

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 = 466

STATE OF WISCONSIN

DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

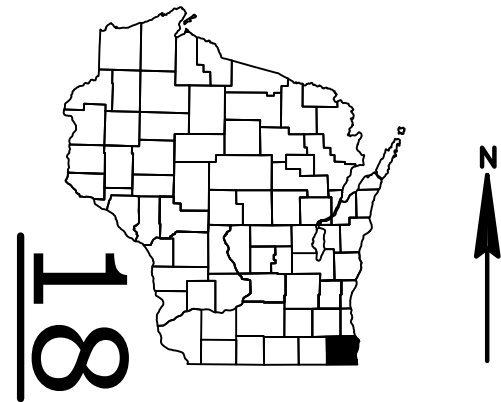
BRISTOL - UNION GROVE

STH 50 TO STH 11

USH 45

KENOSHA & RACINE COUNTIES

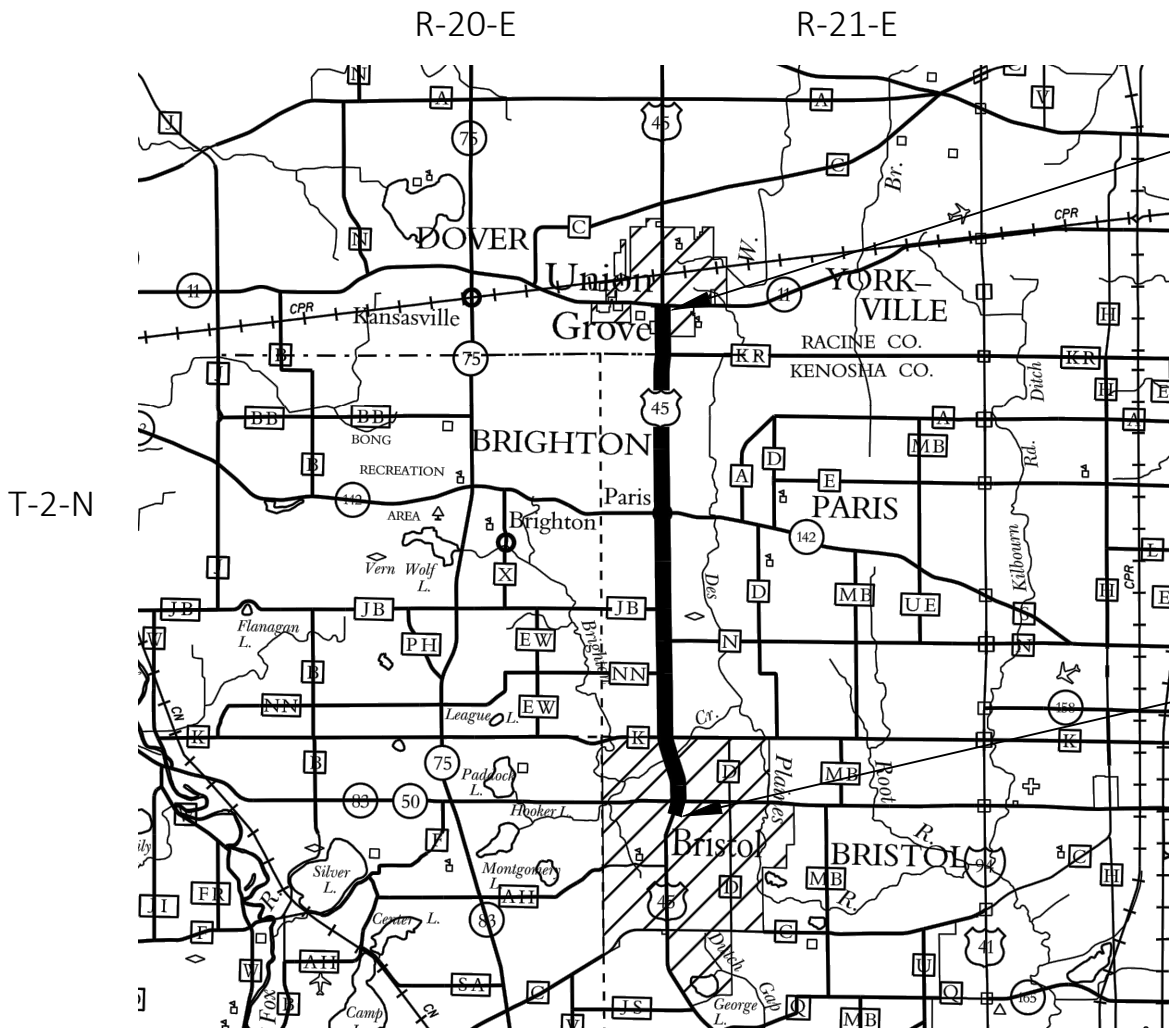
STATE PROJECT NUMBER
3200-01-72



DESIGN DESIGNATION	STH 50-CTH K	CTH K-CTH N	CTH N-CTH KR	CTH KR-STH 11
A.A.D.T. (2021)	= 6,100	5,300	5,200	5,700
A.A.D.T. (2041)	= 7,200	6,000	6,400	6,300
D.H.V.	= 756	630	672	662
D.D.	= 63/37	63/37	63/37	63/37
T.	= 10.1%	10.1%	10.1%	10.1%
DESIGN SPEED	= 45-55 MPH	55 MPH	45-55 MPH	35-45 MPH
ESALS	= 1,300,000	1,300,000	1,300,000	1,300,000

CONVENTIONAL SYMBOLS

PLAN	PROFILE
CORPORATE LIMITS	GRADE LINE
PROPERTY LINE	ORIGINAL GROUND
LOT LINE	MARSH OR ROCK PROFILE (To be noted as such)
LIMITED HIGHWAY EASEMENT	SPECIAL DITCH
EXISTING RIGHT OF WAY	GRADE ELEVATION
PROPOSED OR NEW R/W LINE	CULVERT (Profile View)
SLOPE INTERCEPT	UTILITIES
REFERENCE LINE	ELECTRIC
EXISTING CULVERT	FIBER OPTIC
PROPOSED CULVERT (Box or Pipe)	GAS
COMBUSTIBLE FLUIDS	SANITARY SEWER
MARSH AREA	STORM SEWER
WOODED OR SHRUB AREA	TELEPHONE
	WATER
	UTILITY PEDESTAL
	POWER POLE
	TELEPHONE POLE



LAYOUT
SCALE 0 3 MI
TOTAL NET LENGTH OF CENTERLINE = 7.865 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, KENOSHA COUNTY, NAD83 (2007), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

ELEVATIONS SHOWN ON THIS PLAN ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM NAVD88 (2007)

END PROJECT
STA 718+00

BEGIN PROJECT 3200-01-72
STA 302+75
N = 127,532.93
E = 568,771.85

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY	Surveyor	RA SMITH/WISDOT
Designer	WISDOT	
Project Manager	BRIAN PLUEMER	
Regional Examiner	RICHARD HERRICK	
Regional Supervisor	REEM SHAHIN	

APPROVED FOR THE DEPARTMENT
DATE: 5/1/2019
(Signature)

STANDARD ABBREVIATIONS

AP	Access Point	PI	Point of Intersection
AC	Acre	PRC	Point of Reverse Curvature
AGG	Aggregate	PT	Point of Tangency
AADT	Annual Average Daily Traffic	PVC	Polyvinyl Chloride
ASPH	Asphaltic	PCC	Portland Cement Concrete
AVG	Average	LB	Pound
B/L	Base Line	PE	Private Entrance
BM	Bench Mark	PROJ	Project
CB	Catch Basin	PL	Property Line
C	Celsius	PB#	Pull Box
C/L	Center Line	R	Radius
CC	Center to Center	RR	Railroad
CE	Commercial Entrance	R/L	Reference Line
CONC	Concrete	RCPA	Reinforced Concrete Pipe Arch
CO	County	REBAR	Reinforcement Bar
CTH	County Trunk Highway	REINF	Reinforcing or Reinforcement
CABC	Crushed Aggregate Base Course	REQD	Required
CY	Cubic Yard	RW	Retaining Wall
CPRC	Culvert Pipe Reinforced Concrete	RT	Right
CPRCHE	Culvert Pipe Reinforced Concrete Horizontal	R/W	Right-of-Way
	Elliptical	RD	Road
CPS	Culvert Pipe Salvaged	RDWY	Roadway
CPT	Culvert Pipe Temporary	SAN	Sanitary Sewer
C & G	Curb and Gutter	SEC	Section
DHV	Design Hour Volume	SHLDR	Shoulder
DIA	Diameter	SW	Sidewalk
DD	Directional Distribution	SB#	Signal Base
DISCH	Discharge	S	South
DWY	Driveway	SB	Southbound
E	East	SP	Special
X	East Grid Coordinate	SPECS	Specifications
EB	Eastbound	SF	Square Feet
ELEV	Elevation	SY	Square Yard
EVP	Emergency Vehicle Preempt	STD	Standard
EVPR	Emergency Vehicle Preempt Receiver	SDD	Standard Detail Drawings
EW	Endwall	STH	State Trunk Highways
ESALS	Equivalent Single Axle Loads	STA	Station
EXC	Excavation	SSD	Stopping Sight Distance
EBS	Excavation Below Subgrade	SS	Storm Sewer
EXIST	Existing	SSPC	Storm Sewer Pipe Composite
FERT	Fertilize	SSPNRC	Storm Sewer Pipe Non Reinforced Concrete
FE	Field Entrance	SSPRC	Storm Sewer Pipe Reinforced Concrete
FAB	Flashing Arrow Board	SSCPE	Storm Sewer Pipe Corrugated Polyethylene
F/L	Flow Line	SSCPP	Storm Sewer Pipe Corrugated Polypropylene
FT	Foot	SSPRCHE	Storm Sewer Pipe Reinforced Concrete
FTMS	Freeway Traffic Management System		Horizontal Elliptical
HES	High Early Strength	STR	Structure or Structural
CWT	Hundredweight	SE	Superelevation
IN DIA	Inch Diameter	SURF	Surface
INL	Inlet	S/L	Survey Line
ID	Inside Diameter	TEL	Telephone
INV	Invert	TEMP	Temporary
IP	Iron Pipe or Pin	TLE	Temporary Limited Easement
LT	Left	TPM	Temporary Pavement Marking
LF	Linear Foot	MBM	Thousand Feet Board Measure
LS	Lump Sum	T	Ton
MH	Manhole	TC	Top of Curb
MP	Marker Post	T or TN	Town
M/L	Match Line	T	Trucks (percent of)
MB	Message Board	TYP	Typical
NC	Normal Crown	UG	Underground
N	North	USH	United States Highway
Y	North Grid Coordinate	VAR	Variable
NB	Northbound	V	Velocity or Design Speed
NO	Number	VERT	Vertical
OBLIT	Obliterate	VC	Vertical Curve
OD	Outside Diameter	VPCC	Vertical Point of Compound Curve
PAVT	Pavement	VPC	Vertical Point of Curve
PLE	Permanent Limited Easement	VPI	Vertical Point of Intersection
PACS	Pipe Arch Corrugated Steel	VPRC	Vertical Point of Reverse Curve
PU	Pipe Underdrain	VPT	Vertical Point of Tangency
PUU	Pipe Underdrain Unperforated	VOL	Volume
PUW	Pipe Underdrain Wrapped	WM	Water Main
PT	Point	WV	Water Valve
PCC	Point of Compound Curve	W	West
PC	Point of Curvature	WB	Westbound

GENERAL NOTES

DO NOT REMOVE ANY TREES OR SHRUBS WITHOUT APPROVAL OF THE ENGINEER.

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT LOCATION THAT ARE NOT SHOWN. COORDINATE CONSTRUCTION ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A CALL TO THE UTILITIES THAT HAVE INSTALLATIONS WITHIN THE PROJECT AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGER'S HOTLINE.

BACKFILL ALL OPENINGS AND HOLES LOCATED WITHIN THE ROADWAY RESULTING FROM REMOVALS OR ABANDONMENTS WITH GRANULAR BACKFILL UNLESS THE PLANS PROVIDE FOR ALTERNATE BACKFILL.

DISTURBED AREAS WITHIN THE RIGHT OF WAY ARE TO BE TOPSOILED, FERTILIZED, SEEDED, AND MULCHED OR SODDED AS DIRECTED BY THE ENGINEER.

CURB AND GUTTER GRADES ARE GIVEN TO THE FLANGE OF CURB AND GUTTER.

CURB AND GUTTER RADII ARE MEASURED TO THE FLANGE LINE OF CURB AND GUTTER UNLESS OTHERWISE NOTED.

STATIONS, OFFSETS, AND ELEVATIONS ARE TO THE END OF PIPE. FIELD VERIFY PIPE LOCATIONS AND ELEVATIONS PRIOR TO INSTALLATION.

CULVERT PIPE ELEVATIONS, LENGTH, AND LOCATIONS AS SHOWN ON THE PLANS MAY BE ADJUSTED BY THE ENGINEER IN THE FIELD TO FIT FIELD CONDITIONS.

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

SAWCUT EXISTING ASPHALT AND CONCRETE PAVEMENT AT THE MATCHLINE AS INDICATED ON THE PLAN OR AS DIRECTED BY THE ENGINEER.

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

ALL SIGN LOCATIONS SHALL BE REVIEWED BY THE ENGINEER PRIOR TO INSTALLATION.

CONSTRUCTION LIMITS ON SIDE ROADS AND PRIVATE ENTRANCES SHALL BE DETERMINED BY THE ENGINEER AND SHALL BE RESTORED IN KIND.

NO MILLING ON USH 45 FROM STATION 414+30 TO STA 421+30 AND FROM STA 439+42 TO STA 446+42.

SEE SUBSURFACE EXPLORATION REPORTS FOR SOIL BORING INFORMATION, REPORTS ARE AVAILABLE FROM THE WISDOT SOUTHEAST REGION PROJECTS SECTIONS, BRIAN PLUEMER, PROJECT MANAGER, PHONE (262) 548-6721.

ALL FIXED MESSAGE SIGNS THAT ARE TO BE MOUNTED ON WOOD OR TUBULAR STEEL POSTS SHALL BE MASH OR NCHRP CRASH-COMPLIANT.

CONTACT THE PROJECT ENGINEER, THE COUNTY SURVEYOR, AND SEWRPC AT LEAST TWO WEEKS BEFORE WORKING NEAR ANY SECTION CORNER MONUMENT.

ORDER OF SECTION 2 SHEETS

PROJECT OVERVIEW

TYPICAL SECTIONS

CONSTRUCTION DETAILS

INTERSECTION DETAILS

PLAN DETAILS

EROSION CONTROL

STORM SEWER

EXISTING/PERMANENT SIGNING

TRAFFIC SIGNALS

PAVEMENT MARKING

TRAFFIC CONTROL

DETOUR

ALIGNMENT

HMA PAVEMENT

LOCATION	HMA	LOWER LAYER	UPPER LAYER
USH 45 - MAINLINE (STA 316+73 - 700+50) AND SIDE ROADS	3 LT 58-28 S	X	X
	4 LT 58-28 S	X	2"
USH 45 - MAINLINE (STA 700+50 - 718+00, 12' LT - 12' RT OF CL)	3 LT 58-28 S	* 2 ½"	X
	4 LT 58-28 S	X	2"
USH 45 - BYPASS LANES AND RIGHT TURN LANES	3 LT 58-28 S	2 ¼"	X
	3 LT 58-28 S	2 ¼"	X
	4 LT 58-28 S	X	2"

NOTE: * 2 1/2 " FOR LOWER LAYER FROM STA 700+50 - 718+00

UTILITY CONTACTS

ANR PIPELINE CO
TODD BRISTER
ANR PIPELINE CO-GAS/PETROLEUM
W3925 PIPELINE LN
EDEN WI, 53019
PHONE: (920) 477-2235
EMAIL: TODD_BRISTER@TRANSCANADA.COM

AT&T WISCONSIN
MIKE VANBOVEN
AT&T WISCONSIN-COMMUNICATION LINE
411 7TH STREET
RACINE, WI 53403
PHONE: (262) 676-3958
EMAIL: MV3658@ATT.COM

ATC MANAGEMENT, INC
MIKE OLSEN
ATC MANAGEMENT, INC-ELECTRICITY
801 O'KEEFE RD
PO BOX 6113
DE PERE, WI 54115-6113
PHONE: (920) 338-6582
EMAIL: MOLSEN@ATCLLC.COM

FRONTIER COMMUNICATIONS
RUSS RYAN
FRONTIER COMMUNICATIONS OF WI LLC - COMMUNICATION LINE
118 DIVISION STREET
PLYMOUTH WI, 53073
PHONE: (920)-583-3275
EMAIL: RUSSELL.W.RYAN@FTR.COM

MIDWEST FIBER NETWORKS
RICHARD TRGOVEC
MIDWEST FIBER NETWORKS LLC-COMMUNICATION LINE
6070 NORTH FLINT RD
GLENDALE, WI 53209
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EMAIL: RTRGOVEC@MIDWESTFIBERNETWORKS.COM

WE ENERGIES-GAS
NICOLE SMULLEN
WE ENERGIES
333 W EVERETT ST A299
MILWAUKEE WI, 53203
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WE ENERGIES-ELECTRIC
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WE ENERGIES
333 W EVERETT ST A299
MILWAUKEE WI, 53203
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CHARTER
BEAU ABUYA
CHARTER COMMUNICATIONS - COMMUNICATION LINE
1320 N DR. MARTIN LUTHER KING JR DRIVE
MILWAUKEE, WI 53212
PHONE: (414) 908-1343
EMAIL: WIS.ENGINEERING@CHARTER.COM

CONSTRUCTION FIELD CONTACT:
CALVIN KLADE
FRONTIER COMMUNICATIONS OF WI LLC - COMMUNICATION LINE
1851 N 14TH AVE WEST WISCONSIN STREET
WAUSAU WI, 54401
PHONE: 715-573-2110
EMAIL: CALVIN.KLADE@@FTR.COM

CONSTRUCTION FIELD CONTACT:
CARTER BOBBINS
MIDWEST FIBER NETWORKS LLC-COMMUNICATION LINE
6070 NORTH FLINT RD
GLENDALE, WI 53209
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EMAIL: CROBBINS@MIDWESTFIBERNETWORKS.COM

CONSTRUCTION FIIELD CONTACT:
SPENSER DOONER
WE ENERGIES
700 S KANE ST
BURLINGTON WI, 53105
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DAN TOOMEYWE ENERGIES
500 S 116TH ST
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WINDSTREAM KDL, LLC
MARY BETH FISHER
WINDSTREAM - COMMUNICATION LINE
13935 BISHOP DRIVE
BROOKFIELD, WI 53005
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RANDALL KERKMAN
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19801 83RD STREET
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UNION GROVE - ROAD FACILITY
RICHARD PIETTE
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PHONE: (262) 878-1818
EMAIL: RPIETTE@UNIONGROVE.NET

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OTHER CONTACTS

WISDOT REGION CONTACT
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WAUKESHA, WI 53187
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EMAIL: BRIAN.PLUEMER@DOT.WI.GOV

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DNR LIAISON
141 NW BARSTOW ST ROOM 180
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WISDOT SIGNALS
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WEST ALLIS, WI 53214
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RACINE COUNTY
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COUNTY ENGINEER
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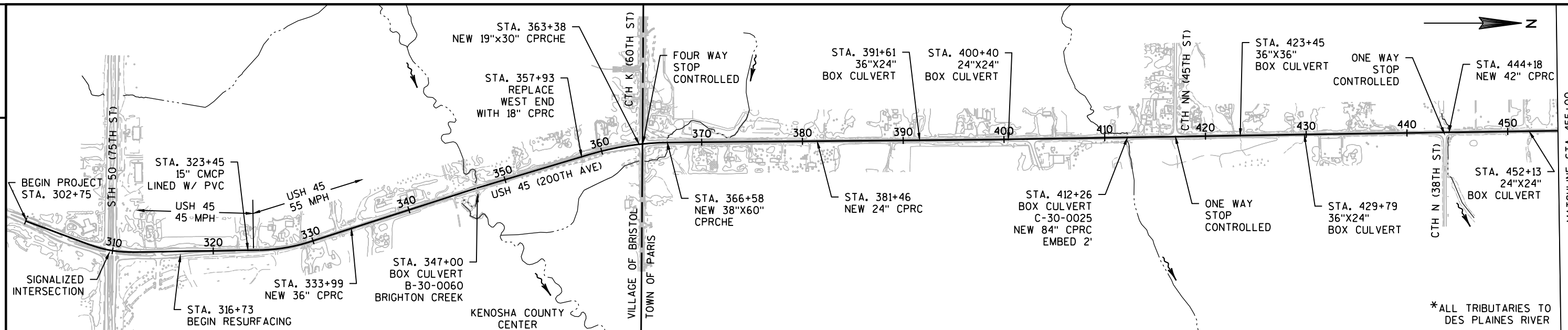
SOUTHEASTERN WISCONSIN REGIONAL PLANNING COMMISSION
JOHN WASHBURN
SEWRPC (KENOSHA COUNTY SURVEYOR)
W239 N1812 ROCKWOOD DRIVE
P.O. BOX 1607
WAUKESHA, WI 53187
PHONE: (262) 547-6721
EMAIL: SEWRPC@SEWRPC.ORG



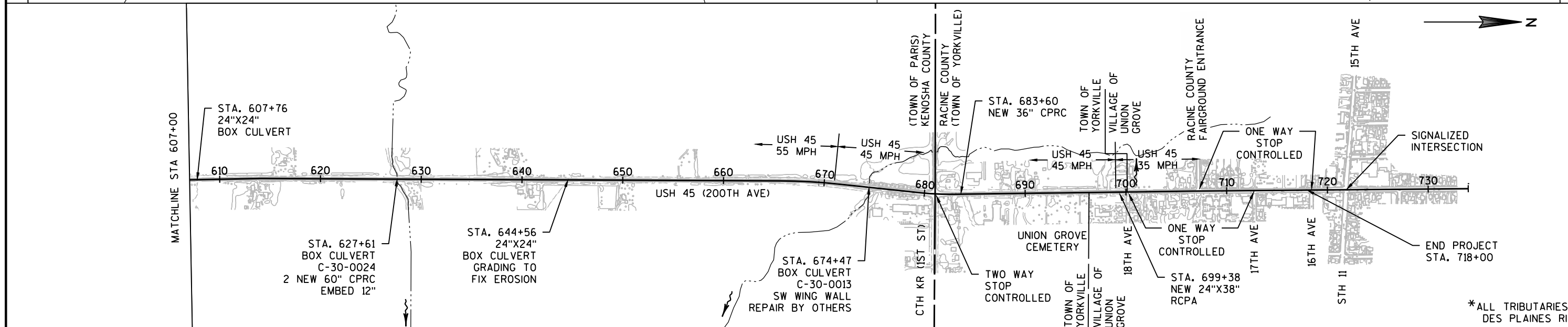
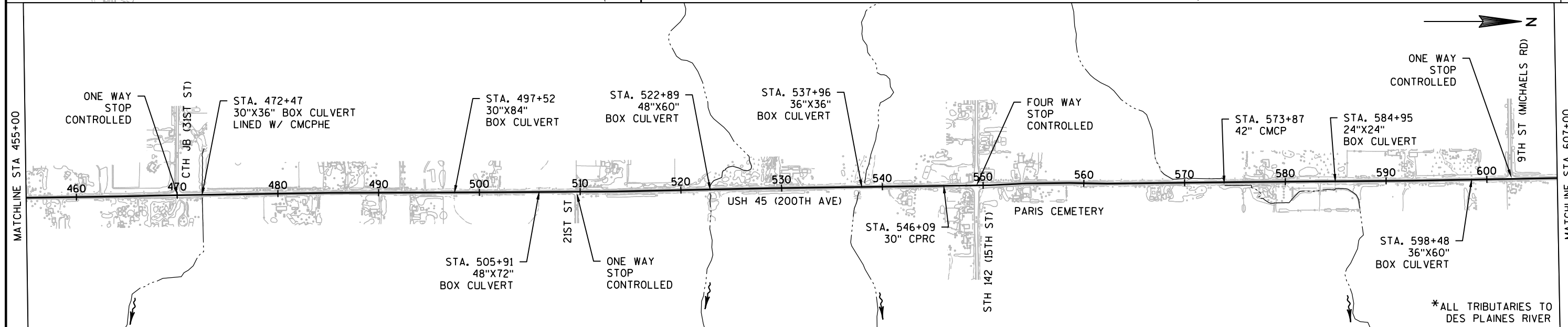
Dial 811 or (800)242-8511

www.DiggersHotline.com

2



2



PROJECT NO: 3200-01-72

HWY: USH 45

COUNTY: KENOSHA-RACINE

PROJECT OVERVIEW

SHEET

4

E

FILE NAME : N:\PDS\C3D\32000102\SHEETPLAN\020201-PO.DWG
LAYOUT NAME - 020201-PO

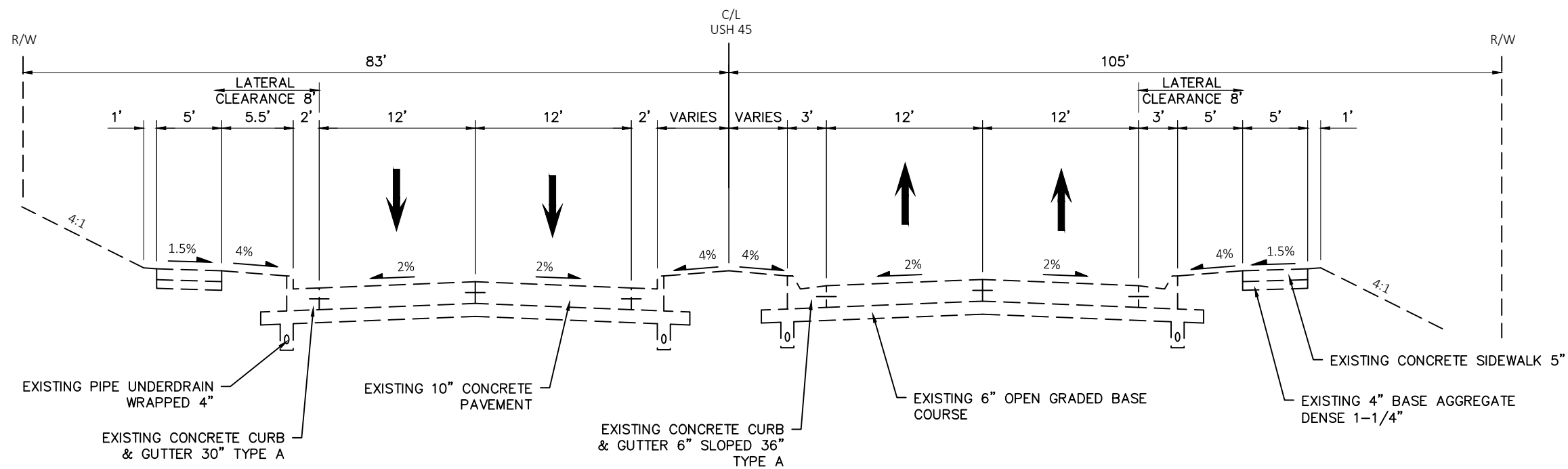
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PLOT BY : MATHENY, ROBERT B

PLOT NAME :

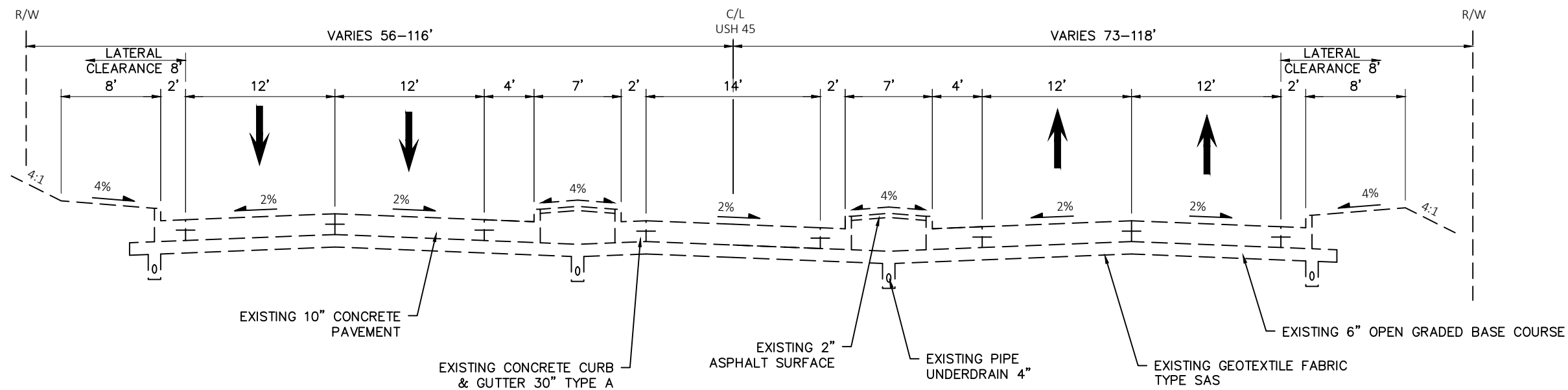
PLOT SCALE : *****

WISDOT/CADS SHEET 42



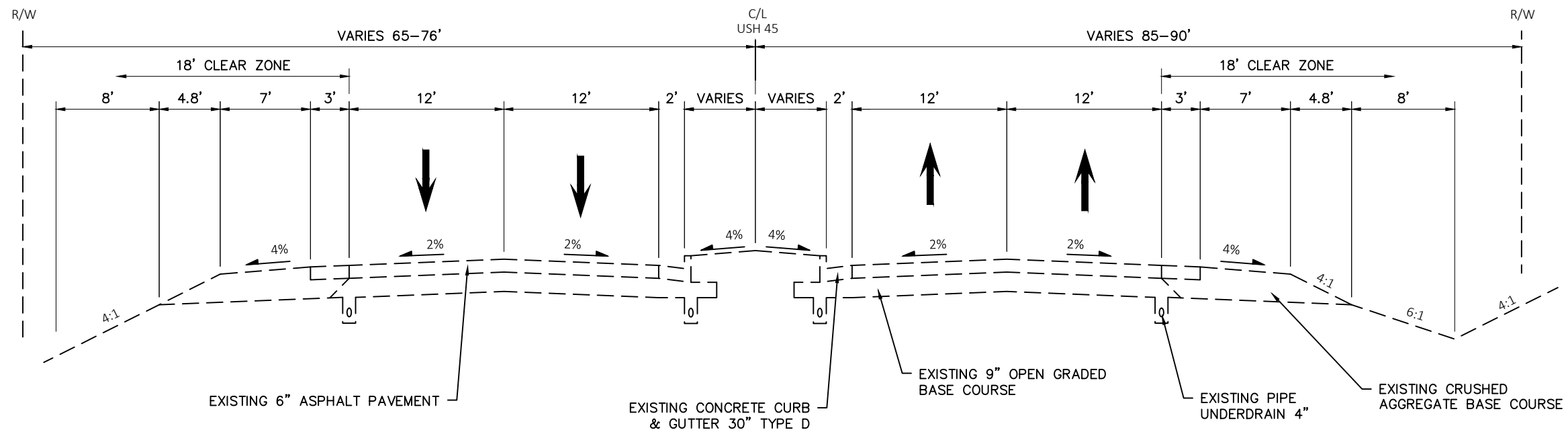
EXISTING TYPICAL SECTION

STA. 302+75 TO 305+00



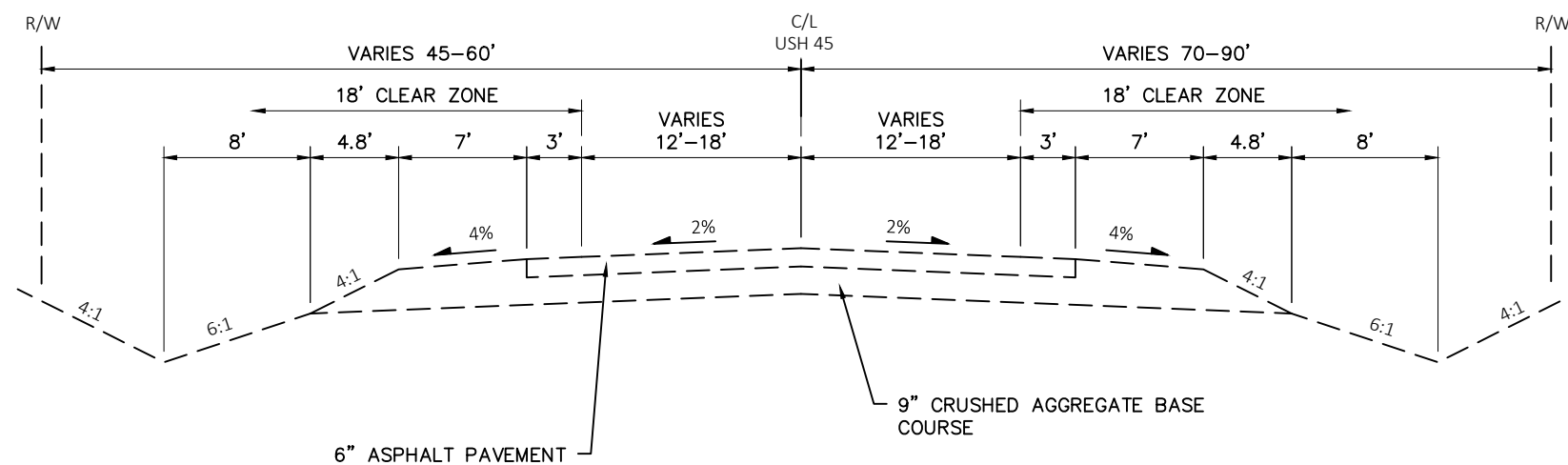
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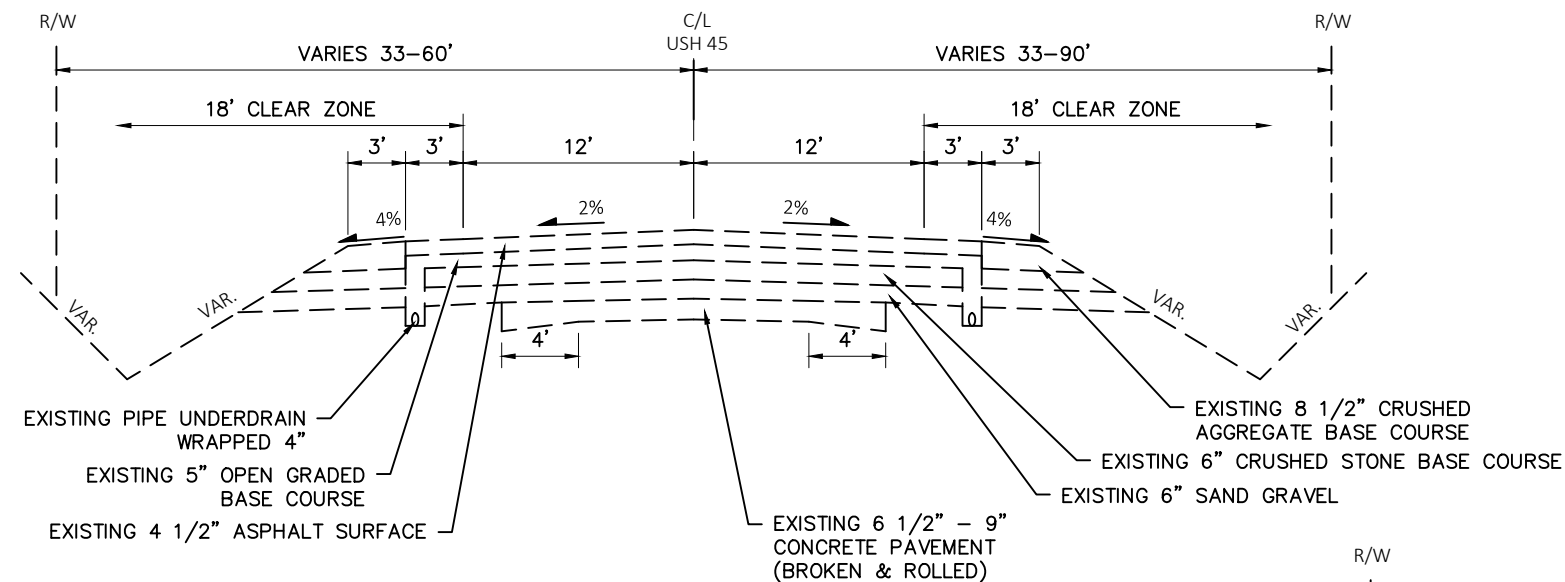
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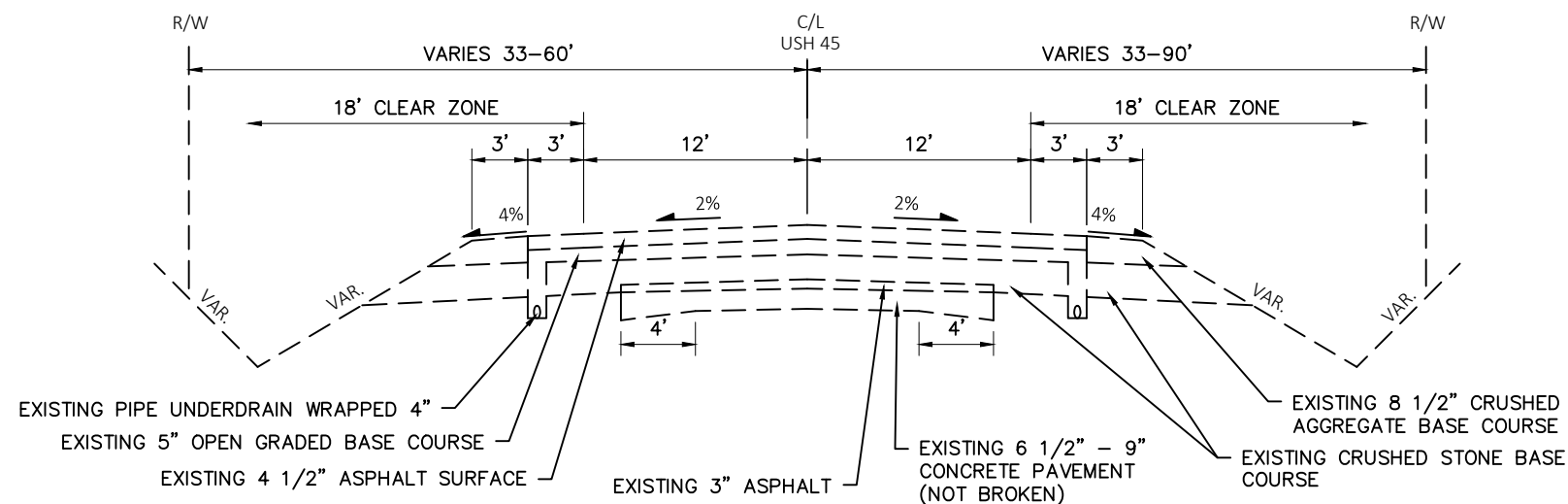


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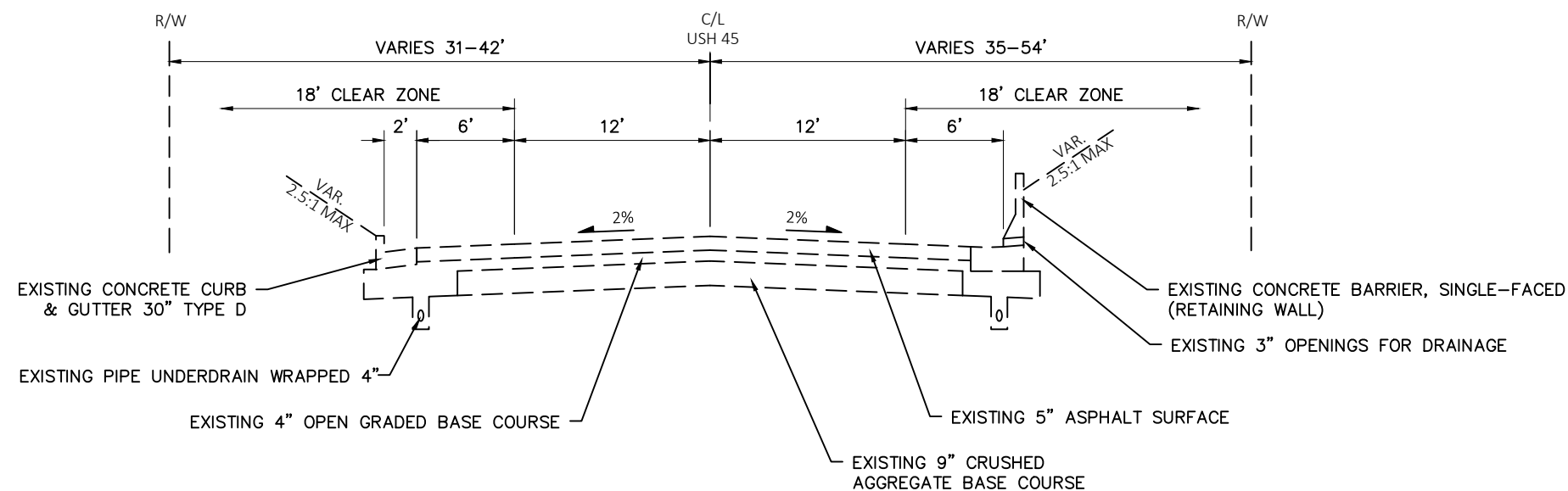
STA. 320+50 TO 323+50

**EXISTING TYPICAL SECTION**

STA. 323+50-334+00 STA. 536+50-545+75
STA. 380+75-413+75 STA. 563+00-568+75
STA. 430+75-444+00 STA. 579+75-590+75
STA. 451+75-460+75 STA. 605+75-652+75
STA. 495+75-521+75

**EXISTING TYPICAL SECTION**

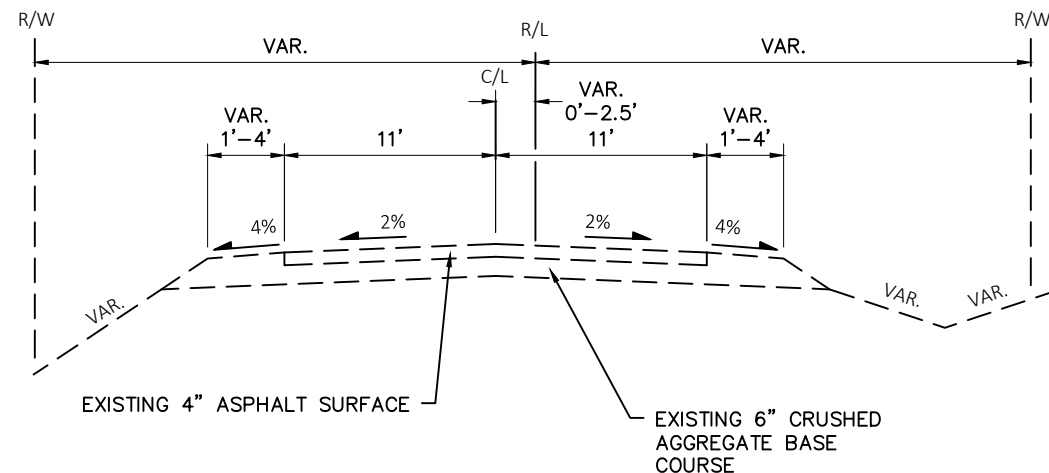
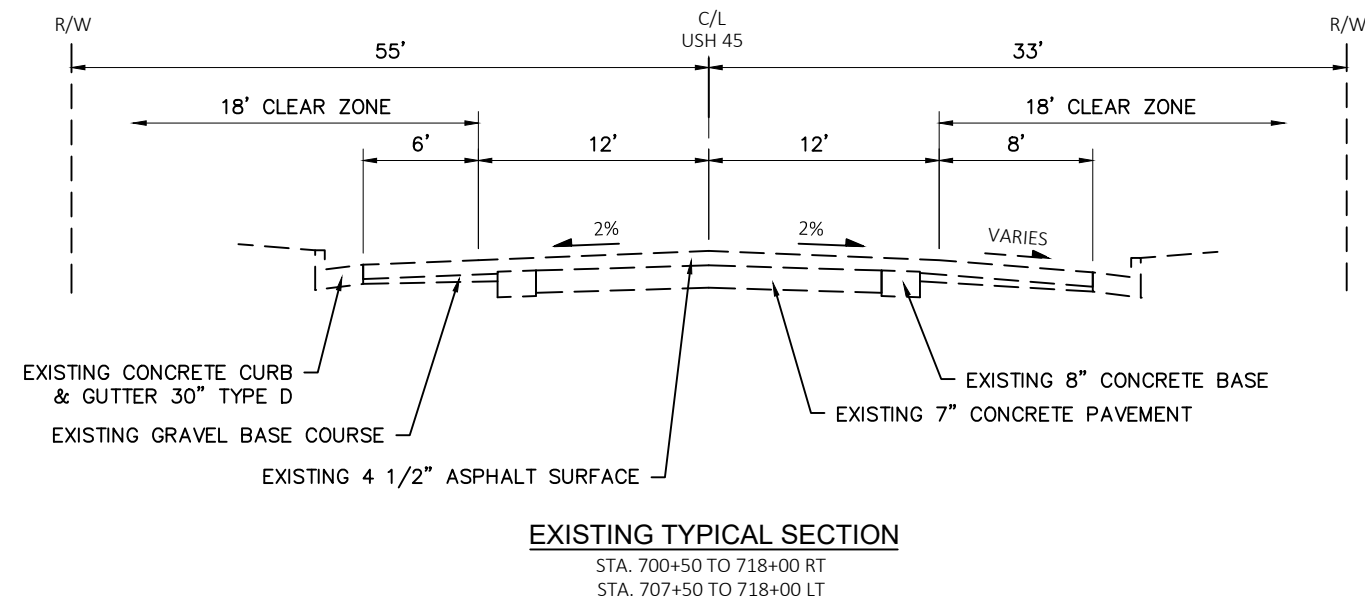
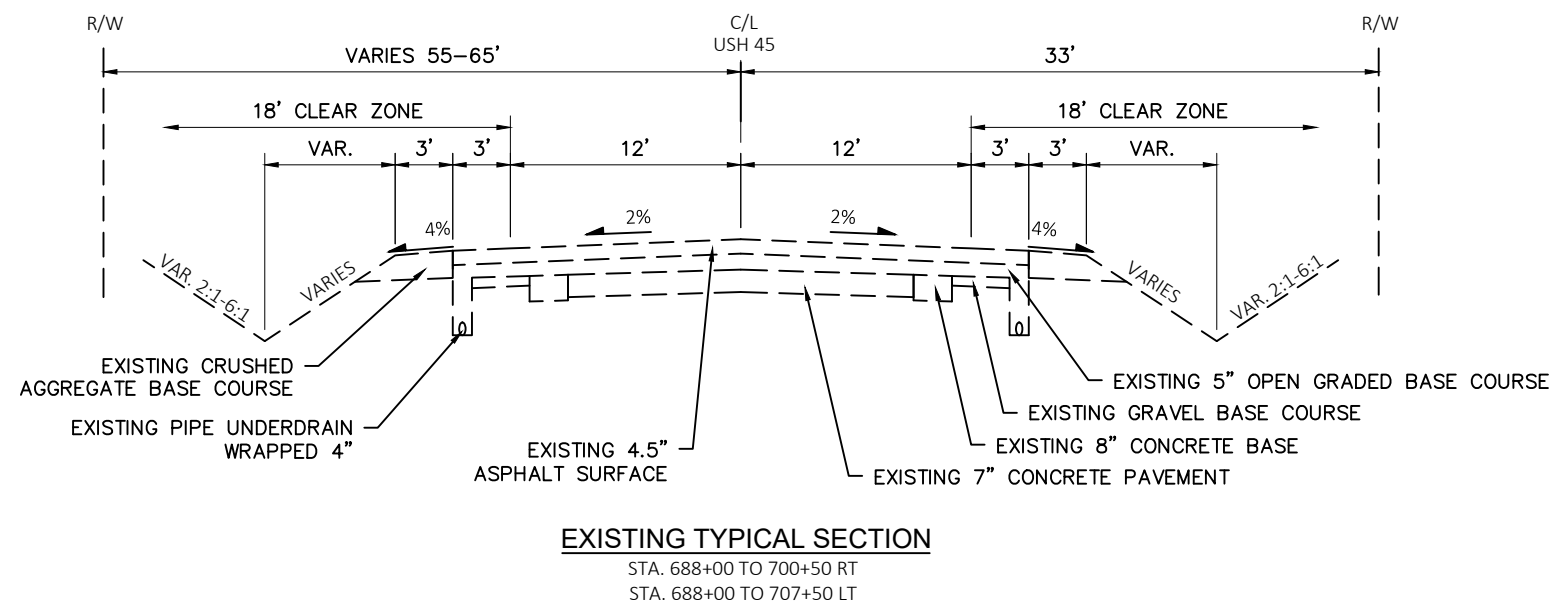
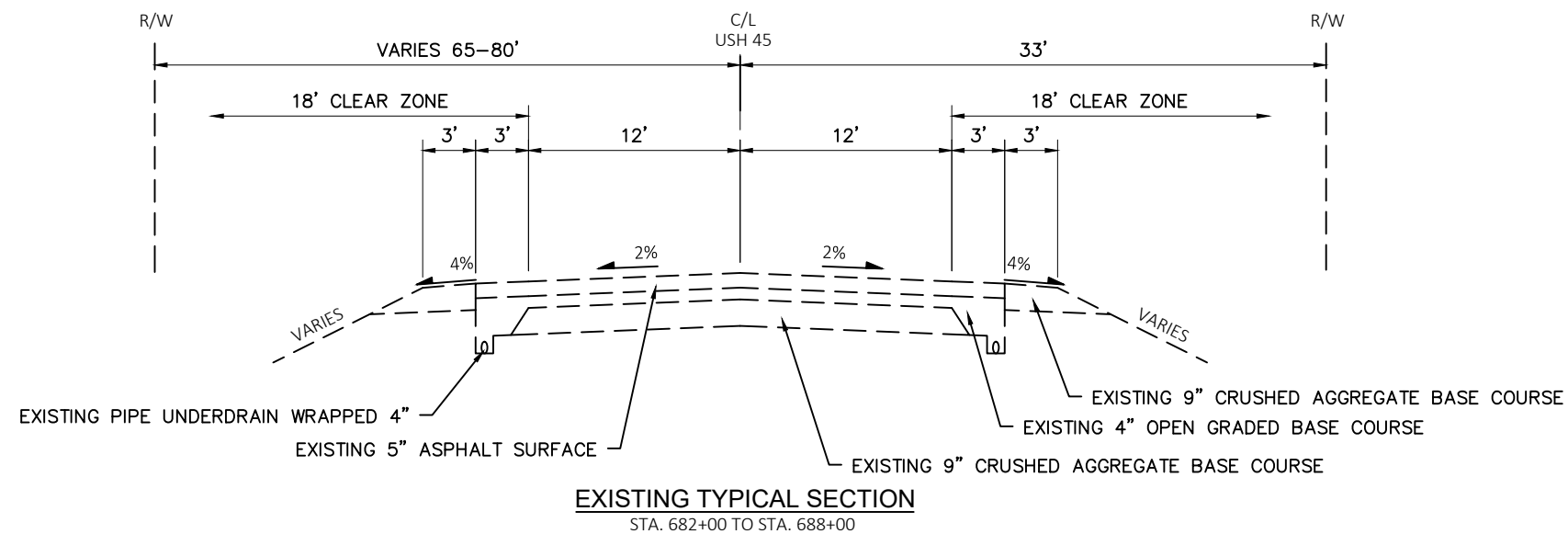
STA. 334+00-380+75 STA. 545+75-551+25
STA. 413+75-430+75 STA. 568+75-579+75
STA. 444+00-451+75 STA. 590+75-605+75
STA. 460+75-495+75 STA. 652+75-682+00
STA. 521+75-536+50

**EXISTING TYPICAL SECTION**

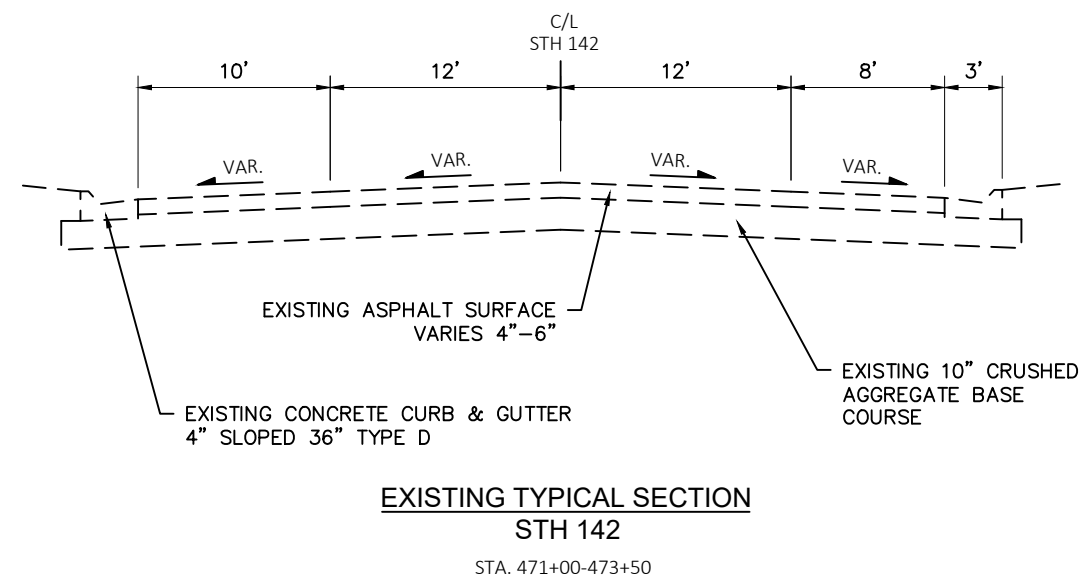
STA. 551+25-563+00

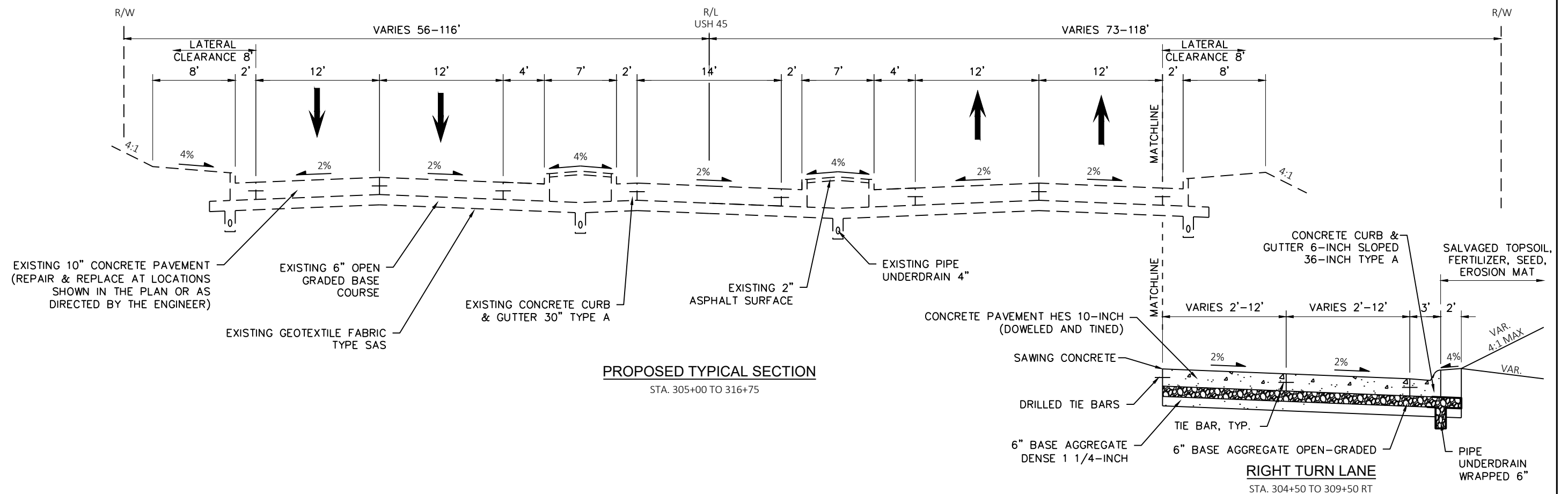
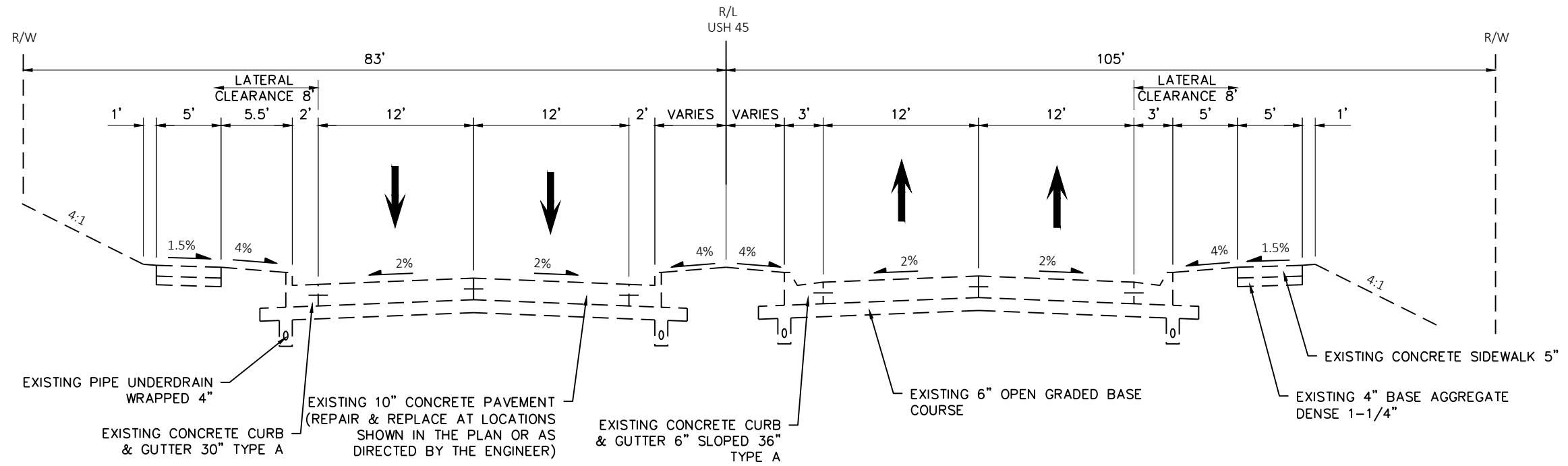
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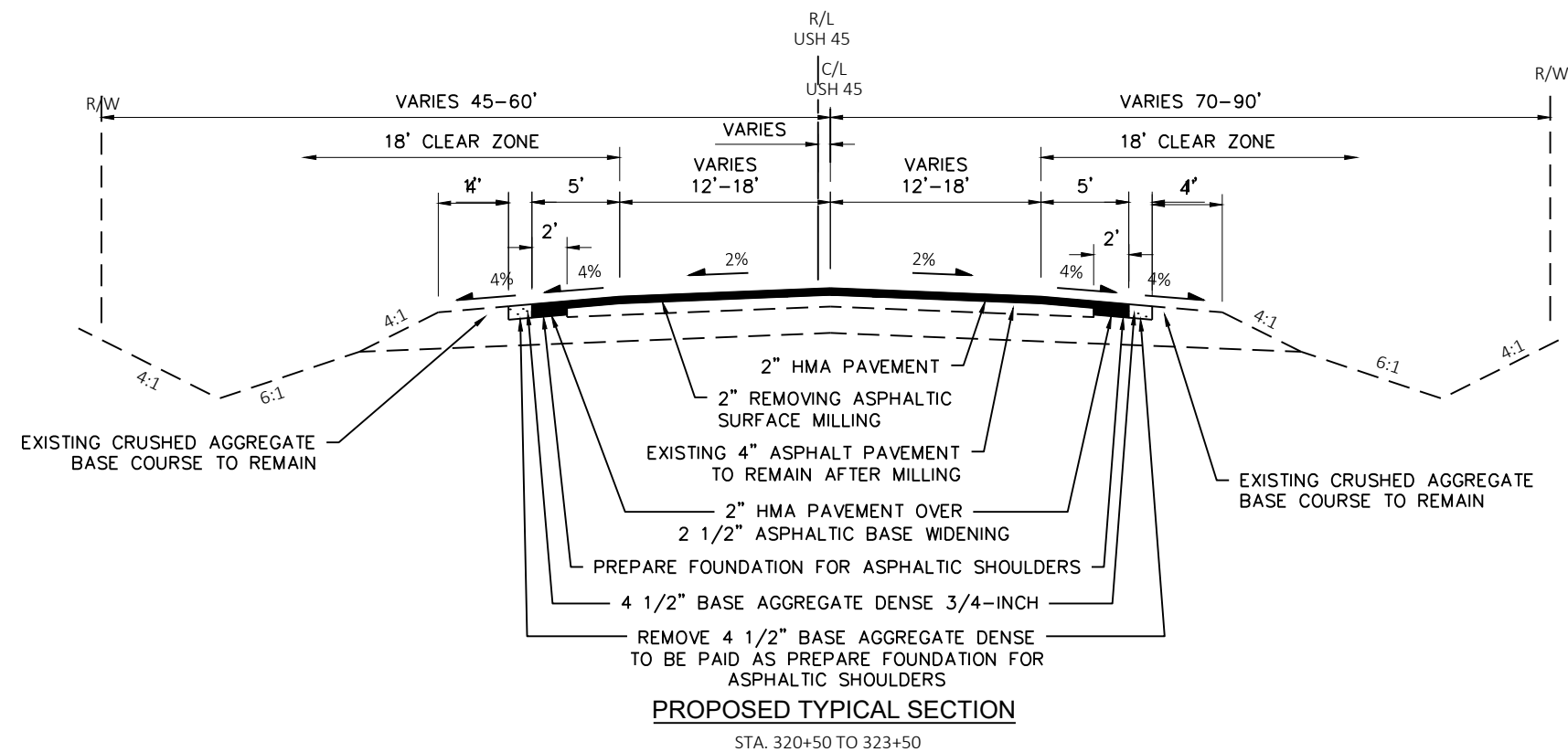
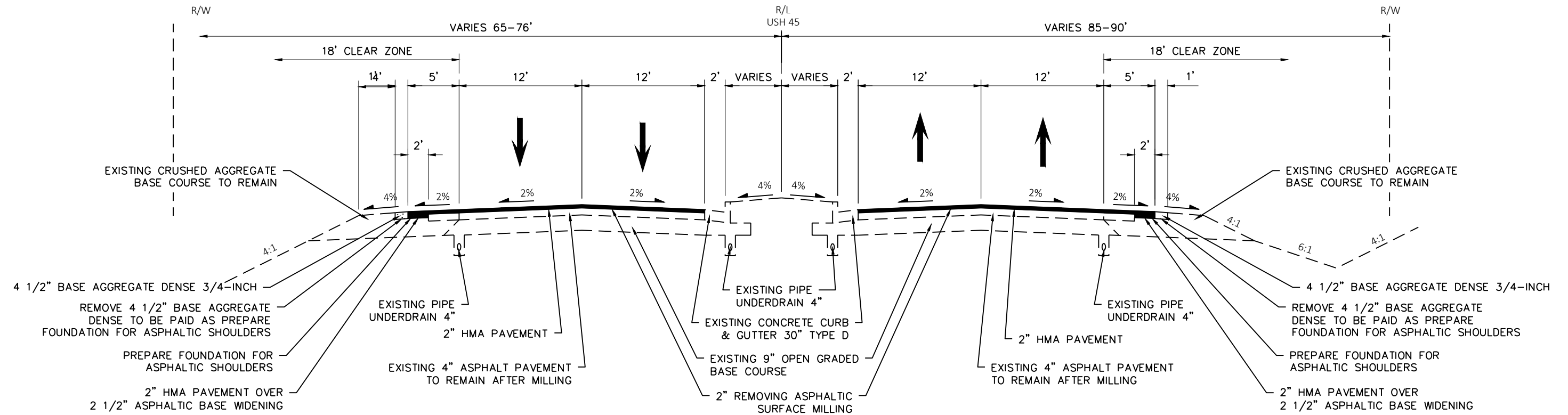
- 1) 323+50-365+80 -- 3" (+/-) EXISTING ASPHALT PAVEMENT UNDER OPEN GRADED BASE
- 2) 511+30-515+30 -- OPEN GRADED BASE DIRECTLY ON TOP OF CONCRETE BASE
- 3) DRAIN TILE OMITTED ON HIGH SIDE OF SUPERELEVATION
- 4) DRAIN TILE TRENCHES LINED WITH GEOTEXTILE FABRIC TYPE DF
- 5) EXISTING 30" CURB & GUTTER MAY BE ENCOUNTERED ADJACENT TO CONCRETE BASE

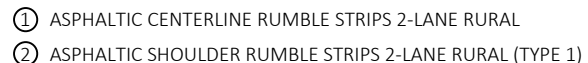


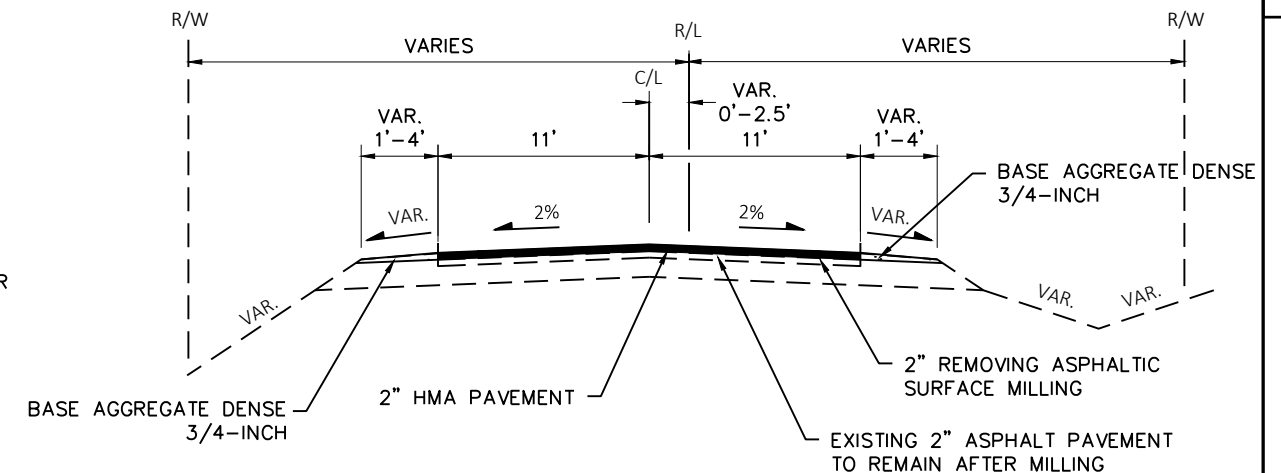
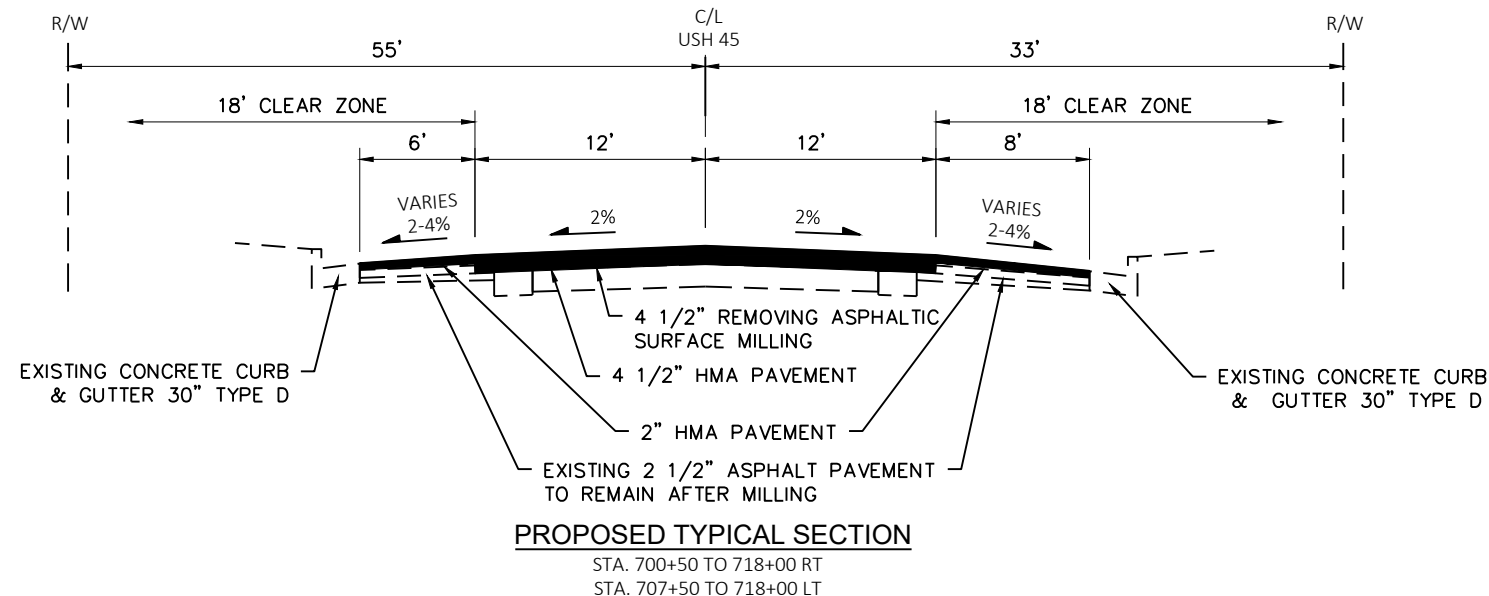
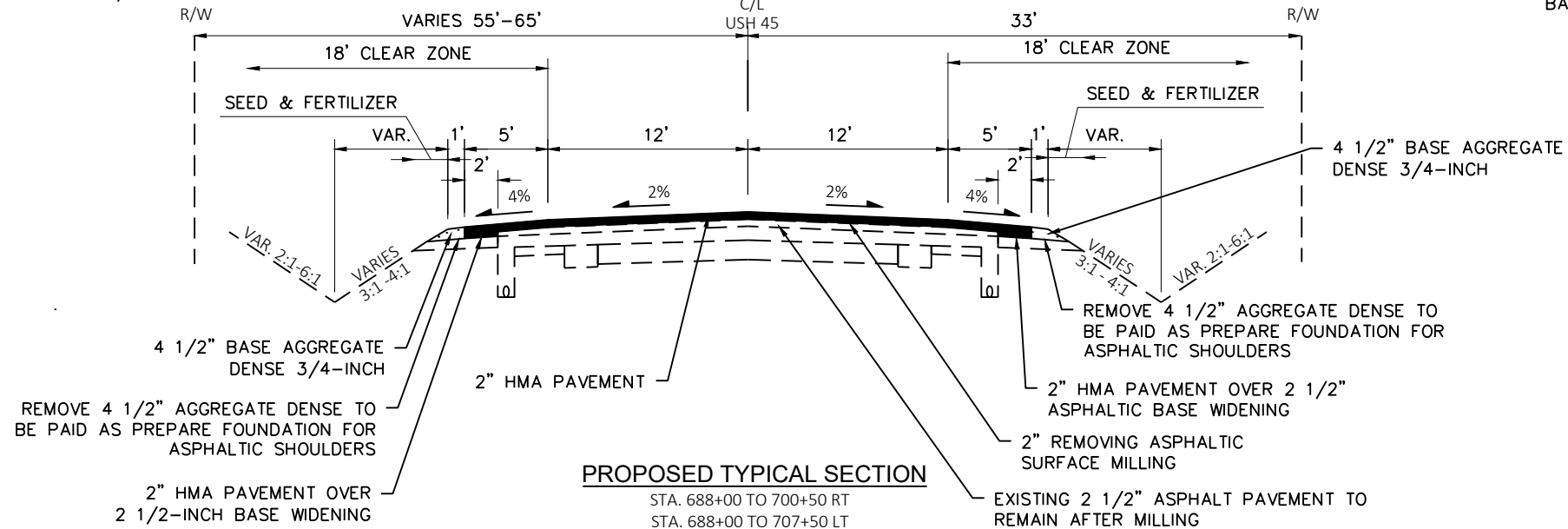
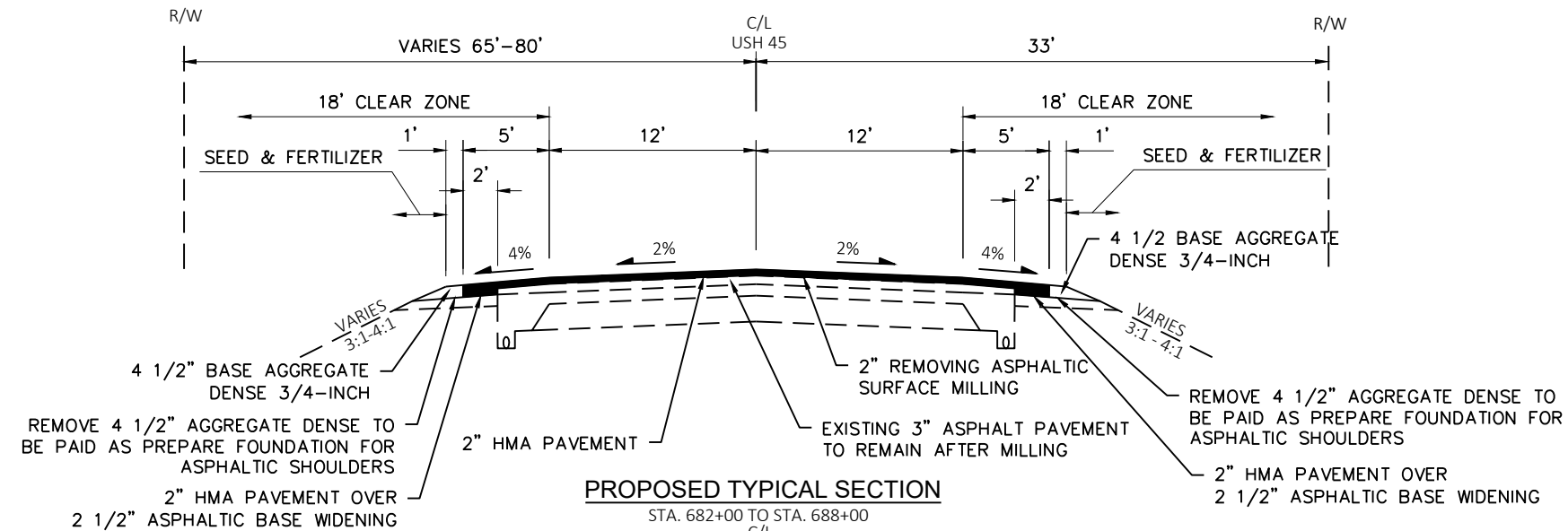
CTH K: STA. 63+25-66+50
CTH NN: STA. 78+50-80+00
CTH N: STA. 70+00-71+60
CTH JB: STA. 58+60-60+00
21ST ST: STA. 50+00-51+00
9TH ST: STA. 39+00-40+00
CTH KR: STA. 55+75-58+75





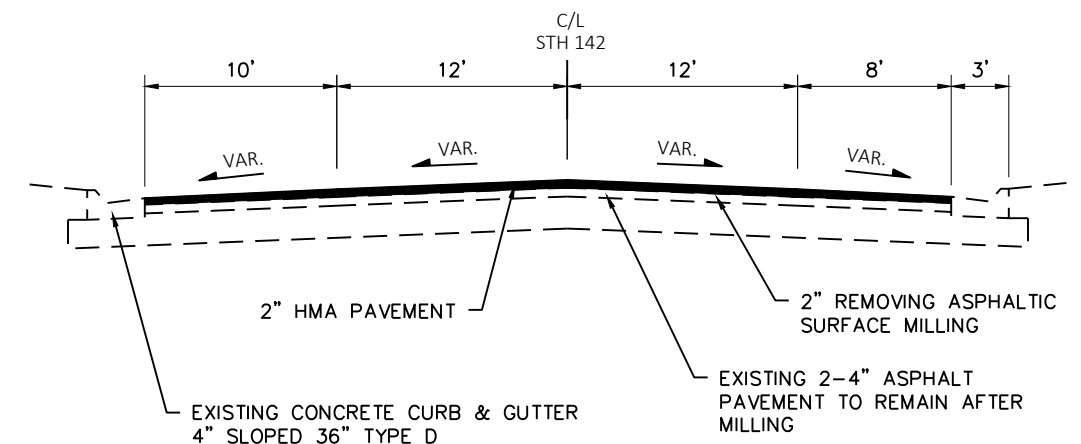






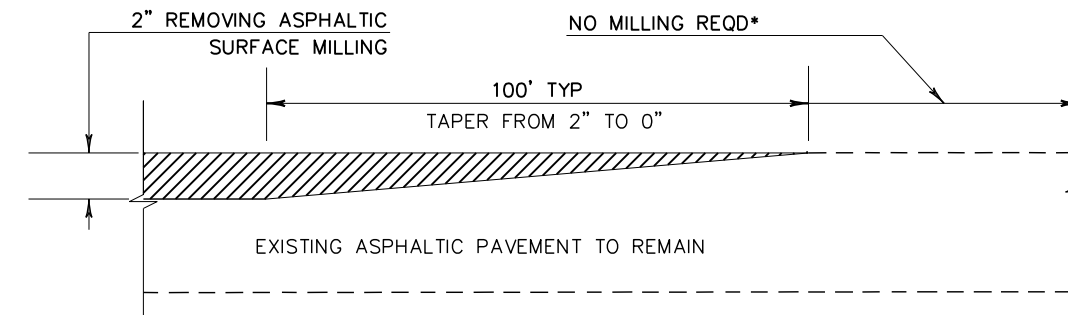
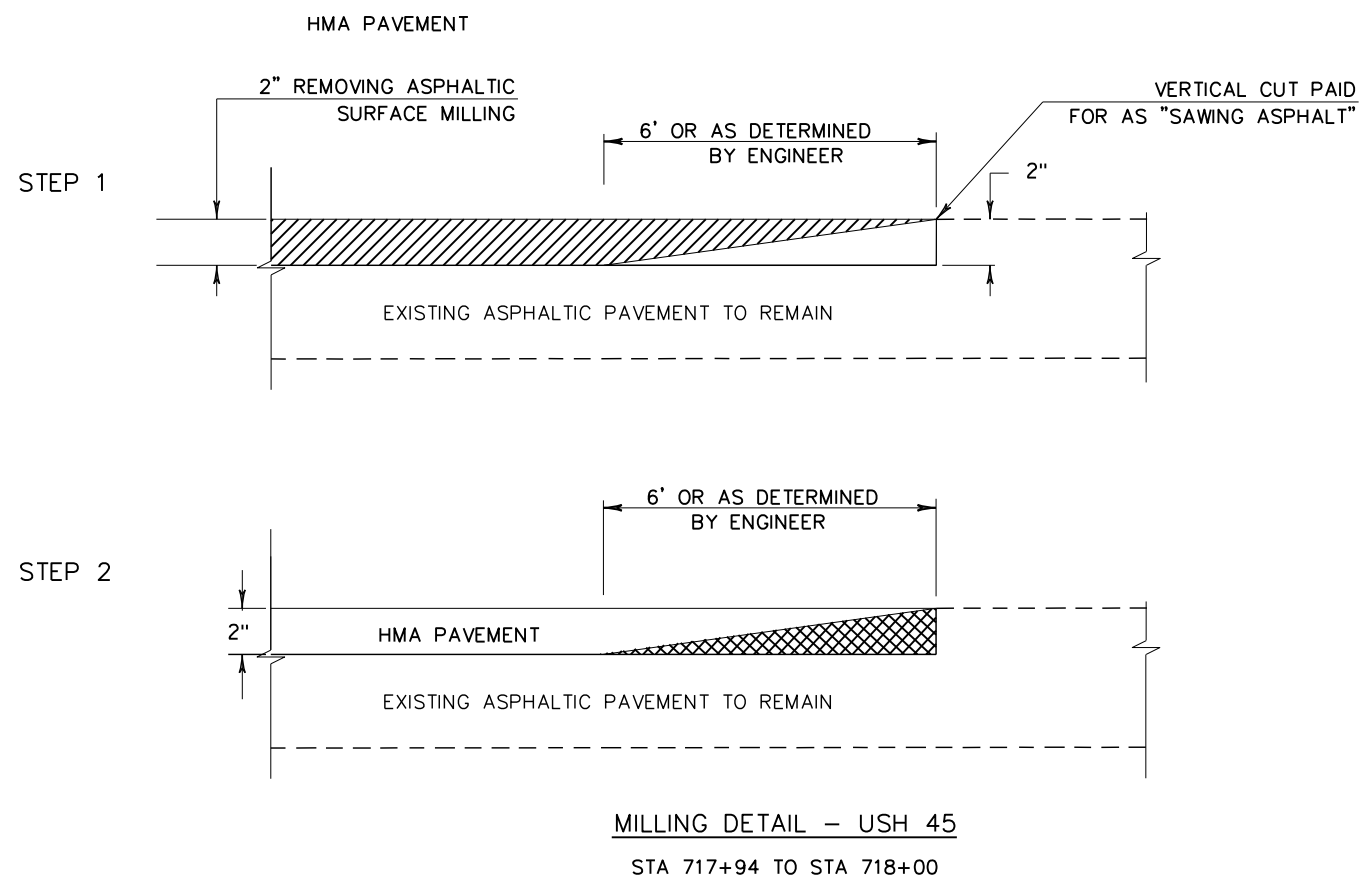
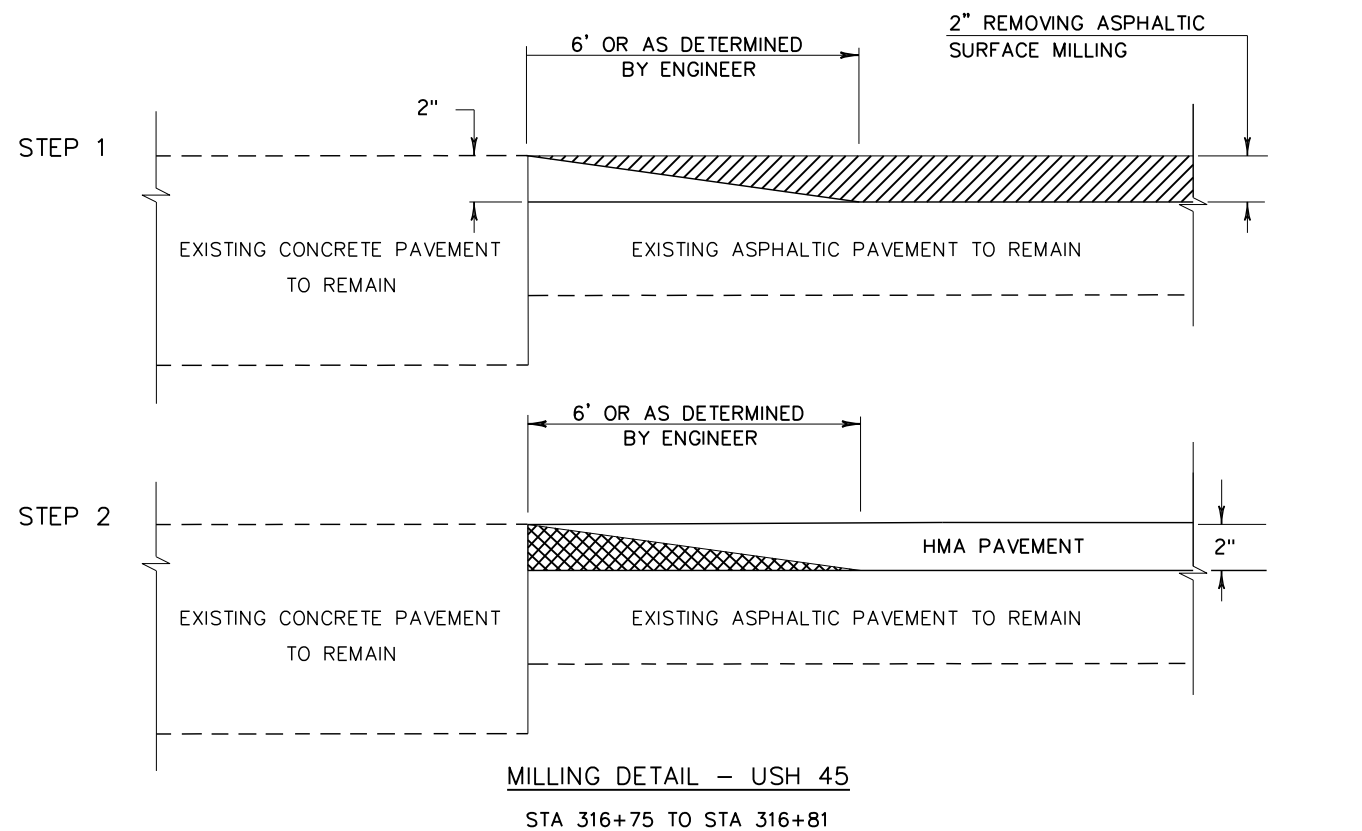
PROPOSED TYPICAL SECTION RURAL SIDEROADS

CTH K: STA. 63+25-66+50
CTH NN: STA. 78+50-80+00
CTH N: STA. 70+00-71+60
CTH JB: STA. 58+60-60+00
21ST ST: STA. 50+00-51+00
9TH ST: STA. 39+00-40+00
CTH KR: STA. 55+75-58+75



PROPOSED TYPICAL SECTION STH 142

STA. 471+00-473+50

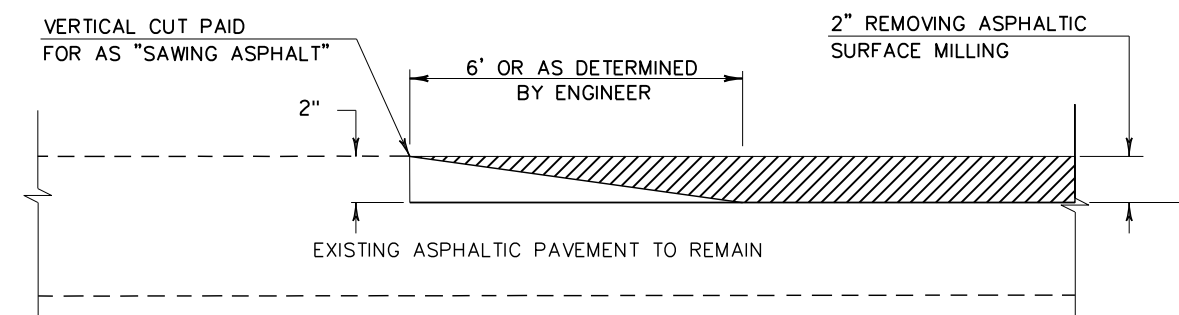


MILLING DETAIL – USH 45

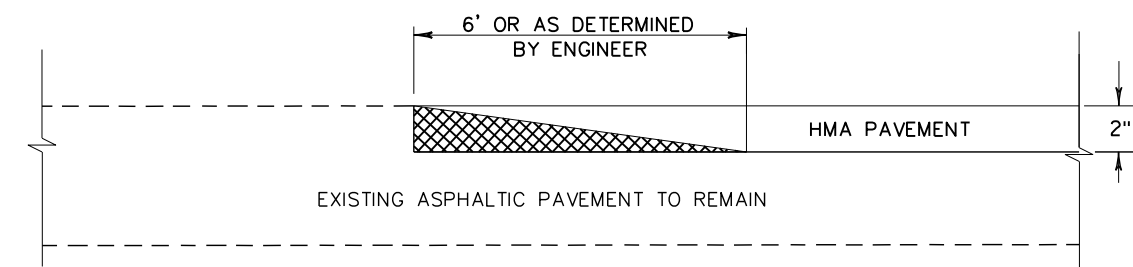
STA 413+30 TO STA 414+30
STA 421+30 TO STA 422+30
STA 438+42 TO STA 439+42
STA 446+42 TO STA 447+42

NOTE: *NO MILLING ON USH 45:

STA 414+30 TO STA 421+30
STA 439+42 TO STA 446+42

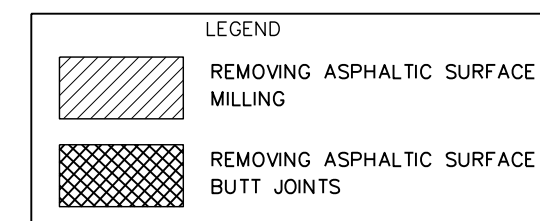


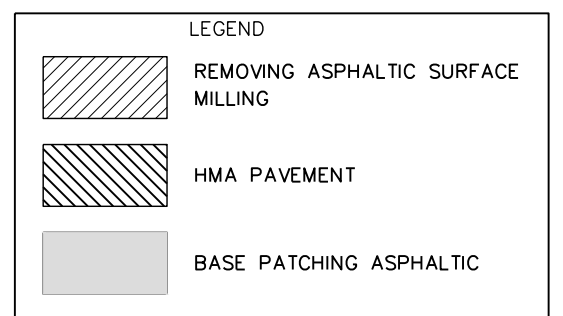
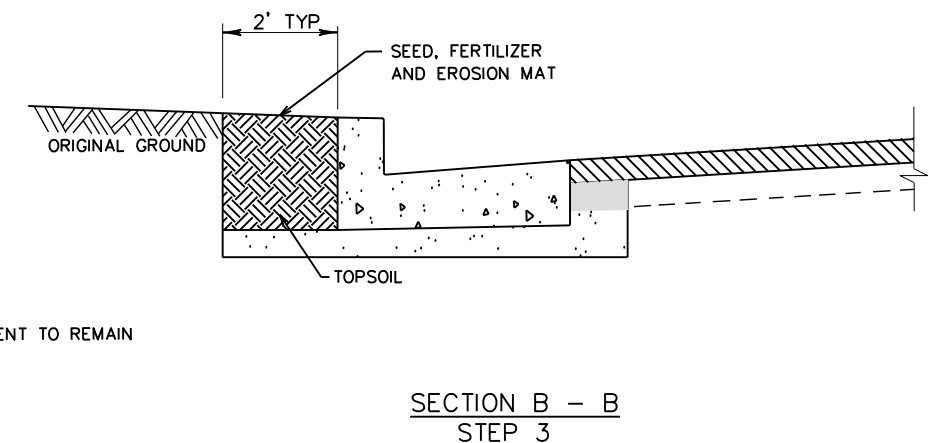
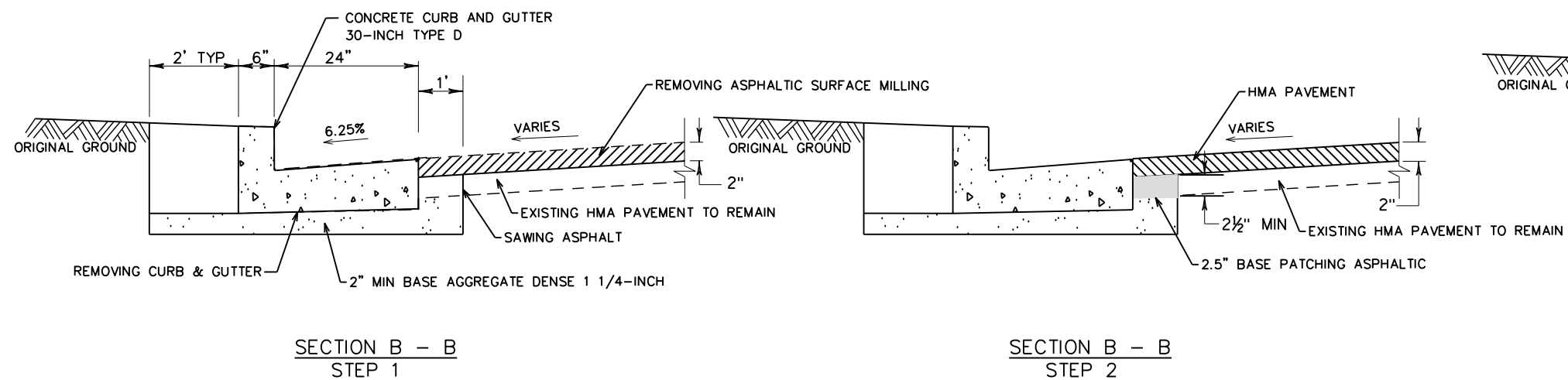
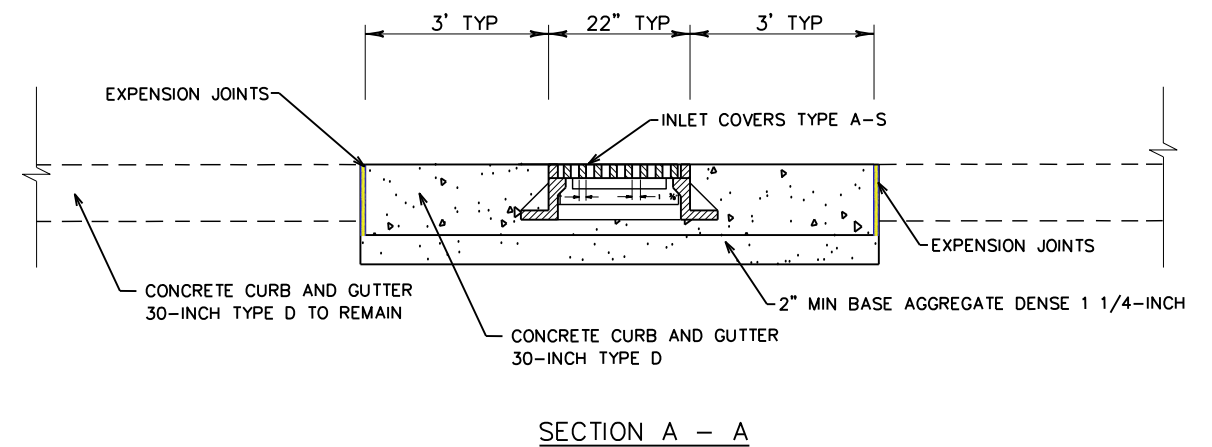
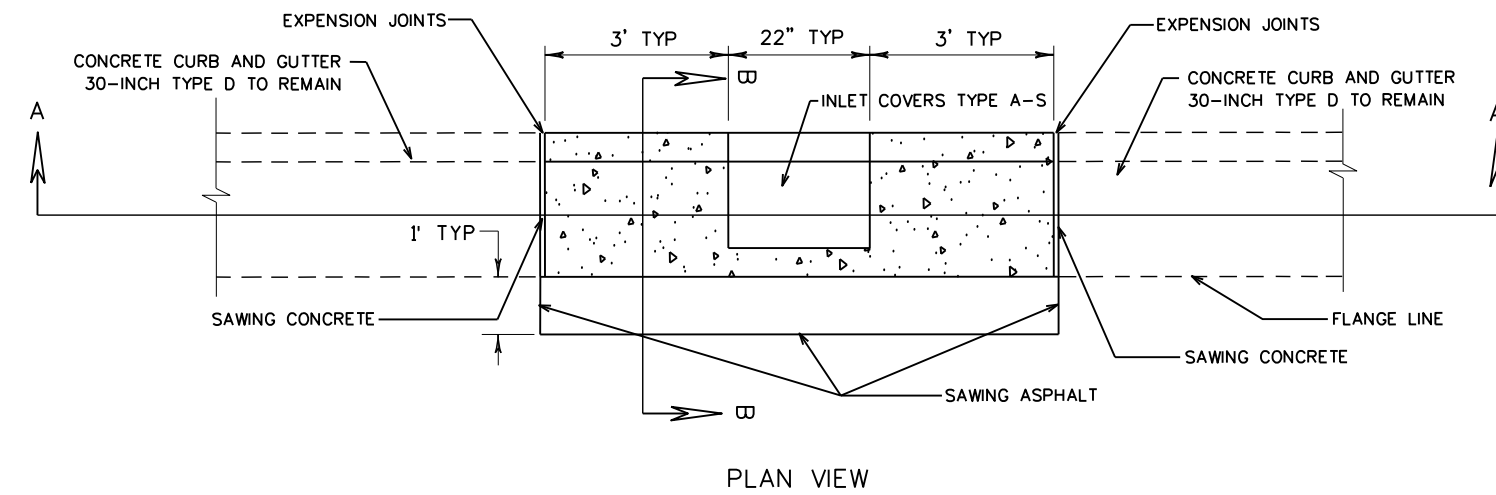
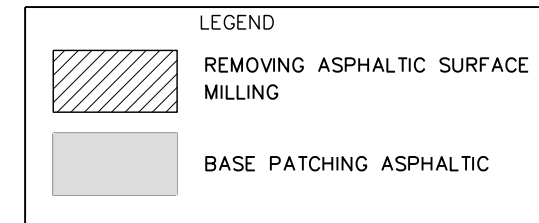
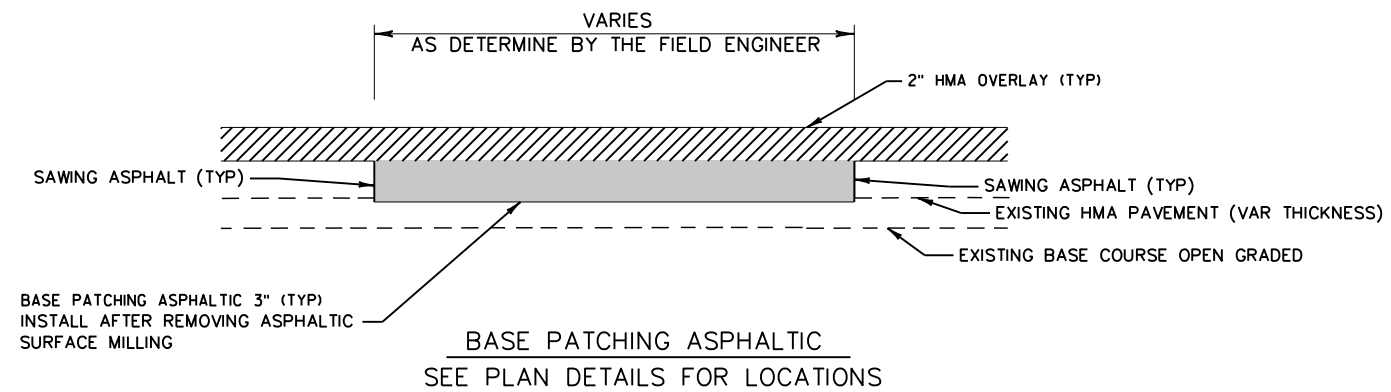
STEP 1

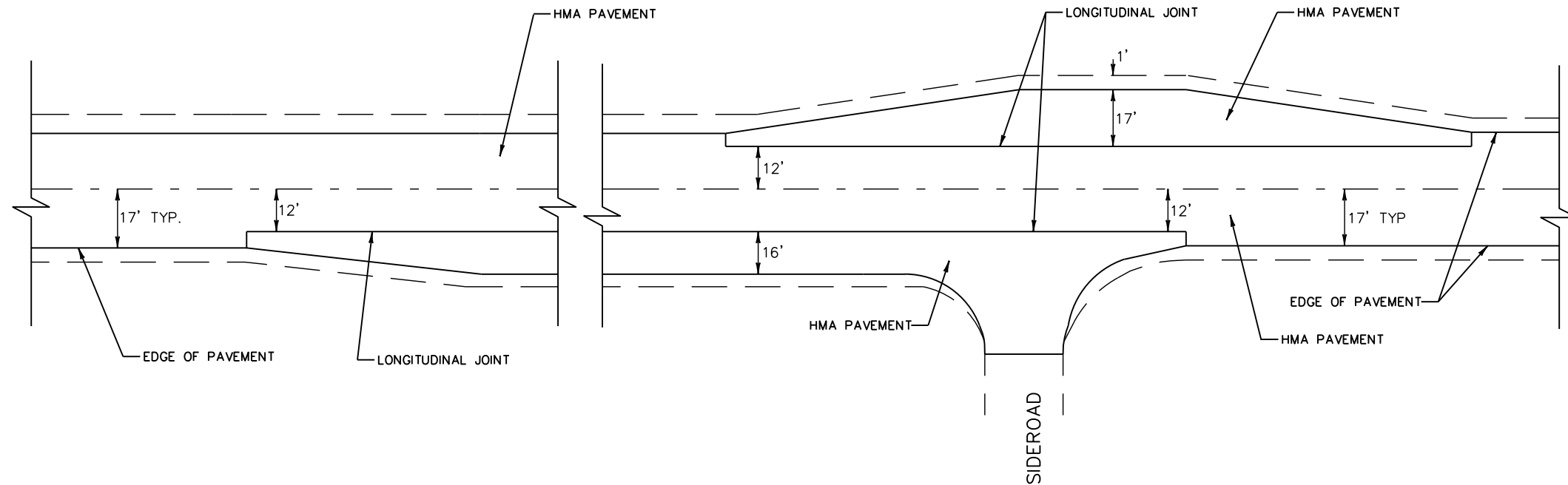


STEP 2

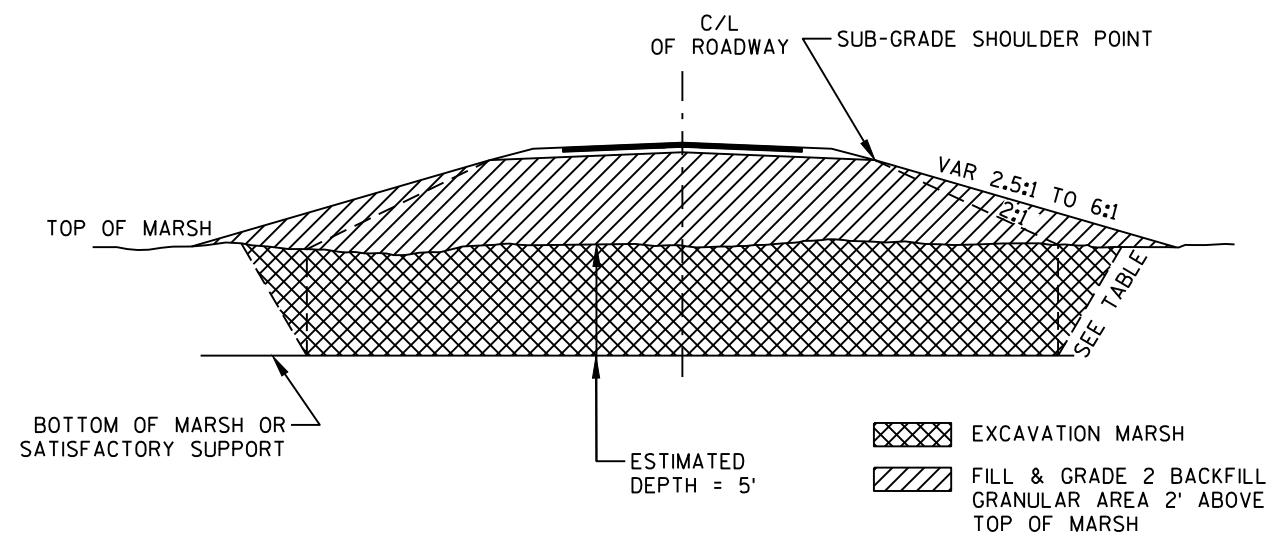
MILLING DETAIL – SIDEROADS







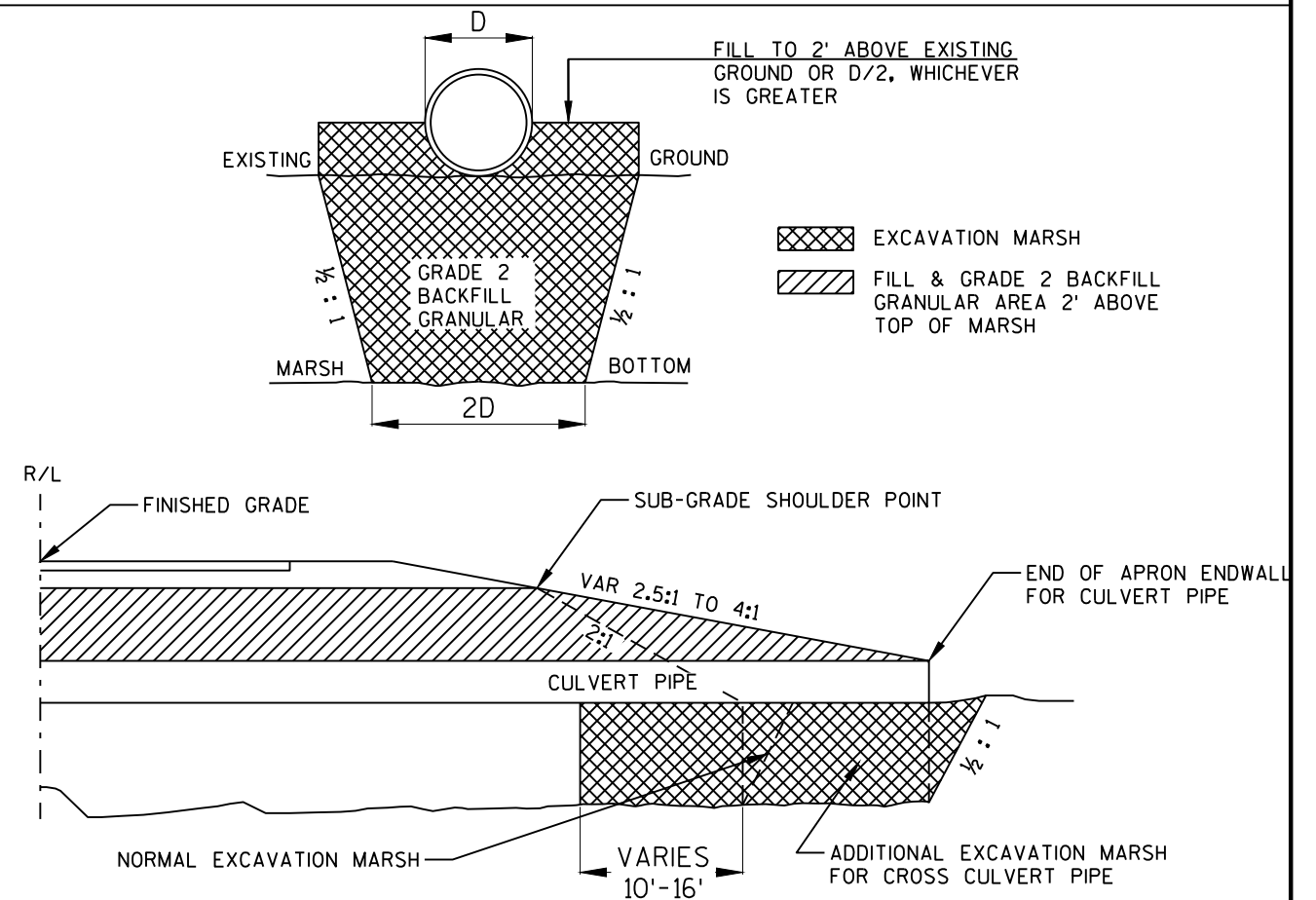
HMA LONGITUDINAL JOINT DETAIL
TO BE USED AT CTH N & CTH NN



DEPTH OF MARSH "D" (FT)	VARIABLE BACKSLOPE (FT/FT)
0 TO 8	1 : 1
8 TO 12	1.5 : 1
12 +	2 : 1

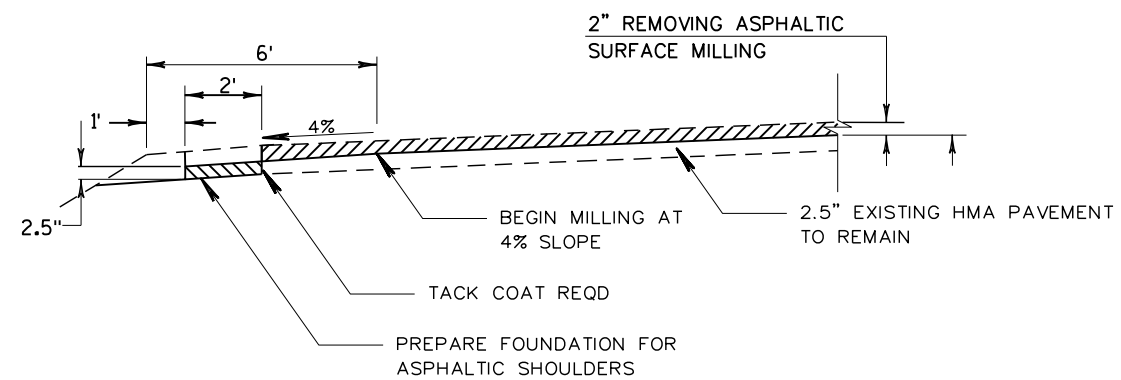
EXCAVATION MARSH TYPICAL SECTION

STA 627+50-630+00 LT/RT
(ESTIMATED DEPTH = 5')

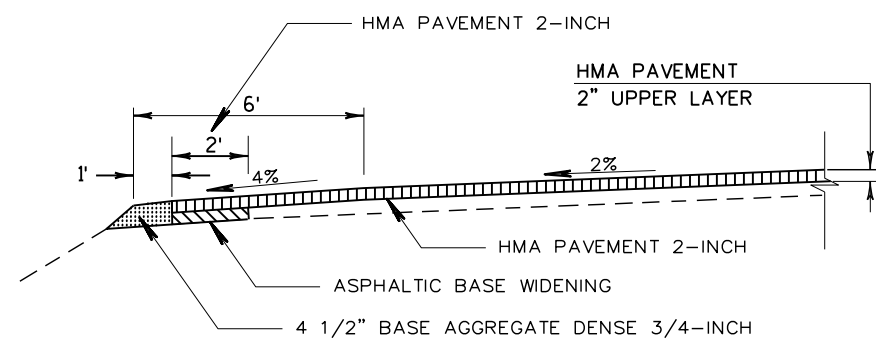


EXCAVATION MARSH AT CULVERTS

STA 627+75 LT
STA 627+90 RT

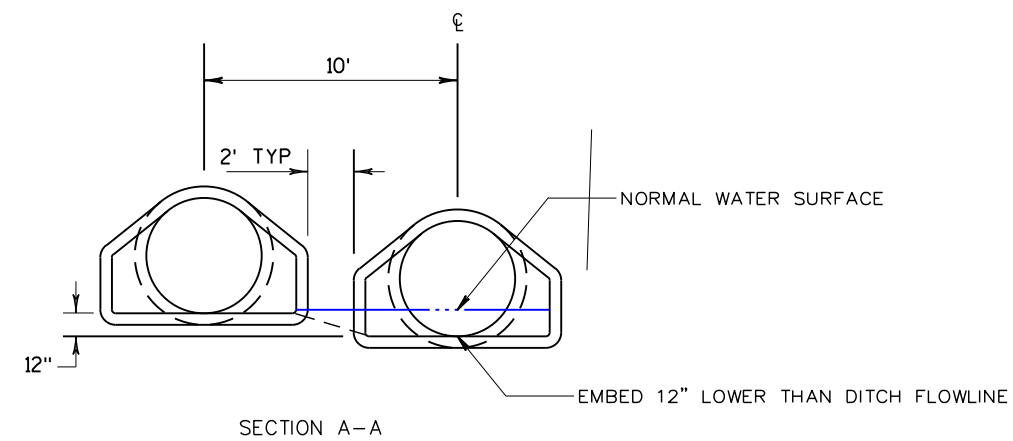
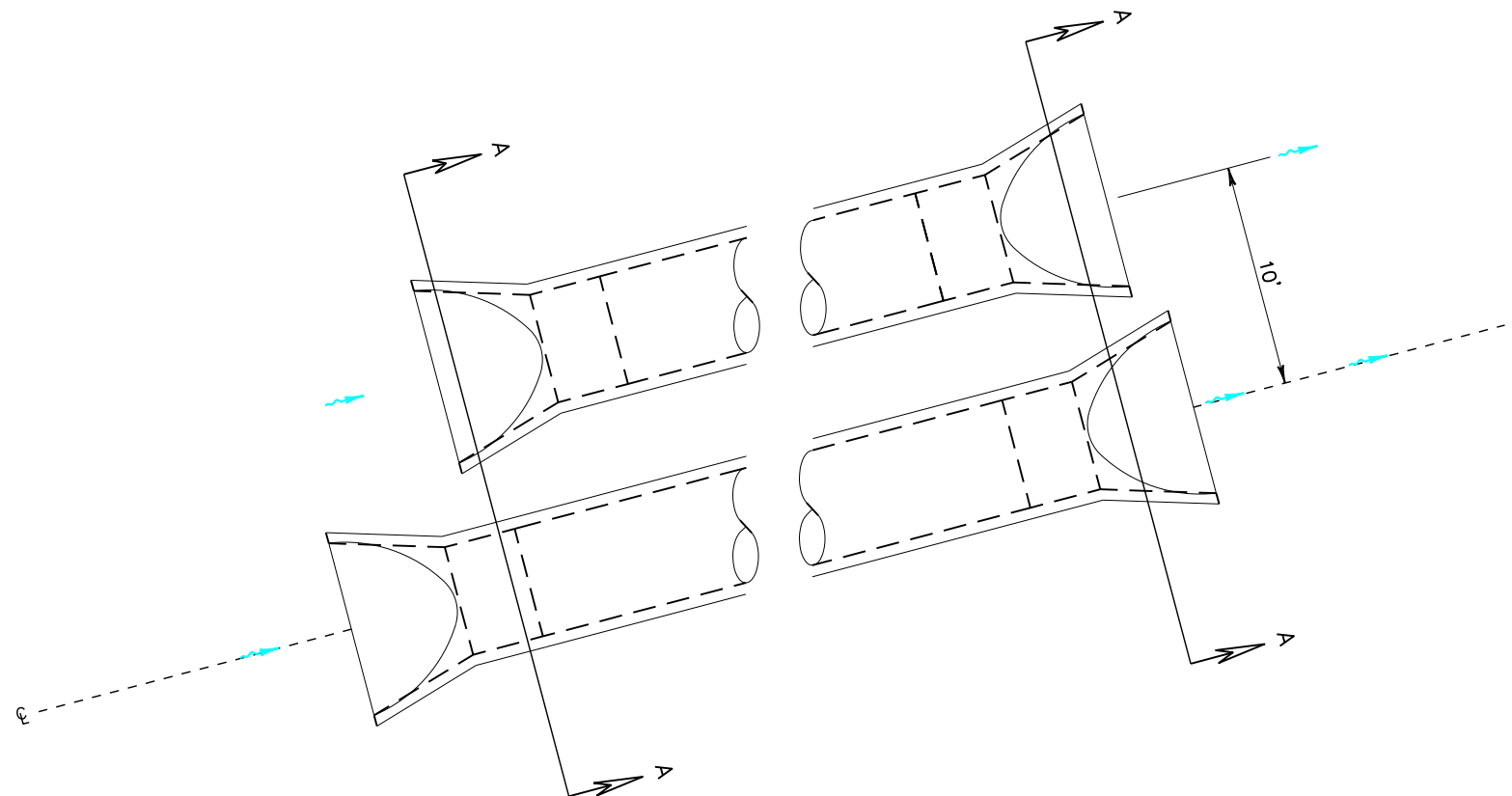
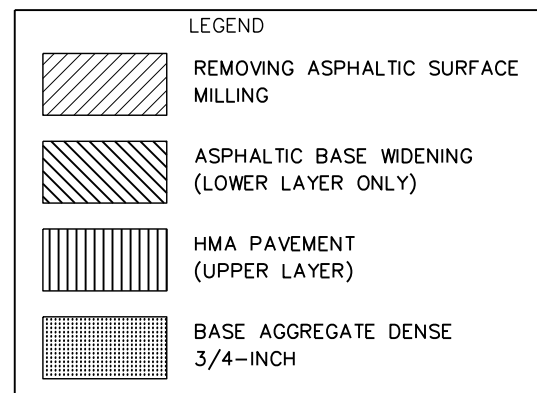


STEP 1



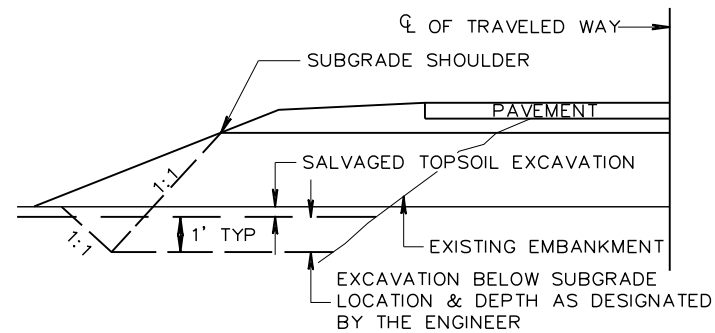
STEP 2

MILLING AND SHOULDER WIDENING DETAIL



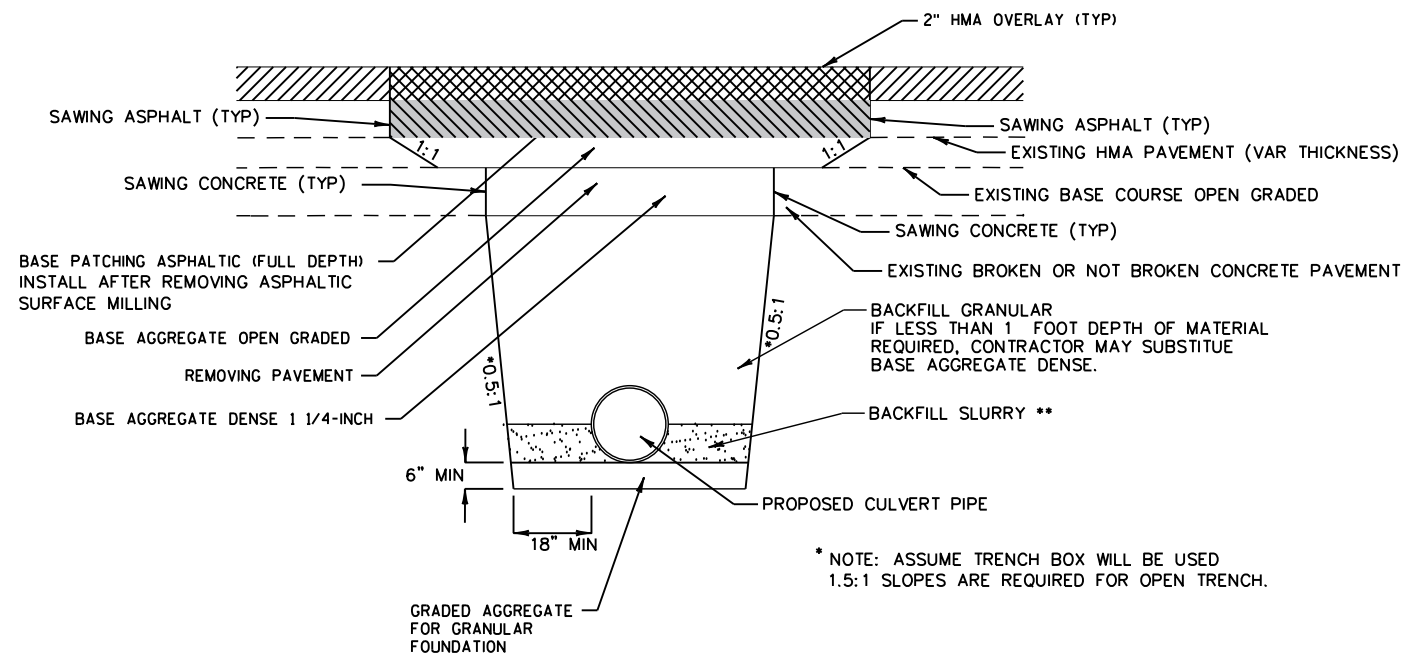
DETAIL AT APRON ENDWALLS

STA 627+75 LT & RT



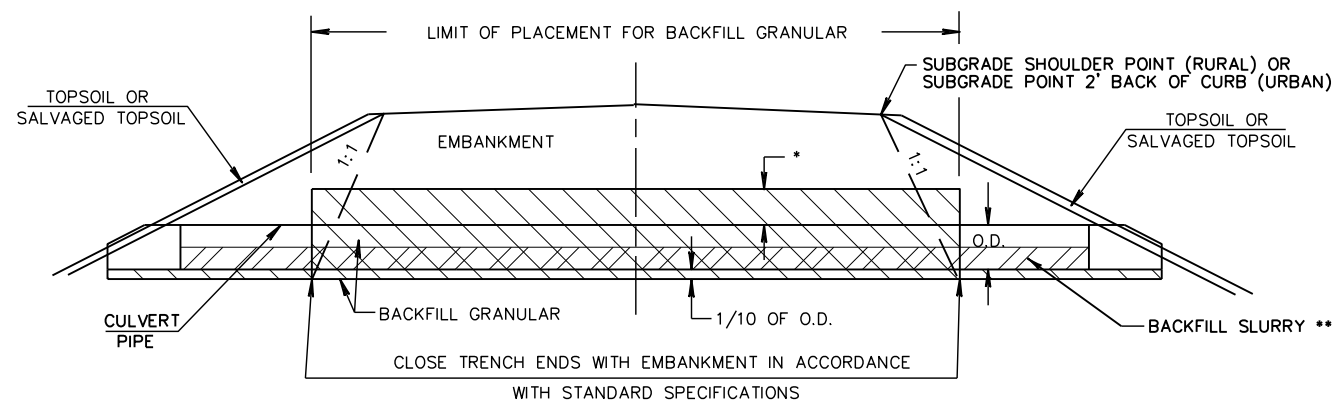
DETAIL FOR EXCAVATION BELOW SUBGRADE IN WIDENING AREAS

EXACT LOCATIONS TO BE DETERMINED BY THE ENGINEER IN THE FIELD



DETAIL FOR INSTALLATION OF CULVERT PIPES

USH 45 CULVERT CROSSING



CULVERT BACKFILL DETAIL

SEE PLAN DETAIL FOR
CROSS CULVERT LOCATIONS

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

LEGEND:

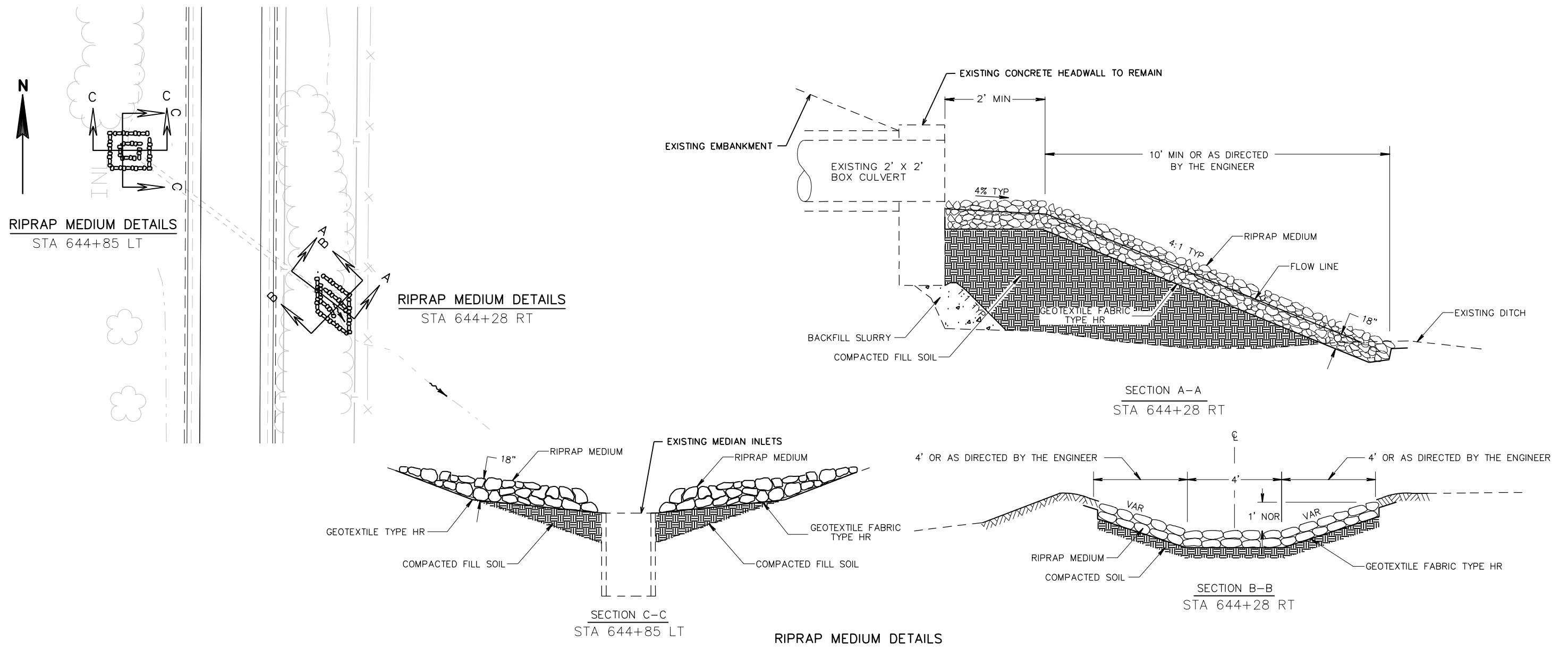
- BACKFILL SLURRY **
- BACKFILL GRANULAR

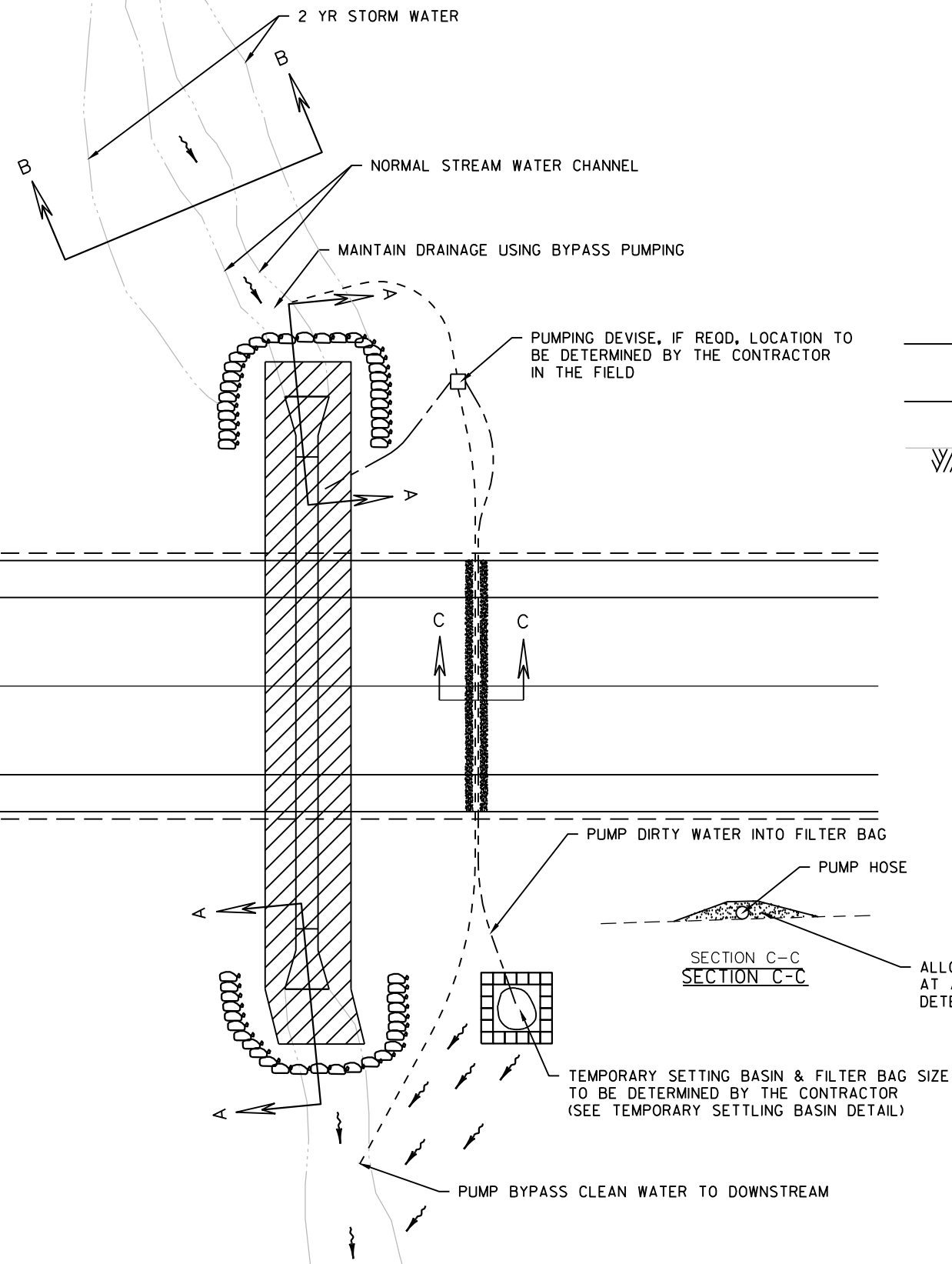
** NOTE: BACKFILL SLURRY IS REQUIRED AT THE FOLLOWING LOCATIONS:

STA 366+58
STA 412+26
STA 627+61

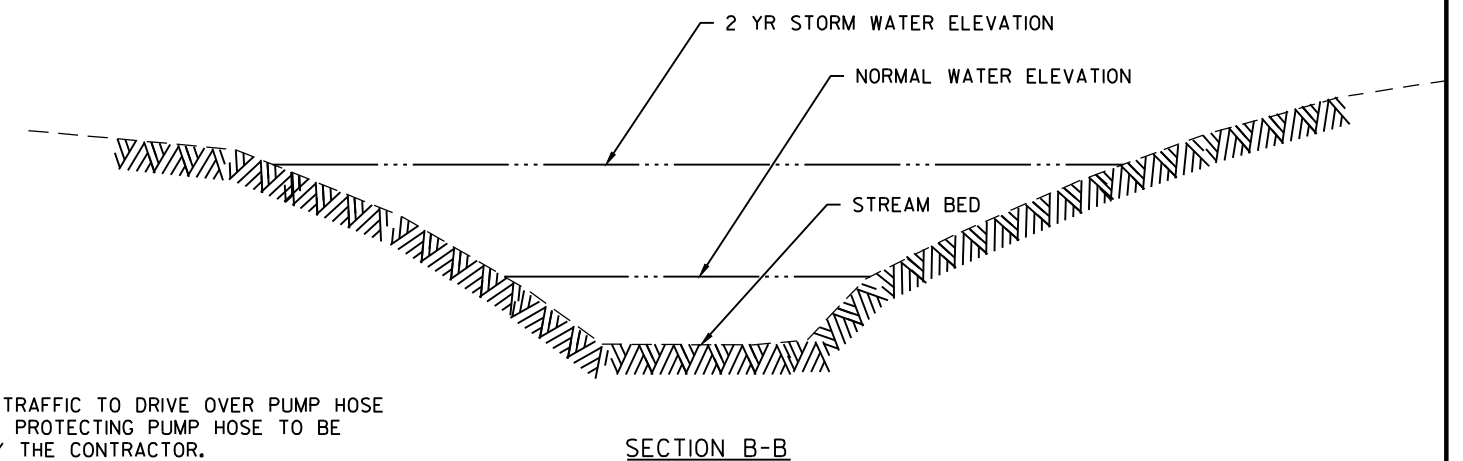
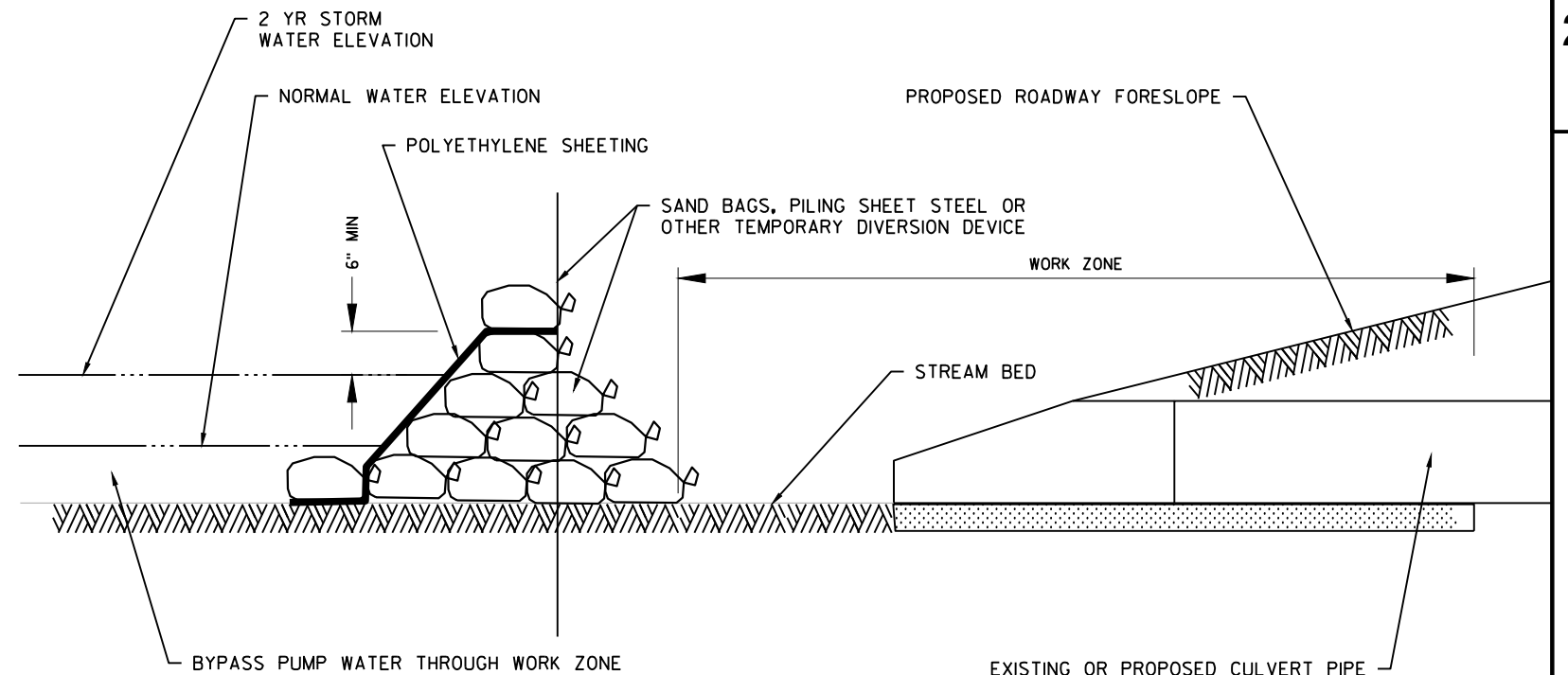
LEGEND

- REMOVING ASPHALTIC SURFACE MILLING
- FILL WITH BASE AGGREGATE DENSE 1 1/4-INCH PRIOR TO OPEN TO LOCAL TRAFFIC
- BASE PATCHING ASPHALTIC (FULL DEPTH) (3" MIN.)



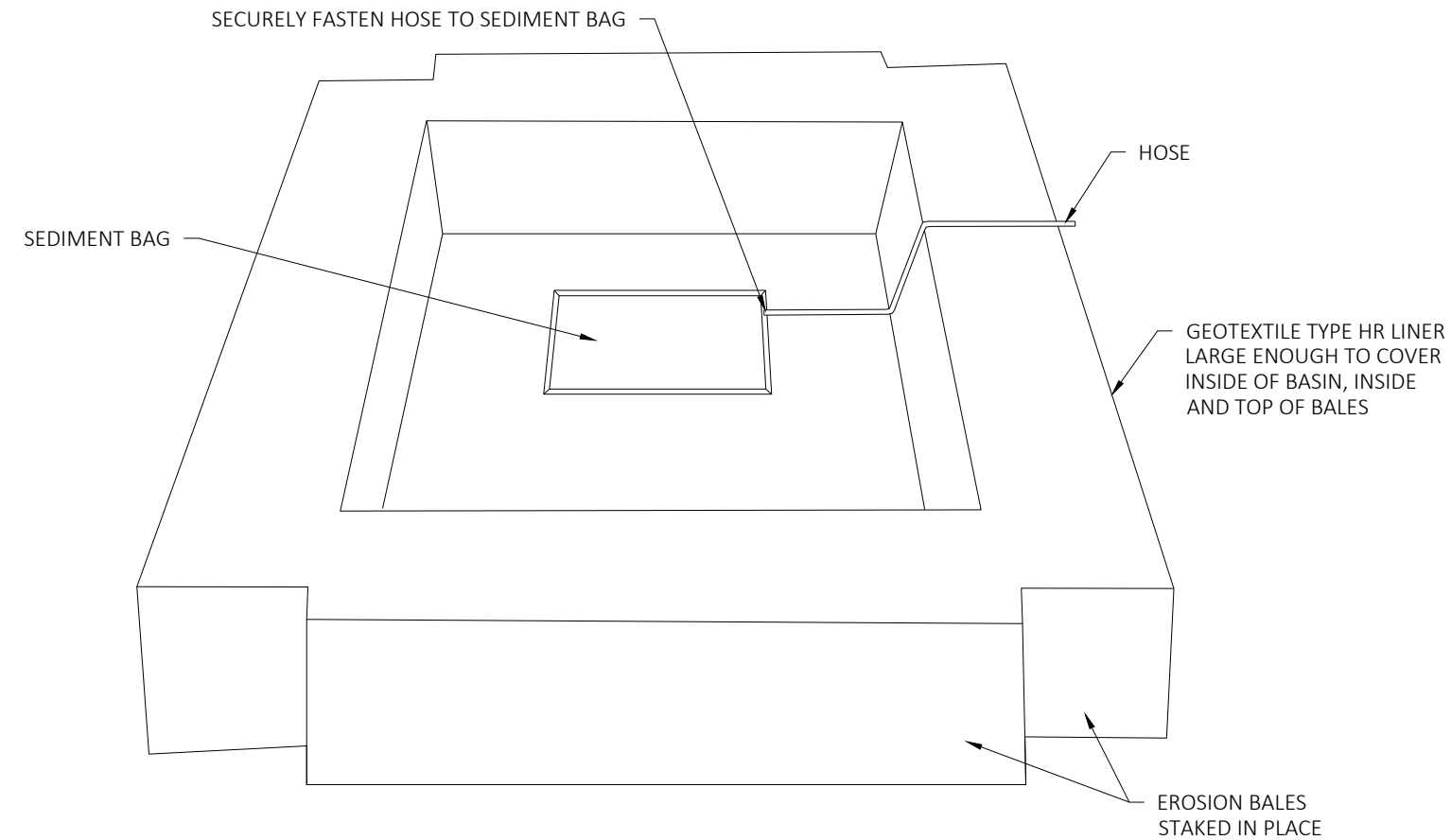


CULVERT LOCATION	PIPE SIZE	2-YR STORM
STA 366+58	1-38"x60"	Q = 36 CFS
STA 412+26	1-84"	Q = 17 CFS
STA 627+61	2-60"	Q = 181 CFS



NOTES:

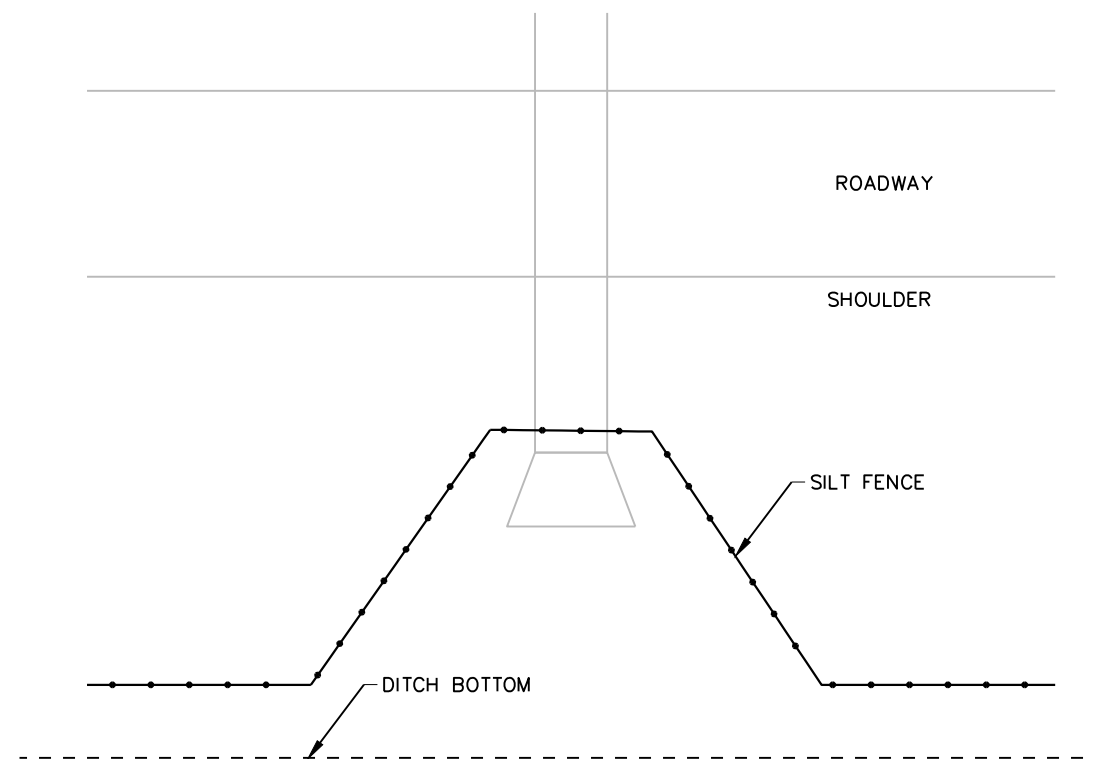
1. CONTRACTOR TO SUBMIT DESIGN FOR MAINTAINING TEMPORARY DRAINAGE DURING CONSTRUCTION AS PART OF THE EROSION CONTROL IMPLEMENTATION PLAN (ECIP).
2. PAYMENT SHALL BE THROUGH ITEMS - MAINTAINING TEMPORARY DRAINAGE STA 366+58, STA 412+26 & STA 627+61.
3. DETAIL SHOWN ON THIS SHEET IS FOR REFERENCE ONLY TO SHOW ONE POTENTIAL METHOD OF MAINTAINING TEMPORARY DRAINAGE.
4. METHOD OF MAINTAINING TEMPORARY DRAINAGE SHALL BE DESIGNED FOR THE 2-YEAR 24-HOUR STORM.
5. METHOD OF MAINTAINING TEMPORARY DRAINAGE MAY INCLUDE PILING SHEET STEEL TEMPORARY TO BE DETERMINED BY THE CONTRACTOR.
6. IF BYPASS PUMPING IS USED A BACKUP PUMPING DEVICE SHALL BE ON-SITE AT ALL TIMES.
7. ANY WATER WITHIN WORK ZONE THAT IS PUMPED SHALL BE DISCHARGED INTO A SEDIMENT BASIN OR FILTER BAG. THE SIZE OF THAT BASIN OR BAG SHALL BE DESIGNED BY THE CONTRACTOR AS PART OF THE ECIP.
8. SAND BAGS, POLYETHYLENE SHEETING, EROSION BALES, GEOTEXTILE FABRIC LINER, AND FILTER BAG ARE INCIDENTAL MAINTAINING TEMPORARY DRAINAGE PROJECT 3200-01-72.
9. PUMP AND PROTECTING PUMP HOSE ARE INCIDENTAL TO MAINTAINING TEMPORARY DRAINAGE PROJECT 3200-01-72.
10. GEOTEXTILE TYPE HR, RIPRAP HEAVY, RIPRAP MEDIUM AND PIT RUN WILL BE PAID SEPARATELY.
11. DO NOT BLOCK THE FLOW OF WATER AT ANY LOCATION MORE THAN 5 DAYS (120 HOURS).
12. DO NOT DISTURB WETLANDS BEYOND WHAT IS APPROVED IN THE 404 WETLAND PERMIT.



TEMPORARY SETTLING BASIN DETAIL

NOTES

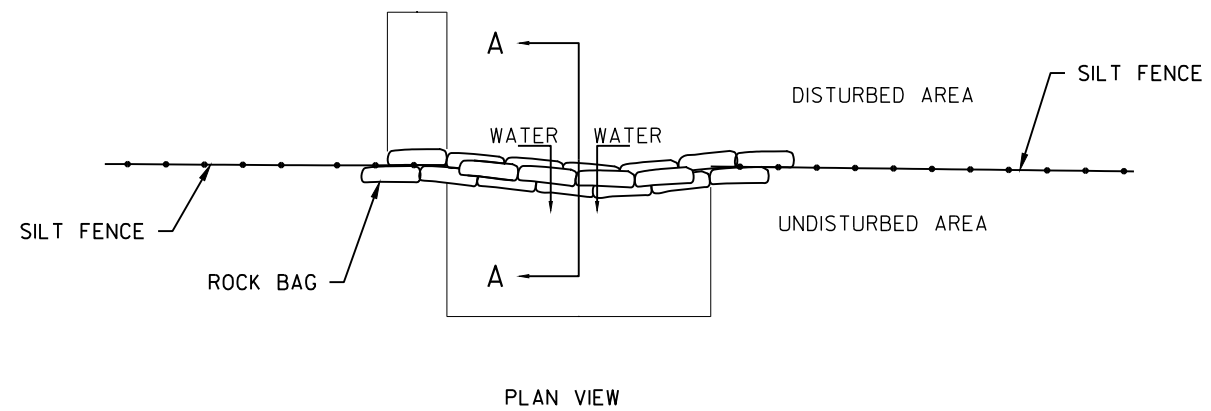
1. CONTRACTOR SHALL PUMP TURBID WATER FROM EXCAVATION TO SEDIMENT BAG PLACED INSIDE FABRIC LINED STAKED BALE ENCLOSURE PRIOR TO DISCHARGING TO DITCHES/INLETS/WETLANDS OR WATERWAYS.
2. SEDIMENT BAG TO BE PLACED IN AN UPLAND VEGETATED AREA OR EQUIVALENT LOCATION APPROVED BY THE ENGINEER.
3. BASIN TO BE KEPT LESS THAN 10% FULL OF SEDIMENT. GEOTEXTILE FABRIC AND SEDIMENTS TO BE DISPOSED BY THE CONTRACTOR OFF OF THE PROJECT SITE.
4. TEMPORARY SETTLING BASIN AND SEDIMENT BAG TO BE INCIDENTAL TO CONTRACT.
5. SEDIMENT BAG, BALES AND FABRIC TO BE REPLACED AS NECESSARY AND IS INCIDENTAL TO CONTRACT.
6. SIZE TO BE DETERMINED BY THE CONTRACTOR AS PART OF THE ECIP SUBMITTAL.



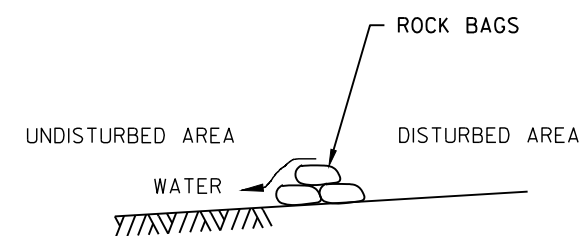
TYPICAL SILT FENCE DETAIL AT PIPE INLET

NOTE

SEE SILT FENCE SDD FOR ADDITIONAL INFORMATION.



PLAN VIEW

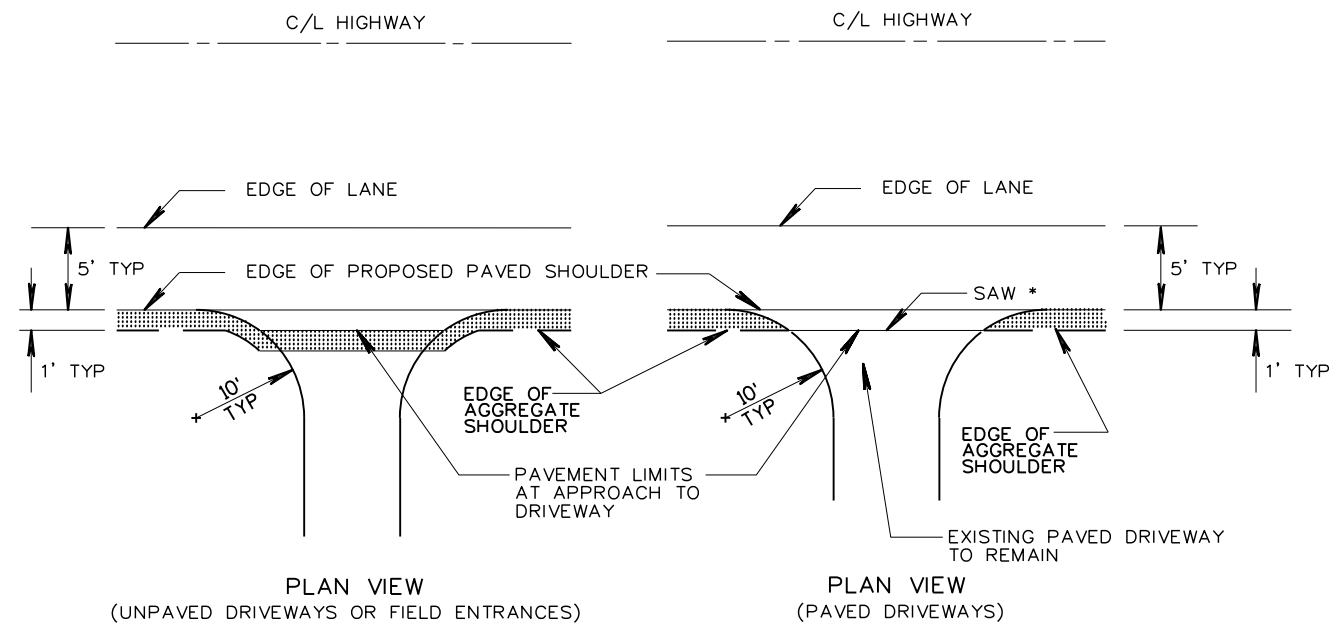


SECTION A-A

ROCK BAGS USED FOR SILT FENCE RELIEF POINT

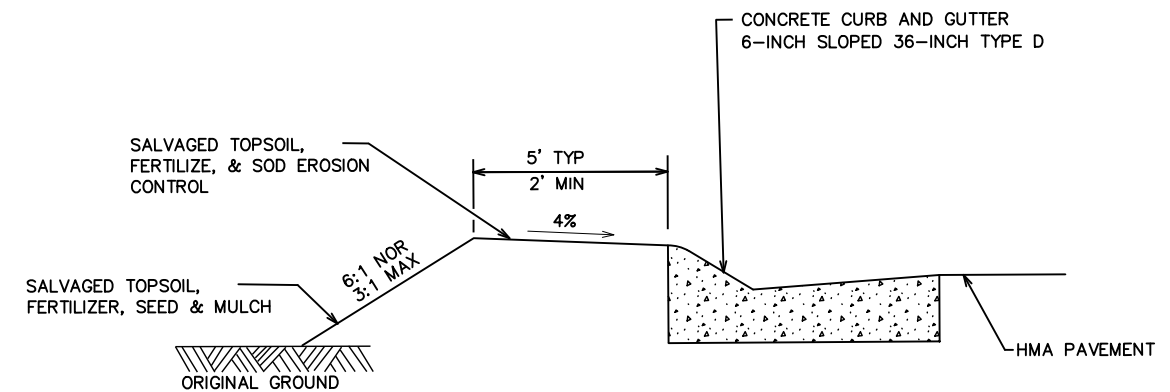
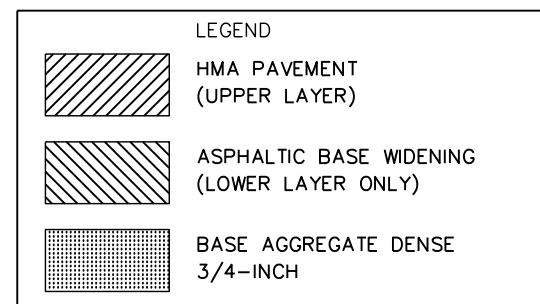
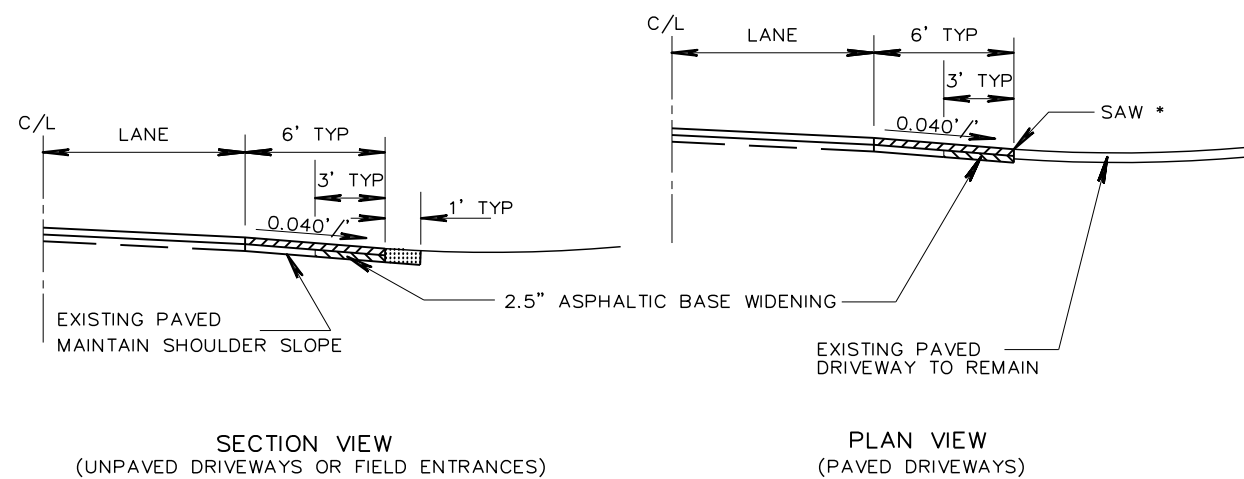
APPROXIMATELY 18 ROCK BAGS PER LOCATION

NOTE: PLACE SILT FENCE RELIEF AS NECESSARY.
EXACT LOCATIONS TO BE DETERMINED BY THE FIELD ENGINEER.



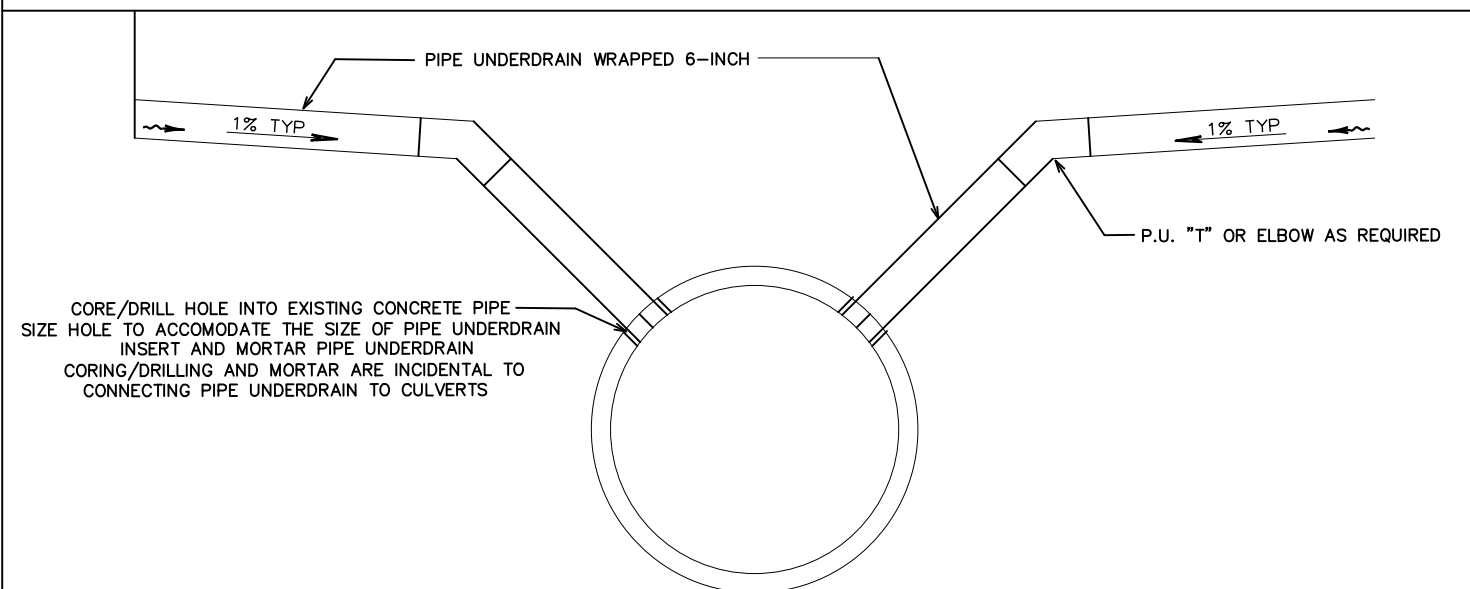
RURAL DRIVEWAY INTERSECTION DETAIL

*WHERE DRIVEWAY IS PAVED, SAWING ASPHALT IS REQUIRED.



RURAL CONCRETE CURB AND GUTTER DETAIL

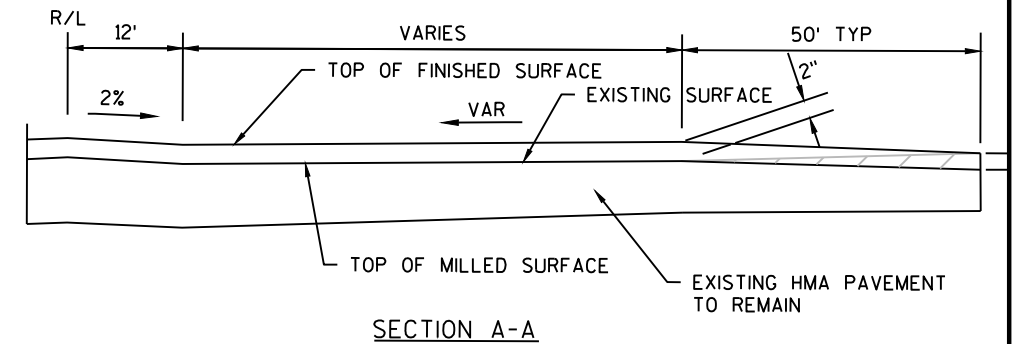
SEE INTERSECTION DETAILS FOR LOCATIONS



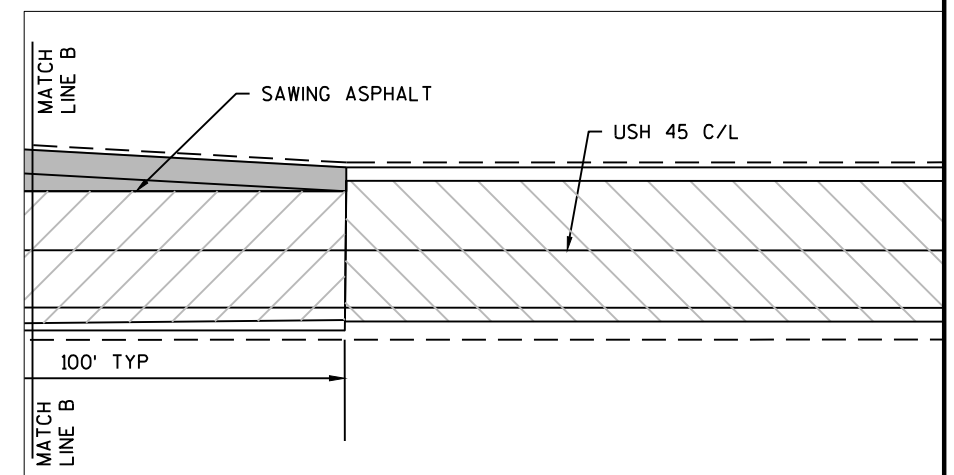
CONNECTING PIPE UNDERDRAIN TO CULVERTS

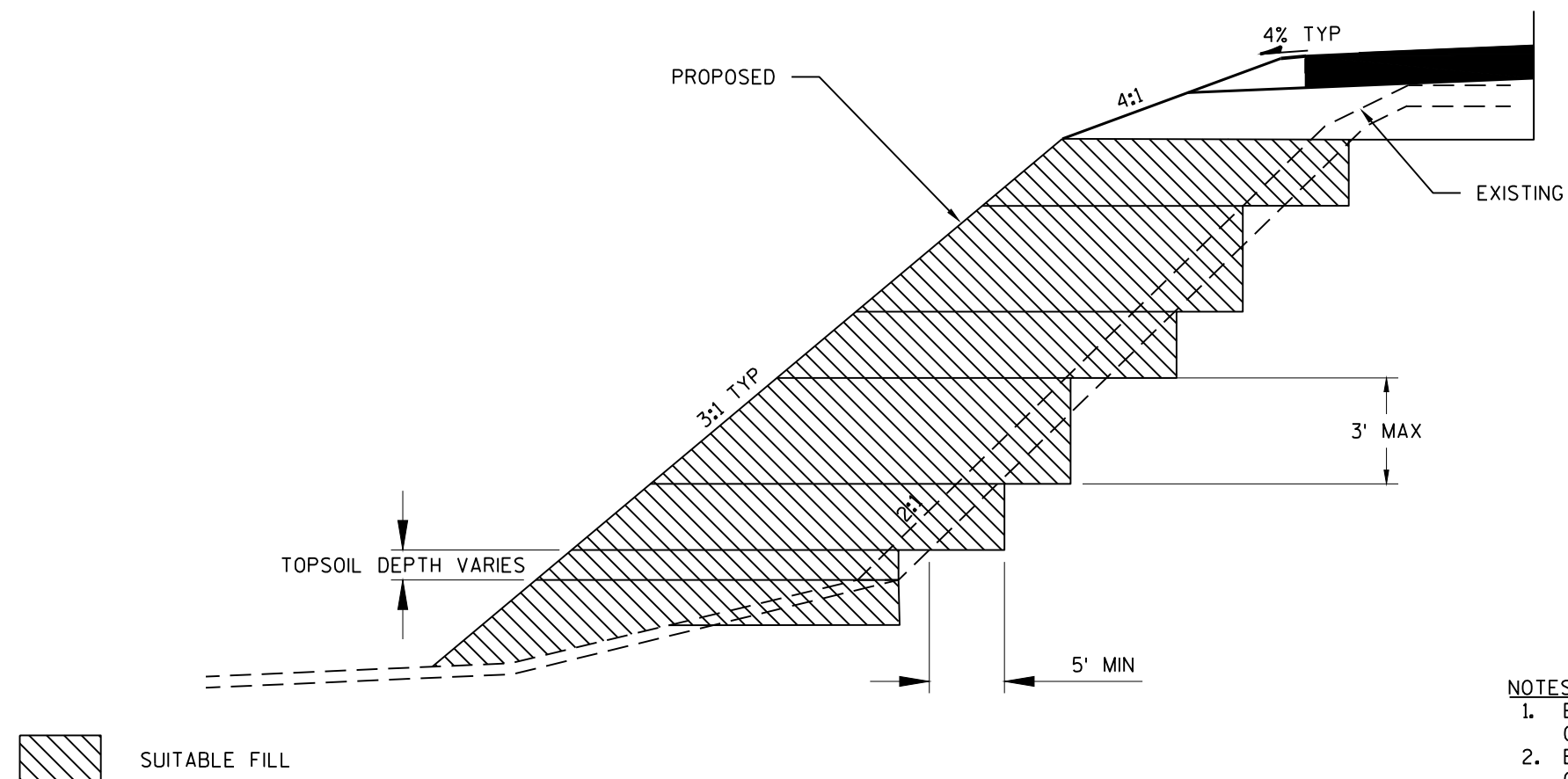
STA 444+18, 28' LT & STA 444+18, 27' RT
STA 699+38, RT

2



SECTION A-A



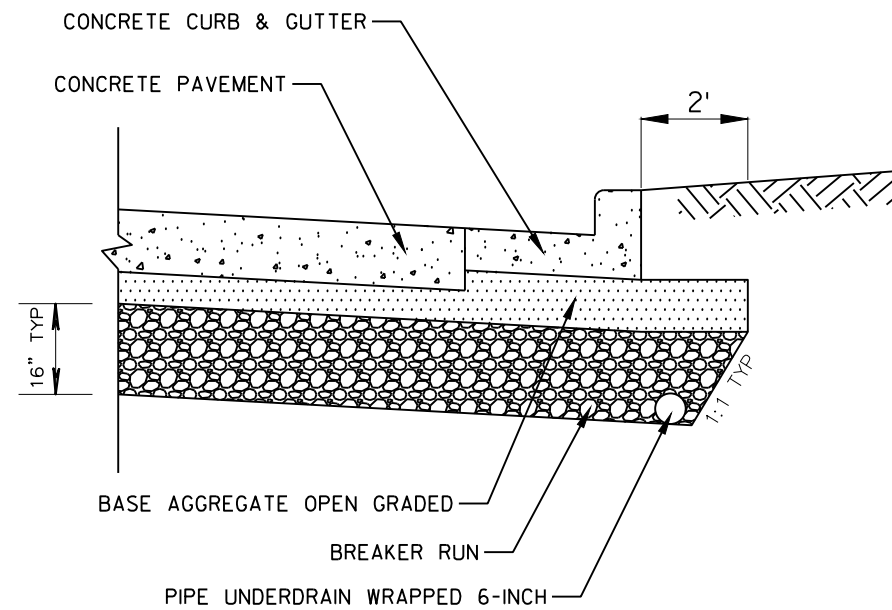


STEPPED EMBANKMENT DETAIL

NOTES:

1. EMBANKMENT PLACED IN LAYERS AND COMPACTED PER SPECIFICATIONS.
2. BENCH AS REQUIRED TO FACILITATE CONSTRUCTION FILLING OPERATIONS (3' MAXIMUM BENCH DEPTH, INCIDENTAL)
3. EBS AS REQUIRED IN THE PLANS OR DIRECTED BY THE ENGINEER SHALL BE PAID UNDER THE ITEM "EXCAVATION COMMON".

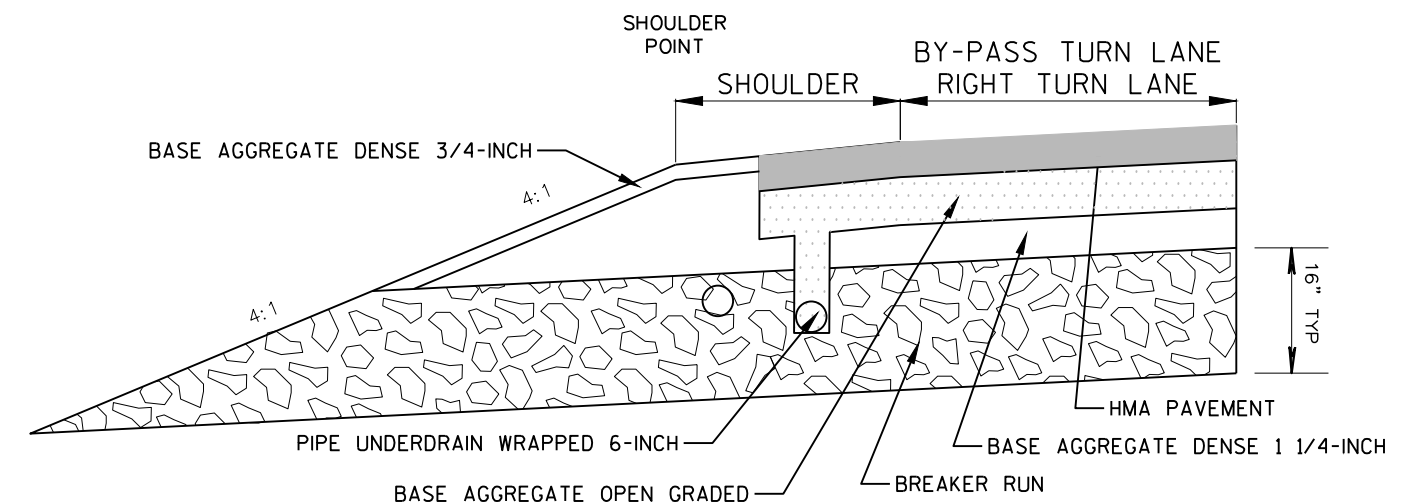
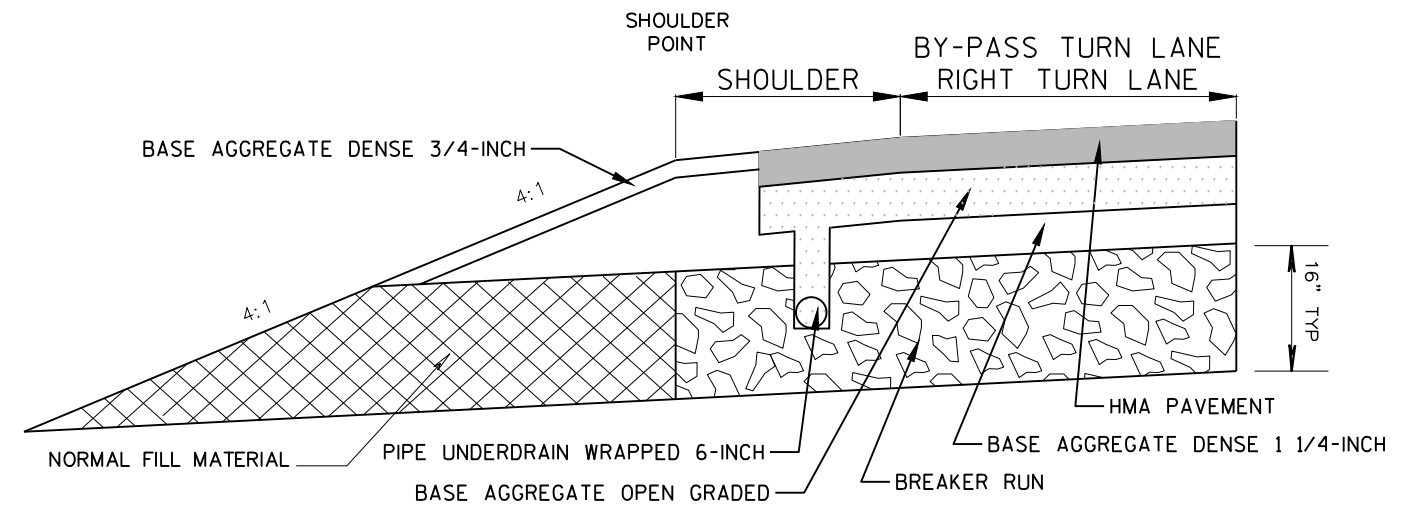
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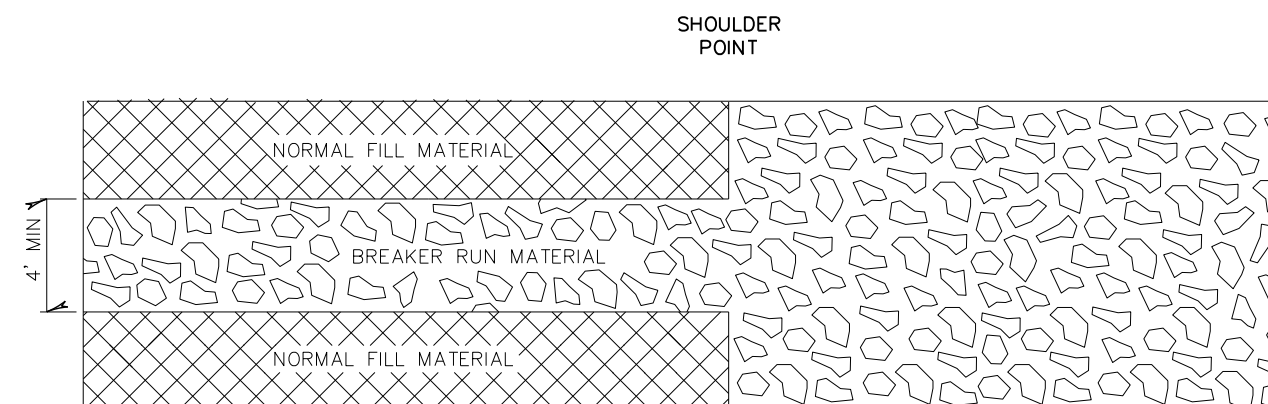
BREAKER RUN DETAILS

STA 304+50 - STA 309+50 RT

PLACE BREAKER RUN ON EBS AREAS AS DIRECTED BY THE ENGINEER
AT THE USH 45 NB RIGHT TURN LANE TO STH 50 EB



RELIEF TRNCEH IS REQUIRED IF BREAKER RUN IS LOWER THAN PIPE UNDERDRAIN



RELIEF TRENCH PLAN VIEW

RELIEF TRENCH

CONSTRUCT RELIEF TRENCH AS DIRECTED BY THE ENGINEER
AT THE CTH N & CTH NN TURN LANES AND BY-PASS LANES

PROJECT NO:3200-01-72

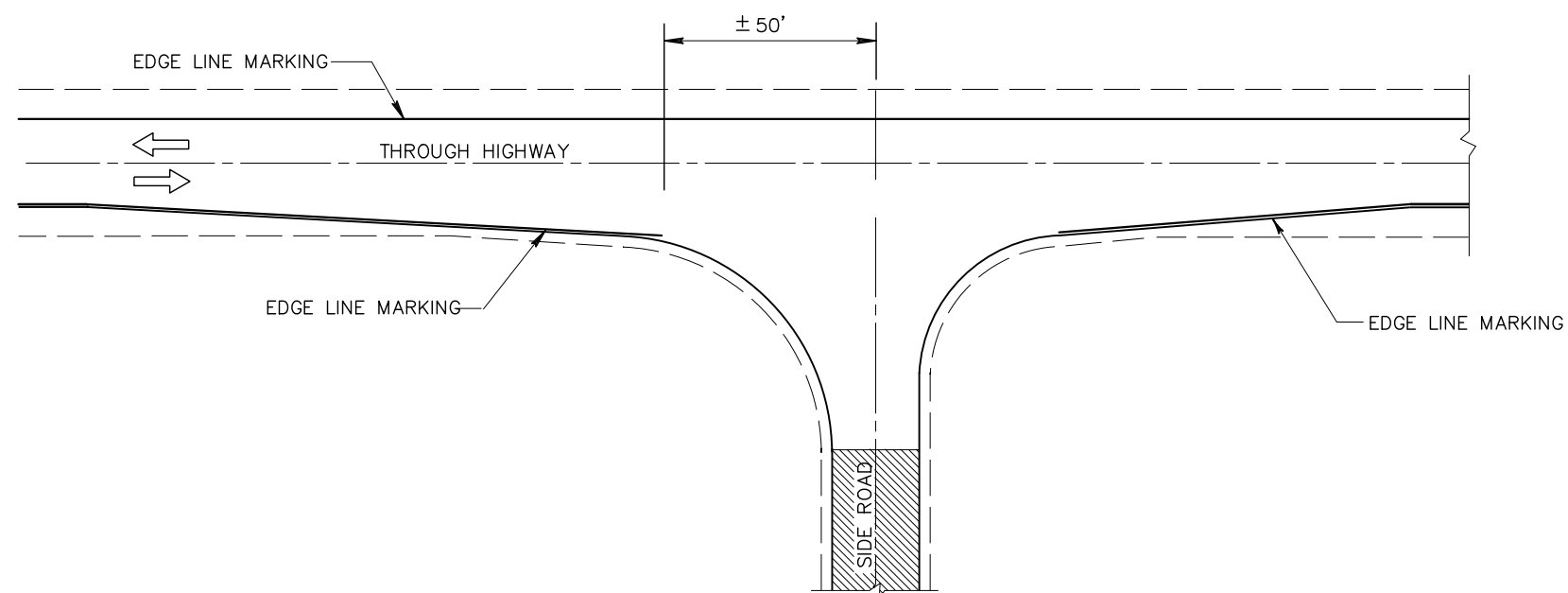
HWY: USH 45

COUNTY: KENOSHA-RACINE

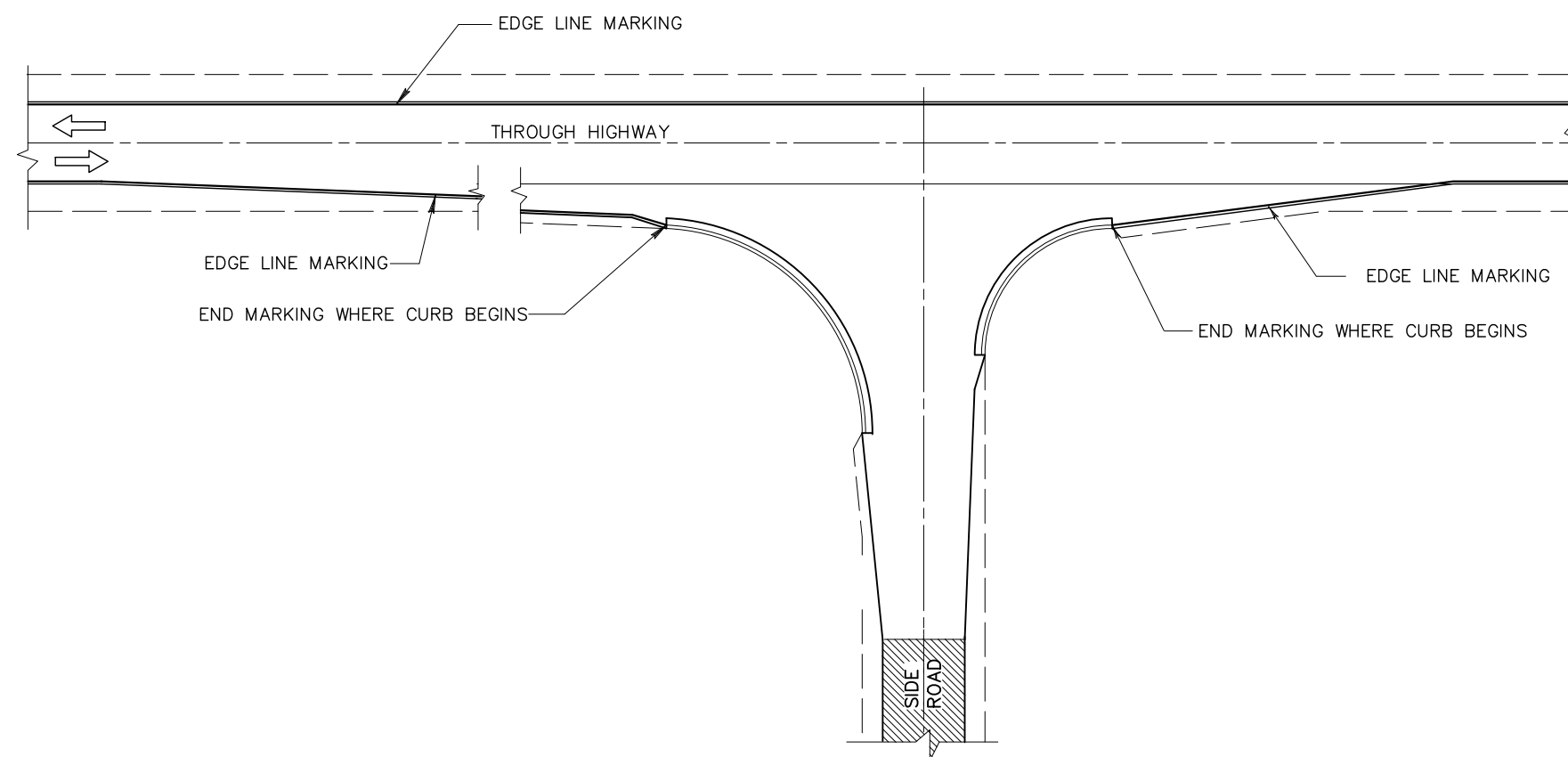
CONSTRUCTION DETAIL

SHEET	26
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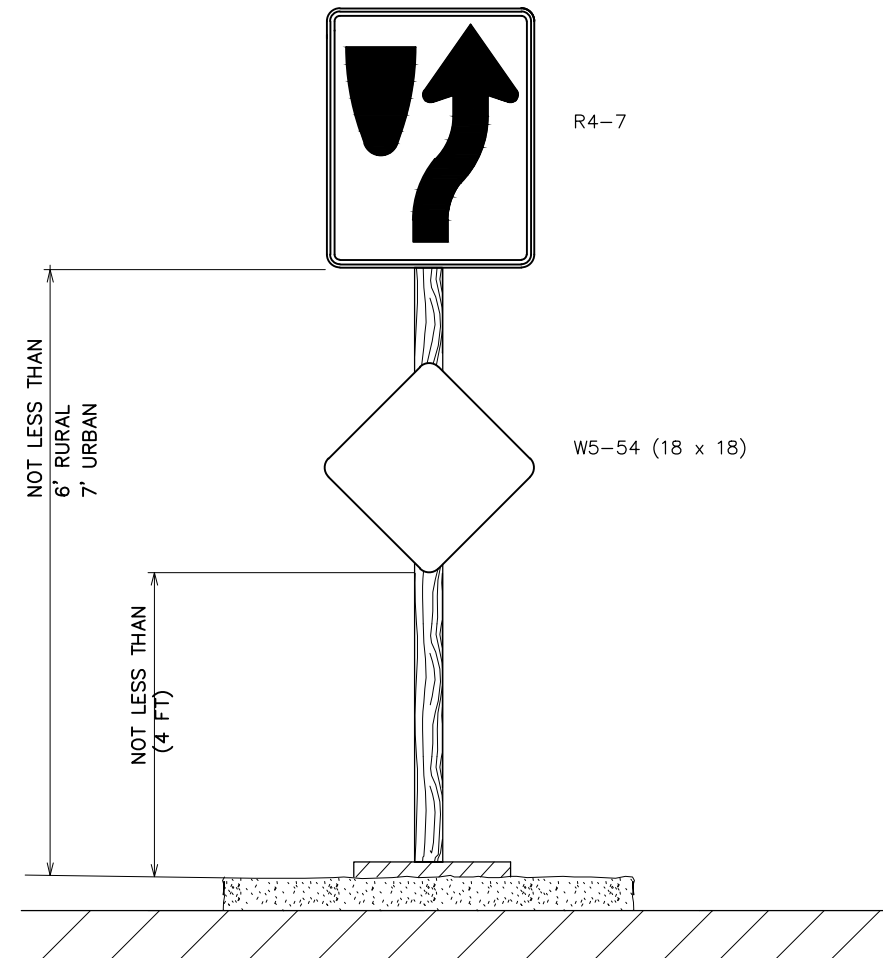
2



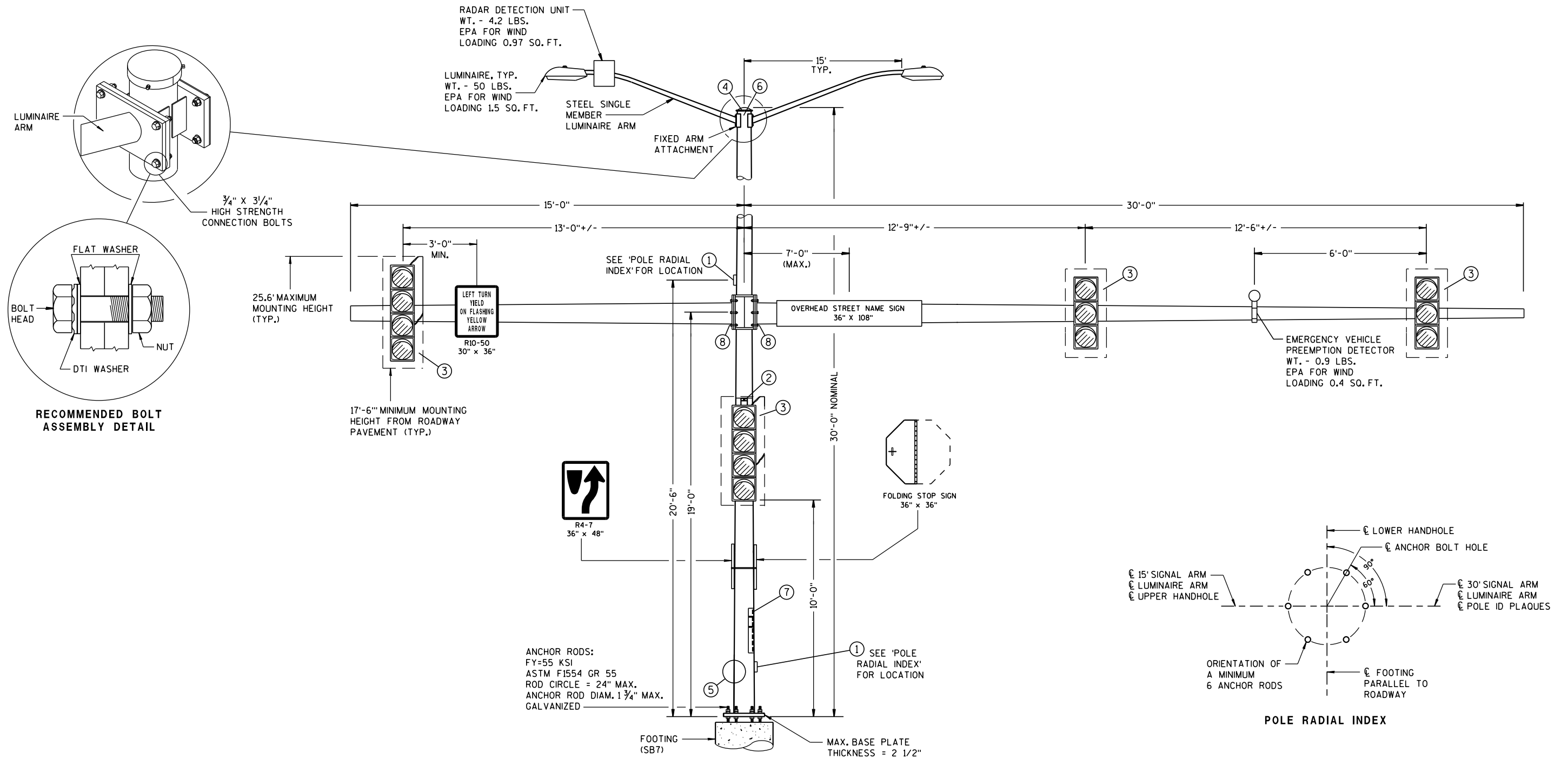
MINOR INTERSECTION WITHOUT CURBS
(TYPICAL MARKING)



MINOR INTERSECTION WITH CURBS
(TYPICAL MARKING)



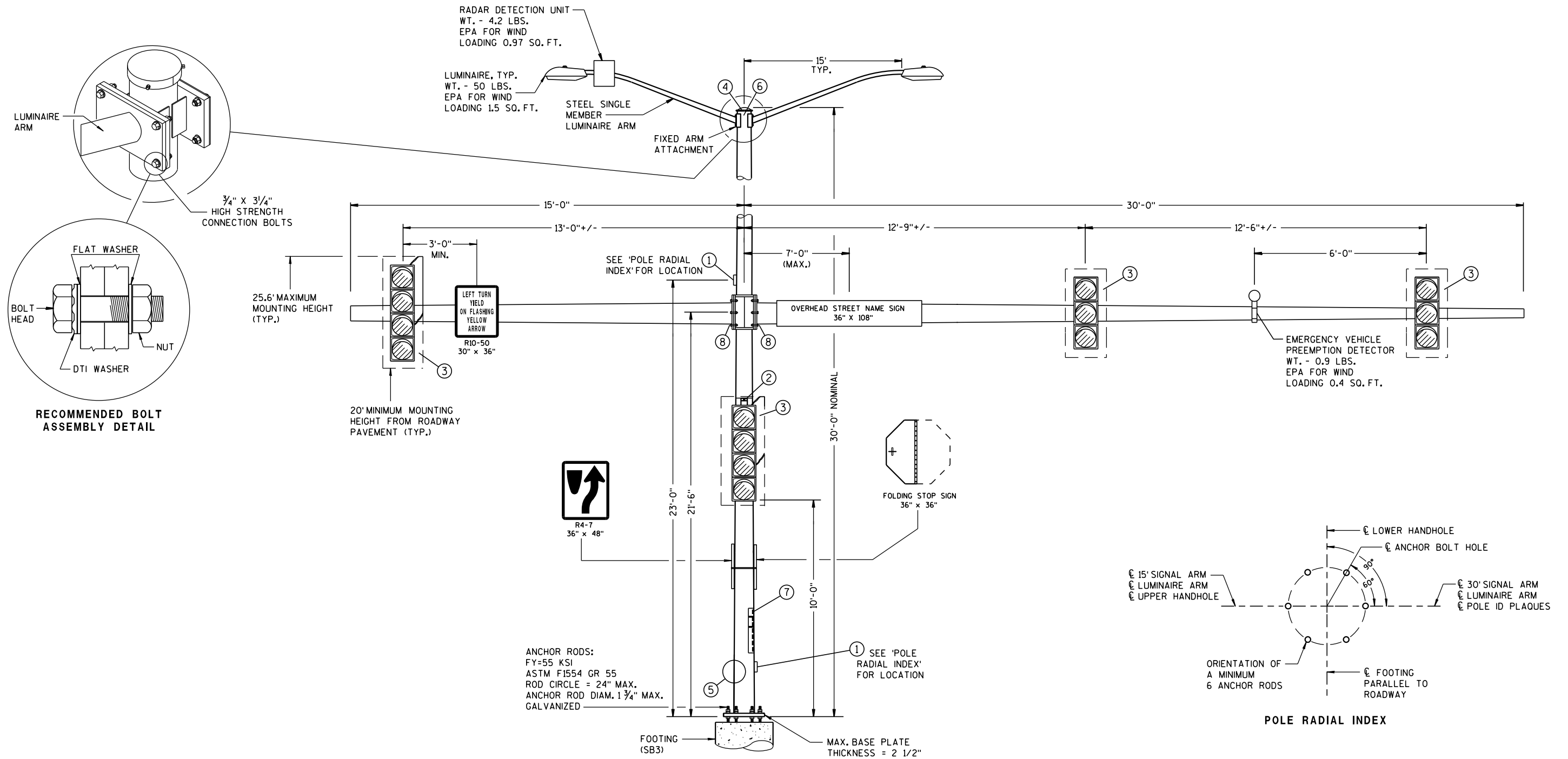
TYPICAL INSTALLATION FOR
TRANSITION TO DIVIDED HIGHWAY
OR OTHER SPECIAL NEEDS AREAS



SEE SHEET 3 OF 3 FOR GENERAL NOTES
AND ADDITIONAL DETAILS

**180 DEGREE MONOTUBE
S-30-1200
USH 45 SB SOUTH OF STH 50
(FACING SOUTH)
STATION 309+06
SIGNAL NO. S30-0030**

FOOTING SB7 CONTRACTOR TO USE SDD 9C 12-9A,
"CONCRETE BASE TYPE 13"



SEE SHEET 3 OF 3 FOR GENERAL NOTES
AND ADDITIONAL DETAILS

**180 DEGREE MONOTUBE
S-30-1198 (OVER HEIGHT)
USH 45 NB NORTH OF STH 50
(FACING NORTH)
STATION 310+47
SIGNAL NO. S30-0030**

FOOTING SB3 CONTRACTOR TO USE SDD 9C 12-9A,
"CONCRETE BASE TYPE 13"

GENERAL NOTES

DRAWINGS NOT TO SCALE.

FURNISH POLE ZINC COATED ACCORDING TO ASTM A123.

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF WISDOT STANDARD SPECIFICATION, SECTION 657.

RING-STUFFENED BUILT-UP BOX TYPE OF ATTACHMENT FOR TRAFFIC SIGNAL ARM.

ONE (1) PIECE POLE CONSTRUCTION (NO WELDED POLE SECTIONS).

STANDARD STRAIGHT ARM DESIGN (3 % +/- RISE).

PROVIDE WIREWAY THRU POLE WALL AND ARM CONNECTION PLATES. PROVIDE ROUND, SMOOTH INSIDE SURFACE.

MANUFACTURER'S SUBMITTED POLE DESIGNS AND DRAWINGS SHALL BE SIGNED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER AND CERTIFIED AS BEING IN COMPLIANCE WITH THE AASHTO 2013 6TH EDITION AND ALL PERTINENT WISDOT SPECIFICATIONS AND DRAWINGS FOR TRAFFIC AND LIGHTING STRUCTURES AND AS FOLLOWS:

- CATEGORY III FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS

- 90 MPH (3-SECOND GUST) WIND SPEED AND A 50 YEAR DESIGN LIFE

SECURE THE OPENING BELOW THE BASE PLATE WITH STAINLESS STEEL OR GALVANIZED STEEL MESH AND SECURE THE MESH WITH $\frac{3}{4}$ " S.S. BANDING AROUND THE LEVELING NUTS.

INDENT PRINT (NOMINAL $\frac{1}{2}$ " HIGH) THE POLE LENGTH AND FIRST TWO LETTERS OF THE MANUFACTURERS NAME ON TWO SIDES OF THE BASE PLATE 180 DEGREES APART, BEFORE GALVANIZING. THE ARM SHALL BE IDENTIFIED WITH THE SAME INFORMATION BY INDENT PRINT.

SIGN MOUNTING BRACKETS SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 637 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.

① DESIGN FOR MAXIMUM ALLOWABLE HANDHOLE WITH COVER ASSEMBLY WITH TWO $\frac{1}{4}$ " X $\frac{3}{4}$ " - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.

② SIGNAL MOUNTING BRACKETS FOR POLE MOUNTING, MOUNT WITH CAP SCREW AND BANDING, (SEE SPECIFICATIONS SEC. 658).

③ SECURELY MOUNT BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURERS RECOMMENDATIONS.

④ THE TOP OF THE POLE SHAFT AND THE END OF THE MONOTUBE ARM SHALL BE EQUIPPED WITH A REMOVABLE, VENTILATED CAP HELD SECURELY IN PLACE WITH SET SCREWS.

⑤ FACTORY-WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HANDHOLE, (LUG AND HARDWARE PAID UNDER SEPARATE ITEM). PROVIDE HOLE IN BRACKET FOR $\frac{1}{4}$ " X $\frac{3}{4}$ " - 20 TPI STAINLESS STEEL HEX HEAD BOLT.

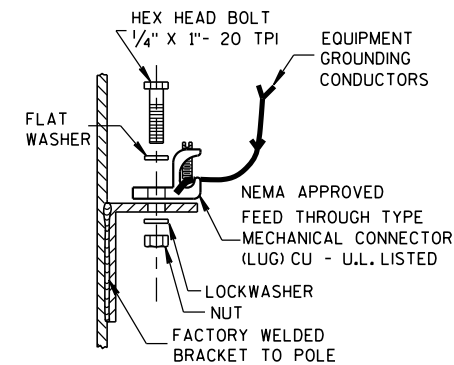
⑥ FACTORY-WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.

⑦ INSTALL STRUCTURAL IDENTIFICATION PLAQUES.

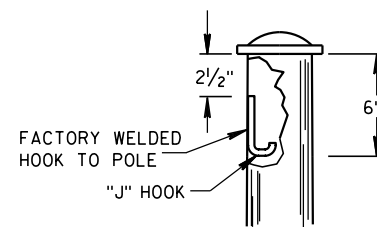
STRUCTURAL IDENTIFICATION PLAQUES SHALL BE PLACED ON THE POLES IN THE SAME DIRECTION AS THE ARM.

MOUNTING HEIGHT SHALL BE 6'-0" ABOVE THE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.

⑧ FACTORY DRILLED $\frac{1}{2}$ " DRAIN HOLE 2" FROM FLANGE CONNECTION PLATE.



TYPICAL GROUNDING CONNECTIONS ⑤
NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



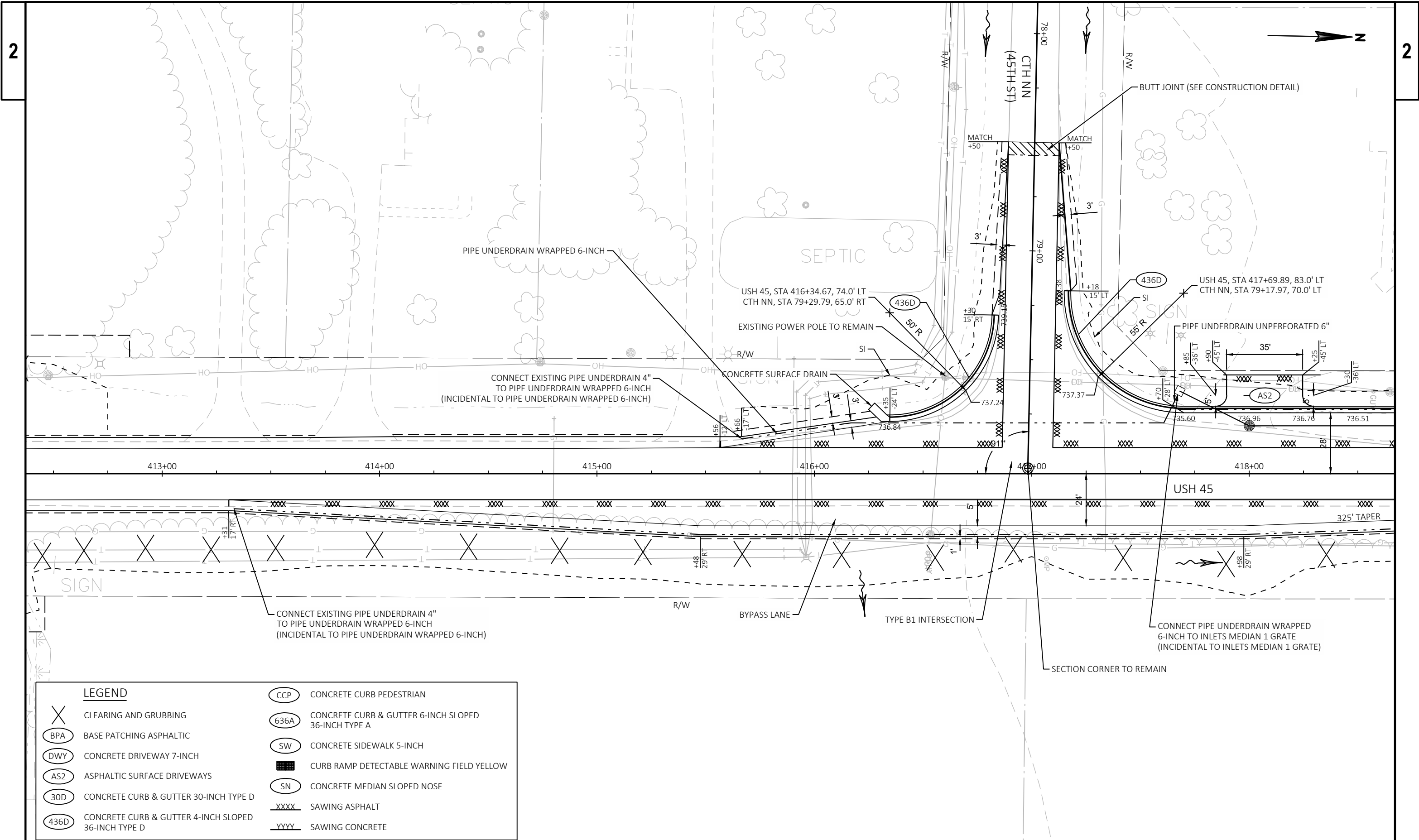
"J" HOOK WIRE SUPPORT ⑥

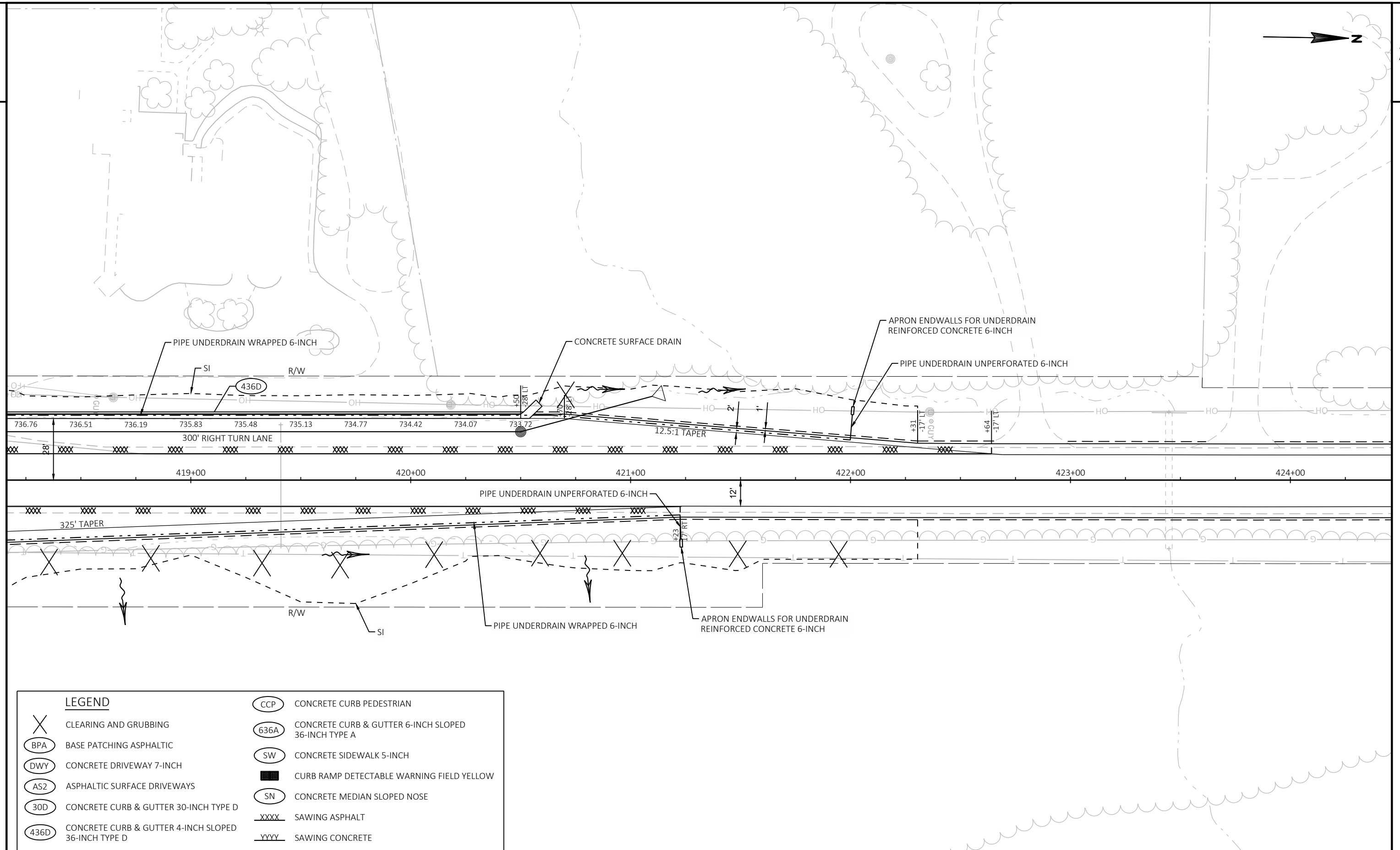
NOTE, CONTRACTOR SHALL:

1. SUBMIT SHOP DRAWINGS OF 180 DEGREE MONOTUBE ASSEMBLY.
2. PROVIDE DESIGN CALCULATIONS.
3. SHOW SIGNS, SIGNAL HARDWARE, AND LUMINAIRES ON SHOP DRAWINGS.

SHEET 3 OF 3







PROJECT NO: 3200-01-72

HWY: USH 45

COUNTY: KENOSHA-RACINE

INTERSECTION DETAIL - CTH NN

SHEET

34

E

FILE NAME : N:\PDS\3200\32000102\SHEETSPLAN\021101-ID.DWG
LAYOUT NAME - 021103-id

PLOT DATE : 4/30/2019 12:16 PM

PLOT BY : MATHENY, ROBERT B

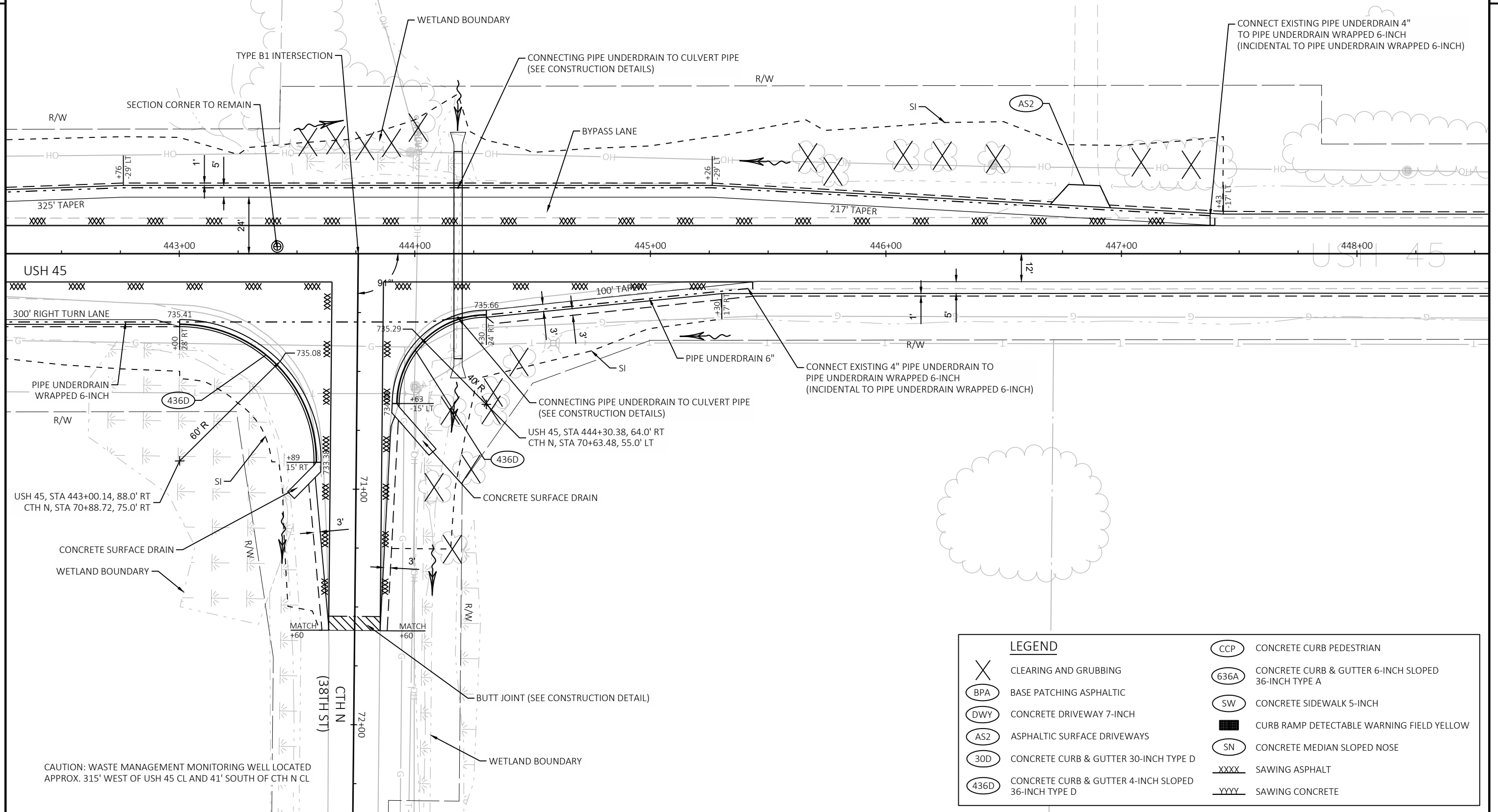
PLOT NAME :

PLOT SCALE : 1 IN:40 FT

WISDOT/CADDs SHEET 42

2





PROJECT NO: 3200-01-72

HWY: USH 45

COUNTY: KENOSHA-RACINE

INTERSECTION DETAIL - CTH N

SHEET

36

E

FILE NAME: N:\PDS\C3D\32000102\SHEETSPLAN\021101-ID.DWG
LAYOUT NAME - 021105-ID

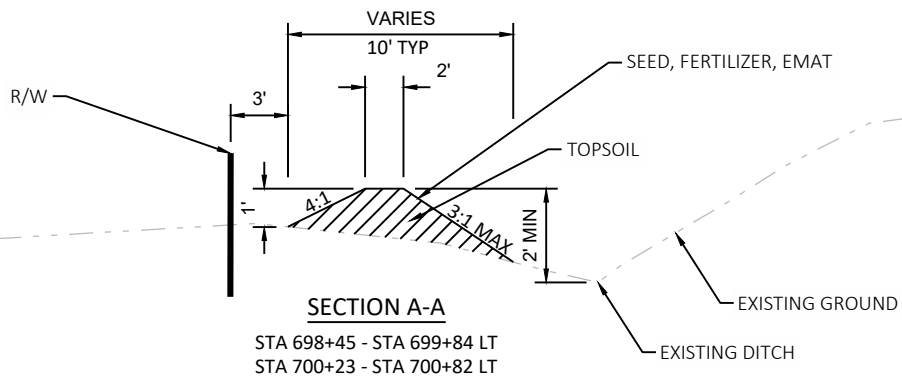
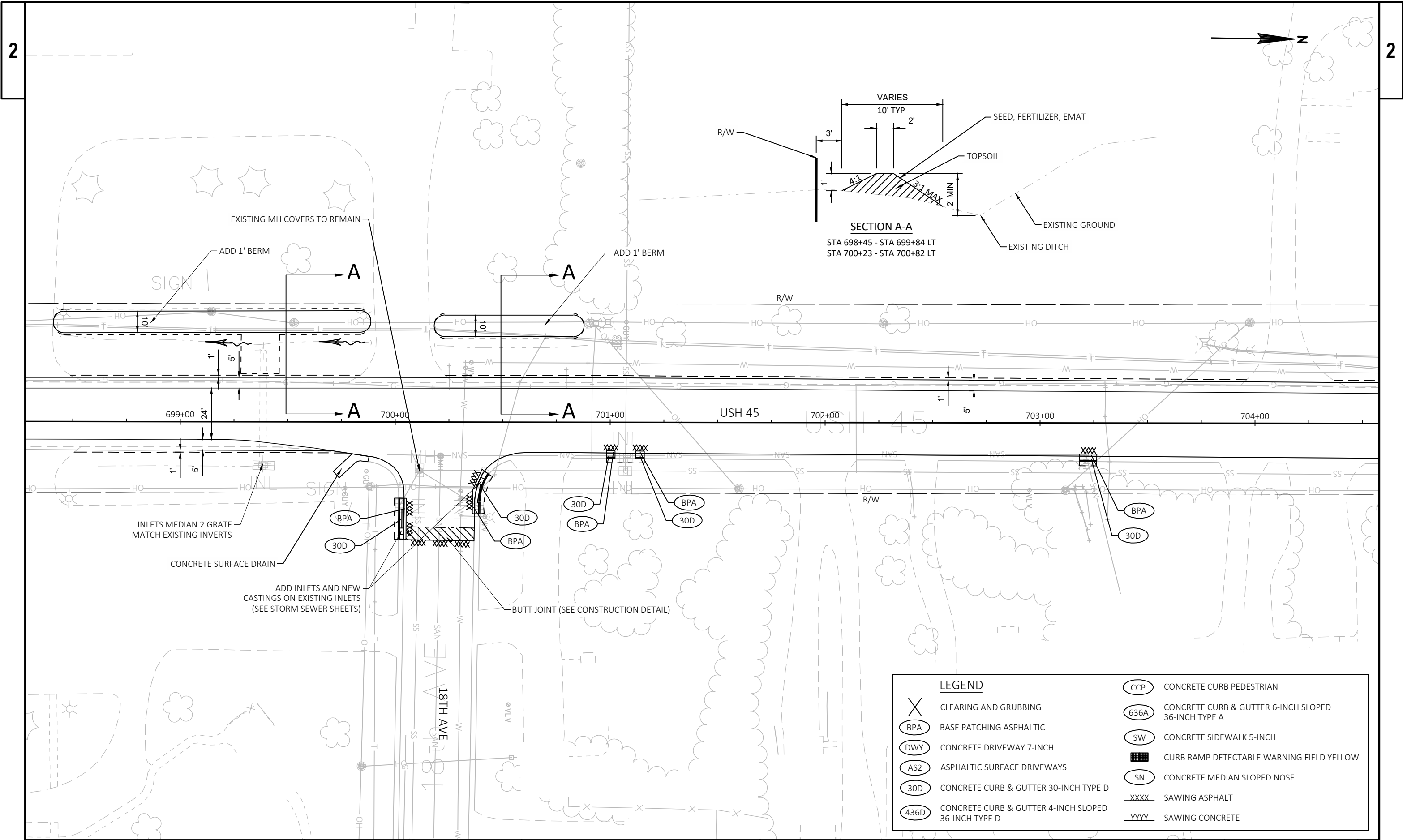
PLOT DATE: 4/30/2019 12:17 PM

PLOT BY: MATHENY, ROBERT B

PLOT NAME:

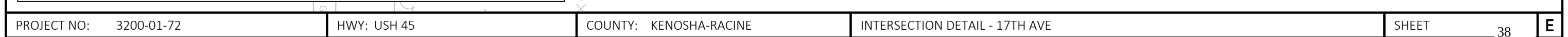
PLOT SCALE: 1 IN=40 FT

WISDOT/CADDs SHEET 42

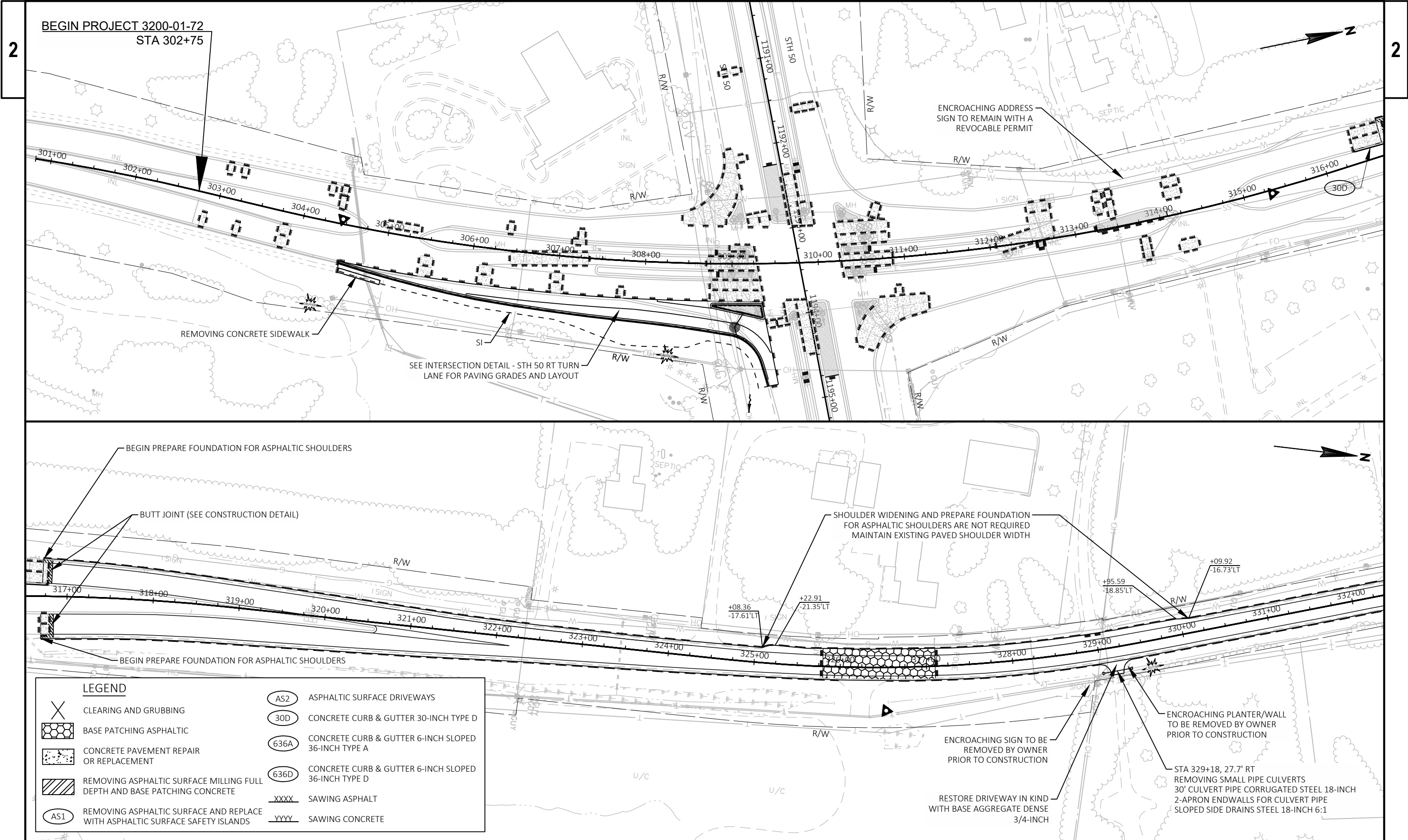


LEGEND	
	CLEARING AND GRUBBING
	BASE PATCHING ASPHALTIC
	CONCRETE DRIVEWAY 7-INCH
	ASPHALTIC SURFACE DRIVEWAYS
	CONCRETE CURB & GUTTER 30-INCH TYPE D
	CONCRETE CURB & GUTTER 4-INCH SLOPED 36-INCH TYPE D
	CONCRETE CURB PEDESTRIAN
	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A
	CONCRETE SIDEWALK 5-INCH
	CURB RAMP DETECTABLE WARNING FIELD YELLOW
	CONCRETE MEDIAN SLOPED NOSE
	SAWING ASPHALT
	SAWING CONCRETE

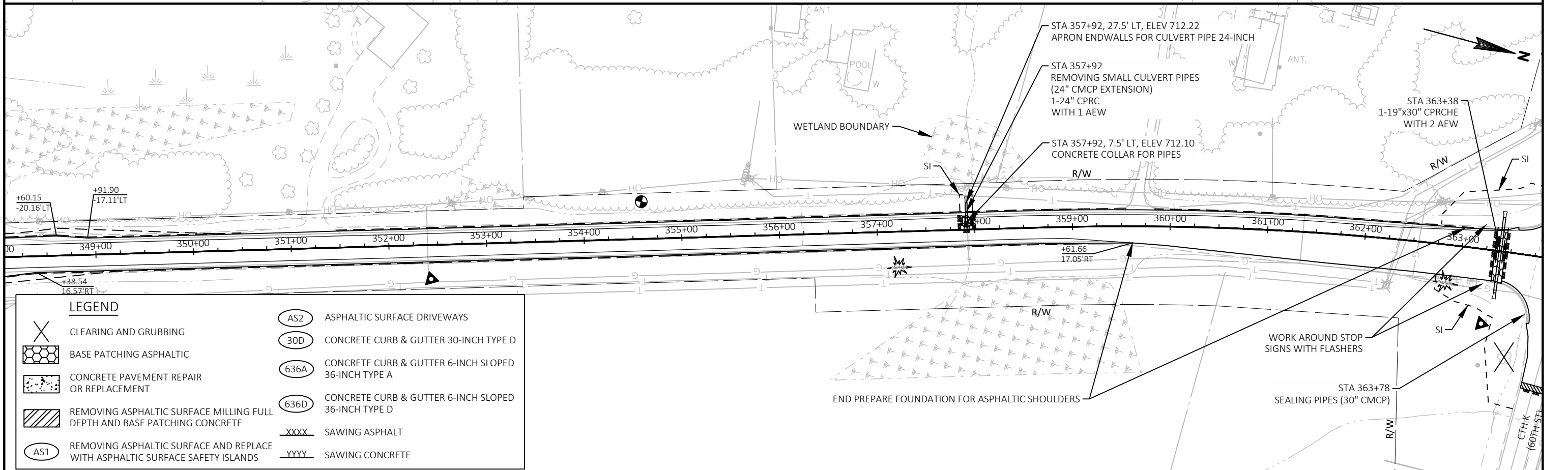
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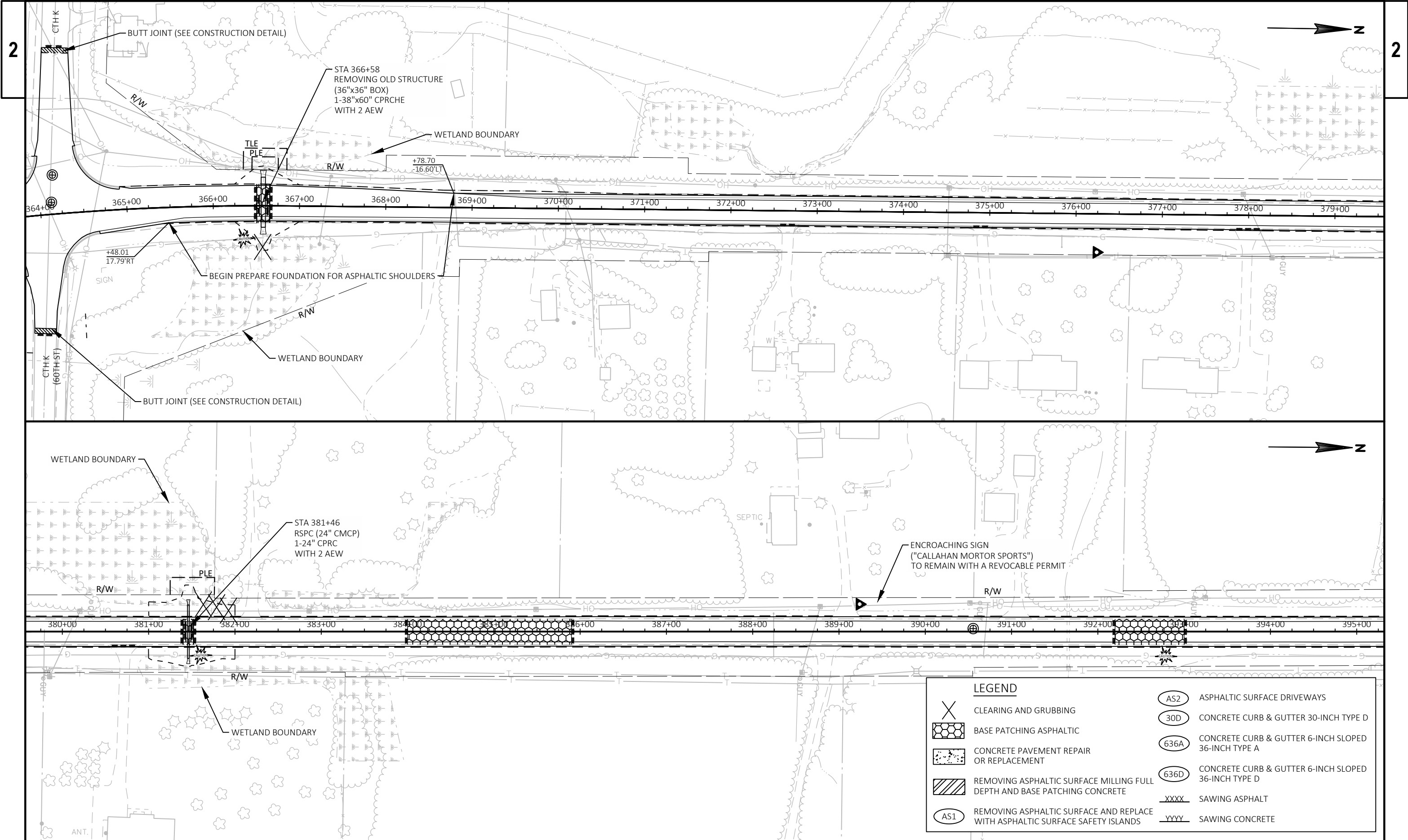


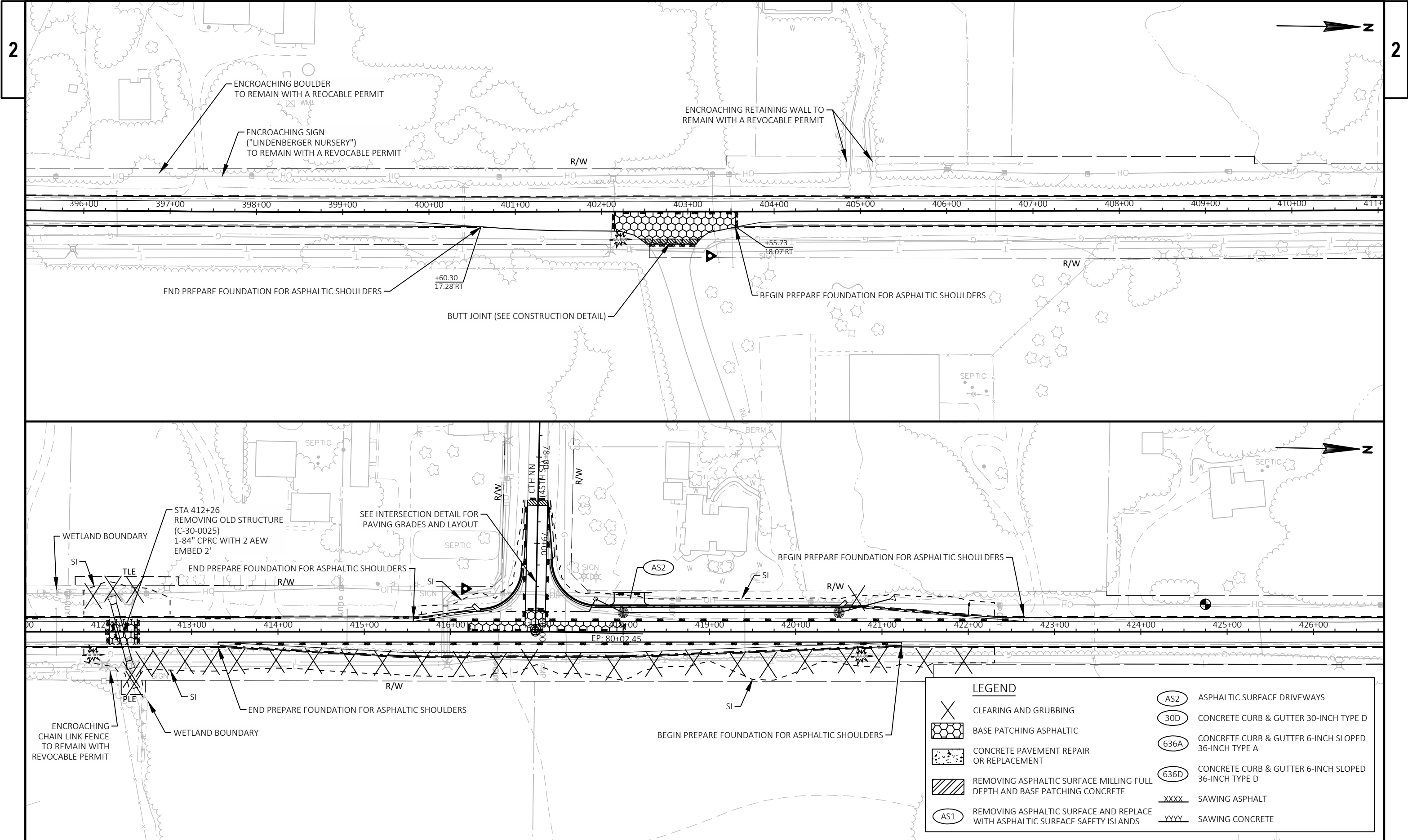
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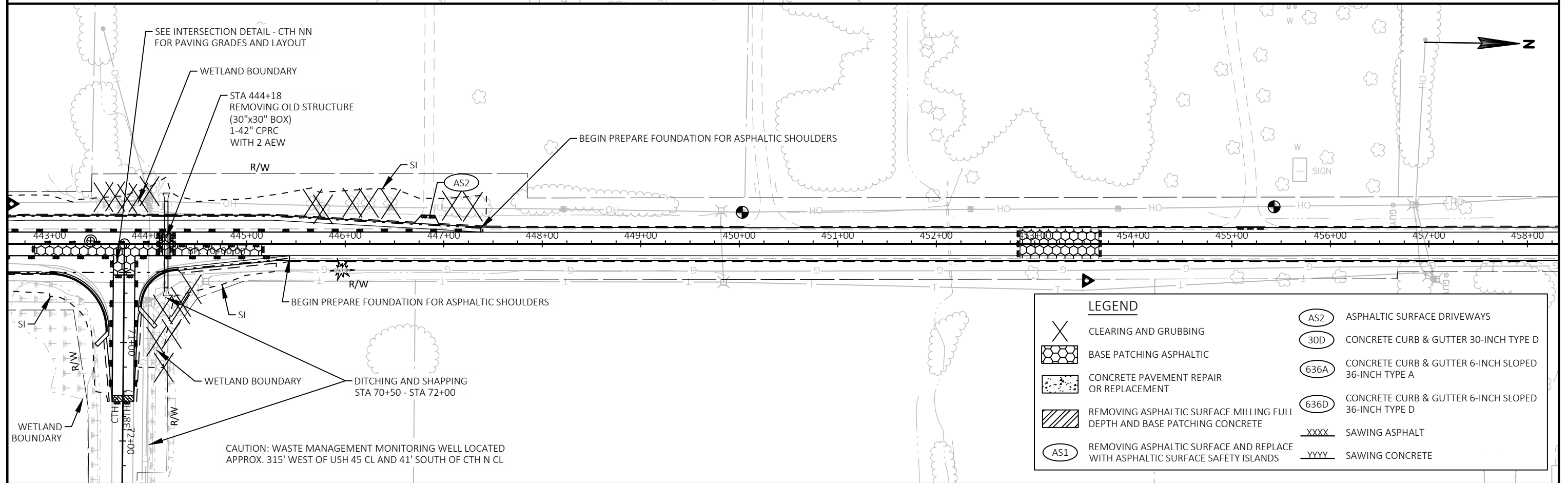
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WISDOT/CADDS SHEET 44



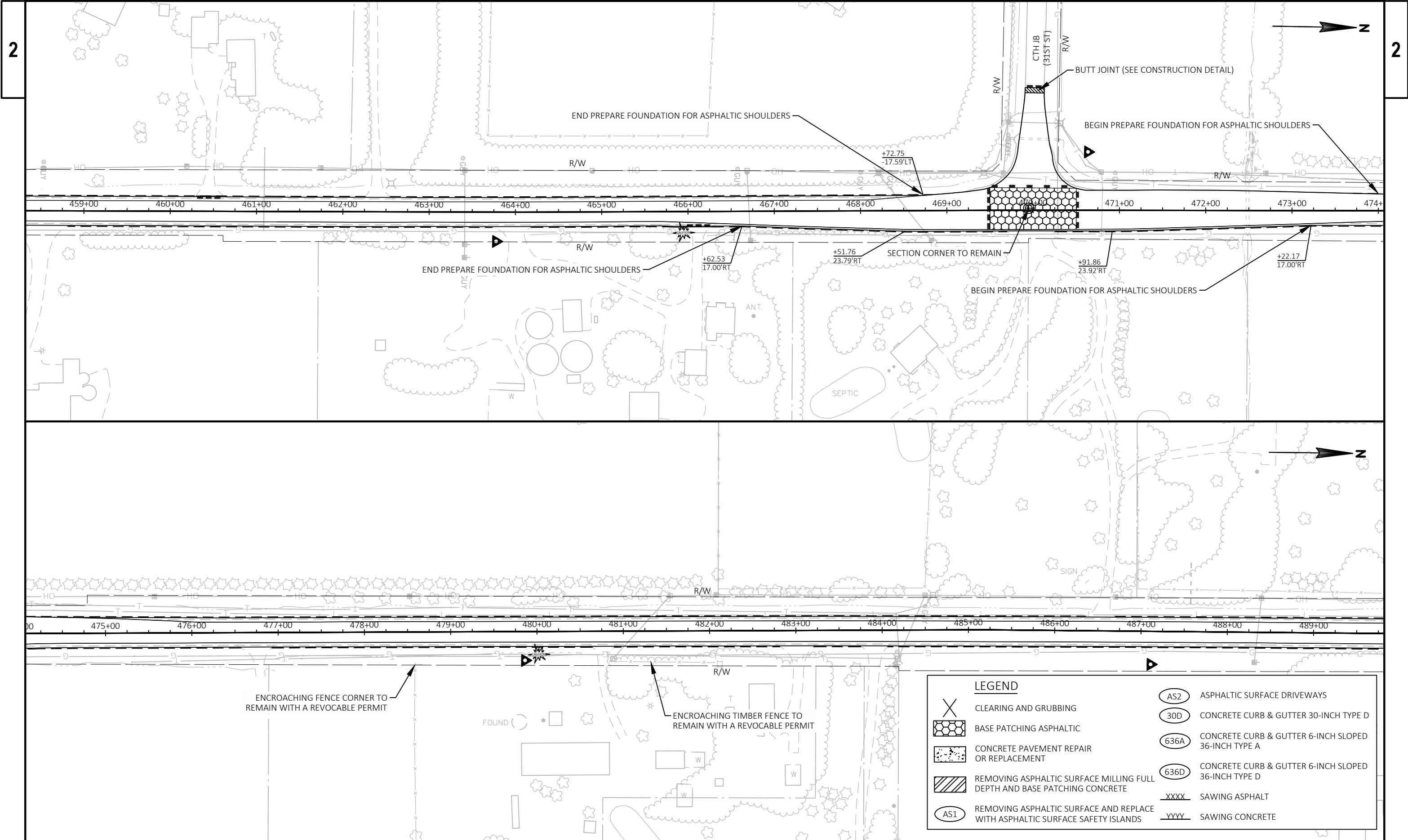


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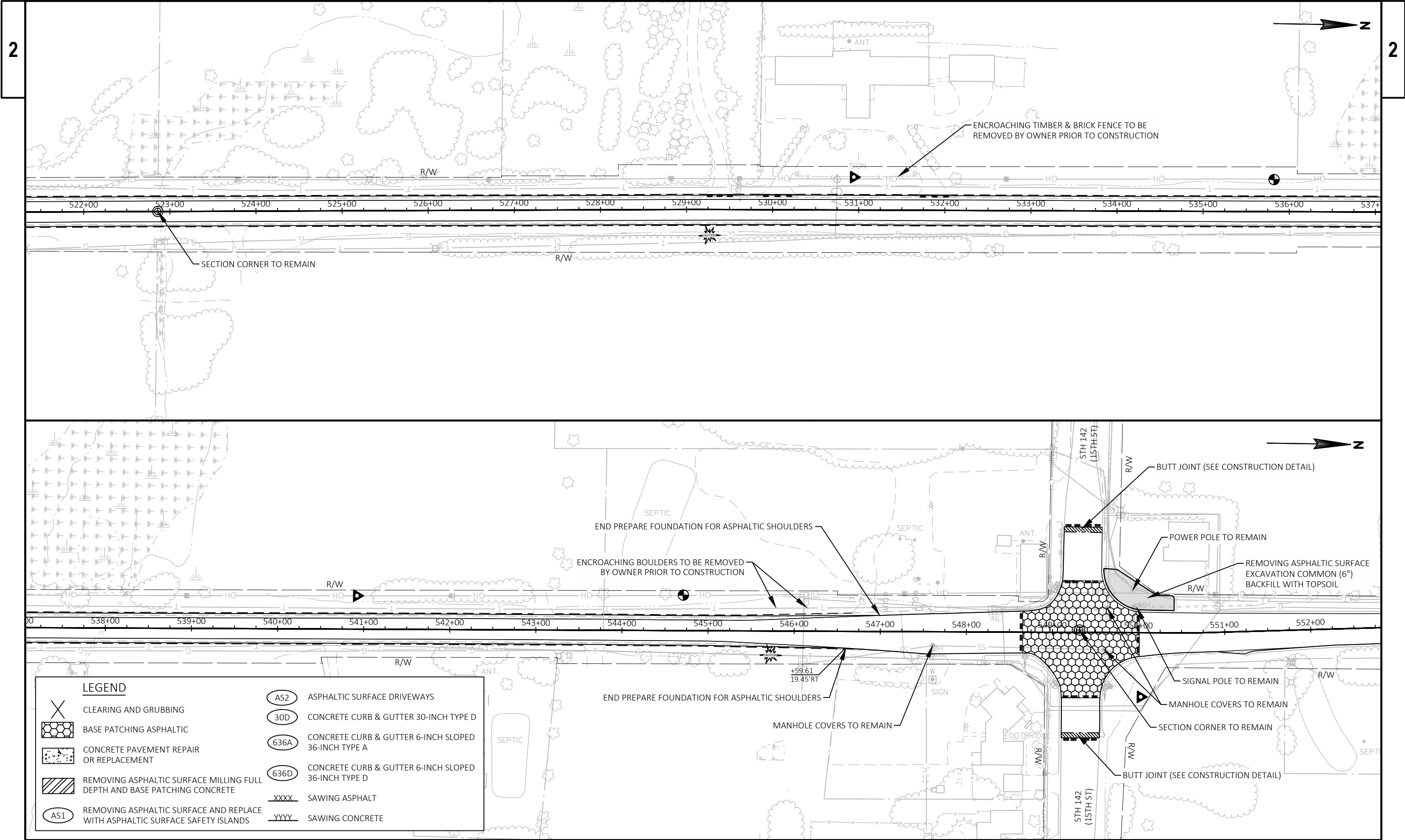
14

WISDOT/CADDS SHEET 44

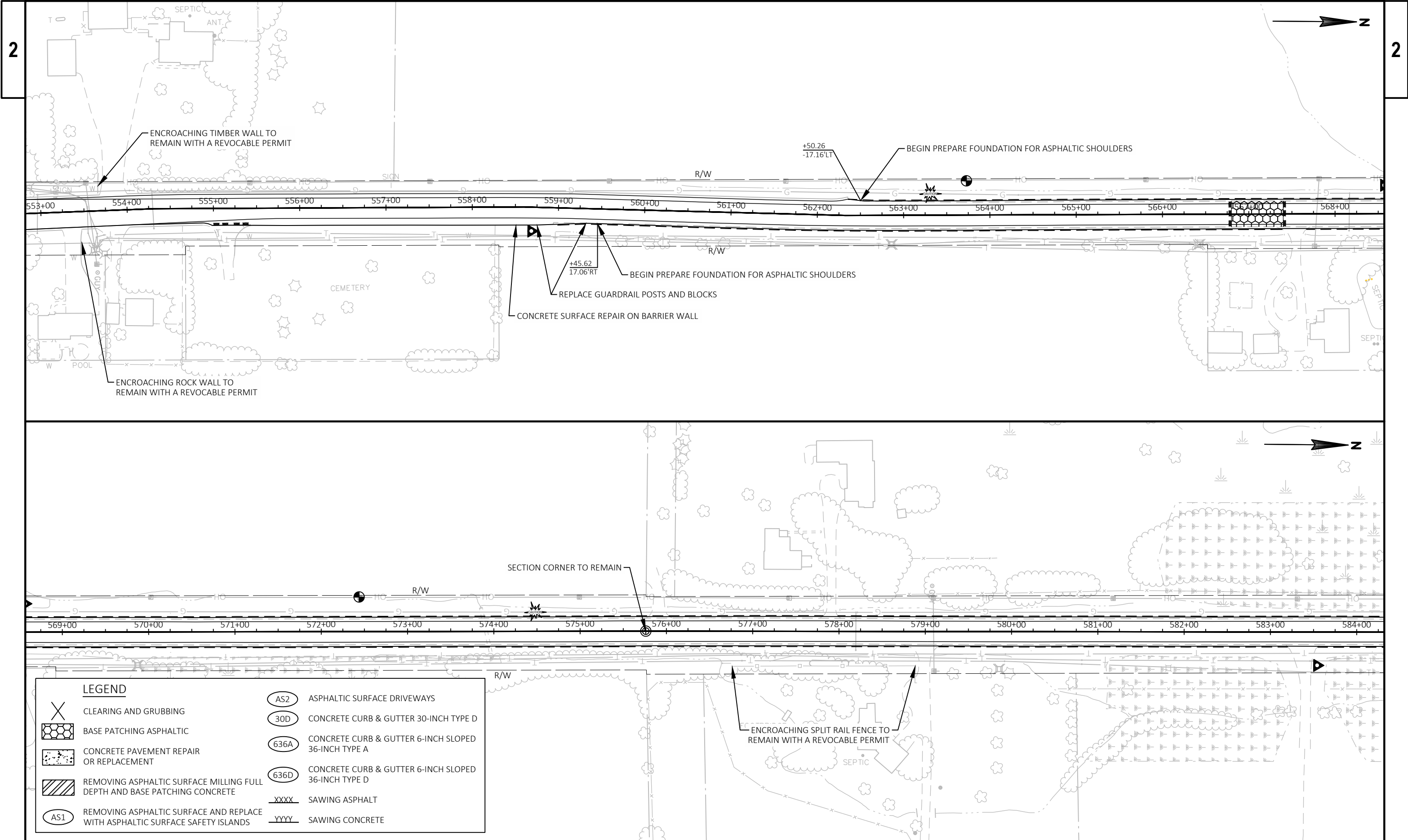


LEGEND

	CLEARING AND GRUBBING		ASPHALTIC SURFACE DRIVEWAYS
	BASE PATCHING ASPHALTIC		CONCRETE CURB & GUTTER 30-INCH TYPE D
	CONCRETE PAVEMENT REPAIR OR REPLACEMENT		CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A
	REMOVING ASPHALTIC SURFACE MILLING FULL DEPTH AND BASE PATCHING CONCRETE		CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D
	REMOVING ASPHALTIC SURFACE AND REPLACE WITH ASPHALTIC SURFACE SAFETY ISLANDS		SAWING ASPHALT
			SAWING CONCRETE

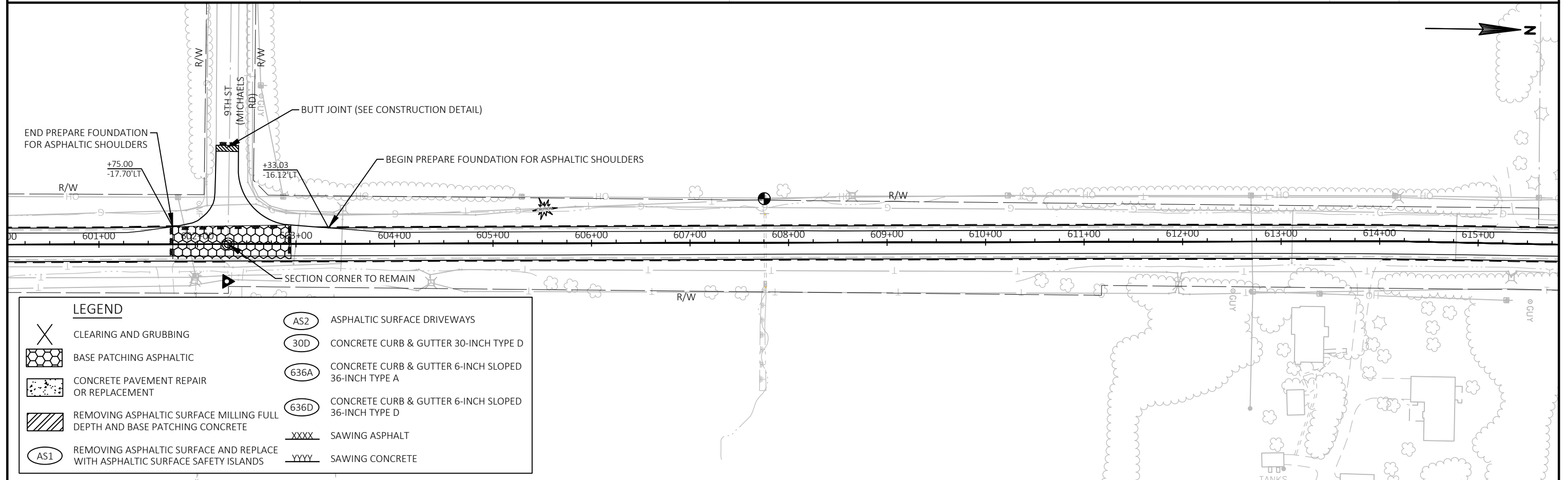
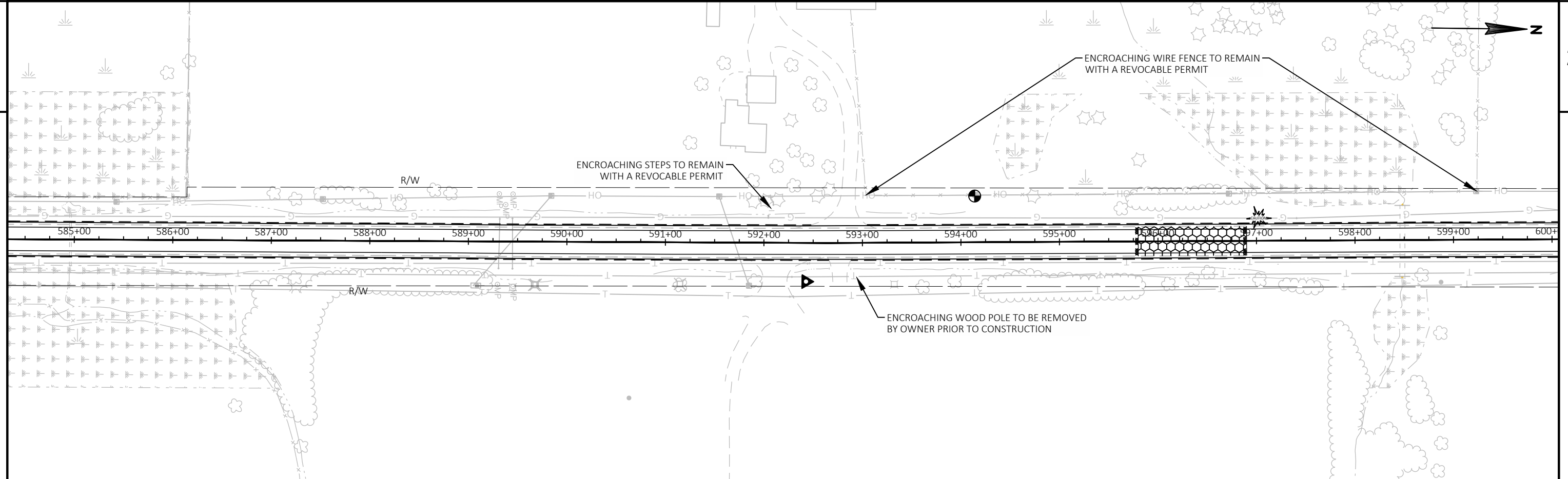


LEGEND	
	CLEARING AND GRUBBING
	BASE PATCHING ASPHALTIC
	CONCRETE PAVEMENT REPAIR OR REPLACEMENT
	REMOVING ASPHALTIC SURFACE MILLING FULL DEPTH AND BASE PATCHING CONCRETE
	REMOVING ASPHALTIC SURFACE AND REPLACE WITH ASPHALTIC SURFACE SAFETY ISLANDS
	ASPHALTIC SURFACE DRIVEWAYS
	CONCRETE CURB & GUTTER 30-INCH TYPE D
	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A
	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D
	SAWING ASPHALT
	SAWING CONCRETE



2

2



PROJECT NO:	3200-01-72
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HWY: USH 45

COUNTY: KENOSHA-RACINE

PLAN DETAIL

SHEET	49	E
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FILE NAME : N:\PDS\C3D\32000102\SHEETSPLAN\021201-PD.DWG
LAYOUT NAME - 021211-pd

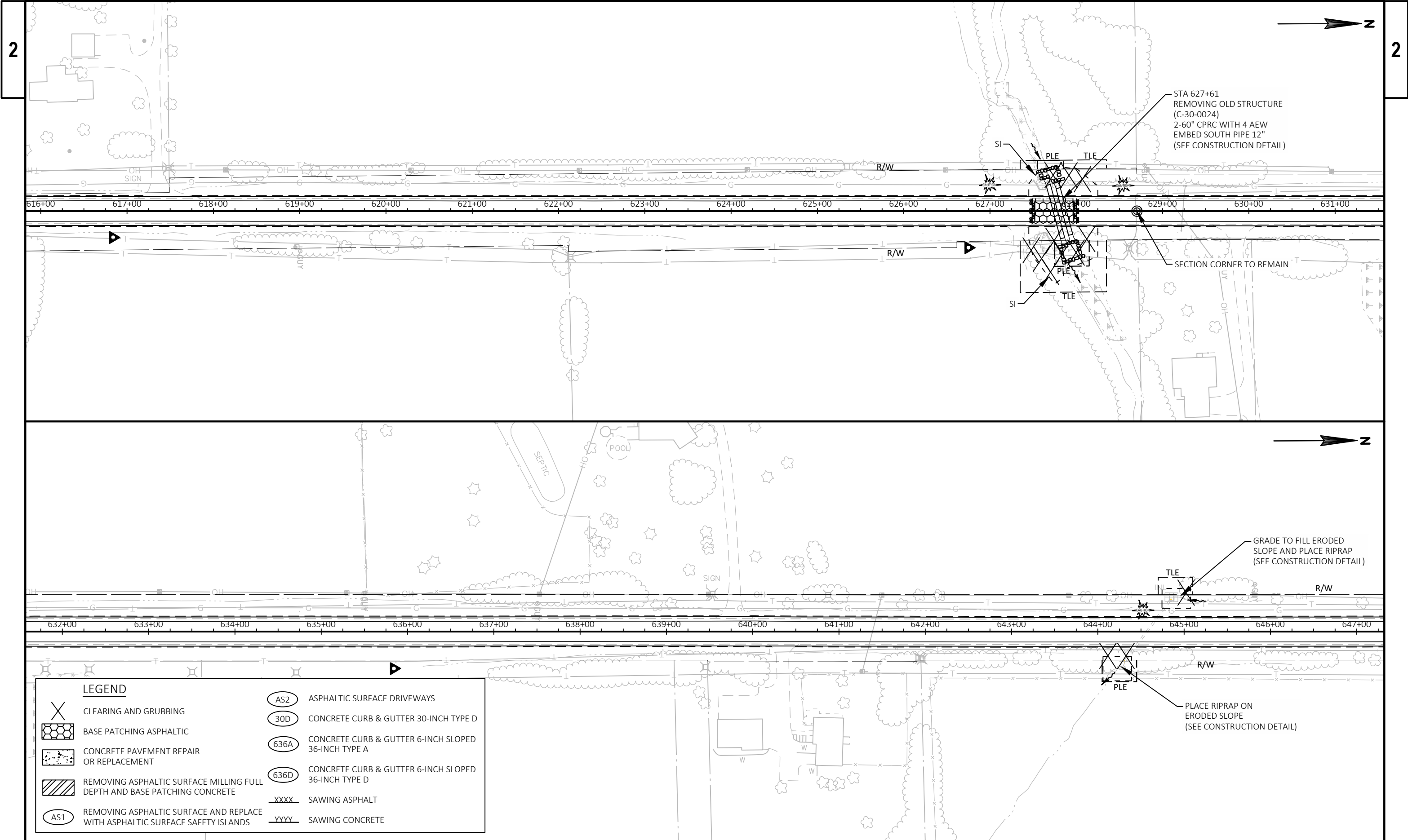
PLOT DATE : 4/30/2019 12:29 PM PLOT BY : MATHENY, ROBERT B

PLOT BY : MATHENY, ROBERT B PLOT NAME : PLOT SCALE : 1 IN:100 FT

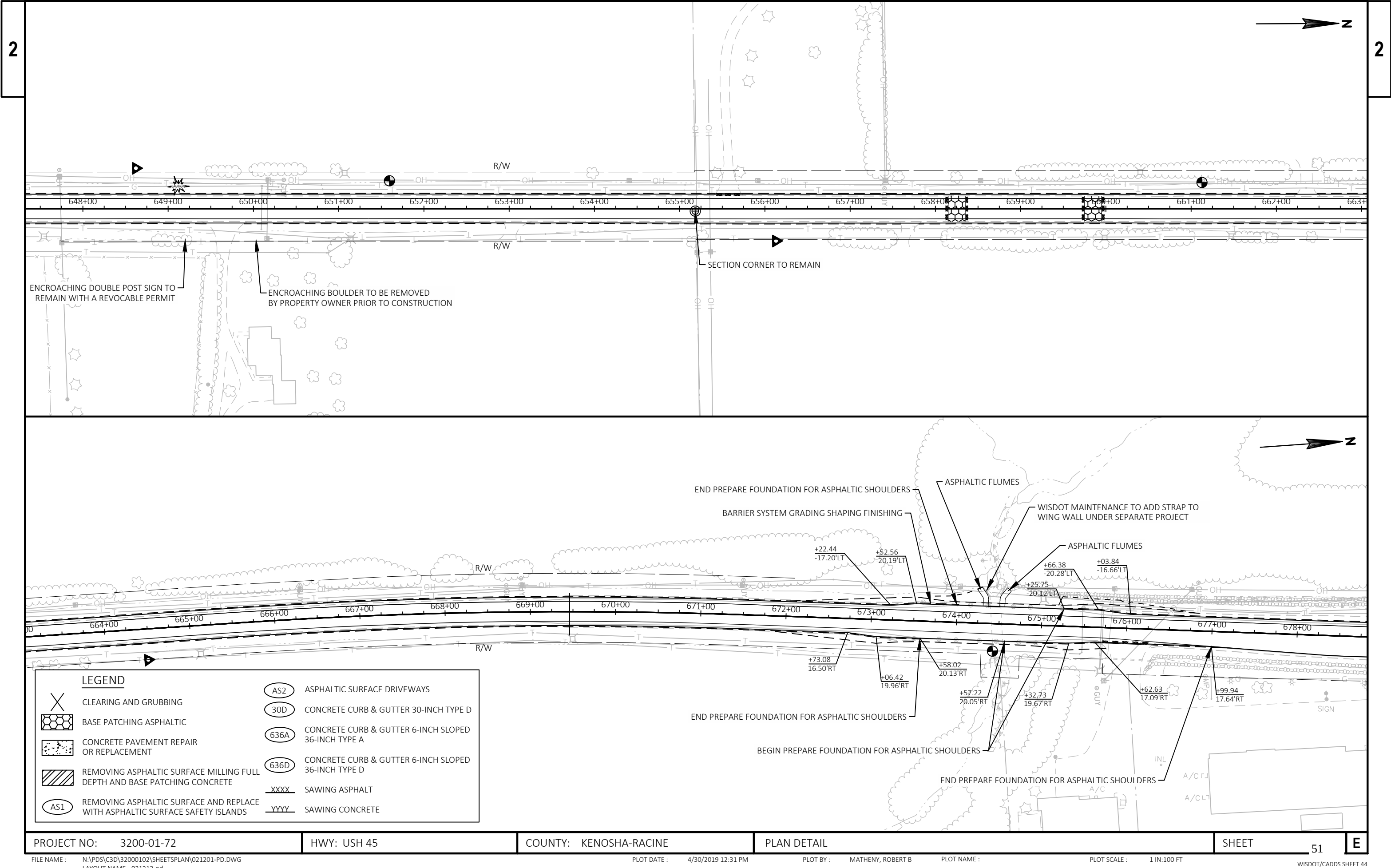
PLOT NAME : PLOT SCALE : 1 IN:100 FT

PLOT SCALE : 1 IN:100 FT

WISDOT/CADDS SHEET 44



LEGEND	
	CLEARING AND GRUBBING
	BASE PATCHING ASPHALTIC
	CONCRETE PAVEMENT REPAIR OR REPLACEMENT
	REMOVING ASPHALTIC SURFACE MILLING FULL DEPTH AND BASE PATCHING CONCRETE
	REMOVING ASPHALTIC SURFACE AND REPLACE WITH ASPHALTIC SURFACE SAFETY ISLANDS
	ASPHALTIC SURFACE DRIVEWAYS
	CONCRETE CURB & GUTTER 30-INCH TYPE D
	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A
	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D
	SAWING ASPHALT
	SAWING CONCRETE

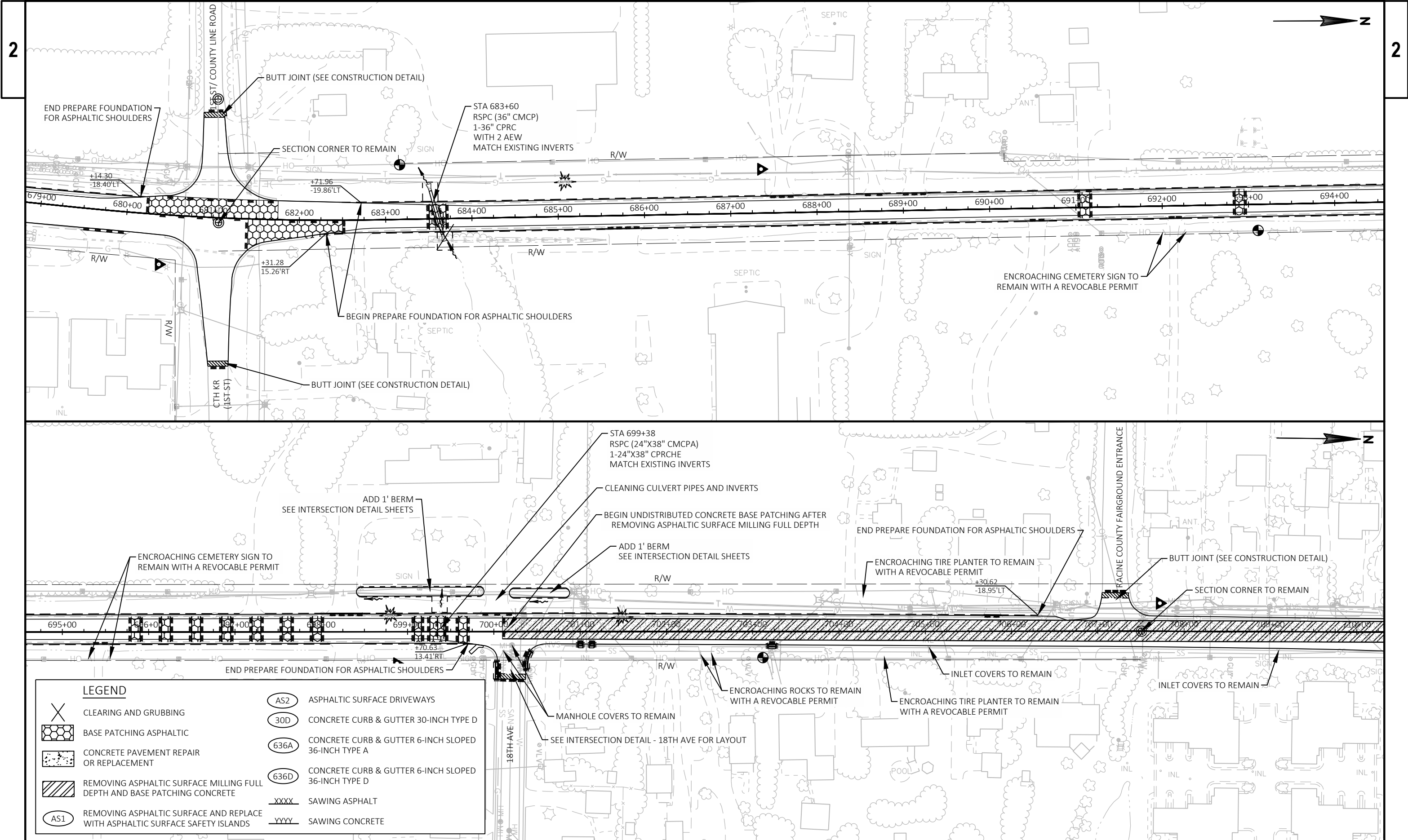


2

2

LEGEND

- | | | | |
|--|--|--|---|
| | CLEARING AND GRUBBING | | ASPHALTIC SURFACE DRIVEWAYS |
| | BASE PATCHING ASPHALTIC | | CONCRETE CURB & GUTTER 30-INCH TYPE D |
| | CONCRETE PAVEMENT REPAIR OR REPLACEMENT | | CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A |
| | REMOVING ASPHALTIC SURFACE MILLING FULL DEPTH AND BASE PATCHING CONCRETE | | CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D |
| | REMOVING ASPHALTIC SURFACE AND REPLACE WITH ASPHALTIC SURFACE SAFETY ISLANDS | | SAWING ASPHALT |
| | | | SAWING CONCRETE |



LEGEND

X

CLEARING AND GRUBBING

BASE PATCHING ASPHALTIC

CONCRETE PAVEMENT REPAIR OR REPLACEMENT

REMOVING ASPHALTIC SURFACE MILLING FULL DEPTH AND BASE PATCHING CONCRETE

REMOVING ASPHALTIC SURFACE AND REPLACE WITH ASPHALTIC SURFACE SAFETY ISLANDS

AS2 ASPHALTIC SURFACE DRIVEWAYS

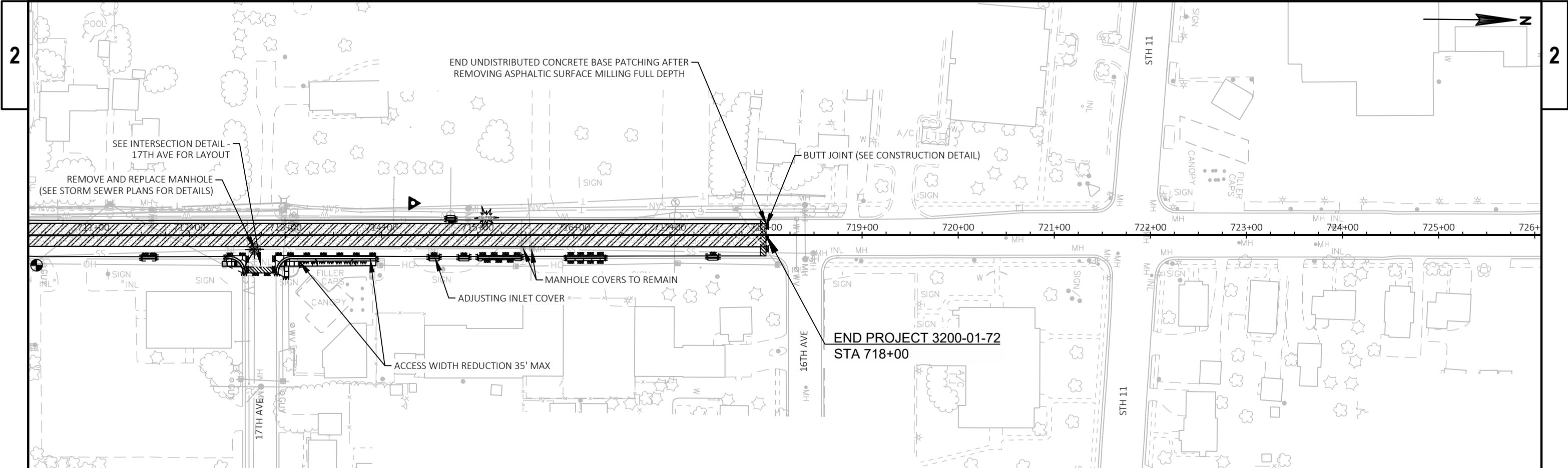
30D CONCRETE CURB & GUTTER 30-INCH TYPE D

636A CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A

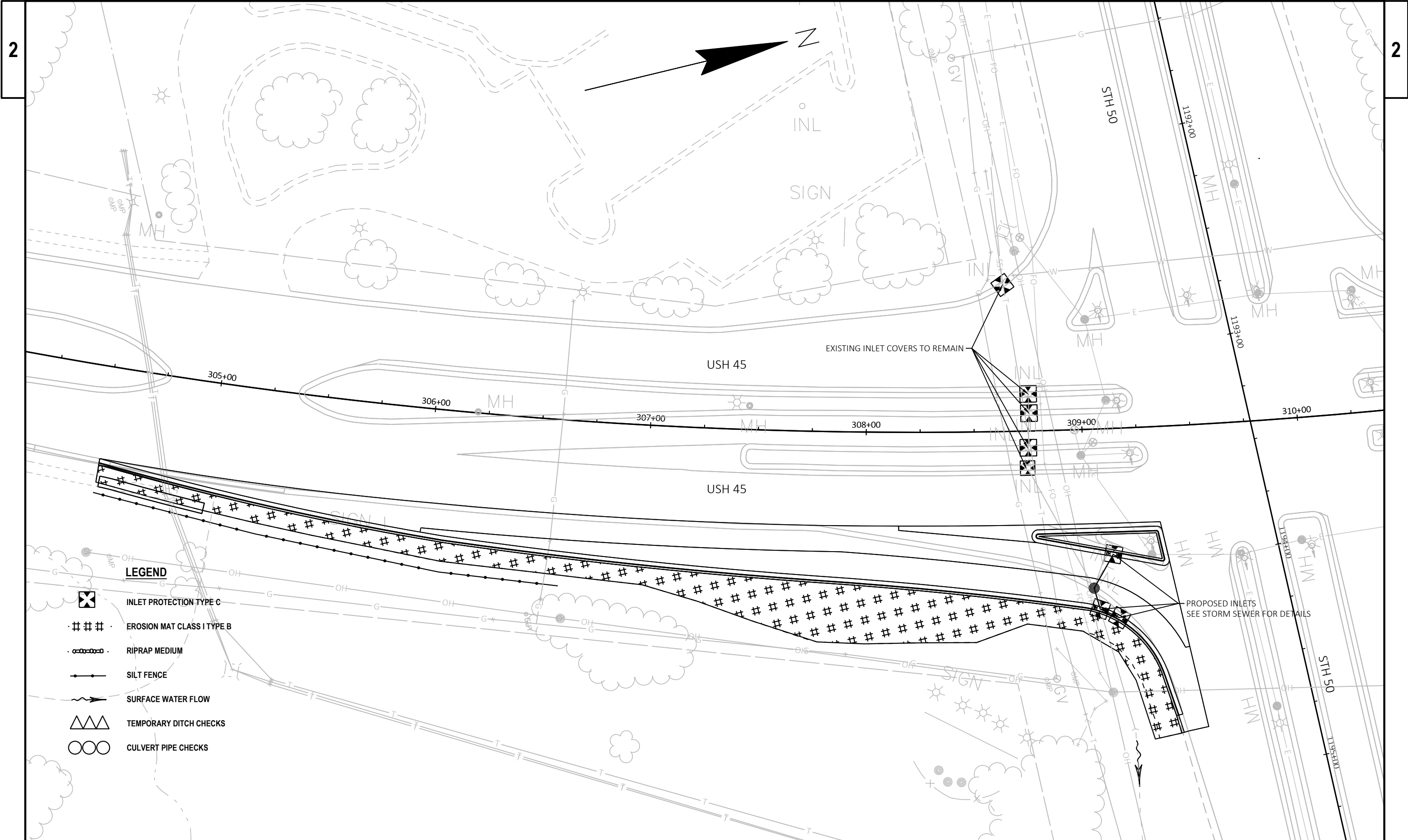
636D CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D

XXXX SAWING ASPHALT

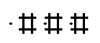
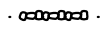
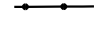
YYYY SAWING CONCRETE

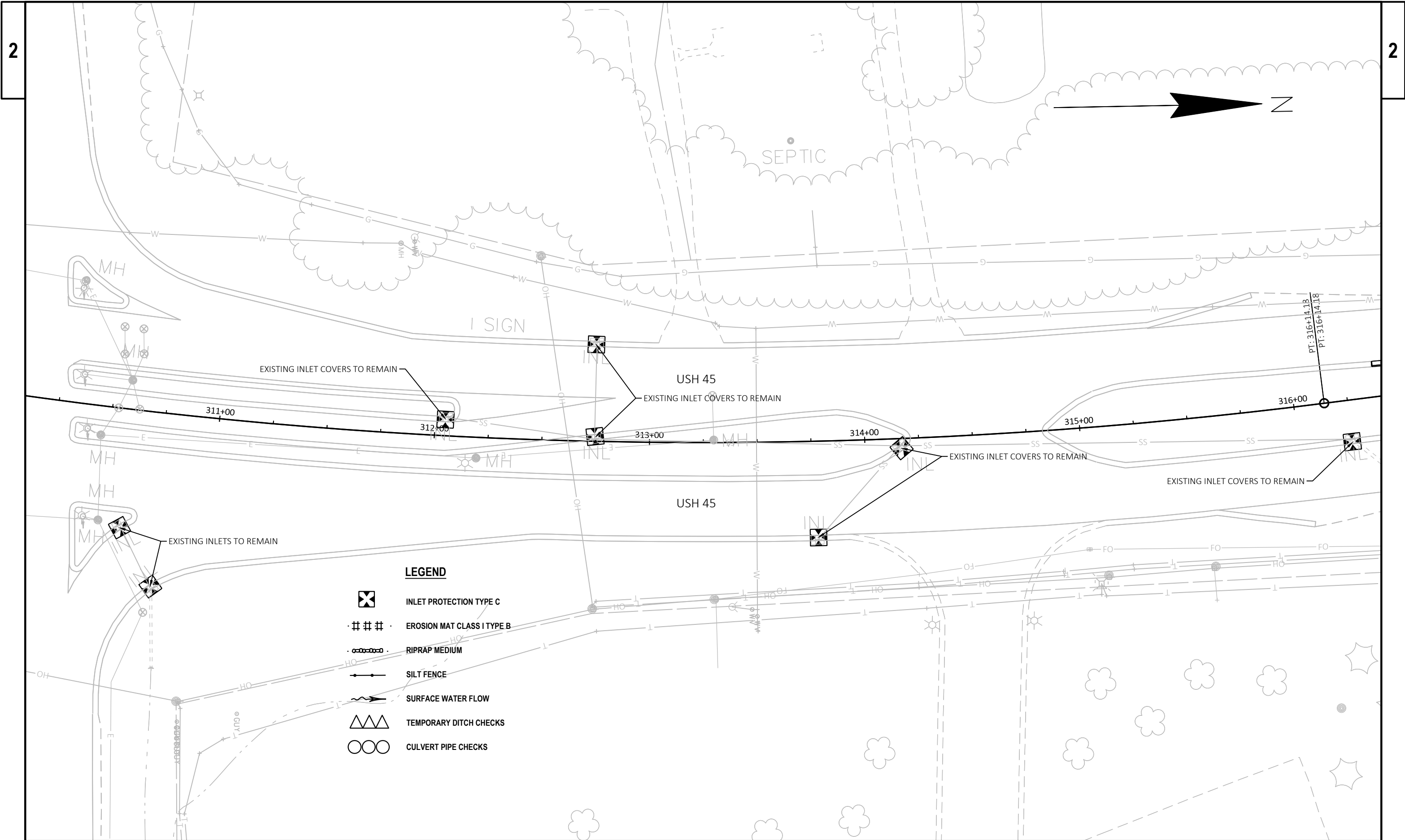


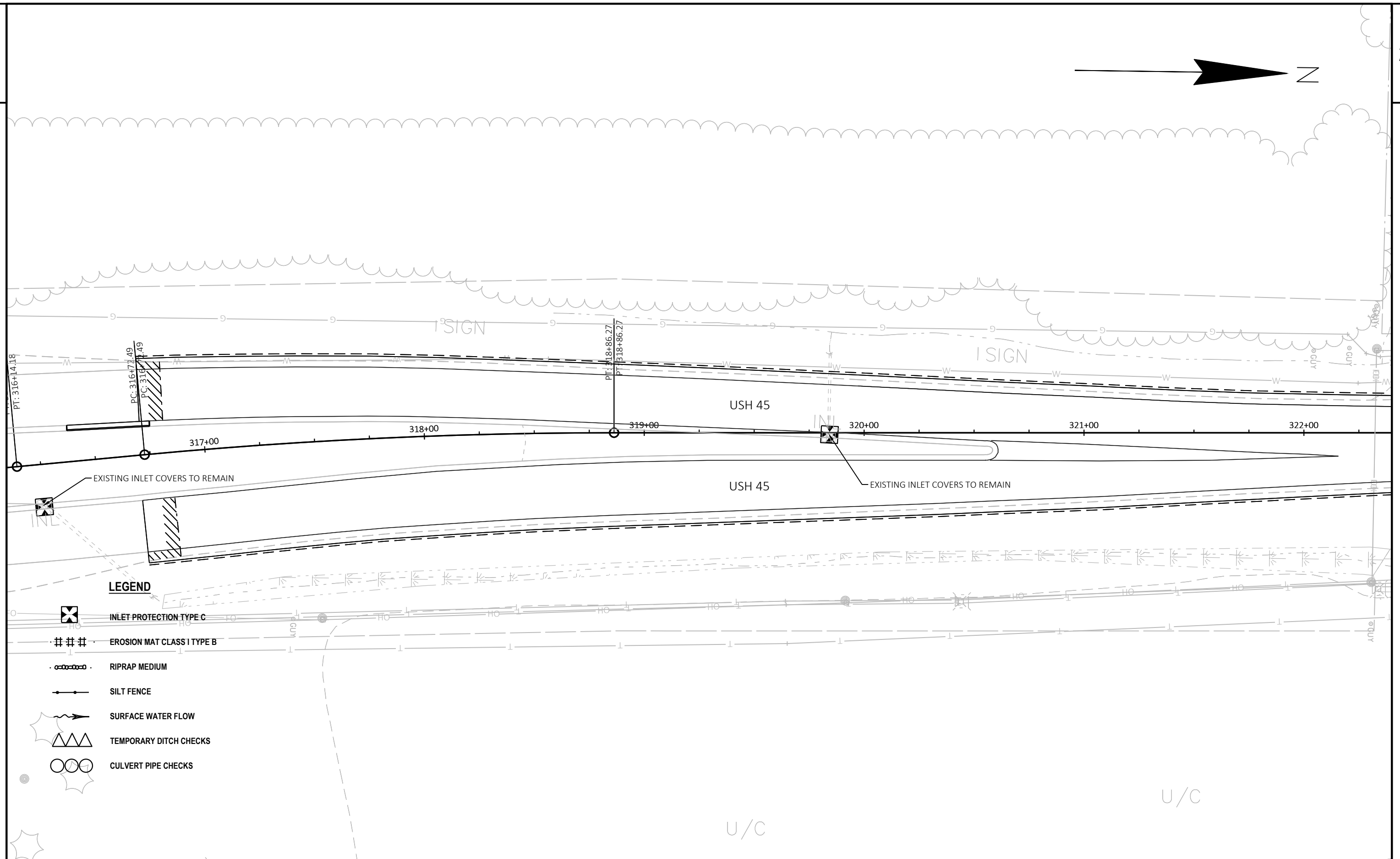
LEGEND	
	CLEARING AND GRUBBING
	BASE PATCHING ASPHALTIC
	CONCRETE PAVEMENT REPAIR OR REPLACEMENT
	REMOVING ASPHALTIC SURFACE MILLING FULL DEPTH AND BASE PATCHING CONCRETE
	REMOVING ASPHALTIC SURFACE AND REPLACE WITH ASPHALTIC SURFACE SAFETY ISLANDS
	ASPHALTIC SURFACE DRIVEWAYS
	CONCRETE CURB & GUTTER 30-INCH TYPE D
	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE A
	CONCRETE CURB & GUTTER 6-INCH SLOPED 36-INCH TYPE D
	SAWING ASPHALT
	SAWING CONCRETE



LEGEND

-  INLET PROTECTION TYPE C
-  EROSION MAT CLASS I TYPE B
-  RIPRAP MEDIUM
-  SILT FENCE
-  SURFACE WATER FLOW
-  TEMPORARY DITCH CHECKS
-  CULVERT PIPE CHECKS





PROJECT NO: 3200-01-72

HWY: USH 45

COUNTY: KENOSHA-RACINE

EROSION CONTROL

SHEET

56

E

FILE NAME : N:\PDS\C3D\32000102\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022003_ec

PLOT DATE : 4/30/2019 12:37 PM

PLOT BY : MATHENY, ROBERT B

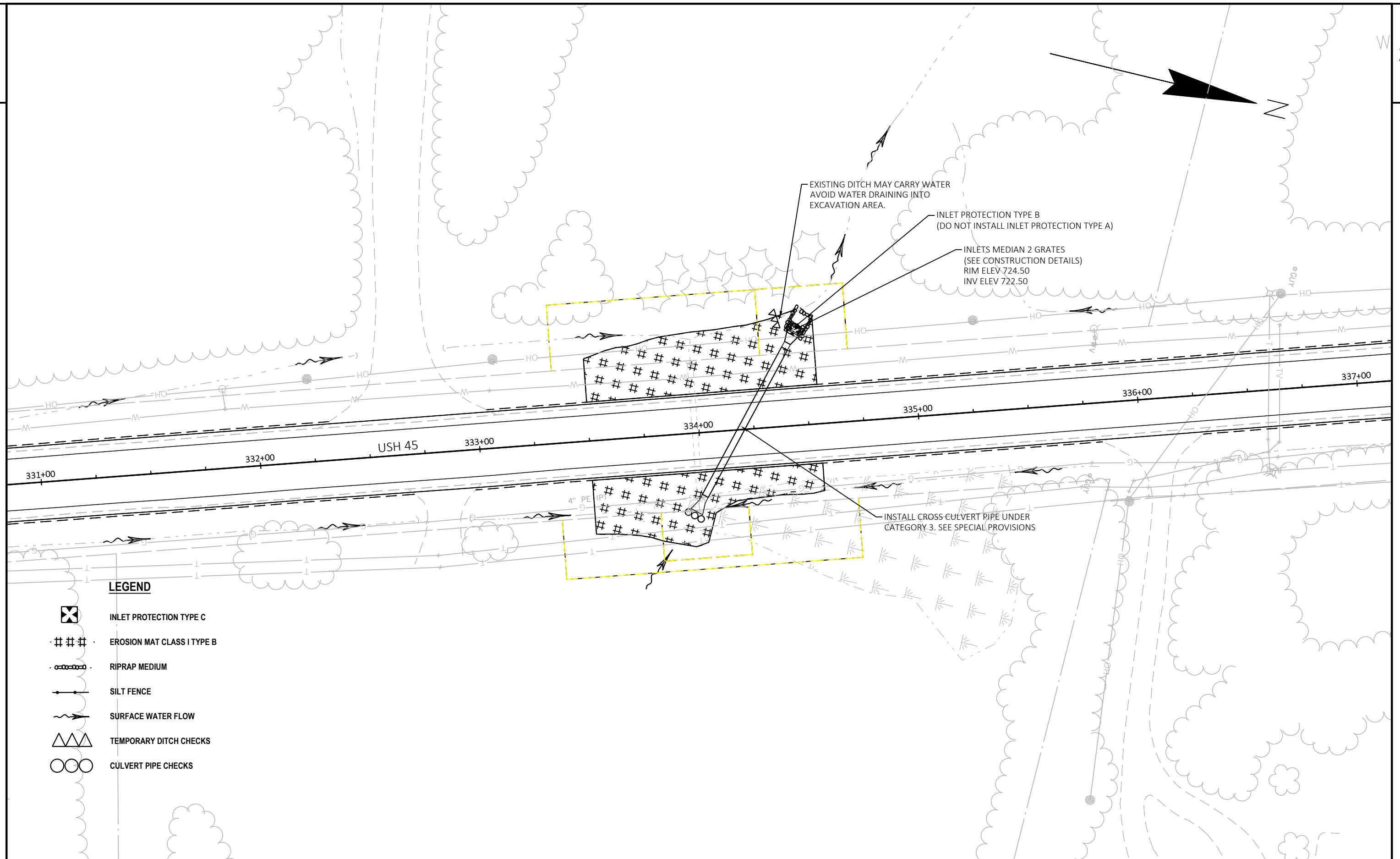
PLOT NAME :

PLOT SCALE : 1 IN=40 FT

WISDOT/CADDs SHEET 42

2

2 |



PROJECT NO:	3200-01-72
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HWY: USH 45

COUNTY: KENOSHA-RACINE

EROSION CONTROL

SHEET

57

E

FILE NAME : N:\PDS\C3D\32000102\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022004_ec

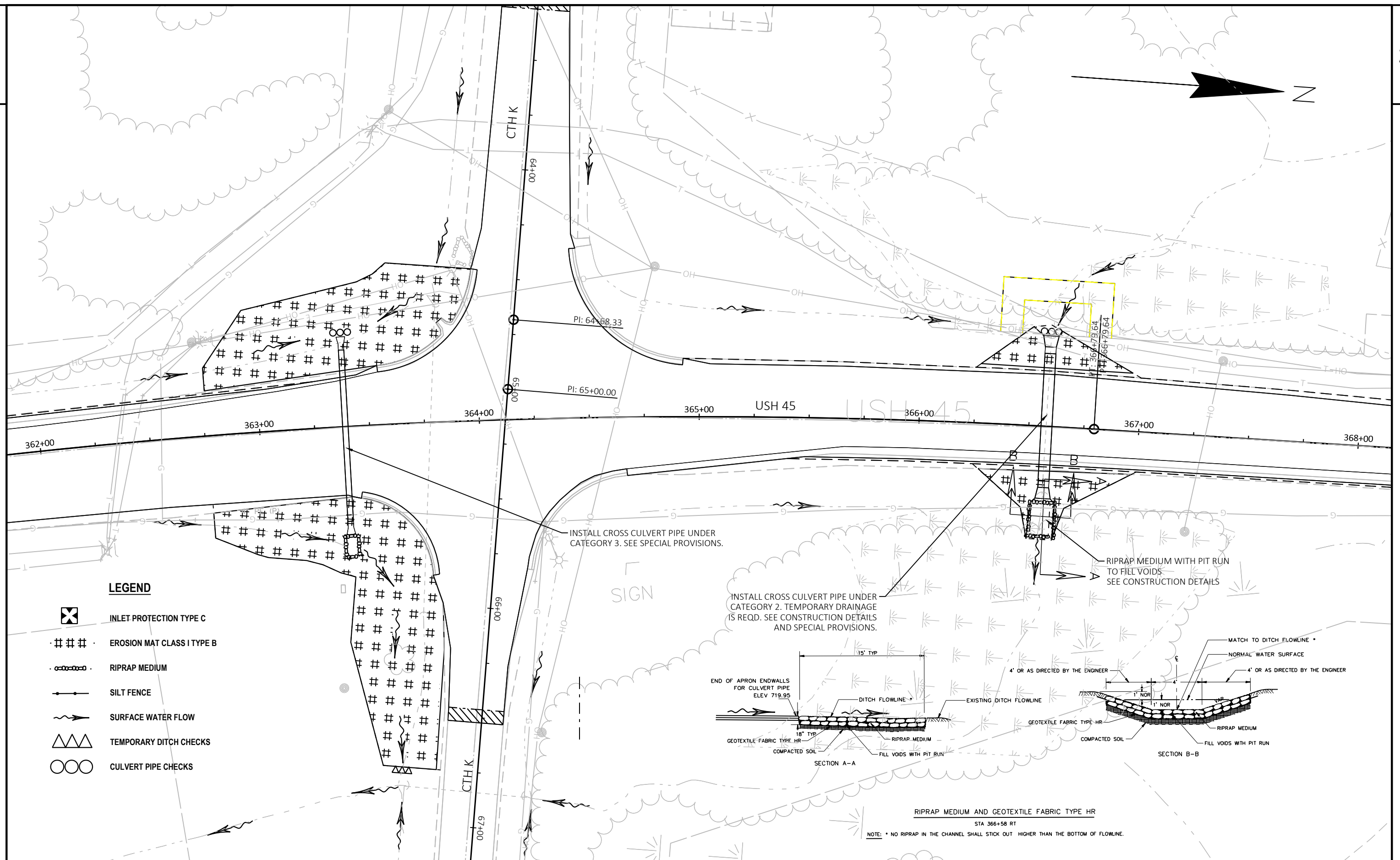
PLOT DATE : 4/30/2019 12:38 PM

PLOT BY : MATHENY, ROBERT B

PLOT NAME :

PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42



PROJECT NO: 3200-01-72

HWY: USH 45

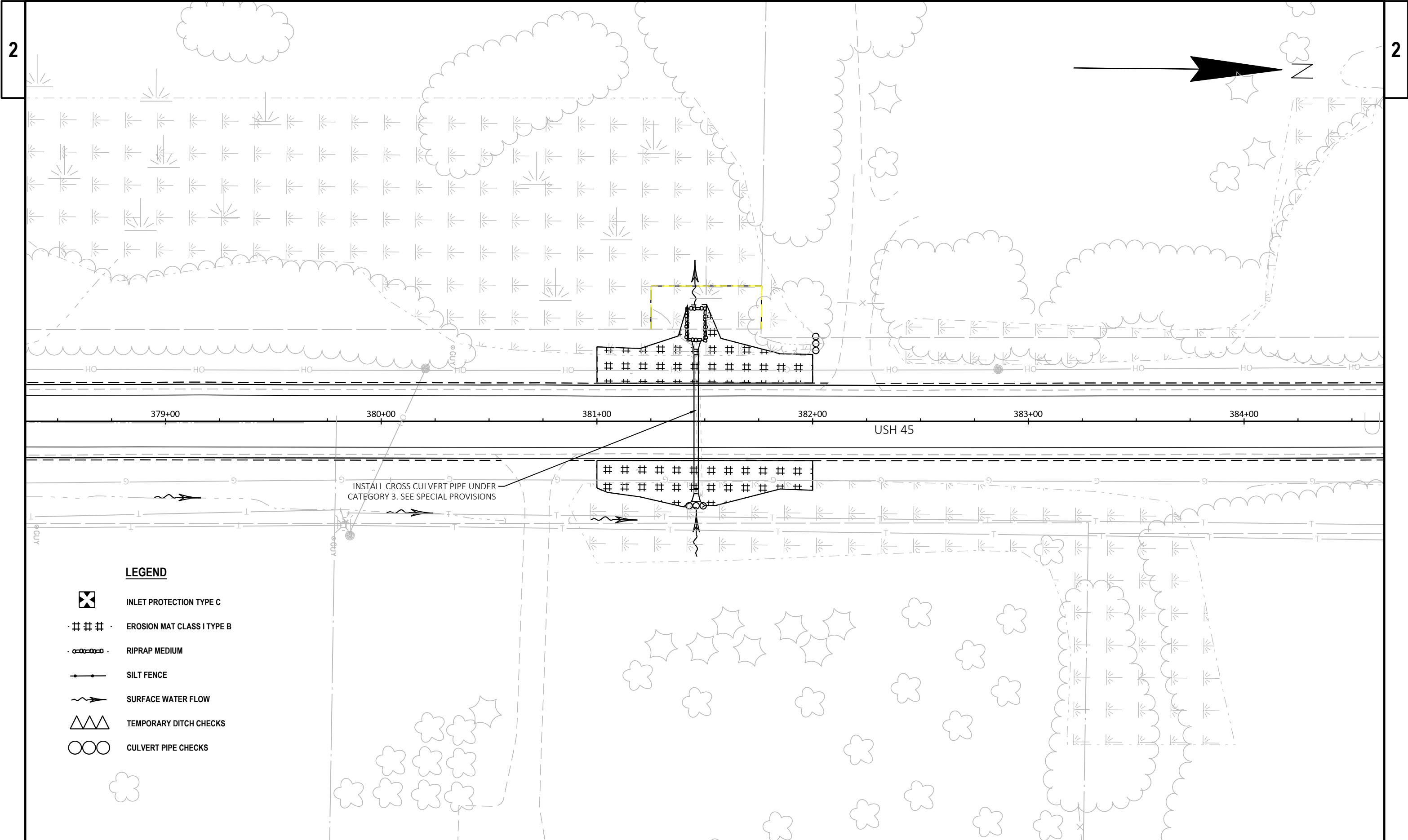
COUNTY: KENOSHA-RACINE

EROSION CONTROL

SHEET

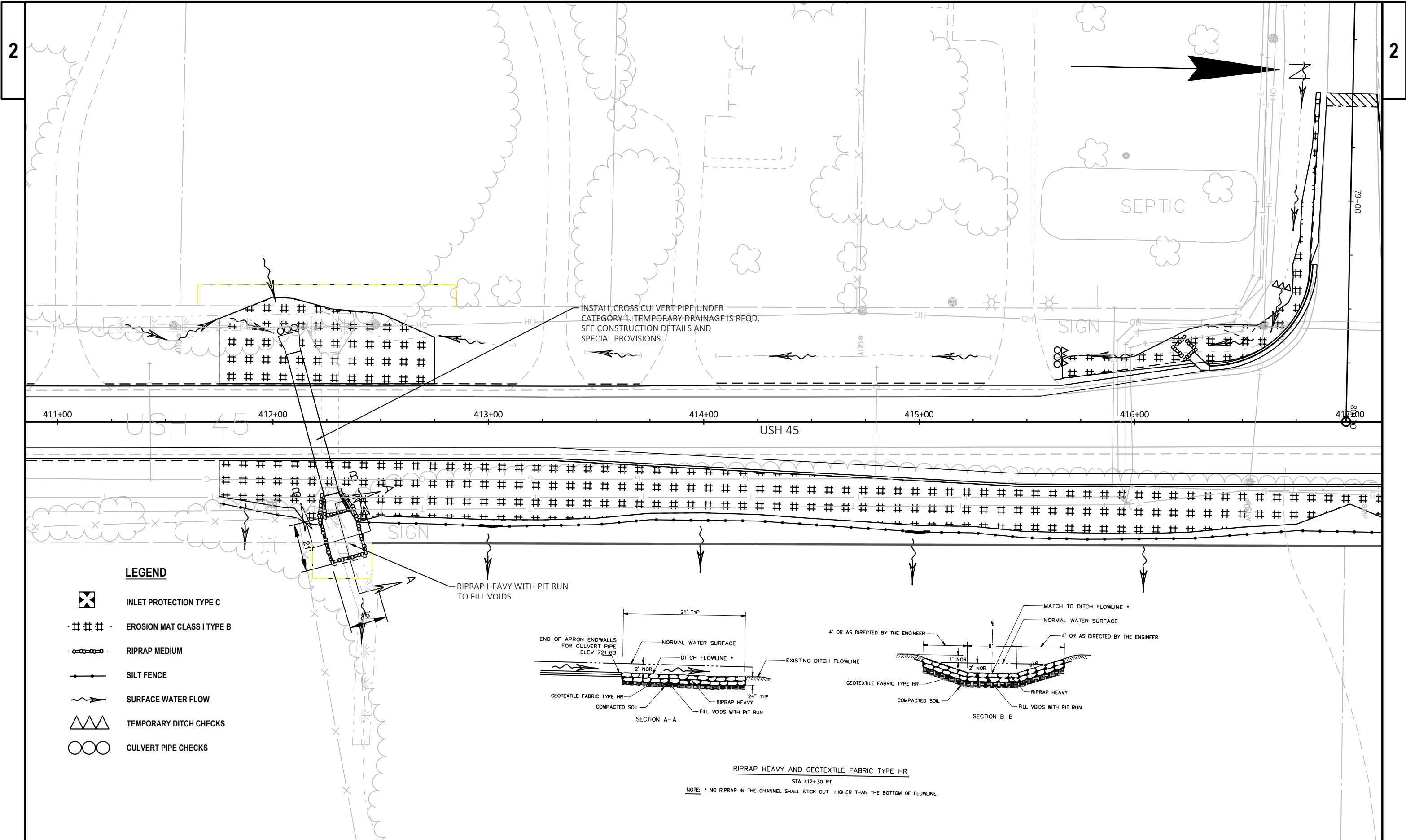
58

E



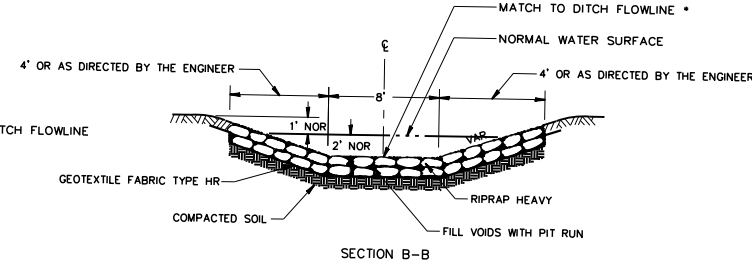
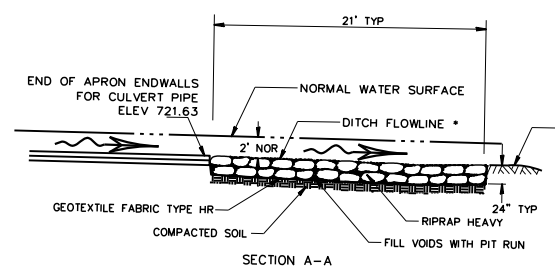
LEGEND

-  INLET PROTECTION TYPE C
-  EROSION MAT CLASS I TYPE B
-  RIPRAP MEDIUM
-  SILT FENCE
-  SURFACE WATER FLOW
-  TEMPORARY DITCH CHECKS
-  CULVERT PIPE CHECKS



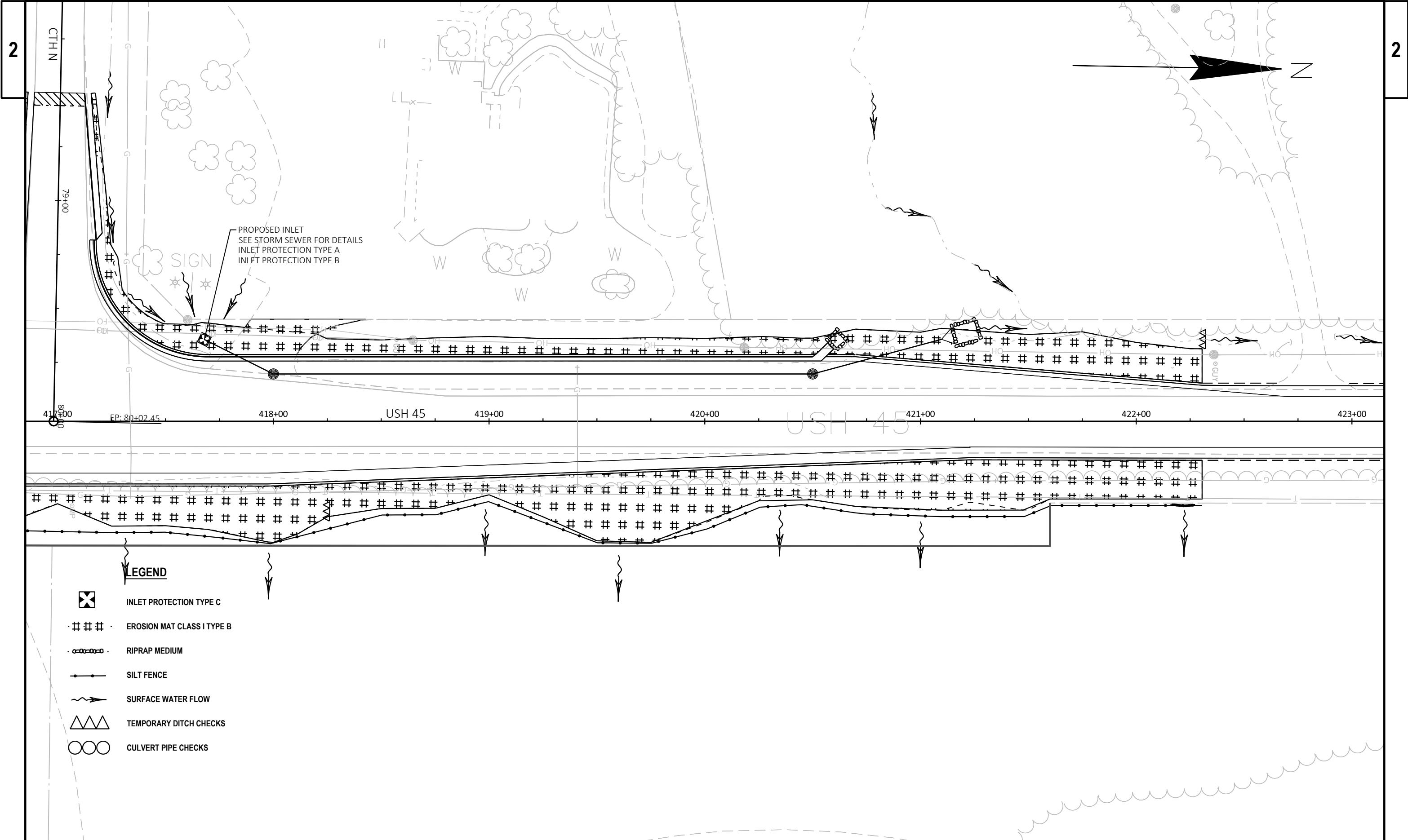
LEGEND

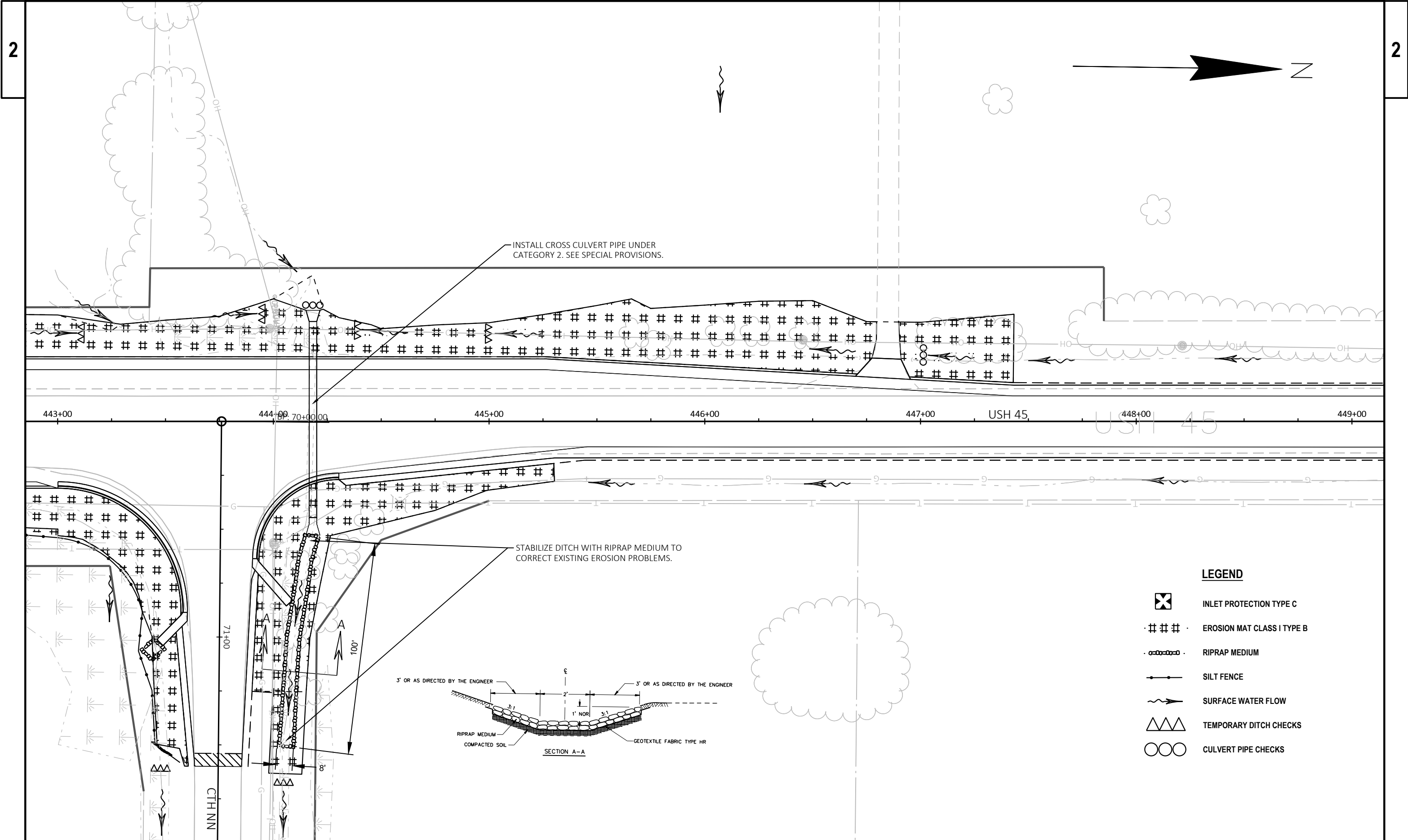
- INLET PROTECTION TYPE C
- EROSION MAT CLASS I TYPE B
- RIPRAP MEDIUM
- SILT FENCE
- SURFACE WATER FLOW
- TEMPORARY DITCH CHECKS
- CULVERT PIPE CHECKS



RIPRAP HEAVY AND GEOTEXTILE FABRIC TYPE HR
STA 412+30 RT

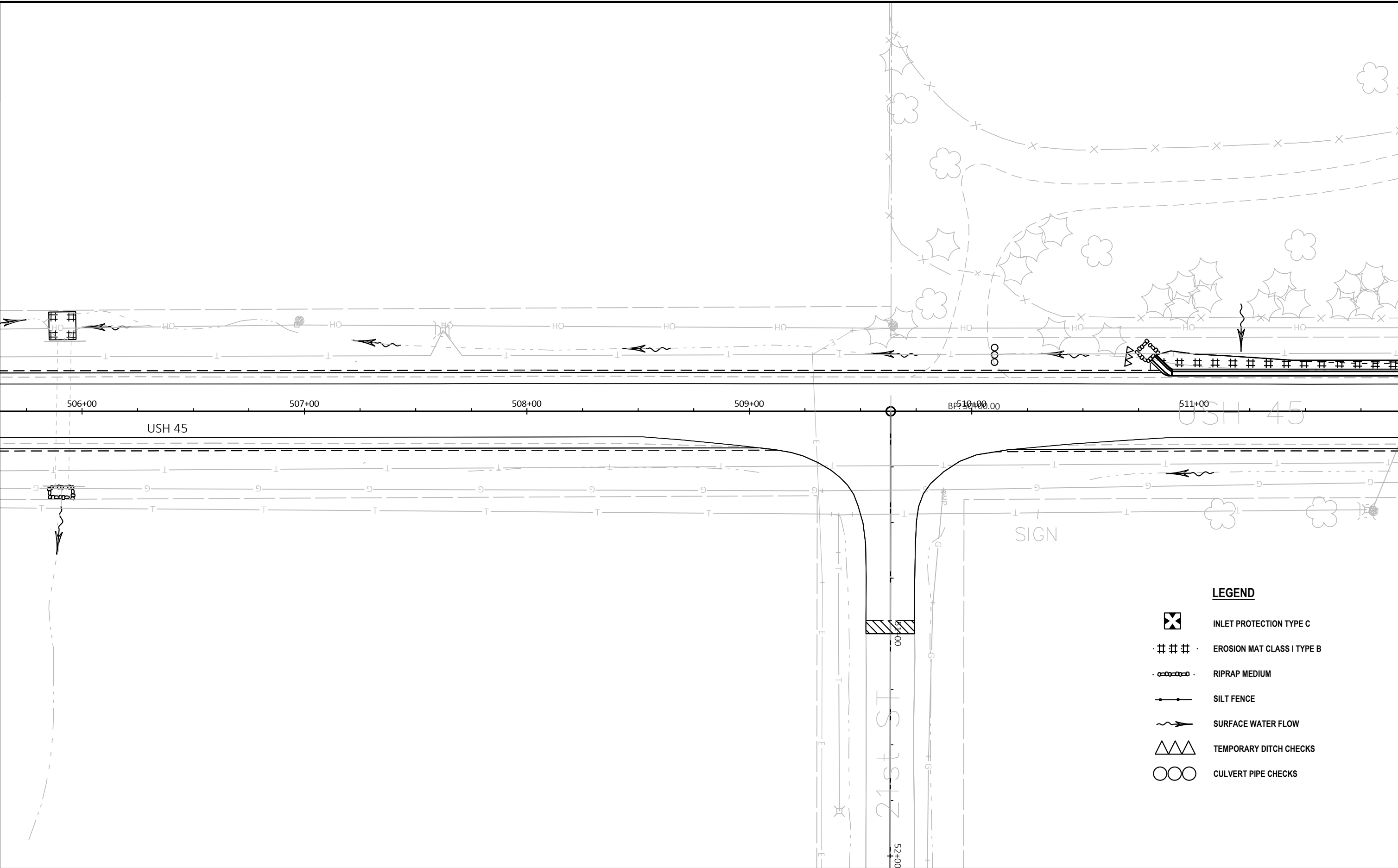
NOTE: * NO RIPRAP IN THE CHANNEL SHALL STICK OUT HIGHER THAN THE BOTTOM OF FLOWLINE.

