

GRE

MARCH 2019

PROJECT ID:
WITH:

4190-16-73

COUNTY:

BROWN

ORDER OF SHEETS

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

TOTAL SHEETS = 162



DESIGN DESIGNATION 4190-16-01

A.A.D.T.	2019	=	21,700
A.A.D.T.	2039	=	24,100
D.H.V.		=	2,699
D.D.		=	59/41
T.		=	5.4%
DESIGN SPEED		=	50 MPH
ESALS		=	3,700,000

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	

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

ASHLAND AVE., DEPERE

PARKVIEW ROAD INTERSECTION

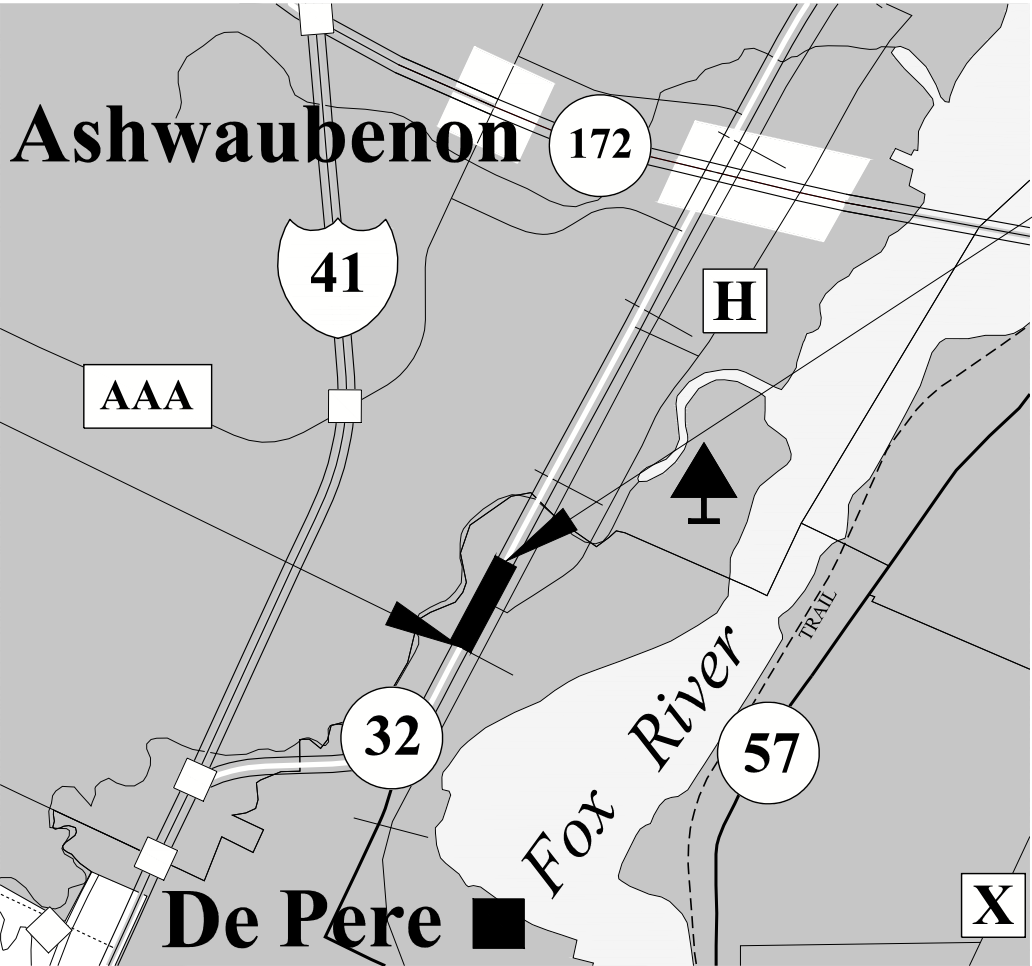
STH 32

BROWN

STATE PROJECT NUMBER
4190-16-73

BEGIN PROJECT
STA 36+69.35
X = 84,425.89
Y = 547,378.17

END PROJECT
STA 48+55.66
X = 85,013.80
Y = 548,408.49



LAYOUT
SCALE 0 0.5 MI

TOTAL NET LENGTH OF CENTERLINE = 0.2 MI

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, BROWN COUNTY, NAD83 (1991), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
4190-16-73	WISC 2019168	1

STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
PREPARED BY	
Surveyor	_____
Designer	A. DUMS
Project Manager	A. FULCER
Regional Examiner	_____
Regional Supervisor	D. SEGERSTROM
APPROVED FOR THE DEPARTMENT	
DATE: 10/11/2018	
	(Signature)

GENERAL NOTES

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

EXISTING PERMANENT SIGNS ARE TO REMAIN IN PLACE UNLESS SPECIALLY CALLED FOR REMOVAL ON MISCELLANEOUS QUANTITIY TABLE.

EROSION CONTROL DEVICES SHALL BE PLACED IN SEQUENCE WITH CONSTRUCTION OPERATIONS OR AS OTHERWISE DIRECTED BY THE ENGINEER.

CONTRACTOR WILL BE RESPONSIBLE FOR RESHAPING, SEEDING AND MULCHING ANY PREVIOUSLY GRASSED AREAS WHICH ARE DISTURBED BY HIS OPERATION OUTSIDE OF THE NORMAL CONSTRUCTION LIMITS.

THE CONTRACTOR IS TO WORK WITH UTMOST CARE AND PROTECT ALL SURVEY MARKERS. REMOVAL OF ANY SURVEY MARKER IS TO BE WITH THE APPROVAL OF THE ENGINEER. DETAILS OF CONSTRUCTION NOT SHOWN ON THE PLAN SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

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

ALL DISTURBED AREAS, NOT OTHERWISE SURFACED, ARE TO BE TOPSOILED, FERTILIZED, SEEDED AND COVERED WITH MULCH OR EROSION MAT, AS SHOWN ON THE PLANS.

THE EXACT LOCATIONS OF ALL EROSION CONTROL ITEMS SHALL BE DETERMINED BY THE ENGINEER.

THE CONTRACTOR SHALL NOTIFY DIGGERS HOTLINE AND ALL UTILITIES IN THE VICINITY OF THE PROJECT TO LOCATE THEIR FACILITIES AT LEAST THREE WORKING DAYS PRIOR TO BEGINNING WORK.

ALL DIMENSIONS TO FLANGE LINE OF CURB UNLESS OTHERWISE NOTED IN PLANS.

ALL CURB AND GUTTER GRADES SHALL BE VERIFIED BY THE ENGINEER PRIOR TO CONSTRUCTION OF CURB AND GUTTER.

ALL OPENINGS OF HOLES BELOW SUBGRADE RESULTING FROM REMOVALS, ABANDONMENTS OR STORM SEWER SHALL BE BACKFILLED WITH GRANULAR BACKFILL. GRANULAR BACKFILL SHALL BE INCLUDED IN THE CONTRACT PRICE OF REMOVAL OR ABANDONMENT ITEM.

DNR AREA LIAISON

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
2984 SHAWANO AVENUE
GREEN BAY, WI 54313-6727
ATTN: JAMES P. DOPERALSKI JR.
PHONE: 920-662-5119
FAX: 920-662-5159
E-MAIL: JAMES.DOPERALSKI@WISCONSIN.GOV

UTILITIES

ATC MANAGEMENT, INC. - ELECTRICITY
801 O'KEEFE ROAD
P.O. BOX 6113
DE PERE, WI 54115-6113
ATTN: MIKE OLSEN
PHONE: 920-338-6582
E-MAIL: MOLSEN@ATCLLC.COM

AT&T WISCONSIN - COMMUNICATION LINE
221 WEST WASHINGTON STREET
APPLETON, WI 54911-4742
ATTN: JOSEPH KASSAB
PHONE: 920-735-3206
E-MAIL: JK572K@ATT.COM

CITY OF DE PERE - WATER
925 S 6TH STREET
DE PERE, WI 54115
ATTN: SCOTT THORESEN
PHONE: 920-339-4060
E-MAIL: STHORESEN@MAIL.DE-PERE.ORG

CITY OF DE PERE - SEWER
925 S 6TH STREET
DE PERE, WI 54115
ATTN: ERIC RAKERS
PHONE: 920-339-4060
E-MAIL: ERAKERS@MAIL.DE-PERE.ORG

GREEN BAY METROPOLITAN SEWERAGE DISTRICT - SEWER
2231 N QUINCY STREET
GREEN BAY, WI 54302-1248
ATTN: ROB REINHART
PHONE: 920-438-1035
E-MAIL: RREINHART@NEWWATER.US

TDS TELECOM - COMMUNICATION LINE
SUITE 218A
10 COLLEGE AVENUE
APPLETON, WI 54911
ATTN: STEVE JAKUBIEC
PHONE: 920-882-4166
E-MAIL: STEVE.JAKUBIEC@TDSTELECOM.COM

TIME WARNER CABLE - COMMUNICATION LINE
3520 DESTINATION DRIVE
APPLETON, WI 54915
ATTN: LISA LAW
PHONE: 920-831-9249
E-MAIL: WEST-ENGINEERING-RELO@TWCABLE.COM

WINDSTREAM KDL, INC. - COMMUNICATION LINE
13935 BISHOPS DRIVE
BROOKFIELD, WI 53005
ATTN: AARON GRODI
PHONE: 608-819-5014
E-MAIL: AARON.GRODI@WINDSTREAM.COM

WINDSTREAM NTI - COMMUNICATION LINE
13935 BISHOPS DRIVE
BROOKFIELD, WI 53005
ATTN: AARON GRODI
PHONE: 608-819-5014
E-MAIL: AARON.GRODI@WINDSTREAM.COM

WISCONSIN PUBLIC SERVICE CORPORATION - ELECTRICITY & GAS/PETROLEUM
700 N ADAMS STREET
P.O. BOX 19001
GREEN BAY, WI 54307-9001
ATTN: LORI BUTRY
PHONE: 920-433-1703
E-MAIL: LABUTRY@INTEGRYSGROUP.COM

NE REGION SURVEY CONTACT PERSON

CORMAC MCINNIS
DEPARTMENT OF TRANSPORTATION
NORTHEAST REGION
944 VANDERPERREN WAY
GREEN BAY, WI 54304
TEL: 920-492-5638
E-MAIL: CORMAC.MCINNIS@DOT.WI.GOV

CANADIAN NATIONAL RAILWAY CONTACTS

RAILROAD FLAGGING AND FACILITY LOCATING CONTACT
MARY ELLEN CARMODY, AUDIT OFFICER, ADMINISTRATION SERVICE CENTER 2800
700 PERSHING STREET
PONTIAC, MI 48340
TEL: 248-452-4705
FAX: 248-452-4972
E-MAIL: MARYELLEN.CARMODY@CN.CA

MAIN RAILROAD CONTACT
JACKIE MACEWICZ, MANAGER PUBLIC WORKS
1625 DEPOT STREET
STEVENS POINT, WI 54481
TEL: 715-345-2503
FAX: 715-345-2534
E-MAIL: JACKIE.MACEWICZ@CN.CA

24 HOUR EMERGENCY RAILROAD
SIGNAL CONTACT: 1-800-616-3432

CALL BEFORE YOU DIG

CANADIAN NATIONAL RAILWAY IS NOT PART OF THE DIGGERS HOTLINE SYSTEM. CALL MARY ELLEN CARMODY AT 248-452-4705 WHEN DIGGING ON RAILROAD R/W

WWW.CN.CA/EN/DELIVERING-RESPONSIBLY/SAFETY/RAILSAFE/UTILITY-INSTALLATIONS



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

EMERGENCY CONTACT NUMBERS FOR WISCONSIN POWER AND LIGHT COMPANY

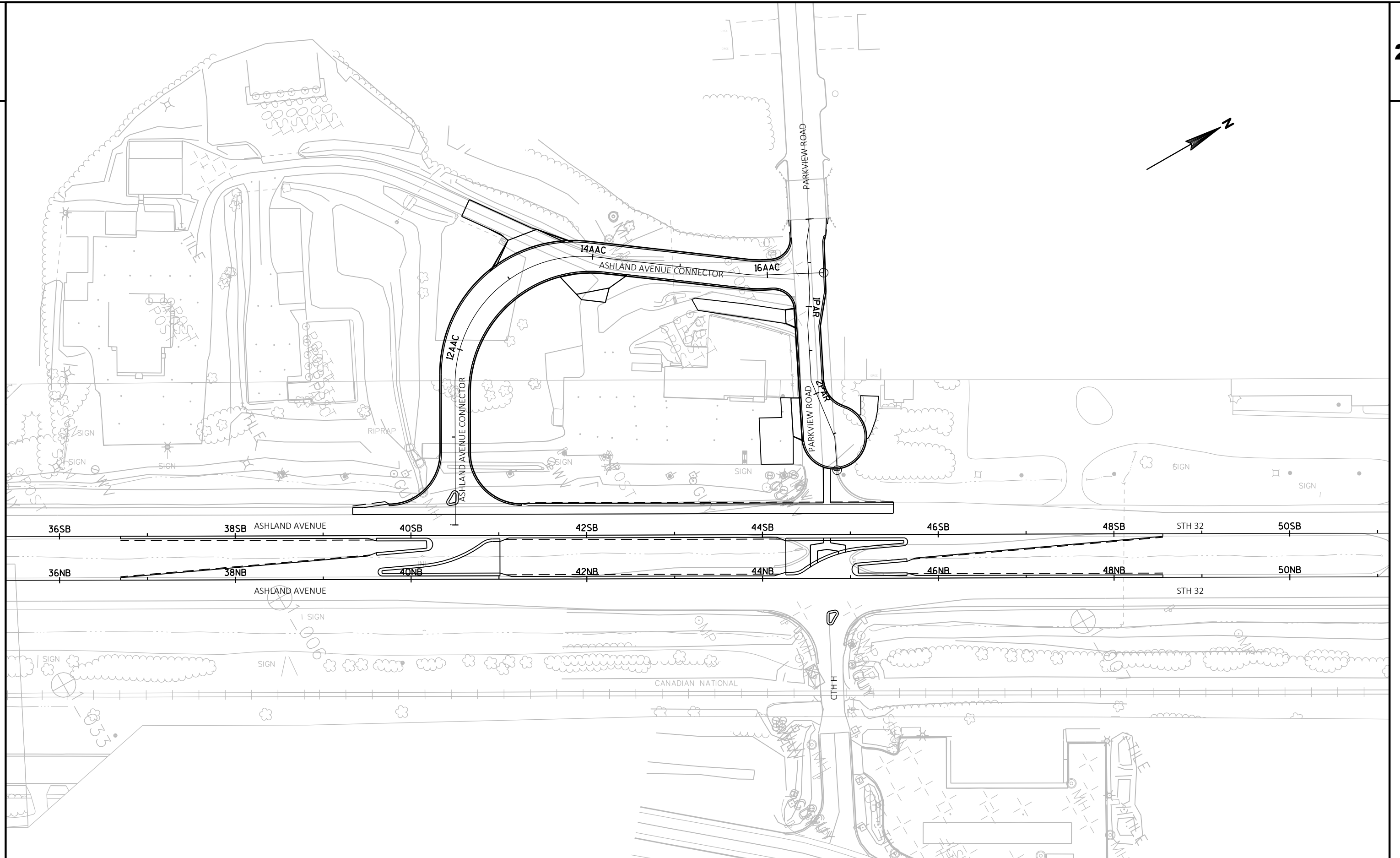
ELECTRIC 24 HOUR EMERGENCY SERVICE: 1-800-862-6261
GAS 24 HOUR EMERGENCY SERVICE: 1-800-862-6263

EMERGENCY CONTACT NUMBERS FOR WISCONSIN PUBLIC SERVICE

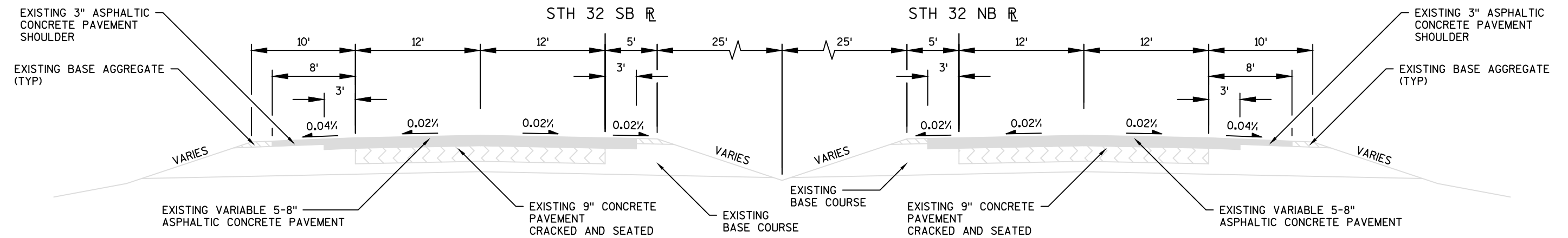
ELECTRIC 24 HOUR EMERGENCY SERVICE: 1-800-450-7240
GAS 24 HOUR EMERGENCY SERVICE: 1-800-450-7280

EMERGENCY CONTACT NUMBERS FOR WE ENERGIES

ELECTRIC 24 HOUR EMERGENCY SERVICE: 1-800-662-4797
GAS 24 HOUR EMERGENCY SERVICE: 1-800-261-5325

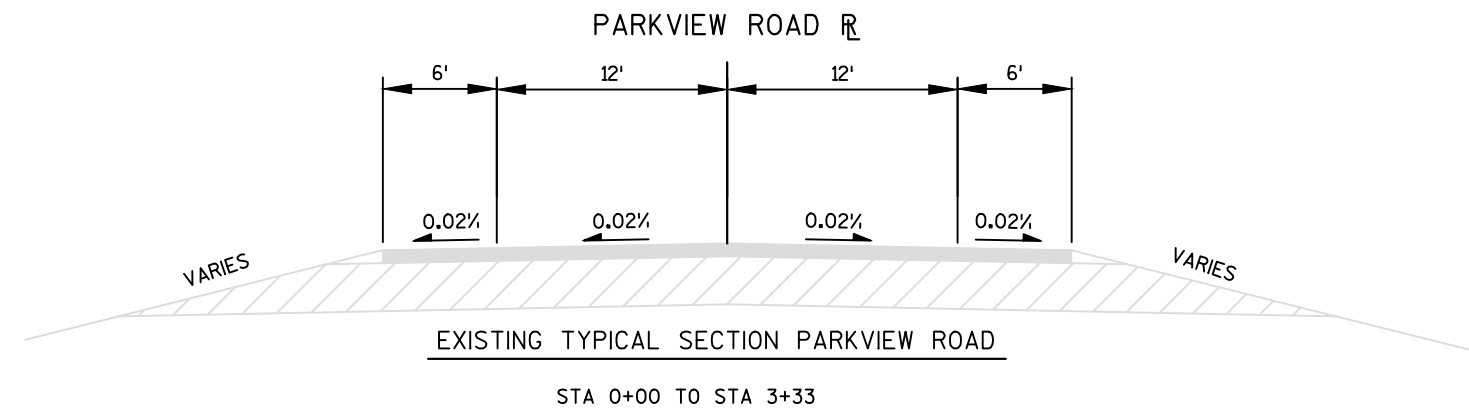


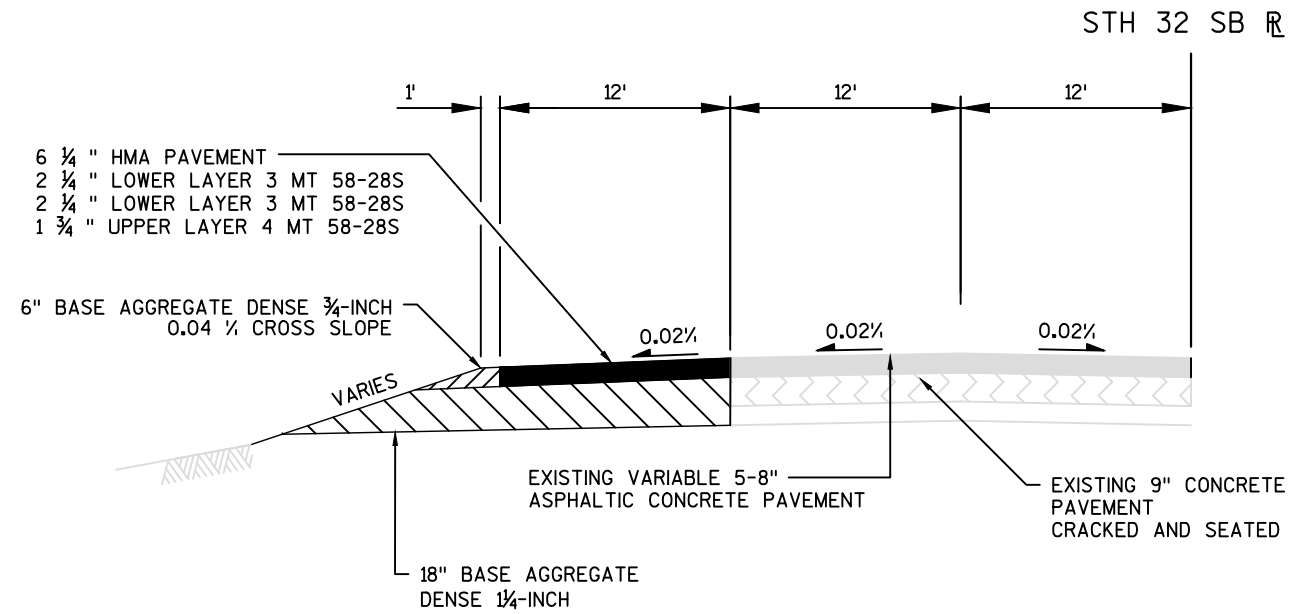
PROJECT NO: 4190-16-73	HWY: STH 32	COUNTY: BROWN	PROJECT OVERVIEW	SHEET	E
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EXISTING TYPICAL SECTION STH 32 (ASHLAND AVENUE)

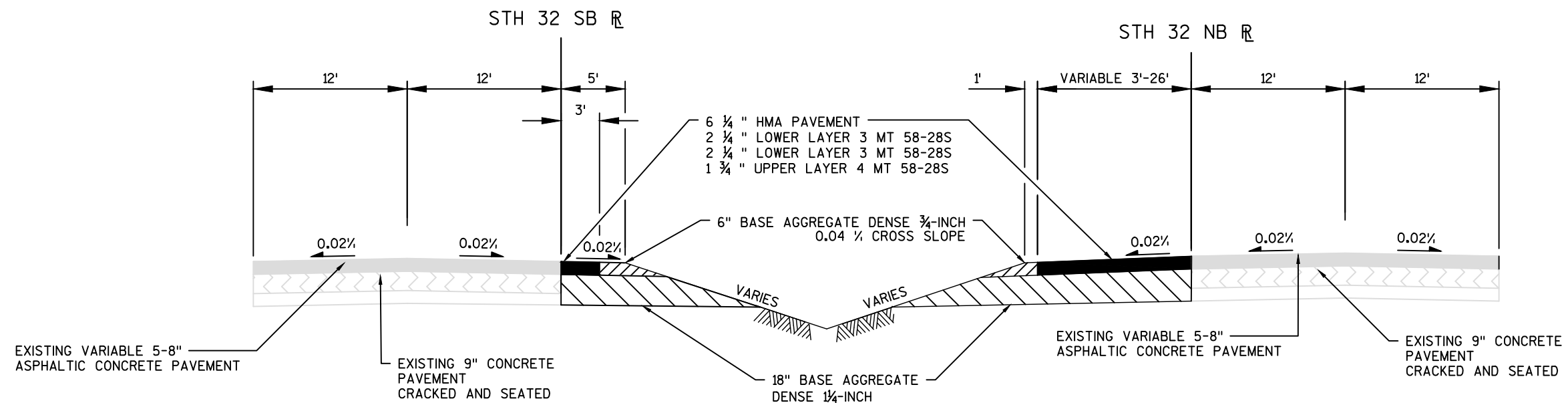
STA 31+00SB TO STA 88+08SB STA 29+00NB TO STA 86+63NB





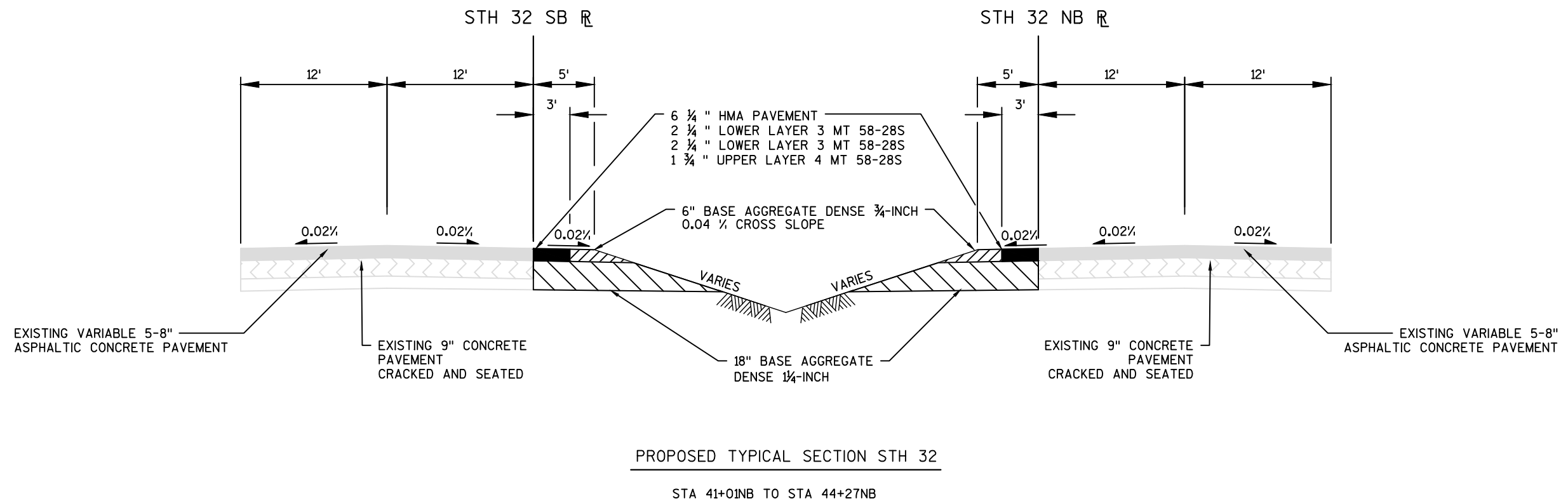
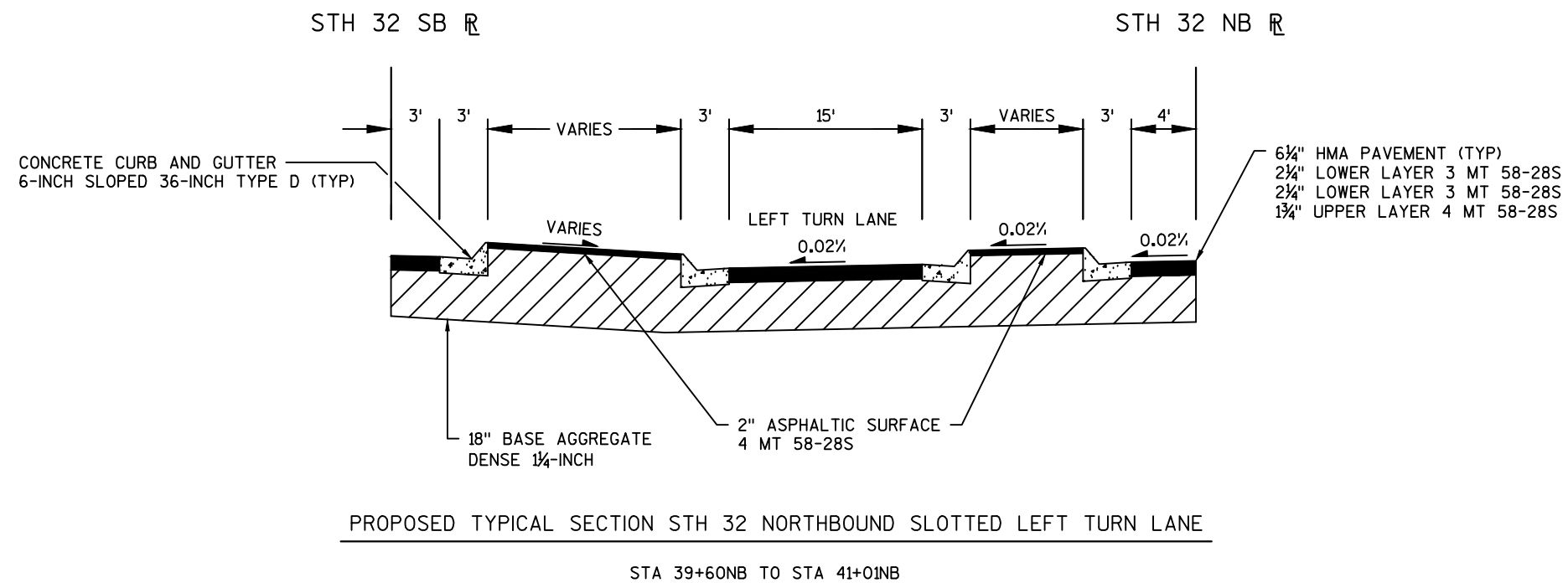
PROPOSED TYPICAL SECTION STH 32 SOUTHBOUND RIGHT TURN LANE

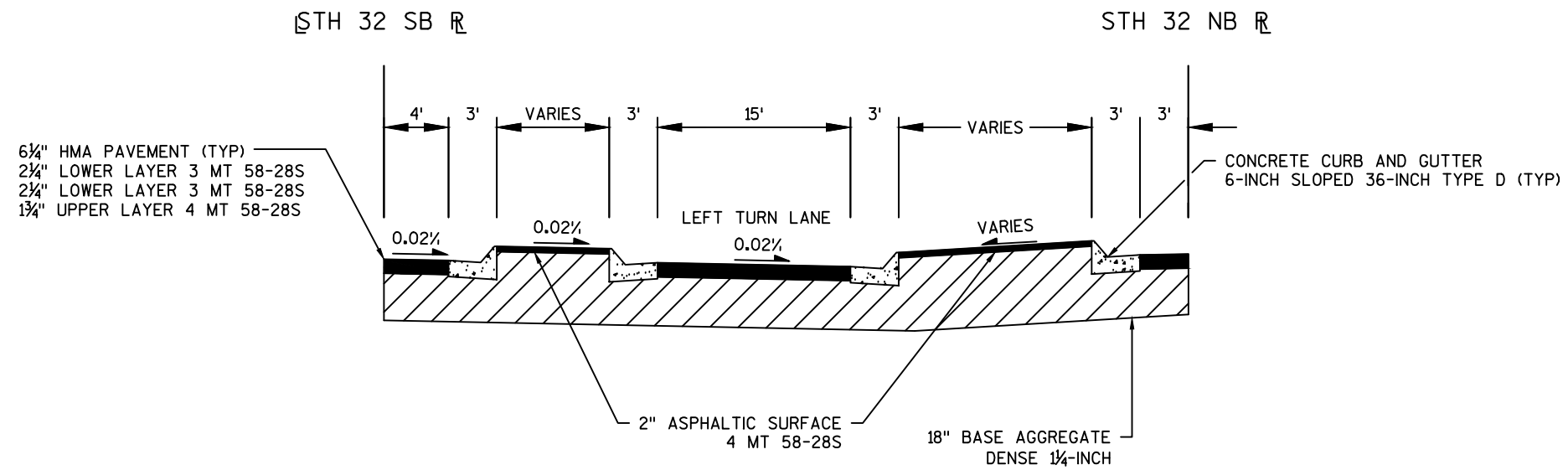
STA 39+34SB TO STA 45+49SB



PROPOSED TYPICAL SECTION STH 32

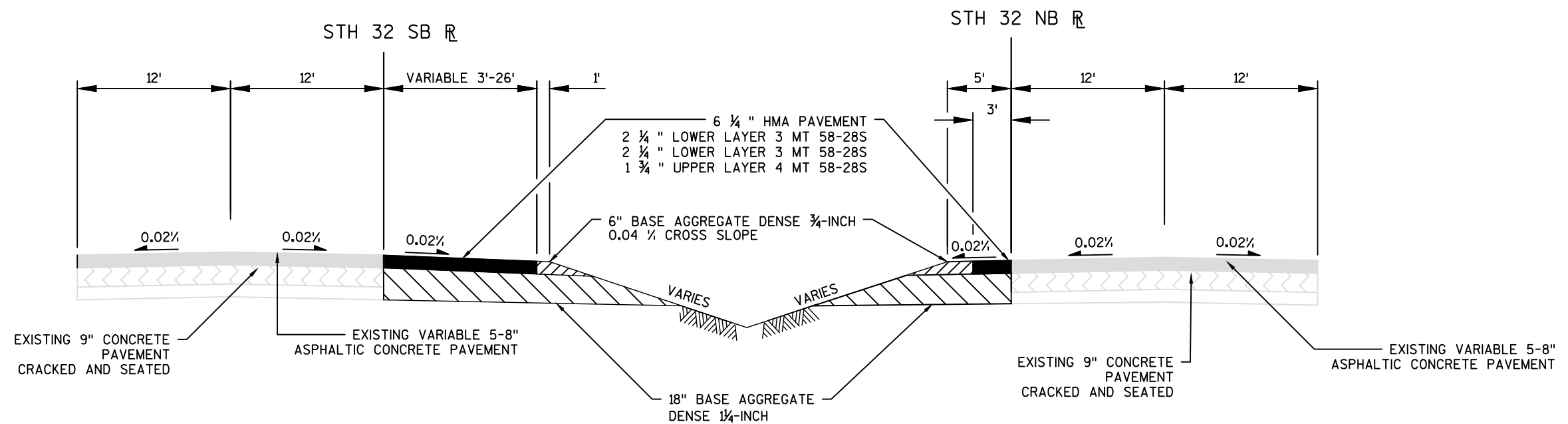
STA 36+69NB TO STA 39+60NB





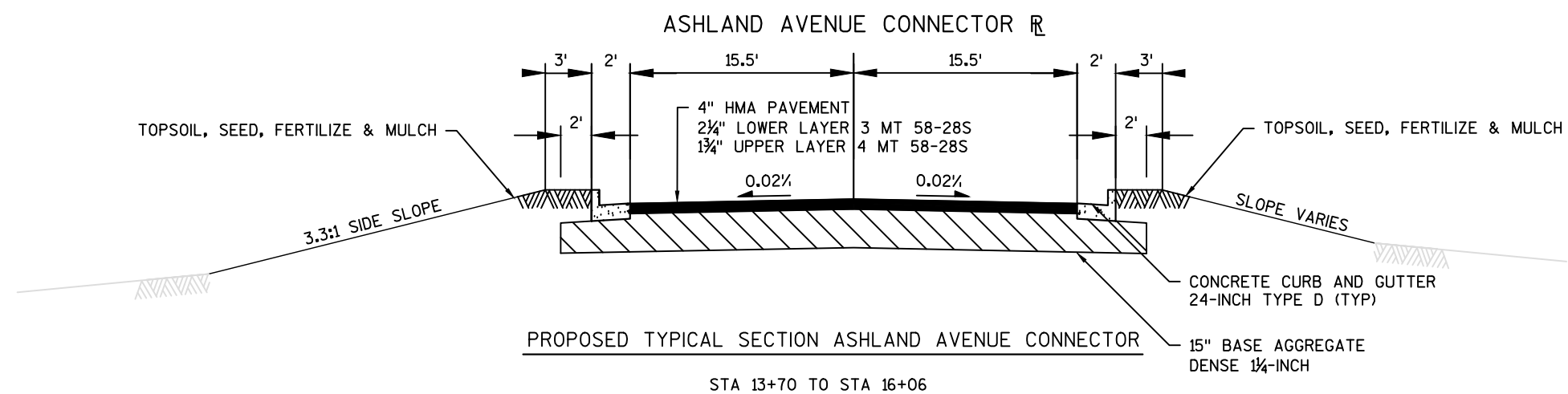
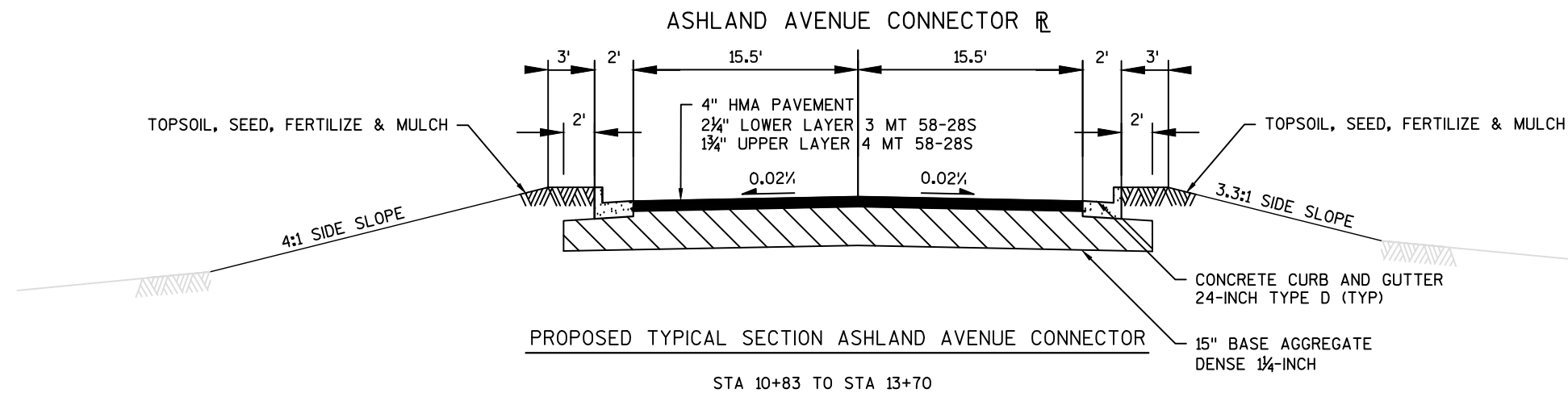
PROPOSED TYPICAL SECTION STH 32 SOUTHBOUND SLOTTED LEFT TURN LANE

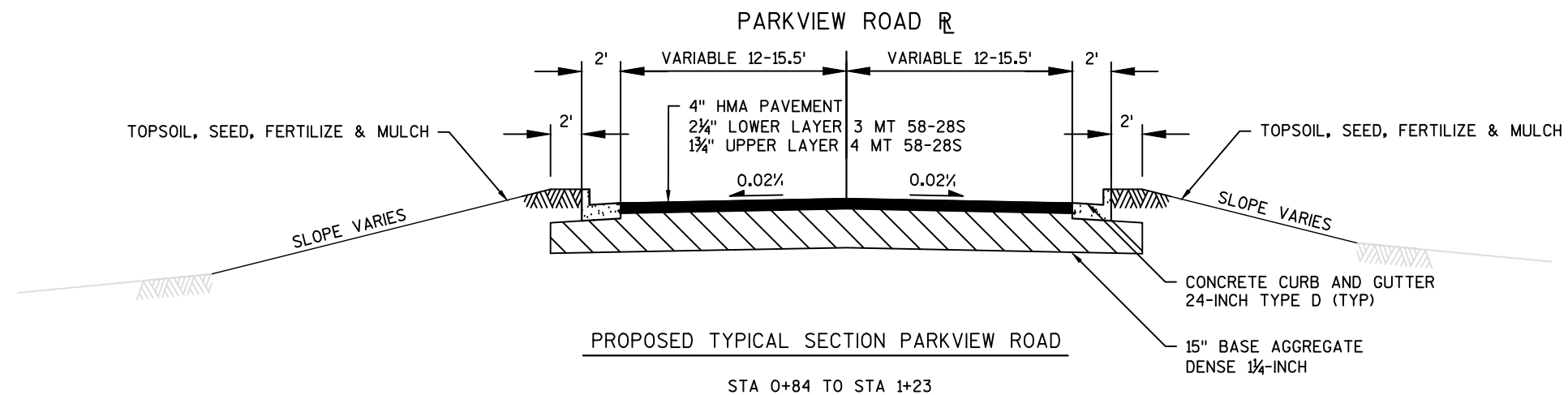
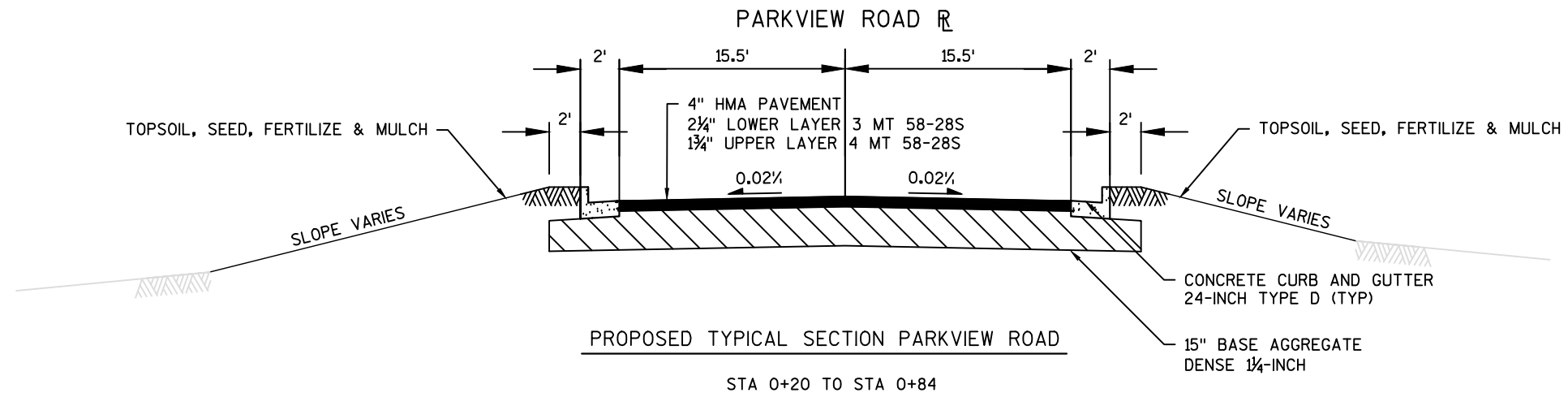
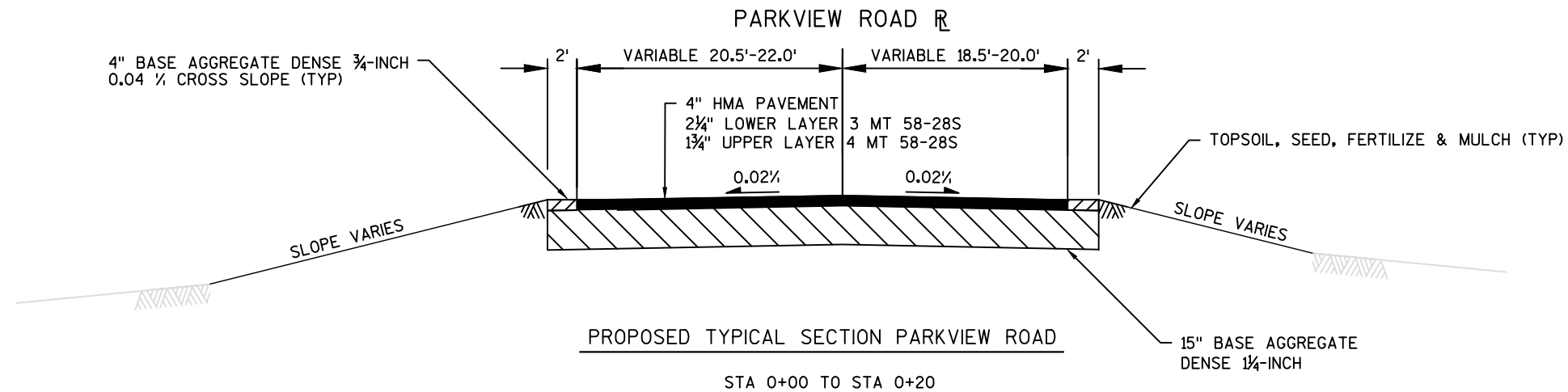
STA 44+27SB TO STA 45+65SB

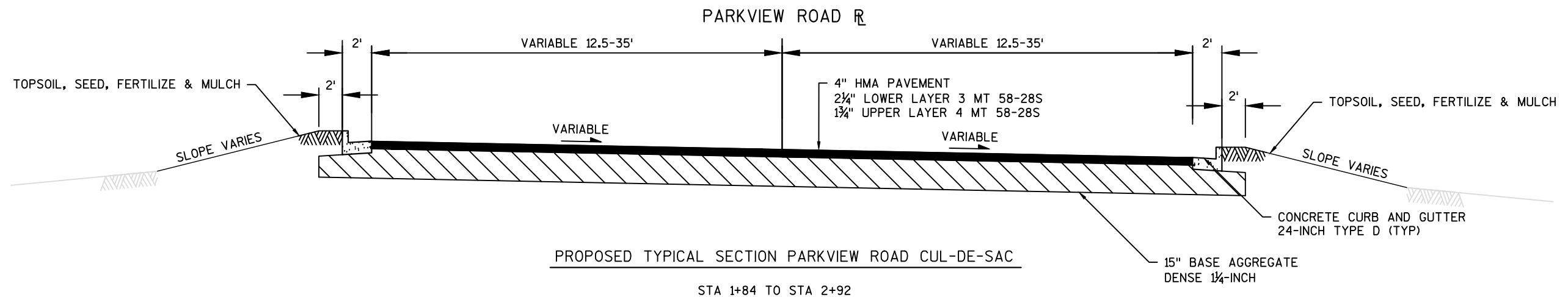
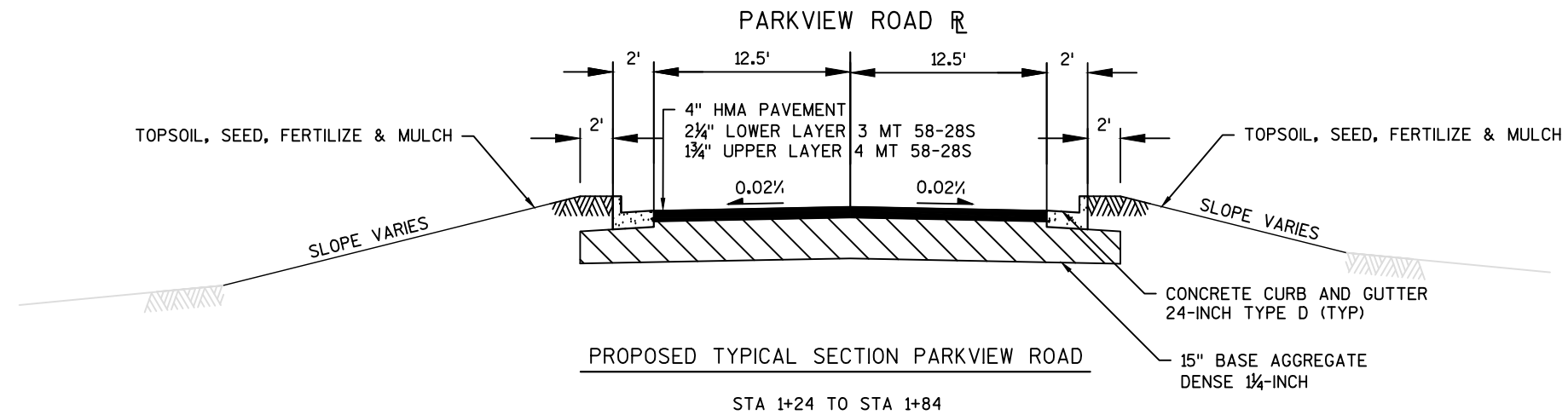


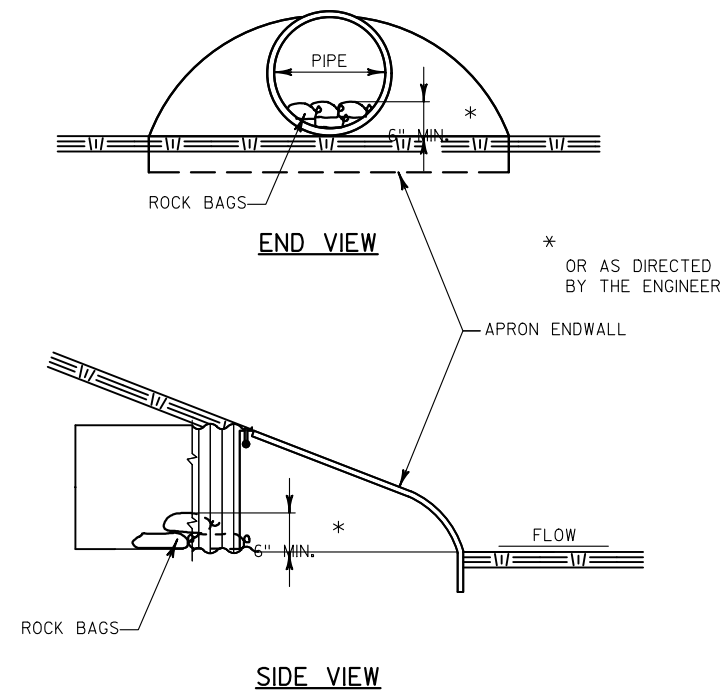
PROPOSED TYPICAL SECTION STH 32

STA 45+65NB TO STA 48+56NB





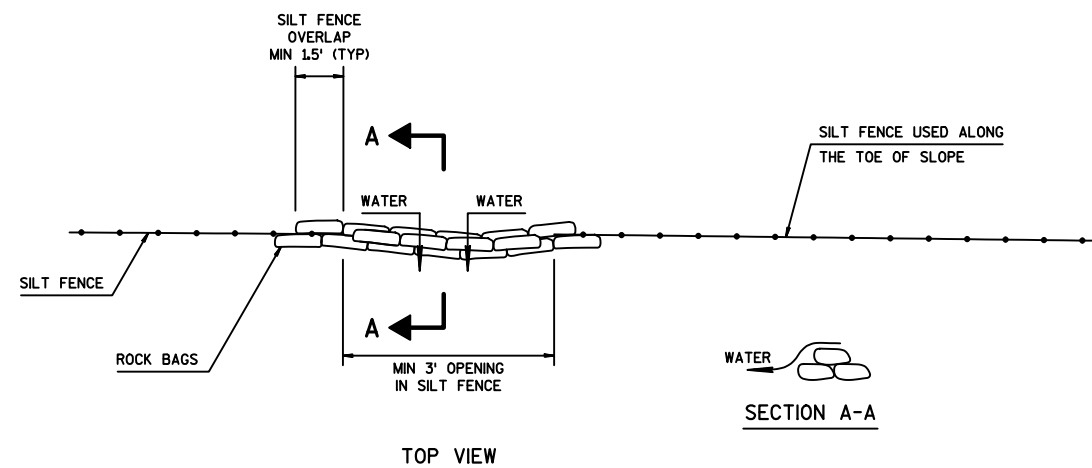




ESTIMATED BAG SIZE = 24" X 12" X 6"	
PIPE SIZE	ESTIMATED NO. OF BAGS
12"	1
15"	2
18"	2
24"	3
30"	5
36"	7
42"	7
48"	10
54"	10
60"	13
72"	16
30"X19"	5
38"X24"	7
53"X34"	10
60"X38"	13
76"X48"	18

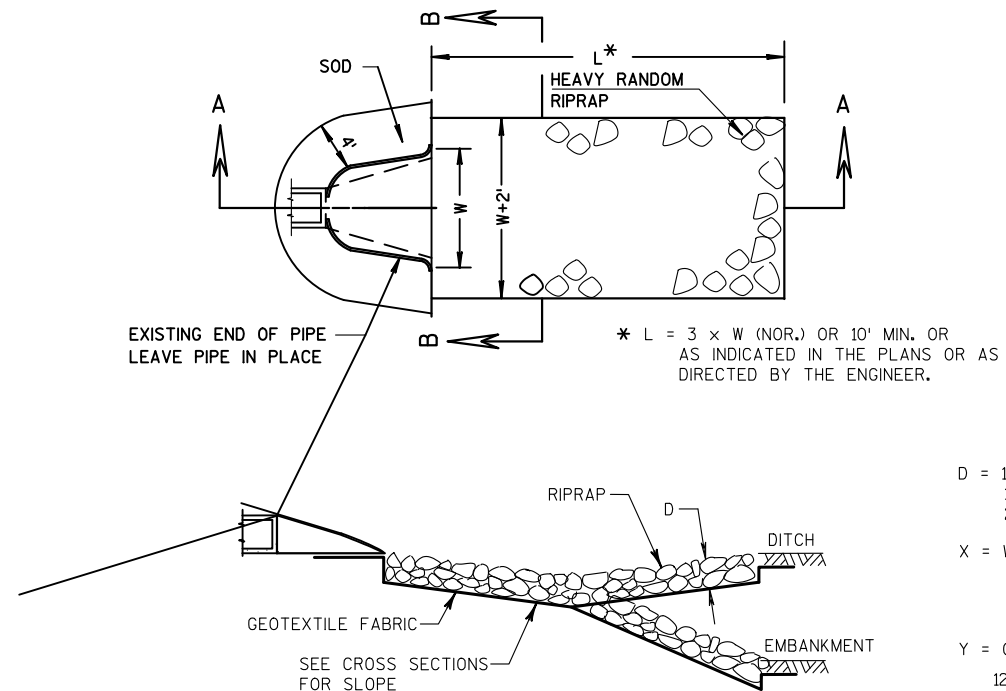
ROCK BAG AT CULVERT INVERT DETAIL

AT INLET LOCATIONS



ROCK BAGS USED FOR SILT FENCE RELIEF DETAIL

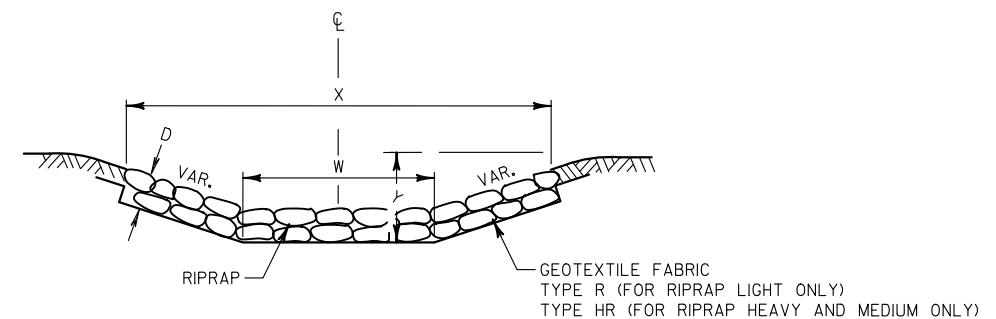
PAID AS ROCK BAGS



D = 12" FOR RIPRAP LIGHT
18" FOR RIPRAP MEDIUM
24" FOR RIPRAP HEAVY

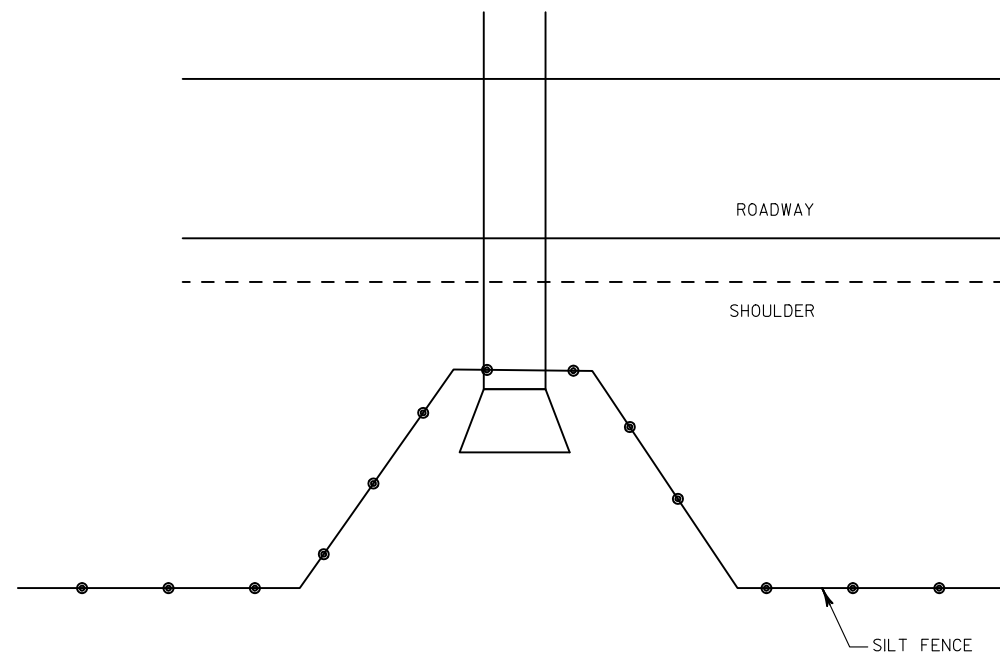
X = W+2' FOR TYPICAL CULVERT
DISCHARGE INTO DITCH
W+5' FOR CULVERT DISCHARGE
DOWN EMBANKMENT SLOPE

Y = 0' FOR TYPICAL CULVERT
DISCHARGE INTO DITCH
12" FOR CULVERT DISCHARGE
DOWN EMBANKMENT SLOPE



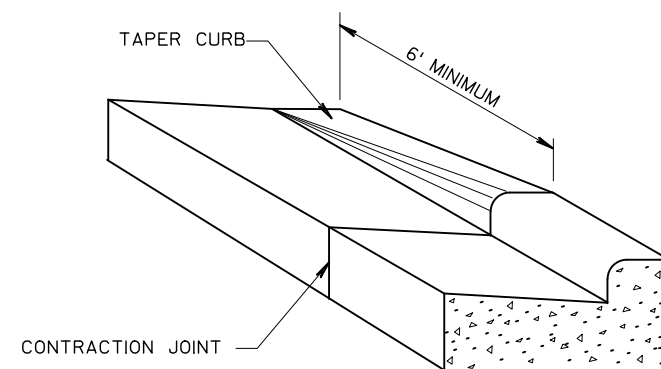
RIPRAP AND GEOTEXTILE FABRIC DETAIL AT APRON ENDWALLS

40+15NB 57.6' RT
43+96NB 25.2' LT
46+00NB 14.8' LT
10+85AAC 33.6' LT
14+24AAC 27.4' LT
16+03AAC 40.1' LT

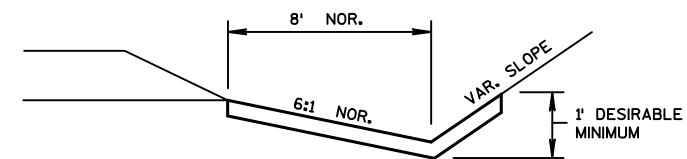


TYPICAL SILT FENCE DETAIL AT PIPE INLET

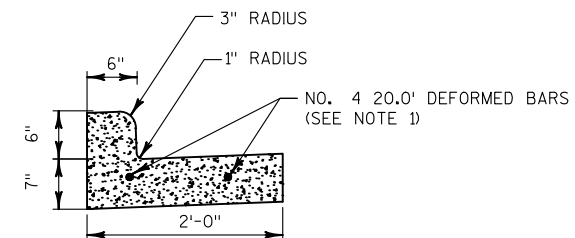
NOTE:
FOR FURTHER DETAIL SEE
SILT FENCE DETAIL SDD



DETAIL OF CURB & GUTTER TERMINI



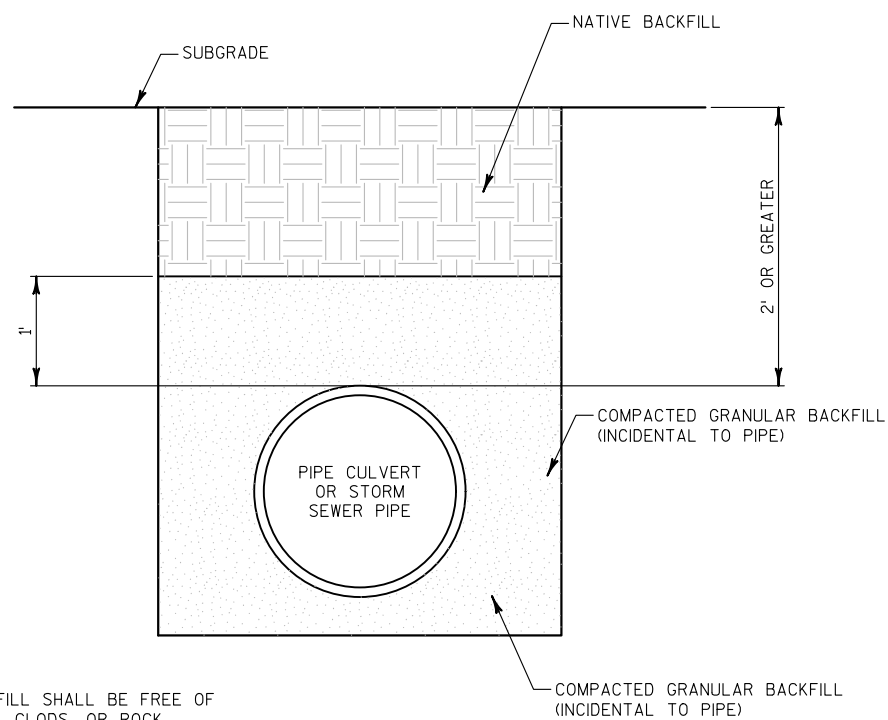
EROSION MAT DETAIL FOR DITCHES



CONCRETE CURB & GUTTER 24-INCH TYPE D

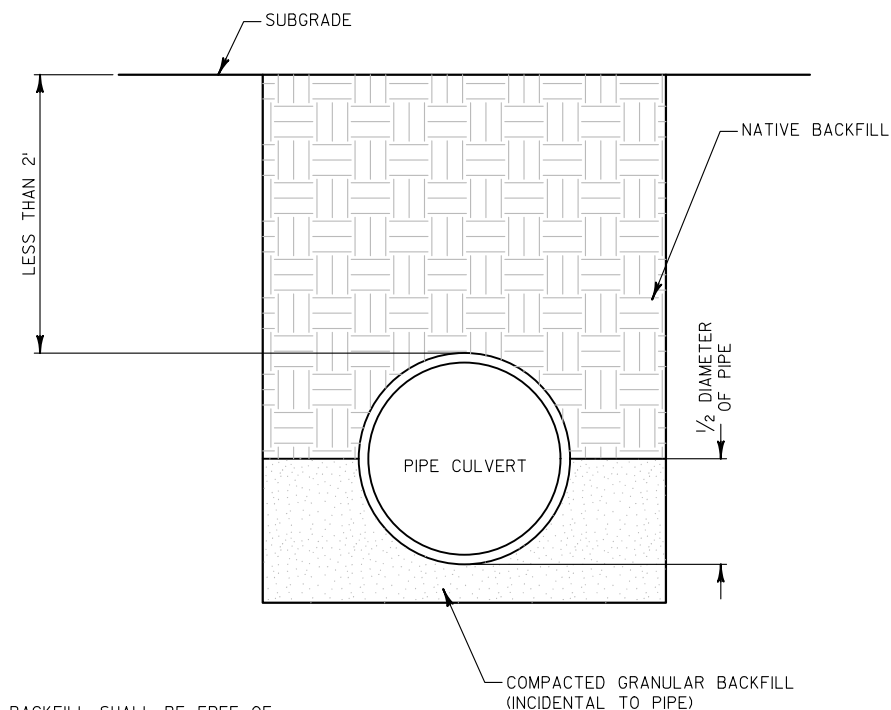
NOTE:

1. 2-NO. 4, 20.0' DEFORMED BARS SHALL BE INSTALLED CENTERED OVER EACH SERVICE AND UTILITY TRENCH OR AS DIRECTED BY THE ENGINEER. FOR TRENCHES LYING UNDER THE CURB AND RUNNING PARALLEL TO THE CURB THE BARS SHALL BE INSTALLED FULL LENGTH OF THE TRENCH.

**NOTES:**

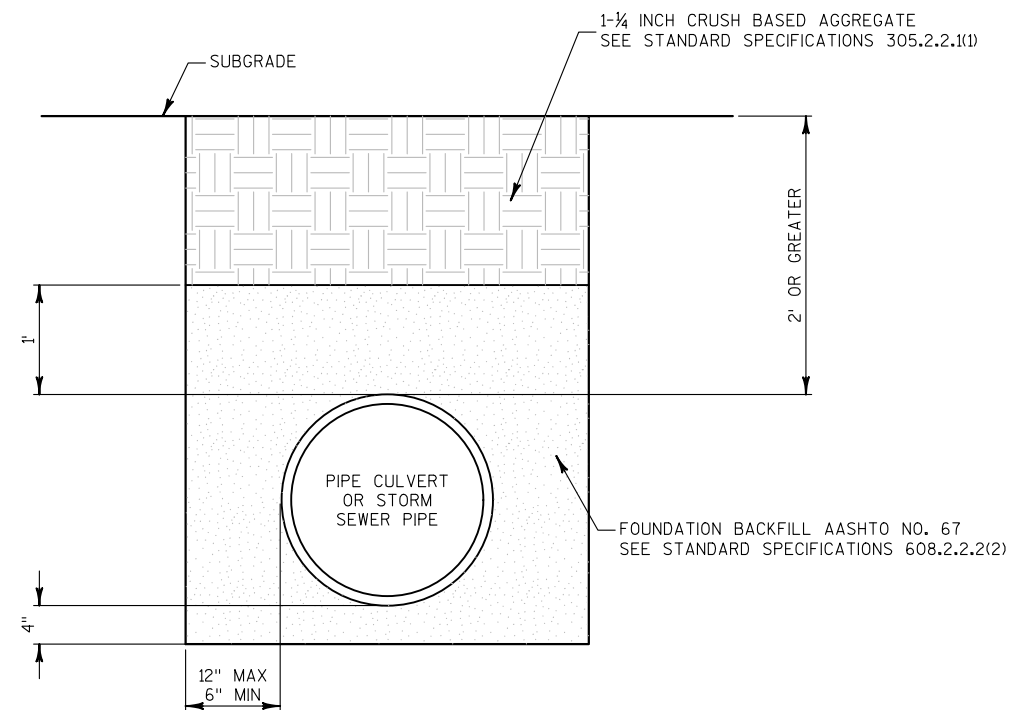
- (1) NATIVE BACKFILL SHALL BE FREE OF LARGE LUMPS, CLODS, OR ROCK.

**TRENCH BACKFILL DETAIL FOR NORMAL DEPTH PIPE CULVERTS
AND STORM SEWER PIPE INSTALLATIONS UNDER STH 32**

**NOTES:**

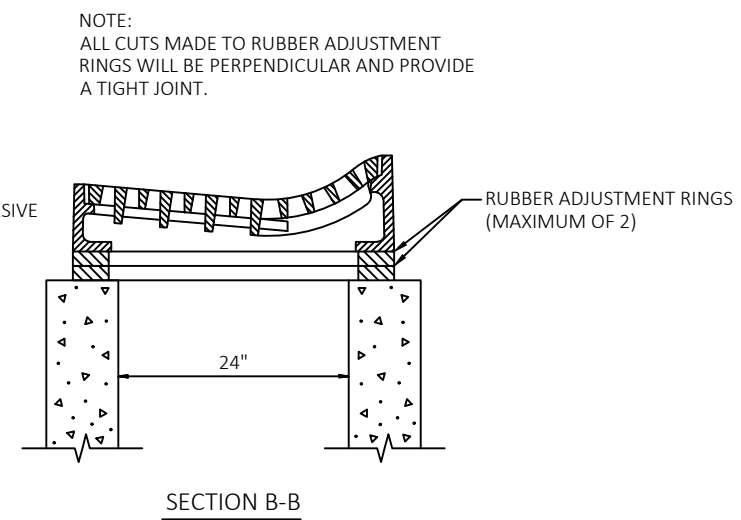
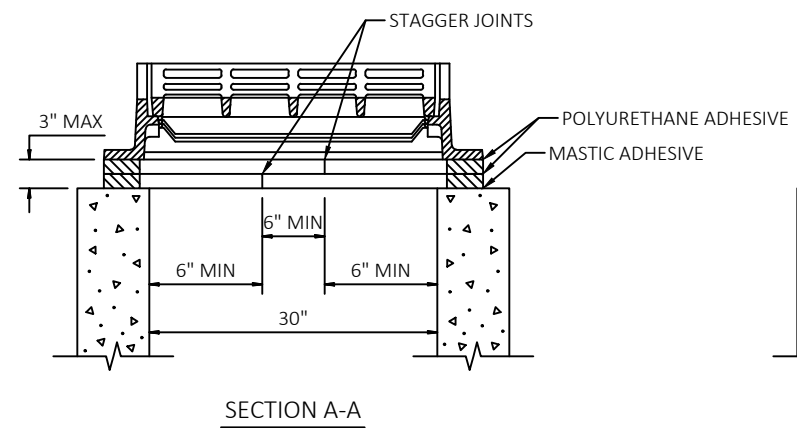
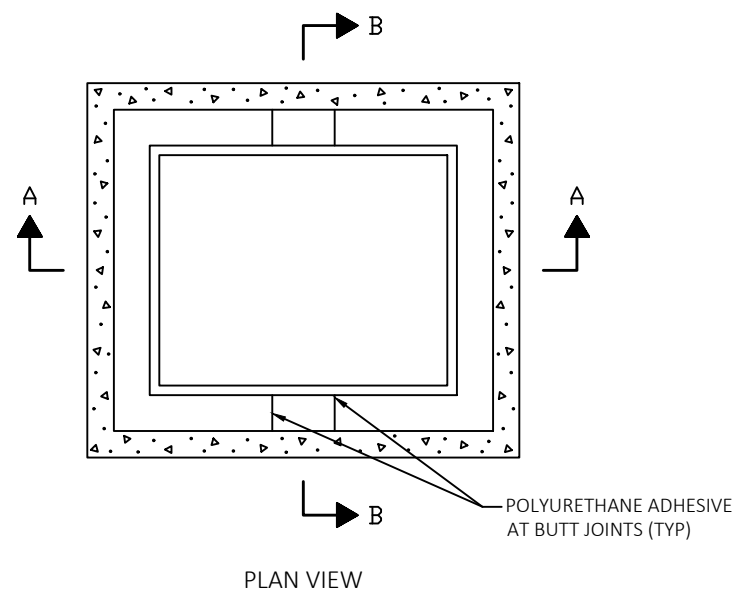
- (1) NATIVE BACKFILL SHALL BE FREE OF LARGE LUMPS, CLODS, OR ROCK.

TRENCH BACKFILL DETAIL FOR SHALLOW PIPE CULVERTS UNDER STH 32

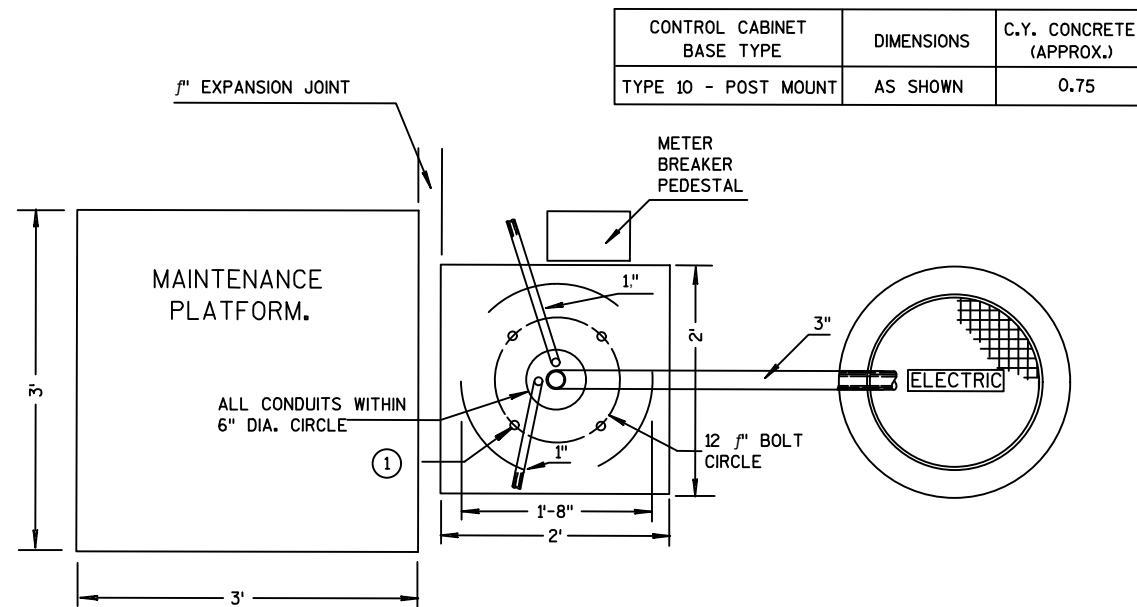
**NOTES:**

- (1) SIDE SLOPE BELOW ELEVATION ON FOOT ABOVE OF PIPE SHALL BE VERTICAL.
(2) BACKFILL TO ONE FOOT ABOVE THE TOP OF THE PIPE SHALL BE TAMPED UNDER AND AROUND THE PIPE.

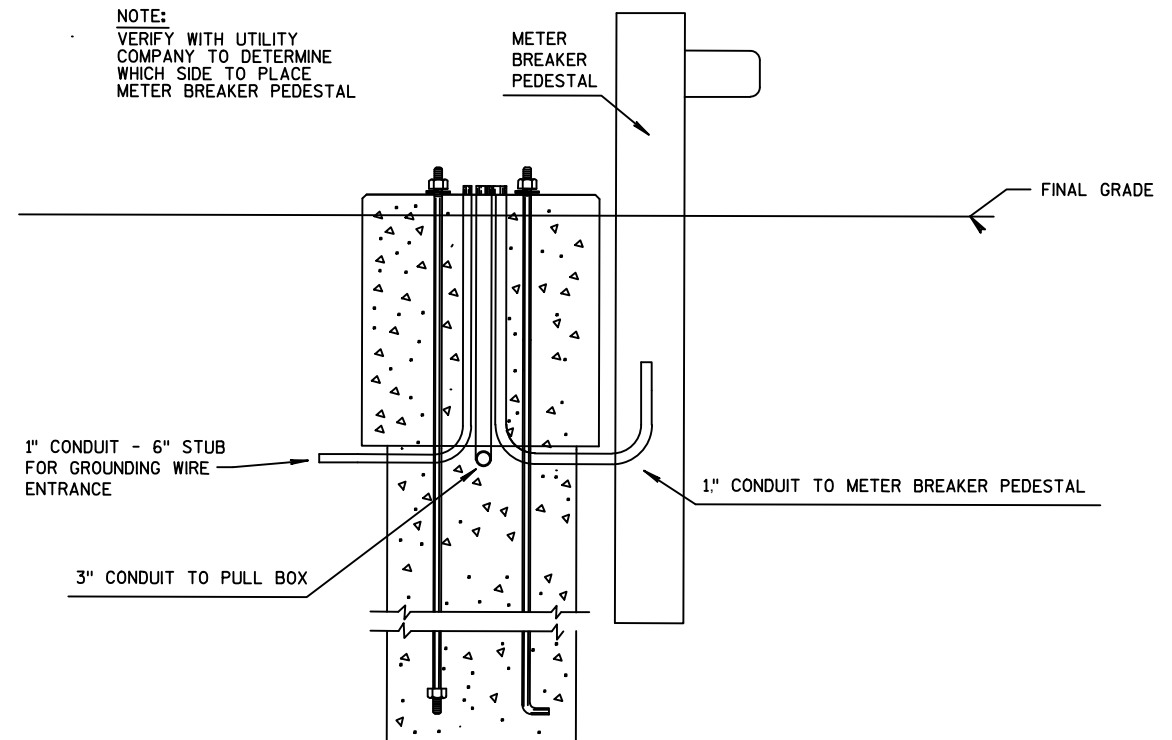
**TRENCH BACKFILL DETAIL FOR PIPE UNDER ASHLAND
AVENUE CONNECTOR AND PARKVIEW ROAD**



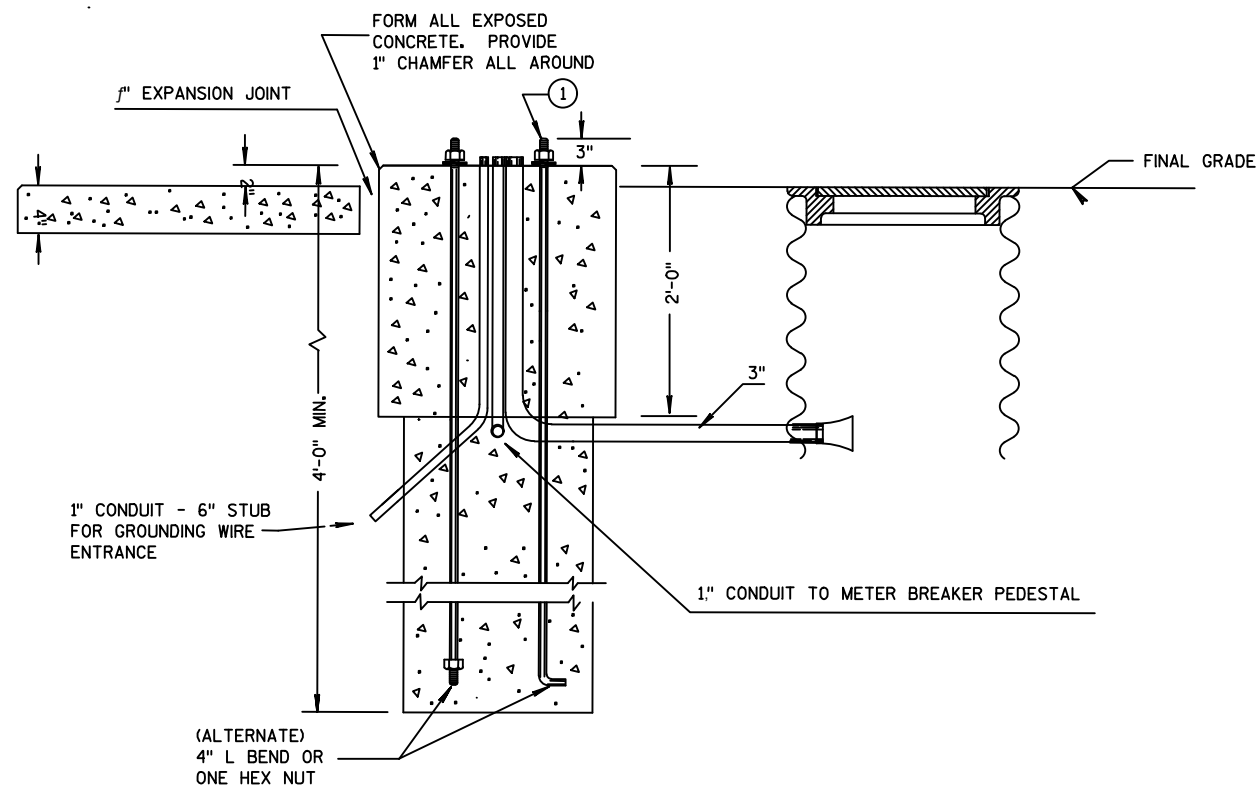
RUBBER RING CUTTING DETAIL FOR INLET TYPE 2, SPECIAL



PLAN VIEW



FRONT VIEW



PROFILE VIEW

GENERAL NOTES

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

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

CONDUIT HEIGHT ABOVE THE CONCRETE BASE SHALL BE 1 INCH.

CONTROL CABINET BASE TOP SURFACES SHALL BE TROWEL FINISHED AND LEVEL.

WHEN A TYPE 10 CONTROL CABINET BASE IS USED TO POST MOUNT A CONTROL CABINET, A 36" SQUARE 4" THICK CONCRETE MAINTENANCE PLATFORM SHALL BE REQUIRED ON THE DOOR SIDE OF THE CABINET. THE TOP 1 INCH SHALL BE ABOVE FINISHED GRADE AND BE BROOM FINISHED AND LEVEL.

MAINTENANCE PLATFORMS ARE NOT REQUIRED WHEN THE SURROUNDING AREA IS PAVED.

ALL CONDUIT ENDS AT THE TOP OF THE CONCRETE BASE SHALL PLUGGED IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

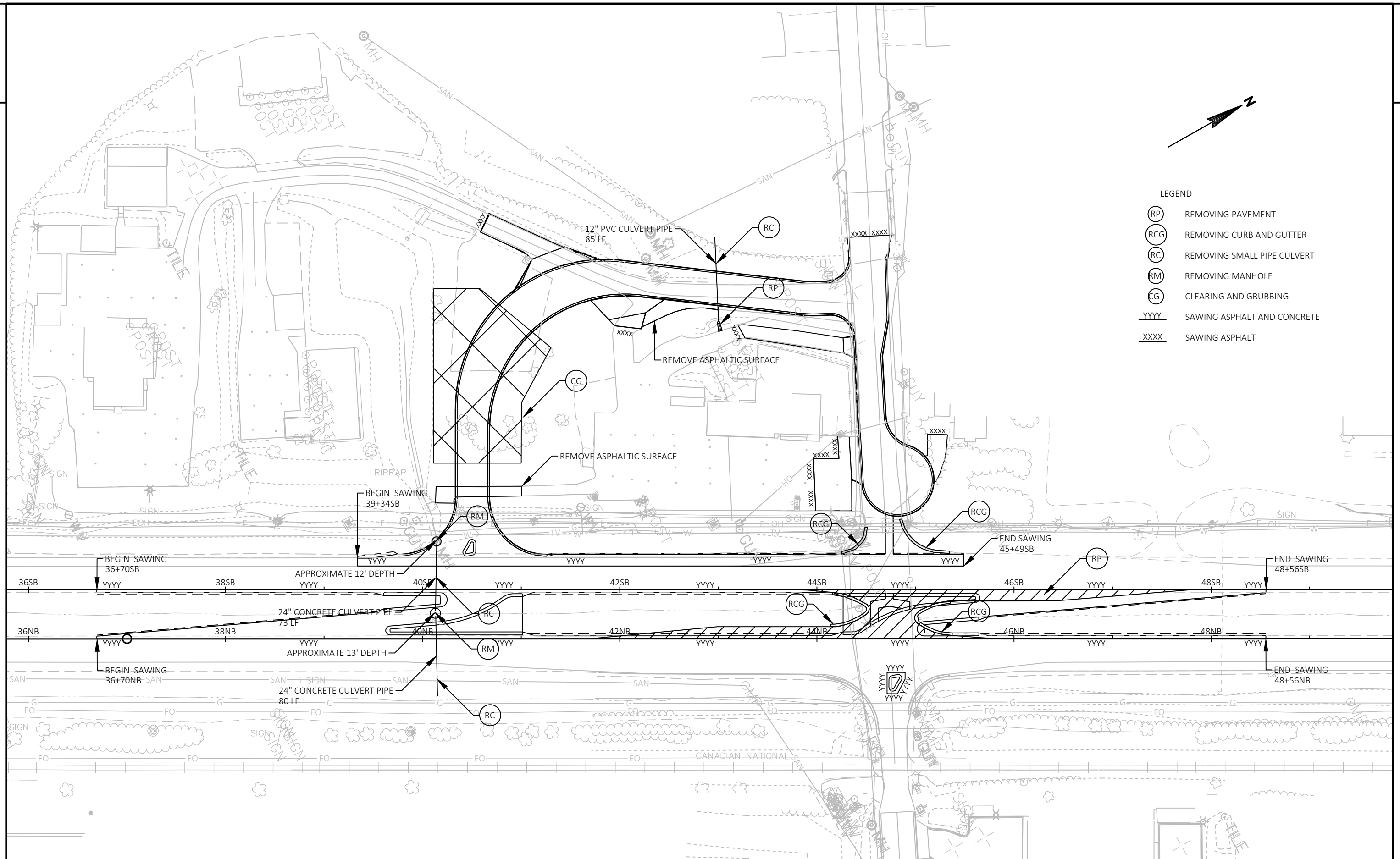
BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF THE CONCRETE BASE BEFORE INSTALLATION OF CABLE OR WIRE.

WHEN ANCHOR RODS USING THE ALTERNATE L BEND ARE FURNISHED FOR THE TYPE 10 BASE, THE 4" L BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH.

THE "L" BEND SHALL NOT BE THREADED.

STRAIGHT ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD.

FOUR (4) ANCHOR RODS, 1" DIA. X 3'-6"
ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 AND 641.2.2 OF THE STANDARD SPECIFICATIONS AND IN ACCORDANCE WITH A-449, OR ASTM, A-687 (GRADE 105).



PROJECT NO: 4190-16-73

HWY: STH 32

COUNTY: BROWN

CONSTRUCTION DETAILS - REMOVAL PLAN

SHEET

E

FILE NAME : N:\PDS\C3D\41901601\SHEETSPLAN\020404_CD REMOVALS.DWG
LAYOUT NAME - 020404_cd

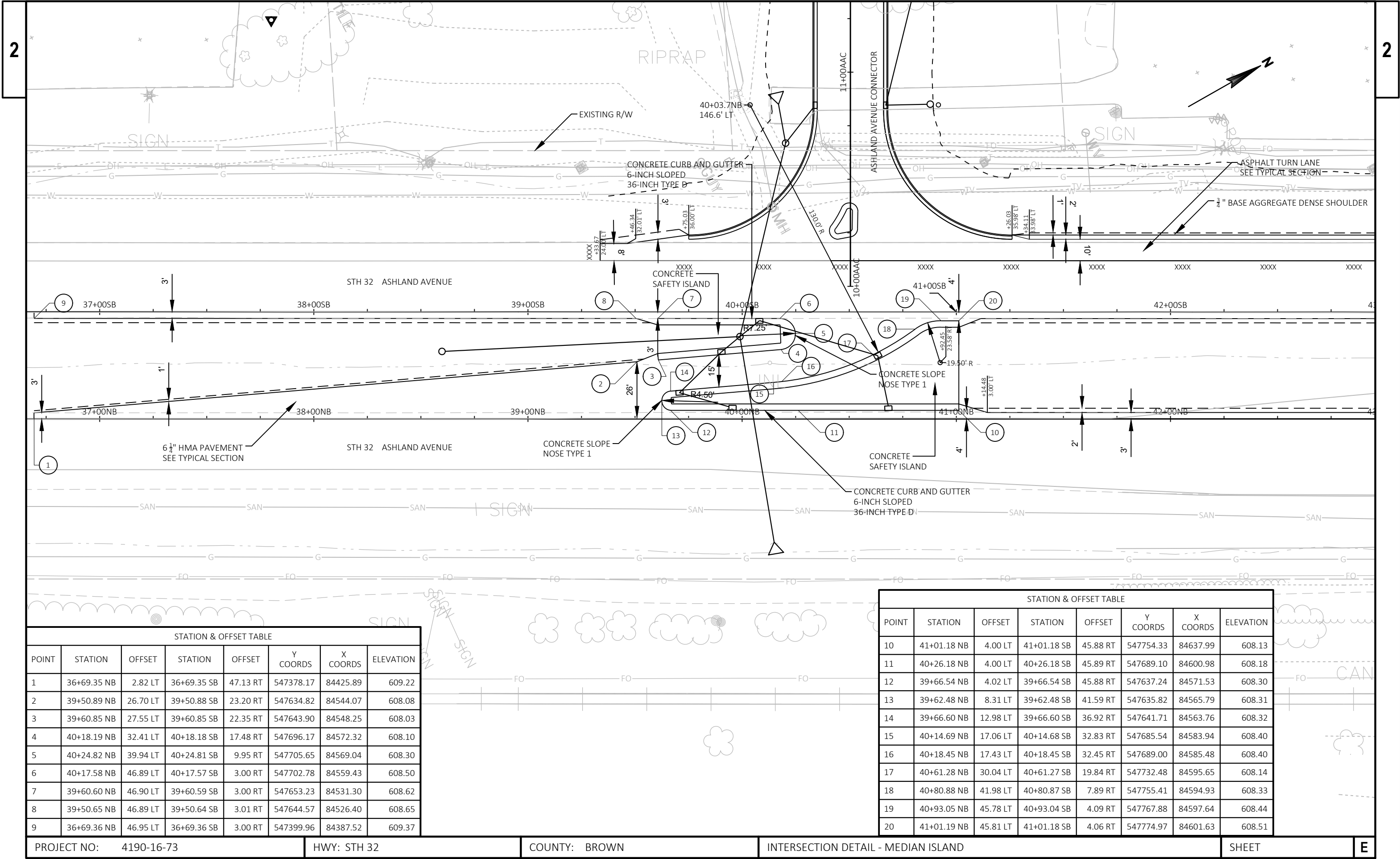
PLOT DATE : 12/15/2017 9:53 AM

PLOT BY : DUMS, ALEXANDER T

PLOT NAME :

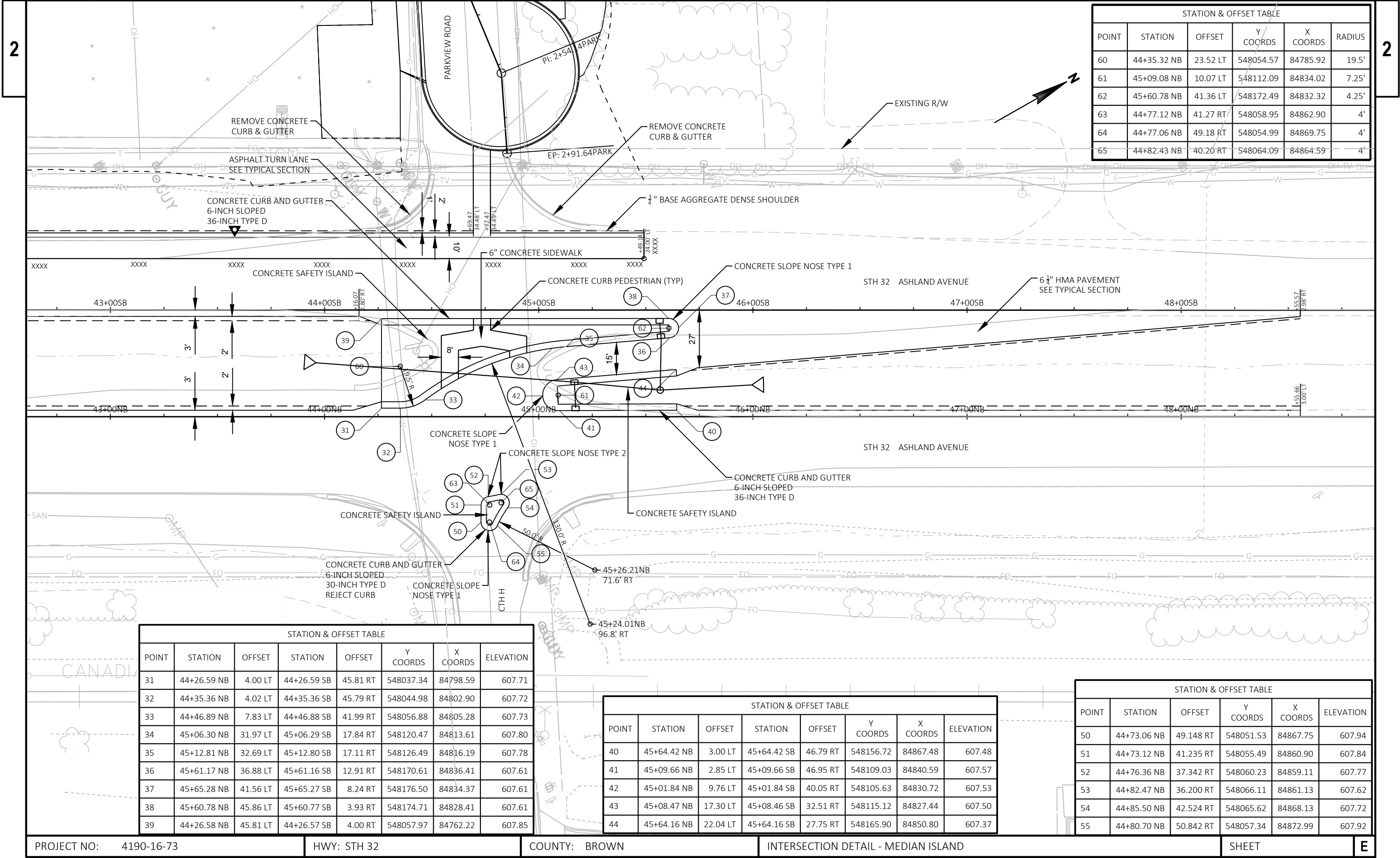
PLOT SCALE : #####

WISDOT/CADDs SHEET 42



STATION & OFFSET TABLE							
POINT	STATION	OFFSET	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION
1	36+69.35 NB	2.82 LT	36+69.35 SB	47.13 RT	547378.17	84425.89	609.22
2	39+50.89 NB	26.70 LT	39+50.88 SB	23.20 RT	547634.82	84544.07	608.08
3	39+60.85 NB	27.55 LT	39+60.85 SB	22.35 RT	547643.90	84548.25	608.03
4	40+18.19 NB	32.41 LT	40+18.18 SB	17.48 RT	547696.17	84572.32	608.10
5	40+24.82 NB	39.94 LT	40+24.81 SB	9.95 RT	547705.65	84569.04	608.30
6	40+17.58 NB	46.89 LT	40+17.57 SB	3.00 RT	547702.78	84559.43	608.50
7	39+60.60 NB	46.90 LT	39+60.59 SB	3.00 RT	547653.23	84531.30	608.62
8	39+50.65 NB	46.89 LT	39+50.64 SB	3.01 RT	547644.57	84526.40	608.65
9	36+69.36 NB	46.95 LT	36+69.36 SB	3.00 RT	547399.96	84387.52	609.37

STATION & OFFSET TABLE							
POINT	STATION	OFFSET	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION
10	41+01.18 NB	4.00 LT	41+01.18 SB	45.88 RT	547754.33	84637.99	608.13
11	40+26.18 NB	4.00 LT	40+26.18 SB	45.89 RT	547689.10	84600.98	608.18
12	39+66.54 NB	4.02 LT	39+66.54 SB	45.88 RT	547637.24	84571.53	608.30
13	39+62.48 NB	8.31 LT	39+62.48 SB	41.59 RT	547635.82	84565.79	608.31
14	39+66.60 NB	12.98 LT	39+66.60 SB	36.92 RT	547641.71	84563.76	608.32
15	40+14.69 NB	17.06 LT	40+14.68 SB	32.83 RT	547685.54	84583.94	608.40
16	40+18.45 NB	17.43 LT	40+18.45 SB	32.45 RT	547689.00	84585.48	608.40
17	40+61.28 NB	30.04 LT	40+61.27 SB	19.84 RT	547732.48	84595.65	608.14
18	40+80.88 NB	41.98 LT	40+80.87 SB	7.89 RT	547755.41	84594.93	608.33
19	40+93.05 NB	45.78 LT	40+93.04 SB	4.09 RT	547767.88	84597.64	608.44
20	41+01.19 NB	45.81 LT	41+01.18 SB	4.06 RT	547774.97	84601.63	608.51

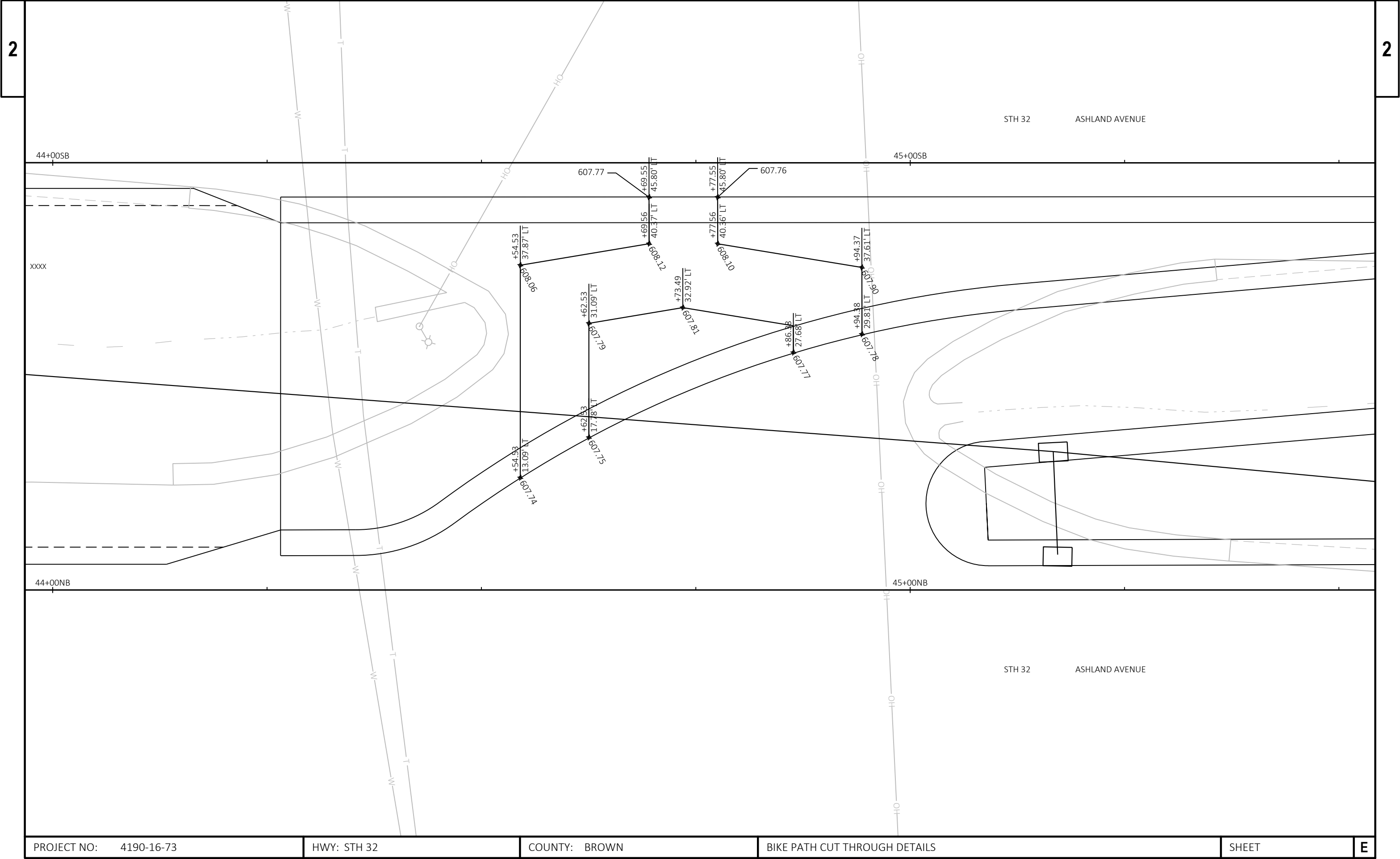


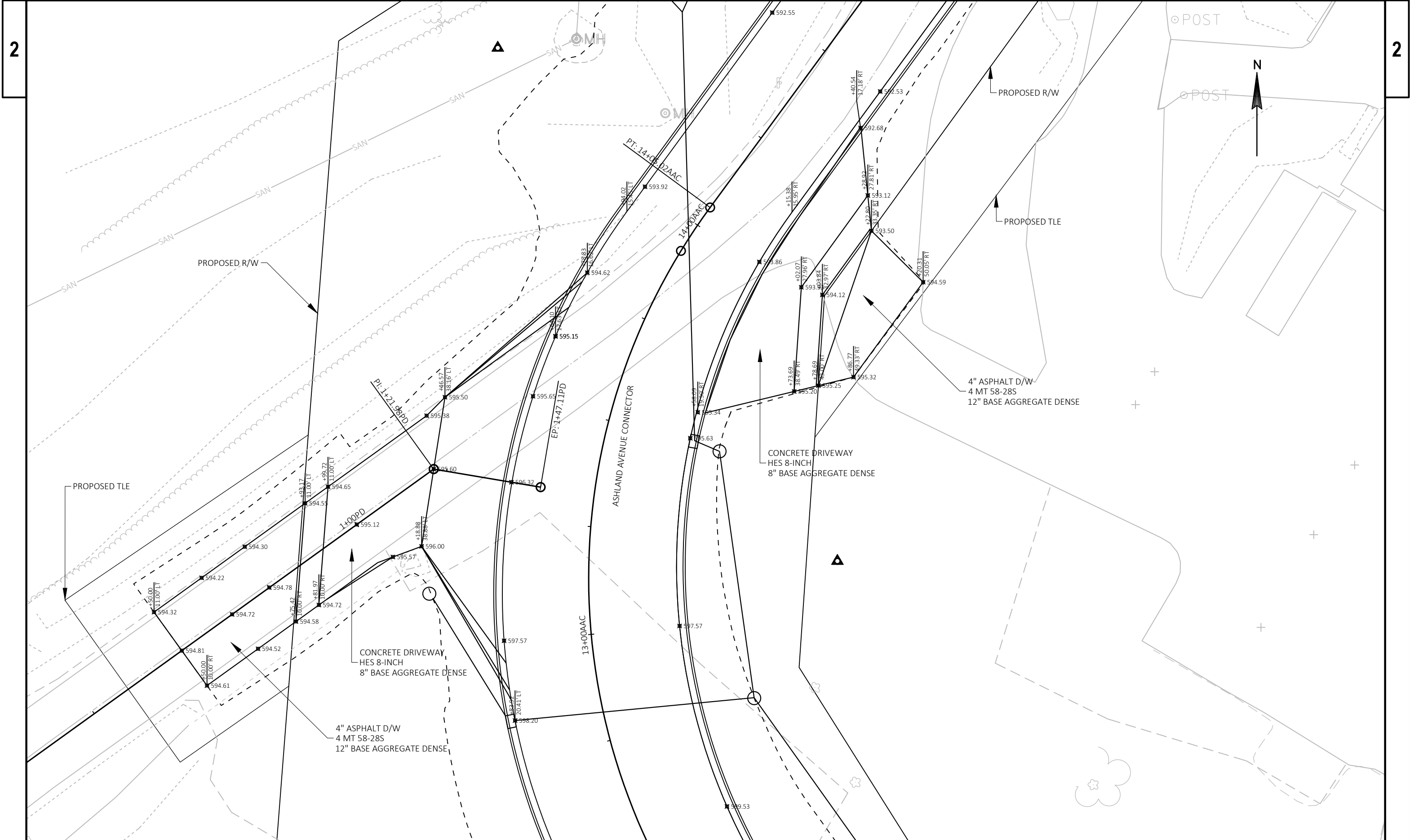
STATION & OFFSET TABLE					
POINT	STATION	OFFSET	Y COORDS	X COORDS	RADIUS
60	44+35.32 NB	23.52 LT	548054.57	84785.92	19.5'
61	45+09.08 NB	10.07 LT	548112.09	84834.02	7.25'
62	45+60.78 NB	41.36 LT	548172.49	84832.32	4.25'
63	44+77.12 NB	41.27 RT	548058.95	84862.90	4'
64	44+77.06 NB	49.18 RT	548054.99	84869.75	4'
65	44+82.43 NB	40.20 RT	548064.09	84864.59	4'

