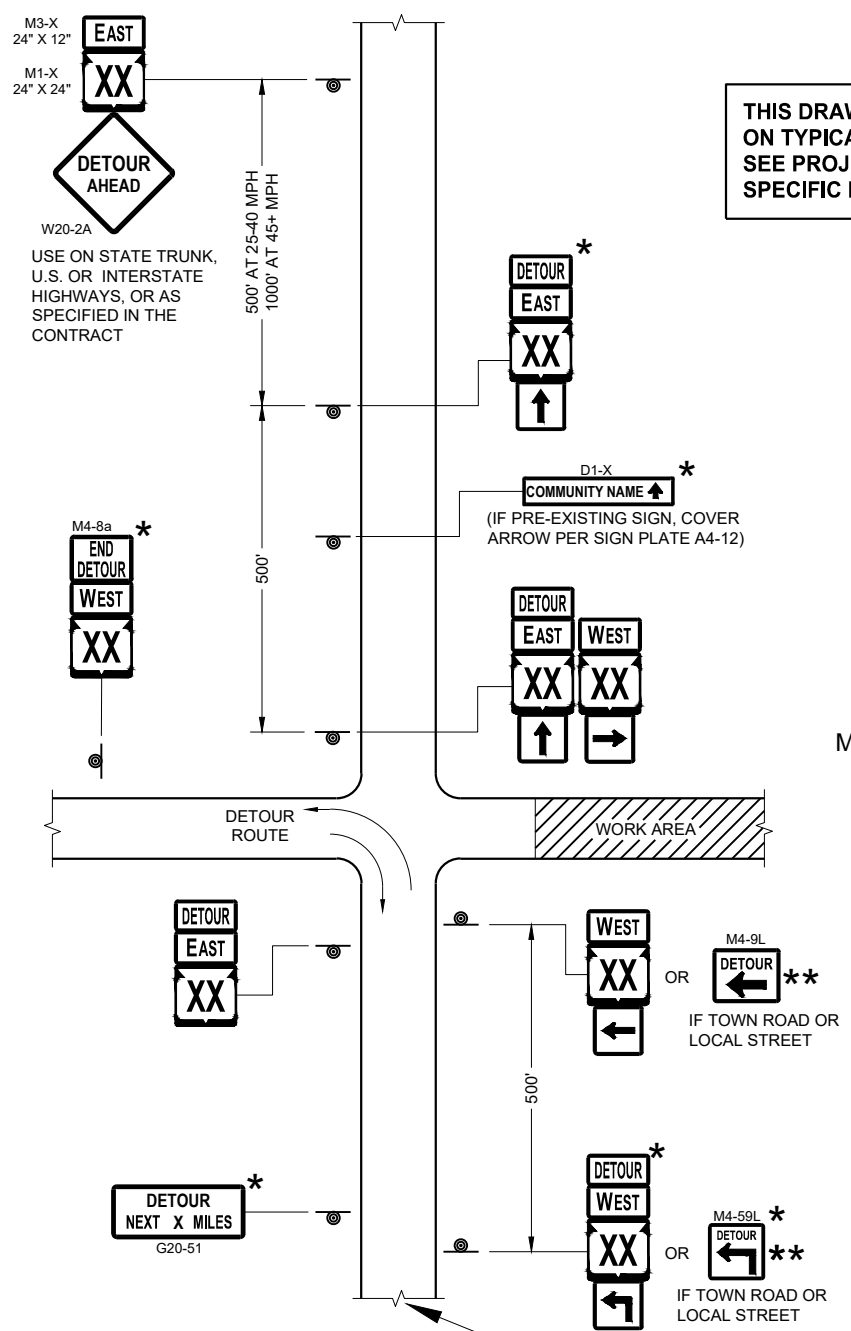
- ① TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8 FOOT LIGHT SPACING).
- ② THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT AN INTERSECTION.
- ③ FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "D".
- ④ FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL "E".
- ⑤ FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11 - 2 AND R11 - 3 SIGNS.
- ⑥ INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- ⑦ "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

**BARRICADES AND SIGNS  
FOR  
VARIOUS CLOSURES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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





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

**LEGEND**

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- M4 - 8
- M3 - X
- M1 - 4
- M1 - 6
- M1 - 5A
- M05 - 1
- M06 - 1
- M06 - 1

**GENERAL NOTES**

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

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

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

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

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

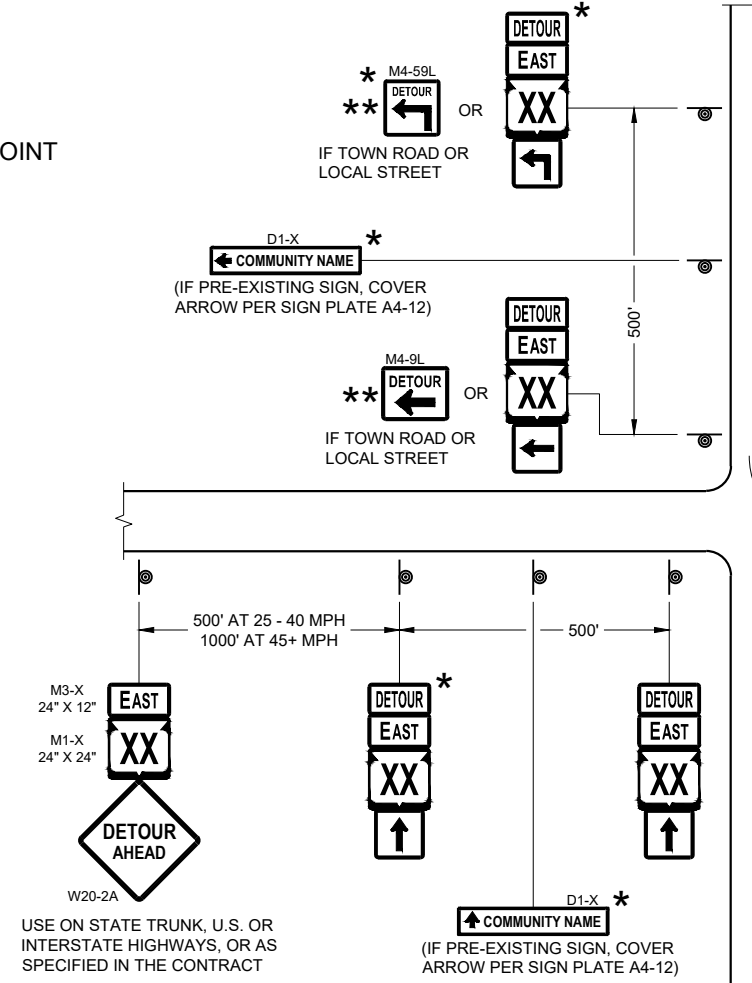
"MO" SIGNS ARE THE SAME AS "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN SIZES SHALL BE AS FOLLOWS:

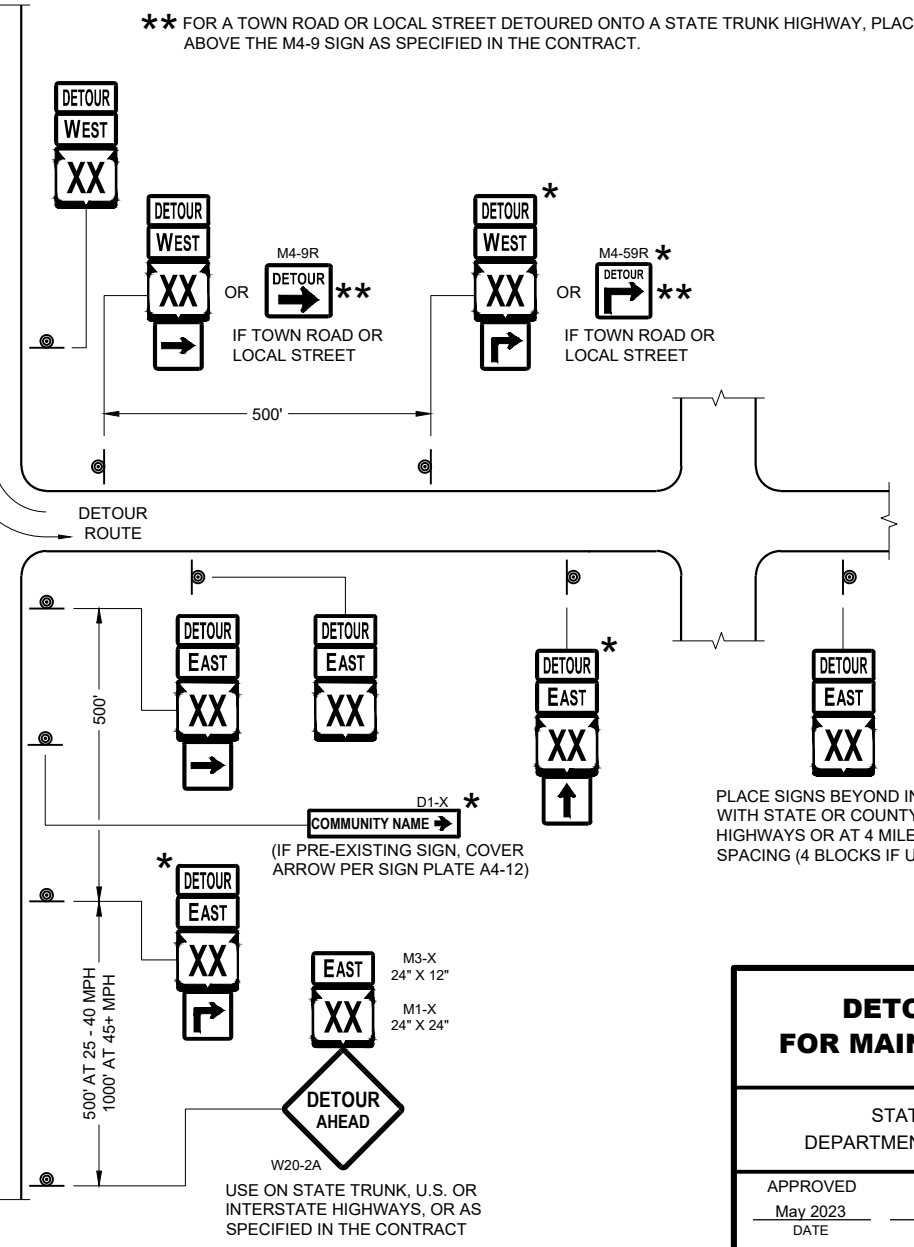
- M3-X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4-8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1-4, M1-5A AND M1-6 SHALL BE 24" X 24" (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS)
- M05-1 AND M06-1 SHALL BE 21" X 21" (30" X 30" IF NEEDED TO MATCH EXISTING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

- \* OPTIONAL SIGNS. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS.
- \*\* FOR A TOWN ROAD OR LOCAL STREET DETOURED ONTO A STATE TRUNK HIGHWAY, PLACE A ROAD NAME PLAQUE ABOVE THE M4-9 SIGN AS SPECIFIED IN THE CONTRACT.

MATCH POINT



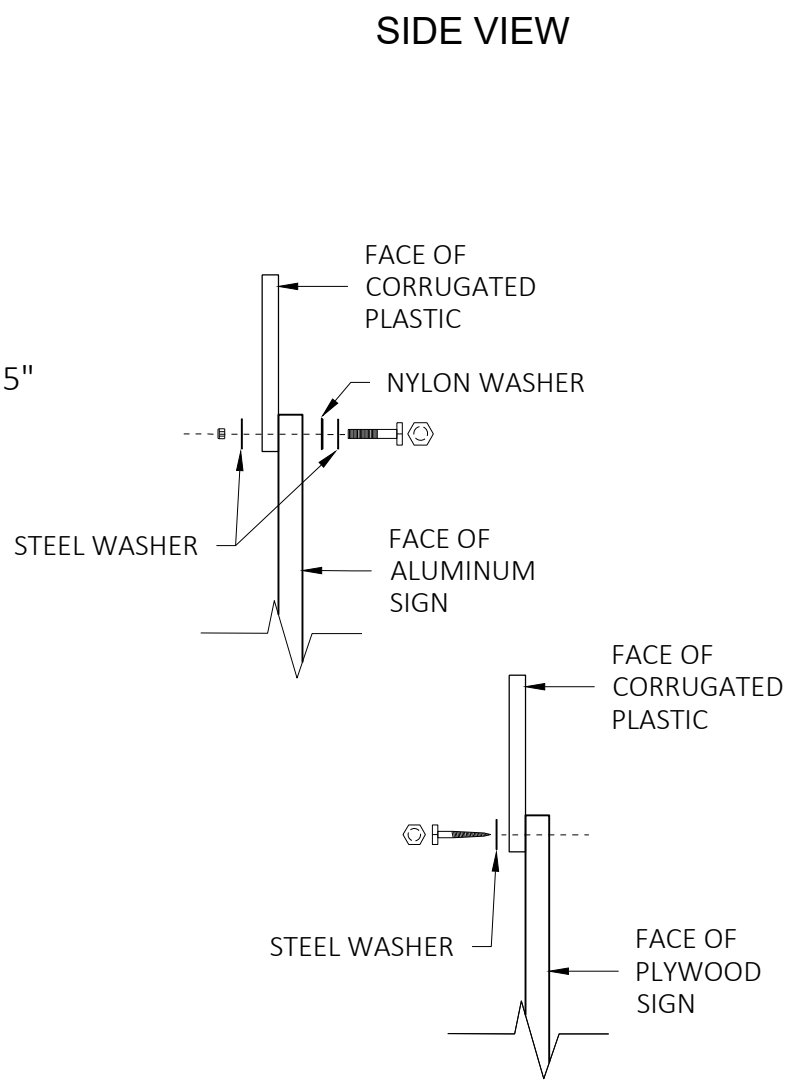
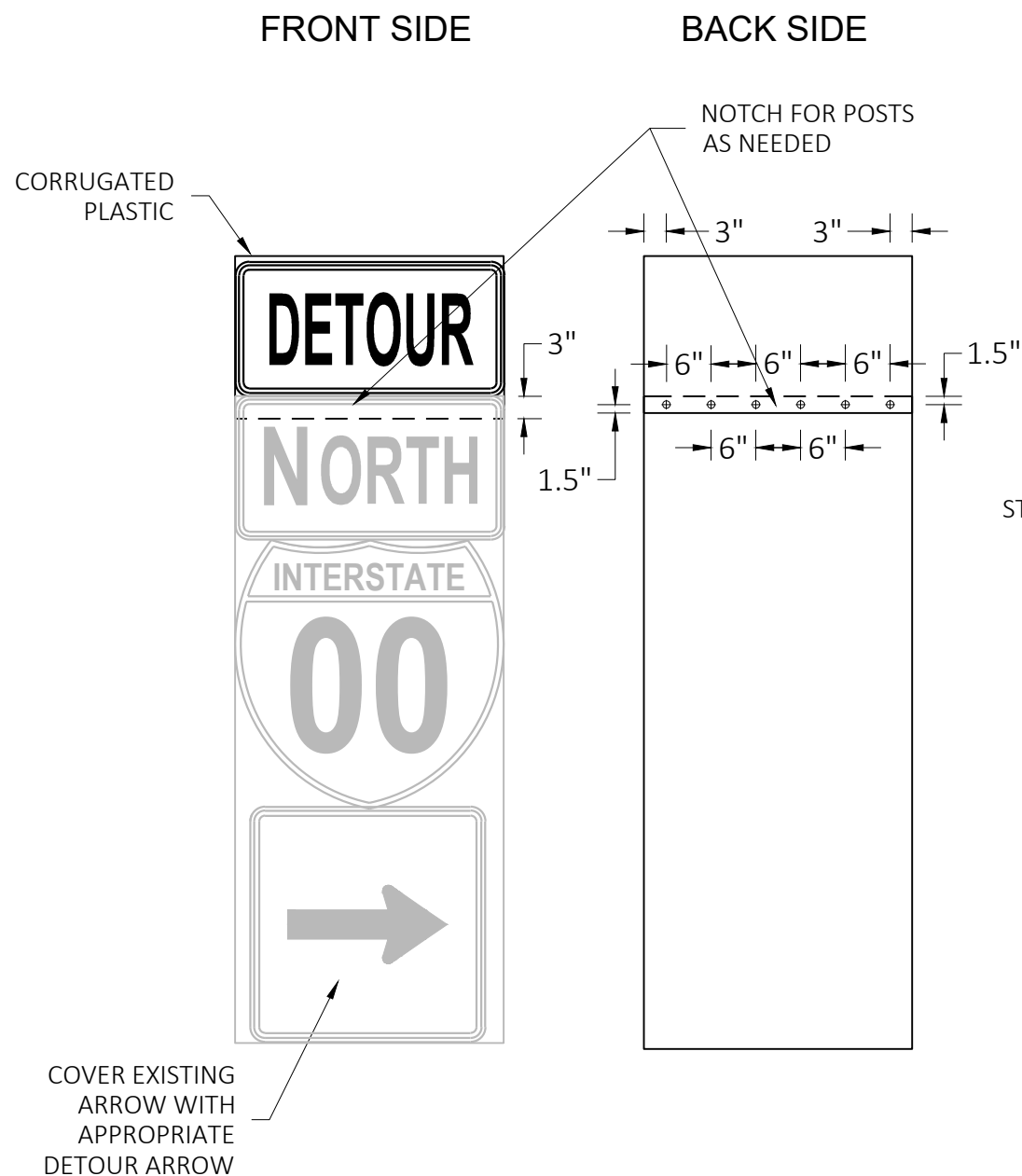
**DETAIL F  
DETOUR SIGNING**



PLACE SIGNS BEYOND INTERSECTIONS WITH STATE OR COUNTY TRUNK HIGHWAYS OR AT 4 MILE MAXIMUM SPACING (4 BLOCKS IF URBAN AREA)

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

<b>DETOUR SIGNING FOR MAINLINE CLOSURES</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
<small>FHWA</small>	



**GENERAL NOTES**

- CELLS OF CORRUGATED PLASTIC SHALL BE VERTICALLY ORIENTED.
- PROVIDE A 0.4-INCH THICK BASE CORRUGATED PLASTIC WITH A 0.035-INCH WALL THICKNESS AND 0.4-INCH CELL SIZE.
- FOR 36" WIDE SIGNS: USE 6 FASTENERS AS SHOWN.
- FOR 24" WIDE SIGNS: USE 4 FASTENERS WITH EDGE SPACING AS SHOWN AND 6" SPACING BETWEEN FASTENERS.
- METAL WASHERS, NUTS, BOLTS AND LAGS 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, SC3
- 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.
- PLYWOOD SIGNS:
  - LAG SCREWS - 5/16" x 1"
- ALUMINUM SIGNS:
  - MACHINE BOLTS - 5/16" x 1-1/4" LENGTH W/NUTS
- WASHERS:
  - 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

**MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING**

<b>MODIFIED ROUTE ASSEMBLY FOR DETOUR SIGNING</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Andrew Heidtke ROADWAY STANDARDS DEVELOPMENT ENGINEER

6

6

SDD 15C02-09h

SDD 15C02-09h

**GENERAL NOTES**

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

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




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

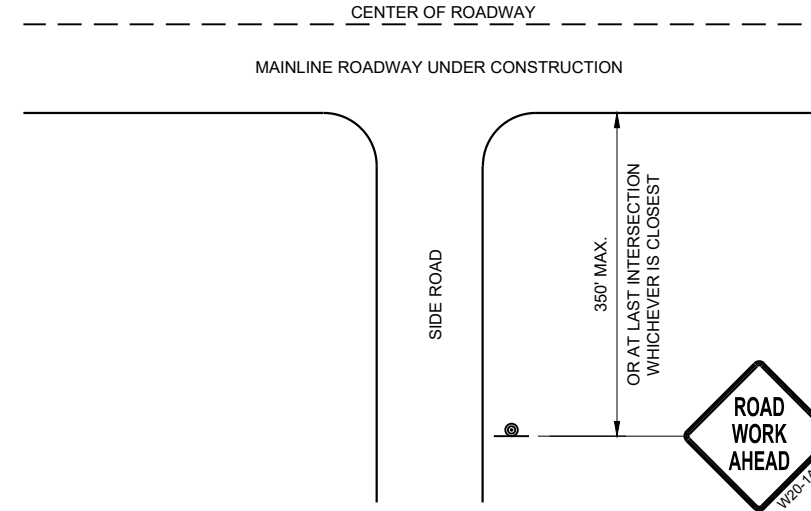
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

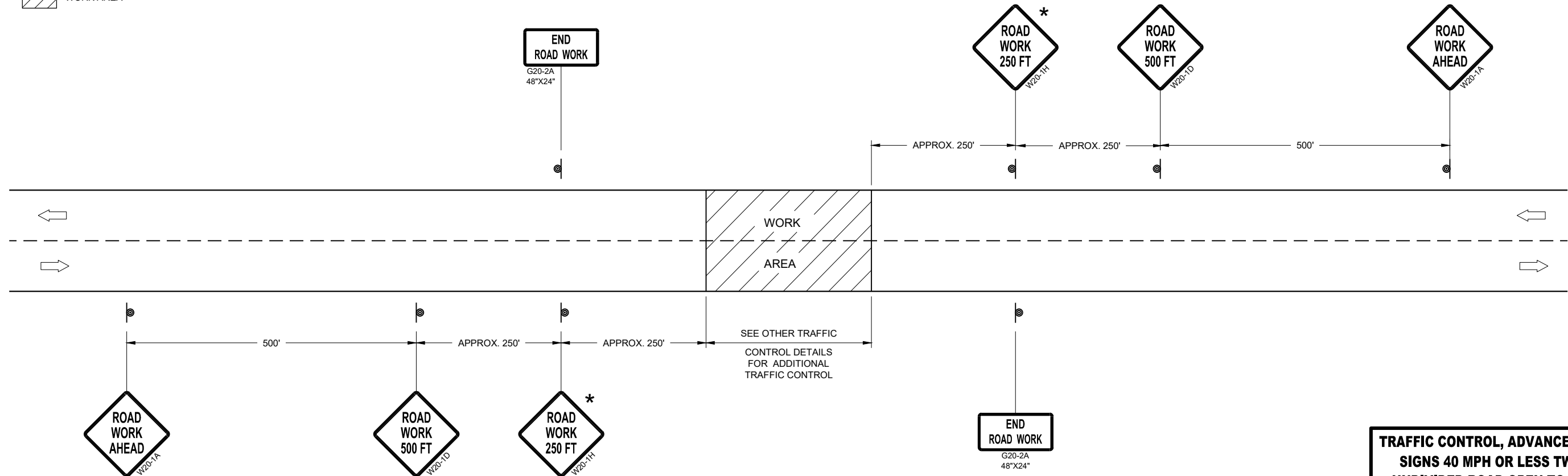
\* THE THIRD W20-1 SIGN IS REQUIRED ONLY IF THERE IS AN INTERSECTION BETWEEN THE "ROAD WORK 500 FEET" SIGN AND THE WORK ZONE. ADJUST THE PLACEMENT OF THIS SIGN BASED ON INTERSECTION LOCATION AND OTHER FIELD CONDITIONS.

**LEGEND**

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



**TYPICAL SIDE ROAD APPROACH  
WARNING SIGN DETAIL**



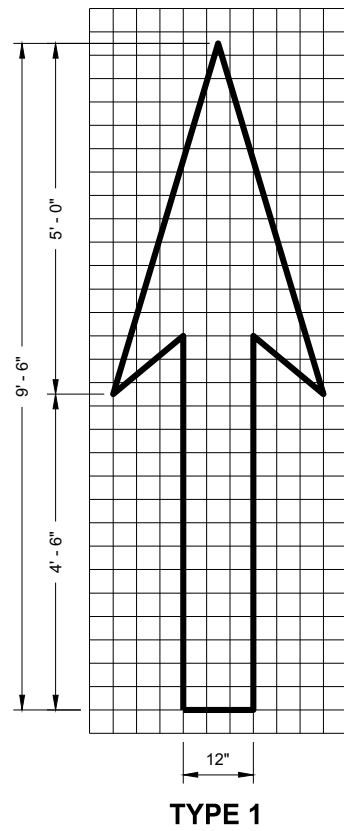
**TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40MPH OR LESS**

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

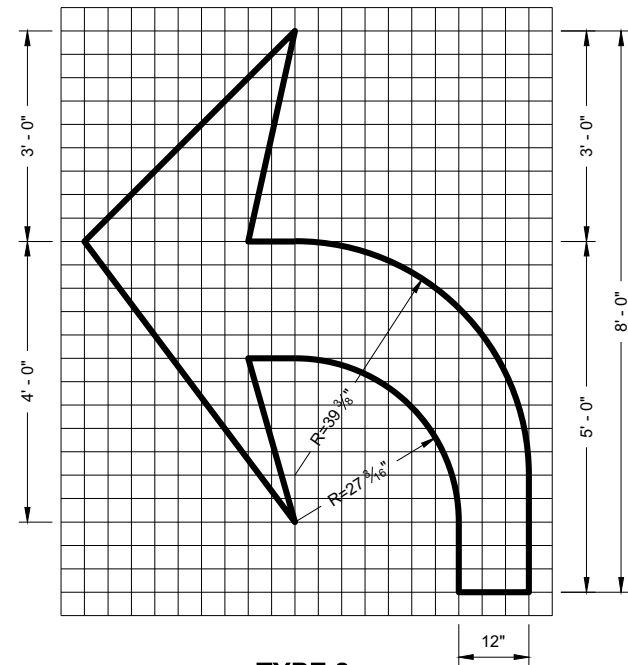
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

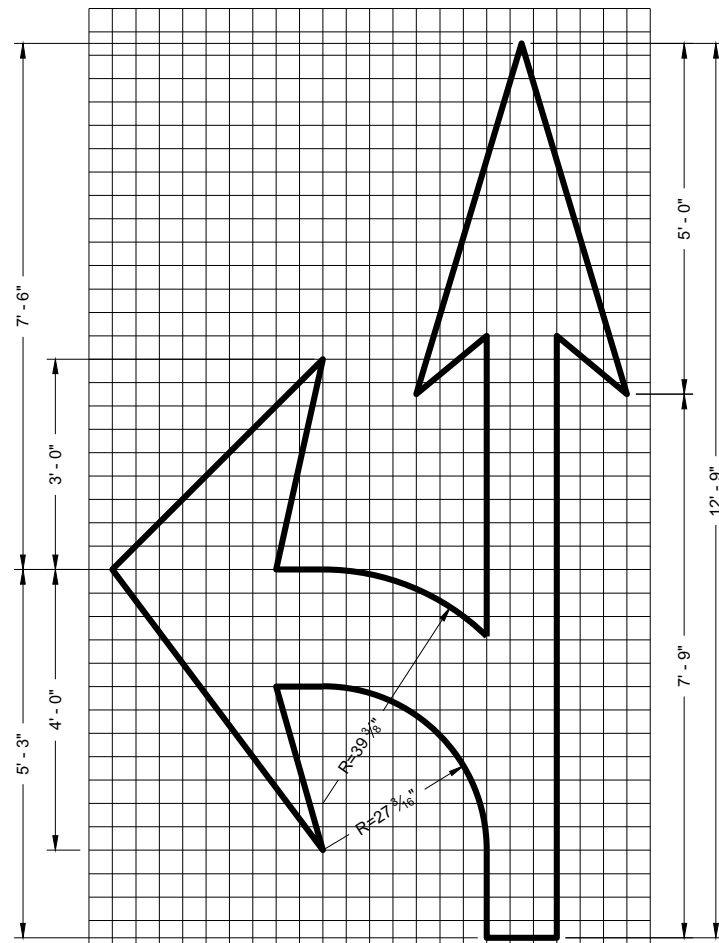
FHWA



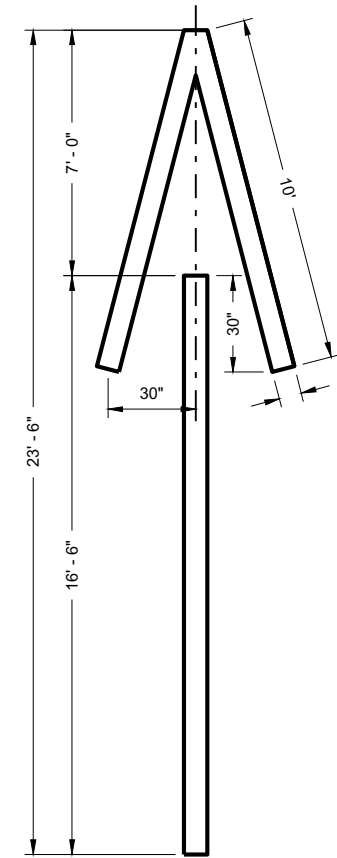
TYPE 1



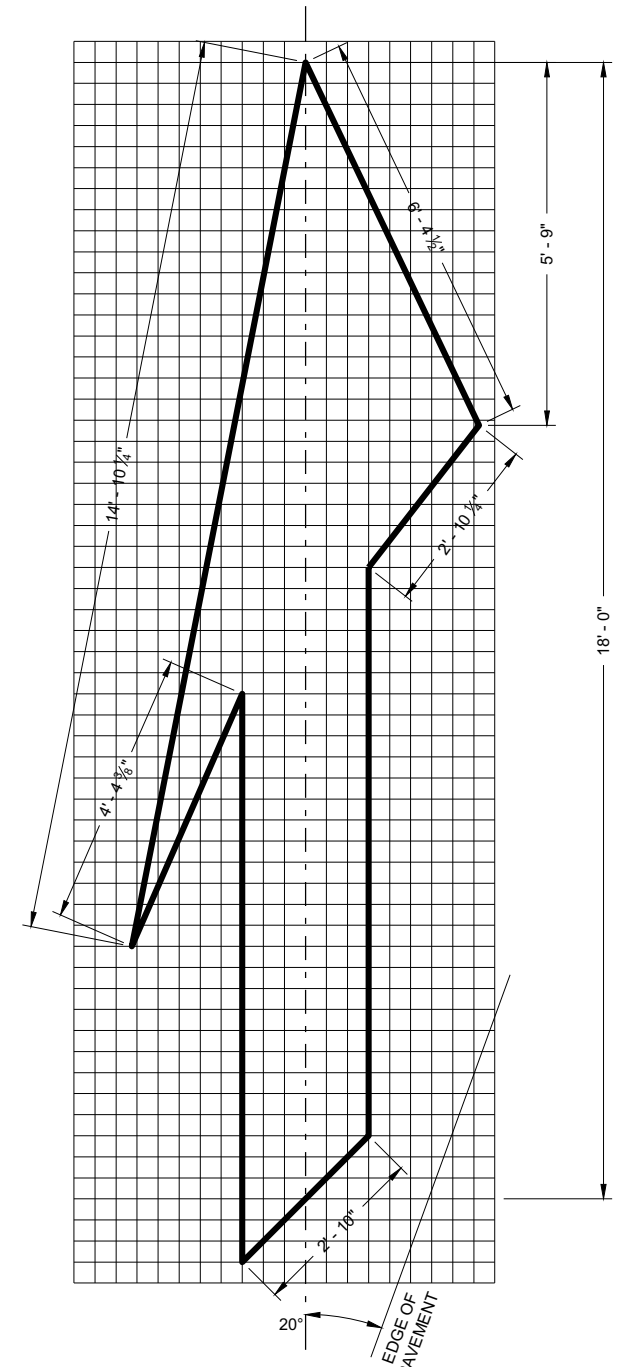
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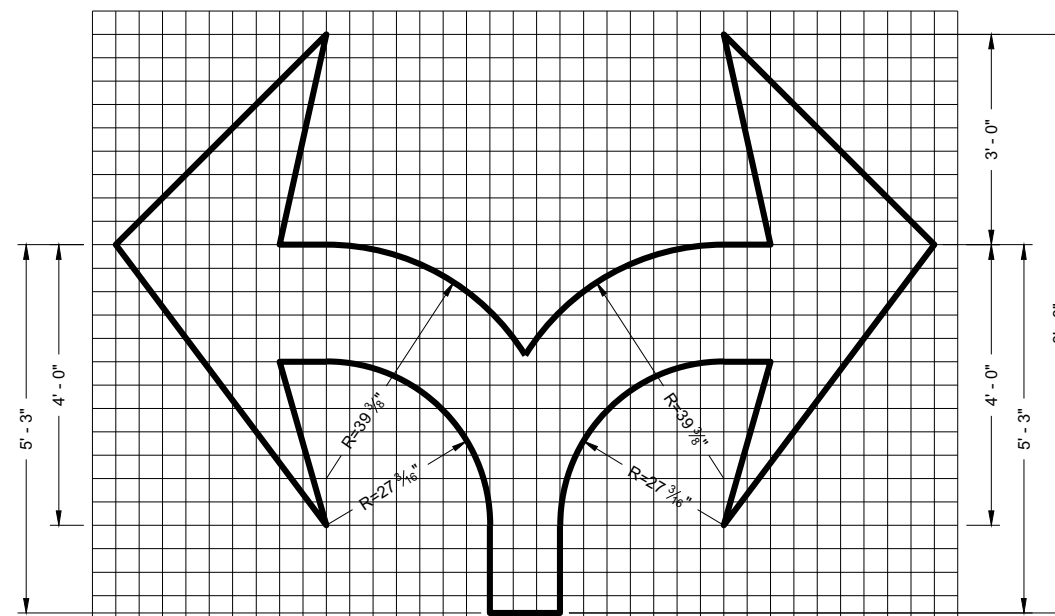
TYPE 3



TYPE 4



TYPE 5 LANE DROP ARROW



TYPE 7

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.

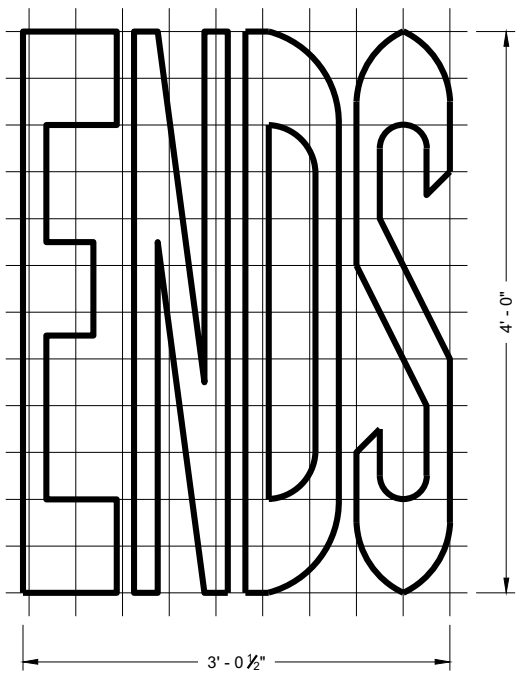
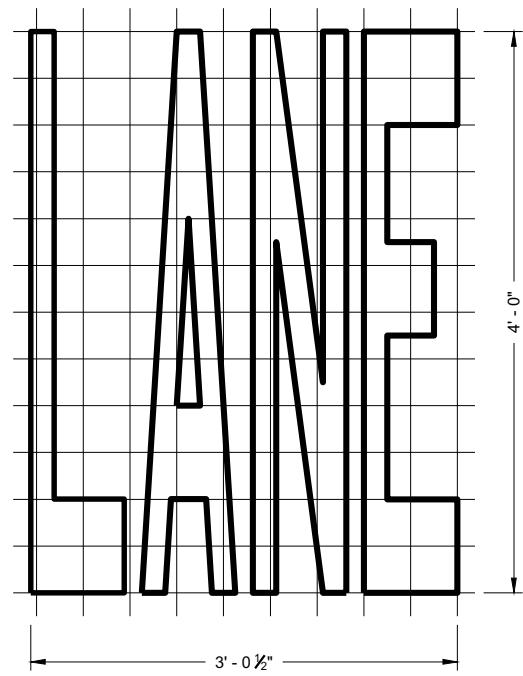
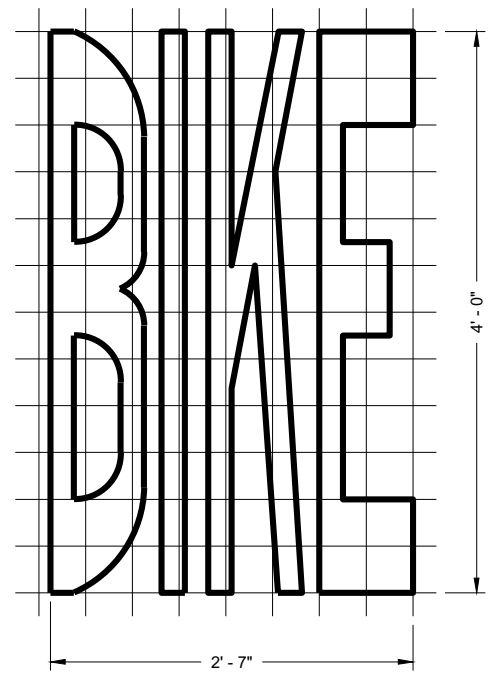
PAVEMENT MARKING ARROWS

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2019  
DATE

/S/ Matthew Rauch  
STATE SIGNING AND MARKING  
ENGINEER

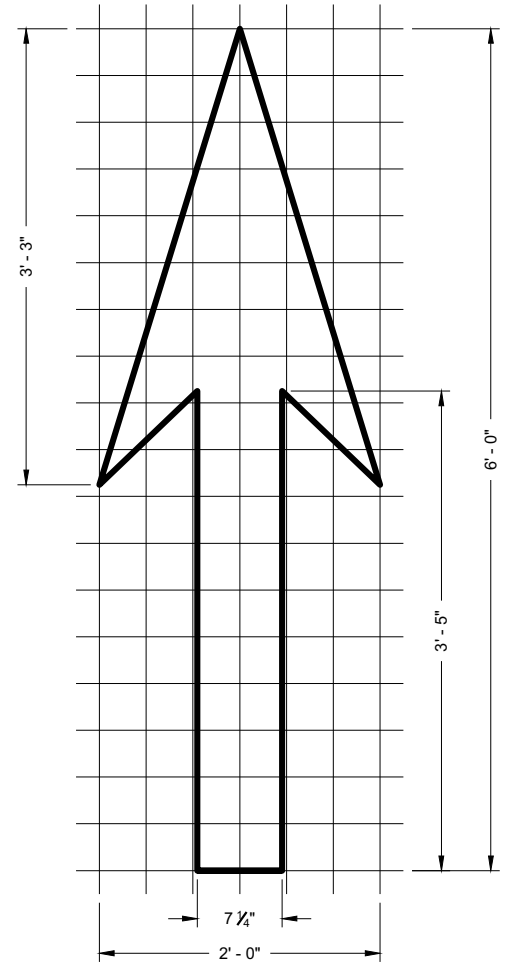
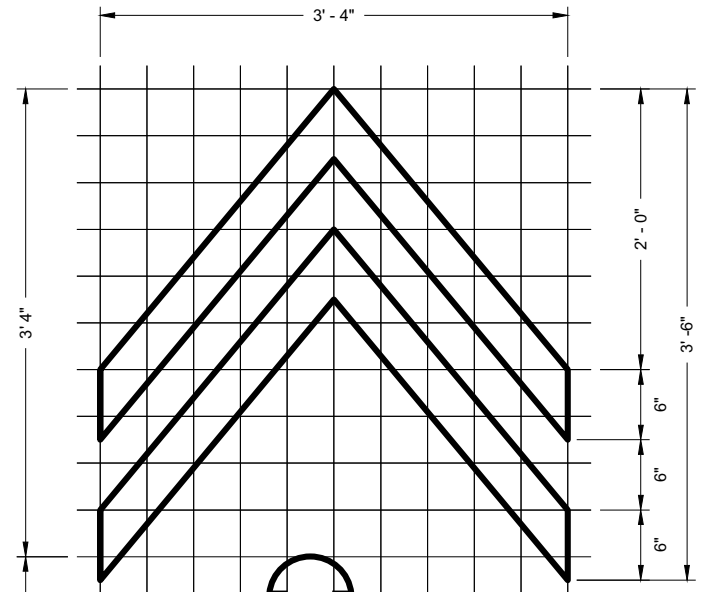
FHWA



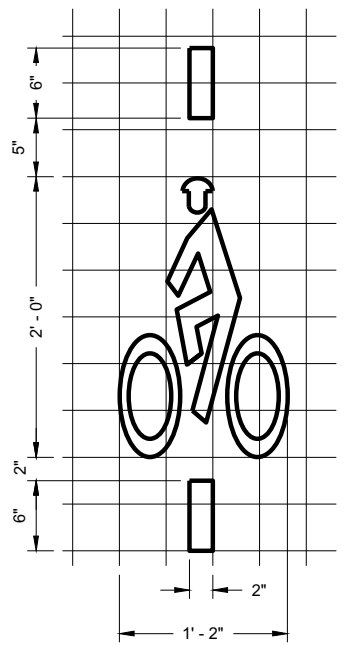
BIKE LANE WORDS

**GENERAL NOTES**

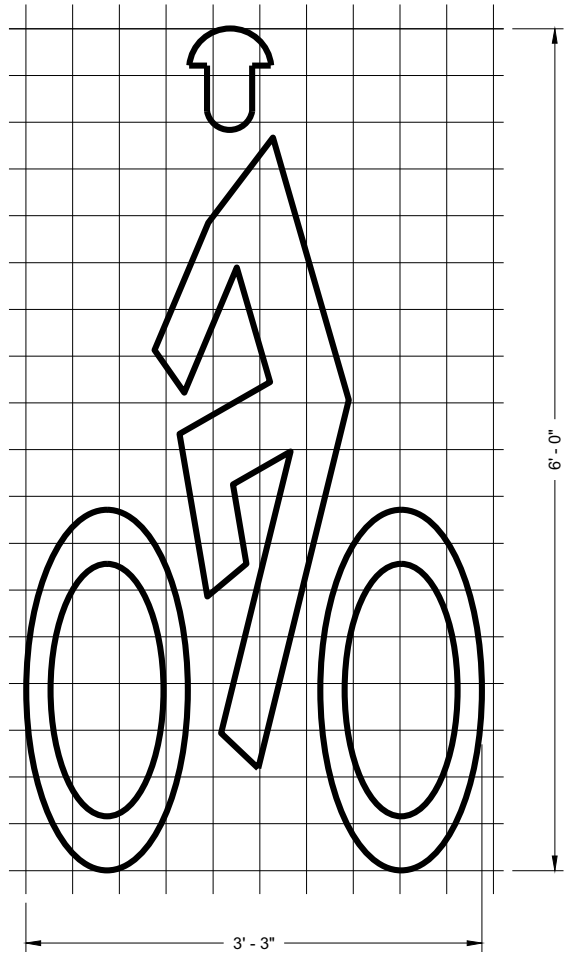
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.



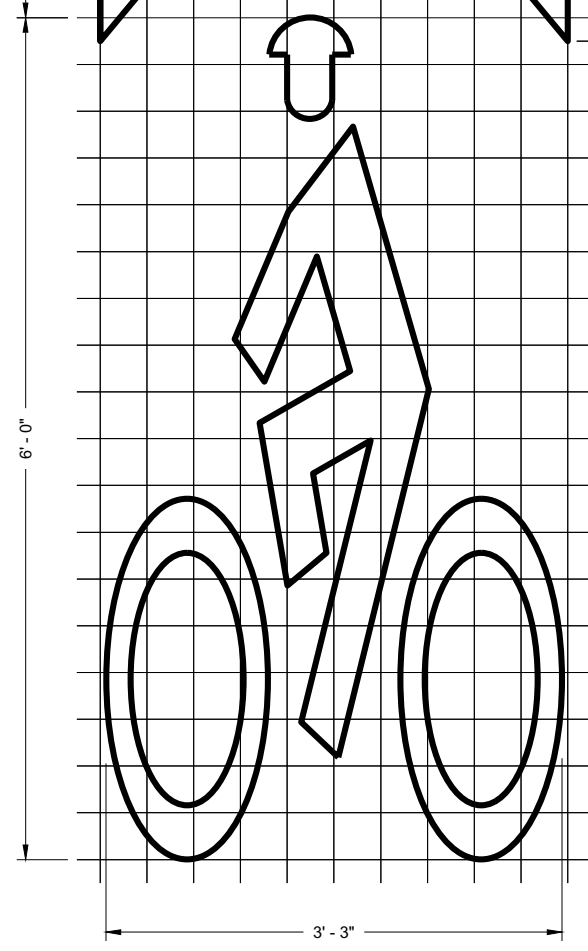
BIKE LANE ARROW



BIKE DETECTOR PAVEMENT MARKING



BIKE LANE SYMBOL



BIKE LANE SYMBOL FOR SHARED LANE

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
<b>PAVEMENT MARKING FOR BIKE LANES</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED November 2019 DATE	/s/ Matthew Rauch STATE SIGNING AND MARKING ENGINEER
FHWA	

**GENERAL NOTES**

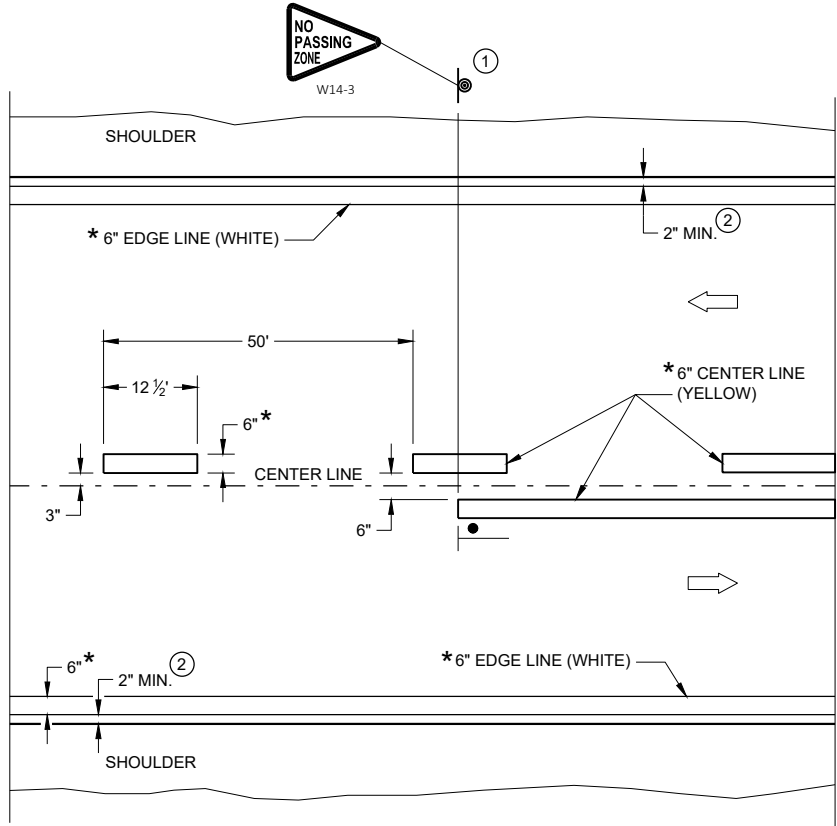
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

- ① LOCATE THE NO PASSING ZONE W14-3 SIGN WITHIN 50 FEET OF THE "T" MARKING
- ② MEASURE FROM EDGE OF MARKING TO JOINT LINE. THIS DOES NOT INCLUDE SPACE NEEDED FOR GROOVING OPERATIONS.

