WKE

MAR 2018

PROJECT ID: 2050-05-71

WITH: N/A

COUNTY: MILWAUKEE

ORDER OF SHEETS

TOTAL SHEETS = 128

15

N

DESIGN DESIGNATION

A.A.D.T.	2012	= 34,400
A.A.D.T.	2038	= 39,100
D.H.V.		= 2100
D.D.		= 59/41
T.		= 6.2%
DESIGN SPEED		= 45 MPH
ESALS		= 4,200,000

CONVENTIONAL SYMBOLS

PLAN

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

PROFILE

- GRADE LINE
- ORIGINAL GROUND
- MARSH OR ROCK PROFILE (To be noted as such) (ROCK)
- SPECIAL DITCH (LABEL)
- GRADE ELEVATION (95.36)
- CULVERT (Profile View)

UTILITIES

- ELECTRIC (E)
- FIBER OPTIC (FO)
- GAS (G)
- SANITARY SEWER (SAN)
- STORM SEWER (SS)
- TELEPHONE (T)
- WATER (W)
- UTILITY PEDESTAL
- POWER POLE
- TELEPHONE POLE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

W RAWSON AVE

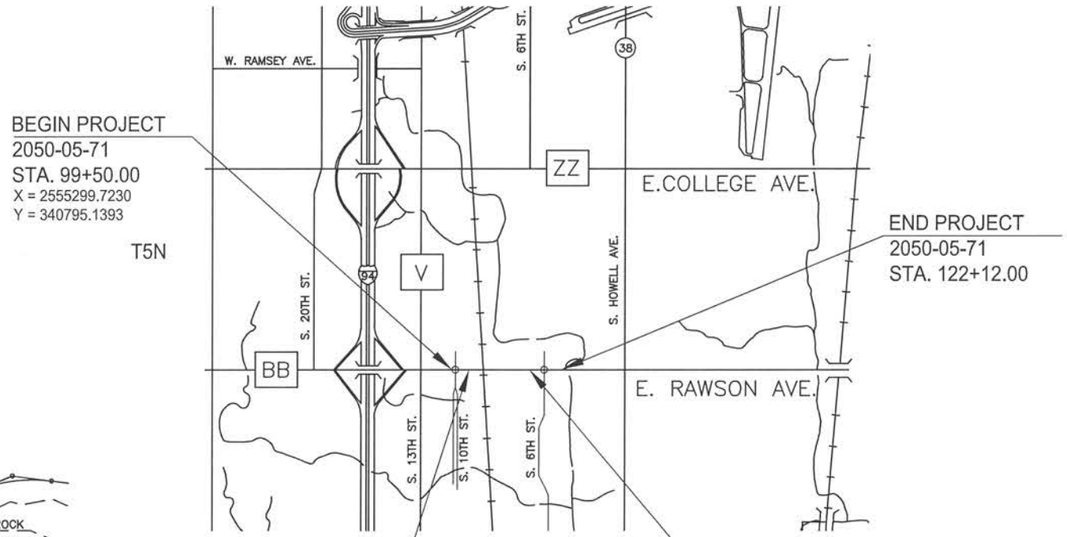
INTERSECT W/ 10TH ST AND 6TH ST

CTH BB

MILWAUKEE COUNTY

STATE PROJECT NUMBER
2050-05-71

STATE PROJECT	FEDERAL PROJECT	
	PROJECT	CONTRACT
2050–05–71	WISC 2018145	1



BEGIN PROJECT
2050-05-71
STA. 99+50.00
X = 2555299.7230
Y = 340795.1393

END PROJECT
2050-05-71
STA. 122+12.00

END CONSTRUCTION
2050-05-71
STA. 101+00.00

BEGIN CONSTRUCTION
2050-05-71
STA. 113+78.00

LAYOUT
SCALE 0 0.5 MI.

TOTAL NET LENGTH OF CENTERLINE = 0.186 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN STATE PLANE COORDINATES, SOUTH ZONE, NAD27, 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 NGVD29.

ORIGINAL PLANS PREPARED BY:

MILWAUKEE COUNTY
DEPARTMENT OF TRANSPORTATION

WISCONSIN
DANIEL M. MURPHY
E-42735
MILWAUKEE, WIS.
PROFESSIONAL ENGINEER

PROJECT DESIGNER:
DATE: 10/13/17

RECOMMENDED FOR APPROVAL:
DATE: 10/13/17
Manager Transportation Services

APPROVED:
DATE: 10/16/17
Director of Milwaukee County Department of Transportation

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	MILWAUKEE COUNTY
Designer	MILWAUKEE COUNTY
Management Consultant	DAAR ENGINEERING
C.O. Examiner	

APPROVED FOR THE DEPARTMENT
DATE: 10/19/17
Management Consultant Signature

E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010-2014\CTH BB – W. RAWSON AVE\2050-05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\28-DAY PLANS\01_TITLE\20500571_TI.DWG

PLOT DATE : 9/27/2017 9:52 AM

PLOT BY : MURPHY, DANIEL

PLOT NAME :

GENERAL NOTES

REMOVALS
- DO NOT REMOVE TREES OR SHRUBS WITHOUT THE CONSENT OF THE ENGINEER.
- FILL ALL HOLES OR OPENINGS BELOW SUBGRADE RESULTING FROM ABANDONMENT OR REMOVAL OF EXISTING STRUCTURES WITH GRANULAR BACKFILL. GRANULAR BACKFILL IS INCIDENTAL TO THE PERTINENT REMOVAL ITEM.

UTILITIES
- LOCATION OF EXISTING, PROPOSED AND ABANDONED UTILITIES SHOWN IN THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITIES WITHIN THE PROJECT LIMITS THAT ARE NOT SHOWN.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION OF EXISTING UTILITIES AND TO NOTIFY DIGGERS HOTLINE AND AFFECTED UTILITIES PRIOR TO THE START OF WORK.
- NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE AND MUST BE CONTACTED SEPARATELY.

EROSION CONTROL
- EROSION CONTROL ITEMS SHOWN ARE AT SUGGESTED LOCATIONS AND THE EXACT LOCATIONS/DIMENSIONS WILL BE DETERMINED BY THE ENGINEER. MAINTAIN ALL EROSION CONTROL MEASURES UNTIL SUCH TIME THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.
- TOPSOIL, SEED, FERTILIZE AND WATER DISTURBED AREAS WITHIN THE RIGHT OF WAY WITHIN 5 DAYS, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS AS DIRECTED BY THE ENGINEER.

STORM SEWER/DRAINAGE
- COST OF CONNECTING STORM SEWER OR CULVERT PIPE TO EXISTING STRUCTURES IS INCIDENTAL TO THE COST OF THE PIPE.
- EXISTING ELEVATIONS OF STORM SEWER CONNECTIONS SHOWN ON THE PLANS ARE APPROXIMATE. FIELD ADJUSTMENTS MAY BE NECESSARY.
- UNCOVER AND CHECK ELEVATIONS OF EXISTING UTILITIES WHERE THEY CROSS PROPOSED STORM SEWER/CULVERT PIPES. ADJUSTMENT OF UTILITY OR REVISION OF SEWER/CULVERT ELEVATION MAY BE REQUIRED TO RESOLVE CONFLICT. THE COST OF UNCOVERING AND CHECKING UTILITIES IS NOT INCIDENTAL TO THE COST OF THE PIPE AND WILL BE PAID FOR UNDER A SEPERATE BID ITEM.

SIGNING/MARKING
- DO NOT REMOVE SIGNS WITHOUT THE CONSENT OF THE ENGINEER.
- SALVAGE ALL REMOVED SIGNS AND PLACE AT A SITE SPECIFIED BY THE ENGINEER TO BE PICKED UP BY MILWAUKEE COUNTY.
- ALL NEW PERMANENT SIGNS SHALL BE MADE OF ALUMINUM MATERIAL UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

MISCELLANEOUS
- ADJUST TRAFFIC CONTROL DEVICES TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.
- CURB AND GUTTER JOINT SPACING SHALL BE 20 FEET UNLESS AUTHORIZED BY THE ENGINEER.
- CONSTRUCT TRANSVERSE JOINTS IN THE CONCRETE SIDEWALK AT INTERVALS EQUAL TO THE WIDTH OF THE SIDEWALK UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES WITHIN THE PROJECT LIMITS AT ALL TIMES.
- STAMP ALL ENDS OF MONOLITHIC CONCRETE SURFACES WITH A STAMP BEARING CONTRACTOR'S NAME AND YEAR OF CONSTRUCTION. ALL LETTERING SHALL BE 2-INCH. THE COST OF THIS WORK IS INCIDENTAL TO THE ASSOCIATED CONCRETE ITEM.
- PLACE ½-INCH THICK EXPANSION FILLER IN THE CURB & GUTTER AT BOTH ENDS OF EACH REMOVAL & REPLACEMENT SECTION. COST IS INCIDENTAL TO THE CURB & GUTTER ITEM.
- DETAILS OF CONSTRUCTION NOT SHOWN IN THE PLANS SHALL CONFORM TO THE PERTINENT STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

LIST OF STANDARD ABBREVIATIONS

ABUT	ABUTMENT
AEW	APRON ENDWALL
AGG	AGGREGATE
AH	AHEAD
ASPH	ASPHALT OR ASPHALTIC
BAD	BASE AGGREGATE DENSE
BK	BACK
BM	BENCHMARK
CABC	CRUSHED AGGREGATE BASE COURSE
CB	CATCH BASIN
CL or C/L	CENTER LINE
CONC	CONCRETE
CTH	COUNTY TRUNK HIGHWAY
C&G	CURB AND GUTTER
DWY	DRIVEWAY
EL or ELEV	ELEVATION
EBS	EXCAVATION BELOW SUBGRADE
HMA	HOT MIX ASPHALT
INL	INLET
INV	INVERT
LT	LEFT
MH	MANHOLE
MIS	METROPOLITAN INTERCEPTOR SEWER
PAVT	PAVEMENT
PLE	PERMANENT LIMITED EASEMENT
PT	POINT OF TANGENT
PCC	POINT OF COMPOUND CURVATURE
RL or R/L	REFERENCE LINE
R	RADIUS
REQD	REQUIRED
RT	RIGHT
R/W	RIGHT-OF-WAY
SE	SUPERELEVATION
SEC	SECTION
SDD	STANDARD DETAIL DRAWING
STH	STATE TRUNK HIGHWAY
STA	STATION
SSPRC	STORM SEWER PIPE REINFORCED CONCRETE
S/W	SIDEWALK
TLE	TEMPORARY LIMITED EASEMENT
VERT	VERTICAL
VC	VERTICAL CURVE
VCL	VERTICAL CURVE LENGTH
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY

UTILITIES

AT&T
2005 Pewaukee Rd
Waukesha, WI 53188
ATTN: Mr. Matt Dinnauer
Phone: (262) 896-7690

Charter Communications
1320 N. Martin Luther King Dr.
Milwaukee, WI 53212
ATTN: Mr. Steve Cramer
Phone: (414) 277-4045

City Of Oak Creek
Design Engineer
8040 S. 6th Street
Oak Creek, WI 53154
ATTN: Mr. Matthew Sullivan
Phone: (414) 766-7029

City of Oak Creek Water & Sewer Utility
170 W. Drexel Ave.
Oak Creek, WI 53154
ATTN: Ron Pritzlaff
Phone: (414) 570-8200, Ext. 24

TDS Metrocom, LLC
16924 W Victor Rd
New Berlin, WI 53151
ATTN: Matthew Schulte
Phone: (262) 754-3063

WE ENERGIES – ELECTRIC
500 S 116th St
West Allis, WI
ATTN: Mr. Alex Dantinne
Phone: (920) 621-6903

WE ENERGIES – GAS
700 S Kane St
Burlington, WI 53105
ATTN: Mr. Scott Holstein
Phone: (262) 763-1084

AGENCIES

City Of Oak Creek
City Engineer
8040 S. 6th Street
Oak Creek, WI 53154
ATTN: Mr. Mike Simmons
Phone: (414) 766-7028

MILWAUKEE COUNTY

Milwaukee County DOT
Highway Maintenance Division
10320 W. Watertown Plank Rd
1ST Floor
Wauwatosa, WI 53226
ATTN: Mr. Greg Heisel
Phone: (414) 257-6566

Milwaukee County DOT
Electrical Maintenance Division
10320 W. Watertown Plank Rd
1ST Floor
Wauwatosa, WI 53226
ATTN: Mr. Stanley Jackson
Phone: (414) 257-6593

Milwaukee County DOT
Transportation Services Division
10320 W. Watertown Plank Rd
2nd Floor
Wauwatosa, WI 53226
ATTN: Ms. Andrea Weddle-Henning
Phone: (414) 257-5934

Milwaukee County DOT
Traffic Engineering
10320 W. Watertown Plank Rd
2nd Floor
Wauwatosa, WI 53226
ATTN: Mr. Daniel Murphy
Phone: (414) 257-5942

STATE AGENCIES

State of Wisconsin
Department of Natural Resources
2300 N. Martin Luther King Jr. Dr.
Milwaukee, WI 53212
ATTN: Ms. Kristina Betzold
Phone: (414) 263-8517

SHEET INDEX

2

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

2

N

CITY OF OAK CREEK

CITY OF OAK CREEK

S. 10TH STREET

S. 6TH STREET

BEGIN PROJECT
2050-05-71
STA 99+50.00

END PROJECT
2050-05-71
STA 122+12.00

W. RAWSON AVE. (CTH BB)

W. RAWSON AVE. (CTH BB)

END CONSTRUCTION
2050-05-71
STA 101+00.00

BEGIN CONSTRUCTION
2050-05-71
STA 113+78.00

CITY OF OAK CREEK

CITY OF OAK CREEK

95 100 105 110 115 120 125

R/W

PI: 100+00.00

PI: 116+11.90

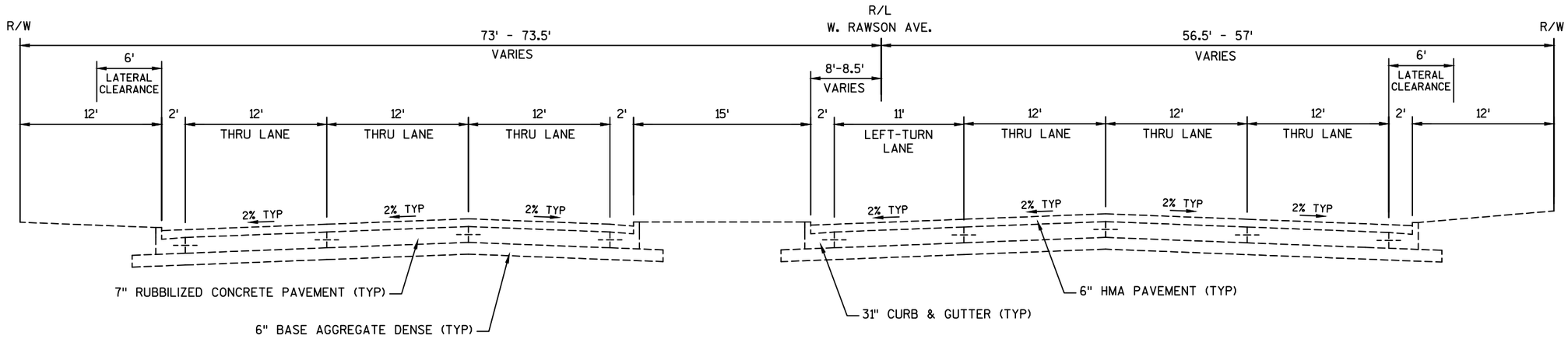
500 LINE RR CO.

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	PROJECT OVERVIEW	SHEET 4	E

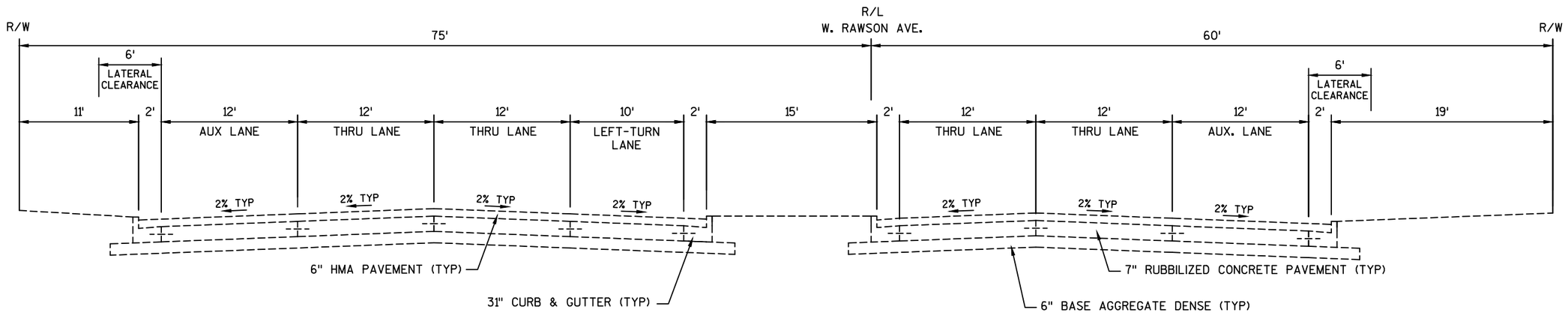
FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010-2014\CTH BB - W. RAWSON AVE\2050-05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\75% PLANS - PLAN TO UTILITIES\03_PROJ OVER\20500571_PO.DWG

PLOT DATE : 6/26/2017 8:35 AM PLOT BY : MURPHY, DANIEL PLOT NAME : PLOT SCALE : 1" = 200'_XREF

WISDOT/CADDS SHEET 42

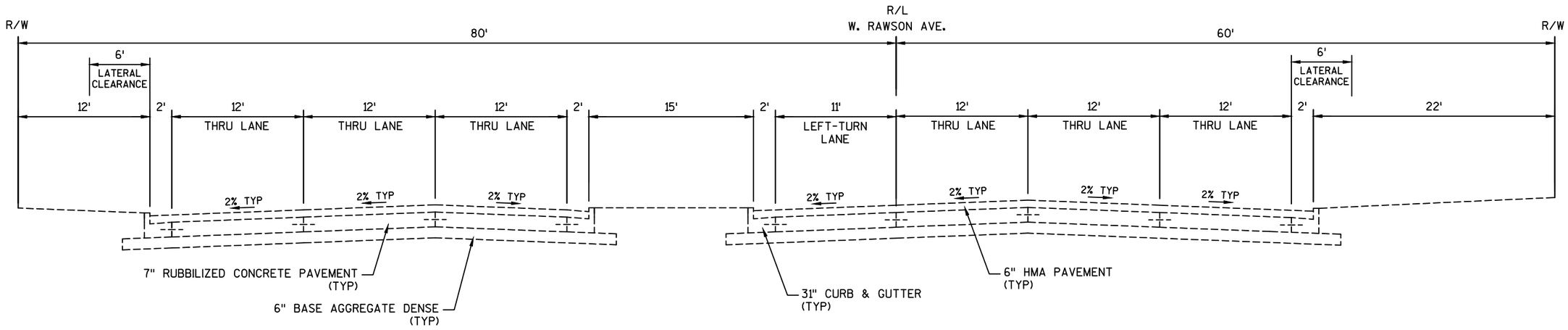


TYPICAL EXISTING SECTION
W. RAWSON AVE (CTH BB)
STA 99+50.00 TO STA 99+64.47

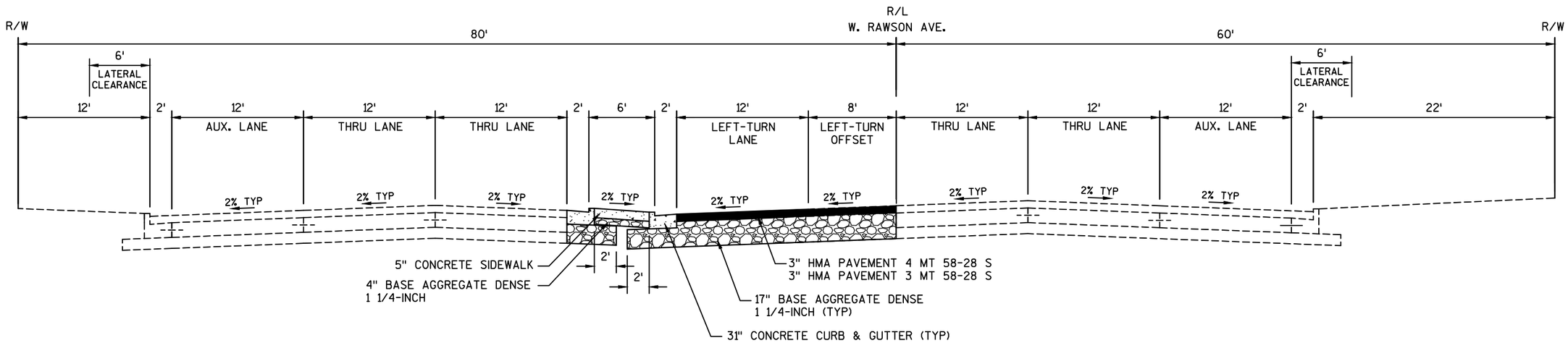


TYPICAL EXISTING SECTION
W. RAWSON AVE (CTH BB)
STA 100+36.18 TO STA 101+00.00

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	TYPICAL SECTION- W. RAWSON AVE	SHEET 5	E

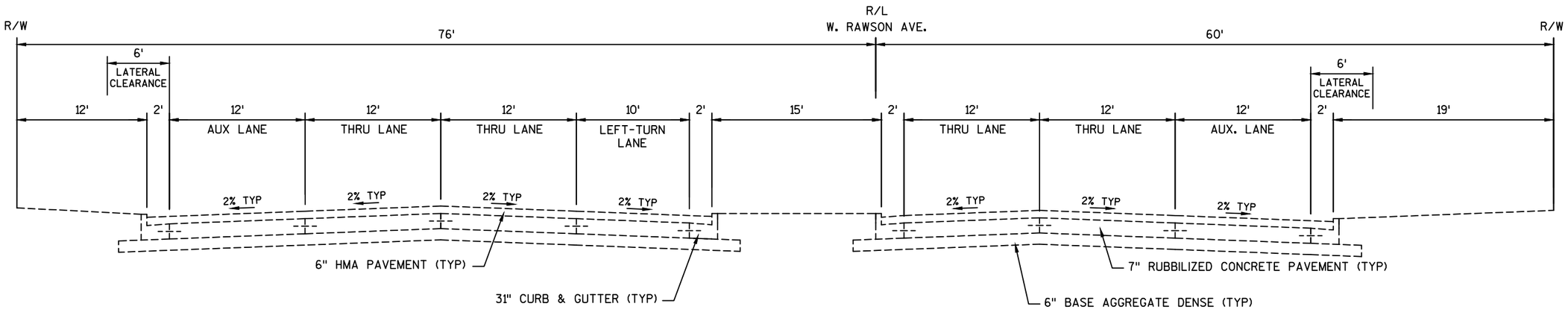


TYPICAL EXISTING SECTION
W. RAWSON AVE (CTH BB)
STA 113+78.00 TO STA 118+13.50

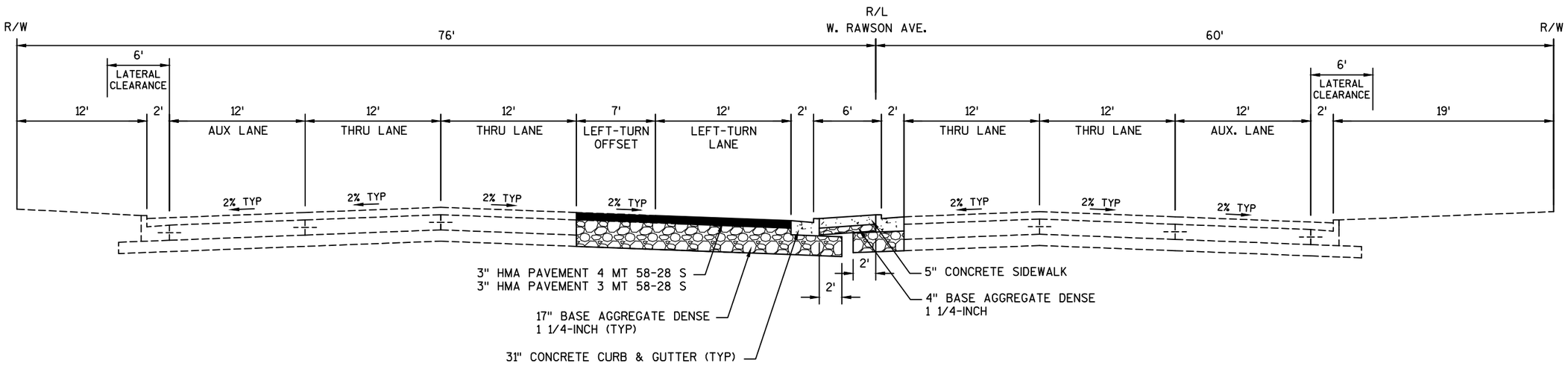


TYPICAL FINISHED SECTION
W. RAWSON AVE (CTH BB)
STA 113+78.00 TO STA 118+13.50

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	TYPICAL SECTION- W. RAWSON AVE (WEST LEG)	SHEET 6	E



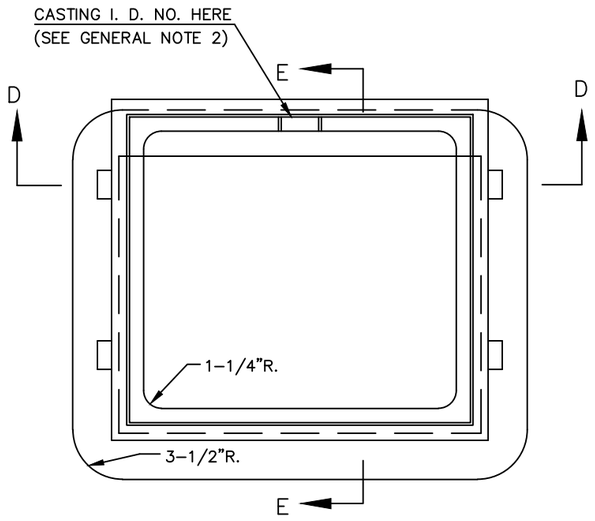
TYPICAL EXISTING SECTION
W. RAWSON AVE (CTH BB)
STA 119+10.00 TO STA 122+12.00

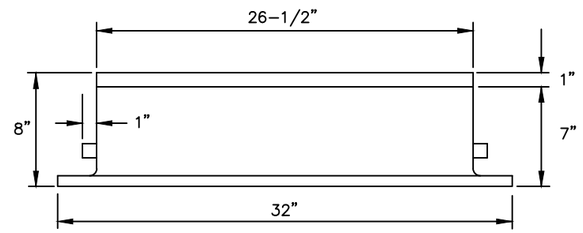


TYPICAL FINISHED SECTION
W. RAWSON AVE (CTH BB)
STA 119+10.00 TO STA 122+12.00

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	TYPICAL SECTION- W. RAWSON AVE (EAST LEG)	SHEET 7	E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010-2014\CTH BB - W. RAWSON AVE\2050-05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\28-DAY PLANS\04_TYP SEC\20500571_TS.DWG
PLOT DATE : 9/18/2017 4:36 PM PLOT BY : MASTERS, ANDREA PLOT NAME : PLOT SCALE : 0.099999
WISDOT/CADDS SHEET 42





FRAME

GENERAL NOTES

ALL EDGES ARE TO BE GROUND

ALL CASTINGS SHALL BEAR THE FOLLOWING IDENTIFICATION MARKS IN THE FORM OF LEGIBLE LETTERS OR NUMERALS RAISED 1/8"

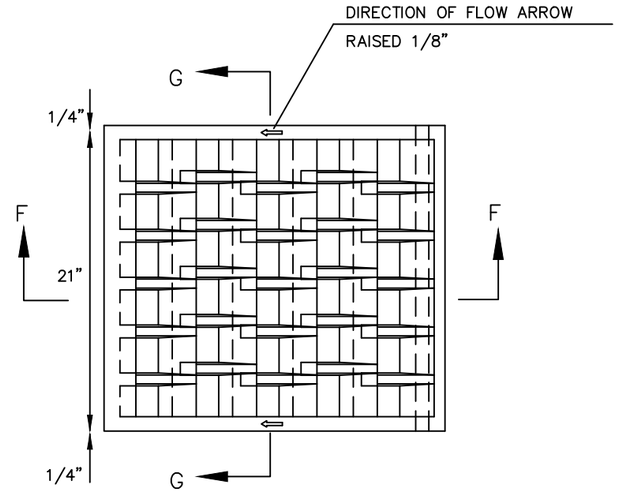
ON THE FRAME

1. ON THE UPPER FACE OF THE FLANGE IN 1 INCH HIGH LETTERS THE INITIALS OR MONOGRAM OF THE FOUNDRY, THE YEAR MADE AND THE SERIAL NUMBER OF THE INDIVIDUAL CASTING.

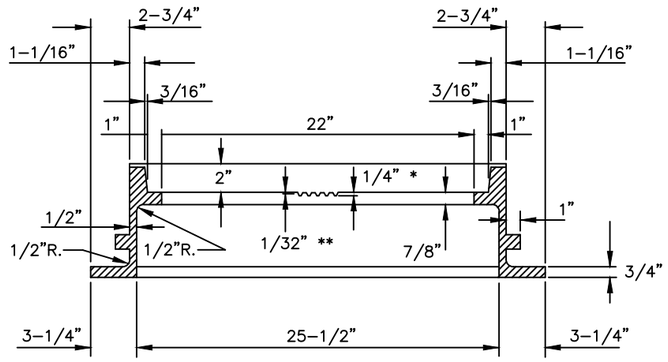
2. ON THE SEAT OF THE FRAME IN 1 INCH HIGH LETTERS, THE CASTING IDENTIFICATION NUMBER (M.S.51).