STATION & OFFSET TABLE							
POINT	STATION	OFFSET	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION
31	44+26.59 NB	4.00 LT	44+26.59 SB	45.81 RT	548037.34	84798.59	607.71
32	44+35.36 NB	4.02 LT	44+35.36 SB	45.79 RT	548044.98	84802.90	607.72
33	44+46.89 NB	7.83 LT	44+46.88 SB	41.99 RT	548056.88	84805.28	607.73
34	45+06.30 NB	31.97 LT	45+06.29 SB	17.84 RT	548120.47	84813.61	607.80
35	45+12.81 NB	32.69 LT	45+12.80 SB	17.11 RT	548126.49	84816.19	607.78
36	45+61.17 NB	36.88 LT	45+61.16 SB	12.91 RT	548170.61	84836.41	607.61
37	45+65.28 NB	41.56 LT	45+65.27 SB	8.24 RT	548176.50	84834.37	607.61
38	45+60.78 NB	45.86 LT	45+60.77 SB	3.93 RT	548174.71	84828.41	607.61
39	44+26.58 NB	45.81 LT	44+26.57 SB	4.00 RT	548057.97	84762.22	607.85

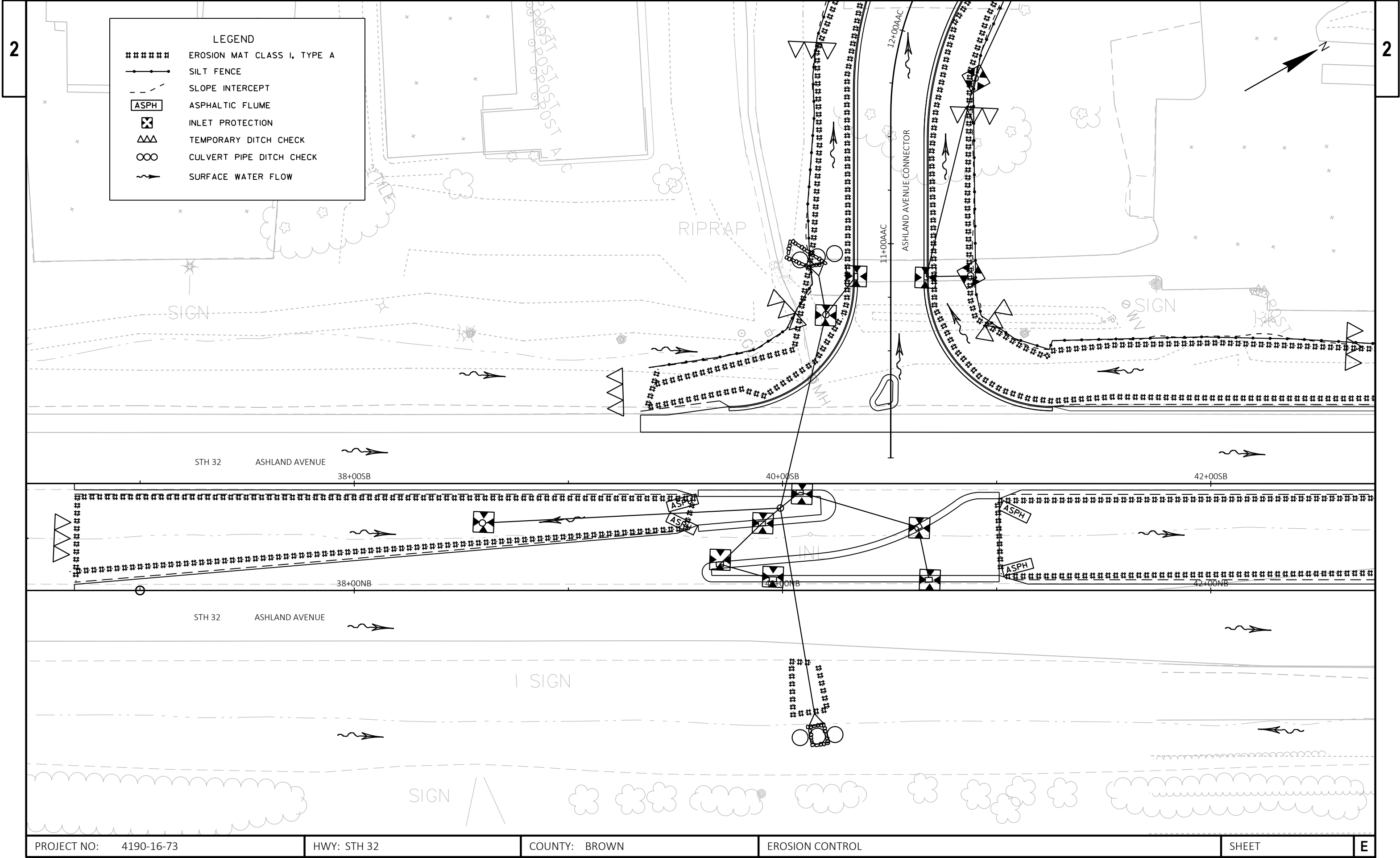
STATION & OFFSET TABLE							
POINT	STATION	OFFSET	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION
40	45+64.42 NB	3.00 LT	45+64.42 SB	46.79 RT	548156.72	84867.48	607.48
41	45+09.66 NB	2.85 LT	45+09.66 SB	46.95 RT	548109.03	84840.59	607.57
42	45+01.84 NB	9.76 LT	45+01.84 SB	40.05 RT	548105.63	84830.72	607.53
43	45+08.47 NB	17.30 LT	45+08.46 SB	32.51 RT	548115.12	84827.44	607.50
44	45+64.16 NB	22.04 LT	45+64.16 SB	27.75 RT	548165.90	84850.80	607.37

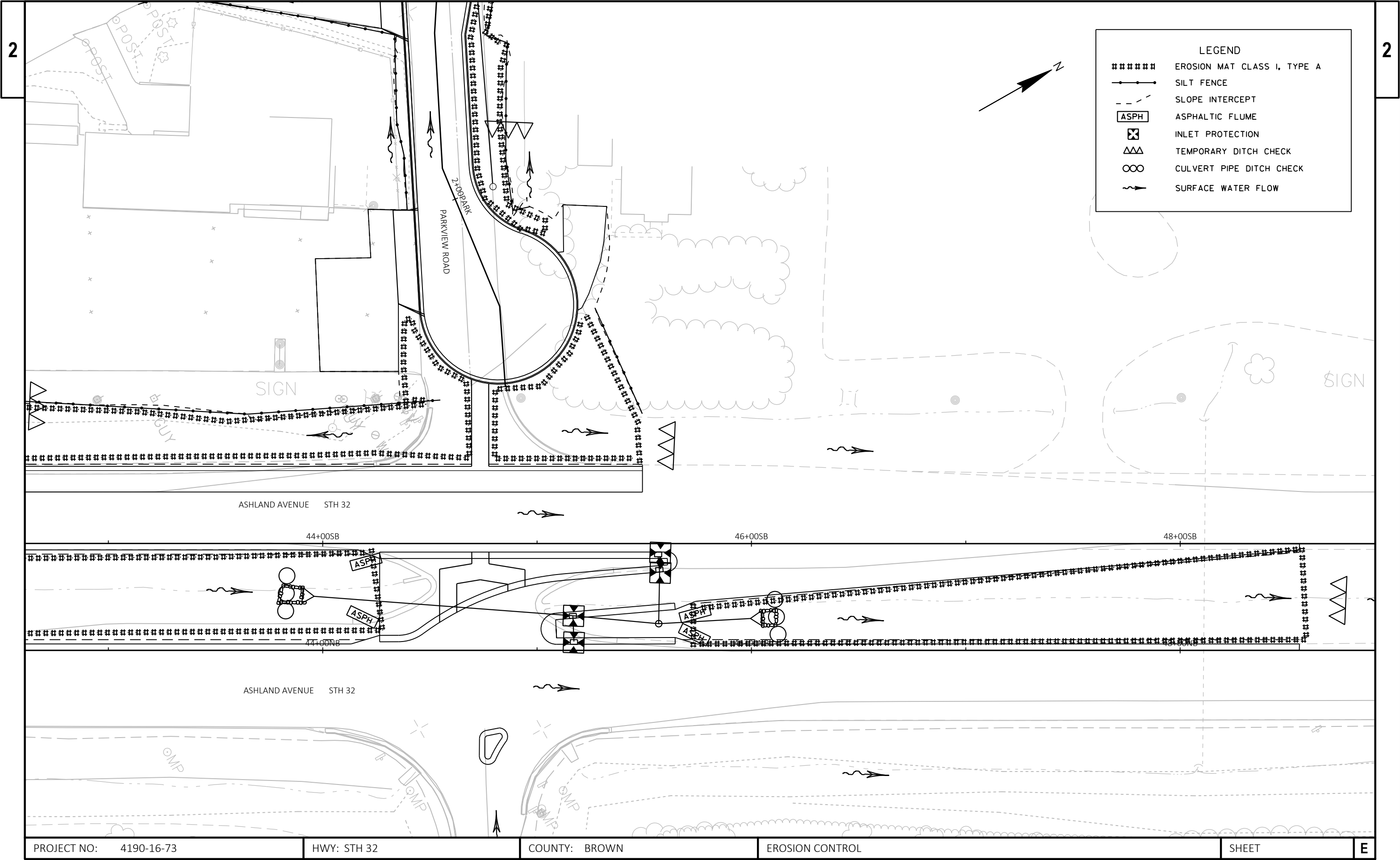
STATION & OFFSET TABLE					
POINT	STATION	OFFSET	Y COORDS	X COORDS	ELEVATION
50	44+73.06 NB	49.148 RT	548051.53	84867.75	607.94
51	44+73.12 NB	41.235 RT	548055.49	84860.90	607.84
52	44+76.36 NB	37.342 RT	548060.23	84859.11	607.77
53	44+82.47 NB	36.200 RT	548066.11	84861.13	607.62
54	44+85.50 NB	42.524 RT	548065.62	84868.13	607.72
55	44+80.70 NB	50.842 RT	548057.34	84872.99	607.92

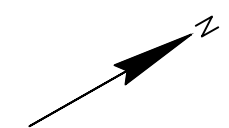




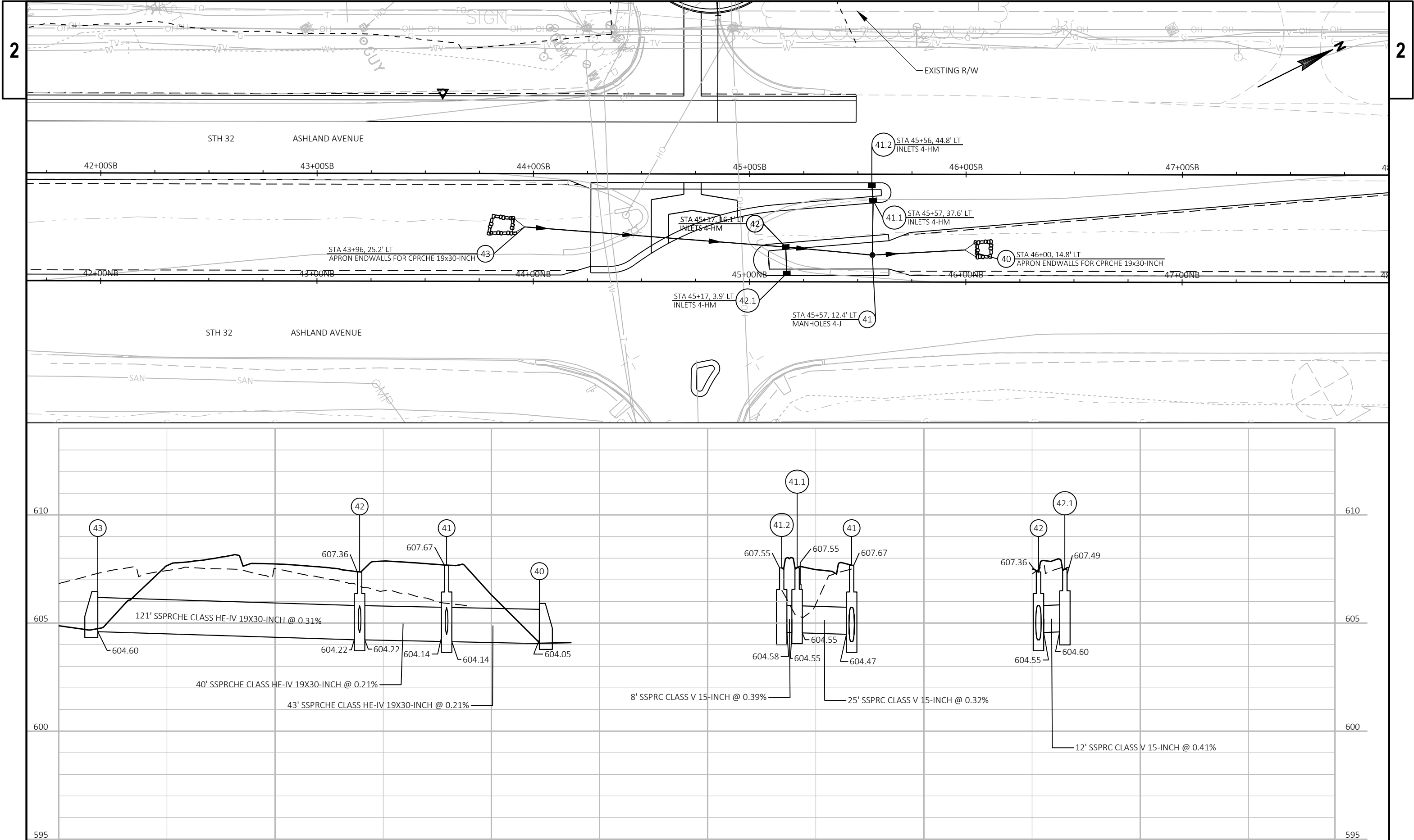
PROJECT NO: 4190-16-73	HWY: STH 32	COUNTY: BROWN	DRIVEWAY DETAILS	SHEET	E
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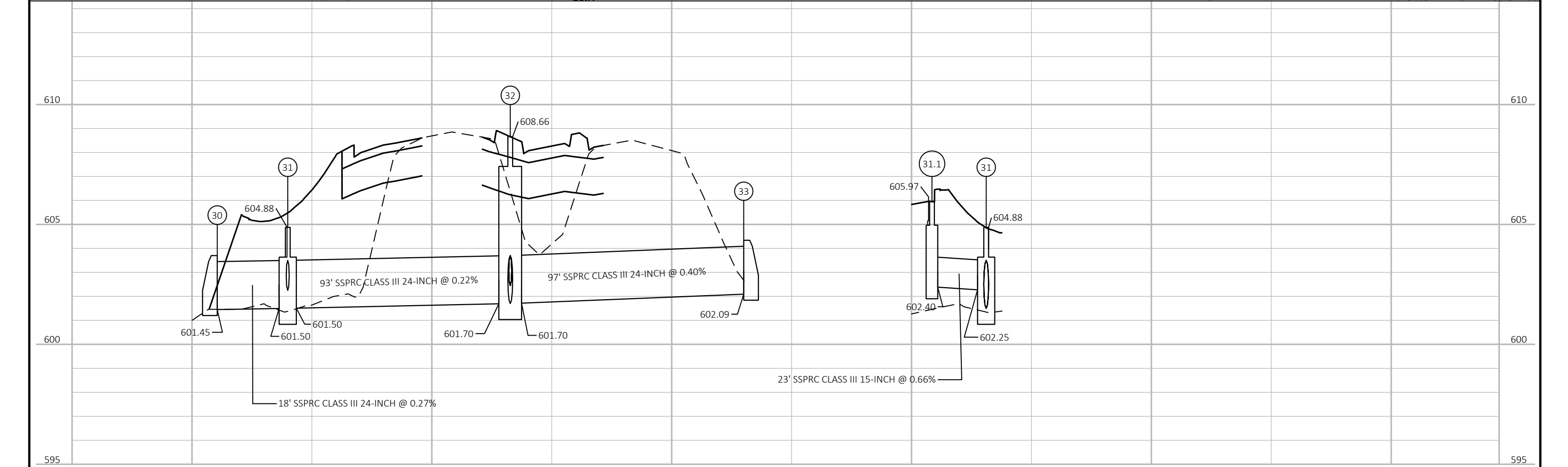
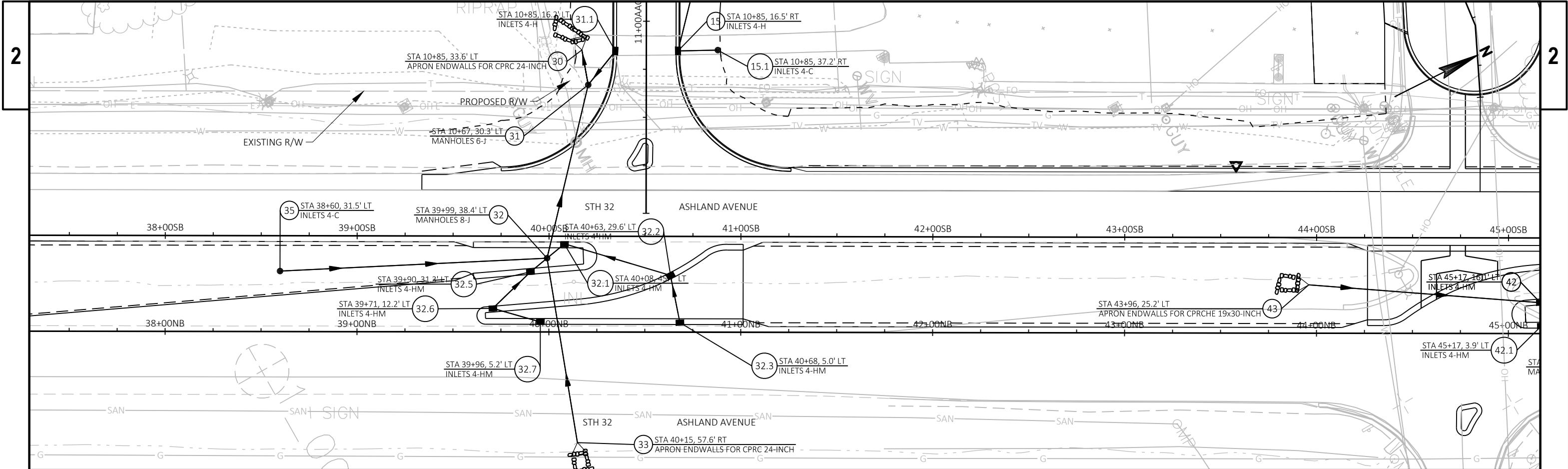


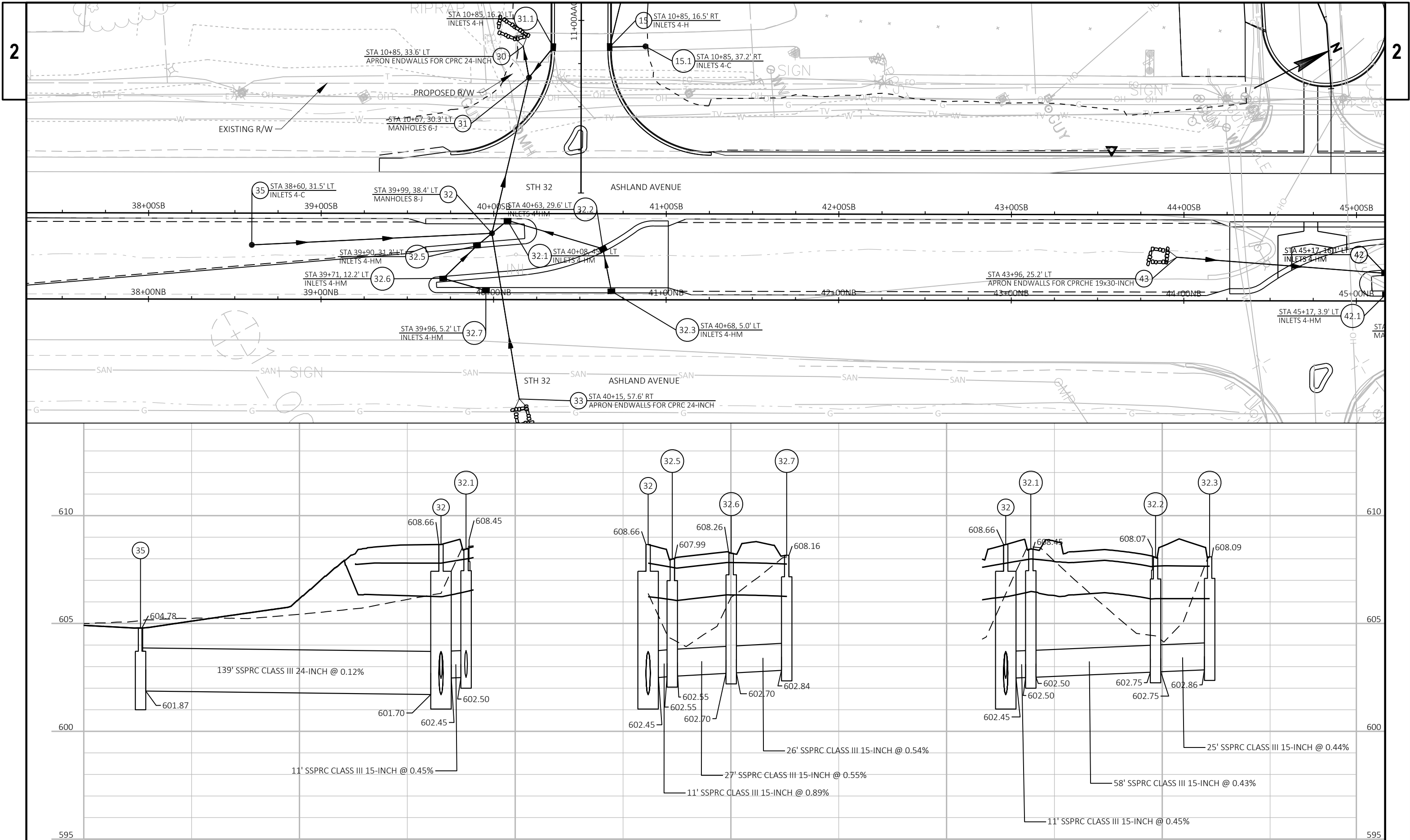




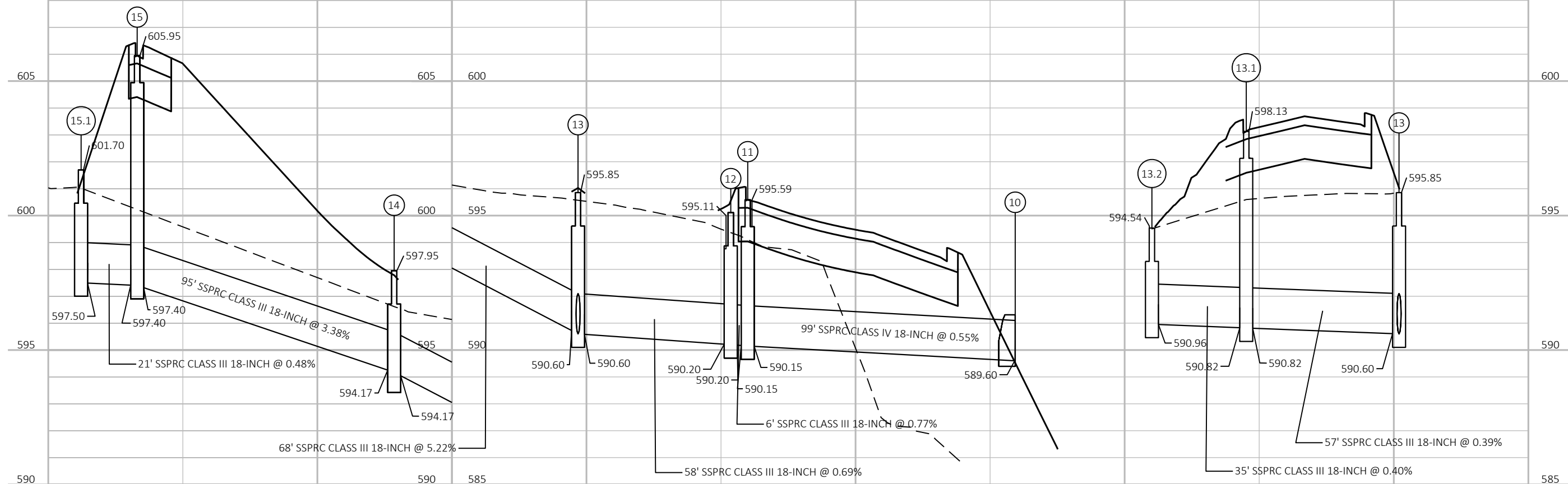
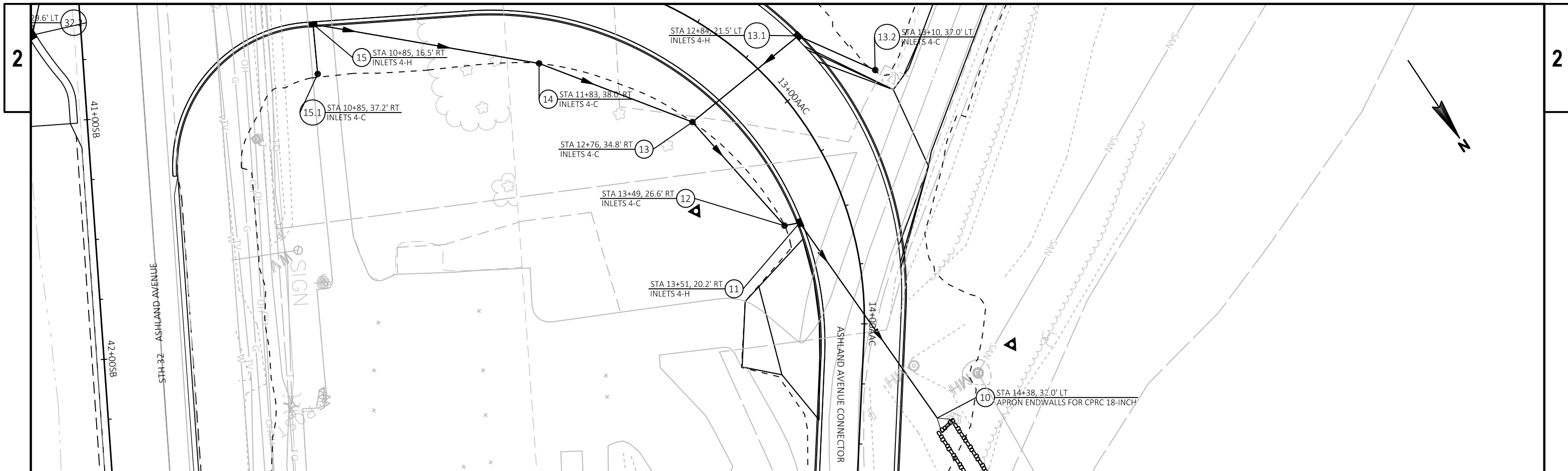
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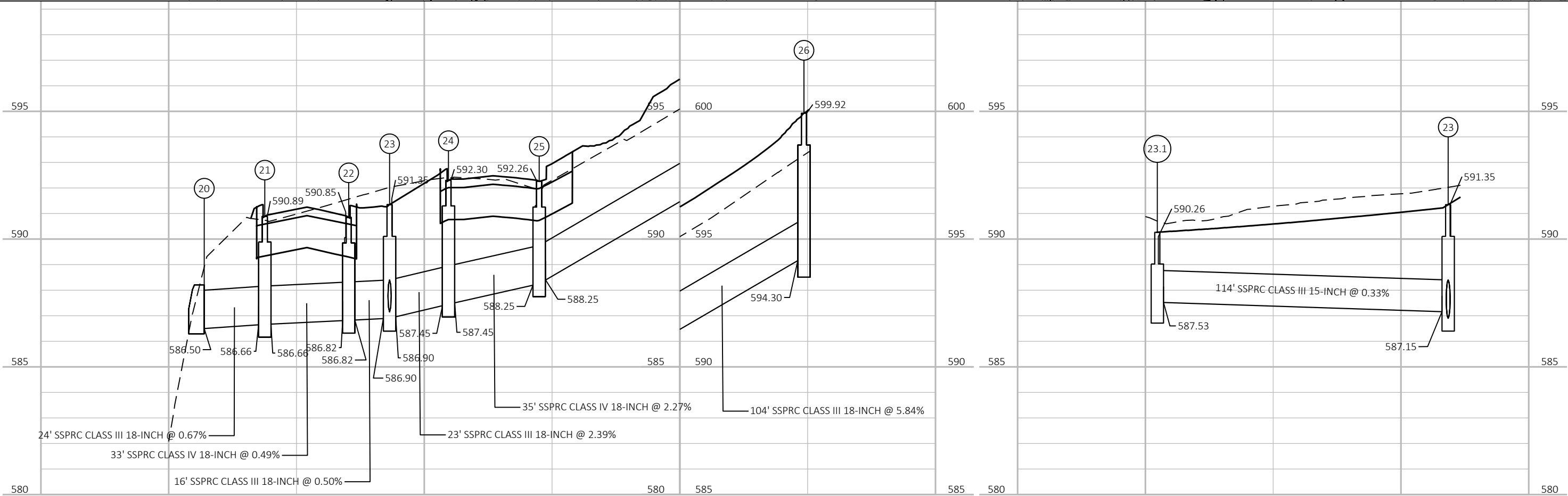
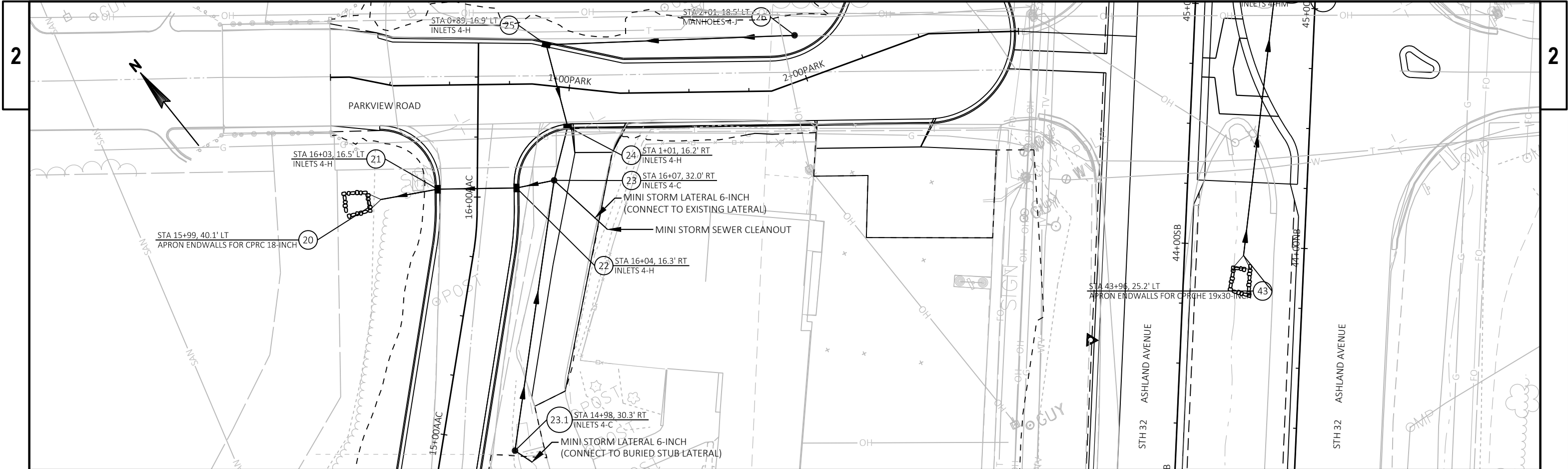


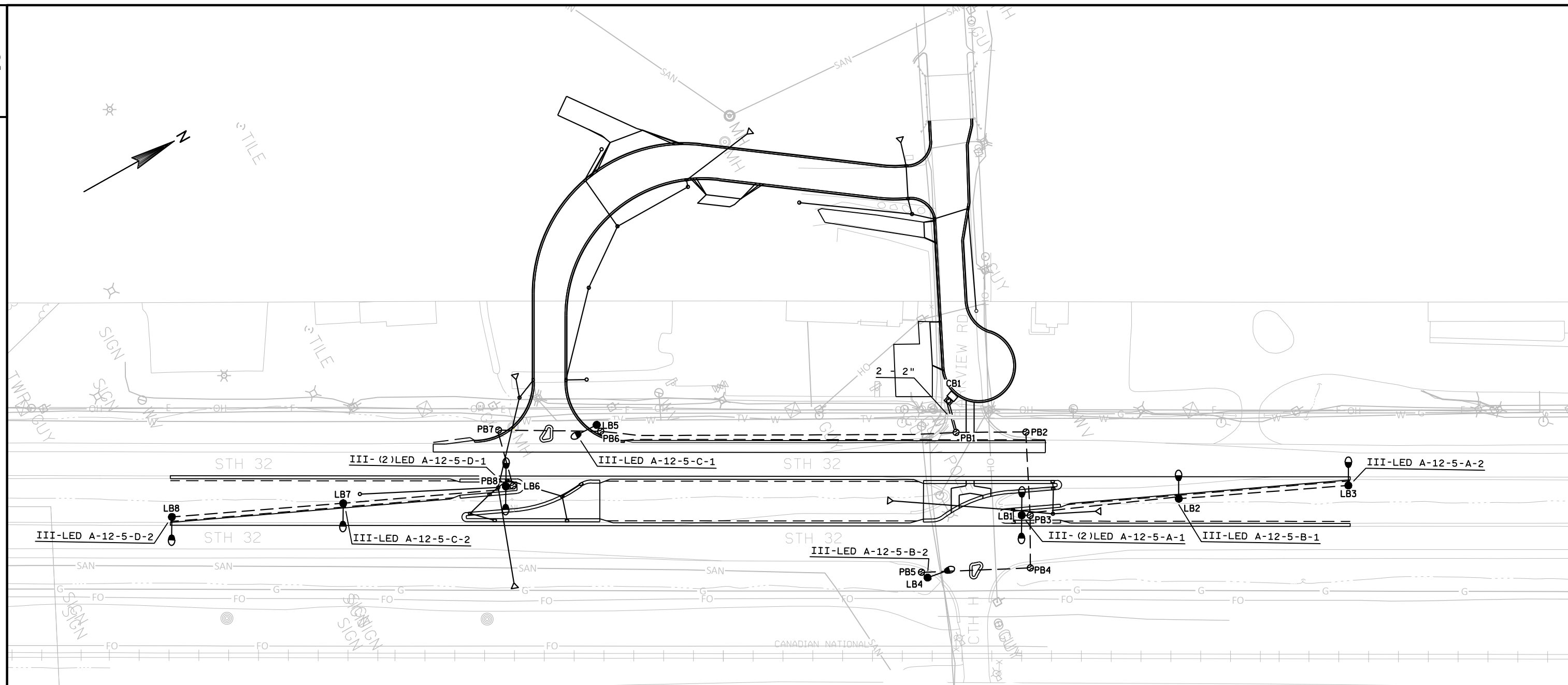


PROJECT NO: 4190-16-73	HWY: STH 32	COUNTY: BROWN	STORM SEWER	SHEET	E
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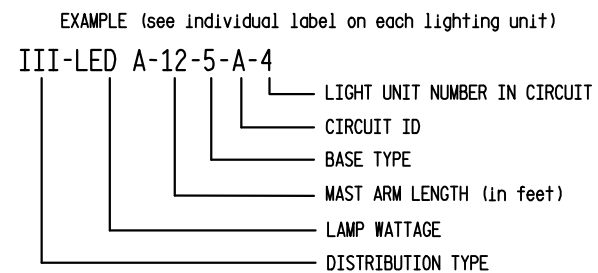


PROJECT NO: 4190-16-73	HWY: STH 32	COUNTY: BROWN	STORM SEWER	SHEET	E
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**LEGEND**

LIGHTING CONTROL CABINET (Type 10) _ WITH METER BREAKER PEDESTAL	
2" CONDUIT, NON-METALLIC _____ (unless otherwise noted)	---
LIGHTING UNIT _____	
PULL BOX 24" X 42" _____	
UTILITY POLE _____	
ELECTRIC, UNDERGROUND _____	— E —
ELECTRIC, OVERHEAD _____	— OH —



240 VOLT SYSTEM
120/240 VOLT ELECTRIC SERVICE

CONDUCTOR COLOR SCHEME

Circuit "A" = Black
Circuit "B" = Red
Circuit "C" = Blue
Circuit "D" = Brown
Circuit "E" = Orange
Circuit "F" = Yellow

NOTES:

WISCONSIN DOT NORTHEAST REGION ELECTRICAL UNIT SHALL APPROVE FINAL LOCATIONS FOR ALL CONCRETE BASES IN THE FIELD PRIOR TO CONSTRUCTION. CONTACT THEM 3 DAYS IN ADVANCE AT (920) 492-5710.

THE LOCATION OF EXISTING AND PROPOSED UTILITIES AS SHOWN ON THE PLANS ARE APPROXIMATE. IN ADDITION, THERE MAY BE OTHER UTILITIES WITHIN THE PROJECT AREA WHICH ARE NOT SHOWN. THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL UTILITIES PRIOR TO CONSTRUCTION.

STH 32 (ASHLAND AVE.) & PARKVIEW RD.
CITY OF GREEN BAY
BROWN COUNTY

LIGHTING NO. 05-2037

DESIGNER: WISDOT NE REGION TRAFFIC UNIT

DATE: 8/7/2017

SHEET NO. 1 OF 1

PROJECT NO: 4190-16-01

HWY: STH 32

COUNTY: BROWN

PLAN: CONSTRUCTION DETAIL - LIGHTING

SHEET

E

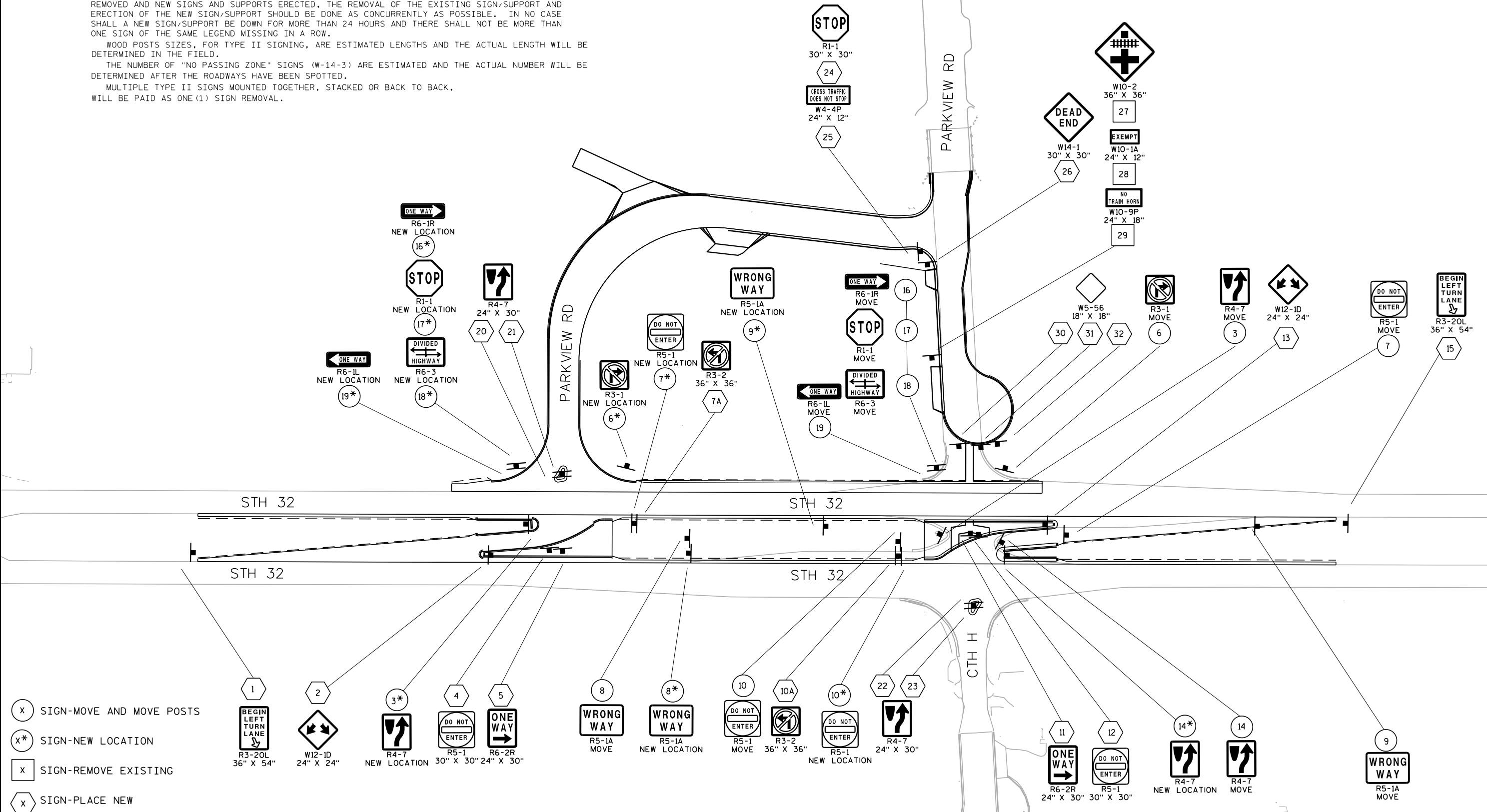
SIGNING NOTES

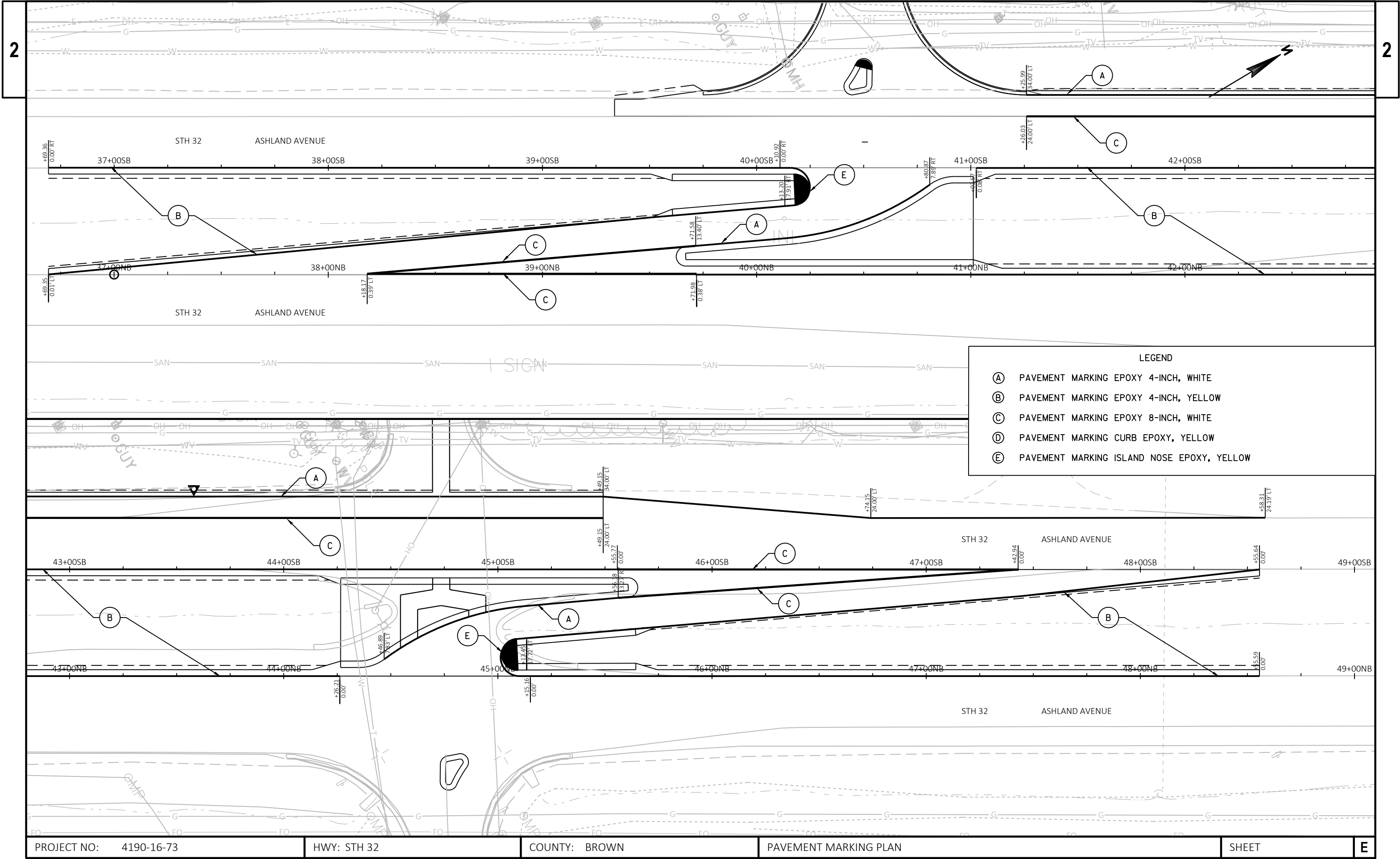
WHEN AN EXISTING STOP SIGN AND SUPPORT IS TO BE REMOVED AND A NEW STOP SIGN AND SUPPORT ERECTED THE WORK SHALL BE DONE CONCURRENTLY. FOR OTHER SIGNS AND SUPPORTS THAT ARE TO BE REMOVED AND NEW SIGNS AND SUPPORTS ERECTED, THE REMOVAL OF THE EXISTING SIGN/SUPPORT AND ERECTION OF THE NEW SIGN/SUPPORT SHOULD BE DONE AS CONCURRENTLY AS POSSIBLE. IN NO CASE SHALL A NEW SIGN/SUPPORT BE DOWN FOR MORE THAN 24 HOURS AND THERE SHALL NOT BE MORE THAN ONE SIGN OF THE SAME LEGEND MISSING IN A ROW.

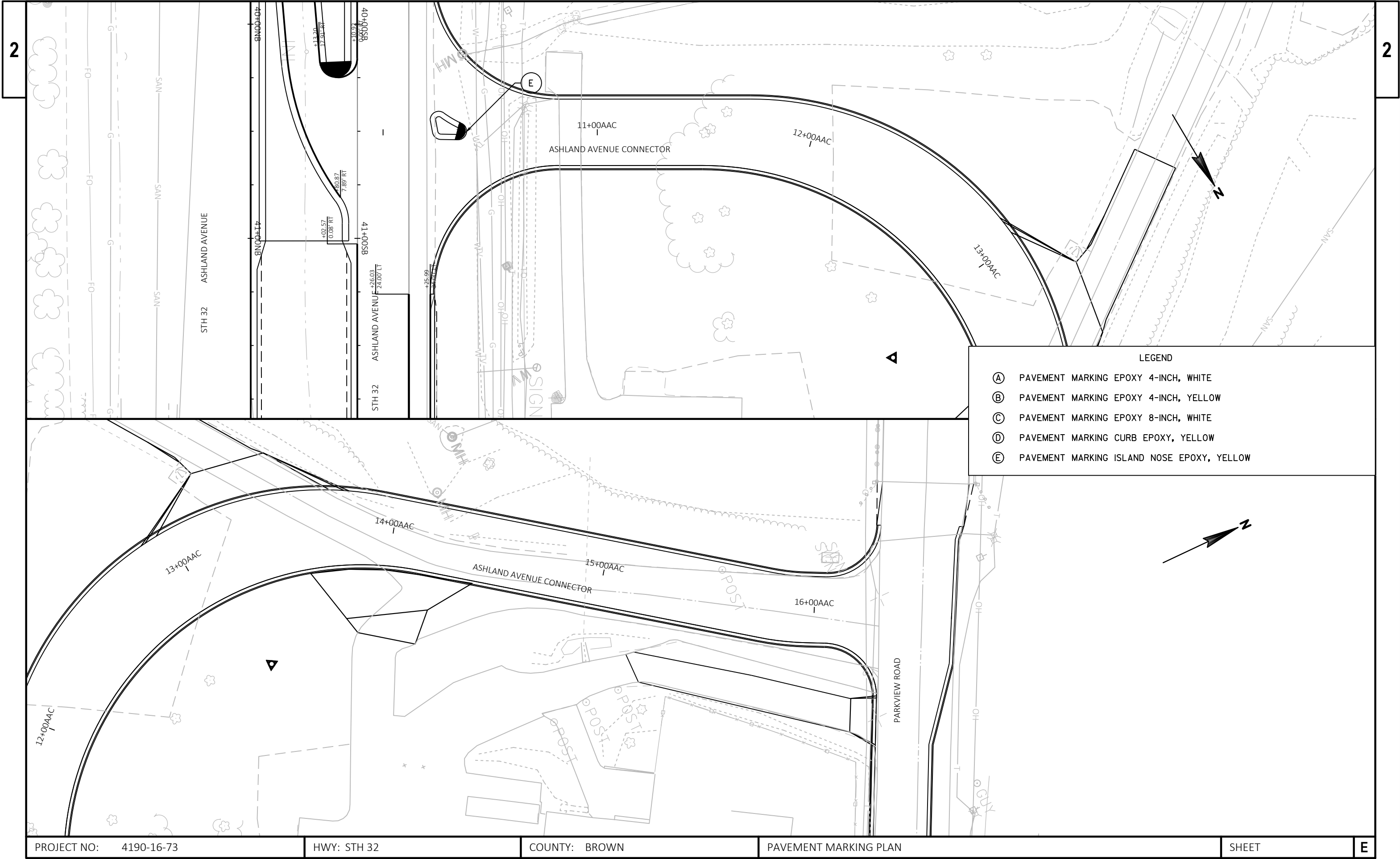
WOOD POSTS SIZES, FOR TYPE II SIGNING, ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

THE NUMBER OF "NO PASSING ZONE" SIGNS (W-14-3) ARE ESTIMATED AND THE ACTUAL NUMBER WILL BE DETERMINED AFTER THE ROADWAYS HAVE BEEN SPOTTED.

MULTIPLE TYPE II SIGNS MOUNTED TOGETHER, STACKED OR BACK TO BACK, WILL BE PAID AS ONE (1) SIGN REMOVAL.







PROJECT NO: 4190-16-73

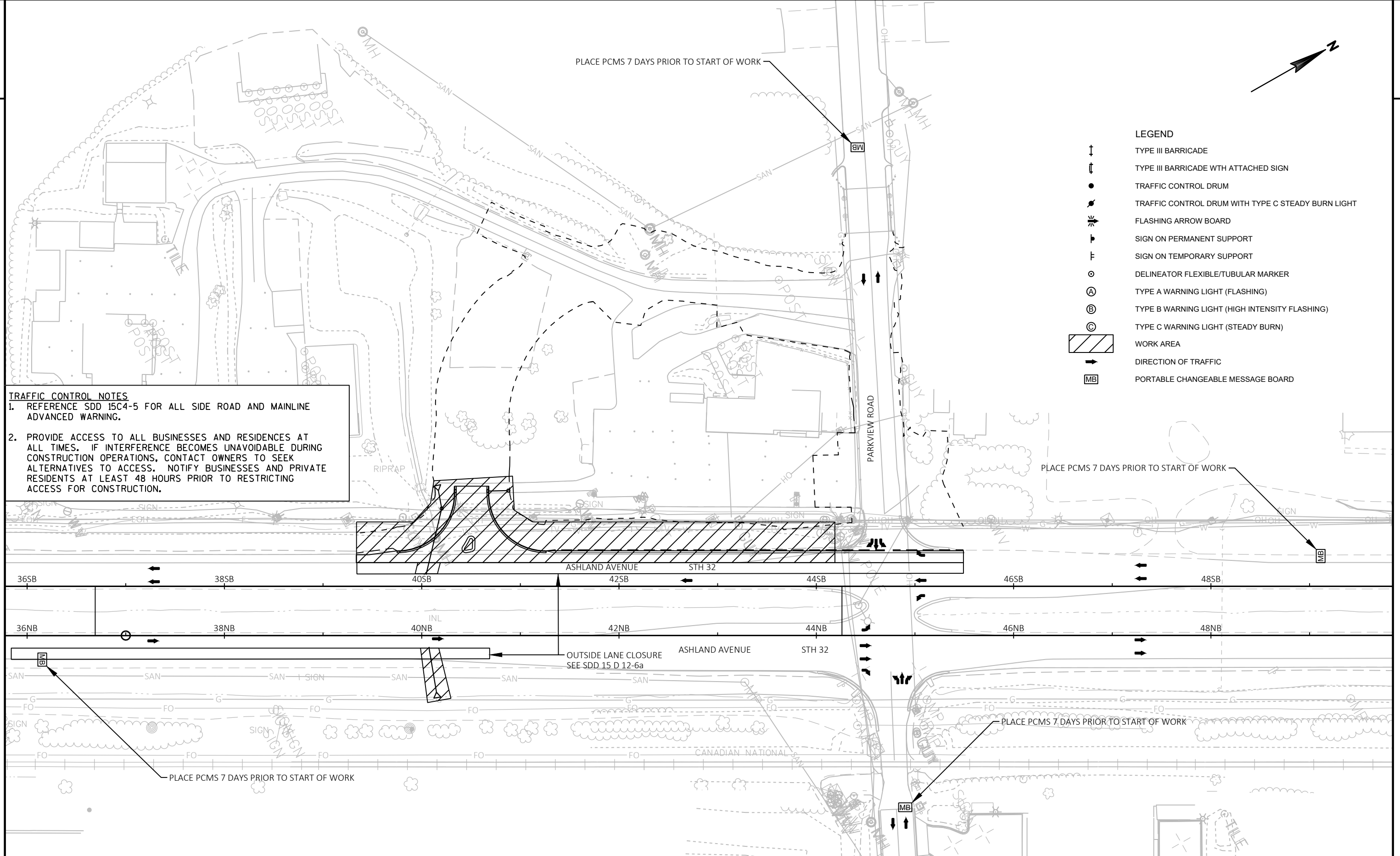
HWY: STH 32

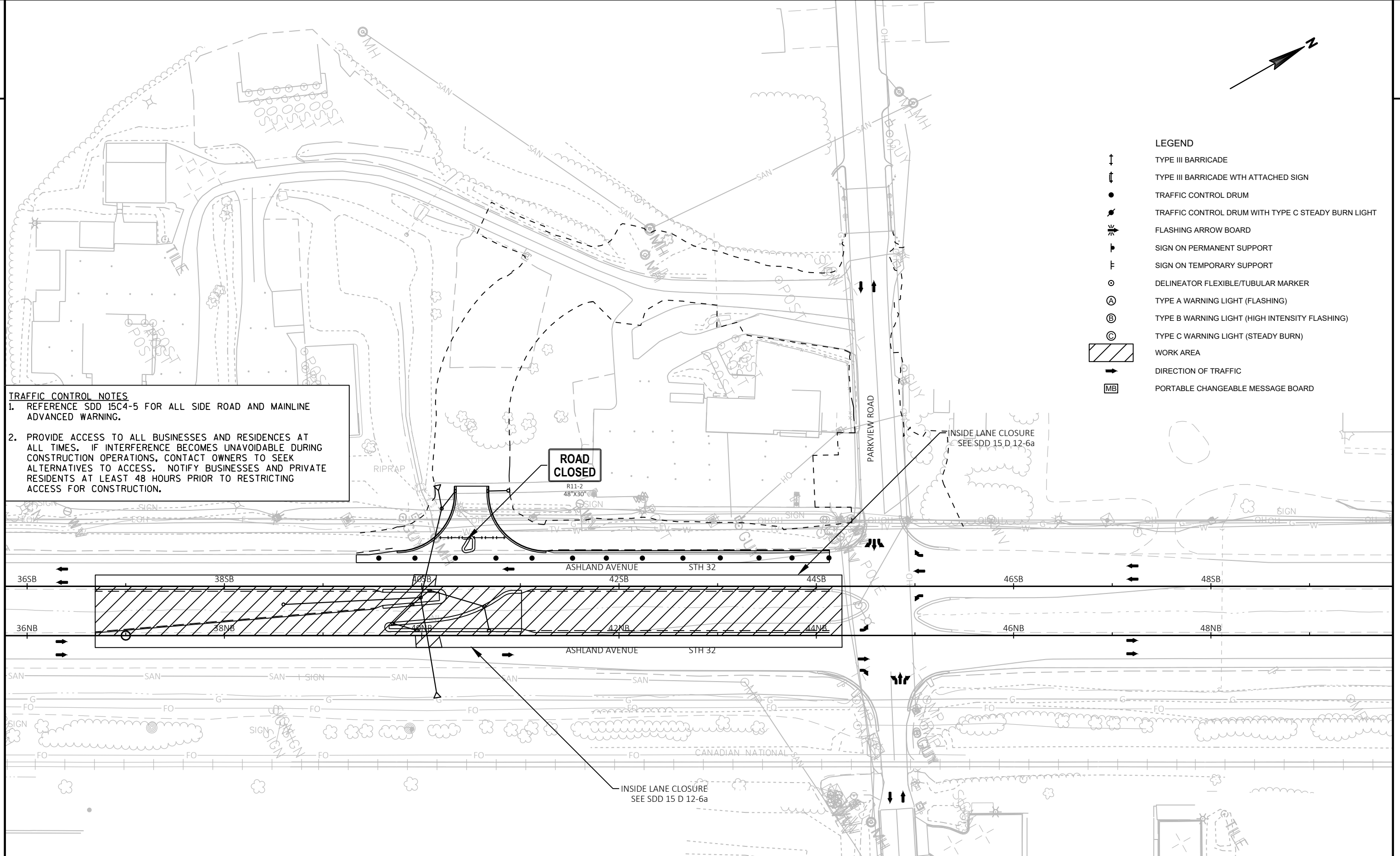
COUNTY: BROWN

PAVEMENT MARKING PLAN

SHEET

E



**TRAFFIC CONTROL NOTES**

1. REFERENCE SDD 15C4-5 FOR ALL SIDE ROAD AND MAINLINE ADVANCED WARNING.
2. PROVIDE ACCESS TO ALL BUSINESSES AND RESIDENCES AT ALL TIMES. IF INTERFERENCE BECOMES UNAVOIDABLE DURING CONSTRUCTION OPERATIONS, CONTACT OWNERS TO SEEK ALTERNATIVES TO ACCESS. NOTIFY BUSINESSES AND PRIVATE RESIDENTS AT LEAST 48 HOURS PRIOR TO RESTRICTING ACCESS FOR CONSTRUCTION.

LEGEND

	TYPE III BARRICADE
	TYPE III BARRICADE WITH ATTACHED SIGN
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
	FLASHING ARROW BOARD
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	DELINEATOR FLEXIBLE/TUBULAR MARKER
	TYPE A WARNING LIGHT (FLASHING)
	TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
	TYPE C WARNING LIGHT (STEADY BURN)
	WORK AREA
	DIRECTION OF TRAFFIC
	PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 4190-16-73

HWY: STH 32

COUNTY: BROWN

TRAFFIC CONTROL - STAGE 1B

SHEET

E

FILE NAME : N:\PDS\C3D\41901601\SHEETSPLAN\026002_S2.DWG
LAYOUT NAME - 026002_s2

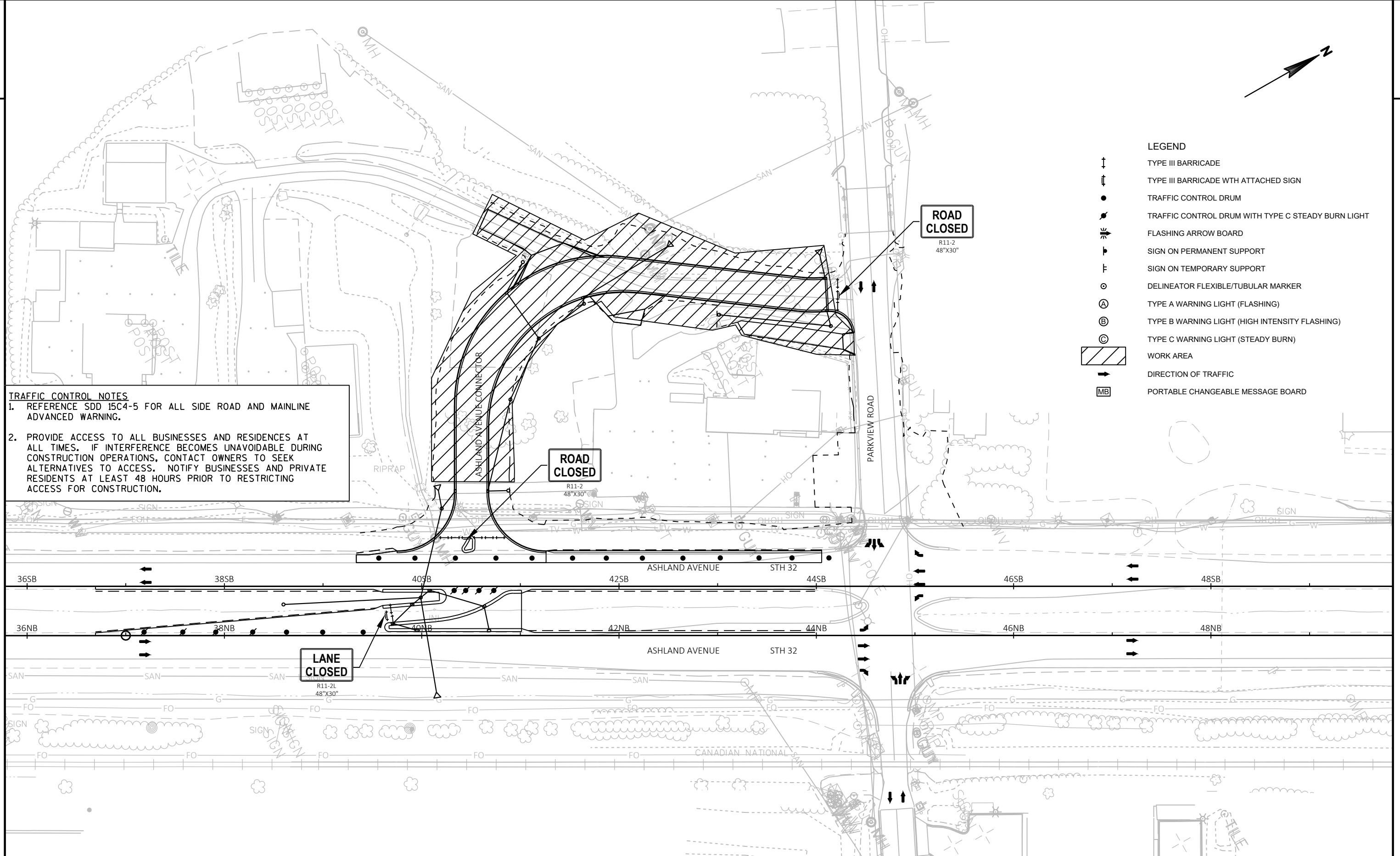
PLOT DATE : 10/10/2018 11:38 AM

PLOT BY : DUMS, ALEXANDER T

PLOT NAME :

PLOT SCALE : #####

WISDOT/CADD SHEET 42

**TRAFFIC CONTROL NOTES**

1. REFERENCE SDD 15C4-5 FOR ALL SIDE ROAD AND MAINLINE ADVANCED WARNING.
2. PROVIDE ACCESS TO ALL BUSINESSES AND RESIDENCES AT ALL TIMES. IF INTERFERENCE BECOMES UNAVOIDABLE DURING CONSTRUCTION OPERATIONS, CONTACT OWNERS TO SEEK ALTERNATIVES TO ACCESS. NOTIFY BUSINESSES AND PRIVATE RESIDENTS AT LEAST 48 HOURS PRIOR TO RESTRICTING ACCESS FOR CONSTRUCTION.

LEGEND

- ↑ TYPE III BARRICADE
- ↑ TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- ▬ SIGN ON PERMANENT SUPPORT
- ▬ SIGN ON TEMPORARY SUPPORT
- DELINEATOR FLEXIBLE/TUBULAR MARKER
- Ⓐ TYPE A WARNING LIGHT (FLASHING)
- Ⓑ TYPE B WARNING LIGHT (HIGH INTENSITY FLASHING)
- Ⓒ TYPE C WARNING LIGHT (STEADY BURN)
- ▨ WORK AREA
- DIRECTION OF TRAFFIC
- MB PORTABLE CHANGEABLE MESSAGE BOARD

PROJECT NO: 4190-16-73

HWY: STH 32

COUNTY: BROWN

TRAFFIC CONTROL - STAGE 2

SHEET

E

FILE NAME : N:\PDS\C3D\41901601\SHEETSPLAN\026001_S1.DWG
LAYOUT NAME - 026001_s1

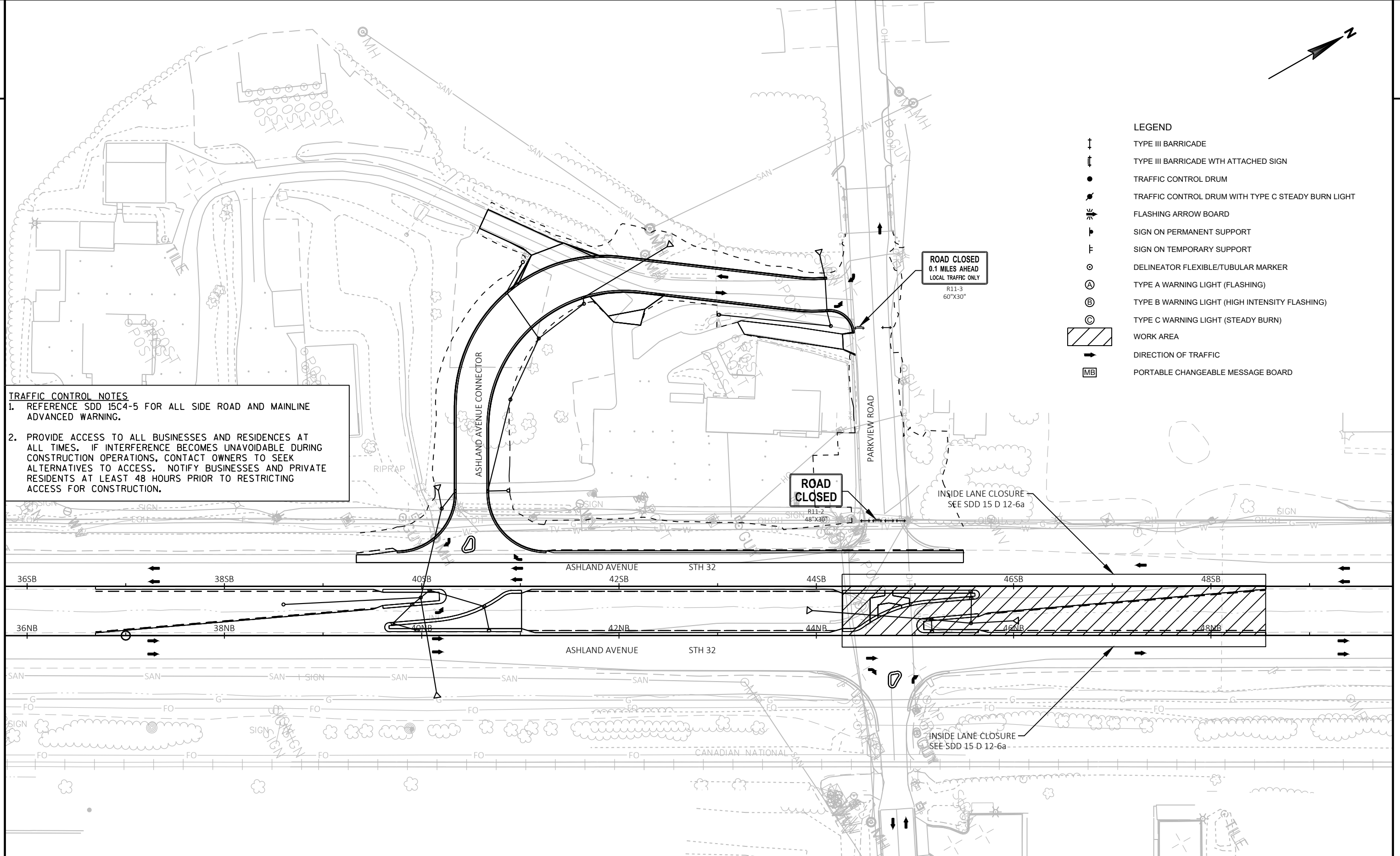
PLOT DATE : 10/10/2018 11:38 AM

PLOT BY : DUMS, ALEXANDER T

PLOT NAME :

PLOT SCALE : #####

WISDOT/CADD5 SHEET 42

**TRAFFIC CONTROL NOTES**

1. REFERENCE SDD 15C4-5 FOR ALL SIDE ROAD AND MAINLINE ADVANCED WARNING.
2. PROVIDE ACCESS TO ALL BUSINESSES AND RESIDENCES AT ALL TIMES. IF INTERFERENCE BECOMES UNAVOIDABLE DURING CONSTRUCTION OPERATIONS, CONTACT OWNERS TO SEEK ALTERNATIVES TO ACCESS. NOTIFY BUSINESSES AND PRIVATE RESIDENTS AT LEAST 48 HOURS PRIOR TO RESTRICTING ACCESS FOR CONSTRUCTION.

PROJECT NO: 4190-16-73

HWY: STH 32

COUNTY: BROWN

TRAFFIC CONTROL - STAGE 3

SHEET

E

FILE NAME : N:\PDS\C3D\41901601\SHEETSPLAN\026003_S3.DWG
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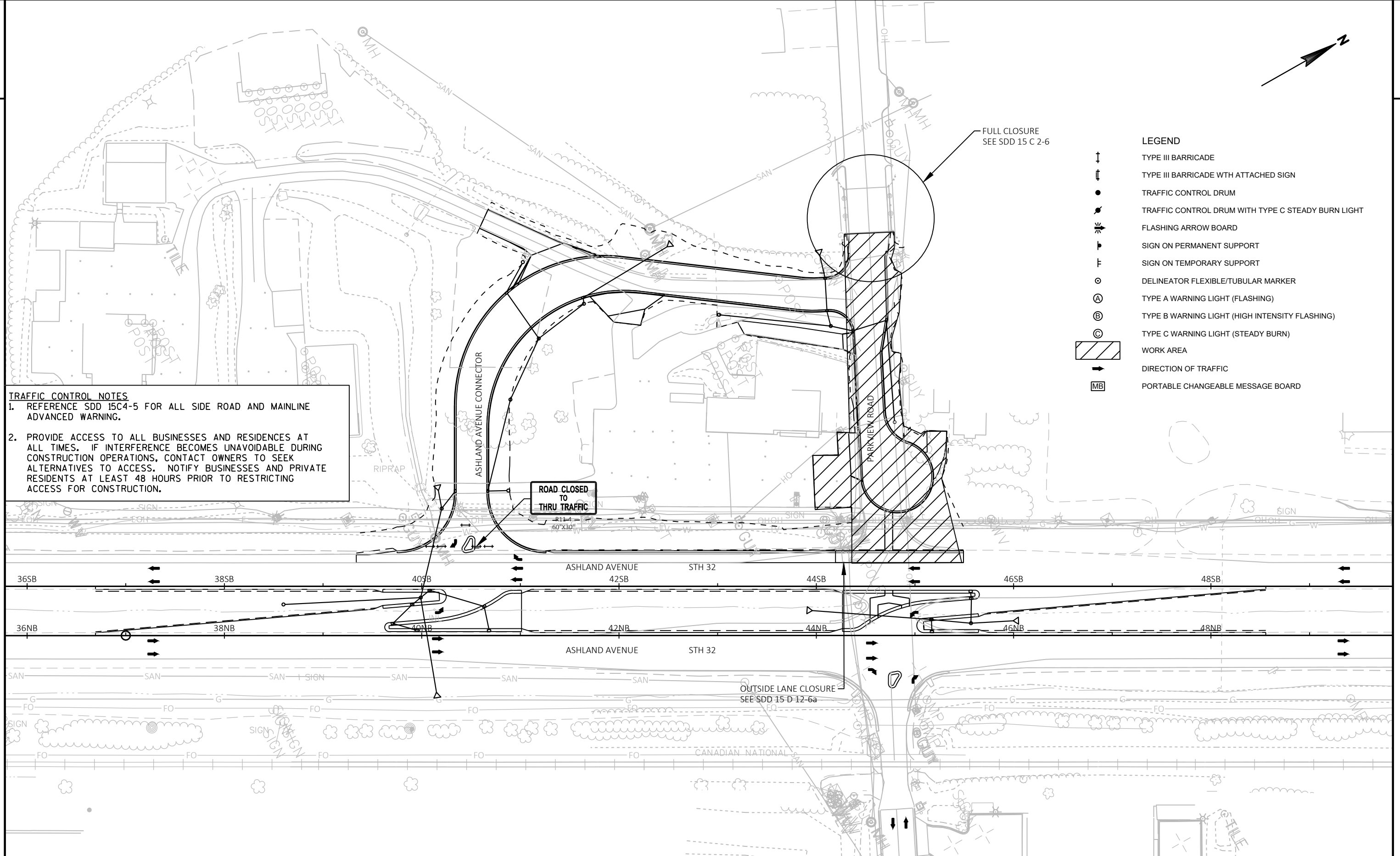
PLOT DATE : 10/10/2018 11:38 AM

PLOT BY : DUMS, ALEXANDER T

PLOT NAME :

PLOT SCALE : #####

WISDOT/CADDs SHEET 42



Estimate Of Quantities

4190-16-73

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	2.000	2.000
0004	201.0205	Grubbing	STA	2.000	2.000
0006	203.0100	Removing Small Pipe Culverts	EACH	3.000	3.000
0008	204.0100	Removing Pavement	SY	940.000	940.000
0010	204.0110	Removing Asphaltic Surface	SY	196.000	196.000
0012	204.0150	Removing Curb & Gutter	LF	271.000	271.000
0014	204.0210	Removing Manholes	EACH	2.000	2.000
0016	205.0100	Excavation Common	CY	3,992.000	3,992.000
0018	208.0100	Borrow	CY	1,302.000	1,302.000
0020	213.0100	Finishing Roadway (project) 01. 4190-16-73	EACH	1.000	1.000
0022	305.0110	Base Aggregate Dense 3/4-Inch	TON	219.000	219.000
0024	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	7,883.000	7,883.000
0026	416.0280	Concrete Driveway HES 8-Inch	SY	440.000	440.000
0028	455.0605	Tack Coat	GAL	511.000	511.000
0030	460.2000	Incentive Density HMA Pavement	DOL	1,190.000	1,190.000
0032	460.6223	HMA Pavement 3 MT 58-28 S	TON	1,257.000	1,257.000
0034	460.6224	HMA Pavement 4 MT 58-28 S	TON	639.000	639.000
0036	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	132.000	132.000
0038	465.0315	Asphaltic Flumes	SY	110.000	110.000
0040	522.1018	Apron Endwalls for Culvert Pipe Reinforced Concrete 18-Inch	EACH	2.000	2.000
0042	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	2.000	2.000
0044	522.2619	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 19x30-Inch	EACH	2.000	2.000
0046	601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF	829.000	829.000
0048	601.0576	Concrete Curb & Gutter 4-Inch Sloped 30-Inch Type J	LF	80.000	80.000
0050	601.0600	Concrete Curb Pedestrian	LF	118.000	118.000
0052	602.0415	Concrete Sidewalk 6-Inch	SF	812.000	812.000
0054	602.2400	Concrete Safety Islands	SF	5,368.000	5,368.000
0056	606.0300	Riprap Heavy	CY	48.000	48.000
0058	608.0315	Storm Sewer Pipe Reinforced Concrete Class III 15-Inch	LF	295.000	295.000
0060	608.0318	Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	LF	507.000	507.000
0062	608.0324	Storm Sewer Pipe Reinforced Concrete Class III 24-Inch	LF	347.000	347.000
0064	608.0418	Storm Sewer Pipe Reinforced Concrete Class IV 18-Inch	LF	167.000	167.000
0066	608.0515	Storm Sewer Pipe Reinforced Concrete Class V 15-Inch	LF	45.000	45.000
0068	608.2419	Storm Sewer Pipe Reinforced Concrete Horizontal	LF	204.000	204.000

Estimate Of Quantities

4190-16-73

Line	Item	Item Description	Unit	Total	Qty
		Elliptical Class HE-IV 19x30-Inch			
0070	611.0530	Manhole Covers Type J	EACH	4.000	4.000
0072	611.0612	Inlet Covers Type C	EACH	8.000	8.000
0074	611.0624	Inlet Covers Type H	EACH	8.000	8.000
0076	611.0627	Inlet Covers Type HM	EACH	10.000	10.000
0078	611.2004	Manholes 4-FT Diameter	EACH	2.000	2.000
0080	611.2006	Manholes 6-FT Diameter	EACH	1.000	1.000
0082	611.2008	Manholes 8-FT Diameter	EACH	1.000	1.000
0084	611.3004	Inlets 4-FT Diameter	EACH	26.000	26.000
0086	618.0100	Maintenance And Repair of Haul Roads (project) 01. 4190-16-73	EACH	1.000	1.000
0088	619.1000	Mobilization	EACH	1.000	1.000
0090	620.0300	Concrete Median Sloped Nose	SF	226.000	226.000
0092	624.0100	Water	MGAL	110.000	110.000
0094	625.0100	Topsoil	SY	2,558.000	2,558.000
0096	625.0500	Salvaged Topsoil	SY	5,021.000	5,021.000
0098	628.1504	Silt Fence	LF	2,268.000	2,268.000
0100	628.1520	Silt Fence Maintenance	LF	2,068.000	2,068.000
0102	628.1905	Mobilizations Erosion Control	EACH	4.000	4.000
0104	628.1910	Mobilizations Emergency Erosion Control	EACH	4.000	4.000
0106	628.2002	Erosion Mat Class I Type A	SY	3,339.000	3,339.000
0108	628.2006	Erosion Mat Urban Class I Type A	SY	4,240.000	4,240.000
0110	628.7005	Inlet Protection Type A	EACH	27.000	27.000
0112	628.7015	Inlet Protection Type C	EACH	27.000	27.000
0114	628.7504	Temporary Ditch Checks	LF	22.000	22.000
0116	628.7555	Culvert Pipe Checks	EACH	30.000	30.000
0118	628.7570	Rock Bags	EACH	100.000	100.000
0120	629.0210	Fertilizer Type B	CWT	4.800	4.800
0122	630.0140	Seeding Mixture No. 40	LB	136.000	136.000
0124	633.5200	Markers Culvert End	EACH	5.000	5.000
0126	634.0614	Posts Wood 4x6-Inch X 14-FT	EACH	9.000	9.000
0128	634.0616	Posts Wood 4x6-Inch X 16-FT	EACH	3.000	3.000
0130	637.2210	Signs Type II Reflective H	SF	79.180	79.180
0132	637.2220	Signs Type II Reflective SH	SF	6.750	6.750
0134	637.2230	Signs Type II Reflective F	SF	16.250	16.250
0136	638.2102	Moving Signs Type II	EACH	13.000	13.000
0138	638.2602	Removing Signs Type II	EACH	1.000	1.000
0140	638.3000	Removing Small Sign Supports	EACH	1.000	1.000
0142	642.5001	Field Office Type B	EACH	1.000	1.000
0144	643.0300	Traffic Control Drums	DAY	3,742.000	3,742.000

Estimate Of Quantities

4190-16-73

Line	Item	Item Description	Unit	Total	Qty
0146	643.0420	Traffic Control Barricades Type III	DAY	884.000	884.000
0148	643.0705	Traffic Control Warning Lights Type A	DAY	1,768.000	1,768.000
0150	643.0715	Traffic Control Warning Lights Type C	DAY	1,289.000	1,289.000
0152	643.0800	Traffic Control Arrow Boards	DAY	80.000	80.000
0154	643.0900	Traffic Control Signs	DAY	920.000	920.000
0156	643.1050	Traffic Control Signs PCMS	DAY	28.000	28.000
0158	643.5000	Traffic Control	EACH	1.000	1.000
0160	645.0120	Geotextile Type HR	SY	66.000	66.000
0162	646.1020	Marking Line Epoxy 4-Inch	LF	3,238.000	3,238.000
0164	646.3020	Marking Line Epoxy 8-Inch	LF	1,104.000	1,104.000
0166	646.8220	Marking Island Nose Epoxy	EACH	2.000	2.000
0168	650.4000	Construction Staking Storm Sewer	EACH	34.000	34.000
0170	650.4500	Construction Staking Subgrade	LF	2,961.000	2,961.000
0172	650.5000	Construction Staking Base	LF	2,961.000	2,961.000
0174	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	2,765.000	2,765.000
0176	650.9910	Construction Staking Supplemental Control (project) 01. 4190-16-73	LS	1.000	1.000
0178	650.9920	Construction Staking Slope Stakes	LF	2,543.000	2,543.000
0180	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	1,405.000	1,405.000
0182	652.0605	Conduit Special 2-Inch	LF	190.000	190.000
0184	653.0164	Pull Boxes Non-Conductive 24x42-Inch	EACH	8.000	8.000
0186	654.0105	Concrete Bases Type 5	EACH	8.000	8.000
0188	654.0220	Concrete Control Cabinet Bases Type 10	EACH	1.000	1.000
0190	655.0610	Electrical Wire Lighting 12 AWG	LF	1,500.000	1,500.000
0192	655.0615	Electrical Wire Lighting 10 AWG	LF	8,295.000	8,295.000
0194	656.0200	Electrical Service Meter Breaker Pedestal (location) 01. 4190-16-73	LS	1.000	1.000
0196	657.0255	Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	EACH	8.000	8.000
0198	657.0322	Poles Type 5-Aluminum	EACH	8.000	8.000
0200	657.0710	Luminaire Arms Truss Type 4 1/2-Inch Clamp 12-FT	EACH	10.000	10.000
0202	659.1115	Luminaires Utility LED A	EACH	10.000	10.000
0204	690.0150	Sawing Asphalt	LF	3,416.000	3,416.000
0206	690.0250	Sawing Concrete	LF	3,114.000	3,114.000
0208	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	600.000	600.000
0210	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	350.000	350.000
0212	SPV.0060	Special 01. Rubber Adjusting Rings	EACH	8.000	8.000
0214	SPV.0060	Special 02. Mini Storm Sewer Cleanout	EACH	1.000	1.000
0216	SPV.0090	Special 01. Concrete Curb and Gutter 24-Inch Type D	LF	1,573.000	1,573.000
0218	SPV.0090	Special 02. HES Concrete Curb and Gutter 24-Inch Type D	LF	283.000	283.000

Estimate Of Quantities

4190-16-73

Line	Item	Item Description	Unit	Total	Qty
0220	SPV.0090	Special 03. Mini Storm Sewer Lateral 6-Inch	LF	40.000	40.000
0222	SPV.0120	Special 01. Water for Seeded Areas	MGAL	170.000	170.000

REMOVALS

				201.0105	201.0205	203.0100	204.0100	204.0110	204.0150	204.0210	
				CLEARING	GRUBBING	REMOVING SMALL PIPE PIPE CULVERTS	REMOVING PAVEMENT	REMOVING ASPHALTIC SURFACE	REMOVING CURB & GUTTER	REMOVING MANHOLES	
STATION	TO	STATION	LOCATION	STA	STA	EACH	SY	SY	LF	EACH	REMARKS
CATEGORY 0010											
40+14 NB	-	40+14 NB	STH 32	--	--	2	--	--	--	2	CULVERT UNDER NB AND SB LANES, 24" RCP
44+14 NB	-	44+53 NB	STH 32	--	--	--	--	--	84	--	LOCATED IN MEDIAN
44+99 NB	-	45+37 NB	STH 32	--	--	--	--	--	83	--	LOCATED IN MEDIAN
41+72 NB	-	47+80 NB	STH 32	--	--	--	940	--	--	--	LOCATED IN MEDIAN UNDER ASPHALT OVERLAY
44+25 SB	-	44+50 SB	STH 32	--	--	--	--	--	39	--	SW QUAD OF PARKVIEW RD INTERSECTION
44+84 SB	-	45+35 SB	STH 32	--	--	--	--	--	65	--	NW QUAD OF PARKVIEW RD INTERSECTION
10+82 AAC		10+93 AAC	AAC	--	--	--	--	113	--	--	EXISTING ASPHALT PATH
11+15 AAC	-	13+00 AAC	AAC	2	2	--	--	--	--	--	SEE CONSTRUCTION DETAILS
14+25 AAC	-	15+00 AAC	AAC	--	--	--	--	83	--	--	EXISTING DRIVEWAY; SEE CONSTRUCTION DETAILS
14+83 AAC	-	14+97 AAC	AAC	--	--	1	--	--	--	--	12" PVC PIPE, 85 LF
TOTAL				2	2	3	940	196	271	2	

BASE AGGREGATE DENSE

				305.0110	305.0120	
				BASE AGGREGATE	BASE AGGREGATE	
				DENSE 3/4-INCH	DENSE 1 1/4-INCH	
STATION	TO STATION	LOCATION	TON	TON	REMARKS	
CATEGORY 0010						
36+69 NB	-	43+80 NB	STH 32	115	1,422	STAGE 1; MEDIAN WORK
39+34 SB	-	45+49 SB	STH 32	43	863	STAGE 1; RIGHT TURN LANE WORK
10+22 AAC	-	16+05 AAC	AAC	--	2,398	STAGE 2; MAINLINE
13+84 AAC	-	14+60 AAC	DRIVEWAY	--	85	STAGE 2; DRIFT INN DRIVEWAY; 8" BASE
15+17 AAC	-	16+30 AAC	DRIVEWAY	--	125	STAGE 2; DRIFT INN DRIVEWAY; 8" BASE
0+50 PD	-	1+40 PD	DRIVEWAY	4	150	STAGE 2; PERFORMANCE DIESEL DRIVEWAY; 8" BASE
43+80 NB	-	48+56 NB	STH 32	57	1,256	STAGE 3; MEDIAN WORK
0+00 PARK	-	2+91 PARK	PARKVIEW RD	--	1,299	STAGE 4; MAINLINE WORK
1+97 PARK	-	2+80 PARK	DRIVEWAY	--	190	STAGE 4; DRIFT INN DRIVEWAY
2+41 PARK	-	2+59 PARK	DRIVEWAY	--	45	STAGE 4; RESIDENCE DRIVEWAY
TOTAL				219	7,833	

Division	From/To Station	Location	205.0100 Common Excavation (1)		Salvaged/Unusable Pavement Material (4)	Available Material (5)	Unexpanded Fill	Expanded Fill (13)	Mass Ordinate +/- (14)	Waste	208.0100 Borrow	Comment:
			Cut (2)	EBS Excavation (3)				Factor 1.15				
Division 1												
STH 32 Median	36+69NB - 48+50NB	STH 32	1,740	0	262	1,478	816	938	540			Median
STH 32 West Ditch	39+34SB - 40+00SB	STH 32	52	0	10	42	71	82	-40			South of AAC
STH 32 West Ditch	41+00SB - 45+49SB	STH 32	706	0	67	639	122	140	499			North of AAC
AAC	10+12AAC - 16+25AAC	AAC	666	0	127	539	2,430	2,795	-2,256			
PD Driveway	0+50PD - 1+35PD	Driveway	28	0	11	17	54	62	-45			
Division 1 Subtotal			3,192	0	477	2,715	3,493	4,017	-1,302	0	1,302	
Division 2												
Parkview Road	0+00PARK - 2+88PARK	Parkview Road	800	0	106	694	87	100	594			
Division 2 Subtotal			800	0	106	694	87	100	594	594	0	
Grand Total			3,992	0	583	3,409	3,580	4,117	-708	594	1,302	
Total Common Exc			3,992									

Notes:

(1) Common Excavation is the sum of the Cut and EBS Excavation columns. Item number 205.0100

(2) Salvaged/Unsuable Pavement Material is included in Cut.

(4) Salvaged/Unusable Pavement Material

(5) Available Material = Cut - Salvaged/Unusuable Pavement Material

(13) Expanded Fill Factor = 1.15

Depending on selections:

Or

Or

Or

Expanded Fill = (Unexpanded Fill - Rock* Rock Factor - Reduced Marsh - Reduced EBS) * Fill Factor

Expanded Fill = (Unexpanded Fill - Rock * Rock Factor - Reduced EBS) * Fill Factor

Expanded Fill = (Unexpanded Fill - Rock * Rock Factor - Reduced Marsh) * Fill Factor

Expanded Fill = (Unexpanded Fill - Rock * Rock Factor) * Fill Factor

(14) The Mass Ordinate + or - Qty calculated for the Division. Plus quantity indicates an excess of material within the Division. Minus indicates a shortage of material within the Division.