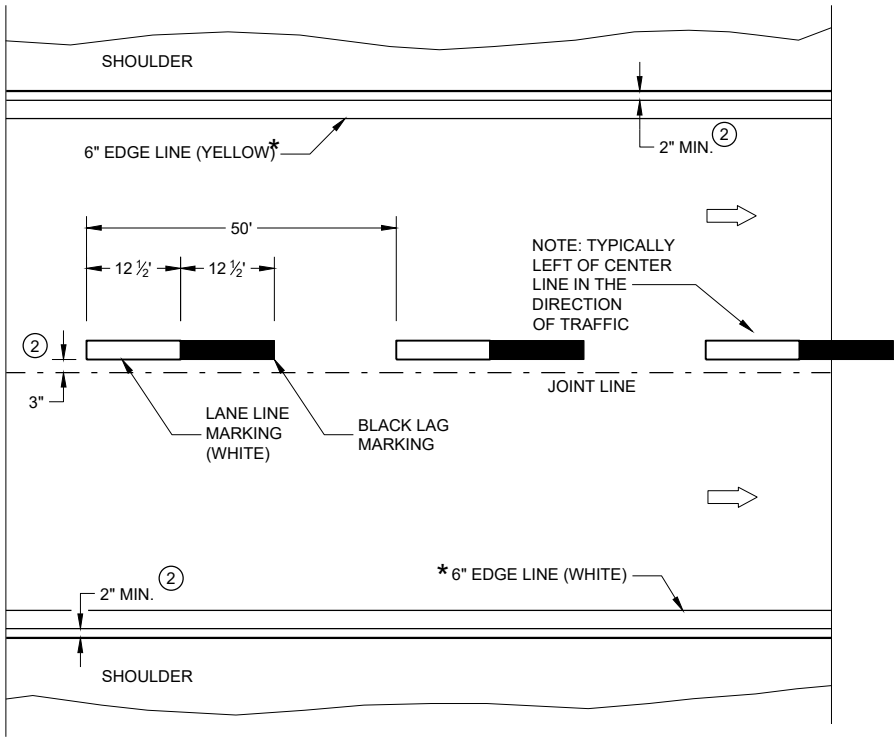
**LEGEND**

-  "T" MARKING
-  SIGN ON PERMANENT SUPPORT
-  DIRECTION OF TRAFFIC

\* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



**TWO WAY TRAFFIC**



**ONE WAY TRAFFIC**

**PERMANENT PAVEMENT MARKING**

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SDD 15C08-23a

SDD 15C08-23a

**PERMANENT LONGITUDINAL PAVEMENT MARKINGS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
May 2023 /S/ Jeannie Silver  
DATE STATEWIDE SIGNING AND MARKING ENGINEER

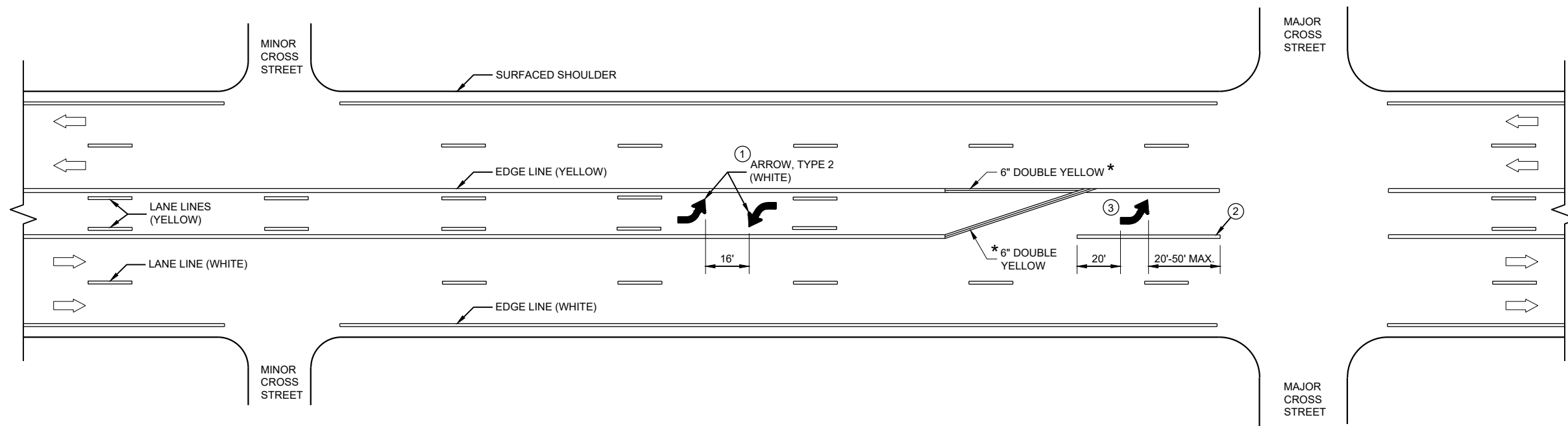
FHWA

**GENERAL NOTES**

- ① A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
- ② 10" WHITE
- ③ TURN BAY LENGTH OF LESS THAN 48' DOES NOT REQUIRE PAVEMENT ARROWS OR TEXT.

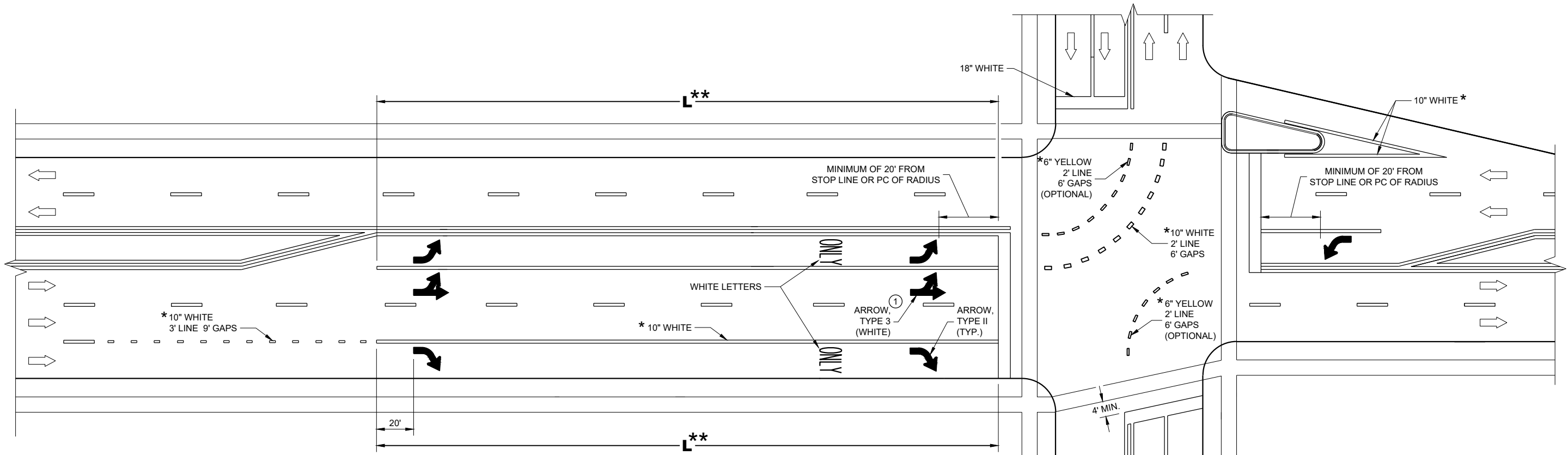
➡ DIRECTION OF TRAFFIC

\* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES



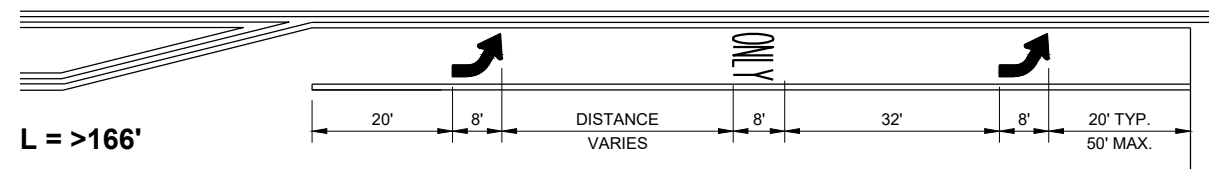
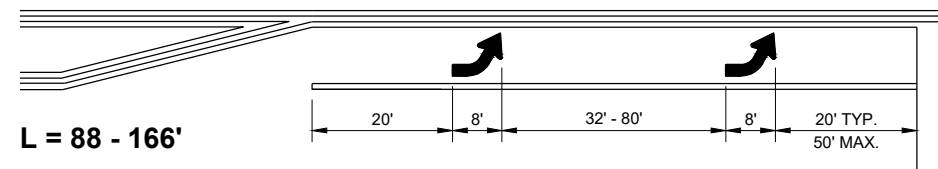
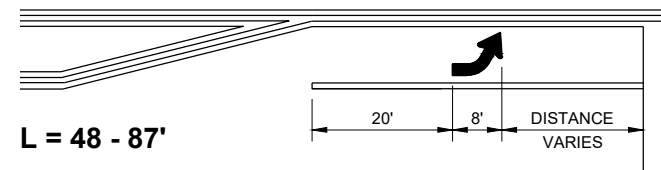
**TWO WAY LEFT TURN LANE**

<b>PAVEMENT MARKING (TURN LANES)</b>
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION



**TURN LANE OPTIONS**

LENGTH OF TURN BAY ( **L** ) OF 0 - 47' DOES NOT REQUIRE PAVEMENT MARKING ARROWS OR WORDS



\*\* (SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

**GENERAL NOTES**

① QUANTITY AND LOCATION OF TYPE 3 ARROWS ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION IN THE SAME DIRECTION OF TRAVEL, THE ARROWS AND "ONLY" MARKING MAY BE ELIMINATED.

➡ DIRECTION OF TRAFFIC

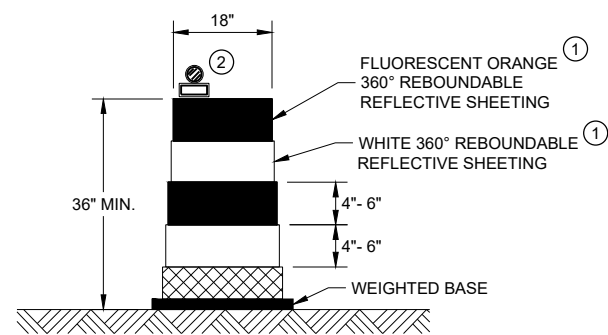
**L** = LENGTH OF TURN BAY

\* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

**PAVEMENT MARKING  
(TURN LANES)**

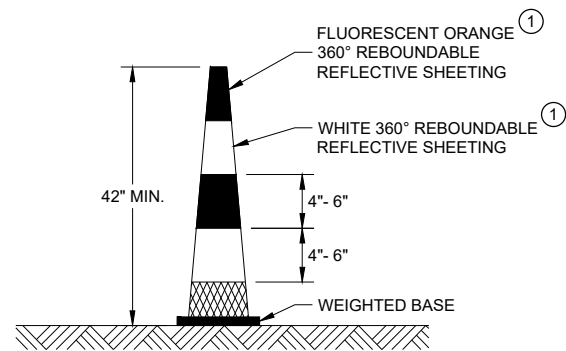
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION





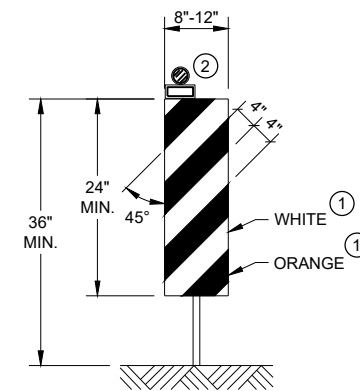
**DRUM**

BALLAST WIDTHS  
RANGE FROM 24"-36"



**42" CONE**

DO NOT USE IN TAPERS  
½ SPACING OF DRUMS  
BALLAST WIDTHS  
RANGE FROM 14"-20"

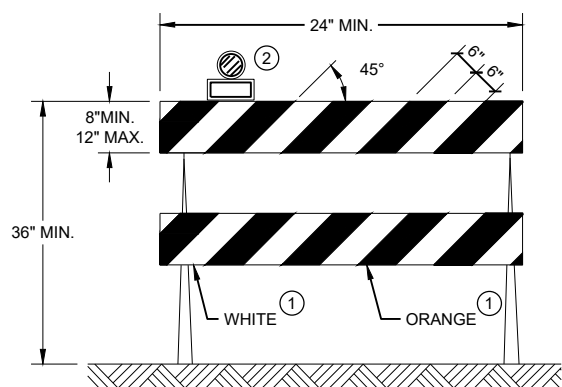


**VERTICAL PANEL**

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

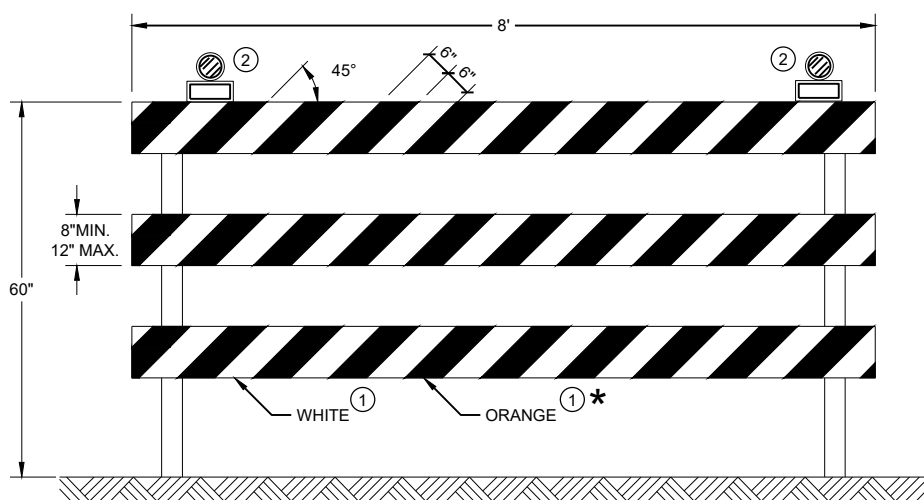
**GENERAL NOTES**

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



**TYPE II BARRICADE**

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



**TYPE III BARRICADE**

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






\* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

**CHANNELIZING DEVICES  
DRUMS, CONES, BARRICADES  
AND VERTICAL PANELS**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
 November 2022 /S/ Andrew Heidtke  
 DATE WORK ZONE ENGINEER  
 FHWA

**LEGEND**

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

**GENERAL NOTES**

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

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

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

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

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

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

**FLAGGING**

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

- ① FOR MOVING WORK OPERATIONS, POST ADDITIONAL W20-7A FLAGGER SIGNS AT APPROXIMATELY 3,500' INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.
- ② SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

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

**TEMPORARY PORTABLE RUMBLE STRIPS**

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

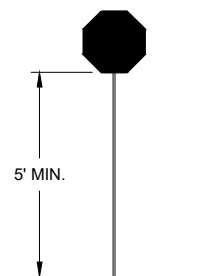
- ③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS PLACED TRANSVERSE ACROSS THE LANE AT THE LOCATIONS SHOWN. WITHIN EACH ARRAY, SPACING BETWEEN RUMBLE STRIPS SHALL BE 15 FEET ON CENTER

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

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

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



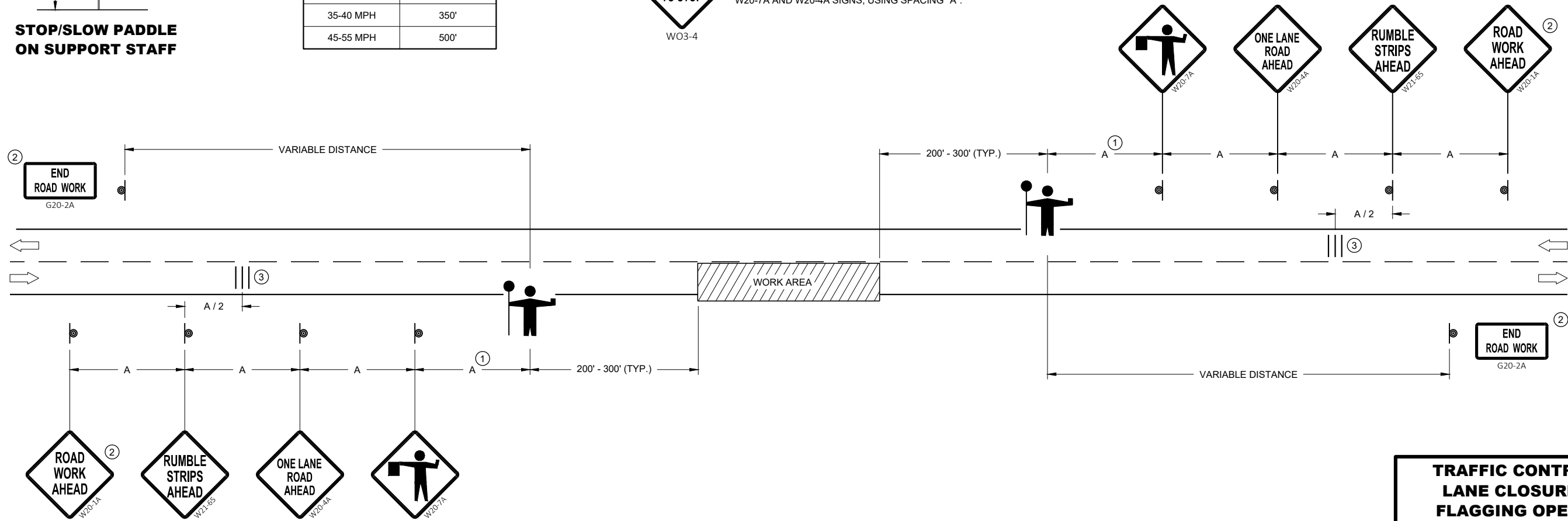
**STOP/SLOW PADDLE ON SUPPORT STAFF**

**SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE**

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



USE OF W03-4 SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING "A".










**TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

**GENERAL NOTES**

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL CONE 42-INCH
-  TRAFFIC CONTROL DRUM
-  TEMPORARY PORTABLE RUMBLE STRIP ARRAY
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  **AFAD** AUTOMATED FLAGGER ASSISTANCE DEVICE (AFAD)

**GENERAL NOTES**

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

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

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

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

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

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

**FLAGGING**

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

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

- ① SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.
- ② IF FLAGGERS ARE PHYSICALLY NEEDED TO FLAG, REPLACE WO3-4 SIGNS WITH W20-7A SIGNS.

**TEMPORARY PORTABLE RUMBLE STRIPS**

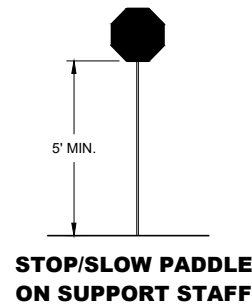
UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

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

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

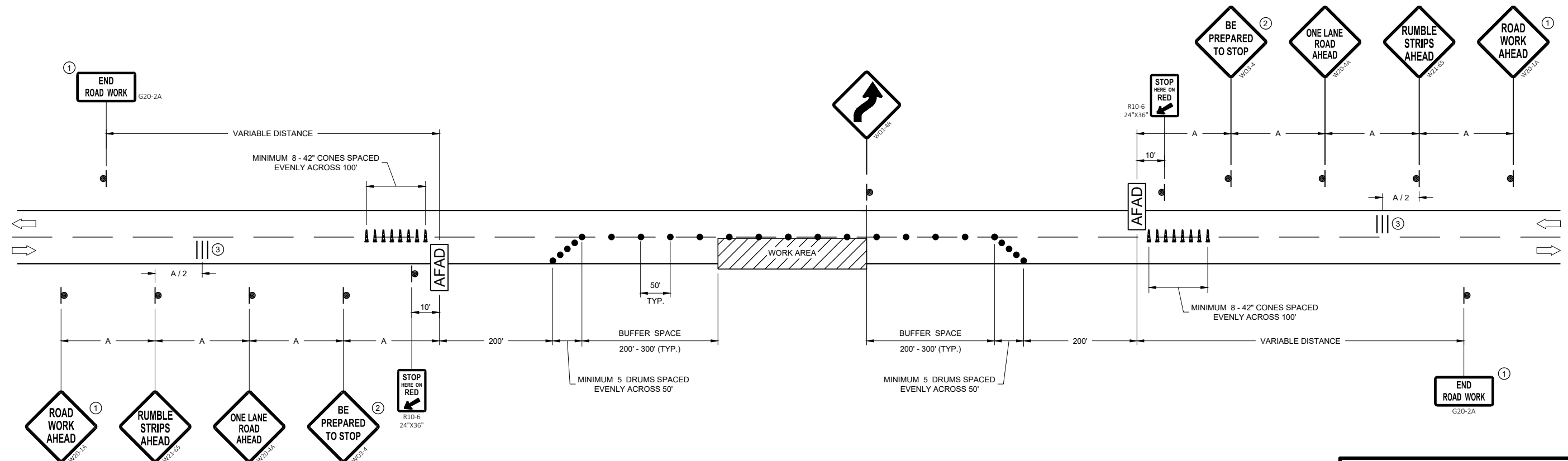
DO NOT INSTALL TEMPORARY PORTABLE RUMBLE STRIPS ON GRAVEL, MILLED SURFACES, OR ASPHALT THAT HAS BEEN PAVED LESS THAN 12 HOURS.

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



**SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE**

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



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SDD 15C12 - 09b

SDD 15C12 - 09b





**TRAFFIC CONTROL, LANE CLOSURE WITH AUTOMATED FLAGGER ASSISTANCE DEVICE**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

FHWA

**LEGEND**

- V1 LEAD VEHICLE
- V2 MARKING VEHICLE
- V3 SHADOW VEHICLE
-  TRUCK MOUNTED ATTENUATOR (TMA)
-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC
-  FLASHING ARROW PANEL (CAUTION)

**GENERAL NOTES**

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL OPERATING IN CAUTION MODE. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

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

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

THE WORK AND SHADOW VEHICLES SHOULD PULL OVER PERIODICALLY TO ALLOW TRAFFIC TO PASS.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC.

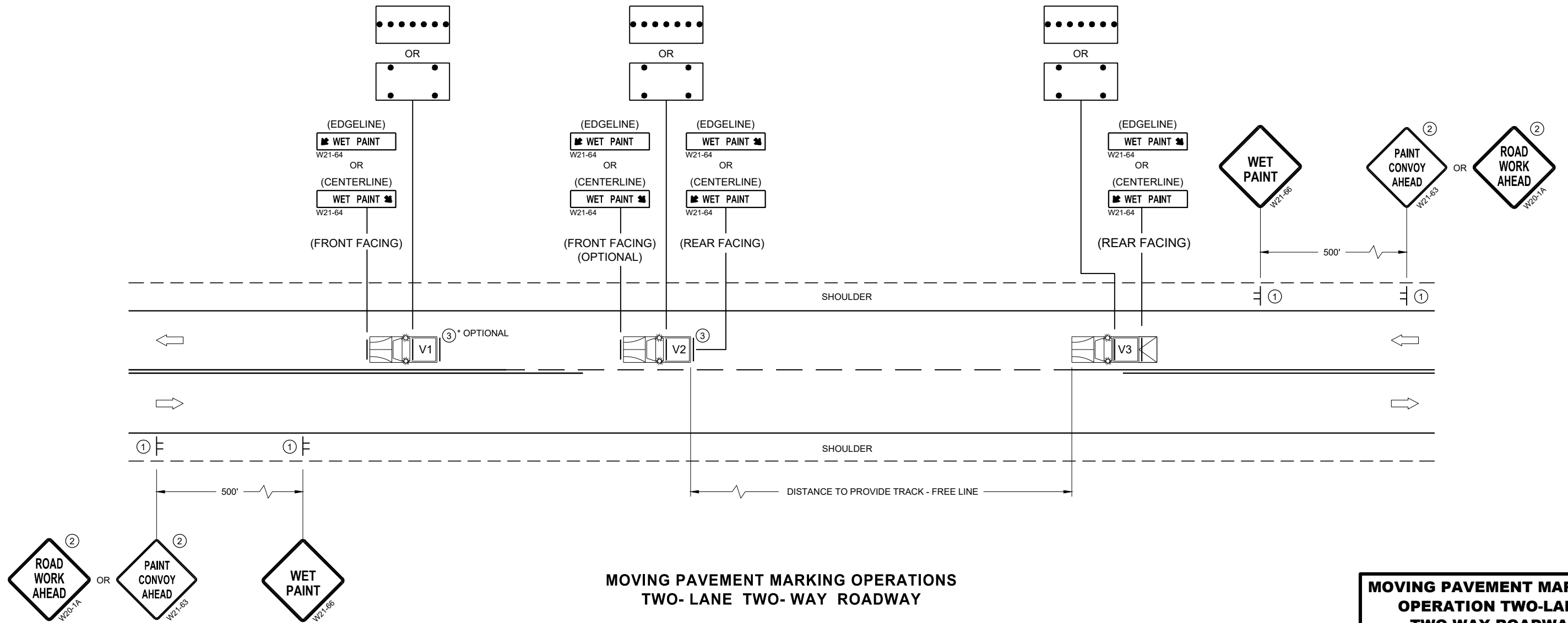
CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLE AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

CONES SHALL BE A MINIMUM OF 28" FOR WET PAVEMENT MARKING.

- ① SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.
- ② IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1A OR W21-63 ARE NOT REQUIRED.
- ③ V1 AND V2 CAN BE SWITCHED SO THAT THE MARKER IS THE LEAD VEHICLE.

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



**MOVING PAVEMENT MARKING OPERATIONS  
TWO-LANE TWO-WAY ROADWAY**

SDD 15C19-08a

SDD 15C19-08a

<b>MOVING PAVEMENT MARKING OPERATION TWO-LANE TWO-WAY ROADWAY</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2023 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

**LEGEND**

- V1 LEAD VEHICLE
- V2 MARKING VEHICLE
- V3 SHADOW VEHICLE
-  TRUCK MOUNTED ATTENUATOR (TMA)
-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC
-  FLASHING ARROW PANEL (MERGE)
-  FLASHING ARROW PANEL (CAUTION)

**GENERAL NOTES**

ALL VEHICLES SHALL BE EQUIPPED WITH TWO 360 DEGREE HIGH INTENSITY YELLOW FLASHING LIGHTS OR STROBE LIGHTS AND OPERATED WITH HEADLIGHTS TURNED ON.

ALL VEHICLES SHALL BE EQUIPPED WITH REAR FACING TYPE B OR C FLASHING ARROW PANEL. SIGNS PLACED ON VEHICLES MUST NOT OBSCURE THE ARROW PANEL.

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

DISTANCE BETWEEN VEHICLES MAY VARY ACCORDING TO TERRAIN, SIGHT DISTANCE, PAINT DRYING TIME, AND OTHER FACTORS. WHENEVER ADEQUATE STOPPING SIGHT DISTANCE EXISTS TO THE REAR, SHADOW VEHICLES SHOULD MAINTAIN THE MINIMUM DISTANCE FROM THE WORK VEHICLE AND PROCEED AT THE SAME SPEED AS THE WORK VEHICLE. SHADOW VEHICLES SHOULD SLOW DOWN IN ADVANCE OF VERTICAL AND HORIZONTAL CURVES THAT RESTRICT SIGHT DISTANCE.

WHEN WORK ACTIVITY BLOCKS THE LEFT LANE, REVERSE TRAFFIC CONTROL.

WHEN A RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, PROVIDE ADDITIONAL TRAFFIC CONTROLS AS SPECIFIED IN THE CONTRACT OR AS APPROVED BY THE ENGINEER.

WHEN NO WORK ACTIVITY IS TAKING PLACE, REMOVE OR LAY STATIONARY SIGNS AND SUPPORTS FLAT ON THE GRADE WITH UPRIGHTS ORIENTED PARALLEL TO AND DOWNSTREAM FROM TRAFFIC.

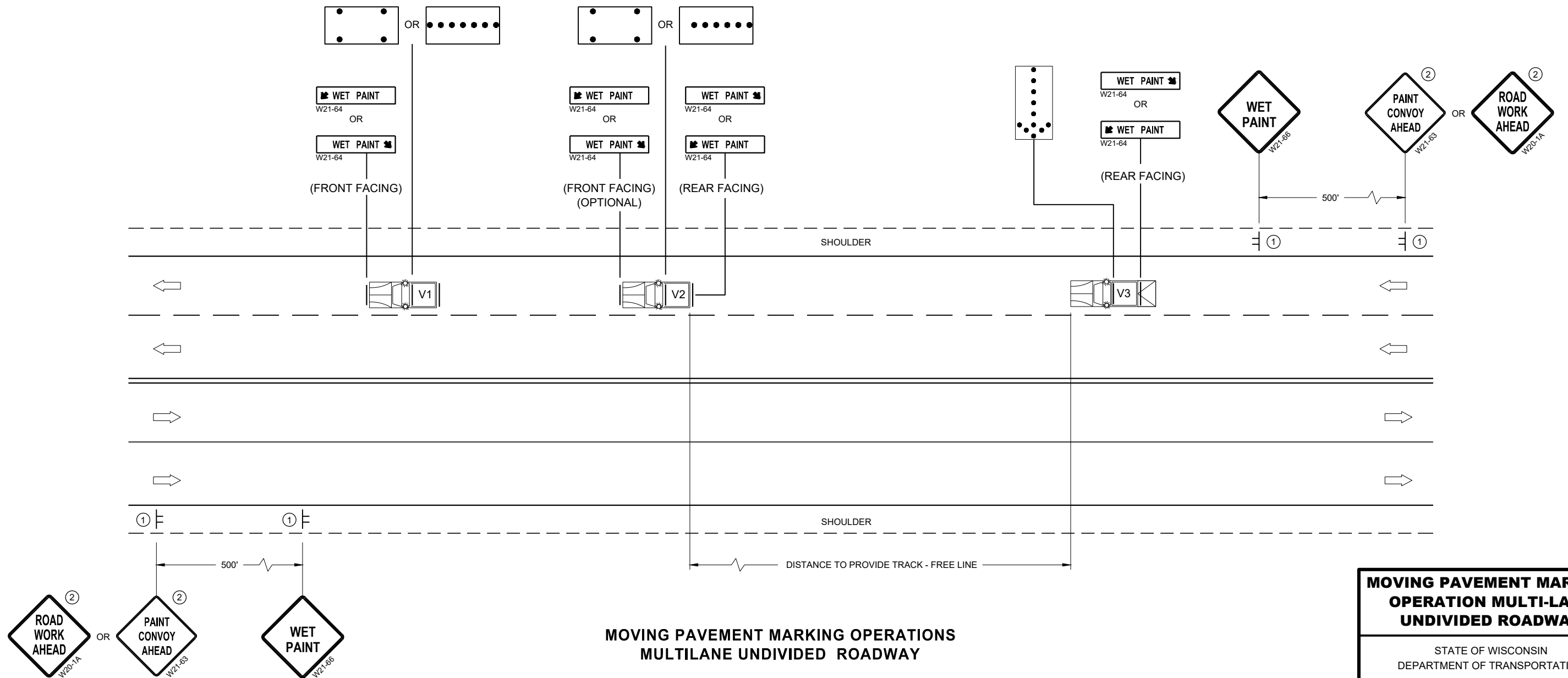
CONES SHOULD BE USED BETWEEN THE MARKING AND SHADOW VEHICLES AT 100 FOOT SPACING. CONES MAY BE OMITTED ON PAINTED LINE IF APPROVED BY THE ENGINEER. CONSIDER PAVEMENT MARKING DRY OR CURE TIMES AND TRAFFIC VOLUME.

CONES SHALL HAVE A MINIMUM HEIGHT OF 28" FOR WET PAVEMENT MARKINGS.

- ① SIGNS SHALL BE REPEATED APPROXIMATELY EVERY THREE MILES.
- ② IF CONSTRUCTION WORK ZONE SIGNS ARE IN PLACE, W20-1A OR W21-63 ARE NOT REQUIRED.

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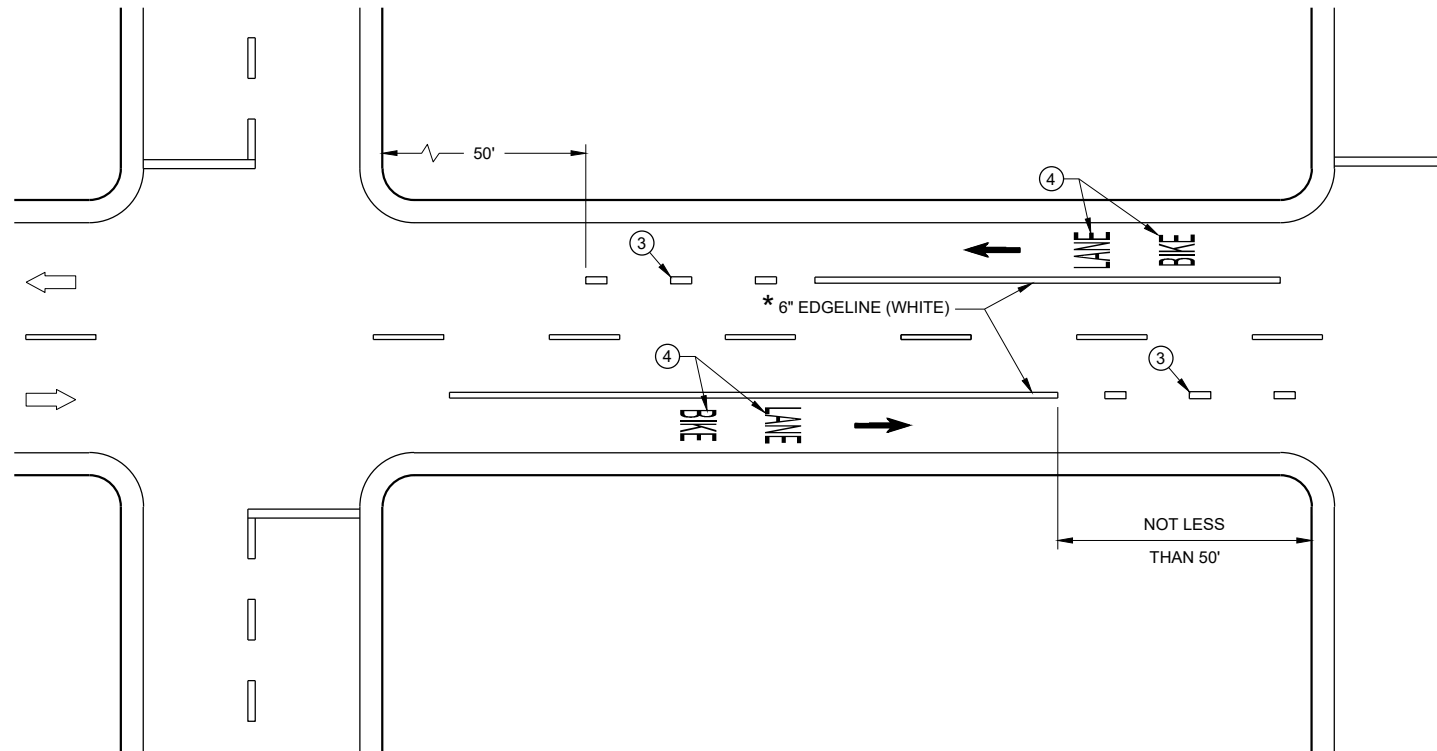


**MOVING PAVEMENT MARKING OPERATIONS  
MULTILANE UNDIVIDED ROADWAY**

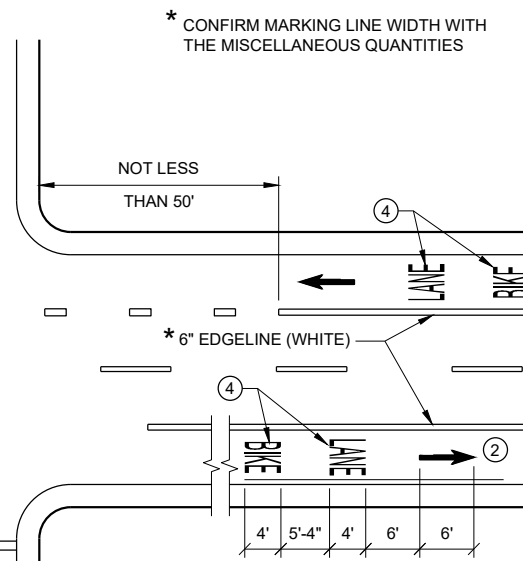
<b>MOVING PAVEMENT MARKING OPERATION MULTI-LANE UNDIVIDED ROADWAY</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED February 2023 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

SDD 15C19-08b

SDD 15C19-08b

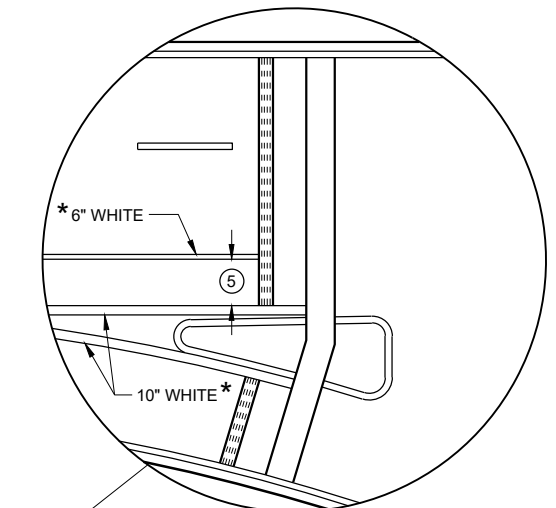
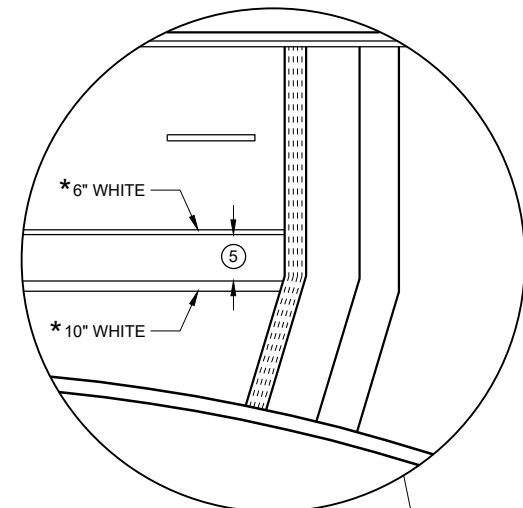


**DESIGNATED BIKE LANE - NO PARKING**

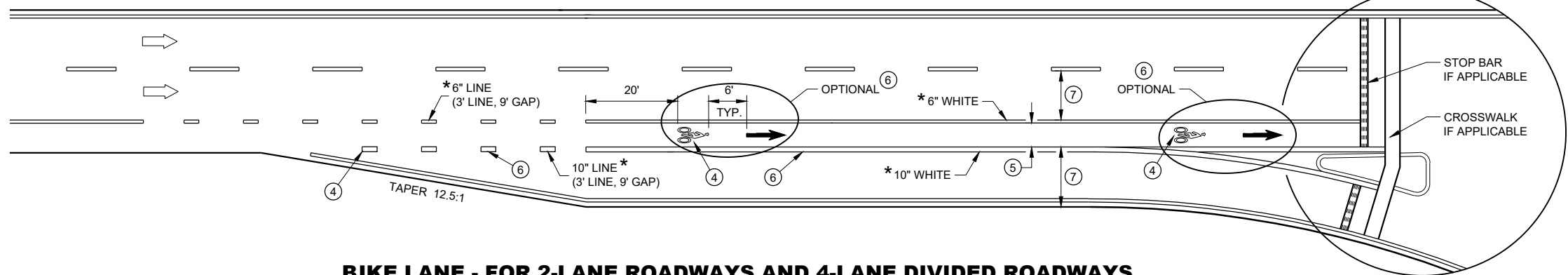


**4 LANE DIVIDED WITHOUT ISLAND**

- 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 BIKE SYMBOLS OR WORDS MAY BE USED.
  - ⑤ BIKE ACCOMMODATION IS TYPICAL 5 FEET WIDE AND MINIMUM OF 4 FEET FROM A LONGITUDINAL JOINT. USE 5 FEET AT  $\geq 45$  MPH.
  - ⑥ OMIT THESE MARKINGS FOR WIDER TURN LANE APPLICATIONS (MINIMUM OF 15 FOOT WIDE TURN LANE).
  - ⑦ REFER TO CONTRACT PLANS FOR LANE WIDTH.
- ➔ DIRECTION OF TRAVEL



**4 LANE DIVIDED WITH ISLAND**



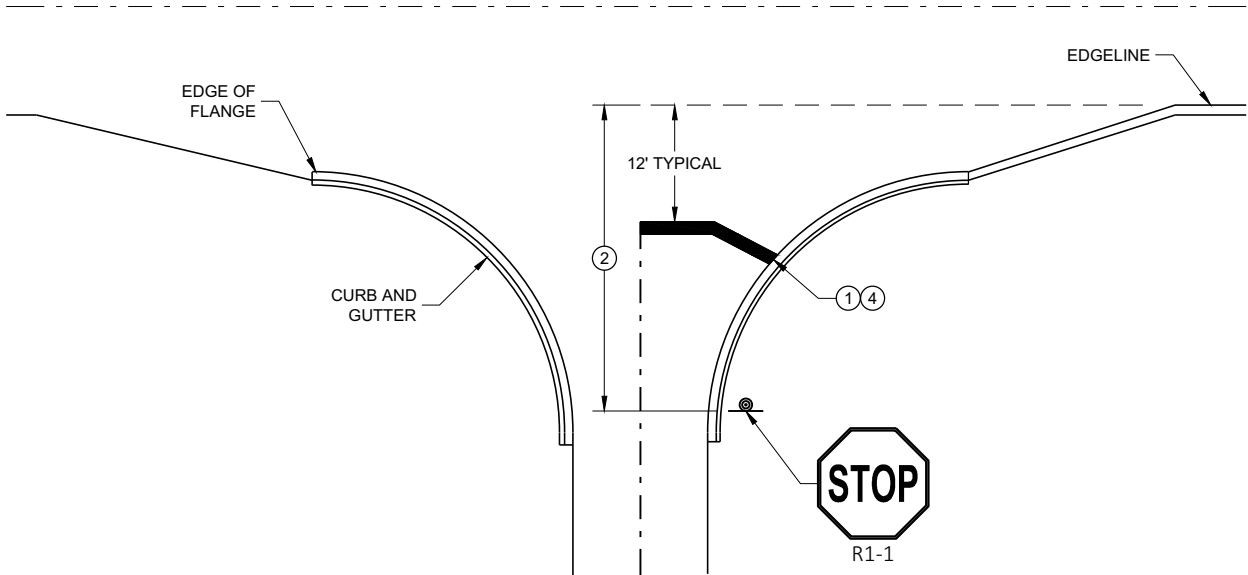
**BIKE LANE - FOR 2-LANE ROADWAYS AND 4-LANE DIVIDED ROADWAYS (4-LANE DIVIDED WITH RIGHT TURN LANE SHOWN)**

<b>BIKE LANE MARKING</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Matthew Rauch STATE SIGNING AND MARKING ENGINEER
<small>FHWA</small>	

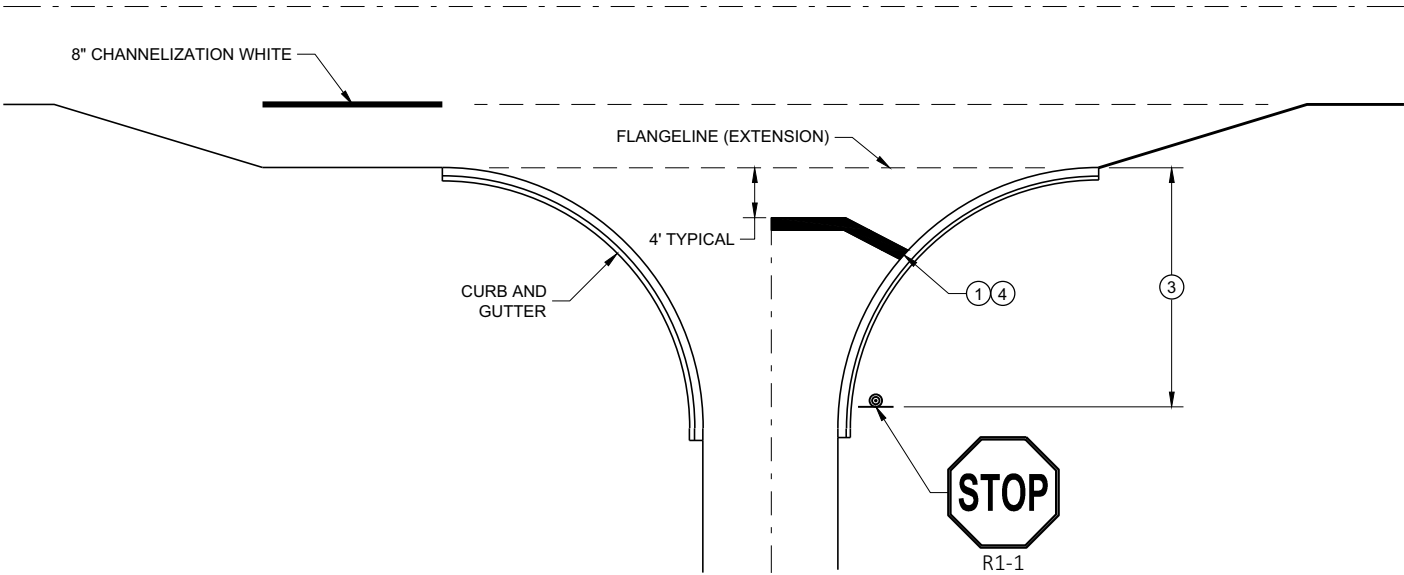
**GENERAL NOTES**

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

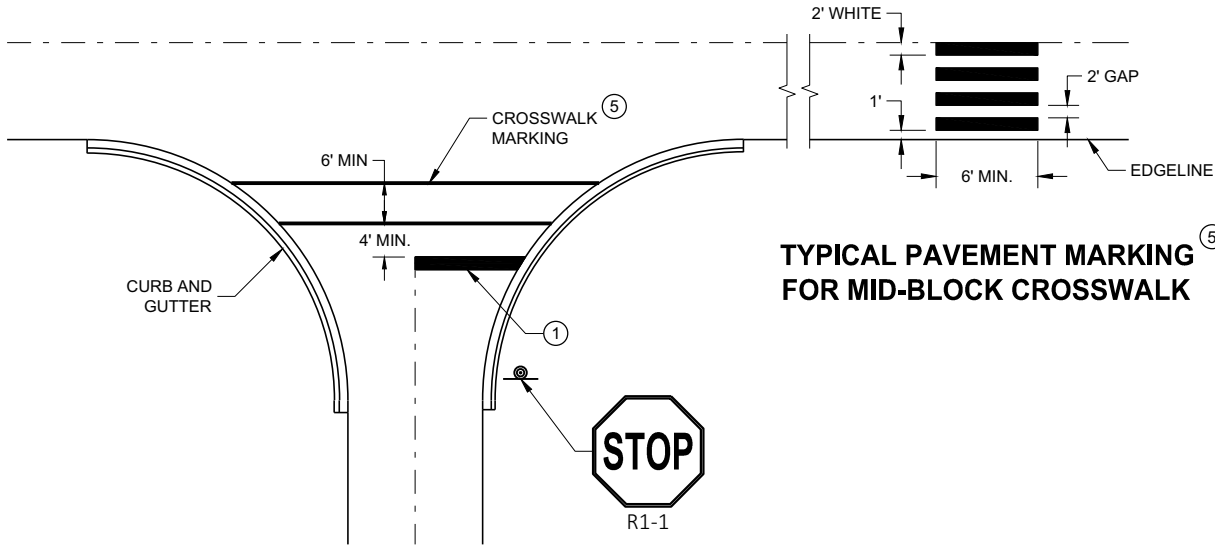
- ① 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- ② NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
- ③ NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE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