ON THE GRATE

1. ON THE UPPER SIDE OF THE GRATE IN 1 INCH HIGH LETTERS, THE INITIALS OR MONOGRAM OF THE FOUNDRY, THE YEAR MADE, THE CASTING IDENTIFICATION NUMBER (M.S.57) AND THE SERIAL NUMBER OF THE INDIVIDUAL CASTING.



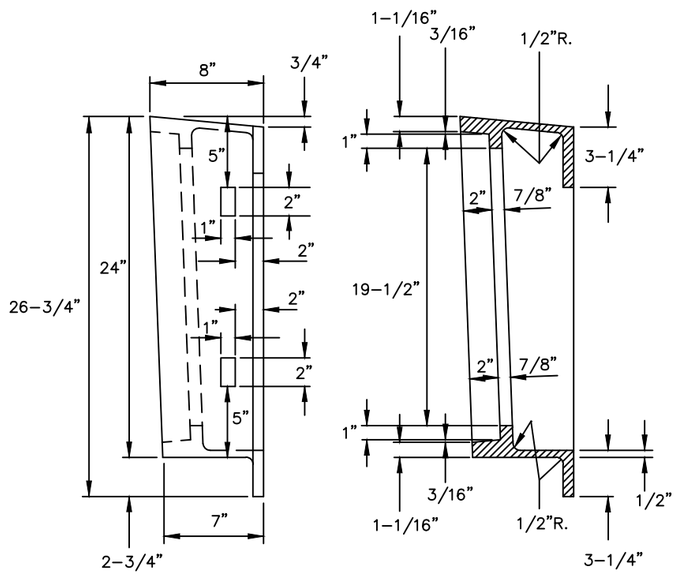
GRATE



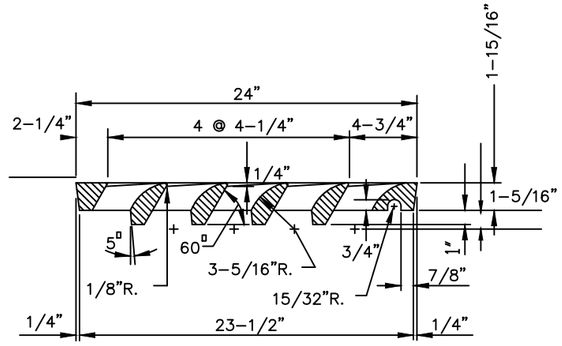
SECTION D–D

*DEPRESSION FOR LETTERS

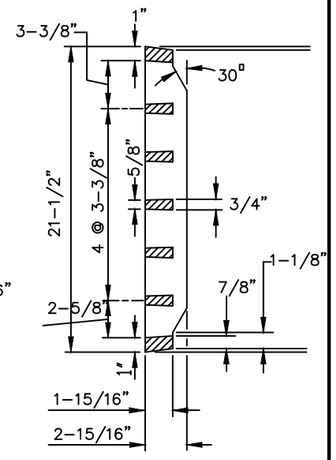
**CLEARANCE FROM TOP OF LETTERS TO FACE OF SEAT



SECTION E–E



SECTION F–F



SECTION G–G

INLET COVER – TYPE 57

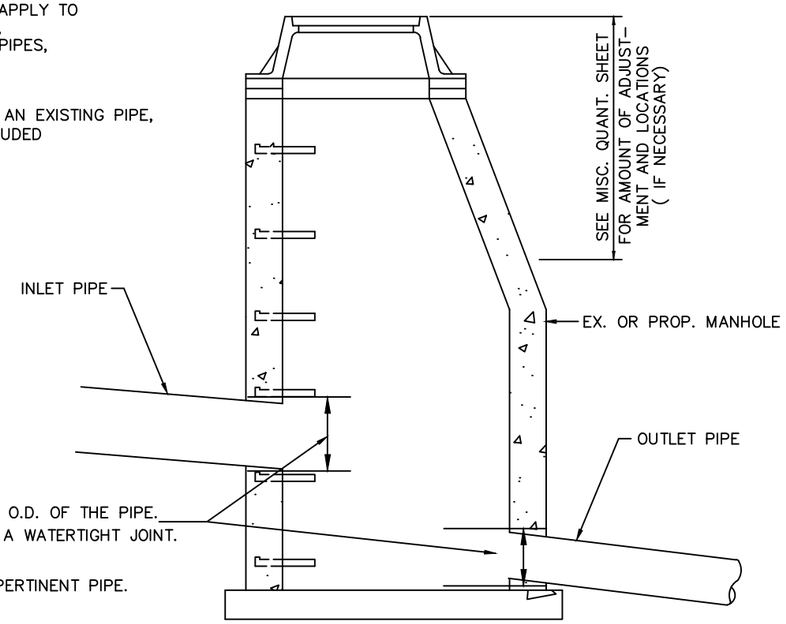
LID–145 LBS., FRAME–204 LBS.

PROJECT NO: 2050–05–71	HWY: CTH BB	COUNTY: MILWAUKEE	CONSTRUCTION DETAILS	SHEET 8	E

NOTES:

1. CONSTRUCTION METHODS ARE "TYPICAL" AND APPLY TO NEW PIPE CONNECTING TO EXISTING MANHOLES, NEW MANHOLES CONSTRUCTED OVER EXISTING PIPES, AND NEW CONSTRUCTION

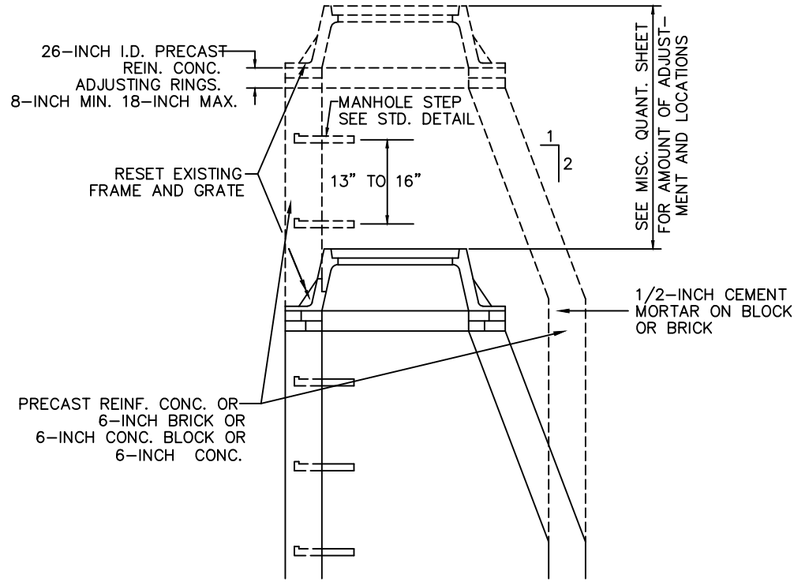
2. WHEN A NEW MANHOLE IS CONSTRUCTED OVER AN EXISTING PIPE, THE COST OF THE CONNECTION SHALL BE INCLUDED IN THE UNIT BID PRICE OF THE MANHOLE.



CUT IN CONNECTION 1-INCH LARGER THAN THE O.D. OF THE PIPE. ANNULAR SPACE TO BE MORTARED TO ENSURE A WATERTIGHT JOINT.

COST OF THIS CONNECTION IS TO BE INCLUDED IN THE UNIT PRICE PER LINEAL FOOT OF THE PERTINENT PIPE.

DETAIL FOR CONNECTION TO MANHOLES



DETAIL FOR RECONSTRUCTING MANHOLES

NOTES:

1. SEE MISCELLANEOUS QUANTITY SHEET FOR ADJUSTMENT DEPTH.

2. CONSTRUCTION METHODS ARE "TYPICAL" AND MAY APPLY TO EITHER RECONSTRUCTING OR ADJUSTING MANHOLES.

3. ADJUST FRAME TO GRATE WITH PRECAST CONCRETE RINGS OF VARIABLE THICKNESS. MAXIMUM RING HEIGHT IS 18-INCHES . MINIMUM RING HEIGHT IS 8-INCHES. CONCRETE RINGS SHALL BE REINFORCED WITH ONE LINE OF STEEL CENTERED WITHIN THE RING. WHERE NECESSARY, RINGS SHALL BE GROOVED TO RECEIVE STEP.

   CONCRETE AND STEEL REINFORCEMENT SHALL CONFORM TO DESIGNATION C-478 REQUIREMENTS OF ASTM SPECIFICATIONS. JOINTS SHALL BE WATERTIGHT AND SHALL BE MADE USING RUBBER GASKETS FOR SANITARY MANHOLES.

4. WHEN RESETTING EXISTING COVERS, REPAIRING BRICKWORK UP TO 12-INCH DEPTH IS PAID AS ADJUSTING COVERS, UNLESS THERE IS A RECONSTRUCT. WHERE NEW COVERS ARE PLACED, THE FIRST 6-INCHES OF ADJUSTMENT OR REPAIR IS PART OF THE NEW COVER. ADJUSTING OR REPAIRING GREATER THAN 6-INCH AND UP TO 12-INCHES SHALL BE PAID AS ADJUSTING COVERS. WHEN THE DEPTH OF THE WORK IS GREATER THAN 12-INCHES, ALL WORK SHALL BE PAID AS RECONSTRUCT.

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

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

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

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

MINIMUM BENDING RADIUS OF CONDUIT IS EQUAL TO 6 X THE DIAMETER. CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 4 INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NONMETALLIC CONDUIT SHALL HAVE BELL END INSTALLED. ALL CONDUIT SHALL BE SLOPED TO PULL BOX.

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. CONDUIT 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.

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

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

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

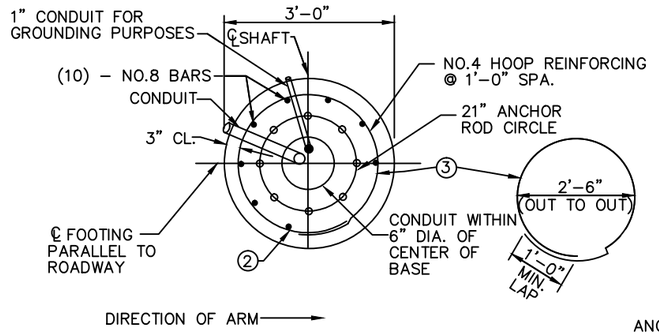
A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD).

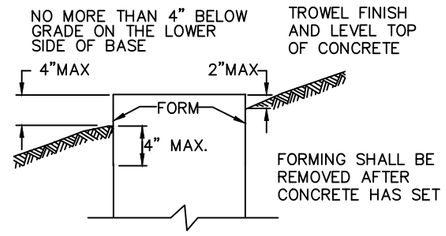
THE EQUIPMENT GROUNDING CONDUCTOR SHALL ENTER THE BASE THROUGH A 1 INCH CONDUIT INSTALLED FOR GROUNDING PURPOSES, LEAVING A 4 FOOT COIL OF WIRE ABOVE THE CONCRETE BASE. THE EQUIPMENT GROUNDING CONDUCTOR SHALL BE NEATLY COILED AND THE COILS TIED TOGETHER.

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

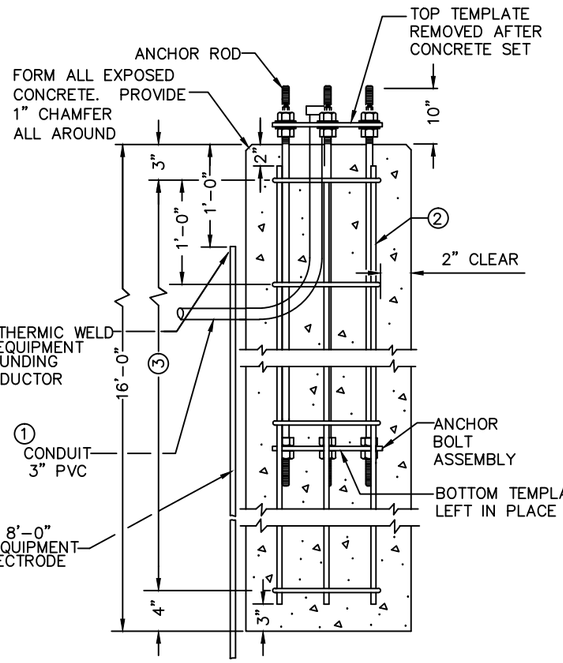
BAR STEEL REINFORCEMENT SHALL BE COATED WITH POWDERED EPOXY RESIN IN ACCORDANCE WITH SECTION 505 OF THE STANDARD SPECIFICATIONS (LATEST EDITION).

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

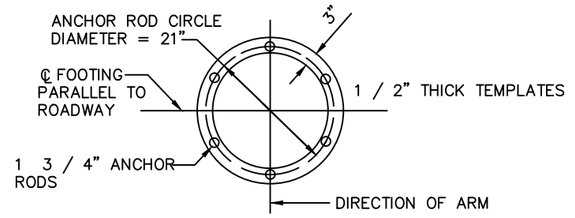




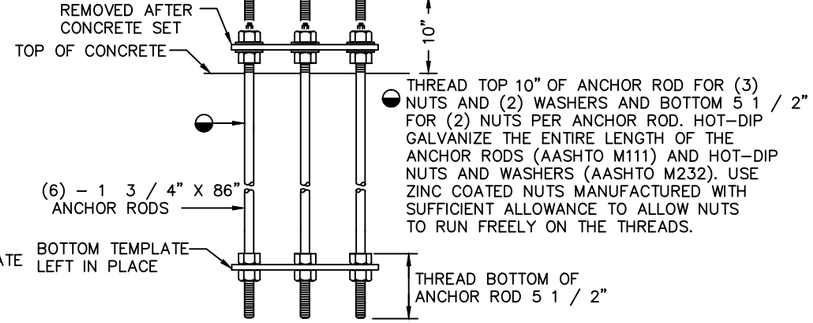
FORMING DETAIL



CONCRETE BASE TYPE 10 MODIFIED



TOP AND BOTTOM TEMPLATES



ANCHOR BOLT ASSEMBLY DETAIL

CONCRETE BASE TYPE 10 SPECIAL ANCHOR ASSEMBLY

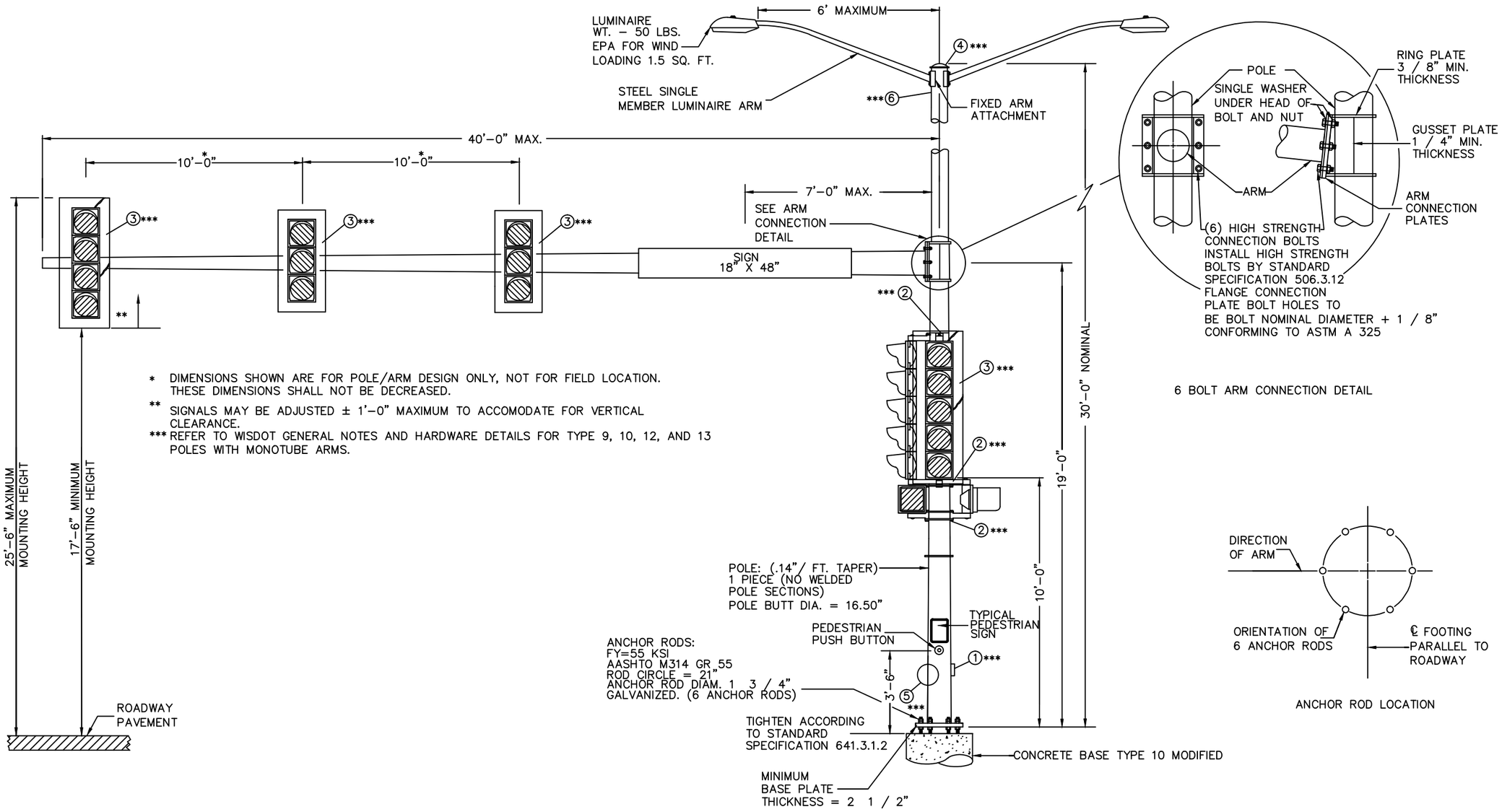
(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES, (GREATER THAN 36 INCHES IF INSTALLED IN BREAKER–RUN), EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

(2) (10) NO. 8 X 15'–7" BAR STEEL REINFORCEMENT.

(3) (17) NO. 4 X 9'–0" BAR STEEL REINFORCEMENT @ 1'–0" C–C.

CONCRETE MASONRY	fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy=60,000 p.s.i.
ANCHOR RODS, AASHTO M314 GRADE 55	fy=55,000 p.s.i.
TEMPLATES, ASTM, A709 GRADE 36	fy=36,000 p.s.i.

2



* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

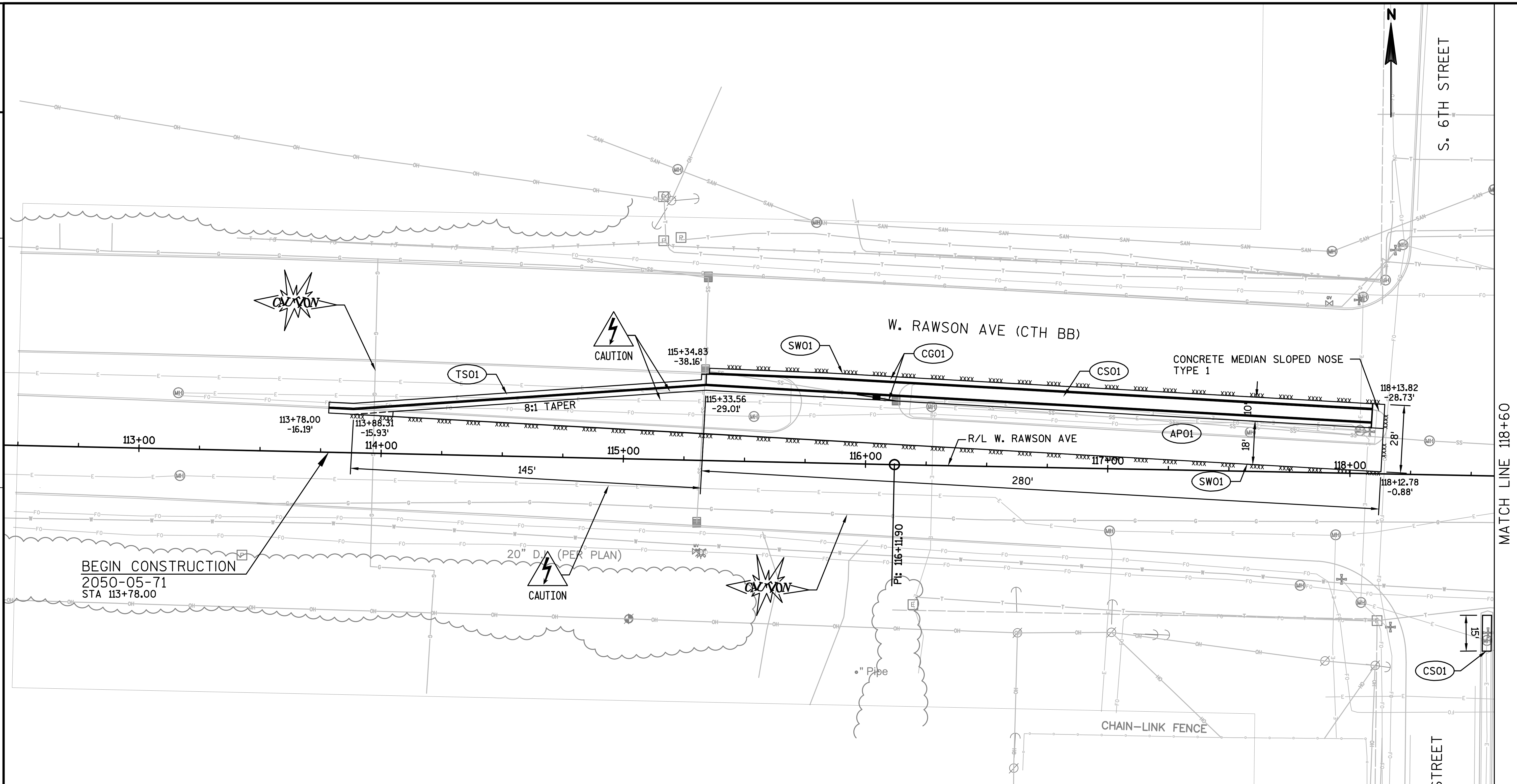
** SIGNALS MAY BE ADJUSTED ± 1'–0" MAXIMUM TO ACCOMODATE FOR VERTICAL CLEARANCE.

*** REFER TO WISDOT GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12, AND 13 POLES WITH MONOTUBE ARMS.

TYPE 13 POLE MODIFIED

PROJECT NO: 2050–05–71	HWY: CTH BB	COUNTY: MILWAUKEE	CONSTRUCTION DETAILS	SHEET 11	E

2



LEGEND

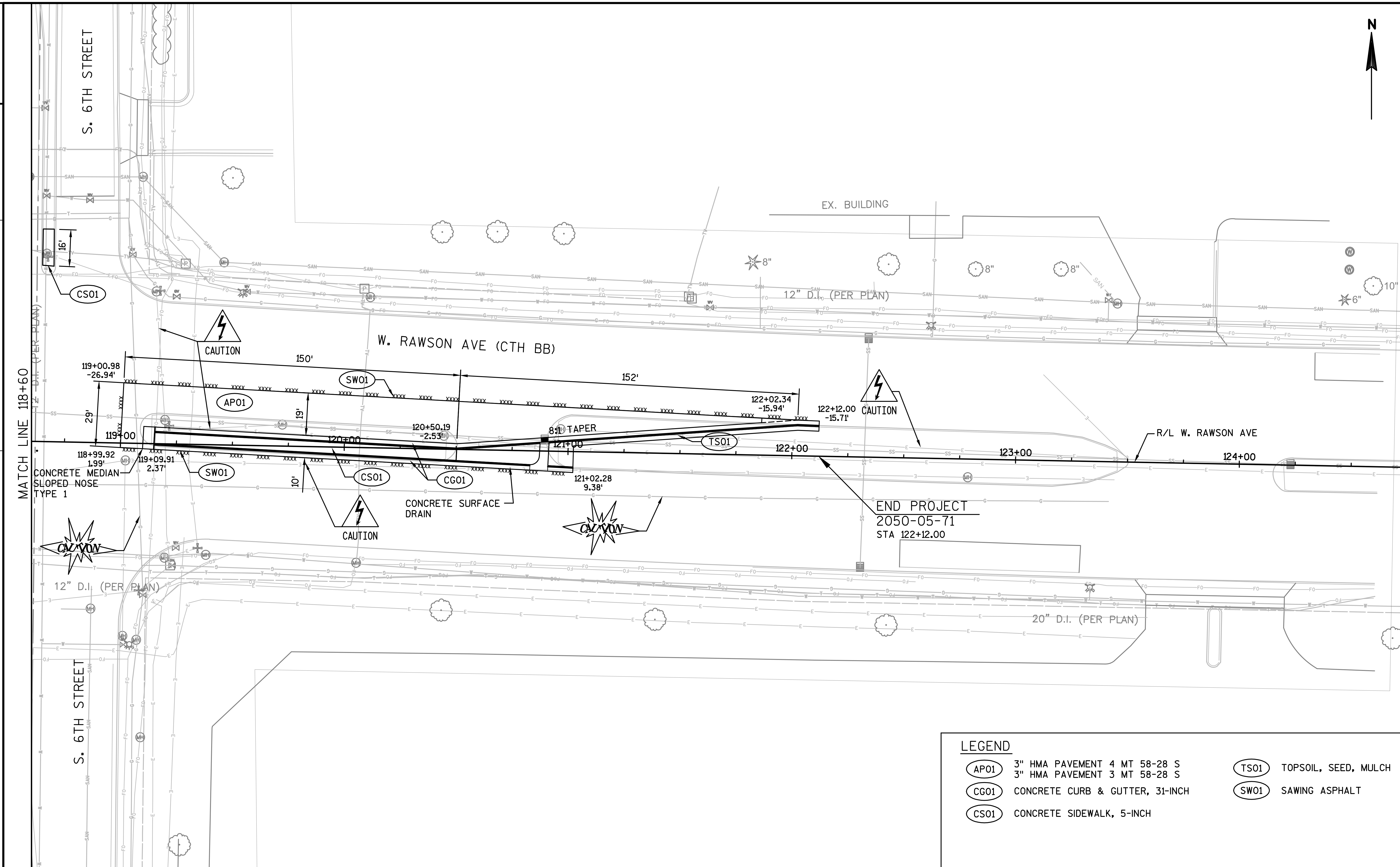
AP01	3" HMA PAVEMENT 4 MT 58-28 S 3" HMA PAVEMENT 3 MT 58-28 S	TS01	TOPSOIL, SEED, MULCH
CG01	CONCRETE CURB & GUTTER, 31-INCH	SW01	SAWING ASPHALT
CS01	CONCRETE SIDEWALK, 5-INCH		

2

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	PLAN DETAILS- W. RAWSON AVE	SHEET	E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010-2014\CTH BB - W. RAWSON AVE\2050-05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\20-DAY PLANS\01-PLAN DET\2050701_PD.DWG MASTERS, ANDREA PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42


2
2
N
S. 6TH STREET
S. 6TH STREET
EX. BUILDING
12" D.I. (PER PLAN)
12" D.I. (PER PLAN)
20" D.I. (PER PLAN)
W. RAWSON AVE (CTH BB)
MATCH LINE 118+60
CAUTION
CAUTION
CAUTION
CS01
SW01
AP01
CS01
CG01
TS01
SW01
16'
29'
19'
10'
150'
152'
119+00.98
-26.94'
119+00
120+00
121+00
122+00
123+00
124+00
118+99.92
1.99'
119+09.91
2.37'
120+50.19
-2.53'
8:1 TAPER
121+02.28
9.38'
122+02.34
-15.94'
122+12.00
-15.71'
R/L W. RAWSON AVE
CONCRETE MEDIAN
SLOPED NOSE
TYPE 1
CONCRETE SURFACE
DRAIN
END PROJECT
2050-05-71
STA 122+12.00
8"
8"
8"
10"
6"
LEGEND
AP01 3" HMA PAVEMENT 4 MT 58-28 S
3" HMA PAVEMENT 3 MT 58-28 S
CG01 CONCRETE CURB & GUTTER, 31-INCH
CS01 CONCRETE SIDEWALK, 5-INCH
TS01 TOPSOIL, SEED, MULCH
SW01 SAWING ASPHALT

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	PLAN DETAILS- W. RAWSON AVE	SHEET 13	E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010-2014\CTH BB - W. RAWSON AVE\2050-05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\2050-05-71 ... DET\2050-05-71_PD.DWG PLOT BY : MASTERS, ANDREA PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

2

2

N

S. 6TH STREET

W. RAWSON AVE (CTH BB)

CAUTION

CAUTION

CAUTION

CAUTION

TS01

8:1 TAPER

725.52

721.86 722.19 723.18 723.82 724.31 724.79 725.28 725.44 725.79 726.27 726.57 726.96 727.34 727.59 727.83 727.98 728.12 728.26 728.40 728.49

10' 2.0% 2.0% 2.0% 1.2%

723.28 723.98 724.53 725.07 725.62 726.15 726.63 726.93 727.32 727.70 727.95 728.19 728.35 728.49 728.56 728.62 728.65

18' 28'

145'

280'

R/L W. RAWSON AVE

BEGIN CONSTRUCTION
2050-05-71
STA 113+78.00

MATCH LINE 118+60

S. 6TH STREET

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	PAVING GRADES- W. RAWSON AVE	SHEET 14	E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010-2014\CTH BB - W. RAWSON AVE\2050-05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\90% PLANS\08_PAV GRADES\20500571_PG.DWG

PLOT DATE : 7/22/2017 1:15 PM PLOT BY : HILLIARD, MARC PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42

2

N

S. 6TH STREET

MATCH LINE 118+60

EX. BUILDING

8"

8"

8"

10"

6"

W. RAWSON AVE (CTH BB)

CAUTION

150'

152'

10'