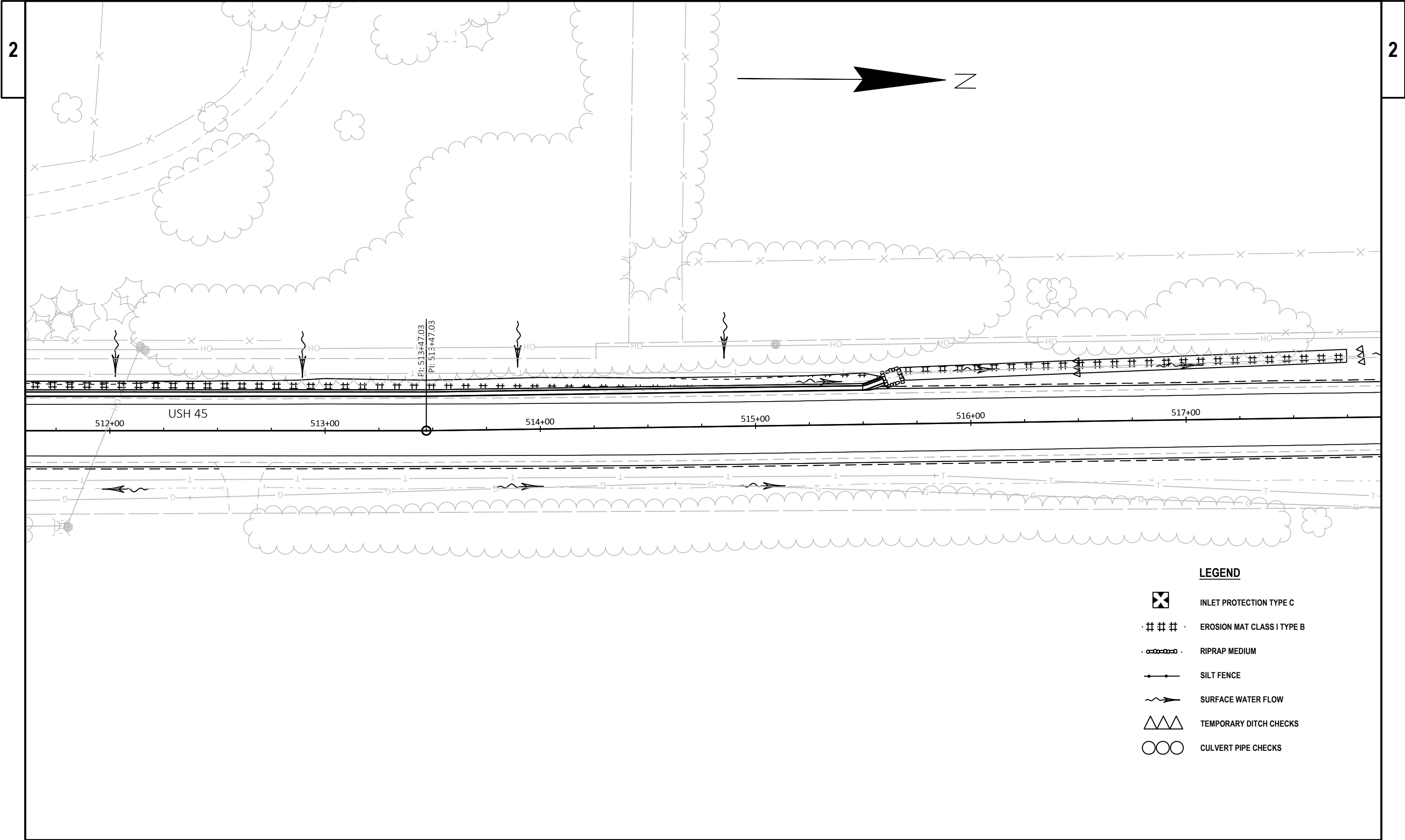


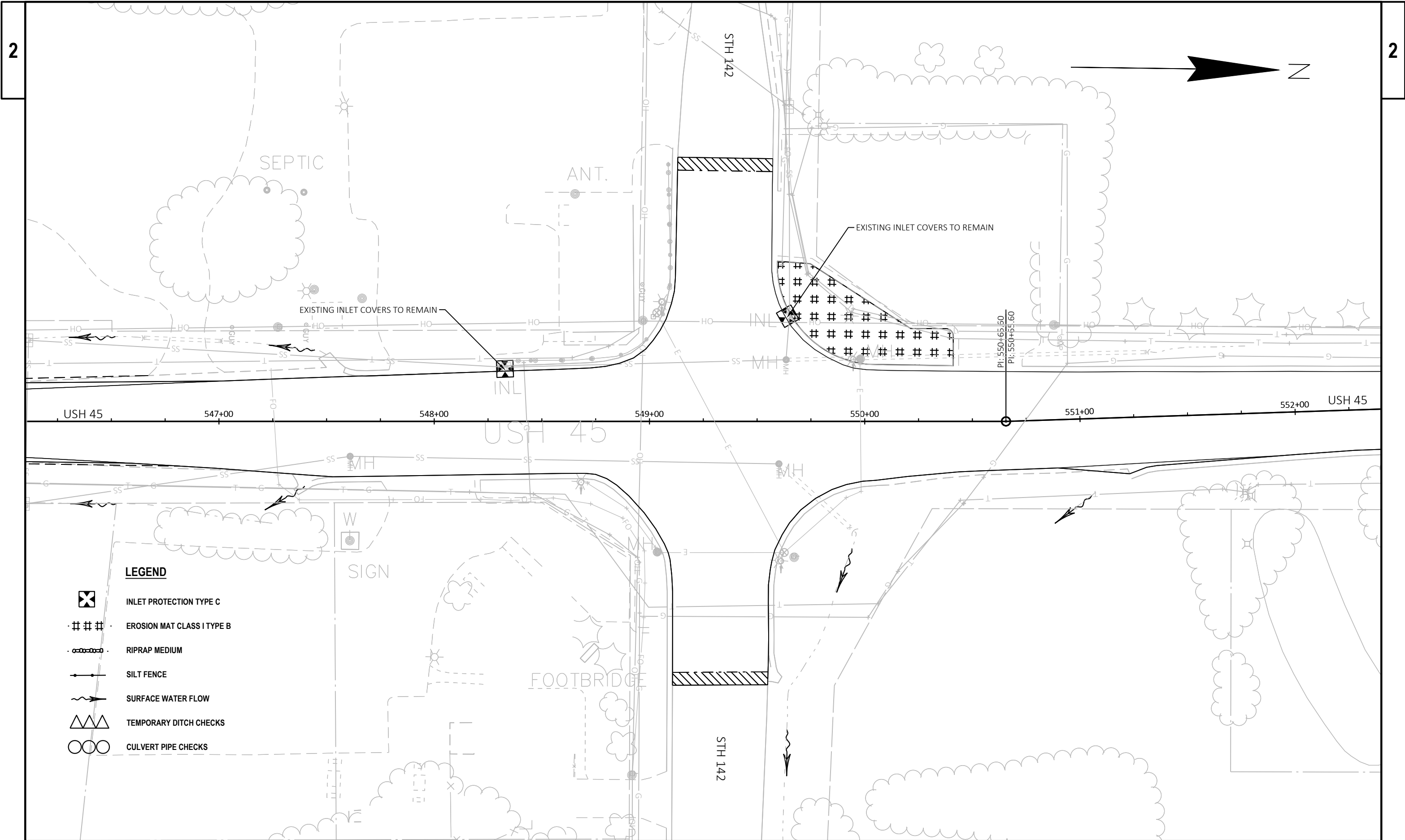


LEGEND

-  INLET PROTECTION TYPE C
-  EROSION MAT CLASS I TYPE B
-  RIPRAP MEDIUM
-  SILT FENCE
-  SURFACE WATER FLOW
-  TEMPORARY DITCH CHECKS
-  CULVERT PIPE CHECKS





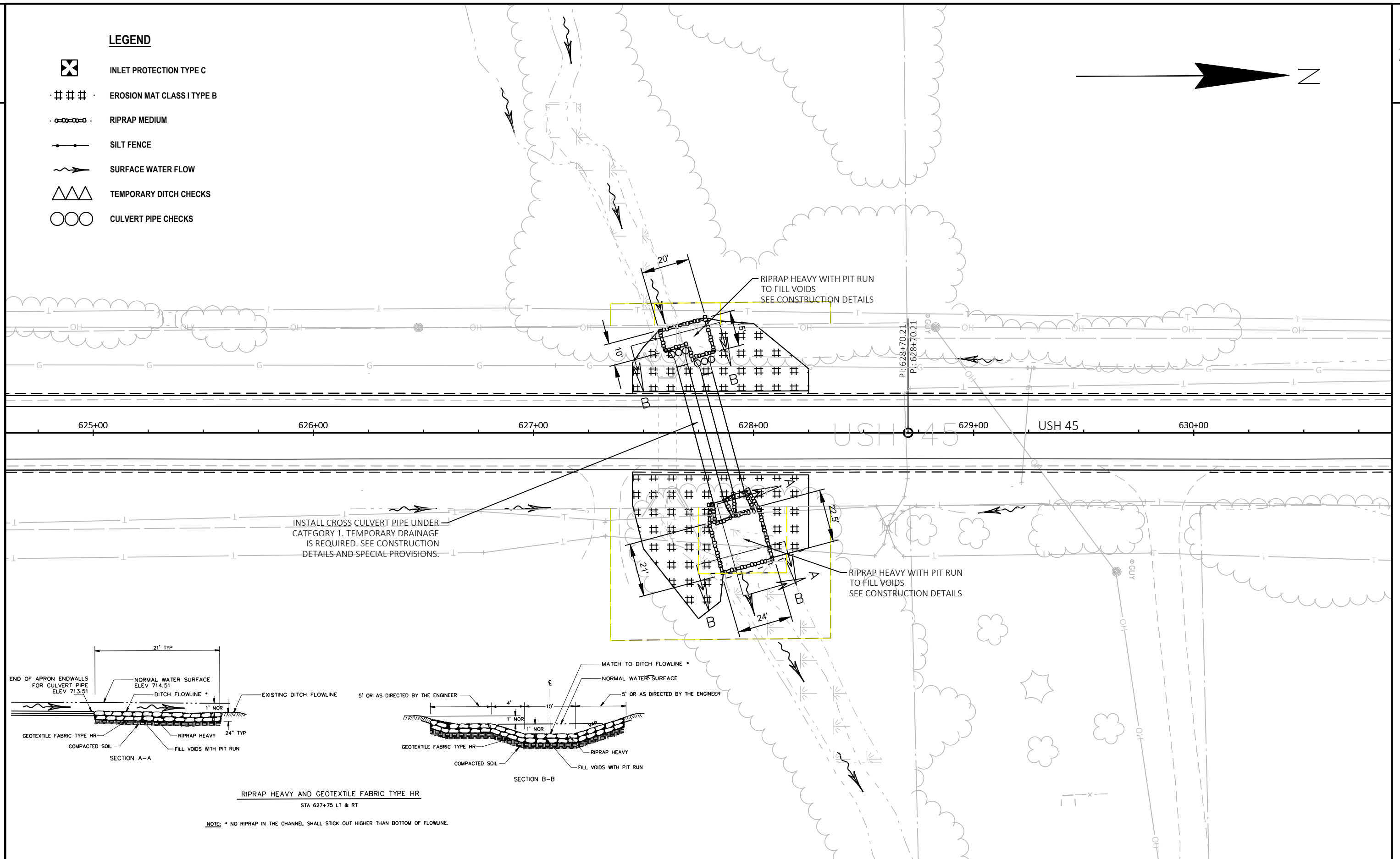


LEGEND

-  INLET PROTECTION TYPE C
-  EROSION MAT CLASS I TYPE B
-  RIPRAP MEDIUM
-  SILT FENCE
-  SURFACE WATER FLOW
-  TEMPORARY DITCH CHECKS
-  CULVERT PIPE CHECKS

LEGEND

-  INLET PROTECTION TYPE C
 EROSION MAT CLASS I TYPE B
 RIPRAP MEDIUM
 SILT FENCE
 SURFACE WATER FLOW
 TEMPORARY DITCH CHECKS
 CULVERT PIPE CHECKS



PROJECT NO: 3200-01-72

HWY: USH 45

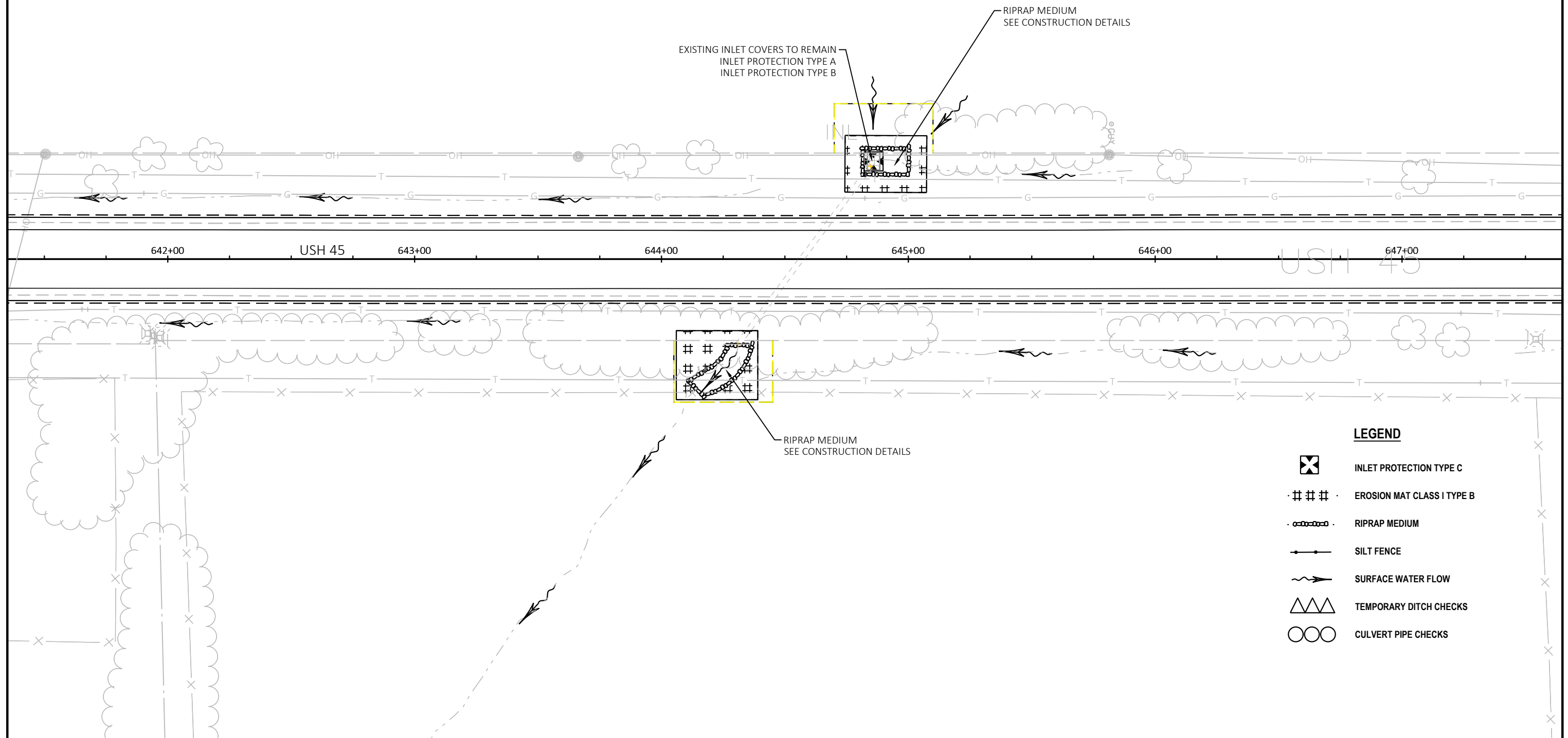
COUNTY: KENOSHA-RACINE

EROSION CONTROL

SHEET

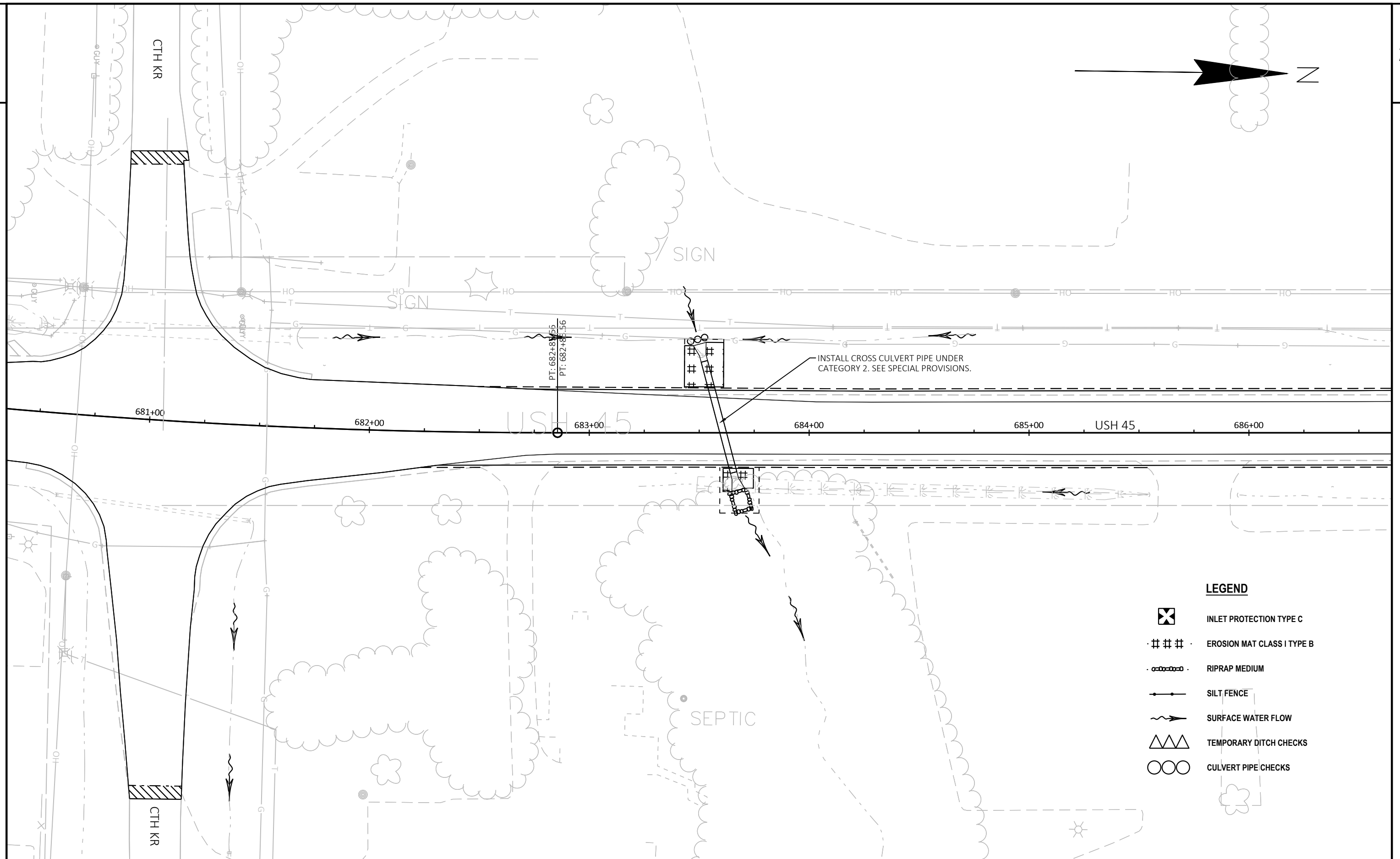
67

E



2

2 |



PROJECT NO:	3200-01-72
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HWY: USH 45

COUNTY: KENOSHA-RACINE

EROSION CONTROL

SHEET

69

E

FILE NAME : N:\PDS\C3D\32000102\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022016_ec

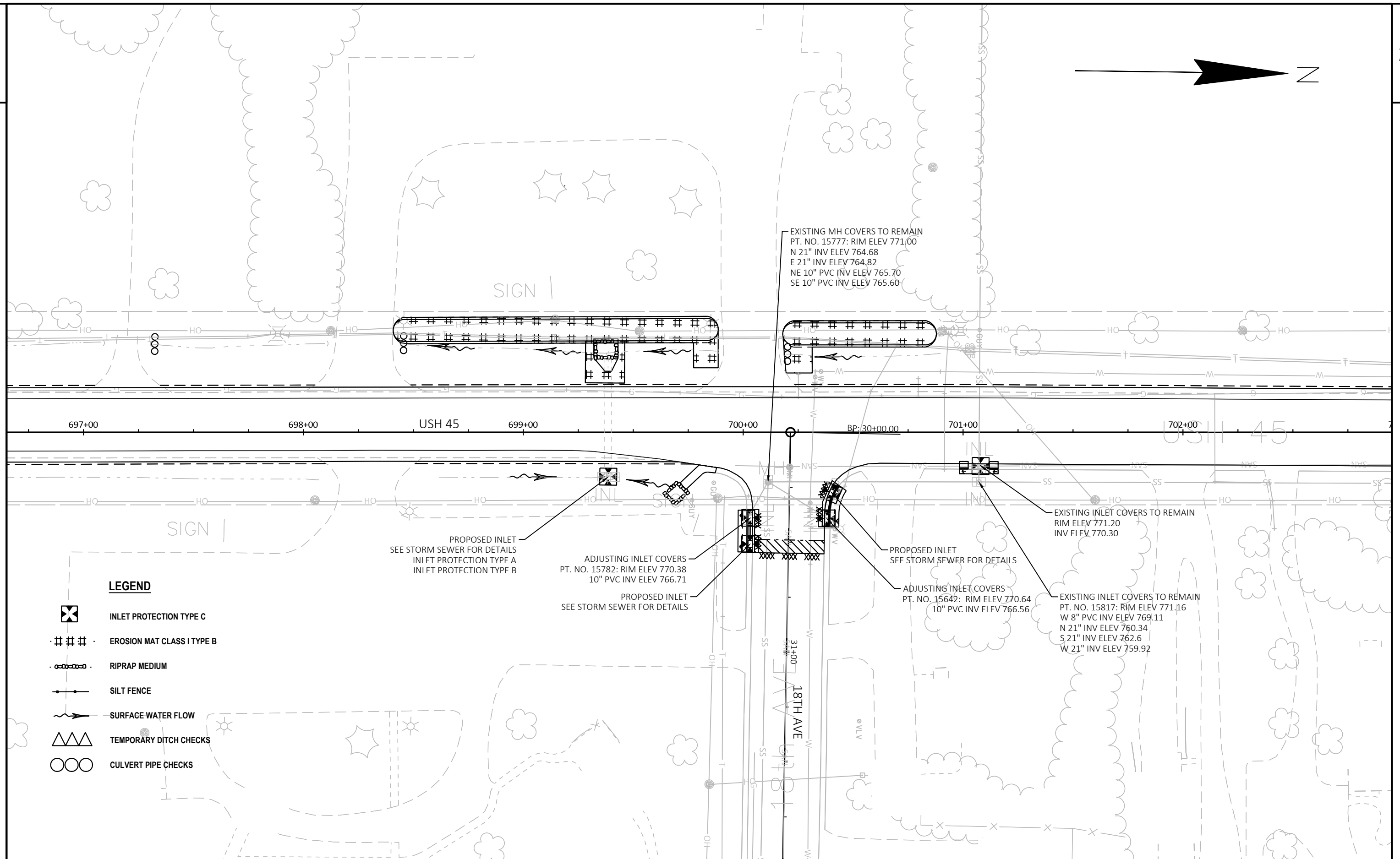
PLOT DATE : 4/30/2019 12:45 PM

PLOT BY : MATHENY, ROBERT B

PLOT NAME :

PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42



PROJECT NO: 3200-01-72

HWY: USH 45

COUNTY: KENOSHA-RACINE

EROSION CONTROL

SHEET

70

E

FILE NAME : N:\PDS\C3D\32000102\SHEETSPLAN\022001_EC.DWG
LAYOUT NAME - 022017_ec

PLOT DATE : 4/30/2019 12:46 PM

PLOT BY : MATHENY, ROBERT B

PLOT NAME :

PLOT SCALE : 1 IN=40 FT

WISDOT/CADDs SHEET 42

LEGEND



INLET PROTECTION TYPE C

• 井井井

EROSION MAT CLASS I TYPE B

• ~~SECRET~~ •

RIPRAP MEDIUM

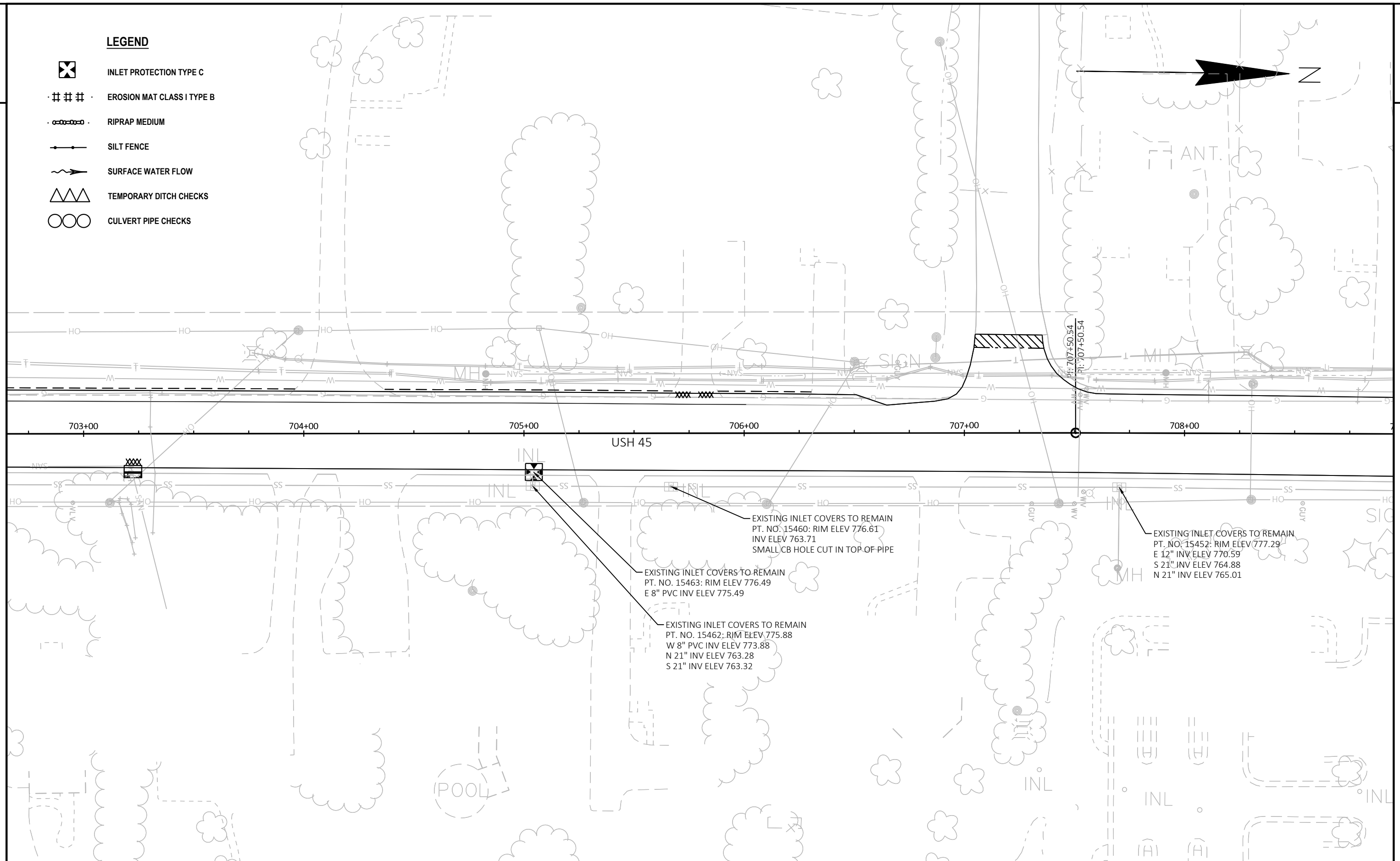
SILT FENCE

SURFACE WATER FLOW

TEMPORARY DITCH CHECKS

CULVERT PIPE CHECKS

2



PROJECT NO: 3200-01-72

HWY: USH 45

COUNTY: KENOSHA-RACINE

EROSION CONTROL

SHEET

71

E

FILE NAME : N:\PDS\C3D\32000102\SHEETSP\022001_EC.DWG
LAYOUT NAME - 022018_ec

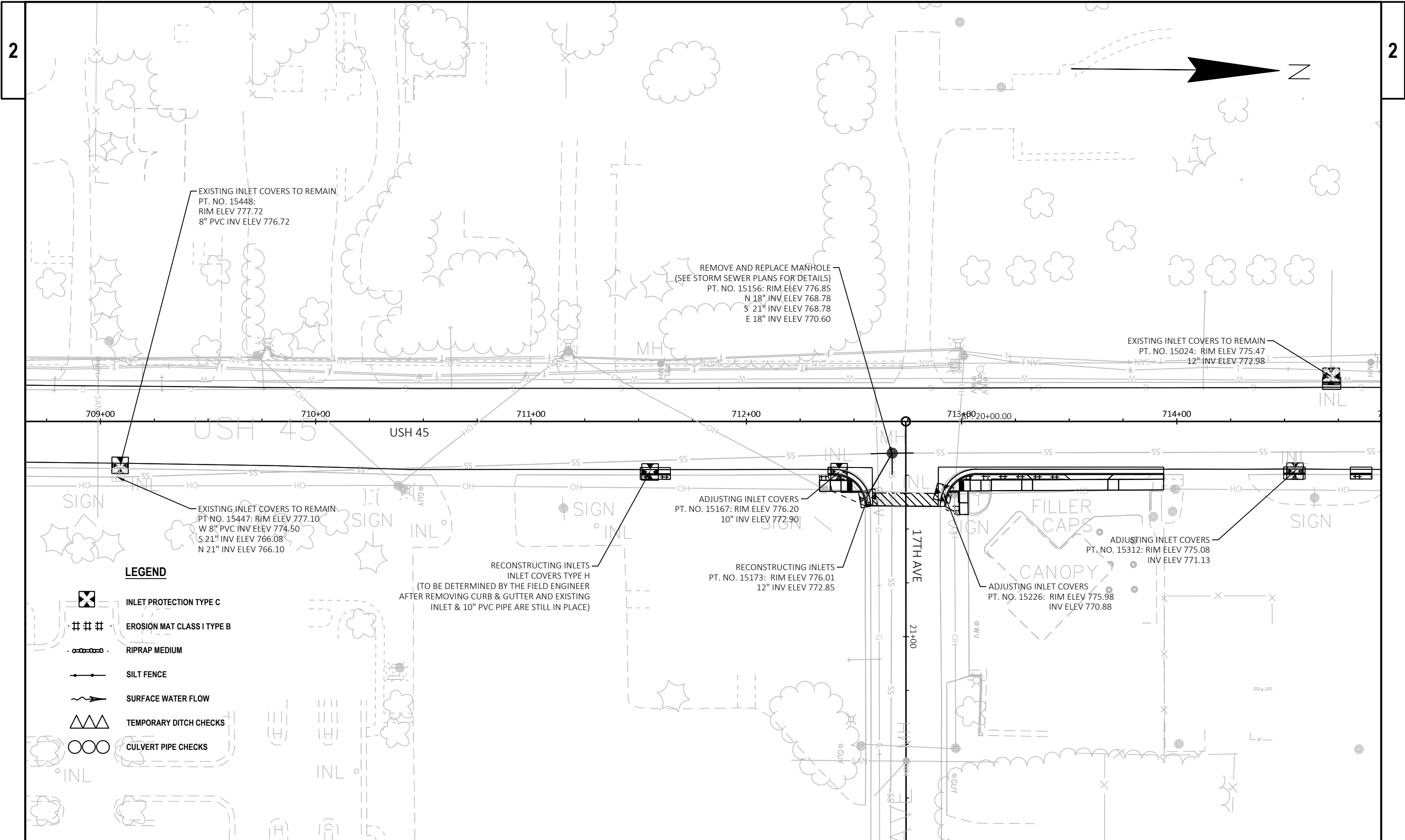
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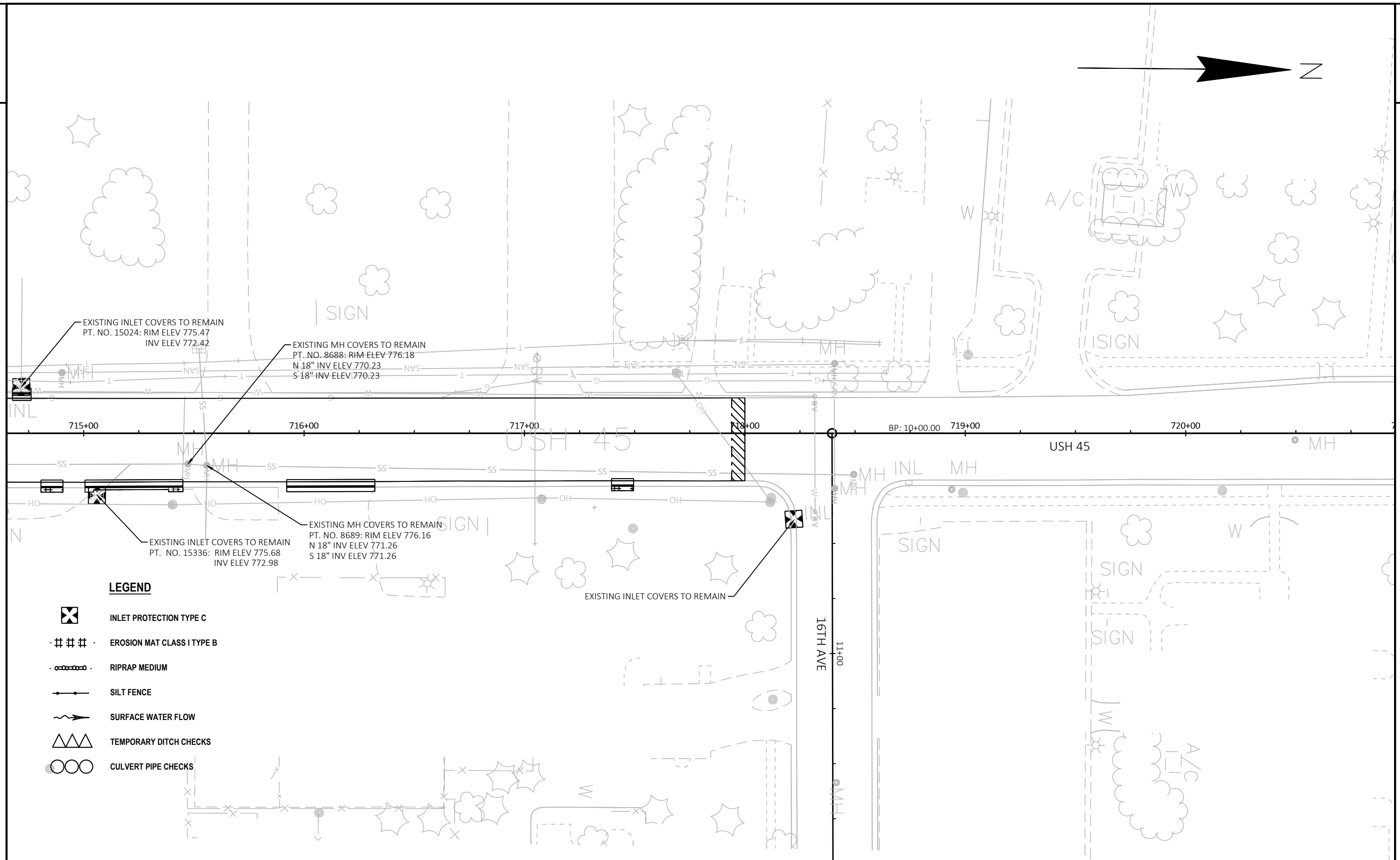
PLOT BY : MATHENY, ROBERT B

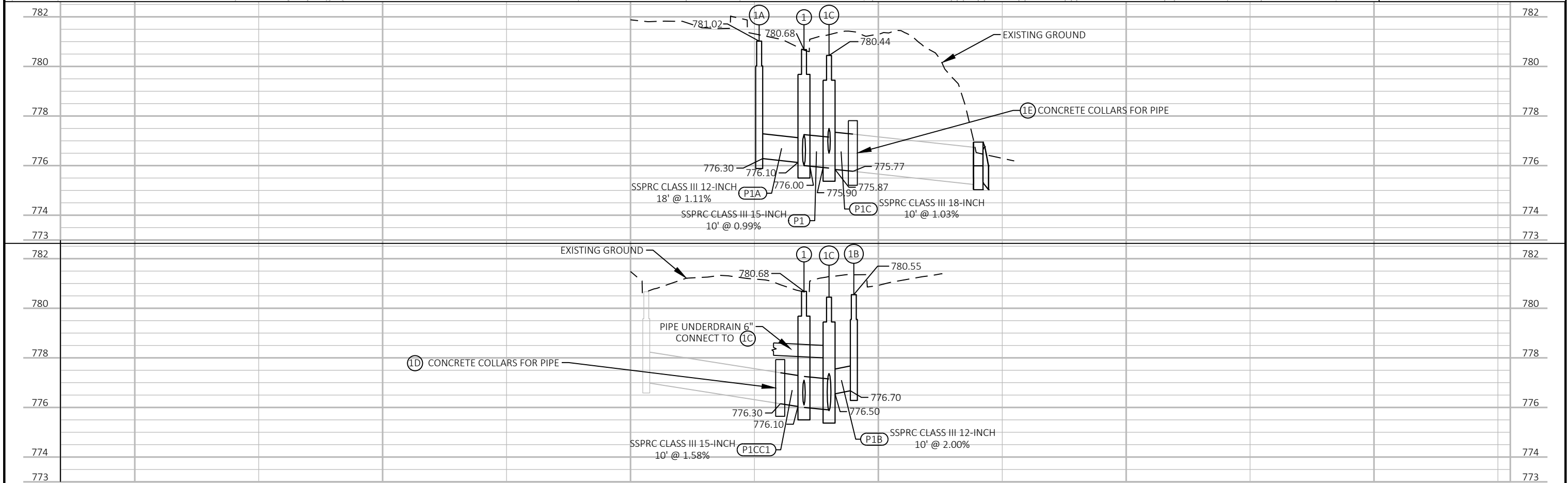
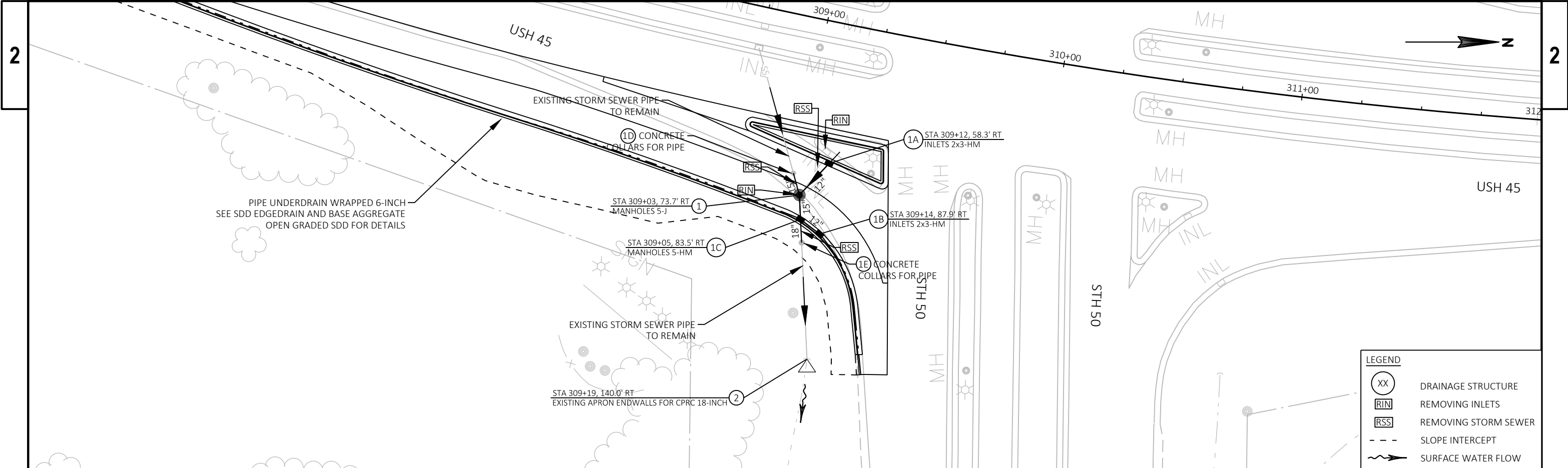
PLOT NAME :

PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42

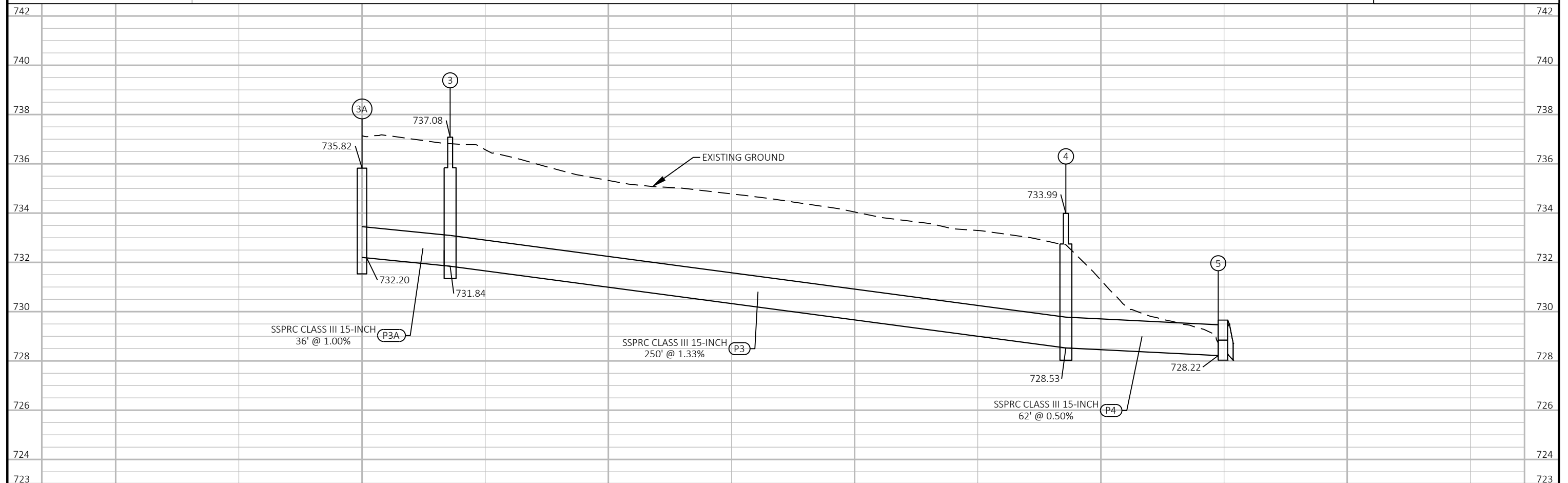
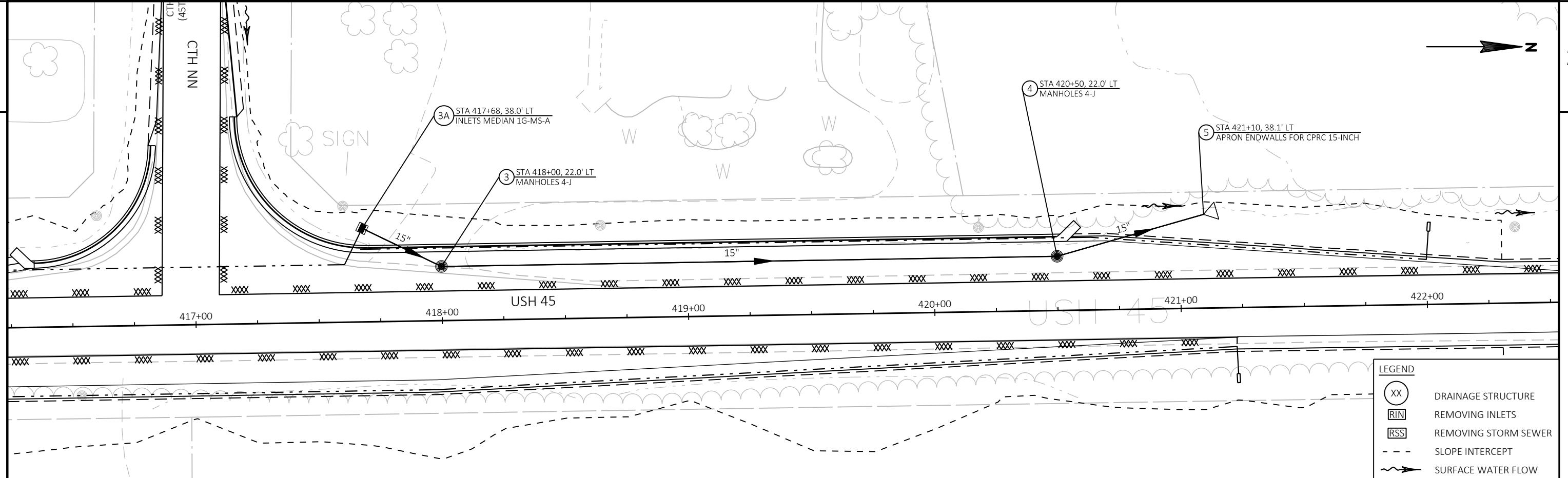


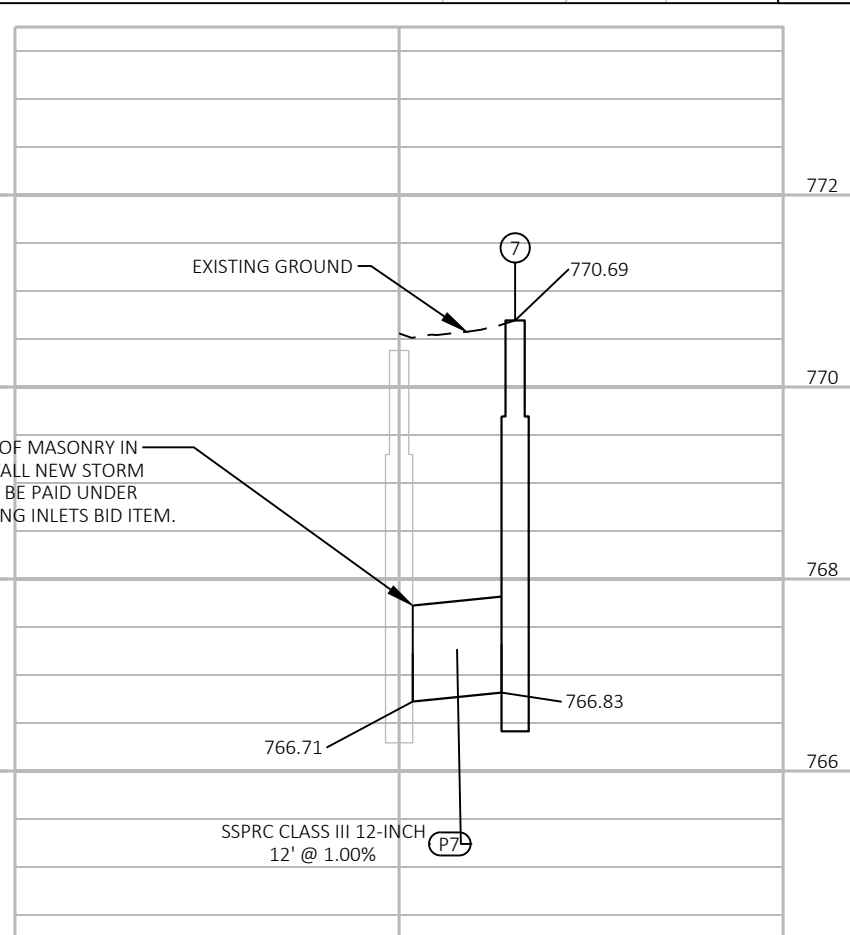
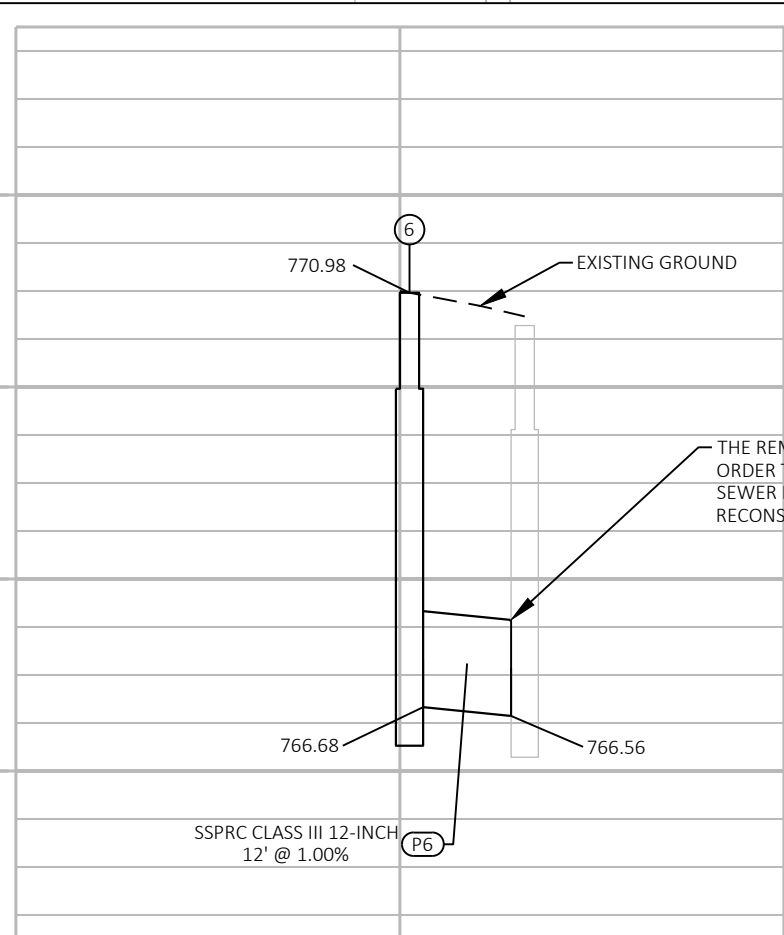
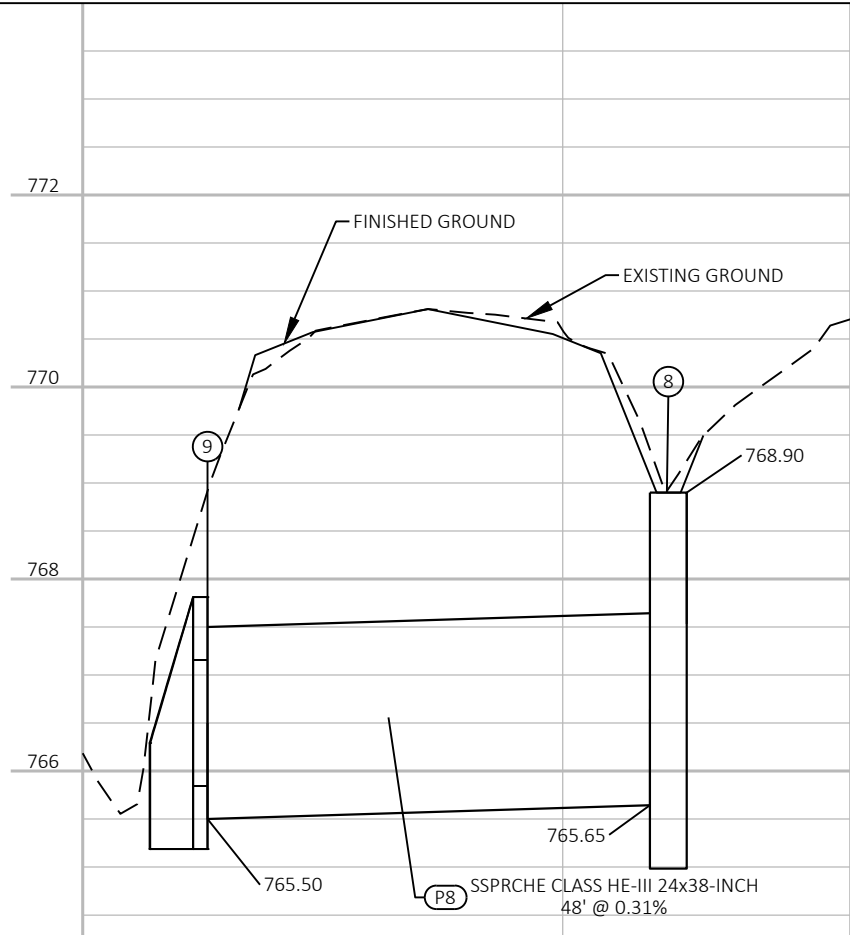
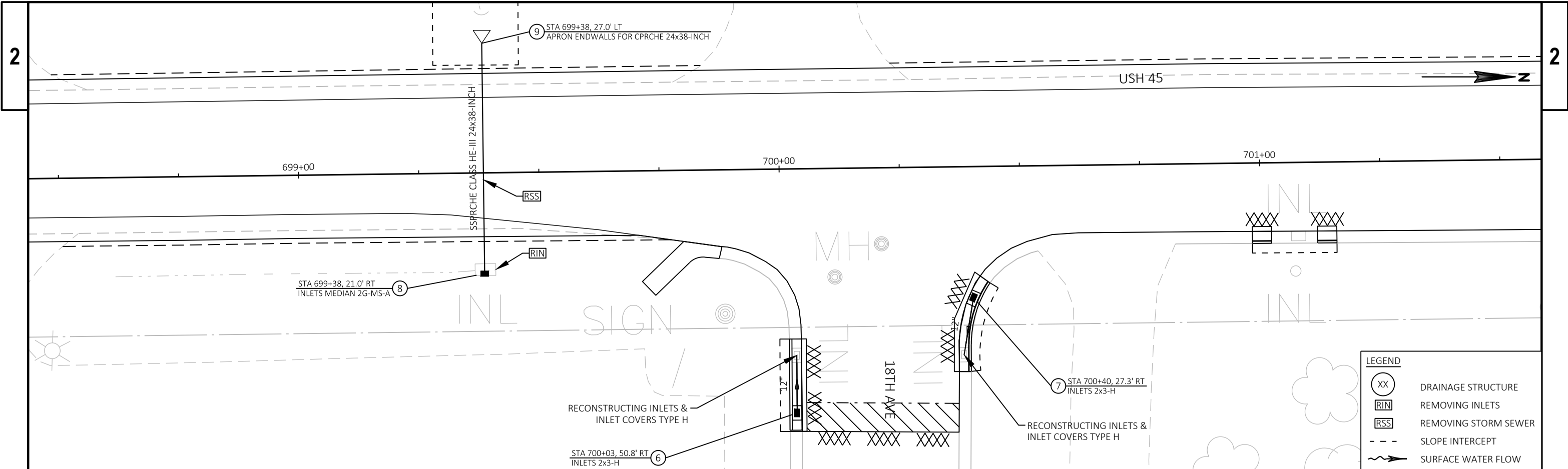


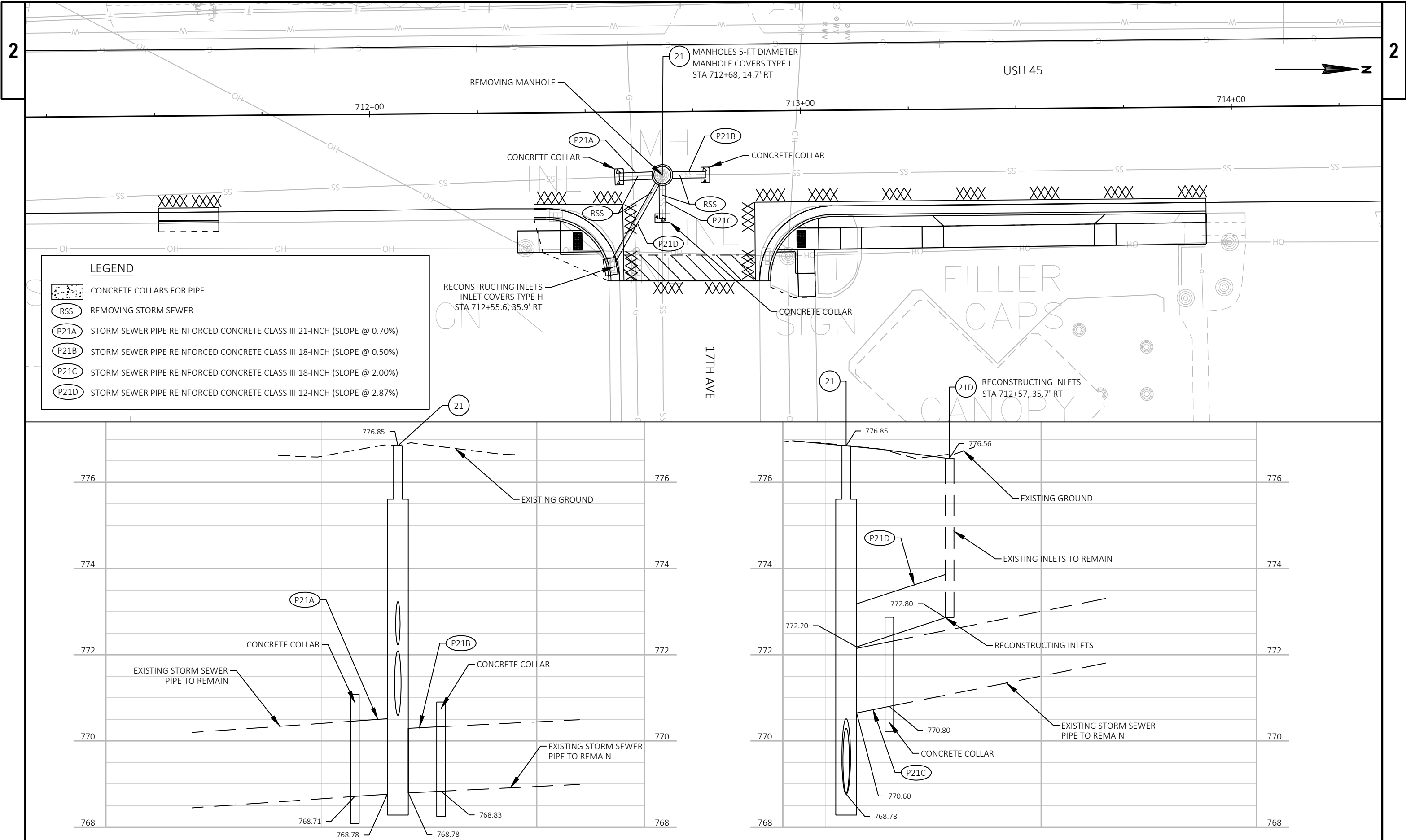


2

2







LEGEND

- CONCRETE COLLARS FOR PIPE
- RSS REMOVING STORM SEWER
- P21A STORM SEWER PIPE REINFORCED CONCRETE CLASS III 21-INCH (SLOPE @ 0.70%)
- P21B STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH (SLOPE @ 0.50%)
- P21C STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH (SLOPE @ 2.00%)
- P21D STORM SEWER PIPE REINFORCED CONCRETE CLASS III 12-INCH (SLOPE @ 2.87%)

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DENOTES SIGN NUMBER
- INDICATES SIGN SIZE
- EXISTING SIGN TO REMAIN

SIGNING NOTES

TYPE II ALUMINUM SIGNS REMOVED UNDER THE CONTRACT SHALL BE DELIVERED TO THE COUNTY SIGN SHOP. CONTACT THE FOLLOWING INDIVIDUAL AT THE SIGN SHOP FOR DISTRIBUTION COUNTY LOCATION.
SIGNING COORDINATOR COUNTY(S) PHONE #
• DENNIS NEWTON RACINE 414-750-0257
• JENNY BUCKETT KENOSHA 414-750-2427

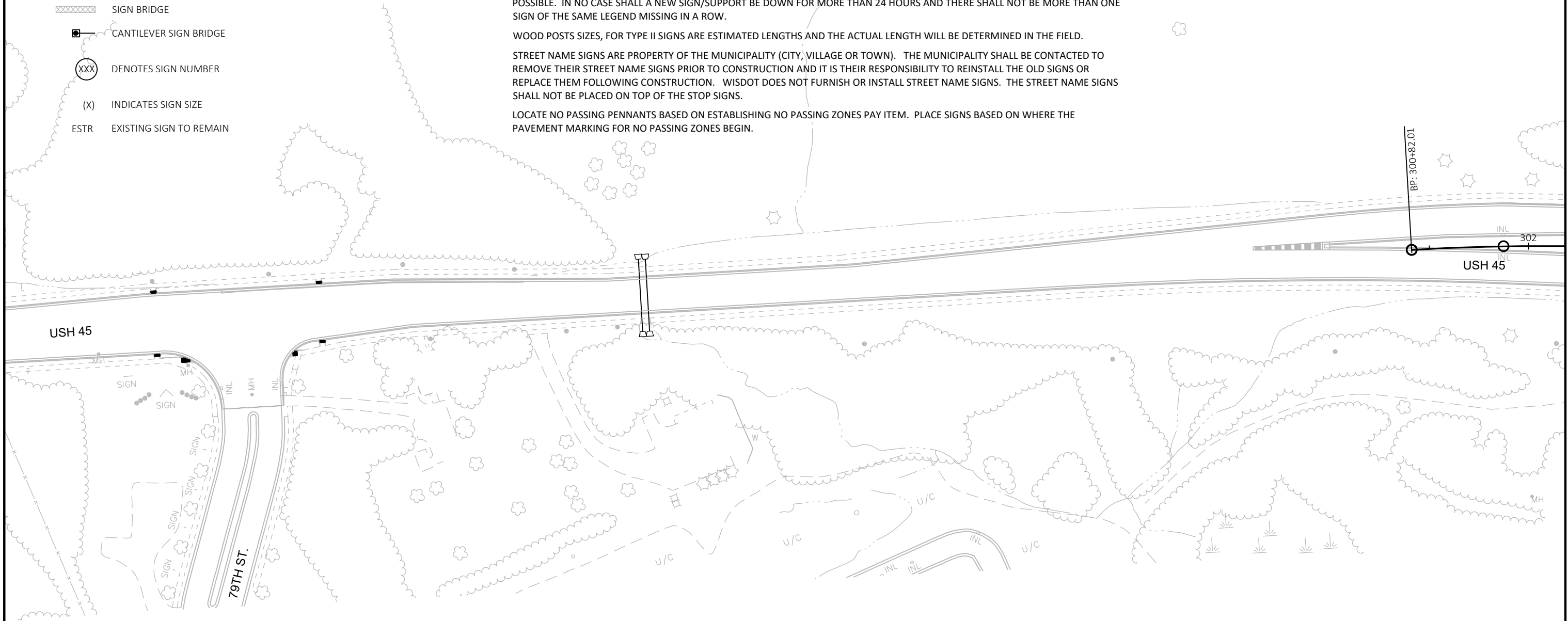
SIGNS SHALL BE CAREFULLY REMOVED FROM SIGN SUPPORTS. THE SIGNS SHALL BE PALLETIZED FOR HANDLING WITH A FORKLIFT (SEE STANDARD SPEC 638.3.4). THE REGIONAL SIGN SHOP (GENERAL PHONE # 414-266-1165) SHALL BE NOTIFIED THREE WORKING DAYS PRIOR TO DELIVERY OF THE SIGNS.

WHEN AN EXISTING STOP SIGN 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.

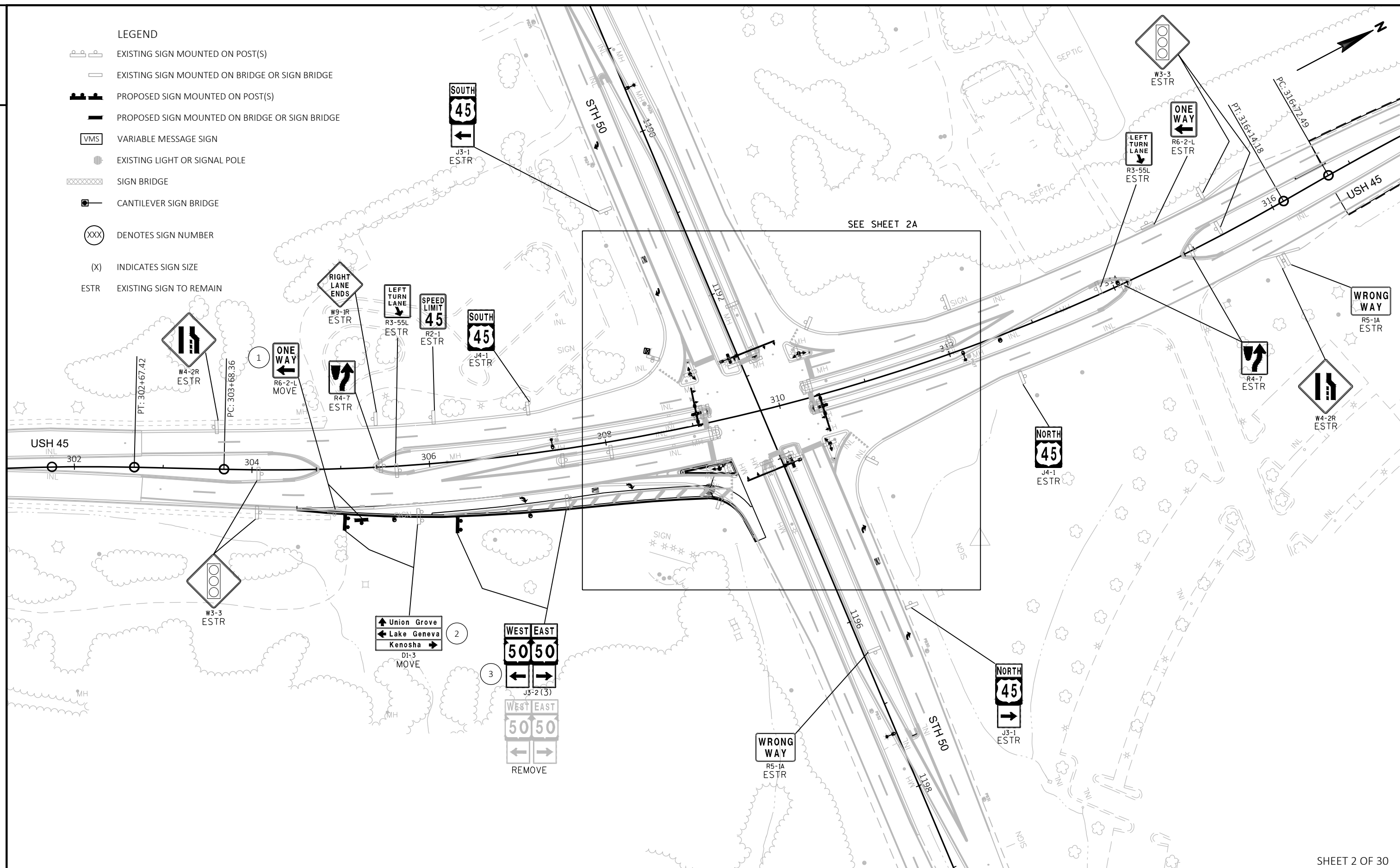
WOOD POSTS SIZES, FOR TYPE II SIGNS ARE ESTIMATED LENGTHS AND THE ACTUAL LENGTH WILL BE DETERMINED IN THE FIELD.

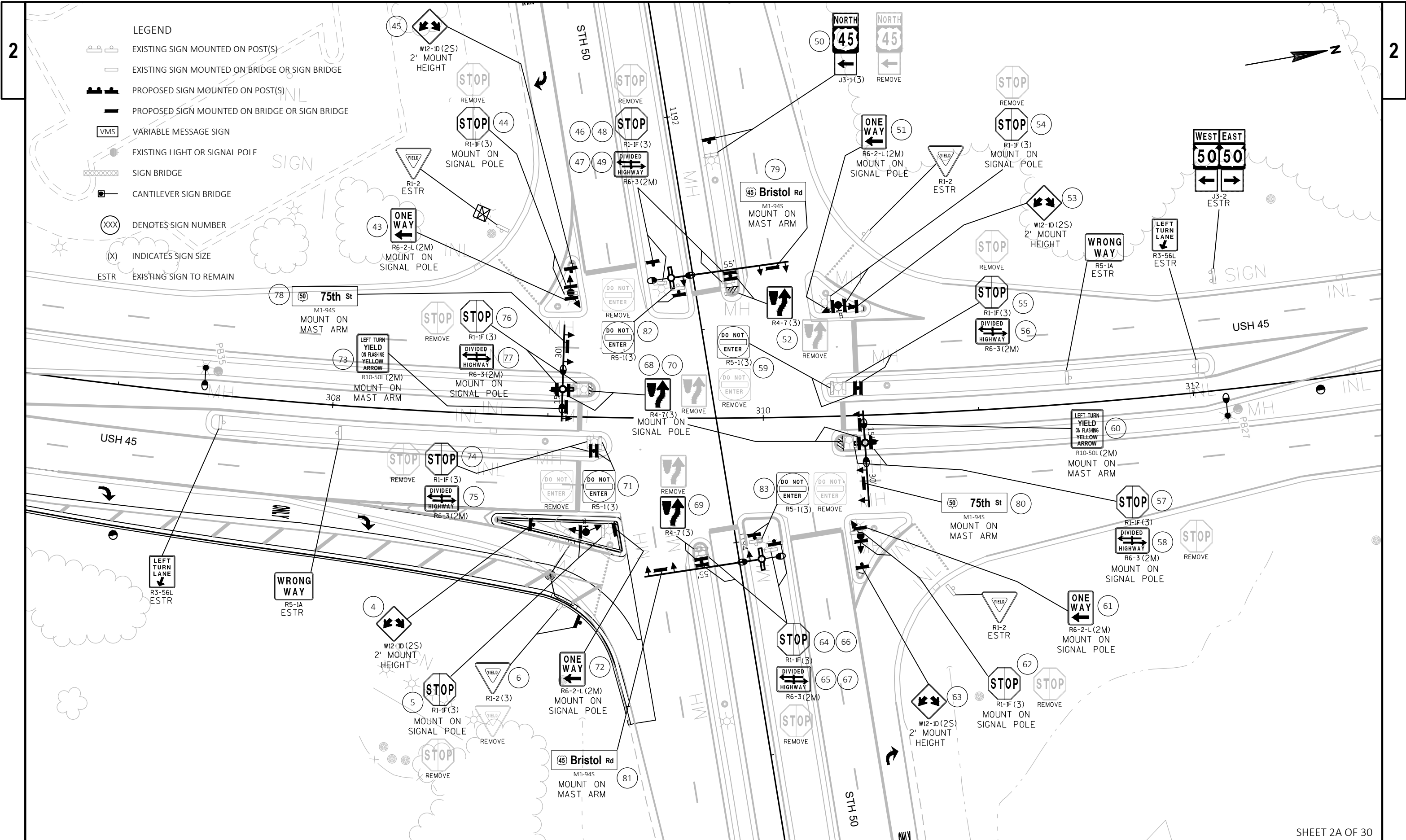
STREET NAME SIGNS ARE PROPERTY OF THE MUNICIPALITY (CITY, VILLAGE OR TOWN). THE MUNICIPALITY SHALL BE CONTACTED TO REMOVE THEIR STREET NAME SIGNS PRIOR TO CONSTRUCTION AND IT IS THEIR RESPONSIBILITY TO REINSTALL THE OLD SIGNS OR REPLACE THEM FOLLOWING CONSTRUCTION. WISDOT DOES NOT FURNISH OR INSTALL STREET NAME SIGNS. THE STREET NAME SIGNS SHALL NOT BE PLACED ON TOP OF THE STOP SIGNS.

LOCATE NO PASSING PENNANTS BASED ON ESTABLISHING NO PASSING ZONES PAY ITEM. PLACE SIGNS BASED ON WHERE THE PAVEMENT MARKING FOR NO PASSING ZONES BEGIN.



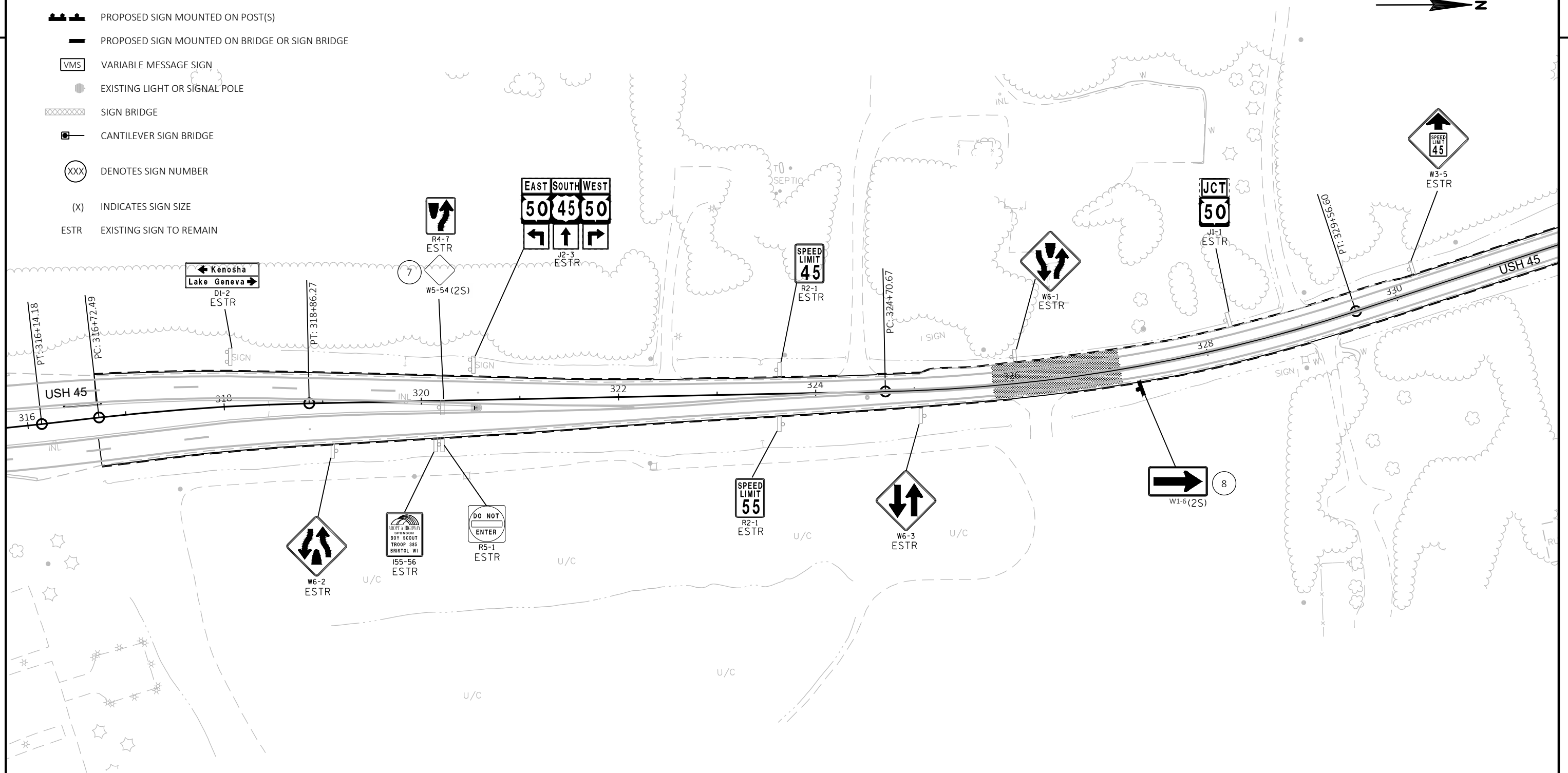
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	EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
	PROPOSED SIGN MOUNTED ON POST(S)
	PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
	VARIABLE MESSAGE SIGN
	EXISTING LIGHT OR SIGNAL POLE
	SIGN BRIDGE
	CANTILEVER SIGN BRIDGE
	DENOTES SIGN NUMBER
(X)	INDICATES SIGN SIZE
ESTR	EXISTING SIGN TO REMAIN





LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
 EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
 PROPOSED SIGN MOUNTED ON POST(S)
 PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
 VARIABLE MESSAGE SIGN
 EXISTING LIGHT OR SIGNAL POLE
 SIGN BRIDGE
 CANTILEVER SIGN BRIDGE
 DENOTES SIGN NUMBER
(X) INDICATES SIGN SIZE
ESTR EXISTING SIGN TO REMAIN



SHEET 3 OF 30

PROJECT NO: 3200-01-72

HWY: USH 45

COUNTY: KENOSHA/RACINE

PERMANENT SIGNING PLAN

SHEET

81

E

FILE NAME : N:\PDS\C3D\CAD\32000102\SIGN\023201_PS_16.DWG
LAYOUT NAME - 023203_PS

PLOT DATE : 1/17/2019 1:00 PM

PLOT BY : MARTENS, KAREN L

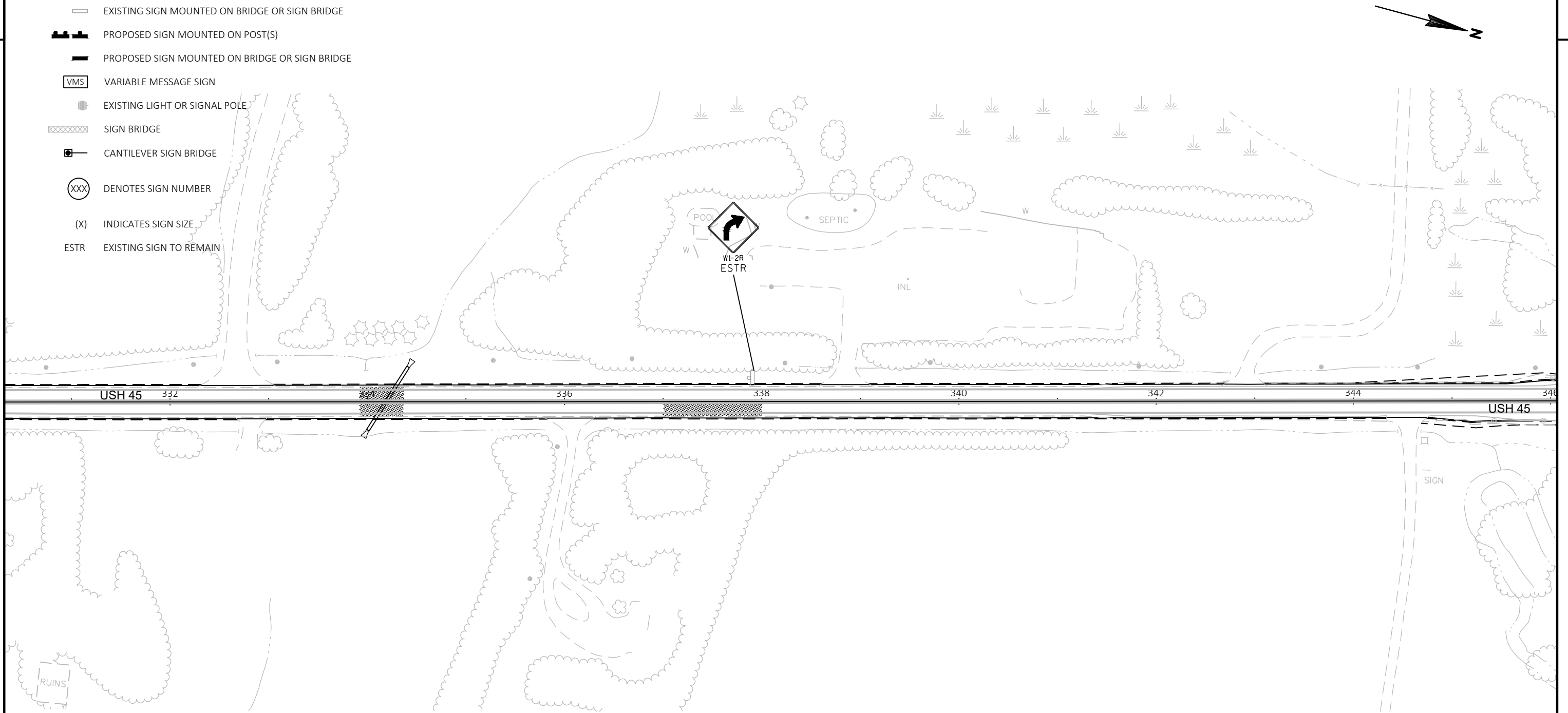
PLOT NAME :

PLOT SCALE : 1 IN:100 FT

WISDOT/CADDs SHEET 42

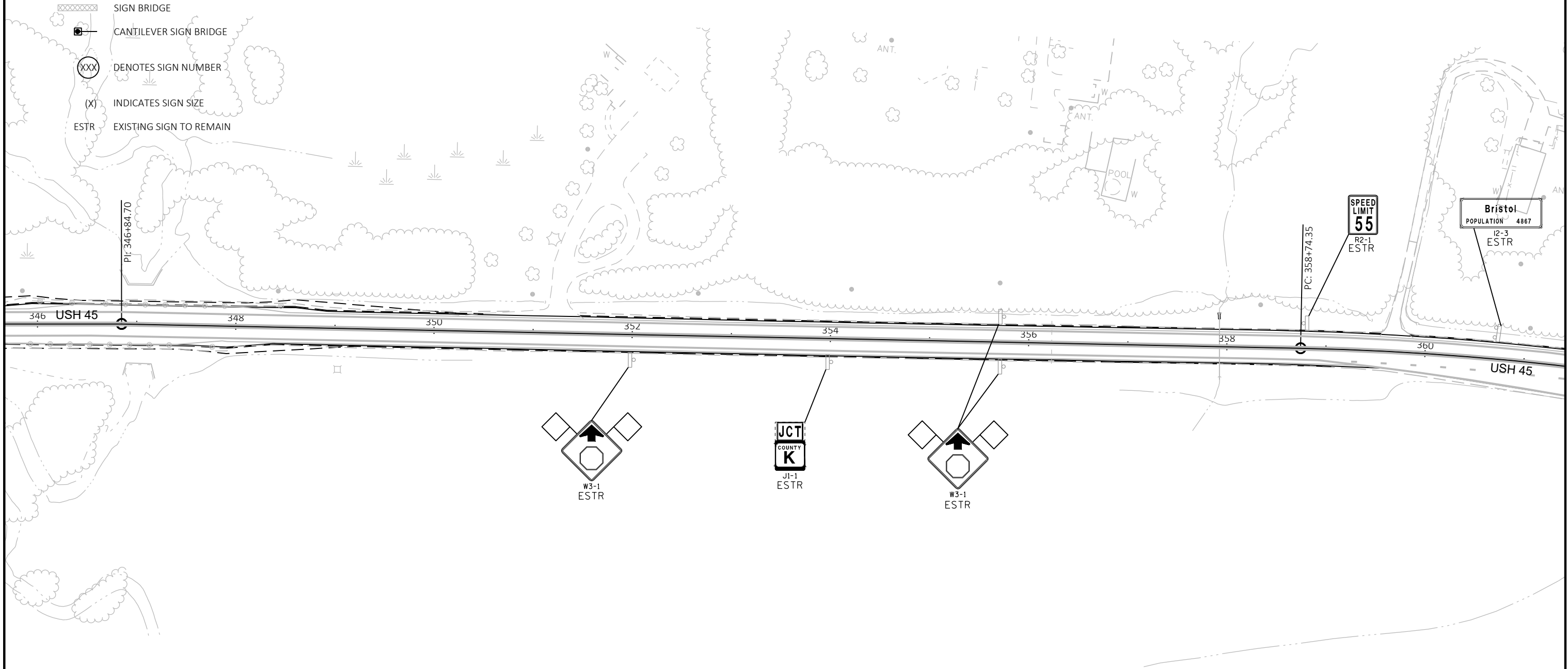
LEGEND

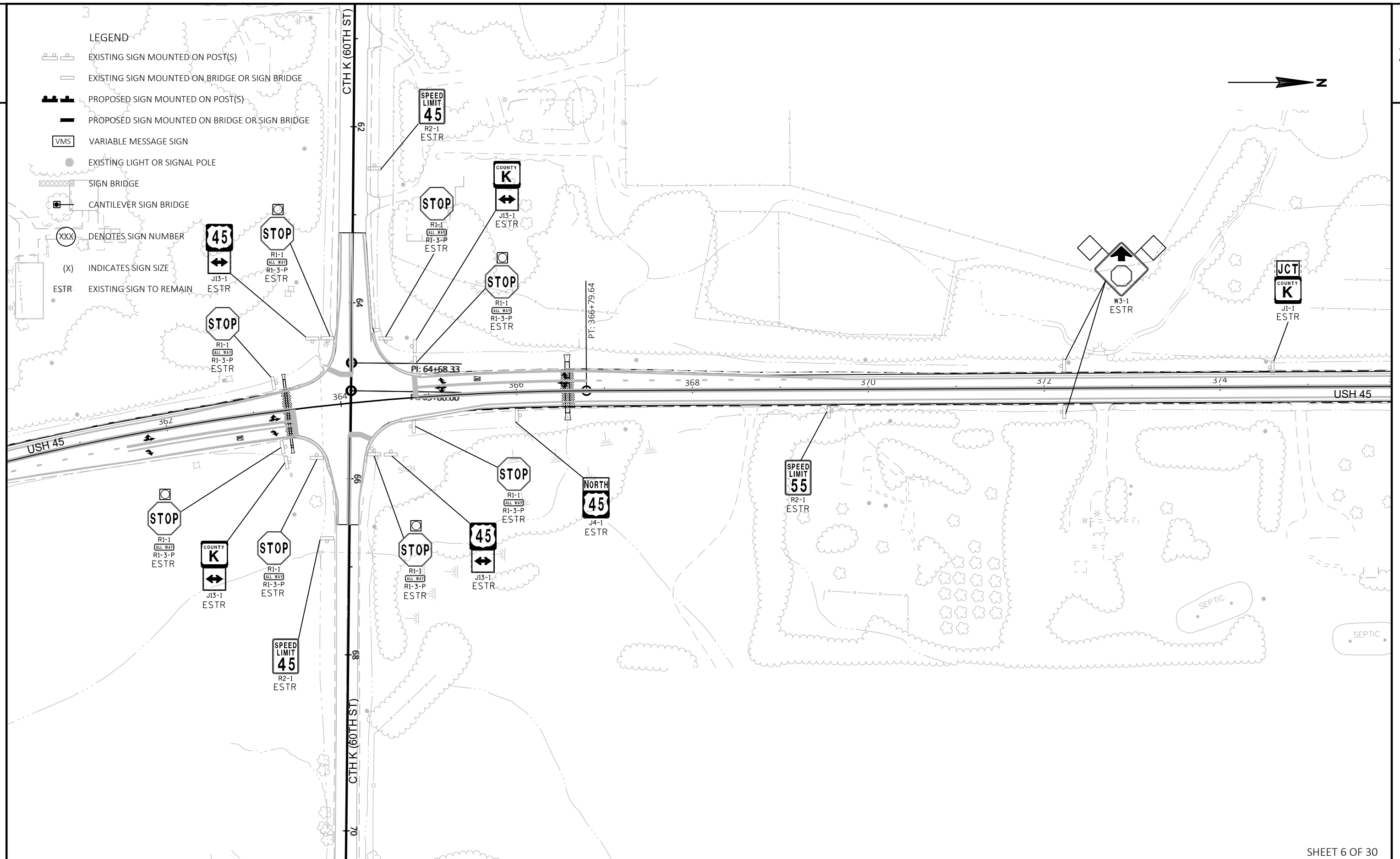
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- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DENOTES SIGN NUMBER
- INDICATES SIGN SIZE
- EXISTING SIGN TO REMAIN



LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DENOTES SIGN NUMBER
- INDICATES SIGN SIZE
- EXISTING SIGN TO REMAIN





SHEET 6 OF 30

PROJECT NO: 3200-01-72

HWY: USH 45

COUNTY: KENOSHA/RACINE

PERMANENT SIGNING PLAN

SHEET

84

E

FILE NAME : N:\PDS\C3D\CAD\32000102\SIGN\023201_PS_16.DWG
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PLOT DATE : 1/17/2019 1:01 PM

PLOT BY : MARTENS, KAREN L

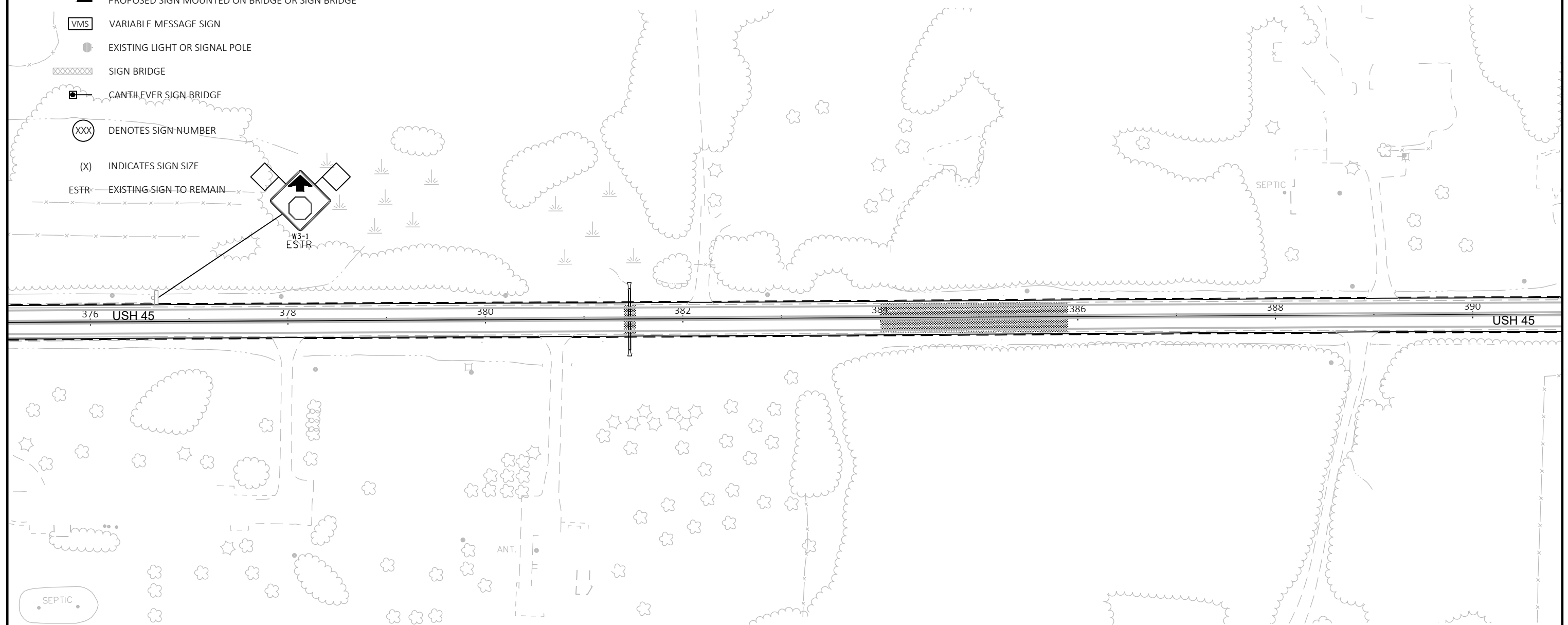
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PLOT SCALE : 1 IN:100 FT

WISDOT/CADDs SHEET 42

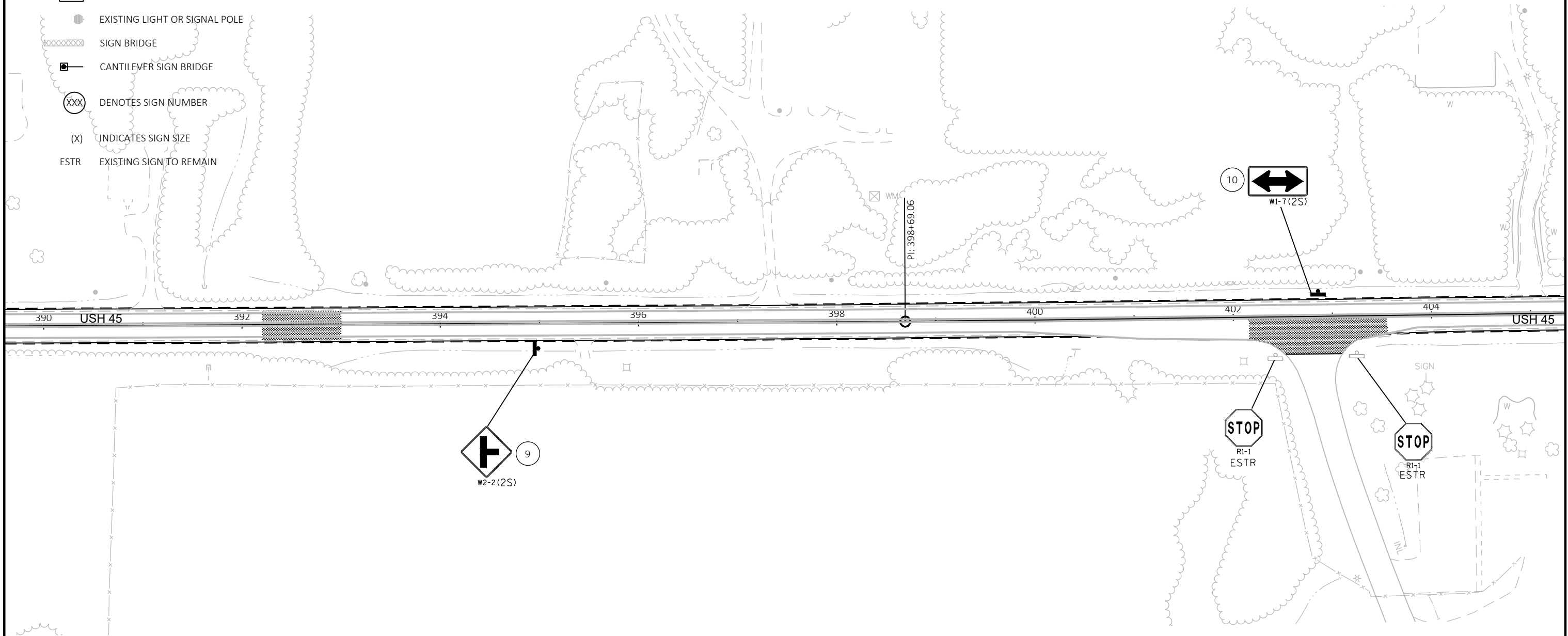
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- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DENOTES SIGN NUMBER
- INDICATES SIGN SIZE
- EXISTING SIGN TO REMAIN



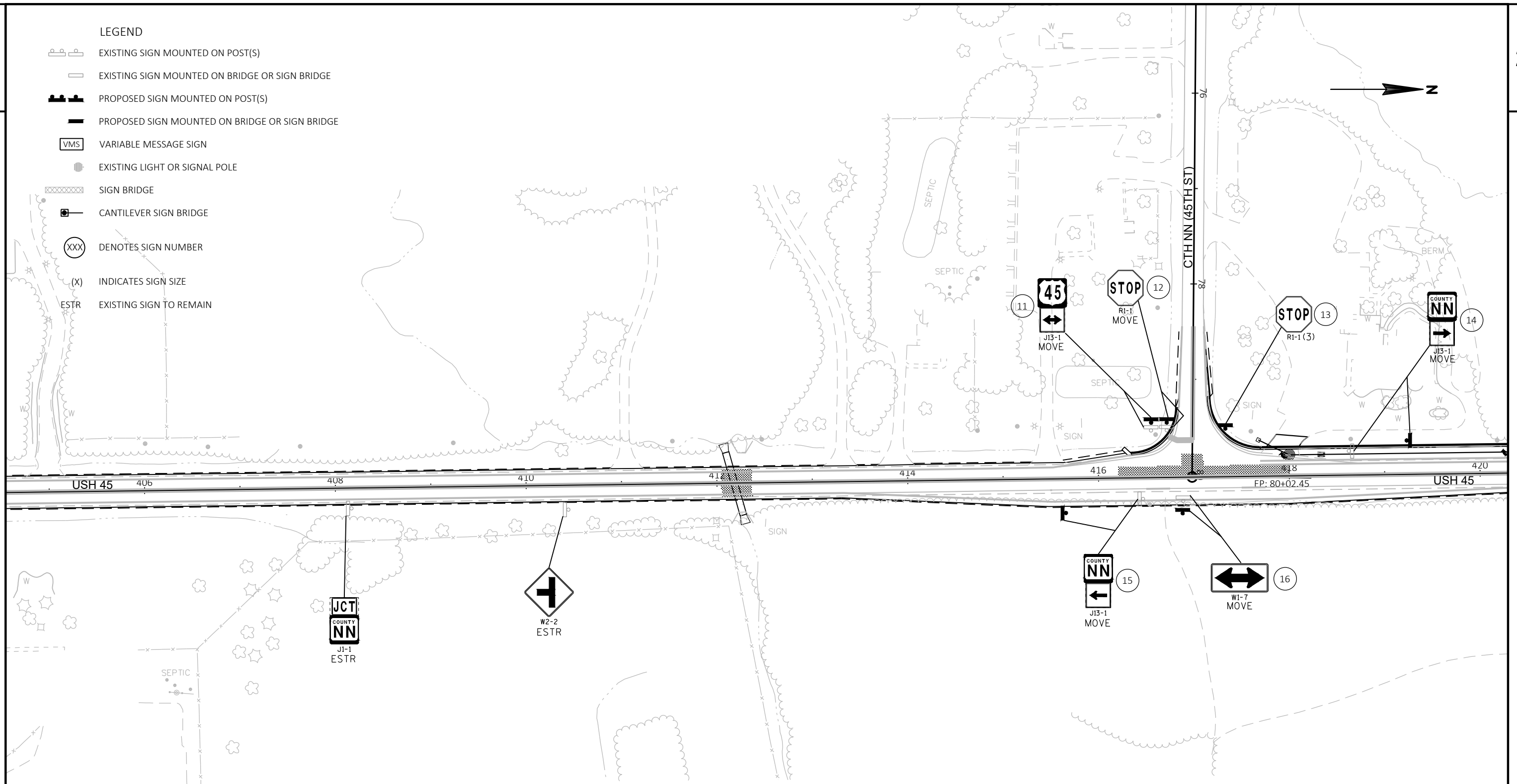
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- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DENOTES SIGN NUMBER
- INDICATES SIGN SIZE
- EXISTING SIGN TO REMAIN



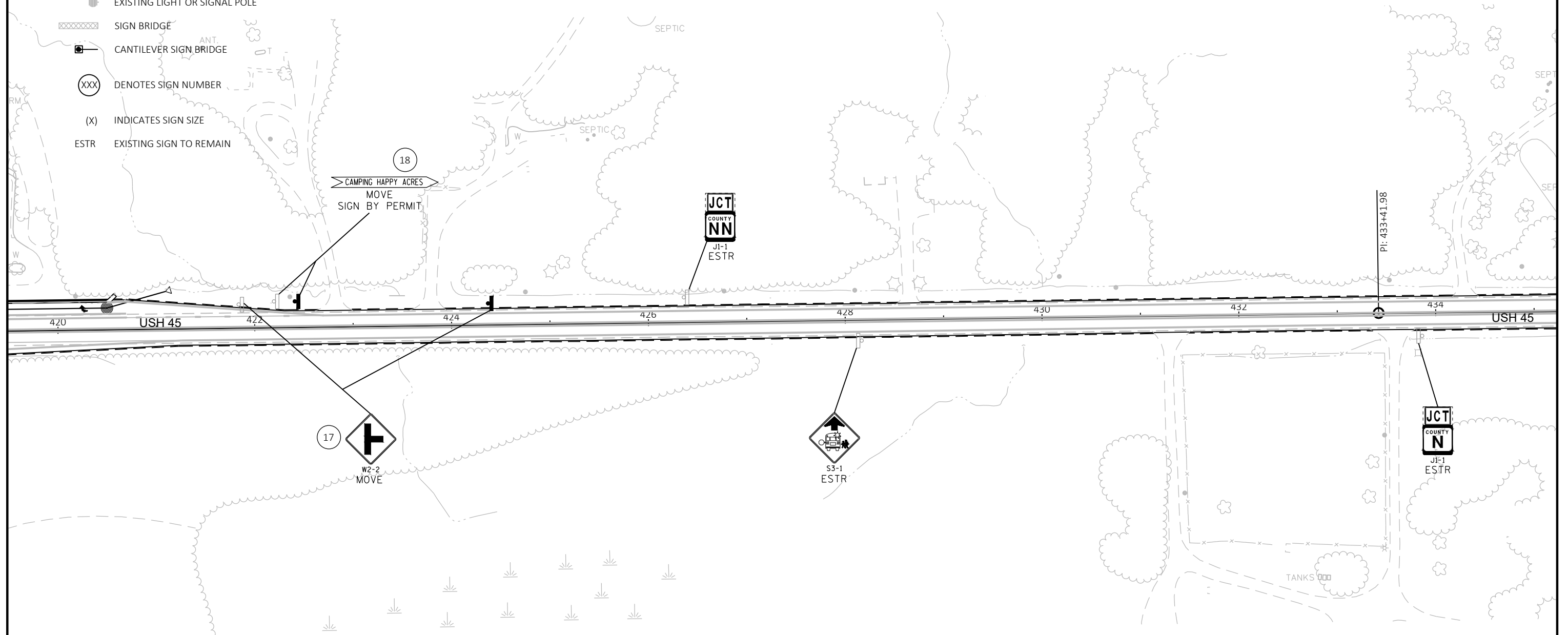
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-  PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
-  VARIABLE MESSAGE SIGN
-  EXISTING LIGHT OR SIGNAL POLE
-  SIGN BRIDGE
-  CANTILEVER SIGN BRIDGE
-  DENOTES SIGN NUMBER
-  INDICATES SIGN SIZE
-  EXISTING SIGN TO REMAIN



LEGEND

-  EXISTING SIGN MOUNTED ON POST(S)
-  EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
-  PROPOSED SIGN MOUNTED ON POST(S)
-  PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
-  VARIABLE MESSAGE SIGN
-  EXISTING LIGHT OR SIGNAL POLE
-  SIGN BRIDGE
-  CANTILEVER SIGN BRIDGE
-  (XXX) DENOTES SIGN NUMBER
-  (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN



SHEET 10 OF 30

PROJECT NO: 3200-01-72

HWY: USH 45

COUNTY: KENOSHA/RACINE

PERMANENT SIGNING PLAN

SHEET

88

E

FILE NAME : N:\PDS\C3D\CAD\32000102\SIGN\023201_PS_16.DWG
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PLOT DATE : 1/17/2019 1:01 PM

PLOT BY : MARTENS, KAREN L

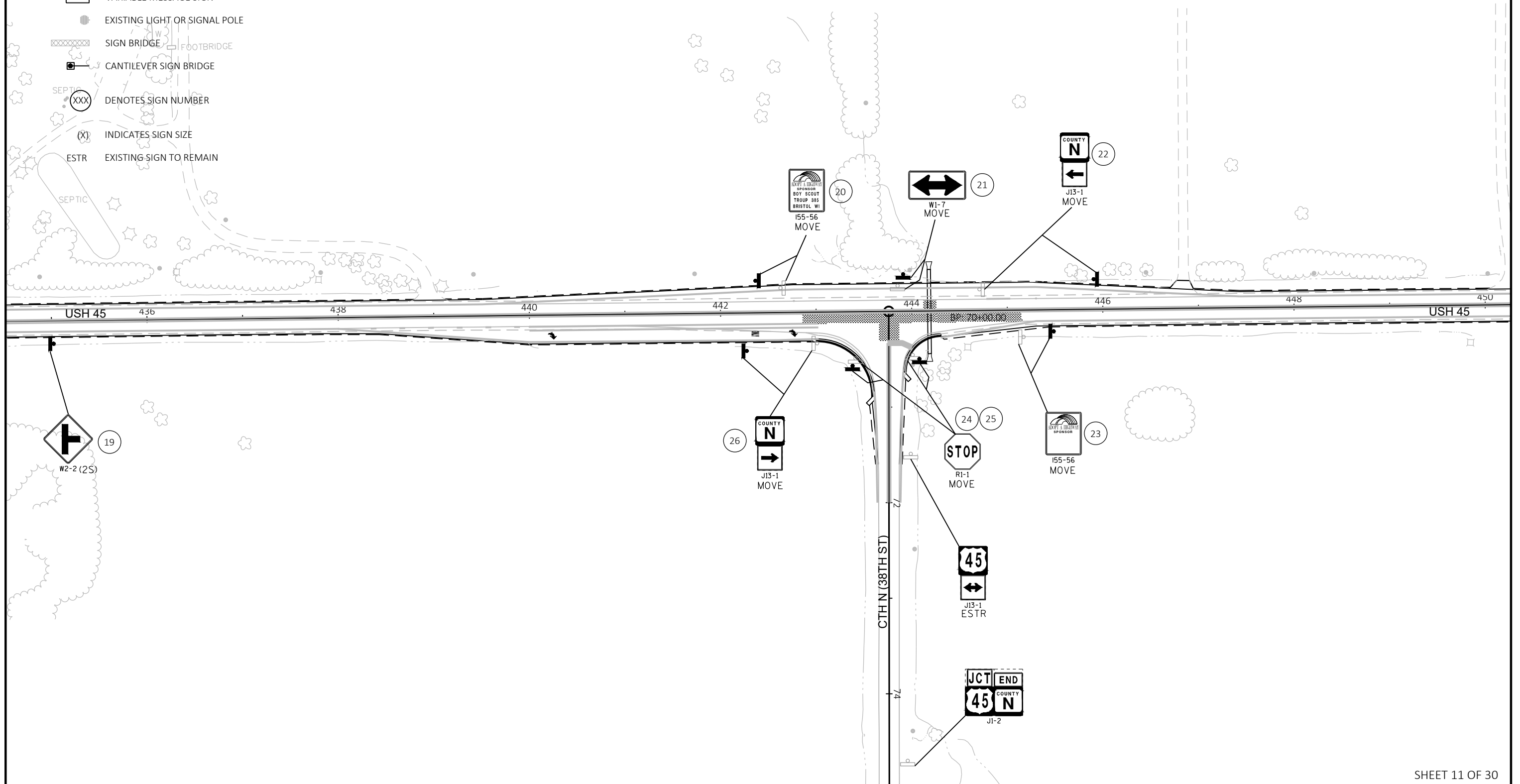
PLOT NAME :

PLOT SCALE : 1 IN:100 FT

WISDOT/CADDs SHEET 42

LEGEND

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-  PROPOSED SIGN MOUNTED ON POST(S)
-  PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
-  VARIABLE MESSAGE SIGN
-  EXISTING LIGHT OR SIGNAL POLE
-  SIGN BRIDGE
-  FOOTBRIDGE
-  CANTILEVER SIGN BRIDGE
-  DENOTES SIGN NUMBER
-  INDICATES SIGN SIZE
-  EXISTING SIGN TO REMAIN



SHEET 11 OF 30

PROJECT NO: 3200-01-72

HWY: USH 45

COUNTY: KENOSHA/RACINE

PERMANENT SIGNING PLAN

SHEET

89

E

FILE NAME : N:\PDS\C3D\CAD\32000102\SIGN\023201_PS_16.DWG
LAYOUT NAME - 023211_PS

PLOT DATE : 1/17/2019 1:01 PM

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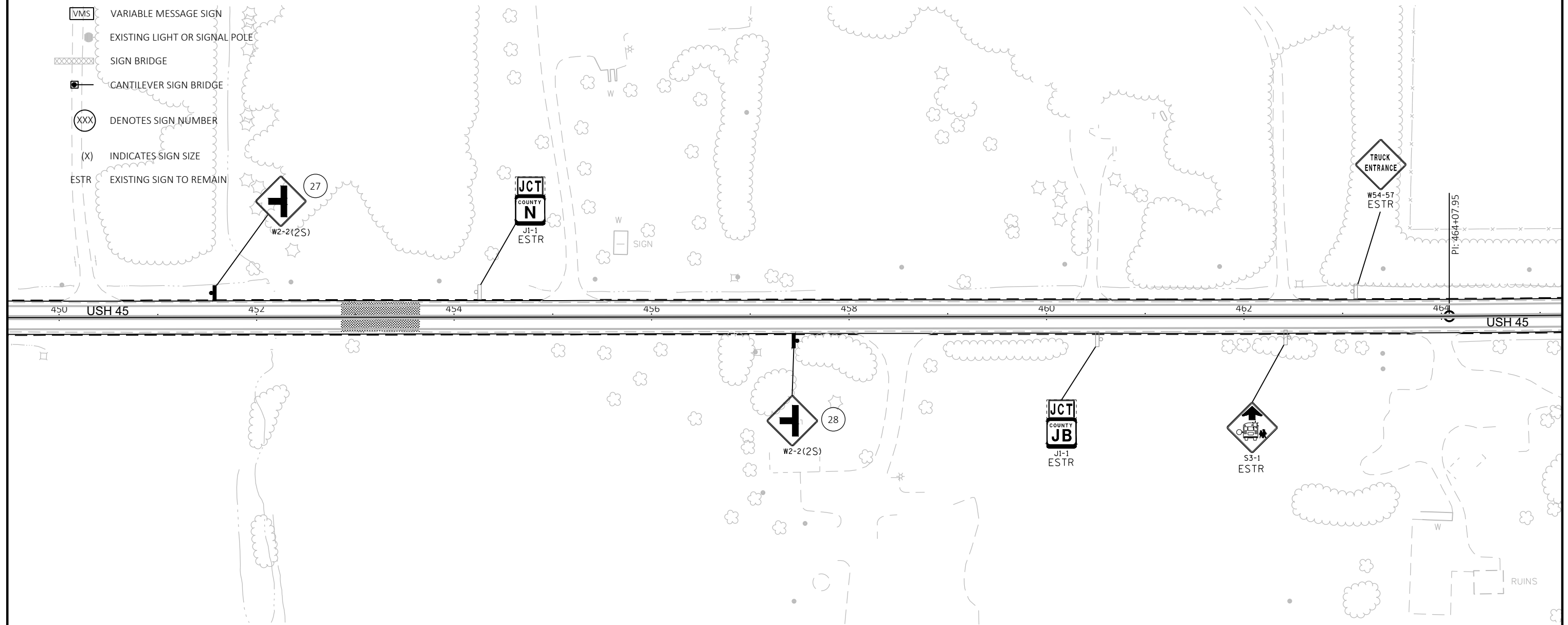
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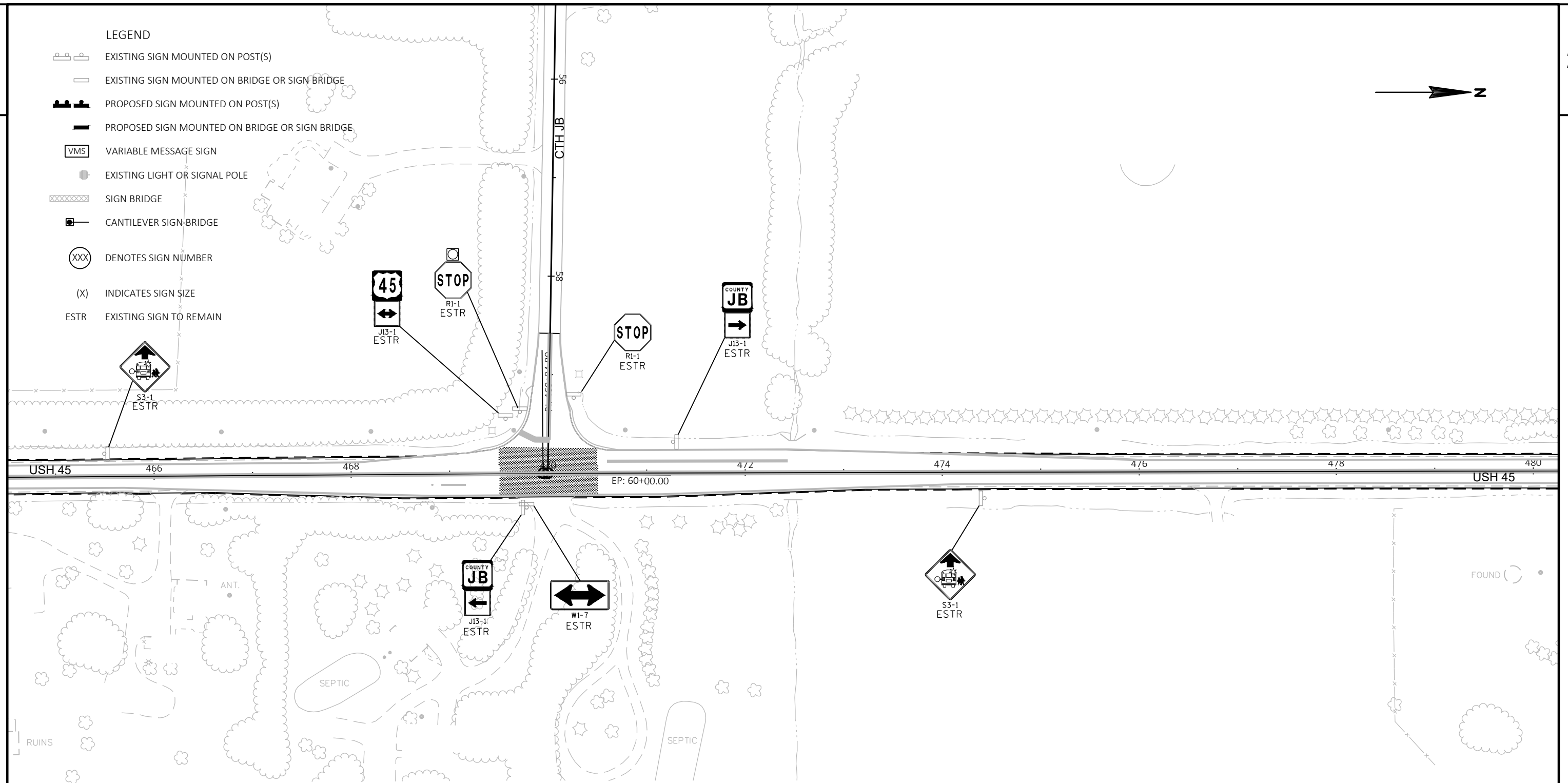
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WISDOT/CADDs SHEET 42

LEGEND

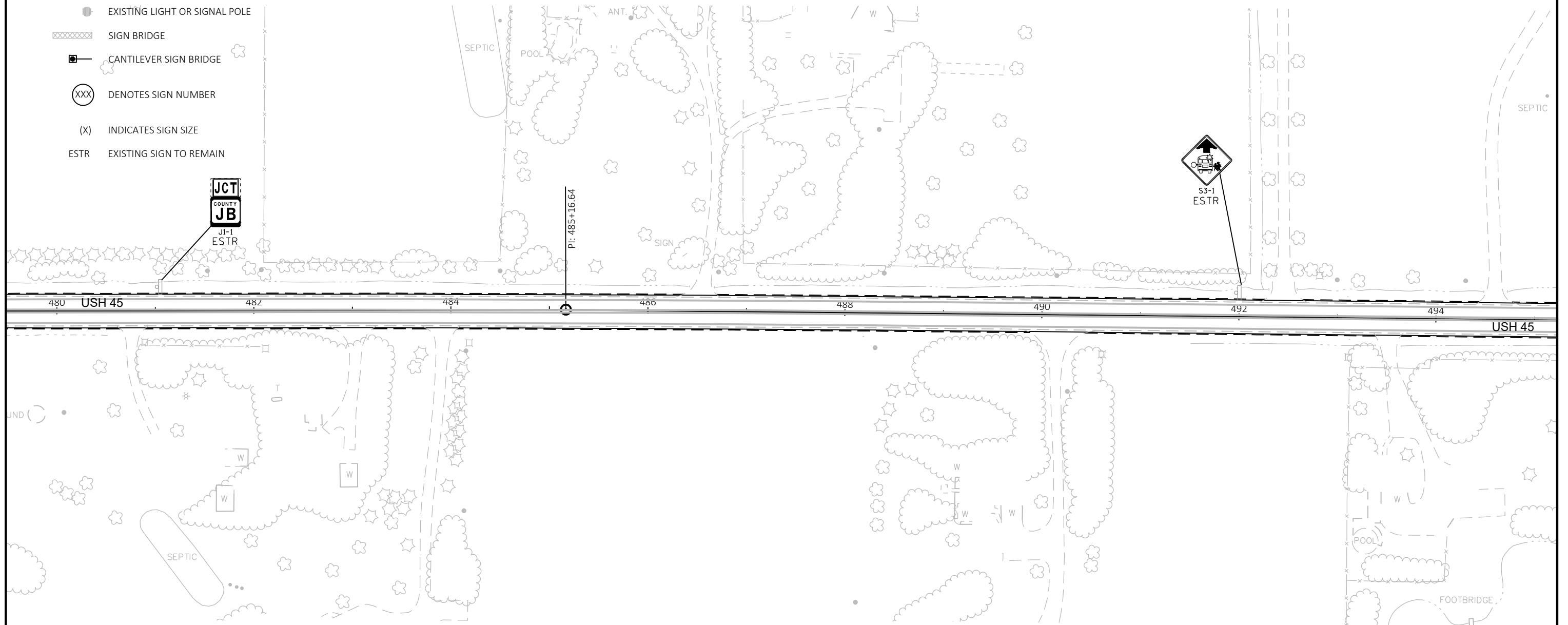
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- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DENOTES SIGN NUMBER
- INDICATES SIGN SIZE
- EXISTING SIGN TO REMAIN





LEGEND

-  EXISTING SIGN MOUNTED ON POST(S)
-  EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
-  PROPOSED SIGN MOUNTED ON POST(S)
-  PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
-  VARIABLE MESSAGE SIGN
-  EXISTING LIGHT OR SIGNAL POLE
-  SIGN BRIDGE
-  CANTILEVER SIGN BRIDGE
-  DENOTES SIGN NUMBER
-  INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN



SHEET 14 OF 30

PROJECT NO: 3200-01-72

HWY: USH 45

COUNTY: KENOSHA/RACINE

PERMANENT SIGNING PLNA

SHEET

92

E

FILE NAME : N:\PDS\C3D\CAD\32000102\SIGN\023201_PS_16.DWG
LAYOUT NAME - 023214_PS

PLOT DATE : 1/17/2019 1:01 PM

PLOT BY : MARTENS, KAREN L

PLOT NAME :

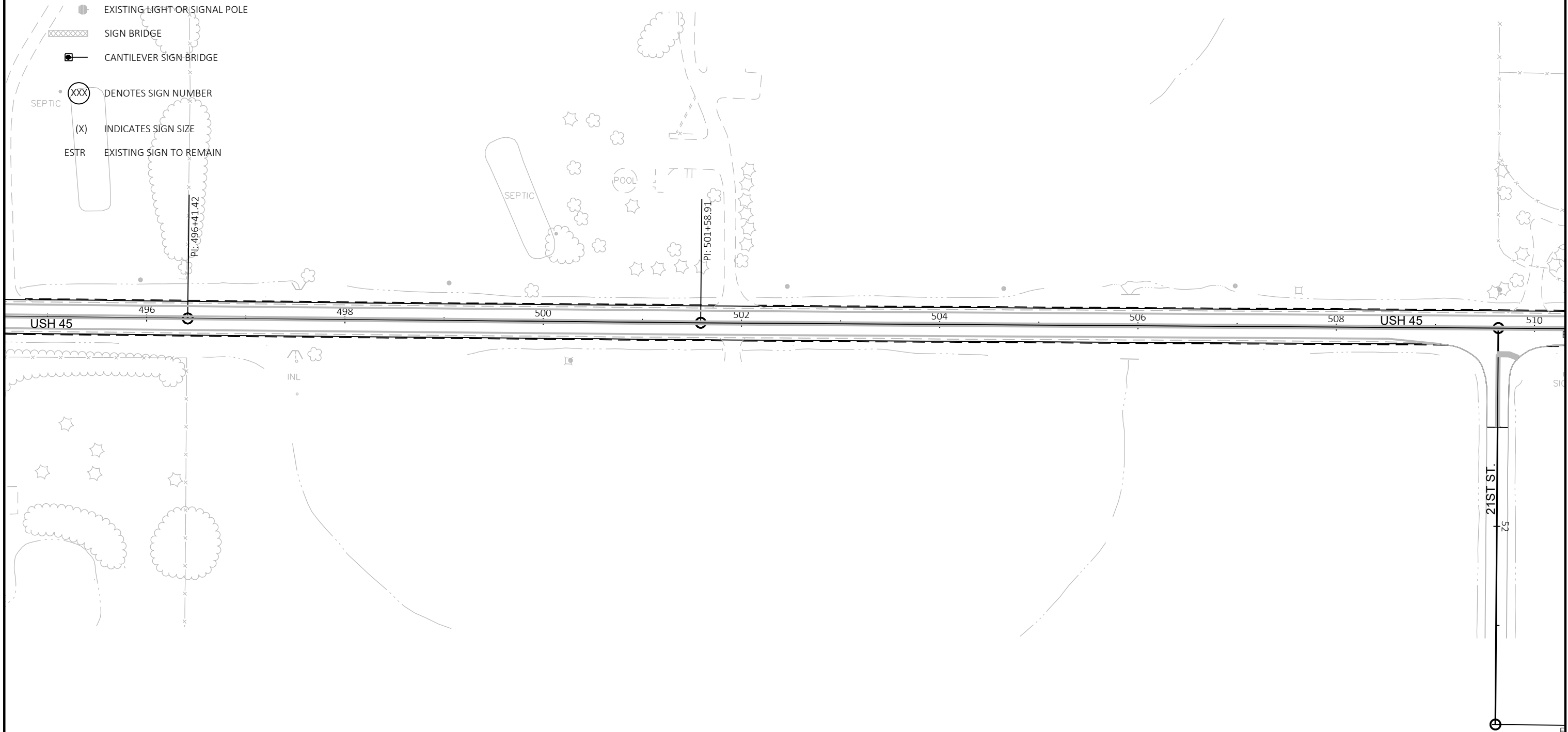
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WISDOT/CADDs SHEET 42

LEGEND

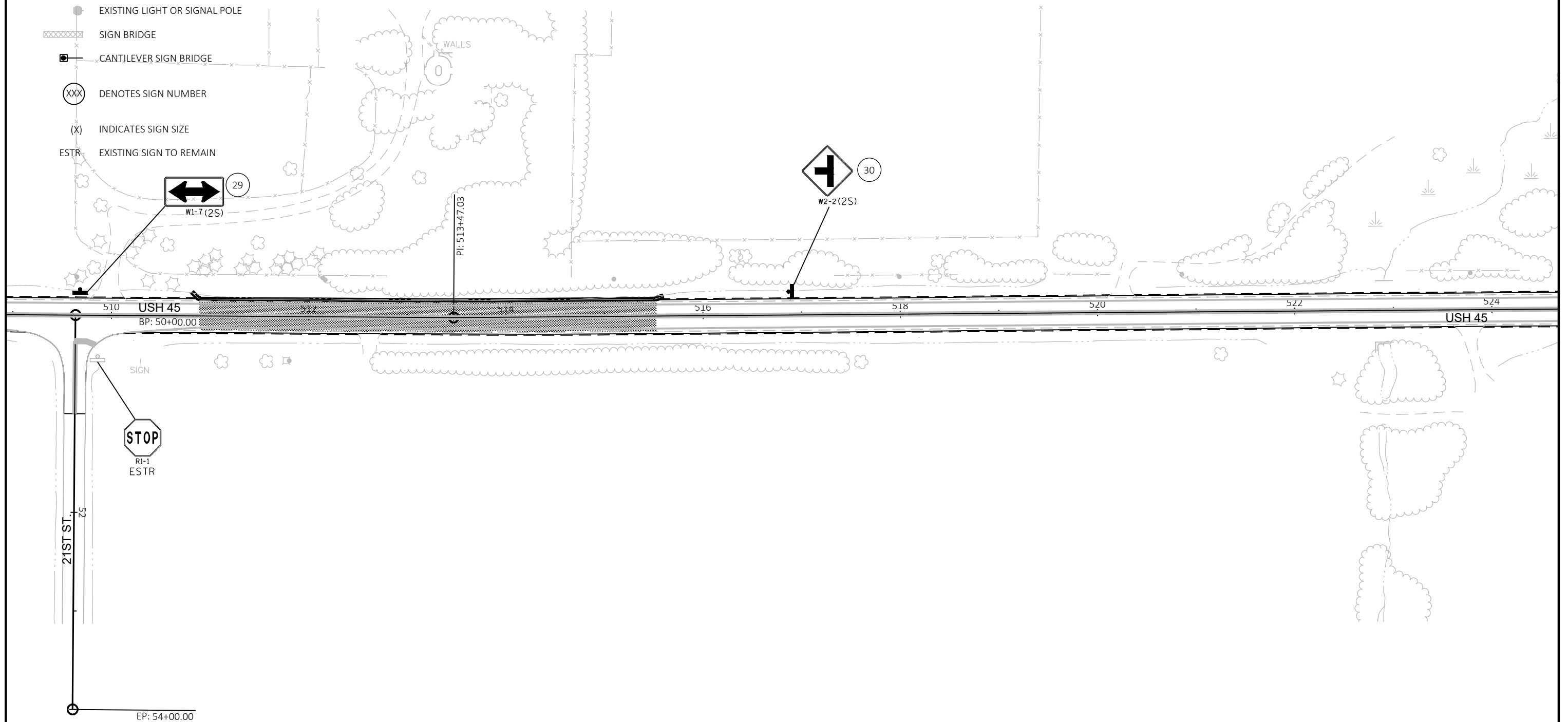
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- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DENOTES SIGN NUMBER
- INDICATES SIGN SIZE
- EXISTING SIGN TO REMAIN

NO SIGNS THIS SHEET



LEGEND

-  EXISTING SIGN MOUNTED ON POST(S)
-  EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
-  PROPOSED SIGN MOUNTED ON POST(S)
-  PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
-  VARIABLE MESSAGE SIGN
-  EXISTING LIGHT OR SIGNAL POLE
-  SIGN BRIDGE
-  CANTILEVER SIGN BRIDGE
-  DENOTES SIGN NUMBER
-  INDICATES SIGN SIZE
-  EXISTING SIGN TO REMAIN



SHEET 16 OF 30

PROJECT NO: 3200-01-72

HWY: USH 45

COUNTY: KENOSHA/RACINE

PERMANENT SIGNING PLAN

SHEET

94

E

FILE NAME : N:\PDS\C3D\CAD\32000102\SIGN\023201_PS_16.DWG
LAYOUT NAME - 023216_PS

PLOT DATE : 1/17/2019 1:01 PM

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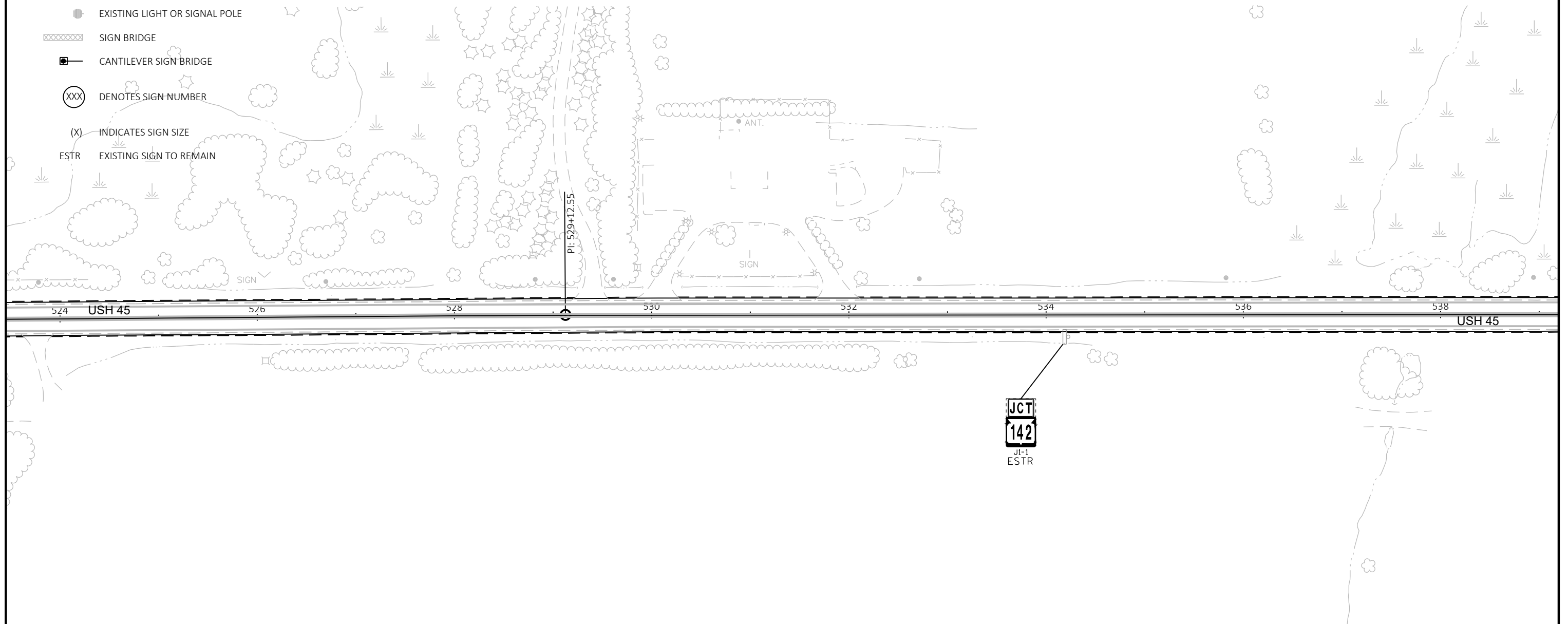
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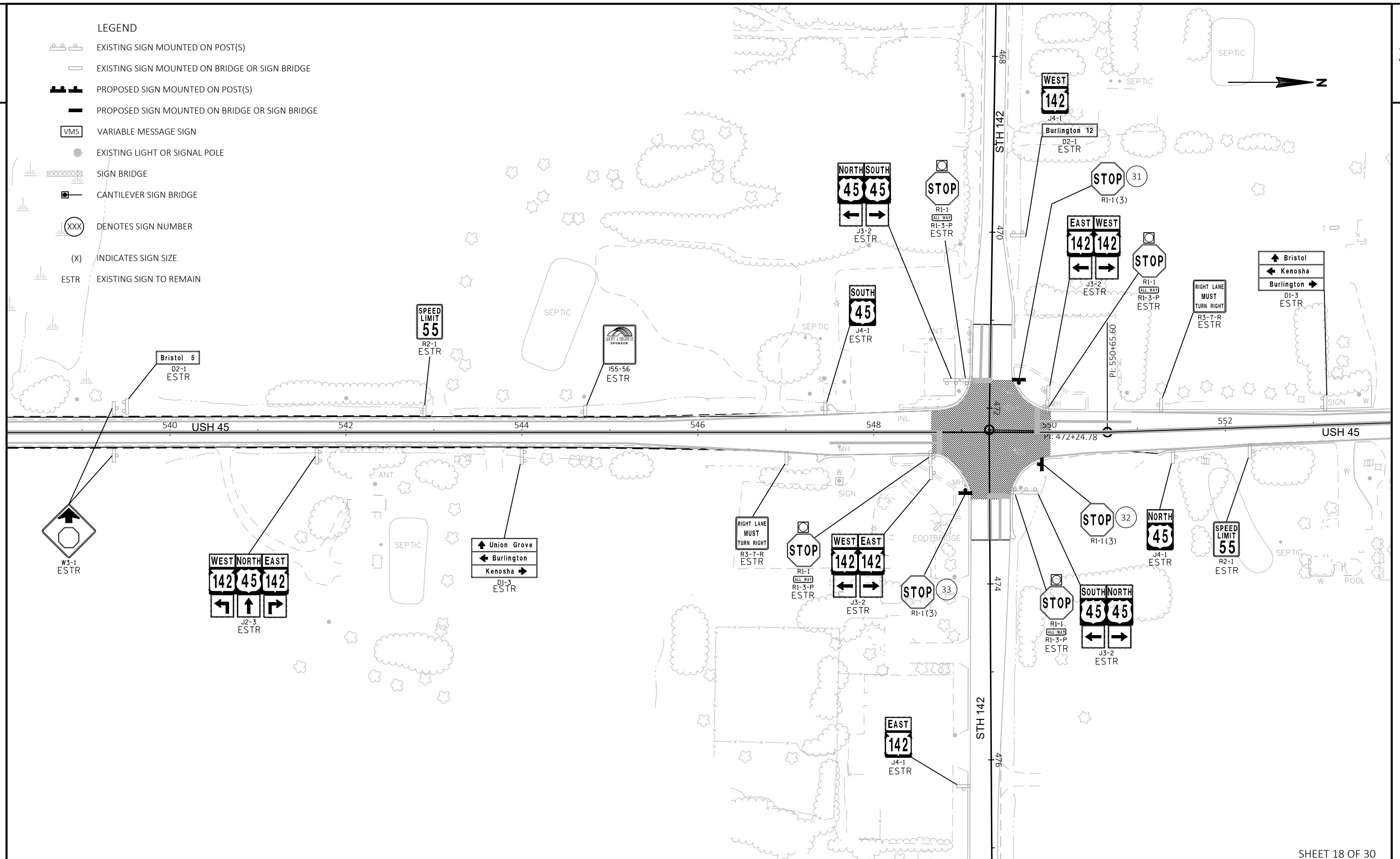
PLOT SCALE : 1 IN:100 FT

WISDOT/CADDs SHEET 42

LEGEND

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- PROPOSED SIGN MOUNTED ON POST(S)
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- VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DENOTES SIGN NUMBER
- INDICATES SIGN SIZE
- EXISTING SIGN TO REMAIN





NOTE: LOCATE NO PASSING PENNANTS BASED ON ESTABLISHING NO PASSING ZONES PAY ITEM. PLACE SIGNS BASED ON WHERE THE PAVEMENT MARKING FOR NO PASSING ZONES BEGIN.

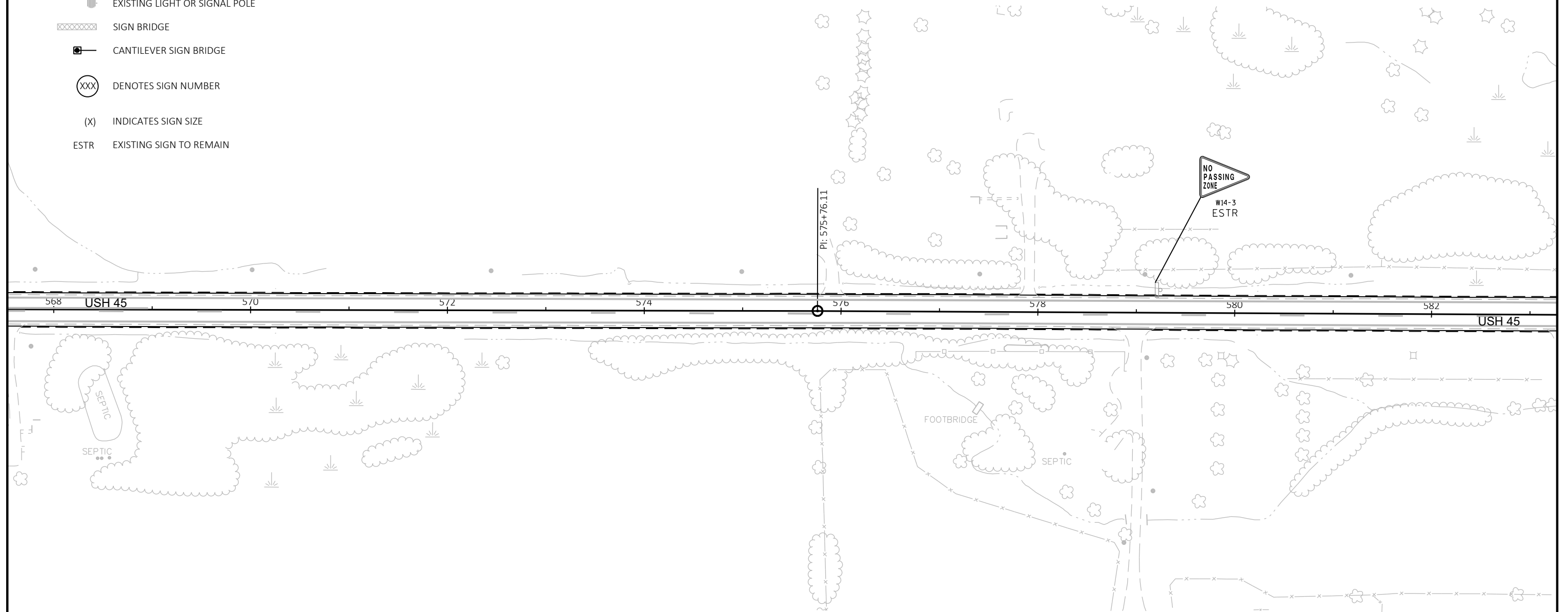
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LEGEND

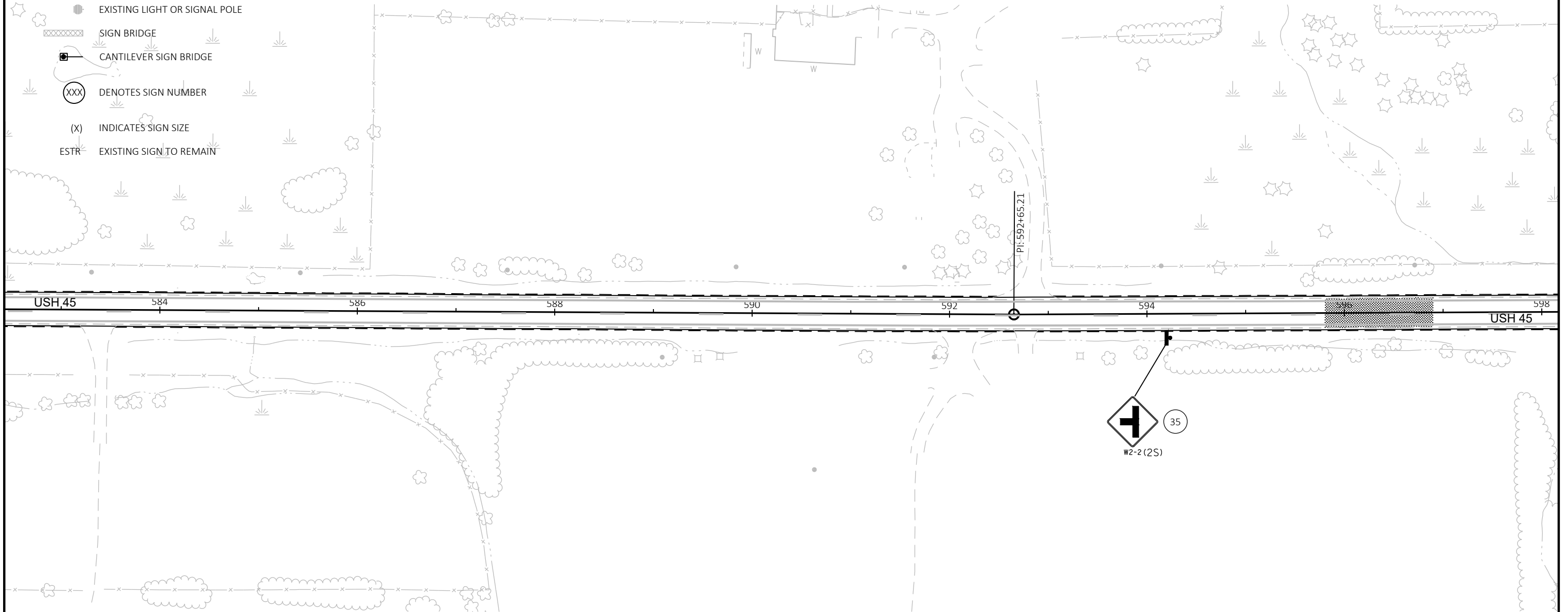
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- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DENOTES SIGN NUMBER
- INDICATES SIGN SIZE
- EXISTING SIGN TO REMAIN

NOTE: LOCATE NO PASSING PENNANTS BASED ON ESTABLISHING NO PASSING ZONES PAY ITEM. PLACE SIGNS BASED ON WHERE THE PAVEMENT MARKING FOR NO PASSING ZONES BEGIN.



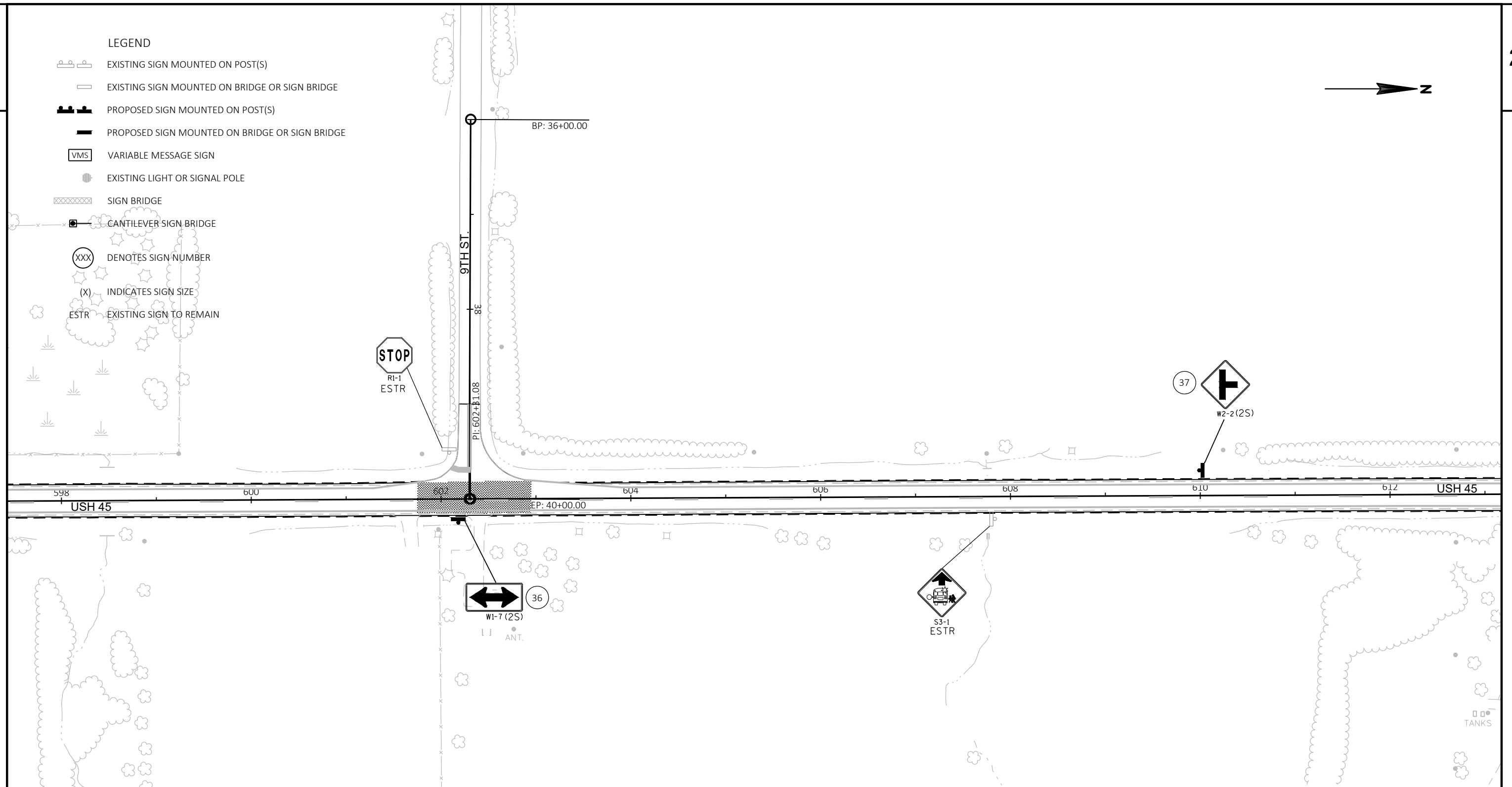
LEGEND

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- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
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- DENOTES SIGN NUMBER
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LEGEND

-  EXISTING SIGN MOUNTED ON POST(S)
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-  PROPOSED SIGN MOUNTED ON POST(S)
-  PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
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-  EXISTING LIGHT OR SIGNAL POLE
-  SIGN BRIDGE
-  CANTILEVER SIGN BRIDGE
-  DENOTES SIGN NUMBER
-  INDICATES SIGN SIZE
-  EXISTING SIGN TO REMAIN



SHEET 22 OF 30

PROJECT NO: 3200-01-72

HWY: USH 45

COUNTY: KENOSHA/RACINE

PERMANENT SIGNING PLAN

SHEET

100

E

FILE NAME : N:\PDS\C3D\CAD\32000102\SIGN\023201_PS_16.DWG
LAYOUT NAME - 023222_PS

PLOT DATE : 1/17/2019 1:02 PM

PLOT BY : MARTENS, KAREN L

PLOT NAME :

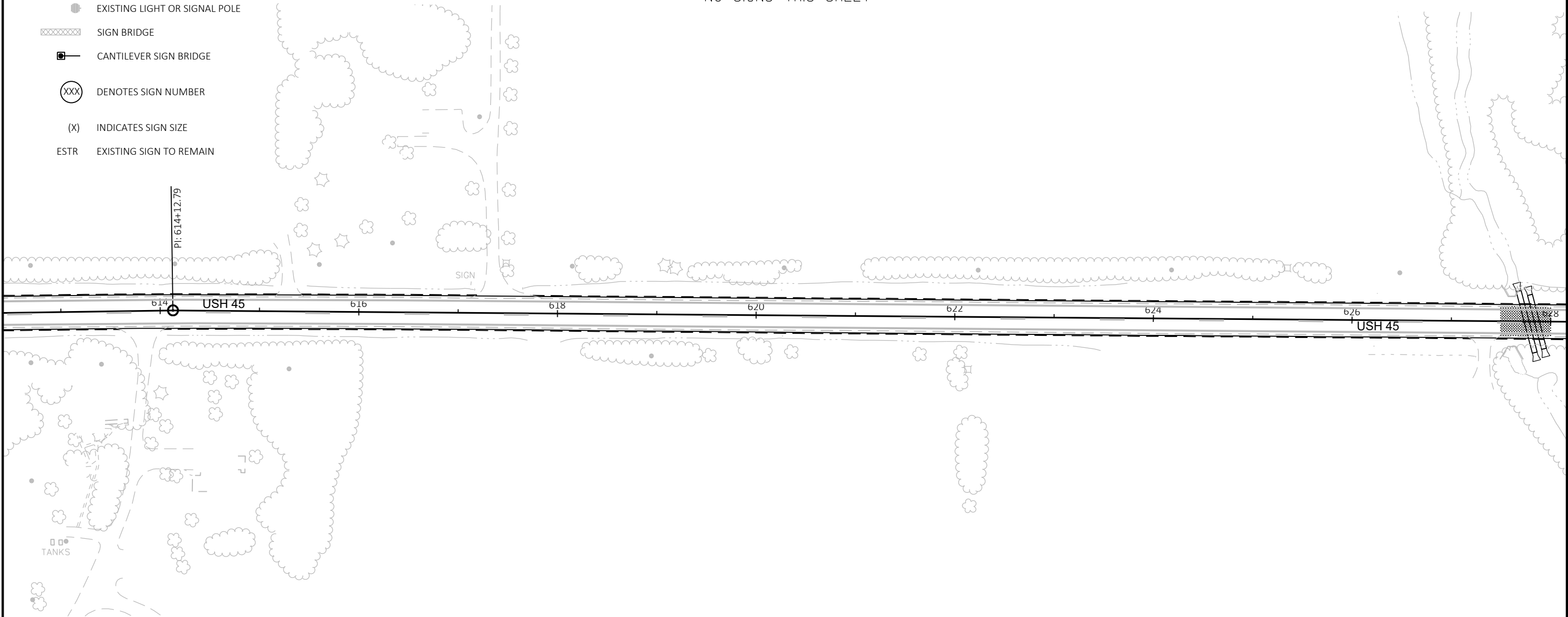
PLOT SCALE : 1 IN:100 FT

WISDOT/CADDs SHEET 42

LEGEND

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- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DENOTES SIGN NUMBER
- INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN

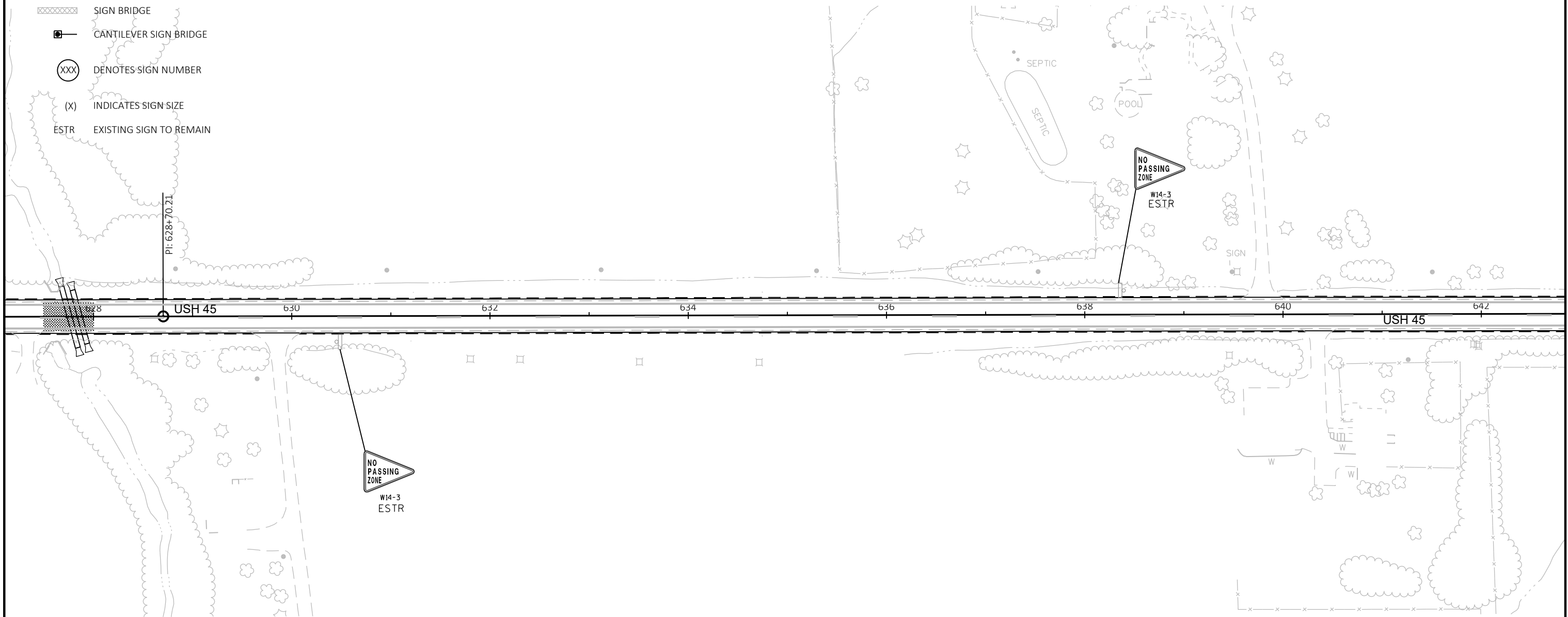
NO SIGNS THIS SHEET



LEGEND

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- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VMS VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DENOTES SIGN NUMBER
- INDICATES SIGN SIZE
- EXISTING SIGN TO REMAIN

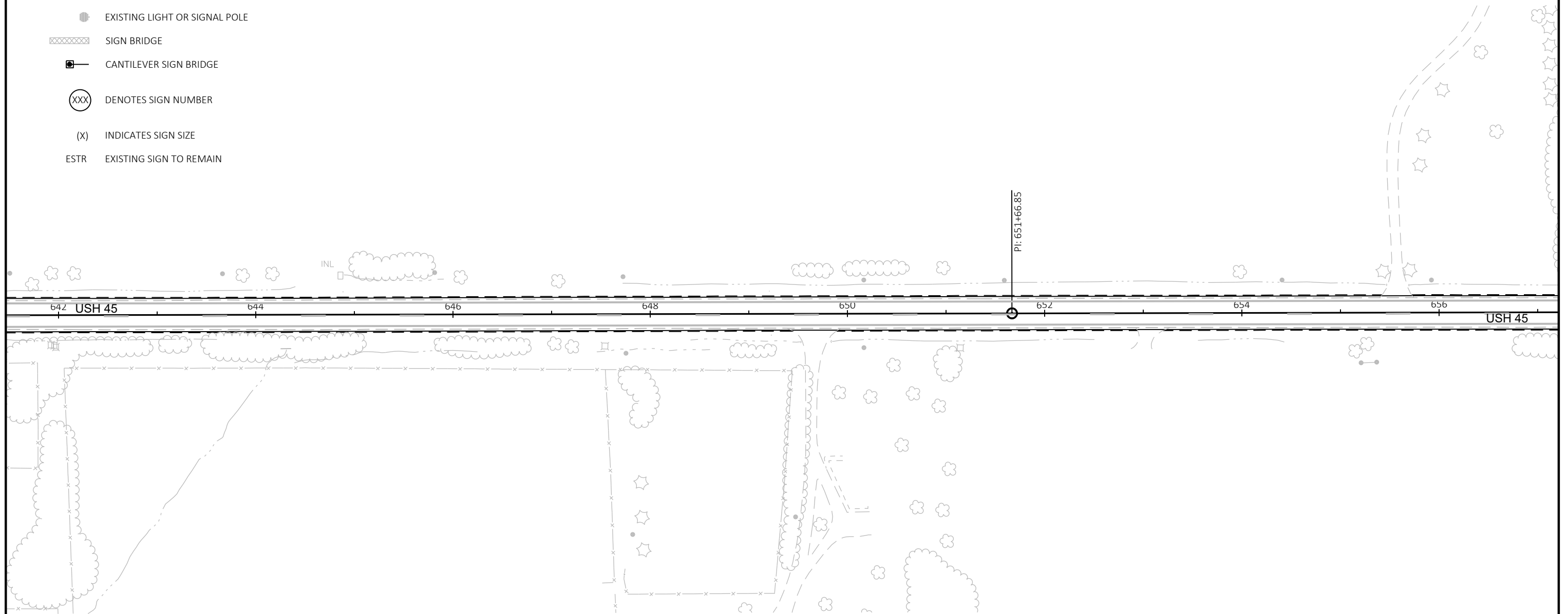
NOTE: LOCATE NO PASSING PENNANTS BASED ON ESTABLISHING NO PASSING ZONES PAY ITEM. PLACE SIGNS BASED ON WHERE THE PAVEMENT MARKING FOR NO PASSING ZONES BEGIN.



LEGEND

-  EXISTING SIGN MOUNTED ON POST(S)
-  EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
-  PROPOSED SIGN MOUNTED ON POST(S)
-  PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
-  VARIABLE MESSAGE SIGN
-  EXISTING LIGHT OR SIGNAL POLE
-  SIGN BRIDGE
-  CANTILEVER SIGN BRIDGE
-  DENOTES SIGN NUMBER
-  INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN

NO SIGNS THIS SHEET



SHEET 25 OF 30

PROJECT NO: 3200-01-72

HWY: USH 45

COUNTY: KENOSHA/RACINE

PERMANENT SIGNING PLAN

SHEET

103

E

FILE NAME : N:\PDS\C3D\CAD\32000102\SIGN\023201_PS_16.DWG
LAYOUT NAME - 023225_PS

PLOT DATE : 1/17/2019 1:02 PM

PLOT BY : MARTENS, KAREN L

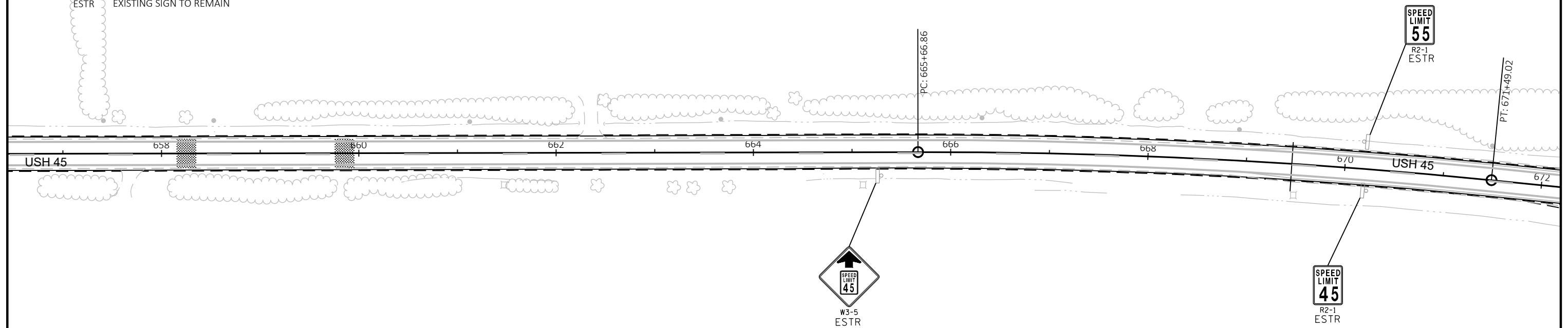
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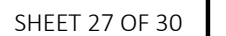
PLOT SCALE : 1 IN:100 FT

WISDOT/CADDs SHEET 42

LEGEND

- EXISTING SIGN MOUNTED ON POST(S)
- EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- PROPOSED SIGN MOUNTED ON POST(S)
- PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
- VARIABLE MESSAGE SIGN
- EXISTING LIGHT OR SIGNAL POLE
- SIGN BRIDGE
- CANTILEVER SIGN BRIDGE
- DENOTES SIGN NUMBER
- INDICATES SIGN SIZE
- EXISTING SIGN TO REMAIN





	EXISTING SIGN MOUNTED ON POST(S)
	EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
	PROPOSED SIGN MOUNTED ON POST(S)
	PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE

EXISTING LIGHT OR SIGNAL POLE

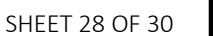
 CANTILEVER SIGN BRIDGE

0

(XXX) DENOTES SIGN NUMBER

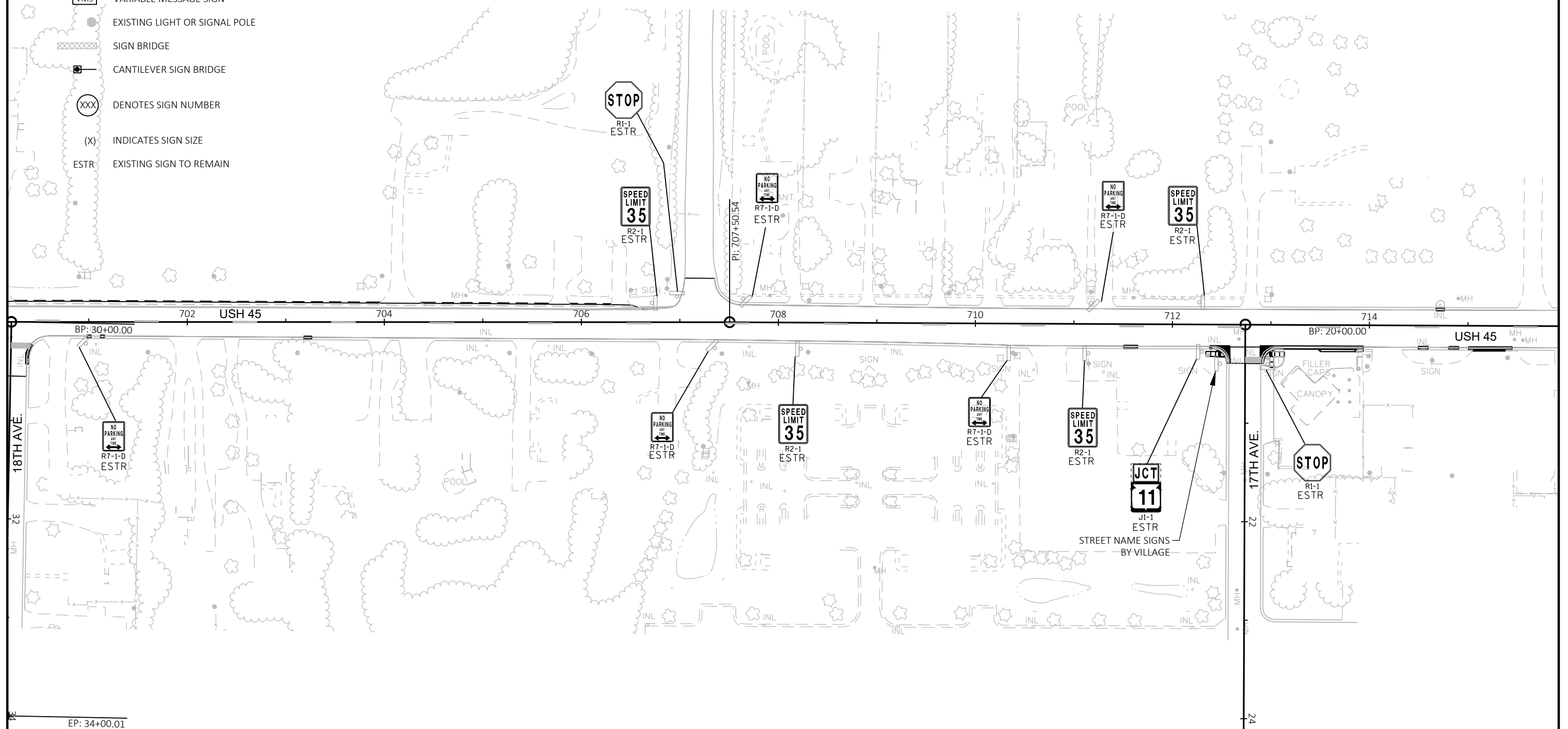
(X) INDICATES SIGN SIZE

ESTR EXISTING SIGN TO REMAIN



LEGEND

-  EXISTING SIGN MOUNTED ON POST(S)
-  EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
-  PROPOSED SIGN MOUNTED ON POST(S)
-  PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
-  VARIABLE MESSAGE SIGN
-  EXISTING LIGHT OR SIGNAL POLE
-  SIGN BRIDGE
-  CANTILEVER SIGN BRIDGE
-  DENOTES SIGN NUMBER
-  INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN



SHEET 29 OF 30

PROJECT NO: 3200-01-72

HWY: USH 45

COUNTY: KENOSHA/RACINE

PERMANENT SIGNING PLAN

SHEET

107

E

FILE NAME : N:\PDS\C3D\CAD\32000102\SIGN\023201_PS_16.DWG
LAYOUT NAME - 023229_PS

PLOT DATE : 1/17/2019 1:02 PM

PLOT BY : MARTENS, KAREN L

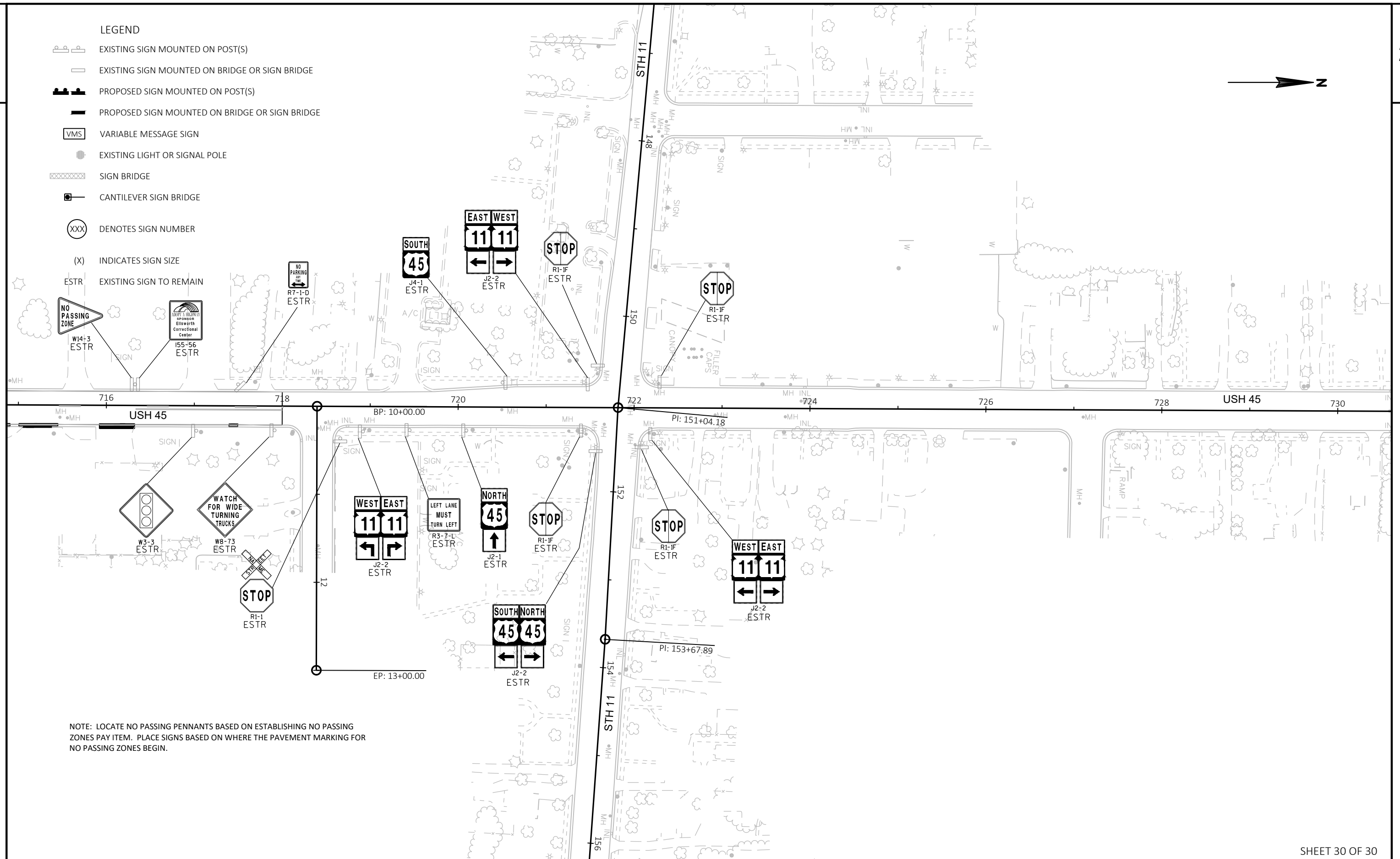
PLOT NAME :

PLOT SCALE : 1 IN:100 FT

WISDOT/CADDs SHEET 42

LEGEND

-  EXISTING SIGN MOUNTED ON POST(S)
-  EXISTING SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
-  PROPOSED SIGN MOUNTED ON POST(S)
-  PROPOSED SIGN MOUNTED ON BRIDGE OR SIGN BRIDGE
-  VARIABLE MESSAGE SIGN
-  EXISTING LIGHT OR SIGNAL POLE
-  SIGN BRIDGE
-  CANTILEVER SIGN BRIDGE
-  DENOTES SIGN NUMBER
- (X) INDICATES SIGN SIZE
- ESTR EXISTING SIGN TO REMAIN



SHEET 30 OF 30

PROJECT NO: 3200-01-72

HWY: USH 45

COUNTY: KENOSHA/RACINE

PERMANENT SIGNING PLAN

SHEET

108

E

FILE NAME: N:\PDS\C3D\CAD\32000102\SIGN\023201_PS_16.DWG
LAYOUT NAME: 023230_PS

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PLOT BY: MARTENS, KAREN L

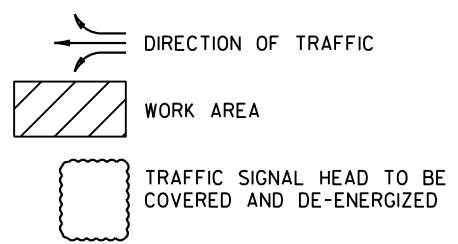
PLOT NAME:

PLOT SCALE: 1 IN:100 FT

WISDOT/CADDs SHEET 42

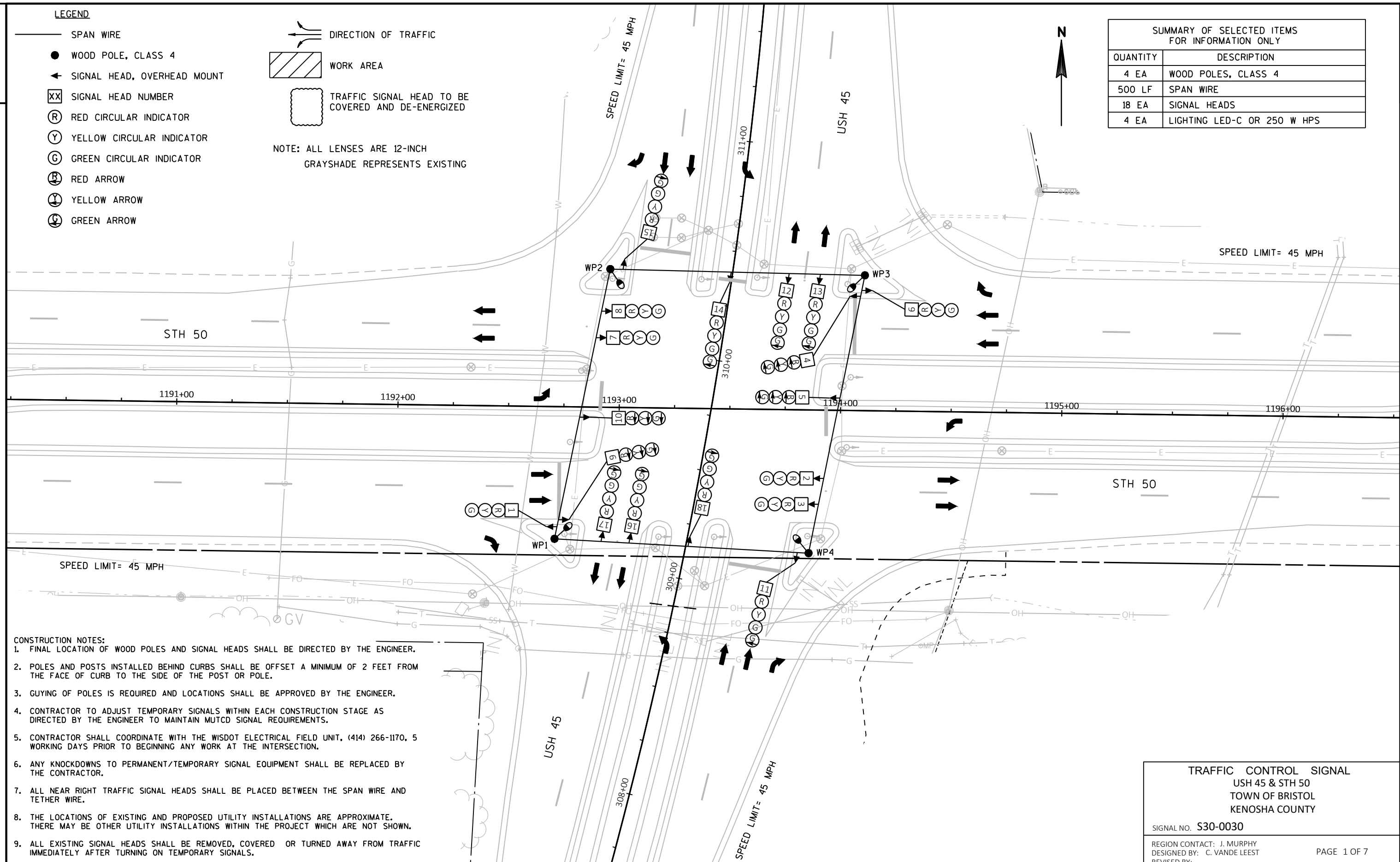
LEGEND

- SPAN WIRE
- WOOD POLE, CLASS 4
- SIGNAL HEAD, OVERHEAD MOUNT
- SIGNAL HEAD NUMBER
- RED CIRCULAR INDICATOR
- YELLOW CIRCULAR INDICATOR
- GREEN CIRCULAR INDICATOR
- RED ARROW
- YELLOW ARROW
- GREEN ARROW



NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

SUMMARY OF SELECTED ITEMS FOR INFORMATION ONLY	
QUANTITY	DESCRIPTION
4 EA	WOOD POLES, CLASS 4
500 LF	SPAN WIRE
18 EA	SIGNAL HEADS
4 EA	LIGHTING LED-C OR 250 W HPS



- CONSTRUCTION NOTES:
- FINAL LOCATION OF WOOD POLES AND SIGNAL HEADS SHALL BE DIRECTED BY THE ENGINEER.
 - POLES AND POSTS INSTALLED BEHIND CURBS SHALL BE OFFSET A MINIMUM OF 2 FEET FROM THE FACE OF CURB TO THE SIDE OF THE POST OR POLE.
 - GUYING OF POLES IS REQUIRED AND LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
 - CONTRACTOR TO ADJUST TEMPORARY SIGNALS WITHIN EACH CONSTRUCTION STAGE AS DIRECTED BY THE ENGINEER TO MAINTAIN MUTCD SIGNAL REQUIREMENTS.
 - CONTRACTOR SHALL COORDINATE WITH THE WISDOT ELECTRICAL FIELD UNIT, (414) 266-1170, 5 WORKING DAYS PRIOR TO BEGINNING ANY WORK AT THE INTERSECTION.
 - ANY KNOCKDOWNS TO PERMANENT/TEMPORARY SIGNAL EQUIPMENT SHALL BE REPLACED BY THE CONTRACTOR.
 - ALL NEAR RIGHT TRAFFIC SIGNAL HEADS SHALL BE PLACED BETWEEN THE SPAN WIRE AND TETHER WIRE.
 - THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
 - ALL EXISTING SIGNAL HEADS SHALL BE REMOVED, COVERED OR TURNED AWAY FROM TRAFFIC IMMEDIATELY AFTER TURNING ON TEMPORARY SIGNALS.

TRAFFIC CONTROL SIGNAL
USH 45 & STH 50
TOWN OF BRISTOL
KENOSHA COUNTY

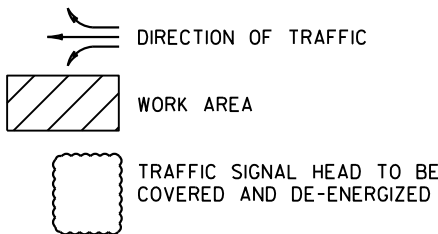
SIGNAL NO. S30-0030

REGION CONTACT: J. MURPHY
DESIGNED BY: C. VANDE LEEST
REVISED BY:

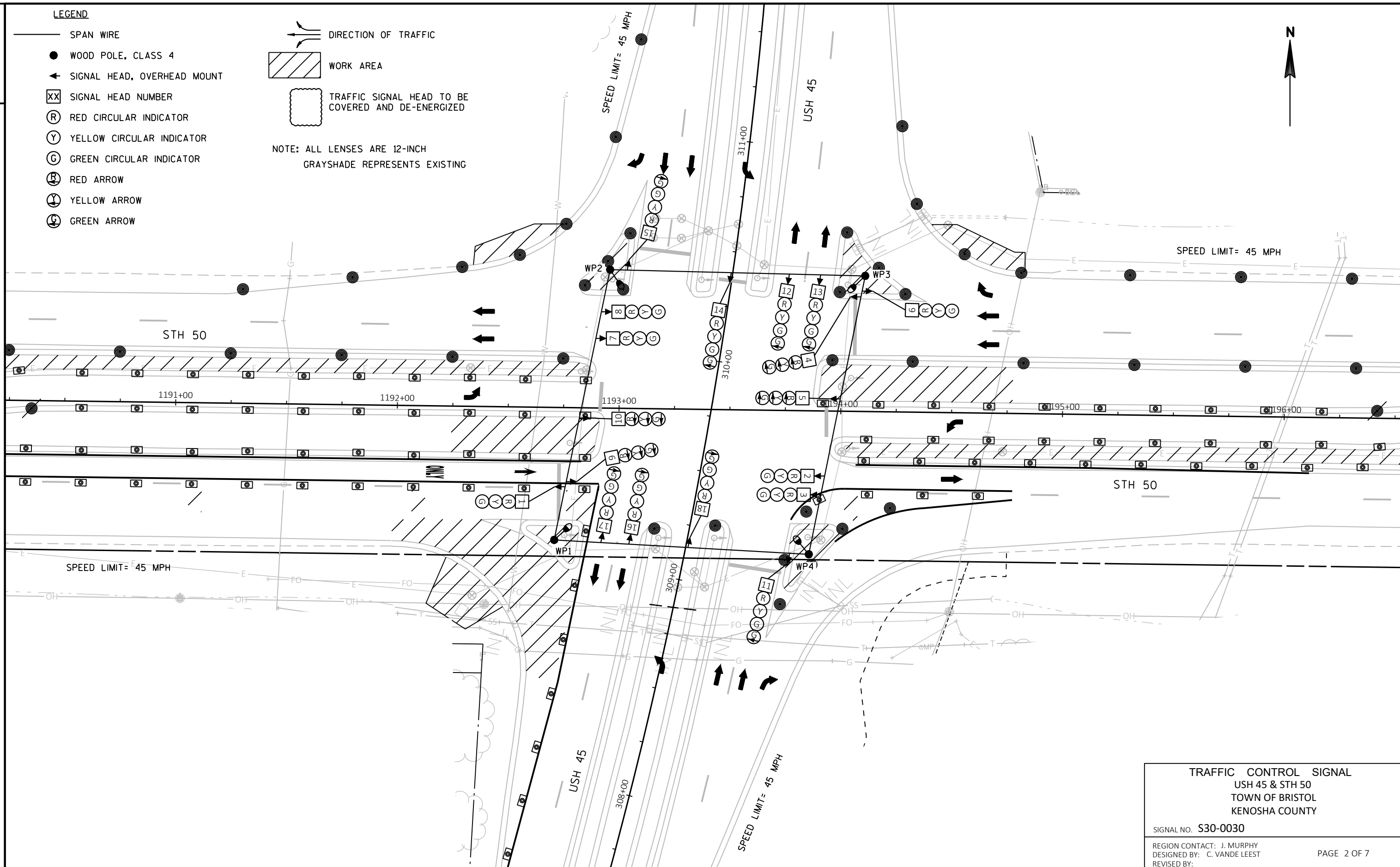
PAGE 1 OF 7

LEGEND

- SPAN WIRE
- WOOD POLE, CLASS 4
- SIGNAL HEAD, OVERHEAD MOUNT
- SIGNAL HEAD NUMBER
- RED CIRCULAR INDICATOR
- YELLOW CIRCULAR INDICATOR
- GREEN CIRCULAR INDICATOR
- RED ARROW
- YELLOW ARROW
- GREEN ARROW



NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING



TRAFFIC CONTROL SIGNAL
USH 45 & STH 50
TOWN OF BRISTOL
KENOSHA COUNTY

SIGNAL NO. S30-0030

REGION CONTACT: J. MURPHY
DESIGNED BY: C. VANDE LEEST
REVISED BY:

PAGE 2 OF 7

PROJECT NO: 3200-01-72

HWY: USH 45

COUNTY: KENOSHA

TEMPORARY TRAFFIC SIGNAL PLAN - STAGE 1A

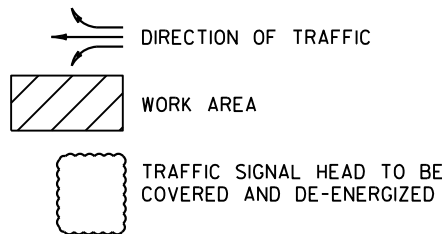
SHEET

110

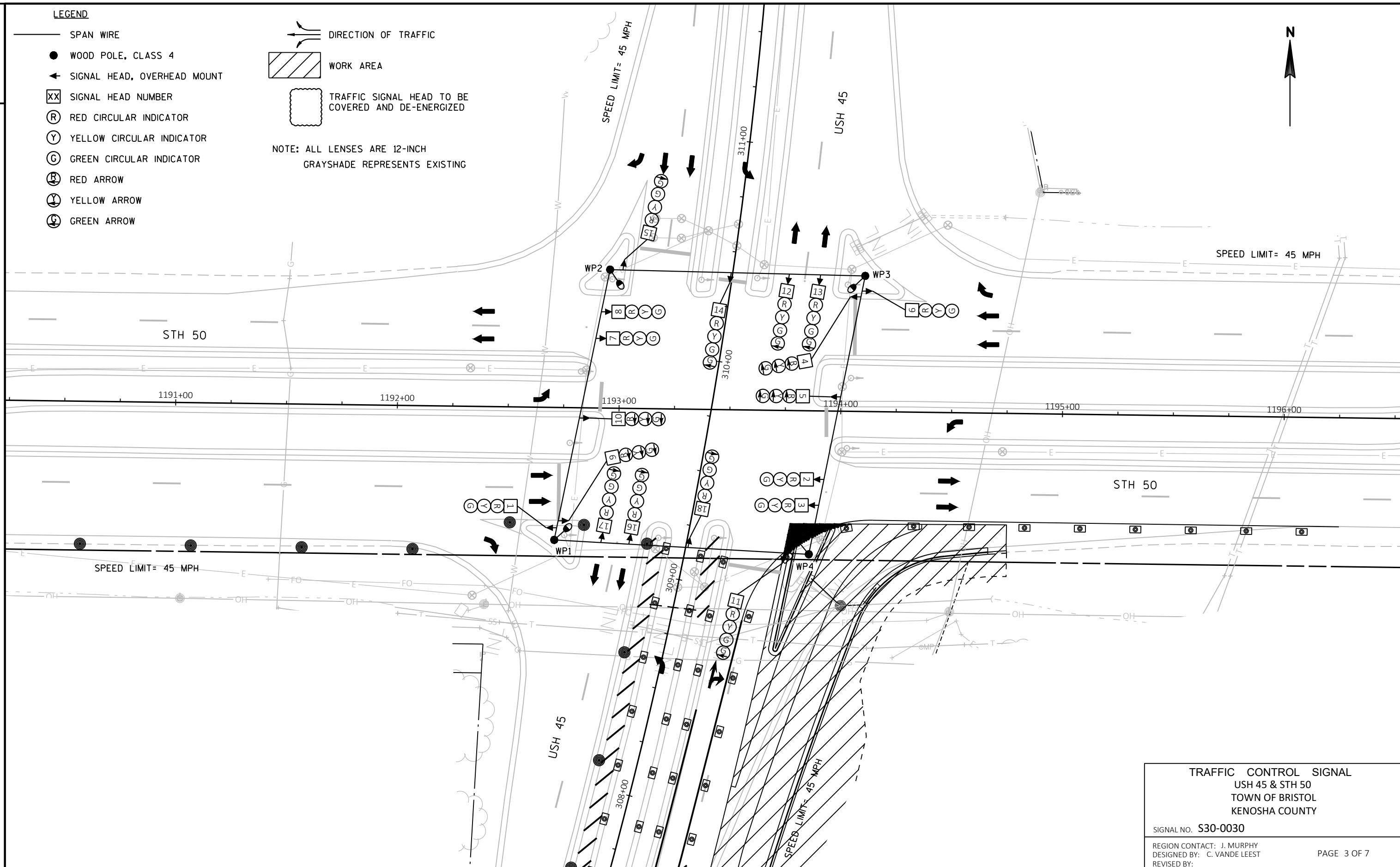
E

LEGEND

- SPAN WIRE
- WOOD POLE, CLASS 4
- SIGNAL HEAD, OVERHEAD MOUNT
- SIGNAL HEAD NUMBER
- RED CIRCULAR INDICATOR
- YELLOW CIRCULAR INDICATOR
- GREEN CIRCULAR INDICATOR
- RED ARROW
- YELLOW ARROW
- GREEN ARROW



NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING



TRAFFIC CONTROL SIGNAL
USH 45 & STH 50
TOWN OF BRISTOL
KENOSHA COUNTY

SIGNAL NO. S30-0030

REGION CONTACT: J. MURPHY
DESIGNED BY: C. VANDE LEEST
REVISED BY:

PAGE 3 OF 7

PROJECT NO: 3200-01-72

HWY: USH 45

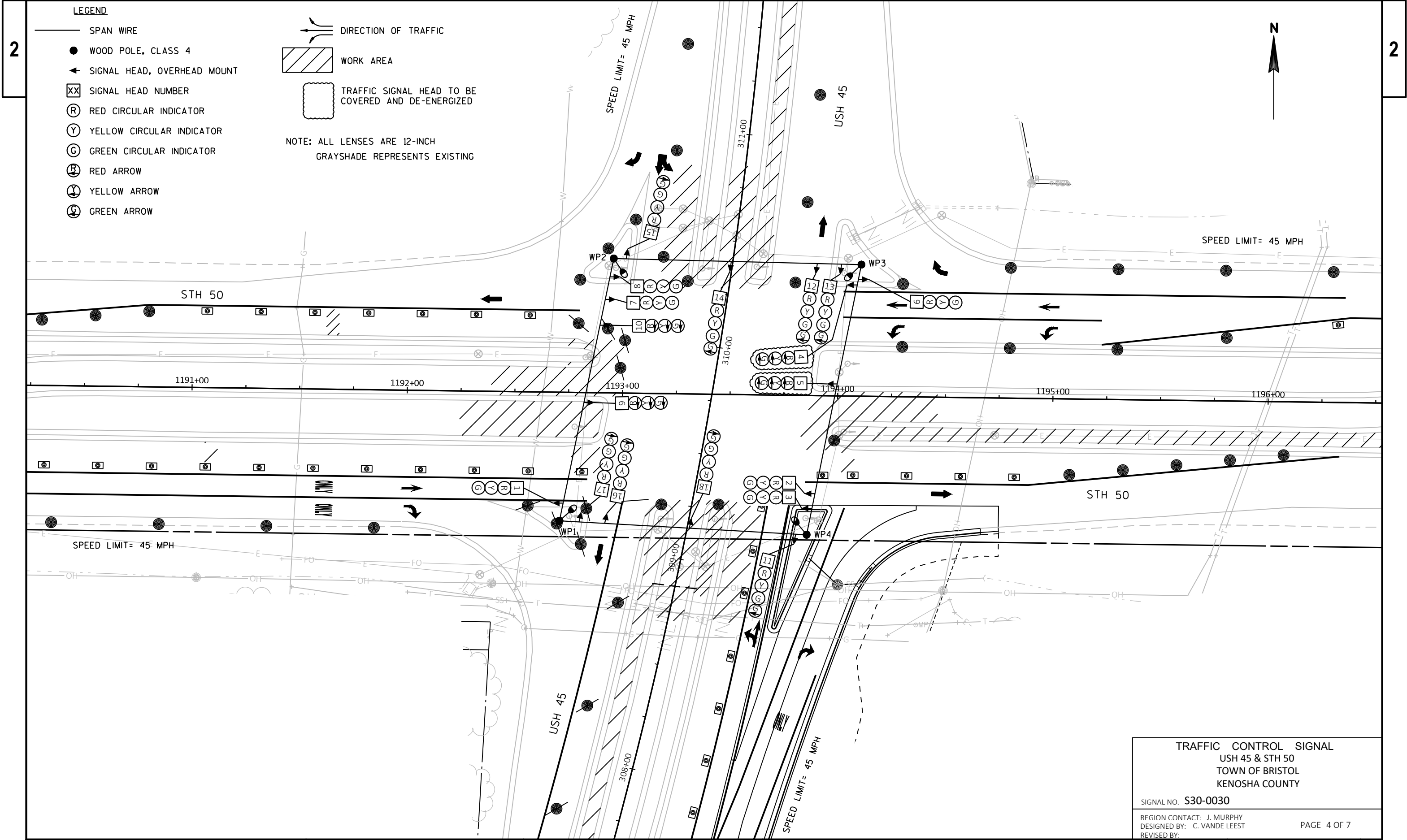
COUNTY: KENOSHA

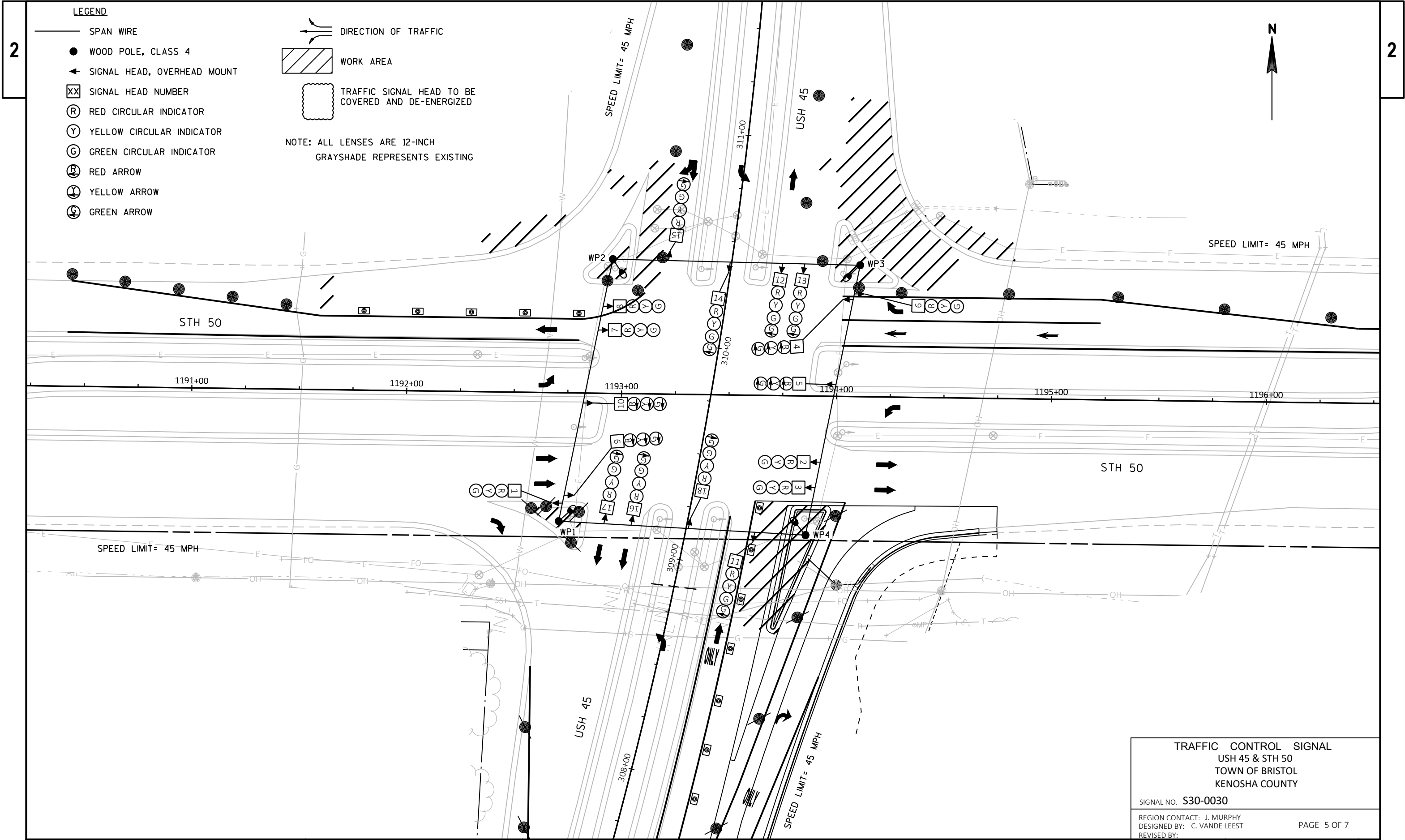
TEMPORARY TRAFFIC SIGNAL PLAN - STAGE 1B

SHEET

111

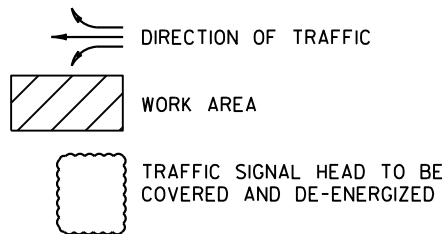
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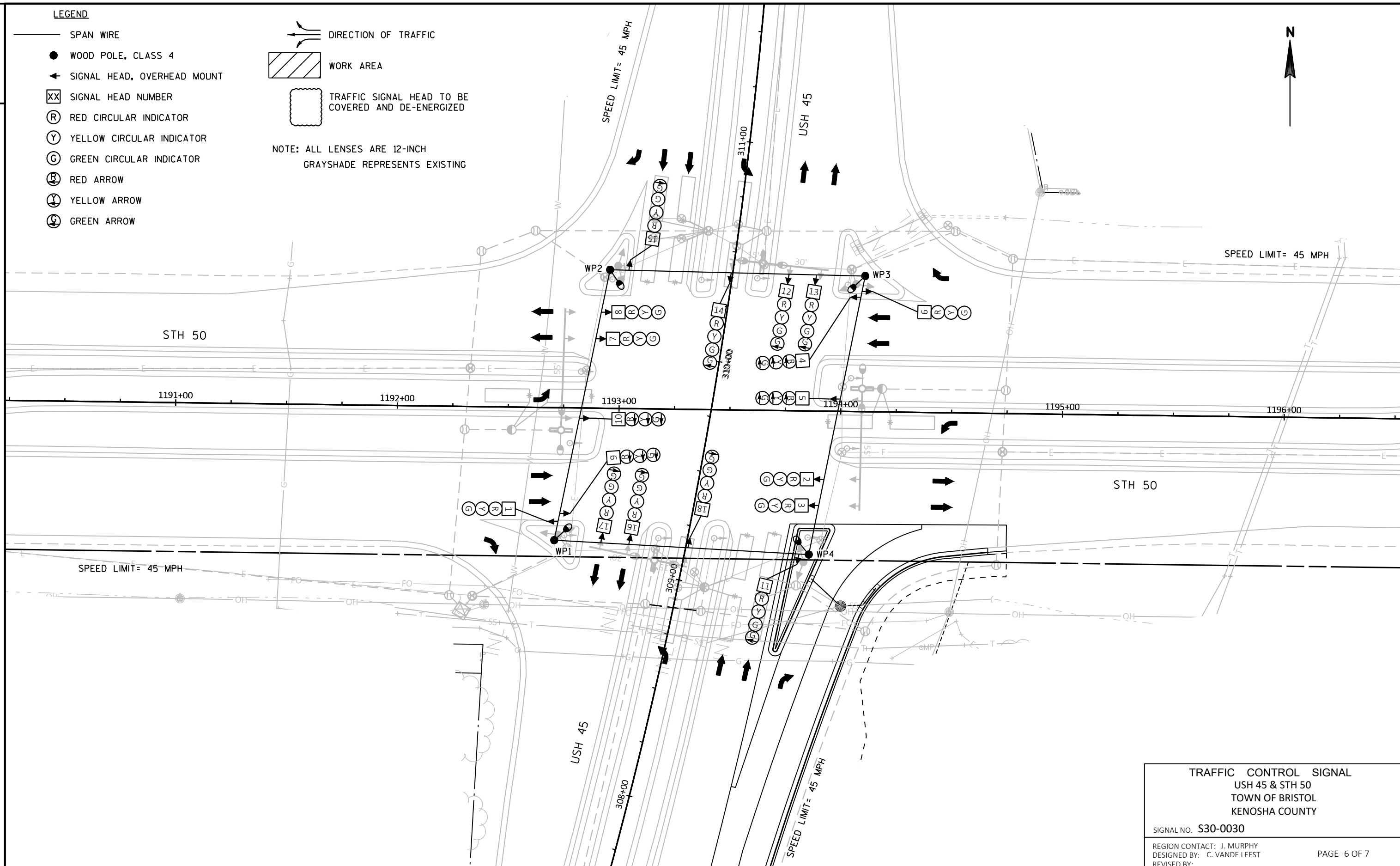


LEGEND

- SPAN WIRE
- WOOD POLE, CLASS 4
- SIGNAL HEAD, OVERHEAD MOUNT
- SIGNAL HEAD NUMBER
- RED CIRCULAR INDICATOR
- YELLOW CIRCULAR INDICATOR
- GREEN CIRCULAR INDICATOR
- RED ARROW
- YELLOW ARROW
- GREEN ARROW



NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING



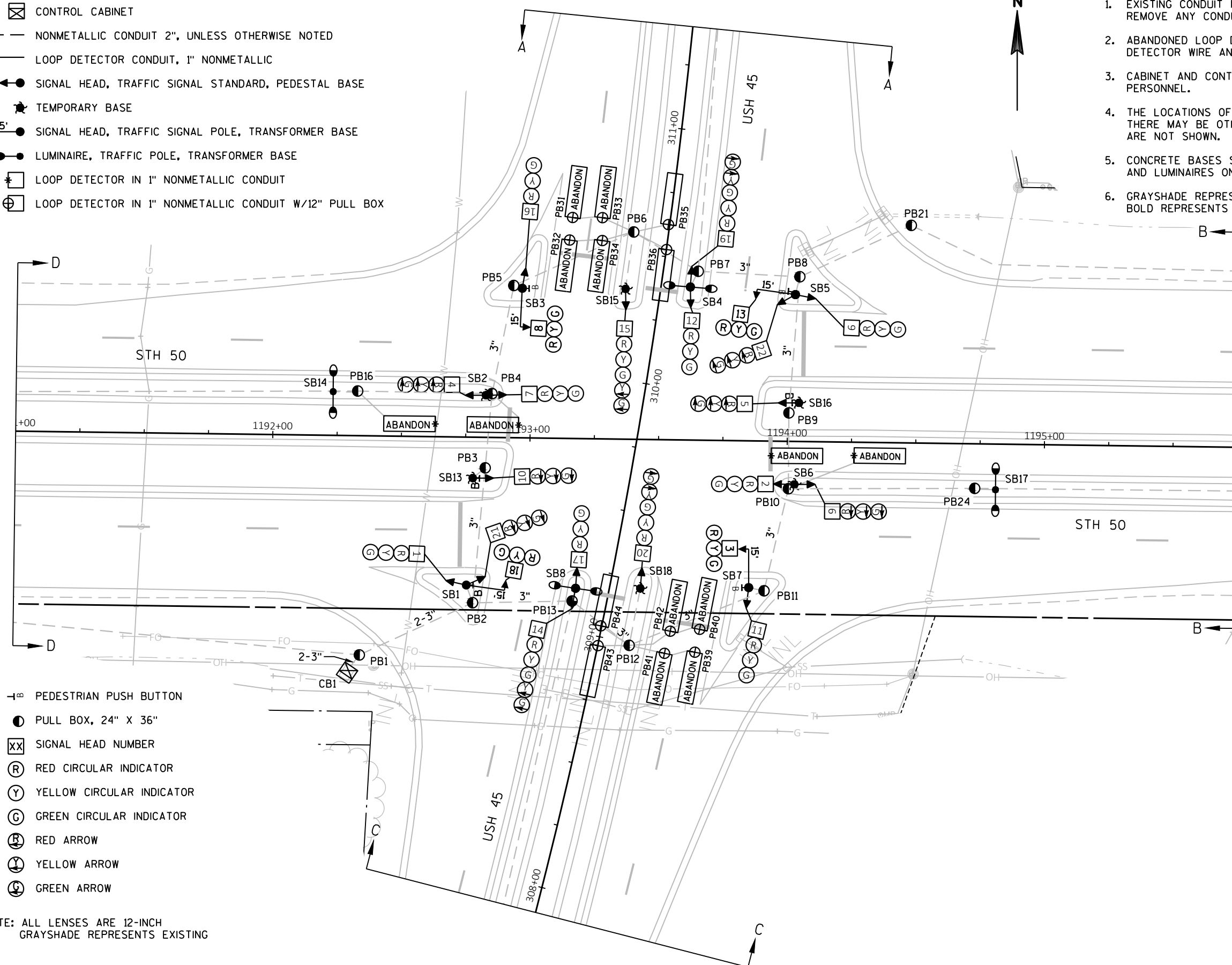
TRAFFIC CONTROL SIGNAL USH 45 & STH 50 TOWN OF BRISTOL KENOSHA COUNTY	
SIGNAL NO. S30-0030	
REGION CONTACT: J. MURPHY DESIGNED BY: C. VANDE LEEST REVISED BY:	PAGE 6 OF 7

2

TO
DIRECTOR.

 CONTROL CABINET
 — — — NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
 ————— LOOP DETECTOR CONDUIT, 1" NONMETALLIC
 SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
 TEMPORARY BASE
 15' SIGNAL HEAD, TRAFFIC SIGNAL POLE, TRANSFORMER BASE
 LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
 LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
 LOOP DETECTOR IN 1" NONMETALLIC CONDUIT W/12" PULL BOX

- CONSTRUCTION NOTES:
1. EXISTING CONDUIT RUNS TO BE ABANDONED IN PLACE. CONTRACTOR TO REMOVE ANY CONDUCTORS REMAINING IN THE CONDUIT.
 2. ABANDONED LOOP DETECTOR CONDUIT TO REMAIN IN PLACE. LOOP DETECTOR WIRE AND LEAD-IN CABLE TO BE REMOVED BY THE CONTRACTOR.
 3. CABINET AND CONTROLLER SHALL BE REMOVED BY WISDOT ELECTRICAL PERSONNEL.
 4. THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
 5. CONCRETE BASES SB9, SB10, SB11 AND SB12 TO REMAIN. REMOVE POLES AND LUMINAIRES ONLY.
 6. GRAYSHADE REPRESENTS EXISTING.
BOLD REPRESENTS ITEMS TO BE REMOVED.



NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

TRAFFIC CONTROL SIGNAL
USH 45 & STH 50
TOWN OF BRISTOL
KENOSHA COUNTY

SIGNAL NO. S30-0030

REGION CONTACT: S. SWARD
DESIGNED BY: C. VANDE LEST
REVISED BY:

PAGE 1 OF 3

PROJECT NO:	3200-01-72
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HWY: USH 45

COUNTY: KENOSHA

TRAFFIC SIGNAL REMOVAL PLAN

SHEET

— 116

E

FILE NAME : N:\PDS\C3D\CAD\32000102\SIG\S30-0030\S30-0030_REM.DWG
LAYOUT NAME - S30-0030 Rem pg1

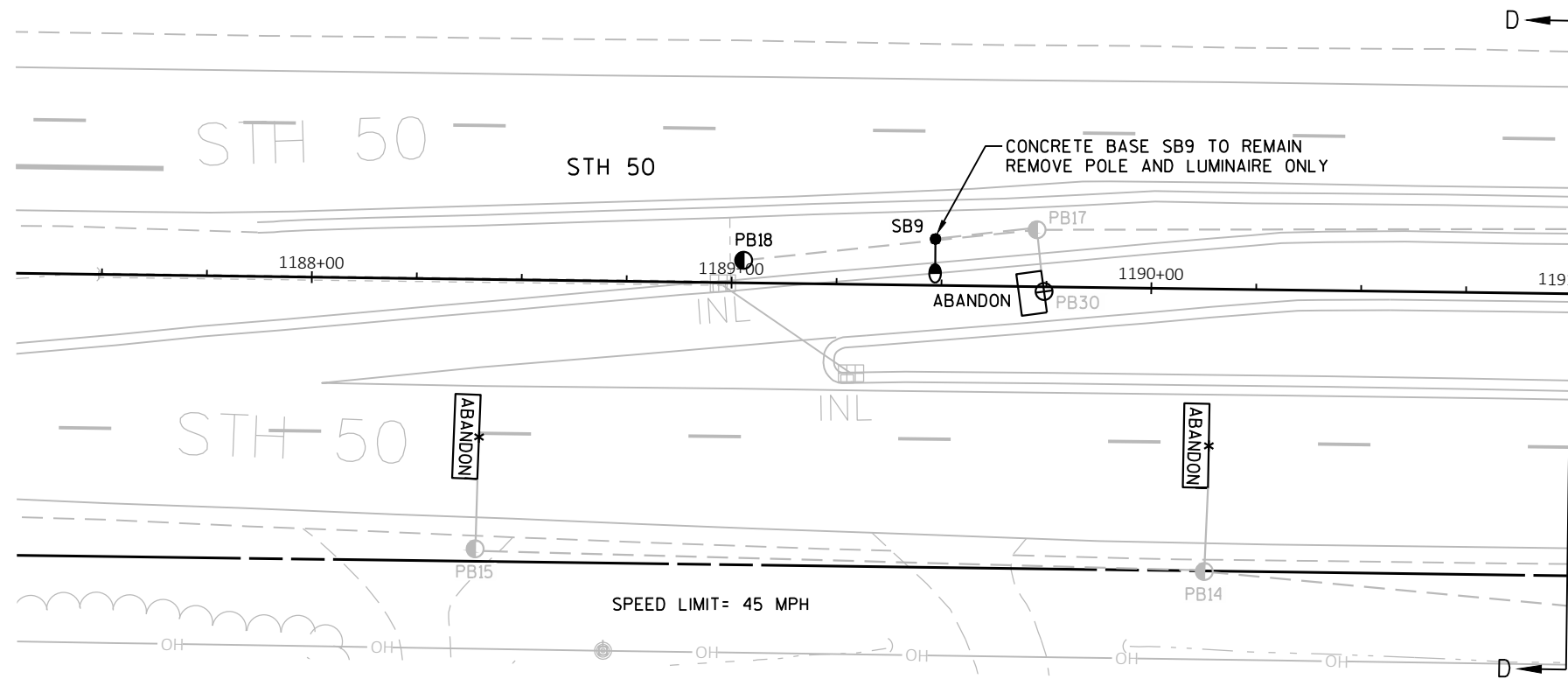
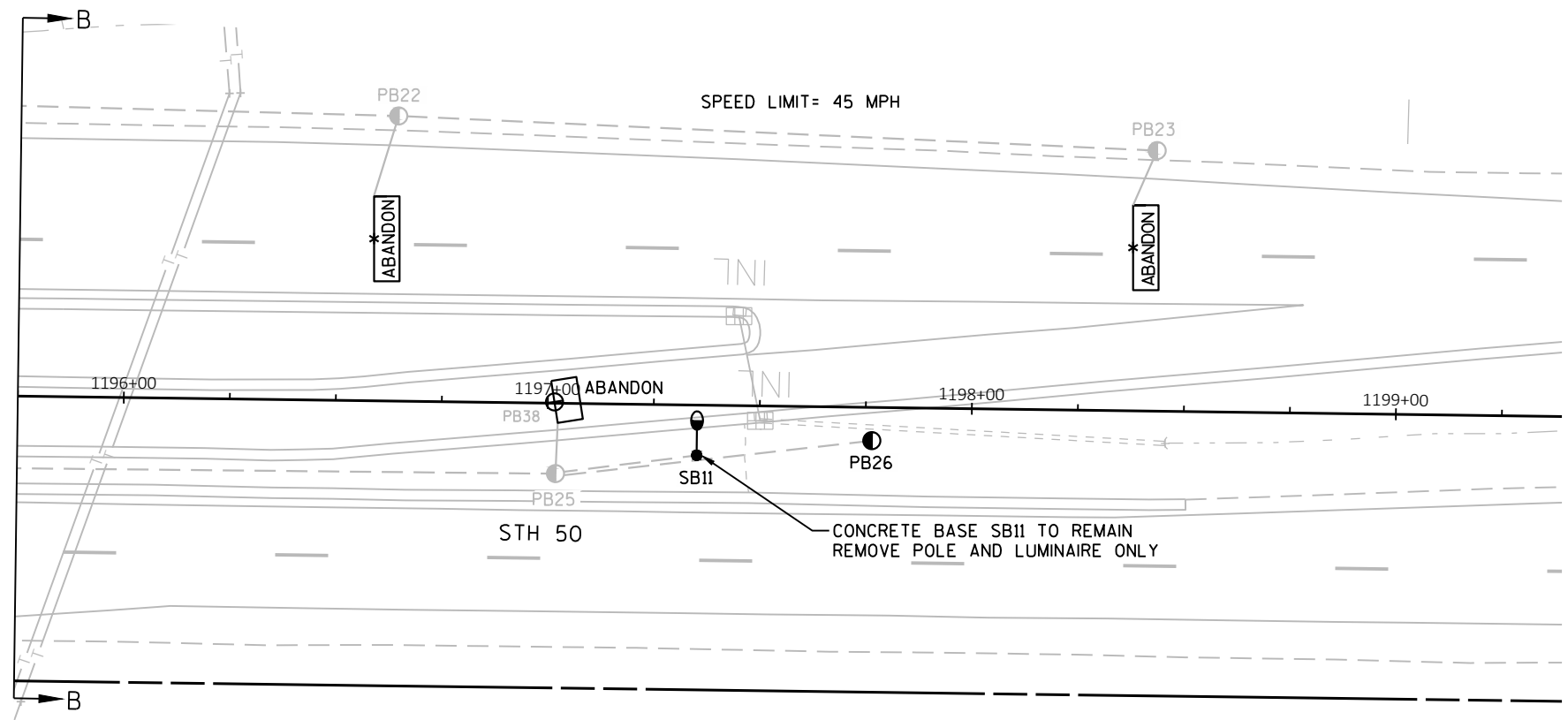
PLOT DATE : 1/9/2019 7:47 AM

PLOT BY : VANDE LEEST, CYNTHIA

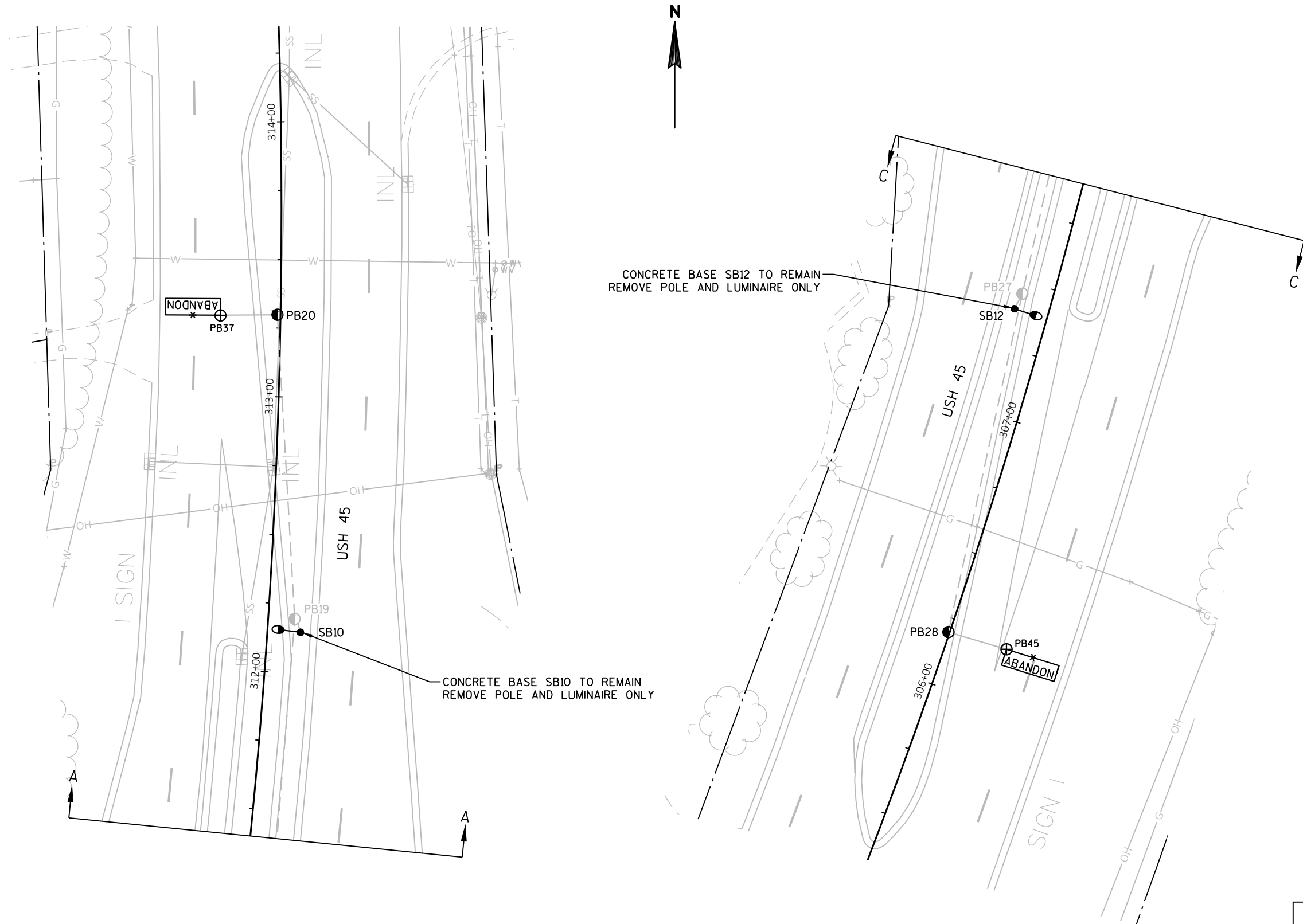
PLOT NAME :

PLOT SCALE : 1 IN:40 FT

WISDOT/CADDS SHEET 42



TRAFFIC CONTROL SIGNAL USH 45 & STH 50 TOWN OF BRISTOL KENOSHA COUNTY	
SIGNAL NO. S30-0030	
REGION CONTACT: S. SWARD DESIGNED BY: C. VANDE LEEST REVISED BY:	PAGE 2 OF 3



PROJECT NO: 3200-01-72

HWY: USH 45

COUNTY: KENOSHA

TRAFFIC SIGNAL REMOVAL PLAN

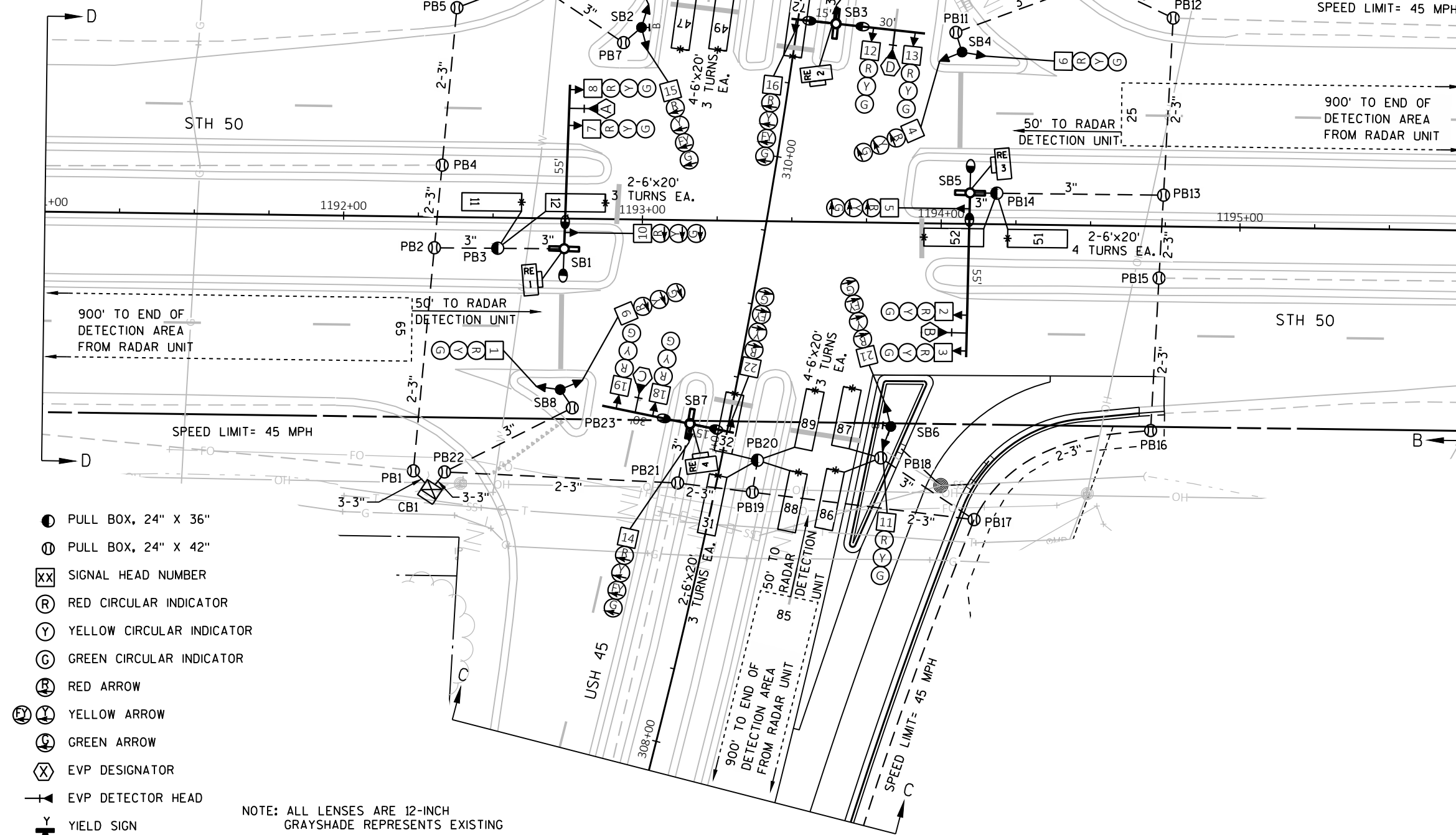
SHEET

118

E

LEGEND

- ☒ CONTROL CABINET
— — — — — NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
— — — — — LOOP DETECTOR CONDUIT, 1" NONMETALLIC
● SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
(XX) ● MONOTUBE BASE, POLE, 15'-55' ARM
● LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE
* [] * LOOP DETECTOR IN 1" NONMETALLIC CONDUIT
[] RADAR DETECTION AREA
[] RADAR DETECTOR
— PEDESTRIAN PUSH BUTTON



EVP CONSTRUCTION NOTES:

1. INSTALL THE TRAFFIC SIGNAL EMERGENCY VEHICLE PRE-EMPTION DETECTOR CABLE TO RUN CONTINUOUSLY (WITHOUT SPLICES) FROM THE CABINET TO THE DETECTOR HEADS. MOUNT THE EVP DETECTOR HEADS AND WIRE THEM PER MANUFACTURER INSTRUCTIONS.
2. THE DEPARTMENT WILL DETERMINE THE EXACT LOCATION OF THE EVP DETECTORS TO ENSURE THAT THE INSTALLATION DOES NOT CREATE A SIGHT OBSTRUCTION.
3. ALL EVP DETECTOR CABLE SHALL BE ROUTED THROUGH EXISTING SIGNAL BASES, PULL BOXES, AND CONDUIT AS INDICATED. PROVIDE ENOUGH CABLE TO ALLOW 10 FEET OF SLACK IN THE CABINET, IN EACH PULL BOX, AND IN THE SIGNAL POLE HANDHOLE.
4. FOR A CABINET THAT IS NOT OPERATING THE SIGNAL, CABINET WIRING WILL BE DONE BY THE CONTRACTOR. THE CONTRACTOR SHALL INSTALL AND TERMINATE THE EVP CABLE AS DESCRIBED AND SHALL LABEL EACH CABLE AS NOTED ON THE PLAN SHEETS (I.E. EVP A-B-C-D).

CONSTRUCTION NOTES:

1. * LOCATION IS TO FRONT CENTER OF DETECTOR LOOP.
2. THE CONTRACTOR SHALL HAVE THE PULL BOXES AND CONDUIT RUNS INSPECTED 5 WORKING DAYS PRIOR TO PLACING SIGNAL CABLE INTO SYSTEM. CONTACT THE WISDOT ELECTRICAL FIELD UNIT TO MAKE ARRANGEMENTS. (414) 266-1170.
3. THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT WHICH ARE NOT SHOWN.
4. INSTALL CABINET BASE 6" ABOVE ROADWAY ELEVATION.
5. ALL LUMINAIRES ARE LED-C UNLESS OTHERWISE NOTED.
6. SB9, SB10, SB11 & SB12 CONCRETE BASES TO REMAIN. REPLACE POLES AND LUMINAIRES ONLY.
7. SB3 AND SB5 ARE OVER HEIGHT MONOTUBE ARMS.

MONOTUBE
STRUCTURE NUMBERS

SB1 = S-30-1197
SB3 = S-30-1198(OH)
SB5 = S-30-1199(OH)
SB7 = S-30-1200

- PULL BOX, 24" X 36"
⊙ PULL BOX, 24" X 42"
XX SIGNAL HEAD NUMBER
Ⓡ RED CIRCULAR INDICATOR
Ⓨ YELLOW CIRCULAR INDICATOR
ⓐ GREEN CIRCULAR INDICATOR
Ⓡ RED ARROW
Ⓨ YELLOW ARROW
ⓐ GREEN ARROW
ⓧ EVP DESIGNATOR
— EVP DETECTOR HEAD
Y YIELD SIGN

NOTE: ALL LENSES ARE 12-INCH
GRAYSHADE REPRESENTS EXISTING

TRAFFIC CONTROL SIGNAL
USH 45 & STH 50
TOWN OF BRISTOL
KENOSHA COUNTY

CABINET TYPE: TS2-E
CONTROLLER TYPE: ECONOLITE
SIGNAL NO. S30-0030

WISCONSIN DEPARTMENT OF TRANSPORTATION

APPROVAL RECOMMENDED

DATE 4/25/19

APPROVED

DATE 4/25/19

Joey M. Murphy
REGIONAL TRAFFIC ENGINEER

Greg R. Livan
STATE TRAFFIC ENGINEER

REGION CONTACT: S. SWARD
DESIGNED BY: C. VANDE LEST
REVISED BY:

PAGE 1 OF 4

PROJECT NO: 3200-01-72

HWY: USH 45

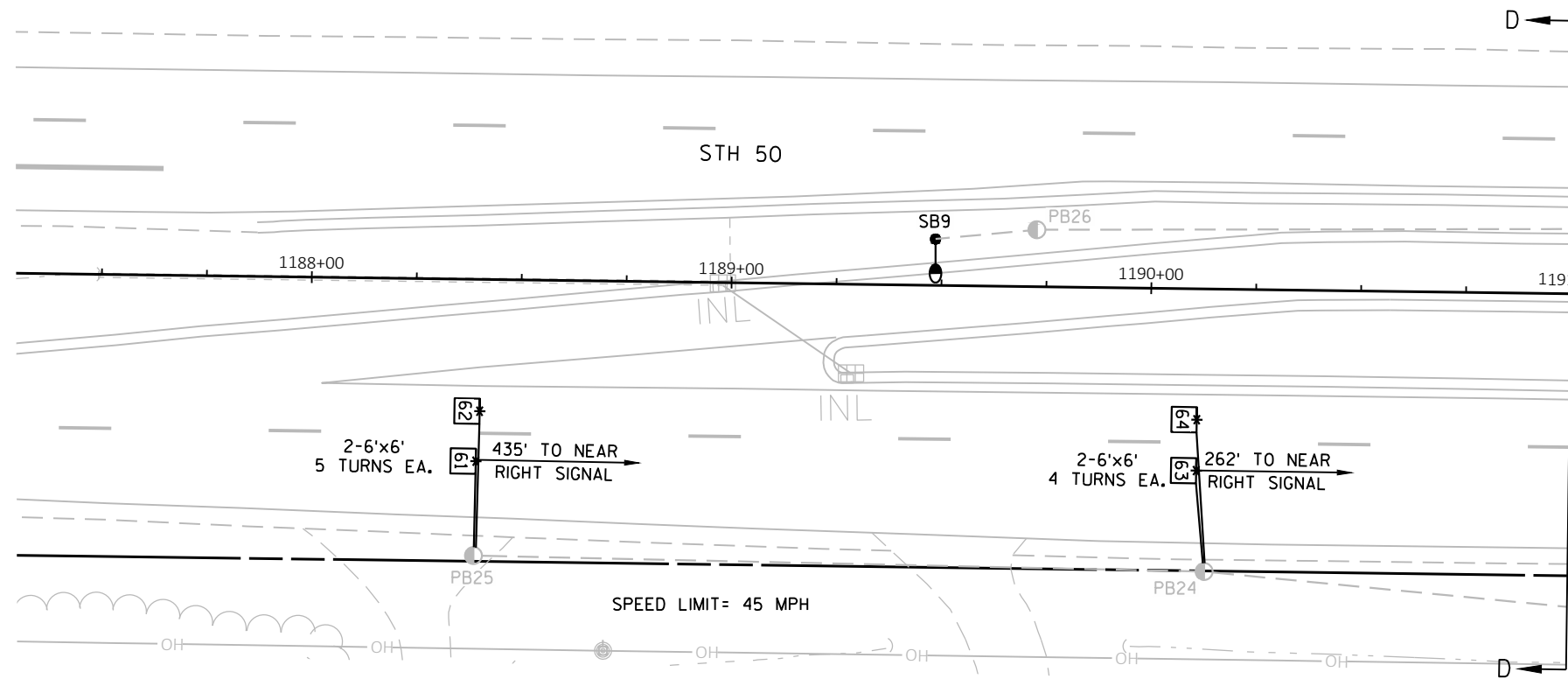
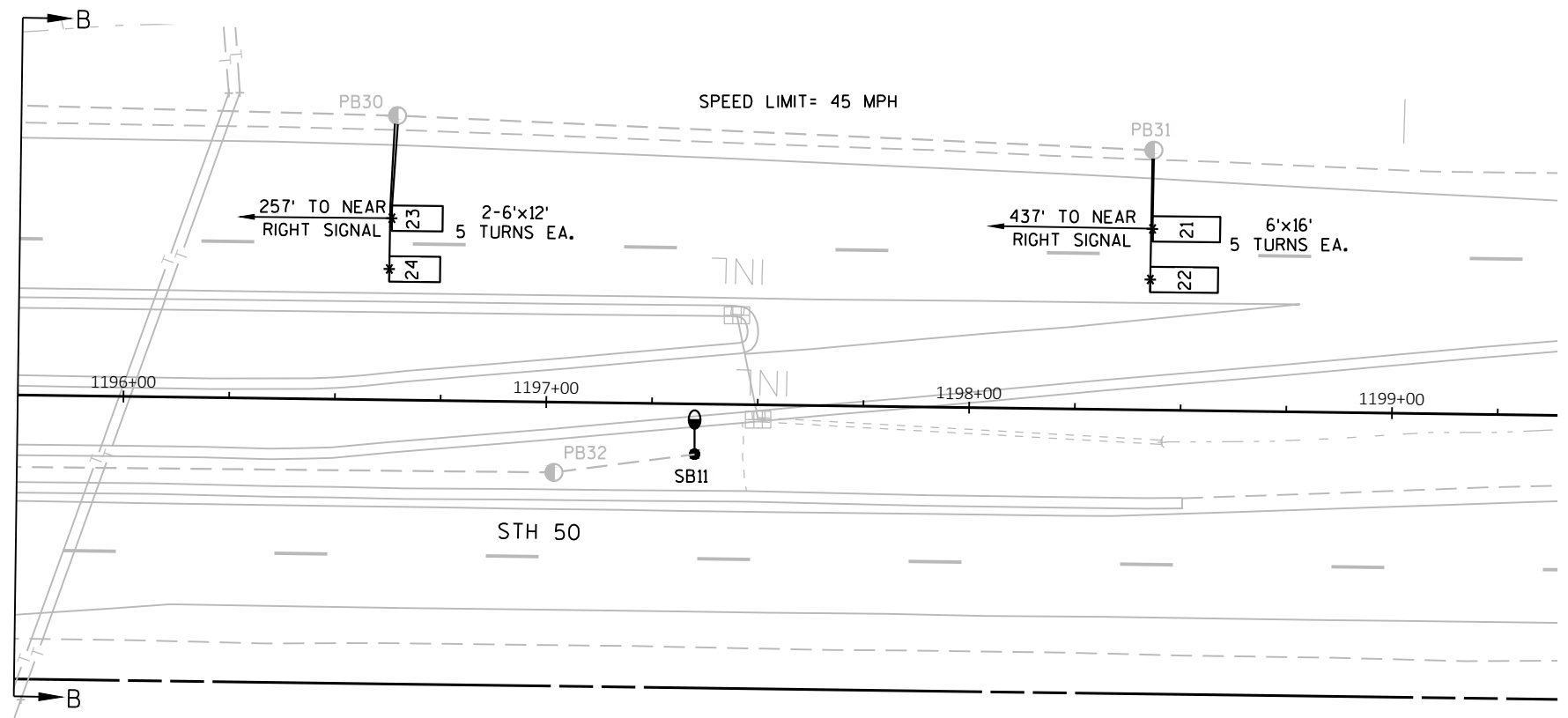
COUNTY: KENOSHA

TRAFFIC SIGNAL PLAN

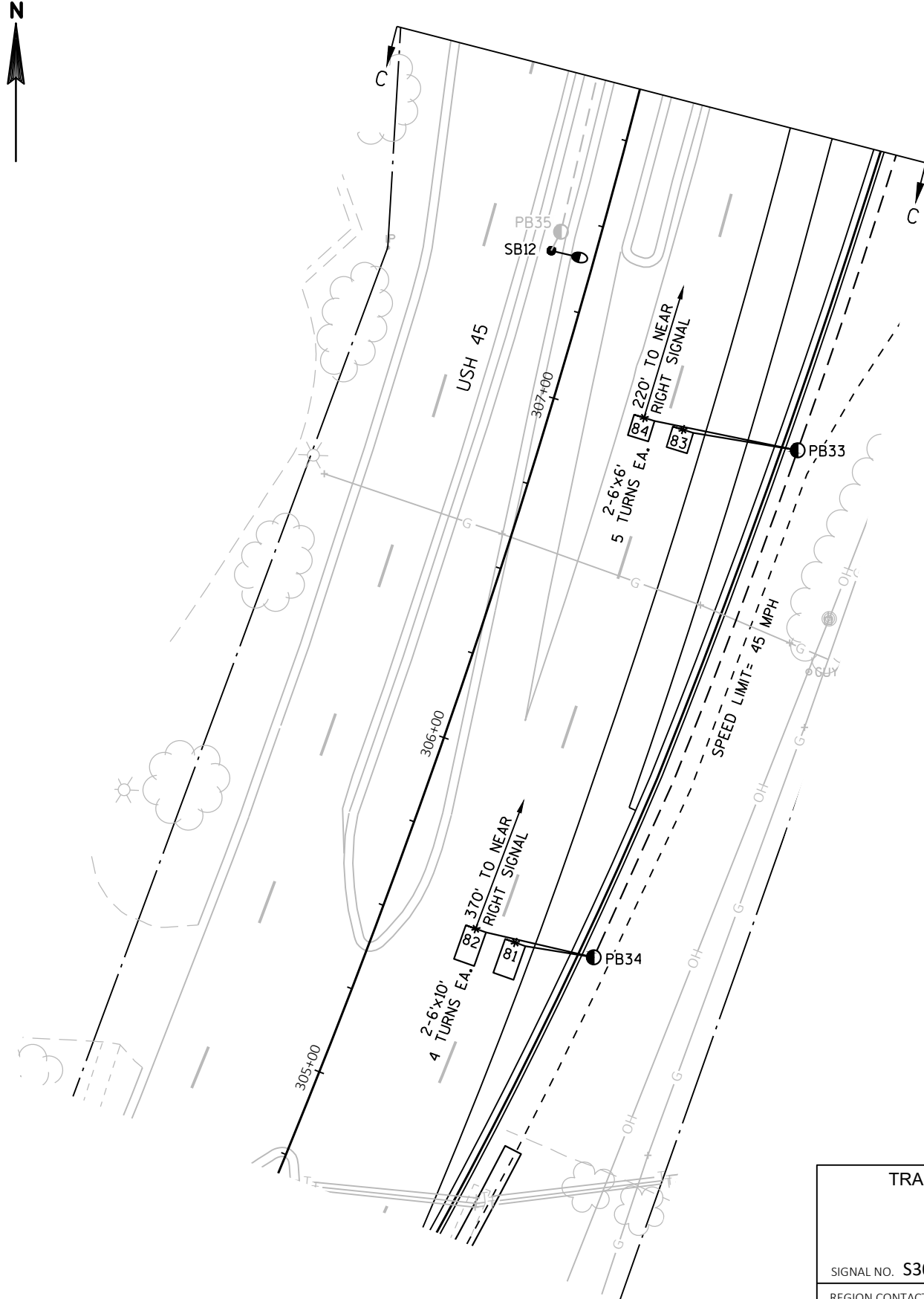
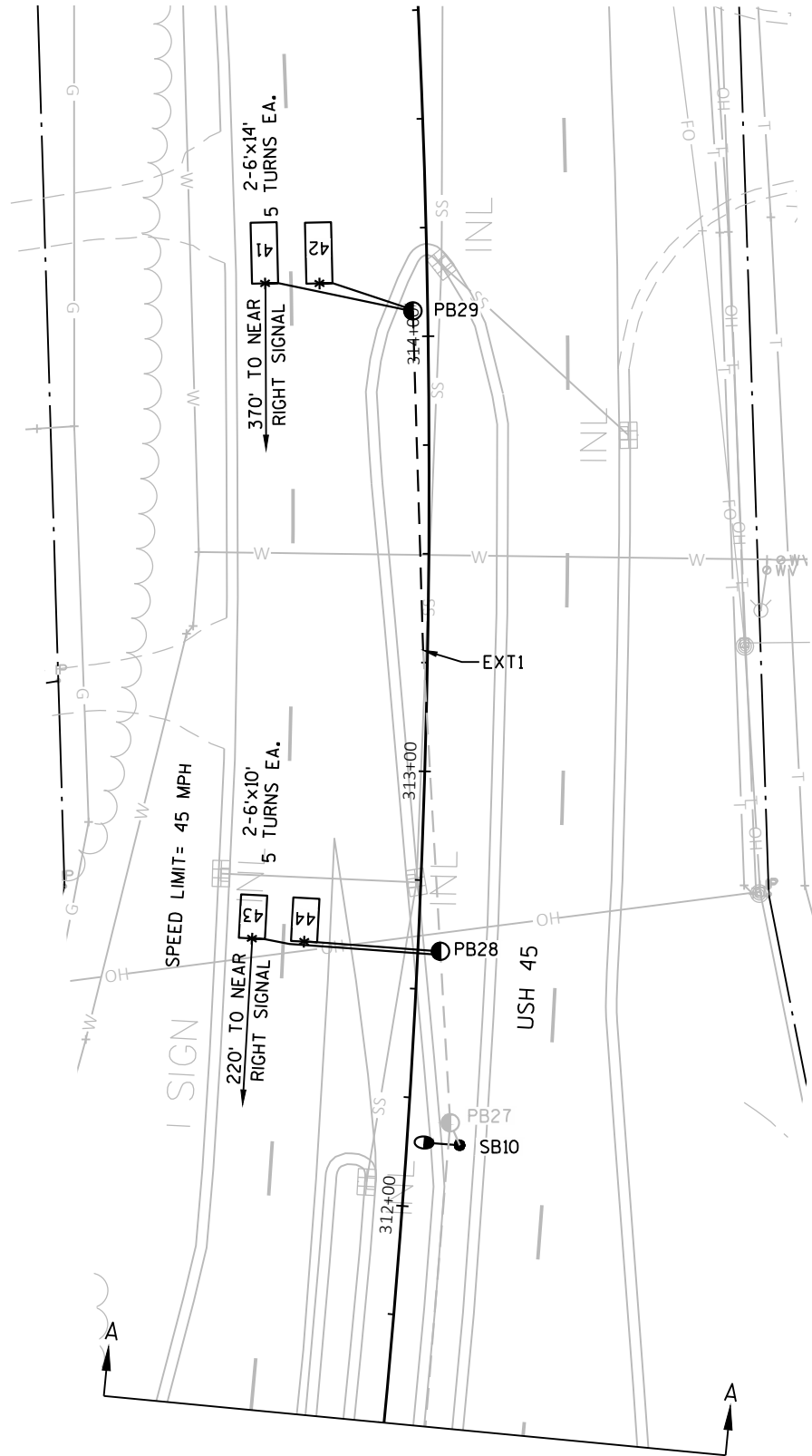
SHEET

119

E

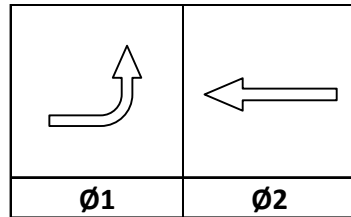


TRAFFIC CONTROL SIGNAL USH 45 & STH 50 TOWN OF BRISTOL KENOSHA COUNTY	
SIGNAL NO. S30-0030	
REGION CONTACT: S. SWARD DESIGNED BY: C. VANDE LEESE REVISED BY:	PAGE 2 OF 4

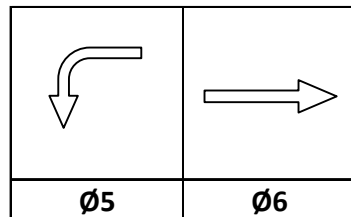


	HEAD NUMBERS	FLASH
Ø1	4,5	R
Ø2	6,7,8	R
Ø3	14,15,16	R
Ø4	17,18,19	R
Ø5	9,10	R
Ø6	1,2,3	R
Ø7	20,21,22	R
Ø8	11,12,13	R
Ø2P		
Ø4P		
Ø6P		
Ø8P		
OLE		
OLF	14,15,16	-
OLG		
OLH	20,21,22	-

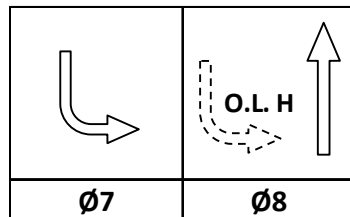
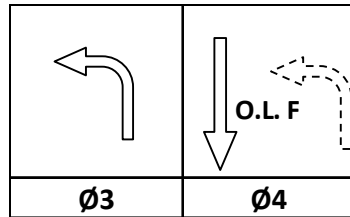
RING 1



RING 2



BARRIER



N

CONTROLLER LOGIC

PHASE NUMBER	PHASE LOCKING	DUAL ENTRY W / Ø	PHASE RECALL	PHASE ACTIVE
1		6		X
2	X	6	MIN	X
3		8		X
4		8		X
5		2		X
6	X	2	MIN	X
7		4		X
8		4		X

EMERGENCY VEHICLE PREEMPTION SEQUENCE

EMERGENCY VEHICLE PREEMPTOR	A	B	C	D
MOVEMENT				
PHASE	2+5	6+1	4+7	8+3

AFTER PREEMPTION SEQUENCE 2+5 OR 6+1, CONTROLLER SHALL RETURN TO PHASES 2+6.

AFTER PREEMPTION SEQUENCE 4+7 OR 8+3, CONTROLLER SHALL RETURN TO PHASES 4+8.

GENERAL NOTES:

- Button on SB2 & SB6 operate bike phase.

DETECTOR LOGIC

DETECTOR INPUT	3	1	7	5	11	9	15	13
PLAN LOOP DETECTOR*(S)	11	21	23	31	41	43	46	48
CALLED PHASE	1	2	2	3	4	4	4	4
CALL OPTION	X	X	X	X			X	X
DELAY TIME								
EXTENTION OPTION	X	X	X	X	X	X	X	X
EXTEND TIME								
USE ADDED INITIAL		X	X					
CROSS SWITCH PHASE				4				

DETECTOR INPUT	4	2	8	6	12	10	16	14
PLAN LOOP DETECTOR*(S)	12	22	24	32	42	44	47	49
CALLED PHASE	1	2	2	3	4	4	4	4
CALL OPTION	X	X	X	X			X	X
DELAY TIME								
EXTENTION OPTION	X	X	X	X	X	X	X	X
EXTEND TIME								
USE ADDED INITIAL		X	X					
CROSS SWITCH PHASE				4				

19	17	23	21	27	25	31	29
51	61	63	71	81	83	86	88
5	6	6	7	8	8	8	8
X	X	X	X			X	X
X	X	X	X	X	X	X	X
	X						
			8				

20	18	24	22	28	26	32	30
52	62	64	72	82	84	87	89
5	6	6	7	8	8	8	8
X	X	X	X			X	X
X	X	X	X	X	X	X	X
	X						
			8				

35	33	39	37	43	41	47	45
25	65						
2	6						
X	X						
X	X						

36	34	40	38	44	42	48	46
45	85						
4	8						
X	X						
X	X						

TYPE OF INTERCONNECT/COMMUNICATION	
NONE	
CLOSED LOOP	
TWISTED PAIR	
FIBER OPTIC*	
FIBER OPTIC (ETHERNET)	
RADIO	
CELL MODEM	X

TYPE OF COORDINATION	
NONE	X
TBC	
TRAFFIC RESPONSIVE	
ADAPTIVE	
*LOCATION OF MASTER	
CONTROLLER NO:	S-
SIGNAL SYSTEM NO:	SS-

TYPE OF LIGHTING	
BY OTHER AGENCY	
IN TRAFFIC CABINET	X
IN SEPARATE DOT LIGHTING CABINET	

TYPE OF PRE-EMPT	
NONE	
RAILROAD	
EMERGENCY VEHICLE	X
GTT	
TOMAR	X
HARDWIRE	
OTHER	
CONFIRMATION LIGHTS	
LIFT BRIDGE	
QUEUE DETECTION	

USH 45 & STH 50

TOWN OF BRISTOL

KENOSHA COUNTY

SIGNAL NO: S30-0030 CABINET TYPE: TS2-E

CONTROLLER TYPE: ECONOLITE

DATE: 4/2019 PAGE NUMBER: 4 OF 4

PROJECT ID:	3200-01-72
INTERSECTION:	USH 45 & STH 50

Signal Wire Color Coding	BLK - black	RED - red	GRN - green
	WHT - white	BLU - blue	ORG - orange

CB1 TO	AWG14 # OF CONDUCTORS	HEAD NO.	SIGNAL INDICATION WIRE COLOR									PED BUTTON	FUTURE APS
			RED	YELLOW	GREEN	<RED>	<YELLOW>	<GREEN>	<FLASHING YELLOW>	D/WALK	WALK		
SB1	12	7	RED	ORG	GRN								
		8	RED	ORG	GRN								
		10				RED/BLK	ORG/BLK	GRN/BLK					
SB2	12	15				RED	ORG	GRN	BLK/WHT				
		17	RED/BLK	ORG/BLK	GRN/BLK								
		B									WHT/BLK		
SB3	15	12	RED	ORG	GRN								
		13	RED	ORG	GRN								
		16				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT				
		20				RED/WHT	BLU/BLK	GRN/WHT	BLU/WHT				
SB4	12	4				RED	ORG	GRN					
		6	RED/BLK	ORG/BLK	GRN/BLK								
SB5	12	2	RED	ORG	GRN								
		3	RED	ORG	GRN								
		5				RED/BLK	ORG/BLK	GRN/BLK					
SB6	12	11	RED	ORG	GRN								
		21				RED/BLK	ORG/BLK	GRN/BLK	BLK/WHT				
		B									WHT/BLK		
SB7	15	14				RED	ORG	GRN	BLK/WHT				
		18	RED/BLK	ORG/BLK	GRN/BLK								
		19	RED/BLK	ORG/BLK	GRN/BLK								
		22				RED/WHT	BLU/BLK	GRN/WHT	BLU/WHT				
SB8	12	1	RED	ORG	GRN								
		9				RED/BLK	ORG/BLK	GRN/BLK					

- *Use the white conductor in the cable assembly as the grounded conductor for all traffic signal indications
- *Ensure the grounded conductor in the feeder cable and the pole cables are both 18" longer than the ungrounded conductors.
- *At the signal bases, connect one terminal from the pedestrian push buttons to the color indicated in the chart. Connect the other terminal to the grounded conductor.
- *Reconnect the grounding conductors wherever the circuit has been interrupted to ensure the grounding circuit is complete.

Equipment Grounding Conductor 10 AWG Green XLP	
From	To
CB1	SB1
SB1	SB2
SB2	SB3
SB3	SB4
SB4	SB5
SB5	SB6
SB6	SB7
SB7	SB8
SB8	CB1

Pull Box Bonding Jumper 10 AWG Green XLP	
From	To
PB1	CB1
PB2	SB1
PB3	SB1
PB4	SB1
PB5	SB2
PB6	SB2
PB7	SB2
PB8	SB3
PB9	SB3
PB10	SB4
PB11	SB4
PB12	SB4
PB13	SB5
PB14	SB5
PB15	SB5
PB16	SB6
PB17	SB6
PB18	SB6
PB19	SB7
PB21	SB7
PB22	CB1
PB23	SB8

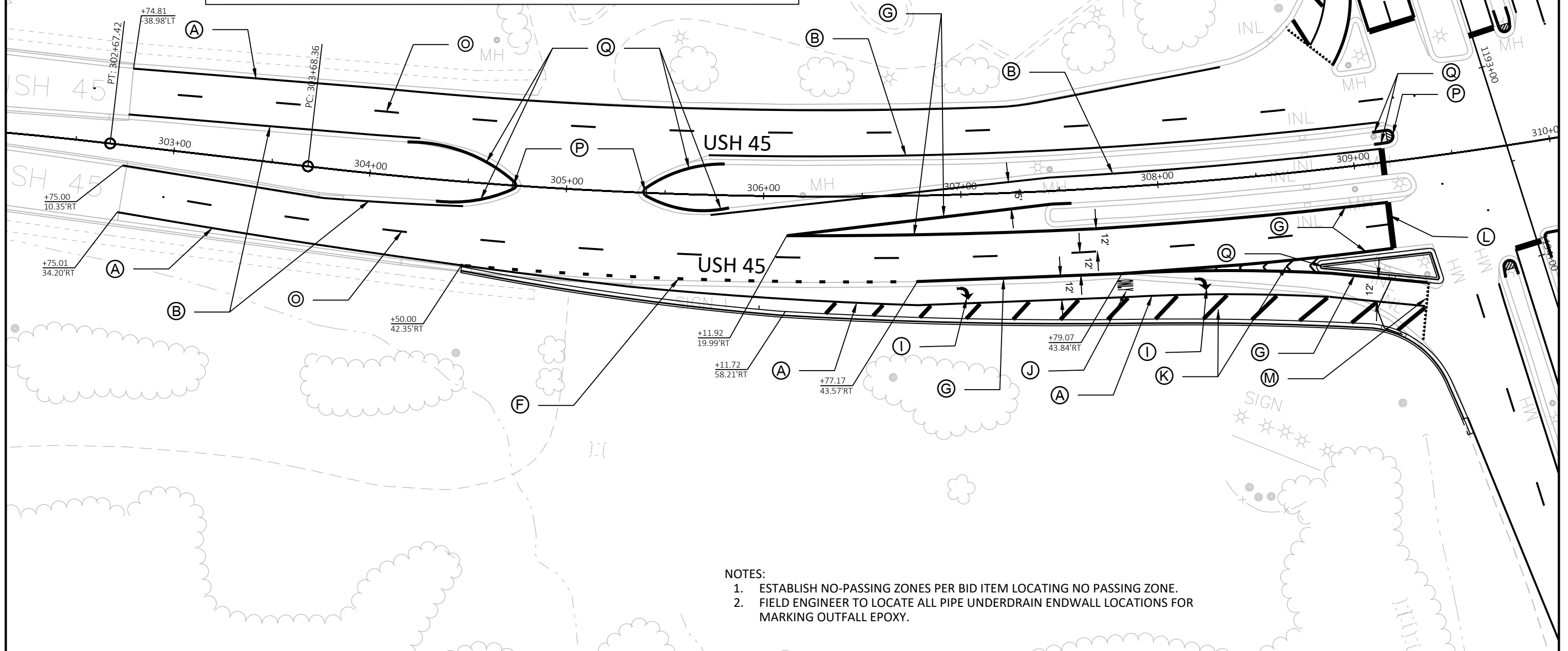
Lighting UF 2-10 AWG Grouded	
From	To
CB1	SB1
SB1	SB9
SB1	SB3
SB3	SB10
CB1	SB7
SB7	SB12
SB7	SB5
SB5	SB11

Emergency Vehicle Preemption	
From	To
CB1	SB1 (HEAD A)
CB1	SB5 (HEAD B)
CB1	SB7 (HEAD C)
CB1	SB3 (HEAD D)

Radar Detection Cable	
From	To
CB1	SB1 (RE1)
CB1	SB3 (RE2)
CB1	SB5 (RE3)
CB1	SB7 (RE4)

LEGEND

(A) MARKING LINE EPOXY 4-INCH (WHITE)	(I) MARKING ARROW EPOXY
(B) MARKING LINE EPOXY 4-INCH (YELLOW)	(J) MARKING WORD EPOXY
(C) MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED YELLOW)	(K) MARKING DIAGONAL EPOXY 12-INCH
(D) MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)	(L) MARKING STOP LINE EPOXY 18-INCH
(E) MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED, WHITE)	(M) MARKING YIELD LINE EPOXY 18-INCH
(F) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE)	(N) MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
(G) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE)	(O) MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (12.5' LINE, 37.5' GAP, WHITE)
(H) MARKING LINE EPOXY 8-INCH	(P) MARKING ISLAND NOSE EPOXY
(H)* MARKING LINE EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE)	(Q) MARKING CURB EPOXY
	(R) CURB RAMP DETECTABLE WARNING FIELD



NOTES:

1. ESTABLISH NO-PASSING ZONES PER BID ITEM LOCATING NO PASSING ZONE.
2. FIELD ENGINEER TO LOCATE ALL PIPE UNDERDRAIN ENDWALL LOCATIONS FOR MARKING OUTFALL EPOXY.

PROJECT NO: 3200-01-72

HWY: USH 45

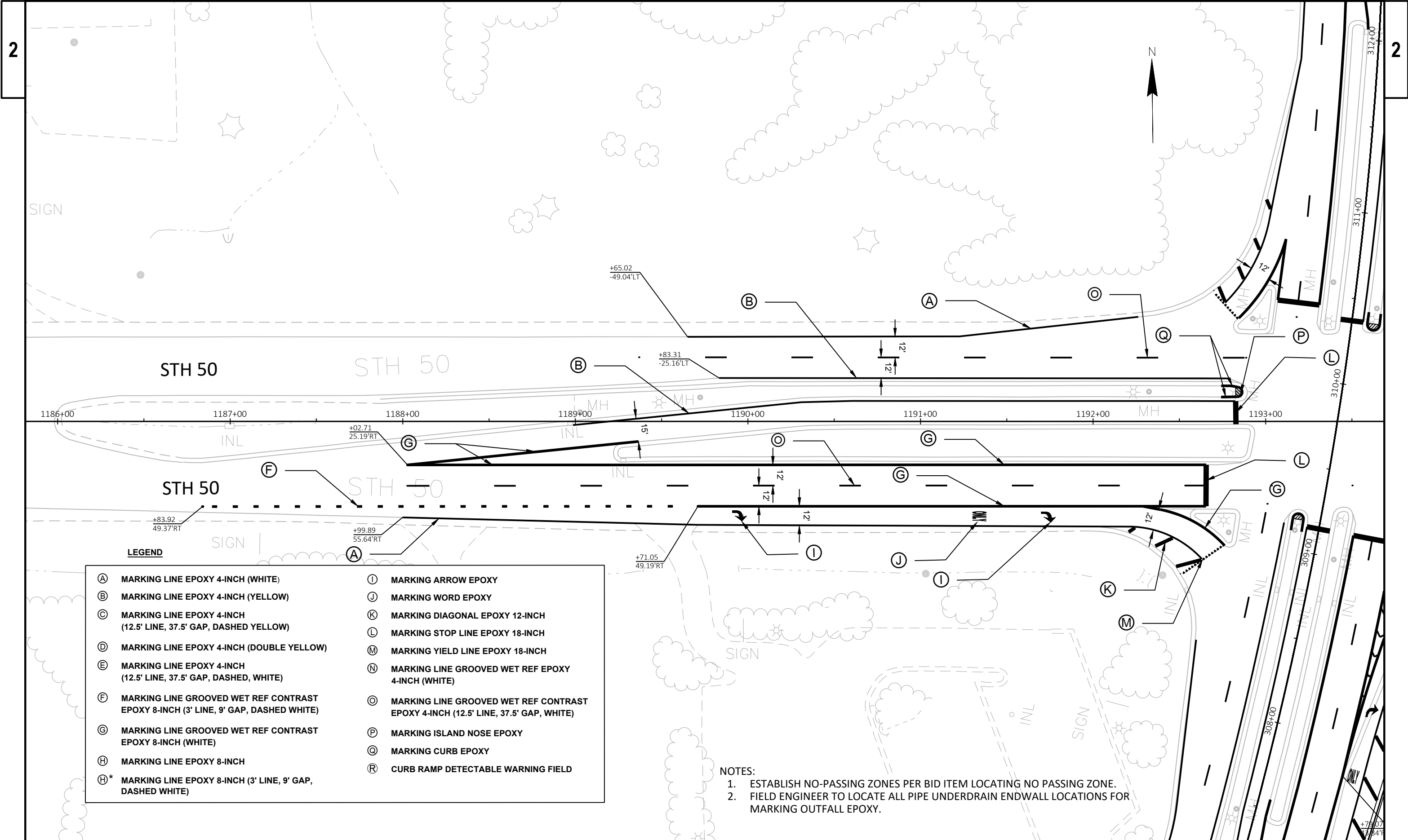
COUNTY: KENOSHA-RACINE

PAVEMENT MARKING

SHEET

125

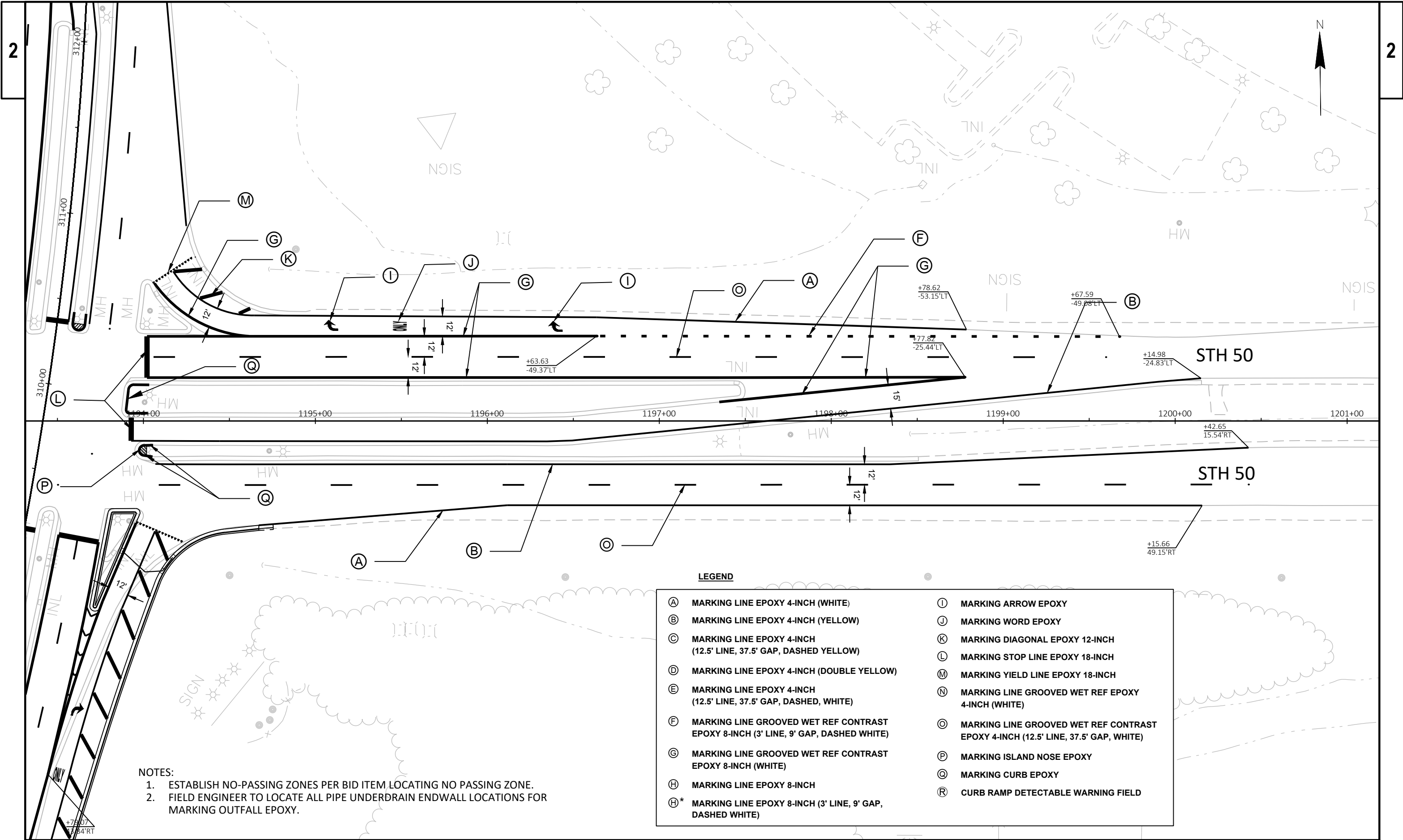
E



LEGEND

(A) MARKING LINE EPOXY 4-INCH (WHITE)	(I) MARKING ARROW EPOXY
(B) MARKING LINE EPOXY 4-INCH (YELLOW)	(J) MARKING WORD EPOXY
(C) MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED YELLOW)	(K) MARKING DIAGONAL EPOXY 12-INCH
(D) MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)	(L) MARKING STOP LINE EPOXY 18-INCH
(E) MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED, WHITE)	(M) MARKING YIELD LINE EPOXY 18-INCH
(F) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE)	(N) MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
(G) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE)	(O) MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (12.5' LINE, 37.5' GAP, WHITE)
(H) MARKING LINE EPOXY 8-INCH	(P) MARKING ISLAND NOSE EPOXY
(H)* MARKING LINE EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE)	(Q) MARKING CURB EPOXY
	(R) CURB RAMP DETECTABLE WARNING FIELD

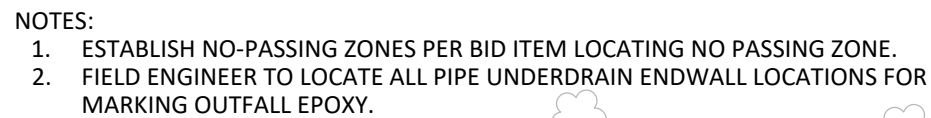
- NOTES:**
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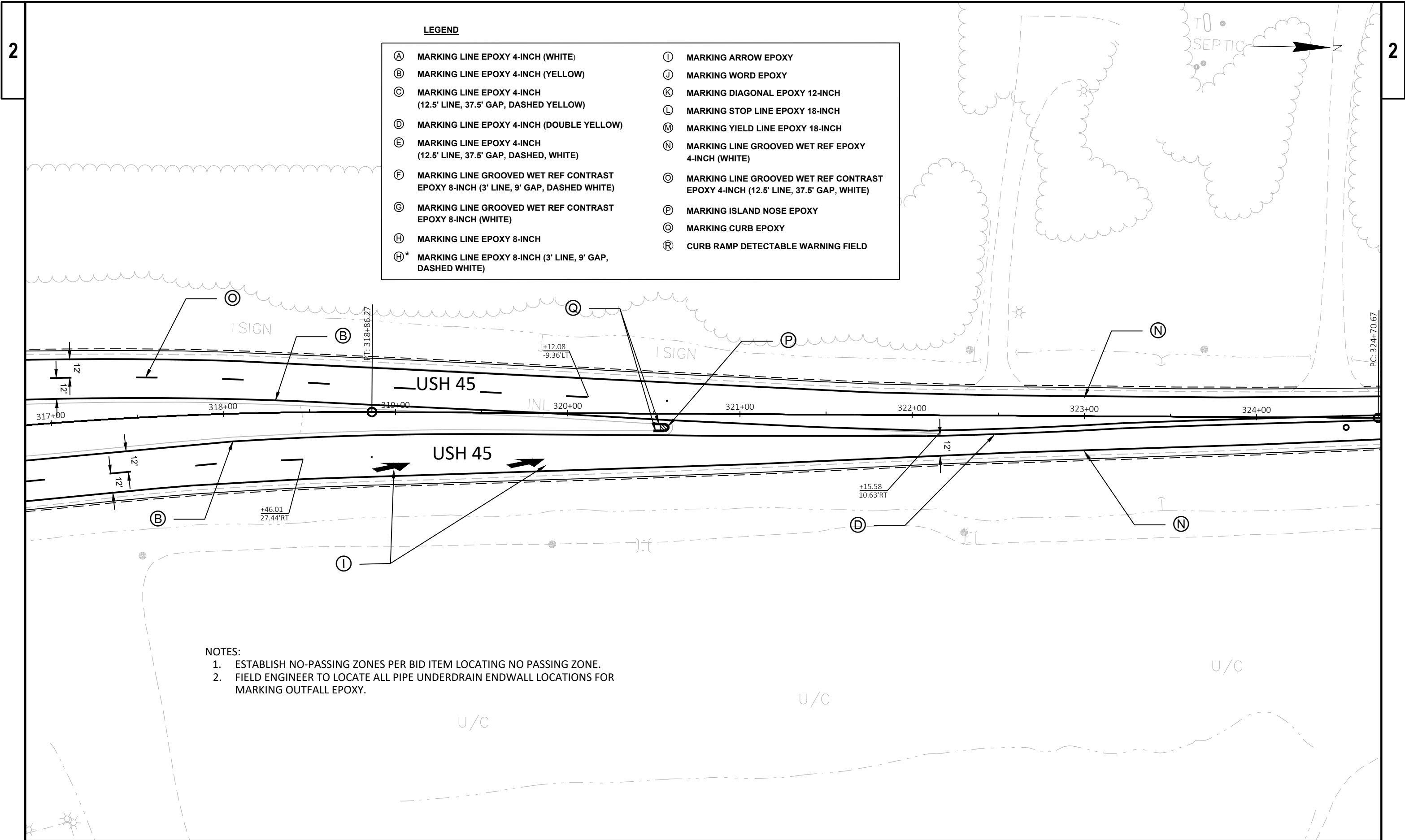


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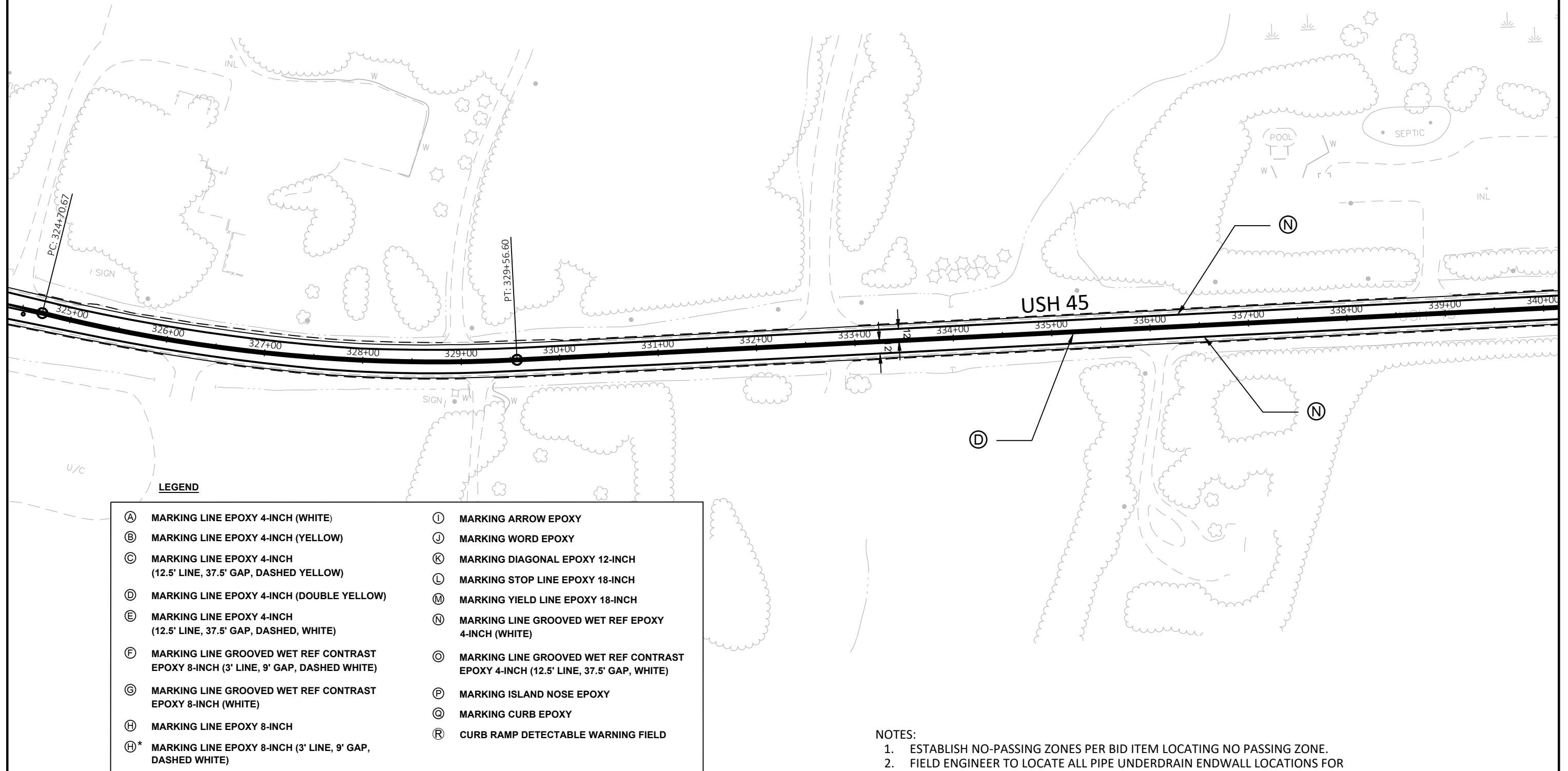
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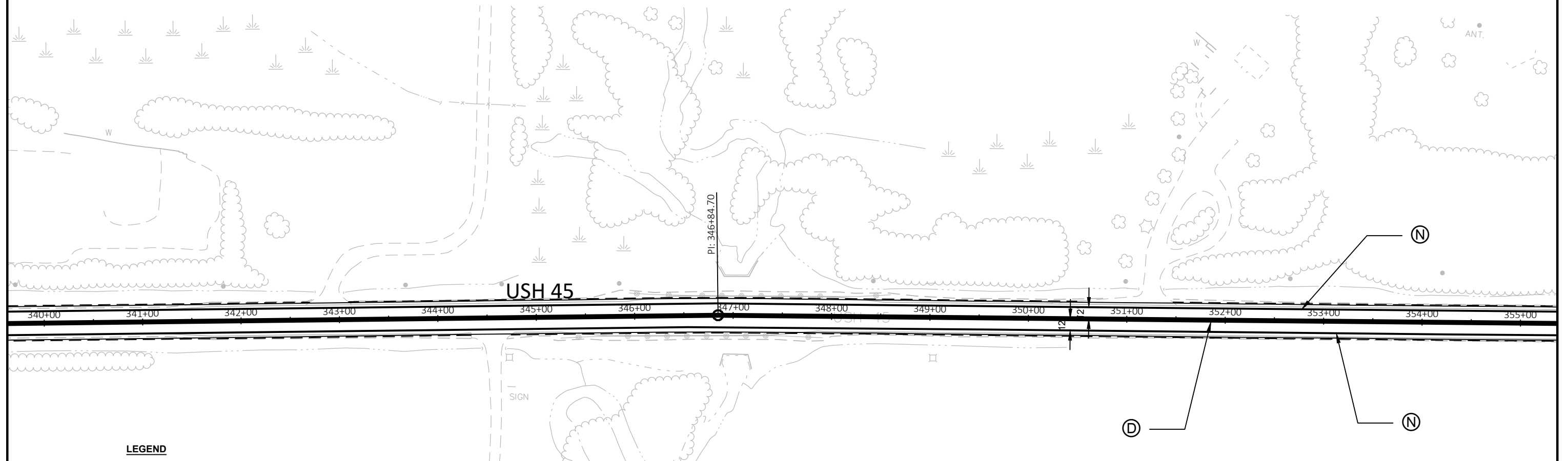
(A) MARKING LINE EPOXY 4-INCH (WHITE)	(I) MARKING ARROW EPOXY
(B) MARKING LINE EPOXY 4-INCH (YELLOW)	(J) MARKING WORD EPOXY
(C) MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED YELLOW)	(K) MARKING DIAGONAL EPOXY 12-INCH
(D) MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)	(L) MARKING STOP LINE EPOXY 18-INCH
(E) MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED, WHITE)	(M) MARKING YIELD LINE EPOXY 18-INCH
(F) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE)	(N) MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
(G) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE)	(O) MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (12.5' LINE, 37.5' GAP, WHITE)
(H) MARKING LINE EPOXY 8-INCH	(P) MARKING ISLAND NOSE EPOXY
(H)* MARKING LINE EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE)	(Q) MARKING CURB EPOXY
	(R) CURB RAMP DETECTABLE WARNING FIELD





NOTES:
1. ESTABLISH NO-PASSING ZONES PER BID ITEM LOCATING NO PASSING ZONE.
2. FIELD ENGINEER TO LOCATE ALL PIPE UNDERDRAIN ENDWALL LOCATIONS FOR MARKING OUTFALL EPOXY.