ASPHALTIC MATERIALS

				455.0605	460.6223	460.6224	465.0120	REMARKS
				TACK	HMA PAVEMENT	HMA PAVEMENT	ASPHALTIC	
				COAT	LOWER LAYER	UPPER LAYER	SURFACE	
					3 MT 58-28S	4 MT 58-28S	DRIVEWAYS	
STATION	TO	STATION	LOCATION	GAL	TON	TON	TON	
CATEGORY 0010								
36+69 NB	-	43+80 NB	STH 32	113	290	109	--	STAGE 1; MEDIAN WORK
39+34 SB	-	45+49 SB	STH 32	77	199	75	--	STAGE 1; RIGHT TURN LANE WORK
39+95 NB	-	40+15 NB	STH 32	6	14	5	--	STAGE 1; STORM SEWER CROSSING
39+90 SB	-	40+10 SB	STH 32	6	14	5	--	STAGE 1; STORM SEWER CROSSING
10+22 AAC	-	16+05 AAC	AAC	118	315	227	--	STAGE 2; AAC MAINLINE
13+60 AAC	-	14+37 AAC	DRIVEWAY	3	--	--	12	STAGE 2; DRIFT INN DRIVEWAY
15+17 AAC	-	16+30 AAC	DRIVEWAY	9	--	--	37	STAGE 2; DRIFT INN DRIVEWAY
78+00 NB	-	79+50 NB	DRIVEWAY	4	--	--	18	STAGE 2; PERF. DIESEL DRIVEWAY
43+80 NB	-	48+56 NB	STH 32	97	249	93	--	STAGE 3; MEDIAN WORK
0+00 PARK	-	2+91 PARK	PARKVIEW RD	65	174	125	--	STAGE 4; PARKVIEW MAINLINE
1+97 PARK	-	2+80 PARK	DRIVEWAY	12	--	--	55	STAGE 4; DRIFT INN DRIVEWAY
2+41 PARK	-	2+59 PARK	DRIVEWAY	2	--	--	11	STAGE 4; RESIDENCE DRIVEWAY
TOTAL				511	1,257	639	132	

PAVEMENT MARKING

				646.1020	646.3020	646.8220		
				MARKING LINE	MARKING LINE	MARKING		
				4-INCH EPOXY	8-INCH EPOXY	ISLAND NOSE		
				WHITE	YELLOW	WHITE	EPOXY	
STATION	TO	STATION	LOCATION	LF	LF	LF	EACH	REMARKS
CATEGORY 0010								
36+69NB	-	43+80NB	AAC LEFT TURN LANE	115	1,380	306	1	STAGE 1; NB AND SB MEDIAN WORK
42+40NB	-	44+43NB	AAC RIGHT TURN LANE	732	--	423	--	STAGE 1; SB RIGHT TURN LANE
43+80NB	-	48+56NB	PARKVIEW ROAD LEFT TURN LANE	115	896	375	1	STAGE 3; NB AND SB MEDIAN WORK
SUBTOTAL				962	2,276			
TOTAL				3,238		1,104	2	

ASPHALTIC FLUMES

STATION	OFFSET	465.0315	REMARKS
CATEGORY 0010			
39+60 NB	37' LT	15	STAGE 1; SOUTH ISLAND
41+00 NB	22' LT	30	STAGE 1; NORTH ISLAND
44+25 NB	22' LT	30	STAGE 3; SOUTH ISLAND
45+65 NB	12' LT	15	STAGE 3; NORTH ISLAND
0+16 PARK	20' LT	10	STAGE 4; N SIDE OF PARKVIEW RD
0+24 PARK	26' RT	10	STAGE 4; N SIDE OF PARKVIEW RD
TOTAL		110	

CONCRETE ITEMS

			416.0280	601.0557	601.0576	601.0600	602.0415	602.2400	SPV.0090.01	SPV.0090.02		
			CONCRETE	CONCRETE	CONCRETE	CONCRETE	CONCRETE	CONCRETE	CONCRETE	HES CONCRETE		
			DRIVEWAY	CURB & GUTTER	CURB & GUTTER	CURB	SIDEWALK	SAFETY	CURB & GUTTER	CURB AND GUTTER		
			HES 8-INCH	36-INCH TYPE D	30-INCH TYPE J	PEDESTRIAN	6-INCH	ISLANDS	24-INCH TYPE D	24-INCH TYPE D		
STATION	TO STATION	LOCATION	SF	LF	LF	LF	SF	SF	LF	LF	REMARKS	
CATEGORY 0010												
39+60 NB	- 40+25 NB	STH 32	--	132	--	--	--	625	--	--	STAGE 1; SOUTH ISLAND	
39+62 NB	- 41+01 NB	STH 32	--	284	--	--	--	2,024	--	--	STAGE 1; NORTH ISLAND	
10+22 AAC	- 16+05 AAC	AAC	--	--	--	--	--	--	1,028	--	STAGE 2	
10+22 AAC	- 10+39 AAC	AAC	--	--	40	--	--	61	--	--	STAGE 2; SPLITTER ISLAND	
12+88 AAC	- 13+78 AAC	AAC	212	--	--	--	--	--	--	103	STAGE 2; DRIVEWAY APRON	
13+60 AAC	- 14+37 AAC	AAC	111	--	--	--	--	--	--	76	STAGE 2; DRIVEWAY APRON	
16+00 AAC	- 16+30 AAC	PARKVIEW	27	--	--	--	--	--	--	24	STAGE 2; DRIVEWAY APRON	
44+26 NB	- 45+65 NB	STH 32	--	284	--	118	495	1,999	--	--	STAGE 3; SOUTH ISLAND	
44+69 SB	- 44+77 SB	STH 32	--	--	--	--	317	--	--	--	STAGE 4; BIKE PATH	
44+73 NB	- 44+86 NB	STH 32	--	--	40	--	--	61	--	--	STAGE 3; SPLITTER ISLAND	
45+02 NB	- 45+64 NB	STH 32	--	129	--	--	--	598	--	--	STAGE 3; NORTH ISLAND	
0+00 PARK	- 2+92 PARK	PARKVIEW	--	--	--	--	--	--	545	--	STAGE 4	
1+97 PARK	- 2+80 PARK	PARKVIEW	61	--	--	--	--	--	--	50	STAGE 4; DRIFT INN DRIVEWAY	
2+41 PARK	- 2+59 PARK	PARKVIEW	29	--	--	--	--	--	--	30	STAGE 4; RESIDENCE DRIVEWAY	
TOTAL			440	829	80	118	812	5,368	1,573	283		

CONCRETE MEDIAN SLOPED NOSE

							620.0300	
STATION AND O/S			STATION AND O/S		LOCATION	SF	REMARKS	
CATEGORY 0010								
39+62 NB	5' LT	-	39+67 NB	8' LT	STH 32	31	STAGE 1	
40+18 NB	20' LT	-	40+25 NB	40' LT	STH 32	82	STAGE 1	
45+02 NB	42' LT	-	45+09 NB	10' LT	STH 32	82	STAGE 3	
45+60 NB	48' LT	-	45+65 NB	42' LT	STH 32	31	STAGE 3	
TOTAL						226		

MINI STORM SEWER

						SPV.0090.03
						MINI STORM SEWER LATERAL
						6-INCH
CATEGORY	STATION	TO	STATION	OFFSET	LOCATION	LF
0010	14+95AAC	-	14+95AAC	38' RT	AAC	10
						10

MINI STORM SEWER

						SPV.0060.02	SPV.0090.03
						MINI STORM SEWER CLEANOUTS	MINI STORM SEWER LATERAL
						6-INCH	
CATEGORY	STATION	TO	STATION	OFFSET	LOCATION	EACH	LF
0020	15+89AAC	-	16+07AAC	55' RT	AAC	1	30
						1	30

STORM SEWER ITEMS																							
			522.1018	522.1024	522.2619	611.0530	611.0612	611.0624	611.0627	611.2004	611.2006	611.2008	611.3004										
			APRON	APRON	APRON ENDWALLS																		
			ENDWALLS FOR	ENDWALLS FOR	FOR CULVERT PIPE	MANHOLE	INLET	INLET	INLET	MAHOLES	MAHOLES	MAHOLES	INLETS	RIM OR	STR	FROM	TO	INLET	DISCH	SLOPE			
STRUCTURE		OFFSET*	RCP 18-INCH	RCP 24-INCH	HORIZONTAL ELLIPTICAL	COVERS	COVERS	COVERS	COVERS	4-FT	6-FT	8-FT	4-FT	FLANGE	DEPTH**	STR	STR	ELEV	ELEV	FT/FT			
NUMBER	STATION	FT	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	ELEV	FT	STR	STR	ELEV	ELEV	FT/FT			
CATEGORY 0010																							
10	14+38AAC	32.0' LT	1	--	--	--	--	--	--	--	--	--	--	--	--	10	--	589.60	--	--			
11	13+51AAC	20.2' RT	--	--	--	--	--	1	--	--	--	--	1	595.59	4.49	11	10	590.15	589.60	0.0055			
12	13+49AAC	26.6' RT	--	--	--	--	1	--	--	--	--	--	1	595.11	3.96	12	11	590.20	590.15	0.0077			
13	12+76AAC	34.8' RT	--	--	--	--	1	--	--	--	--	--	1	595.85	4.30	13	12	590.60	590.20	0.0069			
13.1	12+84AAC	21.5' RT	--	--	--	--	--	1	--	--	--	--	1	598.13	6.36	13.1	13	590.82	590.60	0.0039			
13.2	13+10AAC	37.0' LT	--	--	--	--	1	--	--	--	--	--	1	594.54	2.63	13.2	13.1	590.96	590.82	0.0040			
14	11+83AAC	38.0' LT	--	--	--	--	1	--	--	--	--	--	1	597.95	2.83	14	13	594.17	590.60	0.0525			
15	10+85AAC	16.5' RT	--	--	--	--	--	1	--	--	--	--	1	605.95	7.60	15	14	597.40	594.17	0.0340			
15.1	10+85AAC	37.2' RT	--	--	--	--	1	--	--	--	--	--	1	601.70	3.25	15.1	15	597.50	597.40	0.0048			
20	15+99AAC	40.1' LT	1	--	--	--	--	--	--	--	--	--	--	--	--	20	--	586.50	--	--			
21	16+03AAC	16.5' LT	--	--	--	--	--	1	--	--	--	--	1	590.89	3.28	21	20	586.66	586.50	0.0067			
22	16+04AAC	16.3' RT	--	--	--	--	--	1	--	--	--	--	1	590.85	3.08	22	21	586.82	586.66	0.0048			
23	16+07AAC	32.0' RT	--	--	--	--	1	--	--	--	--	--	1	591.35	3.50	23	22	586.90	586.82	0.0050			
23.1	14+98AAC	30.3' RT	--	--	--	--	1	--	--	--	--	--	1	590.26	1.78	23.1	23	587.53	587.15	0.0033			
24	1+01PARK	16.2' RT	--	--	--	--	--	1	--	--	--	--	1	592.30	3.90	24	23	587.45	586.90	0.0239			
25	0+89PARK	16.9' LT	--	--	--	--	--	1	--	--	--	--	1	592.26	3.06	25	24	588.25	587.45	0.0229			
26	2+01PARK	18.5' LT	--	--	--	1	--	--	--	1	--	--	--	599.92	4.67	26	25	594.30	588.25	0.0582			
30	10+85AAC	33.6' LT	--	1	--	--	--	--	--	--	--	--	--	--	--	30	--	601.45	--	--			
31	10+67AAC	30.3' LT	--	--	--	1	--	--	--	--	1	--	--	604.88	2.43	31	30	601.50	601.45	0.0028			
31.1	10+85AAC	16.2' LT	--	--	--	--	--	1	--	--	--	--	1	605.94	2.59	31.1	30	602.40	602.25	0.0065			
32	39+99NB	38.4' LT	--	--	--	1	--	--	--	--	--	1	--	608.66	6.01	32	31	601.70	601.50	0.0022			
32.1	40+08NB	45.7' LT	--	--	--	--	--	--	1	--	--	--	1	608.45	5.00	32.1	32	602.50	602.45	0.0045			
32.2	40+63NB	29.6' LT	--	--	--	--	--	--	1	--	--	--	1	608.07	4.37	32.2	32.1	602.75	602.50	0.0043			
32.3	40+68NB	5.0' LT	--	--	--	--	--	--	1	--	--	--	1	608.09	4.28	32.3	32.2	602.86	602.75	0.0044			
32.5	39+90NB	31.3' LT	--	--	--	--	--	--	1	--	--	--	1	607.99	4.49	32.5	32	602.55	602.45	0.0091			
32.6	39+71NB	12.2' LT	--	--	--	--	--	--	1	--	--	--	1	608.26	4.61	32.6	32.5	602.70	602.55	0.0056			
32.7	39+96NB	5.2' LT	--	--	--	--	--	--	1	--	--	--	1	608.16	4.37	32.7	32.6	602.84	602.70	0.0054			
33	40+15NB	57.6' RT	--	1	--	--	--	--	--	--	--	--	--	--	--	33	32	602.09	601.70	0.0040			
35	38+60NB	31.5' LT	--	--	--	--	1	--	--	--	--	--	1	604.78	1.89	35	32	601.94	601.70	0.0017			
40	46+00NB	14.8' LT	--	--	1	--	--	--	--	--	--	--	--	--	--	40	--	604.05	--	--			
41	45+57NB	12.4' LT	--	--	--	1	--	--	--	1	--	--	--	607.67	2.58	41	40	604.14	604.05	0.0021			
41.1	45+57NB	37.6' LT	--	--	--	--	--	--	1	--	--	--	1	607.55	2.05	41.1	41	604.55	604.47	0.0032			
41.2	45+56NB	44.8' LT	--	--	--	--	--	--	1	--	--	--	1	607.55	2.02	41.2	41.1	604.58	604.55	0.0038			
42	45+17NB	16.1' LT	--	--	--	--	--	--	1	--	--	--	1	607.36	2.19	42	41	604.22	604.14	0.0023			
42.1	45+17NB	3.9' LT	--	--	--	--	--	--	1	--	--	--	1	607.42	1.87	42.1	42	604.60	604.55	0.0042			
43	43+96NB	25.2' LT	--	--	1	--	--	--	--	--	--	--	--	--	--	43	42	604.60	604.22	0.0031			
TOTAL			2	2	2	4	8	8	10	2	1	1	26										
REMARKS																							
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PROJECT NO: 4190-16-73				HWY: STH 32				COUNTY: BROWN				MISCELLANEOUS QUANTITIES						SHEET:			E		
FILE NAME : _____				PLOT DATE : _____				PLOT BY : DUMS, ALEXANDER T				PLOT NAME : _____						PLOT SCALE : 1:1					

STORM SEWER ITEMS															
STRUCTURE NUMBER	STATION	OFFSET* FT	608.0315	608.0318	608.0324	608.0418	608.0515	608.2419	SPV.0060.01						
			STORM	STORM	STORM	STORM	STORM	STORM SEWER PIPE							
			SEWER PIPE	SEWER PIPE	SEWER PIPE	SEWER PIPE	SEWER PIPE	REINFORCED CONCRETE	RUBBER						
			RCP CLASS III	RCP CLASS III	RCP CLASS III	RCP CLASS IV	RCP CLASS V	HORIZONTAL ELLIPTICAL	ADJUSTING	RIM OR	STR	FROM	TO	INLET	DISCH
			15-INCH	18-INCH	24-INCH	18-INCH	15-INCH	CLASS HE-IV 19X30-INCH	RINGS	FLANGE	DEPTH**	STR	STR	ELEV	ELEV
			LF	LF	LF	LF	LF	LF	LF	ELEV	FT				
CATEGORY 0010															
10	14+38AAC	32.0' LT	--	--	--	--	--	--	--	--	--	10	--	589.60	--
11	13+51AAC	20.2' RT	--	--	--	99	--	--	1	595.59	4.49	11	10	590.15	589.60
12	13+49AAC	26.6' RT	--	6	--	--	--	--	--	595.11	3.96	12	11	590.20	590.15
13	12+76AAC	34.8' RT	--	58	--	--	--	--	--	595.85	4.30	13	12	590.60	590.20
13.1	12+84AAC	21.5' RT	--	57	--	--	--	--	1	598.13	6.36	13.1	13	590.82	590.60
13.2	13+10AAC	37.0' LT	--	35	--	--	--	--	--	594.54	2.63	13.2	13.1	590.96	590.82
14	11+83AAC	38.0' LT	--	68	--	--	--	--	--	597.95	2.83	14	13	594.17	590.60
15	10+85AAC	16.5' RT	--	95	--	--	--	--	--	605.95	7.60	15	14	597.40	594.17
15.1	10+85AAC	37.2' RT	--	21	--	--	--	--	1	601.70	3.25	15.1	15	597.50	597.40
20	15+99AAC	40.1' LT	--	--	--	--	--	--	--	--	--	20	--	586.50	--
21	16+03AAC	16.5' LT	--	24	--	--	--	--	1	590.89	3.28	21	20	586.66	586.50
22	16+04AAC	16.3' RT	--	--	--	33	--	--	1	590.85	3.08	22	21	586.82	586.66
23	16+07AAC	32.0' RT	--	16	--	--	--	--	--	591.35	3.50	23	22	586.90	586.82
23.1	14+98AAC	30.3' RT	114	--	--	--	--	--	--	590.26	1.78	23.1	23	587.53	587.15
24	1+01PARK	16.2' RT	--	23	--	--	--	--	1	592.30	3.90	24	23	587.45	586.90
25	0+89PARK	16.9' LT	--	--	--	35	--	--	1	592.26	3.06	25	24	588.25	587.45
26	2+01PARK	18.5' LT	--	104	--	--	--	--	--	599.92	4.67	26	25	594.30	588.25
30	10+85AAC	33.6' LT	--	--	--	--	--	--	--	--	--	30	--	601.45	--
31	10+67AAC	30.3' LT	--	--	18	--	--	--	--	604.88	2.43	31	30	601.50	601.45
31.1	10+85AAC	16.2' LT	23	--	--	--	--	--	1	605.94	2.59	31.1	30	602.40	602.25
32	39+99NB	38.4' LT	--	--	93	--	--	--	--	608.66	6.01	32	31	601.70	601.50
32.1	40+08NB	45.7' LT	11	--	--	--	--	--	--	608.45	5.00	32.1	32	602.50	602.45
32.2	40+63NB	29.6' LT	58	--	--	--	--	--	--	608.07	4.37	32.2	32.1	602.75	602.50
32.3	40+68NB	5.0' LT	25	--	--	--	--	--	--	608.09	4.28	32.3	32.2	602.86	602.75
32.5	39+90NB	31.3' LT	11	--	--	--	--	--	--	607.99	4.49	32.5	32	602.55	602.45
32.6	39+71NB	12.2' LT	27	--	--	--	--	--	--	608.26	4.61	32.6	32.5	602.70	602.55
32.7	39+96NB	5.2' LT	26	--	--	--	--	--	--	608.16	4.37	32.7	32.6	602.84	602.70
33	40+15NB	57.6' RT	--	--	97	--	--	--	--	--	--	33	32	602.09	601.70
35	38+60NB	31.5' LT	--	--	139	--	--	--	--	604.78	1.89	35	32	601.94	601.70
40	46+00NB	14.8' LT	--	--	--	--	--	--	--	--	--	40	--	604.05	--
41	45+57NB	12.4' LT	--	--	--	--	--	43	--	607.67	2.58	41	40	604.14	604.05
41.1	45+57NB	37.6' LT	--	--	--	--	25	--	--	607.55	2.05	41.1	41	604.55	604.47
41.2	45+56NB	44.8' LT	--	--	--	--	8	--	--	607.55	2.02	41.2	41.1	604.58	604.55
42	45+17NB	16.1' LT	--	--	--	--	--	40	--	607.36	2.19	42	41	604.22	604.14
42.1	45+17NB	3.9' LT	--	--	--	--	12	--	--	607.42	1.87	42.1	42	604.60	604.55
43	43+96NB	25.2' LT	--	--	--	--	--	121	--	--	--	43	42	604.60	604.22

TOTAL295507347167452048

REMARKS

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ERECTION & REMOVAL OF PERMANENT SIGNING, TYPE II

SIGN NO.	LOCATION	SIGN CODE	W X H	637.2210 SIGNS TYPE II REFLECTIVE TYPE H S.F.	637.2220 SIGNS TYPE II REFLECTIVE TYPE SH S.F.	637.2230 SIGNS TYPE II REFLECTIVE TYPE F S.F.	638.2102 SIGNS MOVING TYPE II EACH	634.0614 POSTS WOOD 4x6x14 EACH	634.0616 POSTS WOOD 4x6x16 EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
1	STH 32	R3-20L	36" X 54"	13.50	---	---	---	---	1	---	---	
2	"	W12-1D	24" X 24"	---	---	4.00	---	1	---	---	---	
3	"	R4-7	---	---	---	---	1	---	---	---	---	MOVE TO LOCATION 3*
3*	"	R4-7	---	---	---	---	---	---	---	---	---	NEW LOCATION OF SIGN 3
4	"	R5-1	30" X 30"	6.25	---	---	---	1	---	---	---	
5	"	R6-2R	24" X 30"	5.00	---	---	---	1	---	---	---	
6	"	R3-1	---	---	---	---	1	---	---	---	---	MOVE TO LOCATION 6*
6*	"	R3-1	---	---	---	---	---	---	---	---	---	NEW LOCATION OF SIGN 6
7	"	R5-1	---	---	---	---	1	---	---	---	---	MOVE TO LOCATION 7*
7*	"	R5-1	---	---	---	---	---	---	---	---	---	NEW LOCATION OF SIGN 7
7A	"	R3-2	36" X 36"	9.00	---	---	---	---	---	---	---	MOUNT TO BACK OR SIGN 7*
8	"	R5-1A	---	---	---	---	1	---	---	---	---	MOVE TO LOCATION 8*
8*	"	R5-1A	---	---	---	---	---	---	---	---	---	NEW LOCATION OF SIGN 8
9	"	R5-1A	---	---	---	---	1	---	---	---	---	MOVE TO LOCATION 9*
9*	"	R5-1A	---	---	---	---	---	---	---	---	---	NEW LOCATION OF SIGN 9
10	"	R5-1	---	---	---	---	1	---	---	---	---	MOVE TO LOCATION 10*
10*	"	R5-1	---	---	---	---	---	---	---	---	---	NEW LOCATION OF SIGN 10
10A	"	R3-2	36" X 36"	9.00	---	---	---	---	---	---	---	MOUNT TO BACK OR SIGN 10*
11	"	R6-2R	24" X 30"	5.00	---	---	---	1	---	---	---	
12	"	R5-1	30" X 30"	6.25	---	---	---	1	---	---	---	
13	"	W12-1D	24" X 24"	---	---	4.00	---	1	---	---	---	
14	"	R4-7	---	---	---	---	1	---	---	---	---	MOVE TO LOCATION 14*
14*	"	R4-7	---	---	---	---	---	---	---	---	---	NEW LOCATION OF SIGN 14
15	VACANT	---	---	---	---	---	---	---	---	---	---	
16	OLD PARKVIEW RD	R6-1R	---	---	---	---	1	---	---	---	---	MOVE TO LOCATION 16*
17	"	R1-1	---	---	---	---	1	---	---	---	---	MOVE TO LOCATION 17*
18	"	R6-3	---	---	---	---	1	---	---	---	---	MOVE TO LOCATION 18*
19	"	R6-1L	---	---	---	---	1	---	---	---	---	MOVE TO LOCATION 19*
16*	NEW PARKVIEW RD	R6-1R	---	---	---	---	---	---	---	---	---	NEW LOCATION OF SIGN 16
17*	"	R1-1	---	---	---	---	---	---	---	---	---	NEW LOCATION OF SIGN 17
18*	"	R6-3	---	---	---	---	---	---	---	---	---	NEW LOCATION OF SIGN 18
19*	"	R6-1L	---	---	---	---	---	---	---	---	---	NEW LOCATION OF SIGN 19
20	"	R4-7	24" X 30"	5.00	---	---	1	---	---	---	---	
21	"	R4-7	24" X 30"	5.00	---	---	---	---	---	---	---	MOUNT TO BACK OF SIGN 20

PAGE SUBTOTALS 64.00 0.00 8.00 12.00 6 1 0 0

LANDSCAPING <table><thead><tr><th>STATION</th><th>TO STATION</th><th>LOCATION</th><th>629.0210 FERTILIZER TYPE B CWT</th><th>630.0140 SEEDING MIXTURE NO. 40 LB</th><th>REMARKS</th></tr></thead><tbody><tr><td>36+69NB</td><td>- 43+79NB</td><td>MEDIAN</td><td>1.4</td><td>39</td><td>STAGE 1</td></tr><tr><td>40+02NB</td><td>- 40+17NB</td><td>E DITCH</td><td>0.0</td><td>1</td><td>STAGE 1</td></tr><tr><td>39+34NB</td><td>- 45+49NB</td><td>W DITCH</td><td>0.7</td><td>20</td><td>STAGE 1</td></tr><tr><td>10+20AAC</td><td>- 16+05AAC</td><td>N SIDE</td><td>0.8</td><td>22</td><td>STAGE 2</td></tr><tr><td>10+20AAC</td><td>- 16+05AAC</td><td>S SIDE</td><td>0.8</td><td>24</td><td>STAGE 2</td></tr><tr><td>43+79NB</td><td>- 48+56NB</td><td>MEDIAN</td><td>0.7</td><td>21</td><td>STAGE 3</td></tr><tr><td>0+00PARK</td><td>- 2+92PARK</td><td>N SIDE</td><td>0.3</td><td>8</td><td>STAGE 4</td></tr><tr><td>0+00PARK</td><td>- 2+92PARK</td><td>S SIDE</td><td>0.1</td><td>3</td><td>STAGE 4</td></tr><tr><td colspan="3">TOTAL</td><td>4.8</td><td>136</td><td></td></tr></tbody></table>						STATION	TO STATION	LOCATION	629.0210 FERTILIZER TYPE B CWT	630.0140 SEEDING MIXTURE NO. 40 LB	REMARKS	36+69NB	- 43+79NB	MEDIAN	1.4	39	STAGE 1	40+02NB	- 40+17NB	E DITCH	0.0	1	STAGE 1	39+34NB	- 45+49NB	W DITCH	0.7	20	STAGE 1	10+20AAC	- 16+05AAC	N SIDE	0.8	22	STAGE 2	10+20AAC	- 16+05AAC	S SIDE	0.8	24	STAGE 2	43+79NB	- 48+56NB	MEDIAN	0.7	21	STAGE 3	0+00PARK	- 2+92PARK	N SIDE	0.3	8	STAGE 4	0+00PARK	- 2+92PARK	S SIDE	0.1	3	STAGE 4	TOTAL			4.8	136		WATER <table><thead><tr><th>STATION</th><th>TO STATION</th><th>624.0100 MGAL</th><th>SPV.0120.01 MGAL</th><th>LOCATION</th></tr></thead><tbody><tr><td colspan="5">CATEGORY 0010</td></tr><tr><td colspan="5">COMPACTION AND DUST CONTROL</td></tr><tr><td>36+69 NB</td><td>- 43+80 NB</td><td>22</td><td>-</td><td>STAGE 1; MEDIAN WORK</td></tr><tr><td>39+34 SB</td><td>- 45+49 SB</td><td>13</td><td>-</td><td>STAGE 1; RIGHT TURN LANE WORK</td></tr><tr><td>10+22 AAC</td><td>- 16+05 AAC</td><td>34</td><td>-</td><td>STAGE 2; AAC MAINLINE</td></tr><tr><td>13+84 AAC</td><td>- 14+60 AAC</td><td>1</td><td>-</td><td>STAGE 2; DRIFT INN DRIVEWAY</td></tr><tr><td>15+17 AAC</td><td>- 16+30 AAC</td><td>1</td><td>-</td><td>STAGE 2; DRIFT INN DRIVEWAY</td></tr><tr><td>0+50 PD</td><td>- 1+40 PD</td><td>1</td><td>-</td><td>STAGE 2; PERFORMANCE DIESEL DRIVEWAY</td></tr><tr><td>43+80 NB</td><td>- 48+56 NB</td><td>18</td><td>-</td><td>STAGE 3; MEDIAN WORK</td></tr><tr><td>0+00 PARK</td><td>- 2+91 PARK</td><td>18</td><td>-</td><td>STAGE 4; DRIFT INN DRIVEWAY</td></tr><tr><td>1+97 PARK</td><td>- 2+80 PARK</td><td>1</td><td>-</td><td>STAGE 4; RESIDENCE DRIVEWAY</td></tr><tr><td>2+41 PARK</td><td>- 2+59 PARK</td><td>1</td><td>-</td><td>STAGE 4; DRIVEWAY</td></tr><tr><td colspan="5">WATER FOR SOD/SDEEDED AREAS</td></tr><tr><td>10+20 AAC</td><td>- 16+05 AAC</td><td>-</td><td>28</td><td>STAGE 2</td></tr><tr><td>10+20 AAC</td><td>- 16+05 AAC</td><td>-</td><td>30</td><td>STAGE 2</td></tr><tr><td>36+69 NB</td><td>- 43+79 NB</td><td>-</td><td>48</td><td>STAGE 1; MEDIAN WORK</td></tr><tr><td>40+02 NB</td><td>- 40+17 NB</td><td>-</td><td>1</td><td>STAGE 1; EAST DITCH</td></tr><tr><td>39+34 NB</td><td>- 45+49 NB</td><td>-</td><td>24</td><td>STAGE 1 AND 4; WEST DITCH</td></tr><tr><td>43+79 NB</td><td>- 48+56 NB</td><td>-</td><td>26</td><td>STAGE 3</td></tr><tr><td>0+00 PARK</td><td>- 2+92 PARK</td><td>-</td><td>10</td><td>STAGE 4</td></tr><tr><td>0+00 PARK</td><td>- 2+92 PARK</td><td>-</td><td>3</td><td>STAGE 4</td></tr><tr><td colspan="2">TOTAL</td><td>110</td><td>170</td><td></td></tr></tbody></table>						STATION	TO STATION	624.0100 MGAL	SPV.0120.01 MGAL	LOCATION	CATEGORY 0010					COMPACTION AND DUST CONTROL					36+69 NB	- 43+80 NB	22	-	STAGE 1; MEDIAN WORK	39+34 SB	- 45+49 SB	13	-	STAGE 1; RIGHT TURN LANE WORK	10+22 AAC	- 16+05 AAC	34	-	STAGE 2; AAC MAINLINE	13+84 AAC	- 14+60 AAC	1	-	STAGE 2; DRIFT INN DRIVEWAY	15+17 AAC	- 16+30 AAC	1	-	STAGE 2; DRIFT INN DRIVEWAY	0+50 PD	- 1+40 PD	1	-	STAGE 2; PERFORMANCE DIESEL DRIVEWAY	43+80 NB	- 48+56 NB	18	-	STAGE 3; MEDIAN WORK	0+00 PARK	- 2+91 PARK	18	-	STAGE 4; DRIFT INN DRIVEWAY	1+97 PARK	- 2+80 PARK	1	-	STAGE 4; RESIDENCE DRIVEWAY	2+41 PARK	- 2+59 PARK	1	-	STAGE 4; DRIVEWAY	WATER FOR SOD/SDEEDED AREAS					10+20 AAC	- 16+05 AAC	-	28	STAGE 2	10+20 AAC	- 16+05 AAC	-	30	STAGE 2	36+69 NB	- 43+79 NB	-	48	STAGE 1; MEDIAN WORK	40+02 NB	- 40+17 NB	-	1	STAGE 1; EAST DITCH	39+34 NB	- 45+49 NB	-	24	STAGE 1 AND 4; WEST DITCH	43+79 NB	- 48+56 NB	-	26	STAGE 3	0+00 PARK	- 2+92 PARK	-	10	STAGE 4	0+00 PARK	- 2+92 PARK	-	3	STAGE 4	TOTAL		110	170	
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EROSION CONTROL															
			625.0100	625.0500	628.1504	628.1520	628.1905	628.1910	628.2002	628.2006	628.7005	628.7015	628.7504	628.7555	628.7570
						SILT	MOBILIZATIONS	MOBILIZATIONS	EROSION MAT	EROSION MAT	INLET	INLET	TEMPORARY	CULVERT	
				SALVAGED	SILT	FENCE	EROSION	EMERGENCY	CLASS I	URBAN CLASS I	PROTECTION	PROTECTION	DITCH	PIPE	ROCK
			TOPSOIL	TOPSOIL	FENCE	MAINTENANCE	CONTROL	EROSION CONTROL	TYPE A	TYPE A	TYPE A	TYPE C	CHECKS	CHECKS	BAGS
STATION	TO STATION	LOCATION	SY	SY	LF	LF	EACH	EACH	SY	SY	EACH	EACH	EACH	EACH	EACH
10+20AAC	- 16+05AAC	N SIDE	1,228	--	510	510	--	--	--	1,228	9	9	3	--	--
10+20AAC	- 16+05AAC	S SIDE	1,330	--	837	837	--	--	--	1,330	5	5	7	15	--
36+69NB	- 43+79NB	MEDIAN	--	2,159	--	--	--	--	2,159	--	7	7	1	--	--
40+02NB	- 40+17NB	E DITCH	--	37	--	--	--	--	37	--	--	--	--	5	--
39+34NB	- 45+49NB	W DITCH	--	1,086	330	330	--	--	--	1,086	--	--	1	--	--
43+79NB	- 48+56NB	MEDIAN	--	1,143	--	--	--	--	1,143	--	4	4	1	10	--
0+00PARK	- 2+92PARK	N SIDE	--	448	291	291	--	--	--	448	1	1	3	--	--
0+00PARK	- 2+92PARK	S SIDE	--	148	100	100	--	--	--	148	1	1	1	--	--
UNDISRIBUTED		PROJECT	--	--	200	--	4	4	--	--	--	--	5	--	100
TOTAL			2,558	5,021	2,268	2,068	4	4	3,339	4,240	27	27	22	30	100

PROJECT NO: 4190-16-73		HWY: STH 32		COUNTY: BROWN		MISCELLANEOUS QUANTITIES					SHEET:		E	
FILE NAME :		PLOT DATE :		PLOT BY : DUMS, ALEXANDER T		PLOT NAME :					PLOT SCALE : 1:1			

ERECTION & REMOVAL OF PERMANENT SIGNING, TYPE II

SIGN NO.	LOCATION	SIGN CODE	W X H	637.2210 SIGNS TYPE II REFLECTIVE TYPE H S.F.	637.2220 SIGNS TYPE II REFLECTIVE TYPE SH S.F.	637.2230 SIGNS TYPE II REFLECTIVE TYPE F S.F.	638.2102 SIGNS MOVING TYPE II EACH	634.0614 POSTS WOOD 4x6x14 EACH	634.0616 POSTS WOOD 4x6x16 EACH	638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	REMARKS
22	NEW PARKVIEW RD	R4-7	24" X 30"	5.00	---	---	1	---	---	---	---	
23	"	R4-7	24" X 30"	5.00	---	---	---	---	---	---	---	MOUNT TO BACK OF SIGN 22
24	"	R1-1	30" X 30"	5.18	---	---	---	---	1	---	---	
25	"	W4-4P	24" X 12"	---	---	2.00	---	---	---	---	---	MOUNT BELOW SIGN 24
26	OLD PARKVIEW RD	W14-1	30" X 30"	---	---	6.25	---	---	1	---	---	
27	"	W10-2	---	---	---	---	---	---	---	1	1	
28	"	W10-1A	---	---	---	---	---	---	---	---	---	
29	"	W10-9P	---	---	---	---	---	---	---	---	---	
30	"	W5-56	18" X 18"	---	2.25	---	---	1	---	---	---	
31	"	W5-56	18" X 18"	---	2.25	---	---	1	---	---	---	
32	"	W5-56	18" X 18"	---	2.25	---	---	1	---	---	---	
PAGE SUBTOTALS				15.18	6.75	8.25	1	3	2	1	1	
PROJECT TOTALS				79.18	6.75	16.25	13	9	3	1	1	

TRAFFIC CONTROL																		
				643.0300		643.0420		643.0705		643.0715		643.0800		643.0900		643.1050		
				TRAFFIC CONTROL DRUMS		TRAFFIC CONTROL BARRICADES TYPE III		TRAFFIC CONTROL WARNING LIGHTS TYPE A		TRAFFIC CONTROL WARNING LIGHTS TYPE C		TRAFFIC CONTROL ARROW BOARDS		TRAFFIC CONTROL SIGNS		TRAFFIC CONTROL PCMS		
TATION	TO STATION	LOCATION	STAGE DURATION	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY	EACH	DAY	REMARKS
CATEGORY 0010																		
STAGE 1A																		
39+34 SB	-	44+00 SB	STH 32	5	36	180	2	10	4	20	12	60	1	5	9	45	28	SB OUTSIDE LANE CLOSURE
35+50 NB	-	40+50 NB	STH 32	5	40	200	2	10	4	20	12	60	1	5	9	45	--	NB OUTSIDE LANE CLOSURE
SUBTOTAL STAGE 1A					76	380	4	20	8	40	24	120	2	10	18	90	28	
STAGE 1B																		
39+34 SB	-	41+50 SB	STH 32	12	13	156	6	72	12	144	4	48	--	--	1	12	--	SB OUTSIDE TURN LANE AND SHOULDER LANE CLOSURE
36+70 NB	-	43+80 NB	STH 32	12	40	480	2	24	4	48	12	144	1	12	9	108	--	NB INSIDE LANE CLOSURE
36+70 SB	-	43+80 SB	STH 32	12	40	480	2	24	4	48	12	144	1	12	9	108	--	SB INSIDE LANE CLOSURE
SUBTOTAL STAGE 1B					93	1,116	10	120	20	240	28	336	2	24	19	228	0	
STAGE 2																		
39+34 SB	-	41+50 SB	STH 32	21	13	273	6	126	12	252	4	84	--	--	1	21	--	SB OUTSIDE TURN LANE AND SHOULDER LANE CLOSURE
36+70 NB	-	41+00 NB	STH 32	21	11	231	4	84	8	168	8	168	--	--	1	21	--	MEDIAN LEFT TURN LANE CLOSURE
16+40 AAC	-	16+40 AAC	AAC	21	--	--	5	105	10	210	--	--	--	--	1	21	--	AAC CLOSURE AT PARKVIEW ROAD
SUBTOTAL STAGE 2					24	504	15	315	30	630	12	252	0	0	3	63	0	
STAGE 3																		
43+80 NB	-	48+56 NB	STH 32	14	38	532	2	28	4	56	12	168	1	14	9	126	--	NB INSIDE LANE CLOSURE
43+80 SB	-	48+56 SB	STH 32	14	38	532	2	28	4	56	12	168	1	14	9	126	--	SB INSIDE LANE CLOSURE
1+00 PARK	-	2+89 PARK	PARKVIEW	14	--	--	8	112	16	224	--	--	--	--	2	28		PARKVIEW ROAD CLOSURE AT STH 32
SUBTOTAL STAGE 3					76	1,064	12	168	24	336	24	336	2	28	20	280	0	
STAGE 4																		
39+34 SB	-	44+00 SB	STH 32	11	32	352	2	22	4	44	12	132	1	11	9	99	--	SB OUTSIDE LANE CLOSURE
0+00 PARK	-	0+00 PARK	PARKVIEW	11	--	--	10	110	20	220	--	--	--	--	6	66	--	PARKVIEW ROAD AND AAC CLOSURE
10+30 AAC	-	10+30 AAC	AAC	11	--	--	5	55	10	110	--	--	--	--	1	11	--	LOCAL TRAFFIC ONLY CLOSURE AT STH 32 AND AAC
SUBTOTAL STAGE 4					32	352	17	187	34	374	12	132	1	11	16	176	0	
UNDISRIBUTED QUANTITY					--	326	--	74	--	148	--	113	--	7	--	83	--	10% OF TOTAL
TOTAL						3,742		884		1,768		1,289		80		920		28

3

RIPRAP				
			606.0300	645.0120
			RIPRAP	GEOTEXTILE
			HEAVY	TYPE HR
STATION	OFFSET	LOCATION	CY	SY
CATEGORY	0010			
40+15NB	58' RT	STH 32	5	8
43+96NB	25' RT	STH 32	5	8
46+00NB	15' LT	STH 32	5	8
10+85AAC	34' LT	AAC	10	12
14+24AAC	27' LT	AAC	15	20
16+03AAC	40' LT	AAC	8	10
TOTAL			48	66

MARKERS CULVERT END

			633.5200
STATION	OFFSET	LOCATION	EACH
CATEGORY	0010		
10+85AAC	33' LT	AAC	1
38+60NB	32' LT	STH 32	1
40+16NB	63' RT	STH 32	1
43+96NB	25' LT	STH 32	1
46+00NB	15' LT	STH 32	1
TOTAL			5

SAWING

STATION	TO	STATION	LOCATION	690.0150	690.0250	REMARKS
				SAWING ASPHALT LF	SAWING CONCRETE LF	
CATEGORY	0010					
39+34SB	-	45+49SB	STH 32	631	615	STAGE 1; SB RIGHT TURN LANE TO AAC
36+69NB	-	43+80NB	STH 32	1,446	1,434	STAGE 1; NB AND SB LANES
39+95NB	-	40+15NB	STH 32	32	24	STAGE 1; STORM SEWER CROSSING
39+90SB	-	40+10SB	STH 32	32	24	STAGE 1; STORM SEWER CROSSING
0+50PD	-	0+50PD	DRIVEWAY	21	--	STAGE 2
13+93AAC	-	14+29AAC	DRIVEWAY	33	--	STAGE 2
15+17AAC	-	15+25AAC	DRIVEWAY	14	--	STAGE 2
43+80NB	-	48+56NB	STH 32	964	952	STAGE 3; NB AND SB LANES
44+70NB	-	44+90NB	PARKVIEW RD	65	65	STAGE 3; SPLITTER ISLAND
0+00PARK	-	0+00PARK	PARKVIEW RD	43	--	STAGE 4; PROJECT LIMITS
1+93PARK	-	2+80PARK	DRIVEWAY	115	--	STAGE 4
2+21PARK	-	2+30PARK	DRIVEWAY	20	--	STAGE 4
TOTAL				3,416	3,114	

3

CONSTRUCTION STAKING

			650.4000	650.4500	650.5000	650.5500	650.9910	650.9920		
			CONSTRUCTION STAKING	CONSTRUCTION	CONSTRUCTION	CONSTRUCTION STAKING	CONSTRUCTION STAKING	CONSTRUCTION STAKING		
			STORM SEWER	STAKING SUBGRADE	STAKING BASE	CURB & GUTTER	SUPPLEMENTAL CONTROL	SLOPE STAKES		
STATION	TO	STATION	LOCATION	EACH	LF	LF	LF	LS	LF	REMARKS
36+69 NB	-	43+80 NB	STH 32	10	711	711	416	--	--	STAGE 1 MEDIAN
39+34 SB	-	45+49 SB	STH 32	--	615	615	--	--	615	STAGE 1 RIGHT TURN LANE
10+22 AAC	-	16+05 AAC	AAC	17	583	583	1,271	--	1166	STAGE 2
15+17 AAC	-	16+30 AAC	DRIVEWAY	--	113	113	--	--	--	STAGE 2
0+50 PD	-	1+40 PD	DRIVEWAY	--	90	90	--	--	180	STAGE 2
43+80 NB	-	48+56 NB	STH 32	7	476	476	453	--	--	STAGE 3 MEDIAN
0+00 PARK	-	2+91 PARK	PARKVIEW RD	--	291	291	625	--	582	STAGE 4
1+97 PARK	-	2+80 PARK	DRIVEWAY	--	50	50	--	--	--	STAGE 4
2+41 PARK	-	2+59 PARK	DRIVEWAY	--	32	32	--	--	--	STAGE 4
UNDISTRIBUTED				--	--	--	--	1	--	PROJECT
TOTAL				34	2,961	2,961	2,765	1	2,543	

PROJECT NO: 4190-16-73	HWY: STH 32	COUNTY: BROWN	MISCELLANEOUS QUANTITIES	SHEET:	E
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FILE NAME : _____

PLOT DATE: _____

PLOT BY : DUMS, ALEXANDER T

PLOT NAME : _____

PLOT SCALE : 1:1

E

Conduit Rigid Nonmetallic Schedule 40			
LOCATION		652.0225	652.0605
Ashland Ave. & Parkview		2-Inch	2-Inch
			Special
FROM	TO	LF	LF
CB1	PB1	30	
CB1	PB1	30	
PB1	PB2	65	
PB2	PB3		80
PB3	LB1	10	
PB3	LB2	150	
LB2	LB3	175	
PB3	PB4		50
PB4	PB5	105	
PB5	LB4	10	
PB1	PB6	360	
PB6	LB5	10	
PB6	PB7	100	
PB7	PB8		60
PB8	LB6	10	
PB8	LB7	175	
LB7	LB8	175	
	TOTAL	1,405	190

Pull Boxes, Non-Conductive	
	653.0164
	24x42-Inch
LOCATION	EACH
Ashland Ave. & Parkview	8

Concrete Bases		
		654.0220
	654.0105	Control
	Type 5	Cabinet
		NER Type 10
LOCATION	EACH	EACH
Ashland Ave. & Parkview	8	1

Electrical Wire Lighting					
			10AWG	12AWG	
LOCATION					655.0610
Ashland Ave. & Parkview			655.0615	655.0610	Equipment
			Ungrounded	Ungrounded	Grounding
(240 VOLT SYSTEM)			Conductor	Conductor	Conductor
			(see Circuit Color)	(Black)/(Red)	(Green)
Circuit	FROM	TO	LF	LF	LF
A	CB1	LB1	470		
(Black)	LB1	Luminaires		200	100
	LB1	LB3	750		
	LB3	Luminaires		100	50
B	CB1	LB2	750		
(Red)	LB4	Luminaires		100	50
	LB2	LB4	730		
	LB4	Luminaires		100	50
C	CB1	LB5	840		
(Blue)	LB5	Luminaires		100	50
	LB5	LB7	790		
	LB7	Luminaires		100	50
D	CB1	LB6	1240		
(Brown)	LB6	Luminaires		200	100
	LB6	LB8	800		
	LB8	Luminaires		100	50
		SUB-TOTALS	6,370	1,000	500
		TOTAL	6,370		1,500

Electrical Wire Lighting 10AWG		
LOCATION		655.0615
Ashland Ave. & Parkview		Equipment
		Grounding
(240 VOLT SYSTEM)		Conductor
		(Green)
FROM	TO	LF
CB1	LB1	235
LB1	LB2	190
LB2	LB3	195
LB1	LB4	225
CB1	LB5	440
LB5	LB6	230
LB6	LB7	215
LB7	LB8	195
	TOTAL	1,925

Electric Service	
	656.0200
	Meter Breaker Pedestal
LOCATION	LS
Ashland Ave. & Parkview	1

Lighting Summary				
	657.0255	657.0322	657.0710	659.1115
	Transformer Bases	Poles	Luminaire Arms	Luminaires
	Breakaway	Type 5	Truss Type	Utility
	11 1/2-Inch	(Aluminum)	4 1/2-Inch Clamp	LED-A
	Bolt Circle		12-FT	
LOCATION	EACH	EACH	EACH	EACH
Ashland Ave. & Parkview	8	8	10	10

TRANSPORTATION PROJECT PLAT NO: 4190-16-21-4.02

PART OF LOT 1, CERTIFIED SURVEY MAP (CSM) NUMBER (#) 7385; PART OF LOT 1, CSM #5955; PART OF LOT 1 CSM #7330; PART OF LOT "G", ASSESSOR'S SUBDIVISION OF 1925 OF LOT 98 ASSESSOR'S SUBDIVISION OF NICOLET (NOW WEST DE PERE); PART OF LOT "J", ASSESSOR'S SUBDIVISION OF 1925 OF LOT 99 ASSESSOR'S SUBDIVISION OF NICOLET (NOW WEST DE PERE); PART OF LOTS 3 & 4 OF FRANKS SUBDIVISION OF PRIVATE CLAIM 26 WEST; ALL WITHIN PRIVATE CLAIM 26, WEST SIDE FOX RIVER, CITY OF DE PERE, BROWN COUNTY, WISCONSIN. RELOCATION ORDER S.T.H. 32 BROWN COUNTY

TO PROPERLY ESTABLISH, LAY OUT, WIDEN, ENLARGE, EXTEND, CONSTRUCT, RECONSTRUCT, IMPROVE, OR MAINTAIN A PORTION OF THE HIGHWAY DESIGNATED ABOVE, THE STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION DEEMS IT NECESSARY TO RELOCATE OR CHANGE SAID HIGHWAY AND ACQUIRE CERTAIN LANDS AND INTERESTS OR RIGHTS IN LANDS FOR THE ABOVE PROJECT.

TO EFFECT THIS CHANGE, PURSUANT TO AUTHORITY GRANTED UNDER SECTION 84.02 (3), 84.09, AND 84.30 WISCONSIN STATUTES, THE DEPARTMENT OF TRANSPORTATION HEREBY ORDERS THAT:
1. THAT PORTION OF SAID HIGHWAY AS SHOWN ON THIS PLAT IS LAID OUT AND ESTABLISHED TO THE LINES AND WIDTHS AS SO SHOWN FOR THE ABOVE PROJECT.
2. THE LANDS OR INTERESTS OR RIGHTS IN LANDS AS SHOWN ON THIS PLAT ARE REQUIRED BY THE DEPARTMENT FOR THE ABOVE PROJECT AND SHALL BE ACQUIRED IN THE NAME OF THE STATE OF WISCONSIN, PURSUANT TO THE PROVISIONS OF SECTION 84.09 (1) OR (2), WISCONSIN STATUTES.

CONVENTIONAL ABBREVIATIONS AND SYMBOLS

ACCESS POINT	AP	SECTION CORNER	SC
ACCESS RIGHTS	AR	MATERIAL AS NOTED	MA
ACRES	AC	SET R/W MONUMENT W/CAP	SRW
CHORD BEARING	CH BNG	(1-X) OUTSIDE DIA. X24"	ODIA
CHORD DISTANCE	CH DIS	IRON PIPE 1.13 LBS/FT	IP
DEED	(D)	FOUND TYPE 2 MON.	F2M
DOCUMENT	DOC	FOUND 3/4" REDAR	F3/4R
EAST BOUND	EB	PROPOSED R/W	PRW
GAS VALVE	GV	PROPOSED POINT	PP
INLET	IN	BOUNDARY LINE	BL
LENGTH OF CURVE	LC	CORPORATE LIMITS	CL
MANHOLE	MH	EXISTING R/W	ERW
MONUMENT	MON	SECTION LINE	SL
NORTH BOUND	NB	QUARTER LINE	QL
PACE	P	SEVENTH LINE	SL7
PERMANENT	PERM	PROPOSED OR NEW R/W LINE	PRW
PERMANENT LIMITED EASEMENT	PLE	PROPOSED EASEMENT LINE	PEL
PRIVATE DRIVEWAY	PD	PARCEL NUMBER	PN
PROPERTY LINE	PL	UTILITY NUMBER	UN
RADIUS	R	SIGN NUMBER	SN
REFERENCE LINE	RL	PROPERTY LINE	PL
REMAINING	REM	LOT, TIE AND OTHER MINOR	LOT
RIGHT OF WAY	R/W	DASHED LINES	DL
SECTION	SEC	ACCESS RESTRICTED	AR
SECTION LINE	SL	By Previous Project	AR1
FOUND IRON PIPE	FIP	ACCESS RESTRICTED	AR2
STATION	STA	(By Acquisition)	AR3
TEMPORARY LIMITED EASEMENT	TLE	NO ACCESS	NA
TIE POINT	TP	(By Statutory Authority)	SA
VOLUME	VOL	LIMITED EASEMENT	LE
ADJOINING LANDS	ADJ	(Temporary)	LE1
WITH SAME OWNER	WSO	LIMITED EASEMENT	LE2
PARALLEL TO LINE	PTL		
BUILDING TO BE RAZED	BR		
FEE ACQUISITION	FA		
BEGIN POINT	BP		
END POINT	EP		

CONVENTIONAL UTILITY SYMBOLS

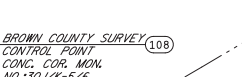
WATER	W
GAS	G
TELEPHONE	T
OVERHEAD	OH
TRANSMISSION LINES	TL
ELECTRIC	E
CABLE TELEVISION	TV
FIBER OPTIC	FO
SANITARY SEWER	SAN
STORM SEWER	SS
POWER POLE	PP
TELEPHONE POLE	TP
TELEPHONE PEDESTAL	TPD
ELECTRIC TOWER	ET

NON-COMPENSABLE

NON-COMPENSABLE	NC
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RESERVE FOR CLAUSES AND NOTE INFORMATION

RIGHT OF WAY BOUNDARIES ARE DEFINED WITH COURSES OF THE PERIMETER OF THE HIGHWAY LANDS AND ARE REFERENCED TO THE US PUBLIC LAND SURVEY OR OTHER SURVEYS OF PUBLIC RECORD.
RIGHT OF WAY MONUMENTS ARE TYPE 2 AND WILL BE PLACED PRIOR TO OR AT THE TIME OF LAND TITLE TRANSFER.
AREAS SHOWN IN THE TOTAL ACRES COLUMN OF THE SCHEDULE OF LANDS & INTEREST TABLE MAY BE APPROXIMATE AND ARE DERIVED FROM TAX ROLLS OR OTHER AVAILABLE SOURCES AND MAY NOT INCLUDE LANDS OF THE OWNER WHICH ARE NOT CONTIGUOUS TO THE AREA TO BE ACQUIRED.
COORDINATES AS SHOWN ARE NOT INTENDED TO BE USED FOR RETRACEMENT PURPOSES AND MUST BE VERIFIED WITH THE COUNTY SURVEY DEPARTMENT.
POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COORDINATE SYSTEM COORDINATES, BROWN COUNTY, NAD 83 (1993) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, GRID DISTANCES, GRID DISTANCES MAY BE USED AS GROUND DISTANCES.
PROPERTY LINES SHOWN ON THIS PLAT ARE DRAWN FROM DATA DERIVED FROM MAPS AND DOCUMENTS OF PUBLIC RECORD AND/OR EXISTING OCCUPATIONAL LINES, THIS PLAT MAY NOT BE A TRUE REPRESENTATION OF EXISTING PROPERTY LINES AND SHOULD NOT BE USED AS A SUBSTITUTE FOR AN ACCURATE FIELD SURVEY.
EXISTING RIGHT OF WAY WAS ACQUIRED FROM PROJECT(S): F060-121
EXISTING ACCESS CONTROL WAS ACQUIRED UNDER PROJECT(S)/DOC(S):
RIGHT OF WAY REFERENCE LINE MAY NOT BE THE SAME AS THE CONSTRUCTION REFERENCE LINE.
OWNERS' NAMES ARE SHOWN FOR REFERENCE PURPOSES ONLY, AND ARE SUBJECT TO CHANGE PRIOR TO TRANSFER OF LAND INTERESTS TO DEPARTMENT OF TRANSPORTATION.
FEE SIMPLE TO ALL THOSE EXISTING LANDS OF THE GRANTOR CURRENTLY USED FOR HIGHWAY PURPOSES, DESIGNATED AS EXISTING RIGHT OF WAY, WHETHER ACQUIRED BY SEPARATE CONVEYANCE OR OTHERWISE, BOUND BY THE TRAVERSE OF THE COURSE TABLE OF NEW RIGHT OF WAY AS SHOWN ON THE SAID TRANSPORTATION PROJECT PLAT.
A TEMPORARY LIMITED EASEMENT (TLE) IS A RIGHT FOR CONSTRUCTION PURPOSES, AS DEFINED HEREIN, INCLUDING THE RIGHT TO OPERATE NECESSARY EQUIPMENT THEREON AND THE RIGHT OF INGRESS AND EGRESS AS LONG AS REQUIRED FOR SUCH PUBLIC PURPOSE, INCLUDING THE RIGHT TO PRESERVE, PROTECT, REMOVE OR PLANT THEREON ANY VEGETATION THAT THE HIGHWAY AUTHORITIES MAY DEEM NECESSARY OR DESIRABLE TO PREVENT EROSION OF THE SOIL. ALL TLES ON THIS PLAT EXPIRE AT THE COMPLETION OF THE CONSTRUCTION PROJECT FOR WHICH THIS INSTRUMENT IS GIVEN.



WISCONSIN DEPARTMENT OF TRANSPORTATION

I, GREGORY T. BELANGER PROFESSIONAL LAND SURVEYOR, HEREBY CERTIFY THAT IN FULL COMPLIANCE WITH THE PROVISIONS OF SECTION 84.095, OF THE WISCONSIN STATUTES AND UNDER THE DIRECTION OF THE DEPARTMENT OF TRANSPORTATION, I HAVE MAPPED THIS TRANSPORTATION PROJECT PLAT AND THAT SUCH PLAT CORRECTLY REPRESENTS ALL EXTERIOR BOUNDARIES OF THE SURVEYED LAND.

SIGNATURE: Gregory T. Belanger DATE: 8-30-2017

PRINT NAME: GREGORY T. BELANGER

REGISTRATION NUMBER: S-3055

THIS PLAT AND RELOCATION ORDER ARE APPROVED FOR THE WISCONSIN DEPARTMENT OF TRANSPORTATION

SIGNATURE: Curt Van Erem DATE: 8-30-2017

PRINT NAME: CURT VAN EREM

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER	INTEREST REQUIRED	FEE R/W ACRES (S) OR (S.F.) REQUIRED	T.L.E. AREA
1	MARY PAT ASCHENBRENNER	FEE & TLE	0.063	0.021
2	ASHLAND PROPERTIES, LLC	TLE	-	0.010
3	CITY OF DE PERE	FEE & TLE	0.020	-
4	PD REAL ESTATE HOLDINGS, LLC	FEE & TLE	1.218	0.113
5	JACHNA, LLC	FEE & TLE	0.096	0.196

SCHEDULE OF UTILITIES & INTERESTS REQUIRED

UTILITY NUMBER	OWNER	INTEREST REQUIRED
100	ATC MANAGEMENT, INC.	RELEASE OF RIGHTS
101	AT & T WISCONSIN	RELEASE OF RIGHTS
102	CITY OF DE PERE - SEWER	RELEASE OF RIGHTS
103	WISCONSIN PUBLIC SERVICE CORPORATION-ELECTRIC	RELEASE OF RIGHTS
104	GREEN BAY METROPOLITAN SEWAGE DISTRICT	RELEASE OF RIGHTS
106	CITY OF DE PERE - WATER	RELEASE OF RIGHTS
107	WISCONSIN PUBLIC SERVICE CORPORATION-GAS	RELEASE OF RIGHTS

POINT-POINT BEARING DISTANCE

POINT-POINT	BEARING	DISTANCE
107 - 501	N 63°50'30" W	1205.98'
501 - 502	N 29°35'05" E	173.20'
502 - 72	N 60°24'55" W	100.00'
72 - 73	N 60°25'01" W	243.90'
73 - 74	N 04°25'14" E	213.32'
74 - 75	N 57°20'06" E	131.53'
75 - 76	N 25°39'16" E	94.56'
76 - 111	N 01°50'49" E	68.18'
111 - 60	N 34°54'43" E	10.50'
60 - 114	S 63°45'18" E	82.17'
114 - 115	S 21°14'05" E	8.30'
115 - 62	S 63°49'55" E	127.37'
62 - 63	N 81°45'02" E	67.06'
63 - 64	S 60°25'21" E	48.13'
64 - 112	S 29°35'05" W	84.69'
112 - 65	N 63°49'55" W	182.65'
65 - 68	S 35°54'56" W	228.36'
68 - 69	S 03°54'55" W	86.40'
69 - 70	S 32°10'48" E	83.34'
70 - 71	S 60°25'01" E	96.66'
71 - 110	S 60°24'55" E	100.00'
110 - 502	S 29°35'05" W	80.00'

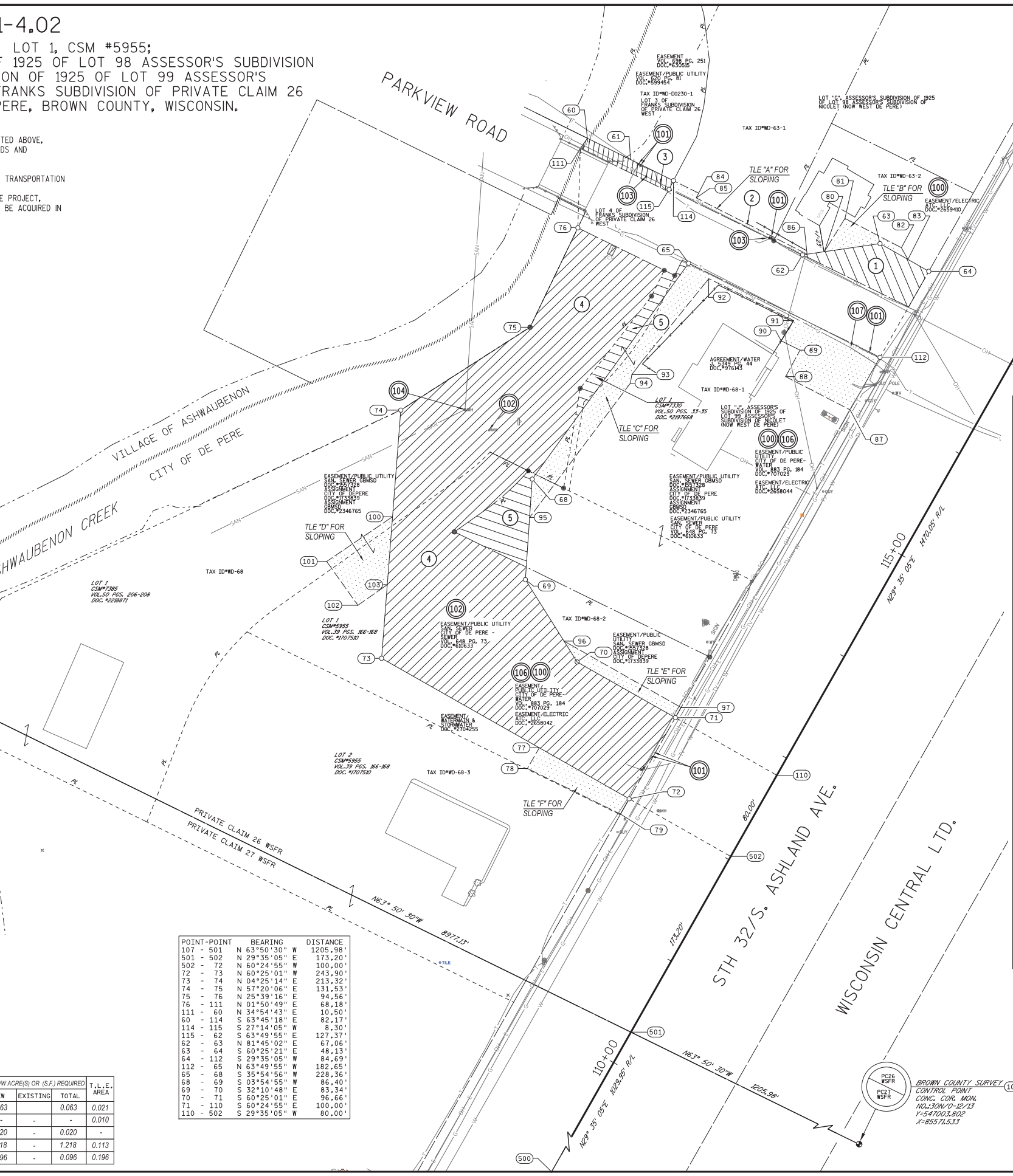
GRAPHIC SCALE, FEET

SCHEDULE OF UTILITIES & INTERESTS REQUIRED

UTILITY NUMBER	OWNER	INTEREST REQUIRED
100	ATC MANAGEMENT, INC.	RELEASE OF RIGHTS
101	AT & T WISCONSIN	RELEASE OF RIGHTS
102	CITY OF DE PERE - SEWER	RELEASE OF RIGHTS
103	WISCONSIN PUBLIC SERVICE CORPORATION-ELECTRIC	RELEASE OF RIGHTS
104	GREEN BAY METROPOLITAN SEWAGE DISTRICT	RELEASE OF RIGHTS
106	CITY OF DE PERE - WATER	RELEASE OF RIGHTS
107	WISCONSIN PUBLIC SERVICE CORPORATION-GAS	RELEASE OF RIGHTS

SCHEDULE OF LANDS & INTERESTS REQUIRED

PARCEL NUMBER	OWNER	INTEREST REQUIRED	FEE R/W ACRES (S) OR (S.F.) REQUIRED	T.L.E. AREA
1	MARY PAT ASCHENBRENNER	FEE & TLE	0.063	0.021
2	ASHLAND PROPERTIES, LLC	TLE	-	0.010
3	CITY OF DE PERE	FEE & TLE	0.020	-
4	PD REAL ESTATE HOLDINGS, LLC	FEE & TLE	1.218	0.113
5	JACHNA, LLC	FEE & TLE	0.096	0.196



2798347
CHERYL BERKEN
BROWN COUNTY RECORDER
GREEN BAY, WI
RECORDED ON
08/30/2017 2:25 PM
REC FEE: 25.00
EXEMPT #
PAGES: 1
**The above recording information
verifies that this document has
been electronically recorded and
returned to the submitter**

RESERVED FOR REGISTER OF DEEDS
PROJECT NUMBER: 4190-16-21-4.02
AMENDMENT NO.:

ALI COURSE TABLE	POINT TO POINT	BEARING	DISTANCE
500 - 501		N 29°35'05" E	1029.95'
501 - 503		N 29°35'05" E	1470.05'

POINT	STATION	OFFSET	COORDINATES
500	100+00.00	0.00'	Y=546639.782 X=83980.574
501	110+29.95	0.00'	Y=547535.459 X=84489.071
73	112+00.00	-343.90'	Y=547855.861 X=84275.514
502	112+03.16	0.00'	Y=547686.080 X=84574.583
72	112+03.16	-100.00'	Y=547735.451 X=84487.620
70	112+83.15	-196.66'	Y=547852.739 X=84443.060
71	112+83.16	0.00'	Y=547755.650 X=84614.079
69	113+22.58	-100.00'	Y=547805.021 X=84527.117
509	113+42.92	-100.00'	Y=547923.275 X=84398.676
74	113+46.23	-434.61'	Y=547856.992 X=84556.622
68	114+00.45	-307.51'	Y=548068.550 X=84281.956
508	114+04.93	-313.88'	Y=548009.474 X=84444.575
507	114+06.98	-280.29'	Y=548016.516 X=84401.241
506	114+88.39	-310.18'	Y=548001.710 X=84431.467
75	115+12.63	-373.37'	Y=548087.265 X=84445.658
505	115+87.26	-296.02'	Y=548139.541 X=84402.684
76	116+06.97	-379.85'	Y=548166.258 X=84506.794
504	116+11.87	-297.51'	Y=548224.779 X=84443.623
65	116+27.42	-282.32'	Y=548188.394 X=84517.643
112	116+38.31	-100.00'	Y=548194.420 X=84538.531
111	116+67.32	-411.58'	Y=548113.872 X=84702.458
115	116+74.27	-328.24'	Y=548292.926 X=84445.820
60	116+77.77	-410.61'	Y=548257.824 X=84521.730
62	116+81.86	-201.09'	Y=548301.538 X=84451.831
114	116+82.56	-328.58'	Y=548201.654 X=84636.044
84	116+83.96	-304.53'	Y=548265.203 X=84525.528
86	116+84.28	-197.98'	Y=548254.550 X=84547.133
POINT <th>STATION</th> <th>OFFSET</th> <th>COORDINATES</th>	STATION	OFFSET	COORDINATES
503	125+00.00	0.00'	Y=548182.851 X=85214.845
115	116+74.27	-328.24'	Y=548257.824 X=84521.730
85	116+79.33	304.30'	Y=548250.412 X=84545.045
62	116+81.86	-201.09'	Y=548201.654 X=84636.044
114	116+82.56	-328.58'	Y=548098.969 X=84488.634
88	116+83.96	-162.14'	Y=548097.289 X=84481.583
87	116+84.28	-100.00'	Y=548068.800 X=84671.871
90	116+08.75	-180.54'	Y=548127.933 X=84617.829
89	116+09.75	-162.58'	Y=548119.936 X=84633.938
92	116+24.47	-260.77'	Y=548181.207 X=84555.818
91	116+29.18	-180.54'	Y=548145.297 X=84628.912
112	116+38.31	-100.00'	Y=548113.872 X=84702.458
POINT <th>STATION</th> <th>OFFSET</th> <th>COORDINATES</th>	STATION	OFFSET	COORDINATES
102	112+32.61	-383.97'	Y=547901.265 X=84255.217
101	112+52.11	-425.77'	Y=547938.857 X=84228.486
103	112+60.41	-370.80'	Y=547918.937 X=84280.390
100	113+13.28	-395.64'	Y=547977.180 X=84284.893
POINT <th>STATION</th> <th>OFFSET</th> <th>COORDINATES</th>	STATION	OFFSET	COORDINATES
71	112+83.16	-100.00'	Y=547805.021 X=84527.117
96	112+93.15	-215.28'	Y=547870.628 X=84431.803
97	112+93.16	-100.00'	Y=547813.717 X=84532.054
POINT <th>STATION</th> <th>OFFSET</th> <th>COORDINATES</th>	STATION	OFFSET	COORDINATES
78	111+82.72	-188.62'	Y=547761.431 X=84400.462
79	111+88.13	-100.00'	Y=547722.385 X=84480.202
112	112+03.15	-188.62'	Y=547719.202 X=84410.550
72	112+03.16	-100.00'	Y=547735.451 X=84487.620

PRIVATE CLAIM 26, WEST SIDE OF FOX RIVER

CITY OF DE PERE, BROWN COUNTY, WISCONSIN.

PRIVATE CLAIM 26, WEST SIDE OF FOX RIVER

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PRIVATE CLAIM 26, WEST SIDE OF FOX RIVER

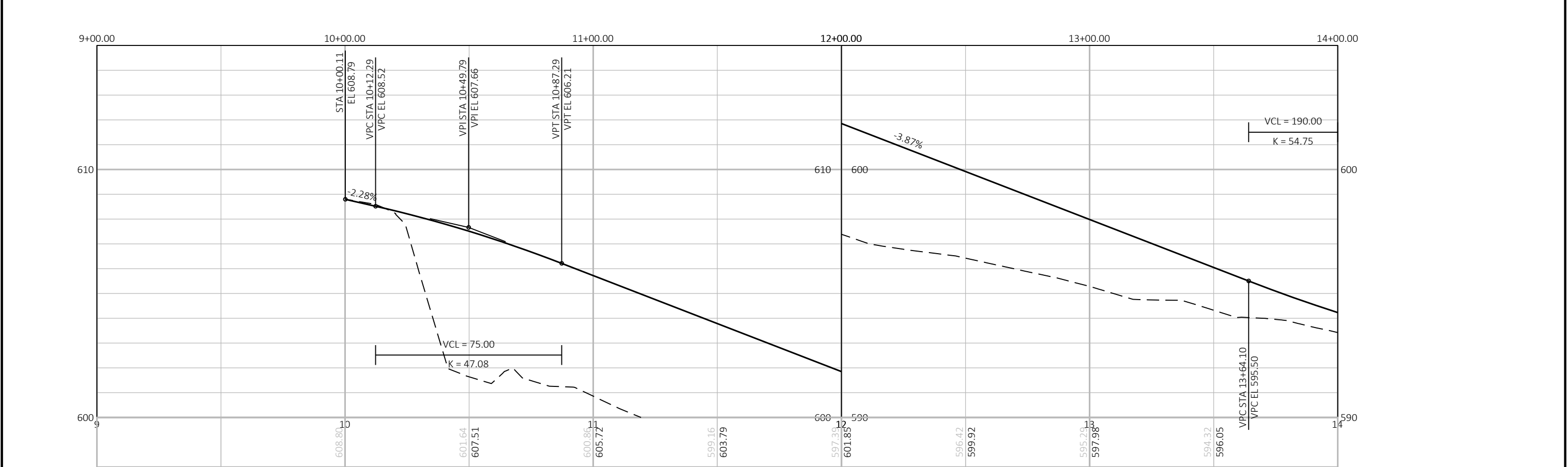
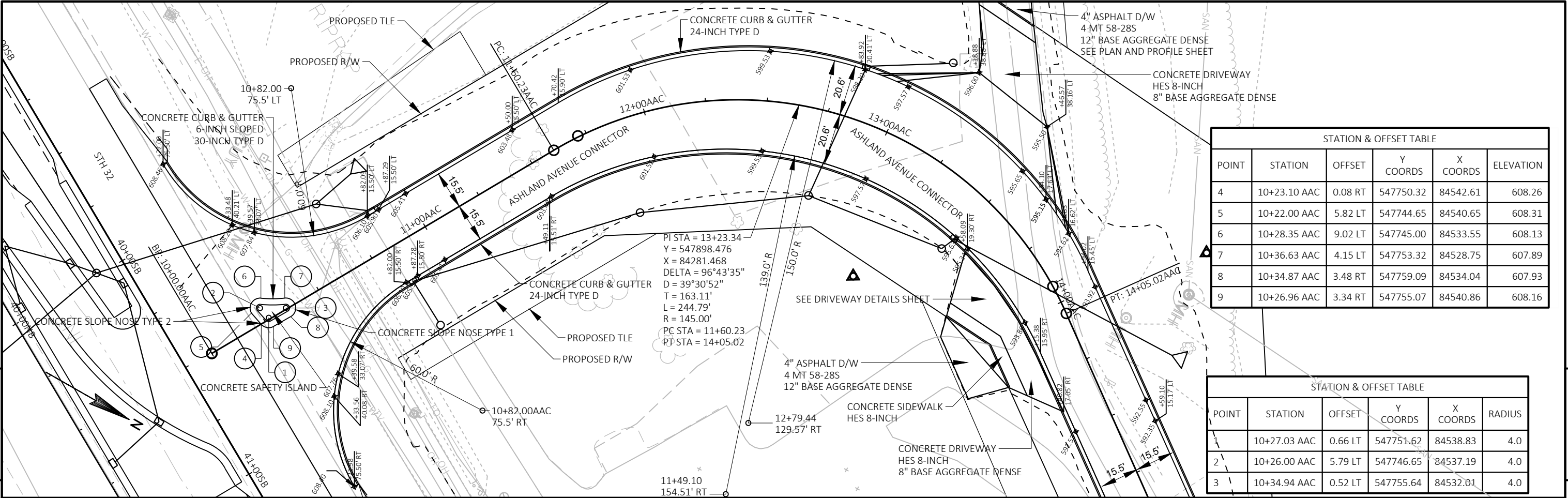
CITY OF DE PERE, BROWN COUNTY, WISCONSIN.

PRIVATE CLAIM 26, WEST SIDE OF FOX RIVER

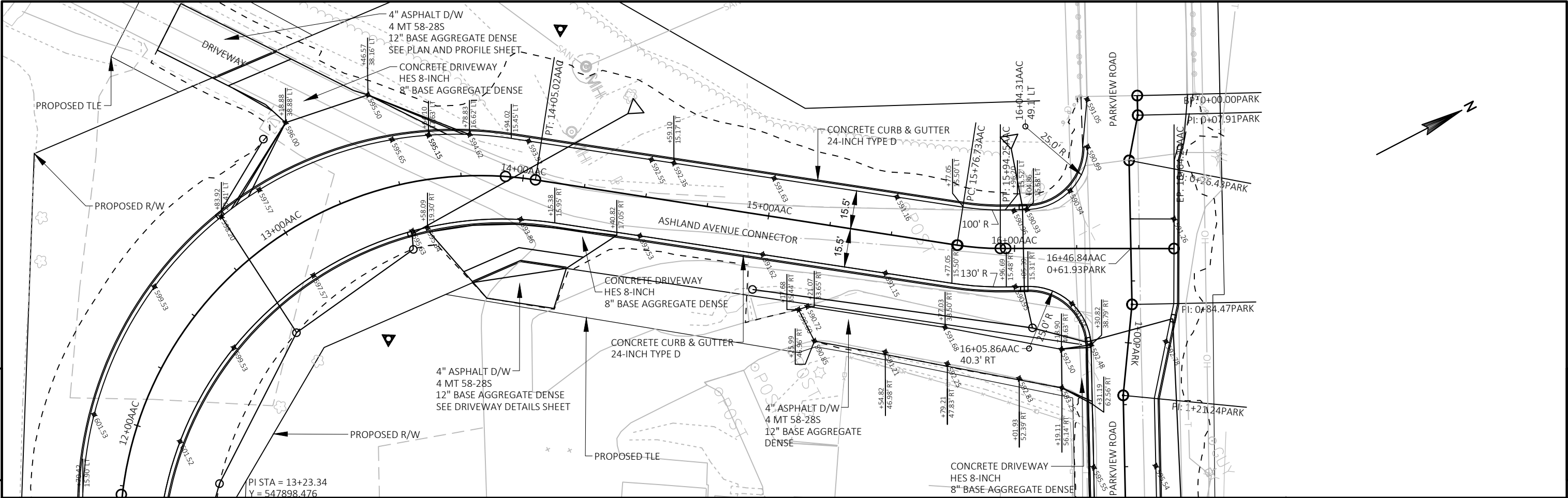
CITY OF DE PERE, BROWN COUNTY, WISCONSIN.

PRIVATE CLAIM 26, WEST SIDE OF FOX RIVER

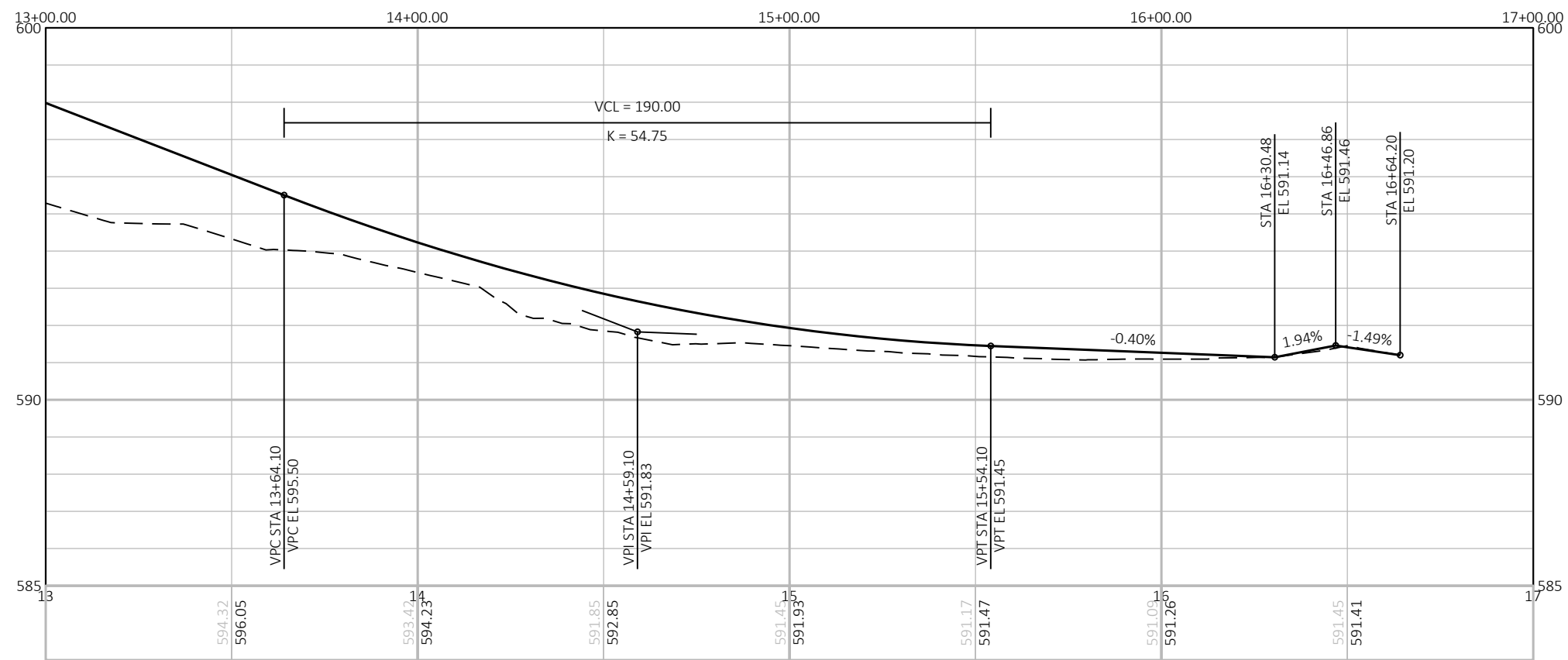
CITY OF DE PERE, BROWN COUNTY, WISCONSIN.



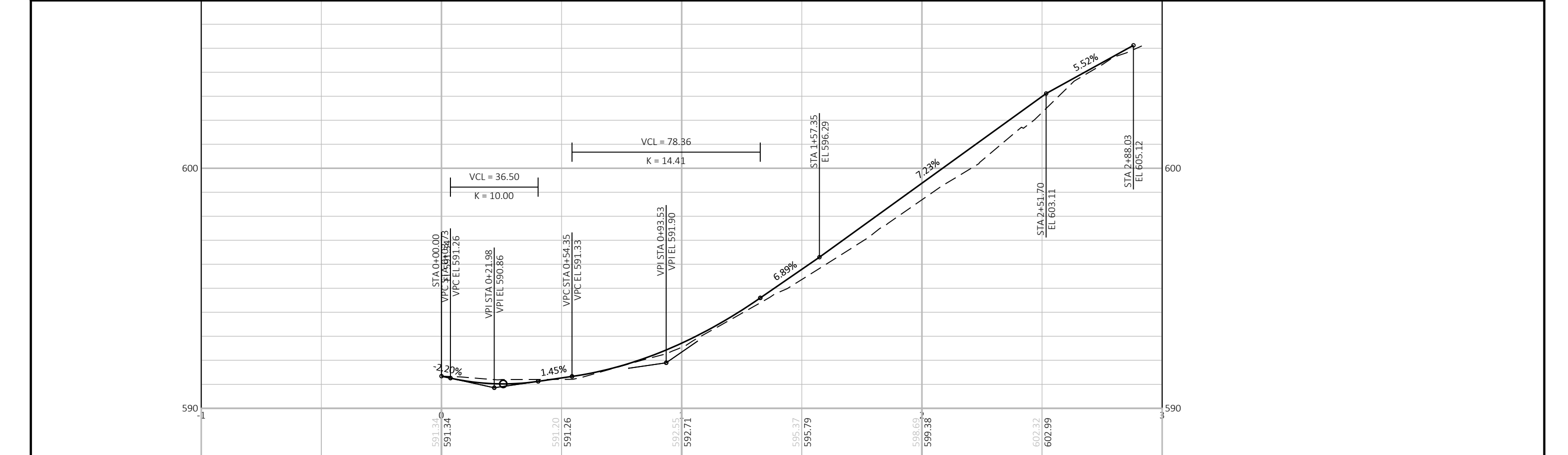
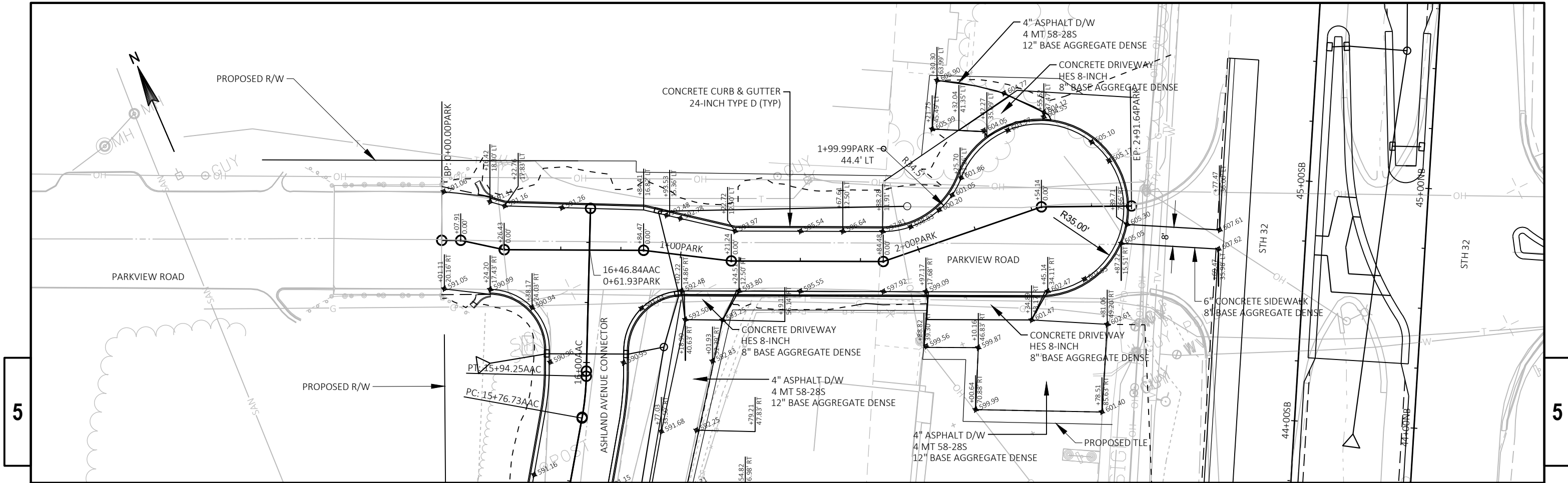
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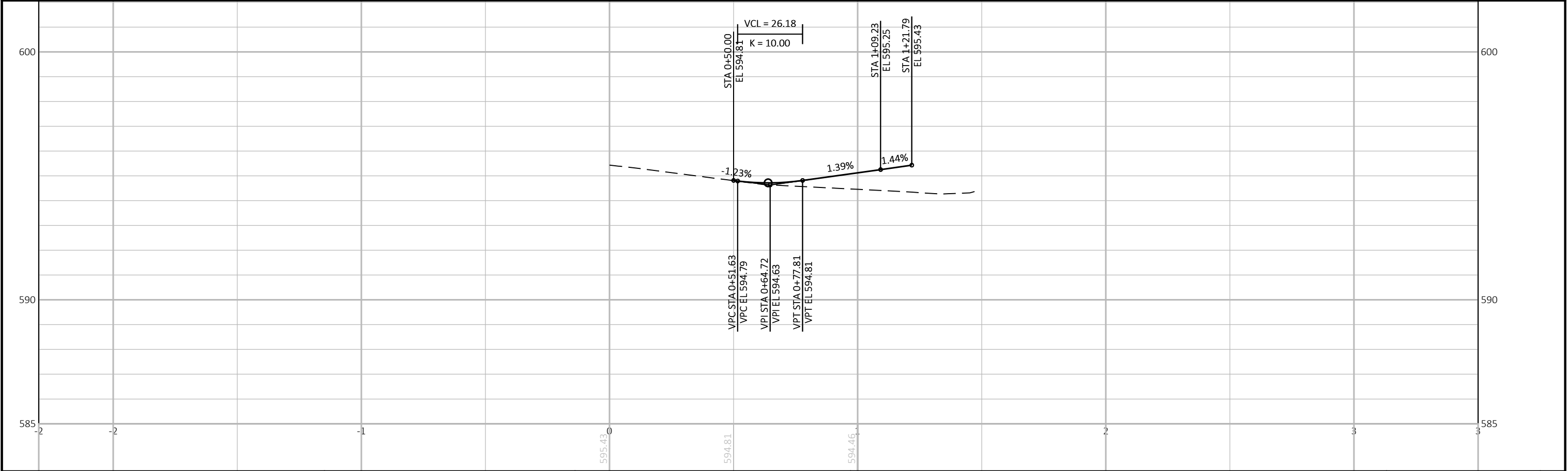
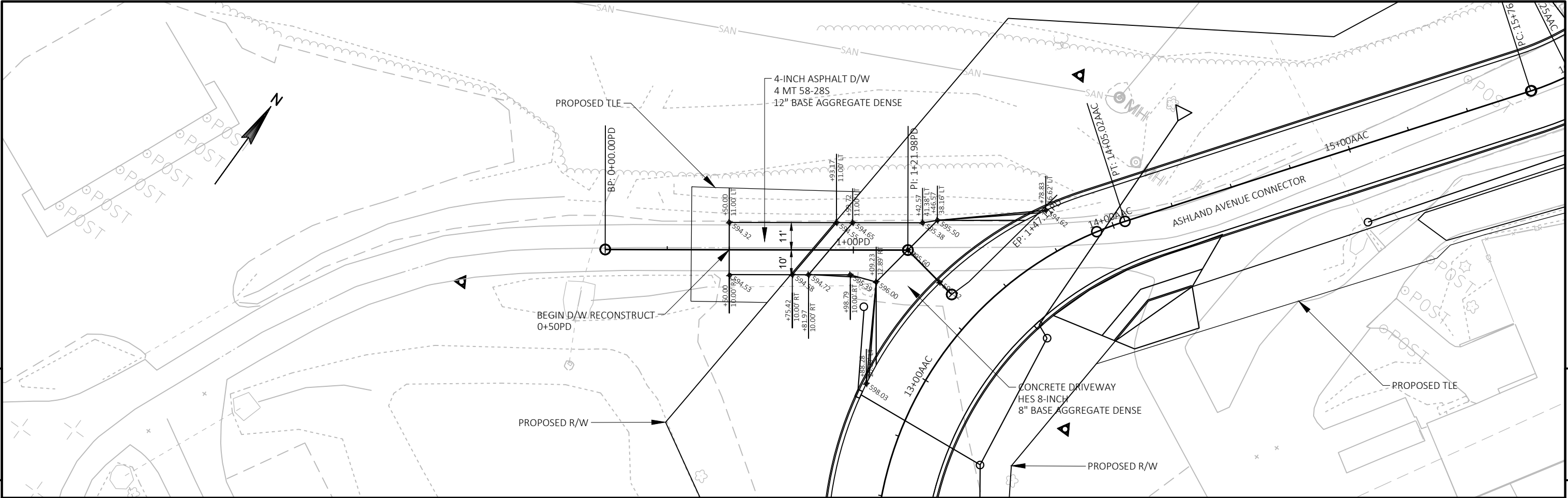
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PROJECT NO: 4190-16-73	HWY: STH 32	COUNTY: BROWN	PLAN AND PROFILE: ASHLAND AVENUE CONNECTOR	SHEET	E
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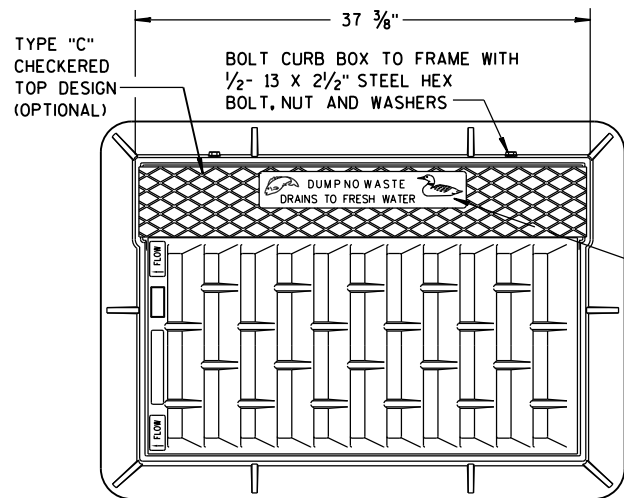


PROJECT NO: 4190-16-73	HWY: STH 32	COUNTY: BROWN	PLAN AND PROFILE: PARKVIEW ROAD	SHEET	E
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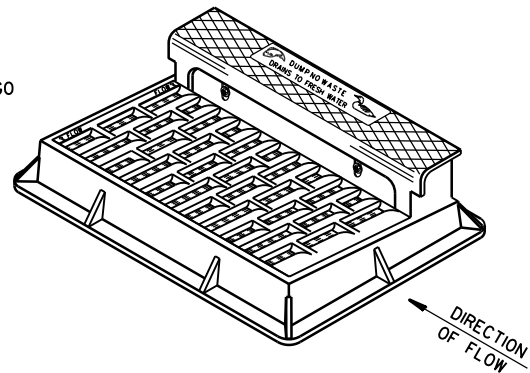
Standard Detail Drawing List

08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-02	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C06-02	INLETS 3-FT AND 4-FT DIAMETER
08D01-20A	CONCRETE CURB & GUTTER
08D01-20B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D20-01	DRIVEWAYS WITH CURB & GUTTER RETURNS
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F01-11	APRON ENDWALLS FOR CULVERT PIPE
08F02-01	APRON ENDWALLS FOR PIPE ARCH AND ELLIPTICAL PIPE
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B02-10	CONDUIT
09B16-01	PULL BOX NON-CONDUCTIVE
09C02-07	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09D01-05	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09E01-14D	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)
09E01-14G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E03-05	NON-FREEWAY LIGHTING UNIT POLE WIRING
10A01-03	ELECTRICAL HANDHOLE WIRING
11B02-02	CONCRETE MEDIAN NOSE
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C03-05	BARRICADES AND SIGNS FOR SIDEROAD CLOSURES
15C04-05	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45 M.P.H. OR GREATER TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC
15C08-19A	LONGITUDINAL MARKING (MAINLINE)
15C08-19B	PAVEMENT MARKING (TURN LANES)
15C08-19C	PAVEMENT MARKING (TURN LANES)
15C11-07B	CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS
15C27-03B	PAVEMENT MARKING (ISLANDS)
15C35-03A	PAVEMENT MARKING (INTERSECTIONS)
15D12-06A	TRAFFIC CONTROL, LANE CLOSURE
15D27-03	TRAFFIC CONTROL, SHOULDER CLOSURE ON DIVIDED ROADWAY, SPEEDS GREATER THAN 40 MPH
15D38-02A	TEMPORARY TRAFFIC CONTROL SIGN MOUNTING
15D38-02B	ATTACHMENT OF SIGNS TO POSTS

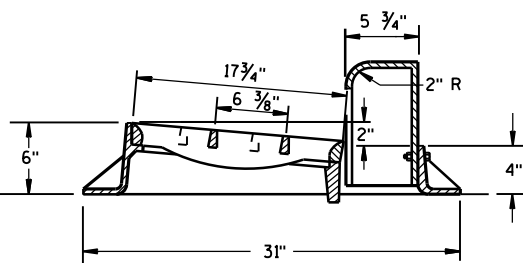
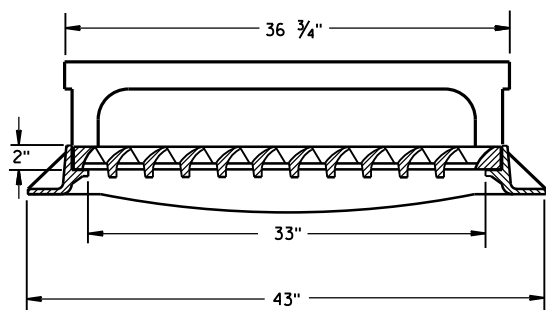
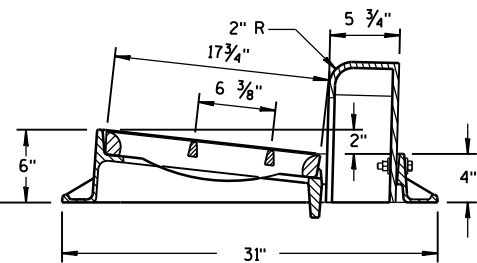
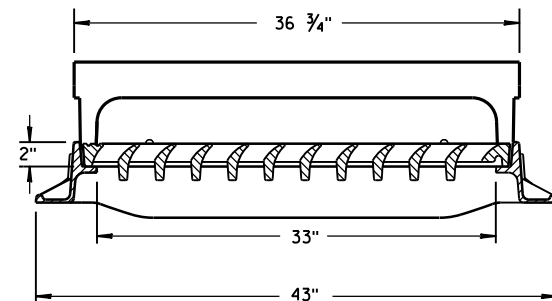
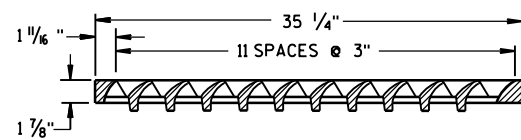


SEE LOGO
DETAIL

NOTE:
GRATE IS REVERSIBLE.

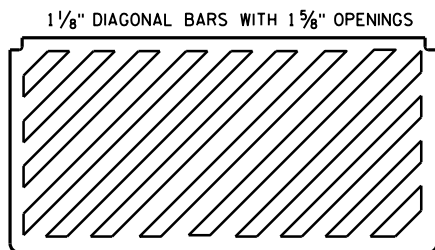


NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"



TYPE "H"

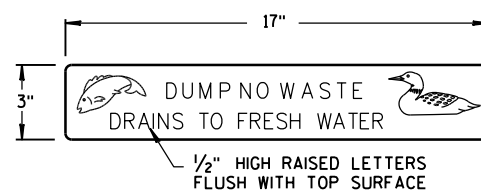
NOTE: EITHER CASTING IS ACCEPTABLE



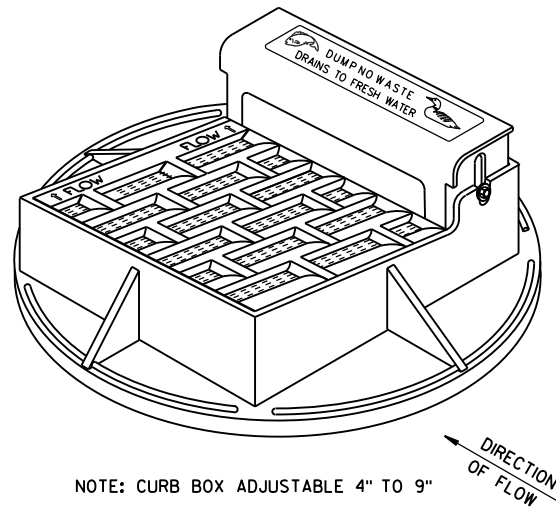
**SPECIAL GRATE FOR
TYPE "H" COVER**

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

(NOTED AS TYPE H-S ON DRAINAGE TABLE)

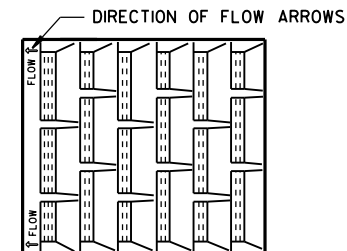


LOGO DETAIL

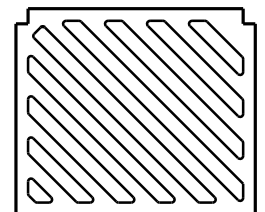


NOTE: CURB BOX ADJUSTABLE 4" TO 9"

NOTE:
GRATE IS REVERSIBLE.



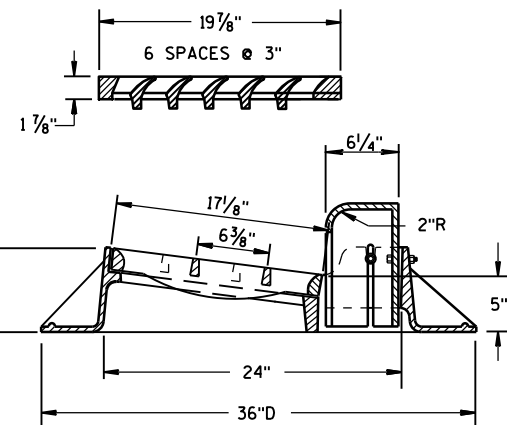
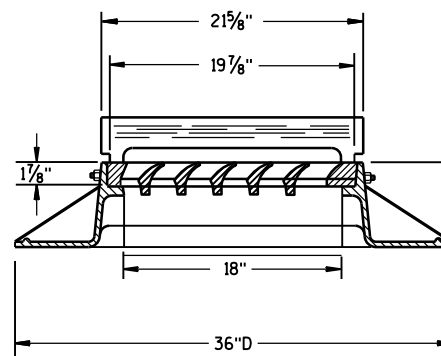
1" DIAGONAL BARS
WITH 1 1/2" OPENINGS



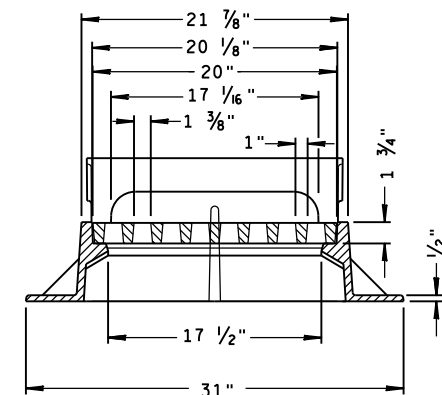
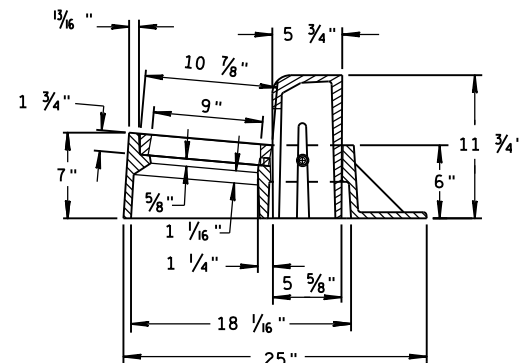
**SPECIAL GRATE FOR
TYPE "A" COVER**

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

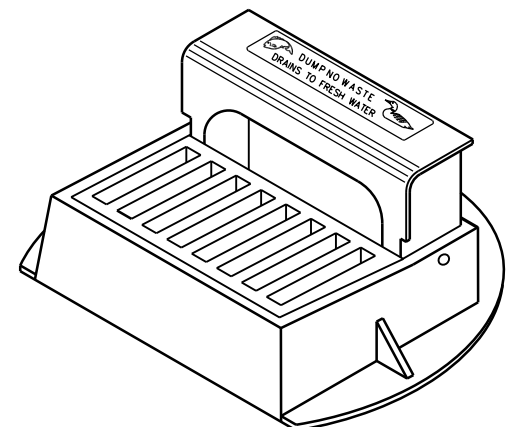
(NOTED AS TYPE A-S ON DRAINAGE TABLE)



TYPE "A"



TYPE "Z"



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

**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

APPROVED

11-27-13

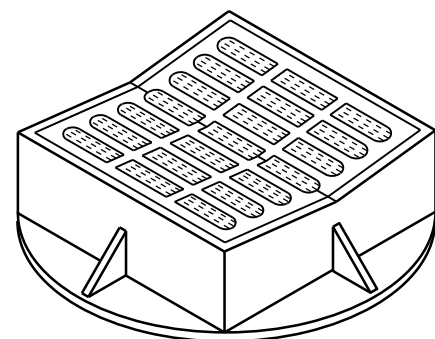
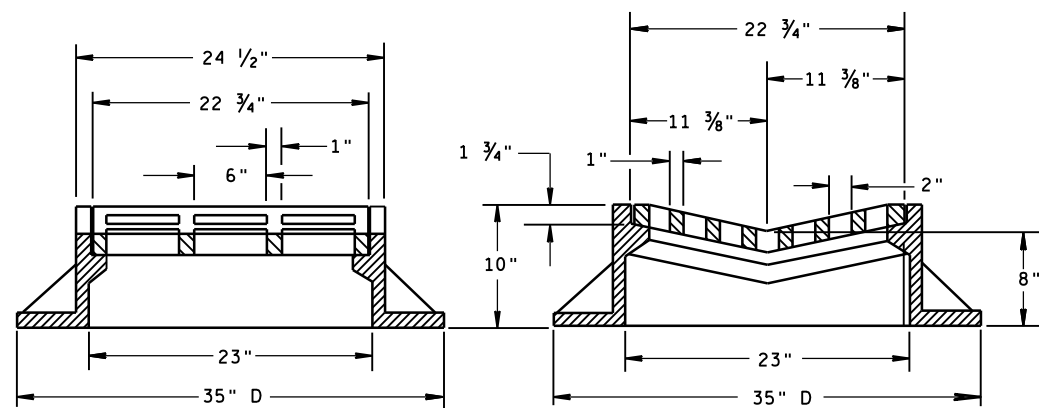
DATE

FHWA

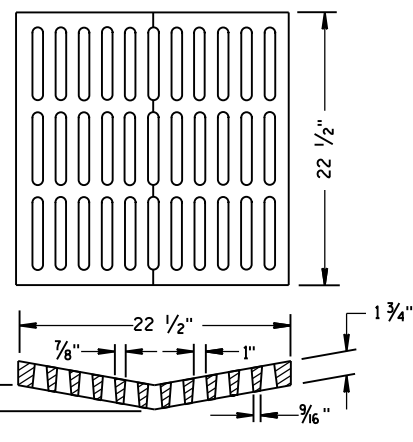
/S/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

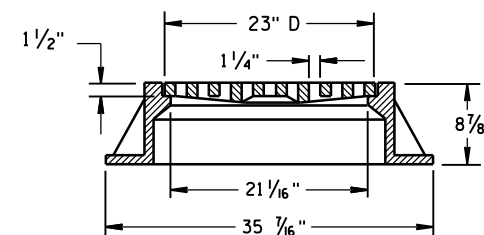
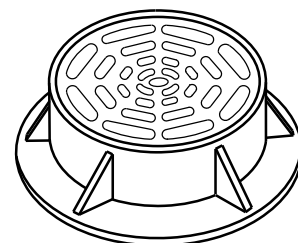
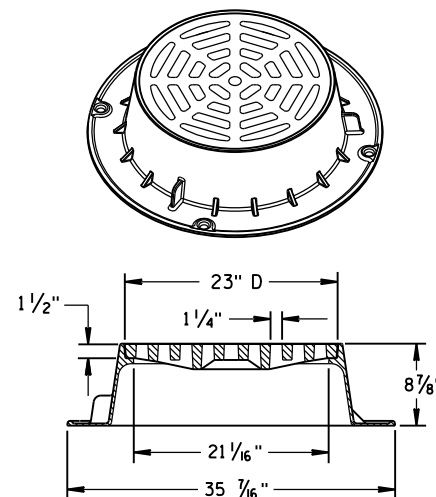
ENGINEER



TYPE "B"

ALTERNATIVE GRATE FOR
TYPE "B" COVER

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



TYPE "C"

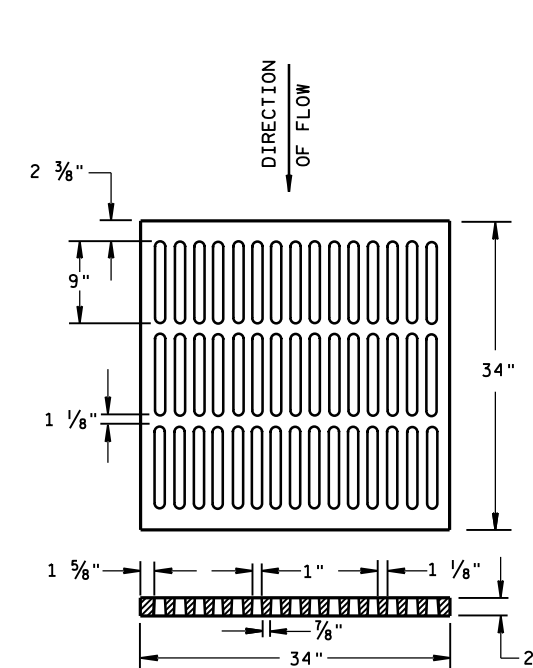
NOTE: EITHER CASTING IS ACCEPTABLE

GENERAL NOTES

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

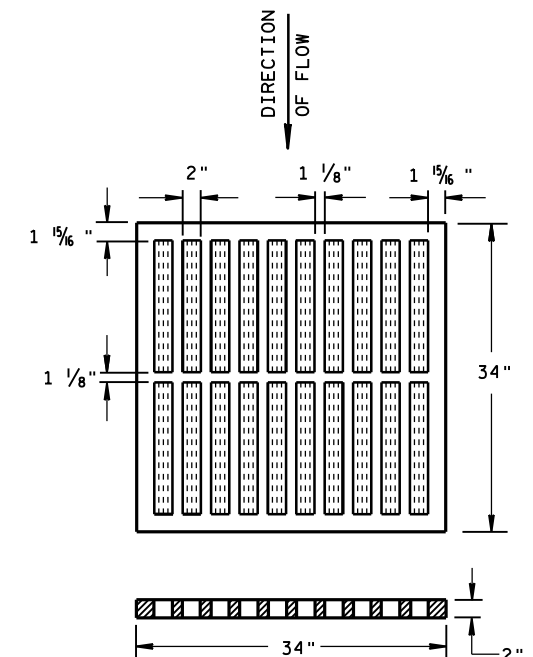
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



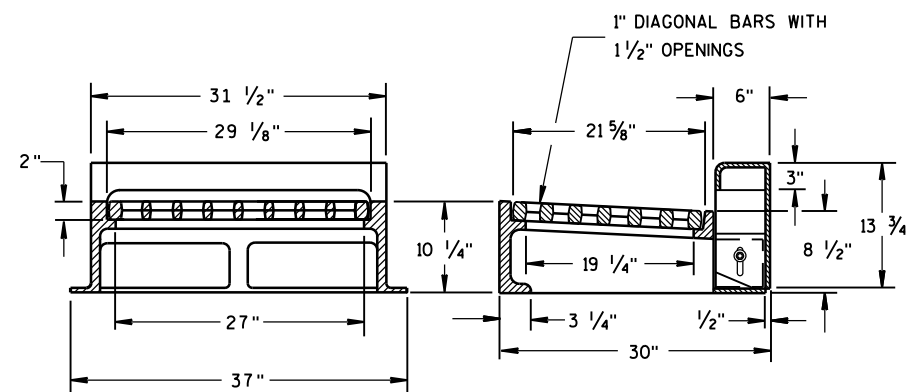
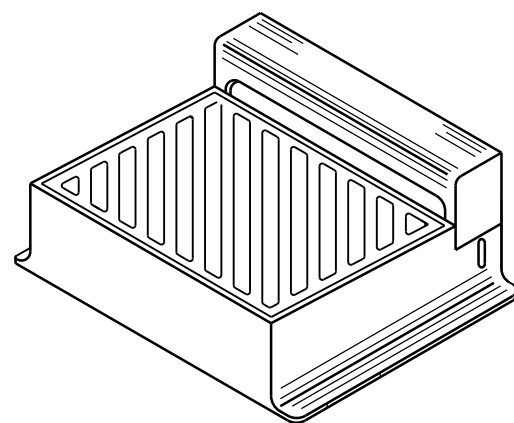
ALTERNATIVE TYPE "MS"

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



TYPE "MS"

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



NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"

TYPE "WM"

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

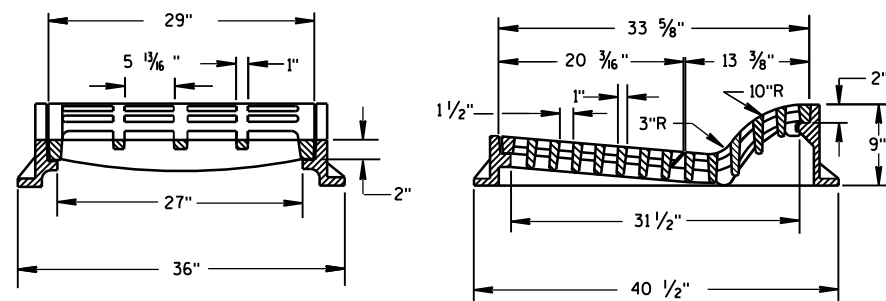
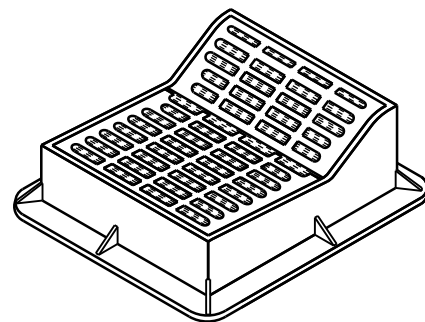
DIRECTION
OF FLOW

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

STATE OF WISCONSIN
 DEPARTMENT OF TRANSPORTATION

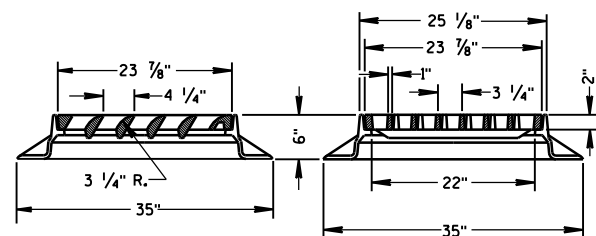
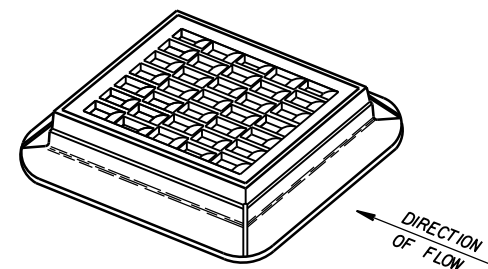
APPROVED
 11/27/2013
 DATE
 FHWA

/S/ Jerry H. Zogg
 ROADWAY STANDARDS DEVELOPMENT
 ENGINEER

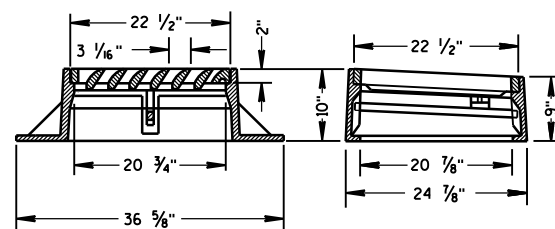
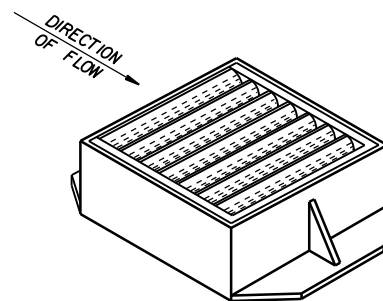


TYPE "F"

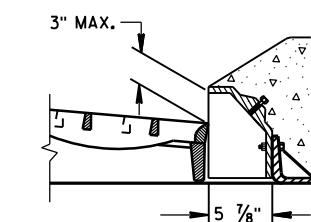
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.