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

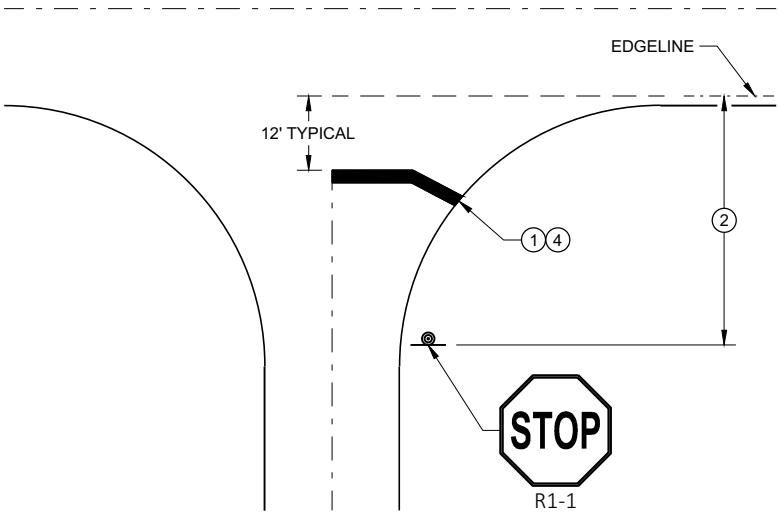


**TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE**



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

**TYPICAL PAVEMENT MARKING FOR MID-BLOCK CROSSWALK**



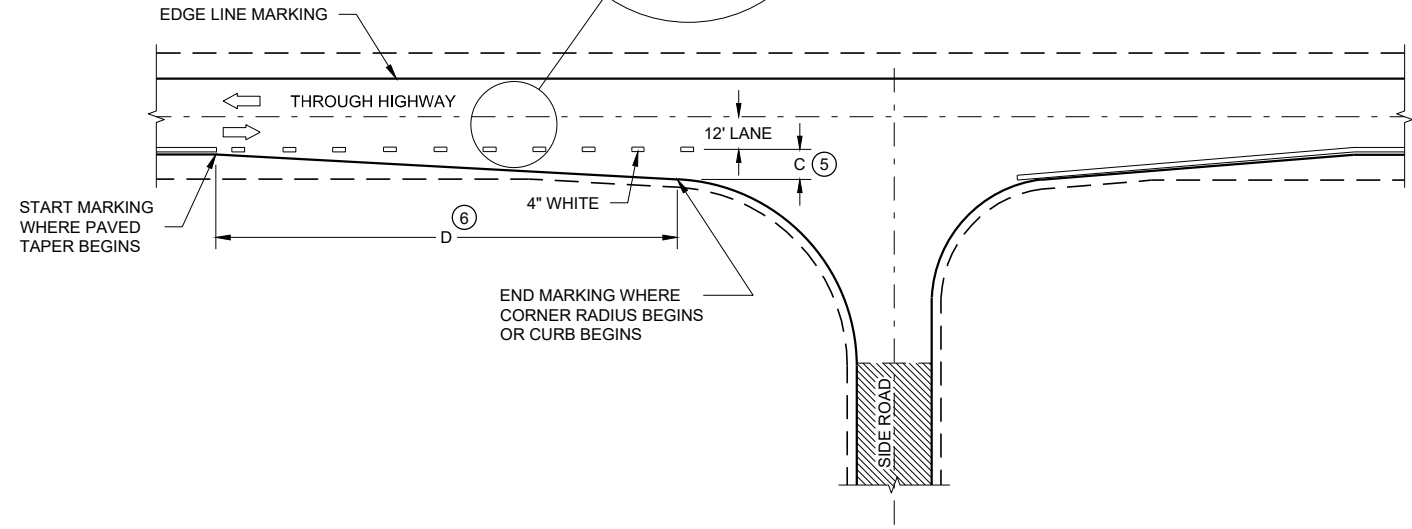
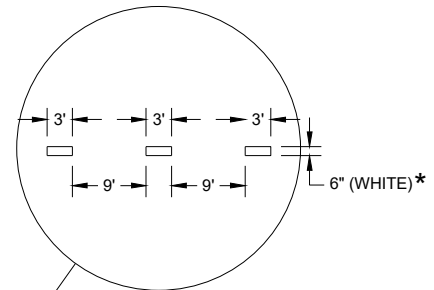
**TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER**

**STOP LINE AND CROSSWALK PAVEMENT MARKING**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
November 2019 /S/ Matthew Rauch  
DATE STATE SIGNING AND MARKING ENGINEER

FHWA



**MINOR INTERSECTION**

\* CONFIRM MARKING LINE WIDTH WITH THE MISCELLANEOUS QUANTITIES

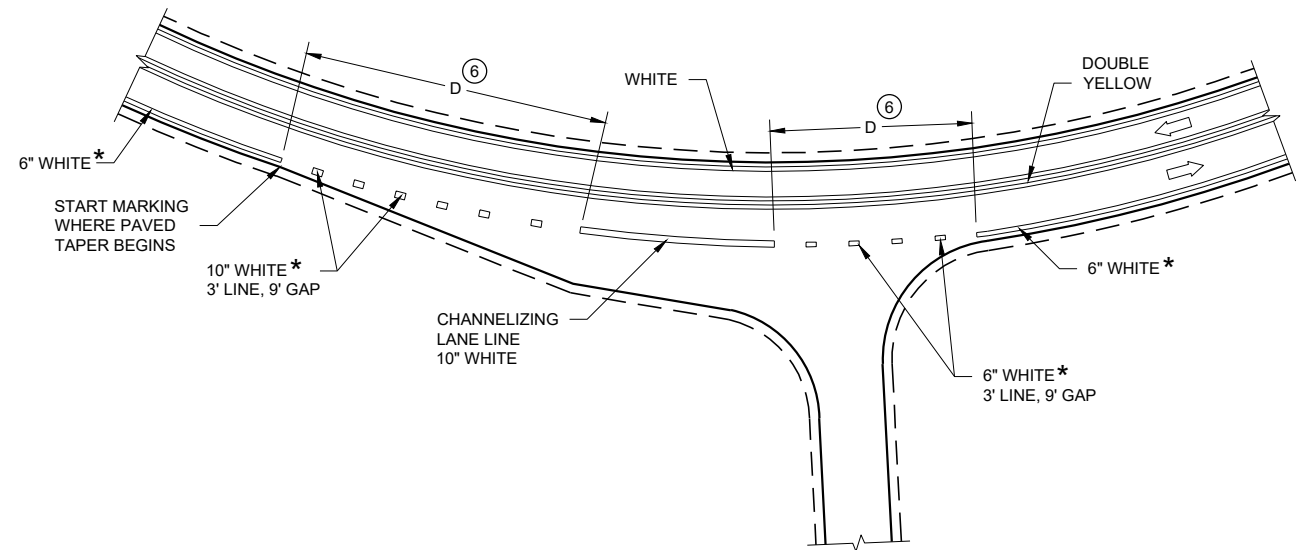
**GENERAL NOTES**

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

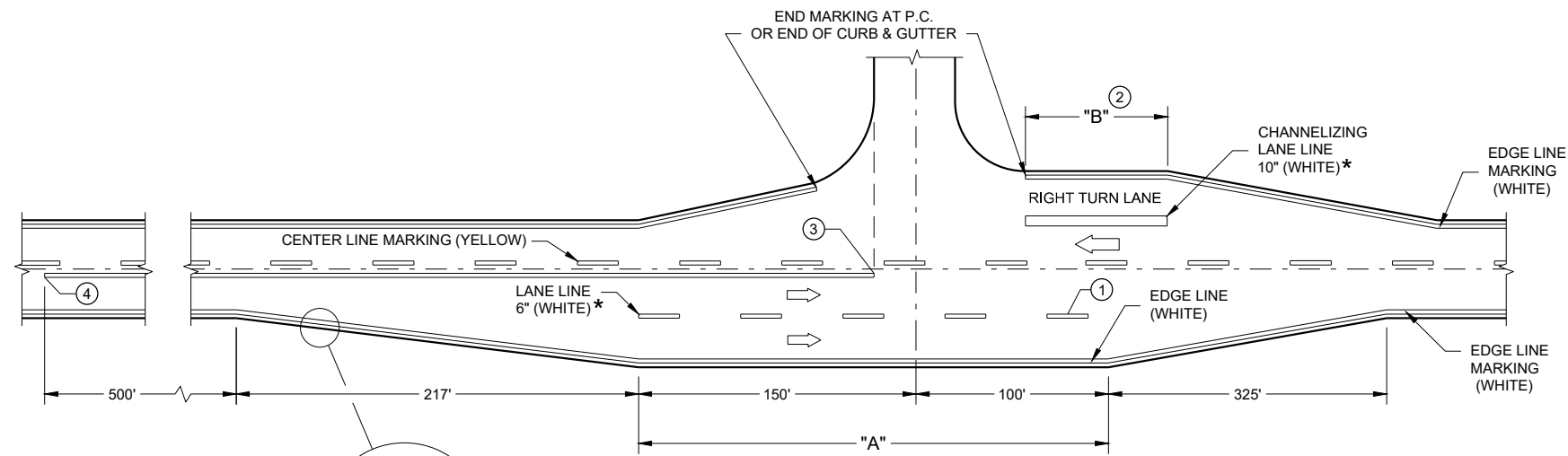
- ① WHEN DISTANCE "A" IS LESS THAN 250 FEET, OMIT LANE LINE.
- ② WHEN DISTANCE "B" IS LESS THAN 100 FEET, OMIT CHANNELIZING LANE LINE.
- ③ BARRIER LINE ENDS AT SIDE ROAD PAVEMENT / SURFACE EDGE EXTENSION.
- ④ BARRIER LINE STARTS 500 FEET PRIOR TO THE BYPASS TAPER.
- ⑤ WHEN DISTANCE "C" IS LESS THAN 4 FEET, OMIT DOTTED EXTENSION.
- ⑥ WHEN DISTANCE "D" IS LESS THAN 50 FEET, OMIT DOTTED EXTENSION.

**LEGEND**

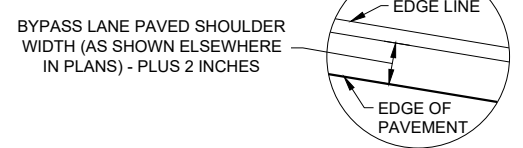
➡ DIRECTION OF TRAVEL



**INTERSECTION ON OUTSIDE OF CURVE**



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






BYPASS LANE PAVED SHOULDER WIDTH (AS SHOWN ELSEWHERE IN PLANS) - PLUS 2 INCHES

<b>PAVEMENT MARKING (INTERSECTIONS)</b>
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION



**LEGEND**

-  SIGN ON PERMANENT SUPPORT
-  DELINEATOR, FLEXIBLE/TUBULAR MARKER
-  DIRECTION OF TRAFFIC

**GENERAL NOTES**

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED.

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

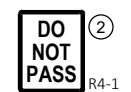
ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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

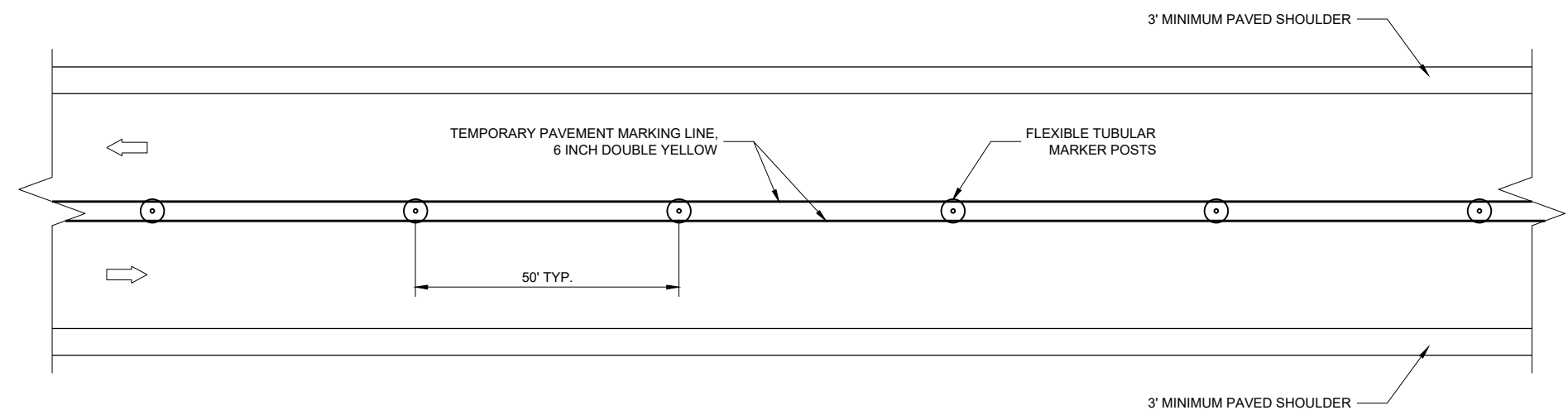
THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS.

A SINGLE ROW OF FLEXIBLE TUBULAR MARKERS ON CENTERLINE EXTEND FOR THE ENTIRE LENGTH OF TWO-WAY TRAFFIC AT 50 FOOT SPACING.

COVER EXISTING CENTERLINE STRIPE WITH TEMPORARY PAVEMENT MARKING LINE, 6 INCH DOUBLE YELLOW.



- ① THE W06-3 AND W057-51 SHALL BE LOCATED 200 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP AND / OR 500 FEET BEYOND ANY SIDE ROAD. THE R4-1 SHALL BE LOCATED 1000 FEET BEYOND THE W06-3 AND THE W057-51 AND THE SIGNS SHALL BE ALTERNATED WITH ONE MILE INTERVALS BETWEEN THE SIGNS.
- ② CONVENTIONAL: 24" X 30"  
 FREEWAY AND EXPRESSWAY: 36" X 48"



**TWO LANE, TWO WAY OPERATION**

6

6

SDD 15D06-06

SDD 15D06-06

<b>TRAFFIC CONTROL TWO LANE TWO WAY OPERATION</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

## GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

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

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

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

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.










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

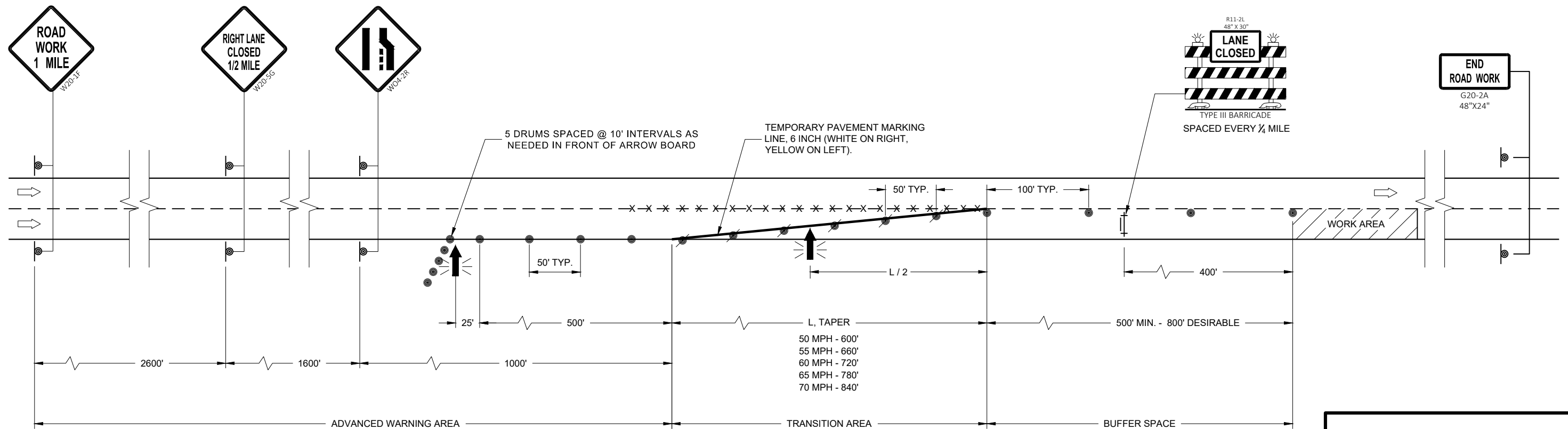
ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS

NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

## LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  REMOVING PAVEMENT MARKINGS
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLASHING ARROW BOARD



### TRAFFIC CONTROL LANE CLOSURE

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

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

FHWA

### GENERAL NOTES

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

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

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

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

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

CONSIDER ROADWAY GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE 4 OR MORE CONTINUOUS DAYS AND NIGHTS.










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

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP OR INTERSECTION. THE LANE CLOSURE MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE ONE HALF THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

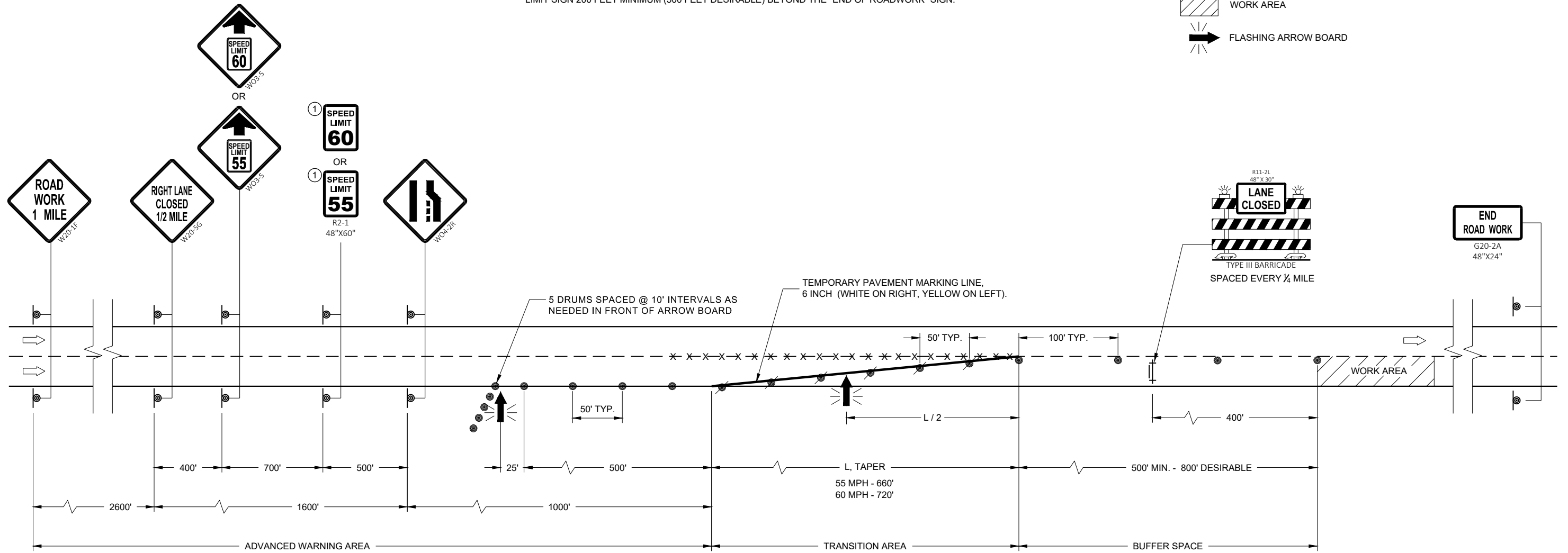
① A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. PLACE A SPEED LIMIT SIGN A MINIMUM OF EVERY 3 MILES. INCLUDE A RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIRABLE) BEYOND THE "END OF ROADWORK" SIGN.

### LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  REMOVING PAVEMENT MARKINGS
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  FLASHING ARROW BOARD

6

SDD 15D12 - 11b



6

SDD 15D12 - 11b

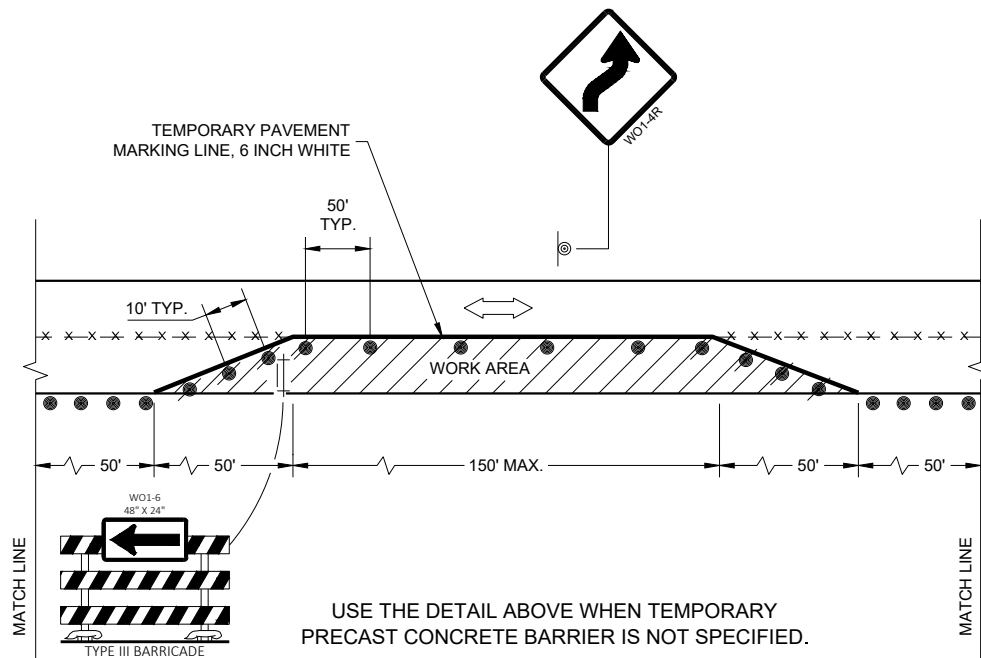
<b>TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION</b>	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Andrew Heidtke WORK ZONE ENGINEER
FHWA	

**LEGEND**

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLAGS, 16" X 16" MIN. (ORANGE)
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- ASPHALTIC PAVEMENT WIDENING
- CONCRETE BARRIER TEMPORARY PRECAST

**GENERAL NOTES**

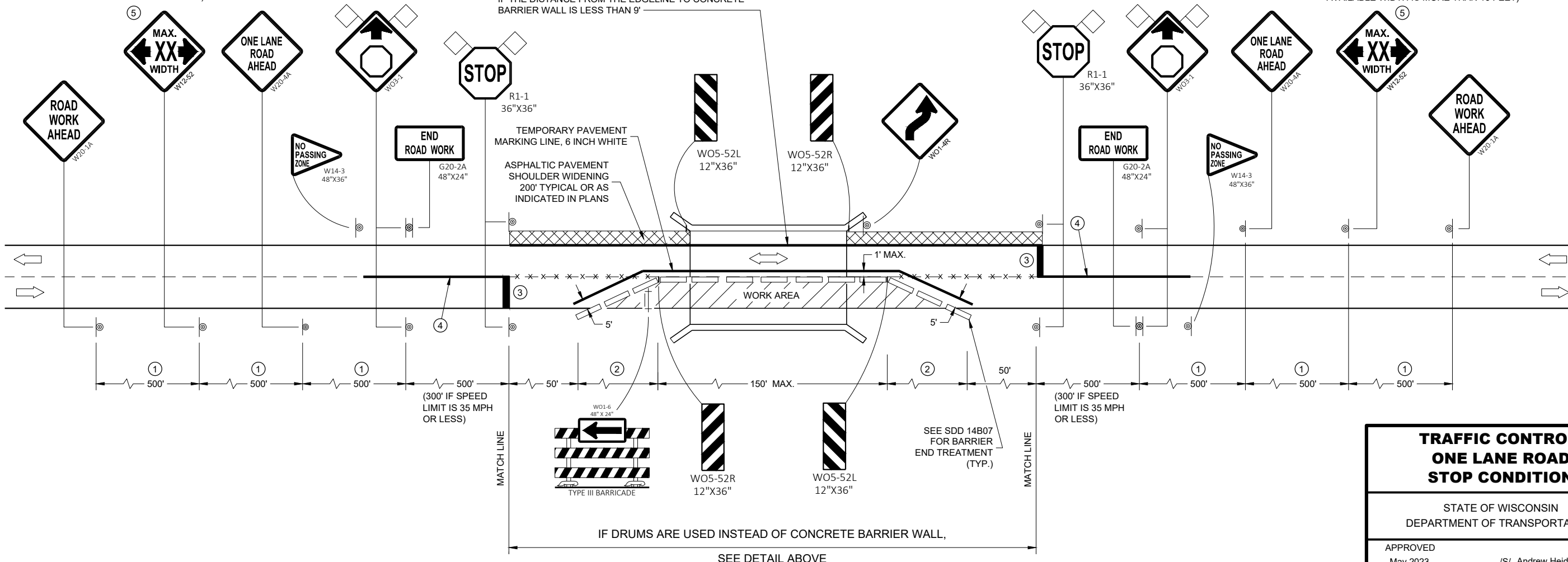
- THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.
- THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE..
- THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.
- ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.
- "WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.
- ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED OR AS APPROVED BY THE ENGINEER.
- REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINES IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.
- ① 500 FOOT SPACING SHOWN IS FOR ROADWAYS WITH A PRE-CONSTRUCTION REGULATORY SPEED LIMIT OF 45 MPH OR MORE. FOR 35 - 40 MPH, USE 350 FOOT TYPICAL SPACING. FOR 25 - 30 MPH, USE 200 FOOT TYPICAL SPACING.
  - ② DIMENSION DETERMINED BY CBTP TAPER FROM EDGE LINE TO TANGENT SECTION OF THE ROAD.
  - ③ TEMPORARY PAVEMENT MARKING LINE, 18 INCH WHITE STOP LINE.
  - ④ 700 FOOT TEMPORARY PAVEMENT MARKING LINE, 6 INCH DOUBLE YELLOW. WHEN THE DISTANCE FOR THE PRECEDING NO - PASSING ZONE IS LESS THAN THE MINIMUM DISTANCE BETWEEN ZONES AS INDICATED IN THE SPECIFICATIONS, THE TWO ZONES SHALL BE CONNECTED.
  - ⑤ SEE SDD 15C02 - SHEET "F" FOR ADVANCED WIDTH RESTRICTION SIGNING.



WIDTH ON SIGN TO BE APPROX. 1-FOOT LESS THAN AVAILABLE WIDTH. (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET)

TEMPORARY PAVEMENT MARKING LINE, 6 INCH WHITE, (STOPLINE TO STOPLINE), REMOVE EXISTING EDGELINE AND OFFSET THE TEMPORARY EDGELINE IF THE DISTANCE FROM THE EDGELINE TO CONCRETE BARRIER WALL IS LESS THAN 9'

WIDTH ON SIGN TO BE APPROX. 1-FOOT LESS THAN AVAILABLE WIDTH. (OMIT IF AVAILABLE WIDTH IS MORE THAN 16 FEET)



**TRAFFIC CONTROL,  
ONE LANE ROAD  
STOP CONDITION**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED \_\_\_\_\_ /S/ Andrew Heidtke  
DATE \_\_\_\_\_  
WORK ZONE ENGINEER

FHWA

**GENERAL NOTES**

DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM. ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD). SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISDOT STANDARD SIGN PLATES.

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

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



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

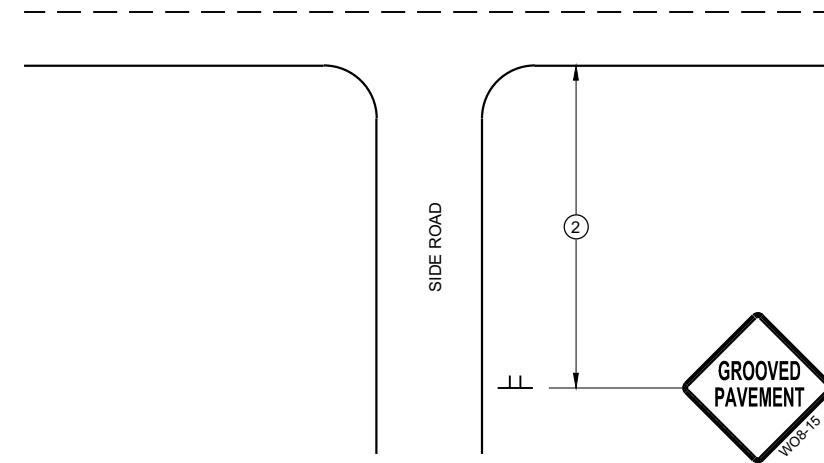
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

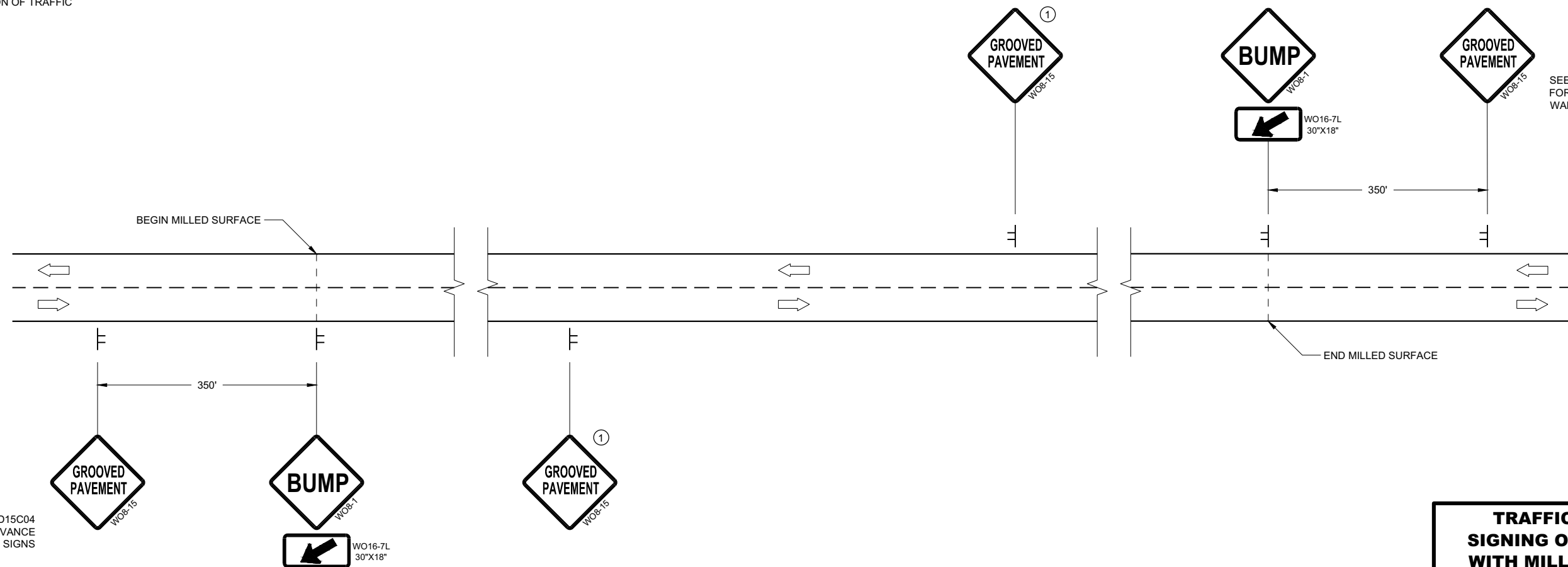
- ① PLACE SIGNS 350' IN ADVANCE OF MILLED SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- ② PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.

**LEGEND**

-  SIGN ON TEMPORARY SUPPORT
-  DIRECTION OF TRAFFIC



**TYPICAL SIDE ROAD APPROACH SIGN DETAIL**



SEE SDD15C04 FOR ADVANCE WARNING SIGNS

SEE SDD15C04 FOR ADVANCE WARNING SIGNS

**DETAIL FOR SIGNING ON MILLED SURFACES**

**TRAFFIC CONTROL, SIGNING ON ROADWAYS WITH MILLED SURFACES**

STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
February 2020 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

FHWA

**GENERAL NOTES**

DRAWING NOT TO SCALE. ALL SIGNS AND POSTS ON THIS SHEET SHALL BE PAID FOR WITH 'TRAFFIC CONTROL SIGNS' BID ITEM. ALL SIDE ROADS WHICH ARE UNDER CONSTRUCTION OF CURB AND GUTTER AND/OR GRADING SHALL BE ADEQUATELY SIGNED.

ALL SIGNS AND DEVICES SHALL BE IN CONFORMANCE WITH THE WISCONSIN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (WMUTCD). SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE WISDOT STANDARD SIGN PLATES.

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

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

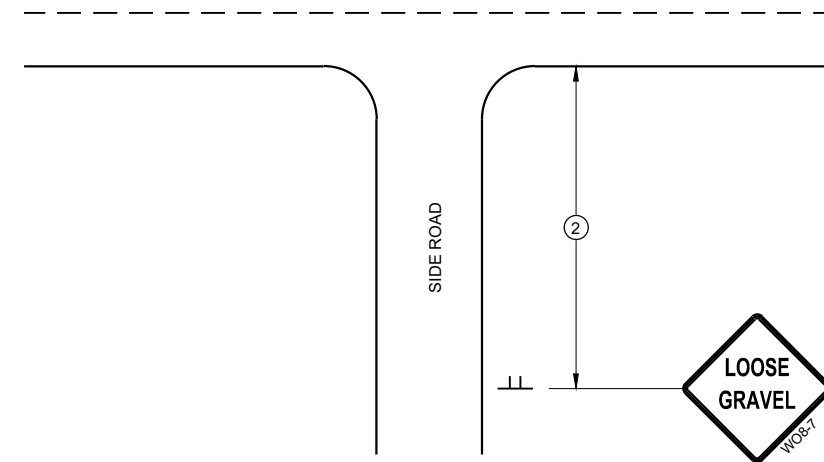
ALL SIGNS INAPPROPRIATE TO THE STATUS OF THE CONTROL ZONE, INCLUDING PRE-EXISTING SIGNS IN THE VICINITY, SHALL BE COVERED OR REMOVED AS DIRECTED BY THE ENGINEER.

SEE 15C34 FOR ADDITIONAL TRAFFIC CONTROL SIGNING WHEN CENTERLINE PAVEMENT MAKINGS ARE MISSING. 'DO NOT PASS' SIGNS MUST BE INSTALLED ON THE SAME DAY AS MILLING OPERATIONS.

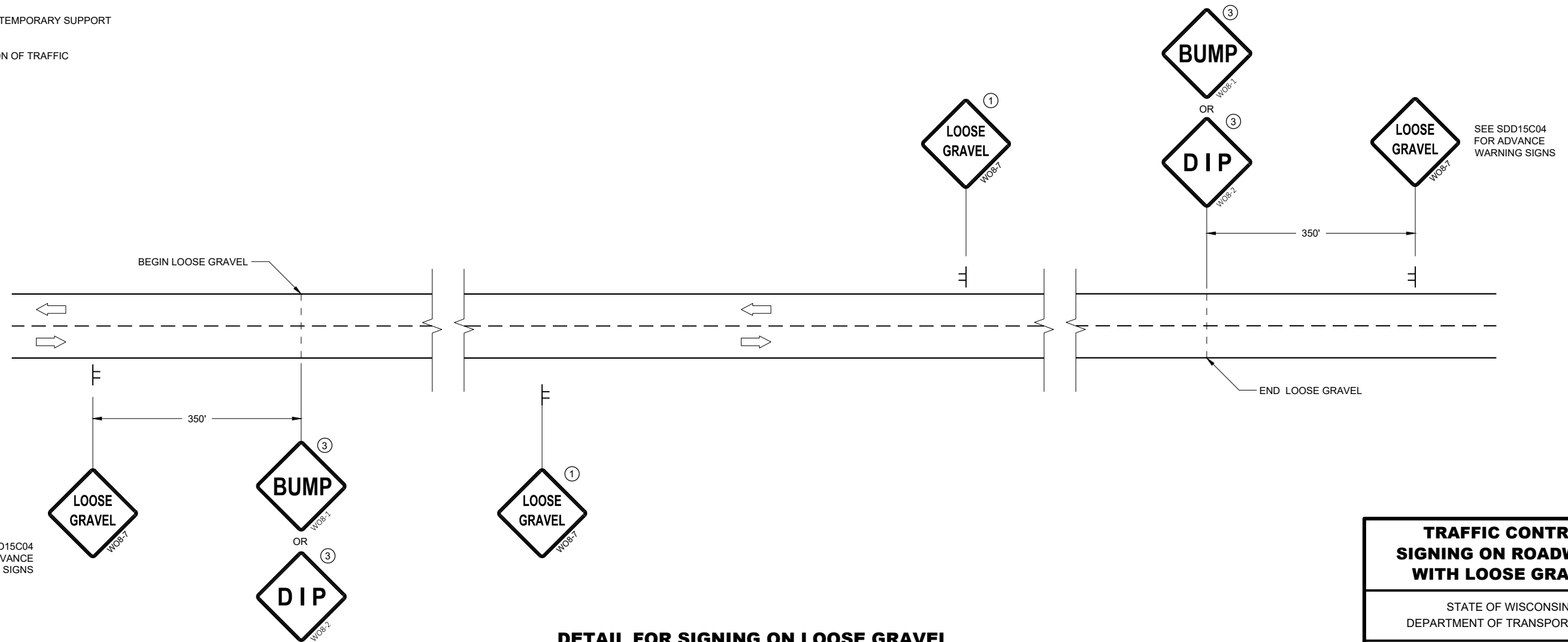
- ① PLACE SIGNS 350' IN ADVANCE OF CHIP SEALED OR LOOSE GRAVEL SURFACES AND AT 1 MILE INTERVALS, OR AS DIRECTED BY THE ENGINEER.
- ② PLACE SIGN 200' MIN. FROM INTERSECTION AND 200' MIN. AFTER ADVANCE WARNING SIGN SHOWN IN SDD 15C04.
- ③ ADD WO8-1 OR WO8-2 SIGN WHEN THE CONDITION IS PRESENT.

**LEGEND**

- ⊥ SIGN ON TEMPORARY SUPPORT
- ➡ DIRECTION OF TRAFFIC



**TYPICAL SIDE ROAD APPROACH SIGN DETAIL**



**DETAIL FOR SIGNING ON LOOSE GRAVEL OR CHIP SEALED SURFACES**

SEE SDD15C04 FOR ADVANCE WARNING SIGNS

**TRAFFIC CONTROL SIGNING ON ROADWAYS WITH LOOSE GRAVEL**

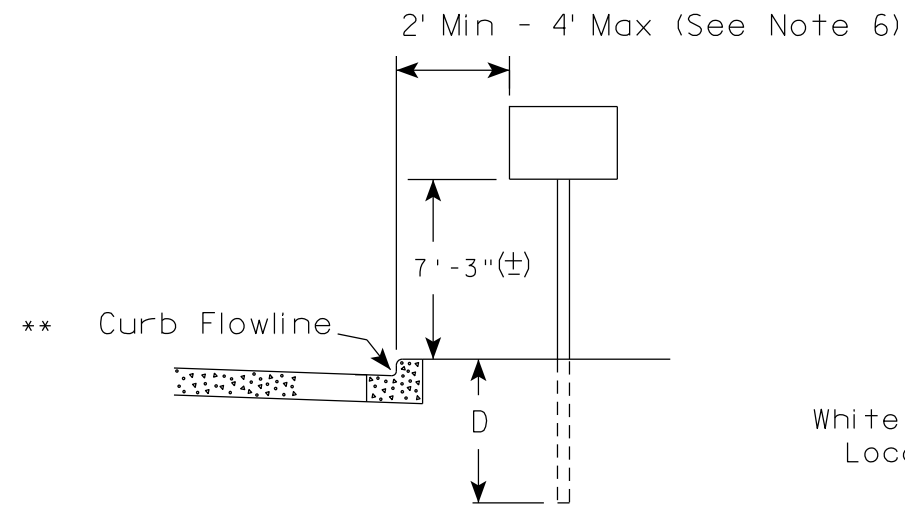
STATE OF WISCONSIN  
DEPARTMENT OF TRANSPORTATION

APPROVED  
February 2021 /S/ Andrew Heidtke  
DATE WORK ZONE ENGINEER

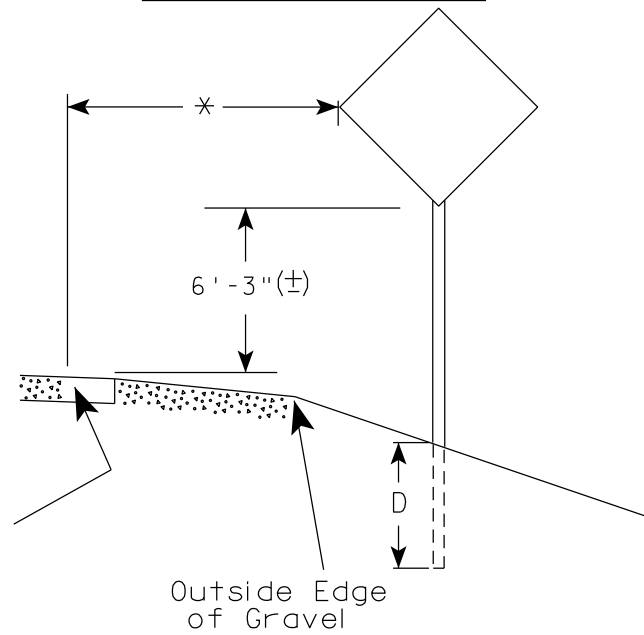
FHWA

URBAN AREA

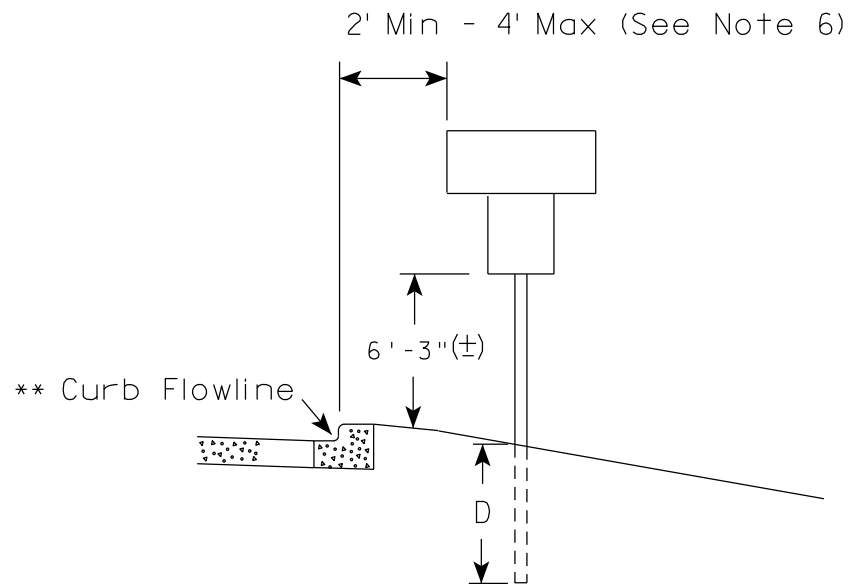
RURAL AREA (See Note 2)



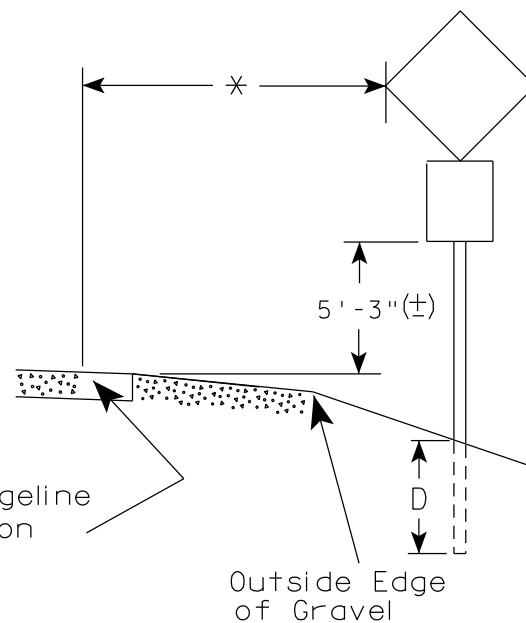
White Edgeline Location



Outside Edge of Gravel



White Edgeline Location



Outside Edge of Gravel

POST EMBEDMENT DEPTH

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

GENERAL NOTES

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

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

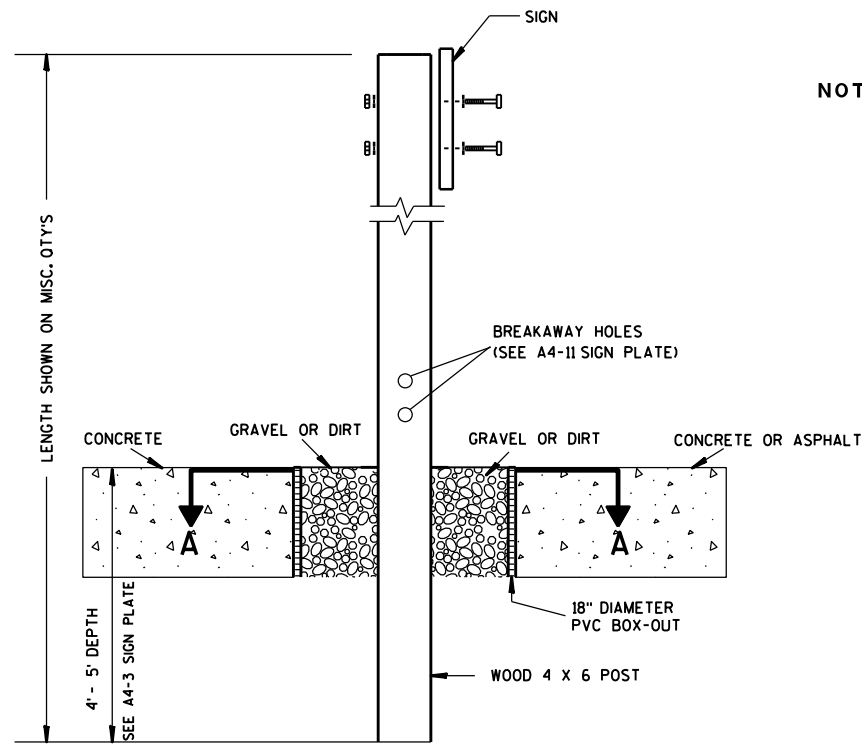
\* 6 feet from edge of a paved shoulder or 12 feet from the edge of pavement (edge line location) or 2 feet from outside edge of gravel, whichever is greater unless directed by project engineer.

TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

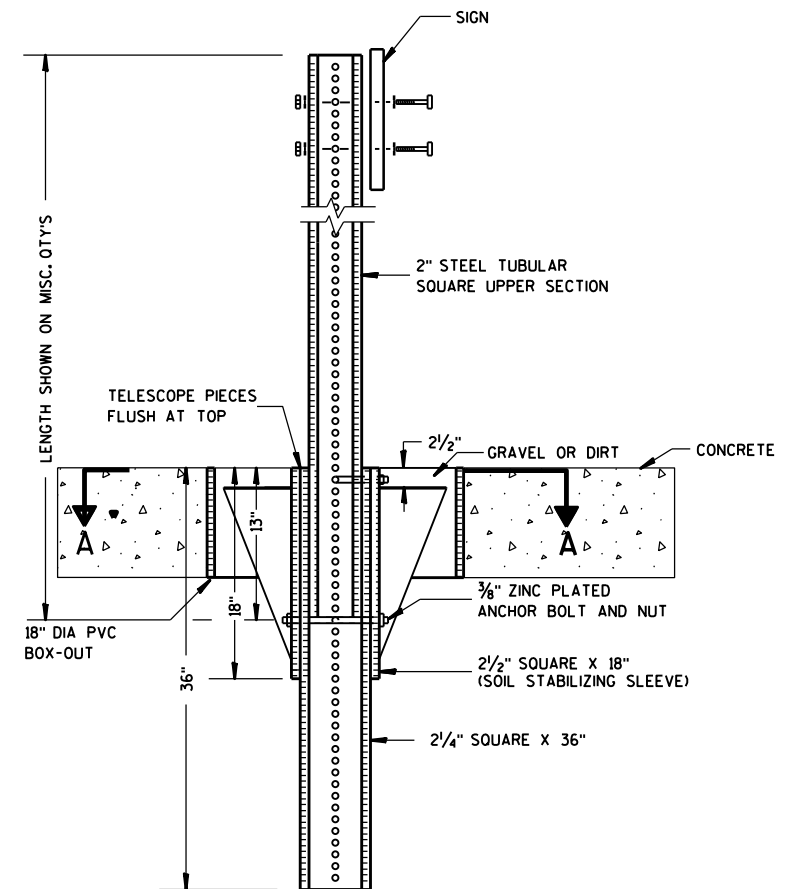
DATE 5/13/2020 PLATE NO. A4-3.22



**ELEVATION VIEW**

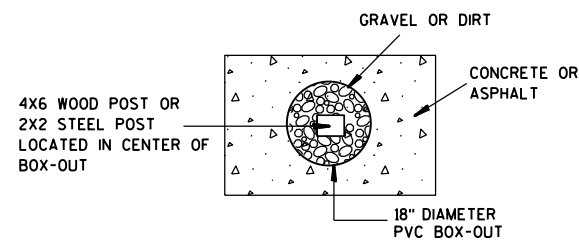
**DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT**

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



**ELEVATION VIEW**

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



**PLAN VIEW**

**FOR NEW CONCRETE/ ASPHALT INSTALLATIONS**

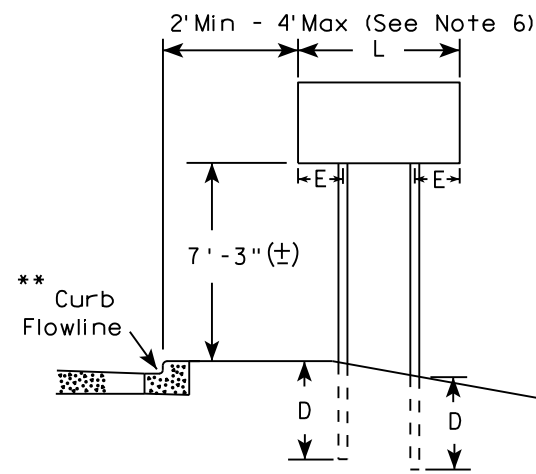
<b>SIGN POST BOX-OUTS A4-3B</b>	
<small>WISCONSIN DEPT OF TRANSPORTATION</small>	
APPROVED <i>Matthew R. Rauch</i> <small>for State Traffic Engineer</small>	
<small>DATE 1/27/14</small>	<small>PLATE NO. A4-3B.1</small>



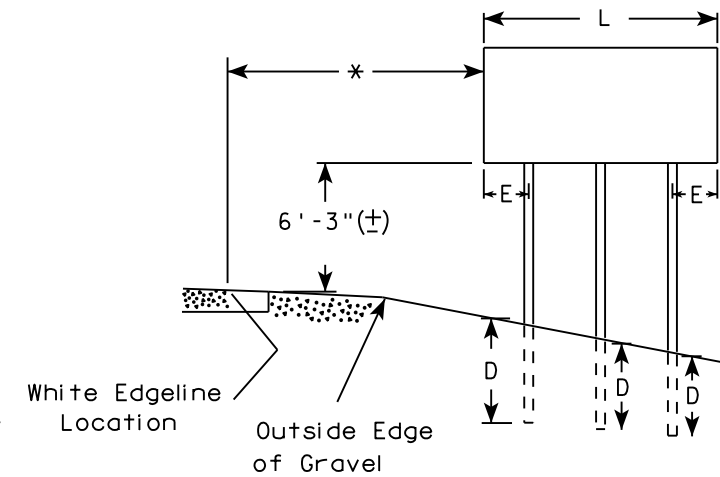
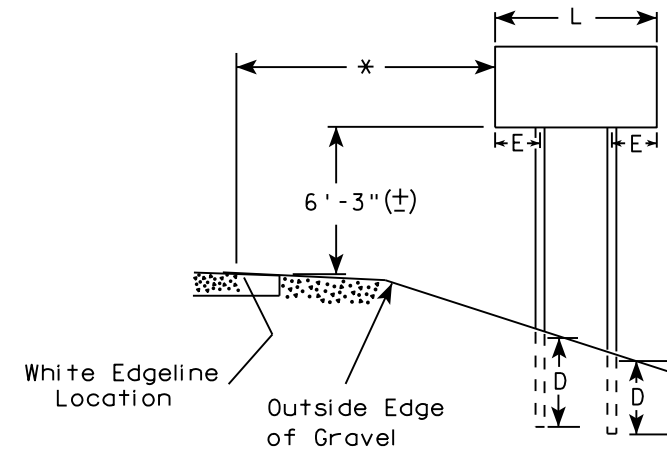
GENERAL NOTES

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

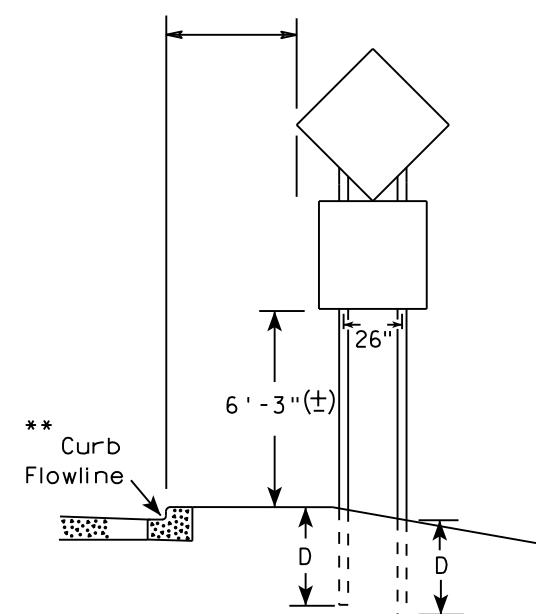
URBAN AREA



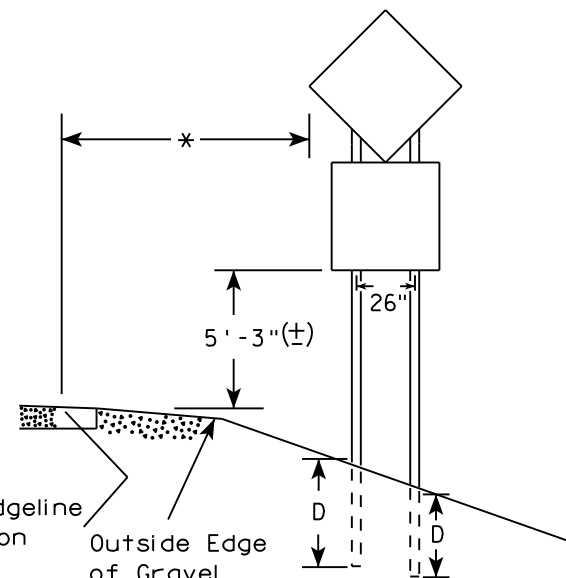
RURAL AREA (See Note 3)



2' Min - 4' Max (See Note 6)



48" DIAMOND WARNING SIGN



48" DIAMOND WARNING SIGN

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

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

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

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

\*\*\*

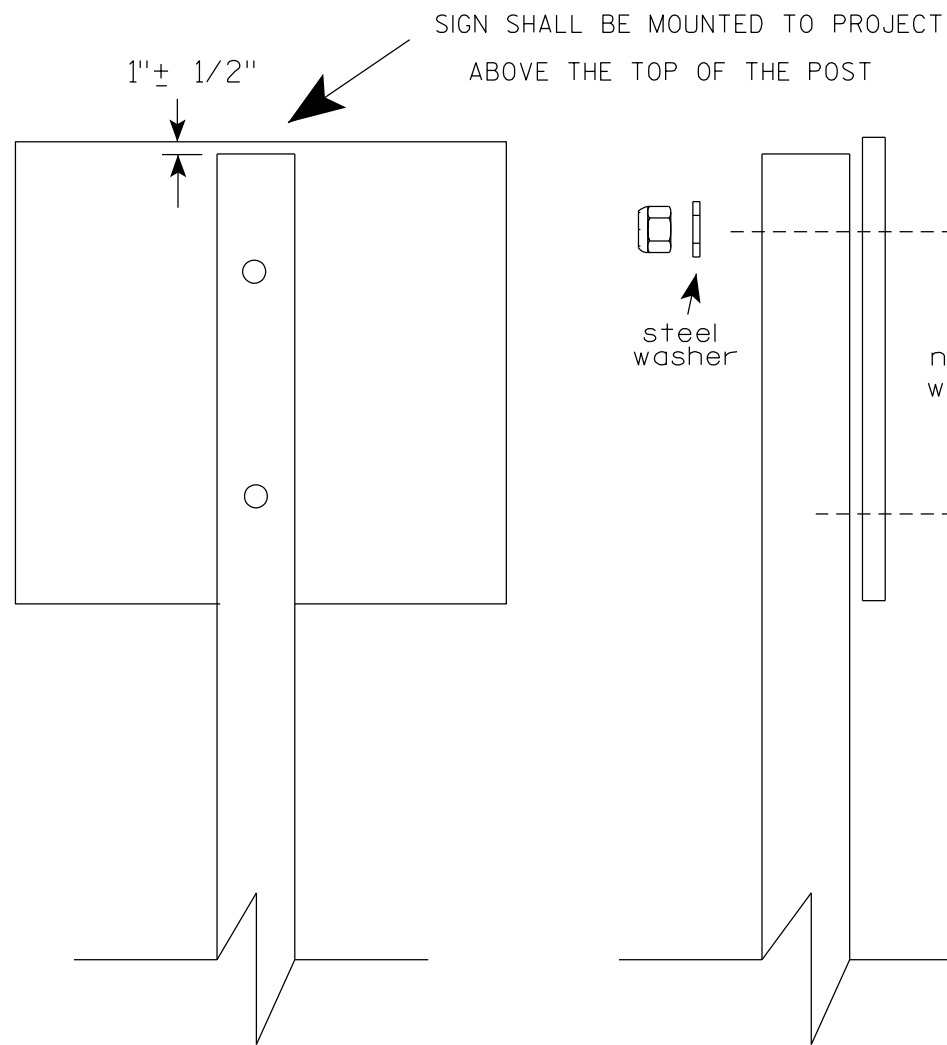
SIGN SHAPE OTHER THAN DIAMOND (THREE POSTS REQUIRED)	
L	E
Greater than 108" to 144"	12"

POST EMBEDMENT DEPTH

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

TYPICAL INSTALLATION OF TYPE II SIGNS ON MULTIPLE POSTS

WISCONSIN DEPT OF TRANSPORTATION  
 APPROVED *Matthew R. Rauch*  
 For State Traffic Engineer  
 DATE 8/21/17 PLATE NO. A4-4.15



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

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

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

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

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

WOOD POSTS (4" x 6")

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

SQUARE STEEL POSTS (2" x 2")

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

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

WASHERS (ALL POSTS) -

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

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

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

ATTACHMENT OF SIGNS  
TO POSTS

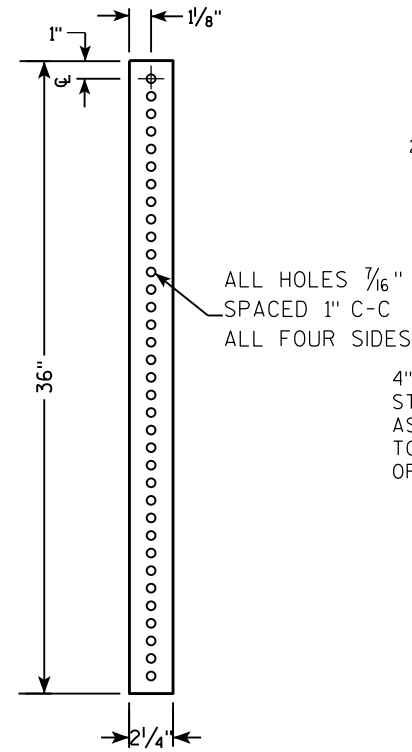
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*  
For State Traffic Engineer

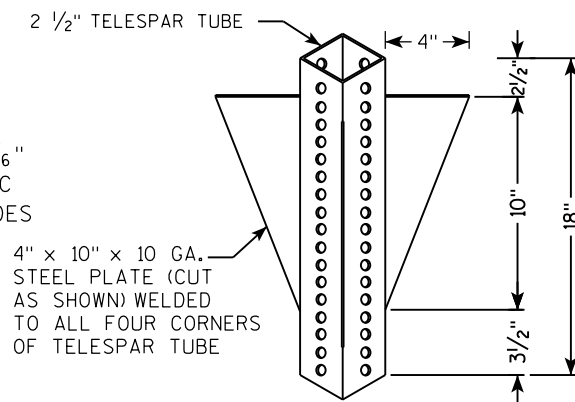
DATE 4/1/2020 PLATE NO. A4-8.9

**TELESCOPIC TUBING ANCHORS  
TWO PIECE SYSTEM**

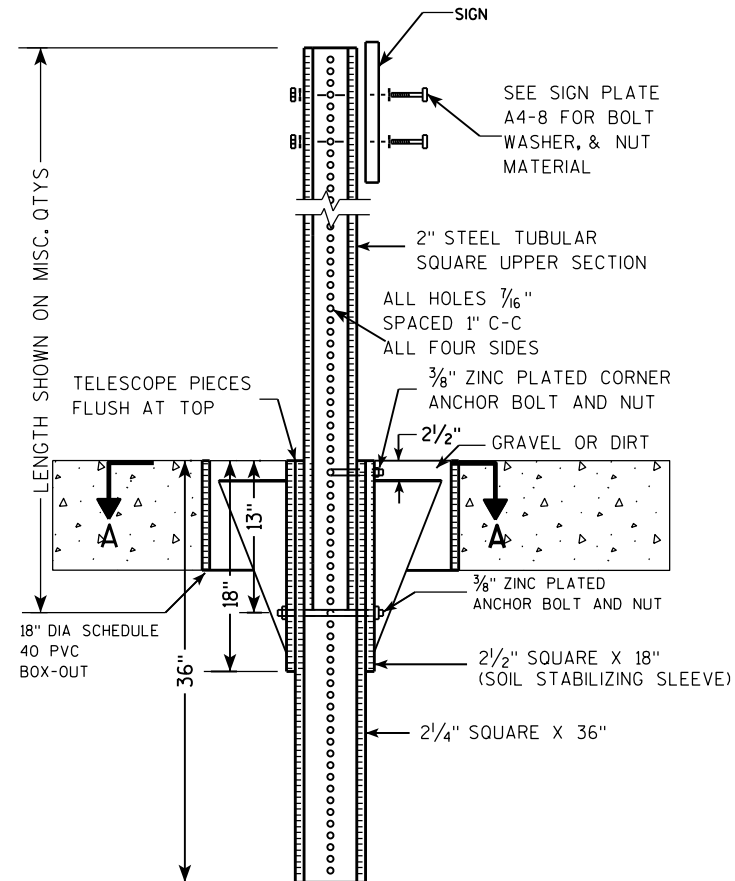
2 1/4" SQUARE  
12 GAUGE  
PERFORATED  
GALVANIZED FINISH



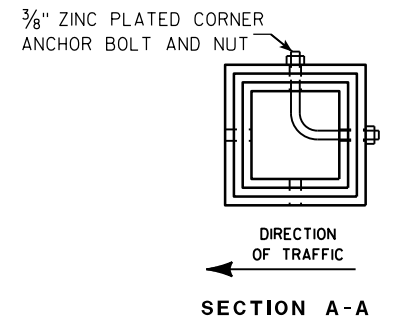
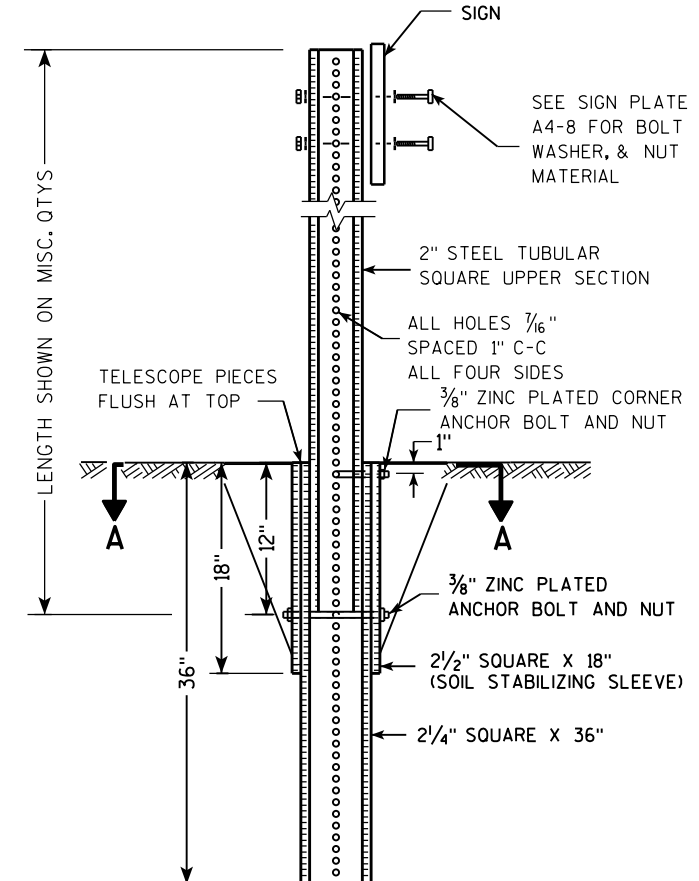
2 1/2" SQUARE  
12 GAUGE  
OMNI-DIRECTIONAL  
PERFORATED  
SOIL STABILIZING SLEEVE  
GALVANIZED FINISH



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



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



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

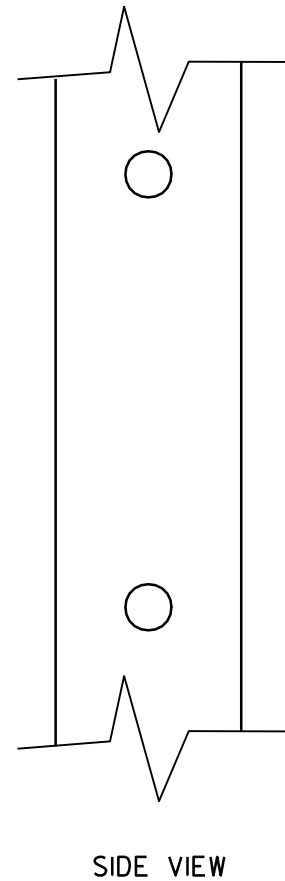
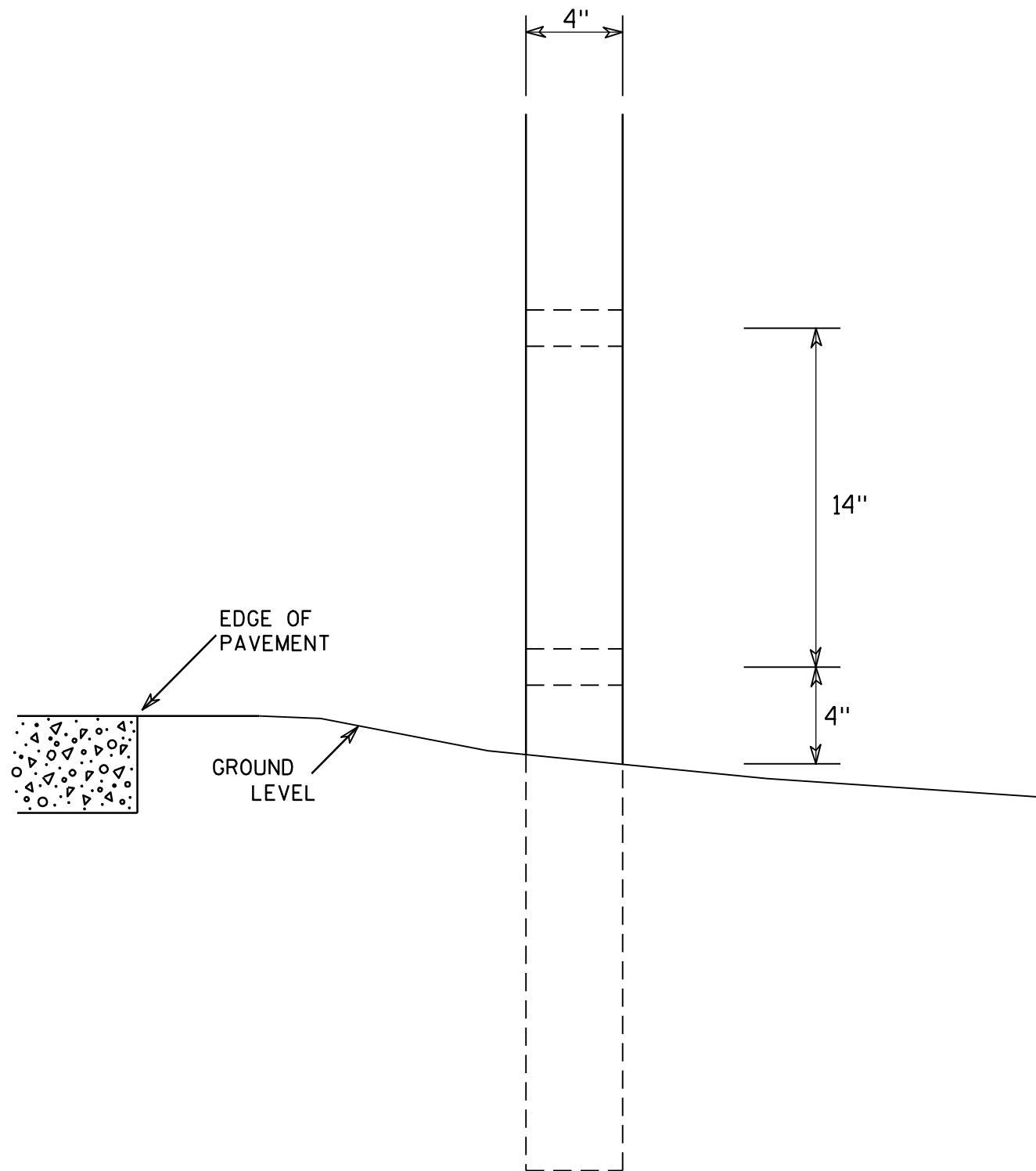
Signs wider than 3 feet or larger than 9 sq. ft shall be mounted on multiple posts (see above table).

**TUBULAR STEEL  
SIGN POST  
A4-9**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 2/05/15 PLATE NO. A4-9.9



GENERAL NOTES

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

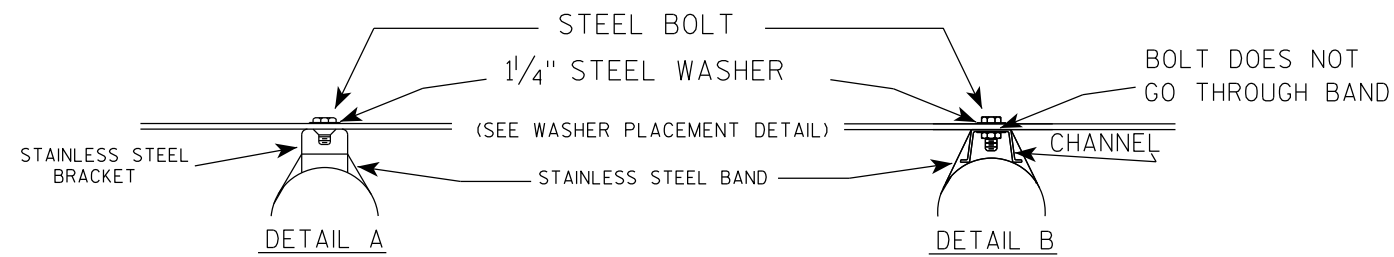
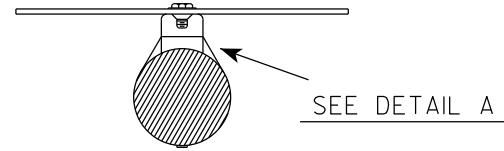
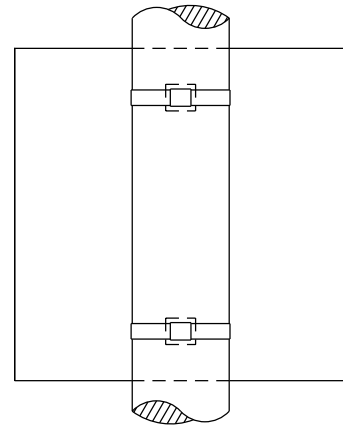
7

7

<b>4 X 6 WOOD POST MODIFICATIONS</b>	
<i>WISCONSIN DEPT OF TRANSPORTATION</i>	
APPROVED	<i>Chester J Spang</i> for State Traffic Engineer
DATE <u>3/27/97</u>	PLATE NO. <u>A4-11.2</u>

# BANDING

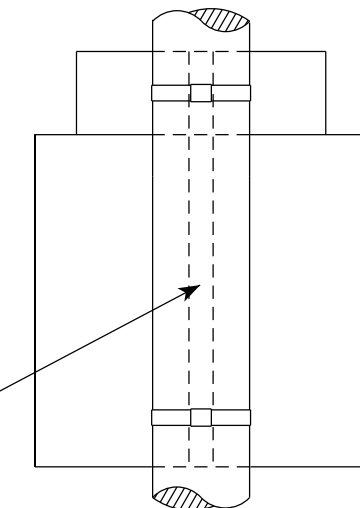
SINGLE SIGN



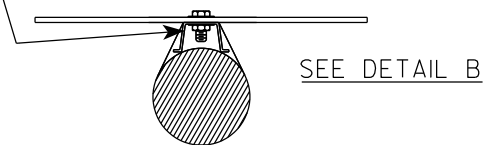
## GENERAL NOTES

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

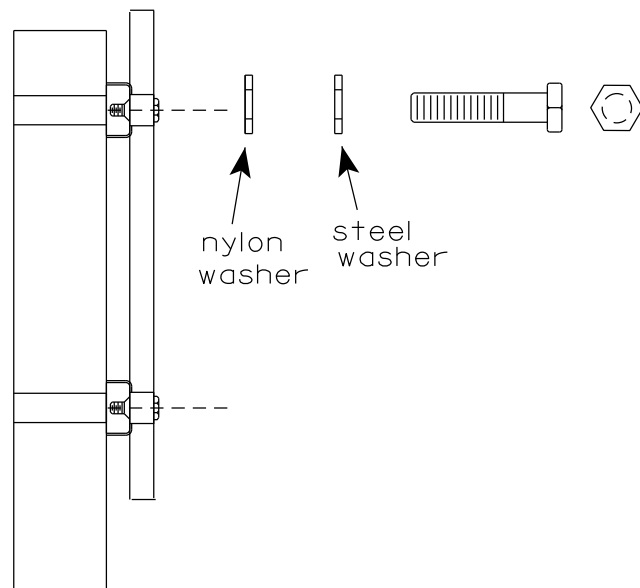
"J" ASSEMBLY



CHANNEL  
SEE TYPICAL PANEL  
INSTALLATION SHEET



WASHER PLACEMENT



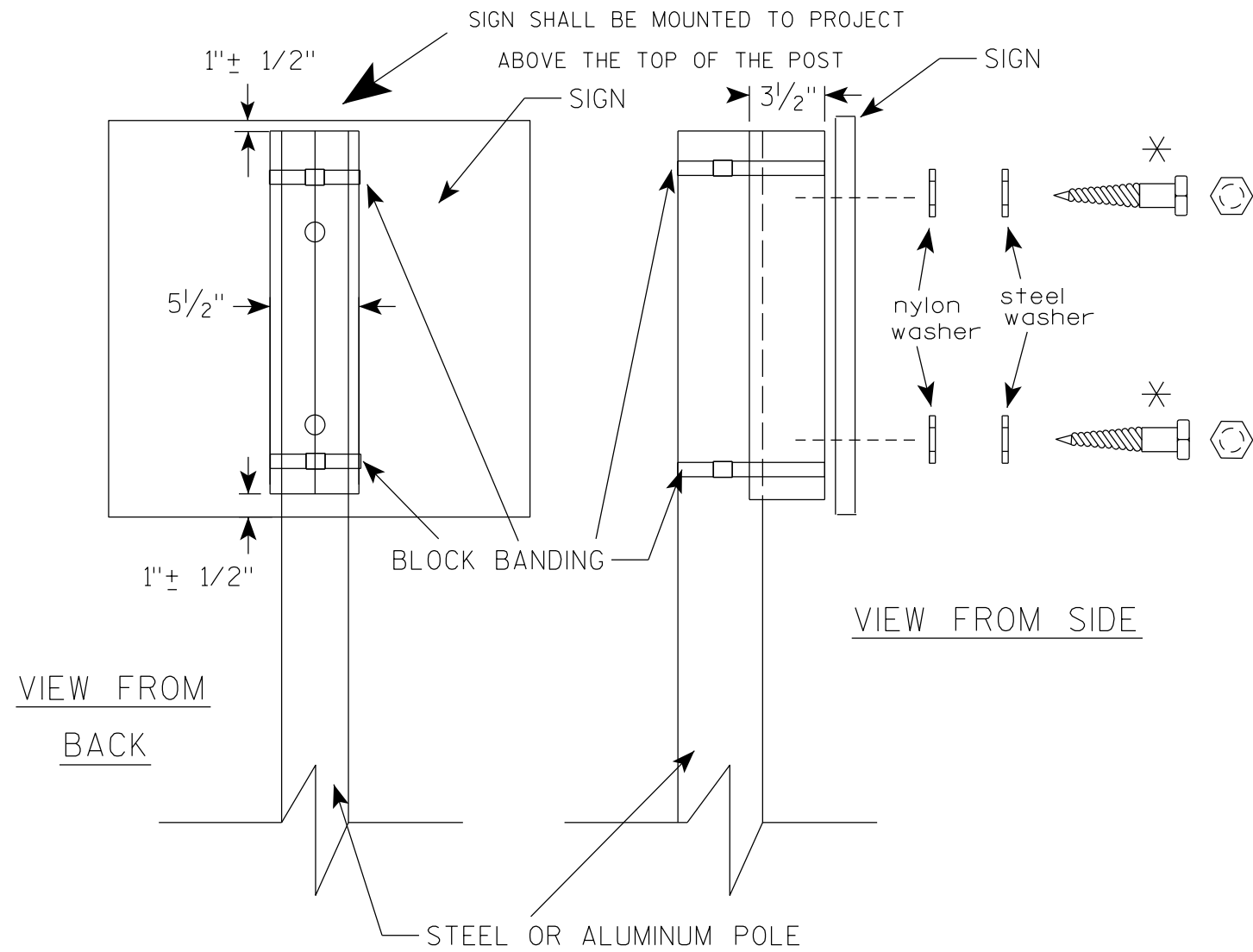
WASHERS (ALL POSTS) -  
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL  
1-1/4" O.D. X 3/8" I.D. X .080 NYLON  
FOR ALL TYPE H SIGNS

STANDARD SIGN  
SIGN BANDING DETAILS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

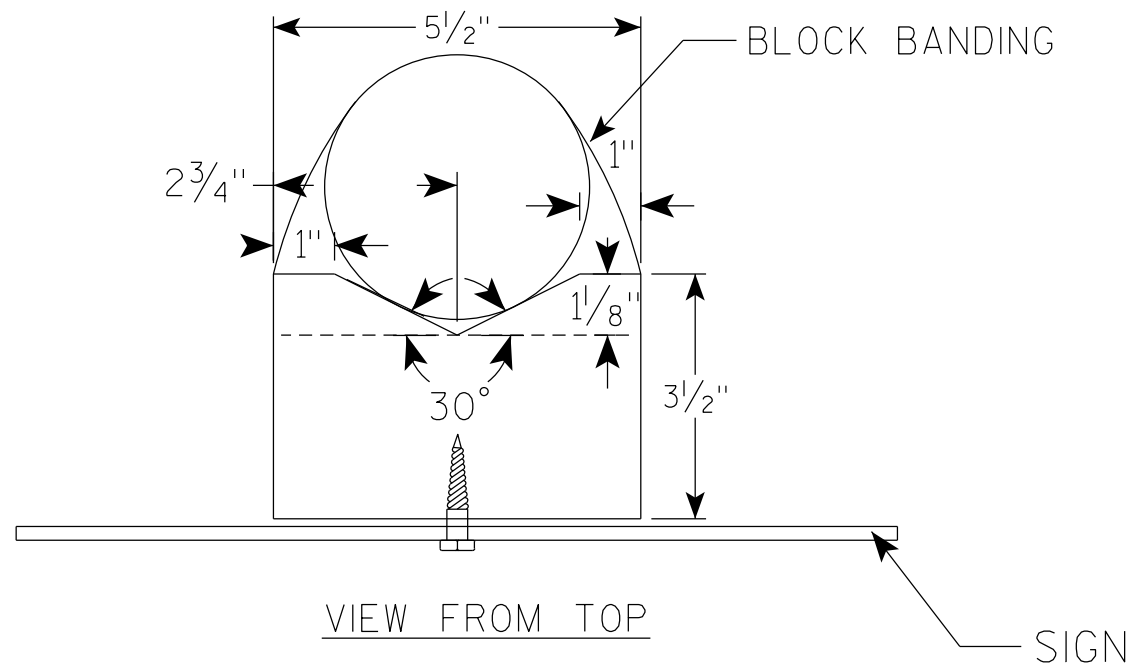
DATE 6/10/19 PLATE NO. A5-9.4



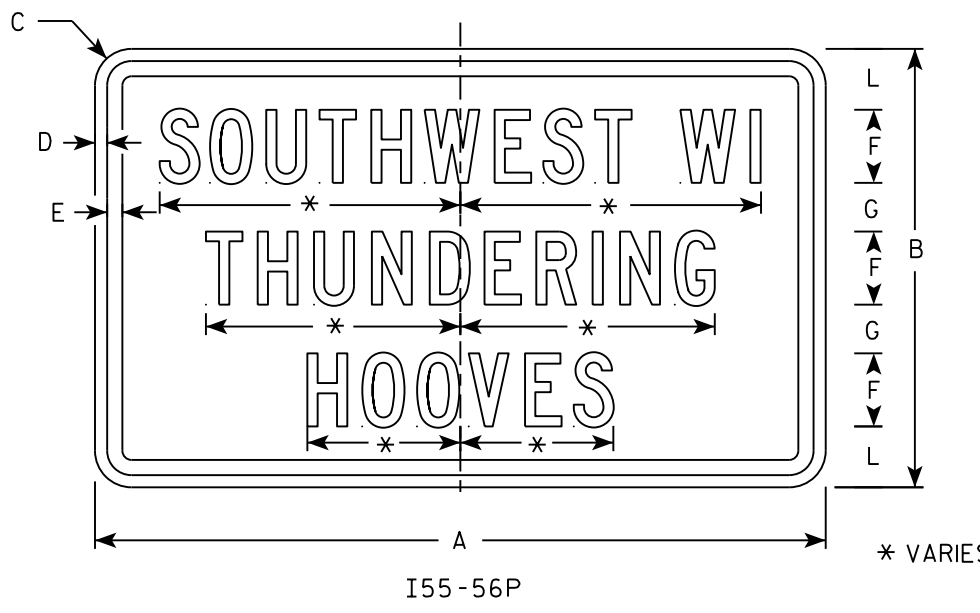
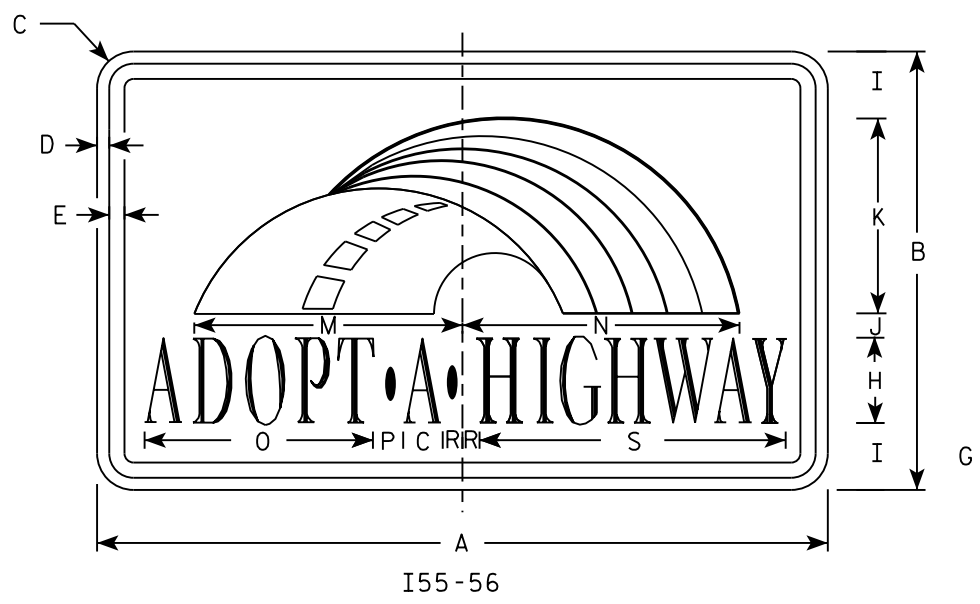
GENERAL NOTES

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

✱ LAG BOLTS SHALL BE 3/8" X 2 1/2"

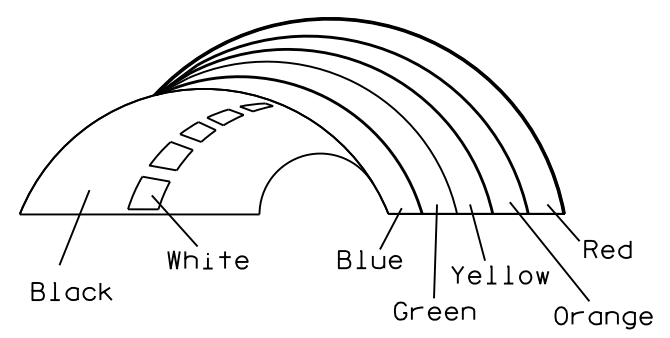


BLOCK BANDING DETAIL ( V-BLOCK OPTION )	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R Rauch</i> for State Traffic Engineer
DATE 4/19/2022	PLATE NO. A5-10.3



\* VARIES

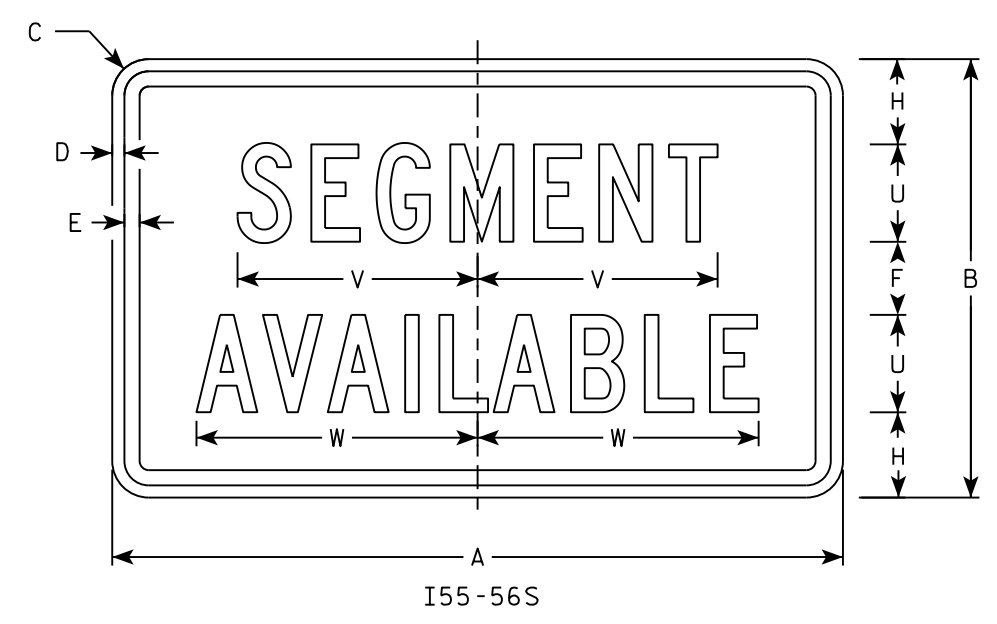
Background Colors of Symbol\*



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

NOTES

1. Sign is Type II - Type H Reflective
2. Color:  
Background - White  
Message - (See Note 4)
3. Message Series - (See Note 5)
4. Border - Blue  
Adopt a Highway - Red  
All other Text - Blue
5. Adopt a Highway - Dutch 8011L  
All other Text - Series C
6. Contractor shall provide and install a new post bracket in accordance with the I55-56B sign detail.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	18	1 1/2	1/2	5/8	3	2	3 1/2	2 3/4	1	8	2 1/2	11 1/4	11 1/8	9 3/8	1 1/4		3/4	12 5/8	7 1/2	4	9 7/8	11 1/2				3.75
3																											
4																											
5																											

STANDARD SIGN  
I55-56

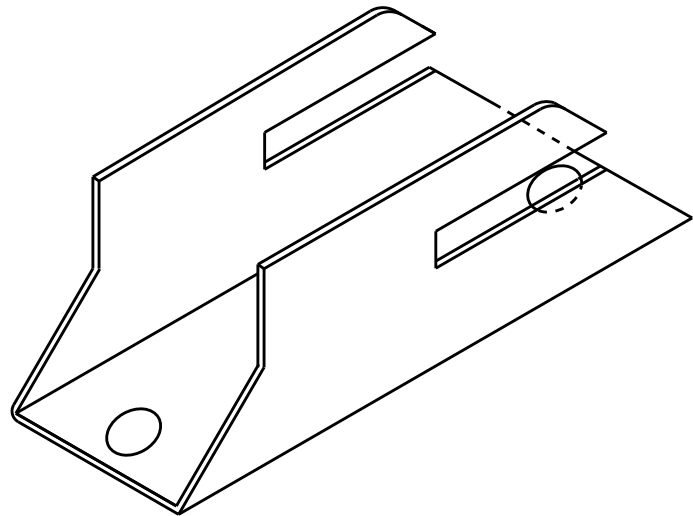
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