**LEGEND**

Ⓐ MARKING LINE EPOXY 4-INCH (WHITE)	Ⓛ MARKING ARROW EPOXY
Ⓑ MARKING LINE EPOXY 4-INCH (YELLOW)	Ⓜ MARKING WORD EPOXY
Ⓒ MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED YELLOW)	Ⓚ MARKING DIAGONAL EPOXY 12-INCH
Ⓓ MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)	Ⓛ MARKING STOP LINE EPOXY 18-INCH
Ⓔ MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED, WHITE)	Ⓜ MARKING YIELD LINE EPOXY 18-INCH
Ⓕ MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE)	Ⓝ MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
Ⓖ MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE)	Ⓞ MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (12.5' LINE, 37.5' GAP, WHITE)
Ⓗ MARKING LINE EPOXY 8-INCH	Ⓟ MARKING ISLAND NOSE EPOXY
Ⓗ* MARKING LINE EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE)	Ⓠ MARKING CURB EPOXY
	Ⓡ CURB RAMP DETECTABLE WARNING FIELD

NOTES:

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PROJECT NO: 3200-01-72

HWY: USH 45

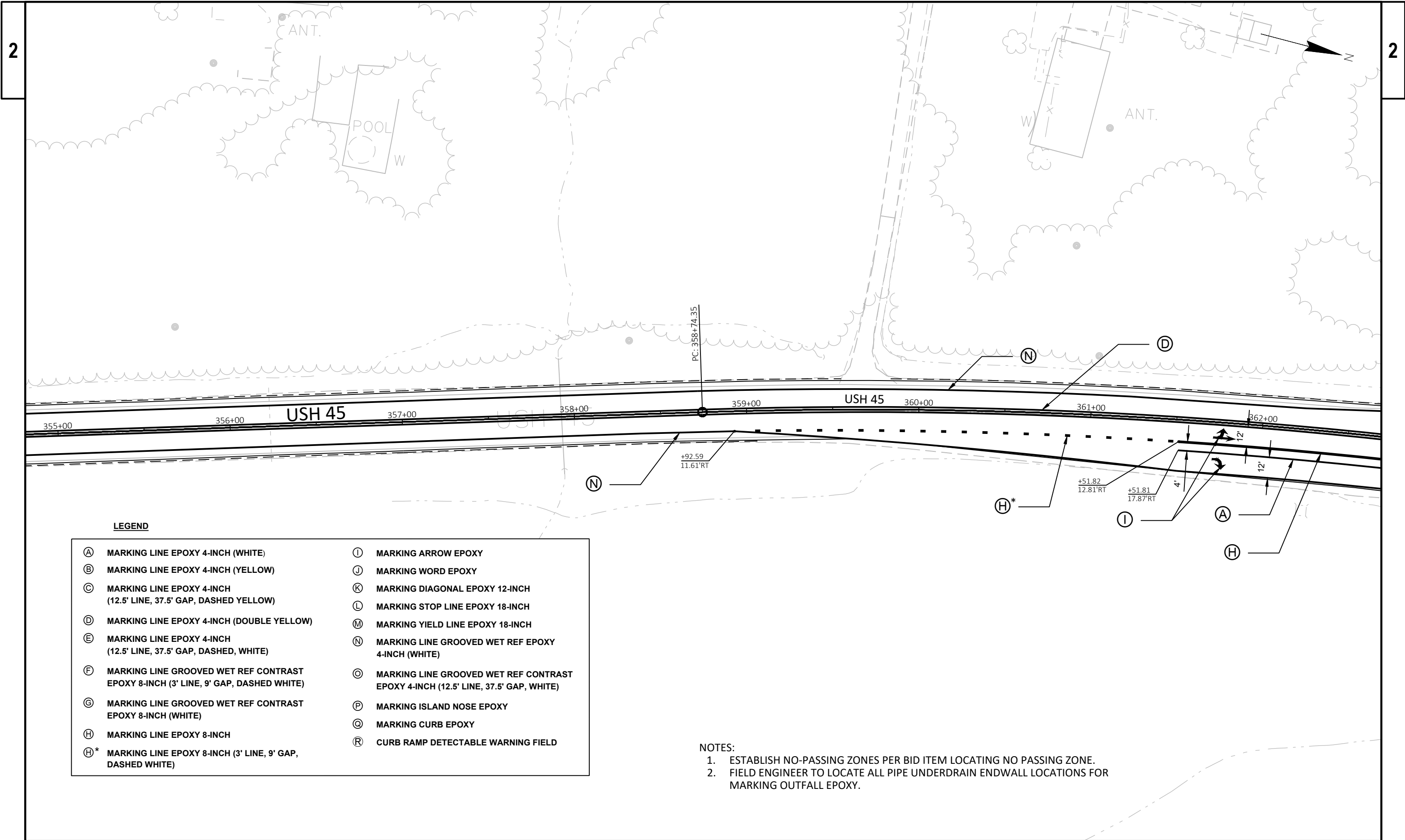
COUNTY: KENOSHA-RACINE

PAVEMENT MARKING

SHEET

131

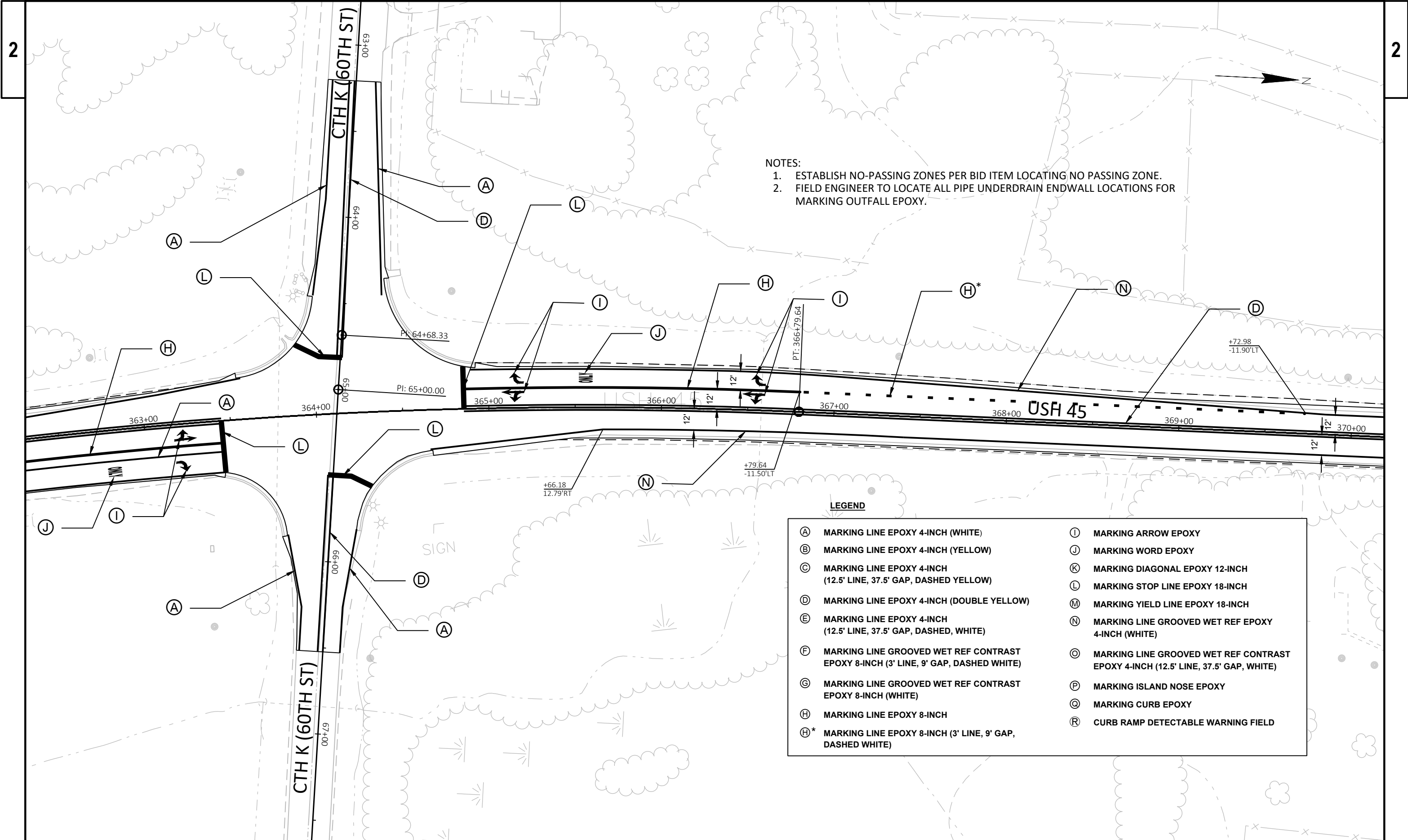
E



LEGEND

- | | |
|--|---|
| (A) MARKING LINE EPOXY 4-INCH (WHITE) | (I) MARKING ARROW EPOXY |
| (B) MARKING LINE EPOXY 4-INCH (YELLOW) | (J) MARKING WORD EPOXY |
| (C) MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED YELLOW) | (K) MARKING DIAGONAL EPOXY 12-INCH |
| (D) MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW) | (L) MARKING STOP LINE EPOXY 18-INCH |
| (E) MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED, WHITE) | (M) MARKING YIELD LINE EPOXY 18-INCH |
| (F) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE) | (N) MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE) |
| (G) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE) | (O) MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (12.5' LINE, 37.5' GAP, WHITE) |
| (H) MARKING LINE EPOXY 8-INCH | (P) MARKING ISLAND NOSE EPOXY |
| (H)* MARKING LINE EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE) | (Q) MARKING CURB EPOXY |
| | (R) CURB RAMP DETECTABLE WARNING FIELD |

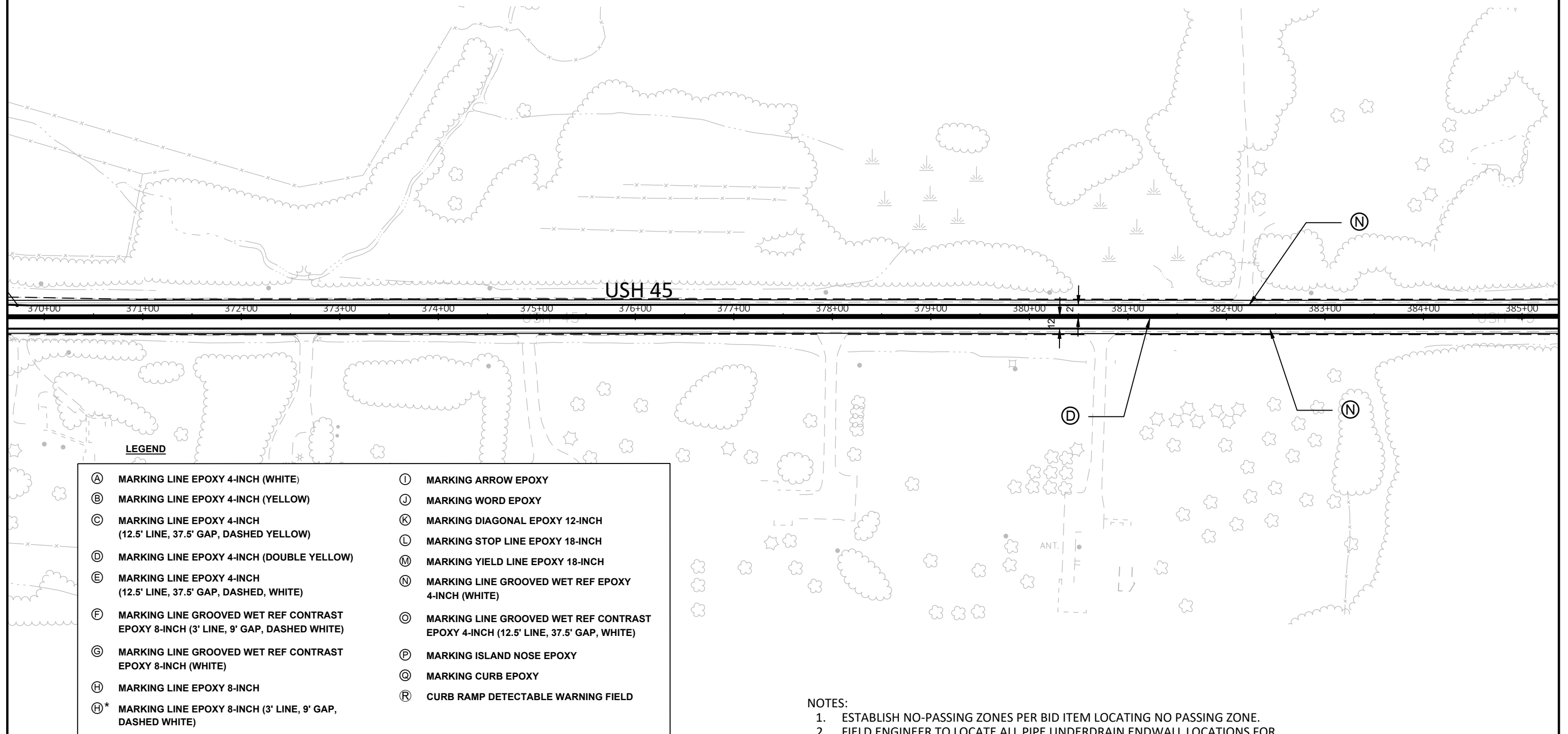
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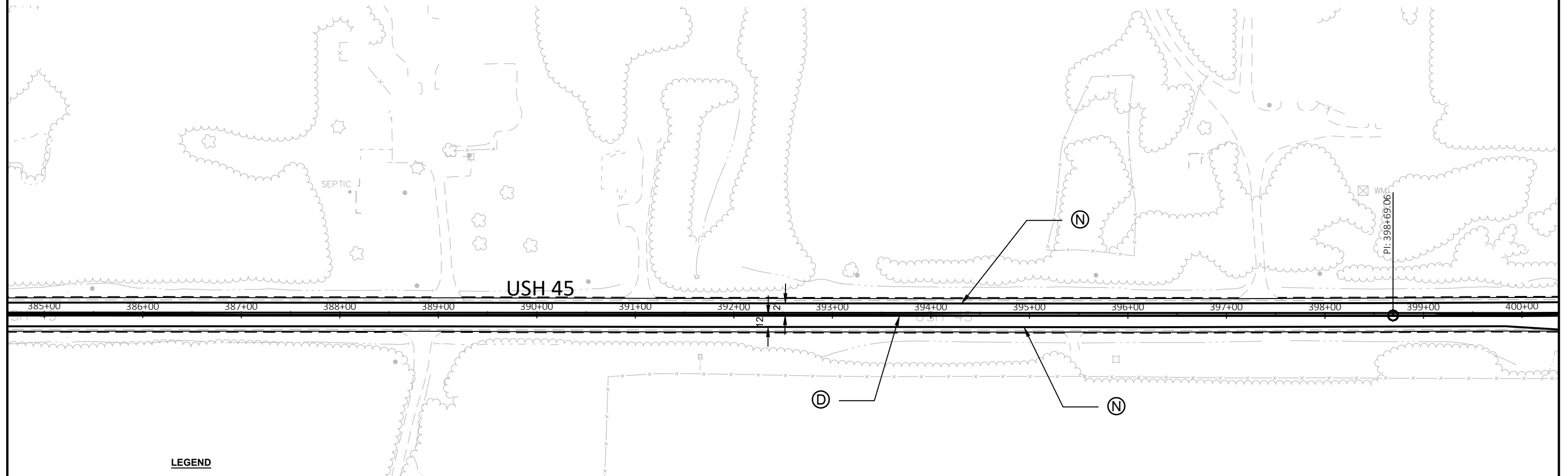


NOTES:
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LEGEND

(A) MARKING LINE EPOXY 4-INCH (WHITE)	(I) MARKING ARROW EPOXY
(B) MARKING LINE EPOXY 4-INCH (YELLOW)	(J) MARKING WORD EPOXY
(C) MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED YELLOW)	(K) MARKING DIAGONAL EPOXY 12-INCH
(D) MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)	(L) MARKING STOP LINE EPOXY 18-INCH
(E) MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED, WHITE)	(M) MARKING YIELD LINE EPOXY 18-INCH
(F) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE)	(N) MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
(G) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE)	(O) MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (12.5' LINE, 37.5' GAP, WHITE)
(H) MARKING LINE EPOXY 8-INCH	(P) MARKING ISLAND NOSE EPOXY
(H)* MARKING LINE EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE)	(Q) MARKING CURB EPOXY
	(R) CURB RAMP DETECTABLE WARNING FIELD

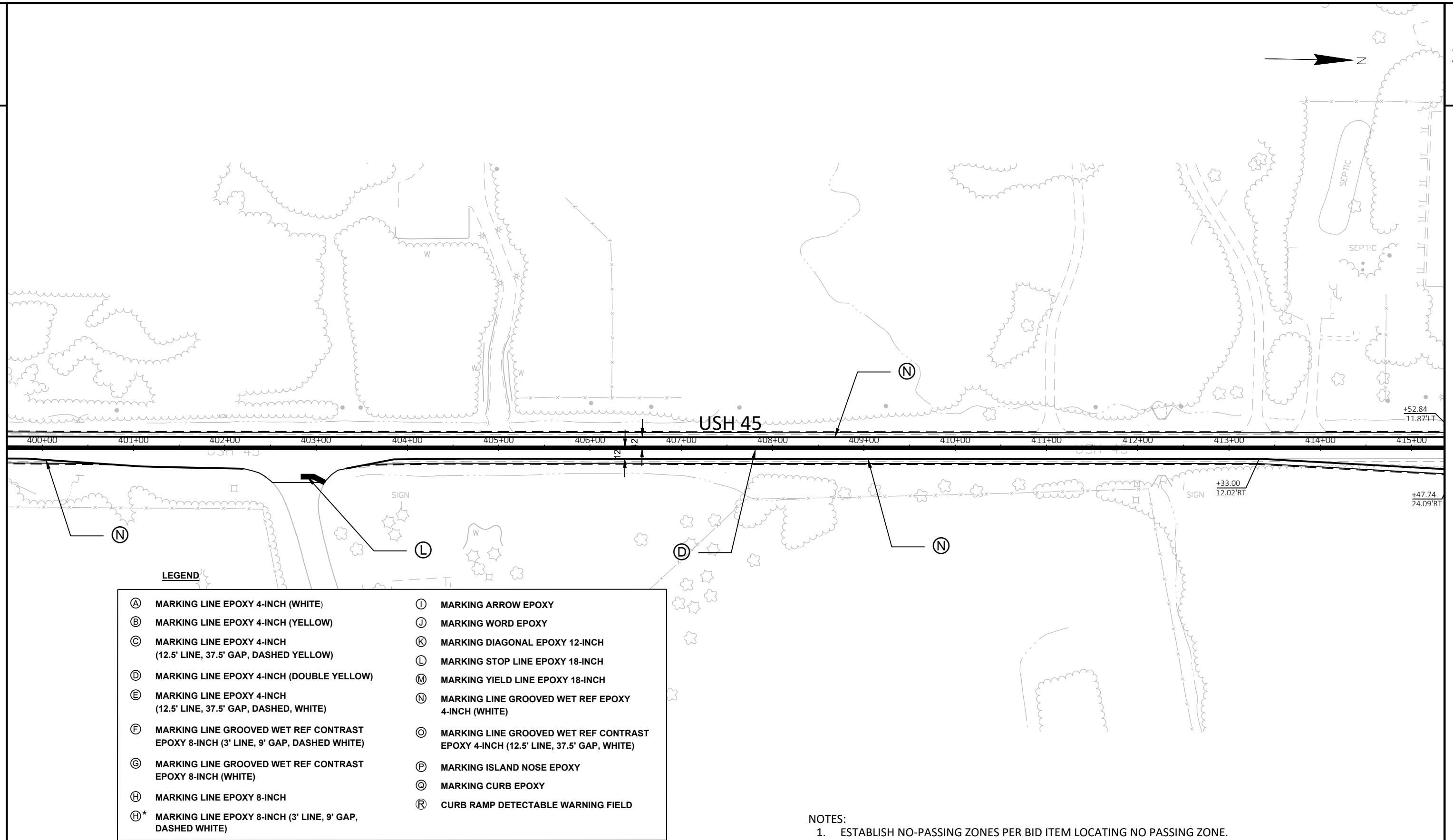


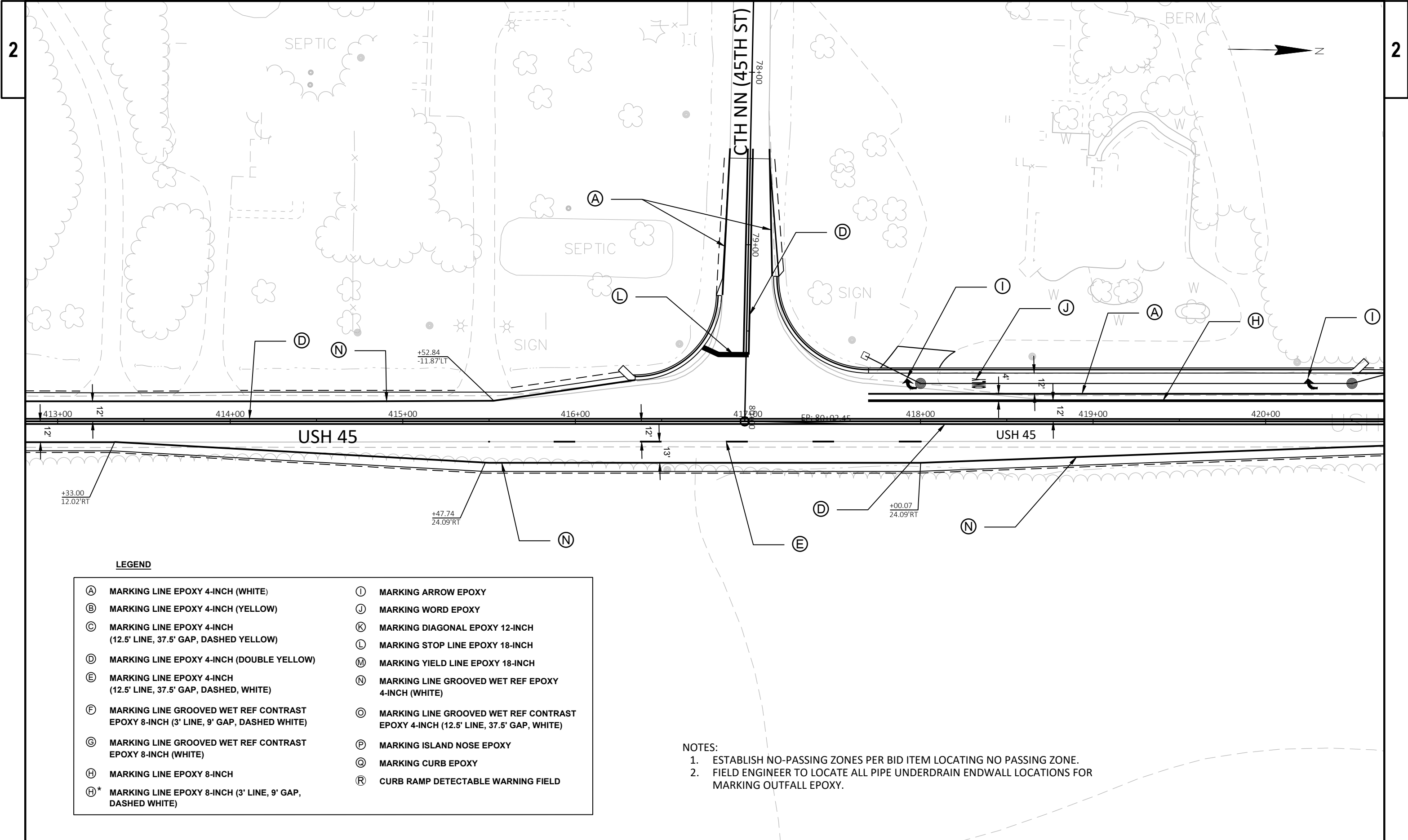
**LEGEND**

(A) MARKING LINE EPOXY 4-INCH (WHITE)	(I) MARKING ARROW EPOXY
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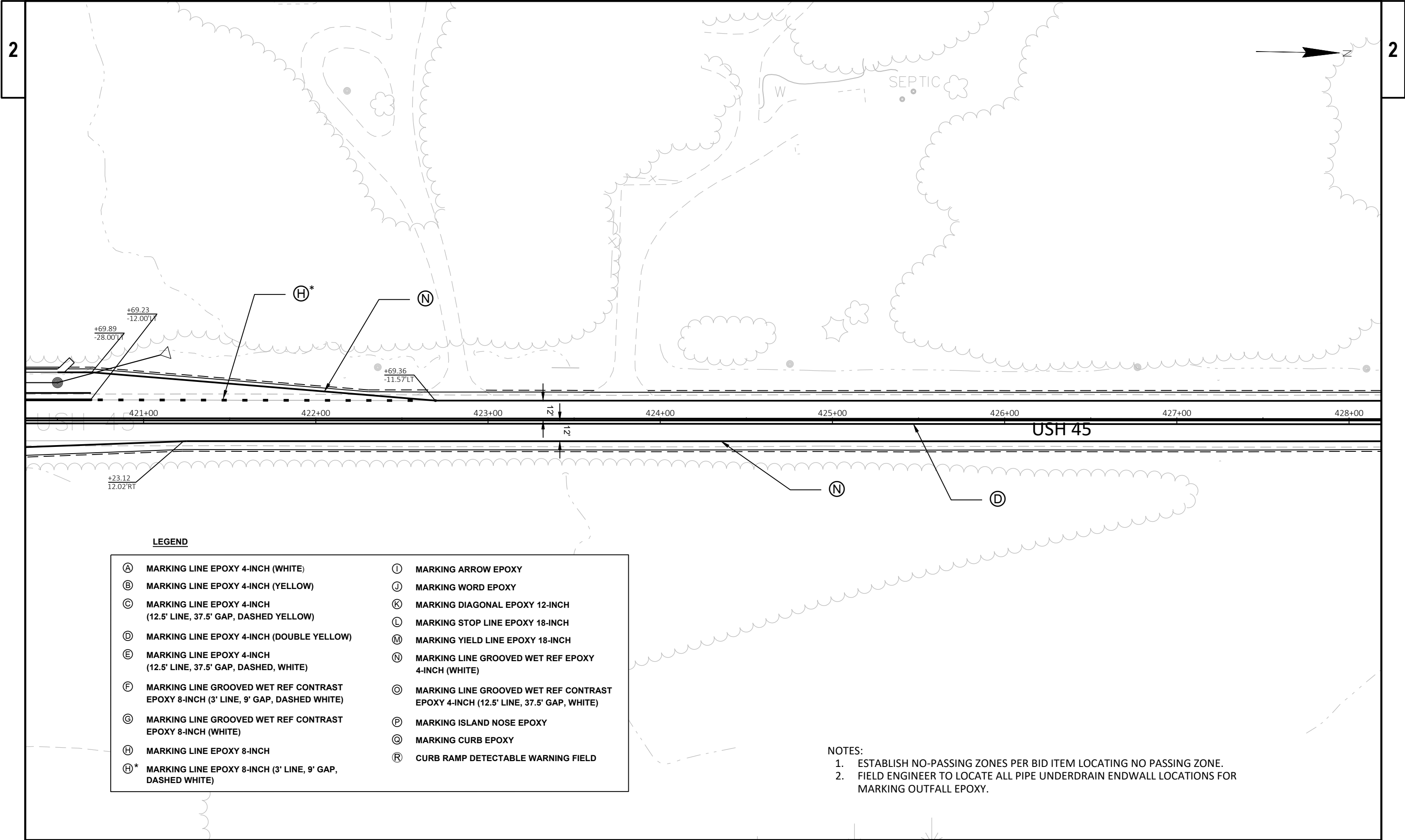




LEGEND

(A) MARKING LINE EPOXY 4-INCH (WHITE)	(I) MARKING ARROW EPOXY
(B) MARKING LINE EPOXY 4-INCH (YELLOW)	(J) MARKING WORD EPOXY
(C) MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED YELLOW)	(K) MARKING DIAGONAL EPOXY 12-INCH
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(F) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE)	(N) MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
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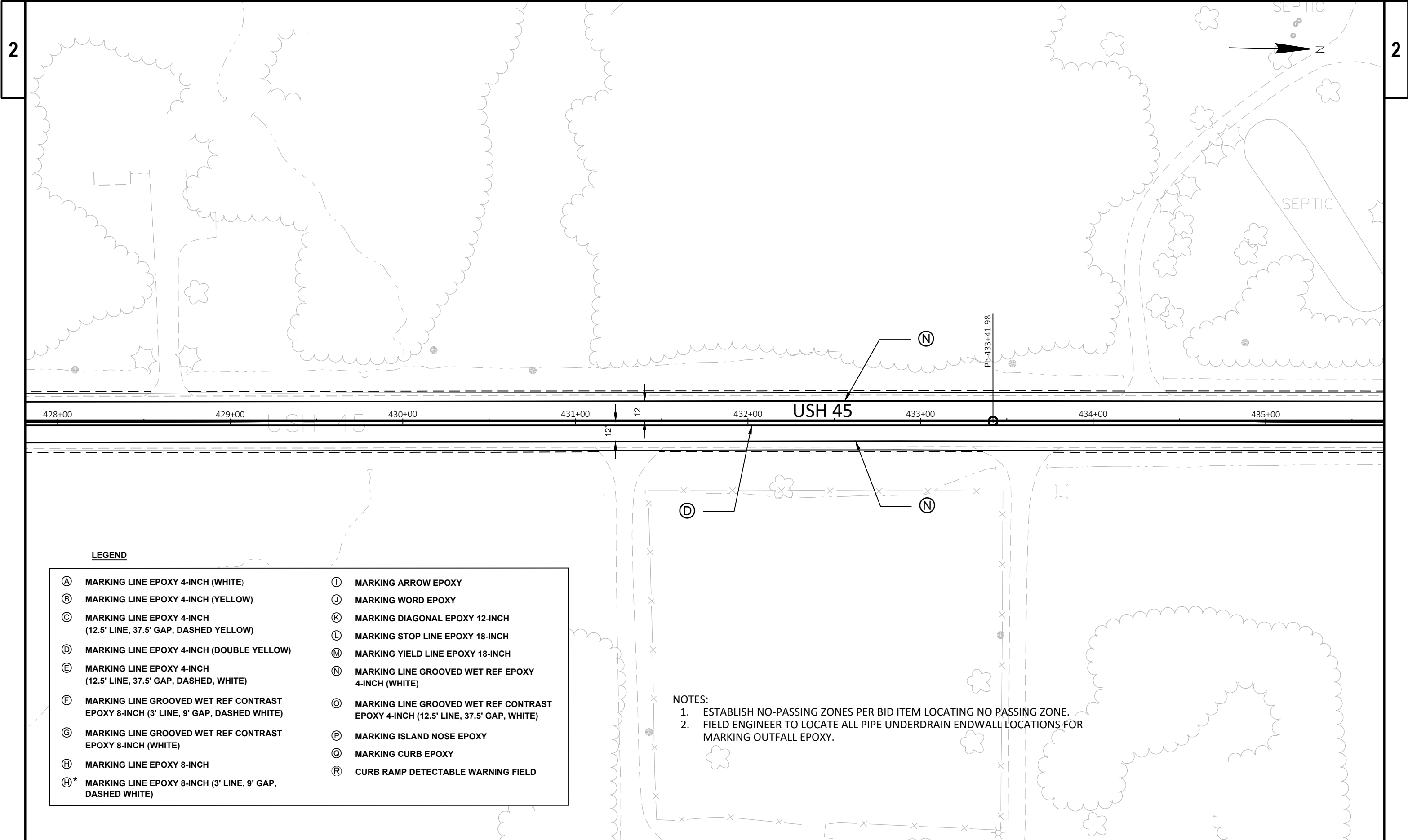
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LEGEND

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(F) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE)	(N) MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
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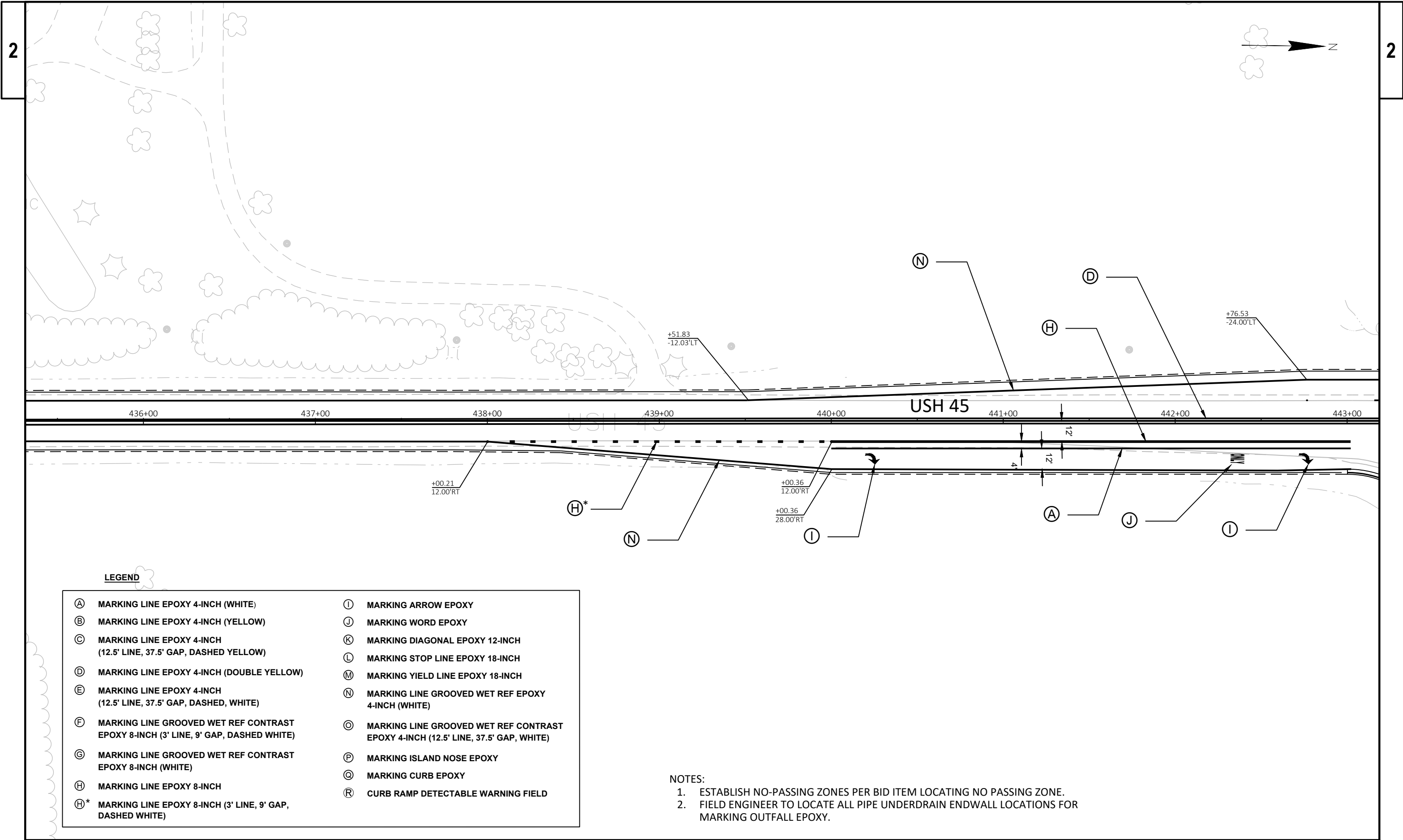
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(G) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE)	(O) MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (12.5' LINE, 37.5' GAP, WHITE)
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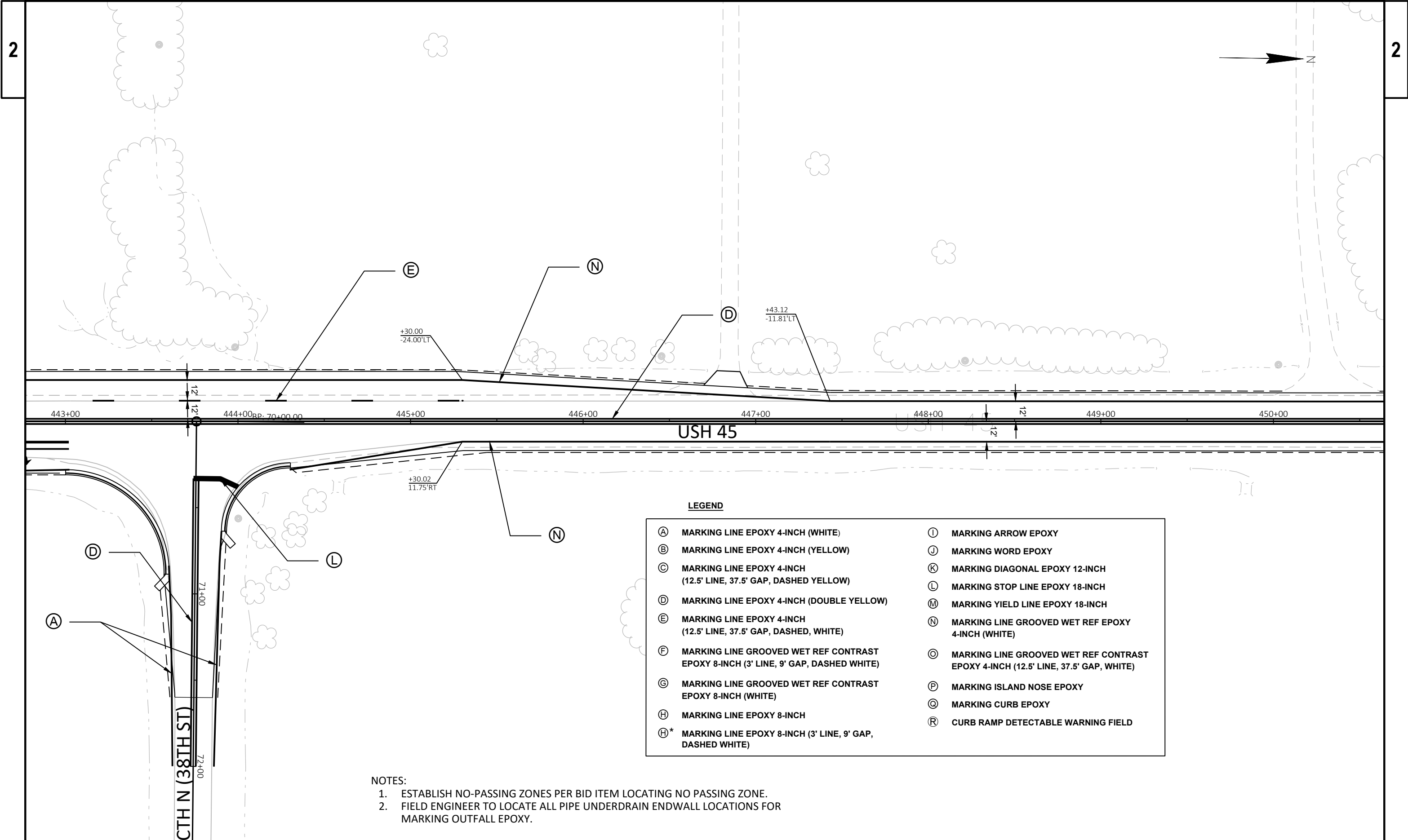
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LEGEND

(A) MARKING LINE EPOXY 4-INCH (WHITE)	(I) MARKING ARROW EPOXY
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(G) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE)	(O) MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (12.5' LINE, 37.5' GAP, WHITE)
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LEGEND

(A) MARKING LINE EPOXY 4-INCH (WHITE)	(I) MARKING ARROW EPOXY
(B) MARKING LINE EPOXY 4-INCH (YELLOW)	(J) MARKING WORD EPOXY
(C) MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED YELLOW)	(K) MARKING DIAGONAL EPOXY 12-INCH
(D) MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)	(L) MARKING STOP LINE EPOXY 18-INCH
(E) MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED, WHITE)	(M) MARKING YIELD LINE EPOXY 18-INCH
(F) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE)	(N) MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
(G) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE)	(O) MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (12.5' LINE, 37.5' GAP, WHITE)
(H) MARKING LINE EPOXY 8-INCH	(P) MARKING ISLAND NOSE EPOXY
(H)* MARKING LINE EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE)	(Q) MARKING CURB EPOXY
	(R) CURB RAMP DETECTABLE WARNING FIELD

- NOTES:
1. ESTABLISH NO-PASSING ZONES PER BID ITEM LOCATING NO PASSING ZONE.
 2. FIELD ENGINEER TO LOCATE ALL PIPE UNDERDRAIN ENDWALL LOCATIONS FOR MARKING OUTFALL EPOXY.

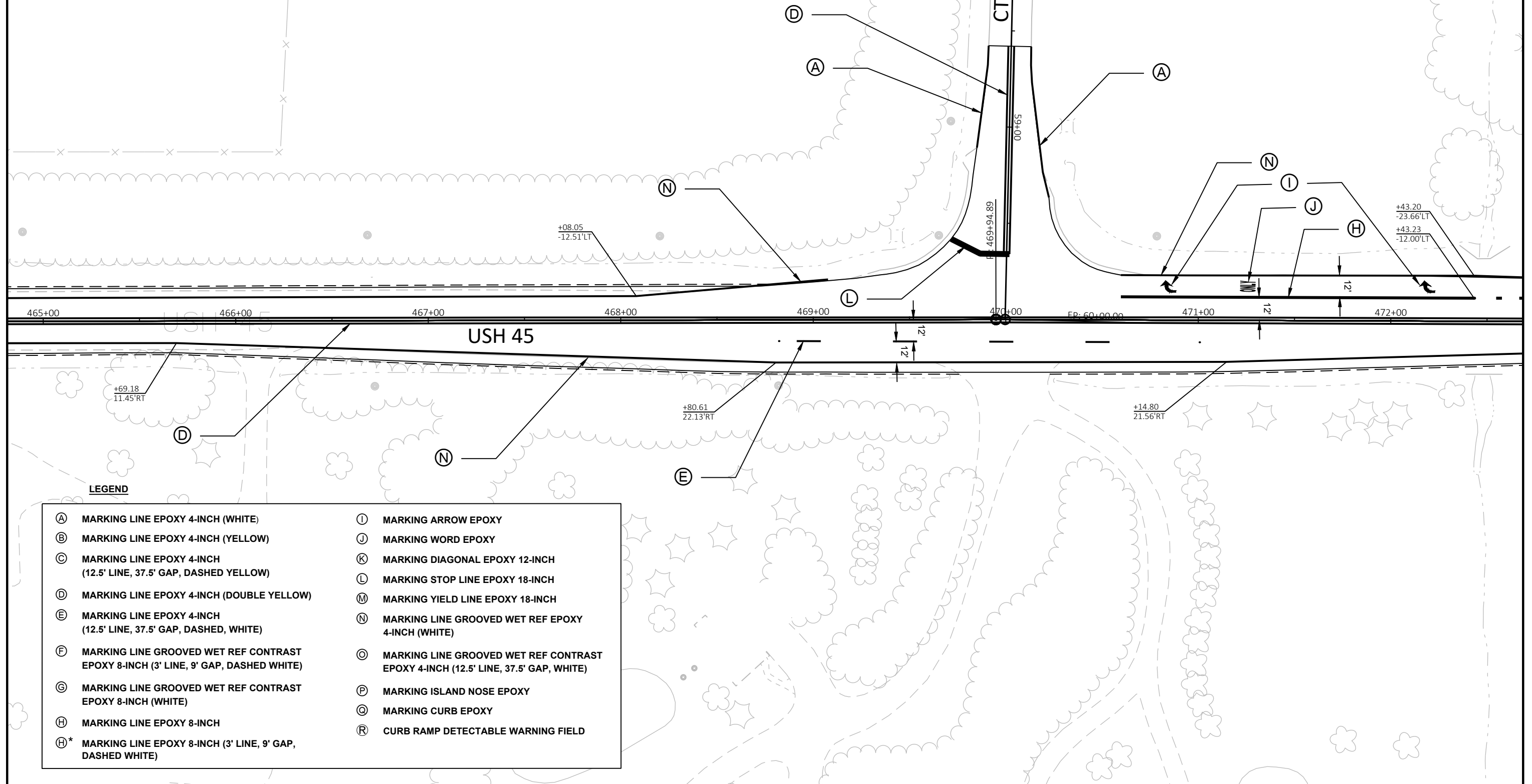


- NOTES:

-

NOTES:

1. ESTABLISH NO-PASSING ZONES PER BID ITEM LOCATING NO PASSING ZONE.
2. FIELD ENGINEER TO LOCATE ALL PIPE UNDERDRAIN ENDWALL LOCATIONS FOR MARKING OUTFALL EPOXY.



PROJECT NO: 3200-01-72

HWY: USH 45

COUNTY: KENOSHA-RACINE

PAVEMENT MARKING

SHEET

143

E

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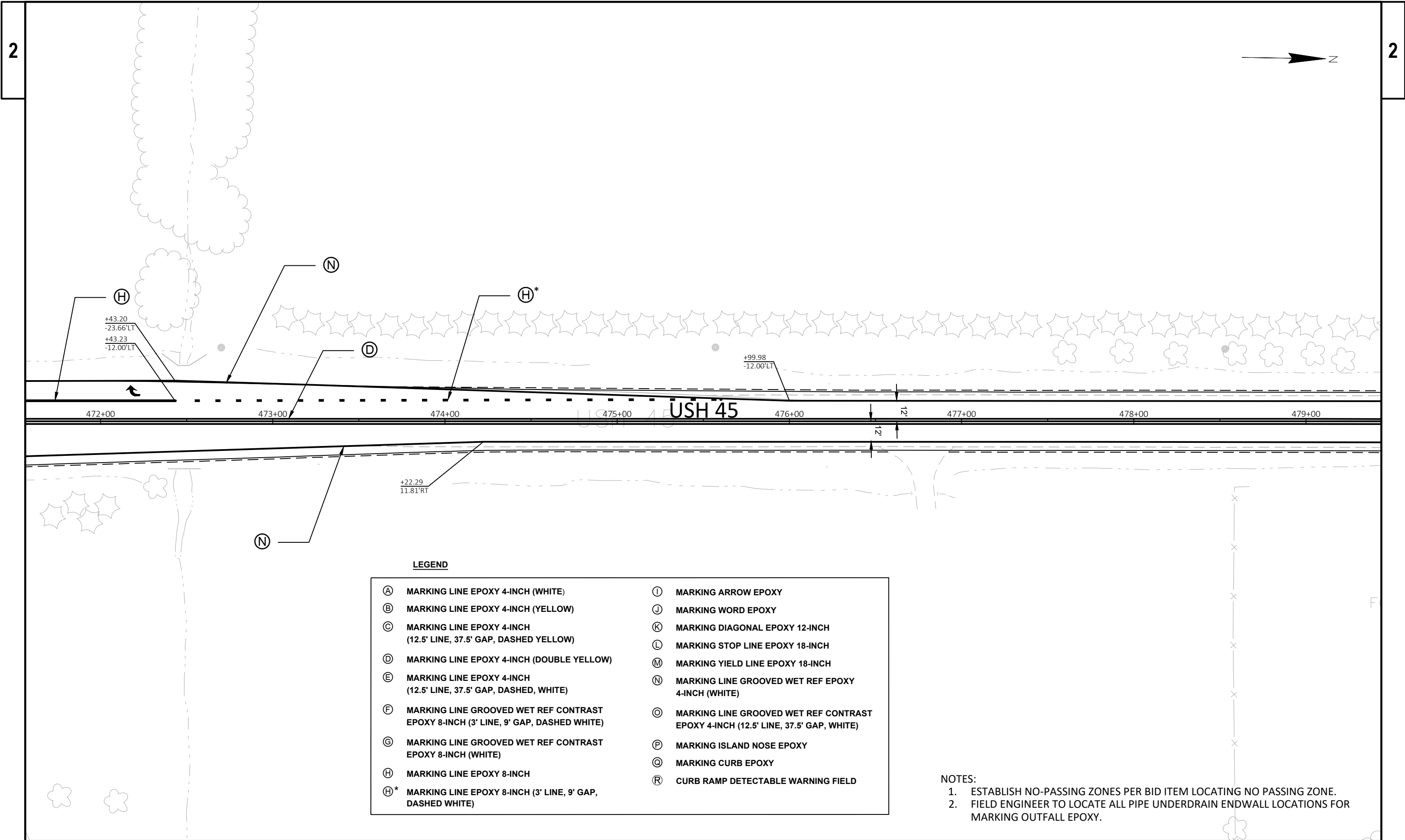
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PLOT NAME:

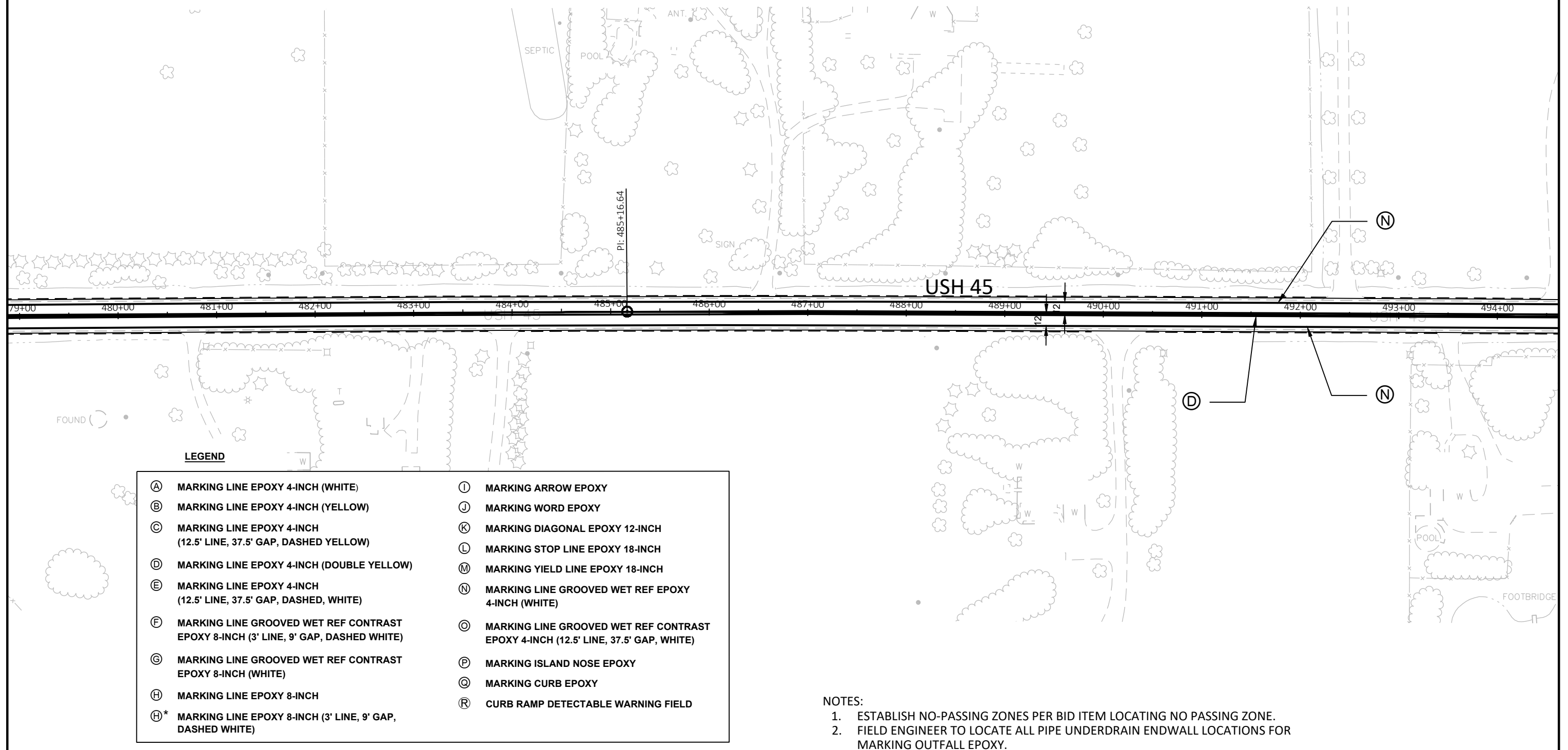
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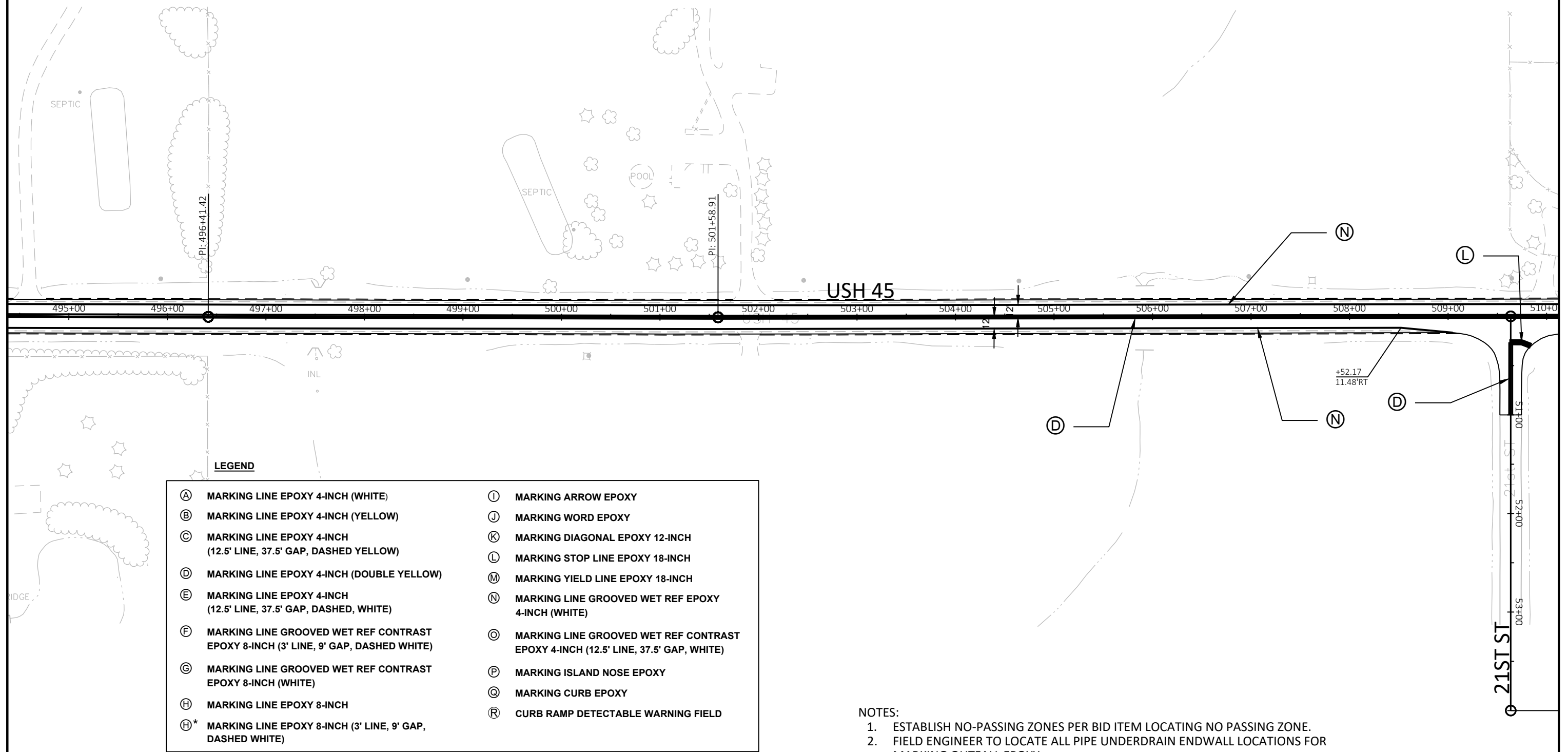
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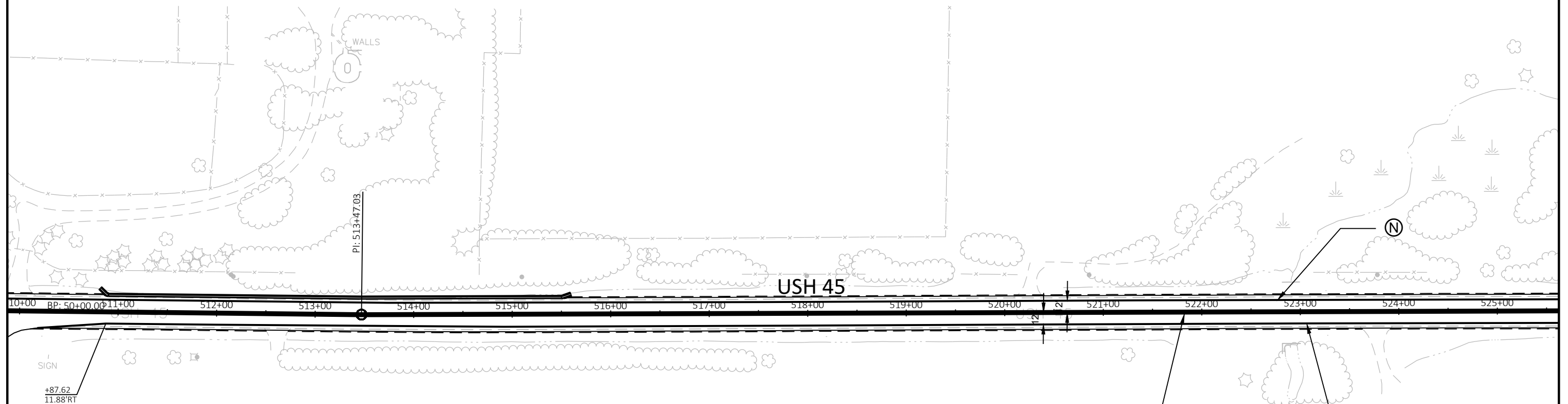


LEGEND	
(A) MARKING LINE EPOXY 4-INCH (WHITE)	(I) MARKING ARROW EPOXY
(B) MARKING LINE EPOXY 4-INCH (YELLOW)	(J) MARKING WORD EPOXY
(C) MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED YELLOW)	(K) MARKING DIAGONAL EPOXY 12-INCH
(D) MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)	(L) MARKING STOP LINE EPOXY 18-INCH
(E) MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED, WHITE)	(M) MARKING YIELD LINE EPOXY 18-INCH
(F) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE)	(N) MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
(G) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE)	(O) MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (12.5' LINE, 37.5' GAP, WHITE)
(H) MARKING LINE EPOXY 8-INCH	(P) MARKING ISLAND NOSE EPOXY
(H)* MARKING LINE EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE)	(Q) MARKING CURB EPOXY
	(R) CURB RAMP DETECTABLE WARNING FIELD

- NOTES:
1. ESTABLISH NO-PASSING ZONES PER BID ITEM LOCATING NO PASSING ZONE.
 2. FIELD ENGINEER TO LOCATE ALL PIPE UNDERDRAIN ENDWALL LOCATIONS FOR MARKING OUTFALL EPOXY.





**LEGEND**

(A) MARKING LINE EPOXY 4-INCH (WHITE)	(I) MARKING ARROW EPOXY
(B) MARKING LINE EPOXY 4-INCH (YELLOW)	(J) MARKING WORD EPOXY
(C) MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED YELLOW)	(K) MARKING DIAGONAL EPOXY 12-INCH
(D) MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)	(L) MARKING STOP LINE EPOXY 18-INCH
(E) MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED, WHITE)	(M) MARKING YIELD LINE EPOXY 18-INCH
(F) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE)	(N) MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
(G) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE)	(O) MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (12.5' LINE, 37.5' GAP, WHITE)
(H) MARKING LINE EPOXY 8-INCH	(P) MARKING ISLAND NOSE EPOXY
(H)* MARKING LINE EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE)	(Q) MARKING CURB EPOXY
	(R) CURB RAMP DETECTABLE WARNING FIELD

NOTES:

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2. FIELD ENGINEER TO LOCATE ALL PIPE UNDERDRAIN ENDWALL LOCATIONS FOR MARKING OUTFALL EPOXY.

PROJECT NO: 3200-01-72

HWY: USH 45

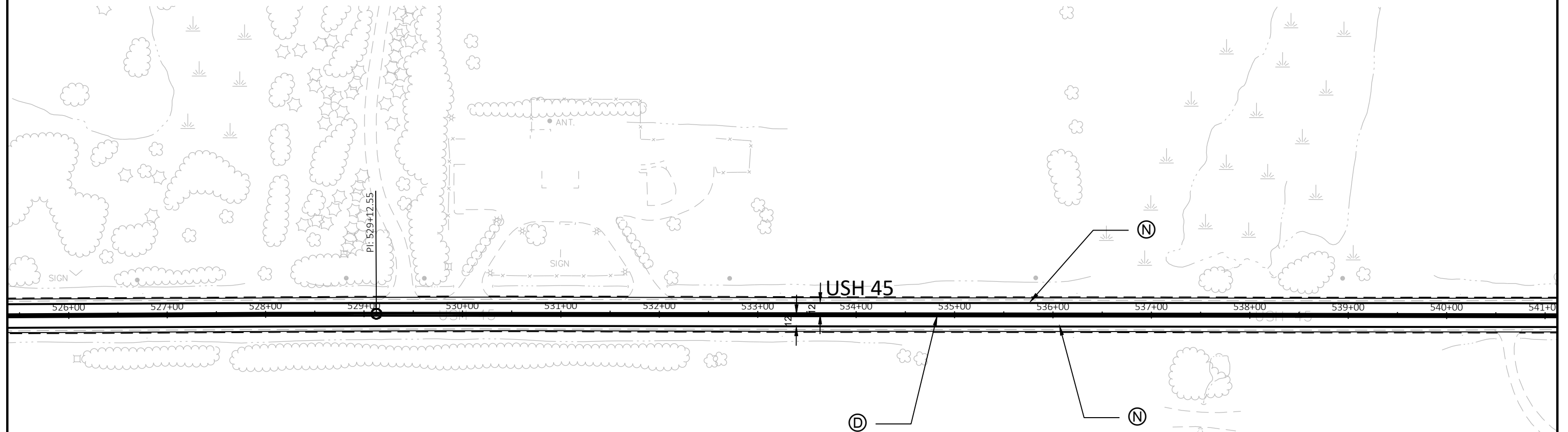
COUNTY: KENOSHA-RACINE

PAVEMENT MARKING

SHEET

147

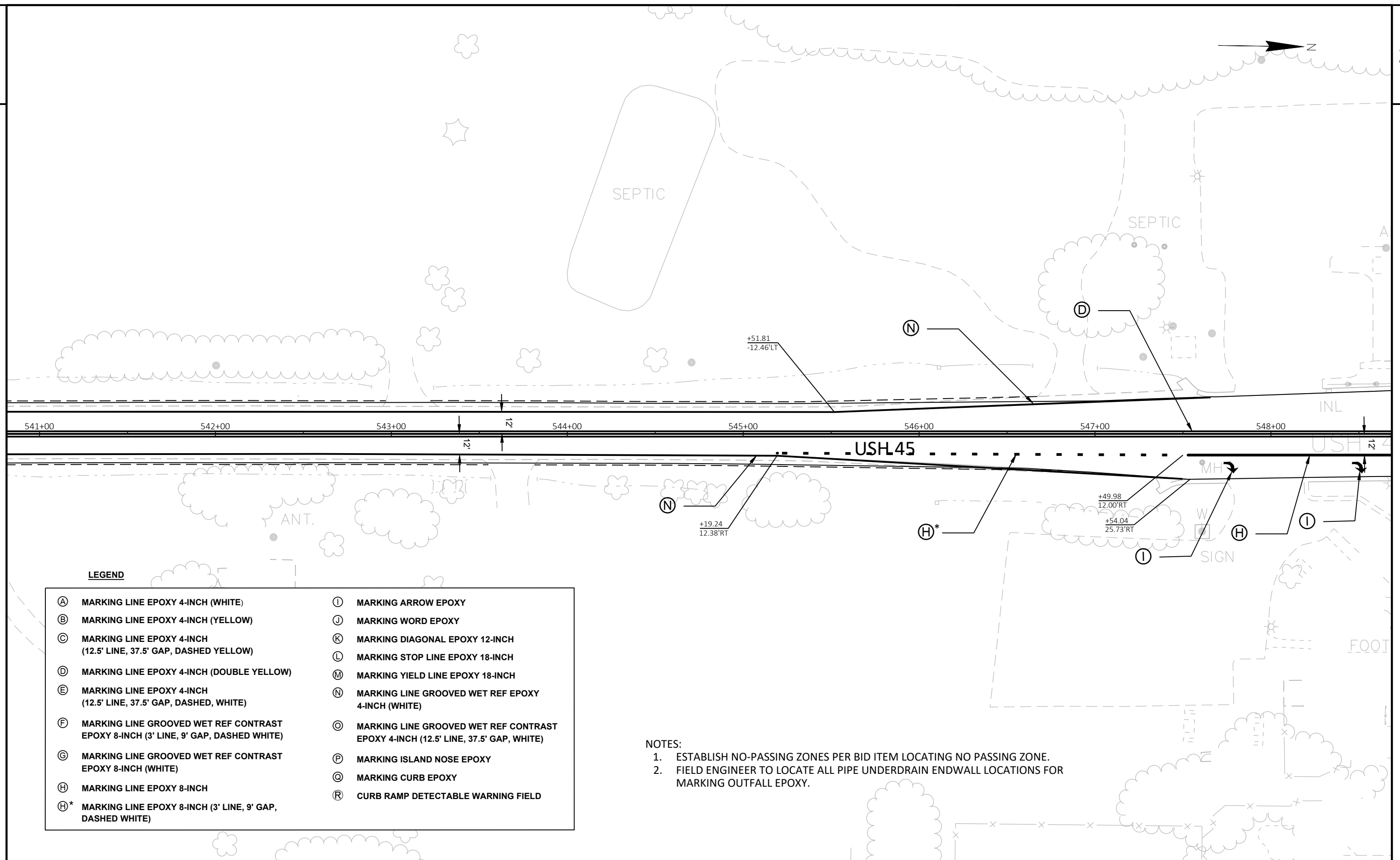
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**LEGEND**

(A) MARKING LINE EPOXY 4-INCH (WHITE)	(I) MARKING ARROW EPOXY
(B) MARKING LINE EPOXY 4-INCH (YELLOW)	(J) MARKING WORD EPOXY
(C) MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED YELLOW)	(K) MARKING DIAGONAL EPOXY 12-INCH
(D) MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)	(L) MARKING STOP LINE EPOXY 18-INCH
(E) MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED, WHITE)	(M) MARKING YIELD LINE EPOXY 18-INCH
(F) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE)	(N) MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
(G) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE)	(O) MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (12.5' LINE, 37.5' GAP, WHITE)
(H) MARKING LINE EPOXY 8-INCH	(P) MARKING ISLAND NOSE EPOXY
(H)* MARKING LINE EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE)	(Q) MARKING CURB EPOXY
	(R) CURB RAMP DETECTABLE WARNING FIELD

NOTES:

1. ESTABLISH NO-PASSING ZONES PER BID ITEM LOCATING NO PASSING ZONE.
2. FIELD ENGINEER TO LOCATE ALL PIPE UNDERDRAIN ENDWALL LOCATIONS FOR MARKING OUTFALL EPOXY.



PROJECT NO: 3200-01-72

HWY: USH 45

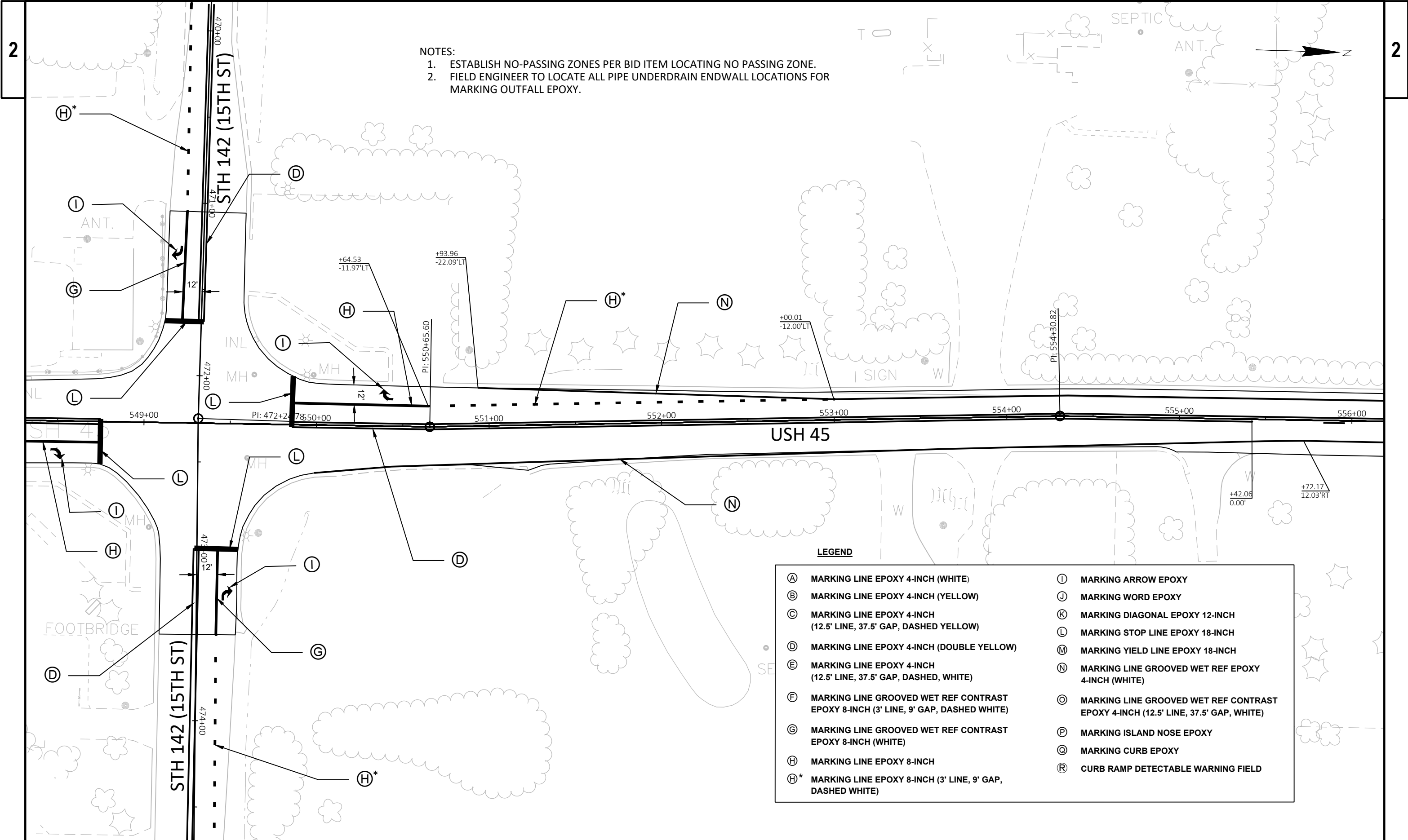
COUNTY: KENOSHA-RACINE

PAVEMENT MARKING

SHEET

149

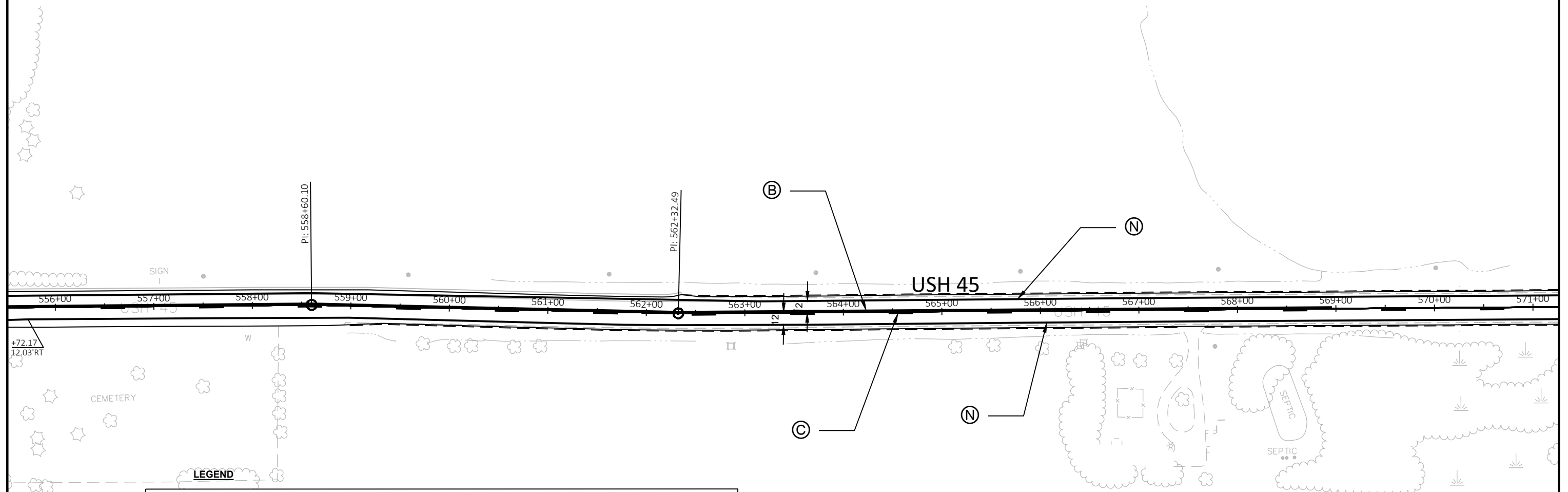
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- NOTES:
- 1. ESTABLISH NO-PASSING ZONES PER BID ITEM LOCATING NO PASSING ZONE.
 - 2. FIELD ENGINEER TO LOCATE ALL PIPE UNDERDRAIN ENDWALL LOCATIONS FOR MARKING OUTFALL EPOXY.

LEGEND

(A) MARKING LINE EPOXY 4-INCH (WHITE)	(I) MARKING ARROW EPOXY
(B) MARKING LINE EPOXY 4-INCH (YELLOW)	(J) MARKING WORD EPOXY
(C) MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED YELLOW)	(K) MARKING DIAGONAL EPOXY 12-INCH
(D) MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)	(L) MARKING STOP LINE EPOXY 18-INCH
(E) MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED, WHITE)	(M) MARKING YIELD LINE EPOXY 18-INCH
(F) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE)	(N) MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
(G) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE)	(O) MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (12.5' LINE, 37.5' GAP, WHITE)
(H) MARKING LINE EPOXY 8-INCH	(P) MARKING ISLAND NOSE EPOXY
(H)* MARKING LINE EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE)	(Q) MARKING CURB EPOXY
	(R) CURB RAMP DETECTABLE WARNING FIELD

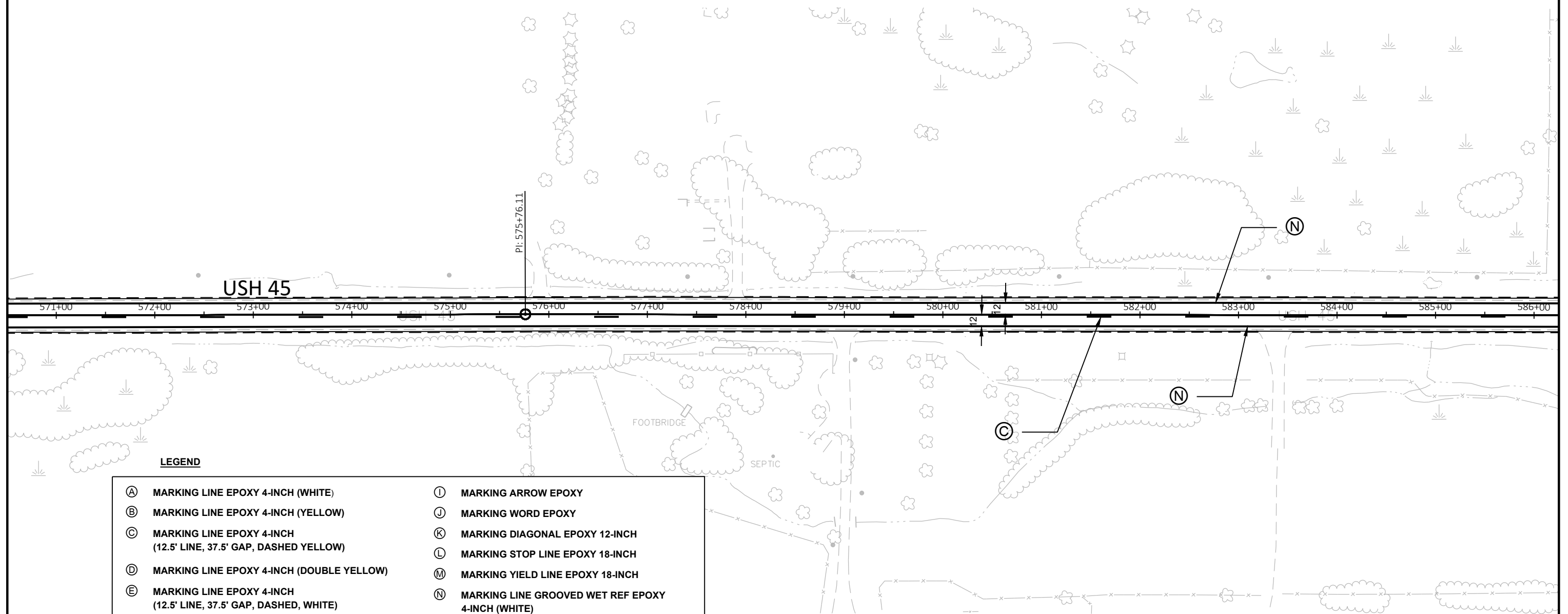


LEGEND

(A) MARKING LINE EPOXY 4-INCH (WHITE)	(I) MARKING ARROW EPOXY
(B) MARKING LINE EPOXY 4-INCH (YELLOW)	(J) MARKING WORD EPOXY
(C) MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED YELLOW)	(K) MARKING DIAGONAL EPOXY 12-INCH
(D) MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)	(L) MARKING STOP LINE EPOXY 18-INCH
(E) MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED, WHITE)	(M) MARKING YIELD LINE EPOXY 18-INCH
(F) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE)	(N) MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
(G) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE)	(O) MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (12.5' LINE, 37.5' GAP, WHITE)
(H) MARKING LINE EPOXY 8-INCH	(P) MARKING ISLAND NOSE EPOXY
(H)* MARKING LINE EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE)	(Q) MARKING CURB EPOXY
	(R) CURB RAMP DETECTABLE WARNING FIELD

NOTES:

1. ESTABLISH NO-PASSING ZONES PER BID ITEM LOCATING NO PASSING ZONE.
2. FIELD ENGINEER TO LOCATE ALL PIPE UNDERDRAIN ENDWALL LOCATIONS FOR MARKING OUTFALL EPOXY.



LEGEND

(A) MARKING LINE EPOXY 4-INCH (WHITE)	(I) MARKING ARROW EPOXY
(B) MARKING LINE EPOXY 4-INCH (YELLOW)	(J) MARKING WORD EPOXY
(C) MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED YELLOW)	(K) MARKING DIAGONAL EPOXY 12-INCH
(D) MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)	(L) MARKING STOP LINE EPOXY 18-INCH
(E) MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED, WHITE)	(M) MARKING YIELD LINE EPOXY 18-INCH
(F) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE)	(N) MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
(G) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE)	(O) MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (12.5' LINE, 37.5' GAP, WHITE)
(H) MARKING LINE EPOXY 8-INCH	(P) MARKING ISLAND NOSE EPOXY
(H)* MARKING LINE EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE)	(Q) MARKING CURB EPOXY
	(R) CURB RAMP DETECTABLE WARNING FIELD

NOTES:

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2. FIELD ENGINEER TO LOCATE ALL PIPE UNDERDRAIN ENDWALL LOCATIONS FOR MARKING OUTFALL EPOXY.

PROJECT NO: 3200-01-72

HWY: USH 45

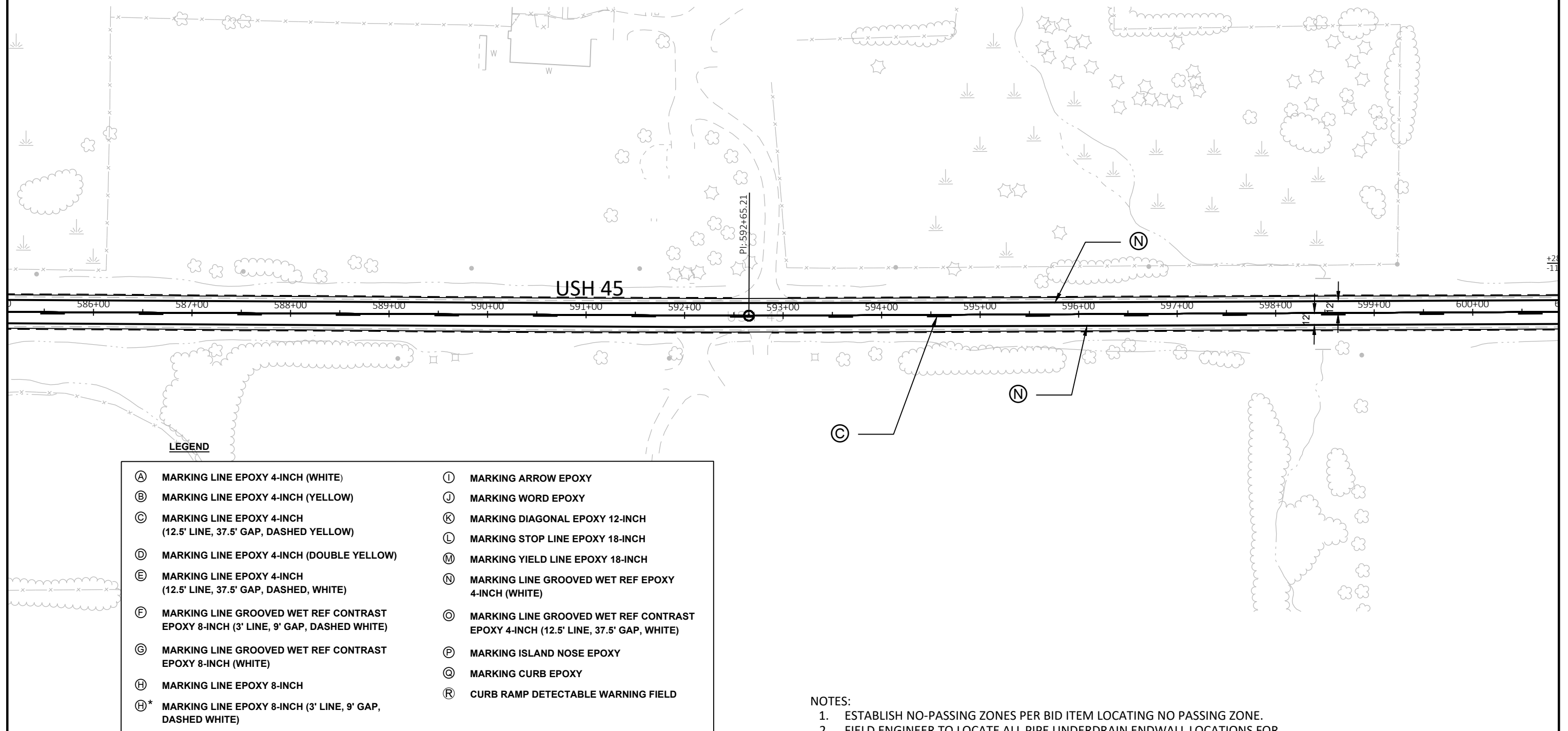
COUNTY: KENOSHA-RACINE

PAVEMENT MARKING

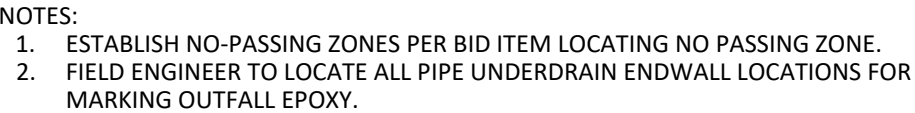
SHEET

152

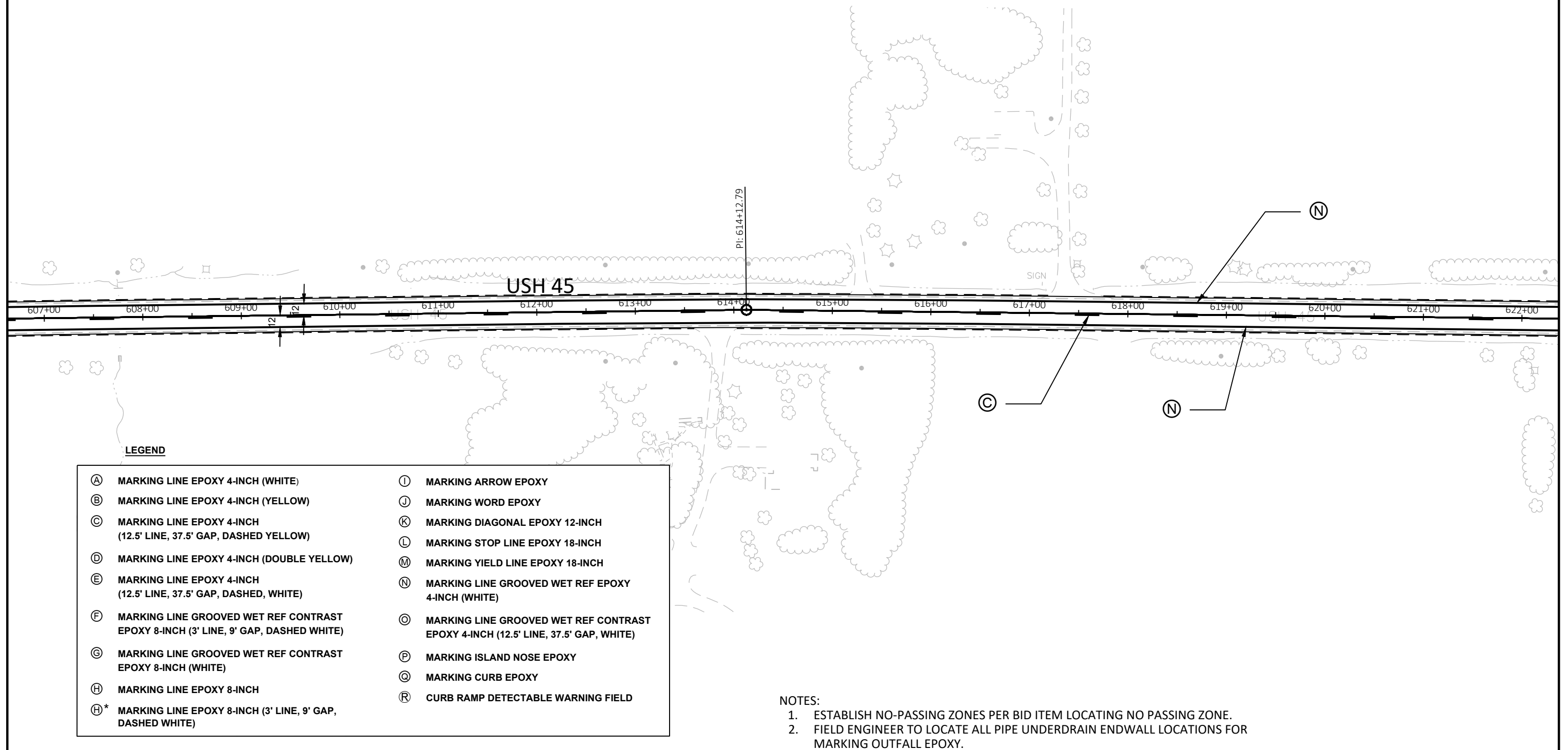
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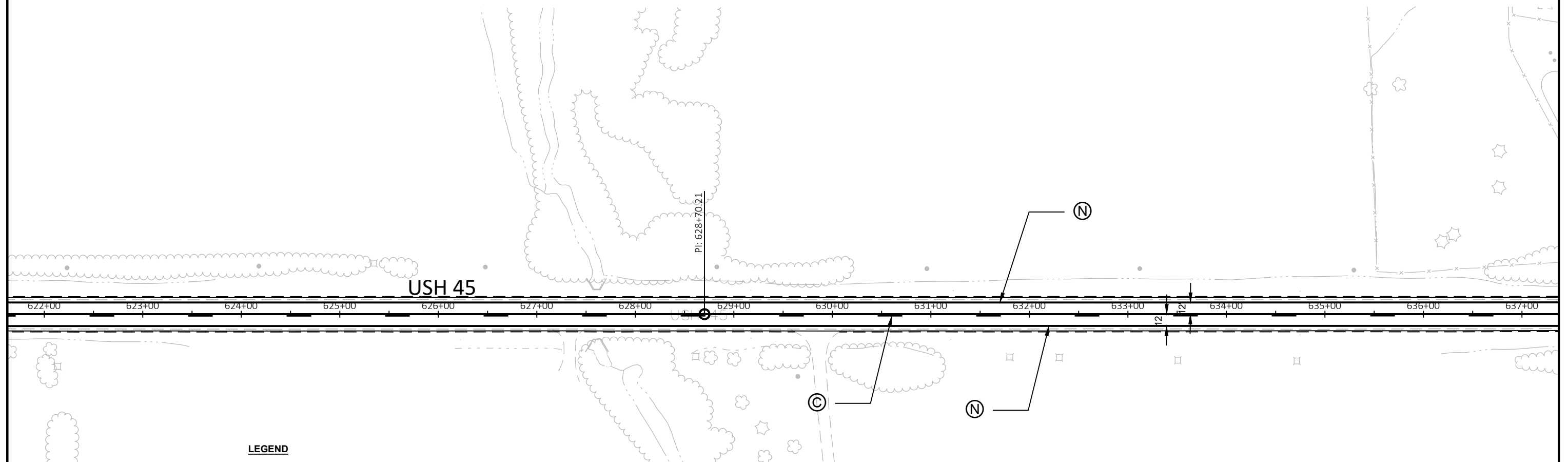


2



PROJECT NO: 3200-01-72		HWY: USH 45		COUNTY: KENOSHA-RACINE		PAVEMENT MARKING				SHEET 154		E
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LAYOUT NAME - 024530_pm												

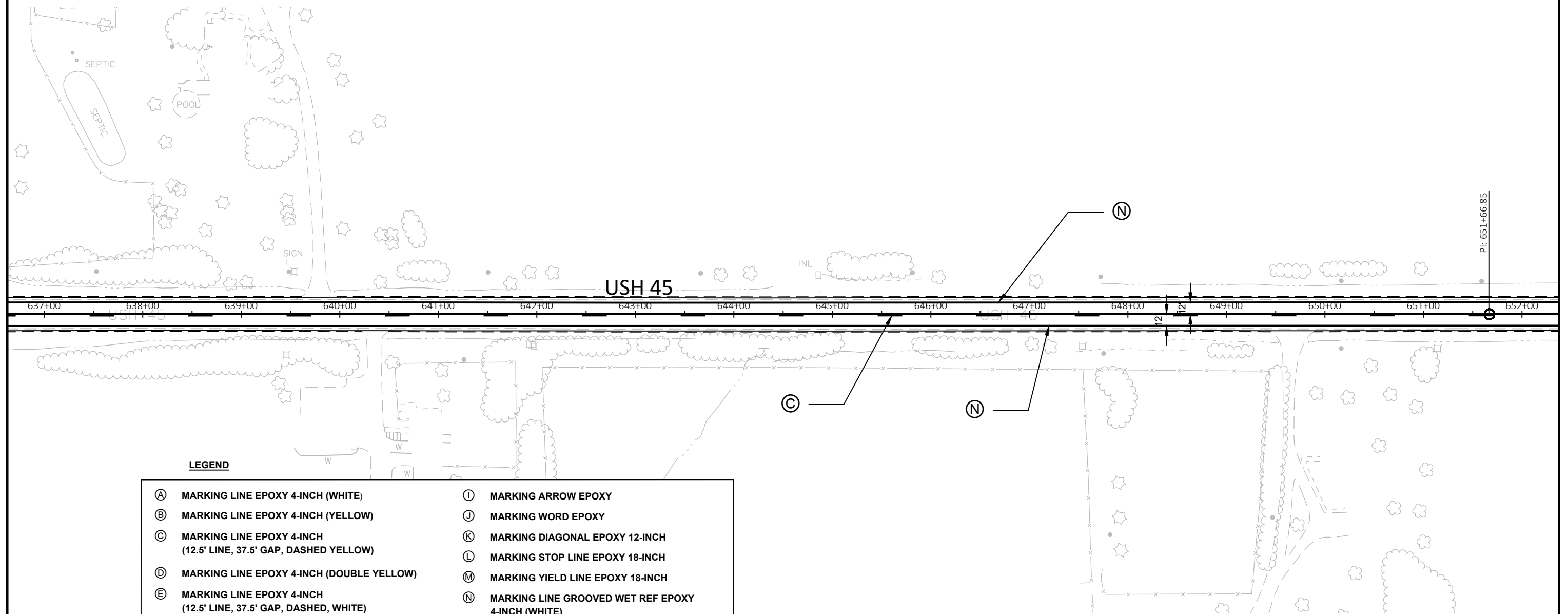


**LEGEND**

(A) MARKING LINE EPOXY 4-INCH (WHITE)	(I) MARKING ARROW EPOXY
(B) MARKING LINE EPOXY 4-INCH (YELLOW)	(J) MARKING WORD EPOXY
(C) MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED YELLOW)	(K) MARKING DIAGONAL EPOXY 12-INCH
(D) MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)	(L) MARKING STOP LINE EPOXY 18-INCH
(E) MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED, WHITE)	(M) MARKING YIELD LINE EPOXY 18-INCH
(F) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE)	(N) MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
(G) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE)	(O) MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (12.5' LINE, 37.5' GAP, WHITE)
(H) MARKING LINE EPOXY 8-INCH	(P) MARKING ISLAND NOSE EPOXY
(H)* MARKING LINE EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE)	(Q) MARKING CURB EPOXY
	(R) CURB RAMP DETECTABLE WARNING FIELD

NOTES:

1. ESTABLISH NO-PASSING ZONES PER BID ITEM LOCATING NO PASSING ZONE.
2. FIELD ENGINEER TO LOCATE ALL PIPE UNDERDRAIN ENDWALL LOCATIONS FOR MARKING OUTFALL EPOXY.

**LEGEND**

(A) MARKING LINE EPOXY 4-INCH (WHITE)	(I) MARKING ARROW EPOXY
(B) MARKING LINE EPOXY 4-INCH (YELLOW)	(J) MARKING WORD EPOXY
(C) MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED YELLOW)	(K) MARKING DIAGONAL EPOXY 12-INCH
(D) MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)	(L) MARKING STOP LINE EPOXY 18-INCH
(E) MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED, WHITE)	(M) MARKING YIELD LINE EPOXY 18-INCH
(F) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE)	(N) MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
(G) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE)	(O) MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (12.5' LINE, 37.5' GAP, WHITE)
(H) MARKING LINE EPOXY 8-INCH	(P) MARKING ISLAND NOSE EPOXY
(H)* MARKING LINE EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE)	(Q) MARKING CURB EPOXY
	(R) CURB RAMP DETECTABLE WARNING FIELD

NOTES:

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2. FIELD ENGINEER TO LOCATE ALL PIPE UNDERDRAIN ENDWALL LOCATIONS FOR MARKING OUTFALL EPOXY.

PROJECT NO: 3200-01-72

HWY: USH 45

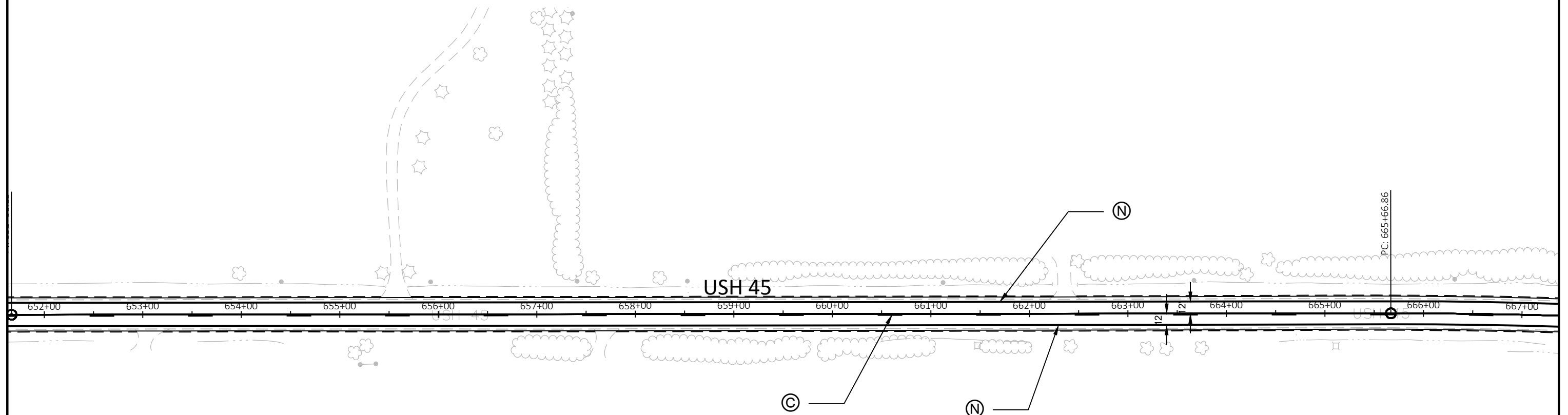
COUNTY: KENOSHA-RACINE

PAVEMENT MARKING

SHEET

157

E

**LEGEND**

(A) MARKING LINE EPOXY 4-INCH (WHITE)	(I) MARKING ARROW EPOXY
(B) MARKING LINE EPOXY 4-INCH (YELLOW)	(J) MARKING WORD EPOXY
(C) MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED YELLOW)	(K) MARKING DIAGONAL EPOXY 12-INCH
(D) MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW)	(L) MARKING STOP LINE EPOXY 18-INCH
(E) MARKING LINE EPOXY 4-INCH (12.5' LINE, 37.5' GAP, DASHED, WHITE)	(M) MARKING YIELD LINE EPOXY 18-INCH
(F) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE)	(N) MARKING LINE GROOVED WET REF EPOXY 4-INCH (WHITE)
(G) MARKING LINE GROOVED WET REF CONTRAST EPOXY 8-INCH (WHITE)	(O) MARKING LINE GROOVED WET REF CONTRAST EPOXY 4-INCH (12.5' LINE, 37.5' GAP, WHITE)
(H) MARKING LINE EPOXY 8-INCH	(P) MARKING ISLAND NOSE EPOXY
(H)* MARKING LINE EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE)	(Q) MARKING CURB EPOXY
	(R) CURB RAMP DETECTABLE WARNING FIELD

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PROJECT NO: 3200-01-72

HWY: USH 45

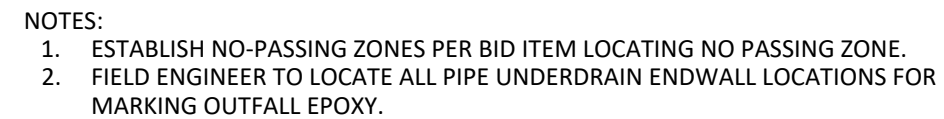
COUNTY: KENOSHA-RACINE

PAVEMENT MARKING

SHEET

158

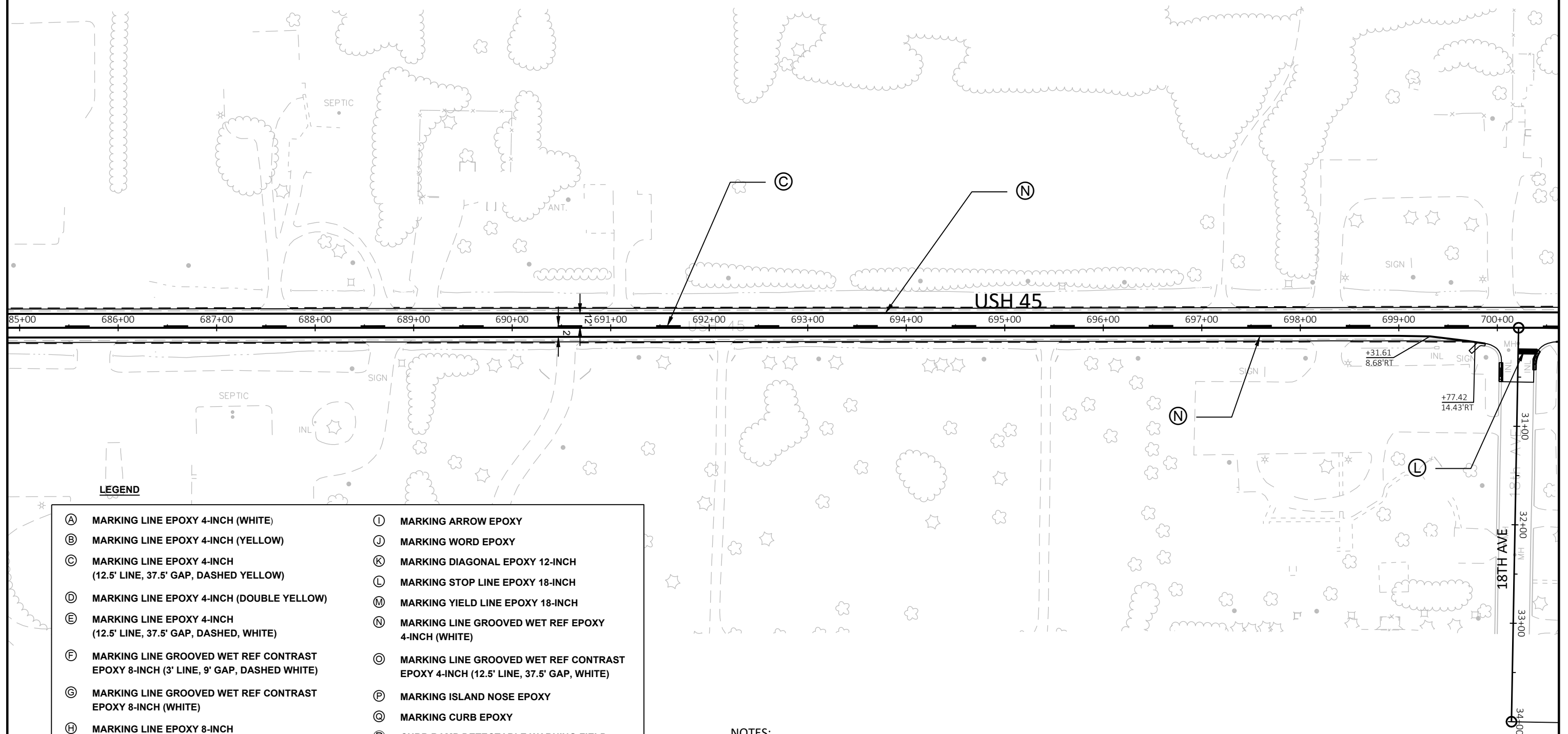
E



1. ESTABLISH NO-PASSING ZONES PER BID ITEM LOCATING NO PASSING ZONE.
2. FIELD ENGINEER TO LOCATE ALL PIPE UNDERDRAIN ENDWALL LOCATIONS FOR MARKING OUTFALL EPOXY.



- | | | | |
|------|---|-----|--|
| (A) | MARKING LINE EPOXY 4-INCH (WHITE) | (I) | MARKING ARROW EPOXY |
| (B) | MARKING LINE EPOXY 4-INCH (YELLOW) | (J) | MARKING WORD EPOXY |
| (C) | MARKING LINE EPOXY 4-INCH
(12.5' LINE, 37.5' GAP, DASHED YELLOW) | (K) | MARKING DIAGONAL EPOXY 12-INCH |
| (D) | MARKING LINE EPOXY 4-INCH (DOUBLE YELLOW) | (L) | MARKING STOP LINE EPOXY 18-INCH |
| (E) | MARKING LINE EPOXY 4-INCH
(12.5' LINE, 37.5' GAP, DASHED, WHITE) | (M) | MARKING YIELD LINE EPOXY 18-INCH |
| (F) | MARKING LINE GROOVED WET REF CONTRAST
EPOXY 8-INCH (3' LINE, 9' GAP, DASHED WHITE) | (N) | MARKING LINE GROOVED WET REF EPOXY
4-INCH (WHITE) |
| (G) | MARKING LINE GROOVED WET REF CONTRAST
EPOXY 8-INCH (WHITE) | (O) | MARKING LINE GROOVED WET REF CONTRAST
EPOXY 4-INCH (12.5' LINE, 37.5' GAP, WHITE) |
| (H) | MARKING LINE EPOXY 8-INCH | (P) | MARKING ISLAND NOSE EPOXY |
| (H)* | MARKING LINE EPOXY 8-INCH (3' LINE, 9' GAP,
DASHED WHITE) | (Q) | MARKING CURB EPOXY |
| | | (R) | CURB RAMP DETECTABLE WARNING FIELD |



PROJECT NO: 3200-01-72

HWY: USH 45

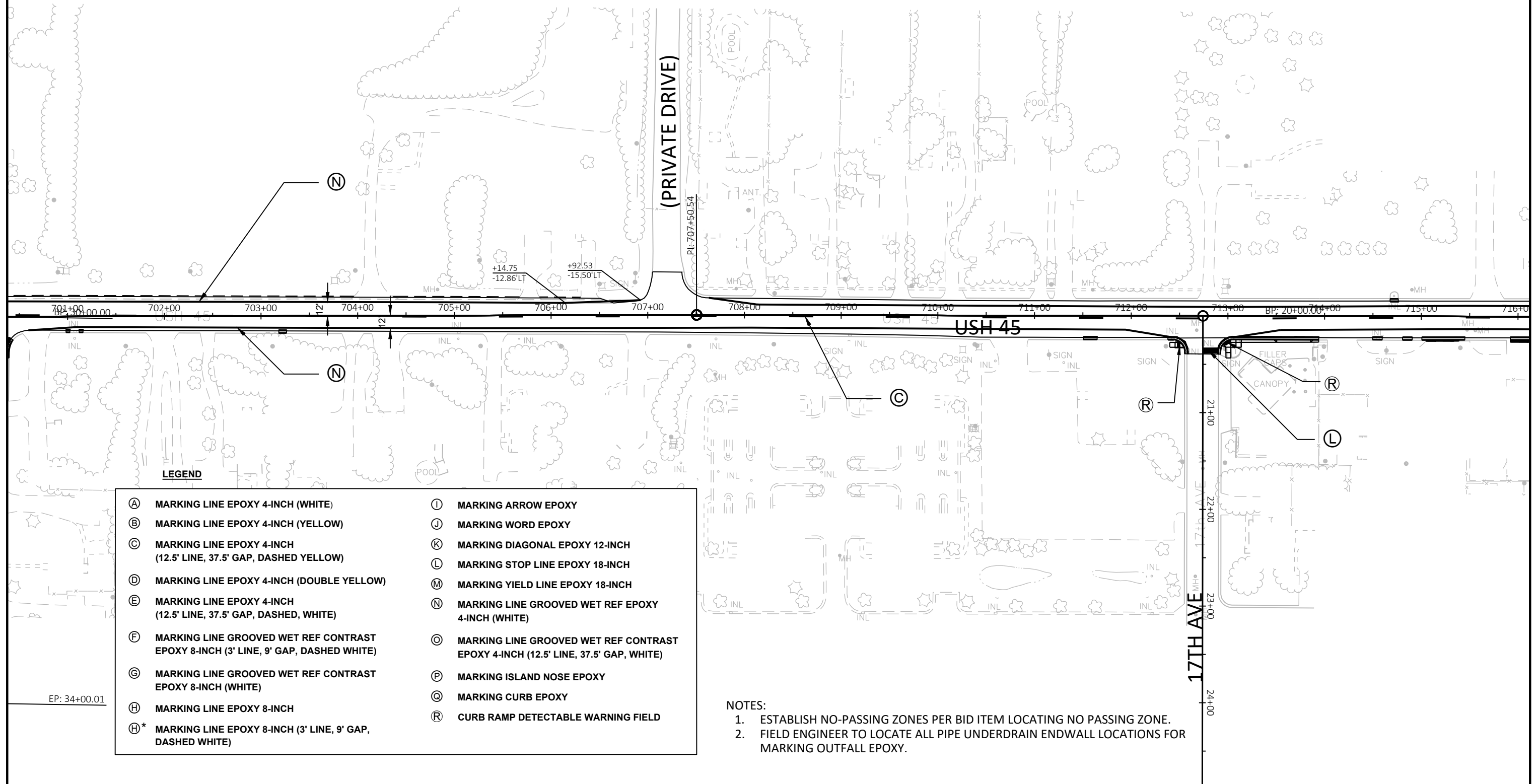
COUNTY: KENOSHA-RACINE

PAVEMENT MARKING

SHEET

161

E



PROJECT NO: 3200-01-72

HWY: USH 45

COUNTY: KENOSHA-RACINE

PAVEMENT MARKING

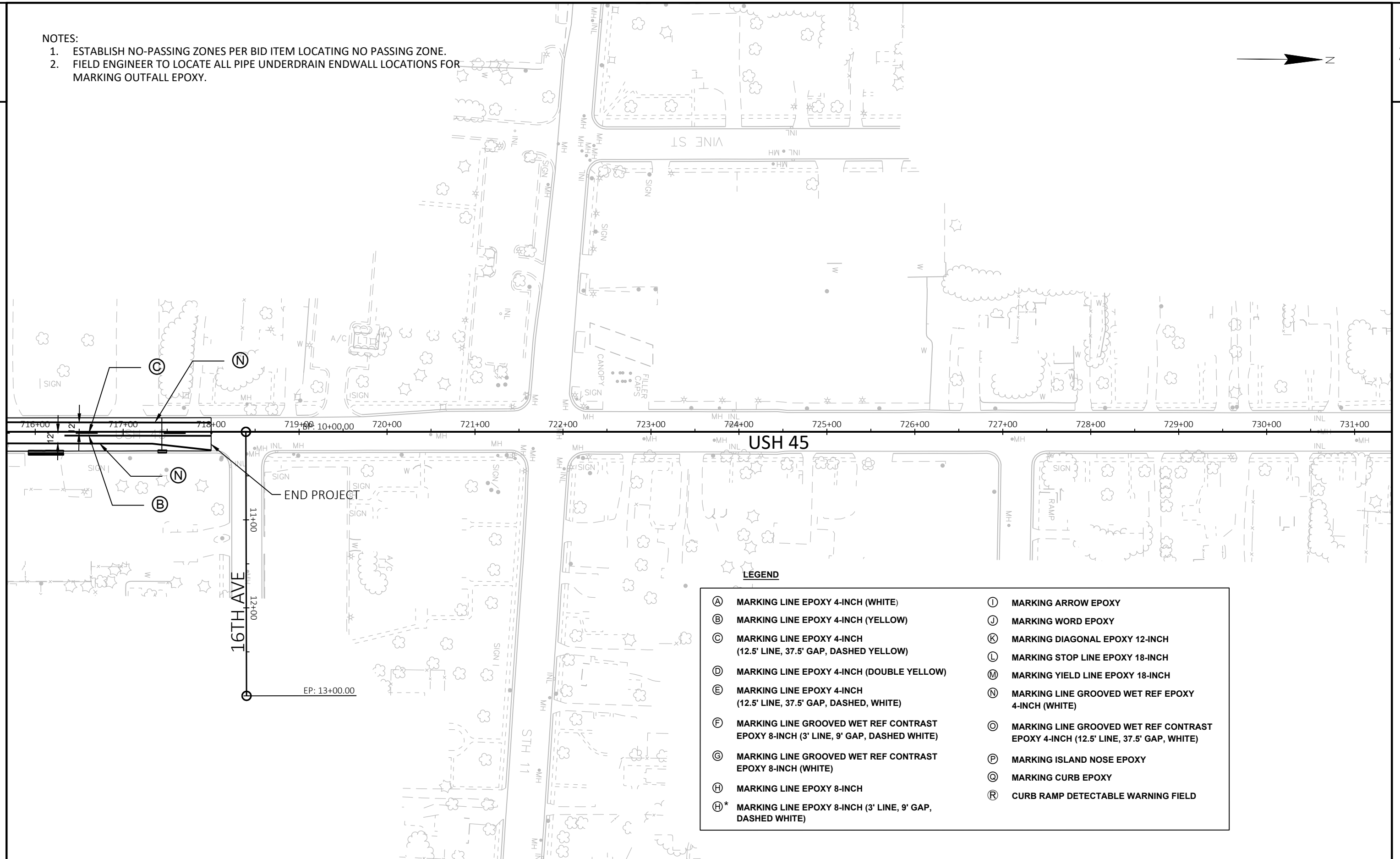
SHEET

162

E

NOTES:

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PROJECT NO: 3200-01-72

HWY: USH 45

COUNTY: KENOSHA-RACINE

PAVEMENT MARKING

SHEET

163

E

STAGES 1A & 1B:

USH 45 IS OPEN TO THROUGH TRAFFIC DURING STAGES 1A AND 1B CONSTRUCTION.

WORK TO BE COMPLETED:

STAGE 1A:

1. INSTALL TEMPORARY TRAFFIC SIGNAL USING SDD TRAFFIC CONTROL LANE CLOSURE NON-FREEWAY/EXPRESSWAY AND/OR SDD TRAFFIC CONTROL SHOULDER CLOSURE ON DIVIDED HIGHWAY SPEED GREATER THAN 40 M.P.H..
2. REMOVE AND REPLACE CONCRETE PAVEMENT REPAIRS AND CONCRETE PAVEMENT REPLACEMENTS ON THE STH 50 EB OUTSIDE LANE AND RIGHT TURN LANE. THE STH 50 EB TO USH 45 SB TRAFFIC WILL CONTINUE ON STH 50 EB AND BE DETOURED VIA CTH D SB, CTH C WB, AND BACK TO USH 45 SB

STAGE 1B:

1. REMOVE THE SAFETY ISLAND AT THE SE QUADRANT. PLACE TEMPORARY ASPHALTIC PAVEMENT ON THE NW CORNER OF THE SAFETY ISLAND FOR USH 45 NB RIGHT TURN TRAFFIC TO STH 50 EB. WORK TO BE COMPLETED DURING OFF PEAK HOURS.
2. REMOVE AND REPLACE CONCRETE PAVEMENT REPAIRS ON THE OUTSIDE LANE OF USH 45 NB LANES.
3. RECONSTRUCT STORM SEWER SYSTEM AND USH 45 NB RIGHT TURN.

TRAFFIC CONTROL 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' (500' DESIRABLE) DISTANCE TO EXISTING SIGNS.

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

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

ALL TYPE III BARRICADES SHALL BE 8' IN LENGTH AND HAVE 2 TYPE "A" WARNING LIGHTS.

ANY "STOP" SIGNS THAT ARE REMOVED FOR A CONSTRUCTION OPERATION SHALL IMMEDIATELY BE RE-ESTABLISHED.

LEGEND



WORK ZONE - STAGE 1A

WORK ZONE - STAGE 1B

①

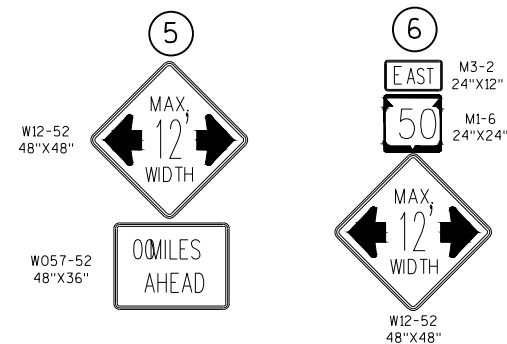
SEE STAGE 1A AND STAGE 1B TRAFFIC CONTROL DETAIL SHEETS

⑤

INSTALL ADJACENT OT EXISTING ROUTE ASSEMBLIES WHEN LANE WIDTHS ARE REDUCED DUE TO LANE CLOSURE FOR CONCRETE PAVEMENT REPAIRS & REPLACEMENTS.

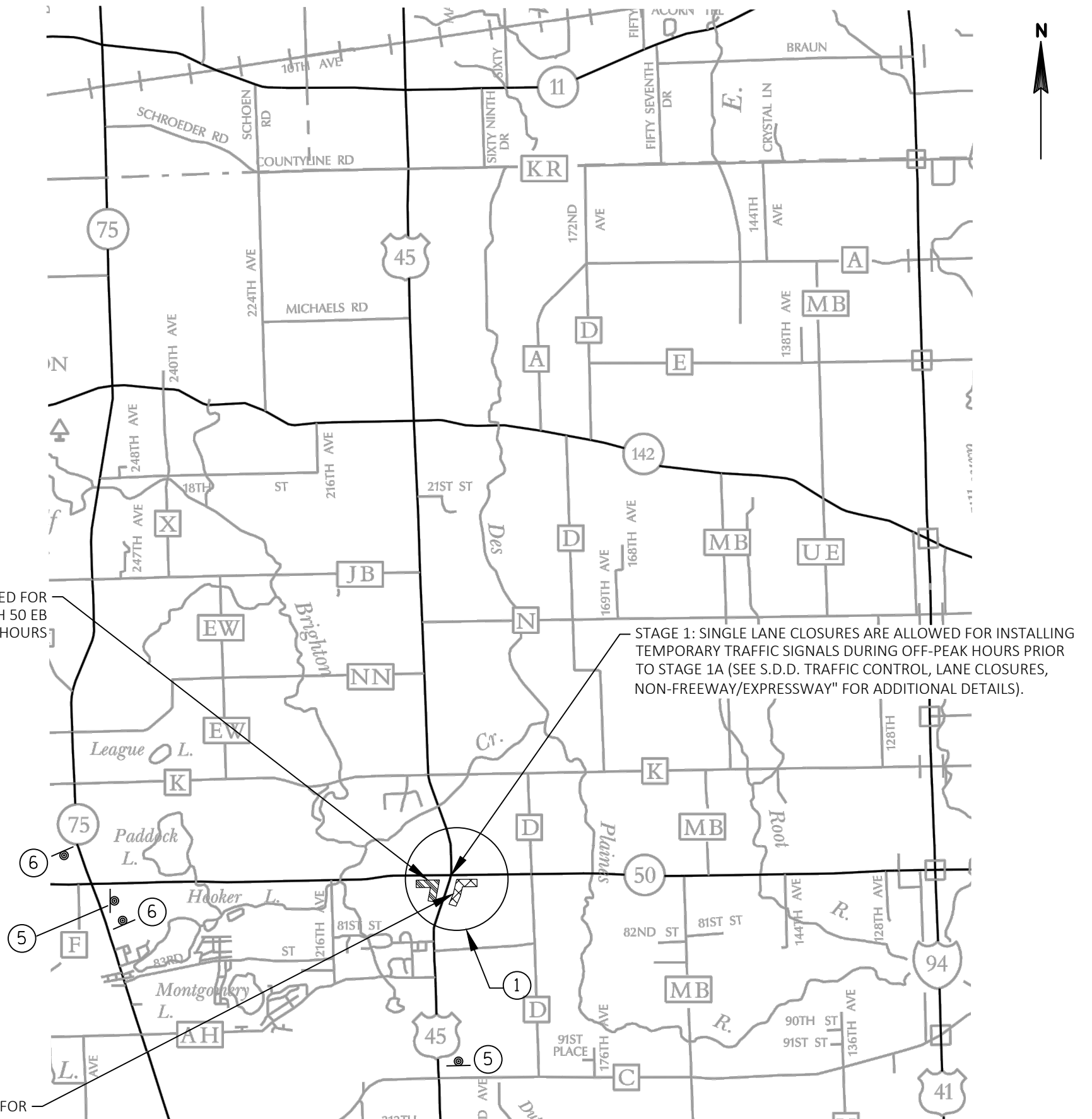
⑥

INSTALL ADJACENT TO EXISTING EXIT SIGNAGE AND ROUTE ASSEMBLIES WHEN LANE WIDTHS ARE REDUCED DUE TO LANE CLOSURE FOR CONCRETE PAVEMENT REPAIRS & REPLACEMENTS. M1-6 SHALL BE 36"X36" ON INSTALLTIONS ALONG I-41/I-94 AND 24"X24" ON ALL OTHER INSTALLATIONS.



FLAGGING WORK OPERATION IS REQUIRED FOR SAWING AND POURING CONCRETE NEXT TO STH 50 EB TRAFFIC LANE DURING OFF-PEAK HOURS

FLAGGING WORK OPERATION IS REQUIRED FOR SAWING AND POURING CONCRETE NEXT TO USH 45 NB TRAFFIC LANE DURING OFF-PEAK HOURS



STAGE 1: SINGLE LANE CLOSURES ARE ALLOWED FOR INSTALLING TEMPORARY TRAFFIC SIGNALS DURING OFF-PEAK HOURS PRIOR TO STAGE 1A (SEE S.D.D. TRAFFIC CONTROL, LANE CLOSURES, NON-FREEWAY/EXPRESSWAY" FOR ADDITIONAL DETAILS).

STAGES 1A & 1B OVERVIEW SHEET

PROJECT NO: 3200-01-72

HWY: USH 45

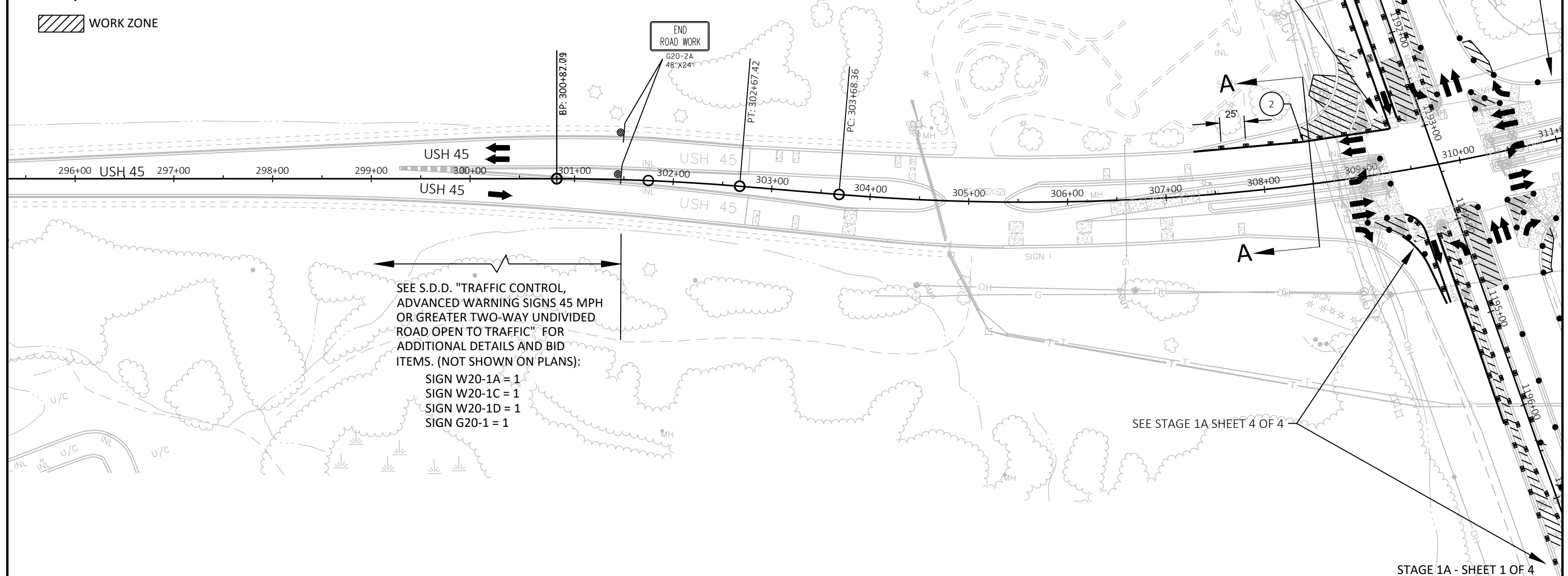
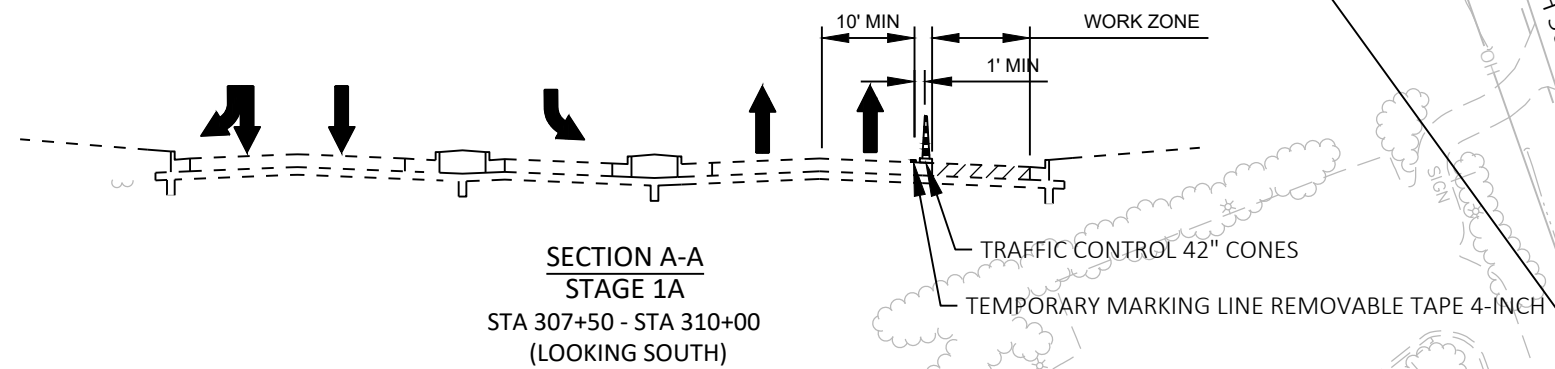
COUNTY: KENOSHA-RACINE

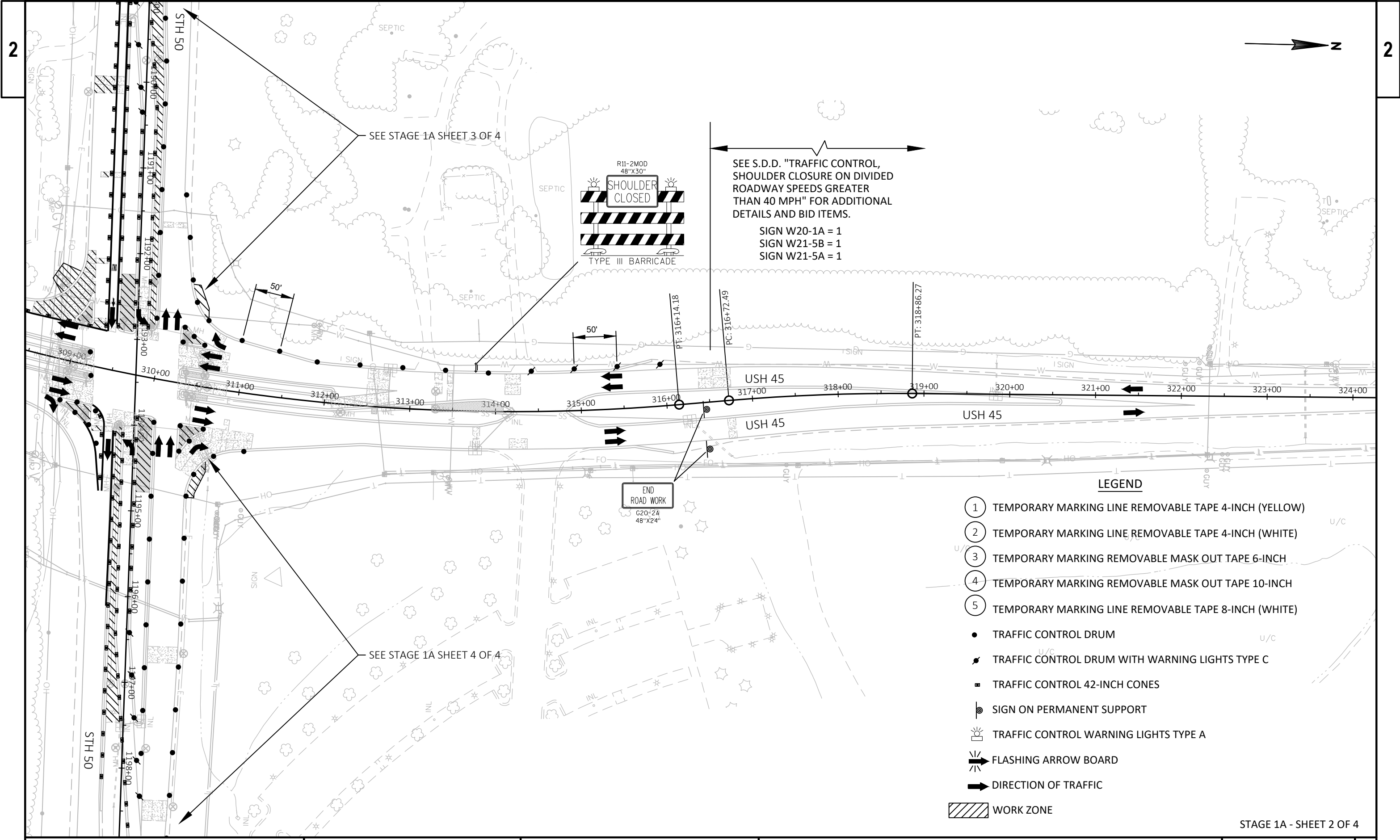
TRAFFIC CONTROL - STAGES 1, 1A & 1B

SHEET

164

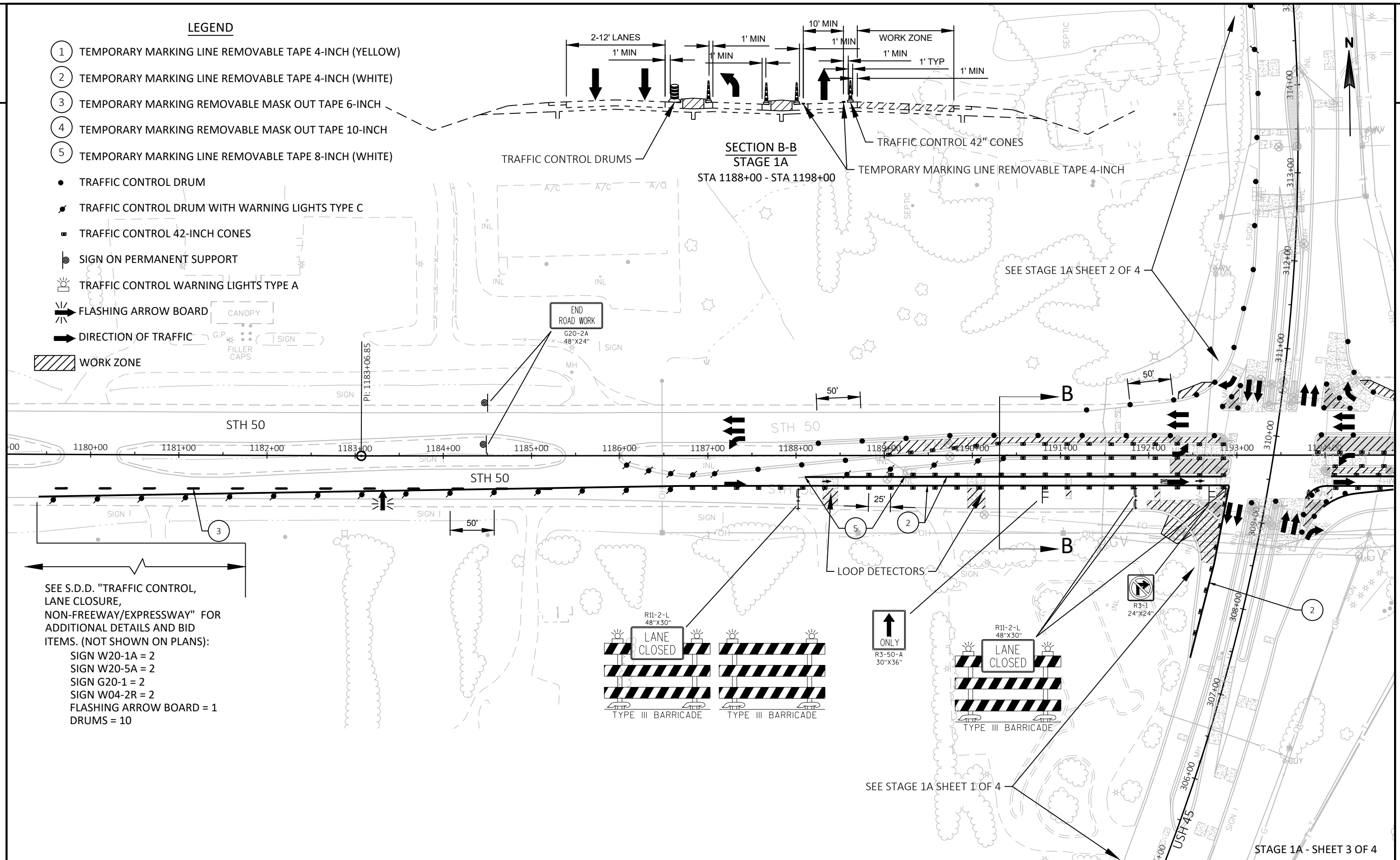
E

 WORK ZONE

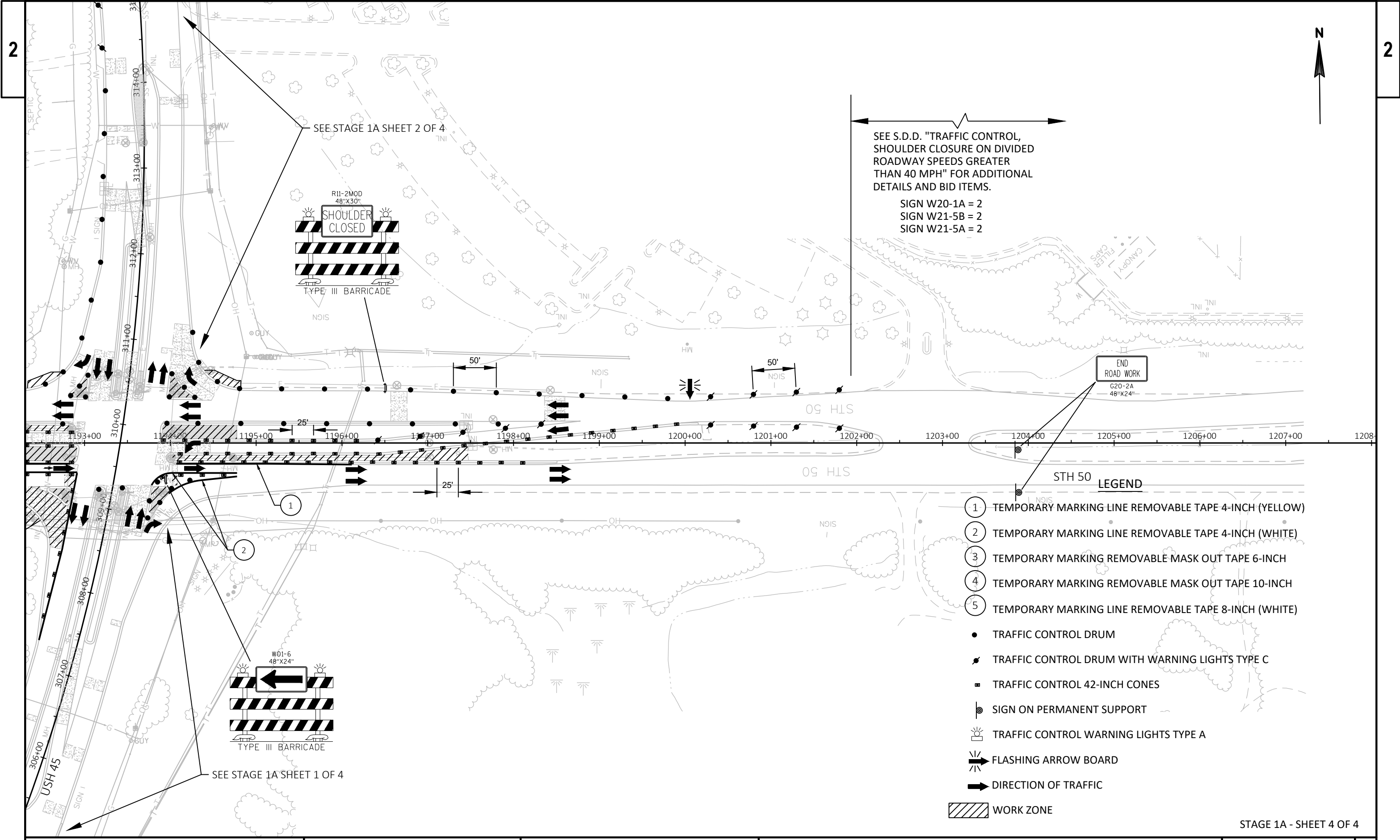


- ① TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
- ② TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
- ③ TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH
- ④ TEMPORARY MARKING REMOVABLE MASK OUT TAPE 10-INCH
- ⑤ TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH (WHITE)

- TRAFFIC CONTROL DRUM
- ☀ TRAFFIC CONTROL DRUM WITH WARNING LIGHTS TYPE C
- TRAFFIC CONTROL 42-INCH CONES
- 🎯 SIGN ON PERMANENT SUPPORT
- ☀ TRAFFIC CONTROL WARNING LIGHTS TYPE A
- ➡ FLASHING ARROW BOARD
- ➡ DIRECTION OF TRAFFIC

 WORK ZONE

167



SEE S.D.D. "TRAFFIC CONTROL,
SHOULDER CLOSURE ON DIVIDED
ROADWAY SPEEDS GREATER
THAN 40 MPH" FOR ADDITIONAL
DETAILS AND BID ITEMS.

SIGN W20-1A = 2
SIGN W21-5B = 2
SIGN W21-5A = 2

LEGEND

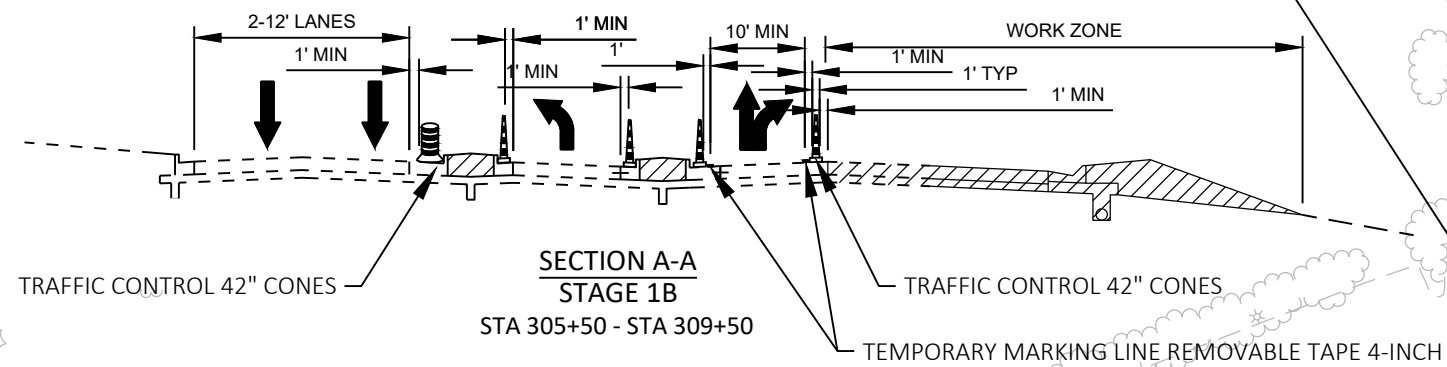
- ① TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
- ② TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
- ③ TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH
- ④ TEMPORARY MARKING REMOVABLE MASK OUT TAPE 10-INCH
- ⑤ TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH (WHITE)
- TRAFFIC CONTROL DRUM
- ⚡ TRAFFIC CONTROL DRUM WITH WARNING LIGHTS TYPE C
- TRAFFIC CONTROL 42-INCH CONES
- ⊙ SIGN ON PERMANENT SUPPORT
- ☀ TRAFFIC CONTROL WARNING LIGHTS TYPE A
- ↔ FLASHING ARROW BOARD
- ➡ DIRECTION OF TRAFFIC

WORK ZONE

STAGE 1A - SHEET 4 OF 4

- ① TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
- ② TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
- ③ TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH
- ④ TEMPORARY MARKING REMOVABLE MASK OUT TAPE 10-INCH
- ⑤ TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH (WHITE)

- TRAFFIC CONTROL DRUM
- 🚧 TRAFFIC CONTROL DRUM WITH WARNING LIGHTS TYPE C
- TRAFFIC CONTROL 42-INCH CONES
- 🚧 TRAFFIC CONTROL WARNING LIGHTS TYPE A
- ➡ FLASHING ARROW BOARD
- ➡ DIRECTION OF TRAFFIC

 WORK ZONE

SEE STAGE 1B SHEET 3 OF 4

SEE STAGE 1B SHEET 2 OF 4

SECTION A-A
STAGE 1B
STA 305+50 - STA 309+50

— TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH

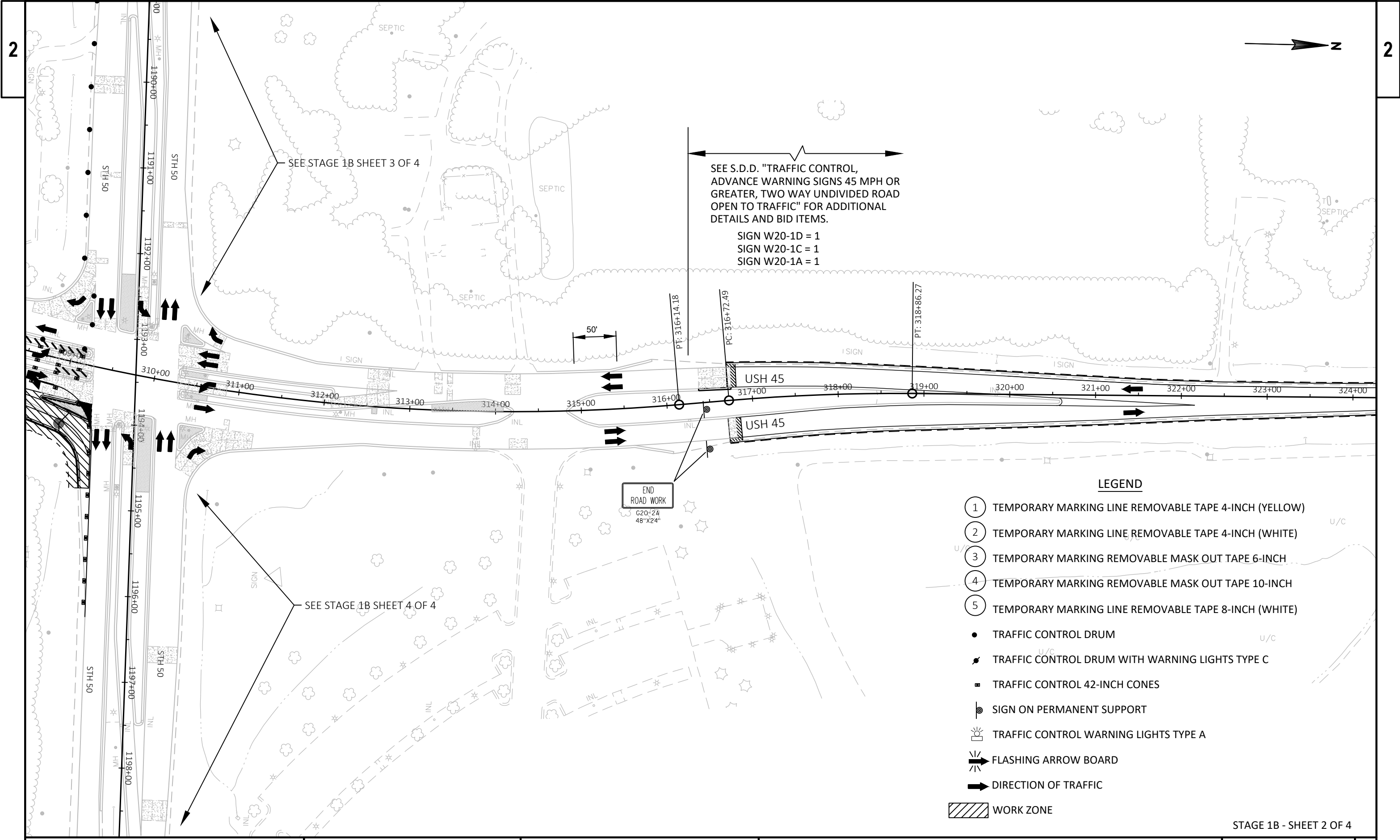
SEE S.D.D. "TRAFFIC CONTROL,
SINGLE LANE CLOSURE,
NON-FREEWAY/EXPRESSWAY" FOR
ADDITIONAL DETAILS AND BID
ITEMS. (NOT SHOWN ON PLANS):

SIGN W20-1A = 1
SIGN W21-5B = 1
SIGN W21-5A = 1
SIGN G20-1 = 1
SIGN W04-2R = 1
DRUMS = 10

TEMPORARY ASPHALTIC PAVEMENT

SEE STAGE 1B SHEET 4 OF 4

STAGE 1B - SHEET 1 OF 4

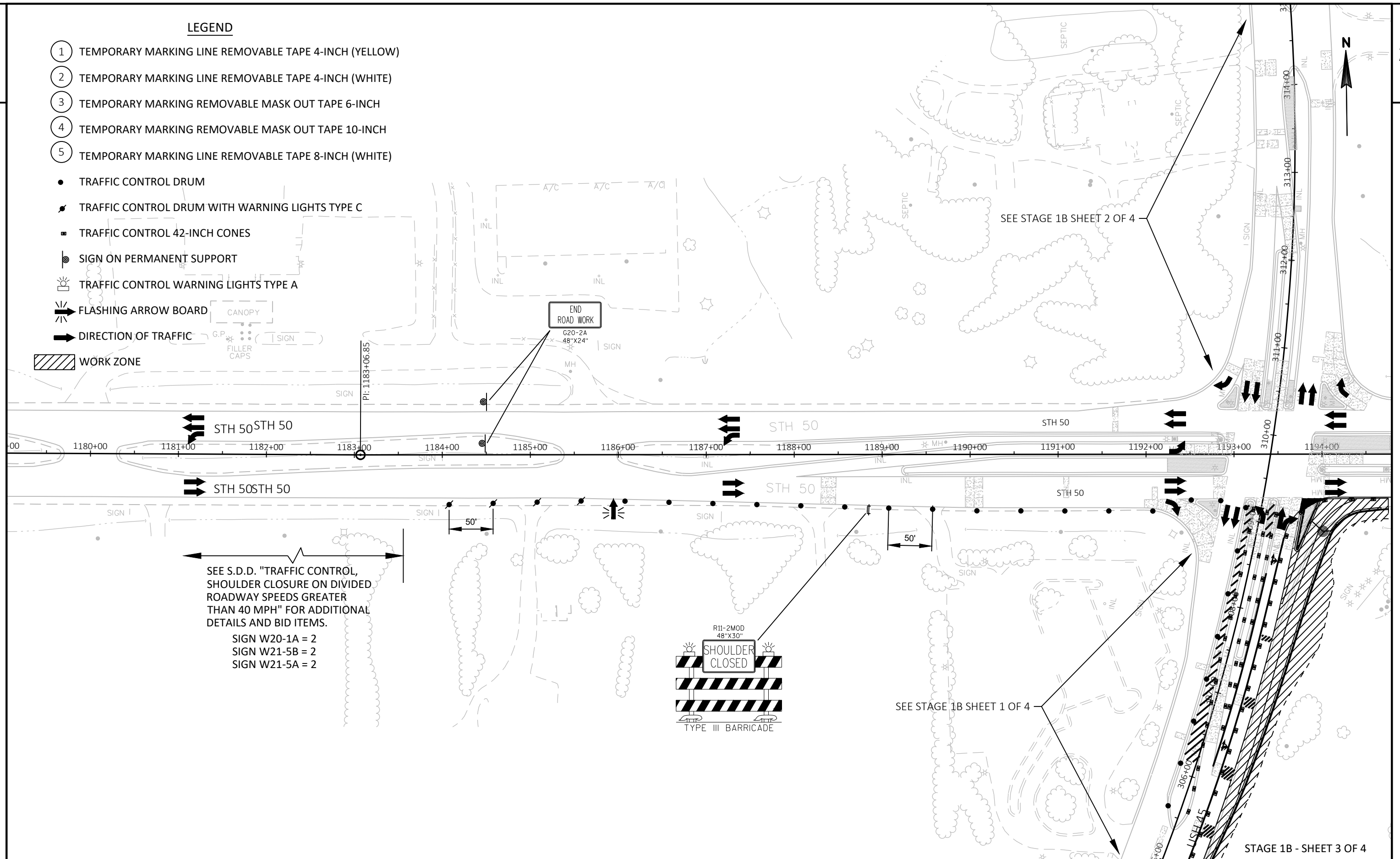


LEGEND

- ① TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
- ② TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
- ③ TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH
- ④ TEMPORARY MARKING REMOVABLE MASK OUT TAPE 10-INCH
- ⑤ TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH (WHITE)

- TRAFFIC CONTROL DRUM
- ✱ TRAFFIC CONTROL DRUM WITH WARNING LIGHTS TYPE C
- TRAFFIC CONTROL 42-INCH CONES
- ⦿ SIGN ON PERMANENT SUPPORT
- ☀ TRAFFIC CONTROL WARNING LIGHTS TYPE A
- ➡ FLASHING ARROW BOARD
- ➡ DIRECTION OF TRAFFIC

WORK ZONE



PROJECT NO: 3200-01-72

HWY: USH 45

COUNTY: KENOSHA-RACINE

TRAFFIC CONTROL - STAGE 1B STH 50

SHEET

171

E

FILE NAME : N:\PDS\VC3D\32000102\SHEETSPLAN\025101-TC_S1B.DWG
LAYOUT NAME - S1B_025104-tc

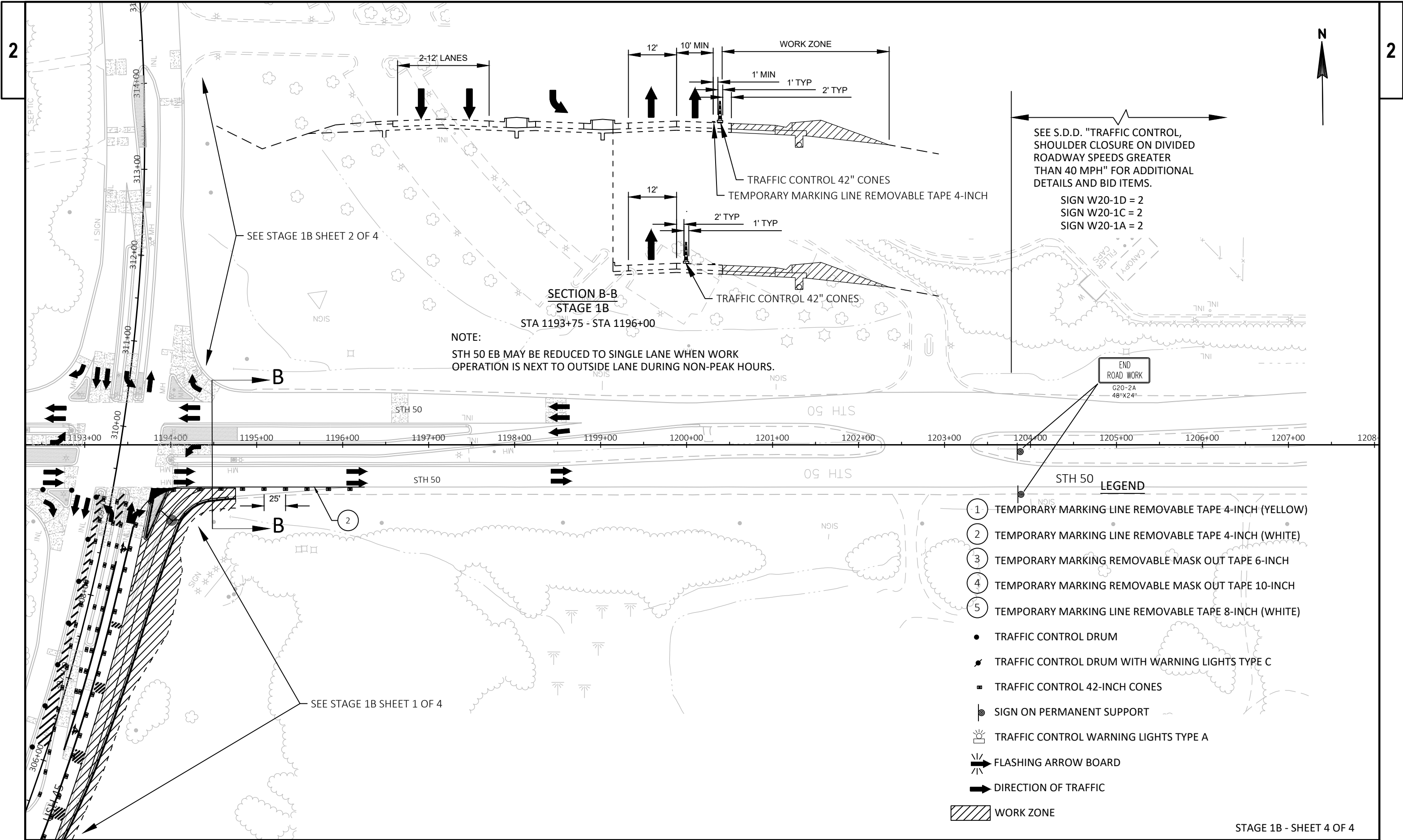
PLOT DATE : 12/10/2019 10:39 AM

PLOT BY : YANG, VANG NENG

PLOT NAME :

PLOT SCALE : 1 IN:100 FT

WISDOT/CADDs SHEET 42



STAGES 2A, 2B, AND 2:

USH 45 IS CLOSED TO THROUGH TRAFFIC DURING STAGES 2A, 2B, AND 2 CONSTRUCTION.

STAGE 2A:

1. CLOSE USH 45 FROM STH 50 TO STH 142. USH 45 TRAFFIC FOLLOWS DETOUR ROUTE VIA STH 50, STH 75, AND STH 11. STAGE 2A IS COINCIDENTAL WITH STAGE 2 CONSTRUCTION.
2. REMOVE AND REPLACE CONCRETE PAVEMENT REPAIRS AND CONCRETE PAVEMENT REPLACEMENTS ON THE LEFT TURN LANES AND INSIDE LANES. COMPLETE STAGE 2A PRIOR TO BEGIN STAGE 2B.
3. INSTALL PERMANENT TRAFFIC SIGNAL.

STAGE 2B:

1. CONTINUE STAGE 2 CONSTRUCTION.
2. REMOVE AND REPLACE CONCRETE PAVEMENT REPAIRS AND CONCRETE PAVEMENT REPLACEMENTS ON THE OUTSIDE LANES. CONTINUE PERMANENT SIGNAL REPLACEMENT.

STAGE 2:

1. THE EXISTING ASPHALT SURFACE ON USH 45 WILL BE MILLED AND RESURFACED. THE EXISTING PAVED SHOULDERS WILL BE WIDENED FROM 3' TO 5', RESULTING IN AN OVERALL 6' (5' PAVED, 1' GRAVEL) SHOULDER.
2. CONTINUE TO COMPLETE THE PERMANENT SIGNAL REPLACEMENT.
3. REMOVE AND REPLACE CROSS CULVERT PIPES AT VARIOUS LOCATIONS FROM STH 50 TO STH 142.
4. INSTALL NEW STORM SEWER SYSTEM AT THE RIGHT TURN LANE TO CTH NN.
5. RECONSTRUCT RIGHT TURN LANES AND BY-PASS LANES AT CTH NN AND CTH N.
6. REMOVE AND REPLACE BASE PATCHING ASPHALTIC AT VARIOUS LOCATIONS AND INSTALL ASPHALTIC BASE WIDENING.

TRAFFIC CONTROL 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' (500' DESIRABLE) DISTANCE TO EXISTING SIGNS.

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

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

ALL TYPE III BARRICADES SHALL BE 8' IN LENGTH AND HAVE 2 TYPE "A" WARNING LIGHTS.

ANY "STOP" SIGNS THAT ARE REMOVED FOR A CONSTRUCTION OPERATION SHALL IMMEDIATELY BE RE-ESTABLISHED.

LEGEND



WORK ZONE - STAGES 2A & 2B

WORK ZONE - STAGE 2

①

SEE STAGE 2A AND STAGE 2B TRAFFIC CONTROL DETAIL SHEETS

②

SEE S.D.D. BARRICADES AND SIGNS FOR MAINLINE CLOSURES. DETAIL B - MAINLINE CLOSURE WITH POSTED DETOUR. DETAIL E - LANE CLOSURE BARRICADE DETAIL

③

SEE S.D.D. BARRICADES AND SIGNS FOR SIDE ROAD CLOSURES. DETAIL 3 - PUBLIC CROSS-TRAFFIC MAINTAINED, CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT.

④

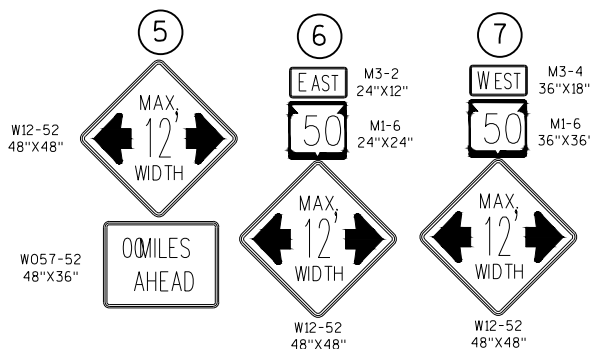
SEE S.D.D. BARRICADES AND SIGNS FOR SIDE ROAD CLOSURES. DETAIL 4 - CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT

⑤

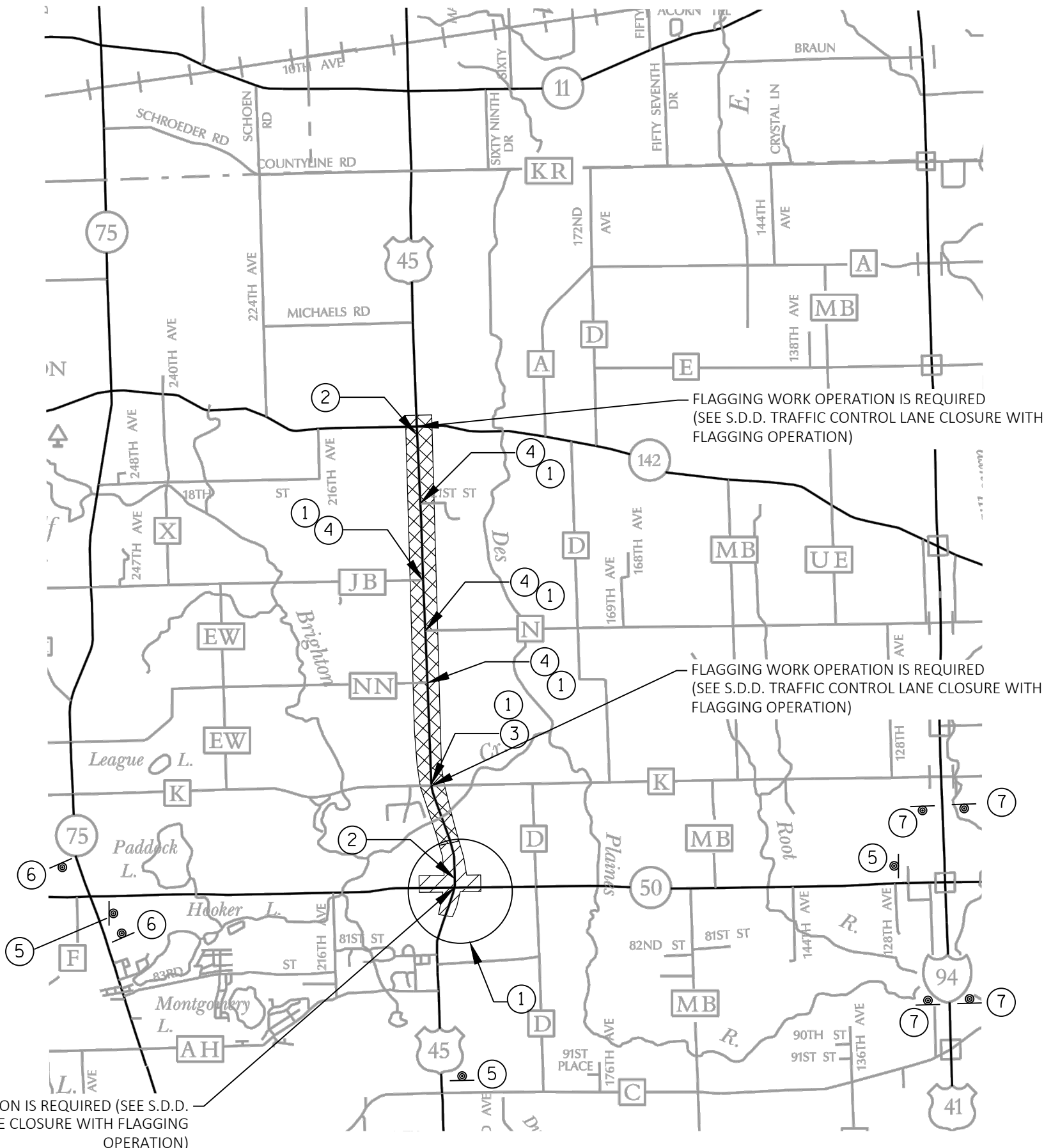
INSTALL ADJACENT OT EXISTING ROUTE ASSEMBLIES WHEN LANE WIDTHS ARE REDUCED DUE TO LANE CLOSURE FOR CONCRETE PAVEMENT REPAIRS & REPLACEMENTS.

⑥ ⑦

INSTALL ADJACENT TO EXISTING EXIT SIGNAGE AND ROUTE ASSEMBLIES WHEN LANE WIDTHS ARE REDUCED DUE TO LANE CLOSURE FOR CONCRETE PAVEMENT REPAIRS & REPLACEMENTS. M1-6 SHALL BE 36"X36" ON INSTALLTIONS ALONG I-41/I-94 AND 24"X24" ON ALL OTHER INSTALLATIONS.



7. MILL AND OVERLAY FROM STA 316+73 TO STH 142, INCLUDING THE INTERSECTION OF STH 142 AND USH 45.



FLAGGING WORK OPERATION IS REQUIRED (SEE S.D.D. TRAFFIC CONTROL LANE CLOSURE WITH FLAGGING OPERATION)

STAGES 2, 2A, & 2B OVERVIEW SHEET

2

MATCH
LINE AMATCH
LINE A

2

MATCH
LINE BMATCH
LINE B

LEGEND



WORK ZONE



ROAD OPEN TO LOCAL TRAFFIC



TRAFFIC CONTROL 42" CONES

TRAFFIC CONTROL DRUMS
WITH TRAFFIC CONTROL WARNING LIGHTS TYPE C

TRAFFIC CONTROL BARRICADES TYPE III

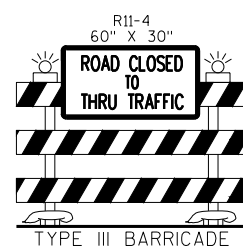
TRAFFIC CONTROL BARRICADES TYPE III
WITH TRAFFIC CONTROL SIGNS

LOCAL TRAFFIC FLOW

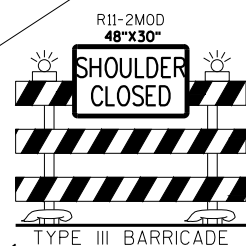
SEE S.D.D. "TRAFFIC CONTROL,
SHOULDER CLOSURE ON DIVIDED
ROADWAY SPEEDS GREATER
THAN 40 MPH" FOR ADDITIONAL
DETAILS AND BID ITEMS.

SIGN W20-1A = 1
SIGN W21-5B = 1
SIGN W21-5A = 1

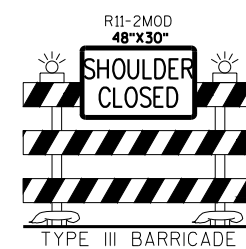
SIDEROAD R/L



TRAFFIC CONTROL TYPICAL
USE AT CTH N & CTH NN



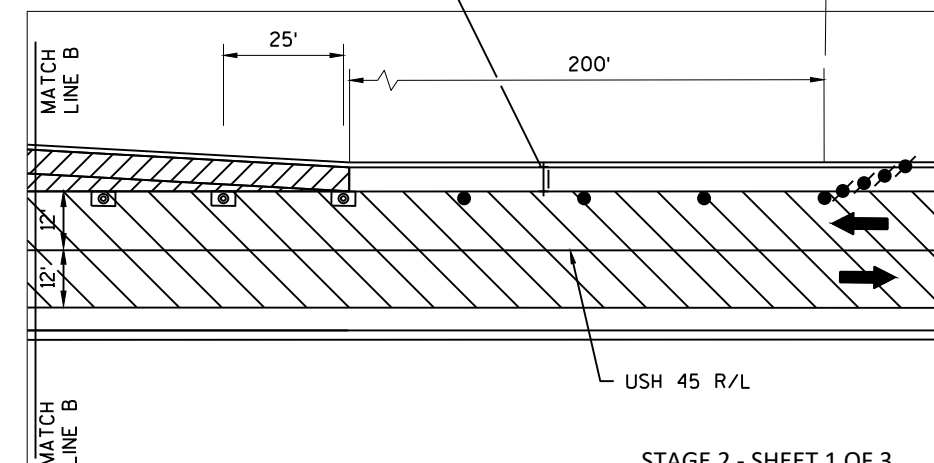
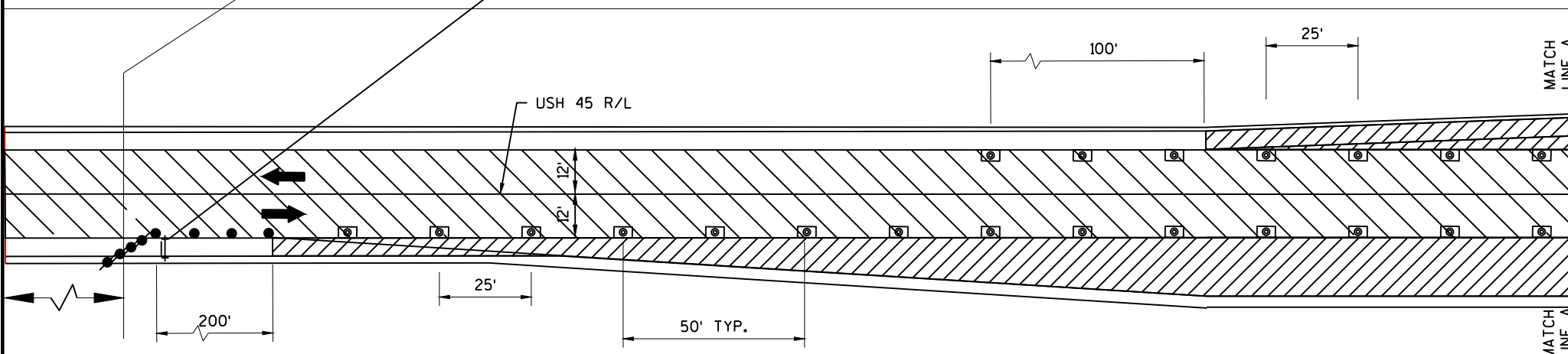
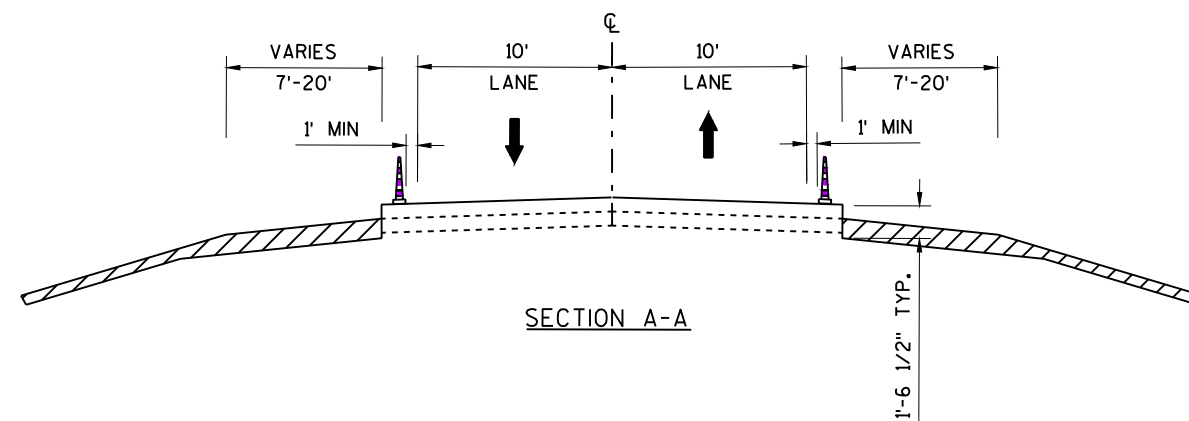
TYPE III BARRICADE



TYPE III BARRICADE

SEE S.D.D. "TRAFFIC CONTROL,
SHOULDER CLOSURE ON DIVIDED
ROADWAY SPEEDS GREATER
THAN 40 MPH" FOR ADDITIONAL
DETAILS AND BID ITEMS.

SIGN W20-1A = 1
SIGN W21-5B = 1
SIGN W21-5A = 1



PROJECT NO: 3200-01-72

HWY: USH 45

COUNTY: KENOSHA-RACINE

TRAFFIC CONTROL - STAGE 2

SHEET

174

E

FILE NAME : N:\PDS\C3D\32000102\SHEETSP\AN\025001-TC.DWG
LAYOUT NAME - S2_TC_DETAIL1

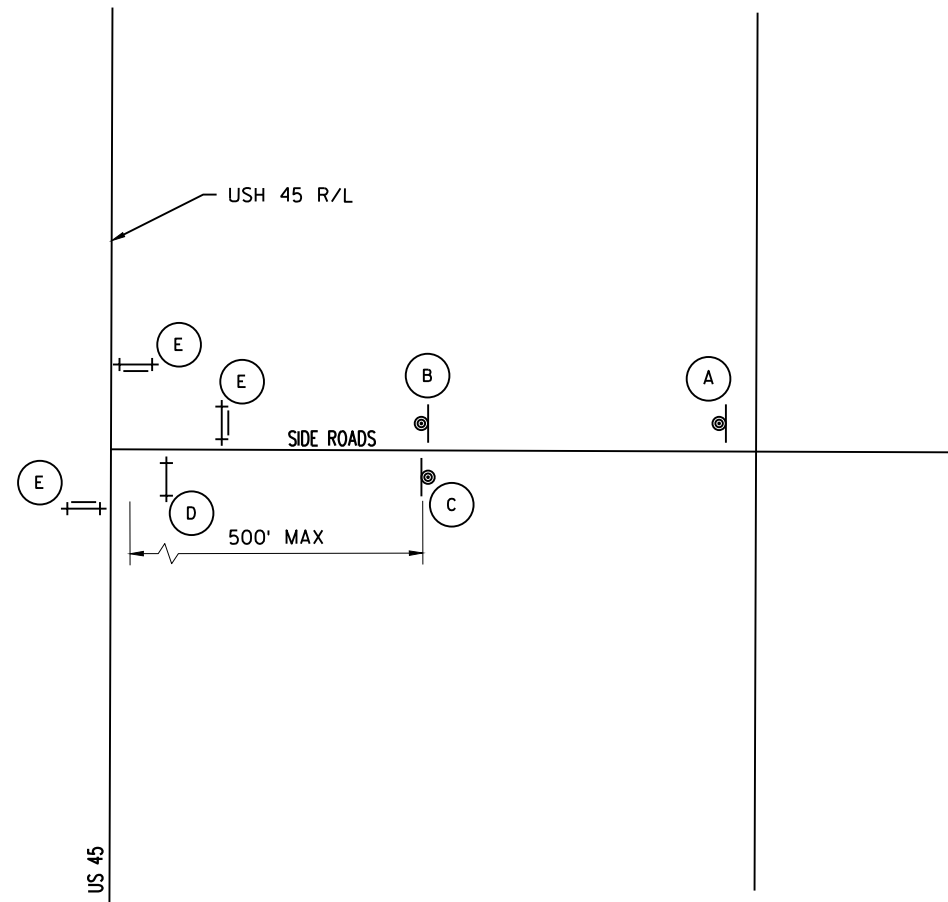
PLOT DATE : 12/10/2019 10:39 AM

PLOT BY : YANG, VANG NENG

PLOT NAME :

PLOT SCALE : 1:40_XREF

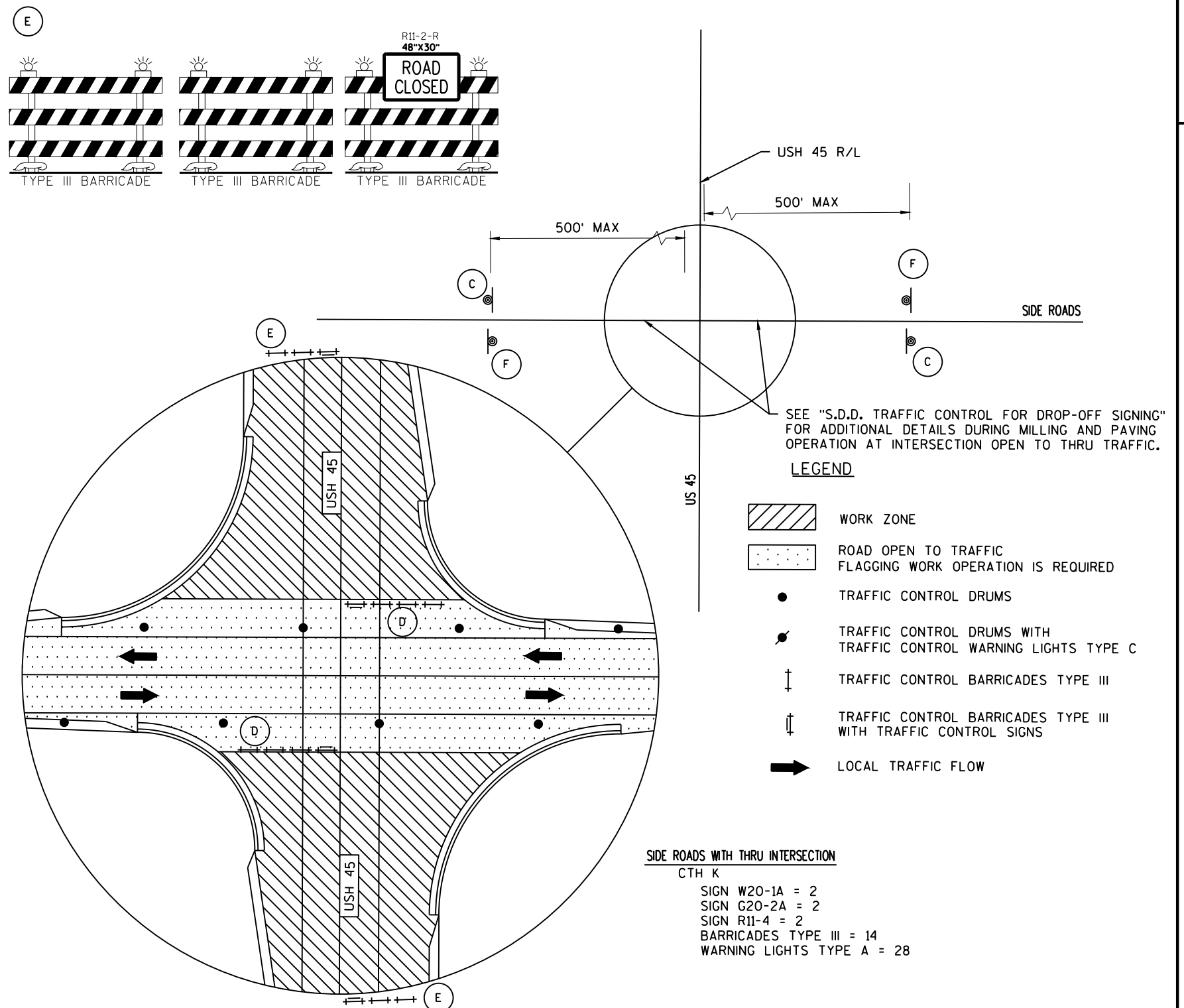
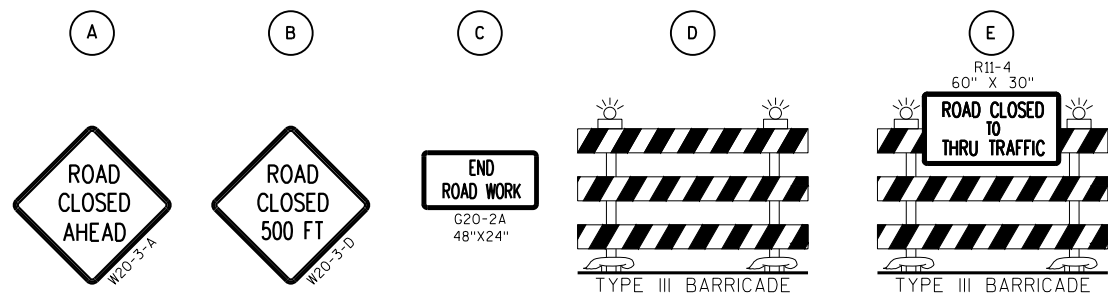
WISDOT/CADDs SHEET 42



SIDE ROADS WITH T-INTERSECTION

CTH NN/45TH ST
CTH N/38TH ST
CTH JB/31ST ST
MICHAELS RD

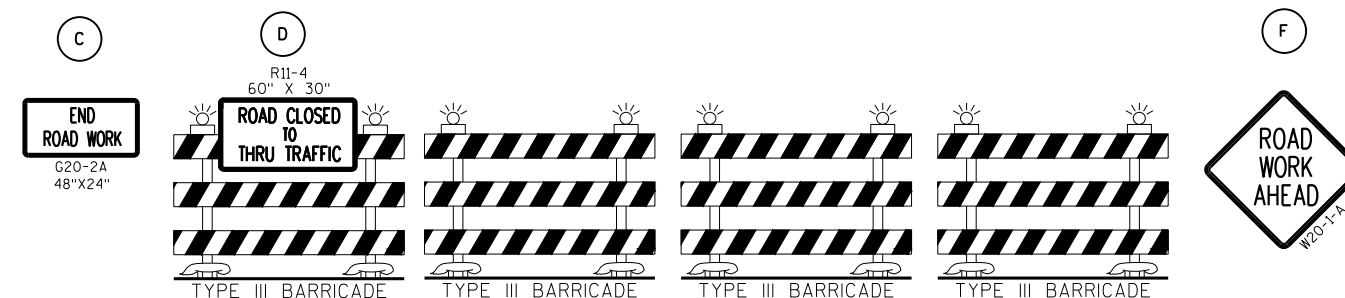
SIGN W20-3A = 7
SIGN W20-3D = 7
SIGN G20-2A = 7
SIGN R11-4 = 21
BARRICADES TYPE III = 28
WARNING LIGHTS TYPE A = 56



SIDE ROADS WITH THRU INTERSECTION

CTH K

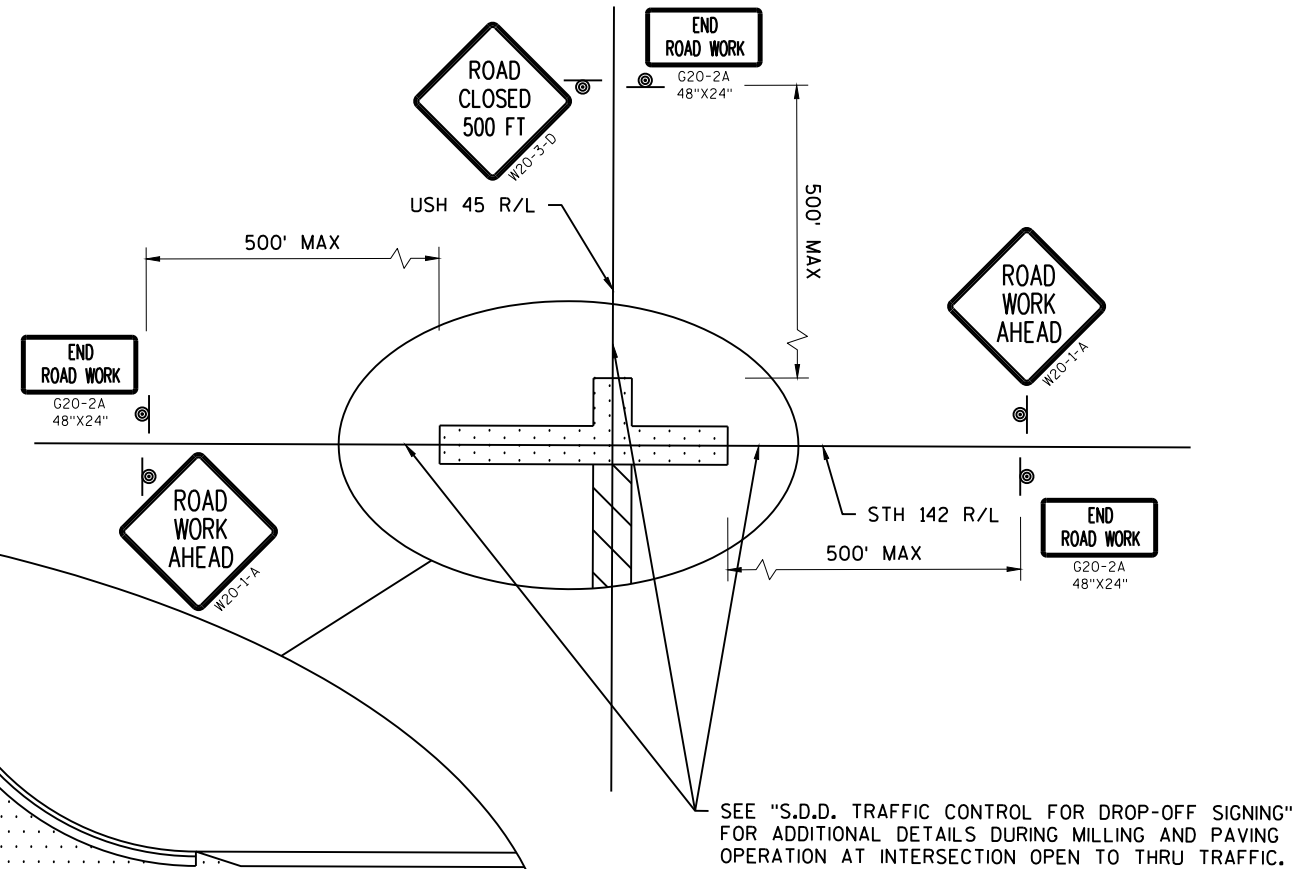
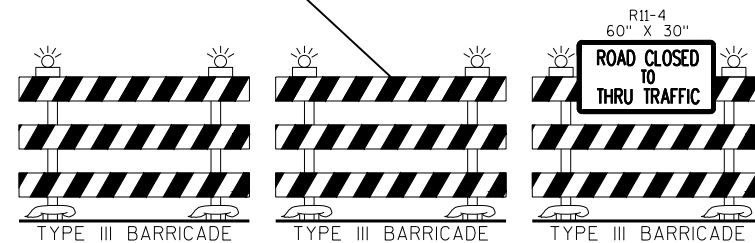
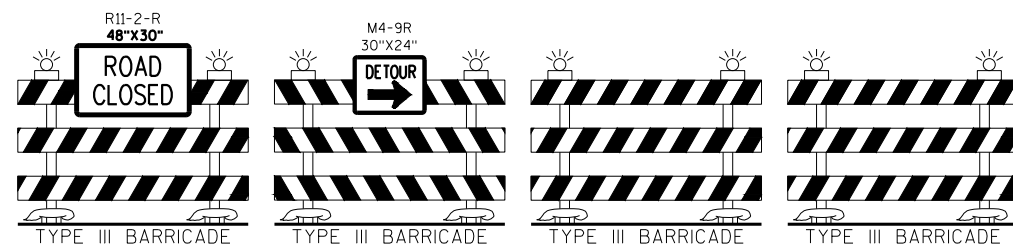
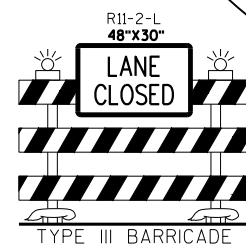
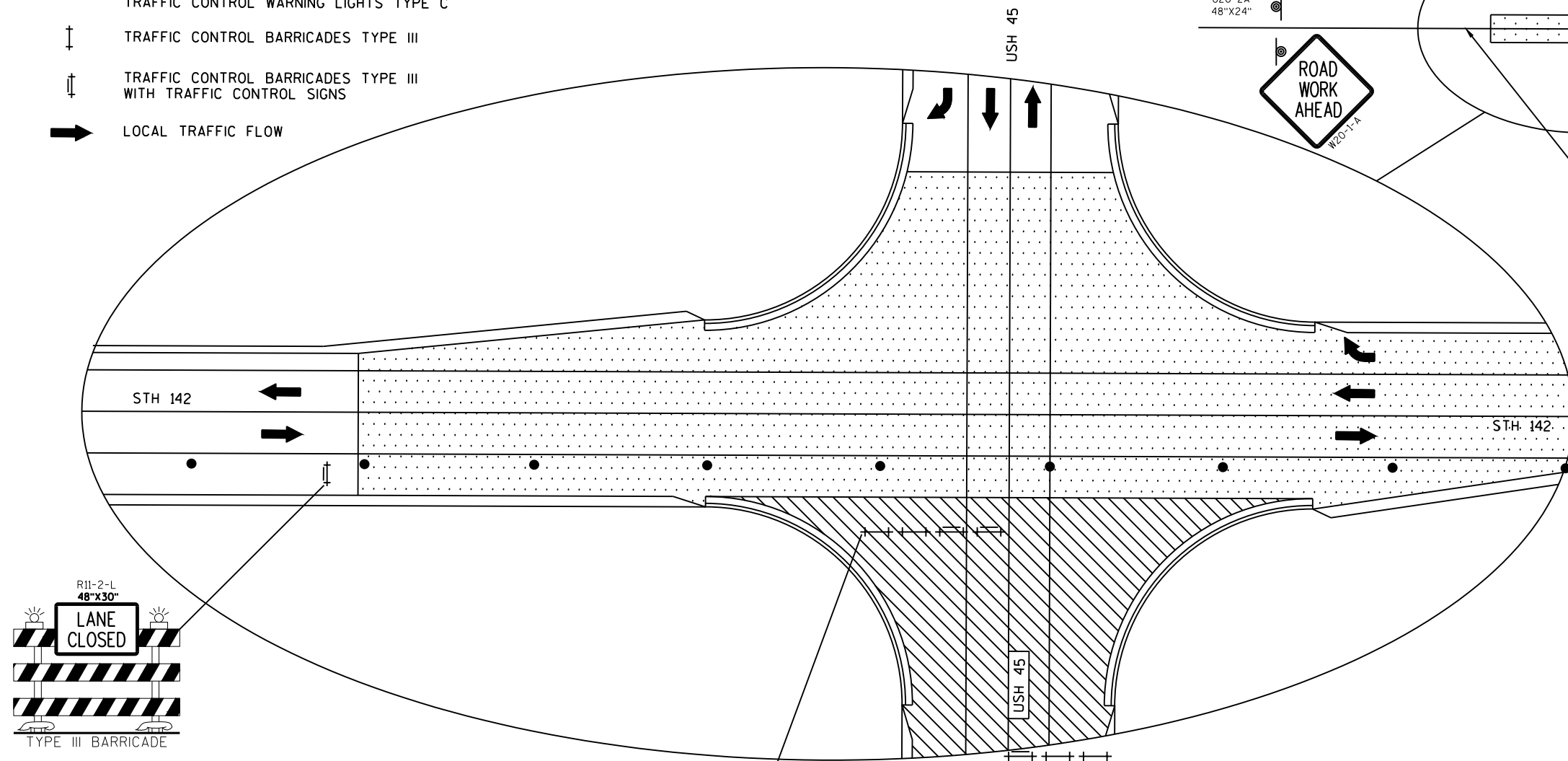
SIGN W20-1A = 2
SIGN G20-2A = 2
SIGN R11-4 = 2
BARRICADES TYPE III = 14
WARNING LIGHTS TYPE A = 28



STAGE 2 - SHEET 2 OF 3

LEGEND

- WORK ZONE
- ROAD OPEN TO TRAFFIC
FLAGGING WORK OPERATION IS REQUIRED
- TRAFFIC CONTROL DRUMS
- TRAFFIC CONTROL DRUMS WITH
TRAFFIC CONTROL WARNING LIGHTS TYPE C
- TRAFFIC CONTROL BARRICADES TYPE III
- TRAFFIC CONTROL BARRICADES TYPE III
WITH TRAFFIC CONTROL SIGNS
- LOCAL TRAFFIC FLOW



STAGE 2 - SHEET 3 OF 3

PROJECT NO: 3200-01-72

HWY: USH 45

COUNTY: KENOSHA-RACINE

TRAFFIC CONTROL - STAGE 2

SHEET 176

E

FILE NAME : N:\PDS\C3D\32000102\SHEETSP\LAN\025001-TC.DWG
LAYOUT NAME - S2_TC_DETAIL3

PLOT DATE : 12/10/2019 10:39 AM

PLOT BY : YANG, VANG NENG

PLOT NAME :

PLOT SCALE : 1:40_XREF

WISDOT/CADDs SHEET 42

LEGEND

- ① TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
- ② TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
- ③ TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH
- ④ TEMPORARY MARKING REMOVABLE MASK OUT TAPE 10-INCH
- ⑤ TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH (WHITE)

- TRAFFIC CONTROL DRUM
- ⚡ TRAFFIC CONTROL DRUM WITH WARNING LIGHTS TYPE C
- TRAFFIC CONTROL 42-INCH CONES
- ⦿ SIGN ON PERMANENT SUPPORT
- ☀ TRAFFIC CONTROL WARNING LIGHTS TYPE A
- ➡ FLASHING ARROW BOARD
- ➡ DIRECTION OF TRAFFIC

WORK ZONE

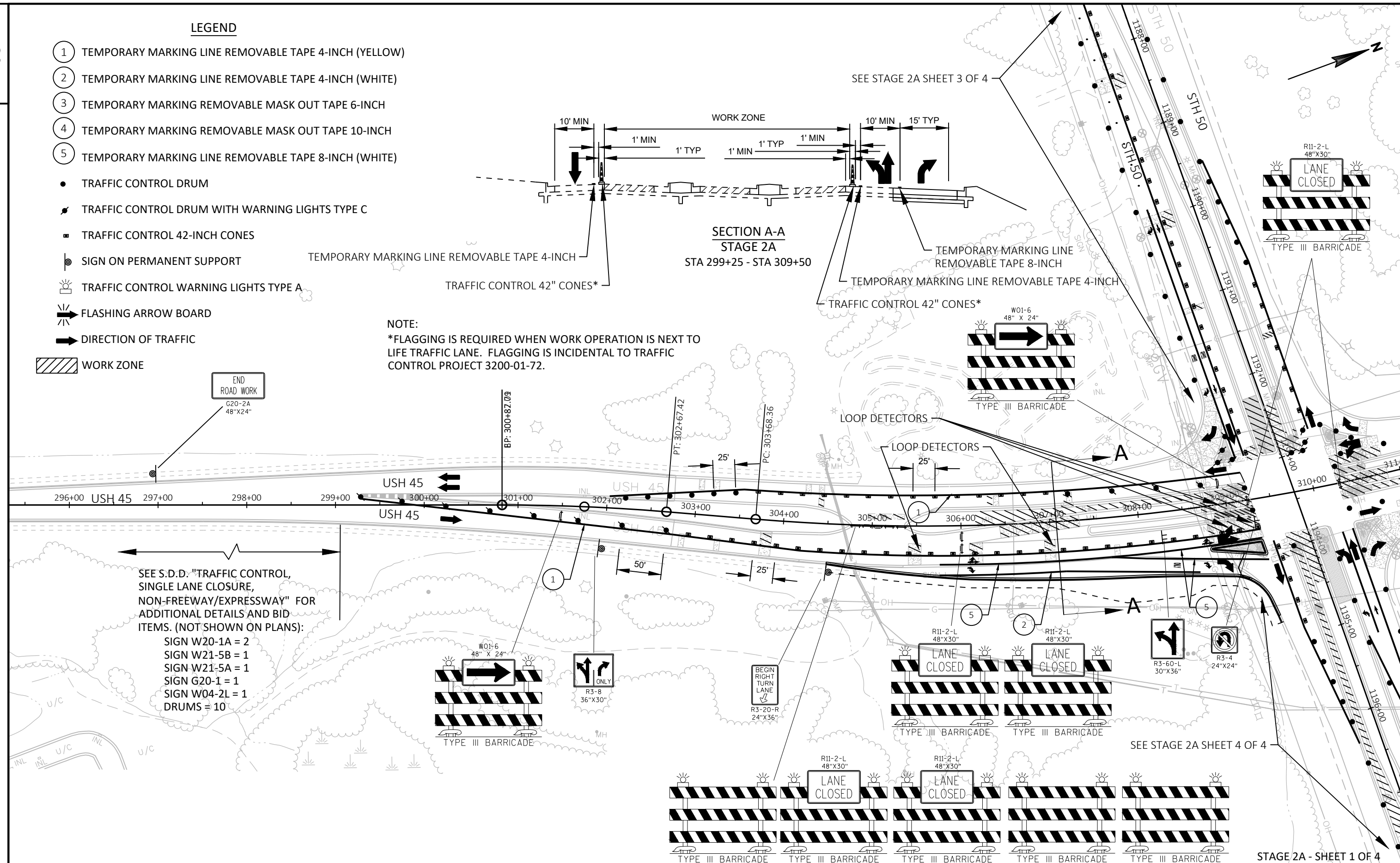
END
ROAD WORK
G20-2A
48"X24"

SEE S.D.D. "TRAFFIC CONTROL,
SINGLE LANE CLOSURE,
NON-FREEWAY/EXPRESSWAY" FOR
ADDITIONAL DETAILS AND BID
ITEMS. (NOT SHOWN ON PLANS):

SIGN W20-1A = 2
SIGN W21-5B = 1
SIGN W21-5A = 1
SIGN G20-1 = 1
SIGN W04-2L = 1
DRUMS = 10

NOTE:

*FLAGGING IS REQUIRED WHEN WORK OPERATION IS NEXT TO
LIFE TRAFFIC LANE. FLAGGING IS INCIDENTAL TO TRAFFIC
CONTROL PROJECT 3200-01-72.



PROJECT NO: 3200-01-72

HWY: USH 45

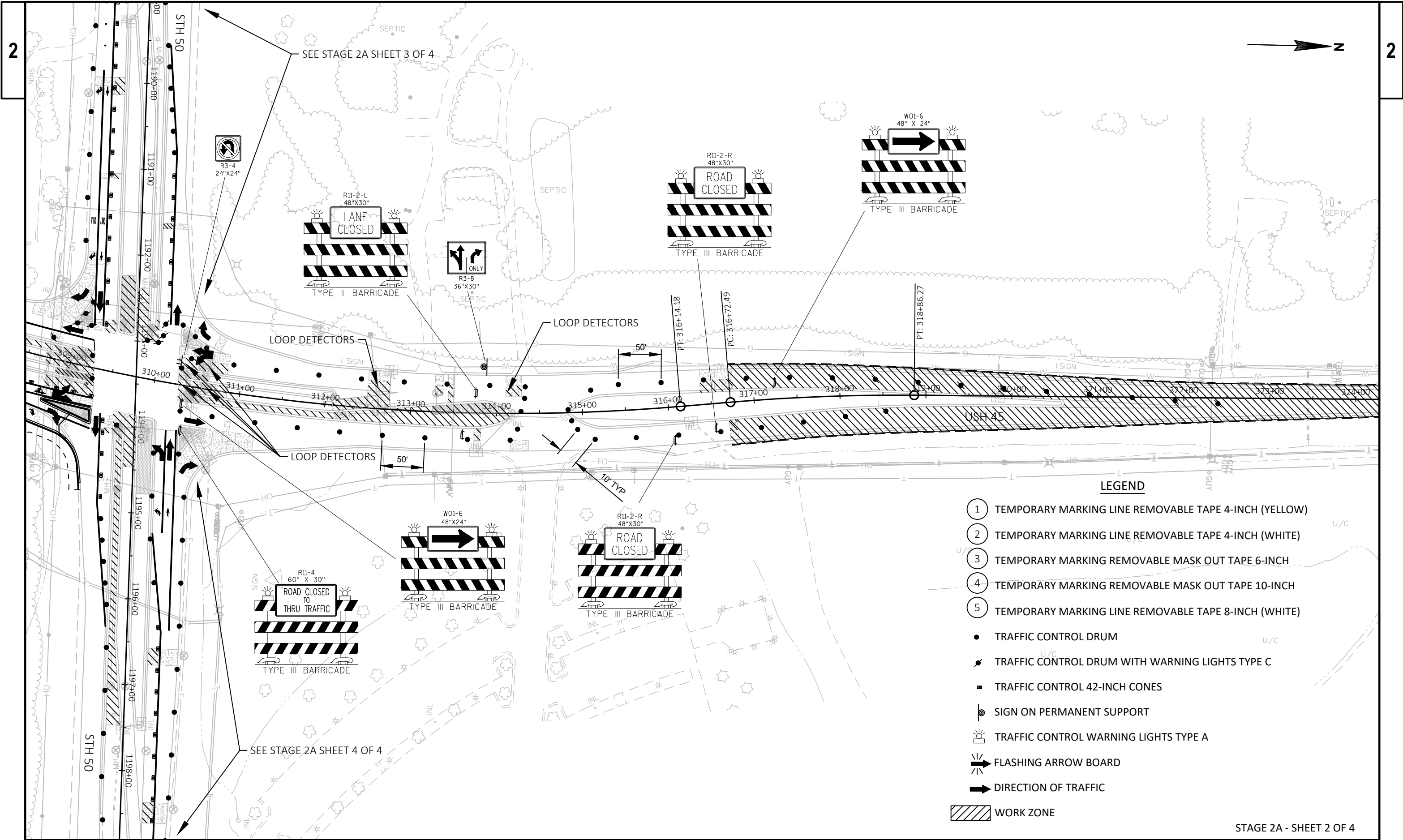
COUNTY: KENOSHA-RACINE

TRAFFIC CONTROL - STAGE 2A USH 45

SHEET

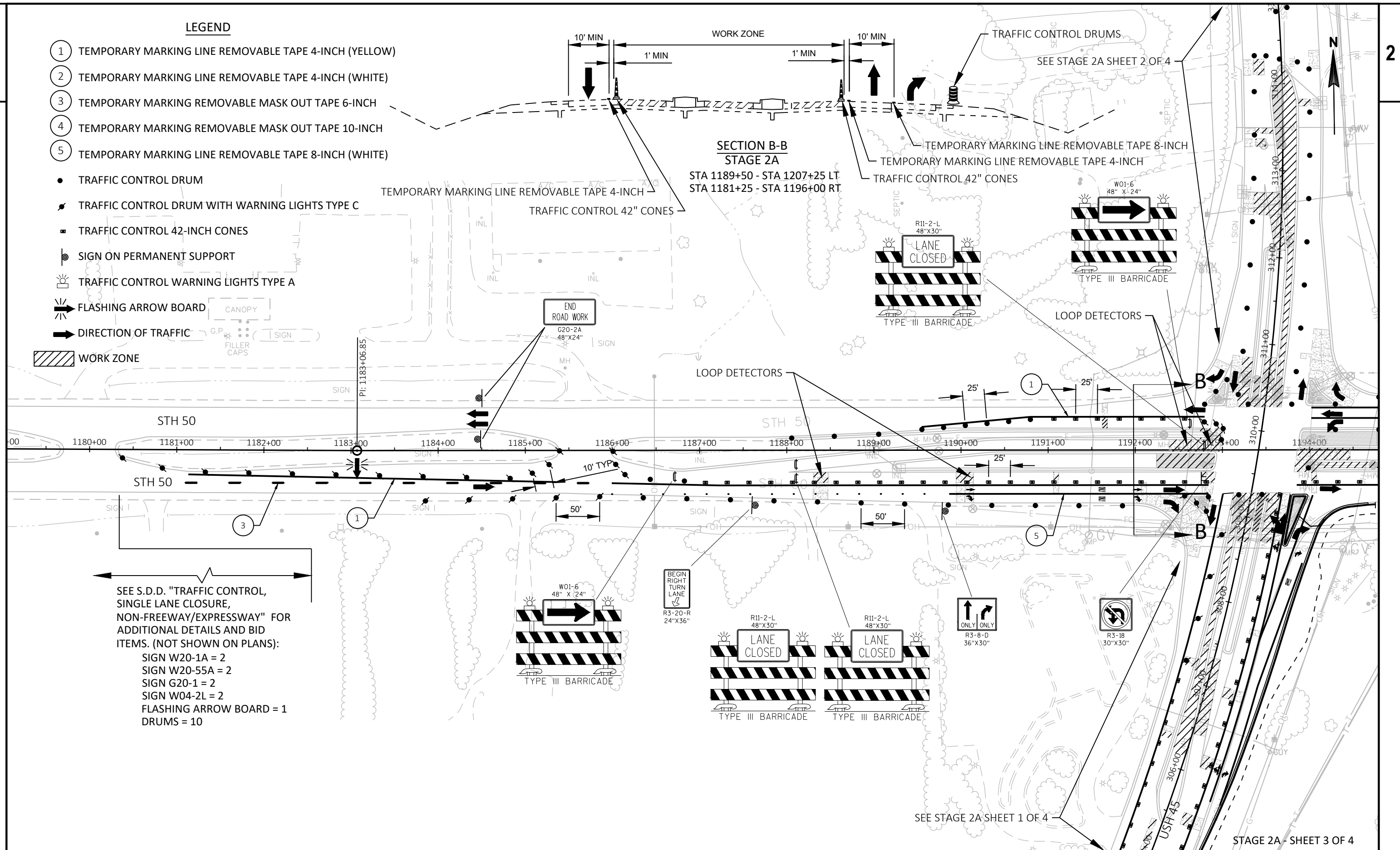
177

E

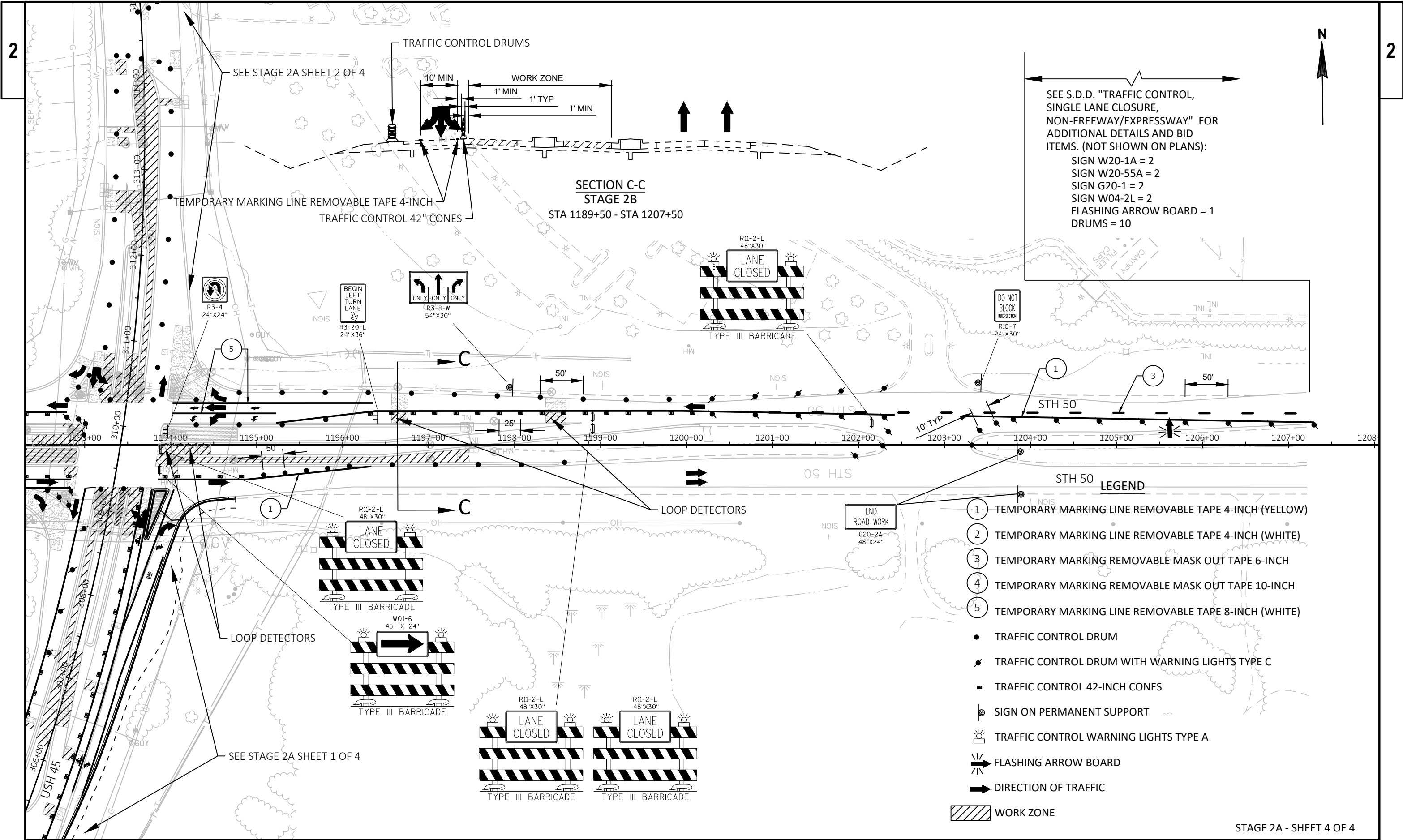


- ① TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
- ② TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
- ③ TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH
- ④ TEMPORARY MARKING REMOVABLE MASK OUT TAPE 10-INCH
- ⑤ TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH (WHITE)

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH WARNING LIGHTS TYPE C
- TRAFFIC CONTROL 42-INCH CONES
- SIGN ON PERMANENT SUPPORT
- ☀ TRAFFIC CONTROL WARNING LIGHTS TYPE A
- ➡ FLASHING ARROW BOARD
- ➡ DIRECTION OF TRAFFIC

 WORK ZONE

179



SEE S.D.D. "TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY" FOR ADDITIONAL DETAILS AND BID ITEMS. (NOT SHOWN ON PLANS):

- SIGN W20-1A = 2
- SIGN W20-55A = 2
- SIGN G20-1 = 2
- SIGN W04-2L = 2
- FLASHING ARROW BOARD = 1
- DRUMS = 10

LEGEND

- ① TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
- ② TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
- ③ TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH
- ④ TEMPORARY MARKING REMOVABLE MASK OUT TAPE 10-INCH
- ⑤ TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH (WHITE)

- TRAFFIC CONTROL DRUM
- ⚡ TRAFFIC CONTROL DRUM WITH WARNING LIGHTS TYPE C
- TRAFFIC CONTROL 42-INCH CONES
- ⦿ SIGN ON PERMANENT SUPPORT
- ☀ TRAFFIC CONTROL WARNING LIGHTS TYPE A
- ➡ FLASHING ARROW BOARD
- ➡ DIRECTION OF TRAFFIC

WORK ZONE

END
ROAD WORK
G20-2A
48"X24"

NOTE:
*FLAGGING IS REQUIRED WHEN WORK OPERATION IS NEXT TO
LIFE TRAFFIC LANE. FLAGGING IS INCIDENTAL TO TRAFFIC
CONTROL PROJECT 3200-01-72.

SEE S.D.D. "TRAFFIC CONTROL,
ADVANCED WARNING SIGNS 45 MPH
OR GREATER TWO-WAY UNDIVIDED
ROAD OPEN TO TRAFFIC" FOR
ADDITIONAL DETAILS AND BID
ITEMS. (NOT SHOWN ON PLANS):

SIGN W20-1A = 1
SIGN W21-5B = 1
SIGN W21-5A = 1
SIGN G20-1 = 1

RIGHT LANE
MUST
TURN RIGHT
R3-7-R
30"X30"

BEGIN
RIGHT
TURN
LANE
R3-20-R
24"X36"

LANE
CLOSED
TYPE III BARRICADE

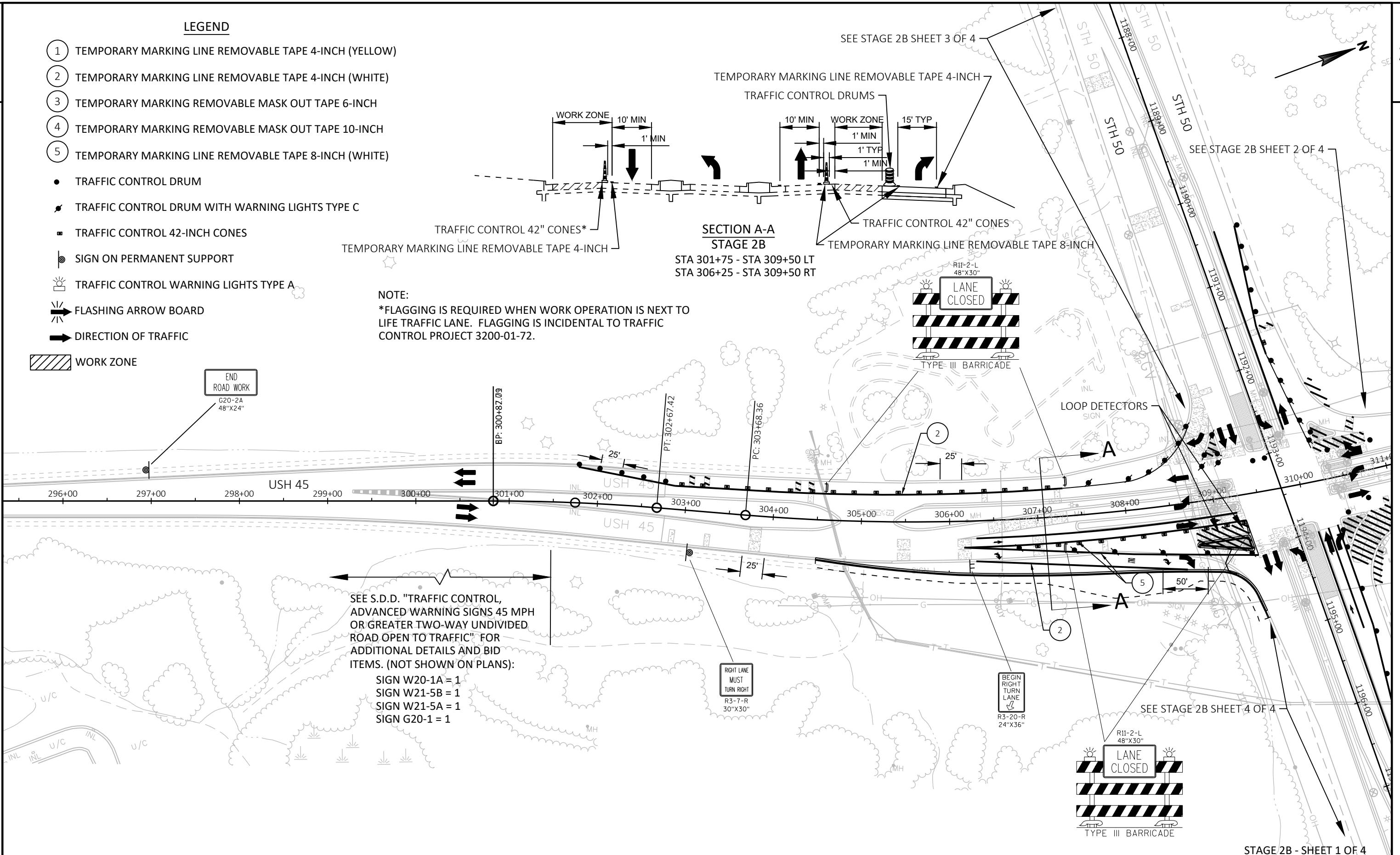
SECTION A-A
STAGE 2B

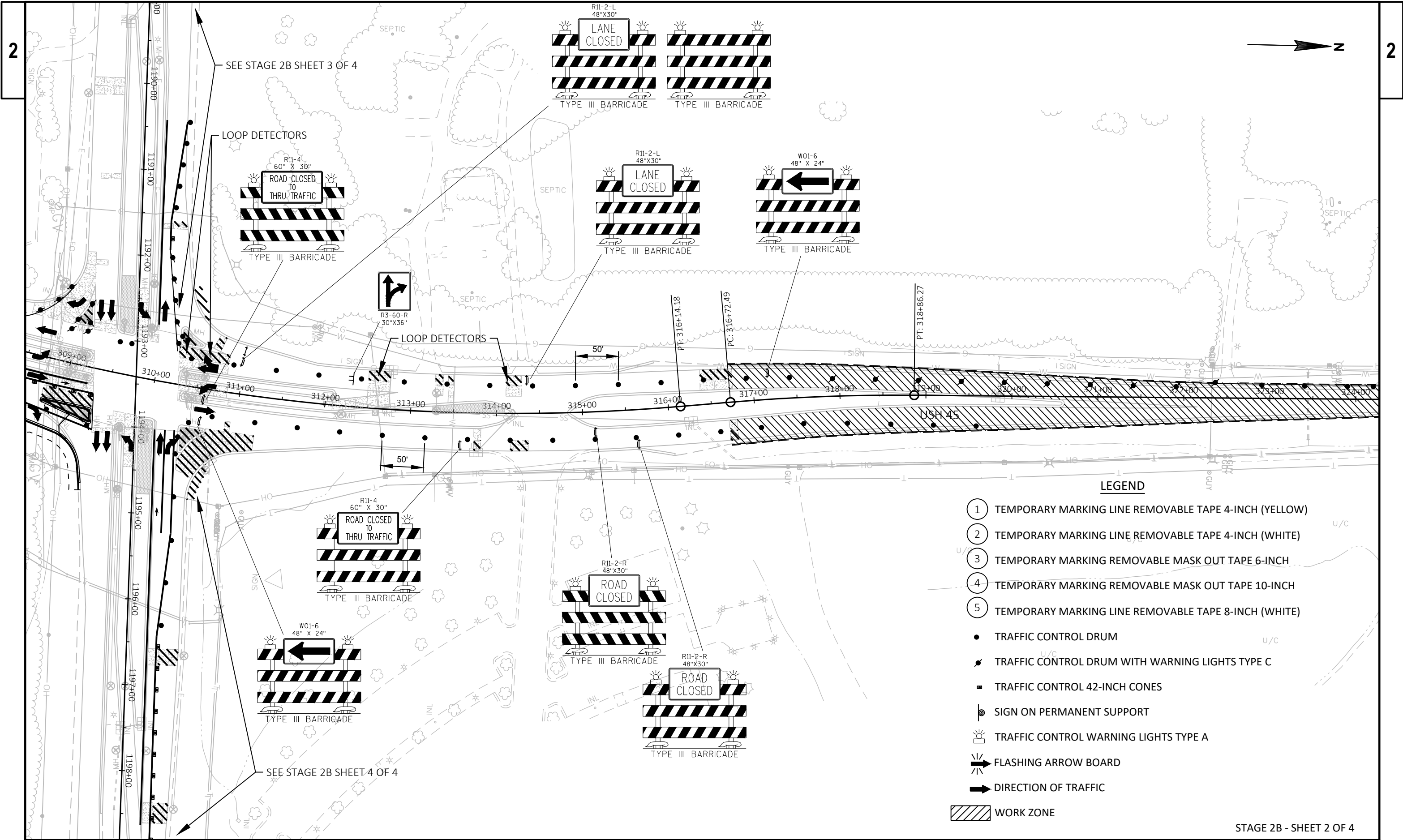
STA 301+75 - STA 309+50 LT
STA 306+25 - STA 309+50 RT

SEE STAGE 2B SHEET 3 OF 4

SEE STAGE 2B SHEET 2 OF 4

STAGE 2B - SHEET 1 OF 4



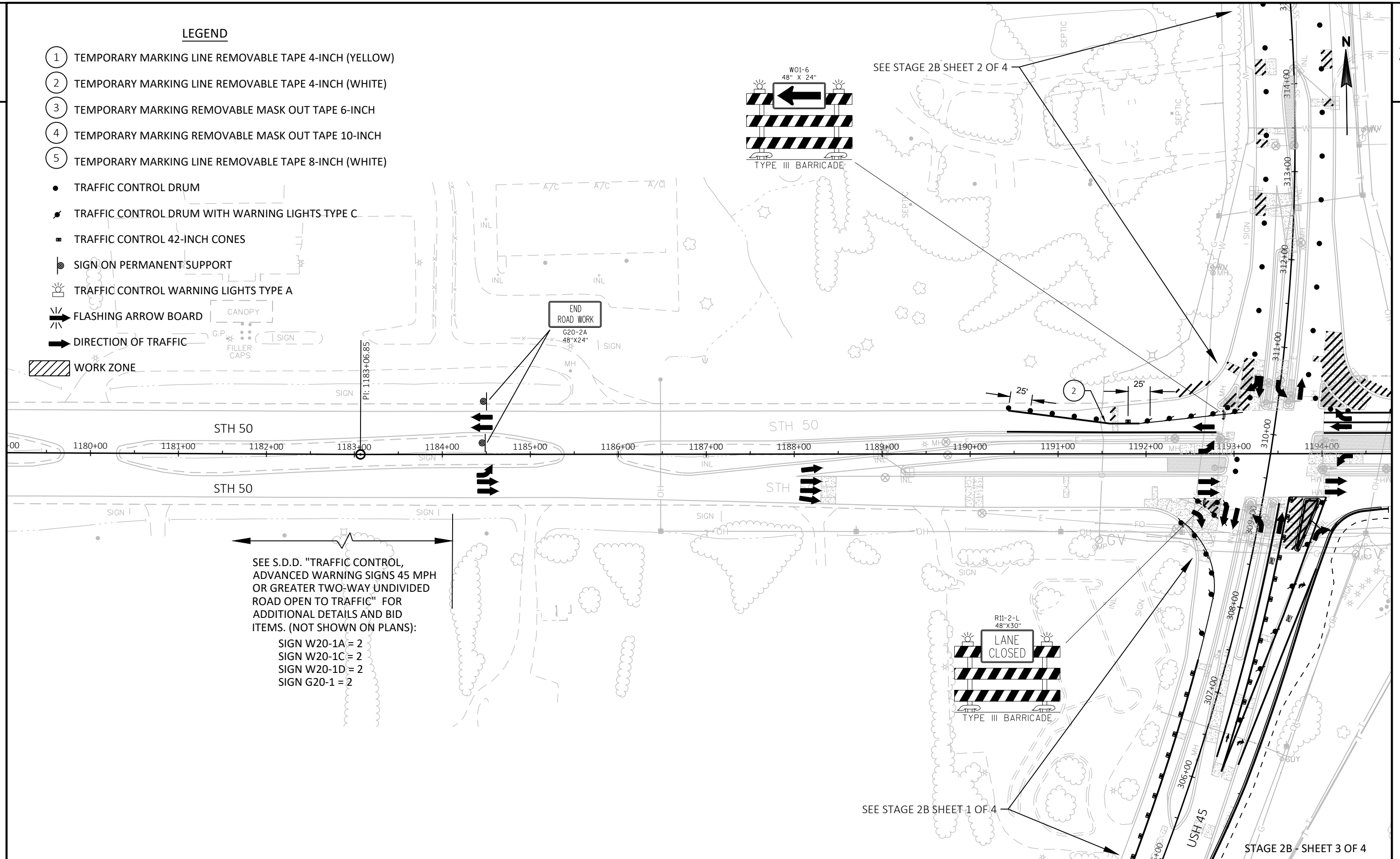


LEGEND

- 1 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (YELLOW)
- 2 TEMPORARY MARKING LINE REMOVABLE TAPE 4-INCH (WHITE)
- 3 TEMPORARY MARKING REMOVABLE MASK OUT TAPE 6-INCH
- 4 TEMPORARY MARKING REMOVABLE MASK OUT TAPE 10-INCH
- 5 TEMPORARY MARKING LINE REMOVABLE TAPE 8-INCH (WHITE)

- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH WARNING LIGHTS TYPE C
- TRAFFIC CONTROL 42-INCH CONES
- SIGN ON PERMANENT SUPPORT
- ☀ TRAFFIC CONTROL WARNING LIGHTS TYPE A
- ➡ FLASHING ARROW BOARD
- ➡ DIRECTION OF TRAFFIC

WORK ZONE



PROJECT NO: 3200-01-72

HWY: USH 45

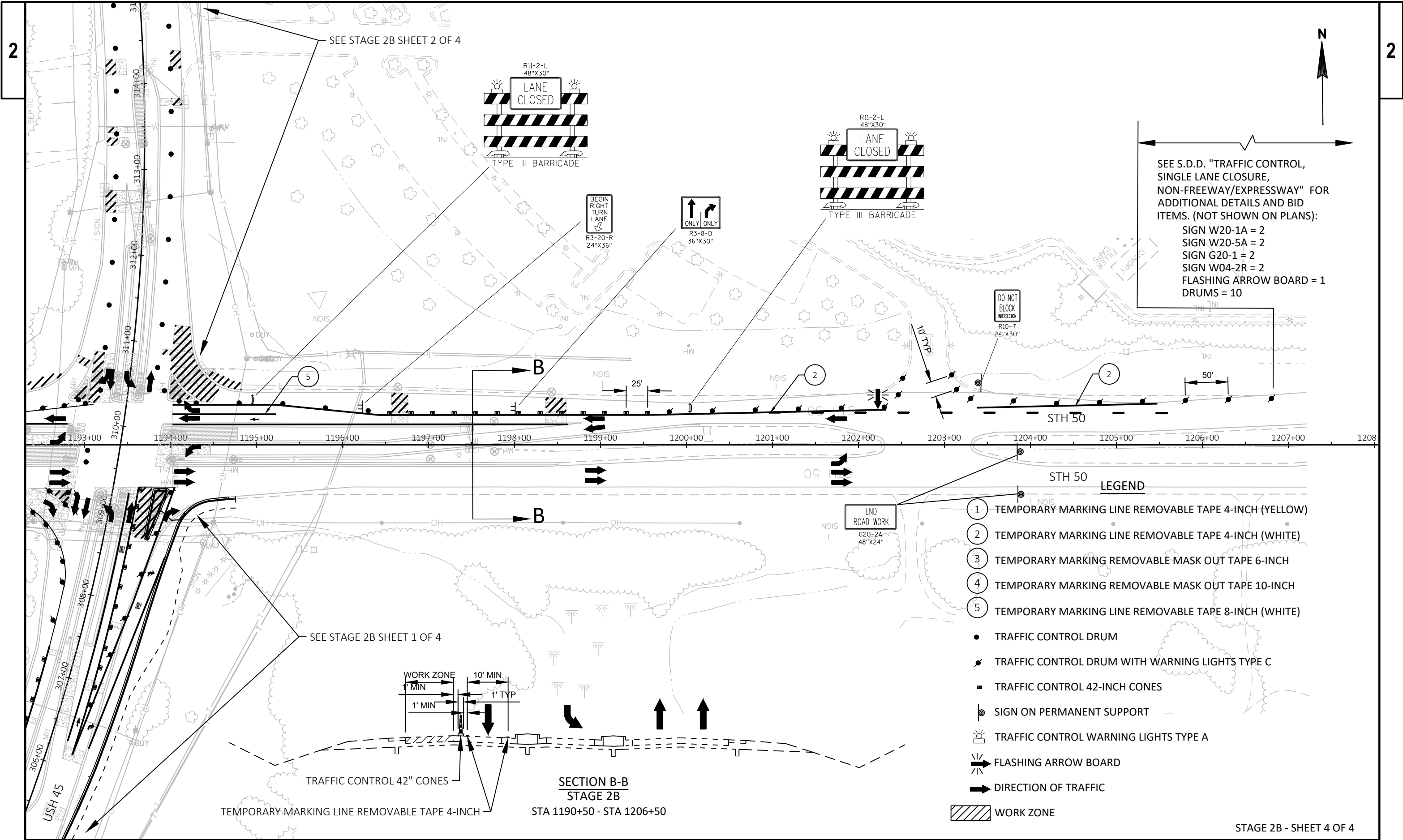
COUNTY: KENOSHA-RACINE

TRAFFIC CONTROL - STAGE 2B STH 50

SHEET

183

E



PROJECT NO: 3200-01-72

HWY: USH 45

COUNTY: KENOSHA-RACINE

TRAFFIC CONTROL - STAGE 2B STH 50

SHEET

184

E

FILE NAME : N:\PDS\C3D\32000102\SHEETSP\025101-TC_S2B.DWG
LAYOUT NAME - S2B_025105-TC

PLOT DATE : 12/10/2019 10:41 AM

PLOT BY : YANG, VANG NENG

PLOT NAME :

PLOT SCALE : 1 IN:100 FT

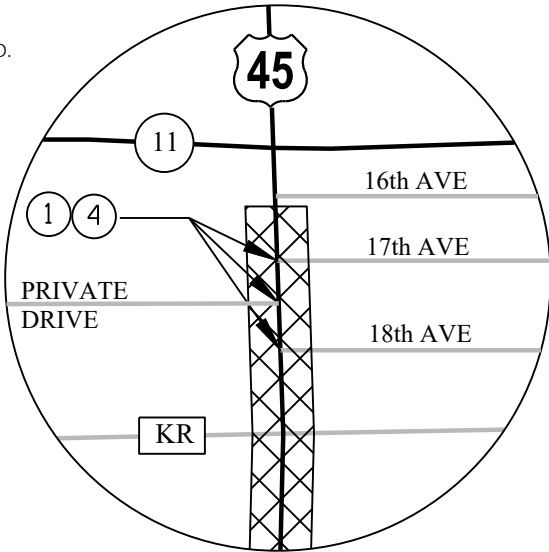
WISDOT/CADDs SHEET 42

STAGE 3

USH 45 WILL BE CLOSED TO THROUGH TRAFFIC FROM STH 142 TO STH 11 DURING STAGE 3

WORK TO BE COMPLETED:

- 1. THE EXISTING ASPHALT SURFACE ON USH 45 WILL BE MILLED AND RESURFACED. THE EXISTING PAVED SHOULDERS WILL BE WIDENED FROM 3' TO 5', RESULTING IN AN OVERALL 6' (5' PAVED, 1' GRAVEL) SHOULDER. CURB & GUTTER WILL BE REMOVED AND REPAIRED AS NEEDED IN THE URBAN SECTION IN THE VILLAGE OF UNION GROVE.
- 2. THE EXISTING BOX CULVERT (C-30-24) AT STA 627+60 WILL BE REMOVED AND REPLACED WITH TWIN 60-INCH PIPES.
- 3. THE EXISTING BOX CULVERT (C-30-13) AT STA 674+43 WILL BE REPAIRED.
- 4. AN EXISTING CROSS CULVERT AND INLET AT STA 644+55 WILL BE REPAIRED.
- 5. THE EXISTING CROSS CULVERTS AT STA 683+60 AND AT STA 699+38 WILL BE REMOVED AND REPLACED.
- 6. NEW SIGNING AND PAVEMENT MARKING WILL BE INSTALLED.



TRAFFIC CONTROL 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' (500' DESIRABLE) DISTANCE TO EXISTING SIGNS.

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

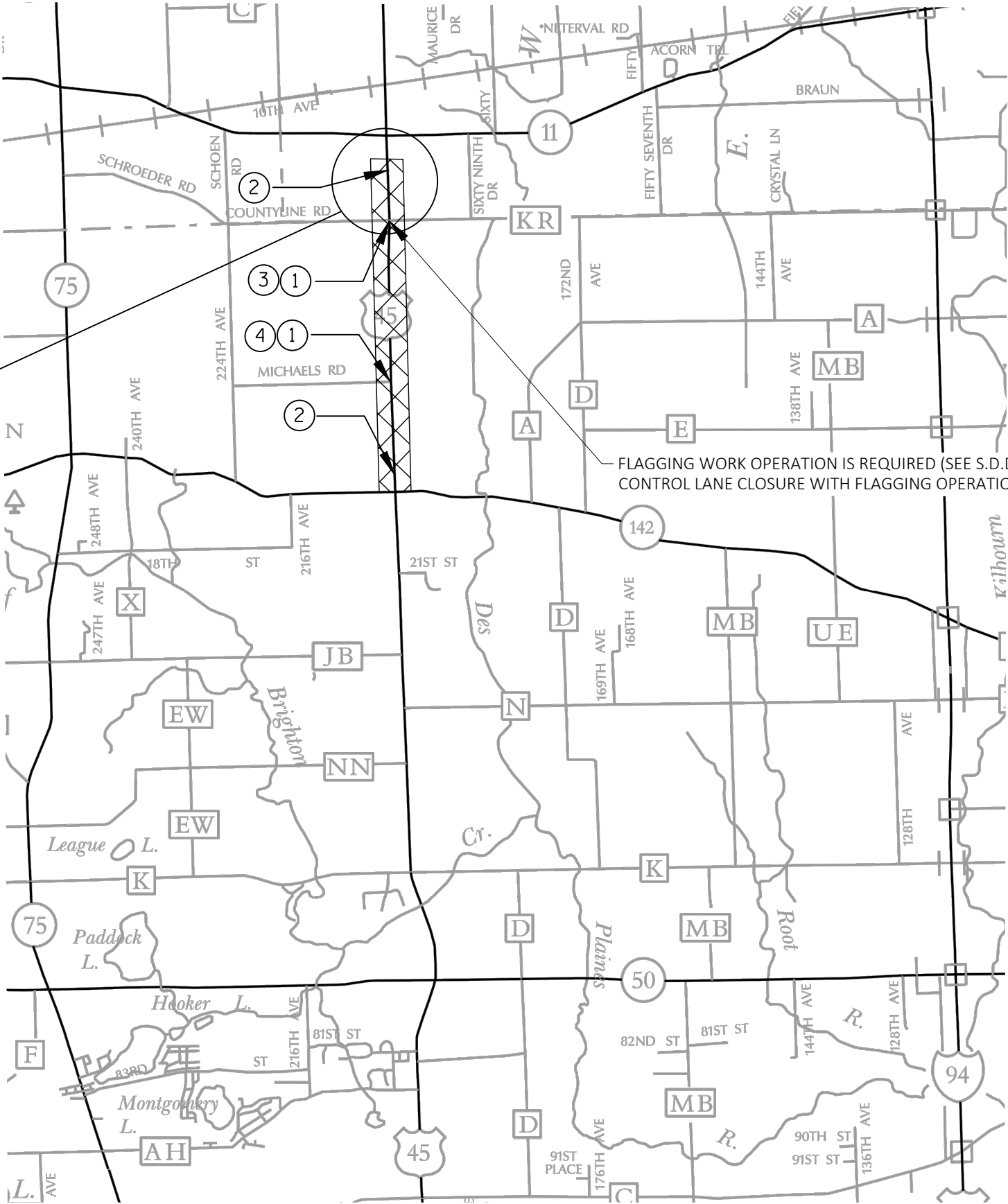
ANY SIGNS TEMPORARY OR EXISTING WHICH CONFLICT WITH THE TRAFFIC CONTROL IN USE SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

ALL TYPE III BARRICADES SHALL BE 8' IN LENGTH AND HAVE 2 TYPE "A" WARNING LIGHTS.

ANY "STOP" SIGNS THAT ARE REMOVED FOR A CONSTRUCTION OPERATION SHALL IMMEDIATELY BE RE-ESTABLISHED.

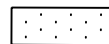
LEGEND

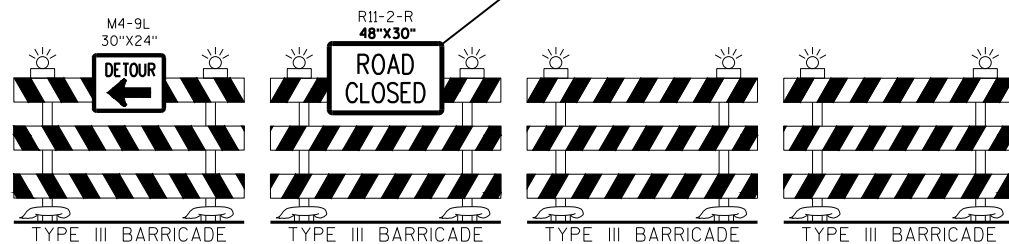
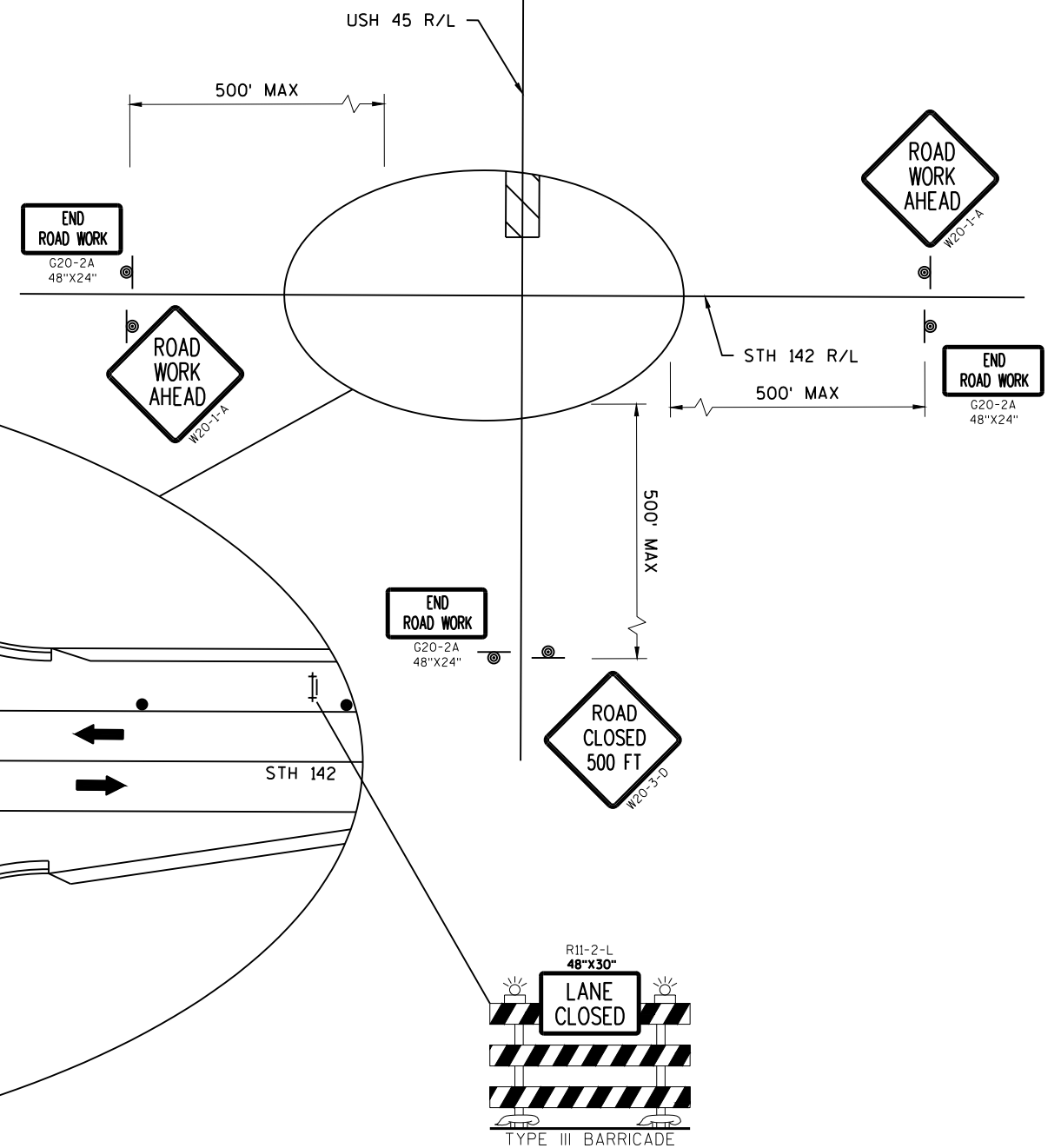
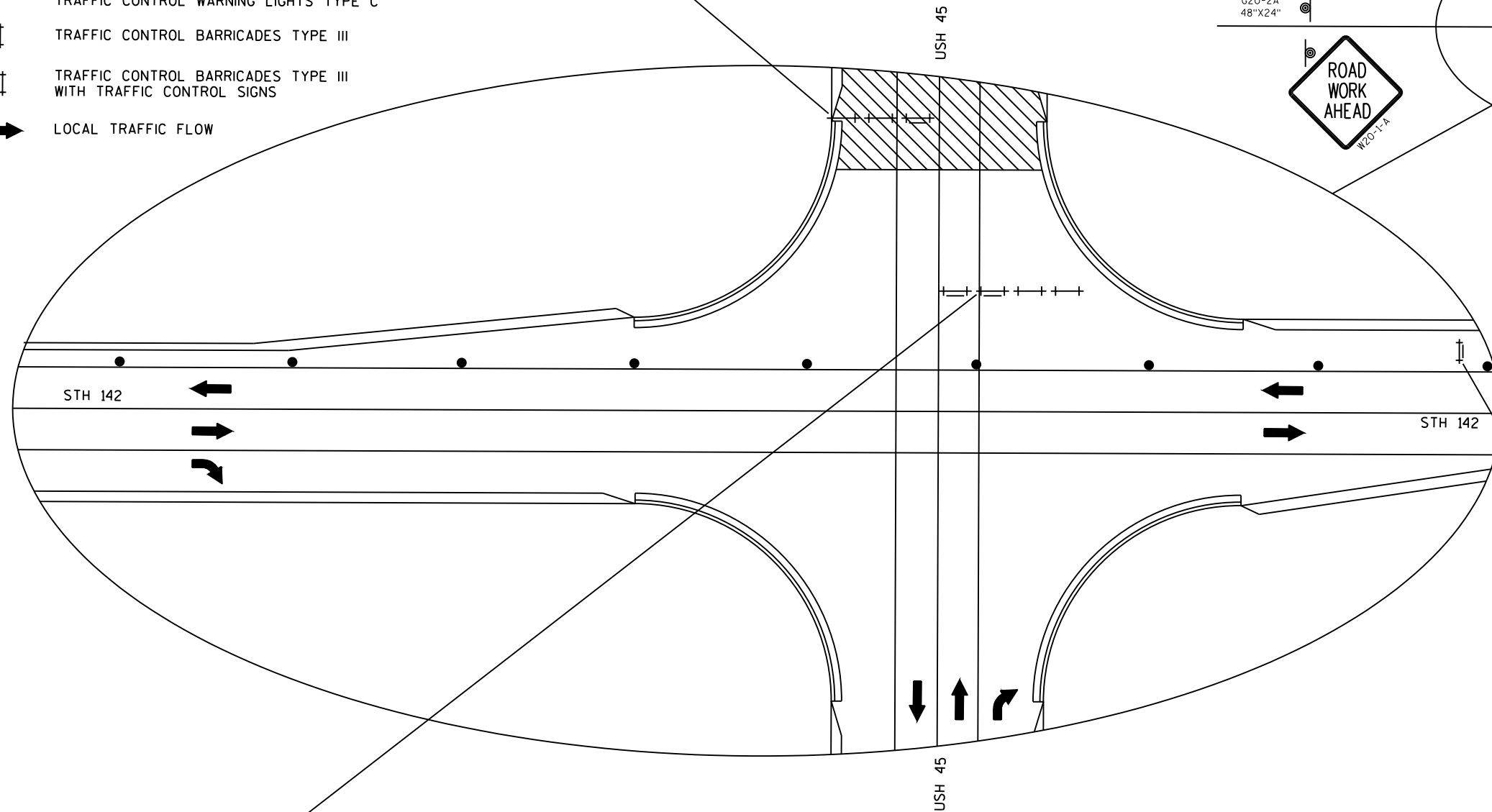
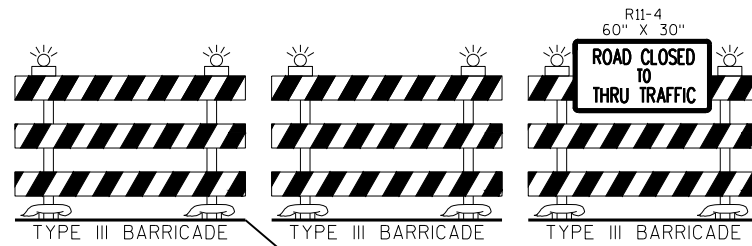
- WORK ZONE
- SEE TRAFFIC CONTROL DETAIL SHEETS
- SEE S.D.D. BARRICADES AND SIGNS FOR MAINLINE CLOSURES. DETAIL B - MAINLINE CLOSURE WITH POSTED DETOUR. DETAIL E - LANE CLOSURE BARRICADE DETAIL
- SEE S.D.D. BARRICADES AND SIGNS FOR SIDE ROAD CLOSURES. DETAIL 3 - PUBLIC CROSS-TRAFFIC MAINTAINED, CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT.
- SEE S.D.D. BARRICADES AND SIGNS FOR SIDE ROAD CLOSURES. DETAIL 4 - CONTRACTOR, LOCAL BUSINESS AND RESIDENT ACCESS TO PROJECT



FLAGGING WORK OPERATION IS REQUIRED (SEE S.D.D. TRAFFIC CONTROL LANE CLOSURE WITH FLAGGING OPERATION)

LEGEND

-  WORK ZONE
-  ROAD OPEN TO TRAFFIC
FLAGGING WORK OPERATION IS REQUIRED
- TRAFFIC CONTROL DRUMS
- ⦿ TRAFFIC CONTROL DRUMS WITH
TRAFFIC CONTROL WARNING LIGHTS TYPE C
- ⊥ TRAFFIC CONTROL BARRICADES TYPE III
- ⊥ TRAFFIC CONTROL BARRICADES TYPE III
WITH TRAFFIC CONTROL SIGNS
- ➔ LOCAL TRAFFIC FLOW



STAGE 3 - SHEET 1 OF 4

PROJECT NO: 3200-01-72

HWY: USH 45

COUNTY: KENOSHA-RACINE

TRAFFIC CONTROL - STAGE 3

SHEET

186

E

FILE NAME : N:\PDS\C3D\32000102\SHEETSP\PLAN\025001-TC.DWG
LAYOUT NAME - S3_TC_DETAIL1

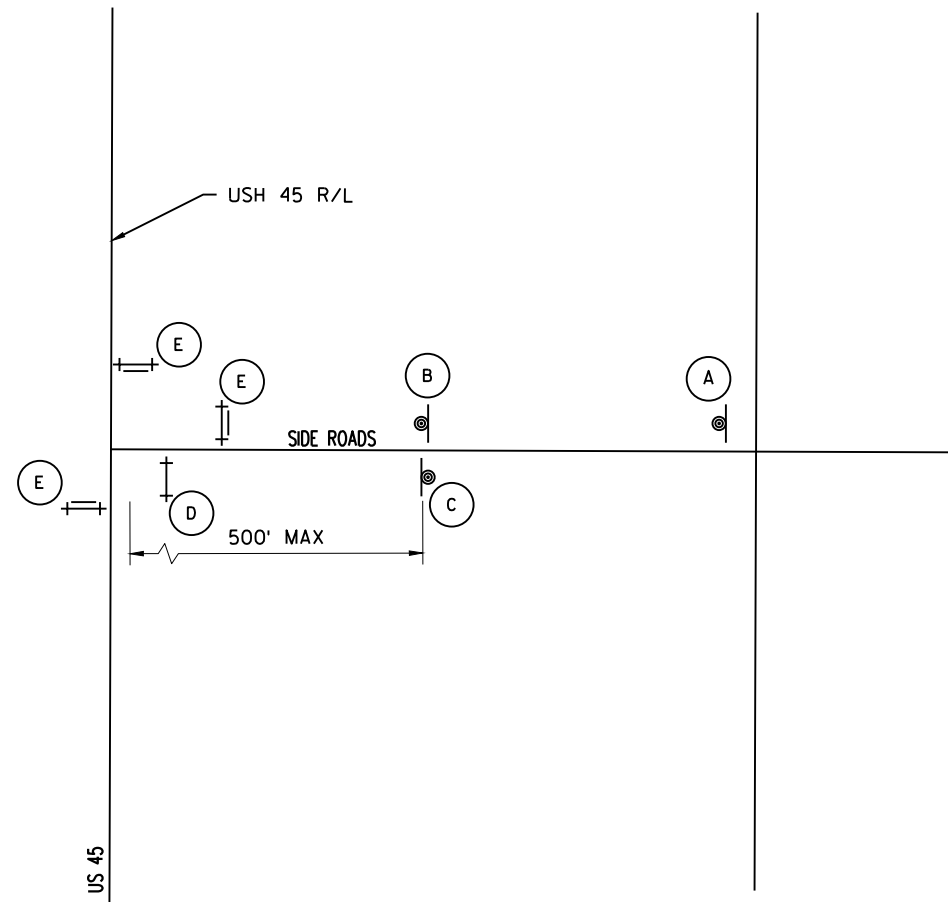
PLOT DATE : 12/10/2019 10:41 AM

PLOT BY : YANG, VANG NENG

PLOT NAME :

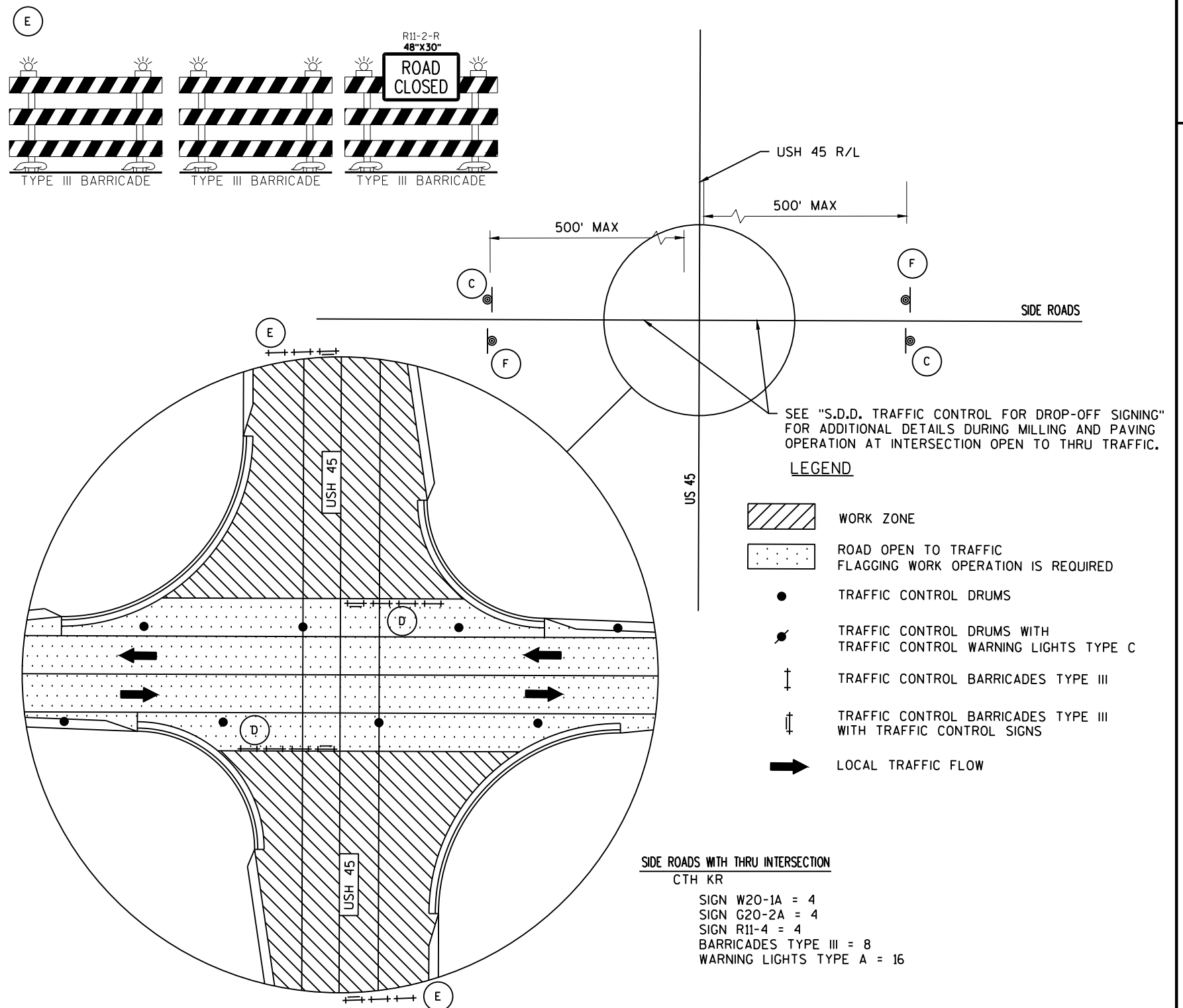
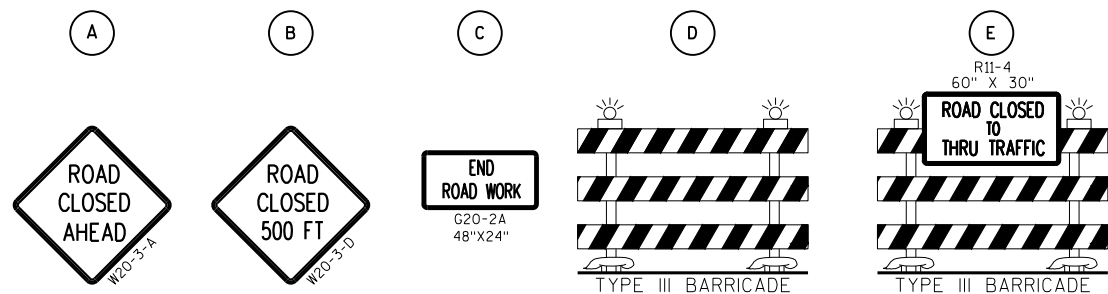
PLOT SCALE : 1:40_XREF

WISDOT/CADDs SHEET 42

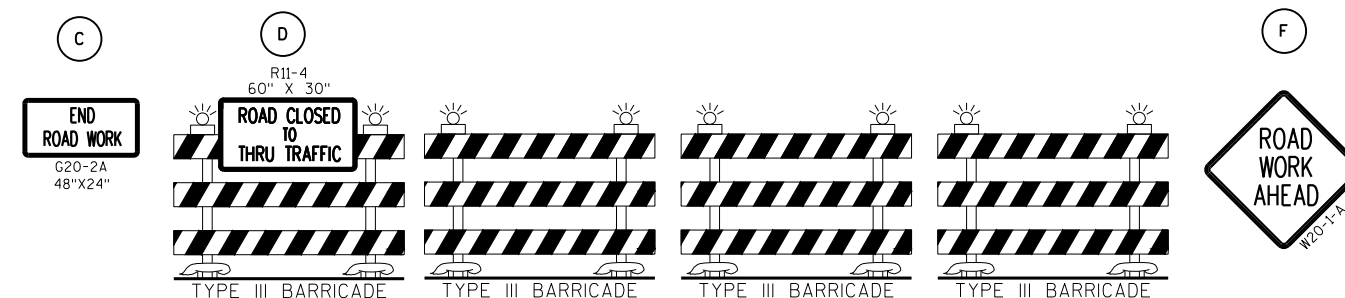


SIDE ROADS WITH T-INTERSECTION

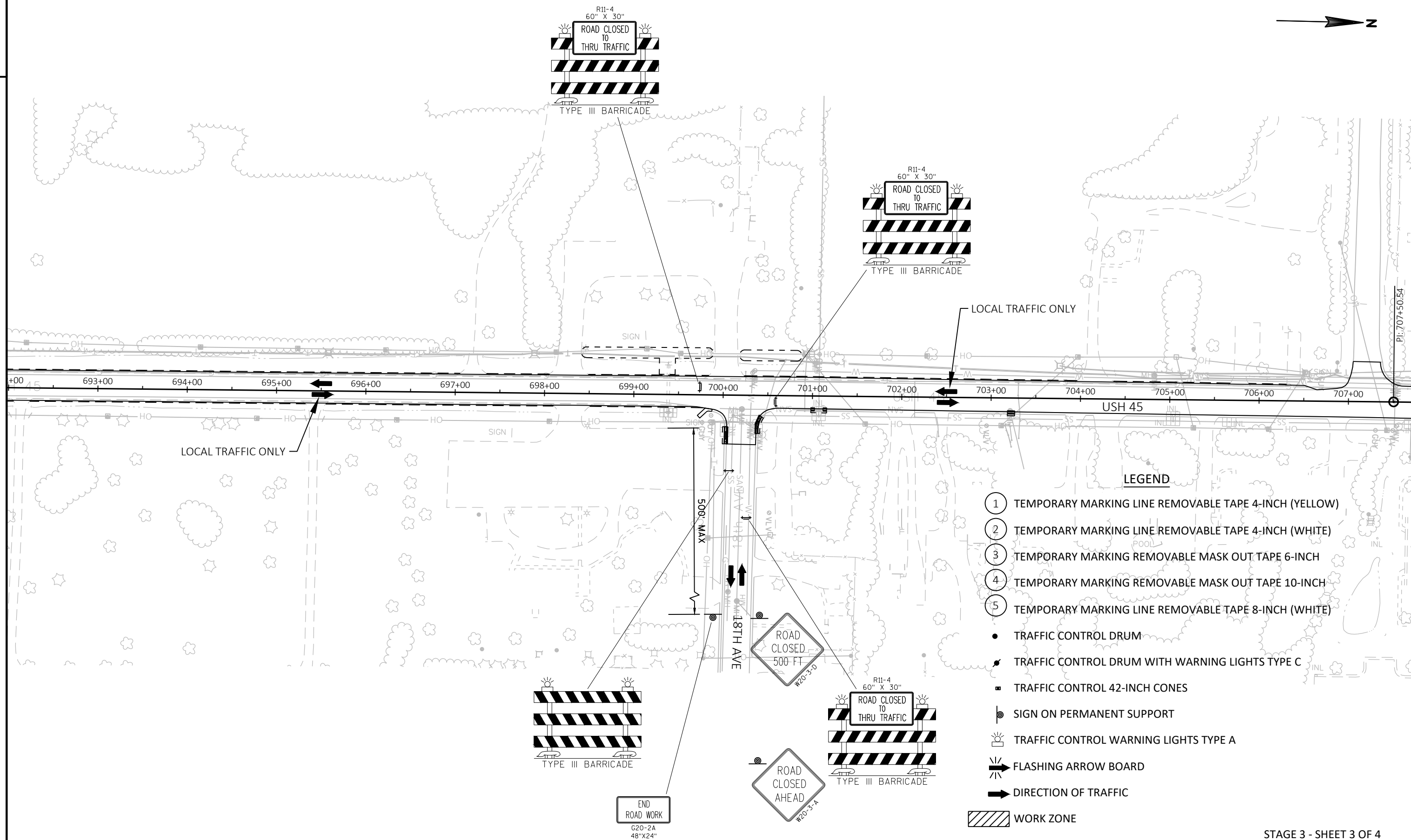
18TH AVE
17TH AVE
16TH AVE
SIGN W20-3A = 7
SIGN W20-3D = 7
SIGN G20-2A = 7
SIGN R11-4 = 21
BARRICADES TYPE III = 28
WARNING LIGHTS TYPE A = 56

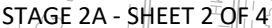
SIDE ROADS WITH THRU INTERSECTION
CTH KR

SIGN W20-1A = 4
SIGN G20-2A = 4
SIGN R11-4 = 4
BARRICADES TYPE III = 8
WARNING LIGHTS TYPE A = 16



STAGE 3 - SHEET 2 OF 4





MESSAGE 7 DAYS PRIOR CONSTRUCTION
AND DURING STAGES 1A AND 1B:

FRAME 1

FRAME 2

CMS 1
(7 DAYS PRIOR)

RIGHT TURN
LANE CLOSED
MAY 4

RIGHT TURN
LANE REOPENS
MAY 11

MESSAGE 7 DAYS PRIOR TO STAGE 2
AND DURING STAGES 2, 2A AND 2B:

FRAME 1

FRAME 2

CMS 4
(7 DAYS PRIOR)

US 45
CLOSED
MAY 21

USE
DETOUR
ROUTE

MESSAGE 7 DAYS PRIOR TO STAGE 3
AND DURING STAGE 3:

FRAME 1

FRAME 2

CMS 6
(7 DAYS PRIOR)

US 45
CLOSED
JULY 15

USE
DETOUR
ROUTE

CMS 2
(STAGE 1A)

NO RIGHT
TURN TO
US 45 S

USE
DETOUR
ROUTE

CMS 5

US 45
CLOSED
AHEAD

USE
DETOUR
ROUTE

CMS 7

USH 45
CLOSED
AHEAD

USE
DETOUR
ROUTE

CMS 3
(7 DAYS PRIOR)

USH 45
CONST
PROJECT

BEGINS
MAY 1

NOTES:

- 1. SIGN LOCATIONS ARE APPROXIMATE. THE ACTUAL LOCATION AND SPACING MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER TO MEET FIELD CONDITIONS.
- 2. CONTRACTOR SHOULD LOCATE FIXED MESSAGE SIGNS A MINIMUM OF 400' FROM ANY EXISTING TYPE "I" SIGN.
- 3. ALL FIXED MESSAGE SIGNS SHALL BE BLACK NON-REFLECTIVE MESSAGE ON ORANGE FLORESCENT REFLECTIVE BACKGROUND PER SPEC 643 & 637, UNLESS OTHERWISE NOTED IN THE SIGN DETAILS.
- 4. SEE FIXED MESSAGE SIGNS AND SPECIAL MESSAGE SIGNS LAYOUT SHEETS FOR MORE INFORMATION.
- 5. ALL SIGNS, TEMPORARY OR EXISTING, IN CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE COVERED. THE COVERING OF WOOD POST MOUNTED SIGNS WILL BE PAID UNDER SEPARATE BID ITEMS (643.0910 & 643.0920). LIEU OF COVERING WOOD POST MOUNTED SIGNS, THE CONTRACTOR MAY CHOOSE TO REMOVE AND REPLACE THEM.
- 6. SIGNS TO BE PLACED 10 DAYS PRIOR TO CONSTRUCTION.
- 7. ANY "STOP" SIGNS THAT ARE REMOVED FOR A CONSTRUCTION OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED.
- 8. SEE TRAFFIC CONTROL/STAGING PLAN FOR ADDITIONAL TRAFFIC CONTROL DETOUR SIGNS.
- 9. ALL DETOUR SIGNS ON IH-94 SHALL BE SIZE 3 SIGNS.

LEGEND: FIXED MESSAGE SIGNS

- EXISTING GUIDE SIGN TO BE COVERED
- FIXED MESSAGE SIGN(S) ON WOOD POST SUPPORTS OR TUBULAR STEEL POSTS
- FIXED MESSAGE SIGN NUMBER
- CONTRACTOR SHALL COVER AS DIRECTED BY THE ENGINEER ALL ROUTE MARKINGS PERTAINING TO THE PROJECT.

CHANGEABLE MESSAGE SIGN

LEGEND

- STAGE 1 CONSTRUCTION LIMITS
- DETOUR ROUTE

APPROXIMATE DURATION:

MAY 1, 2020 TO MAY 7, 2020

- 1. CLOSE STH 50 EB RIGHT TURN LANE TO USH 45 SB
- 2. CLOSE STH 50 EB OUTSIDE LANE AND USH 45 SB OUTSIDE LANE AS NEEDED FOR WORK OPERATIONS ONLY.
- 3. DETOUR STH 50 EB TO USH 45 SB TRAFFIC TO CTH D AND CTH C AND BACK TO USH 45 SB.
- 4. START CONCRETE PAVEMENT REPAIRS WORK OPERATIONS ON STH 50 EB OUTSIDE LANE AND RIGHT TURN LANE.

A

TO

M4-5
24"x12"

SOUTH

M3-3
24"x12"

45

M1-4
24"x24"

M06-1
21"x21"

B

TO

M4-5
24"x12"

SOUTH

M3-3
24"x12"

45

M1-4
24"x24"

M05-1R
21"x21"

C

TO

M4-5
24"x12"

SOUTH

M3-3
24"x12"

45

M1-4
24"x24"

M06-1
21"x21"

D

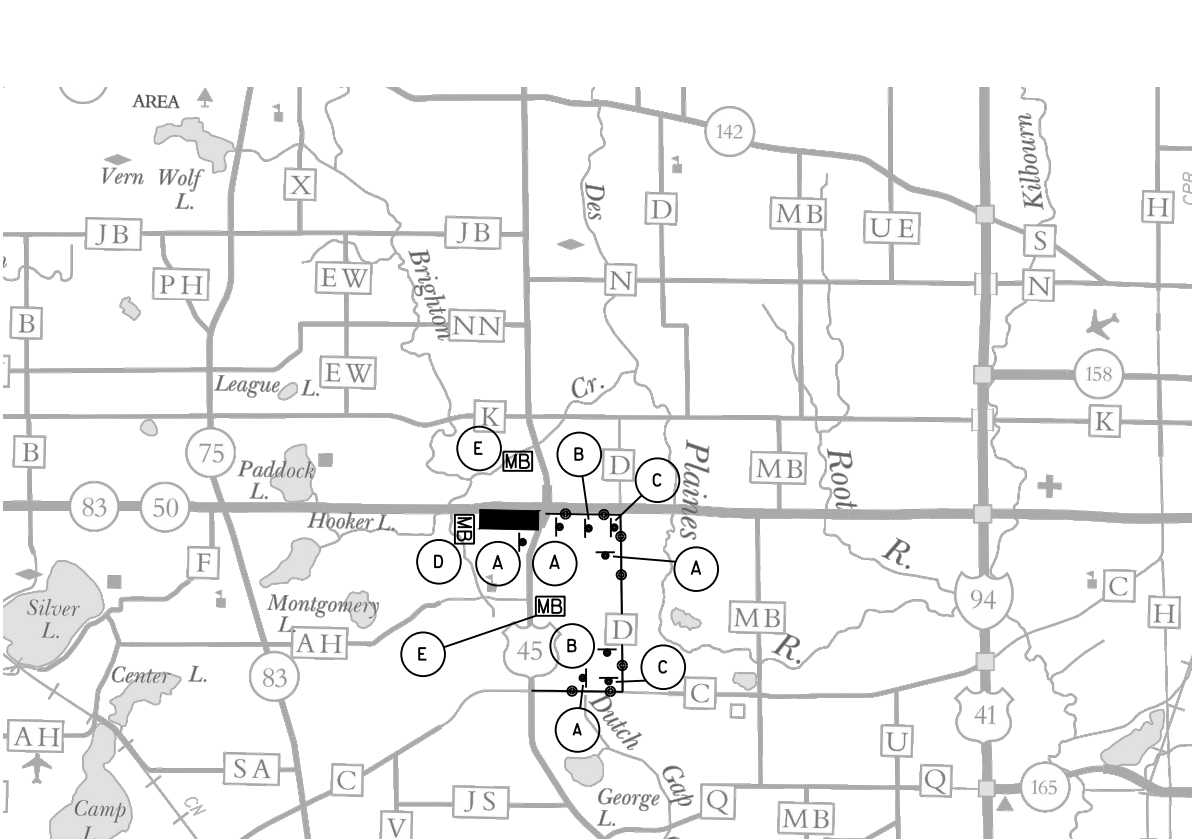
CMS1

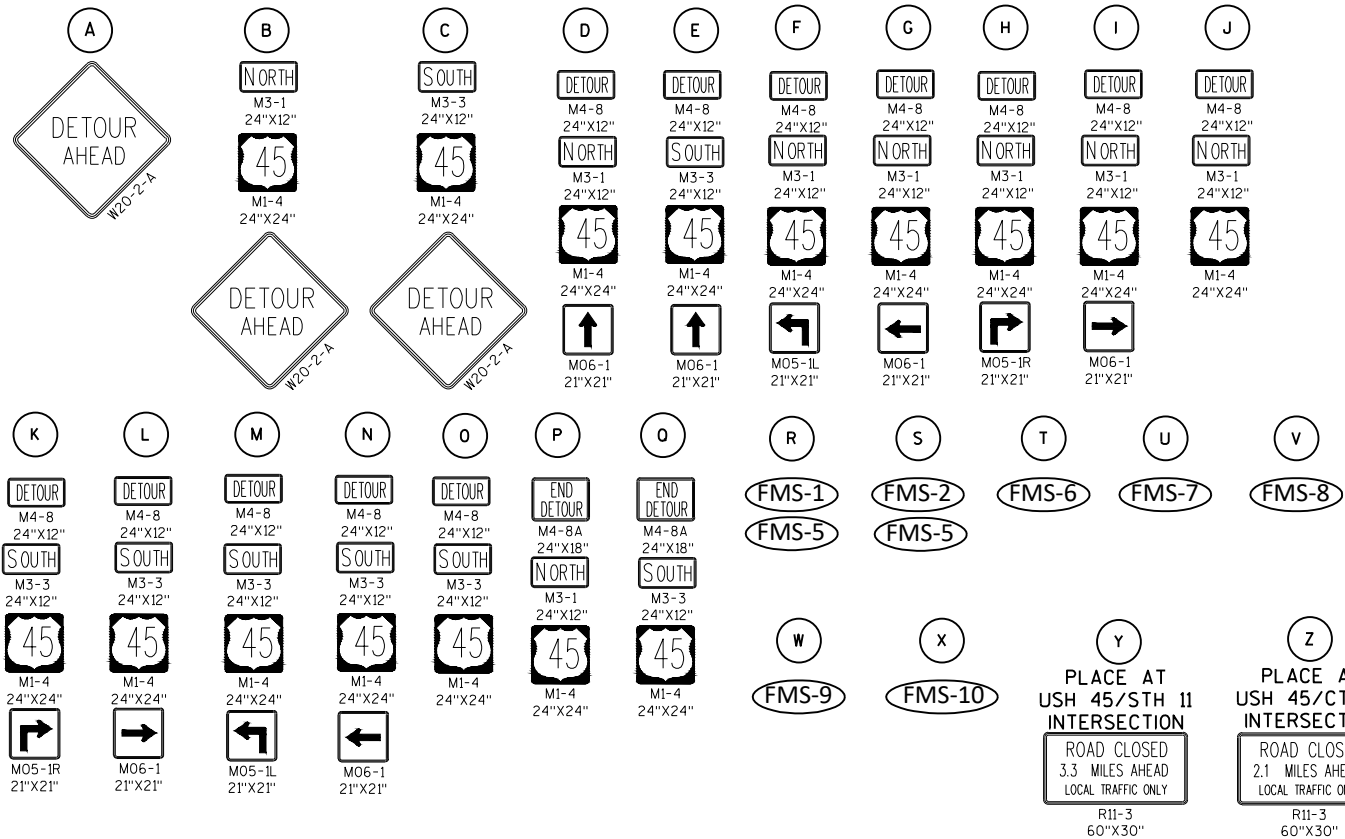
OR

CMS2

E

CMS3



**NOTES:**

1. SIGN LOCATIONS ARE APPROXIMATE. THE ACTUAL LOCATION AND SPACING MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER TO MEET FIELD CONDITIONS.
2. CONTRACTOR SHOULD LOCATE FIXED MESSAGE SIGNS A MINIMUM OF 400' FROM ANY EXISTING TYPE "I" SIGN.
3. ALL FIXED MESSAGE SIGNS SHALL BE BLACK NON-REFLECTIVE MESSAGE ON ORANGE FLORESCENT REFLECTIVE BACKGROUND PER SPEC 643 & 637, UNLESS OTHERWISE NOTED IN THE SIGN DETAILS.
4. SEE FIXED MESSAGE SIGNS AND SPECIAL MESSAGE SIGNS LAYOUT SHEETS FOR MORE INFORMATION.
5. ALL SIGNS, TEMPORARY OR EXISTING, IN CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE COVERED. THE COVERING OF WOOD POST MOUNTED SIGNS WILL BE PAID UNDER SEPARATE BID ITEM (643.0910 & 643.0920) LIEU OF COVERING WOOD POST MOUNTED SIGNS, THE CONTRACTOR MAY CHOOSE TO REMOVE AND REPLACE THEM.
6. SIGNS TO BE PLACED 10 DAYS PRIOR TO CONSTRUCTION.
7. ANY "STOP" SIGNS THAT ARE REMOVED FOR A CONSTRUCTION OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED.
8. SEE TRAFFIC CONTROL/STAGING PLAN FOR ADDITIONAL TRAFFIC CONTROL DETOUR SIGNS.
9. ALL DETOUR SIGNS ON IH-94 SHALL BE SIZE 3 SIGNS.

LEGEND: FIXED MESSAGE SIGNS

- EXISTING GUIDE SIGN TO BE COVERED
- FIXED MESSAGE SIGN(S) ON WOOD POST SUPPORTS OR TUBULAR STEEL POSTS
- FIXED MESSAGE SIGN NUMBER
- CONTRACTOR SHALL COVER AS DIRECTED BY THE ENGINEER ALL ROUTE MARKINGS PERTAINING TO THE PROJECT.
- CHANGEABLE MESSAGE SIGN

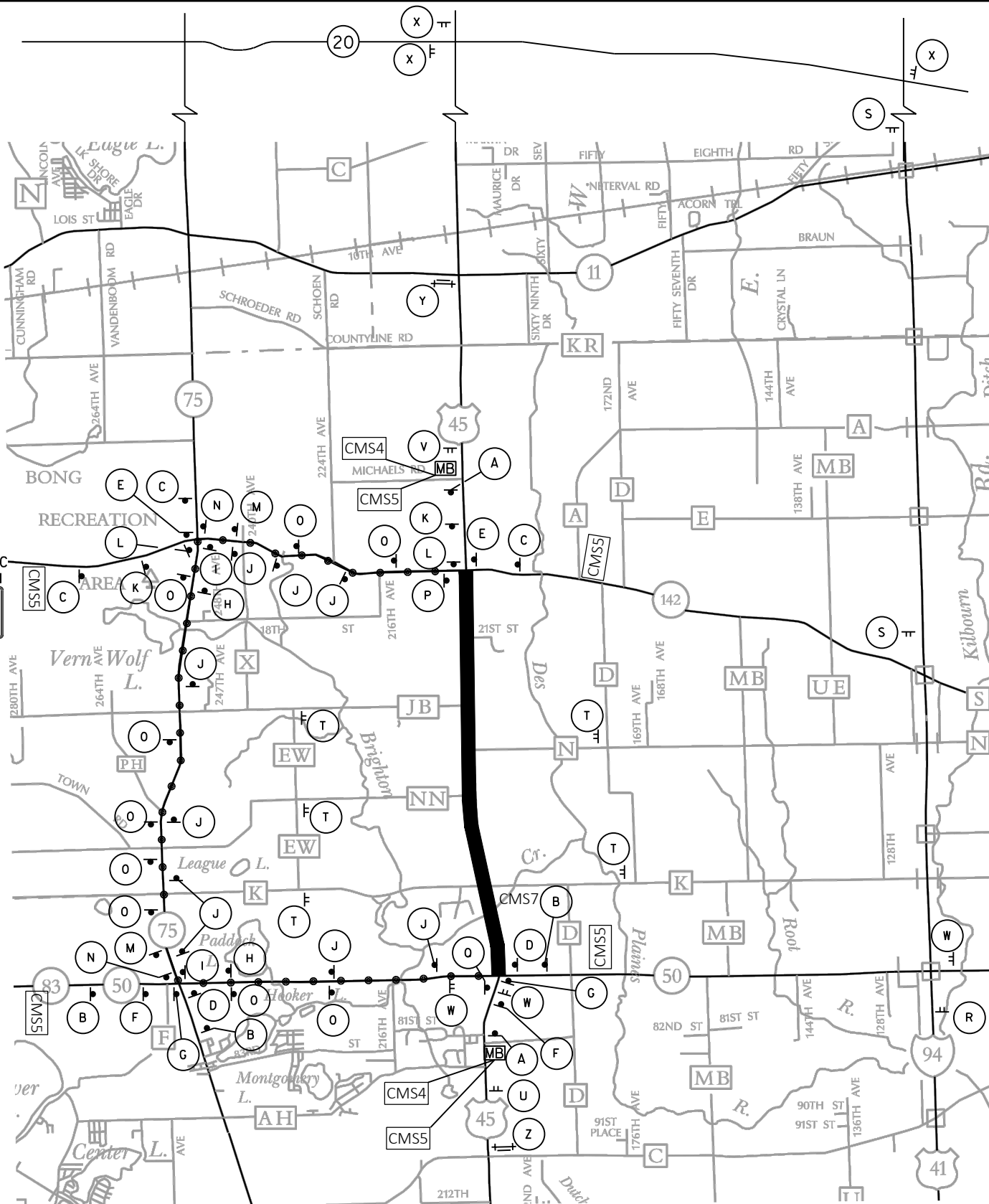
APPROXIMATE DURATION:

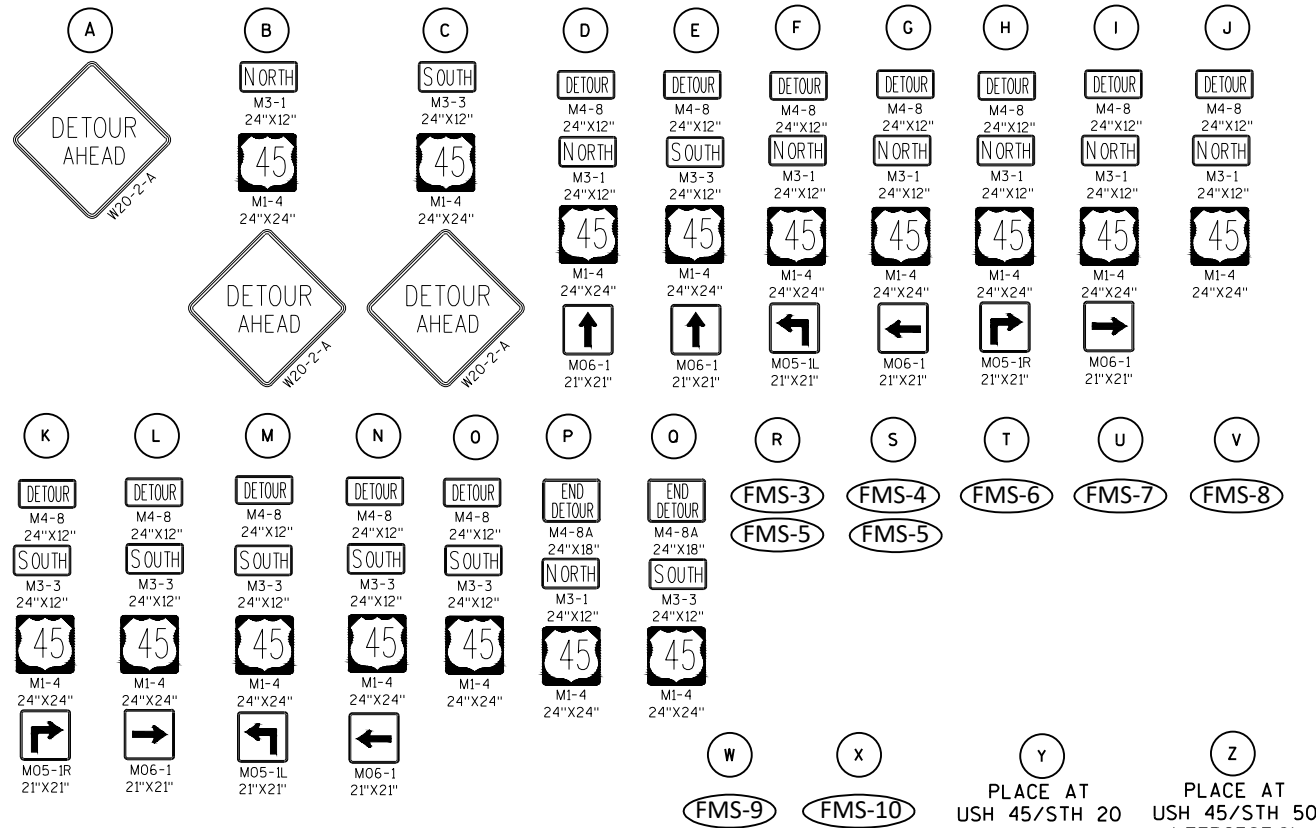
MAY 1, 2020 TO JULY 15, 2020

1. CLOSE USH 45 FROM STH 50 TO STH 142, MAINTAIN LOCAL TRAFFIC.
2. CLOSE STH 50 EB LEFT TURN LANE AND CLOSE STH 50 WB RIGHT TURN LANE TO USH 45 NB.
3. DETOUR USH 45 THRU TRAFFIC FROM STH 50 TO STH 142 VIA STH 50, STH 75, AND STH 142.
4. START CONSTRUCTION WORK OPERATIONS ON USH 45 RIGHT TURN LANE TO STH 50 EB AND USH 45 FROM STH 50 TO STH 142.

LEGEND

- STAGE 2 CONSTRUCTION LIMITS
- DETOUR ROUTE



**NOTES:**

1. SIGN LOCATIONS ARE APPROXIMATE. THE ACTUAL LOCATION AND SPACING MAY BE ADJUSTED AS DIRECTED BY THE ENGINEER TO MEET FIELD CONDITIONS.
2. CONTRACTOR SHOULD LOCATE FIXED MESSAGE SIGNS A MINIMUM OF 400' FROM ANY EXISTING TYPE "I" SIGN.
3. ALL FIXED MESSAGE SIGNS SHALL BE BLACK NON-REFLECTIVE MESSAGE ON ORANGE FLORESCENT REFLECTIVE BACKGROUND PER SPEC 643 & 637, UNLESS OTHERWISE NOTED IN THE SIGN DETAILS.
4. SEE FIXED MESSAGE SIGNS AND SPECIAL MESSAGE SIGNS LAYOUT SHEETS FOR MORE INFORMATION.
5. ALL SIGNS, TEMPORARY OR EXISTING, IN CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE COVERED. THE COVERING OF WOOD POST MOUNTED SIGNS WILL BE PAID UNDER SEPARATE BID ITEMS (643.0910 & 643.0920). LIEU OF COVERING WOOD POST MOUNTED SIGNS, THE CONTRACTOR MAY CHOOSE TO REMOVE AND REPLACE THEM.
6. SIGNS TO BE PLACED 10 DAYS PRIOR TO CONSTRUCTION.
7. ANY "STOP" SIGNS THAT ARE REMOVED FOR A CONSTRUCTION OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED.
8. SEE TRAFFIC CONTROL/STAGING PLAN FOR ADDITIONAL TRAFFIC CONTROL DETOUR SIGNS.
9. ALL DETOUR SIGNS ON IH-94 SHALL BE SIZE 3 SIGNS.

LEGEND: FIXED MESSAGE SIGNS

- EXISTING GUIDE SIGN TO BE COVERED
- FIXED MESSAGE SIGN(S) ON WOOD POST SUPPORTS OR TUBULAR STEEL POSTS
- FIXED MESSAGE SIGN NUMBER
- CONTRACTOR SHALL COVER AS DIRECTED BY THE ENGINEER ALL ROUTE MARKINGS PERTAINING TO THE PROJECT.

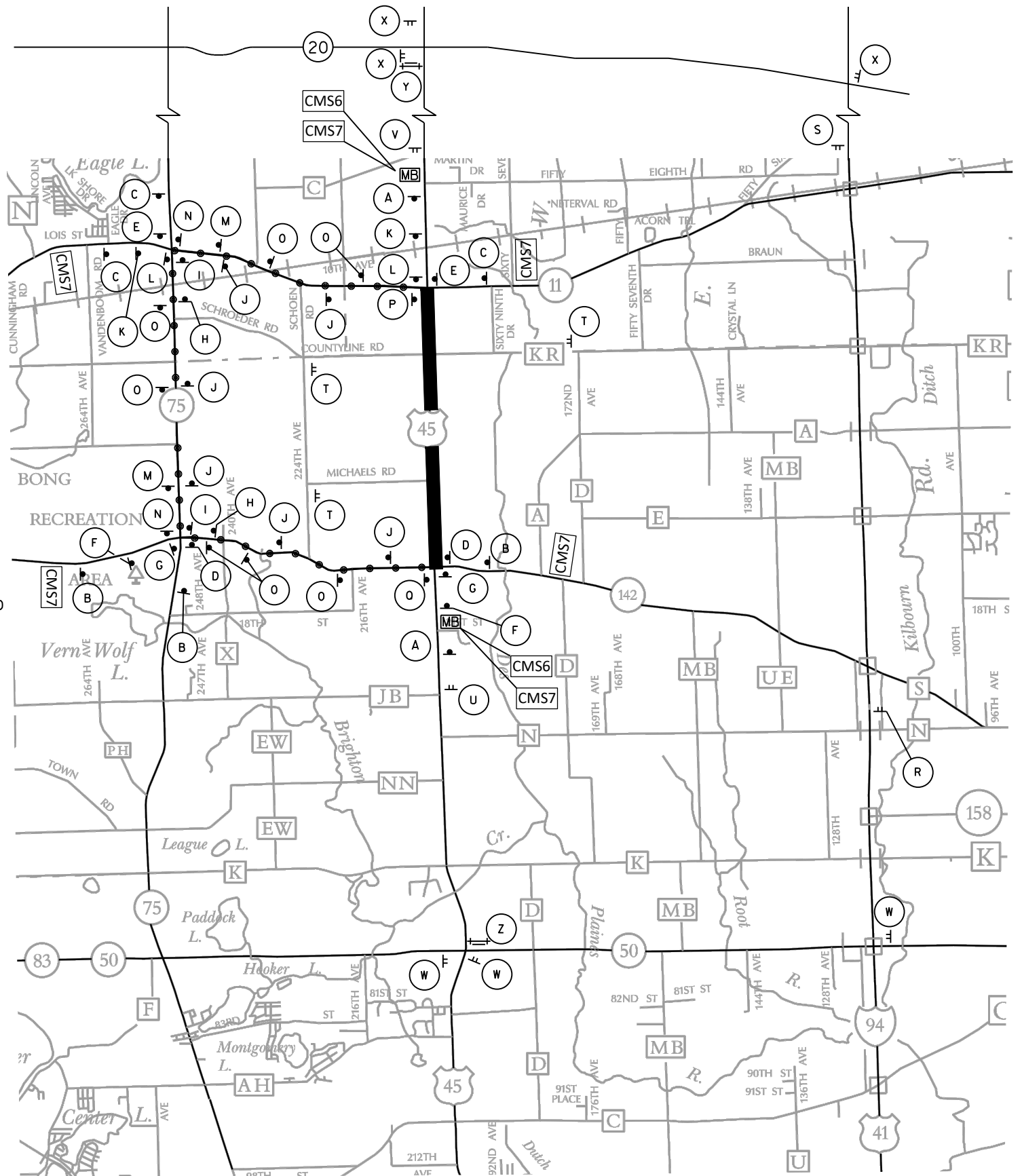
CMS CHANGEABLE MESSAGE SIGN**APPROXIMATE DURATION:**

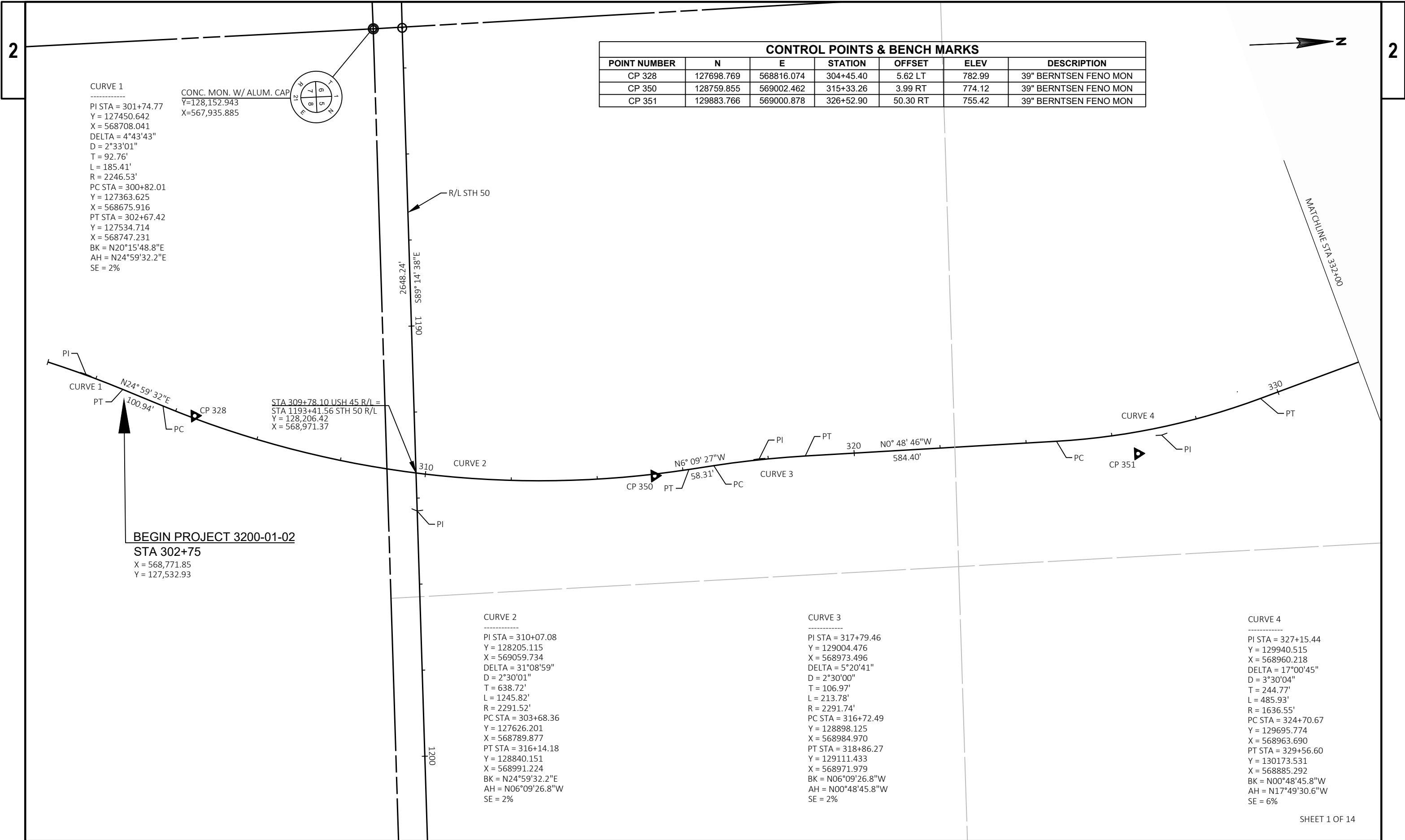
JULY 16, 2020 TO OCTOBER 2, 2020

1. CLOSE USH 45 FROM STH 142 TO STH 11, MAINTAIN LOCAL TRAFFIC.
2. DETOUR USH 45 THRU TRAFFIC FROM STH 142 TO STH 11 VIA STH 142, STH 75, AND STH 11.
3. START CONSTRUCTION WORK OPERATIONS ON USH 45 FROM STH 142 TO STH 11.