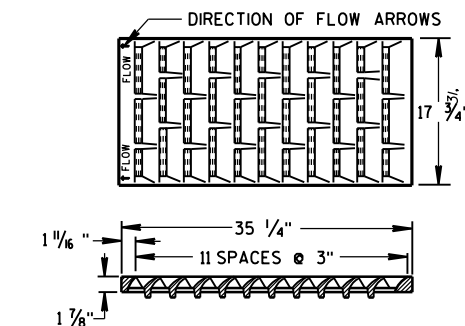
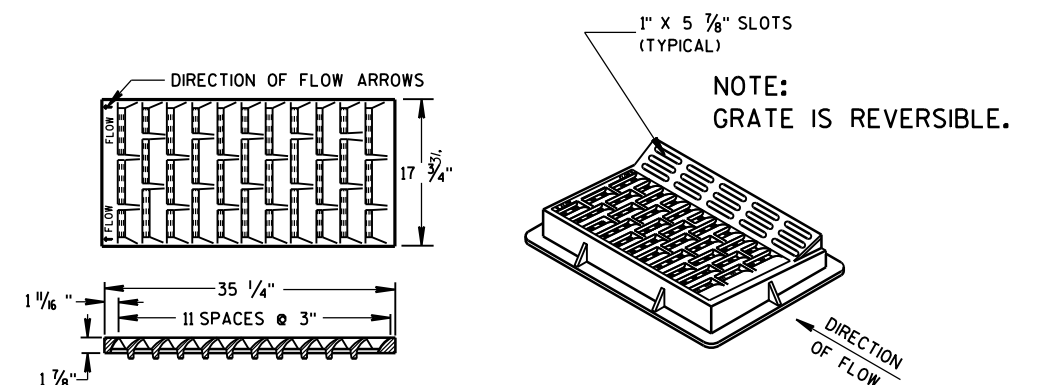
TYPE "S"



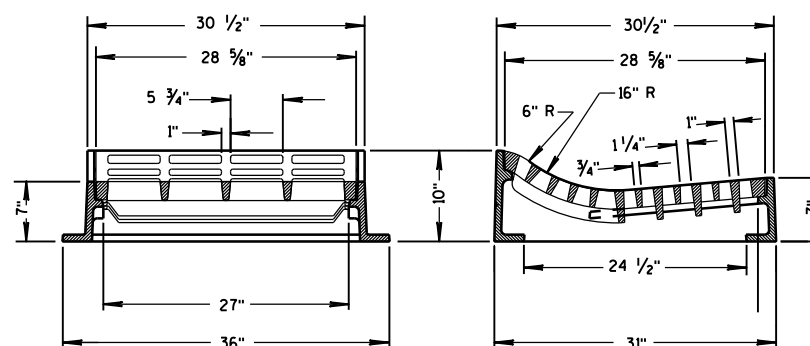
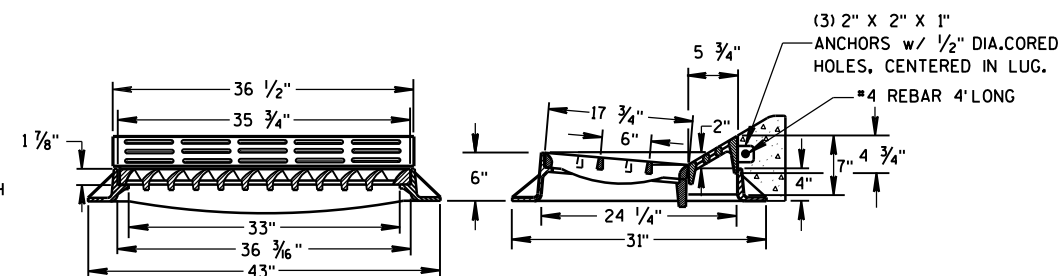
TYPE "V"

ALTERNATIVE CURB BOX
FOR TYPE "HM" COVERUSE WITH TYPES G & J CONCRETE CURB & GUTTER, 30 INCH
NOTED AS TYPE HM-GJ ON DRAINAGE TABLENOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM-GJ" COVER
NOTED AS TYPE HM-GJ-S ON DRAINAGE TABLE

GENERAL NOTES

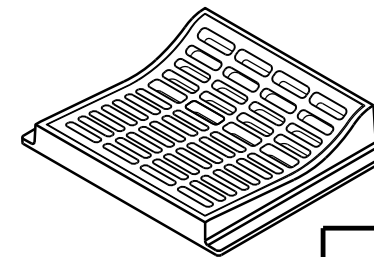
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING
SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND
THE APPLICABLE SPECIAL PROVISIONS.DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED
TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION
FOR EQUIVALENT CAPACITY AND STRENGTH.

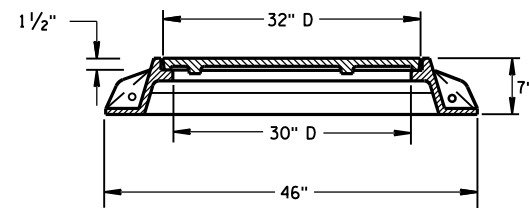
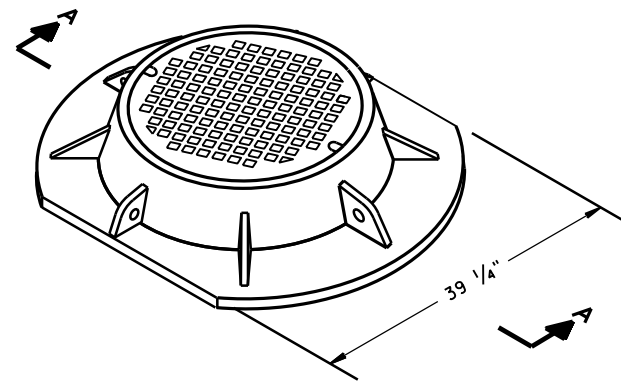
TYPE "HM"

USE WITH TYPES A & D CONCRETE
CURB & GUTTER, 36 INCH.NOTE:
SPECIAL GRATE FOR THE
TYPE "H" COVER MAY ALSO BE
USED FOR THE TYPE "HM" COVER
NOTED AS TYPE HM-S ON DRAINAGE TABLE

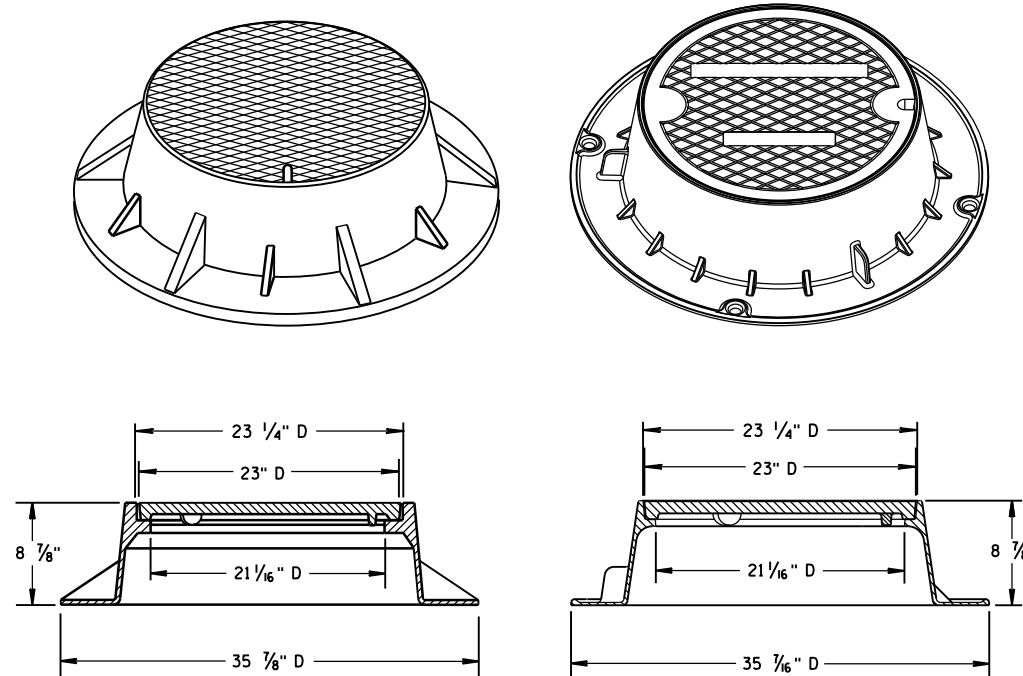
TYPE "T"

USE WITH TYPES R & T CONCRETE CURB & GUTTER, 36 INCH.

INLET COVERS
TYPE F, HM, HM-S, S, T, V,
HM-GJ, & HM-GJ-SSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATIONAPPROVED
11/27/2013
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA

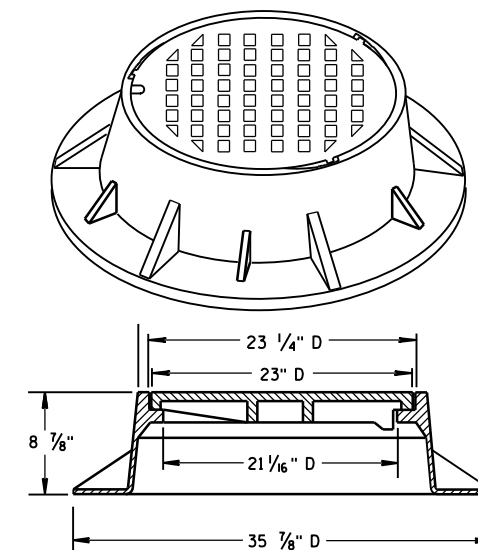
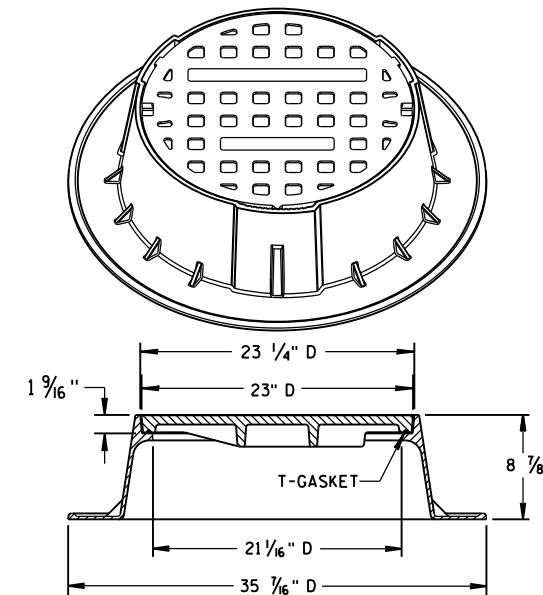


SECTION A-A
TYPE "K"



TYPE "J"

NOTE: EITHER CASTING IS ACCEPTABLE

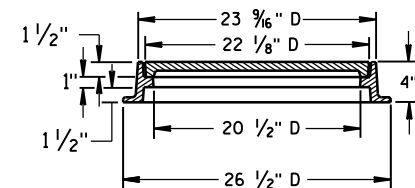
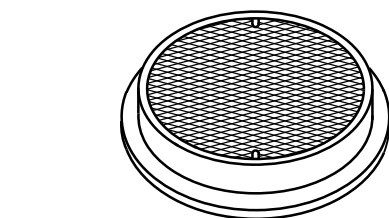


TYPE "J" SPECIAL

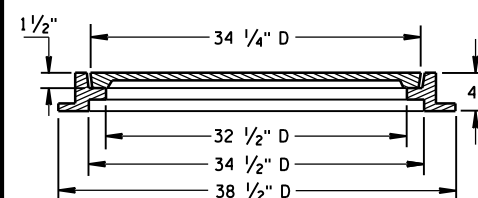
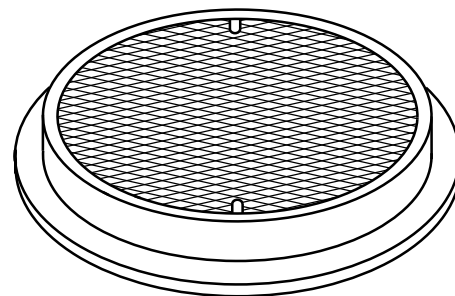
TYPE "B" NON-ROCKING SELF-SEAL LID

(NOTED AS TYPE J-S ON THE DRAINAGE TABLE)

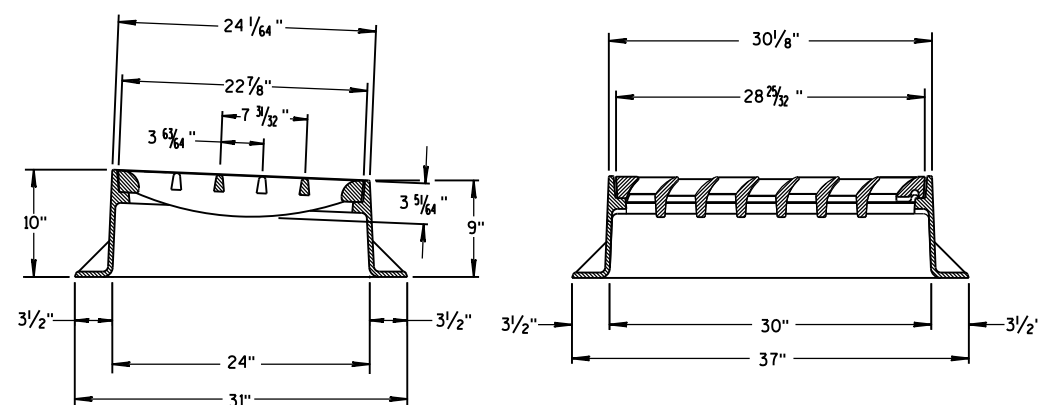
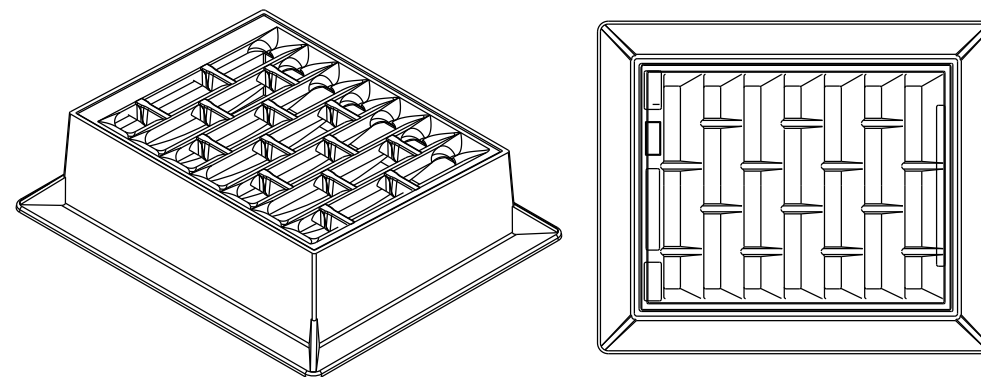
NOTE: EITHER CASTING IS ACCEPTABLE



TYPE "L"



TYPE "M"



INLET COVER TYPE "BW"

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.

INLET COVER TYPE BW
MANHOLE COVERS, TYPE K,
J, J-S, L & M

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/27/2013

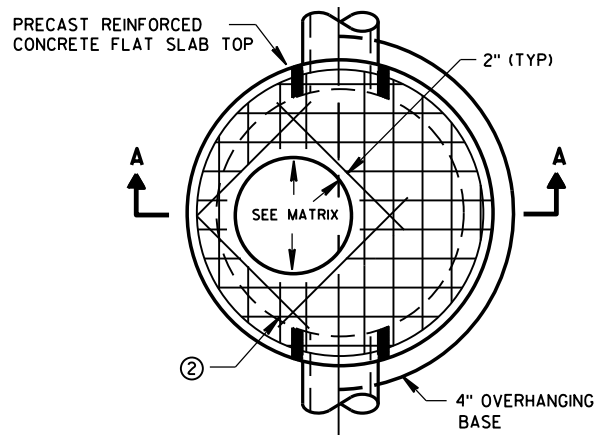
DATE

FHWA

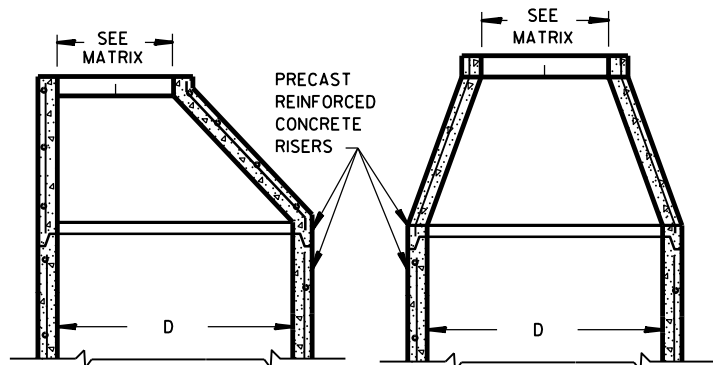
/S/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

ENGINEER

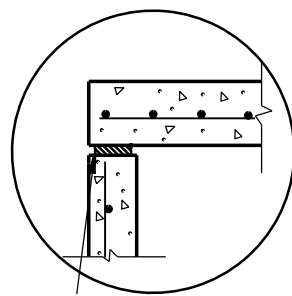


PLAN VIEW CIRCULAR OPENING

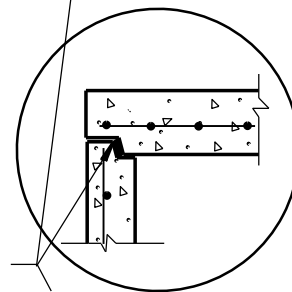


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

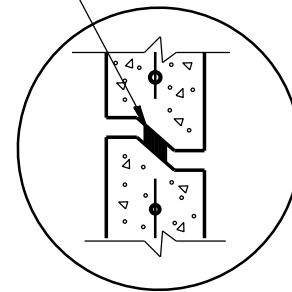
OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP



TOP WITH PLAIN END JOINT

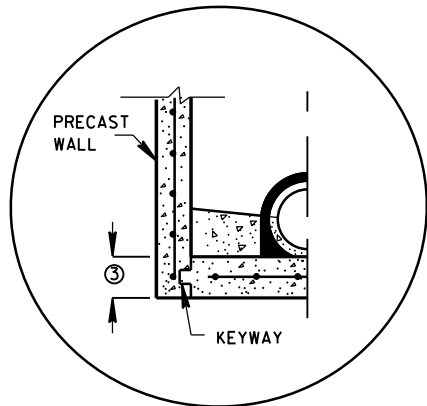


TOP WITH TONGUE AND GROOVE JOINT

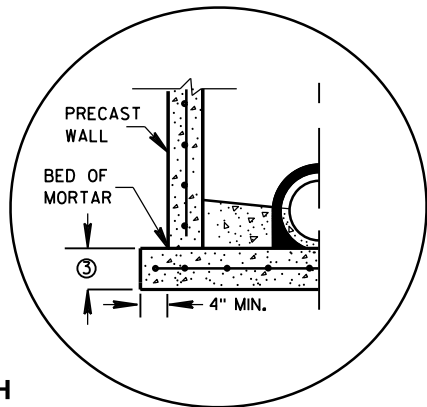


DETAIL "B"

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

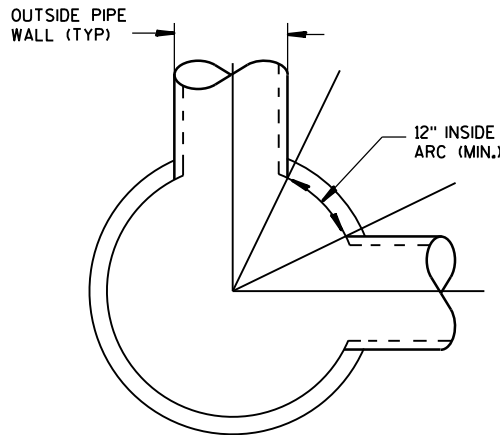


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

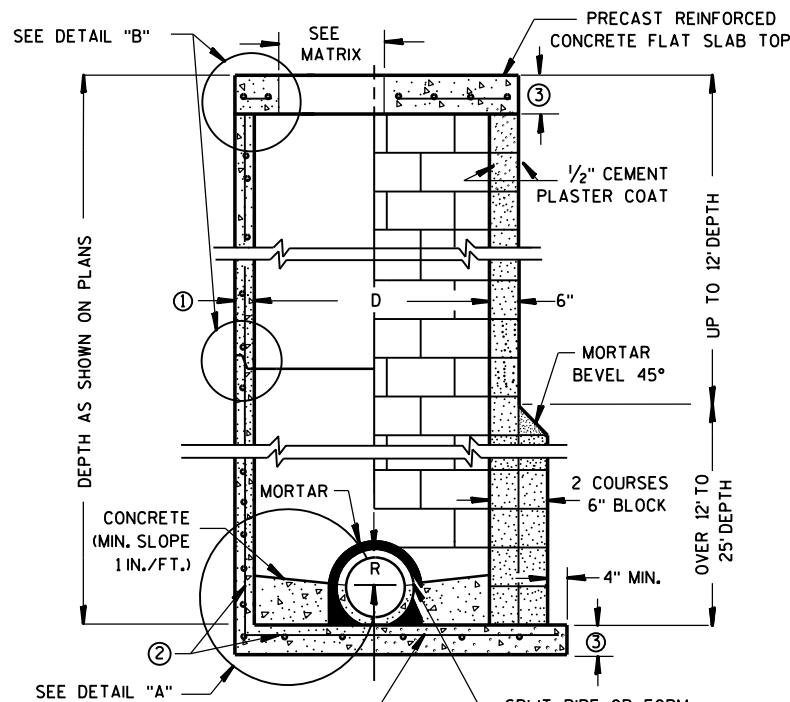


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

DETAIL "A"



DETAIL "C"



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

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

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

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS. UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST MANHOLE UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

- ① MINIMUM WALL THICKNESS SHALL BE 4 INCHES FOR 3-FT, 5 INCHES FOR 4-FT, 6 INCHES FOR 5-FT, 7 INCHES FOR 6-FT, 8 INCHES FOR 7-FT AND 9 INCHES FOR 8-FT DIAMETER PRECAST MANHOLES.
- ② FOR PRECAST MANHOLES PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.
- ③ PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER OF 48" AND LESS SHALL HAVE A MINIMUM THICKNESS OF 6". PRECAST FLAT SLAB TOPS AND BASES WITH A DIAMETER LARGER THAN 48" SHALL HAVE A MINIMUM THICKNESS OF 8".

MANHOLE COVER OPENING MATRIX

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

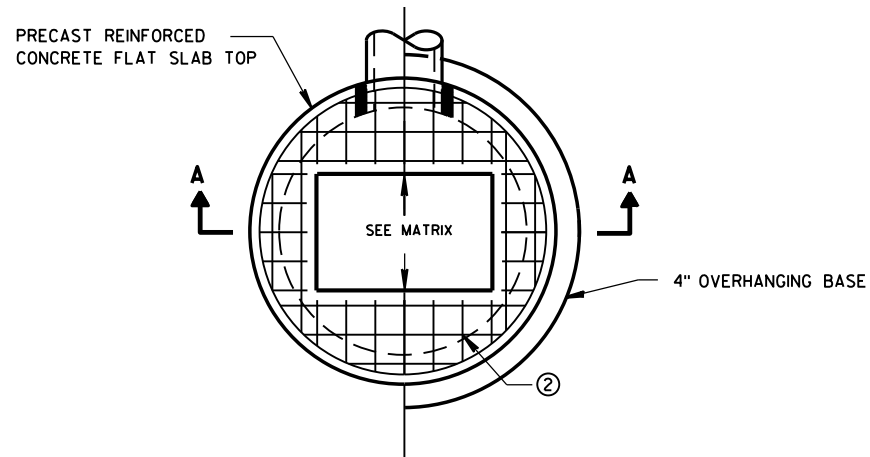
PIPE MATRIX

MANHOLE SIZE	MAXIMUM INSIDE PIPE DIAMETER FOR TWO PIPES	
	180° SEPARATION (IN)	90° SEPARATION (IN)
3-FT	15	12
4-FT	24	18
5-FT	36	24
6-FT	42	36
7-FT	48	36
8-FT	60	42

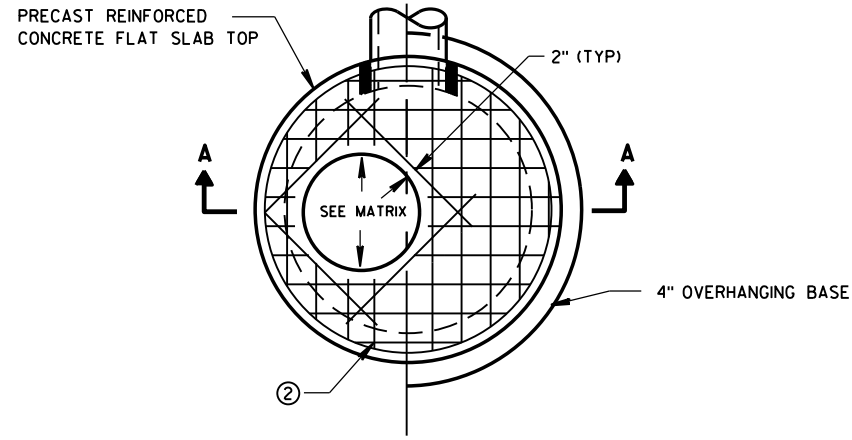
MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

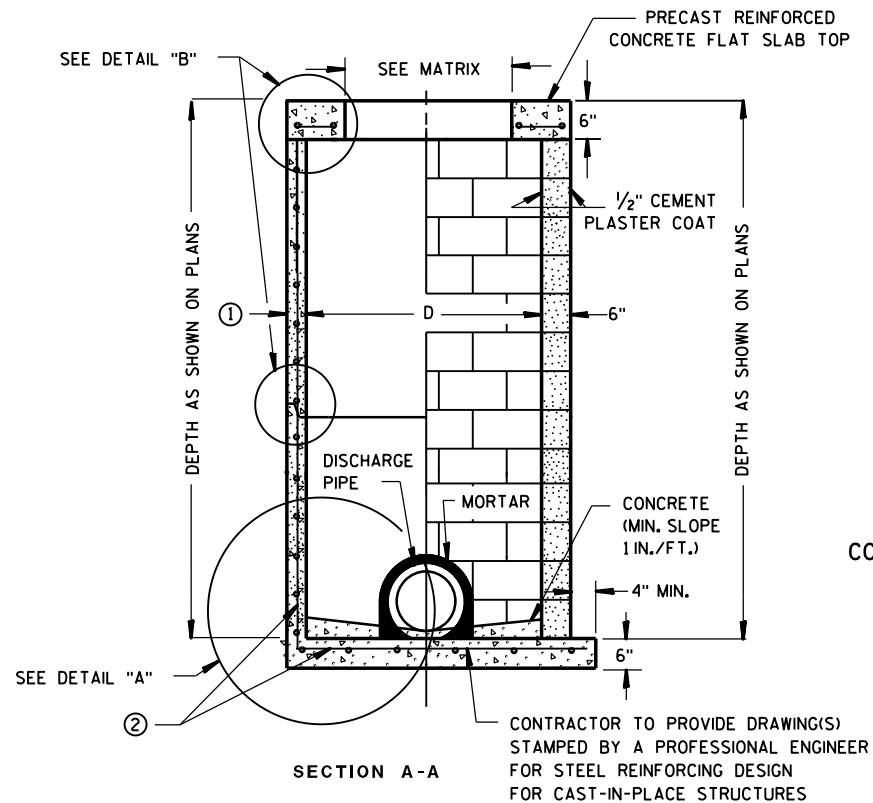
APPROVED
Sep 11, 2016 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR



PLAN VIEW RECTANGULAR OPENING

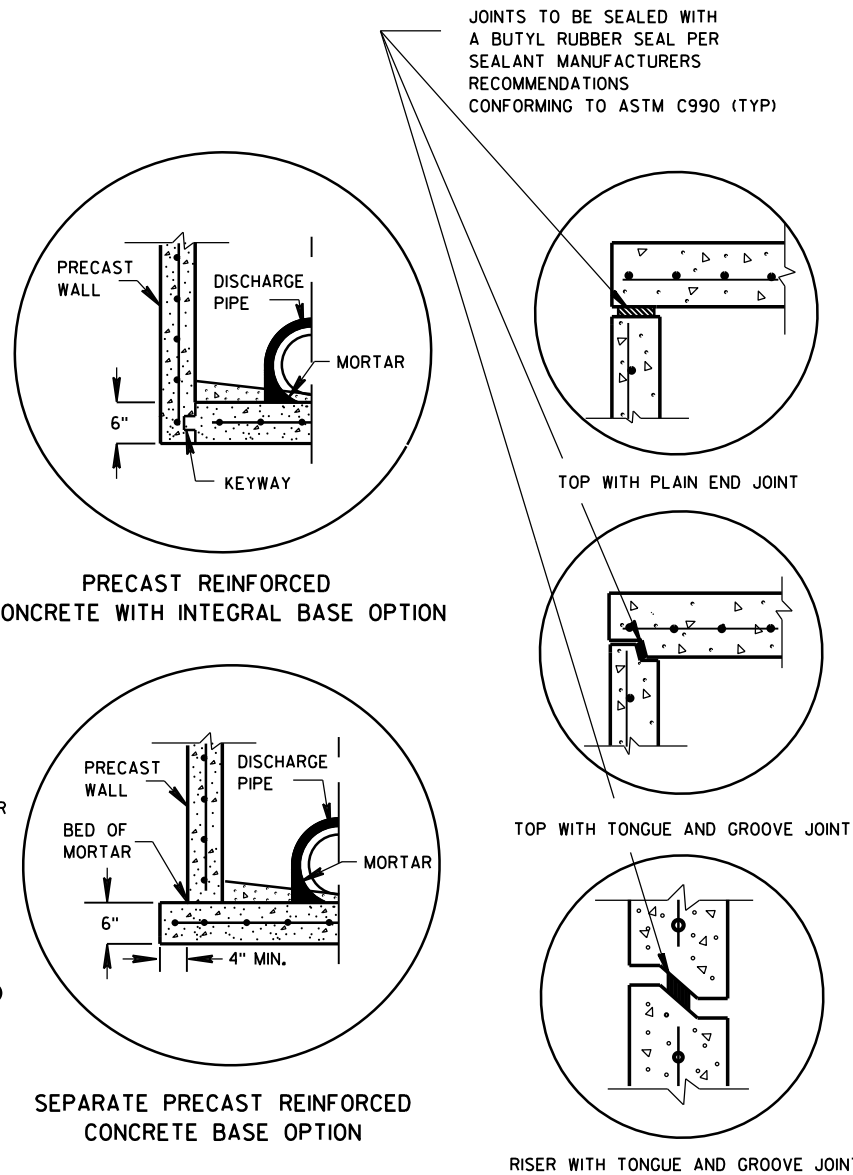


PLAN VIEW CIRCULAR OPENING



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

CIRCULAR INLETS W/ FLAT TOP



DETAIL "A"

DETAIL "B"

INLETS 3-FT AND 4-FT DIAMETER

GENERAL NOTES

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

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

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

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

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

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

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

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

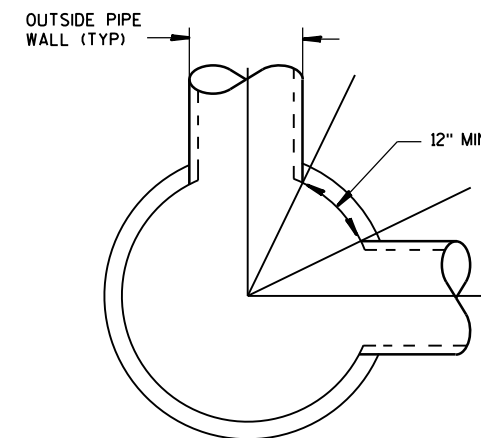
4" OVERHANGING BASES ARE REQUIRED FOR ALL CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

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

- ① MINIMUM WALL THICKNESS SHALL BE 4-IN FOR 3-FT DIAMETER AND 5-IN FOR 4-FT DIAMETER PRECAST INLETS.
- ② FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO AASHTO M199.

INLET COVER OPENING MATRIX

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



DETAIL "C"

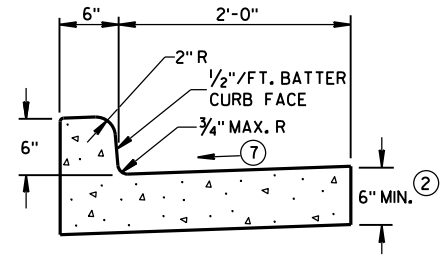
PIPE MATRIX

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

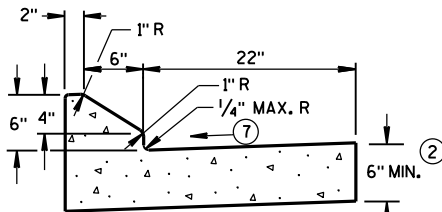
INLETS 3-FT AND 4-FT DIAMETER

**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

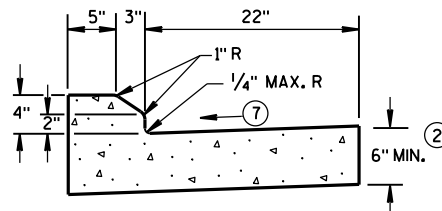
APPROVED
Sept., 2016 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR



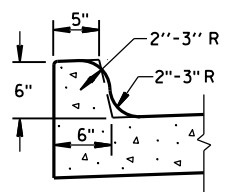
TYPES A^① & D



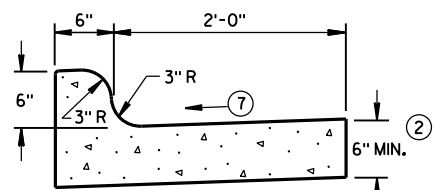
6" SLOPED CURB TYPES G^① & J



4" SLOPED CURB TYPES G^① & J

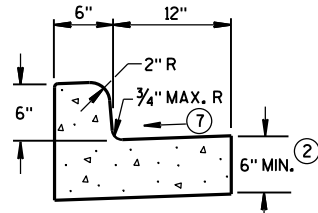


TYPES K^① & L
(OPTIONAL CURB SHAPE)



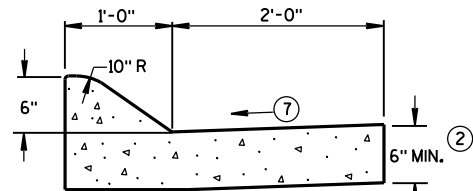
TYPES K^① & L

CONCRETE CURB & GUTTER 30"

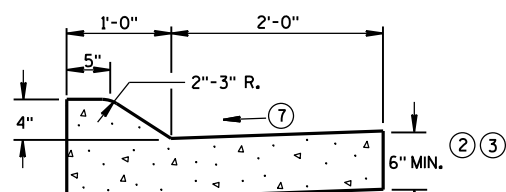


TYPES A^① & D

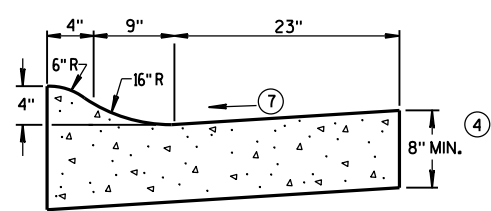
CONCRETE CURB & GUTTER 18"



6" SLOPED CURB TYPES A^① & D

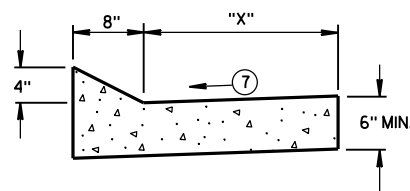


4" SLOPED CURB TYPES A^① & D



4" SLOPED CURB TYPES R^① & T^⑤

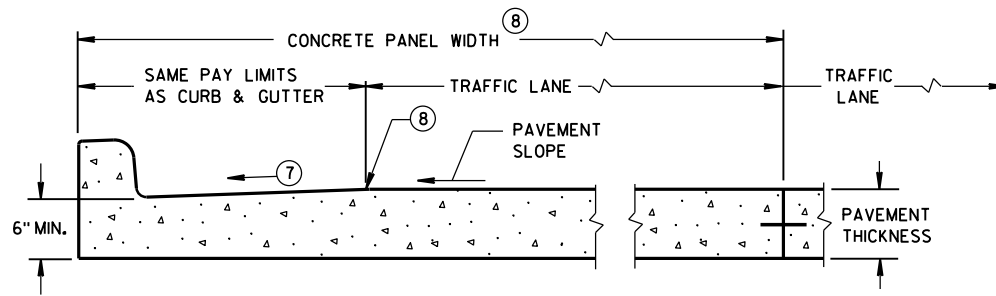
CONCRETE CURB & GUTTER 36"



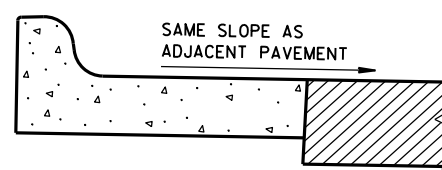
TYPES TBT & TBTT^①

CONCRETE CURB & GUTTER

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



PARTIAL SECTION OF PAVEMENT
WITH INTEGRAL CURB & GUTTER



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

GENERAL NOTES

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

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

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

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

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

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

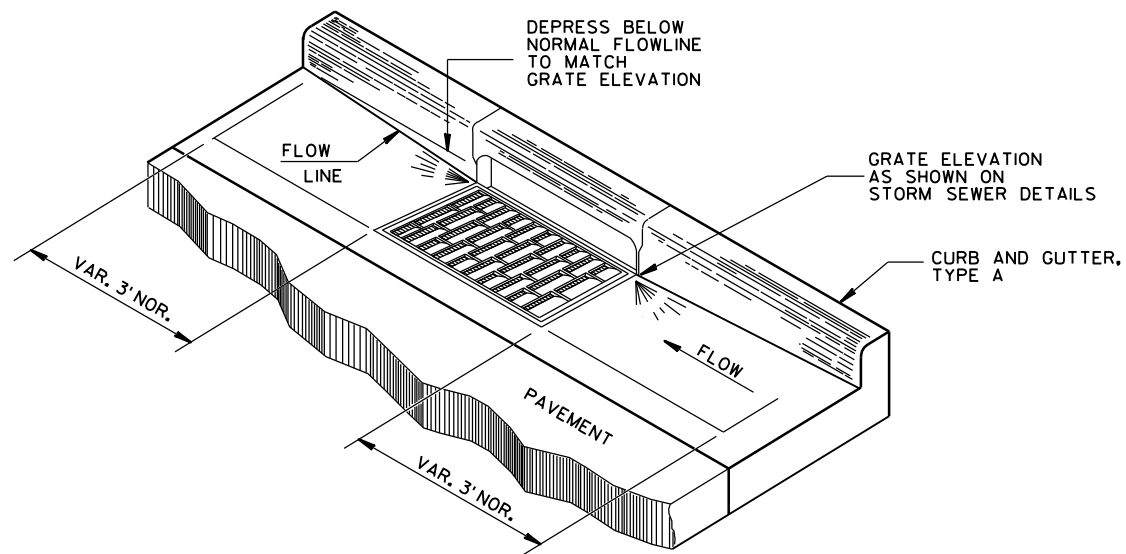
PAVEMENT THICKNESS
AND MAXIMUM CONCRETE
PANEL WIDTH TABLE

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

* BIKE LANE IS NOT SHOWN.

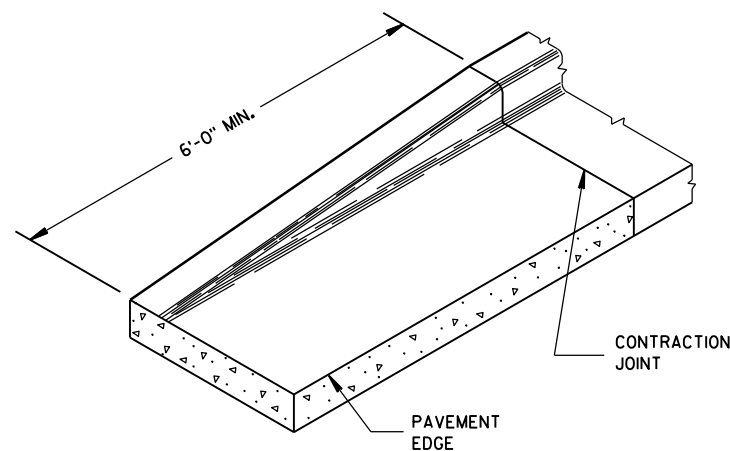
CONCRETE CURB & GUTTER

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

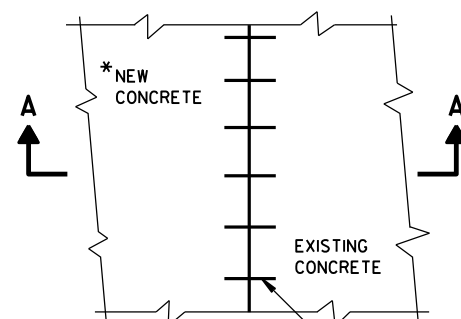


DETAIL OF CURB AND GUTTER AT INLETS

(TYPE H INLET COVER SHOWN)

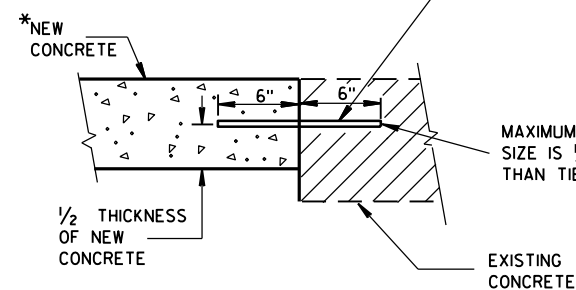


END SECTION CURB & GUTTER



PLAN VIEW

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

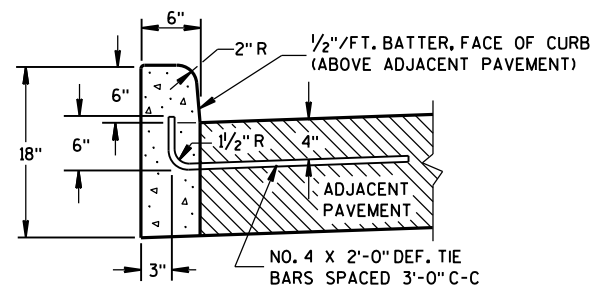


**SECTION A-A
TIE BARS DRILLED
INTO EXISTING PAVEMENT**

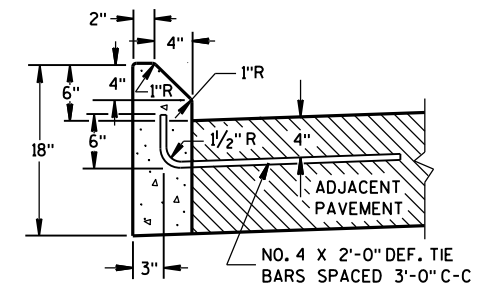
NO. 6 TIE BARS SPACED 2'-6" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT.

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

EXISTING CONCRETE



TYPES A^① & D



TYPES G^① & J

GENERAL NOTES

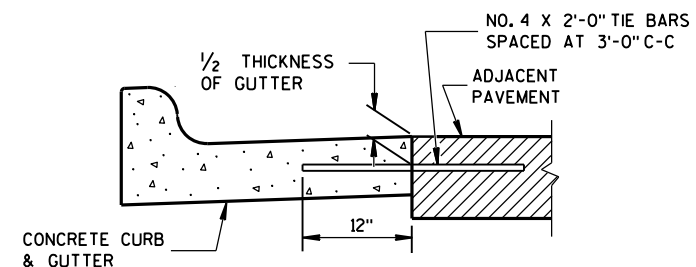
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

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

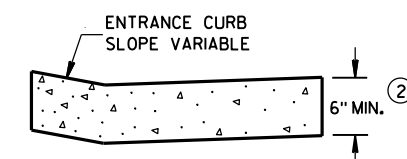
UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

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

CONCRETE CURB



TYPICAL TIE BAR LOCATION^①



DRIVEWAY ENTRANCE CURB^⑨

(WHEN DIRECTED BY THE ENGINEER)

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

June, 2017

DATE

FHWA

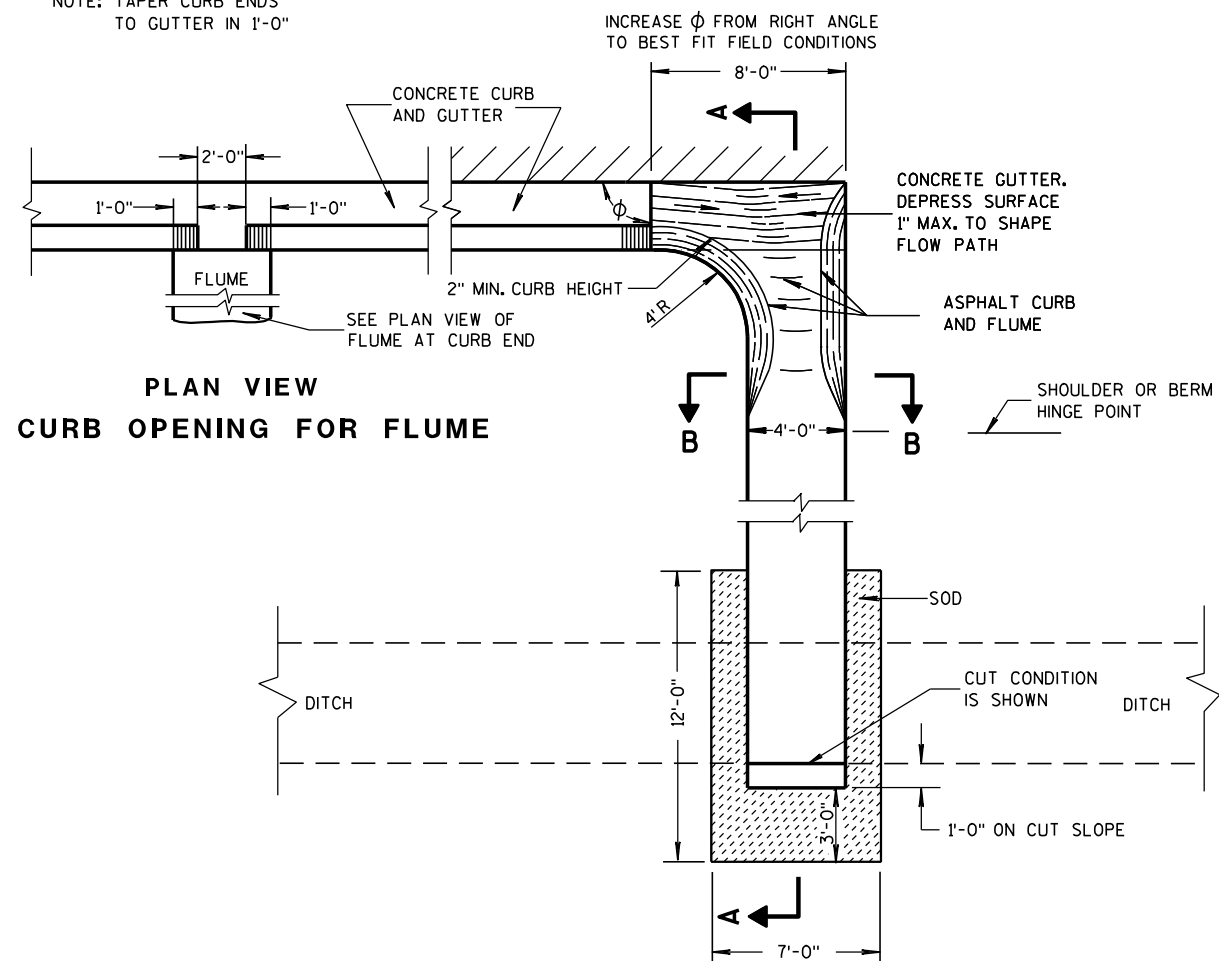
/S/ Rodney Taylor

ROADWAY STANDARDS DEVELOPMENT

UNIT SUPERVISOR

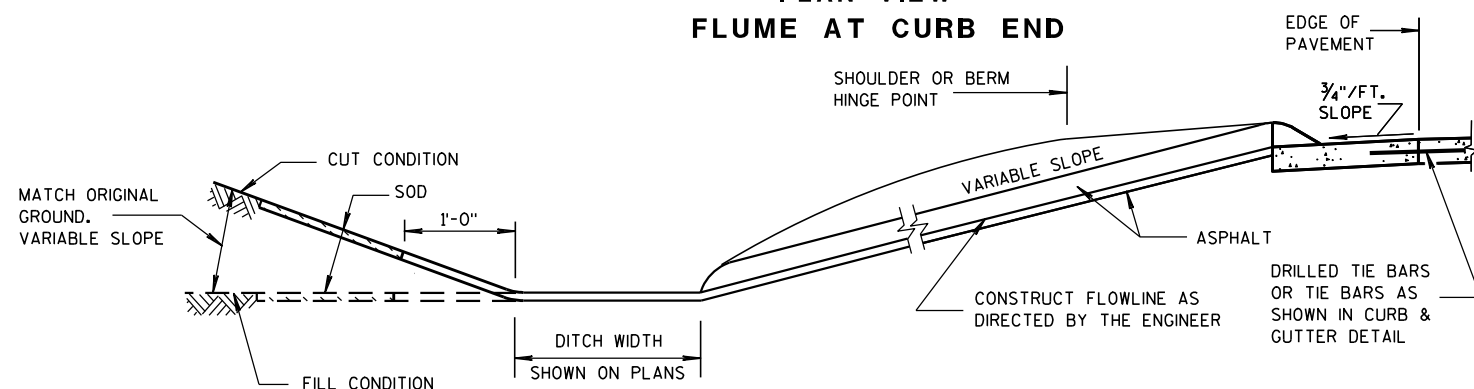
ASPHALTIC FLUME

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

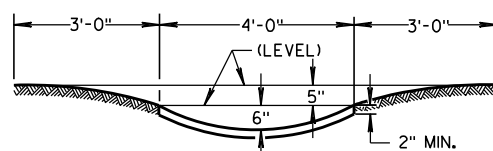


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

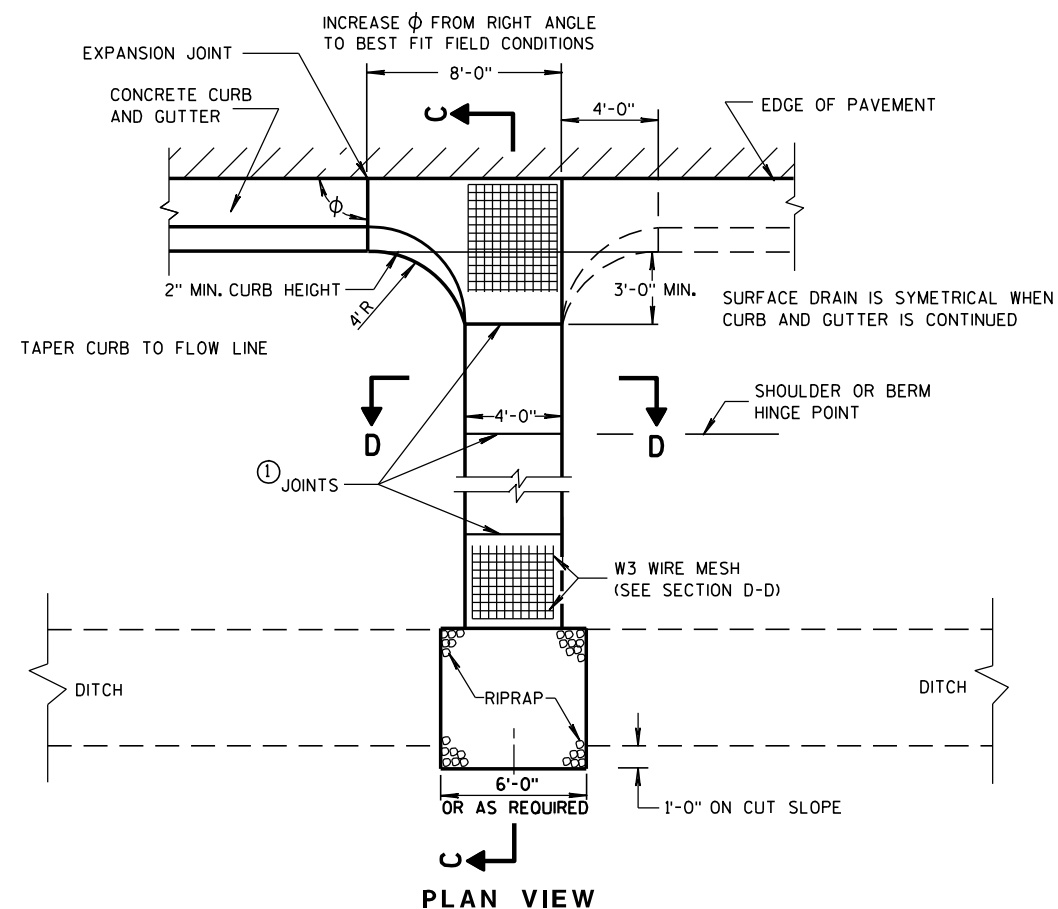
GENERAL NOTES

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

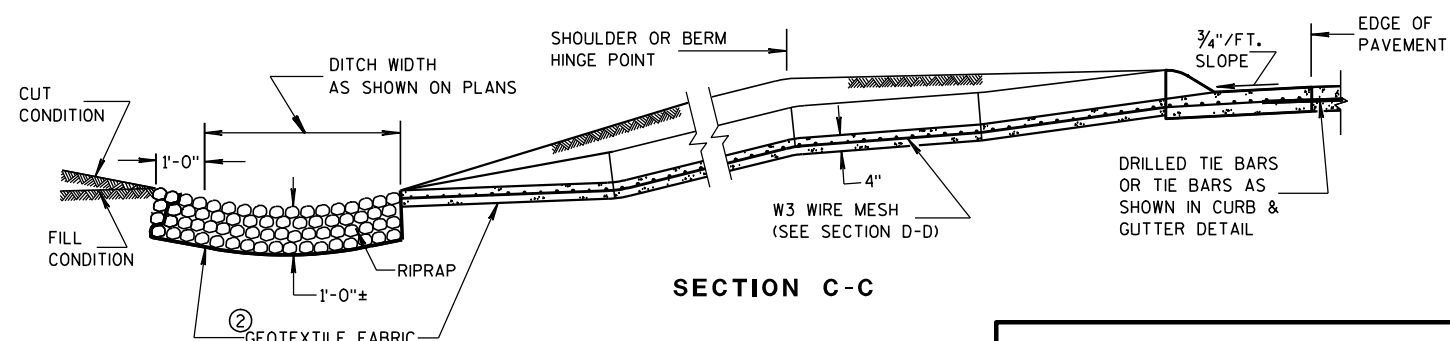
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

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

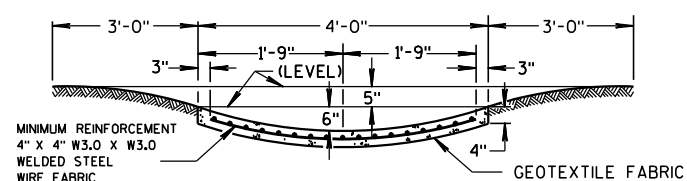
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

9-4-08

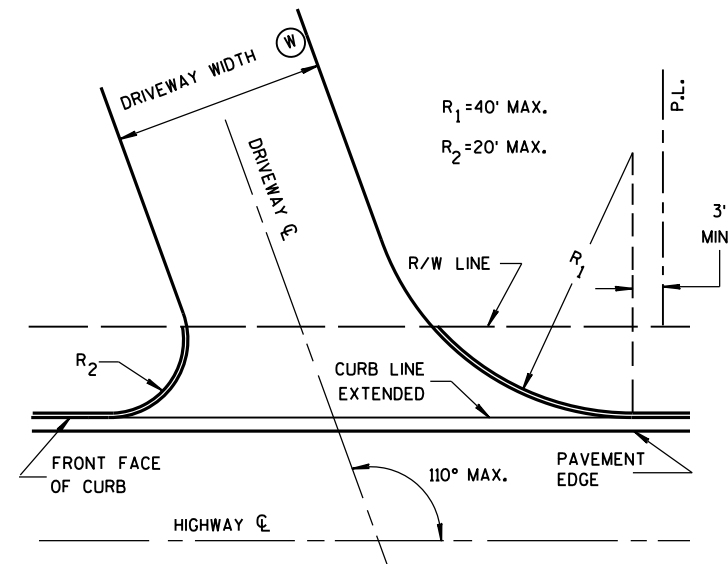
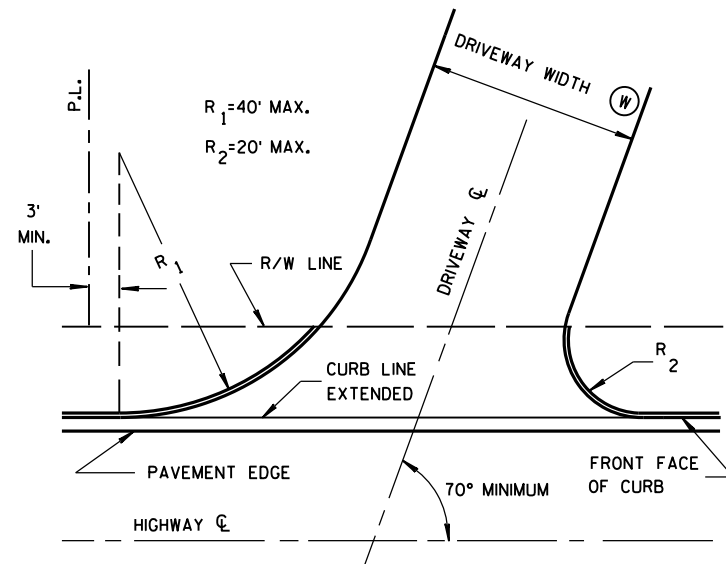
DATE

FHWA

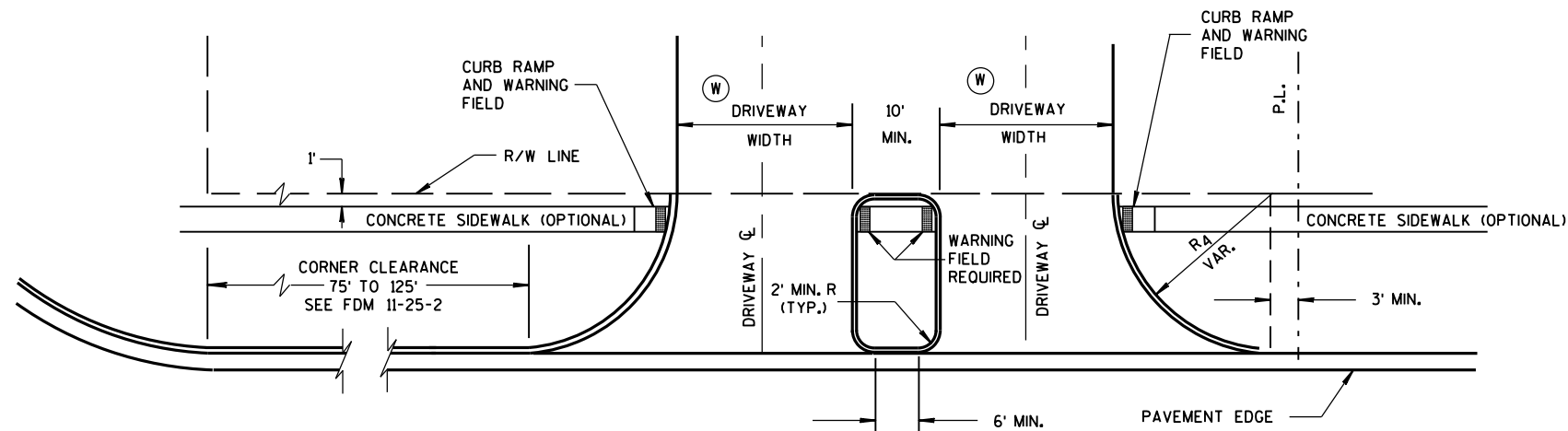
/S/ Jerry H. Zogg

ROADWAY STANDARDS DEVELOPMENT

ENGINEER



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



DRIVEWAY LOCATION AND SPACING DETAILS
SIDEWALK SHOWN

NOTES

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

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

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

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

Ⓜ DRIVEWAY WIDTHS:

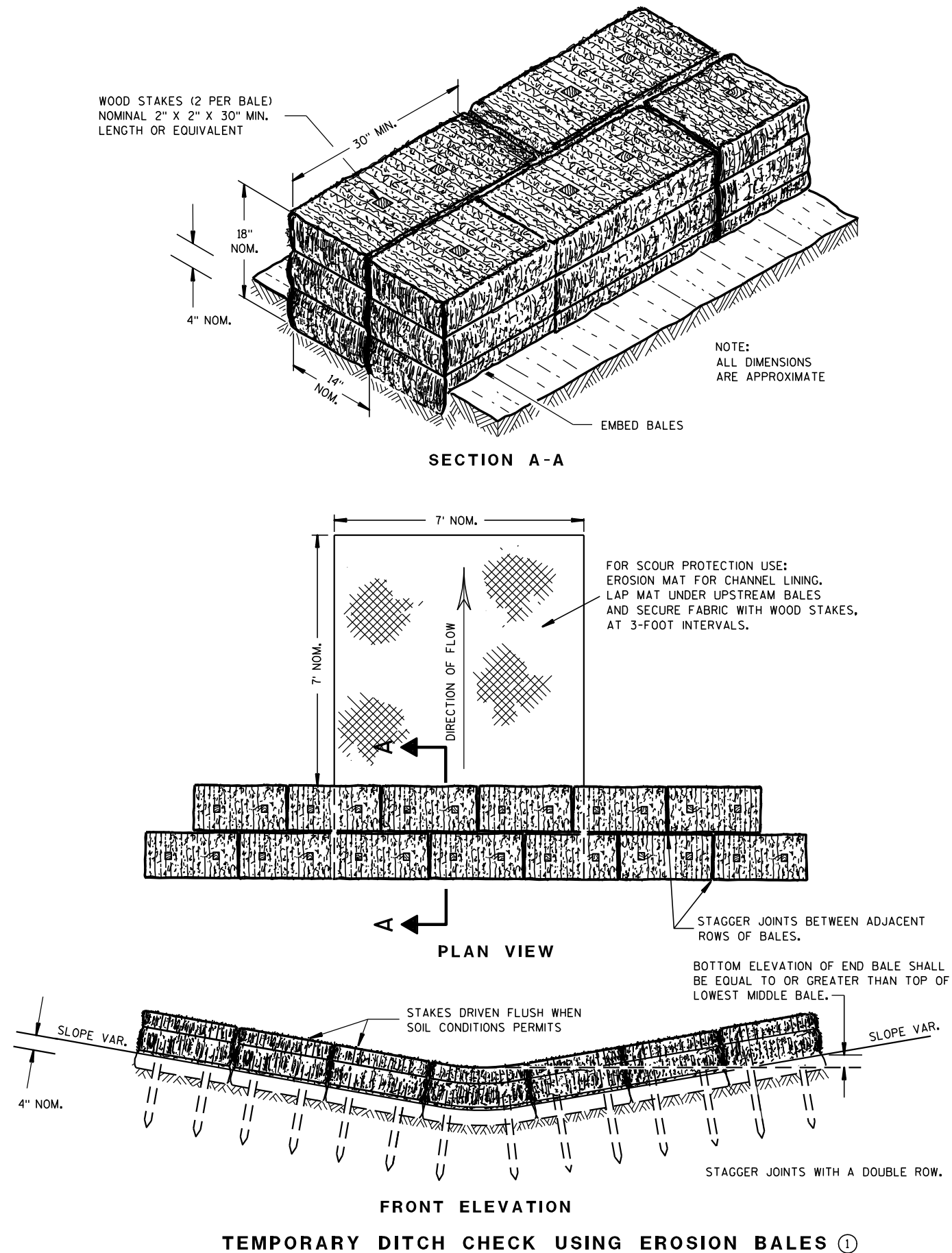
COMMERCIAL - 35' MAX., 16' MIN.

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

DRIVEWAYS WITH CURB & GUTTER RETURNS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

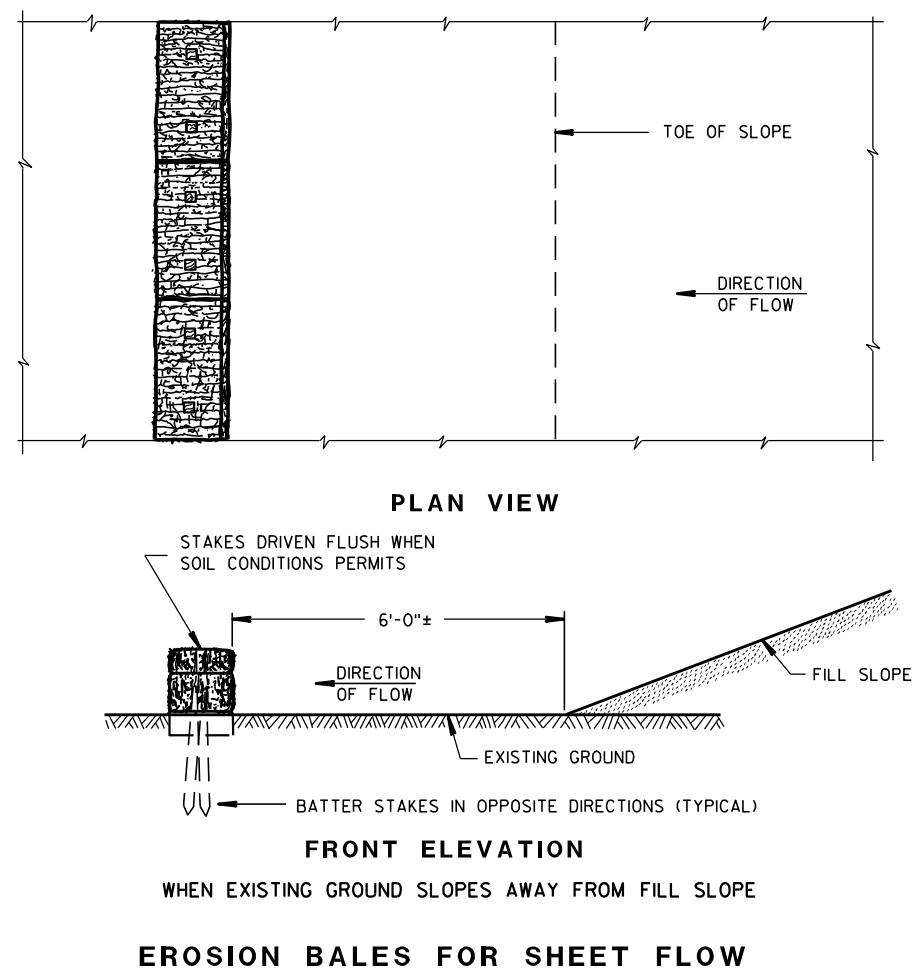
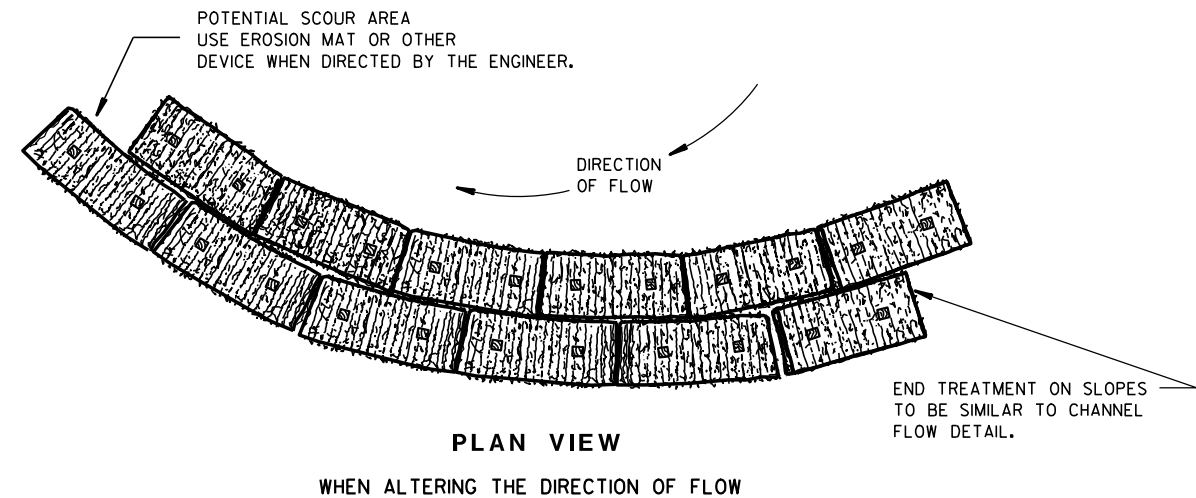
APPROVED
December, 2016 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT
FHWA UNIT SUPERVISOR



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.

- 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.

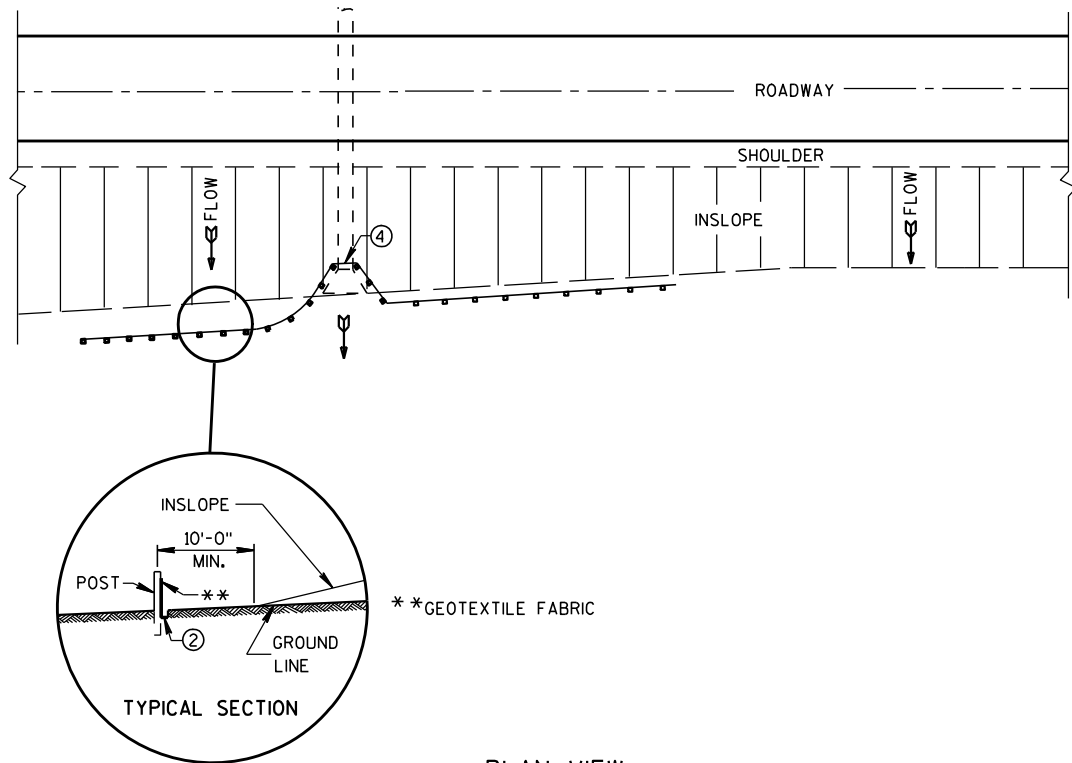
TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

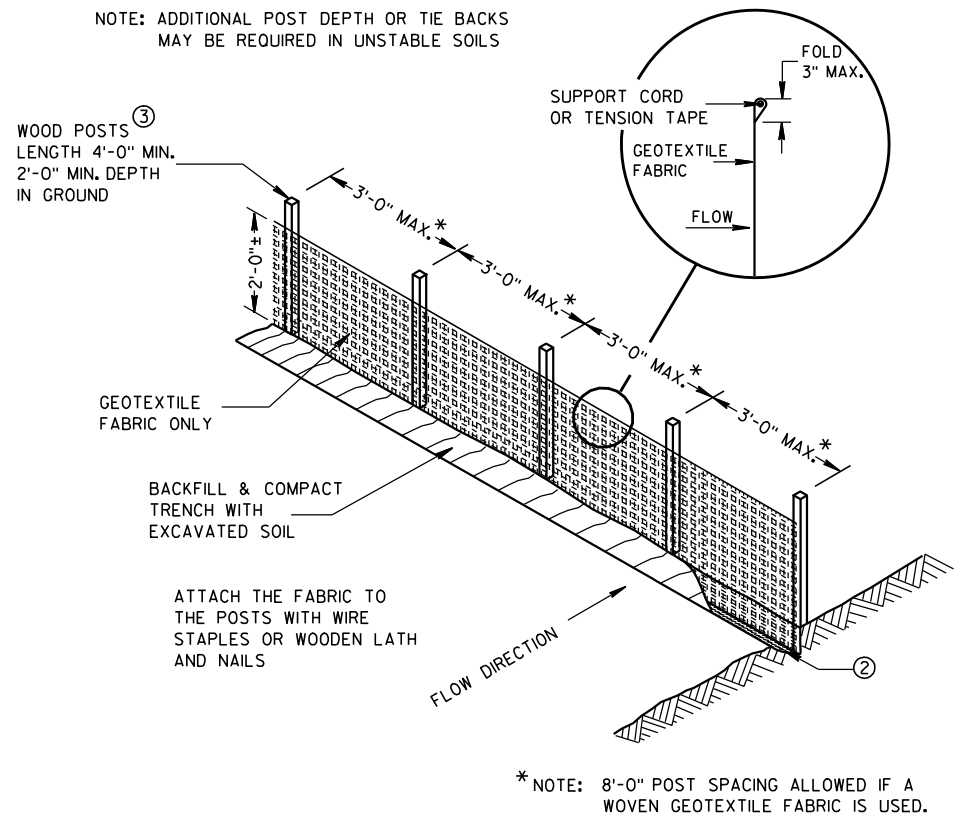
APPROVED

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

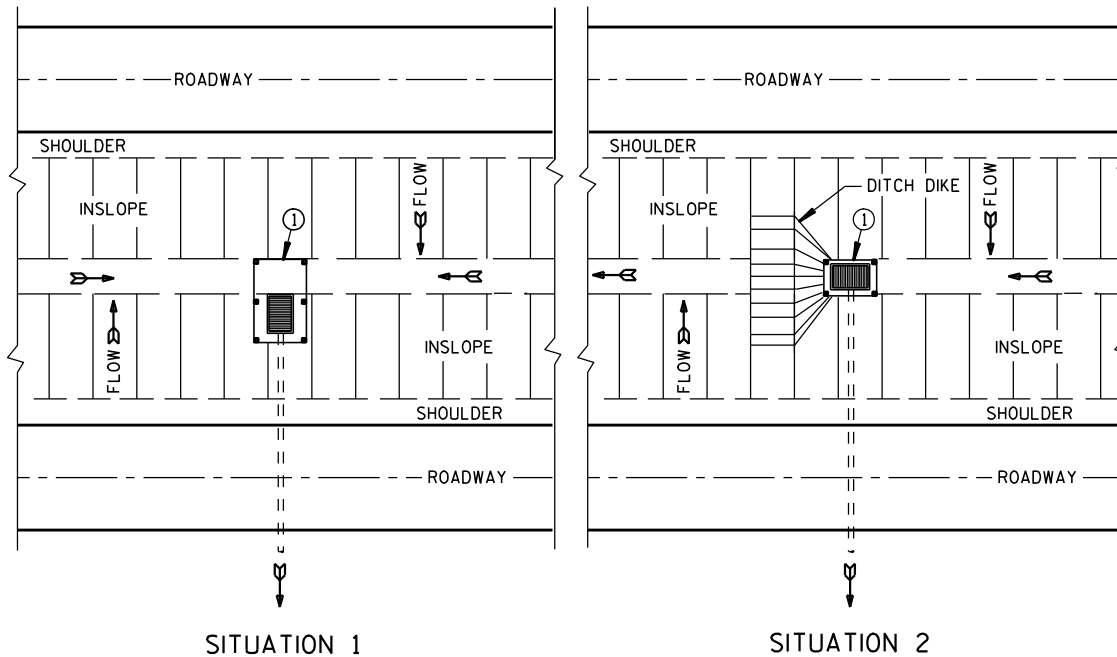
FHWA



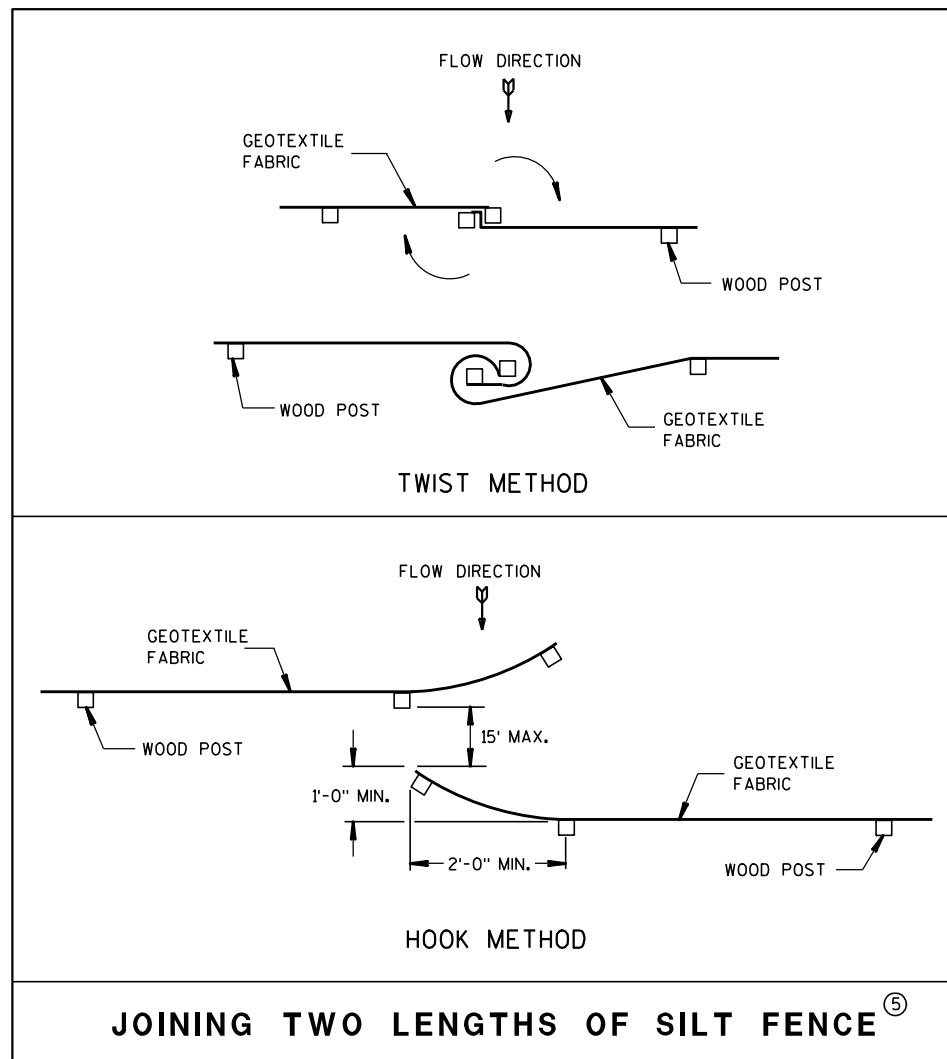
PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE



SILT FENCE



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

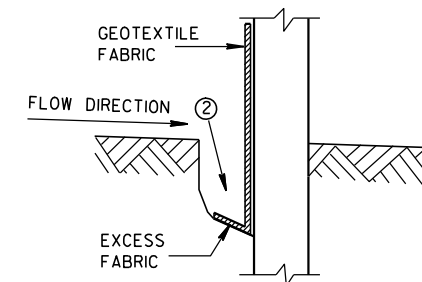


JOINING TWO LENGTHS OF SILT FENCE

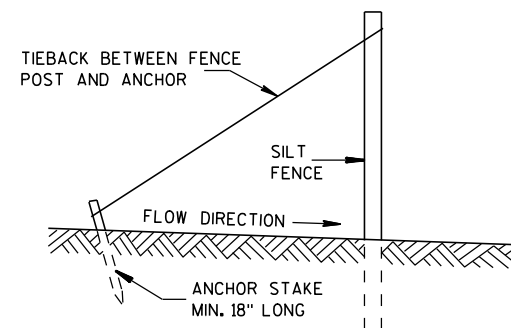
GENERAL NOTES

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

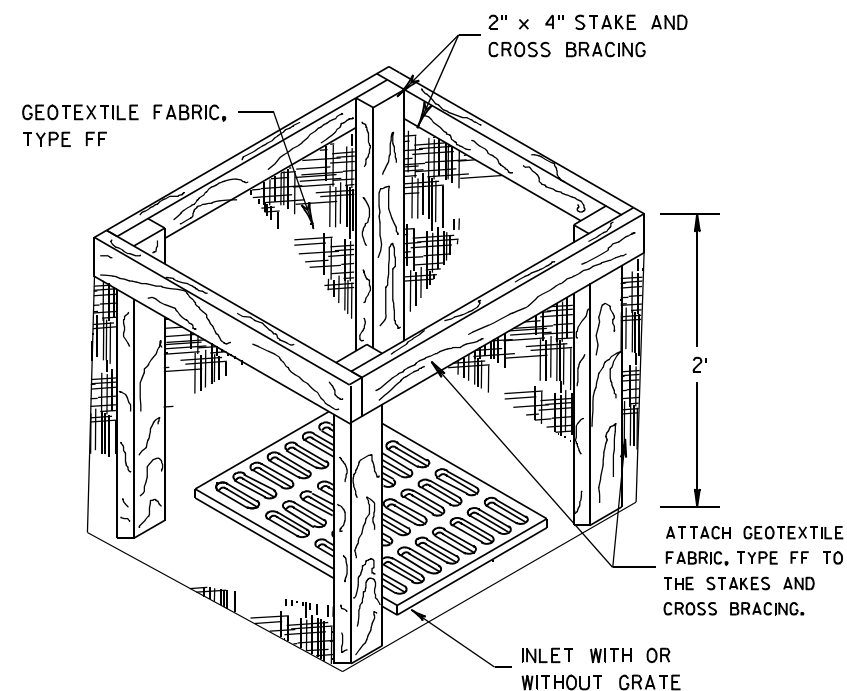
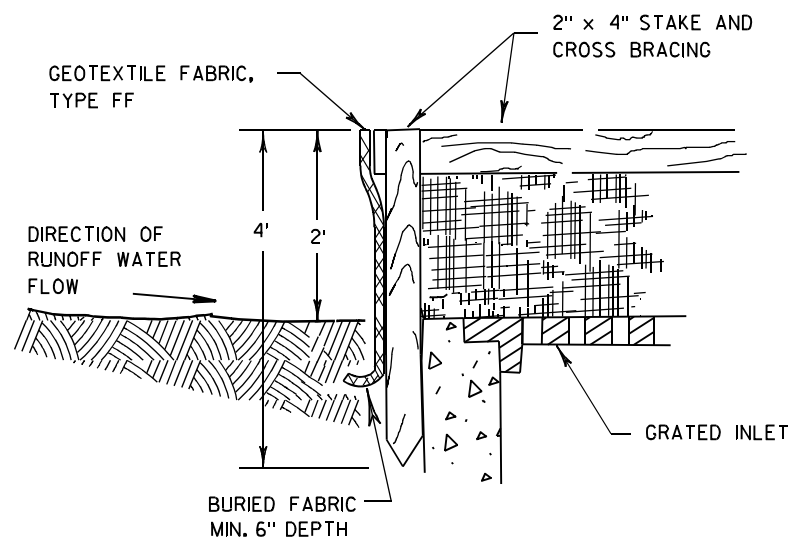


SILT FENCE TIE BACK
(WHEN REQUIRED BY THE ENGINEER)

SILT FENCE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



INLET PROTECTION, TYPE A

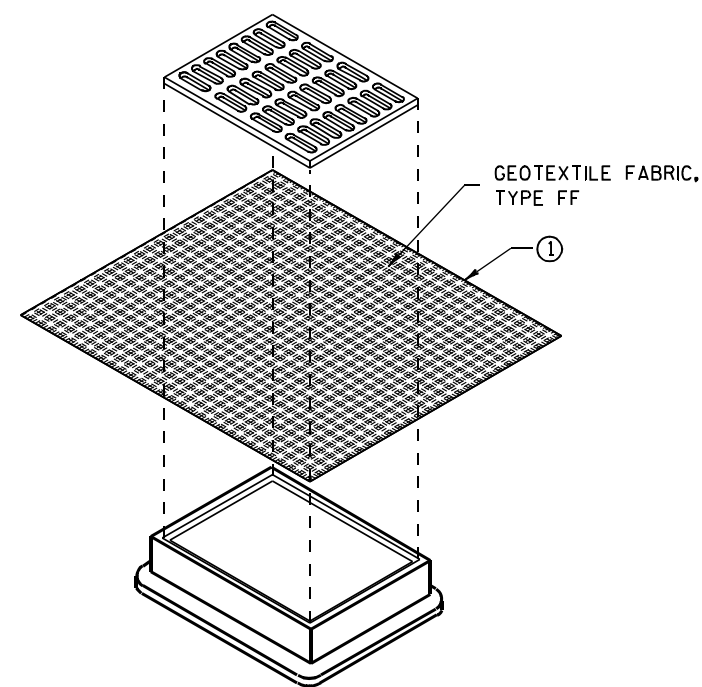
GENERAL NOTES

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

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

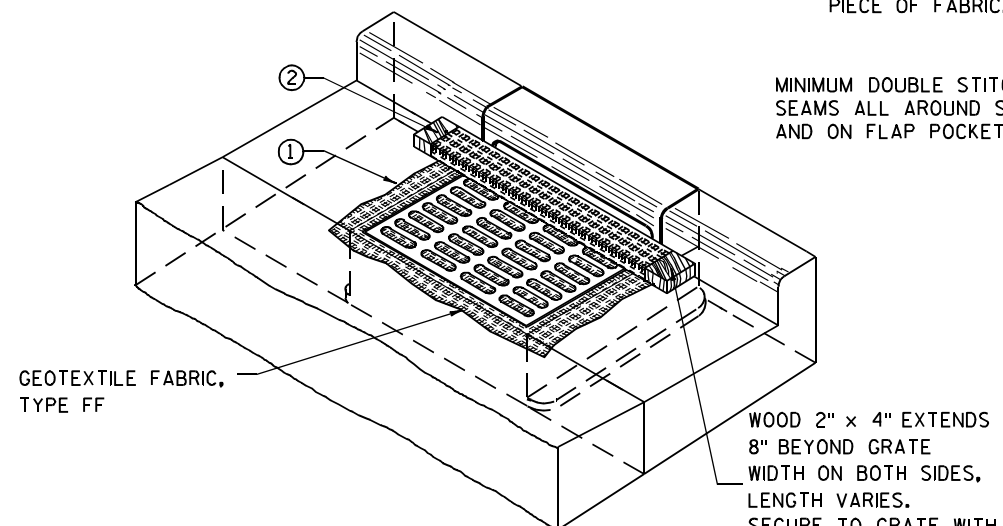
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

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



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

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



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

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

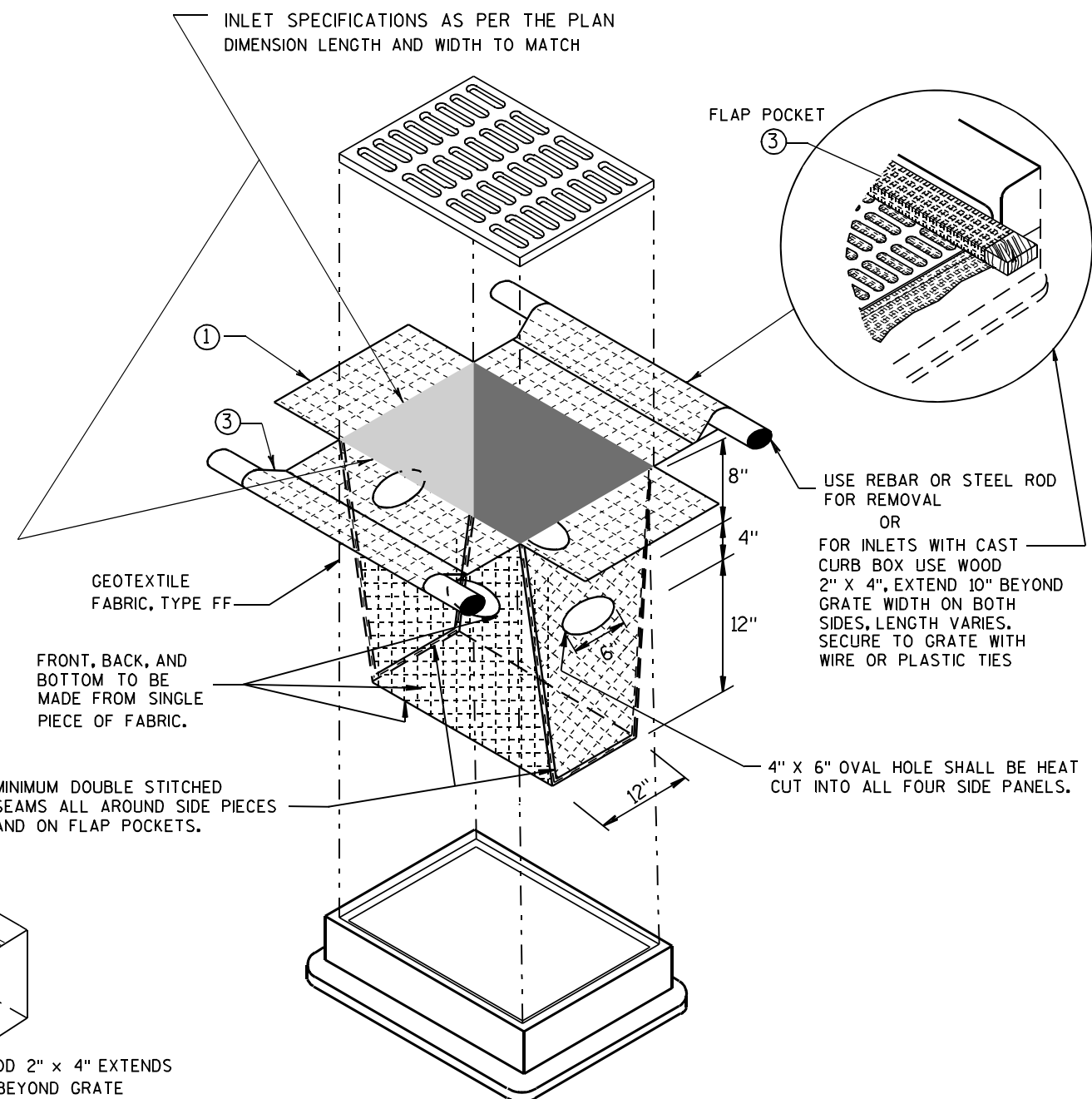
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

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

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

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



INLET PROTECTION, TYPE D

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

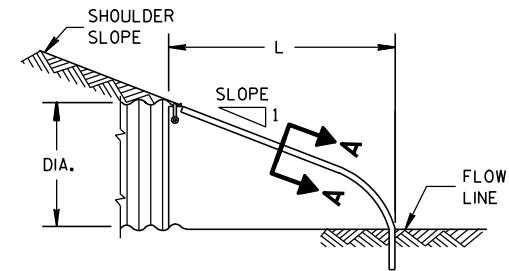
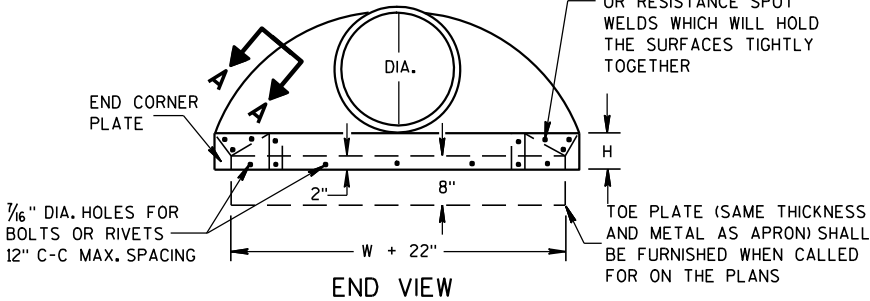
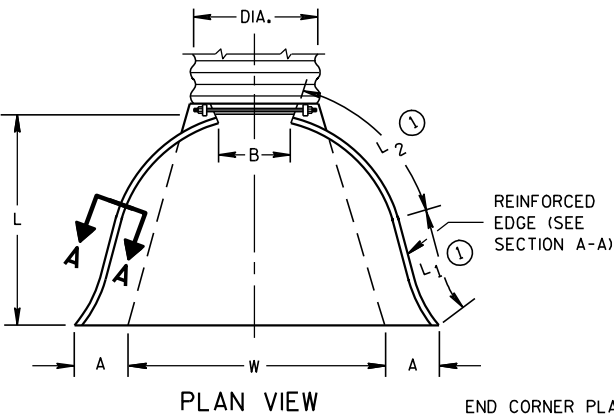
**INLET PROTECTION
TYPE A, B, C, AND D**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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

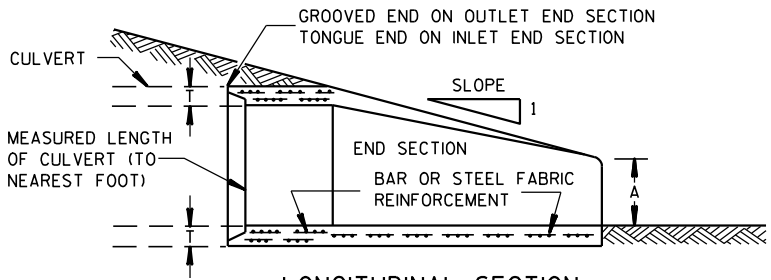
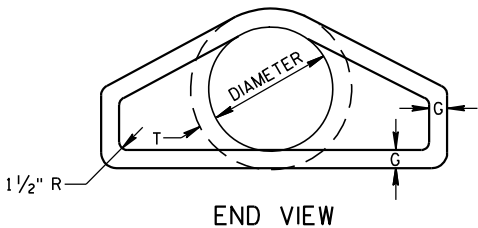
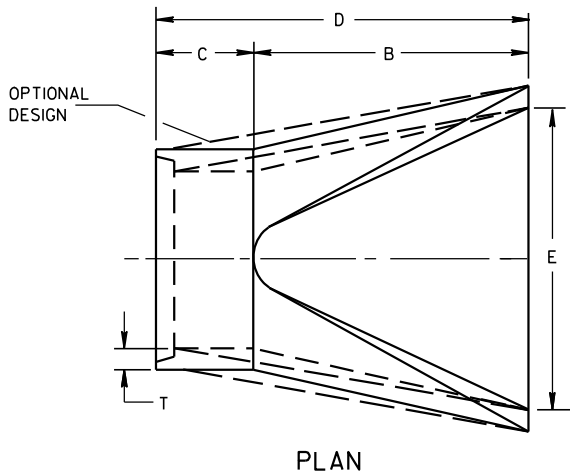
* EXCEPT CENTER PANEL
SEE GENERAL NOTES



METAL ENDWALLS

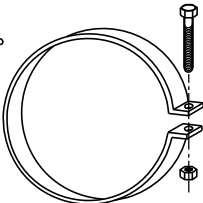
REINFORCED CONCRETE APRON ENDWALLS												
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE				
	T	A	B	C	D	E	G					
12	2	4	24	48 1/8	72 1/8	24	2	3 to 1				
15	2 1/4	6	27	46	73	30	2 1/4	3 to 1				
18	2 1/2	9	27	46	73	36	2 1/2	3 to 1				
21	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	3 to 1				
24	3	9 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

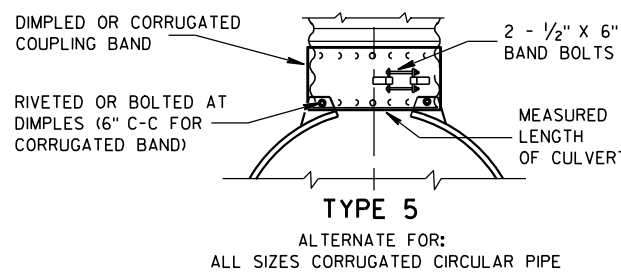
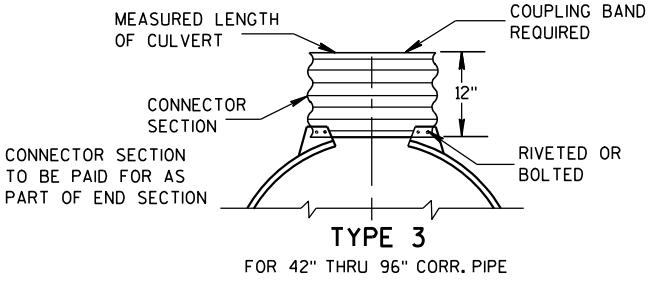
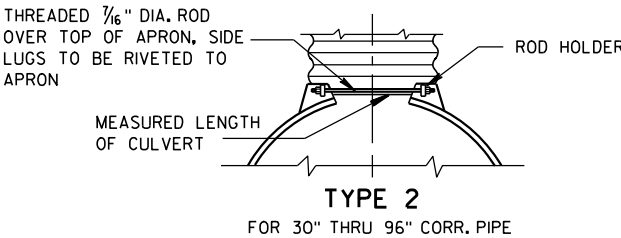
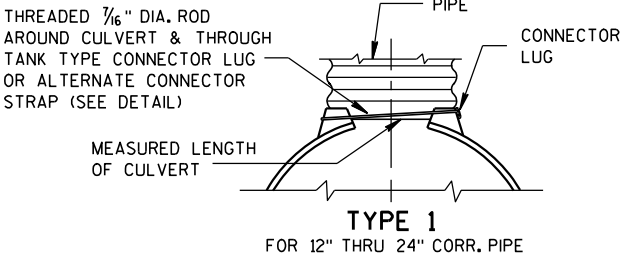


CONCRETE ENDWALLS

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



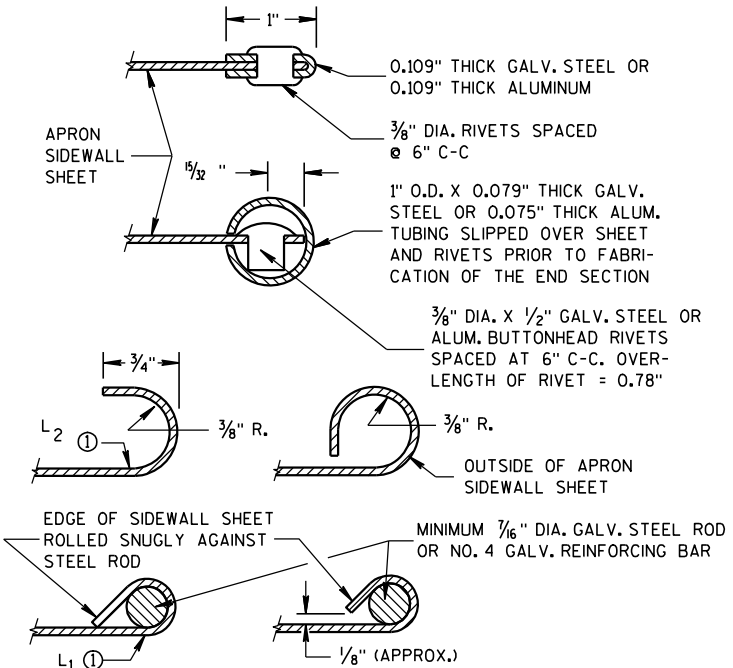
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL, AND CORRUGATED BAND FITS INSIDE ENDWALL. DIMPLED BAND MAY BE USED WITH HELICALLY CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

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

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

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

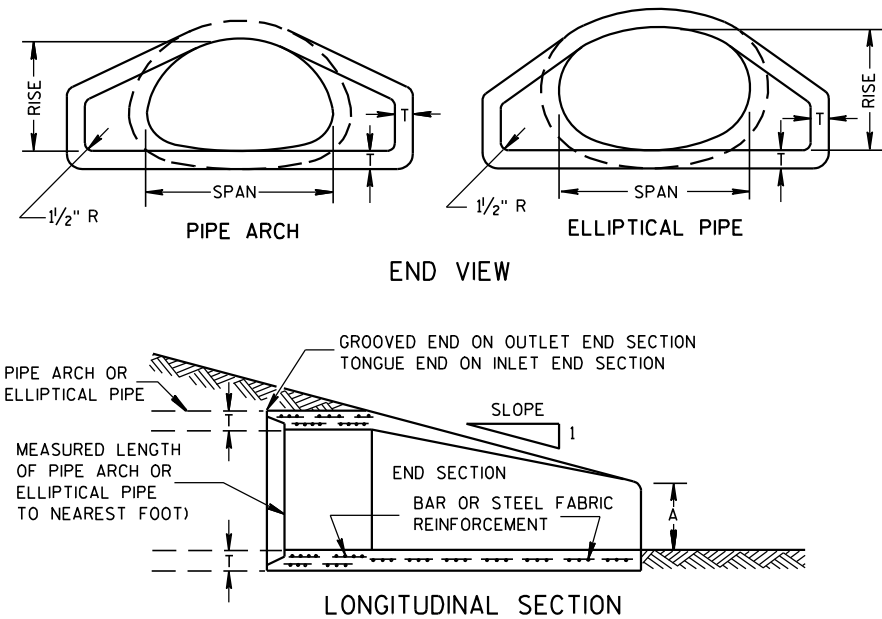
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

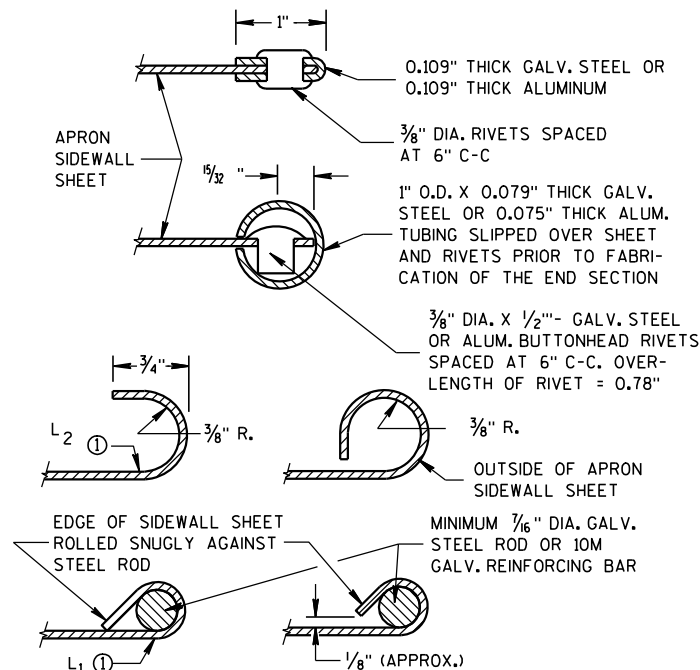
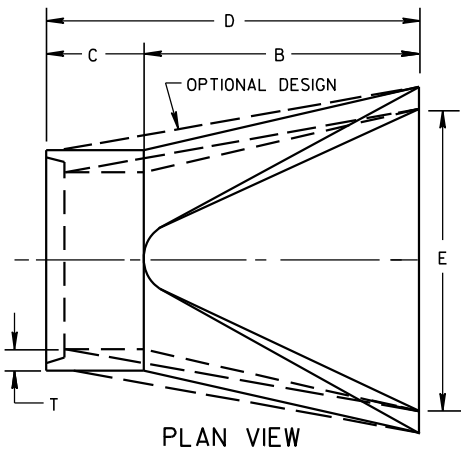
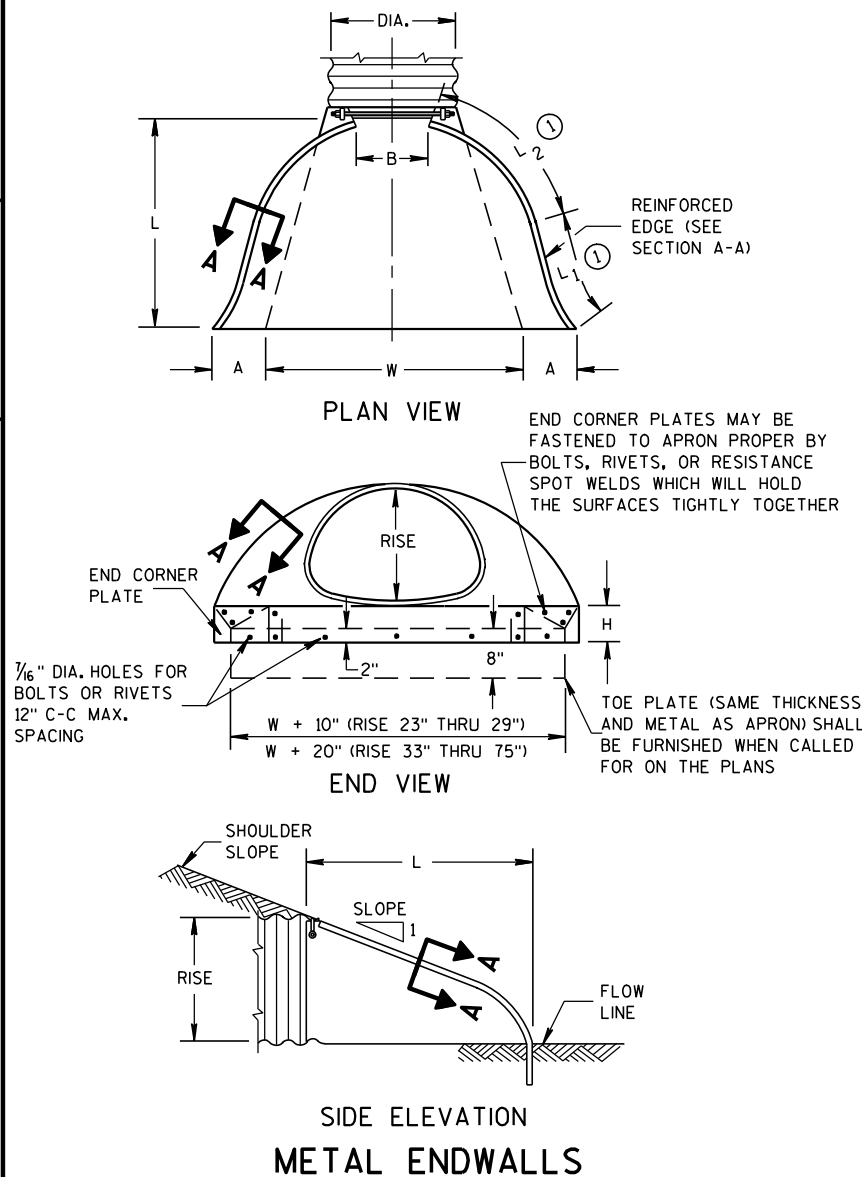
APRON ENDWALLS FOR
CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



CONCRETE ENDWALLS



SECTION A-A

2- 2/3" X 1/2" CORRUGATIONS													
EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	SPAN	RISE	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L ₁ ①	L ₂ ①	W (±2")		
15	17	13	.064	.060	7	9	6	19	14	16	30	2 1/2 to 1	1 Pc.
18	21	15	.064	.060	7	10	6	23	14	19 3/8	36	2 1/2 to 1	1 Pc.
21	24	18	.064	.060	8	12	6	28	18	21 3/4	42	2 1/2 to 1	1 Pc.
24	28	20	.064	.060	9	14	6	32	18	27 1/2	48	2 1/2 to 1	1 Pc.
30	35	24	.079	.075	10	16	6	39	18	37 5/8	60	2 1/2 to 1	1 Pc.
36	42	29	.079	.075	12	18	8	46	24	45 3/8	75	2 1/2 to 1	1 Pc.
42	49	33	.109	.105	13	21	9	53	24	54 3/4	85	2 1/2 to 1	2 Pc.
48	57	38	.109	.105	18	26	12	63	24	68	90	2 1/2 to 1	3 Pc.
54	64	43	.109	.105	18	30	12	70	24	72 3/4	102	2 1/4 to 1	3 Pc.
60	71	47	.109*	.105*	18	33	12	77	30	82 1/4	114	2 1/4 to 1	3 Pc.
66	77	52	.109*	.105*	18	36	12	77	—	—	126	2 to 1	3 Pc.
72	83	57	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.