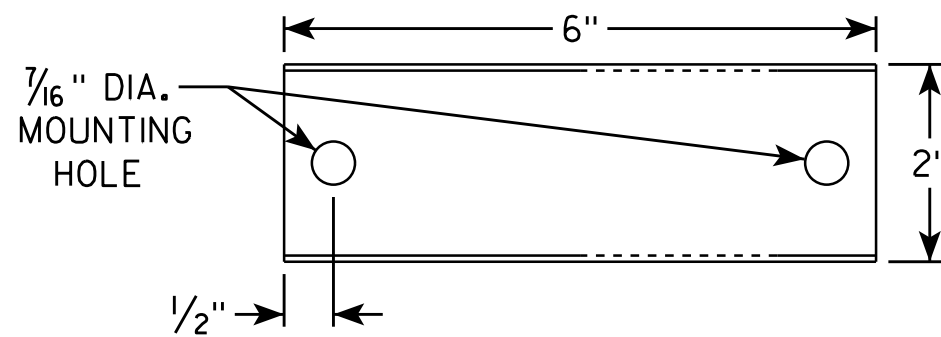
DATE 2/20/18 PLATE NO. I55-56.4

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

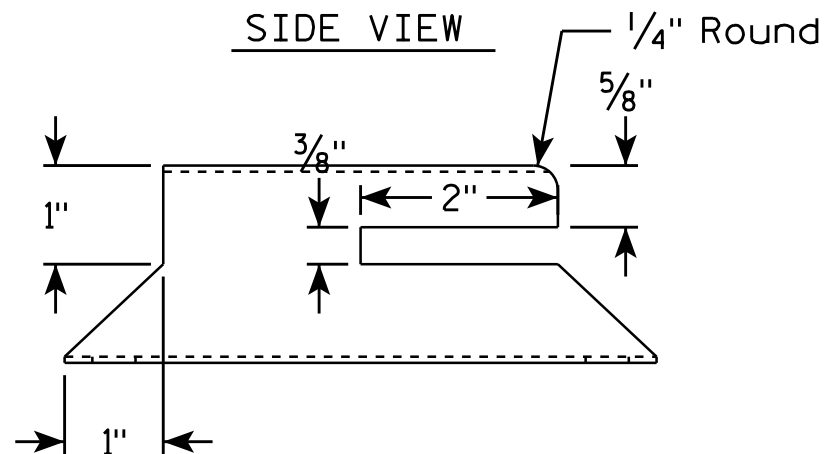
ISOMETRIC VIEW



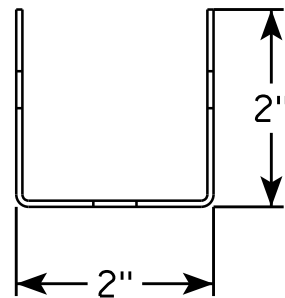
TOP VIEW



SIDE VIEW



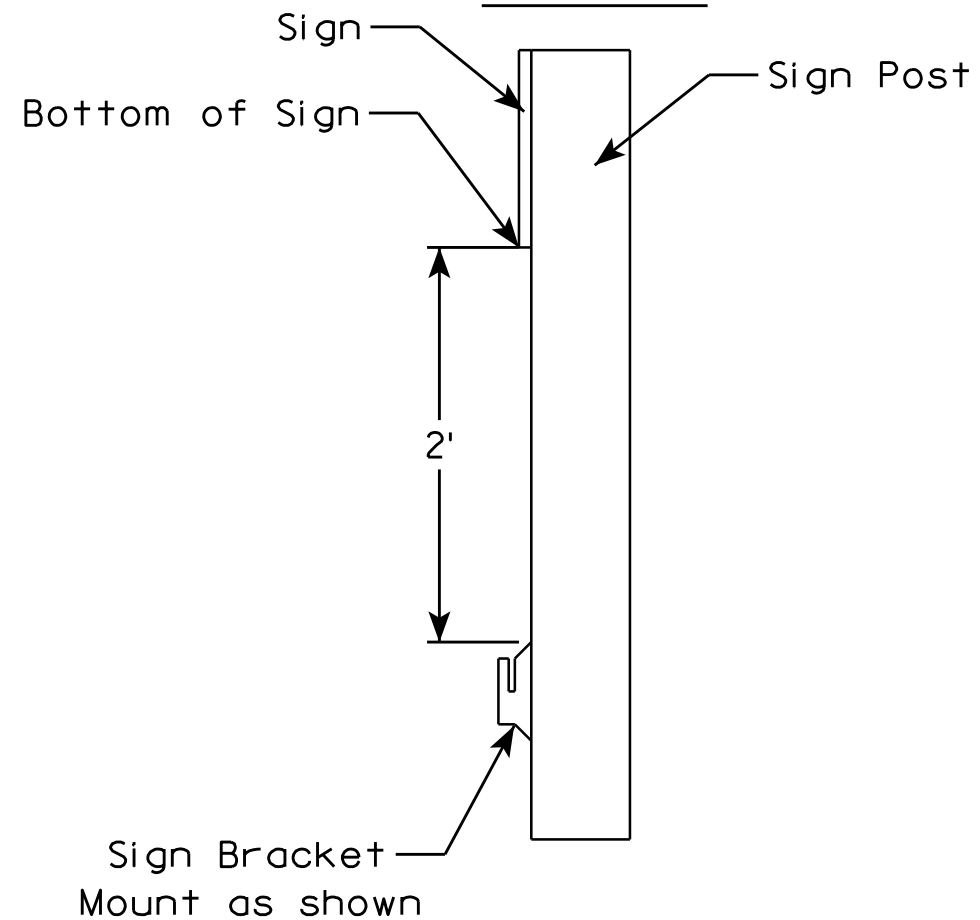
END VIEW



NOTES

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

SIDE VIEW

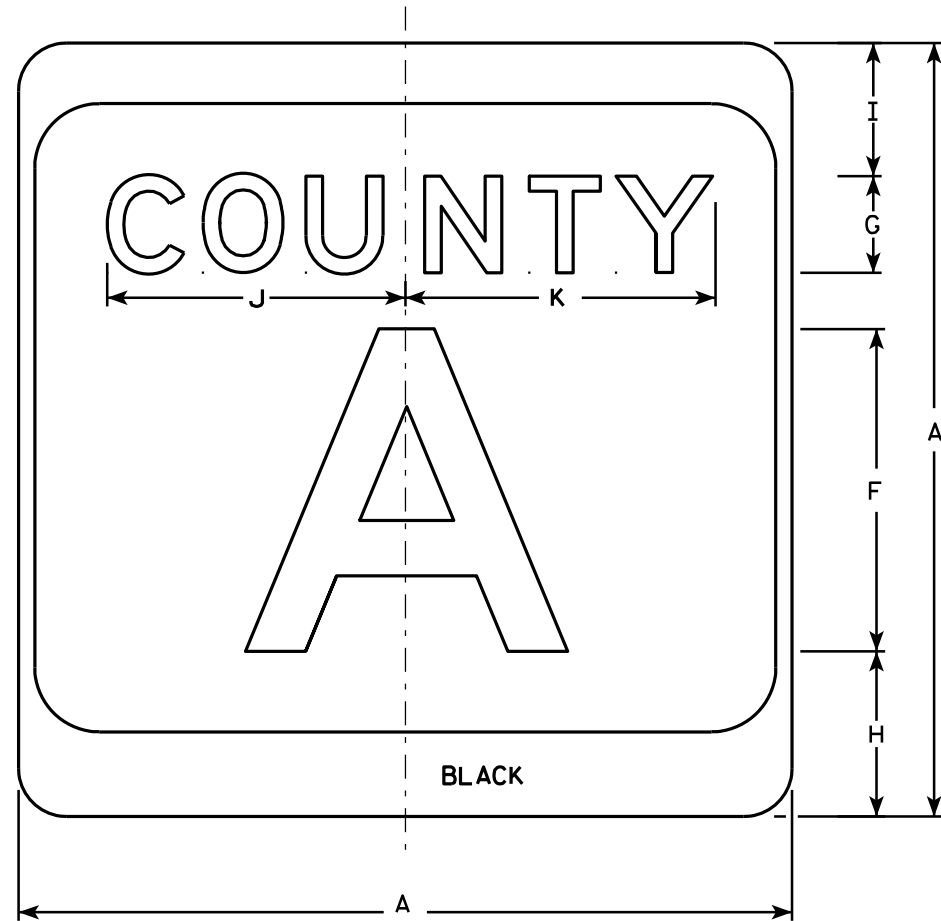


ROLLUP SIGN BRACKET I55-56B	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R Rauch</i> for State Traffic Engineer
DATE 4/26/16	PLATE NO: I55-56B.2

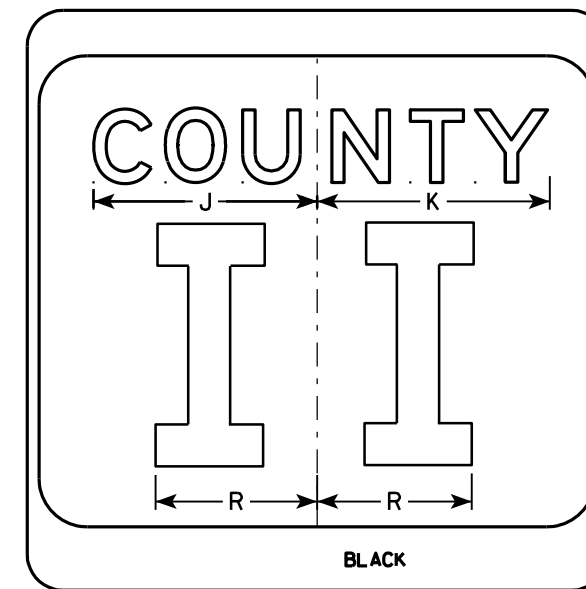
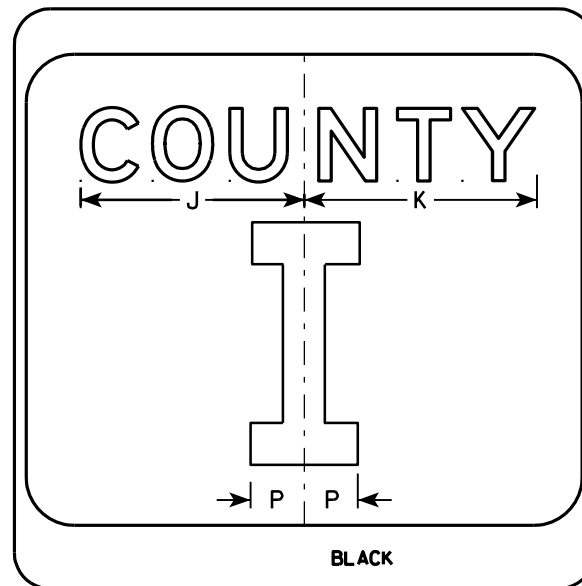
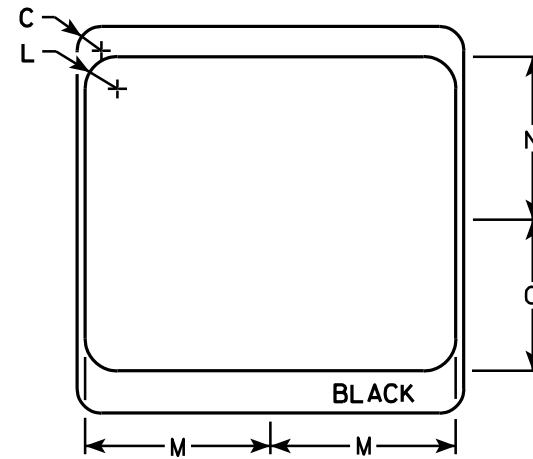


**NOTES**

1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - White & Black - See Note 7  
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. Message Series E for 1 letter.  
Message Series D for 2 letters unless message is too big then Series C.  
Message Series C for 3 letters unless message is too big then Series B.
6. Substitute appropriate letters & optically center to achieve proper balance.
7. Permanent Signs  
Background - Type H Reflective  
Detour or temporary Signs  
Background - Reflective



M1-5A



7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			10	3	5 1/8	4 1/8	9 1/4	9 5/8	2	11 1/2	10 1/8	9 3/8	2 1/4		6 5/8									4.0
3	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
4	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0
5	36		2 1/4			16	4	7 5/8	5 5/8	12 1/4	12 7/8	3	17 1/8	15 1/4	14	3 3/8		10									9.0

**CTH MARKER**  
**M1-5A FOR ASSEMBLIES**

WISCONSIN DEPT OF TRANSPORTATION

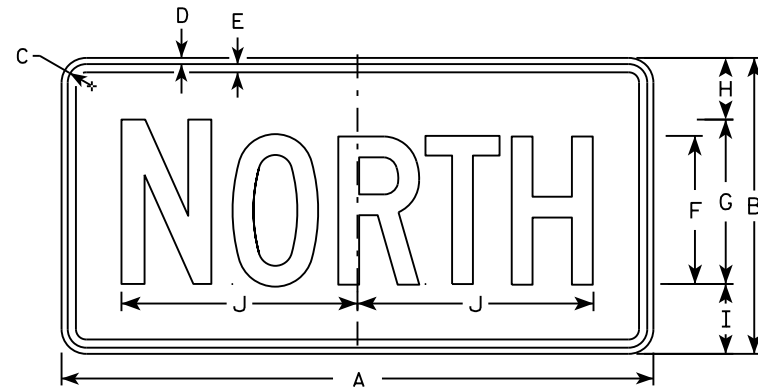
APPROVED *Matthew R. Raub*  
For State Traffic Engineer

DATE 9/27/11 PLATE NO. MI-5A.8

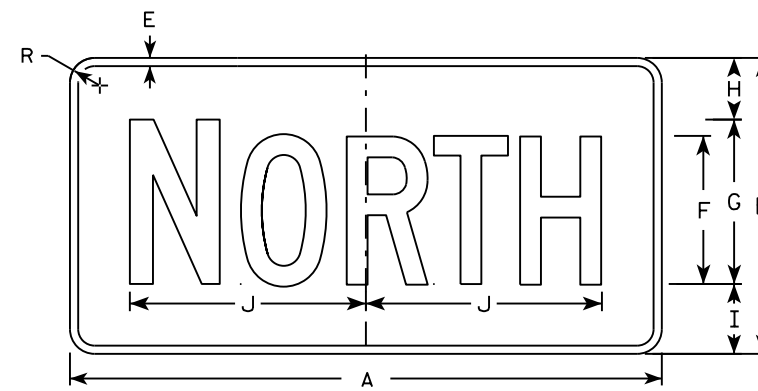
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

NOTES

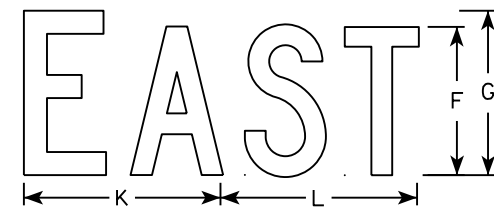
- All Signs Type II - Type H
- Color:
  - Background - See note 5
  - Message - See note 5
- Message Series - C
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- M3-1 thru M3-4 Background - White  
 Message - Black  
 MB3-1 thru MB3-4 Background - Blue  
 Message - White  
 MK3-1 thru MK3-4 Background - Green  
 Message - White  
 MM3-1 thru MM3-4 Background - White  
 Message - Green  
 MN3-1 thru MN3-4 Background - Brown  
 Message - White  
 MP3-1 thru MP3-4 Background - White  
 Message - Blue
- Note the first letter of each direction is larger than the remainder of the message.



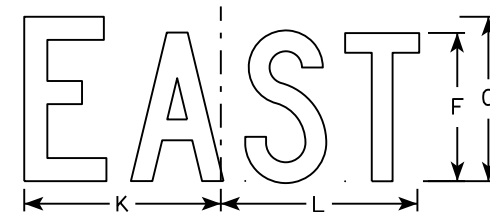
M3-1  
MM3-1  
MP3-1



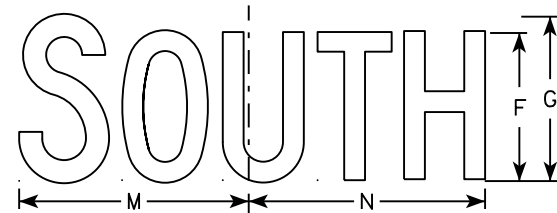
MB3-1  
MK3-1  
MN3-1



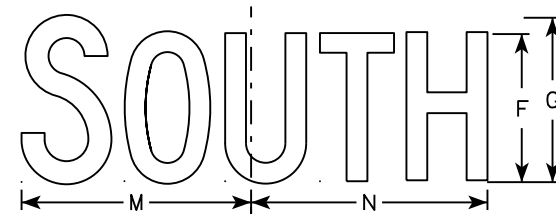
M3-2  
MM3-2  
MP3-2



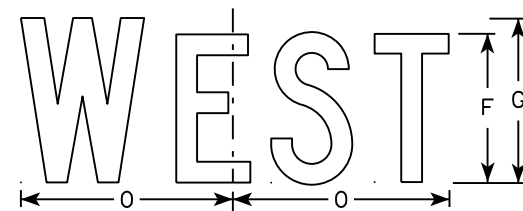
MB3-2  
MK3-2  
MN3-2



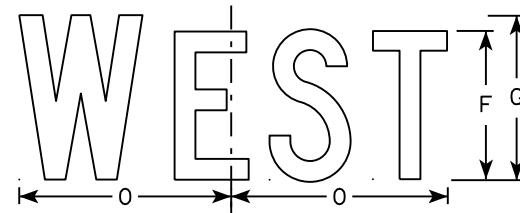
M3-3  
MM3-3  
MP3-3



MB3-3  
MK3-3  
MN3-3



M3-4  
MM3-4  
MP3-4



MB3-4  
MK3-4  
MN3-4

7

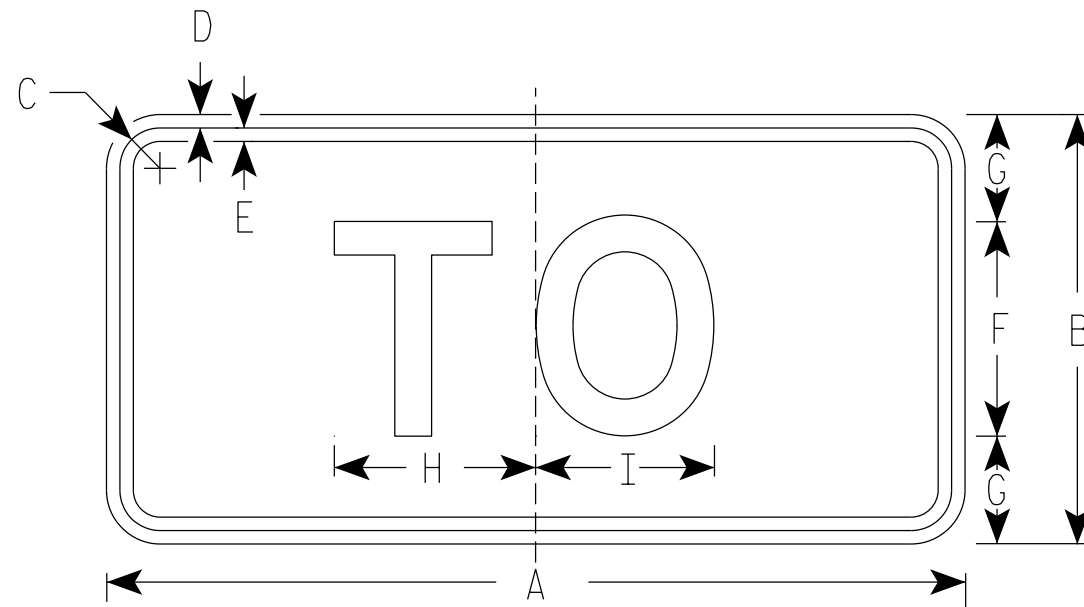
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	12	1 1/8	3/8	3/8	6	7	2 1/4	2 3/4	10 1/4	7 7/8	8 3/8	10 1/4	9 3/4	8 3/4			1 1/2									2.00
3	36	18	1 1/8	3/8	1/2	9	10	3 3/4	4 1/4	14 3/8	12	12 1/8	14	14 1/8	13			1 1/2									4.5
4	36	18	1 1/8	3/8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

STANDARD SIGNS  
M3-1 thru M3-4  
SERIES

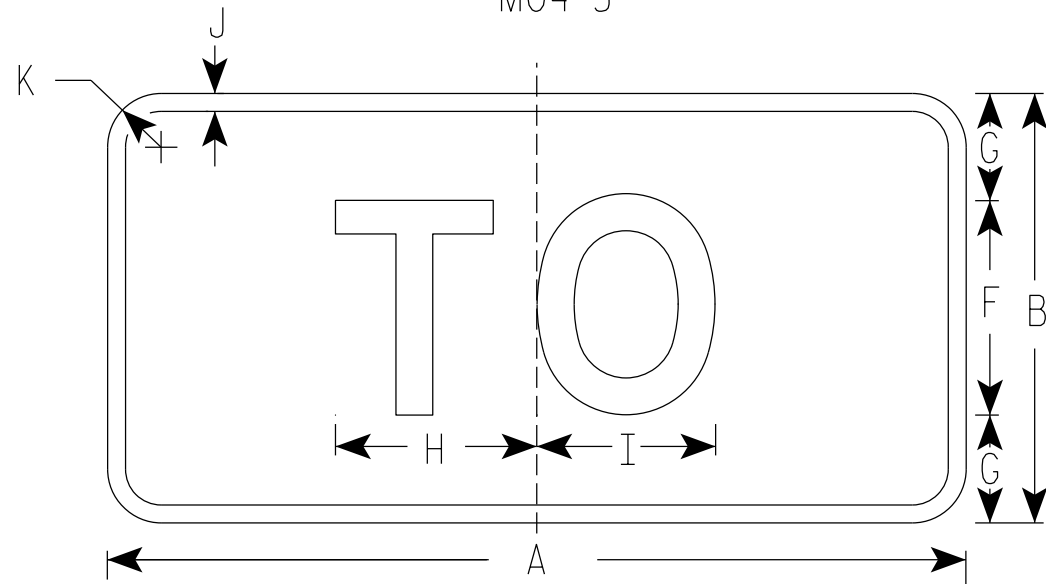
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 10/15/15 PLATE NO. M3-1.14



M4-5  
MM4-5  
MP4-5  
M04-5



MB4-5  
MK4-5  
MN4-5

NOTES

1. Sign is Type II - Type H Reflective
2. Color:  
Background - See note 5  
Message - See note 5
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. M4-5 Background - White  
Message - Black  
MB4-5 Background - Blue  
Message - White  
MK4-5 Background - Green  
Message - White  
MM4-5 Background - White  
Message - Green  
MN4-5 Background - Brown  
Message - White  
MP4-5 Background - White  
Message - Blue  
M04-5 Background - Orange Type F Reflective  
Message - Black

7

7

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

STANDARD SIGN  
M4-5

WISCONSIN DEPT OF TRANSPORTATION

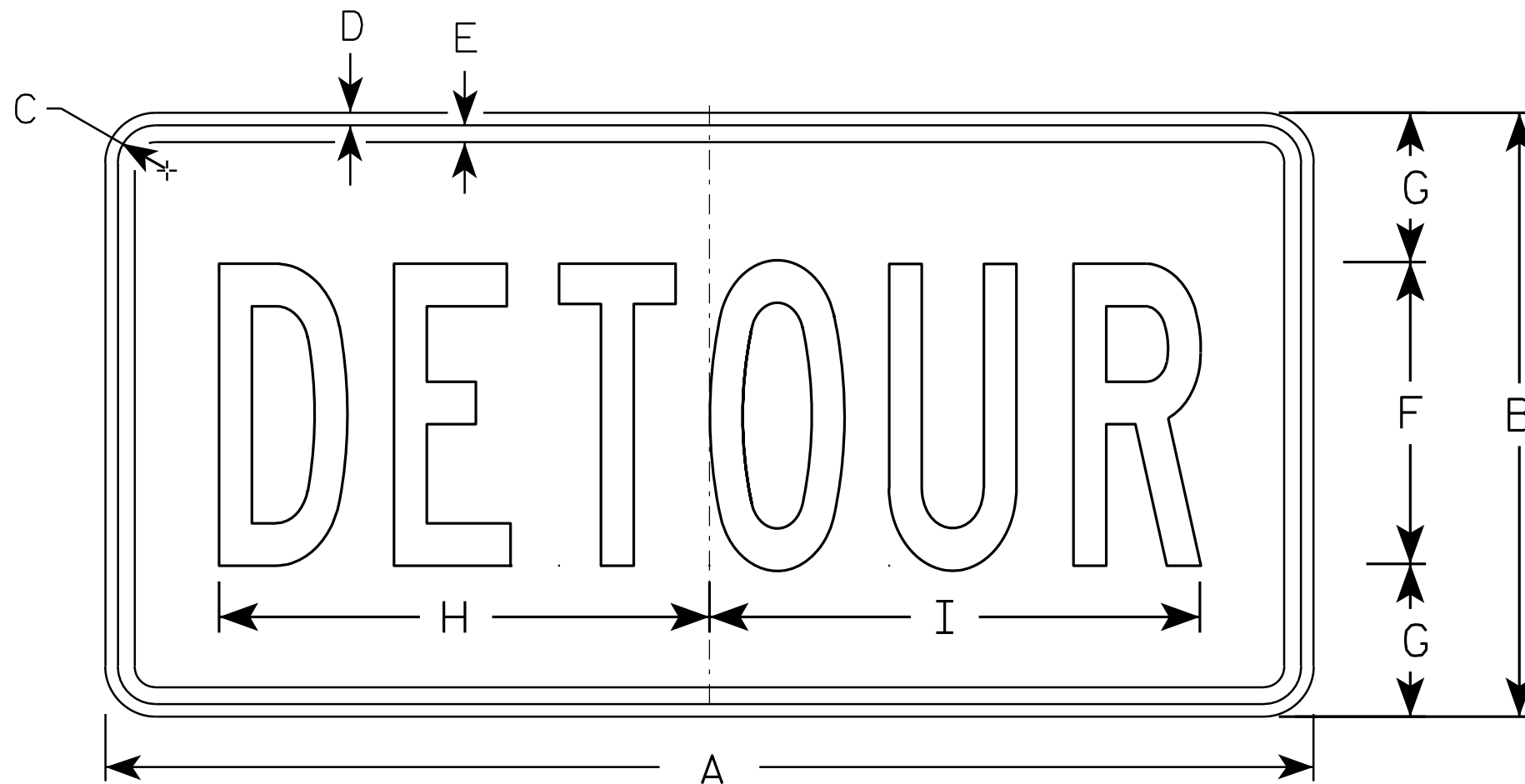
APPROVED *Matthew R. Rauch*  
State Traffic Engineer

DATE 03/7/19 PLATE NO. M4-5.9

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Orange  
Message - Black
3. Message Series - 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.



M4-8

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
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

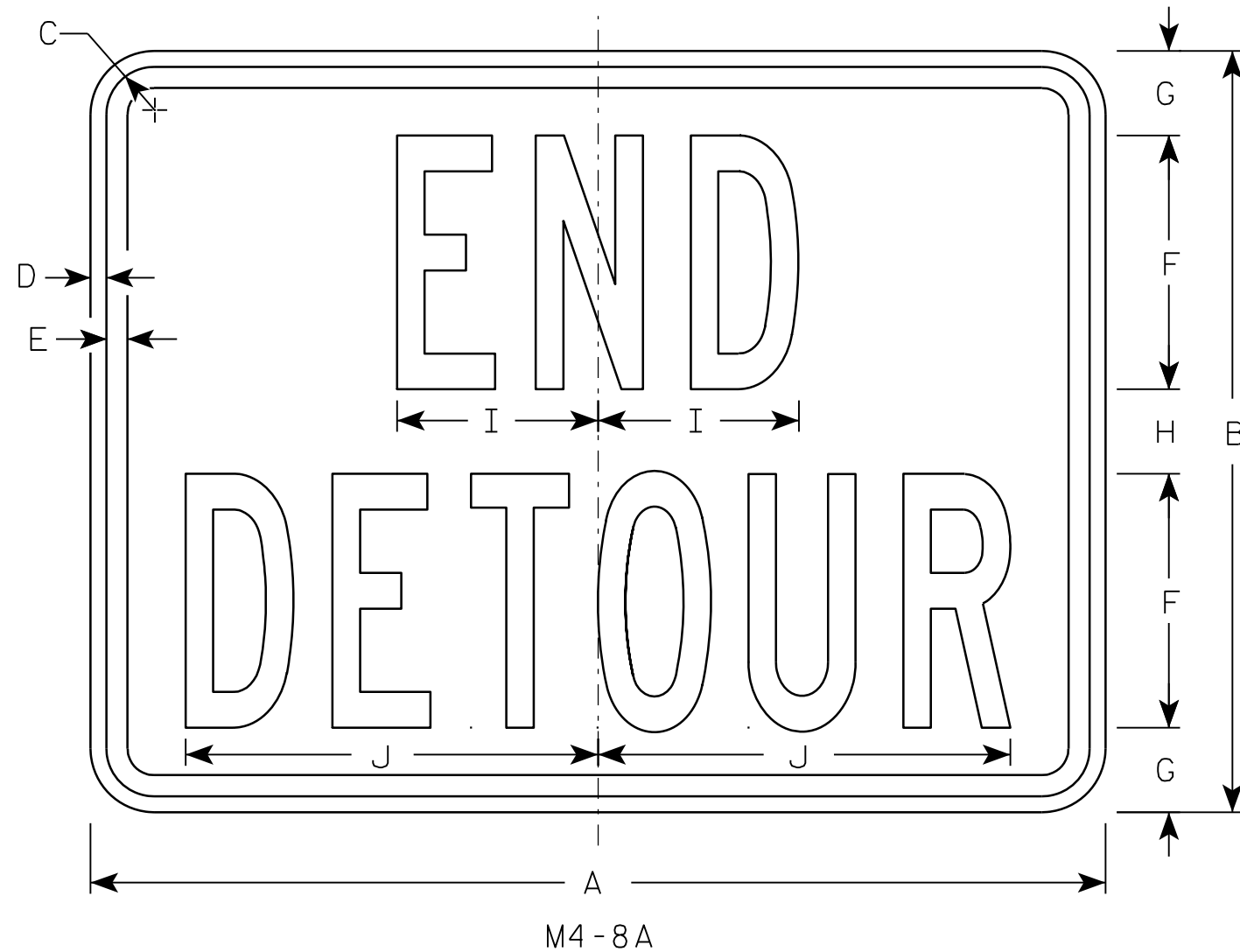
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

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

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Orange  
Message - Black
3. Message Series - 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.



7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24	18	1 1/8	3/8	1/2	6	2	2	4 3/4	9 3/4																	3.0
3	30	24	1 1/8	3/8	1/2	8	2 1/2	3	6 3/4	13																	5.0
4																											
5																											

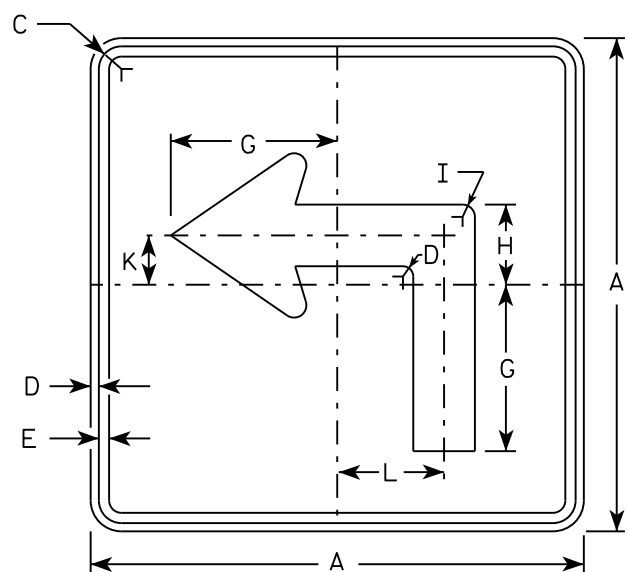
STANDARD SIGN  
M4-8A

WISCONSIN DEPT OF TRANSPORTATION

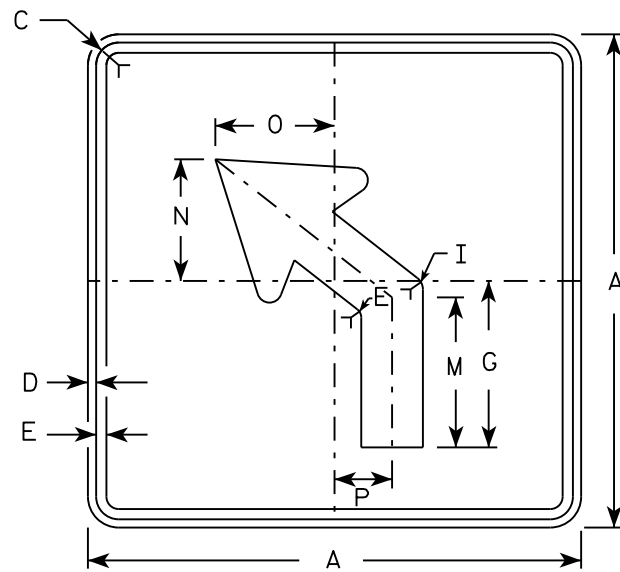
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/9/11 PLATE NO. M4-8A.2

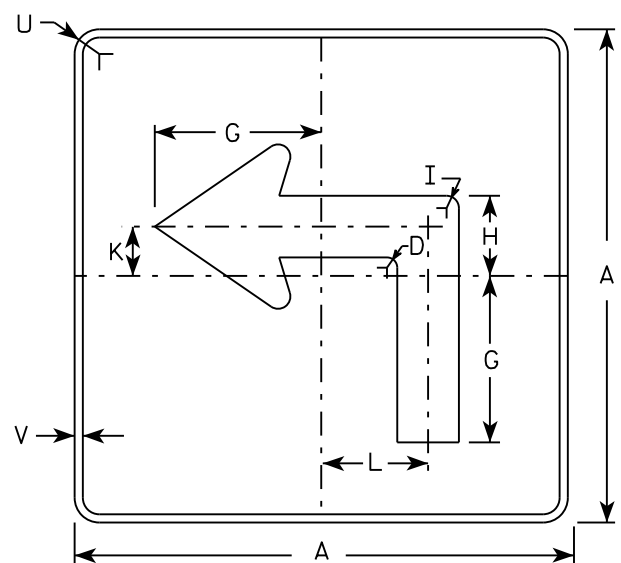
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **E**



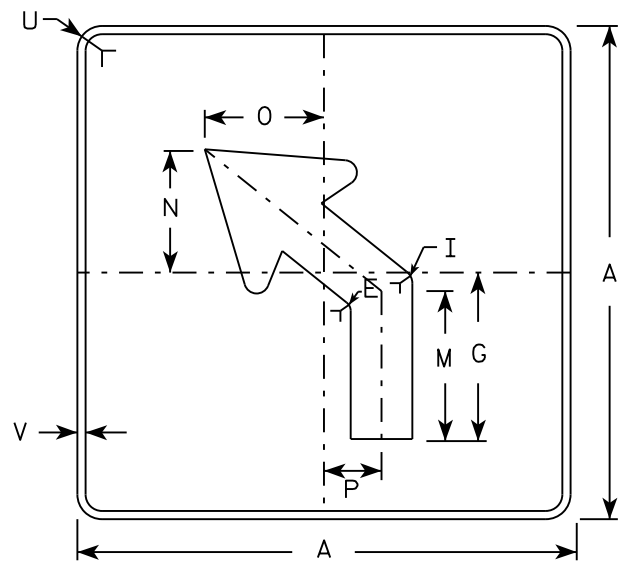
M5-1L  
MM5-1L  
M05-1L  
MP5-1L



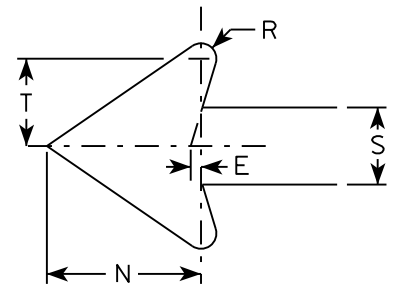
M5-2L  
MM5-2L  
M05-2L  
MP5-2L



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



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



NOTES

- Signs are Type II - Type H reflective except as shown
- Color:  
Background - See note 4  
Message - See note 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.
- |                 |   |
|-----------------|---|
| M5-1 and M5-2   | Background - White                      |
|                 | Message - Black                         |
| MB5-1 and MB5-2 | Background - Blue                       |
|                 | Message - White                         |
| MK5-1 and MK5-2 | Background - Green                      |
|                 | Message - White                         |
| MM5-1 and MM5-2 | Background - White                      |
|                 | Message - Green                         |
| MN5-1 and MN5-2 | Background - Brown                      |
|                 | Message - White                         |
| M05-1 and M05-2 | Background - Orange - Type F Reflective |
|                 | Message - Black                         |
| MP5-1 and MP5-2 | Background - White - Type H Reflective  |
|                 | Message - Blue                          |
| MR5-1 and MR5-2 | Background - Brown                      |
|                 | Message - Yellow                        |
- M5-1R same as M5-1L except arrow points right.
- M5-2R same as M5-2L except arrow tilts right.

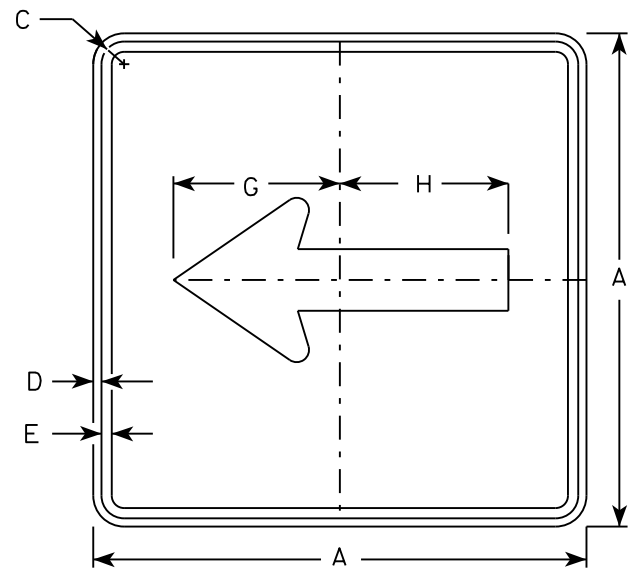
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	21		1 1/8	3/8	3/8		7	3 3/8	5/8		2 1/8	4 1/2	6 3/8	5 1/4	5	2 1/2		1/2	2 5/8	3	1 1/2	1/2					3.06
3	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
4	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25
5	30		1 3/8	1/2	5/8		10 1/8	4 7/8	7/8		3	6 1/2	9 1/8	7 1/2	7 1/4	3 1/2		3/4	3 3/4	4 1/4	1 7/8	1/2					6.25

STANDARD SIGN  
M5-1 & M5-2

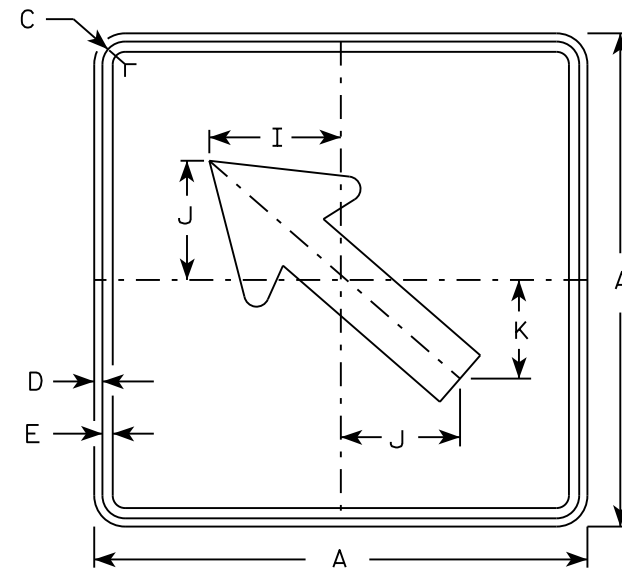
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

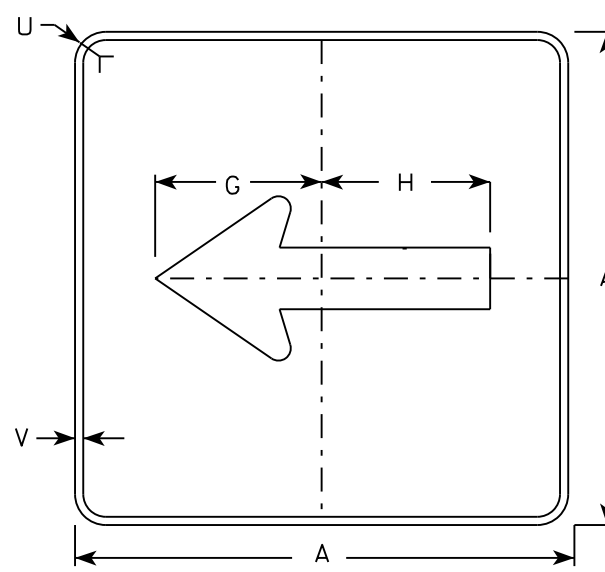
DATE 10/15/15 PLATE NO. M5-1.13



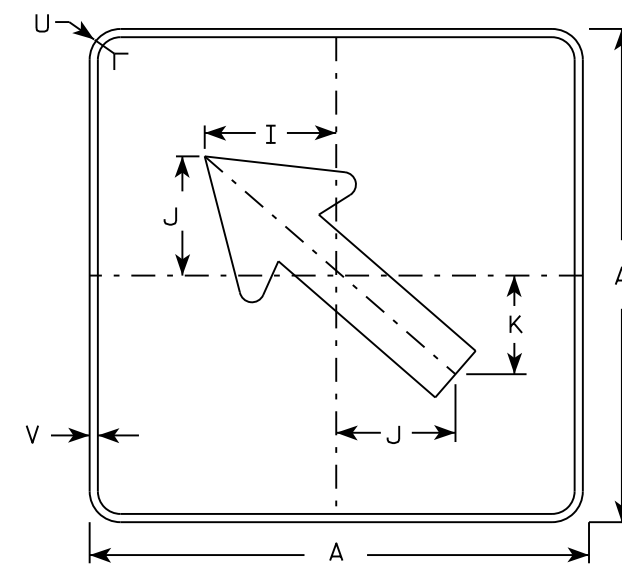
M6-1  
MM6-1  
M06-1  
MP6-1



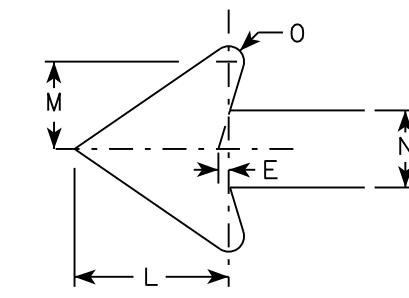
M6-2  
MM6-2  
M06-2  
MP6-2



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



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



NOTES

- Signs are Type II - Type H except as Shown
- Color:  
Background - See note 4  
Message - See note 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.
- 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  
M06-1 and M06-2 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

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
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

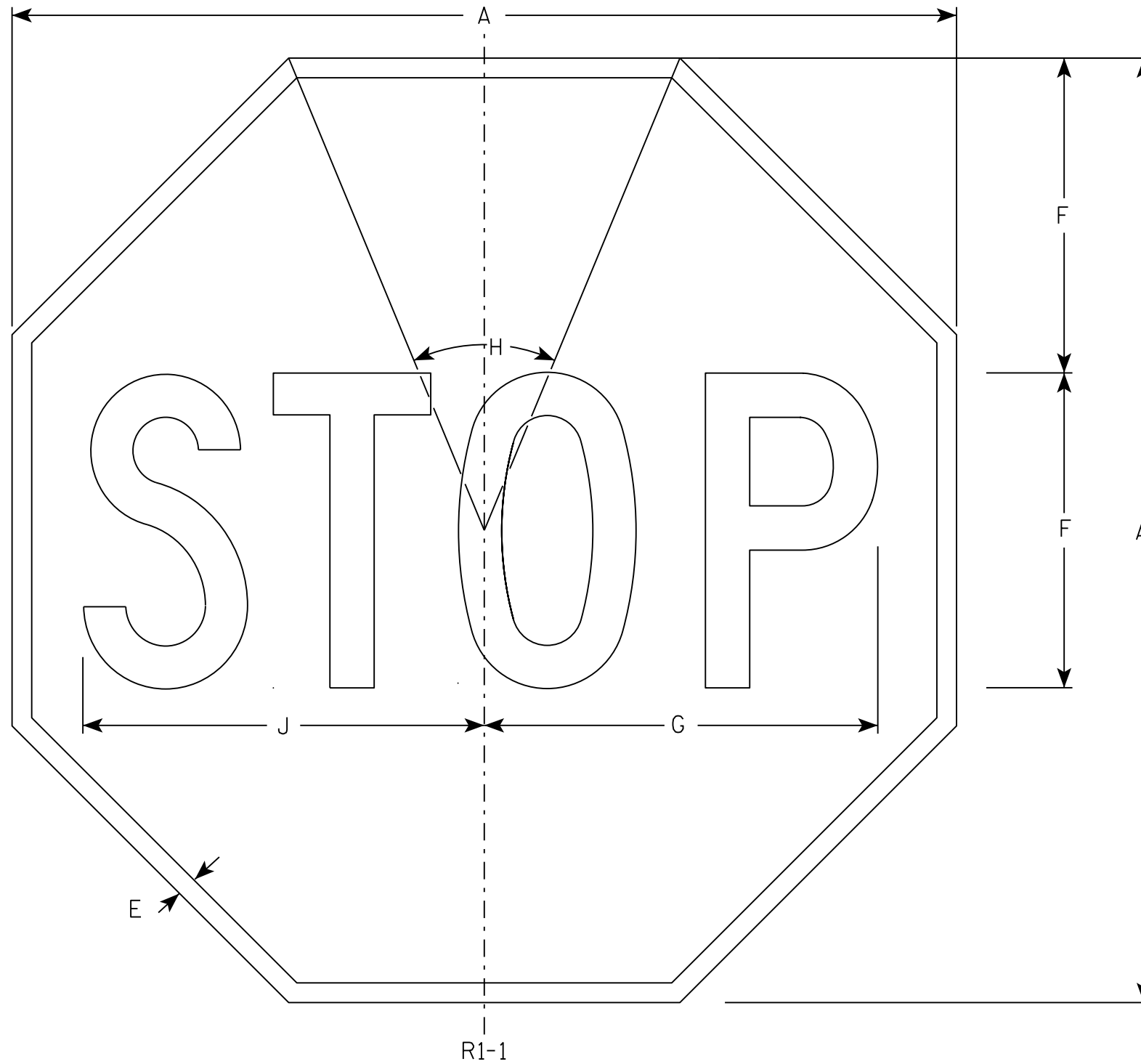
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

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

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



R1-1

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

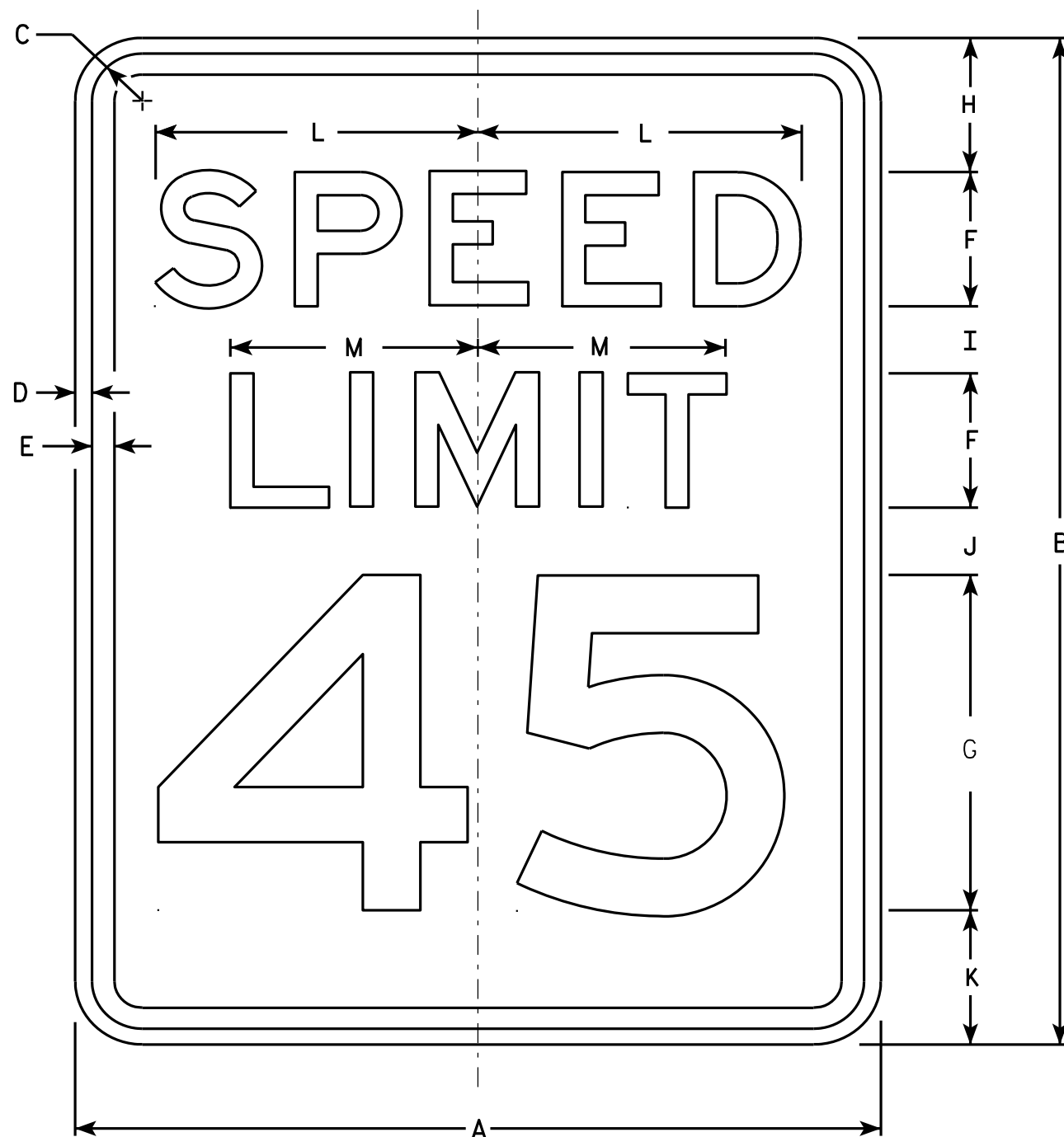
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

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

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: **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.