LEGEND

- STAGE 3 CONSTRUCTION LIMITS
- DETOUR ROUTE



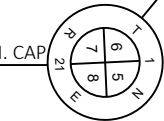


CONTROL POINTS & BENCH MARKS						
POINT NUMBER	N	E	STATION	OFFSET	ELEV	DESCRIPTION
CP 328	127698.769	568816.074	304+45.40	5.62 LT	782.99	39" BERNTSEN FENO MON
CP 350	128759.855	569002.462	315+33.26	3.99 RT	774.12	39" BERNTSEN FENO MON
CP 351	129883.766	569000.878	326+52.90	50.30 RT	755.42	39" BERNTSEN FENO MON

CURVE 1

PI STA = 301+74.77
Y = 127450.642
X = 568708.041
DELTA = 4°43'43"
D = 2°33'01"
T = 92.76'
L = 185.41'
R = 2246.53'
PC STA = 300+82.01
Y = 127363.625
X = 568675.916
PT STA = 302+67.42
Y = 127534.714
X = 568747.231
BK = N20°15'48.8"E
AH = N24°59'32.2"E
SE = 2%

CONC. MON. W/ ALUM. CAP
Y=128,152.943
X=567,935.885



STA 309+78.10 USH 45 R/L =
STA 1193+41.56 STH 50 R/L
Y = 128,206.42
X = 568,971.37

BEGIN PROJECT 3200-01-02
STA 302+75
X = 568,771.85
Y = 127,532.93

CURVE 2

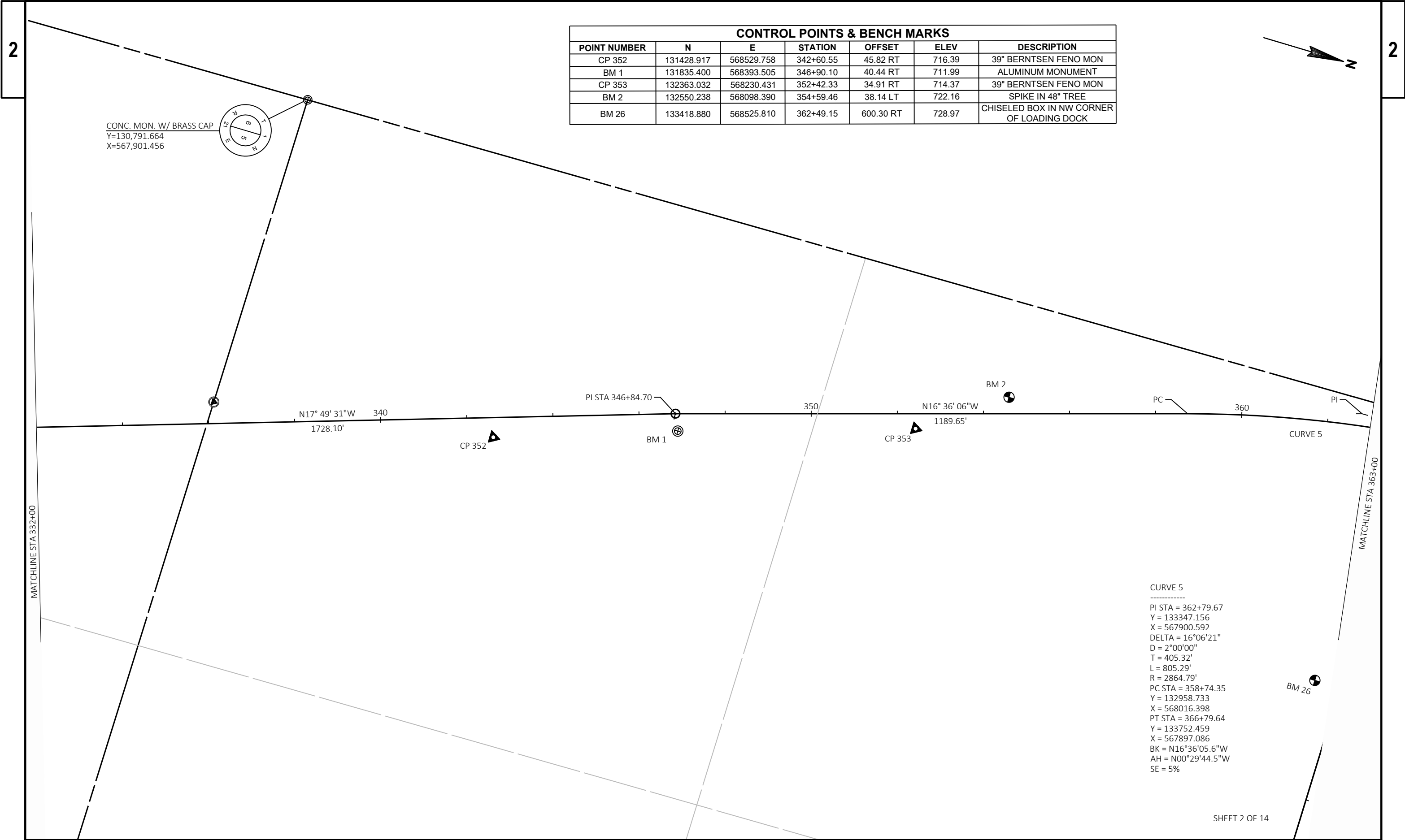
PI STA = 310+07.08
Y = 128205.115
X = 569059.734
DELTA = 31°08'59"
D = 2°30'01"
T = 638.72'
L = 1245.82'
R = 2291.52'
PC STA = 303+68.36
Y = 127626.201
X = 568789.877
PT STA = 316+14.18
Y = 128840.151
X = 568991.224
BK = N24°59'32.2"E
AH = N06°09'26.8"W
SE = 2%

CURVE 3

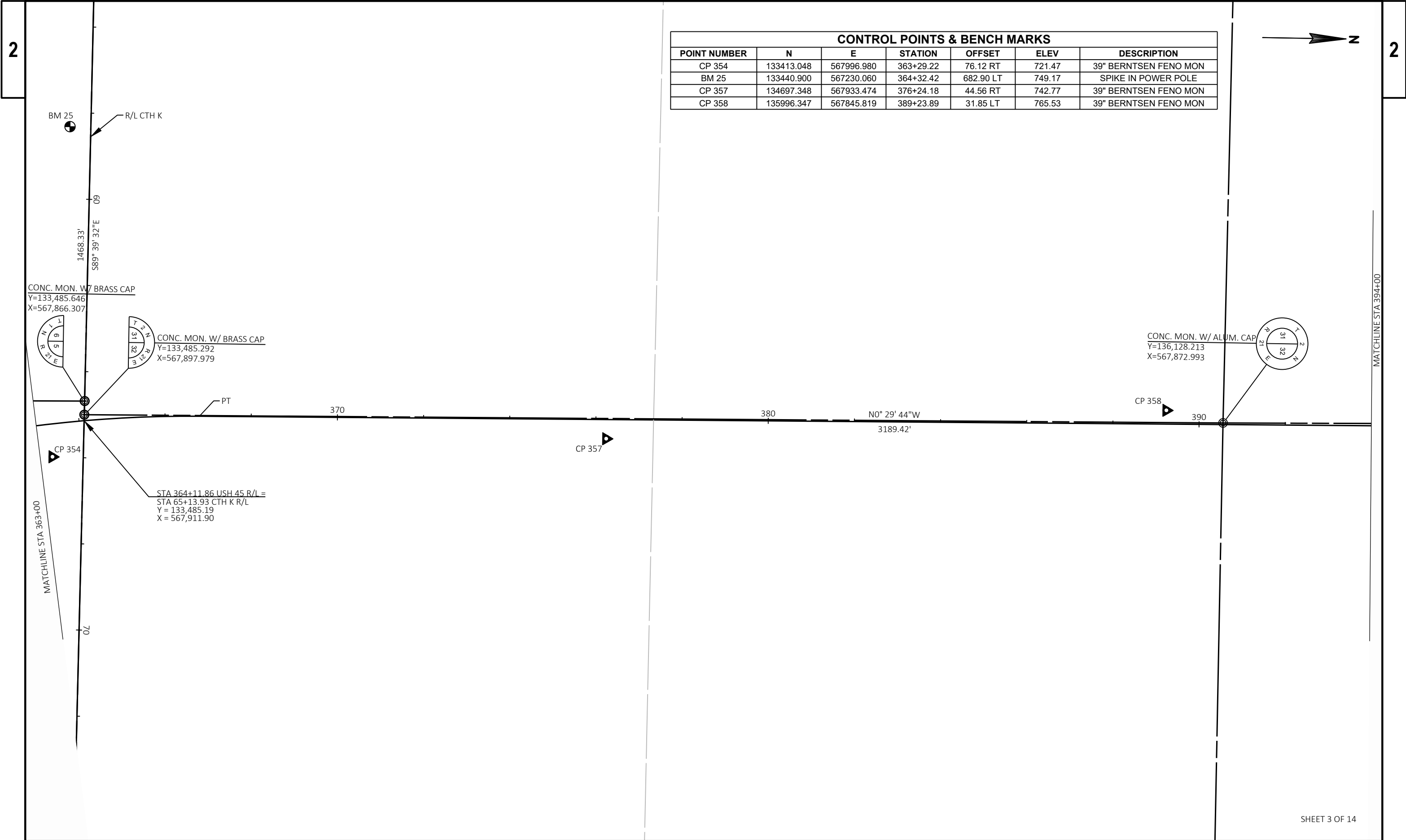
PI STA = 317+79.46
Y = 129004.476
X = 568973.496
DELTA = 5°20'41"
D = 2°30'00"
T = 106.97'
L = 213.78'
R = 2291.74'
PC STA = 316+72.49
Y = 128898.125
X = 568984.970
PT STA = 318+86.27
Y = 129111.433
X = 568971.979
BK = N06°09'26.8"W
AH = N00°48'45.8"W
SE = 2%

CURVE 4

PI STA = 327+15.44
Y = 129940.515
X = 568960.218
DELTA = 17°00'45"
D = 3°30'04"
T = 244.77'
L = 485.93'
R = 1636.55'
PC STA = 324+70.67
Y = 129695.774
X = 568963.690
PT STA = 329+56.60
Y = 130173.531
X = 568885.292
BK = N00°48'45.8"W
AH = N17°49'30.6"W
SE = 6%

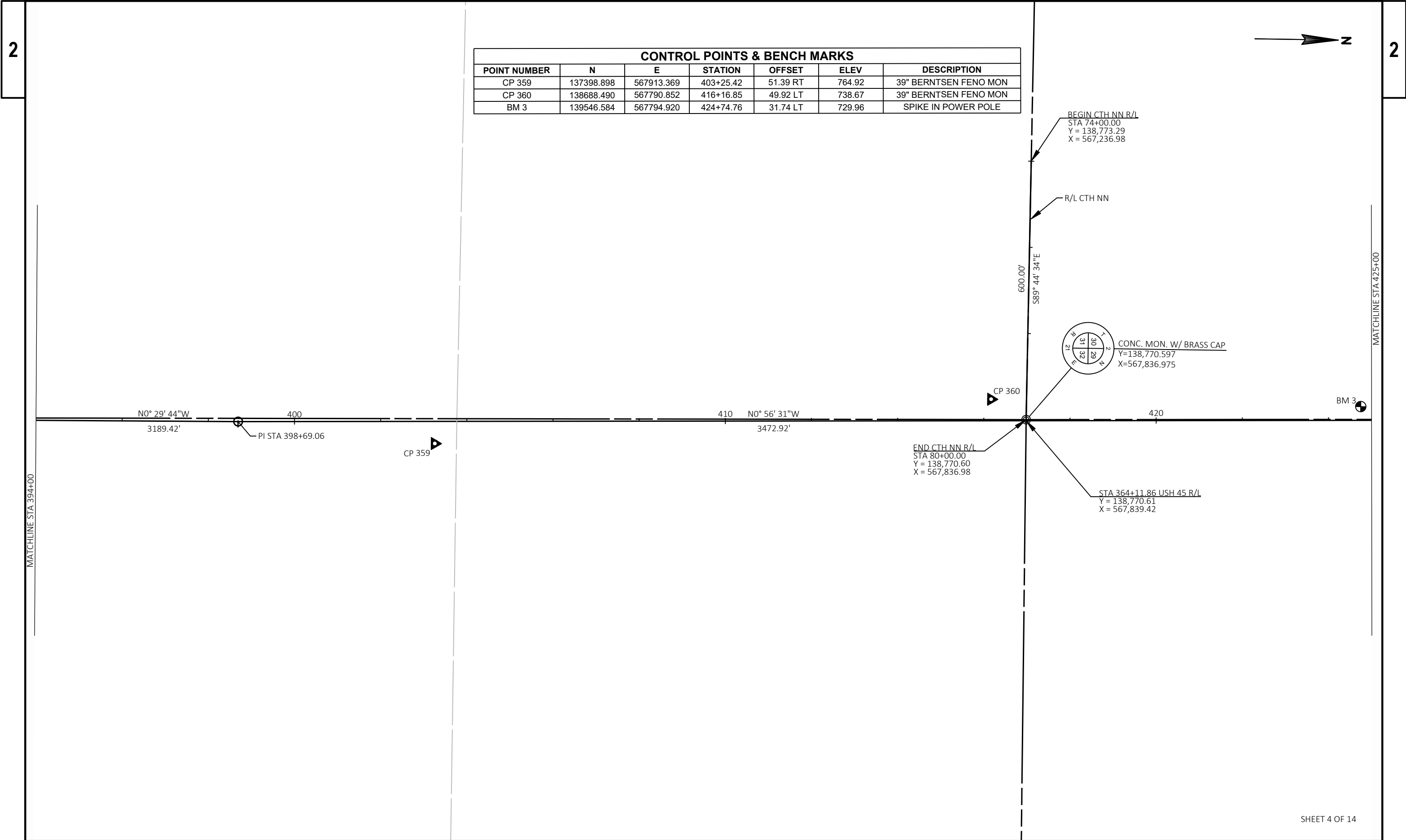


CONTROL POINTS & BENCH MARKS						
POINT NUMBER	N	E	STATION	OFFSET	ELEV	DESCRIPTION
CP 352	131428.917	568529.758	342+60.55	45.82 RT	716.39	39" BERNTSEN FENO MON
BM 1	131835.400	568393.505	346+90.10	40.44 RT	711.99	ALUMINUM MONUMENT
CP 353	132363.032	568230.431	352+42.33	34.91 RT	714.37	39" BERNTSEN FENO MON
BM 2	132550.238	568098.390	354+59.46	38.14 LT	722.16	SPIKE IN 48" TREE
BM 26	133418.880	568525.810	362+49.15	600.30 RT	728.97	CHISELED BOX IN NW CORNER OF LOADING DOCK



CONTROL POINTS & BENCH MARKS						
POINT NUMBER	N	E	STATION	OFFSET	ELEV	DESCRIPTION
CP 354	133413.048	567996.980	363+29.22	76.12 RT	721.47	39" BERNTSEN FENO MON
BM 25	133440.900	567230.060	364+32.42	682.90 LT	749.17	SPIKE IN POWER POLE
CP 357	134697.348	567933.474	376+24.18	44.56 RT	742.77	39" BERNTSEN FENO MON
CP 358	135996.347	567845.819	389+23.89	31.85 LT	765.53	39" BERNTSEN FENO MON



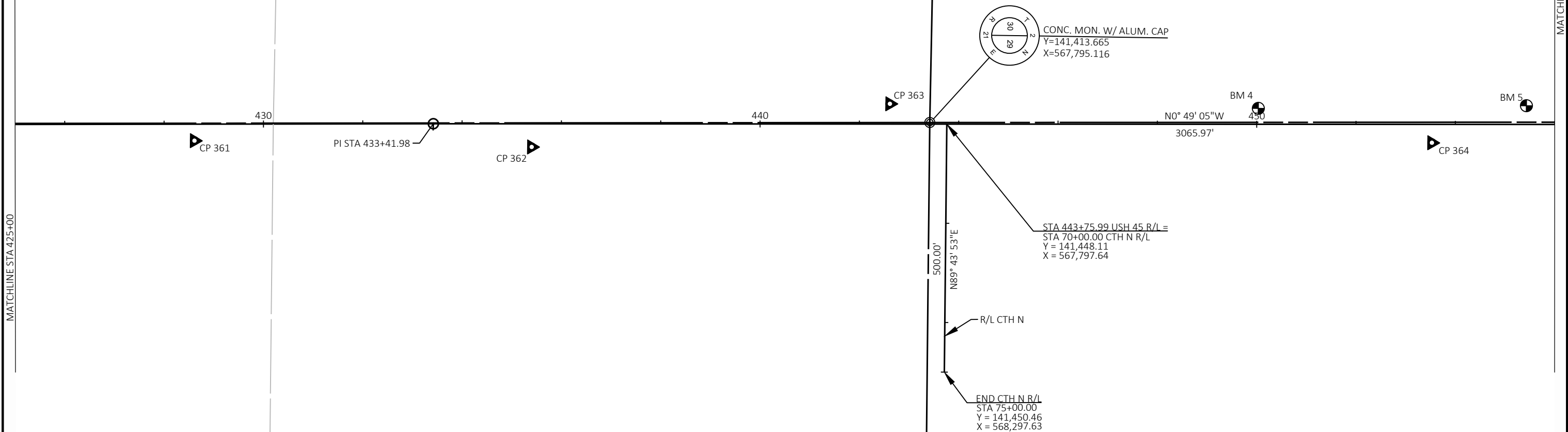


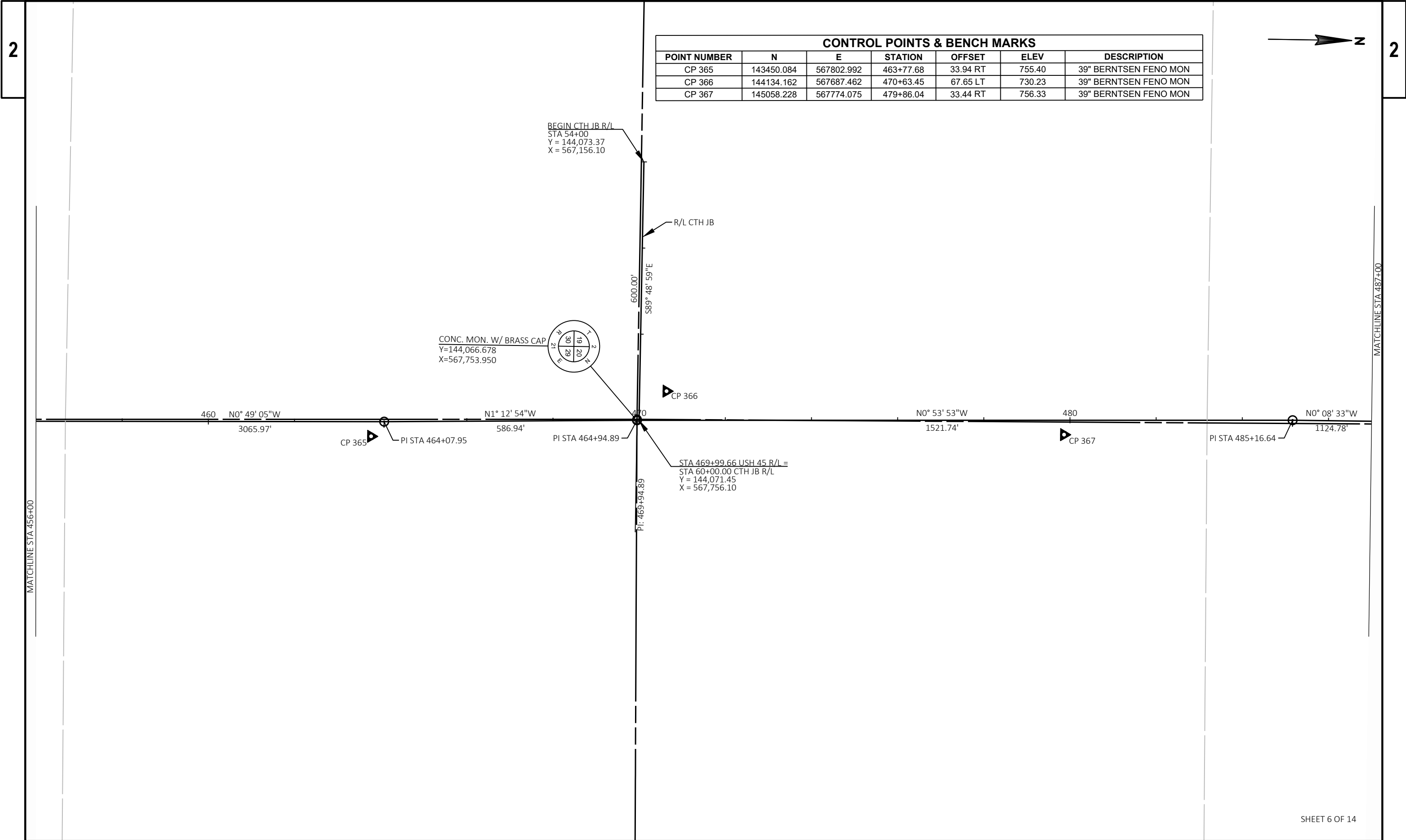
CONTROL POINTS & BENCH MARKS						
POINT NUMBER	N	E	STATION	OFFSET	ELEV	DESCRIPTION
CP 359	137398.898	567913.369	403+25.42	51.39 RT	764.92	39" BERNTSEN FENO MON
CP 360	138688.490	567790.852	416+16.85	49.92 LT	738.67	39" BERNTSEN FENO MON
BM 3	139546.584	567794.920	424+74.76	31.74 LT	729.96	SPIKE IN POWER POLE

2

2

CONTROL POINTS & BENCH MARKS						
POINT NUMBER	N	E	STATION	OFFSET	ELEV	DESCRIPTION
CP 361	139933.791	567853.719	428+60.95	33.42 RT	721.51	39" BERNTSEN FENO MON
CP 362	140612.860	567856.195	435+39.99	46.63 RT	757.75	39" BERNTSEN FENO MON
CP 363	141332.840	567758.552	442+61.29	40.73 LT	734.83	39" BERNTSEN FENO MON
BM 4	142074.641	567756.725	450+03.04	31.96 LT	736.11	SPIKE IN POWER POLE
CP 364	142425.112	567820.848	453+52.56	37.16 RT	732.72	39" BERNTSEN FENO MON
BM 5	142614.316	567743.372	455+42.85	37.61 LT	744.33	SPIKE IN POWER POLE



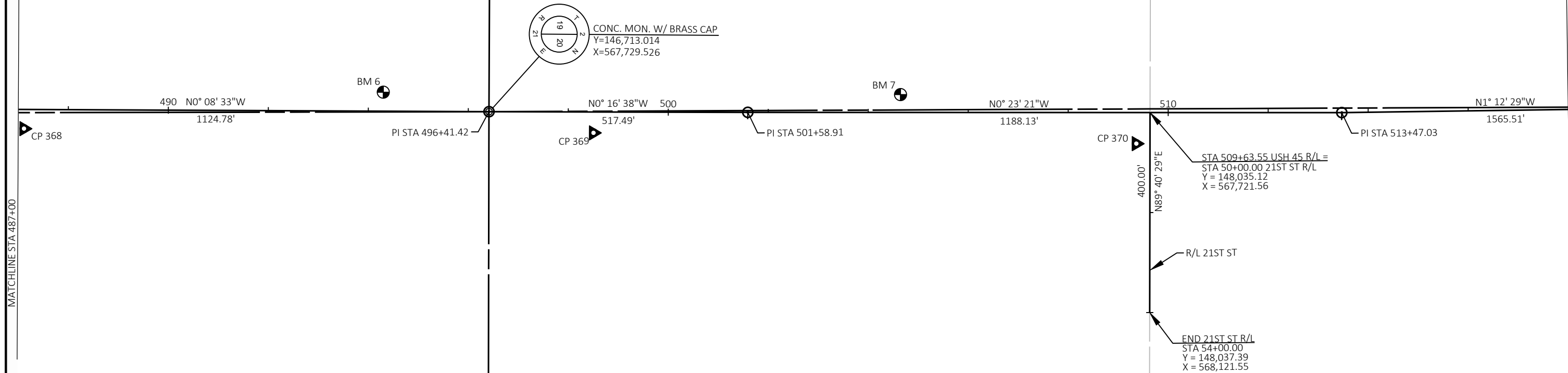


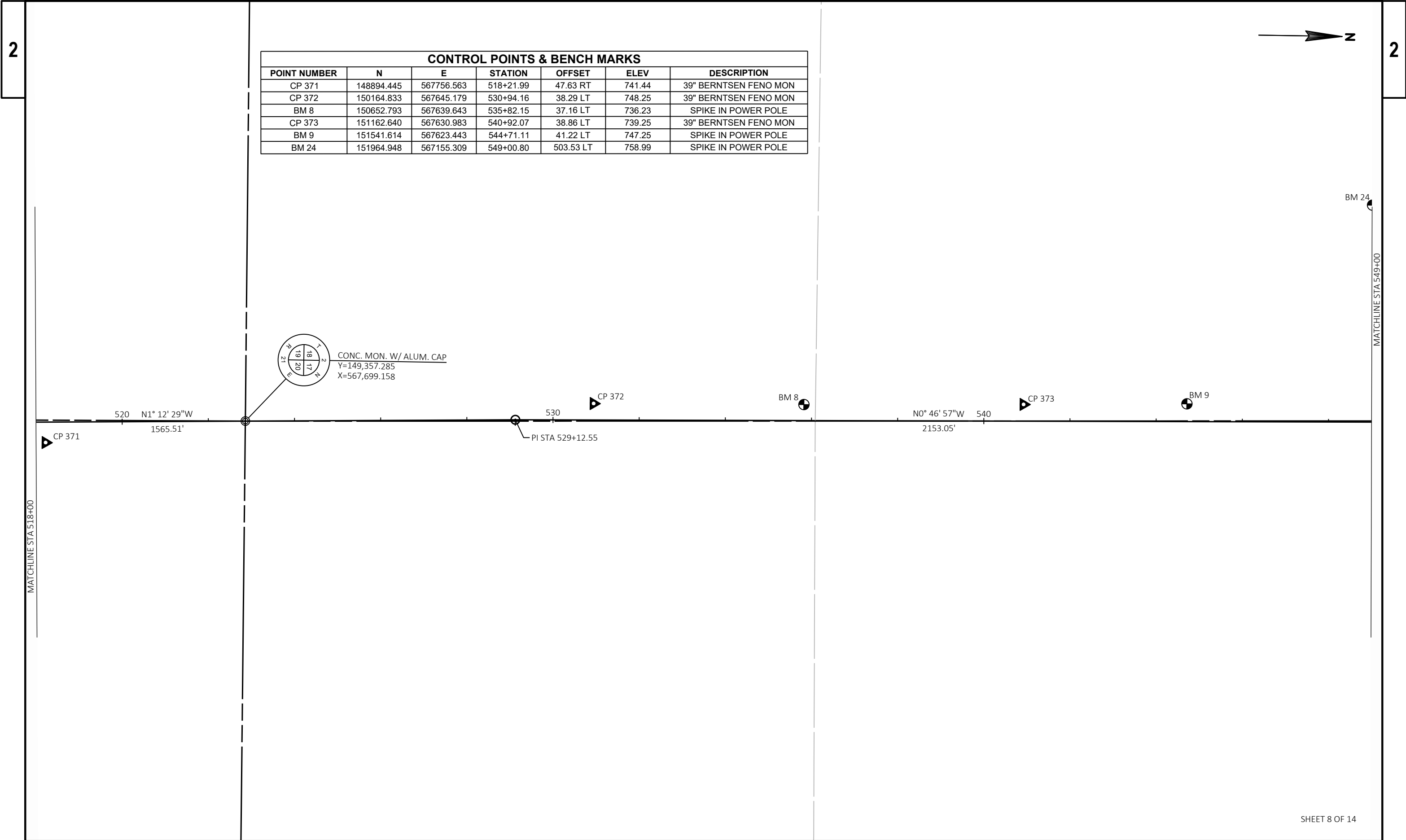
CONTROL POINTS & BENCH MARKS						
POINT NUMBER	N	E	STATION	OFFSET	ELEV	DESCRIPTION
CP 365	143450.084	567802.992	463+77.68	33.94 RT	755.40	39" BERNTSEN FENO MON
CP 366	144134.162	567687.462	470+63.45	67.65 LT	730.23	39" BERNTSEN FENO MON
CP 367	145058.228	567774.075	479+86.04	33.44 RT	756.33	39" BERNTSEN FENO MON

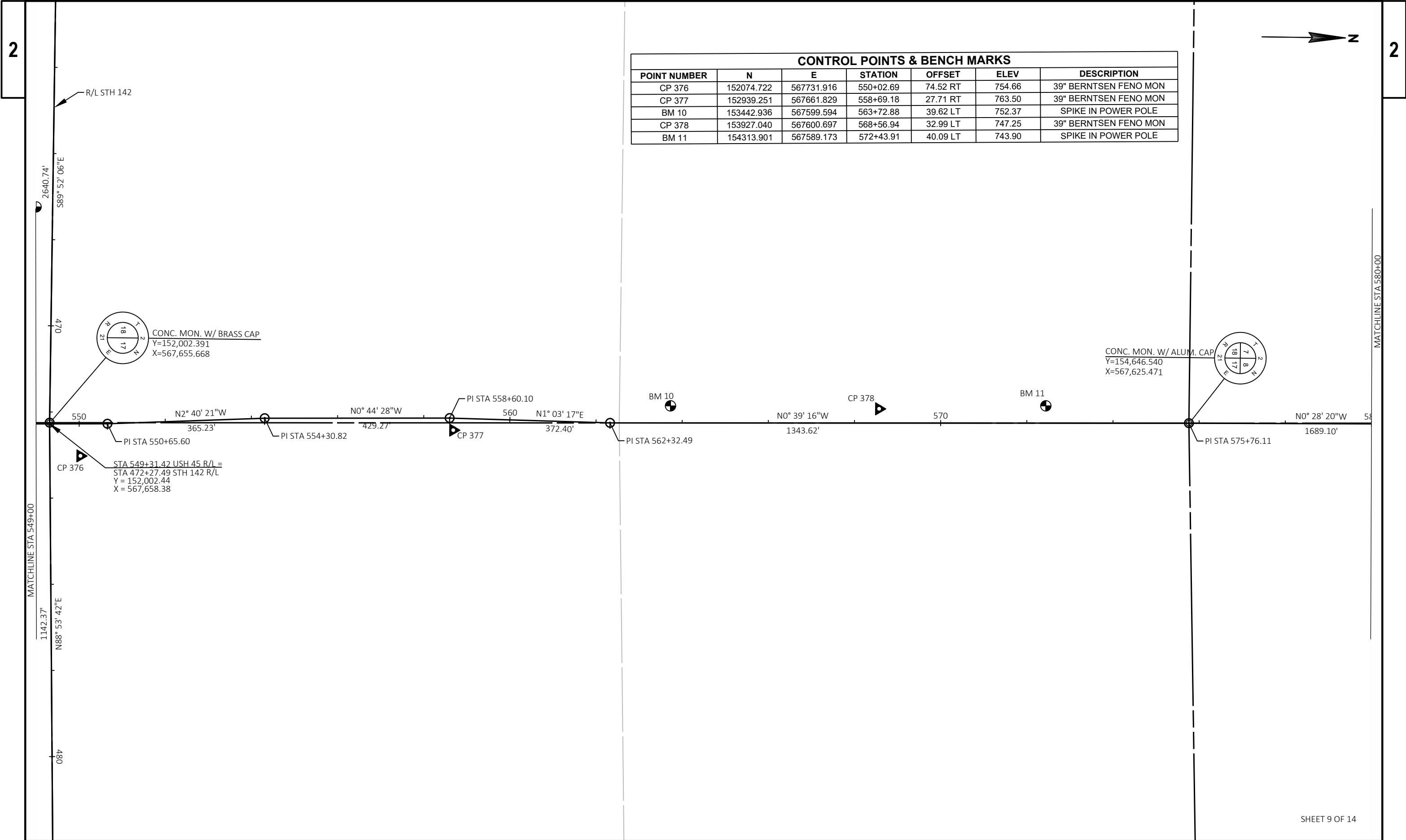
MATCHLINE STA 456+00

MATCHLINE STA 487+00

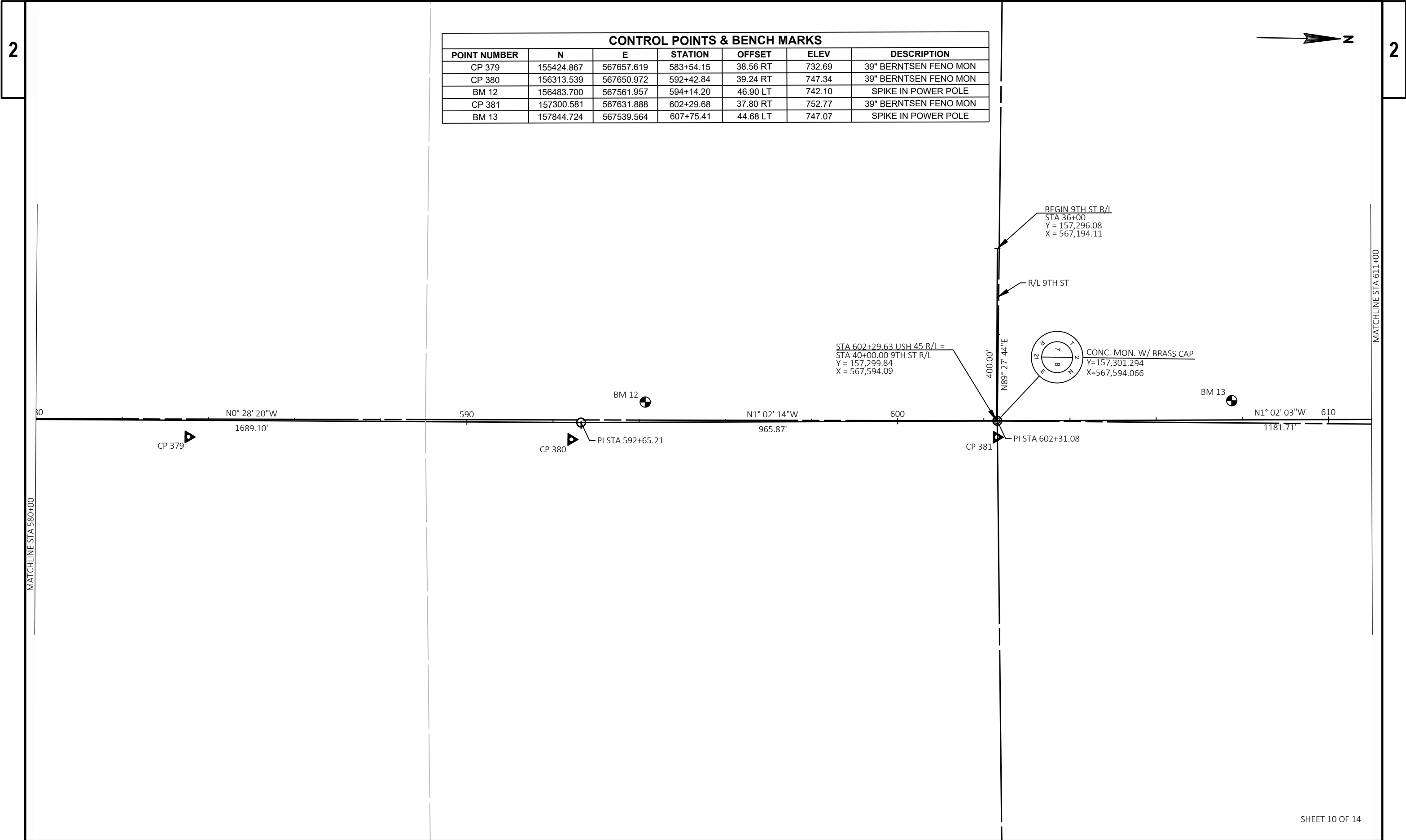
CONTROL POINTS & BENCH MARKS						
POINT NUMBER	N	E	STATION	OFFSET	ELEV	DESCRIPTION
CP 368	145783.151	567770.078	487+11.46	38.24 RT	759.30	39" BERNTSEN FENO MON
BM 6	146501.242	567692.103	494+29.74	37.95 LT	746.19	SPIKE IN POWER POLE
CP 369	146922.181	567770.296	498+50.39	41.78 RT	735.30	39" BERNTSEN FENO MON
BM 7	147535.716	567689.364	504+64.38	35.59 LT	741.99	SPIKE IN POWER POLE
CP 370	148008.103	567783.963	509+36.11	62.22 RT	744.44	39" BERNTSEN FENO MON

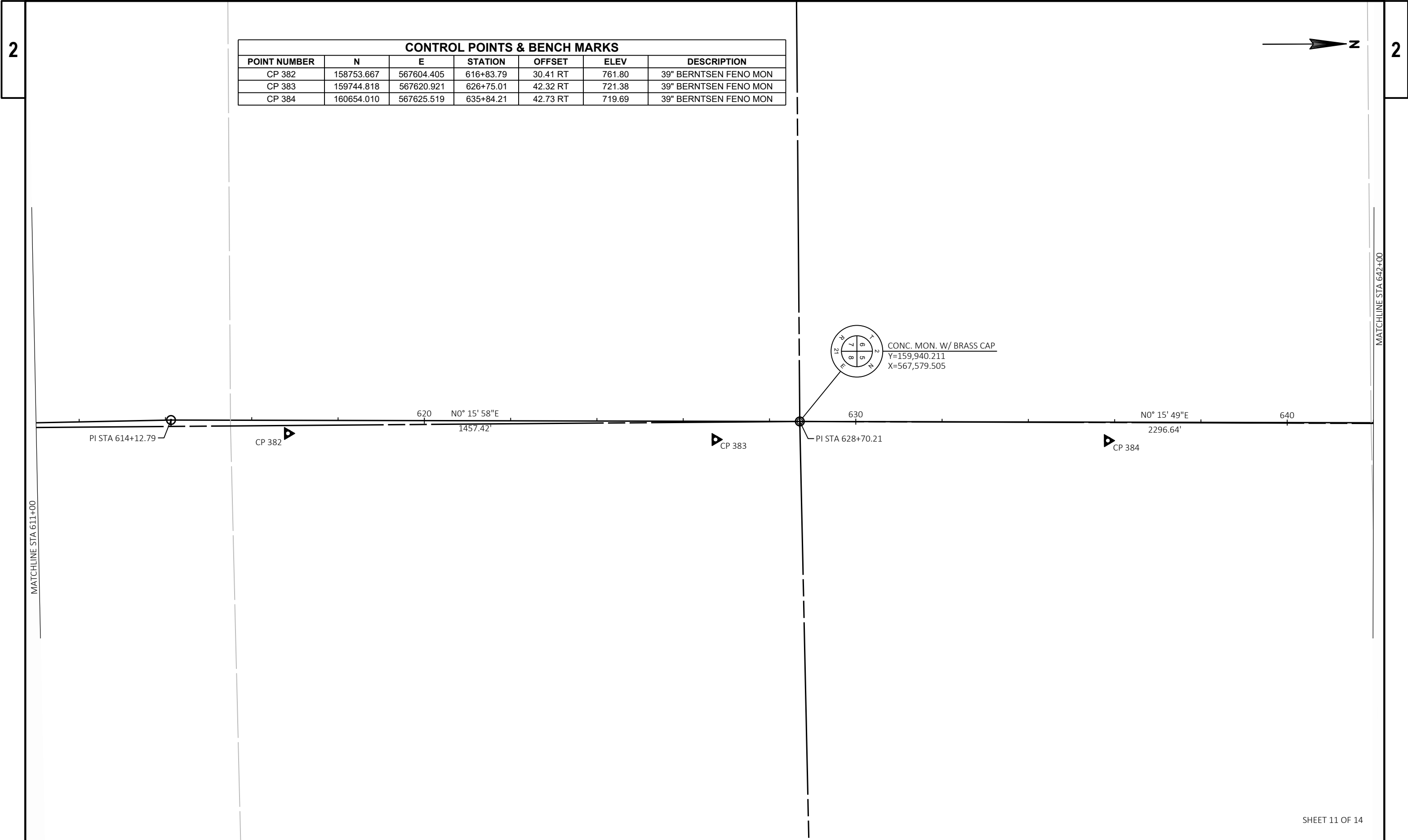






CONTROL POINTS & BENCH MARKS						
POINT NUMBER	N	E	STATION	OFFSET	ELEV	DESCRIPTION
CP 376	152074.722	567731.916	550+02.69	74.52 RT	754.66	39" BERNTSEN FENO MON
CP 377	152939.251	567661.829	558+69.18	27.71 RT	763.50	39" BERNTSEN FENO MON
BM 10	153442.936	567599.594	563+72.88	39.62 LT	752.37	SPIKE IN POWER POLE
CP 378	153927.040	567600.697	568+56.94	32.99 LT	747.25	39" BERNTSEN FENO MON
BM 11	154313.901	567589.173	572+43.91	40.09 LT	743.90	SPIKE IN POWER POLE

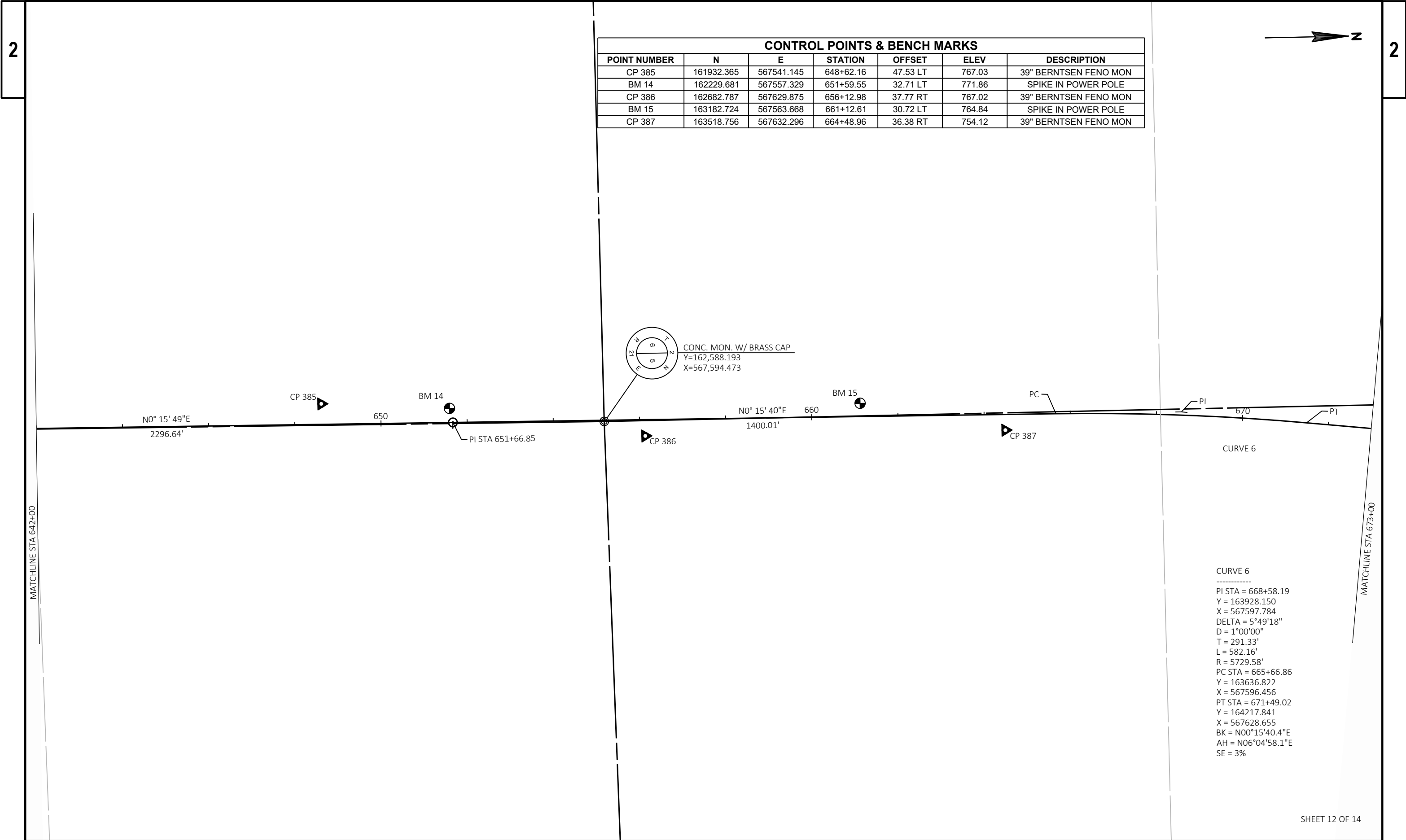


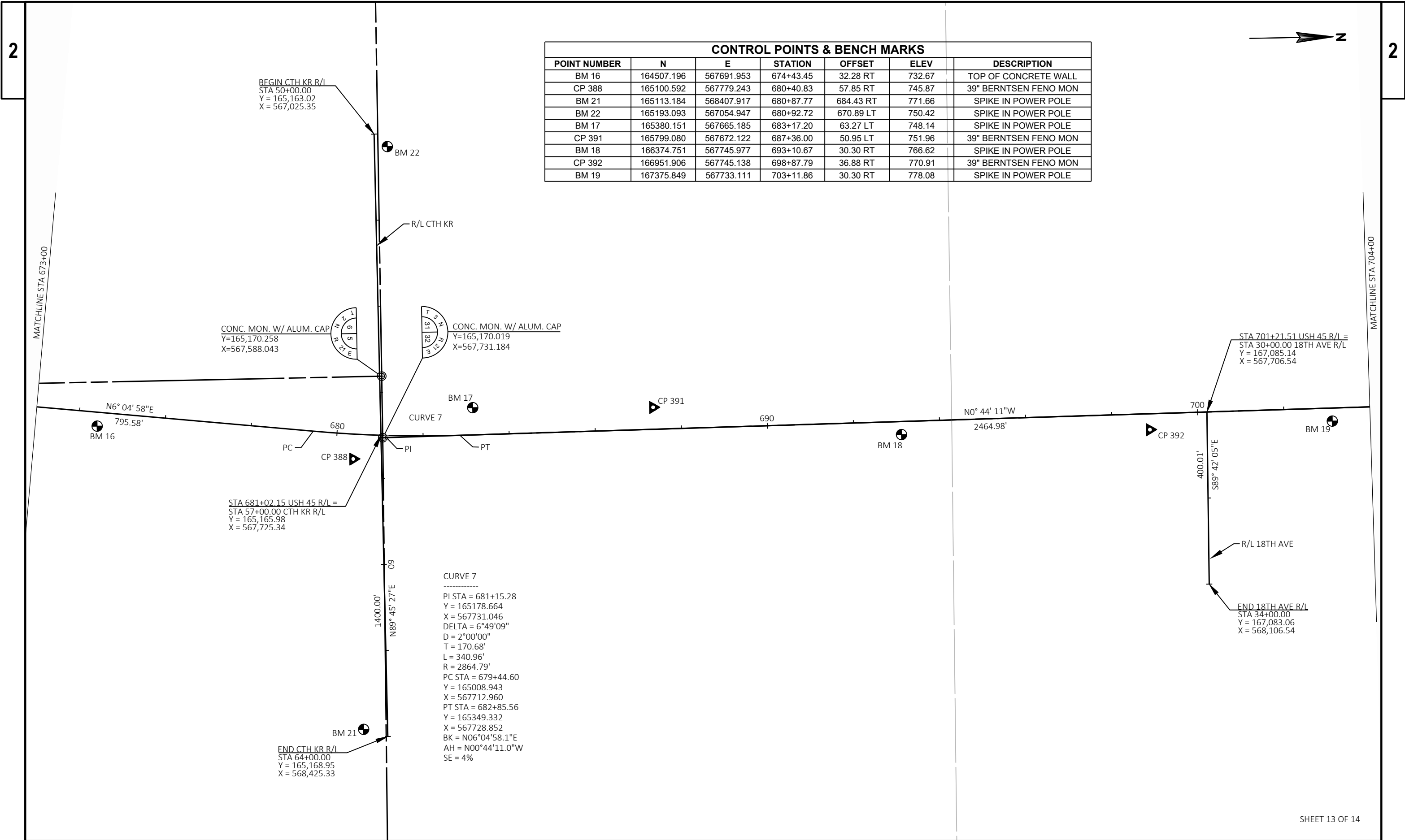


CONTROL POINTS & BENCH MARKS						
POINT NUMBER	N	E	STATION	OFFSET	ELEV	DESCRIPTION
CP 382	158753.667	567604.405	616+83.79	30.41 RT	761.80	39" BERNTSEN FENO MON
CP 383	159744.818	567620.921	626+75.01	42.32 RT	721.38	39" BERNTSEN FENO MON
CP 384	160654.010	567625.519	635+84.21	42.73 RT	719.69	39" BERNTSEN FENO MON

MATCHLINE STA 611+00

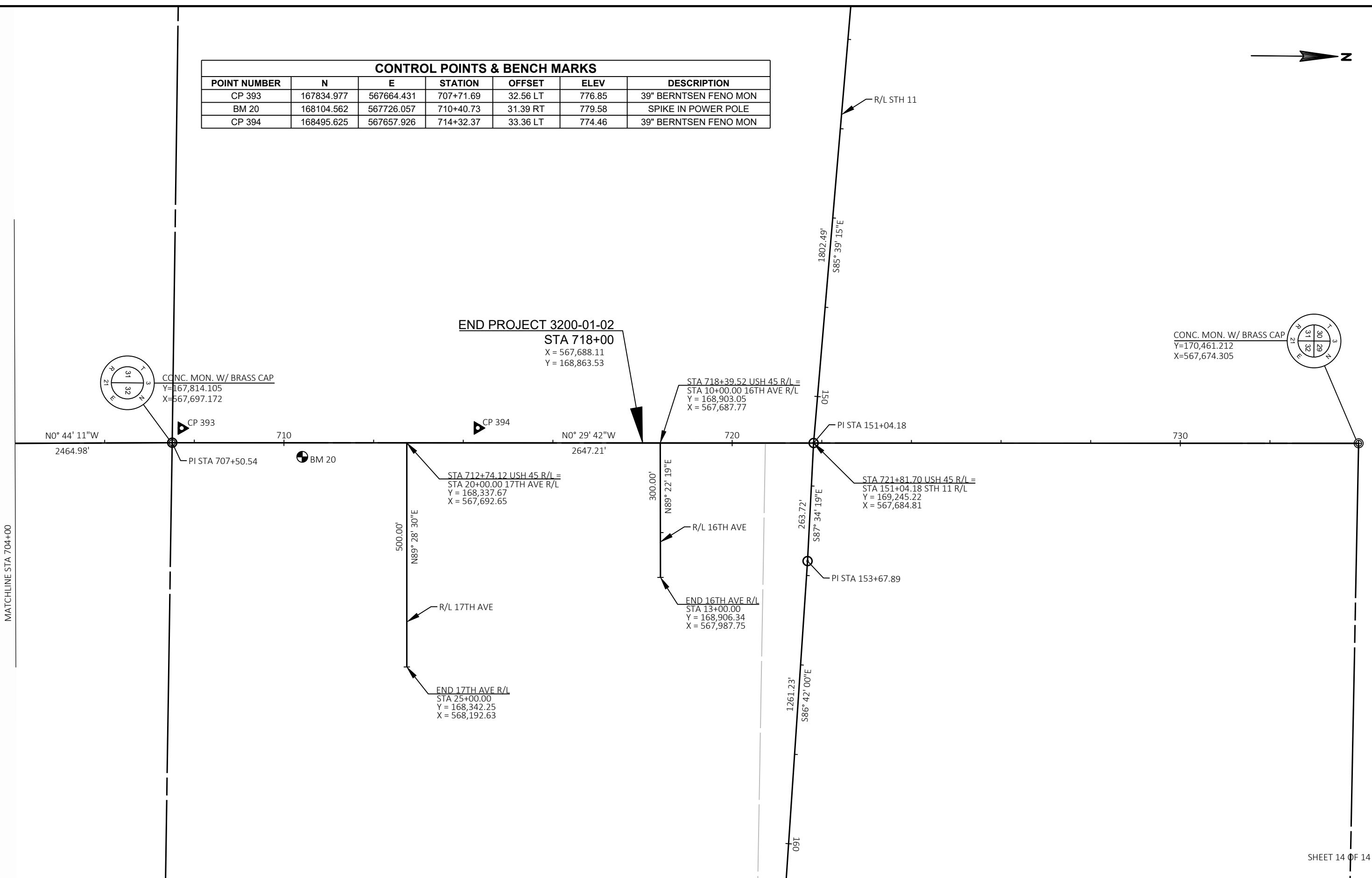
MATCHLINE STA 642+00





CONTROL POINTS & BENCH MARKS						
POINT NUMBER	N	E	STATION	OFFSET	ELEV	DESCRIPTION
BM 16	164507.196	567691.953	674+43.45	32.28 RT	732.67	TOP OF CONCRETE WALL
CP 388	165100.592	567779.243	680+40.83	57.85 RT	745.87	39" BERNTSEN FENO MON
BM 21	165113.184	568407.917	680+87.77	684.43 RT	771.66	SPIKE IN POWER POLE
BM 22	165193.093	567054.947	680+92.72	670.89 LT	750.42	SPIKE IN POWER POLE
BM 17	165380.151	567665.185	683+17.20	63.27 LT	748.14	SPIKE IN POWER POLE
CP 391	165799.080	567672.122	687+36.00	50.95 LT	751.96	39" BERNTSEN FENO MON
BM 18	166374.751	567745.977	693+10.67	30.30 RT	766.62	SPIKE IN POWER POLE
CP 392	166951.906	567745.138	698+87.79	36.88 RT	770.91	39" BERNTSEN FENO MON
BM 19	167375.849	567733.111	703+11.86	30.30 RT	778.08	SPIKE IN POWER POLE

CONTROL POINTS & BENCH MARKS						
POINT NUMBER	N	E	STATION	OFFSET	ELEV	DESCRIPTION
CP 393	167834.977	567664.431	707+71.69	32.56 LT	776.85	39" BERNTSEN FENO MON
BM 20	168104.562	567726.057	710+40.73	31.39 RT	779.58	SPIKE IN POWER POLE
CP 394	168495.625	567657.926	714+32.37	33.36 LT	774.46	39" BERNTSEN FENO MON



Estimate Of Quantities

3200-01-72

Line	Item	Item Description	Unit	Total	Qty
0002	201.0105	Clearing	STA	27.000	27.000
0004	201.0205	Grubbing	STA	27.000	27.000
0006	203.0100	Removing Small Pipe Culverts	EACH	4.000	4.000
0008	203.0200	Removing Old Structure (station) 01. 333+99	LS	1.000	1.000
0010	203.0200	Removing Old Structure (station) 02. 366+58	LS	1.000	1.000
0012	203.0200	Removing Old Structure (station) 03. 412+26	LS	1.000	1.000
0014	203.0200	Removing Old Structure (station) 04. 444+18	LS	1.000	1.000
0016	203.0200	Removing Old Structure (station) 05. 627+61	LS	1.000	1.000
0018	204.0100	Removing Pavement	SY	805.000	805.000
0020	204.0110	Removing Asphaltic Surface	SY	822.000	822.000
0022	204.0115	Removing Asphaltic Surface Butt Joints	SY	600.000	600.000
0024	204.0120	Removing Asphaltic Surface Milling	SY	141,791.000	141,791.000
0026	204.0150	Removing Curb & Gutter	LF	999.000	999.000
0028	204.0155	Removing Concrete Sidewalk	SY	35.000	35.000
0030	204.0180	Removing Delineators and Markers	EACH	16.000	16.000
0032	204.0195	Removing Concrete Bases	EACH	15.000	15.000
0034	204.0210	Removing Manholes	EACH	1.000	1.000
0036	204.0220	Removing Inlets	EACH	3.000	3.000
0038	204.0245	Removing Storm Sewer (size) 01. 12-Inch	LF	45.000	45.000
0040	204.0245	Removing Storm Sewer (size) 02. 15-Inch	LF	10.000	10.000
0042	204.0245	Removing Storm Sewer (size) 03. 18-Inch	LF	30.000	30.000
0044	204.0245	Removing Storm Sewer (size) 04. 21-Inch	LF	20.000	20.000
0046	204.0245	Removing Storm Sewer (size) 05. 24x38-Inch	LF	52.000	52.000
0048	204.0280	Sealing Pipes	EACH	1.000	1.000
0050	204.9105.S	Removing (item description) 01. Traffic Signals USH 45 & STH 50	LS	1.000	1.000
0052	204.9105.S	Removing (item description) 02. Loop Detector Wire & Lead-In Cable USH 45 & STH 50	LS	1.000	1.000
0054	205.0100	Excavation Common	CY	6,576.000	6,576.000
0056	205.0400	Excavation Marsh	CY	1,000.000	1,000.000
0058	209.2500	Backfill Granular Grade 2	TON	2,410.000	2,410.000
0060	211.0100	Prepare Foundation for Asphaltic Paving (project) 01. 3200-01-72	LS	1.000	1.000
0062	211.0400	Prepare Foundation for Asphaltic Shoulders	STA	683.000	683.000
0064	213.0100	Finishing Roadway (project) 01. 3200-01-72	EACH	1.000	1.000
0066	305.0110	Base Aggregate Dense 3/4-Inch	TON	4,339.000	4,339.000
0068	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	3,842.000	3,842.000
0070	305.0410	Aggregate Detours	TON	100.000	100.000
0072	310.0110	Base Aggregate Open-Graded	TON	3,085.000	3,085.000
0074	311.0110	Breaker Run	TON	4,603.000	4,603.000

Estimate Of Quantities

3200-01-72

Line	Item	Item Description	Unit	Total	Qty
0076	313.0110	Pit Run	TON	25.000	25.000
0078	315.0200	Asphaltic Base Widening	TON	2,206.000	2,206.000
0080	390.0201	Base Patching Asphaltic	TON	2,105.000	2,105.000
0082	390.0303	Base Patching Concrete	SY	962.000	962.000
0084	415.1100	Concrete Pavement HES 10-Inch	SY	1,097.000	1,097.000
0086	415.5110.S	Concrete Pavement Joint Layout	LS	1.000	1.000
0088	416.0270	Concrete Driveway HES 7-Inch	SY	10.000	10.000
0090	416.0610	Drilled Tie Bars	EACH	1,424.000	1,424.000
0092	416.0620	Drilled Dowel Bars	EACH	2,023.000	2,023.000
0094	416.1010	Concrete Surface Drains	CY	12.000	12.000
0096	416.1710	Concrete Pavement Repair	SY	139.000	139.000
0098	416.1715	Concrete Pavement Repair SHES	SY	407.000	407.000
0100	416.1720	Concrete Pavement Replacement	SY	582.000	582.000
0102	416.1725	Concrete Pavement Replacement SHES	SY	1,381.000	1,381.000
0104	455.0605	Tack Coat	GAL	12,424.000	12,424.000
0106	460.0105.S	HMA Percent Within Limits (PWL) Test Strip Volumetrics	EACH	1.000	1.000
0108	460.0110.S	HMA Percent Within Limits (PWL) Test Strip Density	EACH	1.000	1.000
0110	460.2005	Incentive Density PWL HMA Pavement	DOL	17,720.000	17,720.000
0112	460.2010	Incentive Air Voids HMA Pavement	DOL	21,260.000	21,260.000
0114	460.5223	HMA Pavement 3 LT 58-28 S	TON	2,309.000	2,309.000
0116	460.5224	HMA Pavement 4 LT 58-28 S	TON	19,852.000	19,852.000
0118	465.0115	Asphaltic Surface Detours	TON	50.000	50.000
0120	465.0120	Asphaltic Surface Driveways and Field Entrances	TON	23.000	23.000
0122	465.0125	Asphaltic Surface Temporary	TON	10.000	10.000
0124	465.0305	Asphaltic Surface Safety Islands	TON	142.000	142.000
0126	465.0315	Asphaltic Flumes	SY	30.000	30.000
0128	465.0425	Asphaltic Shoulder Rumble Strips 2-Lane Rural	LF	63,917.000	63,917.000
0130	465.0475	Asphalt Centerline Rumble Strips 2-Lane Rural	LF	31,730.000	31,730.000
0132	509.1500	Concrete Surface Repair Special	SF	15.000	15.000
0134	520.1018	Apron Endwalls for Culvert Pipe 18-Inch	EACH	1.000	1.000
0136	520.8000	Concrete Collars for Pipe	EACH	6.000	6.000
0138	521.1518	Apron Endwalls for Culvert Pipe Sloped Side Drains Steel 18-Inch 6 to 1	EACH	2.000	2.000
0140	521.3118	Culvert Pipe Corrugated Steel 18-Inch	LF	30.000	30.000
0142	522.0124	Culvert Pipe Reinforced Concrete Class III 24-Inch	LF	82.000	82.000
0144	522.0136	Culvert Pipe Reinforced Concrete Class III 36-Inch	LF	128.000	128.000
0146	522.0142	Culvert Pipe Reinforced Concrete Class III 42-Inch	LF	88.000	88.000
0148	522.0160	Culvert Pipe Reinforced Concrete Class III 60-Inch	LF	120.000	120.000
0150	522.0184	Culvert Pipe Reinforced Concrete Class III 84-Inch	LF	68.000	68.000
0152	522.1015	Apron Endwalls for Culvert Pipe Reinforced Concrete	EACH	1.000	1.000

Estimate Of Quantities

3200-01-72

Line	Item	Item Description	Unit	Total	Qty
		15-Inch			
0154	522.1024	Apron Endwalls for Culvert Pipe Reinforced Concrete 24-Inch	EACH	2.000	2.000
0156	522.1036	Apron Endwalls for Culvert Pipe Reinforced Concrete 36-Inch	EACH	4.000	4.000
0158	522.1042	Apron Endwalls for Culvert Pipe Reinforced Concrete 42-Inch	EACH	2.000	2.000
0160	522.1060	Apron Endwalls for Culvert Pipe Reinforced Concrete 60-Inch	EACH	4.000	4.000
0162	522.1084	Apron Endwalls for Culvert Pipe Reinforced Concrete 84-Inch	EACH	2.000	2.000
0164	522.2319	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-III 19x30-Inch	LF	78.000	78.000
0166	522.2338	Culvert Pipe Reinforced Concrete Horizontal Elliptical Class HE-III 38x60-Inch	LF	58.000	58.000
0168	522.2619	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 19x30-Inch	EACH	2.000	2.000
0170	522.2624	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 24x38-Inch	EACH	1.000	1.000
0172	522.2638	Apron Endwalls for Culvert Pipe Reinforced Concrete Horizontal Elliptical 38x60-Inch	EACH	2.000	2.000
0174	601.0411	Concrete Curb & Gutter 30-Inch Type D	LF	365.000	365.000
0176	601.0553	Concrete Curb & Gutter 4-Inch Sloped 36-Inch Type D	LF	589.000	589.000
0178	601.0555	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type A	LF	662.000	662.000
0180	601.0557	Concrete Curb & Gutter 6-Inch Sloped 36-Inch Type D	LF	460.000	460.000
0182	601.0600	Concrete Curb Pedestrian	LF	24.000	24.000
0184	602.0410	Concrete Sidewalk 5-Inch	SF	485.000	485.000
0186	602.0505	Curb Ramp Detectable Warning Field Yellow	SF	20.000	20.000
0188	606.0200	Riprap Medium	CY	174.000	174.000
0190	606.0300	Riprap Heavy	CY	121.000	121.000
0192	608.0312	Storm Sewer Pipe Reinforced Concrete Class III 12-Inch	LF	76.000	76.000
0194	608.0315	Storm Sewer Pipe Reinforced Concrete Class III 15-Inch	LF	368.000	368.000
0196	608.0318	Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	LF	30.000	30.000
0198	608.0321	Storm Sewer Pipe Reinforced Concrete Class III 21-Inch	LF	10.000	10.000
0200	608.2324	Storm Sewer Pipe Reinforced Concrete Horizontal Elliptical Class HE-III 24x38-Inch	LF	48.000	48.000
0202	611.0430	Reconstructing Inlets	EACH	4.000	4.000
0204	611.0530	Manhole Covers Type J	EACH	4.000	4.000
0206	611.0624	Inlet Covers Type H	EACH	6.000	6.000

Estimate Of Quantities

3200-01-72

Line	Item	Item Description	Unit	Total	Qty
0208	611.0627	Inlet Covers Type HM	EACH	3.000	3.000
0210	611.0645	Inlet Covers Type MS-A	EACH	5.000	5.000
0212	611.2004	Manholes 4-FT Diameter	EACH	2.000	2.000
0214	611.2005	Manholes 5-FT Diameter	EACH	3.000	3.000
0216	611.3230	Inlets 2x3-FT	EACH	4.000	4.000
0218	611.3901	Inlets Median 1 Grate	EACH	1.000	1.000
0220	611.3902	Inlets Median 2 Grate	EACH	2.000	2.000
0222	611.8115	Adjusting Inlet Covers	EACH	2.000	2.000
0224	612.0206	Pipe Underdrain Unperforated 6-Inch	LF	37.000	37.000
0226	612.0208	Pipe Underdrain Unperforated 8-Inch	LF	131.000	131.000
0228	612.0406	Pipe Underdrain Wrapped 6-Inch	LF	3,395.000	3,395.000
0230	612.0700	Drain Tile Exploration	LF	25.000	25.000
0232	612.0806	Apron Endwalls for Underdrain Reinforced Concrete 6-Inch	EACH	2.000	2.000
0234	614.0010	Barrier System Grading Shaping Finishing	EACH	1.000	1.000
0236	614.0950	Replacing Guardrail Posts and Blocks	EACH	5.000	5.000
0238	618.0100	Maintenance And Repair of Haul Roads (project) 01. 3200-01-72	EACH	1.000	1.000
0240	619.1000	Mobilization	EACH	1.000	1.000
0242	620.0300	Concrete Median Sloped Nose	SF	14.000	14.000
0244	624.0100	Water	MGAL	162.000	162.000
0246	625.0100	Topsoil	SY	735.000	735.000
0248	625.0500	Salvaged Topsoil	SY	13,040.000	13,040.000
0250	628.1504	Silt Fence	LF	2,450.000	2,450.000
0252	628.1520	Silt Fence Maintenance	LF	2,450.000	2,450.000
0254	628.1905	Mobilizations Erosion Control	EACH	3.000	3.000
0256	628.1910	Mobilizations Emergency Erosion Control	EACH	5.000	5.000
0258	628.2004	Erosion Mat Class I Type B	SY	13,775.000	13,775.000
0260	628.7005	Inlet Protection Type A	EACH	3.000	3.000
0262	628.7010	Inlet Protection Type B	EACH	4.000	4.000
0264	628.7015	Inlet Protection Type C	EACH	37.000	37.000
0266	628.7504	Temporary Ditch Checks	LF	330.000	330.000
0268	628.7555	Culvert Pipe Checks	EACH	86.000	86.000
0270	628.7560	Tracking Pads	EACH	3.000	3.000
0272	628.7570	Rock Bags	EACH	36.000	36.000
0274	629.0210	Fertilizer Type B	CWT	15.000	15.000
0276	630.0130	Seeding Mixture No. 30	LB	250.000	250.000
0278	630.0140	Seeding Mixture No. 40	LB	10.000	10.000
0280	630.0160	Seeding Mixture No. 60	LB	60.000	60.000
0282	630.0175	Seeding Mixture No. 75	LB	28.000	28.000

Estimate Of Quantities

3200-01-72

Line	Item	Item Description	Unit	Total	Qty
0284	630.0200	Seeding Temporary	LB	100.000	100.000
0286	630.0300	Seeding Borrow Pit	LB	200.000	200.000
0288	630.0500	Seed Water	MGAL	220.000	220.000
0290	633.5200	Markers Culvert End	EACH	19.000	19.000
0292	634.0618	Posts Wood 4x6-Inch X 18-FT	EACH	54.000	54.000
0294	637.2210	Signs Type II Reflective H	SF	316.800	316.800
0296	637.2215	Signs Type II Reflective H Folding	SF	90.520	90.520
0298	637.2230	Signs Type II Reflective F	SF	109.250	109.250
0300	638.2102	Moving Signs Type II	EACH	18.000	18.000
0302	638.2602	Removing Signs Type II	EACH	19.000	19.000
0304	638.3000	Removing Small Sign Supports	EACH	24.000	24.000
0306	642.5401	Field Office Type D	EACH	1.000	1.000
0308	643.0300	Traffic Control Drums	DAY	13,000.000	13,000.000
0310	643.0420	Traffic Control Barricades Type III	DAY	4,836.000	4,836.000
0312	643.0705	Traffic Control Warning Lights Type A	DAY	9,672.000	9,672.000
0314	643.0715	Traffic Control Warning Lights Type C	DAY	4,350.000	4,350.000
0316	643.0800	Traffic Control Arrow Boards	DAY	438.000	438.000
0318	643.0900	Traffic Control Signs	DAY	24,305.000	24,305.000
0320	643.0920	Traffic Control Covering Signs Type II	EACH	24.000	24.000
0322	643.1000	Traffic Control Signs Fixed Message	SF	918.750	918.750
0324	643.1050	Traffic Control Signs PCMS	DAY	210.000	210.000
0326	643.1070	Traffic Control Cones 42-Inch	DAY	10,760.000	10,760.000
0328	643.5000	Traffic Control	EACH	1.000	1.000
0330	645.0111	Geotextile Type DF Schedule A	SY	1,512.000	1,512.000
0332	645.0120	Geotextile Type HR	SY	912.000	912.000
0334	646.1020	Marking Line Epoxy 4-Inch	LF	66,389.000	66,389.000
0336	646.1040	Marking Line Grooved Wet Ref Epoxy 4-Inch	LF	79,058.000	79,058.000
0338	646.1545	Marking Line Grooved Wet Ref Contrast Epoxy 4-Inch	LF	1,300.000	1,300.000
0340	646.3020	Marking Line Epoxy 8-Inch	LF	2,260.000	2,260.000
0342	646.3545	Marking Line Grooved Wet Ref Contrast Epoxy 8-Inch	LF	3,182.000	3,182.000
0344	646.5020	Marking Arrow Epoxy	EACH	25.000	25.000
0346	646.5120	Marking Word Epoxy	EACH	8.000	8.000
0348	646.5520	Marking Outfall Epoxy	EACH	171.000	171.000
0350	646.6120	Marking Stop Line Epoxy 18-Inch	LF	612.000	612.000
0352	646.6220	Marking Yield Line Epoxy 18-Inch	EACH	111.000	111.000
0354	646.7120	Marking Diagonal Epoxy 12-Inch	LF	276.000	276.000
0356	646.8120	Marking Curb Epoxy	LF	431.000	431.000
0358	646.8220	Marking Island Nose Epoxy	EACH	9.000	9.000
0360	646.9000	Marking Removal Line 4-Inch	LF	643.000	643.000
0362	646.9100	Marking Removal Line 8-Inch	LF	1,196.000	1,196.000

Estimate Of Quantities

3200-01-72

Line	Item	Item Description	Unit	Total	Qty
0364	648.0100	Locating No-Passing Zones	MI	8.000	8.000
0366	649.0150	Temporary Marking Line Removable Tape 4-Inch	LF	11,020.000	11,020.000
0368	649.0250	Temporary Marking Line Removable Tape 8-Inch	LF	3,131.000	3,131.000
0370	649.0550	Temporary Marking Arrow Removable Tape	EACH	22.000	22.000
0372	649.0650	Temporary Marking Word Removable Tape	EACH	5.000	5.000
0374	649.0960	Temporary Marking Removable Mask Out Tape 6-Inch	LF	1,073.000	1,073.000
0376	649.0970	Temporary Marking Removable Mask Out Tape 10-Inch	LF	98.000	98.000
0378	650.4000	Construction Staking Storm Sewer	EACH	12.000	12.000
0380	650.4500	Construction Staking Subgrade	LF	3,457.000	3,457.000
0382	650.5000	Construction Staking Base	LF	2,957.000	2,957.000
0384	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	1,185.000	1,185.000
0386	650.6000	Construction Staking Pipe Culverts	EACH	8.000	8.000
0388	650.7000	Construction Staking Concrete Pavement	LF	500.000	500.000
0390	650.8000	Construction Staking Resurfacing Reference	LF	40,125.000	40,125.000
0392	650.8500	Construction Staking Electrical Installations (project) 01. 3200-01-72	LS	1.000	1.000
0394	650.9000	Construction Staking Curb Ramps	EACH	2.000	2.000
0396	650.9910	Construction Staking Supplemental Control (project) 01. 3200-01-72	LS	1.000	1.000
0398	650.9920	Construction Staking Slope Stakes	LF	3,271.000	3,271.000
0400	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	472.000	472.000
0402	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	1,124.000	1,124.000
0404	652.0615	Conduit Special 3-Inch	LF	812.000	812.000
0406	652.0800	Conduit Loop Detector	LF	2,658.000	2,658.000
0408	653.0135	Pull Boxes Steel 24x36-Inch	EACH	7.000	7.000
0410	653.0140	Pull Boxes Steel 24x42-Inch	EACH	20.000	20.000
0412	653.0905	Removing Pull Boxes	EACH	34.000	34.000
0414	654.0101	Concrete Bases Type 1	EACH	4.000	4.000
0416	654.0113	Concrete Bases Type 13	EACH	4.000	4.000
0418	654.0217	Concrete Control Cabinet Bases Type 9 Special	EACH	1.000	1.000
0420	655.0230	Cable Traffic Signal 5-14 AWG	LF	729.000	729.000
0422	655.0240	Cable Traffic Signal 7-14 AWG	LF	172.000	172.000
0424	655.0260	Cable Traffic Signal 12-14 AWG	LF	2,089.000	2,089.000
0426	655.0270	Cable Traffic Signal 15-14 AWG	LF	581.000	581.000
0428	655.0320	Cable Type UF 2-10 AWG Grounded	LF	2,458.000	2,458.000
0430	655.0515	Electrical Wire Traffic Signals 10 AWG	LF	3,772.000	3,772.000
0432	655.0610	Electrical Wire Lighting 12 AWG	LF	1,620.000	1,620.000
0434	655.0700	Loop Detector Lead In Cable	LF	12,042.000	12,042.000
0436	655.0800	Loop Detector Wire	LF	10,606.000	10,606.000
0438	655.0900	Traffic Signal EVP Detector Cable	LF	1,599.000	1,599.000

Estimate Of Quantities

3200-01-72

Line	Item	Item Description	Unit	Total	Qty
0440	656.0200	Electrical Service Meter Breaker Pedestal (location) 01. USH 45 & STH 50	LS	1.000	1.000
0442	657.0100	Pedestal Bases	EACH	4.000	4.000
0444	657.0255	Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	EACH	4.000	4.000
0446	657.0322	Poles Type 5-Aluminum	EACH	4.000	4.000
0448	657.0420	Traffic Signal Standards Aluminum 13-FT	EACH	2.000	2.000
0450	657.0425	Traffic Signal Standards Aluminum 15-FT	EACH	2.000	2.000
0452	657.0610	Luminaire Arms Single Member 4 1/2-Inch Clamp 6-FT	EACH	4.000	4.000
0454	658.0173	Traffic Signal Face 3S 12-Inch	EACH	16.000	16.000
0456	658.0174	Traffic Signal Face 4S 12-Inch	EACH	6.000	6.000
0458	658.0500	Pedestrian Push Buttons	EACH	2.000	2.000
0460	658.5069	Signal Mounting Hardware (location) 01. USH 45 & STH 50	LS	1.000	1.000
0462	659.1125	Luminaires Utility LED C	EACH	12.000	12.000
0464	661.0200	Temporary Traffic Signals for Intersections (location) 01. USH 45 & STH 50	LS	1.000	1.000
0466	661.0300	Generators	DAY	1.000	1.000
0468	690.0150	Sawing Asphalt	LF	9,375.000	9,375.000
0470	690.0250	Sawing Concrete	LF	7,143.000	7,143.000
0472	715.0415	Incentive Strength Concrete Pavement	DOL	1,370.000	1,370.000
0474	740.0440	Incentive IRI Ride	DOL	30,000.000	30,000.000
0476	ASP.1T0A	On-the-Job Training Apprentice at \$5.00/HR	HRS	1,500.000	1,500.000
0478	ASP.1T0G	On-the-Job Training Graduate at \$5.00/HR	HRS	1,800.000	1,800.000
0480	SPV.0035	Special 01. Backfill Slurry	CY	143.000	143.000
0482	SPV.0060	Special 01. Curb Ramp Grading Shaping Finishing	EACH	2.000	2.000
0484	SPV.0060	Special 02. Cleaning Culvert Pipes and Inverts	EACH	2.000	2.000
0486	SPV.0060	Special 03. Connect Pipe Underdrain to Culvert	EACH	6.000	6.000
0488	SPV.0060	Special 04. Install Poles Type 13	EACH	1.000	1.000
0490	SPV.0060	Special 05. Install Poles Type 13-Over Height	EACH	1.000	1.000
0492	SPV.0060	Special 06. Install Monotube Arms 55-FT	EACH	2.000	2.000
0494	SPV.0060	Special 07. Install Luminaire Arms Steel 15-FT	EACH	8.000	8.000
0496	SPV.0060	Special 08. Install 180 Degree Monotube Assembly	EACH	1.000	1.000
0498	SPV.0060	Special 09. Install 180 Degree Monotube Assembly Over Height	EACH	1.000	1.000
0500	SPV.0105	Special 01. Maintaining Temporary Drainage STA 366+58	LS	1.000	1.000
0502	SPV.0105	Special 02. Maintaining Temporary Drainage STA 412+26	LS	1.000	1.000
0504	SPV.0105	Special 03. Maintaining Temporary Drainage STA 627+61	LS	1.000	1.000
0506	SPV.0105	Special 04. Pavement Cleanup Project 3200-01-72	LS	1.000	1.000

Estimate Of Quantities

3200-01-72

Line	Item	Item Description	Unit	Total	Qty
0508	SPV.0105	Special 05. Transport and Install State Furnished Traffic Signal Cabinet USH 45 & STH 50	LS	1.000	1.000
0510	SPV.0105	Special 06. Transport and Install State Furnished Radar Detection System USH 45 & STH 50	LS	1.000	1.000
0512	SPV.0105	Special 07. Transport and Install State Furnished EVP Detector Heads, USH 45 & STH 50	LS	1.000	1.000
0514	SPV.0105	Special 08. Transport Traffic Signal and Intersection Materials, USH 45 & STH 50	LS	1.000	1.000
0516	SPV.0170	Special 01. Ditching and Shaping	STA	5.000	5.000
0518	SPV.0170	Special 02. Proof-Rolling Existing Subbase	STA	26.000	26.000
0520	SPV.0195	Special 01. Joint and Crack Repair	TON	60.000	60.000

CLEARING & GRUBBING

STATION	TO	STATION	LOCATION	201.0105	201.0205	REMARKS
				CLEARING STA	GRUBBING STA	
363+00	-	364+00	USH 45 RT	1	1	CTH K INTERSECTION
366+00	-	367+00	USH 45 RT	1	1	PIPE INSTALLATION
381+00	-	382+00	USH 45 LT	1	1	PIPE INSTALLATION
411+00	-	423+00	USH RT & LT	12	12	CTH NN INTERSECTION
443+00	-	448+00	USH 45 LT	5	5	CTH N INTERSECTION
70+00	-	72+00	CTH N LT	2	2	CTH N INTERSECTION
627+00	-	629+00	USH RT & LT	2	2	PIPE INSTALLATION
644+00	-	646+00	USH RT & LT	2	2	GRADING SLOPE
683+00	-	684+00	USH 45 RT	1	1	PIPE INSTALLATION
TOTAL 0010				27	27	

REMOVING PIPES

STATION	LOCATION	203.0100	203.0200.01	203.0200.02	203.0200.03	203.0200.04	203.0200.05	204.0180	204.0280	REMARKS--FOR INFORMATION ONLY
		REMOVING SMALL PIPE CULVERTS EACH	REMOVING OLD STRUCTURE 333+99 LS	REMOVING OLD STRUCTURE 366+58 LS	REMOVING OLD STRUCTURE 412+26 LS	REMOVING OLD STRUCTURE 444+18 LS	REMOVING OLD STRUCTURE 627+61 LS	REMOVING DELINEATORS AND MARKERS EACH	SEALING PIPES EACH	
329+18	USH 45 RT	1	--	--	--	--	--	--	--	30'-18" CMCP
333+99	USH 45 C/L	--	1	--	--	--	--	2	--	61'-30"x30" BOX W/ CMCP EXTENSTION ON EAST END
357+92	USH 45 LT	1	--	--	--	--	--	1	--	20'-24" CMCP EXTENSION
363+78	USH 45 C/L	--	--	--	--	--	--	2	1	140'-30" CMCP
366+58	USH 45 C/L	--	--	1	--	--	--	2	--	70'-36"x36" BOX W/ 36" CMCP EXTENSIONS ON BOTH ENDS
381+46	USH 45 C/L	1	--	--	--	--	--	2	--	64'-24" CMCP
412+26	USH 45 C/L	--	--	--	1	--	--	2	--	62'-96"x48" BOX CULVERT (C-30-25)
444+18	USH 45 C/L	--	--	--	--	1	--	2	--	71'-30"x30" BOX W/ CMCP EXTENSTION ON EAST END
627+61	USH 45 C/L	--	--	--	--	--	1	3	--	50'-96"x48" BOX CULVERT (C-30-24)
683+60	USH 45 C/L	1	--	--	--	--	--	--	--	58'-36" CPRC
TOTAL 0010		4	1	1	1	1	1	16	1	

REMOVING STORM SEWER

STATION	TO	STATION	LOCATION	204.0210	204.0220	204.0245.01	204.0245.02	204.0245.03	204.0245.04	204.0245.05	REMARKS
				REMOVING MANHOLES EACH	REMOVING INLETS EACH	REMOVING STORM SEWER 12-INCH LF	REMOVING STORM SEWER 15-INCH LF	REMOVING STORM SEWER 18-INCH LF	REMOVING STORM SEWER 21-INCH LF	REMOVING STORM SEWER 24x38-INCH LF	
309+10	-	309+15	USH 45 RT	--	2	21	10	10	10	--	RT TURN LANE TO STH 50
699+38	-	699+38	USH 45	--	1	--	--	--	--	52	
712+68	-	712+68	USH 45 RT	1	--	24		20	10	--	REMOVING AND REPLACE EXISTING MANHOLE
TOTAL 0010				1	3	45	10	30	20	52	

REMOVING CONCRETE							
				204.0100	204.0150	204.0155	
				REMOVING	REMOVING	REMOVING	
				PAVEMENT	CURB &	CONCRETE	
				SY	GUTTER	SIDEWALK	
STATION	TO	STATION	LOCATION	SY	LF	SY	REMARKS
304+50	-	307+79	USH 45 RT	--	335	20	RT TURN LANE TO STH 50
307+79	-	309+50	USH 45 RT	424	--	--	RT TURN LANE TO STH 50
316+37	-	316+73	USH 45 LT	--	36	--	C & G REPLACEMENT
333+95	-	334+25	USH 45	78	--	--	CULVERT REPLACEMENT
357+88	-	357+96	USH 45 LT	7	--	--	CULVERT EXTENSION
363+36	-	363+42	USH 45	18	--	--	CULVERT REPLACEMENT
366+53	-	366+63	USH 45	24	--	--	CULVERT REPLACEMENT
381+43	-	381+49	USH 45	16	--	--	CULVERT REPLACEMENT
412+11	-	412+34	USH 45	59	--	--	CULVERT REPLACEMENT
413+31	-	422+64	USH 45	--	146	--	CTH NN INTERSECTION
438+00	-	447+40	USH 45	--	150	--	CTH N INTERSECTION
444+14	-	444+22	USH 45	20	--	--	CULVERT REPLACEMENT
627+52	-	627+97	USH 45	120	--	--	CULVERT REPLACEMENT
683+57	-	683+64	USH 45	20	--	--	CULVERT REPLACEMENT
699+35	-	699+42	USH 45	19	--	--	CULVERT REPLACEMENT
699+98	-	712+58	USH 45 RT	--	97	--	ADJUSTING INLETS
712+98	-	717+50	USH 45 RT	--	235	--	ADJUSTING INLETS
712+95	-	713+14	USH 45 RT	--	--	15	SIDEWALK REMOVAL
TOTAL 0010				805	999	35	

REMOVING ASPHALT							
				204.0110	204.0115	204.0120	
				REMOVING	REMOVING	REMOVING	
				ASPHALTIC	ASPHALTIC	ASPHALTIC	
				SURFACE	SURFACE	SURFACE	
				SY	BUTT JOINTS	MILLING	
STATION	TO	STATION	LOCATION	SY	SY	SY	REMARKS
STAGE 2:							
306+16	-	324+20	USH 45 RT	240	--	--	EXISTING ISLANDS SURFACE
316+75	-	340+00	USH 45	--	41	9,355	BUTT JOINTS AT STA 316+75
340+00	-	403+00	USH 45	--	38	24,160	BUTT JOINTS CTH K
403+00	-	430+00	USH 45	--	172	6,661	NO MILLING: STA 414+30-STA 421+30
430+00	-	455+00	USH 45	--	122	5,833	NO MILLING: STA 439+42-STA 446+42
455+00	-	490+00	USH 45	--	15	13,062	
490+00	-	530+00	USH 45	--	15	13,618	
530+00	-	550+00	USH 45	232	59	8,611	NW CORNER OF USH 45 & STH 142
STAGE 3:							
550+00	-	580+00	USH 45	--	--	10,835	
580+00	-	640+00	USH 45	--	16	20,314	
640+00	-	690+00	USH 45	--	33	18,534	
690+00	-	707+00	USH 45	--	22	6,078	SEE TYPICALS FOR 4.5" MILL
707+00	-	718+00	USH 45	--	67	4,730	SEE TYPICALS FOR 4.5" MILL
1188+00	-	1200+43	STH 50	350	--	--	EXISTING ISLAND SURFACE
TOTAL 0010				822	600	141,791	

EARTHWORK SUMMARY

Division	From/To Station	Location	205.0100 Common Excavation (1)		Salvaged/Unusable Pavement Material (4)	Available Material (5)	205.0500 Marsh Excavation (6)	Unexpanded Fill	Expanded Fill (7)	Mass Ordinate +/- (8)	Waste (9)
			Cut (2) (CY)	EBS Excavation (3) (CY)	Concrete Pavement and Curb & Gutter (CY)	(CY)	(CY)	(CY)	Factor 1.10	(CY)	(CY)
Division 1											
45-50.xml	304+50 - 309+50	USH 45 LT & RT	1,504	0	150	1,354	0	15	17	1,338	1,338
Undistributed EBS			0	388							504
Division 1 Subtotal			1,504	388	150	1,354	0	15	17	1,338	1,842
Division 2											
45-K.xml	362+75 - 364+00	USH 45 LT & RT	525	0	0	525	0	44	49	476	476
45-NN.xml	412+00 - 422+30	USH 45 LT & RT	1,137	0	0	1,137	0	1,058	1,163	-26	0
Undistributed EBS				741							929
45-N.xml	438+43 - 443+43	USH 45 LT & RT	1,497	0	0	1,497	0	633	697	800	800
Undistributed EBS				784							1,019
Division 2 Subtotal			3,159	1,525	0	3,159	0	1,735	1,909	1,250	4,749
Undistributed Marsh				0			1,000				1,500
CROSS CULVERTS											
Grand Total			4,663	1,913	150	4,513	1,000	1,750	1,925	2,587	8,408
Total Common Exc				6,576							

Notes:

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

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

(3) EBS Excavation to be backfilled with Breaker Run material.

(4) Salvaged/Unusable Pavement Material

5) Available Material = Cut + EBS - Salvaged/Unusuable Pavement Material

(6) Marsh Excavation - to be backfilled with Granular Backfill Grade 2 Material.

(7) Expanded Fill Factor = 1.1

Depending on selections:

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

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

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

Or Expanded Fill = (Unexpanded Fill) * Fill Factor

(8) 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.

(9) Waste = Mass Ordinate + Expanded EBS + Expanded Marsh. Expanded Marsh = 1.5*(Marsh Excavation). Expanded EBS = 1.3*(Common Excavation + EBS Excavation).

ALL CATEGORY 0010

PROJECT NO: 3200-01-72

HWY: USH 45

COUNTY:KENOSHA-RACINE

MISCELLANEOUS QUANTITIES

SHEET:

E

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLANS. SEE AGGREGATE MISCELLANEOUS QUANTITIES SCHEDULE.

**ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLANS. SEE AGGREGATE AND PIPE UNDERDRAIN MISCELLANEOUS QUANTITIES SCHEDULE.

AGGREGATE													
				*	**	***							
				305.0110	305.0120	310.0110	311.0110	624.0100	650.4500	650.5000	SPV.0170.02		
				BASE	BASE						PROOF-		
				AGGREGATE	AGGREGATE	BASE						ROLLING	
				DENSE	DENSE	AGGREGATE	BREAKER			CONSTRUCTION	CONSTRUCTION	EXISTING	
				3/4-INCH	1 1/4-INCH	OPEN-GRADED	RUN	WATER	STAKING	STAKING	BASE	SUBBASE	
STATION	TO	STATION	LOCATION	TON	TON	TON	TON	MGAL	LF	LF		STA	REMARKS
304+50	-	309+50	USH 45 RT	2	566	541	1,033	1	500	--		6	RT TURN LANE TO STH 50
413+30	-	421+22	USH 45 RT	79	748	451	794	17	792	792		10	CTH NN INTERSECTION
417+75	-	420+50	USH 45 LT	--	384	434	764	8	275	275		--	CTH NN INTERSECTION
420+50	-	422+30	USH 45 LT	18	187	122	216	5	180	180		--	CTH NN INTERSECTION
438+42	-	443+00	USH 45 RT	46	706	570	1,004	16	458	458		10	CTH N INTERSECTION
439+51	-	447+43	USH 45 LT	79	747	450	792	17	792	792		--	CTH N INTERSECTION
510+90	-	515+50	USH 45 LT	--	102	--	--	3	460	460		--	C&G INSTALLATION
302+75	-	340+00	USH 45	271	--	--	--	6	--	--		--	
340+00	-	403+00	USH 45	667	--	--	--	14	--	--		--	
403+00	-	430+00	USH 45	242	--	--	--	5	--	--		--	
430+00	-	455+00	USH 45	219	--	--	--	5	--	--		--	
455+00	-	490+00	USH 45	382	--	--	--	8	--	--		--	
490+00	-	530+00	USH 45	433	--	--	--	9	--	--		--	
530+00	-	580+00	USH 45	418	--	--	--	9	--	--		--	
580+00	-	640+00	USH 45	691	--	--	--	14	--	--		--	
640+00	-	690+00	USH 45	537	--	--	--	11	--	--		--	
690+00	-	707+00	USH 45	152	--	--	--	4	--	--		--	
63+25	-	66+50	CTH K	13	--	--	--	1	--	--		--	
78+50	-	80+00	CTH NN	30	--	--	--	1	--	--		--	
70+00	-	71+60	CTH N	32	--	--	--	1	--	--		--	
58+60	-	60+00	CTH JB	6	--	--	--	1	--	--		--	
50+00	-	51+00	21ST ST	4	--	--	--	1	--	--		--	
39+00	-	40+40	9TH ST	6	--	--	--	1	--	--		--	
55+75	-	58+75	CTH KR	12	--	--	--	1	--	--		--	
336+37	-	336+73	USH 45	--	3	--	--	1	--	--		--	CURB & GUTTER REPLACEMENT
699+71	-	703+26	USH 45	--	21	--	--	1	--	--		--	CURB & GUTTER REPLACEMENT
711+51	-	717+50	USH 45	--	4	--	--	1	--	--		--	CURB & GUTTER REPLACEMENT
TOTAL 0010				4,339	3,468	2,568	4,603	162	3,457	2,957		26	

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLANS. SEE CULVERT PIPES (BACKFILL) MISCELLANEOUS QUANTITIES SCHEDULE.

**ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLANS. SEE CULVERT PIPES (BACKFILL) AND PIPE UNDERDRAIN MISCELLANEOUS QUANTITIES SCHEDULE.

***EBS EXCAVATION TO BE BACKFILLED WITH BREAKER RUN. EXACT LOCATIONS TO BE DETERMINED BY THE FIELD ENGINEER AFTER PROOF-ROLLING EXISTING SUBBASE.

DETOURS						
		305.0410	465.0115			
		AGGREGATE	ASPHALTIC			
		DETOURS	SURFACE			
		DETOURS	DETOURS			
STATION	TO	STATION	LOCATION	TON	TON	REMARKS
304+50	-	718+00	UNDISTRIBUTED	100	50	AS DIRECTED BY THE ENGINEER
TOTAL 0010				100	50	

BASE PATCHING ASPHALT					
				390.0201	
				BASE	
				PATCHING	
				ASPHALTIC	
STATION	TO	STATION	LOCATION	TON	REMARKS
325+80	-	327+10	USH 45	89	ASPHALTIC BASE PATCHING
333+95	-	334+37	USH 45	27	CULVERT PIPE REPLACEMENT
337+00	-	338+00	USH 45	30	ASPHALTIC BASE PATCHING
357+85	-	357+98	USH 45	4	CULVERT PIPE REPLACEMENT
363+33	-	363+45	USH 45	12	NEW PIPE
366+50	-	366+66	USH 45	14	CULVERT PIPE REPLACEMENT
381+40	-	381+49	USH 45	8	CULVERT PIPE REPLACEMENT
384+00	-	386+00	USH 45	112	ASPHALTIC BASE PATCHING
392+20	-	393+00	USH 45	48	ASPHALTIC BASE PATCHING
402+15	-	403+55	USH 45	85	ASPHALTIC BASE PATCHING
412+04	-	412+37	USH 45	19	CULVERT PIPE REPLACEMENT
416+20	-	418+00	USH 45	49	ASPHALTIC BASE PATCHING
442+85	-	445+15	USH 45 RT	60	ASPHALTIC BASE PATCHING
444+11	-	444+25	USH 45	7	CULVERT PIPE REPLACEMENT
452+84	-	453+65	USH 45	48	ASPHALTIC BASE PATCHING
469+50	-	470+50	USH 45	95	ASPHALTIC BASE PATCHING
510+89	-	515+52	USH 45	282	ASPHALTIC BASE PATCHING
548+65	-	560+00	USH 45	248	ASPHALTIC BASE PATCHING
566+80	-	567+40	USH 45	36	ASPHALTIC BASE PATCHING
595+80	-	596+90	USH 45	65	ASPHALTIC BASE PATCHING
601+75	-	602+95	USH 45	80	ASPHALTIC BASE PATCHING
627+48	-	628+00	USH 45	31	CULVERT PIPE REPLACEMENT
658+14	-	658+35	USH 45	12	ASPHALTIC BASE PATCHING
659+75	-	659+95	USH 45	12	ASPHALTIC BASE PATCHING
680+25	-	682+50	USH 45	113	ASPHALTIC BASE PATCHING
683+50	-	683+70	USH 45	12	CULVERT PIPE REPLACEMENT
691+05	-	691+16	USH 45	7	ASPHALTIC BASE PATCHING
692+85	-	692+95	USH 45	6	ASPHALTIC BASE PATCHING
695+80	-	699+69	USH 45	63	ASPHALTIC BASE PATCHING
699+35	-	699+42	USH 45	--	SS PIPE REPLACEMENT
700+05	-	717+49	USH 45 RT	10	REMOVING CURB & GUTTER
325+80	-	669+42	UNDISTRIBUTED	421	SEE NOTE 1
TOTAL 0010				2,105	

NOTE 1:
ADDITIONAL UNDISTRIBUTED LOCATIONS TO BE DETERMINED BY THE ENGINEER

PAVEMENT REPAIR												
				**	*	*						**
				390.0303	416.0610	416.0620	416.1710	416.1715	416.1720	416.1725	SPV.0195.01	
				BASE	DRILLED TIE	DRILLED	CONCRETE	CONCRETE	CONCRETE	CONCRETE	JOINT AND	
				PATCHING	BARS	DOWEL BARS	PAVEMENT	PAVEMENT	PAVEMENT	PAVEMENT	CRACK	
				CONCRETE	EACH	EACH	REPAIR	REPAIR SHES	REPLACEMENT	REPLACEMENT	REPAIR	
STATION	TO	STATION	LOCATION	SY			SY	SY	SY	SHES	TON	REMARKS
STAGE 1A:												
1888+27	-	1194+04	STH 50 EB LN 2	--	6	96	--	65	--	50	--	SEE PLAN DETAIL FOR LOCATIONS
1191+95	-	1192+80	STH 50 EB RTL	--	68	40	--	--	--	297	--	SEE PLAN DETAIL FOR LOCATIONS
STAGE 1B:												
302+84	-	307+76	USH 45 NB LN 2	--	30	112	--	99	--	--	--	SEE PLAN DETAIL FOR LOCATIONS
304+50	-	309+34	USH 45 NB RTL	--	167	--	--	--	--	--	--	SEE PLAN DETAIL FOR LOCATIONS
1193+74	-	1194+72	STH 50 EB RTL	--	33	8	--	--	--	--	--	SEE PLAN DETAIL FOR LOCATIONS
STAGE 2A:												
302+84	-	309+34	USH 45 NB LN 1	--	45	80	--	78	--	77	--	SEE PLAN DETAIL FOR LOCATIONS
306+43	-	309+29	USH 45 NB LTL	--	100	32	--	--	--	222	--	SEE PLAN DETAIL FOR LOCATIONS
313+75	-	316+76	USH 45 NB LN 1	--	18	32	27	--	--	--	--	SEE PLAN DETAIL FOR LOCATIONS
304+38	-	306+44	USH 45 SB LN 1	--	56	48	--	67	--	--	--	SEE PLAN DETAIL FOR LOCATIONS
310+23	-	316+76	USH 45 SB LN 1	--	38	96	21	--	185	--	--	SEE PLAN DETAIL FOR LOCATIONS
310+26	-	312+75	USH 45 SB LTL	--	85	48	22	--	182	--	--	SEE PLAN DETAIL FOR LOCATIONS
1188+25	-	1194+04	STH 50 EB LN 1	--	45	80	--	59	--	50	--	SEE PLAN DETAIL FOR LOCATIONS
1192+35	-	1192+96	STH 50 EB LTL	--	59	16	--	--	--	88	--	SEE PLAN DETAIL FOR LOCATIONS
1191+58	-	1198+56	STH 50 WB LN 1	--	17	48	--	28	--	58	--	SEE PLAN DETAIL FOR LOCATIONS
1193+80	-	1194+42	STH 50 WB LTL	--	61	16	--	--	--	93	--	SEE PLAN DETAIL FOR LOCATIONS
STAGE 2B:												
308+77	-	309+36	USH 45 NB LN 2	--	20	16	--	--	--	77	--	SEE PLAN DETAIL FOR LOCATIONS
310+86	-	316+76	USH 45 NB LN 2	--	30	64	32	--	28	--	--	SEE PLAN DETAIL FOR LOCATIONS
303+02	-	304+44	USH 45 SB LN 2	--	16	64	37	--	--	--	--	SEE PLAN DETAIL FOR LOCATIONS
310+23	-	316+76	USH 45 SB LN 2	--	91	112	--	--	187	--	--	SEE PLAN DETAIL FOR LOCATIONS
1191+58	-	1198+56	STH 50 WB LN 2	--	17	56	--	11	--	59	--	SEE PLAN DETAIL FOR LOCATIONS
1193+95	-	1194+54	STH 50 WB RTL	--	68	40	--	--	--	310	--	SEE PLAN DETAIL FOR LOCATIONS
STAGE 3:												
690+00	-	707+00	USH 45	294	48	176	--	--	--	--	10	ESTIMATED 11 PATCHING AREAS
707+00	-	718+00	USH 45	668	109	704	--	--	--	--	50	ESTIMATED 22 PATCHING AREAS
TOTAL 0010				962	1,227	1,984	139	407	582	1,381	60	

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLANS. SEE CONCRETE PAVEMENT MISCELLANEOUS QUANTITIES SCHEDULE.
**EXACT LOCATION TO BE DETERMINED BY THE FIELD ENGINEER AFTER MILLING OPERATION IS COMPLETED.

CONCRETE PAVEMENT											
* * 415.1100 415.5110.S 416.0270 416.0610 416.0620 620.0300 650.7000											
CONCRETE CONCRETE CONCRETE DRILLED CONCRETE CONSTRUCTION											
PAVEMENT HES PAVEMENT JOINT DRIVEWAY DRILLED DOWEL MEDIAN STAKING											
10-INCH LAYOUT HES 7-INCH TIE BARS BARS SLOPED NOSE CONCRETE											
STATION	TO	STATION	LOCATION	SY	LS	SY	EACH	EACH	SF	LF	REMARKS
304+50	-	309+50	USH 45 RT	1,097	--	--	197	39	14	500	RT TURN LANE TO STH 50
		713+68	25' RT	--	--	10	--	--	--	--	17TH AVE INTERSECTION
			PROJECT	--	1	--	--	--	--	--	USH 45/STH 50 INTERSECTION
TOTAL 0010				1,097	1	10	197	39	14	500	

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLANS. SEE PAVEMENT REPAIR MISCELLANEOUS QUANTITIES SCHEDULE.

HMA PWL TEST STRIP

460.0105.S 460.0110.S						
HMA PERCENT HMA PERCENT						
WITHIN WITHIN						
LIMITS (PWL) LIMITS (PWL)						
TEST STRIP TEST STRIP						
VOLUMETRICS DENSITY						
STATION	TO	STATION	LOCATION	EACH	EACH	REMARKS
316+75	-	718+00	USH 45	1	1	PROJECT LIMITS
TOTAL 0010				1	1	

CONCRETE SURFACE REPAIR

509.1500			
STATION	LOCATION	SF	REMARKS
558+94	USH 45 RT	15	CONCRETE BARRIER
TOTAL 0010		15	

RUMBLE STRIPS

465.0425 465.0475					
ASPHALTIC ASPHALT					
SHOULDER CENTERLINE					
RUMBLE STRIPS RUMBLE STRIPS					
2-LANE RURAL 2-LANE RURAL					
STATION	TO	STATION	LOCATION	LF	LF
316+75	-	340+00	USH 45	4,650	1,530
340+00	-	403+00	USH 45	10,758	6,075
403+00	-	430+00	USH 45	4,502	2,125
430+00	-	455+00	USH 45	4,207	2,100
455+00	-	490+00	USH 45	6,151	3,100
490+00	-	530+00	USH 45	7,695	3,600
530+00	-	580+00	USH 45	8,268	4,600
580+00	-	640+00	USH 45	11,686	5,600
640+00	-	670+00	USH 45	6,000	3,000
TOTAL 0010				63,917	31,730

NOTE: ALL SHOULDER RUNMBLE STRIPS TO BE TYPE 1.

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ASPHALT												
		211.0100	211.0400	315.0200	455.0605	460.5223	460.5224	465.0120	465.0125	465.0305		
		PREPARE FOUNDATION FOR ASPHALTIC PAVING (3200-01-72) LS	PREPARE FOUNDATION FOR ASPHALTIC SHOULDERS STA	ASPHALTIC BASE WIDENING TON	TACK COAT GAL	HMA PAVEMENT 3 LT 58-28 S TON	HMA PAVEMENT 4 LT 58-28 S TON	ASPHALTIC SURFACE DRIVEWAYS AND FIELD ENTRANCES TON	ASPHALTIC SURFACE TEMPORARY	ASPHALTIC SURFACE SAFETY ISLANDS TON		
STATION	TO	STATION	LOCATION								REMARKS	
STAGE 1B:												
309+10	-	309+40	USH 45 RT	--	--	--	--	--	--	10	--	
STAGE 2:												
413+30	-	421+21	USH 45 RT	--	--	--	159	301	136	--	--	BY-PASS LANE
415+56	-	416+81	USH 45 LT	--	--	--	24	45	20	--	--	SW QUADRANT
417+15	-	422+31	USH 45 LT	--	--	--	130	247	112	--	--	RIGHT TURN LANE
438+45	-	433+60	USH 45 RT	--	--	--	144	272	123	--	--	RIGHT TURN LANE
439+51	-	447+43	USH 45 LT	--	--	--	159	301	136	--	--	BY-PASS LANE
443+92	-	445+30	USH 45 RT	--	--	--	28	53	24	--	--	NE QUADRANT
304+50	-	340+00	USH 45	--	44	138	710	--	1,216	--	--	59
340+00	-	403+00	USH 45	--	112	361	1,842	--	3,157	--	--	--
403+00	-	430+00	USH 45	--	41	129	680	--	1,165	14	--	--
430+00	-	455+00	USH 45	--	36	116	630	--	1,080	5	--	--
455+00	-	490+00	USH 45	--	59	192	1,028	--	1,761	--	--	--
490+00	-	530+00	USH 45	--	79	260	1,078	--	1,848	--	--	--
530+00	-	550+00	USH 45	--	73	237	1,468	--	2,516	--	--	--
STAGE 3:												
550+00	-	580+00	USH 45									
580+00	-	640+00	USH 45	--	119	390	1,602	--	2,746	--	--	--
640+00	-	690+00	USH 45	--	93	297	1,431	--	2,453	--	--	--
690+00	-	700+00	USH 45	--	27	86	276	--	472	--	--	--
700+00	-	707+00	USH 45	--	--	--	380	400	326	--	--	--
707+00	-	718+00	USH 45	--	--	--	655	690	561	4	--	--
1188+00	-	1200+43	STH 50	--	--	--	--	--	--	--	--	83
316+75	-	718+00	USH 45	1	--	--	--	--	--	--	--	--
TOTAL 0010				1	683	2,206	12,424	2,309	19,852	23	10	142

PROJECT NO: 3200-01-72	HWY: USH 45	COUNTY:KENOSHA-RACINE	MISCELLANEOUS QUANTITIES	SHEET:	E
FILE NAME : _N/PDS/Projects/32000102/PILAN/04 DRAFT PSE SUBMITTAL/Misc Plan Sets/32000102_MQ_Brett.pptx		PLOT DATE : _____	PLOT BY : _____	PLOT NAME : _____	PLOT SCALE : 1:1
					224

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PWL MIXTURE USE TABLE

THE FOLLOWING ACCEPTANCE CRITERIA ARE APPLICABLE FOR THIS PROJECT:

LOCATION	STATION	MIXTURE USE	UNDERLYING SURFACE	BID ITEM	TONS	THICKNESS	QUALITY MANAGEMENT PROGRAM TO BE USED FOR:	
							MIXTURE ACCEPTANCE	DENSITY ACCEPTANCE
24 FOOT NB DRIVING LANES	316+75 TO 320+50	UPPER LAYER	EXISTING ASPHALTIC PAVEMENT	4 LT 58-28 S	120	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
24 FOOT SB DRIVING LANES	316+75 TO 320+50	UPPER LAYER	EXISTING ASPHALTIC PAVEMENT	4 LT 58-28 S	120	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
12 FOOT NB DRIVING LANE	320+50 TO 700+50	UPPER LAYER	EXISTING ASPHALTIC PAVEMENT	4 LT 58-28 S	5,980	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
12 FOOT SB DRIVING LANE	320+50 TO 700+50	UPPER LAYER	EXISTING ASPHALTIC PAVEMENT	4 LT 58-28 S	5,980	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
12 FOOT NB DRIVING LANE	700+50 TO 718+00	UPPER LAYER	3 LT 58-28 S	4 LT 58-28 S	275	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
12 FOOT SB DRIVING LANE	700+50 TO 718+00	UPPER LAYER	3 LT 58-28 S	4 LT 58-28 S	275	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
12 FOOT NB DRIVING LANE	700+50 TO 718+00	LOWER LAYER	EXISTING CONCRETE PAVEMENT	3 LT 58-28 S	350	2.5"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
12 FOOT SB DRIVING LANE	700+50 TO 718+00	LOWER LAYER	EXISTING CONCRETE PAVEMENT	3 LT 58-28 S	350	2.5"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	INCENTIVE DENSITY PWL HMA PAVEMENT 460.2005
TURN LANES & BYPASS LANES - 6.5"	USH 45 - CTH N, CTH NN	UPPER LAYER	3 LT 58-28 S	4 MT 58-28 S	540	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
TURN LANES & BYPASS LANES - 6.5"	USH 45 - CTH N, CTH NN	LOWER LAYER	3 LT 58-28 S	3 LT 58-28 S	680	2.25"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
TURN LANES & BYPASS LANES - 6.5"	USH 45 - CTH N, CTH NN	LOWER LAYER	AGGREGATE	3 LT 58-28 S	680	2.25"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
OUTSIDE RURAL SHOULDERS	316+75 TO 700+10	UPPER LAYER	3 LT 58-28 S	4 LT 58-28 S	5,020	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
8 FOOT NB SHOULDER	700+50 TO 718+00	UPPER LAYER	EXISTING ASPHALTIC PAVEMENT	4 LT 58-28 S	190	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
6 FOOT SB SHOULDER	700+50 TO 718+00	UPPER LAYER	EXISTING ASPHALTIC PAVEMENT	4 LT 58-28 S	150	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
VARIOUS SIDEROADS 24 FOOT DRIVING LANE	364+00 TO 713+00	UPPER LAYER	EXISTING ASPHALTIC PAVEMENT	4 LT 58-28 S	290	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE
VARIOUS SIDEROADS SHOULDER	364+00 TO 713+00	UPPER LAYER	EXISTING ASPHALTIC PAVEMENT	4 LT 58-28 S	260	2"	PWL INCENTIVE AIR VOIDS HMA PAVEMENT 460.2010	ACCEPTANCE TESTING BY THE DEPARTMENT; NOT ELIGIBLE FOR INCENTIVE

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CULVERT PIPES (ROUND)																					
							*												**	**	
							520.1018	520.8000	522.0124	522.0136	522.0142	522.0160	522.0184	522.1024	522.1036	522.1042	522.1060	522.1084	633.5200	650.6000	
							APRON ENDWALLS	CONCRETE	CULVERT PIPE REINFORCED CONCRETE CLASS III					APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE					MARKERS	CONSTRUCTION	
							FOR CULVERT	COLLARS											CULVERT	STAKING PIPE	
							PIPE 18-INCH	FOR PIPE	24-INCH	36-INCH	42-INCH	60-INCH	84-INCH	24-INCH	36-INCH	42-INCH	60-INCH	84-INCH	END	CULVERTS	REMARKS
INLET STATION	INVERT OFFSET	LOCATION ELEV	TO	DISCHARGE STATION	INVERT OFFSET	LOCATION ELEV	EACH	EACH	LF	LF	LF	LF	LF	EACH	EACH	EACH	EACH	EACH	EACH	EACH	
334+01	28.81'	RT 726.33	-	334+42	35.26'	LT 724.82	--	--	--	76	--	--	--	--	2	--	--	--	2	1	
357+92	27.5'	LT		357+92	7.5'	LT MATCH EXISTING	1	1	20	--	--	--	--	--	--	--	--	--	1	--	
381+46	31.02'	RT 734.50	-	381+46	30.98'	LT 734.35	--	--	62	--	--	--	--	2	--	--	--	--	2	1	
412+10	32.07'	LT 722.38	-	412+27	33.60'	RT 721.71	--	--	--	--	--	--	68	--	--	--	--	2	2	1	
444+18	43.42'	LT 727.20	-	444+18	44.58'	RT 726.76	--	--	--	--	88	--	--	--	--	2	--	--	2	1	
627+68	26.70'	LT 714.82	-	627+84	27.38'	RT 714.55	--	--	--	--	--	120	--	--	--	--	4	--	4	1	EMBED SOUTH PIPE 12"
638+52	32.46'	LT 714.17	-	683+60	18.05'	RT 744.67	--	--	--	52	--	--	--	--	2	--	--	--	2	1	EMBED PIPE 12"
TOTAL 0010							1	1	82	128	88	120	68	2	4	2	4	2	15	6	

NOTES:
STATION, OFFSET, & ELEVATION ARE TO FLOWLINE AT THE END OF EACH PIPE.
*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLANS. SEE SS (PIPES) MISCELLANEOUS QUANTITIES SCHEDULE.
**ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLANS. SEE CULVERT PIPES (ELLIPTICAL) MISCELLANEOUS QUANTITIES SCHEDULE.

CULVERT PIPES (ELLIPTICAL)													
							522.2319	522.2338	522.2619	522.2638	*	*	
									APRON ENDWALLS FOR				
							CULVERT PIPE REINFORCED		CULVERT PIPE REINFORCED				
							CONCRETE HORIZONTAL		CONCRETE HORIZONTAL		MARKERS		CONSTRUCTION
							ELLIPTICAL CLASS HE-III		ELLIPTICAL		CULVERT		STAKING PIPE
INLET STATION	INVERT OFFSET	LOCATION ELEV	TO	DISCHARGE STATION	INVERT OFFSET	LOCATION ELEV	19X30-INCH	38X60-INCH	19X30-INCH	38X60-INCH	END	CULVERTS	
STATION	OFFSET	ELEV		STATION	OFFSET	ELEV	LF	LF	EACH	EACH	EACH	EACH	
363+39	34.91'	LT 721.05	-	363+39	43.04'	RT 718.40	78	--	2	--	2	1	
366+58	33.10'	LT 720.35	-	366+58	24.89'	RT 720.00	--	58	--	2	2	1	
TOTAL 0010							78	58	2	2	4	2	

NOTES:
STATION, OFFSET, & ELEVATION ARE TO FLOWLINE AT THE END OF EACH PIPE.
*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLANS. SEE CULVERT PIPES (ROUND) MISCELLANEOUS QUANTITIES SCHEDULE.

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CULVERT PIPES (DRIVEWAY)

		521.1518		521.3118	
		APRON ENDWALLS			
		FOR CULVERT			
		PIPE SLOPED			
		SIDE DRAINS		CULVERT PIPE	
		STEEL 18-INCH		CORRUGATED	
		6 TO 1		STEEL 18-INCH	
		EACH		LF	
				MINIMUM	
				WALL	
				THICKNESS	
				INCH	
STATION	TO	STATION	LOCATION		
		329+18	USH 45 RT	2	30
					0.064
TOTAL 0010				2	30

CURB & GUTTER

		601.0411		601.0553		601.0555		601.0557		650.5500	
				CONCRETE		CURB & GUTTER				CONSTRUCTION	
		30-INCH		4-INCH SLOPED		6-INCH SLOPED		6-INCH SLOPED		STAKING CURB GUTTER	
		TYPE D		36-INCH TYPE D		36-INCH TYPE A		36-INCH TYPE D		AND CURB & GUTTER	
		LF		LF		LF		LF		EACH	
STATION	TO	STATION	LOCATION								REMARKS
304+50	-	309+50	USH 45 RT	--	--	662	--	--	--	--	RT TURN LANE TO STH 50
413+31	-	422+64	USH 45 LT	--	438	--	--	--	--	438	CTH NN INTERSECTION
438+00	-	447+40	USH 45 RT	--	151	--	--	--	--	151	CTH N INTERSECTION
699+71	-	703+26	USH 45 RT	55	--	--	--	--	--	--	18TH AVE INTERSECTION
711+51	-	717+50	USH 45	272	--	--	--	--	--	136	17TH AVE INTERSECTION
302+75	-	340+00	USH 45	38	--	--	--	--	--	--	USH 45 SB MEDIAN ISLAND
510+90	-	515+50	USH 45 LT	--	--	--	460	--	--	460	
TOTAL 0010				365	589	662	460			1,185	

SIDEWALK

			601.0600	602.0410	602.0505	650.9000	SPV.0060.01							
					CURB RAMP DETECTABLE			*				*		
			CONCRETE CURB PEDESTRIAN	CONCRETE SIDEWALK 5-INCH	WARNING FIELD YELLOW	CONSTRUCTION STAKING RAMPS	CURB RAMP GRADING SHAPING FINISHING	* EXCAVATION COMMON	BASE AGGREGATE DENSE 1 1/4-INCH	* TOPSOIL	* MULCHING	* FERTILIZER TYPE B	* SEEDING MIXTURE NO. 40	
STATION TO	STATION	LOCATION	LF	SF	SF	EACH	EACH	CY	TON	SY	SY	CWT	LB	REMARKS
304+50	- 305+00	USH 45 RT	--	250	--	--	--	--	--	--	--	--	--	REMOVE & REPLACE SIDEWALK 17TH AVE INTERSECTION
711+51	- 717+50	USH 45 RT	24	235	20	2	2	5	7	20	20	0.5	1	
TOTAL 0010			24	485	20	2	2	5	7	20	20	0.5	1	

STORM SEWER (ENDWALLS)					
STUCTURE NUMBER	STATION	OFFSET	522.1015	522.2624	
			APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE 15-INCH EACH	APRON ENDWALLS FOR CULVERT PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL 24X38-INCH EACH	
5	421+10	38.1' LT	1	--	
9	699+38	27.0' LT	--	1	
			1	1	

STORM SEWER (PIPES)										
*										
PIPE NUMBER	INLET ELEV	DISCH ELEV	SLOPE (%)	CONCRETE COLLARS FOR PIPE EACH	STORM SEWER PIPE REINFORCED CONCRETE CLASS III				608.2324 STORM SEWER PIPE REINFORCED CONCRETE HORIZONTAL ELLIPTICAL CLASS HE-III 24X38-INCH LF	REMARKS
					12-INCH LF	15-INCH LF	18-INCH LF	21-INCH LF		
P1A	776.30	776.10	-1.11	--	18	--	--	--	--	
P1	776.00	775.90	-0.99	--	--	10	--	--	--	
P1C	775.87	775.77	-1.03	1	--	--	10	--	--	
P1CC1	776.30	776.10	-1.58	1	--	10	--	--	--	
P1B	776.50	776.70	2.00	--	10	--	--	--	--	
P3A	732.20	731.84	-1.00	--	--	36	--	--	--	
P3	731.84	728.53	-1.33	--	--	250	--	--	--	
P4	728.53	728.22	-0.50	--	--	62	--	--	--	
P6	766.68	766.56	-1.00	--	12	--	--	--	--	
P7	766.71	766.83	1.00	--	12	--	--	--	--	
P8	765.65	765.50	-0.31	--	--	--	--	--	48	
P21A	768.68	768.60	-0.70	1	--	--	--	10	--	REMOVE & REPLACE 1 SECTION ONLY
P21B	768.68	768.76	0.50	1	--	--	10	--	--	REMOVE & REPLACE 1 SECTION ONLY
P21C	770.60	770.90	2.00	1	--	--	10	--	--	REMOVE & REPLACE 1 SECTION ONLY
P21D	772.80	772.10	2.87	--	24	--	--	--	--	REMOVE & REPLACE SS PIPE
TOTAL 0010				5	76	368	30	10	48	

NOTES:
*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLANS. SEE CULVERT PIPES (ROUND) MISCELLANEOUS QUANTITIES SCHEDULE.

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STORM SEWER (STRUCTURES & COVERS

					611.0430	611.0530	611.0624	611.0627	611.0645	611.2004	611.2005	611.3230	611.3901	611.3902	611.8115	650.4000
STUCTURE NUMBER	STATION	OFFSET	RIM ELEV	STR DEPTH	RECONSTRUCTING	MANHOLE	INLET	INLET	INLET	MANHOLES	MANHOLES	INLETS 2X3-FT EACH	INLETS	INLETS	ADJUSTING	CONSTRUCTION
					INLETS EACH	COVERS TYPE J EACH	COVERS TYPE H EACH	COVERS TYPE HM EACH	COVERS TYPE MS-A EACH	4-FT DIAMETER EACH	5-FT DIAMETER EACH		MEDIAN 1 GRATE EACH	MEDIAN 2 GRATE EACH	INLET COVERS EACH	STAKING STORM SEWER EACH
1	309+03	73.7' RT	780.68	4.58'	--	1	--	--	--	--	1	--	--	--	--	1
1A	309+12	58.3' RT	781.02	4.72'	--	--	--	1	--	--	--	1	--	--	--	1
1B	309+14	87.9' RT	780.55	3.85'	--	--	--	1	--	--	--	1	--	--	--	1
1C	309+05	83.5' RT	780.44	4.57'	--	--	--	1	--	--	1	--	--	--	--	1
3A	417+68	30.8' LT	735.82	3.62'	--	--	--	--	1	--	--	--	1	--	--	1
3	418+00	22.0' LT	737.19	5.24'	--	1	--	--	--	1	--	--	--	--	--	1
4	420+50	22.0' LT	733.99	5.46'	--	1	--	--	--	1	--	--	--	--	--	1
6	700+03	50.8' RT	770.98	4.30'	--	--	1	--	--	--	--	1	--	--	--	1
7	700+40	27.3' RT	770.69	3.86'	--	--	1	--	--	--	--	1	--	--	--	1
8	699+38	21.0' RT	768.90	3.25'	--	--	--	--	2	--	--	--	--	1	--	1
9	334+47	43.7' LT	724.66	1.67'	--	--	--	--	2	--	--	--	--	1	--	1
6A	700+03	38.8' RT	--	--	1	--	1	--	--	--	--	--	--	--	--	--
7A	700+38	39.2' RT	--	--	1	--	1	--	--	--	--	--	--	--	--	--
*	711+55	24.0' RT	--	--	1	--	1	--	--	--	--	--	--	--	--	--
9	712+43	23.4' RT	--	--	--	--	--	--	--	--	--	--	--	--	1	--
10	712+57	35.7' RT	--	--	1	--	1	--	--	--	--	--	--	--	--	--
11	712+92	33.4' RT	--	--	--	--	--	--	--	--	--	--	--	--	1	--
21	712+68	14.7' RT	776.85	8.07	--	1	--	--	--	--	1	--	--	--	--	1
TOTAL 0010					4	4	6	3	5	2	3	4	1	2	2	12

NOTES

STATION, OFFSET, & ELEVATION ARE TO CENTER OF STRUCTURE OR TO FLOWLINE OF CURB & GUTTER.

* TO BE DETERMINED BY THE FIELD ENGINEER. SEE EROSION CONTROL PLANS SHEETS.

FLUMES & RIPRAP											
				313.0110	416.1010	465.0315	606.0200	606.0300	628.7555	645.0120	
					CONCRETE	ASPHALTIC	RIPRAP	RIPRAP	CULVERT	GEOTEXTILE	
				PIT RUN	SURFACE	FLUMES	MEDIUM	HEAVY	PIPE	TYPE HR	
STATION	TO	STATION	LOCATION	TON	CY	SY	CY	CY	CHECKS	SY	REMARKS
333+95	-	334+48	USH 45, LT & RT	--	--	--	5	--	7	16	36" CULVERT PIPE
363+39	-	363+39	USH 45, LT & RT	--	--	--	4	--	5	15	19"x30" CULVERT PIPE
366+58	-	366+58	USH 45, LT & RT	--	--	--	9	--	10	26	38"x60" CULVERT PIPE
381+46	-	381+46	USH 45, LT & RT	--	--	--	4	--	3	13	24" CULVERT PIPE
382+01	-	382+01	USH 45, 36' LT	--	--	--	--	--	1	--	DWY PIPE
412+07	-	412+29	USH 45, LT & RT	8	--	--	--	36	16	68	84" CULVERT PIPE
415+64	-	415+64	USH 45, 30' LT	--	--	--	--	--	1	--	DWY PIPE
421+15	-	421+15	USH 45, 40' LT	--	--	--	4	--	--	13	15" SS PIPE
444+18	-	444+18	USH 45, LT & RT	--	--	--	45	--	7	132	42" CULVERT PIPE
627+65	-	628+00	USH 45, LT & RT	17	--	--	--	85	26	295	2-60" CULVERT PIPES
644+09	-	645+01	USH 45, LT & RT	--	--	--	26	--	--	72	PER CONSTRUCTION DETAIL
673+73	-	674+29	USH 45, LT	--	--	--	20	--	--	67	REDITCHING
683+49	-	683+68	USH 45, LT & RT	--	--	--	5	--	7	16	36" CULVERT PIPE
697+33	-	397+33	USH 45, 40' LT	--	--	--	--	--	1	--	DWY PIPE
698+45	-	698+45	USH 45, 40' LT	--	--	--	--	--	1	--	DWY PIPE
699+38	-	699+38	USH 45, 33' LT	--	--	--	5	--	--	16	24"x38" CULVERT PIPE
700+19	-	700+19	USH 45, 35' LT	--	--	--	--	--	1	--	DWY PIPE
		416+26	31' LT	--	2.0	--	4	--	--	15	CTH NN INTERSECTION
		420+58	35' LT	--	2.0	--	4	--	--	15	CTH NN INTERSECTION
		443+47	105' RT	--	2.0	--	4	--	--	15	CTH N INTERSECTION
		510+78	16' LT	--	2.0	--	4	--	--	15	C&G INSTALLATION
		515+64	16' LT	--	2.0	--	4	--	--	15	C&G INSTALLATION
673+75	-	674+25	32'-44' LT	--	--	--	19	--	--	58	EXISTING DITCH
		674+34	20' LT	--	--	15	--	--	--	--	EXISTING BOX CULVERT
		674+53	20' LT	--	--	15	4	--	--	15	EXISTING BOX CULVERT
		699+73	25' RT	--	2.0	--	4	--	--	15	18TH AVE INTERSECTION
TOTAL 0010				25	12.0	30	174	121	86	912	

PIPE UNDERDRAIN												
*												
310.0110 612.0206 612.0208 612.0406 612.0700 612.0806 645.0111 SPV.0060.03												
BASE PIPE UNDERDRAIN PIPE APRON ENDWALLS CONNECT												
AGGREGATE UNPERFORATED UNDERDRAIN DRAIN TILE FOR UNDERDRAIN REINFORCED GEOTEXTILE PIPE												
OPEN-GRADED 6-INCH 8-INCH WRAPPED 6-INCH EXPLORATION CONCRETE 6-INCH SCHEDULE A TO CULVERT												
STATION	TO	STATION	LOCATION	TON	LF	LF	LF	LF	EACH	SY	EACH	REMARKS
304+50	-	309+40	USH 45 RT	43	--	--	530	--	--	236	--	RT TURN LANE TO STH 50
413+33	-	421+22	USH 45 RT	64	11	--	789	--	1	351	--	CTH NN INTERSECTION
415+66	-	417+67	USH 45 LT	16	14	--	201	--	--	90	--	CTH NN INTERSECTION
417+67	-	422+00	USH 45 LT	35	12	--	433	--	1	193	--	CTH NN INTERSECTION
438+42	-	443+00	USH 45 RT	53	--	--	656	--	--	292	2	CTH N INTERSECTION
439+51	-	447+43	USH 45 LT	64	--	--	786	--	--	350	2	CTH N INTERSECTION
333+50	-	334+47	USH 45 LT-RT	--	--	131	--	25	--	--	--	CONNECTS TO INLET AT STA 334+47, 43.7' LT
		699+38	USH 45 RT	--	--	--	--	--	--	--	2	
TOTAL 0010				275	37	131	3,395	25	2	1,512	6	

*ADDITIONAL QUANTITIES SHOWN ELSEWHERE IN PLANS. SEE CULVERT PIPES (BACKFILL) AND AGGREGATE MISCELLANEOUS QUANTITIES SCHEDULE.

BARRIER SYSTEM GRADING SHAPING FINISHING												
				614.0010	614.0950							
				BARRIER	REPLACE	*						
				SYSTEM	GUARDRAIL	EROSION MAT						
				GRADING	POSTS AND	*	*	*	*	*	*	
				SHAPING	BLOCKS	FILL	TOPSOIL	CLASS I	FERTILIZER	SEEDING	SEEDING	
				FINISHING	EACH	CY	SY	TYPE B	TYPE B	NO. 30	TEMPORARY	
STATION	TO	STATION	LOCATION	EACH	EACH	CY	SY	SY	CWT	LB	LB	REMARKS
558+75	-	559+25	USH 45 RT	--	5	--	--	--	--	--	--	
672+00	-	676+80	USH 45 LT	1	--	91	137	137	0.5	7	3	RESTORE ERODED SHOULDER
TOTAL 0010				1	5							

NOTE:
EXISTING GUARDRAIL TO REMAIN.
*FOR INFORMATION PURPOSES ONLY. QUANTITIES ARE APPROXIMATE. SEE PLAN DETAILS FOR LOCATION

LANDSCAPING															
				625.0100	625.0500	628.2004	629.0210	630.0130	630.0140	630.0160	630.0175	630.0200	630.0300	630.0500	
				TOPSOIL	SALVAGED	EROSION MAT	FERTILIZER	SEEDING MIXTURE				SEEDING	SEEDING		
STATION	TO	STATION	LOCATION	SY	TOPSOIL	CLASS I TYPE B	TYPE B	NO. 30	NO. 40	NO. 60	NO. 75	TEMPORARY	BORROW PIT	SEED WATER	REMARKS
					SY	SY	CWT	LB	LB(1)	LB(2)	LB(3)	LB(4)	LB(5)	MGAL (6)	
304+50	-	309+40	USH 45, RT	--	540	540	0.5	10	--	--	--	--	--	--	
333+50	-	334+55	USH 45, LT & RT	--	562	562	0.5	11	--	3	--	--	--	13	4-INCH
362+75	-	363+98	USH 45, LT & RT	--	1,083	1,083	1.0	20	--	5	--	--	--	24	4-INCH
366+25	-	367+00	USH 45, LT & RT	--	157	157	0.5	3	--	1	--	--	--	4	4-INCH
381+00	-	382+00	USH 45, LT & RT	--	391	391	0.5	8	--	2	--	--	--	9	4-INCH
411+75	-	412+75	USH 45, LT	--	374	374	0.5	7	--	2	2	--	--	8	4-INCH
411+75	-	422+30	USH 45, RT	--	2,406	2,406	2.0	44	--	11	11	--	--	54	4-INCH
415+66	-	422+30	USH 45, LT	--	808	808	1.0	15	--	4	--	--	--	18	4-INCH
438+43	-	447+43	USH 45, LT & RT	--	3,191	3,191	2.5	58	--	15	--	--	--	72	4-INCH
510+83	-	515+60	USH 45, LT	--	236	236	0.5	5	--	--	--	--	--	1	1-INCH
549+59	-	550+41	USH 45, LT	232	--	232	0.5	5	--	--	--	--	--	5	4-INCH
627+45	-	628+25	USH 45, LT & RT	--	520	520	0.5	10	--	3	3	--	--	12	4-INCH
644+05	-	645+08	USH 45, LT & RT	--	114	114	0.5	3	--	1	--	--	--	--	
683+42	-	683+75	USH 45, LT & RT	--	49	49	0.5	1	--	1	--	--	--	--	
698+40	-	700+88	USH 45, LT	304	--	304	0.5	--	6	--	--	--	--	--	
700+88	-	718+00	USH 45, RT	52	--	52	0.5	--	1	--	--	--	--	--	
304+50	-	718+00	UNDISTRIBUTED	147	2,609	2,756	2.5	50	3	12	12	100	200	--	
TOTAL 0010				735	13,040	13,775	15.0	250	10	60	28	100	200	220	

- NOTES:
- (1) TO BE USED AT URBAN AREAS
 - (2) TO BE USED IN DITCH AREAS IN ADDITION TO SEEDING MIXURE NO. 30.
 - (3) TO BE USED AT STEEP SLOPE AREAS IN ADDITION TO SEEDING MIXTURE NO. 30.
 - (4) AS DIRECTED BY THE FIELD ENGINEER AND DETAILS IN THE SPECIAL PROVISIONS.
 - (5) TO BE USED AT WASTE SITE.
 - (6) WATER ALL SEEDED AREAS AS DIRECTED BY THE FIELD ENGINEER ONLY.

SILT FENCE							
				628.1504	628.1520	628.7570	
				SILT	SILT FENCE	ROCK BAGS	
				FENCE	MAINTENANCE		
STATION	TO	STATION	LOCATION	LF	LF	EACH	REMARKS
304+50	-	306+63	60'-77' RT	220	220	--	
411+75	-	422+30	37'-56' RT	1,090	1,090	36	SEE NOTE 1
440+00	-	443+57	42'-158' RT	440	440	--	
698+45	-	700+83	54' LT	200	200	--	SKIP DRIVEWAY
			UNDISTRIBUTED	500	500	--	
TOTAL 0010				2,450	2,450	36	

NOTE 1:
ROCK BAGS USE FOR SILT FENCE RELIEF POINT

INLET PROTECTION						
				628.7005	628.7010	628.7015
				INLET PROTECTION		
				TYPE A	TYPE B	TYPE C
STATION	TO	STATION	LOCATION	EACH	EACH	EACH
304+50	-	310+00	STAGE 1	--	--	8
310+00	-	320+00	STAGES 2A, 2B, 2C	--	--	13
320+00	-	549+00	STAGE 2	1	2	2
549+00	-	718+00	STAGE 3	2	2	14
TOTAL 0010				3	4	37

EROSION CONTROL MOBILIZATION						
				628.1905	628.1910	
				MOBILIZATIONS	MOBILIZATIONS	
				EROSION	EMERGENCY	
				CONTROL	EROSION	
				EACH	CONTROL	
STATION	TO	STATION	LOCATION	EACH	EACH	REMARKS
304+50	-	310+00	STAGE 1	1	1	SILT FENCE & INLET PROTECTIONS
310+00	-	549+00	STAGE 2	1	2	SILT FENCE & INLET PROTECTIONS
549+00	-	718+00	STAGE 3	1	2	SILT FENCE & INLET PROTECTIONS
TOTAL 0010				3	5	

TEMPORARY DITCH CHECKS				
				628.7504
STATION	TO	STATION	LOCATION	LF
334+40	-	334+40	50' LT	20
363+57	-	363+57	158' RT	20
415+66	-	415+66	30' LT	20
416+68	-	416+68	62' LT	20
422+32	-	422+32	38' LT	20
439+92	-	439+92	40' RT	20
440+00	-	445+00	30'-50' LT	120
443+78	-	443+78	160' RT	20
444+04	-	444+04	168' RT	30
510+75	-	510+75	25' LT	20
515+65	-	515+65	22' LT	20
TOTAL 0010				330

TRACKING PADS			
			628.7560
STATION	LOCATION	EACH	REMARKS
309+25	USH 45 150' RT	1	STAGE 1B
422+50	USH 45 30' RT	1	STAGE 2
447+50	USH 45 30' LT	1	STAGE 2
TOTAL 0010		3	

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TYPE II PERMANENT SIGNING -

3200-01-72 USH 45

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W x H [IN.] x [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	638.2602 REMOVING SIGNS TYPE II [EA]	638.3000 REMOVING SMALL SIGN SUPPORTS [EA]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
1	R6-2L	--	-- x --	--	--	--	--	1	1	1	--	--
2	D1-3	--	-- x --	--	--	--	--	2	2	1	--	--
3	J3-2(3) M3-4 M1-6 M6-1 M3-2 M1-6 M6-1	-- WEST STH 50 -- EAST STH 50 --	72 x 84 36 x 18 36 x 36 30 x 30 36 x 18 36 x 36 30 x 30	42.000	--	--	1	2	2	--	--	--
4	W12-1D(2S)	--	24 x 24	--	4.000	--	--	--	1	--	--	2 FT MOUNT HEIGHT
5	R1-1F(3)	--	36 x 36	--	--	7.460	1	--	--	--	--	MOUNT ON SIGNAL POLE
6	R1-2(3)	--	48 x 42	7.000	--	--	1	1	1	--	--	--
7	W5-54(2S)	--	18 x 18	--	2.250	--	--	--	--	--	--	INSTALL ON EXISTING POST BELOW R4-7
8	W1-6(2S)	--	48 x 24	--	8.000	--	--	--	1	--	--	--
9	W2-2(2S)	--	30 x 30	--	6.250	--	--	--	1	--	--	SHEET 8 OF 30
10	W1-7(2S)	--	48 x 24	--	8.000	--	--	--	1	--	--	--
11	J13-1	--	-- x --	--	--	--	--	1	1	1	--	--
12	R1-1	--	-- x --	--	--	--	--	1	1	1	--	--
13	R1-1	--	-- x --	--	--	--	--	1	1	1	--	--
14	J13-1	--	-- x --	--	--	--	--	1	1	1	--	--
15	J13-1	--	-- x --	--	--	--	--	1	1	1	--	--
16	W1-7	--	-- x --	--	--	--	--	1	1	1	--	--
17	W2-2	--	-- x --	--	--	--	--	1	1	1	--	--
18	--	CAMPING HAPPY ACRES	-- x --	--	--	--	--	1	1	1	--	MOVE PERMITTED SIGN
19	W2-2(2S)	--	30 x 30	--	6.250	--	--	--	1	--	--	--
20	I55-56	--	-- x --	--	--	--	--	1	1	1	--	--
21	W1-7	--	-- x --	--	--	--	--	1	1	1	--	--
22	J13-1	--	-- x --	--	--	--	--	1	1	1	--	--
23	I55-56	--	-- x --	--	--	--	--	1	1	1	--	--
24	R1-1	--	-- x --	--	--	--	--	1	1	1	--	--
25	R1-1	--	-- x --	--	--	--	--	1	1	1	--	--
26	J13-1	--	-- x --	--	--	--	--	1	1	1	--	--
27	W2-2(2S)	--	30 x 30	--	6.250	--	--	--	1	--	--	--
28	W2-2(2S)	--	30 x 30	--	6.250	--	--	--	1	--	--	--

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TYPE II PERMANENT SIGNING -

3200-01-72 USH 45

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W x H [IN.] x [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	638.2602 REMOVING SIGNS TYPE II [EA]	638.3000 REMOVING SMALL SIGN SUPPORTS [EA]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
29	W1-7(2S)	--	48 x 24	--	8.000	--	--	--	1	--	--	SHEET 16 OF 30
30	W2-2(2S)	--	30 x 30	--	6.250	--	--	--	1	--	--	--
31	R1-1(3)	--	36 x 36	7.460	--	--	--	--	1	--	--	SHEET 18 OF 30
32	R1-1(3)	--	36 x 36	7.460	--	--	--	--	1	--	--	--
33	R1-1(3)	--	36 x 36	7.460	--	--	--	--	1	--	--	--
34	W3-1(2S)	--	36 x 36	--	9.000	--	--	--	1	--	--	--
35	W2-2(2S)	--	30 x 30	--	6.250	--	--	--	1	--	--	--
36	W1-7(2S)	--	48 x 24	--	8.000	--	--	--	1	--	--	--
37	W2-2(2S)	--	30 x 30	--	6.250	--	--	--	1	--	--	--
38	R1-1(3)	--	36 x 36	7.460	--	--	--	--	1	--	--	SHEET 27 OF 30
39	R1-1(3)	--	36 x 36	7.460	--	--	--	--	1	--	--	--
40	--	SNOW EMERGENCY ..LOCAL SIGN	-- x --	--	--	--	--	--	1	1	--	MOVE TO STA 688+00
41	W2-2(2S)	--	30 x 30	--	6.250	--	--	--	1	--	--	--
42	R10-64	--	-- x --	--	--	--	1	1	--	--	--	REMOVE SIGN - NO PERMIT ON FILE
43	R6-2L(2M)	--	30 x 36	7.500	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE-SHEET 2A OF 30
44	R1-1F(3)	--	36 x 36	--	--	7.460	1	--	--	--	--	MOUNT ON SIGNAL POLE-SHEET 2A OF 30
45	W12-1D(2S)	--	24 x 24	--	4.000	--	--	--	1	--	--	2 FT MOUNT HEIGHT - SHEET 2A OF 30
46	R1-1F(3)	--	36 x 36	--	--	7.460	1	--	1	--	--	SHEET 2A OF 30
47	R6-3(2M)	--	30 x 24	5.000	--	--	--	--	--	--	#46	SHEET 2A OF 30
48	R1-1F(3)	--	36 x 36	--	--	7.460	1	--	1	--	--	SHEET 2A OF 30
49	R6-3(2M)	--	30 x 24	5.000	--	--	--	--	--	--	#48	SHEET 2A OF 30
50	J3-1(3)	--	36 x 84	21.000	--	--	1	--	1	--	--	SHEET 2A OF 30
	M3-1	NORTH	36 x 18									
	M1-4	US 45	36 x 36									
	M6-1	--	30 x 30									
51	R6-2L(2M)	--	30 x 36	7.500	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE-SHEET 2A OF 30
52	R4-7(3)	--	36 x 48	12.000	--	--	1	--	--	--	#48	SHEET 2A OF 30
53	W12-1D(2S)	--	24 x 24	--	4.000	--	--	--	1	--	--	2 FT MOUNT HEIGHT - SHEET 2A OF 30
54	R1-1F(3)	--	36 x 36	--	--	7.460	1	--	--	--	--	MOUNT ON SIGNAL POLE-SHEET 2A OF 30
55	R1-1F(3)	--	36 x 36	--	--	7.460	1	--	1	--	--	SHEET 2A OF 30

TYPE II PERMANENT SIGNING -

3200-01-72 USH 45

SIGN NO.	SIGN CODE & SIZE	SIGN MESSAGE	SIGN SIZE W x H [IN.] x [IN.]	637.2210 SIGNS TYPE II REFLC H [SF]	637.2230 SIGNS TYPE II REFLC F [SF]	637.2215 SIGNS TYPE II REFLC H FOLDING [SF]	638.2602 REMOVING SIGNS TYPE II [EA]	638.3000 REMOVING SMALL SIGN SUPPORTS [EA]	634.0618 WOOD POSTS 4"X 6"x18' [EA]	638.2102 MOVE SIGNS TYPE II [EA]	MOUNT ON SAME POST AS SIGN #	REMARKS / NEW SIGN LOCATION
56	R6-3(2M)	--	30 x 24	5.000	--	--	--	--	--	--	#55	SHEET 2A OF 30
57	R1-1F(3)	--	36 x 36	--	--	7.460	1	--	--	--	--	MOUNT ON SIGNAL POLE-SHEET 2A OF 30
58	R6-3(2M)	--	30 x 24	5.000	--	--	--	--	--	--	#57	MOUNT ON SIGNAL POLE-SHEET 2A OF 30
59	R5-1(3)	--	36 x 36	9.000	--	--	--	--	--	--	#55	SHEET 2A OF 30
60	R10-50L(2M)	--	30 x 36	7.500	--	--	--	--	--	--	--	MOUNT ON MAST ARM - SHEET 2A OF 30
61	R6-2L(2M)	--	30 x 36	7.500	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE-SHEET 2A OF 30
62	R1-1F(3)	--	36 x 36	--	--	7.460	1	--	--	--	--	MOUNT ON SIGNAL POLE-SHEET 2A OF 30
63	W12-1D(2S)	--	24 x 24	--	4.000	--	--	--	1	--	--	2 FT MOUNT HEIGHT - SHEET 2A OF 30
64	R1-1F(3)	--	36 x 36	--	--	7.460	1	--	1	--	--	SHEET 2A OF 30
65	R6-3(2M)	--	30 x 24	5.000	--	--	--	--	--	--	#64	SHEET 2A OF 30
66	R1-1F(3)	--	36 x 36	--	--	7.460	--	--	1	--	--	SHEET 2A OF 30
67	R6-3(2M)	--	30 x 24	5.000	--	1.000	--	--	--	--	#66	SHEET 2A OF 30
68	R4-7(3)	--	36 x 48	12.000	--	--	1	--	--	--	--	MOUNT ON SIGNAL POLE-SHEET 2A OF 30
69	R4-7(3)	--	36 x 48	12.000	--	--	--	--	1	--	--	SHEET 2A OF 30
70	R4-7(3)	--	36 x 48	12.000	--	--	1	--	--	--	--	MOUNT ON SIGNAL POLE-SHEET 2A OF 30
71	R5-1(3)	--	36 x 36	9.000	--	--	1	--	1	--	--	SHEET 2A OF 30
72	R6-2L(2M)	--	30 x 36	7.500	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE-SHEET 2A OF 30
73	R10-50L(2M)	--	30 x 36	7.500	--	--	--	--	--	--	--	MOUNT ON MAST ARM - SHEET 2A OF 30
74	R1-1F(3)	--	36 x 36	--	--	7.460	--	--	--	--	#71	SHEET 2A OF 30
75	R6-3(2M)	--	30 x 24	5.000	--	--	--	--	--	--	#71	SHEET 2A OF 30
76	R1-1F(3)	--	36 x 36	--	--	7.460	--	--	--	--	--	MOUNT ON SIGNAL POLE-SHEET 2A OF 30
77	R6-3(2M)	--	30 x 24	5.000	--	--	--	--	--	--	--	MOUNT ON SIGNAL POLE-SHEET 2A OF 30
78	M1-94S	[50] 75TH ST	72 x 18	9.000	--	--	--	--	--	--	--	MOUNT ON MAST ARM - SHEET 2A OF 30
79	M1-94S	[45] BRISTOL RD	90 x 18	11.250	--	--	--	--	--	--	--	MOUNT ON MAST ARM - SHEET 2A OF 30
80	M1-94S	[50] 75TH ST	72 x 18	9.000	--	--	--	--	--	--	--	MOUNT ON MAST ARM - SHEET 2A OF 30
81	M1-94S	[45] BRISTOL RD	90 x 18	11.250	--	--	--	--	--	--	--	MOUNT ON MAST ARM - SHEET 2A OF 30
82	R5-1(3)	--	36 x 36	9.000	--	--	1	1	1	--	--	SHEET 2A OF 30
83	R5-1(3)	--	36 x 36	9.000	--	--	1	1	1	--	--	SHEET 2A OF 30
TOTALS				316.800	109.250	90.520	19	24	54	18		

3

3

TRAFFIC CONTROL																								
	643.0300			643.0420		643.0705		643.0715		643.0800		643.0900		643.0920			643.1000		643.1050		643.1070			
	DRUMS			BARRICADES		WARNING		WARNING		ARROW		SIGNS		COVERING SIGNS TYPE II			SIGNS FIXED		PCMS		CONES 42-INCH			
LOCATION	*DAYS	*EACH	DAY	*EACH	DAY	*EACH	DAY	*EACH	DAY	*EACH	DAY	*EACH	DAY	*NO.	SIGNS	*NO.	CYCLES	EACH	MESSAGE	*EACH	DAY	*EACH	DAY	REMARKS
STAGE 1A:	7	--	--	--	--	--	--	--	--	--	--	10	70	--	--	--	--	--	--	--	--	--	STAGE 1A & 1B OVERVIEW	
DETOUR STH 50 EB RTL	7	--	--	--	--	--	--	--	--	--	--	24	168	--	--	--	--	--	3	42	--	--	DETOUR SHEET 1 OF 3	
USH 45	7	7	49	--	--	--	--	--	--	--	--	6	42	--	--	--	--	--	--	--	7	49	STAGE 1A SHEET 1 OF 4	
USH 45	7	17	119	1	7	2	14	4	28	--	--	6	42	--	--	--	--	--	--	--	--	--	STAGE 1A SHEET 2 OF 4	
STH 50	7	52	364	5	35	10	70	20	140	2	14	16	112	2	1	2	--	--	--	--	68	476	STAGE 1A SHEET 3 OF 4	
STH 50	7	38	266	2	14	4	28	13	91	1	7	10	70	--	--	--	--	--	--	--	51	357	STAGE 1A SHEET 4 OF 4	
STAGE 1B:	10	--	--	--	--	--	--	--	--	--	--	10	100	--	--	--	--	--	--	--	--	--	STAGE 1A & 1B OVERVIEW	
USH 45	10	29	290	5	50	10	100	11	110	--	--	11	110	--	--	--	--	--	--	--	67	670	STAGE 1B SHEET 1 OF 4	
USH 45	10	--	--	--	--	--	--	--	--	--	--	5	50	--	--	--	--	--	--	--	--	--	STAGE 1B SHEET 2 OF 4	
STH 50	10	19	190	1	10	2	20	4	40	1	10	9	90	--	--	--	--	--	--	--	--	--	STAGE 1B SHEET 3 OF 4	
STH 50	10	--	--	--	--	--	--	--	--	--	--	8	80	--	--	--	--	--	--	--	9	90	STAGE 1B SHEET 4 OF 4	
STAGE 2A:																								
USH 45	10	30	300	10	100	20	200	12	120	2	20	18	180	--	--	--	--	--	--	--	41	410	STAGE 2A SHEET 1 OF 4	
USH 45	10	52	520	7	70	14	140	10	100	1	10	9	90	--	--	--	--	--	--	--	--	--	STAGE 2A SHEET 2 OF 4	
STH 50	10	57	570	5	50	10	100	29	290	--	--	18	180	2	1	2	--	--	--	--	31	310	STAGE 2A SHEET 3 OF 4	
STH 50	10	55	550	5	50	10	100	24	240	2	20	18	180	2	1	2	--	--	--	--	20	200	STAGE 2A SHEET 4 OF 4	
STAGE 2B:																								
USH 45	10	13	130	3	30	6	60	8	80	--	--	11	110	--	--	--	--	--	--	--	29	290	STAGE 2B SHEET 1 OF 4	
USH 45	10	51	510	9	90	18	180	10	100	1	10	9	90	--	--	--	--	--	--	--	--	--	STAGE 2B SHEET 2 OF 4	
STH 50	10	5	50	2	20	4	40	--	--	--	--	12	120	2	1	2	--	--	--	--	5	50	STAGE 2B SHEET 3 OF 4	
STH 50	10	34	340	2	20	4	40	18	180	--	--	14	140	2	1	2	--	--	--	--	13	130	STAGE 2B SHEET 4 OF 4	
STAGE 2:	56	--	--	--	--	--	--	--	--	--	--	24	1,344	--	--	--	--	--	--	--	--	--	STAGE 2A & 2B OVERVEIW	
STH 50 WB	19	10	190	1	19	2	38	4	76	--	--	24	456	2	1	2	--	--	--	--	--	--	USH 45 NORTH IS CLOSED	
CTH K	56	20	1,120	14	784	28	1,568	8	448	2	112	8	448	--	--	--	--	--	--	--	--	--	INTERSECTION AT CTH K	
CTH NN	56	16	896	6	336	12	672	8	448	--	--	6	336	--	--	--	--	--	--	--	69	3,864	INTERSECTION AT CTH NN	
CTH N	56	16	896	6	336	12	672	8	448	--	--	6	336	--	--	--	--	--	--	--	69	3,864	INTERSECTION AT CTH N	
CTH JB	56	--	--	4	224	8	448	--	--	--	--	6	336	--	--	--	--	--	--	--	--	--	INTERSECTION AT CTH JB	
21ST ST	56	--	--	4	224	8	448	--	--	--	--	6	336	--	--	--	--	--	--	--	--	--	INTERSECTION AT 21ST ST	
STH 142	56	20	1,120	7	392	14	784	4	224	1	56	15	840	4	1	4	--	--	--	--	--	--	INTERSECTION AT STH 142	
UNDISTRIBUTED	19	30	570	2	38	4	76	13	247	2	38	10	190	--	--	--	--	--	--	--	--	--	SEE NOTES BELOW **	
STAGE 2 DETOUR:																								
DETOUR USH 45	56	--	--	--	--	--	--	--	--	--	--	156	8,736	--	--	--	--	486.75	6	84	--	--	DETOUR SHEET 2 OF 3	
STAGE 3 DETOUR:	47																							
DETOUR USH 45	47	--	--	--	--	--	--	--	--	--	--	139	6,533	--	--	--	--	432.00	6	84	--	--	DETOUR SHEET 3 OF 3	
STH 142	47	20	940	7	329	14	658	5	235	1	47	15	705	4	1	4	--	--	--	--	--	--	INTERSECTION AT STH 142	
9TH ST	47	--	--	4	188	8	376	--	--	--	--	6	282	--	--	--	--	--	--	--	--	--	INTERSECTION AT 9TH ST	
CTH KR	47	20	940	14	658	28	1,316	5	235	2	94	6	282	--	--	--	--	--	--	--	--	--	INTERSECTION AT CTH KR	
18TH ST	47	10	470	4	188	8	376	--	--	--	--	6	282	--	--	--	--	--	--	--	--	--	INTERSECTION AT 18TH ST	
17TH ST	47	10	470	3	141	6	282	--	--	--	--	6	282	--	--	--	--	--	--	--	--	--	INTERSECTION AT 17TH ST	
16TH ST	47	10	470	3	141	6	282	--	--	--	--	6	282	--	--	--	--	--	--	--	--	--	INTERSECTION AT 16TH ST	
USH 45	47	10	470	6	282	12	564	10	470	--	--	5	235	4	1	4	--	--	--	--	--	--	18TH ST - STH 11	
UNDISTRIBUTED	10	20	200	1	10	2	20	--	--	--	--	4	40	--	--	--	--	--	--	--	--	--	FLAGGING OPERATIONS **	
TOTAL 0010		13,000		4,836		9,672		4,350		438		24,305					24	918.75		210		10,760		

*FOR INFORMATION ONLY
**UNDISTRIBUTED QUANTITIES TO BE USED DURING FLAGGING OPERATIONS AND OFF PEAK LANE CLOSURES PER STANDARD DETAIL DRAWINGS.

PAVEMENT MARKING														
646.1020					646.1040		646.1545	646.3020		646.3545				
MARKING LINE EPOXY 4-INCH					MARKING LINE	MARKING LINE	MARKING LINE		MARKING LINE					
GROOVED WET					GROOVED WET	GROOVED WET	GROOVED WET		GROOVED WET					
REF EPOXY					REF EPOXY	REF CONTRAST	REF CONTRAST		REF CONTRAST					
4-INCH					4-INCH	EPOXY 4-INCH	EPOXY 4-INCH		EPOXY 4-INCH					
WHITE					WHITE		3' LINE		SOLID	3' LINE	SOLID			
SINGLE LINE					SINGLE LINE	C/L SKIPS	DOUBLE CL	WHITE BY-PASS	LF	LF	LF			
STATION TO	STATION	LOCATION	LF	LF	LF	LF	LF	LF	LF	LF	LF			
STAGES 1 & 2:														
302+75	-	340+00	USH 45	1,216	3,095	--	3,584	--	5,862	787.5	--	--	54	1,258
340+00	-	403+00	USH 45	193	--	--	12,318	--	12,263	--	135	388	--	--
403+00	-	430+00	USH 45	300	--	--	5,400	63	4,935	--	48	300	--	--
430+00	-	455+00	USH 45	300	--	--	5,000	63	4,870	--	48	300	--	--
455+00	-	490+00	USH 45	--	--	--	7,000	63	6,850	--	75	184	--	--
490+00	-	530+00	USH 45	--	--	--	8,000	--	7,894	--	--	--	--	--
530+00	-	550+00	USH 45	--	--	--	4,862	--	9,429	--	117	201	--	--
STAGE 3:														
550+00	-	580+00	USH 45	--	1,358	613	1,112	--						
580+00	-	640+00	USH 45	--	--	1,500	--	--	11,854	--	--	--	--	--
640+00	-	690+00	USH 45	--	--	1,250	--	--	9,708	--	66	200	--	--
690+00	-	707+00	USH 45	--	--	425	--	--	3,319	--	--	--	--	--
707+00	-	718+00	USH 45	--	167	275	--	--	2,074	--	--	--	--	--
1188+00	-	1200+43	STH 50	1,750	1,940	--	--	--	--	512.5	--	--	144	1,726
63+00	-	66+75	CTH K	473	--	--	710	--	--	--	--	--	--	--
18+00	-	19+50	CTH NN	224	--	--	300	--	--	--	--	--	--	--
70+33	-	72+00	CTH N	253	--	--	334	--	--	--	--	--	--	--
58+58	-	59+66	CTH JB	262	--	--	332	--	--	--	--	--	--	--
50+26	-	51+00	21ST ST	--	--	--	198	--	--	--	--	--	--	--
471+05	-	473+50	STH 142	--	--	--	317	--	--	--	84	114	--	--
78+25	-	79+69	9TH ST	--	--	--	288	--	--	--	--	--	--	--
55+78	-	58+72	CTH KR	269	--	--	582	--	--	--	--	--	--	--
30+24	-	30+24	18TH AVE	--	--	--	--	--	--	--	--	--	--	--
20+36	-	20+36	17TH AVE	--	--	--	--	--	--	--	--	--	--	--
SUBTOTAL			5,240	6,560	4,063	50,337	189							
TOTAL 0010					66,389			79,058	1,300	2,260	3,182			

PAVEMENT MARKING (CONT.)

			646.5020	646.5120	646.5520	646.6120	646.6220	646.7120	646.8120	646.8220
					*	MARKING				MARKING
			MARKING	MARKING	MARKING	STOP LINE	MARKING YIELD	MARKING	MARKING CURB	MARKING
			ARROW EPOXY	WORD EPOXY	OUTFALL	EPOXY 18-	LINE EPOXY	DIAGONAL	EPOXY	ISLAND
					EPOXY	INCH	18-INCH	EPOXY 12-INCH		NOSE
STATION TO	STATION	LOCATION	EACH	EACH	EACH	LF	EACH	LF	LF	EACH
302+75	- 340+00	USH 45	2	1	6	76	53	208	407	7
340+00	- 403+00	USH 45	8	2	26	54	--	--	--	--
403+00	- 430+00	USH 45	2	1	18	28	--	--	--	--
430+00	- 455+00	USH 45	2	1	10	--	--	--	--	--
455+00	- 490+00	USH 45	2	1	18	--	--	--	--	--
490+00	- 530+00	USH 45	--	--	19	--	--	--	--	--
530+00	- 580+00	USH 45	3	--	20	52	--	--	--	--
580+00	- 640+00	USH 45	--	--	26	--	--	--	--	--
640+00	- 690+00	USH 45	--	--	24	--	--	--	--	--
690+00	- 707+00	USH 45	--	--	4	--	--	--	--	--
707+00	- 718+00	USH 45	--	--	--	--	--	--	--	--
1188+00	- 1200+43	STH 50	4	2	--	76	58	68	24	2
63+00	- 66+75	CTH K	--	--	--	55	--	--	--	--
18+00	- 19+50	CTH NN	--	--	--	25	--	--	--	--
70+33	- 72+00	CTH N	--	--	--	25	--	--	--	--
58+58	- 59+66	CTH JB	--	--	--	31	--	--	--	--
50+26	- 51+00	21ST ST	--	--	--	22	--	--	--	--
471+05	- 473+50	STH 142	2	--	--	46	--	--	--	--
78+25	- 79+69	9TH ST	--	--	--	20	--	--	--	--
55+78	- 58+72	CTH KR	--	--	--	67	--	--	--	--
30+24	- 30+24	18TH AVE	--	--	--	19	--	--	--	--
20+36	- 20+36	17TH AVE	--	--	--	16	--	--	--	--
TOTAL 0010			25	8	171	612	111	276	431	9

*MARKING OUTFALL EPOXY LOCATIONS BASED ON ASBUILT. LOCATIONS TO BE VERFIED BY FIELD ENGINEER PRIOR TO MARKING OPERATION.

TEMPORARY MARKING											
STATION	TO	STATION	LOCATION	649.0150	649.0250	649.0550	649.0650	649.0960	649.0970	REMARKS	
				TEMPORARY	TEMPORARY	TEMPORARY	TEMPORARY	TEMPORARY	TEMPORARY		
				MARKING LINE	MARKING LINE	MARKING ARROW	MARKING WORD	MARKING	MARKING		
				REMOVABLE	REMOVABLE	REMOVABLE	REMOVABLE	REMOVABLE	REMOVABLE		
TAPE 4-INCH	TAPE 8-INCH	TAPE	TAPE	MASK OUT TAPE	MASK OUT TAPE						
LF	LF	EACH	EACH	6-INCH	10-INCH						
LF	LF	EACH	EACH	LF	LF						
STAGE 1A:											
307+31	-	309+25	USH 45 SB	204	--	--	--	--	--		
1179+37	-	1196+08	STH 50 EB	2223	473	2	1	156	--	12 CENTER SKIPS	
STAGE 1B:											
298+17	-	309+43	USH 45 NB	1,054	228	2	--	488	--	2 DOUBLE YELLOW & 2 SKIPS	
299+00	-	300+50	USH 45 NB	--	--	--	--	--	98	TO COVER 12" DIAGONAL EPOXY 12-INCH	
1194+11	-	1196+08	STH 50 EB	198	--	--	--	--	--		
STAGE 2A:											
299+22	-	309+34	USH 45 NB	1,295	542	2	--	--	--		
302+00	-	309+25	USH 45 SB	724	--	--	--	--	--		
1181+09	-	1196+30	STH 50 EB	1,425	288	4	2	130	--	10 CENTER SKIPS	
1189+50	-	1206+26	STH 50 WB	1,450	354	4	--	169	--	13 CENTER SKIPS	
STAGE 2B:											
301+78	-	308+36	USH 45 SB	658	--	--	--	--	--		
306+30	-	309+38	USH 45 NB	240	666	4	--	--	--		
1190+38	-	1205+44	STH 50 WB	1,549	580	4	2	130	--	10 CENTER SKIPS	
TOTAL 0010				11,020	3,131	22	5	1,073	98		

TEMPORARY MARKING (CONT.)						
STATION	TO	STATION	LOCATION	646.9000	646.9100	REMARKS
				MARKING	MARKING	
				REMOVAL LINE	REMOVAL LINE	
				4-INCH	8-INCH	
				LF	LF	
STAGE 1A						
1179+37	-	1195+00	STH 50 EB	205	--	YELLOW
1187+99	-	1192+70	STH 50 EB	--	471	CHANNELIZE
STAGE 1B						
301+87	-	303+87	USH 45 NB	200	--	YELLOW
306+12	-	308+45	USH 45 NB	--	233	CHANNELIZE
STAGE 2B						
1190+38	-	11192+76	STH 50 WB	238	--	YELLOW
1193+98	-	1198+74	USH 45 SB	--	476	CHANNELIZE
1198+58	-	1198+74	STH 50 EB	--	16	CHANNELIZE
TOTAL 0010				643	1,196	

LOCATING NO-PASSING ZONES					
STATION	TO	STATION	LOCATION	648.0100	REMARKS
				MILE	
302+75	-	718+00	USH 45	8	PROJECT LIMITS
TOTAL 0010				8	

CONSTRUCTION STAKING								
				650.8000	650.9910	650.9920	SPV.0075.01	
				CONSTRUCTION	CONSTRUCTION			
				STAKING	STAKING			
				RESURFACING	SUPPLEMENTAL	CONSTRUCTION	CONSTRUCTION	
				REFERENCE	CONTROL	STAKING SLOPE	STAKING	
					(3200-01-72)	STAKES	MISCELLANEOUS	
STATION	TO	STATION	LOCATION	LF	LS	LF	HRS	REMARKS
316+75	-	718+00	PROJECT	40,125	1	--	40	
304+50	-	309+50	USH 45 RT	--	--	500	--	RT TURN LANE TO STH 50
333+50	-	334+55	USH 45 RT & LT	--	--	105	--	CULVERT REPLACEMENT
362+76	-	363+76	USH 45 RT & LT	--	--	100	--	CULVERT REPLACEMENT
381+00	-	382+00	USH 45 RT & LT	--	--	100	--	CULVERT REPLACEMENT
411+75	-	422+31	USH 45 RT & LT	--	--	1,056	--	CTH NN INTERSECTION
438+43	-	447+43	USH 45 RT & LT	--	--	900	--	CTH N INTERSECTION
510+90	-	515+50	USH 45 LT	--	--	460		NEW CURB & GUTTER
627+50	-	628+00	USH 45 RT & LT	--	--	50		CULVERT REPLACEMENT
TOTAL 0010				40,125	1	3,271	40	

SAWING						
		690.0150	690.0250			
		SAWING	SAWING			
		ASPHALT	CONCRETE			
STATION	TO	STATION	LOCATION	LF	LF	REMARKS
STAGE 1A:						
1188+27	-	1188+44	STH 50 EB LN 2	--	72	PAVEMENT REPAIR/REPLACEMENT
1189+90	-	1190+11	STH 50 EB LN 2	--	76	PAVEMENT REPAIR/REPLACEMENT
1191+95	-	1192+80	STH 50 EBRTL	--	253	PAVEMENT REPAIR/REPLACEMENT
STAGE 1B:						
302+84	-	302+90	USH 45 NB LN 2	--	44	PAVEMENT REPAIR/REPLACEMENT
303+23	-	303+29	USH 45 NB LN 2	--	42	PAVEMENT REPAIR/REPLACEMENT
303+75	-	303+87	USH 45 NB LN 2	--	48	PAVEMENT REPAIR/REPLACEMENT
304+50	-	309+34	USH 45 NB RTL	--	497	PAVEMENT REPAIR/REPLACEMENT
1193+74	-	1194+72	STH 50 EB RTL	--	110	PAVEMENT REPAIR/REPLACEMENT
305+41	-	305+55	USH 45 NB LN 2	--	38	PAVEMENT REPAIR/REPLACEMENT
306+09	-	306+24	USH 45 NB LN 2	--	39	PAVEMENT REPAIR/REPLACEMENT
306+90	-	307+02	USH 45 NB LN 2	--	36	PAVEMENT REPAIR/REPLACEMENT
307+70	-	307+76	USH 45 NB LN 2	--	30	PAVEMENT REPAIR/REPLACEMENT
STAGE 2A:						
302+84	-	316+76	USH 45 NB LN 1	--	378	PAVEMENT REPAIR/REPLACEMENT
306+43	-	309+29	USH 45 NB LTL	13	411	PAVEMENT REPAIR/REPLACEMENT
304+38	-	316+76	USH 45 SB LN 1	--	642	PAVEMENT REPAIR/REPLACEMENT
310+26	-	312+75	USH 45 SB LTL	130	283	PAVEMENT REPAIR/REPLACEMENT
1188+25	-	1190+11	STH 50 EB LN 1	--		PAVEMENT REPAIR/REPLACEMENT
1192+35	-	1192+96	STH 50 EB LTL	30	167	PAVEMENT REPAIR/REPLACEMENT
1191+58	-	1198+56	STH 50 WB LN 1	--		PAVEMENT REPAIR/REPLACEMENT
1193+80	-	1194+42	STH 50 WB LTL	29	197	PAVEMENT REPAIR/REPLACEMENT
STAGE 2B:						
308+77	-	309+36	USH 45 NB LN 2	--	186	PAVEMENT REPAIR/REPLACEMENT
303+02	-	316+76	USH 45 SB LN 2	--	745	PAVEMENT REPAIR/REPLACEMENT
1191+58	-	1198+56	STH 50 WB LN 2	--	163	PAVEMENT REPAIR/REPLACEMENT
1193+95	-	1194+54	STH 50 WB RTL	--	241	PAVEMENT REPAIR/REPLACEMENT
325+80	-	327+10	USH 45	68	--	ASPHALTIC BASE PATCHING
333+95	-	334+37	USH 45	60	52	CULVERT PIPE REPLACEMENT
337+00	-	338+00	USH 45	130	--	ASPHALTIC BASE PATCHING
357+85	-	357+98	USH 45	43	22	CULVERT PIPE REPLACEMENT
363+33	-	363+45	USH 45	115	48	NEW PIPE
366+50	-	366+66	USH 45	90	48	CULVERT PIPE REPLACEMENT
381+40	-	381+49	USH 45	60	48	CULVERT PIPE REPLACEMENT
384+00	-	386+00	USH 45	60	--	ASPHALTIC BASE PATCHING
392+20	-	393+00	USH 45	60	--	ASPHALTIC BASE PATCHING
402+15	-	403+55	USH 45	181	--	ASPHALTIC BASE PATCHING
412+04	-	412+37	USH 45	60	49	CULVERT PIPE REPLACEMENT
413+30	-	421+22	USH 45 RT	798	--	BY-PASS LANE

SAWING (CONT.)						
		690.0150	690.0250			
		SAWING	SAWING			
		ASPHALT	CONCRETE			
STATION	TO	STATION	LOCATION	LF	LF	REMARKS
415+57	-	416+87	USH 45 LT	133	--	TAPER
417+10	-	422+65	USH 45 LT	558	--	RIGHT TURN LANE
416+20	-	418+00	USH 45	204	--	ASPHALTIC BASE PATCHING
416+87	-	417+10	USH 45 LT	23	--	ASPHALTIC BASE PATCHING
438+00	-	443+65	USH 45 RT	568	--	RIGHT TURN LANE
439+50	-	447+40	USH 45 LT	796	--	BY-PASS LANE
442+85	-	445+15	USH 45 RT	254	--	ASPHALTIC BASE PATCHING
444+11	-	444+25	USH 45	48	48	CULVERT PIPE REPLACEMENT
452+84	-	453+65	USH 45	60	--	ASPHALTIC BASE PATCHING
469+50	-	470+50	USH 45	197	--	ASPHALTIC BASE PATCHING
510+89	-	515+52	USH 45	60	--	ASPHALTIC BASE PATCHING
548+65	-	560+00	USH 45	101	--	ASPHALTIC BASE PATCHING
566+80	-	567+40	USH 45	60	--	ASPHALTIC BASE PATCHING
595+80	-	596+90	USH 45	60	--	ASPHALTIC BASE PATCHING
601+75	-	602+95	USH 45	187	--	ASPHALTIC BASE PATCHING
627+48	-	628+00	USH 45	60	48	CULVERT PIPE REPLACEMENT
658+14	-	658+35	USH 45	60	--	ASPHALTIC BASE PATCHING
659+75	-	659+95	USH 45	60	--	ASPHALTIC BASE PATCHING
680+25	-	682+50	USH 45	452	--	ASPHALTIC BASE PATCHING
683+50	-	683+70	USH 45	60	50	CULVERT PIPE REPLACEMENT
691+05	-	691+16	USH 45	60	--	ASPHALTIC BASE PATCHING
692+85	-	692+95	USH 45	60	--	ASPHALTIC BASE PATCHING
695+80	-	698+00	USH 45	420	--	ASPHALTIC BASE PATCHING
699+08	-	699+69	USH 45	183	48	ASPHALTIC BASE PATCHING
700+05	-	717+49	USH 45 RT	355	70	REMOVING CURB & GUTTER
700+10	-	707+00	USH 45	27	462	CONCRETE BASE PATCHING
707+00	-	718+00	USH 45	37	1452	CONCRETE BASE PATCHING
63+20	-	66+52	CTH K	57	--	BUTT JOINT
78+50	-	79+91	CTH NN	306	--	BUTT JOINT & SHOULDER
70+12	-	71+60	CTH N	318	--	BUTT JOINT & SHOULDER
58+58	-	58+58	CTH JB	22	--	BUTT JOINT
51+00	-	51+00	21ST ST	22	--	BUTT JOINT
471+05	-	473+50	STH 142	180	--	BUTT JOINT/BASE PATCHING
39+00	-	39+00	9TH ST	23	--	BUTT JOINT
55+77	-	58+82	CTH KR	50	--	BUTT JOINT
30+55	-	30+55	18TH AVE	32	--	BUTT JOINT
707+05	-	707+35	USH 45 LT	30	--	BUTT JOINT
21+40	-	21+40	17TH AVE	33	--	BUTT JOINT
329+00	-	715+25	USH 45 LT/RT	1232	--	DRIVEWAYS
TOTAL 0010				9,375	7,143	

CLEANING CULVERT PIPES AND INVERTS

SPV.0060.02					
STATION	TO	STATION	LOCATION	EACH	REMARKS
505+91	-	505+91	USH 45 LT-RT	1	6'X4' BOX CULVERT
699+89	-	700+18	USH 45 LT	1	DRIVEWAY PIPE
TOTAL 0010				2	

MAINTAINING TEMPORARY DRAINAGE

SPV.0105.01 SPV.0105.02 SPV.0105.03					
MAINTAINING TEMPORARY DRAINAGE					REMARKS
		STA 366+58	STA 412+26	STA 627+61	2-YEAR
STATION	LOCATION	LS	LS	LS	STORM
366+58	USH 45	1	--	--	36 CFS
412+26	USH 45	--	1	--	17 CFS
627+61	USH 45	--	--	1	181 CFS
TOTAL 0010		1	1	1	

PAVEMENT CLEANUP PROJECT 3200-01-72

SPV.0105.04					
STATION	TO	STATION	LOCATION	EACH	REMARKS
302+75	-	718+00	USH 45	1	PROJECT LIMITS
TOTAL 0010				1	

DITCHING AND SHAPING

SPV.0170.01					
STATION	TO	STATION	LOCATION	STA	
70+00	-	72+00	CTH NN LT	2	
515+00	-	518+00	USH 45 LT	3	
TOTAL 0010				5	

3

USH 45 & STH 50
KENOSHA COUNTY
CATEGORY 0030
S30-0030

STATE FURNISHED MATERIALS SUMMARY

EACH	DESCRIPTION
1	POLES TYPE 13
1	POLES TYPE 13 OVER HEIGHT
2	MONOTUBE ARMS 55-FT
8	LUMINAIRE ARMS STEEL, 15-FT
1	180 DEGREE MONOTUBE ASSEMBLY
1	180 DEGREE MONOTUBE ASSEMBLY OVERHEIGHT
1	TRAFFIC SIGNAL CONTROLLER, FULLY ACTUATED, 8 PHASE
1	TRAFFIC SIGNAL CABINET
4	EVP DETECTOR HEADS
4	RADAR DETECTOR
1	ETHERNET SWITCH
1	CELLULAR MODEM

STATE FURNISHED
FOR INFORMATION ONLY

SIGNAL BASE NO.	EVP DETECTOR HEADS EACH	RADAR DETECTOR EACH
SB1	1	1
SB3	1	1
SB5	1	1
SB7	1	1
TOTAL	4	4

REMOVING TRAFFIC SIGNALS

204.9105.S.01 REMOVING TRAFFIC SIGNALS L.S.	
LOCATION	
USH 45 & STH 50	1
TOTAL	1

REMOVING CONCRETE BASES

204.0195 REMOVING CONCRETE BASES EACH	
SIGNAL BASE NO.	
CB1	1
SB1	1
SB2	1
SB3	1
SB4	1
SB5	1
SB6	1
SB7	1
SB8	1
SB13	1
SB14	1
SB15	1
SB16	1
SB17	1
SB18	1
TOTAL	15

REMOVING LOOP DETECTOR WIRE AND LEAD-IN CABLE

204.9105.S.02 REMOVING LOOP DETECTOR WIRE & LEAD-IN CABLE L.S.	
LOCATION	
USH 45 & STH 50	1
TOTAL	1

CONDUIT

		652.0225 CONDUIT RIGID NONMETALLIC SCHEDULE 40 2-INCH L.F.	652.0235 CONDUIT RIGID NONMETALLIC SCHEDULE 40 3-INCH L.F.	652.0615 CONDUIT SPECIAL 3-INCH L.F.
FROM	TO			
CB1	PB1		27	
PB1	PB2		60	90
PB2	PB4			56
PB4	PB5			106
PB5	PB6		52	
PB6	PB8		56	100
PB8	PB9		52	
PB9	PB10		90	80
PB10	PB12		58	
PB12	PB13			118
PB13	PB15			56
PB15	PB16			102
PB16	PB17		140	
PB17	PB19		150	
PB19	PB21		50	
PB21	PB22		90	66
PB22	CB1		21	
PB2	PB3		21	
PB3	SB1		22	
PB6	PB7			38
PB7	SB2	8		
PB9	SB3		15	
PB10	PB11		50	
PB11	SB4	7		
PB13	PB14		56	
PB14	SB5		9	
PB17	PB18		37	
PB18	SB6	11		
PB17	PB33	197		
PB33	PB34	153		
PB19	PB20	11		
PB21	SB7		20	
PB22	PB23		48	
PB23	SB8	7		
PB29	EXT1	78		
TOTAL		472	1124	812

3

USH 45 & STH 50
KENOSHA COUNTY
CATEGORY 0030
S30-0030

TRAFFIC DETECTOR LOOPS

LOOP NO.	HOME RUN PB	LOCATION*	SIZE (FT)x(FT)	NO. OF TURNS	SDD INSTALLATION REFERENCE	652.0800	655.0700	655.0800
						CONDUIT LOOP DETECTOR L.F.	LOOP DETECTOR LEAD IN CABLE L.F.	LOOP DETECTOR WIRE L.F.
11	PB3	1192+59.5, 5.4'LT	6'x20'	3	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 1)	82	119	246
12	PB3	1192+87.5, 5.4'LT	6'x20'	3	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 1)	92	119	276
21	PB31 (EX.)	1198+42.6, 42.8'LT	6'x16'	5	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 1)	76	773	380
22	PB31 (EX.)	1198+42.6, 30.8'LT	6'x16'	5	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	98	773	490
23	PB30 (EX.)	1196+62.7, 43.0'LT	6'x12'	5	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	78	594	390
24	PB30 (EX.)	1196+62.7, 31.0'LT	6'x12'	5	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	102	594	510
31	PB20	1193+26.4, 85.4'RT	6'x20'	3	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 1)	76	135	228
32	PB20	1193+31.6, 57.9'RT	6'x20'	3	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 1)	70	135	210
41	PB29	314+12.7, 37.2'LT	6'x14'	5	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	104	654	520
42	PB29	314+12.7, 24.7'LT	6'x14'	5	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 1)	80	654	400
43	PB28	312+59.7, 38.1'LT	6'x10'	5	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	114	507	570
44	PB28	312+59.7, 26.1'LT	6'x10'	5	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	88	507	440
46	PB8	1193+15.5, 85.0'LT	6'x20'	3	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	94	283	282
47	PB8	1193+12.0, 57.2'LT	6'x20'	3	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	96	283	288
48	PB8	1193+28.1, 85.0'LT	6'x20'	3	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 1)	70	283	210
49	PB8	1193+24.5, 57.2'LT	6'x20'	3	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 1)	72	283	216
51	PB14	1194+22.3, 4.8'RT	6'x20'	4	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 1)	78	404	312
52	PB14	1193+94.3, 4.8'RT	6'x20'	4	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 1)	78	404	312
61	PB25 (EX.)	1188+39.6, 43.2'RT	6'x6'	5	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 1)	62	409	310
62	PB25 (EX.)	1188+40.3, 31.3'RT	6'x6'	5	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	86	409	430
63	PB24 (EX.)	1190+11.2, 43.2'RT	6'x6'	4	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	66	235	264
64	PB24 (EX.)	1190+11.2, 31.1'RT	6'x6'	4	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	90	235	360
71	PB9	1193+53.1, 83.0'LT	6'x20'	3	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 1)	72	309	216
72	PB9	1193+49.6, 55.2'LT	6'x20'	3	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 1)	76	309	228
81	PB34	305+53.0, 38.2'RT	6'x10'	4	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 1)	70	549	280
82	PB34	305+53.0, 26.5'RT	6'x10'	4	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	94	549	376
83	PB33	1193+70.9, 55.6'RT	6'x6'	5	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	84	396	420
84	PB34	1193+53.2, 84.0'RT	6'x6'	5	9F15-4B - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)	106	396	530
86	PB18	1193+65.6, 83.1'RT	6'x20'	3	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 1)	78	236	234
87	PB18	1193+70.9, 55.6'RT	6'x20'	3	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 1)	74	236	222
88	PB20	1193+53.2, 84.0'RT	6'x20'	3	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 1)	74	135	222
89	PB20	1193+58.5, 56.5'RT	6'x20'	3	9F15-4A - LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 1)	78	135	234
TOTAL						2658	12042	10606

* LOCATION IS TO FRONT CENTER OF DETECTOR LOOP
* * FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

USH 45 & STH 50
KENOSHA COUNTY
CATEGORY 0030
S30-0030

PULL BOXES			
PULL BOX NO.	LOCATION*	653.0135	653.0140
		PULL BOXES STEEL 24x36-INCH EACH	PULL BOXES STEEL 24x42-INCH EACH
PB1	1192+24.5, 85.2'RT		1
PB2	1192+30.5, 10.4'RT		1
PB3	1192+51.7, 10.3'RT	1	
PB4	1192+32.7, 17.3'LT		1
PB5	1192+37.0, 70.0'LT		1
PB6	1192+61.3, 79.6'LT		1
PB7	1192+93.0, 59.1'LT		1
PB8	1193+39.2, 80.5'LT		1
PB9	1193+65.5, 80.8'LT		1
PB10	1194+50.7, 81.8'LT		1
PB11	1194+04.0, 64.0'LT		1
PB12	1194+76.7, 69.8'LT		1
PB13	1194+74.3, 10.5'LT		1
PB14	1194+18.5, 10.4'LT	1	
PB15	1194+73.1, 17.3'RT		1
PB16	1194+71.0, 68.4'RT		1
PB17	1194+12.3, 99.0'RT		1
PB18	1193+80.8, 78.8'RT		1
PB19	1193+38.0, 90.8'RT		1
PB20	1193+39.6, 80.0'RT	1	
PB21	1193+13.0, 88.0'RT		1
PB22	1192+35.0, 85.4'RT		1
PB23	1192+77.3, 63.3'RT		1
PB28	312+58.9, 5.2'RT	1	
PB29	314+05.9, 3.4'LT	1	
PB33	307+05.5, 69.7'RT	1	
PB34	305+56.8, 60.3'RT	1	
TOTAL		7	20

* FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

REMOVE PULL BOXES	
PULL BOX NO.	653.0905 REMOVING PULL BOXES EACH
PB1	1
PB2	1
PB3	1
PB4	1
PB5	1
PB6	1
PB7	1
PB8	1
PB9	1
PB10	1
PB11	1
PB12	1
PB13	1
PB16	1
PB18	1
PB20	1
PB21	1
PB24	1
PB26	1
PB28	1
PB31	1
PB32	1
PB33	1
PB34	1
PB35	1
PB36	1
PB37	1
PB39	1
PB40	1
PB41	1
PB42	1
PB43	1
PB44	1
PB45	1
TOTAL	34

USH 45 & STH 50
KENOSHA COUNTY
CATEGORY 0030
S30-0030

CONCRETE BASES				
SIGNAL BASE NO.	LOCATION*	654.0101	654.0113	654.0217
		CONCRETE	CONCRETE	CONCRETE CONTROL
		BASES TYPE 1 EACH	BASES TYPE 13 EACH	CABINET BASES TYPE 9 SPECIAL EACH
CB1	1192+30.6, 91.3'RT			1
SB1	1192+73.9, 10.1'RT		1	
SB2	1192+98.8, 64.3'LT	1		
SB3	1193+63.9, 66.4'LT		1	
SB4	1194+06.2, 57.4'LT	1		
SB5	1194+09.5, 10.4'LT		1	
SB6	1193+84.0, 68.2'RT	1		
SB7	1193+16.8, 68.2'RT		1	
SB8	1192+73.2, 57.3'RT	1		
TOTAL		4	4	1

* FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD.

TRAFFIC SIGNAL CABLE AND WIRE				
FROM	TO	655.0260	655.0270	655.0320
		CABLE	CABLE	CABLE TYPE
		TRAFFIC SIGNAL 12-14 AWG L.F.	TRAFFIC SIGNAL 15-14 AWG L.F.	UF 2-10 AWG GROUNDED L.F.
CB1	SB1	186		
CB1	SB2	344		
CB1	SB3		433	
CB1	SB4	592		
CB1	SB5	538		
CB1	SB6	324		
CB1	SB7		148	
CB1	SB8	105		
CB1	SB1			186
SB1	SB9			427
SB1	SB3			389
SB3	SB10			220
CB1	SB7			148
SB7	SB12			206
SB7	SB5			454
SB5	SB11			428
TOTAL		2089	581	2458

TRAFFIC SIGNAL CABLE AND WIRE		
655.0515		
ELECTRICAL WIRE		
TRAFFIC SIGNALS		
10 AWG		
FROM	TO	L.F.
CB1	SB1	186
SB1	SB2	300
SB2	SB3	237
SB3	SB4	213
SB4	SB5	298
SB5	SB6	366
SB6	SB7	240
SB7	SB8	209
SB8	CB1	105
PB1	CB1	32
PB2	SB1	79
PB3	SB1	42
PB4	SB1	123
PB5	SB2	124
PB6	SB2	82
PB7	SB2	28
PB8	SB3	77
PB9	SB3	35
PB10	SB4	93
PB11	SB4	27
PB12	SB4	138
PB13	SB5	101
PB14	SB5	29
PB15	SB5	145
PB16	SB6	170
PB17	SB6	84
PB18	SB6	31
PB19	SB7	81
PB21	SB7	40
PB22	CB1	30
PB23	SB8	27
TOTAL		3772

USH 45 & STH 50
KENOSHA COUNTY
CATEGORY 0030
S30-0030

TRAFFIC SIGNAL CABLE AND WIRE				
		655.0230	655.0240	
		CABLE	CABLE	
		TRAFFIC SIGNAL	TRAFFIC SIGNAL	
		5-14 AWG	7-14 AWG	
FROM	TO	L.F.	L.F.	
SB1	HEAD 7	80		
SB1	HEAD 8	80		
SB1	HEAD 10	31		
SB2	HEAD 15		22	
SB2	HEAD 17	19		
SB3	HEAD 12	57		
SB3	HEAD 13	57		
SB3	HEAD 16		43	
SB3	HEAD 20		22	
SB4	HEAD 4	22		
SB4	HEAD 6	19		
SB5	HEAD 2	82		
SB5	HEAD 3	82		
SB5	HEAD 5	33		
SB6	HEAD 11	19		
SB6	HEAD 21		22	
SB7	HEAD 14		22	
SB7	HEAD 18	55		
SB7	HEAD 19	55		
SB7	HEAD 22		41	
SB8	HEAD 1	19		
SB8	HEAD 9	19		
TOTAL		729	172	

TRAFFIC SIGNAL CABLE AND WIRE		
		655.0610
		ELECTRICAL WIRE
		LIGHTING
		12 AWG
FROM	TO	L.F.
SB1	LUMIN. (2)	288
SB3	LUMIN. (2)	288
SB5	LUMIN. (2)	288
SB7	LUMIN. (2)	288
SB9	LUMIN.	117
SB10	LUMIN.	117
SB11	LUMIN.	117
SB12	LUMIN.	117
TOTAL		1620

TRAFFIC SIGNAL EVP DETECTOR CABLE		
		655.0900
		TRAFFIC SIGNAL
		EVP DETECTOR
		CABLE
FROM	TO	L.F.
CB1	SB1 (HEAD A)	271
CB1	SB5 (HEAD B)	625
CB1	SB7 (HEAD C)	208
CB1	SB3 (HEAD D)	495
TOTAL		1599

3

USH 45 & STH 50
KENOSHA COUNTY
CATEGORY 0030
S30-0030

ELECTRICAL SERVICE METER BREAKER PEDESTAL	
656.0200.01	
ELECTRICAL SERVICE	
METER BREAKER	
PEDESTAL	
LOCATION*	L.S.
USH 45 & STH 50	1
TOTAL	1
* FINAL LOCATION TO BE DETERMINED BY THE ENGINEER IN THE FIELD	

FACES			
SIGNAL HEAD NO.	SIGNAL BASE NO.	658.0173	658.0174
		TRAFFIC SIGNAL FACE 3S 12-INCH EACH	TRAFFIC SIGNAL FACE 4S 12-INCH EACH
1	SB8	1	
2	SB5	1	
3	SB5	1	
4	SB4	1	
5	SB5	1	
6	SB4	1	
7	SB1	1	
8	SB1	1	
9	SB8	1	
10	SB1	1	
11	SB6	1	
12	SB3	1	
13	SB3	1	
14	SB7		1
15	SB2		1
16	SB3		1
17	SB2	1	
18	SB7	1	
19	SB7	1	
20	SB3		1
21	SB6		1
22	SB7		1
TOTAL		16	6

3

POLES														
	657.0100	657.0255	657.0322	SPV.0060.04	SPV.0060.05	657.0420	657.0425	SPV.0060.06	657.0610	SPV.0060.07	658.0500	659.1125	SPV.0060.08	SPV.0060.09
		TRANSFORMER			INSTALL	TRAFFIC SIGNAL	TRAFFIC SIGNAL	INSTALL	LUMINAIRE ARMS	INSTALL	PEDESTRIAN	LUMINAIRES	INSTALL	180 DEGREE
	PEDESTAL	BASES BREAKAWAY	POLES	INSTALL	POLES	STANDARDS	STANDARDS	MONOTUBE	SINGLE MEMBER	LUMINAIRE ARMS	PUSH	UTILITY	180 DEGREE	MONOTUBE
SIGNAL BASE NO.	BASES EACH	11 1/2-INCH BOLT CIRCLE EACH	TYPE 5 ALUMINUM EACH	TYPE 13 EACH	TYPE 13 OVER HEIGHT EACH	13-FT EACH	15-FT EACH	55-FT EACH	4 1/2-INCH CLAMP 6-FT EACH	STEEL 15-FT EACH	BUTTONS EACH	LED C EACH	ASSEMBLY EACH	ASSEMBLY OVER HEIGHT EACH
SB1				1				1		2		2		
SB2	1						1				1			
SB3										2		2		1
SB4	1					1								
SB5					1			1		2		2		
SB6	1						1				1			
SB7										2		2	1	
SB8	1					1								
SB9		1	1						1			1		
SB10		1	1						1			1		
SB11		1	1						1			1		
SB12		1	1						1			1		
TOTAL	4	4	4	1	1	2	2	2	4	8	2	12	1	1

USH 45 & STH 50
KENOSHA COUNTY
CATEGORY 0030
S30-0030

SIGNAL MOUNTING HARDWARE	
	658.5069.01 SIGNAL MOUNTING HARDWARE
LOCATION	L.S.
USH 45 & STH 50	1
TOTAL	1

TRANSPORT AND INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET	
	SPV.0105.05 TRANSPORT AND INSTALL STATE FURNISHED TRAFFIC SIGNAL CABINET
LOCATION	L.S.
USH 45 & STH 50	1
TOTAL	1

EVP DETECTOR HEAD INSTALLATION	
	SPV.0105.07 TRANSPORT AND INSTALL STATE FURNISHED EVP DETECTOR HEADS
LOCATION	L.S.
USH 45 & STH 50	1
TOTAL	1

TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS		
	661.0200.01 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS	661.0300 GENERATORS
LOCATION	L.S.	DAY
USH 45 & STH 50	1	1
TOTAL	1	1

TRANSPORT AND INSTALL STATE FURNISHED RADAR DETECTION SYSTEM	
	SPV.0105.06 TRANSPORT AND INSTALL STATE FURNISHED RADAR DETECTION SYSTEM
LOCATION	L.S.
USH 45 & STH 50	1
TOTAL	1

TRANSPORT TRAFFIC SIGNAL AND INTERSECTION LIGHTING MATERIALS	
	SPV.0105.08 TRANSPORT TRAFFIC SIGNAL AND INTERSECTION LIGHTING MATERIALS
LOCATION	L.S.
USH 45 & STH 50	1
TOTAL	1

R/W PROJECT NUMBER 3200-01-21	SHEET NUMBER	TOTAL SHEETS
FEDERAL PROJECT NUMBER	4.1	
PLAT OF RIGHT OF WAY REQUIRED FOR USH-45 STH 50 TO CTH KR		
USH-45		KENOSHA CO.
CONSTRUCTION NO. 3200-01-72		

CONVENTIONAL ABBREVIATIONS			
ACCESS POINT/ DRIVEWAY CONNECTION	AP	REFERENCE LINE	R/L
ACCESS RIGHTS	AR	RELEASE OF RIGHTS	ROR
ACRES	AC.	REMAINING	REM.
AND OTHERS	ET.AL.	RIGHT-OF-WAY	R/W
CENTERLINE	C/L	SECTION	SEC.
CERTIFIED SURVEY MAP	CSM	SQUARE FEET	S.F.
CORNER	COR.	STATION	STA.
DOCUMENT	DOC.	TEMPORARY LIMITED EASEMENT	TLE
EASEMENT	EASE.	VOLUME	V.
HIGHWAY EASEMENT	H.E.	CURVE DATA	
LAND CONTRACT	LC	LONG CHORD	LCH
MARKER POST	MP	LONG CHORD BEARING	LCB
MONUMENT	MON.	RADIUS	R
PAGE	P.	DEGREE OF CURVE	D
PERMANENT LIMITED EASEMENT	PLE	CENTRAL ANGLE OR DELTA	DELTA
PROPERTY LINE	PL	LENGTH OF CURVE	L
RECORDED AS	(100')	TANGENT	TAN

CONVENTIONAL SYMBOLS		
FOUND IRON PIPE/PIN (1" UNLESS NOTED)		PROPOSED R/W LINE
R/W MONUMENT		EXISTING H.E. LINE
R/W STANDARD		PROPERTY LINE
SIGN		LOT & TIE LINES
SECTION CORNER MONUMENT		SLOPE INTERCEPTS
SECTION CORNER SYMBOL		CORPORATE LIMITS
FEE (HATCH VARIES)		RESTRICTED ACCESS (BY PREVIOUS ACQUISITION/CONTROL)
TEMPORARY LIMITED EASEMENT		RESTRICTED ACCESS (BY ACQUISITION)
PERMANENT LIMITED EASEMENT		NO ACCESS (BY STATUTORY AUTHORITY)
R/W BOUNDARY POINT		SECTION LINE
PARCEL NUMBER		QUARTER LINE
UTILITY PARCEL NUMBER		SIXTEENTH LINE
SIGN NUMBER (OFF PREMISE)		EXISTING CENTERLINE
BUILDING		PROPOSED REFERENCE LINE
CONVENTIONAL UTILITY SYMBOLS		
WATER		NON COMPENSABLE
GAS		COMPENSABLE
TELEPHONE		COMPENSABLE
OVERHEAD		
TRANSMISSION LINES		
ELECTRIC		
CABLE TELEVISION		
FIBER OPTIC		
SANITARY SEWER		
STORM SEWER		
POWER POLE		
TELEPHONE POLE		
TELEPHONE PEDESTAL		
ELECTRIC TOWER		

NOTES:

POSITIONS SHOWN ON THIS PLAT ARE WISCONSIN COUNTY COORDINATES, KENOSHA COUNTY, NAD83 (2007) IN US SURVEY FEET. VALUES SHOWN ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

RIGHT-OF-WAY MONUMENTS ARE TYPE 2 AND WILL BE PLACED PRIOR TO THE COMPLETION OF THE PROJECT.

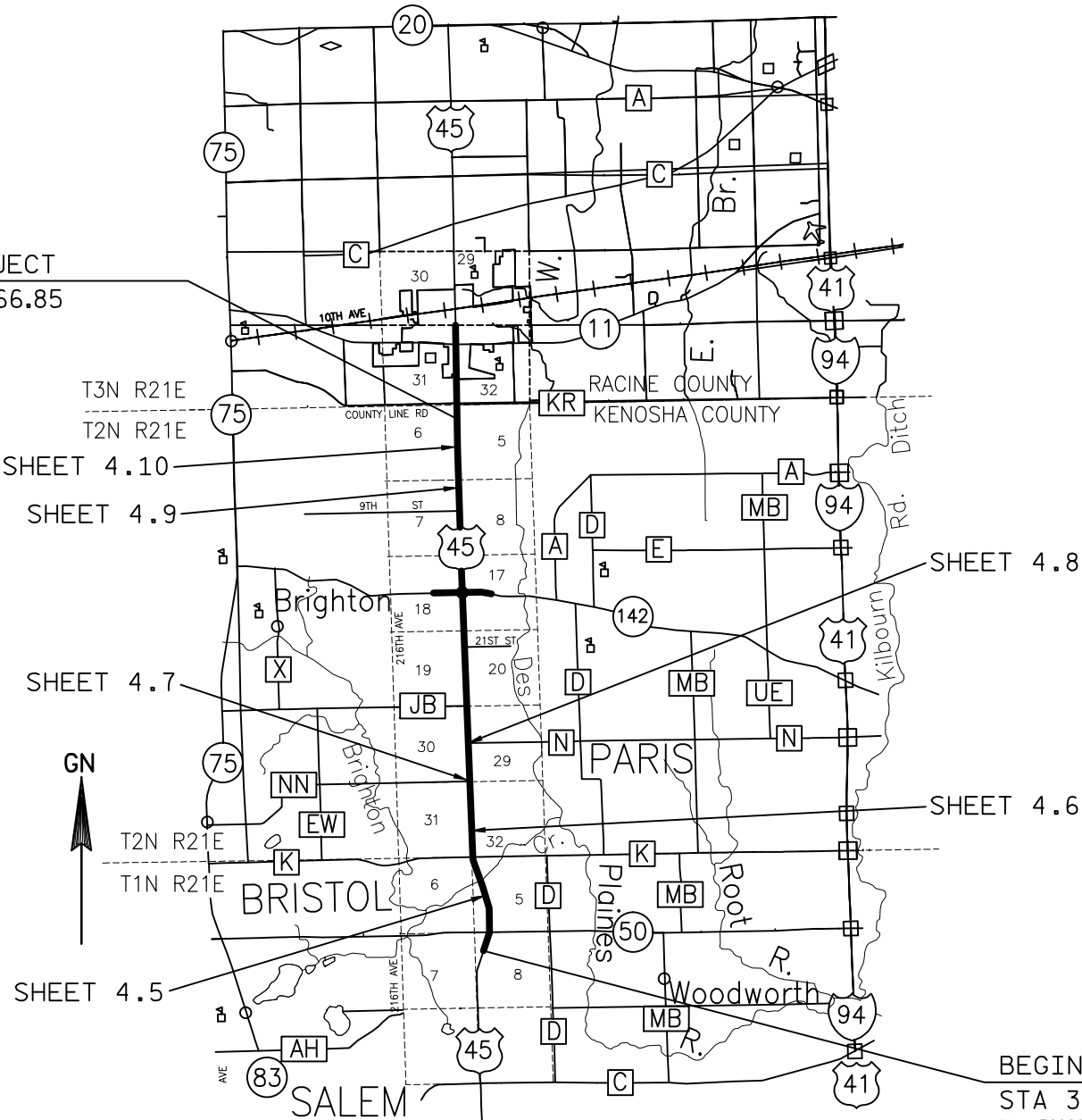
FOR THE LATEST ACCESS/DRIVEWAY INFORMATION CONTACT THE PLANNING DEPARTMENT OF THE WISCONSIN DEPARTMENT OF TRANSPORTATION OFFICE IN WAUKESHA.

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

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

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

END PROJECT
STA 651+66.85
X = 567590.07
Y = 162236.83



BEGIN PROJECT
STA 329+56.60
X = 568885.29
Y = 130173.53

LAYOUT
NO SCALE

TOTAL NET LENGTH OF CENTERLINE = 6.1 MI.

REVISION DATE
12/12/2018

ORIGINAL PLAT PREPARED BY
raSmith
CREATIVITY BEYOND
ENGINEERING
16745 W. Bluemound Road, Brookfield WI 53005
262-781-1000 Fax 262-781-8466
www.raSmith.com

DATE: 04/05/2018 *Nathan A. Vaughn*
LAND SURVEYOR

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

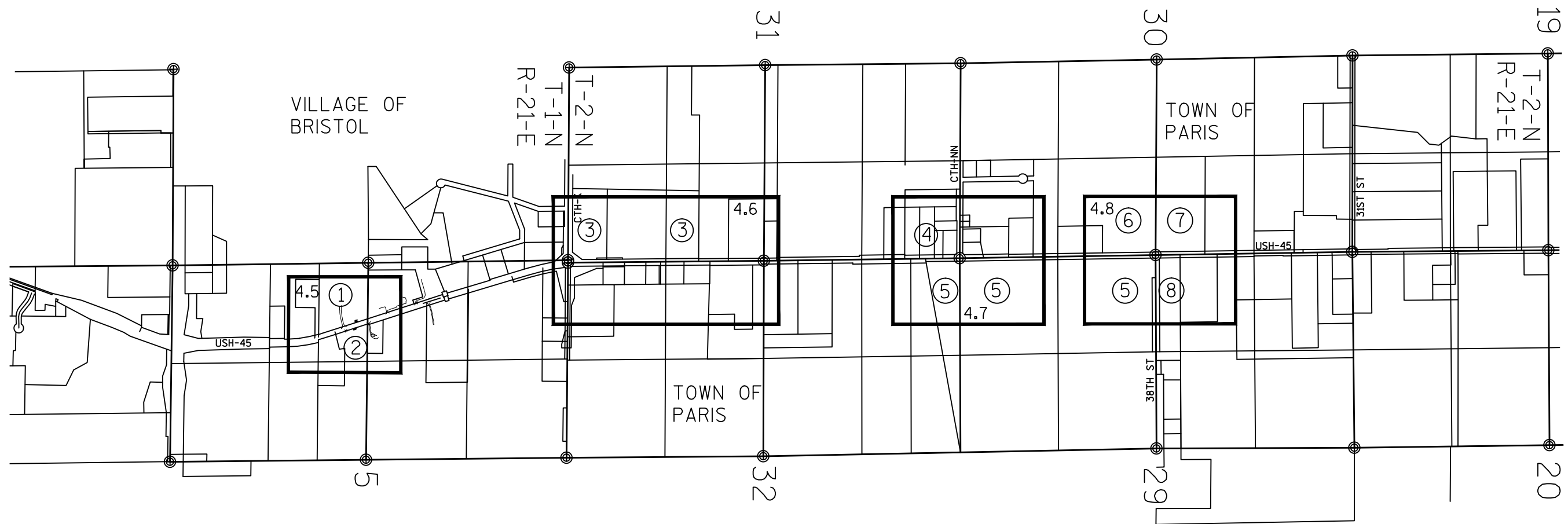
APPROVED FOR DISTRICT OFFICE:
DATE: 03/06/18 *Robert J. Duffek*
(Signature)

E

SCHEDULE OF LANDS & INTERESTS REQUIRED

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

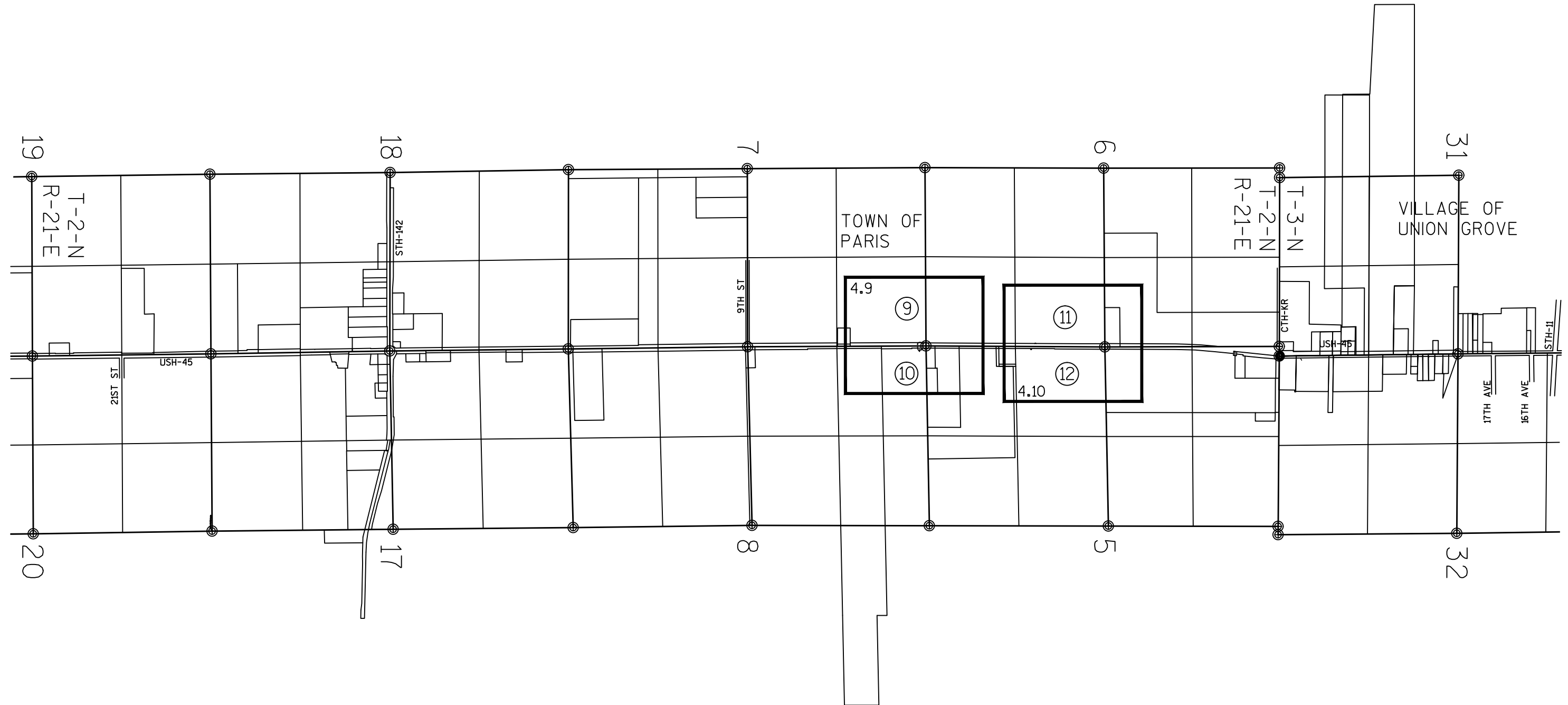
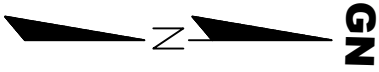
PARCEL NUMBER	SHEET NUMBER	OWNER(S)	INTEREST REQUIRED	TOTAL ACRES	R/W REQUIRED ACRES			TOTAL REMAINING ACRES	T.L.E. TEMP. ACRES	P.L.E. PERM. ACRES	PARCEL NUMBER
					NEW	EXISTING	TOTAL				
1	4.5	BIEHN INVESTMENTS, LLC.	PLE, TLE	-	-	-	-	-	0.07	0.03	1
2	4.5	EDDY SETO	PLE, TLE	-	-	-	-	-	0.06	0.02	2
3	4.6	DEBRA L. DAVIS	PLE, TLE	-	-	-	-	-	0.02	0.03	3
4	4.7	JAY L. NUTTING	TLE	-	-	-	-	-	0.03	-	4
5	4.7 & 4.8	WASTE MANAGEMENT OF WISCONSIN, INC.	FEE, PLE	207.15	0.88	1.44	2.32	204.83	-	0.01	5
6	4.8	KENNETH G. BEVRY	FEE	33.68	0.10	-	0.10	33.58	-	-	6
7	4.8	THEODORE R. PALMEN	FEE	19.97	0.25	0.66	0.91	19.06	-	-	7
8	4.8	WILLIAM J. GOHLKE	FEE	10.79	0.17	0.52	0.69	10.10	-	-	8
9	4.9	WARD R RICHTER	PLE, TLE	-	-	-	-	-	0.02	0.01	9
10	4.9	CEP CORP	PLE, TLE	-	-	-	-	-	0.11	0.03	10
11	4.10	DALE T SPOERLEIN REVOCABLE TRUST	TLE	-	-	-	-	-	0.02	-	11
12	4.10	WHITLEY FARMS INC	PLE	-	-	-	-	-	-	0.02	12
UTILITY NUMBER											
500 (2)	4.5, 4.6, 4.7 & 4.8	FRONTIER COMMUNICATIONS	RELEASE OF RIGHTS								
501 (2)	4.6, 4.7, 4.8, 4.9 & 4.10	WE ENERGIES - ELECTRIC	RELEASE OF RIGHTS								
502	4.8	WE ENERGIES - GAS	RELEASE OF RIGHTS								
503 (2)	4.9 & 4.10	AT&T WISCONSIN	RELEASE OF RIGHTS								



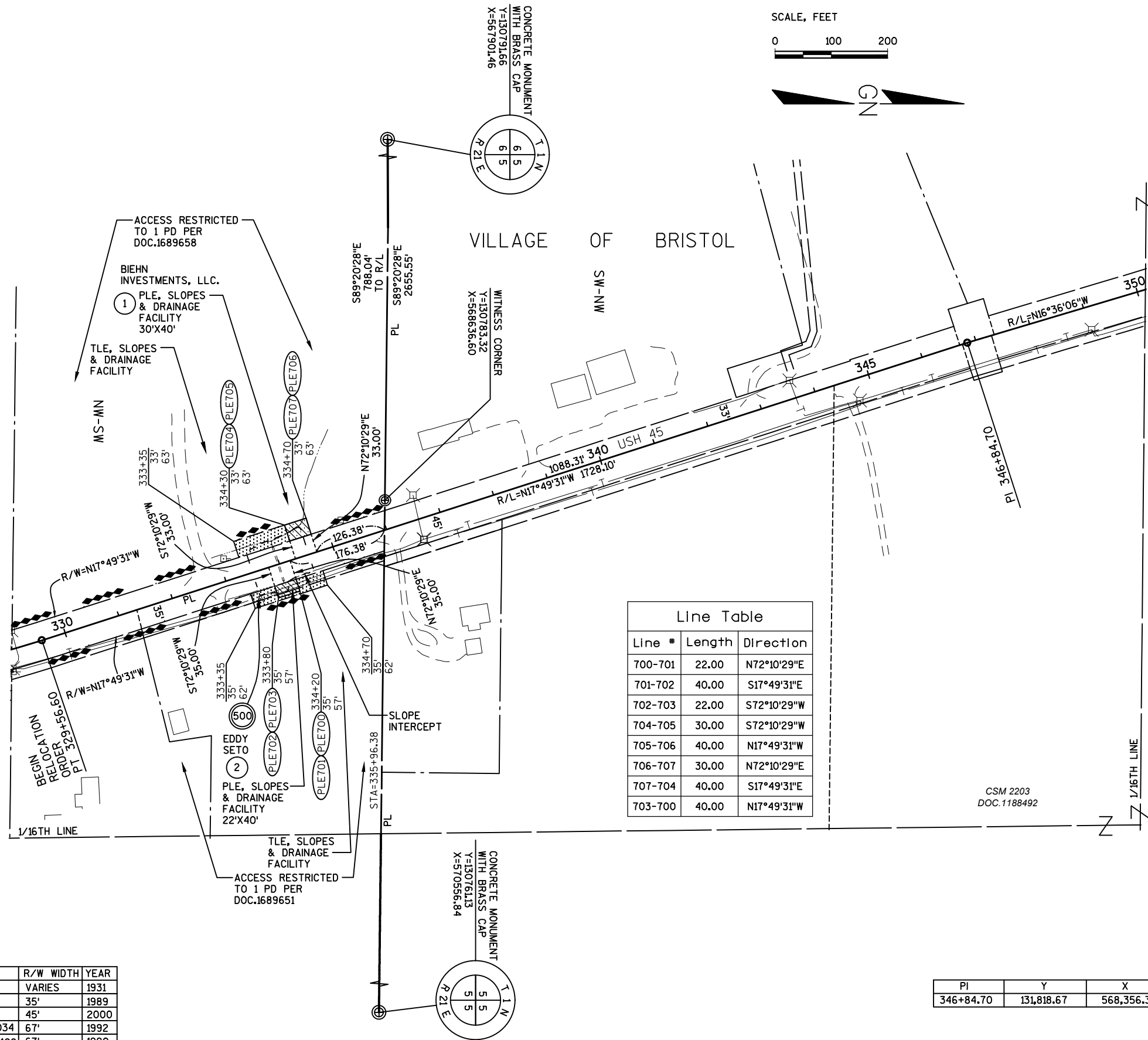
REVISION DATE: 12/12/2018	DATE: 04/05/2018	SCALE, FEET NOT TO SCALE	HWY: USH-45	STATE R/W PROJECT NUMBER: 3200-01-21	PLAT SHEET: 4.3	E
	GRID FACTOR: N/A		COUNTY: KENOSHA	CONSTRUCTION PROJECT NUMBER: 3200-01-72	PS&E SHEET: 253	

FILE NAME:S/5166184/DWG/32000102/PLAT/SPP100.DWG

USH 45 3200-01-21 4.3



REVISION DATE: 12/12/2018	DATE: 04/05/2018	SCALE, FEET NOT TO SCALE	HWY: USH-45	STATE R/W PROJECT NUMBER: 3200-01-21	PLAT SHEET: 4.4	254 E
	GRID FACTOR: N/A		COUNTY: KENOSHA	CONSTRUCTION PROJECT NUMBER: 3200-01-72	PS&E SHEET:	



HWY	BASIS OF EXISTING R/W	R/W WIDTH	YEAR
USH 45	R/W PLAT PROJECT 2989	VARIES	1931
USH 45	PROJECT ID 3200-00-20	35'	1989
USH 45	CSM 2203	45'	2000
USH 45	QUIT CLAIM DEED DOC.831034	67'	1992
USH 45	QUIT CLAIM DEED DOC.838498	67'	1990

Line Table		
Line #	Length	Direction
700-701	22.00	N72°10'29"E
701-702	40.00	S17°49'31"E
702-703	22.00	S72°10'29"W
704-705	30.00	S72°10'29"W
705-706	40.00	N17°49'31"W
706-707	30.00	N72°10'29"E
707-704	40.00	S17°49'31"E
703-700	40.00	N17°49'31"W

PI	Y	X
346+84.70	131,818.67	568,356.30

FRONTIER COMMUNICATIONS
16.5' EASEMENT
DOC.562550
V.901 P.733
PARCEL 2

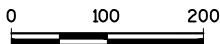
R/L USH 45
CURVE DATA
PI = 327+15.44
Y = 129,940.52
X = 568,960.22
DELTA = 17°00'45"
BACK = S00°48'46"E
AHEAD = N17°49'31"W
D = 03°30'04"
T = 244.77'
L = 485.93'
R = 1,636.55'

REVISION DATE: 12/12/2018

DATE: 04/05/2018

GRID FACTOR: N/A

SCALE, FEET



HWY: USH-45

COUNTY: KENOSHA

STATE R/W PROJECT NUMBER: 3200-01-21

CONSTRUCTION PROJECT NUMBER: 3200-01-72

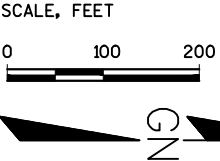
PLAT SHEET: 4.5

PS&E SHEET:

255

E

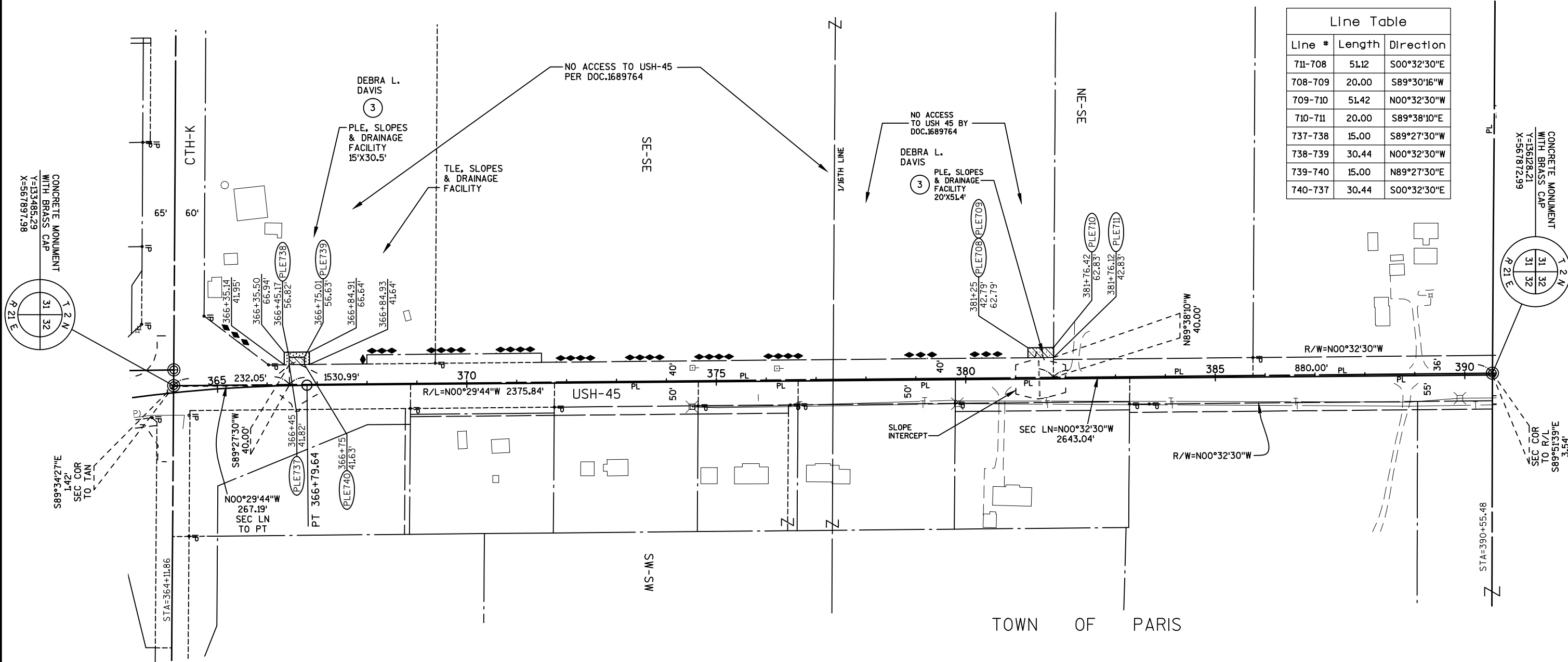
R/L USH 45
CURVE DATA
PI = 362+79.67
Y = 133,347.16
X = 567,900.59
DELTA = 16°06'21"
BACK = S16°36'06"E
AHEAD = N00°29'44"W
D = 02°00'00"
T = 405.32
L = 805.29
R = 2,864.79



500 FRONTIER COMMUNICATIONS
PREVIOUS CONVEYANCE
DOC.1824604
PARCEL 3

501 WE ENERGIES-ELEC
NON DESCRIPT EASEMENT
DOC.228334
V.200 P.44
PARCEL 3

Line Table		
Line #	Length	Direction
711-708	51.12	S00°32'30"E
708-709	20.00	S89°30'16"W
709-710	51.42	N00°32'30"W
710-711	20.00	S89°38'10"E
737-738	15.00	S89°27'30"W
738-739	30.44	N00°32'30"W
739-740	15.00	N89°27'30"E
740-737	30.44	S00°32'30"E

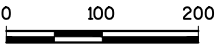


HWY	BASIS OF EXISTING R/W	R/W WIDTH	YEAR
USH 45	PROJECT ID 3200-00-20	VARIES	1989
USH 45	R/W PLAT PROJECT 2989	VARIES	1931
USH 45	PROJECT ID 3732-00-20	VARIES	2015

REVISION DATE: 12/12/2018

DATE: 04/05/2018

GRID FACTOR: N/A



HWY: USH-45

COUNTY: KENOSHA

STATE R/W PROJECT NUMBER: 3200-01-21

CONSTRUCTION PROJECT NUMBER: 3200-01-72

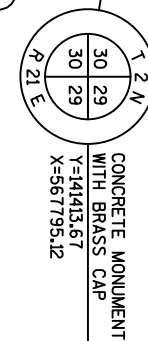
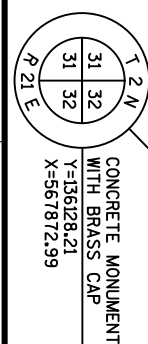
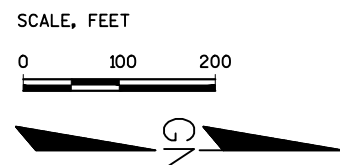
PLAT SHEET: 4.6

PS&E SHEET:

256

E

501 WE ENERGIES-ELEC
NON DESCRIPT
EASEMENT
DOC.227026
V.198 P.133
PARCEL 5

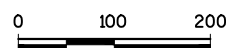


HWY	BASIS OF EXISTING R/W	R/W WIDTH	YEAR
USH 45	PROJECT ID 3200-00-20	VARIES	1989
USH 45	R/W PLAT PROJECT 2989	VARIES	1931
CTH NN	AWARD OF DAMAGES-DOC.447347	40'	1963
CTH NN	CONVEYANCE FOR HWY-DOC.196863	40'	1963

REVISION DATE: 12/12/2018

DATE: 04/05/2018

GRID FACTOR: N/A



HWY: USH-45

COUNTY: KENOSHA

STATE R/W PROJECT NUMBER: 3200-01-21

CONSTRUCTION PROJECT NUMBER: 3200-01-72

PLAT SHEET: 4.7

PS&E SHEET: 357

E

FILE NAME:S/5166184/DWG/32000102/PLAT/SPP200.DWG

US\$ 45	3200-01-21	4.7
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500 FRONTIER COMMUNICATIONS
NO RECORD
OF EASEMENT
PARCELS 5 & 8

501 WE ENERGIES-ELEC
NON DESCRIPT
EASEMENT
DOC.291274
V.295 P.22
PARCEL 6

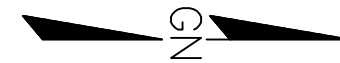
NON DESCRIPT
EASEMENT
DOC.226396
V.197 P.217
PARCEL 7

NON DESCRIPT
EASEMENT
DOC.226397
V.197 P.217
PARCEL 8

502 WE ENERGIES-GAS
NO RECORD
OF EASEMENT
PARCELS 5 & 8

SCALE, FEET

0 100 200



CONCRETE MONUMENT
WITH BRASS CAP
Y=138770.60
X=567836.98

CONCRETE MONUMENT
WITH BRASS CAP
Y=141413.67
X=567795.12

SEC LN=N00°54'26"W
2643.40'

STATION	NORTHING	EASTING
433+41.98	140414.21	567812.40

RESTRICTED ACCESS
TO USH 45 PER
DOC.1689633

RESTRICTED ACCESS
TO USH 45 PER
DOC.1689627 AND

RESTRICTED ACCESS
TO USH 45 PER
DOC.1710776 AND

TOWN OF PARIS

SE-NE

Line Table		
Line #	Length	Direction
722-727	53.21	S20°49'36"E
727-723	51.91	S55°40'28"E
723-724	135.01	N89°43'57"E
724-725	30.00	S00°09'12"E
725-726	77.86	S50°15'22"W
726-741	105.68	N80°39'52"E

SEC LN=N00°53'20"W
2653.33'

CONCRETE MONUMENT
WITH BRASS CAP
Y=144066.68
X=567753.95

HWY	BASIS OF EXISTING R/W	R/W WIDTH	YEAR
USH 45	PROJECT ID 3200-00-20	VARIES	1989
USH 45	R/W PLAT PROJECT 2989	VARIES	1931
38TH ST	R/W PLAT PROJECT 2989	49.5'	1931

REVISION DATE: 12/12/2018

DATE: 04/05/2018

GRID FACTOR: N/A

0 100 200

HWY: USH-45

COUNTY: KENOSHA

STATE R/W PROJECT NUMBER: 3200-01-21

CONSTRUCTION PROJECT NUMBER: 3200-01-72

PLAT SHEET: 4.8

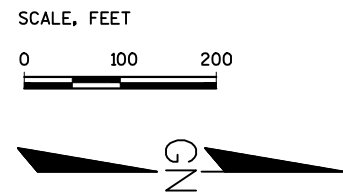
PS&E SHEET: 258

FILE NAME: S/5166184/DWG/32000102/PLAT/SPP200.DWG
APPRAISAL PLAT DATE:

USH 45 3200-01-21 4.8

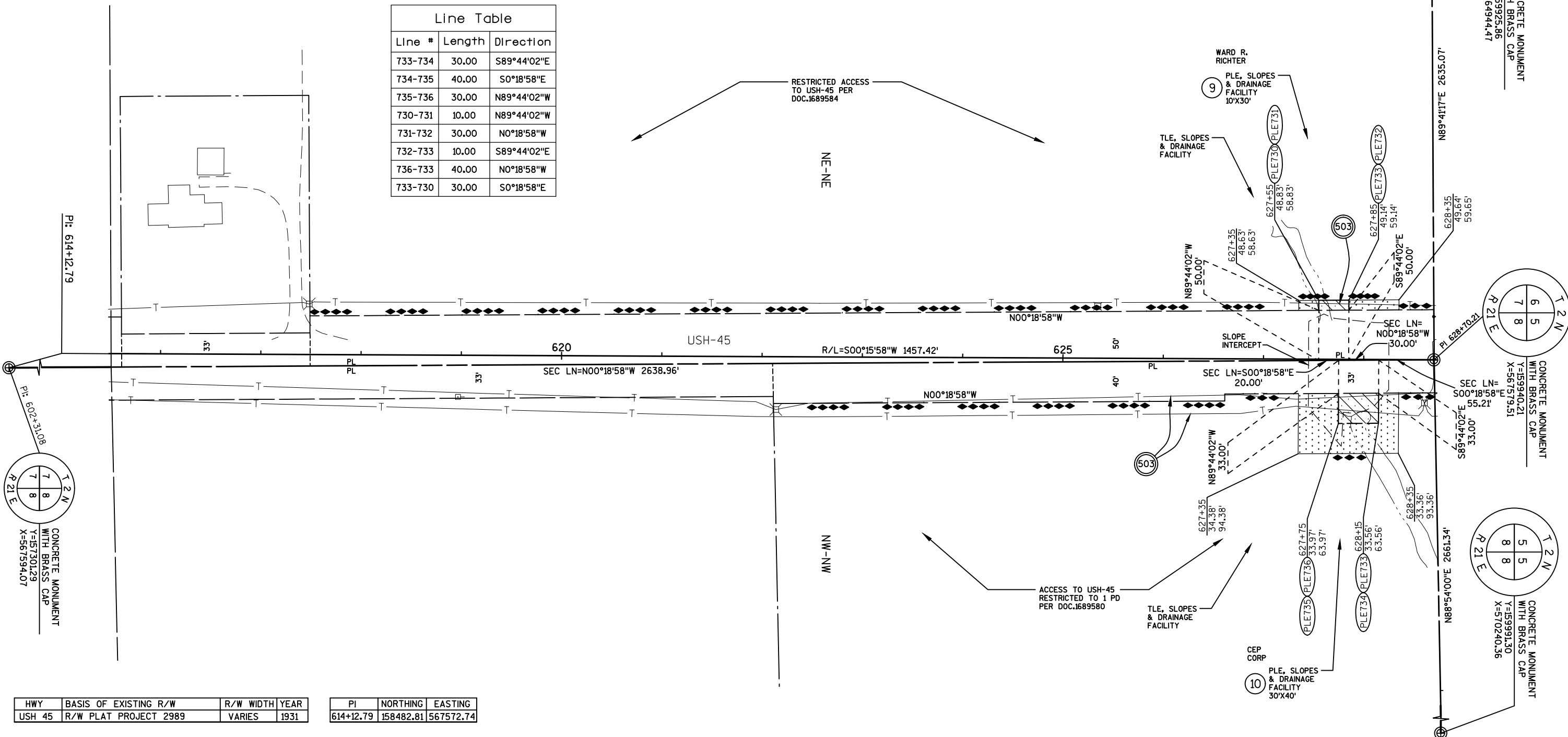
501 WE ENERGIES-ELEC
NON-DESCRIPT EASEMENT
DOC.227021 V.198 P.130
PARCEL 10
NON-DESCRIPT EASEMENT
DOC.228344 V.200 P.49
DOC.232240 V.205 P.379
PARCEL 9

503 AT&T WISCONSIN
NO RECORD OF
EASEMENT
PARCELS 9 & 10



TOWN OF PARIS

Line Table		
Line #	Length	Direction
733-734	30.00	S89°44'02"E
734-735	40.00	S0°18'58"E
735-736	30.00	N89°44'02"W
730-731	10.00	N89°44'02"W
731-732	30.00	N0°18'58"W
732-733	10.00	S89°44'02"E
736-733	40.00	N0°18'58"W
733-730	30.00	S0°18'58"E



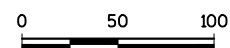
HWY	BASIS OF EXISTING R/W	R/W WIDTH	YEAR
USH 45	R/W PLAT PROJECT 2989	VARIES	1931

PI	NORTHING	EASTING
614+12.79	158482.81	567572.74

REVISION DATE: 12/12/2018

DATE: 04/05/2018

GRID FACTOR: N/A



HWY: USH-45

COUNTY: KENOSHA

STATE R/W PROJECT NUMBER: 3200-01-21

CONSTRUCTION PROJECT NUMBER: 3200-01-72

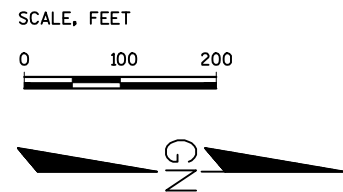
PLAT SHEET: 4.9

PS&E SHEET: 259

E

501 WE ENERGIES-ELEC
NON-DESCRIPT EASEMENT
DOC.356561 V.390 P.346
PARCEL 12
NON-DESCRIPT EASEMENT
DOC.232248 V.205 P.384
PARCEL 11

503 AT&T WISCONSIN
NO RECORD
OF EASEMENT
PARCEL 12



Line Table		
Line #	Length	Direction
742-743	25.00	S89°44'11"E
743-744	40.00	S00°15'49"W
744-745	25.00	N89°44'11"W
745-742	40.00	N00°15'49"E

DALE T. SPOERLEIN
REVOCABLE TRUST
11
TLE, SLOPES
& DRAINAGE
FACILITY

ACCESS IS RESTRICTED
TO USH 45 PER
DOC.1689579

END RELOCATION
ORDER:
PI 651+66.85

40' EASEMENT
DOC.357166
V.391 P.330

1/16TH LINE

1/16TH LINE

TOWN OF PARIS

NE-SE

NW-SW

SEC LN=N00°19'26"E
2648.02'

R/L=S00°15'49"W
S00°19'26"W 1073.23'

R/L=S00°15'40"W 351.35'

N89°44'11"W
31.39'

S89°44'11"E
31.35'

WHITLEY
FARMS INC.
12
PLE, SLOPES
& DRAINAGE
FACILITY
25'X40'

L
7
M
89°55'48"E
2.80'
SEC COR
TO R/L

ACCESS IS RESTRICTED
TO USH 45 PER
DOC.1689570

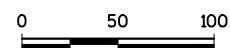
HWY	BASIS OF EXISTING R/W	R/W WIDTH	YEAR
USH 45	R/W PLAT PROJECT 2989	VARIES	1931

PI	NORTHING	EASTING
651+66.85	162236.83	567590.07

REVISION DATE: 12/12/2018

DATE: 04/05/2018

GRID FACTOR: N/A



HWY: USH-45

COUNTY: KENOSHA

STATE R/W PROJECT NUMBER: 3200-01-21

CONSTRUCTION PROJECT NUMBER: 3200-01-72

PLAT SHEET: 4.10

PS&E SHEET: 260

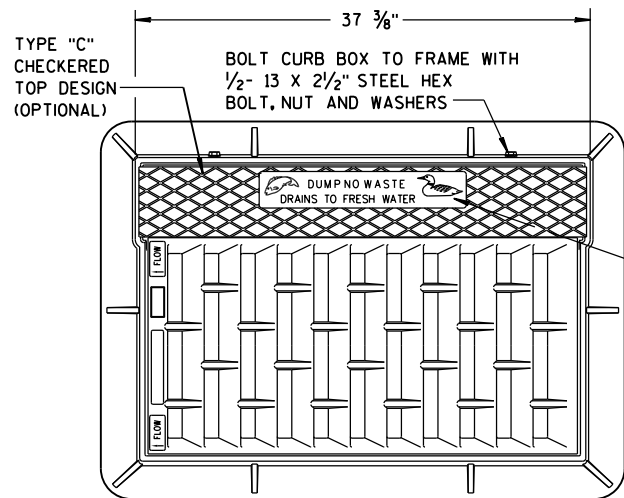
E

Standard Detail Drawing List

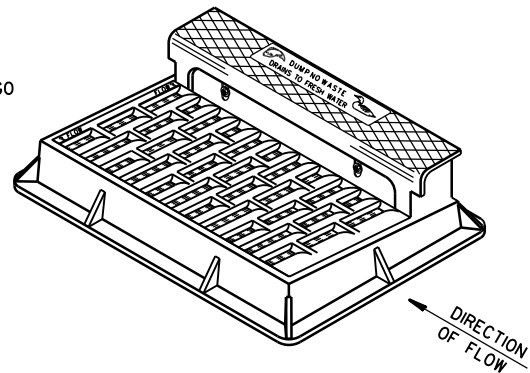
08A05-19A	INLET COVERS TYPE A, H, A-S, H-S & Z
08A05-19B	INLET COVERS TYPE B, B-A, C, MS, MS-A, & WM
08A05-19C	INLET COVERS TYPE F, HM, HM-S, S, T, V, HM-GJ, & HM-GJ-S
08A05-19D	INLET COVER TYPE BW, MANHOLE COVERS, TYPE K, J, J-S, L & M
08B09-02	MANHOLES 3-FT, 4-FT, 5-FT, 6-FT, 7-FT AND 8-FT DIAMETER
08C07-02	INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT
08C08-02	INLETS MEDIAN 1 AND 2 GRATE
08D01-20A	CONCRETE CURB & GUTTER
08D01-20B	CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D05-20A	CURB RAMPS TYPES 1 AND 1-A
08D05-20B	CURB RAMPS TYPES 2 AND 3
08D05-20C	CURB RAMPS TYPES 4A AND 4A1
08D05-20D	CURB RAMPS TYPE 4B AND 4B1
08D05-20E	CURB RAMPS TYPES 5, 6, 7A, 7B & 8
08D05-20F	CURB RAMPS RADIAL DETECTABLE WARNING FIELD APPLICATIONS
08D05-20G	CURB RAMPS RECTANGULAR AND RADIAL DETECTABLE WARNING PLATES
08D15-05A	EDGEDRAIN OUTLET AND OUTFALL MARKERS
08D15-05B	EDGEDRAIN AND BASE AGGREGATE OPEN GRADED
08D15-05C	EDGEDRAIN AND BASE AGGREGATE OPEN GRADED
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08E14-01	TRACKING PAD
08E15-01	CULVERT PIPE CHECK
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
08F06-04	REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN
08F07-05	STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE DRAINS
09A01-13A	AT-GRADE SIDE ROAD INTERSECTION, TYPES "B1", "B2", "C" AND D AND TEE INTERSECTION BYPASS LANE
09B02-10	CONDUIT
09B04-11	PULL BOX
09C02-09	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09C06-07	CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL
09C12-09A	CONCRETE BASE TYPE 13
09C12-09B	CONCRETE BASE TYPE 13
09D01-05	CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)
09D02-03	SIGNAL CONTROL CABINET
09E01-15D	POLE MOUNTINGS FOR LIGHTING UNITS, TYPE 5 (30 FEET)
09E01-15G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E03-06	NON-FREEWAY LIGHTING UNIT POLE WIRING
09E06-05	TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.
09E07-06	TRAFFIC SIGNAL STANDARD PEDESTRIAN AND FLASHER TYPICAL MOUNTING DETAILS
09E08-08D	TYPE 13 POLE 35'-55' MONOTBE ARM
09E12-01D	OVER HEIGHT TYPE 13 POLE 35'-55' MONOTBE ARM
09E12-01E	GENERAL NOTES AND HARDWARE DETAILS FOR OVER HEIGHT TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS
09F15-04A	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 1)
09F15-04B	LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPLICE) BOX OFF ROADWAY (OPTION 2)
09G01-04A	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04B	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04C	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04D	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04E	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04F	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
09G01-04G	SPAN WIRE TEMPORARY TRAFFIC SIGNAL
11B02-02	CONCRETE MEDIAN NOSE
13A10-02A	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-02B	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-02C	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A10-02D	2-LANE RURAL SHOULDER RUMBLE STRIP, MILLING
13A11-03A	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13A11-03B	2-LANE RURAL CENTER LINE RUMBLE STRIP, MILLING
13C01-19	CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES
13C14-07A	BASE PATCHING CONCRETE
13C14-07B	BASE PATCHING CONCRETE

Standard Detail Drawing List

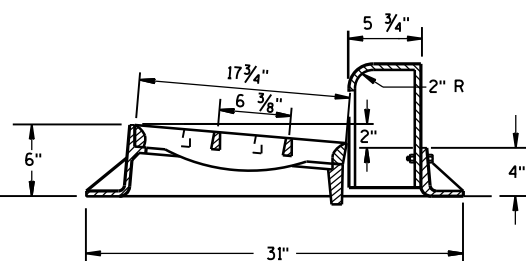
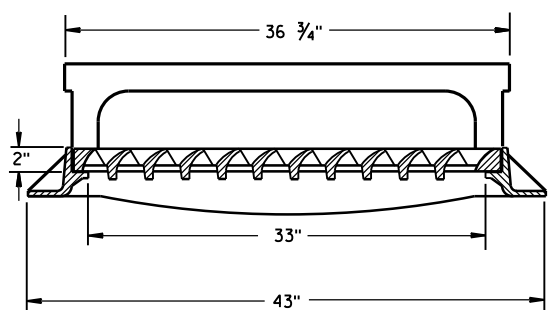
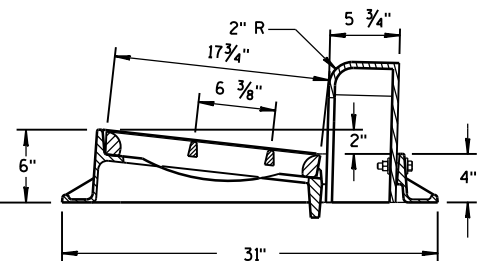
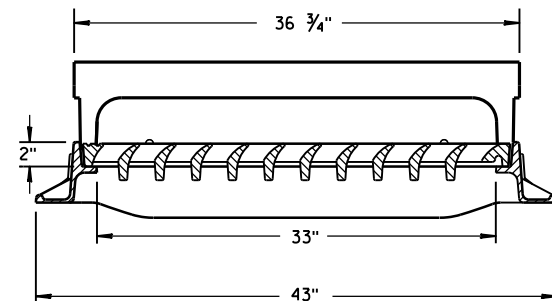
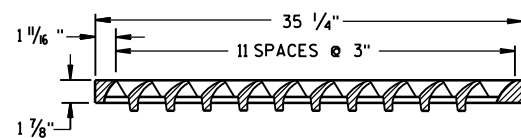
13C14-07C	BASE PATCHING CONCRETE
13C18-07A	CONCRETE PAVEMENT JOINTING
14B15-11A	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11B	STEEL PLATE BEAM GUARD, CLASS "A" INSTALLATION & ELEMENTS
14B15-11C	STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS
15A03-02A	FLEXIBLE MARKER POST FOR CULVERT END
15A03-02B	FLEXIBLE MARKER POST FOR CULVERT END
15C02-07A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-07B	BARRICADES AND SIGNS FOR VARIOUS CLOSURES
15C02-07C	DETOUR SIGNING 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
15C07-15B	PAVEMENT MARKING WORDS
15C07-15C	PAVEMENT MARKING ARROWS
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
15C12-07	TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION
15C20-02	YIELD MARKING
15C27-03A	DOUBLE ARROW WARNING SIGN PLACEMENT
15C33-04	STOP LINE AND CROSSWALK PAVEMENT MARKING
15C35-03A	PAVEMENT MARKING (INTERSECTIONS)
15D12-07A	TRAFFIC CONTROL, LANE CLOSURE
15D20-04	TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY
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
15D39-02	TRAFFIC CONTROL, DROP-OFF SIGNING



NOTE:
GRATE IS REVERSIBLE.

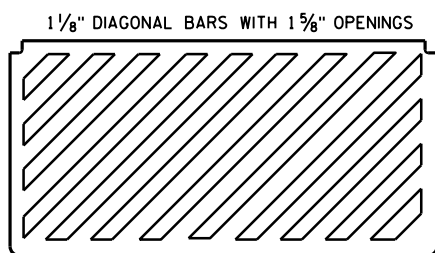


NOTE: CURB BOX HEIGHT ADJUSTABLE 6" TO 9"



TYPE "H"

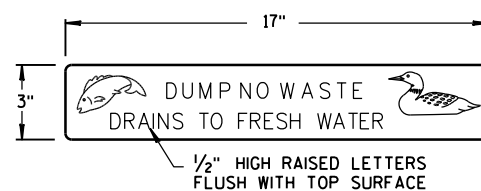
NOTE: EITHER CASTING IS ACCEPTABLE



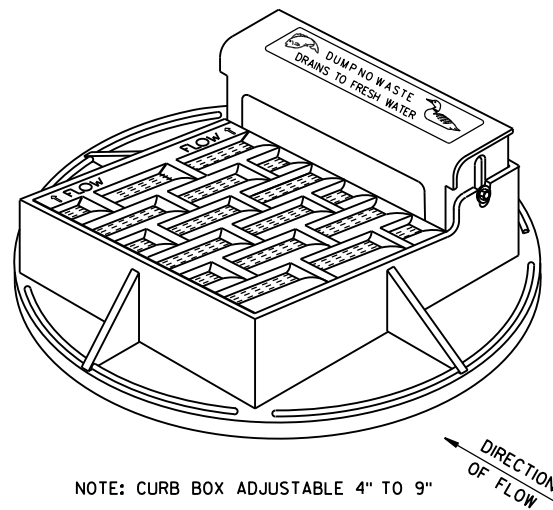
SPECIAL GRATE FOR
TYPE "H" COVER

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

(NOTED AS TYPE H-S ON DRAINAGE TABLE)

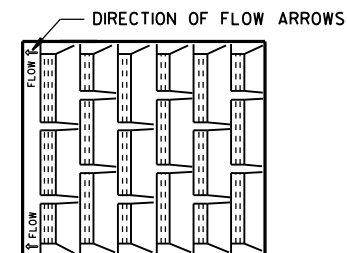


LOGO DETAIL

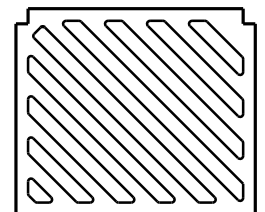


NOTE: CURB BOX ADJUSTABLE 4" TO 9"

NOTE:
GRATE IS REVERSIBLE.



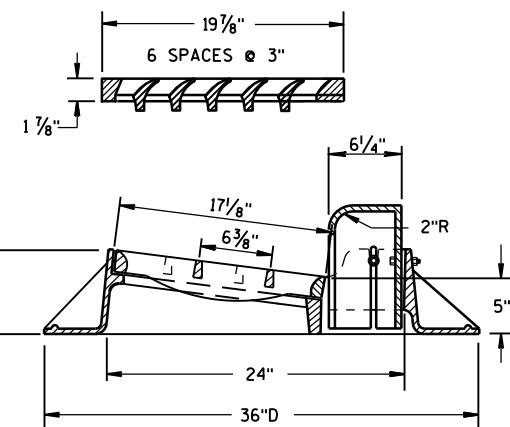
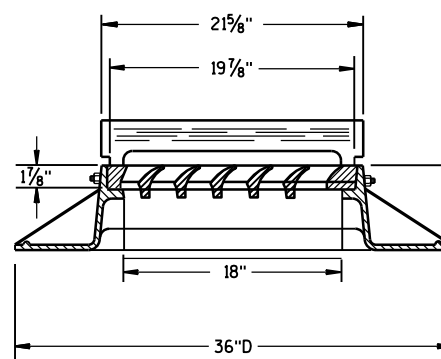
1" DIAGONAL BARS
WITH 1 1/2" OPENINGS



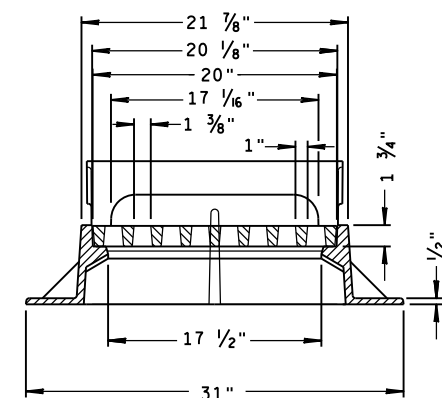
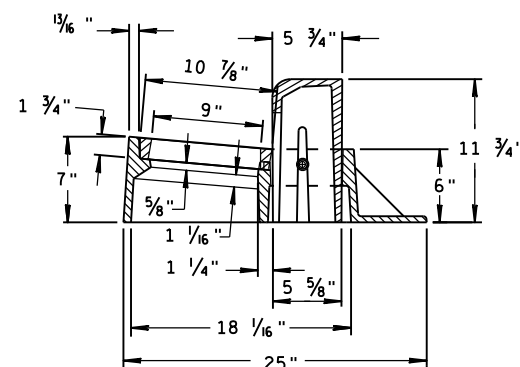
SPECIAL GRATE FOR
TYPE "A" COVER

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

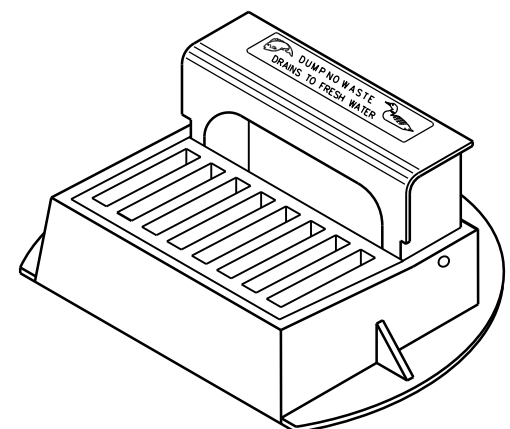
(NOTED AS TYPE A-S ON DRAINAGE TABLE)



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

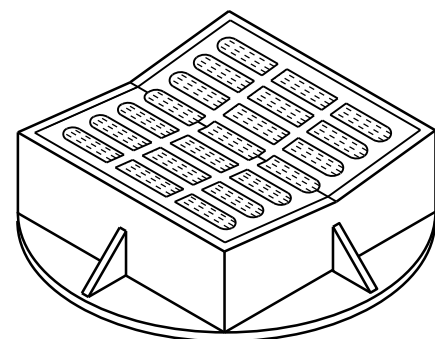
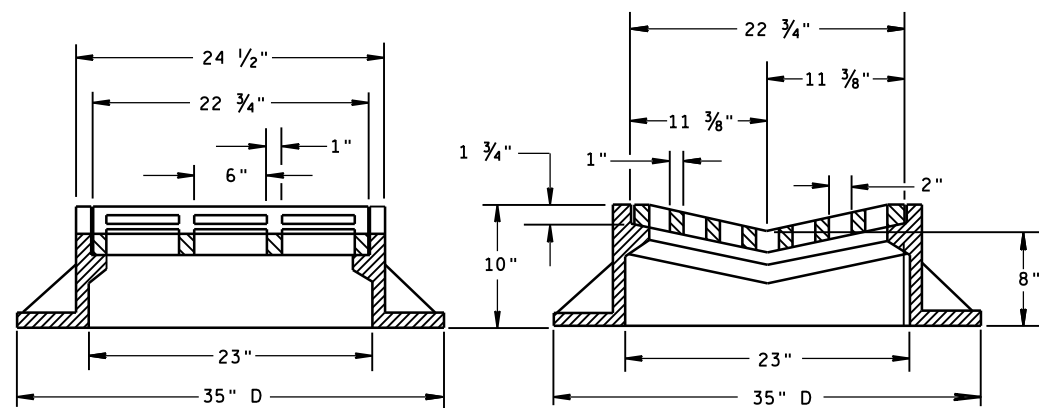
FHWA

/S/ Jerry H. Zogg

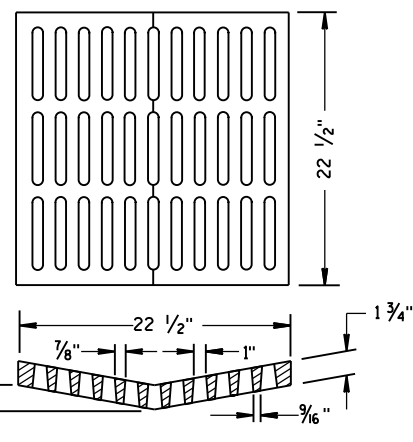
ROADWAY STANDARDS 263

ENGINEER

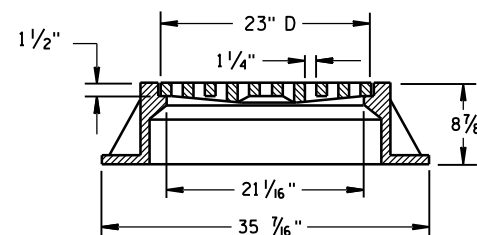
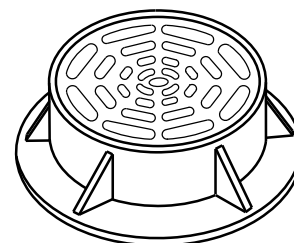
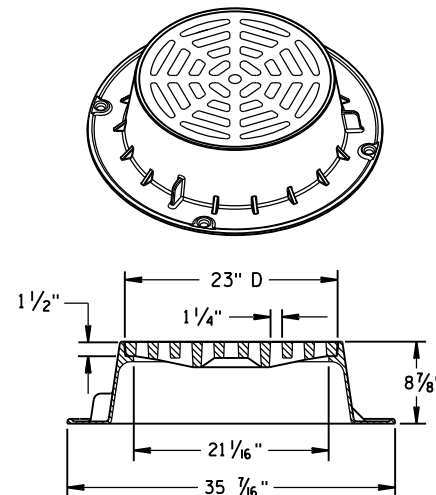
ENT



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"

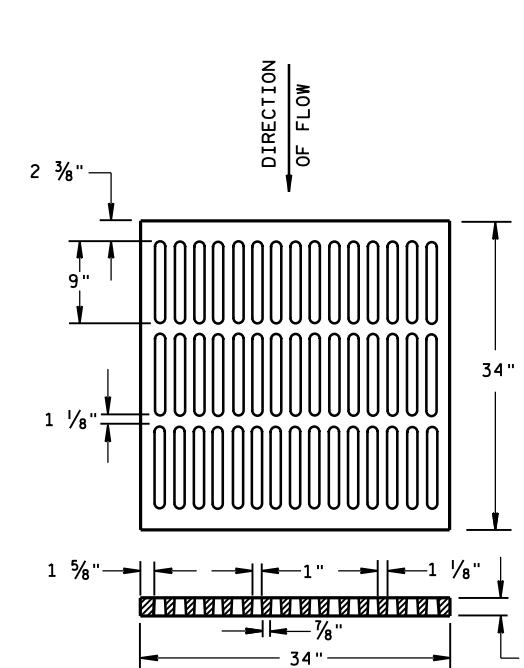
NOTE: EITHER CASTING IS ACCEPTABLE

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.

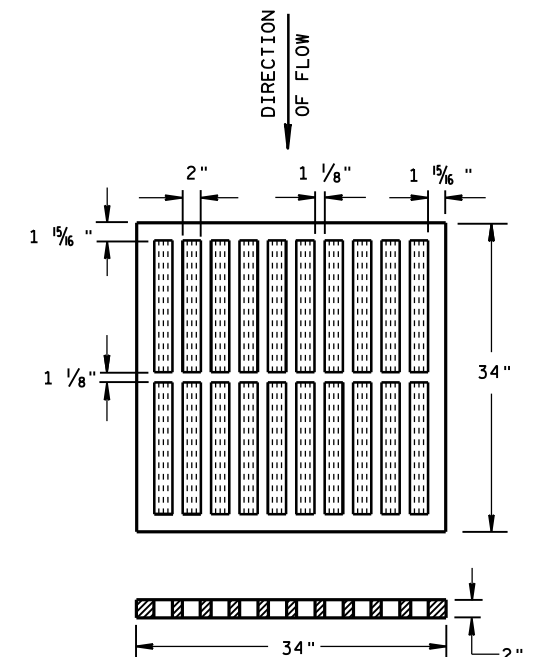
DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR CATCH BASIN, MANHOLE AND INLET COVERS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

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



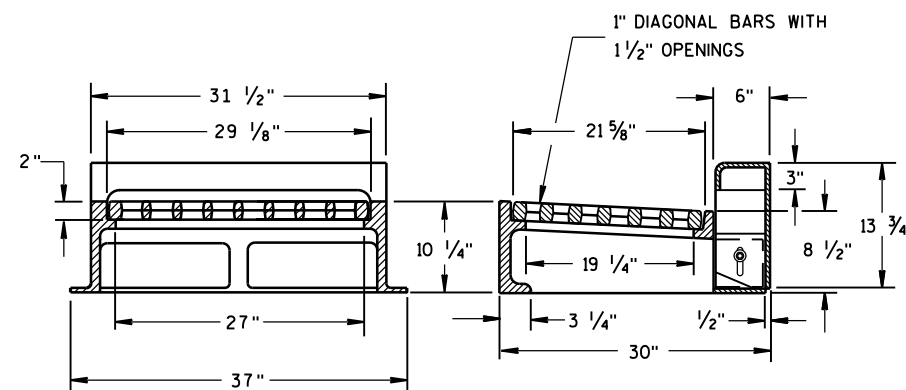
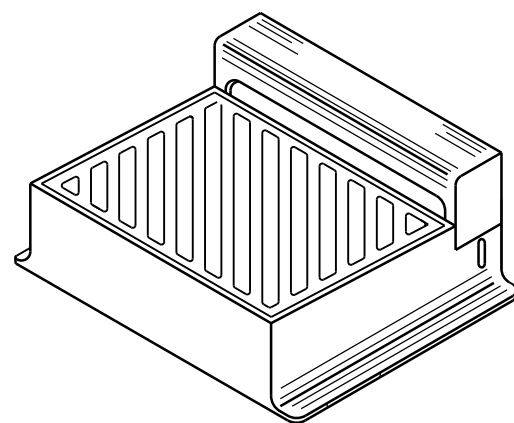
ALTERNATIVE TYPE "MS"

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

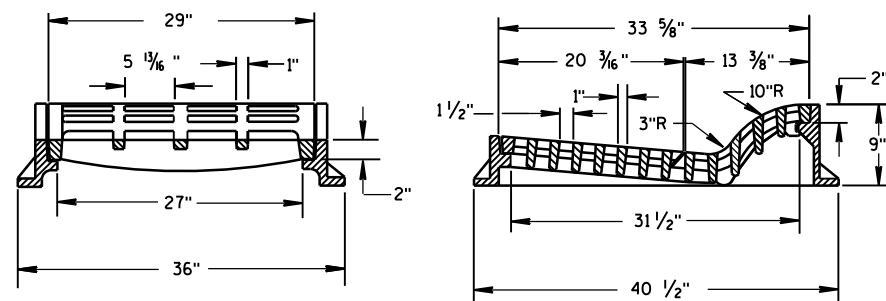
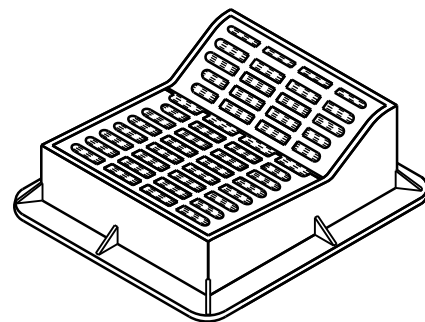
/S/ Jerry H. Zogg

ROADWAY STANDARDS

ENGINEER

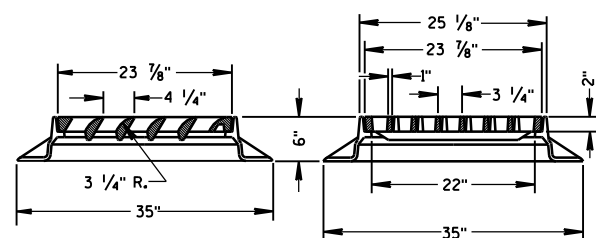
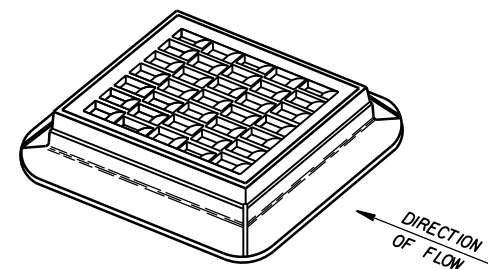
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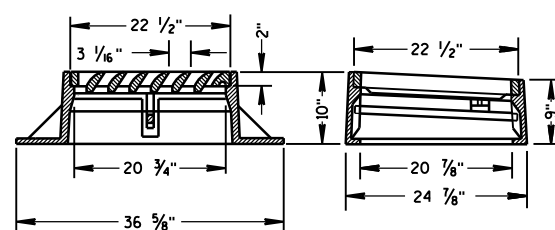
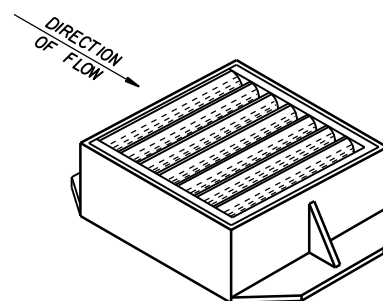


TYPE "F"

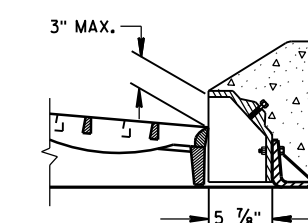
USE WITH TYPES A & D CONCRETE CURB & GUTTER, 36 INCH.



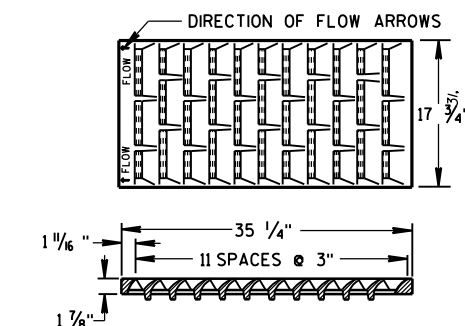
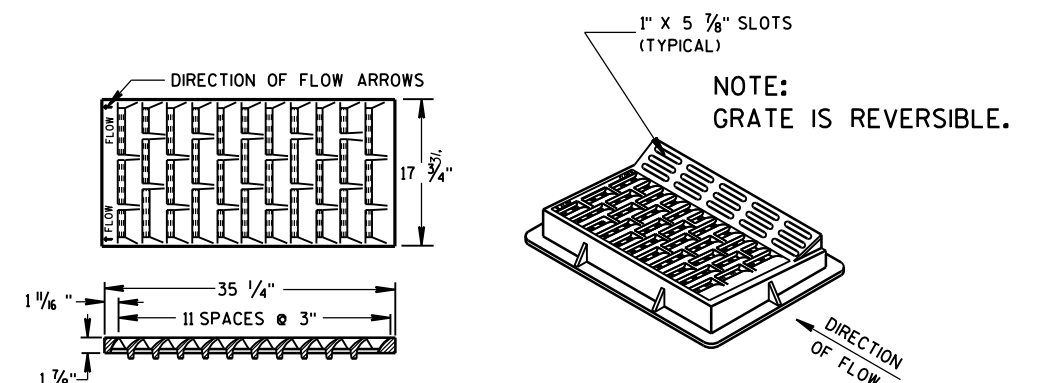
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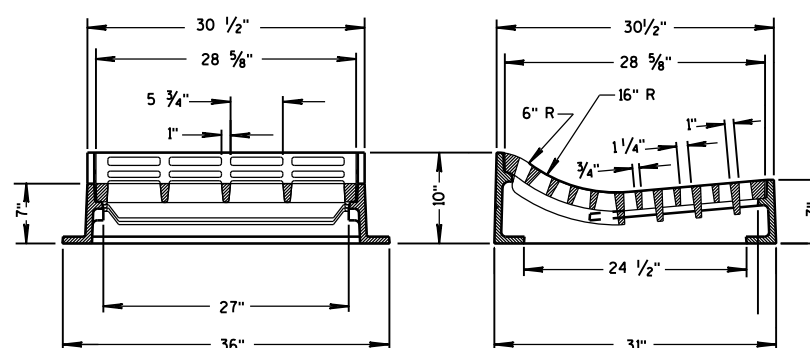
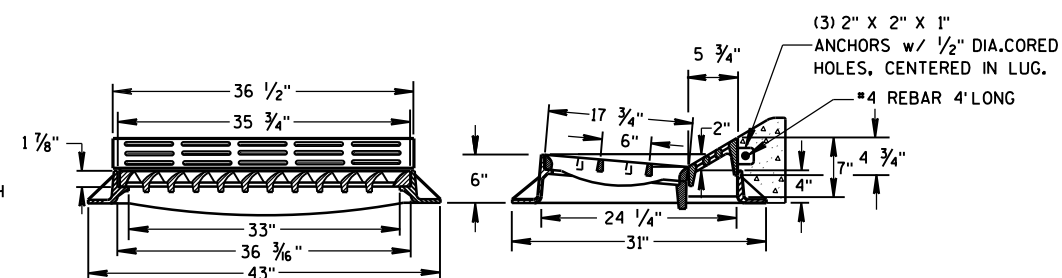
TYPE "V"

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

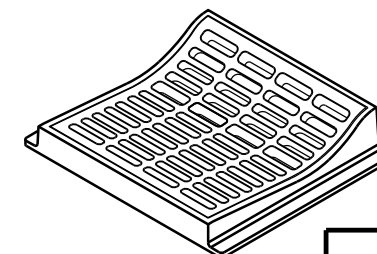
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING
SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND
THE APPLICABLE SPECIAL PROVISIONS.DETAIL DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR INLET COVERS SHALL BE SUBMITTED
TO THE ENGINEER FOR APPROVAL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

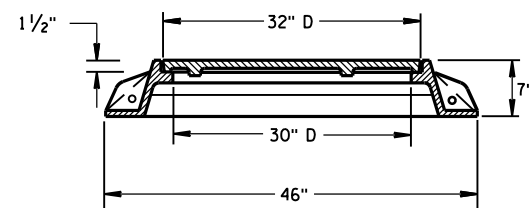
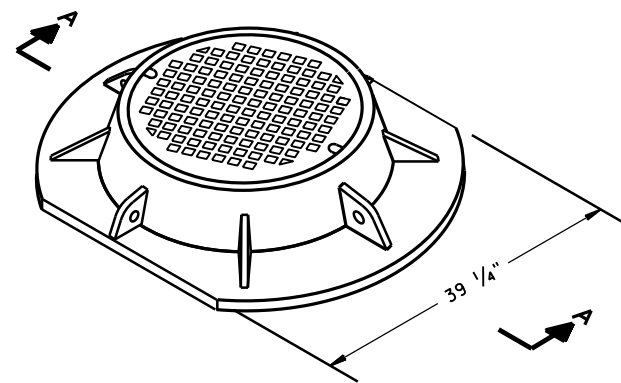
TYPE "HM"

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

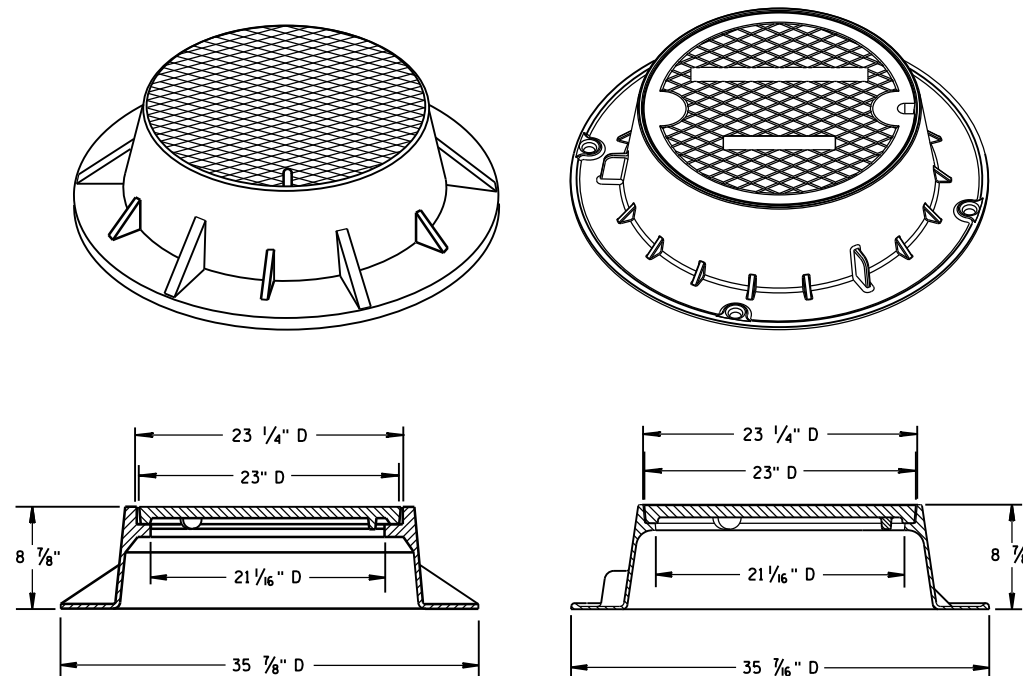
TYPE "T"

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 ENGINEER 265
FHWA

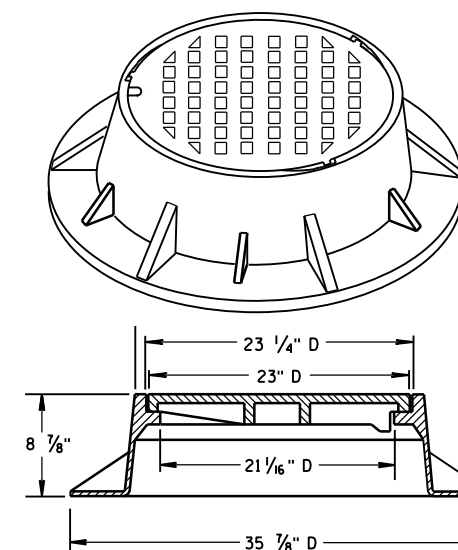
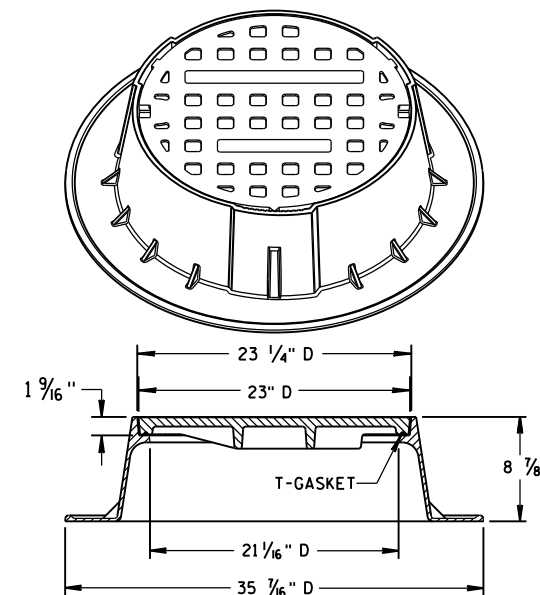


SECTION A-A
TYPE "K"



TYPE "J"

NOTE: EITHER CASTING IS ACCEPTABLE

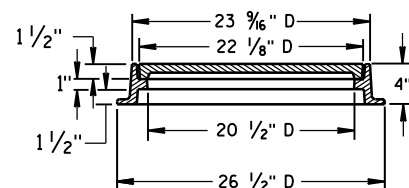
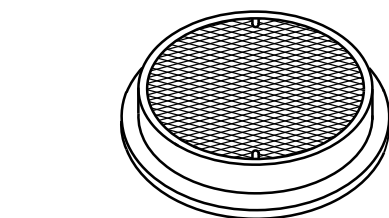


TYPE "J" SPECIAL

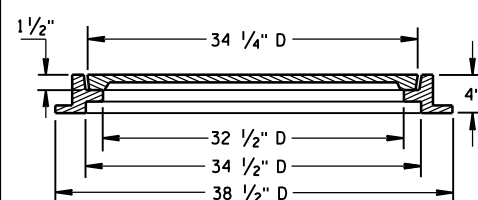
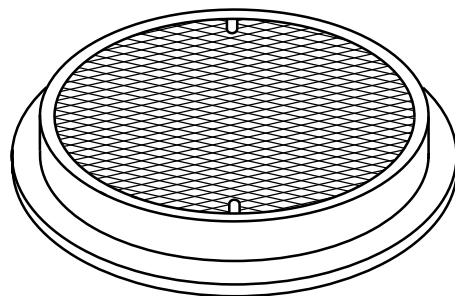
TYPE "B" NON-ROCKING SELF-SEAL LID

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

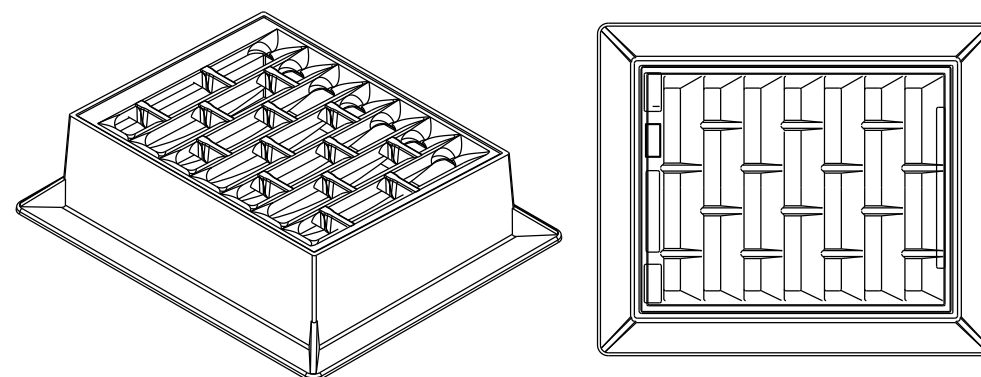
NOTE: EITHER CASTING IS ACCEPTABLE



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

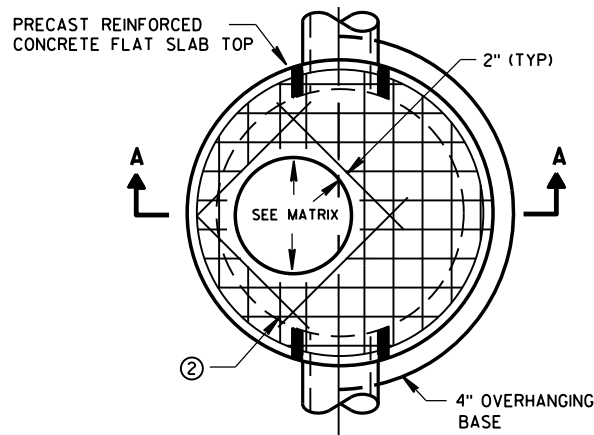
DATE

FHWA

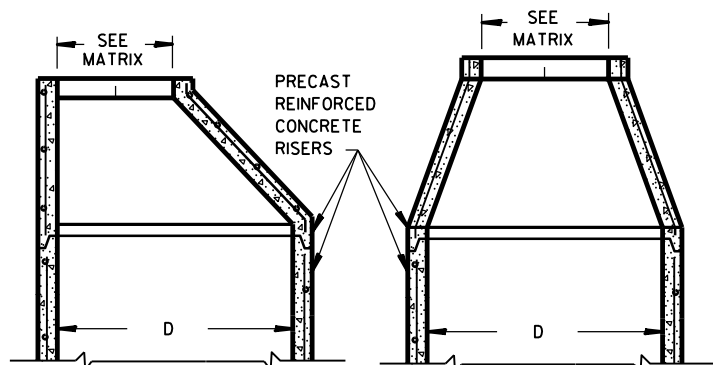
/S/ Jerry H. Zogg

ROADWAY STANDARDS 266

ENGINEER

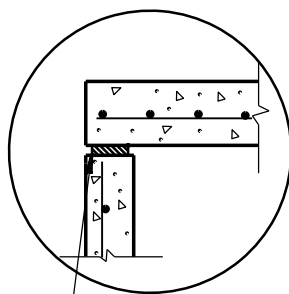


PLAN VIEW CIRCULAR OPENING

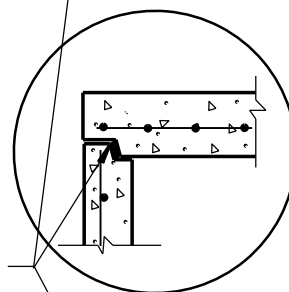


OPTIONAL PRECAST REINFORCED CONCRETE ECCENTRIC TOP

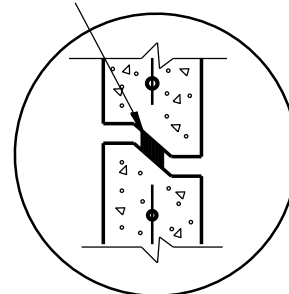
OPTIONAL PRECAST REINFORCED CONCRETE CONCENTRIC TOP



TOP WITH PLAIN END JOINT



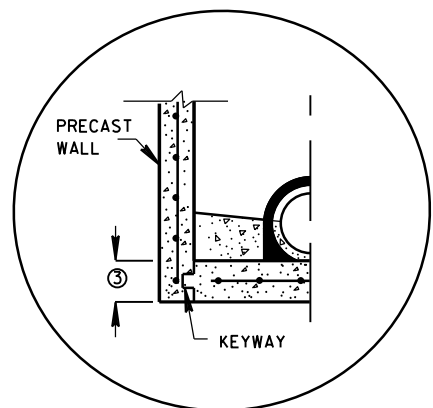
TOP WITH TONGUE AND GROOVE JOINT



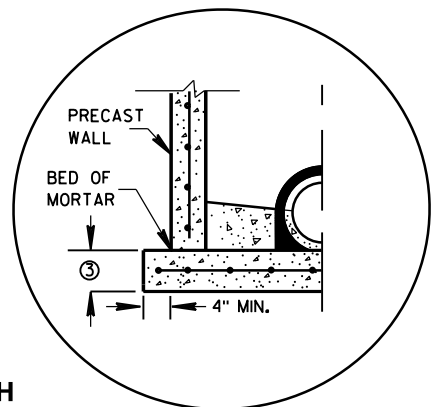
RISER WITH TONGUE AND GROOVE JOINT

DETAIL "B"

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

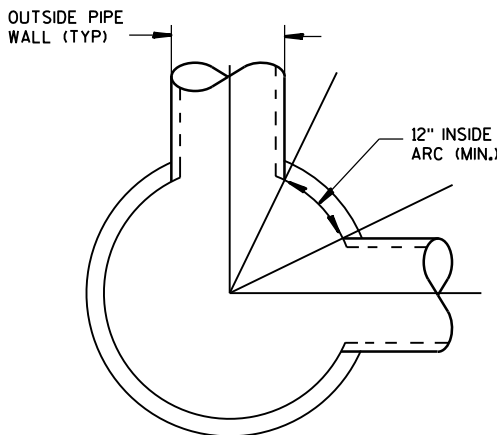


PRECAST REINFORCED CONCRETE WITH INTEGRAL BASE OPTION

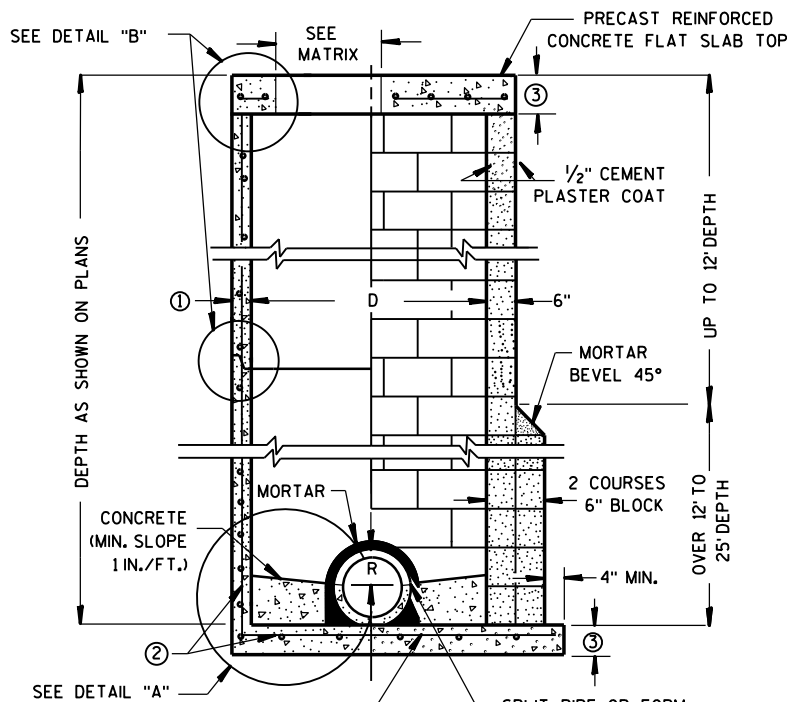


SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

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

Sept., 2016

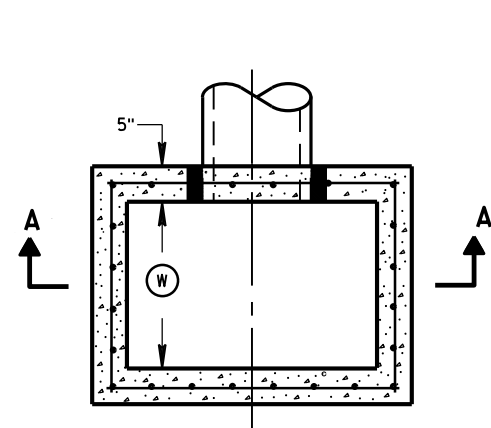
DATE

FHWA

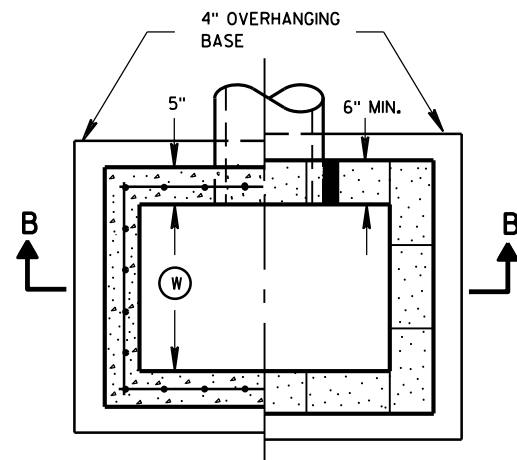
/S/ Rodney Taylor

ROADWAY STANDARDS DEVELOPMENT

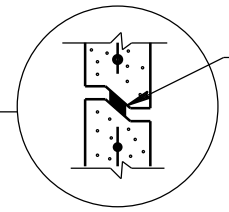
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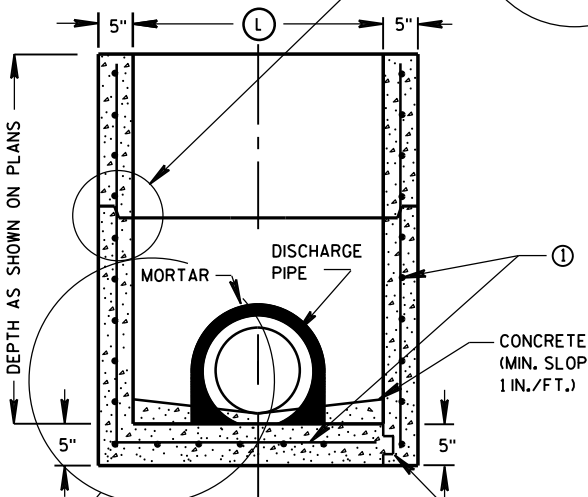
PLAN VIEW



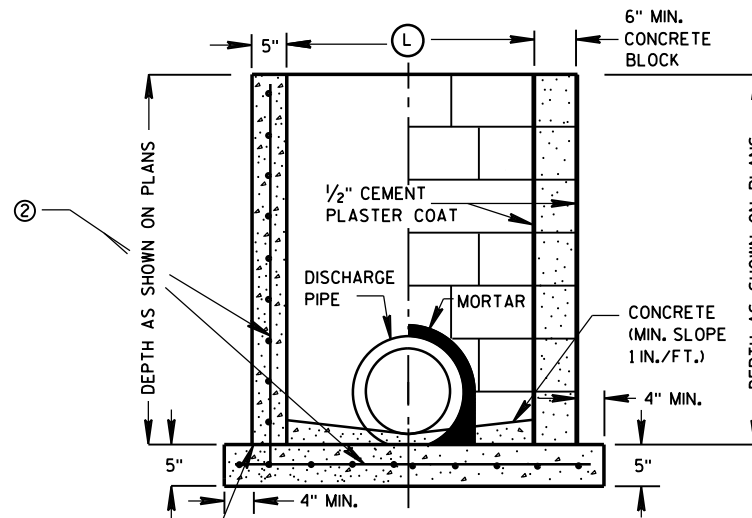
PLAN VIEW



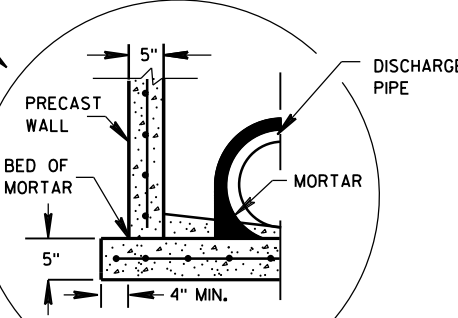
RISER JOINTS TO BE SEALED WITH A BUTYL RUBBER SEAL PER SEALANT MANUFACTURERS RECOMMENDATIONS CONFORMING TO ASTM C 990 (TYP)



SECTION A-A



SECTION B-B



SEPARATE PRECAST REINFORCED CONCRETE BASE OPTION

GENERAL NOTES

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

UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER, THE CONTRACTOR SHALL NOT ORDER AND DELIVER PRECAST 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 PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

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

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

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

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

4" OVERHANGING BASES ARE REQUIRED FOR CAST-IN-PLACE REINFORCED CONCRETE AND CONCRETE BLOCK INSTALLATIONS. 4" OVERHANG IS REQUIRED WHEN SEPARATE PRECAST BASE IS PROVIDED. OVERHANG IS NOT REQUIRED ON PRECAST STRUCTURES WITH AN INTEGRAL OR MONOLITHIC BASE.