3" X 1" CORRUGATIONS													
EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	SPAN	RISE	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L ₁ ①	L ₂ ①	W (±2")		
48	53	41	.109	.105	18	26	12	63	24	72 3/4	90	2 1/2 to 1	2 Pc.
54	60	46	.109	.105	18	30	12	70	30	82 1/4	102	2 to 1	2 Pc.
60	66	51	.109*	.105*	18	33	12	77	—	—	114	1 1/2 to 1	3 Pc.
66	73	55	.109*	.105*	18	36	12	77	—	—	126	1 1/2 to 1	3 Pc.
72	81	59	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.
78	87	63	.109*	.105*	22	38	12	77	—	—	148	1 1/2 to 1	3 Pc.
84	95	67	.109*	.105*	22	34	12	77	—	—	162	1 1/2 to 1	3 Pc.
90	103	71	.109*	.105*	22	38	12	77	—	—	174	1 1/2 to 1	3 Pc.
96	112	75	.109*	.105*	24	40	12	77	—	—	174	1 1/2 to 1	3 Pc.

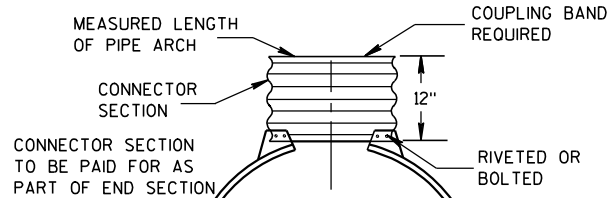
NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED.

* EXCEPT CENTER PANEL SEE GENERAL NOTES



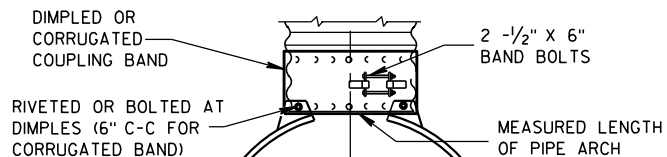
TYPE 2

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



TYPE 3

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



TYPE 5

ALTERNATE FOR:
ALL SIZES CORRUGATED PIPE ARCHES

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

CONNECTION DETAILS

REINFORCED CONCRETE PIPE ARCH											
EQUIV. DIA. (Inches)	DIMENSIONS (Inches)								APPROX. SLOPE		
	** SPAN	** RISE	T	A	B	C	D	E			
24	29	18	3	8 1/2	39	33	72	48	3 to 1		
30	36	22	3 1/2	9 1/2	50	46	96	60	3 to 1		
36	44	27	4	11 1/8	60	36	96	72	3 to 1		
42	51	31	4 1/2	15 5/16	60	36	96	78	3 to 1		
48	58	36	5	21	60	36	96	84	3 to 1		
54	65	40	5 1/2	25 1/2	60	36	96	90	3 to 1		
60	73	45	6	31	60	36	96	96	3 to 1		
72	88	54	7	31	60	39	99	120	2 to 1		
84	102	62	8	28 1/2	83	19	102	144	2 to 1		

REINFORCED CONCRETE ELLIPTICAL PIPE											
EQUIV. DIA. (Inches)	DIMENSIONS (Inches)								APPROX. SLOPE		
	** SPAN	** RISE	T	A	B	C	D	E			
24	30	19	3 1/4	8 1/2	39	33	72	48	3 to 1		
30	38	24	3 3/4	9 1/2	54	18	72	60	3 to 1		
36	45	29	4 1/2	11 1/8	60	24	84	72	2 1/2 to 1		
42	53	34	5	15 1/4	60	36	96	78	2 1/2 to 1		
48	60	38	5 1/2	21	60	36	96	84	2 1/2 to 1		
54	68	43	6	25 1/2	60	36	96	90	2 1/2 to 1		
60	76	48	6 1/2	30	60	36	96	96	2 1/2 to 1		

**NOMINAL SIZE

GENERAL NOTES

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

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

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

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

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

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

APRON ENDWALLS FOR
PIPE ARCH AND
ELLIPTICAL PIPE

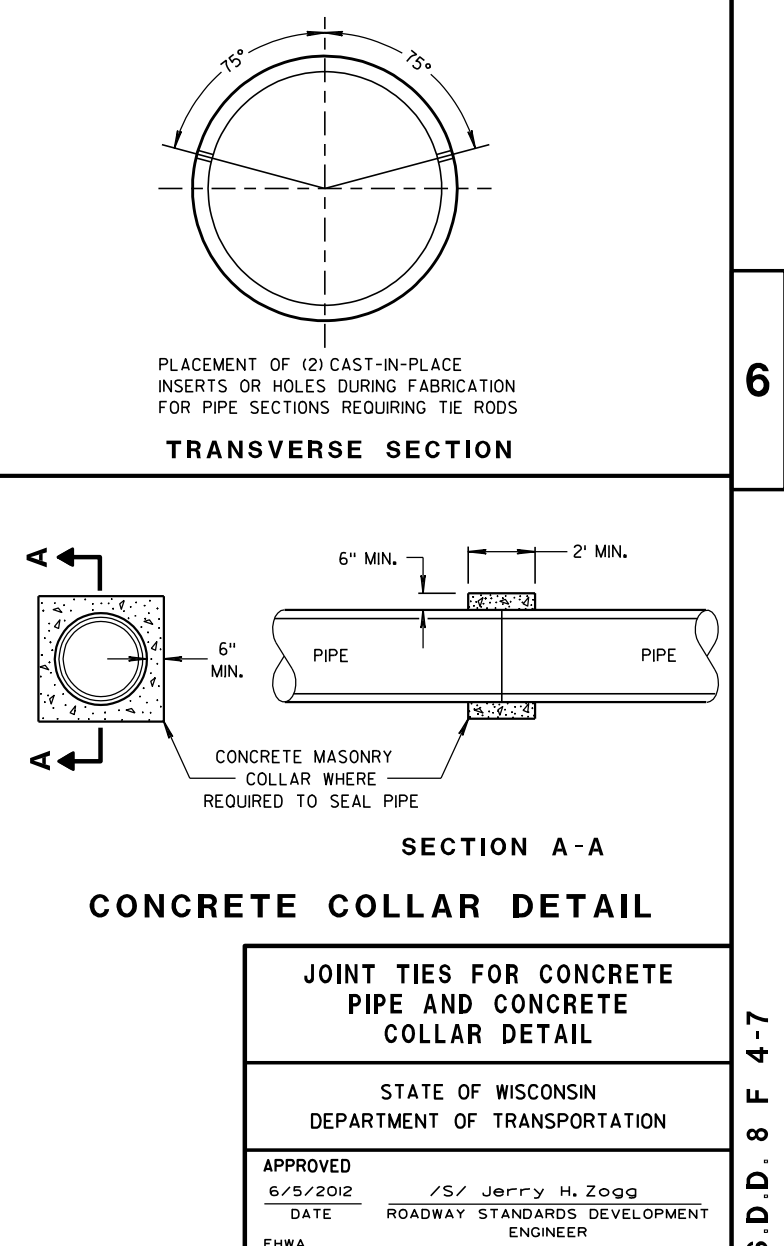
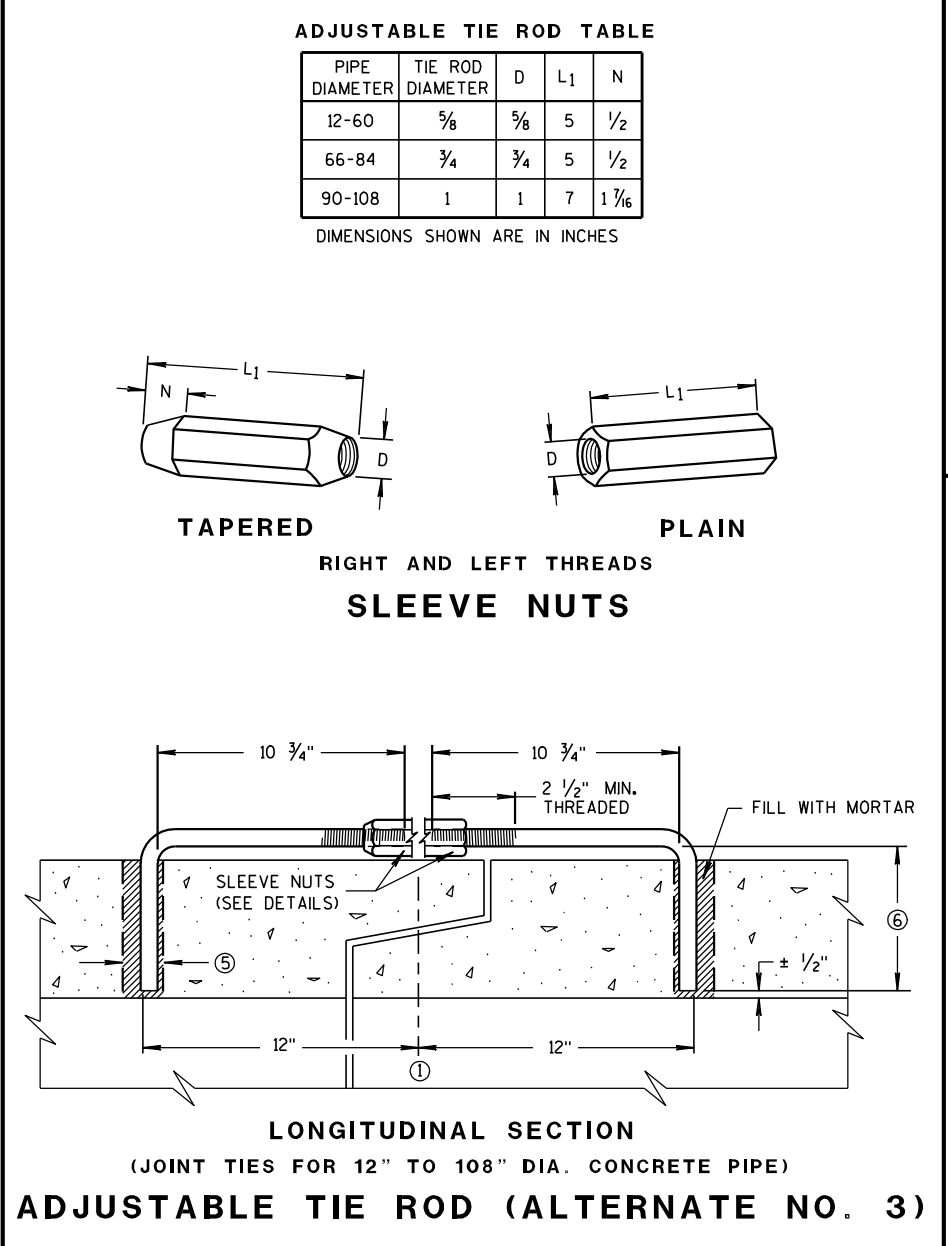
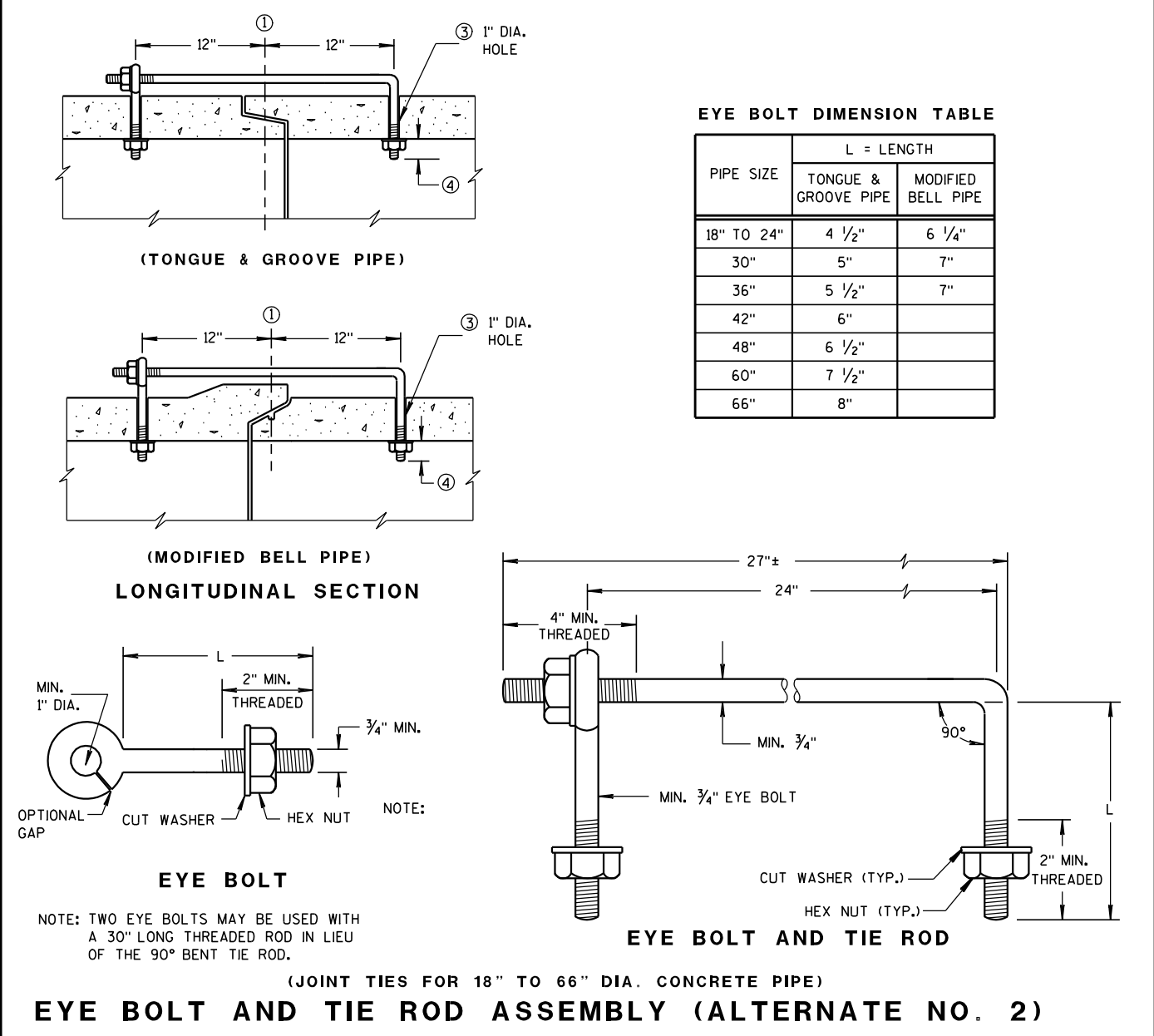
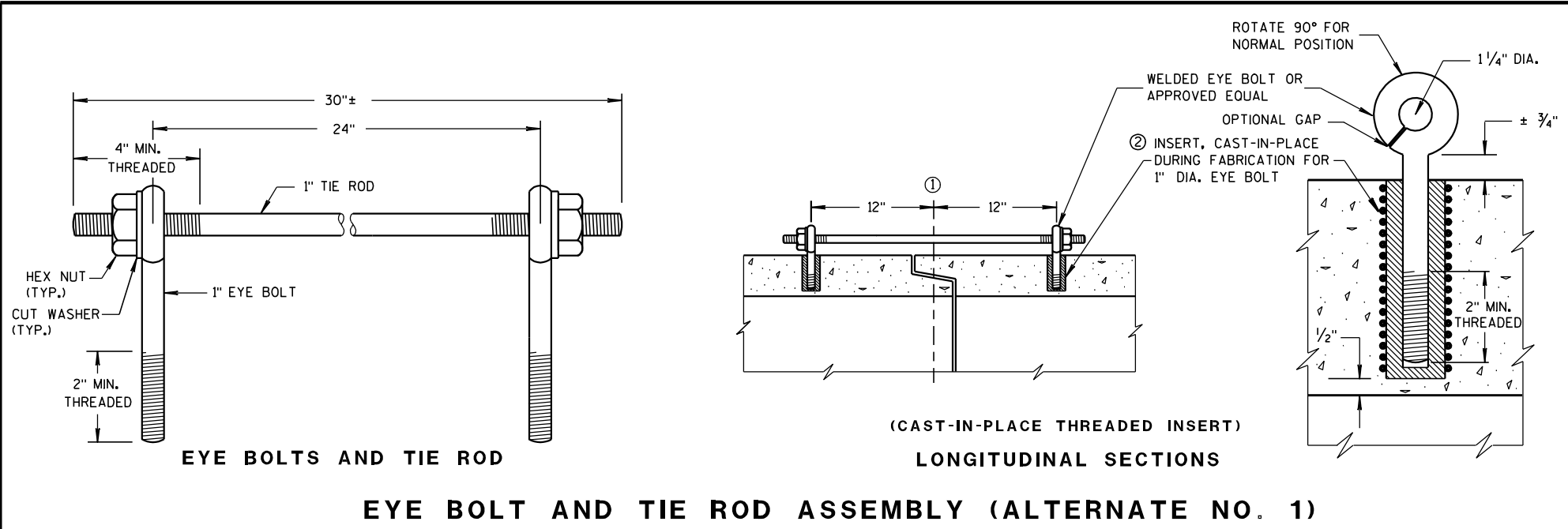
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

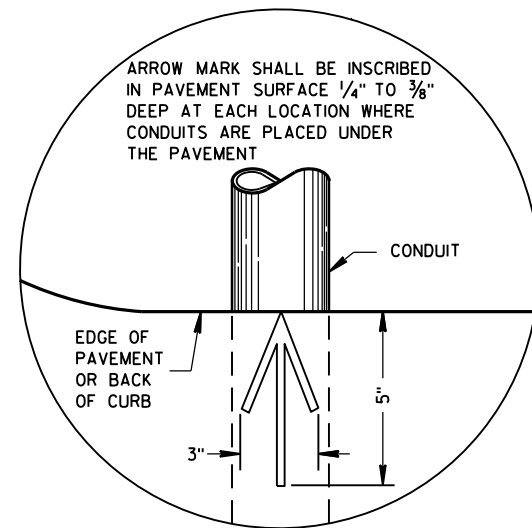
APPROVED

11/30/94
DATE

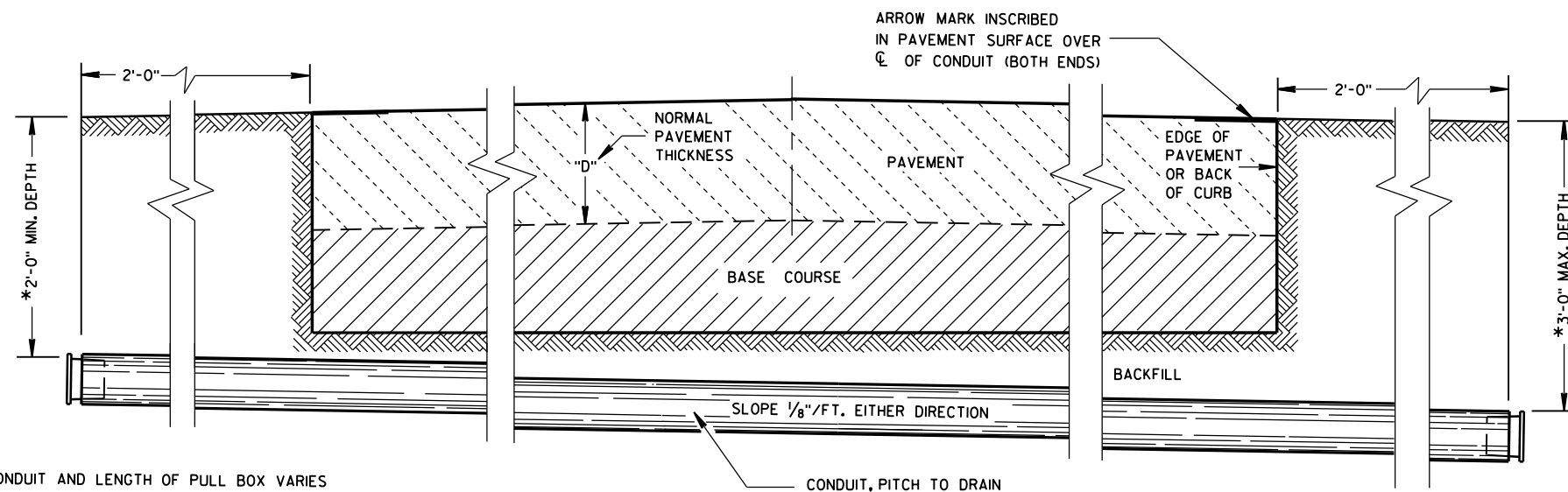
FHWA

/S/ Rory L. Rhinesmith
CHIEF ROADWAY DEVELOPMENT ENGINEER





PLAN VIEW
ARROW MARK



SIDE ELEVATION
DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

*DEPTH OF CONDUIT AND LENGTH OF PULL BOX VARIES
WITH HEIGHT OF CURB USED. ALSO SEE PULL BOX S.D.D. 9B4

GENERAL NOTES

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

METALLIC (STANDARD SPECIFICATION 652.2.2) OR NONMETALLIC (STANDARD SPECIFICATION 652.2.3) CONDUIT SHALL BE FURNISHED AND PLACED AS SHOWN.

DEPTH OF CONDUIT INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES MINIMUM AND 36 INCHES MAXIMUM.

DEPTH OF CONDUIT INSTALLED THAT IS NOT BELOW THE TRAVELED WAY SHALL BE 18 INCHES MINIMUM AND 36 INCHES MAXIMUM.

ANY EXCEPTION TO THE MAXIMUM DEPTH SHALL BE ONLY WITH THE WRITTEN APPROVAL OF THE ENGINEER.

THE TRENCH SHALL NOT BE BACKFILLED PRIOR TO INSPECTION OF THE CONDUIT.

ALL METALLIC CONDUIT RACEWAY ENDS SHALL BE REAMED AND THREADED.

ALL METALLIC CONDUIT IN WHICH WIRE OR CABLE IS TO BE INSTALLED SHALL BE BUSHED WITH APPROVED THREADED BUSHINGS BEFORE INSTALLATION OF THE WIRE OR CABLE.

ALL METALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT TO BE INSTALLED SHALL BE CAPPED WITH THREADED PROTECTIVE CAPS, AS APPROVED BY THE ENGINEER.

ALL NONMETALLIC CONDUIT SHALL BE CAPPED OR PLUGGED IMMEDIATELY AFTER INSTALLATION AND SHALL REMAIN CAPPED OR PLUGGED UNTIL WIRE/CABLES ARE INSTALLED.

NONMETALLIC CONDUITS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

BENDING OF PVC ELECTRICAL CONDUIT SHALL BE ACCOMPLISHED BY USING A BLANKET OR EMERSION TYPE TANK DESIGNED FOR THE PURPOSE OF BENDING PVC ELECTRICAL CONDUIT.

ALL CUT ENDS SHALL BE TRIMMED INSIDE AND OUTSIDE TO REMOVE ALL ROUGH EDGES ON NONMETALLIC CONDUIT. (SEE NEC 347.5)

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY U.L. LISTED ADAPTER FITTINGS SHALL BE USED.

PRIOR TO CONDUIT ACCEPTANCE, CONDUIT CAPS OR PLUGS SHALL BE REMOVED, AND THE CAPS, PLUGS AND CONDUIT ENDS SHALL BE THOROUGHLY CLEANED AND THEN THE CAPS OR PLUGS REINSTALLED TO ENSURE THAT THE CAPS OR PLUGS CAN BE EASILY REMOVED IN THE FUTURE.

ALL CONDUIT BEING FURNISHED AND INSTALLED SHALL HAVE THE U.L. LABEL FIRMLY ATTACHED.

CONDUIT RUNS SHALL BE THE SAME SIZE OF CONDUIT FROM ONE END TO THE OTHER (FROM PULL BOX TO PULL BOX-OR-JUNCTION BOX TO JUNCTION BOX-OR-BASE TO BASE, ETC.).

TRACER WIRE SHALL BE INSTALLED AS STATED IN THE STANDARD SPECIFICATION, ITEM 652.3.1.1.

ALL CONDUIT RUNS SHALL BE STRAIGHT (WITHOUT BENDS) FROM PULL BOX TO PULL BOX, PULL BOX TO BASE AND BASE TO BASE AS SHOWN ON THE PLANS.

CONDUIT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March, 2017 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL ENGINEER
FHWA

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

DIMENSION IN INCHES		NON-CONDUCTIVE PULL BOX	
BOX DIAMETER ** (INSIDE)	A	24	24
BOX OVERALL OUTSIDE DIAMETER	B	27	27
BOX LENGTH	C	36	42
FRAME OPENING	D	22 1/2	22 1/2
WEIGHT IN POUNDS *			
COVER		50	50
BOX ONLY		75	85

* THE ACTUAL WEIGHT OF THE COVER OR BOX ONLY MAY VARY NOT TO EXCEED 100 LBS INDIVIDUALLY.

** DIAMETER VARIES FROM TOP TO BOTTOM WITH THE DIAMETER LARGER AT THE BOTTOM TO PREVENT FROST HEAVE

GENERAL NOTES

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

ALL BOXES, FRAMES AND COVERS SHALL BE SUITABLE FOR TIER 15 LOADING AS SPECIFIED IN ANSI/SCTE 77.

PROVIDE AN OPENING FOR TOOL ASSISTED COVER REMOVAL NOT LARGE ENOUGH TO PERMIT PASSAGE OF A SPHERE MORE THAN 1/2" DIAMETER

ENSURE COVER SURFACE IS SKID RESISTANT WITH A COEFFICIENT OF FRICTION OF AT LEAST 0.5 AND VERTICAL SURFACE DISCONTINUITIES LESS THAN 1/4".

COVER SHALL BE MAGNETICALLY LOCATABLE.

BOXES AND EXTENSIONS ARE TRIMMABLE FOR CUSTOM LENGTHS. TRIMMED PIECES SHALL MAINTAIN A UNIFORM LENGTH.

ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

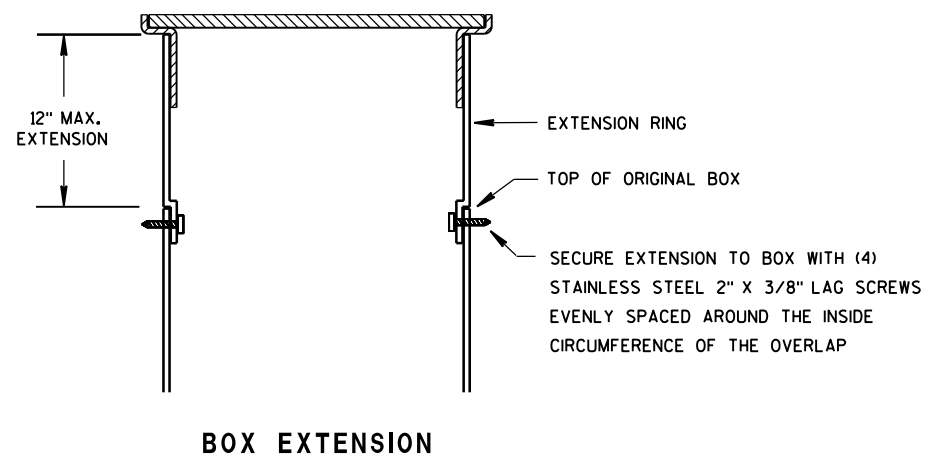
THE CONTRACTOR SHALL NOT INSTALL WIRE IN ANY PULL BOX UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

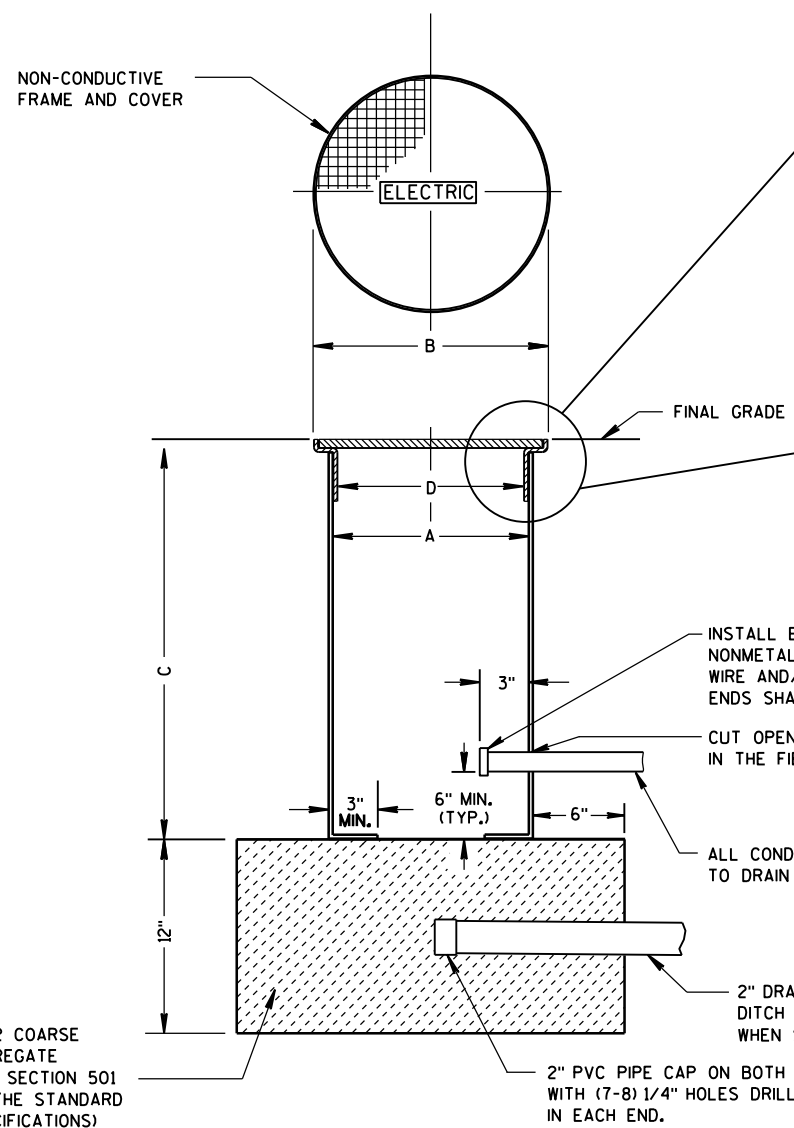
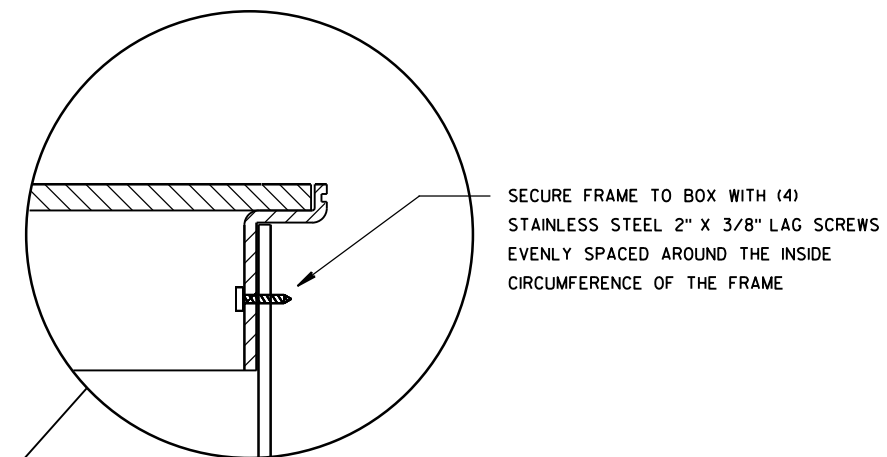
ENTIRE BOX MUST BE CONSTRUCTED OF NON-CONDUCTIVE MATERIALS WITH THE EXCEPTION OF STAINLESS STEEL FASTENERS AND MAGNETIC LOCATABLE DEVICE.

WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE

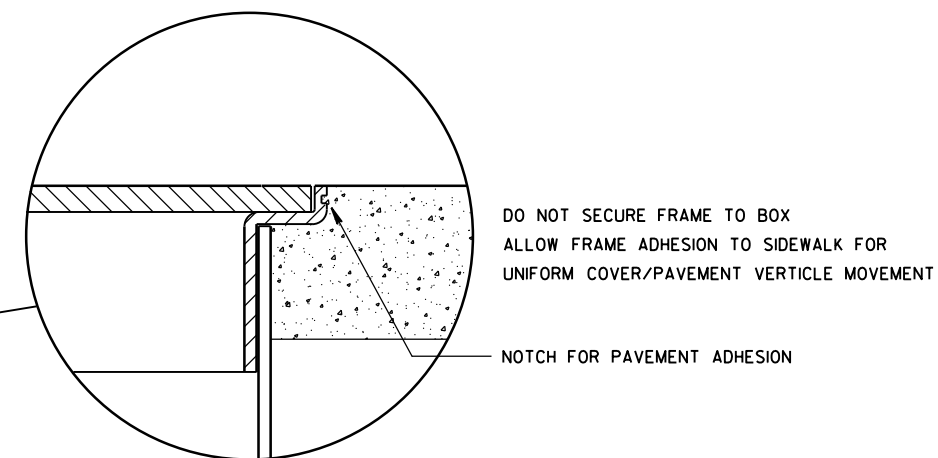
LABEL ON COVER SHALL READ "ELECTRIC" FOR SIGNAL AND LIGHTING SYSTEMS, "WISDOT ITS" FOR COMMUNICATIONS AND ITS EQUIPMENT SYSTEMS.



INSTALLED IN SOD OR CRUSHED AGGREGATE



INSTALLED IN SIDEWALK



NON-CONDUCTIVE PULL BOX

PULL BOX
NON-CONDUCTIVE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

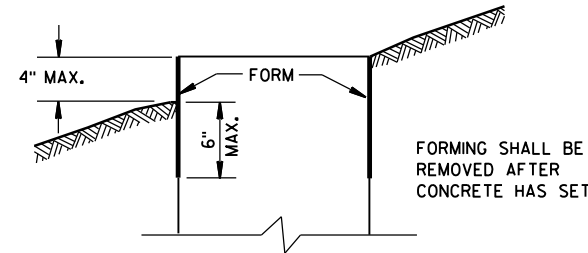
APPROVED

May 2017
DATE

FHWA

/S/ Ahmet Demirbilek
STATE ELECTRICAL ENGINEER

FORM DEPTH SHALL BE NO MORE THAN 6" BELOW GRADE ON THE LOWER SIDE OF BASE



FORMING DETAIL

QUANTITY REQUIREMENTS	CONCRETE BASE TYPE		
	1	2	5 & 6
APPROX. CUBIC YARDS OF CONCRETE	0.40	0.57	0.40
LBS. OF HOOP BAR STEEL	NONE	23	16
LBS. OF VERTICAL BAR STEEL	NONE	60	18

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

TOP SURFACES OF CONCRETE BASES SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

CONDUIT SIZES AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.

THE FINAL OR TERMINATING CONCRETE BASE IN A CONDUIT RUN SHALL HAVE A 6" EXIT STUB INSTALLED FOR FUTURE CABLING USE. THE EXIT STUB SHALL BE SIZED AS USED THROUGHOUT THE CONDUIT RUN AS SHOWN AT THE ENTRANCE OF THE BASE.

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 1 INCH. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

ALL CONDUIT ENDS AT THE TOP OF CONCRETE BASES SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

GENERAL NOTES (CONTINUED)

BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.

ENDS OF CONDUIT INSTALLED BELOW GRADE FOR FUTURE USE SHALL BE CAPPED IF METALLIC OR PLUGGED IF NONMETALLIC.

WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTER FITTINGS, U.L. LISTED FOR ELECTRICAL USE, SHALL BE USED.

IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE DIRT OR FILL, THE FORM SHALL BE REMOVED BEFORE BACKFILLING AROUND THE BASE. BACKFILL SHALL BE TAMPED TIGHT AGAINST THE BARE CONCRETE BASE IN LAYERS OF 1 FOOT OR LESS.

A NO. 4 AWG. STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD) FOR TYPE 1, TYPE 2, TYPE 5, AND TYPE 6 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE OF THE TYPE 2 AND TYPE 5 BASES THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

ANCHOR RODS SHALL BE THREADED 12" IN LENGTH ON EACH END OF THE ROD. ANCHOR RODS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 654.2.1 OF THE STANDARD SPECIFICATIONS.

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

WHEN ANCHOR RODS USING THE ALTERNATE "L" BEND ARE FURNISHED, THE 4" "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND END SHALL NOT BE THREADED.

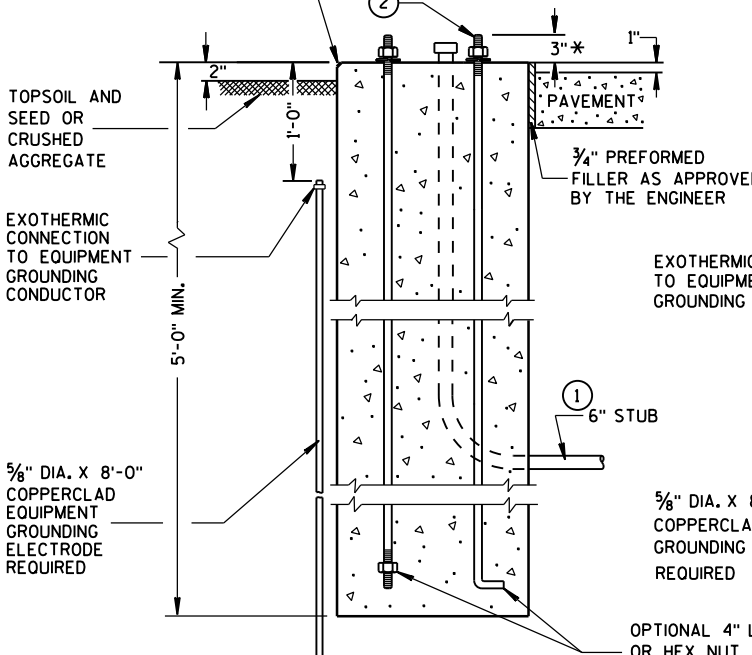
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

WELDING OF THE ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TIE WIRES SHALL BE USED.

BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

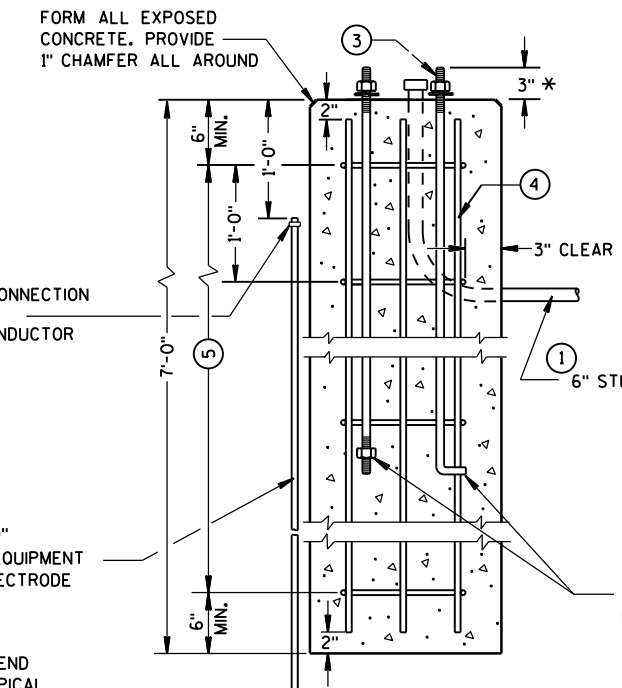
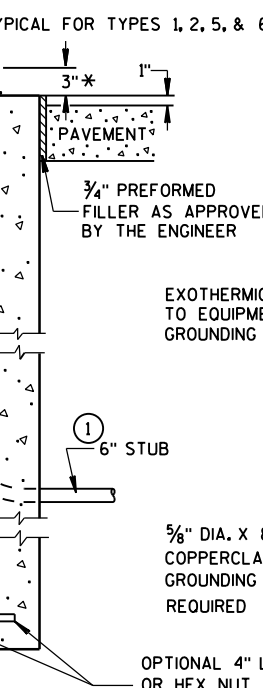
- 1 THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.
- 2 (4) 1" DIA. X 3'-6" ANCHOR RODS.
- 3 (4) 1" DIA. X 5'-0" ANCHOR RODS.
- 4 (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.
- 5 (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.
- 6 (4) 1" DIA. X 3'-6" ANCHOR RODS.
- 7 (6) NO. 4 X 4'-8" BAR STEEL REINFORCEMENT.
- 8 (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

HALF SECTION IN UNPAVED AREA
(TYPICAL FOR TYPES 1, 2, 5, & 6)



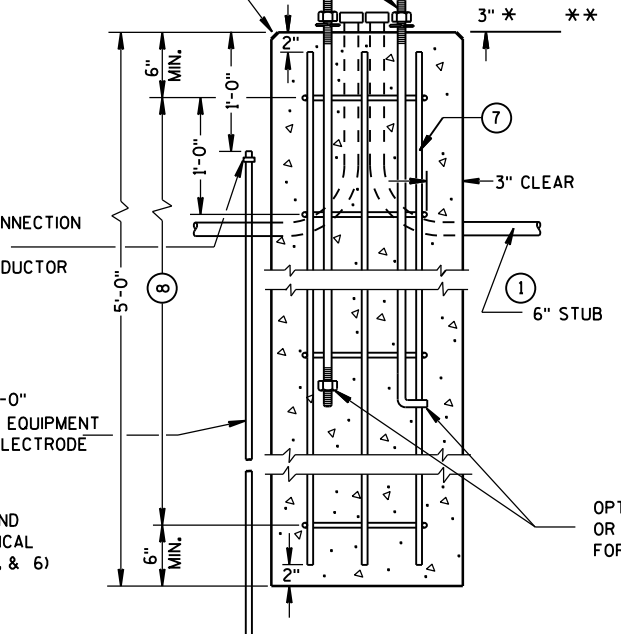
TYPE 1

HALF SECTION IN PAVEMENT
(TYPICAL FOR TYPES 1, 2, 5, & 6)



TYPE 2

FORM ALL EXPOSED CONCRETE. PROVIDE 1" CHAMFER ALL AROUND



TYPE 5 & 6

CONCRETE BASES

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2 3/4" OR LONGER THAN 3 1/4" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 4 1/2" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

CONCRETE BASES,
TYPES 1, 2, 5, & 6

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL ENGINEER
FHWA

GENERAL NOTES

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

FOUR (4) BOLTS SHALL BE FURNISHED WITH EACH TRANSFORMER BASE. BOLTS SHALL BE 1" DIAMETER, 4" IN LENGTH, WITH WASHERS, LOCK WASHERS AND NUTS. BOLTS, NUTS AND WASHERS SHALL BE MANUFACTURED IN ACCORDANCE WITH SECTION 641.2.2 OF THE STANDARD SPECIFICATIONS.

LEVELING SHIMS, IF NEEDED, SHALL BE DESIGNED FOR THE PURPOSE AND USED UNDER CAST BASES WHEN PLUMBING POLES OR STANDARDS DURING INSTALLATION. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE.

SHIM LENGTH SHALL BE LONG ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.

DOUBLE NUTTING IS NOT ACCEPTABLE FOR LEVELING OR MOUNTING PURPOSES.

A NEMA APPROVED, U.L. LISTED, COPPER WITH BRASS OR STAINLESS STEEL SET SCREW, DIRECT BURY RATED, MECHANICAL CONNECTOR (LUG), SIZED TO ACCEPT AWG. #10 TO #4 COPPER STRANDED WIRE SHALL BE FURNISHED AND INSTALLED IN THE PEDESTAL AND TRANSFORMER BASES.

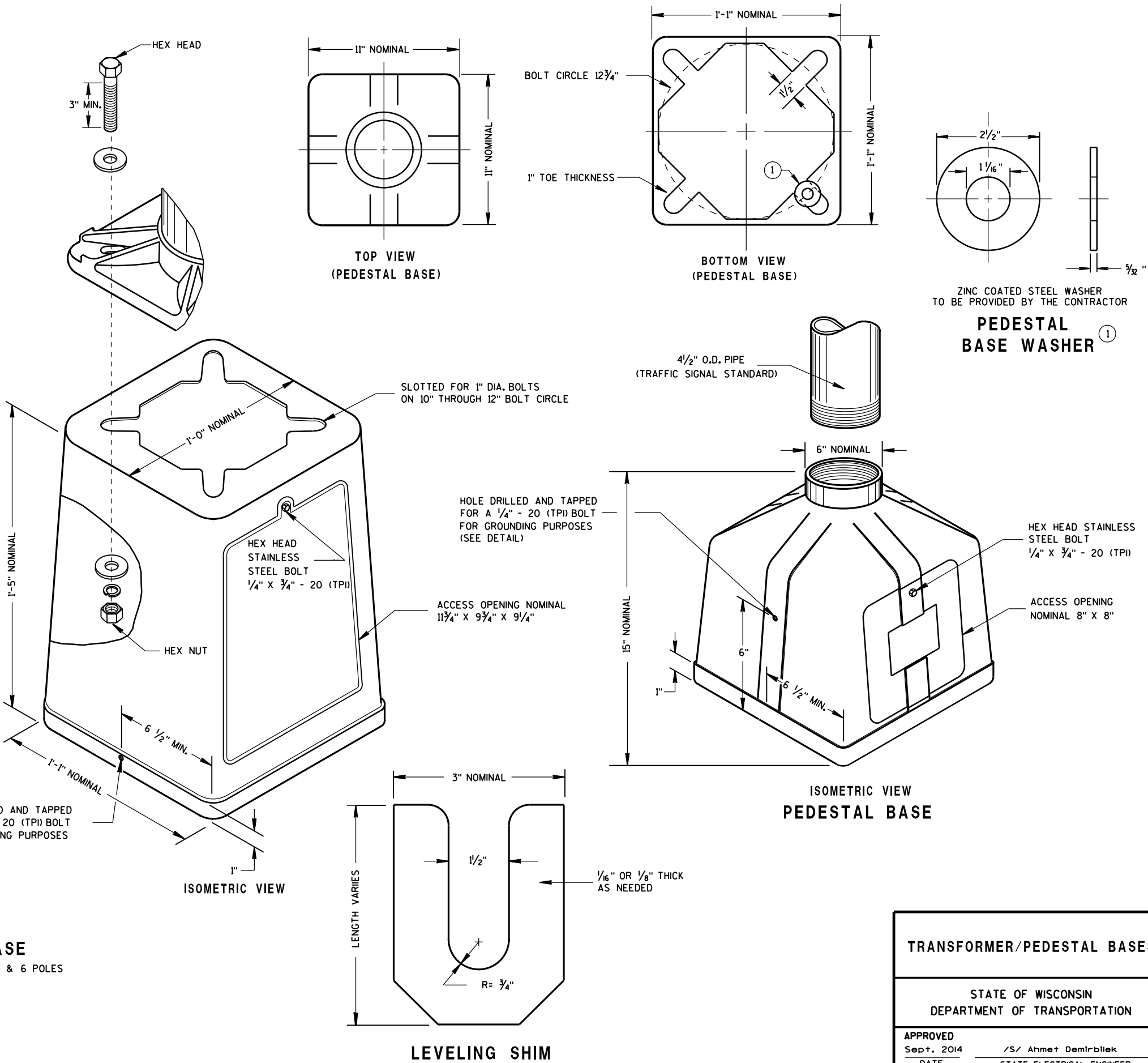
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

PEDESTAL BASE COLLAR THREADING SHALL BE TAPERED AND IN ACCORDANCE WITH NATIONAL PIPE THREADING DIMENSIONS.

BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.



TYPICAL MECHANICAL
CONNECTOR LUG
TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE
INTENDED FOR USE WITH TYPE 2, 3, 4, 5 & 6 POLES

TRANSFORMER/PEDESTAL BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL ENGINEER
FHWA



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

THE EXACT LOCATION OF THE METER BREAKER PEDESTAL SHALL BE DETERMINED BY THE ENGINEER IN THE FIELD.

THE TYPE OF CONCRETE CABINET BASE TO BE INSTALLED SHALL BE AS CALLED FOR IN THE PLANS.

TO FACILITATE FLUSH MOUNTING OF THE METER BREAKER PEDESTAL AGAINST THE SIDE OF THE CABINET BASE (IF FLUSH MOUNTING POSSIBLE. CONFER WITH THE LOCAL UTILITY TO DETERMINE WHICH SIDE OF THE CONCRETE BASE THE ELECTRICAL SERVICE LATERAL WILL APPROACH. THEN FORM THAT INDICATED SIDE FOR FULL SIDE DEPTH.

WHILE FLUSH MOUNTING IS THE MOST DESIRABLE MOUNTING CONFIGURATION UTILITY REQUIREMENTS MAY PRECLUDE THIS OPTION. CONTRACTOR MUST PROVIDE UTILITY APPROVED PEDESTAL AND INSTALL PER UTILITY AND MANUFACTURERS REQUIREMENTS.

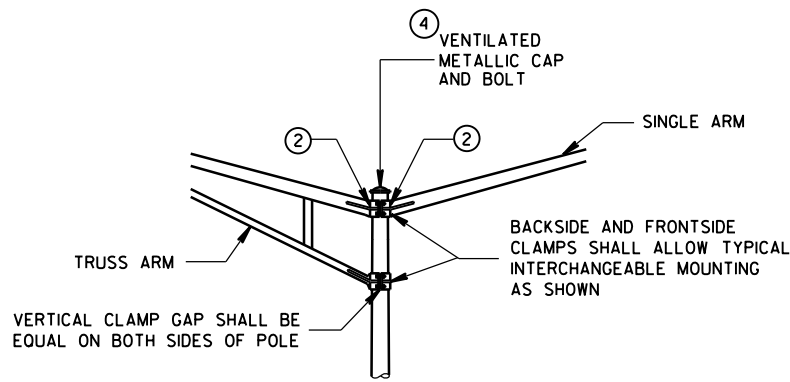
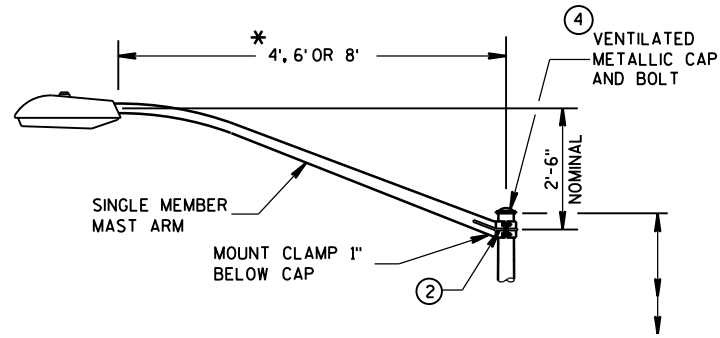
SERVICE CONDUCTOR ENTRANCES SHALL BE RIGID METALLIC CONDUIT, NIPPLES AND/OR CONDULETS AS REQUIRED.

SERVICE CONDUCTOR ENTRANCES SHALL BE SIZED AND LOCATED AS REQUIRED BY THE LOCAL UTILITY AND IN ACCORDANCE WITH APPROPRIATE ARTICLES OF THE LATEST ACCEPTED NATIONAL ELECTRICAL CODE.

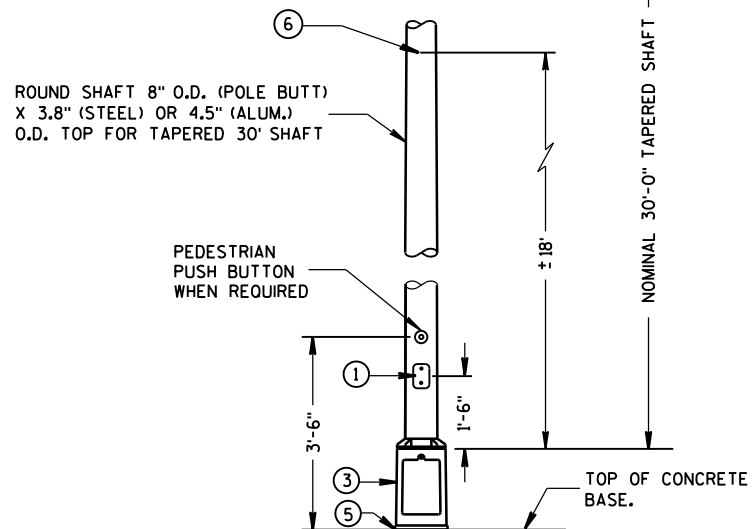
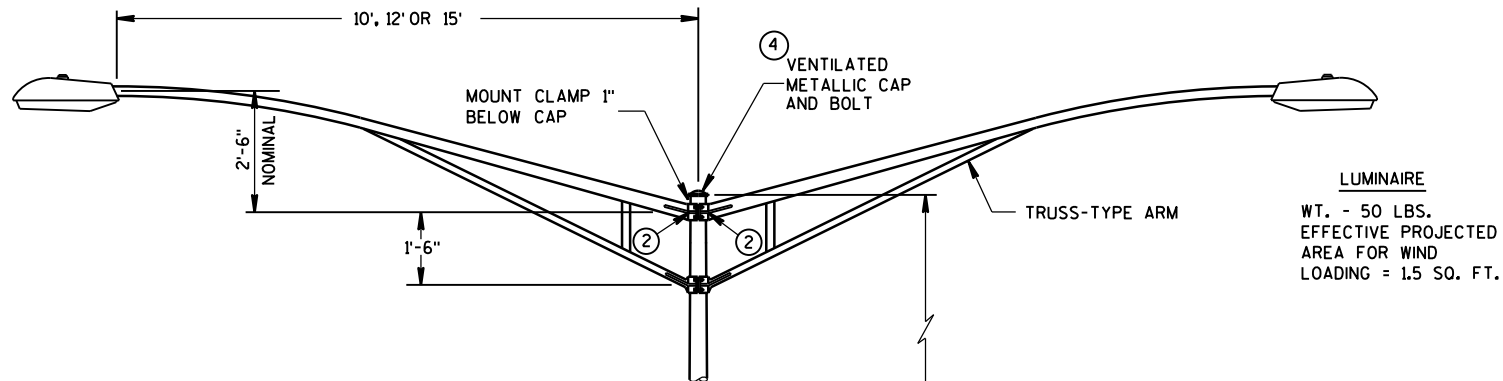
IF MORE THAN ONE GROUNDING ELECTRODE IS REQUIRED, THE DISTANCE APART SHALL BE 6 FEET OR PER LOCAL UTILITY REGULATIONS.

* SOME PEDESTAL LIGHTING PLANS SHOW MAIN LUGS ONLY.

* RISE FOR 4' ARM SHALL BE 2'-0".



INTERCHANGEABLE MOUNTING DETAIL



TYPE 5 POLE MOUNTING CONFIGURATION
(MAXIMUM LOAD)
LIGHTING ONLY

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.
ALL TYPE 5 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL OR ALUMINUM, AS CALLED FOR IN THE CONTRACT.

TYPE 5 ALUMINUM POLES SHALL BE CONSTRUCTED OF 6063-T6 ALUMINUM ALLOY. SLEEVING INSIDE THE POLE IS NOT ACCEPTABLE.

THE TYPE 5 ALUMINUM POLES SHALL HAVE A MINIMUM WALL THICKNESS OF 0.188".

TYPE 5 STEEL POLES SHALL HAVE A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (.1196").

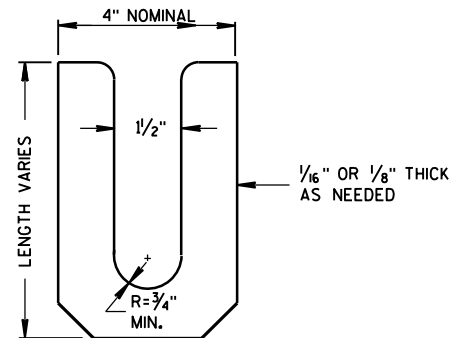
THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2 3/8 INCHES IN OUTSIDE DIAMETER. THE STRAIGHT PORTION OF THE SLIPFITTER END OF THE LUMINAIRE ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

WHEN TRANSFORMER BASES ARE USED, WIRE CONECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

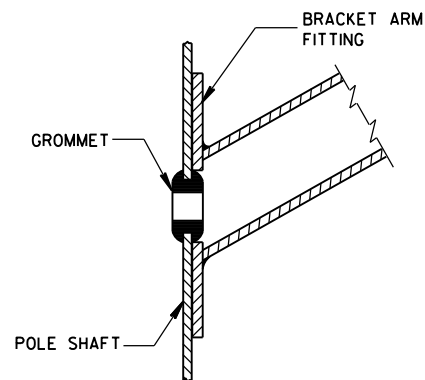
- ① 4" x 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) 1/4" x 3/4" - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.
- ② GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1 3/8" HOLE IN POLE SHAFT FOR WIRING.
- ③ CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.
- ④ FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) 1/4" x 3/4" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.
- ⑤ SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND THE TRANSFORMER BASE.
- ⑥ INTERNAL DUMBBELL-TYPE VIBRATION DAMPER.

POLE MONTINGS FOR
LIGHTING UNITS, TYPE 5
(30 FEET)

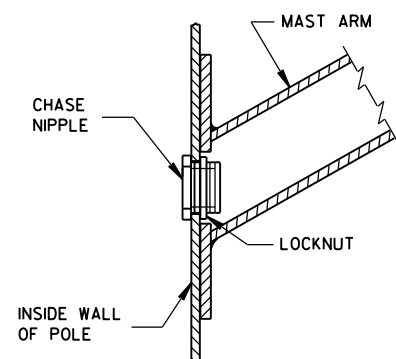
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LEVELING SHIM
SHALL BE ALUMINUM



TYPICAL APPLICATION OF GROMMET IN POLE SHAFT



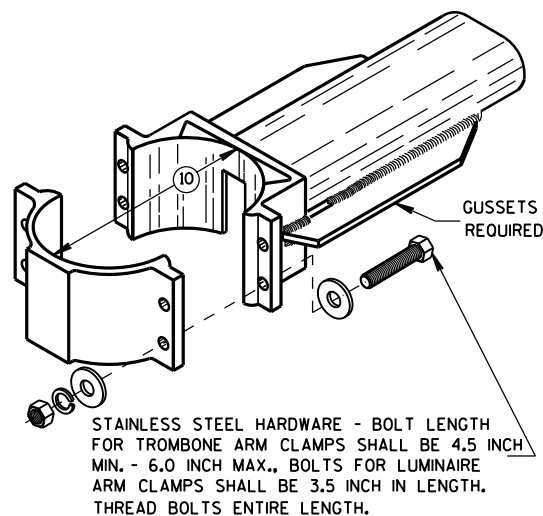
TYPICAL APPLICATION OF CHASE NIPPLE IN POLE SHAFT

GENERAL NOTES

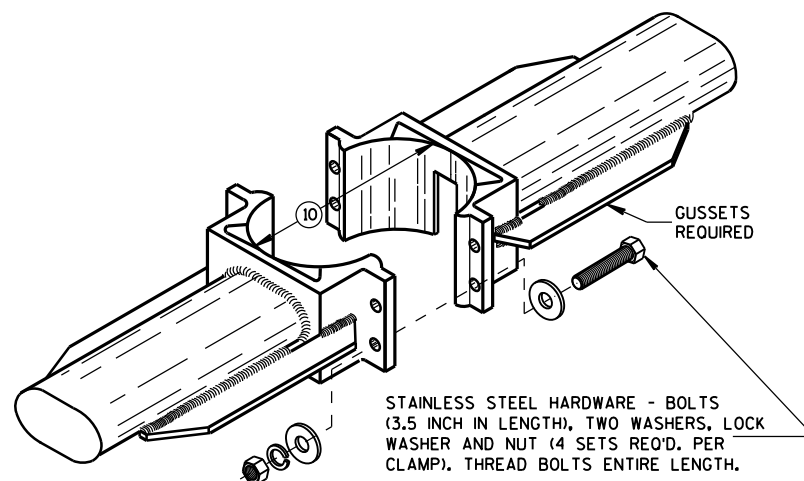
CLAMP BOLT-NUT TIGHTENING TORQUE SHALL BE INDICATED BY INDENT STAMPING (1/2 INCH NUMERALS AND LETTERS) OR WEATHERPROOF PRINTING ON THE INSIDE OF THE CLAMP THAT IS WELDED TO THE ARM MEMBER.

- ⑩ 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP.
6.625" I.D. FOR TROMBONE MAST ARM CLAMP.
- ⑪ INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)
- ⑫ BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT
CIRCLE USING 1" DIAMETER ANCHOR RODS.
- ⑬ LEVELING SHIMS, DESIGNED FOR THE PURPOSE, SHALL BE USED WHEN PLUMBING
POLES. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT
ACCEPTABLE. LEVELING SHIMS SHALL BE USED ONLY BETWEEN THE TOP OF THE
CONCRETE BASE AND A METALLIC BASE PLATE.

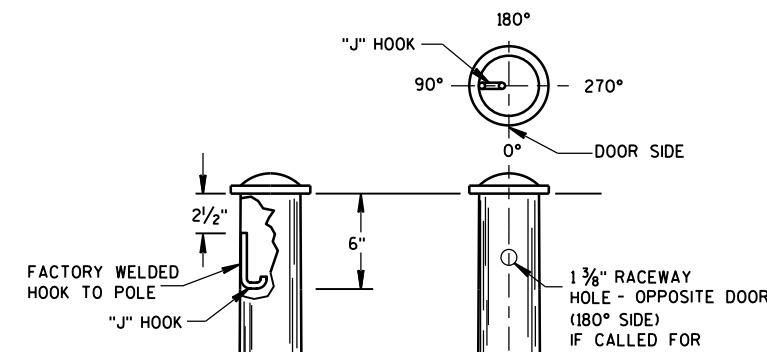
SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE
AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



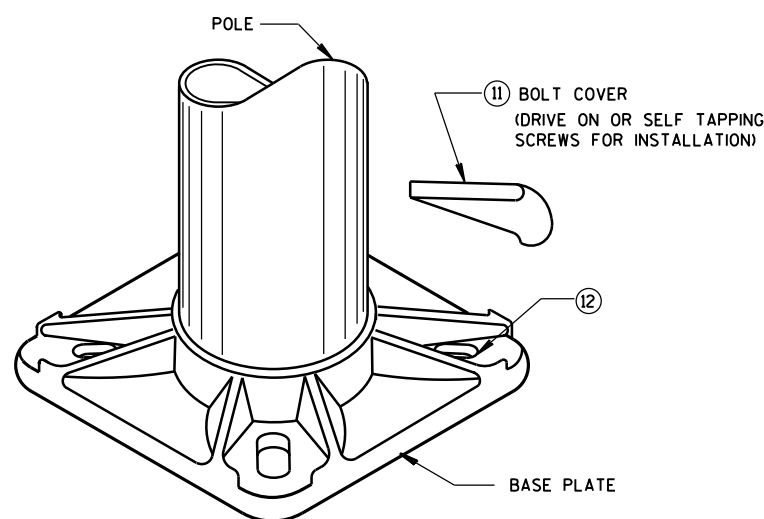
TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP



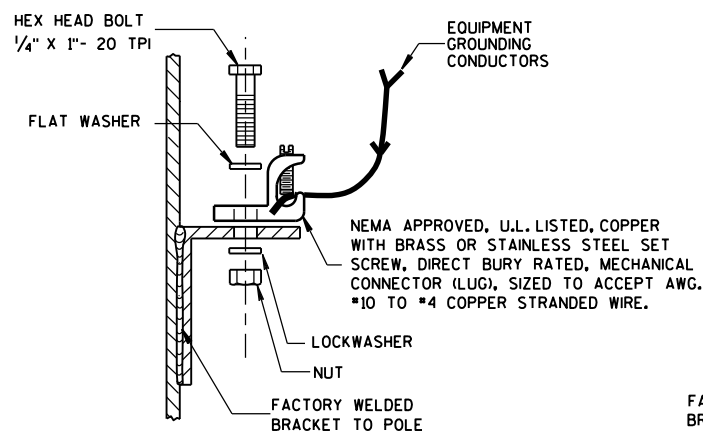
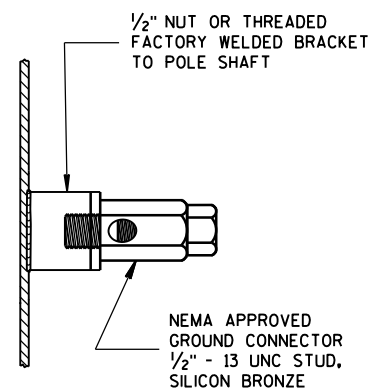
TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS



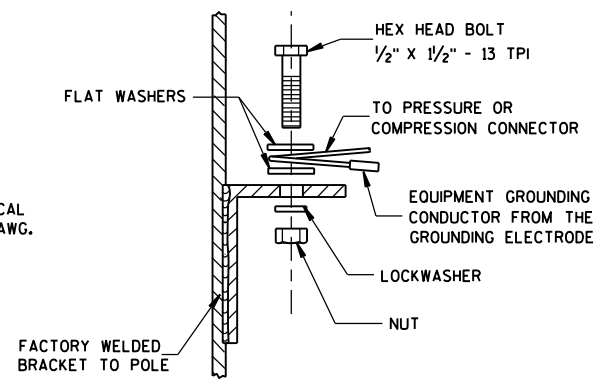
TYPICAL "J" HOOK LOCATION



BASE PLATE



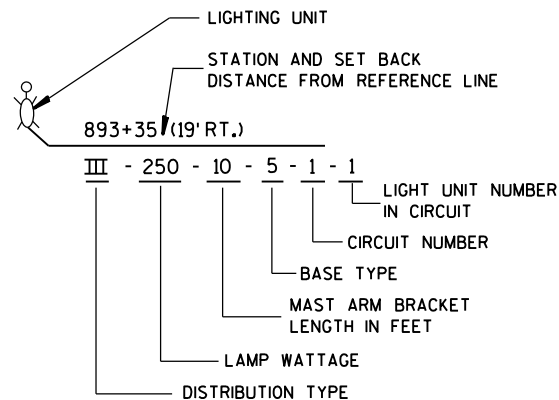
TYPICAL GROUNDING CONNECTIONS
NUT, BOLT AND WASHERS SHALL
BE STAINLESS STEEL



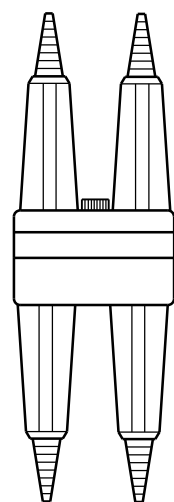
HARDWARE DETAILS FOR POLE MOUNTINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

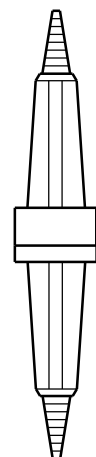
APPROVED
Feb. 2015
DATE /S/ Ahmet Demirbilek
STATE ELECTRICAL ENGINEER
FHWA



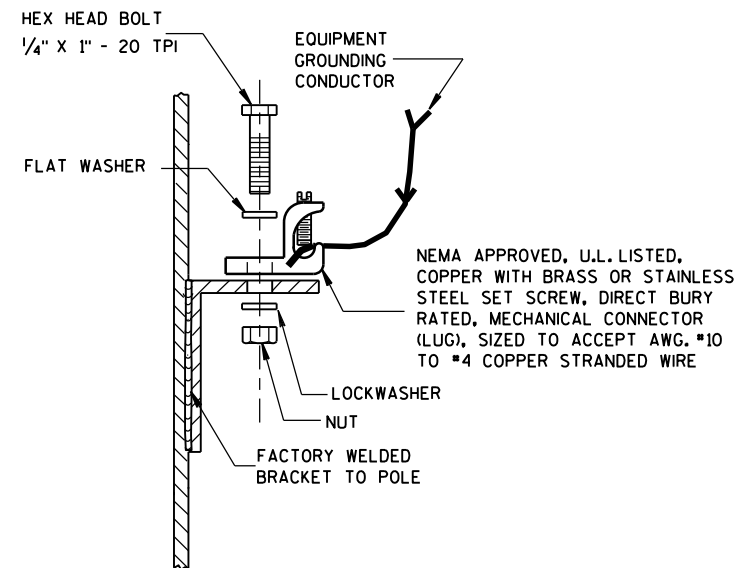
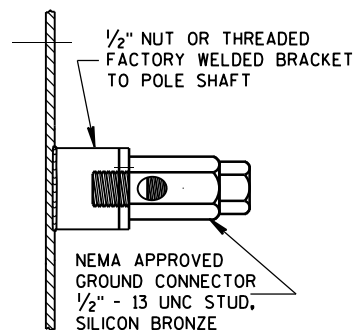
LIGHTING UNIT CODE
(TYPICAL)



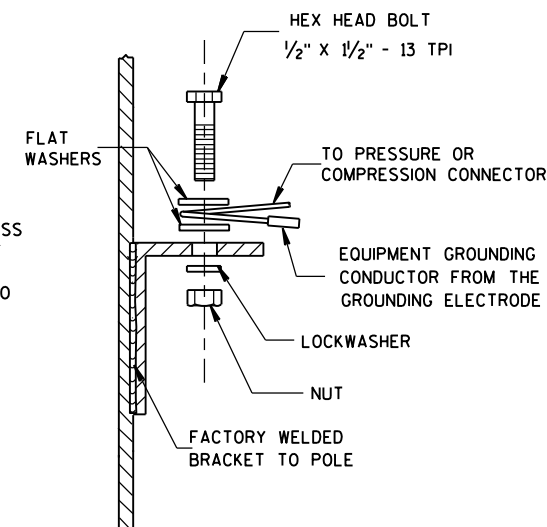
DETAIL "A"
BREAKAWY
DOUBLE POLE WITH
WATERPROOF
INSULATING BOOT



DETAIL "B"
BREAKAWY
SINGLE POLE WITH
WATERPROOF
INSULATING BOOT



TYPICAL GROUNDING CONNECTIONS
NUT, BOLT, WASHERS AND LOCKWASHERS SHALL BE STAINLESS STEEL



GENERAL NOTES

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

THE EQUIPMENT GROUNDING CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND THEN 3 WRAPS (MINIMUM) OF APPROVED VINYL TAPE TO COVER SHARP WIRE ENDS AFTER THE CONNECTION IS COMPLETED.

WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.

ADDITIONAL CONDUCTORS
AND FUSE FOR TWIN
LIGHTING UNITS

EQUIPMENT GROUNDING
CONDUCTOR(S) TO LUMINAIRE(S)

APPROVED MECHANICAL TYPE
CONNECTOR FOR EQUIPMENT
GROUNDING CONDUCTORS.
COMPRESSION, CRIMP OR
WIRE NUT CONNECTORS ARE
NOT ALLOWED.

TYPICAL GROUNDING CONNECTION -
STAINLESS STEEL BOLT,
NUT AND WASHERS
1/2" X 1/2" - 13 TPI

AWG #4 (MIN.) BARE EQUIPMENT
GROUNDING CONDUCTOR.
NOTE: THIS WIRE SHALL BE
CONTINUOUS WITHOUT SPLICES
FROM THE GROUNDING ELECTRODE
TO THE EQUIPMENT GROUNDING
CONDUCTOR SPICE CONNECTOR.

INSULATED EQUIPMENT GROUNDING
CONDUCTORS FROM SYSTEM RACEWAY

EXOTHERMICALLY WELDED
TO GROUNDING ELECTRODE

CONDUCTORS TO
LUMINAIRES SHALL BE #12 AWG,
COPPER STRANDED, U.S.E. RATED,
XLP INSULATED. SINGLE
LIGHTING UNIT SHOWN

CIRCUIT TAGS, BOTH SIDES
OF ALL FUSES (TYPICAL)

IN LINE SINGLE POLE FUSE ASSEMBLY.
600 VAC, WITH 5 AMP FAST ACTING
FUSE (SEE DETAIL "B")
TAPE AND VARNISH
CRIMPED END FERRULES

HANDHOLE & COVER

18" PIGTAIL BETWEEN
CONNECTOR AND FUSEHOLDER

APPROVED INSULATED MULTITAP
TERMINAL BLOCK TYPE CONNECTORS.
COMPRESSION, CRIMP OR WIRE NUT
CONNECTORS ARE NOT ALLOWED.

INSULATED UNGROUNDED CIRCUIT
CONDUCTORS FROM SYSTEM RACEWAY

ALTERNATE PHASE UNGROUNDED
CIRCUIT CONDUCTOR PASSING
THROUGH THIS POLE

**3 WIRE - 120, 240 OR 480 VAC (UNGROUND CONDUCTOR)
WITH GROUNDED CONDUCTOR AND
WITH EQUIPMENT GROUNDING CONDUCTOR**

TWIN LIGHTING UNITS REQUIRE
INDIVIDUAL SETS OF UNGROUNDED
CONDUCTORS AND FUSE ASSEMBLY.

AWG #4 (MIN.) BARE EQUIPMENT
GROUNDING CONDUCTOR.
NOTE: THIS WIRE SHALL BE
CONTINUOUS WITHOUT SPLICES
FROM THE GROUNDING ELECTRODE
TO THE EQUIPMENT GROUNDING
CONDUCTOR SPICE CONNECTOR.

EQUIPMENT GROUNDING
CONDUCTOR(S) TO LUMINAIRE(S)

TYPICAL GROUNDING CONNECTION -
STAINLESS STEEL BOLT,
NUT AND WASHERS
1/2" X 1/2" - 13 TPI

APPROVED MECHANICAL TYPE
CONNECTOR FOR EQUIPMENT
GROUNDING CONDUCTORS.
COMPRESSION, CRIMP OR
WIRE NUT CONNECTORS ARE
NOT ALLOWED.

INSULATED EQUIPMENT GROUNDING
CONDUCTORS FROM SYSTEM RACEWAY

EXOTHERMICALLY WELDED
TO GROUNDING ELECTRODE

**2 WIRE - 240 OR 480 VAC (UNGROUND CONDUCTORS)
WITH EQUIPMENT GROUNDING CONDUCTOR**

CIRCUIT TAGS, BOTH SIDES
OF ALL FUSES (TYPICAL)

IN LINE FUSE ASSEMBLY
TWO POLE, 600 VAC,
WITH 5 AMP FAST ACTING
FUSE (SEE DETAIL "A")
TAPE AND VARNISH
CRIMPED END FERRULES

HANDHOLE & COVER

18" PIGTAIL BETWEEN
CONNECTORS AND FUSEHOLDERS

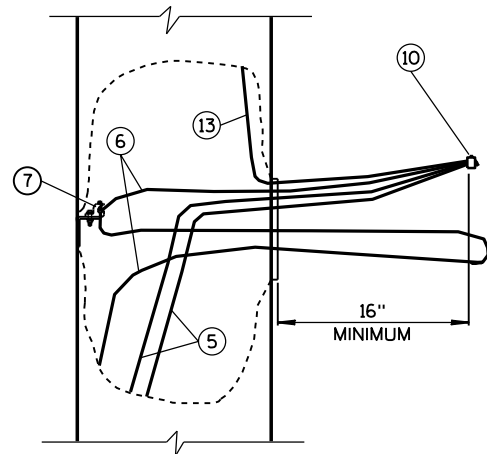
APPROVED INSULATED MULTITAP
TERMINAL BLOCK TYPE CONNECTORS.
COMPRESSION, CRIMP OR WIRE NUT
CONNECTORS ARE NOT ALLOWED.

INSULATED UNGROUNDED CIRCUIT
CONDUCTORS FROM SYSTEM RACEWAY

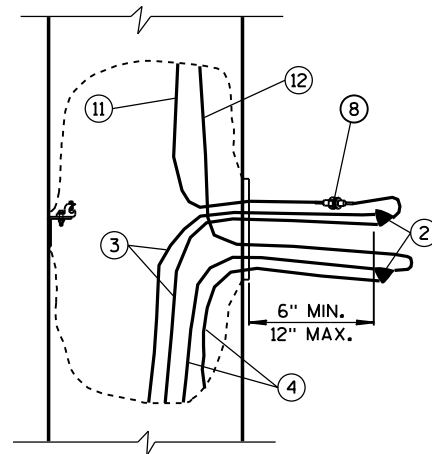
**NON-FREEWAY LIGHTING UNIT
POLE WIRING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

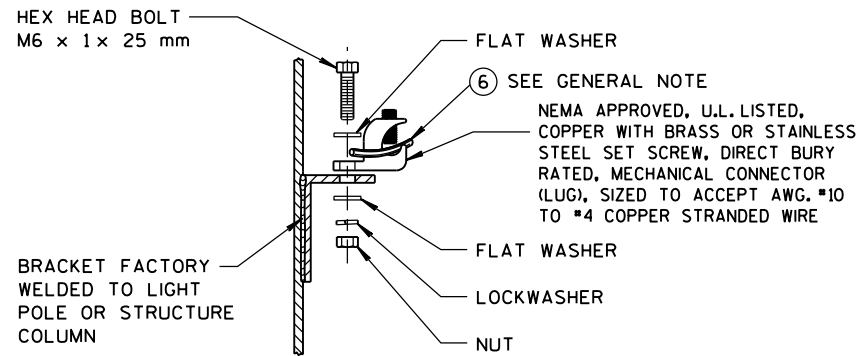
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Sept. 2014 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL ENGINEER
FHWA



EQUIPMENT GROUNDING
CONDUCTOR SLACK



UNGROUND CONDUCTOR SLACK
(AND GROUNDED NEUTRAL SLACK
IN GROUNDED NEUTRAL SYSTEM)



HANDHOLE GROUNDING LUG

(NUT, BOLT, WASHERS, AND LOCK WASHERS
SHALL BE STAINLESS STEEL)

CONDUCTOR COLOR CODES

KEY	CONDUCTOR	COLOR
3	UNGROUND LINE WIRE	*
4	GROUNDED LINE WIRE	WHITE
5	SYSTEM GROUNDING LINE WIRE	GREEN
6	GROUNDING ELECTRODE CONDUCTOR	BARE
11	UNGROUND POLE WIRE	*
12	GROUNDED POLE WIRE	WHITE
13	EQUIPMENT GROUNDING POLE WIRE	GREEN

* FOLLOW COLOR CODING SHOWN IN THE PLANS.
WHERE THE PLANS DO NOT SHOW COLOR CODING,
USE BLACK FOR SINGLE LUMINAIRE POLES; BLACK
AND RED FOR TWIN LUMINAIRE POLES.



1 POLE (1P)



2 POLE (2P)

FUSE ASSEMBLIES

GENERAL NOTES

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

USE THIS DETAIL IN CONJUNCTION WITH THE ELECTRICAL DETAILS FOR THE
APPLICATION, WHICH MAY BE A LIGHT POLE, SIGN BRIDGE, ETC.

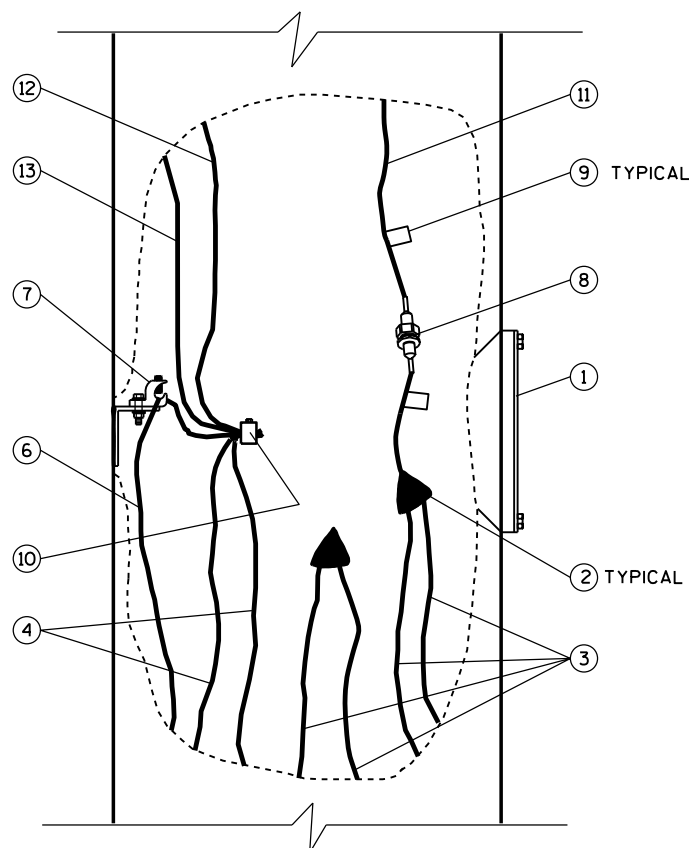
THE GROUNDING ELECTRODE CONDUCTOR SHALL BE CONTINUOUS WITHOUT
SPICES FROM THE GROUNDING ELECTRODE THROUGH THE HANDHOLE GROUNDING
LUG TO THE CONNECTOR.

THREE POLE WIRES ARE SHOWN FOR A SINGLE LUMINAIRE LIGHT POLE.
THREE ADDITIONAL POLE WIRES REQUIRED FOR TWIN LUMINAIRE LIGHT POLES
ARE OMITTED FROM THE DRAWING FOR CLARITY. IN THE TWIN POLE CASE,
BUNDLE EACH SET OF THREE WIRES WITH A NYLON CABLE TIE.

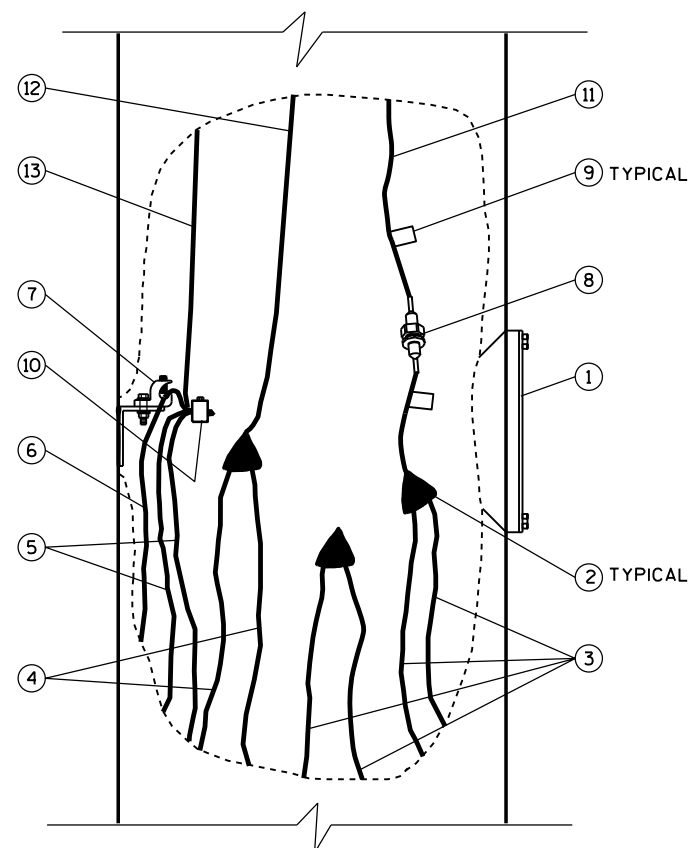
IN 3-PHASE SYSTEMS, THERE WILL BE ONE MORE UNGROUNDED LINE WIRE,
WHICH IS OMITTED FROM THE DRAWING FOR CLARITY.

CIRCUIT TAGS SHALL BE INSTALLED ONLY WHERE REQUIRED IN THE SPECIAL
PROVISIONS.

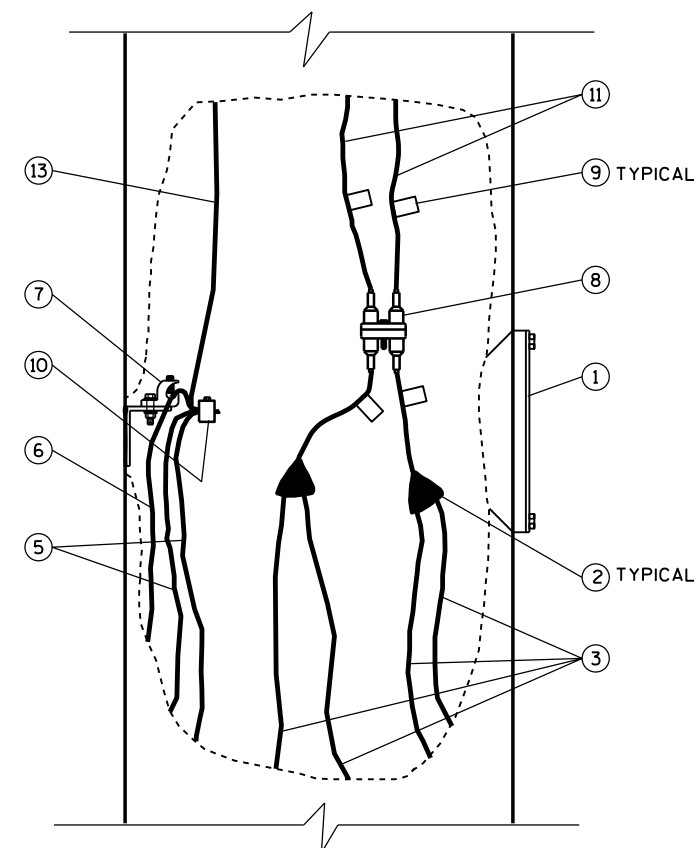
TYPICAL CONDUCTOR SLACK AT HANDHOLES



CUTAWAY HANDHOLE DETAIL
GROUNDED NEUTRAL SYSTEMS
1-φ



CUTAWAY HANDHOLE DETAIL
ISOLATED NEUTRAL SYSTEMS
1-φ SHOWN; 3-φ WYE SIMILAR
(SEE GENERAL NOTE)



CUTAWAY HANDHOLE DETAIL
PHASE-TO-PHASE SYSTEMS
1-φ SHOWN; 3-φ DELTA SIMILAR
(SEE GENERAL NOTE)

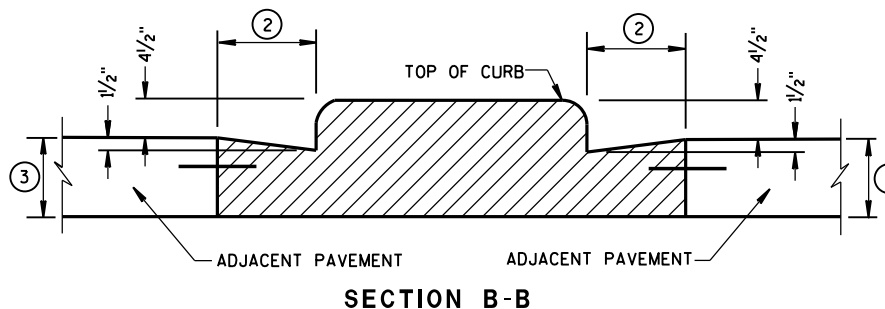
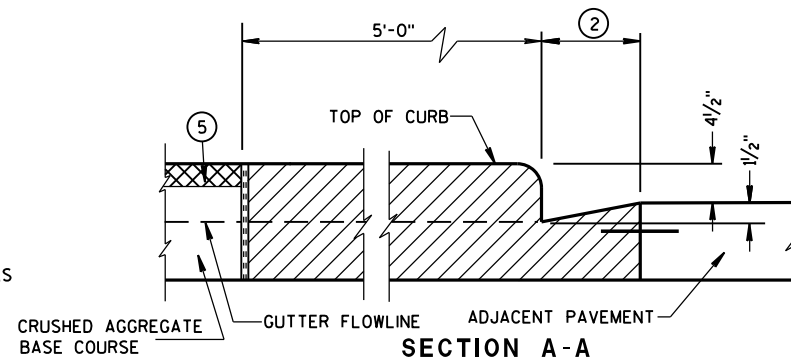
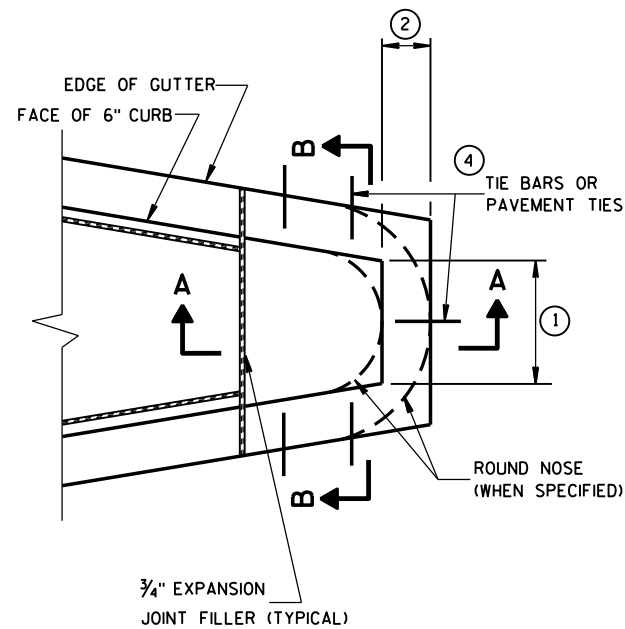
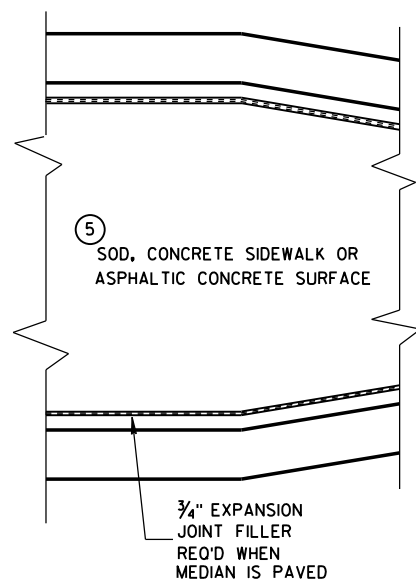
- HANDHOLE AND COVER
- INSULATED SPLICE
- UNGROUND LINE WIRE
- GROUNDED LINE WIRE
- SYSTEM GROUNDING LINE WIRE
- GROUNDING ELECTRODE CONDUCTOR
- HANDHOLE GROUNDING LUG
- FUSE ASSEMBLY, 1P OR 2P AS REQUIRED
- CIRCUIT TAG (SEE GENERAL NOTE)
- REVERSIBLE PRESSURE OR COMPRESSION
GROUNDING CONNECTOR (NOT INSULATED)
- UNGROUND POLE WIRE
- GROUNDED POLE WIRE
- EQUIPMENT GROUNDING POLE WIRE

ELECTRICAL HANDHOLE WIRING

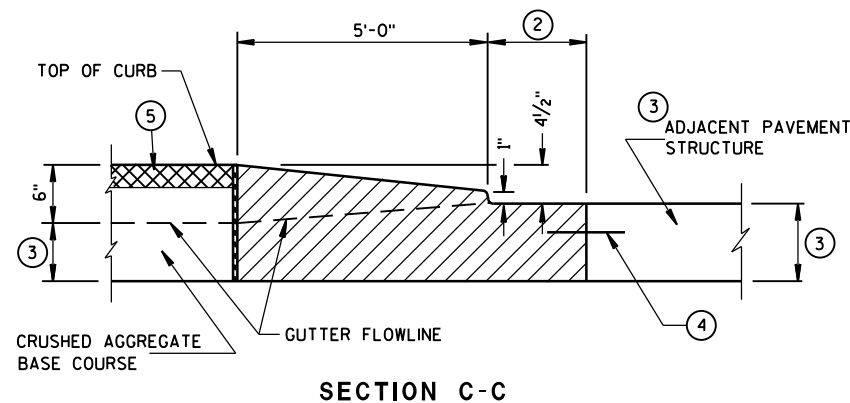
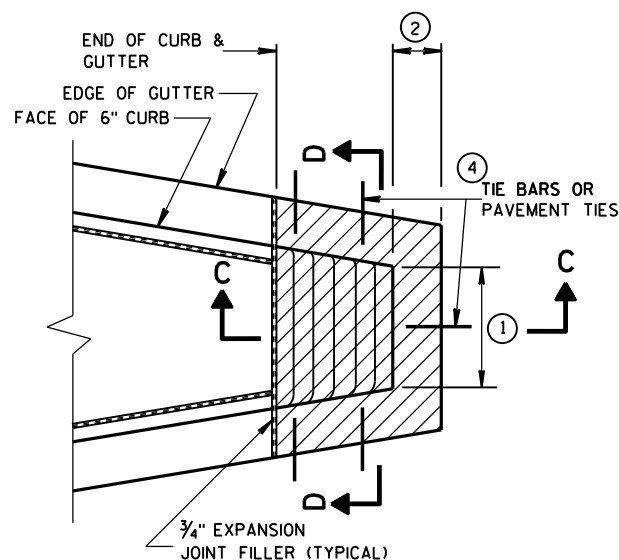
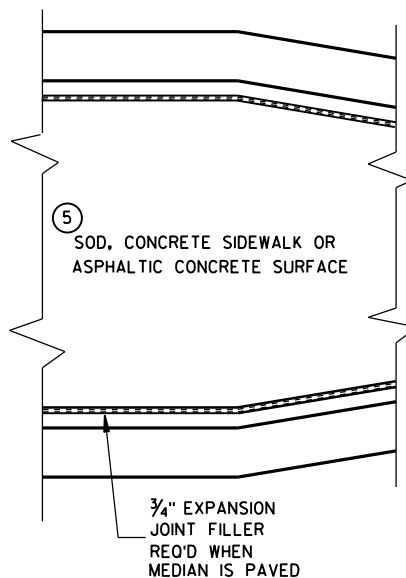
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 /S/ Ahmet Demirelek
DATE STATE ELECTRICAL ENGINEER
FHWA

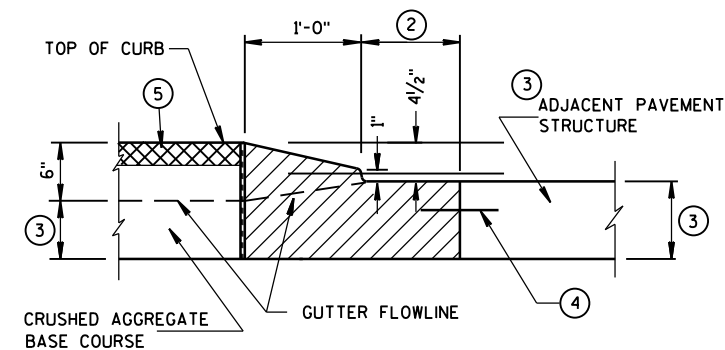
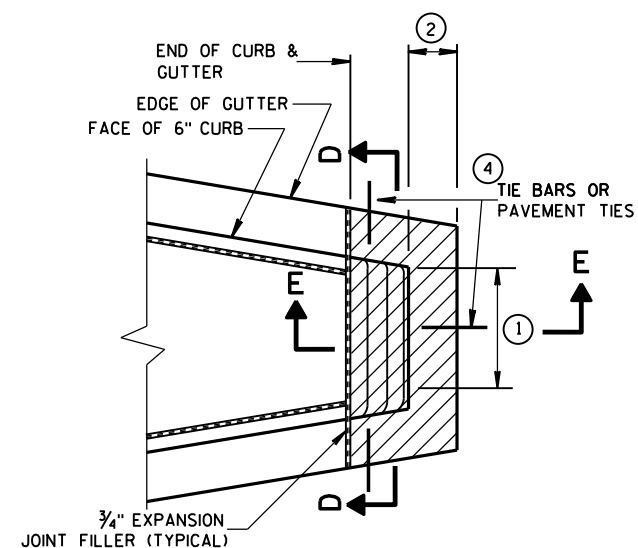
NOTE: REQUIRED CONDUCTOR SLACK NOT SHOWN ON "CUTAWAY HAND HOLE" DETAILS FOR
DRAWING CLARITY, SEE "TYPICAL CONDUCTOR SLACK AT HANDHOLES" ON THIS SHEET.