7

7

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

STANDARD SIGN  
R2-1

WISCONSIN DEPT OF TRANSPORTATION

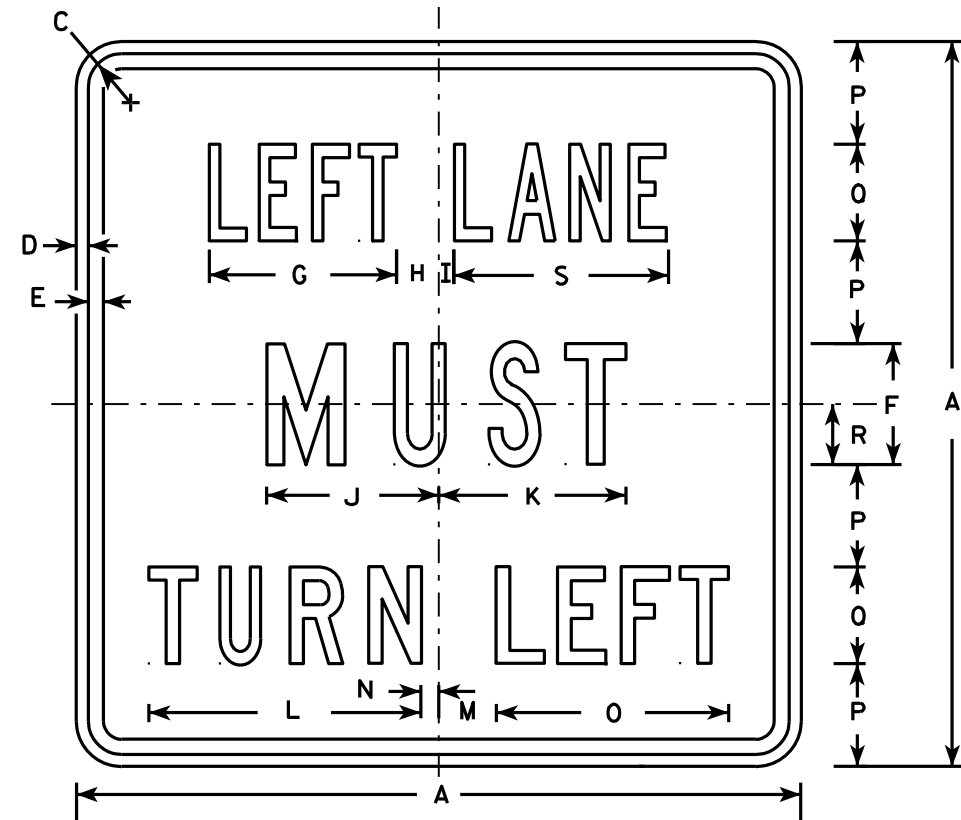
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

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

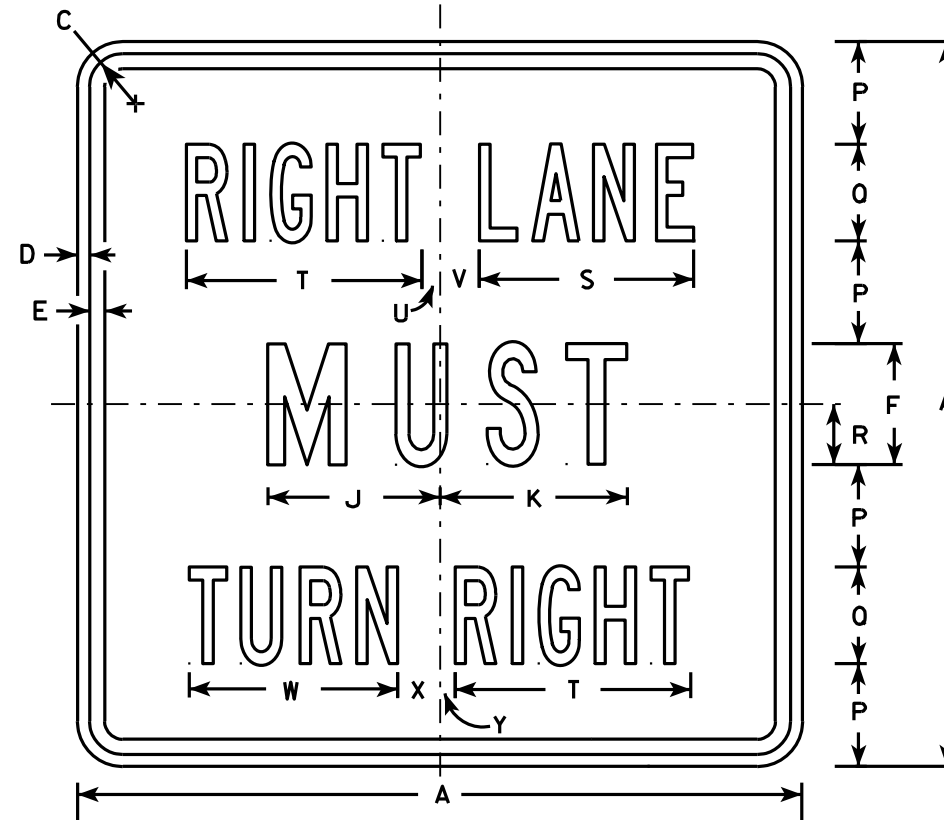
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E

**NOTES**

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



R3-7L



R3-7R

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	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*

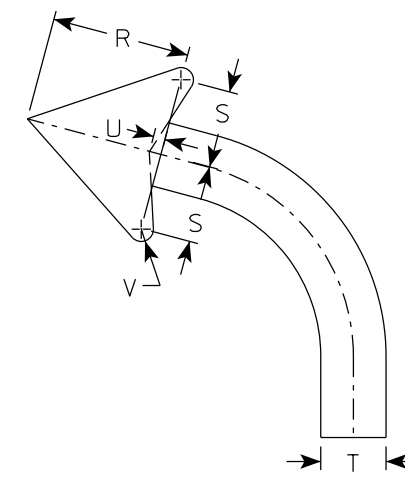
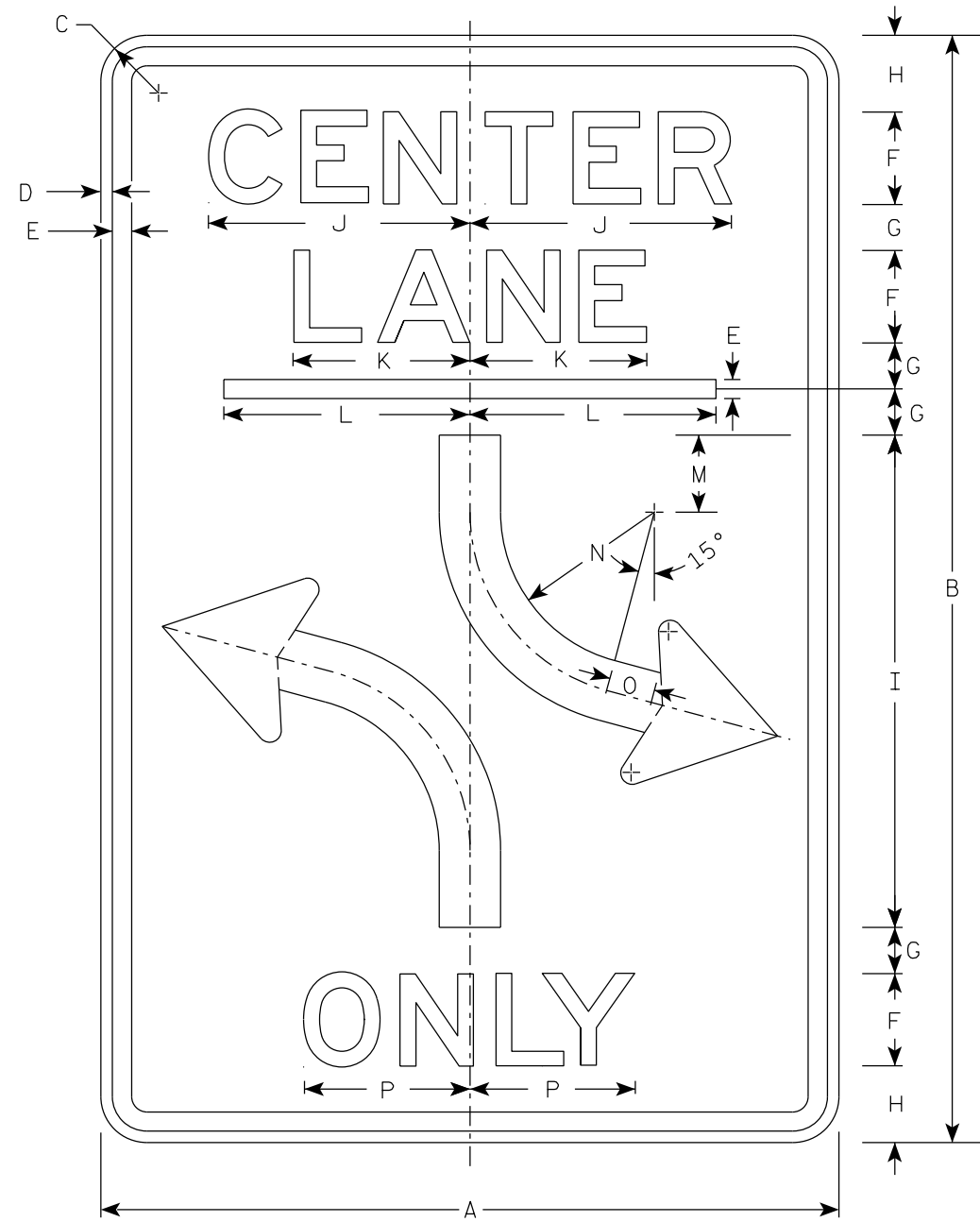
APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

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

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
  - Background - White
  - Message - Black
3. Message Series - E



ARROW DETAIL

R3-9B

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	1 1/2	3/8	1/2	3	1 1/2	2 1/2	16	8 1/2	5 3/4	8	2 1/2	5	1 1/2	5 1/8		4 3/8	2 3/8	2	3/8	3/8					6.0
2M	24	36	1 1/2	3/8	1/2	3	1 1/2	2 1/2	16	8 1/2	5 3/4	8	2 1/2	5	1 1/2	5 1/8		4 3/8	2 3/8	2	3/8	3/8					6.0
3	36	48	2 1/4	5/8	7/8	5	1 1/2	3 1/2	20	14 1/8	9 1/2	12	3	7 3/8	2	9 7/8		6 1/8	3 1/2	3	1/2	5/8					12.0
4																											
5																											

STANDARD SIGN  
R3-9B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 3/24/2022 PLATE NO. R3-9B.6

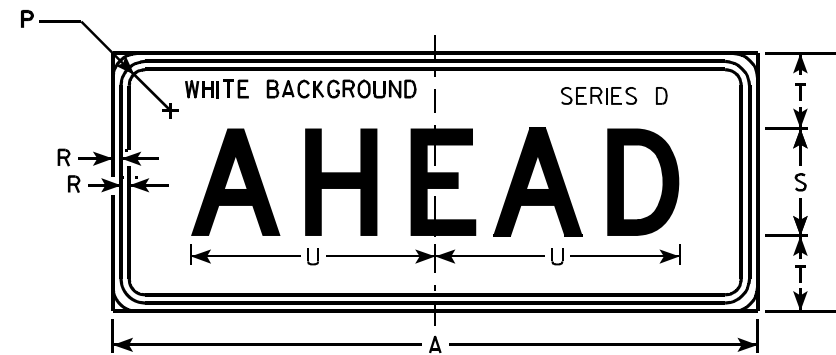
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ **E**



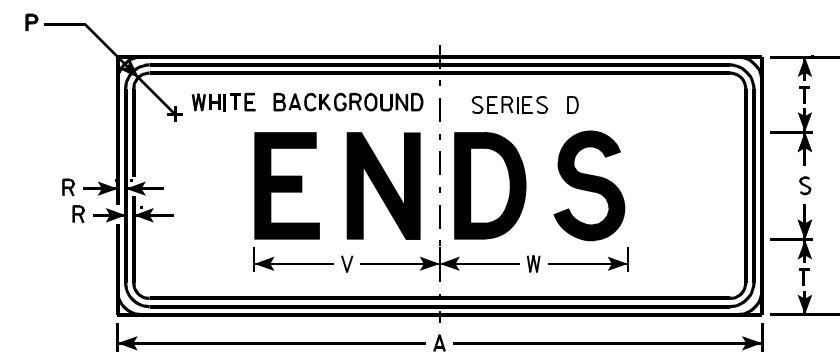
R3-17

**NOTES**

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - AS SHOWN  
Message - BLACK
3. Message Series - C or as noted on the Signs.
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.



R3-17ap



R3-17bp

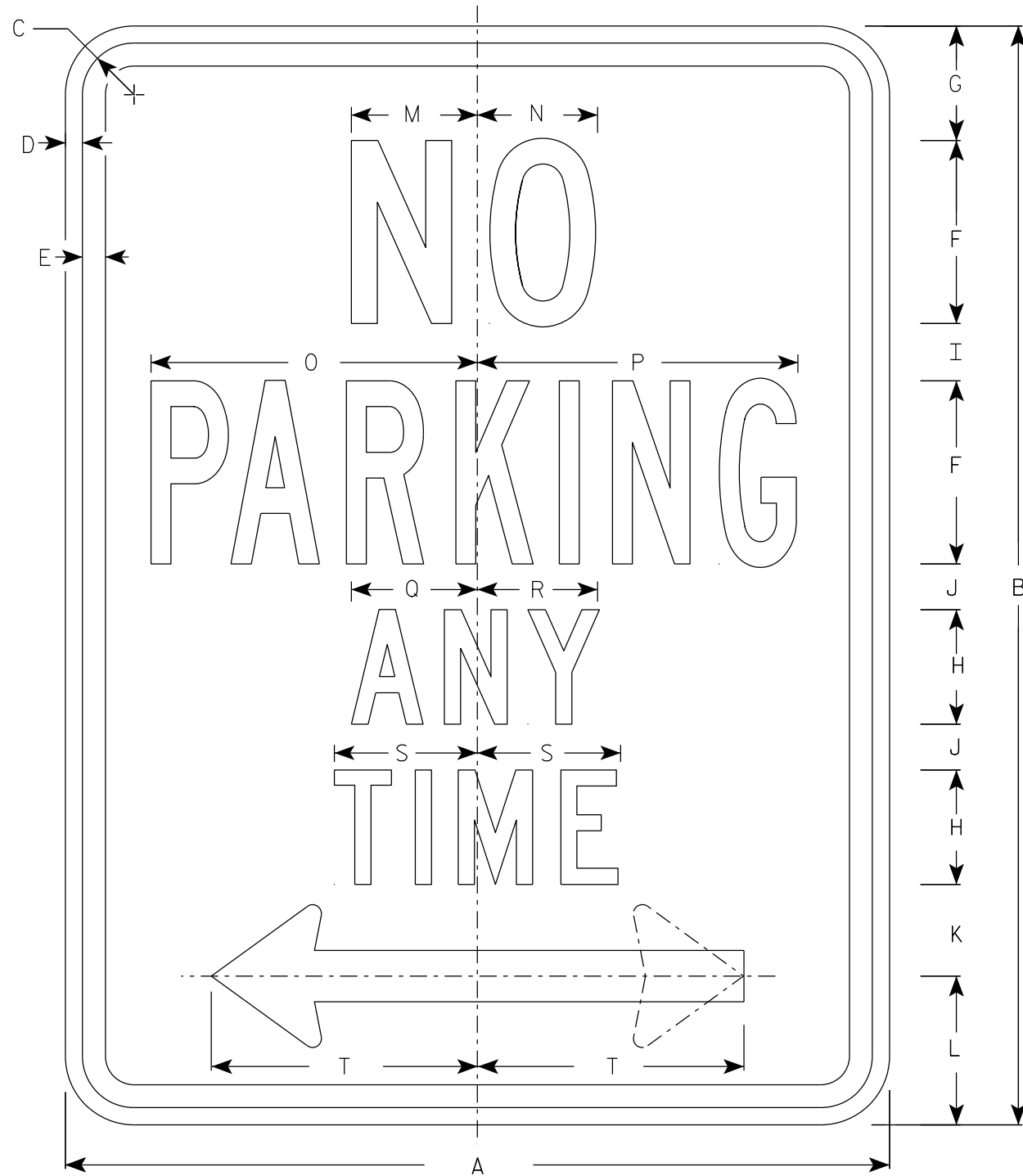
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	R3-17 Area sq. ft.	R3-17ap Area sq. ft.	R3-17bp Area sq. ft.
1																													
2S	30	24	1 1/8	3/8	1/2	2	4	4 1/8	7 7/8	6 3/8	9 1/2	2 5/8	7/8	13	12	1 1/8	3 3/8	3/8	5	3 1/2	11 3/8	8 5/8	8 3/4	2 3/8	15 5/8	8	5.0	2.5	2.5
2M	30	24	1 1/8	3/8	1/2	2	4	4 1/8	7 7/8	6 3/8	9 1/2	2 5/8	7/8	13	12	1 1/8	3 3/8	3/8	5	3 1/2	11 3/8	8 5/8	8 3/4	2 3/8	15 5/8	8	5.0	2.5	2.5
3																													
4																													
5																													

**STANDARD SIGN**  
R3-17 & R3-17a&bp

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

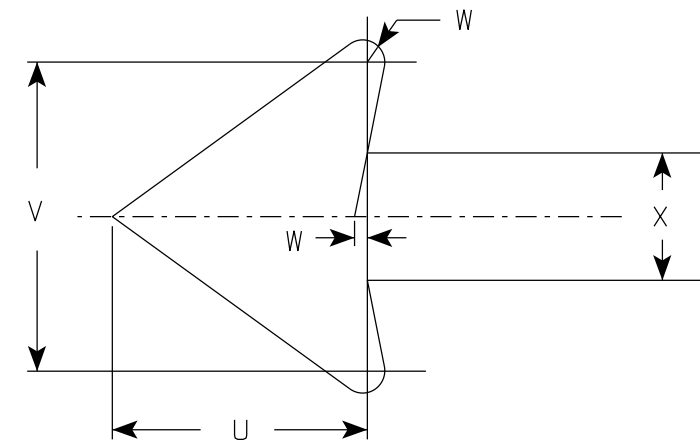
DATE 4/12/2011 PLATE NO. R3-17.2



R7-1

NOTES

1. Sign is Type II - Type H Reflective
2. Color:  
Background - White  
Message - Red
3. Message Series - See Note 5
4. Lines 1, 3 and 4 are series C, line 2 is series B.
5. 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

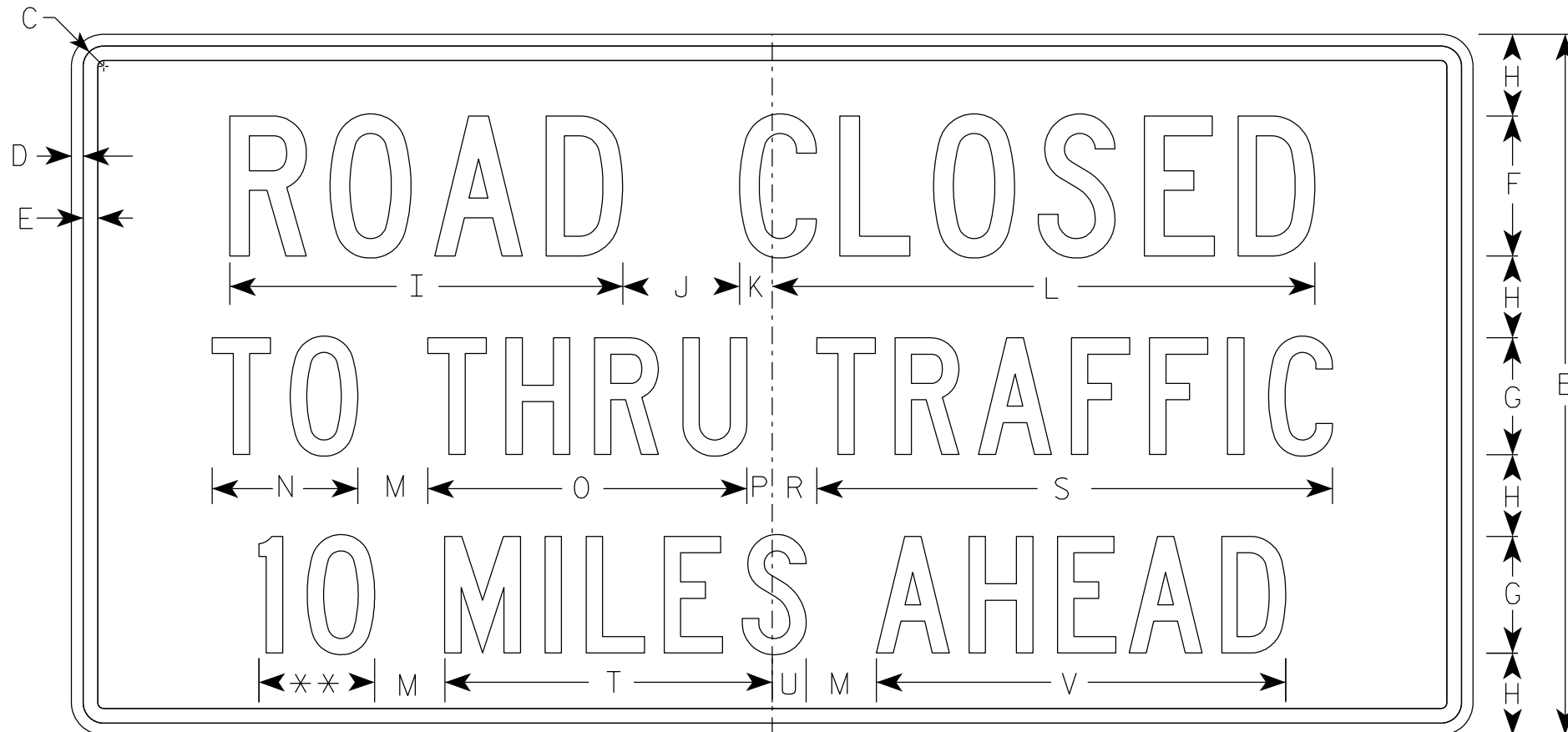
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R Rauch*  
For State Traffic Engineer

DATE 3/31/2021 PLATE NO. R7-1.10

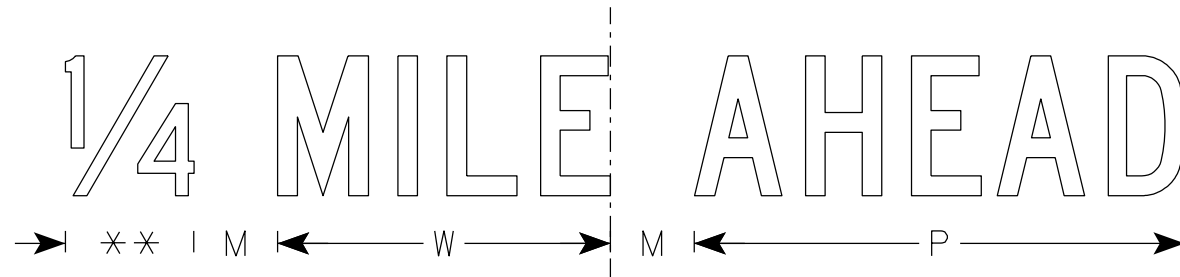
NOTES

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 1/4	3/8	3/8	4	3	2	11 1/4	3	1 1/8	15 3/8	2	3 3/4	8 1/4	5/8		1 3/8	13 1/4	8 3/8	7/8	10 1/2	7 1/8			4.5	
2S	60	30	1 3/8	1/2	5/8	6	5	3 1/2	16 7/8	5	1 3/8	23 1/4	3	6 1/4	13 5/8	1 1/8		1 7/8	22 1/8	14	1 1/2	17 1/2	11 7/8			12.5	
2M	60	30	1 3/8	1/2	5/8	6	5	3 1/2	16 7/8	5	1 3/8	23 1/4	3	6 1/4	13 5/8	1 1/8		1 7/8	22 1/8	14	1 1/2	17 1/2	11 7/8			12.5	
3																											
4																											
5																											

STANDARD SIGN  
R11-3

WISCONSIN DEPT OF TRANSPORTATION

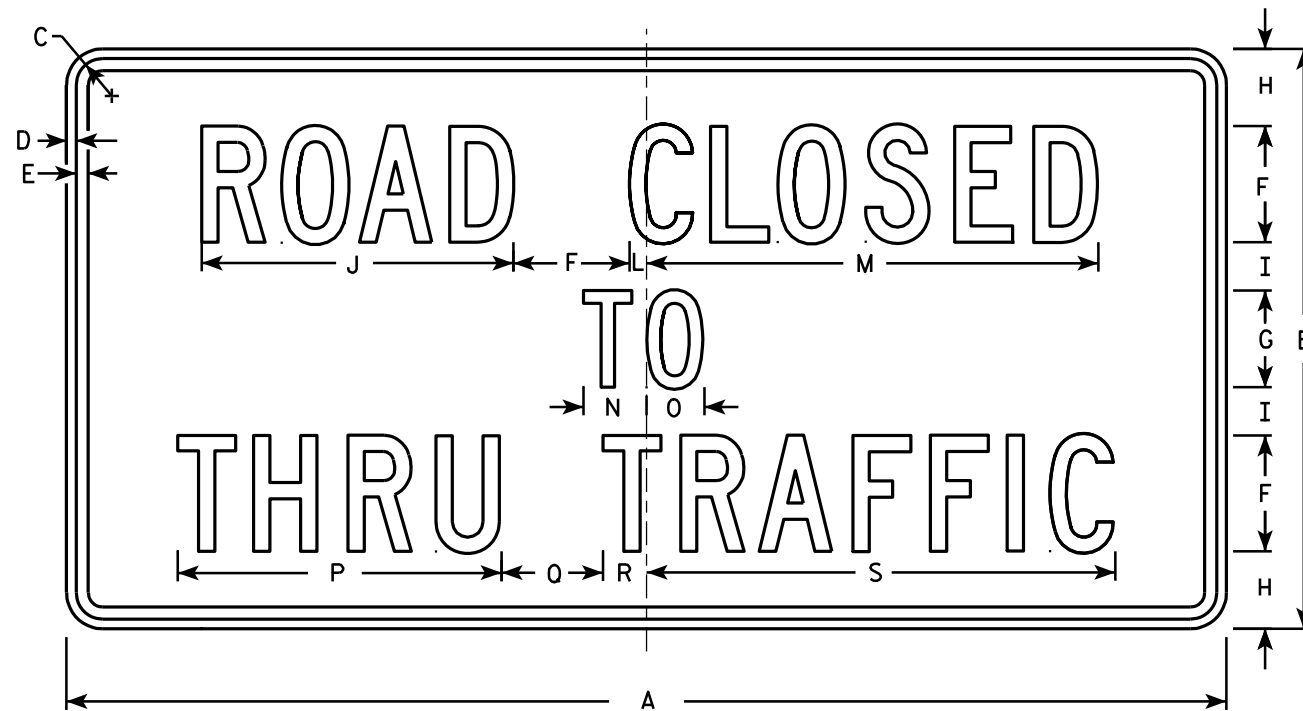
APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

DATE 6/14/2021 PLATE NO. R11-3.9

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ **E**

NOTES

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



R11-4

7

7

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

**STANDARD SIGN**  
R11 - 4

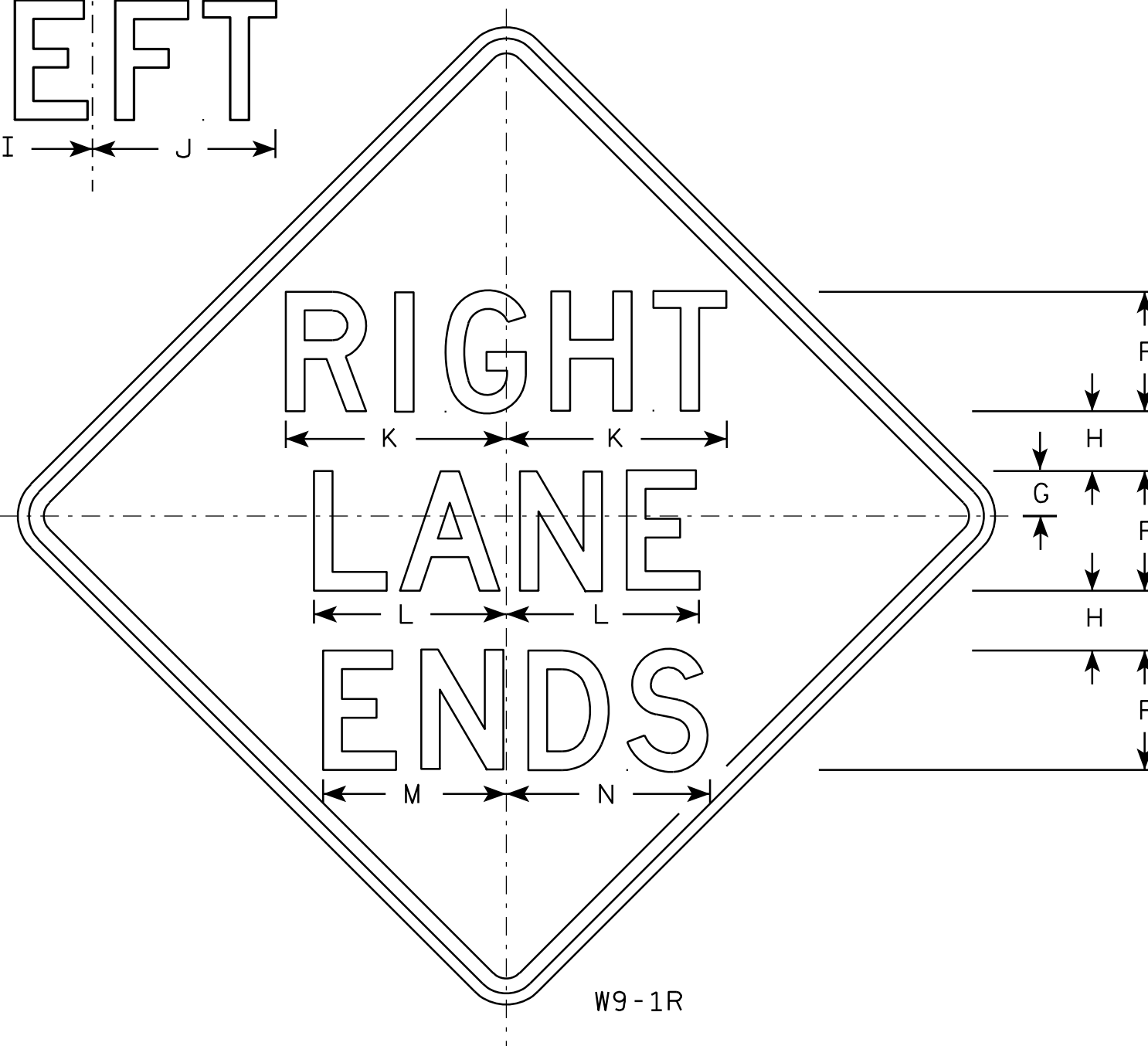
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Raush*  
for State Traffic Engineer

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

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E

LEFT



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Yellow  
Message - Black
3. Message Series - 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. W9-1L same as W9-1R except the word Left replaces Right.

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	5	1 1/2	2 1/2	7 1/8	7 5/8	9 1/4	8 1/8	7 5/8	8 5/8													6.25
2S	36		1 5/8	5/8	3/4	6	2	3	8 1/2	9 1/8	11	9 3/4	9	10 3/8													9.0
2M	36		1 5/8	5/8	3/4	6	2	3	8 1/2	9 1/8	11	9 3/4	9	10 3/8													9.0
3	36		1 5/8	5/8	3/4	6	2	3	8 1/2	9 1/8	11	9 3/4	9	10 3/8													9.0
4	36		1 5/8	5/8	3/4	6	2	3	8 1/2	9 1/8	11	9 3/4	9	10 3/8													9.0
5	48		2 1/4	3/4	1	8	3	4	11 1/4	12 1/4	14 3/4	12 7/8	12 1/4	13 5/8													16.0

STANDARD SIGN

W9-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
for State Traffic Engineer

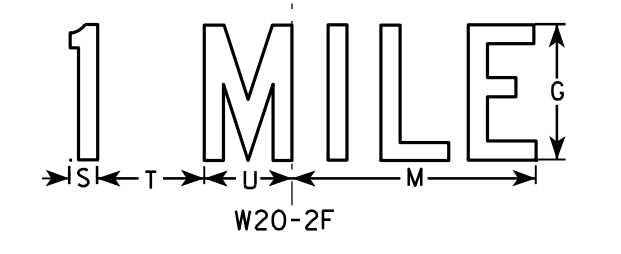
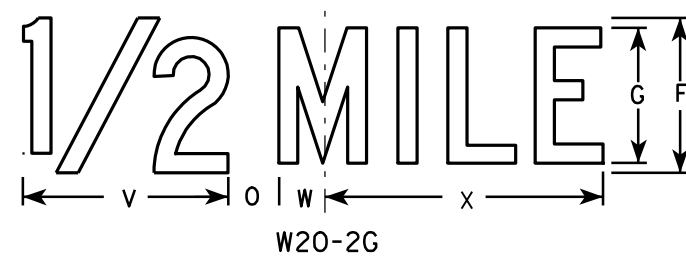
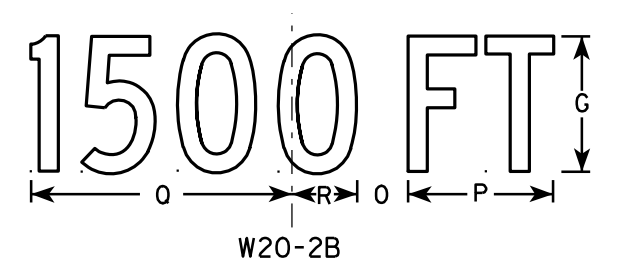
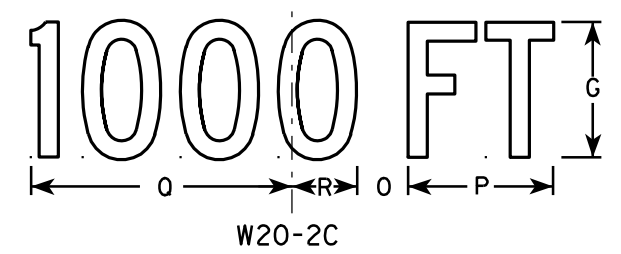
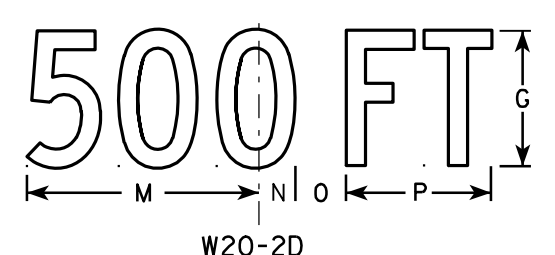
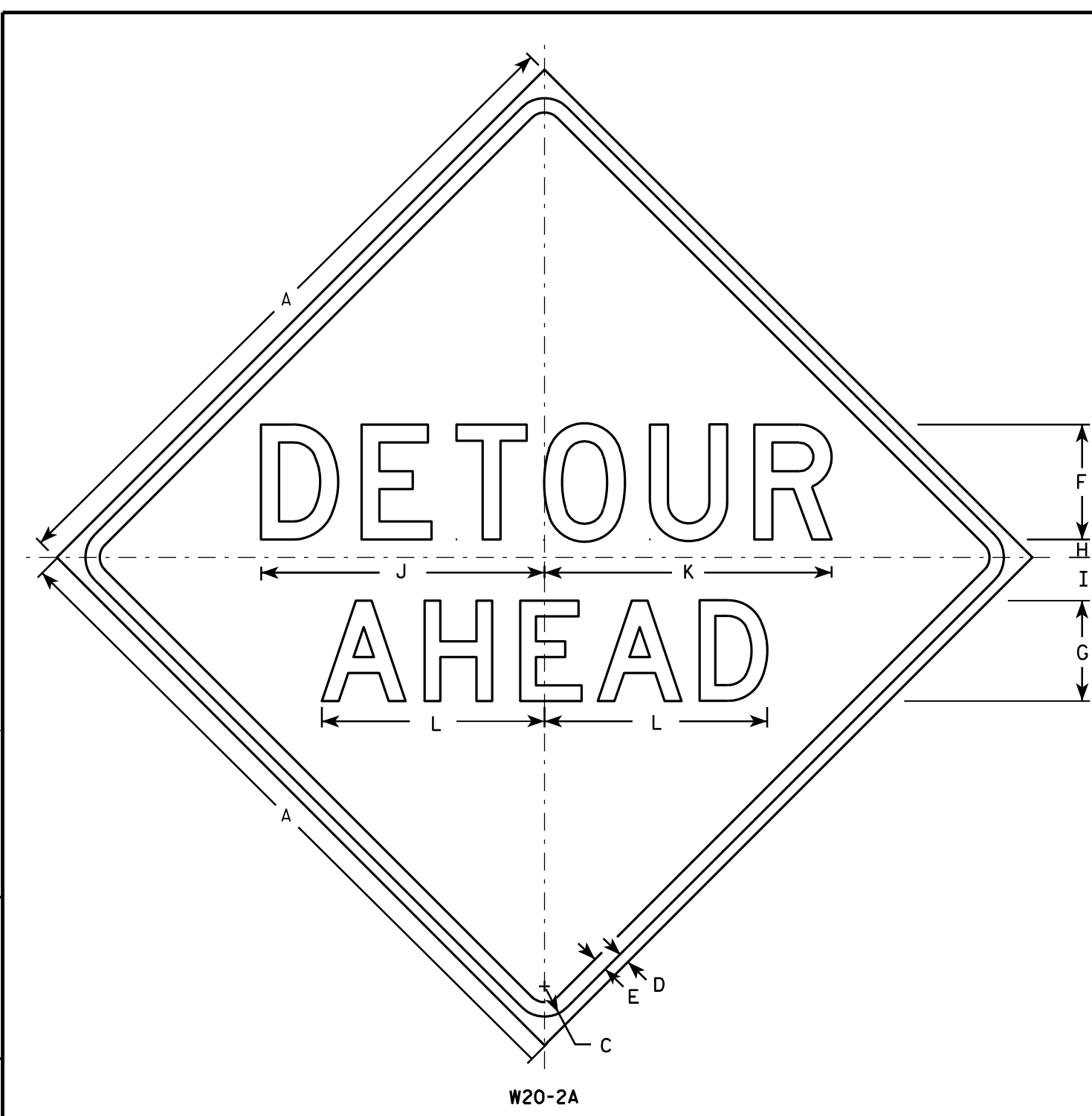
DATE 03/18/13 PLATE NO. W9-1.8

PROJECT NO:

SHEET NO:

E





**NOTES**

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:  
Background - Orange  
Message - Black
3. Message Series - 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.

7

7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	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

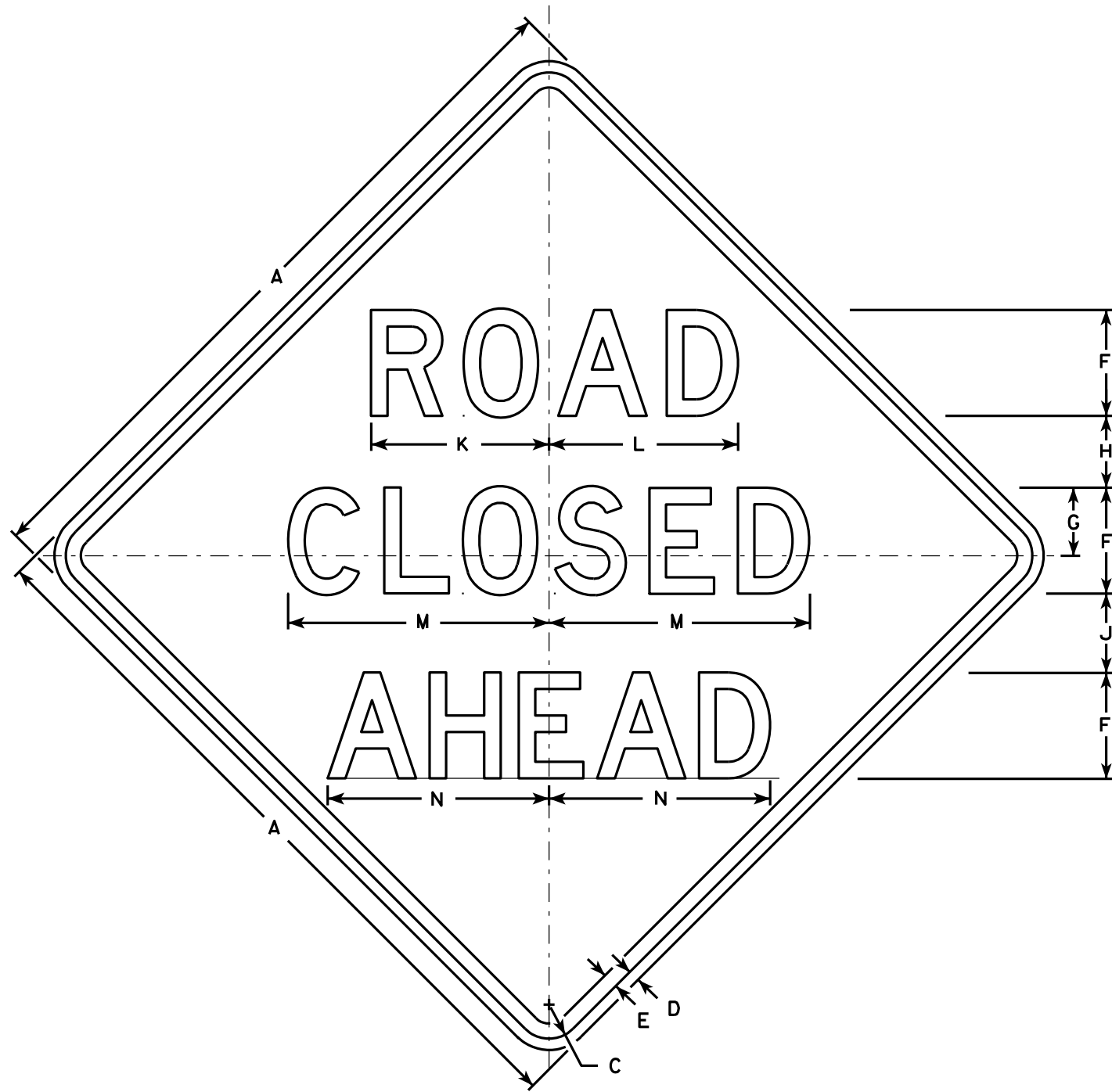
STANDARD SIGN  
W20-2A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

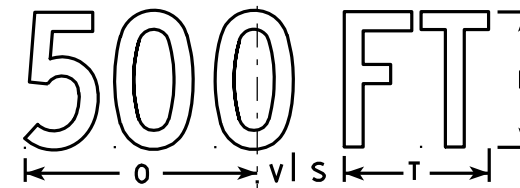
APPROVED *Matthew R. Raub*  
for State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-2.6

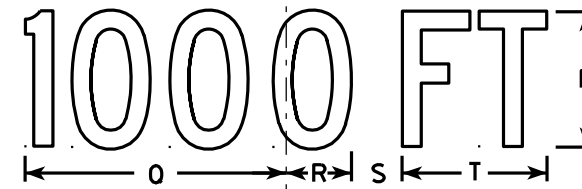
PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E



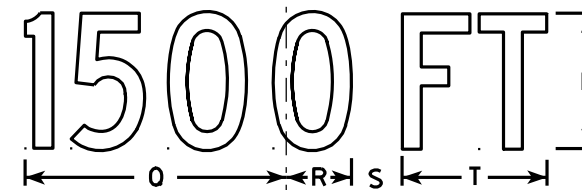
W20-3A



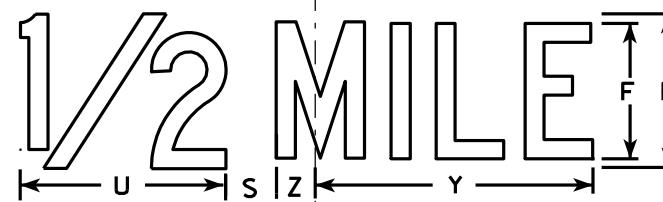
W20-3D



W20-3C



W20-3B



W20-3G



W20-3F

**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. Lines 1 and 2 are Series D.  
Line 3 is Series D for AHEAD and Series C for all other distances.