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

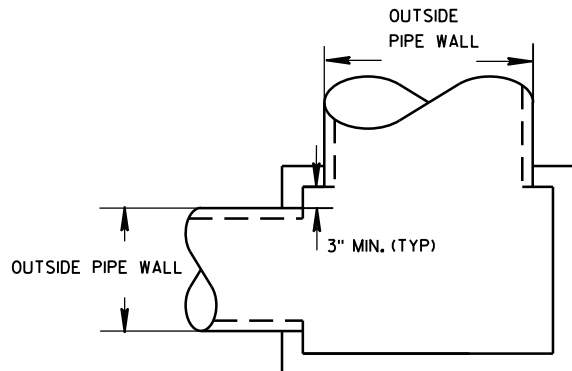
- 1 FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- 2 CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

INLET COVER MATRIX

INLET SIZE	WIDTH ① (FT)	LENGTH ② (FT)	ALL A'S	ALL B'S	BW	F	ALL H'S	S	T	V	WM
2X2-FT	2	2	X	X				X		X	
2X2.5-FT	2	2.5			X			X	X	X	X
2X3-FT	2	3					X				
2.5X3-FT	2.5	3				X					

PIPE MATRIX

INLET SIZE	MAXIMUM INSIDE PIPE DIAMETER	
	WIDTH (IN)	LENGTH (IN)
2X2-FT	12	12
2X2.5-FT	12	18
2X3-FT	12	24
2.5X3-FT	18	24



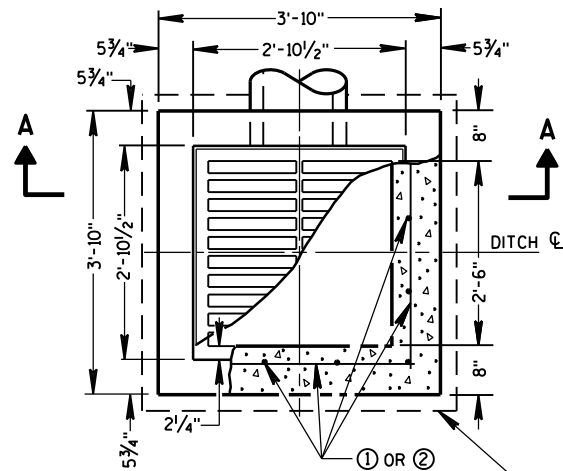
DETAIL "A"

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

INLETS 2X2-FT, 2X2.5-FT, 2X3-FT AND 2.5X3-FT

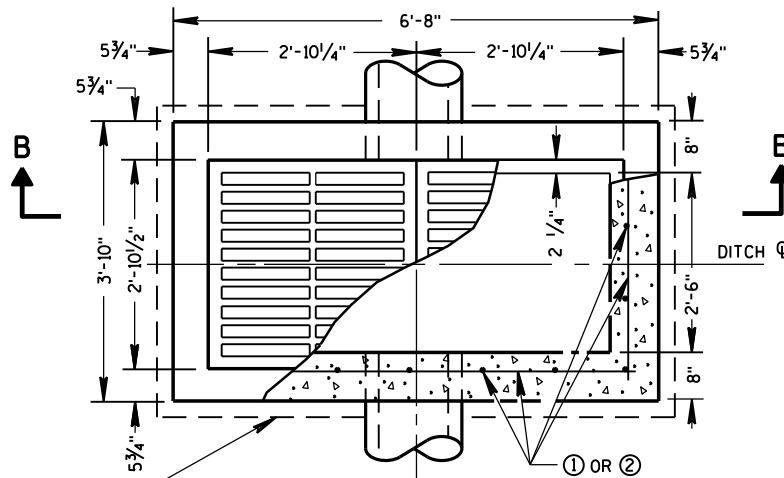
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept., 2016 /S/ Rodney Taylor
DATE ROADWAY STANDARDS D 268 IT
FHWA UNIT SUPERVIS

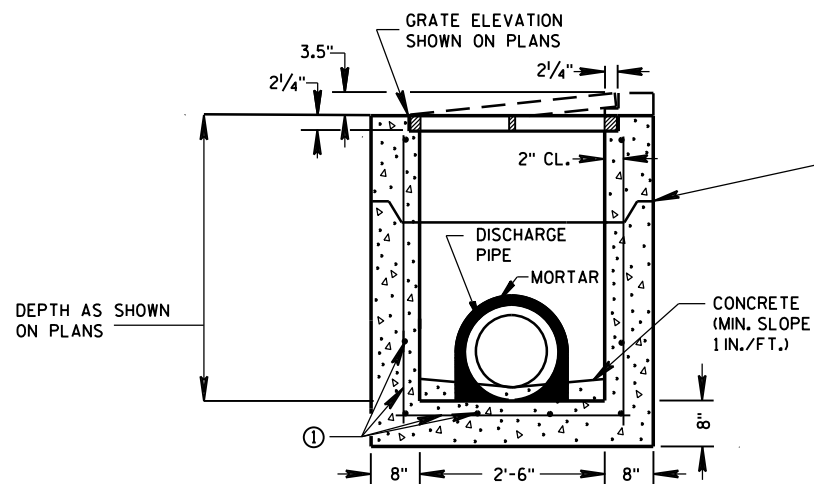


PLAN VIEW

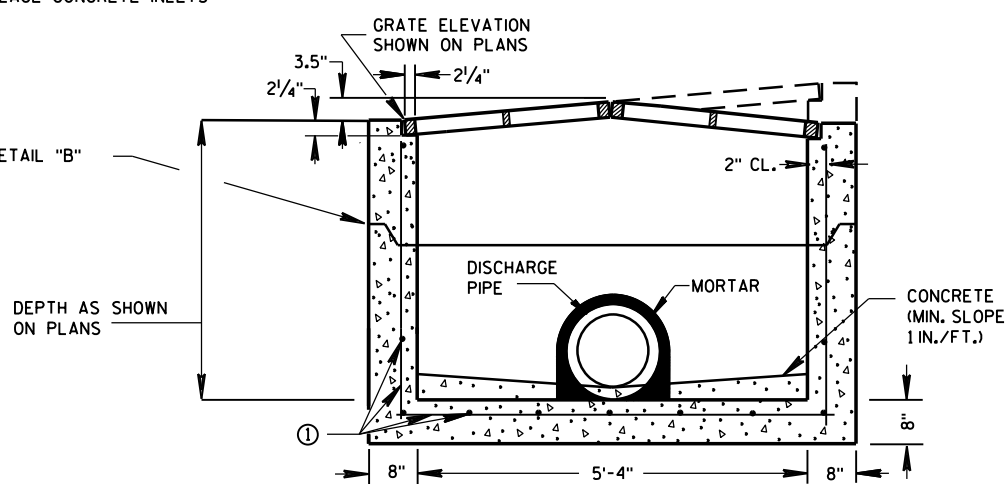
4" OVERHANGING BASE ON REINFORCED
CAST-IN-PLACE CONCRETE INLETS



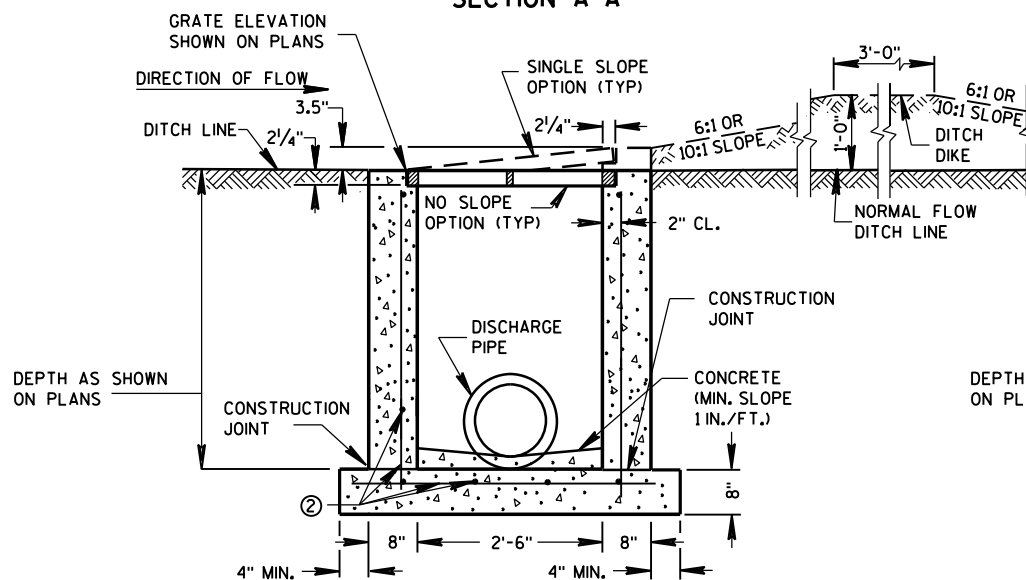
PLAN VIEW



PRECAST REINFORCED CONCRETE
SECTION A-A

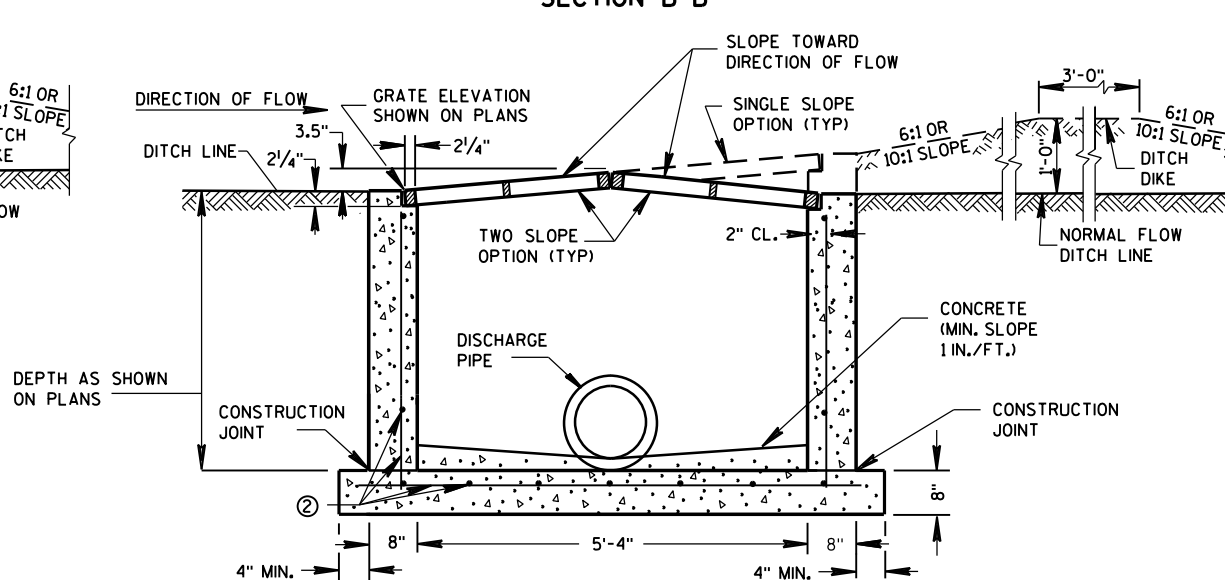


PRECAST REINFORCED CONCRETE
SECTION B-B



REINFORCED CAST-IN-PLACE CONCRETE
SECTION A-A

INLETS MEDIAN 1 GRATE



REINFORCED CAST-IN-PLACE CONCRETE
SECTION B-B

INLETS MEDIAN 2 GRATE

GENERAL NOTES

DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP 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 INLETS WHICH MAY INCLUDE PRECAST REINFORCED CONCRETE INLETS, SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.

ALL MEDIAN INLETS ARE DESIGNATED ON THE PLANS AS "INLETS, IG-MS", ETC. THE FIRST NUMBER AND LETTER DESIGNATE THE TYPE OF STRUCTURE, AND THE FOLLOWING LETTERS DESIGNATE THE TYPE OF COVER TO BE USED TO COMPRISE THE COMPLETE UNIT. BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS OF FOUNDATION BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.

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

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

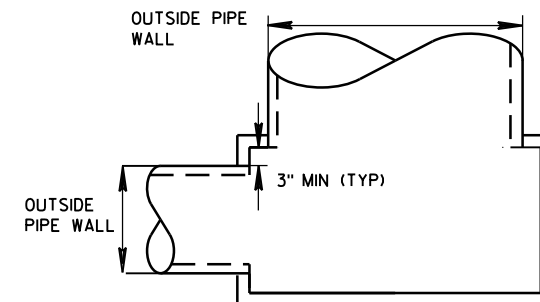
ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF ASTM C 913.

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

- ① FOR PRECAST INLETS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.
- ② CONTRACTOR TO PROVIDE DRAWING(S) STAMPED BY A PROFESSIONAL ENGINEER FOR STEEL REINFORCING DESIGN FOR CAST-IN-PLACE STRUCTURES.

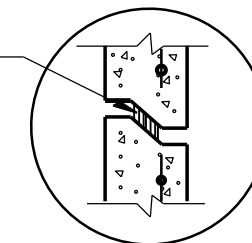
PIPE MATRIX

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



DETAIL "A"

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

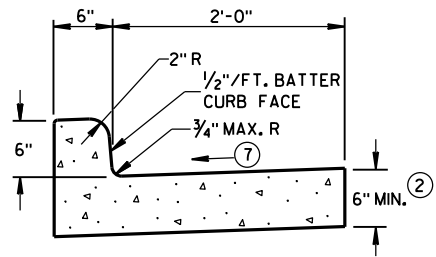


DETAIL "B"

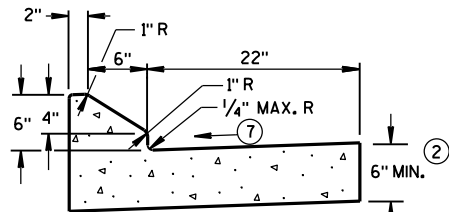
INLETS MEDIAN 1 AND 2 GRATE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

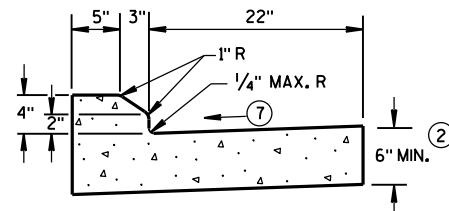
APPROVED
Sept., 2016 /S/ Rodney Taylor
DATE ROADWAY STANDARDS UNIT SUPERVISOR 269 ENT
FHWA



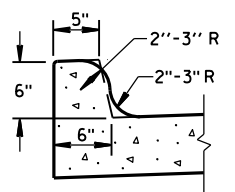
TYPES A^① & D



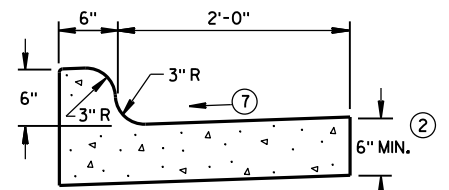
6" SLOPED CURB TYPES G^① & J



4" SLOPED CURB TYPES G^① & J

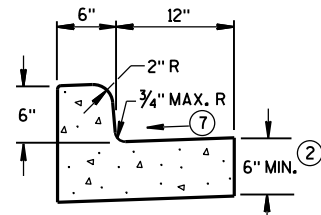


TYPES K^① & L
(OPTIONAL CURB SHAPE)



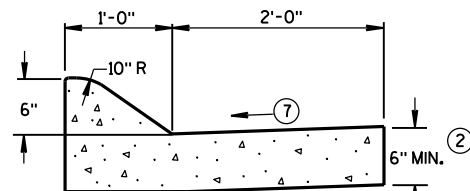
TYPES K^① & L

CONCRETE CURB & GUTTER 30"

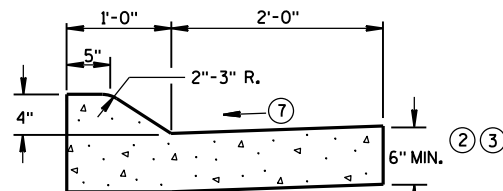


TYPES A^① & D

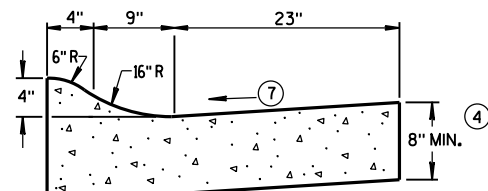
CONCRETE CURB & GUTTER 18"



6" SLOPED CURB TYPES A^① & D

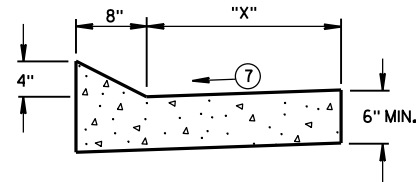


4" SLOPED CURB TYPES A^① & D



4" SLOPED CURB TYPES R^① & T^⑤

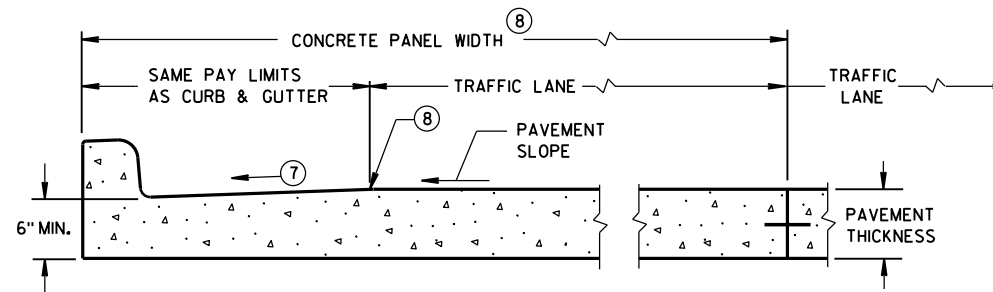
CONCRETE CURB & GUTTER 36"



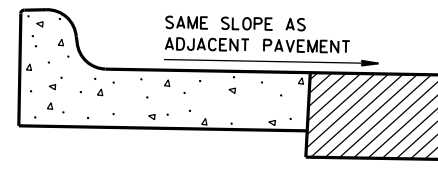
TYPES TBT & TBTT^①

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.

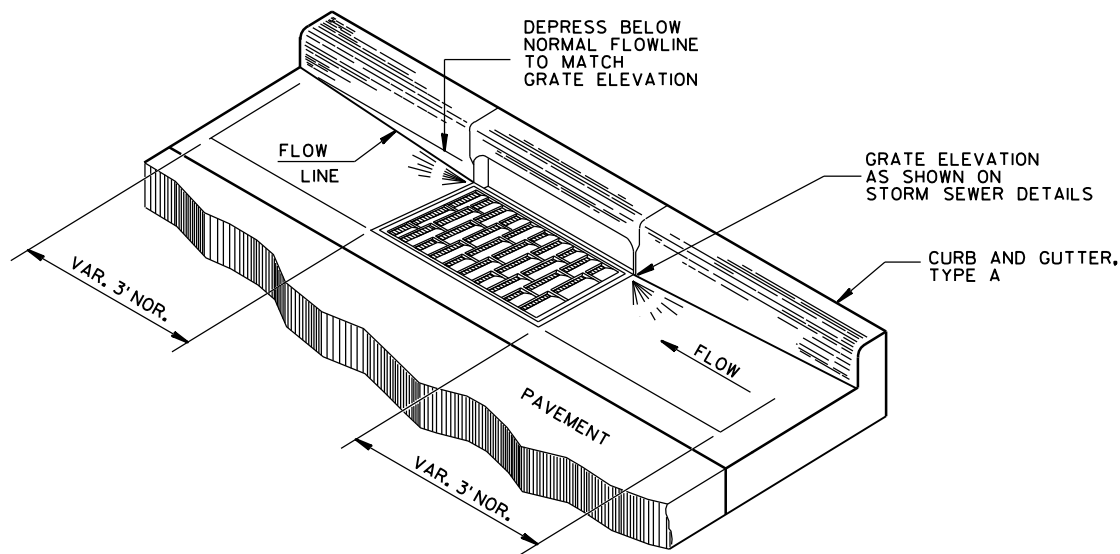
PAVEMENT THICKNESS AND MAXIMUM CONCRETE PANEL WIDTH TABLE

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

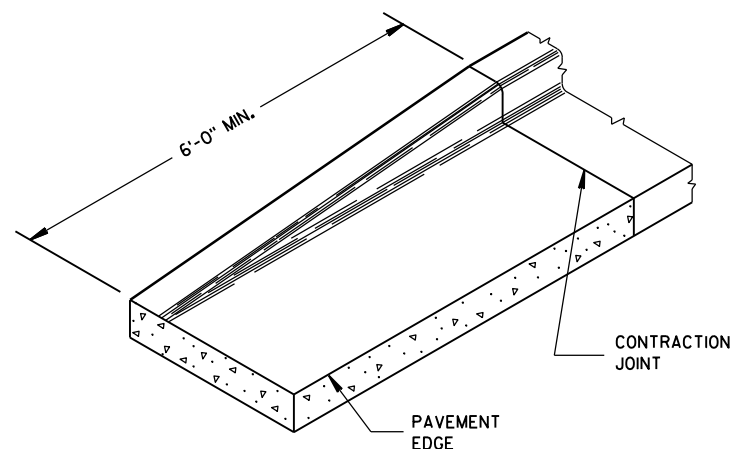
* BIKE LANE IS NOT SHOWN.

CONCRETE CURB & GUTTER

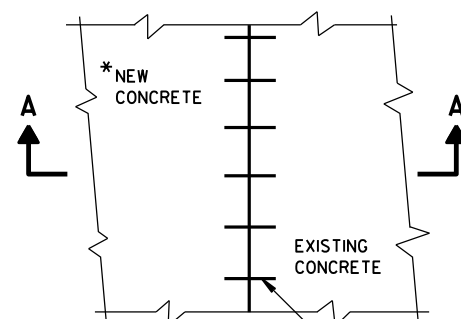
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



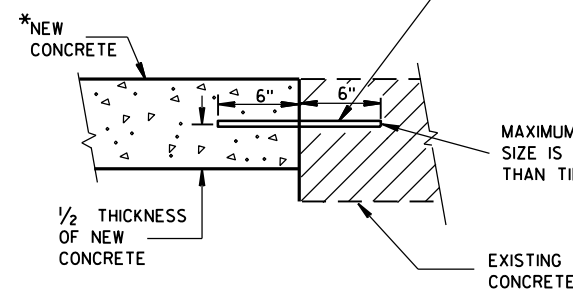
DETAIL OF CURB AND GUTTER AT INLETS
(TYPE H INLET COVER SHOWN)



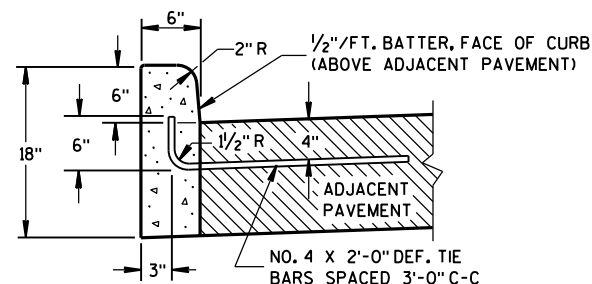
END SECTION CURB & GUTTER



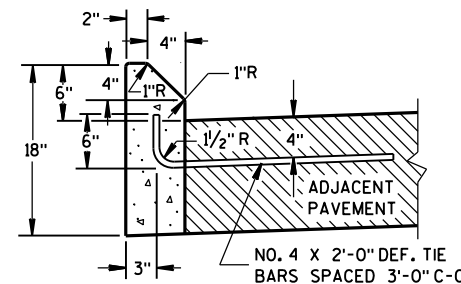
PLAN VIEW



SECTION A-A
TIE BARS DRILLED
INTO EXISTING PAVEMENT



TYPES A^① & D

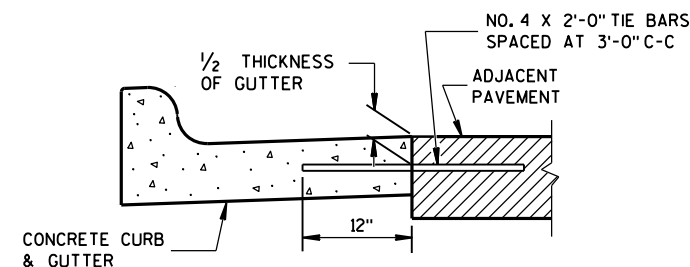


TYPES G^① & J

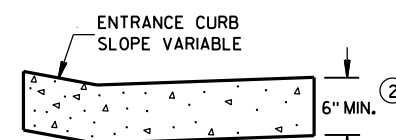
GENERAL NOTES

- 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.
 - ③ 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	/S/ Rodney Taylor ROADWAY STANDARDS 271 UNIT SUPERVISOR	ENT	
FHWA			

6



PLAN VIEW
FLUME AT CURB END



6

S.D.D. 8 D 4-5

- 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

EXPANSION JOINT

CONCRETE CURB AND GUTTER

8'-0"

4'-0"

EDGE OF PAVEMENT

2" MIN. CURB HEIGHT

4" R

3'-0" MIN.

SURFACE DRAIN IS SYMMETRICAL WHEN CURB AND GUTTER IS CONTINUED

TAPER CURB TO FLOW LINE

JOINTS

SHOULDER OR BERM HINGE POINT

W3 WIRE MESH (SEE SECTION D-D)

RIPRAP

6'-0"

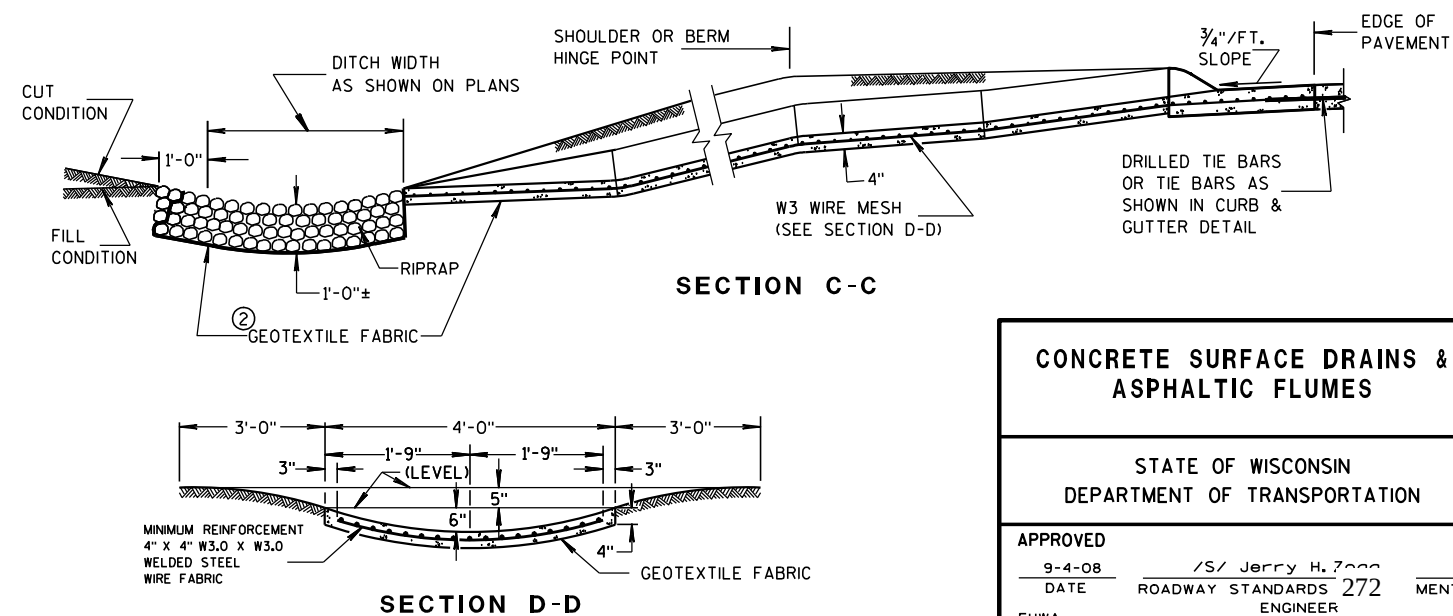
OR AS REQUIRED

1'-0" ON CUT SLOPE

DITCH

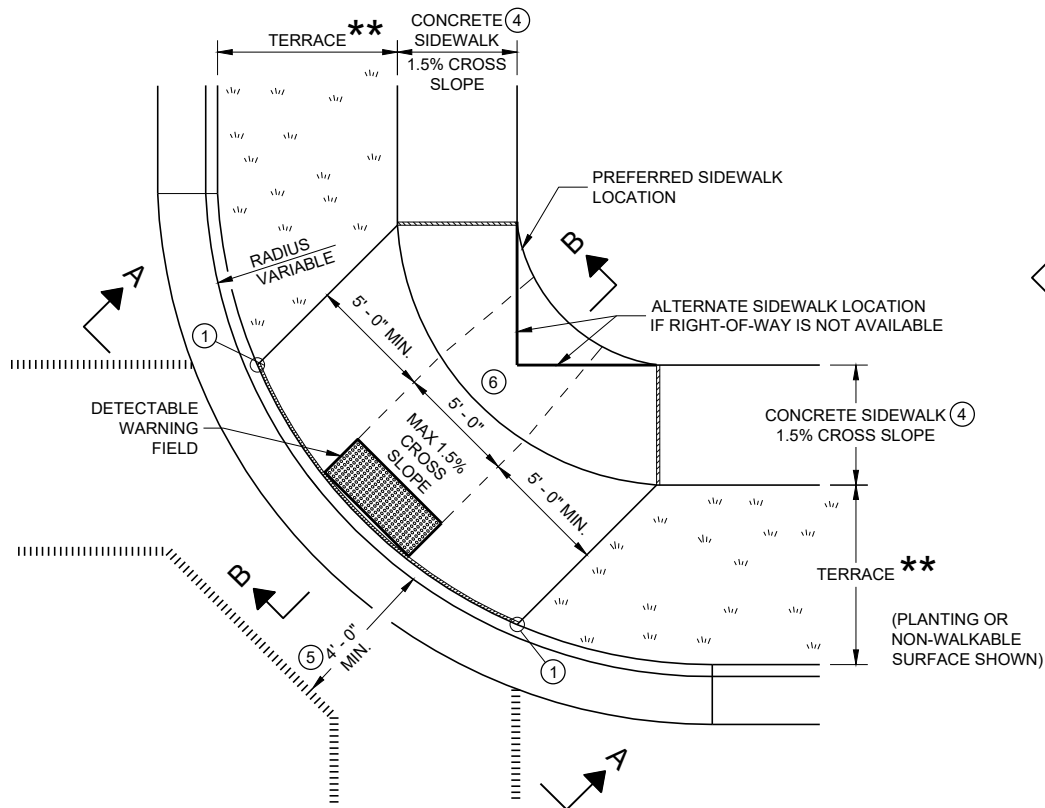
PLAN VIEW

PLAN VIEW

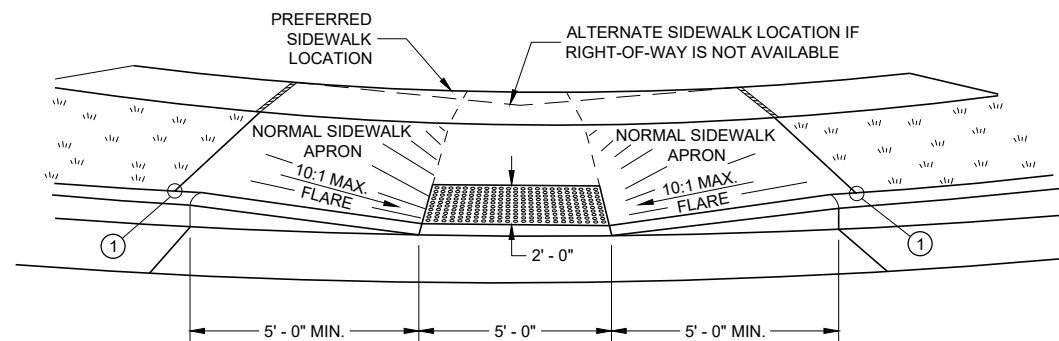


STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
9-4-08 /S/ Jerry H. Zogg
DATE ROADWAY STANDARDS 272
ENGINEER

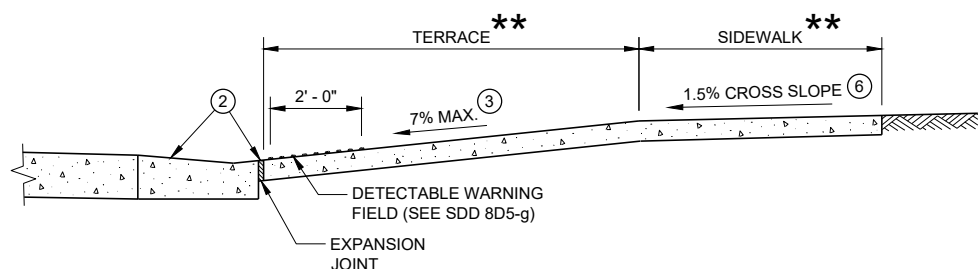


PLAN VIEW
CURB RAMP TYPE 1
(CENTER OF CORNER RADIUS)

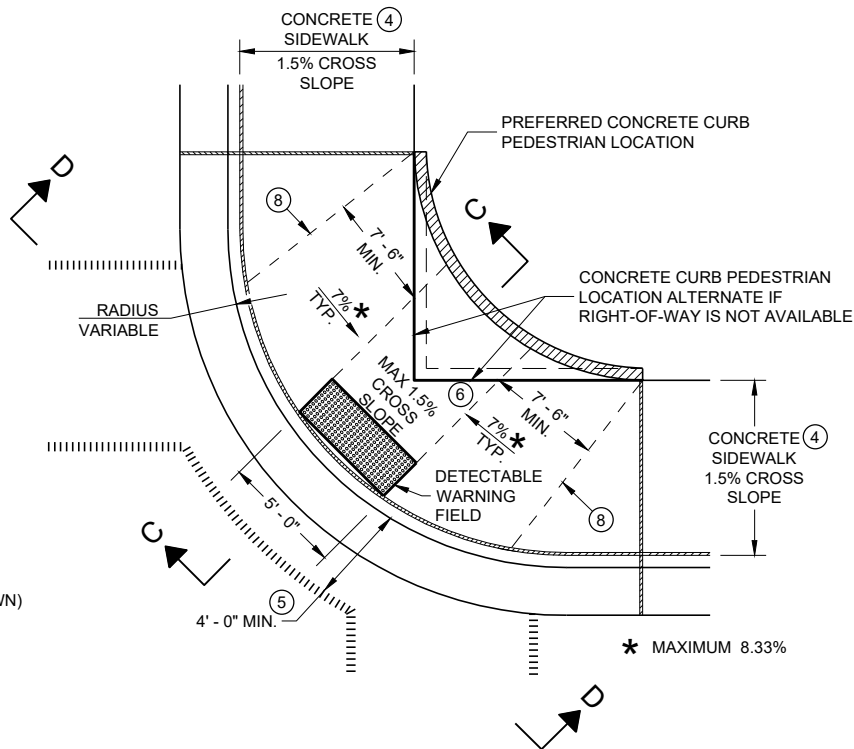


VIEW A - A FOR TYPE 1

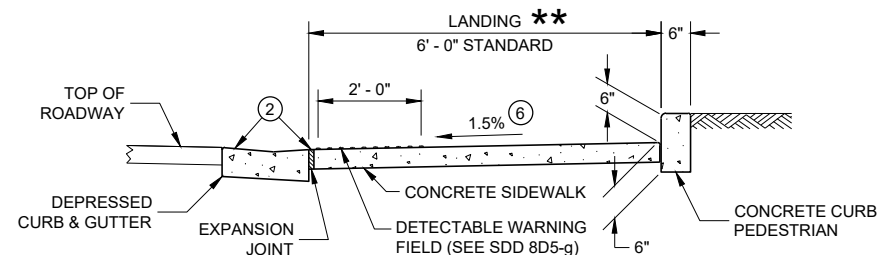
**** WIDTH SHOWN ELSEWHERE
IN THE PLANS**



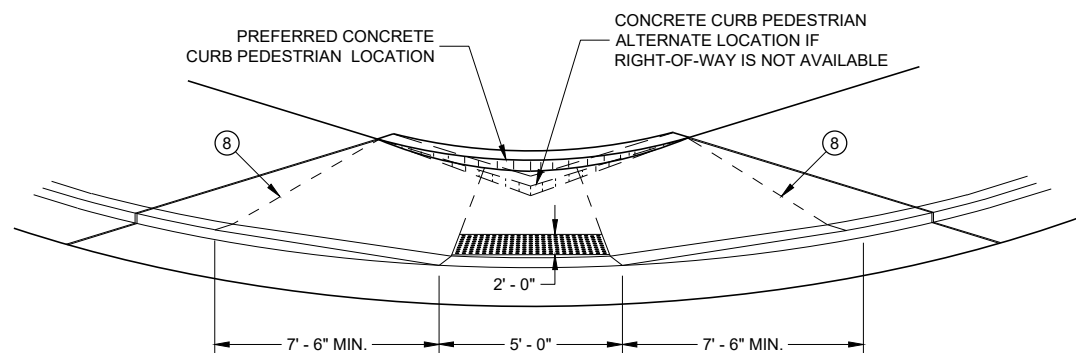
SECTION B - B FOR TYPE 1



PLAN VIEW
CURB RAMP TYPE 1 - A
(NO TERRACE)



SECTION C - C FOR TYPE 1 - A



VIEW D - D FOR TYPE 1 - A

GENERAL NOTES

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

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

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

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

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

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

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

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

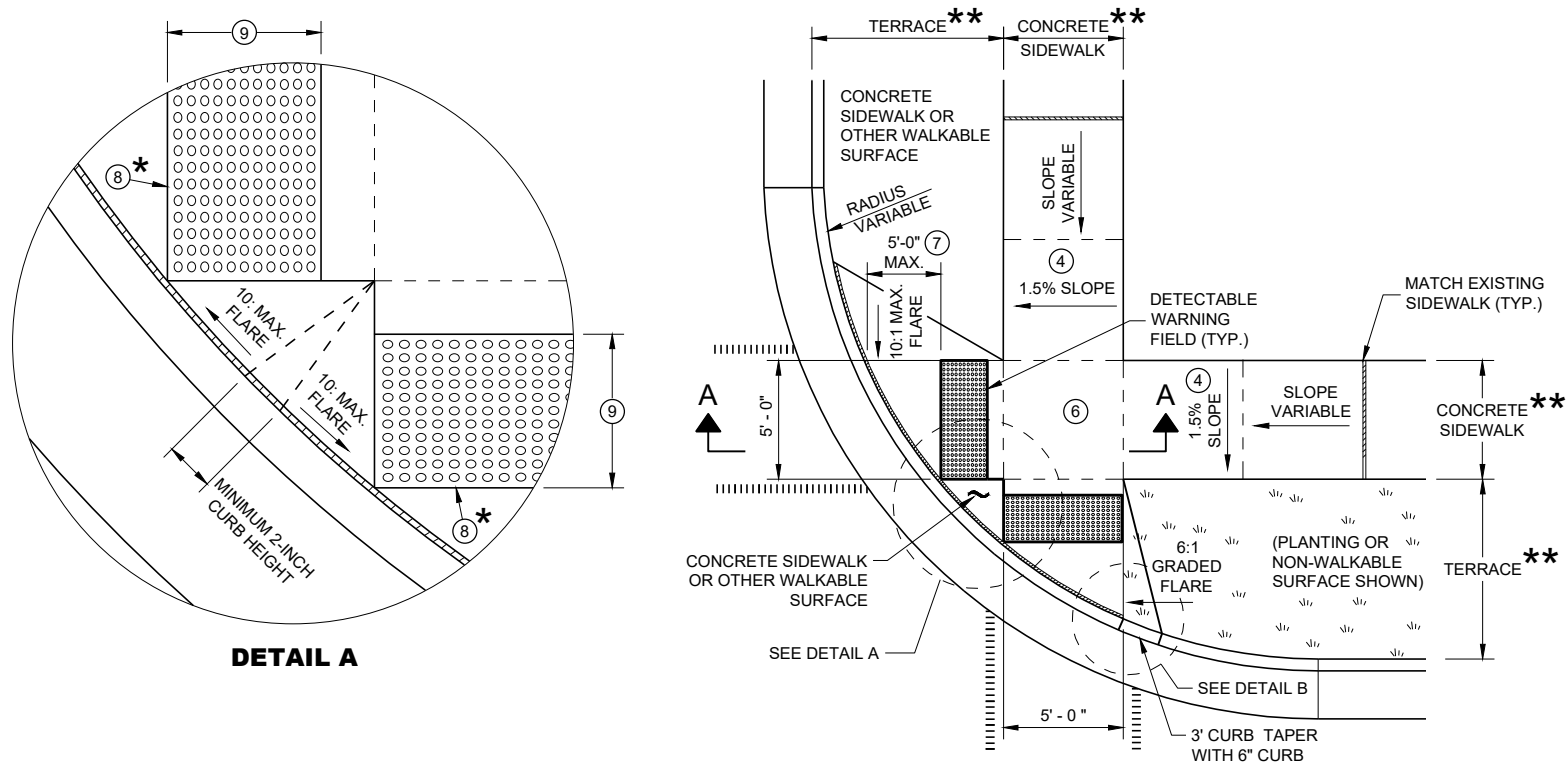
- 1 THIS POINT IS AN EXTENSION OF OUTSIDE EDGE OF APPROACHING SIDEWALK WHERE IT MEETS THE BACK OF CONCRETE CURB. POINT LOCATION MAY BE ADJUSTED TO ALIGN WITH BEGINNING OF FULL-HEIGHT CURB IF THIS DISTANCE IS SHORT.
- 2 GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4 - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- 3 MAXIMUM 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- 4 ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- 5 PROVIDE A LEVEL LANDING IN THE STREET AND GUTTER AREA (2% MAXIMUM SLOPE IN ANY DIRECTION). WHEN THE GUTTER SLOPE EXCEEDS 2%, CONSTRUCT THE LEVEL LANDING IN THE STREET AREA.
- 6 PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
- 8 PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.

LEGEND

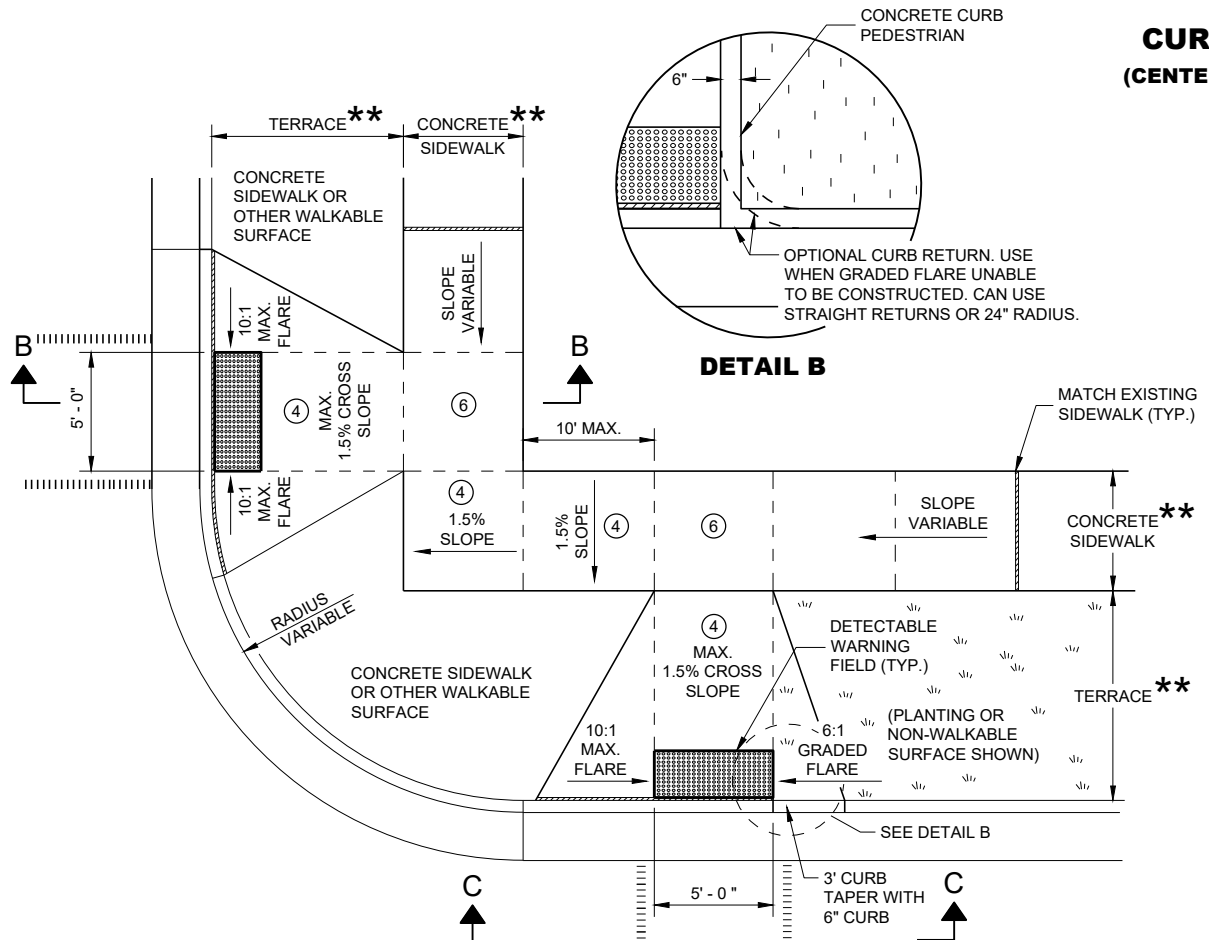
- 1/2" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT FIELD LOCATED
- PAVEMENT MARKING CROSSWALK (WHITE)

CURB RAMPS TYPE 1 AND 1-A

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



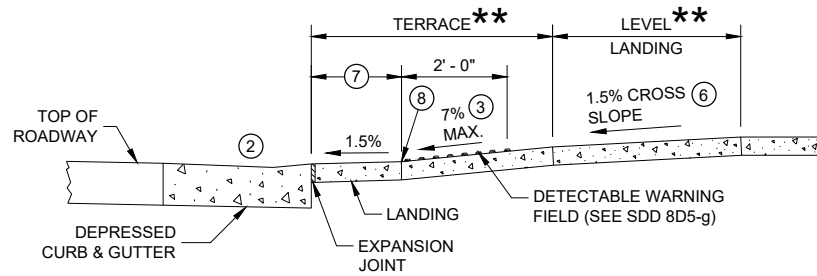
PLAN VIEW
CURB RAMP TYPE 2
(CENTER OF CORNER RADIUS)



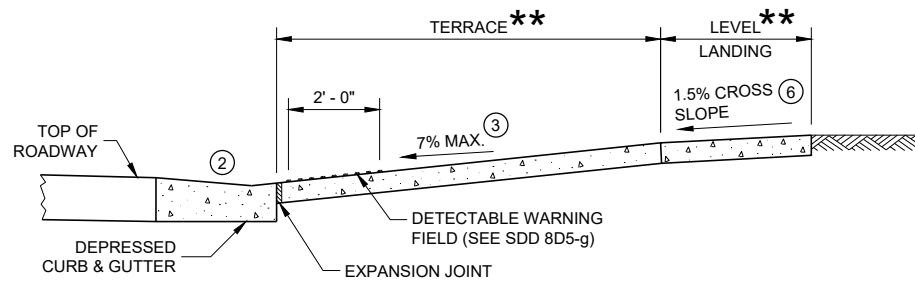
PLAN VIEW
CURB RAMP TYPE 3
(OUTSIDE OF CROSSWALK AREA)

GENERAL NOTES

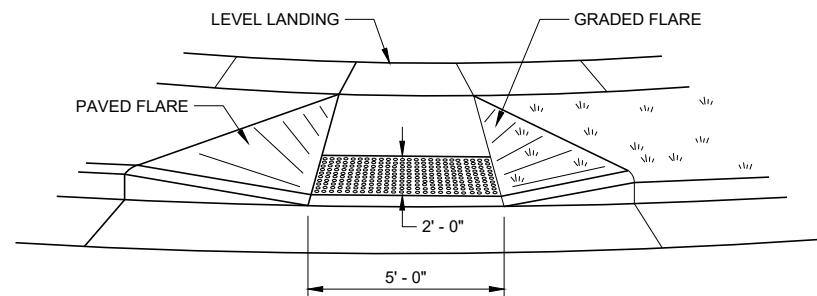
- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE SHALL BE FROM THE SAME MANUFACTURER.
- 2 GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/2 - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
 - 3 AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE (2.67% OR LESS) AND NOT TO EXCEED 11% GRADE CHANGE.
 - 4 ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
 - 6 PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET X 5 FEET.
 - 7 WHEN GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
 - 8 PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
 - 9 WHEN DISTANCE IS LESS THAN 6' - 0", IT MAY BE DIFFICULT TO ACHIEVE A 7% SLOPE OR FLATTER ALONG THE RAMP. REDUCE CURB HEIGHT IN TRIANGLE AREA TO ACHIEVE 7% SLOPE OR FLATTER ON RAMP. CONSTRUCT 2-INCH MINIMUM CURB HEIGHT BETWEEN 10:1 FLARES.



SECTION A - A FOR TYPE 2



SECTION B - B FOR TYPE 3



VIEW C - C FOR TYPE 3

LEGEND

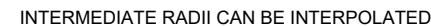
- 1/2" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- PAVEMENT MARKING CROSSWALK (WHITE)

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

** WIDTH SHOWN ELSEWHERE IN THE PLANS

CURB RAMPS
TYPE 2 AND 3

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



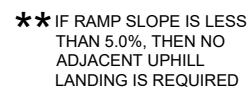
AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.

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

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

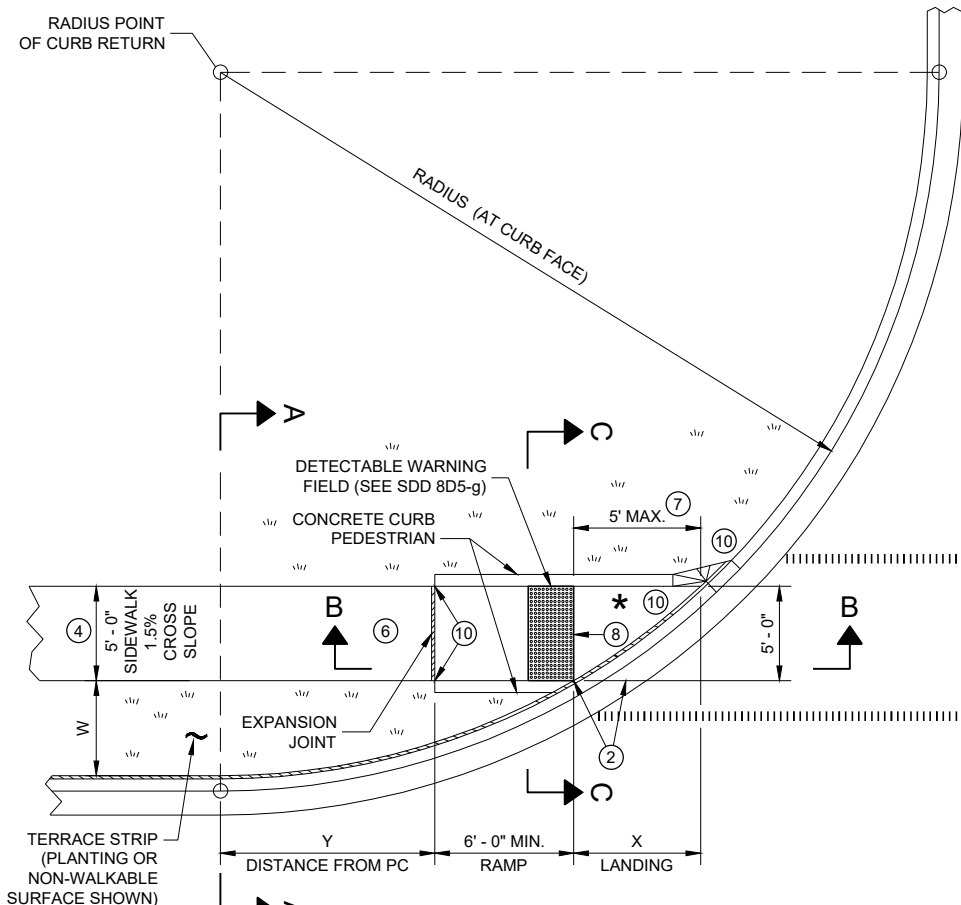
- ② GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN $\frac{1}{4}$ - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- ③ AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ④ $\pm 0.5\%$ CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- ⑥ PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
- ⑦ WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- ⑧ PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- ⑩ INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

	1/2" EXPANSION JOINT SIDEWALK
	CONTRACTION JOINT SIDEWALK
	PAVEMENT MARKING CROSSWALK (WHITE)

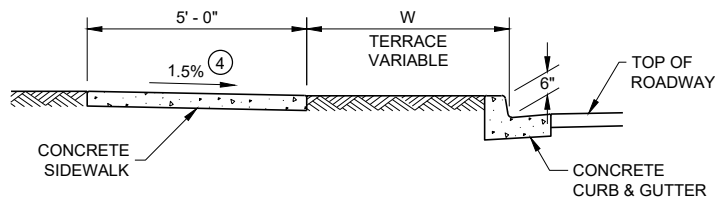


* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IF FRONT OF GRADE BREAK

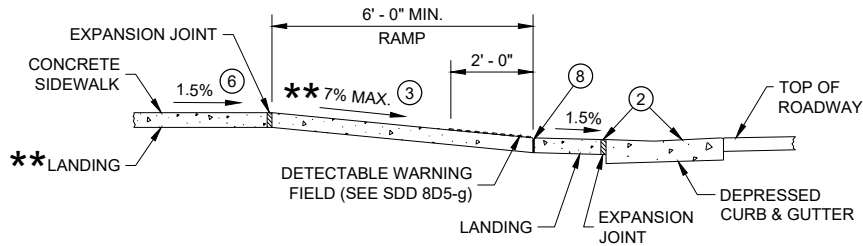




PLAN VIEW
CURB RAMP TYPE 4B



SECTION A - A FOR TYPE 4B



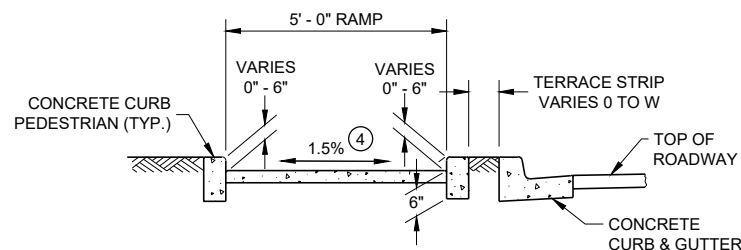
SECTION B - B FOR
TYPE 4B AND TYPE 4B1

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

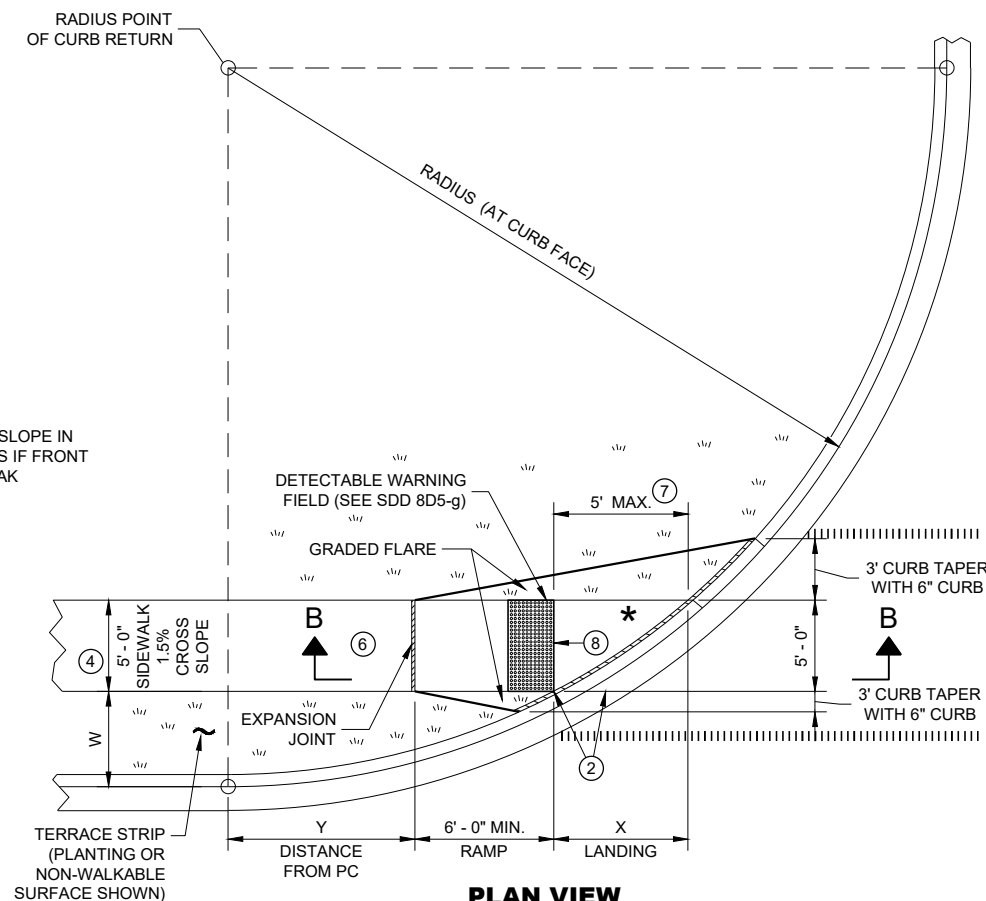
* MAXIMUM 2.0% SLOPE IN ALL DIRECTIONS IF FRONT OF GRADE BREAK

RADIUS (AT CURB FACE)	W = 3' - 0"		W = 4' - 0"		W = 5' - 0"		W = 6' - 0"		W = 7' - 0"		W = 8' - 0"		W = 9' - 0"		W = 10' - 0"	
	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y	X	Y
10 FEET	2' - 10 1/4"	0' - 5"	2' - 1"	1' - 4 1/2"	1' - 5"	2' - 1"	0' - 10"	2' - 7 1/2"	0' - 3 3/4"	3' - 0 1/4"						
15 FEET	4' - 6 3/4"	2' - 1 3/4"	3' - 9"	3' - 5 3/4"	3' - 1 1/4"	4' - 6"	2' - 6 3/4"	5' - 4 1/2"	2' - 1"	6' - 1"	1' - 8"	6' - 8 1/2"	1' - 3 1/4"	7' - 2 1/2"	0' - 10 3/4"	7' - 7 1/4"
20 FEET	5' - 9 3/4"	3' - 6 1/2"	4' - 11 1/2"	5' - 1 3/4"	4' - 3 1/4"	6' - 5 1/2"	3' - 8 3/4"	7' - 7"	3' - 3"	8' - 6 1/2"	2' - 10"	9' - 4 1/2"	2' - 5 1/2"	10' - 1 1/4"	2' - 1 1/4"	10' - 9"
30 FEET			6' - 9 1/4"	7' - 11 1/4"	6' - 0 1/4"	9' - 8"	5' - 5"	11' - 1 3/4"	4' - 10 3/4"	12' - 5 3/4"	4' - 5 1/2"	13' - 7 3/4"	4' - 0 3/4"	14' - 8 1/2"	3' - 8 1/2"	15' - 8 1/4"
40 FEET									6' - 1 3/4"	15' - 8 1/2"	5' - 8"	17' - 2"	5' - 3"	18' - 5 3/4"	4' - 10 3/4"	19' - 8 1/4"
50 FEET															5' - 10 1/4"	23' - 2"

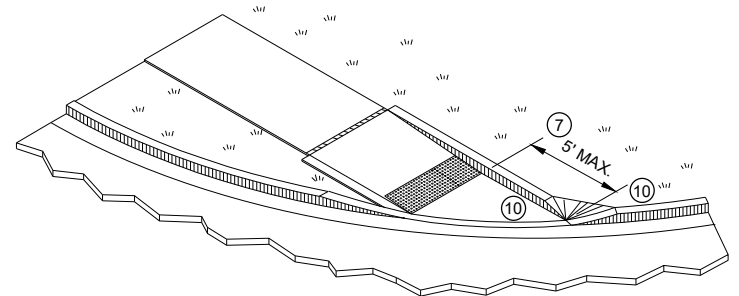
INTERMEDIATE RADII CAN BE INTERPOLATED
DIMENSION "Y" IS CALCULATED BASED ON 6'-0" RAMP LENGTH
DIMENSION "X" IS CALCULATED BASED ON 5'-0" SIDEWALK WIDTH



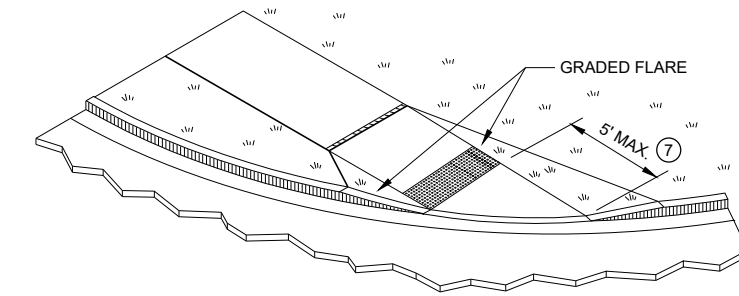
SECTION C - C FOR TYPE 4B



PLAN VIEW
CURB RAMP TYPE 4B1



ISOMETRIC VIEW FOR TYPE 4B



ISOMETRIC VIEW FOR TYPE 4B1

LEGEND

- 1/2" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- PAVEMENT MARKING CROSSWALK (WHITE)

GENERAL NOTES

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

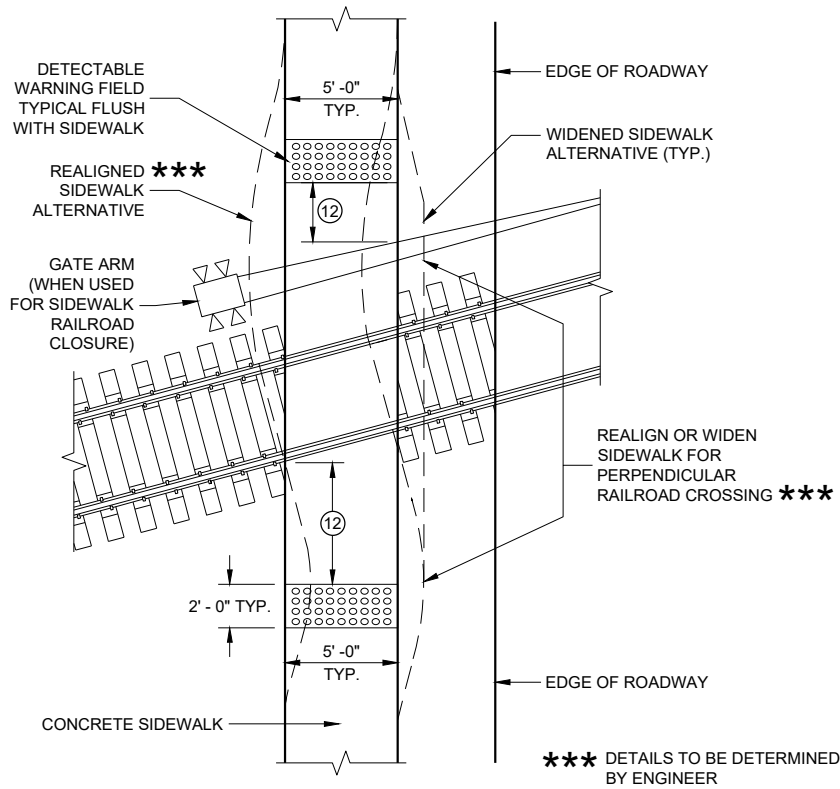
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

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

- GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4" INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
- WHEN THIS GRADE BREAK DISTANCE EXCEEDS 5 FEET, USE RADIAL DETECTABLE WARNING FIELD PER SDD 8D5-f.
- PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.

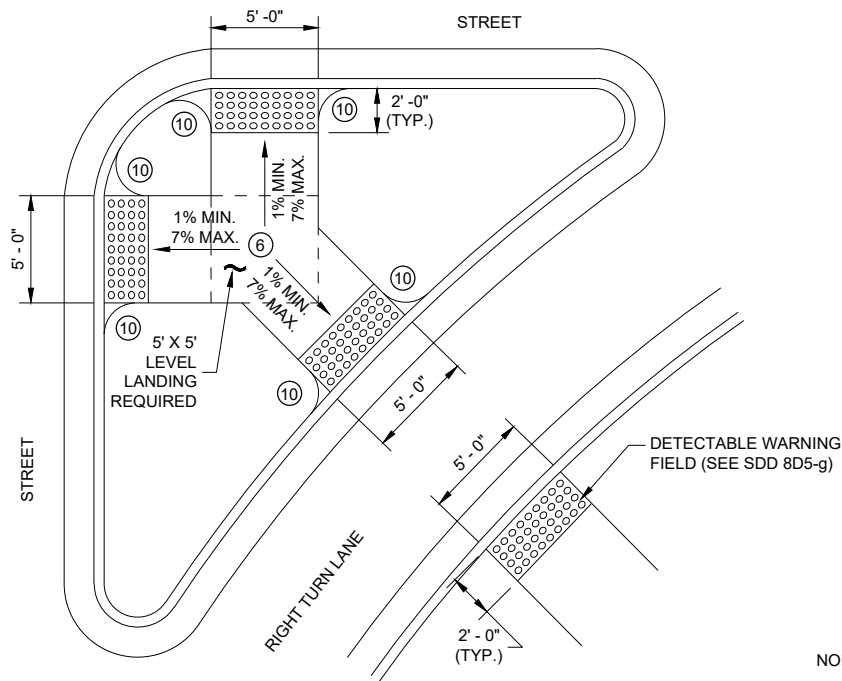
CURB RAMPS
TYPE 4B AND 4B1

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



CURB RAMP TYPE 8

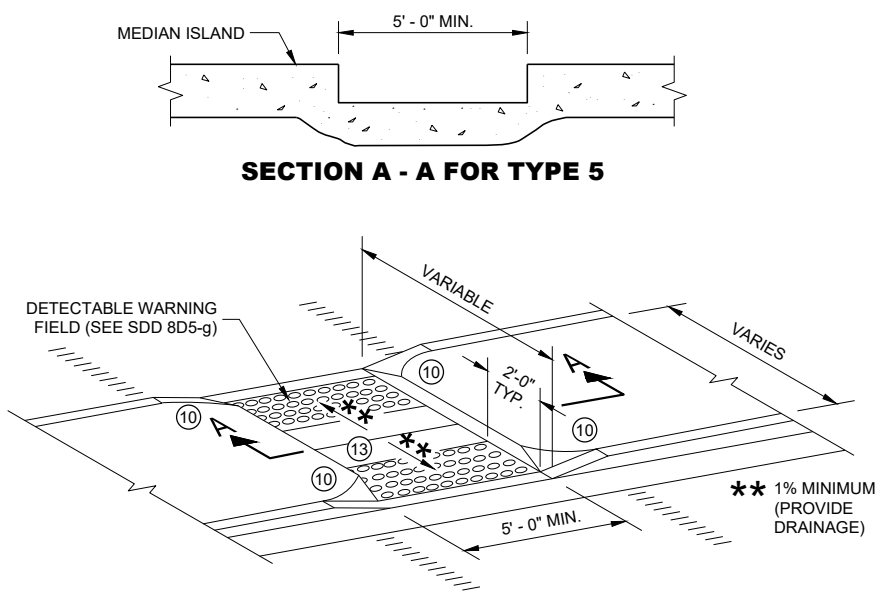
**DETECTABLE WARNINGS
AT RAILROAD CROSSING**



CURB RAMP TYPE 6

DETECTABLE WARNING AT ISLANDS

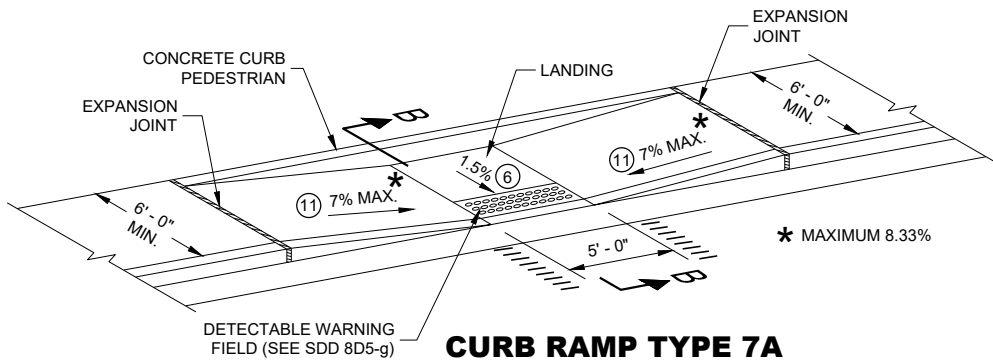
REFER TO GENERAL NOTES (2) AND (3)
FOR ALL ISLAND CURB RAMPS



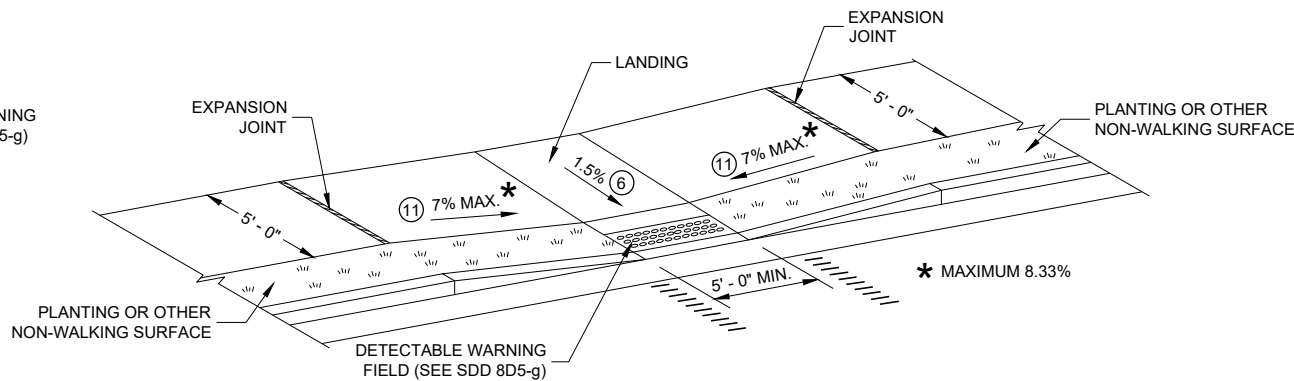
SECTION A - A FOR TYPE 5

CURB RAMP TYPE 5

**MEDIAN ISLAND
NON-ELEVATED PEDESTRIAN CROSSING**



**CURB RAMP TYPE 7A
MID BLOCK CROSSING**



**CURB RAMP TYPE 7B
MID BLOCK CROSSING**

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

GENERAL NOTES

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

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

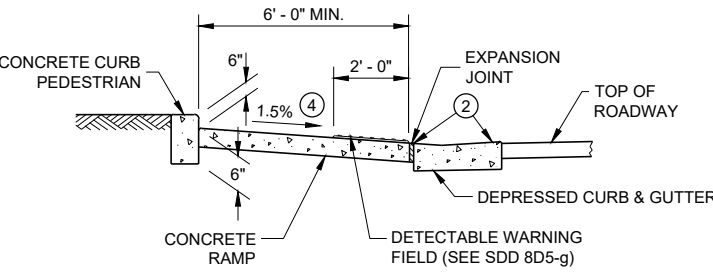
SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2%.

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

- (2) GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4 - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- (3) AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- (4) ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- (6) PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LEVEL LANDING SIZE IS 5 FEET BY 5 FEET.
- (10) INSTALL TRANSITION NOSE (INCIDENTAL TO OTHER PAY ITEMS). DO NOT MARK TRANSITION NOSE.
- (11) SLOPE SIDEWALK TOWARD LANDING AS SHOWN WHERE THERE IS NO TERRACE OR WHERE THE TERRACE WIDTH IS LESS THAN 6 FEET WIDE.
- (12) THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO A RAILROAD CROSSING SHALL BE 1.5 FEET ±0.1' FROM THE FACE OF THE GATE ARM IF THE GATE ARM EXTENDS ACROSS THE SIDEWALK. WHERE THERE IS NO PEDESTRIAN GATE, THE EDGE OF THE DETECTABLE WARNING FIELD NEAREST TO THE RAILROAD CROSSING SHALL BE 15 FEET FROM THE NEAREST RAIL.
- (13) DO NOT INSTALL DETECTABLE WARNING FIELDS AT THE EDGES OF STEET-LEVEL PEDESTRIAN REFUGE ISLANDS IF A MINIMUM 2 FOOT CONCRETE SURFACE WITHOUT DETECTABLE WARNINGS (MEASURED IN THE DIRECTION OF PEDESTRIAN TRAVEL) CANNOT BE ACHIEVED.

LEGEND

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

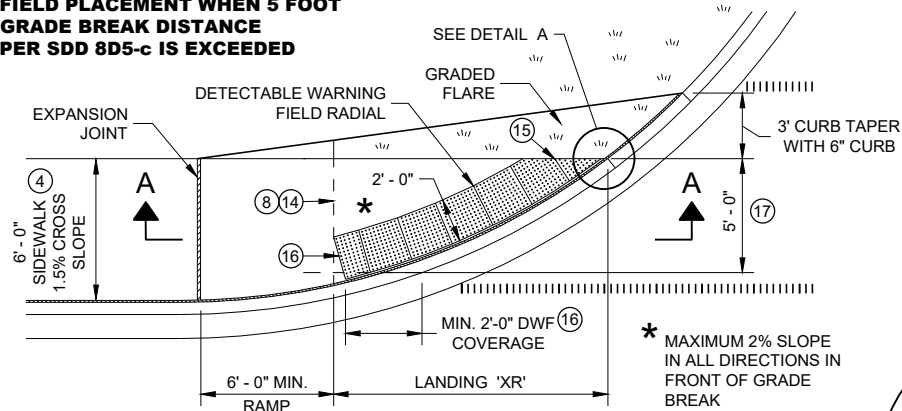


SECTION B - B FOR TYPE 7A

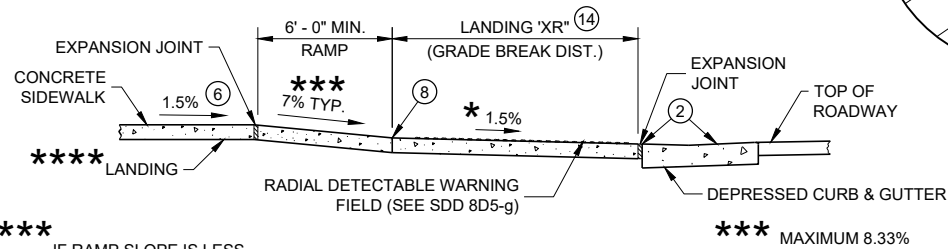
**CURB RAMPS
TYPE 5, 6, 7A, 7B & 8**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

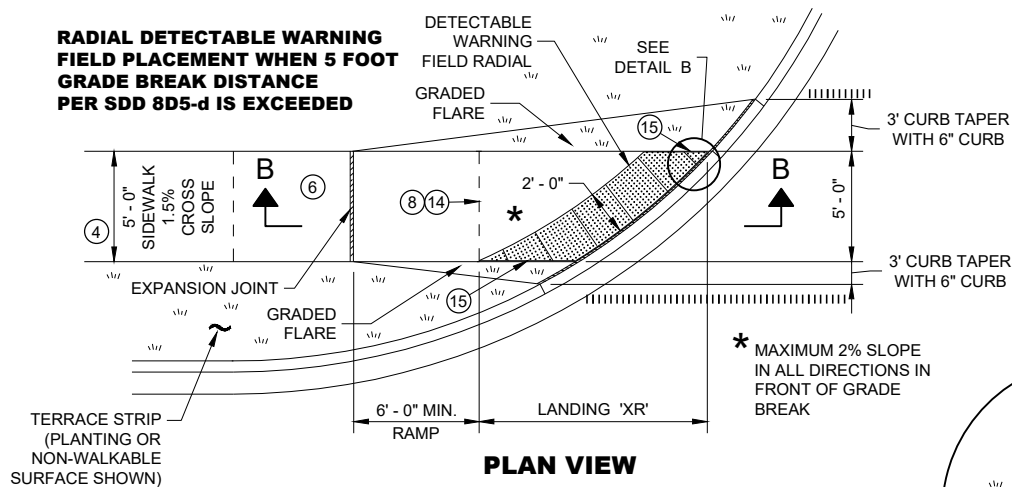


**PLAN VIEW
CURB RAMP TYPE 4A1
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)**

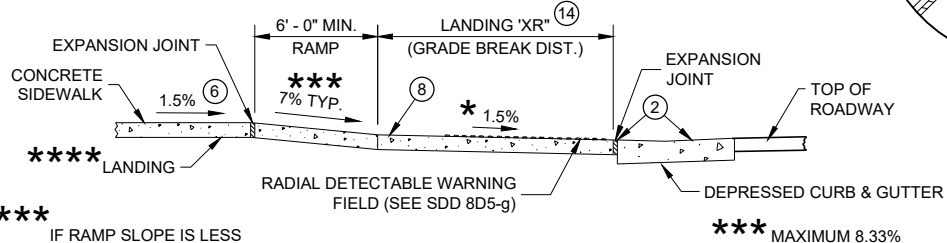


SECTION A - A FOR TYPE 4A1

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



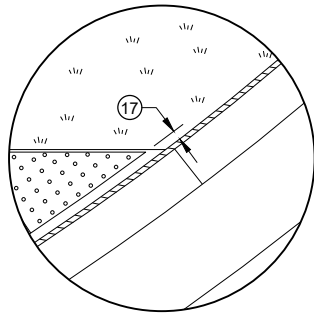
**PLAN VIEW
CURB RAMP TYPE 4B1
(GRADE BREAK DISTANCE GREATER THAN 5 FEET)**



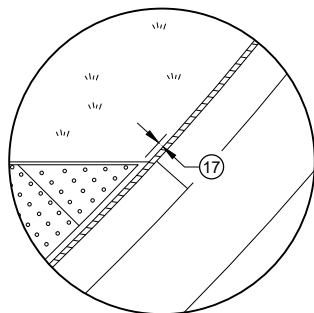
SECTION B - B FOR TYPE 4B1

LEGEND

- 1/2" EXPANSION JOINT SIDEWALK
- CONTRACTION JOINT SIDEWALK
- PAVEMENT MARKING CROSSWALK (WHITE)



DETAIL A

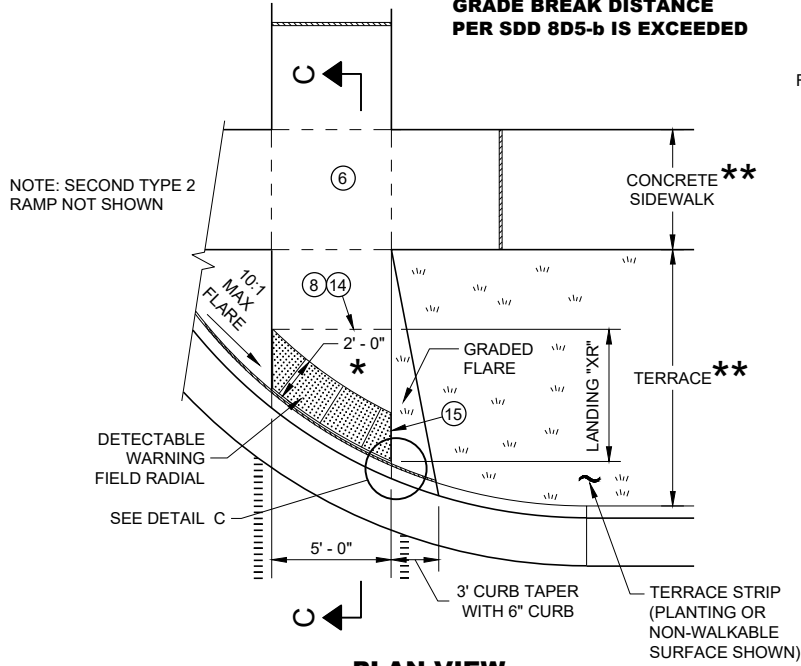


DETAIL B

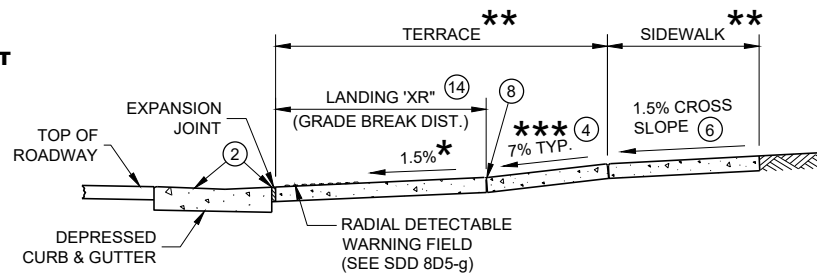
GENERAL NOTES

- AVOID PLACING DRAINAGE STRUCTURES, JUNCTION BOXES OR OTHER OBSTRUCTIONS IN FRONT OF RAMP ACCESS AREAS.
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.
- DETECTABLE WARNING FIELDS THAT ARE INSTALLED AS A GROUP OR SIDE BY SIDE, SHALL BE FROM THE SAME MANUFACTURER.
- APPLY RADIAL DETECTABLE WARNING PLACEMENT SIMILARLY FOR TYPE 4A AND 4A1 CURB RAMPS AND SIMILARLY FOR TYPE 4B AND 4B1 CURB RAMPS. TYPE 4A AND 4B CURB RAMPS ARE NOT SHOWN.
- REFER TO SDD 8D5-g FOR ADDITIONAL RADIAL PLATE REQUIREMENTS.
- FIELD CUTS AT INTERMEDIATE JOINTS WITHIN THE RADIAL DETECTABLE WARNING FIELD ARE PROHIBITED.
- DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.
- GRADE CHANGE BETWEEN GUTTER FLAG SLOPE AND THE CURB RAMP SLOPE SHALL NOT EXCEED 11%. MAXIMUM GUTTER FLAG SLOPE IS 4%. PROVIDE LONGITUDINAL DRAINAGE AROUND CURB AND AWAY FROM CURB RAMP. NO VERTICAL LIPS OR DISCONTINUITIES GREATER THAN 1/4 - INCH ARE ALLOWED. SLOPE OF CURB HEAD OPENING SHALL MATCH THE RAMP SLOPE, MINIMALLY 1.5% AND NOT TO EXCEED 7%. WHEN ADJACENT TO 1.5% LANDING, CONSTRUCT CURB HEAD OPENING AT 1.5% IN THE DIRECTION OF PEDESTRIAN TRAVEL.
- AN 8.33% CURB RAMP SLOPE IS ALLOWABLE WITH FLATTENED GUTTER FLAG SLOPE AND NOT TO EXCEED 11% GRADE CHANGE.
- ±0.5% CONSTRUCTION TOLERANCE IN SIDEWALK CROSS SLOPE. THE SIDEWALK CROSS SLOPE SHALL NOT EXCEED 2% WITHOUT PRIOR APPROVAL FROM THE ENGINEER.
- PROVIDE A LEVEL LANDING (MAXIMUM 2% SLOPE) IN ANY DIRECTION OF PEDESTRIAN TRAVEL. STANDARD LANDING SIZE IS 5 FEET BY 5 FEET.
- PROVIDE GRADE BREAK PERPENDICULAR TO DIRECTION OF WHEELCHAIR TRAVEL.
- CONSULT ENGINEER IF GRADE BREAK LOCATION (END OF LANDING DIMENSION "XR") REQUIRES FIELD ADJUSTMENT WHEN ESTABLISHING FINAL RADIAL DETECTABLE WARNING FIELD LOCATION.
- FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN 1/8" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.
- USE 1' X 2" RECTANGULAR END PLATE AT END OF TYPE 4A1 RAMP AND PROVIDE MINIMUM 2' - 0" DETECTABLE WARNING FIELD COVERAGE (IN DIRECTION OF PEDESTRIAN TRAVEL) ALONG THE ENTIRE CURB RAMP WIDTH.
- A MAXIMUM 3 INCH CONCRETE BORDER WITH IS ALLOWABLE IN FROM OF RADIAL DETECTABLE WARNING FIELD FOR CONSTRUCTABILITY PURPOSES. CONCRETE BORDER WIDTH MAY VARY UP TO 1 INCH.

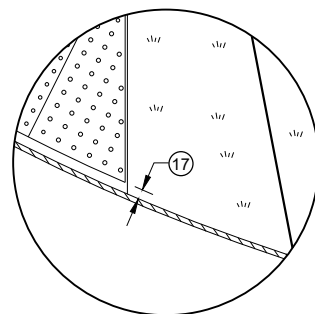
**RADIAL DETECTABLE WARNING
FIELD PLACEMENT WHEN 5 FOOT
GRADE BREAK DISTANCE
PER SDD 8D5-b IS EXCEEDED**



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



SECTION C - C FOR TYPE 2



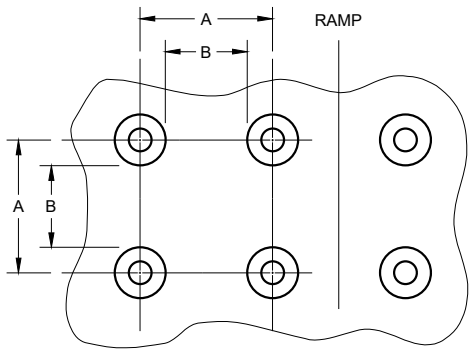
DETAIL C

**CURB RAMPS
RADIAL DETECTABLE WARNING
FIELD APPLICATIONS**

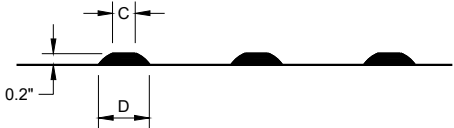
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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

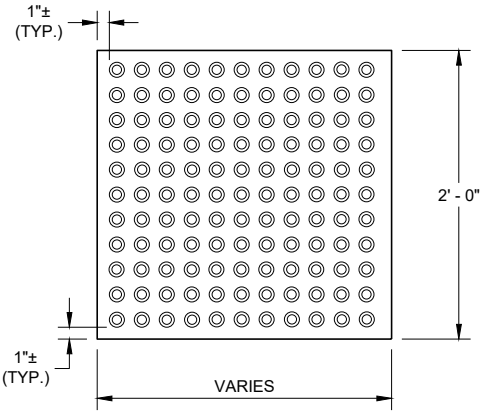


PLAN VIEW

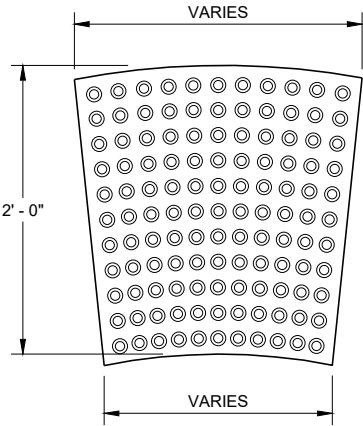


ELEVATION VIEW

TRUNCATED DOMES
DETECTABLE WARNING PATTERN DETAIL

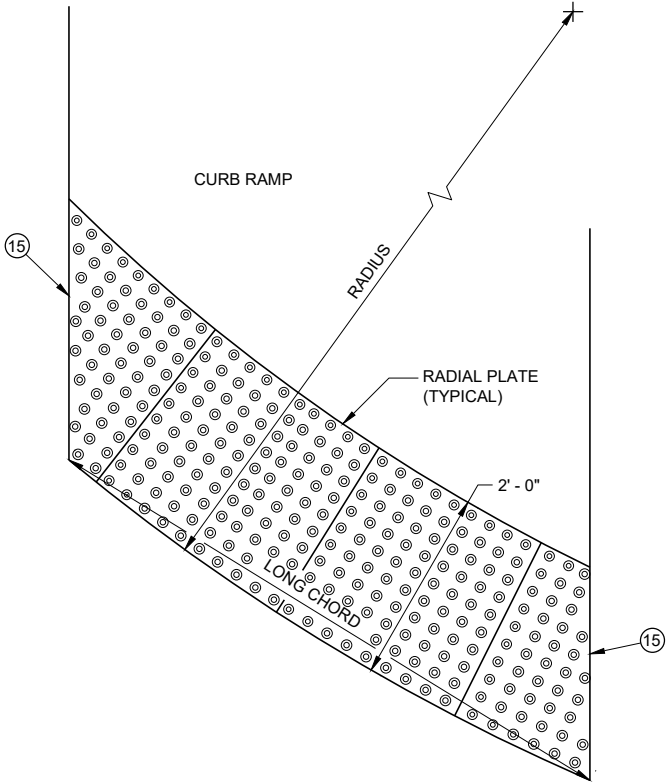


RECTANGULAR
PLATES



RADIAL
PLATES

PLAN VIEW
DETECTABLE WARNING FIELDS (TYPICAL)



PLAN VIEW
RADIAL DETECTABLE
WARNING FIELD ATTRIBUTES

GENERAL NOTES

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

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

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

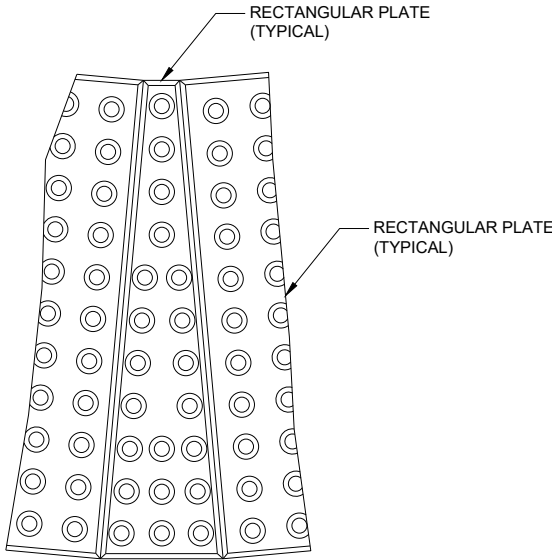
DETERMINE FINAL RADIAL WARNING FIELD CONFIGURATION AND ITS INDIVIDUAL PLATE LOCATIONS. PERFORM PRE-LAYOUT PRIOR TO PLACEMENT IN PLASTIC CONCRETE. FOLLOW MANUFACTURER'S PRODUCT LIST AND INSTALLATION RECOMMENDATIONS.

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

REFER TO CONTRACT AND STANDARD SPECIFICATIONS FOR FIELD CUTTING REQUIREMENTS.

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

(15) FIELD SAW CUTS ALONG RADIAL DETECTABLE WARNING PLATES WILL BE NECESSARY TO MATCH EACH CURB RAMP EDGE. AVOID CUTTING THROUGH DOMES WHENEVER POSSIBLE. MAKE FIELD CUTS TRUE TO LINE AND WITHIN 1/8" DEVIATION. SMOOTH EDGES OF FIELD CUT PLATES.



PLAN VIEW
RADIAL WEDGE PLATE
CONNECTION DETAIL

CURB RAMPS
RECTANGULAR AND RADIAL
DETECTABLE WARNING PLATES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2019 /S/ Rodney Taylor
DATE ROADWAY STANDARDS DEVELOPMENT UNIT SUPERVISOR
FHWA 279

GENERAL NOTES

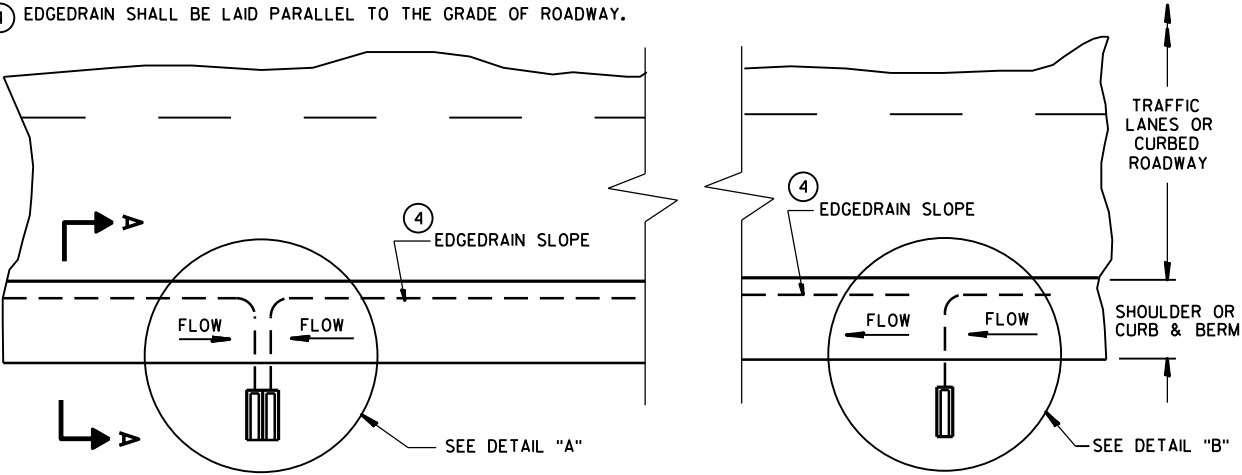
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- ① UNPERFORATED PIPE UNDERDRAIN AND FITTINGS FURNISHED FOR OUTFALL PIPE SHALL MEET THE REQUIREMENTS OF ONE OF THE FOLLOWING SPECIFICATIONS:

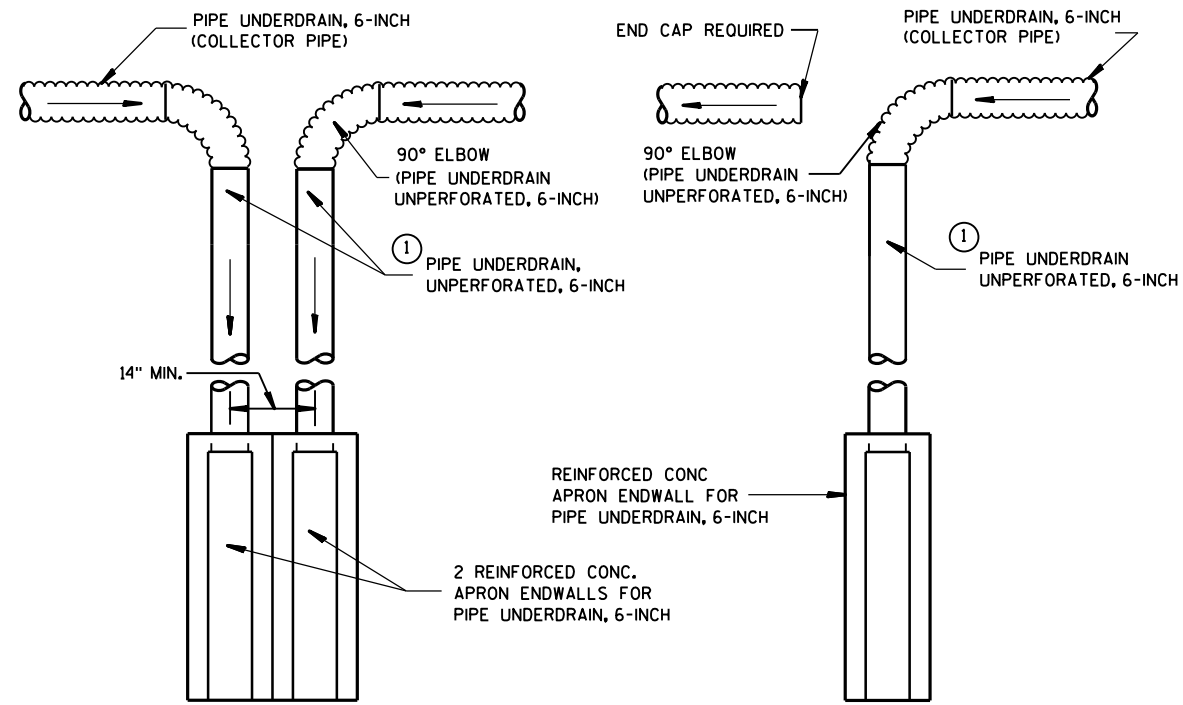
POLYVINYL CHLORIDE (PVC) PLASTIC DRAIN, WASTE, AND VENT PIPE AND FITTINGS, ASTM D 2665, SCHEDULE 40 PVC.

TYPE PSM POLYVINYL CHLORIDE (PVC) SEWER PIPE AND FITTINGS, ASTM D 3034, SDR 23.5 PVC SEWER PIPE.

- ② MAXIMUM SPACING OF EDGEDRAIN OUTLETS SHALL BE 250 FEET UNLESS OTHERWISE SPECIFIED IN THE CONTRACT OR DIRECTED BY THE ENGINEER.
- ③ EDGEDRAIN SHALL BE CONNECTED TO INLETS REGARDLESS OF FLOW DIRECTION FOR DRAINAGE AND MAINTENANCE ACCESS.
- ④ EDGEDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF ROADWAY.



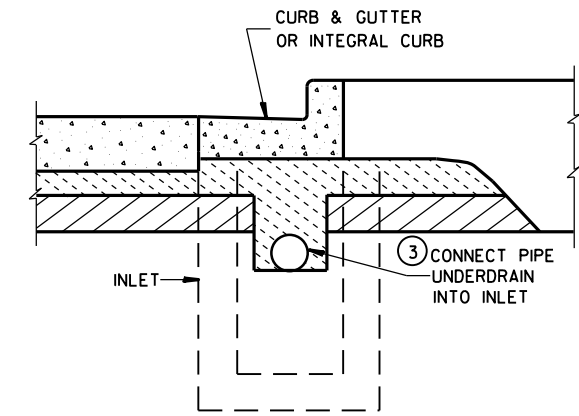
PLAN VIEW
ROADWAY WITH SHOULDERS OR CURBS
(EDGEDRAIN OUTLETS TO ROADSIDE) ②



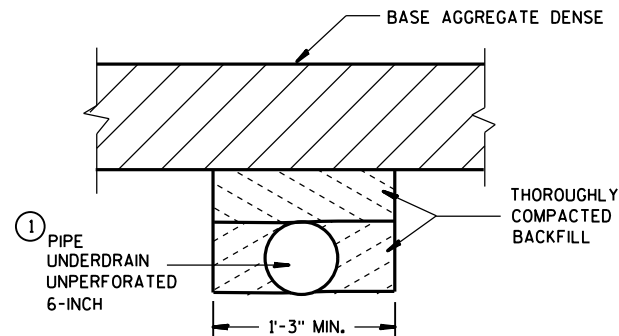
DETAIL "A"
TO BE USED AT LOW POINT LOCATIONS

DETAIL "B"
TO BE USED AT INTERMEDIATE LOCATIONS

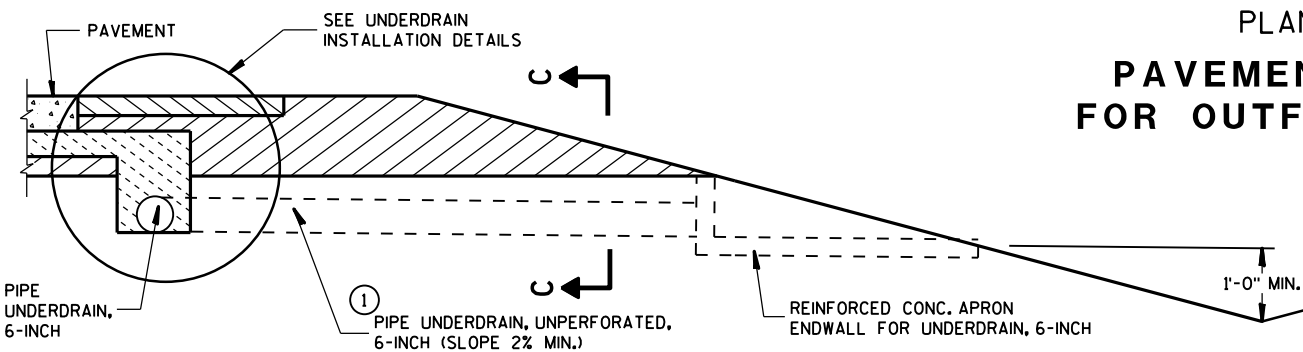
TYPICAL DRAIN OUT DETAILS



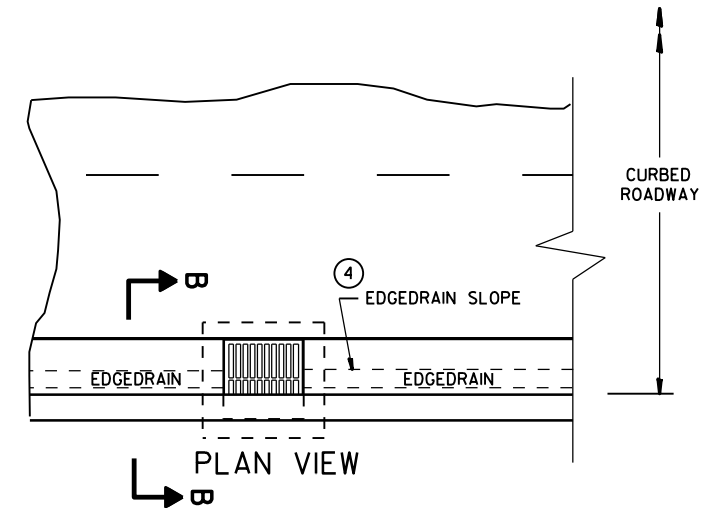
SECTION B-B
URBAN CROSS SECTION



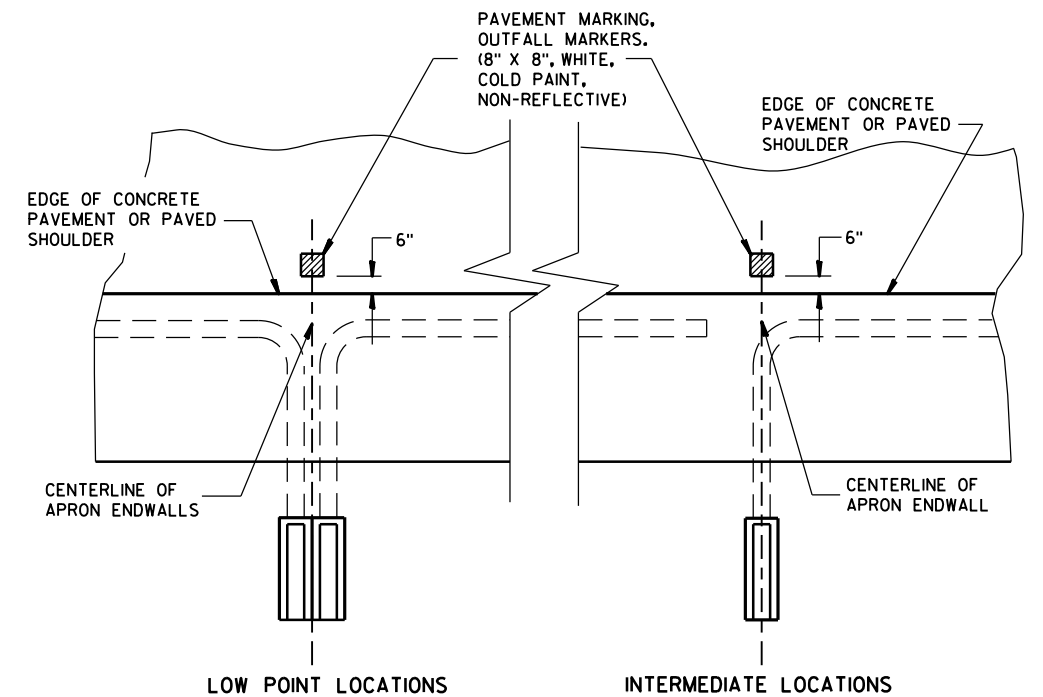
SECTION C-C
(TRENCH FOR OUTFALL PIPE)



SECTION A-A
RURAL CROSS SECTION



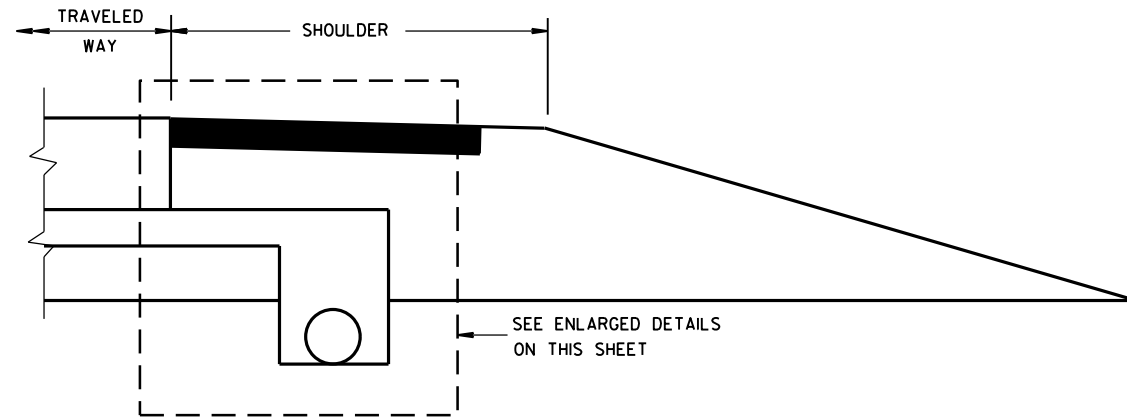
ROADWAY WITH CURBS
(EDGEDRAIN CONNECTS INTO INLET STRUCTURE)



PLAN VIEW
**PAVEMENT MARKING
FOR OUTFALL MARKERS**

**EDGEDRAIN OUTLET
AND OUTFALL MARKERS**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



RURAL CROSS SECTION

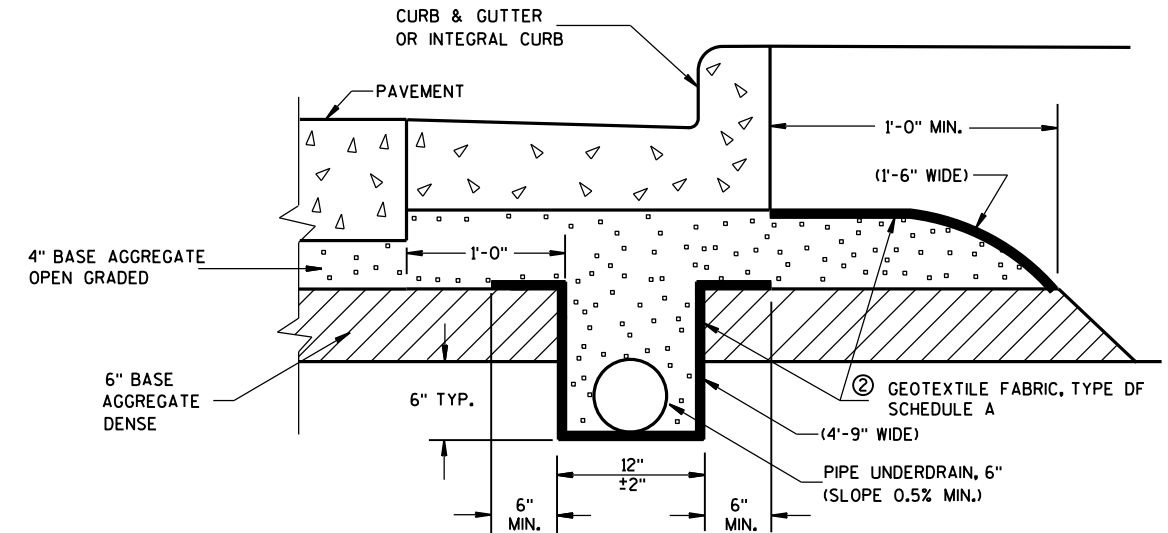
GENERAL NOTES

THE DIMENSIONS SHOWN ON THE TYPICAL CROSS SECTIONS WILL GOVERN IN THE EVENT THERE IS A CONFLICT WITH THE DETAILS SHOWN ON THIS DRAWING.

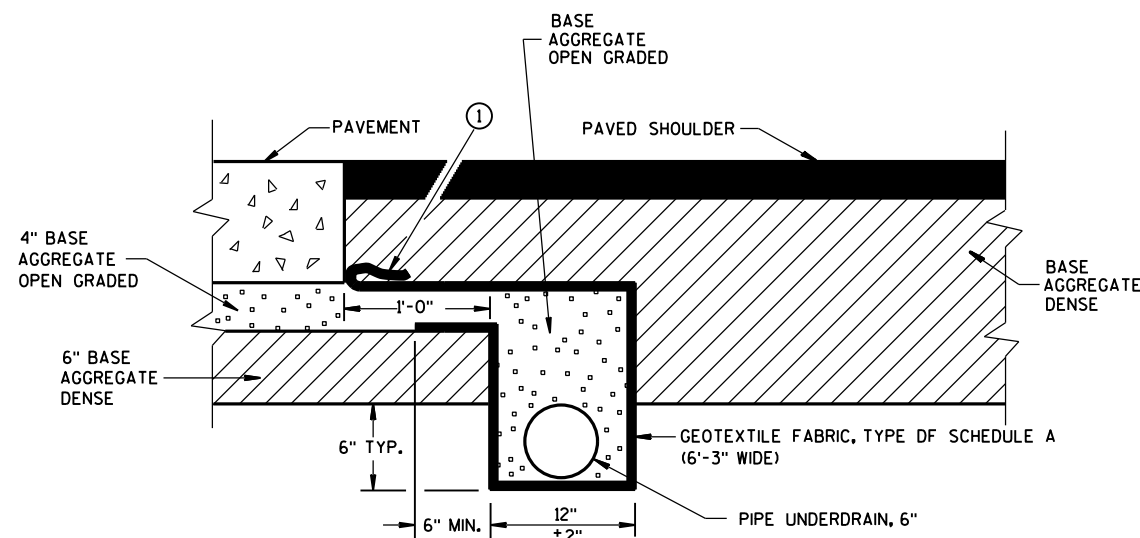
PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF THE ROADWAY.

① FOLD OVER EXCESS GEOTEXTILE FABRIC AT THIS LOCATION.

② TOTAL FABRIC WIDTH IS 6'-3" FOR PAYMENT.

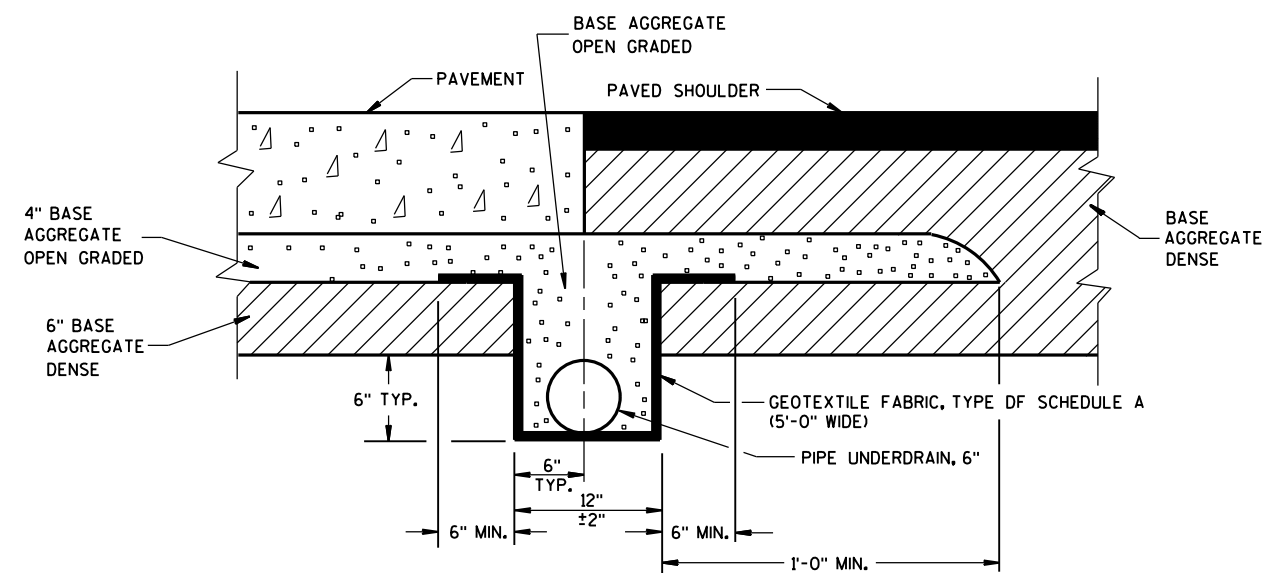


EDGEDRAIN IN URBAN ROADWAY



POST PAVING INSTALLATION

(QUANTITIES ARE BASED ON THIS DETAIL)



PRE-PAVING INSTALLATION ALTERNATE

EDGEDRAIN IN RURAL ROADWAY

**EDGEDRAIN AND BASE
AGGREGATE OPEN GRADED**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

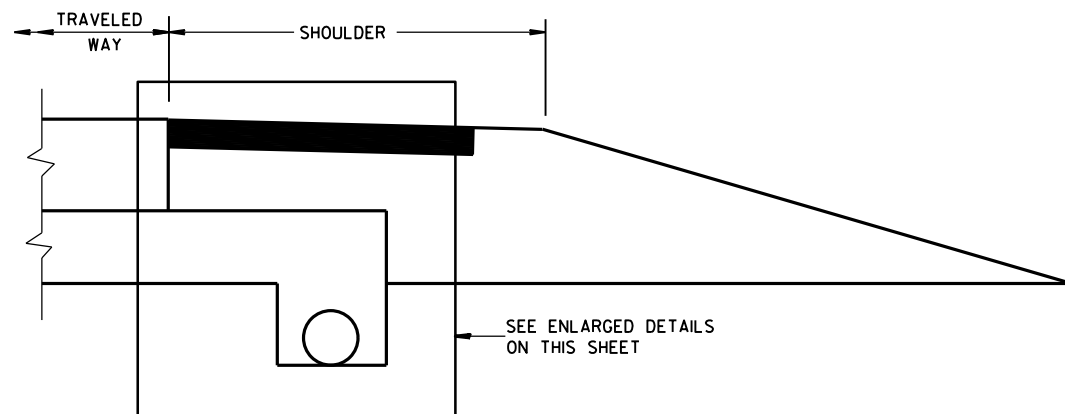
Sept. 2015

DATE

/S/ Peter Kemp, P.E.

PAVEMENT SUPE 281

FHWA

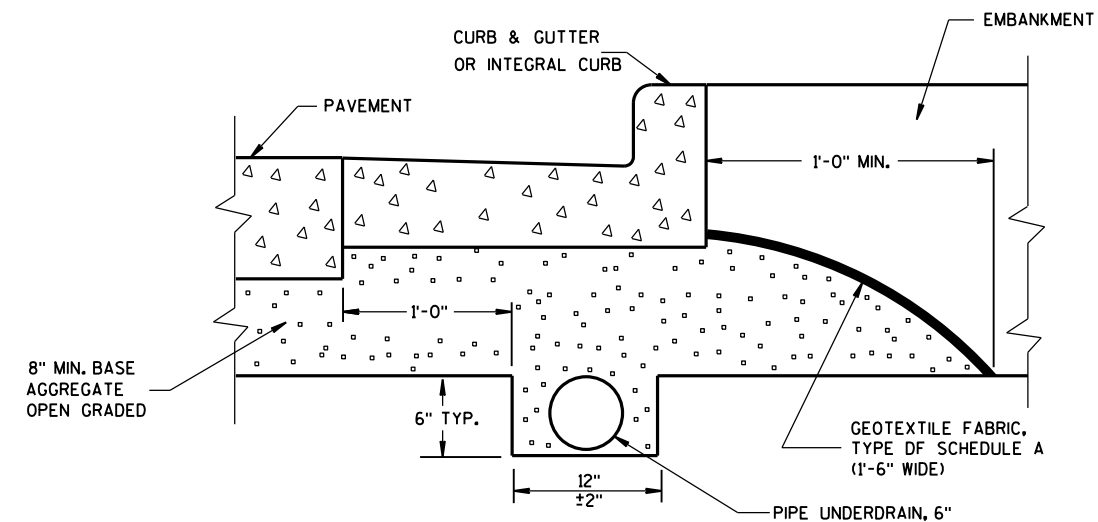


RURAL CROSS SECTION

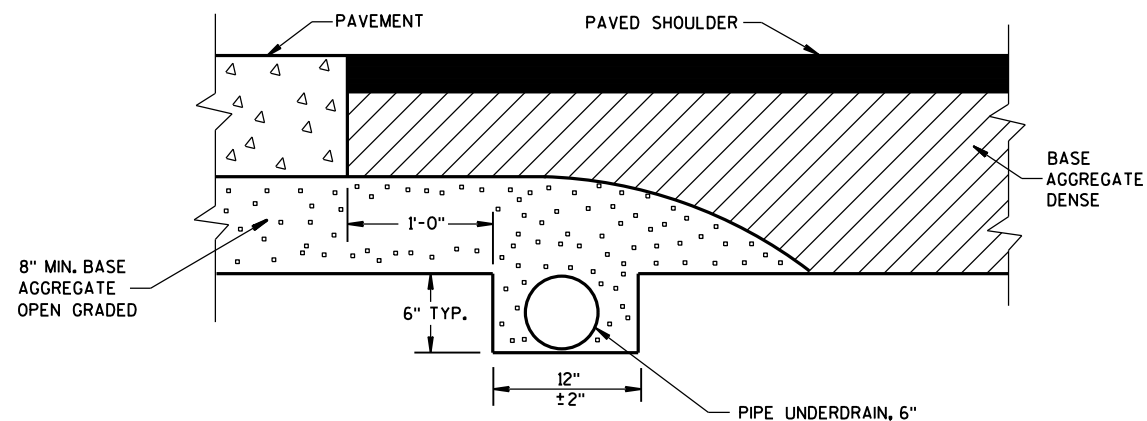
GENERAL NOTES

THE DIMENSIONS SHOWN ON THE TYPICAL CROSS SECTIONS WILL GOVERN IN THE EVENT THERE IS A CONFLICT WITH THE DETAILS SHOWN ON THIS DRAWING.

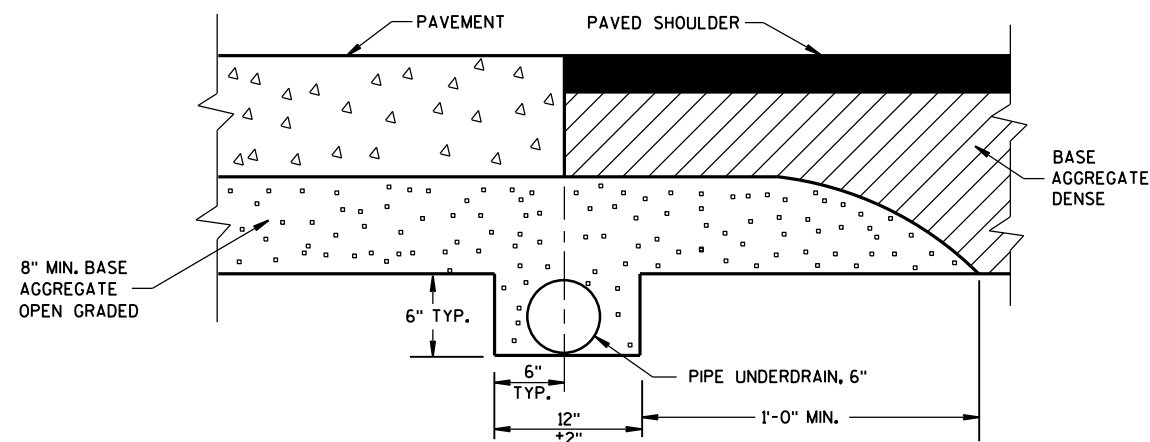
PIPE UNDERDRAIN SHALL BE LAID PARALLEL TO THE GRADE OF THE ROADWAY.



EDGEDRAIN IN URBAN ROADWAY



POST PAVING INSTALLATION
(QUANTITIES ARE BASED ON THIS DETAIL)



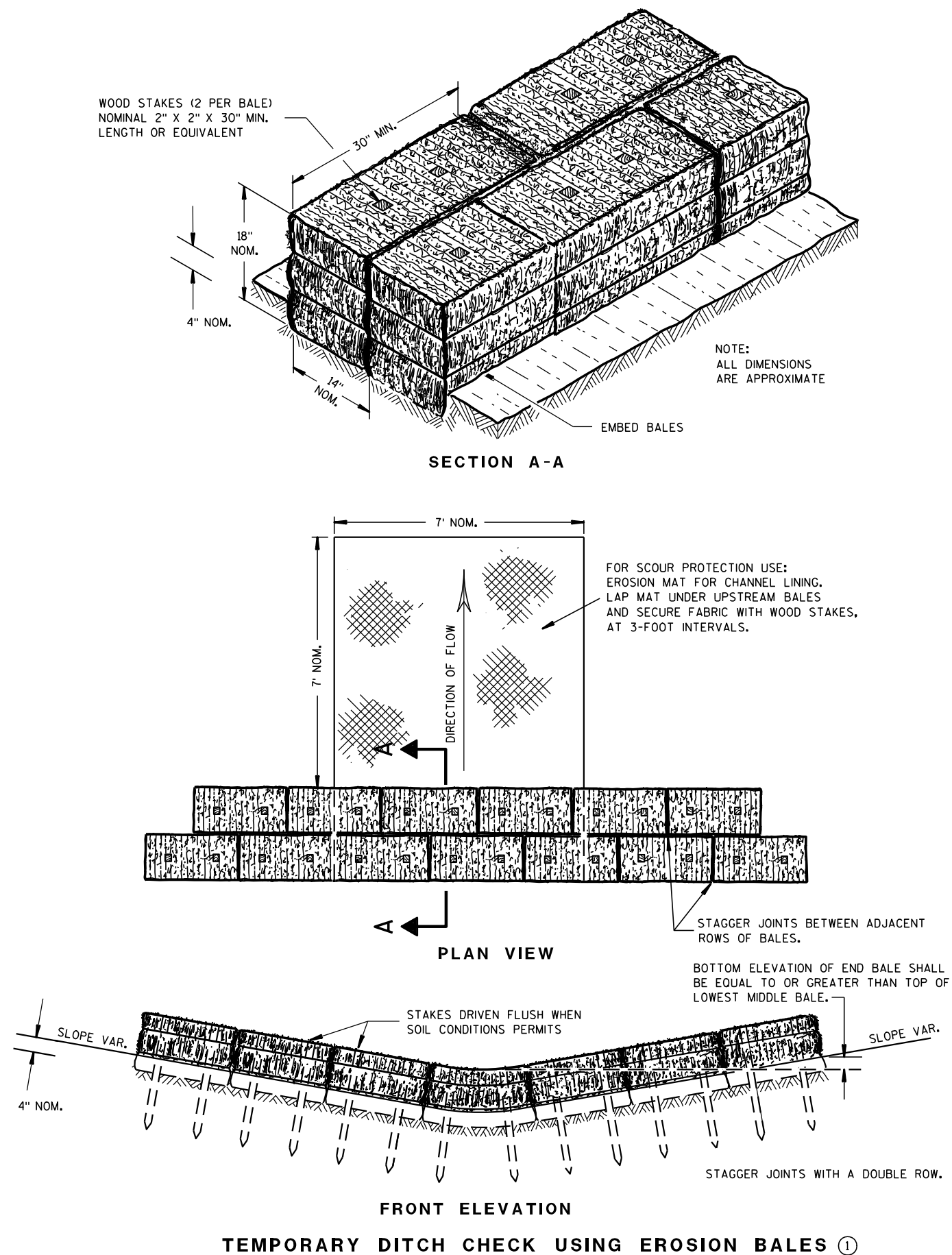
PRE-PAVING INSTALLATION ALTERNATIVE

EDGEDRAIN IN RURAL ROADWAY

**EDGEDRAIN AND BASE
AGGREGATE OPEN GRADED**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

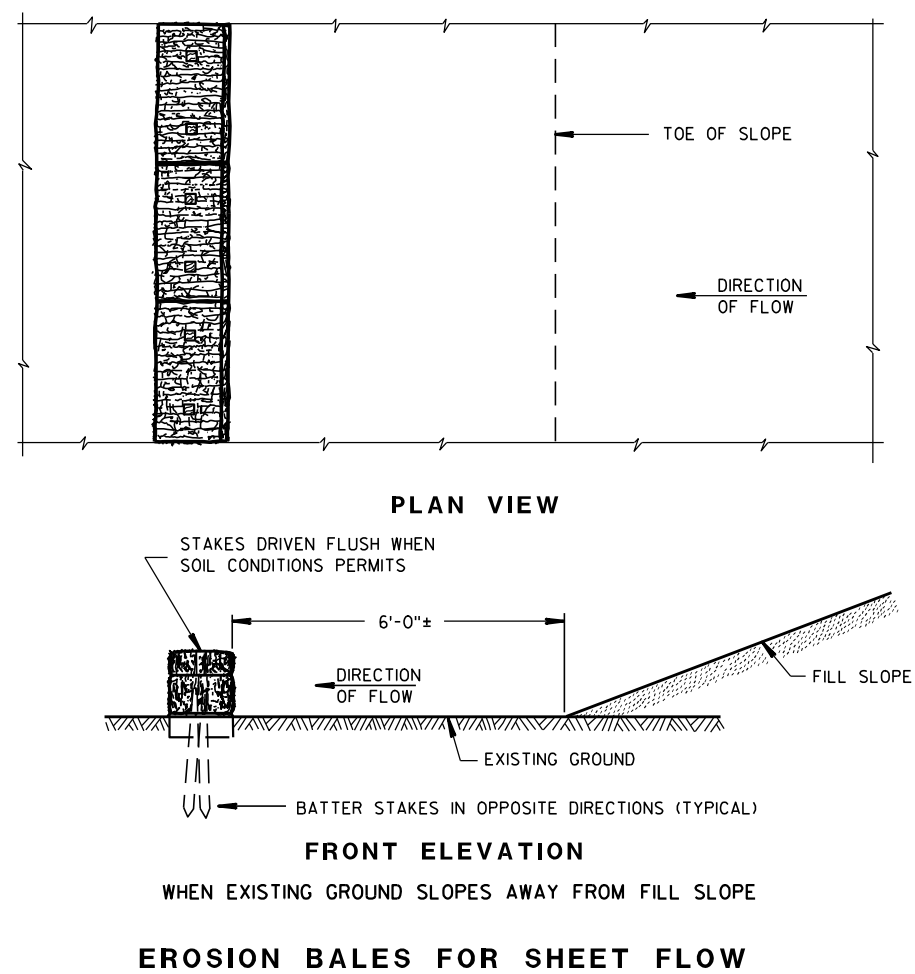
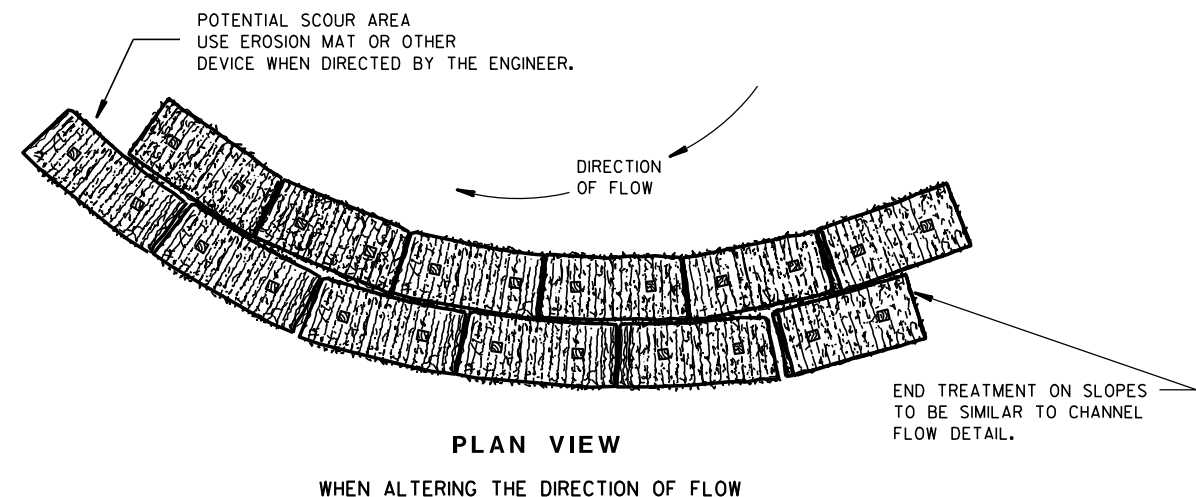
APPROVED
Sept. 2015 /S/ Peter Kemp, P.E.
DATE PAVEMENT SUPE 282
FHWA



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

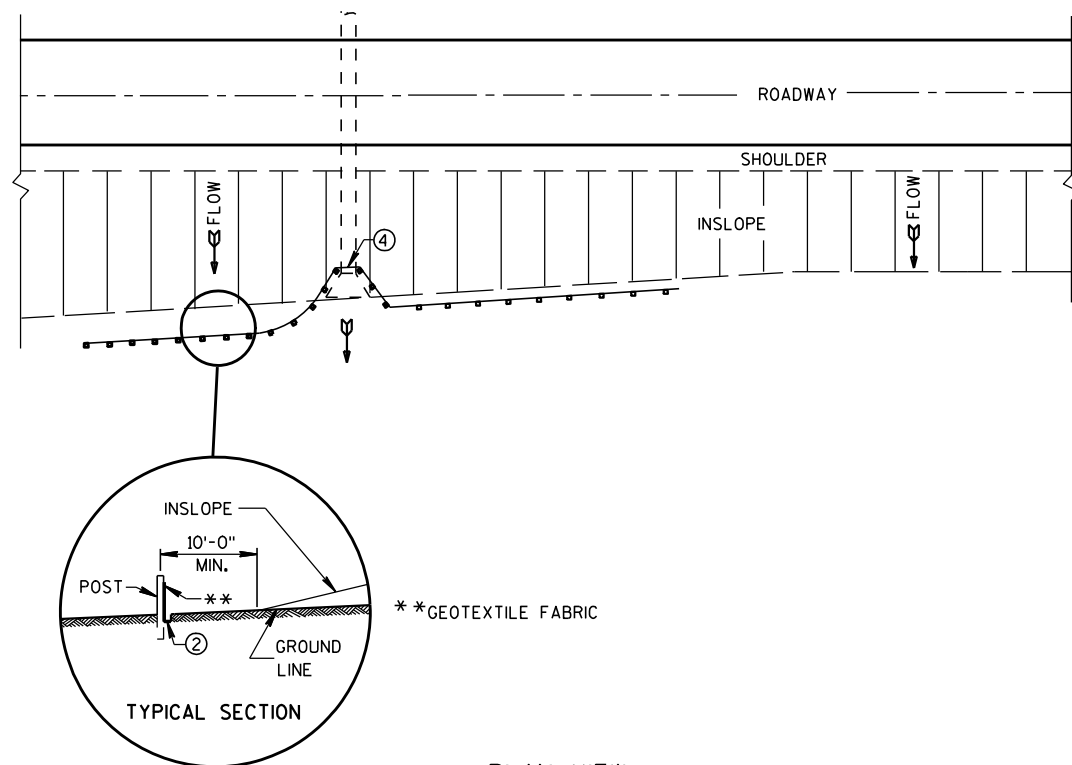
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

6/04/02
DATE

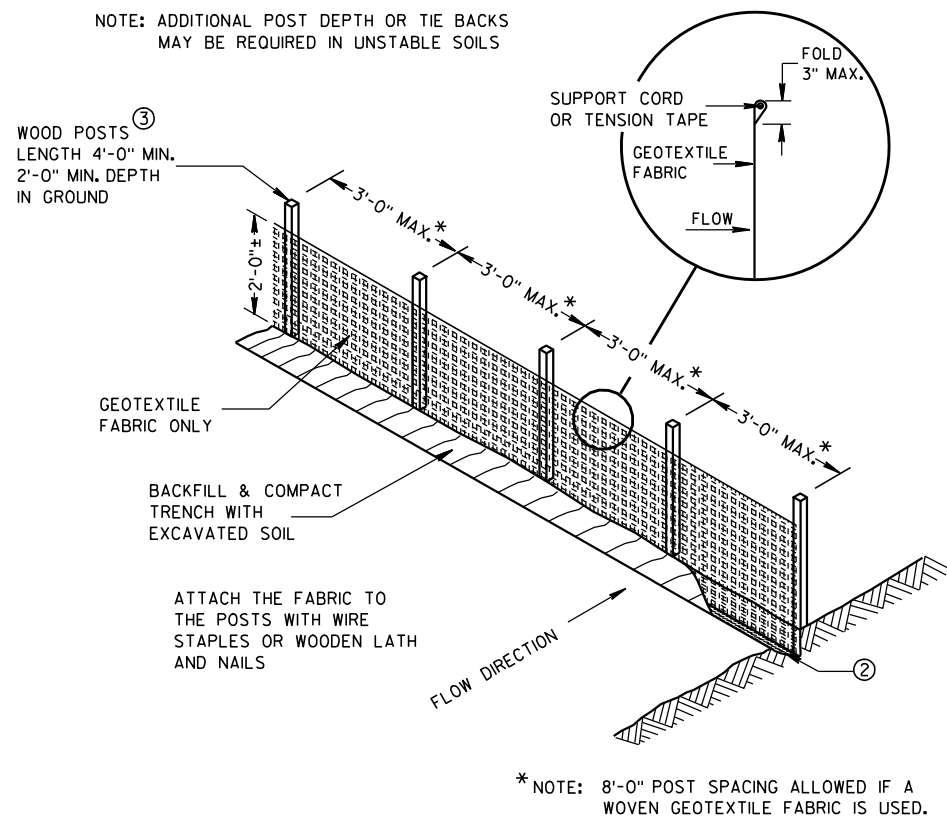
/S/ Beth Conn-----
CHIEF ROADWAY DEVELOPER 283 ENGINEER

FHWA

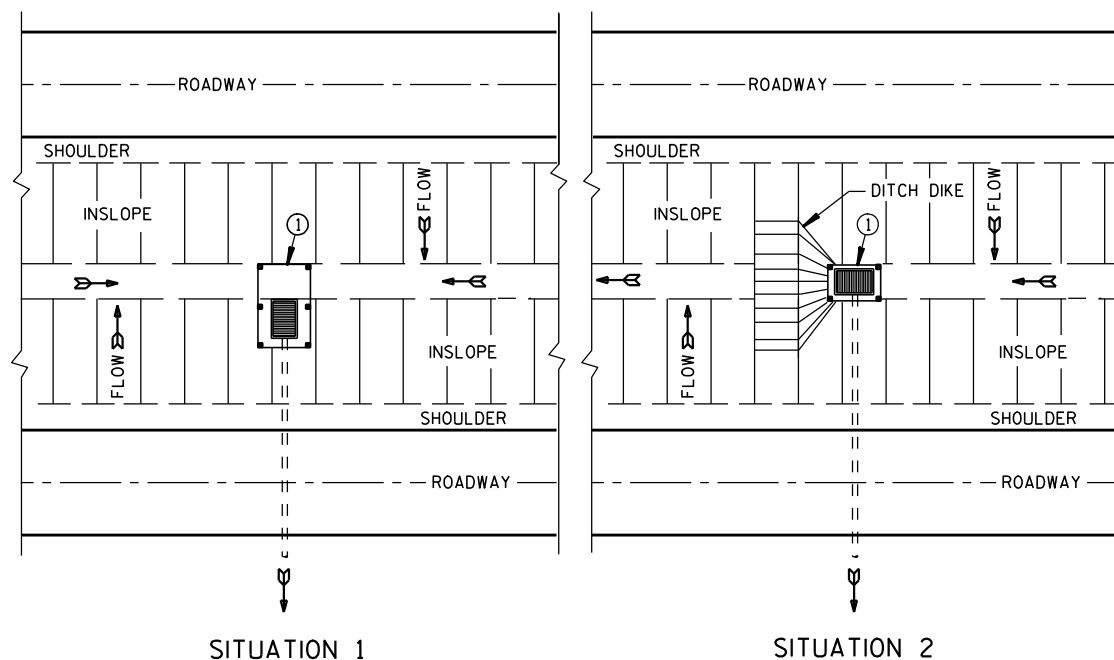


PLAN VIEW
TYPICAL APPLICATION OF SILT FENCE

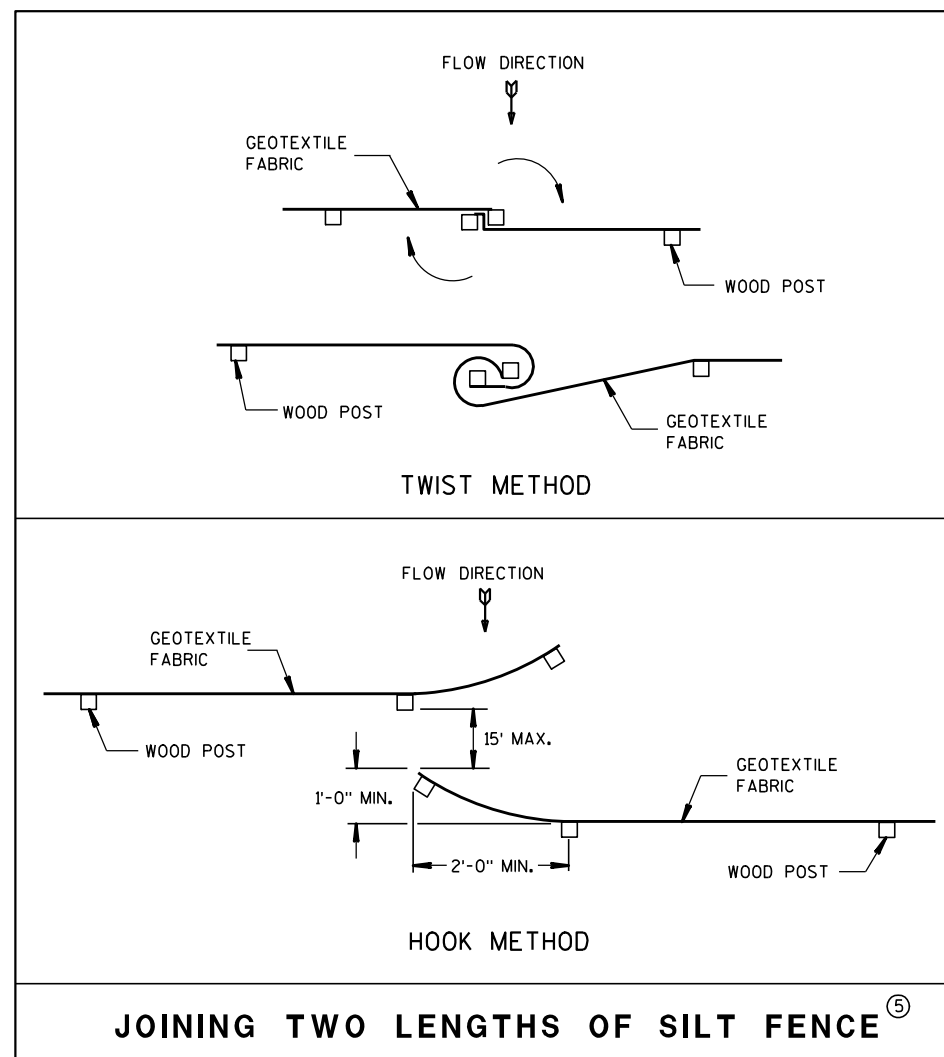
NOTE: ADDITIONAL POST DEPTH OR TIE BACKS
MAY BE REQUIRED IN UNSTABLE SOILS



SILT FENCE



PLAN VIEW
SILT FENCE AT MEDIAN SURFACE DRAINS

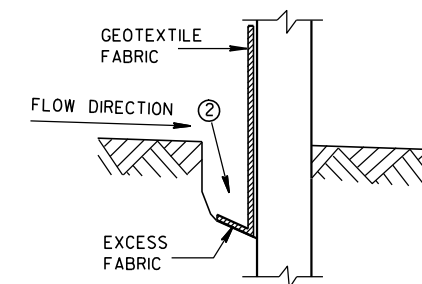


JOINING TWO LENGTHS OF SILT FENCE^⑤

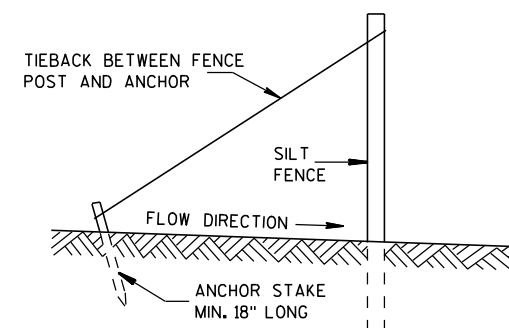
GENERAL NOTES

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

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

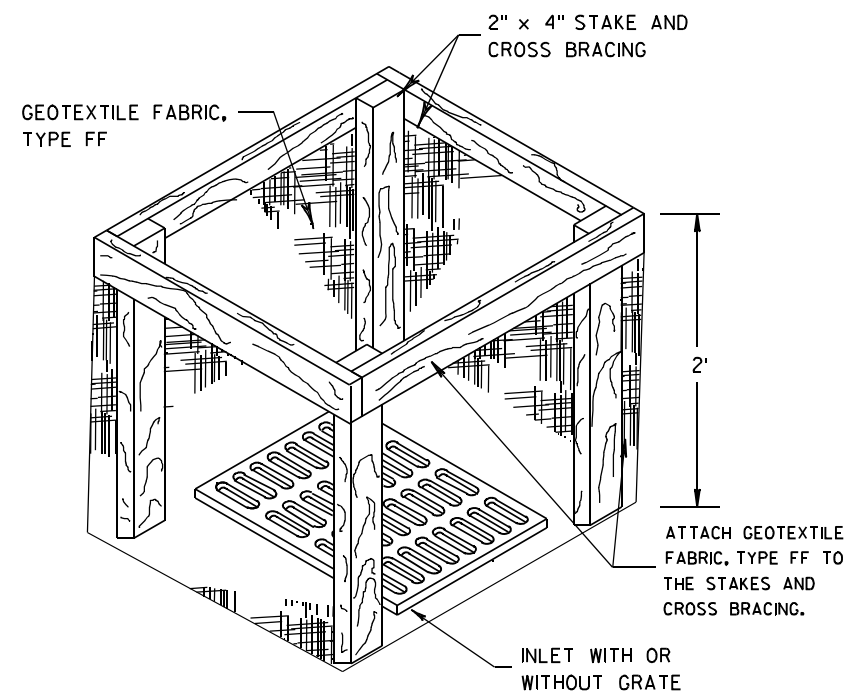
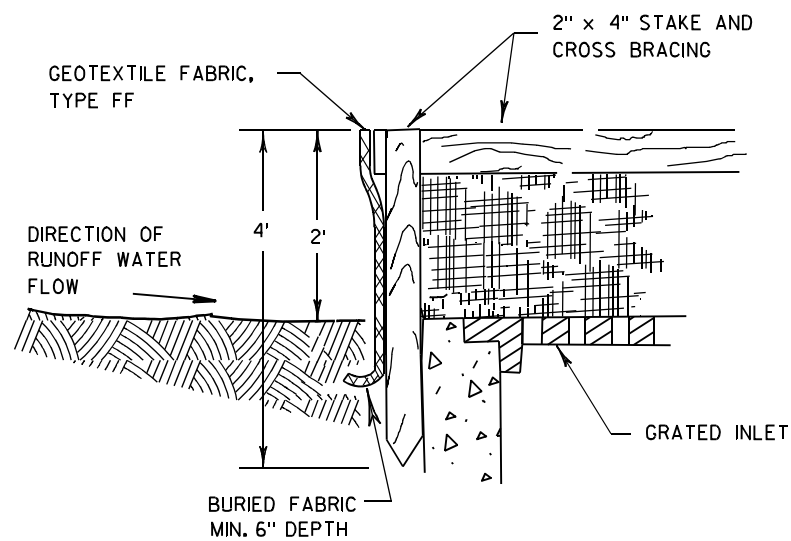
APPROVED

4-29-05
DATE

FHWA

/S/ Beth Conn
CHIEF ROADWAY DEVELOPER

ENGINEER



INLET PROTECTION, TYPE A

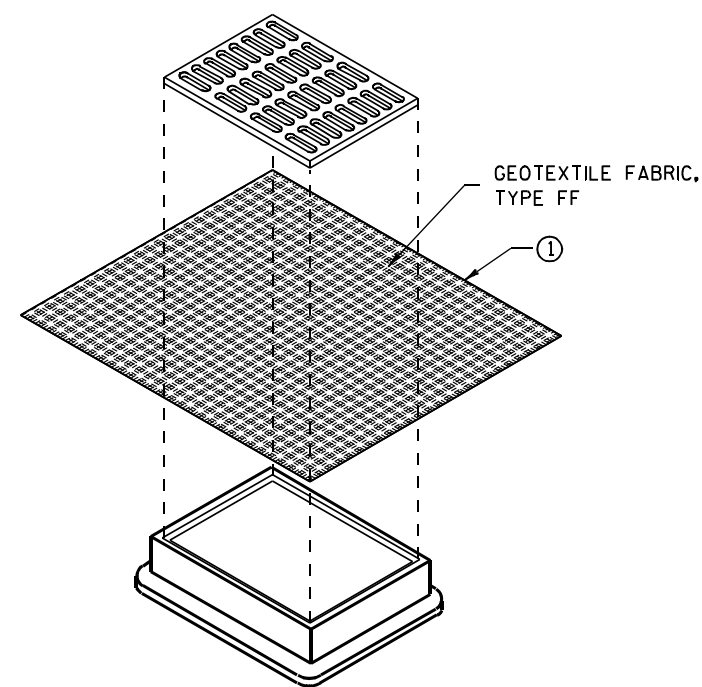
GENERAL NOTES

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.

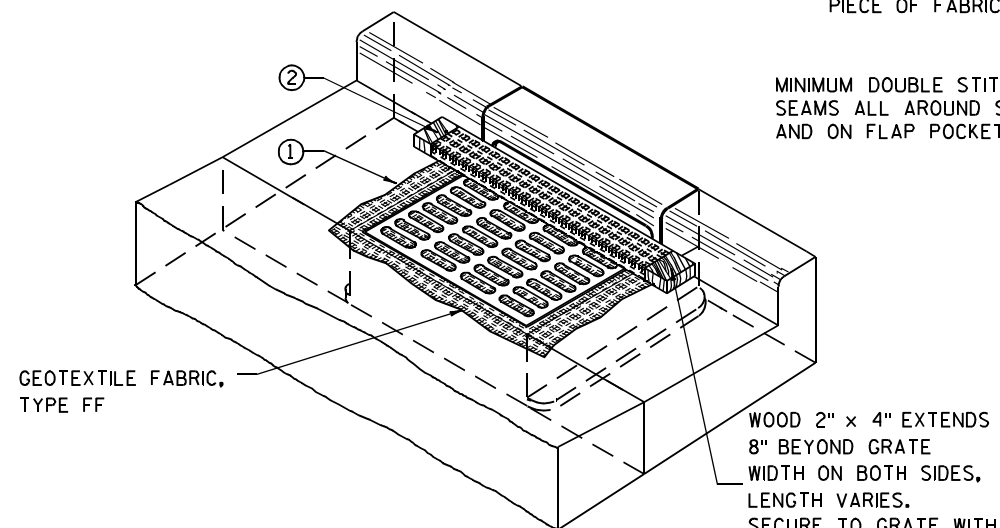
WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- 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.

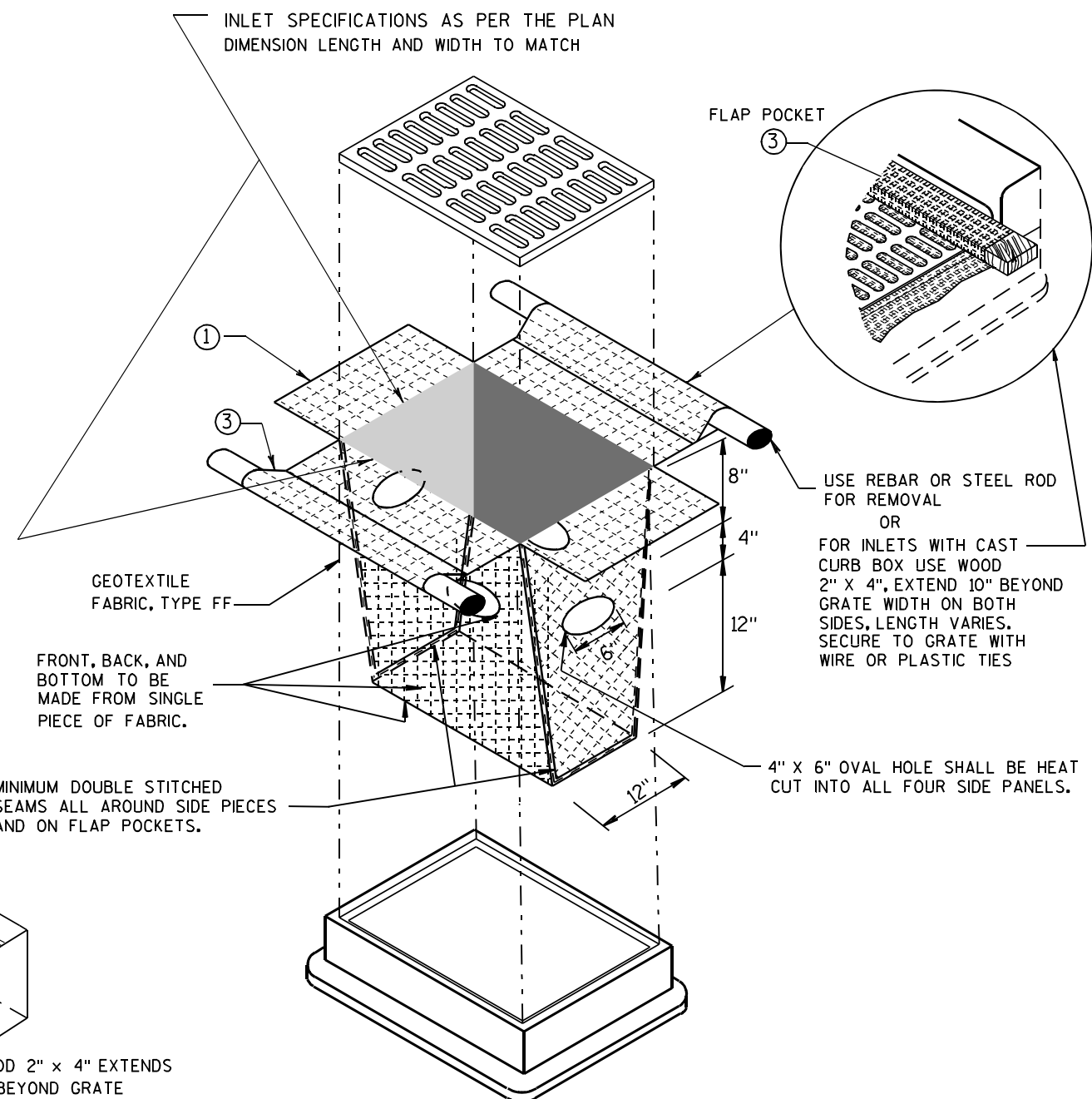
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

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 Connolly
DATE 285
FHWA CHIEF ROADWAY DEVELOPMENT ENGINEER

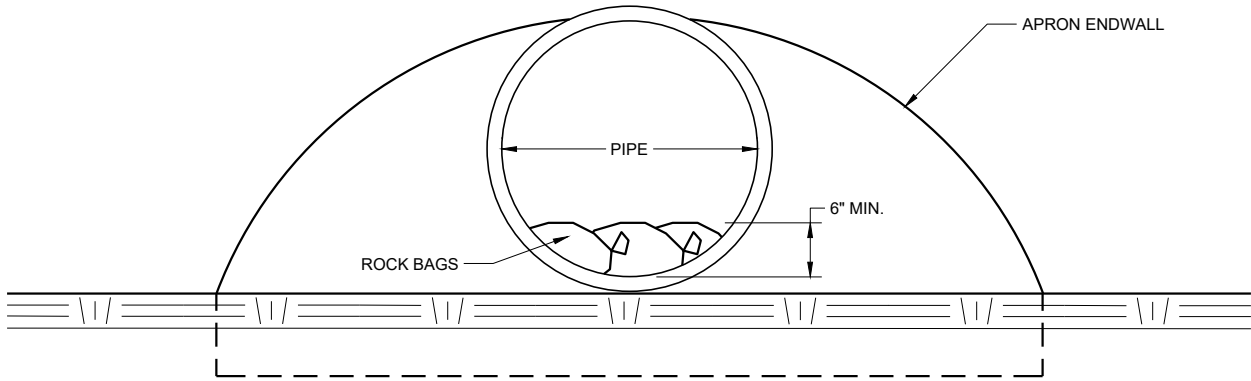
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

TRACKING PAD TO BE REMOVED AFTER CONSTRUCTION IS COMPLETED.

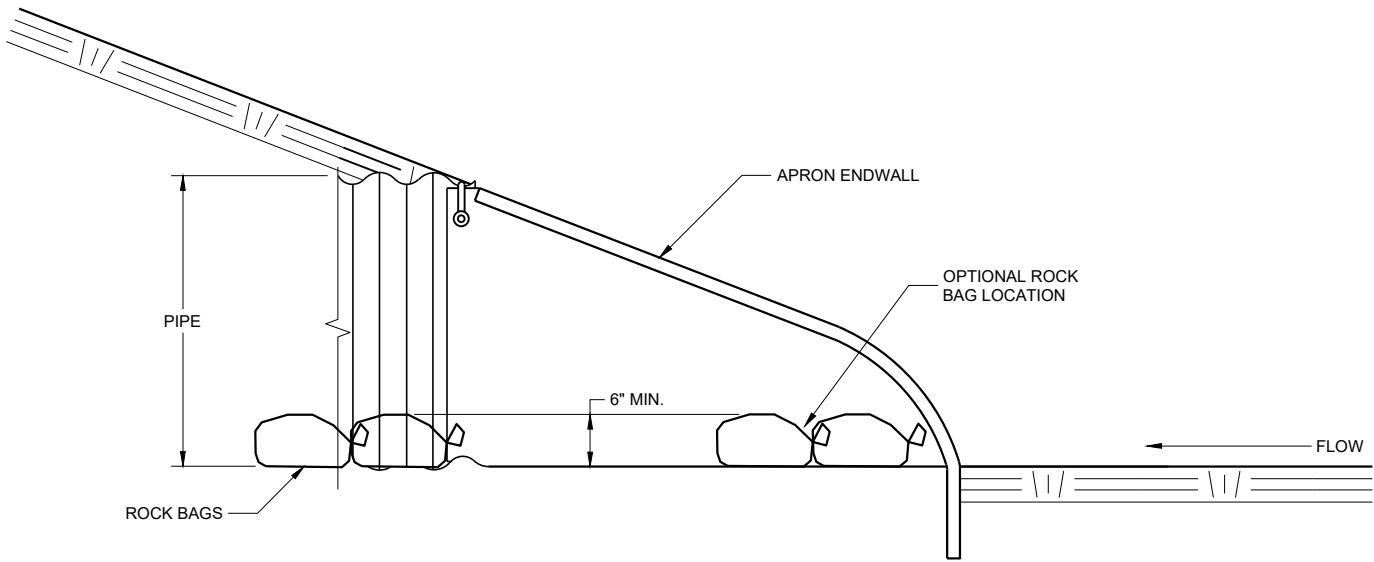
SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY, AROUND OR CONVEYED UNDER THE TRACKING PAD.

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





END VIEW



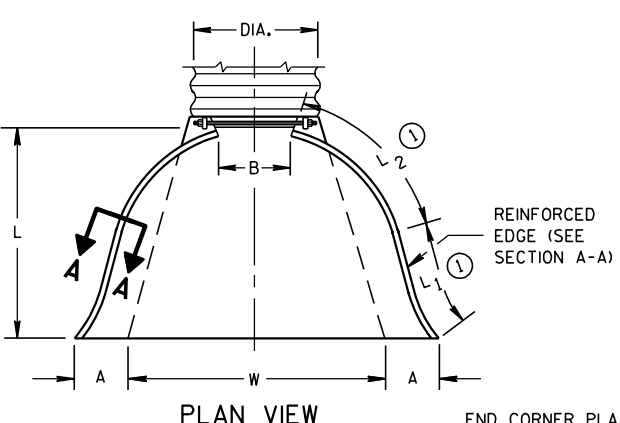
SIDE VIEW

CULVERT PIPE CHECK
(INSTALL ON INLET END ONLY)

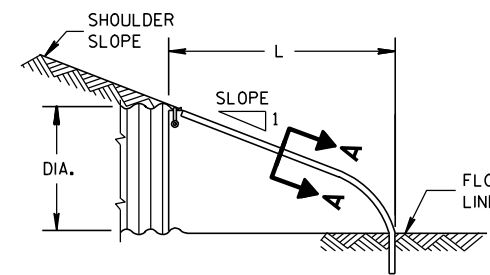
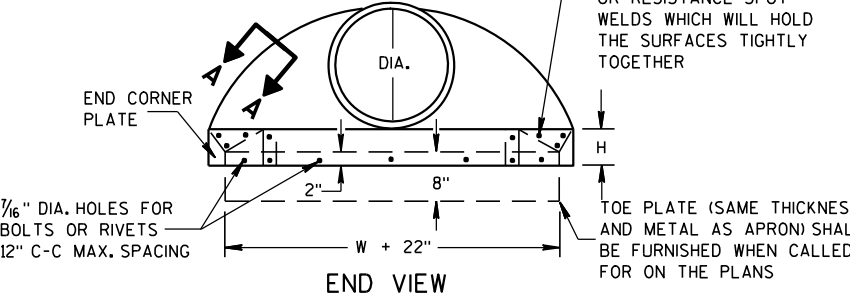
CULVERT PIPE CHECK			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED			
May 2019	/S/ Daniel Schave		
DATE	EROSION CONTROL ENGI	287	
FHWA			

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")	L ₁ ①	L ₂ ①	W (±2")			
12	.064	.060	6	6	6	21	12	17 1/2	24	2 1/2 to 1	1 Pc.	
15	.064	.060	7	8	6	26	14	21 3/4	30	2 1/2 to 1	1 Pc.	
18	.064	.060	8	10	6	31	15	28 1/4	36	2 1/2 to 1	1 Pc.	
21	.064	.060	9	12	6	36	18	29 5/8	42	2 1/2 to 1	1 Pc.	
24	.064	.075	10	13	6	41	18	37 1/4	48	2 1/2 to 1	1 Pc.	
30	.079	.075	12	16	8	51	18	52 1/4	60	2 1/2 to 1	1 Pc.	
36	.079	.105	14	19	9	60	24	59 3/4	72	2 1/2 to 1	2 Pc.	
42	.109	.105	16	22	11	69	24	75 5/8	84	2 1/2 to 1	2 Pc.	
48	.109	.105	18	27	12	78	24	81	90	2 1/4 to 1	3 Pc.	
54	.109	.105	18	30	12	84	30	85 1/2	102	2 1/4 to 1	3 Pc.	
60	.109x	.105x	18	33	12	87	—	—	114	2 to 1	3 Pc.	
66	.109x	.105x	18	36	12	87	—	—	120	2 to 1	3 Pc.	
72	.109x	.105x	18	39	12	87	—	—	126	2 to 1	3 Pc.	
78	.109x	.105x	18	42	12	87	—	—	132	1 1/2 to 1	3 Pc.	
84	.109x	.105x	18	45	12	87	—	—	138	1 1/2 to 1	3 Pc.	
90	.109x	.105x	18	37	12	87	—	—	144	1 1/2 to 1	3 Pc.	
96	.109x	.105x	18	35	12	87	—	—	150	1 1/2 to 1	3 Pc.	

* EXCEPT CENTER PANEL
SEE GENERAL NOTES



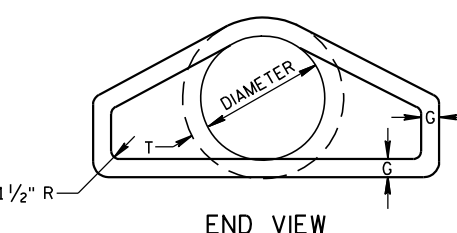
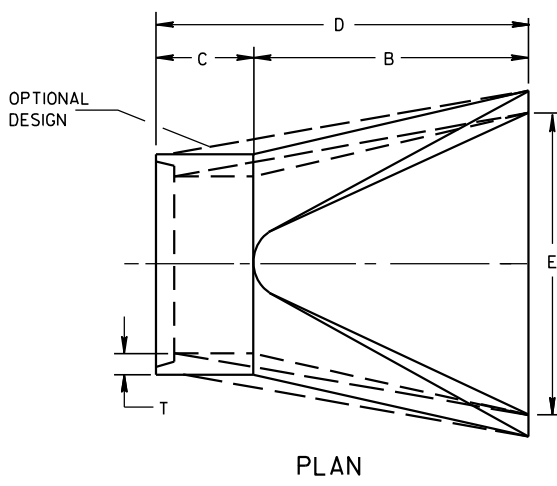
END CORNER PLATES MAY
BE FASTENED TO APRON
PROPER BY BOLTS, RIVETS,
OR RESISTANCE SPOT
WELDS WHICH WILL HOLD
THE SURFACES TIGHTLY
TOGETHER



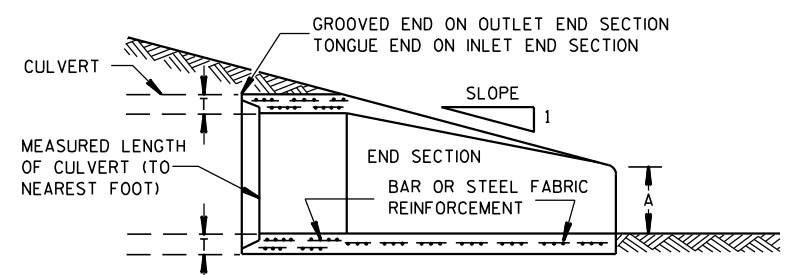
SIDE ELEVATION
METAL ENDWALLS

REINFORCED CONCRETE APRON ENDWALLS								
PIPE DIA. (IN.)	DIMENSIONS (Inches)							APPROX. SLOPE
	T	A	B	C	D	E	G	
12	2	4	24	48 ⁷ / ₈	72 ⁷ / ₈	24	2	3 to 1
15	2 ¹ / ₄	6	27	46	73	30	2 ¹ / ₄	3 to 1
18	2 ² / ₂	9	27	46	73	36	2 ² / 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 4- ^{**} / ₃₅	[*] / ₉₈ 4- ^{**} / ₁₀₀	90	5 ¹ / ₂	2 ⁵ / ₅ to 1
60	6	[*] / ₃₀ - ^{**} / ₃₅	60	39	99	96	5	2 to 1
66	6 ¹ / ₂	^{**} / ₂₄ - ^{**} / ₃₀	^{**} / ₇₂ - ^{**} / ₇₈	[*] / ₂₁ - ^{**} / ₂₇	99	102	5 ¹ / ₂	2 to 1
72	7	[*] / ₂₄ - ^{**} / ₃₆	78	21	99	108	6	2 to 1
78	7 ¹ / ₂	[*] / ₂₄ - ^{**} / ₃₆	78	21	99	114	6 ¹ / ₂	2 to 1
84	8	36	90 ¹ / ₂	21	111 ¹ / ₂	120	6 ¹ / ₂	1 ¹ / ₂ to 1
90	8 ¹ / ₂	41	87 ¹ / ₂	24	111 ¹ / ₂	132	6 ¹ / ₂	1 ¹ / ₂ to 1

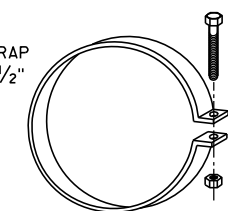
*MINIMUM
**MAXIMUM



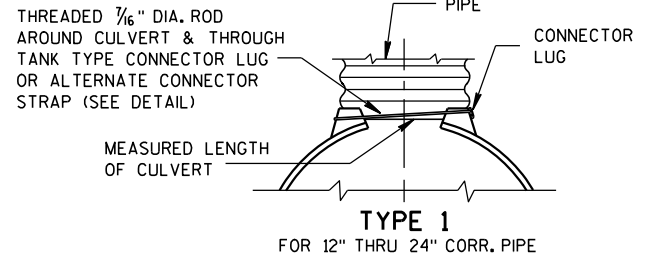
LONGITUDINAL SECTION
CONCRETE ENDWALLS



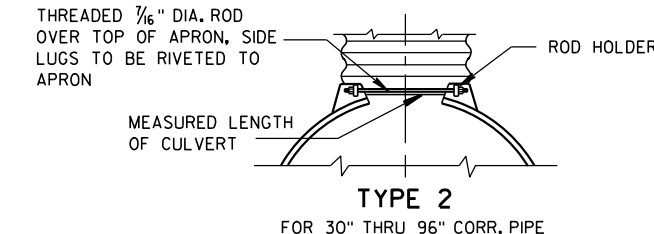
1" WIDE, 12 GA. (0.109"
THICK) GALVANIZED STRAP
WITH STANDARD 6" X 1/2"
BAND BOLT AND NUT



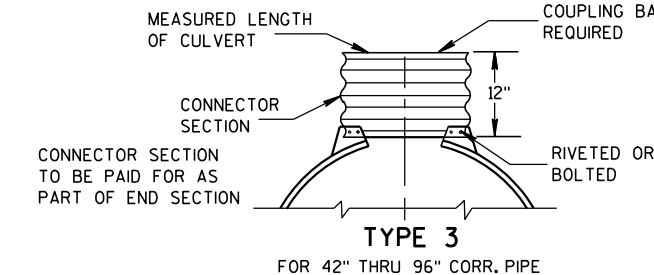
ALTERNATE FOR TYPE 1 CONNECTION
END SECTION CONNECTOR STRAP



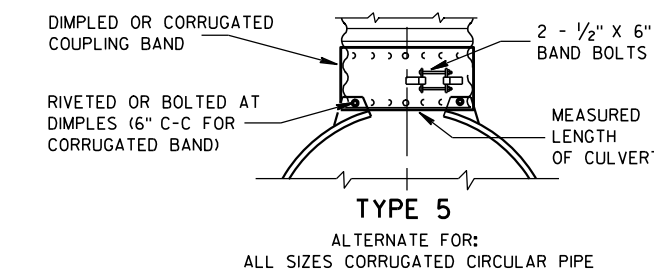
TYPE 1
FOR 12" THRU 24" CORR. PIPE



TYPE 2
FOR 30" THRU 96" CORR. PIPE



TYPE 3
FOR 42" THRU 96" CORR. PIPE



TYPE 5
ALTERNATE FOR:
ALL SIZES CORRUGATED CIRCULAR PIPE

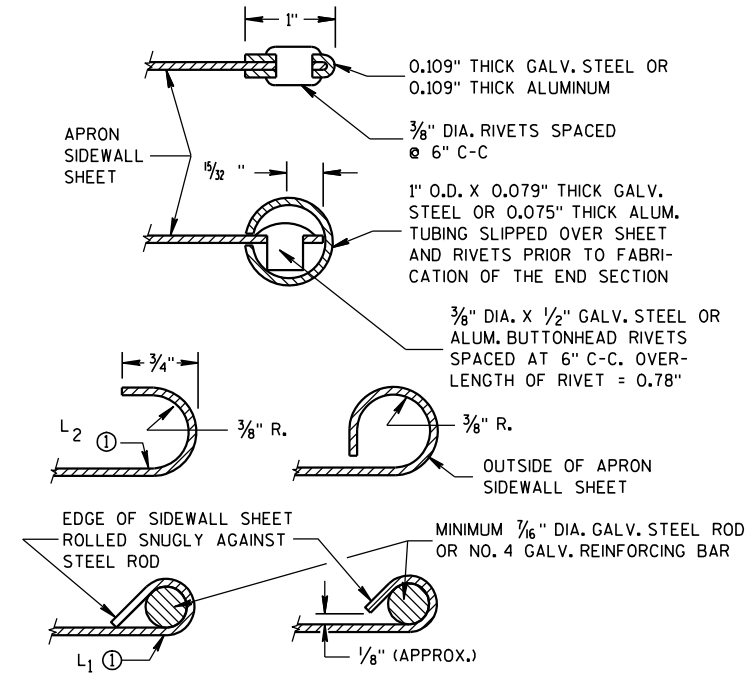
NOTE: DIMPLED BAND FITS OVER OUTSIDE OF ENDWALL,
AND CORRUGATED BAND FITS INSIDE ENDWALL.
DIMPLED BAND MAY BE USED WITH HELICALLY
CORRUGATED PIPE.

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

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

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

CONNECTION DETAILS



SECTION A-A

GENERAL NOTES

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

CONCRETE CULVERT ENDWALLS MAY NOT BE USED WITH GALVANIZED STEEL
OR ALUMINUM CULVERT PIPE OR 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.

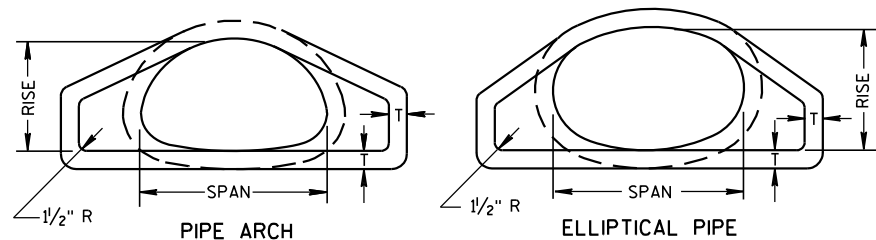
WHERE TWO OR MORE PIPES WITH APRON ENDWALLS ARE LAID ADJACENT
TO EACH OTHER, THEY SHALL BE SEPARATED BY A DISTANCE SUFFICIENT
TO PROVIDE A MINIMUM CLEARANCE OF 6 INCHES BETWEEN APRON ENDWALLS.

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

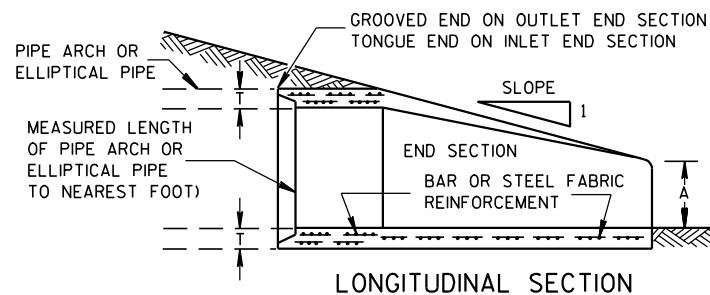
APRON ENDWALLS FOR CULVERT PIPE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
11/30/94
DATE
/S/ Rory L. Rhinehart
CHIEF ROADWAY DEVELOP 288
NEER
FHWA

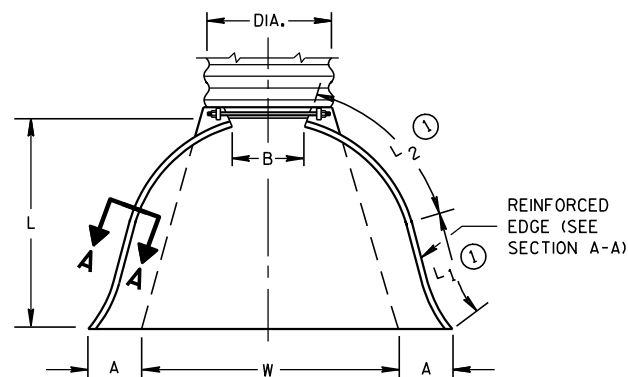


END VIEW



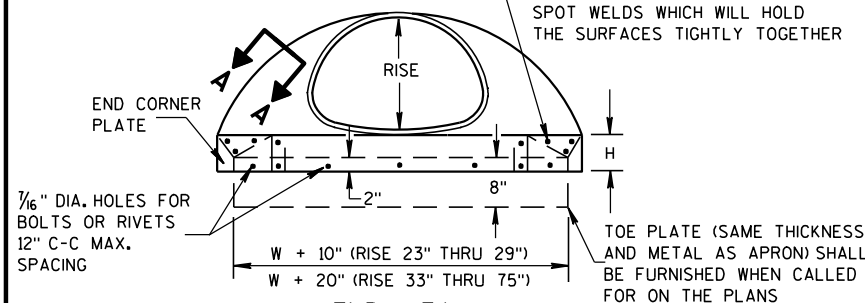
LONGITUDINAL SECTION

CONCRETE ENDWALLS

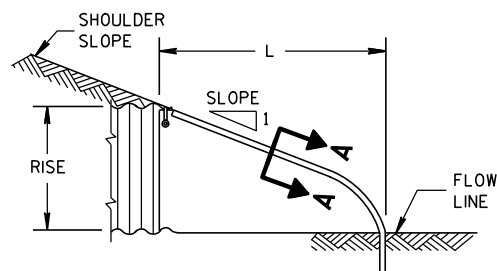
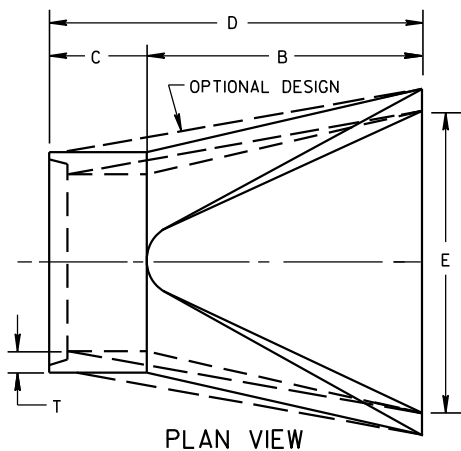


PLAN VIEW

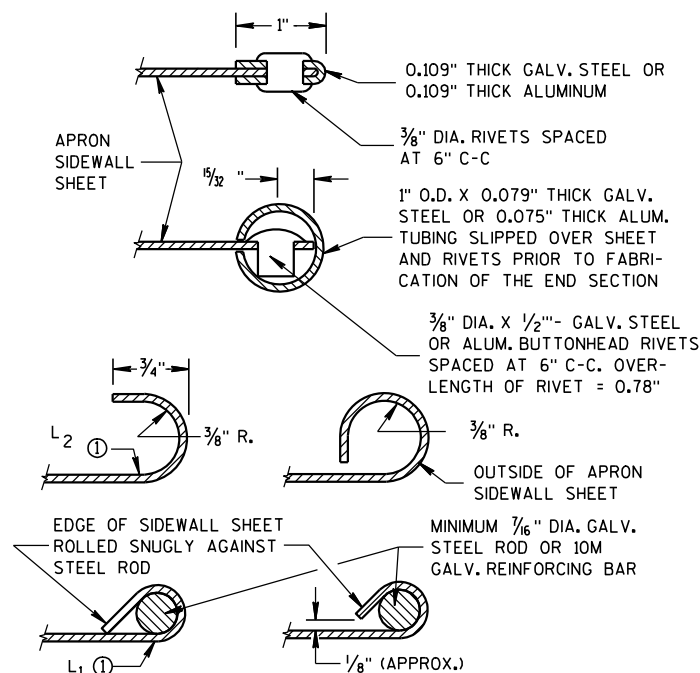
END CORNER PLATES MAY BE FASTENED TO APRON PROPER BY BOLTS, RIVETS, OR RESISTANCE SPOT WELDS WHICH WILL HOLD THE SURFACES TIGHTLY TOGETHER



END VIEW

SIDE ELEVATION
METAL ENDWALLS

PLAN VIEW



SECTION A-A

2- 2 ³ / ₈ " x 1 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.

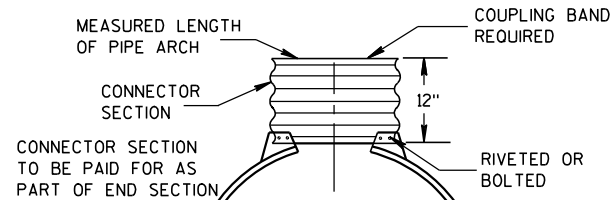
3" X 1" CORRUGATIONS													
EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches)		DIMENSIONS (Inches)							APPROX. SLOPE	BODY
	SPAN	RISE	STEEL	ALUM.	A (±1")	B (MAX.)	H (±1")	L (±1 1/2")	L ₁ ⓪	L ₂ ⓪	W (±2")		
48	53	41	.109	.105	18	26	12	63	24	72¾	90	2½ to 1	2 Pc.
54	60	46	.109	.105	18	30	12	70	30	82¼	102	2 to 1	2 Pc.
60	66	51	.109*	.105*	18	33	12	77	—	—	114	1½ to 1	3 Pc.
66	73	55	.109*	.105*	18	36	12	77	—	—	126	1½ to 1	3 Pc.
72	81	59	.109*	.105*	18	39	12	77	—	—	138	2 to 1	3 Pc.
78	87	63	.109*	.105*	22	38	12	77	—	—	148	1½ to 1	3 Pc.
84	95	67	.109*	.105*	22	34	12	77	—	—	162	1½ to 1	3 Pc.
90	103	71	.109*	.105*	22	38	12	77	—	—	174	1½ to 1	3 Pc.
96	112	75	.109*	.105*	24	40	12	77	—	—	174	1½ to 1	3 Pc.

NOTE: ALL SPLICES TO BE LAP RIVETED OR BOLTED.

* EXCEPT CENTER PANEL
SEE GENERAL NOTES

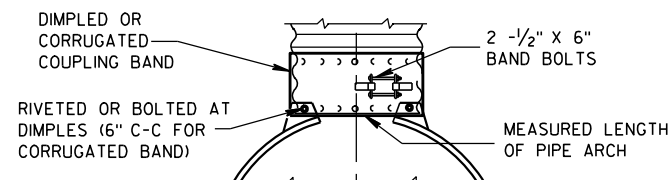
TYPE 2

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 1/8	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 PIPESTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/30/94

DATE

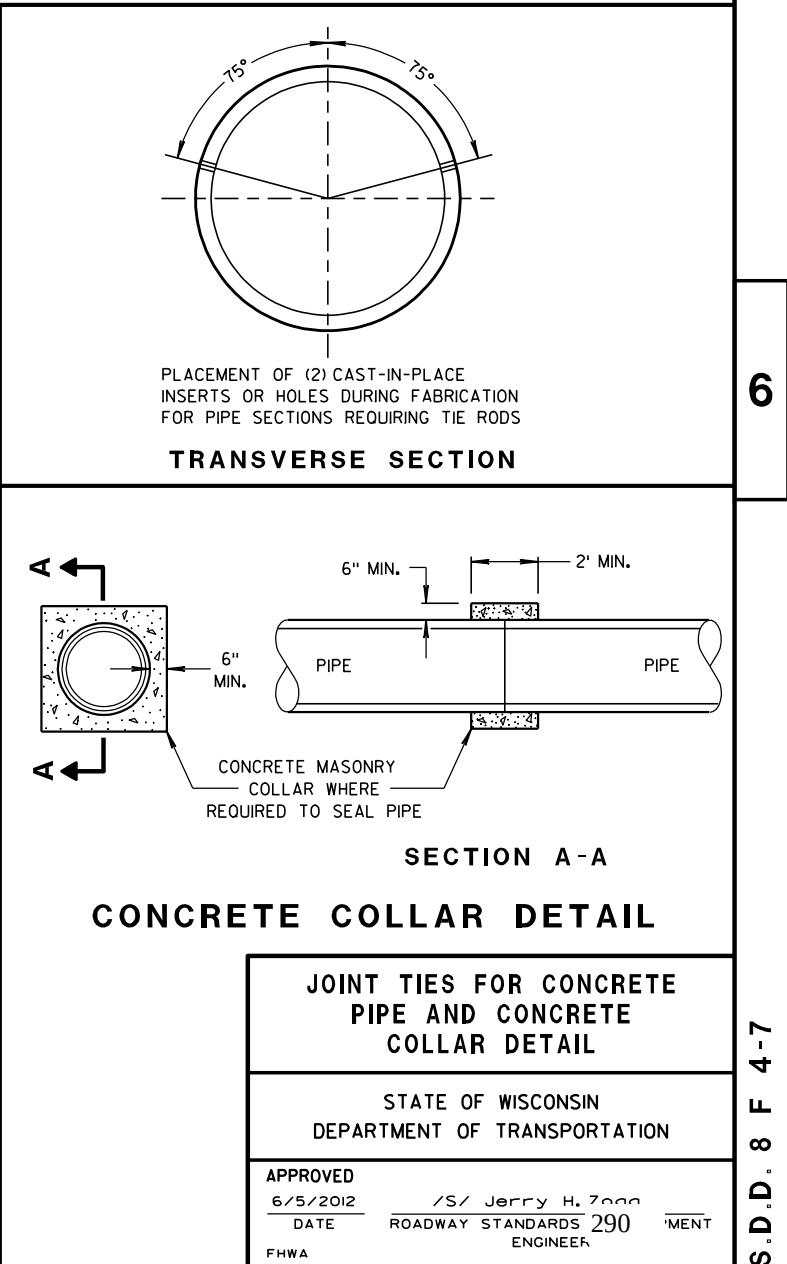
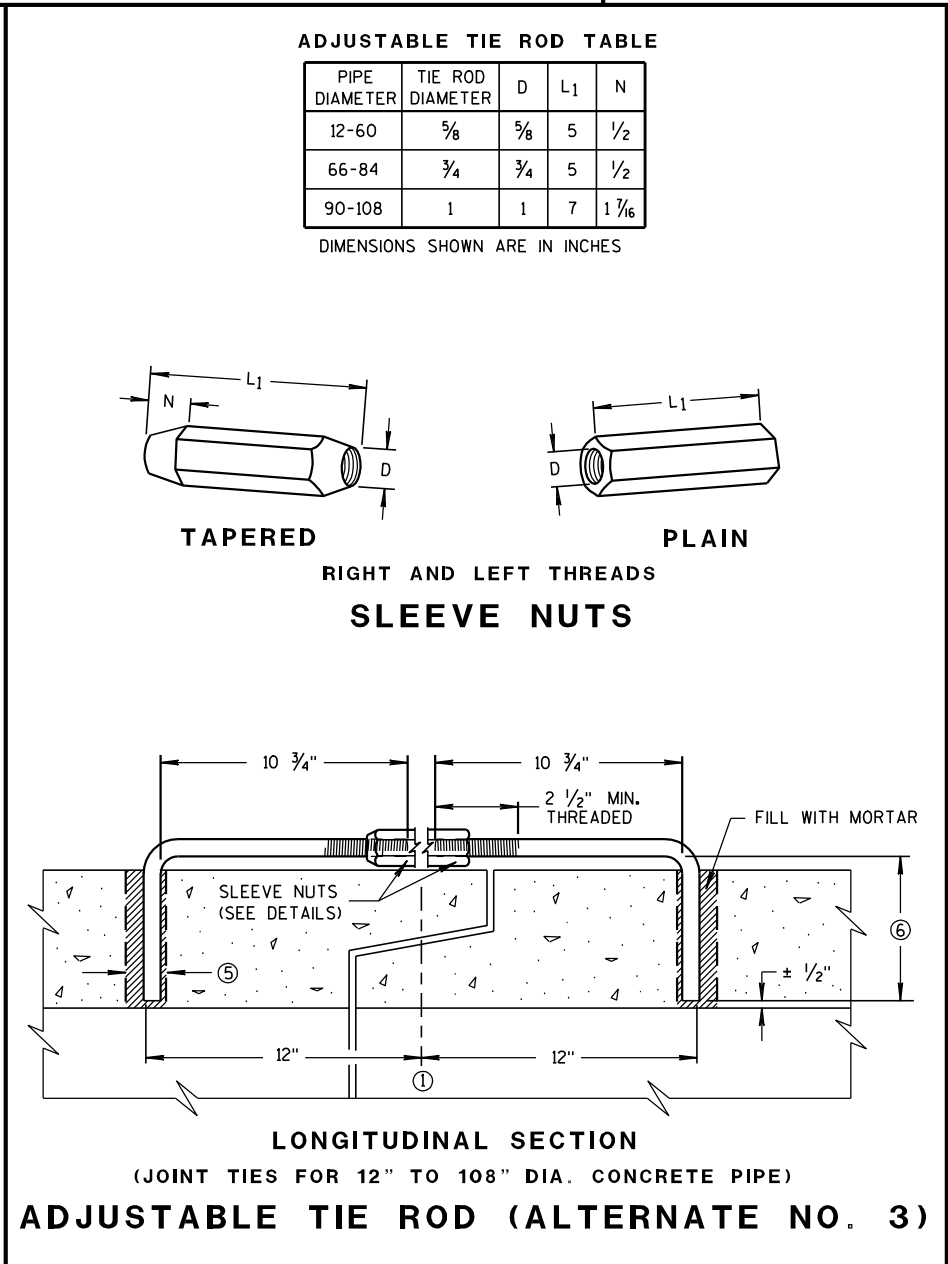
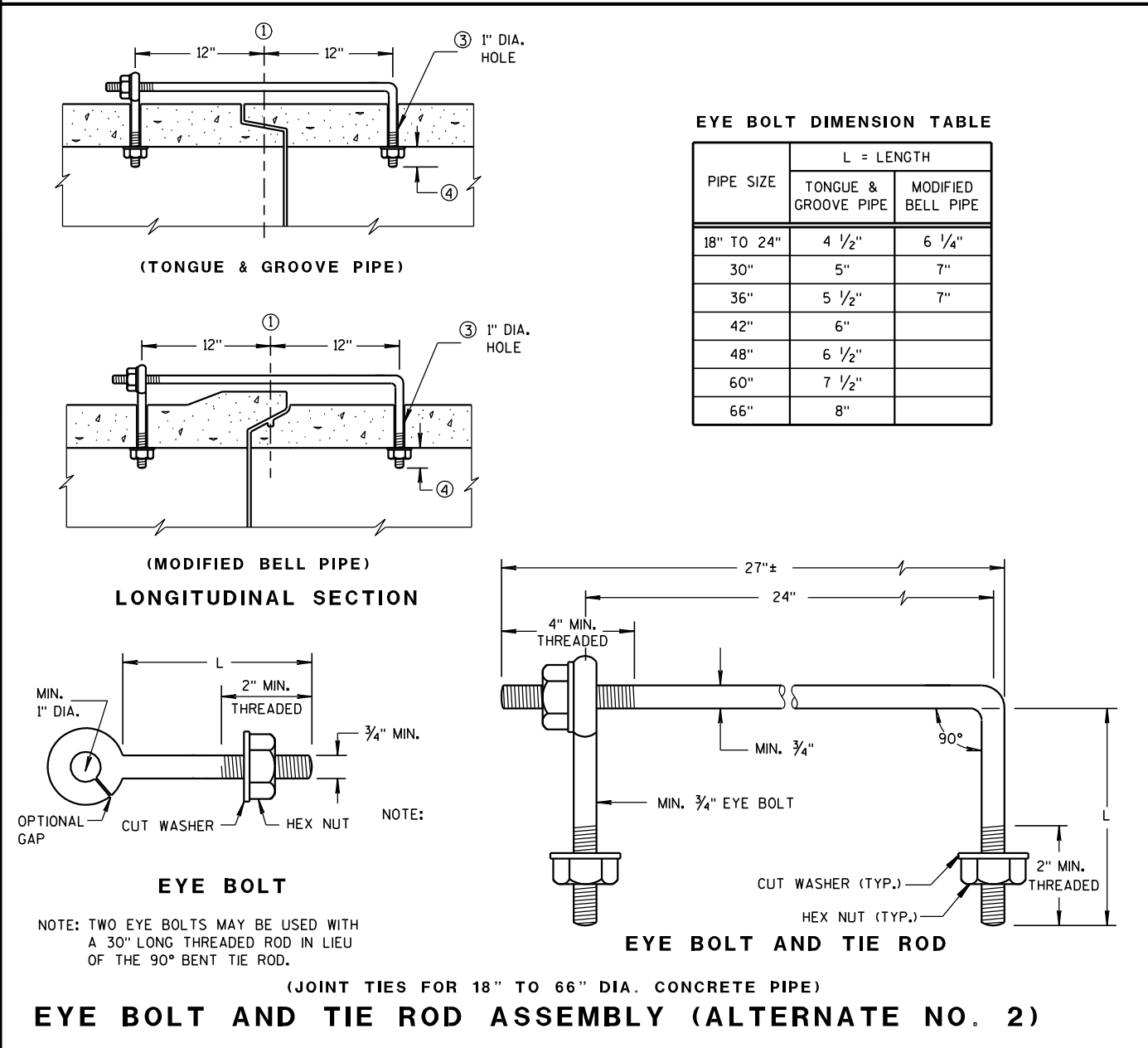
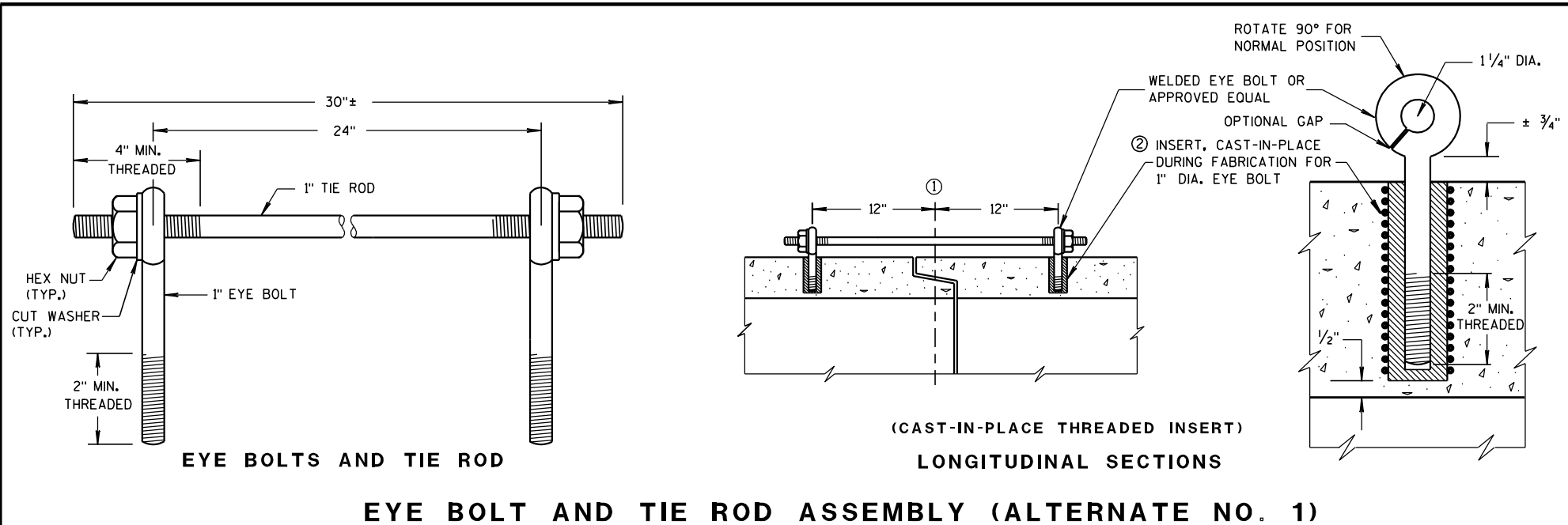
FHWA

/S/ Rory L. Rhinehart

CHIEF ROADWAY DEVELOPER

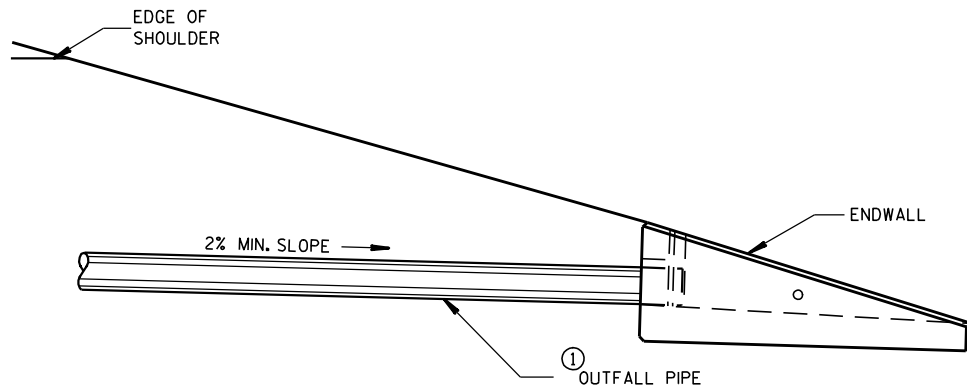
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ENGINEER

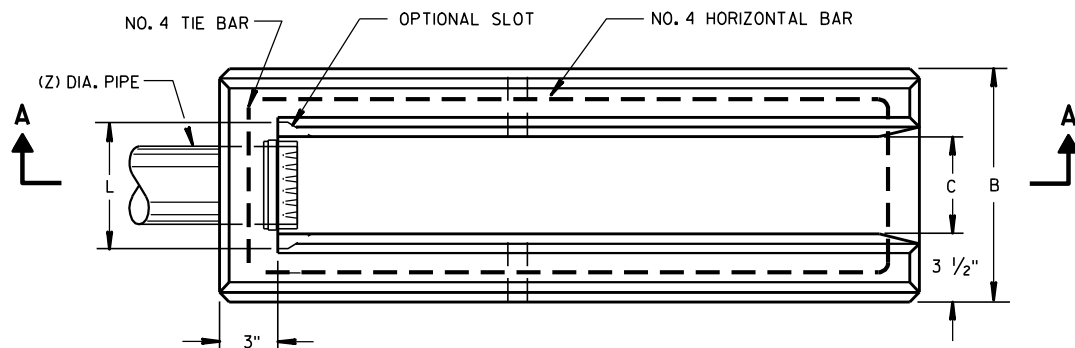


DIMENSIONS IN INCHES											
PIPE DIA.	A	B	C	D	E	F	G	H	J	L	Z
**4	6	12	5 1/4	9	8	32	36	11	2 3/8	6 1/2	4
6	8	14	7 1/4	11	10	42	44	13	3 5/8	8 1/2	6

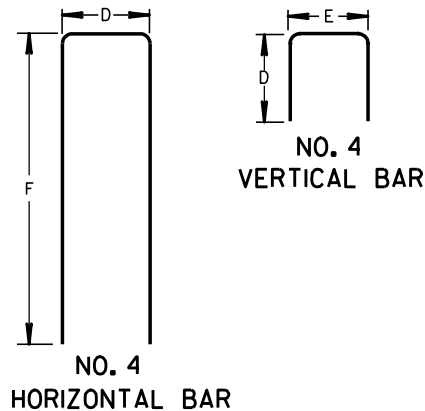
** APRON ENDWALL FOR 6 INCH DIAMETER PIPE MAY BE SUBSTITUTED FOR THIS SIZE PROVIDED THE HOLE IN THE HEADWALL IS SIZED AND LOCATED TO CONFORM TO THE 4 INCH DIAMETER PIPE DIMENSIONS (C & J)



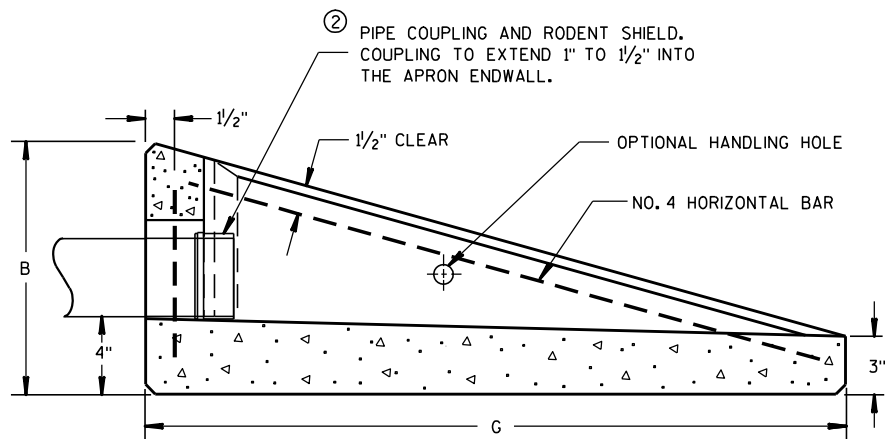
INSTALLATION DETAIL



PLAN VIEW

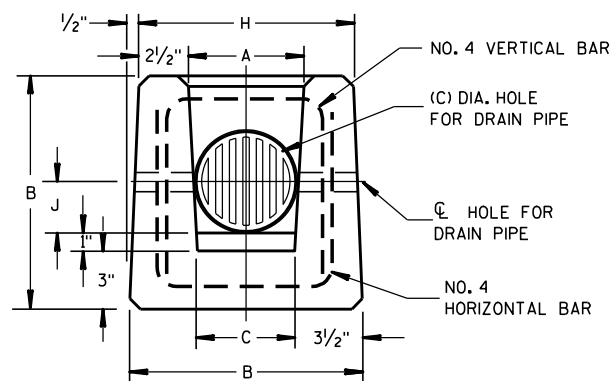


BAR STEEL REINFORCEMENT DETAILS



SECTION A-A

CONCRETE APRON ENDWALL FOR UNDERDRAIN



END VIEW

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.

ALTERNATIVE DESIGNS WHICH PROVIDE EQUIVALENT CAPACITY AND STRENGTH MAY BE USED WHEN APPROVED BY THE ENGINEER. ENDWALL MAY BE EITHER PRECAST OR CAST-IN-PLACE CONCRETE.

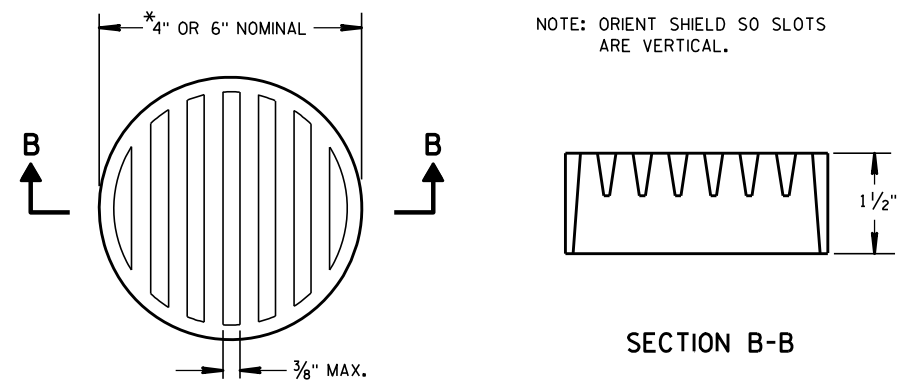
THE UNDERDRAIN PIPE SHALL BE FULLY INSERTED AND SEALED INTO THE ENDWALL WITH CEMENT MORTAR PRIOR TO BACKFILLING AROUND THE STRUCTURE.

THE UPPERMOST POINT OF THE ENDWALL SHALL BE PLACED FLUSH WITH THE ROADWAY SLOPE. ADJACENT EMBANKMENT SLOPES SHALL BE SHAPED TO FIT THE SIDES AND TOE OF THE ENDWALL. EXACT PLACEMENT OF THE OUTFALL PIPE AND ENDWALL SHALL BE DETERMINED BY THE ENGINEER TO MATCH THE ELEVATIONS AND FLOW DIRECTION OF THE ROADSIDE DITCH.

- ① THE OUTFALL PIPE UNDERDRAIN AND FITTINGS SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFICATION FOR POLY (VINYL CHORIDE) (PVC) PLASTIC DRAIN, WASTE AND VENT PIPE AND FITTINGS, ASTM DESIGNATION: D 2665, SCHEDULE 40 PVC OR THE STANDARD SPECIFICATION FOR TYPE PSM POLY (VINYL CHORIDE) (PVC) SEWER PIPE AND FITTINGS, ASTM DESIGNATION: D 3034, TYPE PSM SDR 23.5 PVC SEWER PIPE, ALL JOINTS SHALL BE SOLVENT WELDED.

THE OUTFALL PIPE INCLUDING ALL FITTINGS AND THE RODENT SHIELD SHALL BE MEASURED AND PAID FOR AS PIPE UNDERDRAIN UNPERFORATED.

- ② THE RODENT SHIELD SHALL BE A PVC GRATE SIMILAR TO THIS DETAIL. THE GRATE IS COMMERCIALY AVAILABLE AS A FLOOR STRAINER. A PIPE COUPLING IS REQUIRED FOR THE ATTACHMENT OF THIS SHIELD TO THE OUTFALL PIPE. THE SHIELD SHALL BE FASTENED TO THE PIPE COUPLING WITH TWO OR MORE NO. 10 X 1-INCH STAINLESS STEEL SHEET METAL SCREWS.



② RODENT SHIELD

*NOTE: DIMENSIONS ARE APPROXIMATE. THE GRATE IS SIZED TO FIT INTO A PIPE COUPLING.

REINFORCED CONCRETE APRON ENDWALL FOR PIPE UNDERDRAIN

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

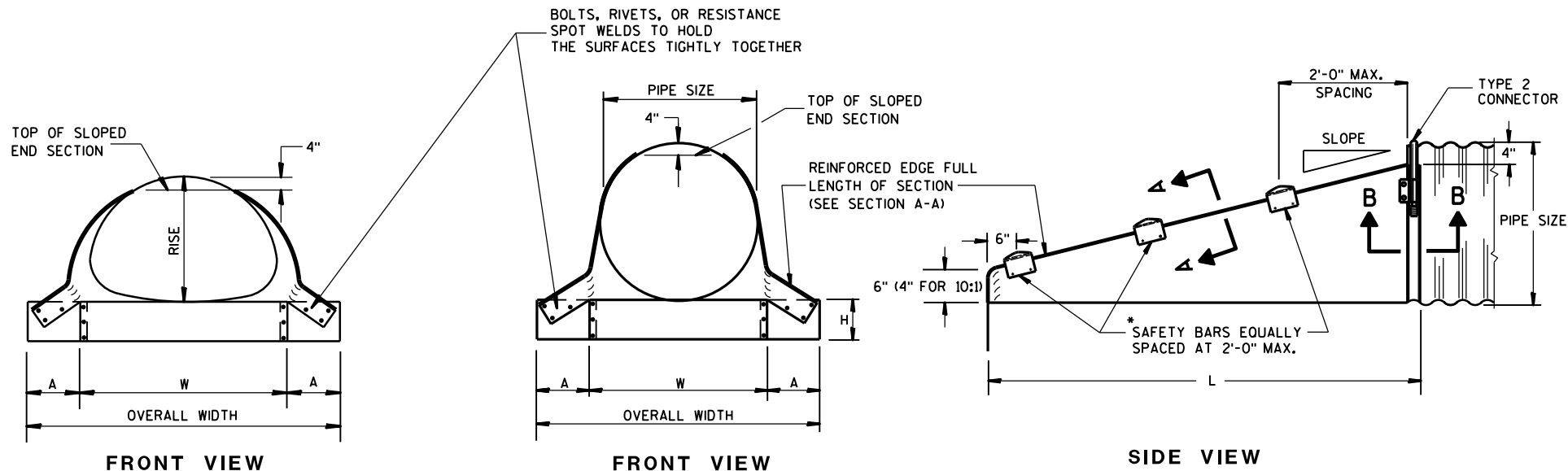
APPROVED

3/10/98
DATE

/S/ Rory L. Rhin...
CHIEF ROADWAY DEVELOPER

FHWA

291
INEER



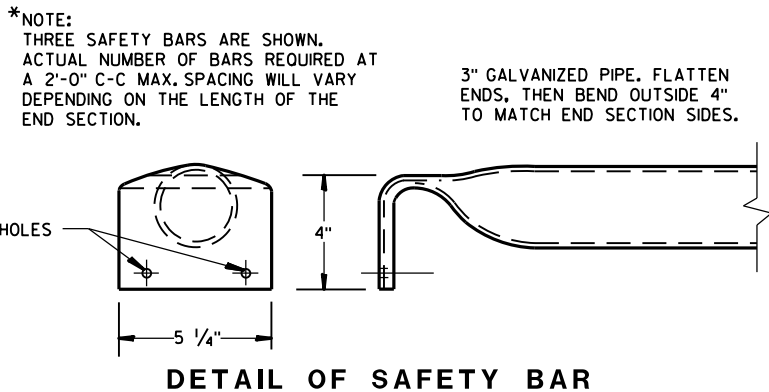
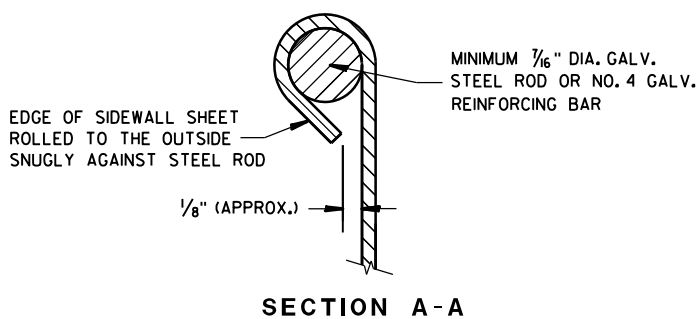
GENERAL NOTES

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.

SLOPED END SECTIONS SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS, SECTION 521 FOR STEEL APRON ENDWALLS.

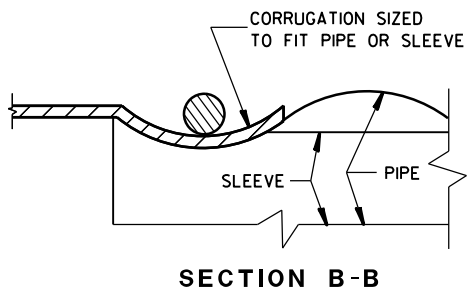
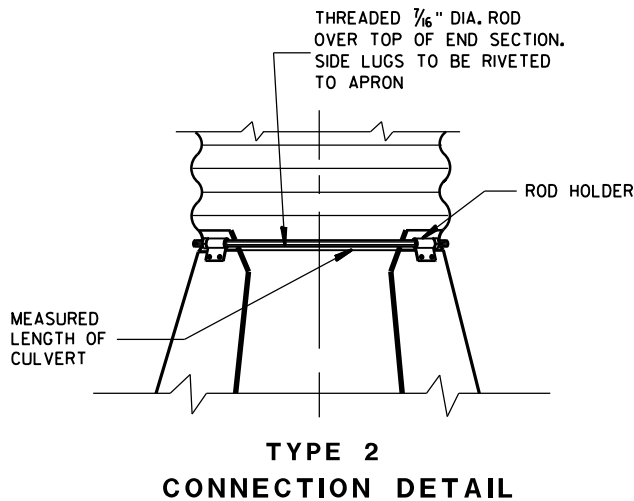
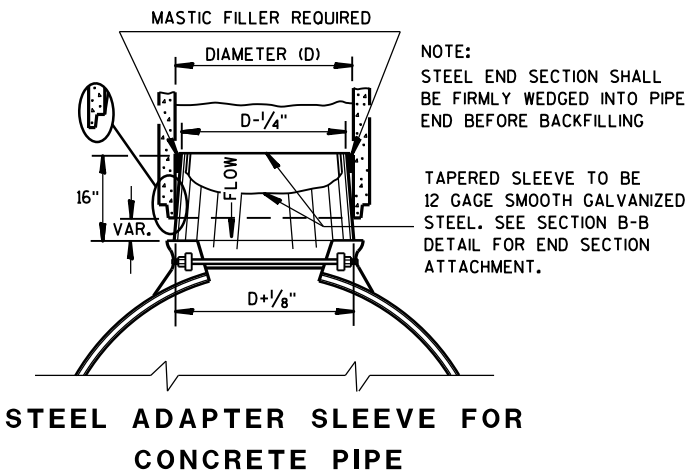
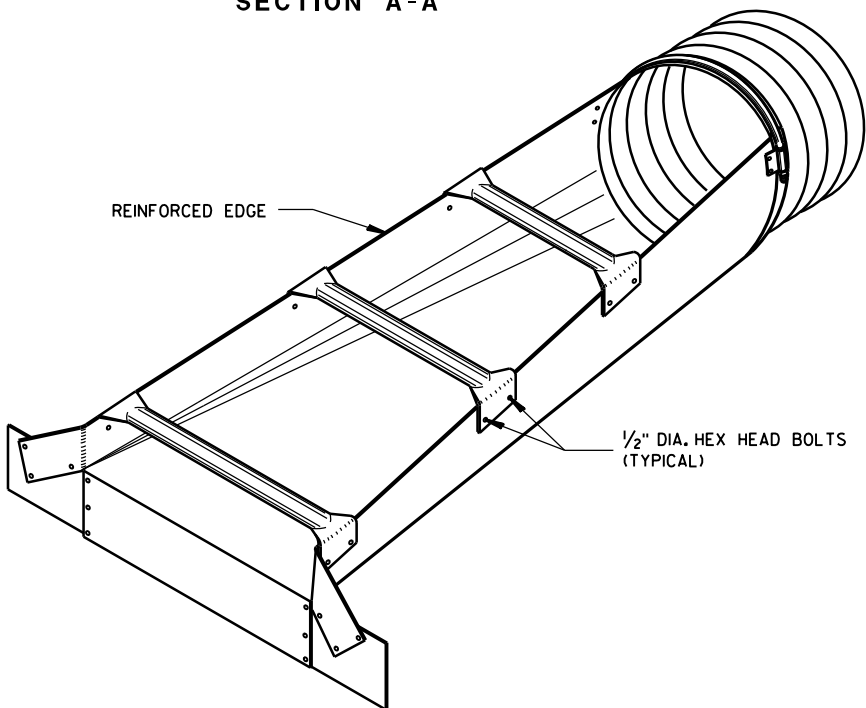
SAFETY BARS SHALL BE FABRICATED FROM GALVANIZED STEEL PIPE MEETING THE REQUIREMENTS OF ASTM A-53, GRADE B, SCHEDULE 40 OR APPROVED EQUAL.

STEEL APRON ENDWALLS FOR CULVERT PIPE SLOPED SIDE DRAINS											
PIPE DIA. (IN.)	MIN. THICK. (Inches)	DIMENSIONS (Inches)				L DIMENSIONS					
		A	H	W	OVERALL WIDTH	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
15	.064	8	6	21	37	4:1	20	6:1	30	10:1	70
18	.064	8	6	24	40	4:1	32	6:1	48	10:1	100
21	.064	8	6	27	43	4:1	44	6:1	66	10:1	130
24	.064	8	6	30	46	4:1	56	6:1	84	10:1	160
30	.109	12	9	36	60	4:1	80	6:1	120	10:1	220
36	.109	12	9	42	66	4:1	104	6:1	156	10:1	280
42	.109	16	12	48	80	4:1	128	6:1	192	—	—
48	.109	16	12	54	86	4:1	152	6:1	228	—	—
54	.109	16	12	60	92	4:1	176	6:1	264	—	—
60	.109	16	12	66	98	4:1	200	6:1	300	—	—

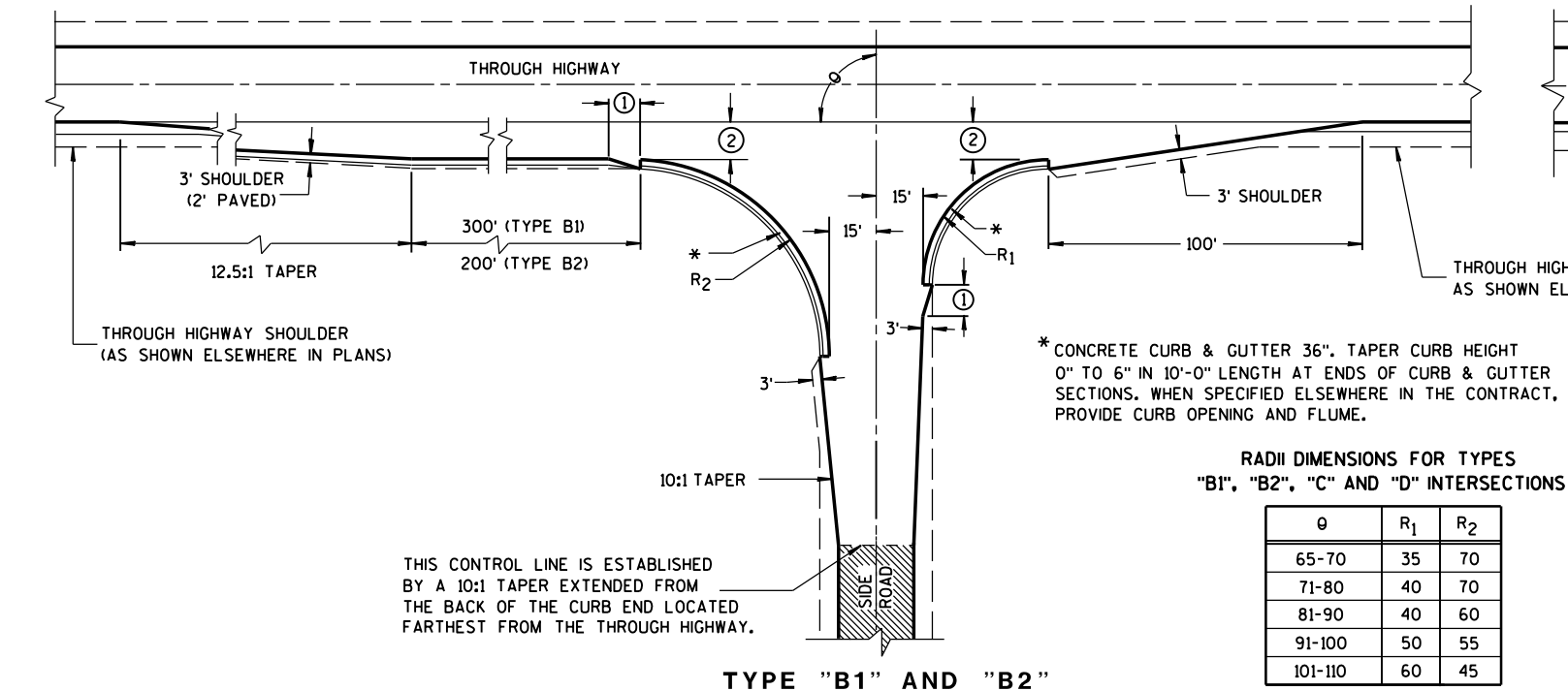


STEEL APRON ENDWALLS FOR PIPE ARCH SLOPED SIDE DRAINS											
EQUIV. DIA. (Inches)	(Inches)		MIN. THICK. (Inches) ①	DIMENSIONS (Inches)				L DIMENSIONS			
	SPAN	RISE		A	H	W	OVERALL WIDTH	SLOPE	LENGTH INCHES	SLOPE	LENGTH INCHES
15	17	13	.064 *	7	6	30	44	4:1	19	6:1	30 10:1 ②
18	21	15	.064 *	8	6	27	43	4:1	20	6:1	30 10:1 ②
21	24	18	.064 *	8	6	30	46	4:1	32	6:1	48 10:1 ②
24	28	20	.064 *	8	6	34	50	4:1	40	6:1	60 10:1 ②
30	35	24	.079 *	12	9	41	65	4:1	56	6:1	84 10:1 ②
36	42	29	.109 *	12	9	48	72	4:1	76	6:1	114 10:1 ②
42	49	33	.109	16	12	55	87	4:1	92	6:1	138 —
48	57	38	.109	16	12	63	95	4:1	112	6:1	168 —
54	64	43	.109	16	12	70	102	4:1	132	6:1	198 —

① * MINIMUM THICKNESS OF ALL 10:1 SLOPED SIDE DRAINS IS 0.109".
② ACTUAL SLOPE GREATER THAN 10:1.



STEEL APRON ENDWALLS FOR CULVERT PIPE AND PIPE ARCH SLOPED SIDE DRAINS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 9/14/2012 DATE	/S/ Jerry H. Zoia ROADWAY STANDARDS & 292 ENGINEER



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

θ	R ₁	R ₂
65-70	35	70
71-80	40	70
81-90	40	60
91-100	50	55
101-110	60	45

GENERAL NOTES

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

SIDE ROAD SURFACING NOTE

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

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

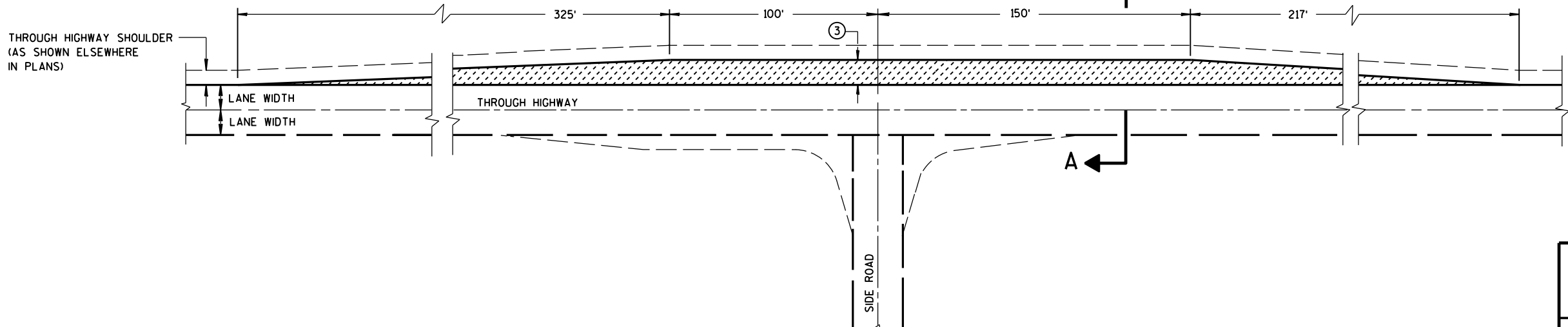
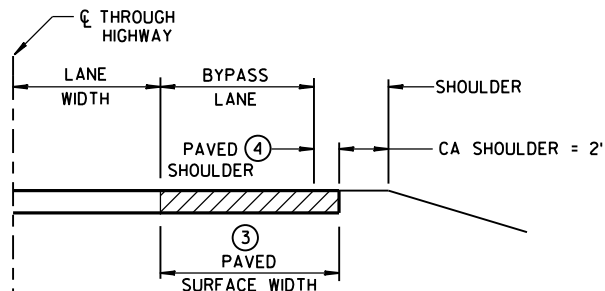
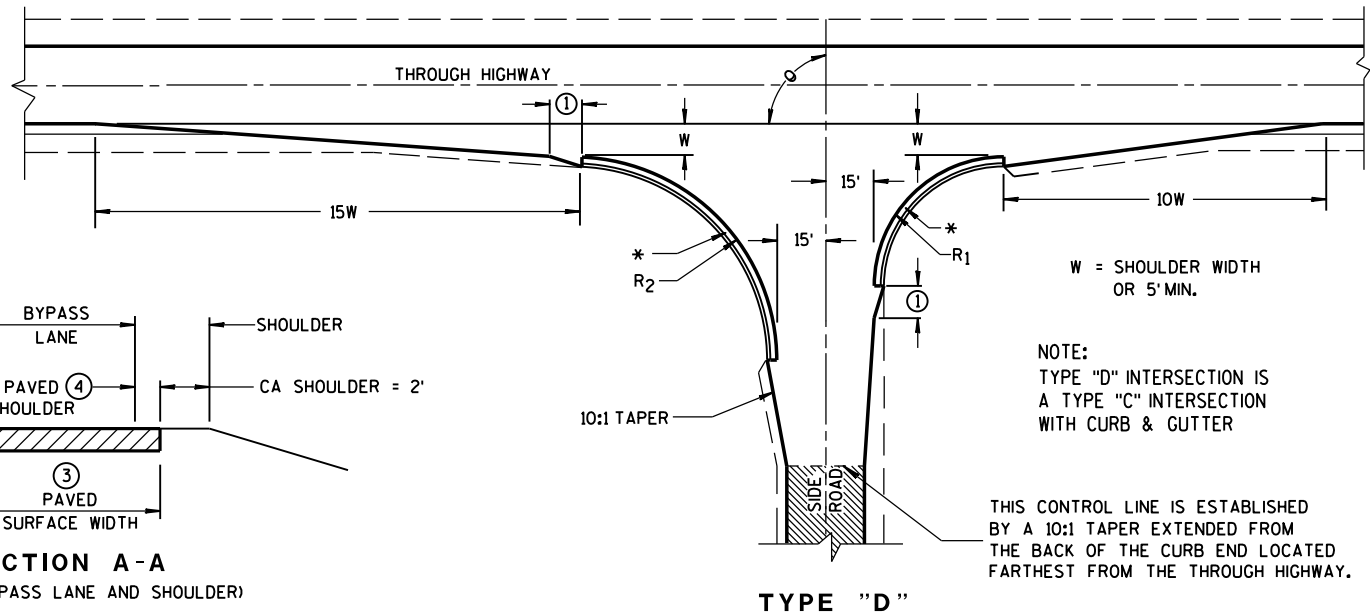
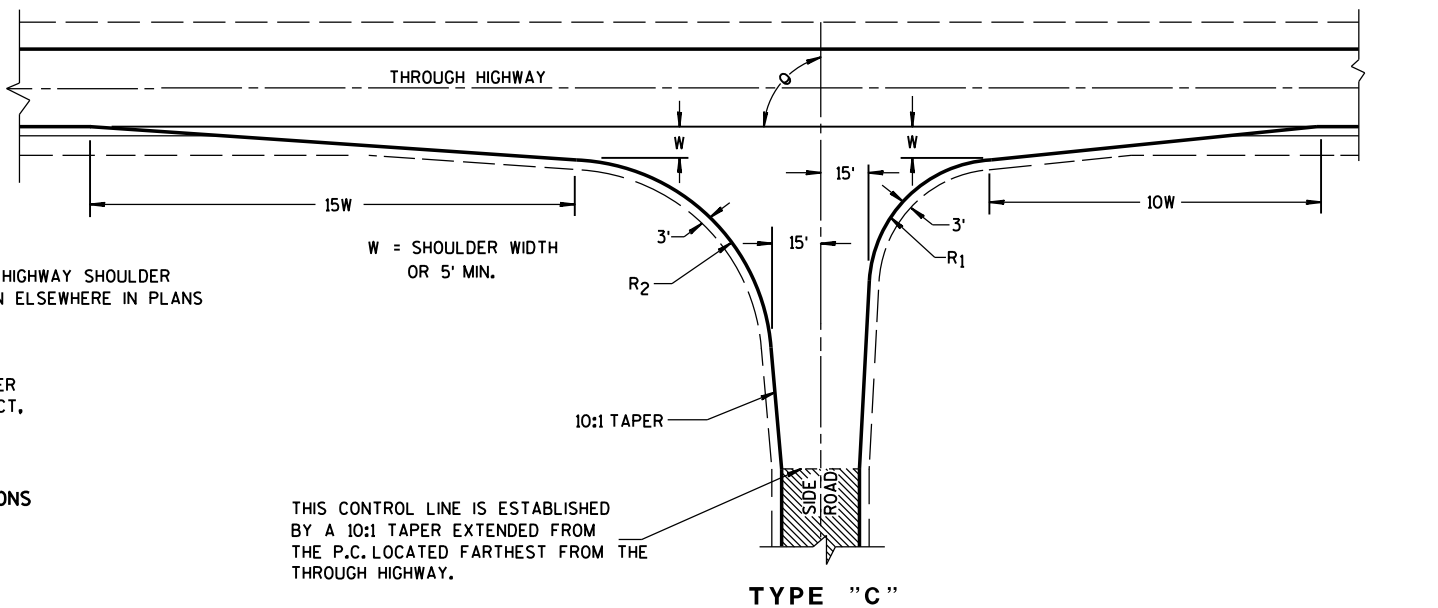
WHEN THE SIDE ROAD IS THE CONSTRUCTION PROJECT, THE INTERSECTION SURFACING SHALL BE THE SAME AS FOR THE PROJECT.

EXISTING PAVED SURFACE

BYPASS LANE

- ① 10-FT TYPICAL.
- ② 12-FT** PLUS ADDITIONAL WIDTH FOR BIKE LANE IF SHOWN ELSEWHERE IN THE PLAN.

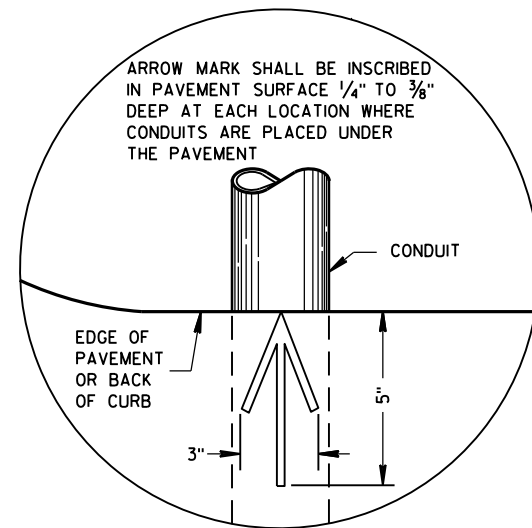
**10-FT MAY BE USED ON TYPE B2 ON RESURFACING PROJECTS IF SPECIFIED IN THE CONTRACT.
- ③ BYPASS LANE PAVED SURFACE WIDTH OUTSIDE OF TRAVEL LANE
-ASPHALT = 12-FT PLUS PAVED SHOULDER WIDTH.
-PC CPNCRETE = 13-FT PLUS PAVED SHOULDER WIDTH.
- ④ BYPASS LANE PAVED SHOULDER WIDTH = THE GREATER OF 1-FT OR THE PAVED SHOULDER WIDTH OF THE THROUGH HIGHWAY.



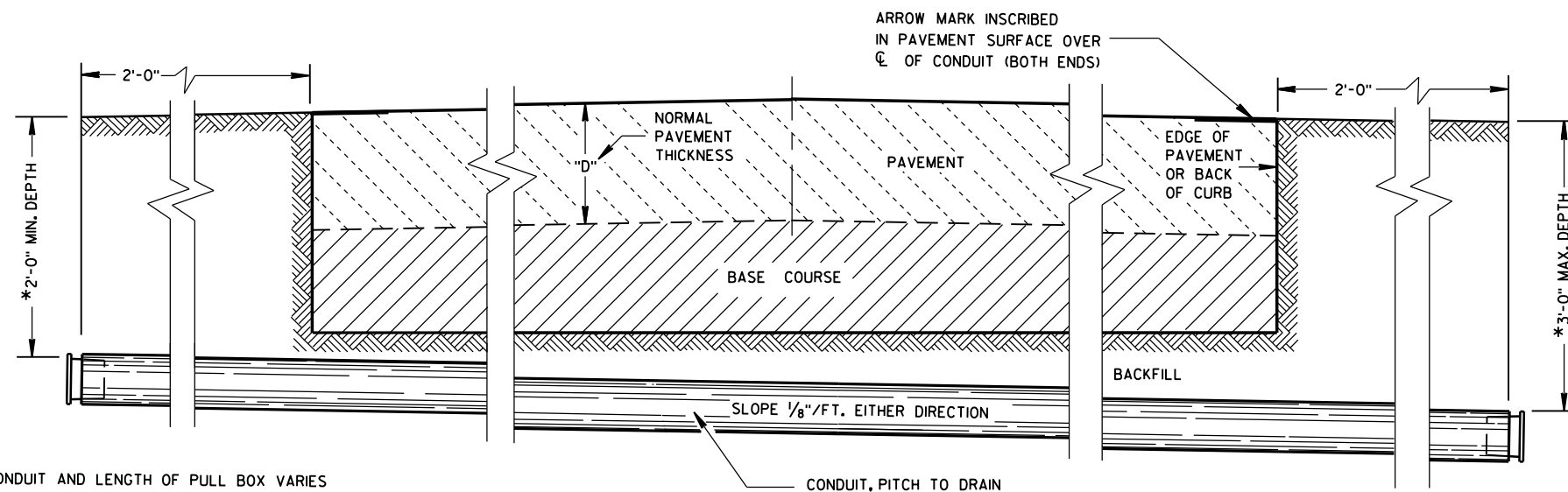
TEE INTERSECTION BYPASS LANE DETAIL

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



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 294
FHWA

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2	26 1/2	26 1/2	26 1/2
FRAME	F	8 1/2	8 1/2	8 1/2	14 1/2	14 1/2	14 1/2	20 1/2	20 1/2	20 1/2
FRAME	G	11 1/2	11 1/2	11 1/2	17 1/2	17 1/2	17 1/2	23 1/2	23 1/2	23 1/2
WEIGHT IN POUNDS *										
FRAME AND COVER		60	60	60	110	110	110	155	155	155

* THE ACTUAL WEIGHT OF THE MANHOLE FRAME AND COVER MAY VARY WITHIN 5 PERCENT PLUS OR MINUS OF THE WEIGHTS SHOWN.

** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.

GENERAL NOTES

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

ALL FRAMES AND COVERS SHALL BE HEAVY DUTY TYPE, SUITABLE FOR VEHICULAR TRAFFIC LOADS.

PULL BOXES LOCATED IN THE ROADWAYS SHALL HAVE LOCKING COVERS.

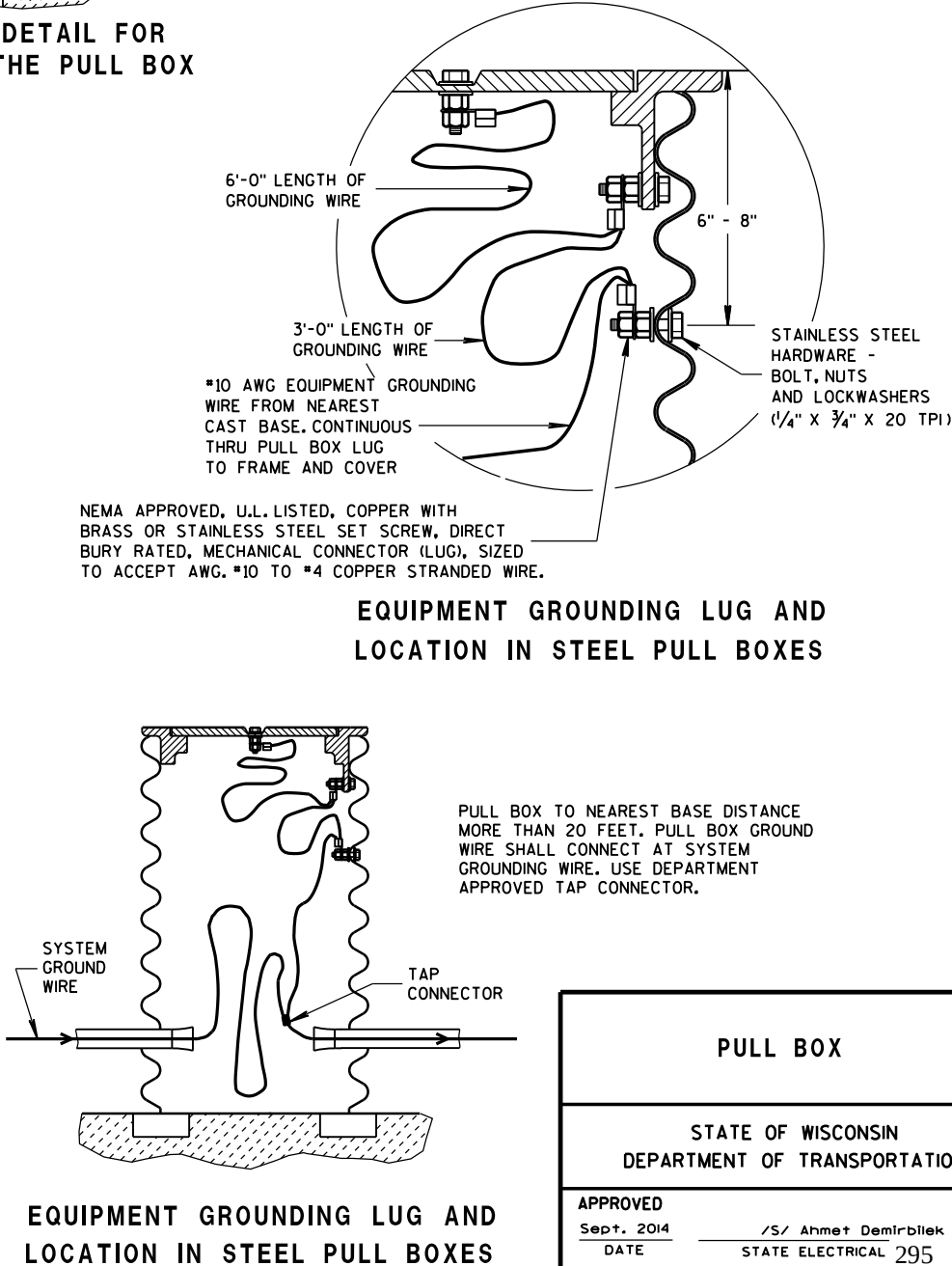
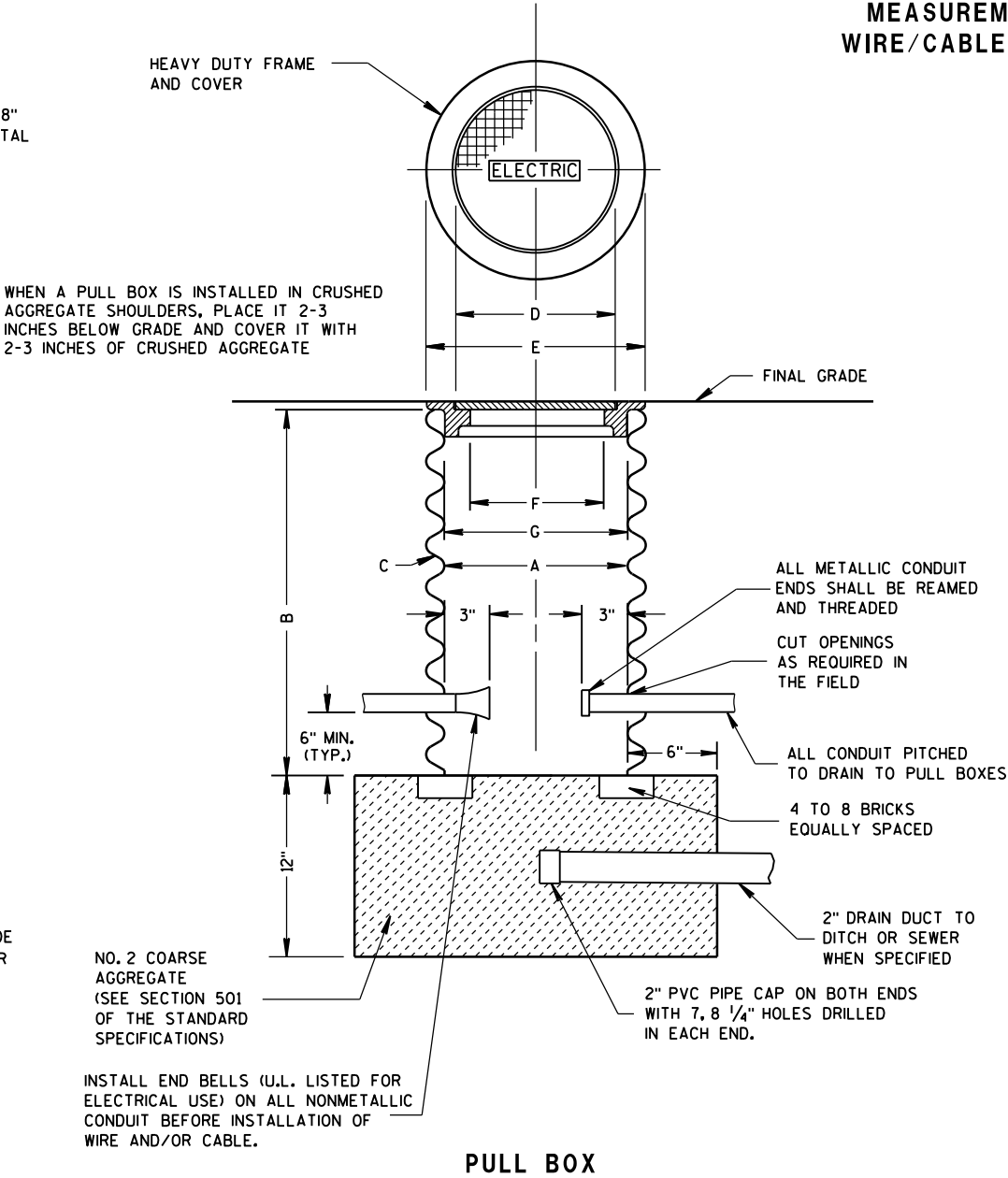
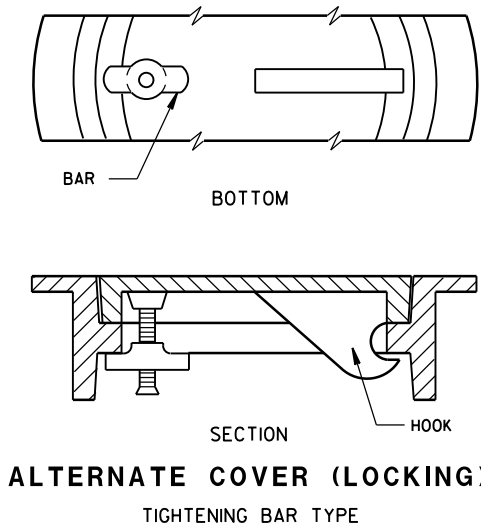
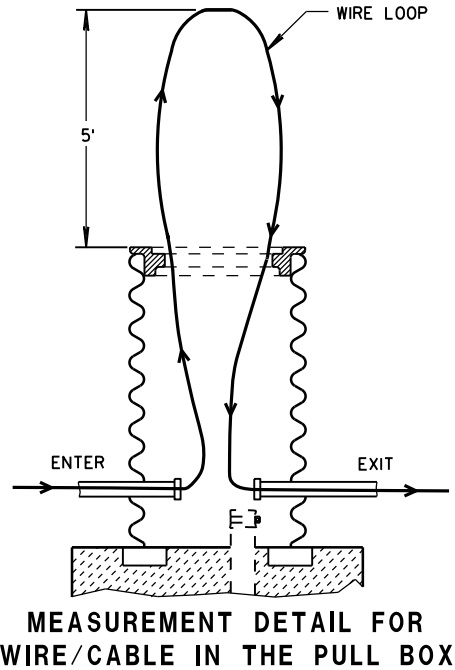
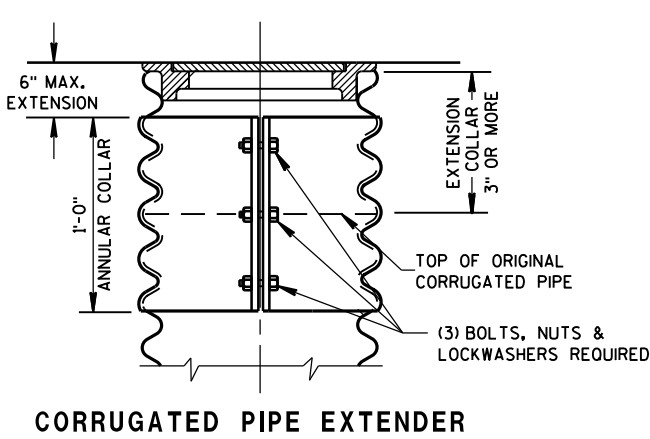
ENTRANCE HOLES INTO PULL BOXES SHALL BE CUT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

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

GROUNDING LUGS (MECHANICAL CONNECTORS) SHALL BE U.L. LISTED AND APPROVED FOR USE WITH COPPER WIRE.

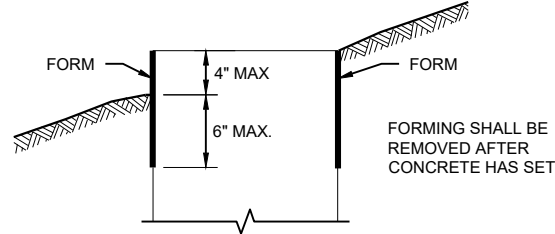
ALL METALLIC CONDUIT IN WHICH WIRE AND/OR CABLE IS TO BE INSTALLED, SHALL BE BUSHED BEFORE INSTALLATION OF THE WIRE AND/OR CABLE.

WHEN PULL BOXES ARE INSTALLED FOR FUTURE USE, DO NOT INSTALL THE EQUIPMENT GROUNDING LUG. THE EQUIPMENT GROUNDING LUG, THE EQUIPMENT GROUNDING ELECTRODE AND THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE REQUIRED AND INSTALLED UNDER A FUTURE WIRING CONTRACT.



PULL BOX	
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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

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 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.

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

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6X 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 NON-METALLIC IMMEDIATELY AFTER PLACEMENT AND BEFORE CONCRETE IS POURED. CONDUITS IN WHICH WIRE OR CABLE IS NOT INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

GENERAL NOTES

BELL BENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION.

WHEN REQUIRED TO CONNECT NON-METALLIC 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 2, TYPE 5 AND TYPE 6 BASES.

THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER ALL BASE TYPES 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 INCH "L" BEND SHALL BE IN ADDITION TO THE SPECIFIED ANCHOR ROD BAR LENGTH. THE "L" BEND SHALL NOT BE THREADED.

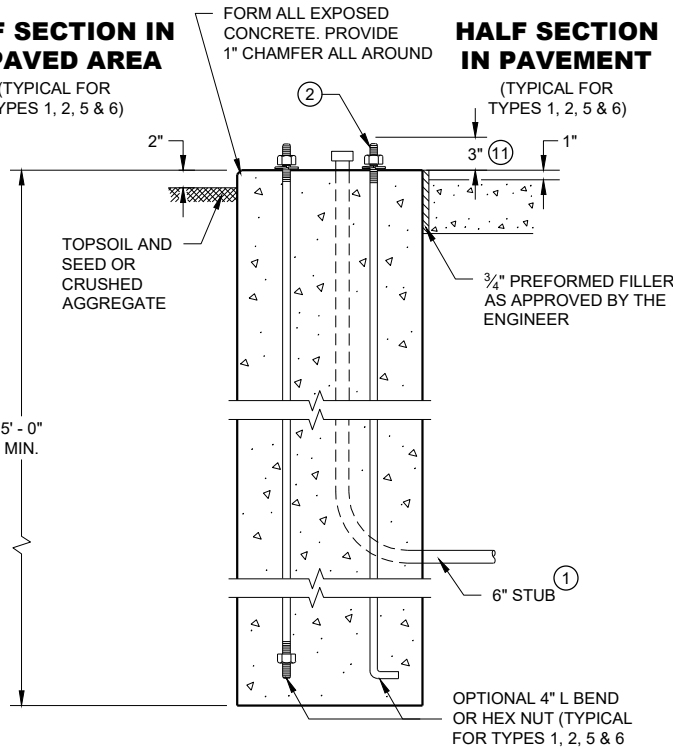
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

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).

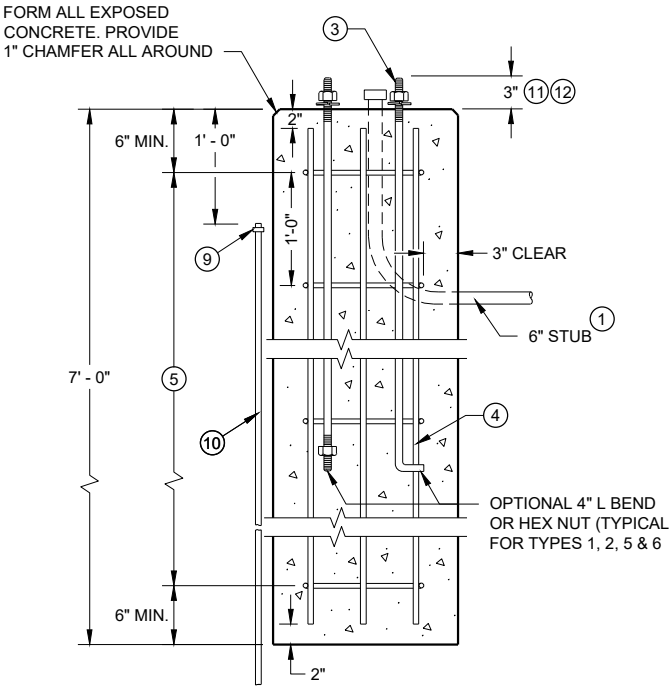
- 1 THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL OF 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.
- 9 EXOTHERMIC CONNECTION TO EQUIPMENT GROUNDING CONDUCTOR
- 10 5/8" DIA. X 8' - 0" COPPERCLAD EQUIPMENT GROUNDING ELECTRODE REQUIRED
- 11 ANY ANCHOR ROD PROJECTION SHORTER THAN 2 3/4" OR LONGER THAN 3 1/2" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.
- 12 FOR NON - BREAKAWAY INSTALLATIONS, 4 1/2" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

HALF SECTION IN UNPAVED AREA



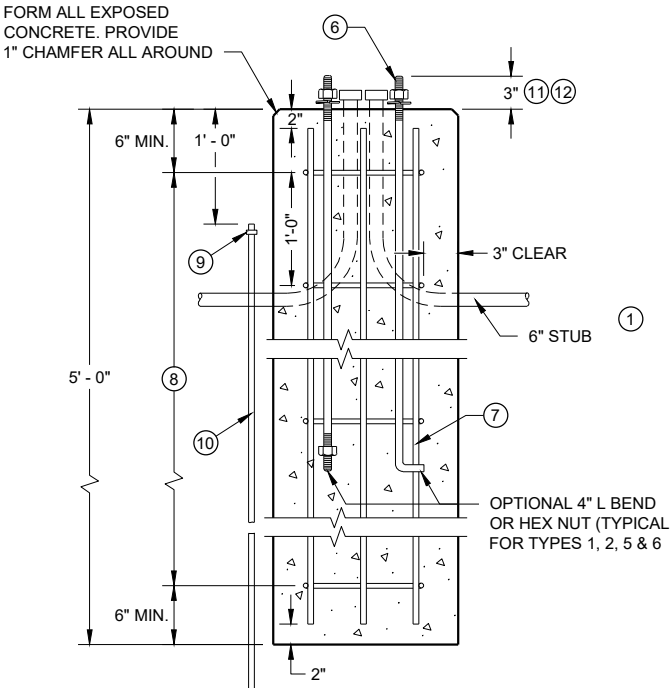
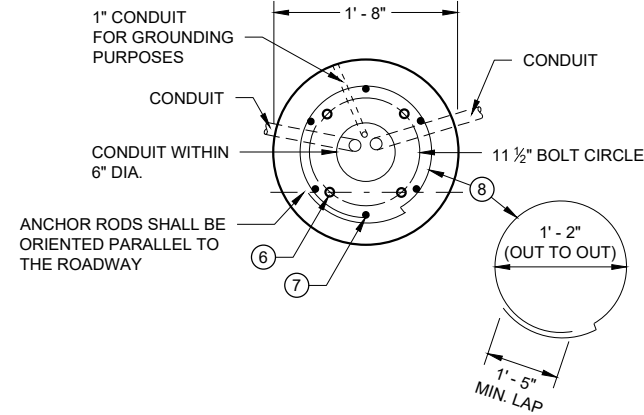
TYPE 1

HALF SECTION IN PAVEMENT



TYPE 2

CONCRETE BASES



TYPE 5 & 6

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.

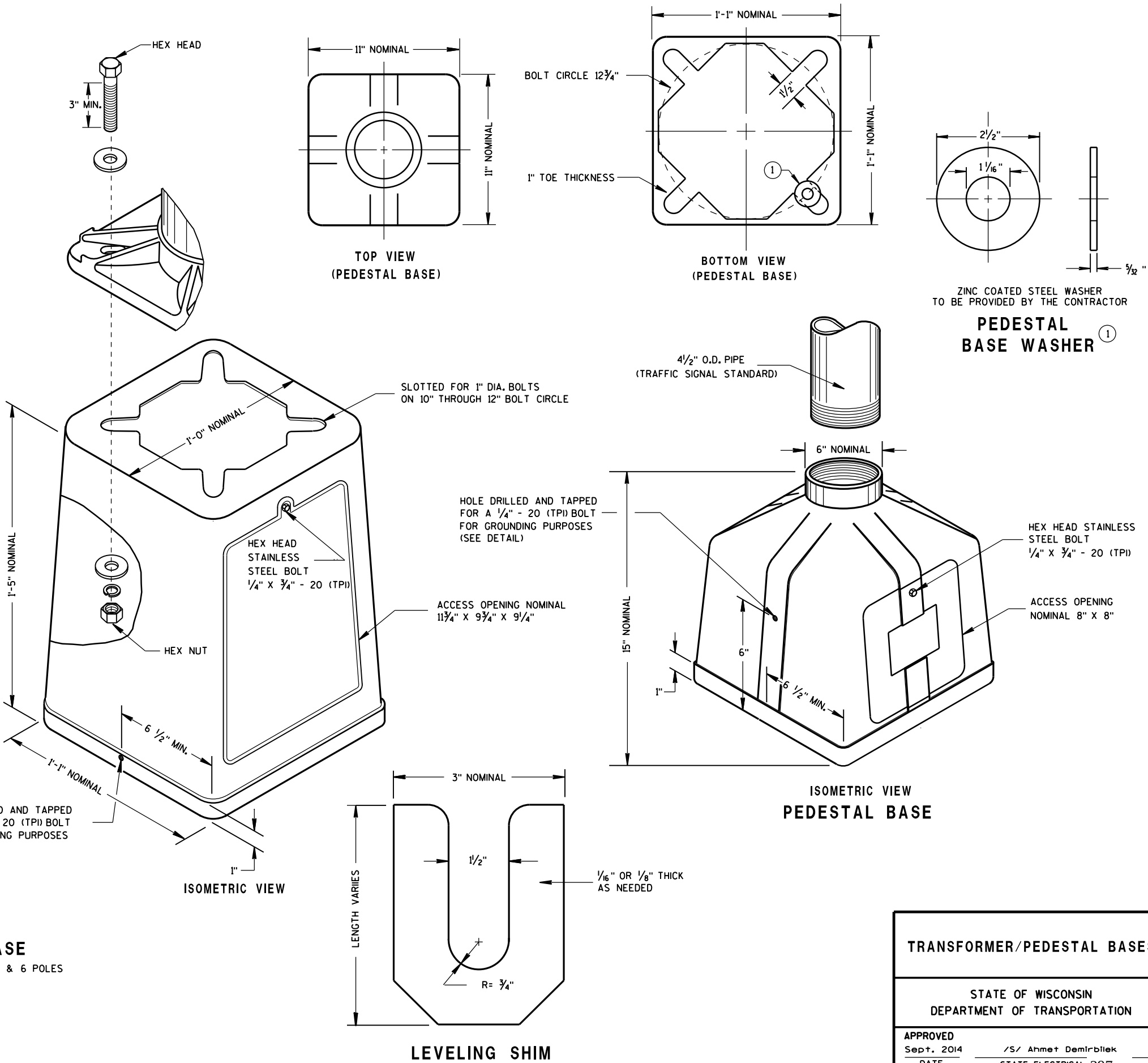
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

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.

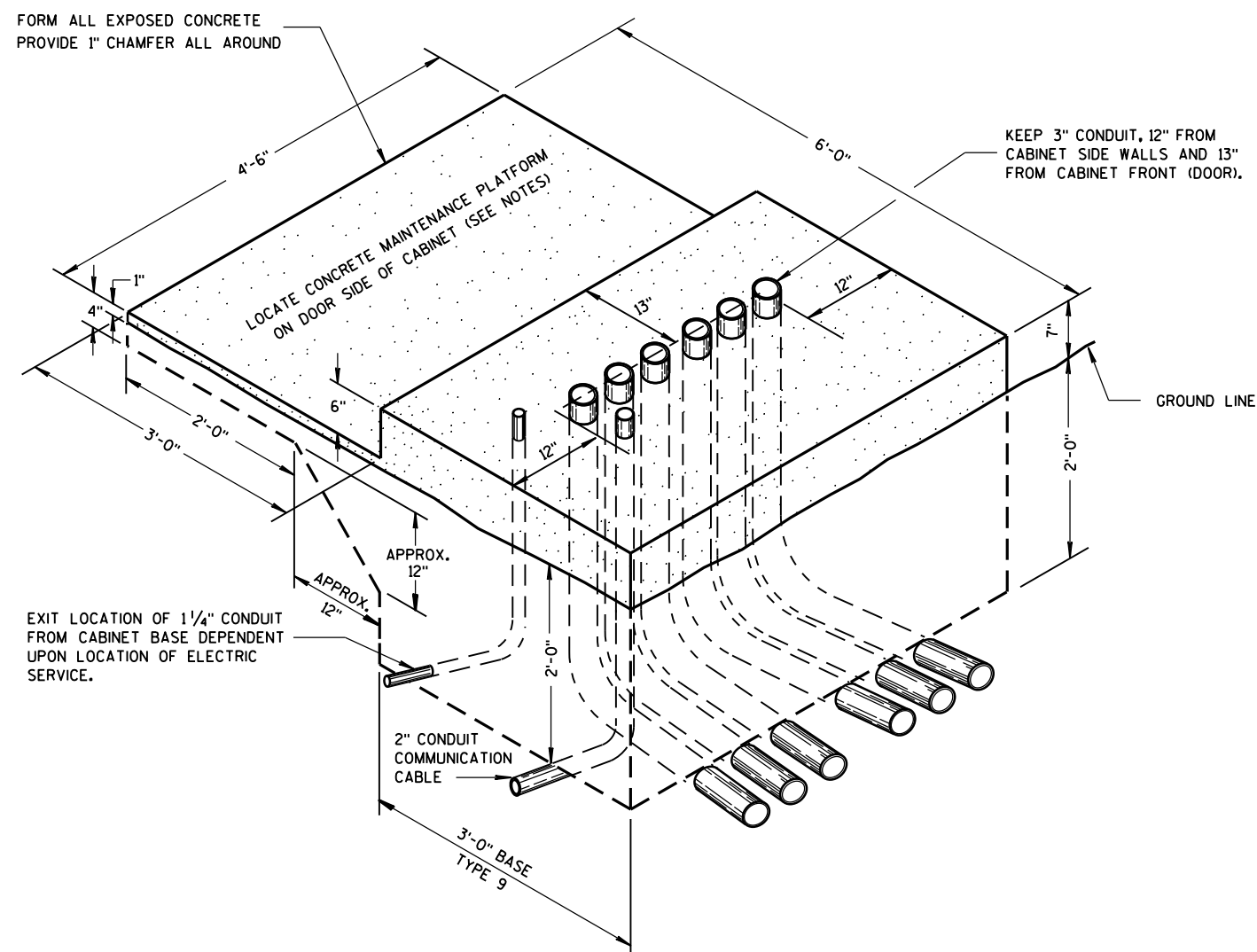
THE ACCESS DOOR SHALL BE OF THE SAME MATERIAL AS THE BASE.



TRANSFORMER/PEDESTAL BASES

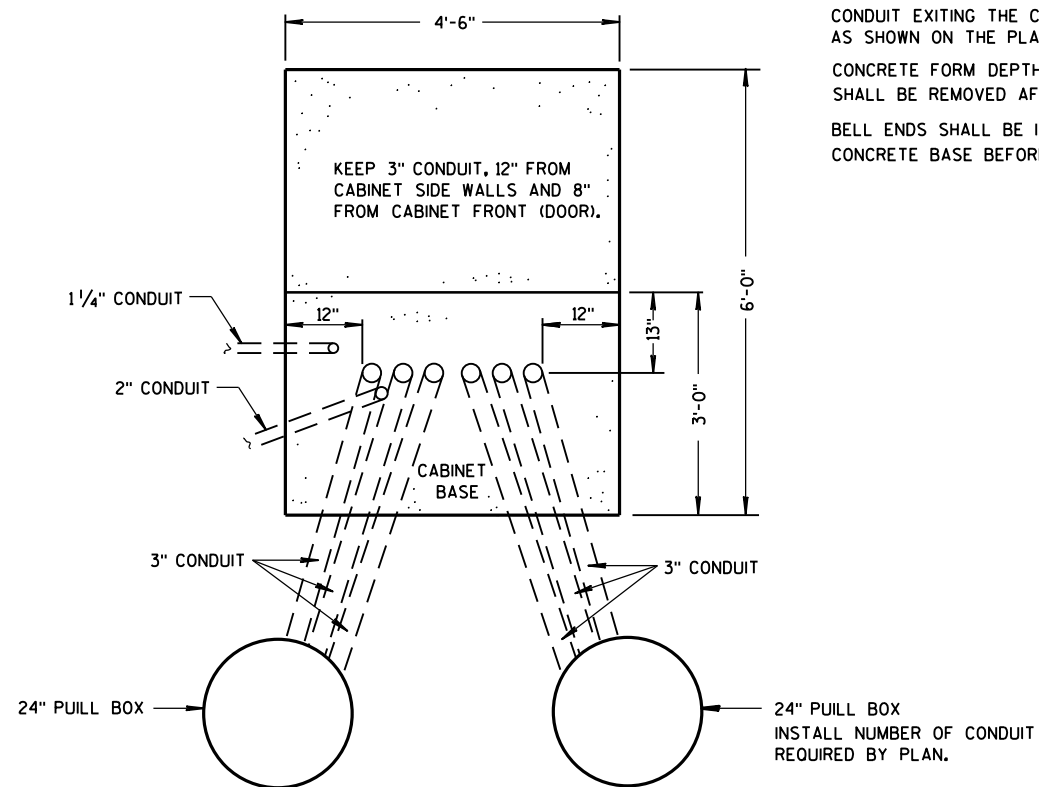
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL 297
FHWA



ISOMETRIC VIEW
TYPE 9, SPECIAL

(C.Y. CONCRETE = APPROX. 1.56)



PLAN VIEW

CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL

GENERAL NOTES

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

INSTALL FOUR 1/2 INCH MINIMUM DIAMETER X 4 INCH MINIMUM LENGTH STAINLESS STEEL APPROVED CONCRETE MASONRY ANCHORS WITH A PULLOUT STRENGTH OF 9,000 LBS. TO ANCHOR THE CABINET TO TYPE 6, 7, 8, AND 9 BASES. THE ANCHOR STUDS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER TO PROPERLY ANCHOR THE CONTROL CABINET TO THE BASE.

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.

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.

CONTROL CABINET BASE TOP SURFACE SHALL BE TROWEL FINISHED SMOOTH AND LEVEL.

MAINTENANCE PLATFORM SHALL BE FLOAT OR BROOM FINISHED AND BE LEVEL.

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

MINIMUM BENDING RADIUS OF CONDUIT = 6 X THE DIAMETER.

ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED.

CAP ALL BELOW GRADE METALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

PLUG ALL BELOW GRADE NONMETALLIC CONDUIT ENDS IN WHICH WIRE OR CABLE IS NOT BEING INSTALLED.

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 BEING INSTALLED SHALL REMAIN CAPPED OR PLUGGED.

CONDUIT EXITING THE CONCRETE BASE (SIX THREE INCH) SHALL TERMINATE IN PULL BOXES AS SHOWN ON THE PLANS.

CONCRETE FORM DEPTH BELOW FINISHED GRADE SHALL BE 6" MAXIMUM. CONCRETE FORMS SHALL BE REMOVED AFTER CONCRETE HAS SET.

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

CONCRETE CONTROL CABINET
BASE, TYPE 9, SPECIAL

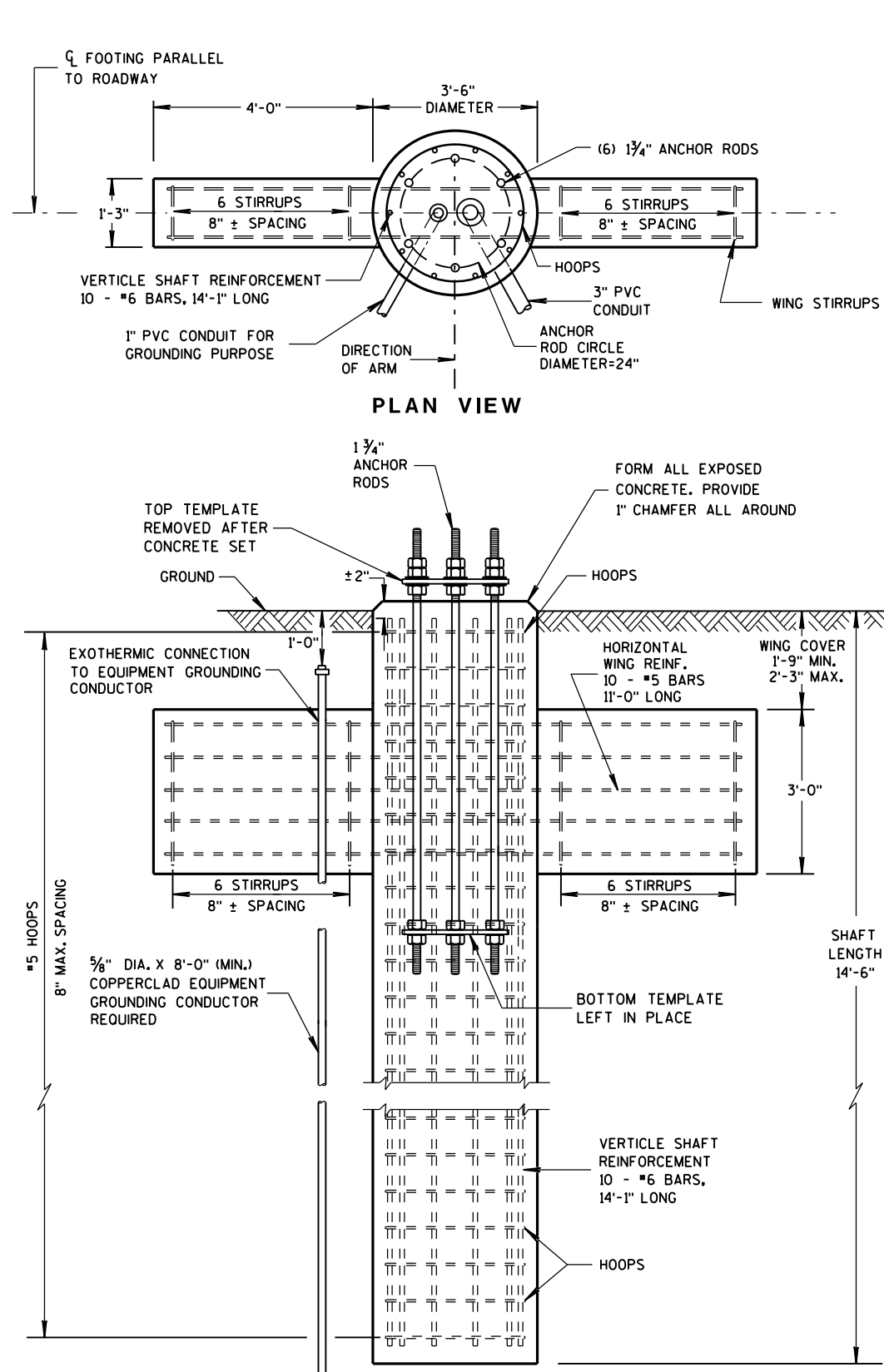
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

Sept. 2014
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL 298

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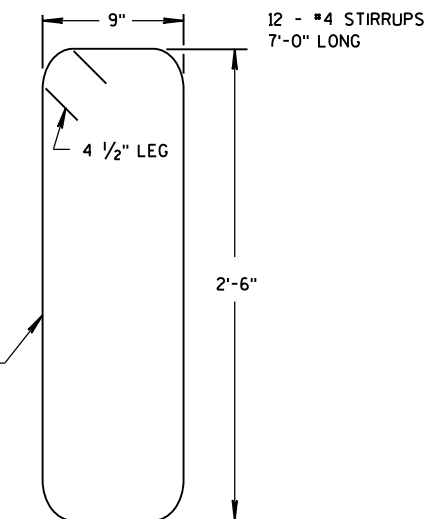
ELEVATION VIEW*

* CONDUITS ARE NOT SHOWN ON THIS VIEW FOR CLARITY

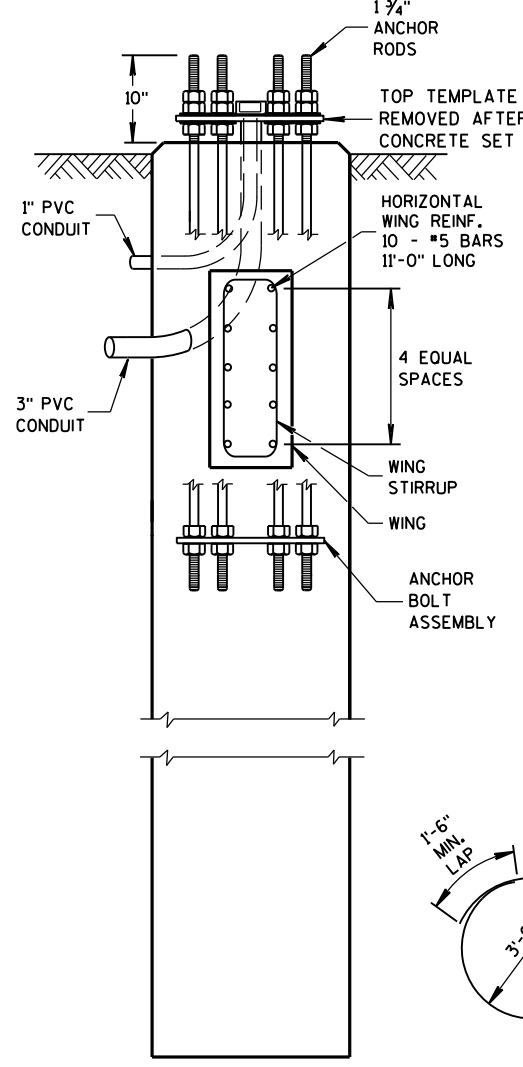
(FOR TYPE 12 & 13 & OVER HEIGHT (OH) POLES)

CONCRETE = 6.3 C.Y.
H.S. REINFORCEMENT = 635 LBS.

TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION.
SEE S.D.D. 9C13-2 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION.

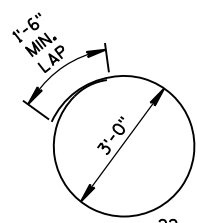


WING STIRRUP



SIDE VIEW **

** HOOPS AND VERTICAL SHAFT REINFORCEMENT NOT SHOWN ON THIS VIEW FOR CLARITY



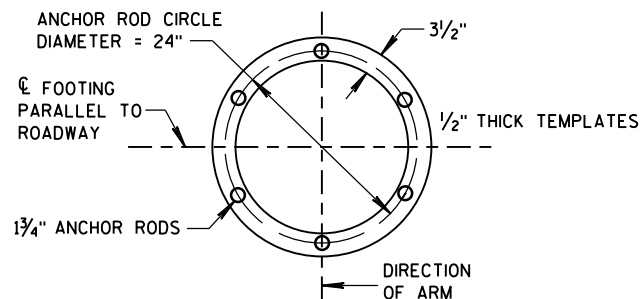
HOOP DETAIL

GENERAL NOTES

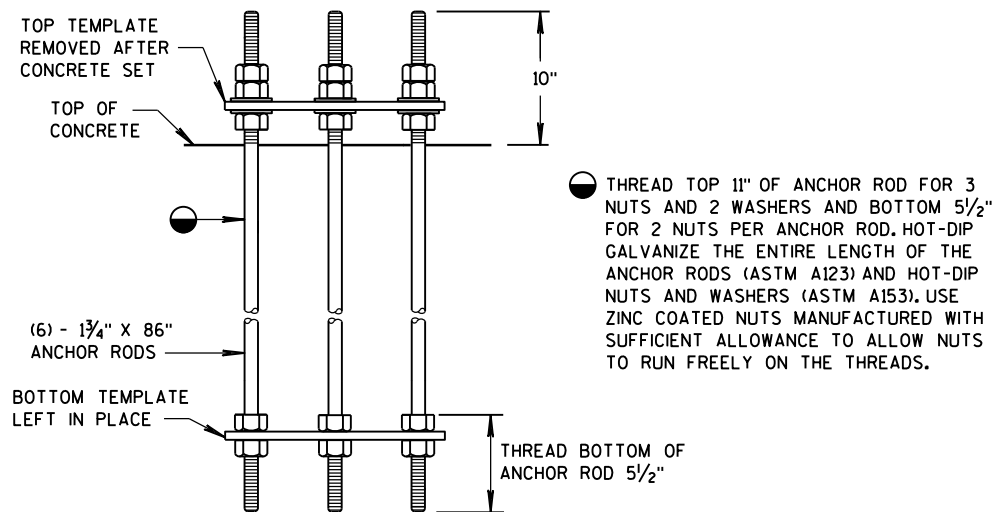
- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.
- ORIENT ANCHOR RODS IN FOOTING AND PROVIDE ANCHOR ROD PROJECTION ABOVE TOP OF CONCRETE FOOTING BASE PER THIS SHEET.
- BENDING DIMENSIONS FOR REINFORCING BARS ARE OUT TO OUT.
- USE 3" CLEAR FOR ALL REINFORCEMENT UNLESS NOTED OTHERWISE.
- THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATION AS TO THE TYPE AND LOCATION OF THE UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO.
- WELDING OF ANCHOR RODS TO THE CAGE IS UNACCEPTABLE. TEMPLATES SHALL BE USED.
- BASES (SHAFT), BELOW THE WING, SHALL BE EXCAVATED BY THE USE OF A CIRCULAR AUGER. IF A BASE REQUIRES A DEEP FORM BECAUSE OF LOOSE SOIL, 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.
- TOP SURFACE OF THE CONCRETE BASE SHALL BE TROWEL FINISHED AND LEVEL.
- CONDUIT SIZE AND LOCATIONS SHALL BE AS SHOWN ON THE PLANS.
- MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER.
- CONDUIT HEIGHT ABOVE CONCRETE BASE SHALL BE 4 1/2" INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NONMETALLIC CONDUIT SHALL HAVE BELL ENDS INSTALLED. ALL CONDUIT SHALL SLOPE TO PULL BOX.
- ALL CONDUIT ENDS AT THE TOP OF THE 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.
- BELL ENDS SHALL BE INSTALLED ON ALL PVC CONDUIT EXPOSED AT THE TOP OF CONCRETE BASES BEFORE INSTALLATION OF CABLE OR WIRE.
- WHEN REQUIRED TO CONNECT NONMETALLIC CONDUIT TO METALLIC CONDUIT, ONLY ADAPTOR FITTINGS, UL LISTED FOR ELECTRICAL USE, SHALL BE USED.
- A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD).
- THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE FURNISHED AND INSTALLED TO ENTER THE BASE 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.
- BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS.
- THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVEL 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, (GREATER THAN 36-INCHES IF INSTALLED IN BREAKER-RUN), EXCEPT WITH THE WRITTEN APPROVAL OF THE ENGINEER.
- ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.
- CONCRETE MASONRY $f_c=3,500$ p.s.i.
- HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60 $f_y=60,000$ p.s.i.
- ANCHOR RODS, ASTM F1554 GRADE 55 (IN ACCORDANCE WITH SECTION 641.2.2.3 OF THE STANDARD SPECIFICATIONS) $f_y=55,000$ p.s.i.
- TEMPLATES, ASTM A709 GRADE 36 $f_y=36,000$ p.s.i.

CONCRETE BASE TYPE 13

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

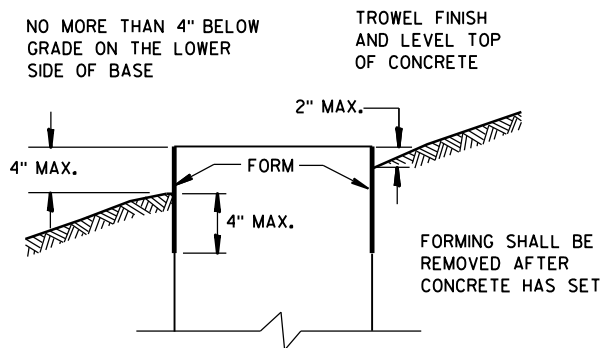


TOP AND BOTTOM TEMPLATES



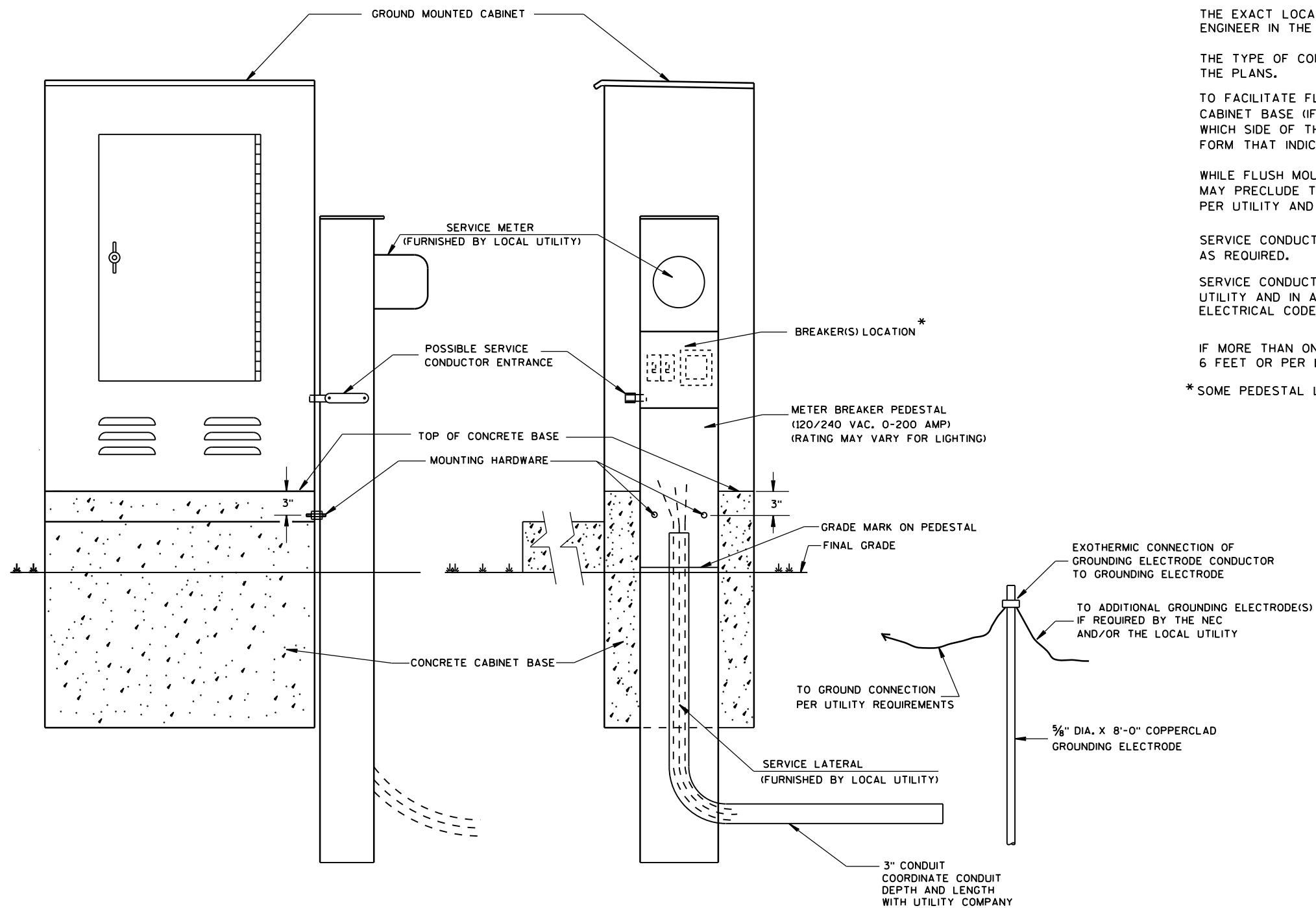
ANCHOR BOLT ASSEMBLY DETAIL

CONCRETE BASE TYPE 13 ANCHOR ASSEMBLY



FORMING DETAIL

CONCRETE BASE TYPE 13	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2017 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL 300 FHWA



TYPICAL CABINET SERVICE INSTALLATION

GENERAL NOTES

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.

CABINET SERVICE INSTALLATION
(METER BREAKER PEDESTAL)

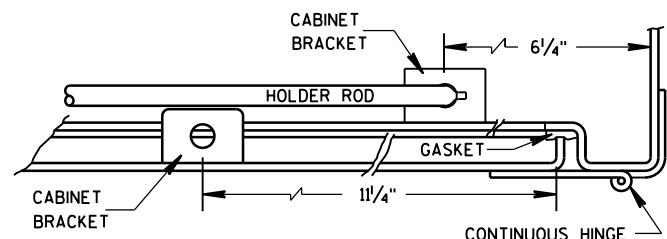
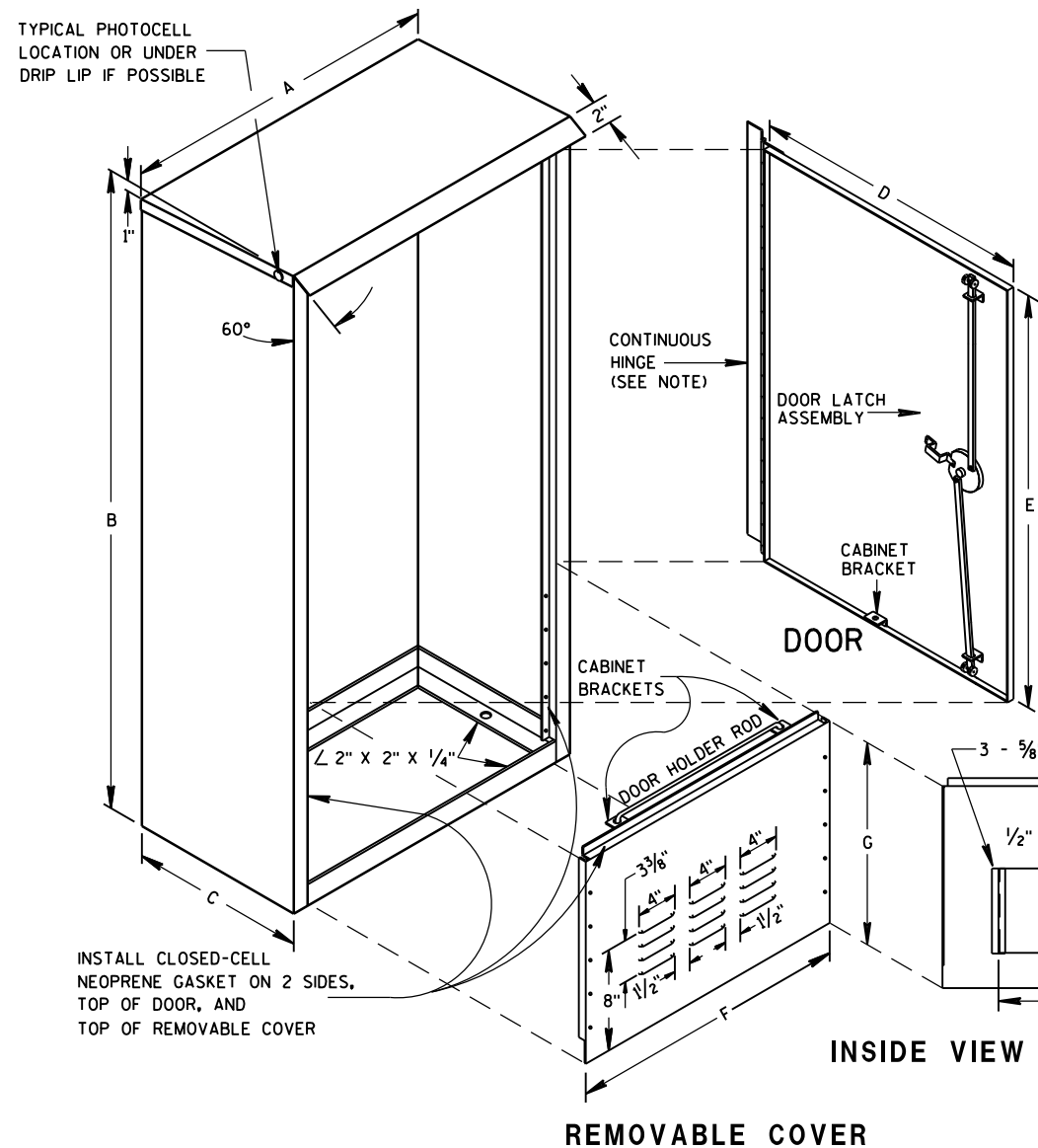
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

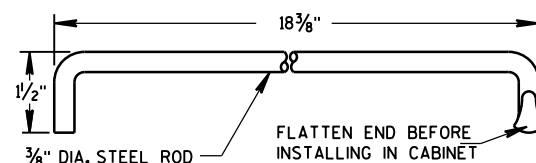
Sept. 2014
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL 301

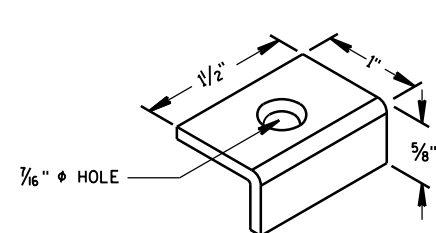
FHWA



HINGE & DOOR HOLDER



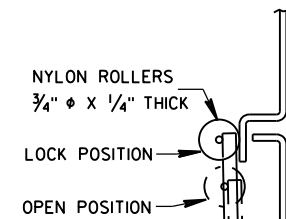
HOLDER ROD



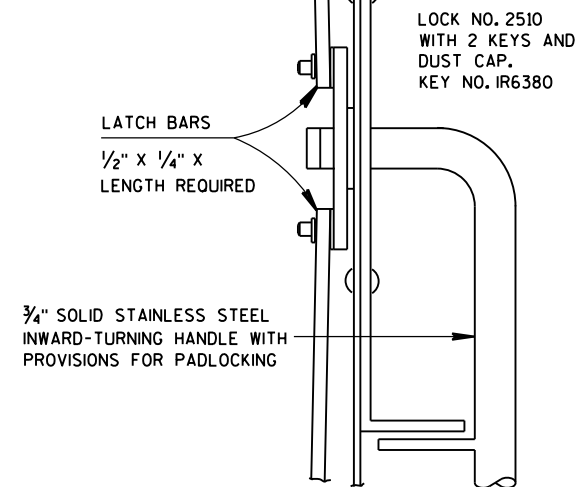
CABINET BRACKET

TABLE OF DIMENSIONS (INCHES)

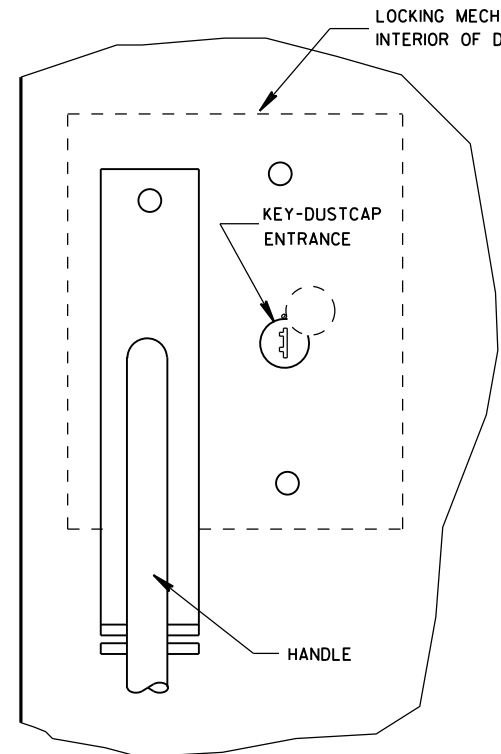
MARK	CABINET TYPE		
	3060	3860	3866
A	30	38	38
B	60	60	66
C	16 1/2	16 1/2	24
D	26 1/2	34 3/4	33 3/4
E	38 3/4	38 3/4	38 3/4
F	26 1/2	34 3/4	33 3/4
G	19	19	25
H	16 1/2	16 1/2	24
H/2	8 1/4	8 1/4	12
J	30	38	38
J/2	15	19	19
K	13 3/4	13 3/4	21 1/4
L	27 1/2	35 1/2	35 1/2



LATCH BAR GUIDE

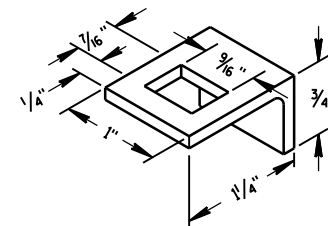


SIDE VIEW



FRONT VIEW

LATCH ASSEMBLY



LATCH BAR GUIDE

GENERAL NOTES

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

PRIME WITH PHOSPHATE TREATMENT AND PRIMER.

FINISH EXTERIOR SURFACES WITH RUSTOLEUM #906 SILVER GRAY OR APPROVED EQUAL.

FINISH INTERIOR WITH RUSTOLEUM #2766 HIGH GLOSS WHITE ENAMEL OR APPROVED EQUAL.

ALL SHEET METAL PARTS SHALL BE .125 INCH THICK ALUMINUM.

ALL SEAMS SHALL BE CONTINUOUSLY WELDED.

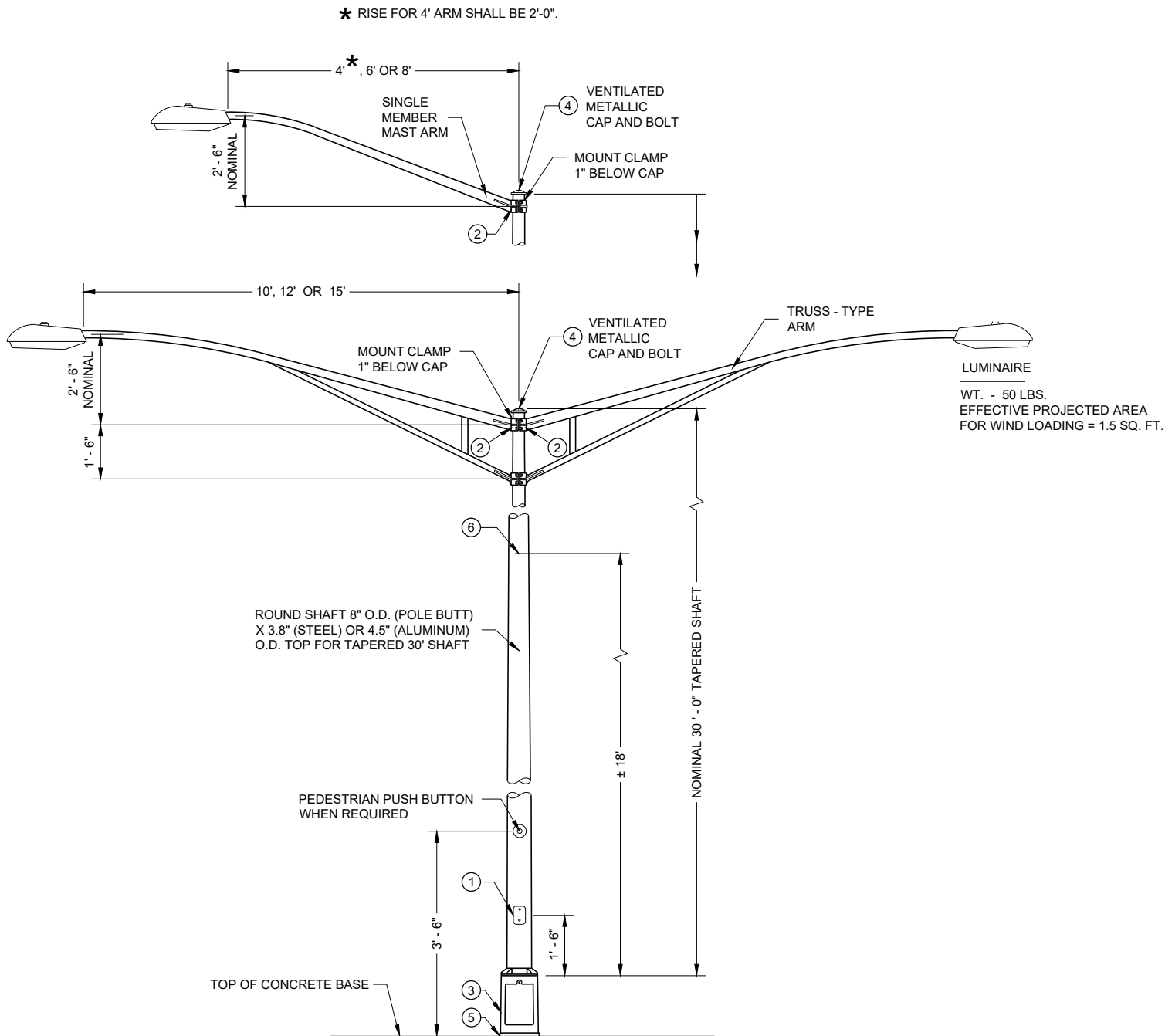
ALUMINUM SHALL BE TYPE 5052-H32.