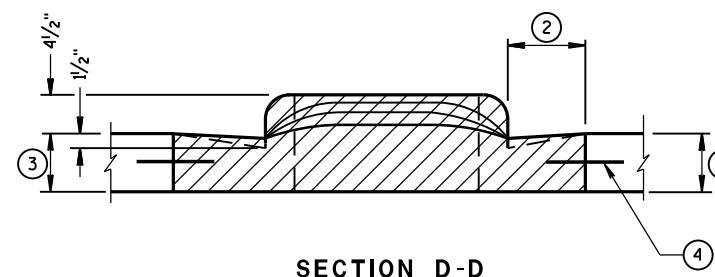
CONCRETE MEDIAN BLUNT NOSE DETAIL



CONCRETE MEDIAN SLOPED NOSE TYPE 1



CONCRETE MEDIAN SLOPED NOSE TYPE 2



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 SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).
- ② WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.
- ③ DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:
 - (1) NEW OR EXISTING CONCRETE PAVEMENT.
 - (2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.
 - (3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

- ④ TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

- ⑤ SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

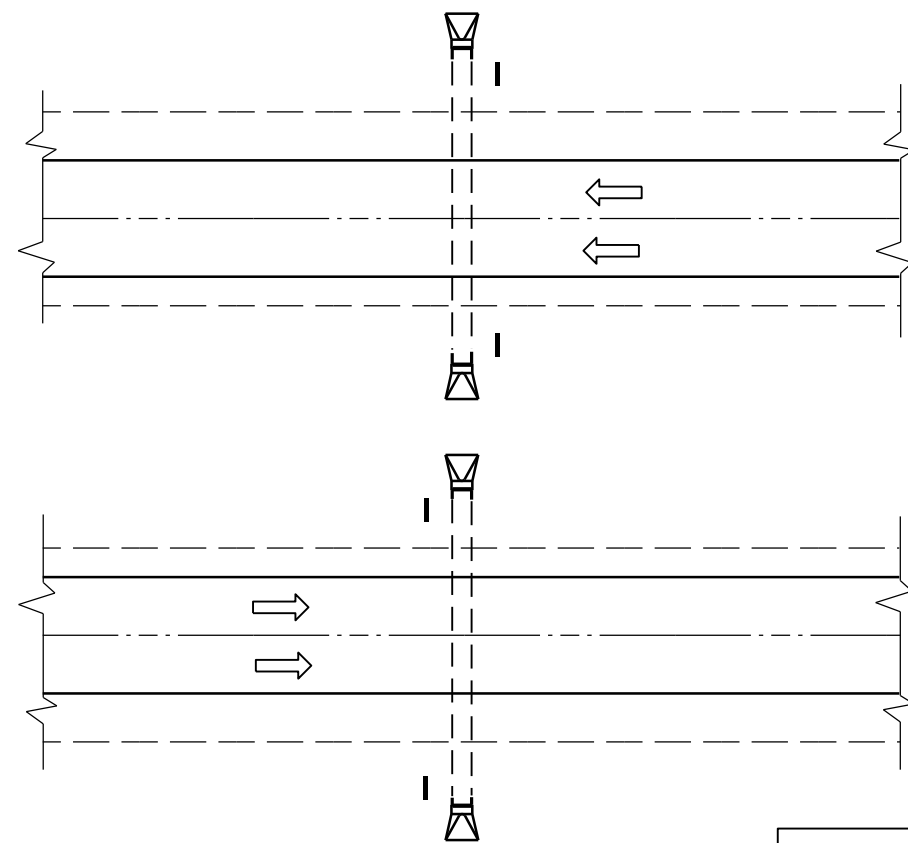
APPROVED

6/8/2006

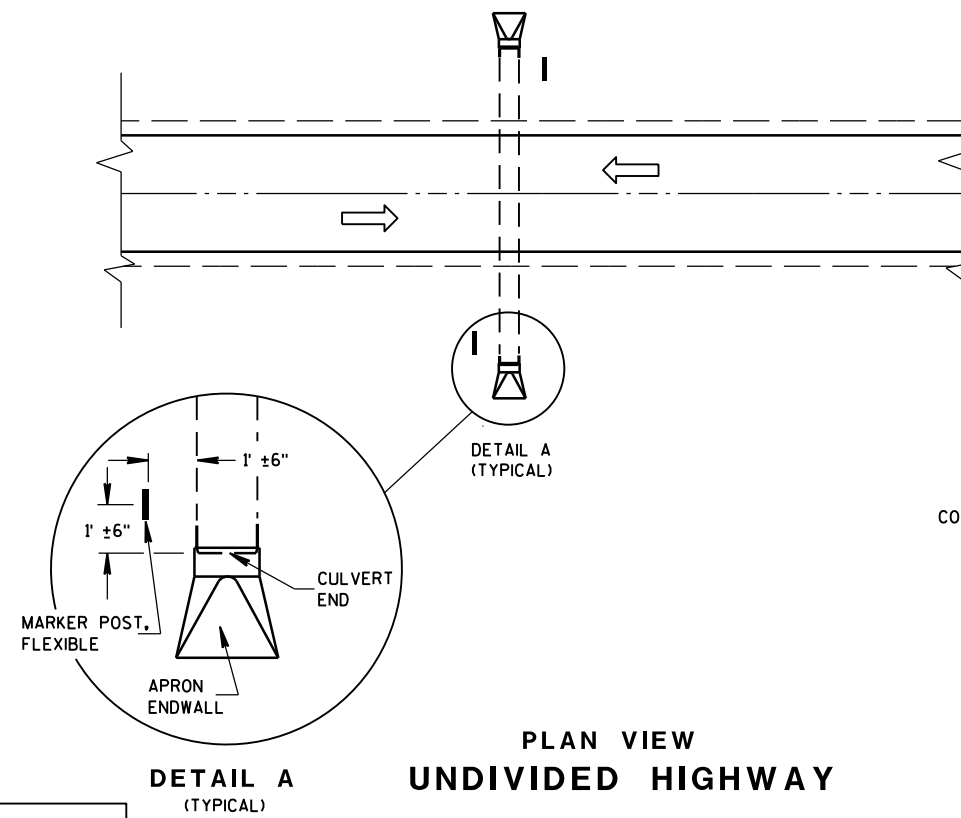
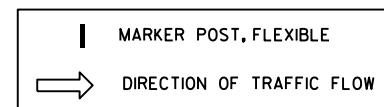
DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER



PLAN VIEW
DIVIDED HIGHWAY

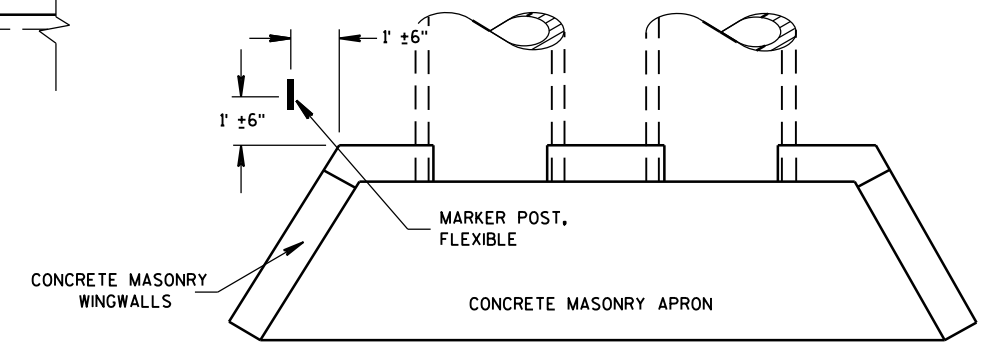


PLAN VIEW
UNDIVIDED HIGHWAY

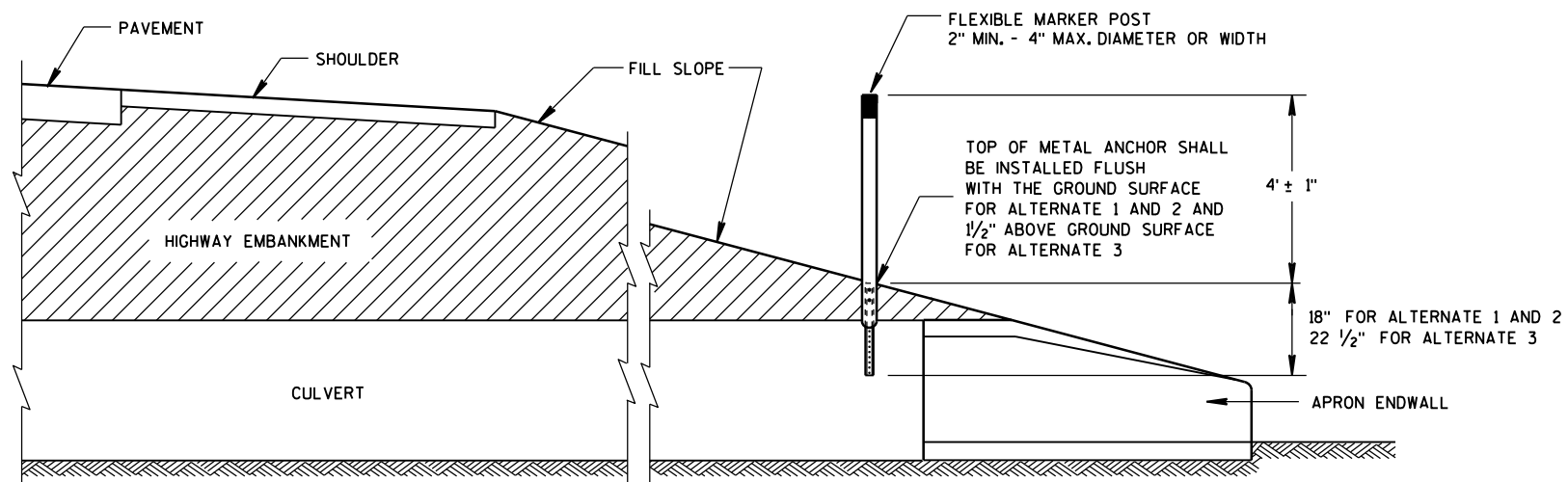
FLEXIBLE MARKER POST LOCATION

GENERAL NOTES

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



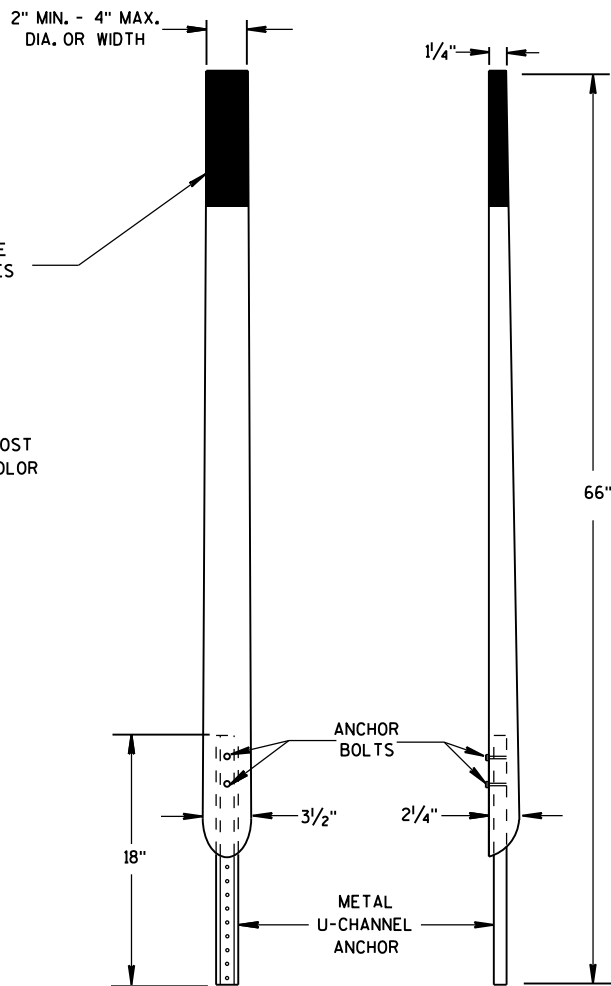
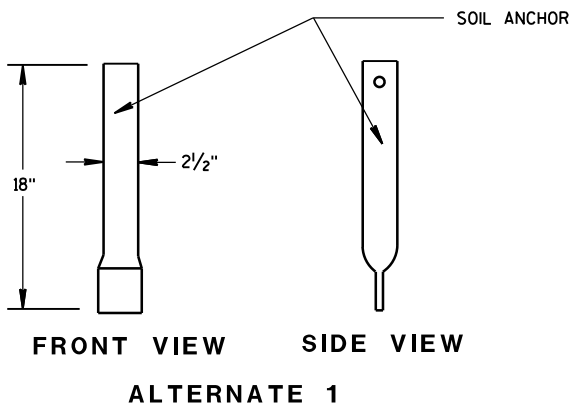
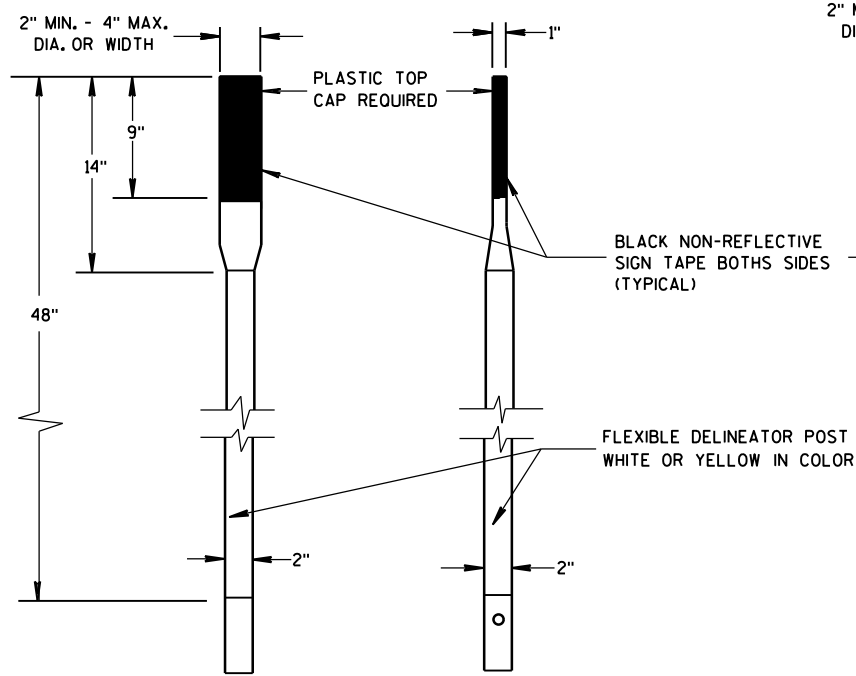
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



CROSS SECTION
FLEXIBLE MARKER POST

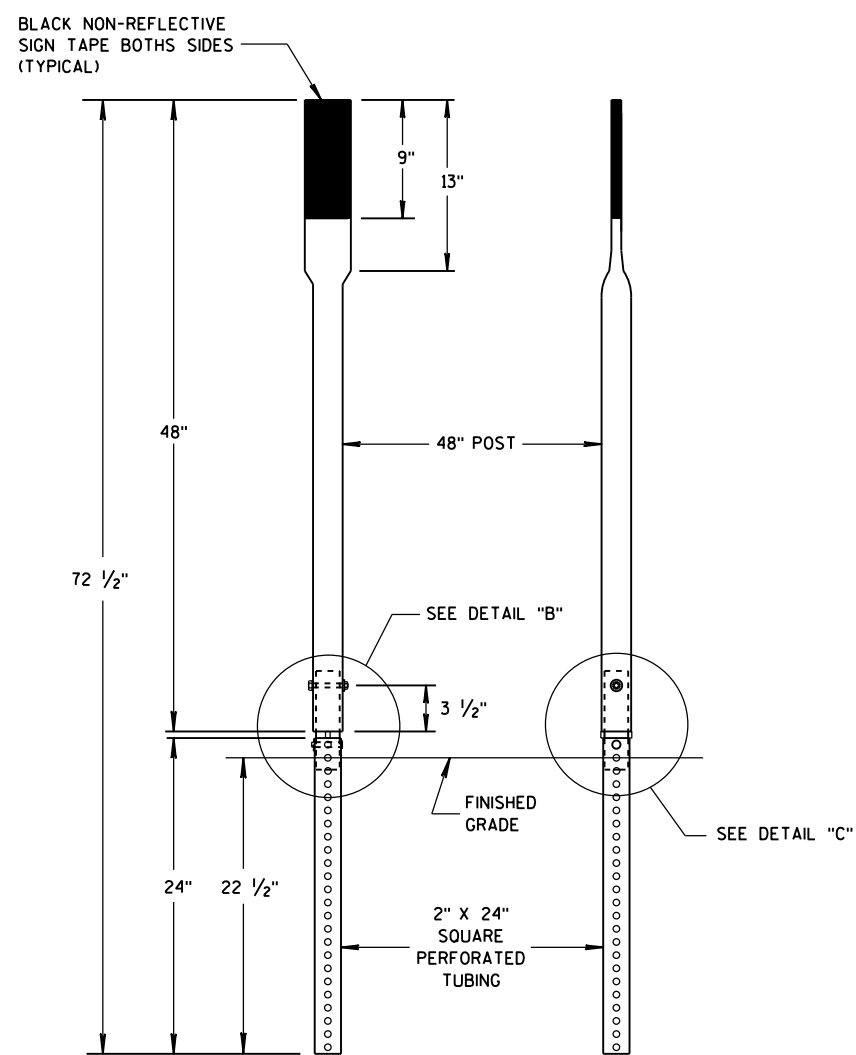
FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

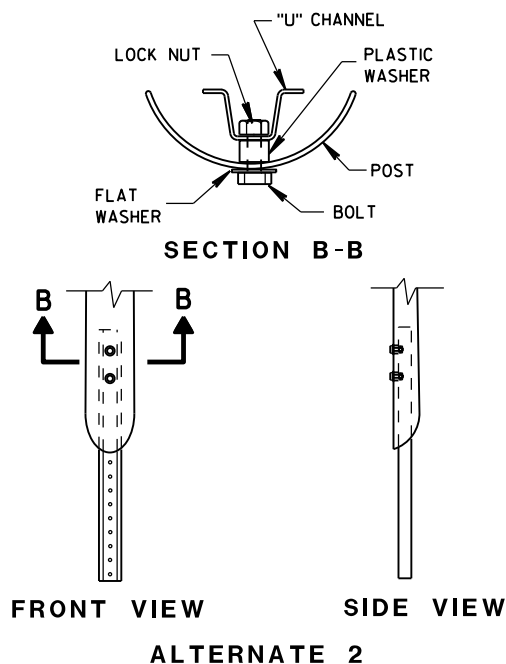
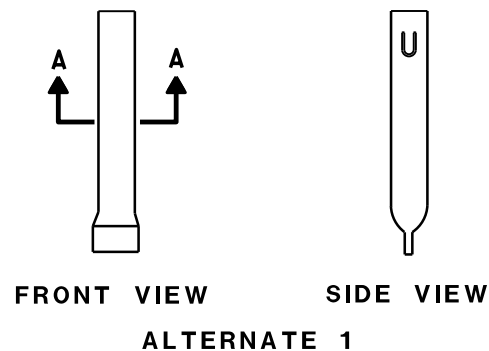
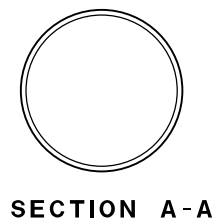
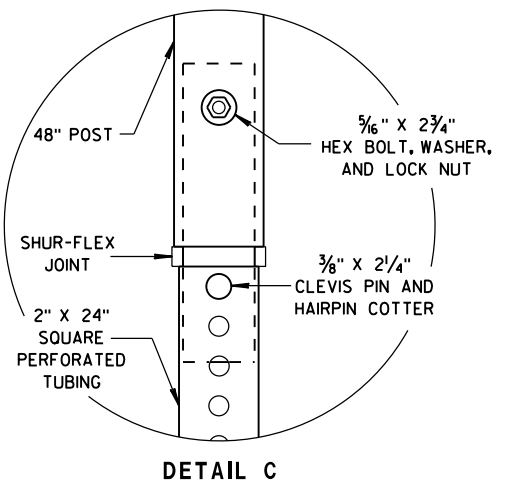
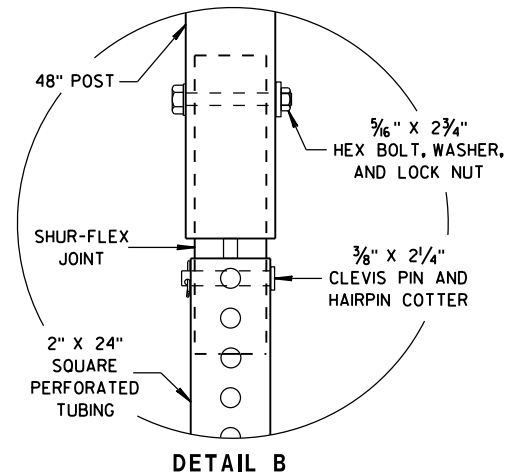
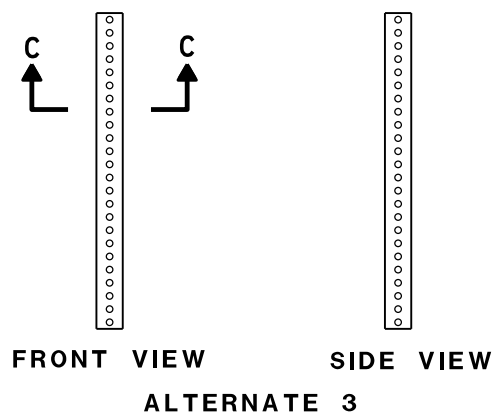
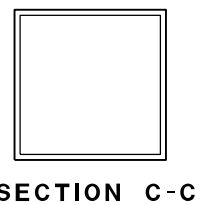


FRONT VIEW SIDE VIEW
ALTERNATE 2

FLEXIBLE MARKER POSTS



FRONT VIEW SIDE VIEW
ALTERNATE 3

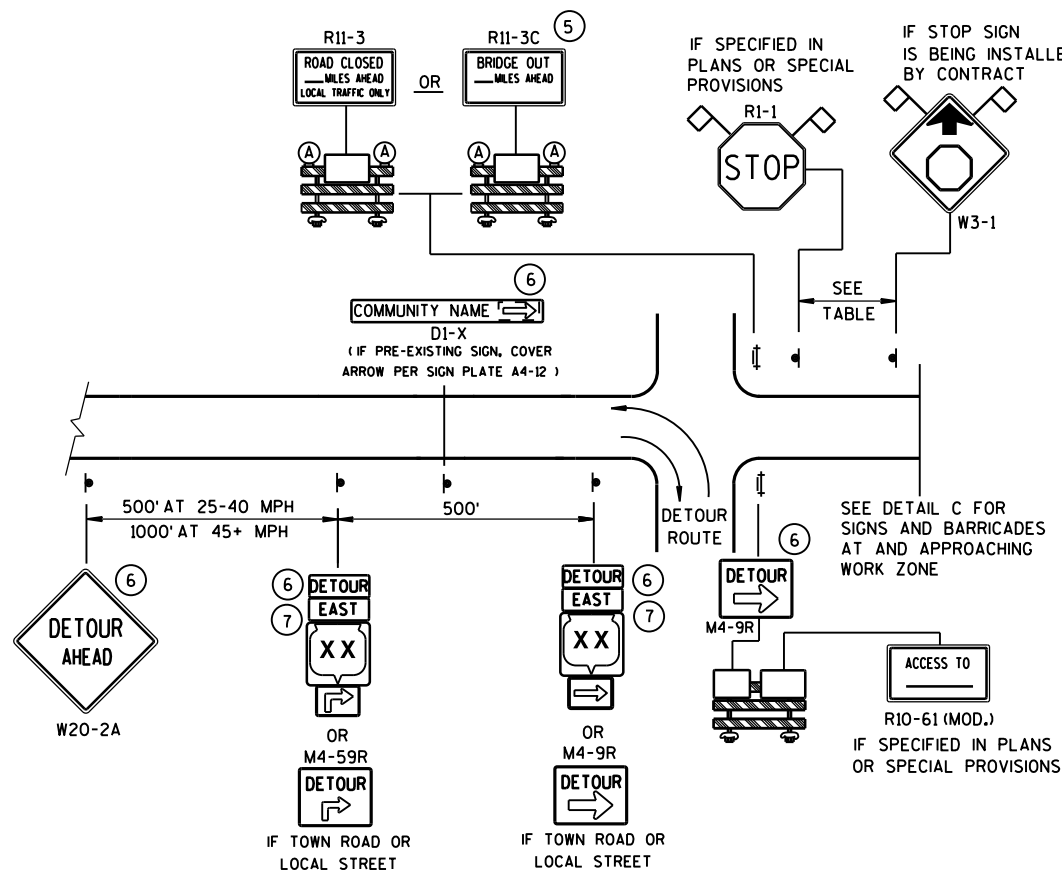


FLEXIBLE MARKER POST ANCHORS

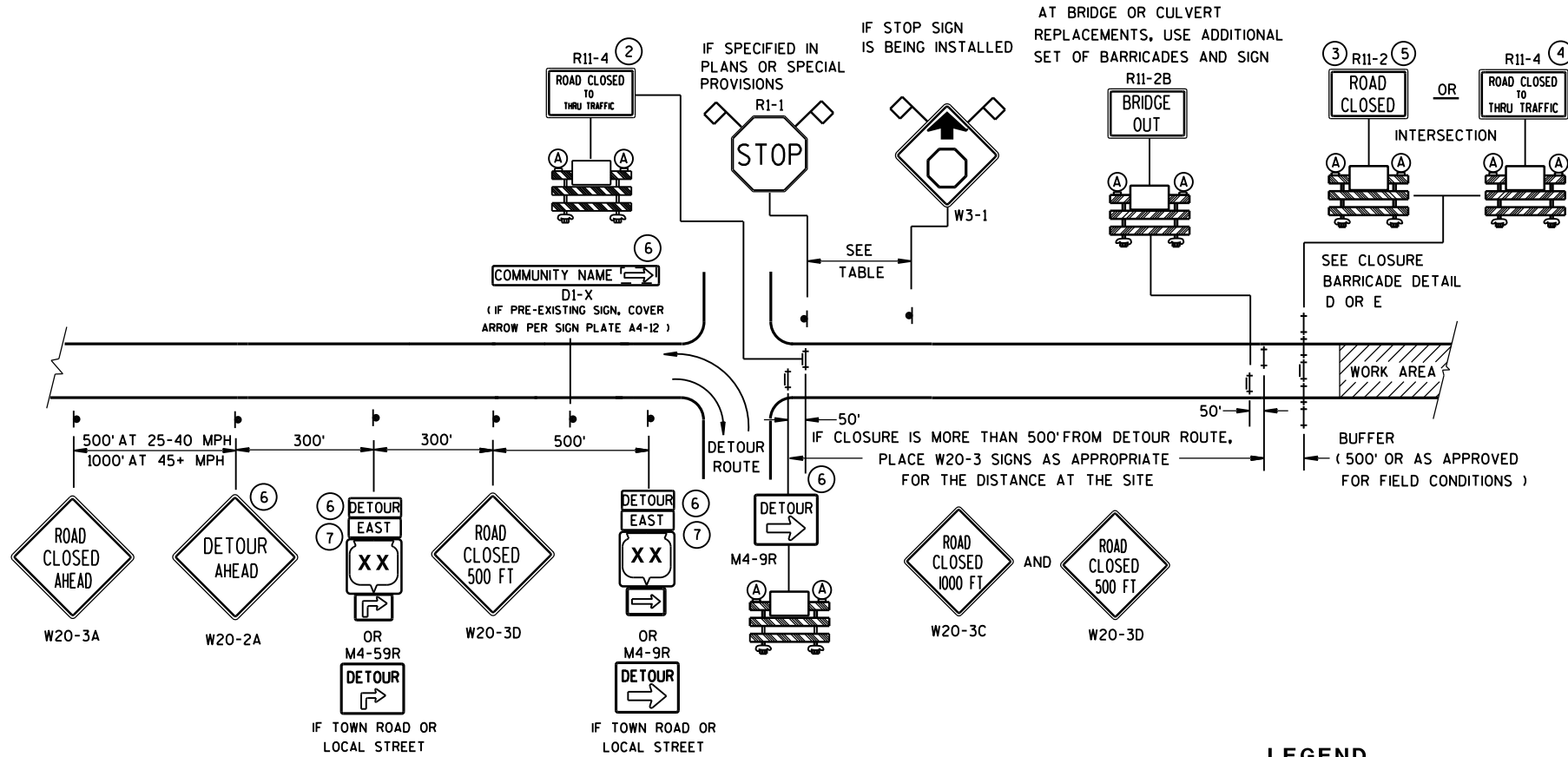
FLEXIBLE MARKER POST
FOR CULVERT END

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

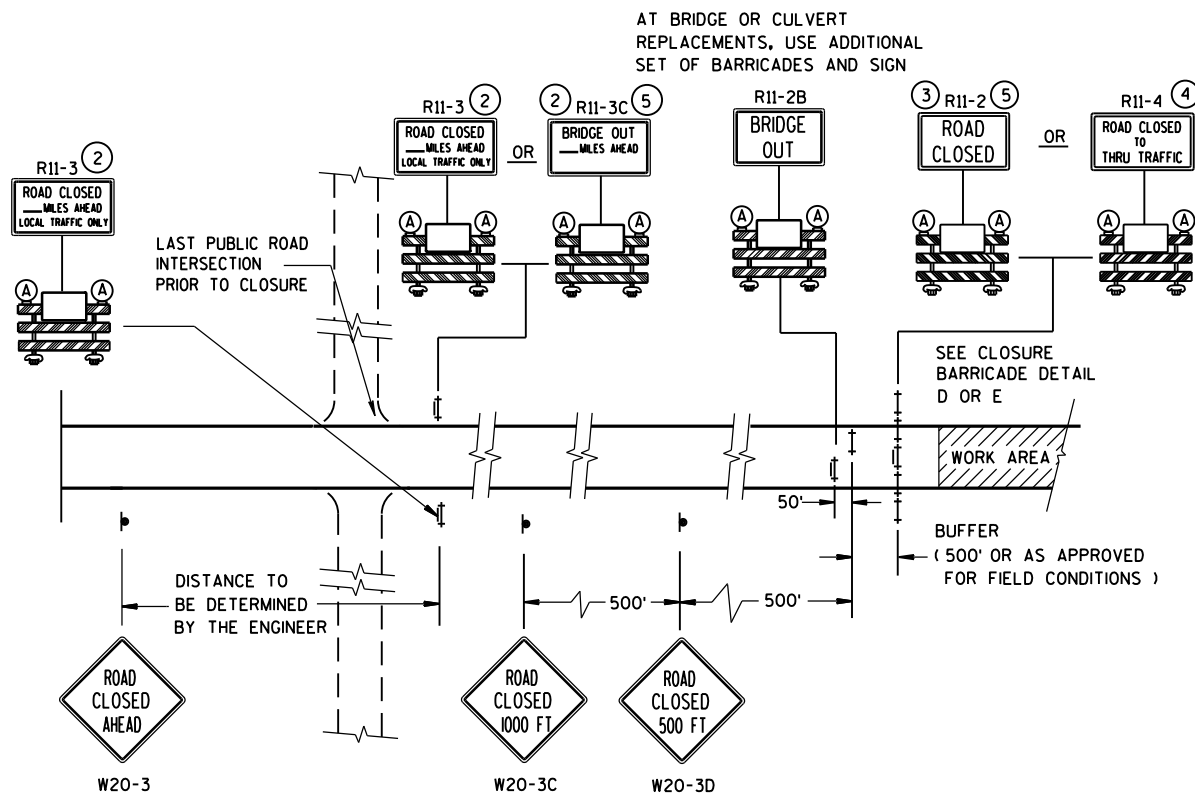
APPROVED
10/1/2012 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER OF DESIGN
FHWA



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE GREATER THAN 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

LEGEND

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

WORK AREA

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

M05-1 OR M06-1

FLAGS, 16" X 16" MIN., (ORANGE)

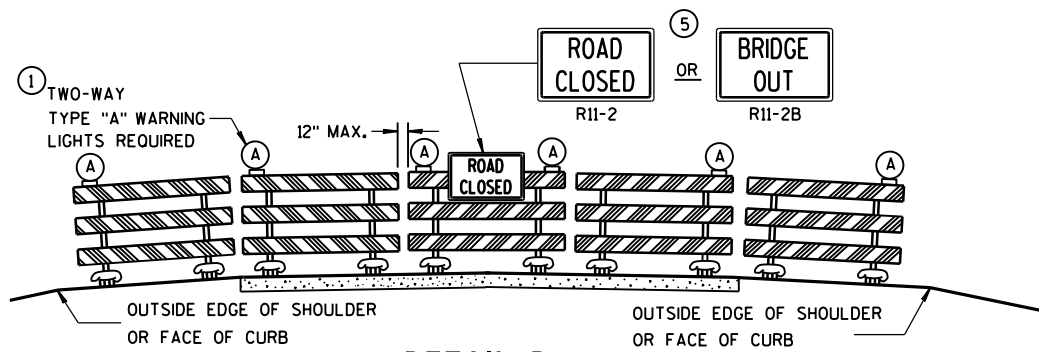
SPEED LIMIT (MPH)	"STOP AHEAD" ADVANCE WARNING DISTANCE (FT)
25	200
30	200
35	350
40	350
45	500
50	550
55	750

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

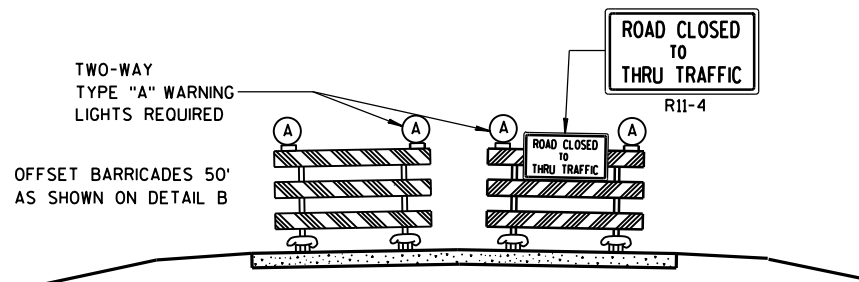
BARRICADES AND SIGNS
FOR
MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2-SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

R11-2 SHALL BE 48" X 30".

R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".

M4-9 SHALL BE 30" X 24".

M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)

M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)

M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)

M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)

D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.

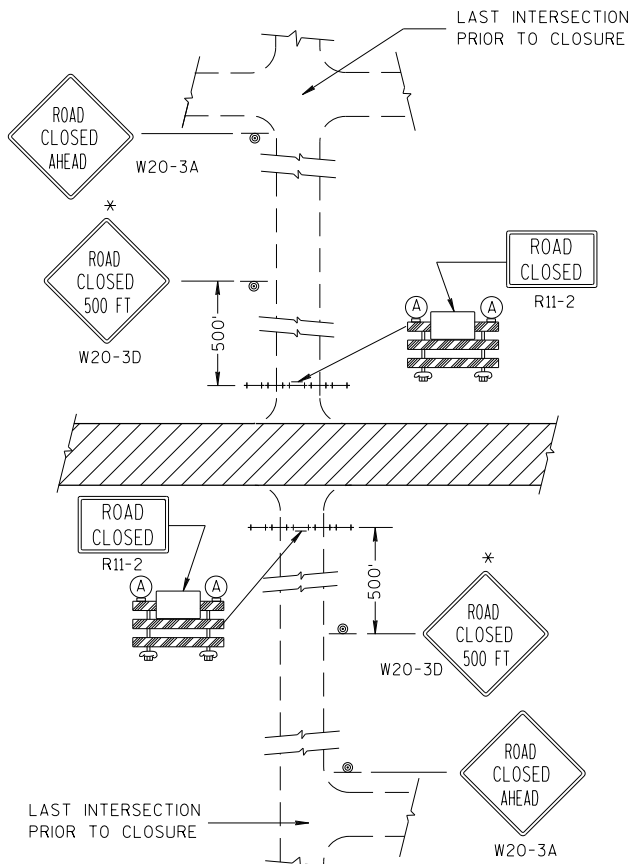
R1-1 SHALL BE 36" X 36".

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

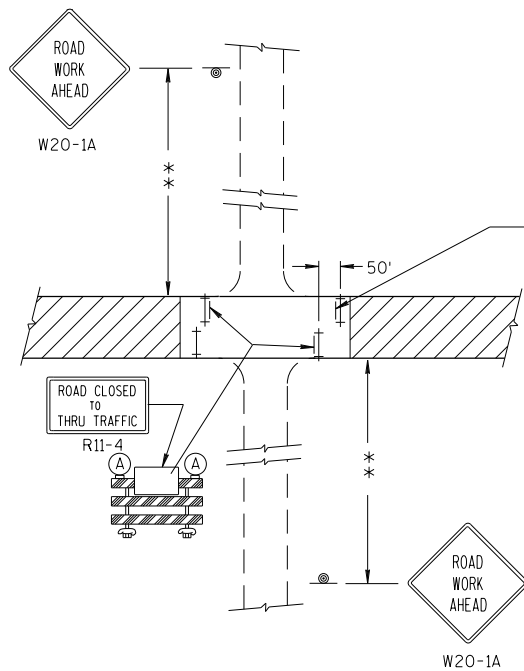
BARRICADES AND SIGNS FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

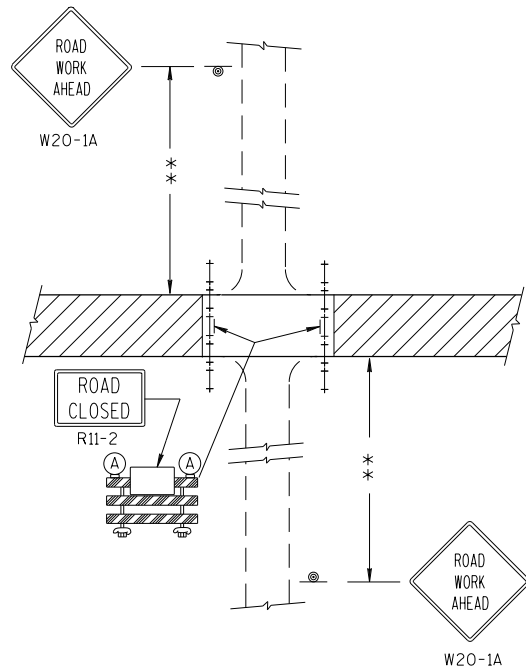
Sept. 2015 /S/ Peter Amokobe Atepe
DATE STATEWIDE WORK ZONE TRAFFIC
FHWA SAFETY ENGINEER



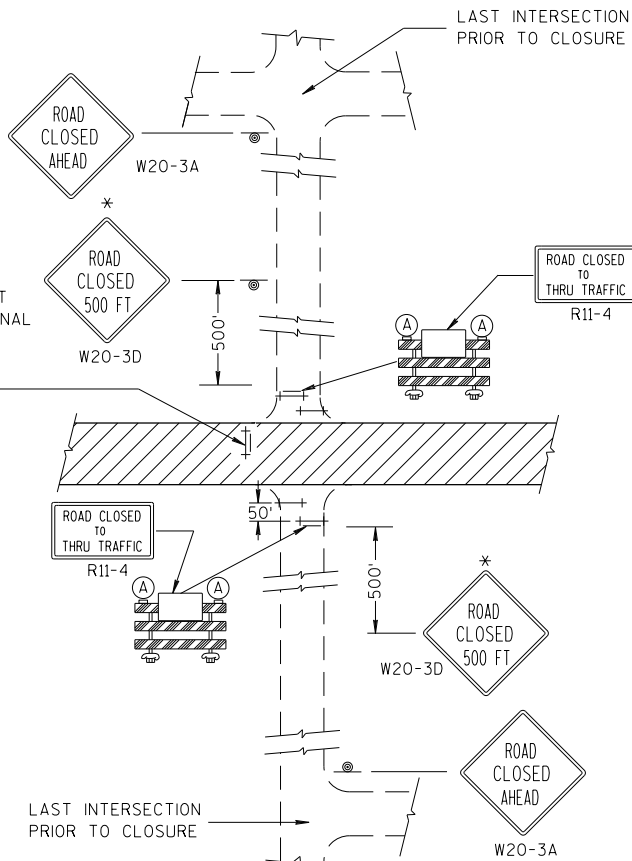
DETAIL 1
(NO ACCESS TO PROJECT)



DETAIL 3
(PUBLIC CROSS-TRAFFIC MAINTAINED. CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS).



DETAIL 2
(PUBLIC CROSS-TRAFFIC MAINTAINED.
NO ACCESS TO PROJECT).



DETAIL 4
(CONTRACTOR, LOCAL BUSINESS AND
RESIDENT ACCESS TO PROJECT)

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

R11-2 SHALL BE 48" X 30".

R11-4 AND R11-3 SHALL BE 60" X 30".

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

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

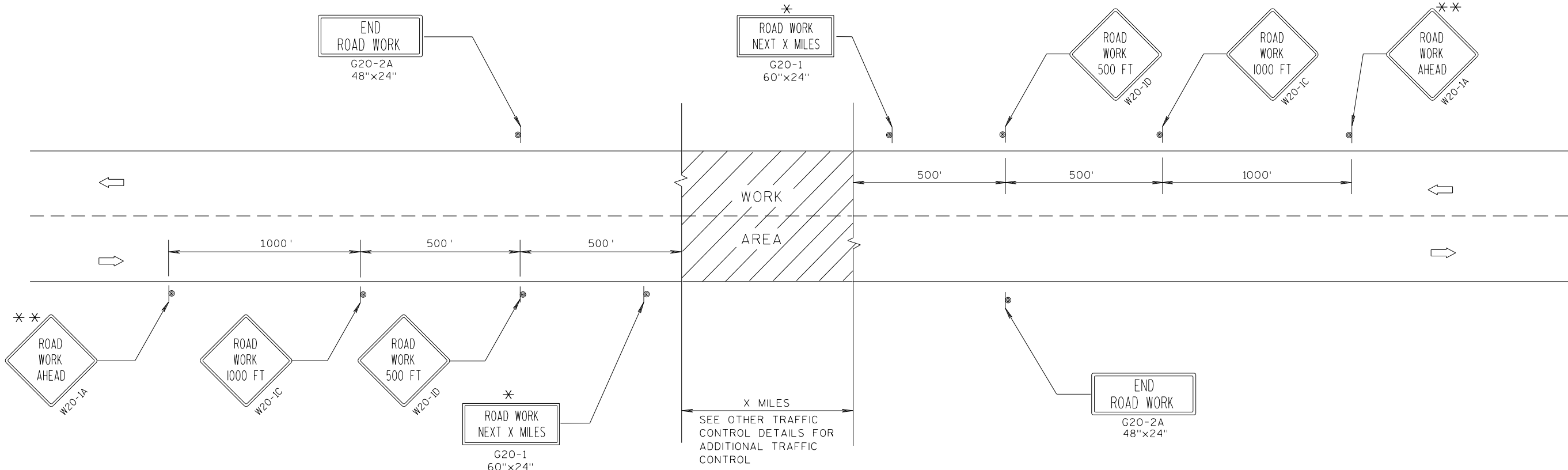
LEGEND

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

**BARRICADES AND SIGNS
FOR
SIDEROAD CLOSURES**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

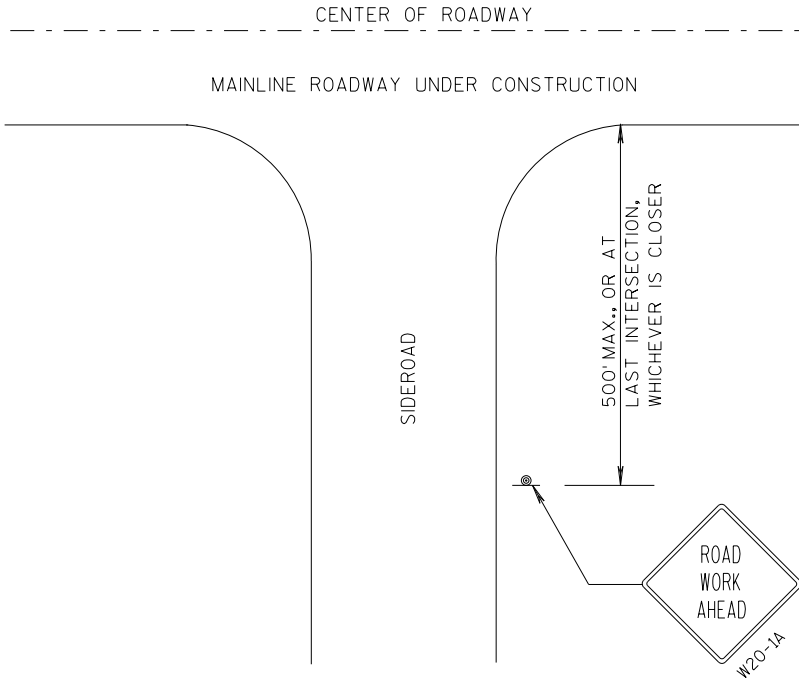
APPROVED
7/2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER
FHWA



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

- THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS.
- THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.
- ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.
- SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.
- IF A "STOP" SIGN MUST BE REMOVED FOR A WORK OPERATION, A TEMPORARY "STOP" SIGN SHALL BE PLACED PRIOR TO THE SIGN REMOVAL, OR A FLAGGER SHALL BE PROVIDED UNTIL THE SIGN IS RE-ESTABLISHED.
- * OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.
- * * PLACE ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.



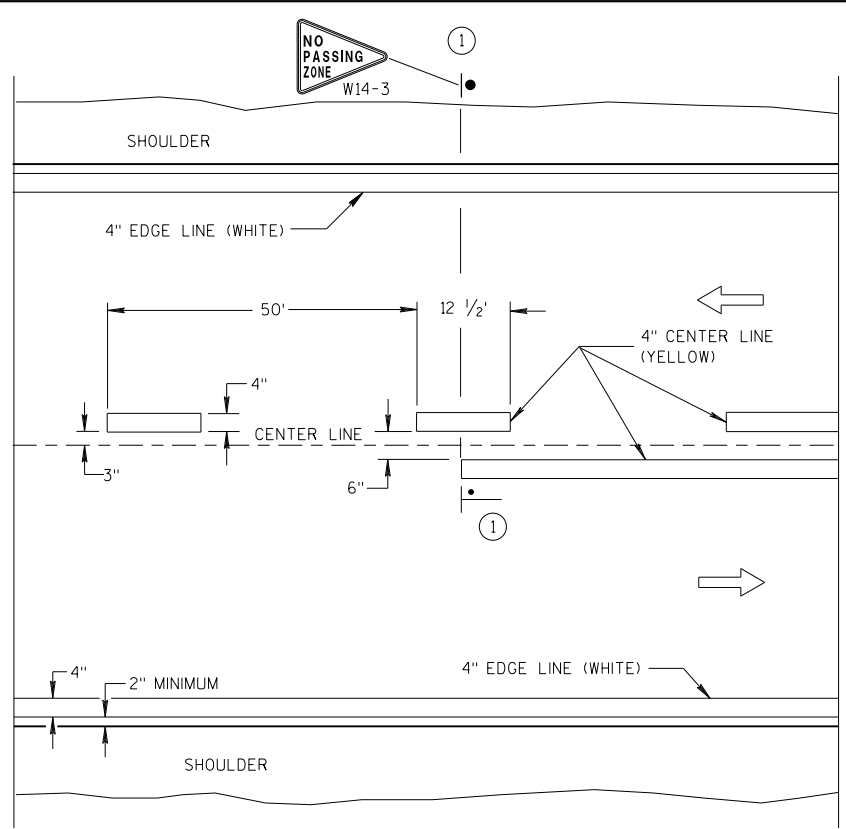
LEGEND

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

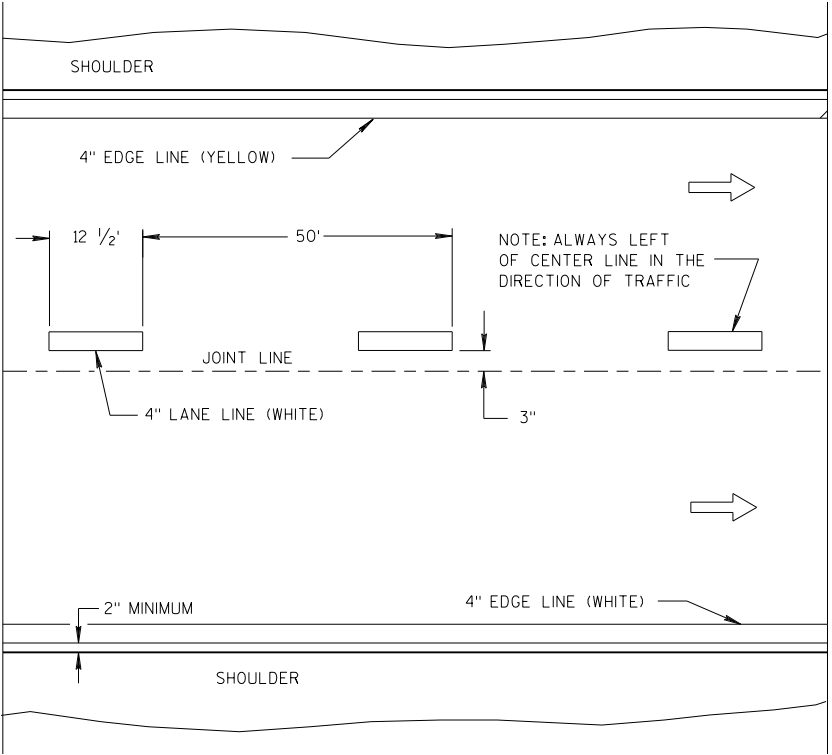
TRAFFIC CONTROL, ADVANCE
WARNING SIGNS 45 M.P.H.
OR GREATER TWO-WAY
UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

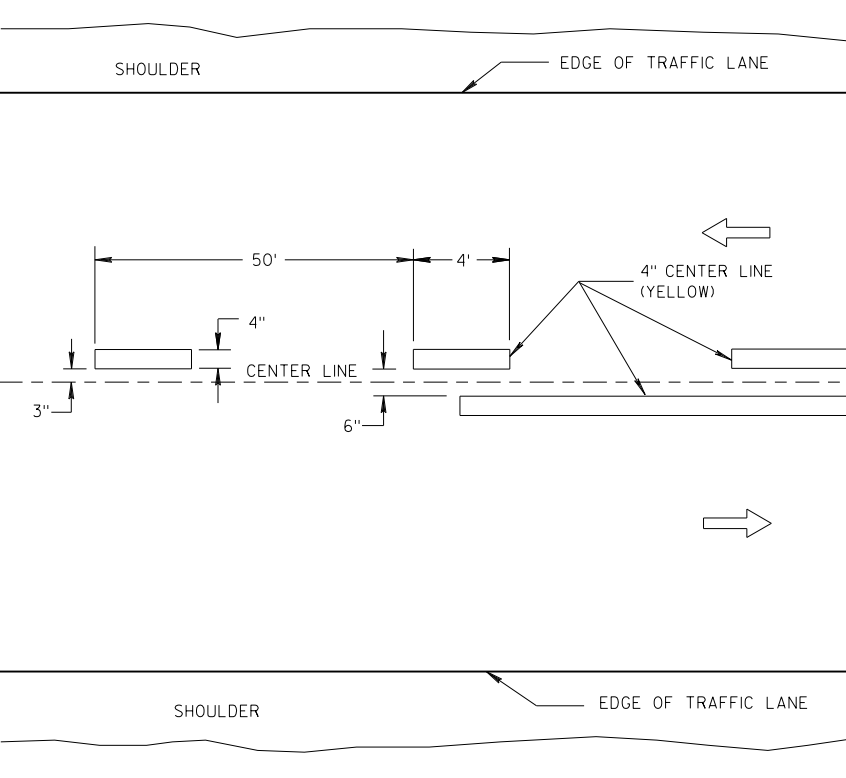


TWO WAY TRAFFIC

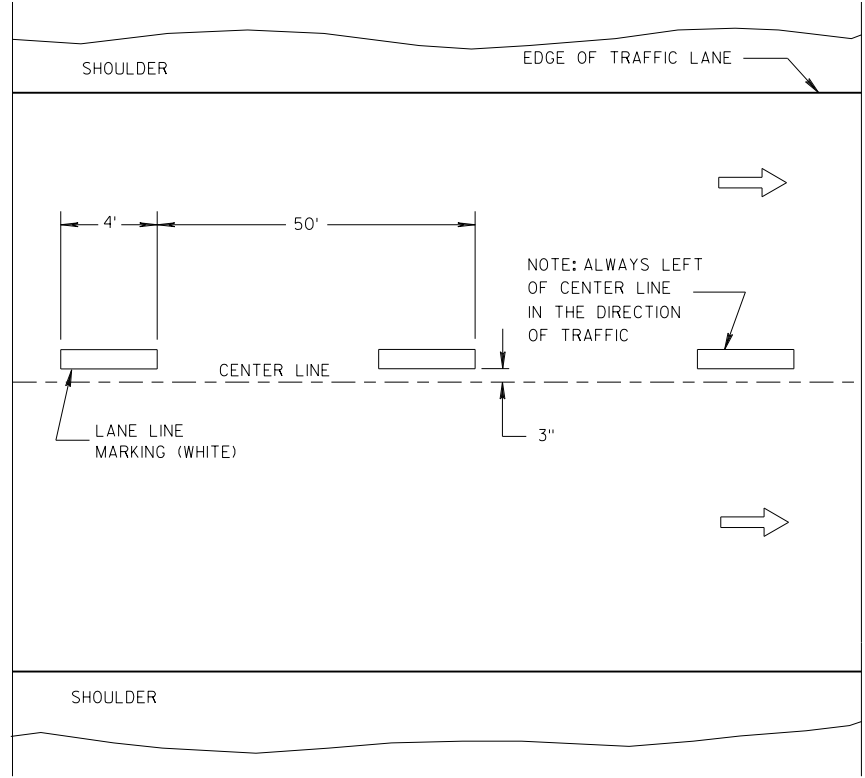


ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

GENERAL NOTES

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

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

NOTE

ARROW SYMBOL (➡) SHOWS DIRECTION OF TRAVEL

LEGEND

- "T" MARKING
- POST MOUNTED SIGN

LONGITUDINAL MARKING (MAINLINE)

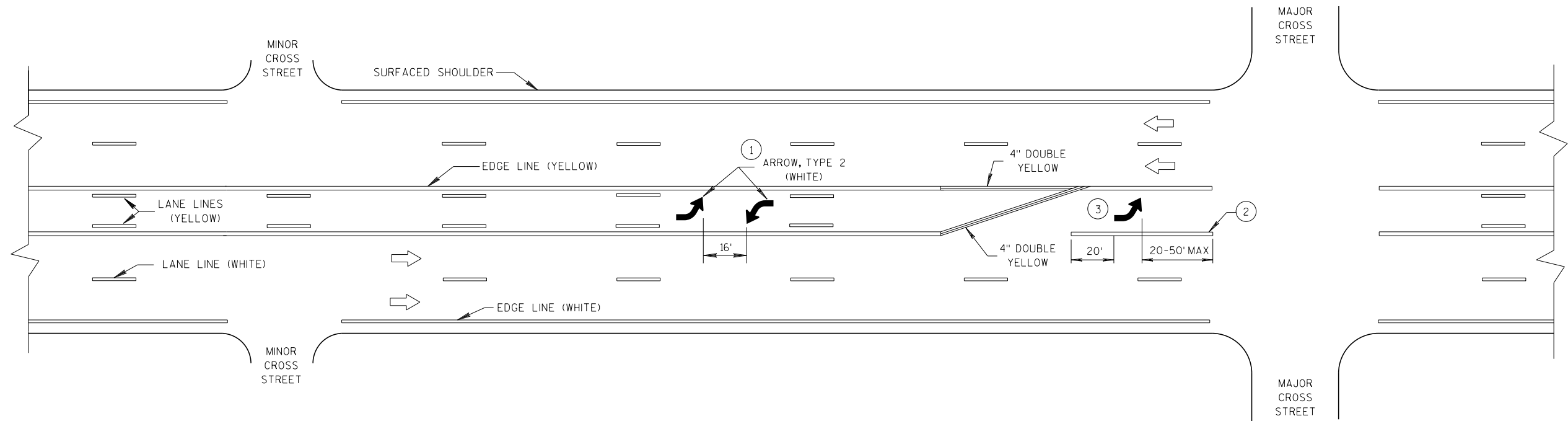
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

GENERAL NOTES

- 1 A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.
- 2 8" WHITE
- 3 TURN BAY LENGTH OF LESS THAN 48'DOES NOT REQUIRE PAVEMENT ARROWS OR TEXT

DIRECTION OF TRAFFIC



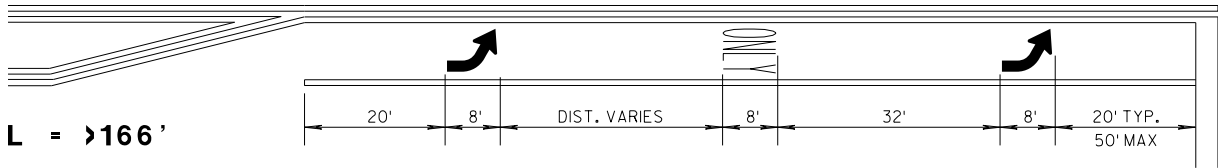
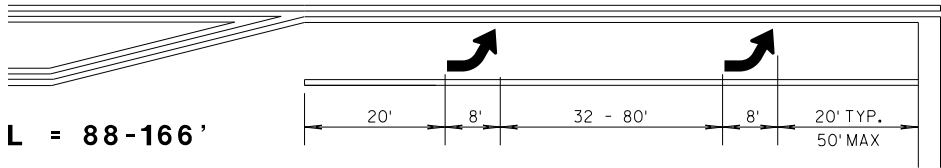
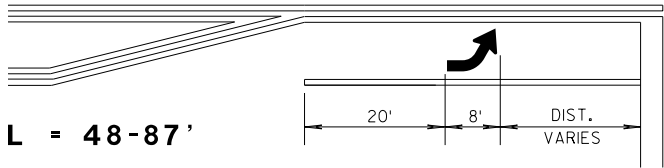
TWO WAY LEFT TURN LANE

PAVEMENT MARKING
(TURN LANES)

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)

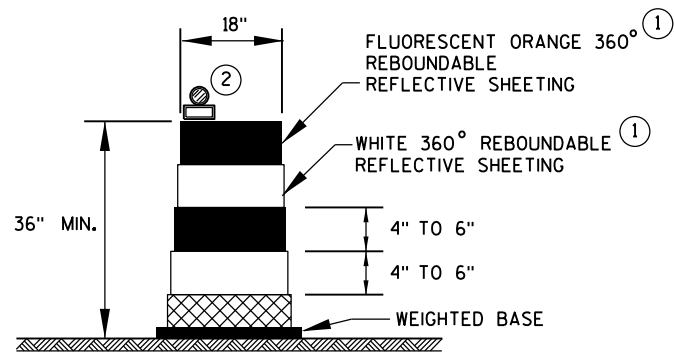
GENERAL NOTES

- ① 8" WHITE
- ② QUANTITY AND LOCATION OF TYPE 3 ARROW ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION, THE ARROWS AND ONLY MARKING ARE ELIMINATED.

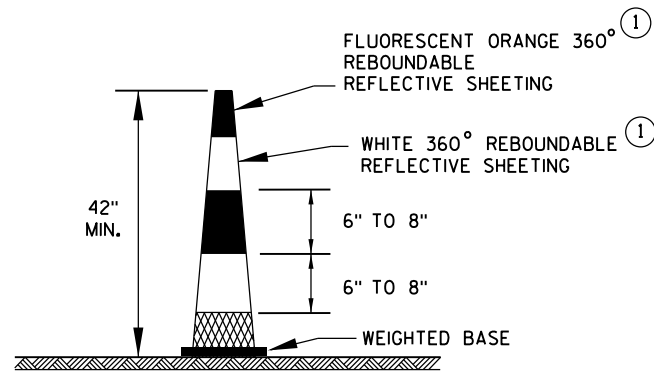
→ DIRECTION OF TRAFFIC
L = LENGTH OF TURN BAY

PAVEMENT MARKING
(TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DRUM

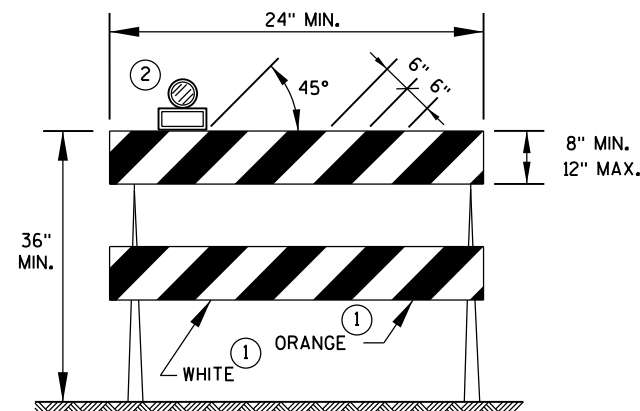


42" CONE

DO NOT USE IN TAPERS
1/2 SPACING OF DRUMS

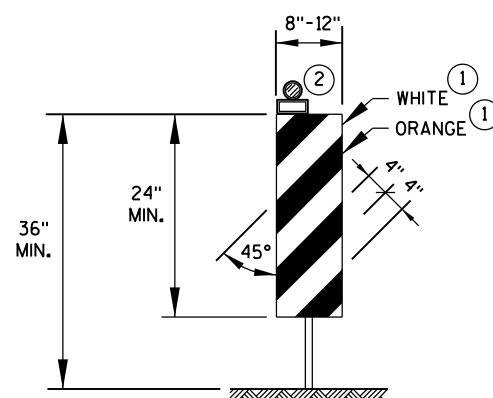
GENERAL NOTES

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



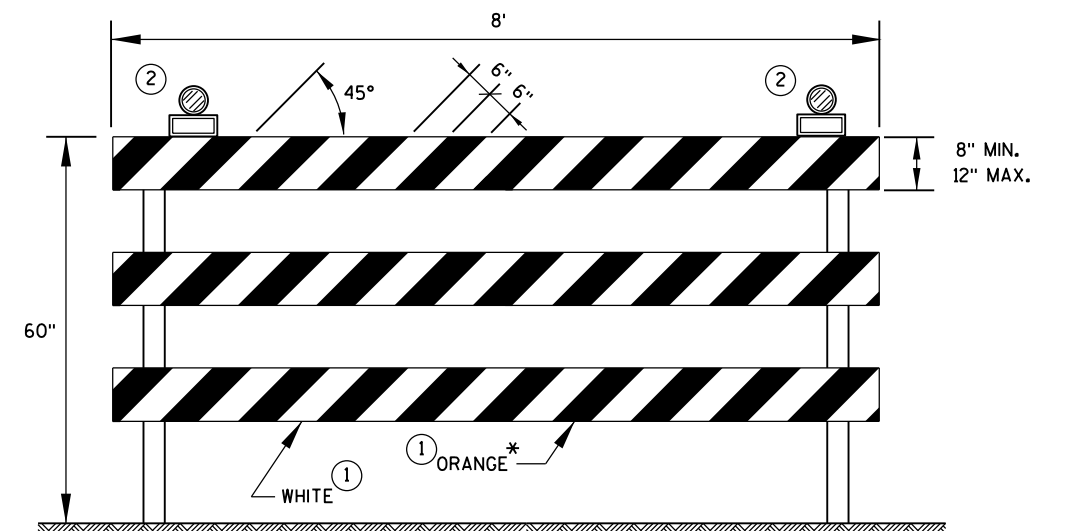
TYPE 2 BARRICADE

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



VERTICAL PANEL

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



TYPE 3 BARRICADE

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

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

CHANNELIZING DEVICES
DRUMS, CONES, BARRICADES
AND VERTICAL PANELS

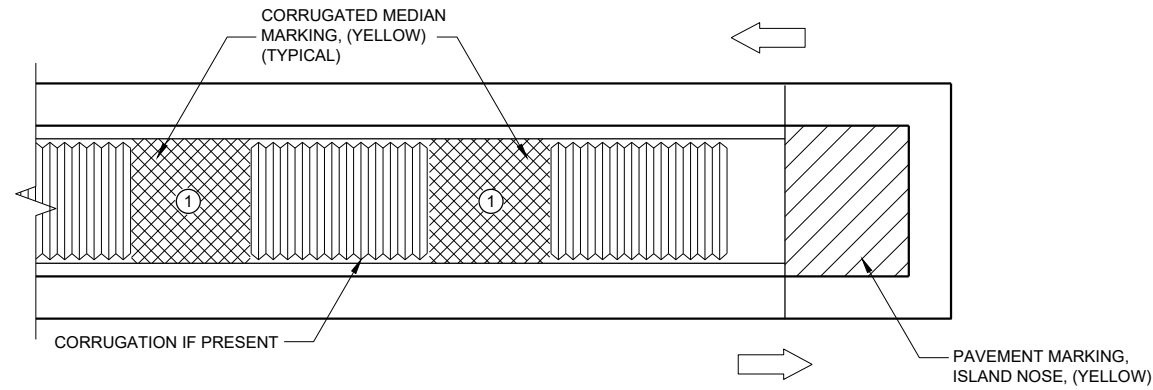
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

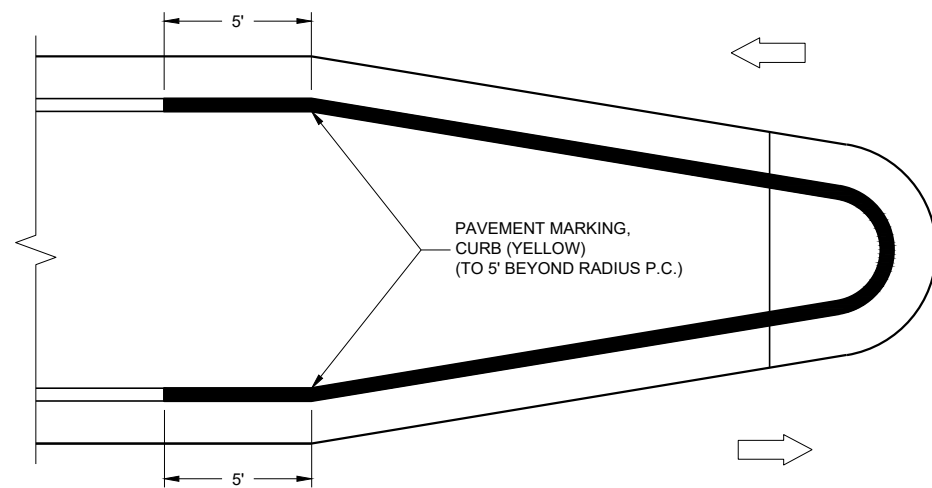
June 2017
DATE

FHWA

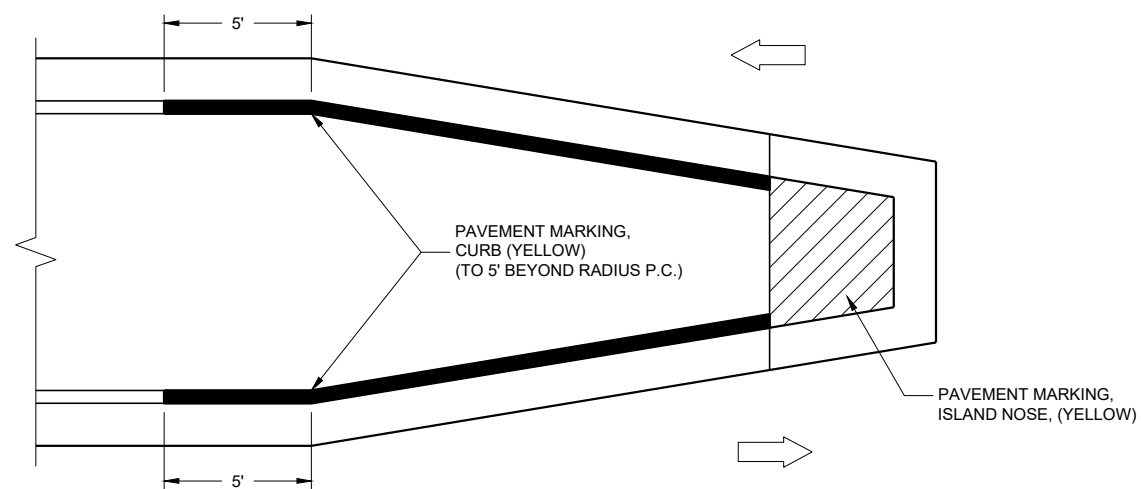
/S/ Andrew Heidtke
WORK ZONE ENGINEER



MEDIAN ISLAND WITH SQUARE BLUNT NOSE



MEDIAN ISLAND WITH ROUND BLUNT NOSE



TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS

GENERAL NOTES

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

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

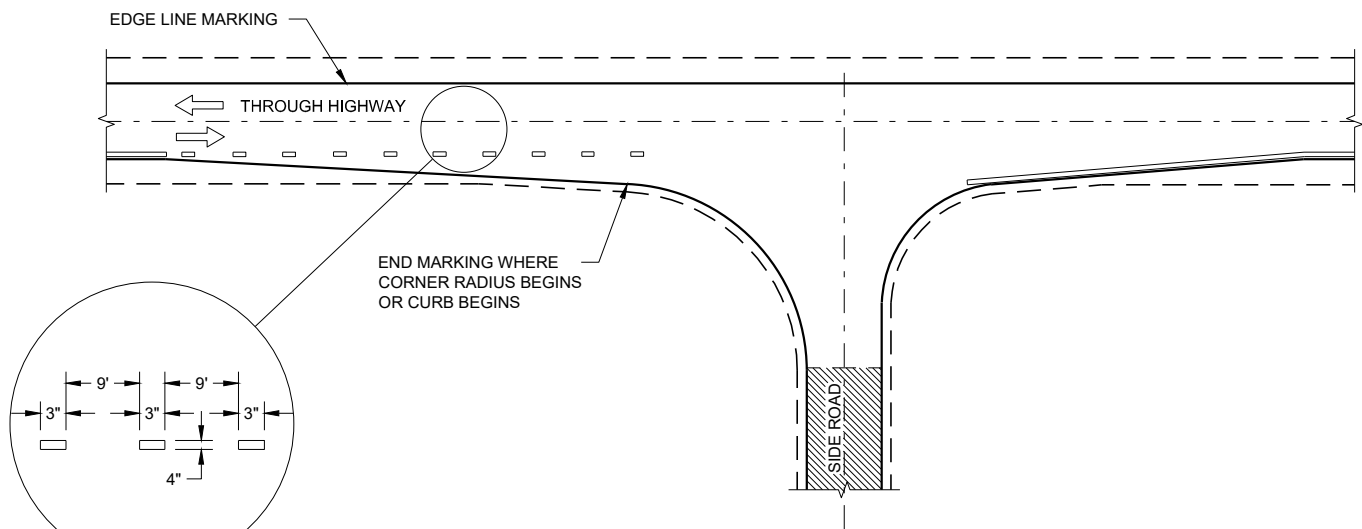
PAVEMENT MARKINGS (ISLANDS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

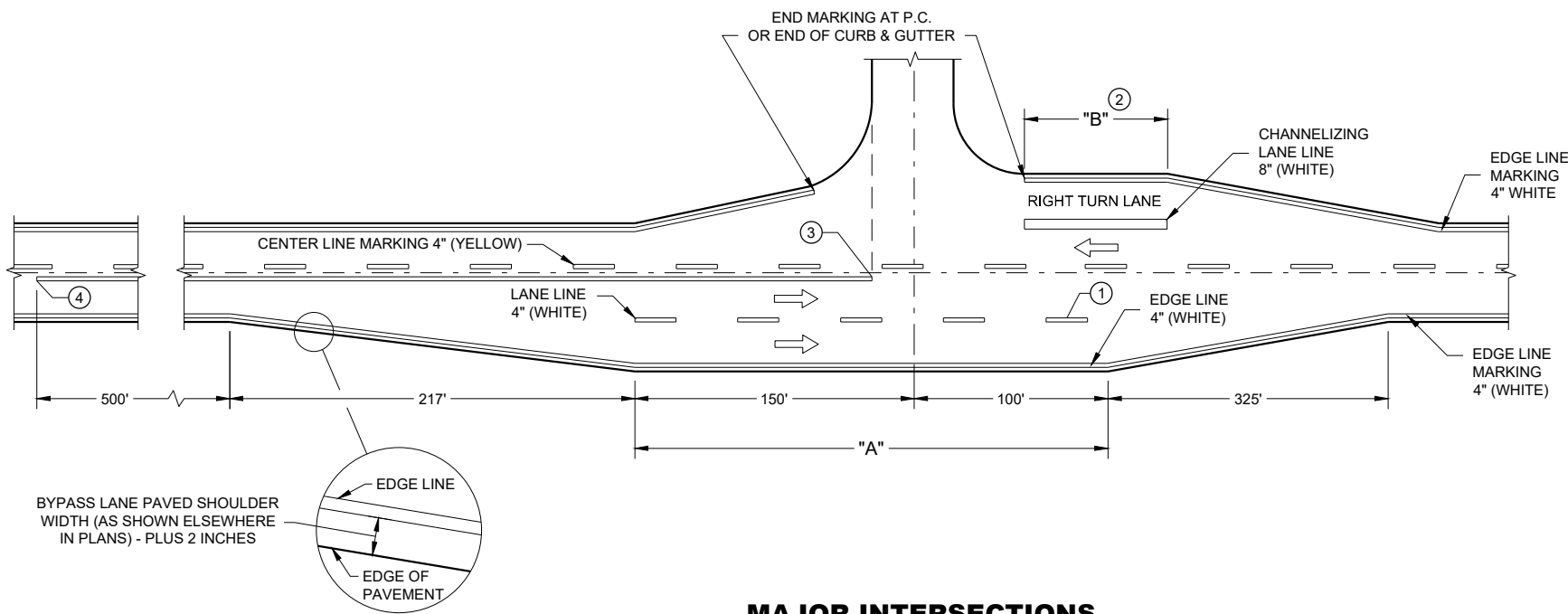
APPROVED
7/2018
DATE

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

FHWA



MINOR INTERSECTION



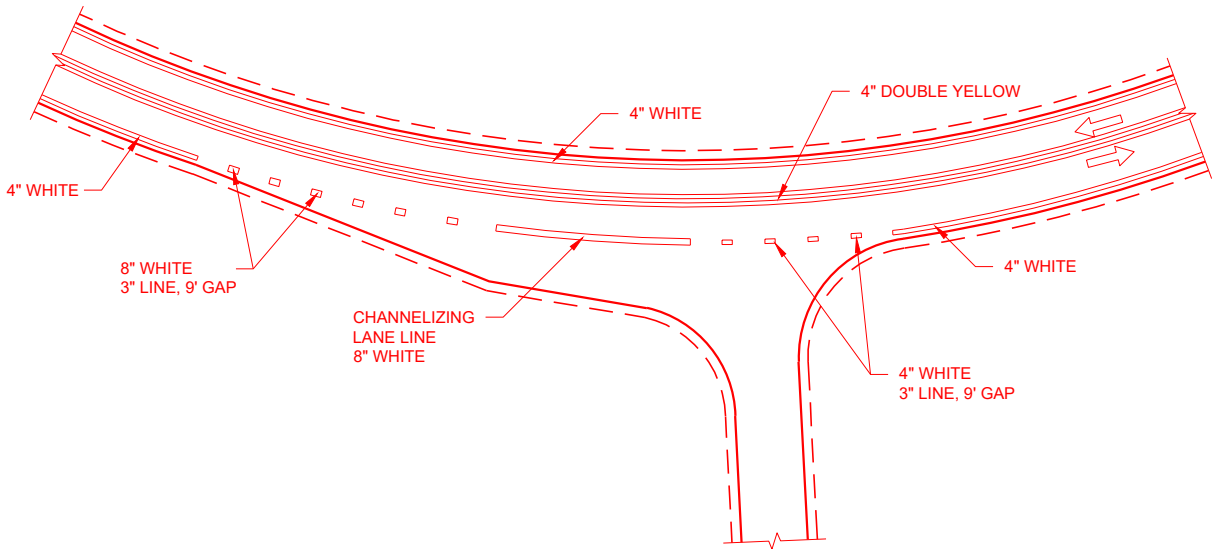
MAJOR INTERSECTIONS
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

GENERAL NOTES

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

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

ARROW SYMBOL (➡) SHOWS DIRECTION OF TRAVEL



INTERSECTION ON OUTSIDE OF CURVE

PAVEMENT MARKING
(INTERSECTIONS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

LEGEND

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

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 DESIREABLE) DISTANCE TO EXISTING SIGNS.

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

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"W0" 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 AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF 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.

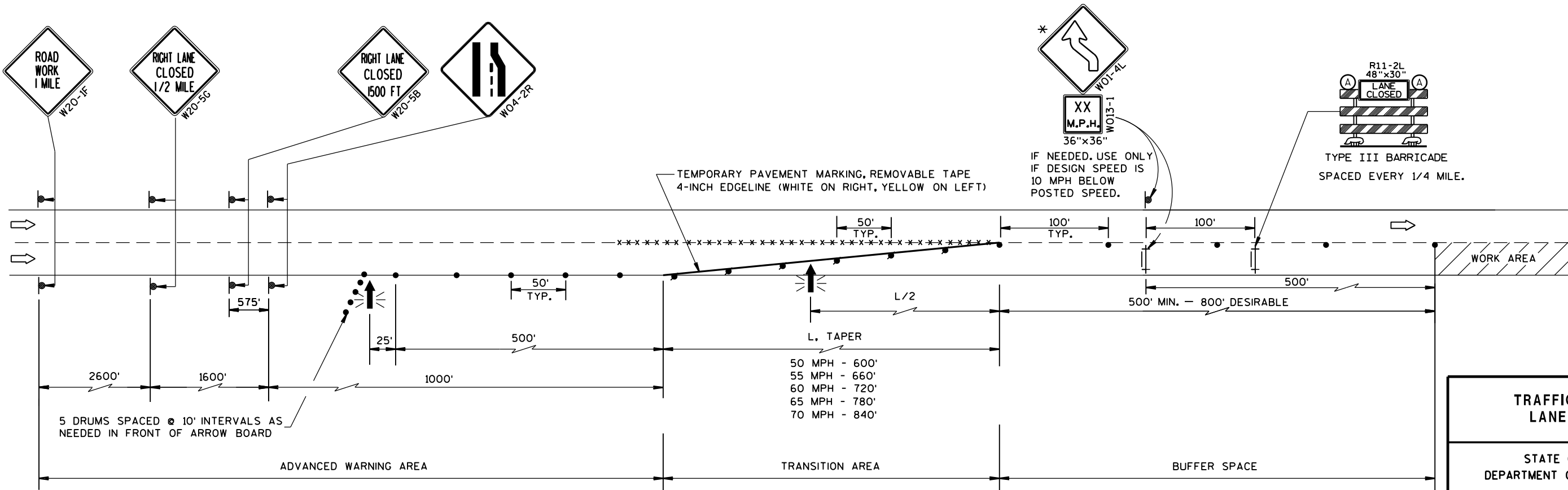
REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

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. THE LANE CLOSURE MUST 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 1/2 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.

* THE LEFT REVERSE CURVE SIGN (W01-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.



TRAFFIC CONTROL, LANE CLOSURE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED March 2016 DATE	/S/ Peter Amakobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA	

LEGEND

- TRAFFIC CONTROL DRUM
- ⦿ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ⚡➡ FLASHING ARROW BOARD
- ▨ WORK AREA

GENERAL NOTES

THIS DETAIL IS TYPICAL FOR CLOSING THE RIGHT SHOULDER. FOR CLOSING THE LEFT SHOULDER, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR DIVIDED ROADWAYS WITH ANY NUMBER OF TRAVEL LANES.

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

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

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

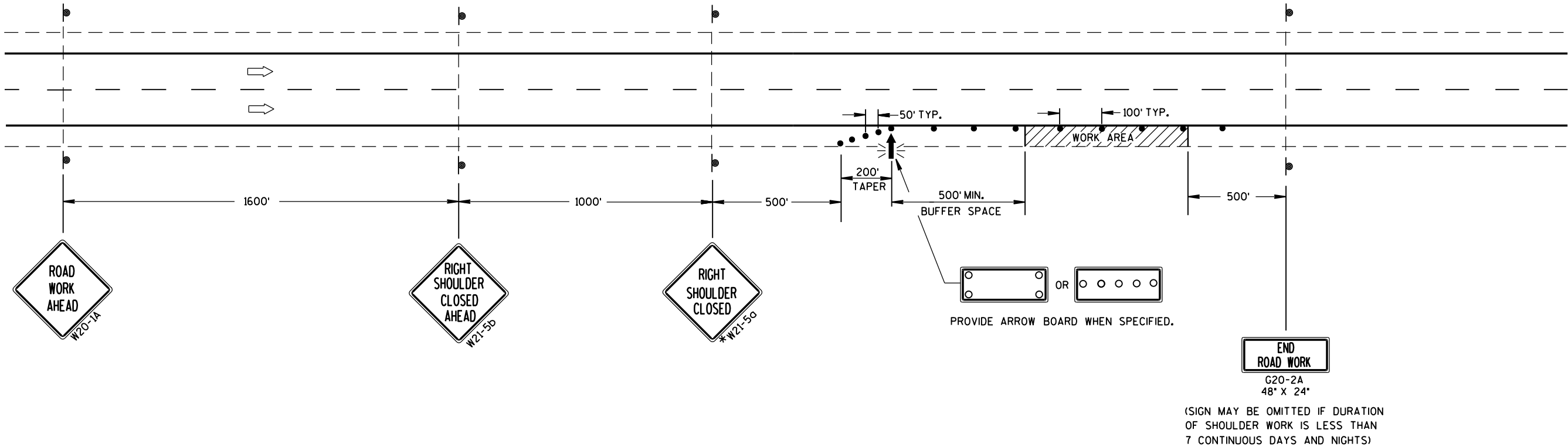
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

WHEN A 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.

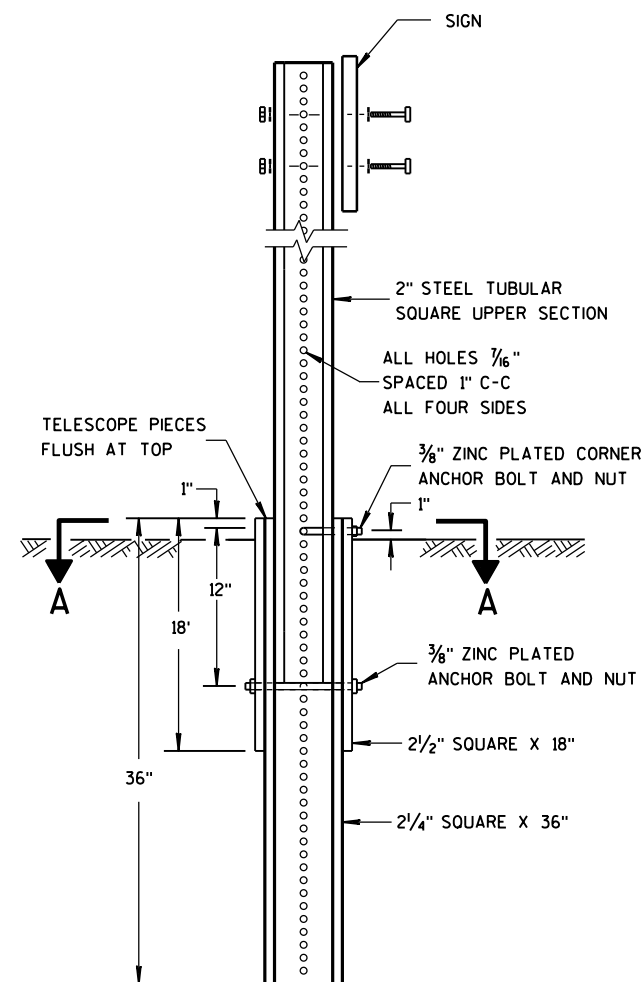
*FOR SHORT DURATION SHOULDER WORK OF LESS THAN ONE HOUR, THE W21-5a SIGN MAY BE OMITTED.



TRAFFIC CONTROL
SHOULDER CLOSURE ON DIVIDED
ROADWAY, SPEEDS GREATER
THAN 40 MPH

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

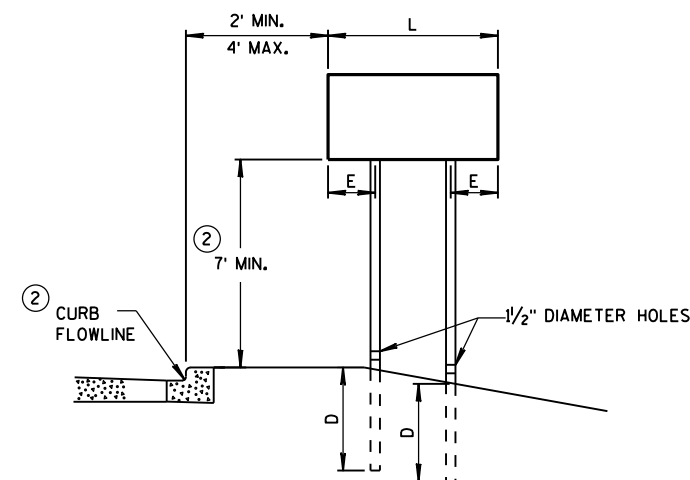
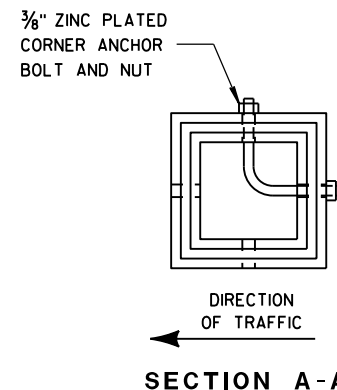


DETAIL OF TUBULAR
STEEL SIGN POST

TUBULAR STEEL POSTS

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

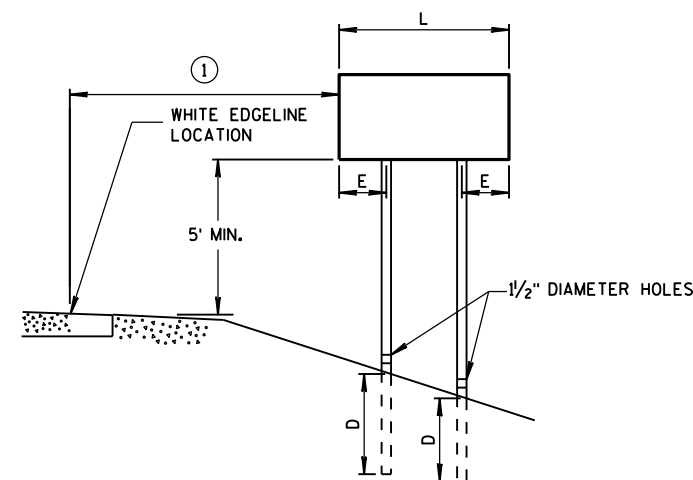
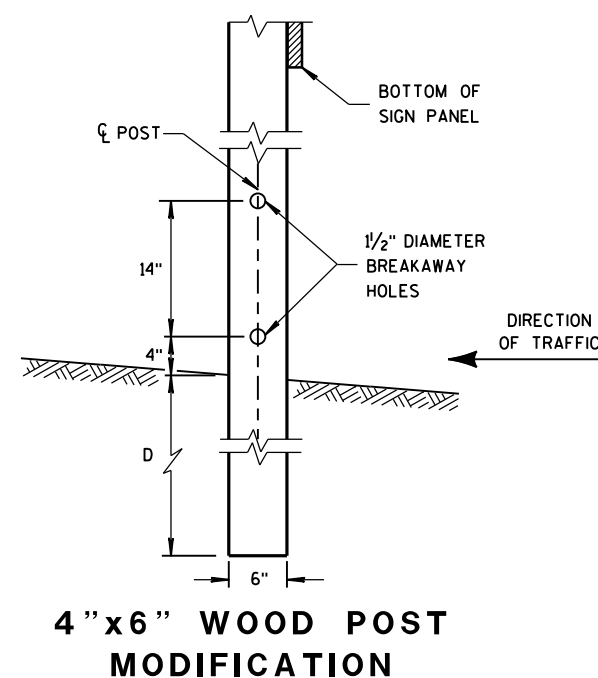
SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL
BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).
SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED
ON TUBULAR STEEL POSTS.



URBAN AREA

POST MOUNTING DETAIL FOR TEMPORARY TRAFFIC CONTROL FIXED MESSAGE SIGNS

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



RURAL AREA

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

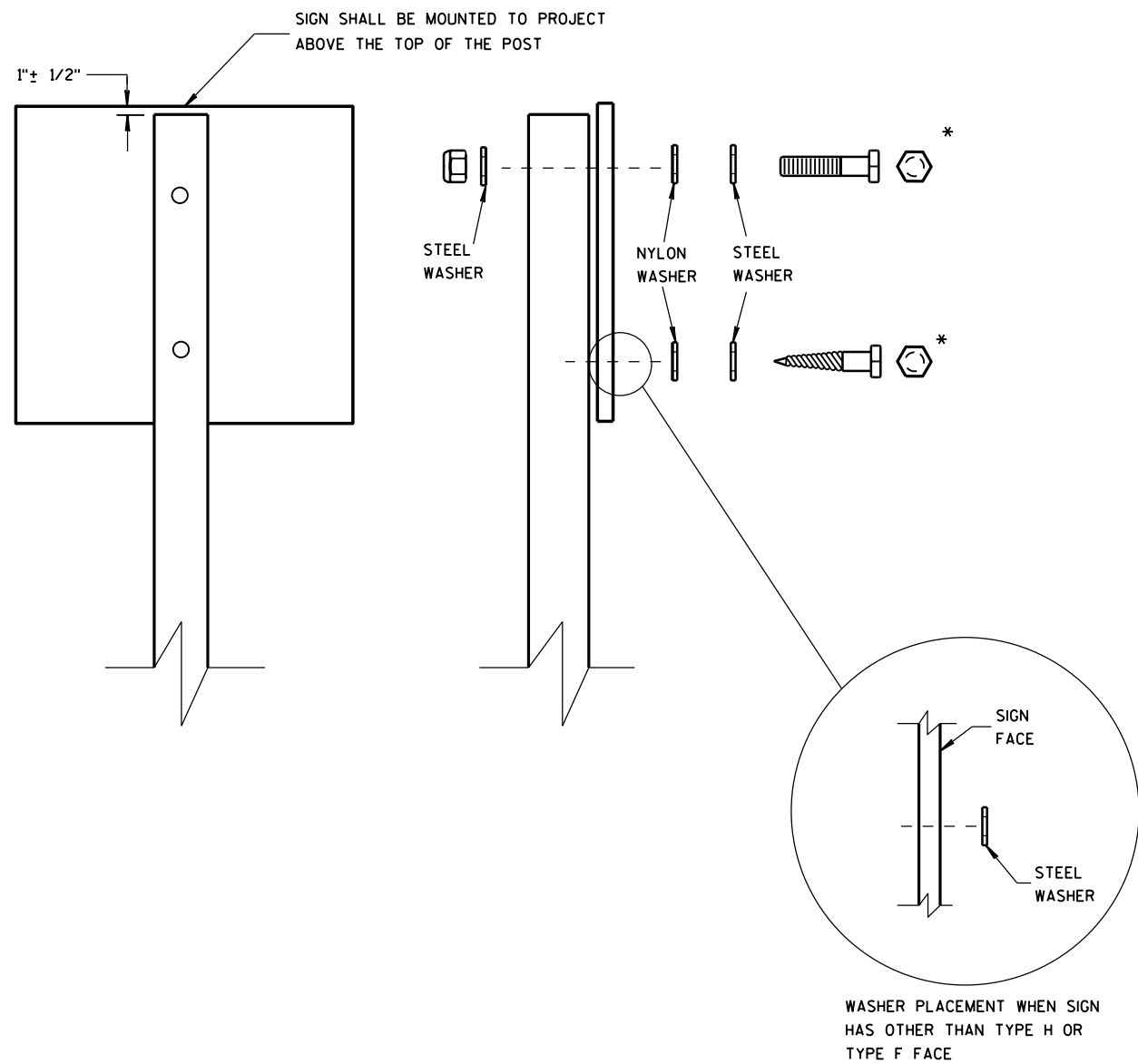
SEE NOTE ③

GENERAL NOTES

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

TEMPORARY TRAFFIC CONTROL
SIGN MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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

- A. HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: A 153, CLASS D, OR SC 3
- B. ELECTRO-GALVANIZED IN ACCORDANCE WITH ASTM DESIGNATION: B 633, TYPE III, SC 3

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

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

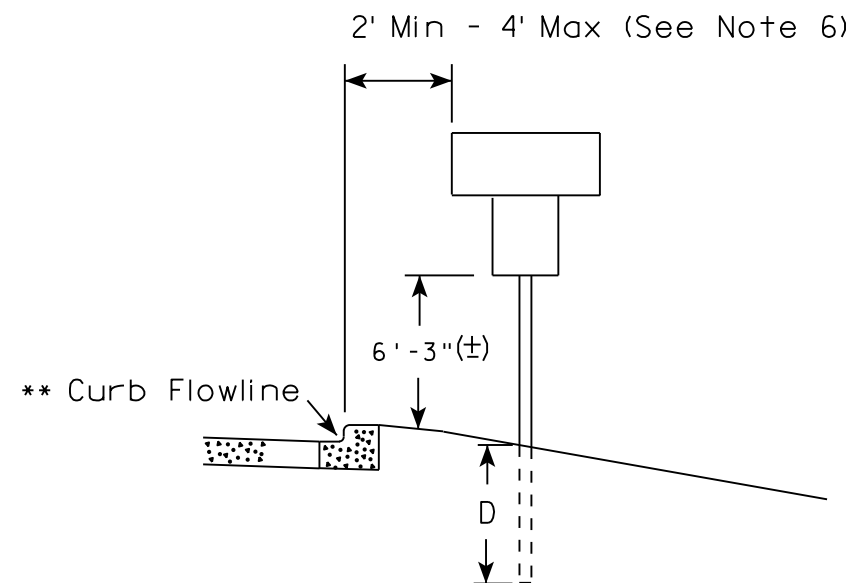
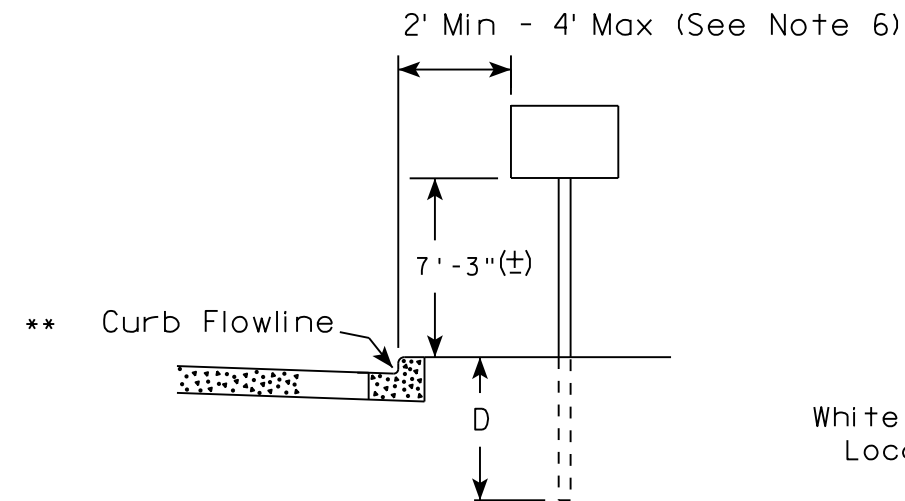
- SQUARE STEEL POSTS (2" x 2")
- MACHINE BOLTS - 3/8" X 3-1/4" LENGTH W/ NUTS
 - RIVETS - 9/32" (6605-9-6) BULB-TITE, TRI-FOLD, ALUMINUM BODY/MANDREL O.D. FLANGE .720-.765 INCH, GRIP RANGE .042-.375 INCH

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

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

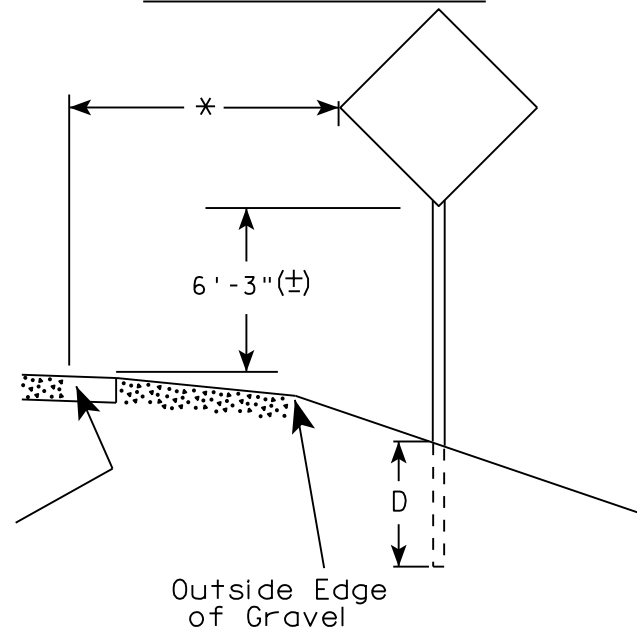
ATTACHMENT OF SIGNS TO POSTS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE	/S/ Andrew Heldtke WORK ZONE ENGINEER
FHWA	

URBAN AREA

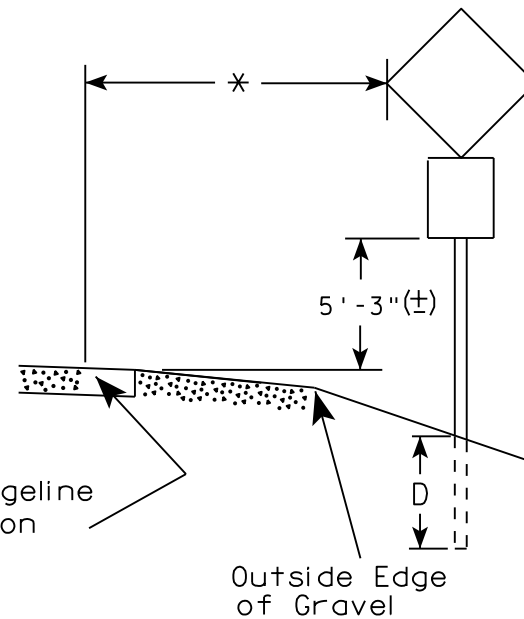


White Edgeline
Location

RURAL AREA (See Note 2)



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'

* 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.