728.31 728.16 727.98 727.85 727.74 727.59 727.43 727.25 727.22 727.09 726.92 726.78 726.65 726.60

29'

728.33 728.04 727.70 727.50 727.36 727.21 727.05 726.87 726.85 727.00 726.85 726.73

728.40

0.6%

19'

2.0%

2.8%

726.80

8:1 TAPER

727.39

CAUTION

CAUTION

CAUTION

R/L W. RAWSON AVE

END PROJECT
2050-05-71
STA 122+12.00

S. 6TH STREET

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	PAVING GRADES- W. RAWSON AVE	SHEET	E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010-2014\CTH BB - W. RAWSON AVE\2050-05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\90% PLANS\08_PAV GRADES\20500571_PG.DWG

PLOT DATE : 7/22/2017 1:15 PM PLOT BY : HILLIARD, MARC PLOT NAME : PLOT SCALE : 1:40_XREF

2

N

S. 10TH STREET

W. RAWSON AVE (CTH BB)

R/L W. RAWSON AVE

PI: 100+00.00

97+00 98+00 99+00 100+00 101+00 102+00 103+00

BEGIN PROJECT
2050-05-71
STA 99+50.00

END CONSTRUCTION
2050-05-71
STA 101+00.00

TYPE B

TYPE A

EX. BUILDING

1" Pipe

LEGEND

INLET PROTECTION
(TYPE SPECIFIED ON PLAN)

TOPSOIL, SEEDING MIXTURE NO. 10, FERTILIZER & EROSION MAT CLASS I TYPE A

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	EROSION CONTROL- W. RAWSON AVE	SHEET 16	E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010-2014\CTH BB - W. RAWSON AVE\2050-05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\FINAL PLANS\09_ERO CNTRL\20500571_EC.DWG

PLOT DATE : 1/8/2018 4:31 PM PLOT BY : MURPHY, DANIEL PLOT NAME : PLOT SCALE : 1:40_XREF

2

N

S. 6TH STREET

W. RAWSON AVE (CTH BB)

TYPE B

TYPE B

TYPE B

TYPE B

TYPE B

TYPE B

113+00

114+00

115+00

116+00

117+00

118+00

R/L W. RAWSON AVE

PI: 116+11.90

BEGIN CONSTRUCTION
2050-05-71
STA 113+78.00

" Pipe

CHAIN-LINK FENCE

S. 6TH STREET

MATCH LINE 118+60

LEGEND

INLET PROTECTION
(TYPE SPECIFIED ON PLAN)

TOPSOIL, SEEDING MIXTURE NO. 10, FERTILIZER & EROSION MAT CLASS I TYPE A

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	EROSION CONTROL- W. RAWSON AVE	SHEET 17	E

2

2

N

S. 6TH STREET

EX. BUILDING

8"

8"

8"

10"

6"

TYPE B

W. RAWSON AVE (CTH BB)

MATCH LINE 118+60

119+00

120+00

TYPE B

121+00

122+00

123+00

124+00

R/L W. RAWSON AVE

END PROJECT
2050-05-71
STA 122+12.00

TYPE B

S. 6TH STREET

LEGEND

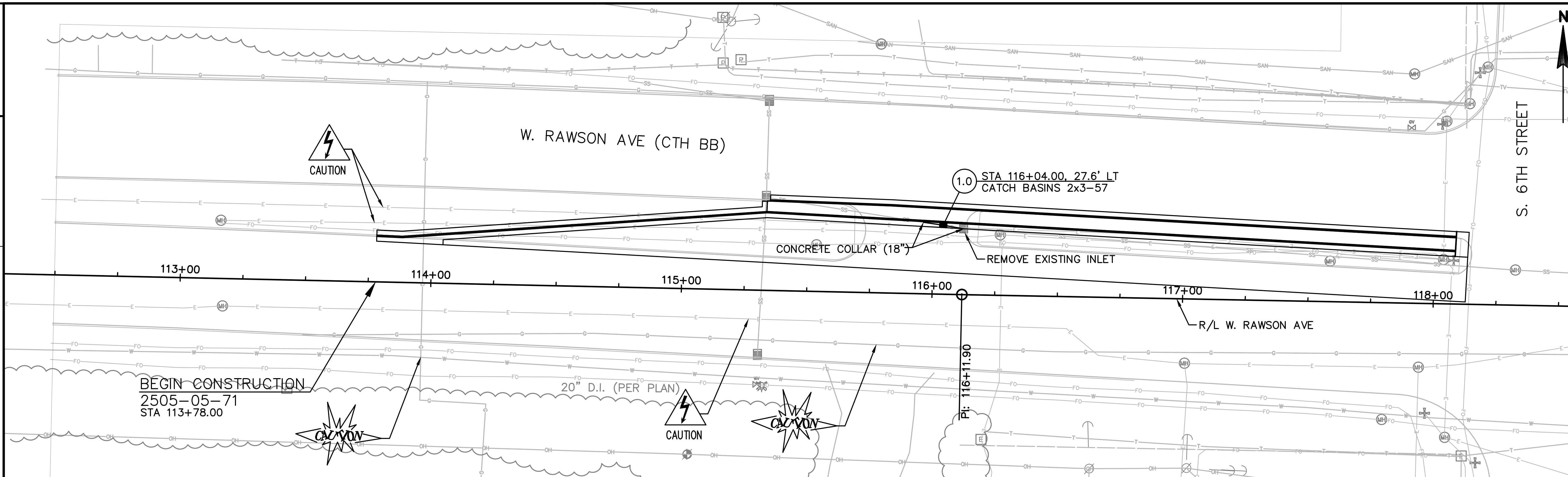
INLET PROTECTION
(TYPE SPECIFIED ON PLAN)

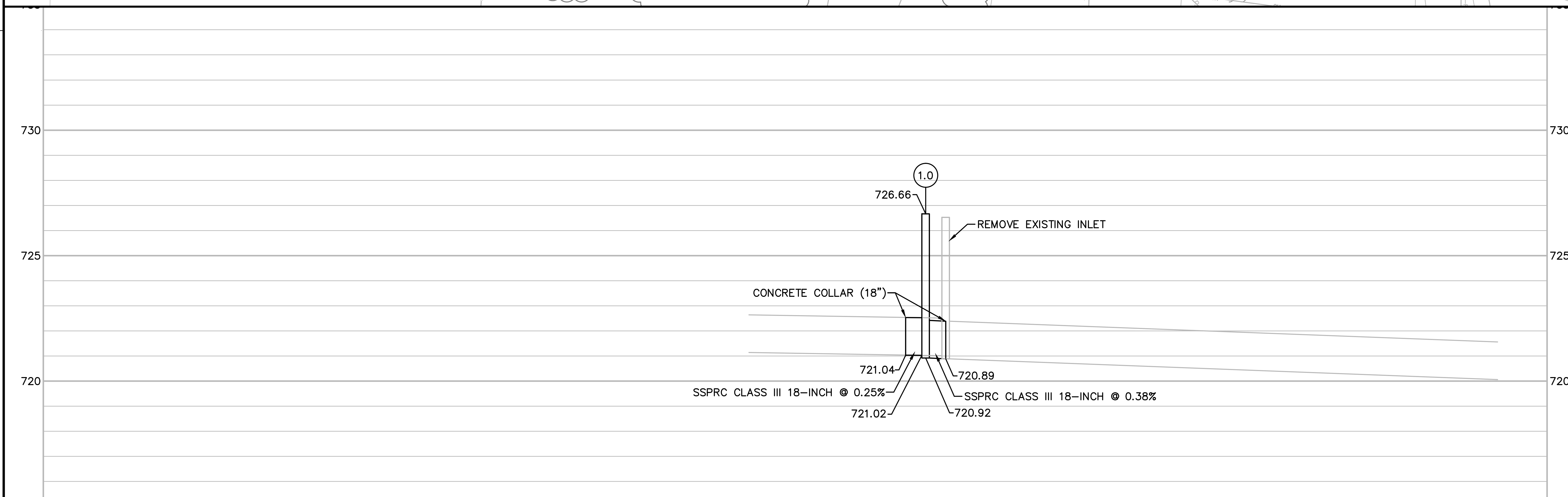
TOPSOIL, SEEDING MIXTURE NO. 10, FERTILIZER & EROSION MAT CLASS I TYPE A

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	EROSION CONTROL- W. RAWSON AVE	SHEET 18	E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010-2014\CTH BB - W. RAWSON AVE\2050-05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\FINAL PLANS\09_ERO CNTRL\20500571_EC.DWG

PLOT DATE : 1/8/2018 4:31 PM PLOT BY : MURPHY, DANIEL PLOT NAME : PLOT SCALE : 1:40_XREF

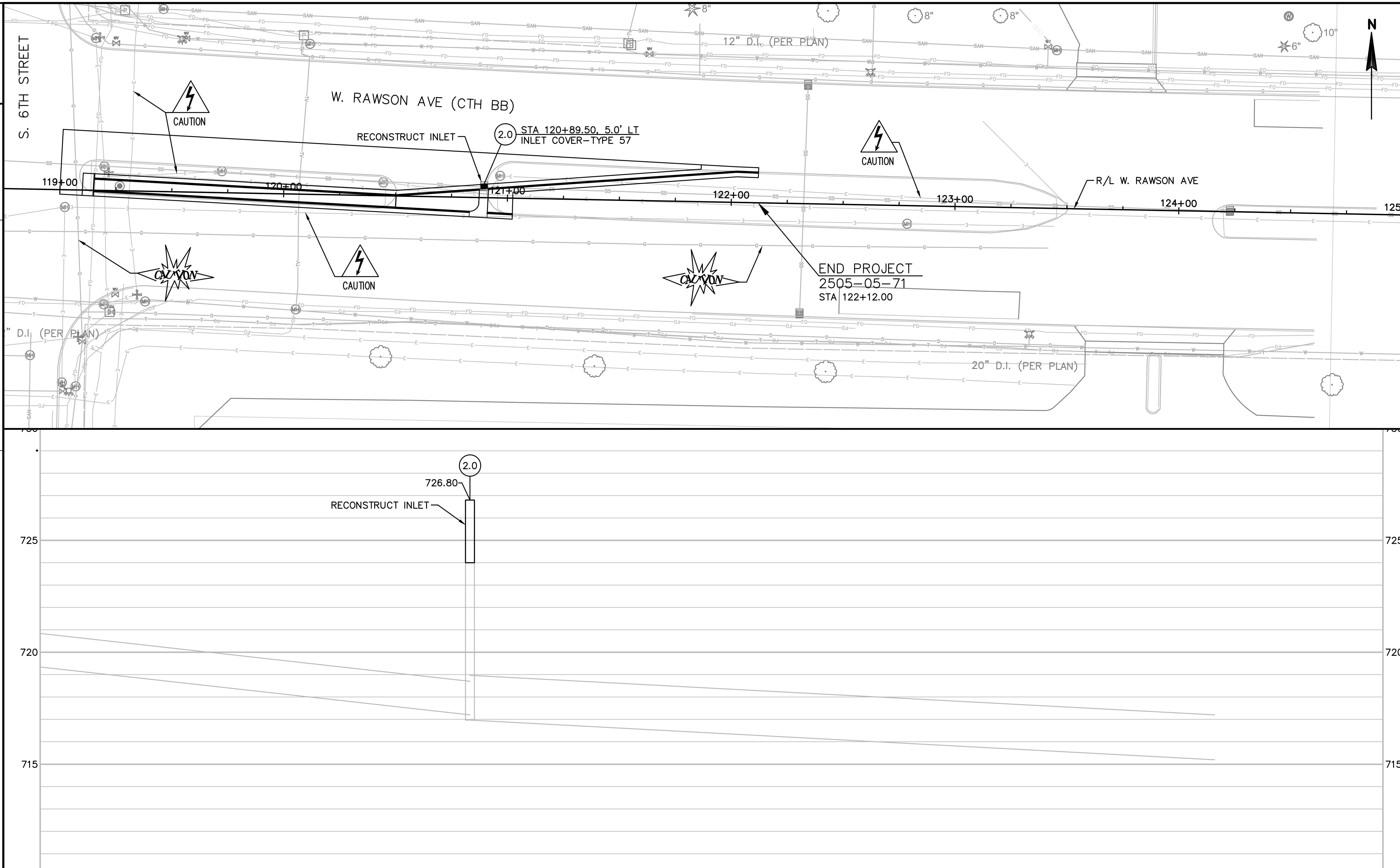




PROJECT NO: 2505-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	STORM SEWER- W. RAWSON AVE	SHEET	E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010-2014\CTH BB - W. RAWSON AVE\2050-05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\2017 PLANS\STM SWR\2505-0571_ HSSJARD, MARC PLOT DATE : 7/5/2017 4:59 PM PLOT BY : PLOT NAME : PLOT SCALE : 1:40_XREF

WISDOT/CADDS SHEET 42



PROJECT NO: 2505-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	STORM SEWER- W. RAWSON AVE	SHEET 20	E

2

S. 10TH STREET

W. RAWSON AVE (CTH BB)

BP: 94+00.00

94+00 95+00 96+00 97+00 98+00 99+00 100

R/L W. RAWSON AVE

BEGIN PROJECT
2050-05-71
STA 99+50.00

GATE

REMOVE NO PARKING R7-1-D 18"X24" 1.01

S 10TH ST M1-94 54"X15" 1.02

R4-7 24"X30" 1.03

STOP R1-1F 36"X36" 1.04

BEGIN LEFT TURN LANE R3-20-L 24"X36" 1.05

REMOVE NO PARKING R7-1-D 18"X24" 1.06

STOP R1-1F 36"X36" 1.07

REMOVE STOP 1.08

W RAWSON AVE M1-94 72"X15" 1.09

N

LEGEND

1. MARKING 4-INCH SKIPS (EPOXY) WHITE, 12.5 FT SKIP, 37.5 FT SPACE
2. MARKING 8-INCH CHANNELIZING (EPOXY) WHITE
3. MARKING ARROW (EPOXY) TYPE 2
4. MARKING WORD (EPOXY)
5. MARKING STOP LINE 18-INCH (EPOXY) WHITE
6. MARKING 4-INCH DROP LINE (EPOXY) WHITE, 3FT LINE, 9 FT GAP
7. MARKING DIAGONAL EPOXY 12-INCH (EPOXY) WHITE

(1.01) SIGN NUMBER

SIGN LOCATION

PROPOSED SIGN BANDED TO UTILITY, LIGHT OR SIGNAL POLE

NOTE: GREYSHADE REPRESENTS EXISTING, REMOVE AS NOTED.

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	SIGNING AND PAVEMENT MARKING	SHEET	E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010-2014\CTH BB - W. RAWSON AVE\2050-05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\FINAL PLANS\12_SIGN-PAV MARK\20500571_PS.DWG

PLOT DATE : 1/10/2018 11:20 AM PLOT BY : MURPHY, DANIEL PLOT NAME : PLOT SCALE : 1" = 40'_XREF

2

LEGEND

1. MARKING 4–INCH SKIPS (EPOXY) WHITE, 12.5 FT SKIP, 37.5 FT SPACE
2. MARKING 8–INCH CHANNELIZING (EPOXY) WHITE
3. MARKING ARROW (EPOXY) TYPE 2
4. MARKING WORD (EPOXY)
5. MARKING STOP LINE 18–INCH (EPOXY) WHITE
6. MARKING 4–INCH DROP LINE (EPOXY) WHITE, 3FT LINE, 9 FT GAP
7. MARKING DIAGONAL EPOXY 12–INCH (EPOXY) WHITE

1.01 SIGN NUMBER

SIGN LOCATION

PROPOSED SIGN BANDED TO UTILITY, LIGHT OR SIGNAL POLE

NOTE: GREYSHADE REPRESENTS EXISTING, REMOVE AS NOTED.

N

2.01 W RAWSON AVE M1–94 72"X15"

2.02 STOP R1–1F 36"X36"

2.03 STOP REMOVE

2.04 NO PARKING ANY TIME R7–1–D 18"X24"

2.05 BEGIN LEFT TURN LANE R3–20–L 24"X36"

PI: 100+00.00

100+00 101+00 102+00 103+00 104+00 105+00 106+00

W. RAWSON AVE (CTH BB)

END CONSTRUCTION
2050–05–71
STA 101+00.00

2.06 R4–7 24"X30"

2.07 STOP R1–1F 36"X36"

2.08 S 10TH ST M1–94 54"X15"

2.09 NO PARKING ANY TIME R7–1–D 18"X24"

2.10 1" Pipe

2.11 SPEED LIMIT 40 R2–1 24"X30"

SPEED LIMIT 40 REMOVE

2.12 1" Pipe

2.13 14'-4" W12–2 36"X36"

14'-4" REMOVE

GAS VAULTS

GATE

CHAIN–LINK FENCE

S. 10TH STREET

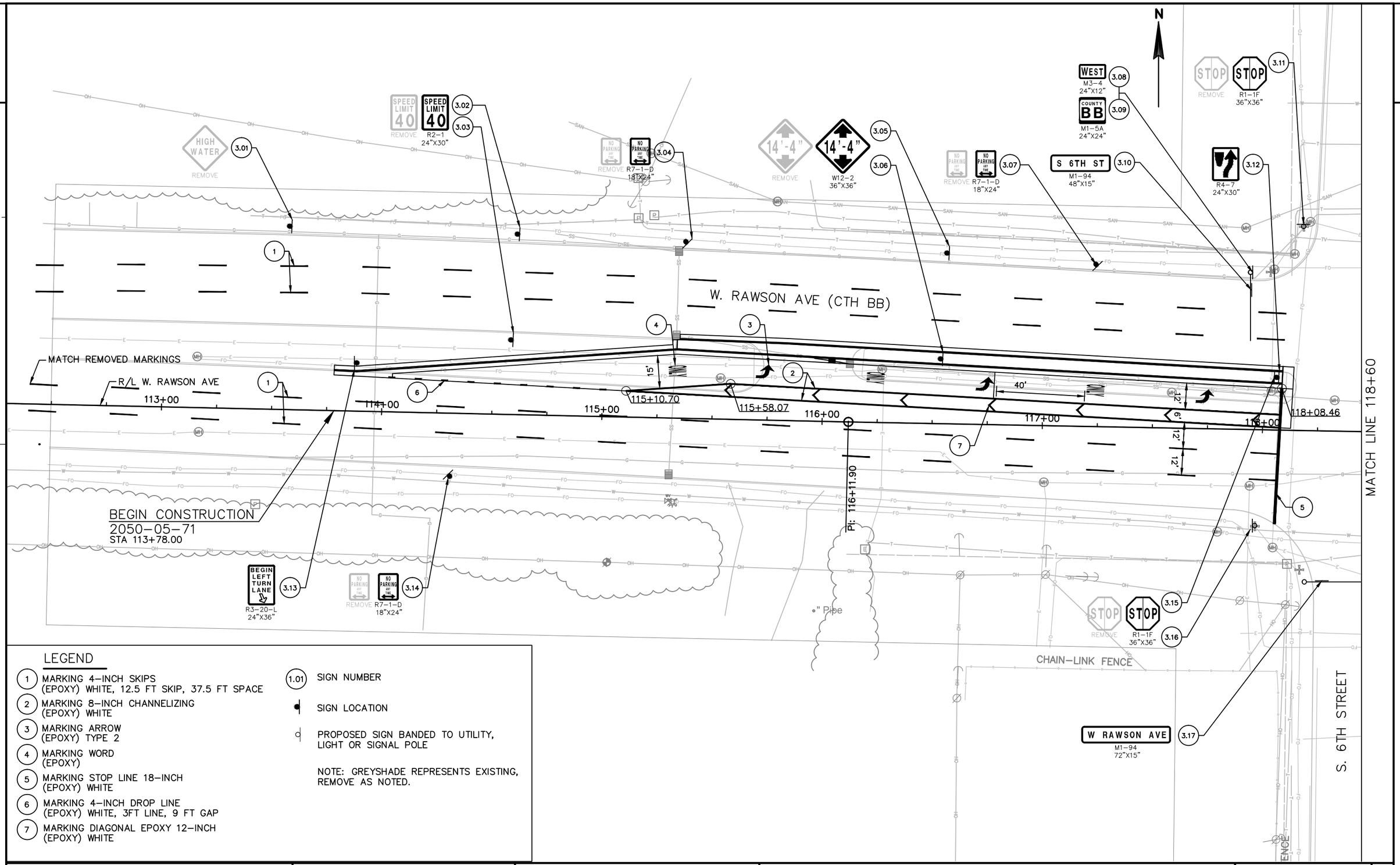
PROJECT NO: 2050–05–71	HWY: CTH BB	COUNTY: MILWAUKEE	SIGNING AND PAVEMENT MARKING	SHEET 22	E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010–2014\CTH BB – W. RAWSON AVE\2050–05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\FINAL PLANS\12_SIGN–PAV MARK\20500571_PS.DWG

PLOT DATE : 1/10/2018 11:20 AM PLOT BY : MURPHY, DANIEL PLOT NAME : PLOT SCALE : 1" = 40'_XREF

WISDOT/CADDS SHEET 42

2



LEGEND

1. MARKING 4-INCH SKIPS (EPOXY) WHITE, 12.5 FT SKIP, 37.5 FT SPACE
2. MARKING 8-INCH CHANNELIZING (EPOXY) WHITE
3. MARKING ARROW (EPOXY) TYPE 2
4. MARKING WORD (EPOXY)
5. MARKING STOP LINE 18-INCH (EPOXY) WHITE
6. MARKING 4-INCH DROP LINE (EPOXY) WHITE, 3FT LINE, 9 FT GAP
7. MARKING DIAGONAL EPOXY 12-INCH (EPOXY) WHITE

(1.01) SIGN NUMBER

SIGN LOCATION

PROPOSED SIGN BANDED TO UTILITY, LIGHT OR SIGNAL POLE

NOTE: GREYSHADE REPRESENTS EXISTING, REMOVE AS NOTED.

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	SIGNING AND PAVEMENT MARKING	SHEET 23	E

2

N

S. 6TH STREET

MATCH LINE 118+60

4.01 STOP R1-1F 36"X36" — STOP REMOVE

4.02 R4-7 24"X30" — REMOVE

4.03 W RAWSON AVE M1-94 72"X15"

4.04 STOP R1-1F 36"X36" — STOP REMOVE

4.05

4.06 NO PARKING ANY TIME R7-1-D 18"X24"

4.07 BEGIN LEFT TURN LANE R3-20-L 24"X36"

W. RAWSON AVE (CTH BB)

MATCH REMOVED MARKINGS

R/L W. RAWSON AVE

119+00 119+15.28 120+00 120+25.71 120+81.49 121+00 122+00 123+00 124+00

40' 12' 12' 7' 12' 15'

END PROJECT
2050-05-71
STA 122+12.00

4.08 STOP R1-1F 36"X36" — STOP REMOVE

4.09 R4-7 24"X30" — REMOVE

4.10 STOP R1-1F 36"X36" — STOP REMOVE

4.11 R4-7 24"X30" — REMOVE

4.12 EAST M3-2 24"X12"

4.13 COUNTY BB M1-5A 24"X24"

4.14 S 6TH ST M1-94 48"X15"

4.15 SPEED LIMIT 40 R2-1 24"X30"

4.16

4.17 NO PARKING ANY TIME R7-1-D 18"X24" — NO PARKING ANY TIME REMOVE

LEGEND

1. MARKING 4-INCH SKIPS (EPOXY) WHITE, 12.5 FT SKIP, 37.5 FT SPACE
2. MARKING 8-INCH CHANNELIZING (EPOXY) WHITE
3. MARKING ARROW (EPOXY) TYPE 2
4. MARKING WORD (EPOXY)
5. MARKING STOP LINE 18-INCH (EPOXY) WHITE
6. MARKING 4-INCH DROP LINE (EPOXY) WHITE, 3FT LINE, 9 FT GAP
7. MARKING DIAGONAL EPOXY 12-INCH (EPOXY) WHITE

(1.01) SIGN NUMBER

SIGN LOCATION

PROPOSED SIGN BANDED TO UTILITY, LIGHT OR SIGNAL POLE

NOTE: GREYSHADE REPRESENTS EXISTING, REMOVE AS NOTED.

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	SIGNING AND PAVEMENT MARKING	SHEET 24	E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010-2014\CTH BB - W. RAWSON AVE\2050-05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\FINAL PLANS\12_SIGN-PAV MARK\20500571_PS.DWG

PLOT DATE : 1/10/2018 11:20 AM PLOT BY : MURPHY, DANIEL PLOT NAME : PLOT SCALE : 1" = 40'_XREF

WISDOT/CADDS SHEET 42

2

LEGEND

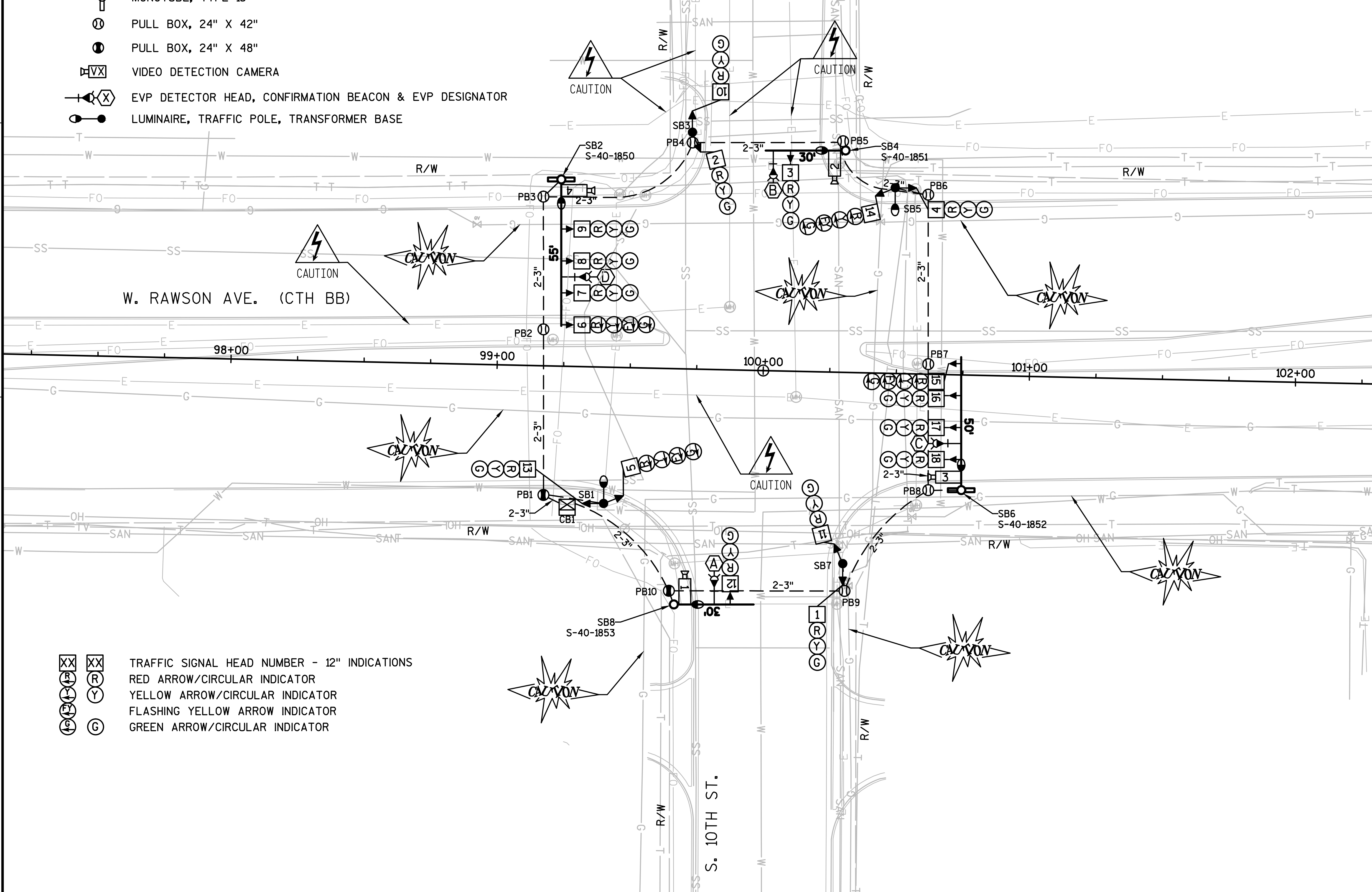
- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE, TYPE 10
- (XX) MONOTUBE, TYPE 13
- PULL BOX, 24" X 42"
- PULL BOX, 24" X 48"
- VX VIDEO DETECTION CAMERA
- X EVP DETECTOR HEAD, CONFIRMATION BEACON & EVP DESIGNATOR
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE

NOTES:
1) BOLD REPRESENTS PROPOSED. GREYSHADE REPRESENTS EXISTING.

2) FINAL LOCATION OF ALL EQUIPMENT TO BE APPROVED BY THE ENGINEER.