CONTINUOUS HINGE SHALL BE HEAVY GAUGE ALUMINUM WITH 1/4" DIAMETER STAINLESS STEEL HINGE PIN. HINGE IS SECURED WITH 1/4" X 20 TPI STAINLESS STEEL CARRIAGE BOLTS AND STAINLESS STEEL NYLOCK NUTS.

A SINGLE PHOTOCELL SHALL BE LOCATED ON THE NORTH-NORTHEAST SIDE OF THE CABINET UNLESS OTHERWISE CALLED FOR IN THE SPECIAL PROVISIONS. THE PHOTOCELL SHALL BE PLACED AS SHOWN AND SHALL BE LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST.

DOOR LATCH ASSEMBLY TO BE PROVIDED WITH THREE-POINT LOCKING MECHANISM.

SIGNAL CONTROL CABINET	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED Sept. 2014 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL 302
FHWA	



**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.

SECTION 657, POLES, OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

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. SLEEVEING INSIDE THE POLE IS NOT ACCEPTABLE.

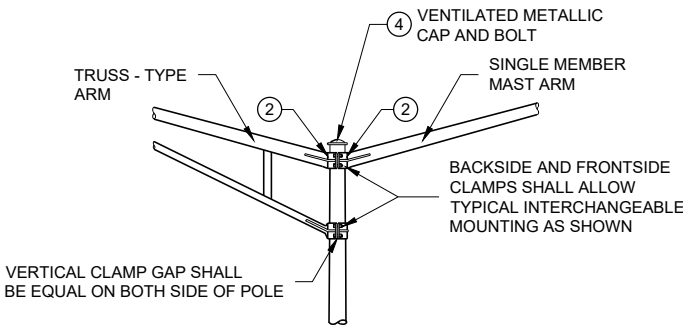
TYPE 5 ALUMINUM POLES SHALL HAVE A MINIMUM WALL THICKNESS OF 0.1888".

TYPE 5 STEEL POLES SHALL HAVE A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (0.1196").

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 MAST ARM SHALL BE A NOMINAL 12 INCHES IN LENGTH.

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

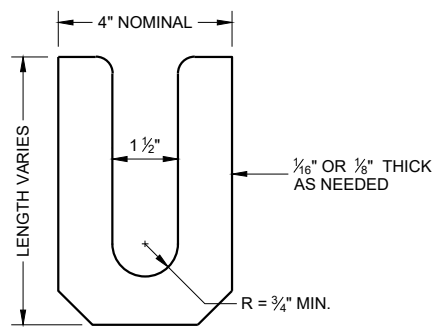
- ① 4" X 6" REINFORCED HANDHOLE AND COVER ASSEMBLY WITH TWO (2) 3/4" X 3/4" - 20 TPI , STAINLESS STEEL, HEX HEAD BOLTS.
- ② GROMMETS. 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1 3/8" HOLE IN POLE SHAFT FOR WIRING.
- ③ CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.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



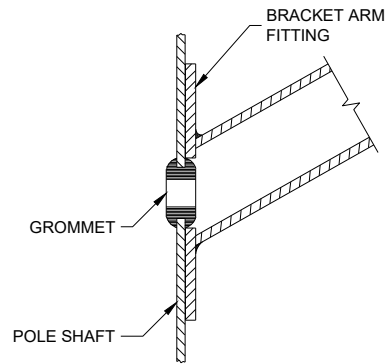
INTERCHANGEABLE MOUNTING DETAIL

**POLE MOUNTINGS FOR
LIGHTING UNITS, TYPE 5
(30 FEET)**

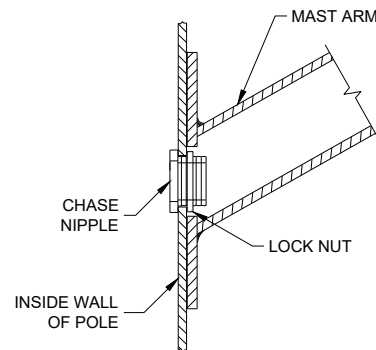
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 303



LEVELING SHIM
SHALL BE ALUMINUM



TYPICAL APPLICATION OF GROMMET IN POLE SHAFT



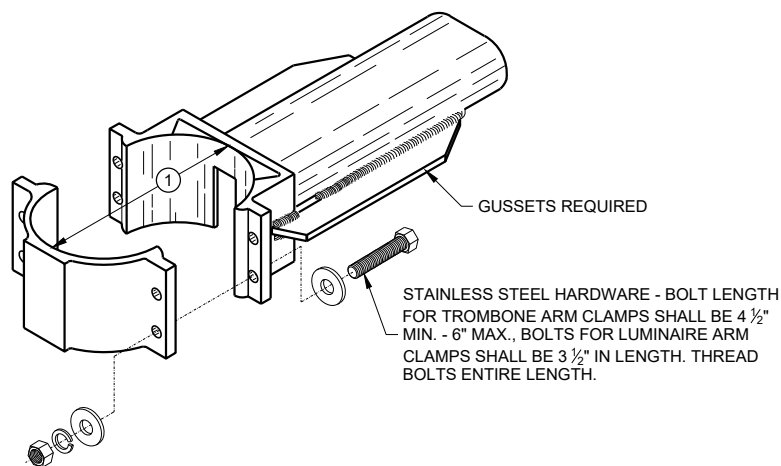
TYPICAL APPLICATION OF CHASE NIPPLE IN POLE SHAFT

GENERAL NOTES

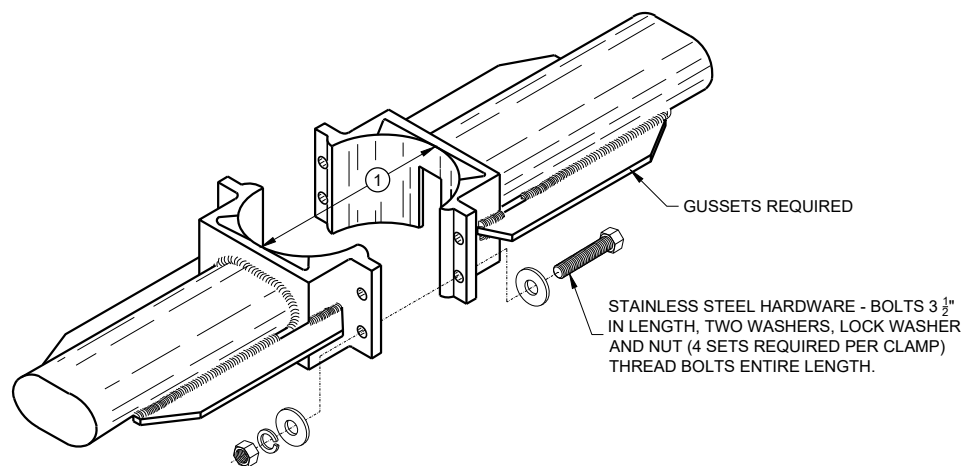
CLAMP BOLT-NUT TIGHTENING TORQUE SHALL BE INDICATED BY INDENT STAMPING (1/2 INCH NUMERALS AND LETTERS) OR WEATHERPROOF PRINTING ON THE INSIDE OF THE CLAMP THAT IS WELDED TO THE ARM MEMBER.

- ① 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP. 6.625" I.D. FOR TROMBONE MAST ARM CLAMP.
- ② INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)
- ③ BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR RODS.
- ④ 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.

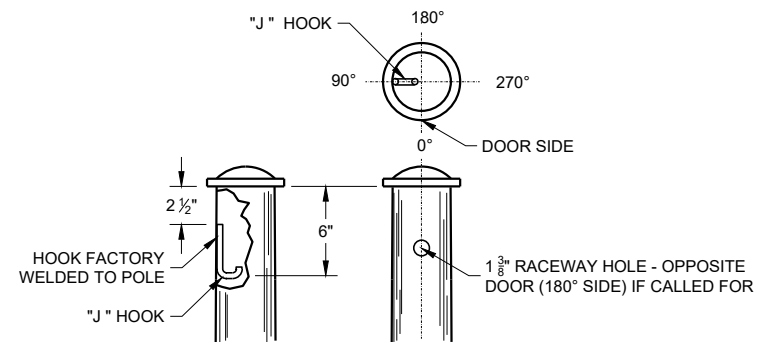
SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



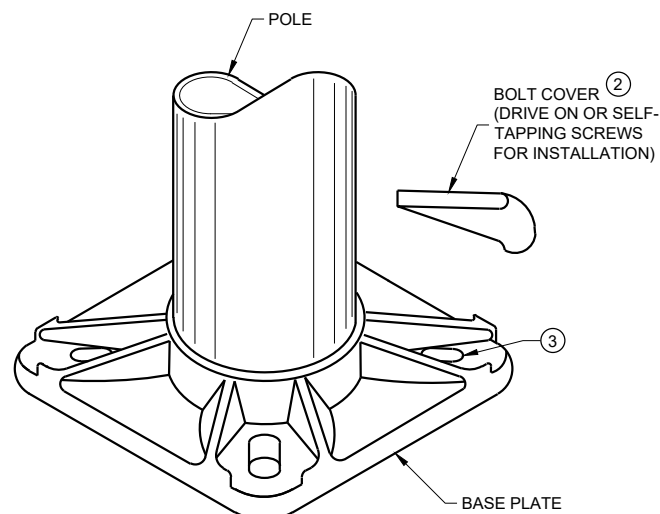
TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP



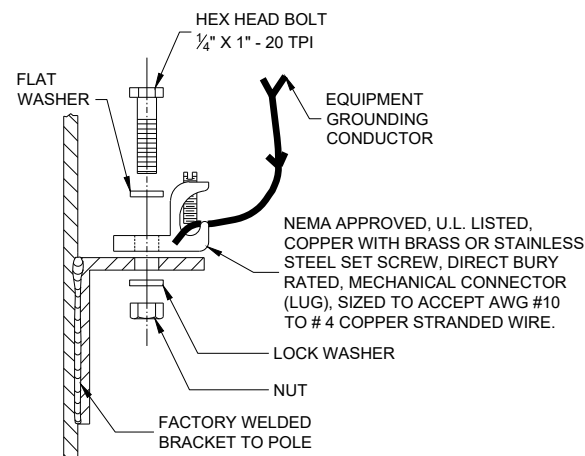
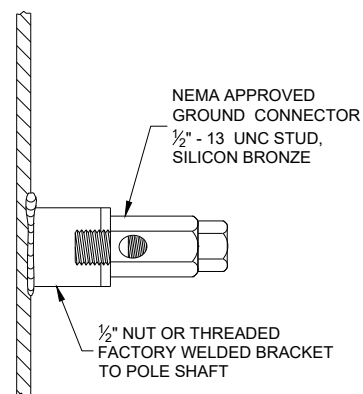
TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS



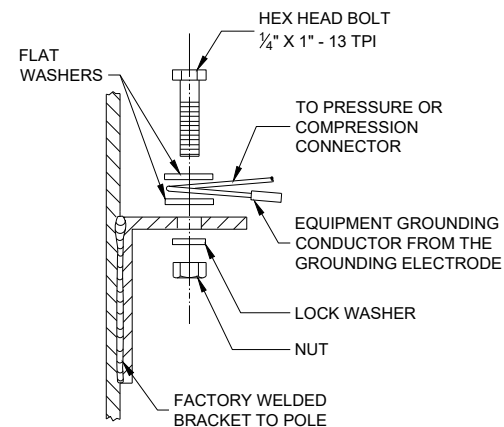
TYPICAL "J" HOOK LOCATION



BASE PLATE



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



HARDWARE DETAILS FOR POLE MOUNTING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

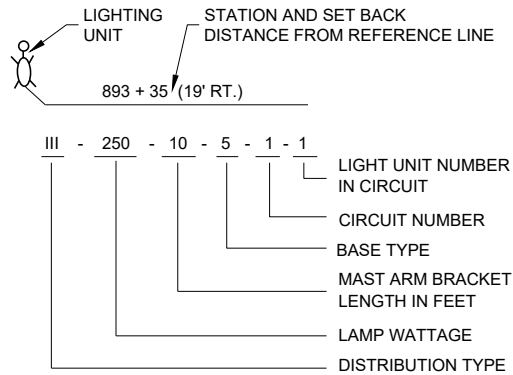
APPROVED
November 2018 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL ENGI 304
FHWA

GENERAL NOTES

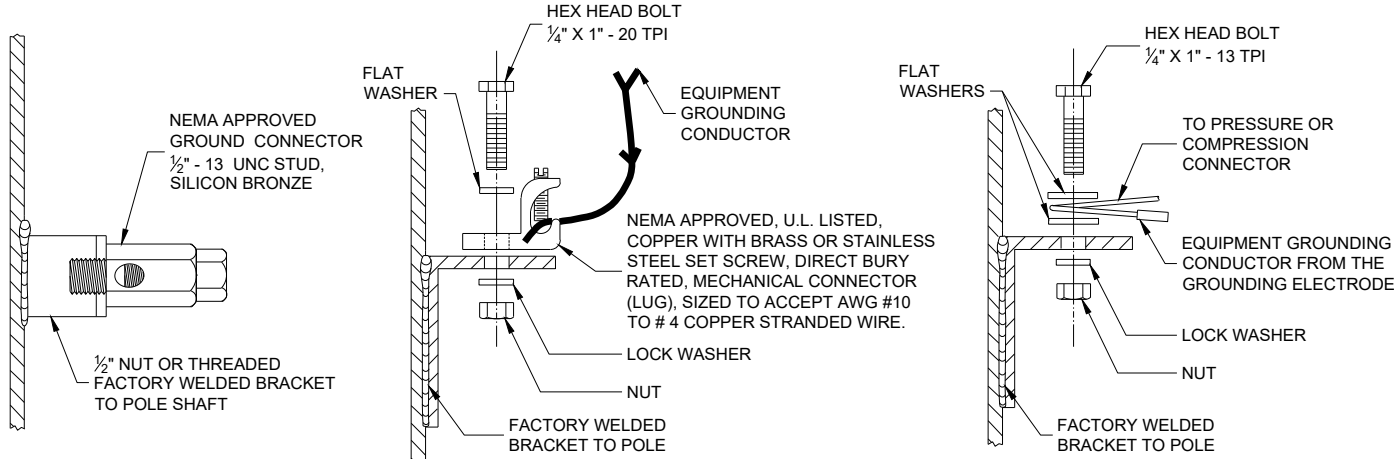
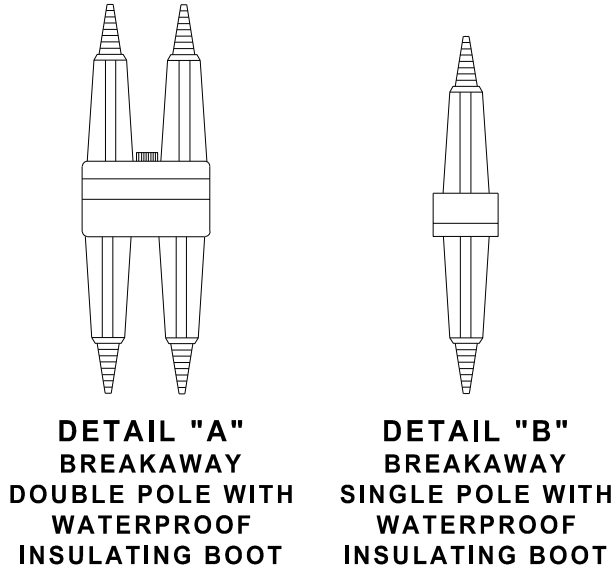
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

THE EQUIPMENT GROUND CONNECTOR SHALL BE TAPED WITH 3 WRAPS (MINIMUM) OF APPROVED RUBBER TAPE AND 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.



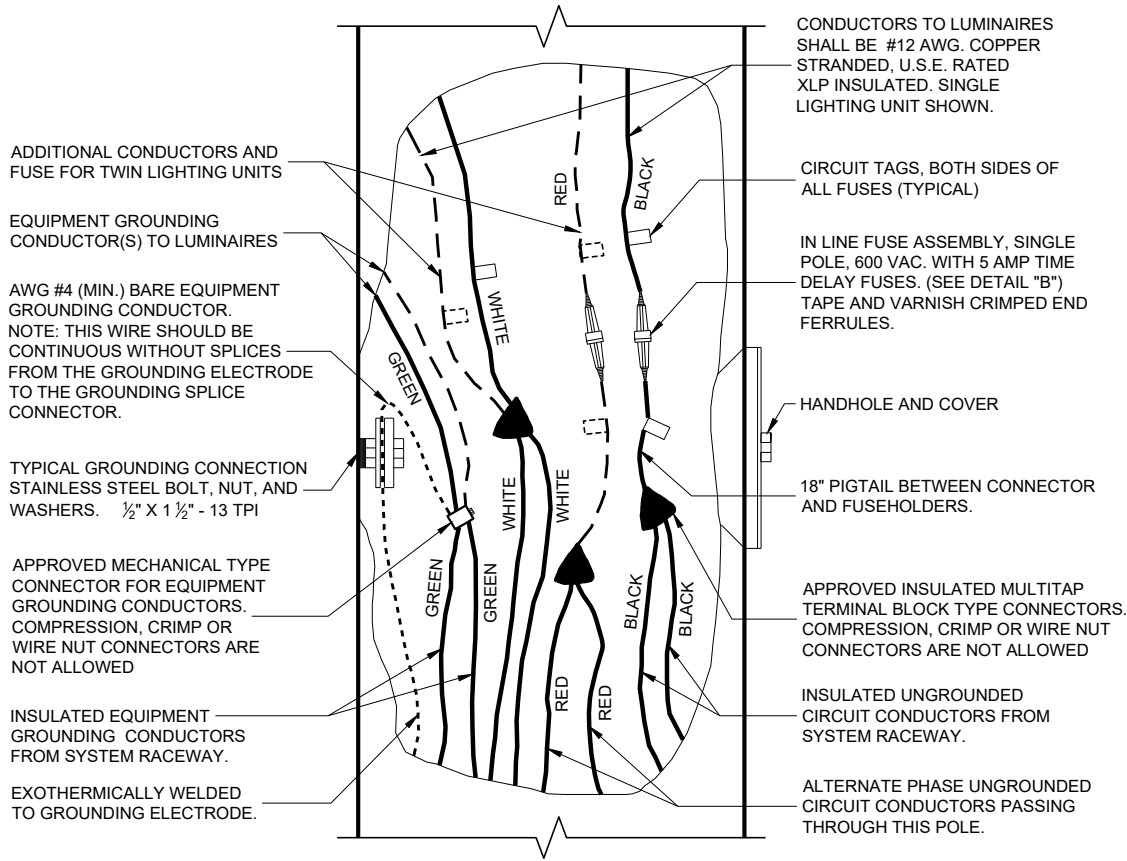
LIGHTING UNIT CODE (TYPICAL)



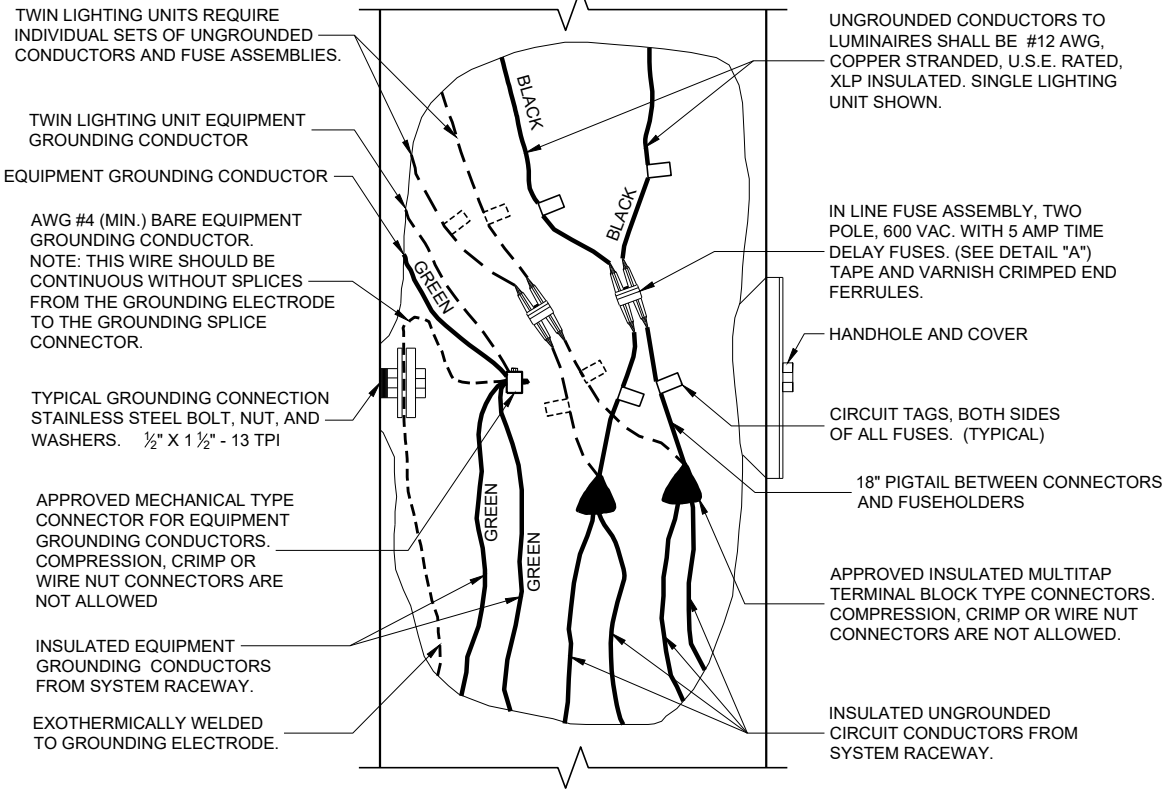
TYPICAL GROUNDING CONNECTIONS
NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL

6

SDD 09E03 - 06



3 WIRE - 120, 240 OR 480 VAC (UNGROUNDED CONDUCTORS)
WITH GROUNDING CONDUCTOR AND
EQUIPMENT GROUNDING CONDUCTOR



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

6

SDD 09E03 - 06

NON - FREEWAY LIGHTING UNIT
POLE WIRING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

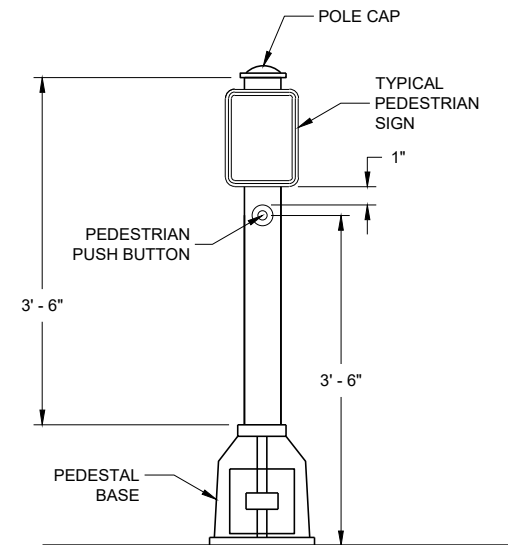
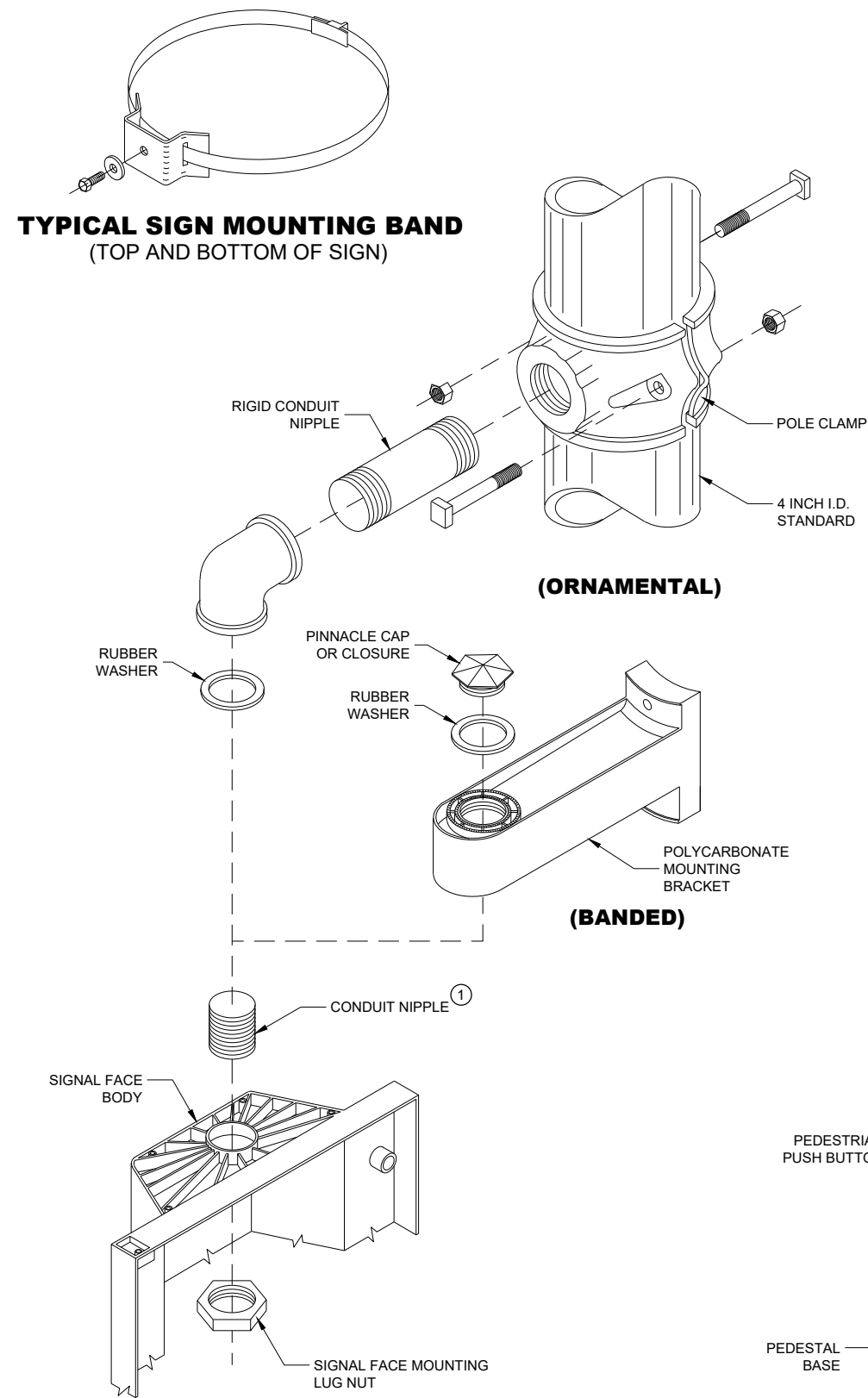
APPROVED
November 2018 /S/ Ahmet Demirelek
DATE STATE ELECTRICAL ENGI 305
FHWA



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.



APPROVED
2/28/2013 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL 306
FHWA



**PEDESTRIAN PUSH BUTTON
TYPICAL MOUNTING**

GENERAL NOTES

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

SEE THE SIGNAL PLAN FOR REQUIRED SIGNAL FACE SIZES.

LOCATIONS SHALL BE AS SHOWN ON THE PLANS, UNLESS APPROVED BY THE ENGINEER IN THE FIELD.

ALL PEDESTAL BASES SHALL BE MOUNTED ON CONCRETE BASE - TYPE 1.

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIFICATIONS.

POLYCARBONATE SIGNAL FACE MOUNTING BRACKETS SHALL BE USED UNLESS ORNAMENTAL POLE CLAMPS ARE SPECIFIED.

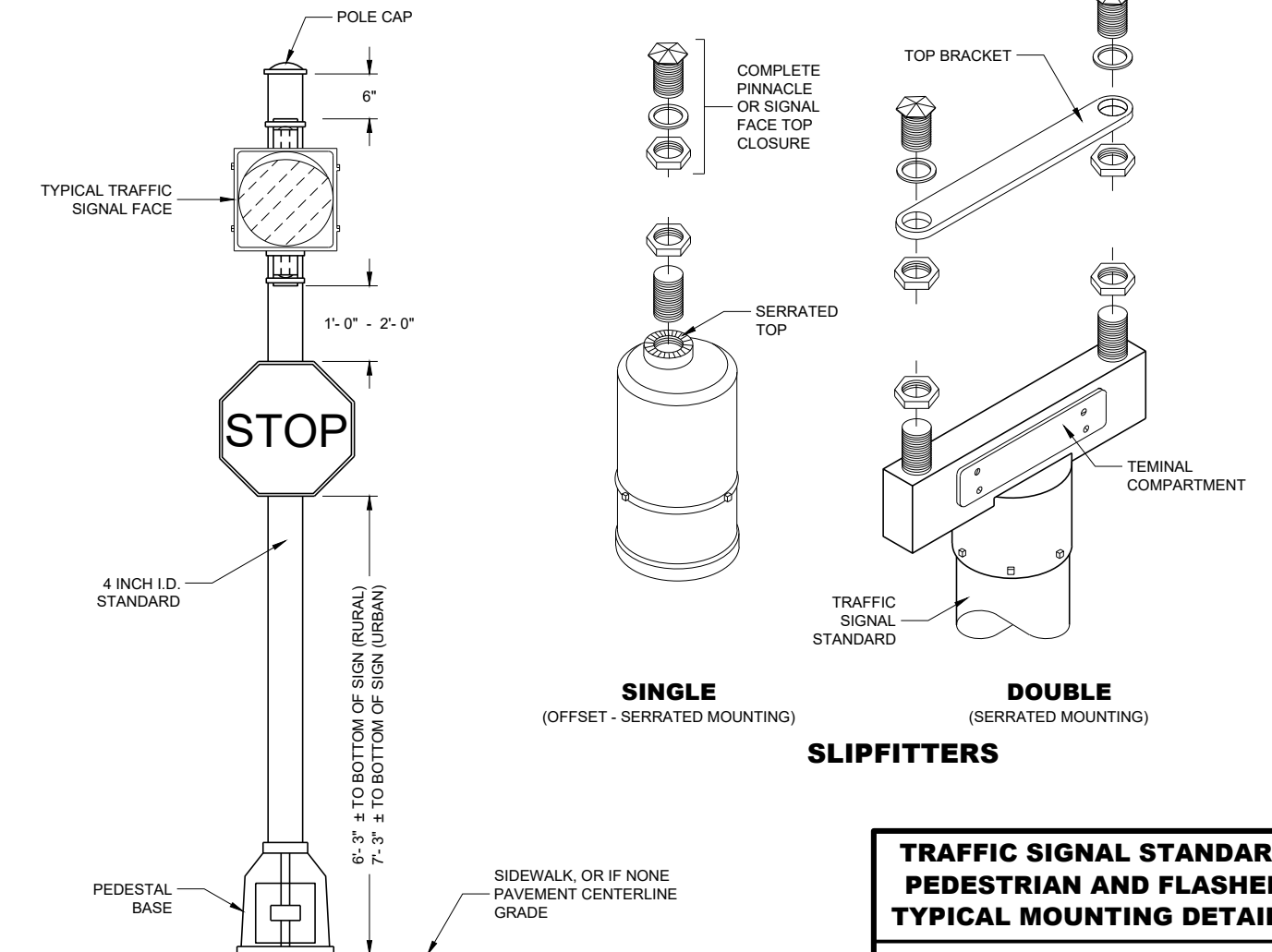
LENGTH OF TRAFFIC STANDARDS SHALL BE AS SHOWN ON THE PLANS.

MOUNTINGS AND BRACKETS SHALL BE AS SHOWN ON THE PLANS OR DESCRIBED IN THE SPECIAL PROVISIONS (BY THE REGION TRAFFIC ENGINEER).

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) $\frac{1}{2}$ " X $\frac{3}{4}$ " - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

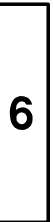
- ① USE 1 $\frac{1}{2}$ " ID NIPPLES ZINC-COATED RIGID METAL CONDUIT, LONG ENOUGH TO ACCOMMODATE FULL DEPTH THREADING INTO THE HEAD MOUNTING LOCK NUT IN ORDER TO TIGHTEN THE FACE, BUT THAT DO NOT INTERFERE WITH REFLECTOR CLOSURE. THREAD THE NIPPLE INTO THE MOUNTING BRACKET/ELBOW UNTIL TIGHT. USE APPROVED PINNACLE TYPE HARDWARE FROM A DEPARTMENT APPROVED MANUFACTURER TO CLOSE THE UNUSED 1 $\frac{1}{2}$ " OPENING IN SIGNAL FACES AND BRACKET ENDS.



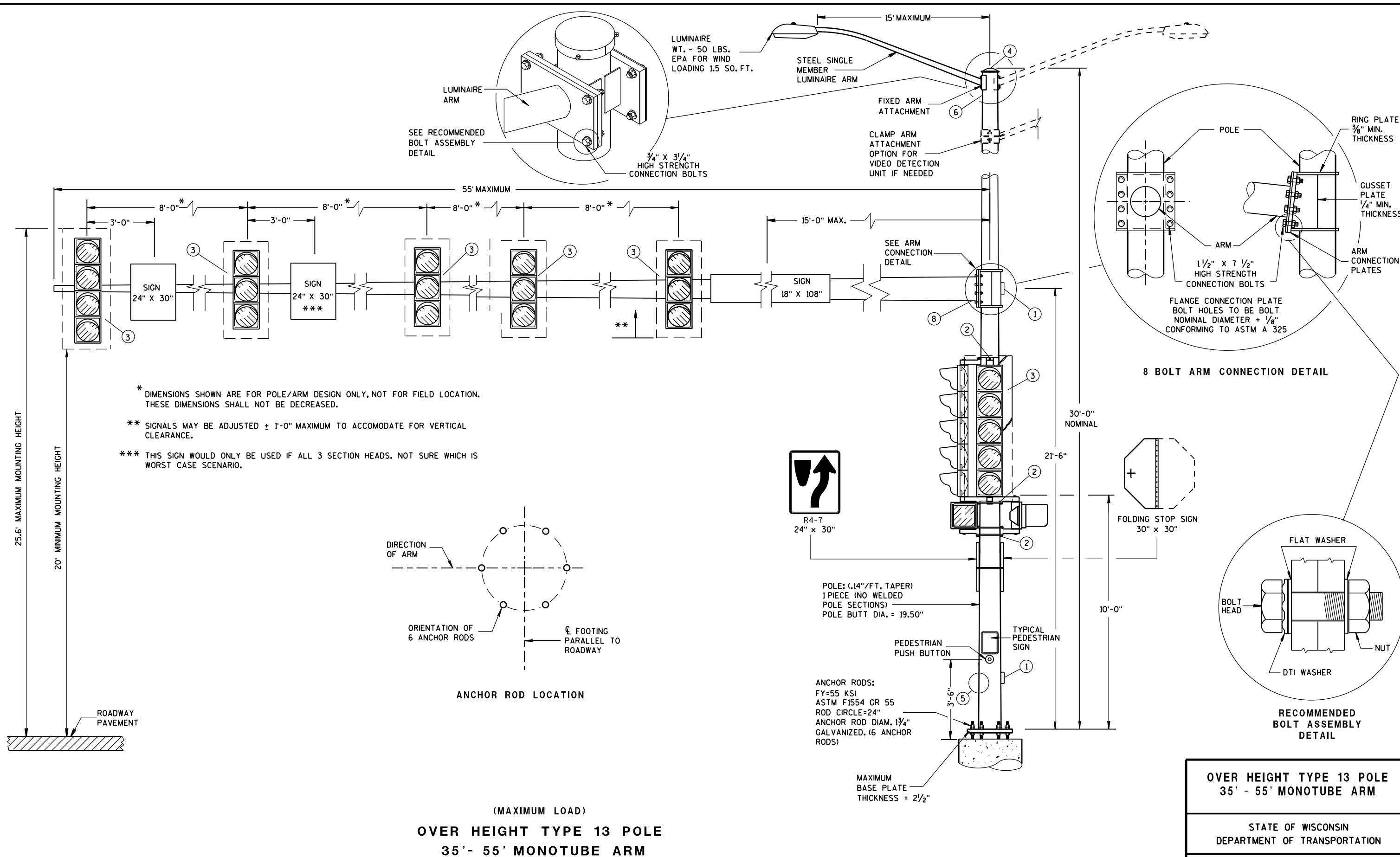
TRAFFIC SIGNAL STANDARD PEDESTRIAN AND FLASHER TYPICAL MOUNTING DETAILS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL ENGI 307
FHWA



TYPE 13 POLE 35' - 55' MONOTUBE ARM	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2016 DATE	/S/ Ahmet Demirebilek STATE ELECTRICAL 308
FHWA	



GENERAL NOTES

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

OVER HEIGHT POLE TYPES 9 AND 10 ARE FOR ARM LENGTHS 15-FOOT TO 30-FOOT.

OVER HEIGHT POLE TYPES 12 AND 13 ARE FOR ARM LENGTHS 35-FOOT TO 55-FOOT.

MONOTUBE POLE AND ARM SHALL BE GALVANIZED STEEL.

RING-STIFFENED BUILT-UP BOX TYPE OF ATTACHMENT FOR TRAFFIC SIGNAL ARM.

ONE (1) PIECE POLE CONSTRUCTION (NO WELDED POLE SECTIONS).

STANDARD STRAIGHT ARM DESIGN (3 % ± RISE).

SECTION 657, POLES OF THE STANDARD SPECIFICATIONS SHALL APPLY TO THIS DRAWING.

PROVIDE WIREWAY THRU POLE WALL AND ARM CONNECTION PLATES. PROVIDE ROUND, SMOOTH INSIDE SURFACE.

MANUFACTURER'S SUBMITTED POLE DESIGNS AND DRAWINGS SHALL BE SIGNED AND STAMPED BY A REGISTERED PROFESSIONAL ENGINEER AND CERTIFIED AS BEING IN COMPLIANCE WITH THE AASHTO LRFD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNAL 2015 1ST EDITION (INCLUDING 2017 INTERIM REVISIONS) AND ALL PERTINENT WISDOT SPECIFICATIONS AND DRAWINGS FOR TRAFFIC AND LIGHTING STRUCTURES AND AS FOLLOWS:

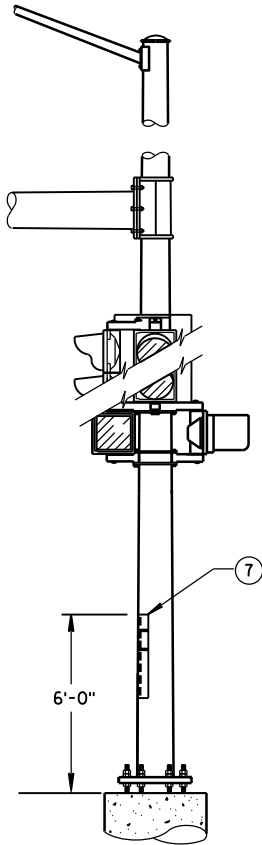
- CATEGORY III FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 9 AND TYPE 10 STRUCTURES.
- CATEGORY II FATIGUE LOADS OF GALLOPING, TRUCK GUSTS (AT 45 MPH VEHICLE VELOCITY) AND NATURAL WIND GUSTS FOR DESIGN OF TYPE 12 AND TYPE 13 STRUCTURES.
- 90 MPH (3-SECOND GUST) WIND SPEED AND A 50 YEAR DESIGN LIFE.

SECURE THE OPENING BELOW THE BASE PLATE WITH STAINLESS STEEL OR GALVANIZED STEEL MESH AND SECURE THE MESH WITH 3/4" S.S. BANDING AROUND THE LEVELING NUTS.

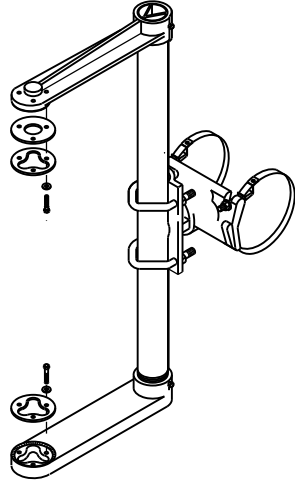
INDENT PRINT (NOMINAL 1/2" HIGH) THE POLE LENGTH AND FIRST TWO LETTERS OF THE MANUFACTURERS NAME ON TWO SIDES OF THE BASE PLATE 180 DEGREES APART, BEFORE GALVANIZING. THE ARM SHALL BE IDENTIFIED WITH THE SAME INFORMATION BY INDENT PRINT.

SIGNAL FACE SHALL BE MOUNTED 6 INCHES (NOMINAL) FROM THE END OF THE MONOTUBE ARM OR AS SHOWN ON THE PLAN CONSTRUCTION DETAIL OR AS DIRECTED BY THE PROJECT ENGINEER/ELECTRICAL OPERATIONS PERSONNEL. MOUNT ALL LIKE HEADS AT SAME ELEVATION.

SIGN MOUNTING BRACKETS SHALL BE FURNISHED IN ACCORDANCE WITH SECTION 637 OF THE STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.

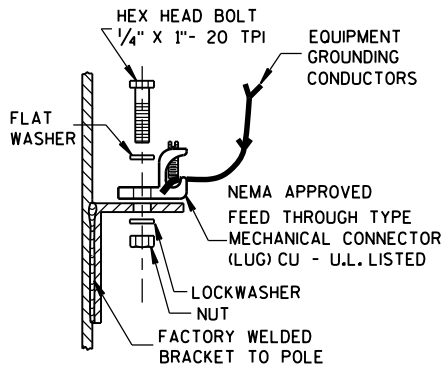


STRUCTURAL IDENTIFICATION
PLAQUE PLACEMENT



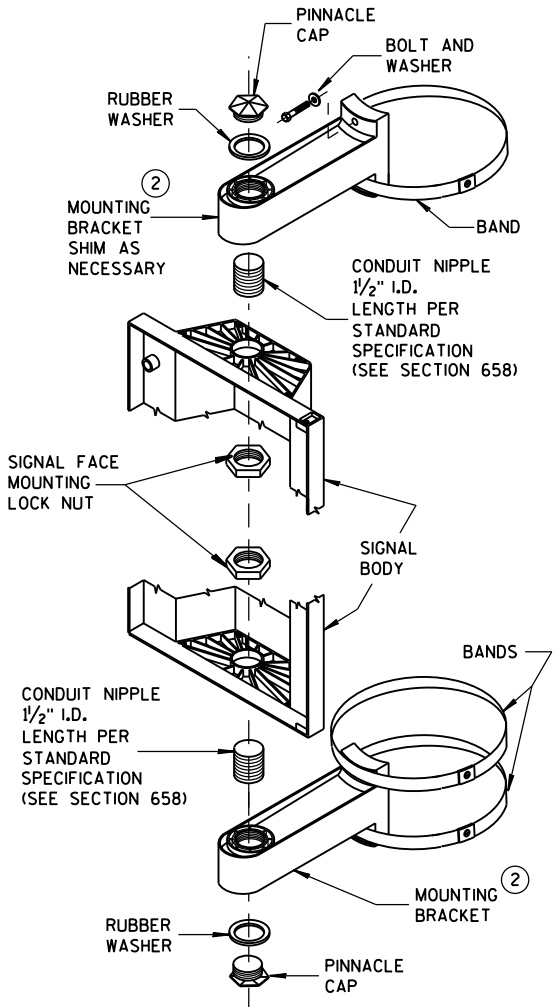
SIGNAL FACE MOUNTING BRACKET
DETAIL FOR MONOTUBE ARM

(MOUNT PER MANUFACTURER'S RECOMMENDATION)

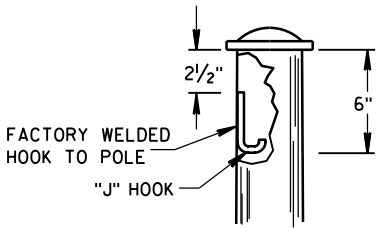


TYPICAL GROUNDING CONNECTIONS

NUT, BOLT AND WASHERS SHALL
BE STAINLESS STEEL



SIGNAL FACE
VERTICAL MOUNTING DETAIL



"J" HOOK WIRE SUPPORT

- DESIGN FOR MAXIMUM ALLOWABLE HANDHOLE WITH COVER ASSEMBLY WITH TWO 1/4" x 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLTS.
- SIGNAL MOUNTING BRACKETS FOR POLE MOUNTING, MOUNT WITH CAP SCREW AND BANDING, (SEE SPECIFICATIONS SEC. 658).
- SECURELY MOUNT BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURERS RECOMMENDATIONS.
- THE TOP OF THE POLE SHAFT AND THE END OF THE MONOTUBE ARM SHALL BE EQUIPPED WITH A REMOVABLE, VENTILATED CAP HELD SECURELY IN PLACE WITH SET SCREWS.
- FACTORY-WELDED BRACKET FOR GROUNDING LUG, OPPOSITE HANDHOLE, (LUG AND HARDWARE PAID UNDER SEPARATE ITEM). PROVIDE HOLE IN BRACKET FOR 1/4" x 3/4" - 20 TPI STAINLESS STEEL HEX HEAD BOLT.
- FACTORY-WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.
- INSTALL STRUCTURAL IDENTIFICATION PLAQUES.

STRUCTURAL IDENTIFICATION PLAQUES SHALL BE PLACED ON THE POLES IN THE SAME DIRECTION AS THE ARM.

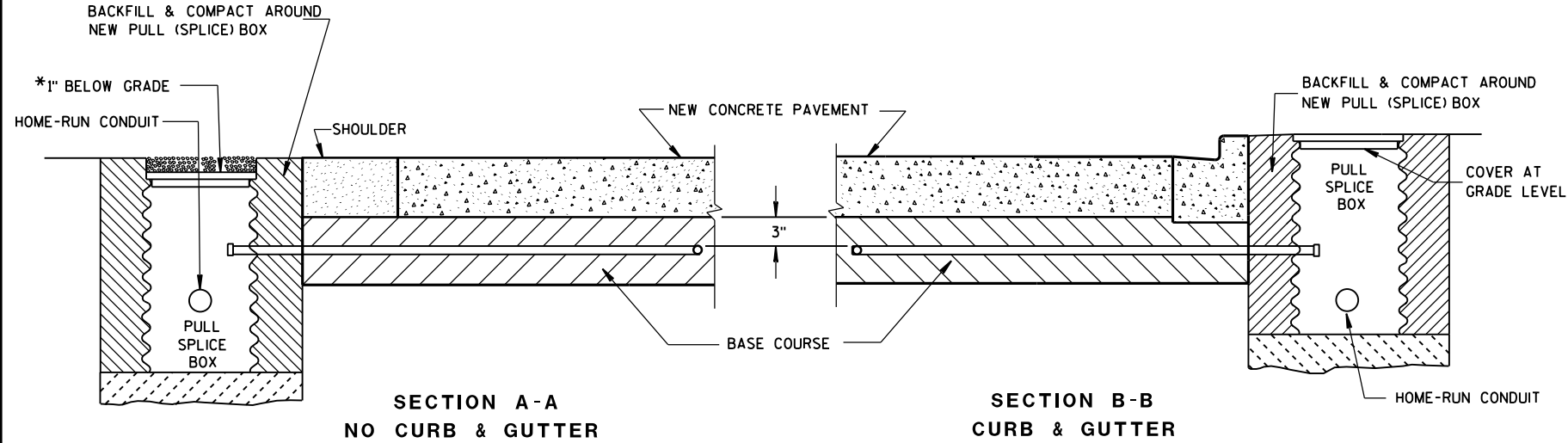
MOUNTING HEIGHT SHALL BE 6'-0" ABOVE THE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.

- FACTORY DRILLED 1/2" DRAIN HOLE 2" FROM FLANGE CONNECTION PLATE.

GENERAL NOTES AND HARDWARE
DETAILS FOR OVER HEIGHT
TYPE 9, 10, 12 & 13 POLES
WITH MONOTUBE ARMS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2017 /S/ Ahmet Demirbilek
DATE STATE ELECTRICAL 310
FHWA



*RECESS PULL (SPlice) BOX SO THAT THE COVER IS 3\"/>

LOOP DETECTOR INSTALLATION DETAIL

GENERAL NOTES

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

LOOP SIZE, CONFIGURATION LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL (SPlice) BOX.

SPLICES SHALL BE INSTALLED BY USING CAST IN PLACE SPLICE KITS LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST OR AN ENGINEER APPROVED EQUAL. NON-INSULATED BUTT SPLICES TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPLICES SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPLICE KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

AFTER SPLICING THE LOOP WIRE TO THE LOOP LEAD-IN CABLE, THE CONTRACTOR SHALL MEASURE INDUCTANCE, GROUND RESISTANCE AND WIRE RESISTANCE AT THE CABINET END OF THE LEAD-IN CABLE AND FURNISH A COPY OF THE READINGS TO THE PROJECT ENGINEER FOR EVALUATION.

LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

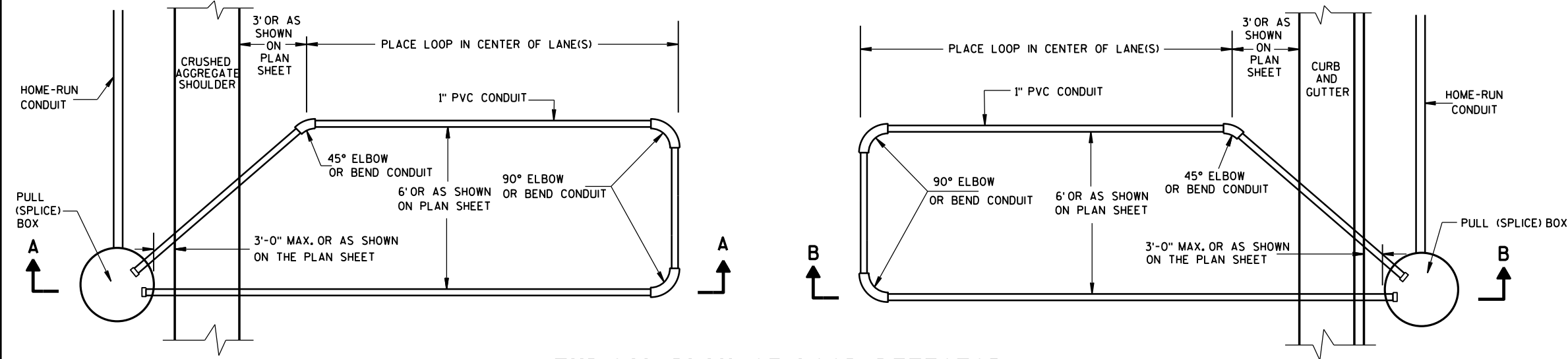
THE #12 AWG LOOP WIRE IN THE PULL (SPlice) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPLICED TO THE LOOP LEAD-IN CABLE.

SPLICES OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL (SPlice) BOXES AT THE SIDE OF THE ROAD.

THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL (SPlice) BOX THROUGH THE LOOP CONDUIT, BACK TO THE ROADSIDE PULL (SPlice) BOX, AND BE INSTALLED IN ONE, NON-SPLICE CONTINUOUS LENGTH.

PROTECTION OF THE CONDUIT IN THE BASE COURSE, SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE NEW PAVEMENT IS INSTALLED.

SHOULD INSTALLATION REPAIR BE REQUIRED, IT SHALL BE DONE UNDER THE DIRECTION OF THE PROJECT ENGINEER.

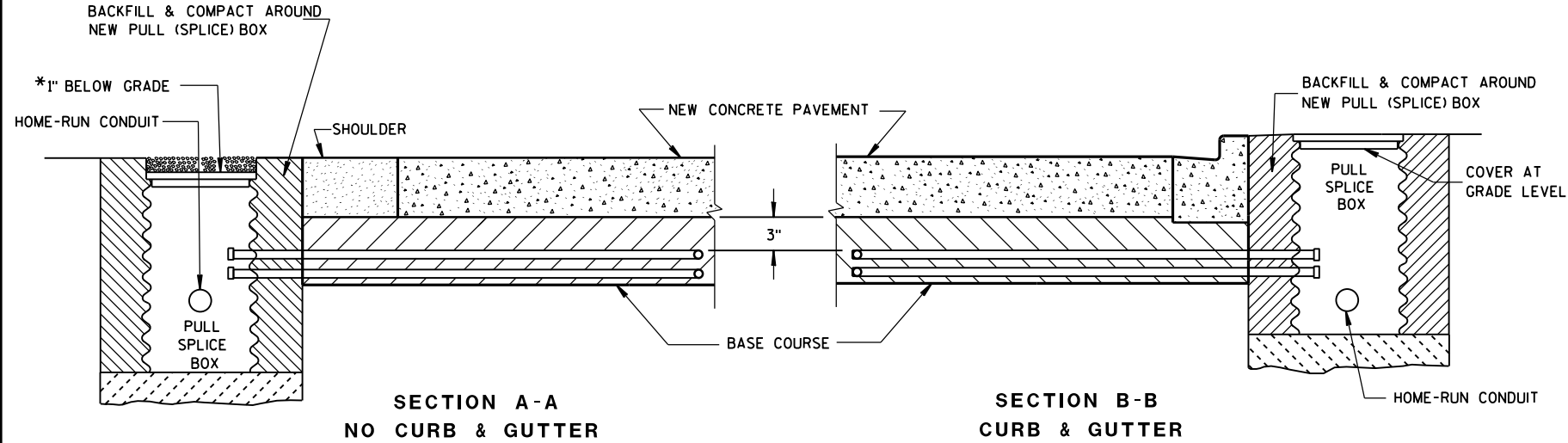


TYPICAL PLAN OF LOOP DETECTOR WITH 18\"/>

LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 1)

**STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION**

APPROVED
 DATE Sept. 2014 /S/ Ahmet Demirbilek
 STATE ELECTRICAL 311
 FHWA



*RECESS PULL (SPlice) BOX SO THAT THE COVER IS 3\"

LOOP DETECTOR INSTALLATION DETAIL

GENERAL NOTES

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

LOOP SIZE, CONFIGURATION LOCATION, NUMBER OF TURNS OF WIRE AND ASSOCIATED SIGNAL PHASE SHALL BE AS SHOWN ON THE PLANS.

PITCH LEAD OUT CONDUIT TO DRAIN TO ROADSIDE PULL (SPlice) BOX.

SPlices SHALL BE INSTALLED BY USING CAST IN PLACE SPlice KITS LISTED ON THE DEPARTMENTS APPROVED PRODUCTS LIST OR AN ENGINEER APPROVED EQUAL. NON-INSULATED BUTT SPlices TO FIT #12 AWG STRANDED WIRE SHALL BE USED. SPlices SHALL BE SOLDERED AND INSULATED FROM EACH OTHER AS PER INSTRUCTIONS INCLUDED IN THE SPlice KIT.

MEASURE GROUND RESISTANCE USING A MEGGER. REPLACE LOOP WIRE NOT ATTAINING A READING OF INFINITY TO GROUND.

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LOOP DETECTOR LEADS SHALL BE IDENTIFIED WITH THEIR ASSOCIATED LOOP BY USE OF WATERPROOF TAGS AT BOTH ENDS OF THE CABLE. A LISTING OF THE CABLE IDENTIFICATION PER INDIVIDUAL LOOP LEAD-IN SHALL BE PLACED IN THE CABINET.

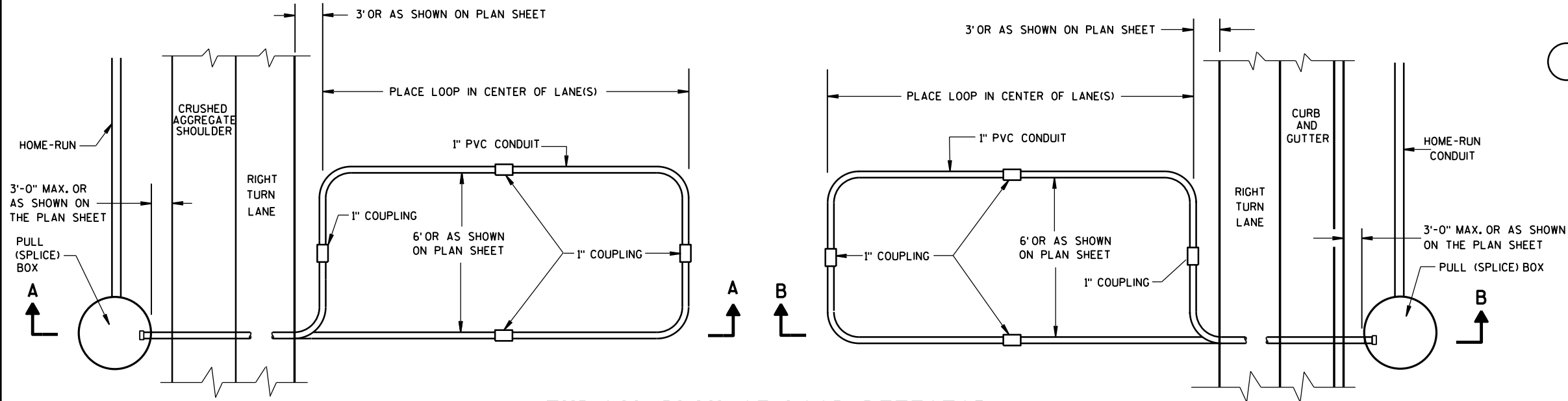
THE #12 AWG. LOOP WIRE IN THE PULL (SPlice) BOX SHALL BE HAND TWISTED AT LEAST 3 TWISTS PER FOOT BEFORE BEING SPliced TO THE LOOP LEAD-IN CABLE.

SPlices OF LOOP WIRE TO LEAD-IN CABLE SHALL BE MADE ONLY IN PULL (SPlice) BOXES AT THE SIDE OF THE ROAD.

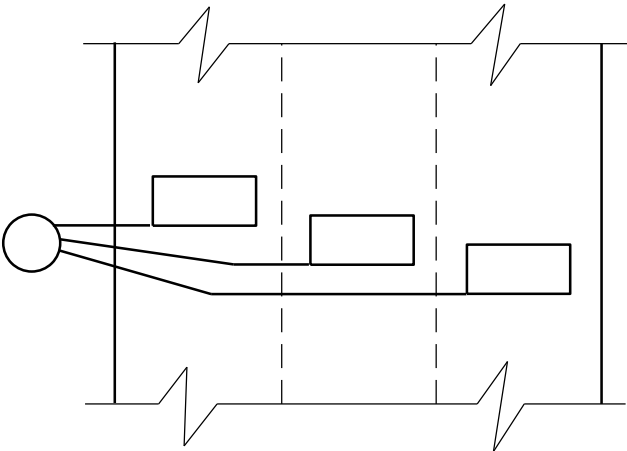
THE #12 AWG LOOP WIRE SHALL BE INSTALLED FROM THE ROADSIDE PULL (SPlice) BOX, THROUGH THE LOOP CONDUIT, BACK TO THE ROADSIDE PULL (SPlice) BOX, AND BE INSTALLED IN ONE, NON-SPliced CONTINUOUS LENGTH.

PROTECTION OF THE CONDUITS IN THE BASE COURSE SHALL BE REQUIRED AFTER INSTALLATION AND BEFORE NEW PAVEMENT IS INSTALLED.

SHOULD INSTALLATION REPAIR BE REQUIRED, IT SHALL BE DONE UNDER THE DIRECTION OF THE PROJECT ENGINEER.



TYPICAL PLAN OF LOOP DETECTOR WITH 24" PULL (SPlice) BOX



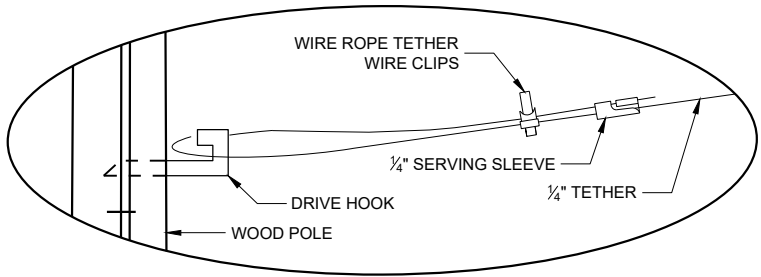
MULTI-LANE INSTALLATION

LOOP DETECTOR INSTALLED IN BASE COURSE WITH PULL (SPlice) BOX OFF ROADWAY (OPTION 2)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
DATE: Sept. 2014
STATE ELECTRICAL 312
FWHA

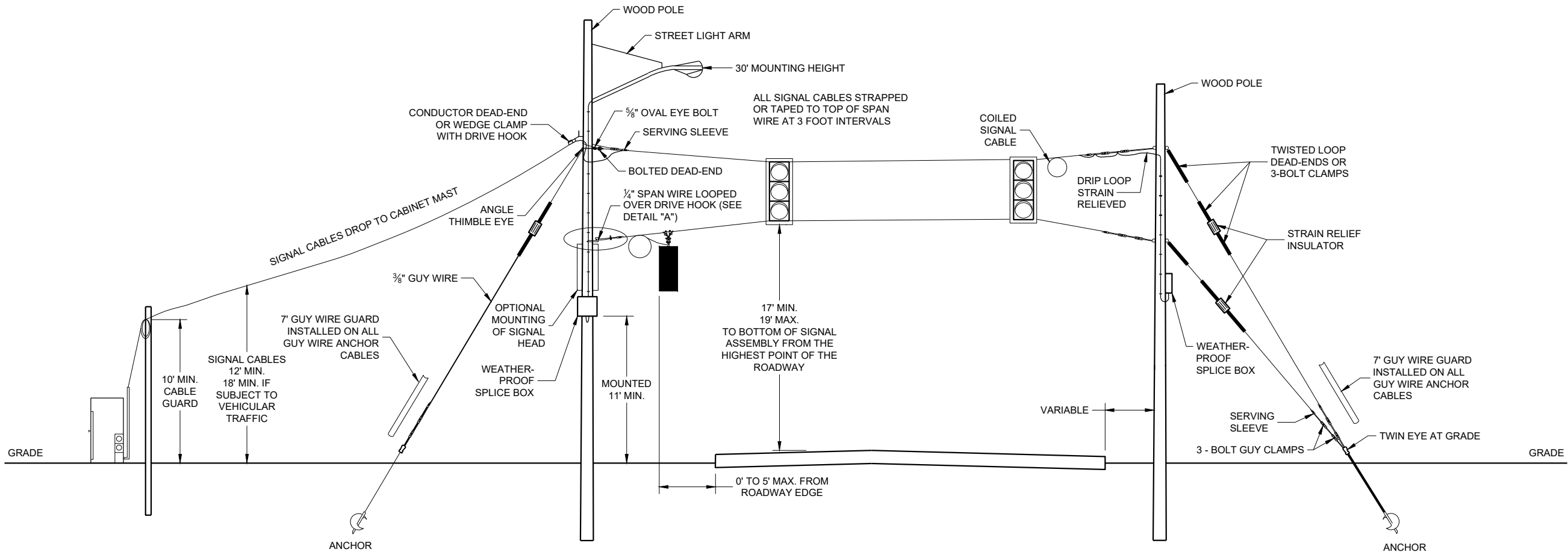
MINIMUM POLE LENGTHS	POLE BURIAL DEPTHS
25'	5'
30'	6'
35'	7'
40'	8'
45'	9'



DETAIL "A"

GENERAL NOTES

- DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.
- WOOD POLES SHALL BE CLASS 4. LENGTH DETERMINED BY SIGNAL PLAN.
 - SIGNAL FACES:
 - ALL SECTIONS SHALL BE 12" AND POLYCARBONATE.
 - EACH SHALL CONTAIN A 5" WIDE DULL BLACK POLYCARBONATE BACKPLATE.
 - EACH SHALL BE WIRED FROM THE TOP SIGNAL MOUNTING BRACKET.
 - NEAR RIGHT SIGNAL FACE SUSPENDED ON THE TETHER (NO BACKPLATE) SHALL NOT BE OVER THE TRAVELED WAY. IF THE POLE IS WITHIN 5 FEET OF THE TRAVELED WAY MOUNT THE SIGNAL FACE ON THE WOOD POLE WITH BACKPLATE.
 - SPAN WIRE:
 - EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED
 - SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.
 - THE SIGNAL ASSEMBLY SHALL HAVE A 17' MIN. HEIGHT ABOVE THE ROADWAY. THIS SHALL BE MEASURED AFTER THE SPAN WIRE INSTALLATION IS COMPLETED WITH ALL CABLES AND SIGNAL FACES IN PLACE. MAINTAIN MINIMUM AND MAXIMUM HEIGHTS AS ROADWAY WORK PROGRESSES.



SPAN WIRE
TEMPORARY SIGNALS

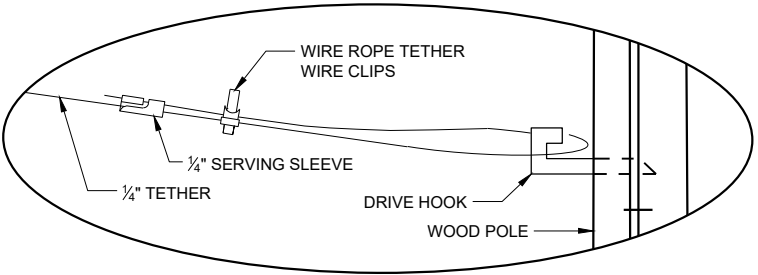
SPAN WIRE TEMPORARY
TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2015 /S/ Ahmet Demerbilek
DATE STATE ELECTRICAL ENGI 313

FHWA

MINIMUM POLE LENGTHS	CLASS	POLE BURIAL DEPTHS
25'	V	5'
30'	V	6'
35'	IV	7'
40'	IV	8'
45'	IV	9'

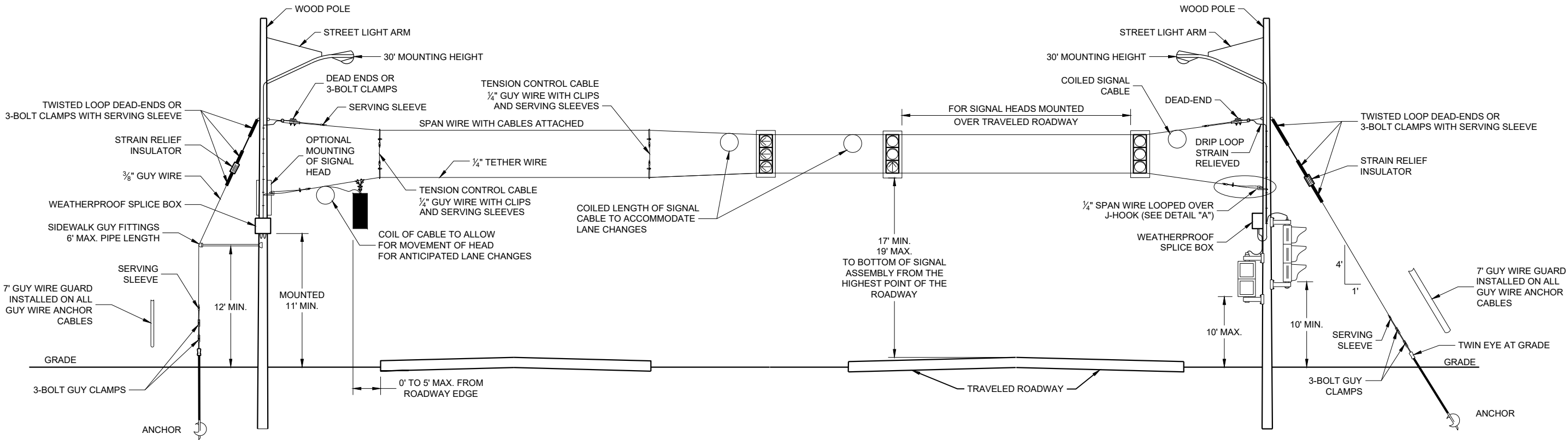


DETAIL "A"

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 - NEAR RIGHT SIGNAL FACE SUSPENDED ON THE TETHER (NO BACKPLATE) SHALL NOT BE OVER THE TRAVELED WAY. IF THE POLE IS WITHIN 5 FEET OF THE TRAVELED WAY MOUNT THE SIGNAL FACE ON THE WOOD POLE WITH BACKPLATE.
 - FAR INDICATION SHALL BE MAINTAINED OVER CENTER OF TRAFFIC LANE.
- SPAN WIRE:
 - EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED
 - SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.
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SPAN WIRE
TEMPORARY SIGNALS
4 LANE ROADWAYS

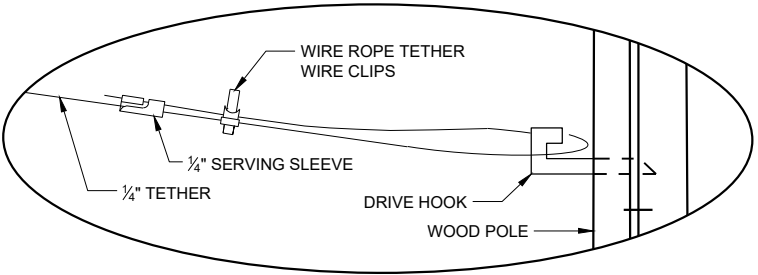
SPAN WIRE TEMPORARY
TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2015 /S/ Ahmet Demerbilek
DATE STATE ELECTRICAL ENGI 314

FHWA

MINIMUM POLE LENGTHS	CLASS	POLE BURIAL DEPTHS
25'	V	5'
30'	V	6'
35'	IV	7'
40'	IV	8'
45'	IV	9'

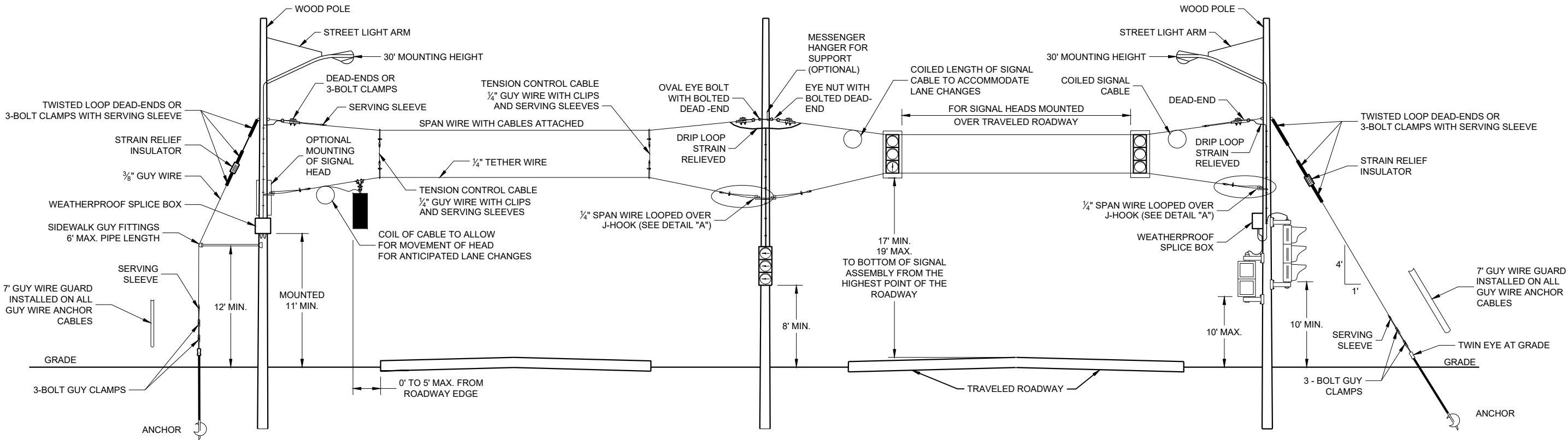


DETAIL "A"

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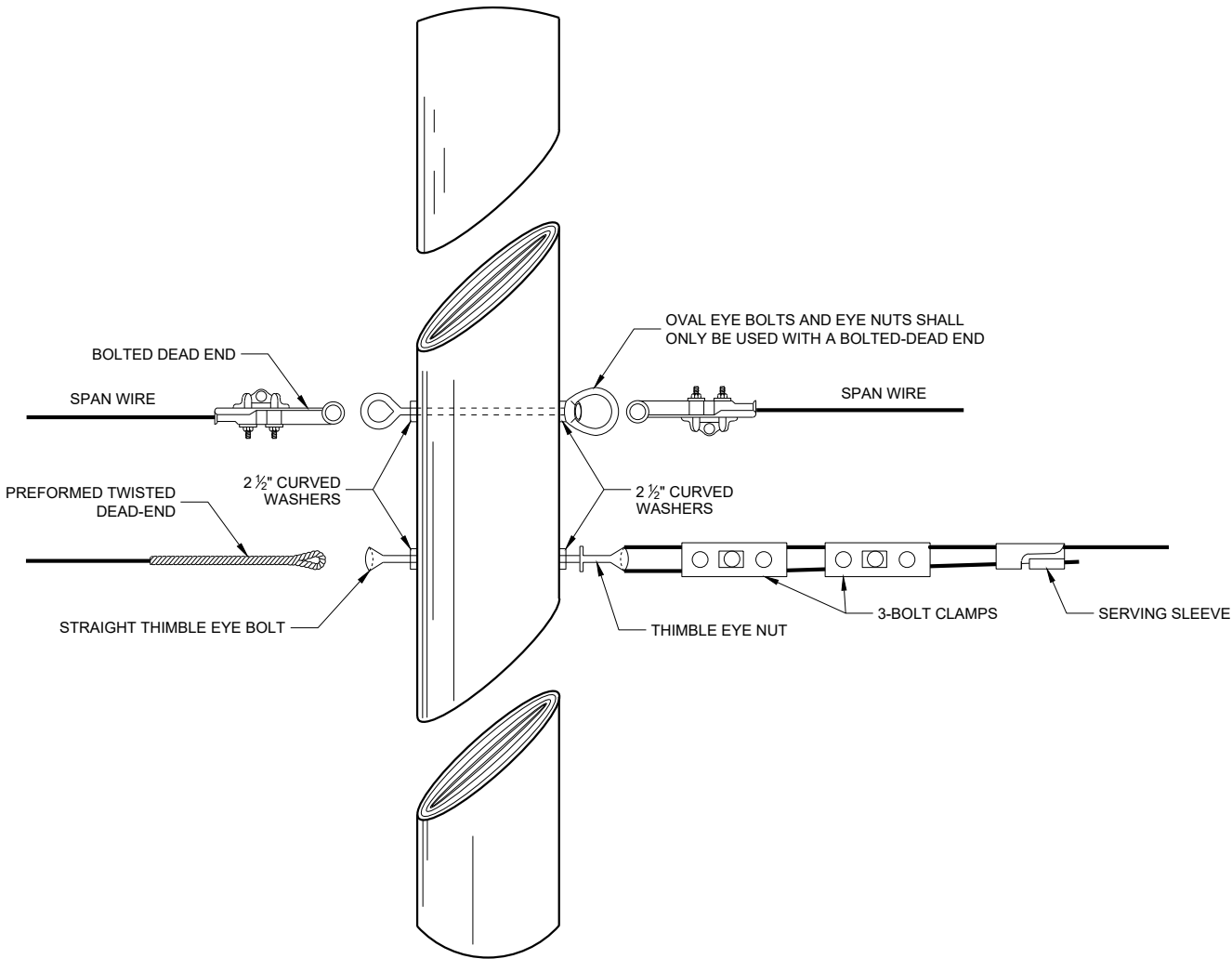
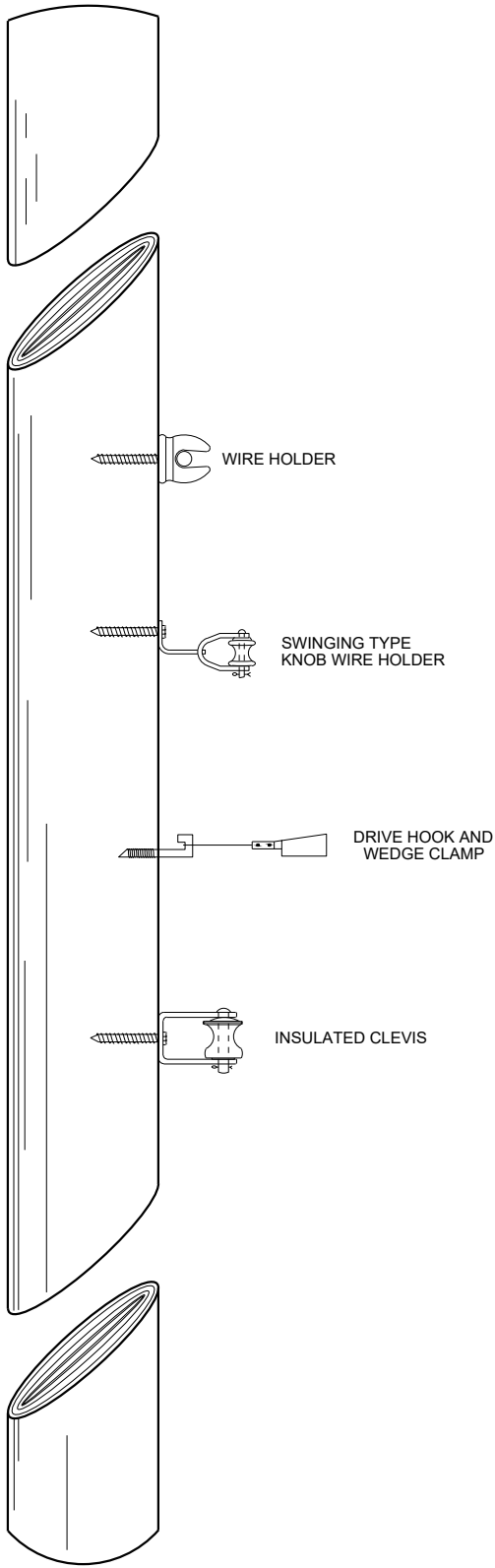
SPAN WIRE
TEMPORARY SIGNALS
4 LANE ROADWAYS

SPAN WIRE TEMPORARY
TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2015 /S/ Ahmet Demerbilek
DATE STATE ELECTRICAL ENGI 315

FHWA



**SPAN WIRE TEMPORARY
TRAFFIC SIGNAL**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

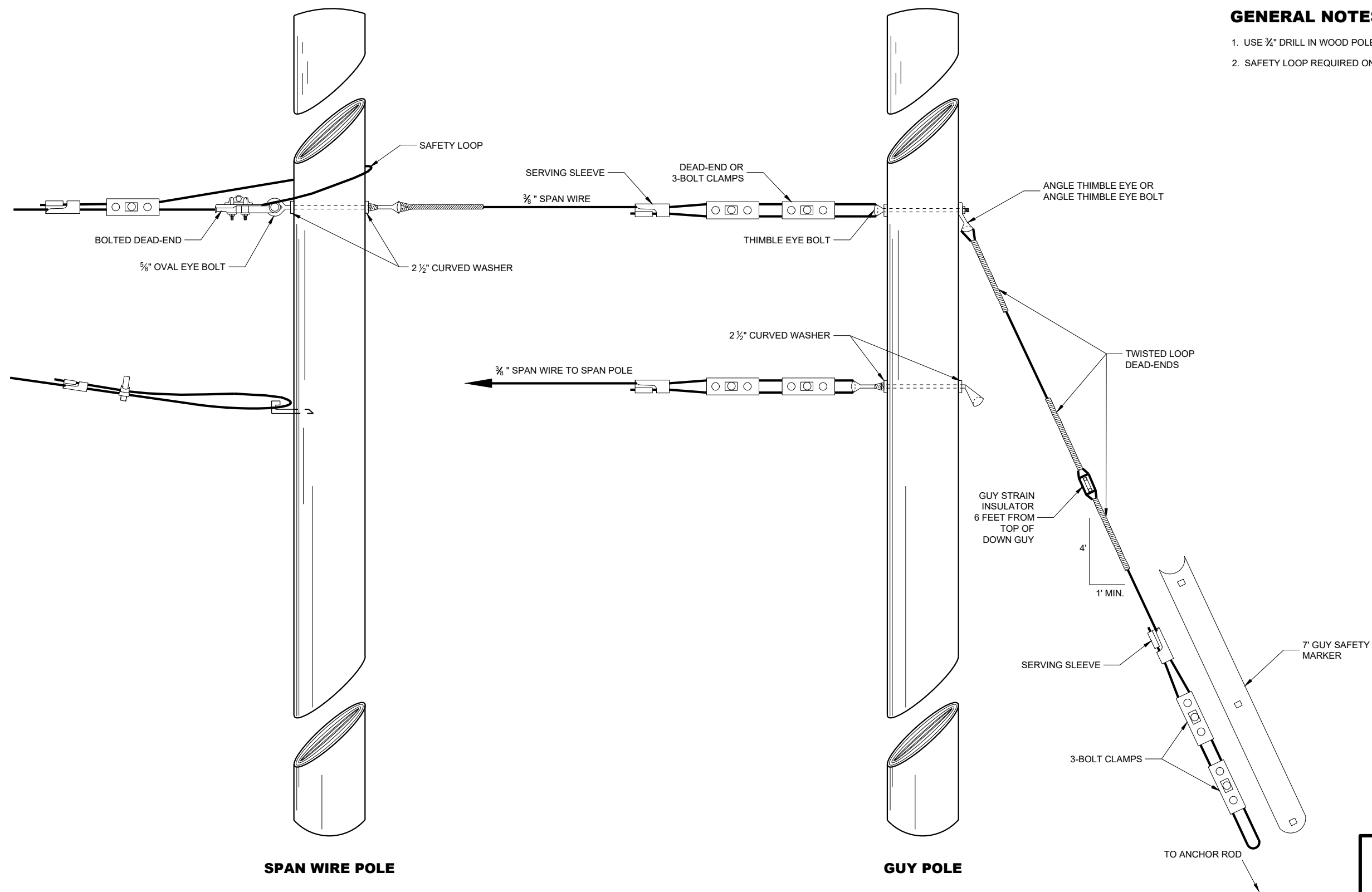
June 2015

DATE

FHWA

/S/ Ahmet Demerbilek
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

316

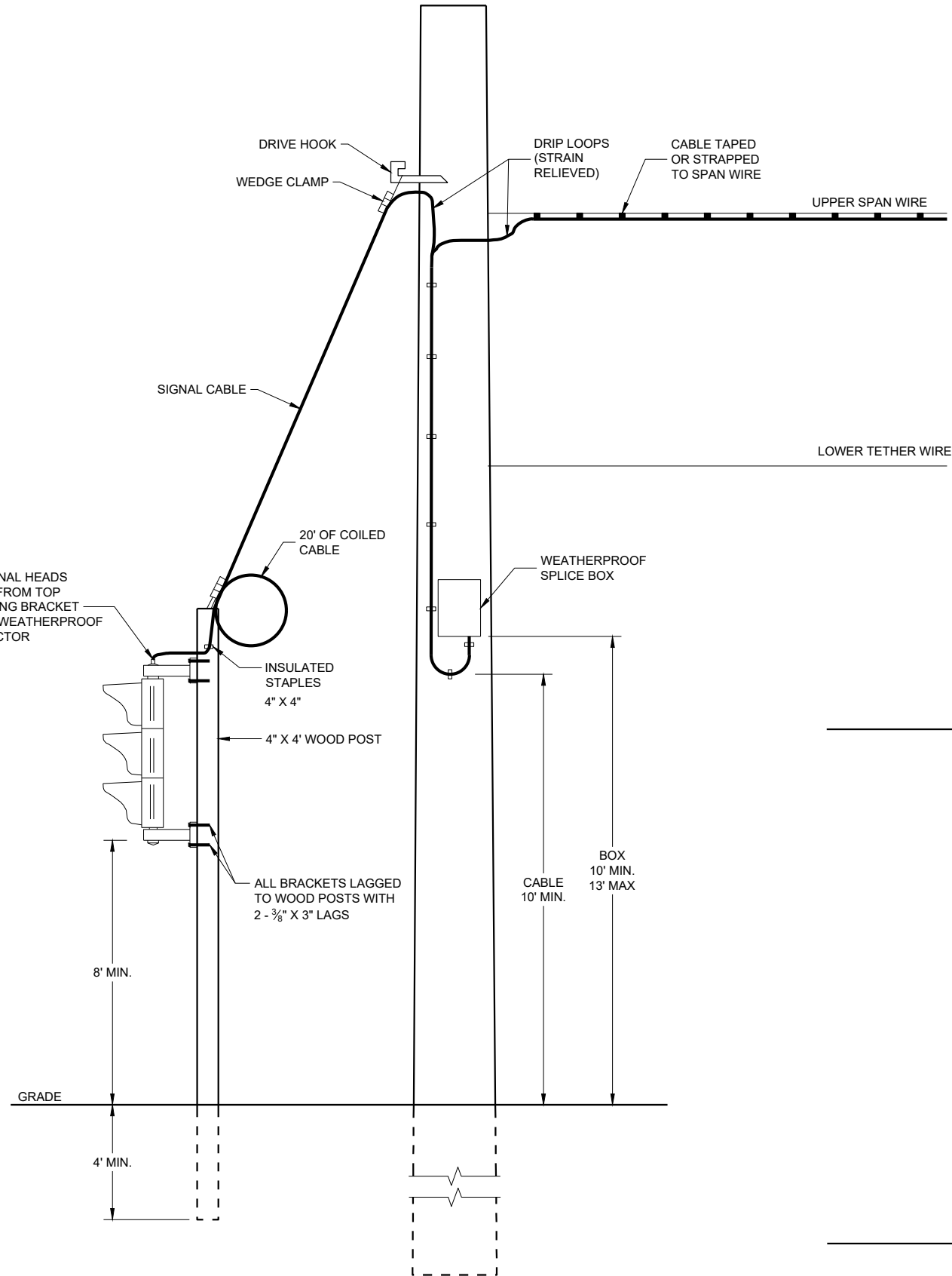


TYPICAL DEAD-ENDINGS OR GUYING

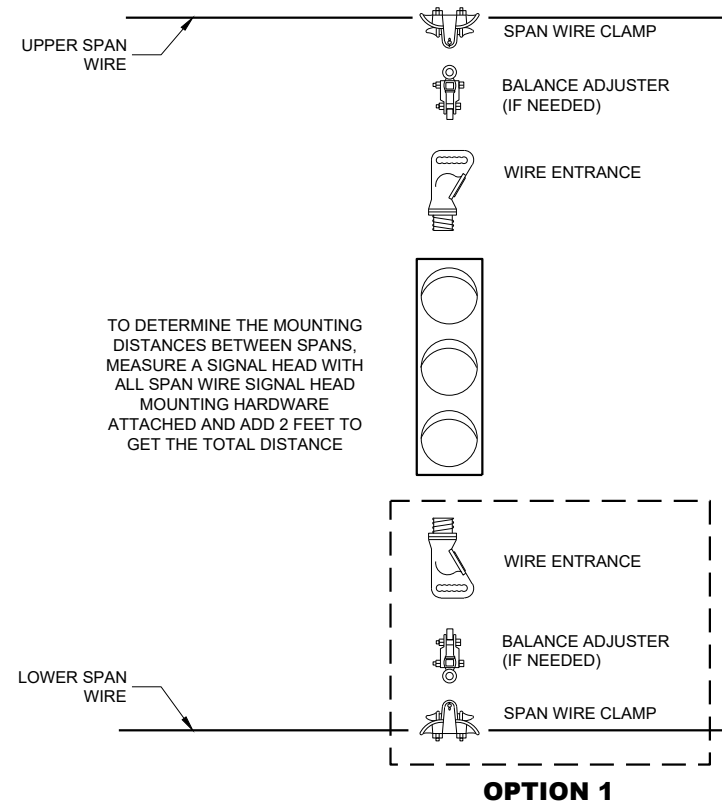
GENERAL NOTES

1. USE 3/4" DRILL IN WOOD POLE TO PROVIDE FOR 5/8" BOLTS.
2. SAFETY LOOP REQUIRED ON EACH END OF ALL SPAN WIRES.

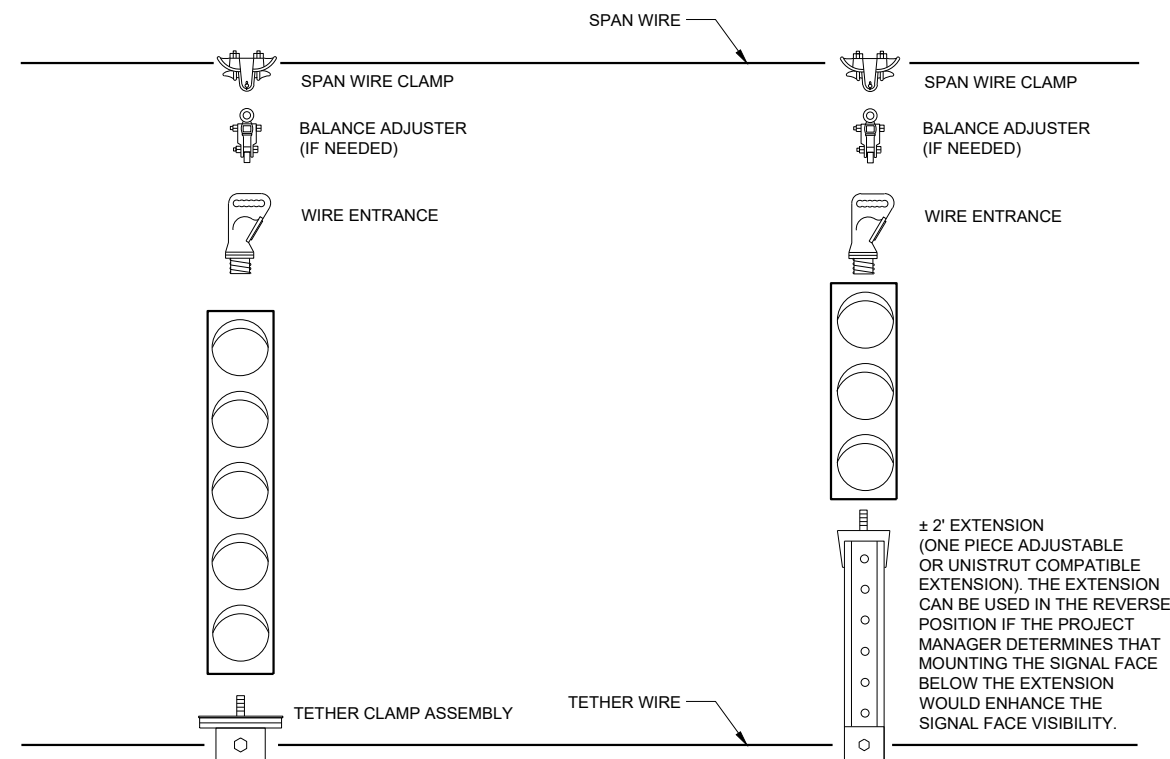
SPAN WIRE TEMPORARY TRAFFIC SIGNAL	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2015 DATE	/S/ Ahmet Demerbilek ROADWAY STANDARDS DEVELOPMENT ENGINEER 317
FHWA	



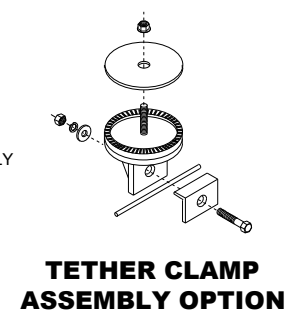
TYPICAL DROP TO TEMPORARY MOVEABLE SIGNAL



TYPICAL SPAN WIRE MOUNTING HARDWARE



5 SECTION VERTICAL WITH 3 SECTION VERTICAL ON ONE SPAN WIRE

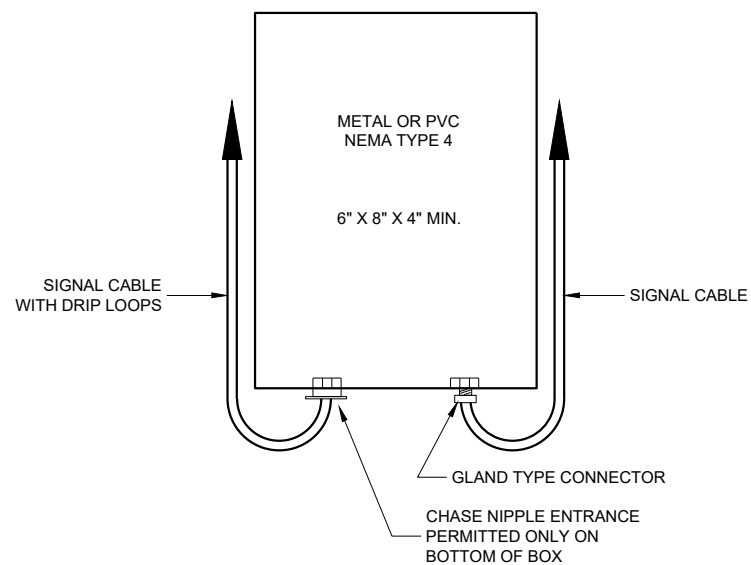
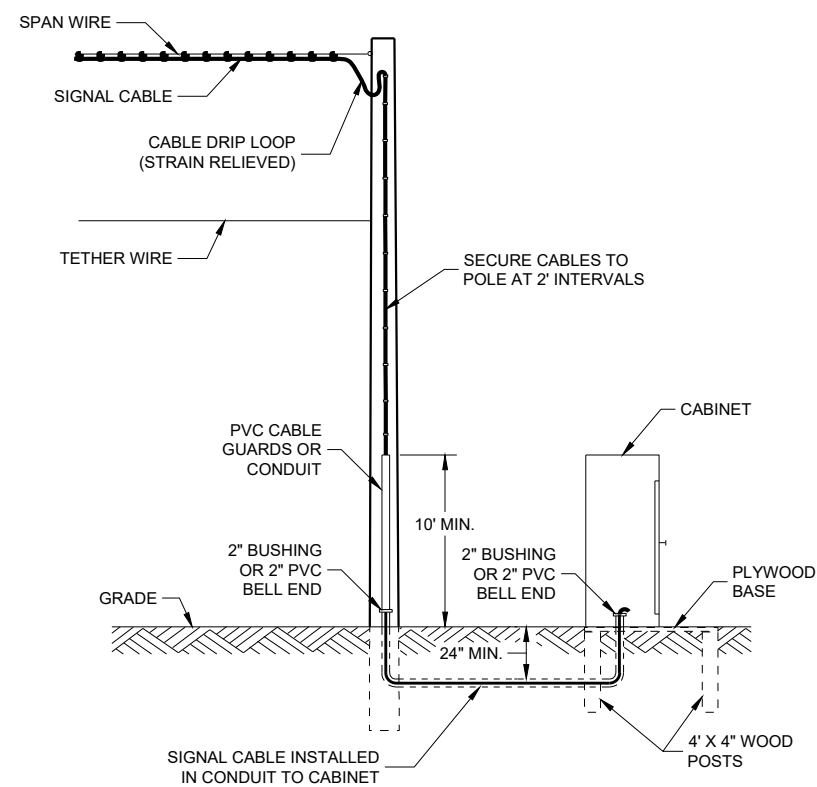
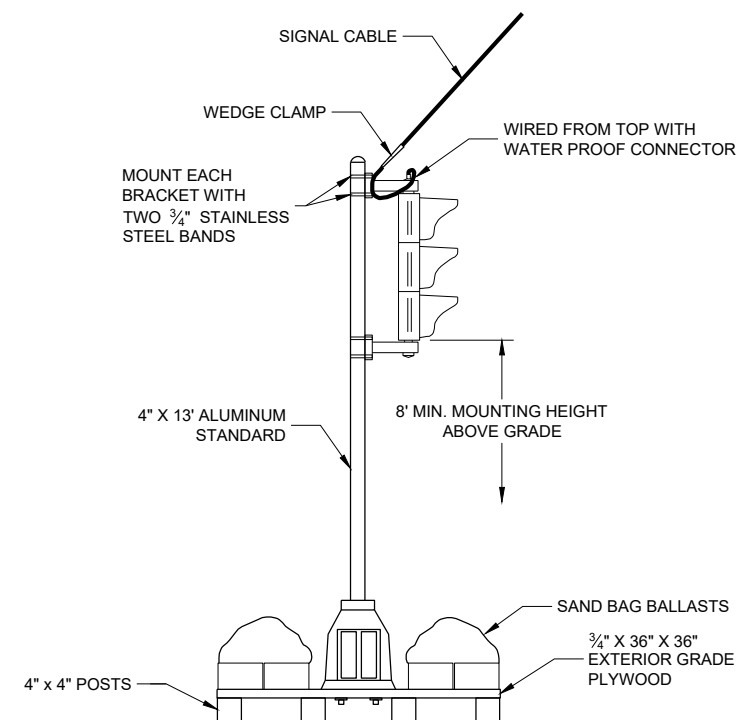
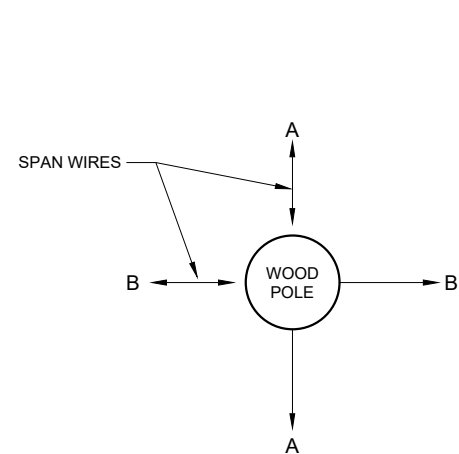


TETHER CLAMP ASSEMBLY OPTION

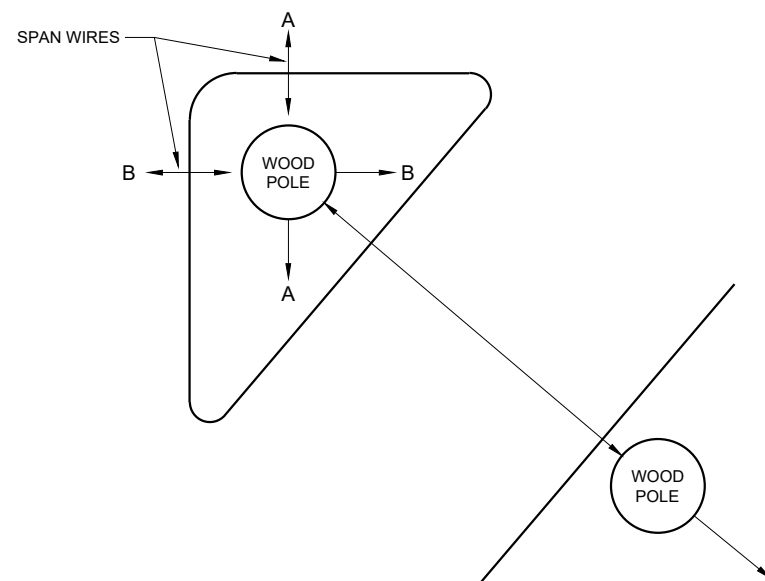
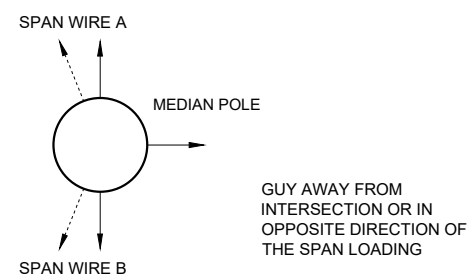
SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2015 /S/ Ahmet Demerbilek
DATE ROADWAY STANDARDS DEVELOPMENT ENGINEER 318
FHWA

**SPLICE BOX****TYPICAL SKID TYPE TEMPORARY****CORNER POLES**

ALL DOWN OR SIDEWALK GUYS SHALL BE INSTALLED IN THE OPPOSITE DIRECTION OF THE STRAIN OF THE SPAN WIRE

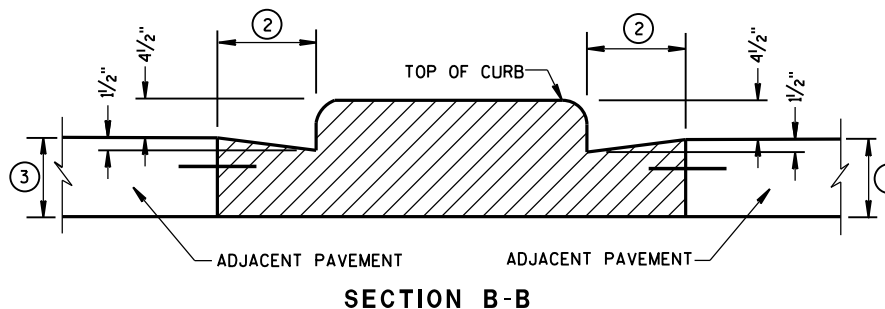
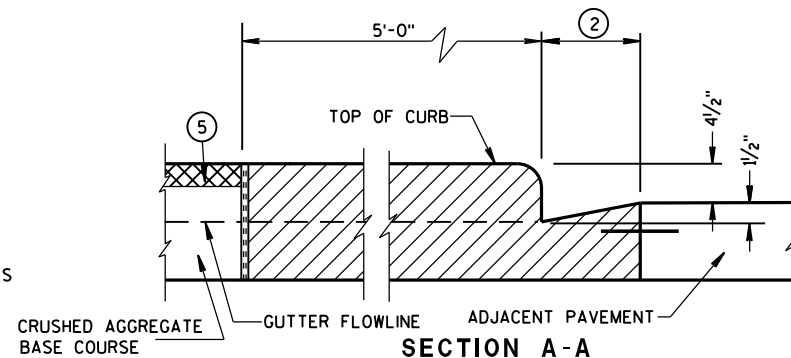
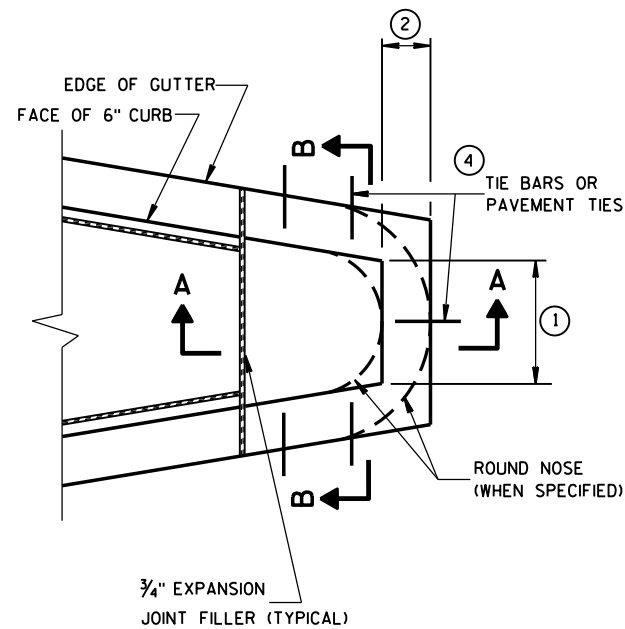
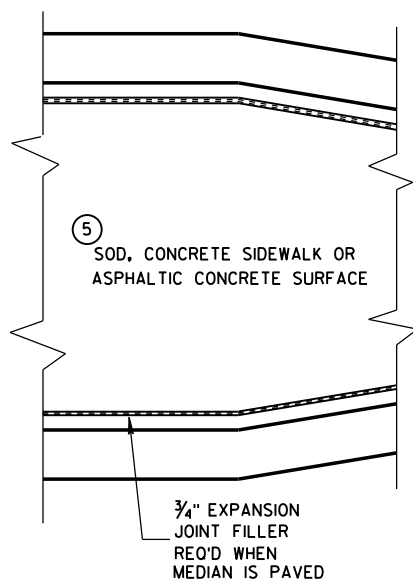
**ISLAND POLES****MEDIAN POLES**

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

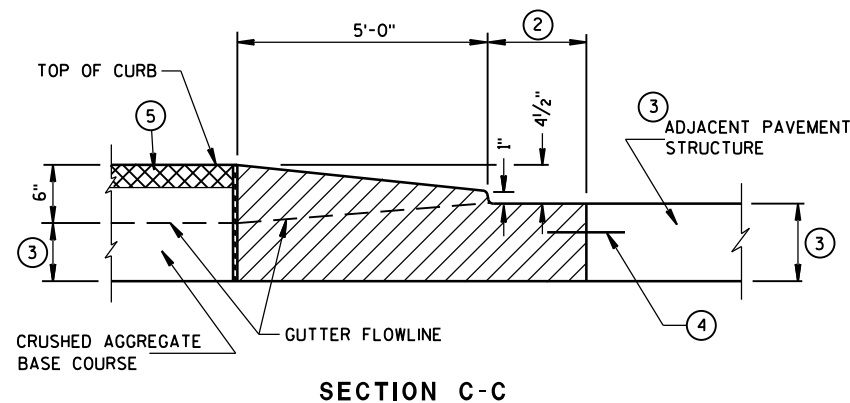
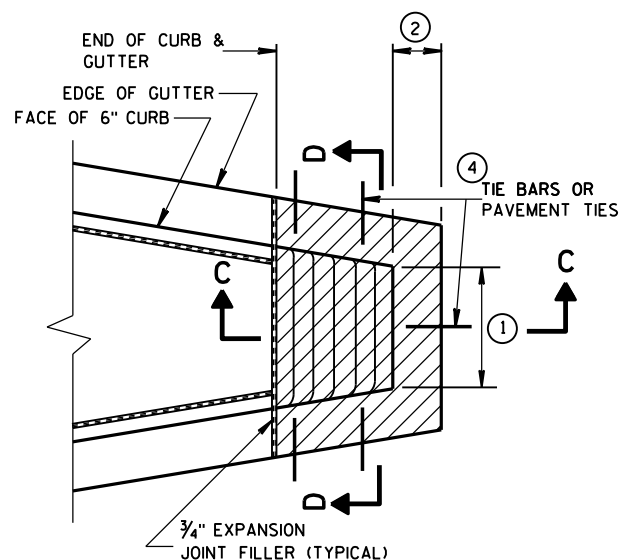
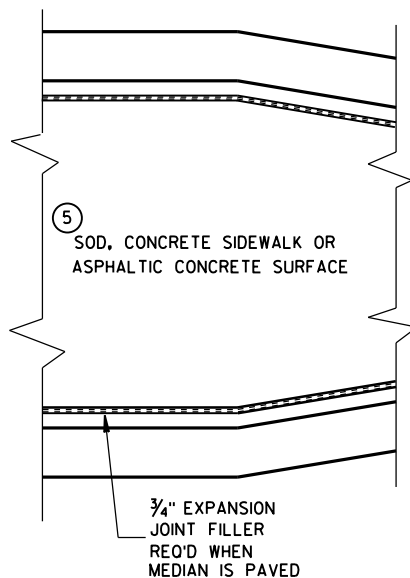
STATE OF WISCONSIN
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ROADWAY STANDARDS DEVELOPMENT ENGINEER 319

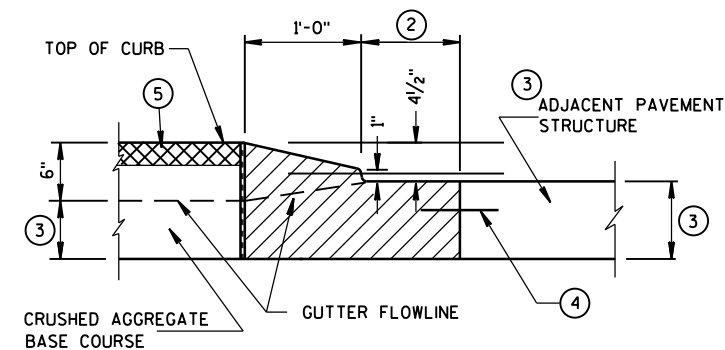
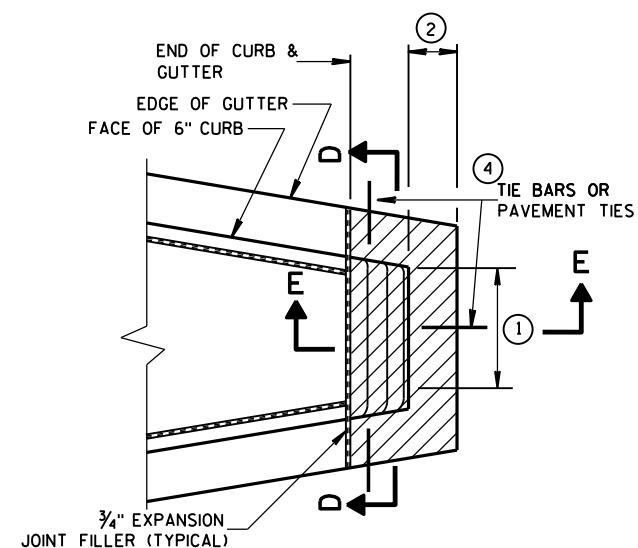
FHWA



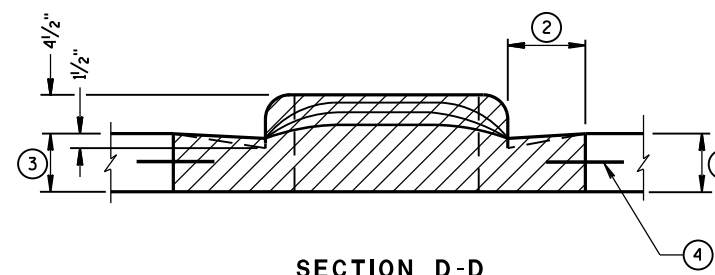
CONCRETE MEDIAN BLUNT NOSE DETAIL



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

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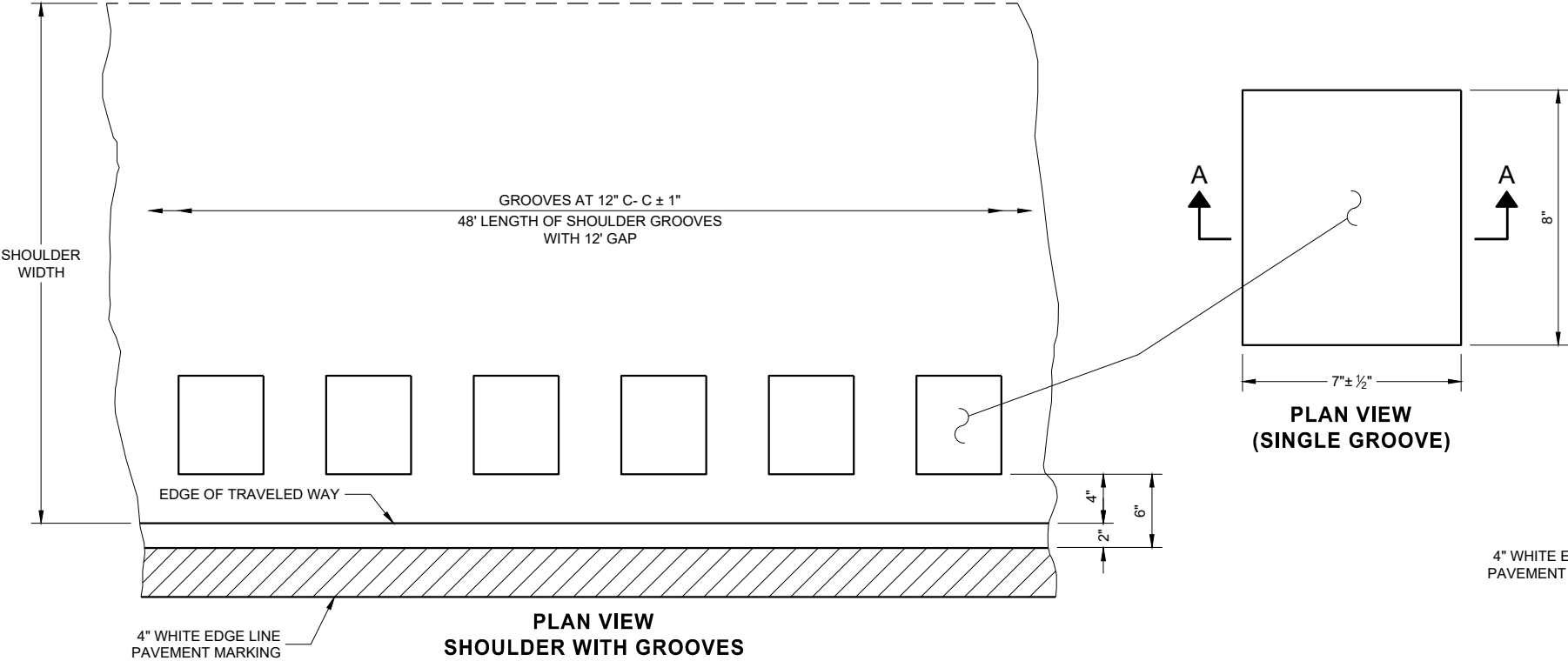
6/8/2006

DATE

FHWA

/S/ Jerry H. Zogg
ROADWAY STANDARDS D 320
ENGINEER

4T



6

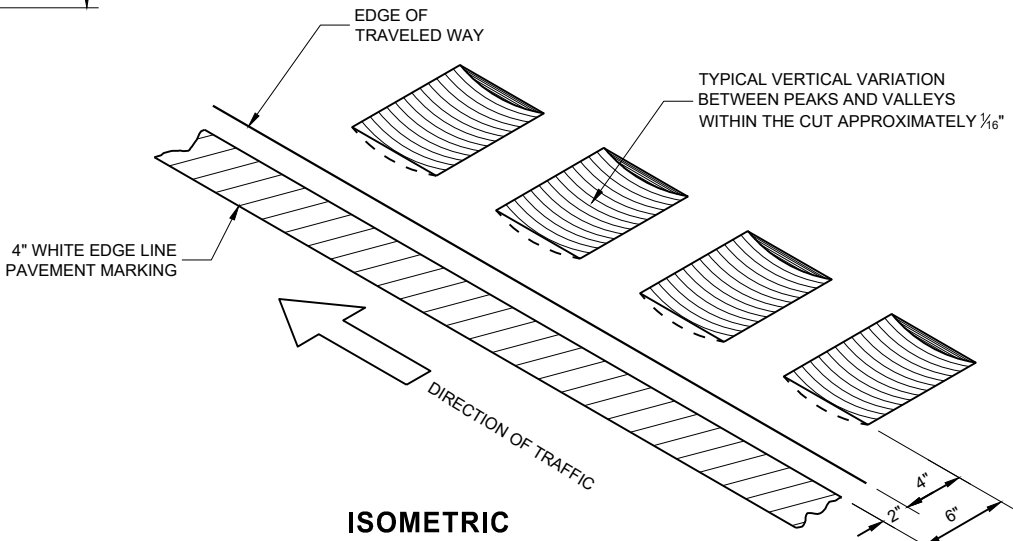
PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP

GENERAL NOTES

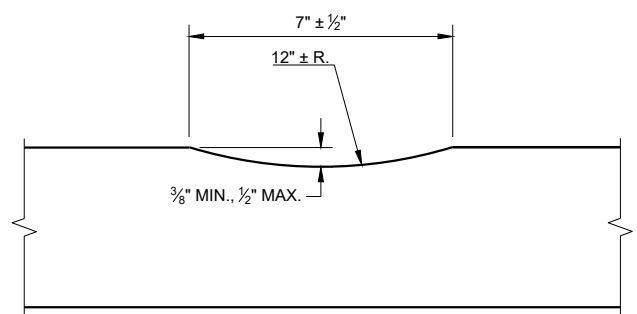
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

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



ISOMETRIC

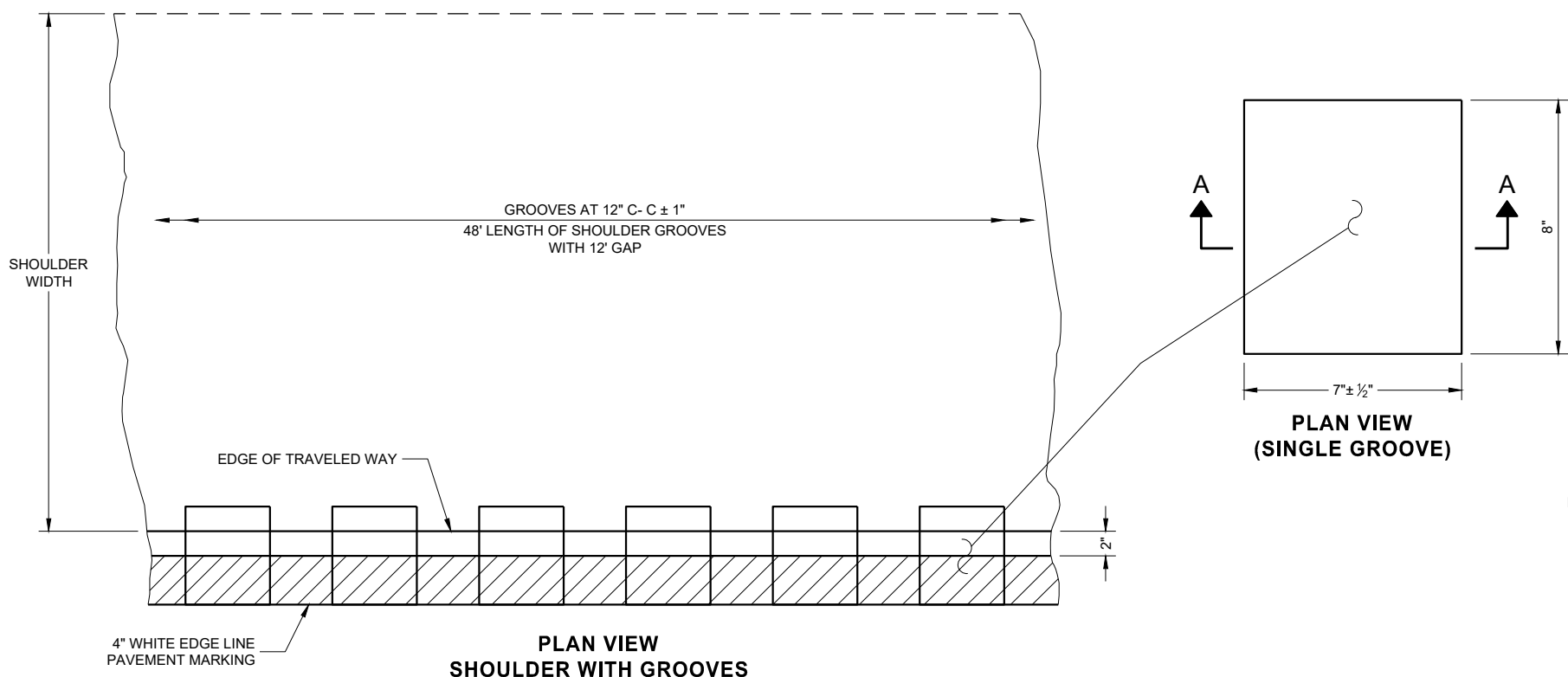


SECTION A - A

TYPE 1
2 - LANE SHOULDER RUMBLE STRIP

2-LANE RURAL SHOULDER
RUMBLE STRIP, MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 321



6

6

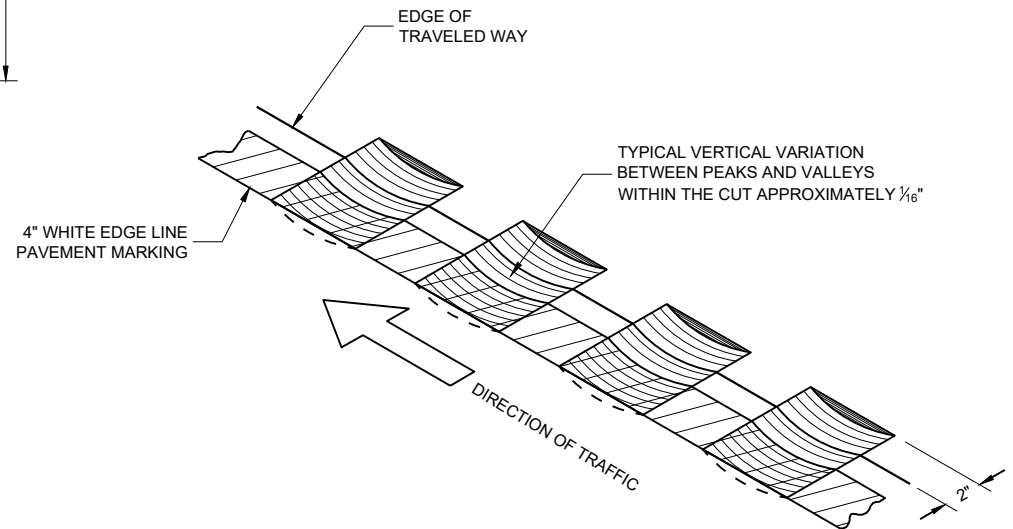
PLACEMENT DETAIL FOR TYPE 2 MILLED RUMBLE STRIP

GENERAL NOTES

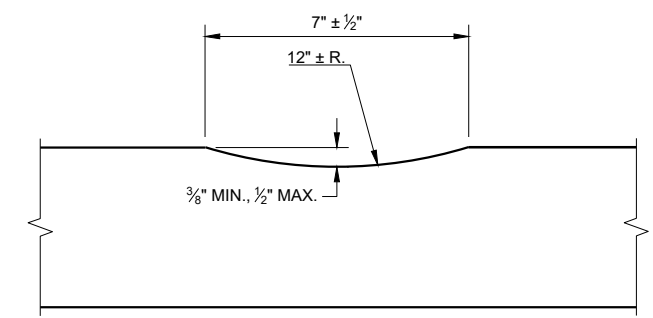
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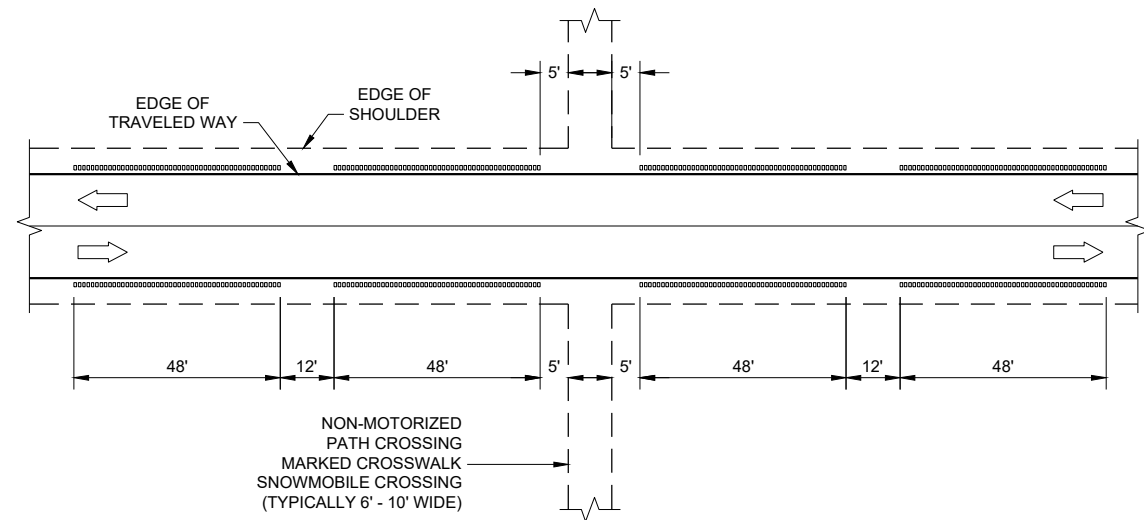
ISOMETRIC



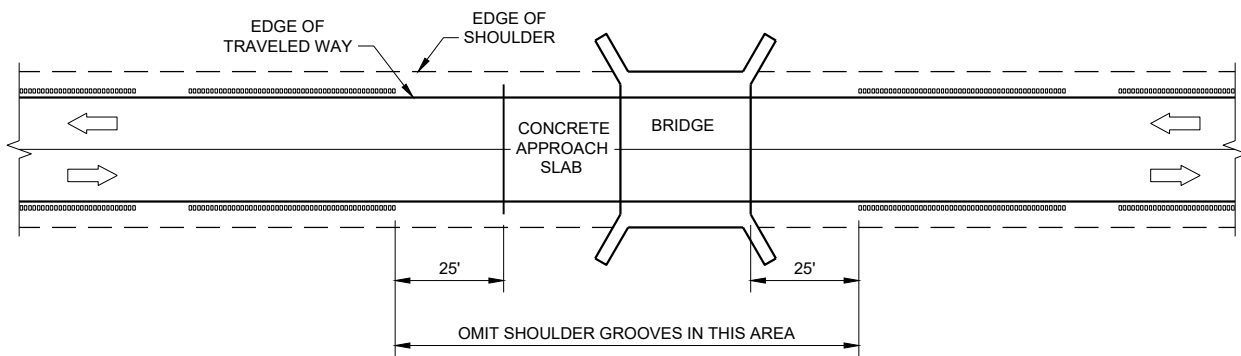
SECTION A - A

**2-LANE RURAL SHOULDER
RUMBLE STRIP, MILLING**

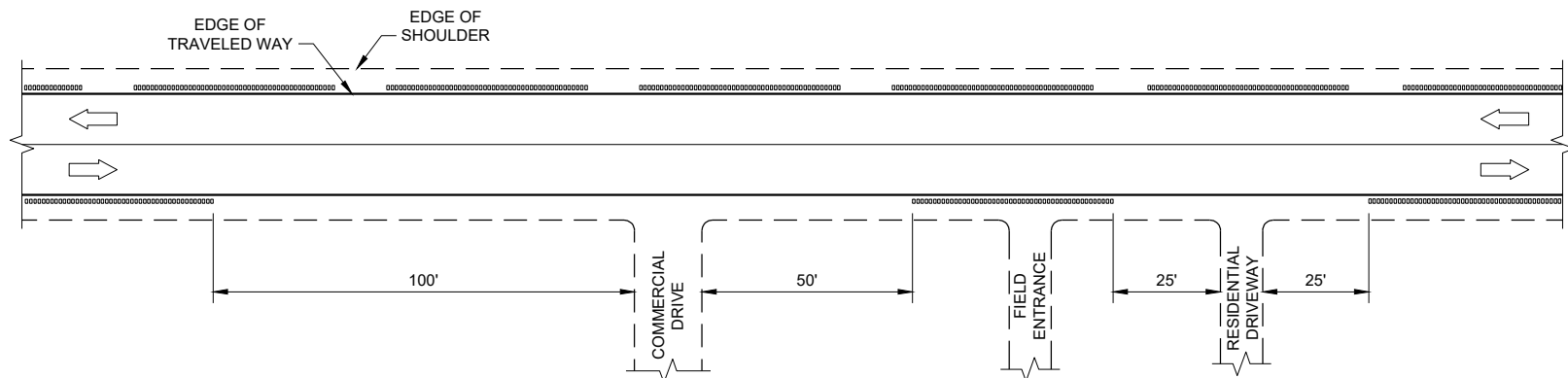
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 322



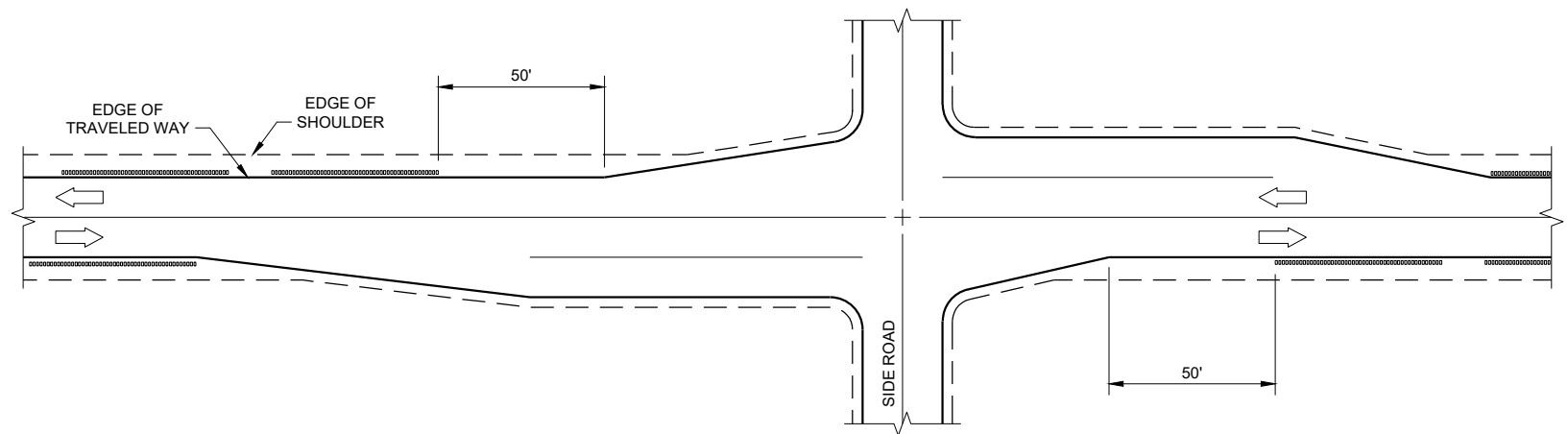
SHOULDER GROOVES AT MISCELLANEOUS CROSSINGS



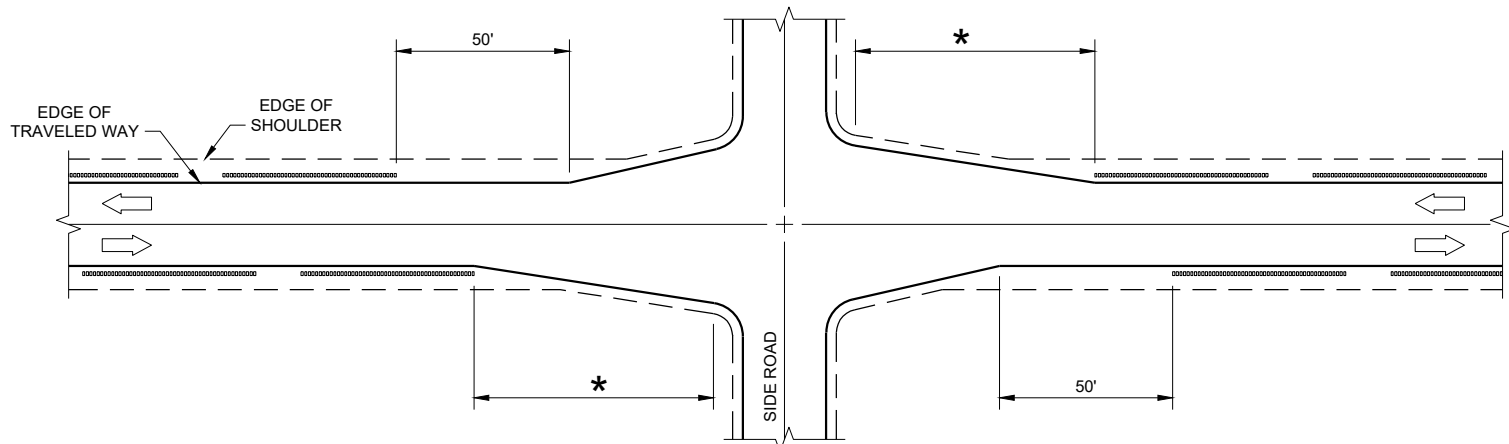
SHOULDER GROOVES AT BRIDGES



SHOULDER GROOVES AT DRIVEWAYS^①



SHOULDER GROOVES AT RIGHT TURN LANE



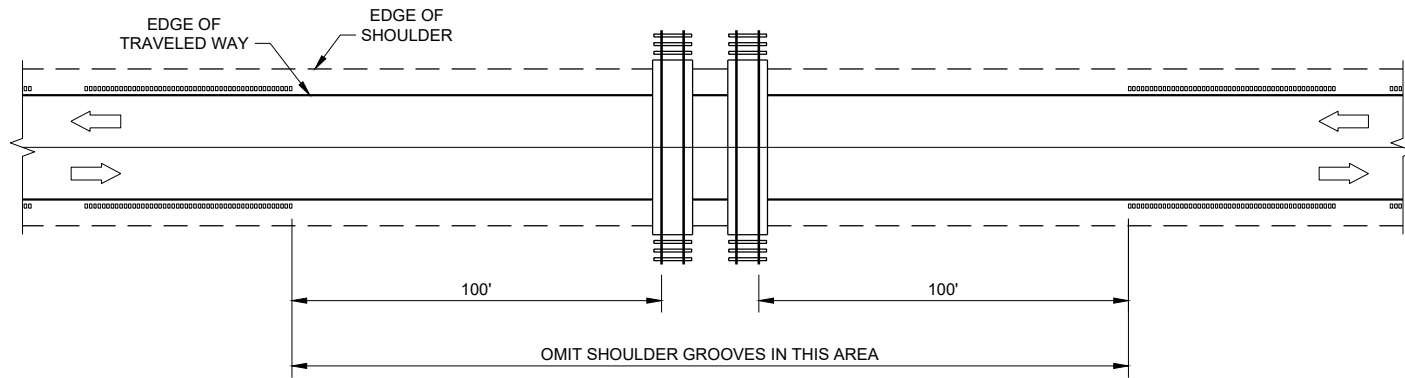
SHOULDER GROOVES AT INTERSECTIONS WITH APPROACH TAPER

GENERAL NOTES

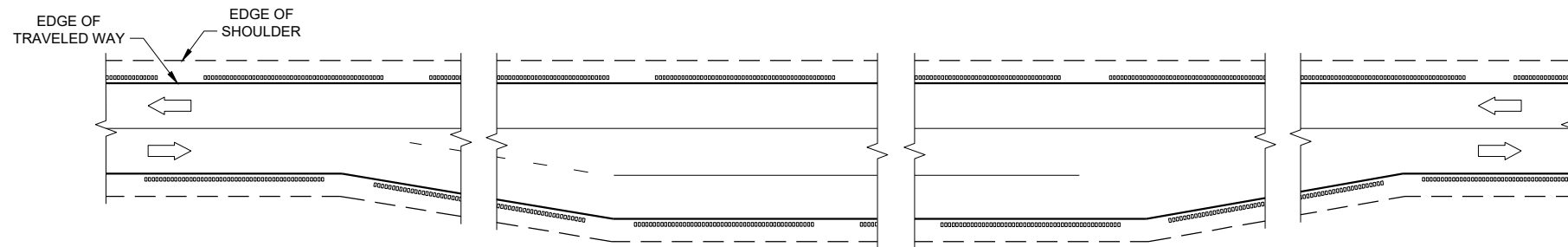
- ① SHOULDER GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.

2-LANE RURAL SHOULDER
RUMBLE STRIP, MILLING

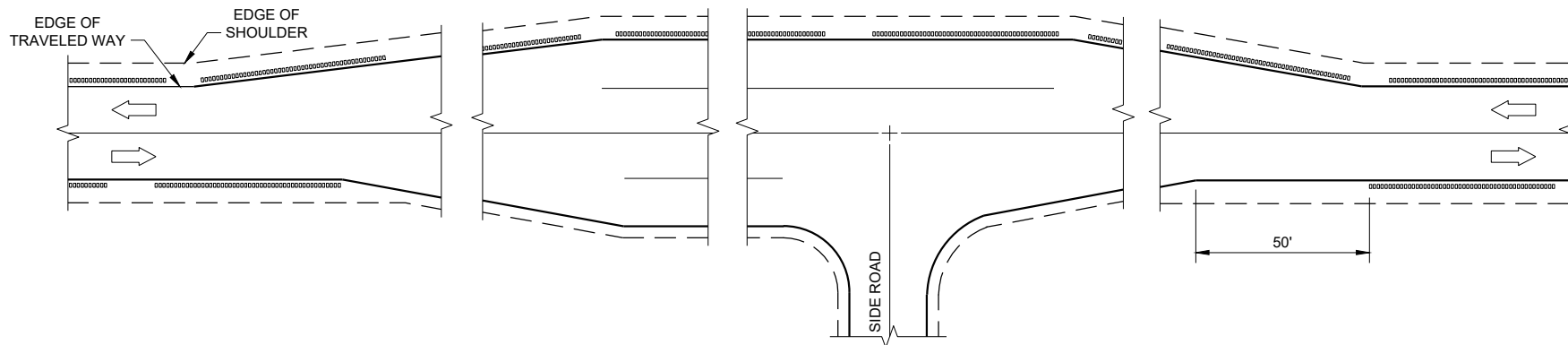
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



SHOULDER GROOVES AT RAILROADS



SHOULDER GROOVES AT PASSING AND CLIMBING LANES



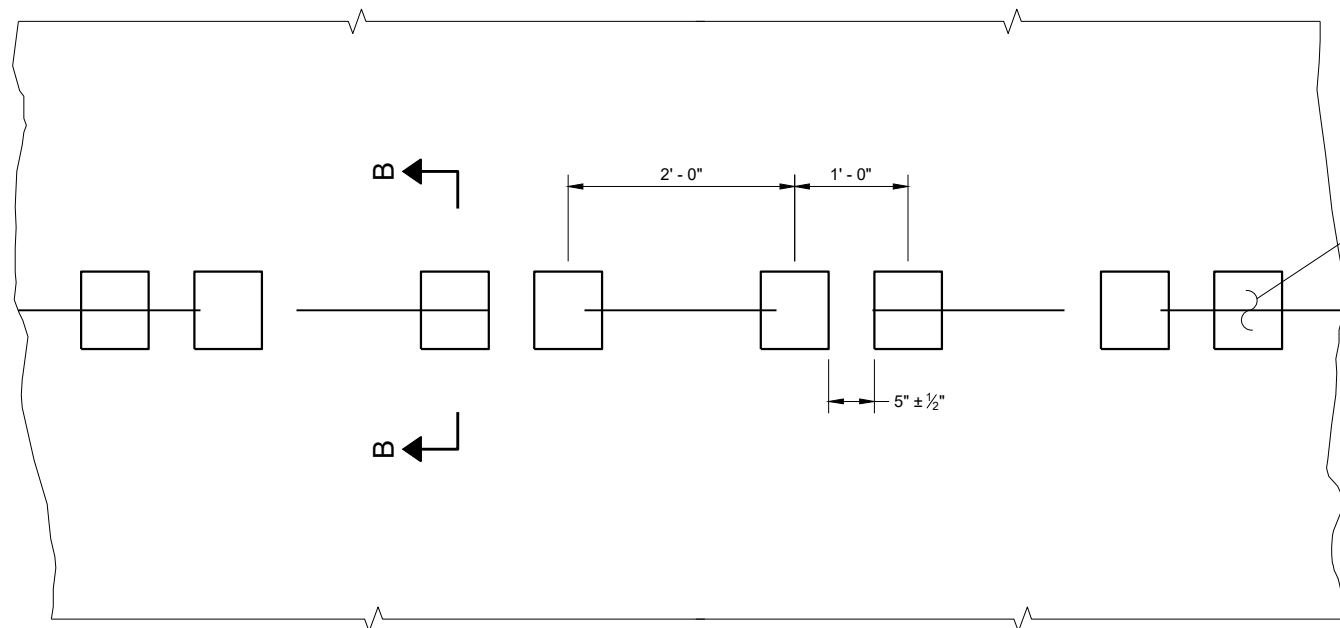
SHOULDER GROOVES AT BYPASS LANES

**2-LANE RURAL SHOULDER
RUMBLE STRIP, MILLING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

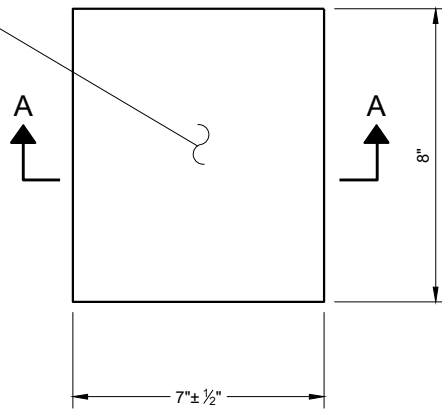
APPROVED
7/2018 DATE /S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT ENGINEER 324

FHWA



PLAN VIEW
SHOULDER WITH GROOVES

PLACEMENT DETAIL FOR TYPE 1 MILLED RUMBLE STRIP



PLAN VIEW
(SINGLE GROOVE)

GENERAL NOTES

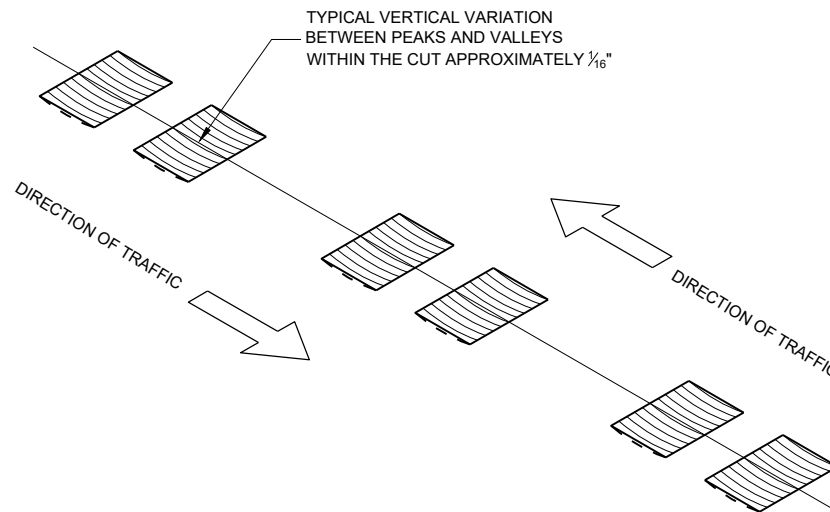
DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

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

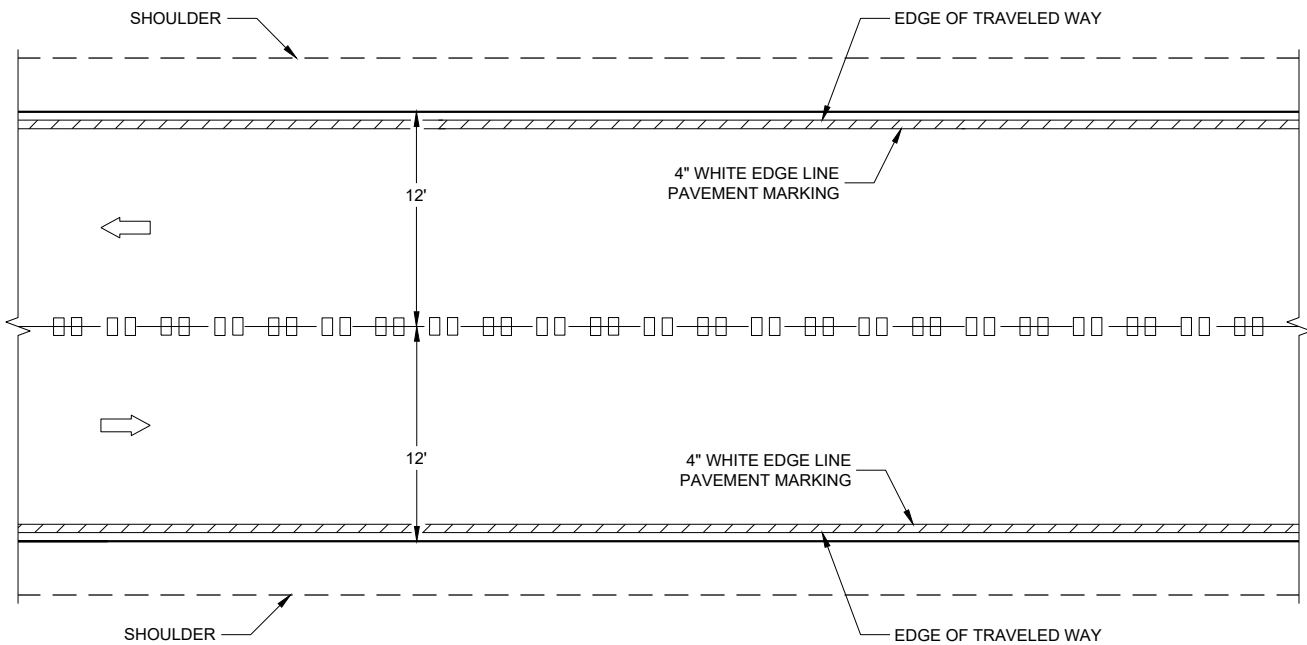
INSTALL PAVEMENT MARKING AFTER THE GROOVES ARE INSTALLED.

SEE SIGNING PLAN FOR SIGN REQUIREMENTS THAT MAY BE NEEDED.

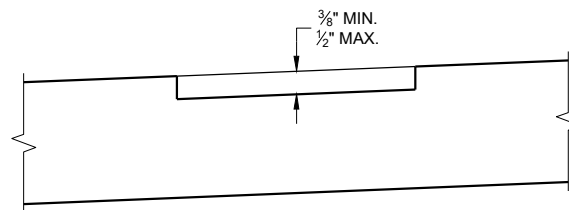
- ① CENTERLINE GROOVES MAY BE OMITTED IN AREAS WITH HIGH CONCENTRATIONS OF DRIVEWAYS. WHEN DIRECTED BY THE ENGINEER.



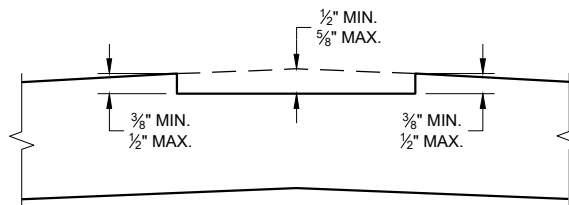
ISOMETRIC



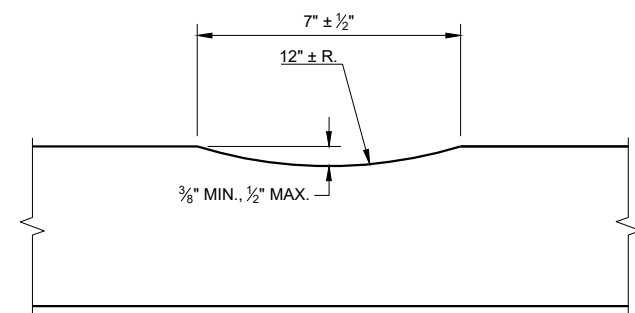
CENTERLINE GROOVES ON TWO-WAY ROADWAYS



SECTION B - B
SUPERELEVATED ROADWAY



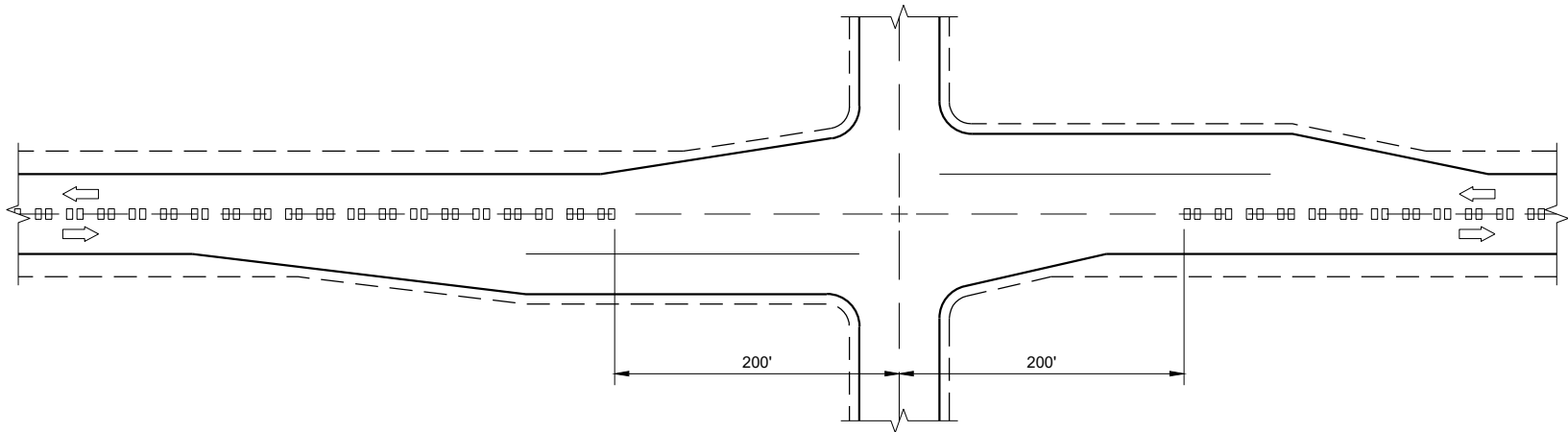
SECTION B - B
CROWNED ROADWAY



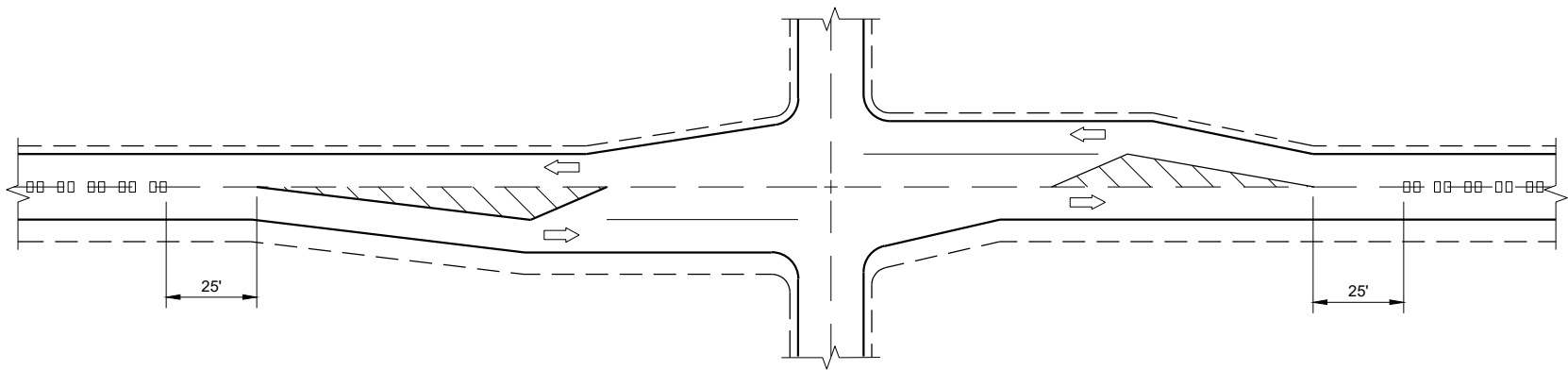
SECTION A - A

**2-LANE RURAL
CENTER LINE RUMBLE STRIP,
MILLING**

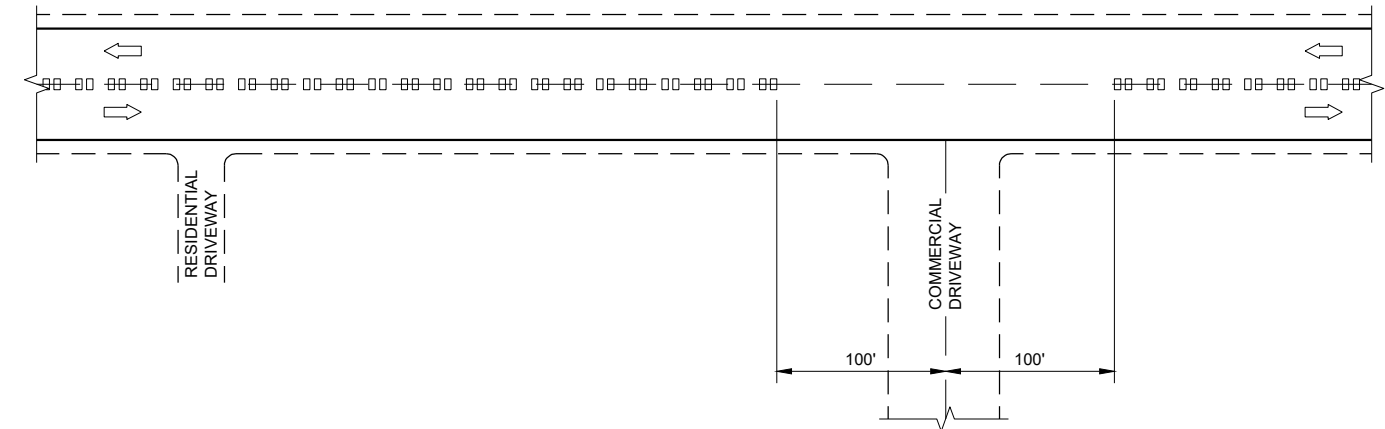
STATE OF WISCONSIN
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CENTERLINE GROOVES AT INTERSECTIONS



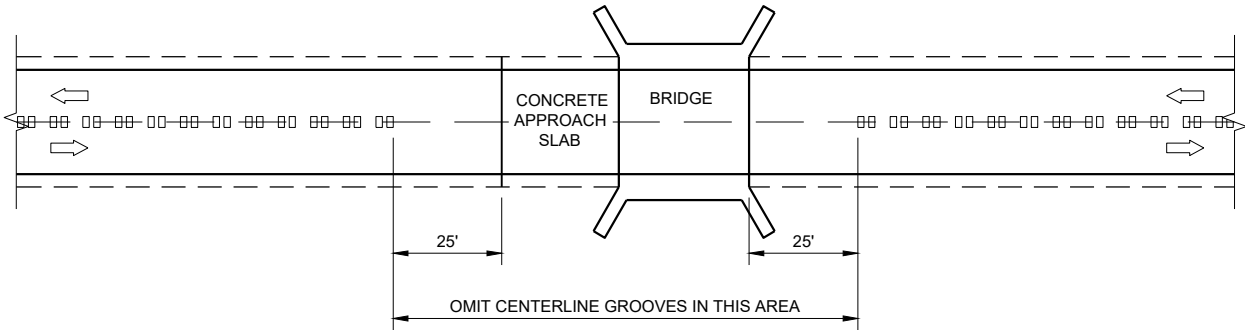
CENTERLINE GROOVES AT INTERSECTIONS
(WITH LEFT TURN LANES)



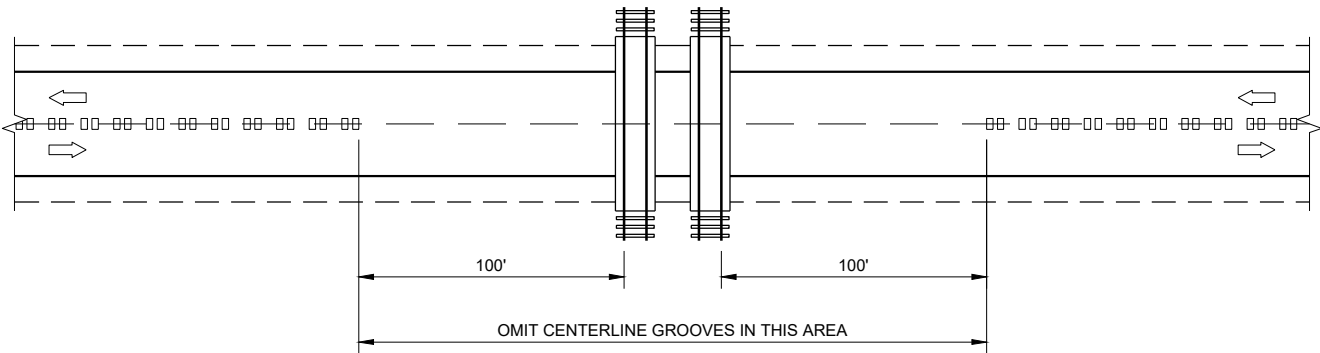
CENTERLINE GROOVES AT DRIVEWAYS^①

GENERAL NOTES

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



CENTERLINE GROOVES AT BRIDGES

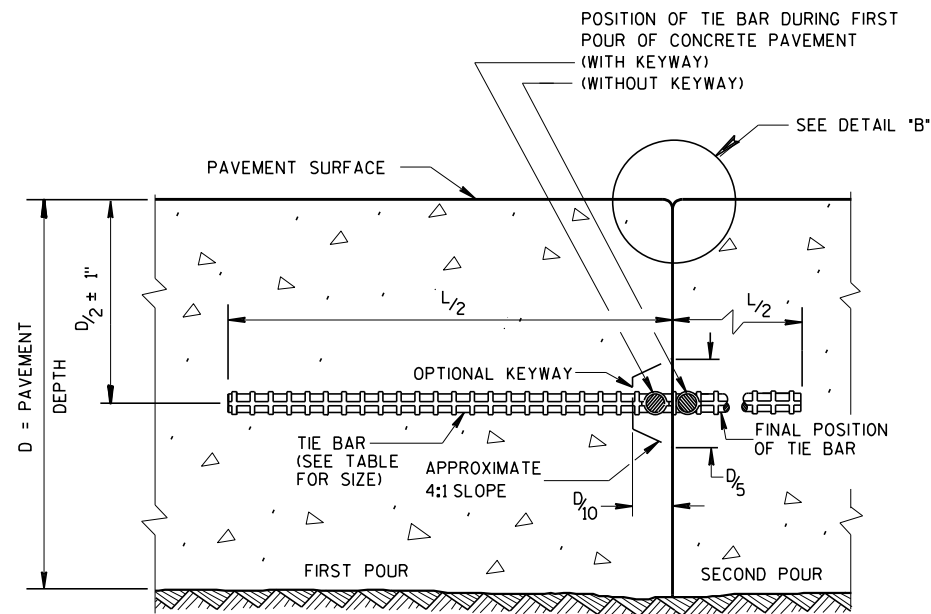


CENTERLINE GROOVES AT RAILROADS

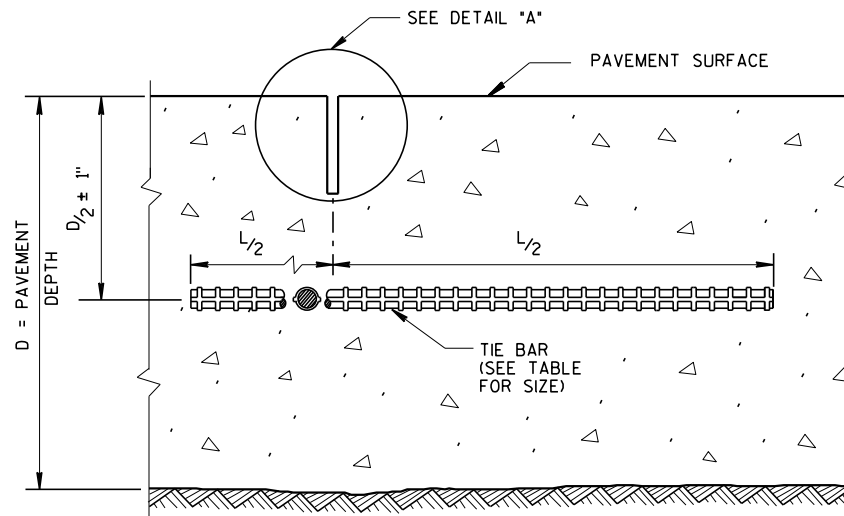
2-LANE RURAL
CENTERLINE RUMBLE STRIP,
MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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7/2018
DATE
/S/ Rodney Taylor
ROADWAY STANDARDS DEVELOPMENT
ENGINEER 326
FHWA



CONSTRUCTION JOINT



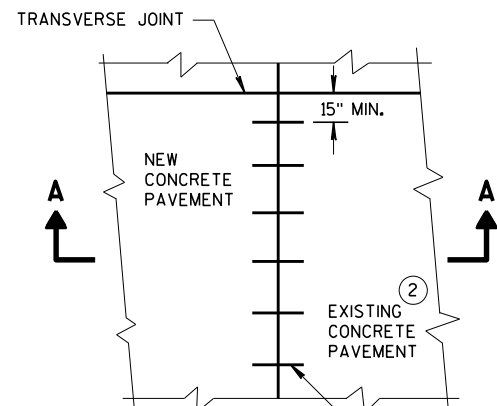
SAWED JOINT

GENERAL NOTES

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

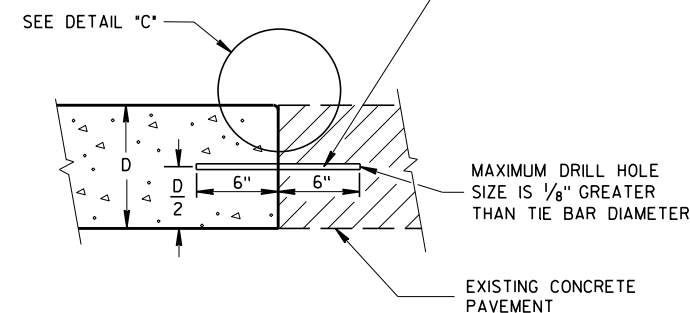
CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

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

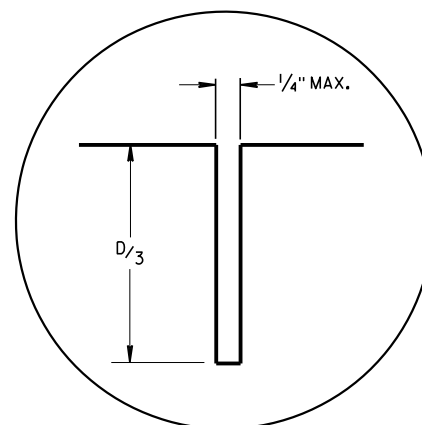


PLAN VIEW

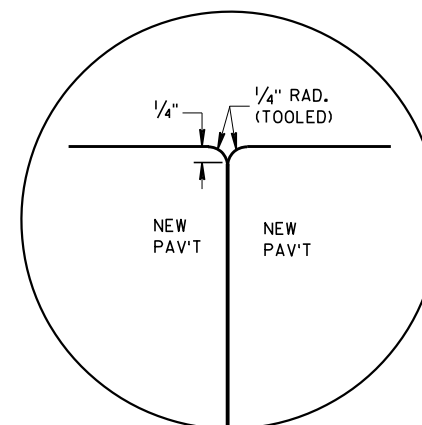
NO. 6 TIE BARS SPACED 30" C-C, INSTALLED PERPENDICULAR TO THE LONGITUDINAL JOINT. ①



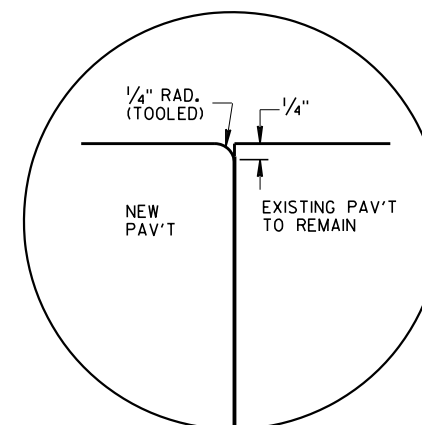
SECTION A-A
LONGITUDINAL CONSTRUCTION JOINT
TIE BARS ANCHORED
INTO EXISTING PAVEMENT



DETAIL "A"



DETAIL "B"



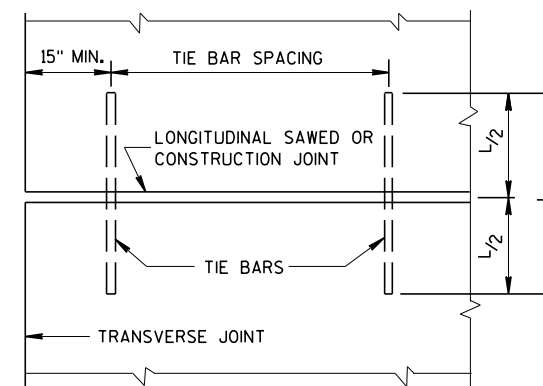
DETAIL "C"

TIE BAR TABLE

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

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

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

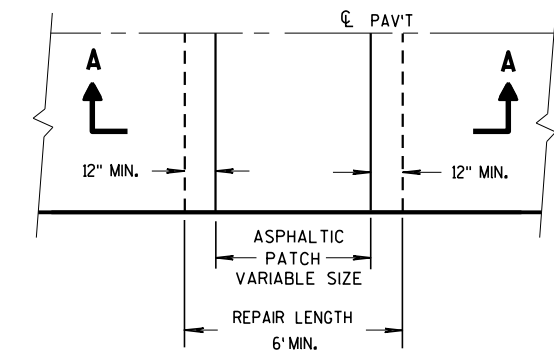


PLAN VIEW
SHOWING LOCATION OF TIE BARS

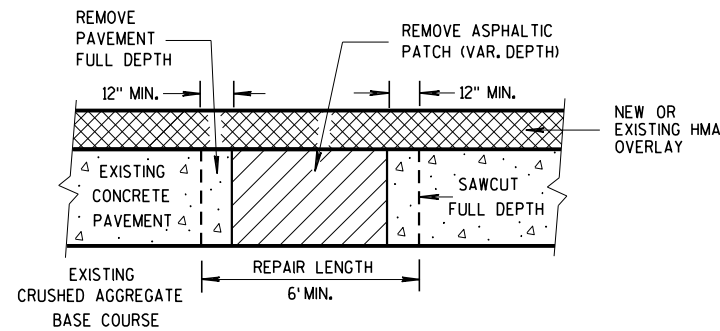
CONCRETE PAVEMENT
LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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March 2018 /S/ Peter Kern
DATE PAVEMENT SUPE 327
FHWA

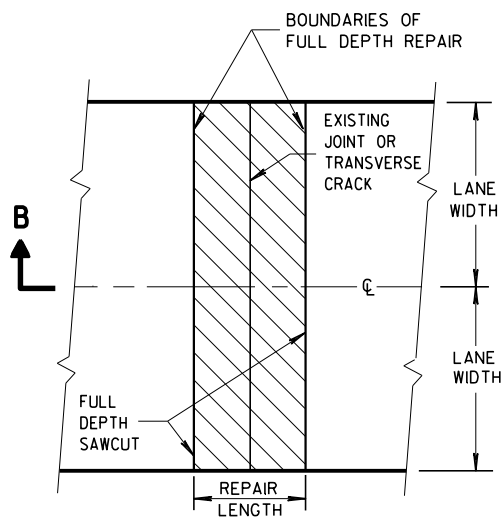


PLAN VIEW

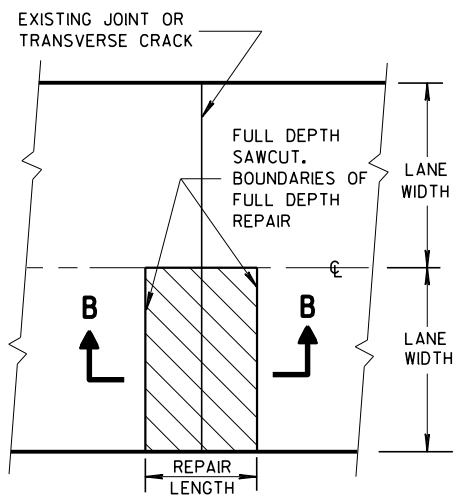


SECTION A-A

HMA PATCH REMOVAL



PLAN VIEW
(DOUBLE LANE REPAIR)



PLAN VIEW
(SINGLE LANE REPAIR)

FULL DEPTH CONCRETE PAVEMENT REMOVAL

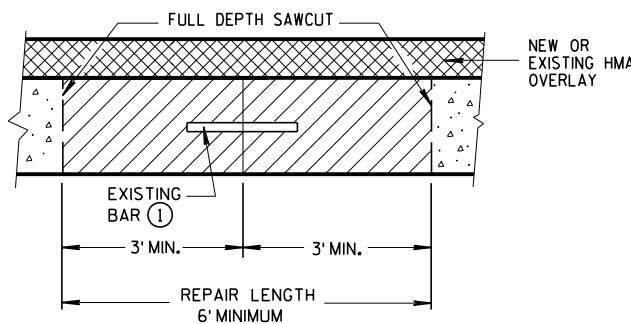
GENERAL NOTES

SAW CUT, DRILL, AND LIFT OUT EXISTING CONCRETE PAVEMENT WITHIN THE BOUNDARIES OF CONCRETE REPAIR AREAS. THE CONTRACTOR MAY MAKE ADDITIONAL SAW CUTS INSIDE THE REPAIR LIMITS TO REDUCE WEIGHT AND SIZE OF CONCRETE PIECES.

PROVIDE 6-FOOT MINIMUM DISTANCE FROM BOUNDARIES OF CONCRETE REPAIR AREAS TO ADJACENT TRANSVERSE JOINT OR CRACK.

THE LENGTH OF THE REPAIRS MAY VARY FROM THE DIMENSIONS SHOWN IF THE EXISTING CONCRETE PAVEMENT IS NONDOWELED AND THE PAVEMENT IS TO BE OVERLAID AFTER REPAIRING.

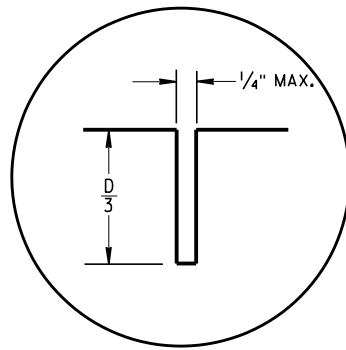
① DOWEL BARS MIGHT NOT EXIST.



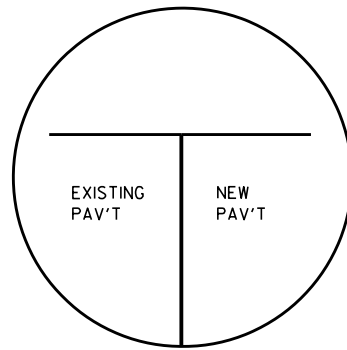
SECTION B-B
CONCRETE REMOVAL

BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

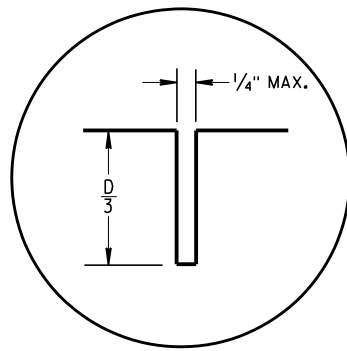


C1

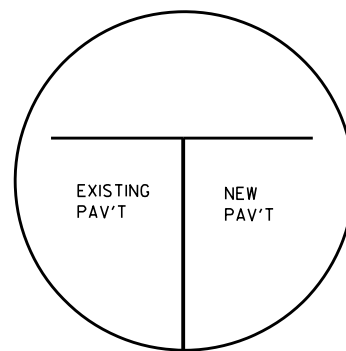


C2

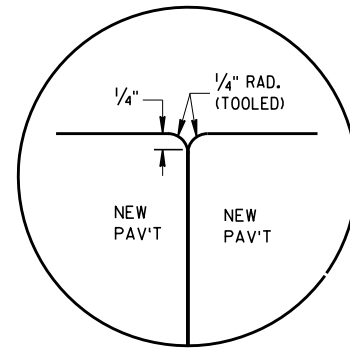
TRANSVERSE JOINTS



L1

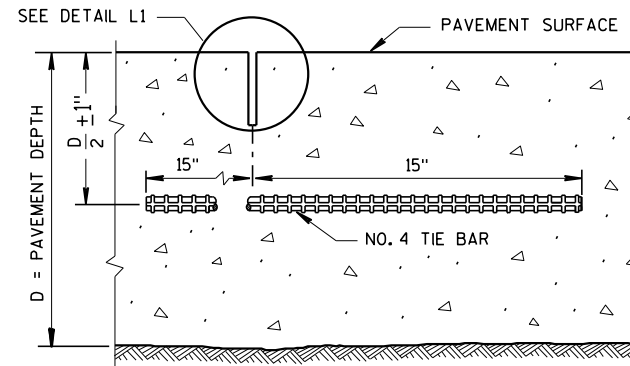


L2

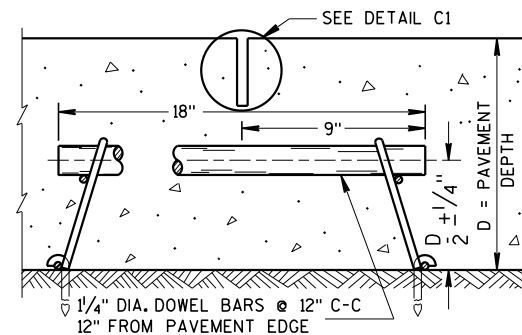


L3

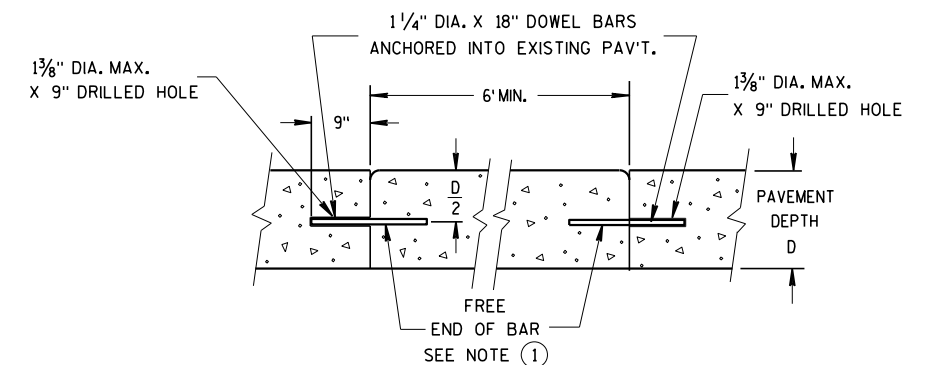
LONGITUDINAL JOINTS



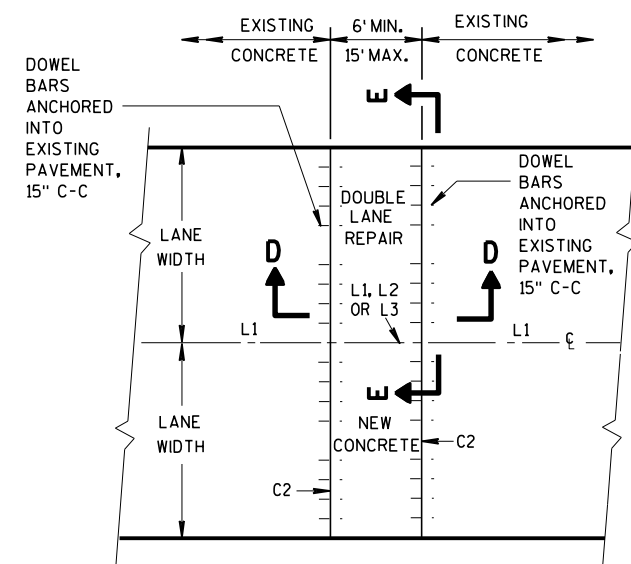
SECTION C-C
SAWED LONGITUDINAL JOINT



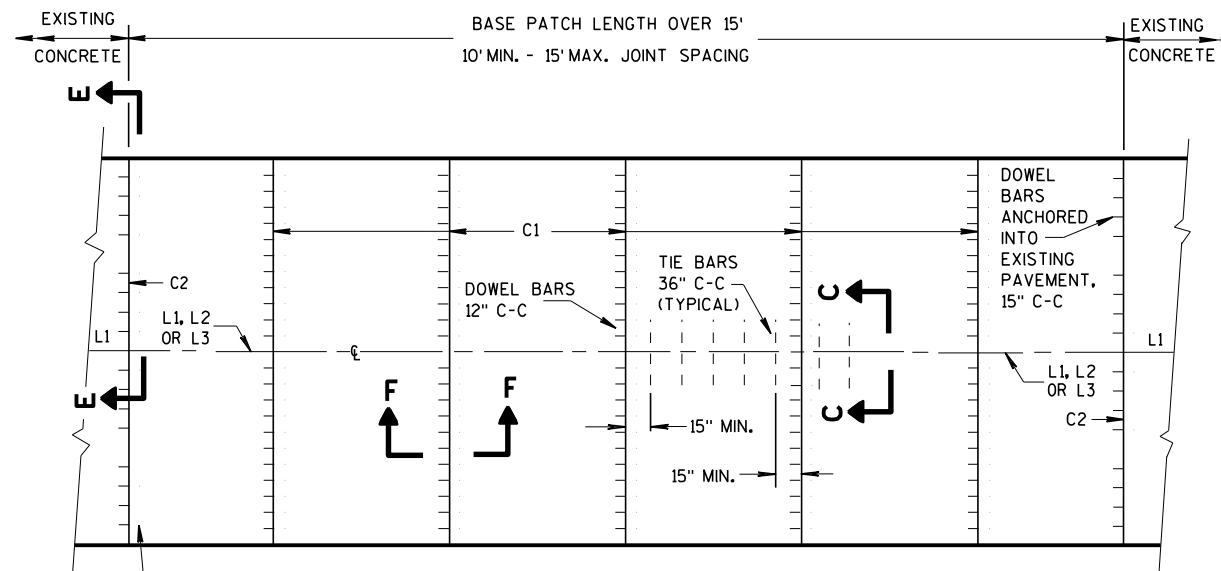
SECTION F-F
CONTRACTION JOINT



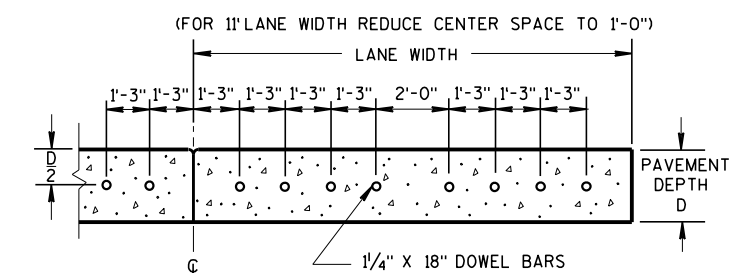
SECTION D-D



PLAN VIEW
MULTI-LANE CONCRETE BASE PATCH
15' MAXIMUM LENGTH



PLAN VIEW
MULTI-LANE CONCRETE BASE PATCH
GREATER THAN 15' IN LENGTH



SECTION E-E
SPACING OF DOWEL BARS
ANCHORED INTO EXISTING PAVEMENT

GENERAL NOTES

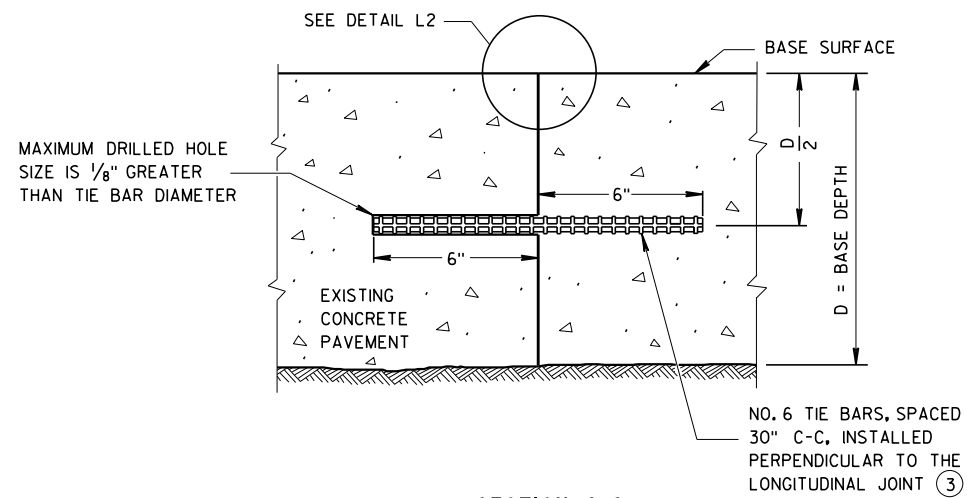
INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

CONCRETE BASE PATCHES OF EXISTING NONDOWELED CONCRETE PAVEMENTS DO NOT NEED TO BE DOWELED.

ANCHOR DOWEL BARS AND TIE BARS INTO DRILLED HOLES WITH AN EPOXY.

PROVIDE A MINIMUM DISTANCE OF 15 INCHES FROM AN EXISTING TRANSVERSE JOINT OR THE EDGE OF REPLACEMENT TO THE CENTER OF THE TIE BAR NEAREST THAT JOINT OR EDGE.

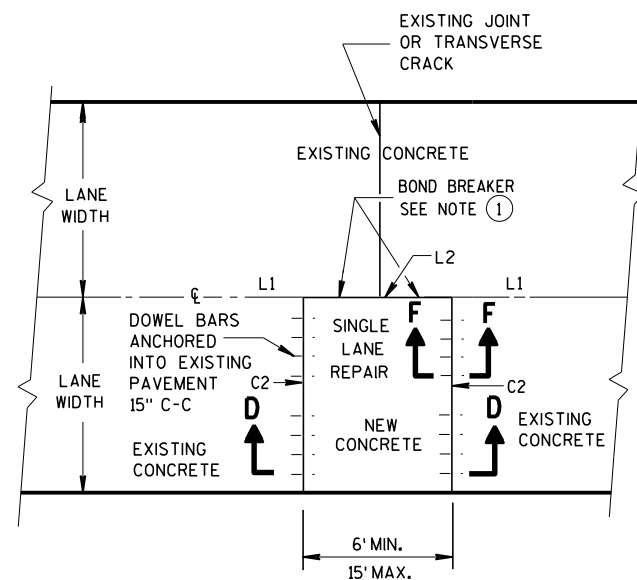
- APPLY A THIN UNIFORM COATING OF SURFACE TREATMENT TO THE FREE END OF DOWEL BARS TO PREVENT BONDING.



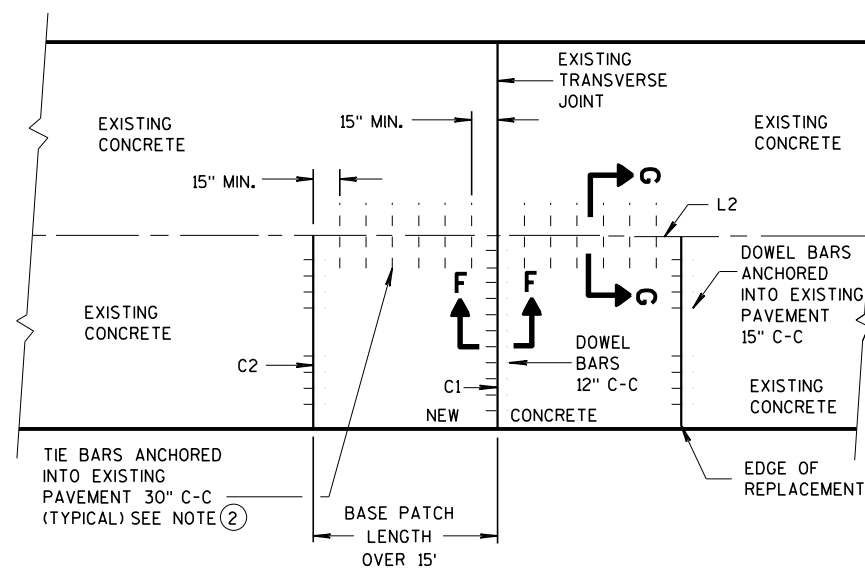
SECTION G-G
TIE BARS ANCHORED
INTO EXISTING PAVEMENT

GENERAL NOTES

- ① USE AN ENGINEER-APPROVED BOND BREAKER (E.G. RELEASE AGENT, CURING COMPOUND) FOR SINGLE LANE BASE PATCHES UP TO 15 FEET IN LENGTH.
- ② WITH THE APPROVAL OF THE ENGINEER, FOR SINGLE LANE PAVEMENT REPLACEMENTS LESS THAN 30 FEET IN LENGTH, DRILLED TIE BARS MAY BE INSTALLED ON 6:1 SKEW HORIZONTALLY, DIRECTION OF SKEW ALTERNATING WITH EACH SUCCESSIVE BAR. DRIVE SKEWED TIE BARS TO A DEPTH OF 6 INCHES IN A HOLE OF SUCH A DIAMETER AS TO PROVIDE A TIGHT DRIVEN FIT.
- ③ ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.



PLAN VIEW
SINGLE LANE CONCRETE BASE PATCH
15' MAXIMUM LENGTH

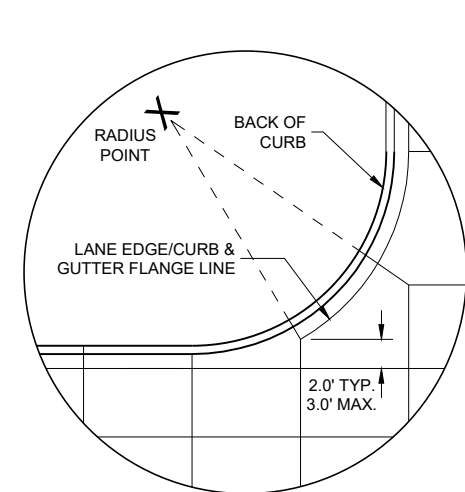


PLAN VIEW
SINGLE LANE CONCRETE BASE PATCH
GREATER THAN 15' IN LENGTH

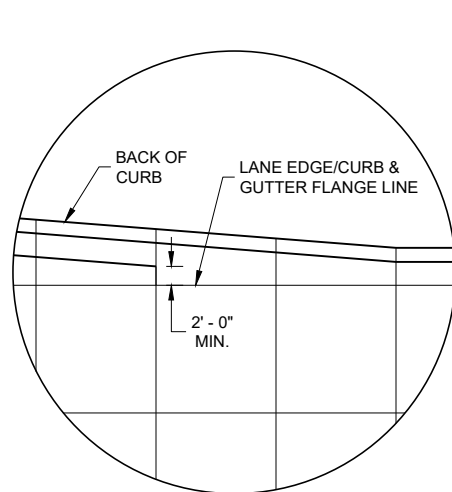
BASE PATCHING CONCRETE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

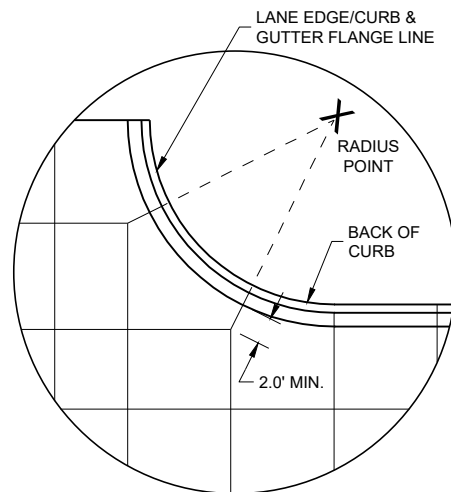
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March 2018 /S/ Peter Kemp P.E.
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FHWA



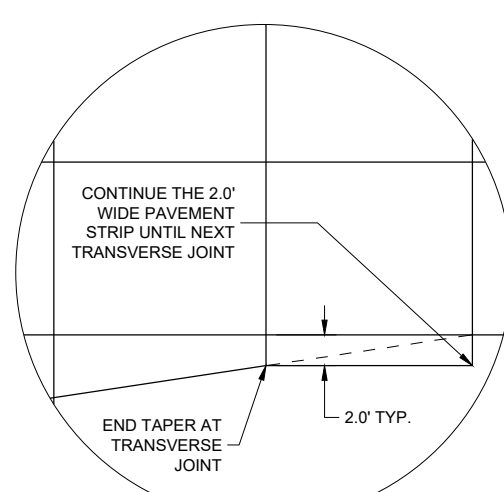
DETAIL "A"



DETAIL "B"



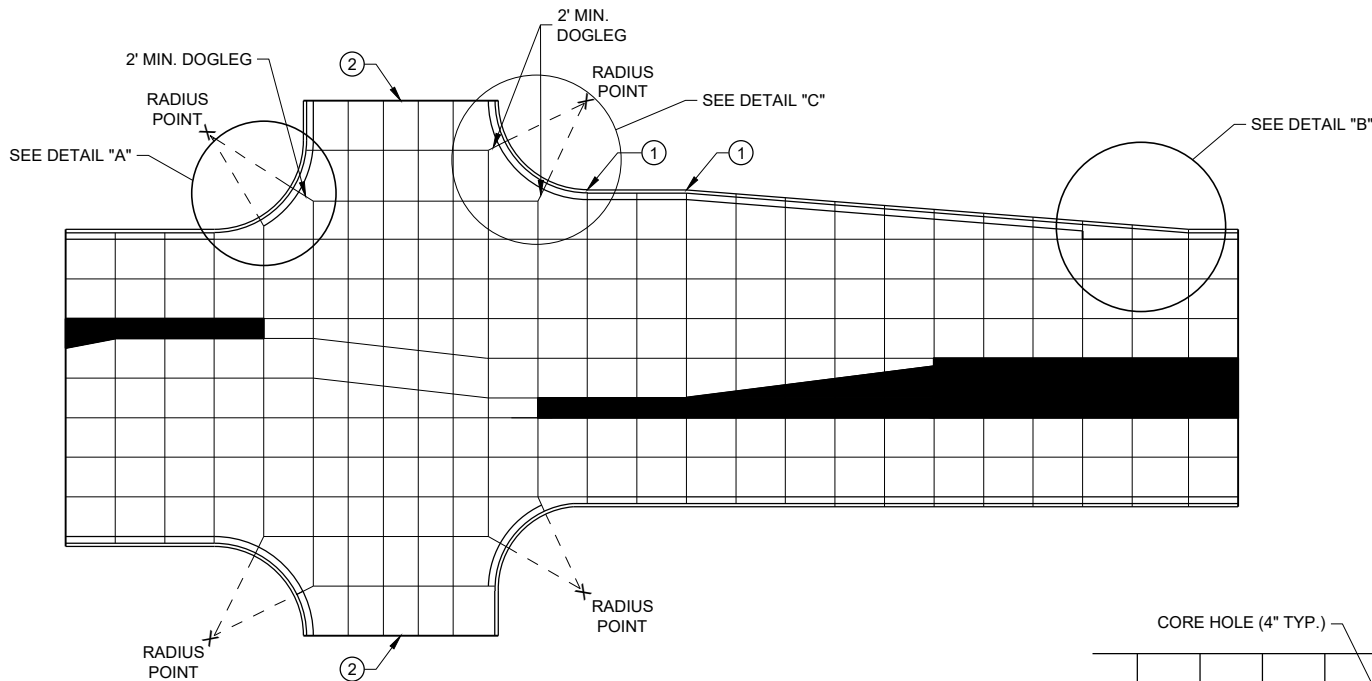
DETAIL "C"



DETAIL "D"

GENERAL NOTES

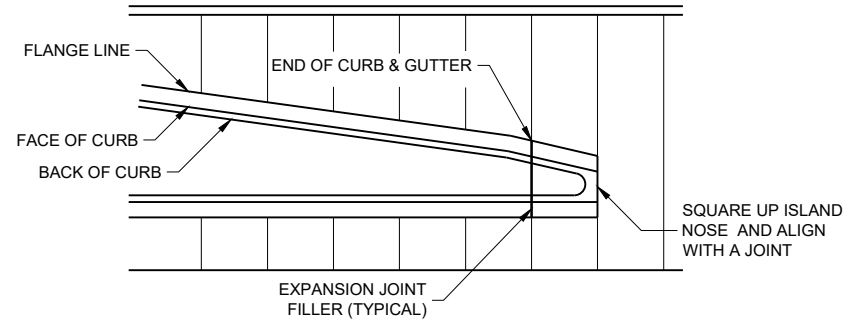
- THE PRIMARY ROADWAY CONTROLS THE TRANSVERSE JOINT PATTERN.
- ALIGN NEW JOINTS WITH EXISTING JOINTS OR CRACKS.
- CONSTRUCT TRANSVERSE JOINTS PERPENDICULAR TO THE ROADWAY.
- ADJUST TRANSVERSE JOINTS TO ALIGN WITH UTILITY FIXTURES (E.G MANHOLES AND INLETS) IN THE PAVEMENT STRUCTURE WHEN POSSIBLE. WATER VALVES DO NOT REQUIRE JOINT ADJUSTMENT.
- AVOID SLABS LESS THAN 2 FEET WIDE OR GREATER THAN 15 FEET WIDE.
- SEE TABLE FOR TRANSVERSE JOINT SPACING. JOINT SPACING SPECIFIED IS MAXIMUM AND ACTUAL SPACING CAN BE ADJUSTED TO ACCOMMODATE INTERSECTIONS.
- AVOID ANGLES LESS THAN 60° BY DOGLEGGING JOINTS THROUGH CURVE RADIUS POINTS. USE 90° ANGLES WHEN POSSIBLE.
- CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.
- 1 PROVIDE TRANSVERSE JOINTS AT ALL PAVEMENT WIDTH CHANGES.
 - 2 CONSTRUCT DOWELED EXPANSION JOINT ON THE SIDE ROAD OF AN INTERSECTION IF THE SIDE ROAD IS CONCRETE PAVEMENT AND GREATER THAN 300 FEET IN LENGTH. ALIGN EXPANSION JOINT WITH HEDGE OF RADIUS.
 - 3 THE ENGINEER MAY APPROVE SLIGHT VARIATIONS FROM THESE JOINTING DETAILS.



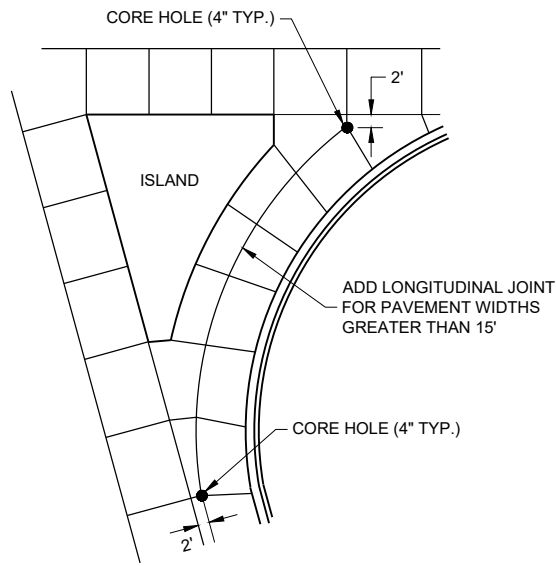
STANDARD INTERSECTION

PAVEMENT DEPTH AND JOINT SPACING TABLE

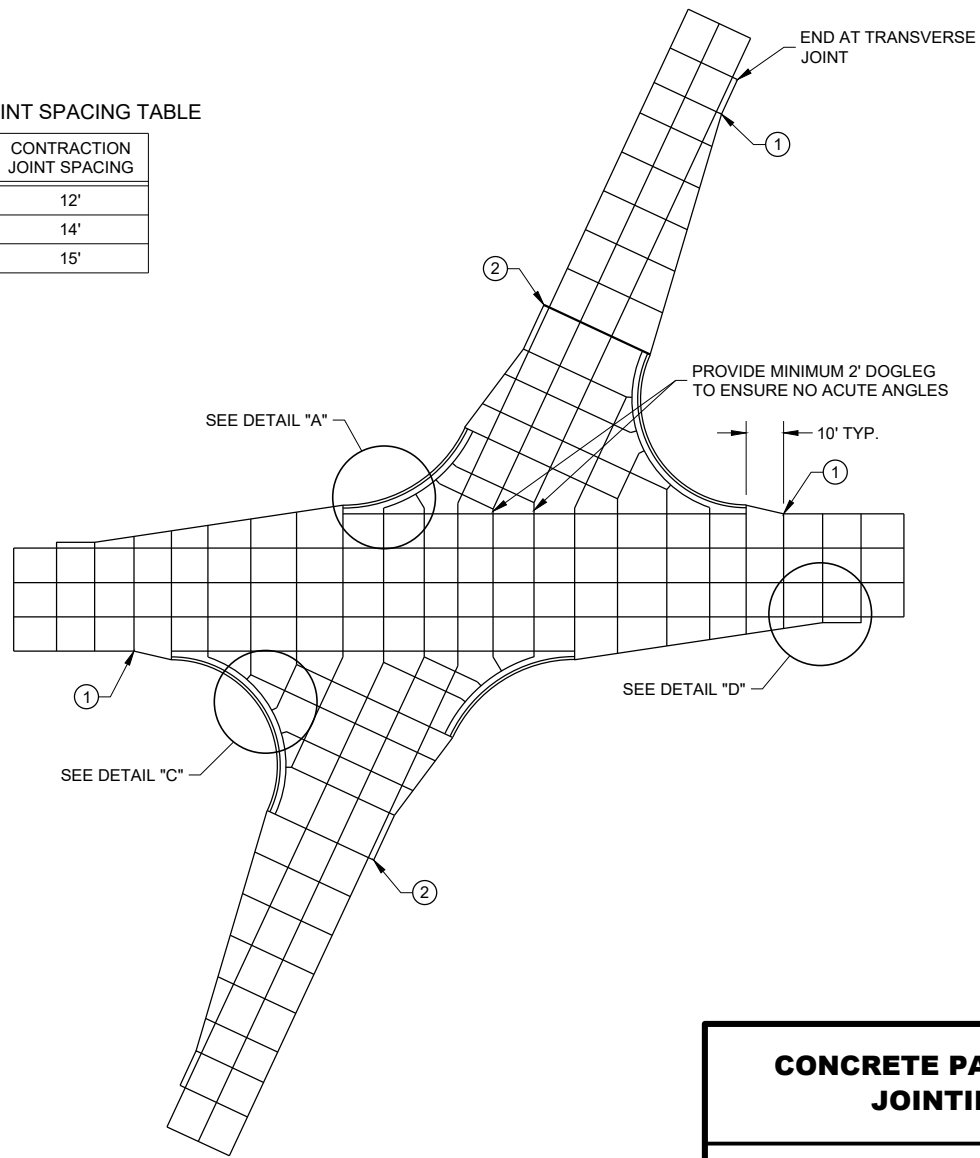
PAVEMENT DEPTH (D)	CONTRACTION JOINT SPACING
6", 6 1/2"	12'
7", 7 1/2"	14'
8" & ABOVE	15'



APPROACH TO MEDIAN



LARGE RIGHT TURN



SKEWED INTERSECTION

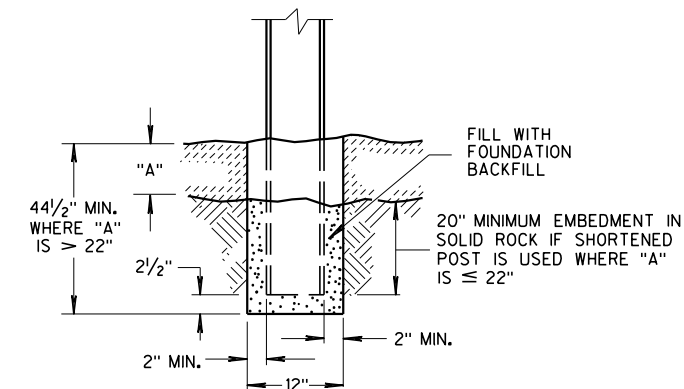
CONCRETE PAVEMENT JOINTING

STATE OF WISCONSIN
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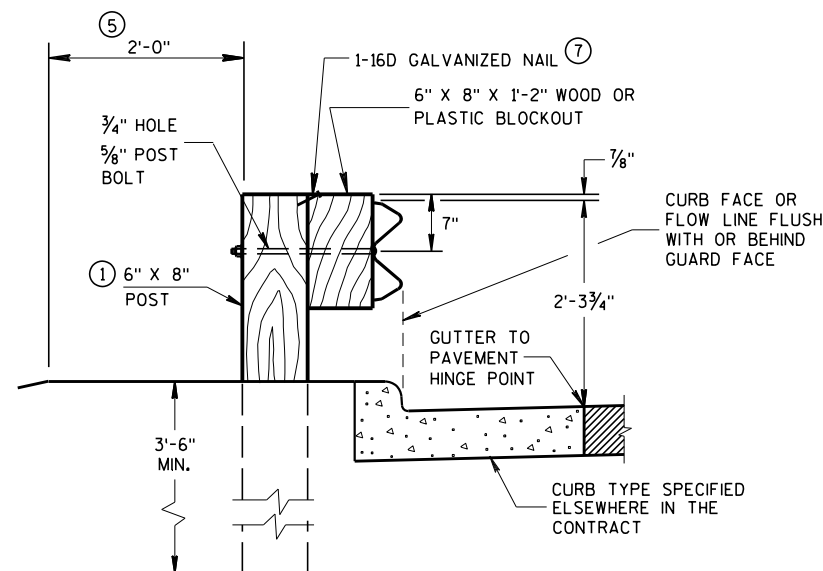
GENERAL NOTES

- W6 X 9 OR W6 X 8.5 STEEL POSTS AND NOTCHED PLASTIC BLOCKOUTS ARE ACCEPTABLE ALTERNATIVES FOR 6" X 8" WOOD POSTS WITH WOOD OR PLASTIC BLOCKOUTS. USE APPROVED NOTCHED PLASTIC BLOCKOUTS WITH STEEL POSTS. APPROVED PLASTIC BLOCKOUT DESIGNS MAY VARY FROM THIS TYPICAL DETAIL WHEN USED IN CONJUNCTION WITH STEEL POSTS. DO NOT MIX STEEL POSTS AND WOOD POSTS IN A SINGLE INSTALLATION.
- USE STRUCTURAL STEEL POSTS CONFORMING TO ASTM A 36. GALVANIZED POSTS ACCORDING TO AASHTO M 111. EITHER SET THE POSTS IN DRILLED HOLES OR DRIVE TO GRADE. REMOVE MUSHROOMING CAUSED BY DRIVING AND REPAIR DAMAGED SPELTER COATING ON GALVANIZED POSTS.
- INSTALL STEEL POSTS WITH HOLES ON APPROACHING TRAFFIC SIDE.
- USE EITHER WOOD OR APPROVED PLASTIC BLOCKOUTS ON WOOD POSTS.
- IF THE DISTANCE FROM BACK OF POST TO SHOULDER HINGE POINT IS LESS THAN 2 FEET INSTALL LONGER POST AT HALF POST SPACING, W BEAM (LHW).
- IF ROCK IS ENCOUNTERED DURING EXCAVATION, THE ENGINEER MAY APPROVE USING A 12 INCH DIAMETER POST HOLE EXTENDING 20 INCHES DEEP INTO THE ROCK. PLACE GRANULAR MATERIAL IN THE BOTTOM OF THE HOLE APPROXIMATELY 2 1/2 INCHES DEEP. CUT THE POSTS TO LENGTH AND PLACE IN THE HOLE. BACKFILL WITH MATERIAL EXCAVATED FROM THE HOLE AND COMPACT ADEQUATELY.
- WHEN USING STEEL POSTS AND WOOD BLOCKOUTS INSTALL FOUR 16D GALVANIZED NAILS. INSTALL NAILS AT THE BACK CORNERS OF THE BLOCK AND BEND THE NAILS OVER THE FLANGE OF THE STEEL POST.

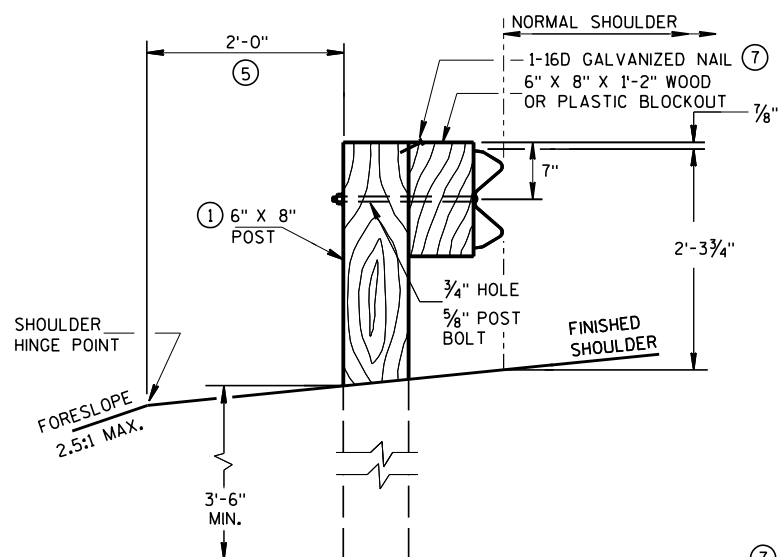
INSTALL BEAM GUARD SECTIONS AND ALL NECESSARY HARDWARE ACCORDING TO THE APPLICABLE PLAN AND CURRENT STANDARD AND SUPPLEMENTAL SPECIFICATIONS. ALL DIMENSIONS ARE SUBJECT TO MANUFACTURER'S TOLERANCES EXCEPT WHERE ALLOWABLE TOLERANCES ARE SHOWN.



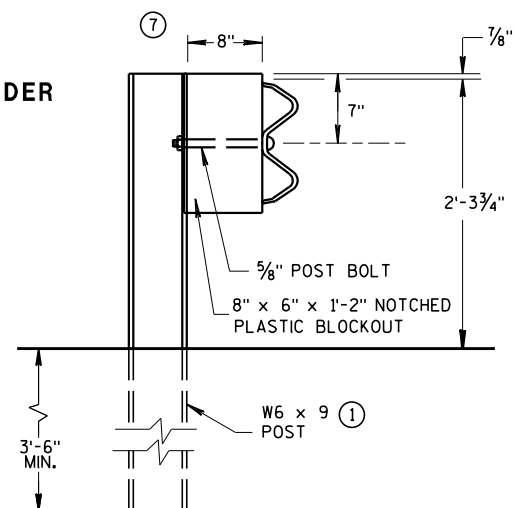
END VIEW
SETTING STEEL OR WOOD POST IN ROCK ⑥



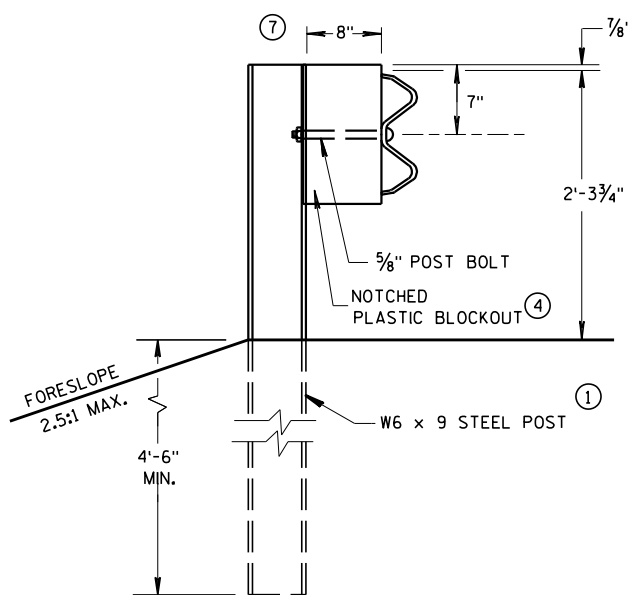
END VIEW
LOCATED ALONG A CURBED ROADWAY



END VIEW
LOCATED ALONG A ROADWAY SHOULDER
STANDARD INSTALLATION

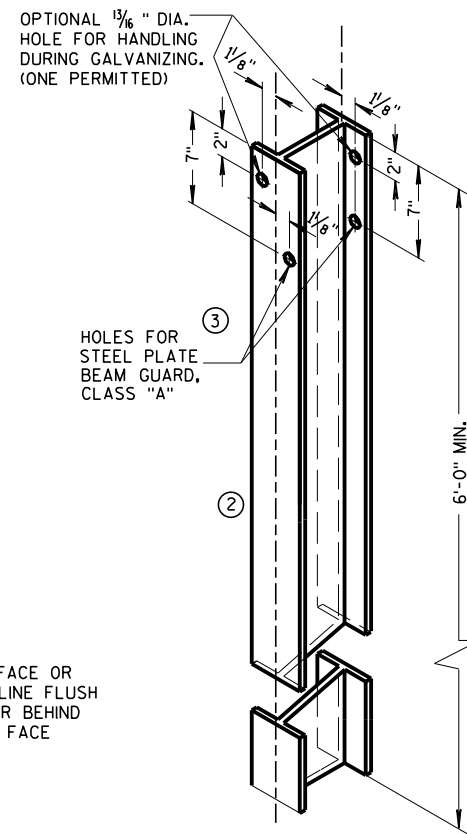


END VIEW
STEEL POST & NOTCHED
PLASTIC BLOCKOUT ALTERNATIVE
STANDARD INSTALLATION



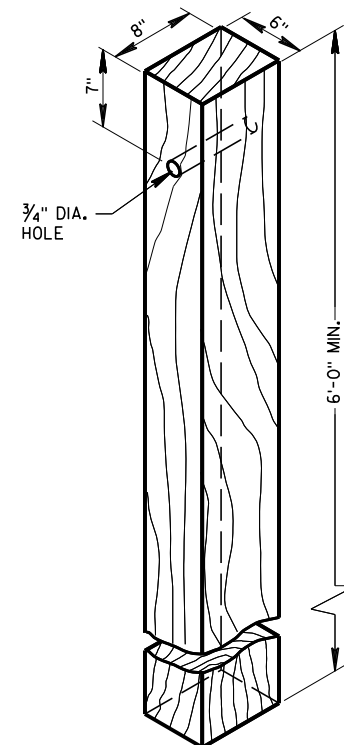
END VIEW
LONGER POST AT HALF
POST SPACING W BEAM
(LHW)

TYPICAL INSTALLATION OF STEEL PLATE BEAM GUARD

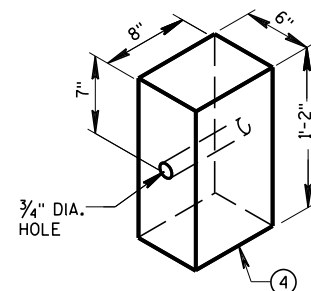


STEEL POST &
HOLE PUNCHING DETAIL
(W6 X 9) ①

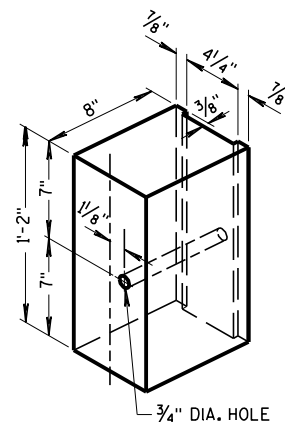
ALL HOLES 1/8" DIAMETER EXCEPT AS NOTED



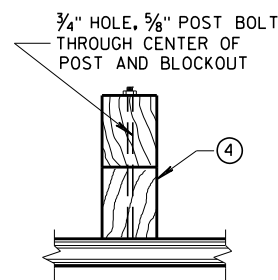
WOOD POST
(6" X 8") NOMINAL



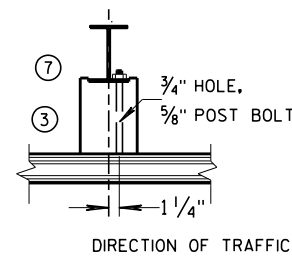
WOOD OR PLASTIC
BLOCKOUT FOR
WOOD POSTS



TYPICAL NOTCHED
PLASTIC BLOCKOUT
FOR STEEL POSTS ①



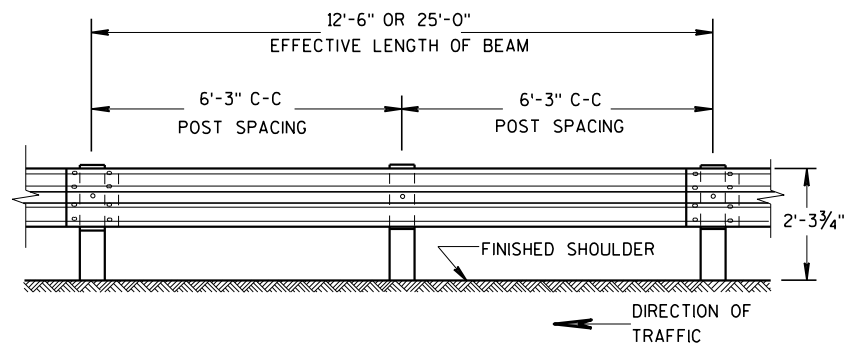
PLAN VIEW
WOOD POST, BLOCKOUT & BEAM



PLAN VIEW
STEEL POST, NOTCHED
PLASTIC BLOCKOUT & BEAM

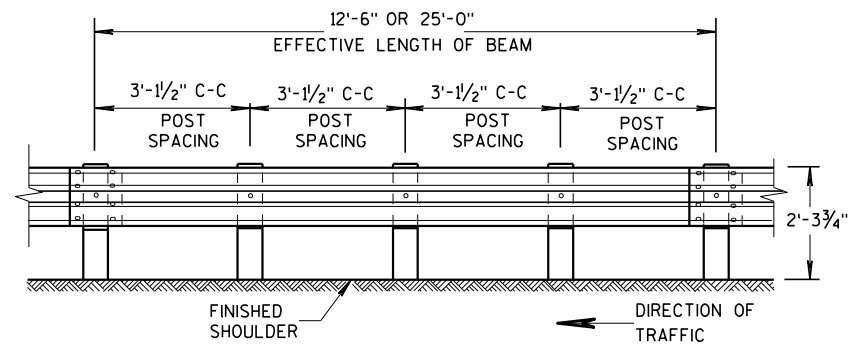
STEEL PLATE BEAM GUARD,
CLASS "A"
INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

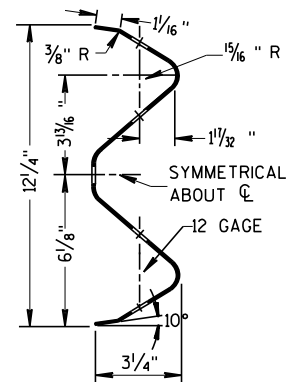


FRONT VIEW

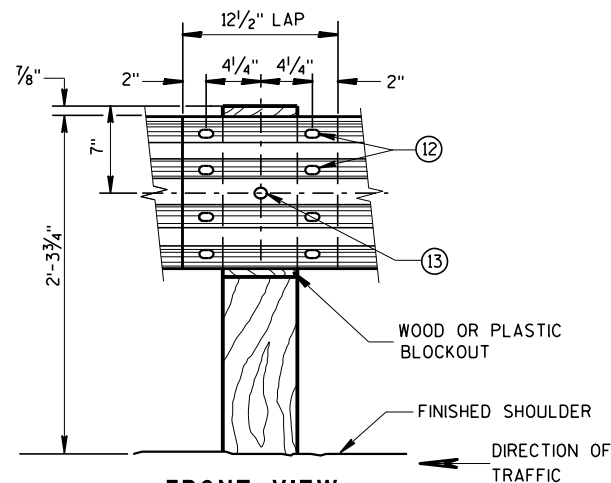
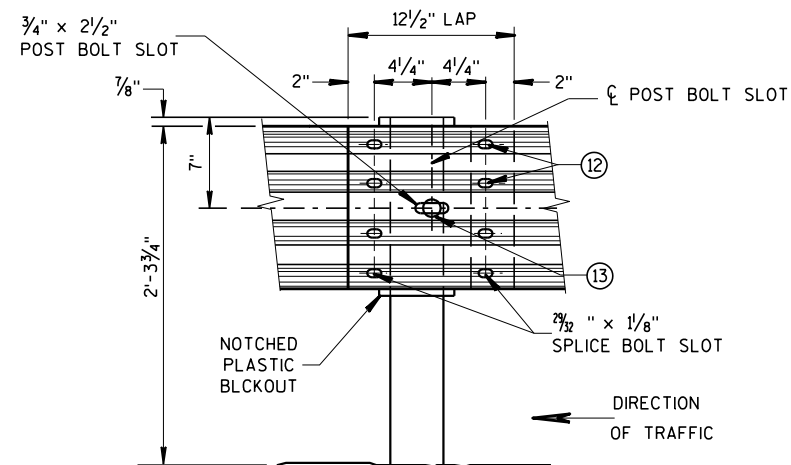
POST SPACING STANDARD INSTALLATION



FRONT VIEW

POST SPACING FOR LONGER POST
AT HALF POST SPACING W BEAM (LHW)

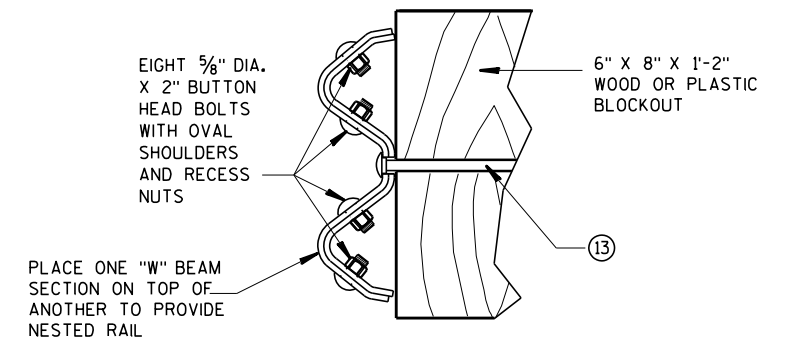
SECTION THRU W BEAM

FRONT VIEW
BEAM SPLICE AT WOOD POST
AND POST MOUNTING DETAILFRONT VIEW
BEAM SPLICE AT STEEL POSTTYPICAL SPLICING DETAILS
OF STEEL PLATE BEAM GUARD

GENERAL NOTES

FURNISH GUARDRAIL DEFLECTORS FROM APPROVED PRODUCTS LIST.

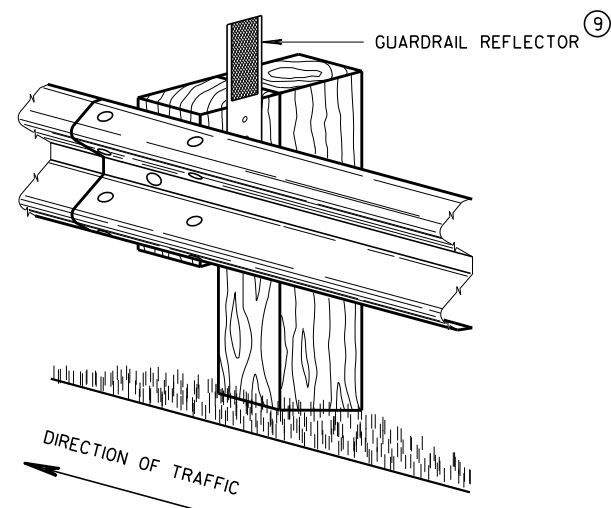
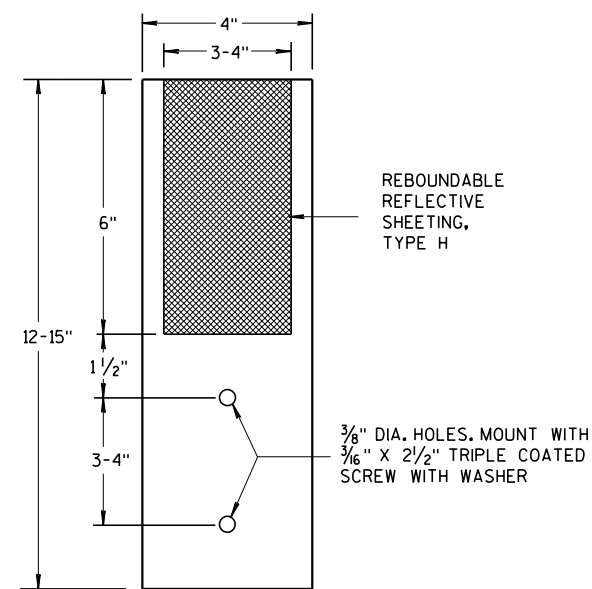
- ⑨ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINA. START REFLECTORS AT POST #9 AND SPACE EVENLY EVERY 100 FEET (MAX.) TO THE END OF GUARDRAIL RUN, USING A MINIMUM OF 3 REFLECTORS.
- ⑫ 8 - 5/8" ϕ X 2" BUTTON HEAD BOLTS WITH OVAL SHOULDERS & RECESS NUTS.
- ⑬ 5/8" DIA. BUTTON HEAD BOLT AND RECESS NUT WITH 5/8" DIA. F844 FLAT WASHER UNDER NUT.



NESTED W BEAM (NW)

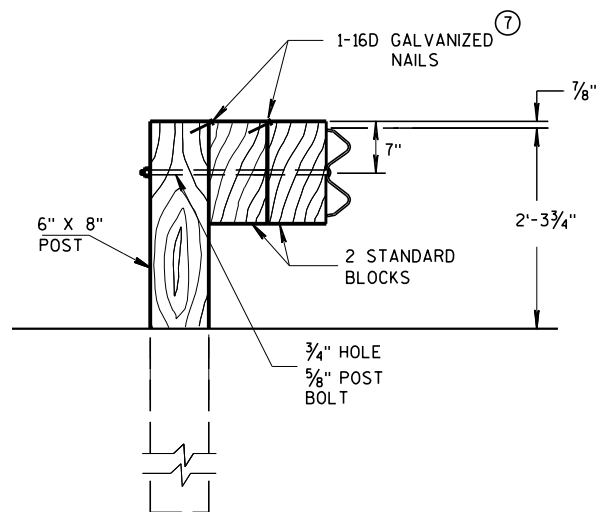
USE ALL OTHER STANDARD BEAM GUARD DETAILS FOR
CONSTRUCTING NESTED W BEAM (NW)

* USE DOUBLE SIDED WHITE GUARDRAIL REFLECTORS ON ROADWAYS WITH BI-DIRECTIONAL TRAFFIC (NO MEDIAN). USE SINGLE SIDED WHITE (RIGHT SIDE) AND SINGLE SIDED YELLOW (LEFT SIDE) ON ROADWAYS WITH MEDIAN SEPARATION.

4" X 12" GUARDRAIL REFLECTOR DETAIL
AND TYPICAL INSTALLATION *

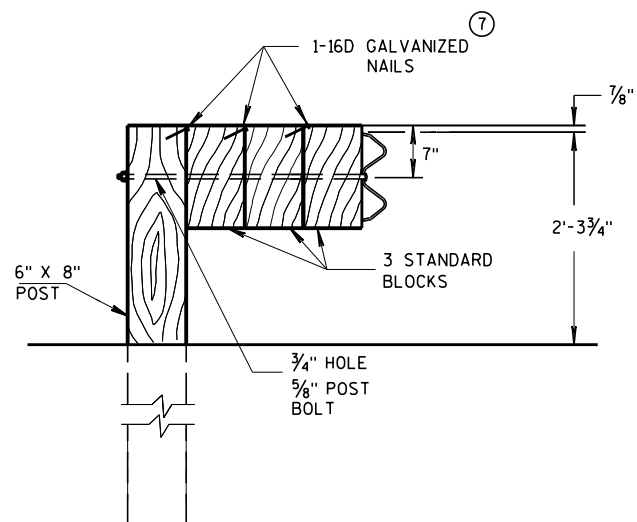
4"x 12" GUARDRAIL REFLECTOR

STEEL PLATE BEAM GUARD,
CLASS "A",
INSTALLATION & ELEMENTSSTATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR DOUBLE BLOCKS

THE NUMBER OF DOUBLE BLOCK POSTS
WITHIN A BARRIER RUN IS UNLIMITED

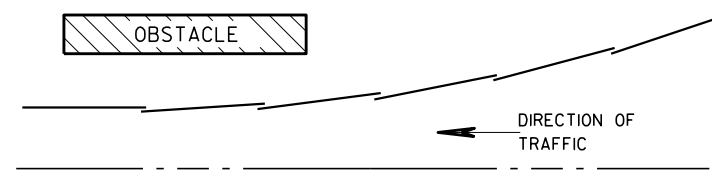


DETAIL FOR TRIPLE BLOCKS

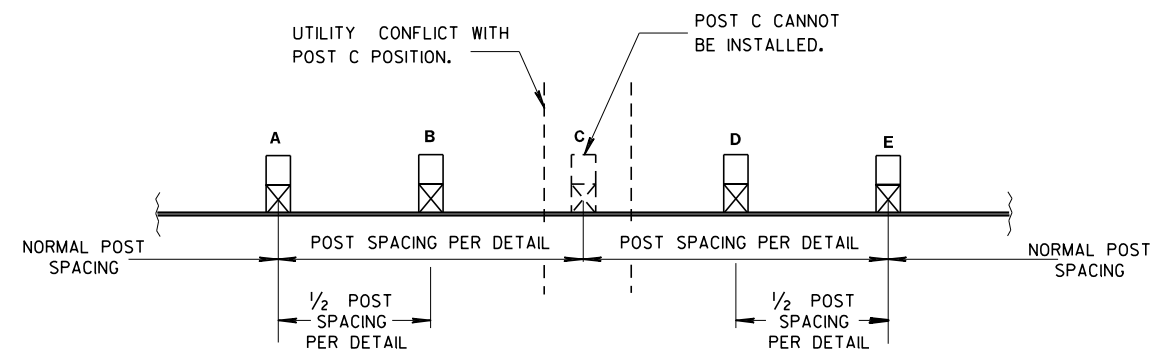
TRIPLE BLOCK DETAIL IS LIMITED TO ONE
LOCATION WITHIN A BEAM GUARD RUN.

NOTES: USE DOUBLE OR TRIPLE BLOCKS WHEN UNDERGROUND OBSTACLES
PREVENT THE POST FROM BEING INSTALLED.

DO NOT USE EXTRA BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND
SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION
DISTANCE OF THE BARRIER.



PLAN VIEW BEAM LAPPING DETAIL



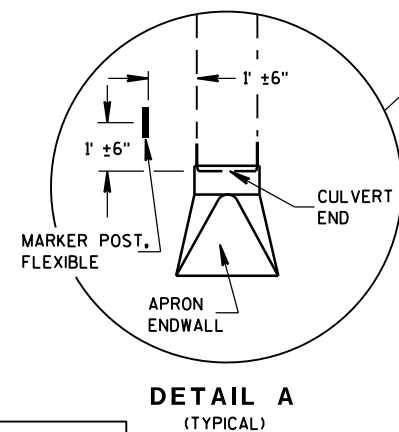
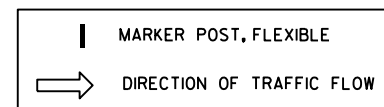
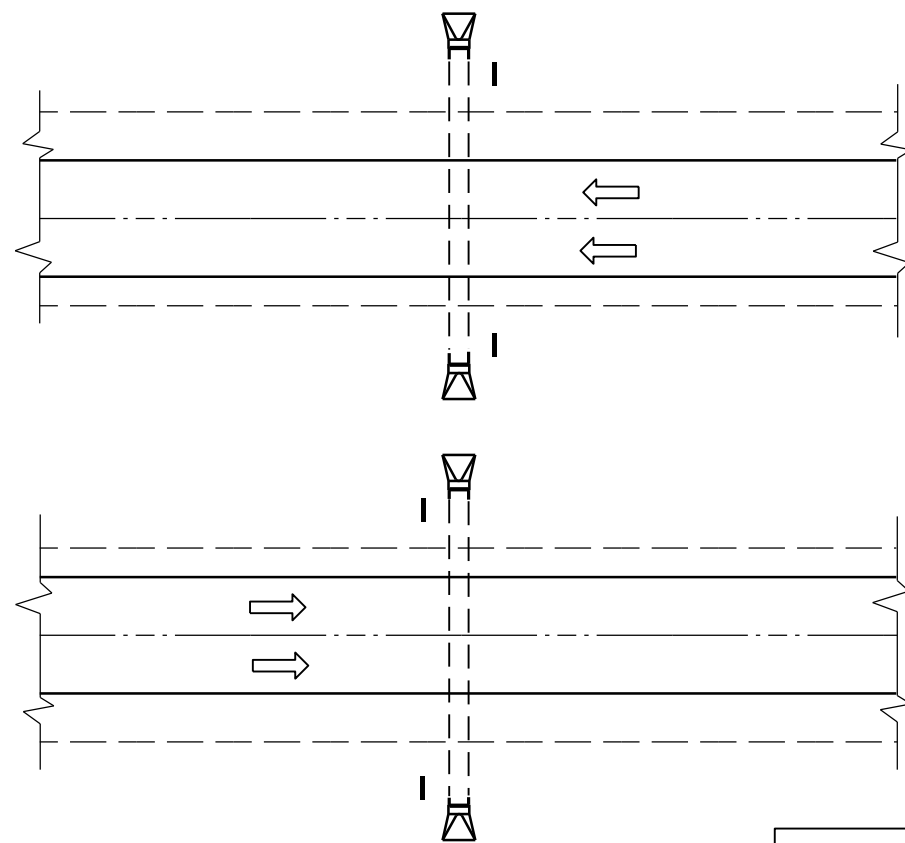
POST DRIVING FOR CONTINUOUS UNDERGROUND OBSTRUCTION

STEEL PLATE BEAM GUARD, CLASS "A", INSTALLATION & ELEMENTS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

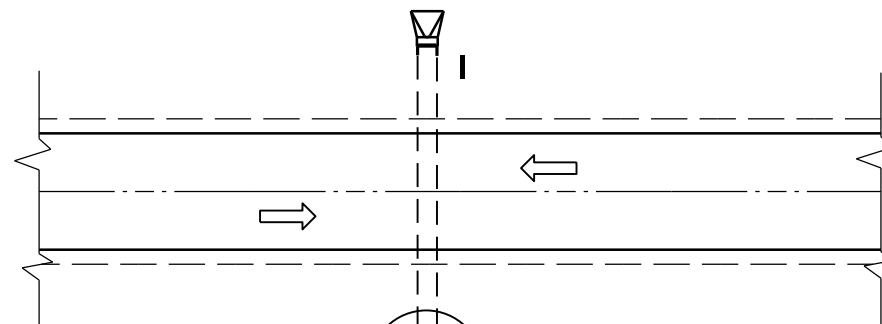
APPROVED	/S/ Rodney Taylor
June 2017	DATE
	ROADWAY STANDARDS 334 UNIT SUPERVISOR
FHWA	

PLAN VIEW
DIVIDED HIGHWAY



DETAIL A
(TYPICAL)

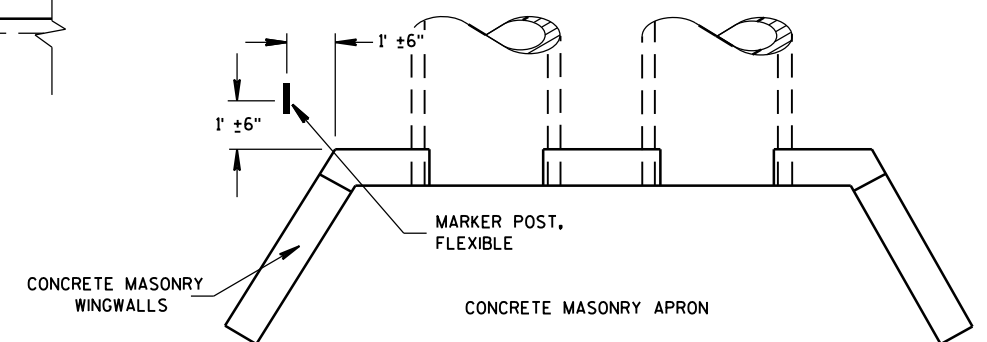
PLAN VIEW
UNDIVIDED HIGHWAY



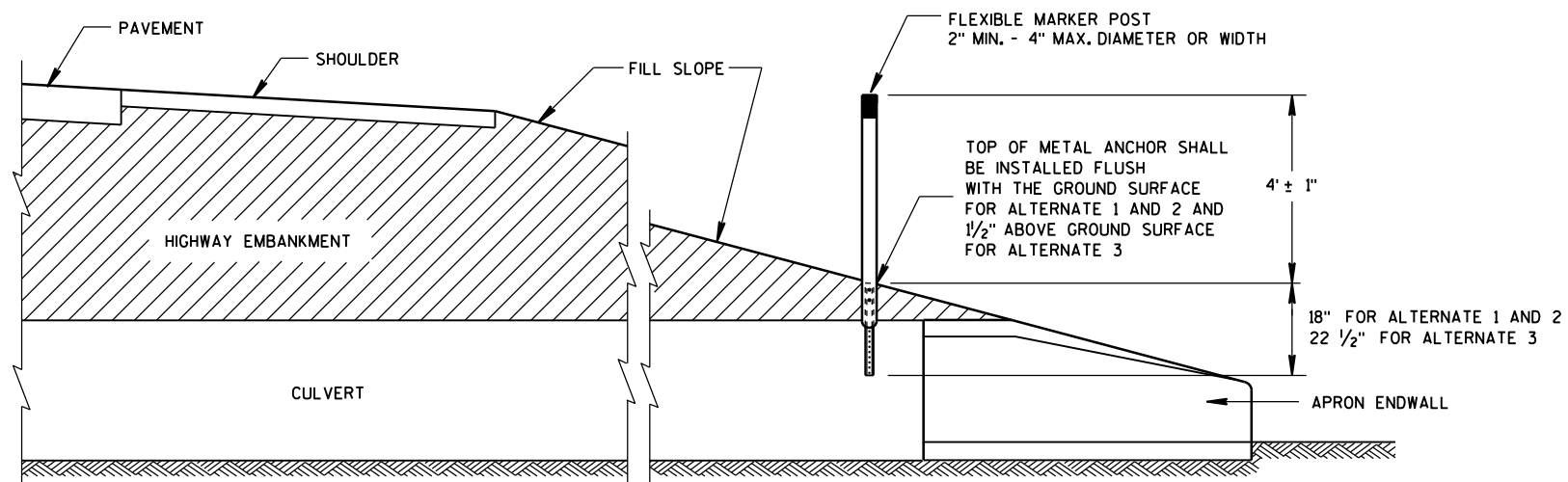
FLEXIBLE MARKER POST LOCATION

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.



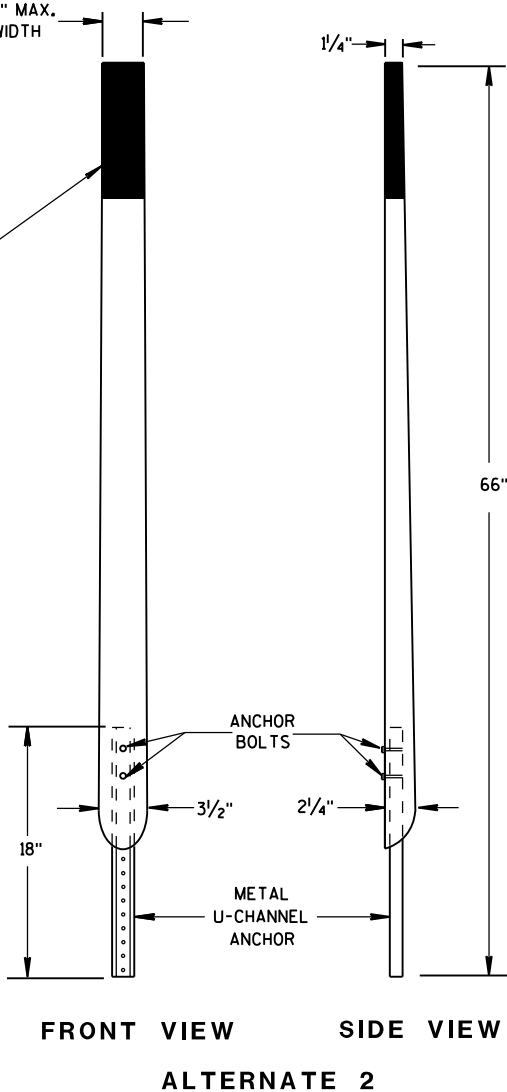
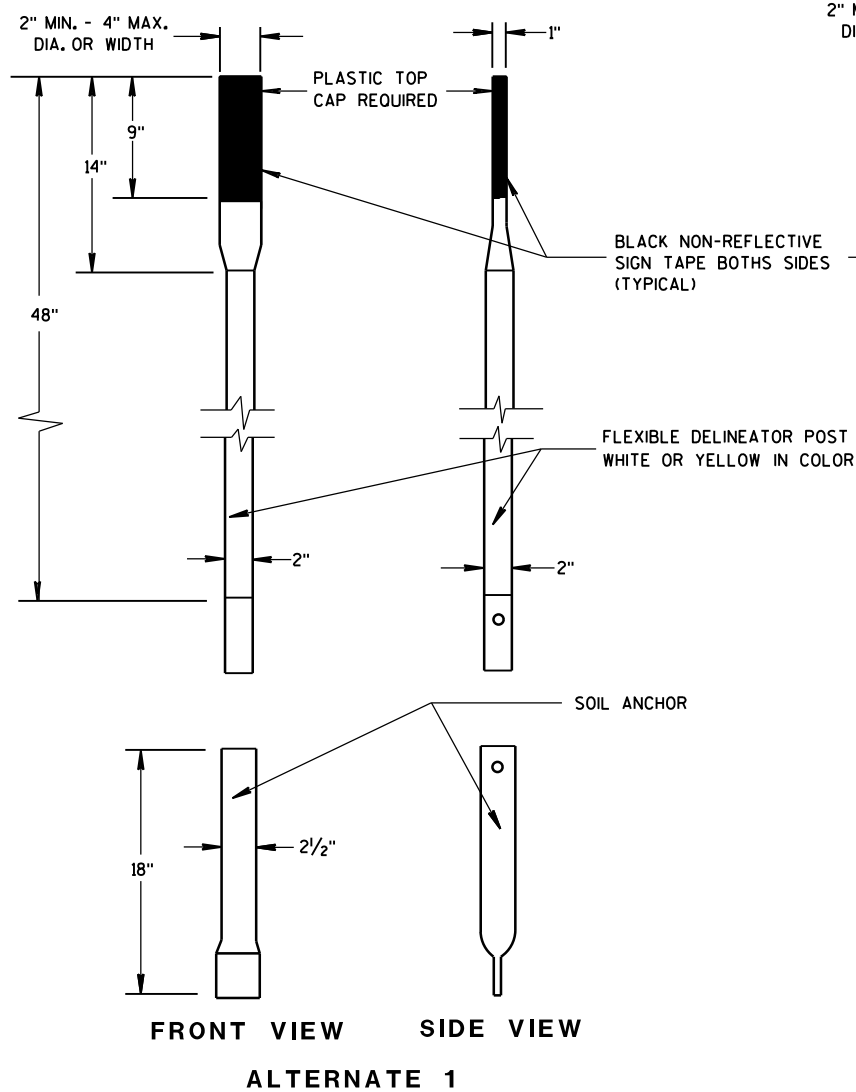
PLAN VIEW
CONCRETE MASONRY ENDWALLS FOR
CULVERT PIPE AND PIPE ARCH



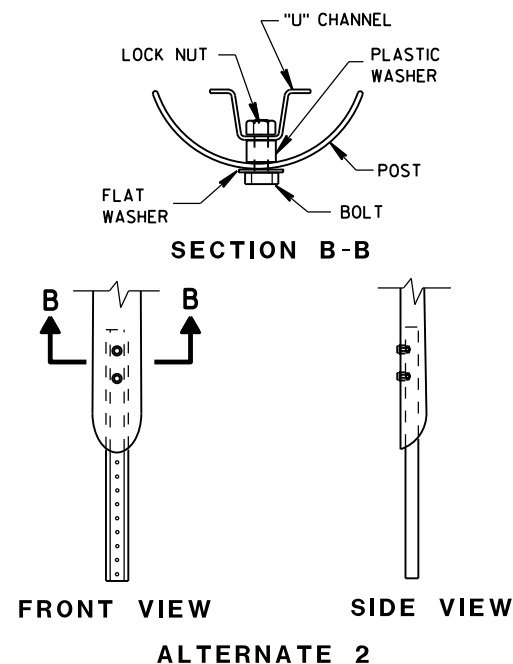
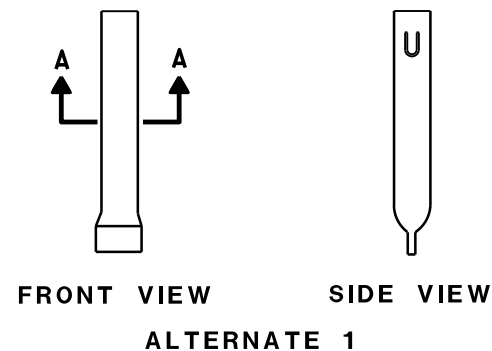
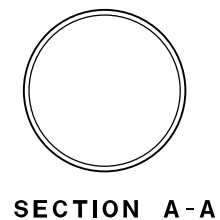
CROSS SECTION
FLEXIBLE MARKER POST

FLEXIBLE MARKER POST
FOR CULVERT END

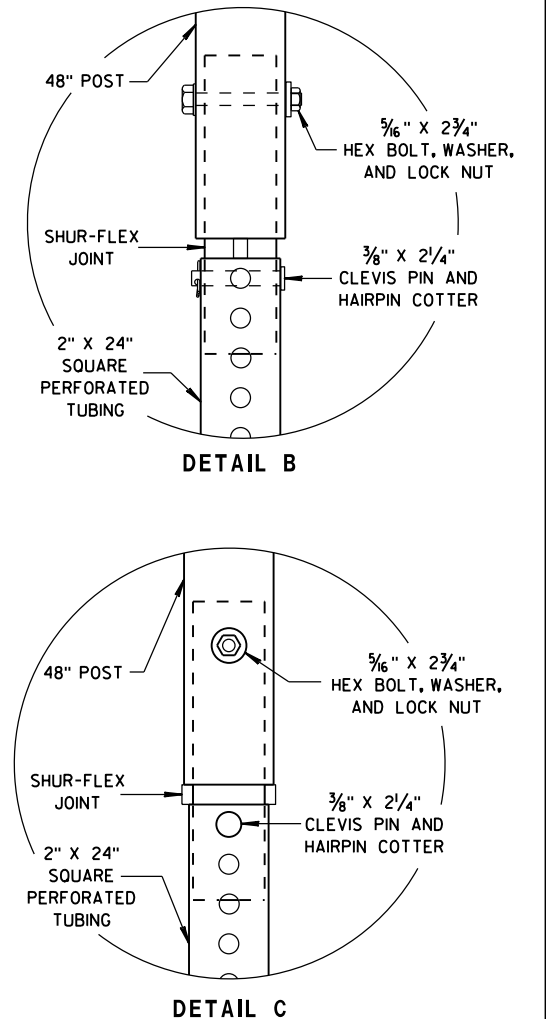
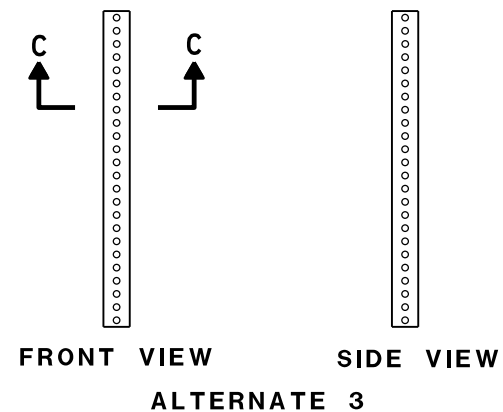
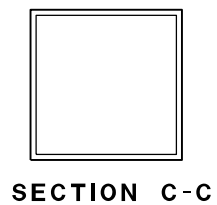
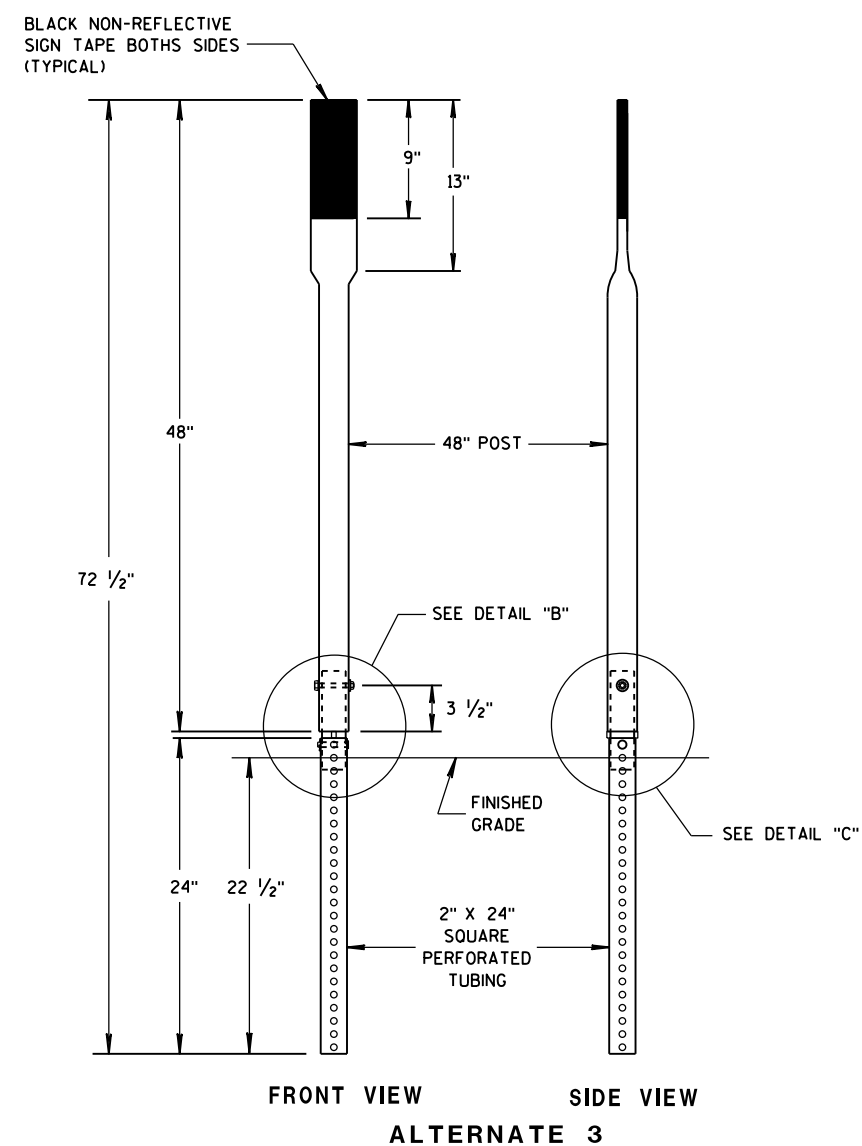
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION 335



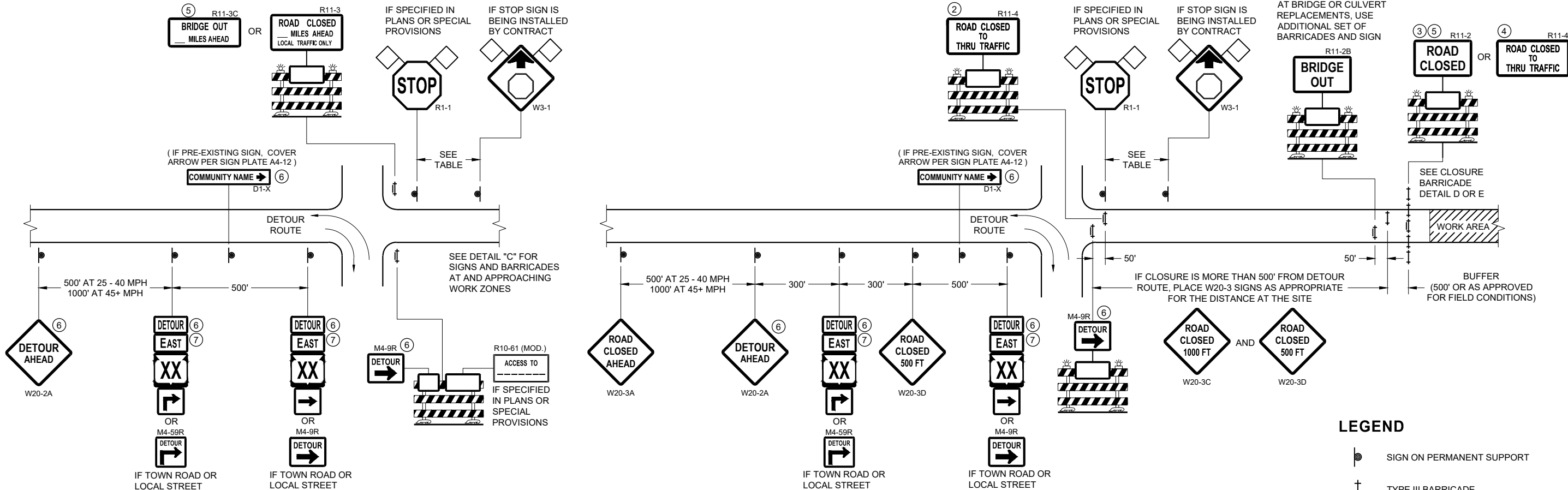
FLEXIBLE MARKER POSTS



FLEXIBLE MARKER POST ANCHORS



FLEXIBLE MARKER POST FOR CULVERT END	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/1/2012 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER 336 IGN
FHWA	



DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE GREATER THAN OR EQUAL TO 1/2 MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR
WORK ZONE LESS THAN 1/2 MILE FROM
DETOUR ROUTE (1000 FEET IF URBAN)

LEGEND

- SIGN ON PERMANENT SUPPORT
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- WORK AREA
- FLAGS, 16" X 16" MIN. (ORANGE)

M4 - 8

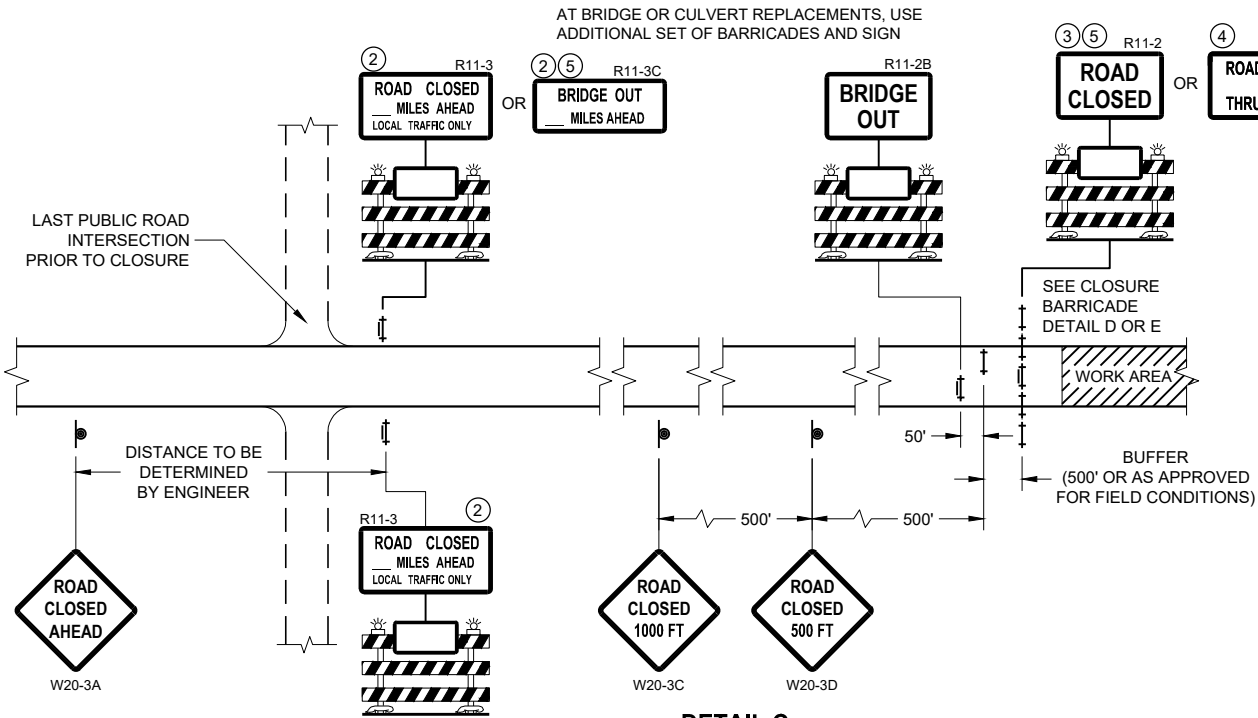
M3 - X

M1 - 4 OR M1 - 6 OR M1 - 5A

M05 - 1 OR M06 - 1

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



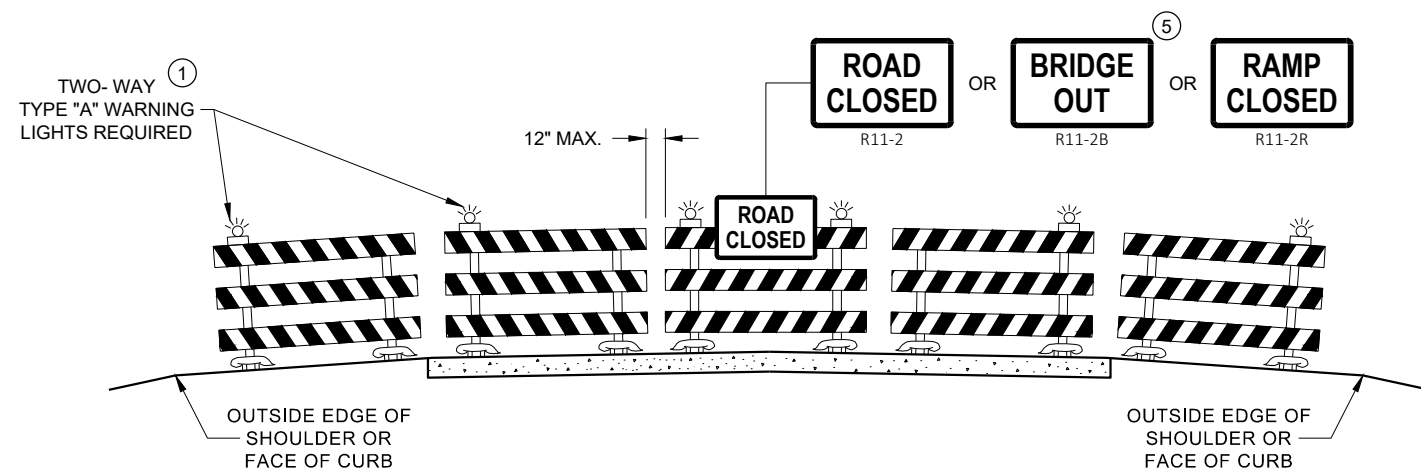
DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

**BARRICADES AND SIGNS
FOR MAINLINE CLOSURES**

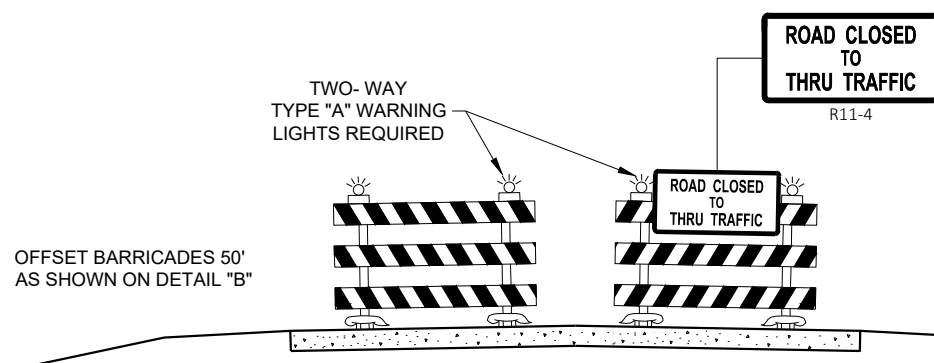
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 337

FHWA



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2 - SHEET "a" FOR LEGEND

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

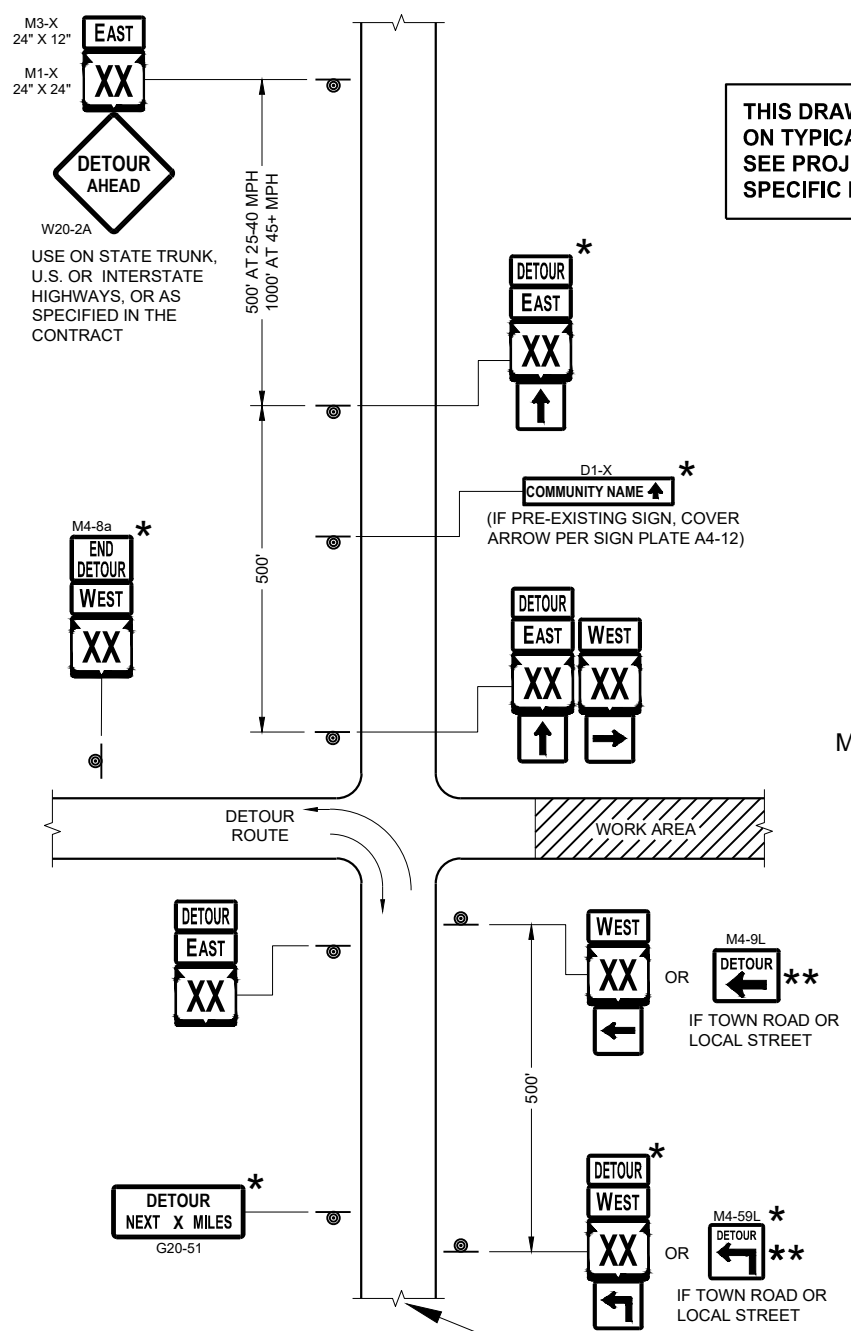
- R11 - 2 SHALL BE 48" X 30"
- R11 - 3 SHALL, R11 - 4 AND R10 - 61 SHALL BE 60" X 30"
- M4 - 9 SHALL BE 30" X 24"
- M3 - X SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M4 - 8 SHALL BE 24" X 12" (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS)
- M1 - 4, M1 - 5A AND M1 - 6 SHALL BE 24"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

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

BARRICADES AND SIGNS FOR VARIOUS CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

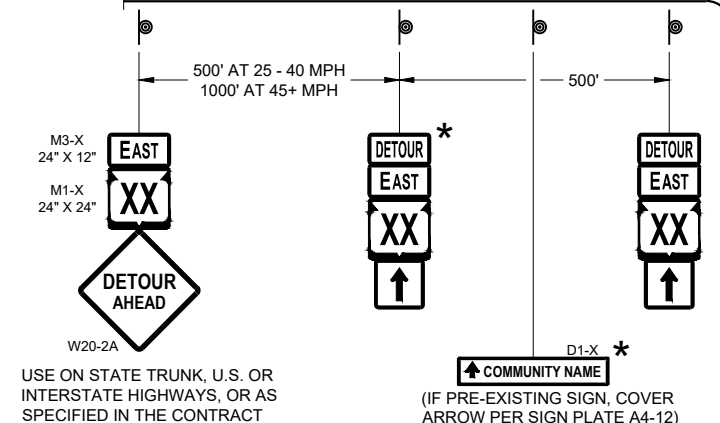
APPROVED
November 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 338
FHWA



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

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

MATCH POINT



DETAIL F
DETOUR SIGNING

LEGEND

- SIGN ON PERMANENT SUPPORT
- WORK AREA
- DETOUR EAST M4 - 8
- DETOUR WEST M3 - X
- DETOUR AHEAD M1 - 4 OR M1 - 6 OR COUNTY M1 - 5A
- DETOUR EAST M05 - 1 OR M06 - 1 OR M06 - 1

GENERAL NOTES

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

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

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

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

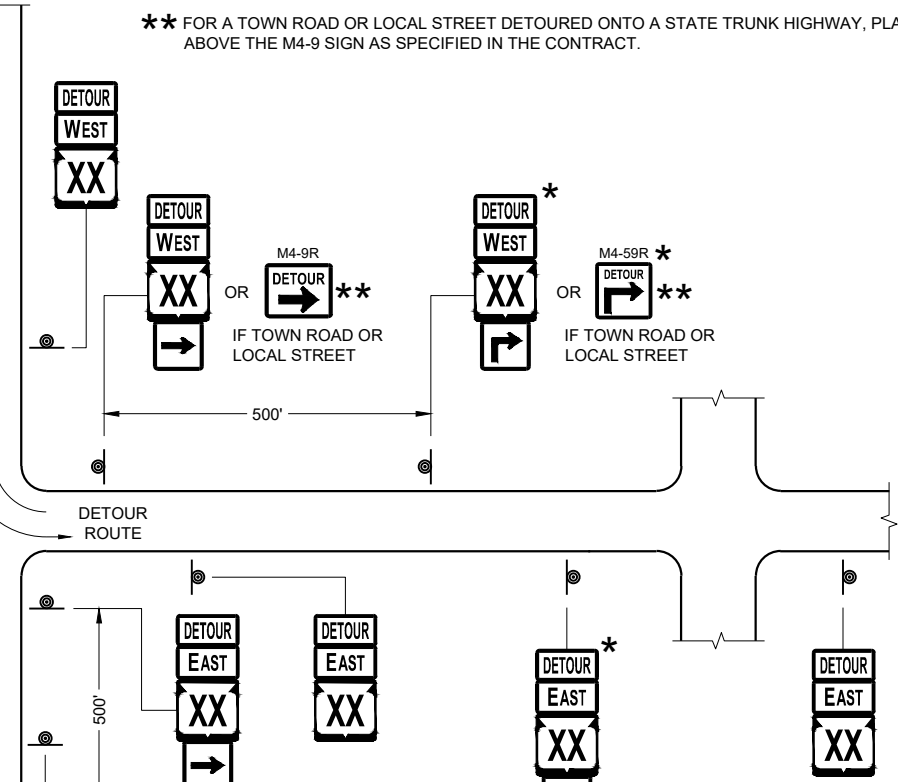
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

SIGN SIZES SHALL BE AS FOLLOWS:

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

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

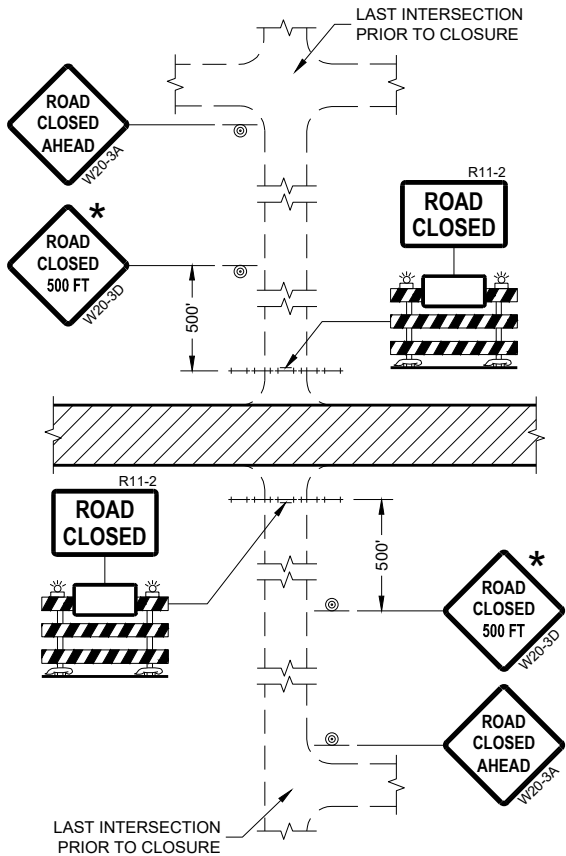


PLACE SIGNS BEYOND INTERSECTIONS
WITH STATE OR COUNTY TRUNK
HIGHWAYS OR AT 4 MILE MAXIMUM
SPACING (4 BLOCKS IF URBAN AREA)

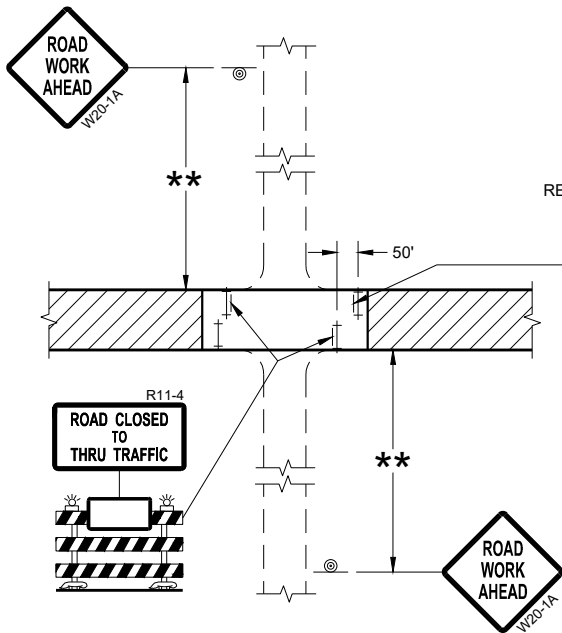
DETOUR SIGNING
FOR MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

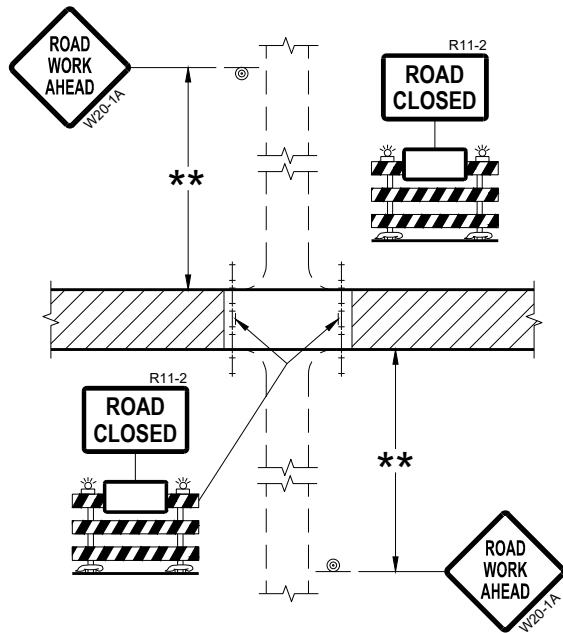
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DATE WORK ZONE ENGINEER 339
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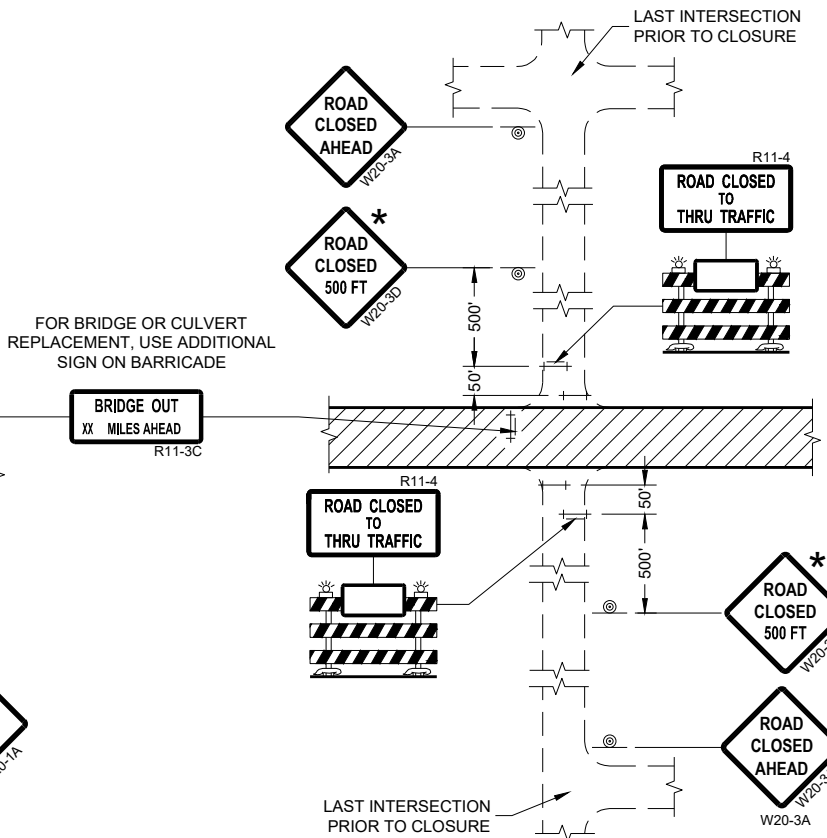
DETAIL 1
(NO ACCESS TO PROJECT)



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



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 (500 FEET DESIRABLE) 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 REESTABLISHED.

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

SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN 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 FEET OR LESS FROM THE WORK ZONE.
- ** 500' MAX. OR AT LAST INTERSECTION, WHICHEVER IS CLOSEST.

LEGEND

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

BARRICADES AND SIGNS FOR SIDEROAD CLOSURES

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GENERAL NOTES

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

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

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

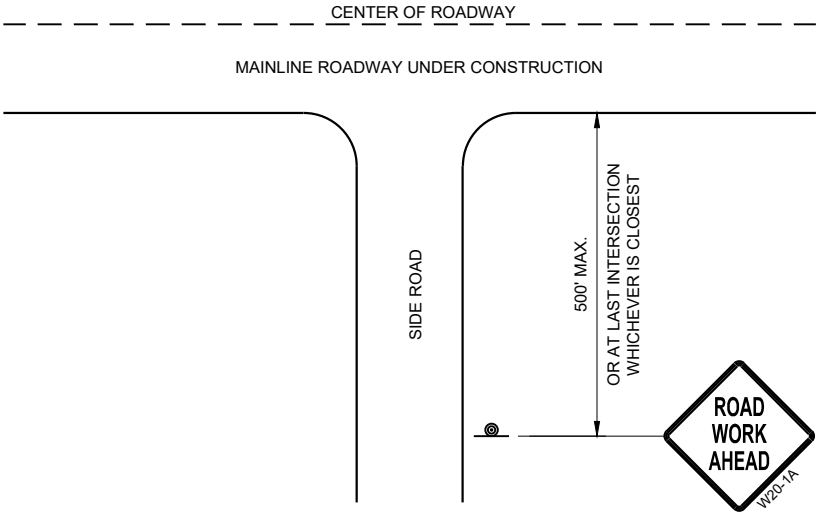
SIGNS THAT WILL BE IN PLACE LESS THAN SEVEN CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

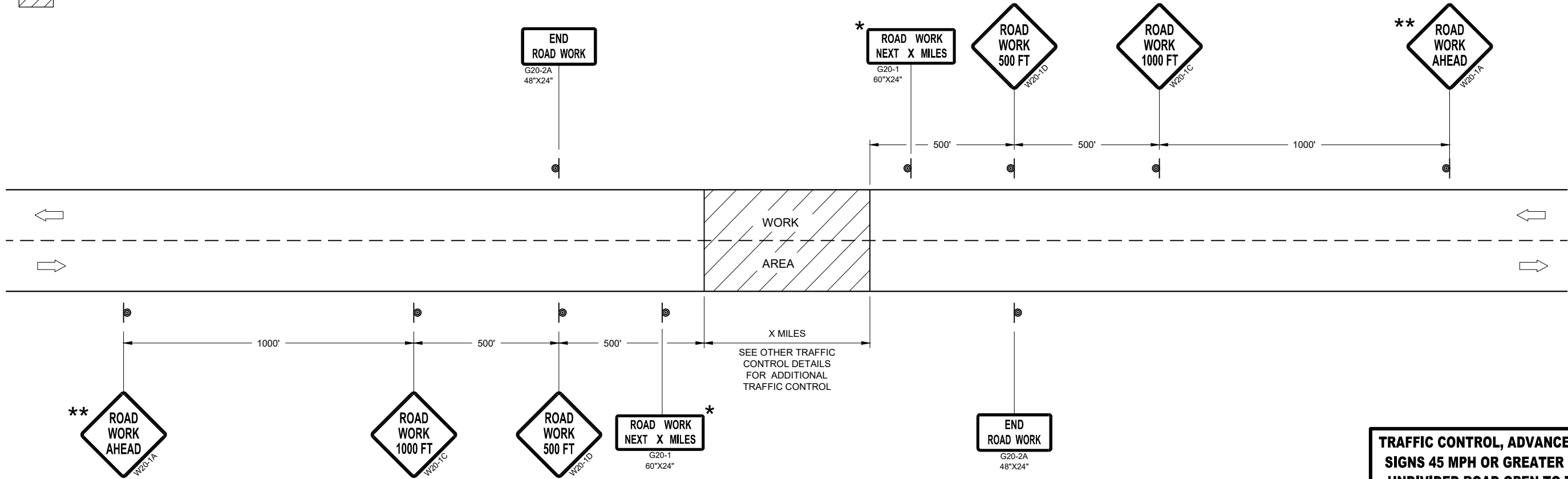
- * OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS
- ** PLACE AN ADDITIONAL W20-1A "ROAD WORK AHEAD" SIGN IF WORK AREA WITHIN THE PROJECT IS SEPARATED BY MORE THAN 2 MILES FROM PREVIOUS WORK AREA.