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

** 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.

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
for State Traffic Engineer

DATE 8/21/17

PLATE NO. A4-3.21

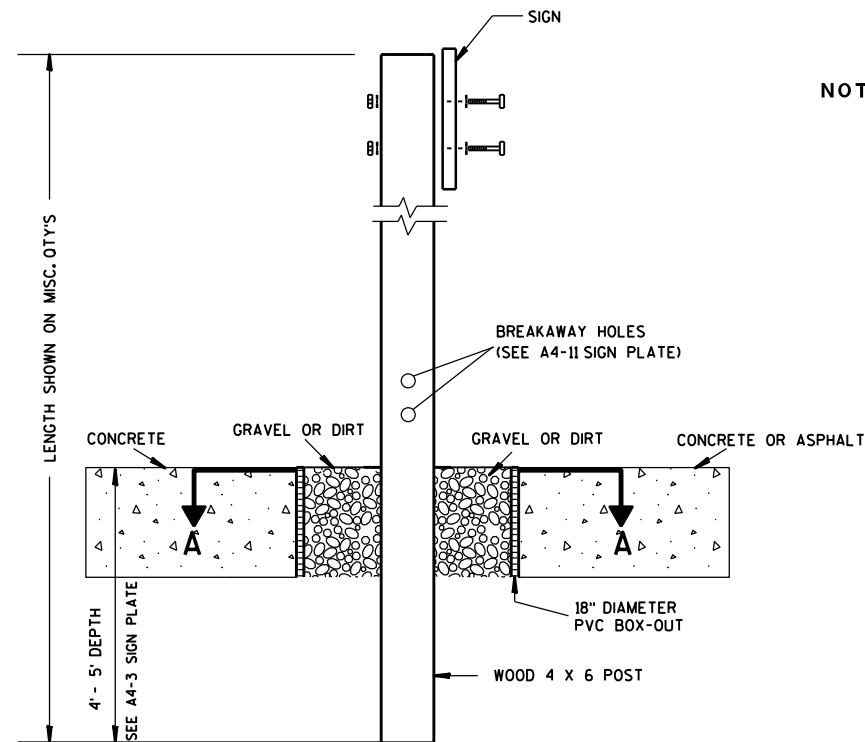
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

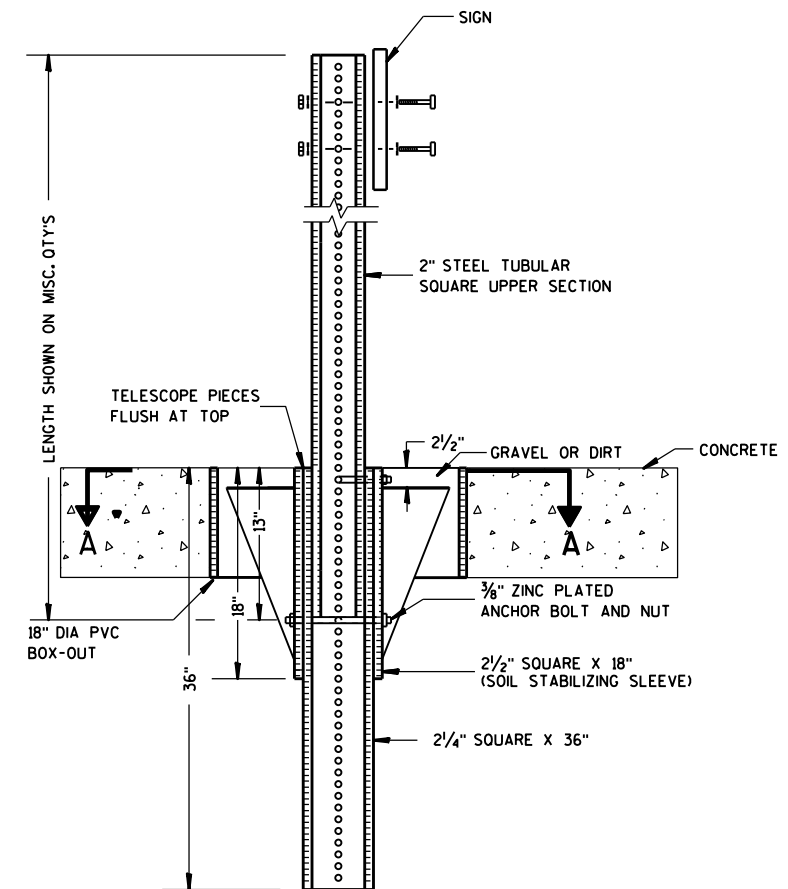
E



ELEVATION VIEW

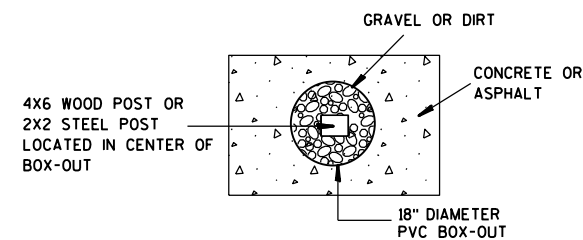
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST
BOX-OUTS
A4-3B

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

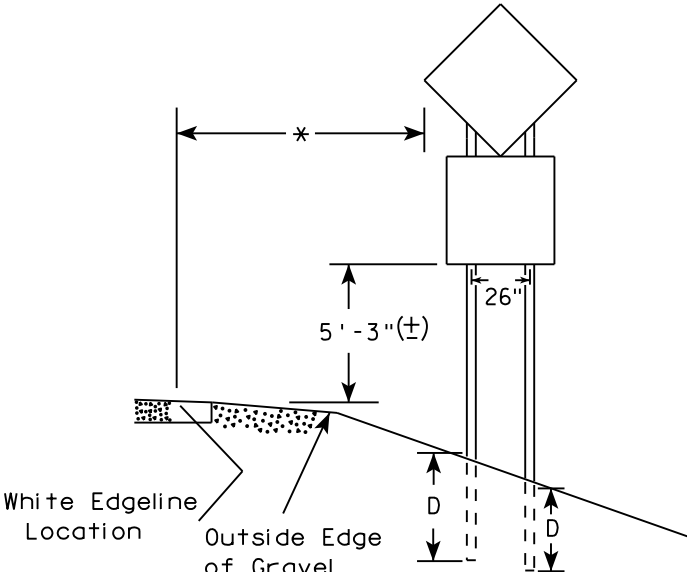
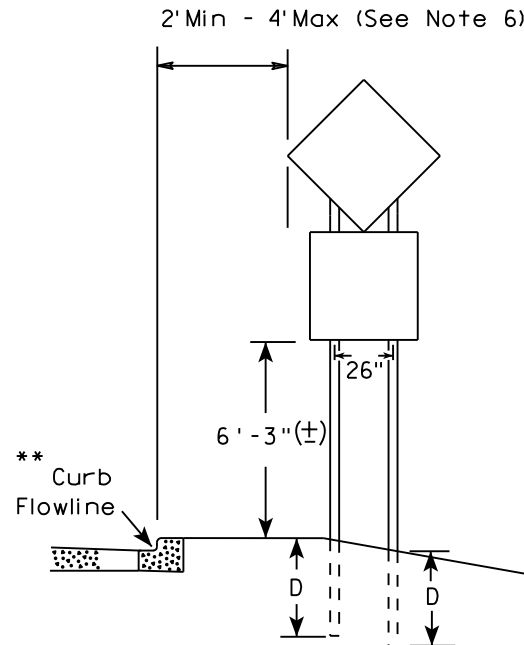
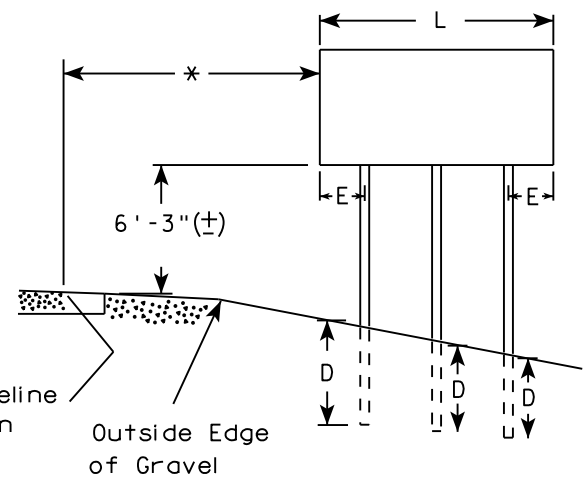
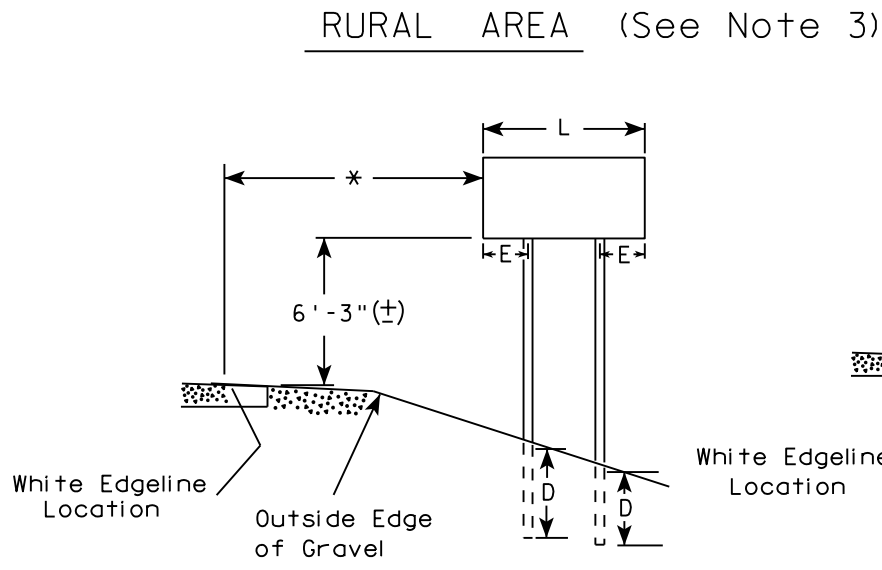
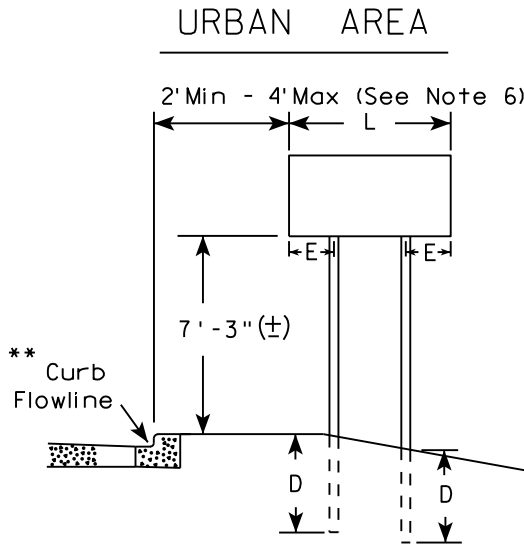
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



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

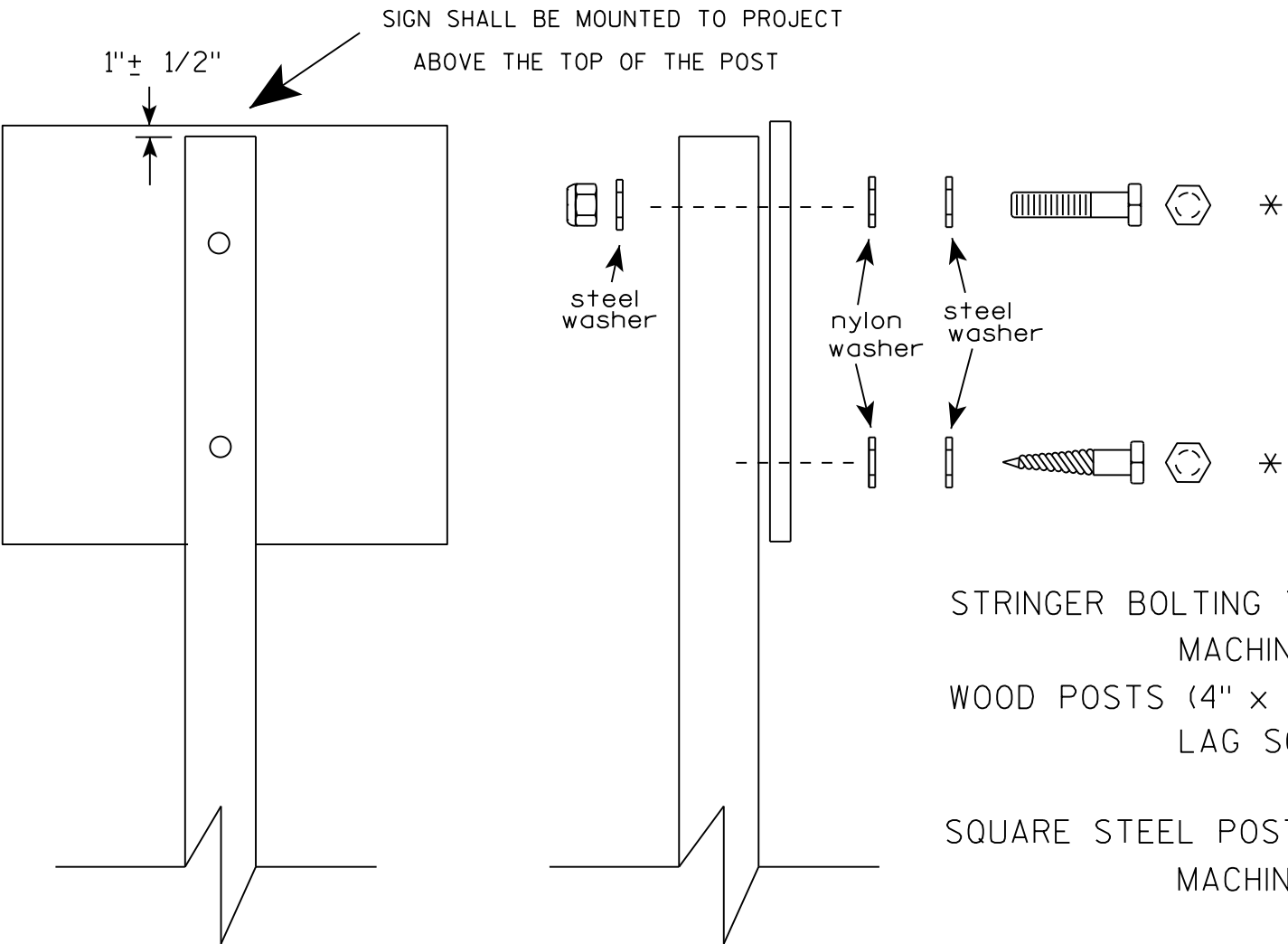
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 8/21/17 PLATE NO. A4-4.15

- 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" (±).

- * 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.



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.

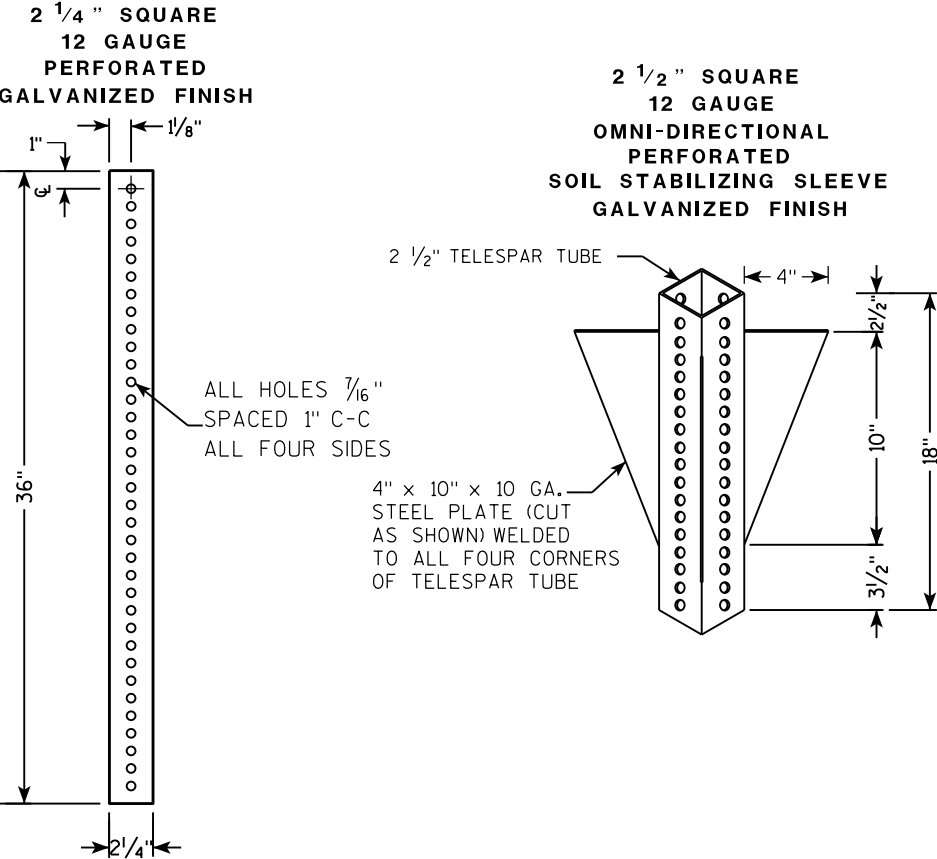
Threads on bolts and nuts shall be manufactured with sufficient allowance for the cadmium plate or galvanized coating to permit the nuts to run freely on the bolts.

- 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 4" or 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

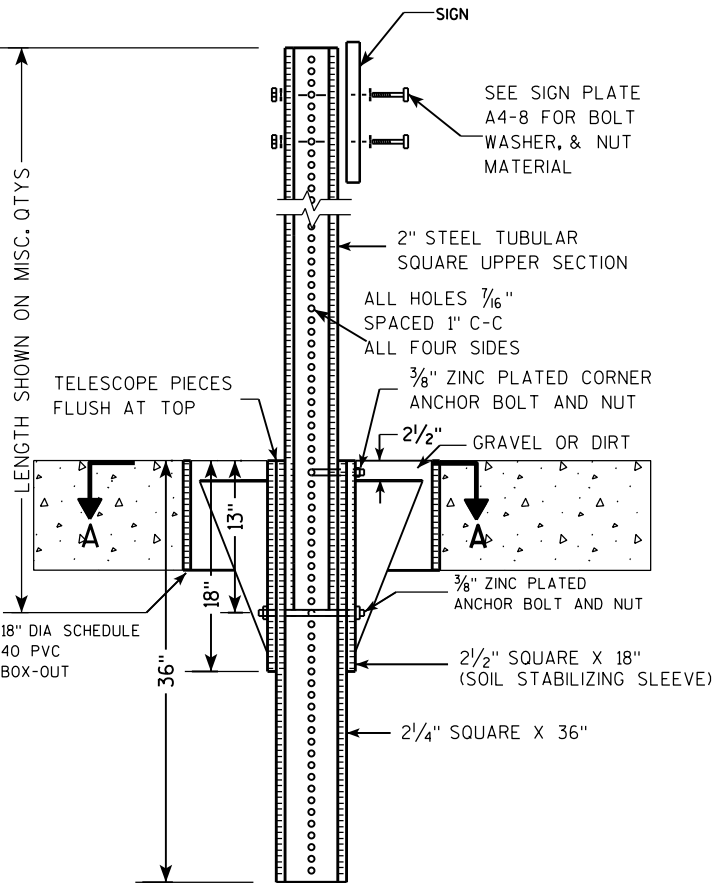
* Two different fastening systems are shown for illustration purposes. On any individual sign, either one or the other system shall be used. Actual number of fasteners per sign varies with the sign area, but normally there are two. For a single post installation, all signs greater than 9 sq. ft. require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

ATTACHMENT OF SIGNS TO POSTS	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 8/11/16	PLATE NO. A4-8.8

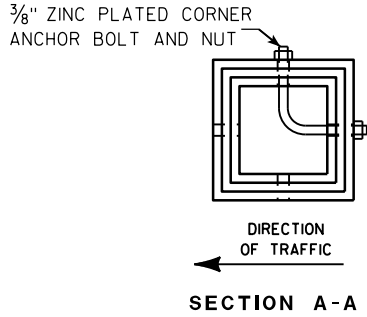
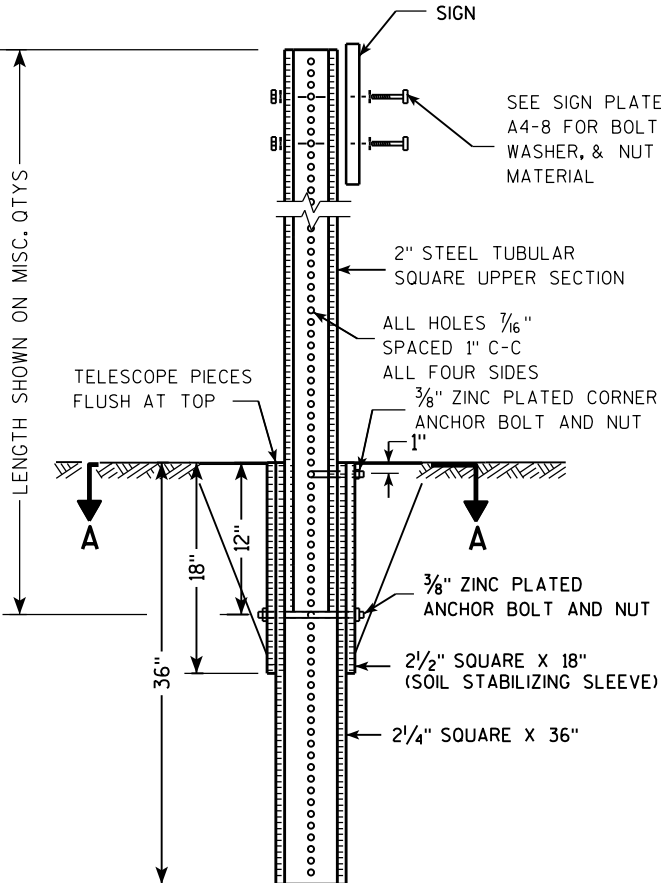
TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM



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).

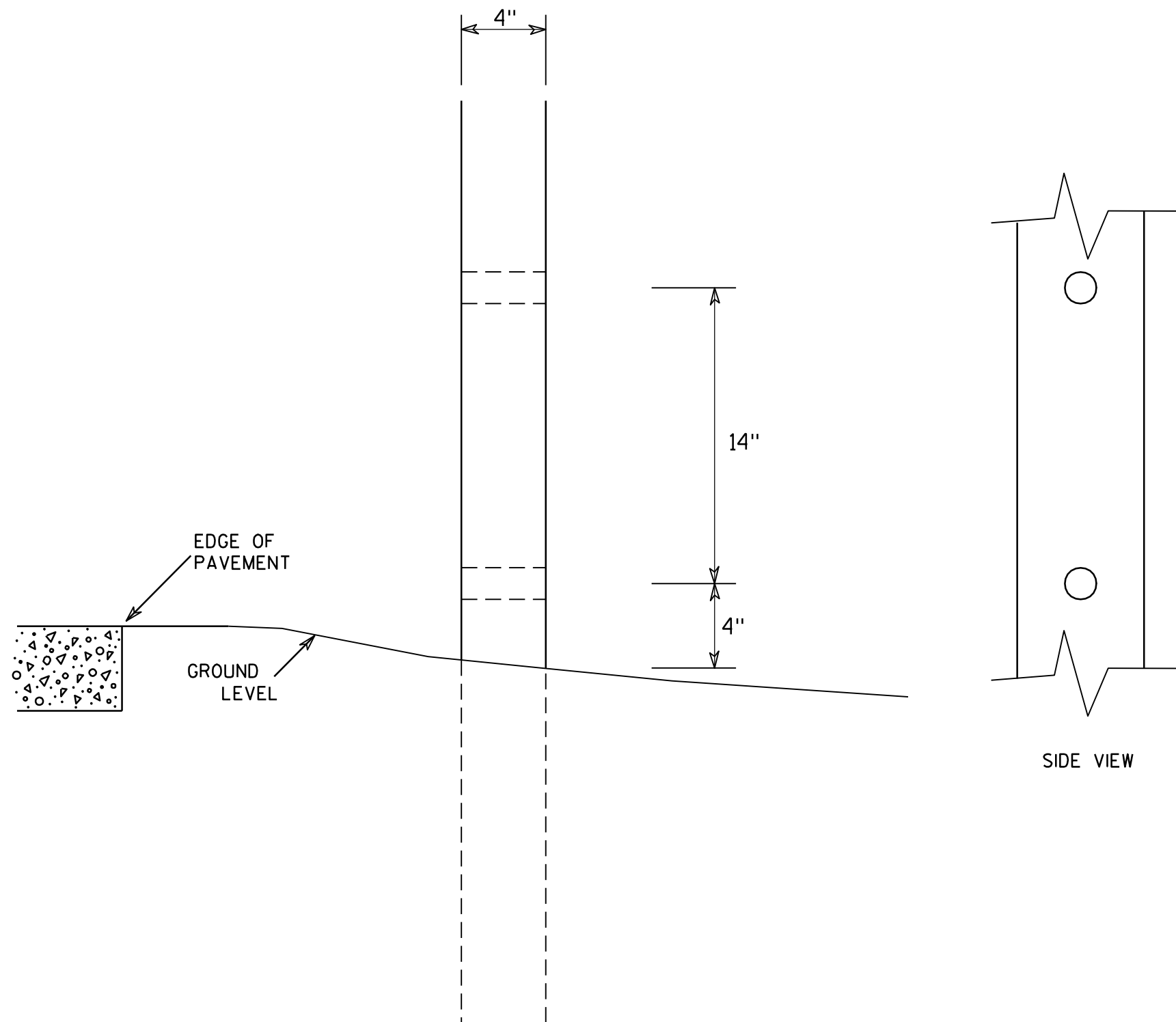
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

7

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

**4 X 6 WOOD POST
MODIFICATIONS**

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Chester J. Spang
for State Traffic Engineer

DATE 3/27/97

PLATE NO. A4-11.2

PROJECT NO:

HWY:

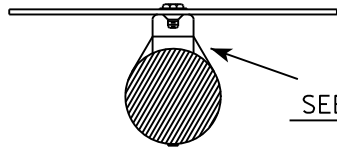
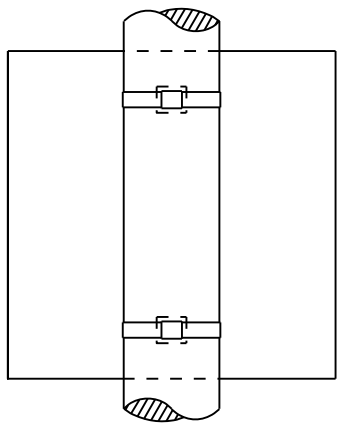
COUNTY:

SHEET NO:

E

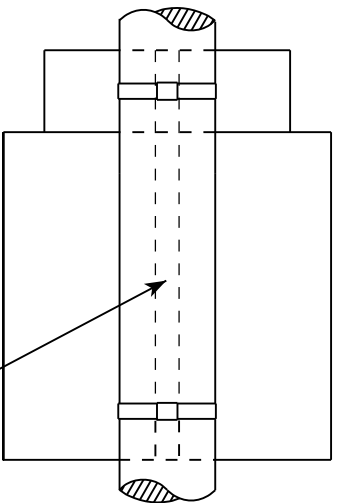
BANDING

SINGLE SIGN

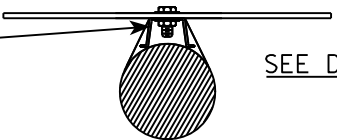


SEE DETAIL A

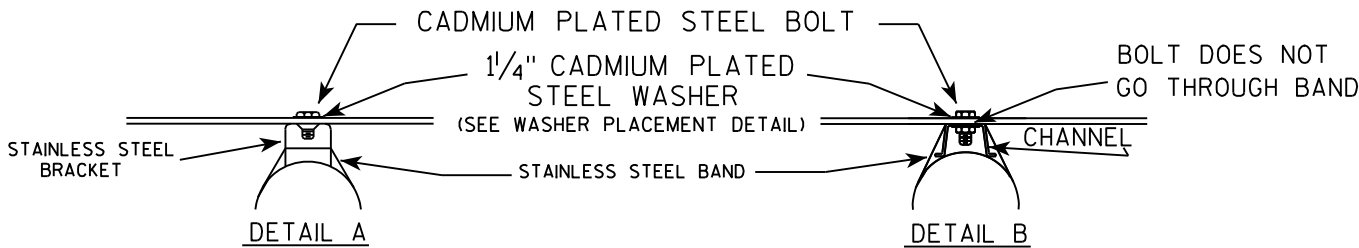
"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET



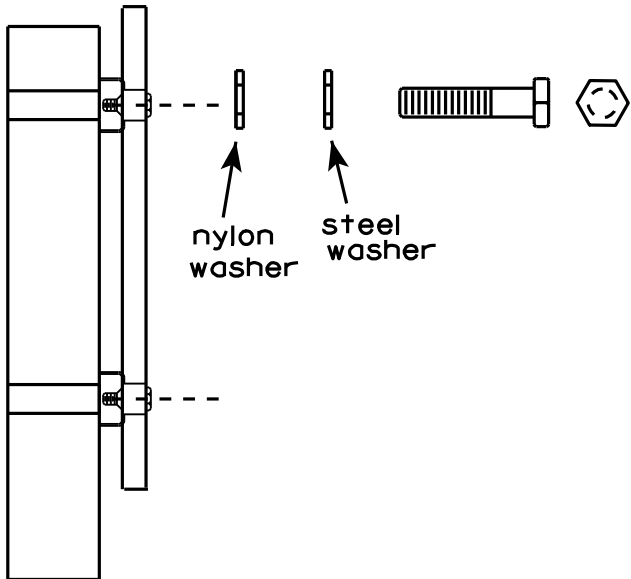
SEE DETAIL B



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 $\frac{3}{4}$ " in width and 0.025" thickness.

WASHER PLACEMENT



nylon washer

steel washer

WASHERS (ALL POSTS) -
1-1/4" O.D. X $\frac{3}{8}$ " I.D. X $\frac{1}{16}$ " STEEL
1-1/4" O.D. X $\frac{3}{8}$ " 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 8/16/13

PLATE NO. A5-9.3

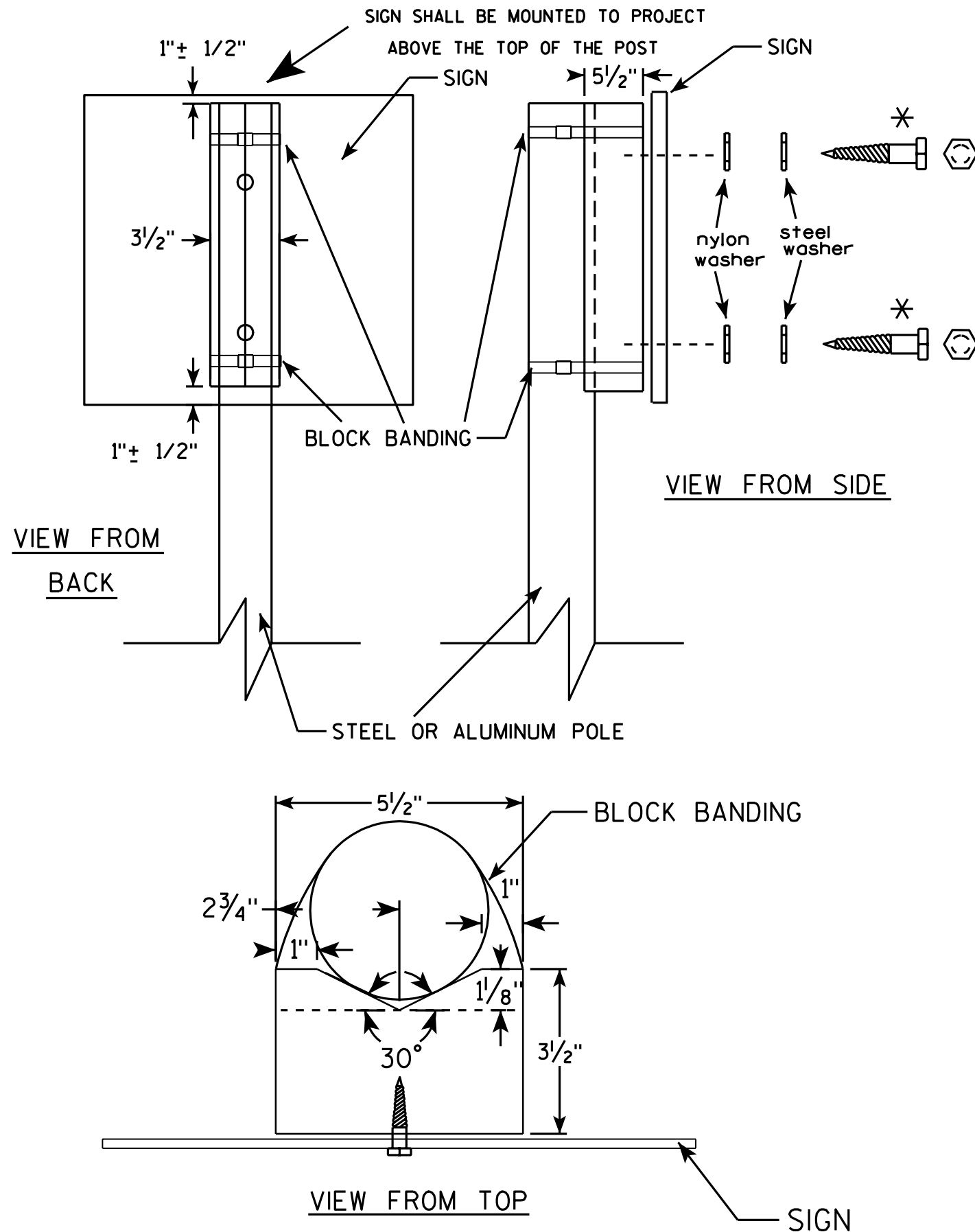
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



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, or
 - b. Cadmium plated in accordance with ASTM Designation : B 766 TYPE 3, Class 12, or
 - c. 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 1/4" O.D. X 3/8" I.D. X 1/16"
8. NYLON WASHERS SHALL BE 1 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 *Matthew R. Rauch*
for State Traffic Engineer

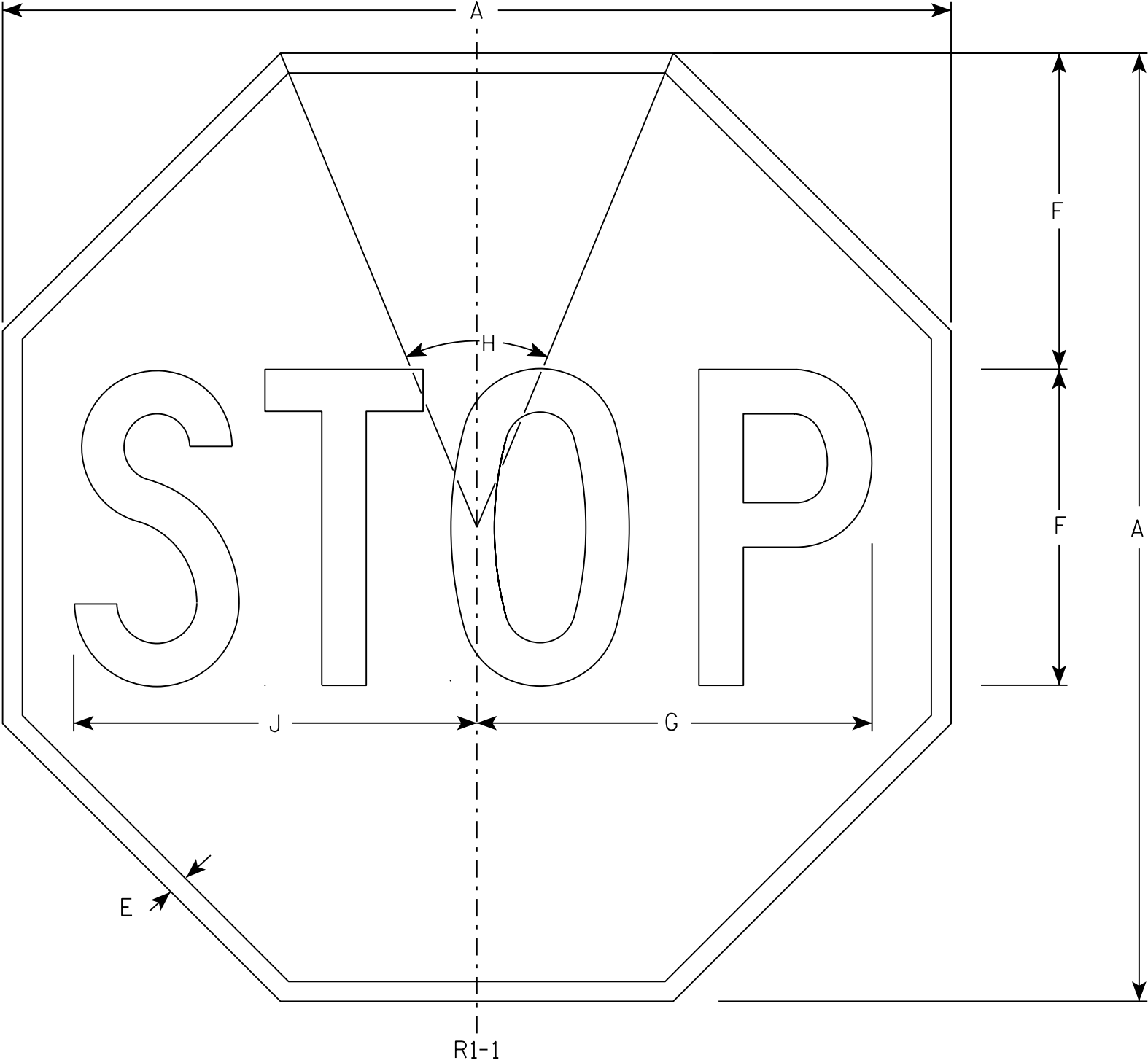
DATE 7/12/07 PLATE NO. A5-10.1

PROJECT NO:

SHEET NO:

E

7



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

7

R1-1

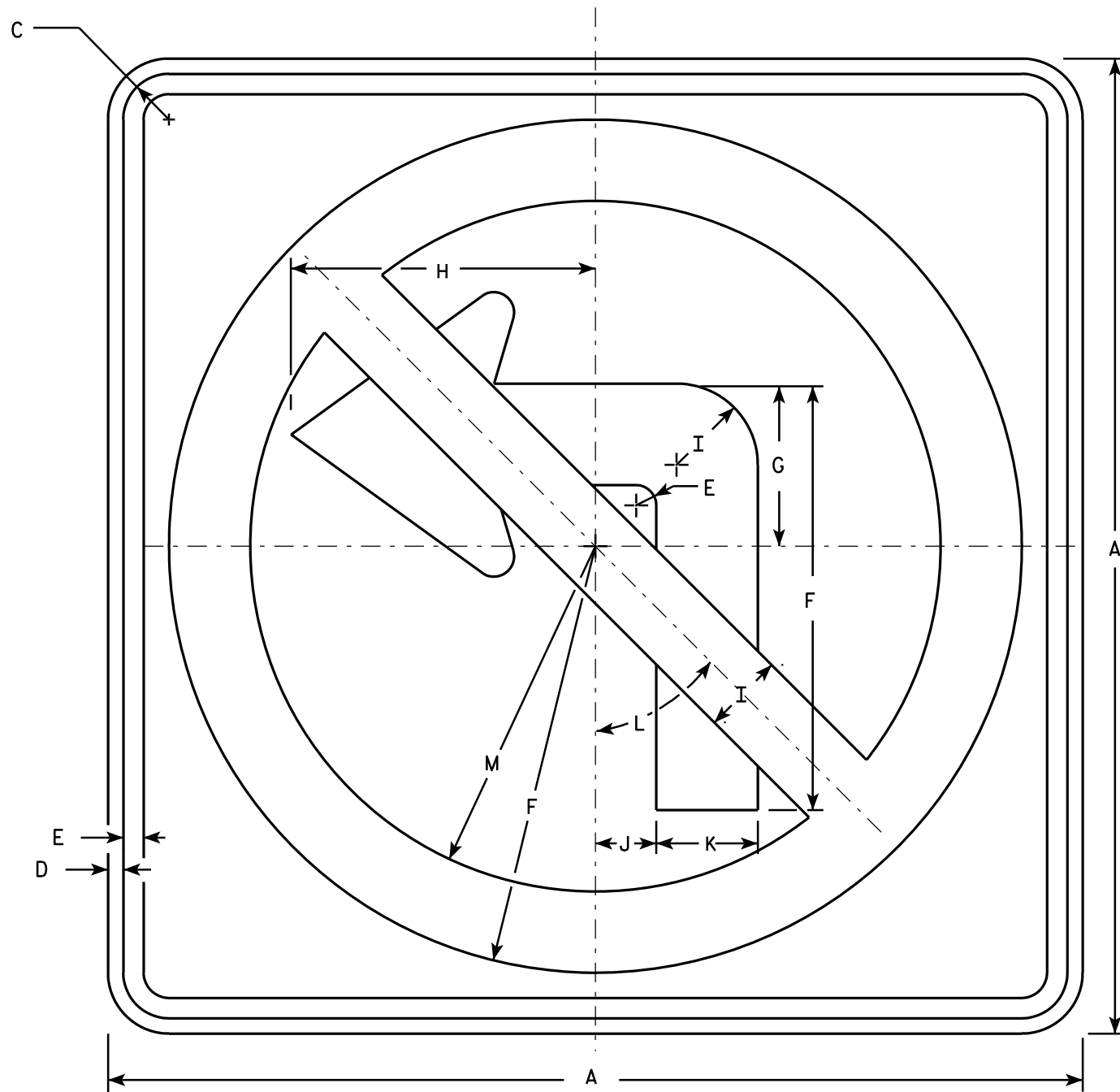
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2S	30				5/8	10	12 1/2	45°		12 3/4																	5.18
2M	36				3/4	12	15	45°		15 3/8																	7.46
3	36				3/4	12	15	45°		15 3/8																	7.46
4	48				1	16	20	45°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

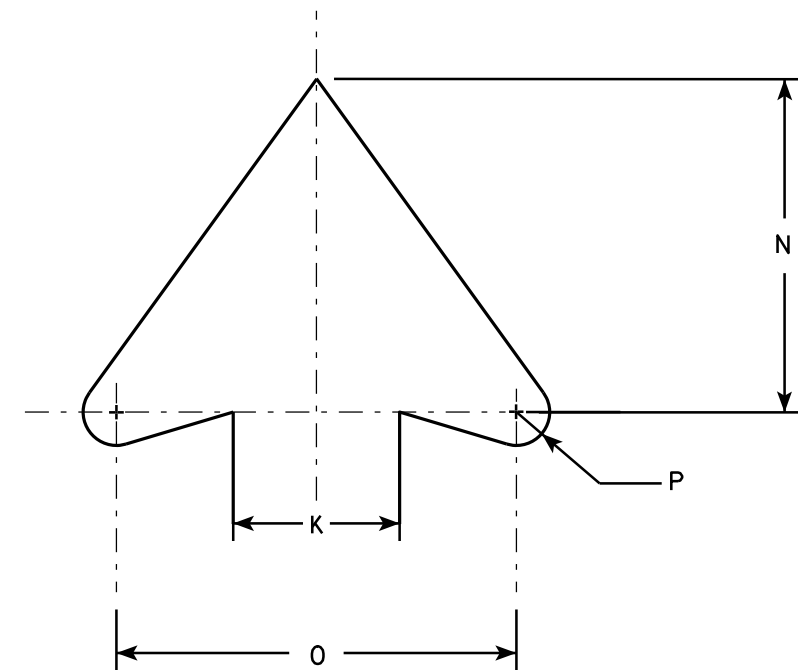
DATE 11/12/15 PLATE NO. R1-1.13



R3-2

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - See note 4
3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
4. Border & Arrow are non reflective black, the circle with diagonal bar is reflective red.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2S	24		1 1/8	3/8	1/2	10 1/2	4	7 1/2	2	1 1/2	2 1/2	45°	8 1/2	5	6	1/2											4.0
2M	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
3	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
4	36		1 5/8	5/8	3/4	15 3/4	6	11 1/4	3	2 1/4	3 3/4	45°	12 3/4	7 1/2	9	3/4											9.0
5	48		2 1/4	3/4	1	21	8	15	4	3	5	45°	17	10	12	1											16.0

STANDARD SIGN
R3-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/08/10 PLATE NO. R3-2.10

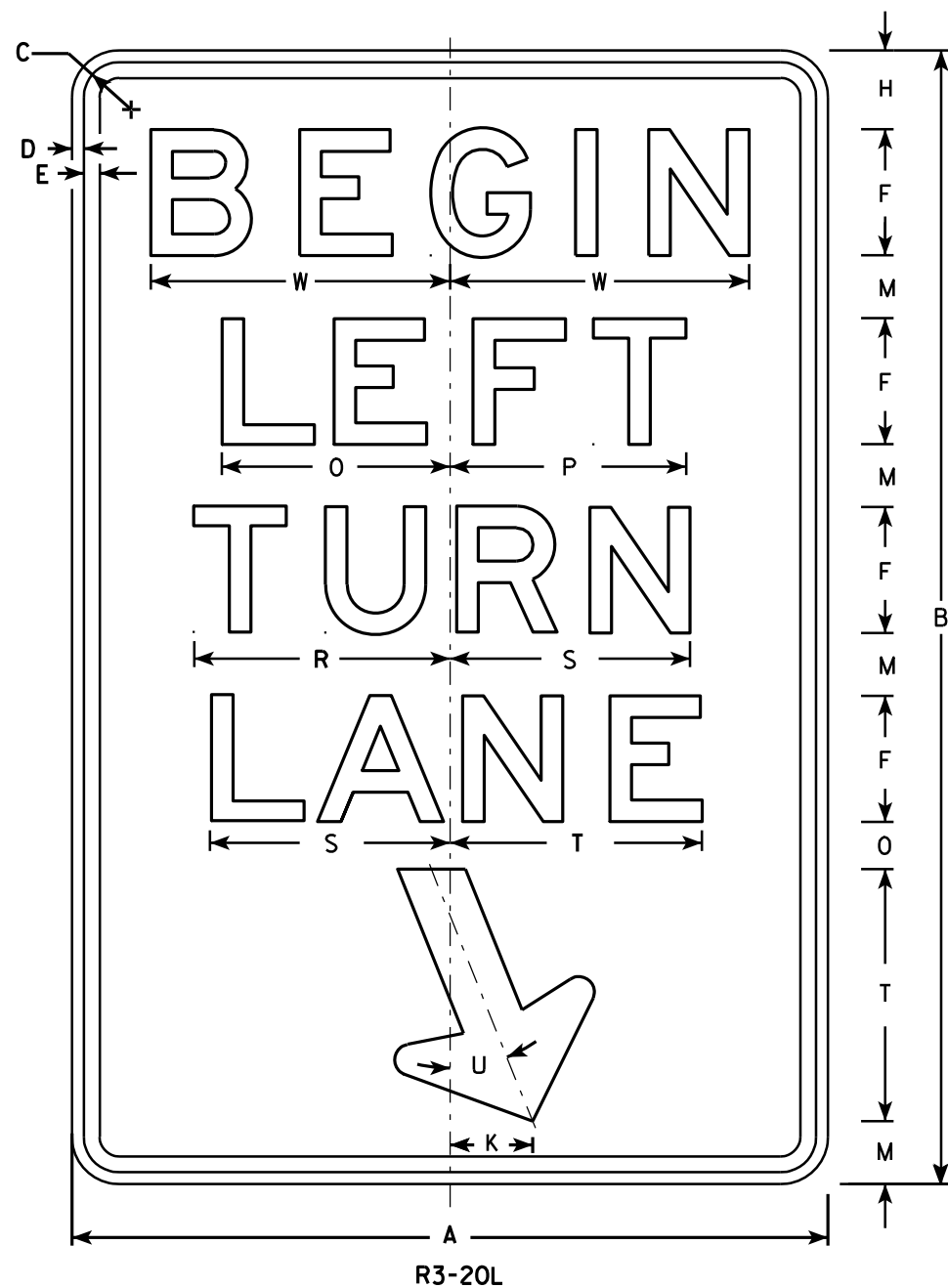
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

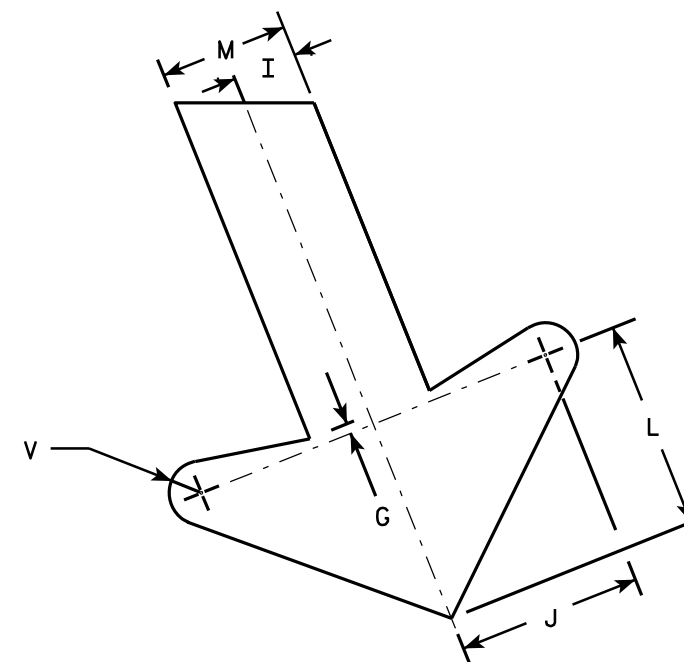
E



R3-20L

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.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
2M	24	36	1 1/8	3/8	1/2	4	1/4	2 1/2	1	2 7/8	2 5/8	3 1/4	2	1 1/2	7 1/4	7 1/2		8 1/8	7 5/8	8	22°	1/2	9 1/2				6.0
3	36	54	1 3/4	1/2	5/8	6	3/8	3 3/4	1 1/2	4 1/4	4	4 7/8	3	2 1/4	10 7/8	11 1/4		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

STANDARD SIGN
R3-20L

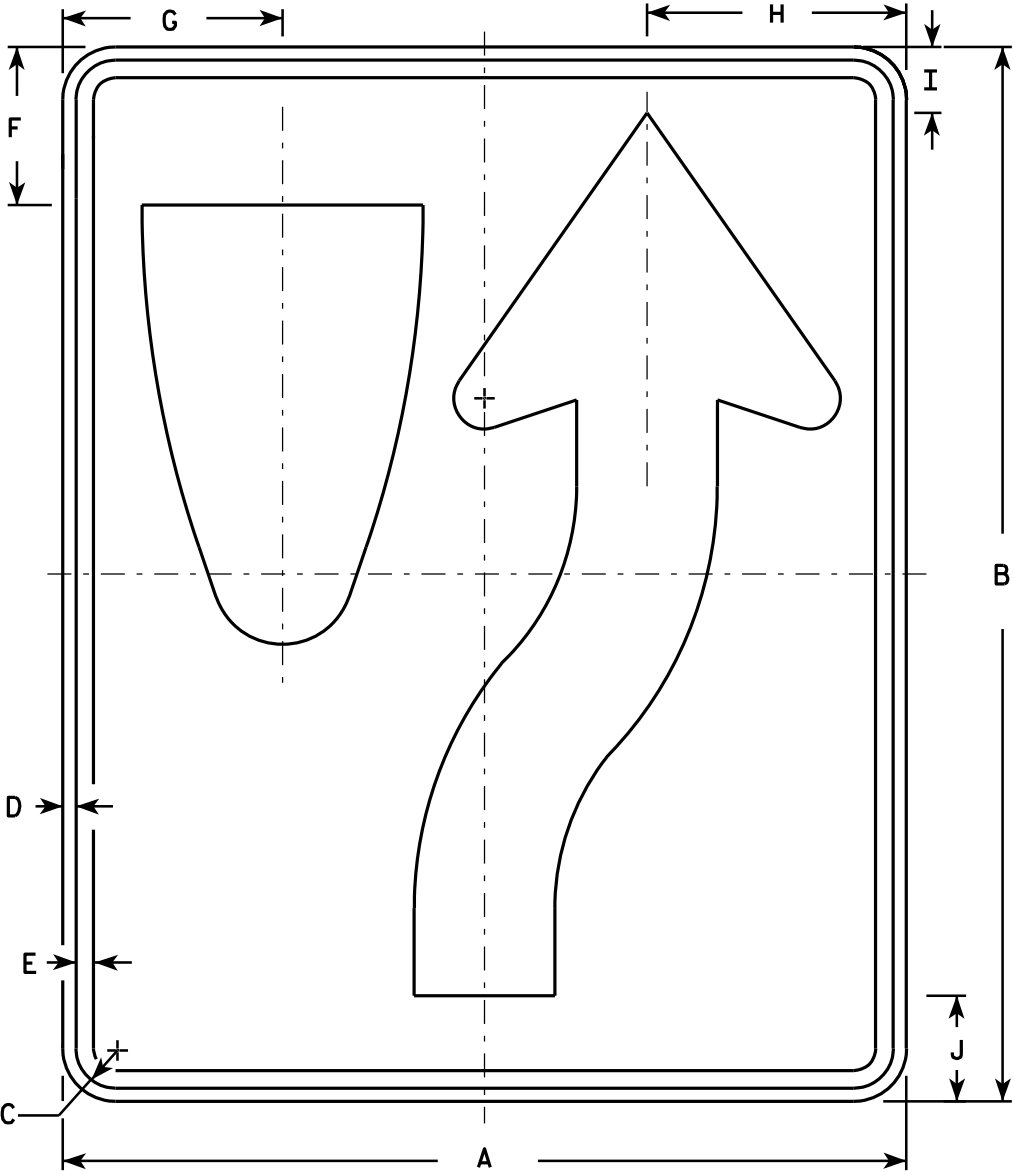
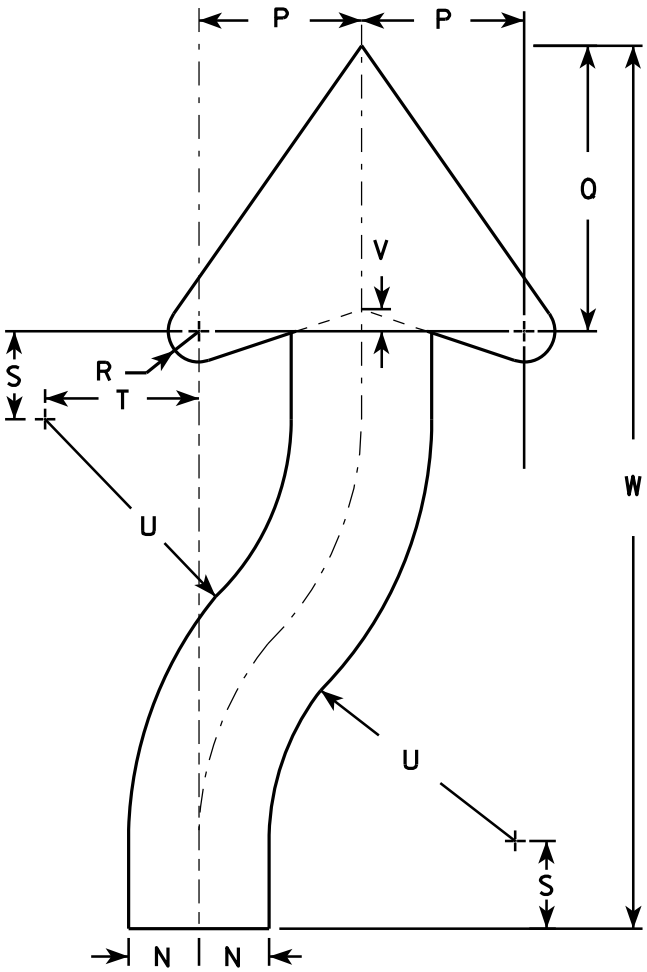
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 10/18/10 PLATE NO. R3-20L.7

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition. material is plywood but borders shall be rounded
2. Color:
Background - White
Message - Black
3. Corners may be square or rounded when base as shown. When base material is metal, the corners and borders shall be rounded.
4. R4-8 is the same as R4-7 except Legend is reversed.



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 3/8	4 3/4	5 1/2	1 3/8	2 1/4	6	3	9 3/8	1 1/2	22 1/2	3 1/2	6 1/8	5/8	1 7/8	3 1/4	6 3/4	1/2	20 3/8				3.0
2S	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
2M	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 7/8	3	8	4	12 1/2	2	30	4 5/8	8 1/8	7/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
3	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
4	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 7/8	4 1/2	12	6	18 3/4	3	45	6 7/8	12 1/4	1 1/4	3 3/4	6 5/8	13 1/2	1	40 3/4				12.0
5	48	60	2 1/4	3/4	1	9	12 1/2	14 3/4	3 3/4	6	16	8	25	4	60	9 1/4	16 1/4	1 5/8	5	8 3/4	18	1 1/4	50 1/4				20.0

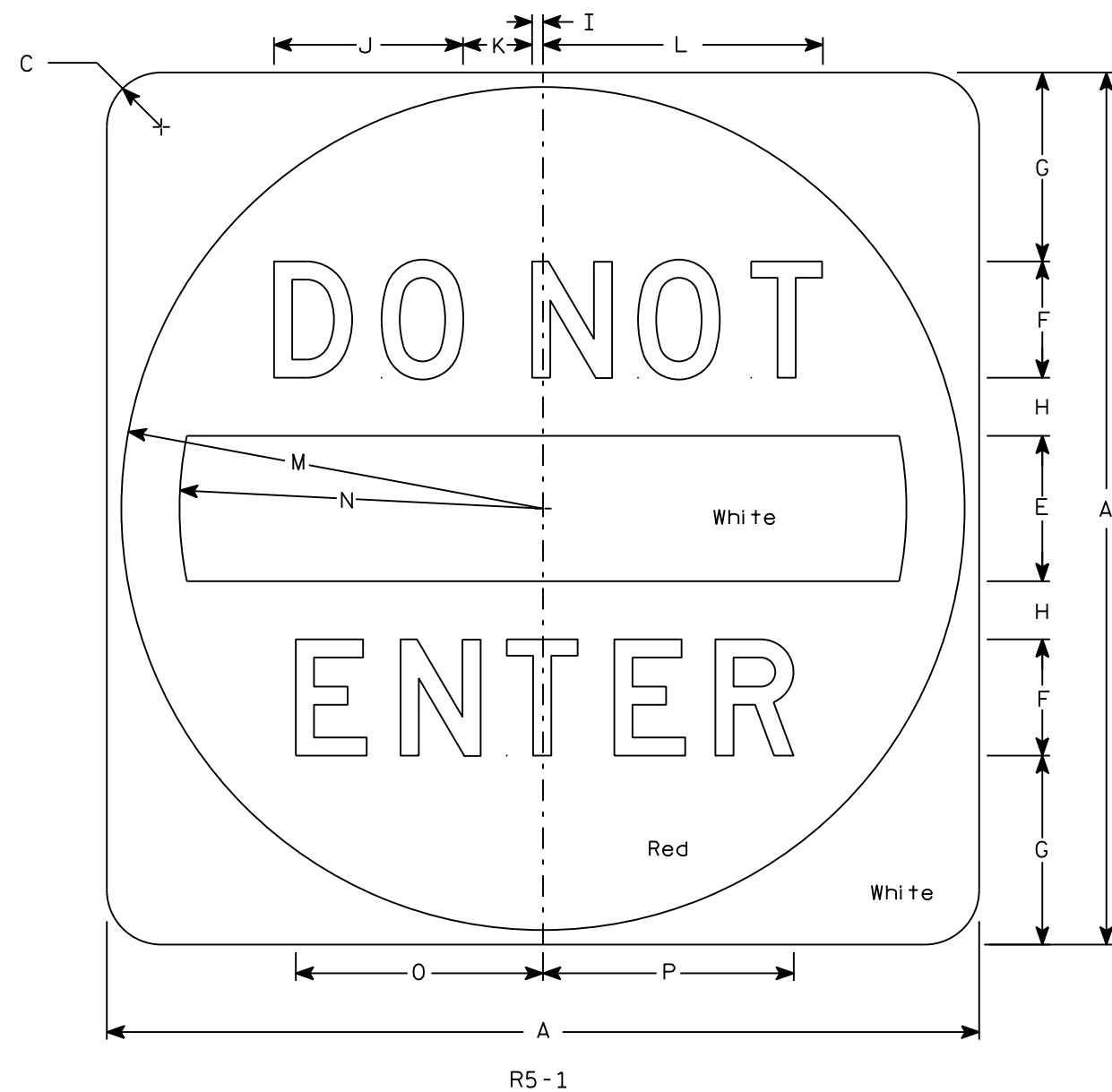
STANDARD SIGN
R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R4-7.8

7



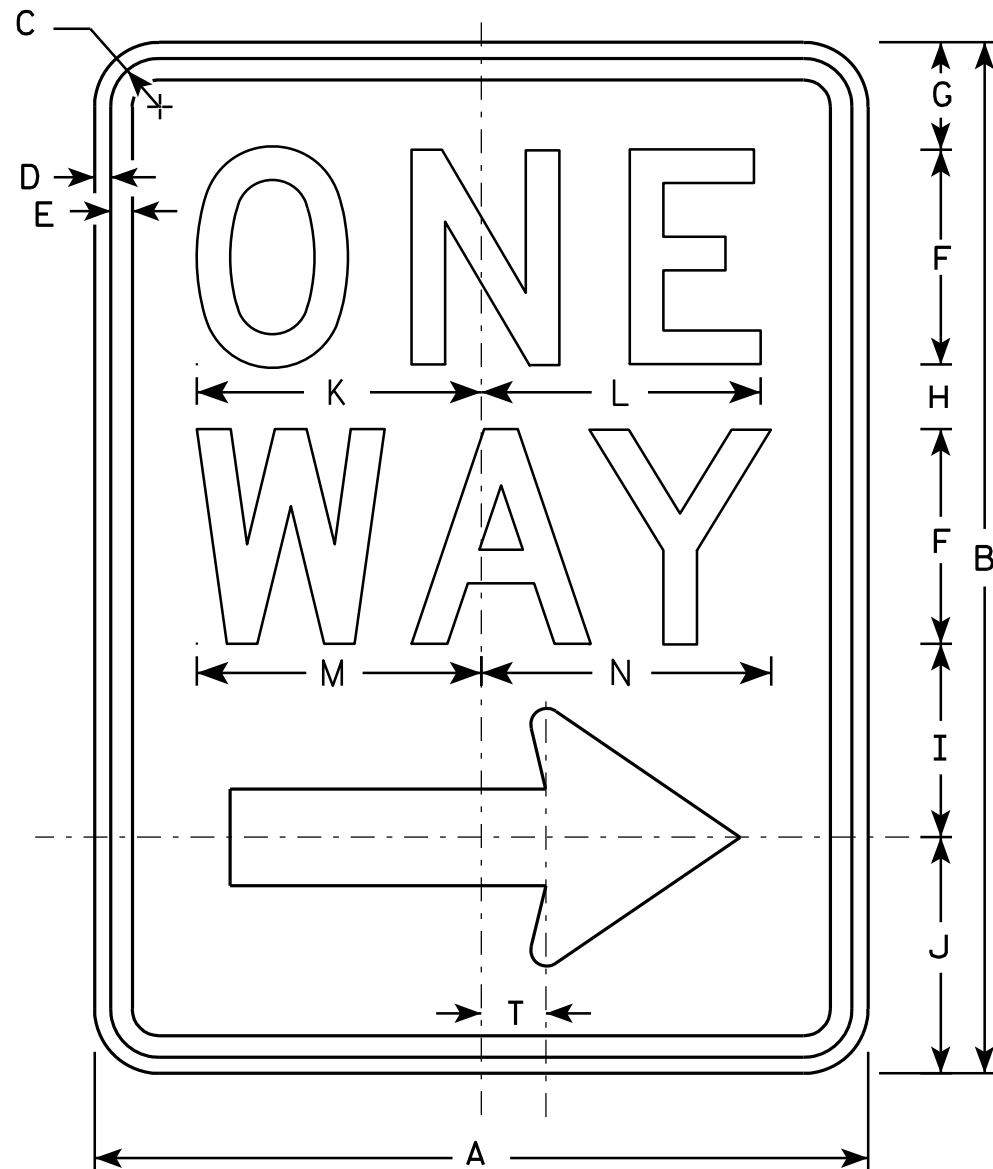
NOTES

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

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

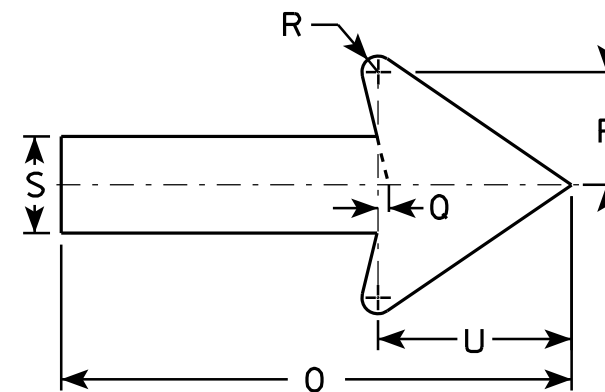
STANDARD SIGN R5-1	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 3/15/18	PLATE NO. R5-1.16



R6-2R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. R6-2L same as R6-2R except arrow points to the left.



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	O	R	S	T	U	V	W	X	Y	Z
1	18	24	1 1/8	3/8	1/2	5	2 1/2	1 1/2	4 1/2	5 1/2	6 5/8	6 1/2	6 5/8	6 3/4	11 7/8	2 5/8	1/4	3/8	2 1/4	1 1/2	4 1/2					
2S	24	30	1 1/8	3/8	1/2	6	3	2 1/2	5 1/2	7	8 1/8	8 1/8	8 1/2	8 5/8	16	3 1/2	3/8	1/2	3	2	6					
2M	30	36	1 3/8	1/2	5/8	8	2 1/2	2 5/8	6 7/8	8	10 1/2	10 1/2	11 1/4	11 1/4	20	4 3/8	1/2	5/8	3 3/4	2 1/2	7 1/2					
3	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
4	36	48	1 7/8	1/2	5/8	10	5 1/4	3 1/4	9	10 1/2	12 3/4	12 3/4	13 1/4	13 1/2	24	5 5/8	1/2	3/4	4 3/4	3	9					
5																										

PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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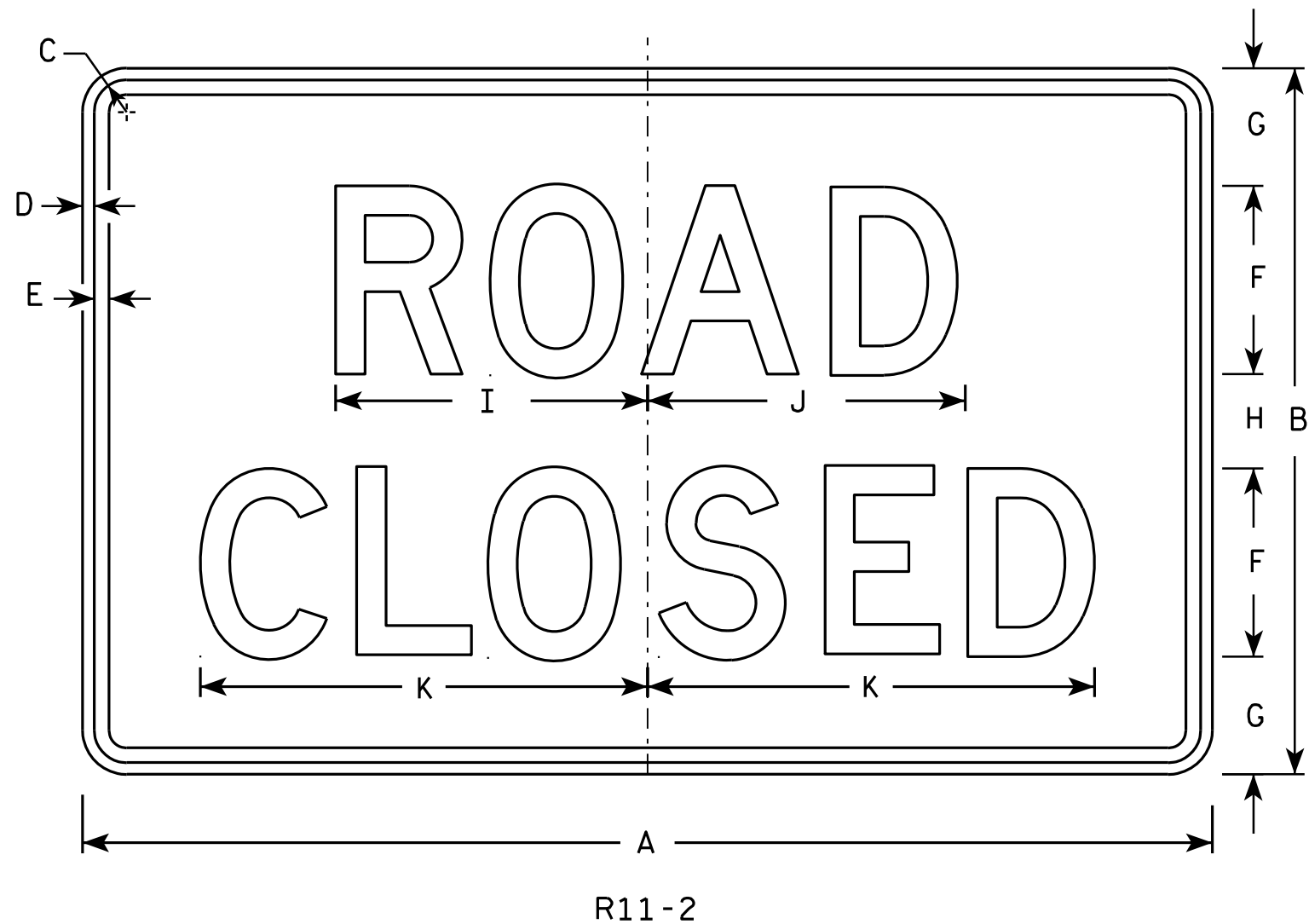
STANDARD SIGN

R6-2 R&L

WISCONSIN DEPT OF TRANSPORTATION

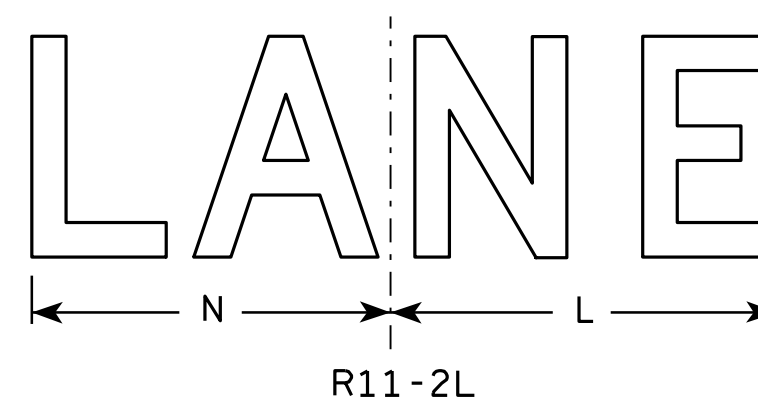
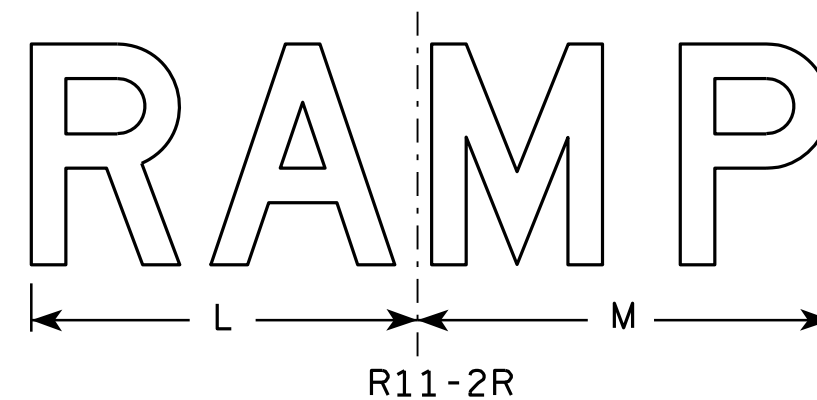
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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



NOTES

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



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
2M	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
3	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
4	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0
5	48	30	1 3⁄8	1⁄2	5⁄8	8	5	4	13 1⁄4	13 1⁄2	19	14	15	13													10.0

STANDARD SIGN R11-2

WISCONSIN DEPT OF TRANSPORTATION

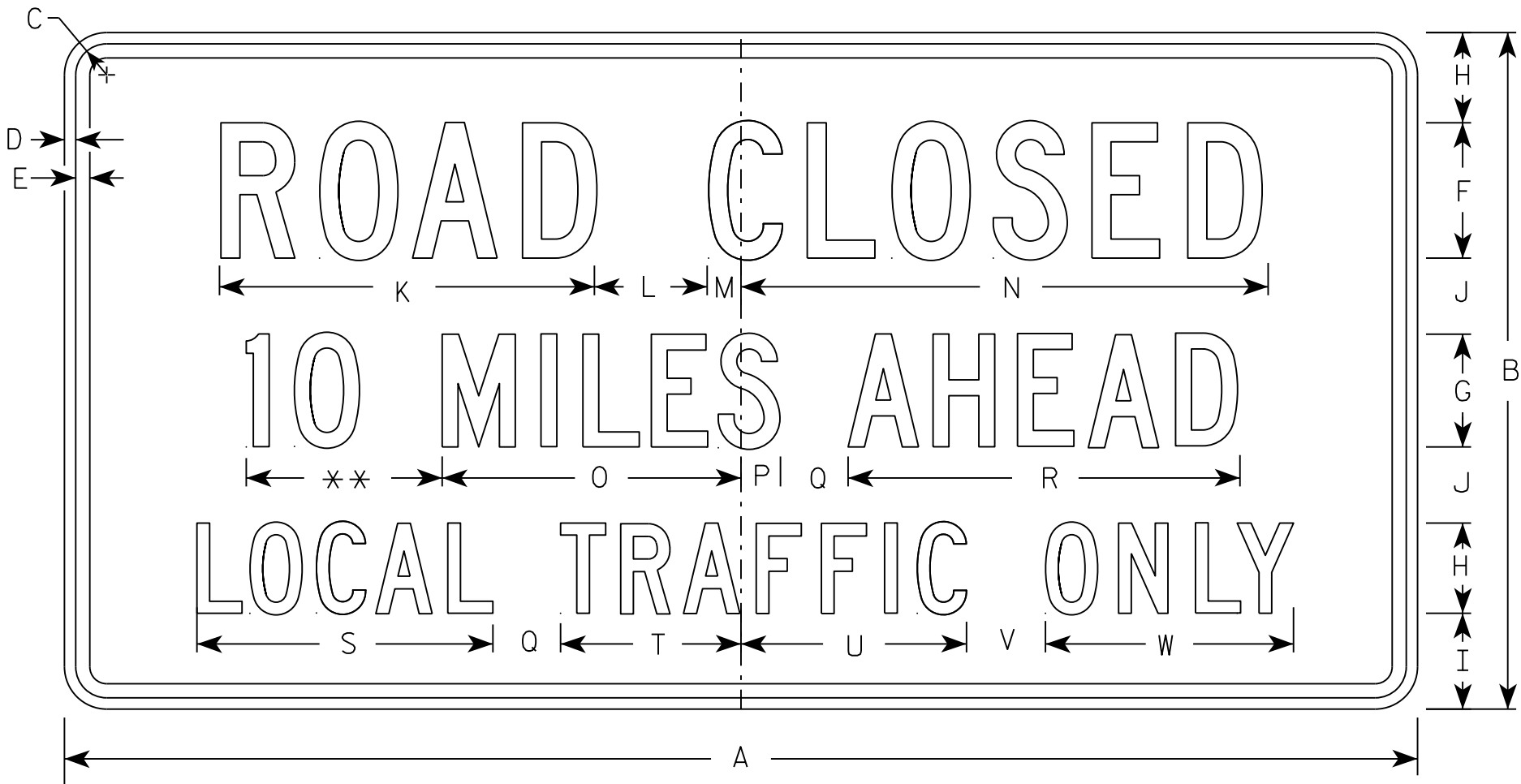
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/1/11 PLATE NO. R11-2.10

PROJECT NO: _____ HWY: _____ COUNTY: _____ SHEET NO: **E**

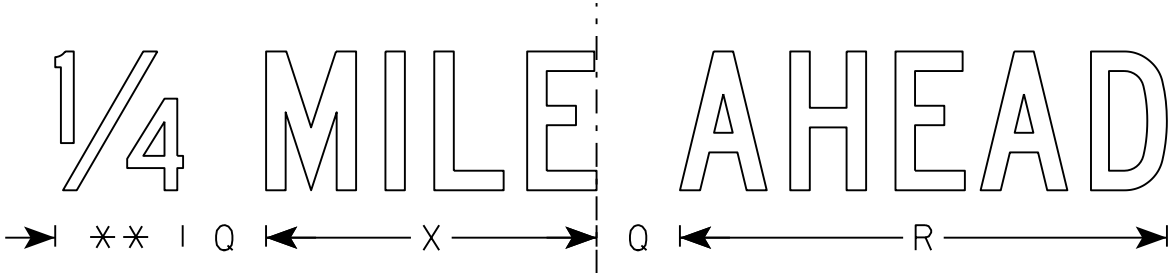
NOTES

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



R11-3

** See Note 5



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

STANDARD SIGN
R11-3

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 3/15/17 PLATE NO. R11-3.8



W4-4P

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 - B
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24	12	1 1/8	3/8	3/8	3	2 1/4	1 1/2	8	1 1/2	3/8	10	6 1/4	2 1/4	2 1/4	6 1/4											2.0
2M	24	12	1 1/8	3/8	3/8	3	2 1/4	1 1/2	8	1 1/2	3/8	10	6 1/4	2 1/4	2 1/4	6 1/4											2.0
3	36	15	1 1/8	3/8	1/2	4	2 5/8	1 3/4	10 3/4	2 3/8	3/8	13 1/2	8 3/8	3	3 1/8	8 3/8											3.75
4	42	18	1 1/8	3/8	1/2	5	3	2	13 3/8	3 1/8	3/8	16 7/8	10 1/2	3 5/8	3 7/8	10 3/8											5.25
5																											

STANDARD SIGN
W4-4P

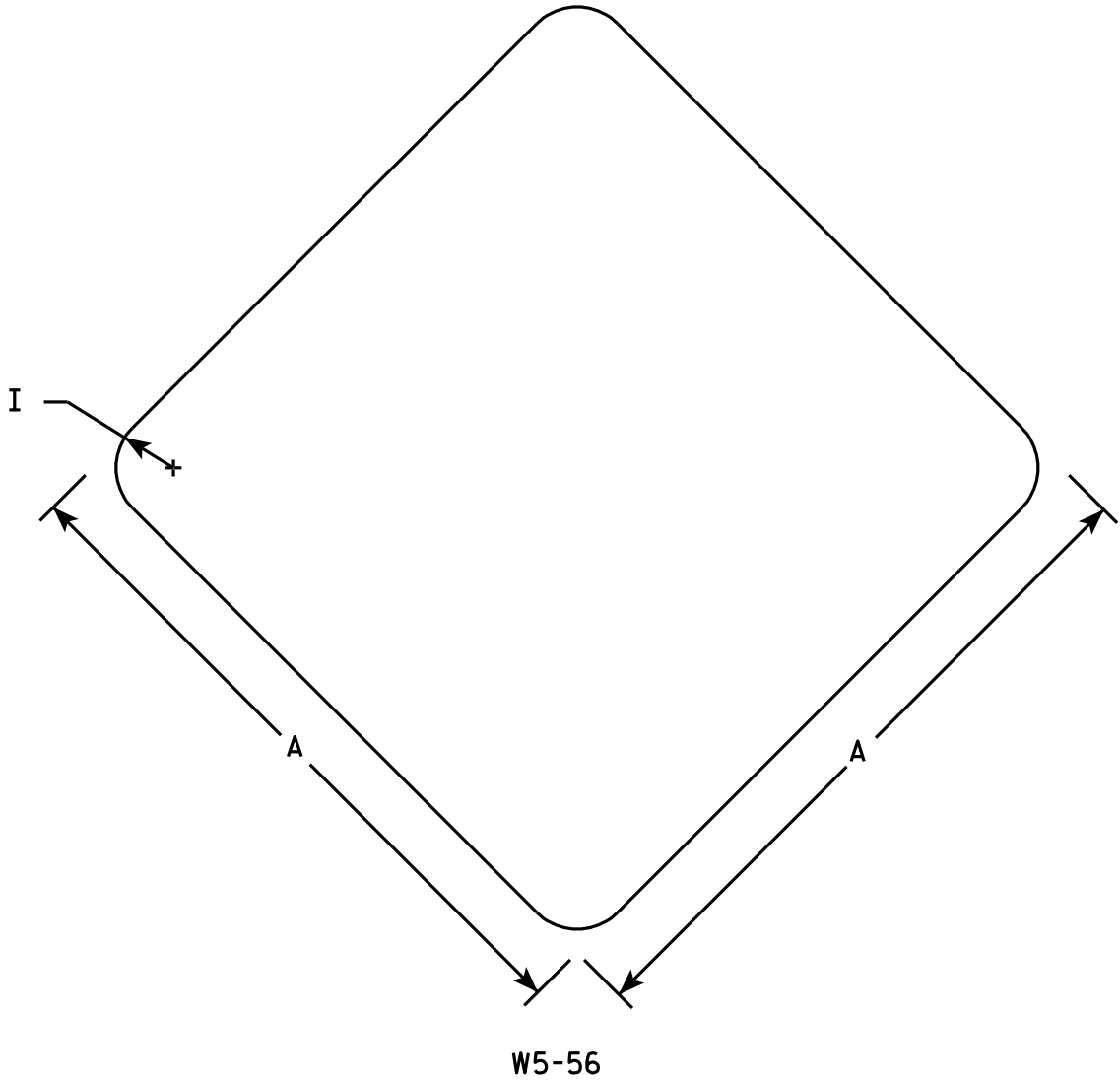
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rasch*
for State Traffic Engineer

DATE 03/12/13 PLATE NO. W4-4P.2

NOTES

- 1. Sign is Type II - Type SH Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - Red
- 3. Corners may be square or rounded when base material is plywood. When base material is metal the corners shall be rounded.

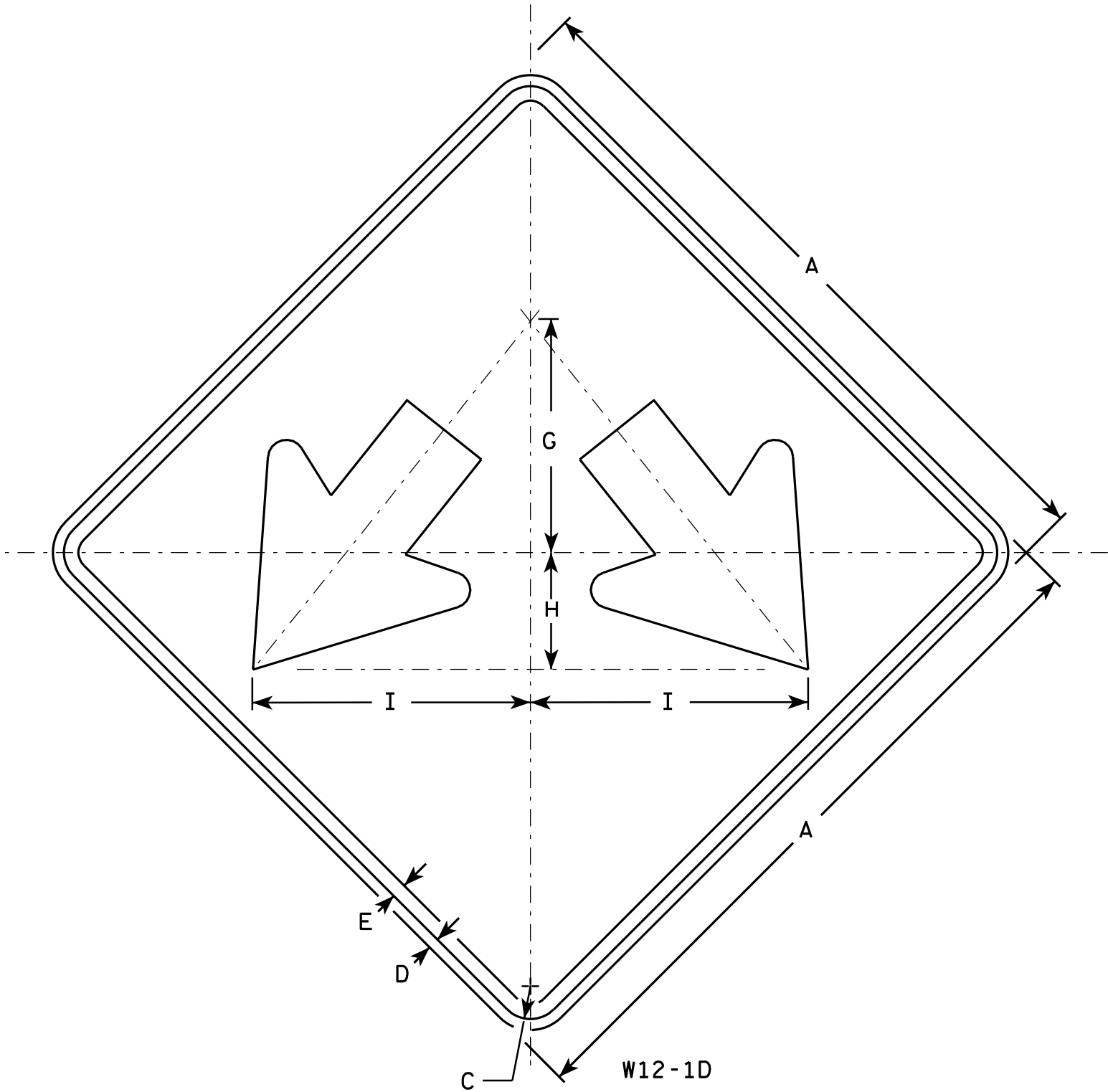


7

7

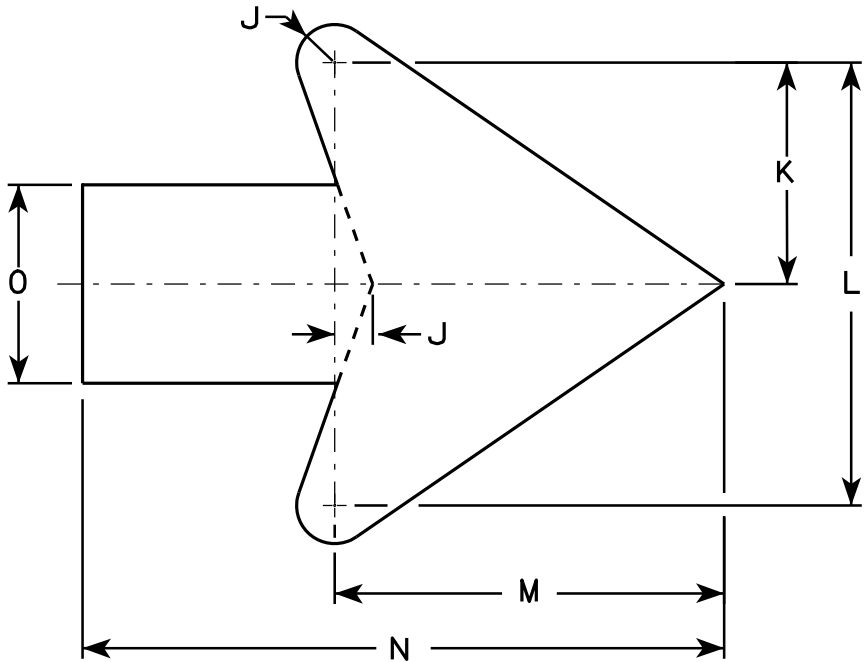
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12								1																		1.0
2S	18								1 1/2																		2.25
2M	18								1 1/2																		2.25
3																											
4																											
5																											

STANDARD SIGN	
W5 - 56	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 11/2/10	PLATE NO. W5-56.6



NOTES

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



Arrow Detail

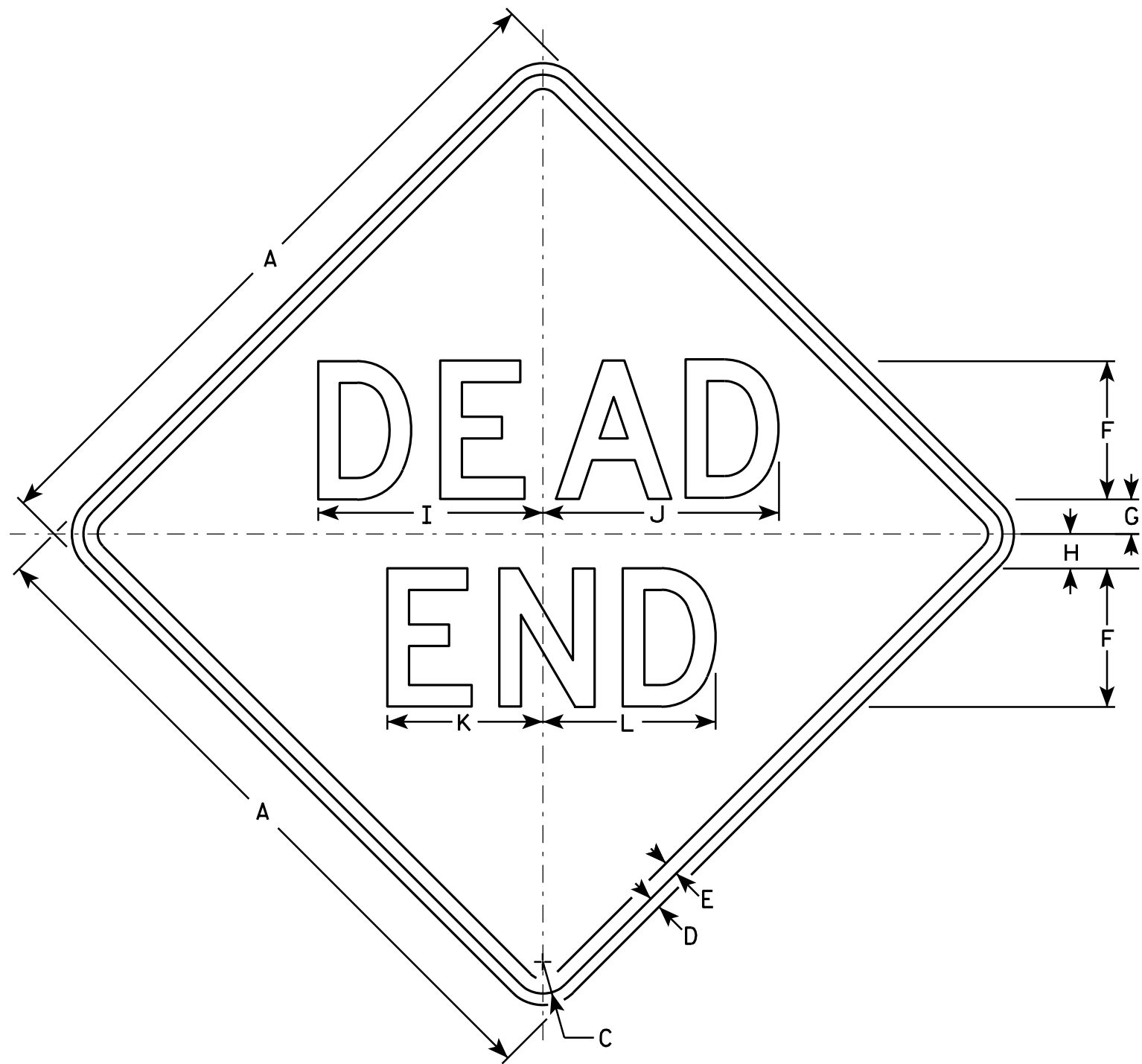
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
2M	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
3	30		1 3/8	1/2	5/8		10	5	11 7/8	3/4	4 1/2	9	7 7/8	13	4												6.25
4	36		1 3/8	1/2	5/8		12	6	14 1/4	1	5 1/2	10 7/8	9 5/8	15 3/4	4 3/4												9.0
5	48		2 1/4	3/4	1		16	8	19	1 1/4	7 1/4	14 1/2	12 3/4	21	6 1/4												16.0

STANDARD SIGN
W12-1D

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W12-1D.15



W14-1

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.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area, sq. ft.
1	24		1 1/8	3/8	1/2	5	1	2	8 1/4	8 5/8	5 5/8	6 1/4															4.0
2S	30		1 3/8	1/2	5/8	6	1 1/2	2 1/2	9 3/4	10 1/4	6 3/4	7 1/2															6.25
2M	30		1 3/8	1/2	5/8	6	1 1/2	2 1/2	9 3/4	10 1/4	6 3/4	7 1/2															6.25
3	36		1 5/8	5/8	3/4	7	2	3	11 3/8	12	7 7/8	8 3/4															9.0
4																											
5																											

STANDARD SIGN
W14-1

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R. Rauch
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W14-1.7

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

AAC										
STATION	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate
	Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Expanded Fill 1.15	
10+12	205.85	65	0.00	0	0	0	0	0	0	0.00
10+34	0.00	0	317.67	84	53	129	84	53	149	-117.93
10+50	0.00	0	451.22	0	0	228	84	53	411	-379.92
10+82	0.00	0	227.96	0	0	402	84	53	874	-842.77
11+00	0.00	0	216.45	0	0	148	84	53	1,044	-1,013.13
11+50	0.00	0	197.75	0	0	384	84	53	1,485	-1,454.18
11+60	0.00	0	198.61	0	0	73	84	53	1,569	-1,538.59
11+75	0.00	0	199.19	0	0	111	84	53	1,697	-1,665.66
12+00	0.00	0	183.28	0	0	177	84	53	1,900	-1,869.29
12+25	0.00	0	157.27	0	0	158	84	53	2,082	-2,050.60
12+50	0.00	0	117.45	0	0	127	84	53	2,228	-2,196.87
12+75	0.00	0	87.91	0	0	95	84	53	2,337	-2,306.20
12+83	0.00	0	78.57	0	0	25	84	53	2,365	-2,334.57
13+00	0.00	0	46.50	0	0	39	84	53	2,411	-2,379.84
13+25	13.64	0	28.41	6	0	35	90	53	2,451	-2,413.41
13+50	17.41	0	3.58	14	0	15	105	53	2,468	-2,416.07
13+75	28.15	8	10.90	21	0	7	126	53	2,475	-2,402.69
14+00	40.30	8	90.72	32	7	47	157	60	2,529	-2,432.51
14+05	41.34	8	108.40	8	1	18	165	62	2,551	-2,447.64
14+50	33.84	8	44.73	63	13	128	228	75	2,697	-2,545.06
15+00	52.61	8	13.70	80	15	54	308	90	2,760	-2,542.04
15+50	77.95	8	2.83	121	15	15	428	105	2,777	-2,453.56
15+77	79.20	8	1.57	79	8	2	507	113	2,780	-2,385.52
15+85	80.81	8	1.28	24	2	0	531	115	2,780	-2,364.67
15+94	83.92	8	0.89	27	3	0	558	118	2,781	-2,340.30
16+25	104.10	8	20.47	108	9	12	666	127	2,795	-2,255.65
PD Driveway										
STATION	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate
	Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Expanded Fill 1.15	
0+50	15.12	6.00	1.48	0	0	0	0	0	0	0.00
1+00	7.30	3.00	15.53	21	8	16	21	8	18	-5.67
1+22	5.72	2.00	32.21	5	2	19	26	10	40	-24.75
1+25	4.21	1.00	5.68	1	0	2	27	11	43	-26.80
1+35	0.84	0.00	80.39	1	0	17	28	11	62	-45.03

STH 32 Median

STATION	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate
	Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Expanded Fill 1.15	
36+68.94	0.00	3.00	0.00	0	0	0	0	0	0	0.00
37+00	22.64	3.00	22.79	13	3	13	13	3	15	-5.50
37+50	27.66	3.00	28.71	47	6	48	60	9	70	-19.33
38+00	28.21	3.00	29.69	52	6	54	111	15	132	-35.35
38+50	27.72	3.00	30.45	52	6	56	163	20	196	-53.16
39+00	28.46	3.00	32.52	52	6	58	215	26	263	-73.74
39+50	26.78	3.00	53.77	51	6	80	266	31	355	-120.03
40+00	33.95	3.00	42.11	56	6	89	322	37	457	-171.45
40+50	34.45	3.00	36.48	63	6	73	386	42	541	-197.36
41+00	37.78	3.00	29.48	67	6	61	453	48	611	-206.28
41+50	20.12	3.00	25.50	54	6	51	506	53	670	-216.77
42+00	20.70	3.00	15.28	38	6	38	544	59	713	-227.96
42+50	27.90	5.50	9.24	45	8	23	589	67	739	-216.95
42+99.59	34.24	7.50	6.41	57	12	14	646	79	756	-188.37
43+50	37.60	7.50	2.26	67	14	8	713	93	765	-144.62
44+00	55.05	7.50	0.00	86	14	2	799	107	767	-75.13
44+30.15	98.55	7.50	0.00	86	8	0	885	115	767	2.25
44+50	95.86	25.00	0.00	71	12	0	956	127	767	61.78
45+00	88.32	25.00	0.00	171	46	0	1,127	173	767	186.02
45+50	64.65	7.50	0.02	142	30	0	1,268	203	767	297.55
46+00	57.12	7.50	9.27	113	14	9	1,381	217	777	386.52
46+50	53.88	7.50	10.15	103	14	18	1,484	231	798	454.75
47+00	42.62	5.50	9.65	89	12	18	1,573	243	819	510.99
47+50	32.12	3.00	19.01	69	8	27	1,642	251	850	541.82
48+00	26.53	3.00	23.02	54	6	39	1,697	257	894	545.81
48+50	19.67	3.00	18.28	43	6	38	1,740	262	938	540.00

STH 32 West Ditch

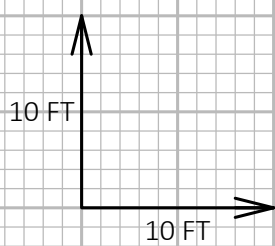
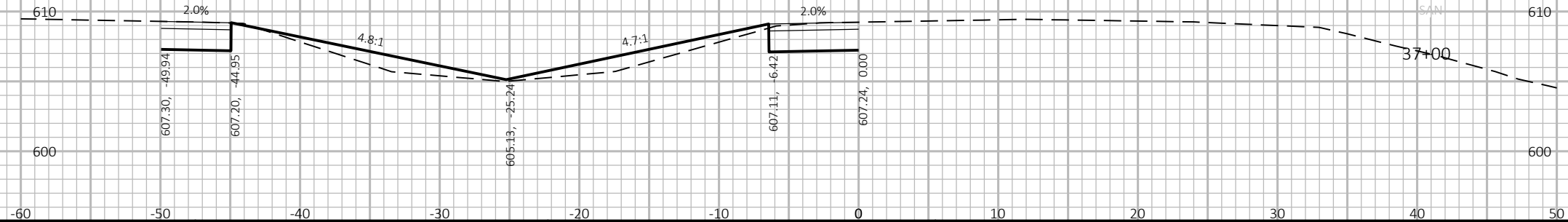
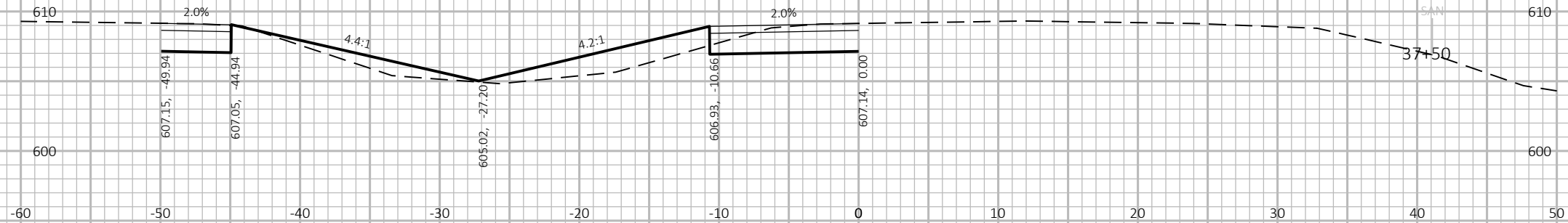
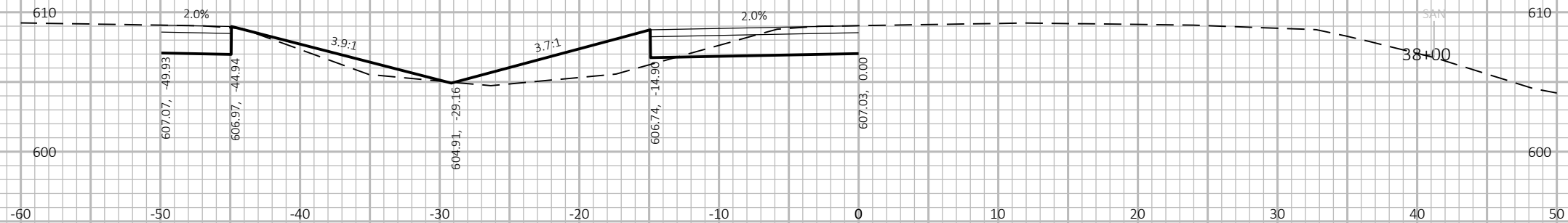
STATION	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate
	Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Expanded Fill 1.15	
39+33.71	26.07	4.00	0.00	0	0	0	0	0	0	0.00
39+50	25.43	4.00	12.95	16	2	4	16	2	4	8.63
39.75.13	18.10	4.00	23.69	20	4	17	36	6	24	5.56
40+00	17.76	4.00	84.27	17	4	50	52	10	82	-40.00

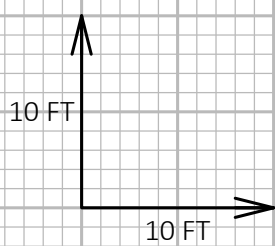
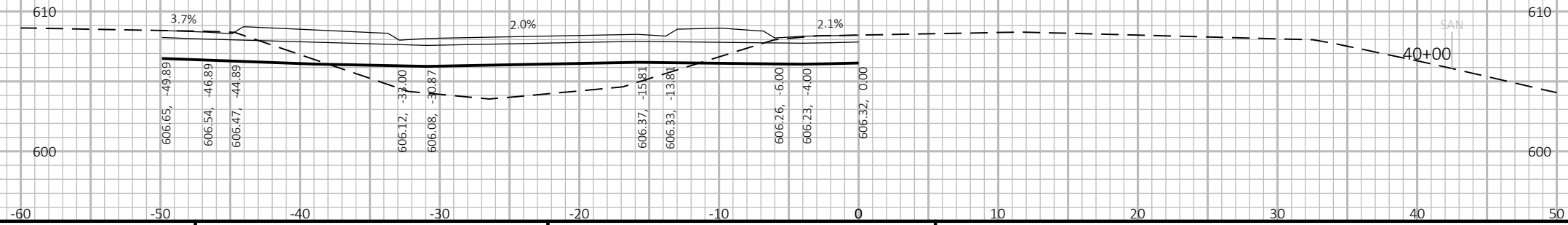
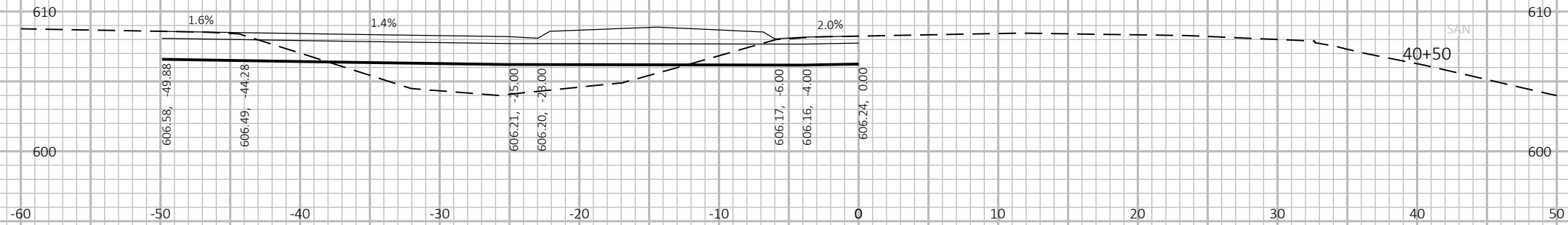
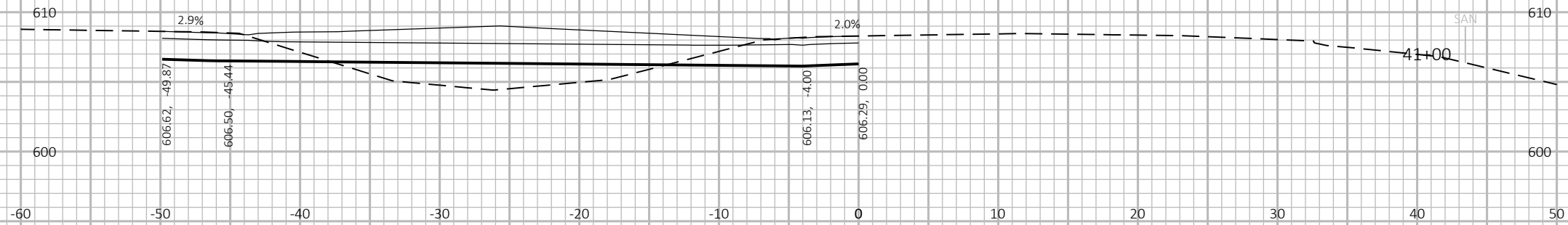
STH 32 West Ditch

STATION	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate
	Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Expanded Fill 1.15	
41+00	21.31	4.00	78.46	0.00	0	0	0	0	0	0.00
41+24	20.39	4.00	23.84	18.47	4	45	18	4	52	-37.18
41+50	29.40	4.00	15.13	24.05	4	19	43	7	74	-38.64
42+00	29.48	4.00	7.37	54.52	7	21	97	15	98	-15.49
42+50	28.71	4.00	7.47	53.88	7	14	151	22	114	15.17
43+00	27.82	4.00	4.54	52.34	7	11	203	30	126	47.32
43+50	30.26	4.00	2.26	53.78	7	6	257	37	134	86.46
44+00	38.92	4.00	1.91	64.05	7	4	321	44	138	138.67
44+50	76.31	4.00	0.00	106.70	7	2	428	52	140	235.93
44+73	73.35	4.00	0.00	65.03	3	0	493	55	140	297.49
45+00	99.72	4.00	0.00	85.04	4	0	578	59	140	378.60
45+49	41.29	4.00	0.00	128.32	7	0	706	67	140	499.63

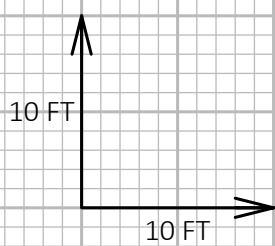
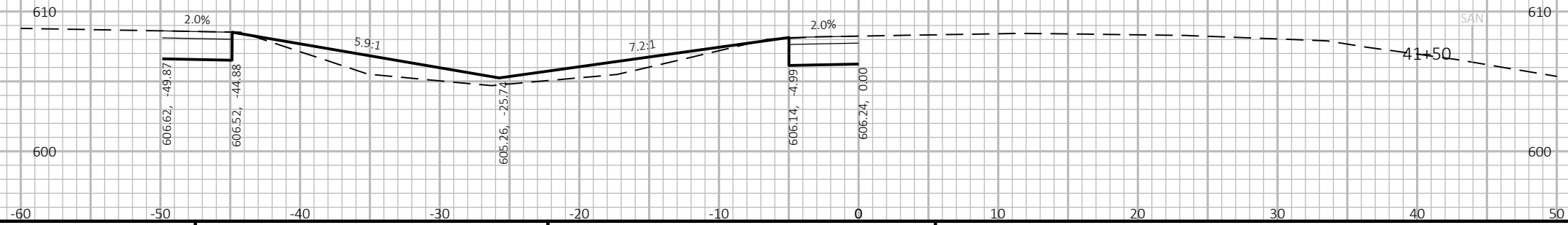
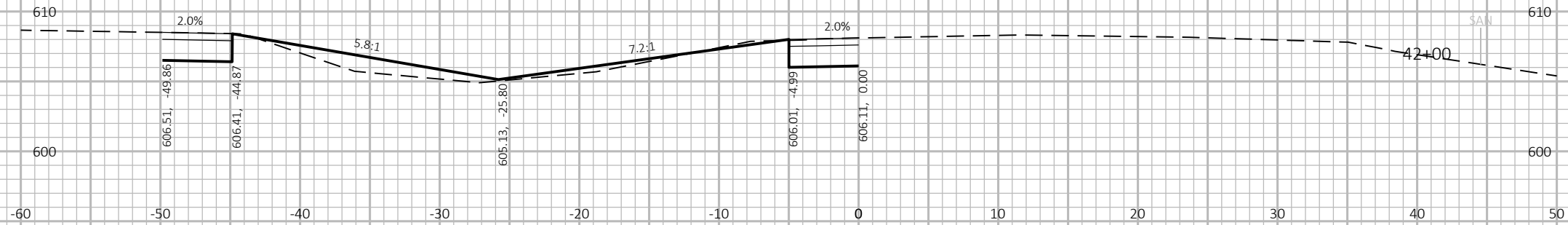
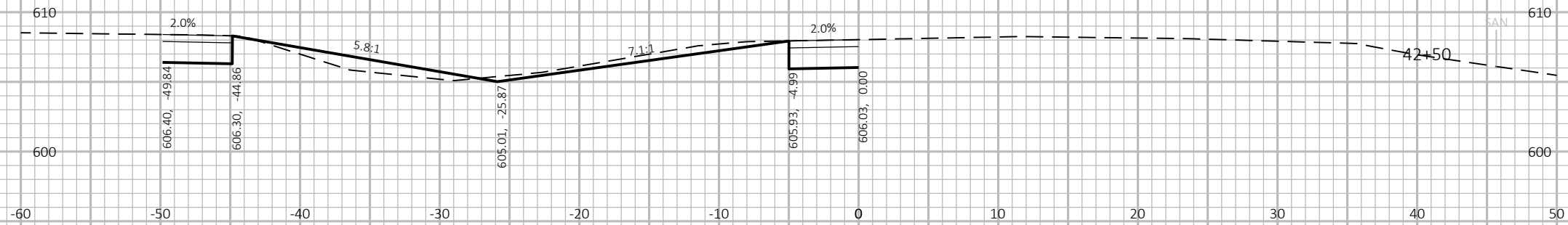
Parkview Road