N

2



- XX XX TRAFFIC SIGNAL HEAD NUMBER - 12" INDICATIONS
- R R RED ARROW/CIRCULAR INDICATOR
- Y Y YELLOW ARROW/CIRCULAR INDICATOR
- FY FLASHING YELLOW ARROW INDICATOR
- G G GREEN ARROW/CIRCULAR INDICATOR

REVISION	
REHAB INTERSECTION	
REV. NO. 1	REV. BY

TRAFFIC CONTROL SIGNAL

W. RAWSON AVE. (CTH BB) &
S. 10TH ST.
CITY OF OAK CREEK
MILWAUKEE COUNTY

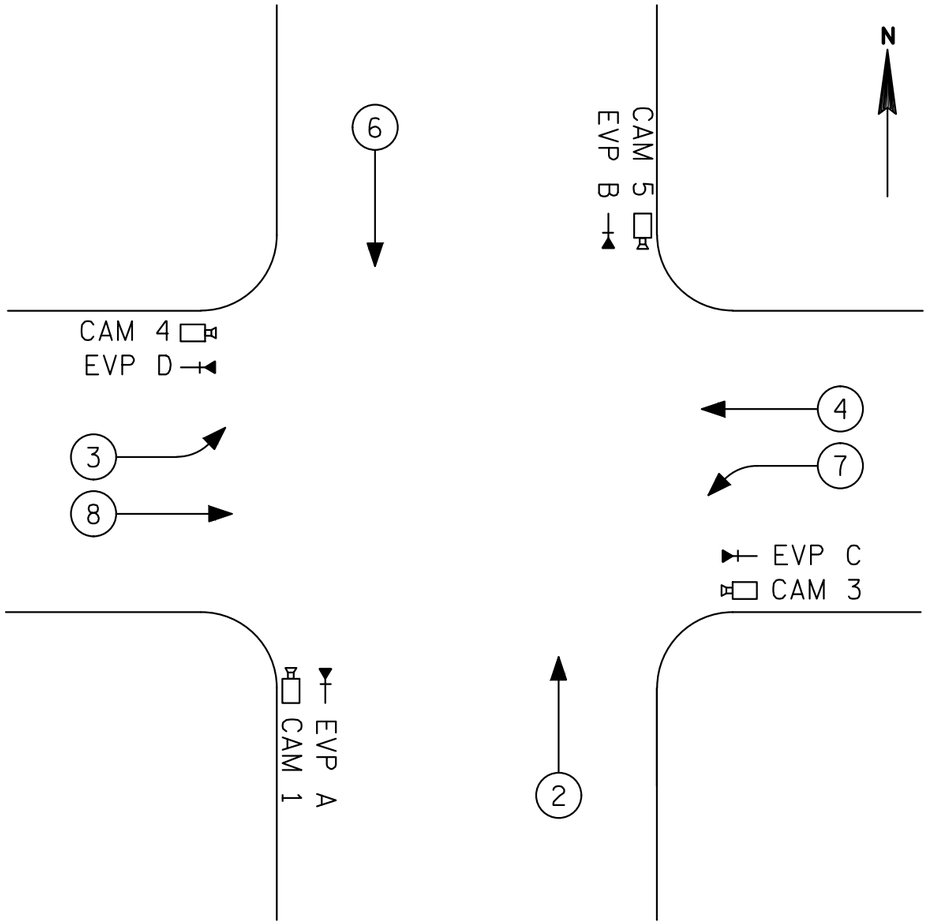
SIGNAL NO. MC075

MILWAUKEE COUNTY DOT

PAGE 1 OF 3

PROJECT NO:2050-05-71	HWY:CTH BB	COUNTY:MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET	E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010-2014\CTH BB - W. RAWSON AVE\2050-05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\28-DAY PLANS\13_TRAF SIG\BB_10-SIG.DWG PLOT DATE : 9/25/2017 11:32 AM PLOT BY : MASTERS, ANDREA PLOT NAME : PLOT SCALE : 1" = 40'_XREF



PHASES				OVERLAPS		
PHASE	VEHICLE	LEFT TURN TYPE	PED	OVLP	INCLUDES	OUTPUT
1				A		13
2	X		X	B		14
3	X	FYA		C		15
4	X		X	D		16
5				E		9 Y
6	X		X	F	3 FY	10 Y
7	X	FYA		G		11 Y
8	X		X	H	7 FY	12 Y

COMMUNICATION	
ETHERNET SWITCH	X
SM FIBER	X
MM FIBER	
5.8 GHZ RADIO	
900 MHZ ETHERNET RADIO	
900 MHZ SERIAL RADIO	
ETHERNET OVER COPPER	

PRE-EMPTION	
EMERGENCY VEHICLE	X
CONFIRMATION BEACONS	X
RAILROAD	

AUXILARY EQUIPMENT	
LIGHTING FROM CABINET	
BATTERY BACKUP	
PTZ CAMERA	
AUDIBLE PEDESTRIAN HEADS	
AUDIBLE PEDESTRIAN BUTTONS	

REV. NO. 1	REV. DATE
TYPE: 16 CHANNEL	

TRAFFIC CONTROL SIGNAL

CTH BB (W. RAWSON AVE.) &
S. 10TH ST.
CITY OF OAK CREEK
MILWAUKEE COUNTY

SIGNAL NO. MC075

MILWAUKEE COUNTY DOT

PAGE 2 OF 3

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET	E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010-2014\CTH BB - W. RAWSON AVE\2050-05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\28-DAY PLANS\13_TRAF SIG\BB_10-SIG.DWG PLOT DATE : 9/25/2017 11:32 AM PLOT BY : MASTERS, ANDREA PLOT NAME : PLOT SCALE : ********** WISDOT/CADDS SHEET 42

PROJECT ID:	2050-05-71
INTERSECTION:	CTH BB & 10TH ST

SIGNAL WIRE COLOR CODING	BLK-BLACK	RED-RED	GRN-GREEN
	WHT-WHITE	BLU-BLUE	ORG-ORANGE

CB1 TO	# OF COND.	HEAD NO.	PHASE	SIGNAL INDICATION WIRE COLOR									PED BUTTON
				RED	YELLOW	GREEN	<RED>	<YELLOW>	<FL YLW>	<GREEN>	D/WALK	WALK	
SB1	12	5	8	RED	ORG	GRN							
		13	7				RED/BLK	ORG/BLK	BLU/BLK	GRN/BLK			
SB2	12	7	4	RED	ORG	GRN							
		8	4	RED	ORG	GRN							
		9	4	RED	ORG	GRN							
		6	7				RED/BLK	ORG/BLK	BLU/BLK	GRN/BLK			
SB3	12	2	2	RED	ORG	GRN							
		10	6	RED/BLK	ORG/BLK	GRN/BLK							
SB4	12	3	2	RED	ORG	GRN							
SB5	12	4	4	RED	ORG	GRN							
		14	3				RED/BLK	ORG/BLK	BLU/BLK	GRN/BLK			
SB6	12	16	8	RED	ORG	GRN							
		17	8	RED	ORG	GRN							
		18	8	RED	ORG	GRN							
		16	3				RED/BLK	ORG/BLK	BLU/BLK	GRN/BLK			
SB7	12	1	2	RED	ORG	GRN							
		11	6	RED/BLK	ORG/BLK	GRN/BLK							
SB8	12	12	6	RED	ORG	GRN							

NOTES:

1. DO NOT USE THE WHITE CONDUCTOR IN THE SIGNAL CABLE AS THE GROUNDED CONDUCTOR FOR SIGNAL INDICATIONS.
2. ENSURE THE GROUNDED CONDUCTOR IN THE FEEDER CABLE AND THE POLE CABLES ARE BOTH 18" LONGER THAN THE UNGROUNDED CONDUCTORS.

REV. NO. 1	REV. DATE
TYPE: 16 CHANNEL	

TRAFFIC CONTROL SIGNAL

CTH BB (W. RAWSON AVE.) &
S. 10TH ST.
CITY OF OAK CREEK
MILWAUKEE COUNTY

SIGNAL NO. MC075

MILWAUKEE COUNTY DOT

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET 27	E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010-2014\CTH BB - W. RAWSON AVE\2050-05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\28-DAY PLANS\13_TRAF SIG\BB_10-SIG.DWG PLOT DATE : 9/25/2017 11:32 AM PLOT BY : MASTERS, ANDREA PLOT NAME : PLOT SCALE : ********** WISDOT/CADDS SHEET 42

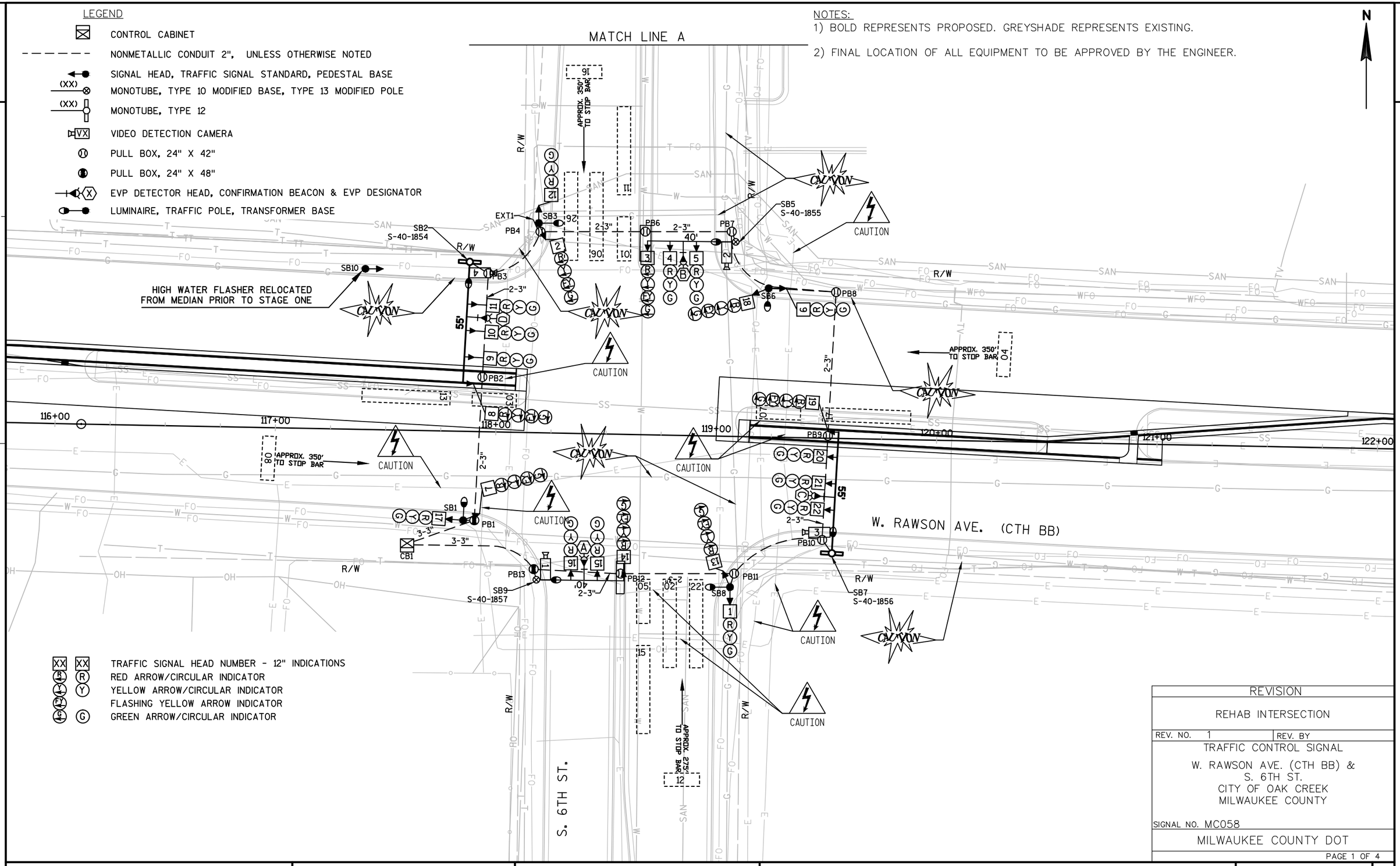
LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE, TYPE 10 MODIFIED BASE, TYPE 13 MODIFIED POLE
- (XX) MONOTUBE, TYPE 12
- VX VIDEO DETECTION CAMERA
- PULL BOX, 24" X 42"
- PULL BOX, 24" X 48"
- EVP DETECTOR HEAD, CONFIRMATION BEACON & EVP DESIGNATOR
- LUMINAIRE, TRAFFIC POLE, TRANSFORMER BASE

NOTES:

1) BOLD REPRESENTS PROPOSED. GREYSHADE REPRESENTS EXISTING.

2) FINAL LOCATION OF ALL EQUIPMENT TO BE APPROVED BY THE ENGINEER.



XX TRAFFIC SIGNAL HEAD NUMBER - 12" INDICATIONS

R RED ARROW/CIRCULAR INDICATOR

Y YELLOW ARROW/CIRCULAR INDICATOR

A FLASHING YELLOW ARROW INDICATOR

G GREEN ARROW/CIRCULAR INDICATOR

REVISION
REHAB INTERSECTION
REV. NO. 1 — REV. BY

TRAFFIC CONTROL SIGNAL

W. RAWSON AVE. (CTH BB) &
S. 6TH ST.
CITY OF OAK CREEK
MILWAUKEE COUNTY

SIGNAL NO. MC058

MILWAUKEE COUNTY DOT

PAGE 1 OF 4

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET 28 E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010-2014\CTH BB - W. RAWSON AVE\2050-05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\28-DAY PLANS\13_TRAF SIG\BB_6-SIG.DWG

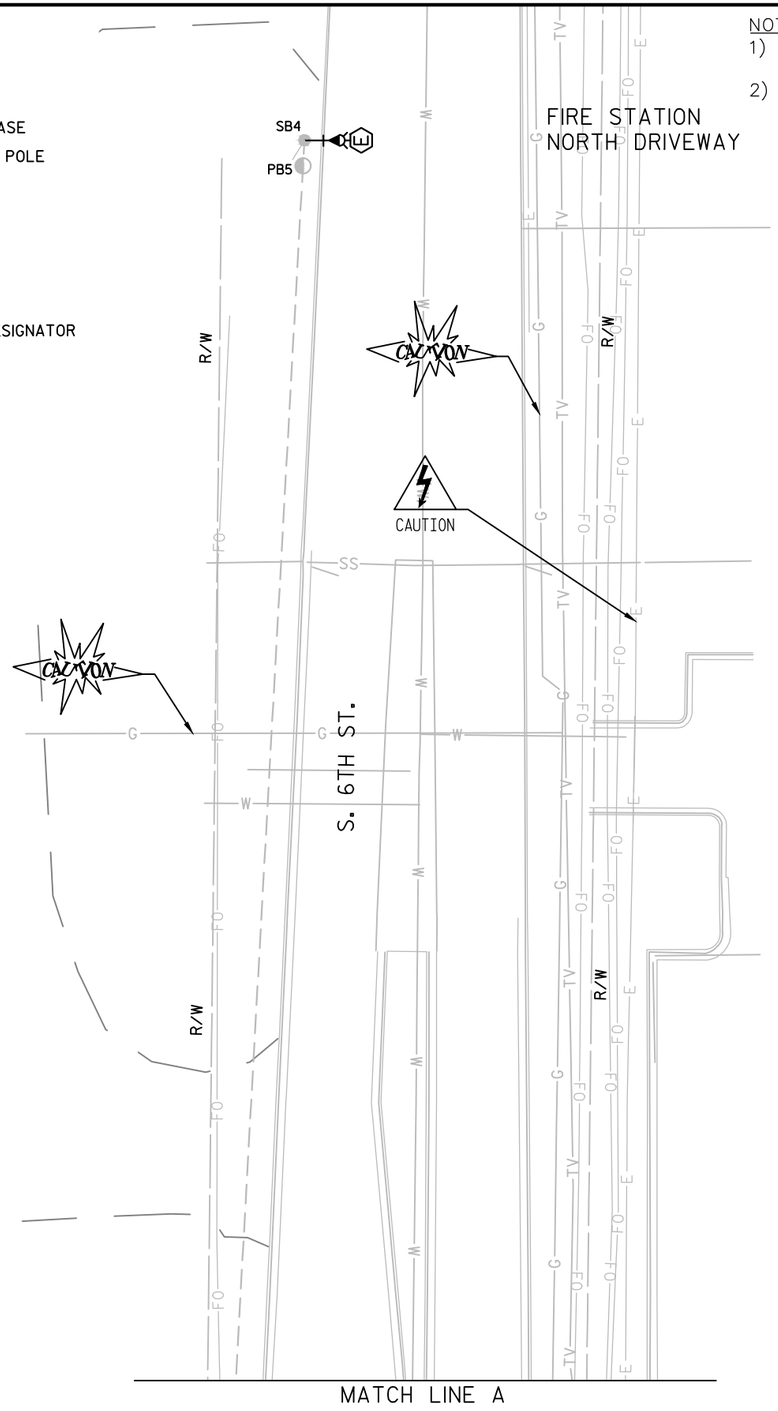
PLOT DATE : 9/25/2017 11:45 AM PLOT BY : MASTERS, ANDREA PLOT NAME : PLOT SCALE : 1" = 40'_XREF

WISDOT/CADDS SHEET 42

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- (XX) MONOTUBE, TYPE 10 MODIFIED BASE, TYPE 13 MODIFIED POLE
- (XX) MONOTUBE, TYPE 12
- VX VIDEO DETECTION CAMERA
- PULL BOX, 24" X 42"
- PULL BOX, 24" X 48"
- EVP DETECTOR HEAD, CONFIRMATION BEACON & EVP DESIGNATOR

NOTES:
1) BOLD REPRESENTS PROPOSED. GREYSHADE REPRESENTS EXISTING.
2) FINAL LOCATION OF ALL EQUIPMENT TO BE APPROVED BY THE ENGINEER.



- XX XX TRAFFIC SIGNAL HEAD NUMBER - 12" INDICATIONS
- (R) RED ARROW/CIRCULAR INDICATOR
- (Y) YELLOW ARROW/CIRCULAR INDICATOR
- FLASHING YELLOW ARROW INDICATOR
- (G) GREEN ARROW/CIRCULAR INDICATOR

TRAFFIC CONTROL SIGNAL

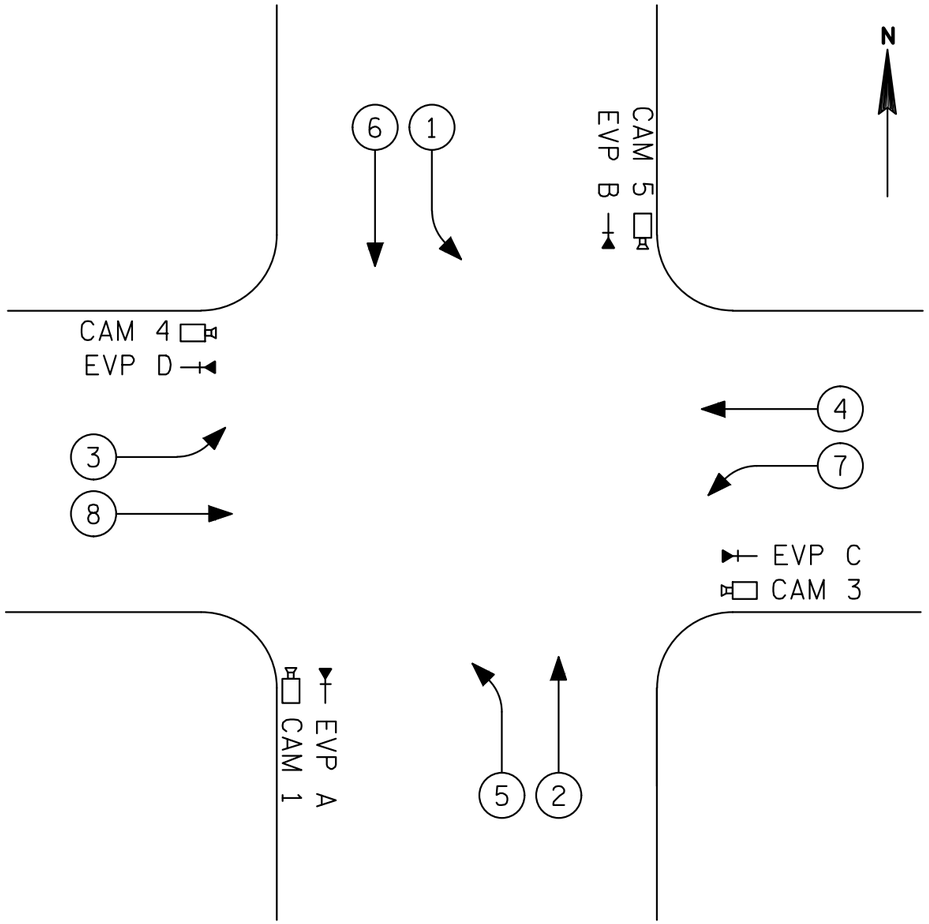
W. RAWSON AVE. (CTH BB) &
S. 6TH ST.
CITY OF OAK CREEK
MILWAUKEE COUNTY

SIGNAL NO. MC058

MILWAUKEE COUNTY DOT

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET 29 E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010-2014\CTH BB - W. RAWSON AVE\2050-05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\28-DAY PLANS\13_TRAF SIG\BB_6-SIG.DWG
PLOT DATE : 9/25/2017 11:45 AM
PLOT BY : MASTERS, ANDREA
PLOT NAME :
PLOT SCALE : 1" = 40'_XREF
WISDOT/CADDS SHEET 42



PHASES				OVERLAPS		
PHASE	VEHICLE	LEFT TURN TYPE	PED	OVLP	INCLUDES	OUTPUT
1	X	FYA		A		13
2	X		X	B		14
3	X	FYA		C		15
4	X		X	D		16
5	X	FYA		E	1 FY	9 Y
6	X		X	F	3 FY	10 Y
7	X	FYA		G	5 FY	11 Y
8	X		X	H	7 FY	12 Y

COMMUNICATION	
ETHERNET SWITCH	X
SM FIBER	X
MM FIBER	
5.8 GHZ RADIO	
900 MHZ ETHERNET RADIO	
900 MHZ SERIAL RADIO	
ETHERNET OVER COPPER	

PRE-EMPTION	
EMERGENCY VEHICLE	X
CONFIRMATION BEACONS	X
RAILROAD	

AUXILARY EQUIPMENT	
LIGHTING FROM CABINET	
BATTERY BACKUP	
PTZ CAMERA	
AUDIBLE PEDESTRIAN HEADS	
AUDIBLE PEDESTRIAN BUTTONS	

REV. NO. 1 | REV. DATE

TYPE: 16 CHANNEL

TRAFFIC CONTROL SIGNAL

CTH BB (W. RAWSON AVE.) &
S. 6th ST.
CITY OF OAK CREEK
MILWAUKEE COUNTY

SIGNAL NO. MC058

MILWAUKEE COUNTY DOT

PAGE 3 OF 4

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET	E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010-2014\CTH BB - W. RAWSON AVE\2050-05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\28-DAY PLANS\13_TRAF SIG\BB_6-SIG.DWG

PLOT DATE : 9/25/2017 11:45 AM PLOT BY : MASTERS, ANDREA PLOT NAME : PLOT SCALE : **********

WISDOT/CADDS SHEET 42

PROJECT ID:	2160-01-72
INTERSECTION:	CTH BB & 6TH ST

SIGNAL WIRE COLOR CODING	BLK-BLACK	RED-RED	GRN-GREEN
	WHT-WHITE	BLU-BLUE	ORG-ORANGE

CB1 TO	# OF COND.	HEAD NO.	PHASE	SIGNAL INDICATION WIRE COLOR									PED BUTTON
				RED	YELLOW	GREEN	<RED>	<YELLOW>	<FL YLW>	<GREEN>	D/WALK	WALK	
SB1	12	17	8	RED	ORG	GRN							
		7	7				RED/BLK	ORG/BLK	BLU/BLK	GRN/BLK			
SB2	12	9	4	RED	ORG	GRN							
		10	4	RED	ORG	GRN							
		11	4	RED	ORG	GRN							
		8	7				RED/BLK	ORG/BLK	BLU/BLK	GRN/BLK			
SB3	12	12	6	RED	ORG	GRN							
		2	5				RED/BLK	ORG/BLK	BLU/BLK	GRN/BLK			
SB5	12	4	2	RED	ORG	GRN							
		5	2	RED	ORG	GRN							
		3	5				RED/BLK	ORG/BLK	BLU/BLK	GRN/BLK			
SB6	12	6	4	RED	ORG	GRN							
		18	3				RED/BLK	ORG/BLK	BLU/BLK	GRN/BLK			
SB7	12	20	8	RED	ORG	GRN							
		21	8	RED	ORG	GRN							
		22	8	RED	ORG	GRN							
		19	3				RED/BLK	ORG/BLK	BLU/BLK	GRN/BLK			
SB8	12	1	2	RED	ORG	GRN							
		13	1				RED/BLK	ORG/BLK	BLU/BLK	GRN/BLK			
SB9	12	15	6	RED	ORG	GRN							
		16	6	RED	ORG	GRN							
		14	1				RED/BLK	ORG/BLK	BLU/BLK	GRN/BLK			

NOTES:

1. DO NOT USE THE WHITE CONDUCTOR IN THE SIGNAL CABLE AS THE GROUNDED CONDUCTOR FOR SIGNAL INDICATIONS.
2. ENSURE THE GROUNDED CONDUCTOR IN THE FEEDER CABLE AND THE POLE CABLES ARE BOTH 18" LONGER THAN THE UNGROUNDED CONDUCTORS.

REV. NO. 1	REV. DATE
TYPE: 16 CHANNEL	

TRAFFIC CONTROL SIGNAL

CTH BB (W. RAWSON AVE.) &
S. 6th ST.
CITY OF OAK CREEK
MILWAUKEE COUNTY

SIGNAL NO. MC058

MILWAUKEE COUNTY DOT

PAGE 4 OF 4

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	TRAFFIC SIGNAL PLAN	SHEET 31	E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010-2014\CTH BB - W. RAWSON AVE\2050-05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\28-DAY PLANS\13_TRAF SIG\BB_6-SIG.DWG PLOT DATE : 9/25/2017 11:45 AM PLOT BY : MASTERS, ANDREA PLOT NAME : PLOT SCALE : **********

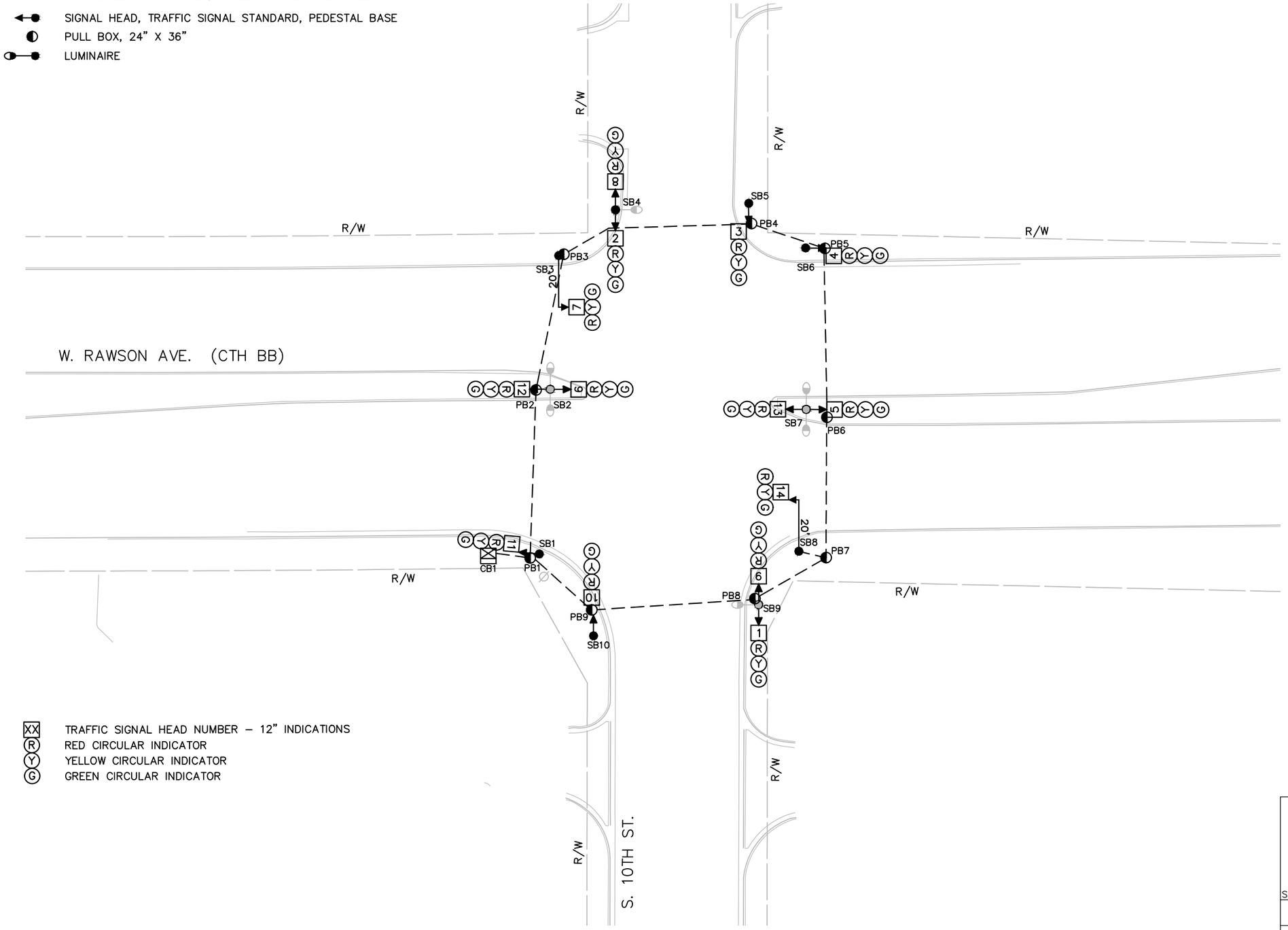
WISDOT/CADDS SHEET 42

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- PULL BOX, 24" X 36"
- LUMINAIRE

NOTES:
1) BOLD REPRESENTS REMOVALS. GREYSHADE REPRESENTS EQUIPMENT TO REMAIN.