LEGEND

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



TYPICAL SIDE ROAD APPROACH
WARNING SIGN DETAIL

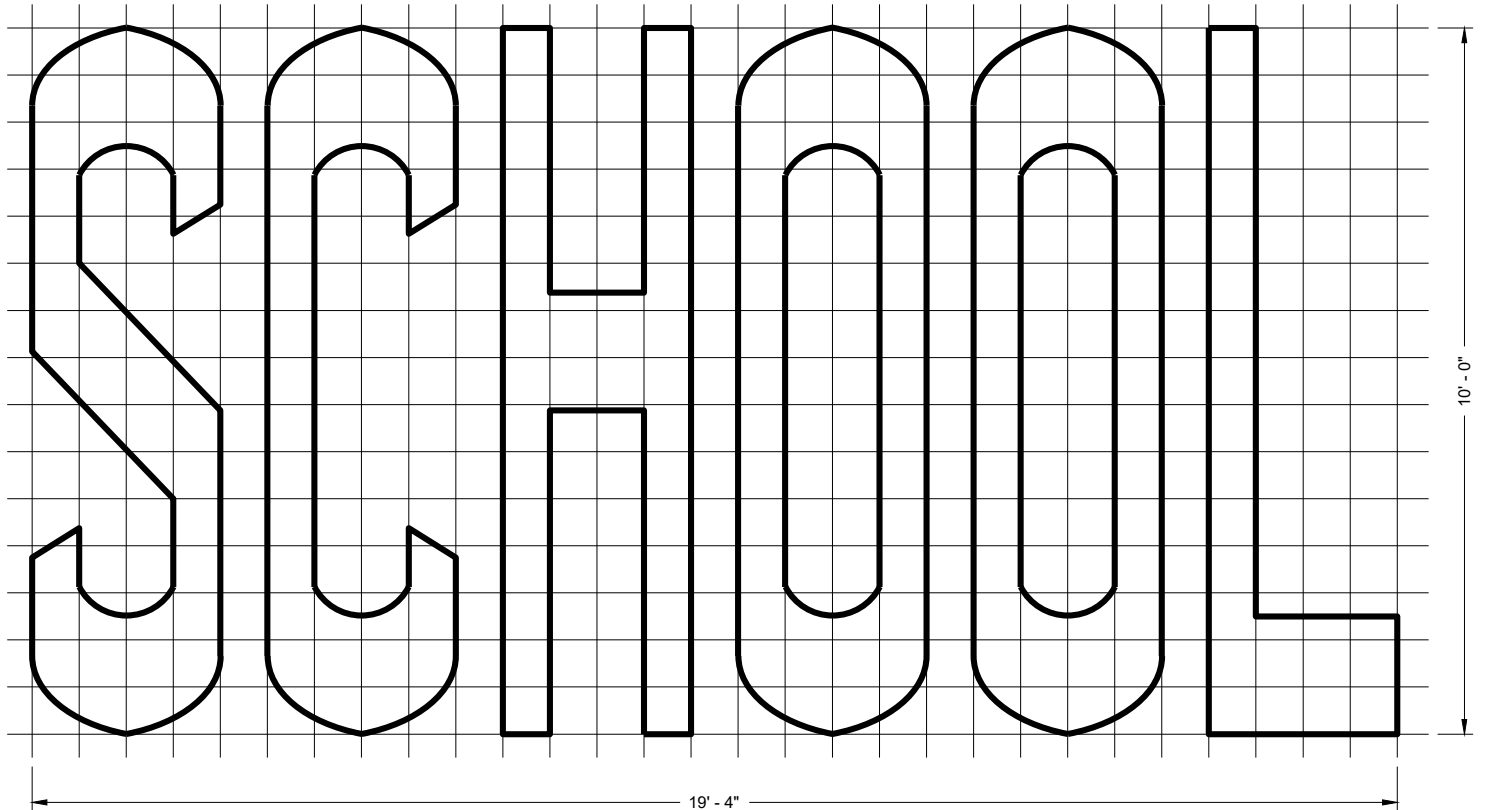
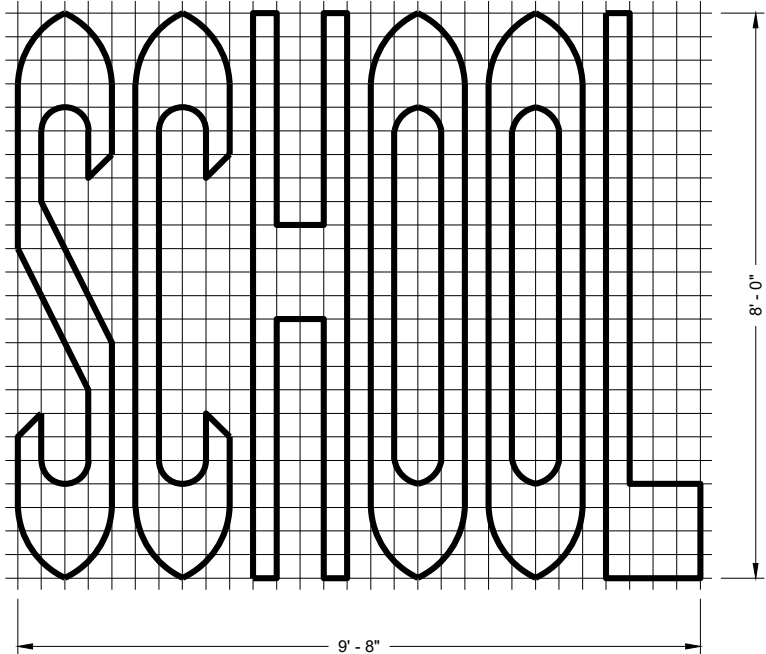
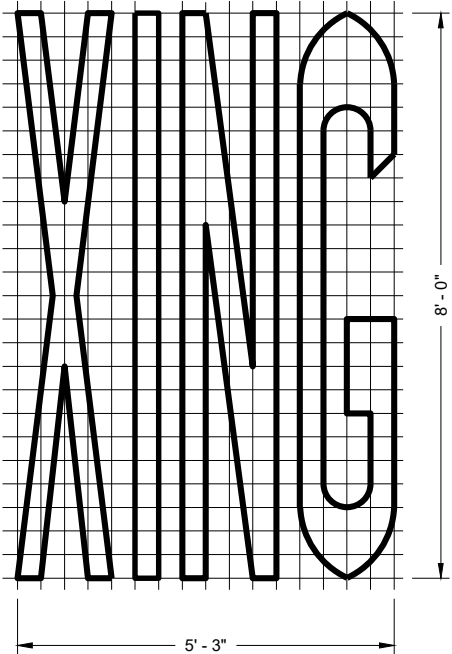
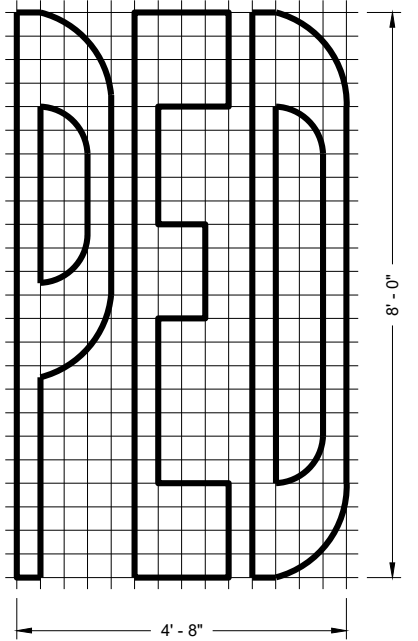
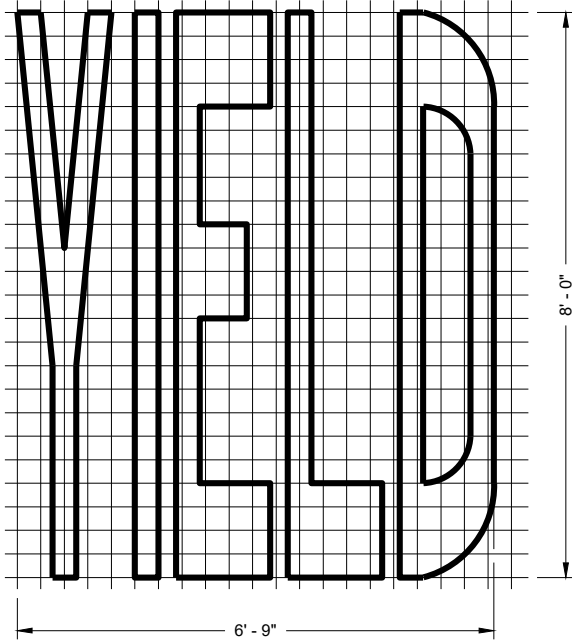
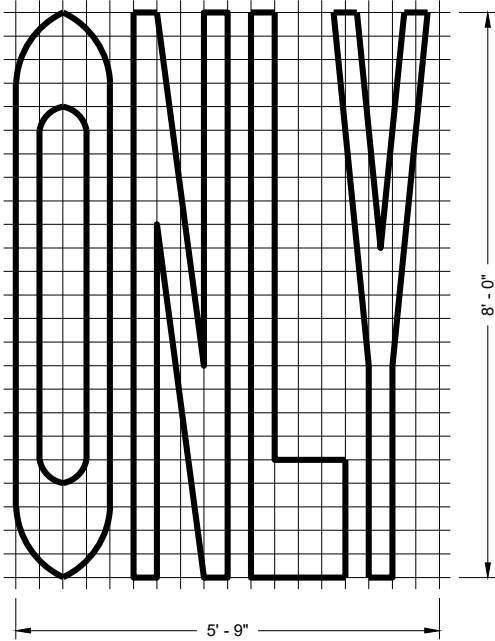
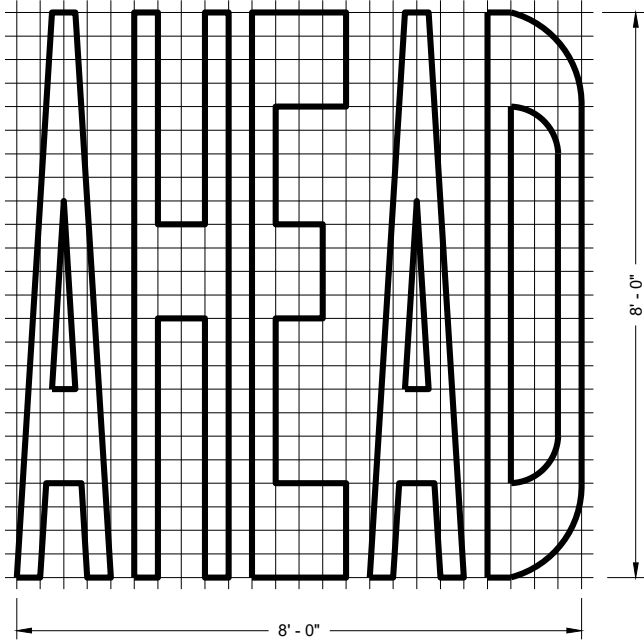
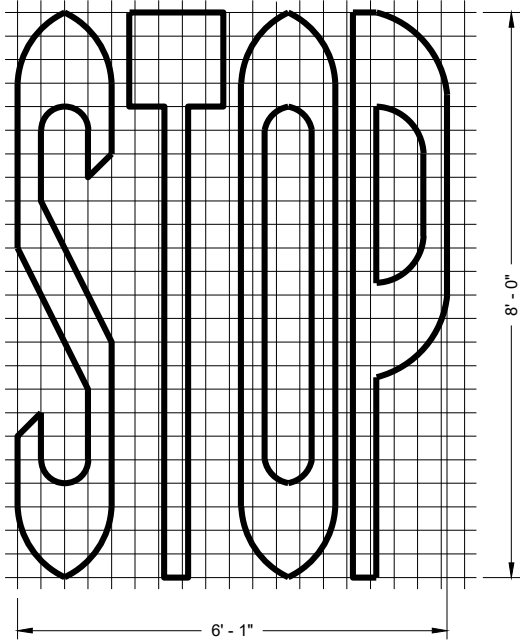


TRAFFIC CONTROL, ADVANCE WARNING SIGNS 45MPH OR GREATER

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

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SINGLE LANE

TWO - LANE

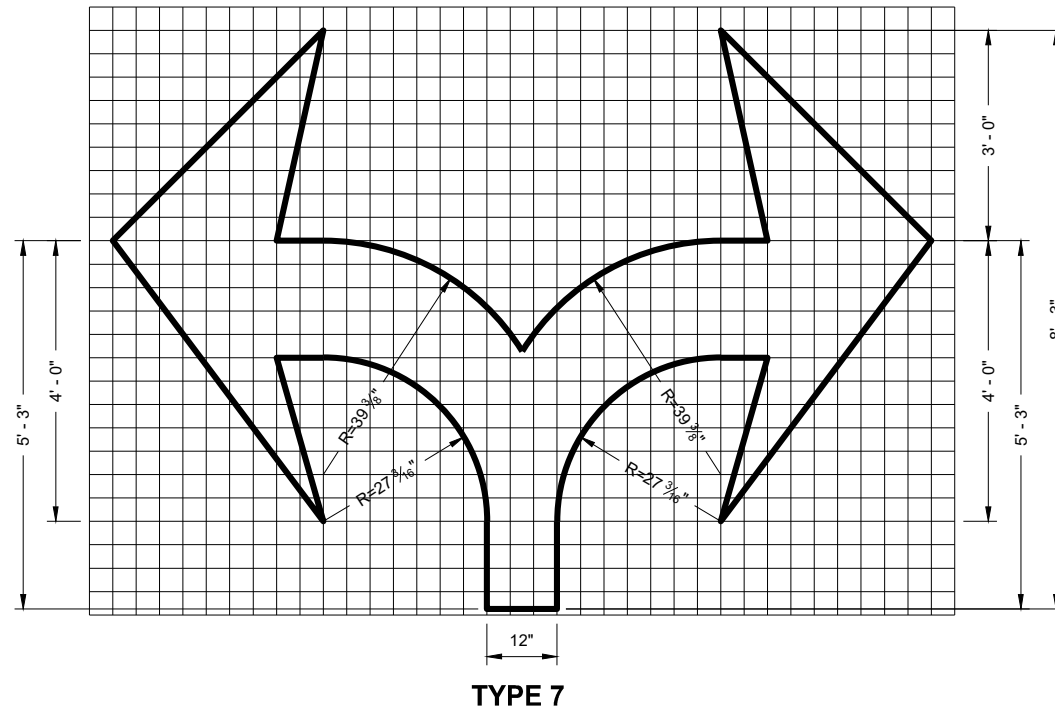
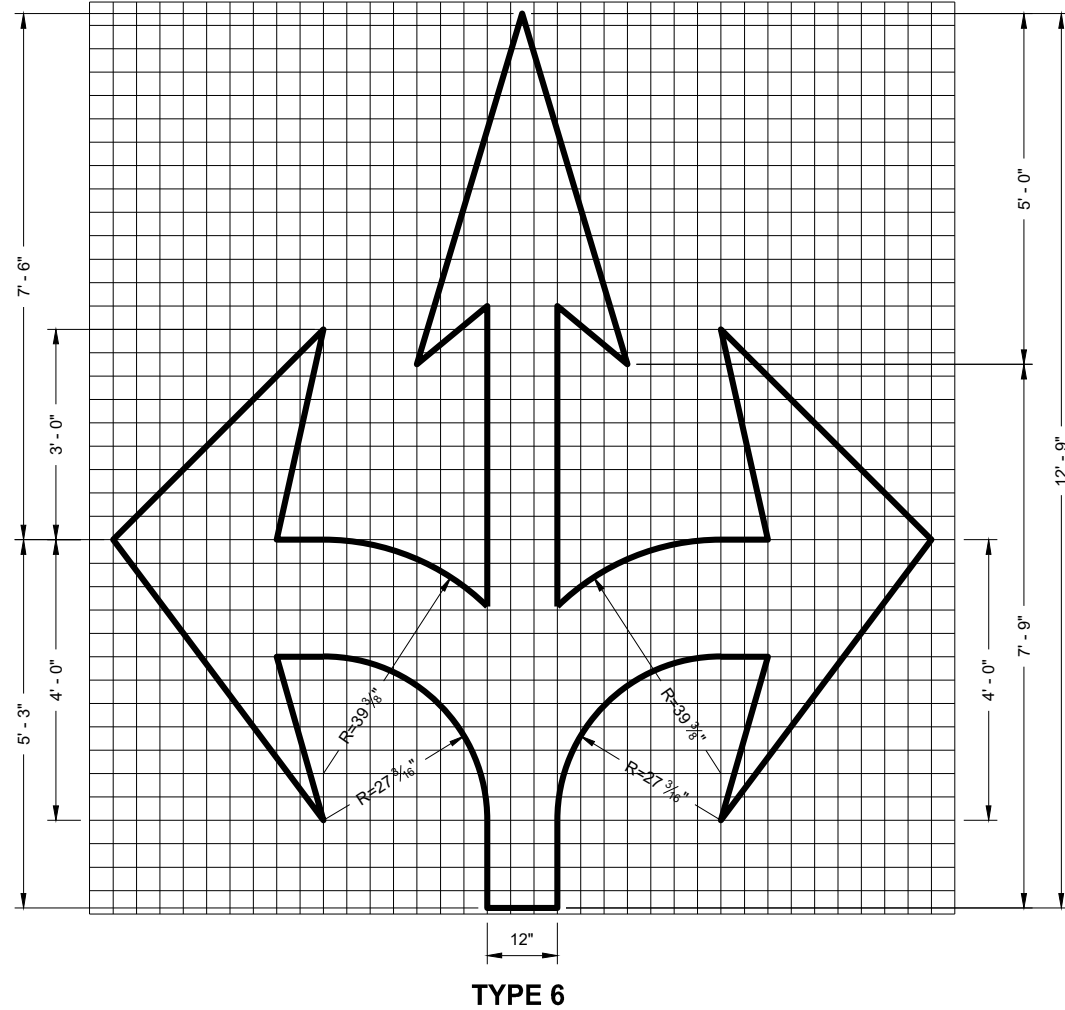
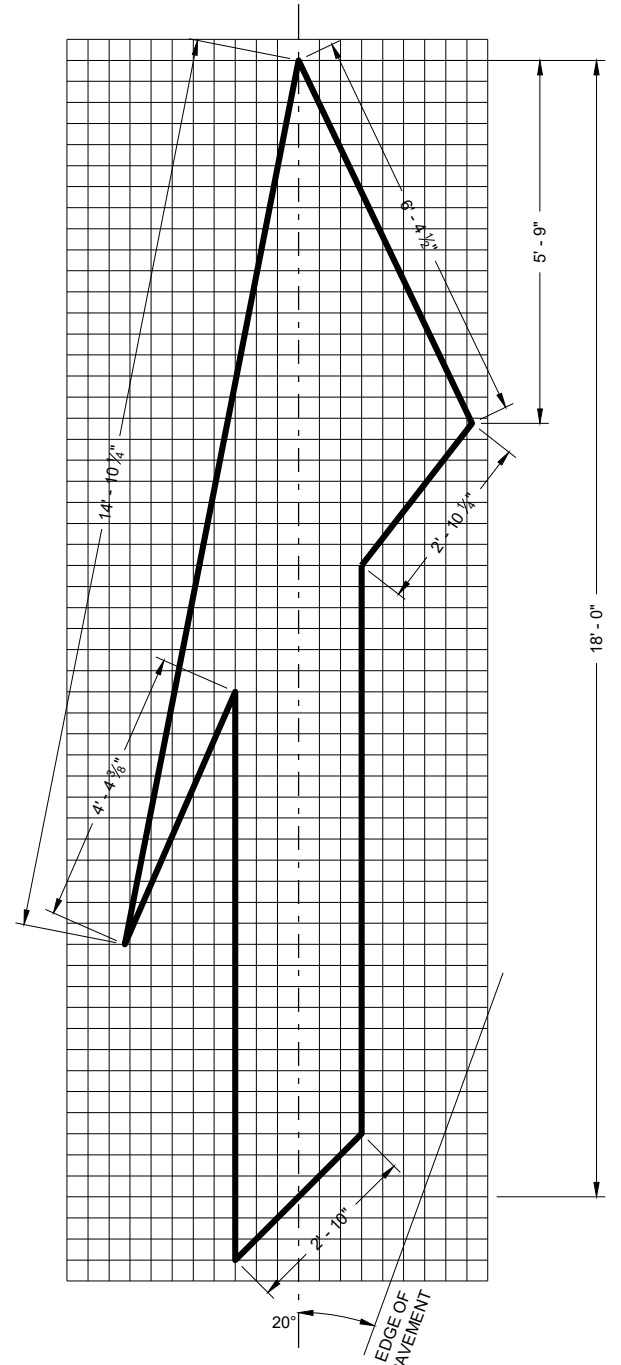
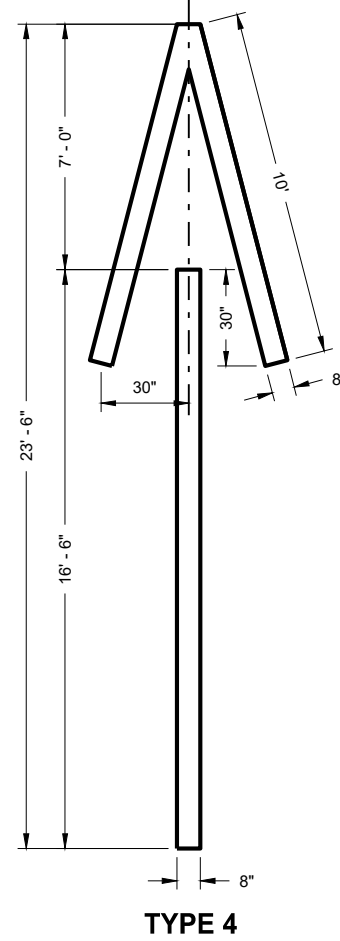
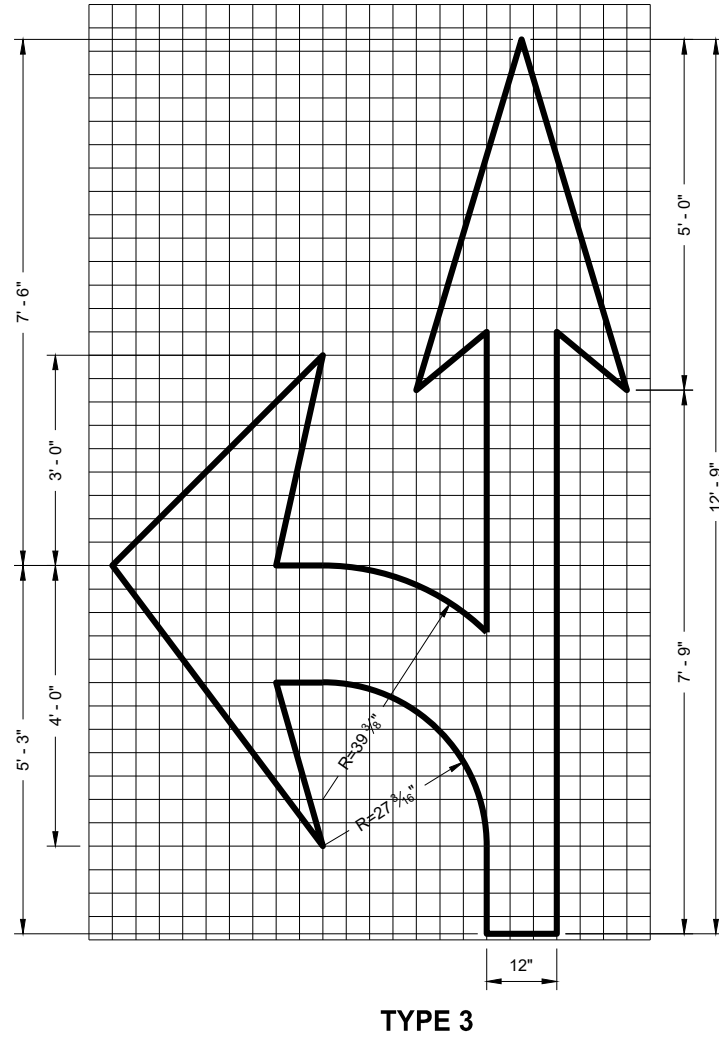
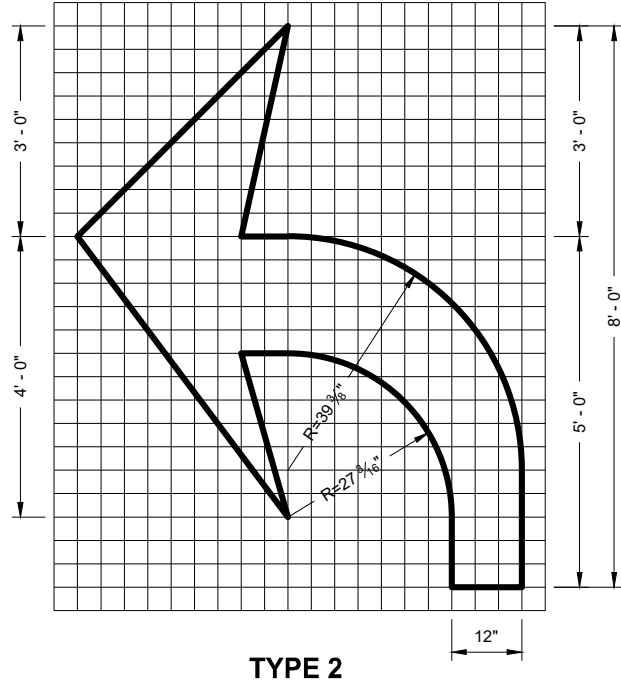
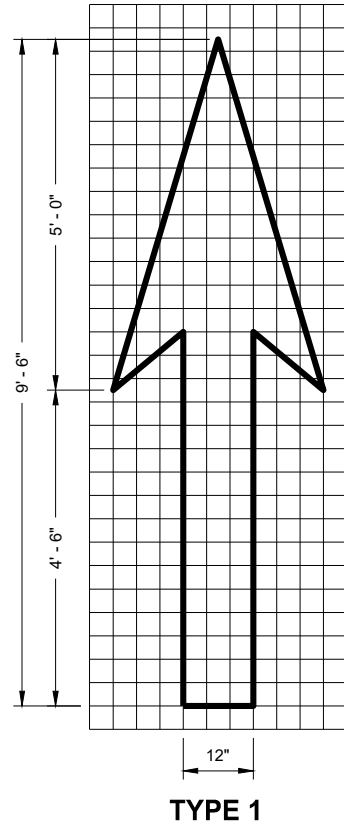
GENERAL NOTES

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

PAVEMENT MARKING WORDS

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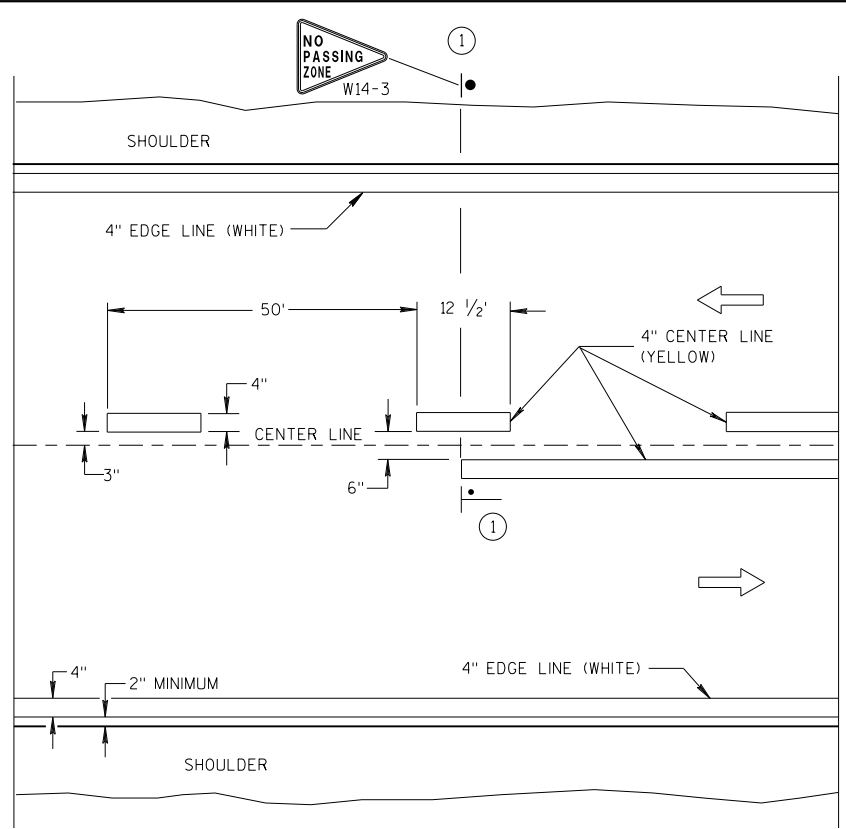
GENERAL NOTES

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

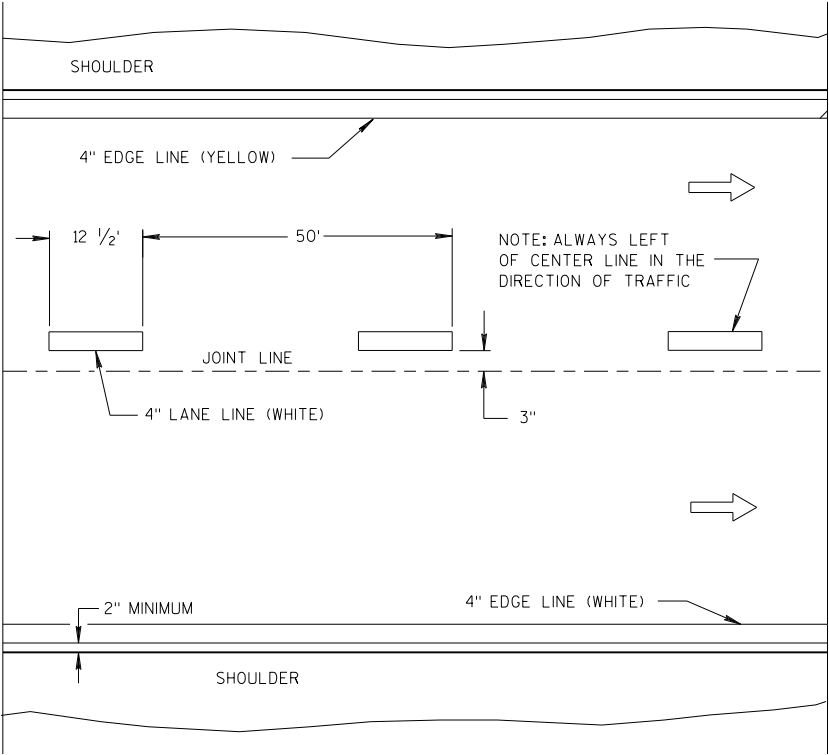
PAVEMENT MARKING ARROWS

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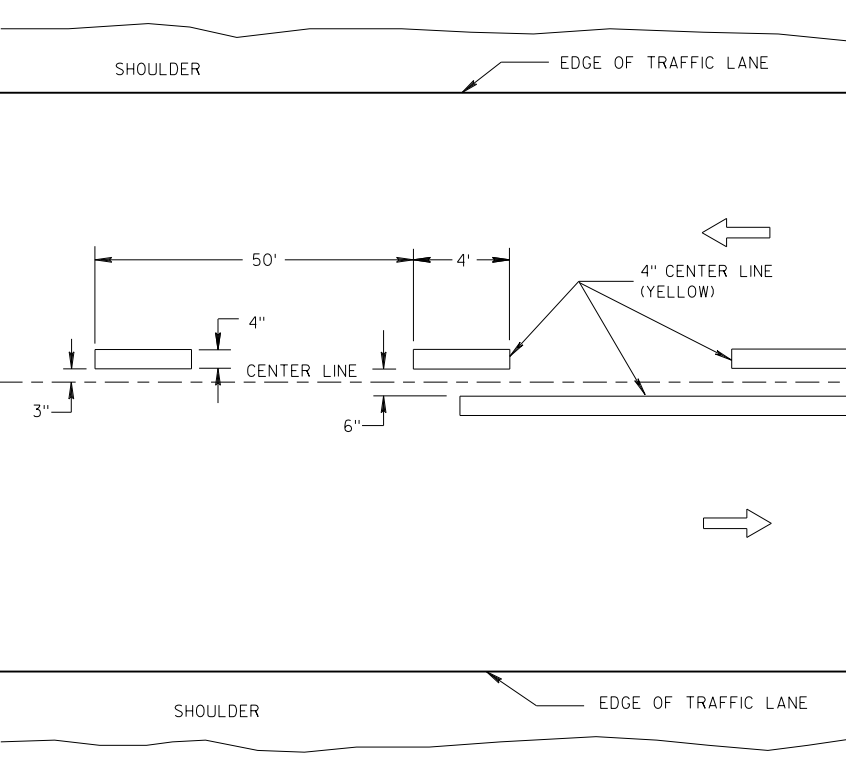


TWO WAY TRAFFIC

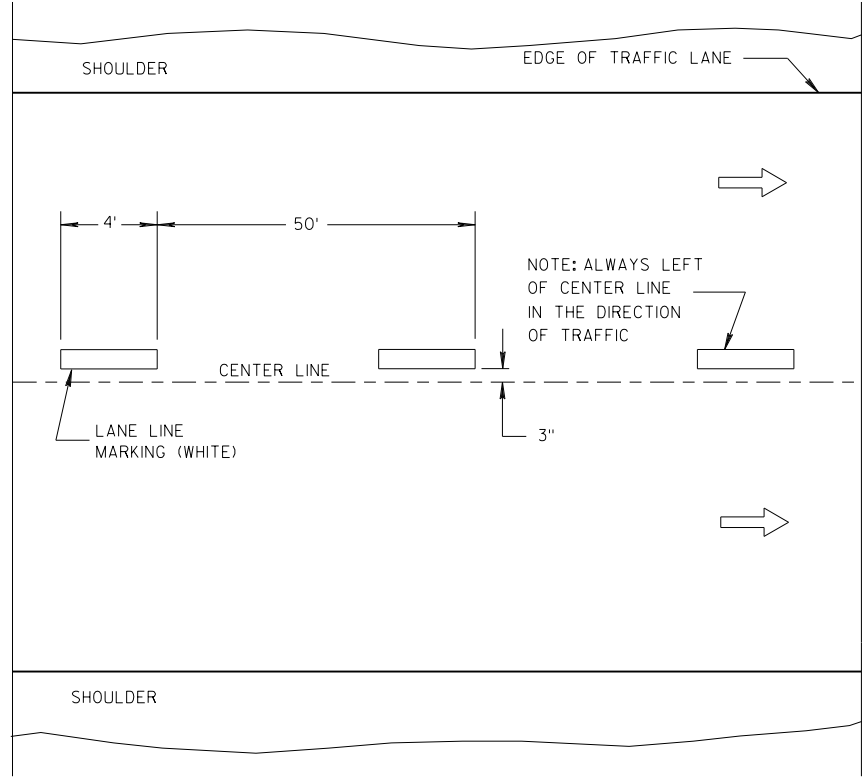


ONE WAY TRAFFIC

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

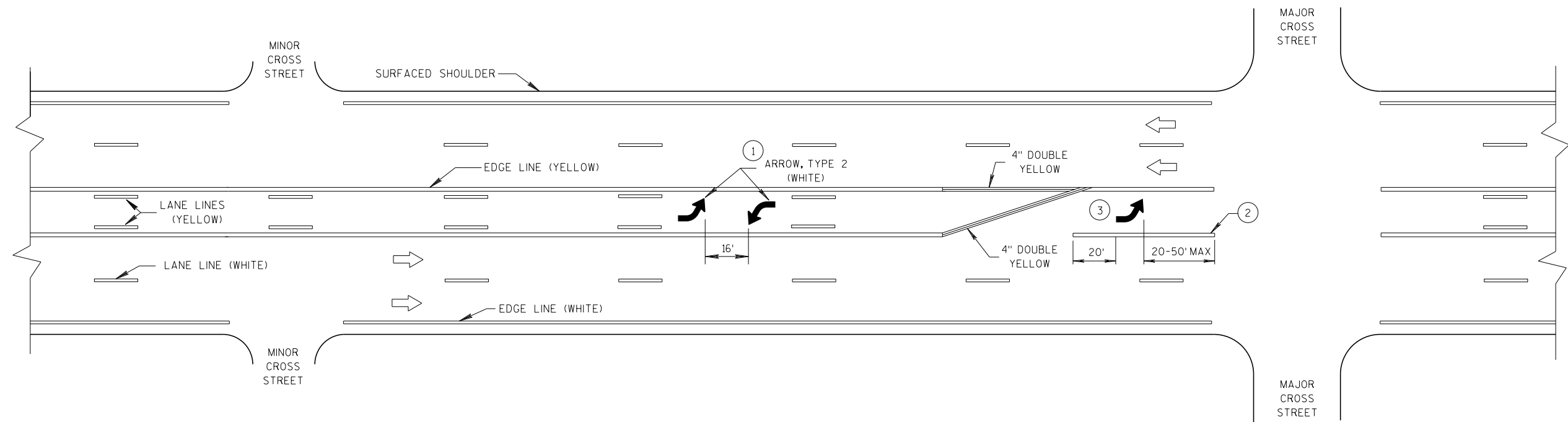
- "T" MARKING
- POST MOUNTED SIGN

LONGITUDINAL MARKING (MAINLINE)			
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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

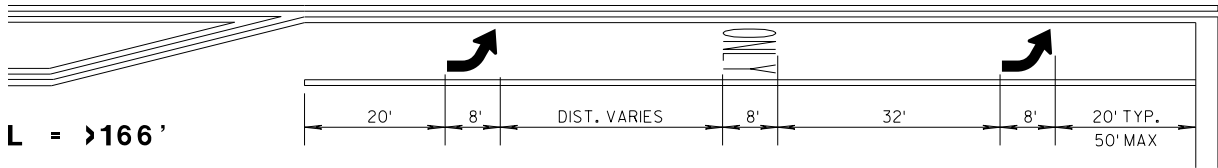
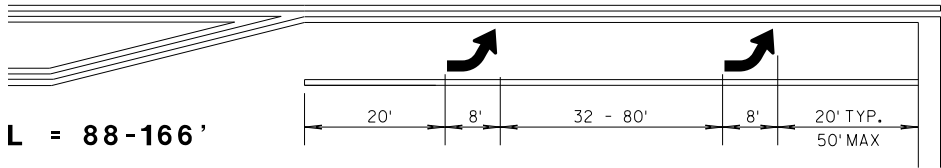
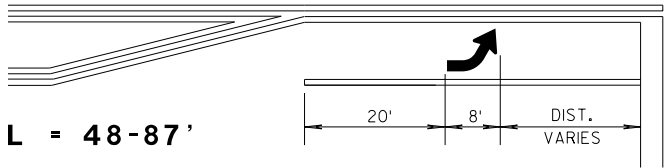
➔ DIRECTION OF TRAFFIC



TWO WAY LEFT TURN LANE

TURN LANE OPTIONS

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



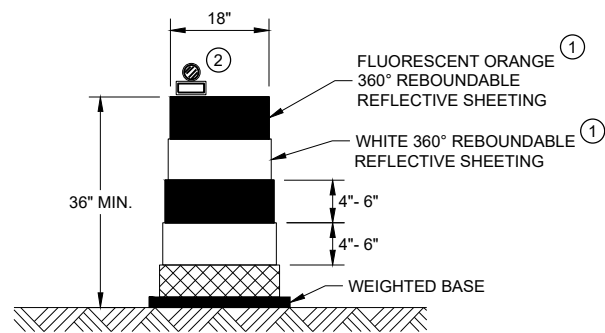
*(SEE TURN LANE OPTIONS FOR PLACEMENT OF PAVEMENT MARKING ARROWS AND WORDS)

GENERAL NOTES

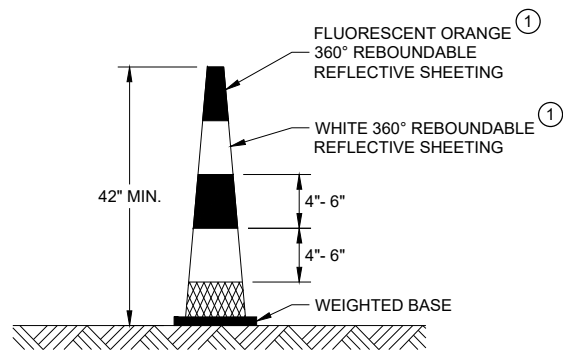
- ① 8" WHITE
- ② QUANTITY AND LOCATION OF TYPE 3 ARROW ARE THE SAME AS THE TYPE II ARROWS IN THE ADJACENT TURN LANE. FOR TURN LANES WITH A PHYSICAL SEPARATION, THE ARROWS AND ONLY MARKING ARE ELIMINATED.

→ DIRECTION OF TRAFFIC
L = LENGTH OF TURN BAY

PAVEMENT MARKING (TURN LANES)
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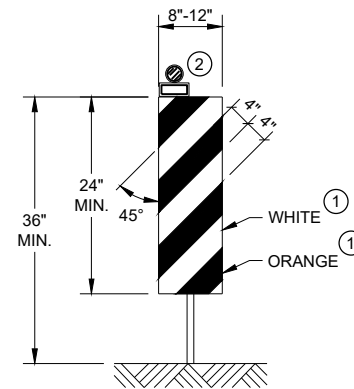


DRUM



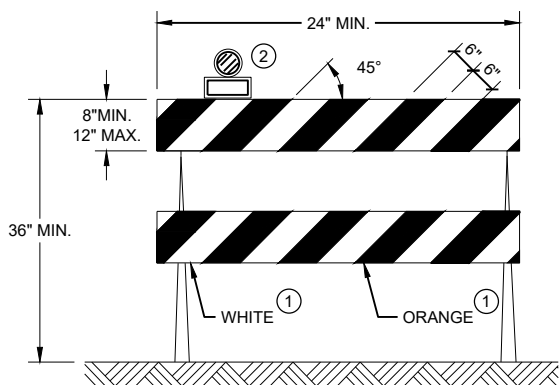
42" CONE

DO NOT USE IN TAPERS
½ SPACING OF DRUMS



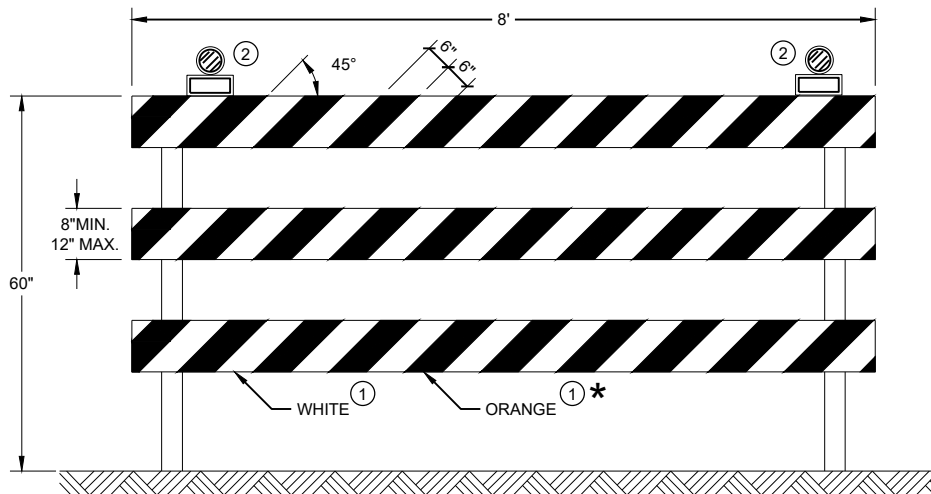
VERTICAL PANEL

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



TYPE II BARRICADE

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



TYPE III BARRICADE

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

* IF USED FOR A PERMANENT APPLICATION USE RED SHEETING.

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.

CHANNELIZING DEVICES DRUMS, CONES, BARRICADES AND VERTICAL PANELS	
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LEGEND

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

GENERAL NOTES

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

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

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

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

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

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

FLAGGING

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

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

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

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

TEMPORARY PORTABLE RUMBLE STRIPS

UTILIZE TEMPORARY PORTABLE RUMBLE STRIPS ON ALL FLAGGING OPERATIONS.

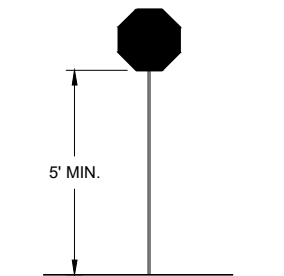
③ EACH TEMPORARY PORTABLE RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

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

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

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



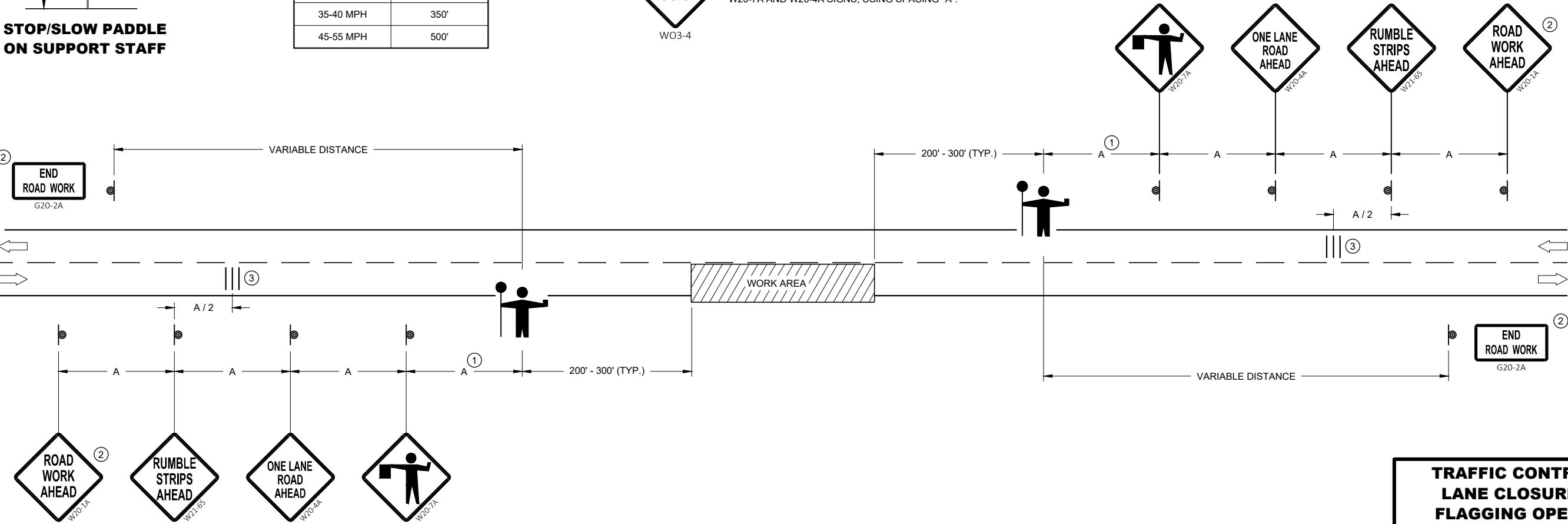
STOP/SLOW PADDLE ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

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



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



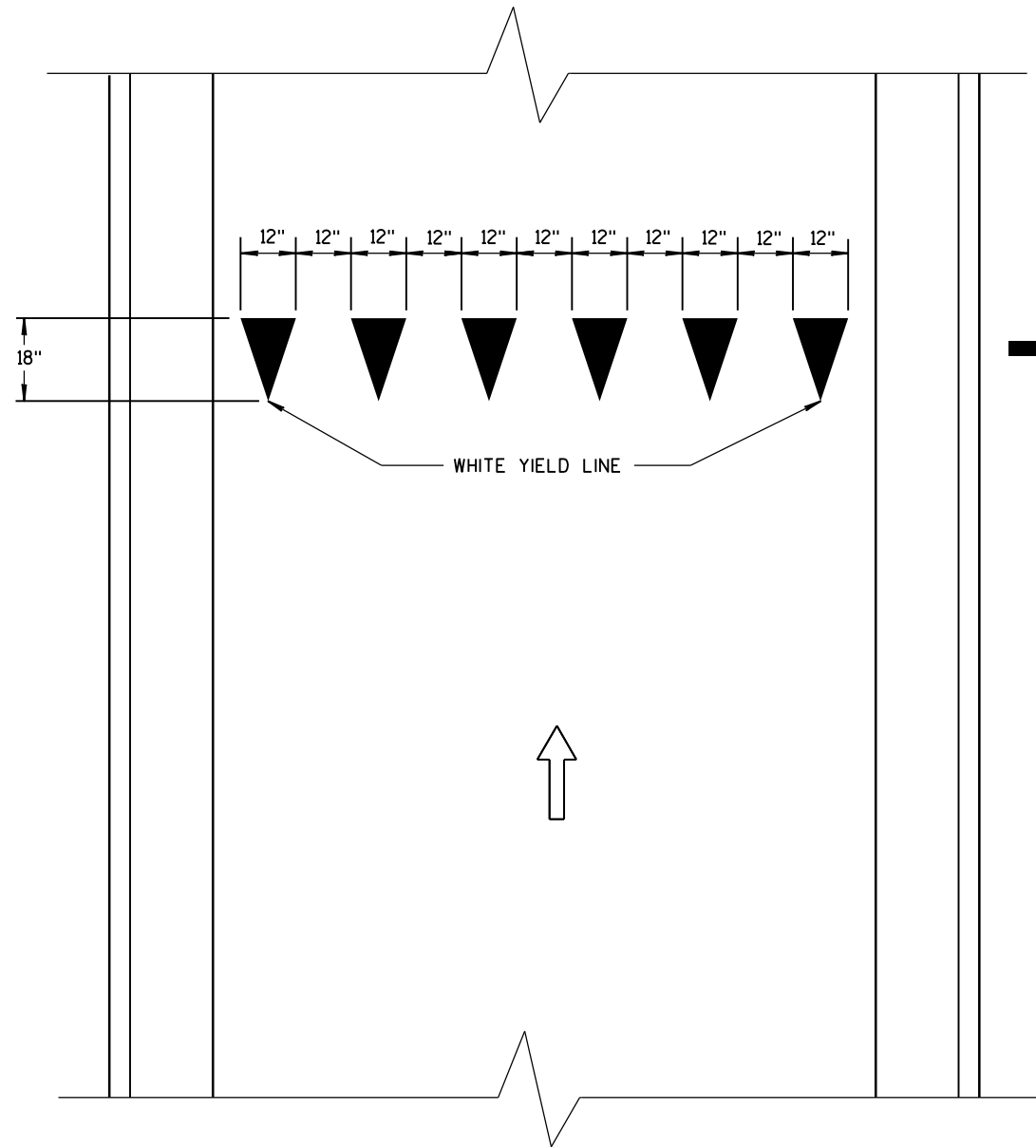
TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

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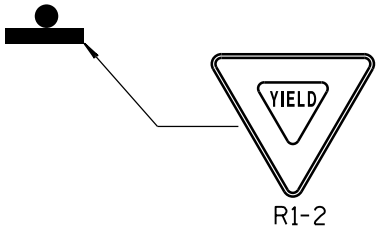
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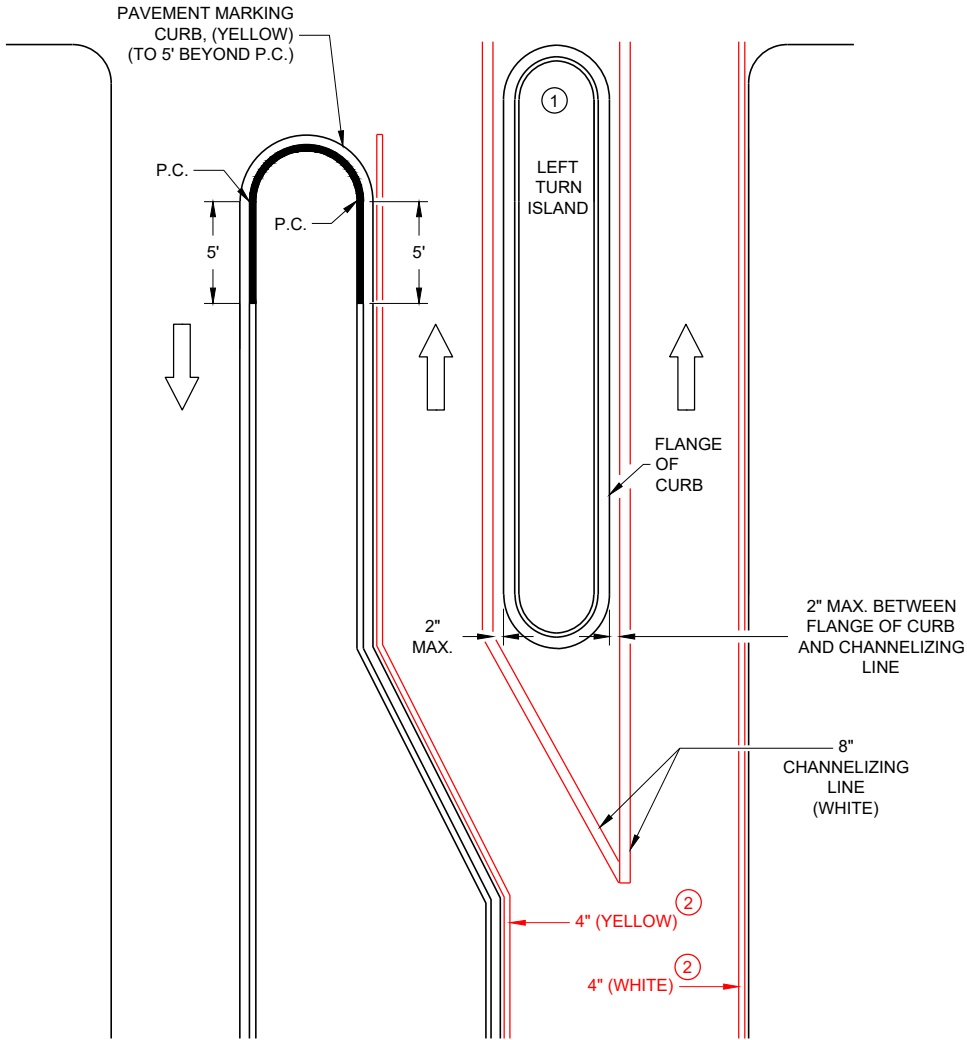
YIELD LINE

DIRECTION OF TRAVEL



YIELD MARKINGS			
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION			
APPROVED			
4-18-2016	/S/ Matthew R. Rauch		
DATE	STATE SIGNING AND MARKING	349	IEER
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REQUIREMENTS FOR EDGE LINES		
POSTED SPEED	IS THERE CONTINUOUS LIGHTING?	
	YES	NO
≤ 30 MPH	NO	OPTIONAL
35 OR 40 MPH	OPTIONAL	RECOMMENDED
≥ 45 MPH	RECOMMENDED	REQUIRED



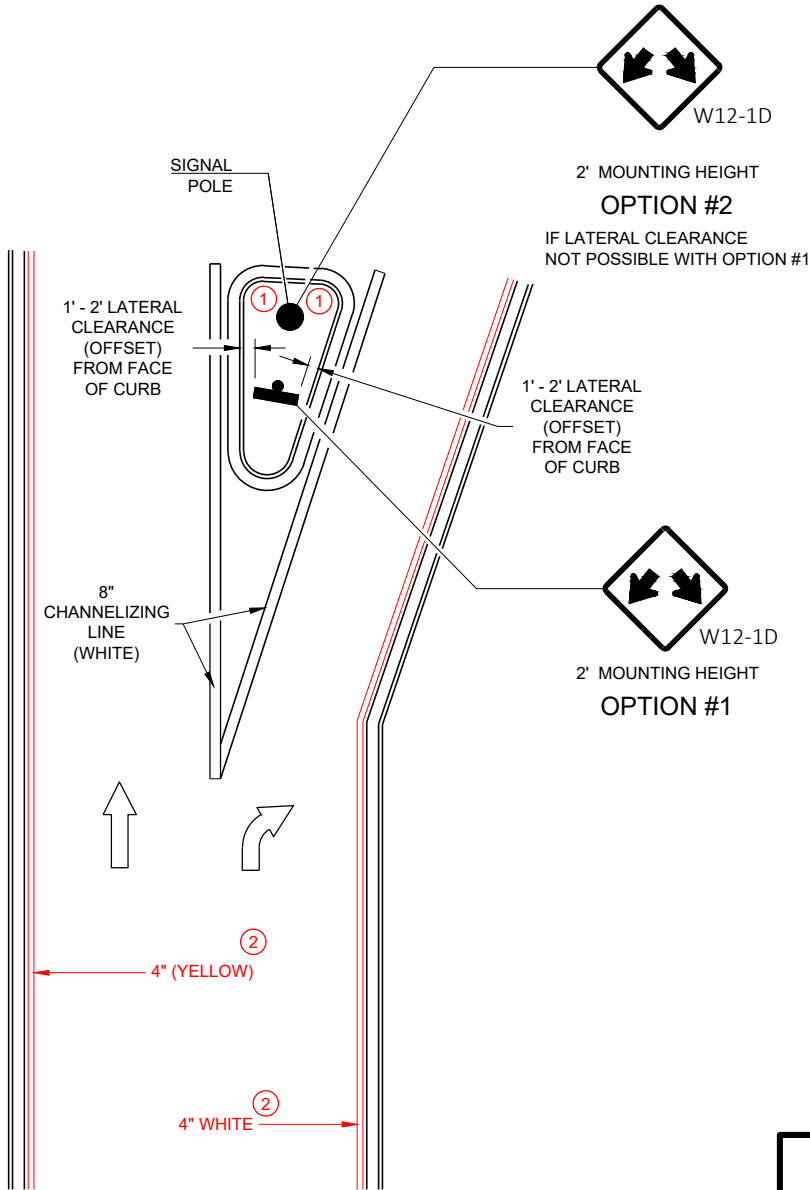
LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

APPLIES TO ISLANDS AT LEFT TURNS AT ONE WAY ROADWAYS AS WELL.
SEE MISCELLANEOUS QUANTITIES FOR SIGN SIZE.

- ① MARK CURB NOSES YELLOW.
- ② MARK ACCORDING TO TABLE.

➡ DIRECTION OF TRAVEL



RIGHT TURN ISLAND

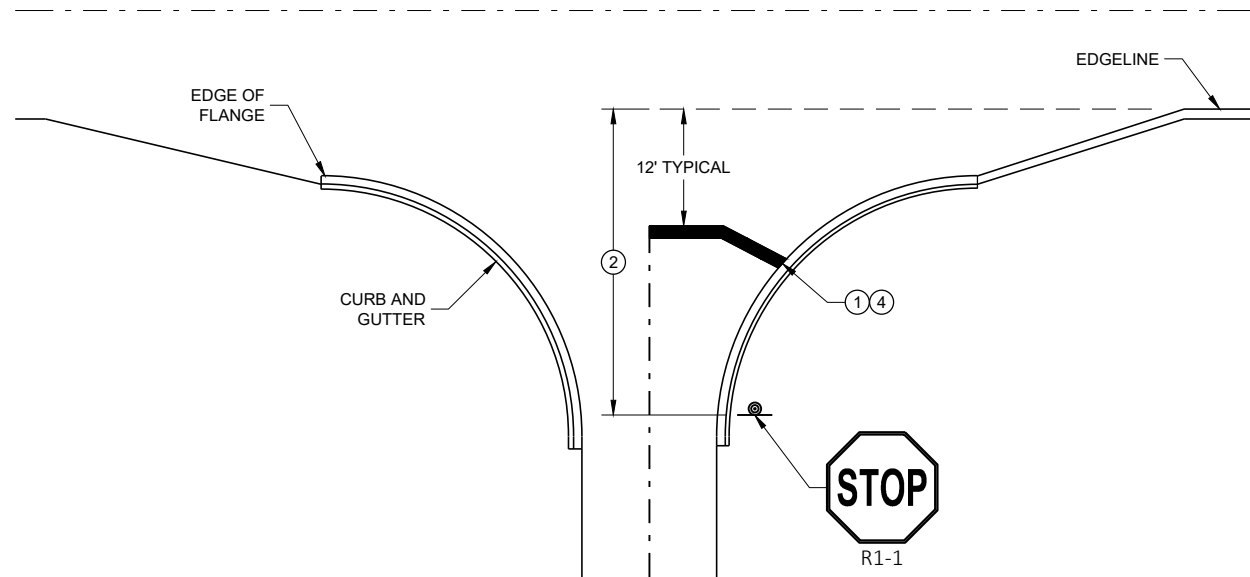
DOUBLE ARROW
WARNING SIGN PLACEMENT

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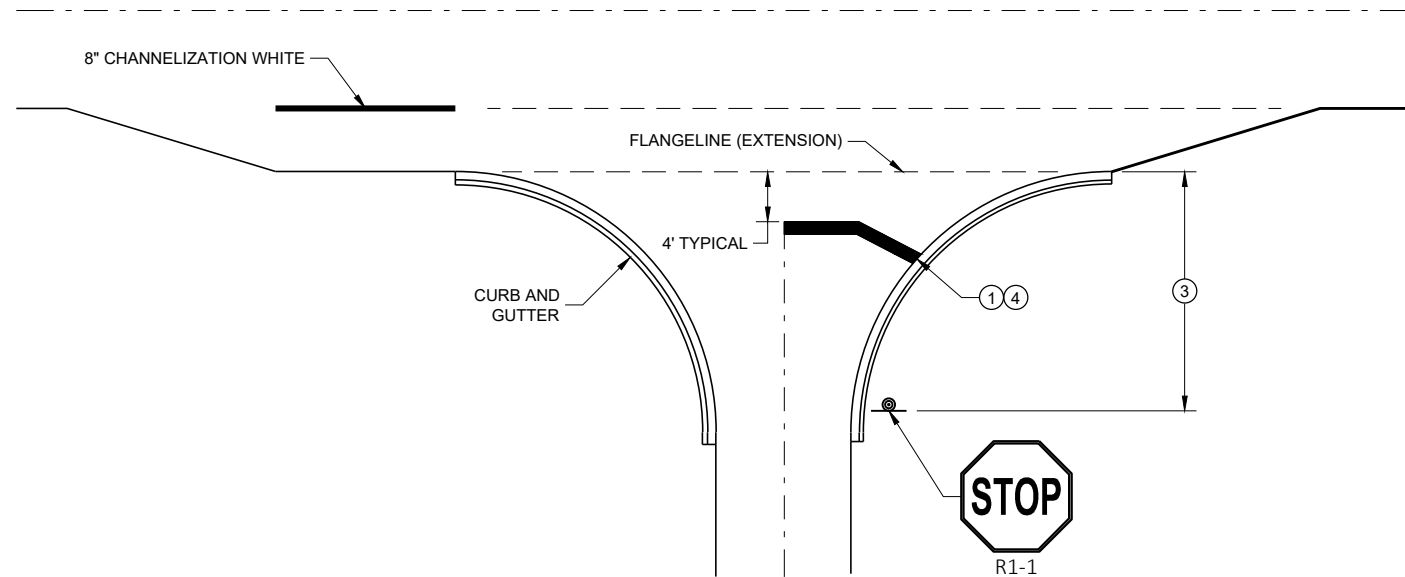
APPROVED
7/2018
DATE

/S/ Matthew R. Rauch
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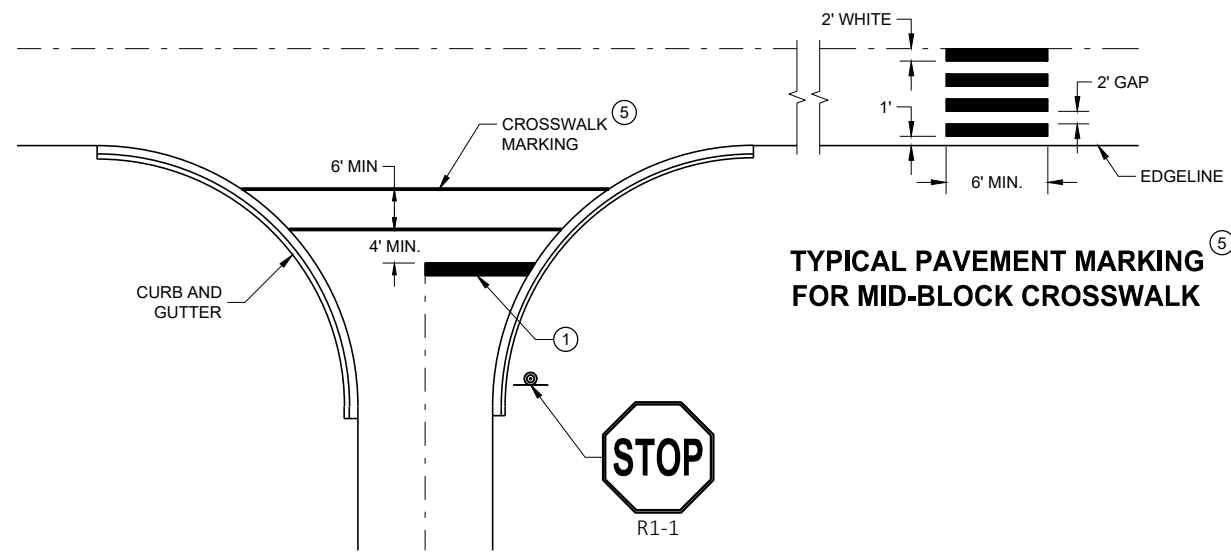
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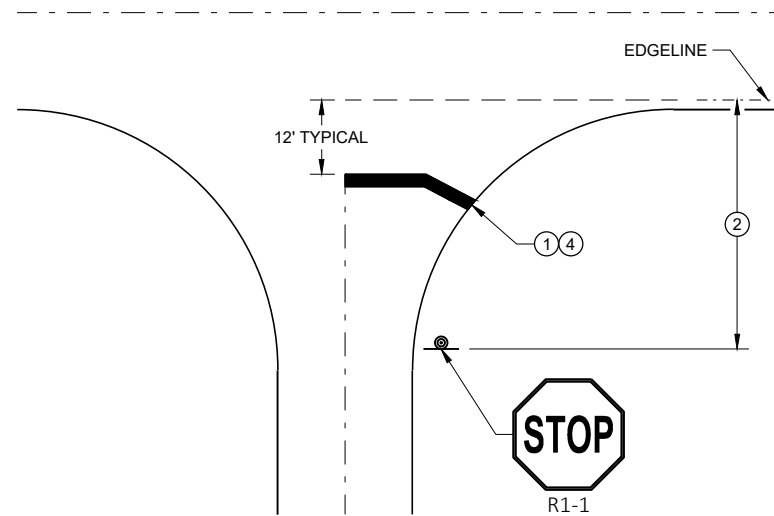
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

GENERAL NOTES

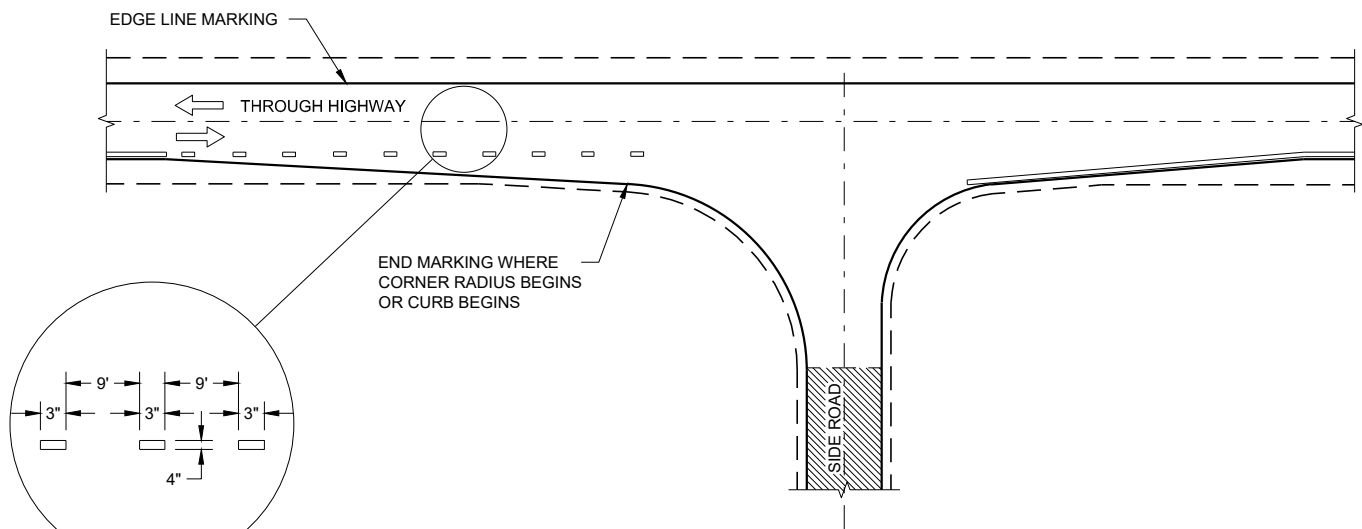
STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGE LINE LOCATION.

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

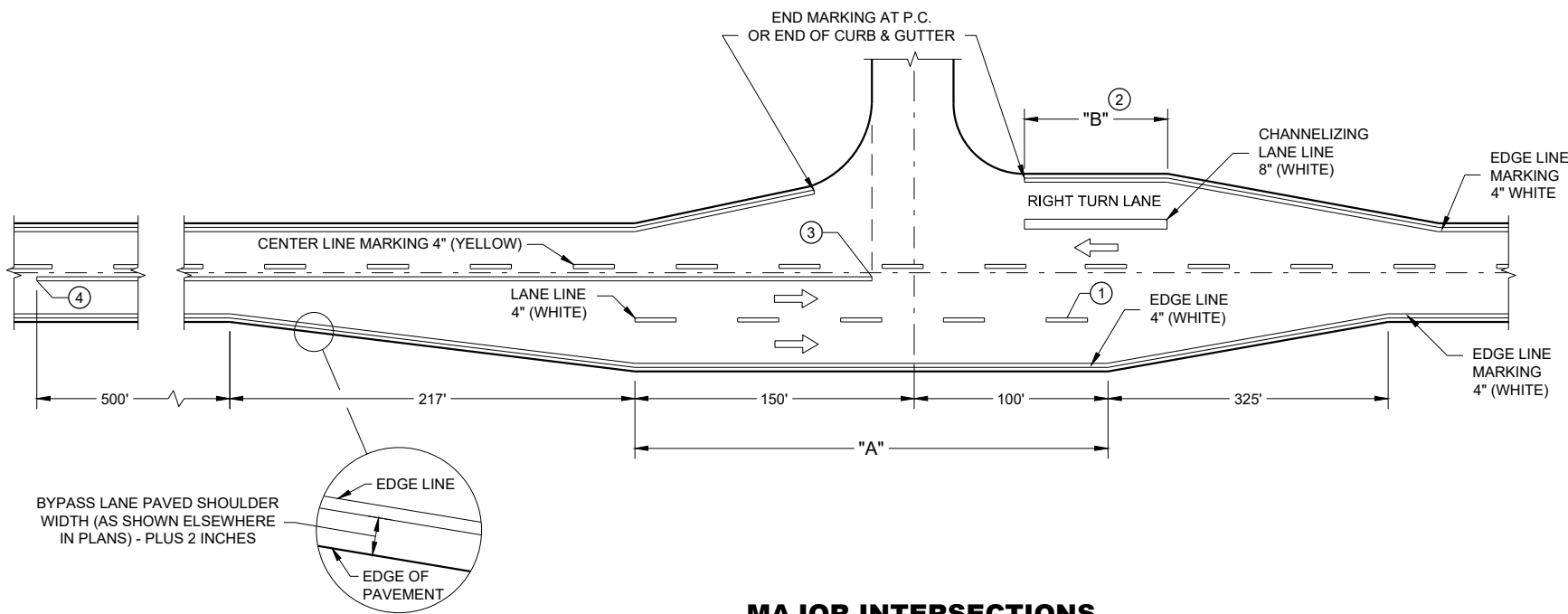
STOP LINE AND CROSSWALK PAVEMENT MARKING

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MINOR INTERSECTION



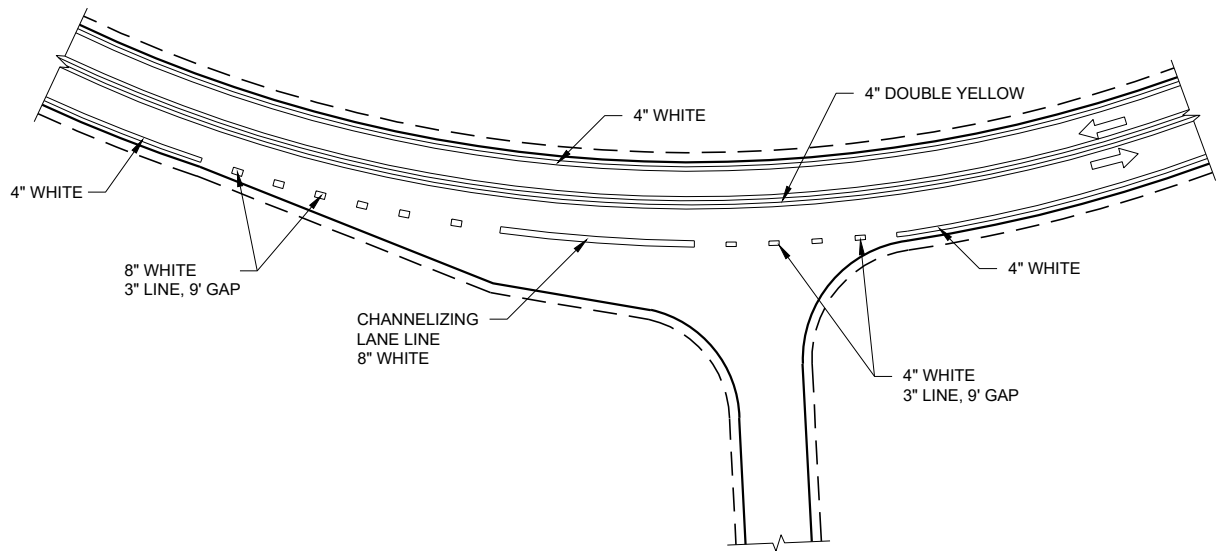
MAJOR INTERSECTIONS
(INTERSECTION WITH FULL RIGHT TURN LANE OR BYPASS LANE)

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

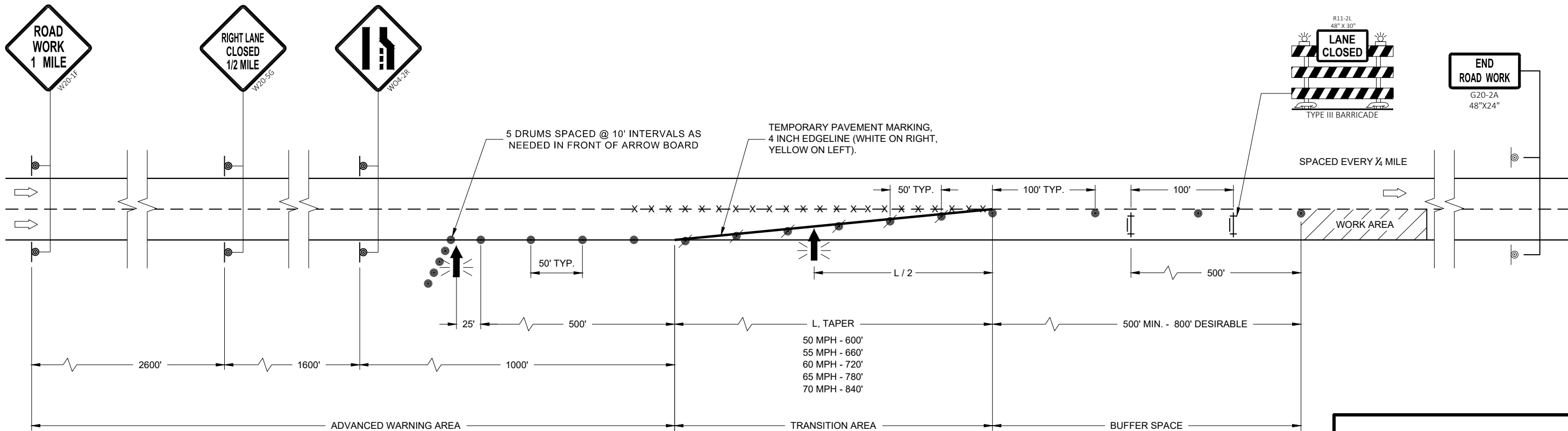
ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS

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

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

LEGEND

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

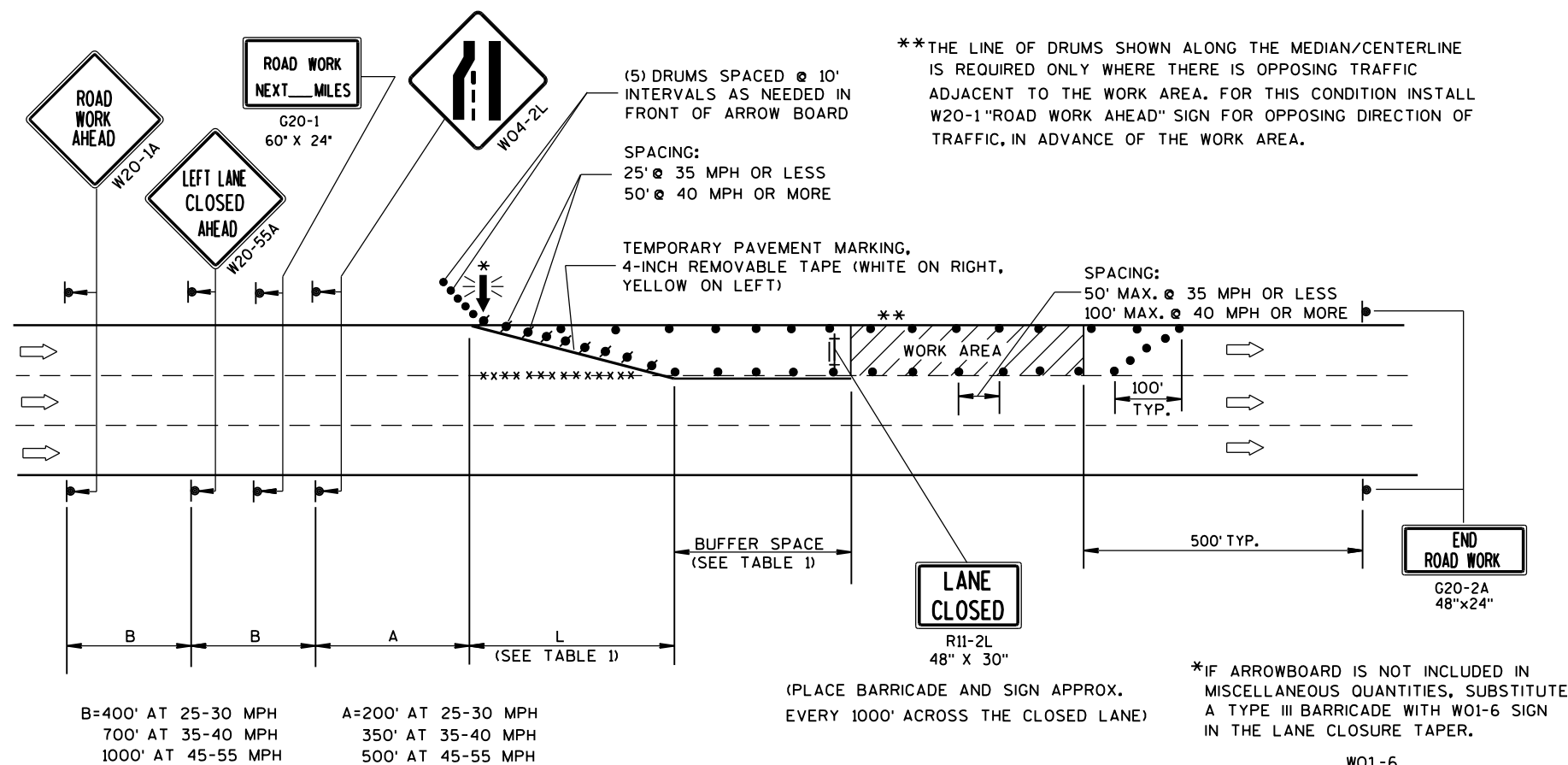


TRAFFIC CONTROL
LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 353

FHWA



GENERAL NOTES

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE. FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

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

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

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

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

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

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

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

ON UNDIVIDED ROADWAYS, OMIT THE SIGNS SHOWN ON LEFT SIDE OF ROAD.

W20-1A, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

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

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROWBOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROWBOARDS AND LANE CLOSURE DRUMS.

PLACE THE ARROWBOARD AS CLOSE AS POSSIBLE TO THE BEGINNING OF THE LANE CLOSURE TAPER, PREFERABLY ON THE SHOULDER OR TERRACE.

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

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

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

TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 /S/ Peter Amakobe Atepe
DATE STATEWIDE WORK ZONE SAFETY ENGINEER 354 IC
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.

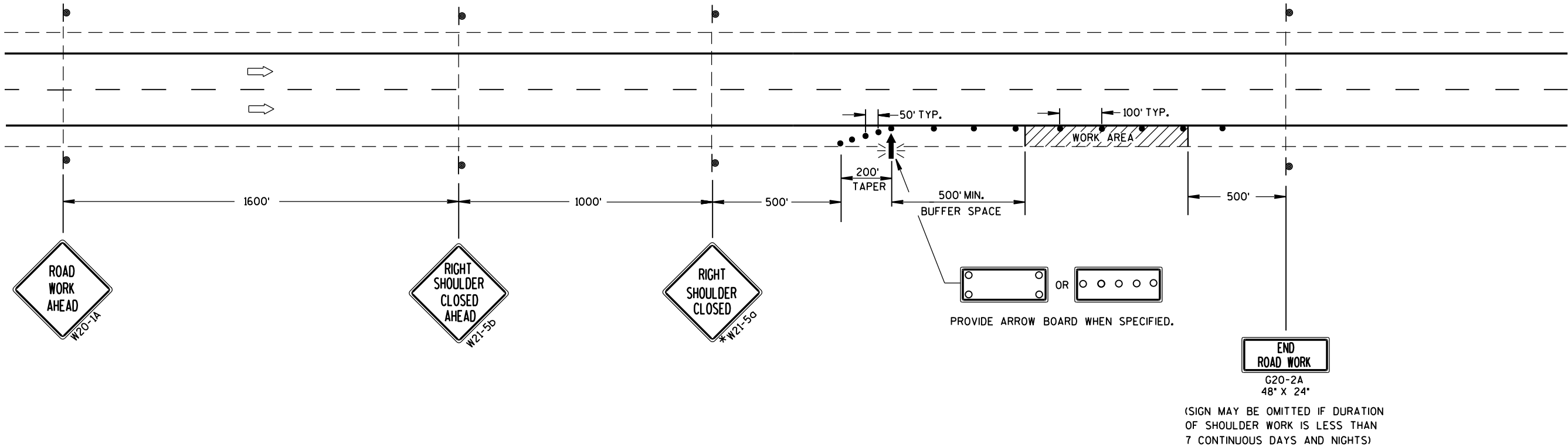
SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

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.

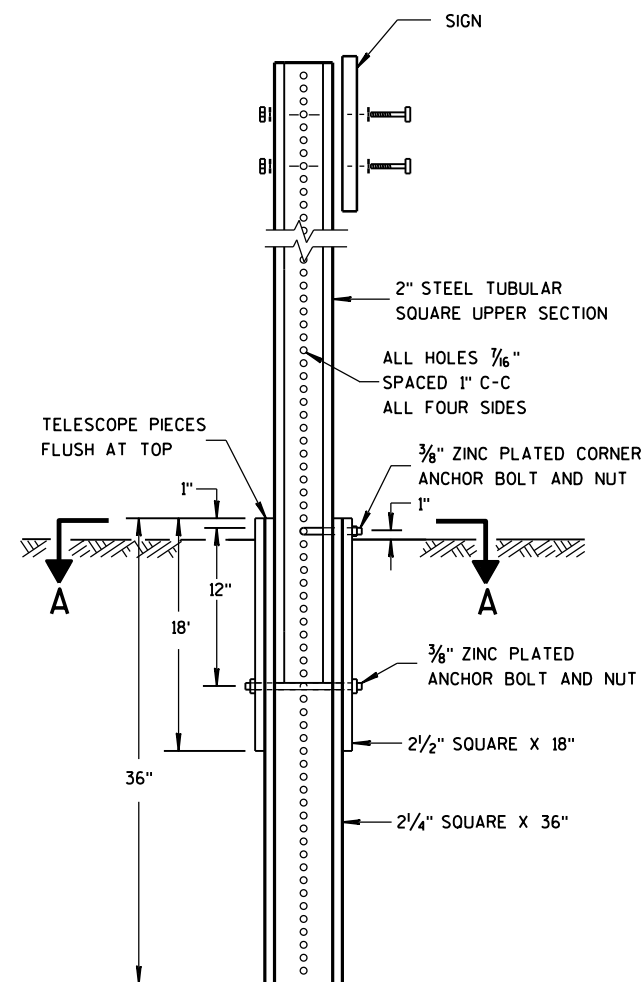
CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

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	355	IC
FHWA	SAFETY ENGINEER		

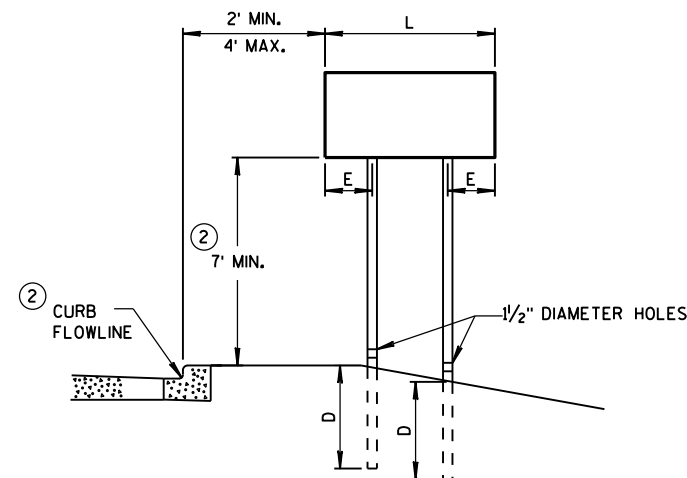
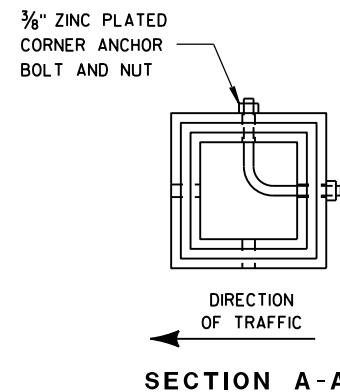


DETAIL OF TUBULAR STEEL SIGN POST

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

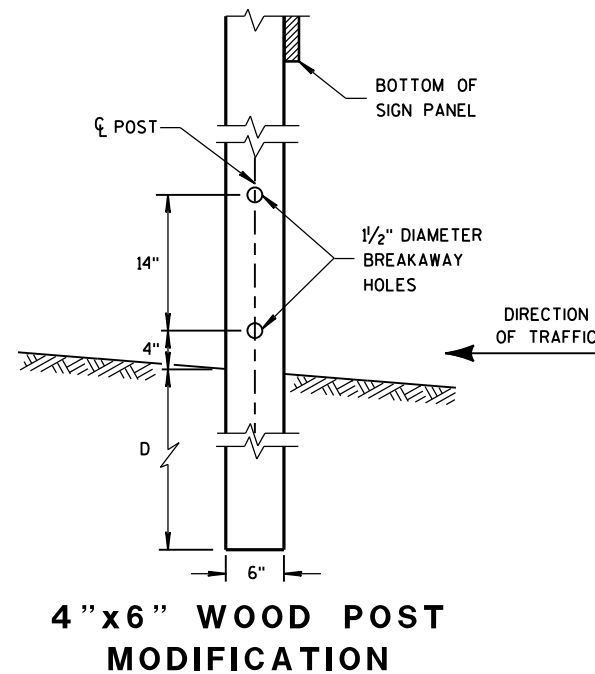
SIGNS WIDER THAN 3 FEET OR LARGER THAN 9 SQ. FT. SHALL BE MOUNTED ON MULTIPLE POSTS (SEE ABOVE TABLE).
SIGNS LARGER THAN 27 SQ. FT. SHALL NOT BE MOUNTED ON TUBULAR STEEL POSTS.



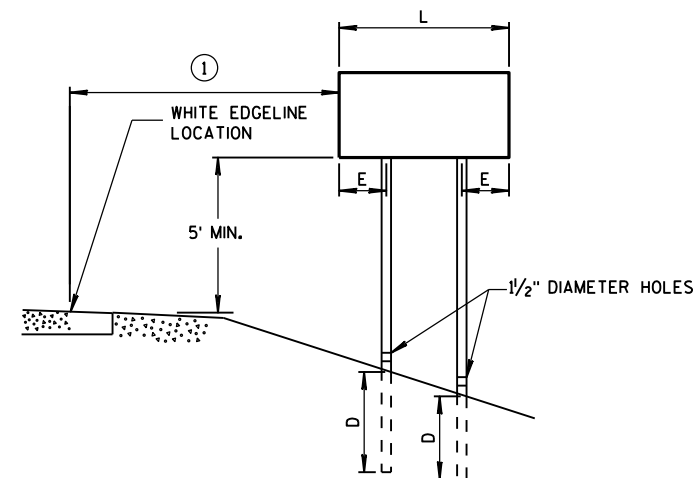
URBAN AREA

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'



4 "x6 " WOOD POST MODIFICATION



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

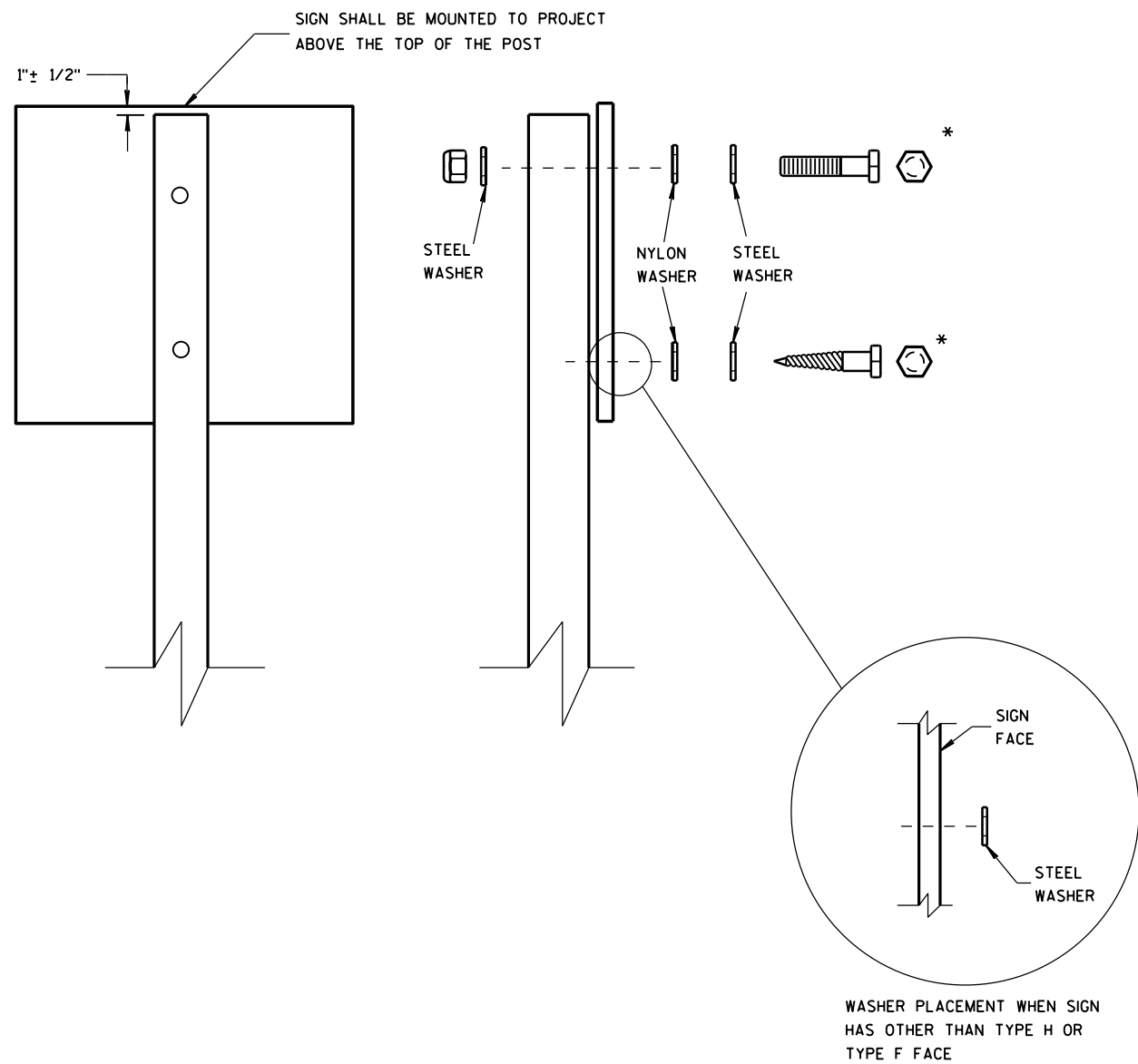
SEE NOTE ③

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.

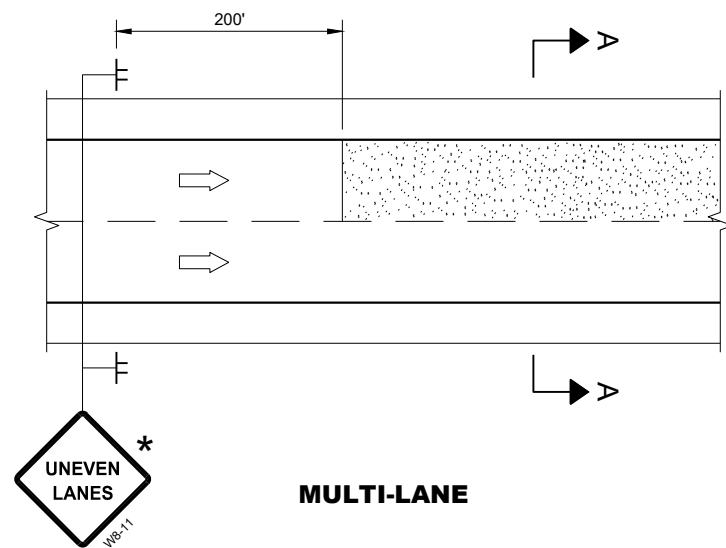
- WOOD POSTS (4" x 4" or 4" x 6")
- LAG SCREWS - 3/8" x 3"
 - MACHINE BOLTS - 5/16" x 6-1/2" OR 7" LENGTH W/ NUTS

- 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

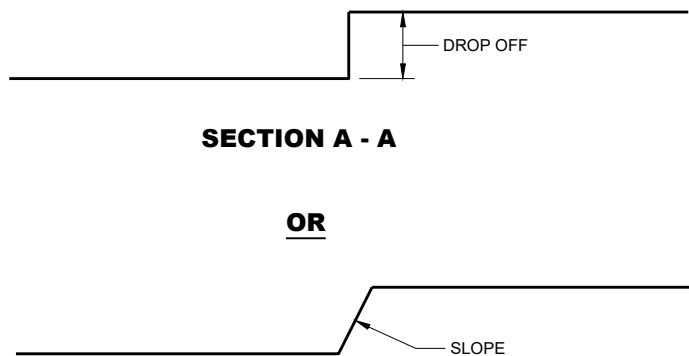
- WASHERS (ALL POSTS) -
- 1-1/4" O.D. x 3/8" I.D. x 1/16" STEEL
 - 1-1/4" O.D. x 3/8" I.D. x .080 NYLON FOR ALL TYPE H SIGNS

* 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 Heidtke WORK ZONE ENC 357
FHWA	



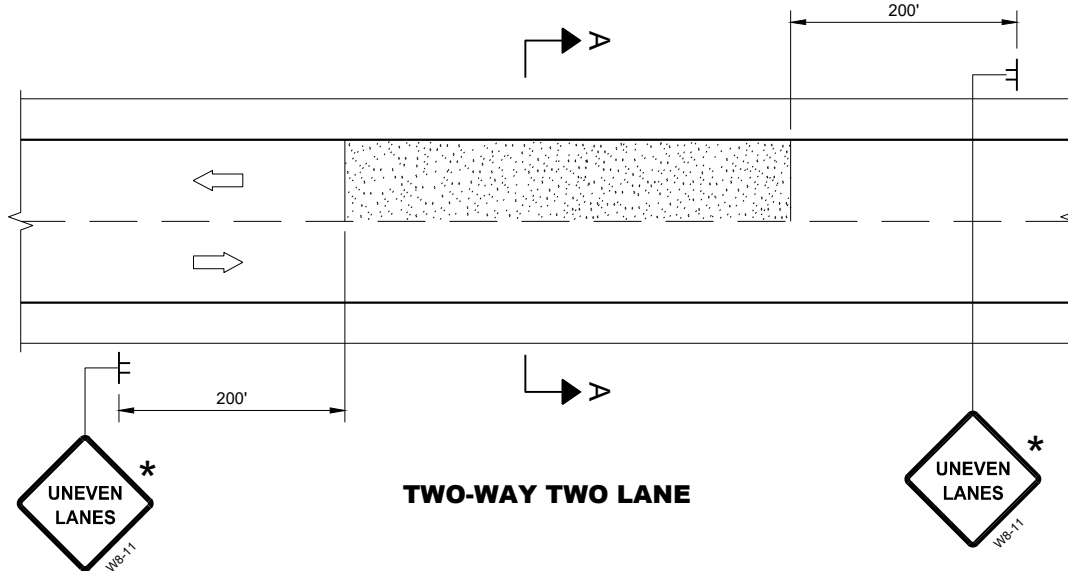
MULTI-LANE



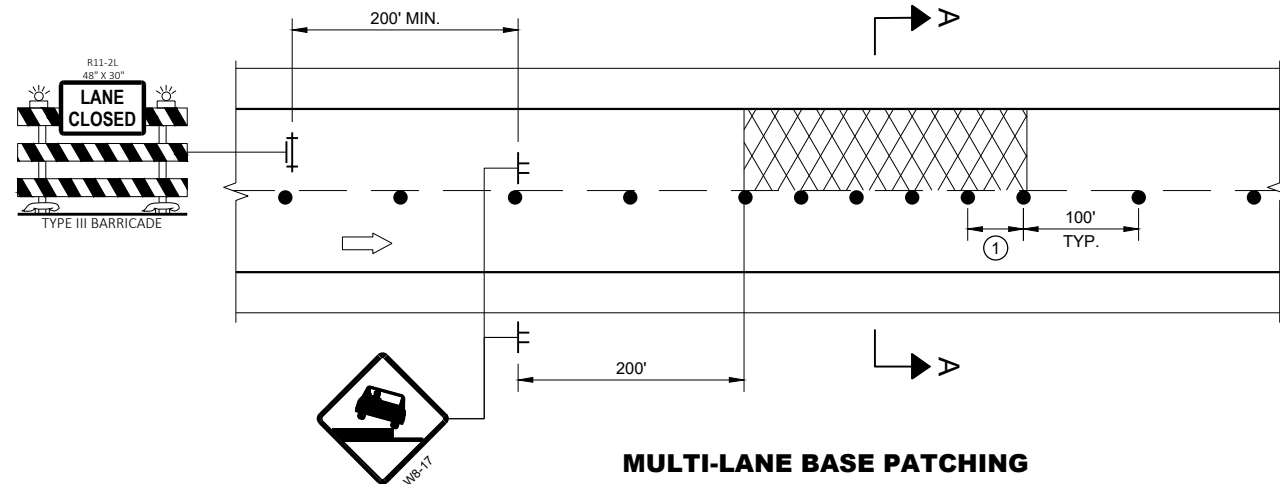
SECTION A - A

OR

SECTION A - A



TWO-WAY TWO LANE



MULTI-LANE BASE PATCHING

ADJACENT LANE DROP-OFFS

GENERAL NOTES

FOR SPOT LOCATIONS USE ENGINEERING JUDGEMENT WHEN PLACING ADDITIONAL SIGNS.

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

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

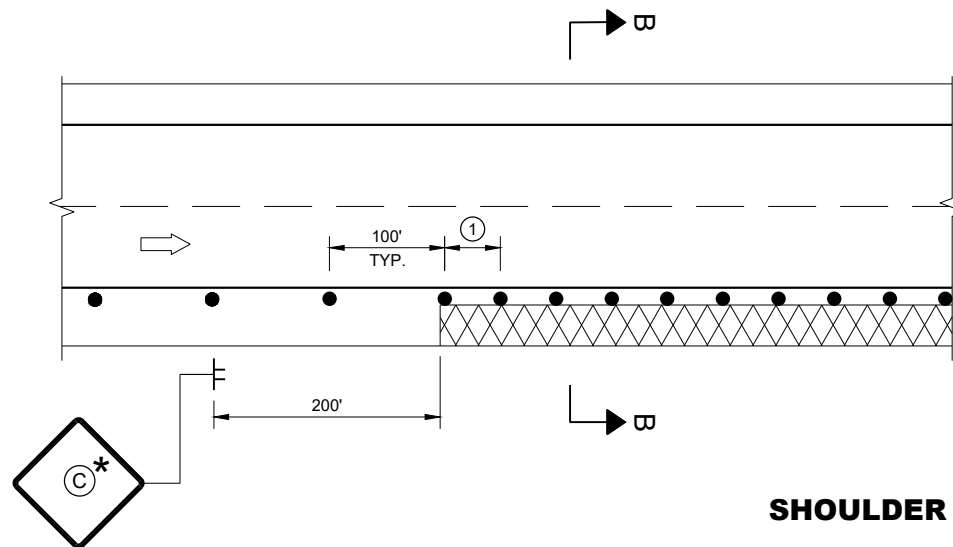
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

* IF THE DROP-OFF IS CONTINUOUS ALONG THE PROJECT, PLACE ADDITIONAL SIGNS EVERY 1 MILE AND AFTER EVERY ENTRANCE RAMP.

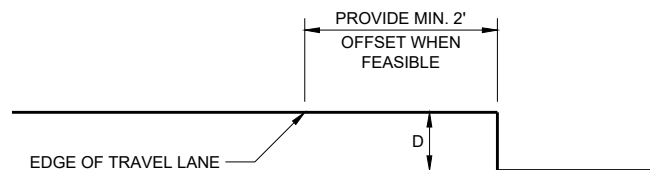
① USE CLOSER SPACING WHEN DELINEATING DROP-OFF.

LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- WORK AREA WITH DROP-OFF
- MILLED SURFACE



SHOULDER DROP-OFFS



SECTION B - B

D	SIGN (C)
< 2" WITH A SLOPE STEEPER THAN 3:1	LOW SHOULDER WO8-9
2" < 6" WITH A SLOPE STEEPER THAN 3:1	SHOULDER DROP - OFF W8-9A PROVIDE A 3:1 OR FLATTER SLOPE OF MATERIAL ADJACENT TO THE PAVEMENT

**TRAFFIC CONTROL,
DROP-OFF SIGNING**

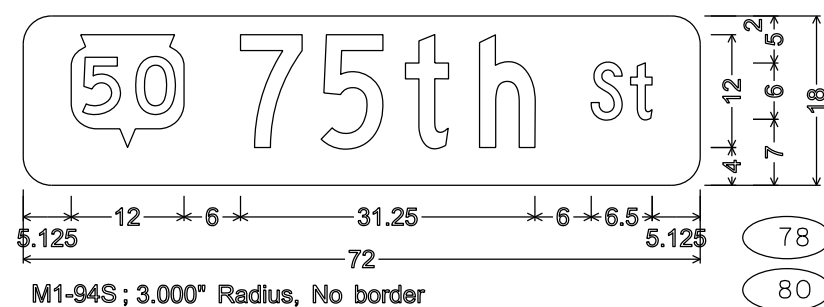
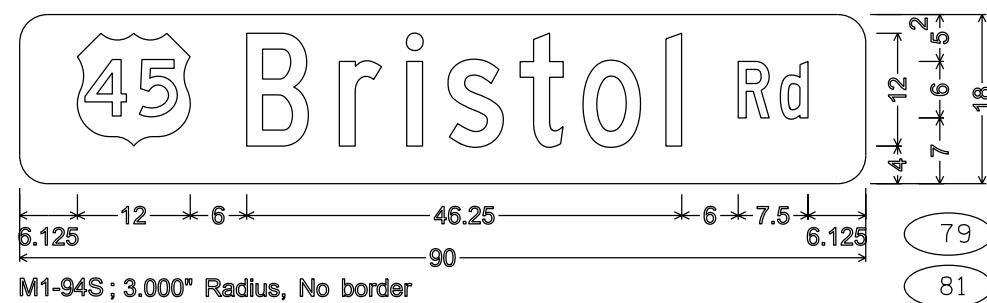
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER 358

FHWA

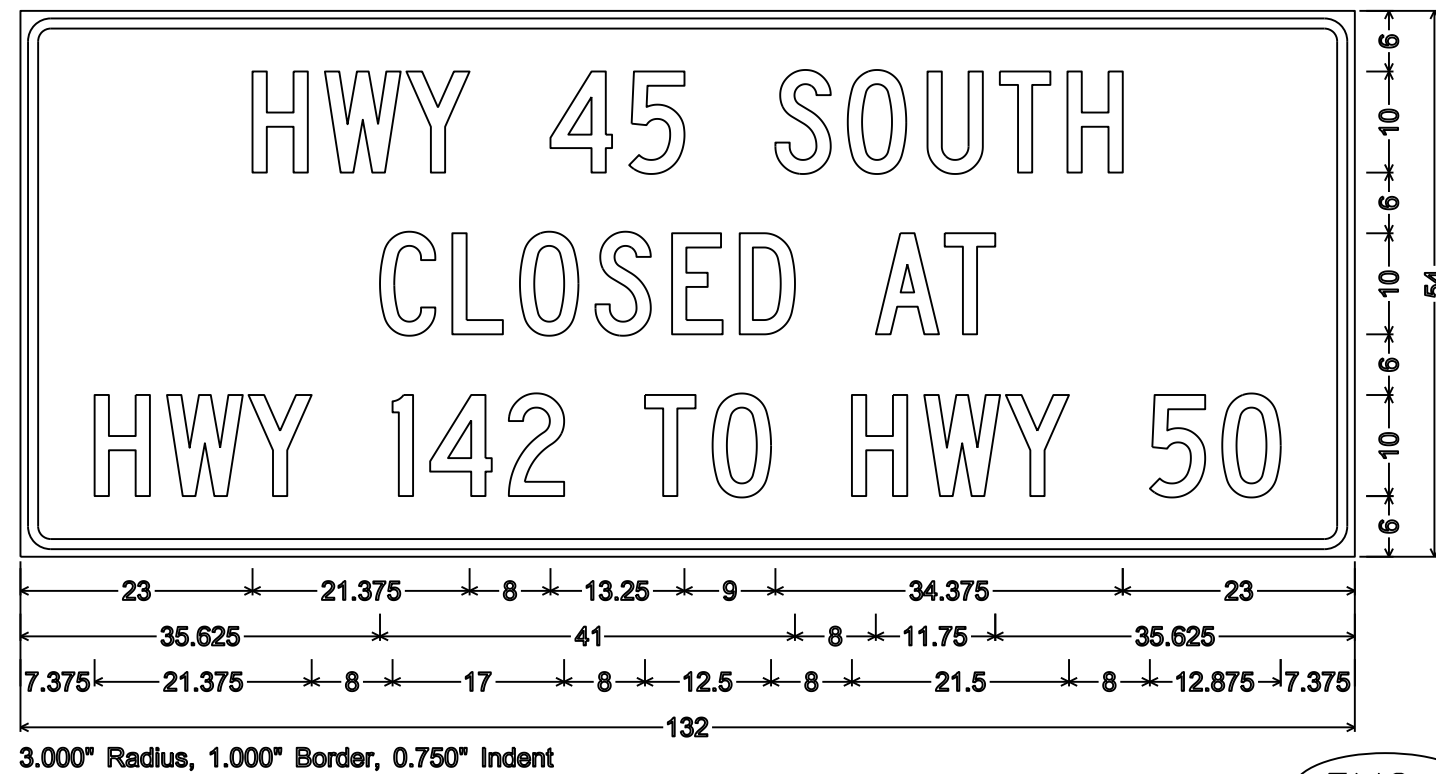
NOTES

1. All Signs Type II - Type H Reflective
2. Color:
 - Background - Green
 - Message - White
3. Message Series - C
4. M1-94S base material is .125" aluminum

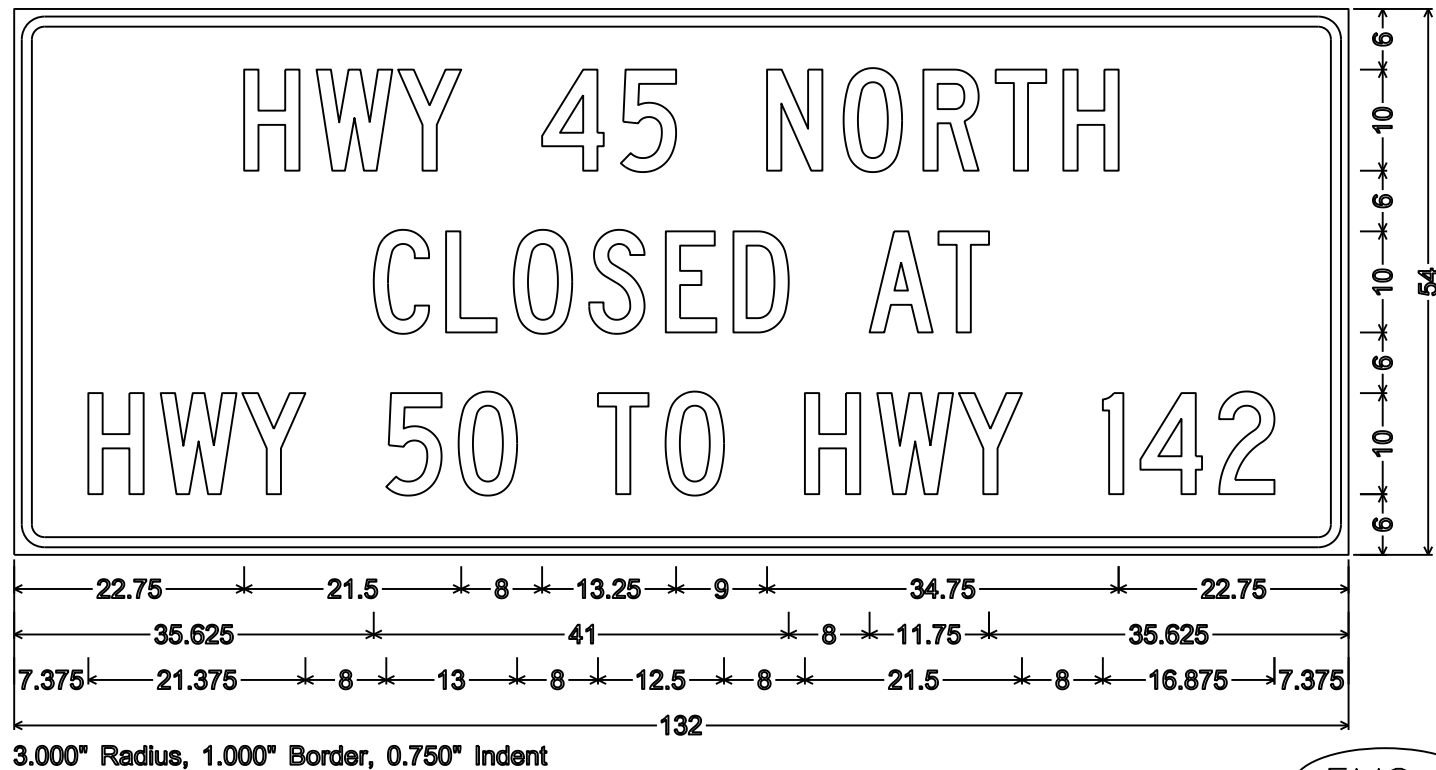
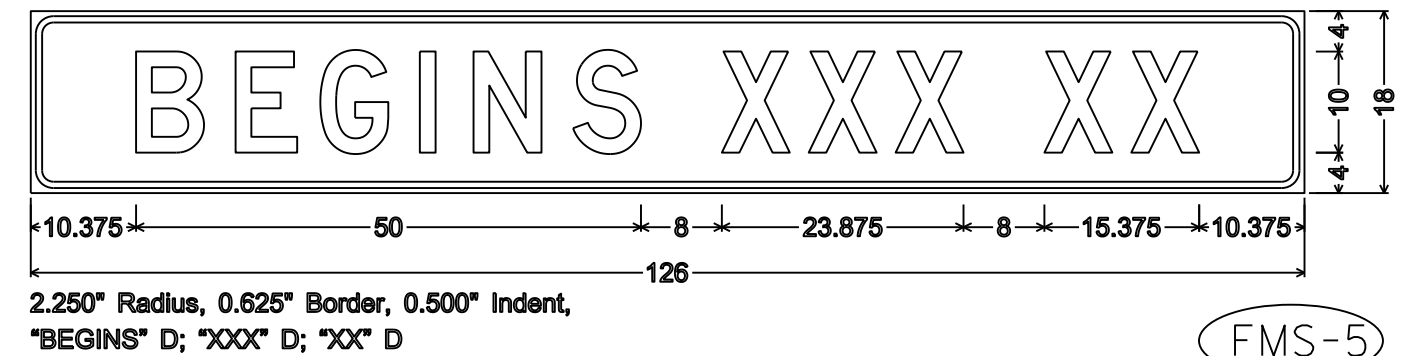


NOTES

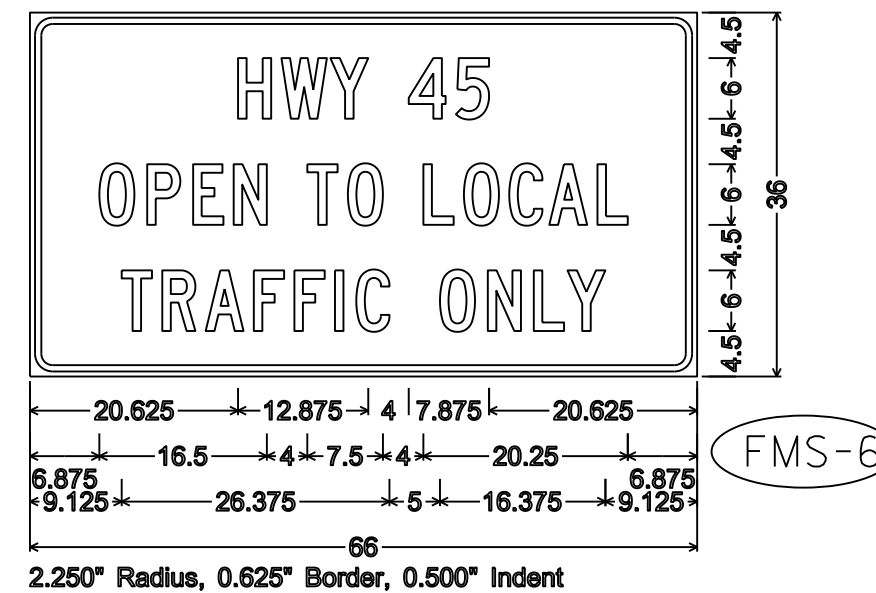
1. All Signs Type II - Type F Reflective
2. Color:
 - Background - Orange
 - Message - Black
3. Message Series - C except as noted



FMS-2

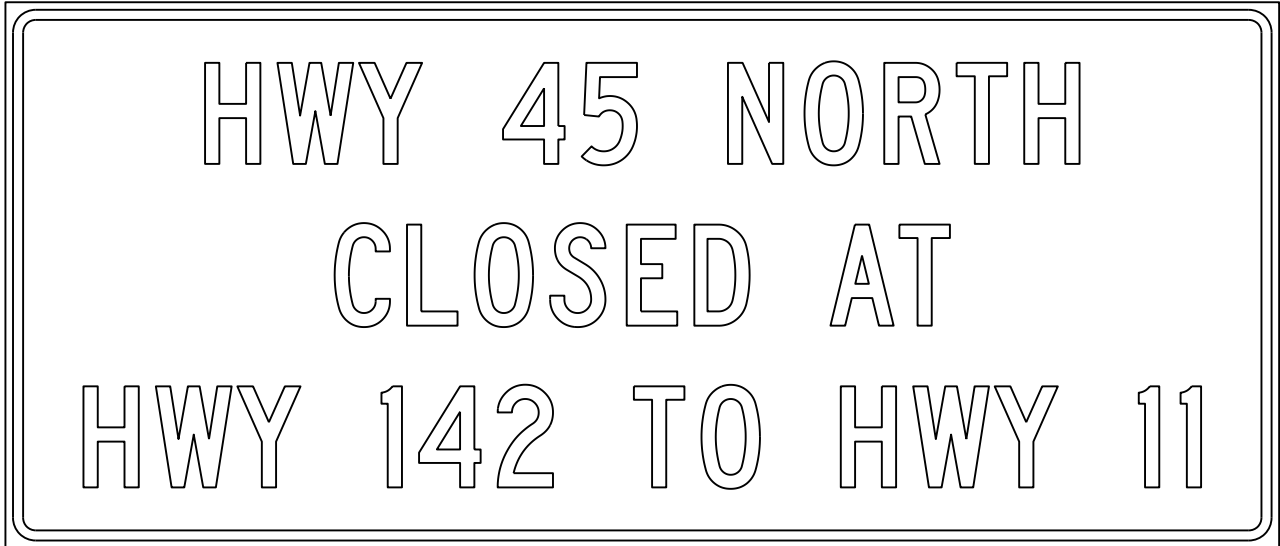


FMS-1

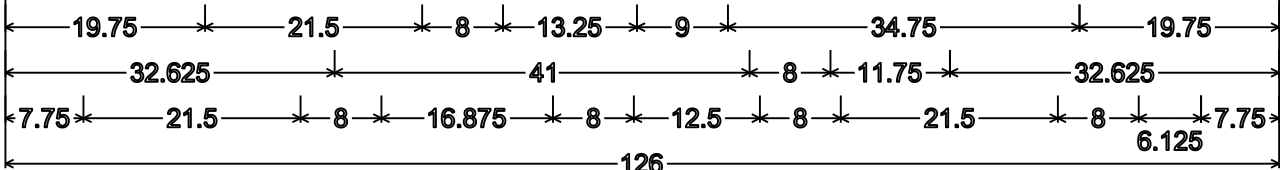


NOTES

- 1. All Signs Type II - Type F Reflective
- 2. Color:
Background - Orange
Message - Black
- 3. Message Series - C except as noted



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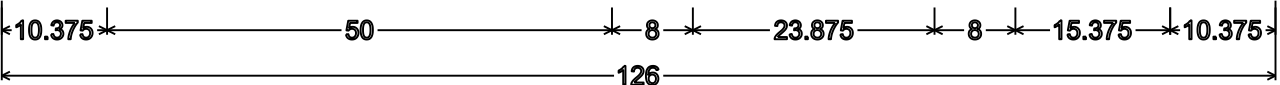


3.000" Radius, 1.000" Border, 0.750" Indent

FMS-3

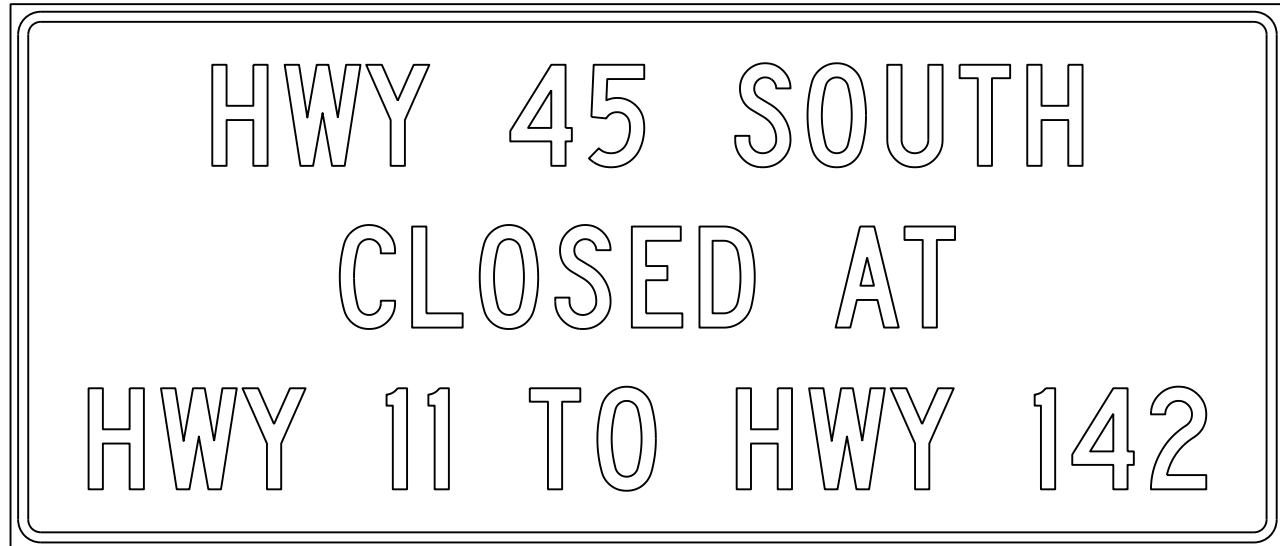


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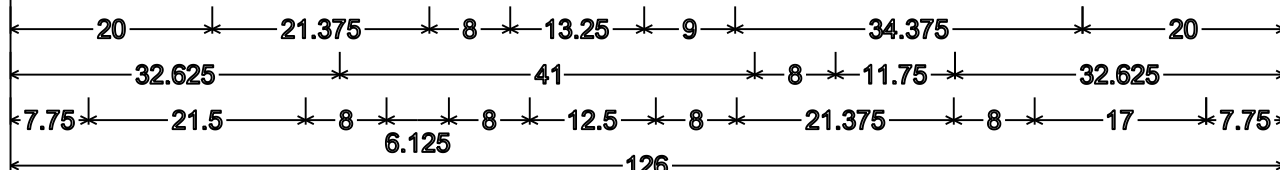


2.250" Radius, 0.625" Border, 0.500" Indent,
"BEGINS" D; "XXX" D; "XX" D

FMS-5

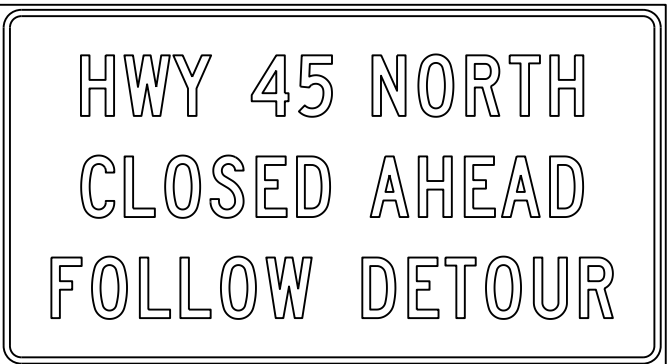


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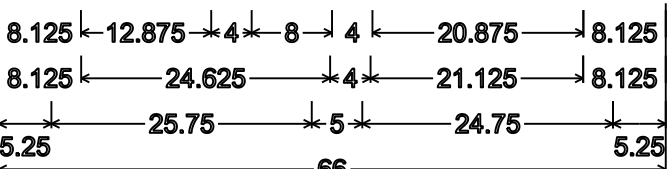


3.000" Radius, 1.000" Border, 0.750" Indent

FMS-4

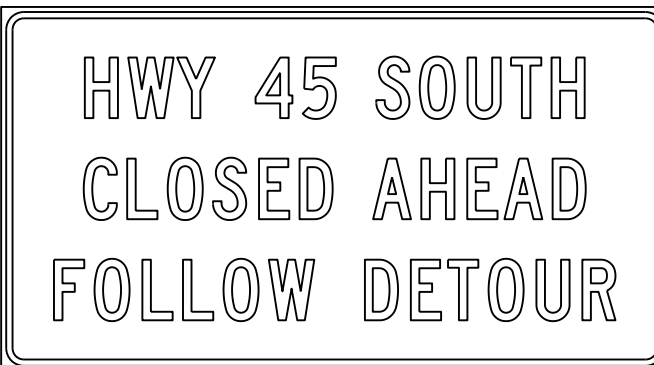


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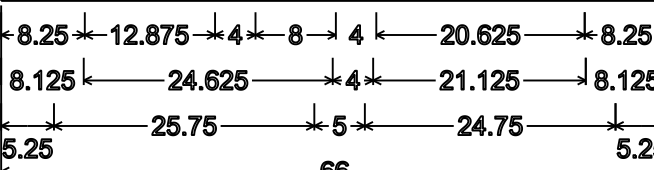


2.250" Radius, 0.625" Border, 0.500" Indent

FMS-7



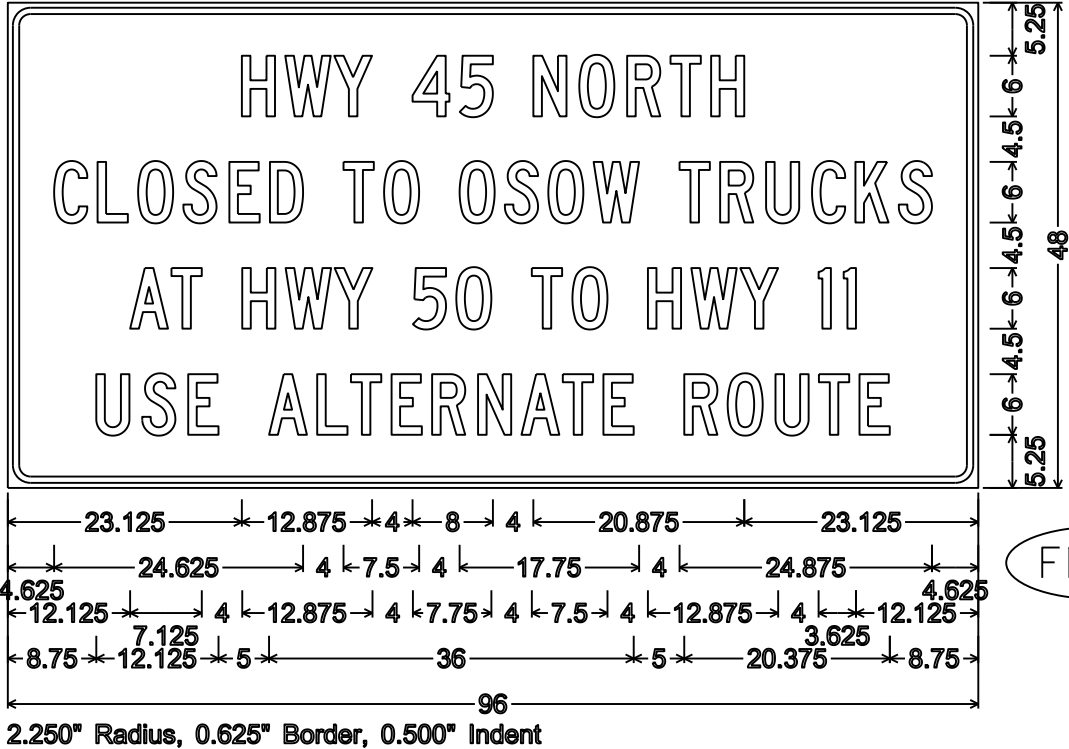
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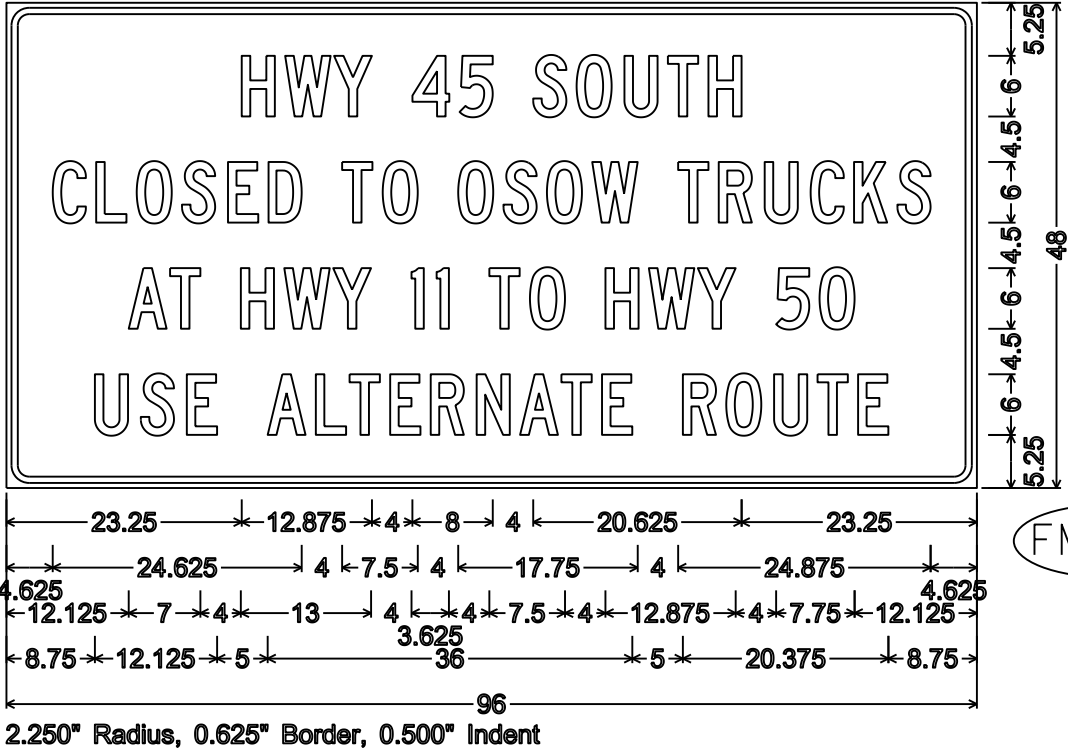
2.250" Radius, 0.625" Border, 0.500" Indent

FMS-8

7



FMS-9



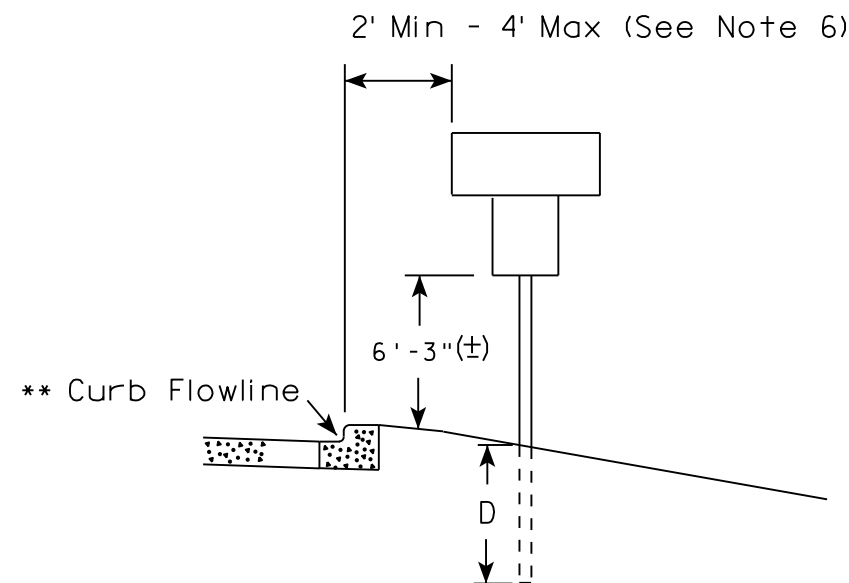
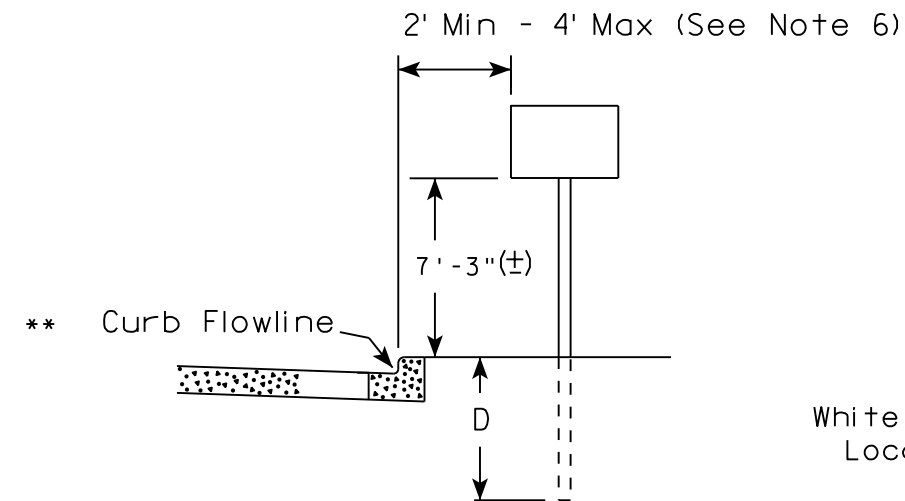
FMS-10

NOTES

- 1. All Signs Type II - Type F Reflective
- 2. Color:
 - Background - Orange
 - Message - Black
- 3. Message Series - C except as noted

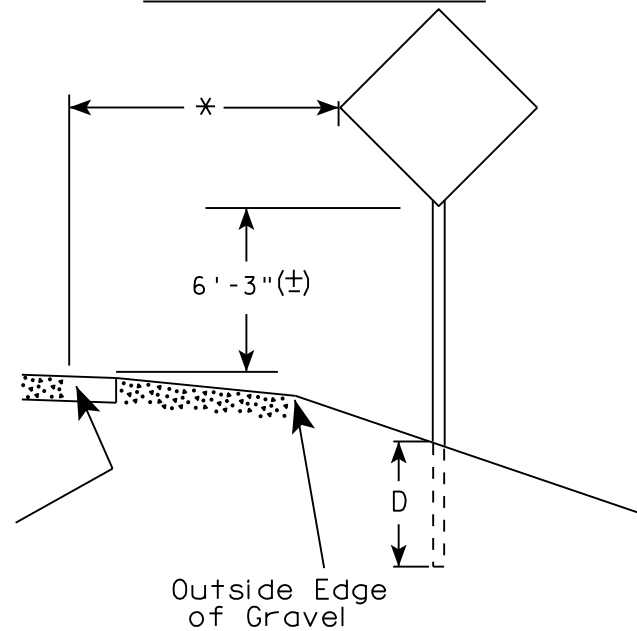
7

URBAN AREA

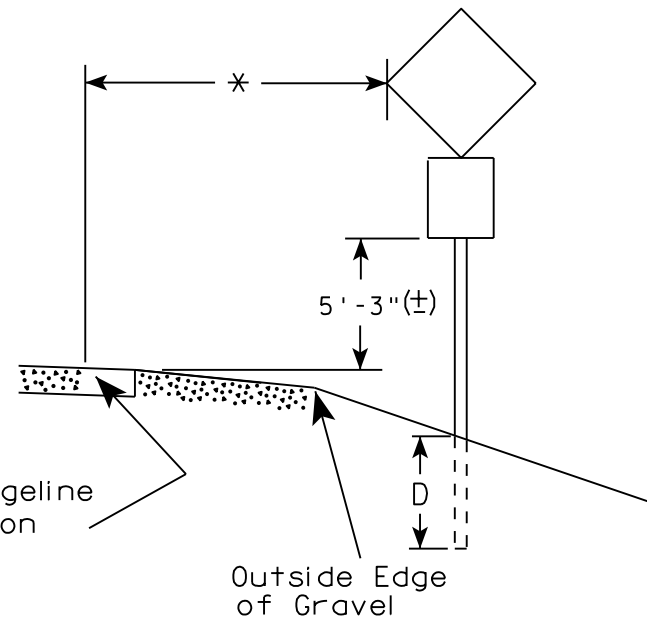


White Edgeline
Location

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'

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.

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

TYPICAL INSTALLATION
OF PERMANENT TYPE II
SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

Matthew R. Rauch
for State Traffic Engineer

DATE 8/21/17

PLATE NO. A4-3.21

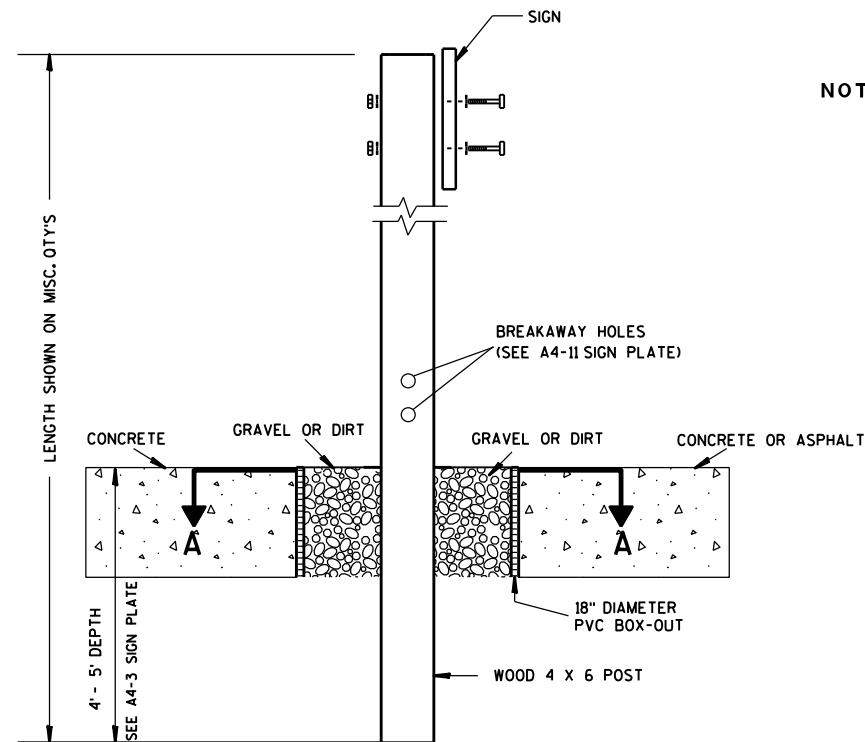
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 363

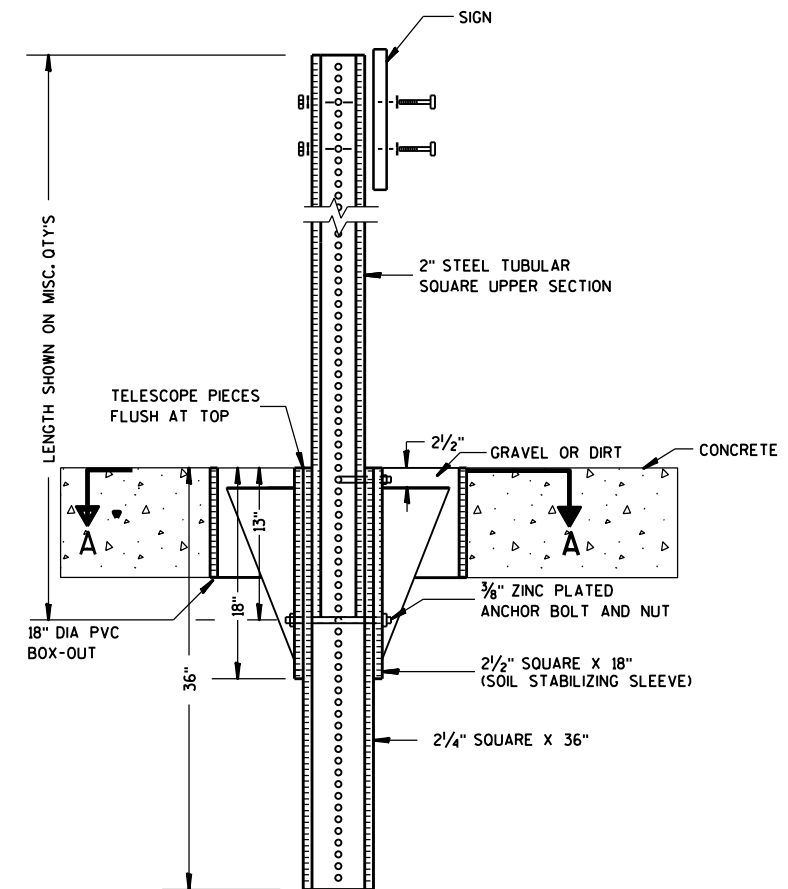
E



ELEVATION VIEW

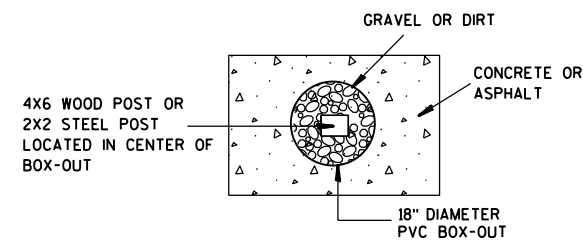
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

- 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 PLAT 364 A4-3B.1

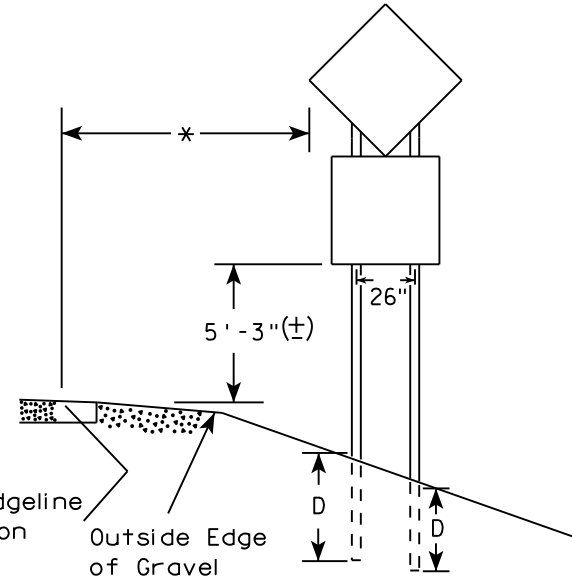
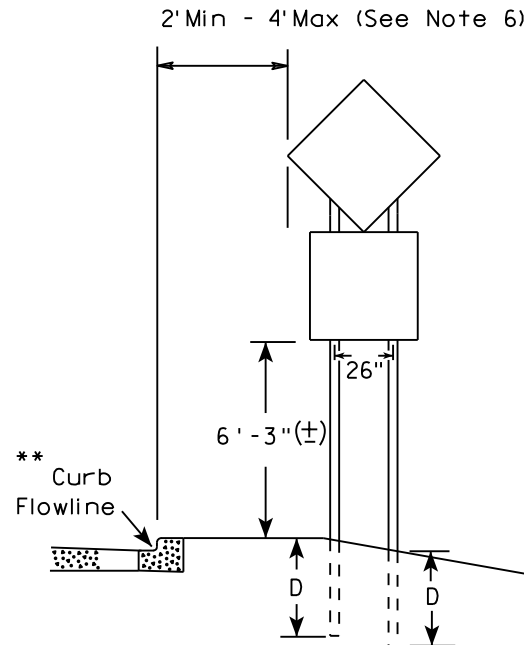
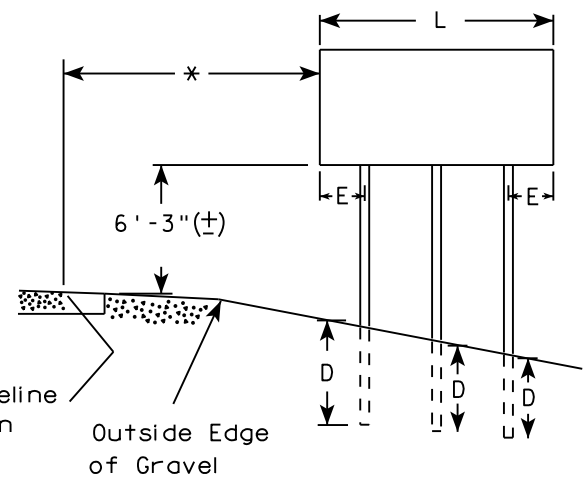
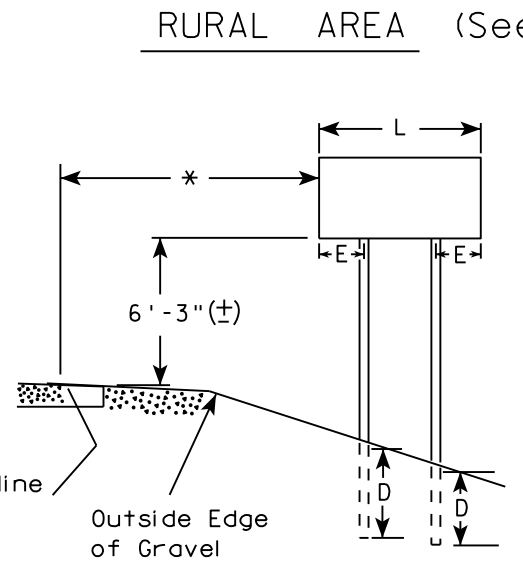
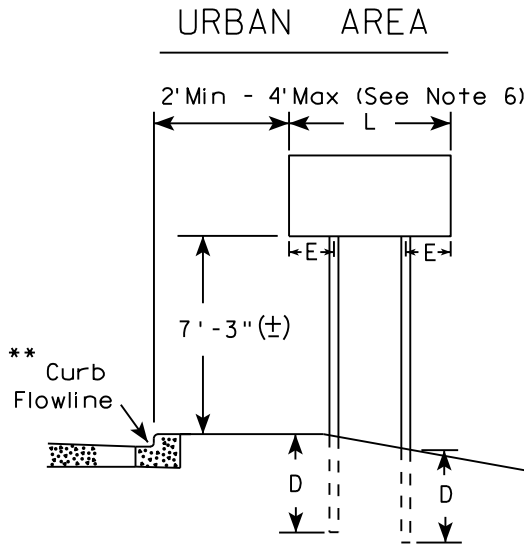
PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E



48" DIAMOND WARNING SIGN

48" DIAMOND WARNING SIGN

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

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

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

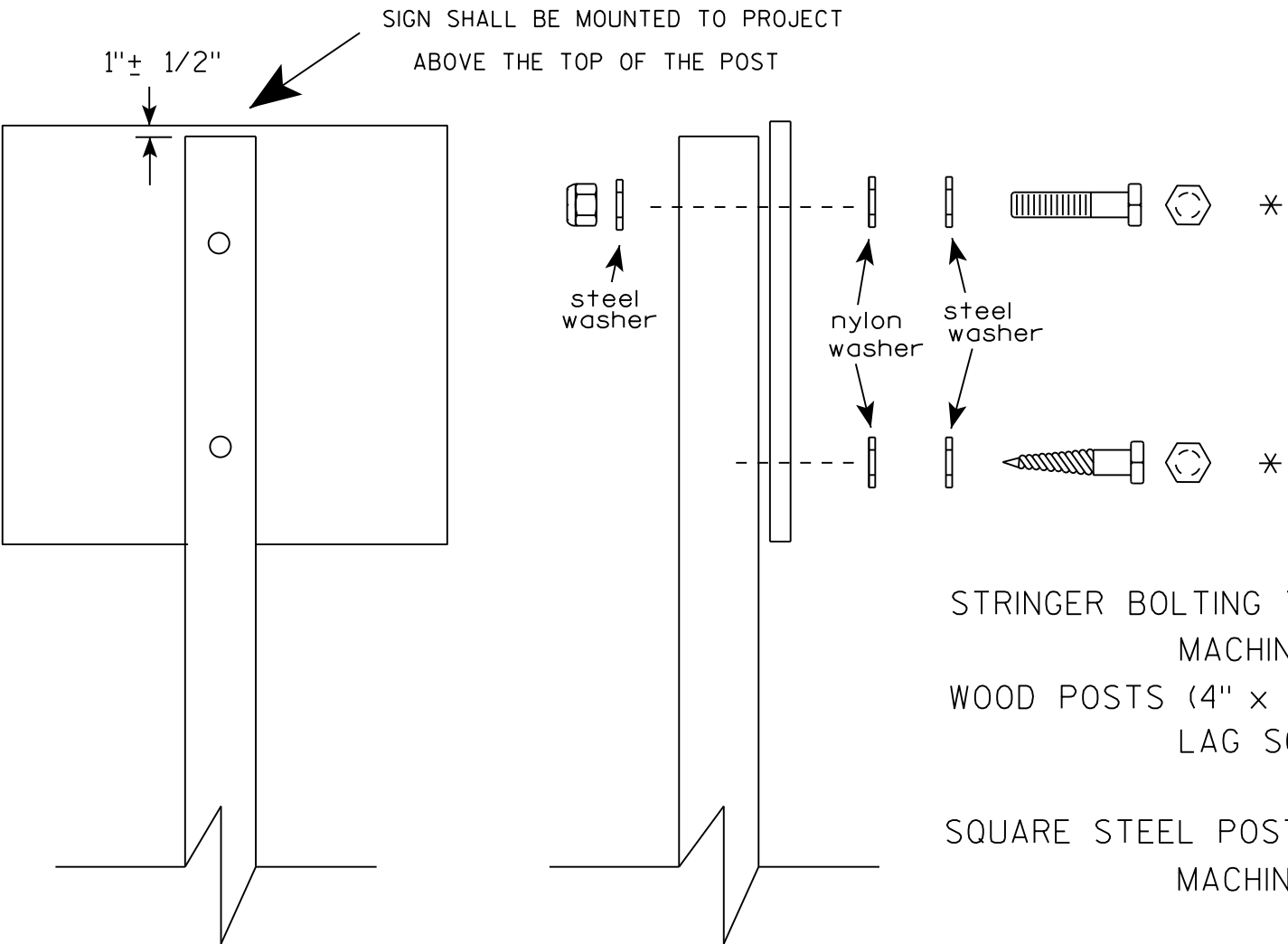
WISCONSIN DEPT OF TRANSPORTATION

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.

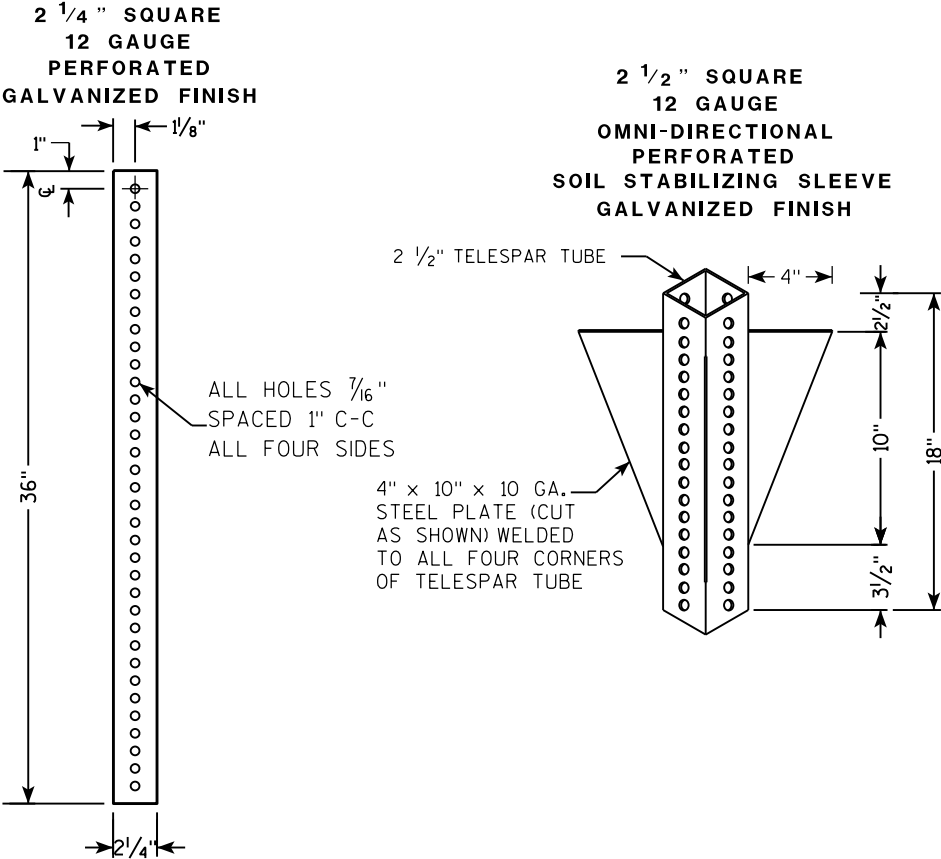
ATTACHMENT OF SIGNS
TO POSTS

WISCONSIN DEPT OF TRANSPORTATION

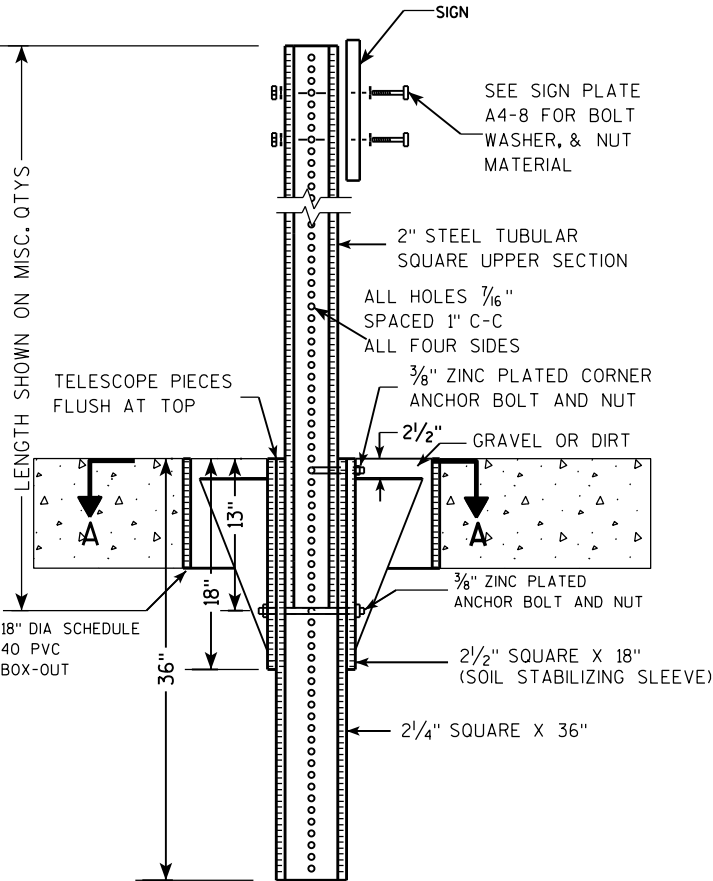
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 8/11/16 PLATE NO. A4-8.8
366

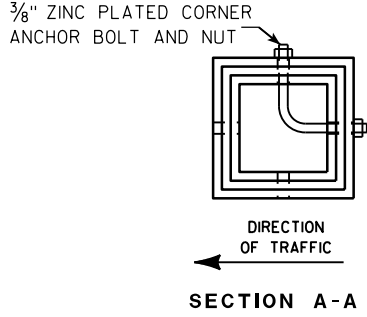
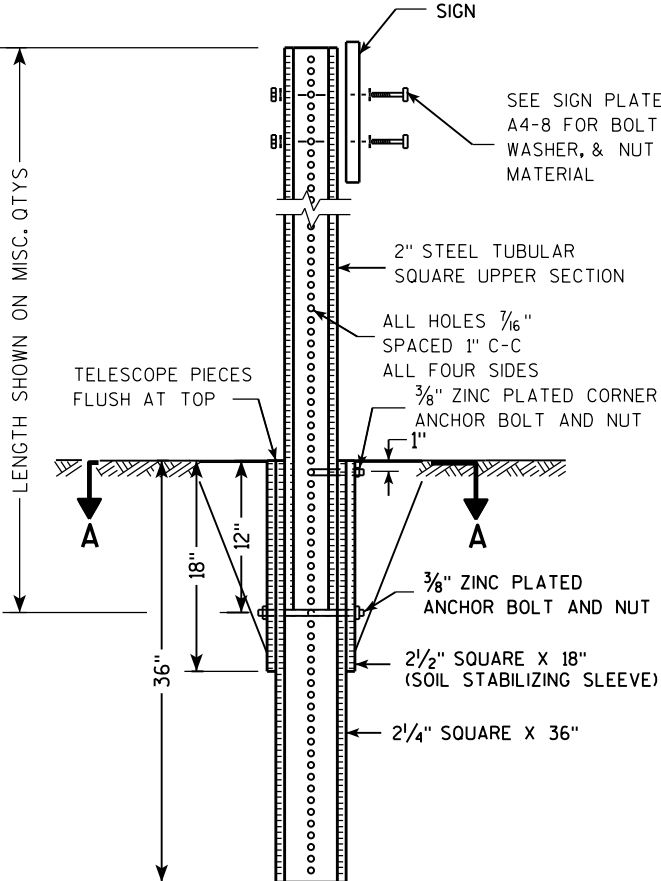
TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM



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).

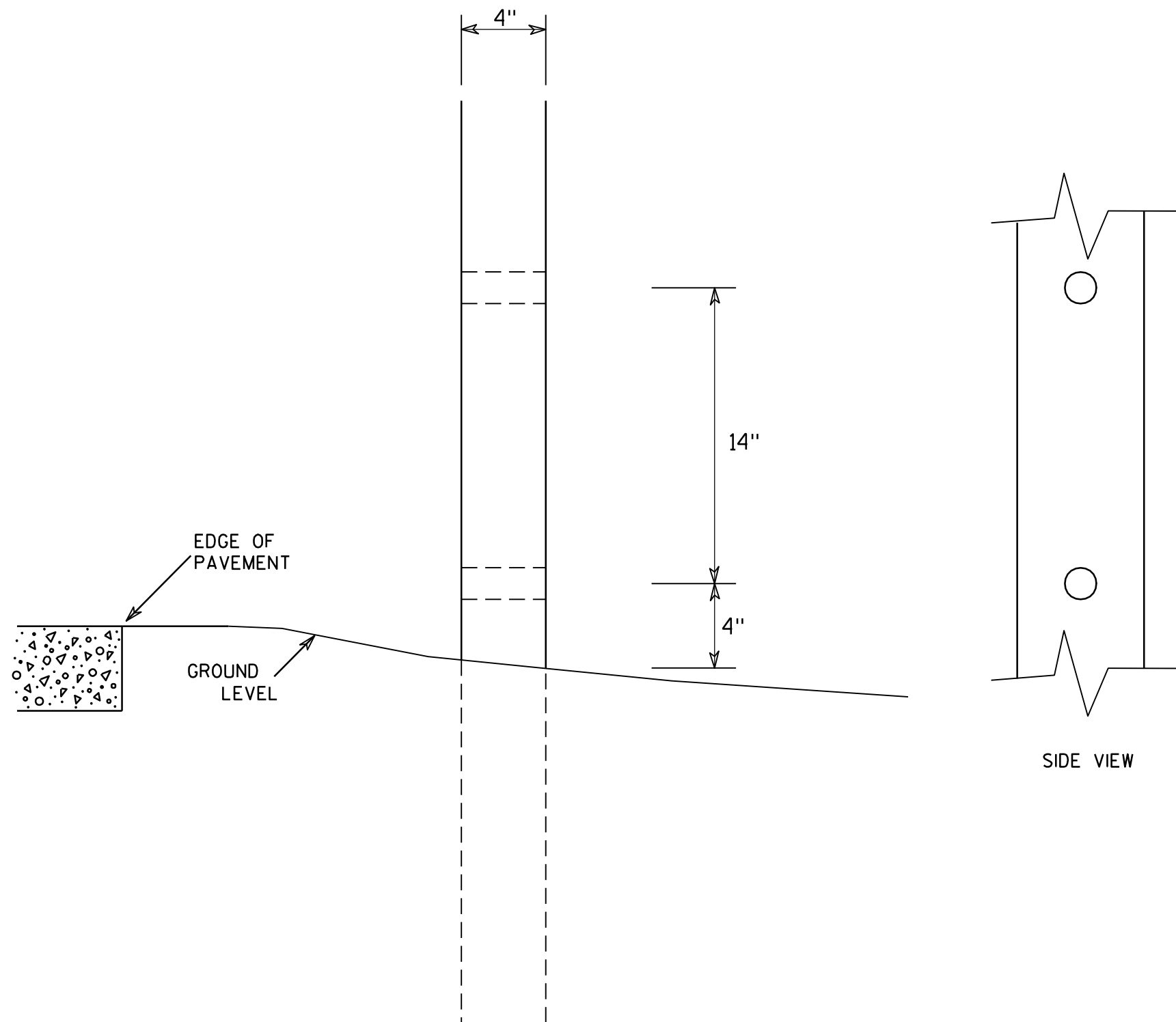
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 2/05/15 PLAT 367 14-9.9

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:

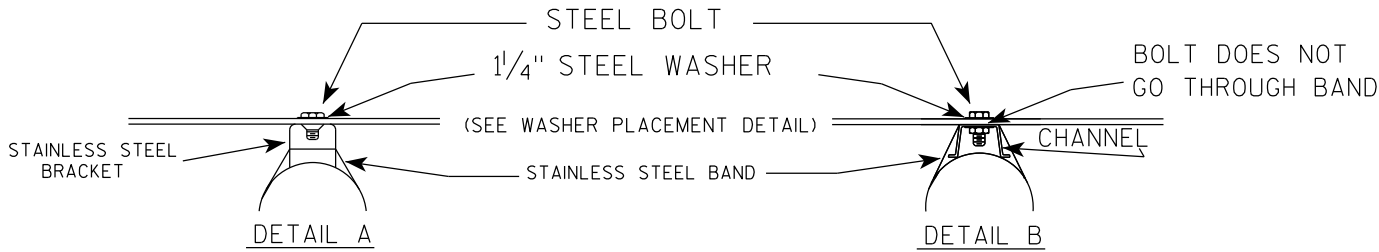
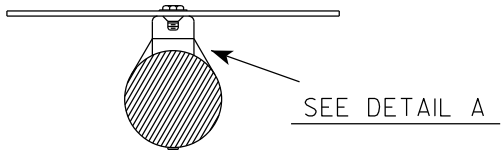
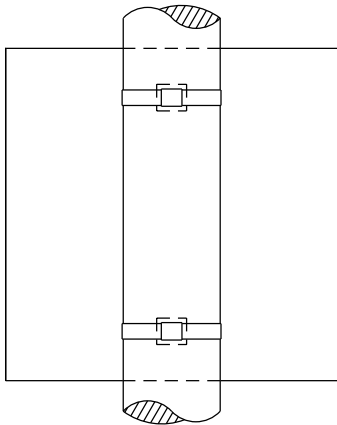
COUNTY:

SHEET NO: 368

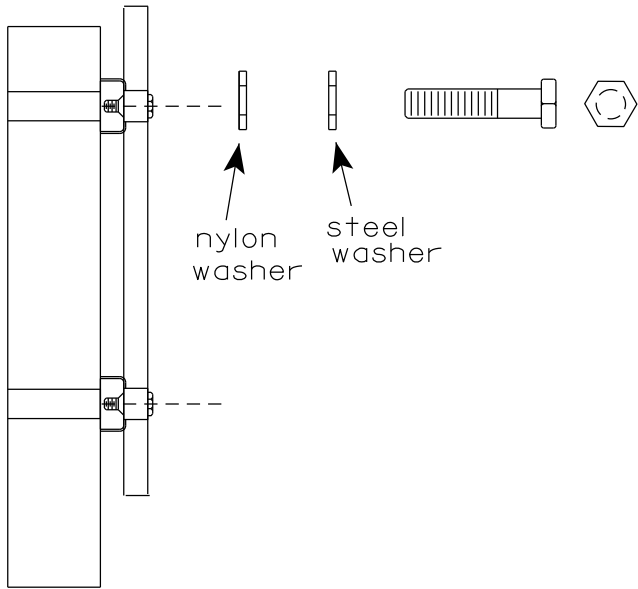
E

BANDING

SINGLE SIGN



WASHER PLACEMENT

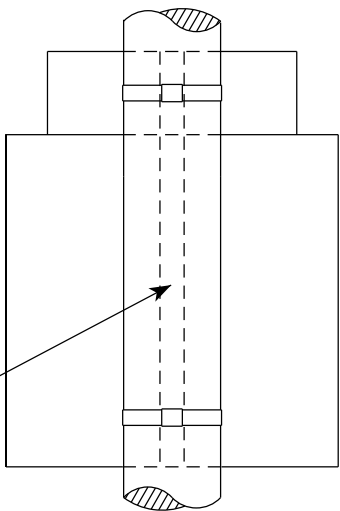


WASHERS (ALL POSTS) -
1-1/4" O.D. X 3/8" I.D. X 1/16" STEEL
1-1/4" O.D. X 3/8" I.D. X .080 NYLON
FOR ALL TYPE H SIGNS

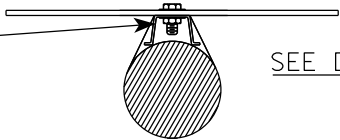
GENERAL NOTES

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

"J" ASSEMBLY



CHANNEL
SEE TYPICAL PANEL
INSTALLATION SHEET

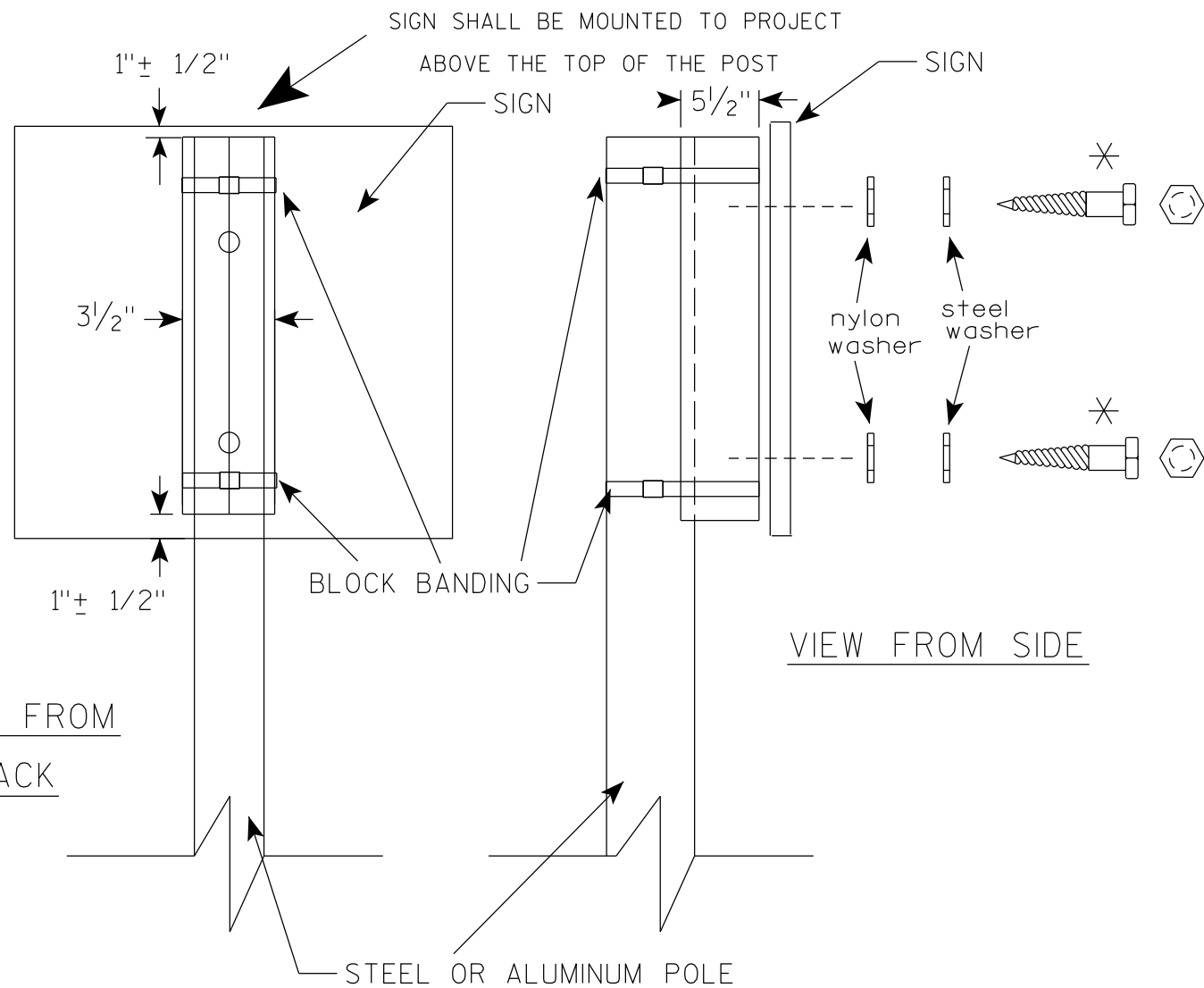


STANDARD SIGN
SIGN BANDING DETAILS

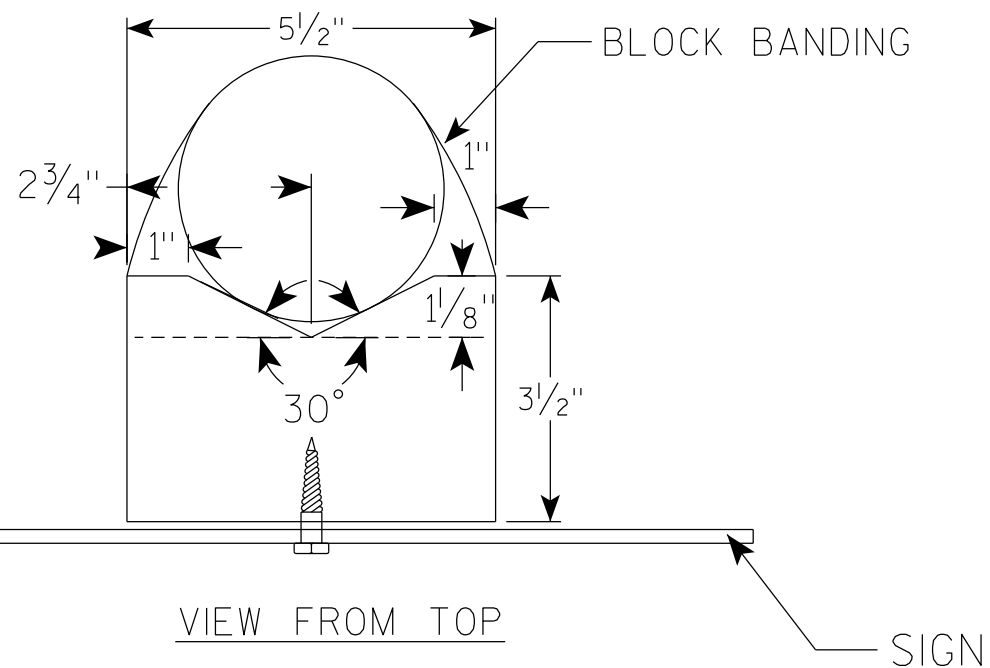
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/10/19 PLATE NO. A5-9.4

VIEW FROM
BACK



VIEW FROM SIDE



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

✱ LAG BOLTS SHALL BE $\frac{3}{8}$ " X $2\frac{1}{2}$ "

BLOCK BANDING DETAIL
(V-BLOCK OPTION)

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

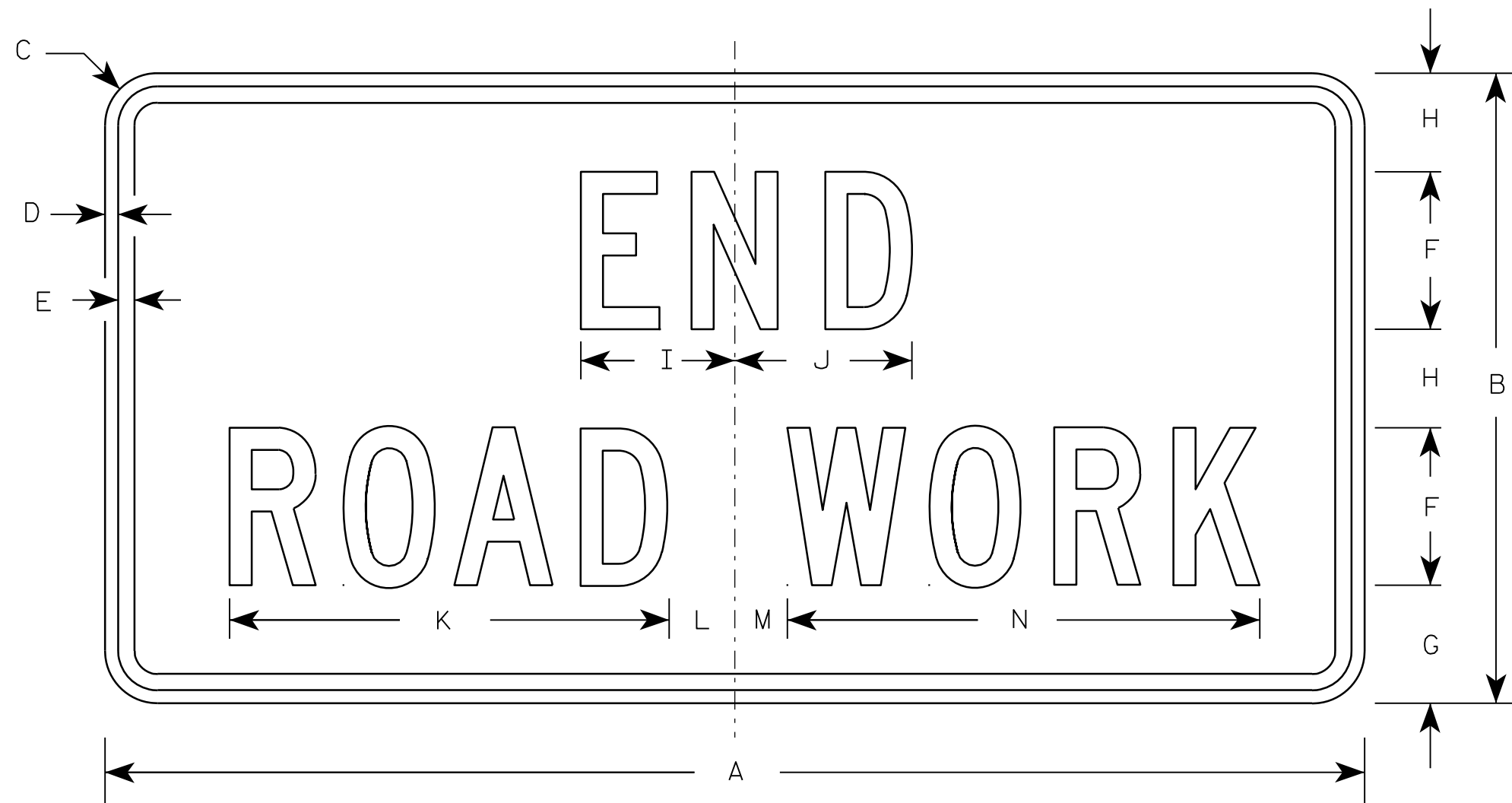
DATE 6/10/19 PLATE NO. A5-10.2

PROJECT NO:

SHEET NO: 370

E

7



G20-2A

Metric equivalent
for this sign is:

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

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

NOTES

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

7

PROJECT NO:

HWY:

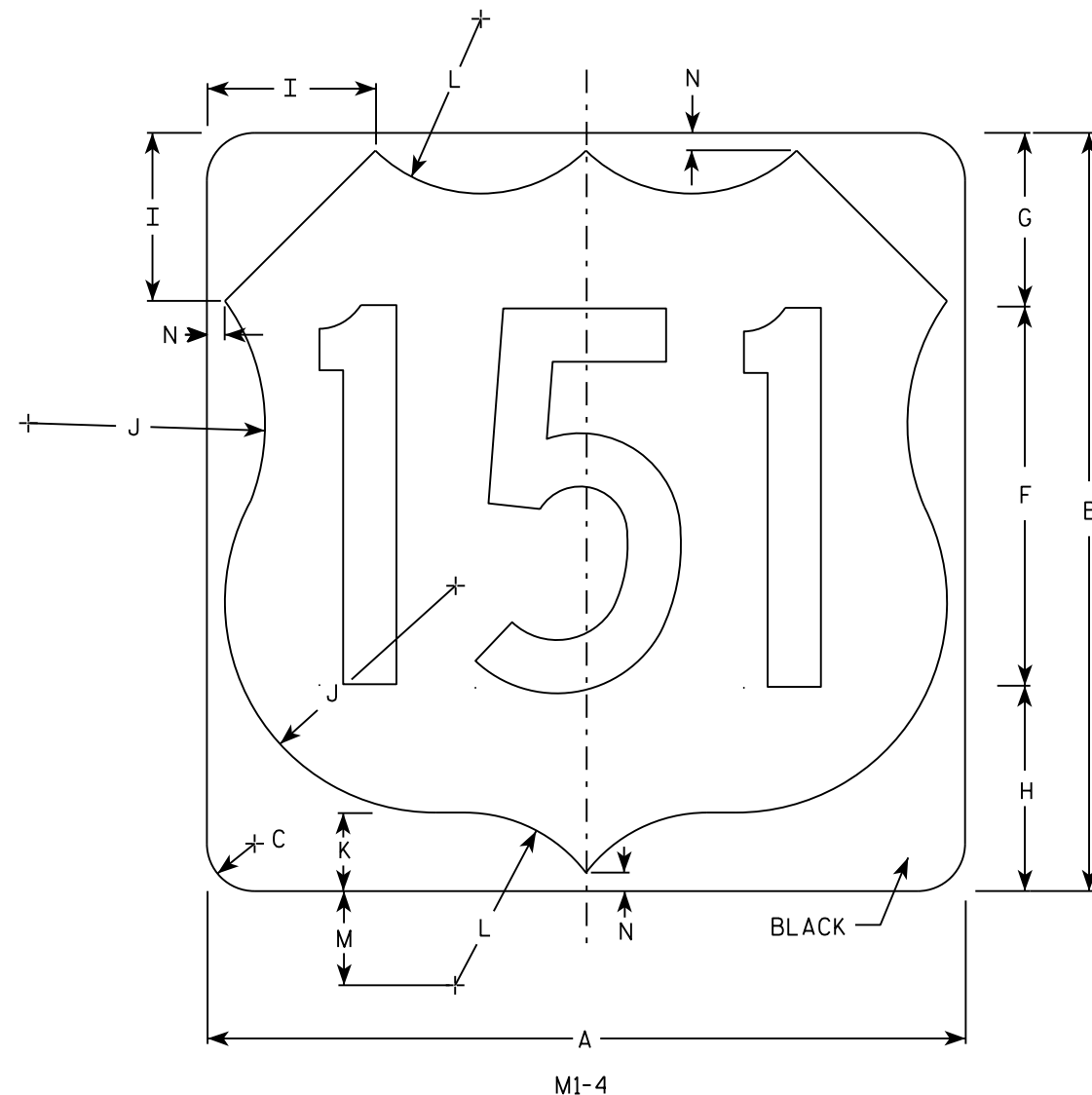
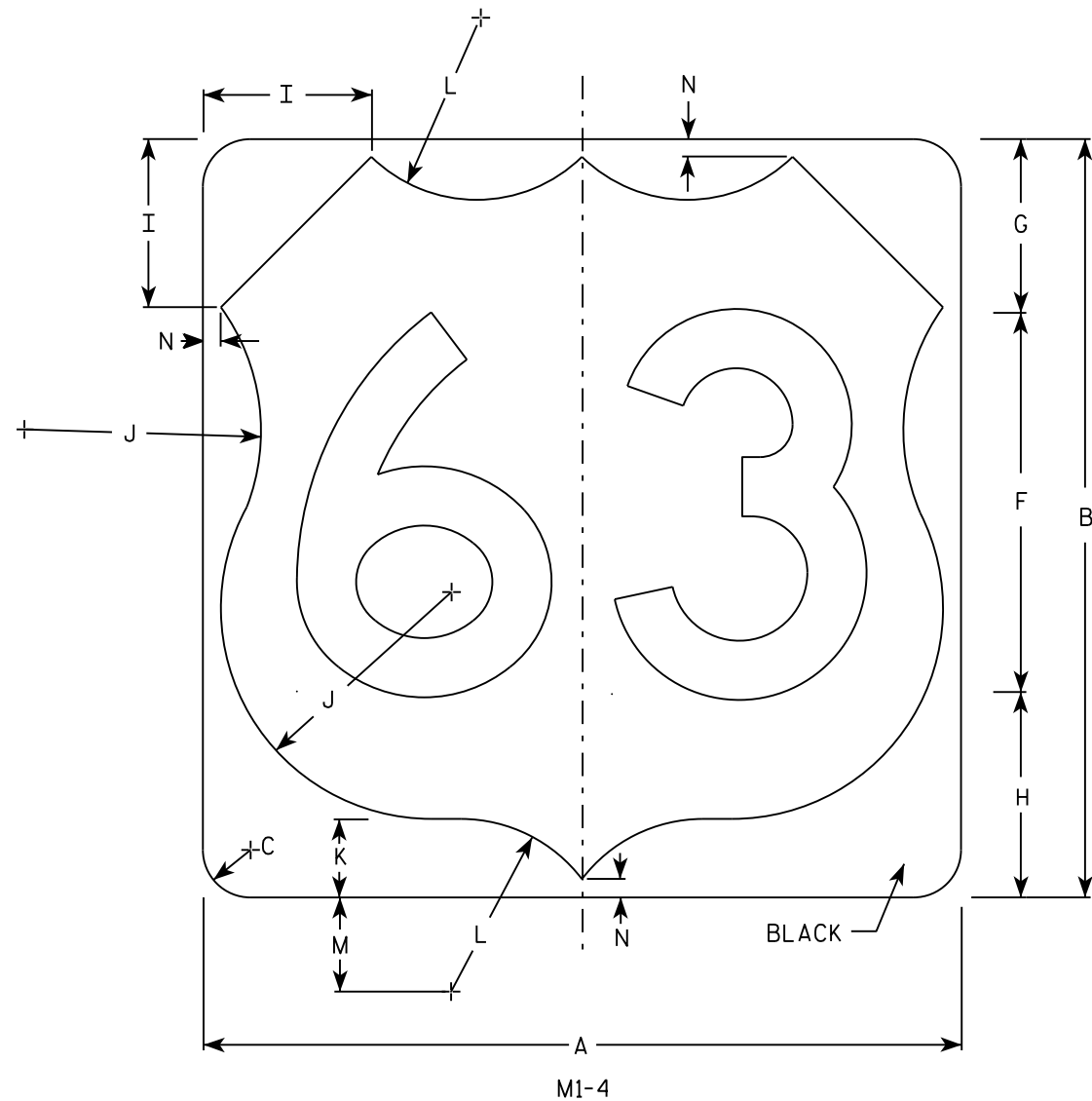
COUNTY:

SHEET NO: 371

E

NOTES

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



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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 372	E
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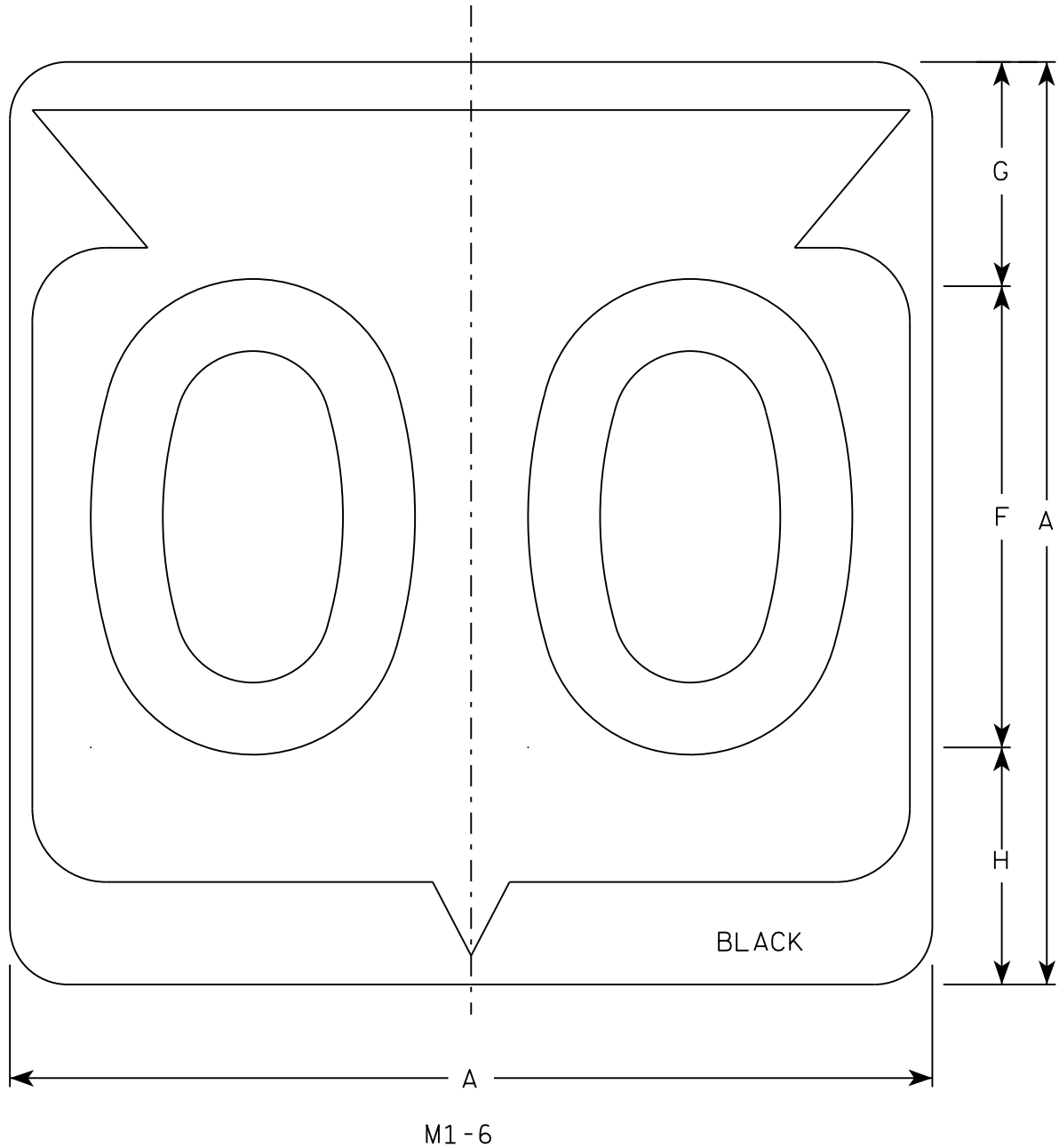
USH MARKER
M1-4 FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

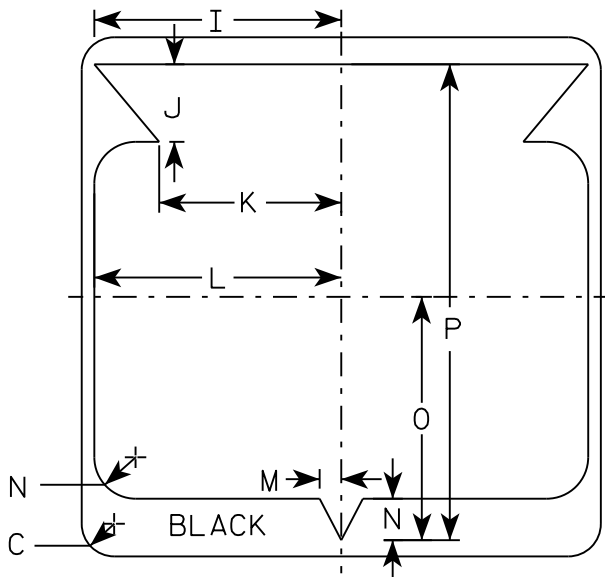
DATE 3/16/18 PLATE NO. M1-4.10

7



NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
Background - White
Message - Black
- 3. Message Series - D except 3 number signs 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.



7

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	24		1 1/2			12	5 1/2	6 1/2	10 1/4	2 1/2	8 7/8	11 1/2	1	1 7/8	11 1/4	21 7/8											4.0
3	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
4	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0
5	36		2 1/4			18	8 3/4	9 1/4	15 3/8	5 3/8	12 5/8	17 1/8	1 1/2	2 7/8	16 7/8	33											9.0

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 373

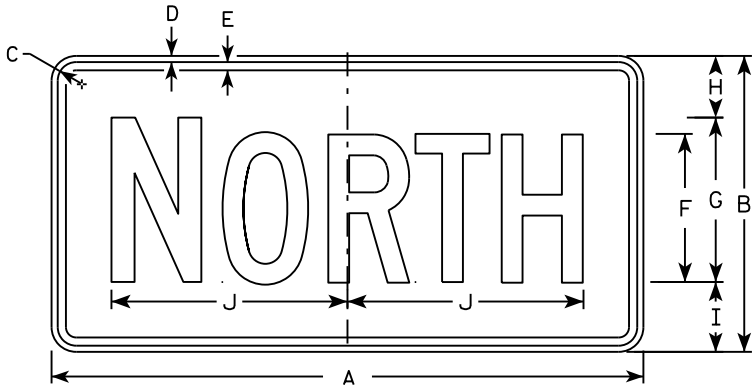
E

STATE ROUTE MARKER
M1-6 FOR ASSEMBLIES

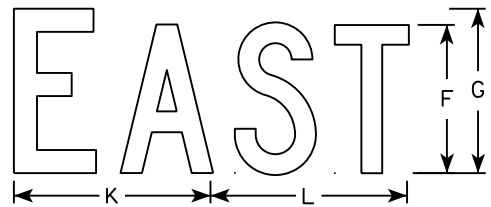
WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

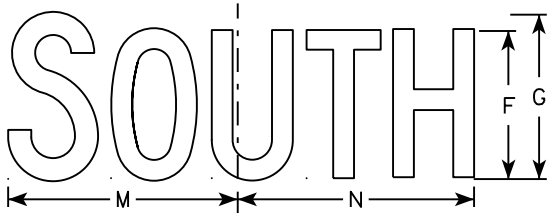
DATE 3/16/18 PLATE NO. M1-6.10



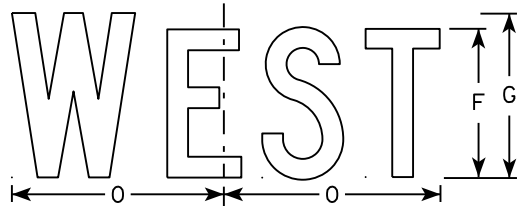
M3-1
MM3-1
MP3-1



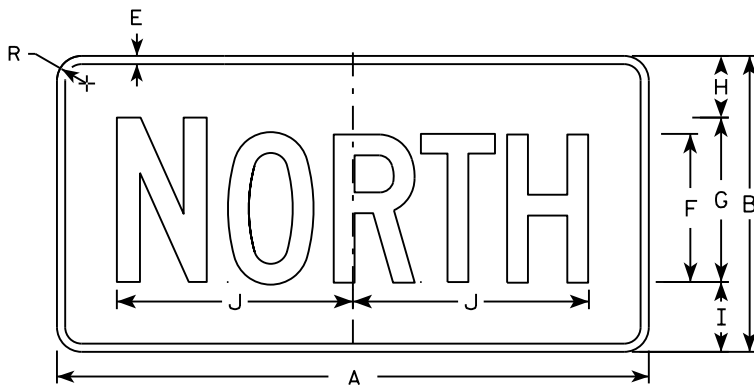
M3-2
MM3-2
MP3-2



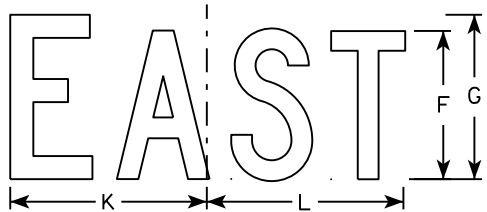
M3-3
MM3-3
MP3-3



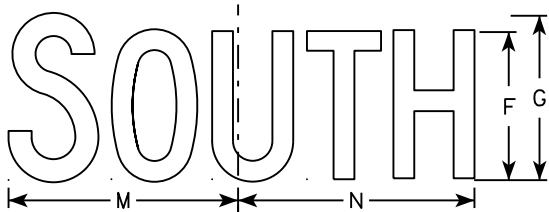
M3-4
MM3-4
MP3-4



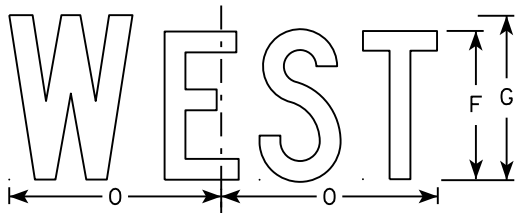
MB3-1
MK3-1
MN3-1



MB3-2
MK3-2
MN3-2



MB3-3
MK3-3
MN3-3



MB3-4
MK3-4
MN3-4

NOTES

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

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

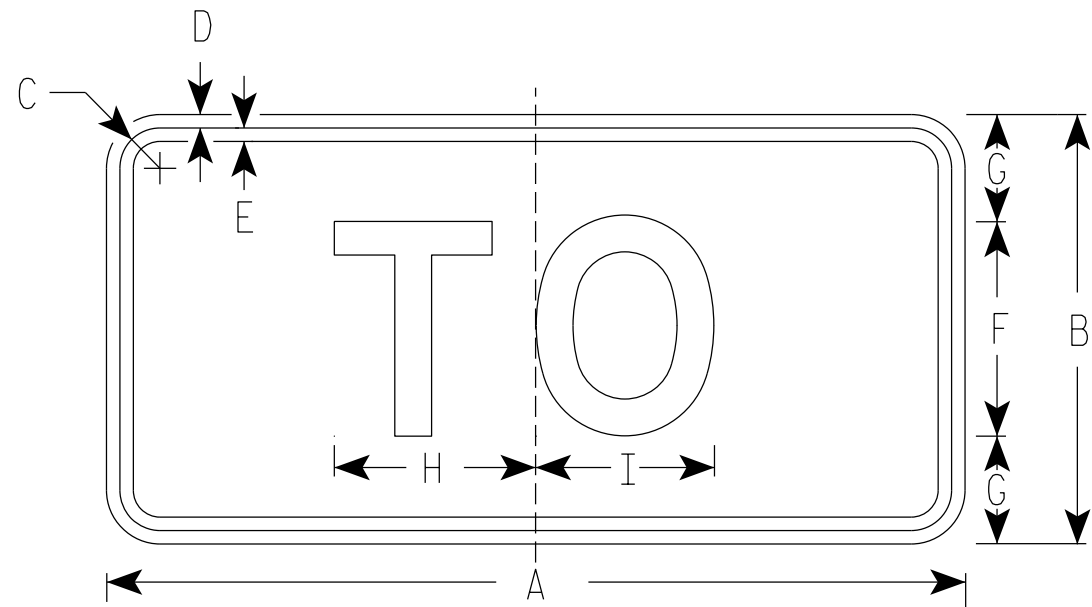
STANDARD SIGNS
M3-1 thru M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

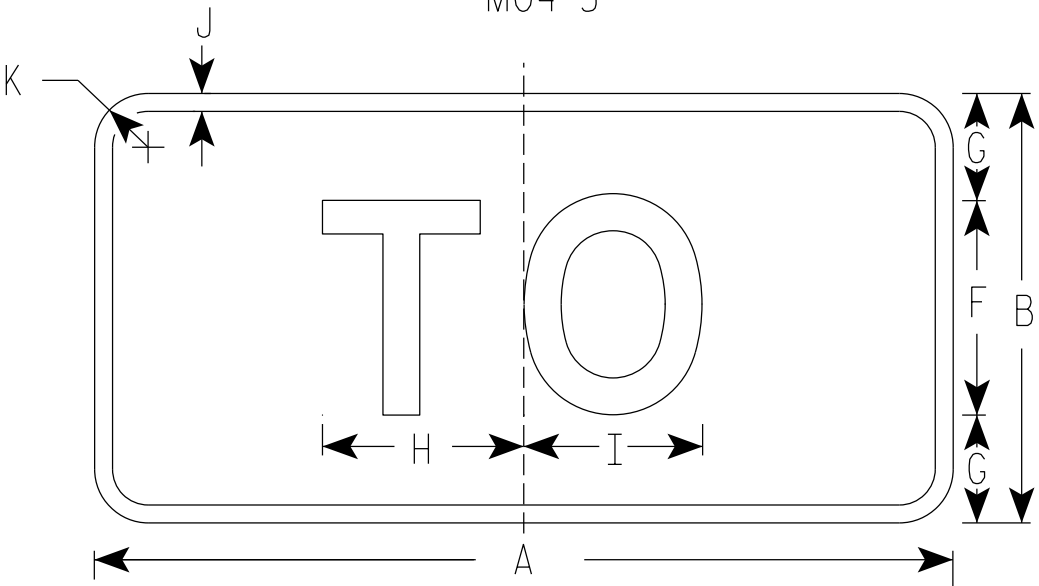
APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 10/15/15 PLATE NO. 374 M3-1.14

7



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



MB4-5
MK4-5
MN4-5

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
Background - See note 5
Message - See note 5
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-5 Background - White
Message - Black
MB4-5 Background - Blue
Message - White
MK4-5 Background - Green
Message - White
MM4-5 Background - White
Message - Green
MN4-5 Background - Brown
Message - White
MP4-5 Background - White
Message - Blue
M04-5 Background - Orange Type F Reflective
Message - Black

7

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

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 375

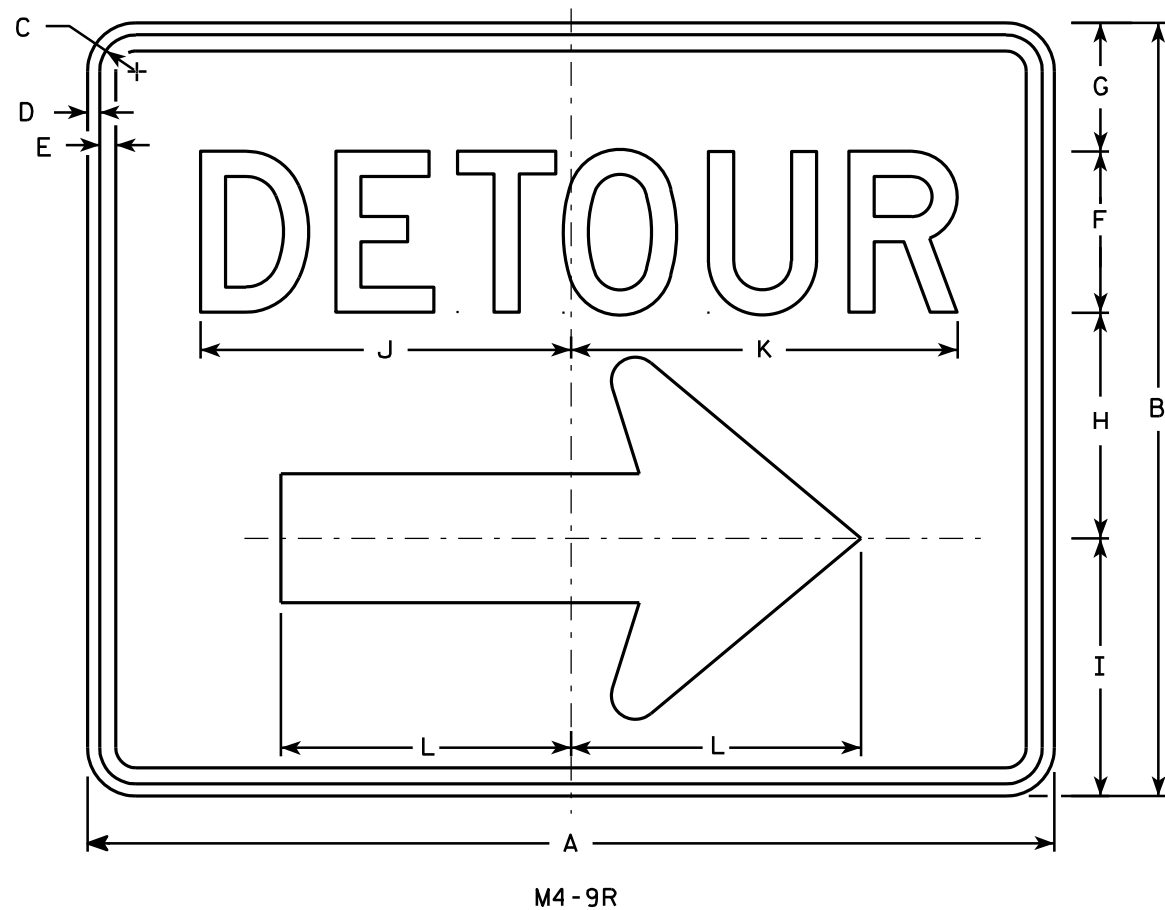
E

STANDARD SIGN
M4-5

WISCONSIN DEPT OF TRANSPORTATION

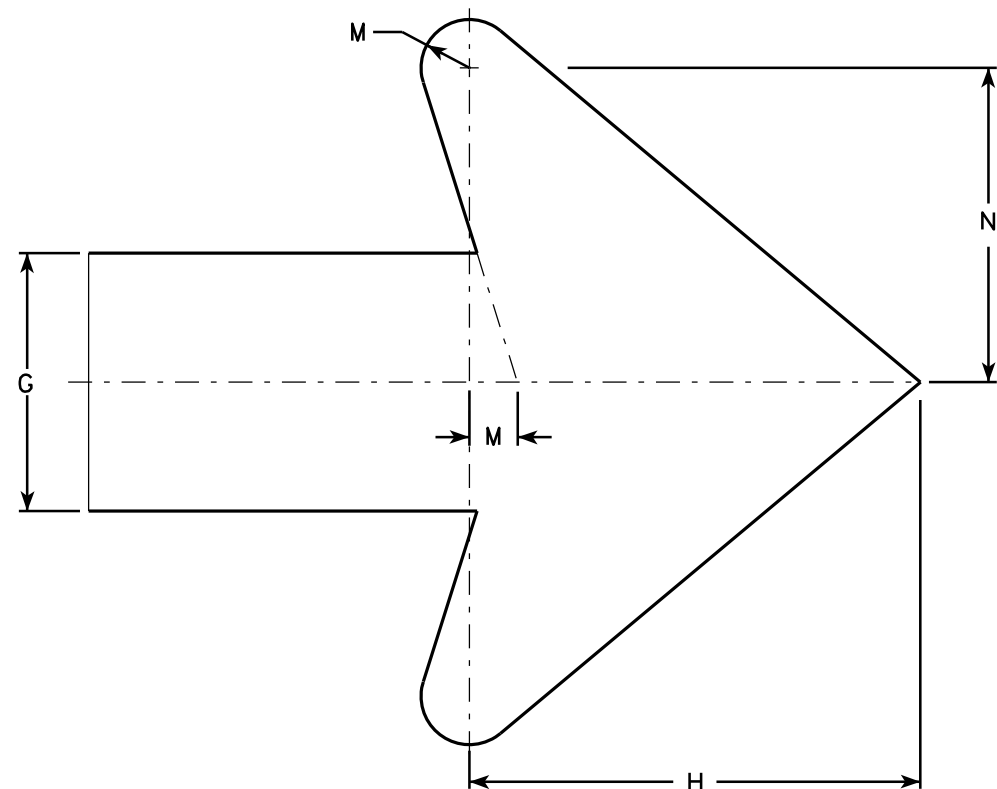
APPROVED
Matthew R. Rauch
State Traffic Engineer

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



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - D
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. M4-9L is the same as M4-9R except the arrow is reversed.



Arrow Detail

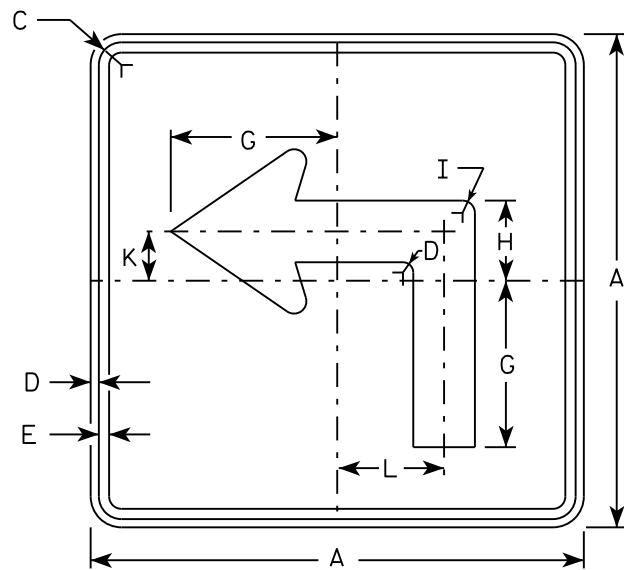
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
3	30	24	1 1/8	3/8	1/2	5	4	7	8	11 1/2	12	9	3/4	4 7/8													5.00
4	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0
5	48	36	1 3/8	1/2	5/8	8	6	10 1/2	11 5/8	20 5/8	20 1/2	13 1/4	1 1/8	6 7/8													12.0

STANDARD SIGN
M4-9 R & L

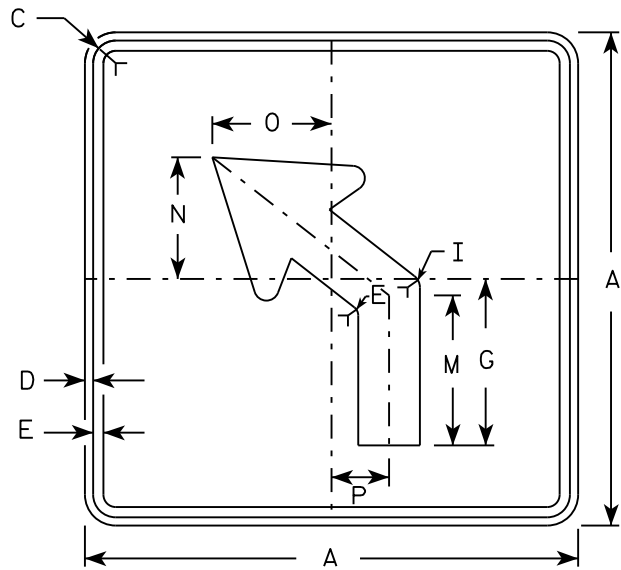
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

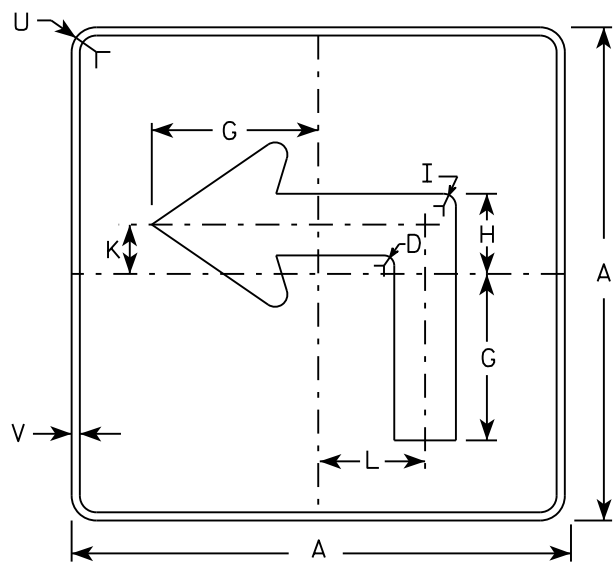
DATE 3/9/11 PLATE NO. M4-9R.4



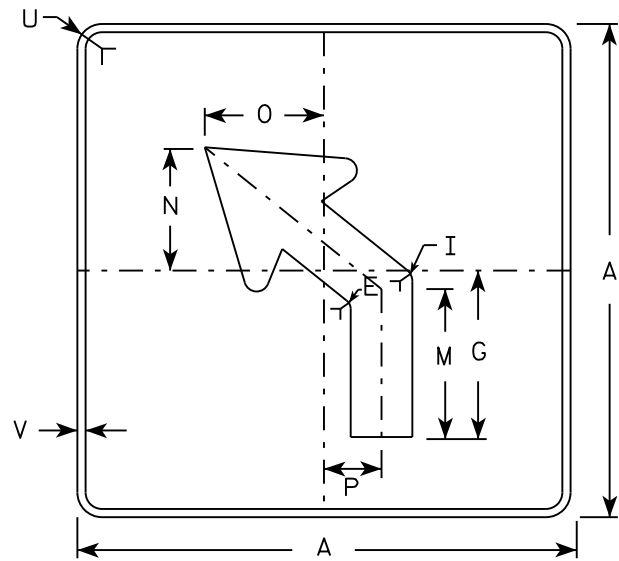
M5-1L
MM5-1L
M05-1L
MP5-1L



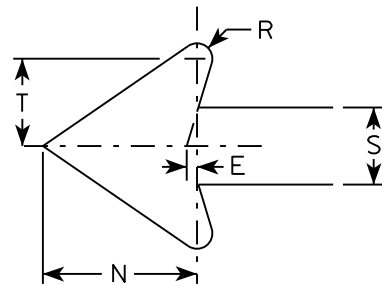
M5-2L
MM5-2L
M05-2L
MP5-2L



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



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



NOTES

- Signs are Type II - Type H reflective except as shown
- Color:
Background - See note 4
Message - See note 4
- Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- | | |
|-----------------|---|
| M5-1 and M5-2 | Background - White |
| | Message - Black |
| MB5-1 and MB5-2 | Background - Blue |
| | Message - White |
| MK5-1 and MK5-2 | Background - Green |
| | Message - White |
| MM5-1 and MM5-2 | Background - White |
| | Message - Green |
| MN5-1 and MN5-2 | Background - Brown |
| | Message - White |
| M05-1 and M05-2 | Background - Orange - Type F Reflective |
| | Message - Black |
| MP5-1 and MP5-2 | Background - White - Type H Reflective |
| | Message - Blue |
| MR5-1 and MR5-2 | Background - Brown |
| | Message - Yellow |
- M5-1R same as M5-1L except arrow points right.
- M5-2R same as M5-2L except arrow tilts right.

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

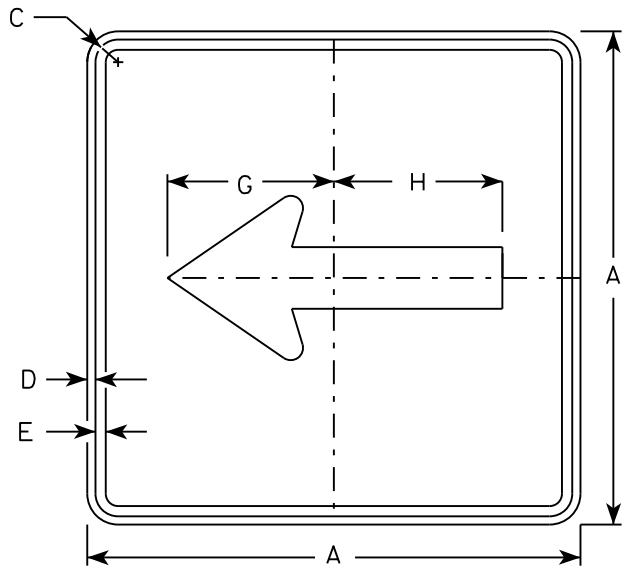
PROJECT NO:	HWY:	COUNTY:	SHEET NO:	E
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STANDARD SIGN
M5-1 & M5-2

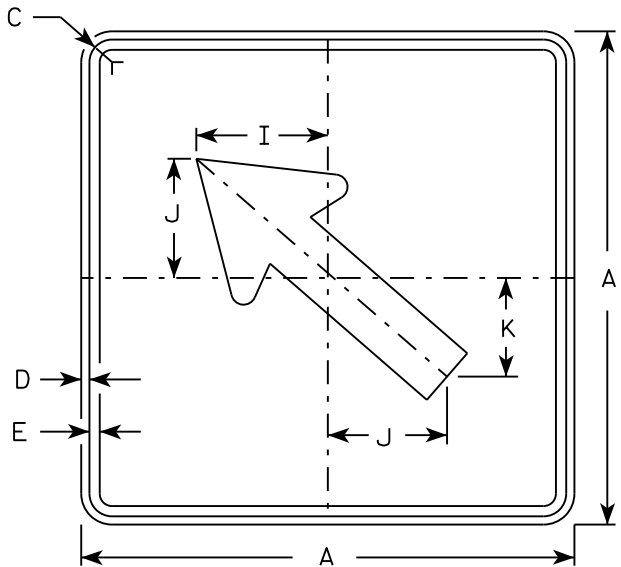
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

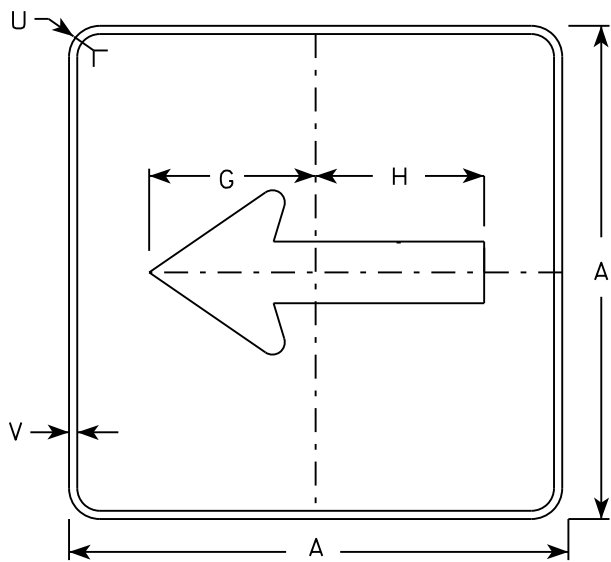
DATE 10/15/15 PLATE 377 M5-1.13



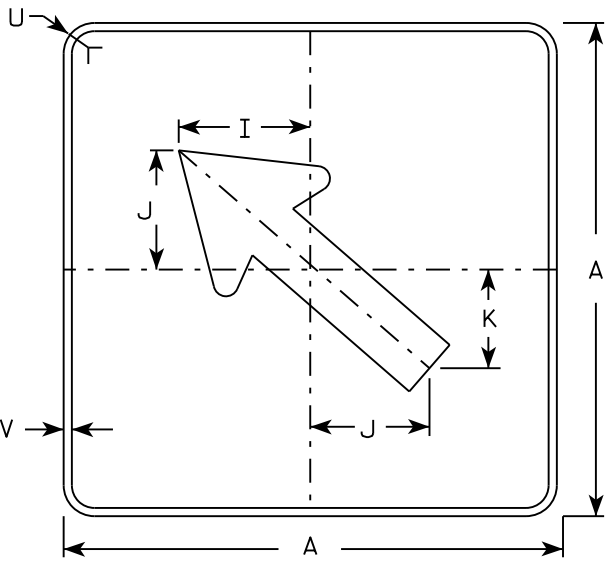
M6 - 1
MM6 - 1
M06 - 1
MP6 - 1



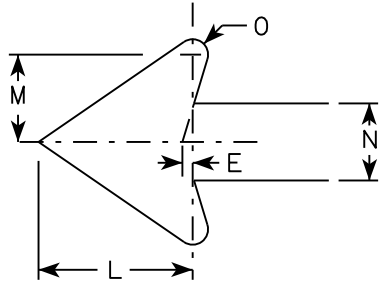
M6 - 2
MM6 - 2
M06 - 2
MP6 - 2



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



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



NOTES

- 1. Signs are Type II - Type H except as Shown
- 2. Color:
Background - See note 4
Message - See note 4
- 3. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
- 4. M6-1 and M6-2 Background - White
Message - Black
MB6-1 and MB6-2 Background - Blue
Message - White
MK6-1 and MK6-2 Background - Green
Message - White
MM6-1 and MM6-2 Background - White
Message - Green
MN6-1 and MN6-2 Background - Brown
Message - White
M06-1 and M06-2 Background - Orange - Type F Reflective
Message - Black
MP6-1 and MP6-2 Background - White
Message - Blue
MR6-1 and MR6-2 Background - Brown
Message - Yellow

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

PROJECT NO:

HWY:

COUNTY:

SHEET NO:

E

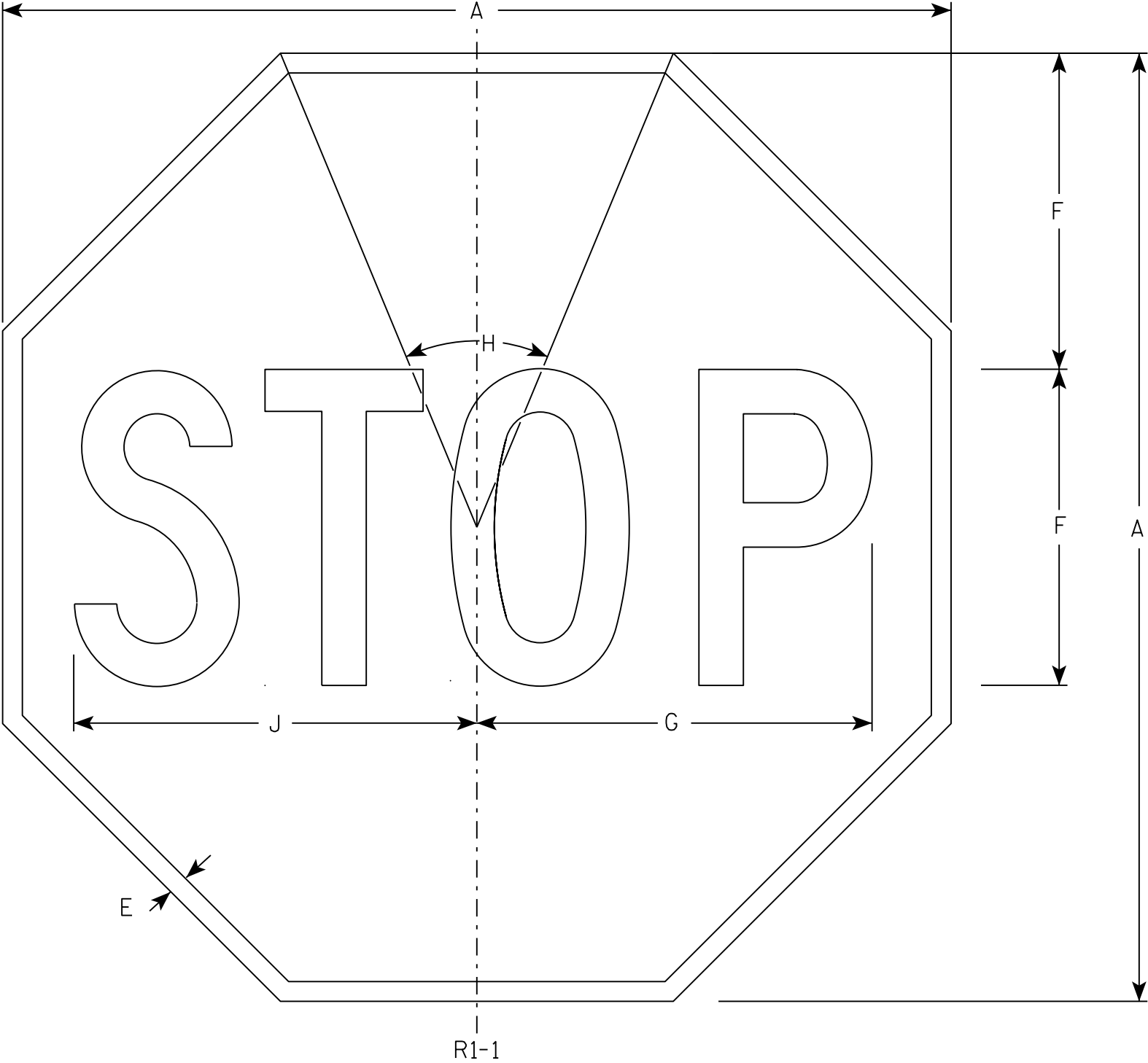
STANDARD SIGN
M6 - 1 & M6 - 2
SERIES

WISCONSIN DEPT OF TRANSPORTATION

APPROVED
Matthew R. Rauch
for State Traffic Engineer

DATE 10/15/15 PLAT 378 M6-1.15

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

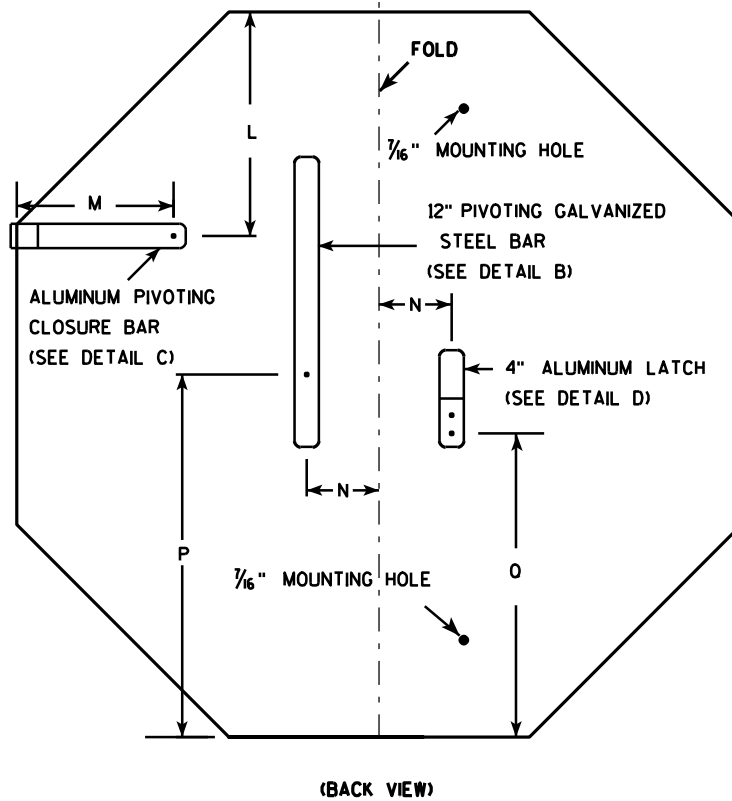
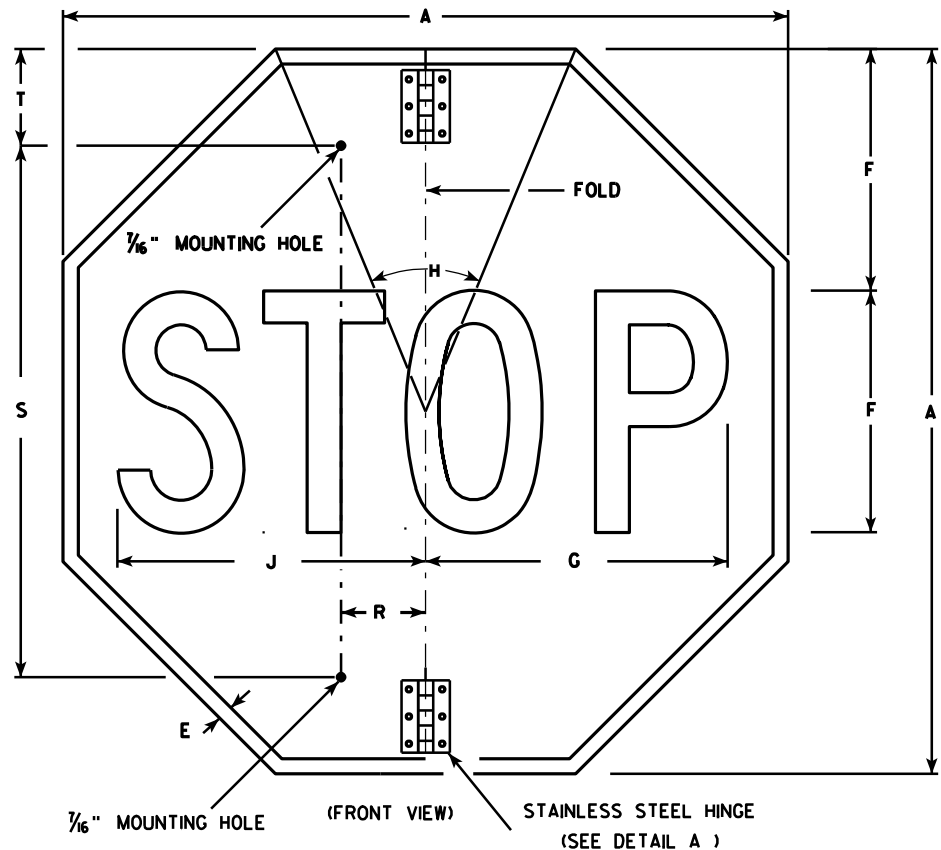
STANDARD SIGN

R1 - 1

WISCONSIN DEPT OF TRANSPORTATION

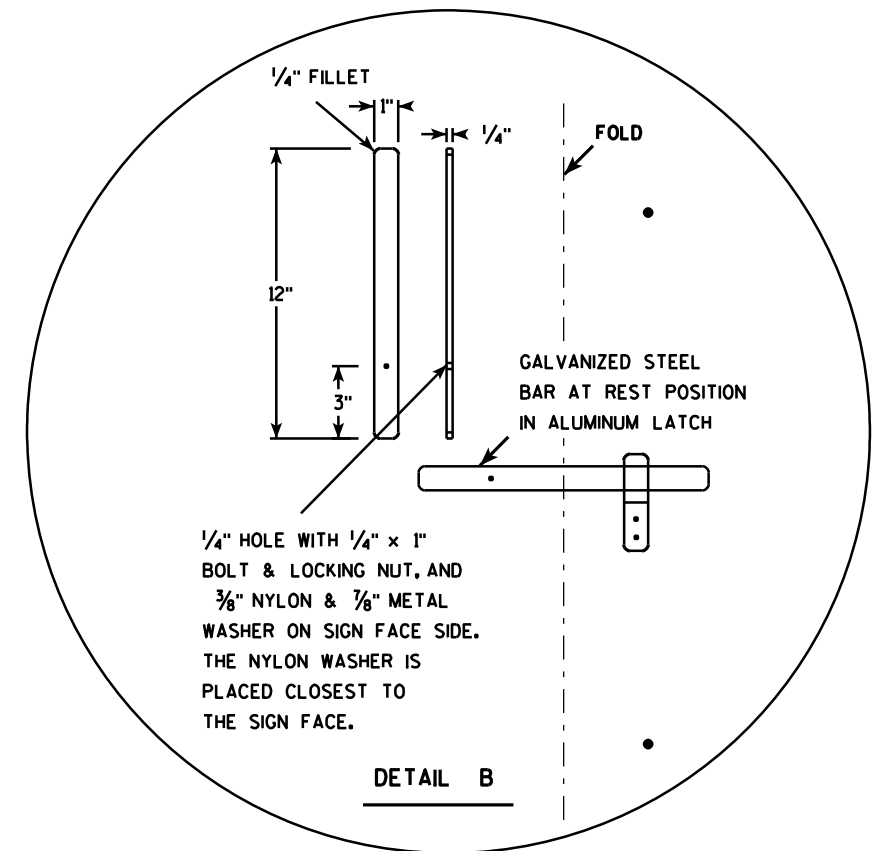
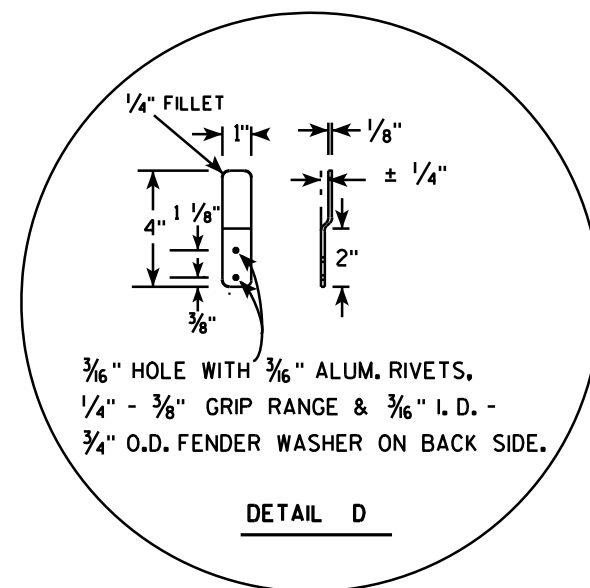
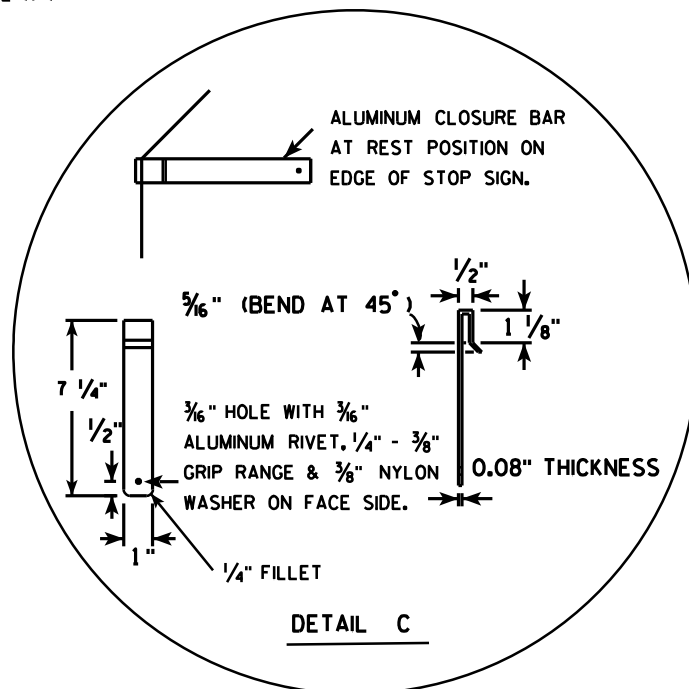
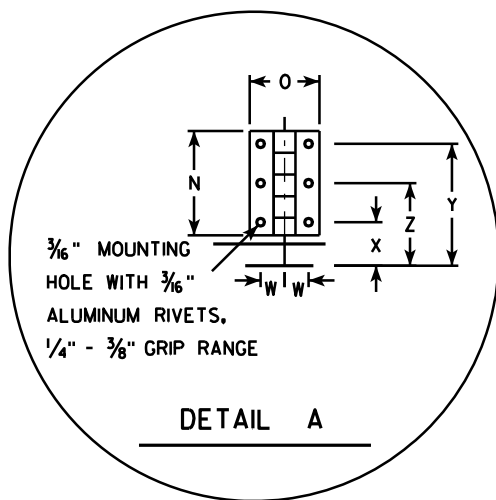
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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



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
4. All hardware used on the folding STOP sign installation shall conform to 637.2.4 of the WIS DOT Standard Specification.



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				$\frac{5}{8}$	10	12 $\frac{1}{2}$	45		12 $\frac{3}{4}$		9 $\frac{1}{4}$	6 $\frac{1}{2}$	3	2	15	12 $\frac{3}{8}$	2 $\frac{1}{2}$	22	5			$\frac{1}{16}$	1 $\frac{1}{4}$	3 $\frac{1}{2}$	2 $\frac{3}{8}$	5.18
2M	36				$\frac{3}{4}$	12	15	45		15 $\frac{3}{8}$		11	6 $\frac{1}{2}$	3	2	18	15 $\frac{3}{8}$	2 $\frac{1}{2}$	26	5			$\frac{1}{16}$	1 $\frac{1}{4}$	3 $\frac{1}{2}$	2 $\frac{3}{8}$	7.46
3	36				$\frac{3}{4}$	12	15	45		15 $\frac{3}{8}$		11	6 $\frac{1}{2}$	3	2	18	15 $\frac{3}{8}$	2 $\frac{1}{2}$	26	5			$\frac{1}{16}$	1 $\frac{1}{4}$	3 $\frac{1}{2}$	2 $\frac{3}{8}$	7.46
4																											
5																											

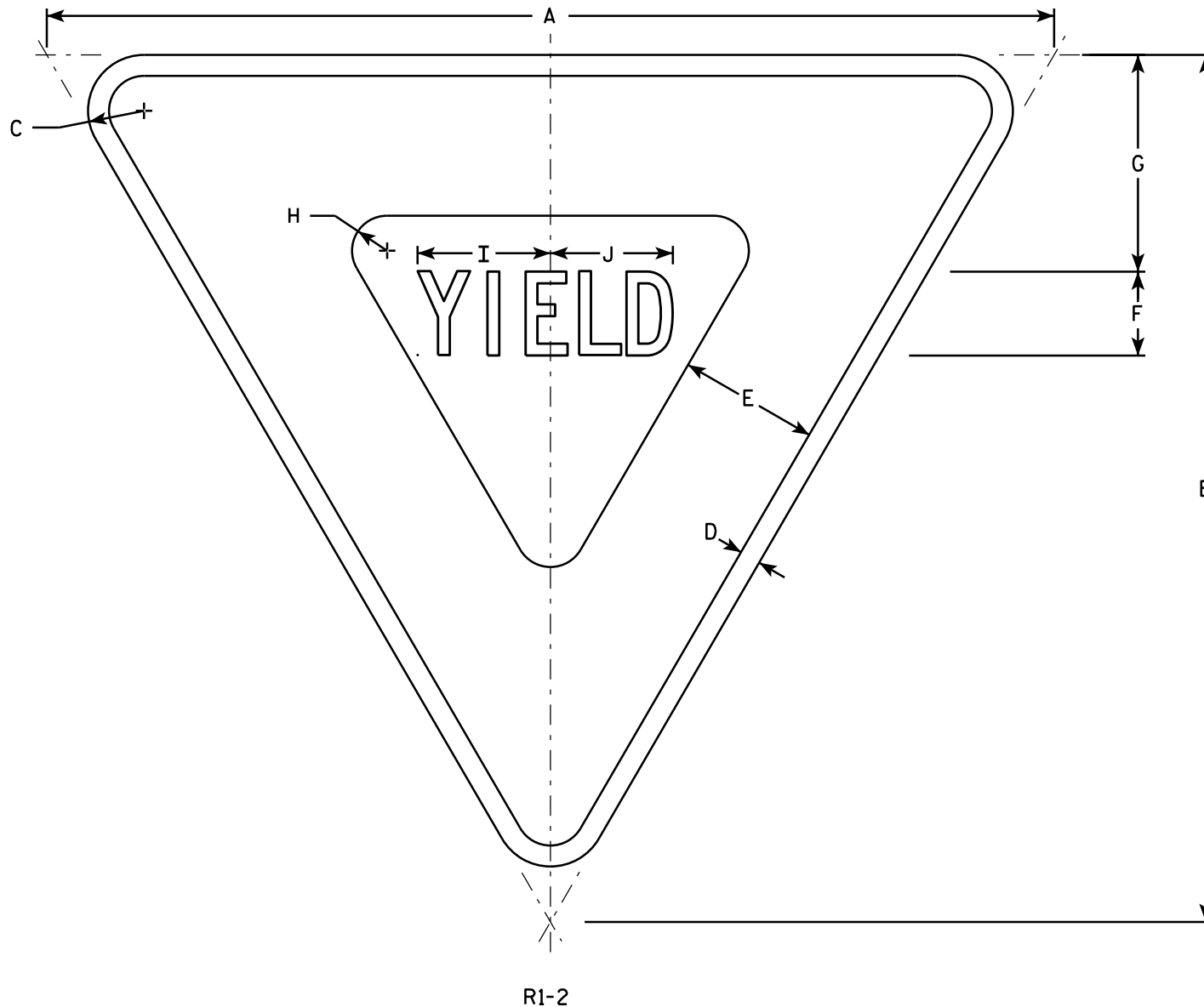
PROJECT NO:	HWY:	COUNTY:	SHEET NO: 380	E
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STANDARD SIGN R1-1F

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1F.3



NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - See note 5
3. Message Series - 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. The border strip and word message are reflectorized red.

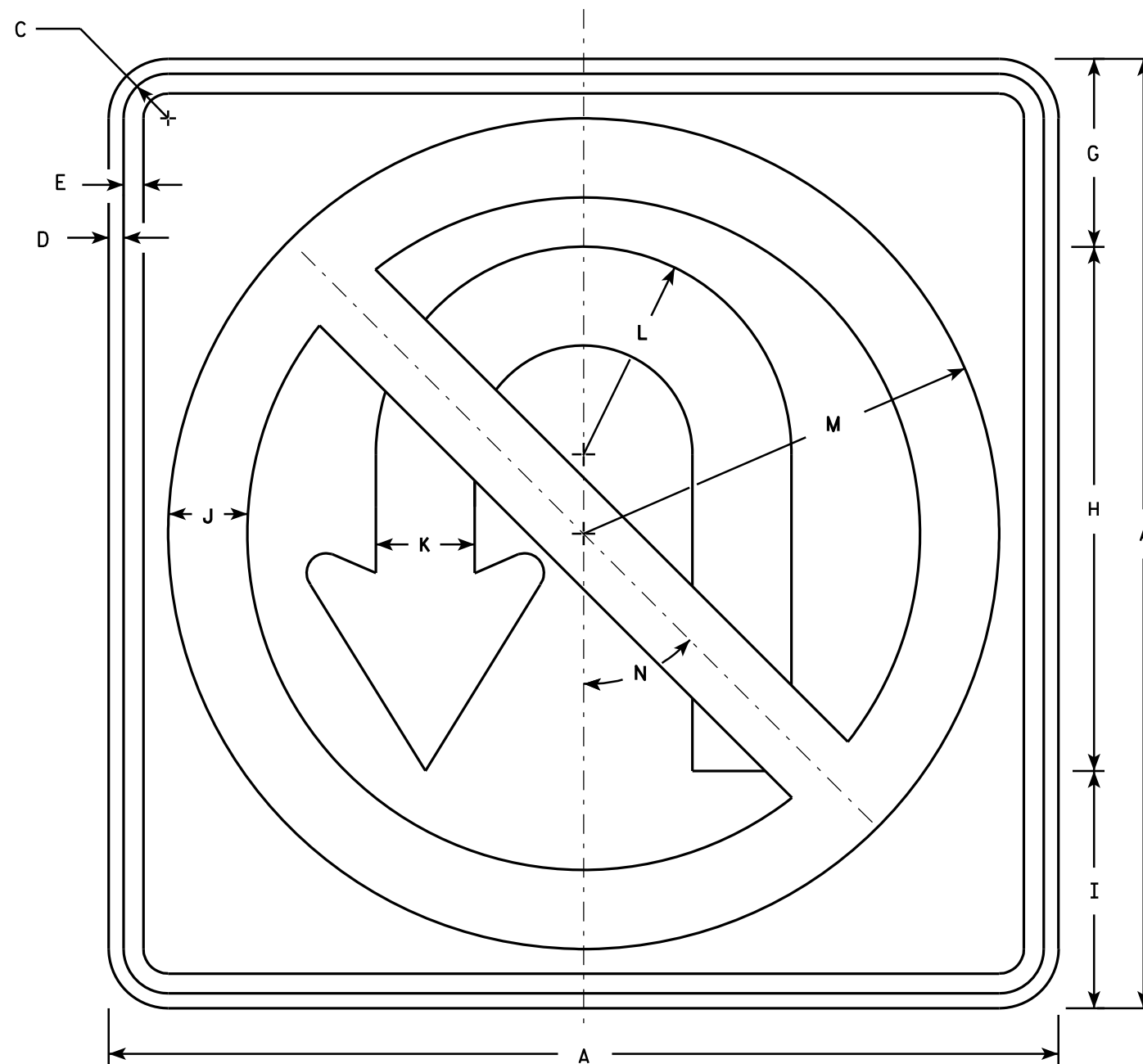
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30	26	1 1/2	5/8	4	2 1/2	6 3/8	7/8	4	3 5/8																	2.71
2S	36	31	2	3/4	5	3	7 3/4	1 1/4	4 3/4	4 3/8																	3.88
2M	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
3	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
4	48	42	3	1	6	4	9 3/4	2	6 1/4	5 7/8																	7.00
5	60	52	3	1 1/2	8	5	13	2 1/2	7 7/8	7 1/4																	10.83
6																											
7	18	15 1/2	1	3/8	2 1/2	1 1/2	3 7/8	5/8	2 3/8	2 1/4																	0.97

STANDARD SIGN
R1-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

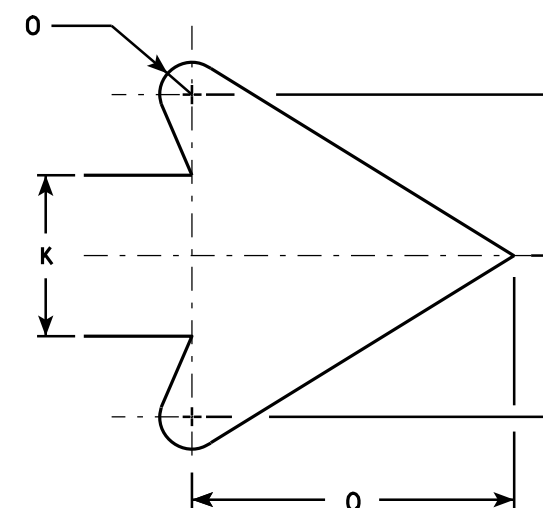
DATE 10/13/14 PLATE 381 P1-2.12



R3-4

NOTES

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

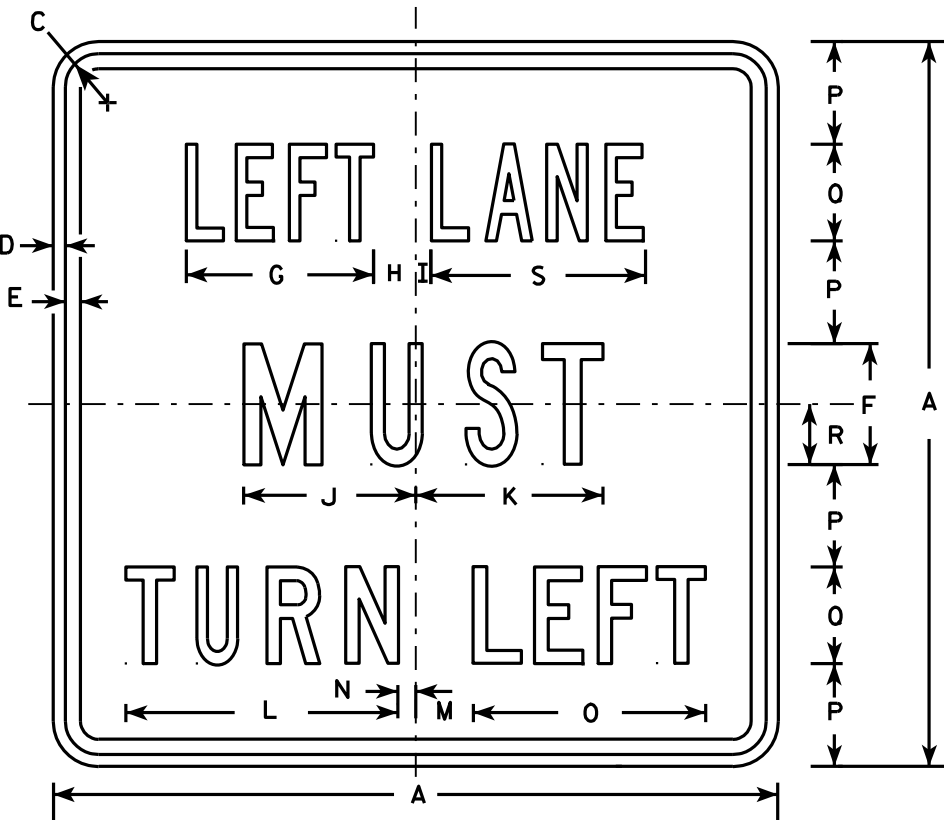


ARROW DETAIL

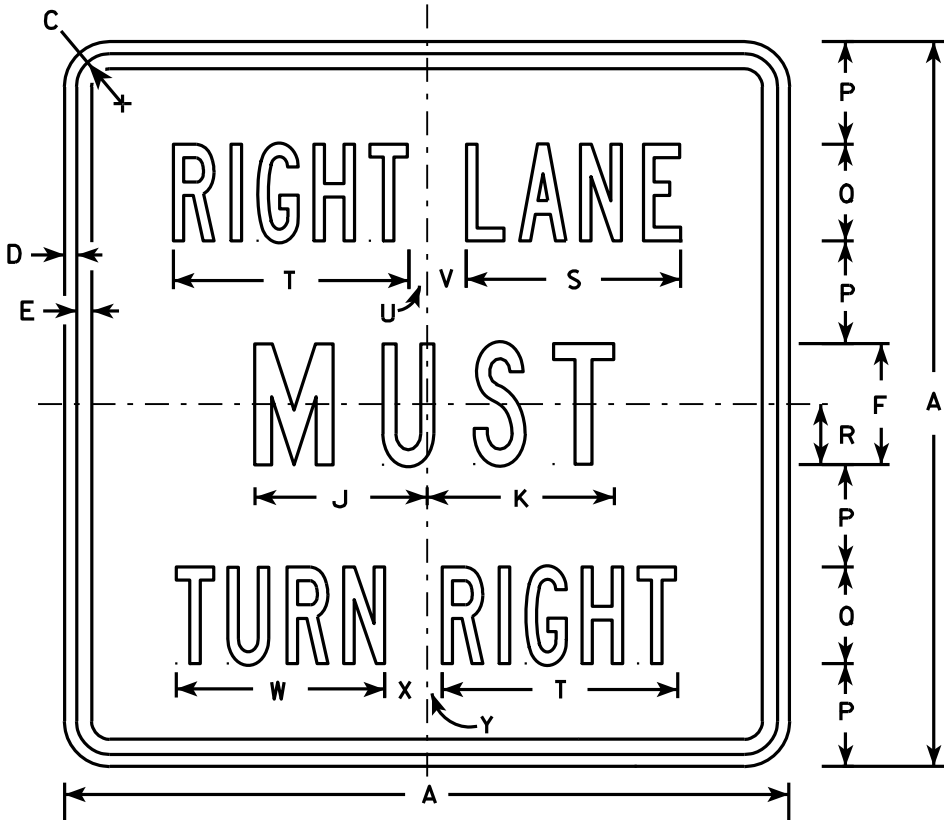
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	3/8	1/2		4 3/4	13 1/4	6	2	2 1/2	5 1/4	10 1/2	45°	1/2		5										4.0
2M	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
3	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
4	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0
5	36		1 5/8	5/8	3/4		7 1/8	19 7/8	9	3	3 3/4	7 7/8	15 3/4	45°	3/4		7 5/8										9.0

STANDARD SIGN	
R3-4	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 12/08/10	PLATE NO. R3-4.11

PROJECT NO:	HWY:	COUNTY:	SHEET NO: 382	E
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R3-7L

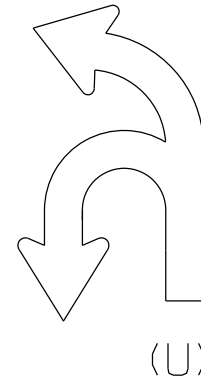
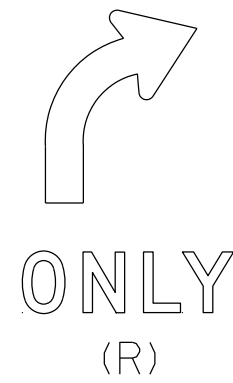
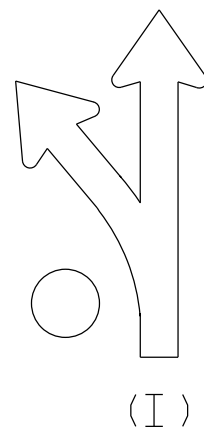
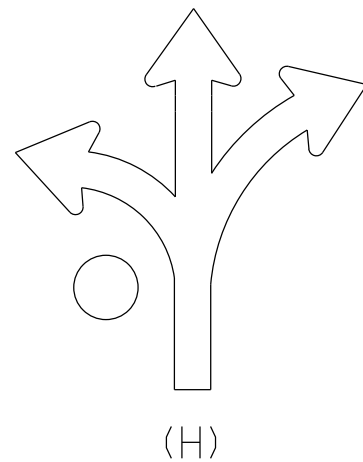
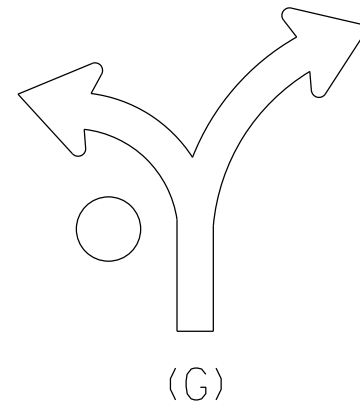
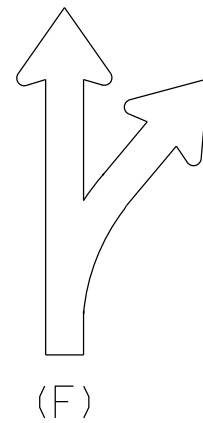
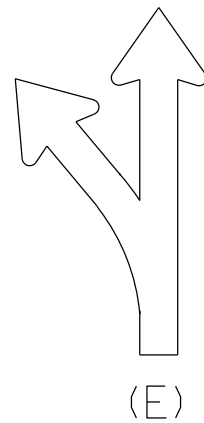
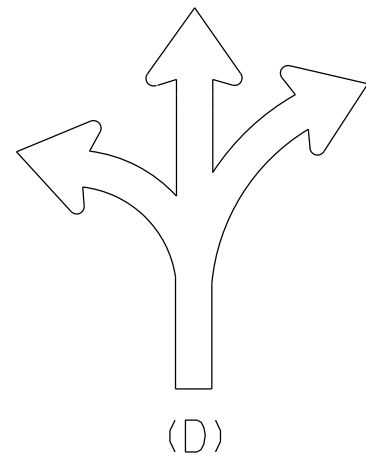
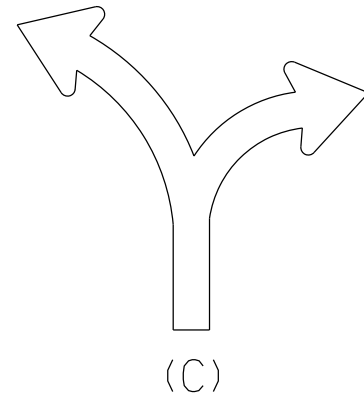
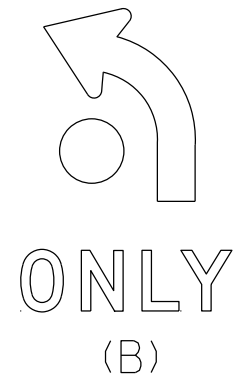
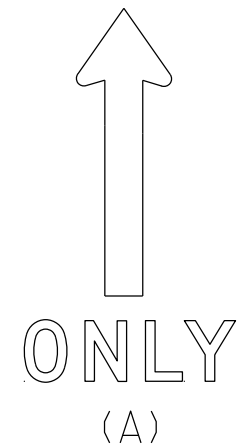


R3-7R

NOTES

- 1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
- 2. Color:
Background - White
Message - Black
- 3. Message Series - Line 1 is Series B.
Line 2 is Series C.
Line 3 on plate R3-7R is Series B and Series C on plate R3-7L.
- 4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3⁄8	1⁄2	5⁄8	5	7 3⁄4	1 3⁄4	5⁄8	7 1⁄8	7 3⁄4	11 1⁄4	2 3⁄8	3⁄4	9 5⁄8	4 1⁄4	4	2 1⁄2	8 7⁄8	9 3⁄4	3⁄4	1 5⁄8	8 5⁄8	1 5⁄8	5⁄8		6.25
2S	30		1 3⁄8	1⁄2	5⁄8	5	7 3⁄4	1 3⁄4	5⁄8	7 1⁄8	7 3⁄4	11 1⁄4	2 3⁄8	3⁄4	9 5⁄8	4 1⁄4	4	2 1⁄2	8 7⁄8	9 3⁄4	3⁄4	1 5⁄8	8 5⁄8	1 5⁄8	5⁄8		6.25
2M	30		1 3⁄8	1⁄2	5⁄8	5	7 3⁄4	1 3⁄4	5⁄8	7 1⁄8	7 3⁄4	11 1⁄4	2 3⁄8	3⁄4	9 5⁄8	4 1⁄4	4	2 1⁄2	8 7⁄8	9 3⁄4	3⁄4	1 5⁄8	8 5⁄8	1 5⁄8	5⁄8		6.25
3	36		1 5⁄8	5⁄8	3⁄4	6	9 5⁄8	2	1 1⁄8	8 3⁄4	9	13 1⁄2	3 7⁄8	1 1⁄2	12 1⁄2	5	5	3	10 5⁄8	12	7⁄8	2 1⁄4	10 5⁄8	2 1⁄8	1		9.00
4	48		2 1⁄4	3⁄4	1	8	13 1⁄2	2 3⁄8	1 1⁄2	11 1⁄2	11 7⁄8	17 3⁄4	3 5⁄8	2 1⁄2	16 3⁄8	6 1⁄2	7	4	14 3⁄8	16 7⁄8	5⁄8	3 1⁄4	15 1⁄8	2 3⁄4	1 1⁄8		16.00
5																											



NOTES

1. Sigs are Type II - Type H Reflective
2. Color:
Background - White
Message - Black
3. Message Series - D
4. Use appropriate Letter for Sign Code
Each letter added makes sign wider. Example R3-8EAR
5. Square footage of sign varies by letters

1 Letter = 3.75 sq ft for Size 2

6.0 sq ft for Size 3

10.0 sq ft for Size 4 or 5

2 Letters = 7.5 sq ft for Size 2

12.0 sq ft for Size 3

20.0 sq ft for Size 4 or 5

3 Letters = 11.25 sq ft for Size 2

18.0 sq ft for Size 3

30.0 sq ft for Size 4 or 5

4 Letters = 15.0 sq ft for Size 2

24.0 sq ft for Size 3

40.0 sq ft for Size 4 or 5

5 Letters = 18.75 sq ft for Size 2

30.0 sq ft for Size 3

50.0 sq ft for Size 4 or 5

6 Letters = 22.5 sq ft for Size 2

36.0 sq ft for Size 3

60.0 sq ft for Size 4 or 5

6. When letters C,D,G,H are used on the Left or Right end of the sign the Sq.Ft. changes.

Add the amounts when these letters are used:

1.25 sq ft for Size 2

1.5 sq ft for Size 3

2.0 sq ft for Size 4 or 5

STANDARD SIGN
R3-8 Series

WISCONSIN DEPT OF TRANSPORTATION

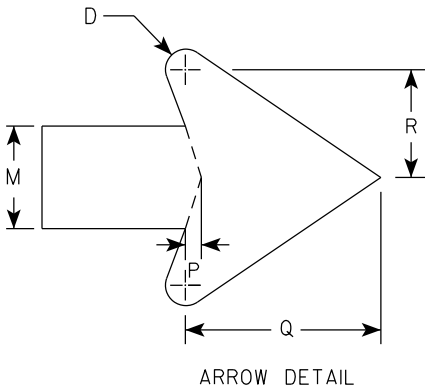
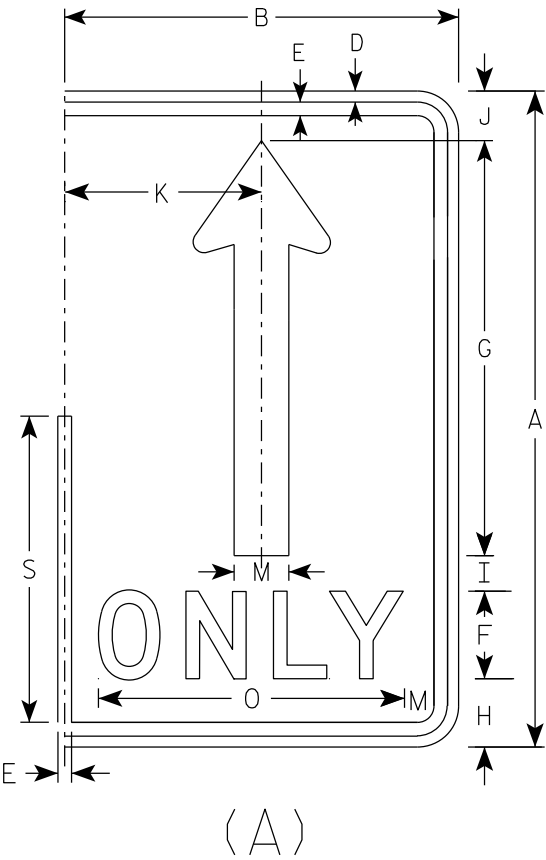
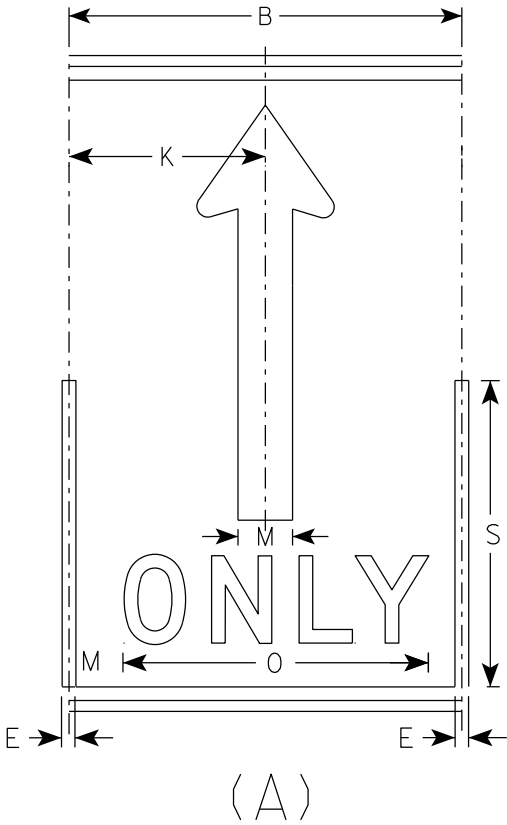
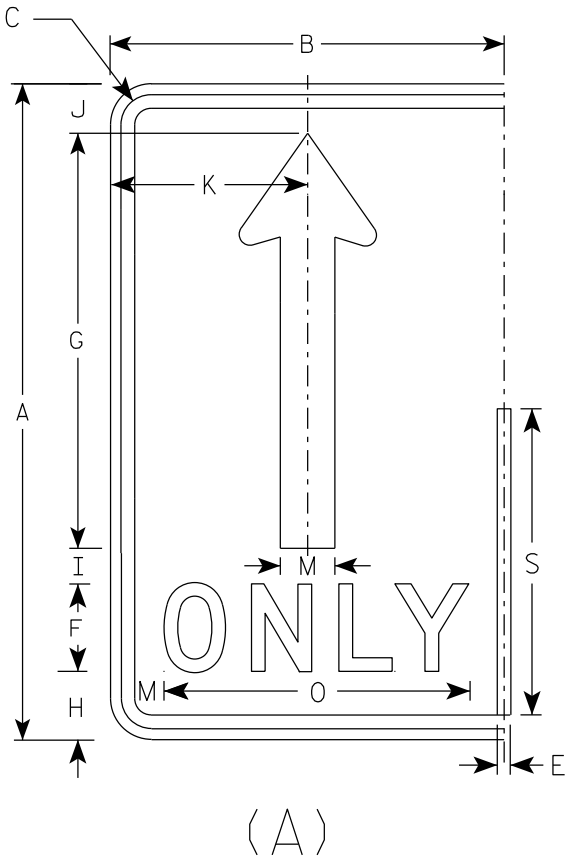
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

7

NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
Background - White
Message - Black
- 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	18	1 3/8	1/2	5/8	4	19	3 1/8	1 5/8	2 1/4	9		2 1/2		14	3/8	4 3/4	2 5/8	14								3.75
2M	30	18	1 3/8	1/2	5/8	4	19	3 1/8	1 5/8	2 1/4	9		2 1/2		14	3/8	4 3/4	2 5/8	14								3.75
3	36	24	1 3/8	1/2	5/8	5	22 3/4	3 3/4	1 3/4	2 3/4	12		3		17 5/8	1/2	5 3/4	3 1/8	16 3/4								6.0
4	48	30	2 1/4	3/4	1	6	30 3/8	5 1/8	2 7/8	3 5/8	15		4		21 3/4	5/8	7 5/8	4 1/4	22 3/8								10.0
5	48	30	2 1/4	3/4	1	6	30 3/8	5 1/8	2 7/8	3 5/8	15		4		21 3/4	5/8	7 5/8	4 1/4	22 3/8								10.0

STANDARD SIGN
R3-8 (A) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

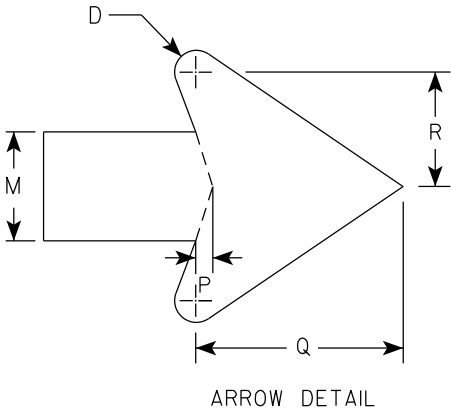
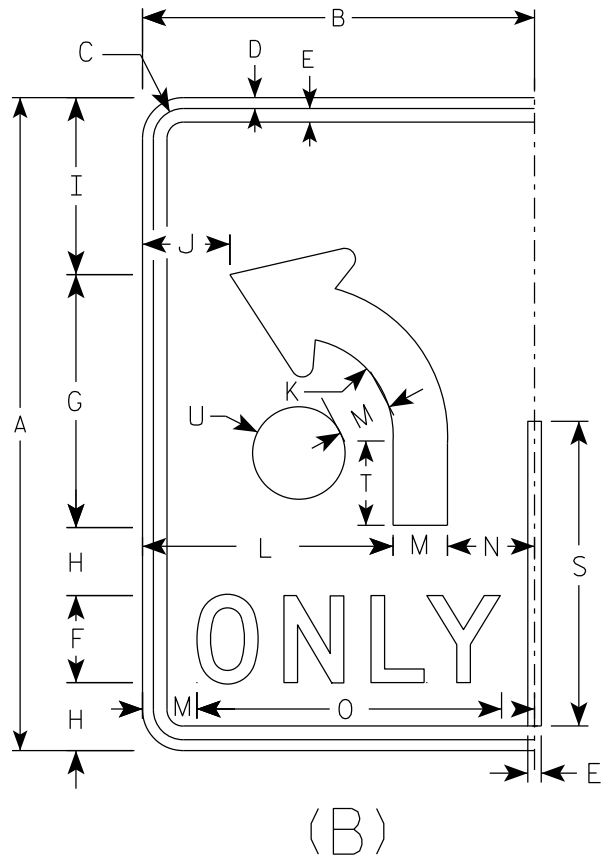
NOTES

1. Sign is Type II - Type H Reflective
2. Color:

Background - White

Message - Black

Message Series - D



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3⁄8	1⁄2	5⁄8	4	11 5⁄8	3 1⁄8	8 1⁄8	4	4 1⁄2	11 1⁄2	2 1⁄2	4	14	3⁄8	4 3⁄4	2 5⁄8	14	3 7⁄8	2 1⁄8						3.75
2M	30	18	1 3⁄8	1⁄2	5⁄8	4	11 5⁄8	3 1⁄8	8 1⁄8	4	4 1⁄2	11 1⁄2	2 1⁄2	4	14	3⁄8	4 3⁄4	2 5⁄8	14	3 7⁄8	2 1⁄8						3.75
3	36	24	1 3⁄8	1⁄2	5⁄8	5	14	3 1⁄2	9 3⁄4	6	5 3⁄8	15	3	6	17 5⁄8	1⁄2	5 3⁄4	3 1⁄8	16 3⁄4	4 5⁄8	2 1⁄2						6.0
4	48	30	2 1⁄4	3⁄4	1	6	18 5⁄8	5 1⁄8	13 1⁄8	6 1⁄8	7 1⁄4	18	4	8	21 3⁄4	5⁄8	7 5⁄8	4 1⁄4	22 3⁄8	6 1⁄4	3 3⁄8						10.0
5	48	30	2 1⁄4	3⁄4	1	6	18 5⁄8	5 1⁄8	13 1⁄8	6 1⁄8	7 1⁄4	18	4	8	21 3⁄4	5⁄8	7 5⁄8	4 1⁄4	22 3⁄8	6 1⁄4	3 3⁄8						10.0

STANDARD SIGN

R3-8 (B) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*

for State Traffic Engineer

DATE 5/21/19

PLATE NO. R3-8.1

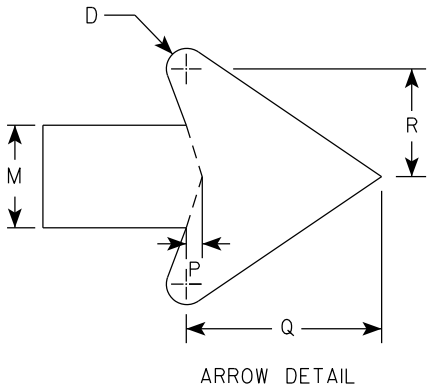
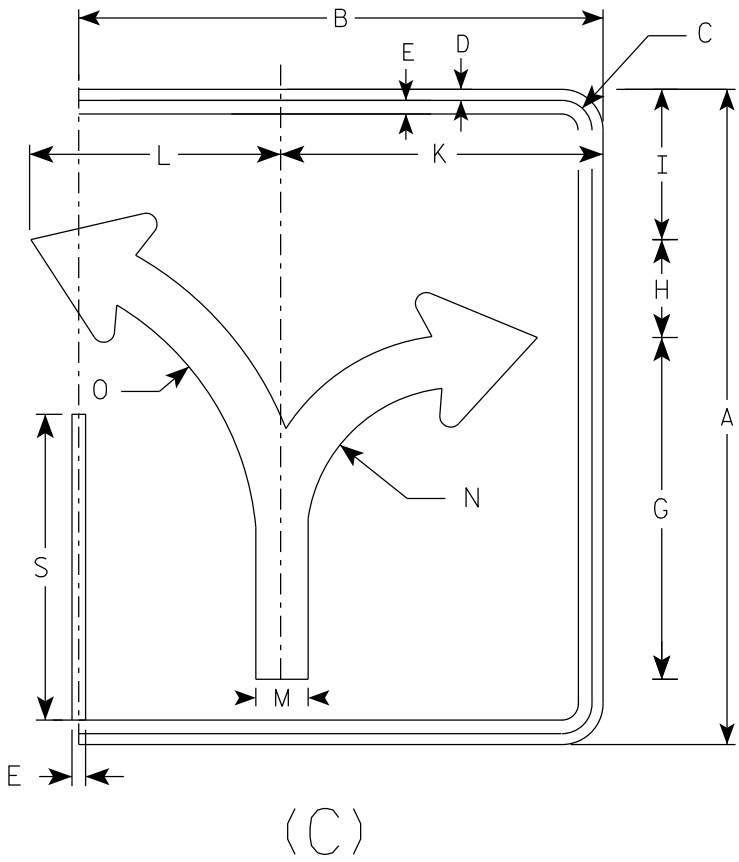
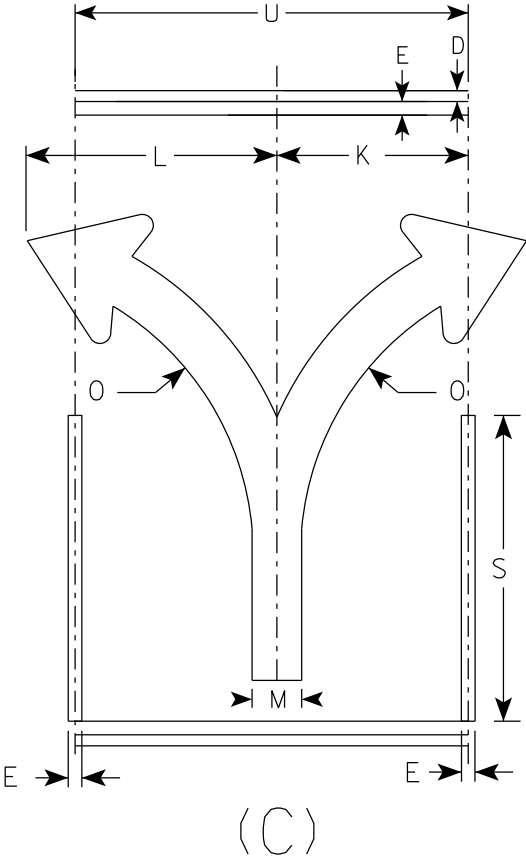
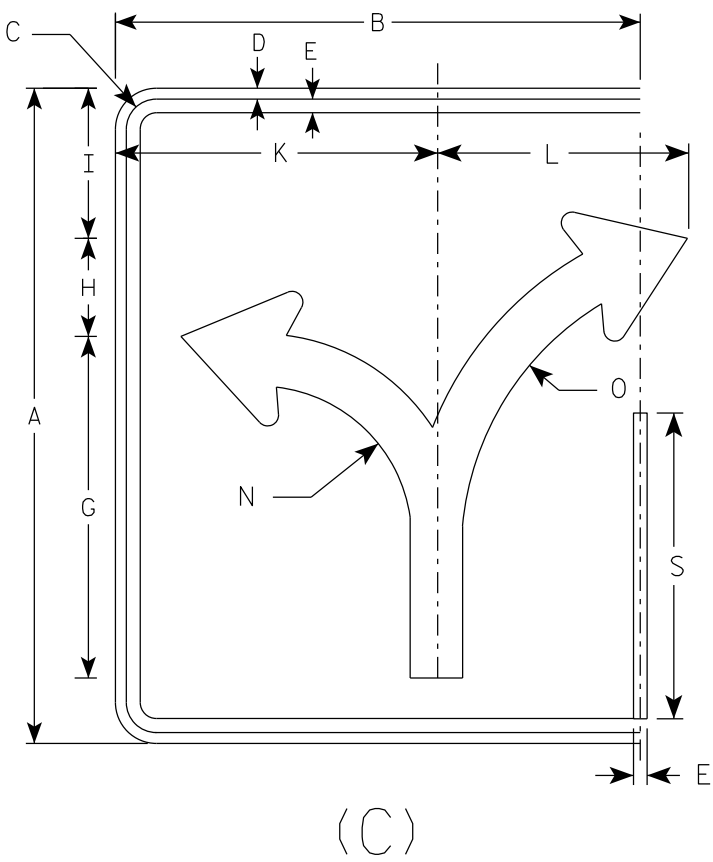
7

NOTES

1. Sign is Type II - Type H Reflective
2. Color:

Background - White

Message - Black
3. Message Series - None



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	ENDS	MIDDLE
																											Area sq. ft.	Area sq. ft.
1																												
2S	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	6 7/8		14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		18						5.0	3.75
2M	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	6 7/8		14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		18						5.0	3.75
3	36	30	1 3/8	1/2	5/8		18 3/4	5 1/2	8 1/4		17 1/4	17 1/4	2 7/8	8 3/8	16	1/2	5 1/2	3	16 3/4		24						7.5	6.0
4	48	36	2 1/4	3/4	1		24 7/8	7 1/4	11		23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		30						12.0	10.0
5	48	36	2 1/4	3/4	1		24 7/8	7 1/4	11		23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		30						12.0	10.0

PROJECT NO:

HWY:

COUNTY:

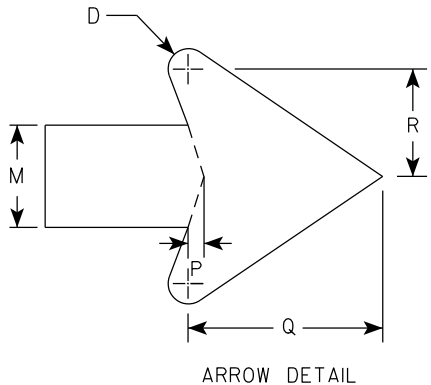
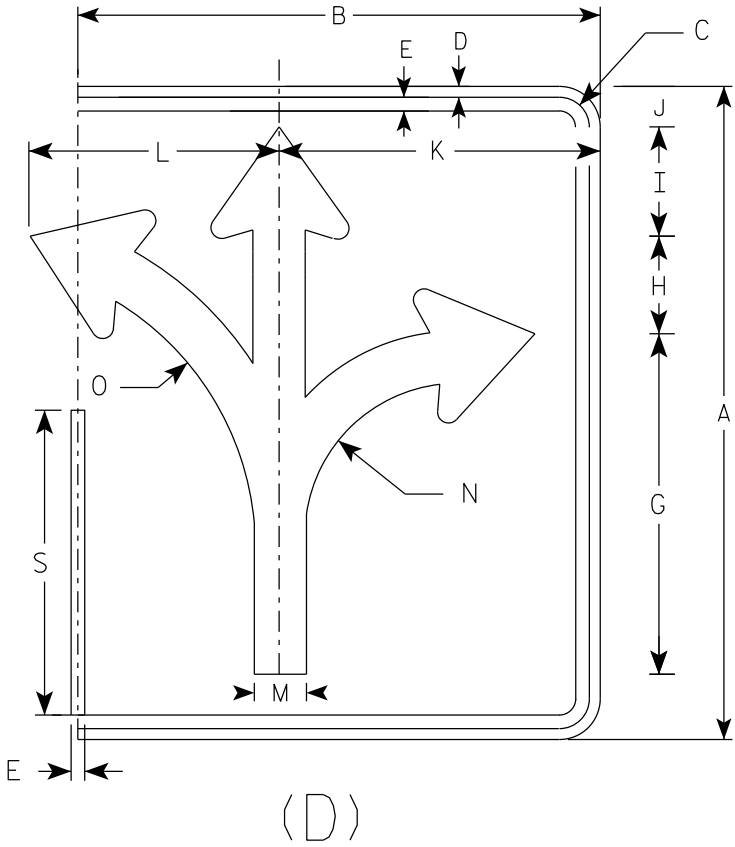
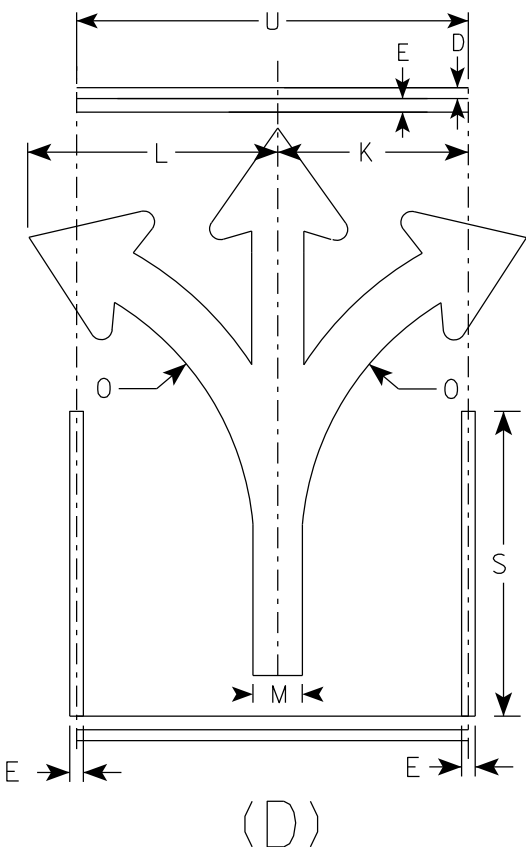
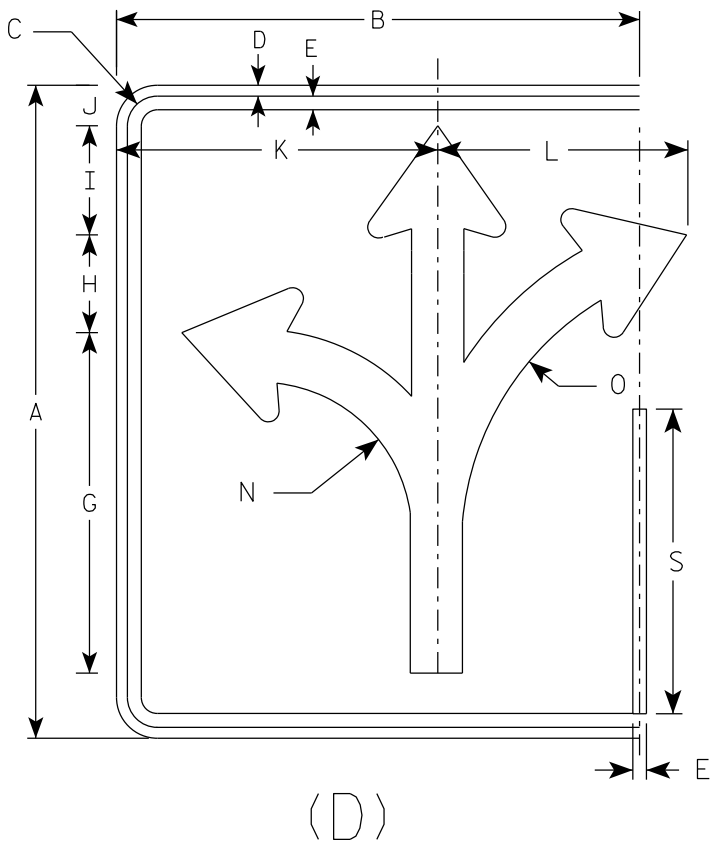
SHEET NO: 387

E

7

NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
Background - White
Message - Black
- 3. Message Series - None



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	ENDS	MIDDLE
																											Area sq. ft.	Area sq. ft.
1																												
2S	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	5	1 7/8	14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		18						5.0	3.75
2M	30	24	1 3/8	1/2	5/8		15 5/8	4 1/2	5	1 7/8	14 3/4	11 1/2	2 3/8	7	13 1/4	3/8	4 1/2	2 1/2	14		18						5.0	3.75
3	36	30	1 3/8	1/2	5/8		18 3/4	5 1/2	6	2 1/4	17 1/4	17 1/4	2 7/8	8 3/8	16	1/2	5 1/2	3	16 3/4		24						7.5	6.0
4	48	36	2 1/4	3/4	1		24 7/8	7 1/4	7 7/8	3 1/8	23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		30						12.0	10.0
5	48	36	2 1/4	3/4	1		24 7/8	7 1/4	7 7/8	3 1/8	23 1/8	18	3 3/4	11 1/8	21 1/4	5/8	7 1/8	4	22 3/8		30						12.0	10.0

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 388

E

STANDARD SIGN
R3-8 (D) Arrow

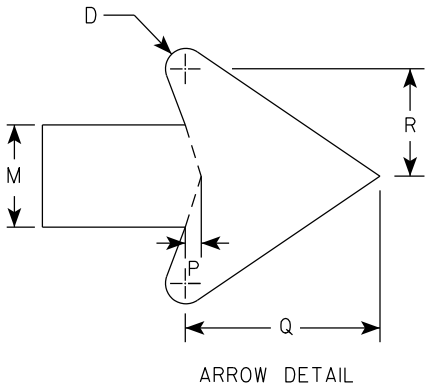
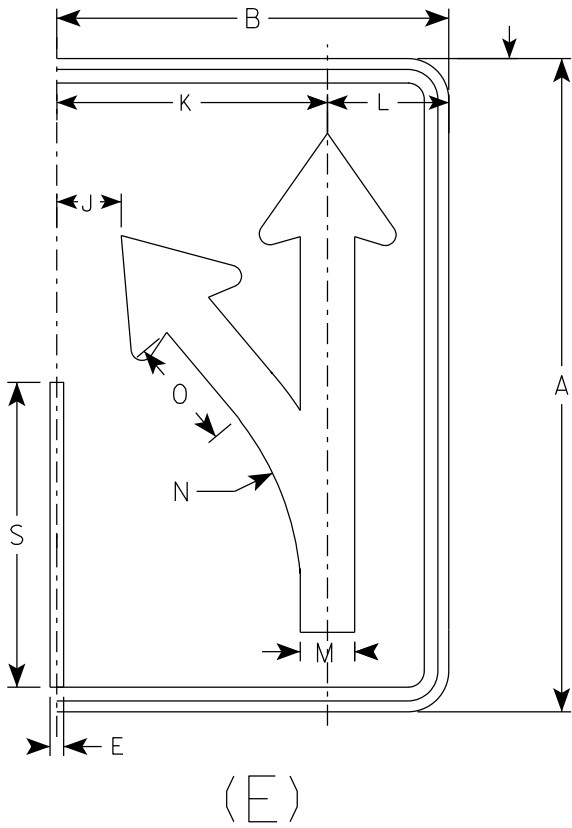
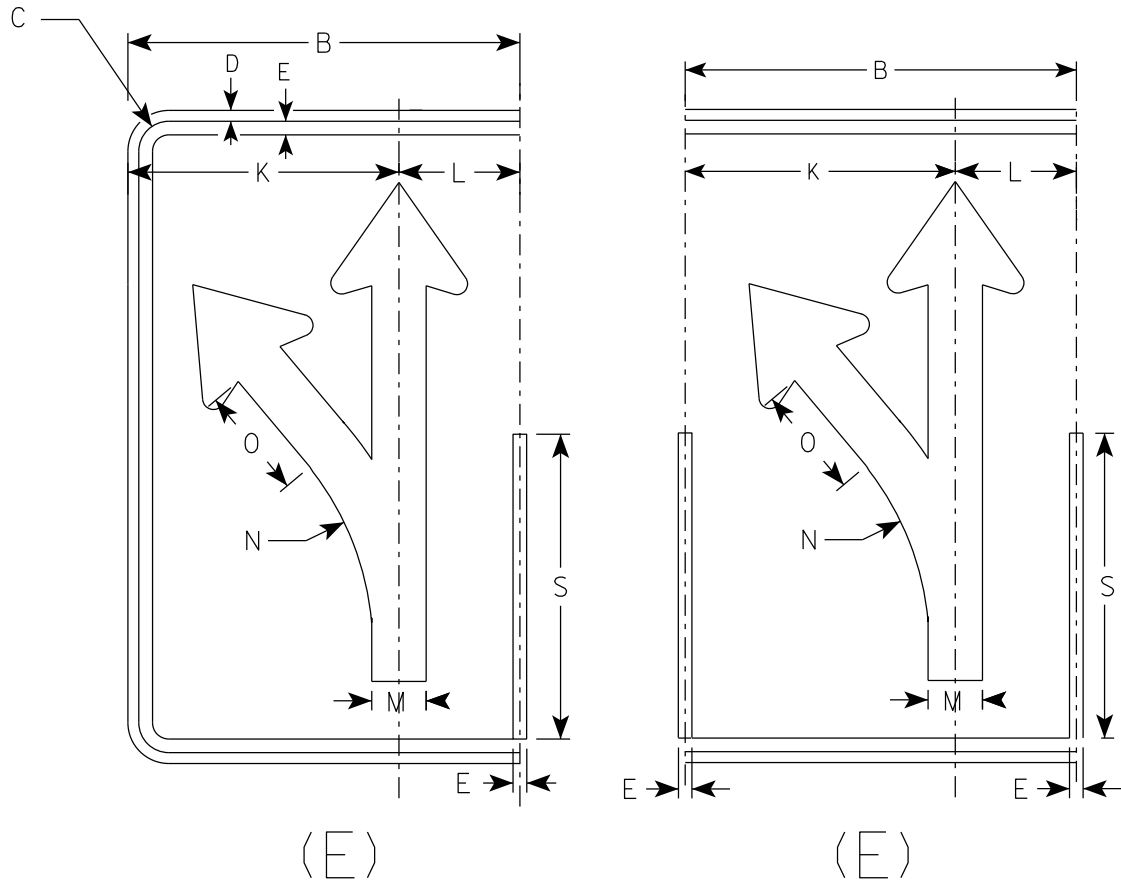
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
Background - White
Message - Black
- 3. Message Series - None



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3⁄8	1⁄2	5⁄8		18 1⁄4	4 3⁄4	3 1⁄4	3	12 1⁄2	5 1⁄2	2 1⁄2	13 1⁄4	5 1⁄8	3⁄8	4 3⁄4	2 5⁄8	14								3.75
2M	30	18	1 3⁄8	1⁄2	5⁄8		18 1⁄4	4 3⁄4	3 1⁄4	3	12 1⁄2	5 1⁄2	2 1⁄2	13 1⁄4	5 1⁄8	3⁄8	4 3⁄4	2 5⁄8	14								3.75
3	36	24	1 3⁄8	1⁄2	5⁄8		21 7⁄8	5 5⁄8	4	4 7⁄8	16 1⁄8	7 3⁄4	3	15 7⁄8	6 1⁄8	1⁄2	5 3⁄4	3 1⁄8	16 3⁄4								6.0
4	48	30	2 1⁄4	3⁄4	1		29 1⁄8	7 1⁄2	5 1⁄4	5 3⁄8	20 1⁄2	9 1⁄2	4	21 1⁄4	8 1⁄4	5⁄8	7 5⁄8	4 1⁄4	22 3⁄8								10.0
5	48	30	2 1⁄4	3⁄4	1		29 1⁄8	7 1⁄2	5 1⁄4	5 3⁄8	20 1⁄2	9 1⁄2	4	21 1⁄4	8 1⁄4	5⁄8	7 5⁄8	4 1⁄4	22 3⁄8								10.0

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 389

E

STANDARD SIGN
R3-8 (E) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

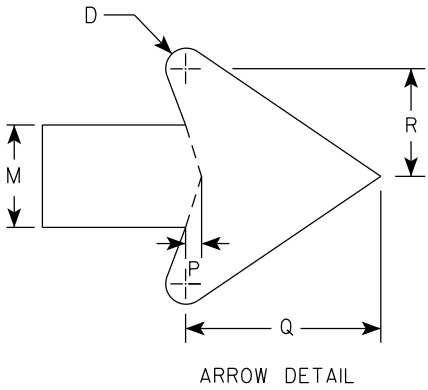
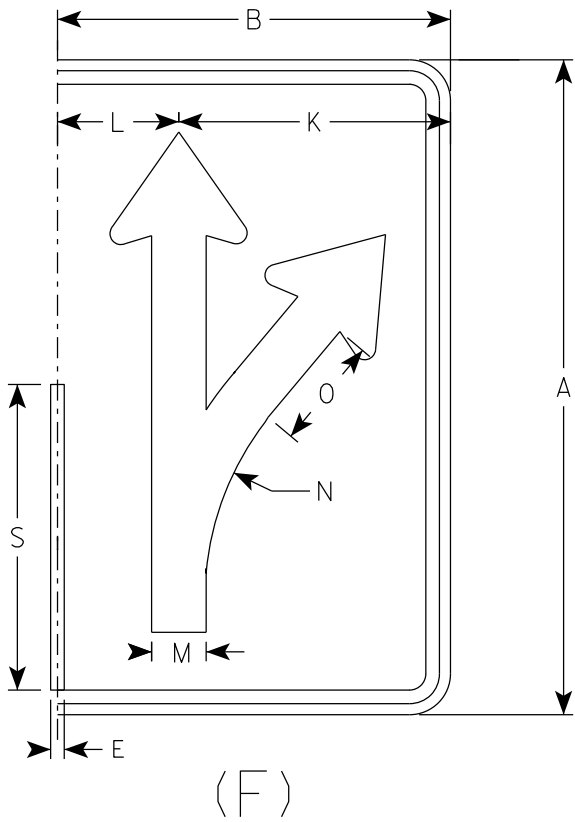
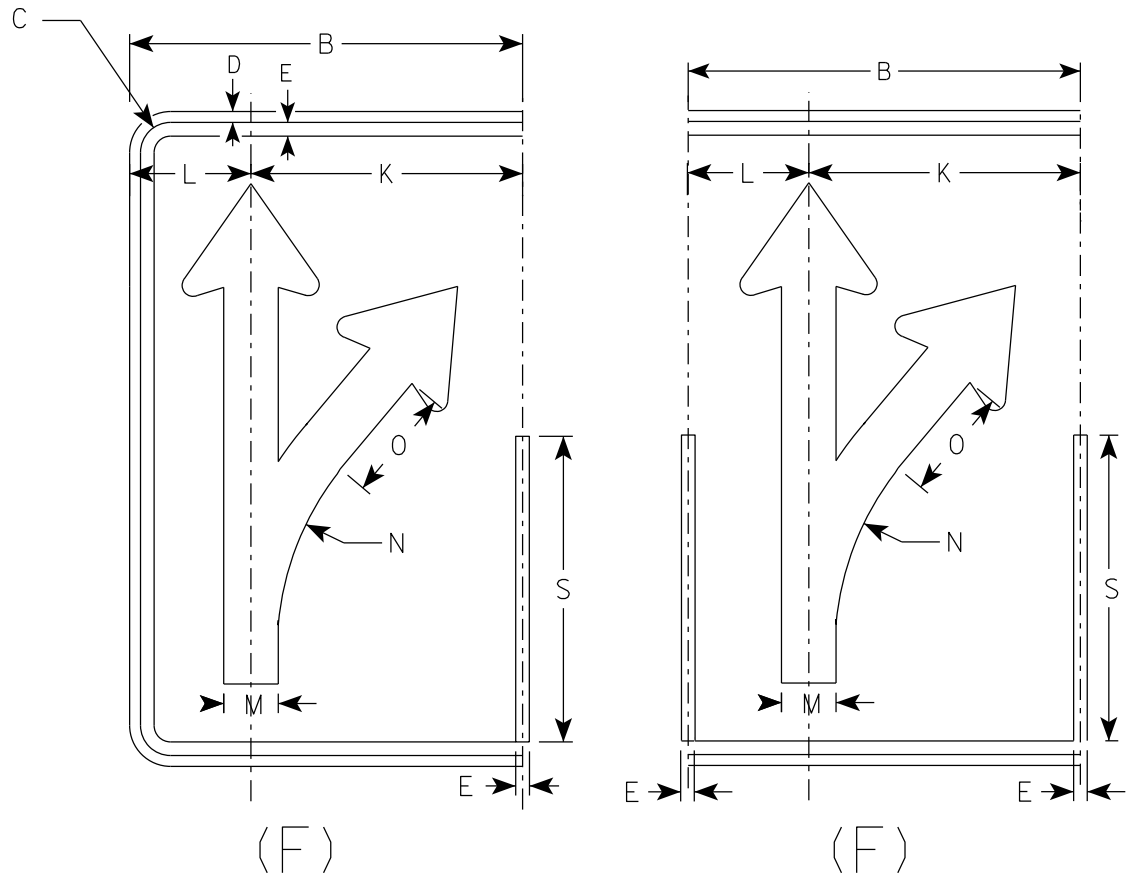
DATE 5/21/19 PLATE NO. R3-8.1

NOTES

1. Sign is Type II - Type H Reflective
2. Color:

Background - White

Message - Black
3. Message Series - None



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3⁄8	1⁄2	5⁄8		18 1⁄4	4 3⁄4	3 1⁄4	3	12 1⁄2	5 1⁄2	2 1⁄2	13 1⁄4	5 1⁄8	3⁄8	4 3⁄4	2 5⁄8	14								3.75
2M	30	18	1 3⁄8	1⁄2	5⁄8		18 1⁄4	4 3⁄4	3 1⁄4	3	12 1⁄2	5 1⁄2	2 1⁄2	13 1⁄4	5 1⁄8	3⁄8	4 3⁄4	2 5⁄8	14								3.75
3	36	24	1 3⁄8	1⁄2	5⁄8		21 7⁄8	5 5⁄8	4	4 7⁄8	16 1⁄8	7 3⁄4	3	15 7⁄8	6 1⁄8	1⁄2	5 3⁄4	3 1⁄8	16 3⁄4								6.0
4	48	30	2 1⁄4	3⁄4	1		29 1⁄8	7 1⁄2	5 1⁄4	5 3⁄8	20 1⁄2	9 1⁄2	4	21 1⁄4	8 1⁄4	5⁄8	7 5⁄8	4 1⁄4	22 3⁄8								10.0
5	48	30	2 1⁄4	3⁄4	1		29 1⁄8	7 1⁄2	5 1⁄4	5 3⁄8	20 1⁄2	9 1⁄2	4	21 1⁄4	8 1⁄4	5⁄8	7 5⁄8	4 1⁄4	22 3⁄8								10.0

PROJECT NO:

HWY:

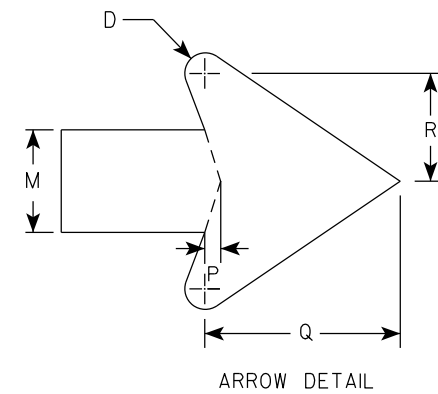
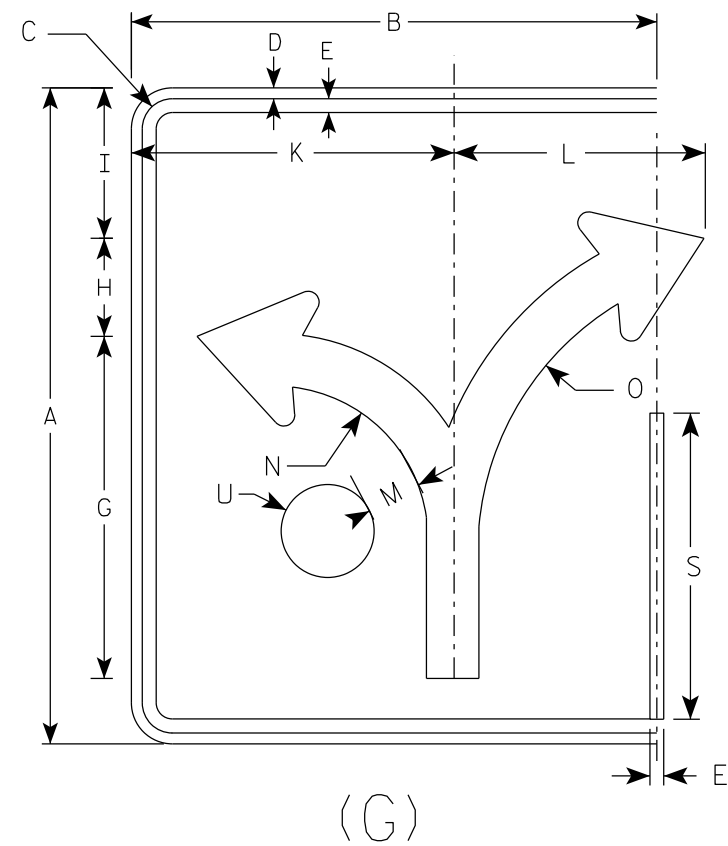
COUNTY:

SHEET NO: 390

E

NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
Background - White
Message - Black
- 3. Message Series - None



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	24	1 3⁄8	1⁄2	5⁄8		15 5⁄8	4 1⁄2	6 7⁄8		14 3⁄4	11 1⁄2	2 3⁄8	7	13 1⁄4	3⁄8	4 1⁄2	2 1⁄2	14		2 1⁄8						5.0
2M	30	24	1 3⁄8	1⁄2	5⁄8		15 5⁄8	4 1⁄2	6 7⁄8		14 3⁄4	11 1⁄2	2 3⁄8	7	13 1⁄4	3⁄8	4 1⁄2	2 1⁄2	14		2 1⁄8						5.0
3	36	30	1 3⁄8	1⁄2	5⁄8		18 3⁄4	5 1⁄2	8 1⁄4		17 1⁄4	17 1⁄4	2 7⁄8	8 3⁄8	16	1⁄2	5 1⁄2	3	16 3⁄4		2 1⁄2						7.5
4	48	36	2 1⁄4	3⁄4	1		24 7⁄8	7 1⁄4	11		23 1⁄8	18	3 3⁄4	11 1⁄8	21 1⁄4	5⁄8	7 1⁄8	4	22 3⁄8		3 3⁄8						12.0
5	48	36	2 1⁄4	3⁄4	1		24 7⁄8	7 1⁄4	11		23 1⁄8	18	3 3⁄4	11 1⁄8	21 1⁄4	5⁄8	7 1⁄8	4	22 3⁄8		3 3⁄8						12.0

STANDARD SIGN
R3-8 (G) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

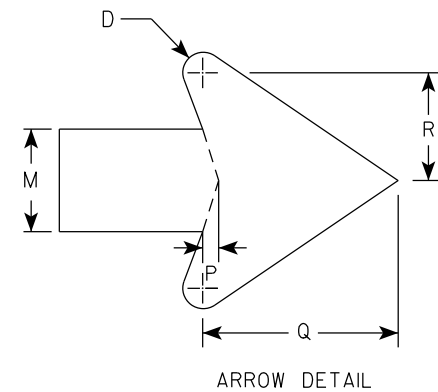
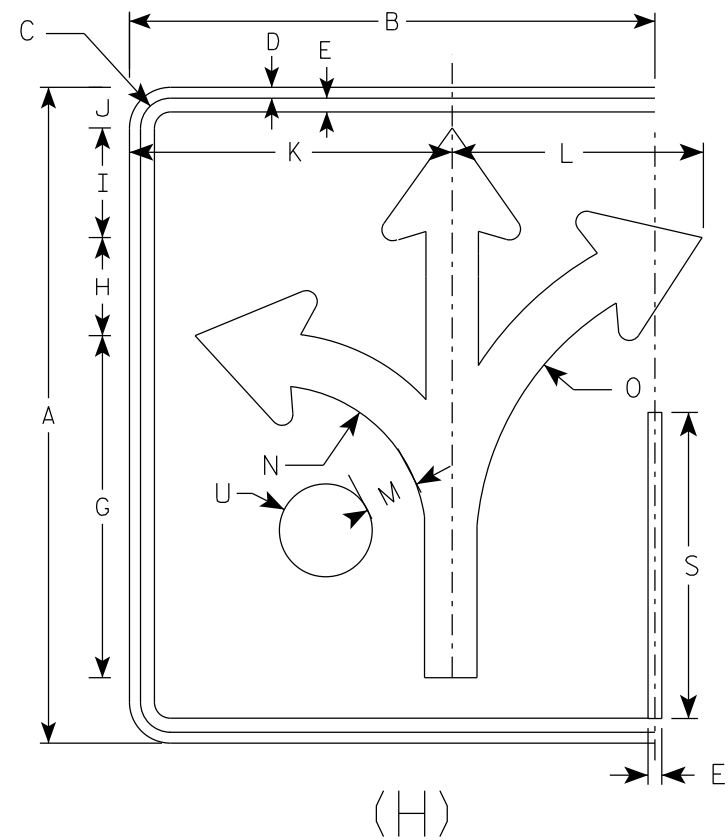
DATE 5/21/19 PLATE NO. R3-8.1

7

7

NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
Background - White
Message - Black
- 3. Message Series - None



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	24	1 3⁄8	1⁄2	5⁄8		15 5⁄8	4 1⁄2	5	1 7⁄8	14 3⁄4	11 1⁄2	2 3⁄8	7	13 1⁄4	3⁄8	4 1⁄2	2 1⁄2	14		2 1⁄8						5.0
2M	30	24	1 3⁄8	1⁄2	5⁄8		15 5⁄8	4 1⁄2	5	1 7⁄8	14 3⁄4	11 1⁄2	2 3⁄8	7	13 1⁄4	3⁄8	4 1⁄2	2 1⁄2	14		2 1⁄8						5.0
3	36	30	1 3⁄8	1⁄2	5⁄8		18 3⁄4	5 1⁄2	6	3 1⁄8	17 1⁄4	17 1⁄4	2 7⁄8	8 3⁄8	16	1⁄2	5 1⁄2	3	16 3⁄4		2 1⁄2						7.5
4	48	36	2 1⁄4	3⁄4	1		24 7⁄8	7 1⁄4	7 7⁄8	3 1⁄8	23 1⁄8	18	3 3⁄4	11 1⁄8	21 1⁄4	5⁄8	7 1⁄8	4	22 3⁄8		3 3⁄8						12.0
5	48	36	2 1⁄4	3⁄4	1		24 7⁄8	7 1⁄4	7 7⁄8	3 1⁄8	23 1⁄8	18	3 3⁄4	11 1⁄8	21 1⁄4	5⁄8	7 1⁄8	4	22 3⁄8		3 3⁄8						12.0

STANDARD SIGN
R3-8 (H) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

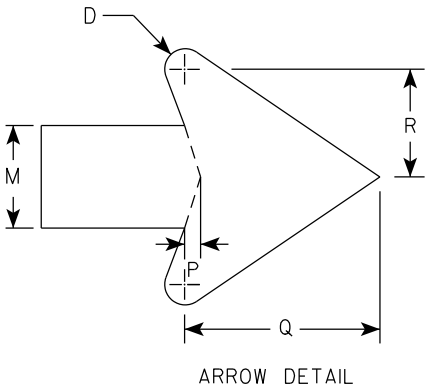
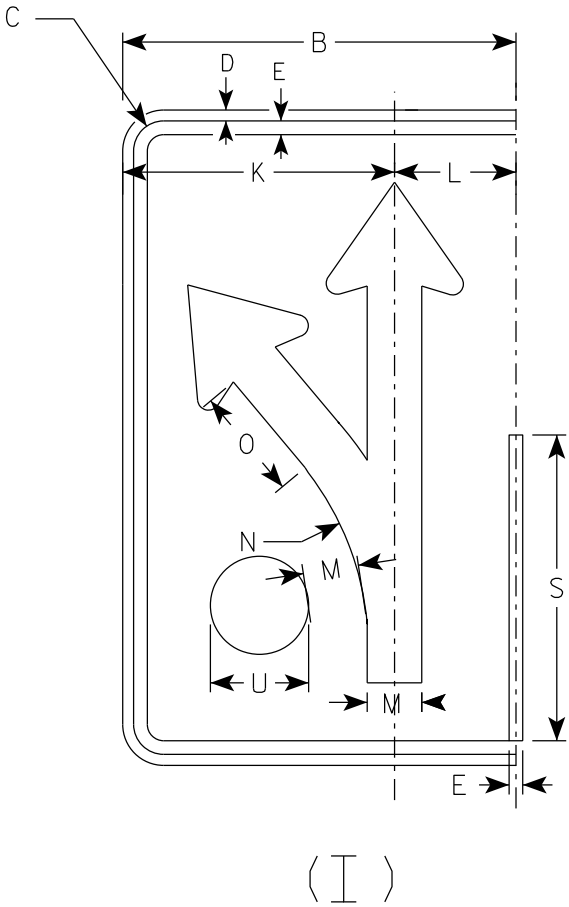
7

NOTES

1. Sign is Type II - Type H Reflective
2. Color:

Background - White

Message - Black
3. Message Series - None



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	18	1 3⁄8	1⁄2	5⁄8		18 1⁄4	4 3⁄4	3 1⁄4	3	12 1⁄2	5 1⁄2	2 1⁄2	13 1⁄4	5 1⁄8	3⁄8	4 3⁄4	2 5⁄8	14		2 1⁄8						3.75
2M	30	18	1 3⁄8	1⁄2	5⁄8		18 1⁄4	4 3⁄4	3 1⁄4	3	12 1⁄2	5 1⁄2	2 1⁄2	13 1⁄4	5 1⁄8	3⁄8	4 3⁄4	2 5⁄8	14		2 1⁄8						3.75
3	36	24	1 3⁄8	1⁄2	5⁄8		21 7⁄8	5 5⁄8	4	4 7⁄8	16 1⁄8	7 3⁄4	3	15 7⁄8	6 1⁄8	1⁄2	5 3⁄4	3 1⁄8	16 3⁄4		2 1⁄2						6.0
4	48	30	2 1⁄4	3⁄4	1		29 1⁄8	7 1⁄2	5 1⁄4	5 3⁄8	20 1⁄2	9 1⁄2	4	21 1⁄4	8 1⁄4	5⁄8	7 5⁄8	4 1⁄4	22 3⁄8		3 3⁄8						10.0
5	48	30	2 1⁄4	3⁄4	1		29 1⁄8	7 1⁄2	5 1⁄4	5 3⁄8	20 1⁄2	9 1⁄2	4	21 1⁄4	8 1⁄4	5⁄8	7 5⁄8	4 1⁄4	22 3⁄8		3 3⁄8						10.0

PROJECT NO:

HWY:

COUNTY:

SHEET NO: 393

E

STANDARD SIGN

R3-8 (I) Arrow

WISCONSIN DEPT OF TRANSPORTATION

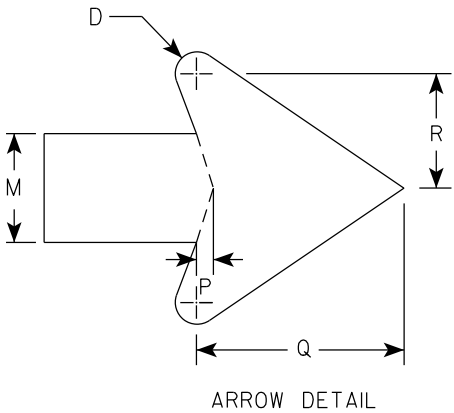
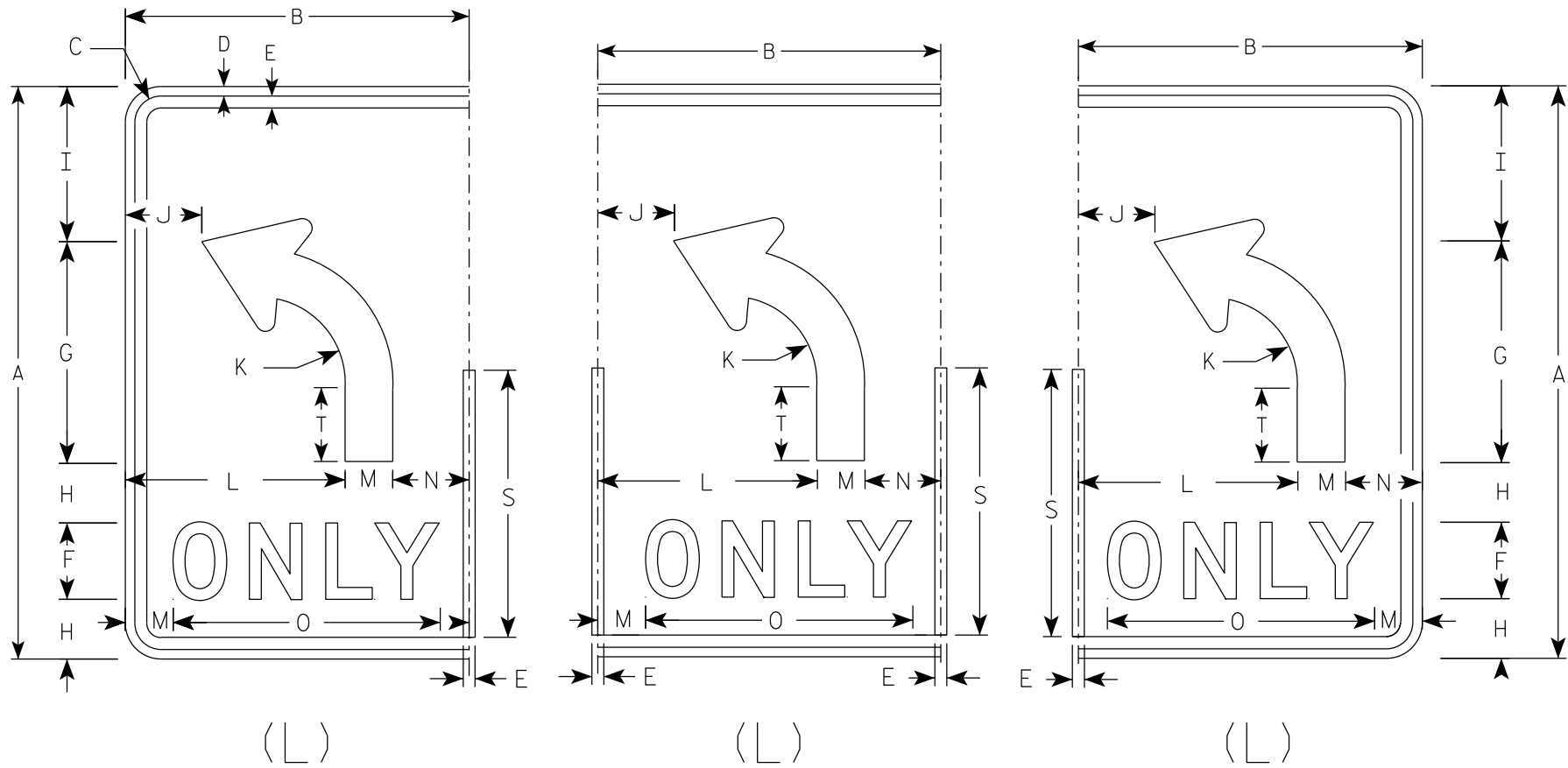
APPROVED *Matthew R. Rauch*

for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

NOTES

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



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3⁄8	1⁄2	5⁄8	4	11 5⁄8	3 1⁄8	8 1⁄8	4	4 1⁄2	11 1⁄2	2 1⁄2	4	14	3⁄8	4 3⁄4	2 5⁄8	14	3 7⁄8							3.75
2M	30	18	1 3⁄8	1⁄2	5⁄8	4	11 5⁄8	3 1⁄8	8 1⁄8	4	4 1⁄2	11 1⁄2	2 1⁄2	4	14	3⁄8	4 3⁄4	2 5⁄8	14	3 7⁄8							3.75
3	36	24	1 3⁄8	1⁄2	5⁄8	5	14	3 1⁄2	9 3⁄4		5 3⁄8	15	3	6	17 5⁄8	1⁄2	5 3⁄4	3 1⁄8	16 3⁄4	4 5⁄8							6.0
4	48	30	2 1⁄4	3⁄4	1	6	18 5⁄8	5 1⁄8	13 1⁄8	6 1⁄8	7 1⁄4	18	4	8	21 3⁄4	5⁄8	7 5⁄8	4 1⁄4	22 3⁄8	6 1⁄4							10.0
5	48	30	2 1⁄4	3⁄4	1	6	18 5⁄8	5 1⁄8	13 1⁄8	6 1⁄8	7 1⁄4	18	4	8	21 3⁄4	5⁄8	7 5⁄8	4 1⁄4	22 3⁄8	6 1⁄4							10.0

STANDARD SIGN

R3-8 (L) Arrow

WISCONSIN DEPT OF TRANSPORTATION

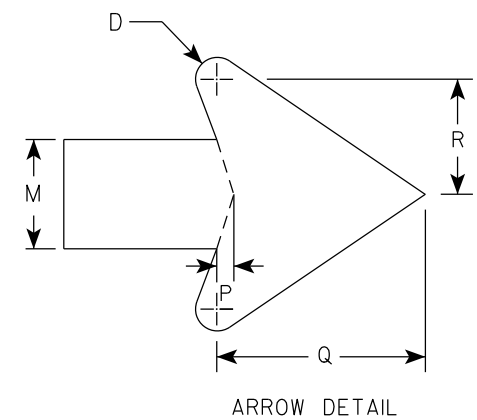
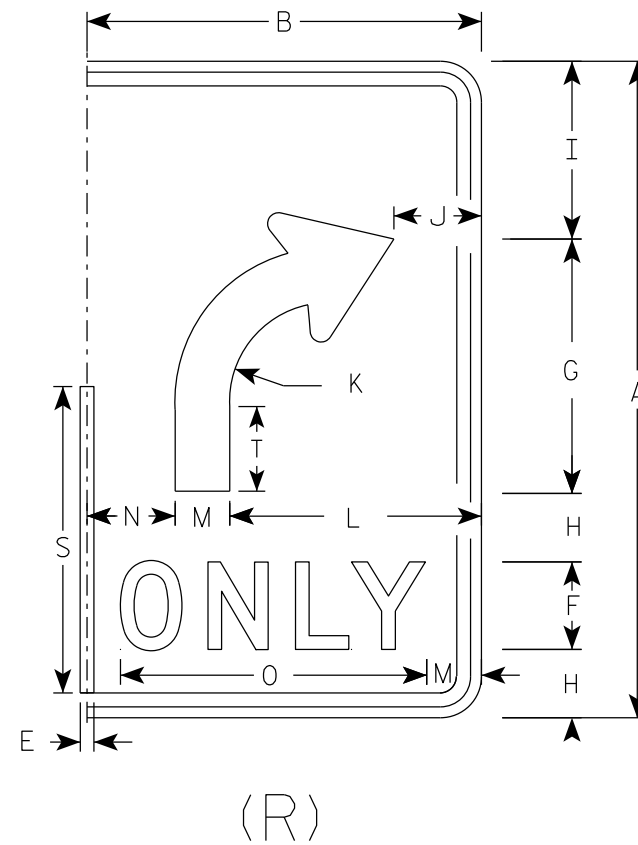
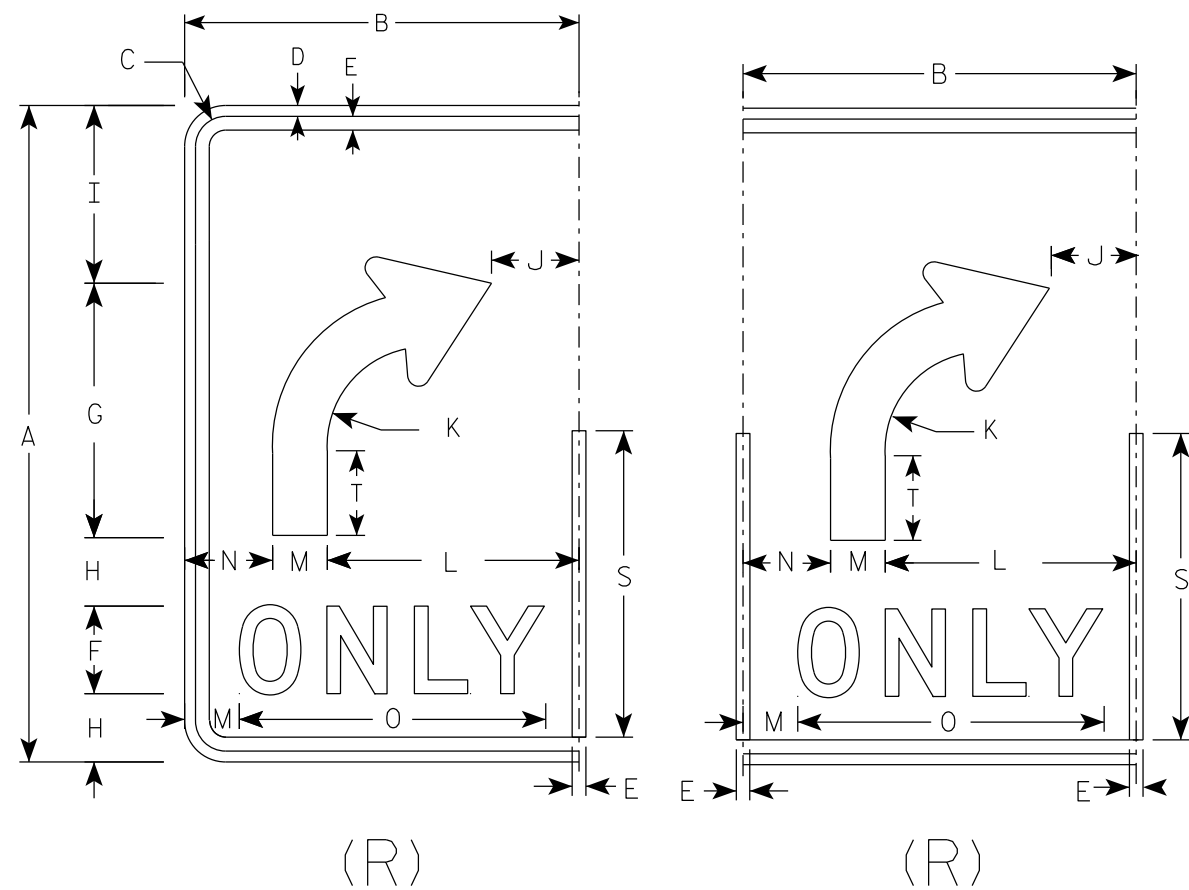
APPROVED *Matthew R. Rauch*

for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

NOTES

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



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3⁄8	1⁄2	5⁄8	4	11 5⁄8	3 1⁄8	8 1⁄8	4	4 1⁄2	11 1⁄2	2 1⁄2	4	14	3⁄8	4 3⁄4	2 5⁄8	14	3 7⁄8							3.75
2M	30	18	1 3⁄8	1⁄2	5⁄8	4	11 5⁄8	3 1⁄8	8 1⁄8	4	4 1⁄2	11 1⁄2	2 1⁄2	4	14	3⁄8	4 3⁄4	2 5⁄8	14	3 7⁄8							3.75
3	36	24	1 3⁄8	1⁄2	5⁄8	5	14	3 1⁄2	9 3⁄4	6	5 3⁄8	15	3	6	17 5⁄8	1⁄2	5 3⁄4	3 1⁄8	16 3⁄4	4 5⁄8							6.0
4	48	30	2 1⁄4	3⁄4	1	6	18 5⁄8	5 1⁄8	13 1⁄8	6 1⁄8	7 1⁄4	18	4	8	21 3⁄4	5⁄8	7 5⁄8	4 1⁄4	22 3⁄8	6 1⁄4							10.0
5	48	30	2 1⁄4	3⁄4	1	6	18 5⁄8	5 1⁄8	13 1⁄8	6 1⁄8	7 1⁄4	18	4	8	21 3⁄4	5⁄8	7 5⁄8	4 1⁄4	22 3⁄8	6 1⁄4							10.0

STANDARD SIGN

R3-8 (R) Arrow

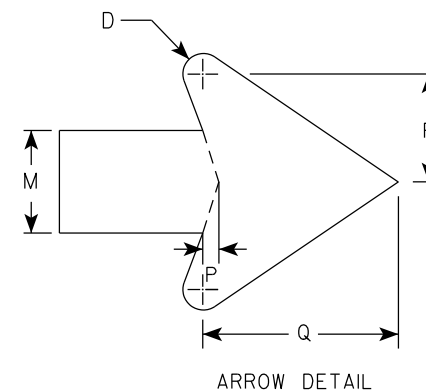
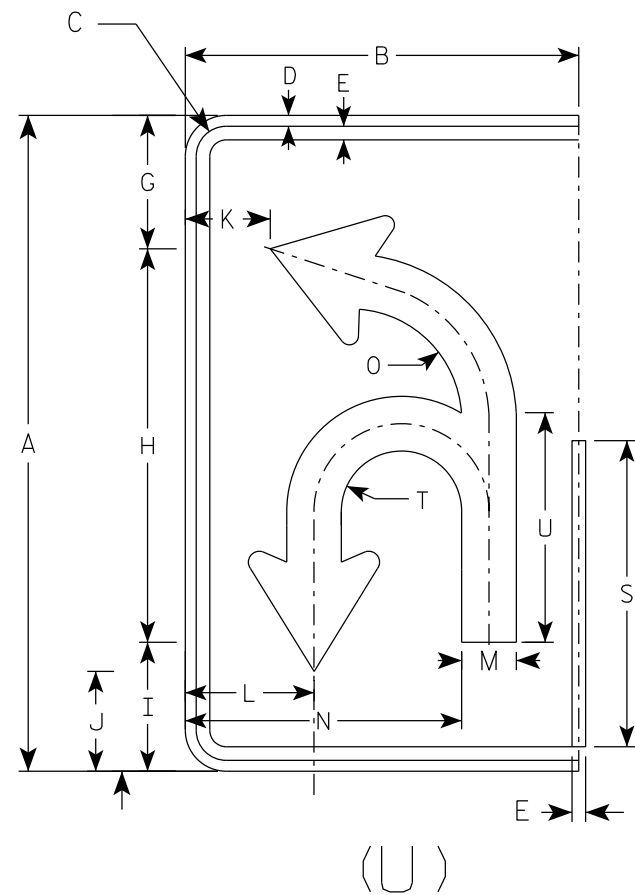
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

NOTES

- 1. Sign is Type II - Type H Reflective
- 2. Color:
Background - White
Message - Black
- 3. Message Series - None



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3⁄8	1⁄2	5⁄8		6 1⁄8	18	5 7⁄8	4 5⁄8	3 7⁄8	5 7⁄8	2 1⁄2	12 5⁄8	5 1⁄8	3⁄8	4 3⁄4	2 5⁄8	14	2 3⁄4	10 1⁄2						3.75
2M	30	18	1 3⁄8	1⁄2	5⁄8		6 1⁄8	18	5 7⁄8	4 5⁄8	3 7⁄8	5 7⁄8	2 1⁄2	12 5⁄8	5 1⁄8	3⁄8	4 3⁄4	2 5⁄8	14	2 3⁄4	10 1⁄2						3.75
3	36	24	1 3⁄8	1⁄2	5⁄8		21 7⁄8	21 5⁄8	7 1⁄8	5 1⁄2	5 7⁄8	8 1⁄4	3	16 3⁄8	6 1⁄8	1⁄2	5 3⁄4	3 1⁄8	16 3⁄4	3 1⁄4	12 5⁄8						6.0
4	48	30	2 1⁄4	3⁄4	1		29 1⁄8	28 3⁄4	9 3⁄8	7 1⁄4	6 7⁄8	10	4	20 7⁄8	8 1⁄8	5⁄8	7 5⁄8	4 1⁄4	22 3⁄8	4 3⁄8	16 3⁄4						10.0
5	48	30	2 1⁄4	3⁄4	1		29 1⁄8	28 3⁄4	9 3⁄8	7 1⁄4	6 7⁄8	10	4	20 7⁄8	8 1⁄8	5⁄8	7 5⁄8	4 1⁄4	22 3⁄8	4 3⁄8	16 3⁄4						10.0

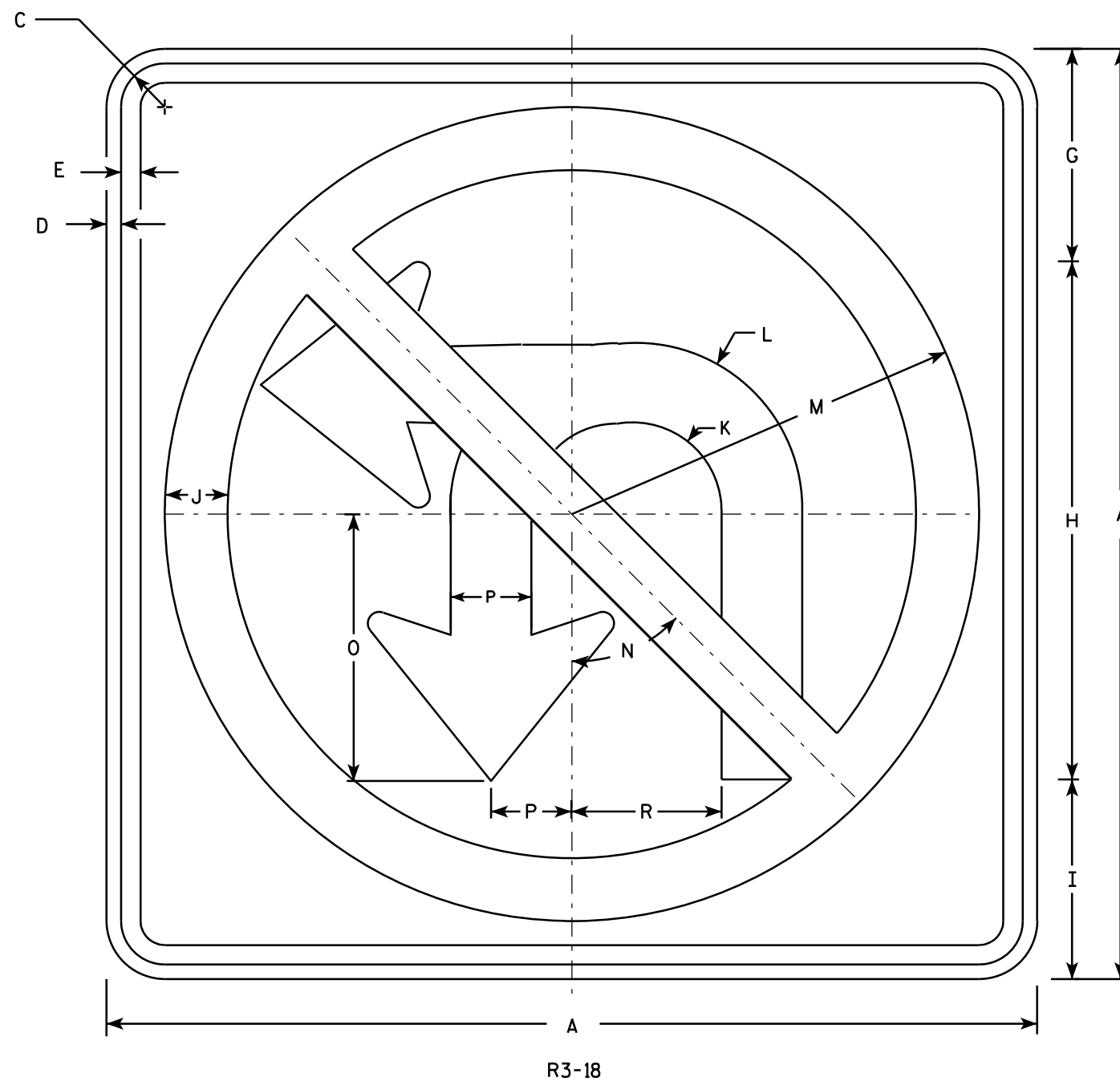
STANDARD SIGN

R3-8 (U) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1



NOTES

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

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	3/8	1/2		5 1/2	13 3/8	5 1/8	1 5/8	2 1/4	4 1/4	10 1/2	45°	6 7/8	2 1/8		3 7/8									4.0
2M	36		1 5/8	5/8	3/4		8 1/4	20	7 3/4	2 1/2	3 3/8	6 1/2	15 3/4	45°	10 3/8	3 1/8		5 3/4									9.0
3	36		1 5/8	5/8	3/4		8 1/4	20	7 3/4	2 1/2	3 3/8	6 1/2	15 3/4	45	10 3/8	3 1/8		5 3/4									9.0
4	36		1 5/8	5/8	3/4		8 1/4	20	7 3/4	2 1/2	3 3/8	6 1/2	15 3/4	45	10 3/8	3 1/8		5 3/4									9.0
5	48		2 1/4	3/4	1		11	26 3/4	10 1/4	3 1/4	4 5/8	8 5/8	21	45°	13 3/4	4 1/8		7 3/4									16.0

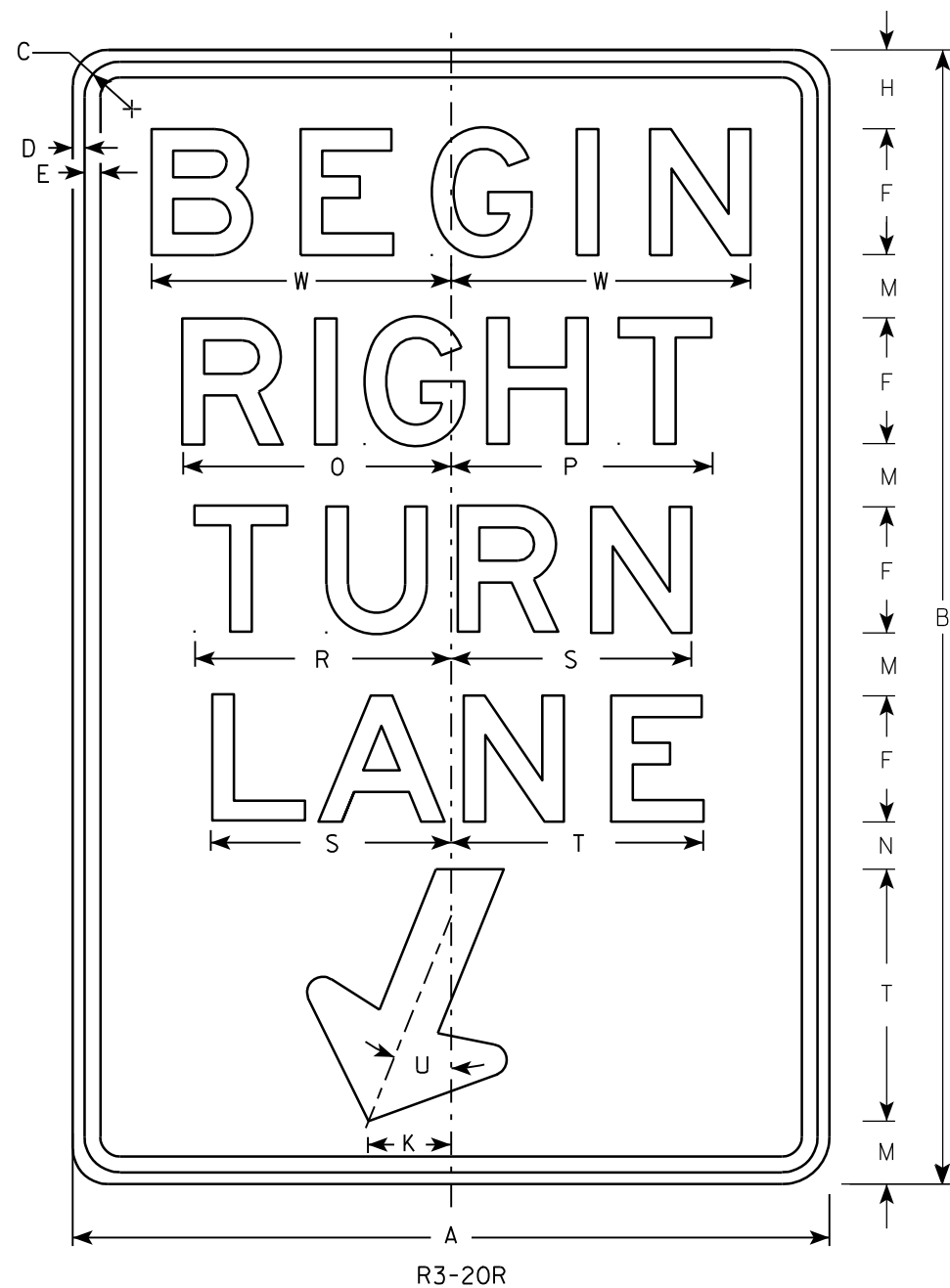
STANDARD SIGN R3-18

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

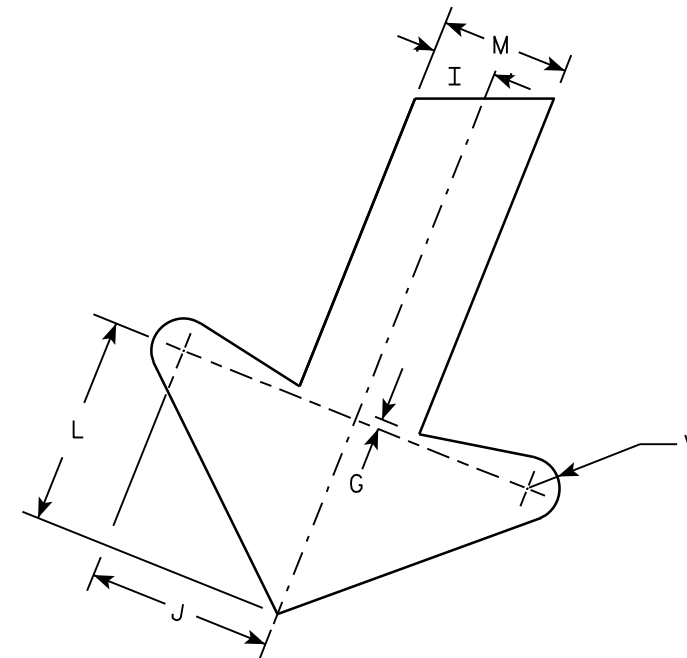
DATE 11/21/10 PLATE NO. R3-18.2

PROJECT NO: HWY: COUNTY: SHEET NO: 397 E



NOTES

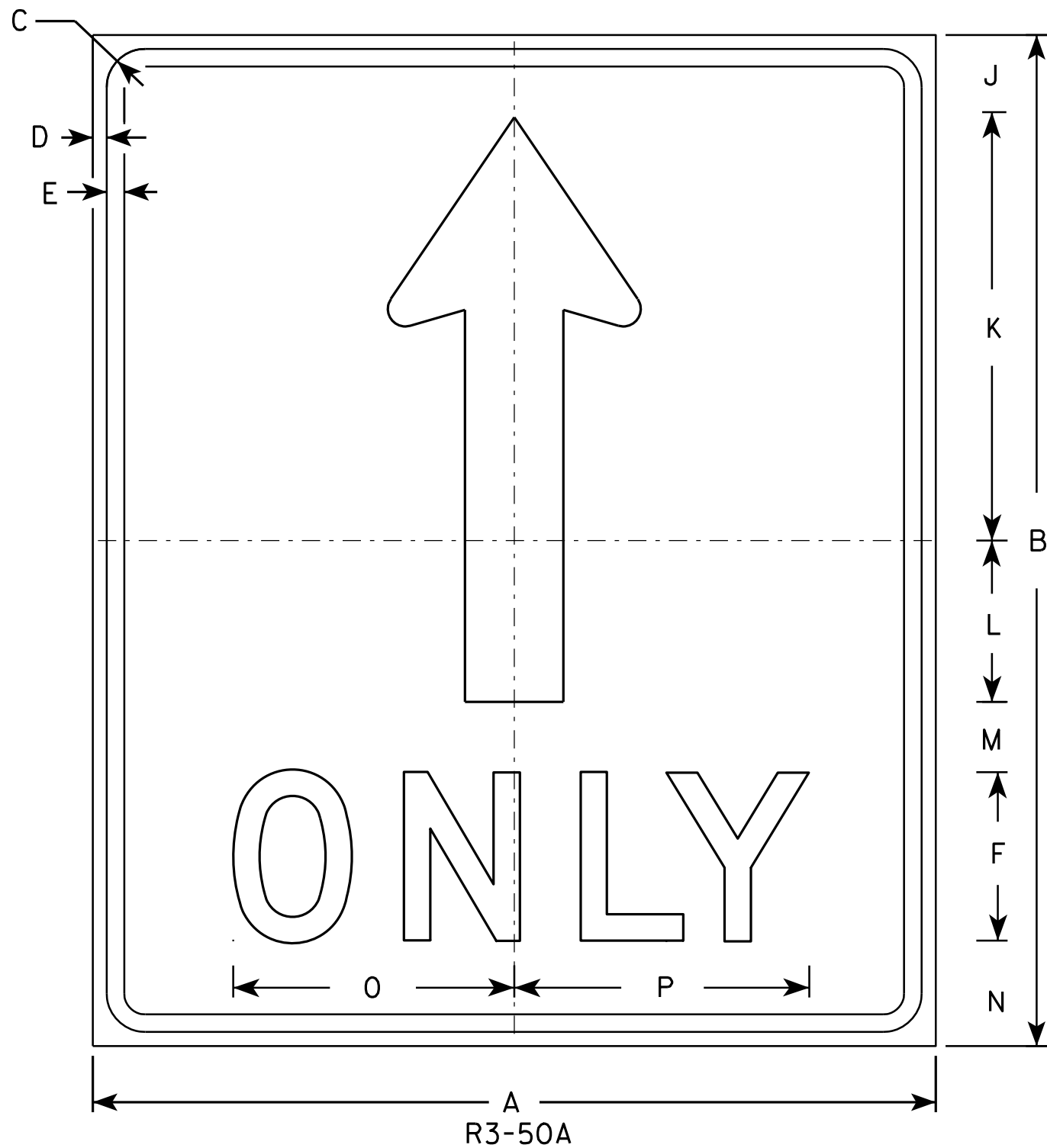
1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
Message - Black
3. Message Series - E
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as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



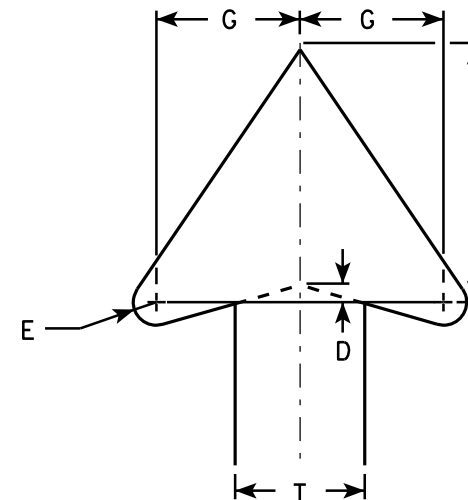
ARROW DETAIL

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	8 1/2	8 1/4		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	8 1/2	8 1/4		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	12 3/4	12 1/2		12 1/4	11 1/2	12	22°	3/4	13 1/4				13.5
4																											
5																											

STANDARD SIGN R3-20R	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> For State Traffic Engineer
DATE 10/18/10	PLATE NO. R3-20R.6



- 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.