7

7

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

**STANDARD SIGN**  
W20-3A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*  
For State Traffic Engineer

DATE 3/18/11 PLATE NO. W20-3.7

PROJECT NO: \_\_\_\_\_ HWY: \_\_\_\_\_ COUNTY: \_\_\_\_\_ SHEET NO: \_\_\_\_\_ E

STATION	REAL STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)			
			CUT	FILL	CUT	FILL	CUT	EXPANDED FILL		MASS ORDINATE
								NOTE 1	NOTE 3	
53+28.09	5328.09	0.00	51.93	0.00	0	0	0	0	0	
53+50.00	5350.00	21.91	53.07	0.00	43	0	43	0	43	
54+00.00	5400.00	50.00	65.22	0.00	110	0	153	0	153	
54+07.22	5407.22	7.22	66.88	4.27	18	1	171	1	170	
54+50.00	5450.00	42.78	70.92	14.78	109	15	280	20	260	
55+00.00	5500.00	50.00	76.91	13.22	137	26	417	53	365	
55+50.00	5550.00	50.00	83.32	4.59	148	16	565	73	493	
56+00.00	5600.00	50.00	84.80	0.00	156	4	721	78	644	
56+50.00	5650.00	50.00	83.76	0.00	156	0	877	78	800	
57+00.00	5700.00	50.00	92.33	1.26	163	1	1,040	79	961	
57+50.00	5750.00	50.00	92.31	2.38	171	3	1,211	83	1,129	
58+00.00	5800.00	50.00	93.24	4.47	172	6	1,383	90	1,293	
58+50.00	5850.00	50.00	92.48	5.90	172	10	1,555	103	1,453	
58+82.22	5882.22	32.22	92.45	3.96	110	6	1,665	110	1,555	
59+00.00	5900.00	17.78	92.41	4.01	61	3	1,726	114	1,612	
59+50.00	5950.00	50.00	87.15	7.28	166	10	1,892	126	1,766	
60+00.00	6000.00	50.00	84.06	11.03	159	17	2,051	148	1,904	
60+50.00	6050.00	50.00	82.18	10.51	154	20	2,205	173	2,033	
61+00.00	6100.00	50.00	79.06	11.91	149	21	2,354	199	2,155	
61+50.00	6150.00	50.00	61.60	68.15	130	74	2,484	291	2,193	
62+00.00	6200.00	50.00	61.25	35.31	114	96	2,598	411	2,187	
62+10.59	6210.59	10.59	64.27	14.35	25	10	2,623	424	2,199	
62+15.00	6215.00	4.41	65.05	18.87	11	3	2,634	428	2,207	
62+20.00	6220.00	5.00	65.23	15.57	12	3	2,646	431	2,215	
62+25.00	6225.00	5.00	67.91	10.75	12	2	2,658	434	2,224	
62+30.00	6230.00	5.00	72.15	8.39	13	2	2,671	436	2,235	
62+35.00	6235.00	5.00	77.30	8.28	14	2	2,685	439	2,246	
62+40.00	6240.00	5.00	85.73	6.95	15	1	2,700	440	2,260	
62+45.00	6245.00	5.00	95.32	3.31	17	1	2,717	441	2,276	
62+50.00	6250.00	5.00	85.06	0.00	17	0	2,734	441	2,293	
62+55.00	6255.00	5.00	69.76	0.00	14	0	2,748	441	2,307	
62+60.00	6260.00	5.00	55.08	0.00	12	0	2,760	441	2,319	
62+65.00	6265.00	5.00	40.67	0.00	9	0	2,769	441	2,328	
62+70.00	6270.00	5.00	26.41	0.00	6	0	2,775	441	2,334	
62+75.00	6275.00	5.00	12.33	0.00	4	0	2,779	441	2,338	
62+80.00	6280.00	5.00	1.50	0.00	1	0	2,780	441	2,339	
62+85.00	6285.00	5.00	18.97	0.00	2	0	2,782	441	2,341	
62+90.00	6290.00	5.00	37.08	0.00	5	0	2,787	441	2,346	
62+95.00	6295.00	5.00	54.45	0.00	8	0	2,795	441	2,354	
63+00.00	6300.00	5.00	72.04	0.00	12	0	2,807	441	2,366	

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
8 - MASS ORDINATE	IF MARSH OR EBS TO BE BACKFILLED WITH COMMON OR BORROW: $[(CUT - SALVAGED PAVT - EXPANDED MARSH EXC - EXPANDED EBS) - ((FILL - REDUCED MARSH IN FILL - REDUCED EBS IN FILL - EXPANDED ROCK) * FILL FACTOR)]$

STATION	REAL STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
			CUT	FILL	CUT	FILL	CUT	EXPANDED FILL	MASS ORDINATE
63+05.00	6305.00	5.00	90.46	0.00	15	0	2,822	441	2,381
63+10.00	6310.00	5.00	108.89	0.00	18	0	2,840	441	2,399
63+15.00	6315.00	5.00	103.16	14.71	20	1	2,860	443	2,418
63+20.00	6320.00	5.00	94.29	27.61	18	4	2,878	448	2,431
63+25.00	6325.00	5.00	87.82	31.93	17	6	2,895	455	2,440
63+30.00	6330.00	5.00	85.39	31.28	16	6	2,911	463	2,449
63+35.00	6335.00	5.00	82.37	31.91	16	6	2,927	470	2,457
63+40.00	6340.00	5.00	79.65	34.18	15	6	2,942	478	2,465
63+44.29	6344.29	4.29	78.12	35.43	13	6	2,955	485	2,470
63+50.00	6350.00	5.71	76.64	31.53	16	7	2,971	494	2,477
64+00.00	6400.00	50.00	72.21	36.67	138	63	3,109	573	2,537
64+50.00	6450.00	50.00	70.97	41.11	133	72	3,242	663	2,580
65+00.00	6500.00	50.00	69.77	38.97	130	74	3,372	755	2,617
65+50.00	6550.00	50.00	81.43	14.19	140	49	3,512	816	2,696
66+00.00	6600.00	50.00	66.83	42.44	137	52	3,649	881	2,768
66+50.00	6650.00	50.00	78.99	46.04	135	82	3,784	984	2,800
67+00.00	6700.00	50.00	89.37	39.07	156	79	3,940	1,083	2,858
67+50.00	6750.00	50.00	99.22	26.17	175	60	4,115	1,158	2,958
68+00.00	6800.00	50.00	106.87	2.59	191	27	4,306	1,191	3,115
68+50.00	6850.00	50.00	108.07	9.28	199	11	4,505	1,205	3,300
69+00.00	6900.00	50.00	106.07	9.73	198	18	4,703	1,228	3,476
69+50.00	6950.00	50.00	97.31	20.37	188	28	4,891	1,263	3,629
70+00.00	7000.00	50.00	88.73	23.32	172	40	5,063	1,313	3,751
70+50.00	7050.00	50.00	82.50	24.37	159	44	5,222	1,368	3,855
71+00.00	7100.00	50.00	84.13	21.74	154	43	5,376	1,421	3,955
71+50.00	7150.00	50.00	80.81	26.19	153	44	5,529	1,476	4,053
72+00.00	7200.00	50.00	85.07	16.56	154	40	5,683	1,526	4,157
72+50.00	7250.00	50.00	97.47	11.78	169	26	5,852	1,559	4,293
73+00.00	7300.00	50.00	90.07	26.46	174	35	6,026	1,603	4,424
73+50.00	7350.00	50.00	93.81	27.22	170	50	6,196	1,665	4,531
74+00.00	7400.00	50.00	101.81	38.07	181	60	6,377	1,740	4,637
74+50.00	7450.00	50.00	106.52	28.82	193	62	6,570	1,818	4,753
75+00.00	7500.00	50.00	114.39	0.49	205	27	6,775	1,851	4,924
75+50.00	7550.00	50.00	96.95	34.82	196	33	6,971	1,893	5,079
76+00.00	7600.00	50.00	83.70	45.11	167	74	7,138	1,985	5,153
76+50.00	7650.00	50.00	75.51	39.72	147	79	7,285	2,084	5,201
77+00.00	7700.00	50.00	69.96	52.64	135	86	7,420	2,191	5,229
77+50.00	7750.00	50.00	66.22	61.62	126	106	7,546	2,324	5,222
78+00.00	7800.00	50.00	70.33	68.73	126	121	7,672	2,475	5,197
78+50.00	7850.00	50.00	73.74	63.46	133	122	7,805	2,628	5,178

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
8 - MASS ORDINATE	IF MARSH OR EBS TO BE BACKFILLED WITH COMMON OR BORROW: $[(CUT - SALVAGED PAVT - EXPANDED MARSH EXC - EXPANDED EBS) - ((FILL - REDUCED MARSH IN FILL - REDUCED EBS IN FILL - EXPANDED ROCK) * FILL FACTOR)]$

STATION	REAL STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
			CUT	FILL	CUT	FILL	CUT	EXPANDED FILL	MASS ORDINATE
79+00.00	7900.00	50.00	76.44	50.30	139	105	7,944	2,759	5,185
79+50.00	7950.00	50.00	79.62	30.45	144	75	8,088	2,853	5,236
80+00.00	8000.00	50.00	96.18	0.47	163	29	8,251	2,889	5,362
80+50.00	8050.00	50.00	83.11	7.98	166	8	8,417	2,899	5,518
81+00.00	8100.00	50.00	82.81	0.03	154	7	8,571	2,908	5,664
81+50.00	8150.00	50.00	81.32	0.29	152	0	8,723	2,908	5,816
82+00.00	8200.00	50.00	77.26	0.00	147	0	8,870	2,908	5,963
82+50.00	8250.00	50.00	74.24	0.08	140	0	9,010	2,908	6,103
83+00.00	8300.00	50.00	71.50	0.00	135	0	9,145	2,908	6,238
83+50.00	8350.00	50.00	71.32	0.00	132	0	9,277	2,908	6,370
84+00.00	8400.00	50.00	65.26	0.15	126	0	9,403	2,908	6,496
84+50.00	8450.00	50.00	68.30	0.04	124	0	9,527	2,908	6,620
85+00.00	8500.00	50.00	72.60	0.00	130	0	9,657	2,908	6,750
85+50.00	8550.00	50.00	74.60	0.00	136	0	9,793	2,908	6,886
86+00.00	8600.00	50.00	81.21	0.00	144	0	9,937	2,908	7,030
86+50.00	8650.00	50.00	83.56	0.00	153	0	10,090	2,908	7,183
87+00.00	8700.00	50.00	76.62	0.01	148	0	10,238	2,908	7,331
87+50.00	8750.00	50.00	73.84	0.01	139	0	10,377	2,908	7,470
88+00.00	8800.00	50.00	70.69	0.13	134	0	10,511	2,908	7,604
88+47.51	8847.51	47.51	66.75	4.76	121	4	10,632	2,913	7,720
88+50.00	8850.00	2.49	66.91	3.99	6	0	10,638	2,913	7,726
88+55.00	8855.00	5.00	67.16	3.38	12	1	10,650	2,914	7,736
88+60.00	8860.00	5.00	69.40	2.75	13	1	10,663	2,915	7,748
88+65.00	8865.00	5.00	71.67	2.06	13	0	10,676	2,915	7,761
88+70.00	8870.00	5.00	67.43	0.93	13	0	10,689	2,915	7,774
88+75.00	8875.00	5.00	59.93	0.75	12	0	10,701	2,915	7,786
88+80.00	8880.00	5.00	52.91	0.96	10	0	10,711	2,915	7,796
88+85.00	8885.00	5.00	46.38	1.10	9	0	10,720	2,915	7,805
88+90.00	8890.00	5.00	39.43	1.18	8	0	10,728	2,915	7,813
88+95.00	8895.00	5.00	31.18	1.22	7	0	10,735	2,915	7,820
89+00.00	8900.00	5.00	38.12	1.23	6	0	10,741	2,915	7,826
89+05.00	8905.00	5.00	44.50	1.21	8	0	10,749	2,915	7,834
89+10.00	8910.00	5.00	51.01	1.16	9	0	10,758	2,915	7,843
89+15.00	8915.00	5.00	58.49	1.08	10	0	10,768	2,915	7,853
89+20.00	8920.00	5.00	67.19	0.95	12	0	10,780	2,915	7,865
89+25.00	8925.00	5.00	63.87	0.76	12	0	10,792	2,915	7,877
89+30.00	8930.00	5.00	59.44	0.78	11	0	10,803	2,915	7,888
89+35.00	8935.00	5.00	57.37	1.22	11	0	10,814	2,915	7,899
89+39.58	8939.58	4.58	56.88	1.66	10	0	10,824	2,915	7,909
89+49.98	8949.98	10.40	2.55	1.58	11	1	10,835	2,916	7,919

NOTES:	
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3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
8 - MASS ORDINATE	IF MARSH OR EBS TO BE BACKFILLED WITH COMMON OR BORROW: [(CUT - SALVAGED PAVT - EXPANDED MARSH EXC - EXPANDED EBS) - ((FILL - REDUCED MARSH IN FILL - REDUCED EBS IN FILL - EXPANDED ROCK) * FILL FACTOR)]

STATION	REAL STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
			CUT	FILL	CUT	FILL	CUT	EXPANDED FILL	MASS ORDINATE
224+45.40	22445.40	0.00	0.00	0.00	0	0	0	0	0
224+50.00	22450.00	4.60	33.01	9.48	3	1	3	1	2
225+00.00	22500.00	50.00	31.09	10.08	59	18	62	24	38
225+36.30	22536.30	36.30	29.77	4.91	41	10	103	36	67
225+40.00	22540.00	3.70	29.71	4.23	4	1	107	38	70
225+45.00	22545.00	5.00	28.44	5.26	5	1	112	39	73
225+50.00	22550.00	5.00	29.67	8.64	5	1	117	40	77
225+55.00	22555.00	5.00	30.09	13.99	6	2	123	43	81
225+60.00	22560.00	5.00	30.58	16.05	6	3	129	46	83
225+65.00	22565.00	5.00	36.12	8.43	6	2	135	49	86
225+70.00	22570.00	5.00	45.98	2.32	8	1	143	50	93
225+75.00	22575.00	5.00	59.65	2.35	10	0	153	50	103
225+80.00	22580.00	5.00	67.11	0.00	12	0	165	50	115
225+85.00	22585.00	5.00	62.90	0.00	12	0	177	50	127
225+90.00	22590.00	5.00	56.59	0.00	11	0	188	50	138
225+95.00	22595.00	5.00	47.47	0.00	10	0	198	50	148
226+00.00	22600.00	5.00	38.02	0.00	8	0	206	50	156
226+05.00	22605.00	5.00	28.71	0.00	6	0	212	50	162
226+10.00	22610.00	5.00	19.41	0.00	4	0	216	50	166
226+15.00	22615.00	5.00	9.84	0.00	3	0	219	50	169
226+20.00	22620.00	5.00	0.16	0.00	1	0	220	50	170
226+20.10	22620.10	0.10	167.75	0.00	0	0	220	50	170
226+25.00	22625.00	4.90	9.14	0.00	16	0	236	50	186
226+30.00	22630.00	5.00	19.13	0.00	3	0	239	50	189
226+35.00	22635.00	5.00	29.38	0.00	4	0	243	50	193
226+40.00	22640.00	5.00	39.39	0.00	6	0	249	50	199
226+45.00	22645.00	5.00	49.04	0.00	8	0	257	50	207
226+50.00	22650.00	5.00	55.99	0.00	10	0	267	50	217
226+55.00	22655.00	5.00	60.92	0.00	11	0	278	50	228
226+60.00	22660.00	5.00	54.68	4.22	11	0	289	50	239
226+65.00	22665.00	5.00	36.91	15.22	8	2	297	53	245
226+70.00	22670.00	5.00	30.25	25.12	6	4	303	58	246
226+75.00	22675.00	5.00	28.70	25.06	5	5	308	64	244
226+80.00	22680.00	5.00	26.90	23.01	5	4	313	69	244
226+85.00	22685.00	5.00	11.78	21.63	4	4	317	74	243
226+85.54	22685.54	0.54	11.77	21.91	0	0	317	74	243
227+00.00	22700.00	14.46	0.14	32.72	3	15	320	93	228
227+50.00	22750.00	50.00	0.00	28.80	0	57	320	164	156
228+00.00	22800.00	50.00	0.00	20.94	0	46	320	221	99
228+20.13	22820.13	20.13	0.11	8.68	0	11	320	235	85

NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
8 - MASS ORDINATE	IF MARSH OR EBS TO BE BACKFILLED WITH COMMON OR BORROW: $[(CUT - SALVAGED PAVT - EXPANDED MARSH EXC - EXPANDED EBS) - ((FILL - REDUCED MARSH IN FILL - REDUCED EBS IN FILL - EXPANDED ROCK) * FILL FACTOR)]$

PROJECT NO: 4636-05-72

HWY: CTH I

COUNTY: WINNEBAGO

EARTHWORK DATA

SHEET

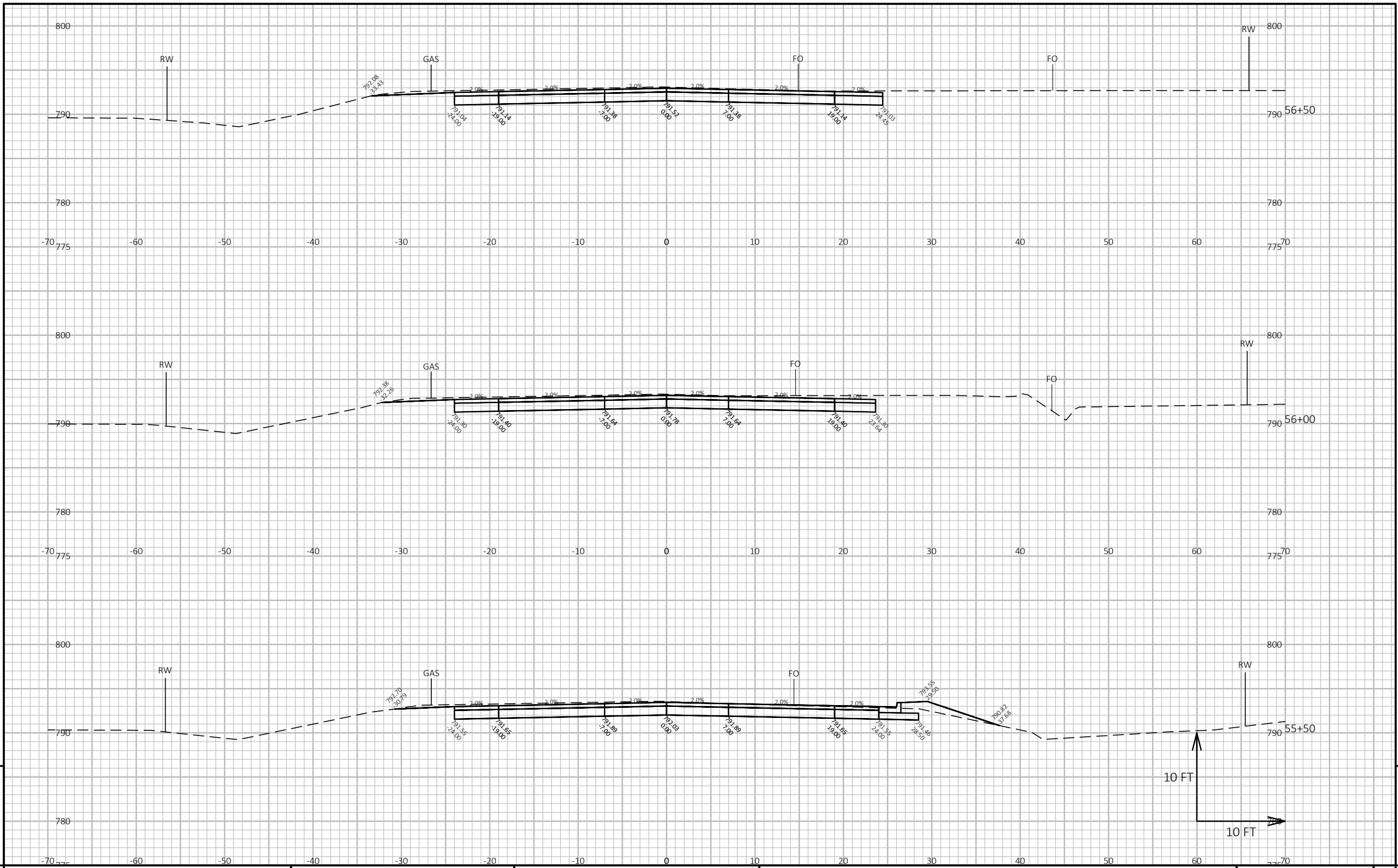
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STATION	REAL STATION	DISTANCE	AREA (SF)		INCREMENTAL VOL (CY) (UNADJUSTED)		CUMULATIVE VOL (CY)		
			CUT	FILL	CUT	FILL	CUT	EXPANDED FILL	MASS ORDINATE
NOTE 1	NOTE 3	NOTE 1	NOTE 8						
262+65.00	26265.00	0.00	0.00	0.00	0	0	0	0	0
263+00.00	26300.00	35.00	52.46	0.00	34	0	34	0	34
263+15.38	26315.38	15.38	66.11	0.01	34	0	68	0	68
263+20.00	26320.00	4.62	69.70	0.04	12	0	80	0	80
263+25.00	26325.00	5.00	73.83	0.06	13	0	93	0	93
263+30.00	26330.00	5.00	75.99	0.18	14	0	107	0	107
263+35.00	26335.00	5.00	74.91	0.21	14	0	121	0	121
263+40.00	26340.00	5.00	63.35	0.00	13	0	134	0	134
263+45.00	26345.00	5.00	49.27	0.00	10	0	144	0	144
263+50.00	26350.00	5.00	35.64	0.00	8	0	152	0	152
263+55.00	26355.00	5.00	25.21	0.00	6	0	158	0	158
263+60.00	26360.00	5.00	16.73	0.00	4	0	162	0	162
263+65.00	26365.00	5.00	10.53	0.00	3	0	165	0	165
263+70.00	26370.00	5.00	1.73	0.00	1	0	166	0	166

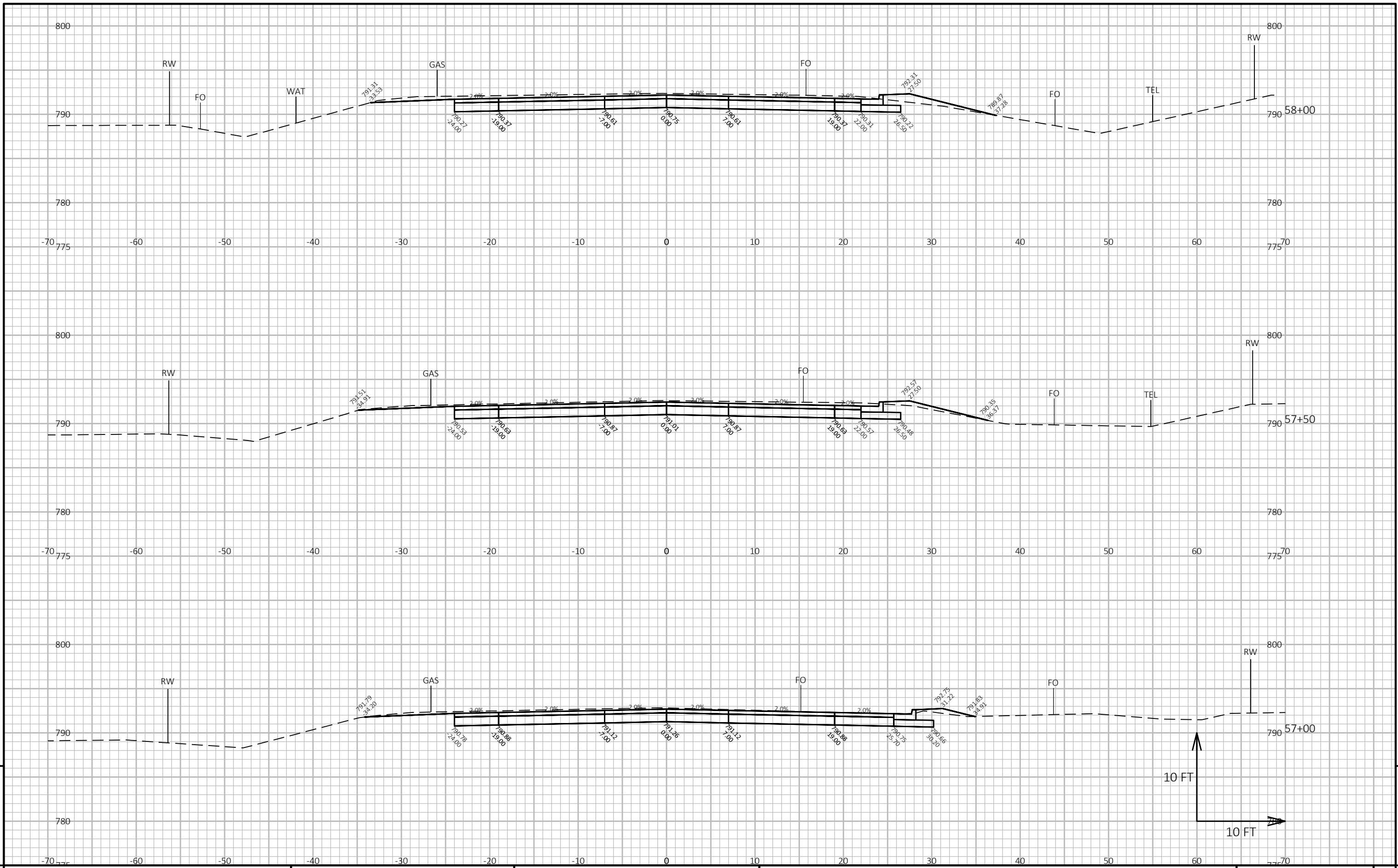
NOTES:	
1 - CUT	CUT INCLUDES SALVAGED/UNUSABLE PAVEMENT MATERIAL
3 - FILL	DOES NOT INCLUDE UNUSABLE PAVEMENT EXC VOLUME
8 - MASS ORDINATE	IF MARSH OR EBS TO BE BACKFILLED WITH COMMON OR BORROW: [(CUT - SALVAGED PAVT - EXPANDED MARSH EXC - EXPANDED EBS) - ((FILL - REDUCED MARSH IN FILL - REDUCED EBS IN FILL - EXPANDED ROCK) * FILL FACTOR)]







PROJECT NO: 4636-05-72      HWY: CTH I      COUNTY: WINNEBAGO      CROSS SECTIONS: CTH I      SHEET 9

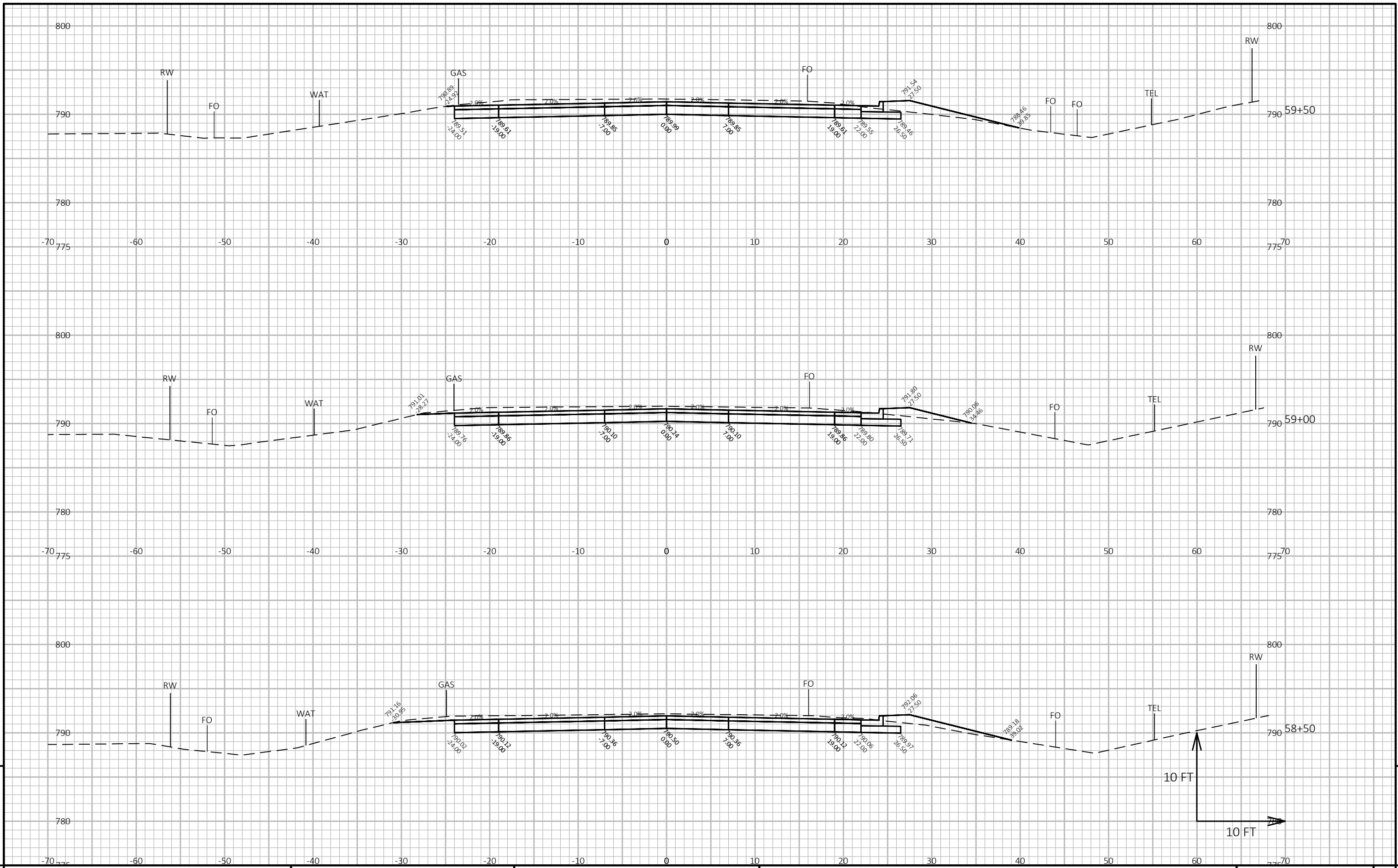


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PROJECT NO: 4636-05-72      HWY: CTH I      COUNTY: WINNEBAGO      CROSS SECTIONS: CTH I      SHEET      E

FILE NAME: C:\PW\_WORK\EXP-PW.BENTLEY.COM\_EXP-PW-01\00111322\PROP\_CRD.DWG      PLOT DATE: 10/31/2023 2:41 PM      PLOT BY: JOHN BOURGEOIS      PLOT NAME:      PLOT SCALE: 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.      WISDOT/CADD SHEET 49



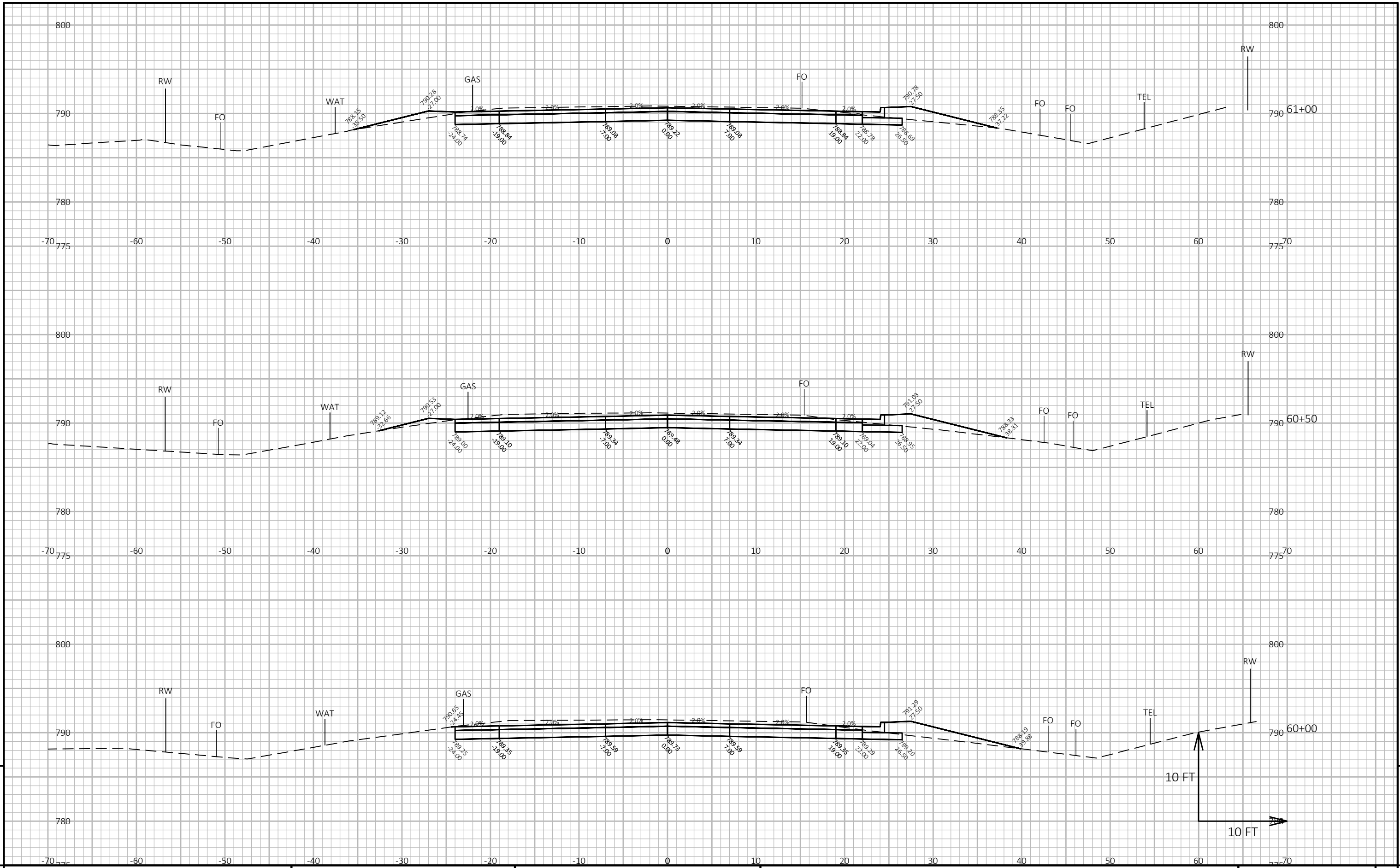
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9

PROJECT NO: 4636-05-72      HWY: CTH I      COUNTY: WINNEBAGO      CROSS SECTIONS: CTH I      SHEET      E

FILE NAME: C:\PW\_WORK\EXP-PW.BENTLEY.COM\_EXP-PW-01\00111322\PROP\_CRD.DWG      PLOT DATE: 10/31/2023 2:41 PM      PLOT BY: JOHN BOURGEOIS      PLOT NAME:      PLOT SCALE: 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.      WISDOT/CADD SHEET 49

LAYOUT NAME - XS5

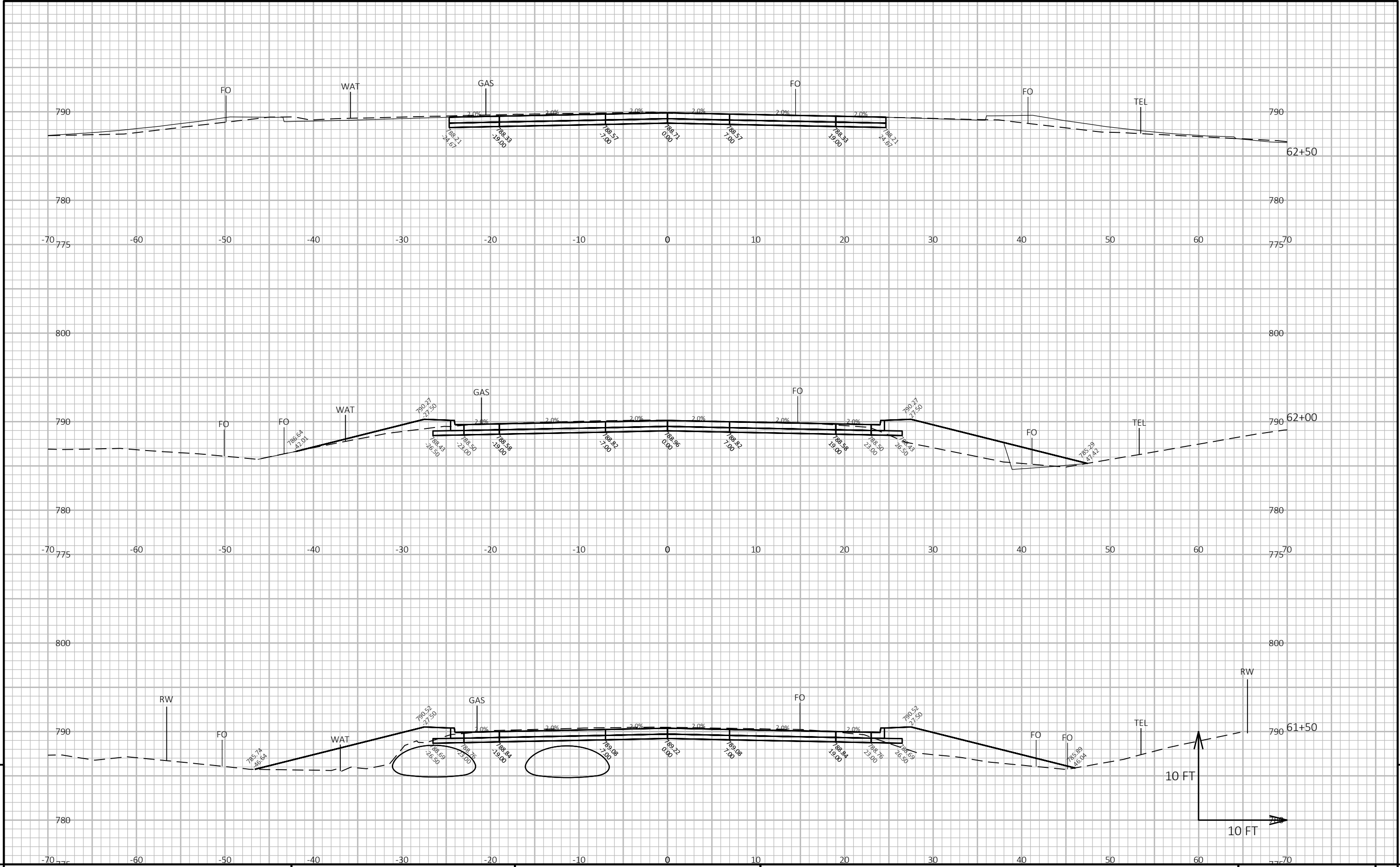


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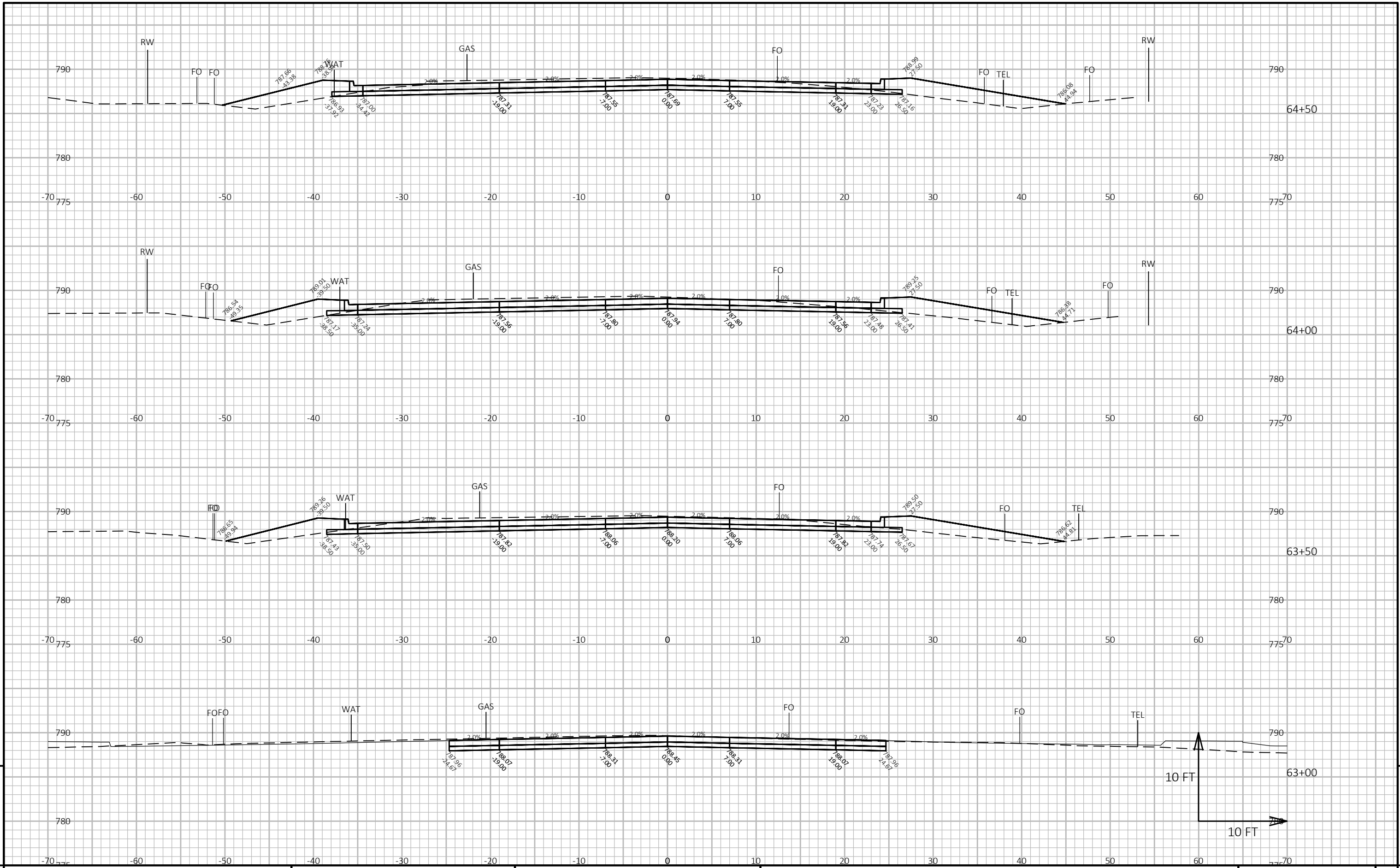
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PROJECT NO: 4636-05-72      HWY: CTH I      COUNTY: WINNEBAGO      CROSS SECTIONS: CTH I      SHEET E

FILE NAME: C:\PW\_WORK\EXP-PW.BENTLEY.COM\_EXP-PW-01\00111322\PROP\_CRD.DWG      PLOT DATE: 10/31/2023 2:41 PM      PLOT BY: JOHN BOURGEOIS      PLOT NAME:      PLOT SCALE: 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.      WISDOT/CADD SHEET 49



PROJECT NO: 4636-05-72      HWY: CTH I      COUNTY: WINNEBAGO      CROSS SECTIONS: CTH I      SHEET      E



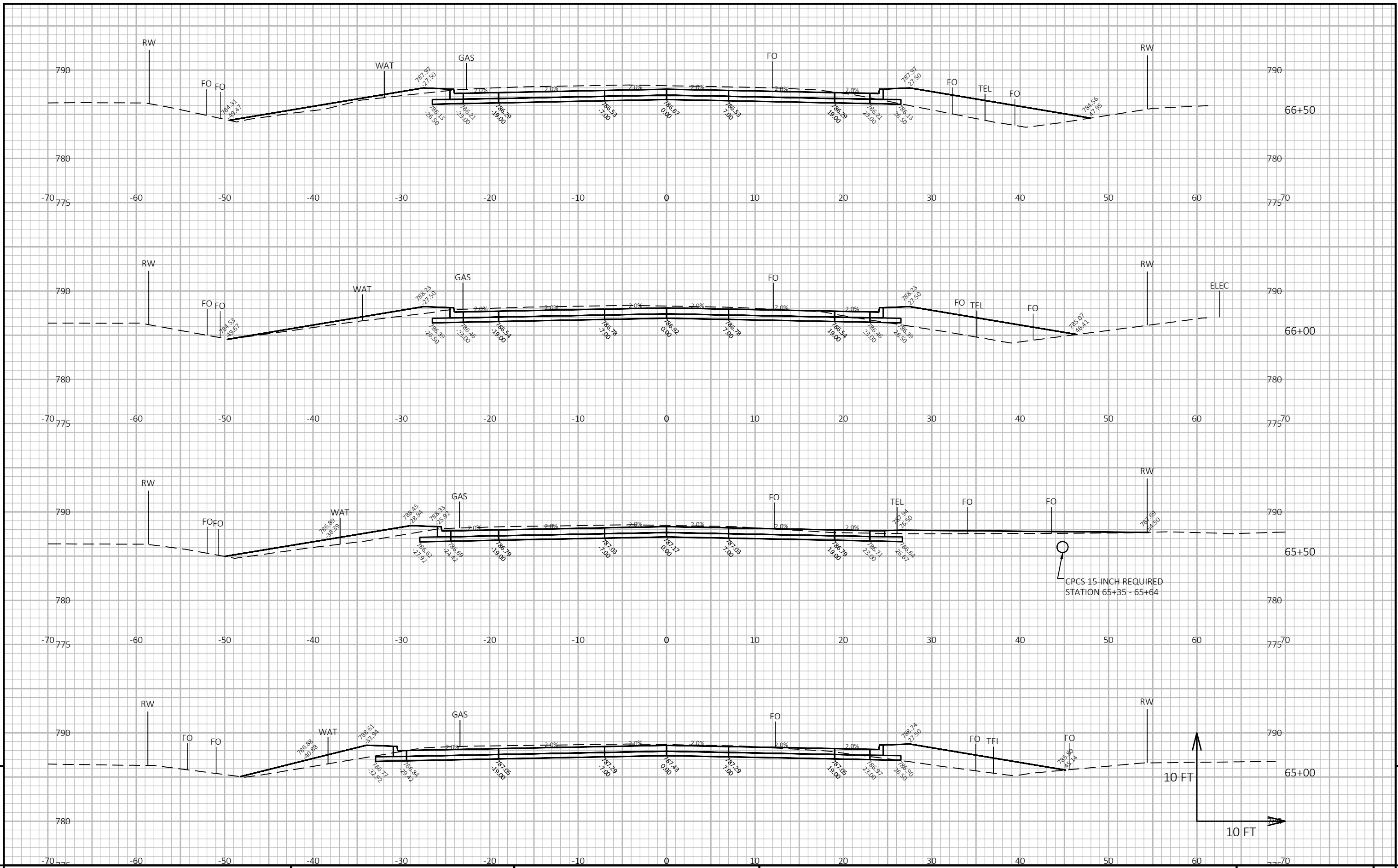
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PROJECT NO: 4636-05-72      HWY: CTH I      COUNTY: WINNEBAGO      CROSS SECTIONS: CTH I      SHEET      E