N



XX TRAFFIC SIGNAL HEAD NUMBER – 12" INDICATIONS
R RED CIRCULAR INDICATOR
Y YELLOW CIRCULAR INDICATOR
G GREEN CIRCULAR INDICATOR

TRAFFIC CONTROL SIGNAL REMOVAL
W. RAWSON AVE. (CTH BB) &
S. 10TH ST.
CITY OF OAK CREEK
MILWAUKEE COUNTY

SIGNAL NO. MC075

MILWAUKEE COUNTY DOT

PAGE 1 OF 1

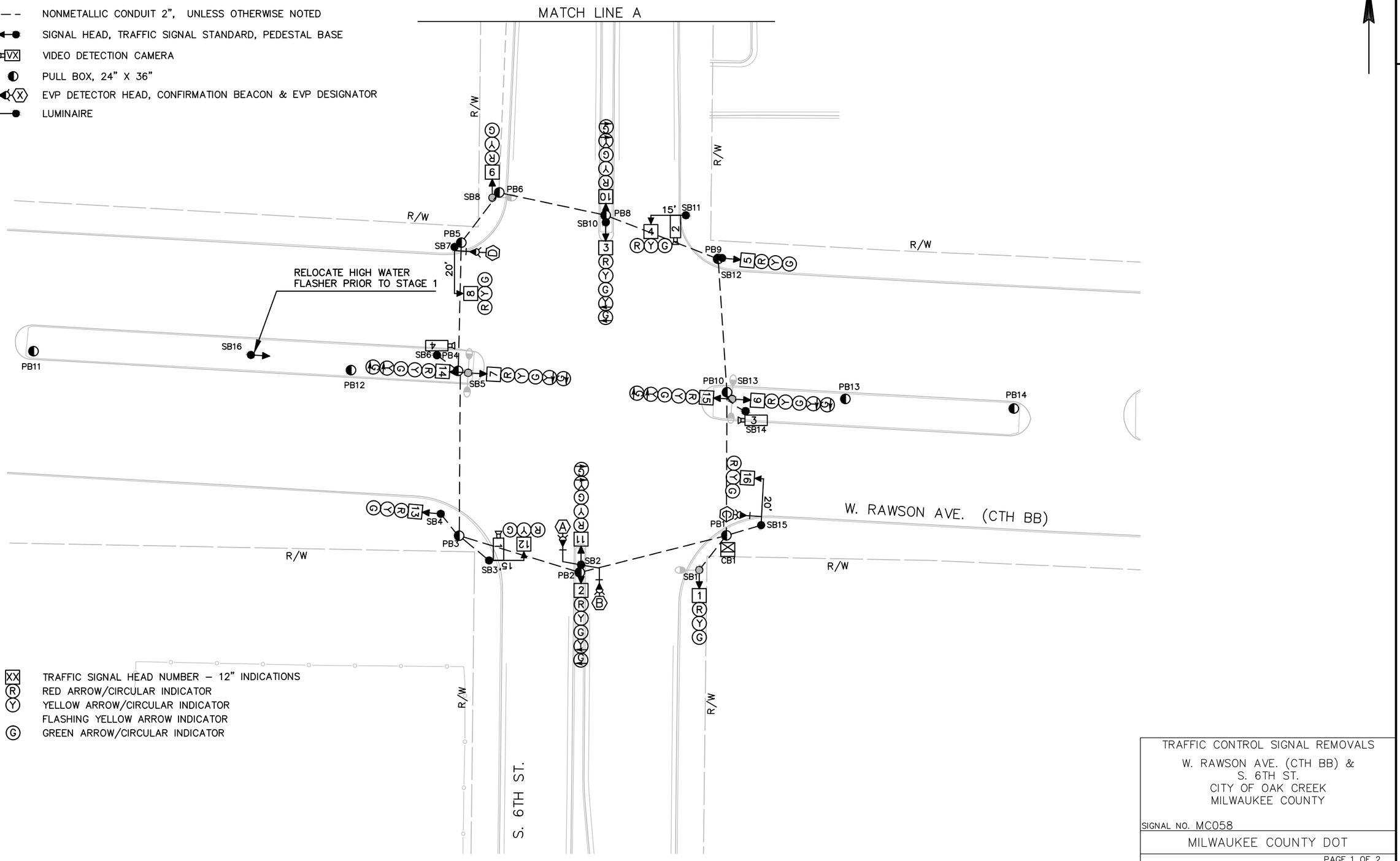
PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 32 E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010-2014\CTH BB - W. RAWSON AVE\2050-05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\90% PLANS\13_TRAF SIG REMOV\BB_10-SR.DWG
PLOT DATE : 7/31/2017 9:21 AM
PLOT BY : MURPHY, DANIEL
PLOT NAME :
PLOT SCALE : 1" = 40'_XREF

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- VIDEO DETECTION CAMERA
- PULL BOX, 24" X 36"
- EVP DETECTOR HEAD, CONFIRMATION BEACON & EVP DESIGNATOR
- LUMINAIRE

NOTES:
1) BOLD REPRESENTS REMOVALS. GREYSHADE REPRESENTS EQUIPMENT TO REMAIN.



- TRAFFIC SIGNAL HEAD NUMBER – 12" INDICATIONS
- RED ARROW/CIRCULAR INDICATOR
- YELLOW ARROW/CIRCULAR INDICATOR
- FLASHING YELLOW ARROW INDICATOR
- GREEN ARROW/CIRCULAR INDICATOR

TRAFFIC CONTROL SIGNAL REMOVALS

W. RAWSON AVE. (CTH BB) &
S. 6TH ST.
CITY OF OAK CREEK
MILWAUKEE COUNTY

SIGNAL NO. MC058

MILWAUKEE COUNTY DOT

PAGE 1 OF 2

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 33 E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010-2014\CTH BB - W. RAWSON AVE\2050-05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\FINAL PLANS\13_TRAF SIG REMOV\BB_6-SR.DWG

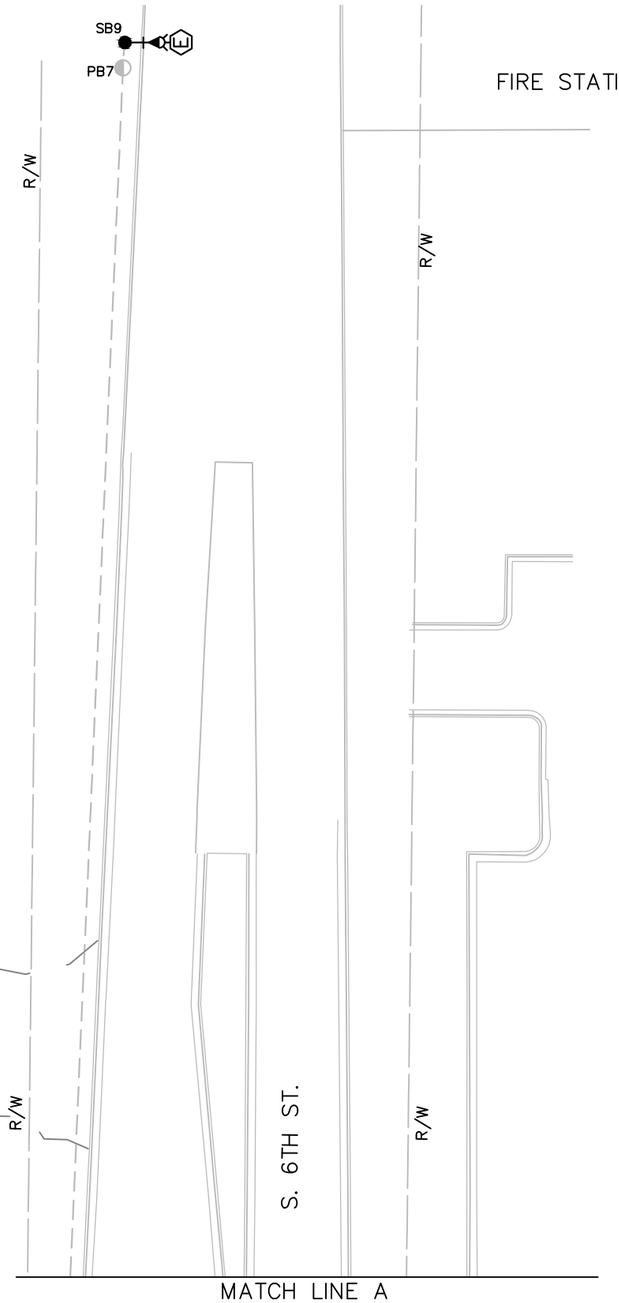
PLOT DATE : 10/31/2017 8:16 AM PLOT BY : MURPHY, DANIEL PLOT NAME : PLOT SCALE : 1" = 40'_XREF

WISDOT/CADDS SHEET 42

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- SIGNAL HEAD, TRAFFIC SIGNAL STANDARD, PEDESTAL BASE
- VIDEO DETECTION CAMERA
- PULL BOX, 24" X 36"
- EVP DETECTOR HEAD, CONFIRMATION BEACON & EVP DESIGNATOR

NOTES:
1) BOLD REPRESENTS REMOVALS. GREYSHADE REPRESENTS EQUIPMENT TO REMAIN.



- TRAFFIC SIGNAL HEAD NUMBER – 12" INDICATIONS
- RED ARROW/CIRCULAR INDICATOR
- YELLOW ARROW/CIRCULAR INDICATOR
- FLASHING YELLOW ARROW INDICATOR
- GREEN ARROW/CIRCULAR INDICATOR

TRAFFIC CONTROL SIGNAL REMOVALS

W. RAWSON AVE. (CTH BB) &
S. 6TH ST.
CITY OF OAK CREEK
MILWAUKEE COUNTY

SIGNAL NO. MC058

MILWAUKEE COUNTY DOT

PAGE 2 OF 2

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	TRAFFIC SIGNAL REMOVAL PLAN	SHEET 34	E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010-2014\CTH BB - W. RAWSON AVE\2050-05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\90% PLANS\13_TRAF SIG REMOV\BB_6-SR.DWG

PLOT DATE : 7/31/2017 9:51 AM PLOT BY : MURPHY, DANIEL PLOT NAME : PLOT SCALE : 1" = 40'_XREF

WISDOT/CADDS SHEET 42

LEGEND

OVERHEAD TRAFFIC SIGNAL WIRE

WOOD POLE OR OVERHEAD SPAN MOUNTED

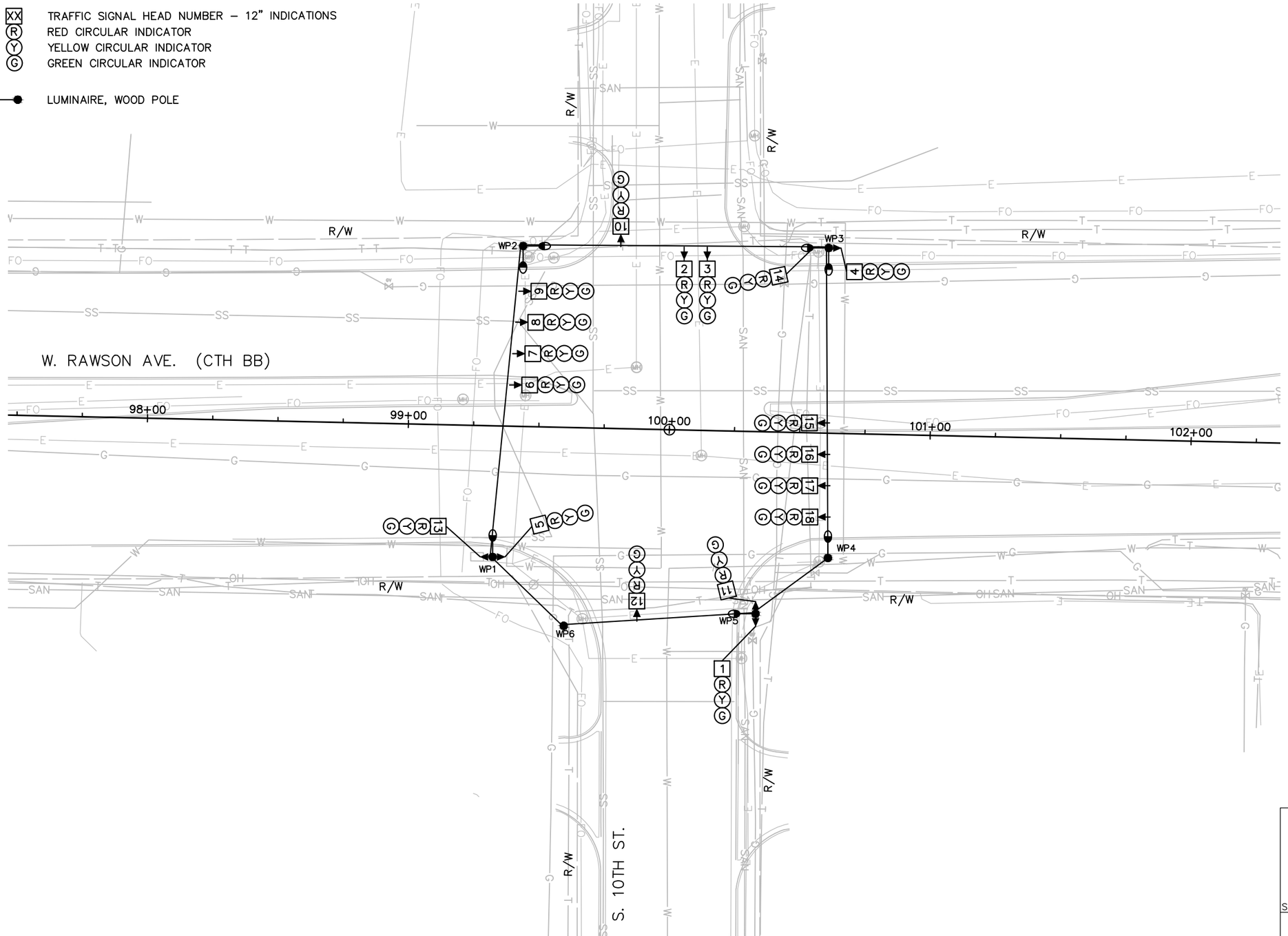
XX TRAFFIC SIGNAL HEAD NUMBER – 12" INDICATIONS
R RED CIRCULAR INDICATOR
Y YELLOW CIRCULAR INDICATOR
G GREEN CIRCULAR INDICATOR

LUMINAIRE, WOOD POLE

NOTES:
1) BOLD REPRESENTS PROPOSED. GREYSHADE REPRESENTS EXISTING.

2) FINAL LOCATION OF ALL EQUIPMENT TO BE APPROVED BY THE ENGINEER.

N



TEMPORARY TRAFFIC CONTROL SIGNAL
W. RAWSON AVE. (CTH BB) &
S. 10TH ST.
CITY OF OAK CREEK
MILWAUKEE COUNTY

SIGNAL NO. MC075

MILWAUKEE COUNTY DOT

PAGE 1 OF 1

PROJECT NO: 2050–05–71	HWY: CTH BB	COUNTY: MILWAUKEE	TEMPORARY TRAFFIC SIGNAL PLAN	SHEET 35	E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010–2014\CTH BB – W. RAWSON AVE\2050–05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\90% PLANS\14_TEMP SIG\BB_10–TEMPSIG.DWG

PLOT DATE : 7/31/2017 9:25 AM PLOT BY : MURPHY, DANIEL PLOT NAME : PLOT SCALE : 1" = 40'_XREF

WISDOT/CADDS SHEET 42

LEGEND

OVERHEAD TRAFFIC SIGNAL WIRE

WOOD POLE OR OVERHEAD SPAN MOUNTED

TRAFFIC SIGNAL HEAD NUMBER – 12" INDICATIONS

RED ARROW/CIRCULAR INDICATOR

YELLOW ARROW/CIRCULAR INDICATOR

FLASHING YELLOW ARROW INDICATOR

GREEN ARROW/CIRCULAR INDICATOR

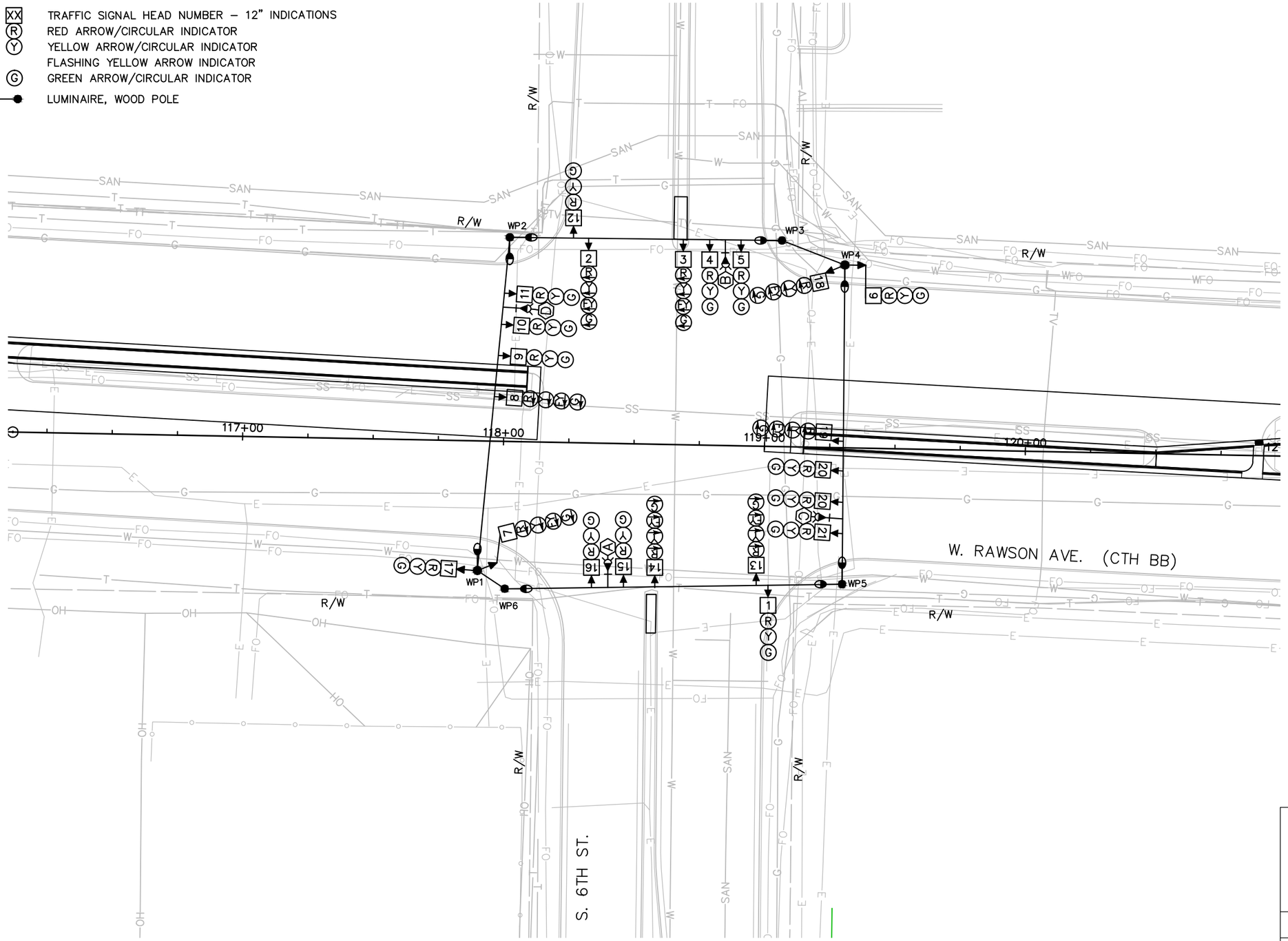
LUMINAIRE, WOOD POLE

NOTES:

1) BOLD REPRESENTS PROPOSED. GREYSHADE REPRESENTS EXISTING.

2) FINAL LOCATION OF ALL EQUIPMENT TO BE APPROVED BY THE ENGINEER.

N



TEMPORARY TRAFFIC CONTROL SIGNAL

W. RAWSON AVE. (CTH BB) &
S. 6TH ST.
CITY OF OAK CREEK
MILWAUKEE COUNTY

MILWAUKEE COUNTY DOT

PAGE 1 OF 1

PROJECT NO: 2050–05–71	HWY: CTH BB	COUNTY: MILWAUKEE	TEMPORARY TRAFFIC SIGNAL PLAN	SHEET 36	E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010–2014\CTH BB – W. RAWSON AVE\2050–05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\90% PLANS\14_TEMP SIG\BB_6–TEMPSIG.DWG

PLOT DATE : 7/31/2017 9:38 AM PLOT BY : MURPHY, DANIEL PLOT NAME : PLOT SCALE : 1" = 40'_XREF

WISDOT/CADDS SHEET 42

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- CIRCULAR COMMUNICATION VAULT, 36" X 42"
- COMMUNICATION VAULT, 24" X 36"

NOTES:

1) BOLD REPRESENTS PROPOSED. GREYSHADE REPRESENTS EXISTING.

2) FINAL LOCATION OF ALL EQUIPMENT TO BE APPROVED BY THE ENGINEER.

N

W. RAWSON AVE. (CTH BB)

PULL EXISTING FIBER BACK TO THIS VAULT
INSTALL CONDUIT INTO EXISTING VAULT

CV1

PI: 100+00.00

97+00 98+00 99+00 100+00 101+00 102+00

NONMETALLIC CONDUIT 2" SPECIAL

CV2

R/W

S. 10TH ST.

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	COMMUNICATIONS PLAN	SHEET	E

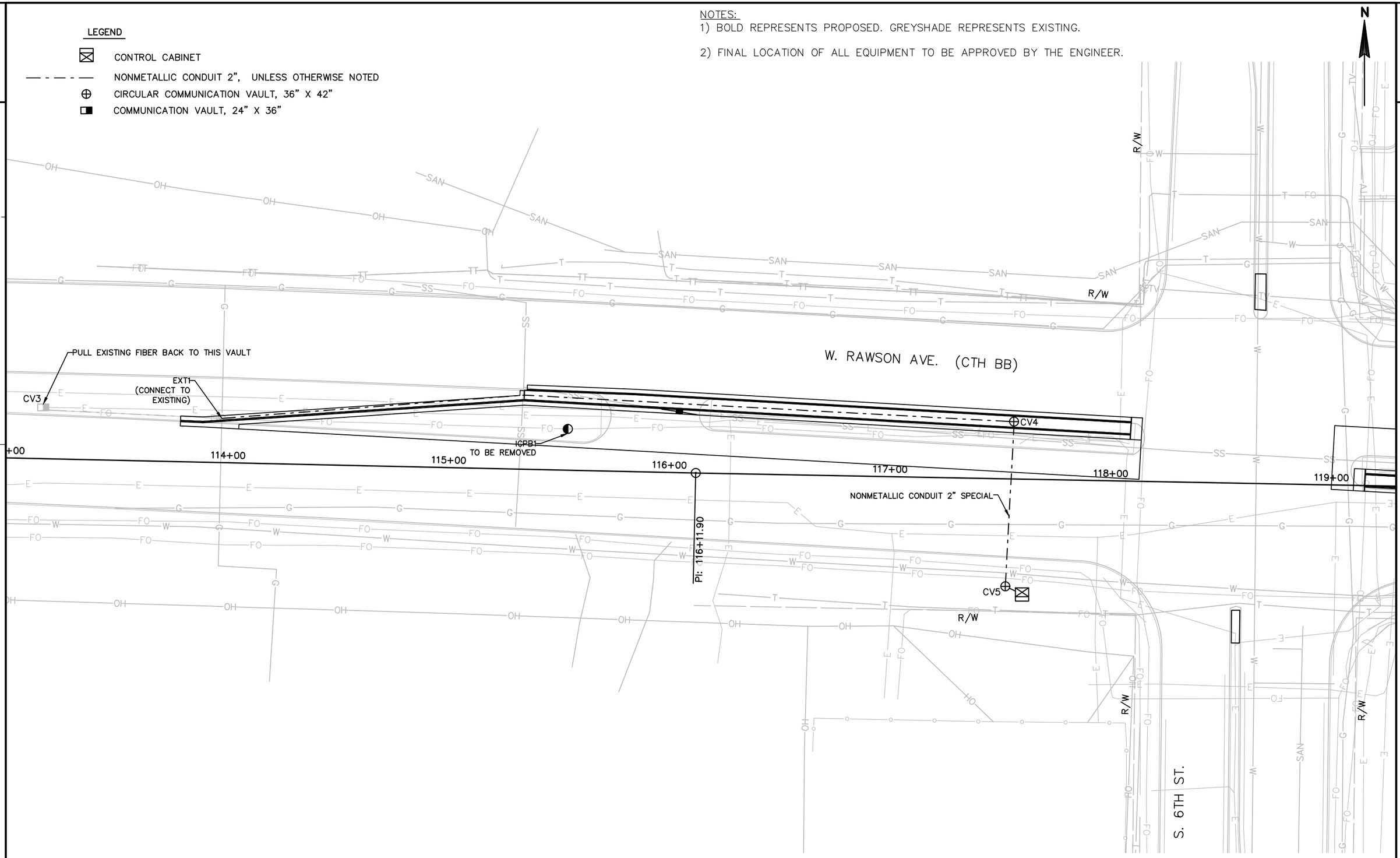
FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010-2014\CTH BB - W. RAWSON AVE\2050-05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\28-DAY PLANS\15_COMM\20500571_IC.DWG
PLOT DATE : 9/25/2017 1:35 PM PLOT BY : MASTERS, ANDREA PLOT NAME : PLOT SCALE : 1" = 40'_XREF
WISDOT/CADDS SHEET 42

NOTES:
1) BOLD REPRESENTS PROPOSED. GREYSHADE REPRESENTS EXISTING.

2) FINAL LOCATION OF ALL EQUIPMENT TO BE APPROVED BY THE ENGINEER.