ARROW DETAIL

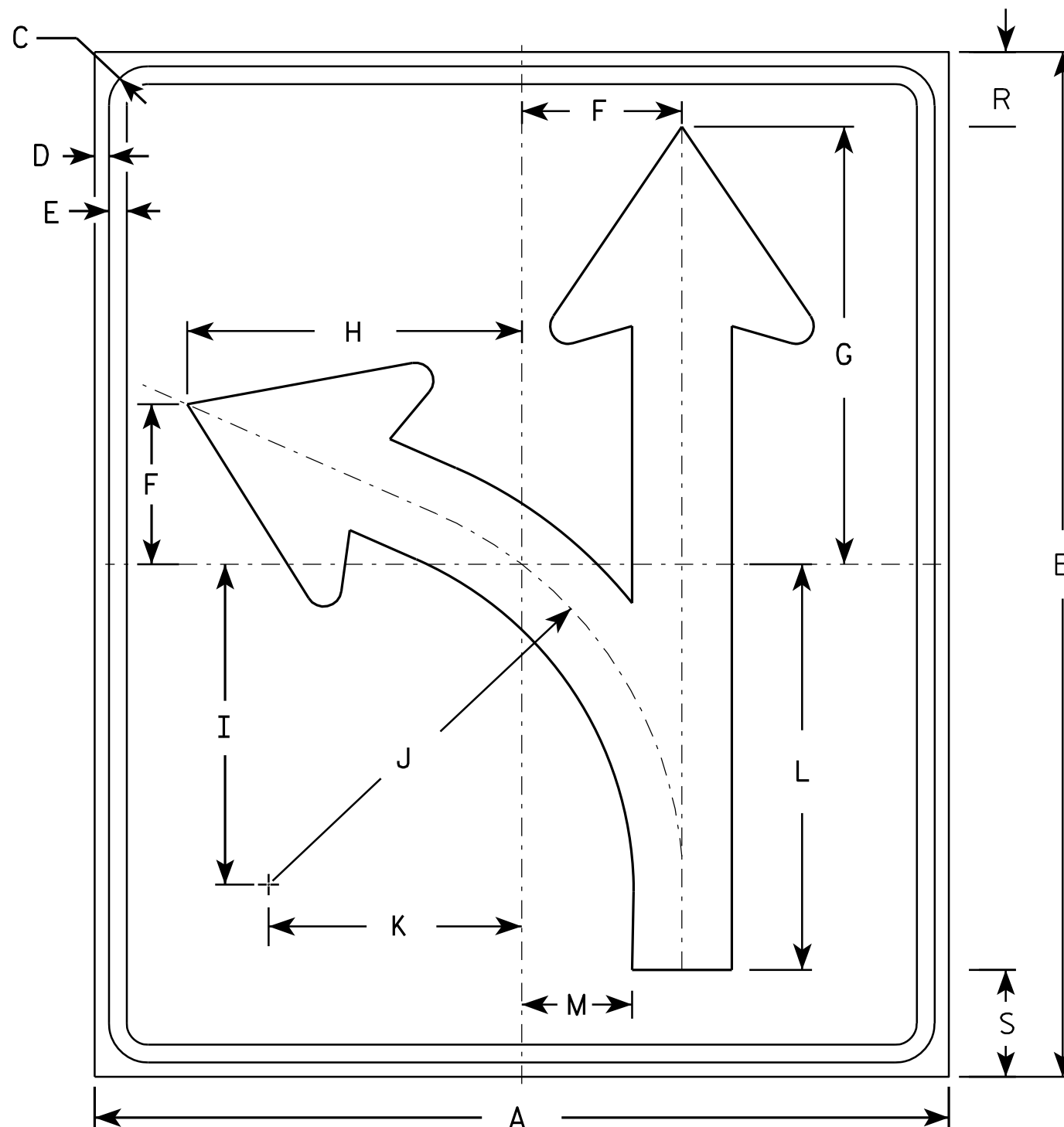
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	36	1 3⁄8	1⁄2	5⁄8	6	4	7	3 1⁄2	2 3⁄4	15 1⁄4	5 3⁄4	2 1⁄2	3 3⁄4	10	10 1⁄2										7.5	
2M	30	36	1 3⁄8	1⁄2	5⁄8	6	4	7	3 1⁄2	2 3⁄4	15 1⁄4	5 3⁄4	2 1⁄2	3 3⁄4	10	10 1⁄2										7.5	
3																											
4																											
5																											

STANDARD SIGN
R3-50A

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

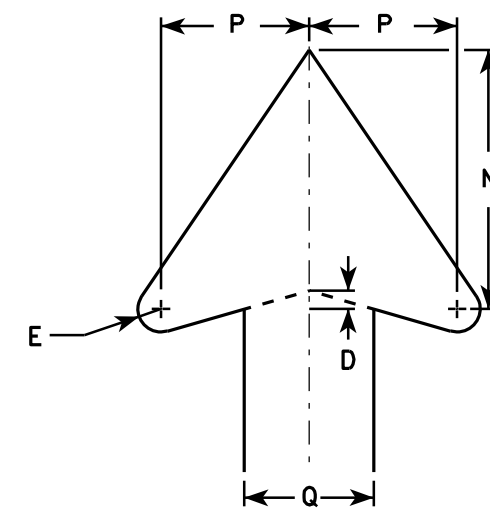
DATE 3/24/2011 PLATE NO. R3-50A.3



R3-60L

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. 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. R3-60R is the same as R3-60L except curved portion of arrow points to right.



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	36	1 3⁄8	1⁄2	5⁄8	5 5⁄8	15 3⁄8	11 1⁄4	5 3⁄8	14 1⁄2	8 7⁄8	14 1⁄4	3 7⁄8	7		4	3 1⁄2	2 5⁄8	3 3⁄4								7.5
2M	30	36	1 3⁄8	1⁄2	5⁄8	5 5⁄8	15 3⁄8	11 1⁄4	5 3⁄8	14 1⁄2	8 7⁄8	14 1⁄4	3 7⁄8	7		4	3 1⁄2	2 5⁄8	3 3⁄4								7.5
3																											
4																											
5																											

STANDARD SIGN R3-60

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/25/2011 PLATE NO. R3-60.3

PROJECT NO:

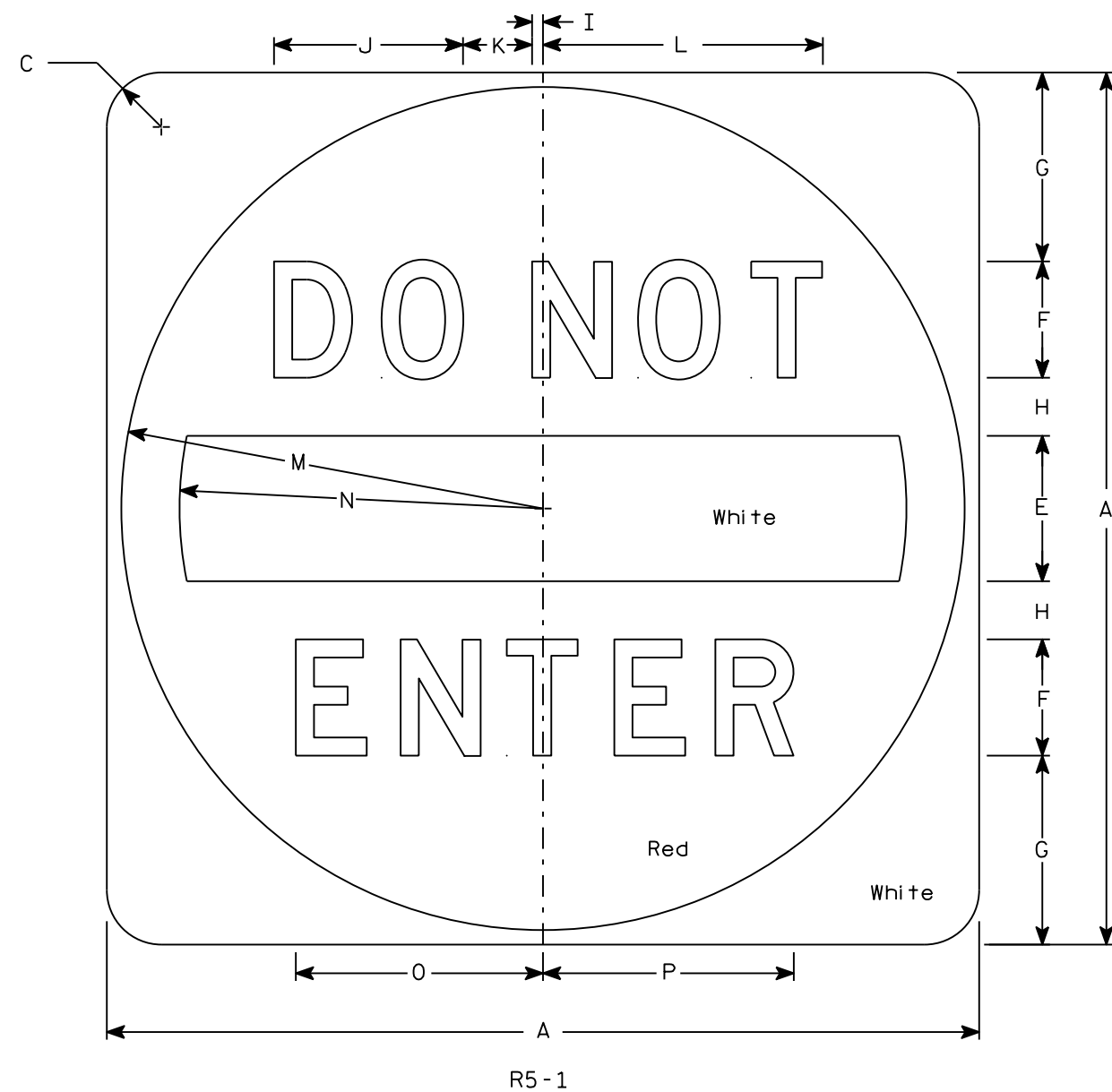
HWY:

COUNTY:

SHEET NO: 400

E

7



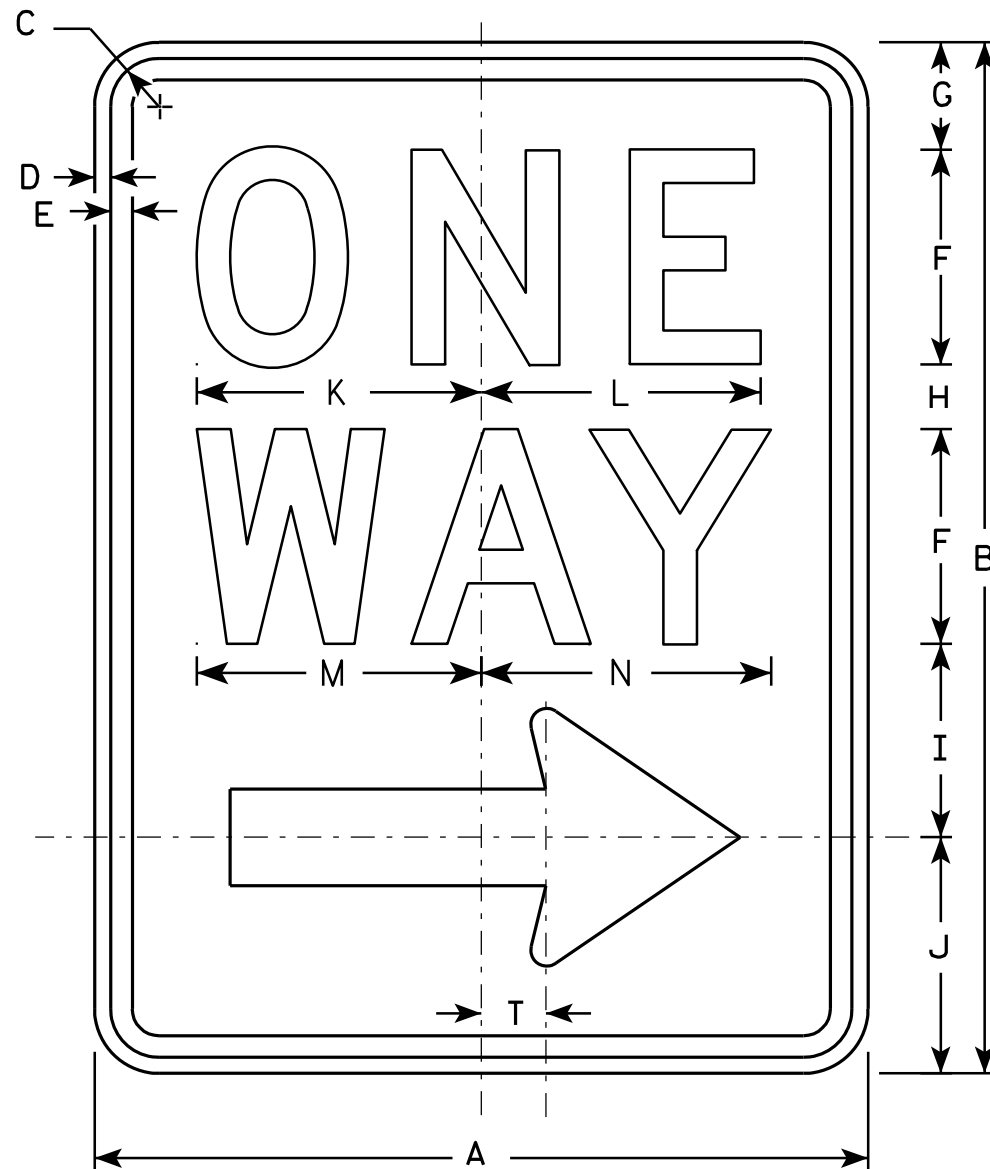
NOTES

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

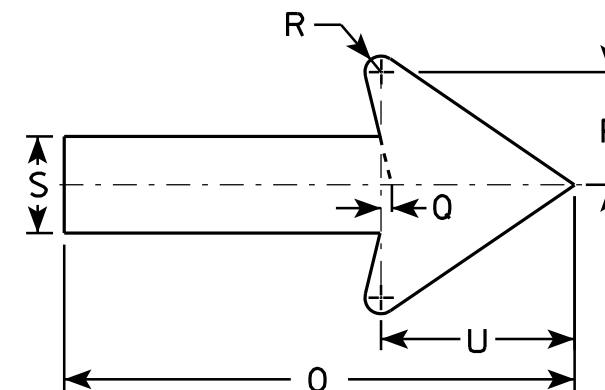
STANDARD SIGN R5-1	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 3/15/18	PLATE NO. R5-1.16



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: 402	E
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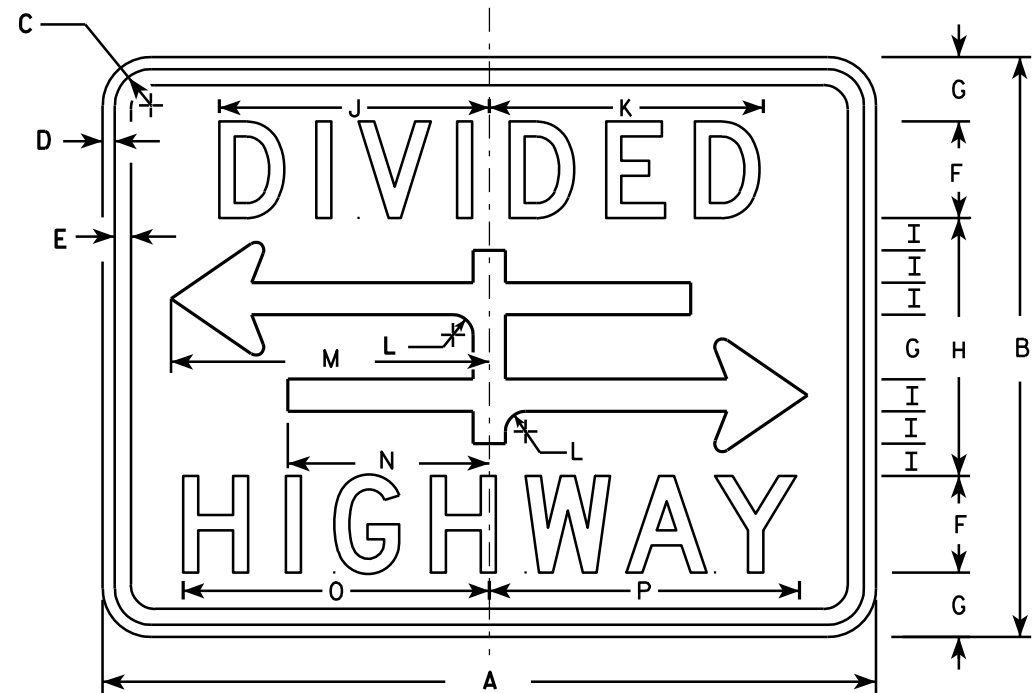
STANDARD SIGN

R6-2 R&L

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

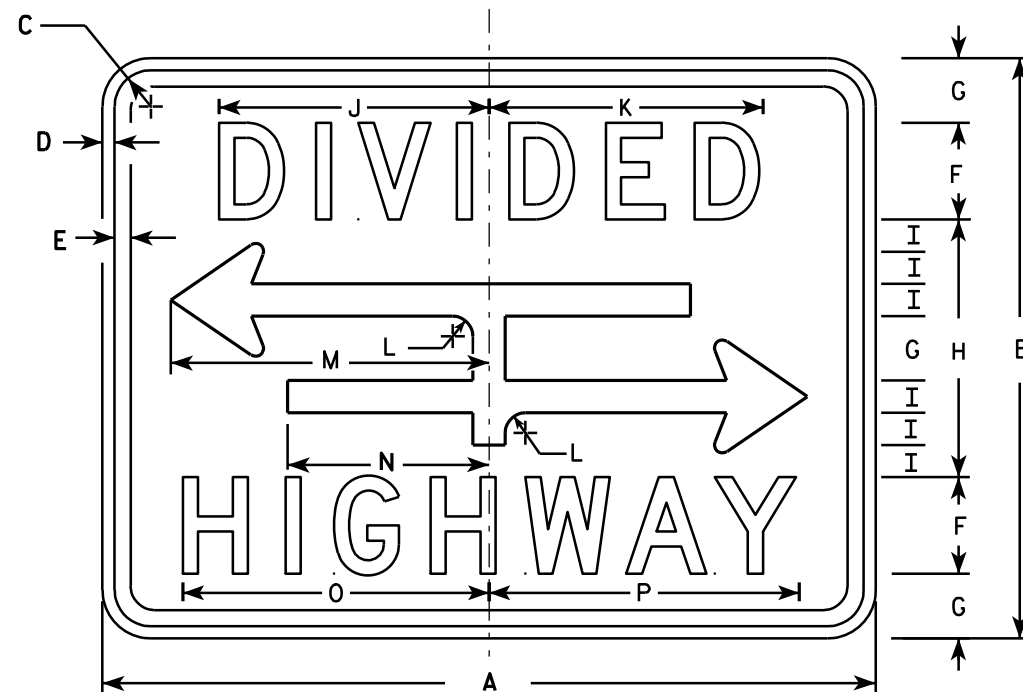
DATE 11/2/10 PLATE NO. R6-2.8



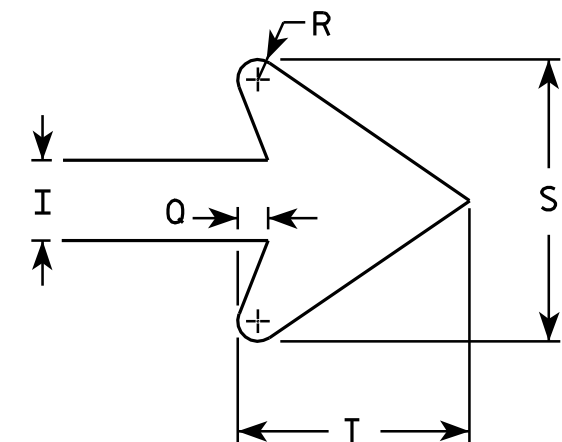
R6-3

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.



R6-3A



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	18	1 1/8	3/8	3/8	3	2	8	1	8 3/8	8 1/2	5/8	9 7/8	6 1/4	9 1/2	9 5/8	3/8	1/4	3 1/2	2 3/4							3.0
2S	30	24	1 1/8	3/8	1/2	4	2 5/8	10 3/4	1 3/8	10 1/2	10 5/8	7/8	12 1/2	7 7/8	12 1/4	12 3/8	1/2	3/8	4 5/8	3 5/8							5.0
2M	30	24	1 1/8	3/8	1/2	4	2 5/8	10 3/4	1 3/8	10 1/2	10 5/8	7/8	12 1/2	7 7/8	12 1/4	12 3/8	1/2	3/8	4 5/8	3 5/8							5.0
3																											
4																											
5																											

STANDARD SIGN R6-3 & R6-3A

WISCONSIN DEPT OF TRANSPORTATION

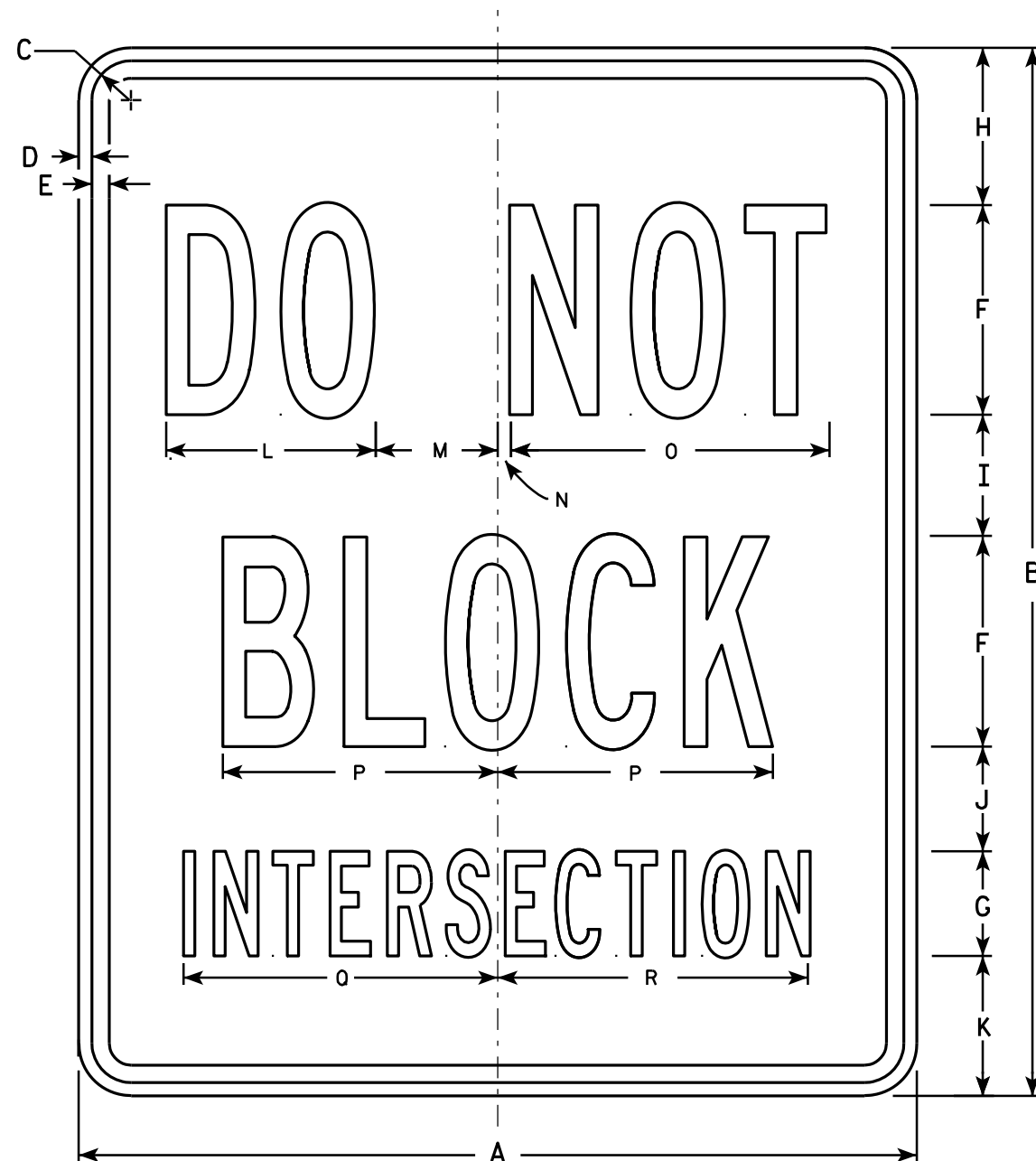
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 3/31/2011 PLATE NO. R6-3.5

PROJECT NO:

SHEET NO: 403

E



R10-7

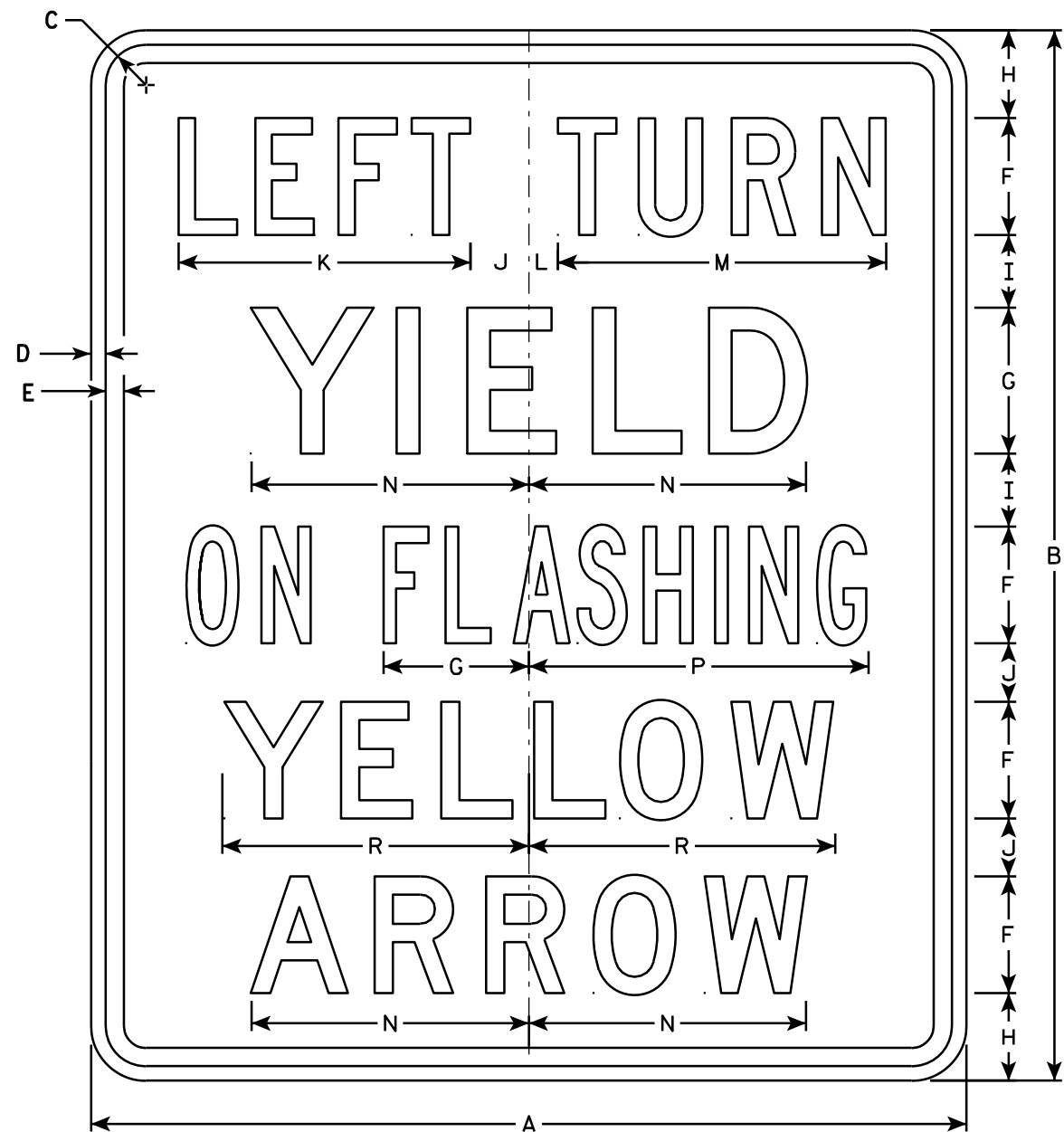
NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - White
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	30	1 1/8	3/8	1/2	6	3	4 1/2	3 1/2	3	4	6	3 1/2	3/8	9 1/8	7 7/8	9	8 7/8									5.0
2M	24	30	1 1/8	3/8	1/2	6	3	4 1/2	3 1/2	3	4	6	3 1/2	3/8	9 1/8	7 7/8	9	8 7/8									5.0
3	36	48	1 3/8	1/2	5/8	10	5	7	5 1/4	4 1/2	6 1/4	10	5 5/8	1/2	15 1/8	13 1/8	15	14 7/8									12.0
4																											
5																											

STANDARD SIGN R10-7	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 4/5/11	PLATE NO. R10-7.5

PROJECT NO:	HWY:	COUNTY:	SHEET NO: 404	E
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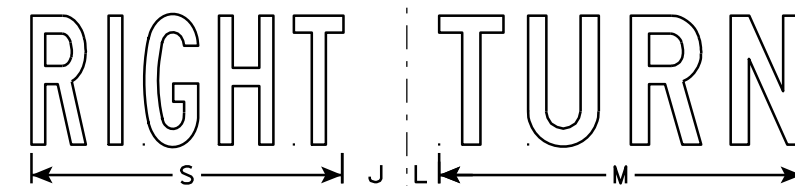


R10-50L

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 - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series C.
Lines 2, 4 and 5 are Series D.
Line 3 is Series B.

"RIGHT" Is Series B



R10-50R

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	36	1 3⁄8	1⁄2	5⁄8	4	5	3	2 1⁄2	2	10	1	11 1⁄4	9 1⁄2	4 1⁄4	11 5⁄8		10 1⁄2	9 5⁄8								7.5
2M	30	36	1 3⁄8	1⁄2	5⁄8	4	5	3	2 1⁄2	2	10	1	11 1⁄4	9 1⁄2	4 1⁄4	11 5⁄8		10 1⁄2	9 5⁄8								7.5
3																											
4																											
5																											

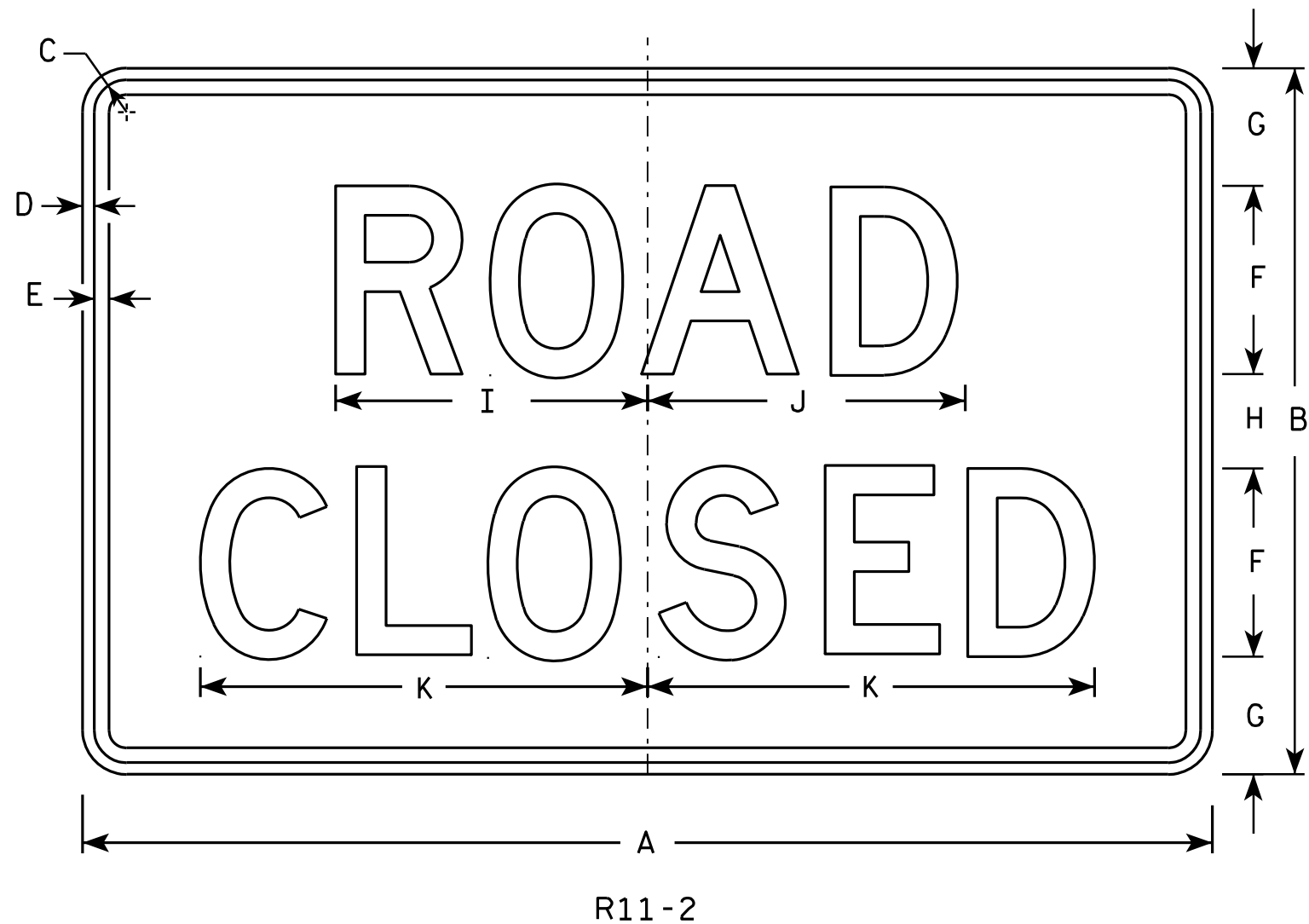
STANDARD SIGN R10-50

WISCONSIN DEPT OF TRANSPORTATION

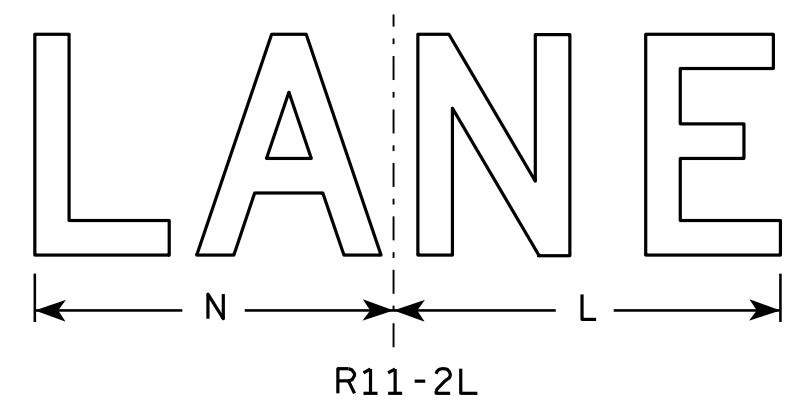
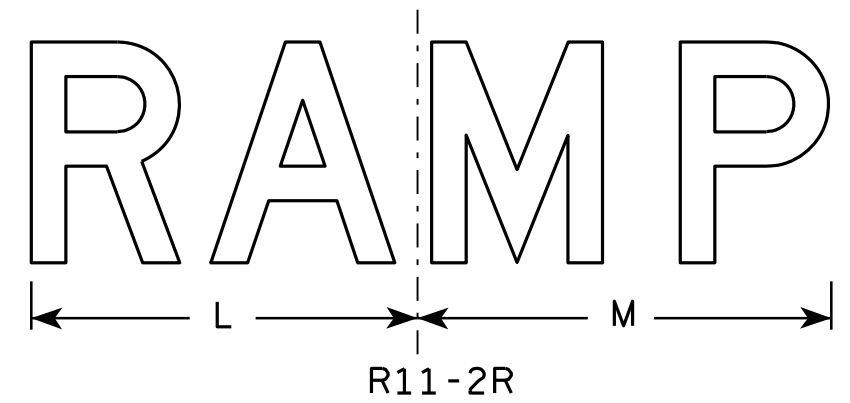
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 4/11/13 PLATE NO. R10-50.2

PROJECT NO: HWY: COUNTY: SHEET NO: 405 E



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

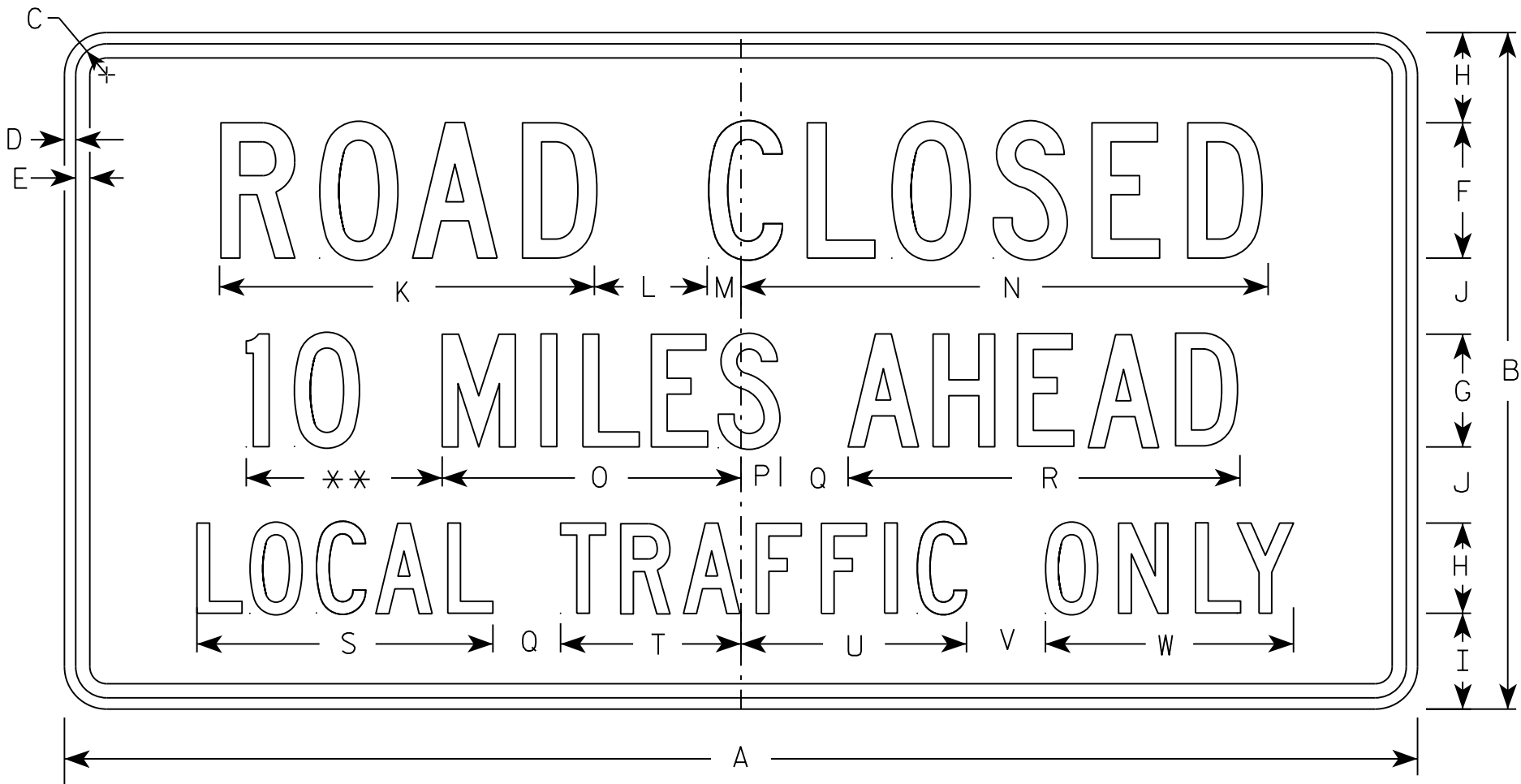
COUNTY: _____

SHEET NO: 406

E

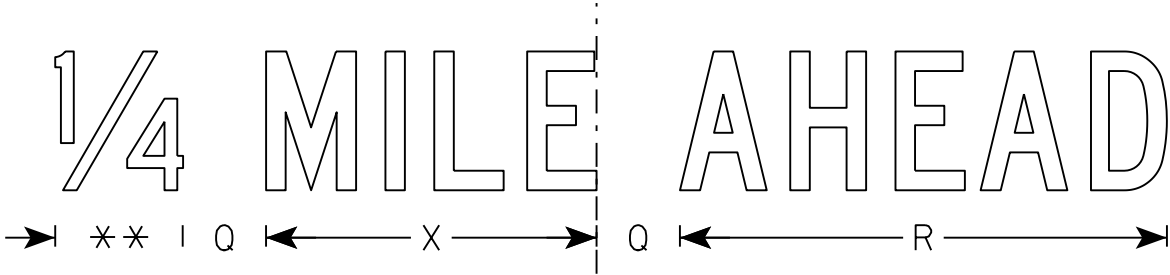
NOTES

- 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

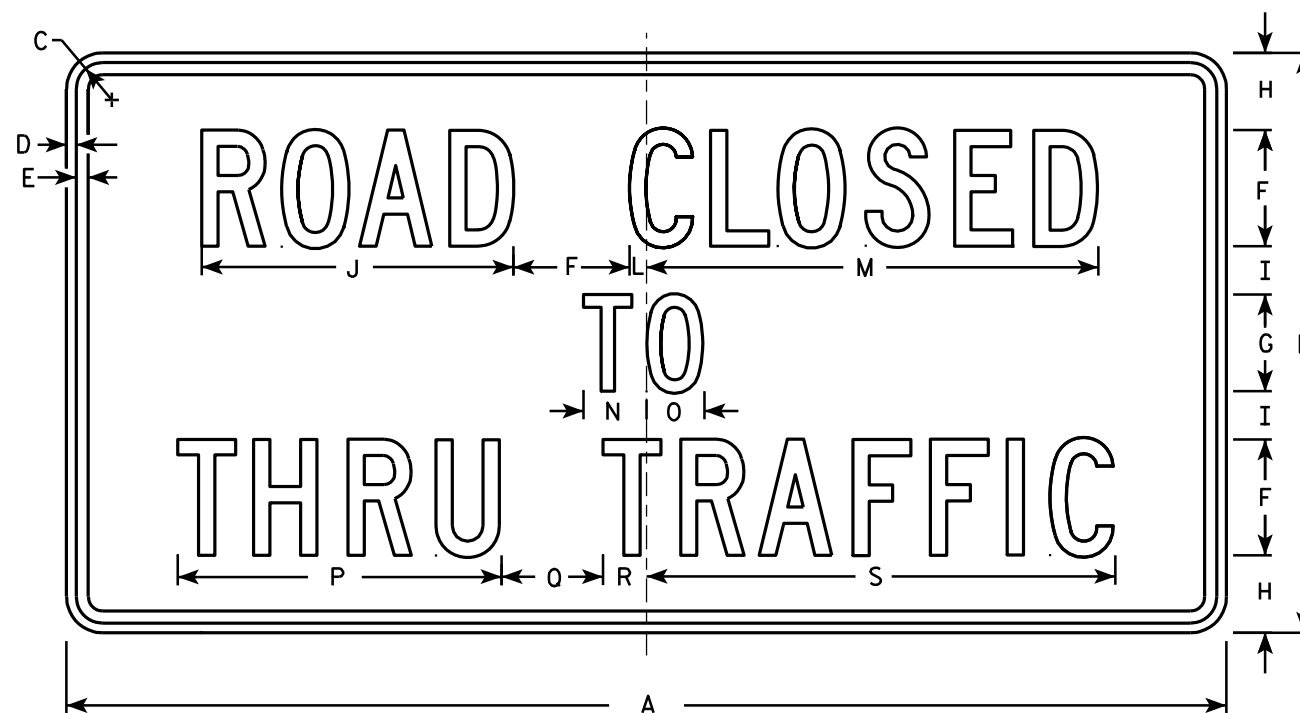


SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 3⁄8	1⁄2	5⁄8	4	3	2 1⁄2	2	2	11 1⁄8	3	1 1⁄8	15 1⁄4	8	1 1⁄2	2	10 3⁄4	8 3⁄8	4 3⁄4	6 1⁄2	2	6 3⁄4	7 1⁄8			4.5
2S	60	30	1 3⁄8	1⁄2	5⁄8	6	5	4	4 1⁄4	3 3⁄8	16 5⁄8	5	1 1⁄2	23	13 1⁄4	1 3⁄4	3	17 3⁄8	13 1⁄8	8	10	3 1⁄2	11	11 7⁄8			12.5
2M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



R11-4

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	60	30	1 3⁄8	½	5⁄8	6	5	4	2 ½	16 ⅛		7⁄8	23 3⁄8	3 ¼	3	16 ¾	5 ¼	2 ¼	24 ¼								12.5
2M	60	30	1 3⁄8	½	5⁄8	6	5	4	2 ½	16 ⅛		7⁄8	23 3⁄8	3 ¼	3	16 ¾	5 ¼	2 ¼	24 ¼								12.5
3																											
4																											
5																											

STANDARD SIGN R11 - 4	
WISCONSIN DEPT OF TRANSPORTATION	
APPROVED	<i>Matthew R. Rauch</i> for State Traffic Engineer
DATE 4/1/11	PLATE NO. R11-4.3

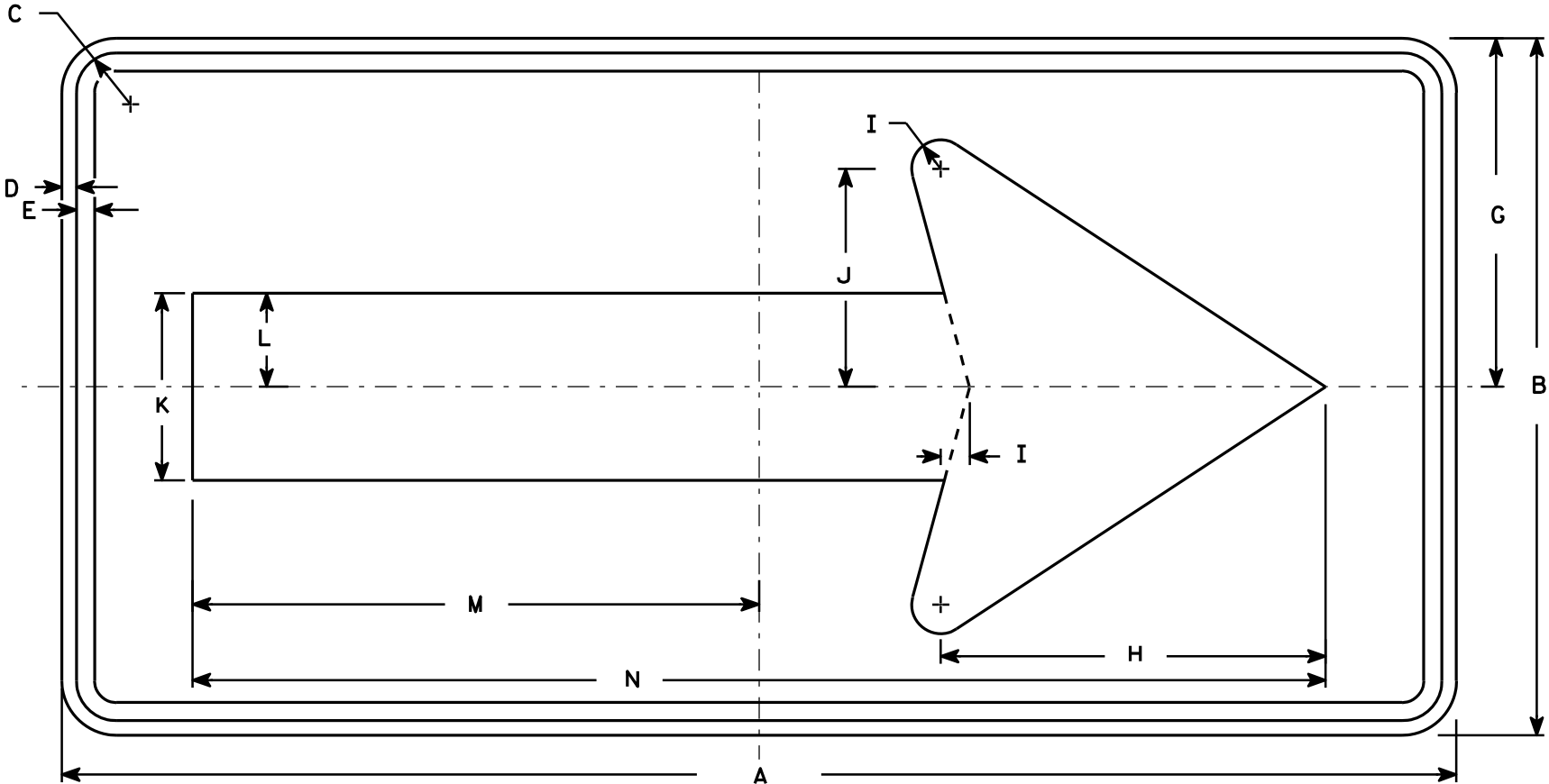
PROJECT NO:	HWY:	COUNTY:	SHEET NO: 408		E
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NOTES

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.



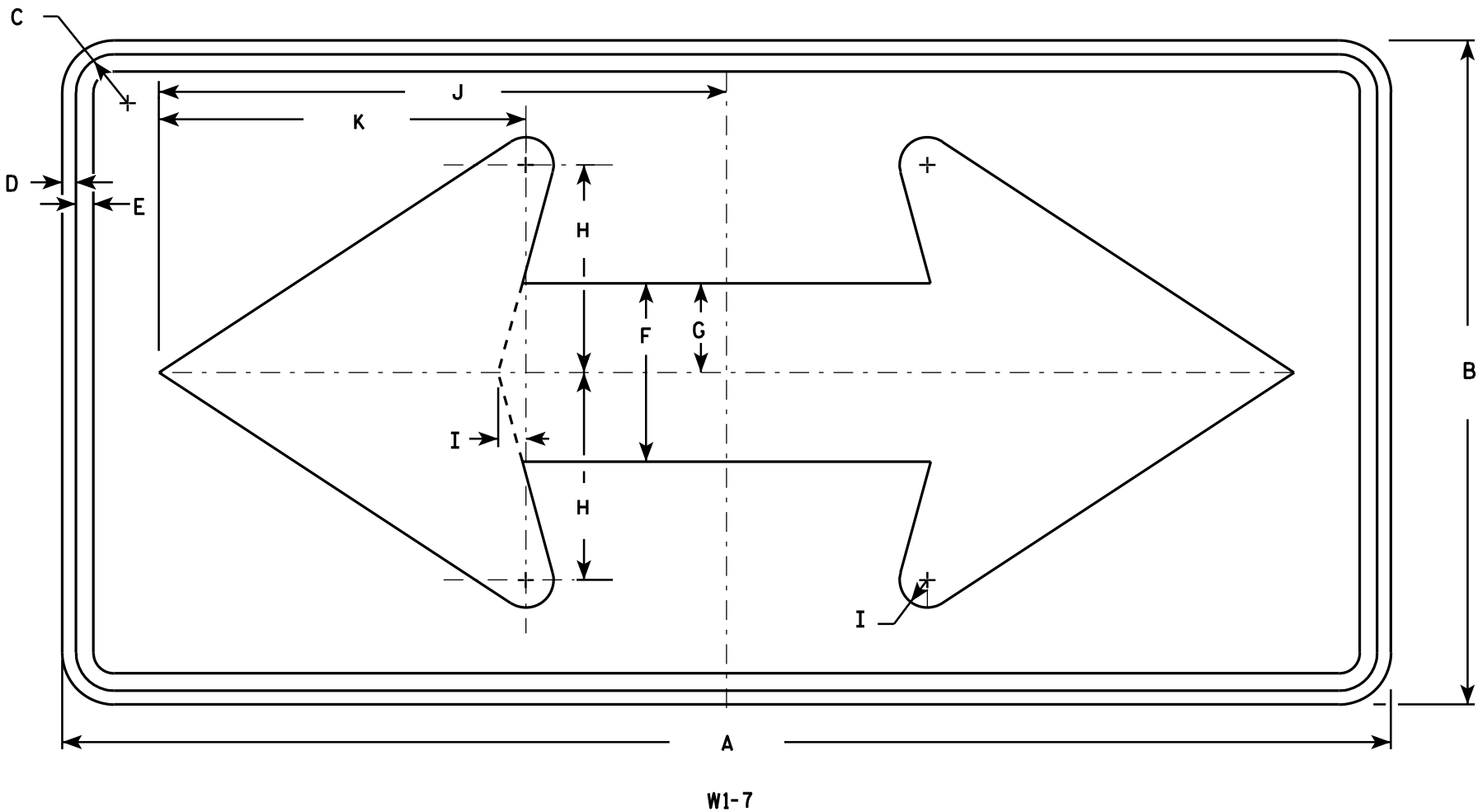
W1-6

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/8	3/8	3/8		9	10	3/4	5 5/8	4 3/4	2 3/8	14 5/8	29 1/4													4.5
2S	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	96	48	2 1/4	3/4	1		24	26 1/2	2	15	13	6 1/2	39	78													32.0

STANDARD SIGN
W1-6

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/7/10 PLATE NO. W1-6.8



NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	18	1 1/8	3/8	1/2	5	2 1/2	5 3/4	3/4	15 5/8	10 1/8																4.5
2S	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
2M	48	24	1 3/8	1/2	5/8	6 1/2	3 1/4	7 1/2	1	20 1/2	13 1/4																8.0
3	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
4	60	30	1 3/8	1/2	5/8	8	4	9 1/4	1 1/4	25 3/8	16 1/4																12.5
5	96	48	2 1/4	3/4	1	13	6 1/2	15	2	41	26 1/2																32.0

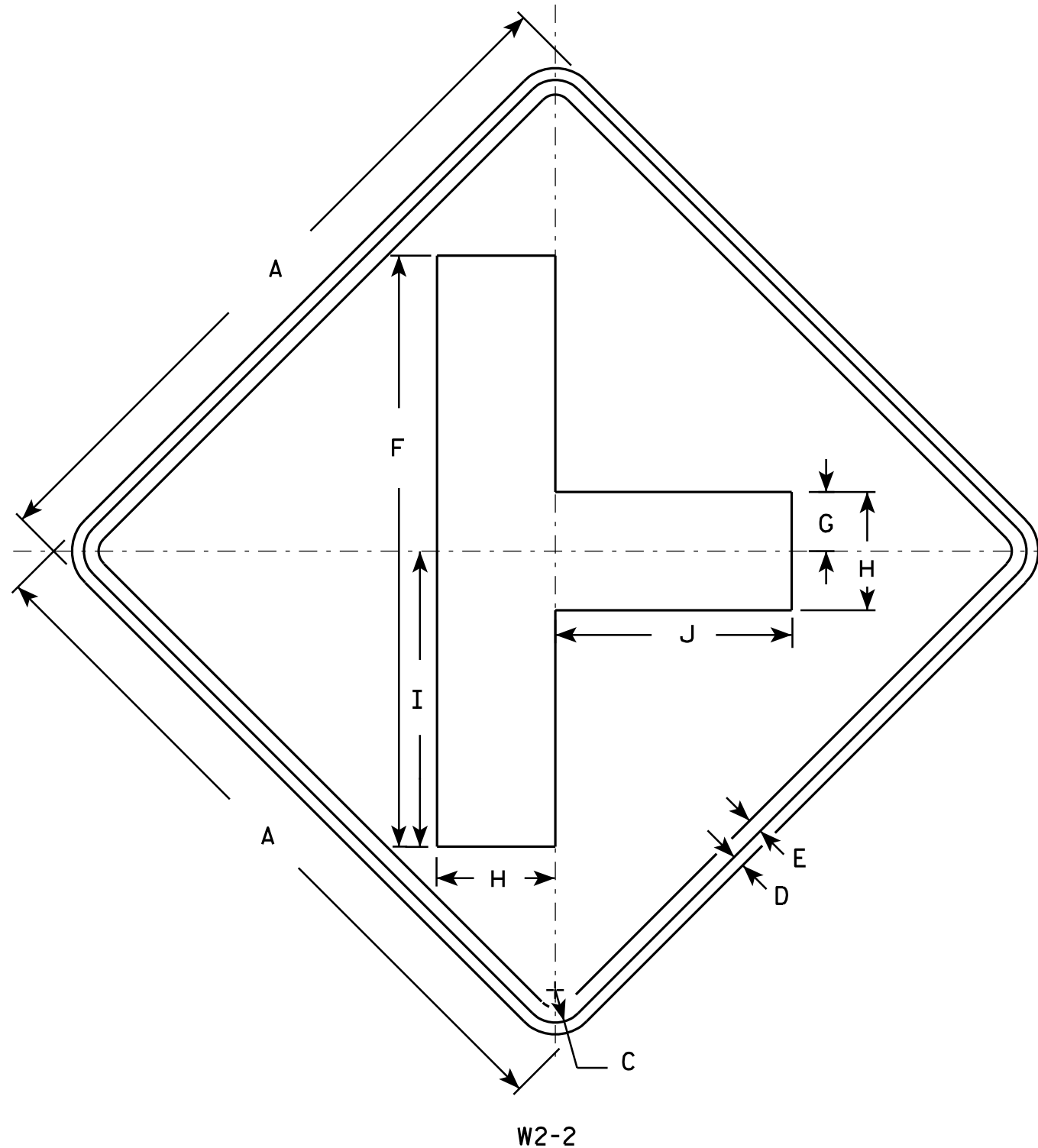
STANDARD SIGN

W1 - 7

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 6/7/10 PLATE NO. W1-7.7



NOTES

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

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	20	2	4	10	8																	4.0
2S	30		1 3/8	1/2	5/8	25	2 1/2	5	12 1/2	10																	6.25
2M	30		1 3/8	1/2	5/8	25	2 1/2	5	12 1/2	10																	6.25
3	36		1 5/8	5/8	3/4	30	3	6	15	12																	9.0
4	48		2 1/4	3/4	1	40	4	8	20	16																	16.0
5																											

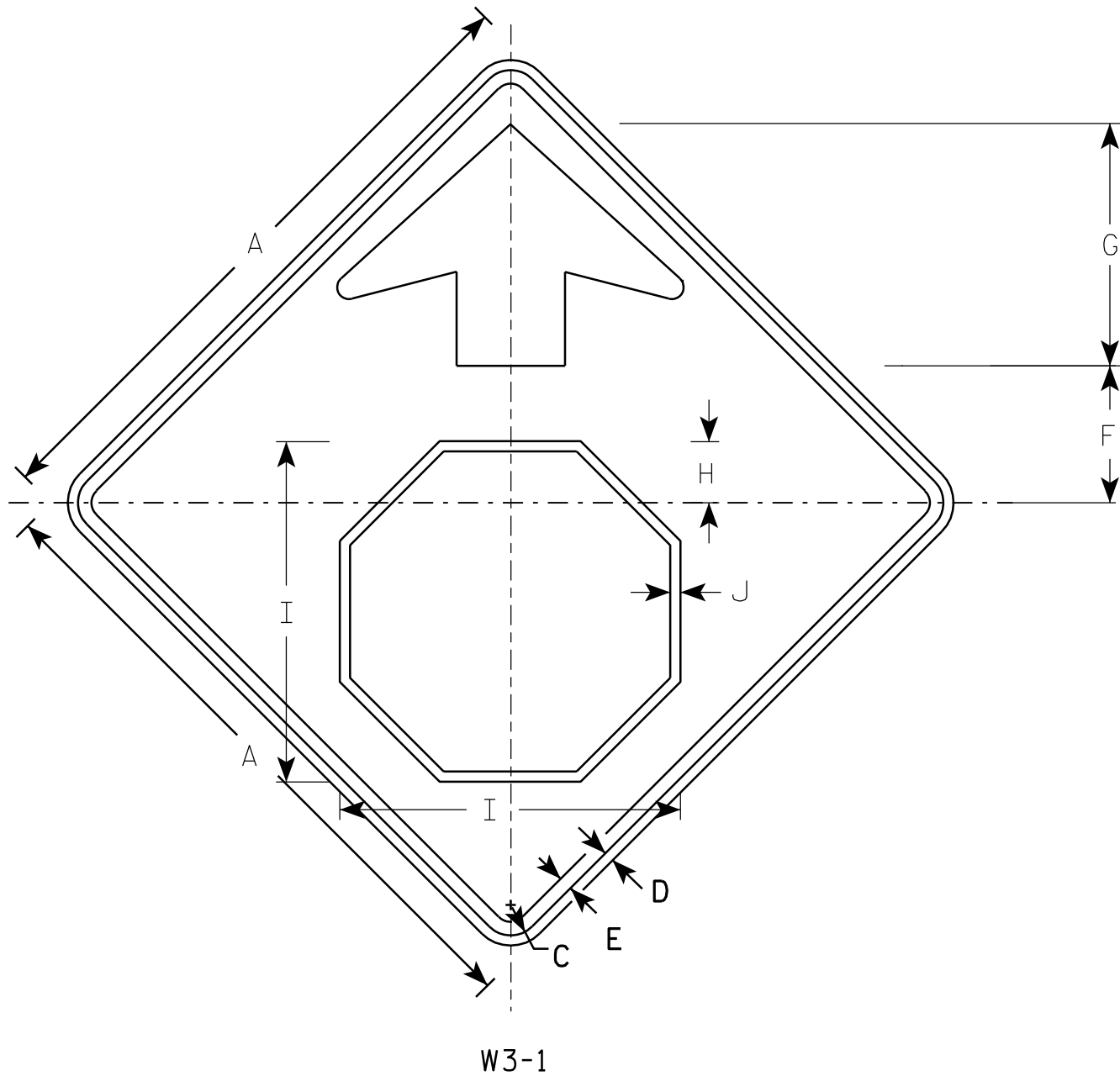
STANDARD SIGN W2-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

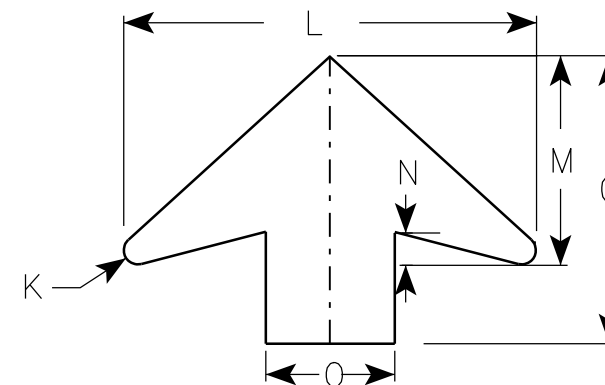
DATE 5/29/12 PLATE NO. W2-2.6

PROJECT NO: HWY: COUNTY: SHEET NO: 411 E



NOTES

1. All Signs Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - YELLOW
Arrow & Border - BLACK
Stop Symbol - WHITE BORDER ON RED BACKGROUND



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	30		1 3/8	1/2	5/8	6 1/4	11 1/4	2 7/8	15 3/4	1/2	1/2	16	8	1 1/4	5												6.25
2S	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
2M	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
3	36		1 5/8	5/8	3/4	7 1/2	13 1/2	3 1/2	19	5/8	5/8	19 1/4	9 3/4	1 5/8	6												9.0
4	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0
5	48		2 1/4	3/4	1	10	17 7/8	4 1/2	25 1/8	3/4	7/8	25 5/8	13	2	8												16.0

PROJECT NO:

STANDARD SIGN
W3-1

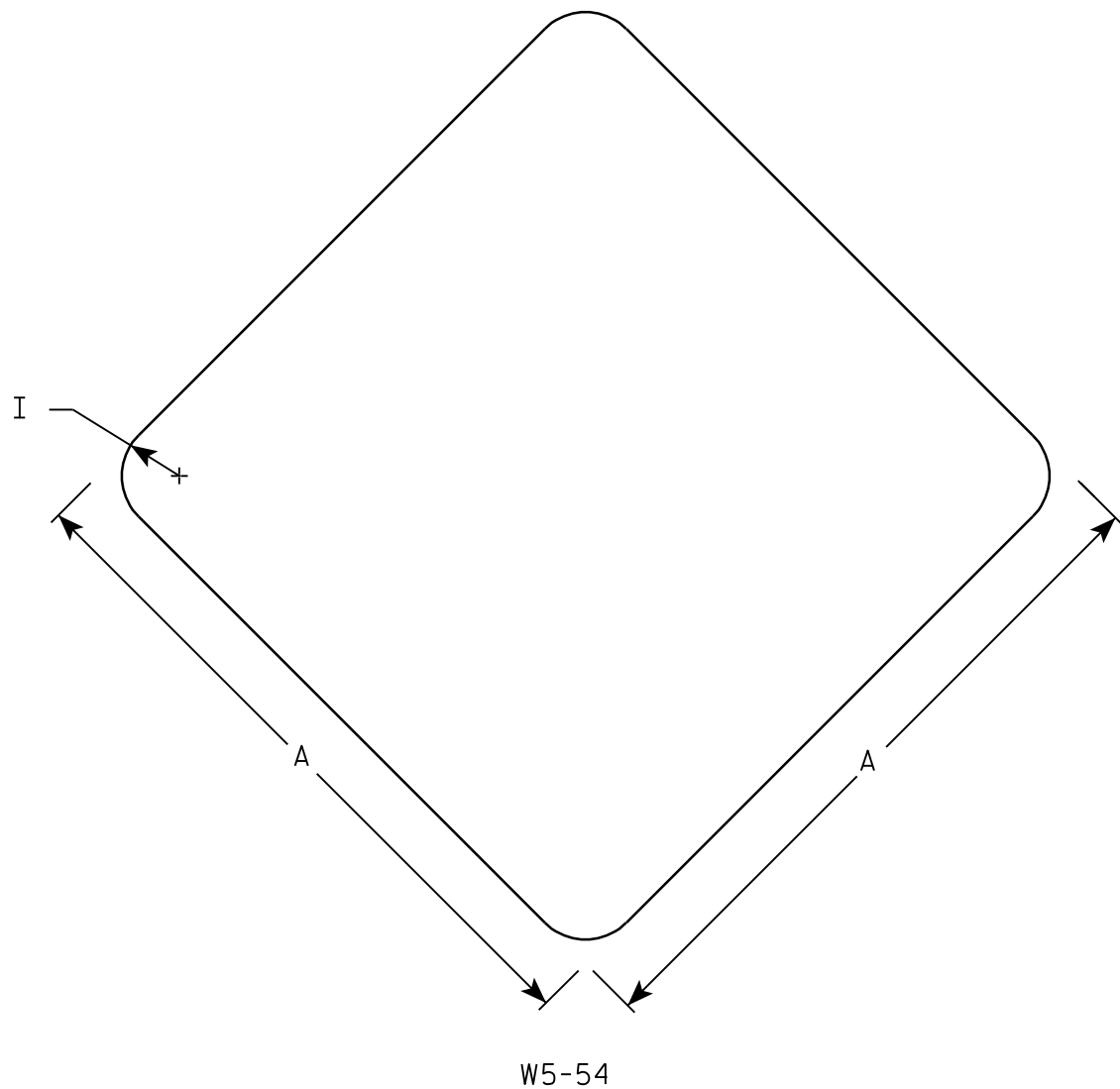
WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer
DATE 6/7/10 PLATE NO. W3-1.12

SHEET NO: 412

E

7



NOTES

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

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																											

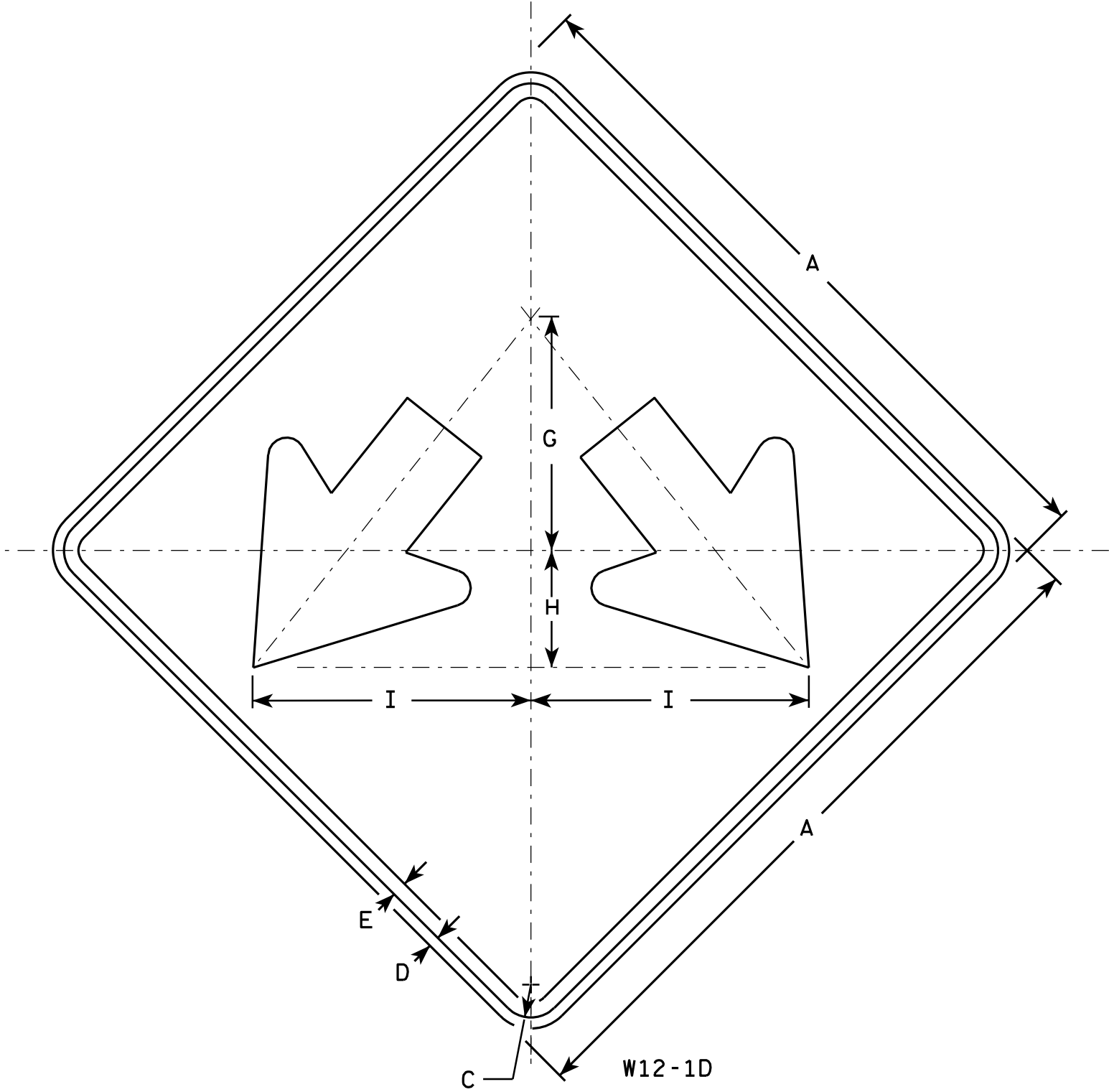
STANDARD SIGN

W5-54

WISCONSIN DEPT OF TRANSPORTATION

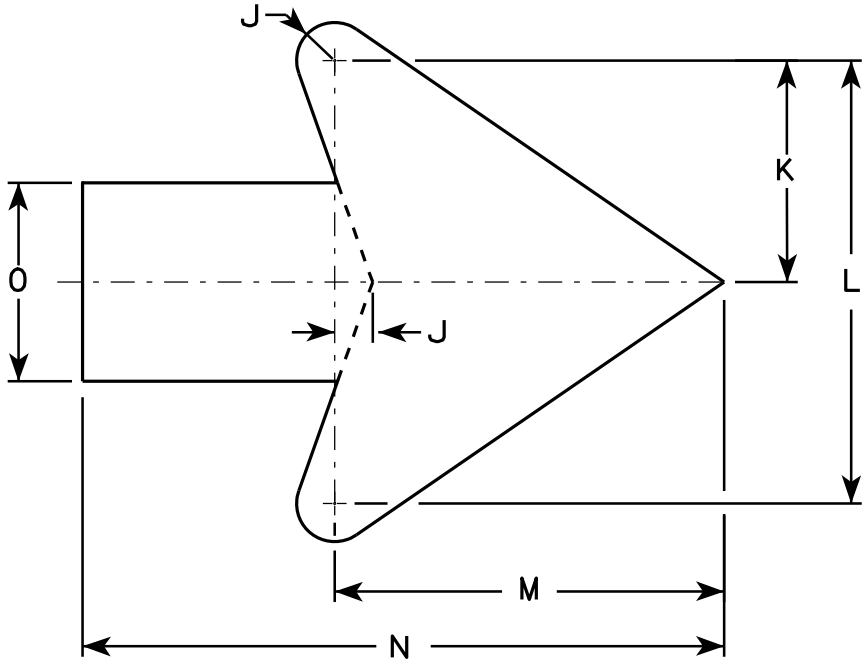
APPROVED *Matthew R. Rauch*
For State Traffic Engineer

DATE 11/3/10 PLATE NO. W5-54.8



NOTES

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

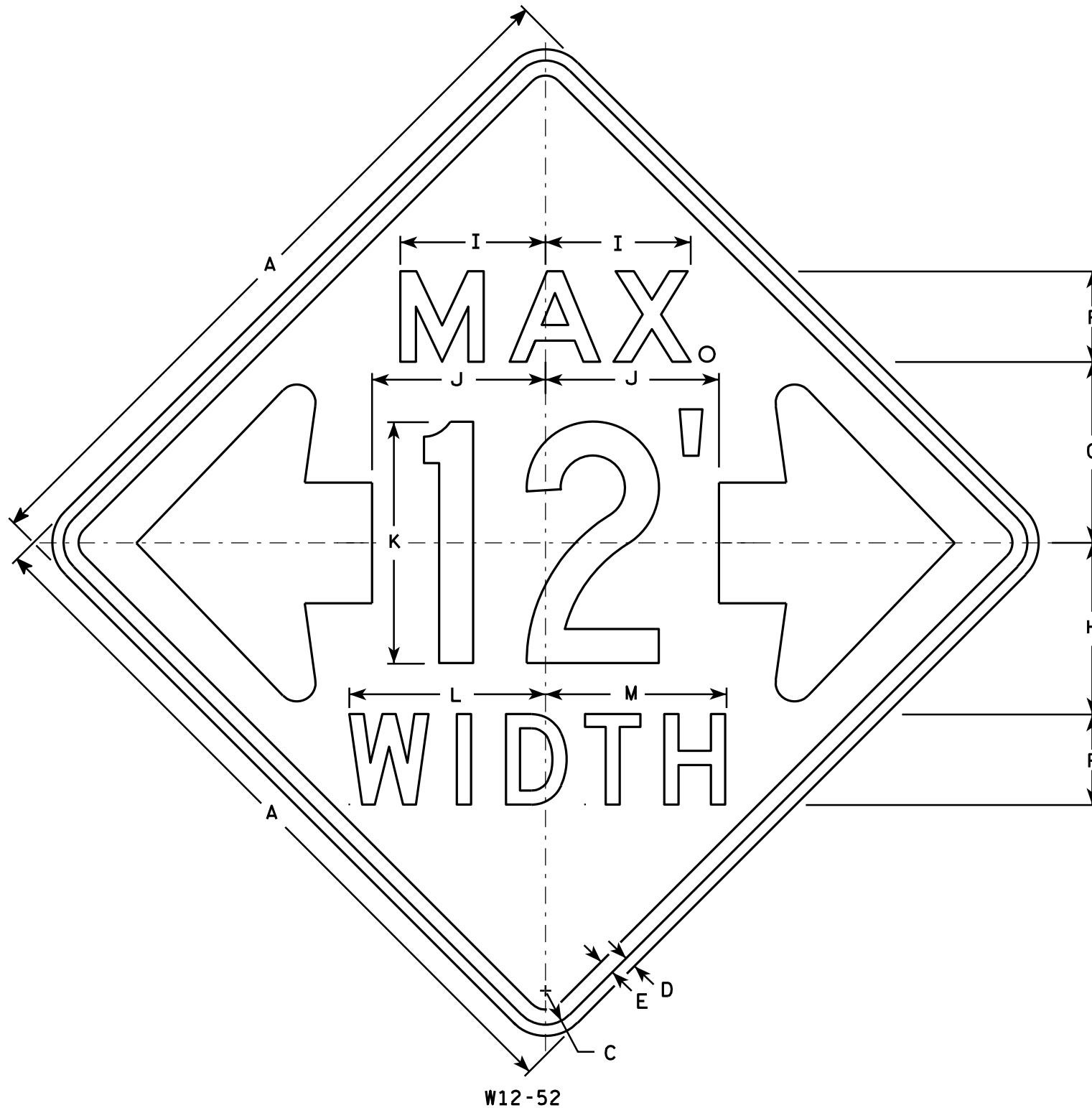
SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
2M	24		1 1/8	1/2	3/8		8	4	9 1/2	3/8	3 3/8	7 1/4	6 3/8	10 3/8	3 1/4												4.0
3	30		1 3/8	1/2	5/8		10	5	11 7/8	3/4	4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

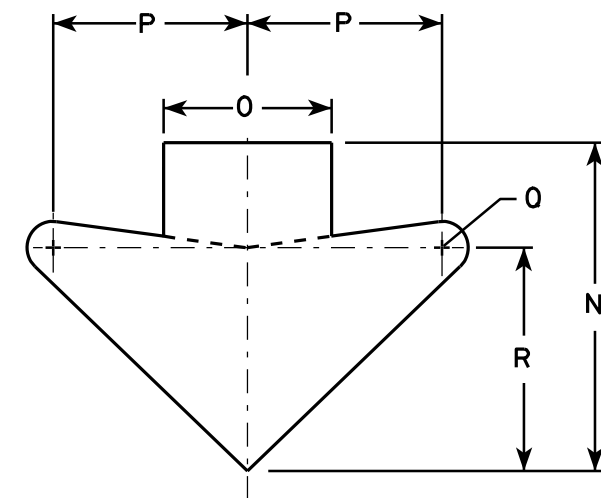
APPROVED
Matthew R. Rauch
for State Traffic Engineer

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



NOTES

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



ARROW DETAIL

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

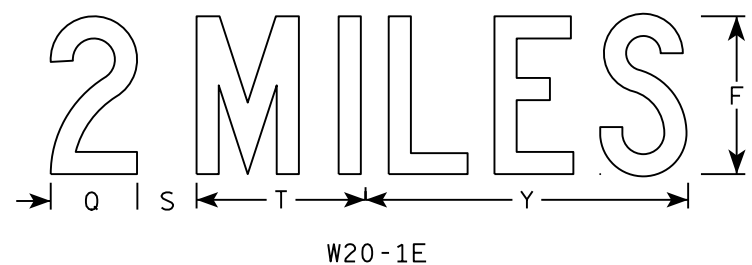
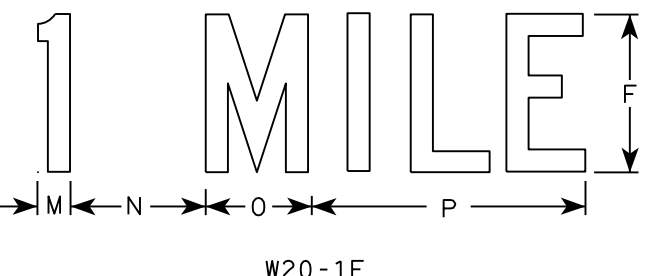
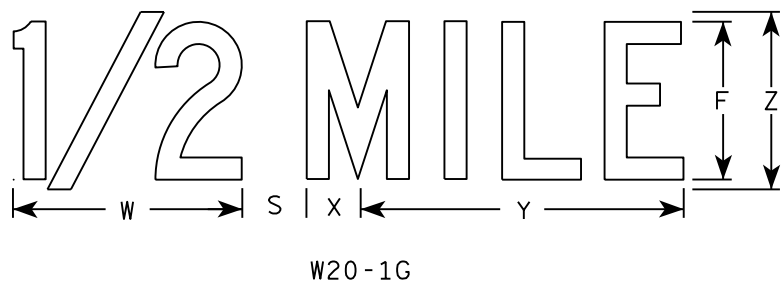
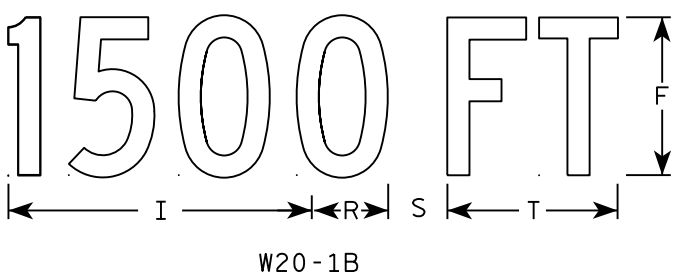
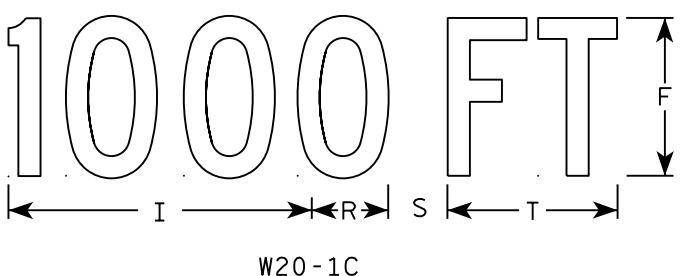
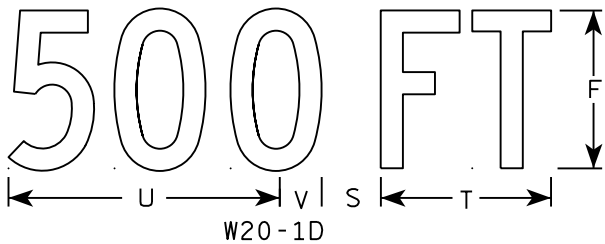
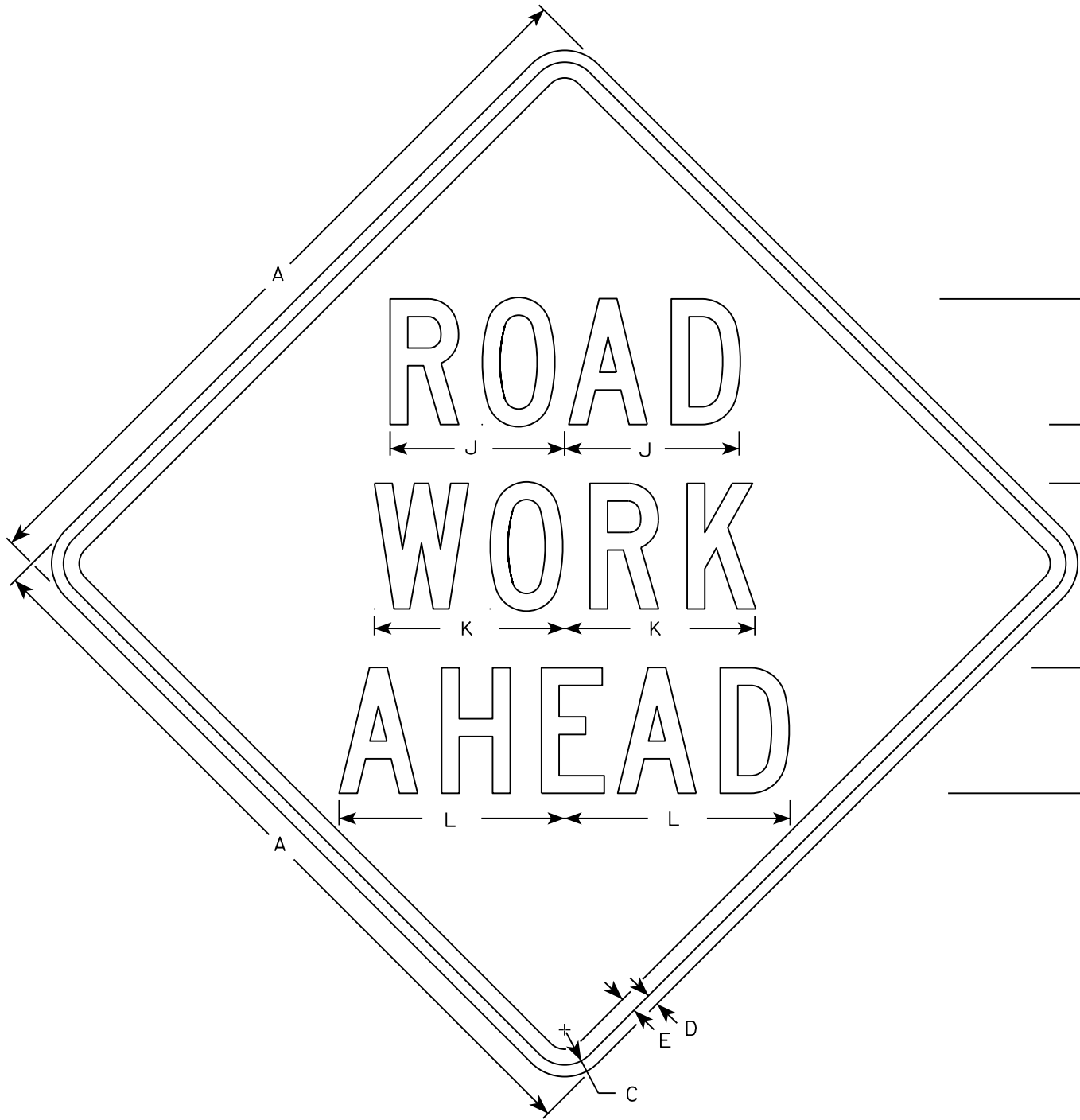
STANDARD SIGN W12-52

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

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

PROJECT NO: HWY: COUNTY: SHEET NO: 415 E



NOTES

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

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

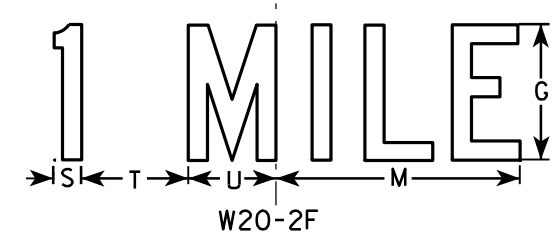
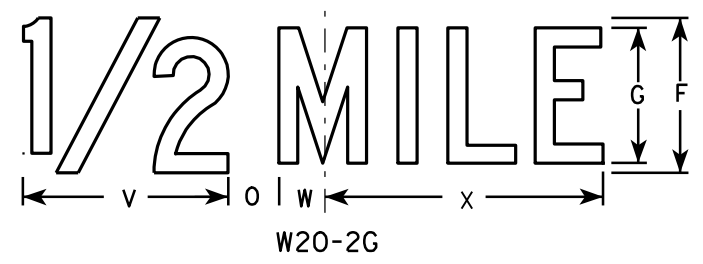
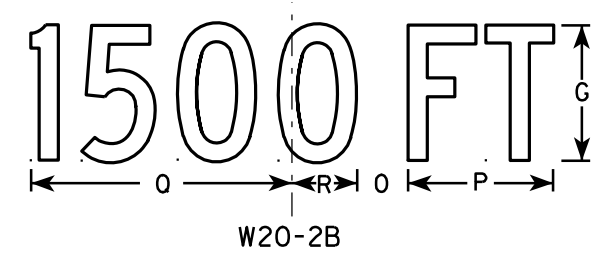
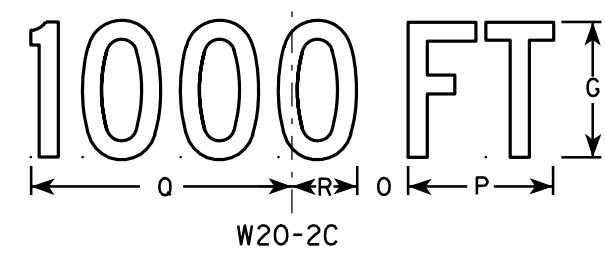
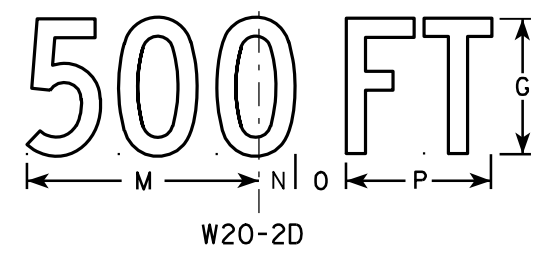
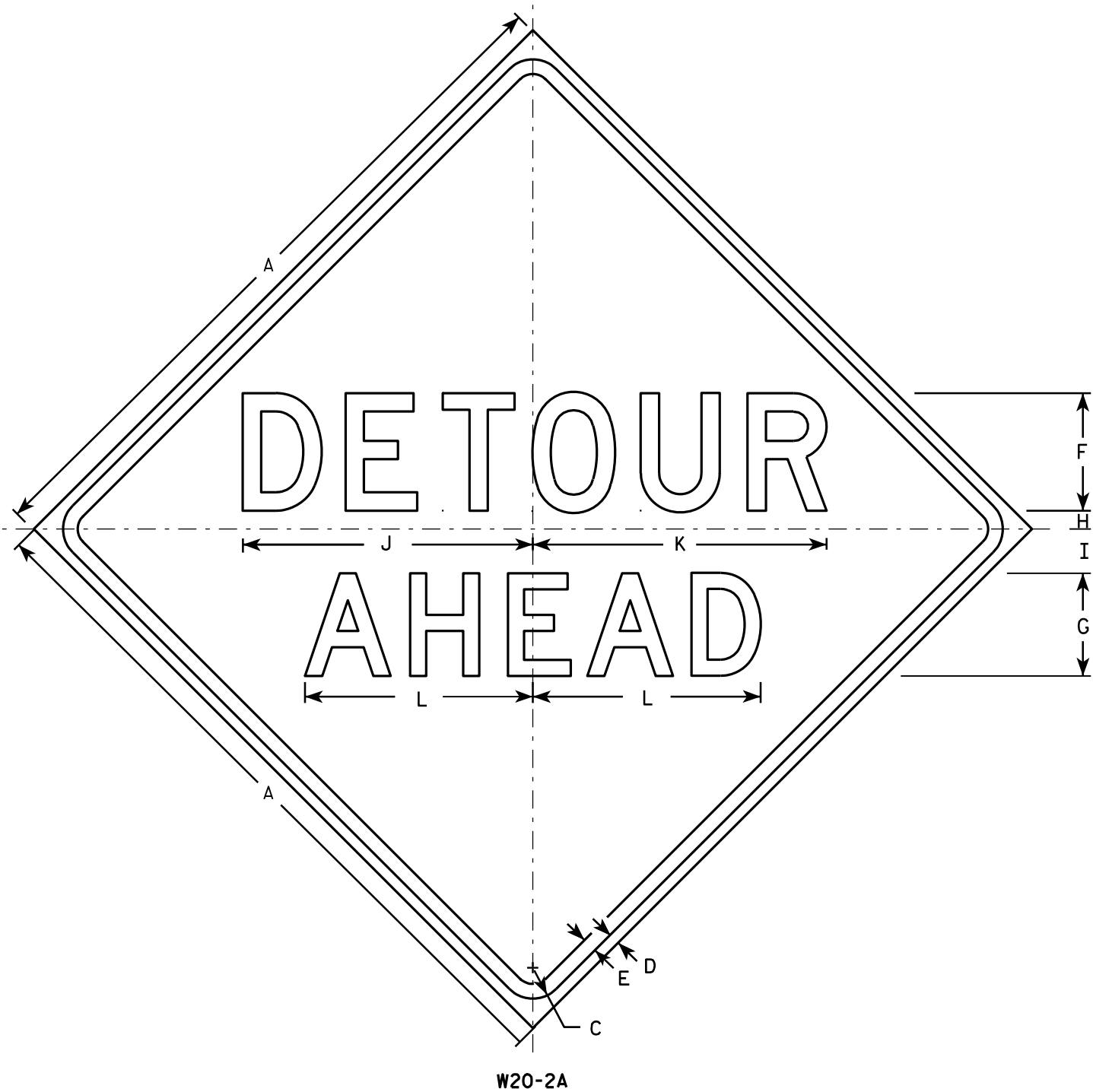
STANDARD SIGN
W20-1A, B, C, D, F & G

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 5/07/15 PLATE NO. W20-1.10

416



NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - See note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Line 1 is Series D.
Line 2 is Series D for AHEAD and Series C for all other distances.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36		1 5/8	5/8	3/4	6	5	1	2 1/4	14 3/4	15	11 5/8	9	1 3/8	1 7/8	5 5/8	10 1/8	2 1/2	1 1/8	4 1/2	3 1/2	8	1 3/4	10 3/4			9.0
2S	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
2M	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
3	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
4	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0
5	48		2 1/4	3/4	1	8	7	1 1/4	3	19 3/4	20	15 1/2	12	1 7/8	2 5/8	7 1/2	13 1/2	3 3/8	1 1/2	6	4 5/8	10 5/8	2 3/8	14 3/8			16.0

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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
for State Traffic Engineer

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

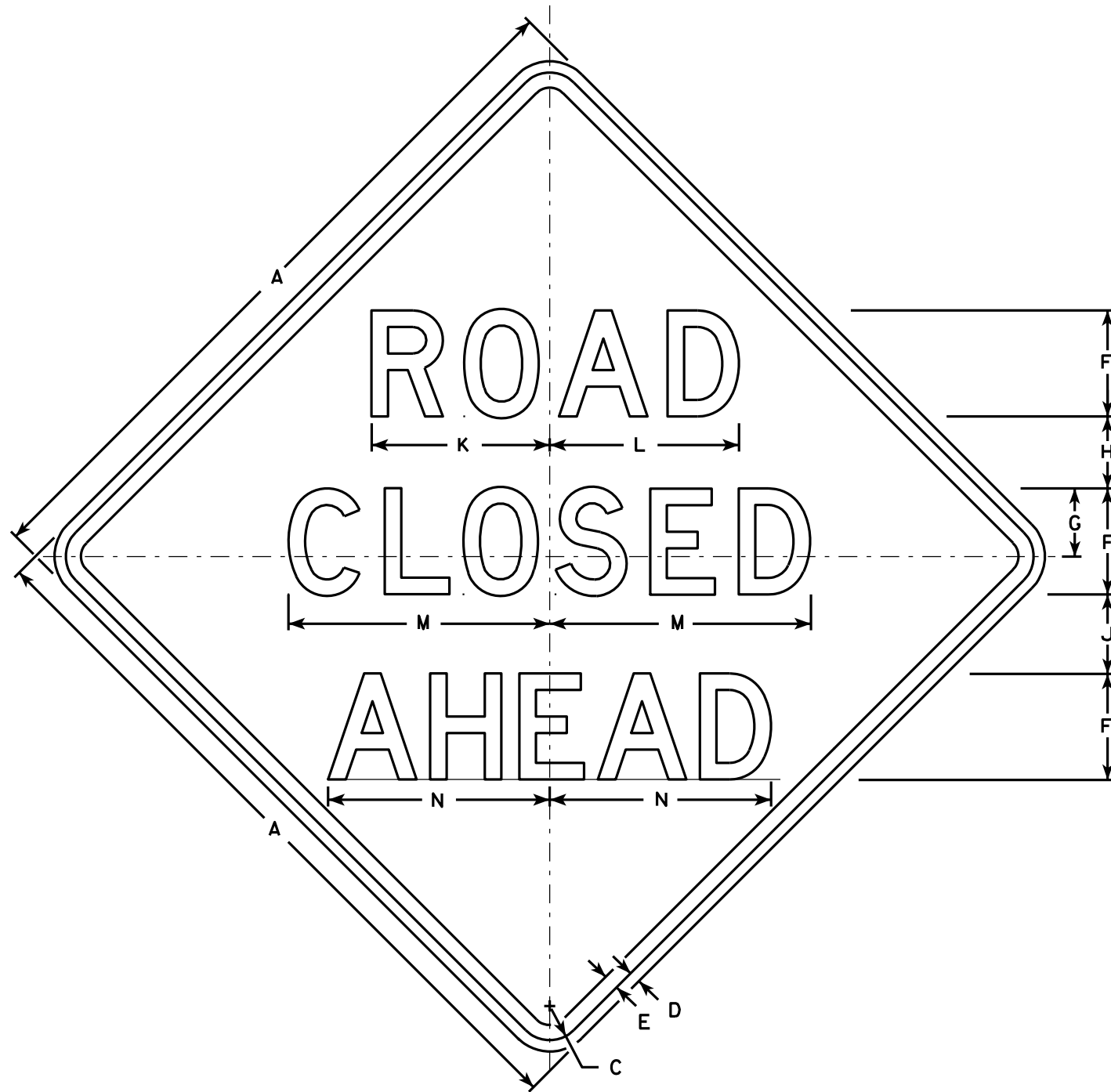
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 417

E



W20-3A

500 FT

W20-3D

1000 FT

W20-3C

1500 FT

W20-3B

1/2 MILE

W20-3G

1 MILE

W20-3F

NOTES

1. Sign is Type II - Type F Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
Background - Orange
Message - Black
3. Message Series - see note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1 and 2 are Series D.
Line 3 is Series D for AHEAD and Series C for all other distances.

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

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

WISCONSIN DEPT OF TRANSPORTATION

APPROVED *Matthew R. Rauch*
For State Traffic Engineer

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

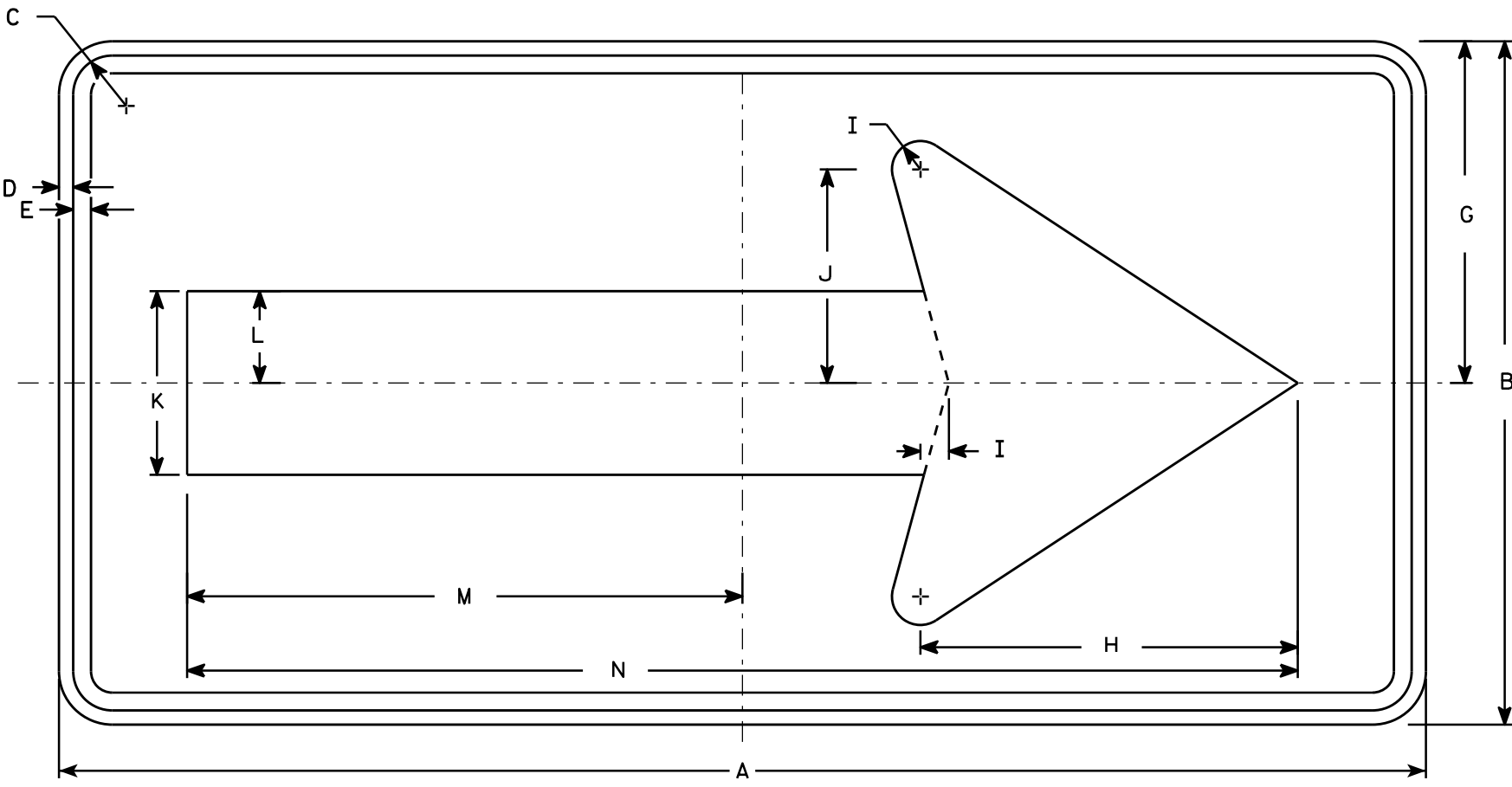
PROJECT NO:

HWY:

COUNTY:

SHEET NO: 418

E



W01-6

NOTES

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

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
2M	48	24	1 3/8	1/2	5/8		12	13 1/4	1	7 1/2	6 1/2	3 1/4	19 1/2	39													8.0
3	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
4	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5
5	60	30	1 3/8	1/2	5/8		15	16 1/4	1 1/4	9 1/4	8	4	24 3/8	48 3/4													12.5

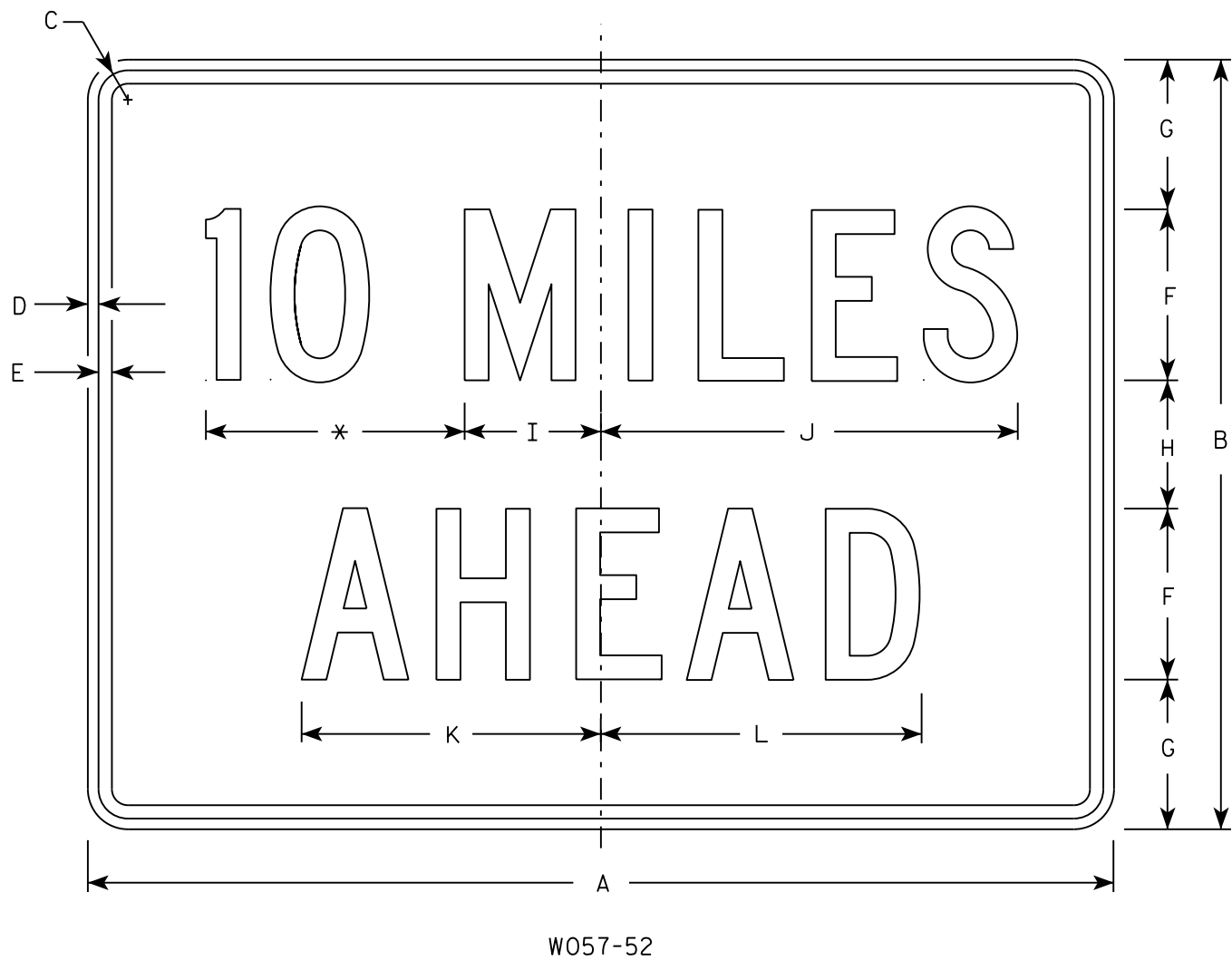
STANDARD SIGN

W01-6

WISCONSIN DEPT OF TRANSPORTATION

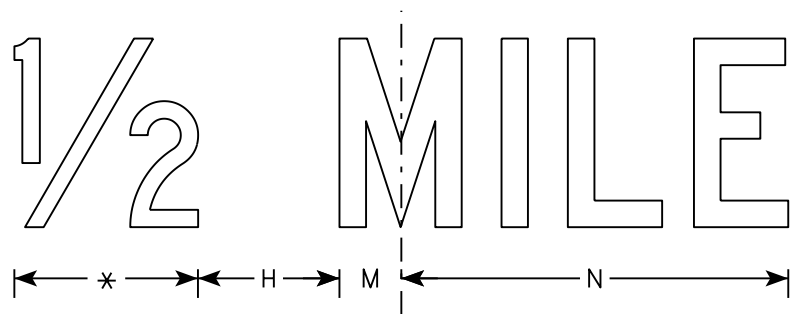
APPROVED *Matthew R. Rauch*
for State Traffic Engineer

DATE 11/18/13 PLATE NO. 419 W01-6.1



NOTES

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



* See note 5

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	36	24	1 1/8	3/8	1/2	6	4 1/2	3	4 3/4	14 5/8	10 5/8	11 3/8	2	12													6.0
2S	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
2M	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
3	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
4	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0
5	48	36	1 3/8	1/2	5/8	8	7	6	6 3/8	19 1/2	14	15	2 3/4	16 3/8													12.0

STANDARD SIGN
W057-52

WISCONSIN DEPT OF TRANSPORTATION

APPROVED

for State Traffic Engineer

DATE 3/21/17 PLATE NO. W057-52.2

Division 1 at STH 50 - Ali-USH 45

STATION	Real Station	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		
			Cut	Fill	Cut	Fill	Cut	Expanded Fill	Mass Ordinate
					Note 1	Note 3	Note 1	1.10	Note 8
304+50	30450.00	0.00	78.40	7.17	0	0	0	0	0
305+00	30500.00	50.00	23.68	0.00	95	7	95	7	87
305+50	30550.00	50.00	33.32	0.04	53	0	147	7	140
306+00	30600.00	50.00	47.14	2.24	74	2	222	10	212
306+08.73	30608.73	8.73	48.28	2.65	15	1	237	11	227
306+50	30650.00	41.27	56.50	1.61	80	3	317	14	303
307+00	30700.00	50.00	81.59	0.00	128	1	445	16	429
307+50	30750.00	50.00	128.36	0.00	194	0	640	16	624
308+00	30800.00	50.00	137.47	0.00	246	0	886	16	870
308+50	30850.00	50.00	111.44	0.00	230	0	1,116	16	1,100
308+75	30875.00	25.00	90.11	0.00	93	0	1,209	16	1,194
309+00	30900.00	25.00	90.45	0.01	84	0	1,293	16	1,277
309+34.19	30934.19	34.19	167.84	0.74	164	0	1,457	16	1,440
309+49.17	30949.17	14.98	3.25	0.00	47	0	1,504	17	1,488

1,50415

Division 2 at CTH K - Ali-USH 45

STATION	Real Station	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		
			Cut	Fill	Cut	Fill	Cut	Expanded Fill	Mass Ordinate
					Note 1	Note 3	Note 1	1.10	Note 8
362+76.29	36276.29	0.00	9.95	0.12	0	0	0	0	0
363+00	36300.00	23.71	53.93	3.74	28	2	28	2	26
363+45.11	36345.11	45.11	215.37	3.24	225	6	253	8	245
363+54.91	36354.91	9.80	397.63	1.27	111	1	364	9	355
363+75	36375.00	20.09	15.34	44.10	154	17	518	28	490
363+98.34	36398.34	23.34	0.00	0.00	7	19	525	49	476

52544

Division 2 at CTH NN - Ali-USH 45

STATION	Real Station	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		
			Cut	Fill	Cut	Fill	Cut 1.00	Expanded	
								Fill 1.10	Mass Ordinate
					Note 1	Note 3	Note 1		Note 8
412+00	41200.00	0.00	14.95	37.24	0	0	0	0	0
412+25	41225.00	25.00	1.06	108.98	7	68	7	74	-67
412+50	41250.00	25.00	9.22	35.68	5	67	12	148	-136
412+50.1	41250.10	0.10	7.47	35.13	0	0	12	148	-136
413+00.53	41300.53	50.43	0.00	27.43	7	58	19	213	-193
414+00	41400.00	99.47	10.82	23.15	20	93	39	315	-276
415+00	41500.00	100.00	10.14	42.16	39	121	78	448	-370
415+35.09	41535.09	35.09	10.32	47.53	13	58	91	512	-421
415+66.47	41566.47	31.38	23.49	56.14	20	60	111	578	-468
416+00	41600.00	33.53	24.67	58.01	30	71	141	656	-516
416+34.07	41634.07	34.07	9.35	46.72	21	66	162	729	-567
416+50	41650.00	15.93	39.68	39.92	14	26	177	757	-580
416+75	41675.00	25.00	82.02	26.91	56	31	233	791	-558
417+00	41700.00	25.00	111.52	5.60	90	15	323	808	-485
417+25	41725.00	25.00	104.64	2.66	100	4	423	812	-389
417+50	41750.00	25.00	62.88	2.73	78	2	500	815	-314
417+75	41775.00	25.00	71.31	4.69	62	3	562	818	-256
418+00	41800.00	25.00	87.71	0.28	74	2	636	821	-185
418+50	41850.00	50.00	24.32	17.83	104	17	740	839	-100
419+00	41900.00	50.00	22.76	10.26	44	26	783	868	-85
419+50	41950.00	50.00	65.76	7.84	82	17	865	887	-21
420+00	42000.00	50.00	46.06	12.00	104	18	969	907	62
420+50	42050.00	50.00	22.22	25.34	63	35	1,032	945	87
420+70.14	42070.14	20.14	21.65	40.99	16	25	1,048	972	76
421+00	42100.00	29.86	21.90	36.91	24	43	1,073	1,019	53
421+22.53	42122.53	22.53	11.89	41.94	14	33	1,087	1,056	31
421+49.75	42149.75	27.22	12.19	40.41	12	42	1,099	1,101	-2
422+00	42200.00	50.25	12.69	12.44	23	49	1,122	1,155	-33
422+30.18	42230.18	30.18	14.59	0.72	15	7	1,137	1,163	-26

1,137

1,058

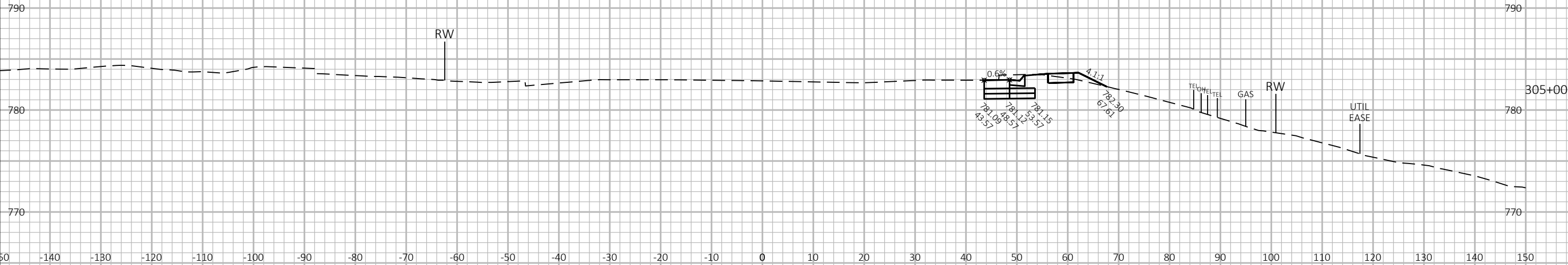
Division 2 at CTH N - Ali-USH 45

STATION	Real Station	Distance	AREA (SF)		Incremental Vol (CY) (Unadjusted)		Cumulative Vol (CY)		
			Cut	Fill	Cut	Fill	Expanded		
							Cut 1.00	Fill 1.10	Mass Ordinate
					Note 1	Note 3	Note 1		Note 8
438+42.91	43842.91	0.00	47.74	0.00	0	0	0	0	0
439+00	43900.00	57.09	37.82	0.08	90	0	90	0	90
439+51.28	43951.28	51.28	34.53	0.00	69	0	159	0	159
440+00	44000.00	48.72	36.66	1.42	64	1	223	2	222
440+50	44050.00	50.00	33.74	4.97	65	6	289	8	280
441+00	44100.00	50.00	37.33	11.37	66	15	354	25	330
441+50	44150.00	50.00	46.05	15.21	77	25	432	52	380
442+00	44200.00	50.00	50.92	16.75	90	30	521	84	437
442+50	44250.00	50.00	45.48	26.05	89	40	611	128	483
443+00	44300.00	50.00	50.50	27.93	89	50	699	183	517
443+25	44325.00	25.00	54.22	46.55	48	34	748	221	527
443+50	44350.00	25.00	69.95	102.83	57	69	805	297	509
443+75	44375.00	25.00	116.88	34.18	86	63	892	367	525
444+00	44400.00	25.00	58.72	128.27	81	75	973	449	524
444+25	44425.00	25.00	29.44	82.55	41	98	1,014	557	457
444+50	44450.00	25.00	28.04	35.80	27	55	1,041	617	424
445+00	44500.00	50.00	29.18	9.30	53	42	1,094	663	431
445+30.34	44530.34	30.34	38.20	4.58	38	8	1,132	672	460
446+00	44600.00	69.66	53.67	5.30	119	13	1,250	686	564
446+50	44650.00	50.00	58.85	2.71	104	7	1,354	694	660
447+00	44700.00	50.00	34.42	0.15	86	3	1,441	697	744
447+43.06	44743.06	43.06	36.31	0.00	56	0	1,497	697	800

1,497

633

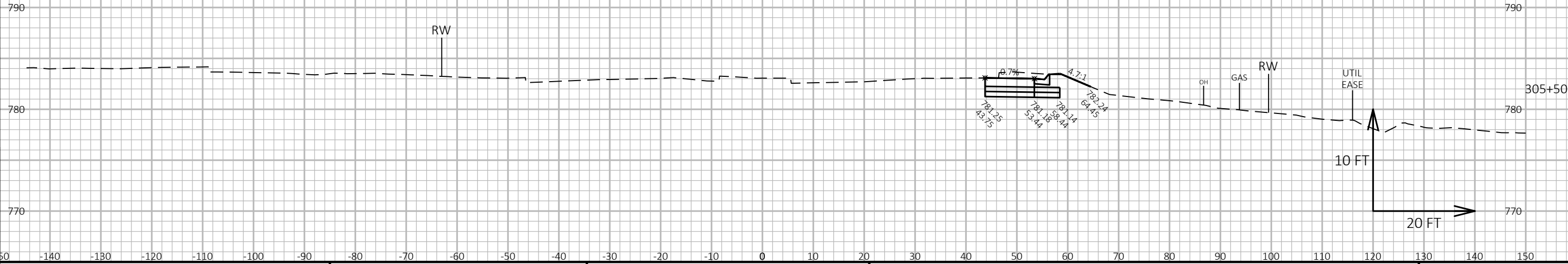
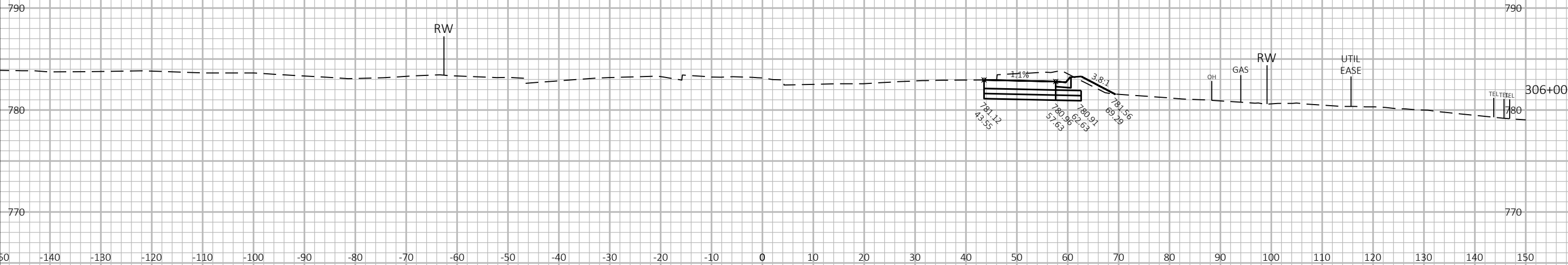
*POTENTIAL EBS AREAS FROM 304+50-309+50
SEE CONSTRUCTION DETAIL



9

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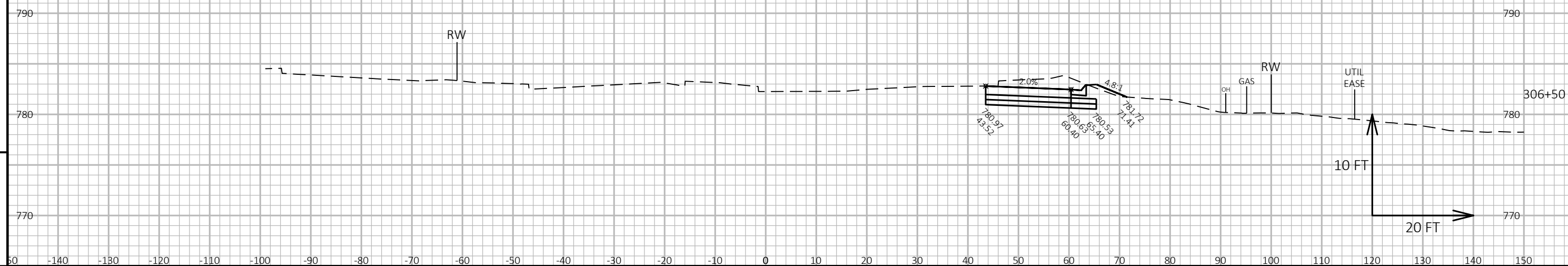
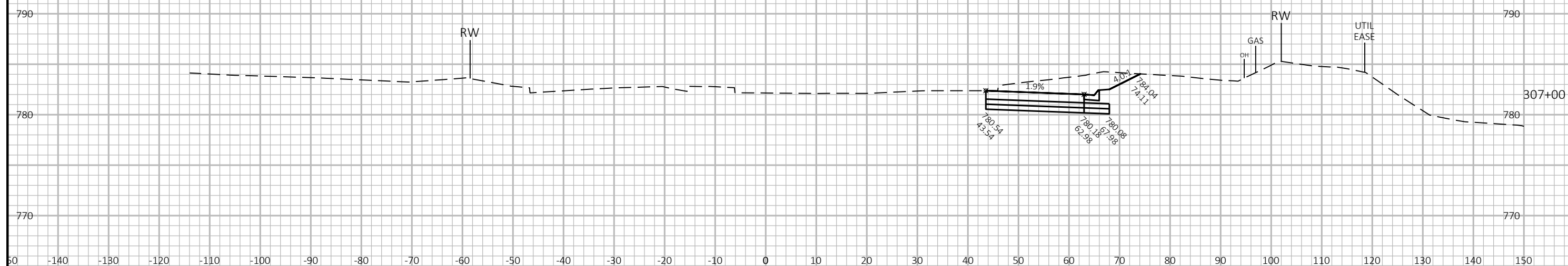
*POTENTIAL EBS AREAS FROM 304+50-309+50
SEE CONSTRUCTION DETAIL



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*POTENTIAL EBS AREAS FROM 304+50-309+50
SEE CONSTRUCTION DETAIL



PROJECT NO:	3200-01-72
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HWY: USH 45

COUNTY: KENOSHA-RACINE

CROSS SECTIONS: USH 45

SHEET	426
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FILE NAME : N:\PDS\C3D\32000102\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090203-xs

PLOT DATE : 4/30/2019 2:02 PM

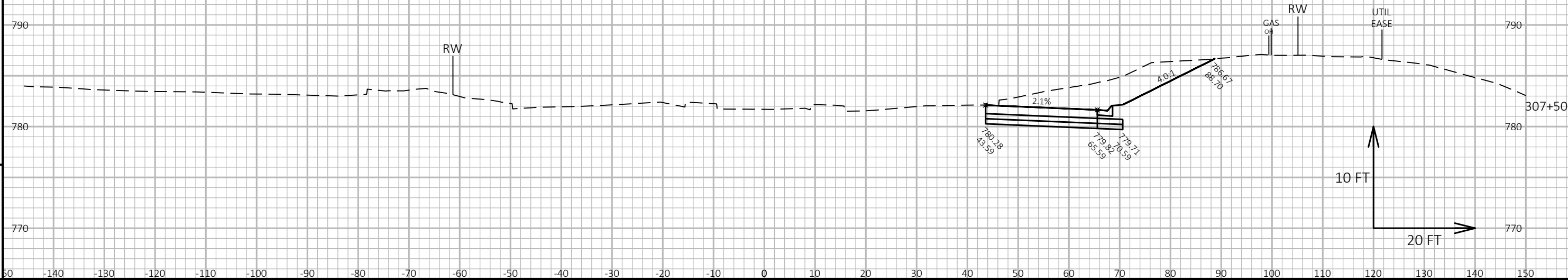
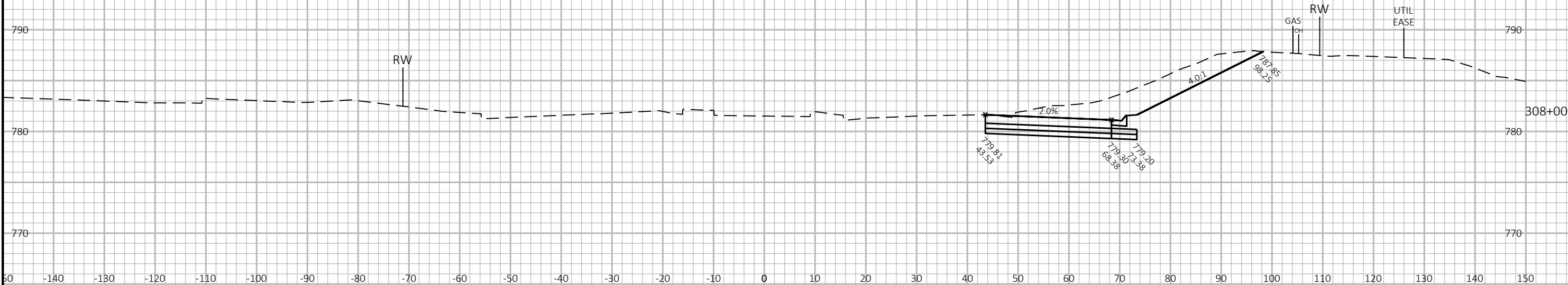
PLOT BY : YANG, VANG NENG

PLOT NAME :

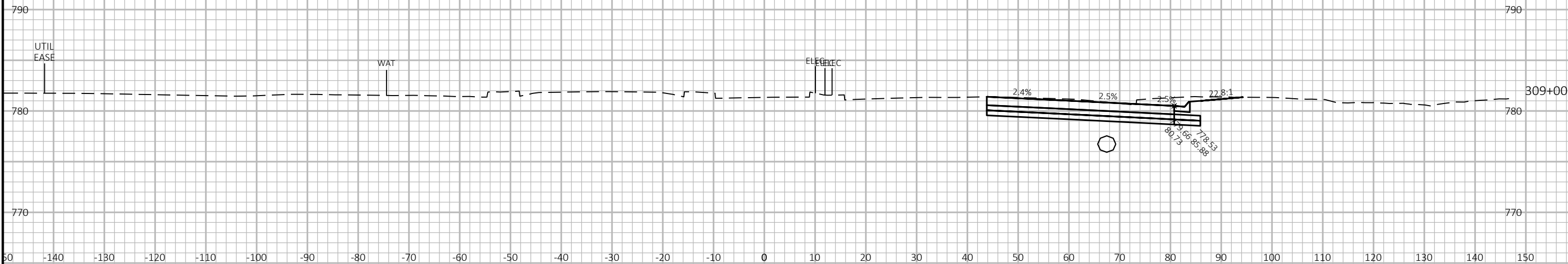
PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

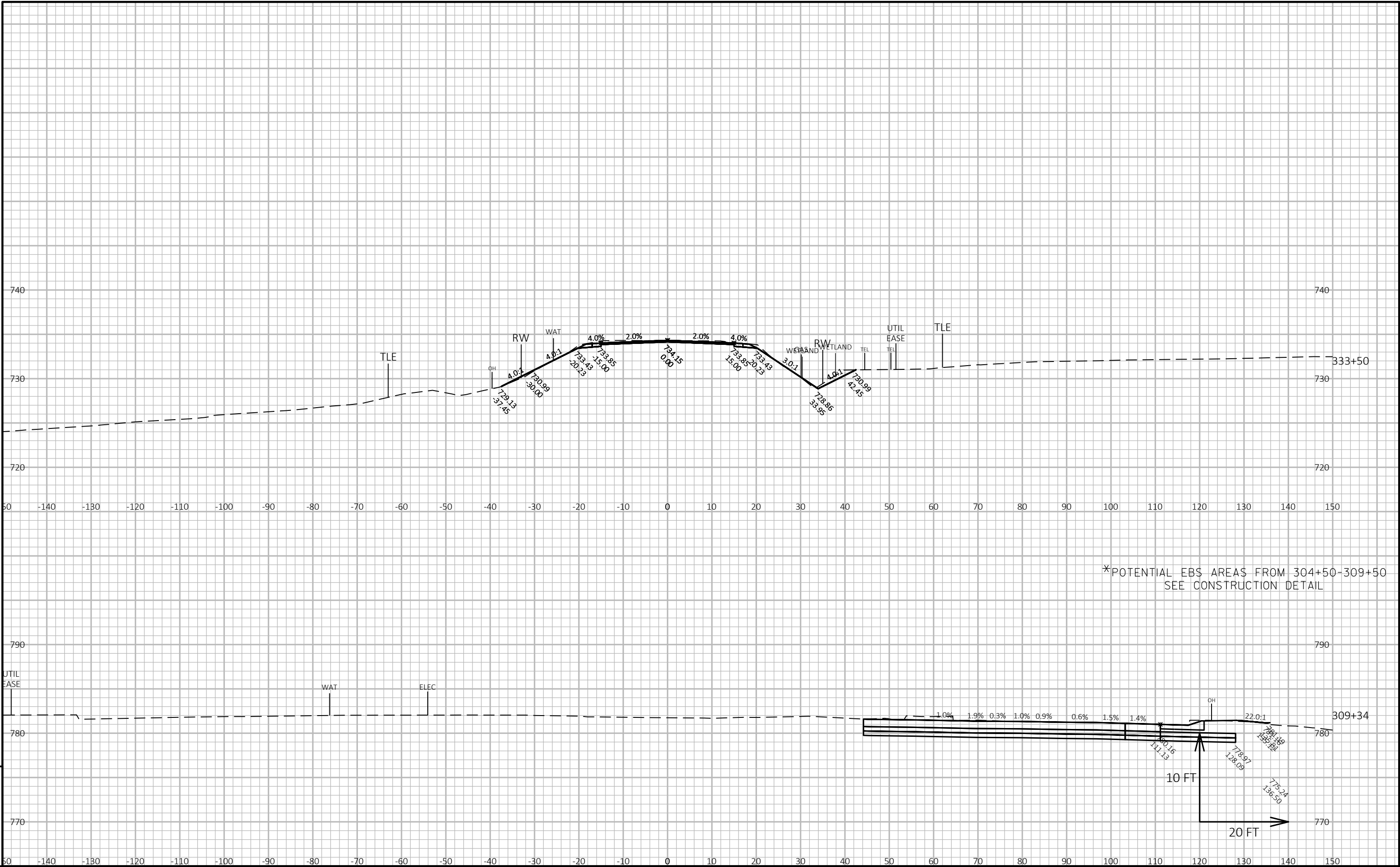
WISDOT/CADDS SHEET 49

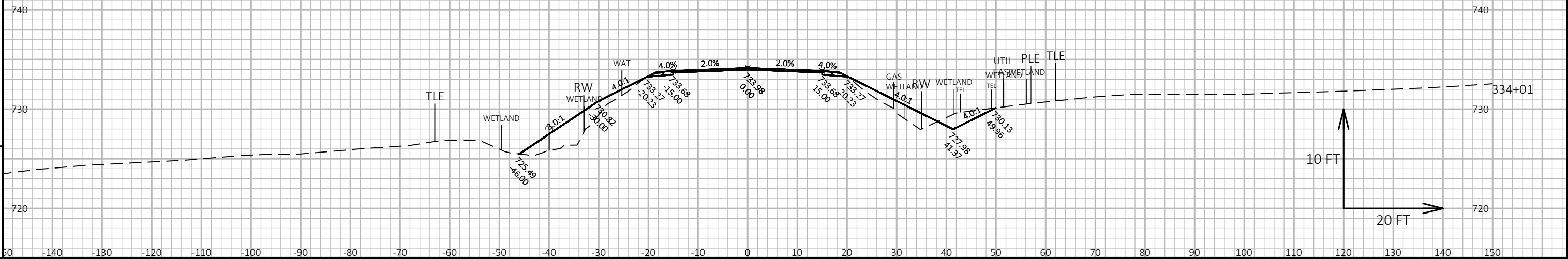
*POTENTIAL EBS AREAS FROM 304+50-309+50
SEE CONSTRUCTION DETAIL

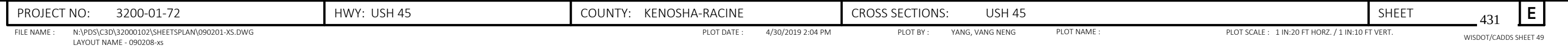
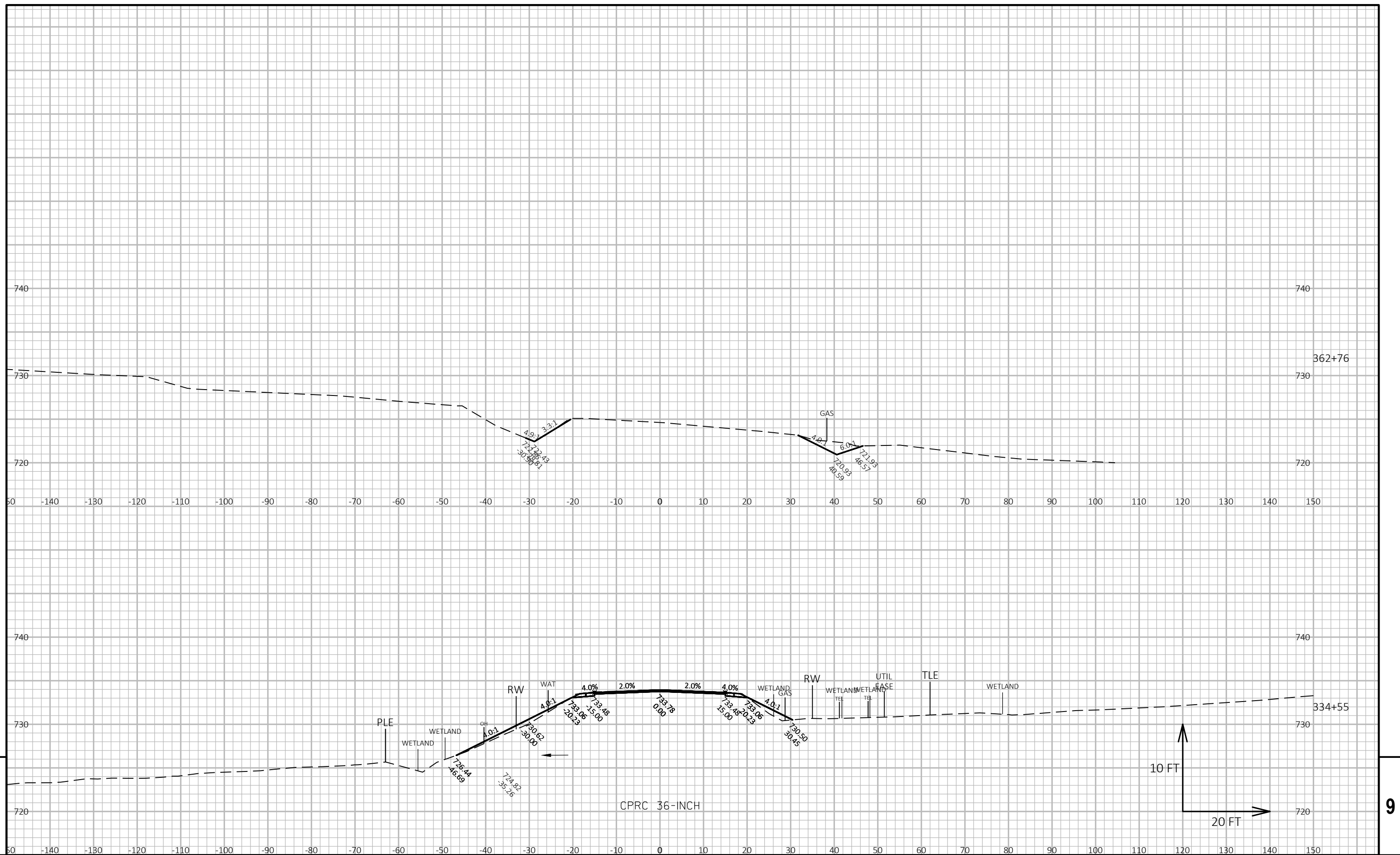


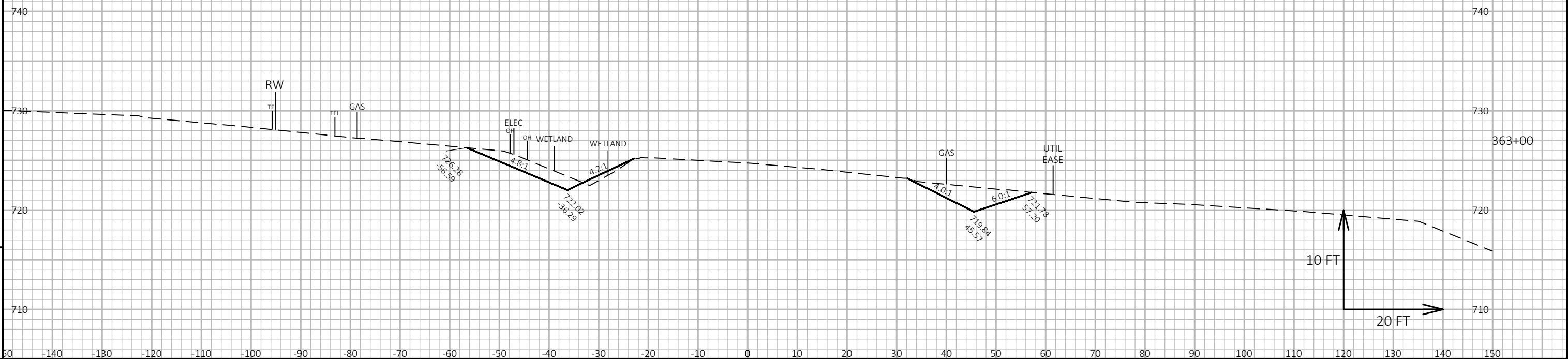
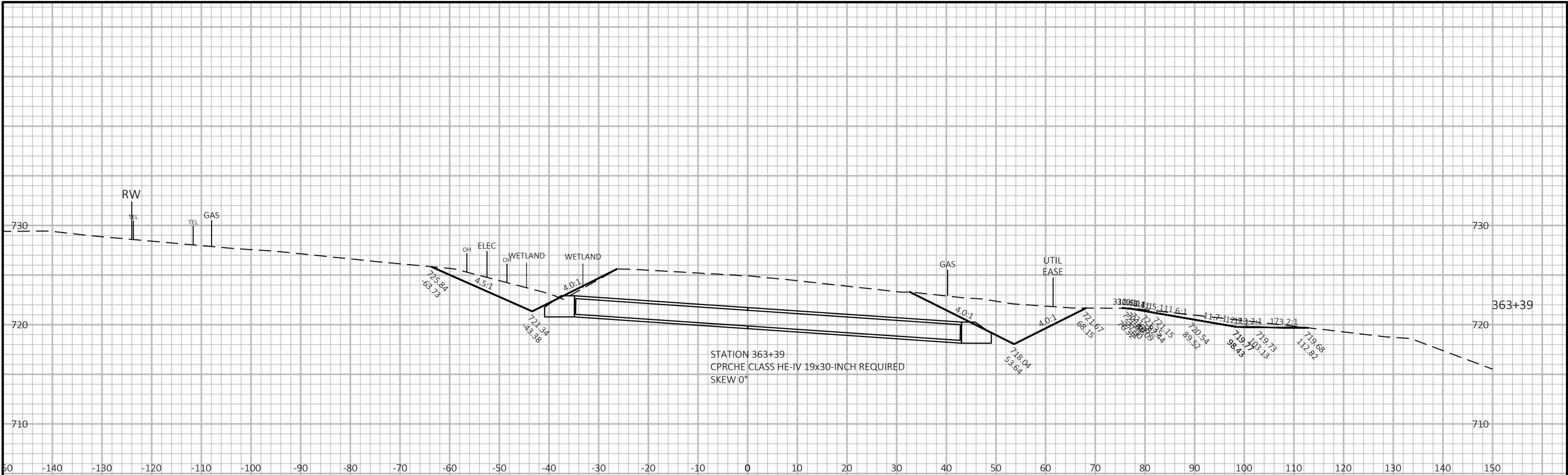
*POTENTIAL EBS AREAS FROM 304+50-309+50
SEE CONSTRUCTION DETAIL

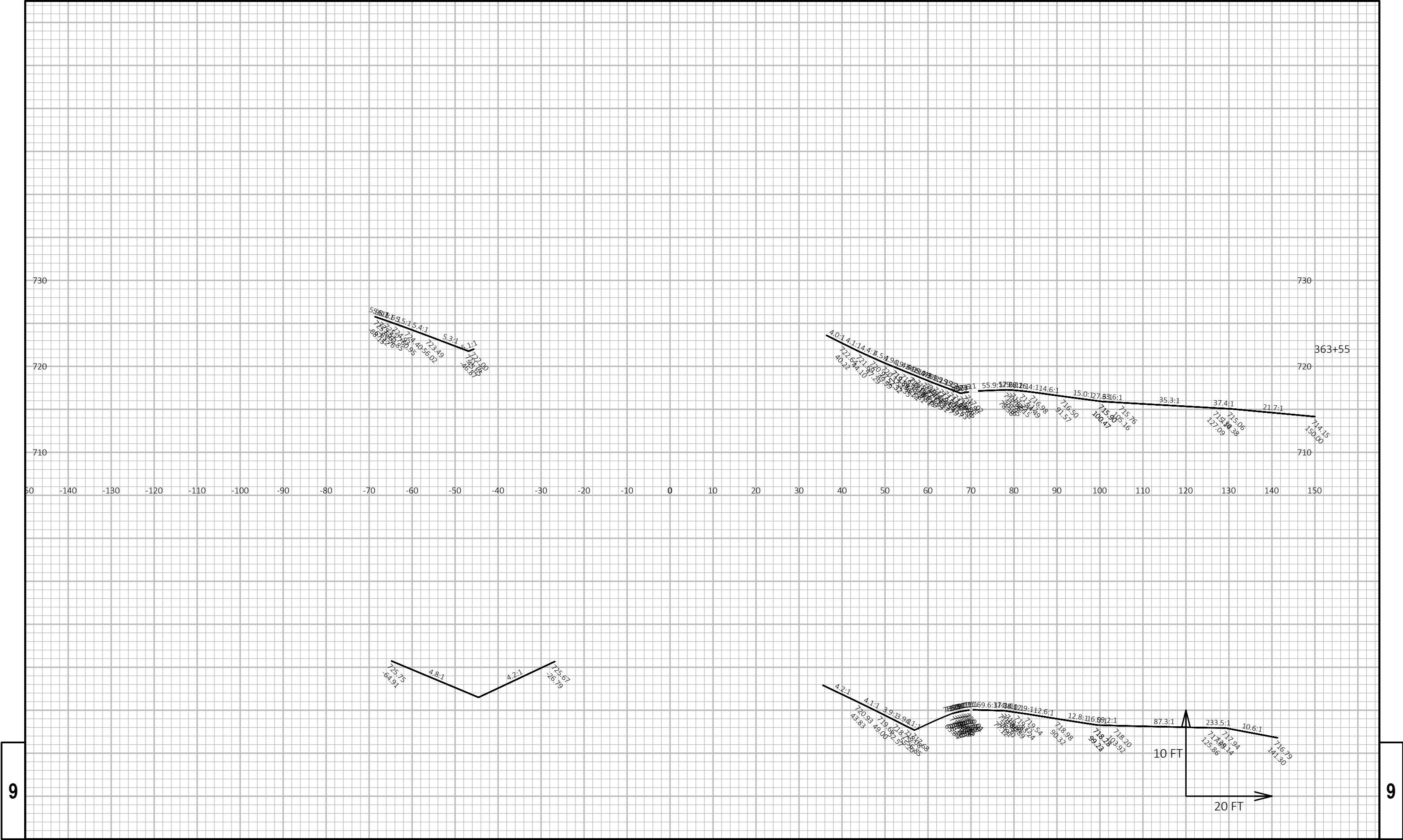


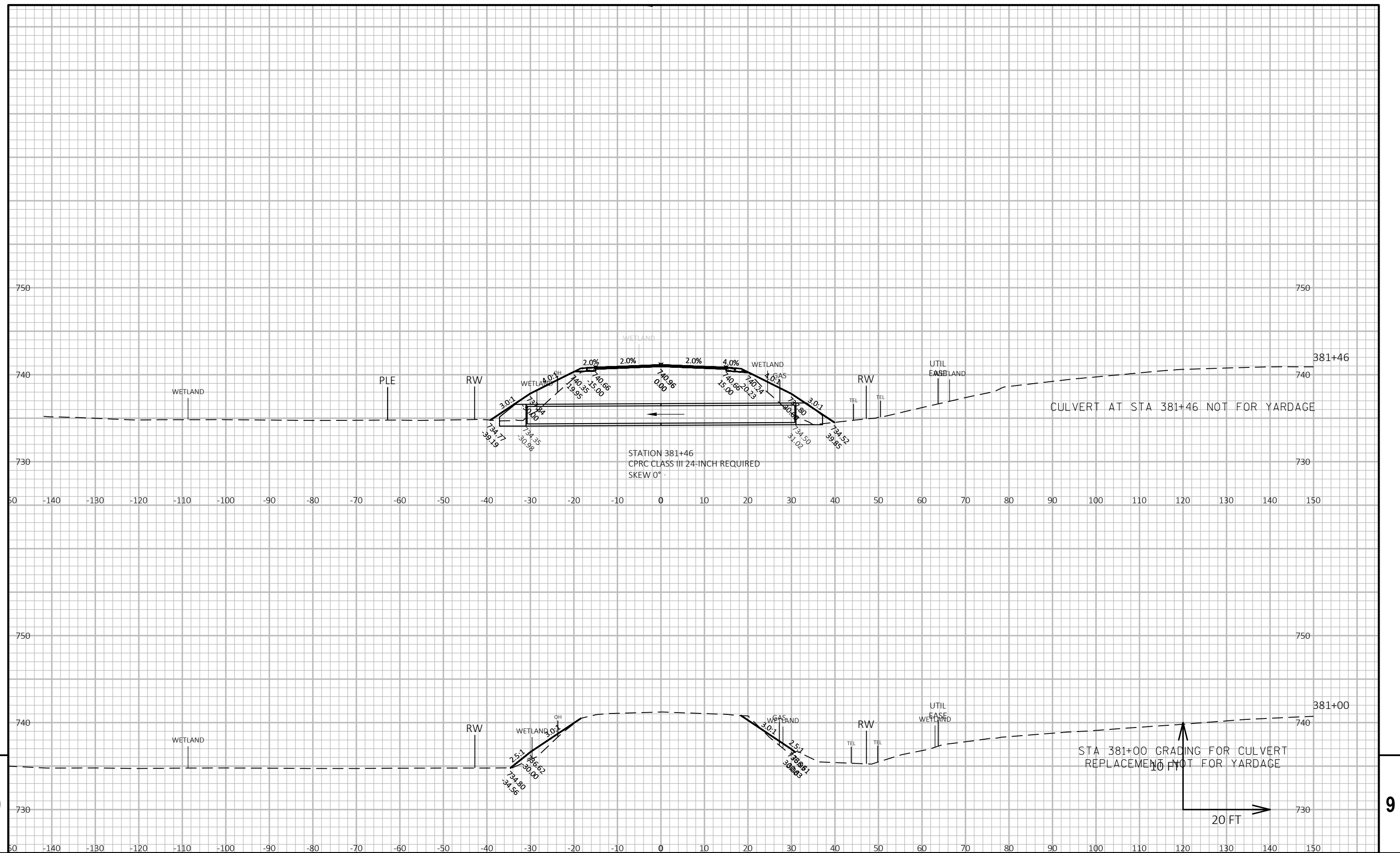












PROJECT NO:	3200-01-72
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HWY: USH 45

COUNTY: KENOSHA-RACINE

CROSS SECTIONS: USH 45

SHEET 435

FILE NAME : N:\PDS\C3D\32000102\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090212-xs

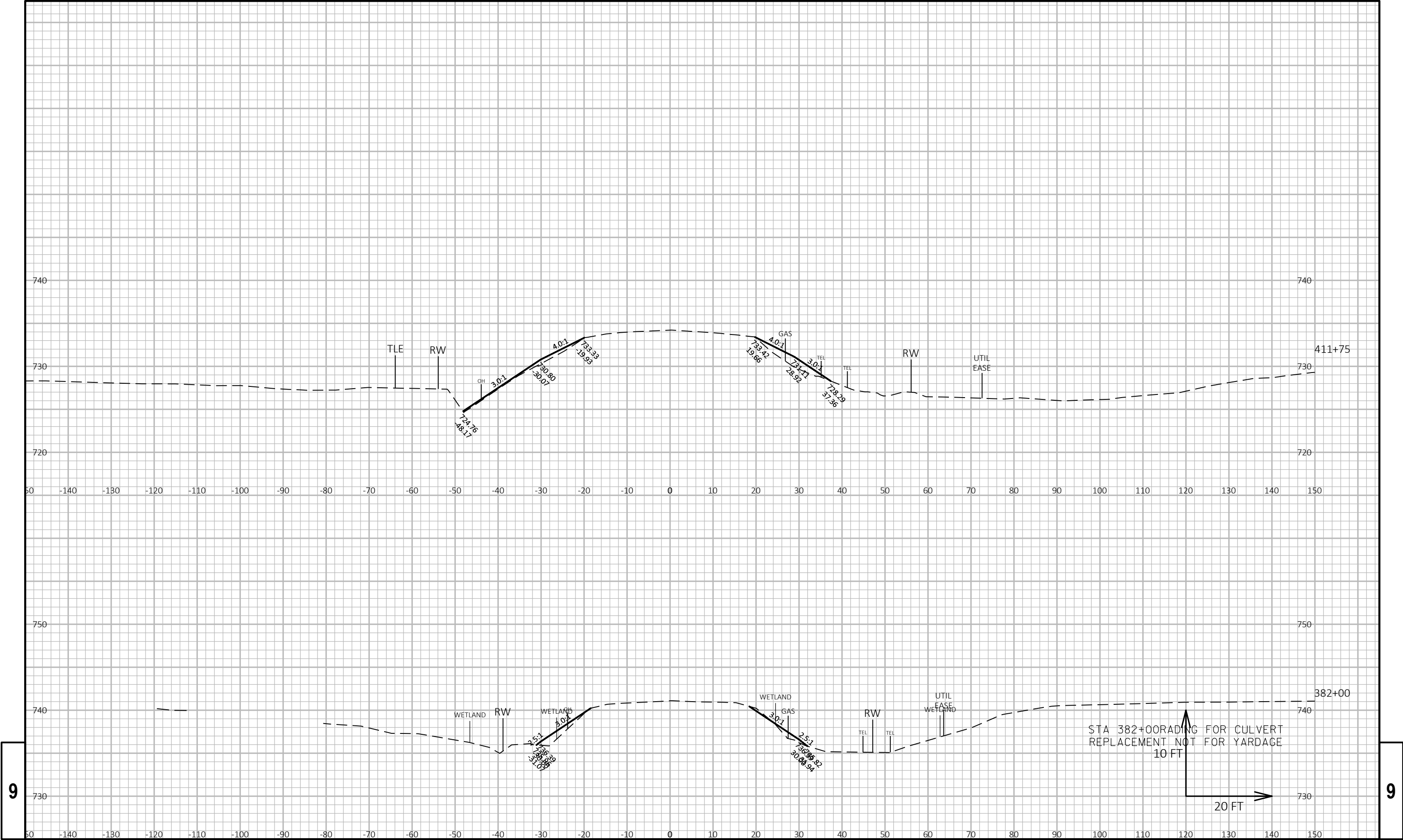
PLOT DATE : 4/30/2019 2:05 PM

PLOT BY : YANG, VANG NENG

PLOT NAME :

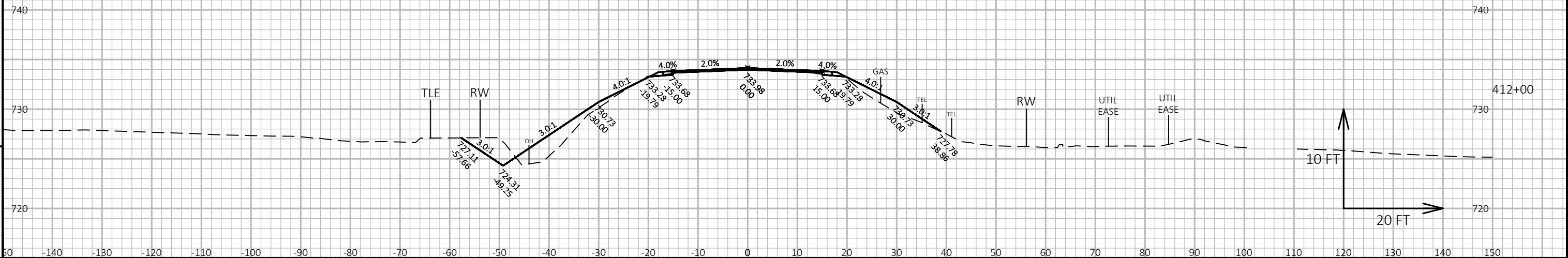
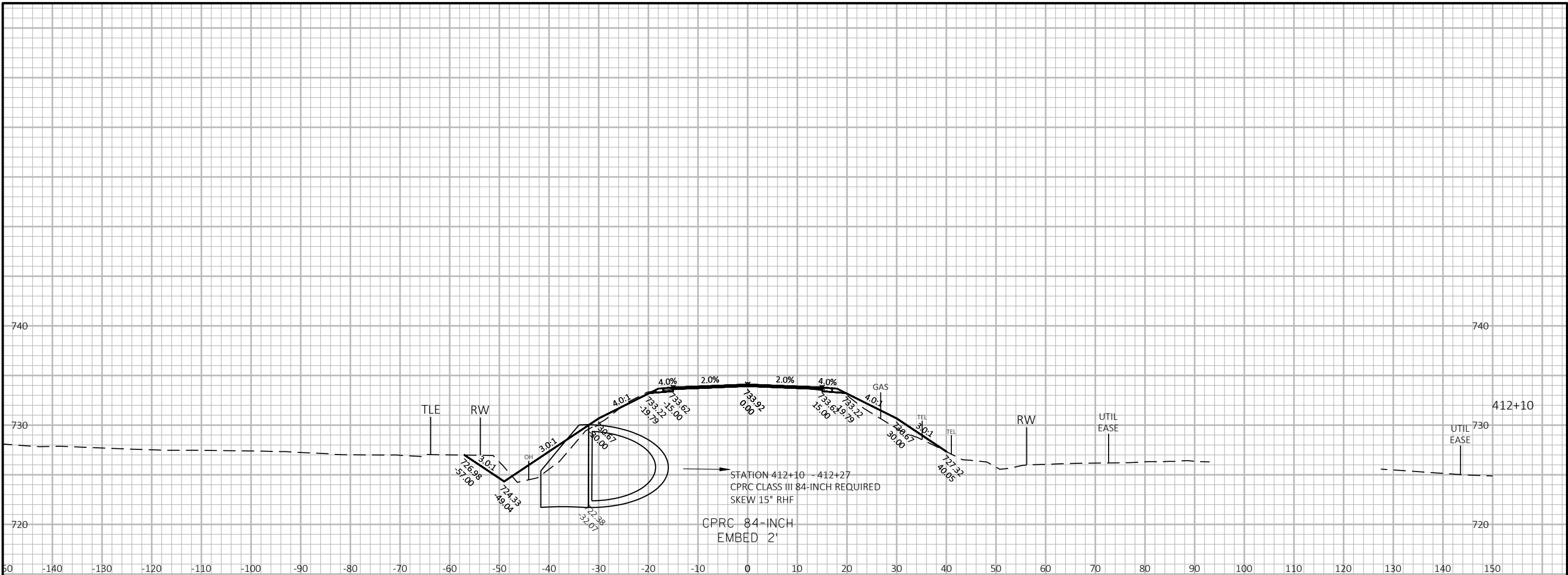
PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

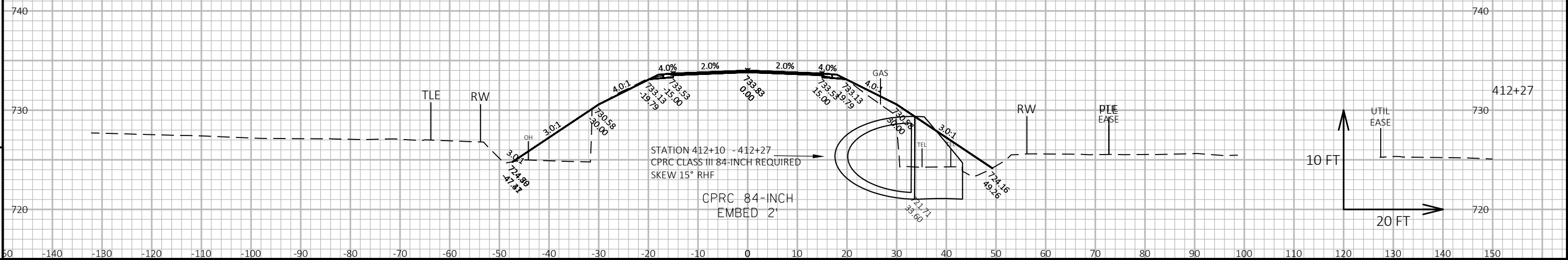
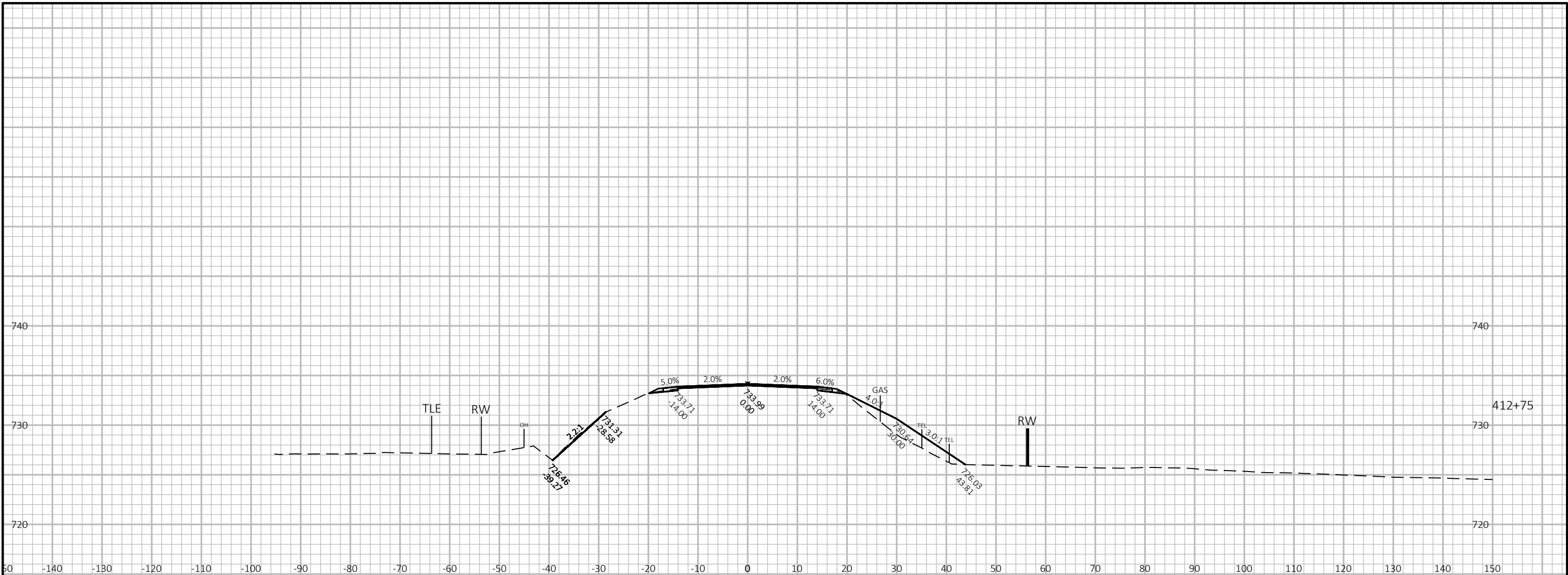
WISDOT/CADDS SHEET 49



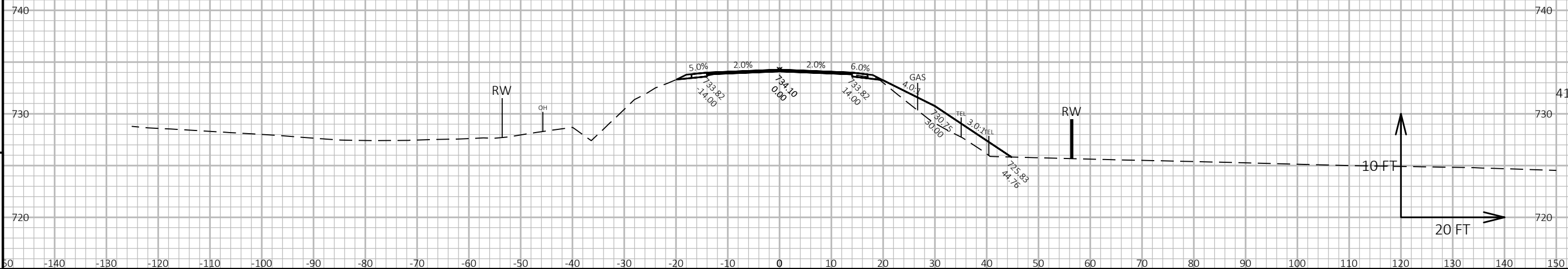
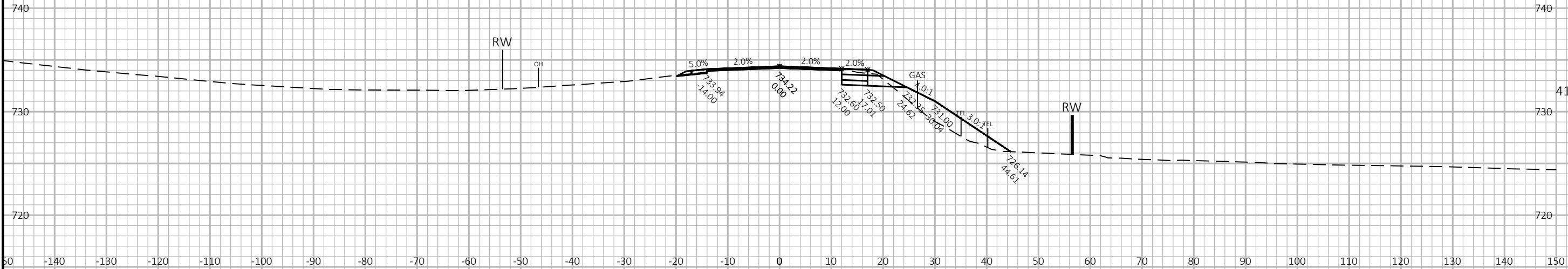
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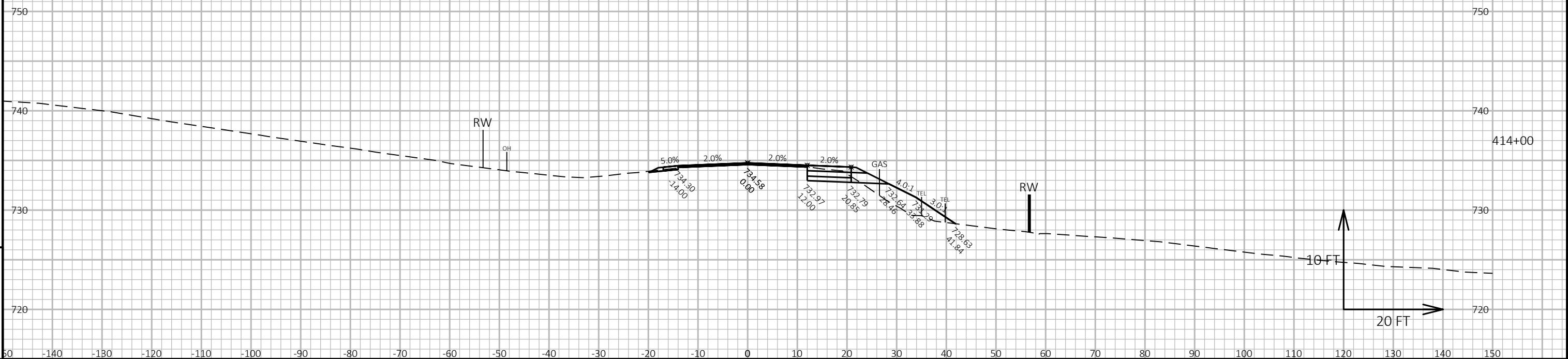
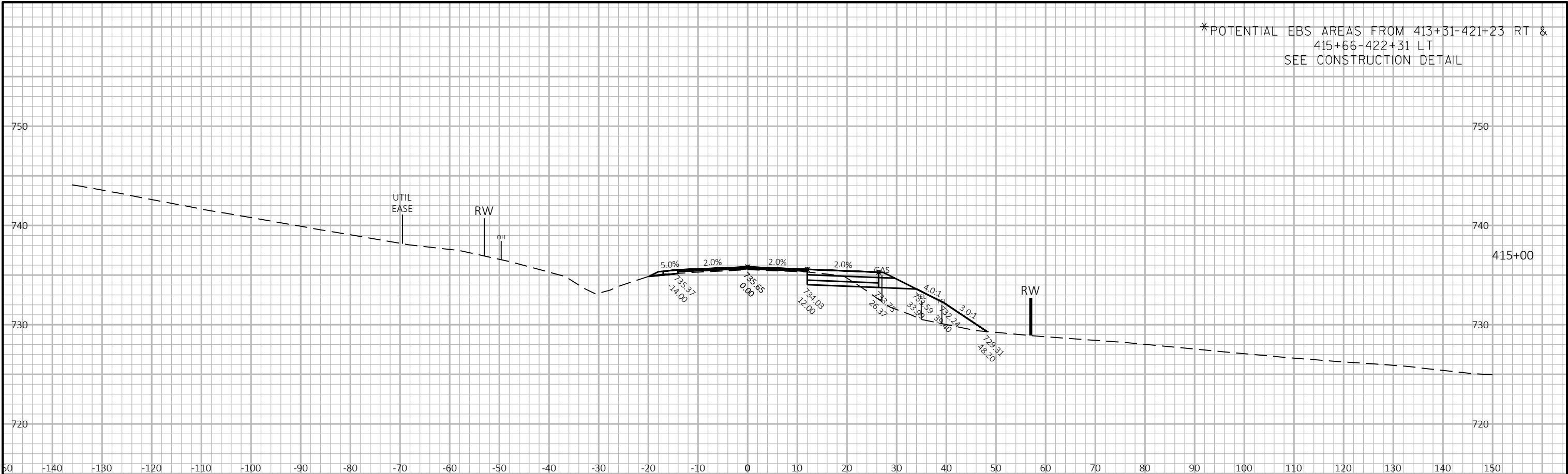
*POTENTIAL EBS AREAS FROM 413+31-421+23 RT &
415+66-422+31 LT
SEE CONSTRUCTION DETAIL



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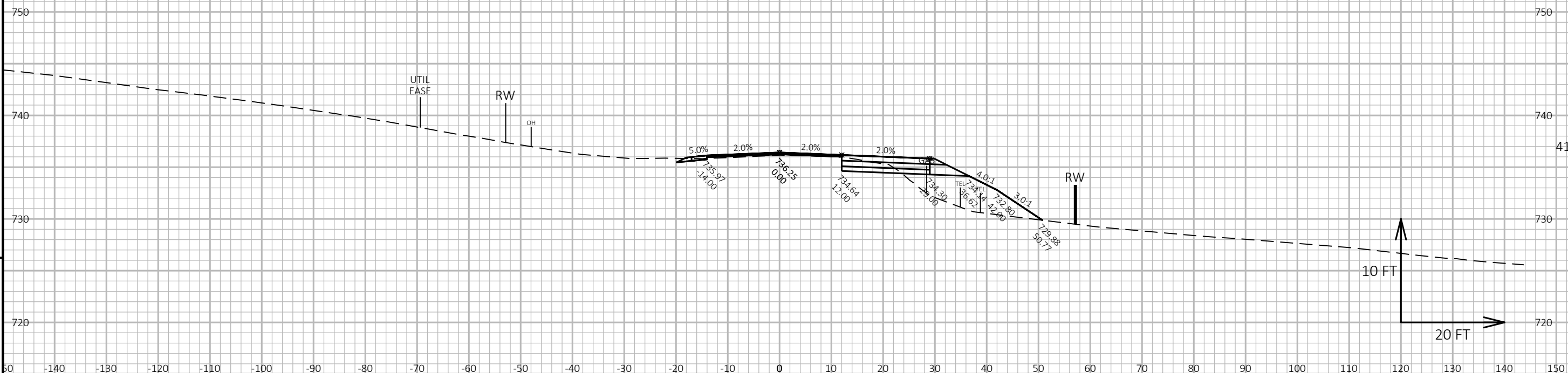
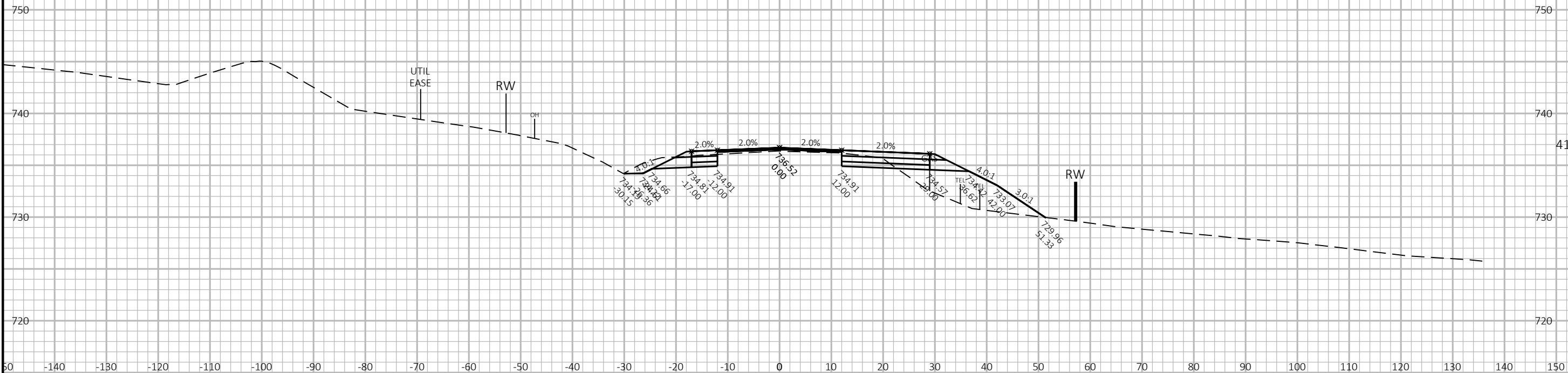
*POTENTIAL EBS AREAS FROM 413+31-421+23 RT &
415+66-422+31 LT
SEE CONSTRUCTION DETAIL



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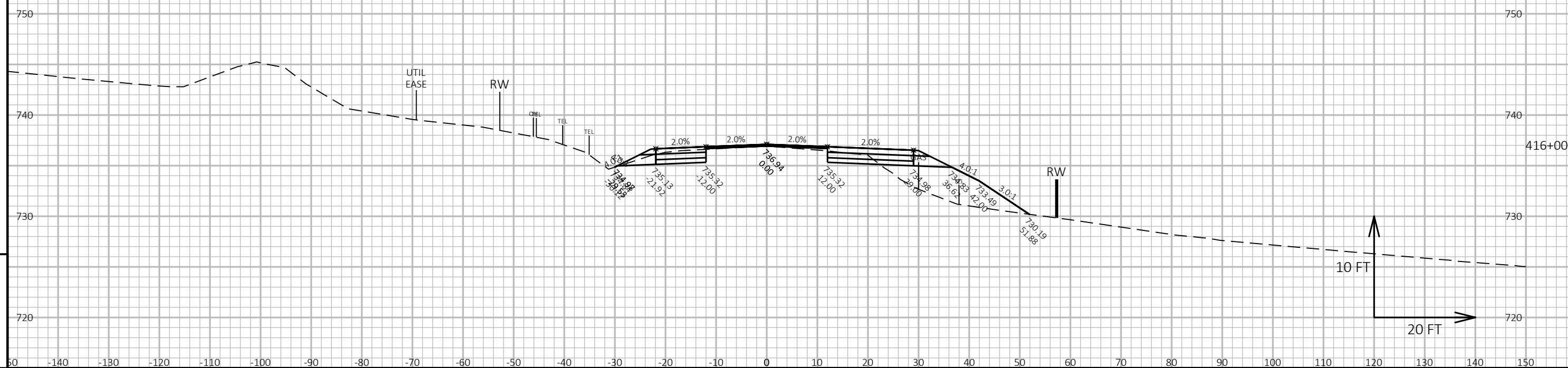
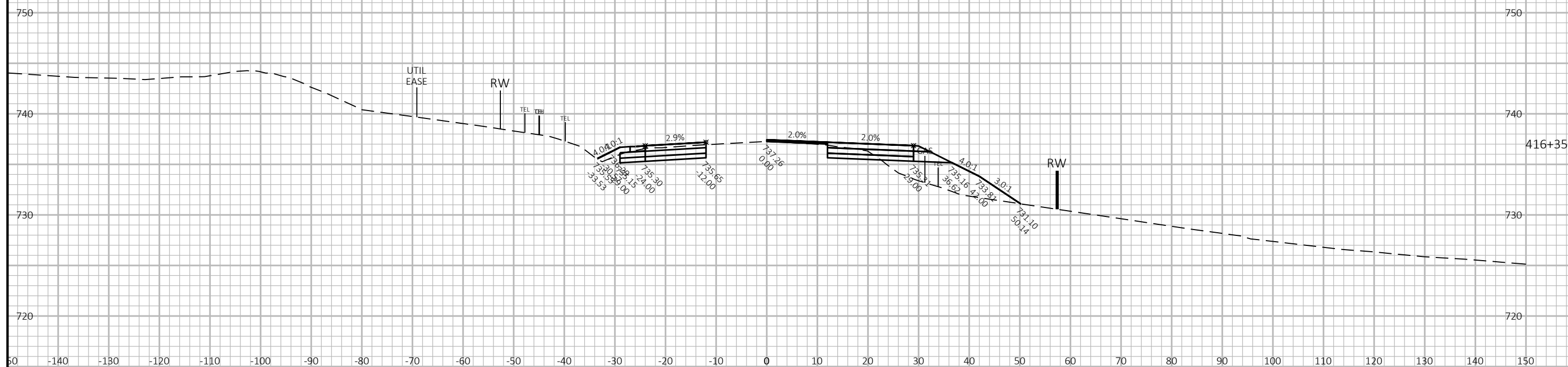
*POTENTIAL EBS AREAS FROM 413+31-421+23 RT &
415+66-422+31 LT
SEE CONSTRUCTION DETAIL



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*POTENTIAL EBS AREAS FROM 413+31-421+23 RT 8
415+66-422+31 LT
SEE CONSTRUCTION DETAIL



PROJECT NO: 3200-01-72

HWY: USH 45

COUNTY: KENOSHA-RACINE

CROSS SECTIONS: USH 45

SHEET 442

1

FILE NAME : N:\PDS\C3D\32000102\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090219-xs

PLOT DATE : 4/30/2019 2:07 PM

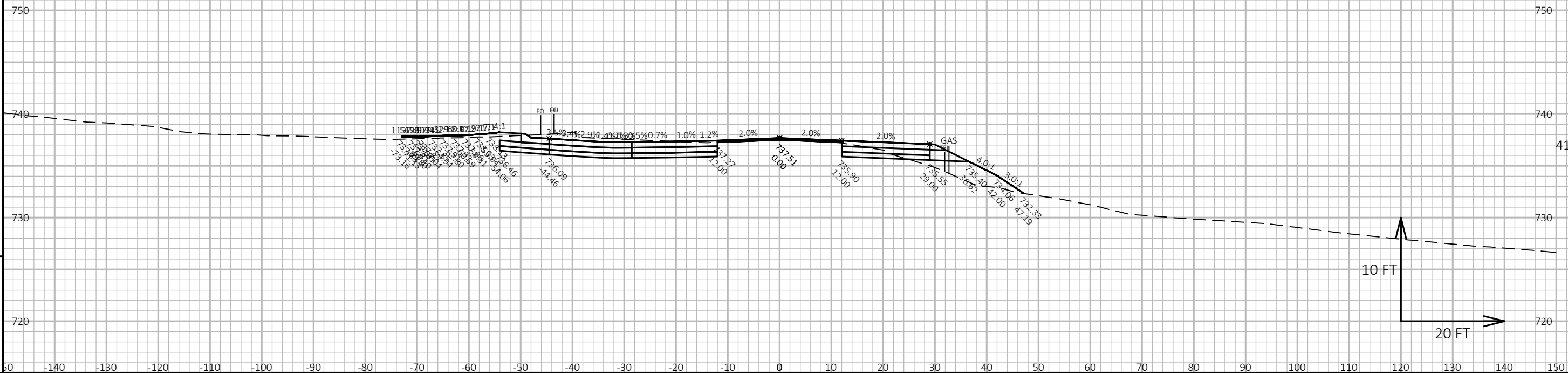
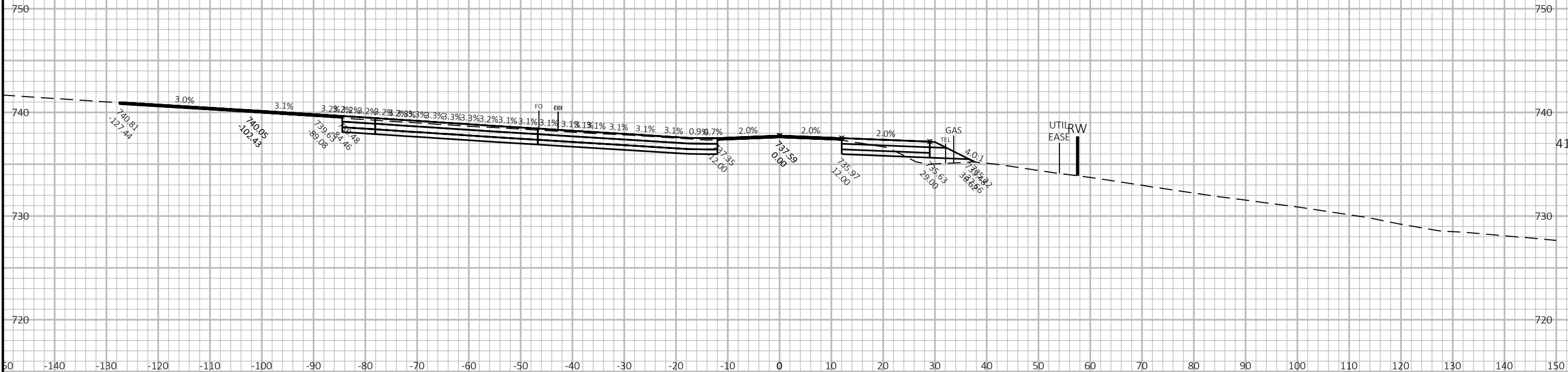
PLOT BY : YANG, VANG NENG

PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

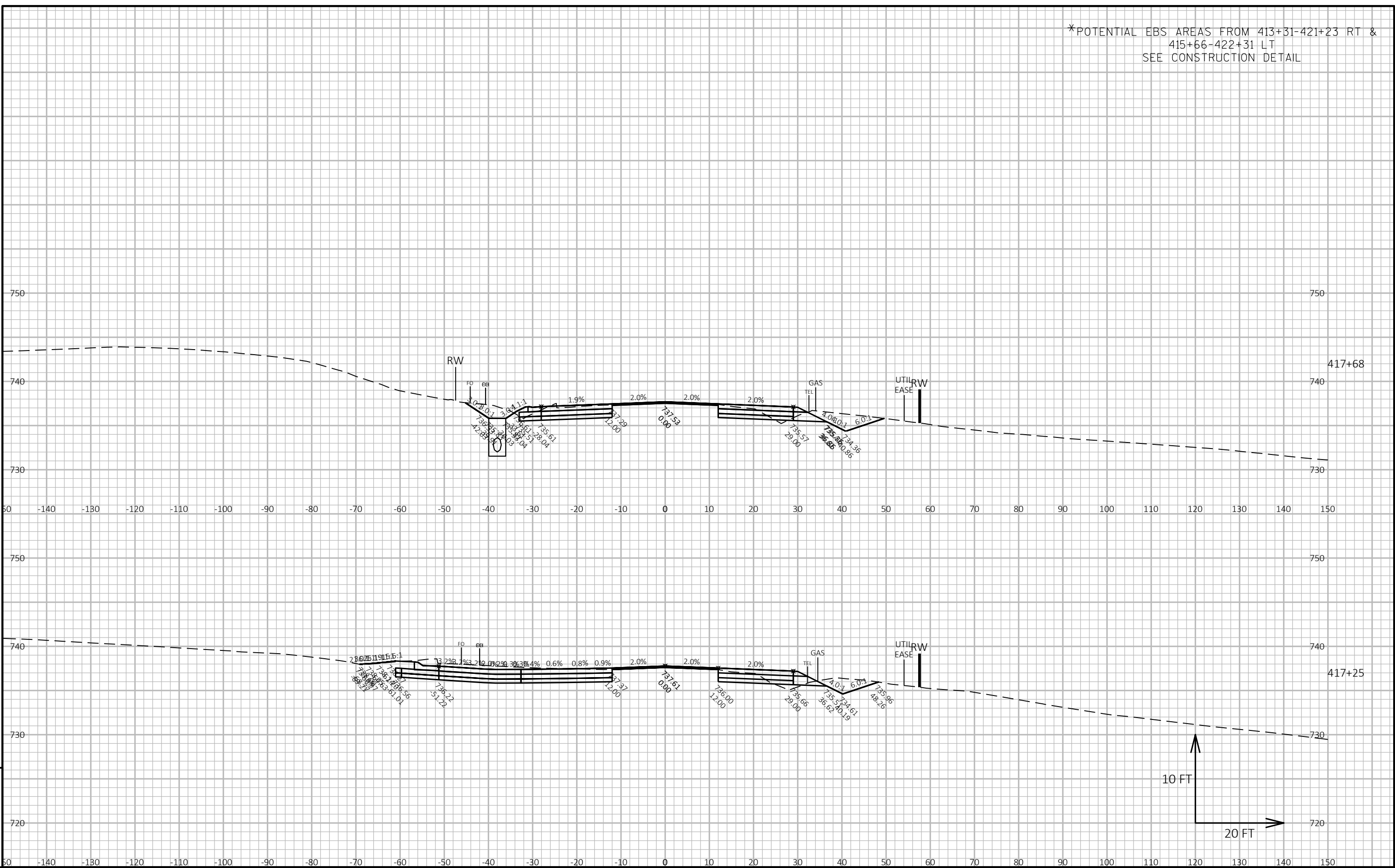
*POTENTIAL EBS AREAS FROM 413+31-421+23 RT &
415+66-422+31 LT
SEE CONSTRUCTION DETAIL



9

9

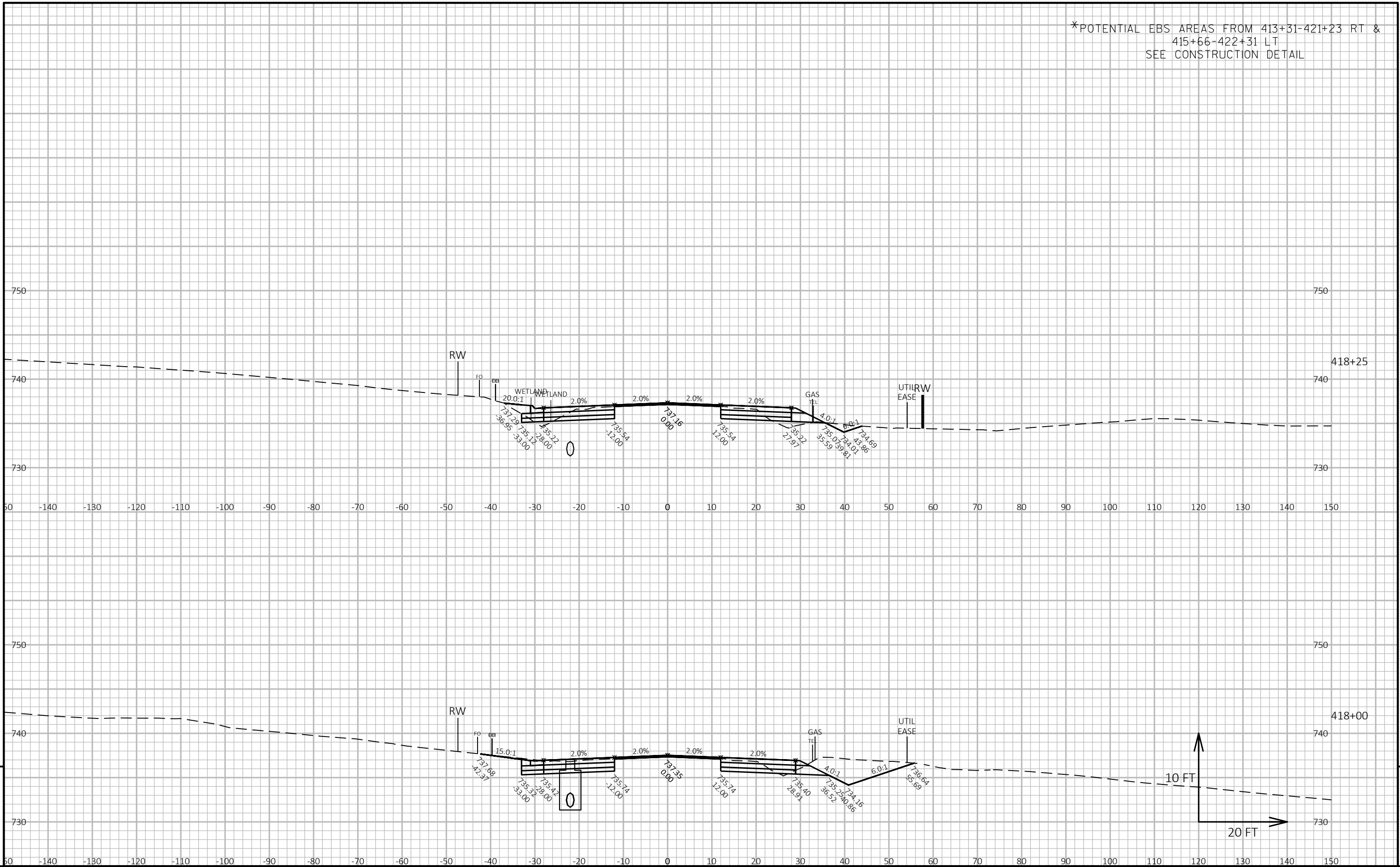
*POTENTIAL EBS AREAS FROM 413+31-421+23 RT &
415+66-422+31 LT
SEE CONSTRUCTION DETAIL



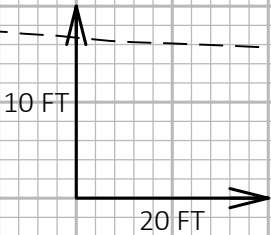
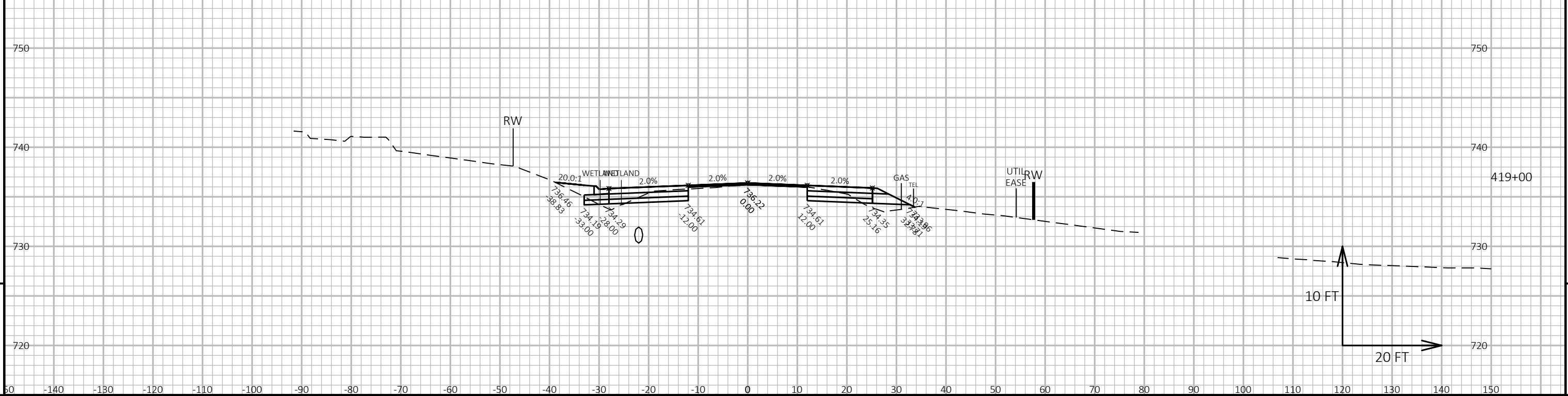
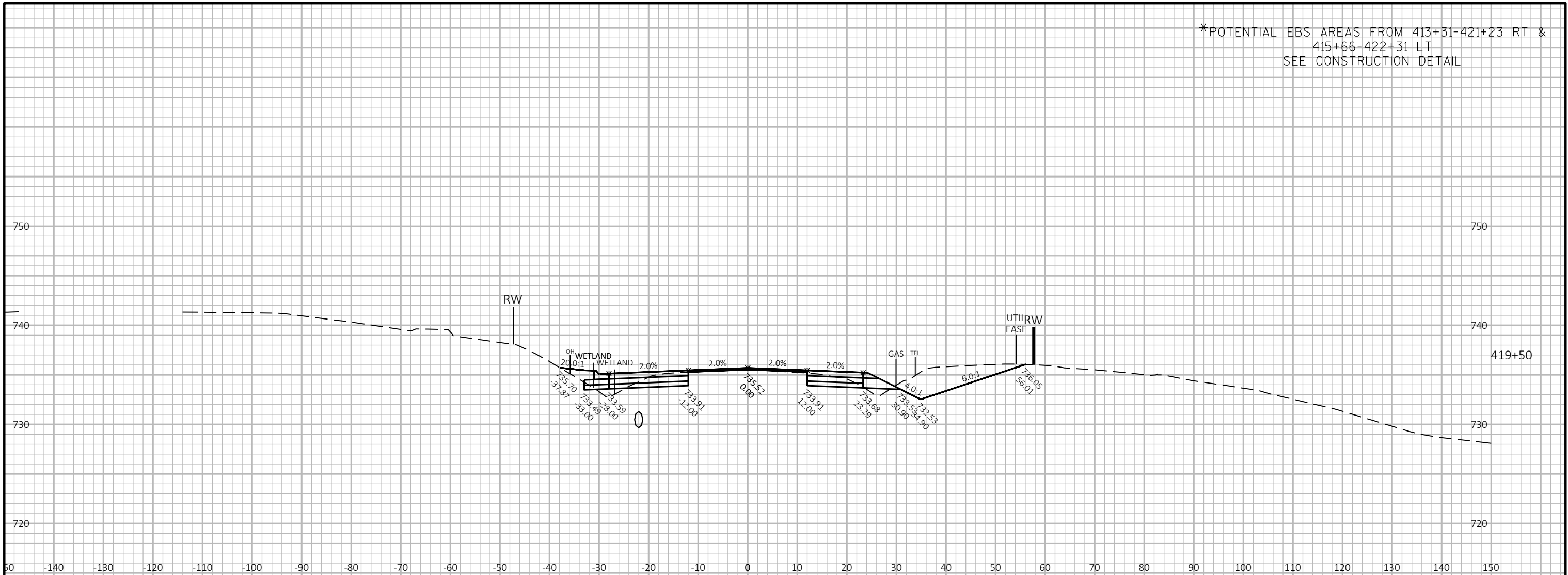
9

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*POTENTIAL EBS AREAS FROM 413+31-421+23 RT &
415+66-422+31 LT
SEE CONSTRUCTION DETAIL



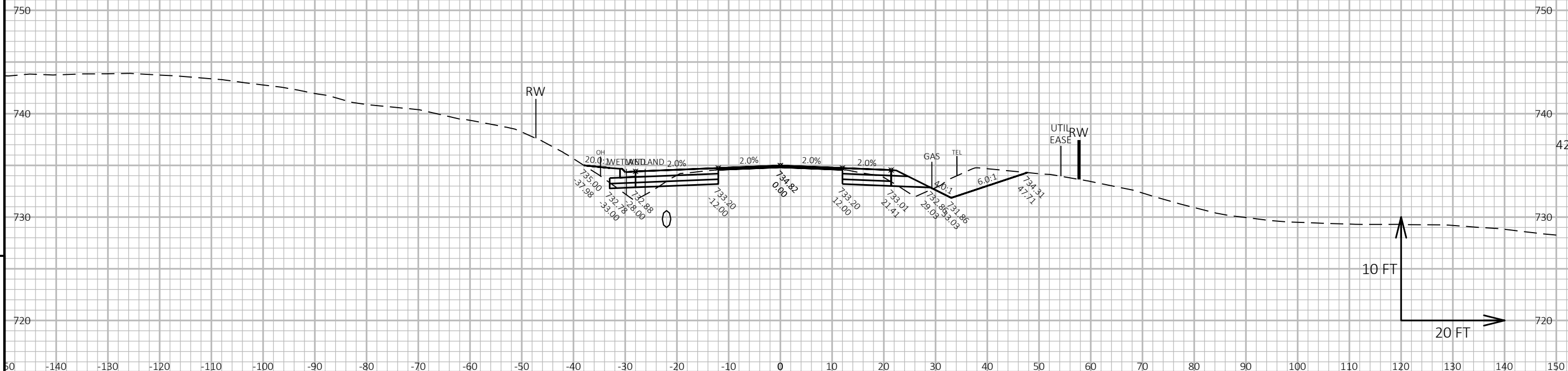
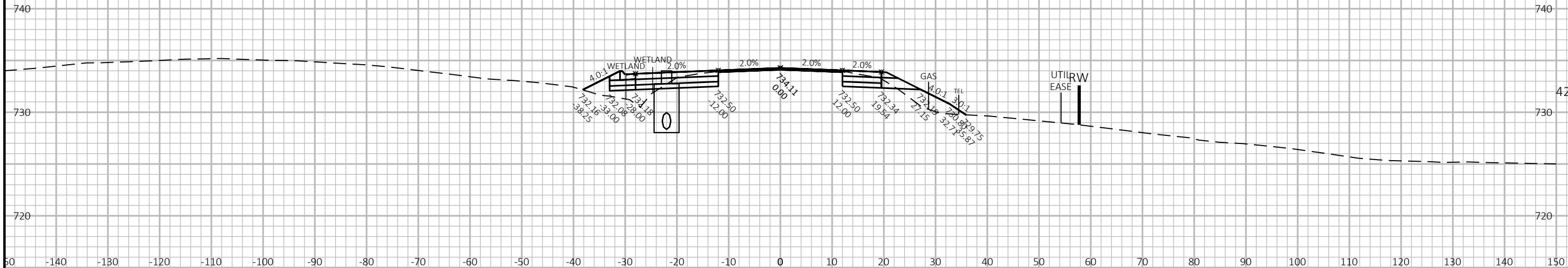
*POTENTIAL EBS AREAS FROM 413+31-421+23 RT &
415+66-422+31 LT
SEE CONSTRUCTION DETAIL



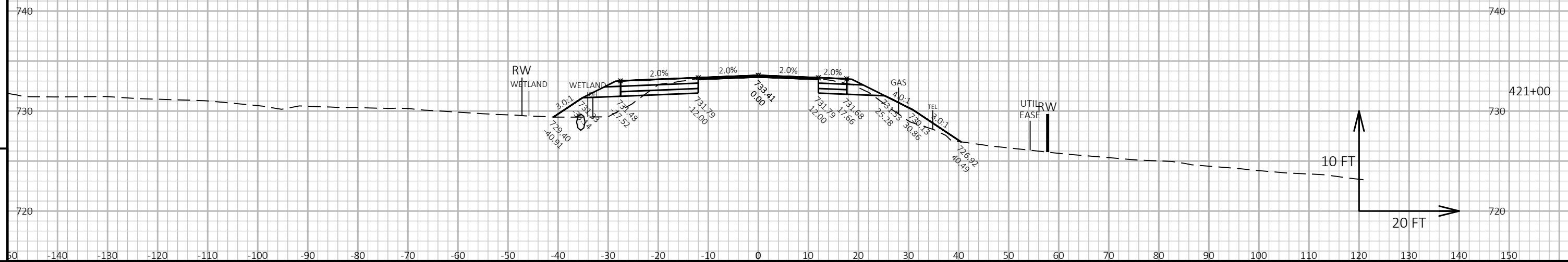
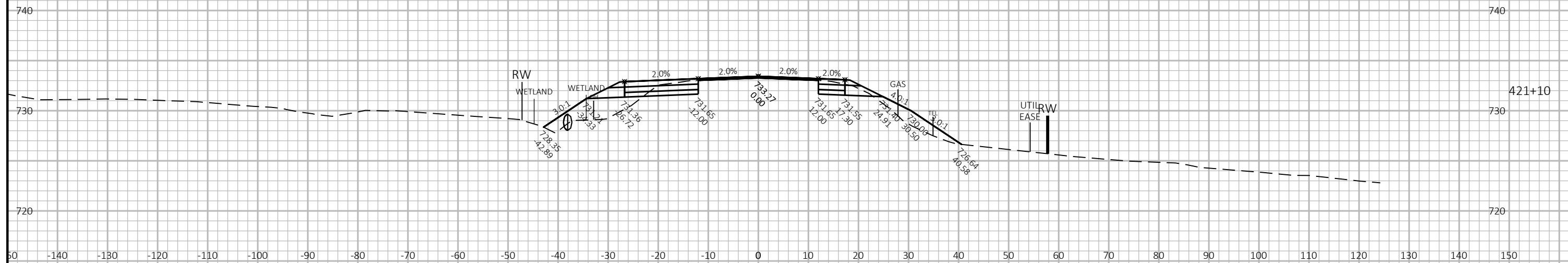
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*POTENTIAL EBS AREAS FROM 413+31-421+23 RT &
415+66-422+31 LT
SEE CONSTRUCTION DETAIL



*POTENTIAL EBS AREAS FROM 413+31-421+23 RT &
415+66-422+31 LT
SEE CONSTRUCTION DETAIL



PROJECT NO:	3200-01-72
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HWY: USH 45

COUNTY: KENOSHA-RACINE

CROSS SECTIONS: USH 45

SHEET
448

FILE NAME : N:\PDS\C3D\32000102\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090225-xs

PLOT DATE : 4/30/2019 2:10 PM

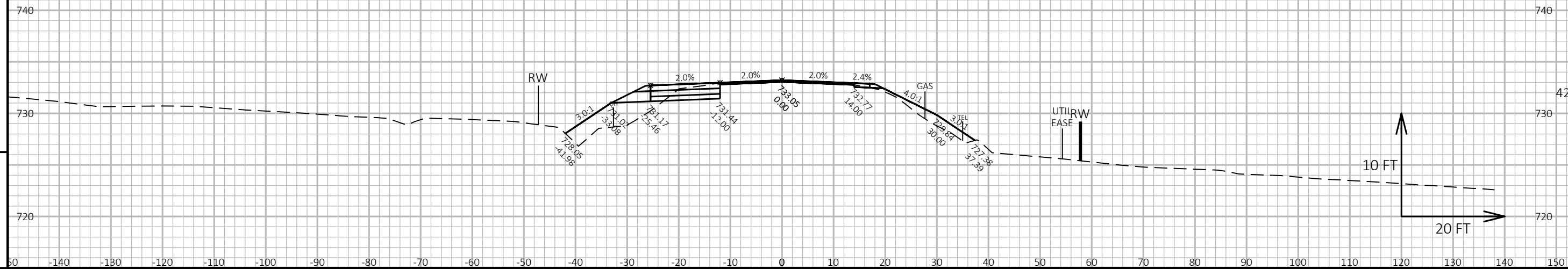
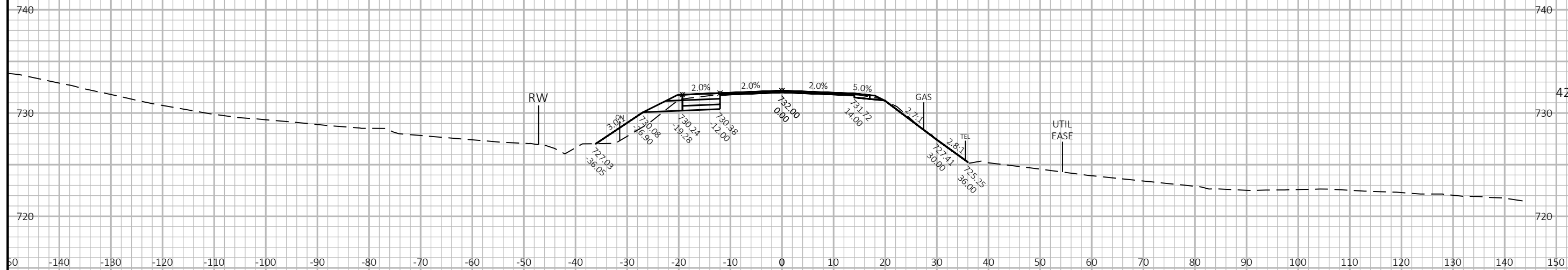
PLOT BY : YANG, VANG NENG

PLOT NAME :

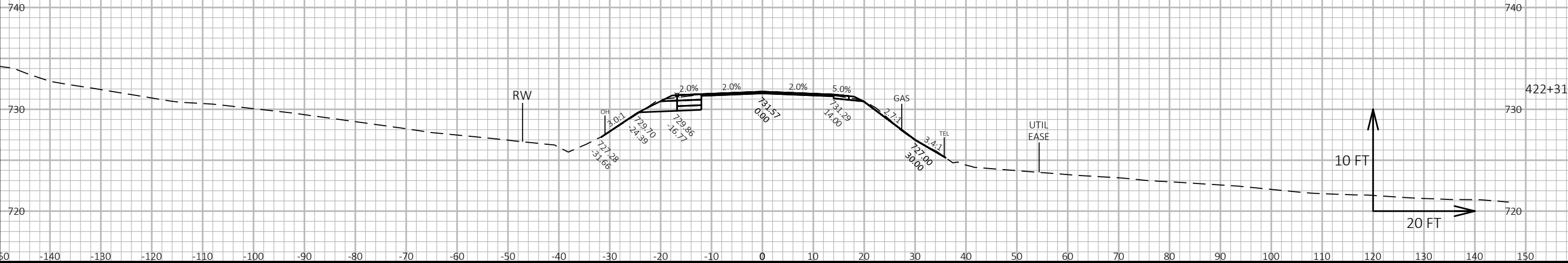
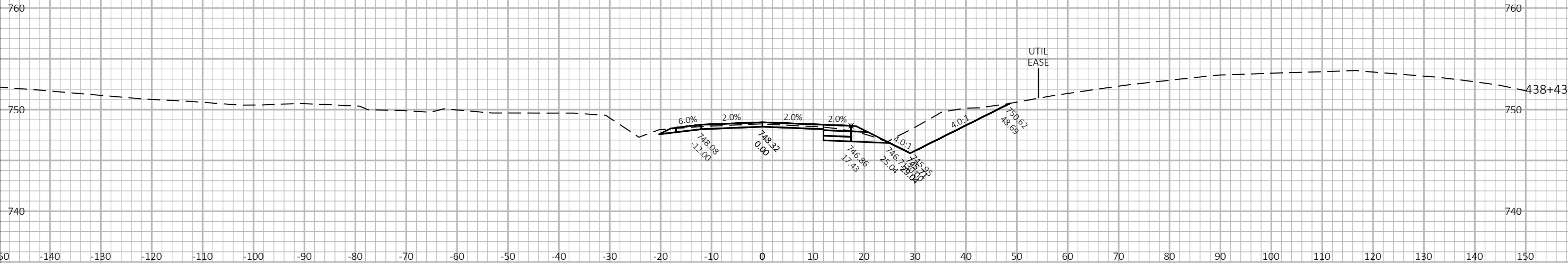
PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

WISDOT/CADDS SHEET 49

*POTENTIAL EBS AREAS FROM 413+31-421+23 RT &
415+66-422+31 LT
SEE CONSTRUCTION DETAIL



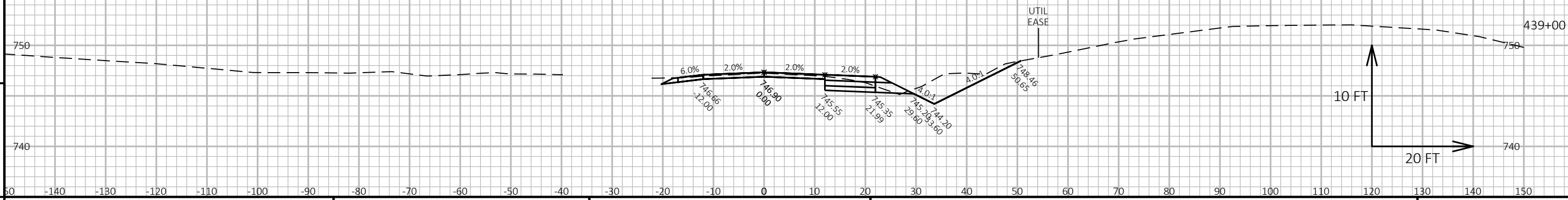
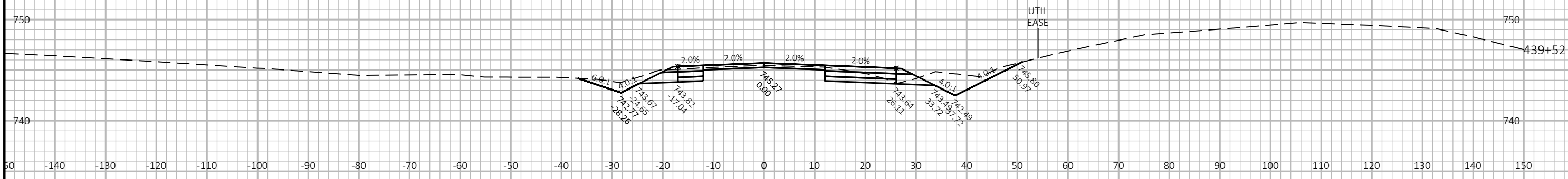
*POTENTIAL EBS AREAS FROM 438+43-445+30 RT &
439+51-447+43 LT
SEE CONSTRUCTION DETAIL



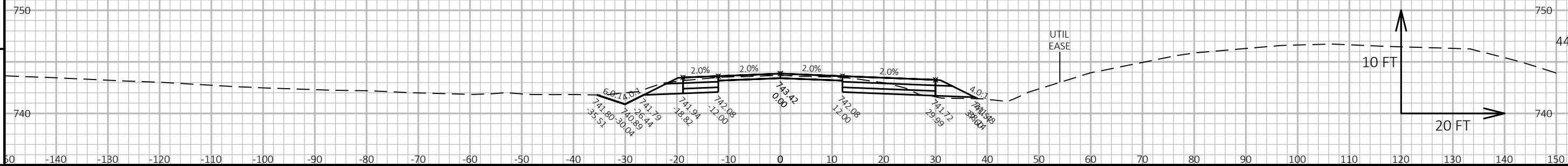
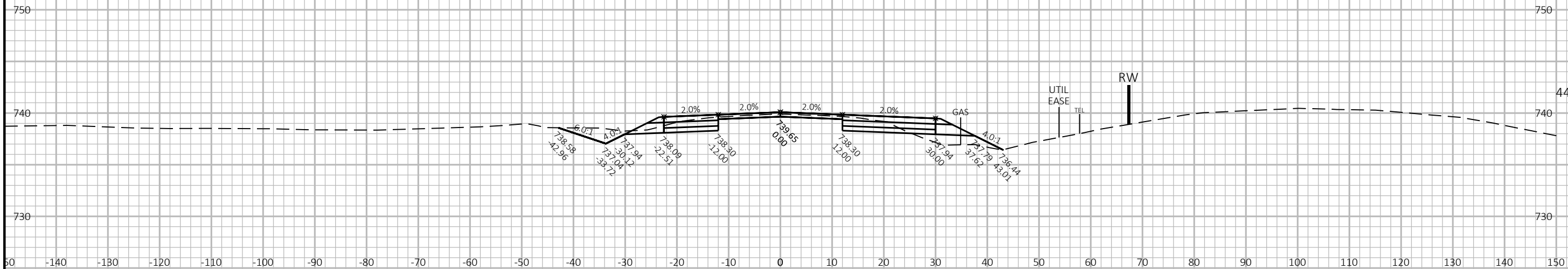
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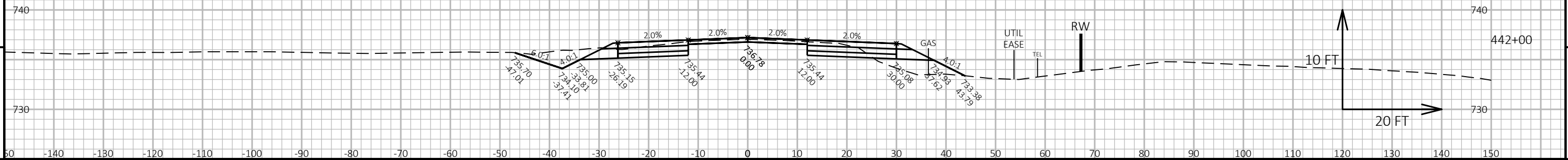
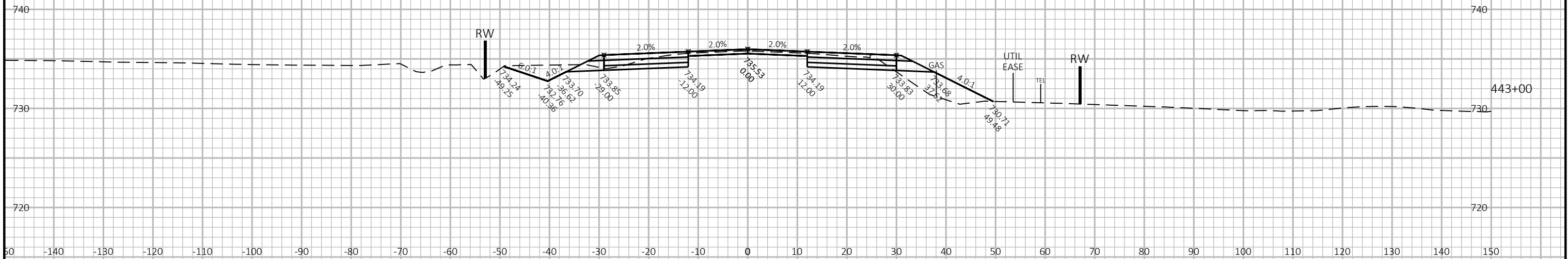
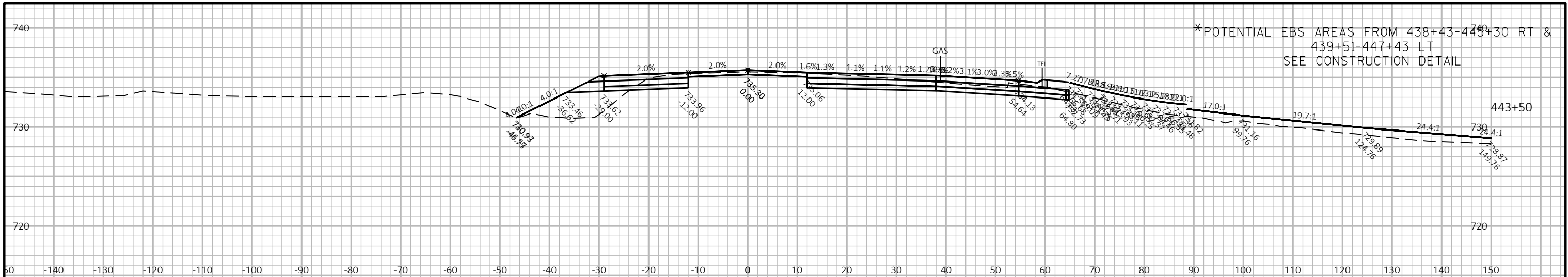
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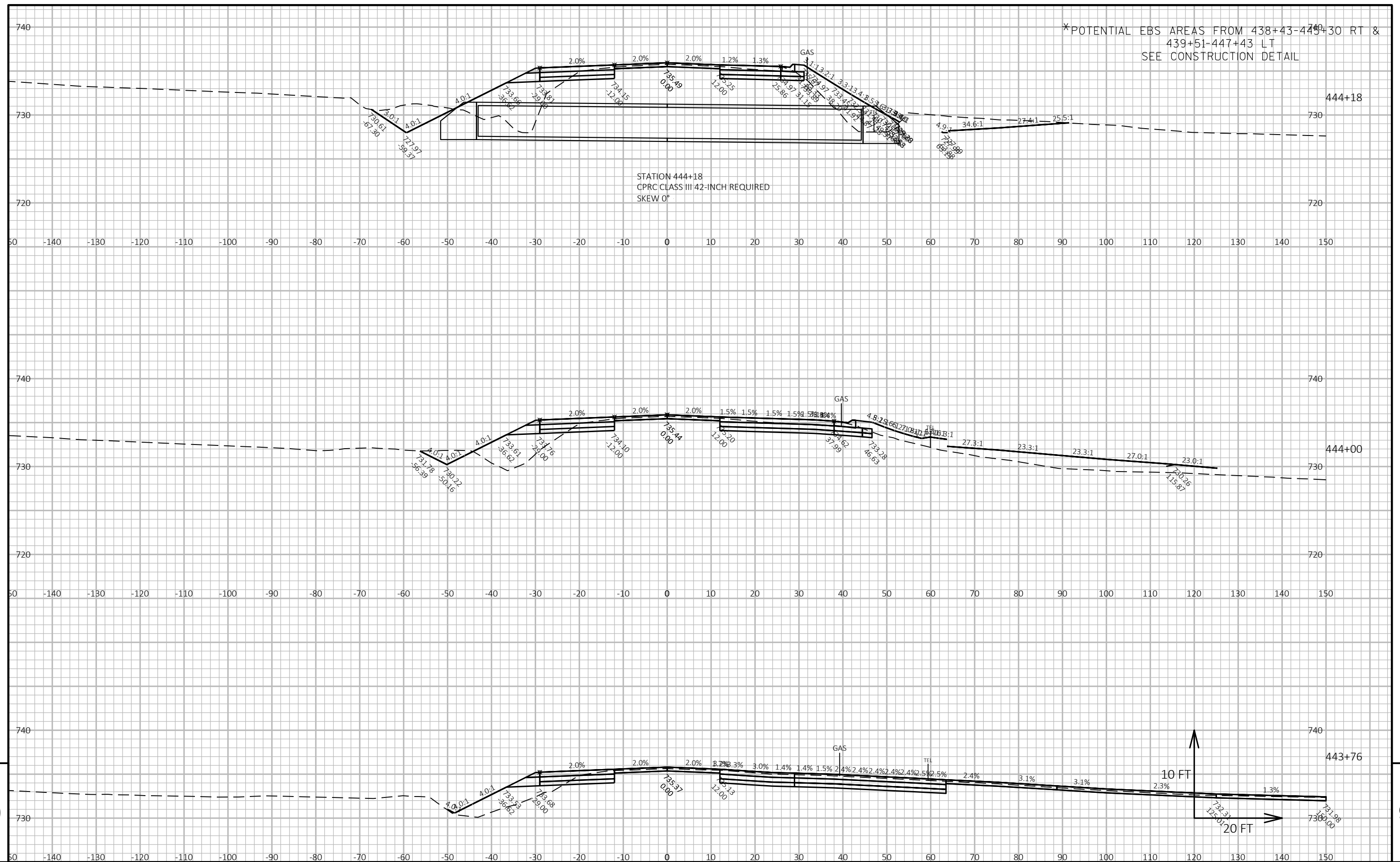
*POTENTIAL EBS AREAS FROM 438+43-445+30 RT &
439+51-447+43 LT
SEE CONSTRUCTION DETAIL



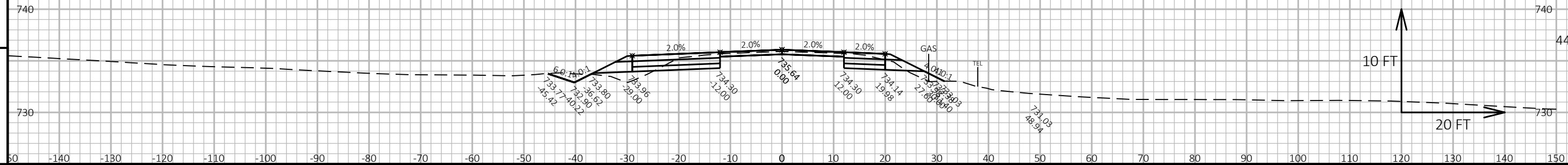
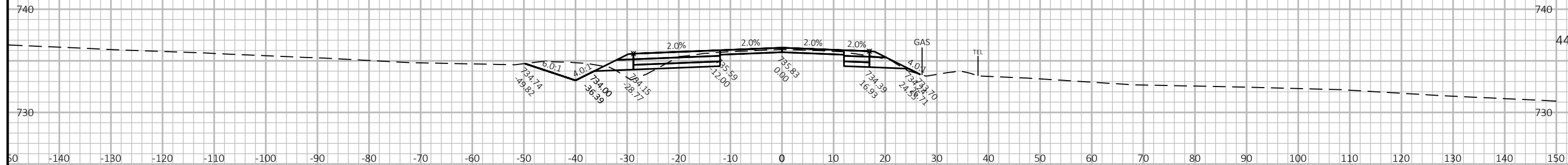
*POTENTIAL EBS AREAS FROM 438+43-445+30 RT &
439+51-447+43 LT
SEE CONSTRUCTION DETAIL







*POTENTIAL EBS AREAS FROM 438+43-445+30 RT &
439+51-447+43 LT
SEE CONSTRUCTION DETAIL



10 FT

20 FT

PROJECT NO: 3200-01-72

HWY: USH 45

COUNTY: KENOSHA-RACINE

CROSS SECTIONS: USH 45

SHEET

455

E

FILE NAME : N:\PDS\C3D\32000102\SHEETS\PLAN\090201-XS.DWG
LAYOUT NAME - 090232-xs

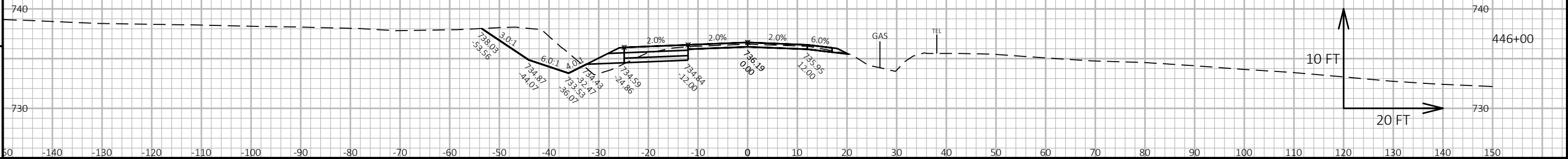
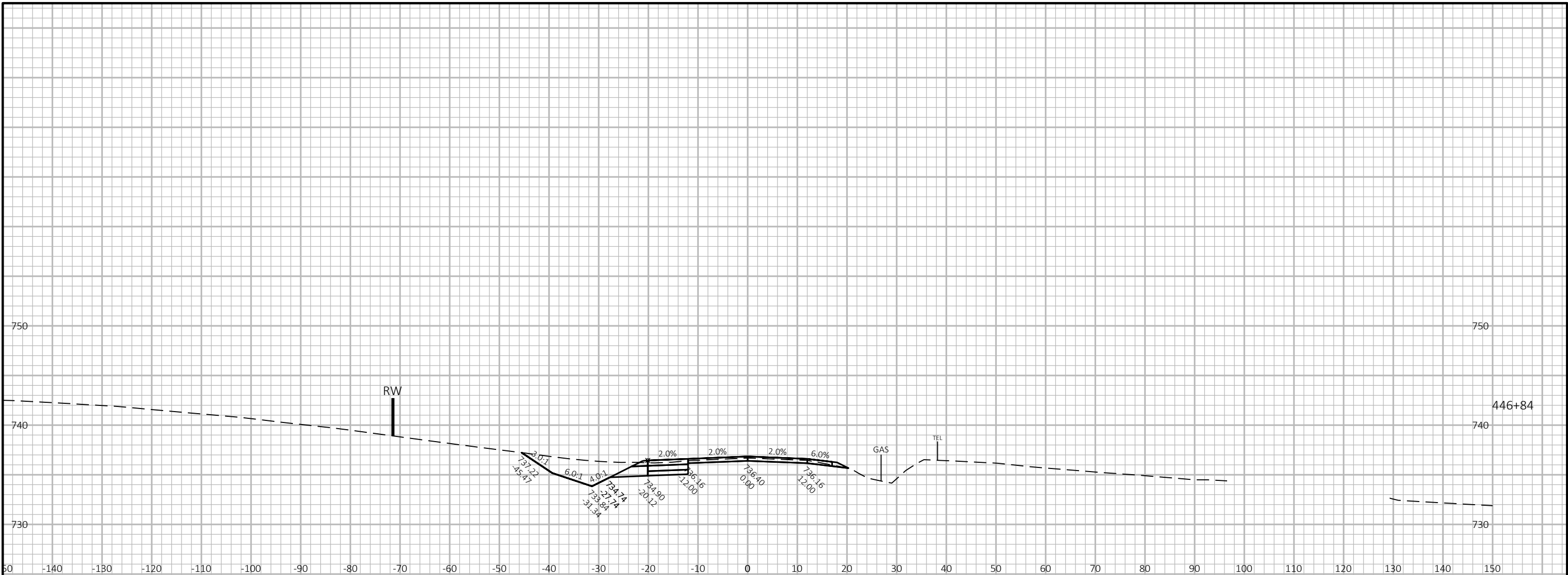
PLOT DATE : 4/30/2019 2:12 PM

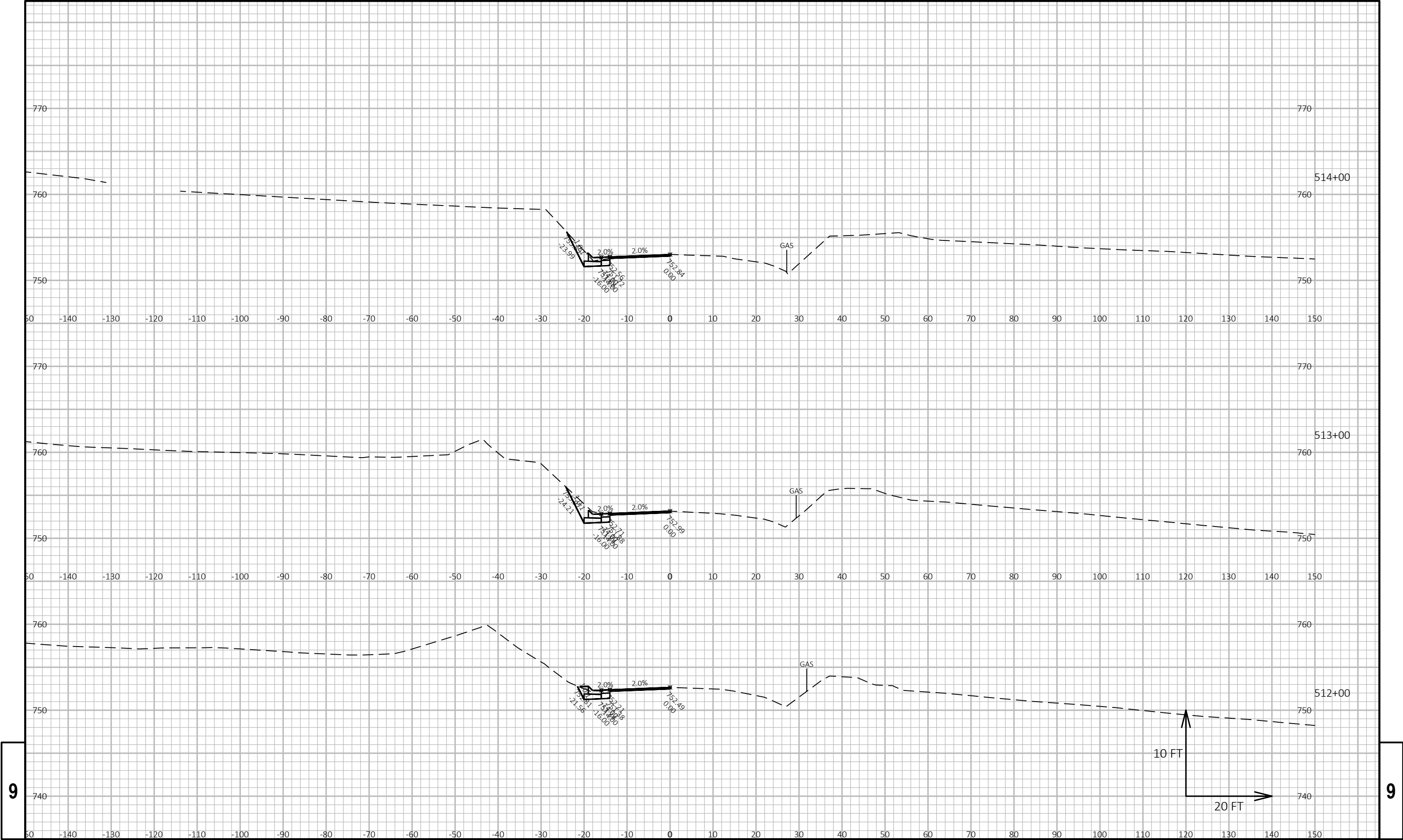
PLOT BY : YANG, VANG NENG

PLOT NAME :

PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

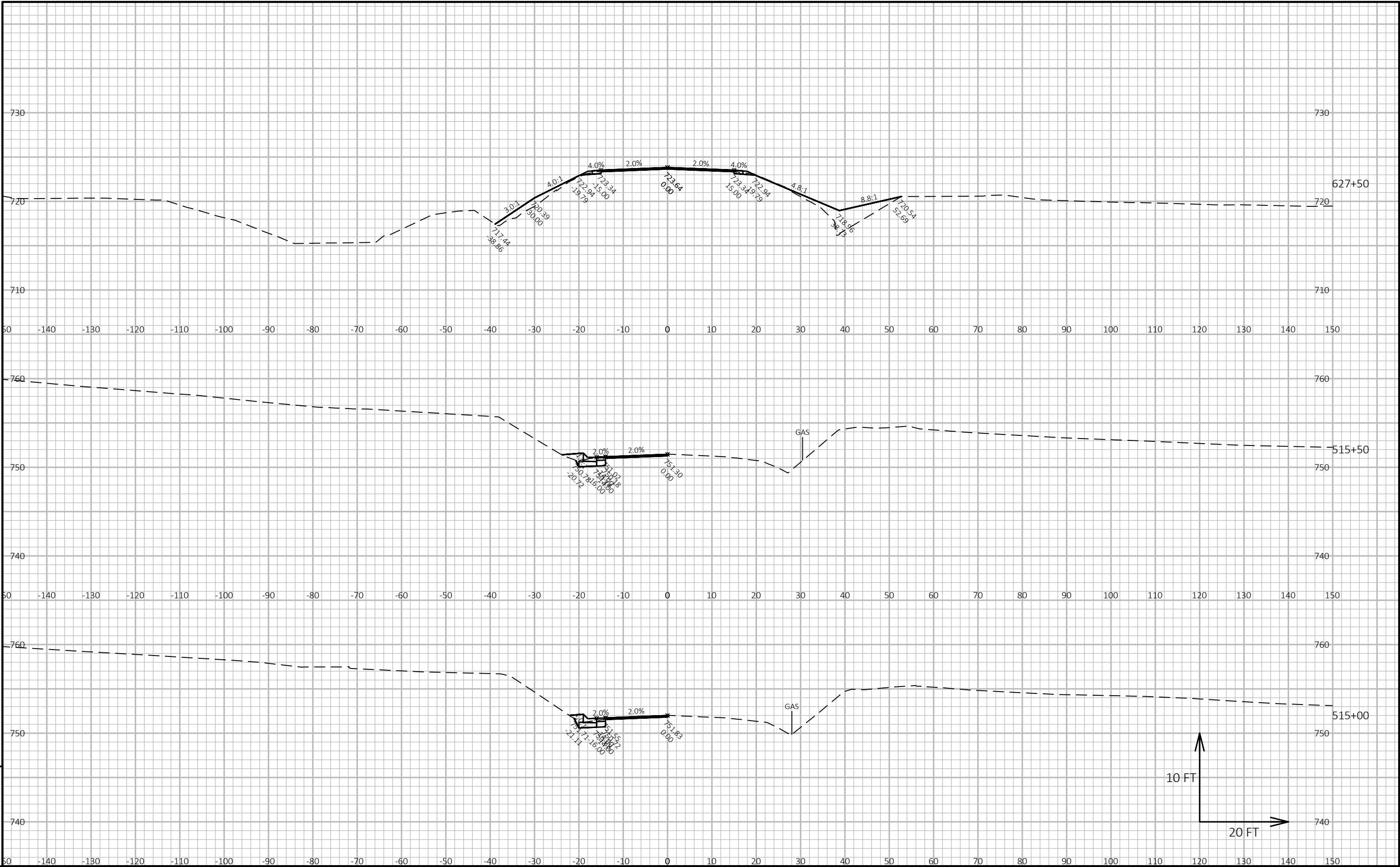
WISDOT/CADDs SHEET 49



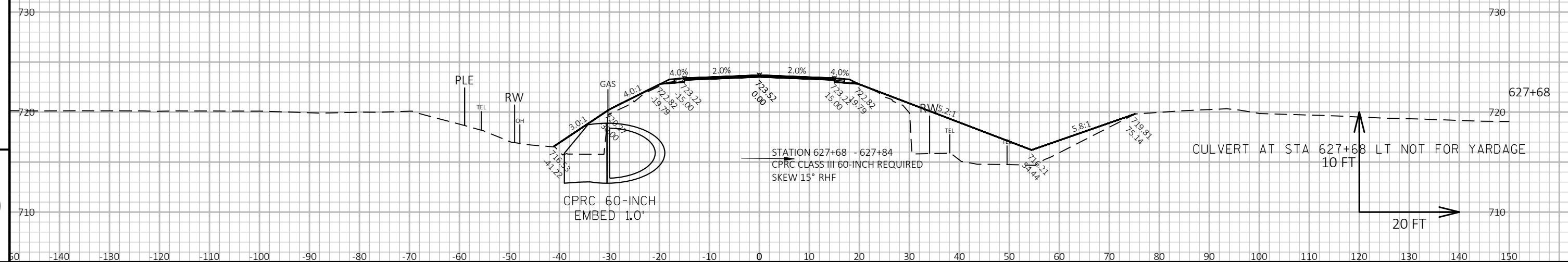
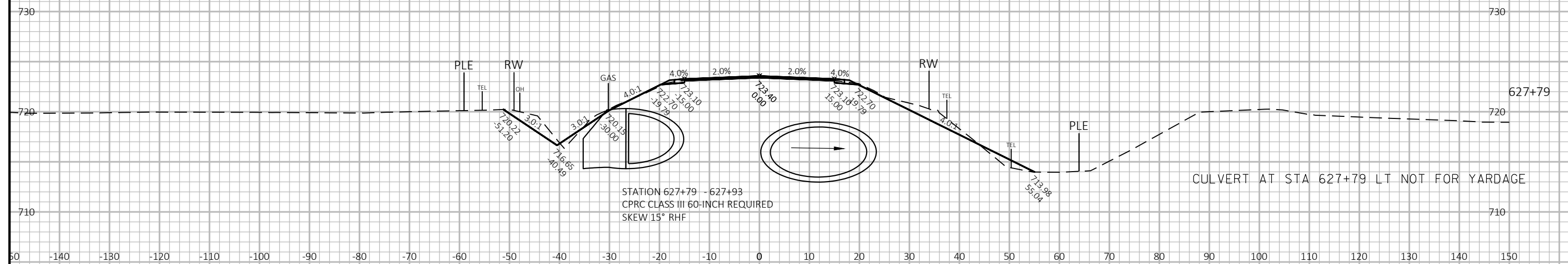


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*POTENTIAL MARSH EXCAVATION FROM 627+65-628+00
SEE CONSTRUCTION DETAIL



PROJECT NO:	3200-01-72
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HWY: USH 45

COUNTY: KENOSHA-RACINE

CROSS SECTIONS: USH 45

SHEET 461

FILE NAME : N:\PDS\C3D\32000102\SHEETSPLAN\090201-XS.DWG
LAYOUT NAME - 090238-xs

PLOT DATE : 4/30/2019 2:14 PM

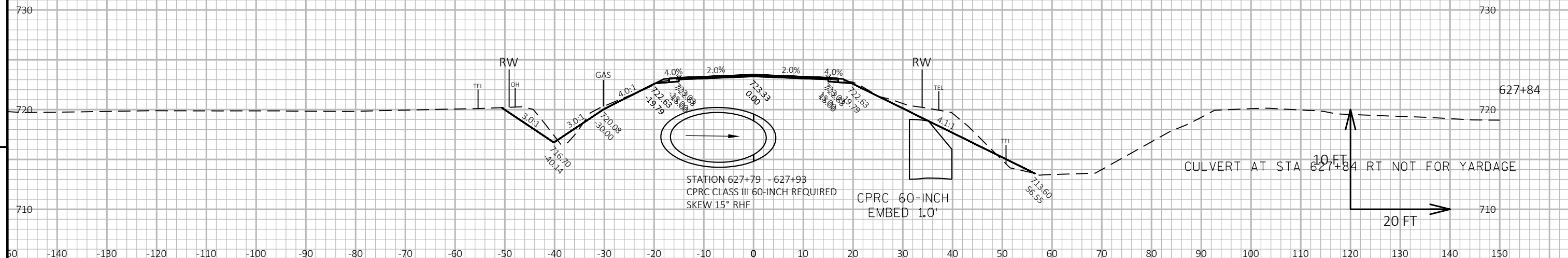
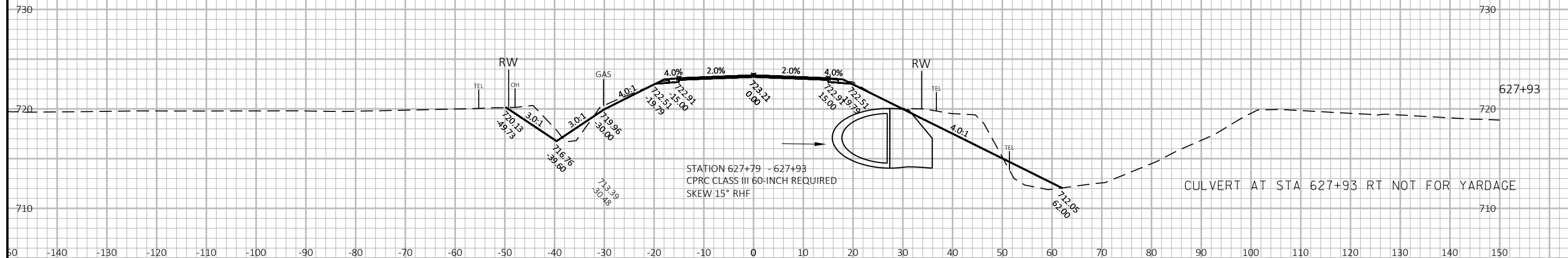
PLOT BY : YANG, VANG NENG

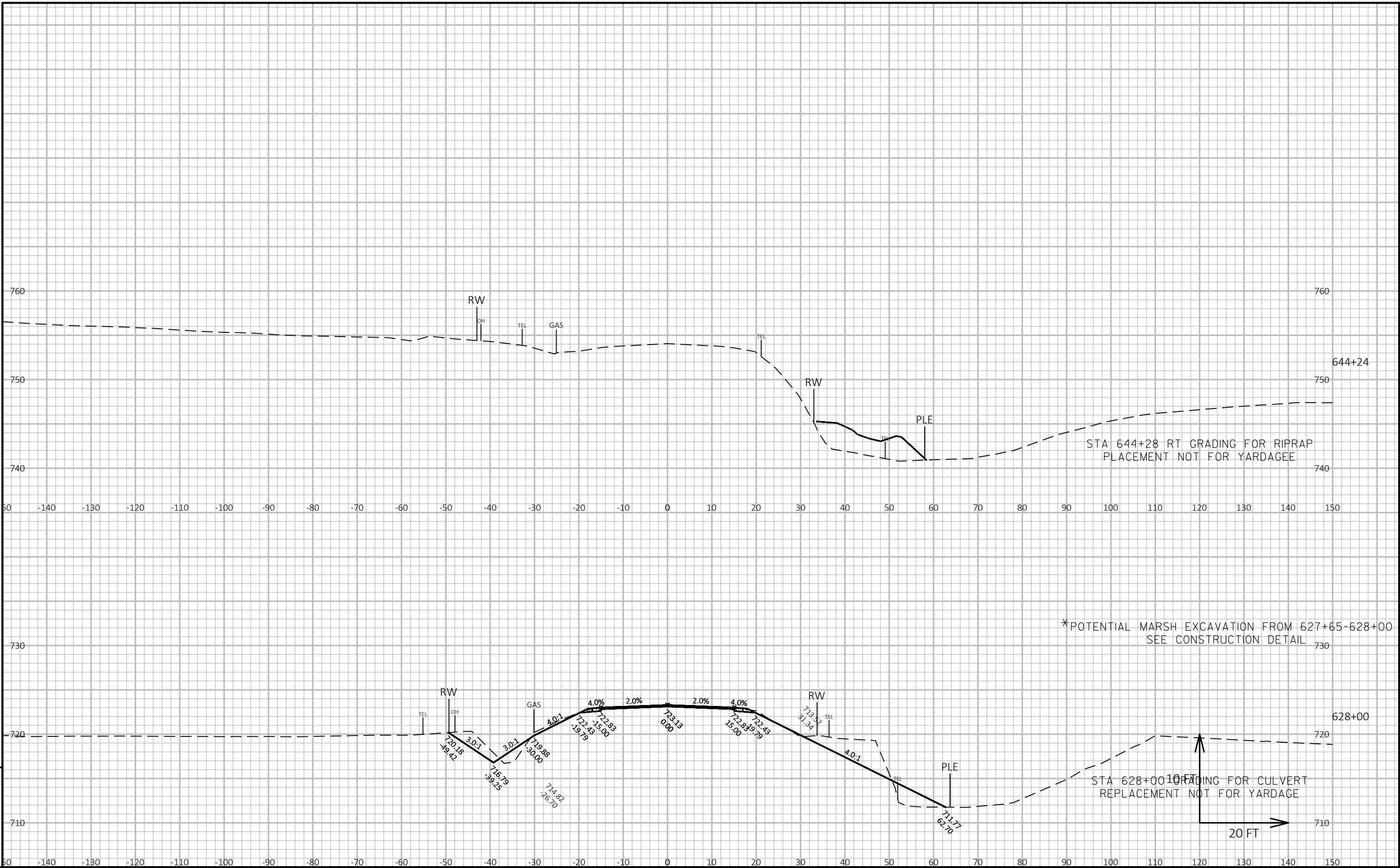
PLOT NAME :

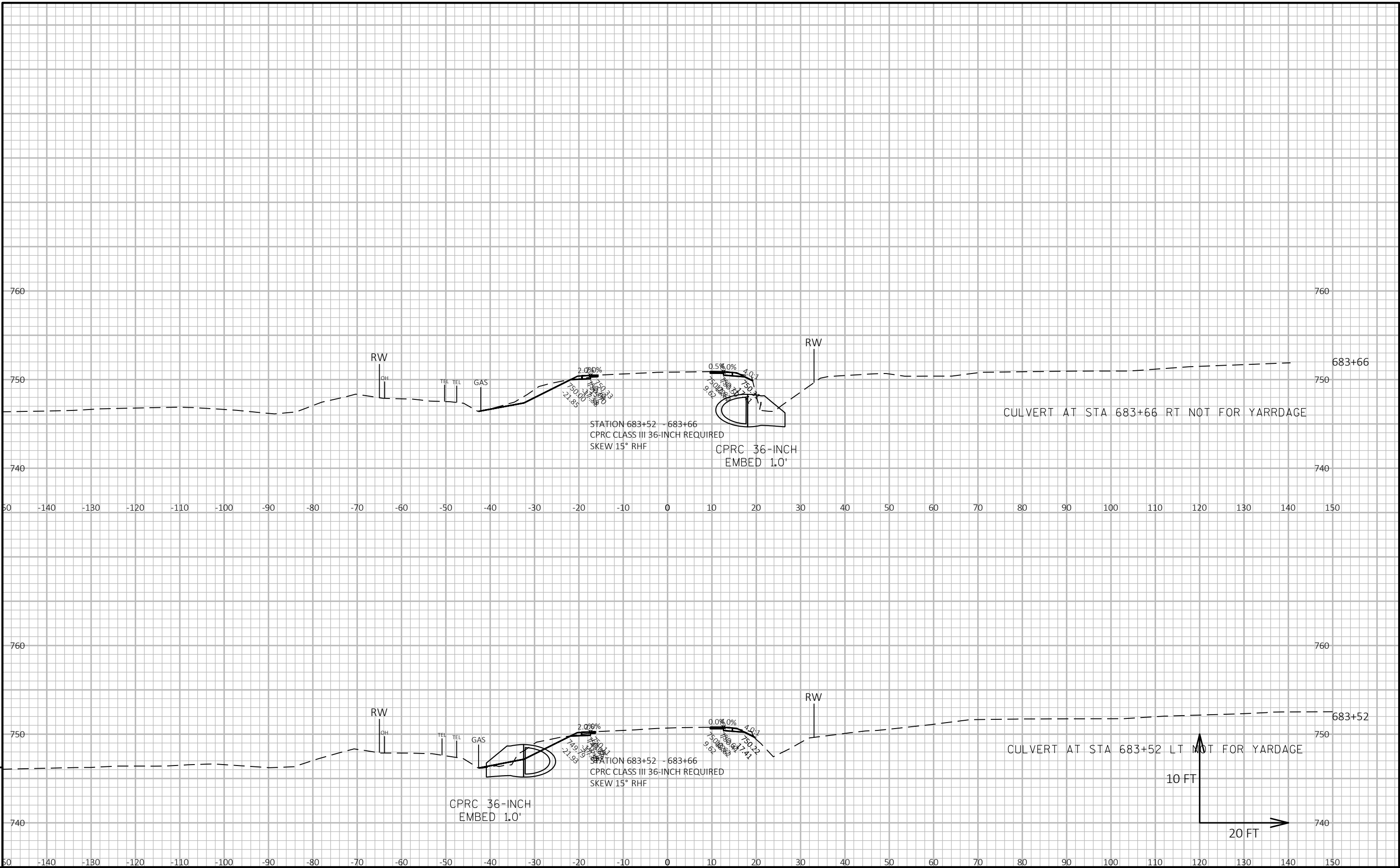
PLOT SCALE : 1 IN:20 FT HORZ. / 1 IN:10 FT VERT.

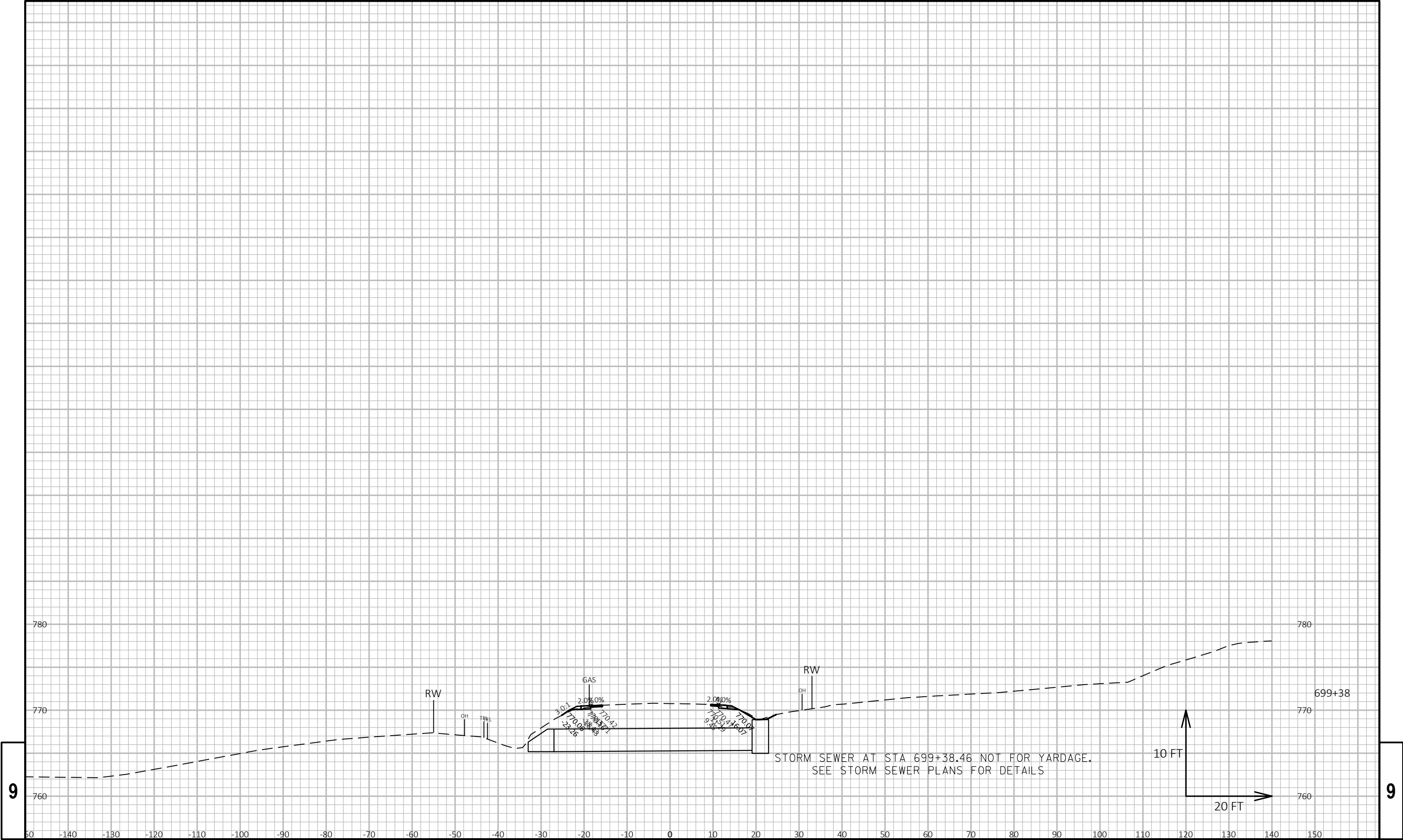
WISDOT/CADDs SHEET 49

*POTENTIAL MARSH EXCAVATION FROM 627+65-628+00
SEE CONSTRUCTION DETAIL



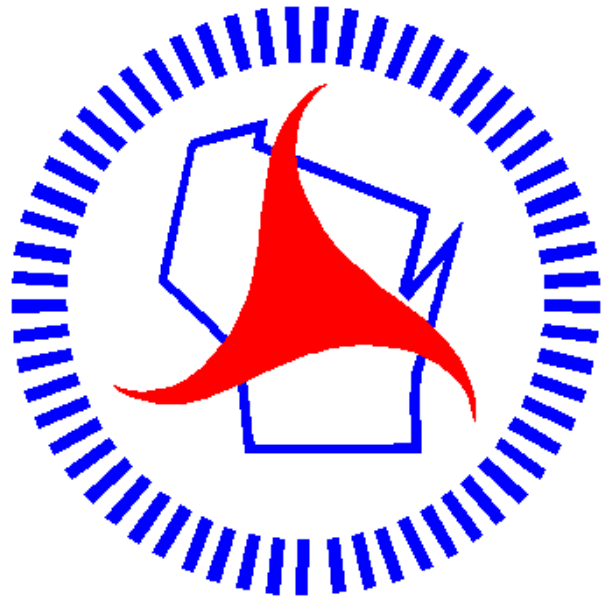






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Wisconsin Department of Transportation

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