STATION	AREA (SF)			Incremental Vol (CY) (Unadjusted)			Cumulative Vol (CY)			Mass Ordinate
	Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Fill	Cut	Salvaged/Unusable Pavement Material	Expanded Fill 1.15	
0+01	68.33	10.00	0.02	0	0	0	0	0	0	0.00
0+08	70.49	10.00	3.04	17	2	0	17	2	0	14.36
0+26	65.93	10.00	2.40	47	7	2	64	9	3	52.13
0+50	65.68	10.00	5.86	57	9	4	122	18	7	96.71
0+84	85.19	10.00	5.03	96	13	7	218	31	15	172.25
1+00	77.55	10.00	2.76	47	6	2	265	37	17	210.74
1+21	50.12	10.00	3.70	50	8	3	315	44	20	250.16
1+50	43.37	10.00	13.17	50	11	9	365	55	31	278.97
1+84	35.62	10.00	13.54	50	13	17	415	68	50	297.01
2+00	39.08	10.00	24.21	21	6	11	437	74	63	300.26
2+50	156.47	10.00	6.71	181	19	29	618	92	96	429.87
2+53	161.08	10.00	4.99	19	1	1	637	93	96	447.21
2+88	90.55	10.00	0.00	163	13	3	800	106	100	594.00

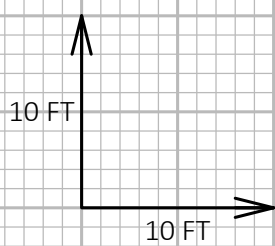
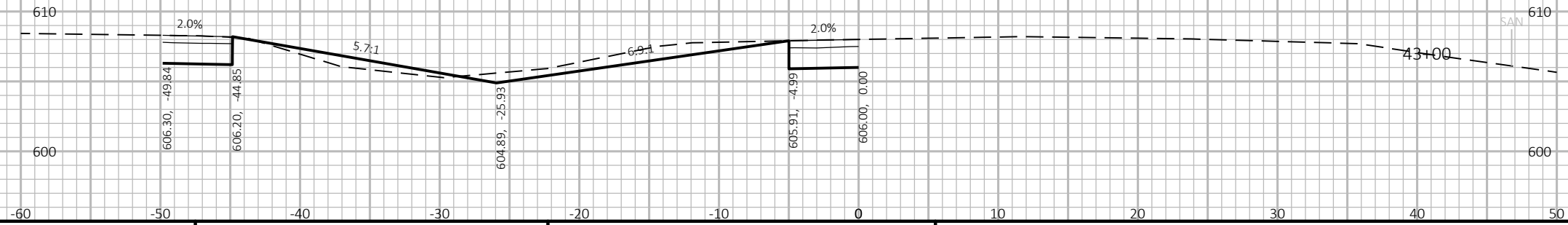
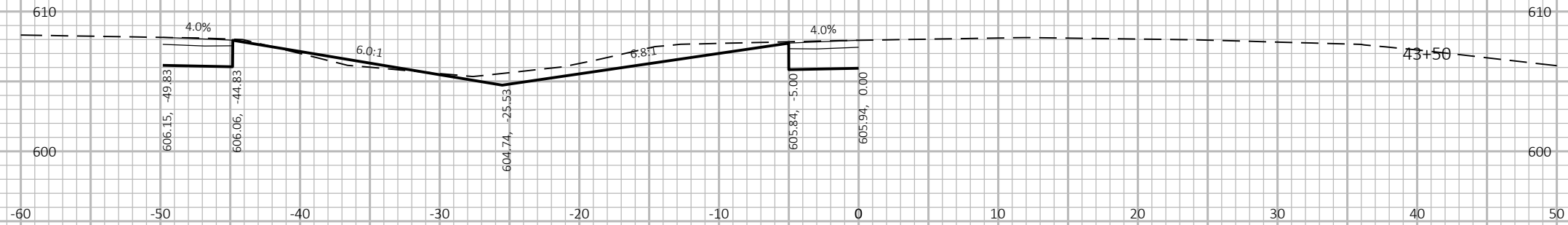
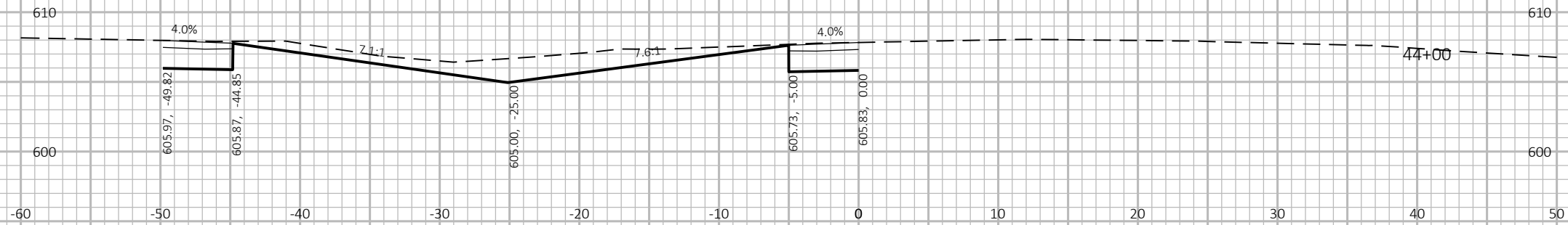


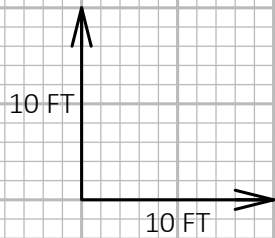
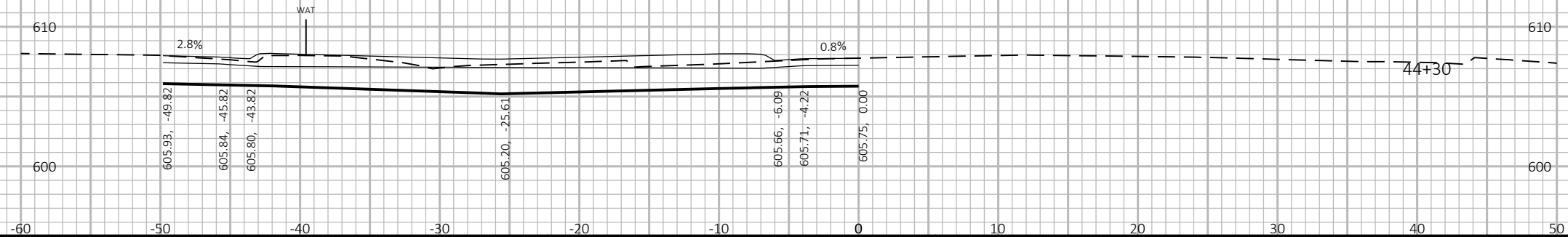
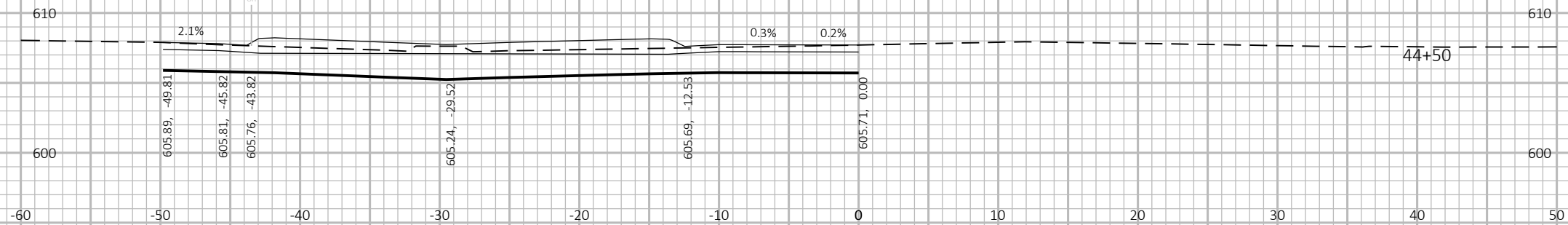
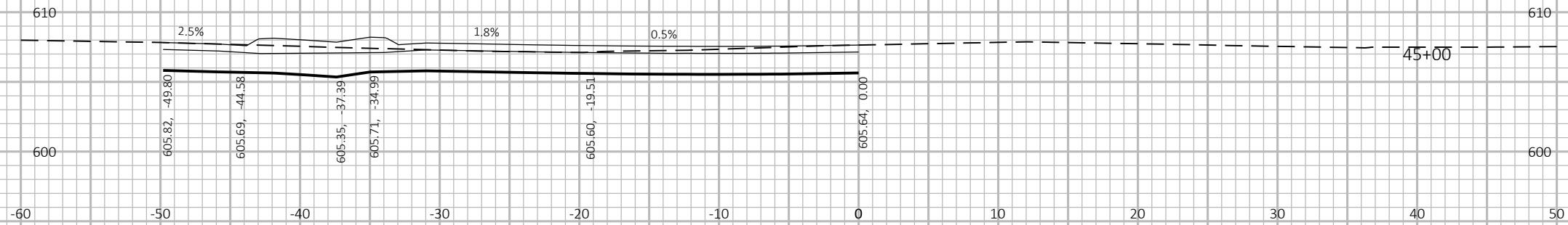


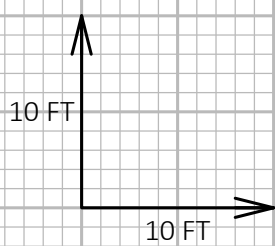
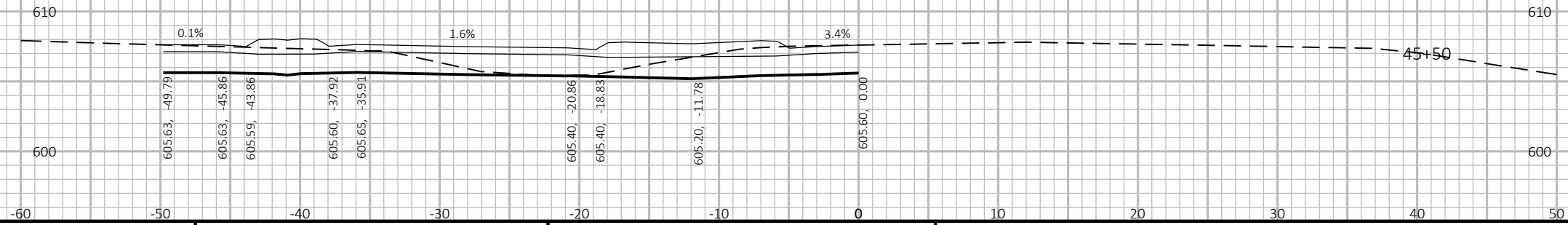
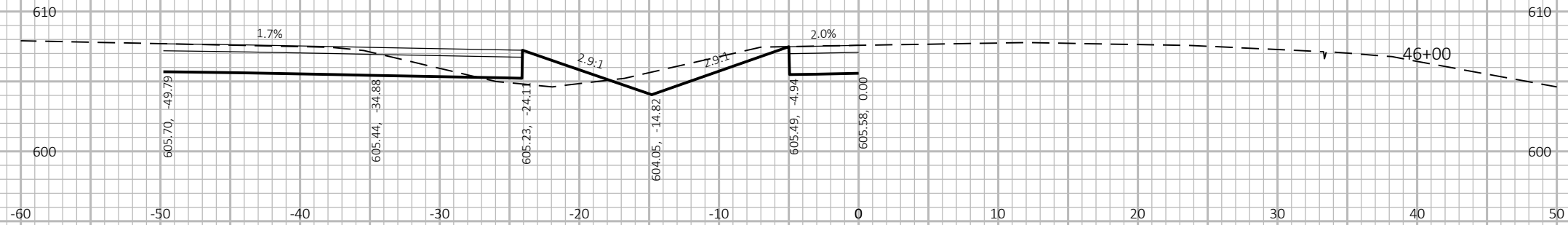
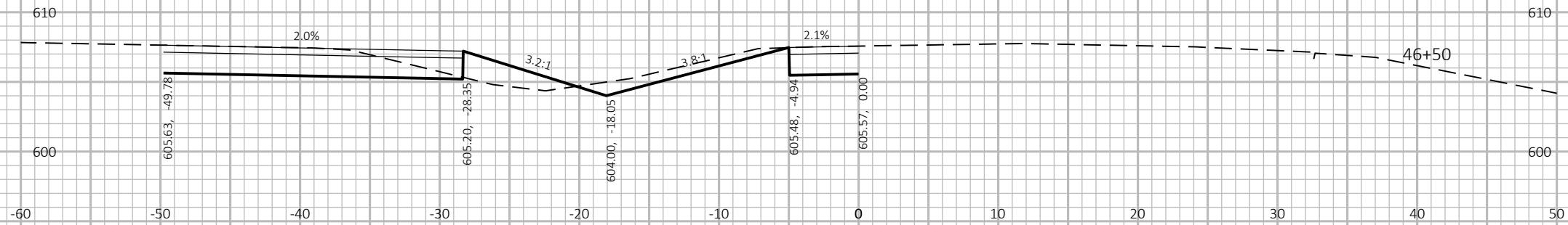
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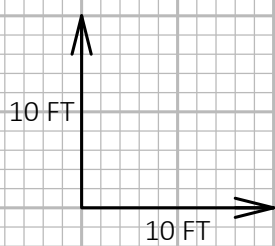
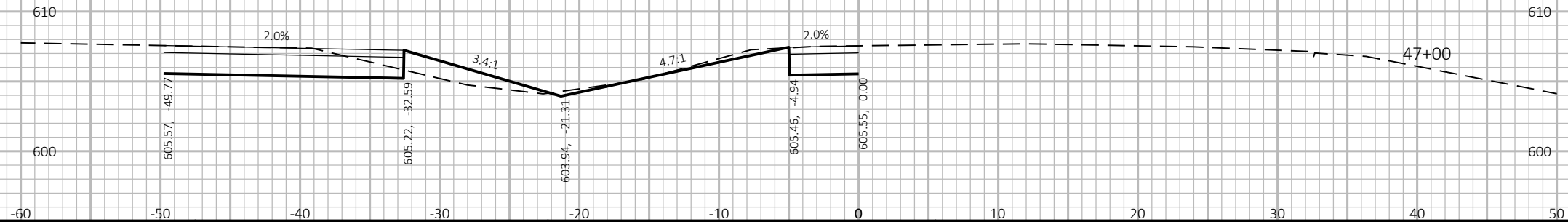
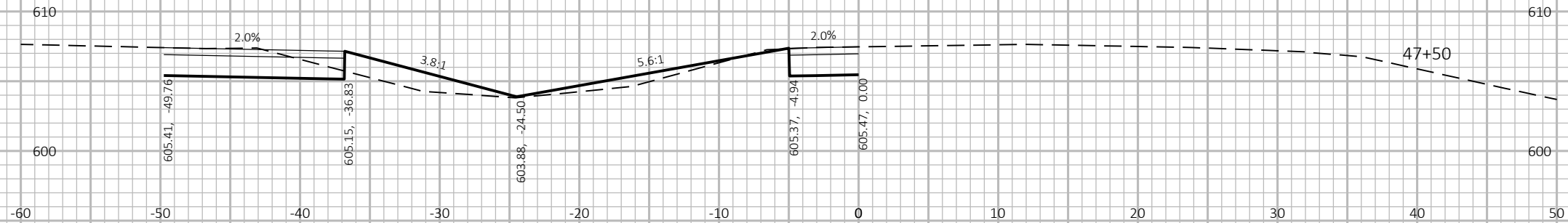
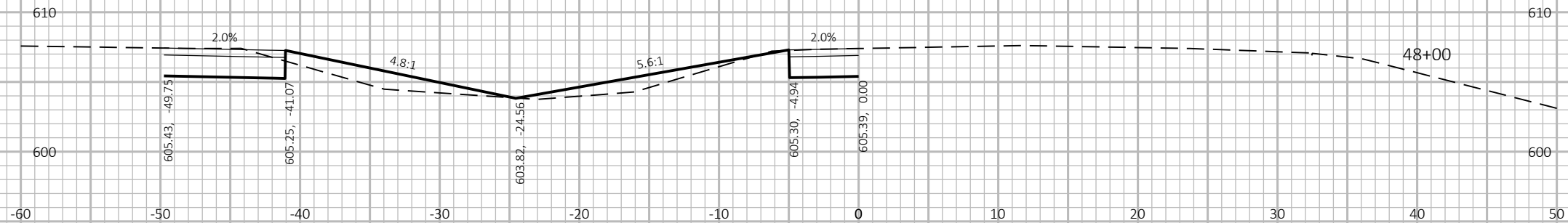


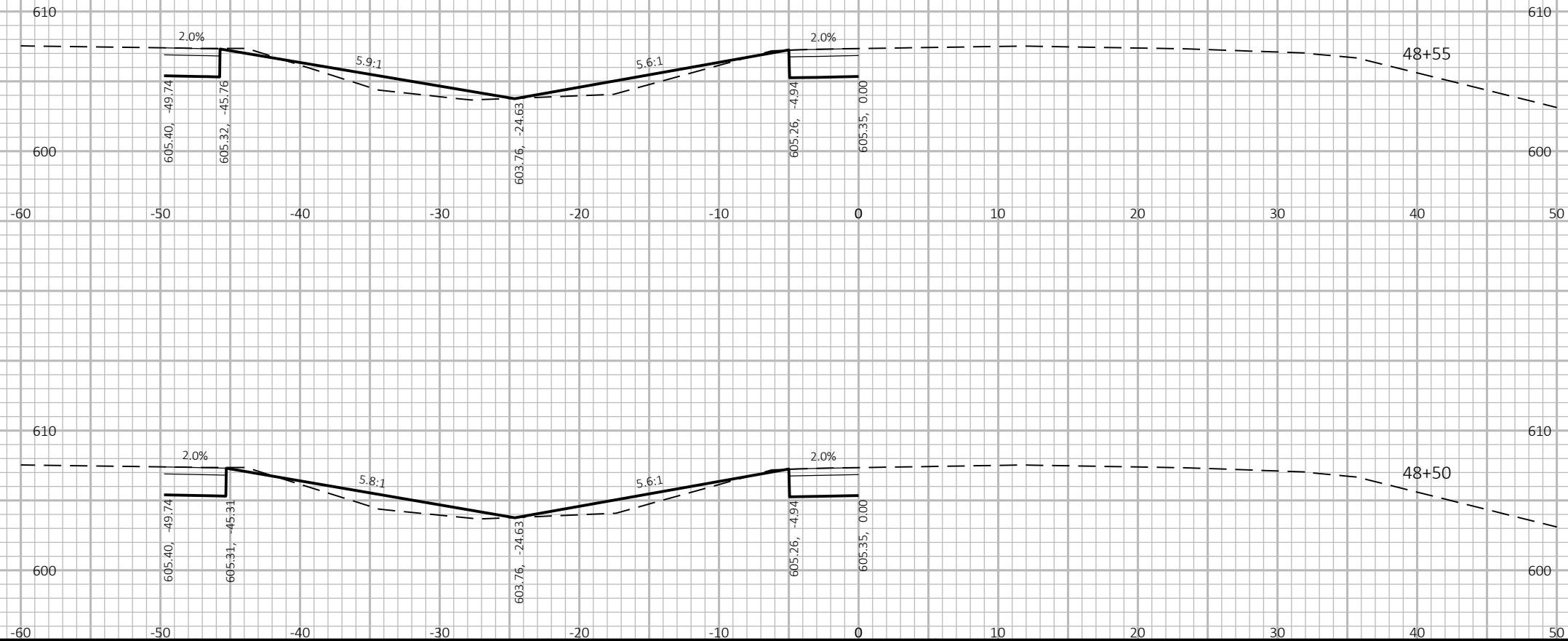
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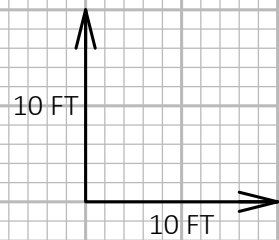
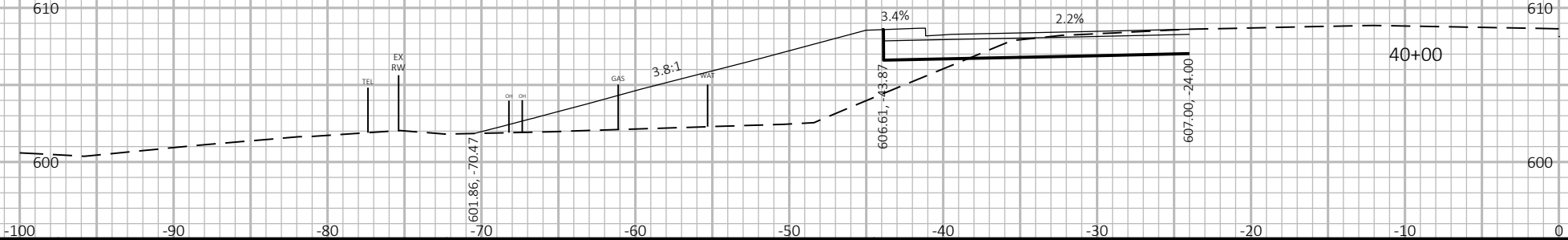
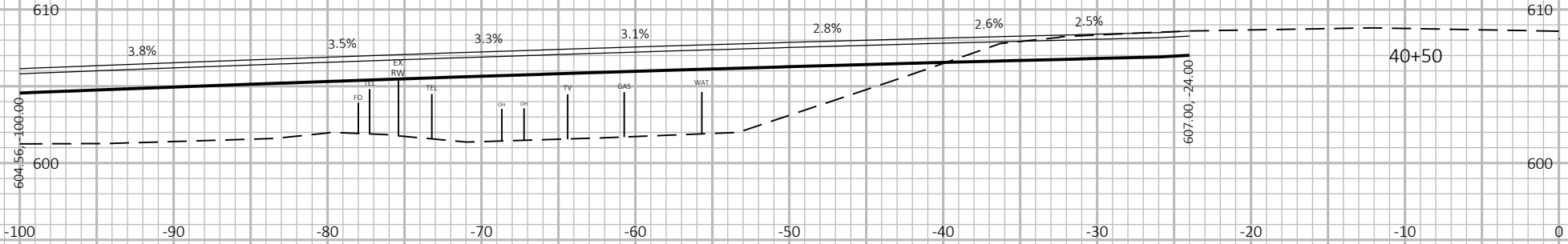




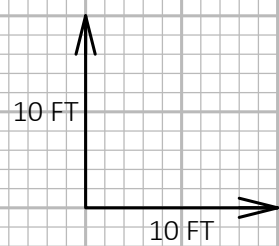
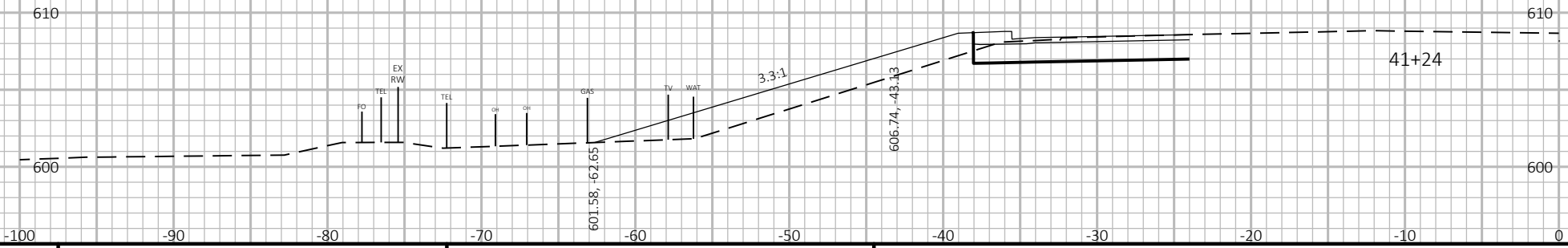
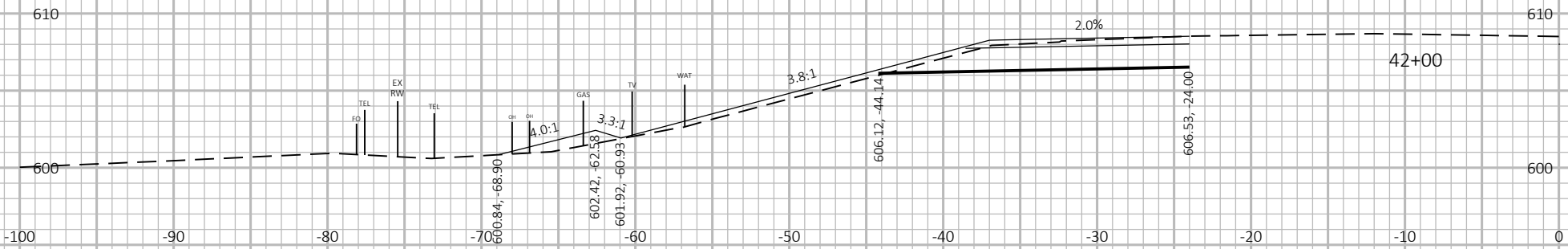




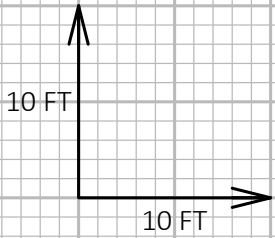
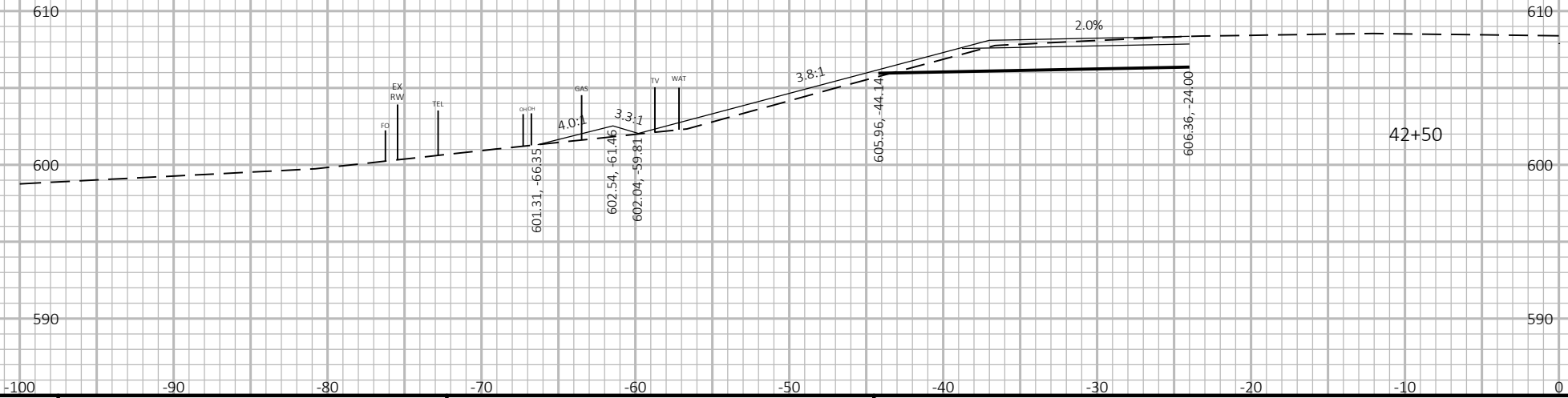
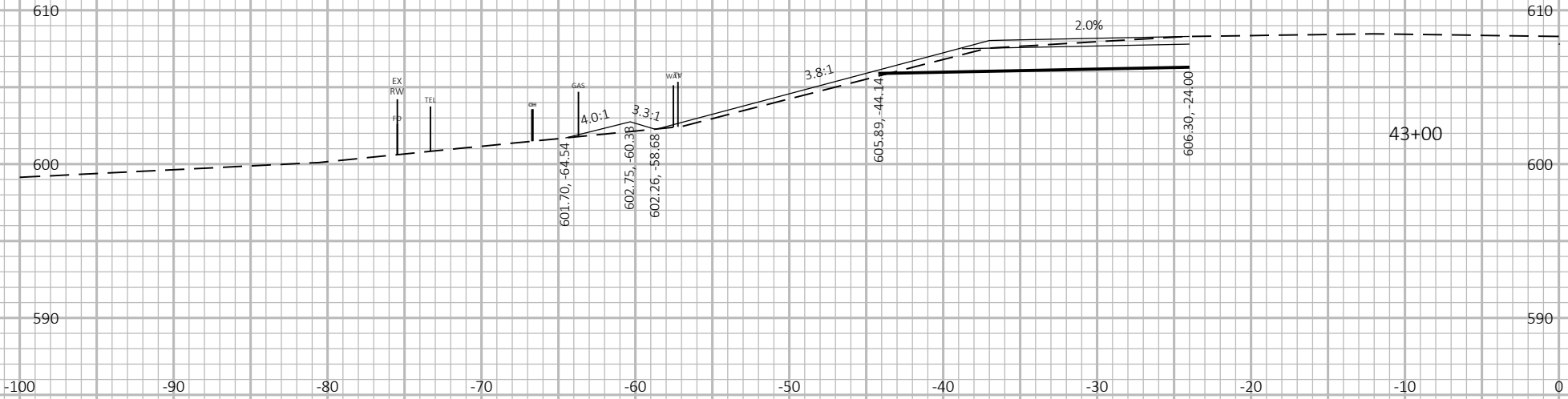


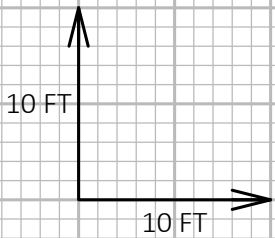
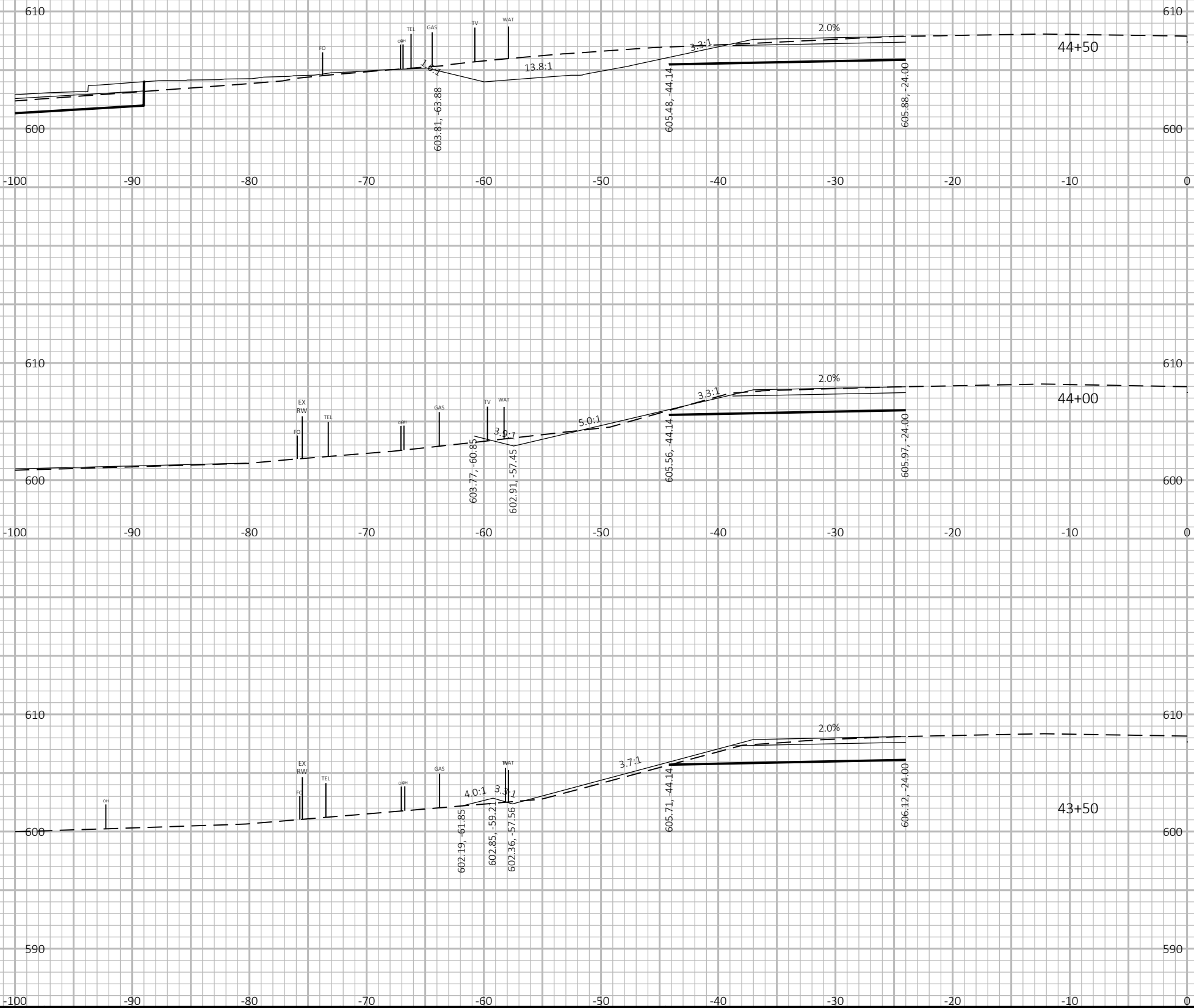


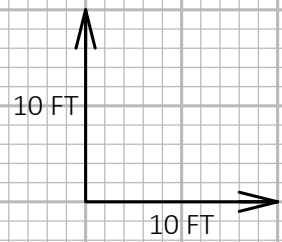
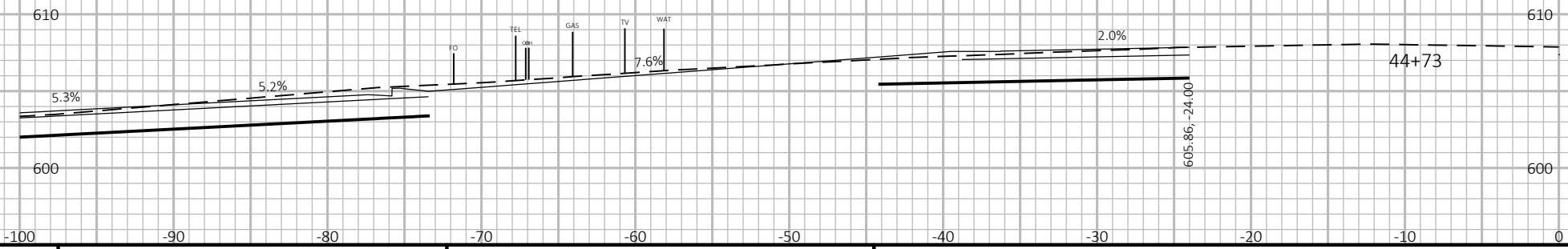
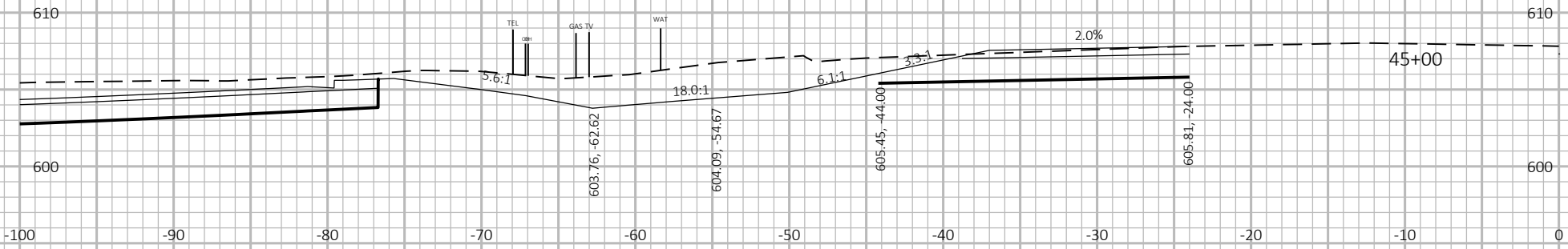
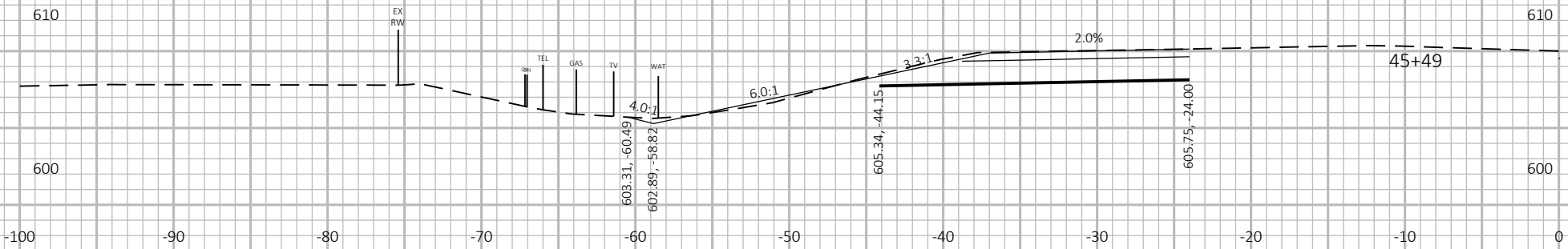
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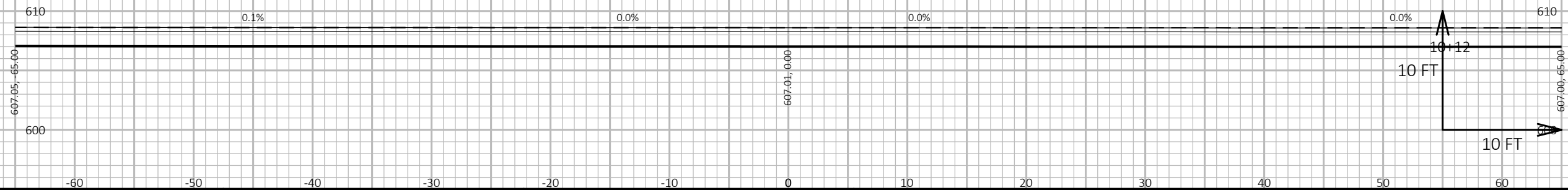
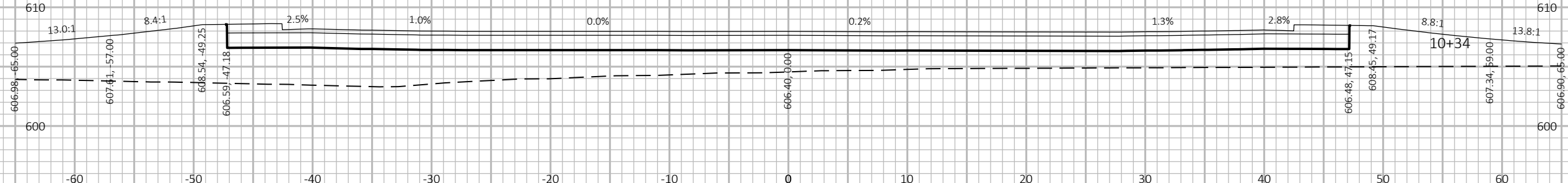
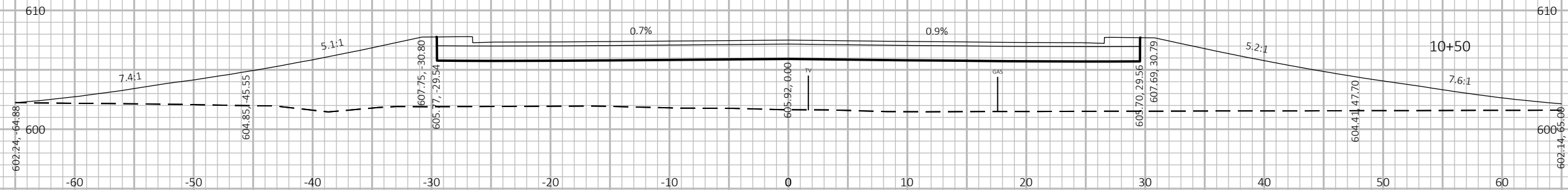


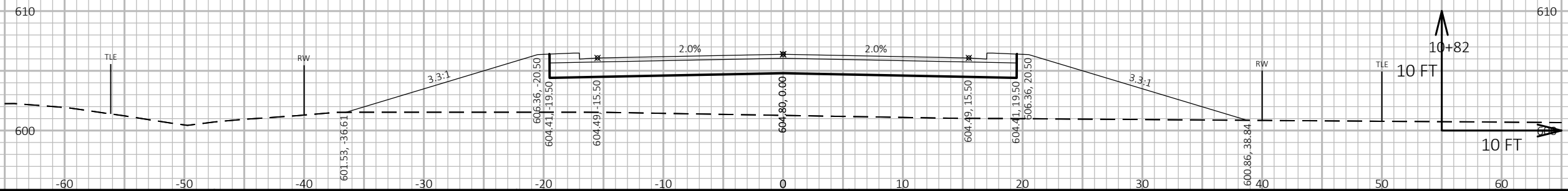
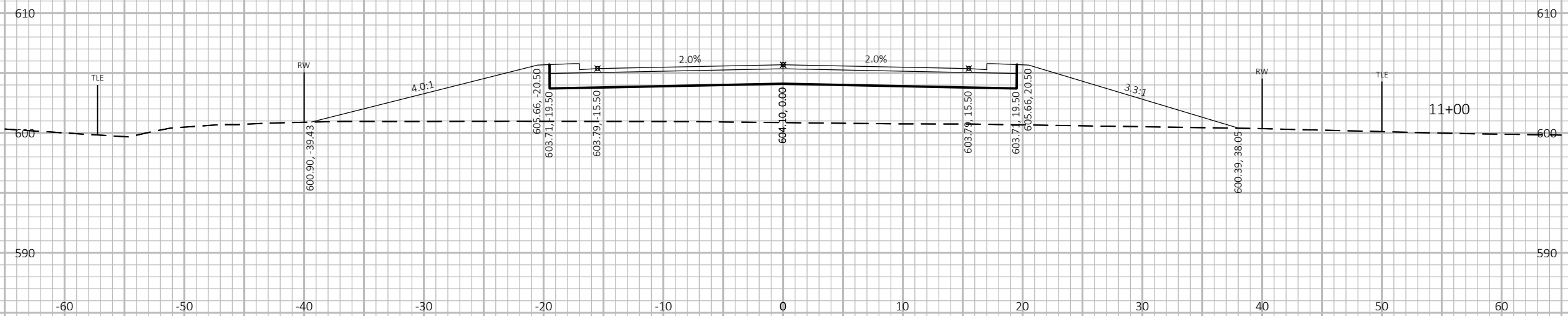
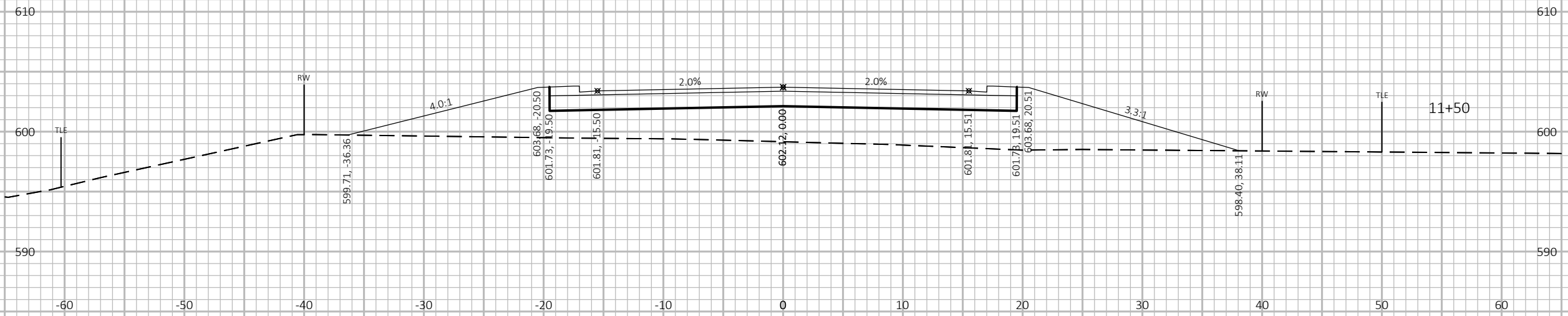
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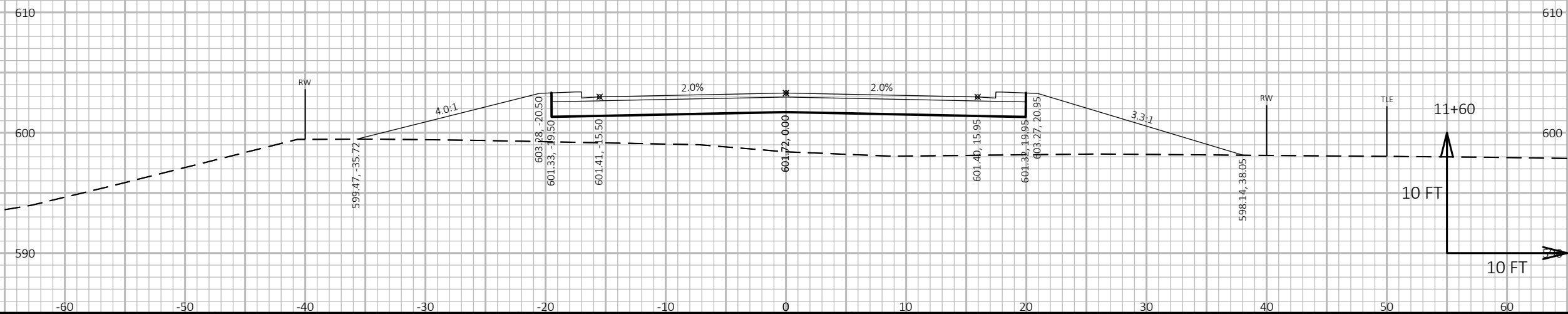
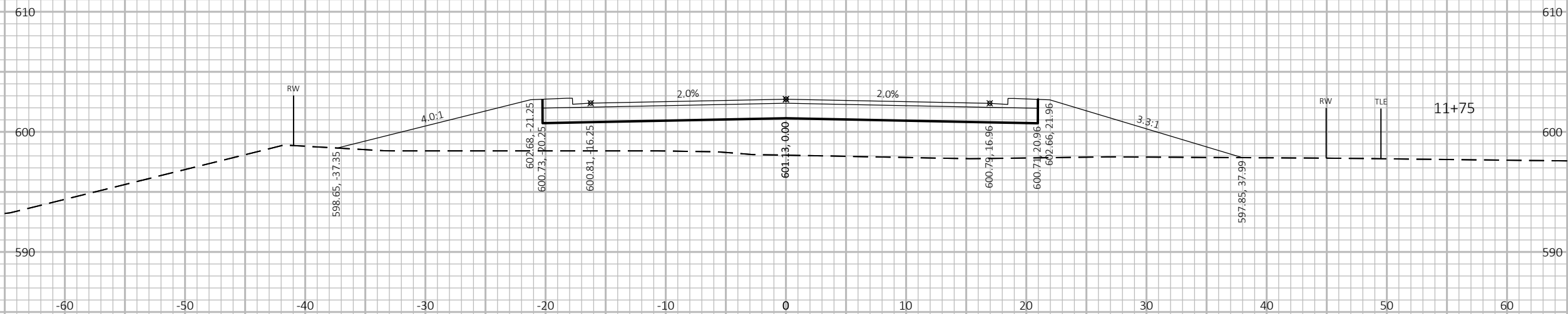




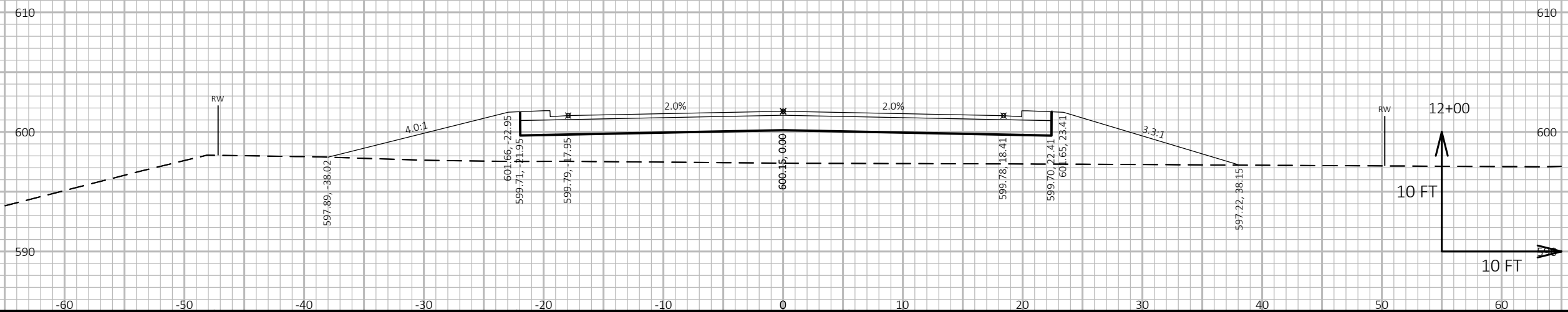
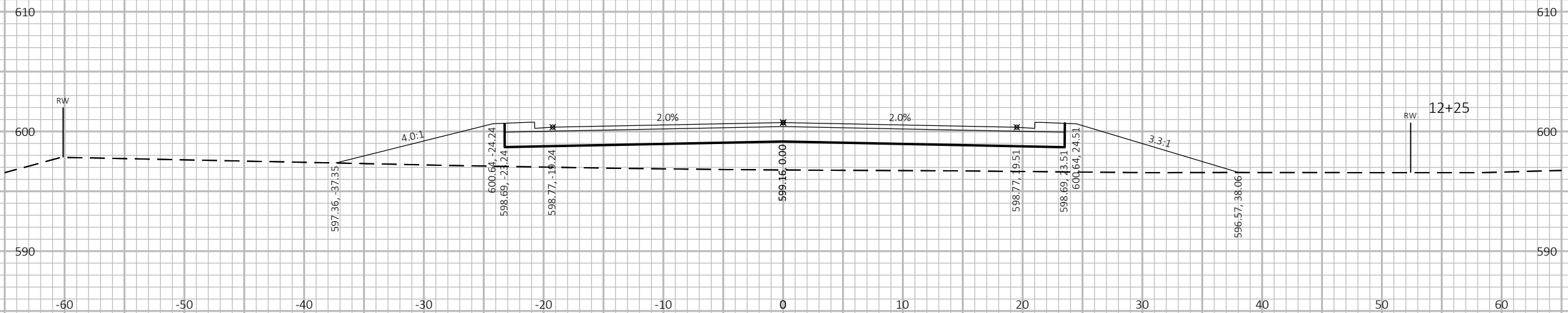
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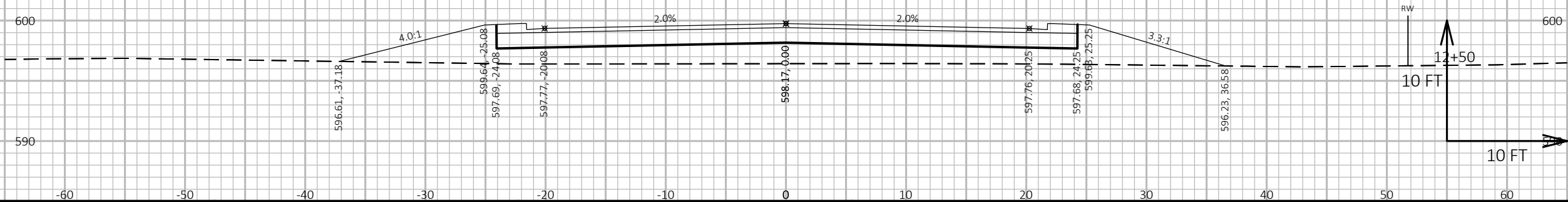
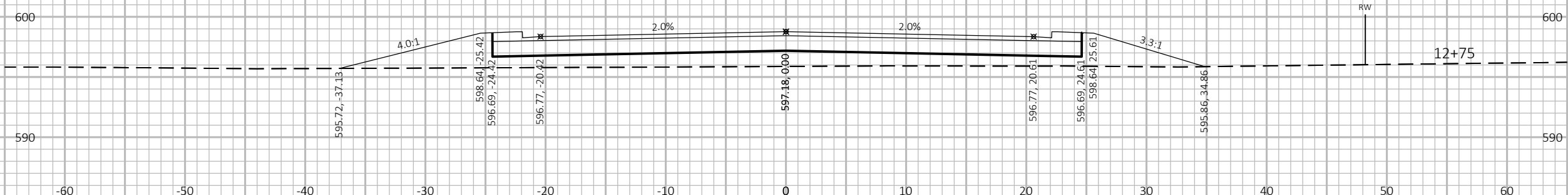
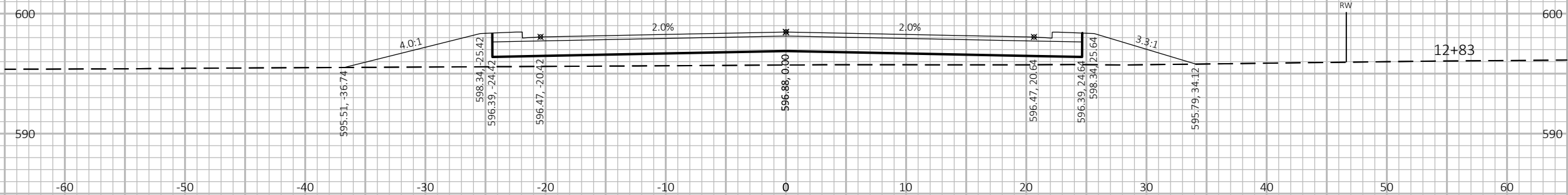
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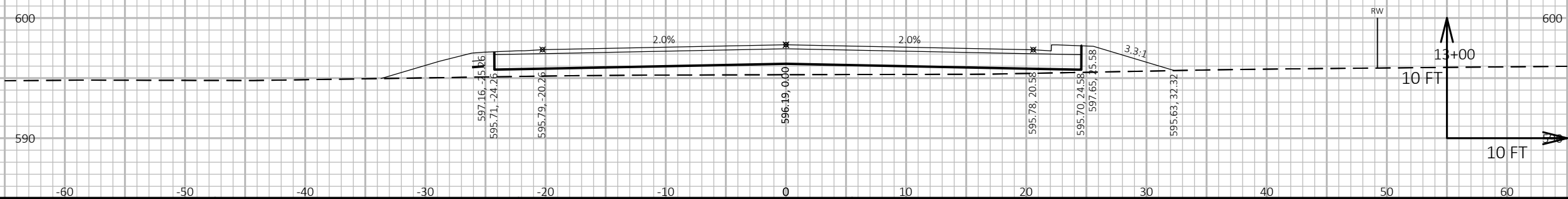
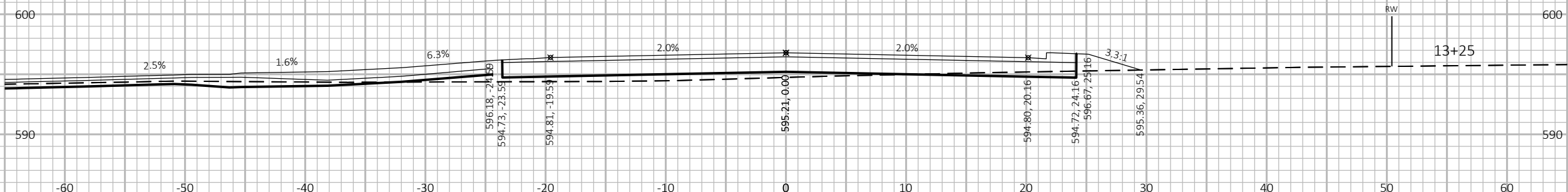
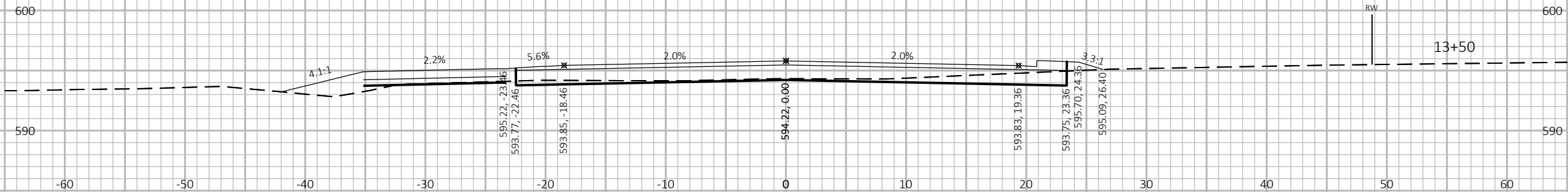


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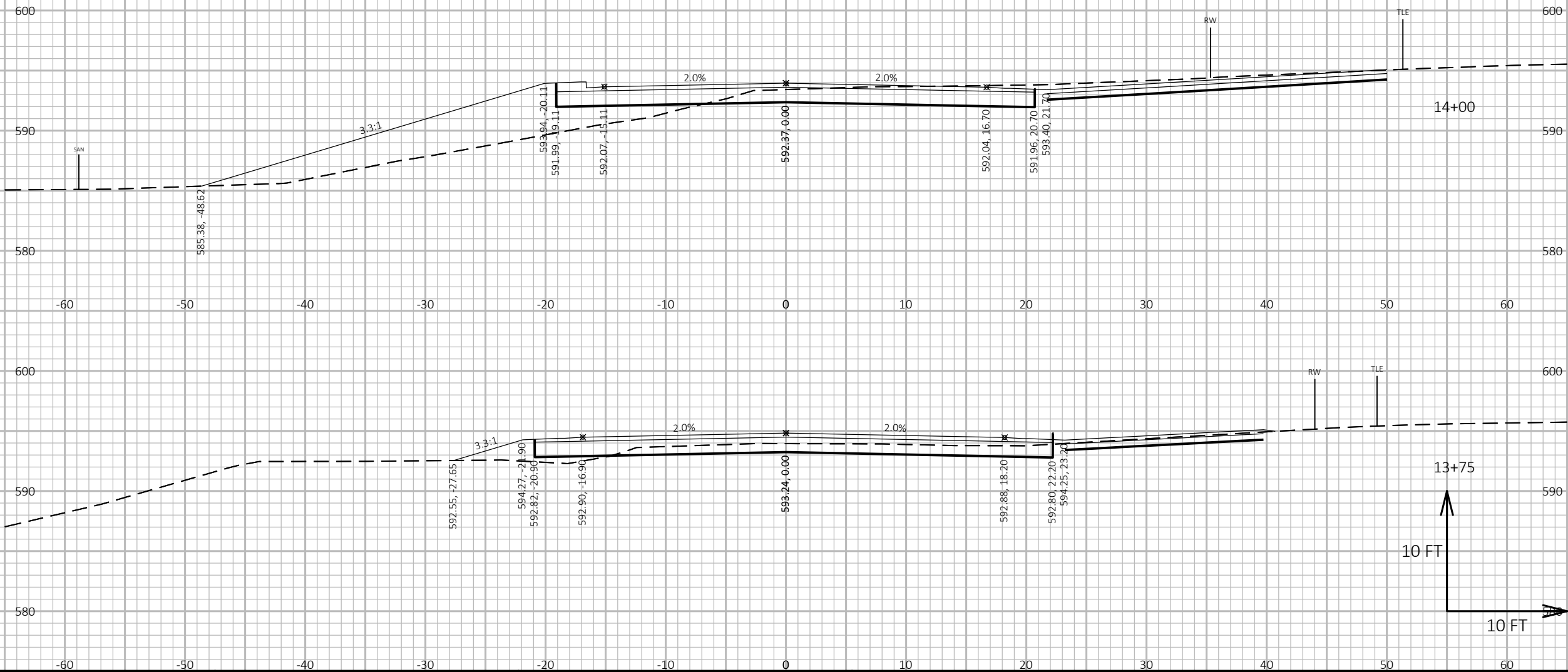


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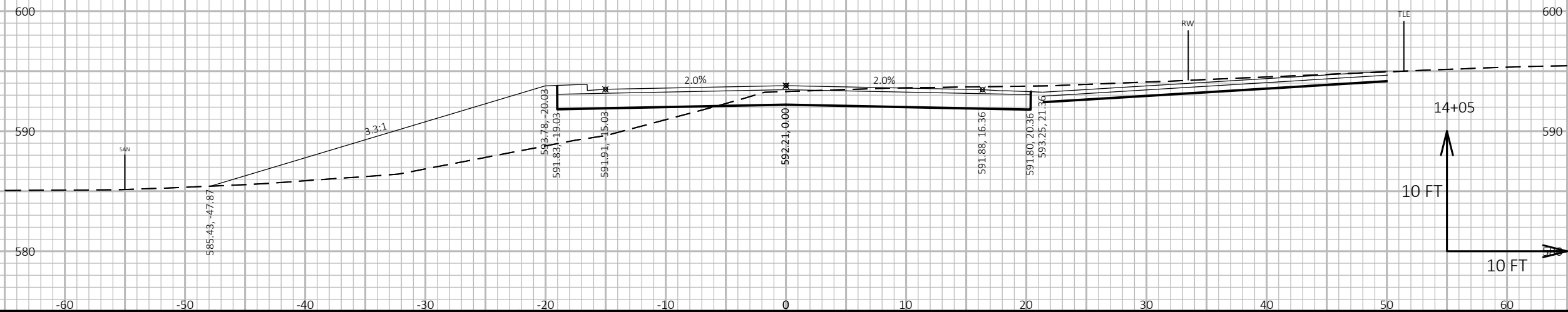
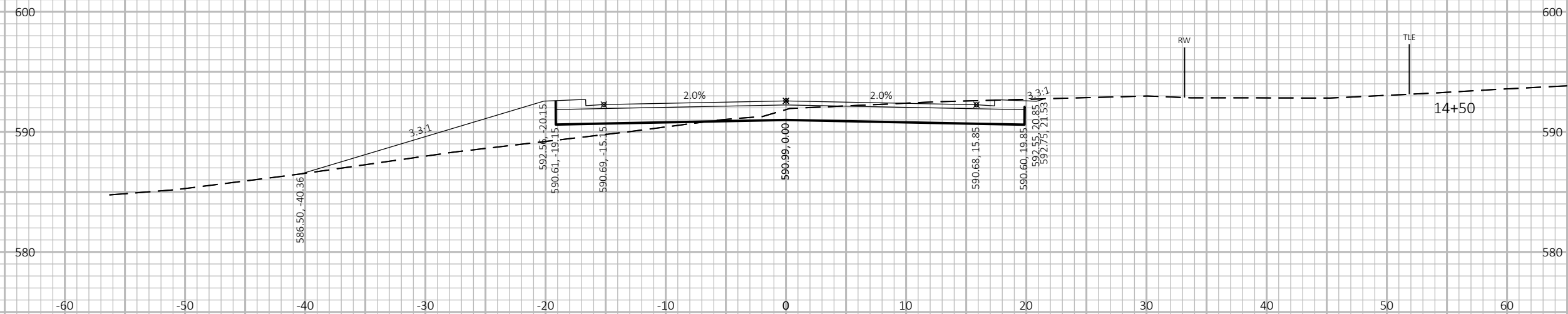
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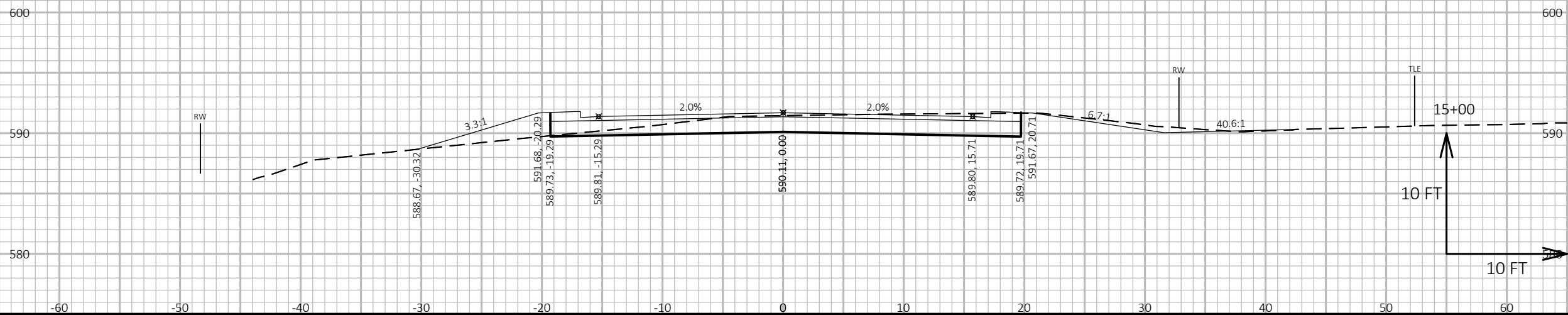
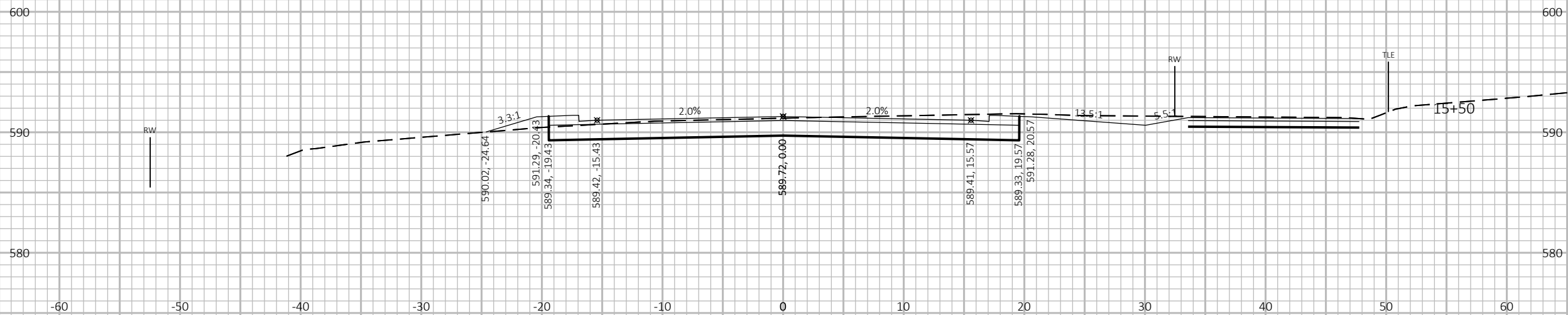
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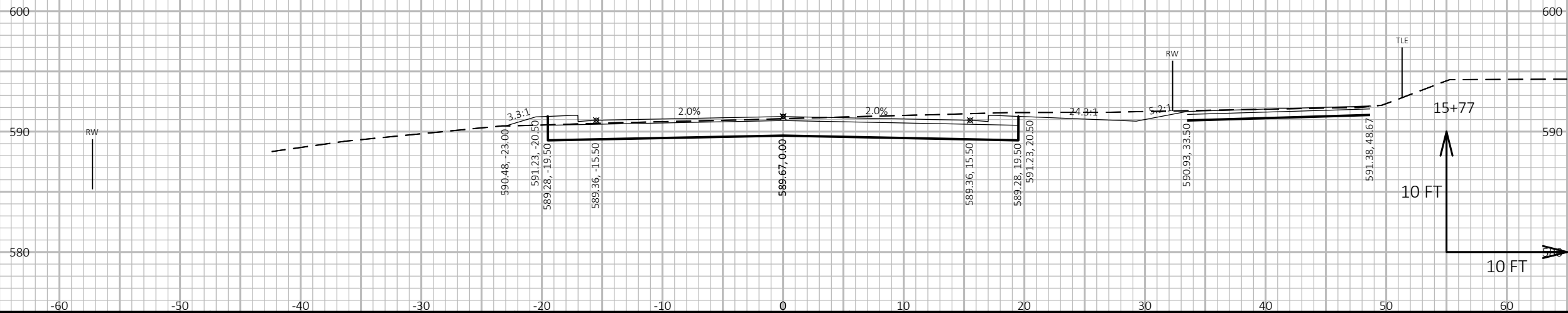
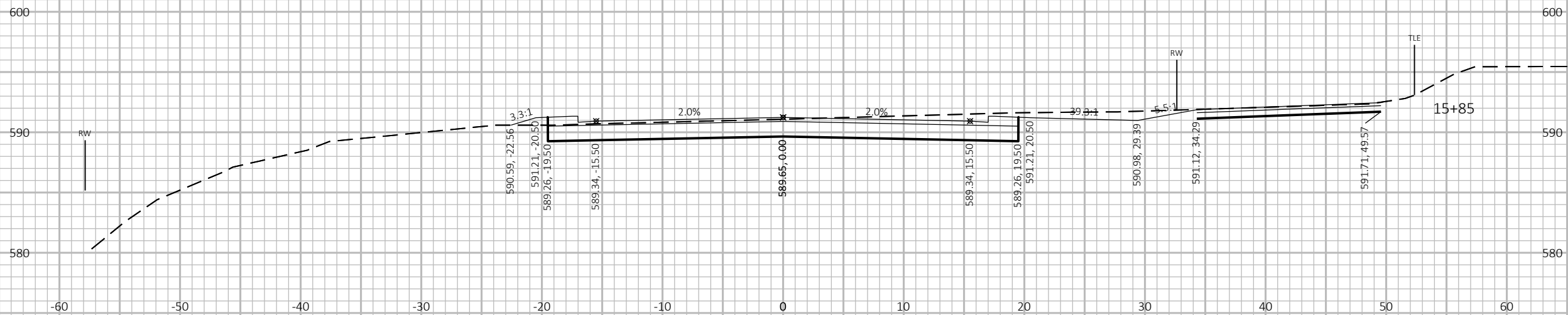
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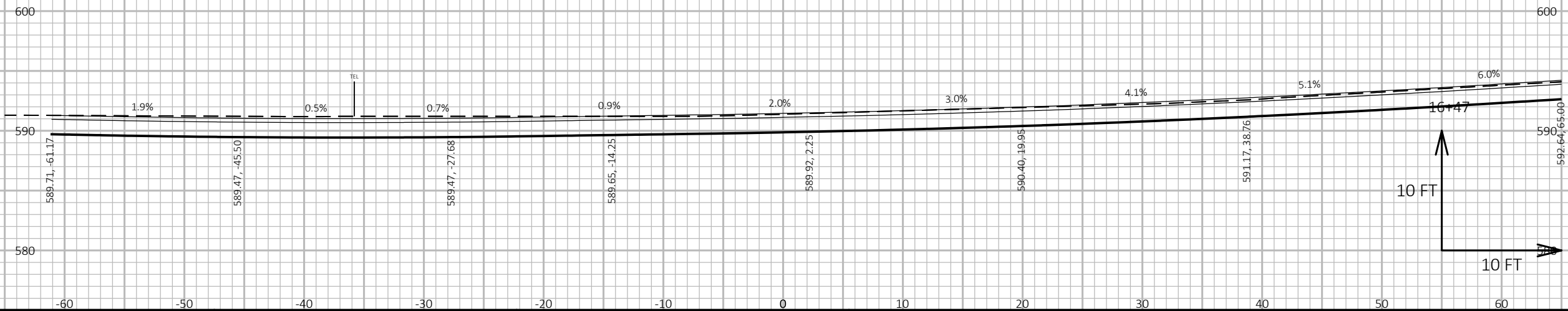
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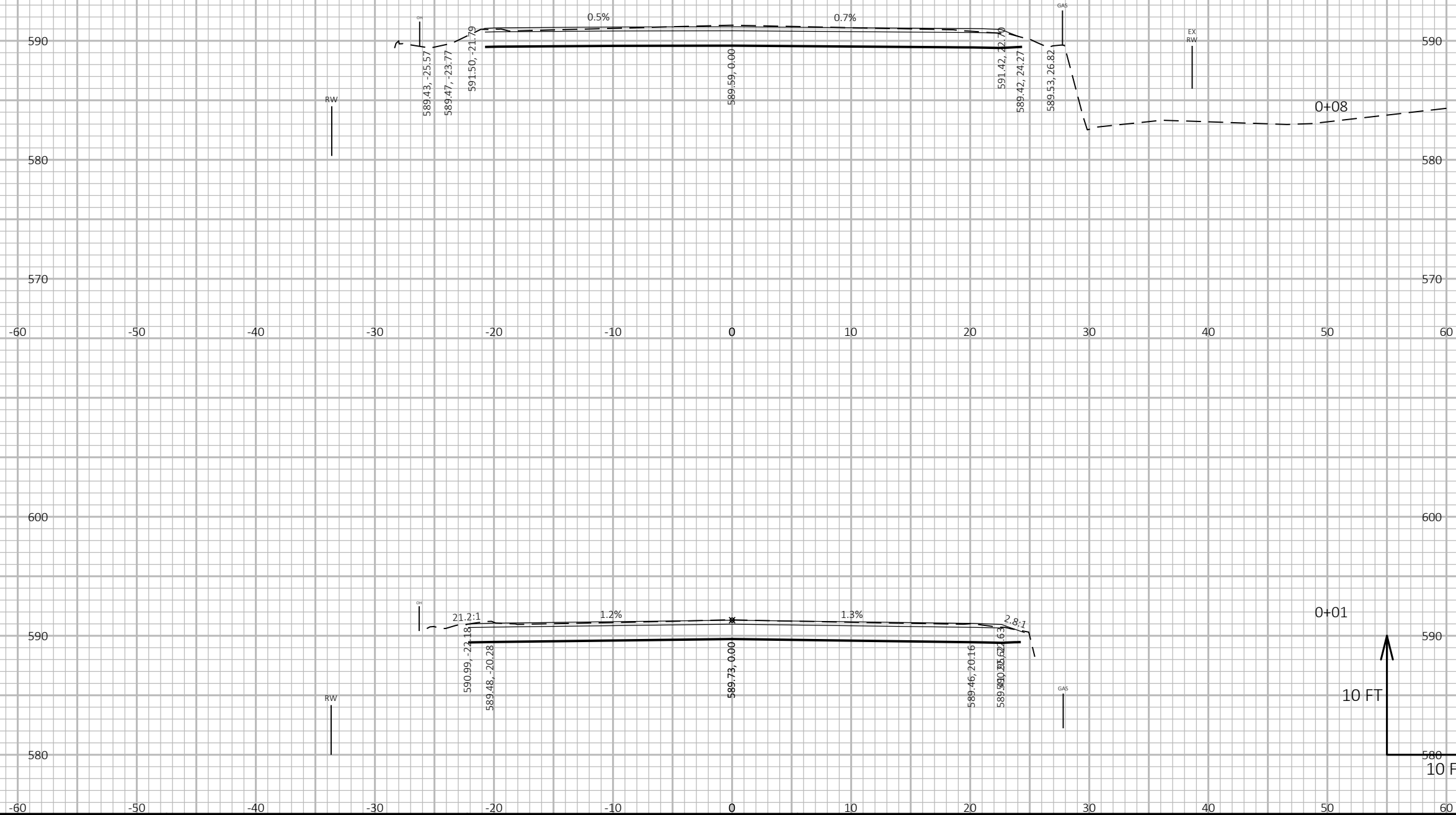
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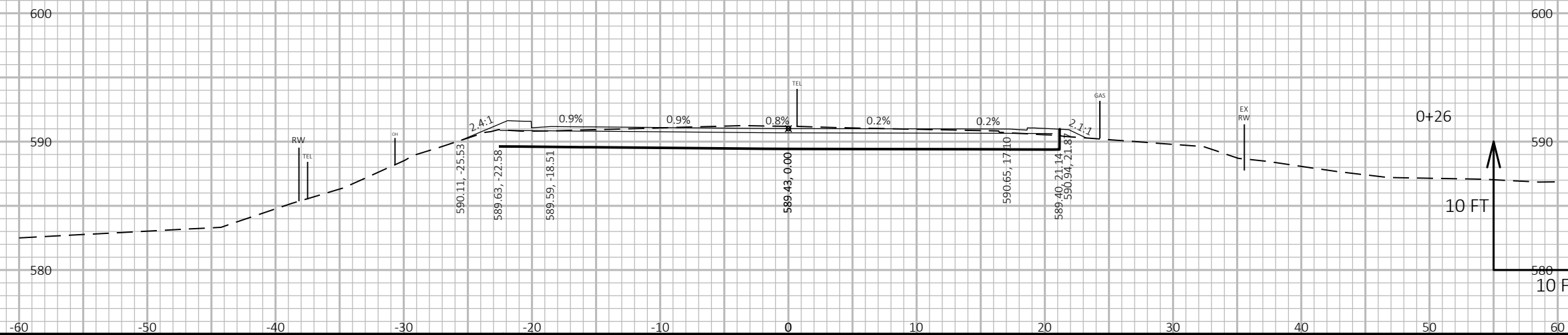
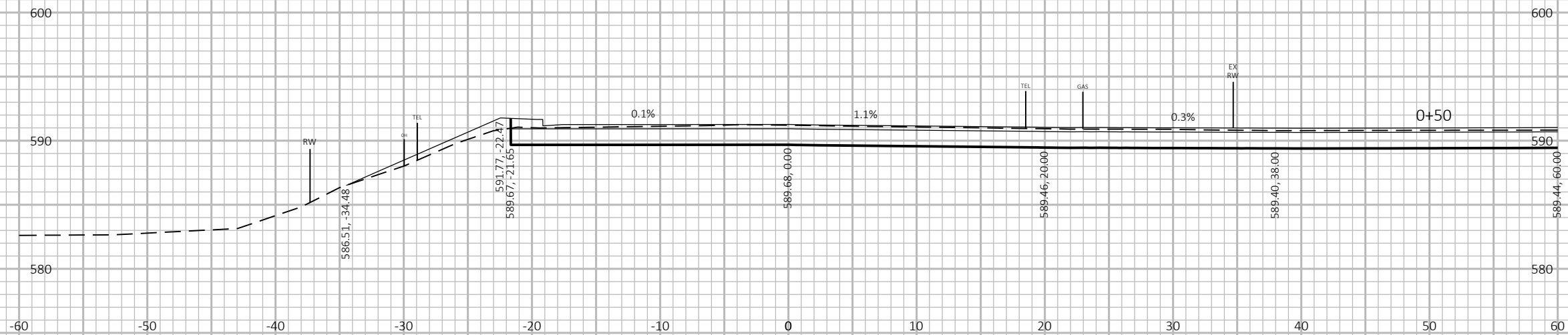
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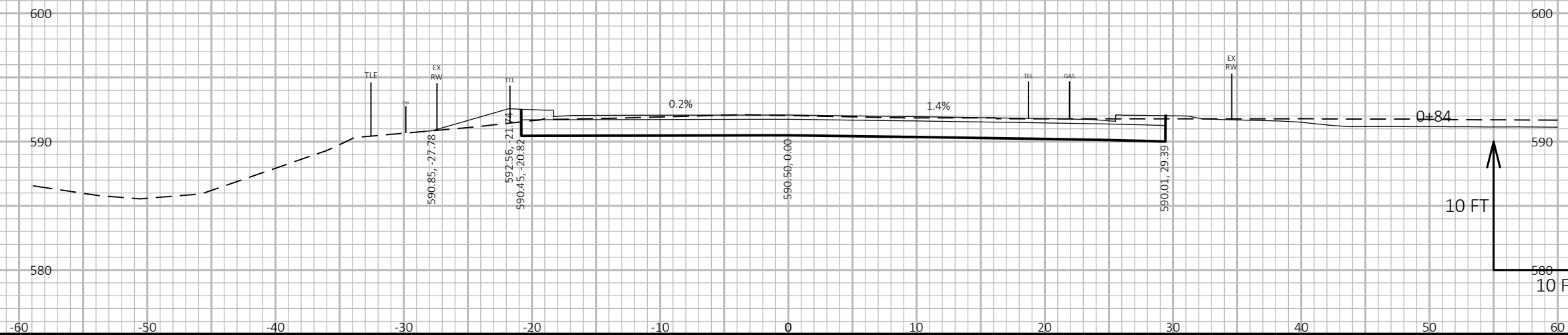
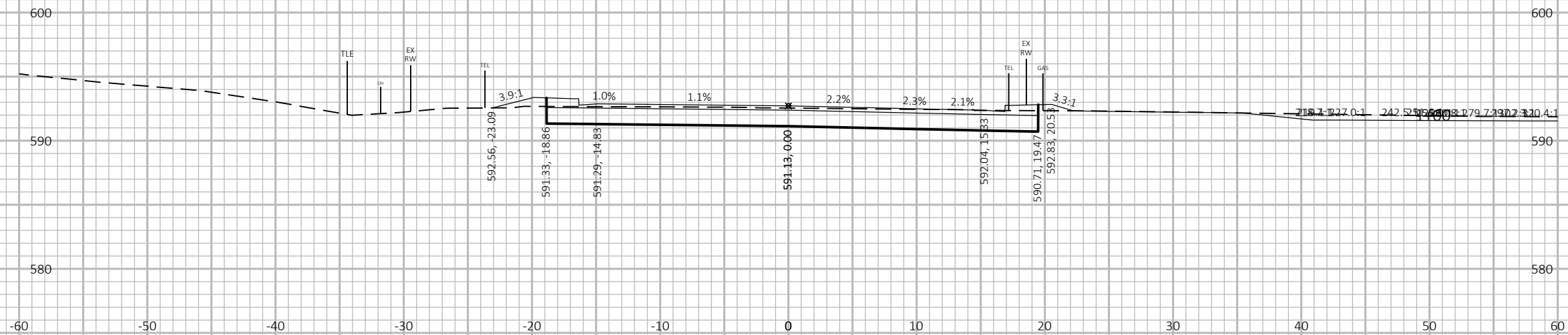
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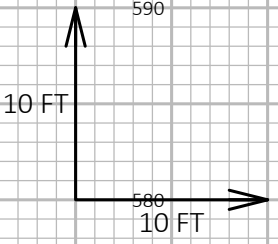
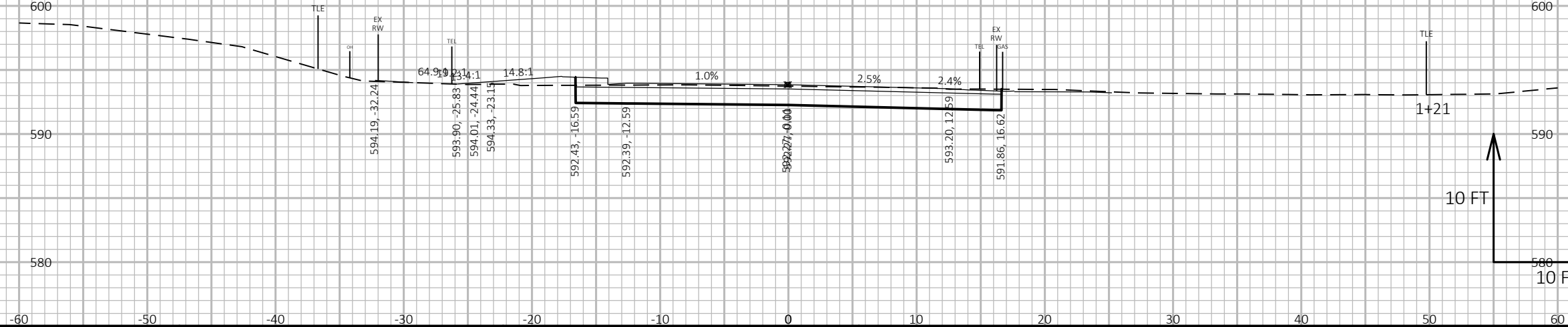
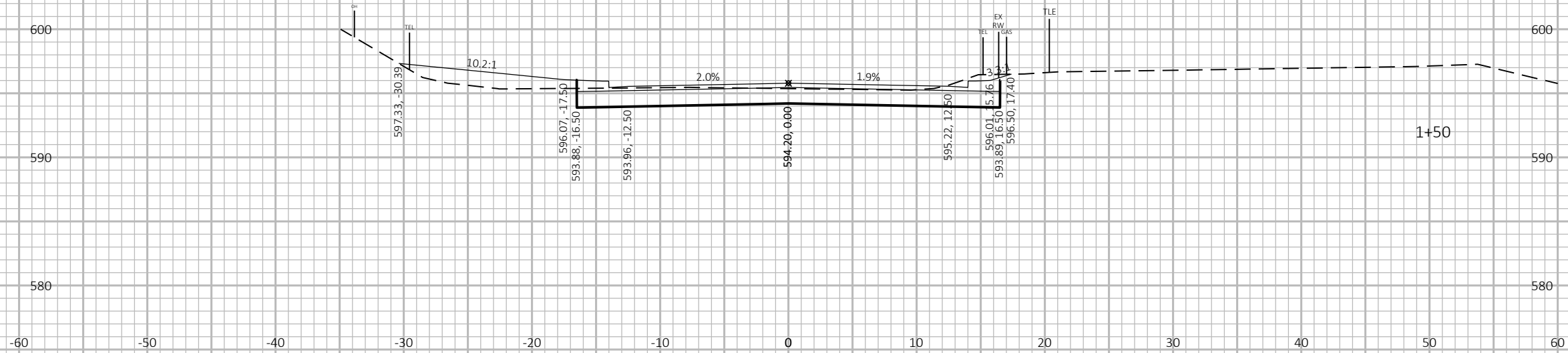
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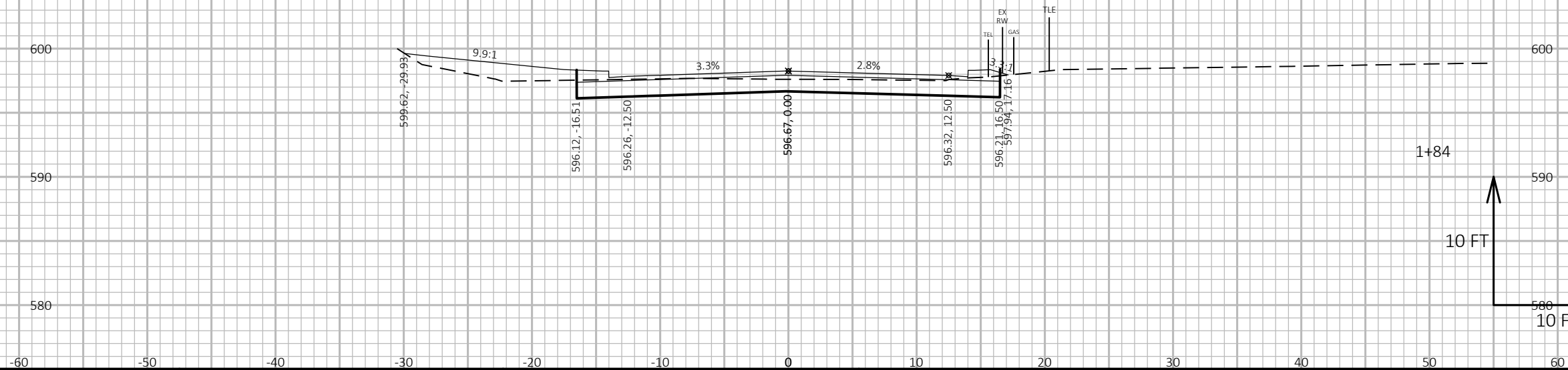
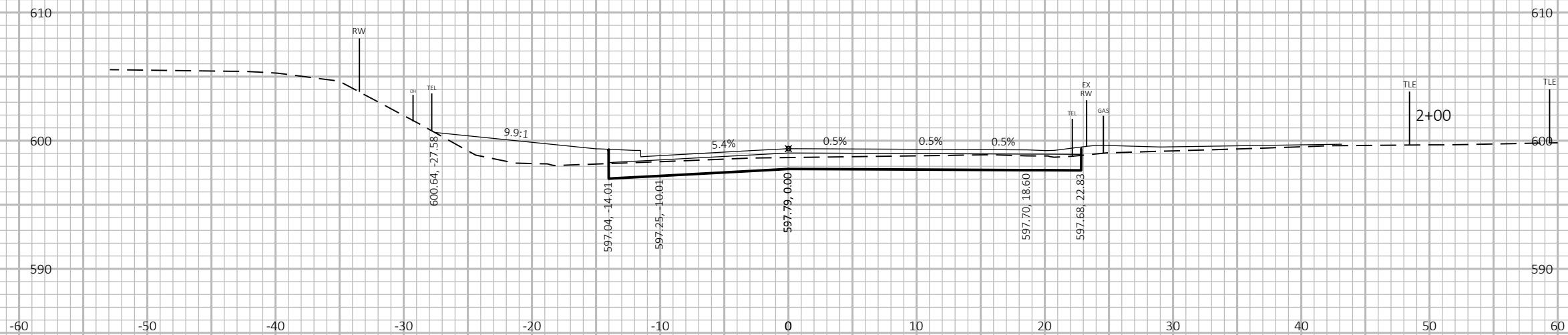
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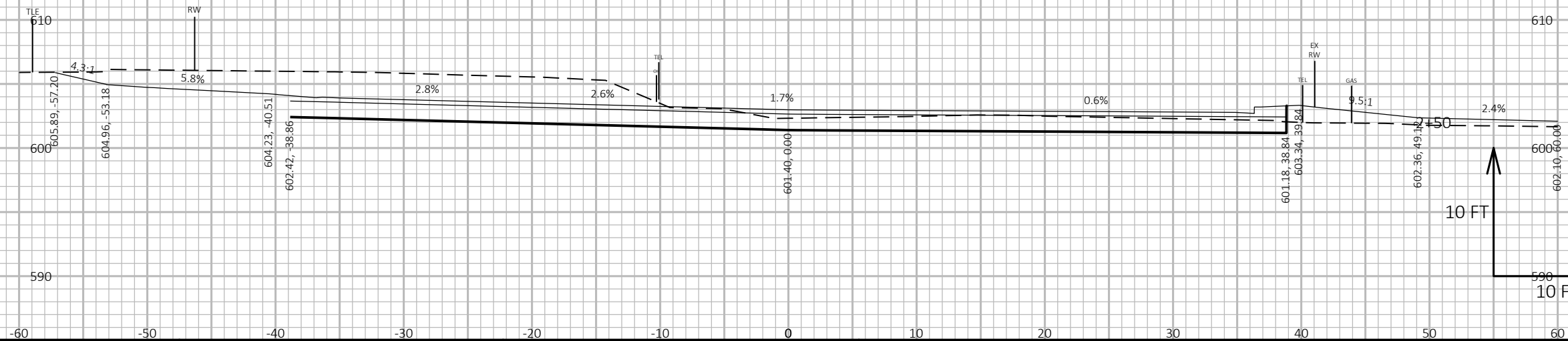
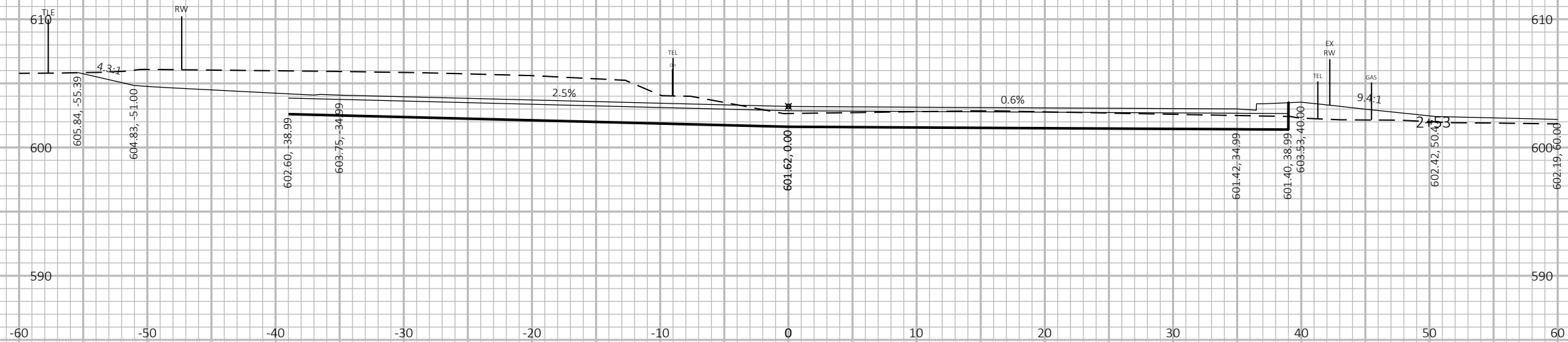
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10 FT

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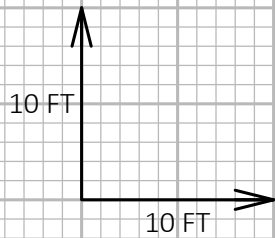
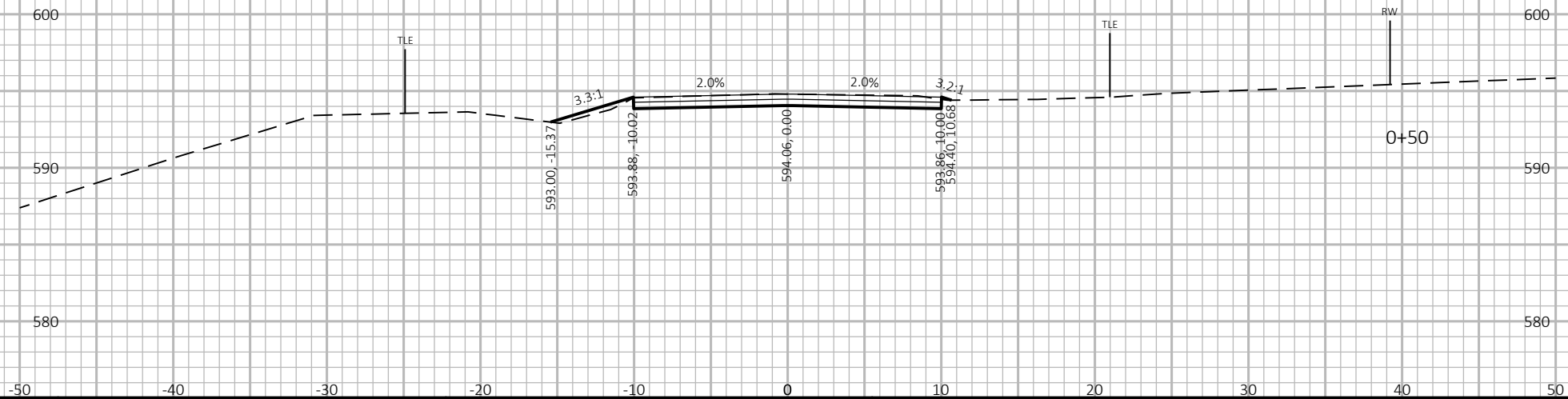
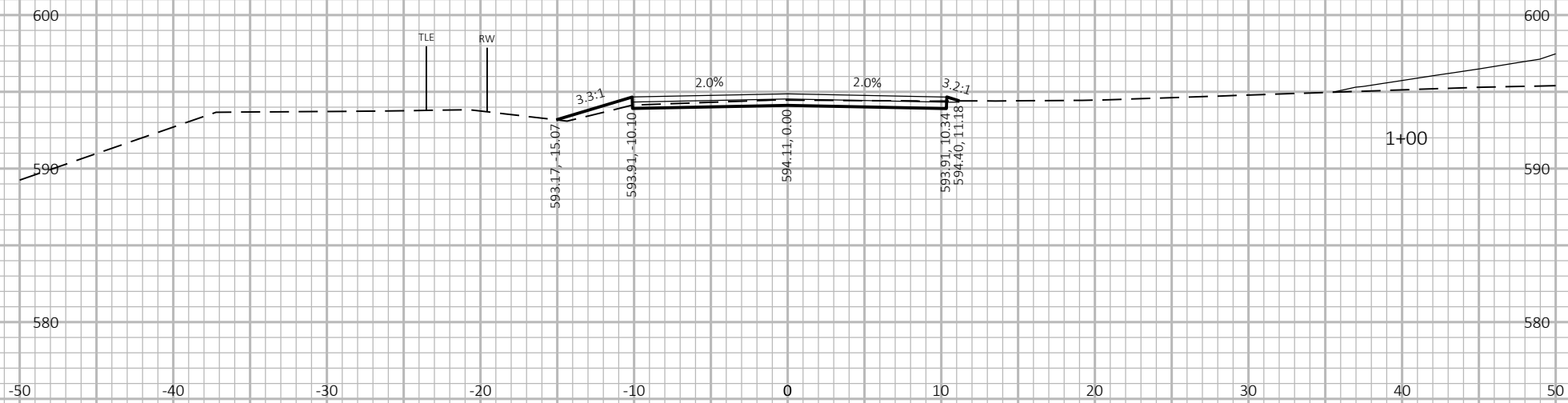


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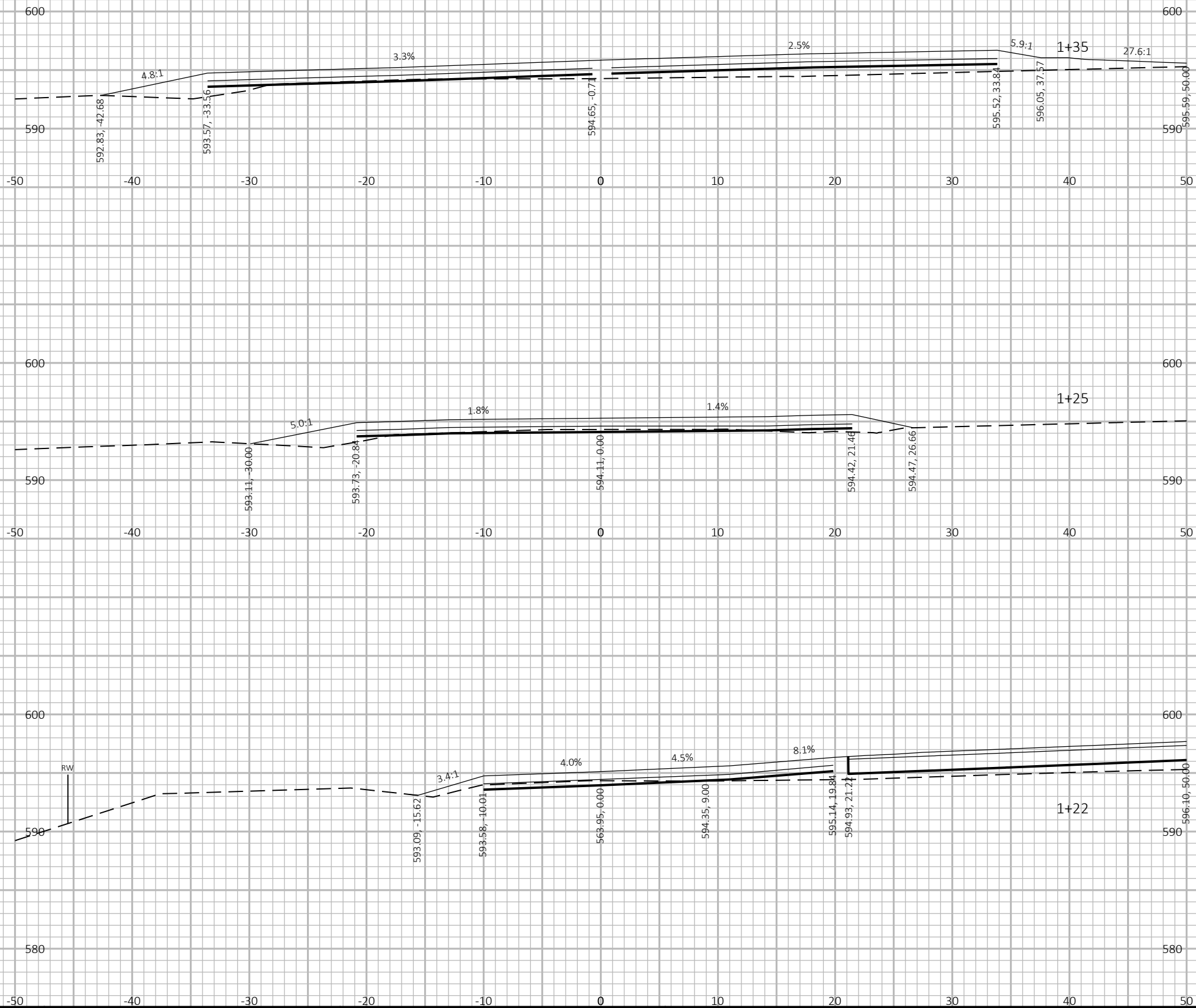


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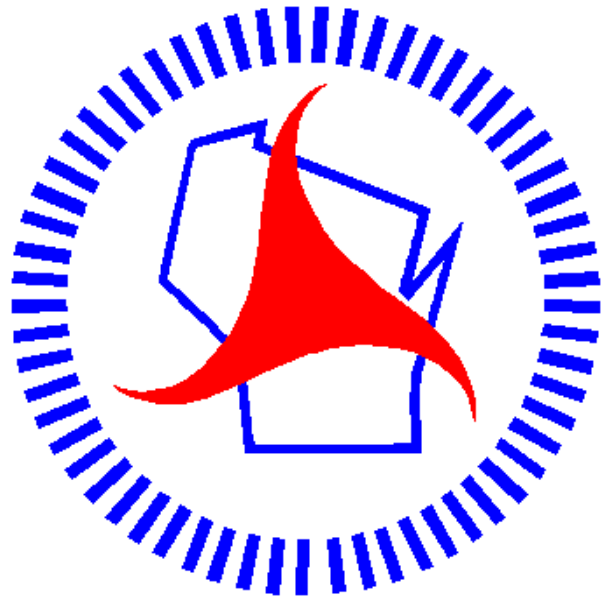
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Notes



Wisconsin Department of Transportation

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