LEGEND

- CONTROL CABINET
- NONMETALLIC CONDUIT 2", UNLESS OTHERWISE NOTED
- CIRCULAR COMMUNICATION VAULT, 36" X 42"
- COMMUNICATION VAULT, 24" X 36"



PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	COMMUNICATIONS PLAN	SHEET 38	E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010-2014\CTH BB - W. RAWSON AVE\2050-05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\FINAL PLANS\15_COMM\20500571_IC.DWG

PLOT DATE : 10/31/2017 8:39 AM PLOT BY : MURPHY, DANIEL PLOT NAME : PLOT SCALE : 1" = 40'_XREF

WISDOT/CADDS SHEET 42

2

N

CITY OF OAK CREEK

CITY OF OAK CREEK

S. 10TH STREET

S. 6TH STREET

R/W

BEGIN PROJECT
2050-05-71
STA 99+50.00

END PROJECT
2050-05-71
STA 122+12.00

95 100 105 110 115 120 125

W. RAWSON AVE. (CTH BB)

W. RAWSON AVE. (CTH BB)

END CONSTRUCTION
2050-05-71
STA 101+00.00

BEGIN CONSTRUCTION
2050-05-71
STA 113+78.00

S. 10TH STREET

S. 6TH STREET

CITY OF OAK CREEK

CITY OF OAK CREEK

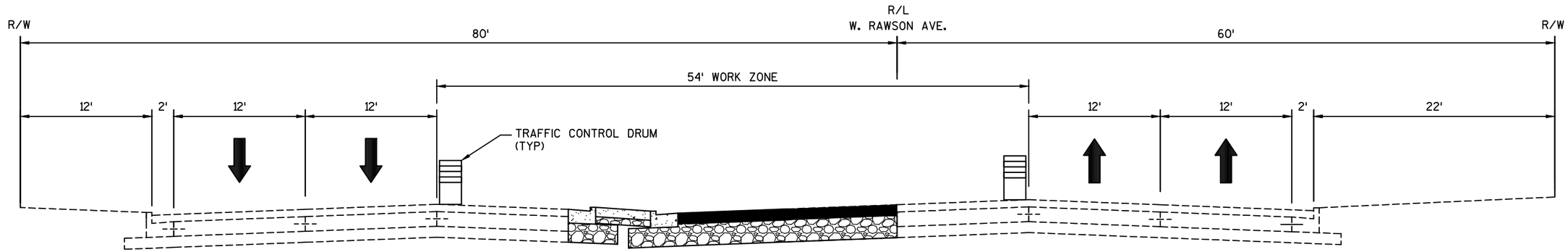
SOO LINE RR CO

STAGE 1 - TRAFFIC
-CLOSE INSIDE THRU TRAFFIC LANE ON CTH BB AT INTERSECTION OF S. 6TH ST.
-TWO LANES OPEN IN EACH DIRECTION AT INTERSECTIONS ALONG CTH BB

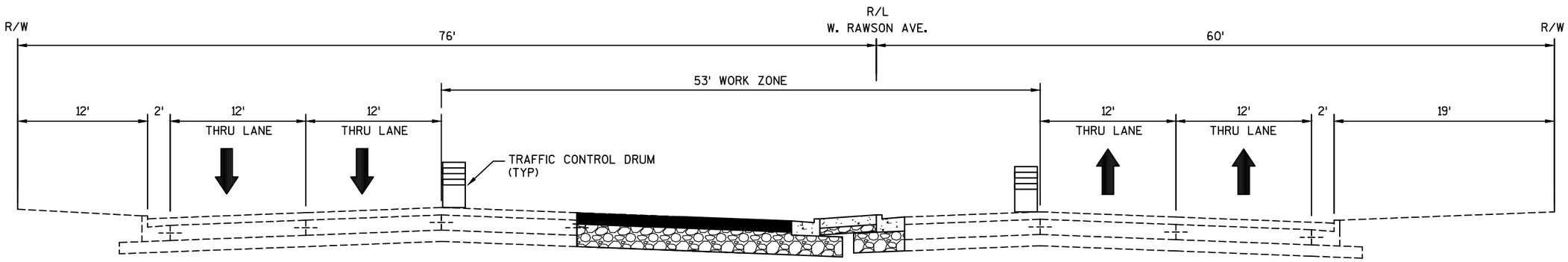
STAGE 1 - CONSTRUCTION
-CONSTRUCT EASTBOUND AND WESTBOUND LEFT TURN LANES IN MEDIAN ON CTH BB

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STAGE 1 OVERVIEW	SHEET	E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010-2014\CTH BB - W. RAWSON AVE\2050-05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\90% PLOT DATE : 7/27/2017 1:26 PM PLOT BY : MASTERS, ANDREA PLOT NAME : PLOT SCALE : 1" = 200'_XREF



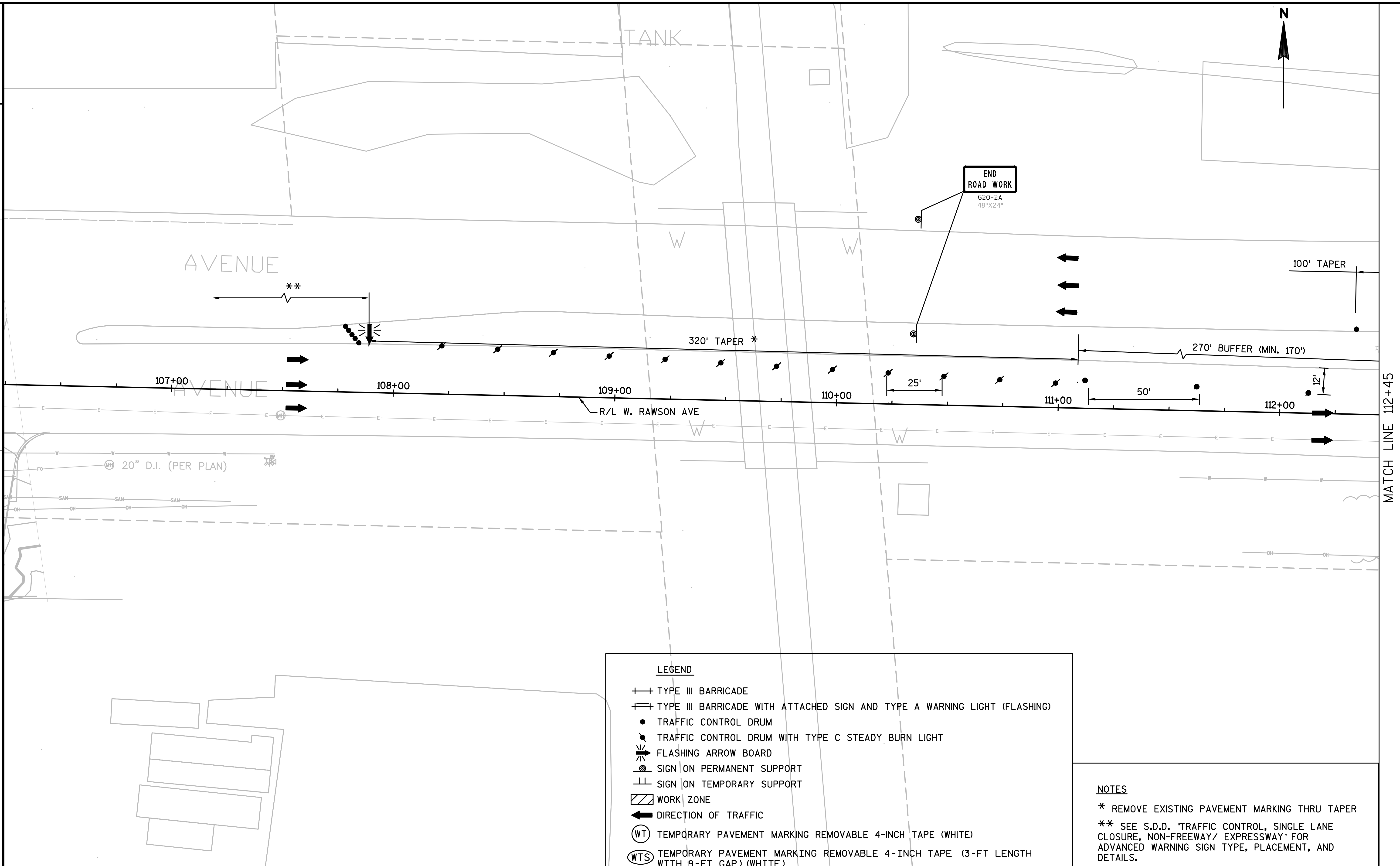
TYPICAL SECTION - STAGE 1
W. RAWSON AVE (CTH BB)
STA 113+78.00 TO STA 118+62.00



TYPICAL SECTION - STAGE 1
W. RAWSON AVE (CTH BB)
STA 118+62.00 TO STA 122+12.00

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	CONSTRUCTION STAGING TYPICAL SECTIONS	SHEET	E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010-2014\CTH BB - W. RAWSON AVE\2050-05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\90% PLOT DATE : 7/27/2017 11:54 AM PLOT BY : MASTERS, ANDREA PLOT NAME : PLOT SCALE : 0.099999
PLANS\17_TRAF CNTRL\20500571_TC_S1.DWG
WISDOT/CADDS SHEET 42



LEGEND

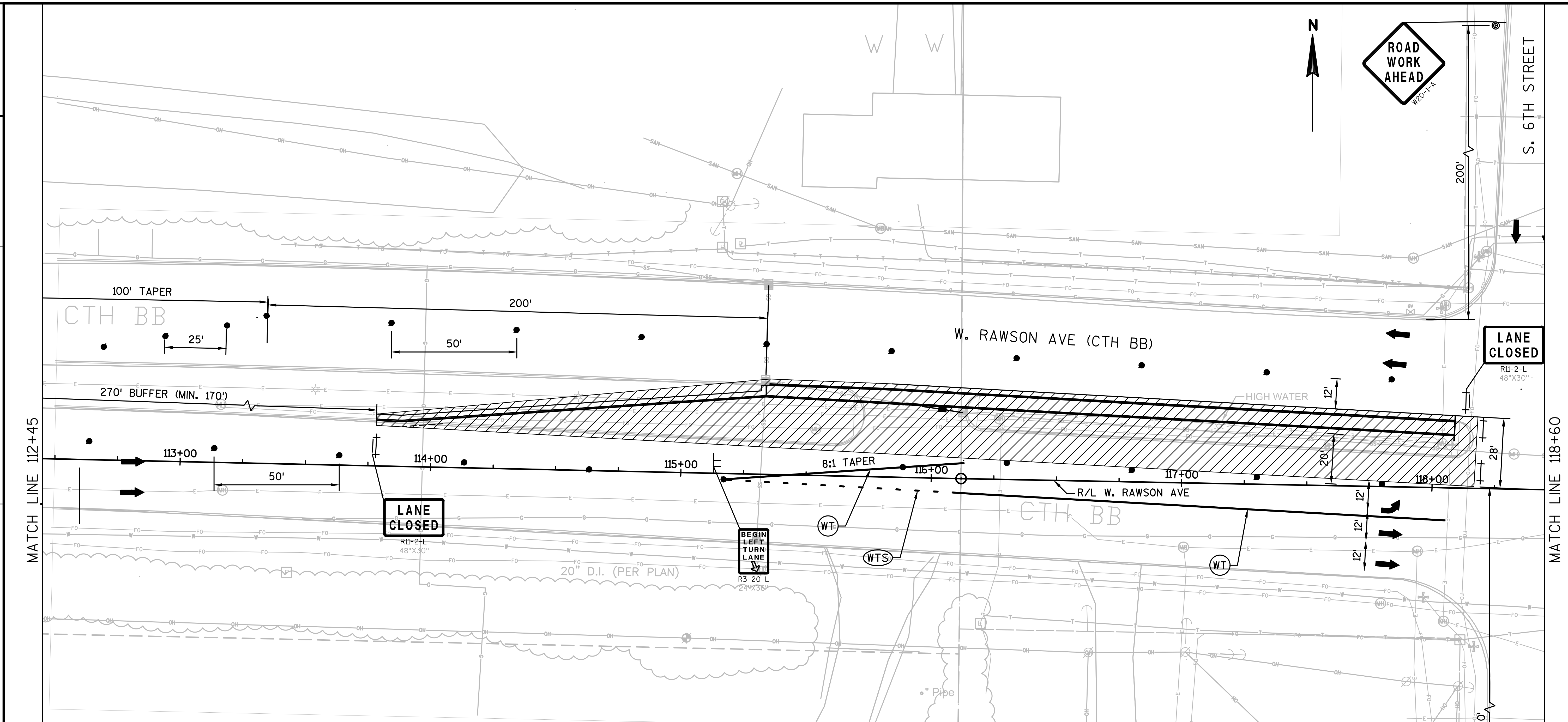
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE A WARNING LIGHT (FLASHING)
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK ZONE
- DIRECTION OF TRAFFIC
- (WT) TEMPORARY PAVEMENT MARKING REMOVABLE 4-INCH TAPE (WHITE)
- (WTS) TEMPORARY PAVEMENT MARKING REMOVABLE 4-INCH TAPE (3-FT LENGTH WITH 9-FT GAP) (WHITE)

NOTES

* REMOVE EXISTING PAVEMENT MARKING THRU TAPER

** SEE S.D.D. "TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/ EXPRESSWAY" FOR ADVANCED WARNING SIGN TYPE, PLACEMENT, AND DETAILS.

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	TRAFFIC CONTROL - CTH BB AND S. 6TH ST - STAGE 1	SHEET 41	E



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE A WARNING LIGHT (FLASHING)
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK ZONE
- DIRECTION OF TRAFFIC
- (WT) TEMPORARY PAVEMENT MARKING REMOVABLE 4-INCH TAPE (WHITE)
- (WTS) TEMPORARY PAVEMENT MARKING REMOVABLE 4-INCH TAPE (3-FT LENGTH WITH 9-FT GAP) (WHITE)

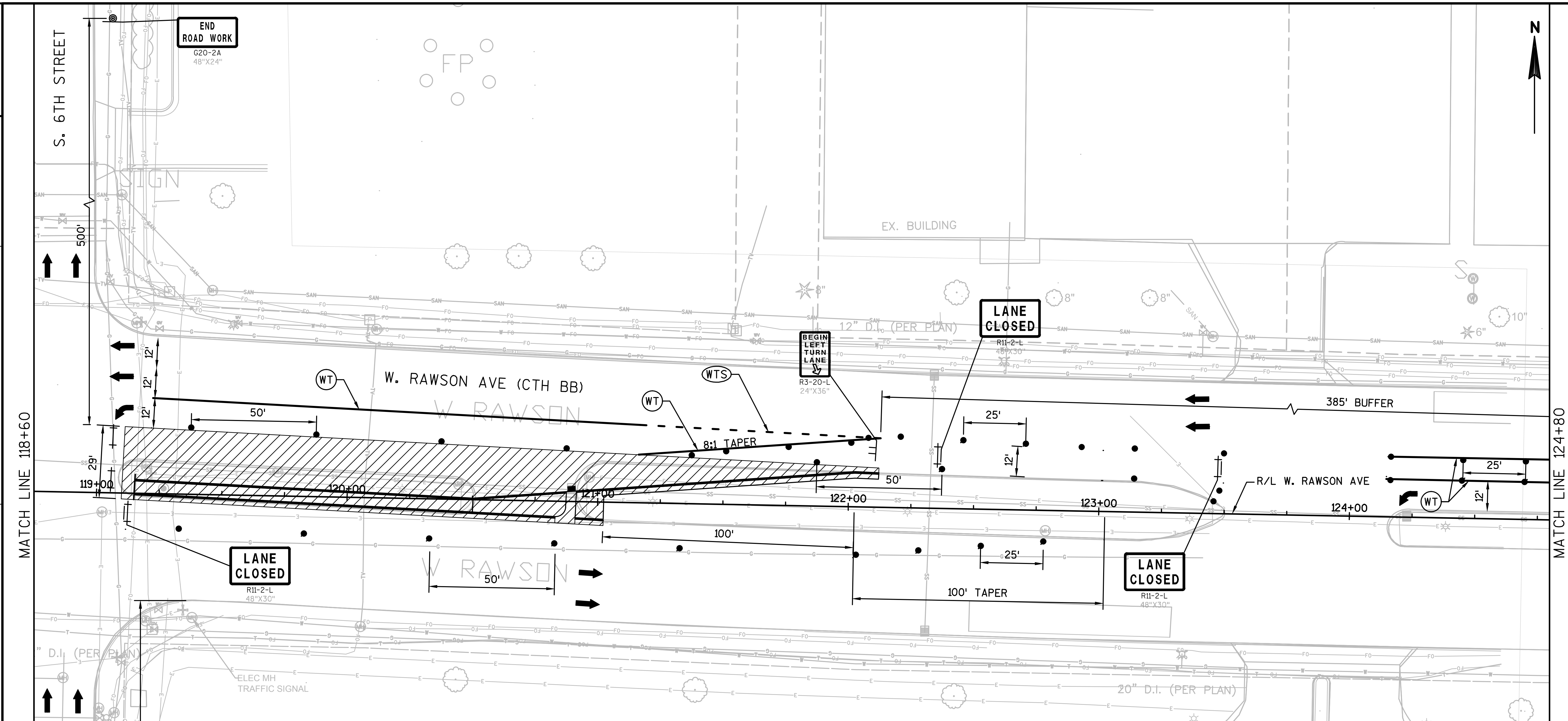
NOTES

* REMOVE EXISTING PAVEMENT MARKING THRU TAPER

** SEE S.D.D. "TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/ EXPRESSWAY" FOR ADVANCED WARNING SIGN TYPE, PLACEMENT, AND DETAILS.

2

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	TRAFFIC CONTROL - CTH BB AND S. 6TH ST - STAGE 1	SHEET 42	E



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE A WARNING LIGHT (FLASHING)
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK ZONE
- DIRECTION OF TRAFFIC
- (WT) TEMPORARY PAVEMENT MARKING REMOVABLE 4-INCH TAPE (WHITE)
- (WTS) TEMPORARY PAVEMENT MARKING REMOVABLE 4-INCH TAPE (3-FT LENGTH WITH 9-FT GAP) (WHITE)

NOTES

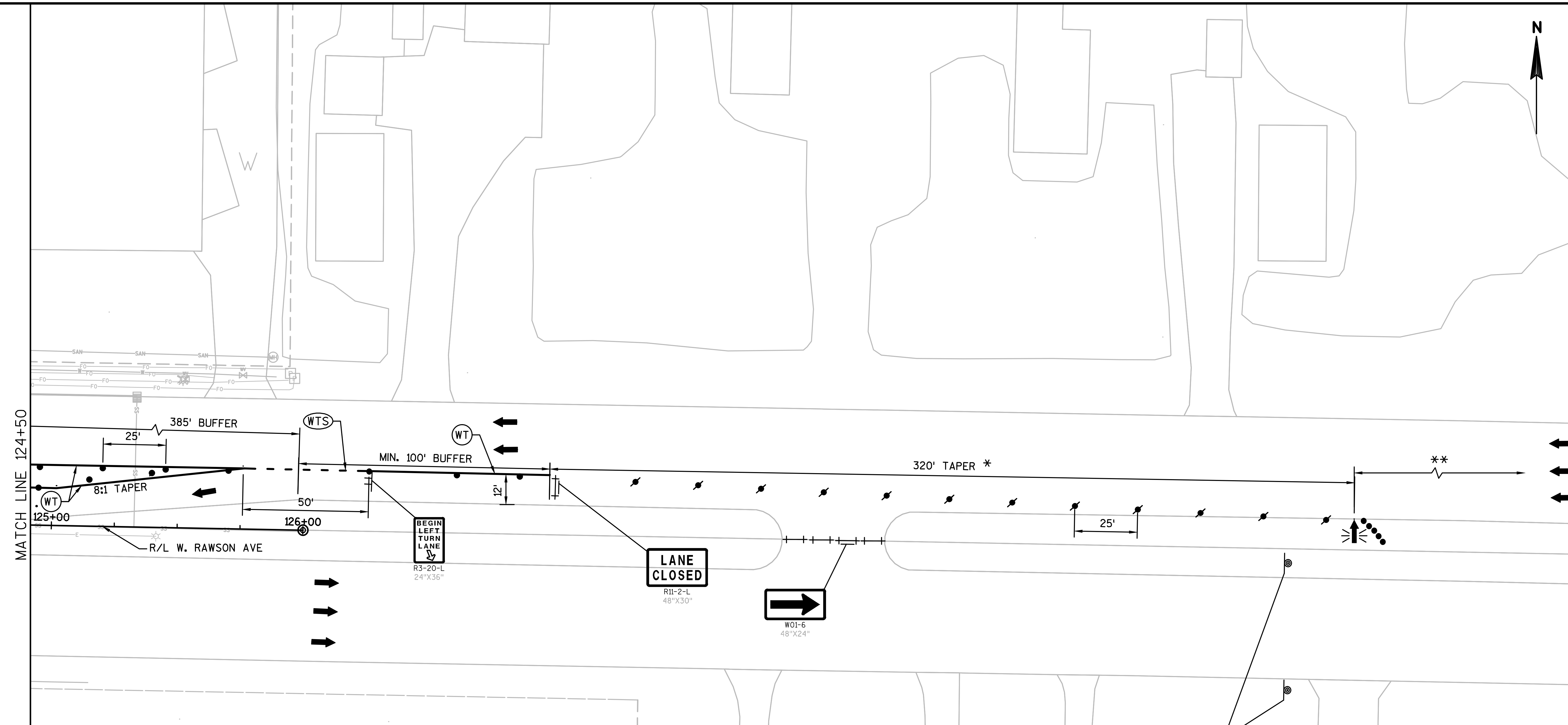
* REMOVE EXISTING PAVEMENT MARKING THRU TAPER

** SEE S.D.D. "TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/ EXPRESSWAY" FOR ADVANCED WARNING SIGN TYPE, PLACEMENT, AND DETAILS.

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	TRAFFIC CONTROL - CTH BB AND S. 6TH ST - STAGE 1	SHEET 43	E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010-2014\CTH BB - W. RAWSON AVE\2050-05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\ ... PLOT NAME : PLOT SCALE : 1:40_XREF

2



2

LEGEND

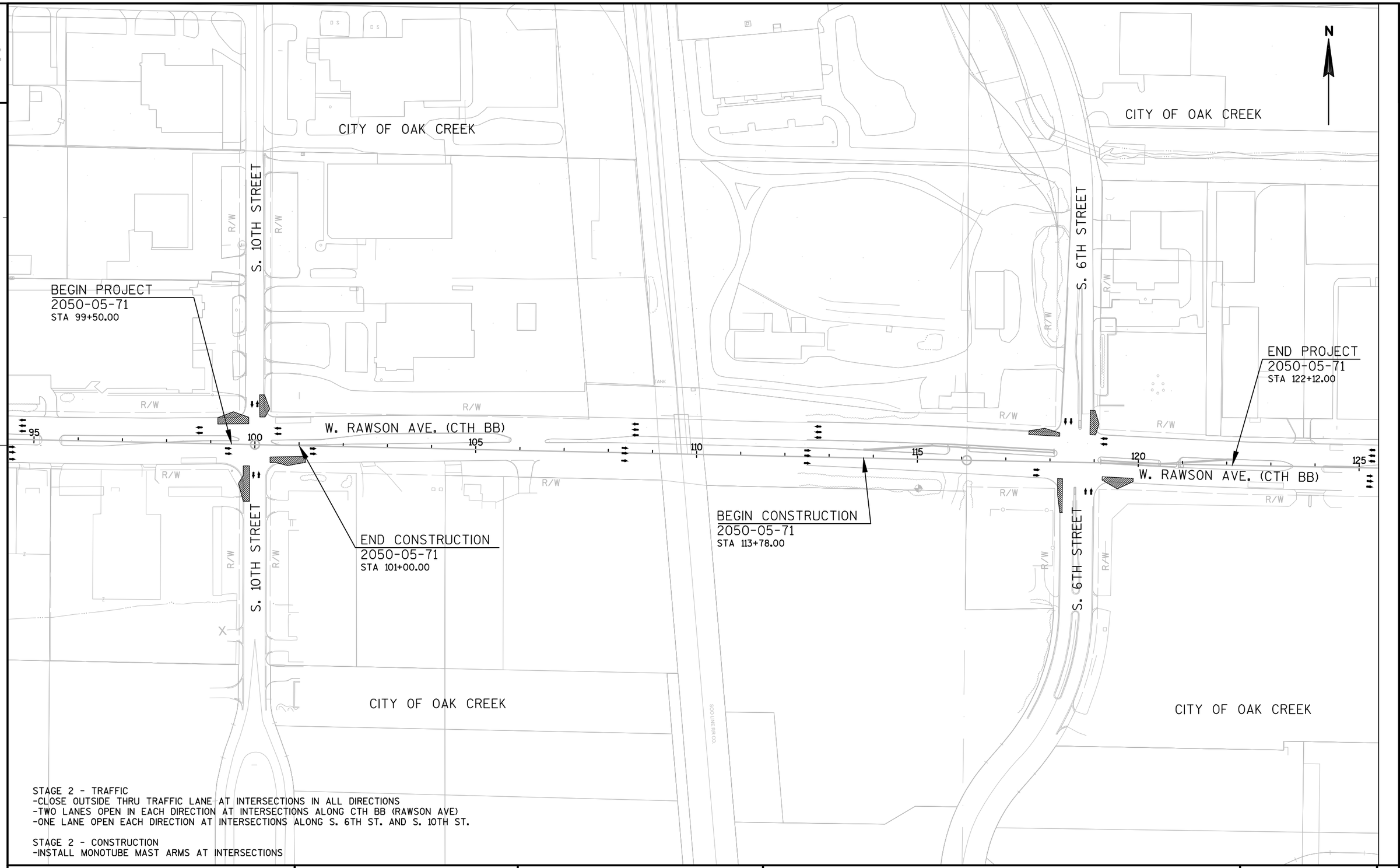
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE A WARNING LIGHT (FLASHING)
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK ZONE
- DIRECTION OF TRAFFIC
- (WT) TEMPORARY PAVEMENT MARKING REMOVABLE 4-INCH TAPE (WHITE)
- (WTS) TEMPORARY PAVEMENT MARKING REMOVABLE 4-INCH TAPE (3-FT LENGTH WITH 9-FT GAP) (WHITE)

NOTES

* REMOVE EXISTING PAVEMENT MARKING THRU TAPER

** SEE S.D.D. "TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/ EXPRESSWAY" FOR ADVANCED WARNING SIGN TYPE, PLACEMENT, AND DETAILS.

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	TRAFFIC CONTROL - CTH BB AND S. 6TH ST - STAGE 1	SHEET 44	E



STAGE 2 - TRAFFIC
-CLOSE OUTSIDE THRU TRAFFIC LANE AT INTERSECTIONS IN ALL DIRECTIONS
-TWO LANES OPEN IN EACH DIRECTION AT INTERSECTIONS ALONG CTH BB (RAWSON AVE)
-ONE LANE OPEN EACH DIRECTION AT INTERSECTIONS ALONG S. 6TH ST. AND S. 10TH ST.

STAGE 2 - CONSTRUCTION
-INSTALL MONOTUBE MAST ARMS AT INTERSECTIONS

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	TRAFFIC CONTROL - STAGE 2 OVERVIEW	SHEET 45	E

2

N

PARKING

END ROAD WORK
G20-2A
48"X24"

W. RAWSON AVE (CTH BB)

W. RAWSON AVE (CTH BB)

W RAWSON

W RAWSON

S. 10TH STREET

25'

100' TAPER

60'

12'

12'

LANE CLOSED
R11-2-L
48"X30"

94+00

95+00

96+00

97+00

98+00

99+00

100

R/L W. RAWSON AVE

LANE CLOSED
R11-2-L
48"X30"

12'

12'

12'

25'

25'

320' TAPER

MIN. 170' BUFFER

**

MATCH LINE 100+00

SIGN

SIGN

14"

14"

14"

20"

6"

8"

4"

6"

8"

4"

8"

3"

8"

4"

4"

6"

GATE

EX. BUILDING

EX. BUILDING

EX. BUILDING

EX. BUILDING

EX. BUILDING

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE A WARNING LIGHT (FLASHING)
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK ZONE
- DIRECTION OF TRAFFIC

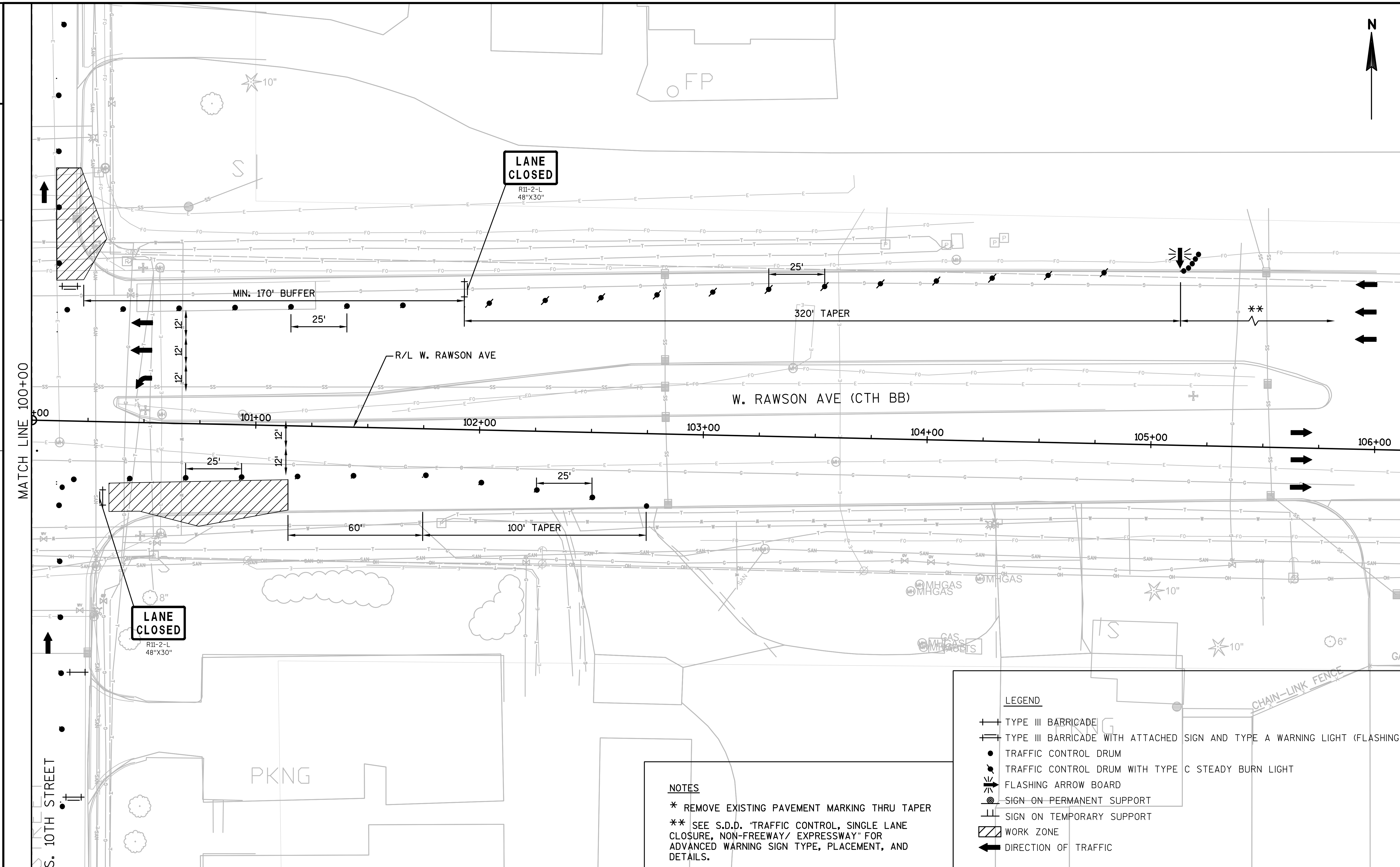
NOTES

* REMOVE EXISTING PAVEMENT MARKING THRU TAPER

** SEE S.D.D. "TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/ EXPRESSWAY" FOR ADVANCED WARNING SIGN TYPE, PLACEMENT, AND DETAILS.