FILE NAME : C:\PW\_WORK\EXP-PW.BENTLEY.COM\_EXP-PW-01\00111322\PROP\_CRD.DWG      PLOT DATE : 10/31/2023 2:42 PM      PLOT BY : JOHN BOURGEOIS      PLOT NAME :      PLOT SCALE : 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.      WISDOT/CADD SHEET 49

LAYOUT NAME - XS8



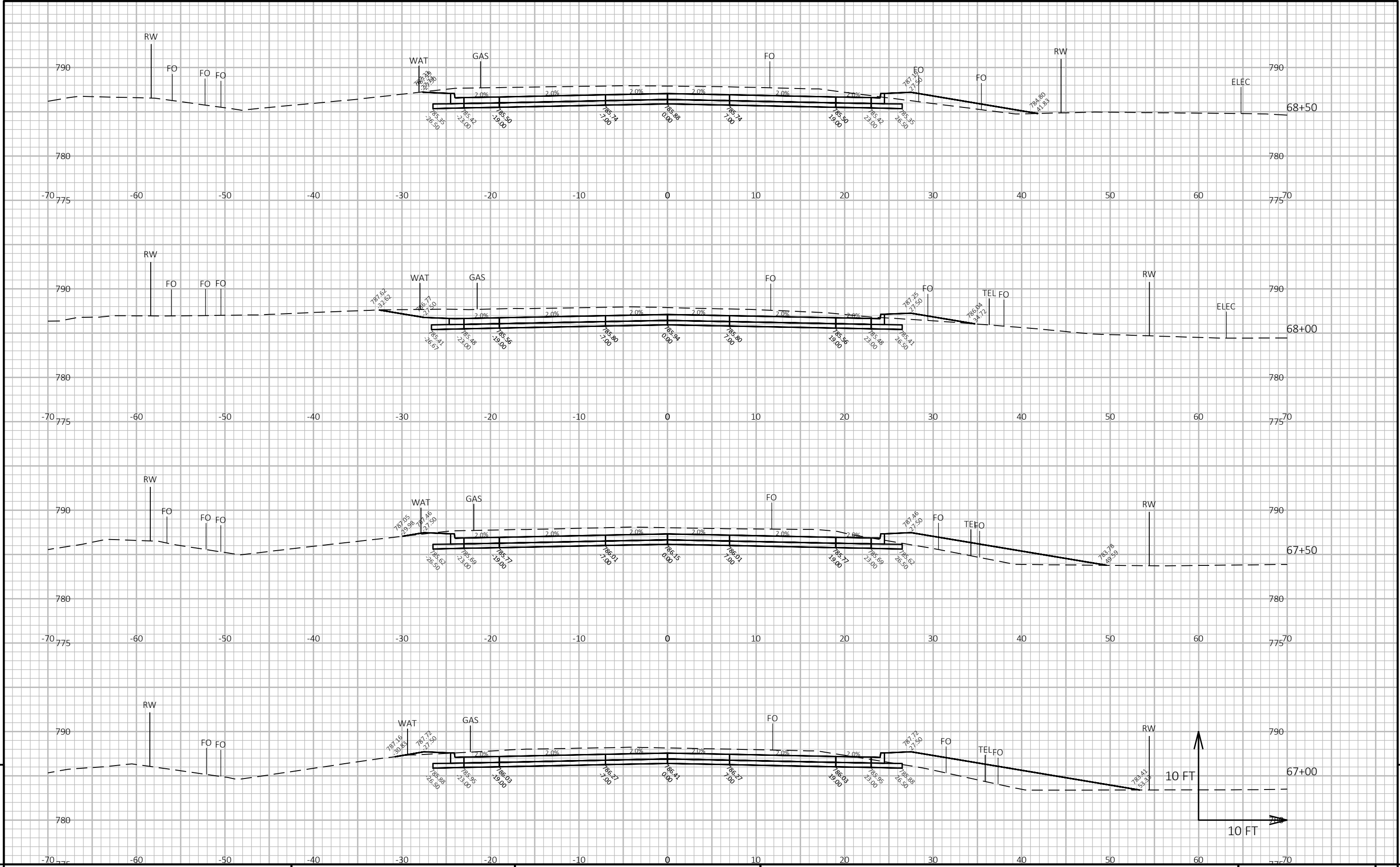
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PROJECT NO: 4636-05-72      HWY: CTH I      COUNTY: WINNEBAGO      CROSS SECTIONS: CTH I      SHEET      E

FILE NAME: C:\PW\_WORK\EXP-PW.BENTLEY.COM\_EXP-PW-01\00111322\PROP\_CRD.DWG      PLOT DATE: 10/31/2023 2:42 PM      PLOT BY: JOHN BOURGEOIS      PLOT NAME:      PLOT SCALE: 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.      WISDOT/CADD SHEET 49

LAYOUT NAME - X59



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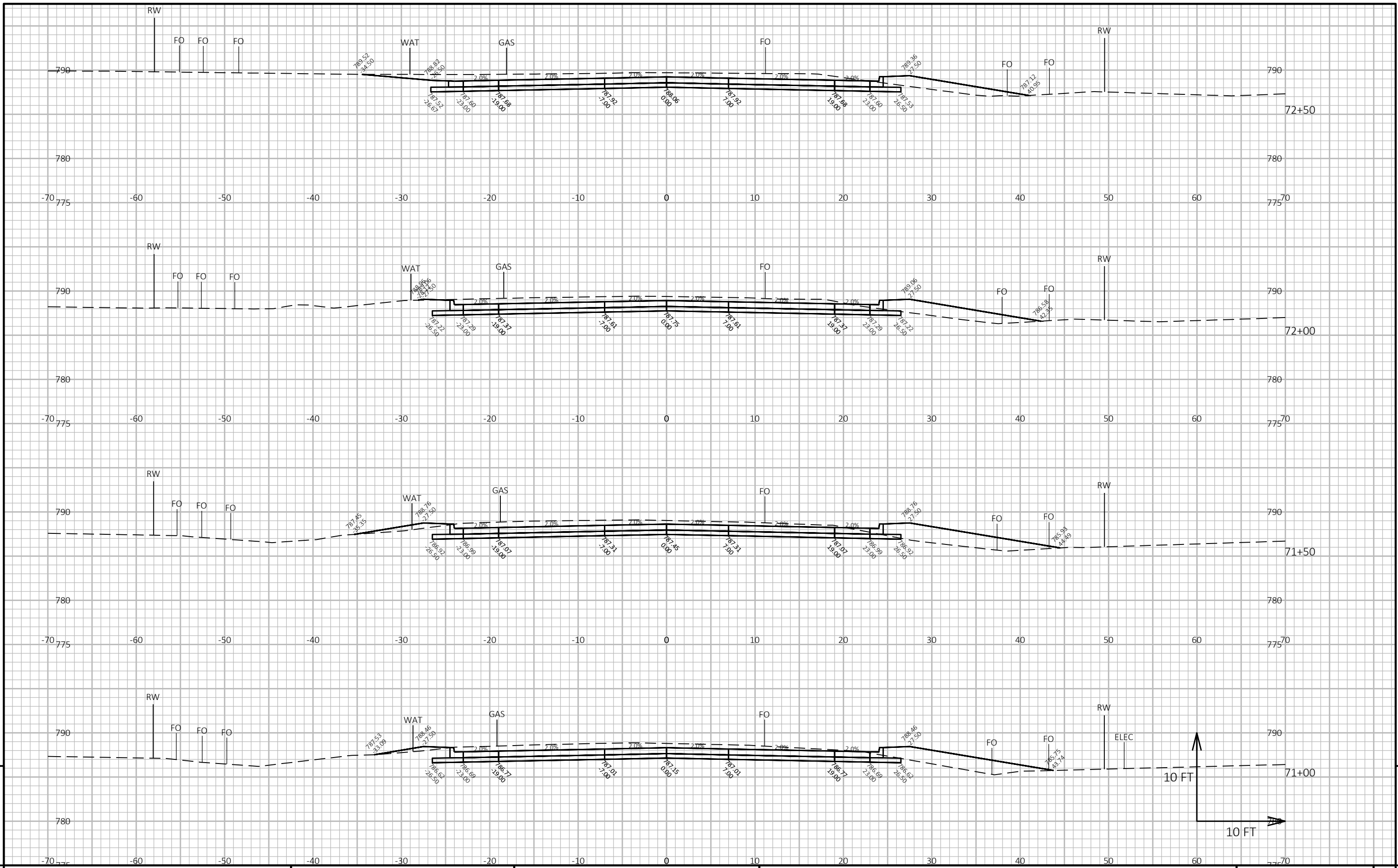
PROJECT NO: 4636-05-72      HWY: CTH I      COUNTY: WINNEBAGO      CROSS SECTIONS: CTH I      SHEET      E

FILE NAME: C:\PW\_WORK\EXP-PW.BENTLEY.COM\_EXP-PW-01\00111322\PROP\_CRD.DWG      PLOT DATE: 10/31/2023 2:42 PM      PLOT BY: JOHN BOURGEOIS      PLOT NAME:      PLOT SCALE: 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.      WISDOT/CADD SHEET 49

LAYOUT NAME - XS10







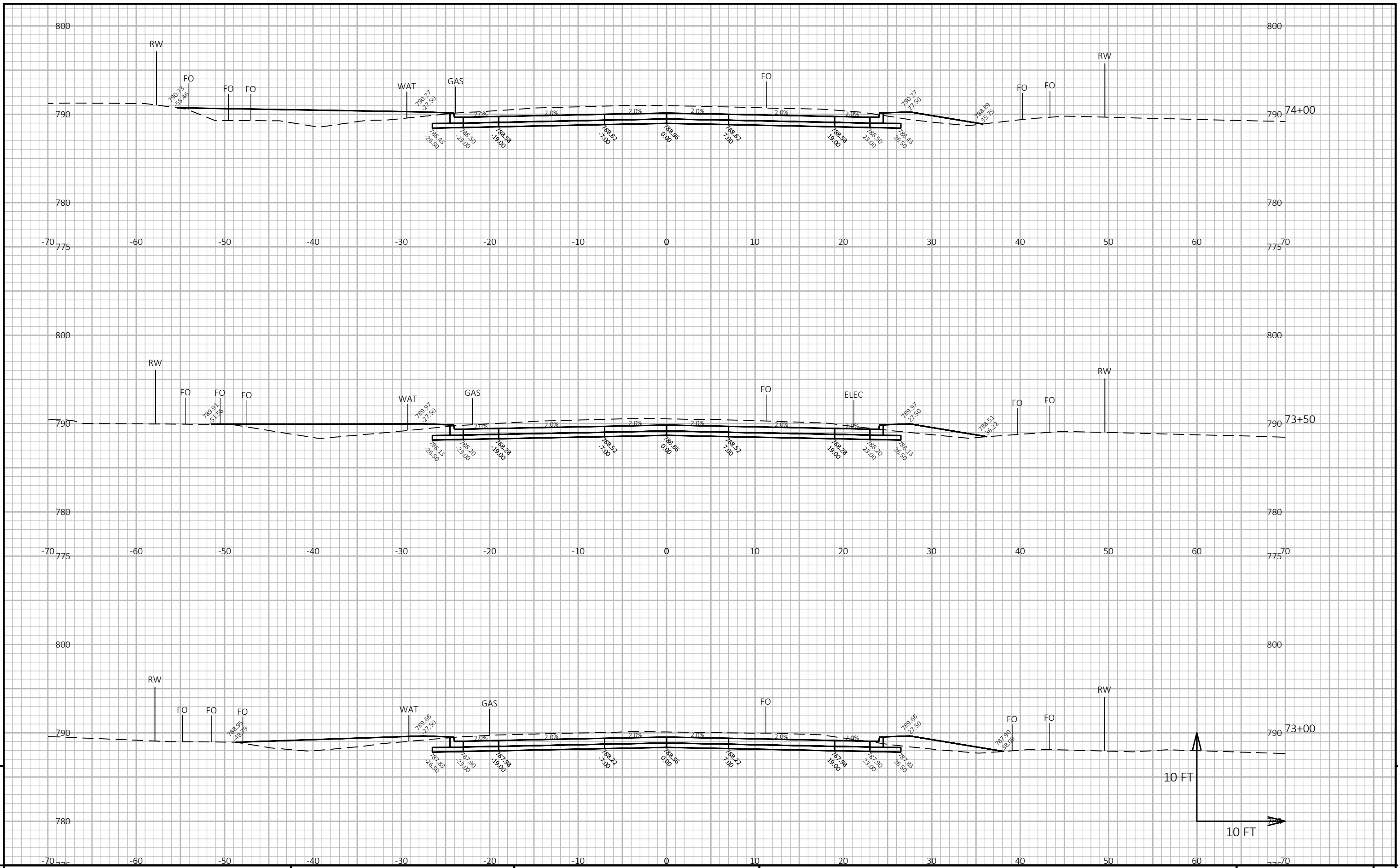
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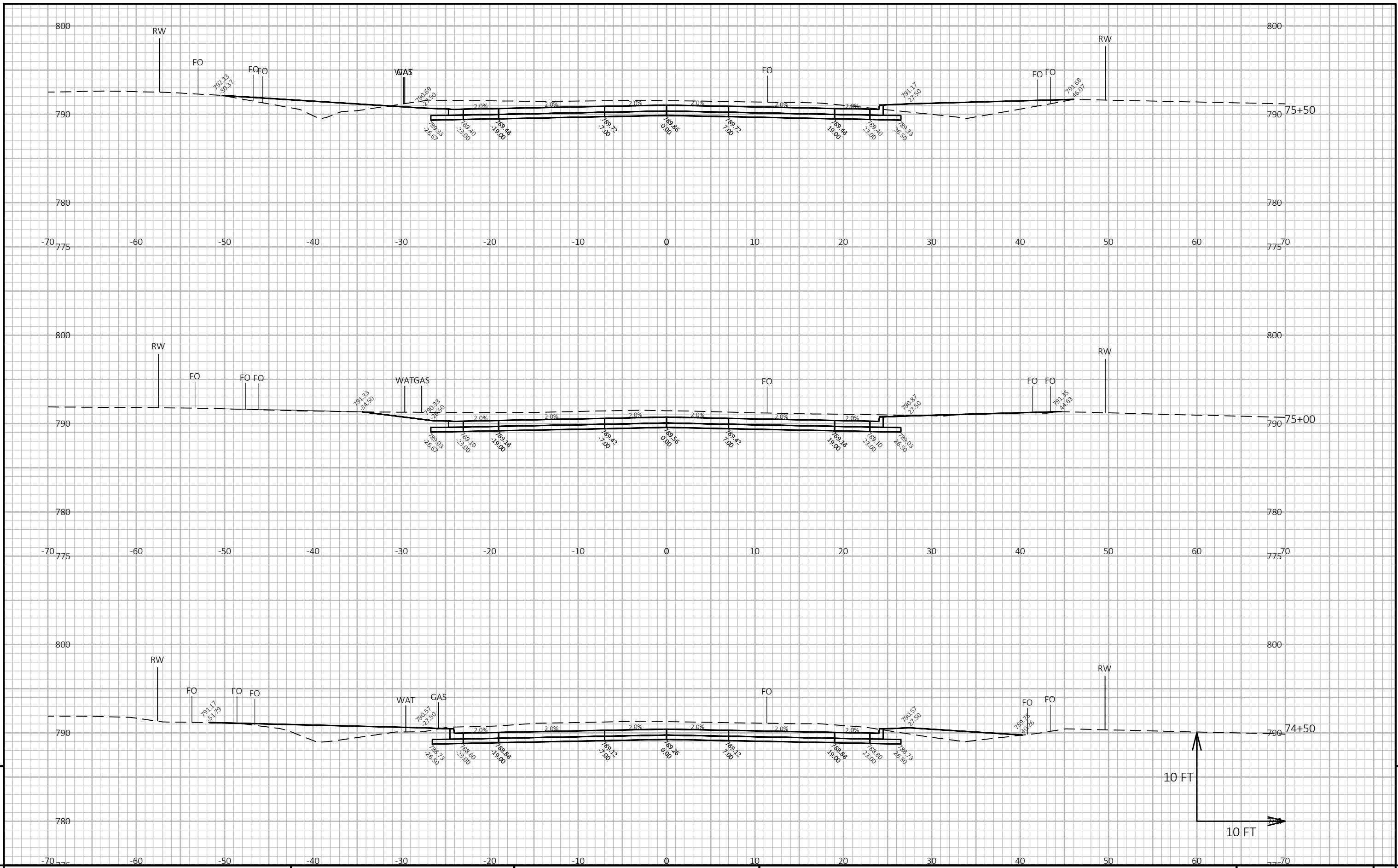
PROJECT NO: 4636-05-72      HWY: CTH I      COUNTY: WINNEBAGO      CROSS SECTIONS: CTH I      SHEET      E

FILE NAME: C:\PW\_WORK\EXP-PW.BENTLEY.COM\_EXP-PW-01\00111322\PROP\_CRD.DWG      PLOT DATE: 10/31/2023 2:43 PM      PLOT BY: JOHN BOURGEOIS      PLOT NAME:      PLOT SCALE: 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.      WISDOT/CADD SHEET 49

LAYOUT NAME - XS12



PROJECT NO: 4636-05-72	HWY: CTH I	COUNTY: WINNEBAGO	CROSS SECTIONS: CTH I	SHEET	E
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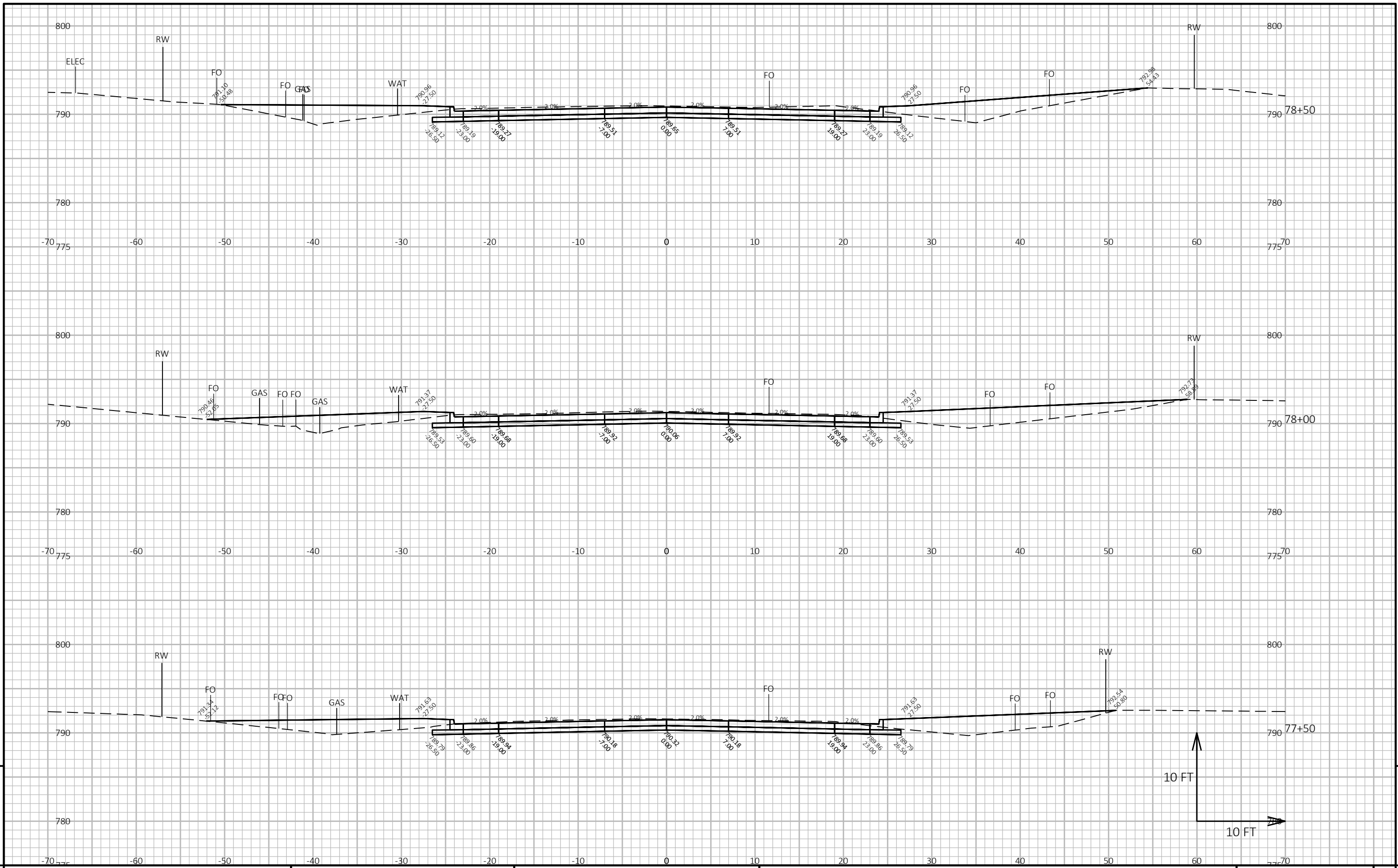
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PROJECT NO: 4636-05-72      HWY: CTH I      COUNTY: WINNEBAGO      CROSS SECTIONS: CTH I      SHEET      E

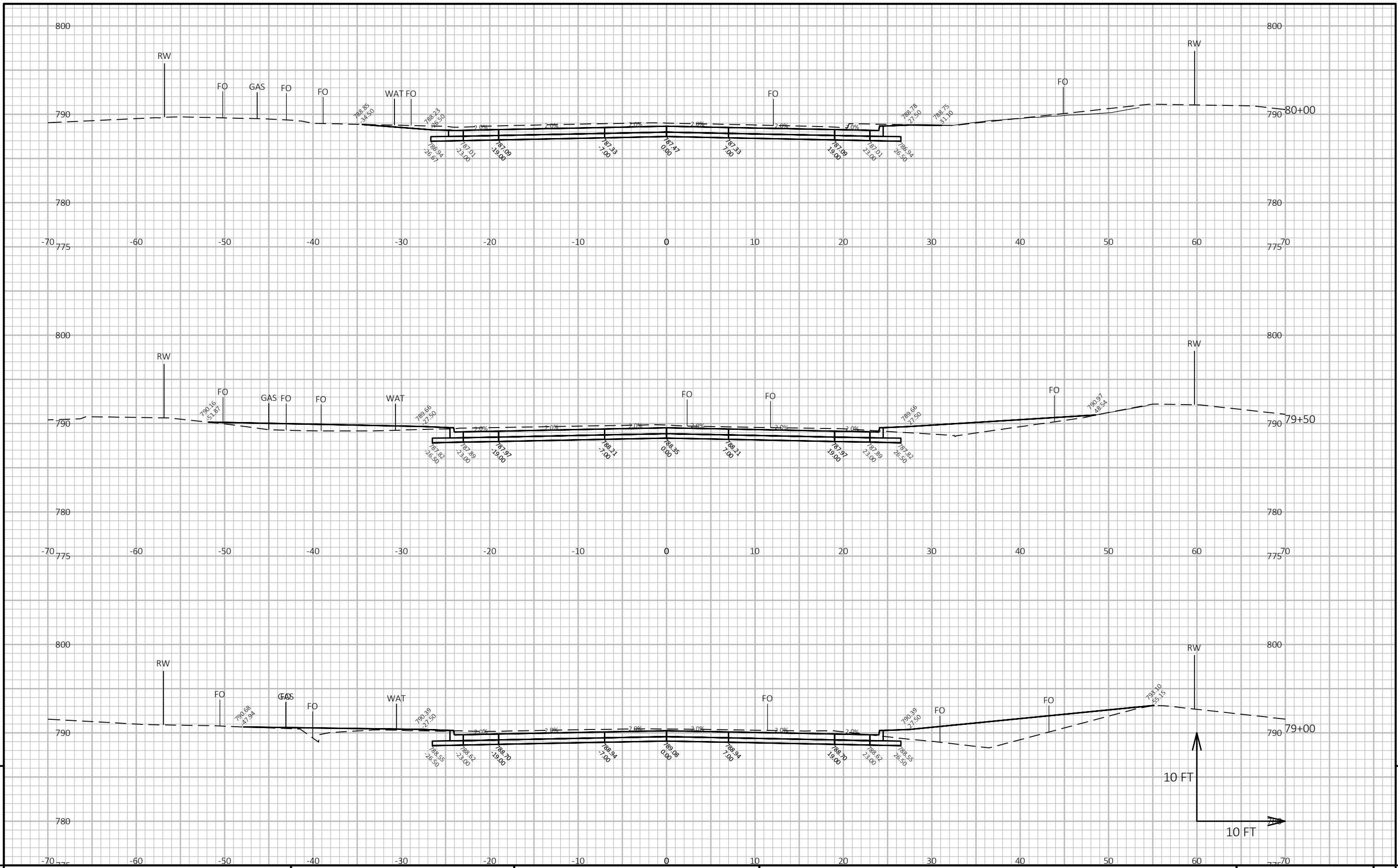
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LAYOUT NAME - XS14

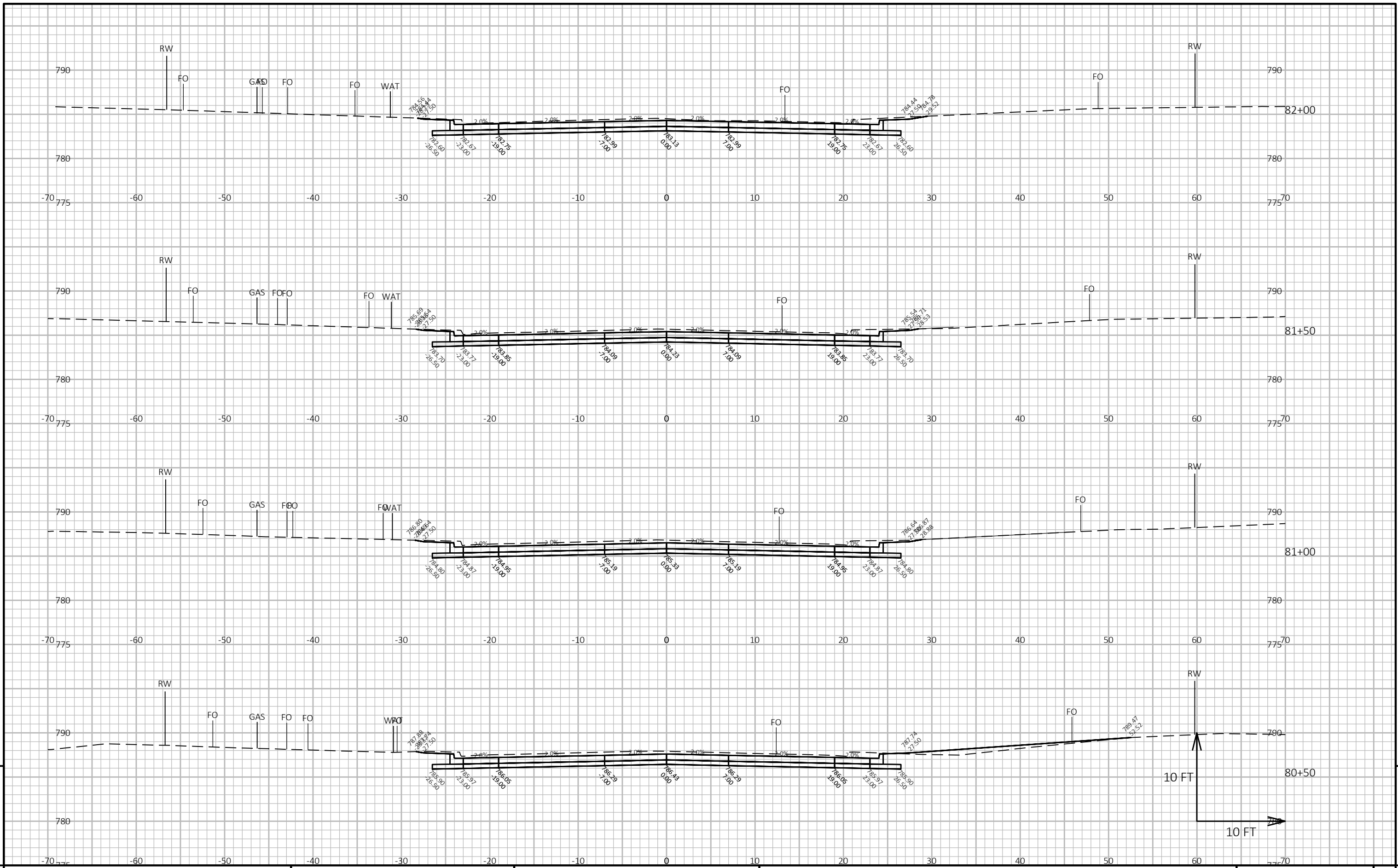




PROJECT NO: 4636-05-72      HWY: CTH I      COUNTY: WINNEBAGO      CROSS SECTIONS: CTH I      SHEET      E



PROJECT NO: 4636-05-72      HWY: CTH I      COUNTY: WINNEBAGO      CROSS SECTIONS: CTH I      SHEET 9



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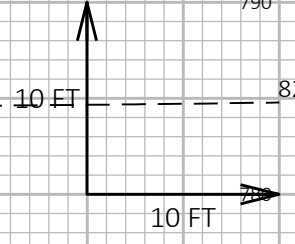
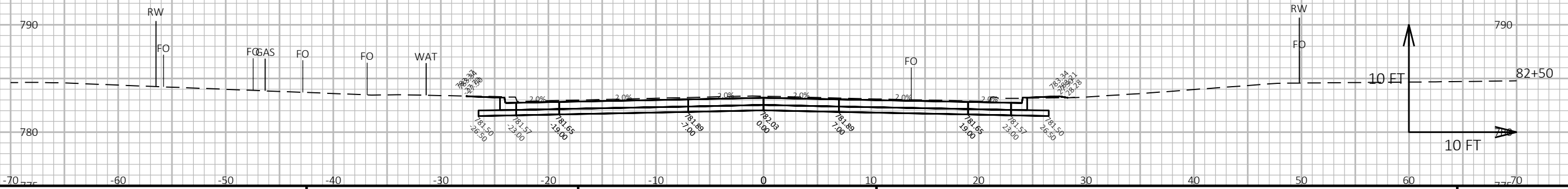
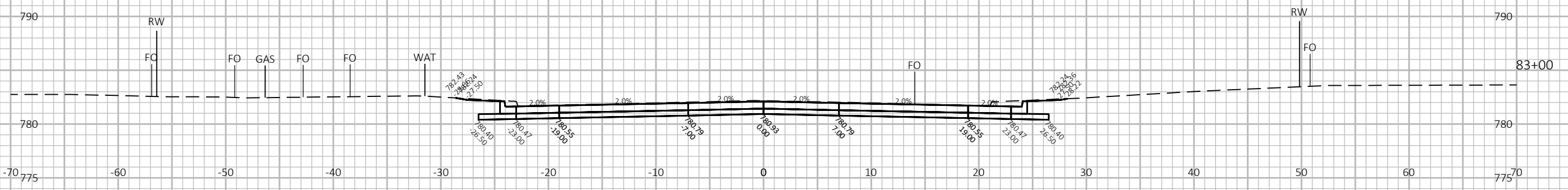
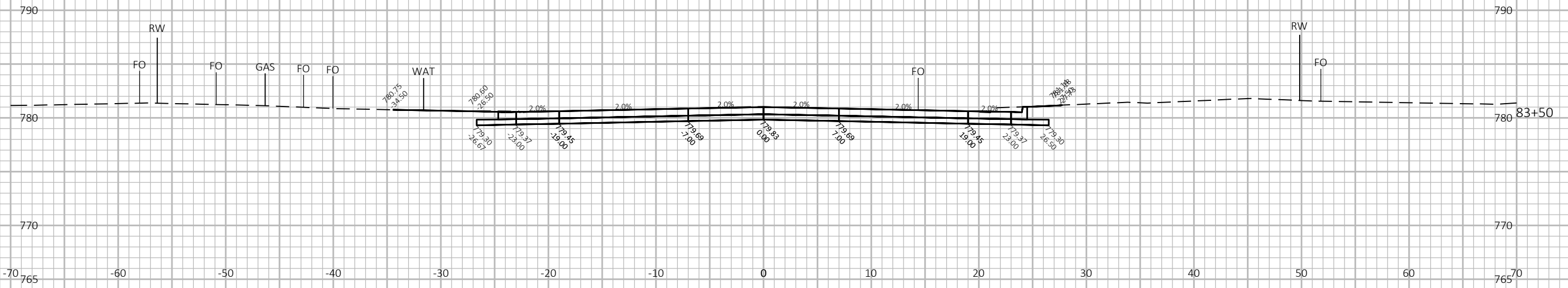
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PROJECT NO: 4636-05-72      HWY: CTH I      COUNTY: WINNEBAGO      CROSS SECTIONS: CTH I      SHEET      E

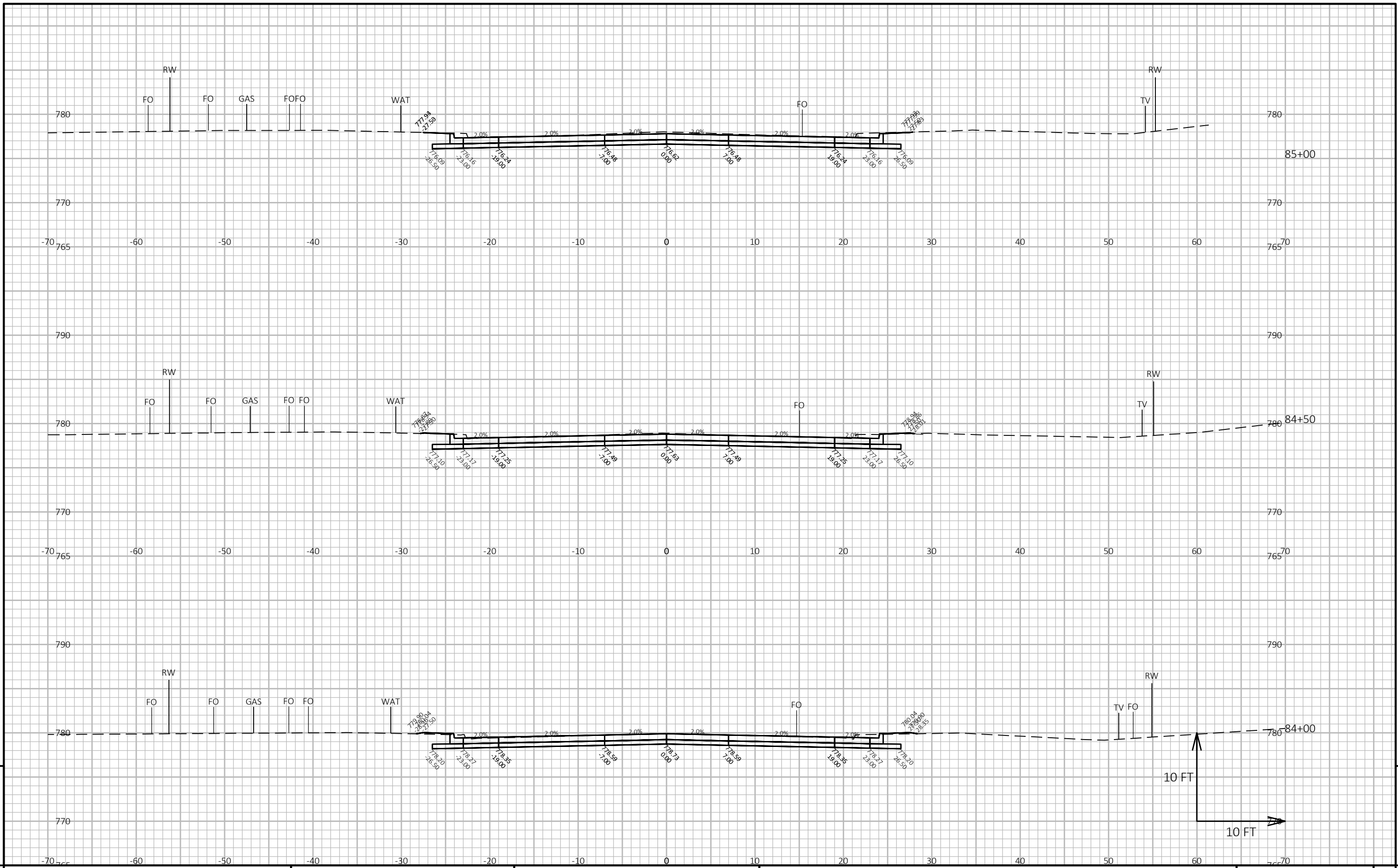
FILE NAME: C:\PW\_WORK\EXP-PW.BENTLEY.COM\_EXP-PW-01\00111322\PROP\_CRD.DWG      PLOT DATE: 10/31/2023 2:44 PM      PLOT BY: JOHN BOURGEOIS      PLOT NAME:      PLOT SCALE: 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.      WISDOT/CADD SHEET 49

LAYOUT NAME - XS18

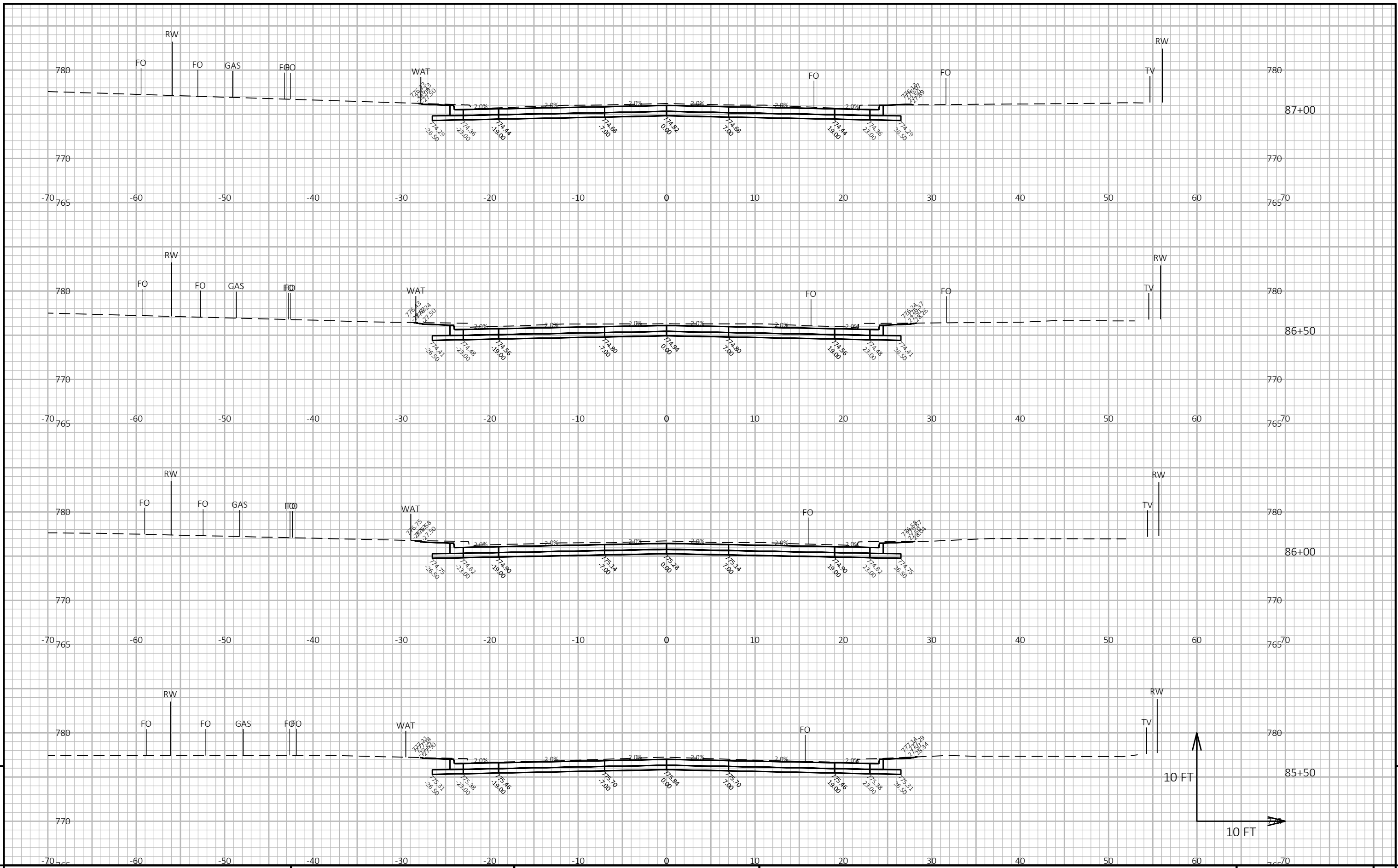




PROJECT NO: 4636-05-72      HWY: CTH I      COUNTY: WINNEBAGO      CROSS SECTIONS: CTH I      SHEET      E



PROJECT NO: 4636-05-72      HWY: CTH I      COUNTY: WINNEBAGO      CROSS SECTIONS: CTH I      SHEET      E



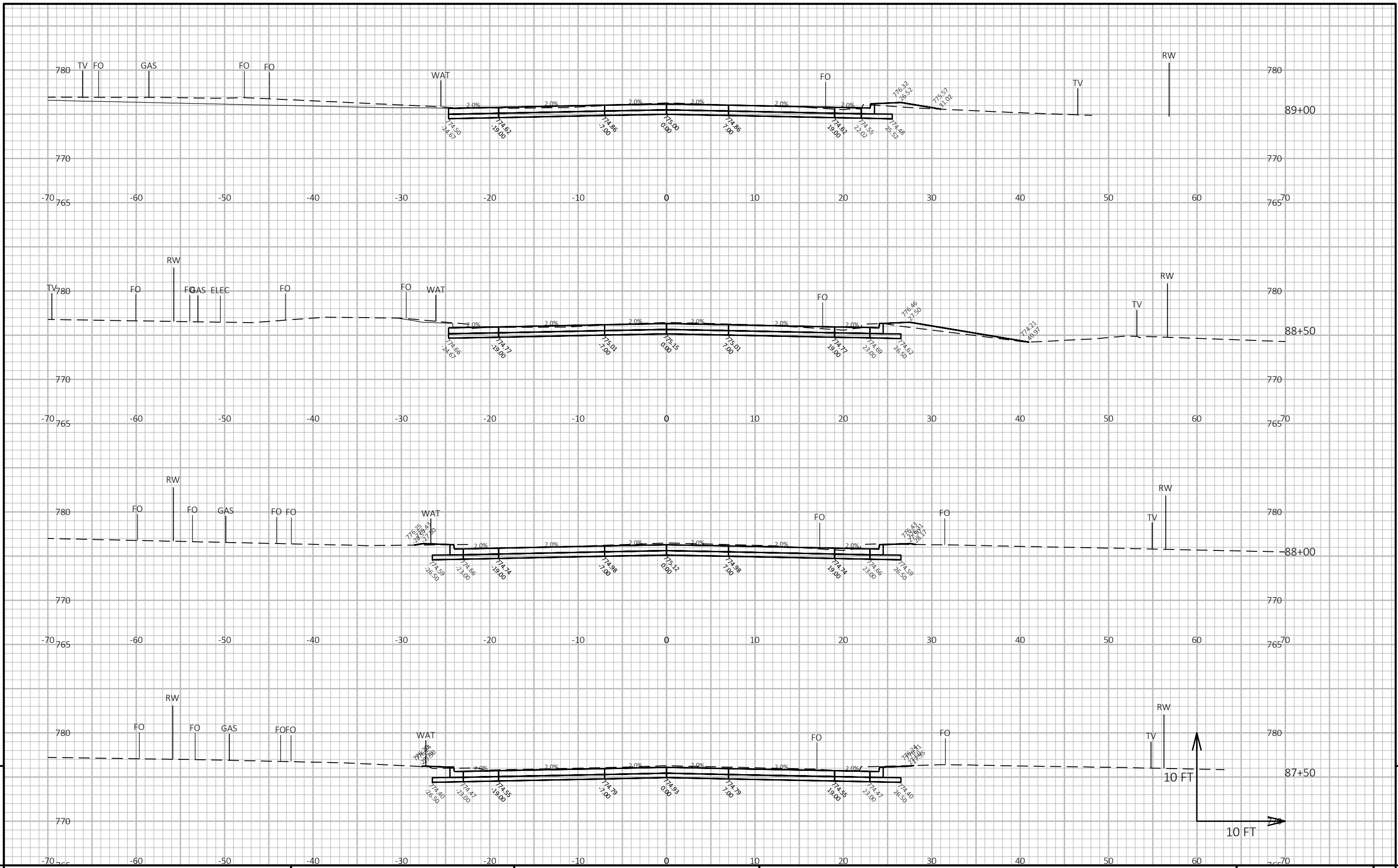
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PROJECT NO: 4636-05-72      HWY: CTH I      COUNTY: WINNEBAGO      CROSS SECTIONS: CTH I      SHEET      E

FILE NAME: C:\PW\_WORK\EXP-PW.BENTLEY.COM\_EXP-PW-01\00111322\PROP\_CRD.DWG      PLOT DATE: 10/31/2023 2:46 PM      PLOT BY: JOHN BOURGEOIS      PLOT NAME:      PLOT SCALE: 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.      WISDOT/CADD SHEET 49

LAYOUT NAME - XS21



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PROJECT NO: 4636-05-72      HWY: CTH I      COUNTY: WINNEBAGO      CROSS SECTIONS: CTH I      SHEET      E

FILE NAME: C:\PW\_WORK\EXP-PW.BENTLEY.COM\_EXP-PW-01\00111322\PROP\_CRD.DWG      PLOT DATE: 10/31/2023 2:46 PM      PLOT BY: JOHN BOURGEOIS      PLOT NAME:      PLOT SCALE: 1 IN:10 FT HORZ. / 1 IN:10 FT VERT.      WISDOT/CADD SHEET 49

LAYOUT NAME - XS22

# Notes



## ***Wisconsin Department of Transportation***

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