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	TRAFFIC CONTROL - CTH BB AND S. 10TH ST. - STAGE 2	SHEET 46	E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010-2014\CTH BB - W. RAWSON AVE\2050-05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\2050-05-71_TR13_CNTRL\2050-05-71_TR13.DGN PLOT BY : SAWYERS, ANDREA PLOT NAME : PLOT SCALE : 1:40_XREF



NOTES

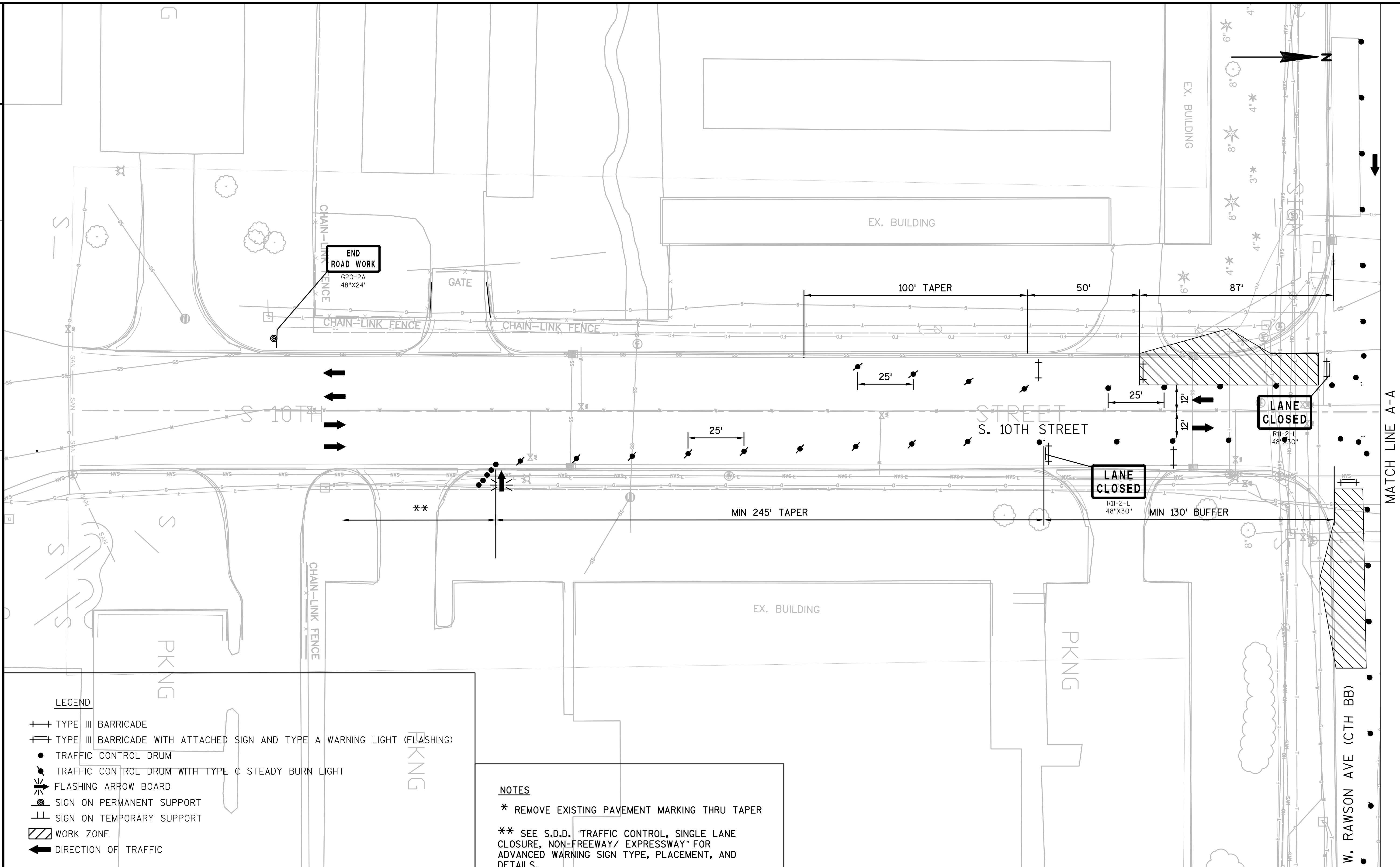
* REMOVE EXISTING PAVEMENT MARKING THRU TAPER

** SEE S.D.D. "TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/ EXPRESSWAY" FOR ADVANCED WARNING SIGN TYPE, PLACEMENT, AND DETAILS.

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE A WARNING LIGHT (FLASHING)
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK ZONE
- DIRECTION OF TRAFFIC

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	TRAFFIC CONTROL - CTH BB AND S. 10TH ST. - STAGE 2	SHEET 47	E



LEGEND

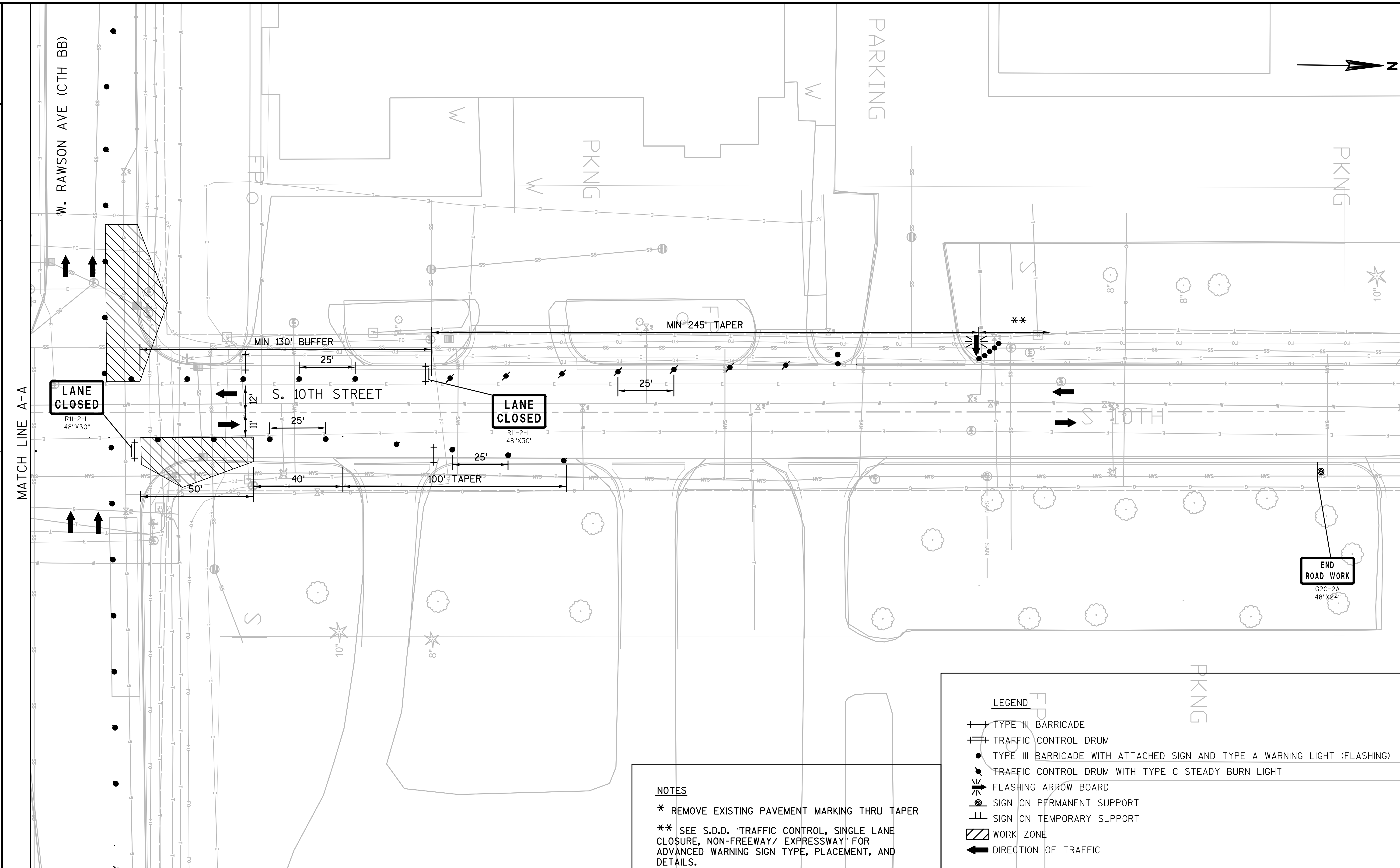
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE A WARNING LIGHT (FLASHING)
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK ZONE
- DIRECTION OF TRAFFIC

NOTES

* REMOVE EXISTING PAVEMENT MARKING THRU TAPER

** SEE S.D.D. "TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/ EXPRESSWAY" FOR ADVANCED WARNING SIGN TYPE, PLACEMENT, AND DETAILS.

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	TRAFFIC CONTROL - CTH BB AND S. 10TH ST. - STAGE 2	SHEET 48	E



NOTES

* REMOVE EXISTING PAVEMENT MARKING THRU TAPER

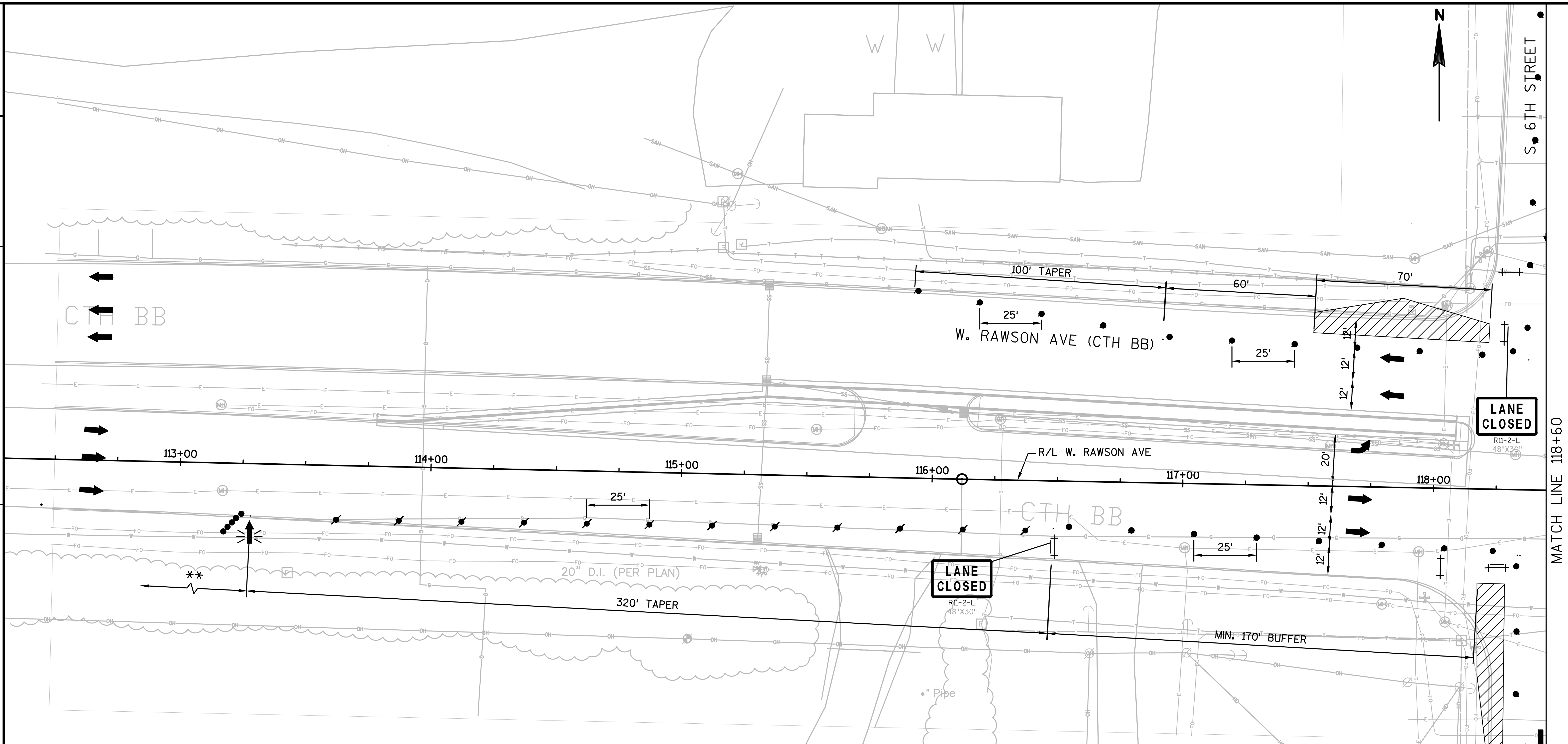
** SEE S.D.D. "TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/ EXPRESSWAY" FOR ADVANCED WARNING SIGN TYPE, PLACEMENT, AND DETAILS.

LEGEND

- TYPE III BARRICADE
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE A WARNING LIGHT (FLASHING)
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK ZONE
- DIRECTION OF TRAFFIC

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	TRAFFIC CONTROL - CTH BB AND S. 10TH ST. - STAGE 2	SHEET 49	E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010-2014\CTH BB - W. RAWSON AVE\2050-05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\2050-05-71_TC_CNTRL\2050-05-71 TC 10.DWG PLOT DATE : 9/27/2017 3:15 PM PLOT BY : SANDERS, ANDREA PLOT NAME : PLOT SCALE : 1:40_XREF



LEGEND

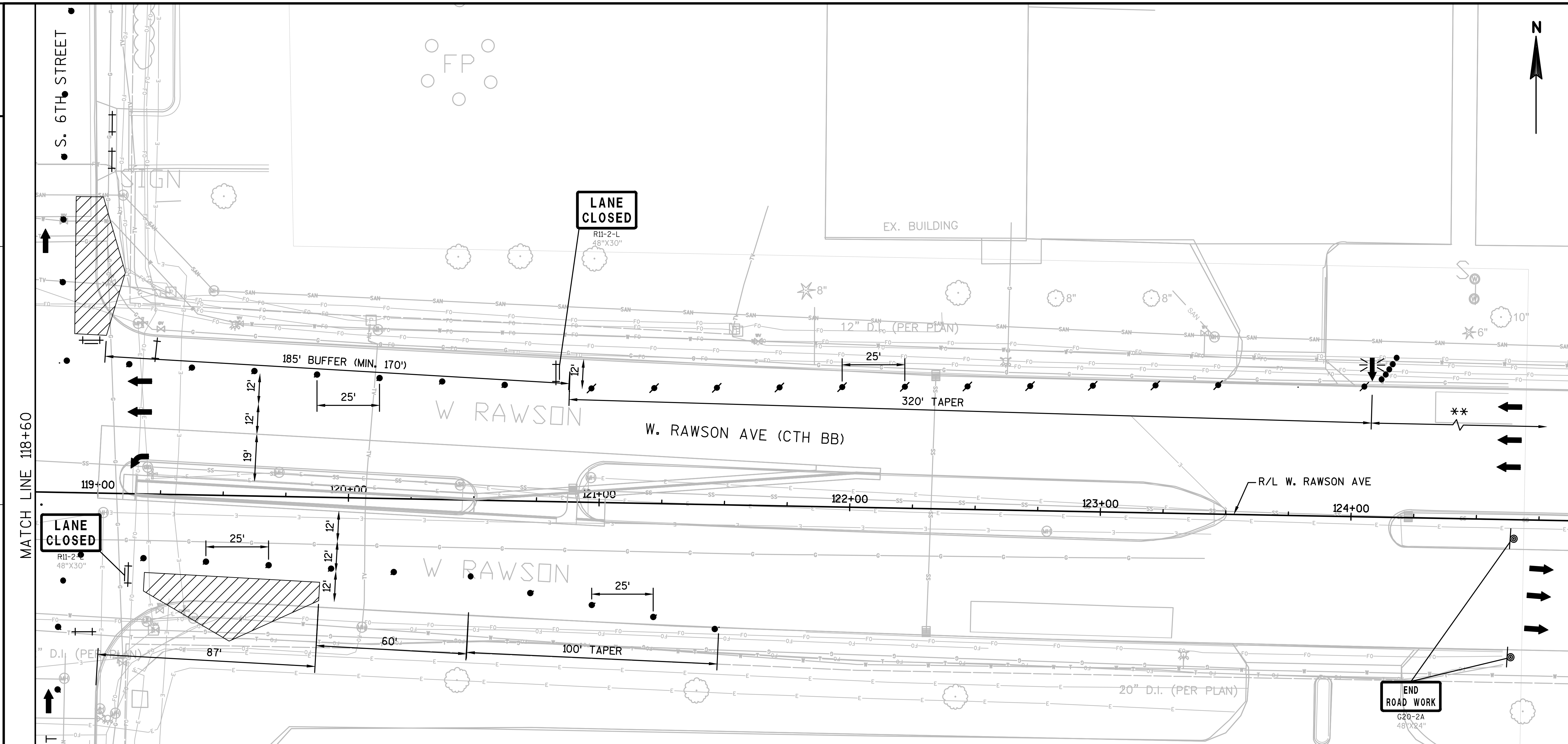
- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE A WARNING LIGHT (FLASHING)
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK ZONE
- DIRECTION OF TRAFFIC

NOTES

* REMOVE EXISTING PAVEMENT MARKING THRU TAPER

** SEE S.D.D. "TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/ EXPRESSWAY" FOR ADVANCED WARNING SIGN TYPE, PLACEMENT, AND DETAILS.

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	TRAFFIC CONTROL - CTH BB AND S. 6TH ST. - STAGE 2	SHEET	E



NOTES

* REMOVE EXISTING PAVEMENT MARKING THRU TAPER

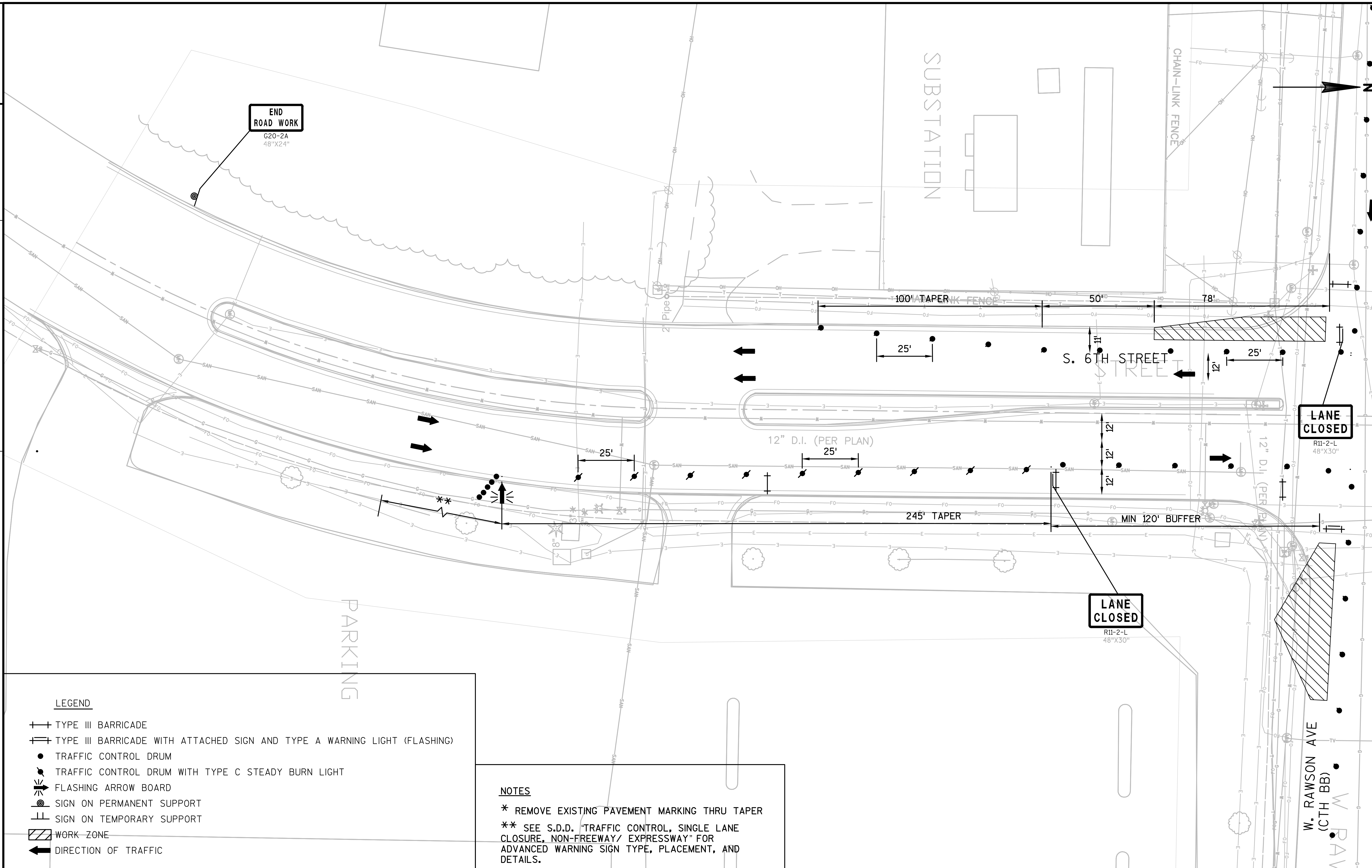
** SEE S.D.D. "TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/ EXPRESSWAY" FOR ADVANCED WARNING SIGN TYPE, PLACEMENT, AND DETAILS.

LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE A WARNING LIGHT (FLASHING)
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK ZONE
- DIRECTION OF TRAFFIC

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	TRAFFIC CONTROL - CTH BB AND S. 6TH ST. - STAGE 2	SHEET	E

2



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE A WARNING LIGHT (FLASHING)
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK ZONE
- DIRECTION OF TRAFFIC

NOTES

* REMOVE EXISTING PAVEMENT MARKING THRU TAPER

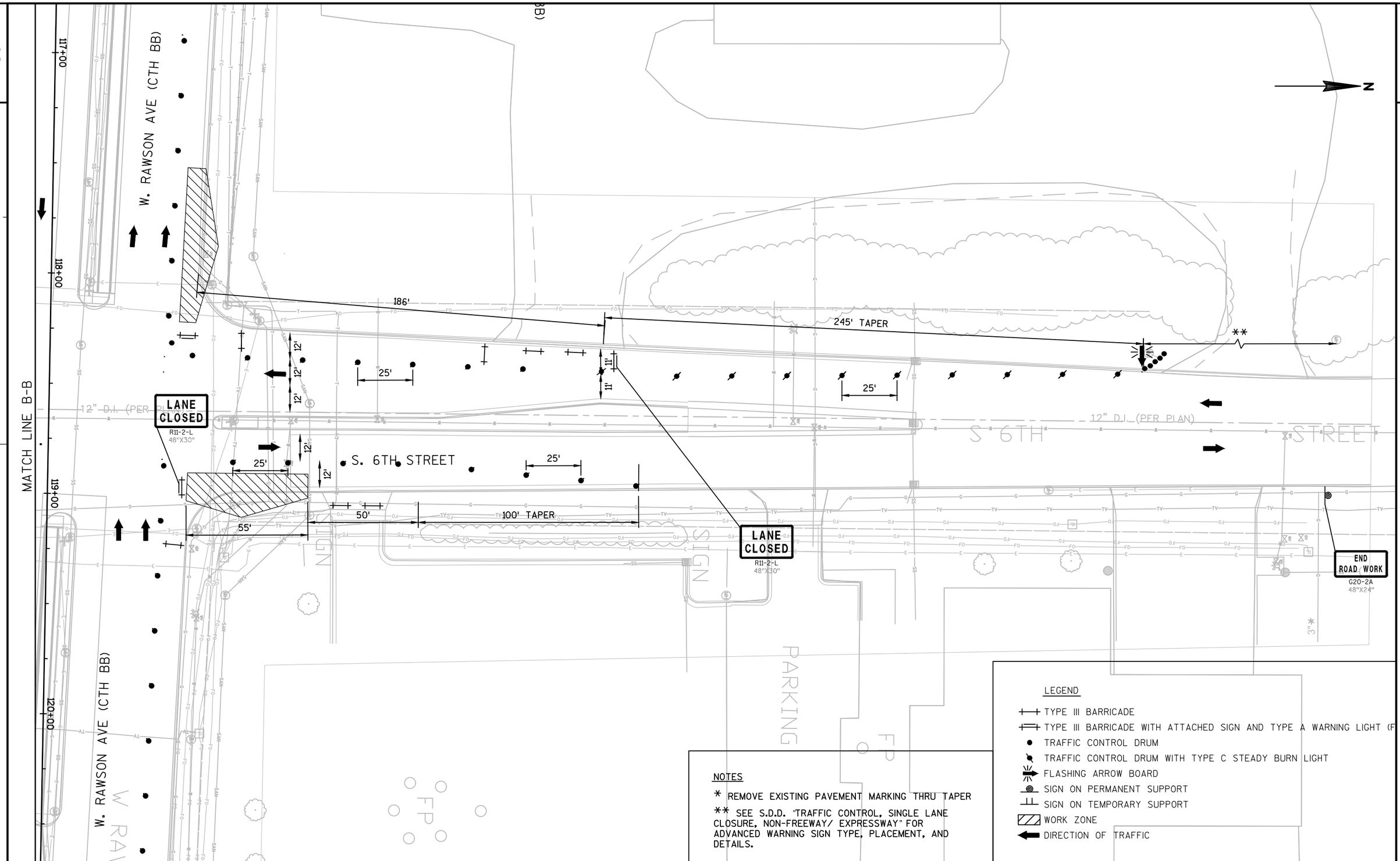
** SEE S.D.D. "TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/ EXPRESSWAY" FOR ADVANCED WARNING SIGN TYPE, PLACEMENT, AND DETAILS.

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	TRAFFIC CONTROL - CTH BB AND S. 6TH ST. - STAGE 2	SHEET	E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010-2014\CTH BB - W. RAWSON AVE\2050-05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\2050-05-71_TRAF CNTRL\205005.TC.TBS_S2.DWG ... SAUNDERS, ANDREA PLOT NAME : PLOT SCALE : 1" = 40'_XREF

WISDOT/CADDS SHEET 42

2



LEGEND

- TYPE III BARRICADE
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE A WARNING LIGHT (F
- TRAFFIC CONTROL DRUM
- TRAFFIC CONTROL DRUM WITH TYPE C STEADY BURN LIGHT
- FLASHING ARROW BOARD
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT
- WORK ZONE
- DIRECTION OF TRAFFIC

NOTES

* REMOVE EXISTING PAVEMENT MARKING THRU TAPER

** SEE S.D.D. "TRAFFIC CONTROL, SINGLE LANE CLOSURE, NON-FREEWAY/ EXPRESSWAY" FOR ADVANCED WARNING SIGN TYPE, PLACEMENT, AND DETAILS.

PROJECT NO: 2050-05-71	HWY: CTH BB	COUNTY: MILWAUKEE	TRAFFIC CONTROL - CTH BB AND S. 6TH ST. - STAGE 2	SHEET	E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010-2014\CTH BB - W. RAWSON AVE\2050-05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\2050-05-71_TR28 CNTRL\2050-05-71_TR28_STAGE2.DWG PLOT NAME : PLOT SCALE : 1" = 40'_XREF

2

2

N

BEGIN PROJECT
2050–05–71
STA 99+50.00
X= 2555299.7230
Y= 340795.1393

PI: 100+00.00

95

N88° 44' 35"W
600'

100

W. RAWSON AVE. (CTH BB)

105

N88° 44' 35"W
1662'

110

BEGIN CONSTRUCTION
2050–05–71
STA 113+78.00

R/L = S/L

115

PI: 116+11.90

END PROJECT
2050–05–71
STA 122+12.00

120

N88° 55' 04"W
600'

125

W. RAWSON AVE. (CTH BB)

END CONSTRUCTION
2050–05–71
STA 101+00.00

T 5 N
R 22 E
5 5
8 8

X= 2556961.2258
Y= 340758.6837

PROJECT NO: 2050–05–71	HWY: CTH BB	COUNTY: MILWAUKEE	ALIGNMENT DIAGRAM	SHEET	E

FILE NAME : O:\HIGHWAY OPERATIONS CONTROL FILE\CENTRAL FILES\2010–2014\CTH BB – W. RAWSON AVE\2050–05_INTERSECTIONS 6TH AND 10TH\DESIGN\PLANS\90% PLANS\19_ALIGN DIA\20500571_AD.DWG

PLOT DATE : 7/28/2017 4:06 PM PLOT BY : MURPHY, DANIEL PLOT NAME : PLOT SCALE : 1" = 200'_XREF

2050-05-71

Line	Item	Item Description	Unit	Total	Qty
0002	204.0150	Removing Curb & Gutter	LF	1,200.000	1,200.000
0004	204.0155	Removing Concrete Sidewalk	SY	20.000	20.000
0006	204.0195	Removing Concrete Bases	EACH	27.000	27.000
0008	204.0220	Removing Inlets	EACH	1.000	1.000
0010	204.0245	Removing Storm Sewer (size) 01. 18-INCH	LF	16.000	16.000
0012	204.9105.S	Removing (item description) 01. REMOVE TRAFFIC SIGNAL EQUIPMENT RAWSON & 10TH	LS	1.000	1.000
0014	204.9105.S	Removing (item description) 02. REMOVE TRAFFIC SIGNAL EQUIPMENT RAWSON & 6TH	LS	1.000	1.000
0016	205.0100	Excavation Common	CY	1,400.000	1,400.000
0018	205.0501.S	Excavation, Hauling, and Disposal of Petroleum Contaminated Soil	TON	20.000	20.000
0020	213.0100	Finishing Roadway (project) 01. 2050-05-71	EACH	1.000	1.000
0022	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	3,800.000	3,800.000
0024	416.1010	Concrete Surface Drains	CY	2.000	2.000
0026	455.0605	Tack Coat	GAL	60.000	60.000
0028	460.6223	HMA Pavement 3 MT 58-28 S	TON	260.000	260.000
0030	460.6224	HMA Pavement 4 MT 58-28 S	TON	260.000	260.000
0032	520.8000	Concrete Collars for Pipe	EACH	2.000	2.000
0034	601.0331	Concrete Curb & Gutter 31-Inch	LF	1,300.000	1,300.000
0036	602.0410	Concrete Sidewalk 5-Inch	SF	2,200.000	2,200.000
0038	608.0318	Storm Sewer Pipe Reinforced Concrete Class III 18-Inch	LF	24.000	24.000
0040	608.0512	Storm Sewer Pipe Reinforced Concrete Class V 12-Inch	LF	8.000	8.000
0042	611.0430	Reconstructing Inlets	EACH	1.000	1.000
0044	611.1230	Catch Basins 2x3-FT	EACH	1.000	1.000
0046	618.0100	Maintenance And Repair of Haul Roads (project) 01. 2050-05-71	EACH	1.000	1.000
0048	619.1000	Mobilization	EACH	1.000	1.000
0050	620.0300	Concrete Median Sloped Nose	SF	120.000	120.000
0052	624.0100	Water	MGAL	2.000	2.000
0054	625.0100	Topsoil	SY	150.000	150.000
0056	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0058	628.1910	Mobilizations Emergency Erosion Control	EACH	2.000	2.000
0060	628.2006	Erosion Mat Urban Class I Type A	SY	150.000	150.000
0062	628.7005	Inlet Protection Type A	EACH	2.000	2.000
0064	628.7010	Inlet Protection Type B	EACH	30.000	30.000
0066	629.0210	Fertilizer Type B	CWT	0.100	0.100
0068	630.0140	Seeding Mixture No. 40	LB	3.000	3.000
0070	634.0810	Posts Tubular Steel 2x2-Inch X 10-FT	EACH	28.000	28.000
0072	637.2210	Signs Type II Reflective H	SF	174.260	174.260

2050-05-71

Line	Item	Item Description	Unit	Total	Qty
0074	637.2215	Signs Type II Reflective H Folding	SF	104.440	104.440
0076	637.2230	Signs Type II Reflective F	SF	36.000	36.000
0078	638.2602	Removing Signs Type II	EACH	33.000	33.000
0080	638.3000	Removing Small Sign Supports	EACH	18.000	18.000
0082	642.5001	Field Office Type B	EACH	1.000	1.000
0084	643.0300	Traffic Control Drums	DAY	16,000.000	16,000.000
0086	643.0420	Traffic Control Barricades Type III	DAY	2,000.000	2,000.000
0088	643.0705	Traffic Control Warning Lights Type A	DAY	2,000.000	2,000.000
0090	643.0715	Traffic Control Warning Lights Type C	DAY	4,500.000	4,500.000
0092	643.0800	Traffic Control Arrow Boards	DAY	400.000	400.000
0094	643.0900	Traffic Control Signs	DAY	3,500.000	3,500.000
0096	643.1050	Traffic Control Signs PCMS	DAY	30.000	30.000
0098	643.5000	Traffic Control	EACH	1.000	1.000
0100	646.1020	Marking Line Epoxy 4-Inch	LF	1,300.000	1,300.000
0102	646.3020	Marking Line Epoxy 8-Inch	LF	800.000	800.000
0104	646.5020	Marking Arrow Epoxy	EACH	6.000	6.000
0106	646.5120	Marking Word Epoxy	EACH	6.000	6.000
0108	646.6120	Marking Stop Line Epoxy 18-Inch	LF	200.000	200.000
0110	646.7120	Marking Diagonal Epoxy 12-Inch	LF	120.000	120.000
0112	646.9000	Marking Removal Line 4-Inch	LF	200.000	200.000
0114	650.4000	Construction Staking Storm Sewer	EACH	2.000	2.000
0116	650.5500	Construction Staking Curb Gutter and Curb & Gutter	LF	1,300.000	1,300.000
0118	650.8500	Construction Staking Electrical Installations (project) 01. 2050-05-71	LS	1.000	1.000
0120	650.9910	Construction Staking Supplemental Control (project) 01. 2050-05-71	LS	1.000	1.000
0122	652.0225	Conduit Rigid Nonmetallic Schedule 40 2-Inch	LF	520.000	520.000
0124	652.0235	Conduit Rigid Nonmetallic Schedule 40 3-Inch	LF	830.000	830.000
0126	652.0605	Conduit Special 2-Inch	LF	125.000	125.000
0128	652.0615	Conduit Special 3-Inch	LF	1,390.000	1,390.000
0130	653.0140	Pull Boxes Steel 24x42-Inch	EACH	17.000	17.000
0132	653.0145	Pull Boxes Steel 24x48-Inch	EACH	4.000	4.000
0134	653.0905	Removing Pull Boxes	EACH	23.000	23.000
0136	654.0101	Concrete Bases Type 1	EACH	2.000	2.000
0138	654.0102	Concrete Bases Type 2	EACH	6.000	6.000
0140	654.0110	Concrete Bases Type 10	EACH	2.000	2.000
0142	654.0113	Concrete Bases Type 13	EACH	4.000	4.000
0144	654.0217	Concrete Control Cabinet Bases Type 9 Special	EACH	2.000	2.000
0146	655.0210	Cable Traffic Signal 3-14 AWG	LF	2,200.000	2,200.000
0148	655.0230	Cable Traffic Signal 5-14 AWG	LF	1,200.000	1,200.000

2050-05-71

Line	Item	Item Description	Unit	Total	Qty
0150	655.0240	Cable Traffic Signal 7-14 AWG	LF	600.000	600.000
0152	655.0260	Cable Traffic Signal 12-14 AWG	LF	3,000.000	3,000.000
0154	655.0515	Electrical Wire Traffic Signals 10 AWG	LF	3,800.000	3,800.000
0156	655.0900	Traffic Signal EVP Detector Cable	LF	2,300.000	2,300.000
0158	656.0200	Electrical Service Meter Breaker Pedestal (location) 01. RAWSON & 10TH	LS	1.000	1.000
0160	656.0200	Electrical Service Meter Breaker Pedestal (location) 02. RAWSON & 6TH	LS	1.000	1.000
0162	657.0100	Pedestal Bases	EACH	2.000	2.000
0164	657.0255	Transformer Bases Breakaway 11 1/2-Inch Bolt Circle	EACH	6.000	6.000
0166	657.0315	Poles Type 4	EACH	6.000	6.000
0168	657.0425	Traffic Signal Standards Aluminum 15-FT	EACH	2.000	2.000
0170	657.0614	Luminaire Arms Single Member 4-Inch Clamp 8-FT	EACH	6.000	6.000
0172	658.0173	Traffic Signal Face 3S 12-Inch	EACH	28.000	28.000
0174	658.0174	Traffic Signal Face 4S 12-Inch	EACH	12.000	12.000
0176	658.5069	Signal Mounting Hardware (location) 01. RAWSON & 10TH	LS	1.000	1.000
0178	658.5069	Signal Mounting Hardware (location) 02. RAWSON & 6TH	LS	1.000	1.000
0180	659.1125	Luminaires Utility LED C	EACH	14.000	14.000
0182	661.0200	Temporary Traffic Signals for Intersections (location) 01. RAWSON & 10TH	LS	1.000	1.000
0184	661.0200	Temporary Traffic Signals for Intersections (location) 02. RAWSON & 6TH	LS	1.000	1.000
0186	673.0110	Communication Vault Type Round	EACH	3.000	3.000
0188	678.0200	Fiber Optic Splice Enclosure	EACH	1.000	1.000
0190	678.0300	Fiber Optic Splice	EACH	6.000	6.000
0192	678.0400	Fiber Optic Termination	EACH	6.000	6.000
0194	690.0150	Sawing Asphalt	LF	1,400.000	1,400.000
0196	690.0250	Sawing Concrete	LF	100.000	100.000
0198	ASP.1T0A	On-the-Job Training Apprentice at $5.00/HR	HRS	700.000	700.000
0200	ASP.1T0G	On-the-Job Training Graduate at $5.00/HR	HRS	700.000	700.000
0202	SPV.0060	Special 01. CONCRETE BASES TYPE 10 MODIFIED	EACH	2.000	2.000
0204	SPV.0060	Special 02. POLES TYPE 10	EACH	2.000	2.000
0206	SPV.0060	Special 03. POLES TYPE 13	EACH	4.000	4.000
0208	SPV.0060	Special 04. POLES TYPE 13 MODIFIED	EACH	2.000	2.000
0210	SPV.0060	Special 05. MONOTUBE ARMS 30-FT	EACH	2.000	2.000
0212	SPV.0060	Special 06. MONOTUBE ARMS 50-FT	EACH	1.000	1.000
0214	SPV.0060	Special 07. MONOTUBE ARMS 55-FT	EACH	3.000	3.000
0216	SPV.0060	Special 08. MONOTUBE ARMS 40-FT MODIFIED	EACH	2.000	2.000
0218	SPV.0060	Special 09. LUMINAIRE ARMS 6-FT	EACH	8.000	8.000

2050-05-71

Line	Item	Item Description	Unit	Total	Qty
0220	SPV.0060	Special 10. INLET COVER TYPE 57	EACH	2.000	2.000
0222	SPV.0060	Special 11. UTILITY LINE OPENING	EACH	10.000	10.000
0224	SPV.0060	Special 12. HYDRO EXCAVATION	EACH	6.000	6.000
0226	SPV.0090	Special 01. FURNISH AND INSTALL 12SM FIBER OPTIC COMMUNICATIONS CABLE	LF	360.000	360.000
0228	SPV.0090	Special 02. TRACER WIRE 12 AWG	LF	160.000	160.000
0230	SPV.0105	Special 01. TRAFFIC SIGNAL CABINET 16-PHASE RAWSON & 10TH	LS	1.000	1.000
0232	SPV.0105	Special 02. TRAFFIC SIGNAL CABINET 16-PHASE RAWSON & 6TH	LS	1.000	1.000
0234	SPV.0105	Special 03. EMERGENCY VEHICLE PREEMPTION SYSTEM RAWSON & 10TH	LS	1.000	1.000
0236	SPV.0105	Special 04. EMERGENCY VEHICLE PREEMPTION SYSTEM RAWSON & 6TH	LS	1.000	1.000
0238	SPV.0105	Special 05. VEHICULAR VIDEO DETECTION SYSTEM RAWSON & 10TH	LS	1.000	1.000
0240	SPV.0105	Special 06. VEHICULAR VIDEO DETECTION SYSTEM RAWSON & 6TH	LS	1.000	1.000
0242	SPV.0105	Special 07. RELOCATE RADIO ACTIVATED SOLAR HIGH WATER BEACON	LS	1.000	1.000

3

REMOVING CURB & GUTTER

LOCATION	STATION	-	STATION	204.0150 REMOVING CURB & GUTTER LF
RAWSON				
MEDIAN	113+78	-	118+13	673
MEDIAN	119+10	-	122+12	447
SUBTOTAL				1120
UNDISTRIBUTED				80
TOTAL				**1200**

REMOVING STORM SEWER

LOCATION	STATION	OFFSET	204.0220 REMOVING INLETS EACH	204.0245 REMOVING STORM SEWER 18-INCH LF
RAWSON				
	116+12	26' LT	1	16
TOTAL			**1**	**16**

COMMON EXCAVATION

LOCATION	STATION	-	STATION	OFFSET	205.0100 EXCAVATION COMMON CY
RAWSON					
MEDIAN	113+78	-	118+14	--	730
MEDIAN	119+10	-	122+12	--	500
SUBTOTAL					1230
UNDISTRIBUTED					170
TOTAL					**1400**

EXCAVATION, HAULING, AND DISPOSAL OF PETROLEUM CONTAMINATED SOIL

LOCATION	STATION	-	STATION	OFFSET	205.0501.S EXCAVATION, HAULING, AND DISPOSAL OF PETROLEUM CONTAMINATED SOIL TON
RAWSON					
10TH	100+00	-	101+00	--	20
SUBTOTAL					20
TOTAL					**20**

AGGREGATE ITEMS

LOCATION	STATION	-	STATION	305.0120 BASE AGGREGATE DENSE 1 1/4 -INCH TON
RAWSON				
MEDIAN	155+24	-	157+44	2062
MEDIAN	158+56	-	163+31	1387
SUBTOTAL				3449
UNDISTRIBUTED				351
TOTAL				**3800**

ASPHALT PAVEMENT ITEMS

LOCATION	STATION	-	STATION	455.0605 TACK COAT GAL	460.6223 HMA PAVEMENT 3 MT 58-28 S TON	460.6224 HMA PAVEMENT 4 MT 58-28 S TON
RAWSON						
	113+88	-	118+14	35	127	127
	119+10	-	122+02	24	87	87
SUBTOTAL				59	214	214
UNDISTRIBUTED				1	46	46
TOTAL				**60**	**260**	**260**

CONCRETE CURB & GUTTER

LOCATION	STATION	-	STATION	601.0331 CONCRETE CURB & GUTTER 31-INCH LF	620.0300 CONCRETE MEDIAN SLOPED NOSE SF	416.1010 CONCRETE SURFACE DRAINS CY
RAWSON						
MEDIAN	113+78	-	118+13	710	50	0
MEDIAN	119+10	-	122+12	490	50	1
SUBTOTAL				1200	100	1
UNDISTRIBUTED				100	20	1
TOTAL				**1300**	**120**	**2**

CONCRETE SIDEWALK

LOCATION	STATION	-	STATION	602.0410 CONCRETE SIDEWALK 5-INCH SF	204.0155 REMOVING CONCRETE SIDEWALK SY
RAWSON					
MEDIAN	115+33	-	118+14	1246	--
MEDIAN	119+10	-	120+50	675	--
6th					
NORTH MEDIAN				50	6
SOUTH MEDIAN				50	--
SUBTOTAL				2021	6
UNDISTRIBUTED				179	14
TOTAL				**2200**	**20**

STORM SEWER

STR NO.	STATION	OFFSET	611.0430 RECONSTRUCTING INLETS EACH	611.1230 CATCH BASINS 2x3-FT EACH	SPV.0060.10 INLET COVER TYPE 57 EACH	608.0318 STORM SEWER PIPE REINFORCED CONCRETE CLASS III 18-INCH LF	608.0512 STORM SEWER PIPE REINFORCED CONCRETE CLASS V 12-INCH LF	520.8000 CONCRETE COLLARS FOR PIPE EACH
RAWSON								
1.0	116+04	27.6' LT	--	1	1	16	--	2
2.0	120+89	5.0' LT	1	--	1	--	--	--
SUBTOTAL			1	1	2	16	0	2
UNDISTRIBUTED			0	0	0	8	8	0
TOTAL			**1**	**1**	**2**	**24**	**8**	**2**

3

DUST CONTROL

LOCATION	624.0100 WATER MGAL
UNDISTRIBUTED	2
TOTAL	**2**

NOTE: WATER FOR USE IN DUST CONTROL

MOBILIZATIONS EROSION CONTROL

PROJECT I.D.	628.1905 MOBILIZATIONS EROSION CONTROL EACH
2050-05-71	2

3

MOBILIZATIONS EMERGENCY EROSION CONTROL

PROJECT I.D.	628.1910 MOBILIZATIONS EMERGENCY EROSION CONTROL EACH
2050-05-71	2

EROSION CONTROL

LOCATION	628.7005 INLET PROTECTION TYPE A EACH	628.7010 INLET PROTECTION TYPE B EACH
RAWSON		
10TH ST	1	12
6TH ST	--	10
SUBTOTAL	1	22
UNDISTRIBUTED	1	8
TOTAL	**2**	**30**

3

3

RESTORATION

LOCATION	STATION	-	STATION	625.0100 TOPSOIL SY	628.2006 EROSION MAT URBAN CLASS 1 TYPE A SY	629.0210 FERTILIZER TYPE B CWT	630.0140 SEEDING MIXTURE NO. 40 LB
RAWSON							
MEDIAN	113+78	-	115+35	35	35	0.02	0.6
MEDIAN	120+50	-	122+12	72	72	0.05	1.3
SUBTOTAL				107	107	0.07	1.9
UNDISTRIBUTED				43	43	0.03	1.1
TOTAL				**150**	**150**	**0.10**	**3**

TRAFFIC CONTROL ITEMS

LOCATION	DURATION DAYS *	643.0300 TRAFFIC CONTROL DRUMS *EACH	DAY	643.0420 TRAFFIC CONTROL BARRICADES TYPE III *EACH	DAY	643.0705 TRAFFIC CONTROL WARNING LIGHTS TYPE A *EACH	DAY	643.0715 TRAFFIC CONTROL WARNING LIGHTS TYPE C *EACH	DAY	643.0800 TRAFFIC CONTROL ARROW BOARDS *EACH	DAY	643.0900 TRAFFIC CONTROL SIGNS *EACH	DAY	643.1050 TRAFFIC CONTROL SIGNS PCMS *EACH	DAY
STAGE 1															
CTH BB	31	155	4,805	14	434	14	434	26	806	2	62	29	899	--	--
SUBTOTAL STAGE 1			4,805		434		434		806		62		899		--
STAGE 2															
CTH BB	39	136	5,304	10	390	16	624	52	2,028	4	156	36	1,404	--	--
S. 6TH ST.	39	62	2,418	11	429	8	312	20	780	2	78	12	468	--	--
S. 10TH ST.	39	60	2,340	9	351	8	312	20	780	2	78	12	468	--	--
SUBTOTAL STAGE 2			10,062		1,170		1,248		3,588		312		2,340		--
UNDISTRIBUTED			1,133		396		318		106		26		261		30
TOTAL			**16,000**		**2,000**		**2,000**		**4,500**		**400**		**3,500**		**30**

SIGN SUMMARY

SIGN NO.	SIGN CODE	DESCRIPTION	SIZE			638.2602 REMOVING SIGNS TYPE II EACH	638.3000 REMOVING SMALL SIGN SUPPORTS EACH	637.2210 SIGNS TYPE II REFLECTIVE H SF	637.2215 SIGNS TYPE II REFLECTIVE H FOLDING SF	637.2230 SIGNS TYPE II REFLECTIVE F SF	634.0810 POSTS TUBULAR STEEL 2x2-INCH x 10-FT EACH	NOTES
01 . 01	R7-1-D	NO PARKING (ANYTIME)	18	X	24	1	1	3.00	--	--	--	ON TWO WOOD POSTS
01 . 02	M1-94	S. 10TH ST	54	X	15	--	--	5.63	--	--	--	ON SIGNAL ARM
01 . 03	R4-7	KEEP RIGHT	24	X	30	--	--	5.00	--	--	1	
01 . 04	R1-1F	STOP (Folding)	36	X	36	1	--	--	7.46	--	--	ON SIGNAL POLE
01 . 05	R3-20-L	BEGIN LEFT TURN LANE	24	X	36	--	--	6.00	--	--	1	
01 . 06	R7-1-D	NO PARKING (ANYTIME)	18	X	24	1	1	3.00	--	--	1	
01 . 07	R1-1F	STOP (Folding)	36	X	36	1	--	--	7.46	--	--	SAME POST AS 1.03
01 . 08	R1-1F	STOP (Folding)	36	X	36	1	--	--	7.46	--	--	ON SIGNAL POLE
01 . 09	M1-94	W RAWSON AVE	72	X	15	--	--	7.50	--	--	--	ON SIGNAL ARM
02 . 01	M1-94	W RAWSON AVE	72	X	15	--	--	7.50	--	--	--	ON SIGNAL ARM
02 . 02	R1-1F	STOP (Folding)	36	X	36	1	--	--	7.46	--	--	ON SIGNAL POLE
02 . 03	R1-1F	STOP (Folding)	36	X	36	1	--	--	7.46	--	1	
02 . 04	R7-1-D	NO PARKING (ANYTIME)	18	X	24	1	1	3.00	--	--	1	
02 . 05	R3-20-L	BEGIN LEFT TURN LANE	24	X	36	--	--	6.00	--	--	1	
02 06	R4-7	KEEP RIGHT	24	X	30	--	--	5.00	--	--	--	SAME POST AS 2.03
02 . 07	R1-1F	STOP (Folding)	36	X	36	1	--	--	7.46	--	--	ON SIGNAL POLE
02 . 08	M1-94	S. 10TH ST	54	X	15	--	--	5.63	--	--	--	ON SIGNAL ARM
02 . 09	R7-1-D	NO PARKING (ANYTIME)	18	X	24	1	1	3.00	--	--	1	
02 . 10	R2-1	SPEED LIMIT 40	24	X	30	1	1	5.00	--	--	1	
02 . 11	R2-1	SPEED LIMIT 40	24	X	30	1	1	5.00	--	--	1	
02 . 12	W12-2	MAX HEIGHT 14'-4"	36	X	36	1	1	--	--	9.00	1	
02 . 13	W12-2	MAX HEIGHT 14'-4"	36	X	36	1	1	--	--	9.00	1	
03 . 01		HIGH WATER	30	X	30	1	1	--	--	--	--	
03 . 02	R2-1	SPEED LIMIT 40	24	X	30	1	1	5.00	--	--	1	
03 . 03	R2-1	SPEED LIMIT 40	24	X	30	1	1	5.00	--	--	1	
03 . 04	R7-1-D	NO PARKING (ANYTIME)	18	X	24	1	1	3.00	--	--	1	
03 . 05	W12-2	MAX HEIGHT 14'-4"	36	X	36	1	1	--	--	9.00	1	
03 . 06	W12-2	MAX HEIGHT 14'-4"	36	X	36	1	1	--	--	9.00	1	
03 . 07	R7-1-D	NO PARKING (ANYTIME)	18	X	24	1	1	3.00	--	--	1	
03 . 08	M3-4	WEST	24	X	12	--	--	2.00	--	--	--	ON SIGNAL POLE
03 . 09	M1-5A	CTH ROUTE MARKER (COUNTY BB)	24	X	24	--	--	4.00	--	--	--	ON SIGNAL POLE
03 . 10	M1-94	S. 6TH ST	48	X	15	--	--	5.00	--	--	--	ON SIGNAL ARM
03 . 11	R1-1F	STOP (Folding)	36	X	36	1	--	--	7.46	--	--	ON SIGNAL POLE
03 . 12	R4-7	KEEP RIGHT	24	X	30	--	--	5.00	--	--	1	
03 . 13	R3-20-L	BEGIN LEFT TURN LANE	24	X	36	--	--	6.00	--	--	1	
03 . 14	R7-1-D	NO PARKING (ANYTIME)	18	X	24	1	1	3.00	--	--	1	
03 . 15	R1-1F	STOP (FOLDING)	36	X	36	1	--	--	7.46	--	--	SAME POST AS 3.12
03 . 16	R1-1F	STOP (FOLDING)	36	X	36	1	--	--	7.46	--	--	ON SIGNAL POLE
03 . 17	M1-94	W RAWSON AVE	72	X	15	--	--	7.50	--	--	--	ON SIGNAL ARM
04 . 01	R1-1F	STOP (FOLDING)	36	X	36	1	--	--	7.46	--	1	
04 . 02	R4-7	KEEP RIGHT	24	X	30	--	--	5.00	--	--	--	SAME POST AS 4.01
04 . 03	M1-94	W RAWSON AVE	72	X	15	--	--	7.50	--	--	--	ON SIGNAL ARM
04 . 04	R1-1F	STOP (FOLDING)	36	X	36	--	--	--	7.46	--	--	ON SIGNAL POLE
04 . 05	R1-1F	STOP (FOLDING)	36	X	36	1	--	--	7.46	--	1	
04 . 06	R7-1-D	NO PARKING (ANYTIME)	18	X	24	1	1	3.00	--	--	1	
04 . 07	R3-20-L	BEGIN LEFT TURN LANE	24	X	36	--	--	6.00	--	--	1	
04 . 08	R1-1F	STOP (FOLDING)	36	X	36	1	--	--	7.46	--	1	
04 . 09	R4-7	KEEP RIGHT	24	X	30	1	--	5.00	--	--	--	SAME POST AS 4.08
04 . 10	R1-1F	STOP (FOLDING)	36	X	36	1	--	--	7.46	--	--	ON SIGNAL POLE
04 . 11	R4-7	KEEP RIGHT	24	X	30	1	--	5.00	--	--	--	SAME POST AS 4.05
04 . 12	M3-2	EAST	24		12	--	--	2.00	--	--	--	ON SIGNAL POLE
04 . 13	M1-5A	CTH ROUTE MARKER (COUNTY BB)	24	X	24	--	--	4.00	--	--	--	ON SIGNAL POLE
04 . 14	M1-94	S. 6TH ST	48	X	15	--	--	5.00	--	--	--	ON SIGNAL ARM
04 . 15	R2-1	SPEED LIMIT 40	24	X	30	--	--	5.00	--	--	1	
04 . 16	R2-1	SPEED LIMIT 40	24	X	30	--	--	5.00	--	--	1	
04 . 17	R7-1-D	NO PARKING (ANYTIME)	18	X	24	1	1	3.00	--	--	1	
					TOTAL:	**33**	**18**	**174.26**	**104.44**	**36.00**	**28**	

3

MARKING

LOCATION	646.1020 MARKING LINE EPOXY 4-INCH WHITE LF	646.3020 MARKING LINE EPOXY 8-INCH WHITE LF	646.5020 MARKING ARROW EPOXY EACH	646.5120 MARKING WORD EPOXY EACH	646.6120 MARKING STOP LINE 18-INCH EPOXY LF	646.7120 MARKING DIAGONAL EPOXY 12-INCH WHITE LF	646.9000 MARKING REMOVAL LINE 4-INCH LF
W. RAWSON AVE./ S. 6TH ST INTERSECTION (WEST LEG)	630	300	3	3	60	70	80
W. RAWSON AVE./ S. 6TH ST INTERSECTION (EAST LEG)	430	330	2	1	60	30	80
SUBTOTAL	1060	630	5	4	120	100	160
UNDISTRIBUTED	240	170	1	2	80	20	40
TOTAL	**1300**	**800**	**6**	**6**	**200**	**120**	**200**

CONSTRUCTION STAKING

	650.4000 CONSTRUCTION STAKING STORM SEWER EACH	650.5500 CONSTRUCTION STAKING CURB GUTTER AND CURB & GUTTER LF	650.8500 CONSTRUCTION STAKING ELECTRICAL INSTALLATIONS LS	650.9910 CONSTRUCTION STAKING SUPPLEMENTAL CONTROL LS
TOTAL	2	1300	1	1

REMOVING CONCRETE BASES

204.0195
REMOVING
CONCRETE
BASES

LOCATION	BASE NO.	EACH	REMARKS
RAWSON & 10TH SIGNAL			
	SB1	1	
	SB2	1	
	SB3	1	
	SB4	1	
	SB5	1	
	SB6	1	
	SB7	1	
	SB8	1	
	SB9	1	
	SB10	1	
	CB1	1	
RAWSON & 10TH SUBTOTAL		11	
RAWSON & 6TH SIGNAL			
	SB1	1	
	SB2	1	
	SB3	1	
	SB4	1	
	SB5	1	
	SB6	1	
	SB7	1	
	SB8	1	
	SB9	--	TO REMAIN
	SB10	1	
	SB11	1	
	SB12	1	
	SB13	1	
	SB14	1	
	SB15	1	
	SB16	1	
	CB1	1	
RAWSON & 6TH SUBTOTAL		16	
TOTAL		27	

REMOVING PULL BOXES

653.0905
REMOVING
PULL
BOXES

PULL BOX NO.	EACH	REMARKS
RAWSON & 10TH SIGNAL		
PB1	1	
PB2	1	
PB3	1	
PB4	1	
PB5	1	
PB6	1	
PB7	1	
PB8	1	
PB9	1	
RAWSON & 10TH SUBTOTAL	9	
RAWSON & 6TH SIGNAL		
PB1	1	
PB2	1	
PB3	1	
PB4	1	
PB5	1	
PB6	1	
PB7	--	TO REMAIN
PB8	1	
PB9	1	
PB10	1	
PB11	1	
PB12	1	
PB13	1	
PB14	1	
ICPB1	1	
RAWSON & 6TH SUBTOTAL	14	
TOTAL	23	

3

CONDUIT

LOCATION	FROM	TO	652.0225 RIGID NONMETALLIC SCHEDULE 40 2-INCH LF	652.0235 RIGID NONMETALLIC SCHEDULE 41 3-INCH LF	652.0605 SPECIAL 2-INCH LF	652.0615 SPECIAL 3-INCH LF	REMARKS
RAWSON & 10TH SIGNAL							
	CB1	PB1	--	10	--	--	2 RUNS
	PB1	SB1	20	--	--	--	
	PB1	PB2	--	--	--	120	2 RUNS
	PB2	PB3	--	--	--	90	2 RUNS
	PB3	SB2	5	--	--	--	
	PB3	PB4	--	120	--	--	2 RUNS
	PB4	SB3	5	--	--	--	
	PB4	PB5	--	--	--	100	2 RUNS
	PB5	SB4	5	--	--	--	
	PB5	PB6	--	80	--	--	2 RUNS
	PB6	SB5	10	--	--	--	
	PB6	PB7	--	--	--	120	2 RUNS
	PB7	PB8	--	--	--	90	2 RUNS
	PB7	SB6	10	--	--	--	
	PB8	PB9	--	90	--	--	2 RUNS
	PB9	SB7	10	--	--	--	
	PB9	PB10	--	--	--	120	2 RUNS
	PB10	SB8	5	--	--	--	
	PB10	CB1	--	100	--	--	2 RUNS
SUBTOTAL RAWSON & 10TH SIGNAL:			70	400	0	640	
RAWSON & 6TH SIGNAL							
	CB1	PB1	--	60	--	--	2 RUNS
	PB1	SB1	5	--	--	--	
	PB1	PB2	--	--	--	120	2 RUNS
	PB2	PB3	--	--	--	90	2 RUNS
	PB3	SB2	10	--	--	--	
	PB3	PB4	--	60	--	--	2 RUNS
	PB4	EXT1	5	--	--	--	
	PB4	SB3	5	--	--	--	
	PB4	PB6	--	--	--	90	2 RUNS
	PB6	PB7	--	--	--	70	2 RUNS
	PB7	SB5	5	--	--	--	
	PB7	PB8	--	120	--	--	2 RUNS
	PB8	SB6	30	--	--	--	
	PB8	PB9	--	--	--	120	2 RUNS
	PB9	PB10	--	--	--	80	2 RUNS
	PB10	SB7	10	--	--	--	
	PB10	PB11	--	80	--	--	2 RUNS
	PB11	SB8	5	--	--	--	
	PB11	PB12	--	--	--	100	2 RUNS
	PB12	PB13	--	--	--	80	2 RUNS
	PB13	SB9	5	--	--	--	
	PB13	CB1	--	110	--	--	2 RUNS
SUBTOTAL RAWSON & 6TH SIGNAL:			80	430	0	750	
COMMUNICATIONS							
	CV1	CV2	--	--	55	--	
	CV2	CB1	5	--	--	--	
	EXT1	CV4	360	--	--	--	
	CV4	CV5	--	--	70	--	
	CV5	CB2	5	--	--	--	
SUBTOTAL COMUNICATIONS:			370	0	125	0	
TOTAL			520	830	125	1390	

PULL BOXES

LOCATION	NO.	653.0140 PULL BOXES STEEL 24X42 - INCH EACH*	653.0145 PULL BOXES STEEL 24X48 - INCH EACH*	673.0110 COMMUNICATION VAULT TYPE ROUND EACH*
RAWSON & 10TH SIGNAL				
	PB1	--	1	--
	PB2	1	--	--
	PB3	1	--	--
	PB4	1	--	--
	PB5	1	--	--
	PB6	1	--	--
	PB7	1	--	--
	PB8	1	--	--
	PB9	1	--	--
	PB10	--	1	--
SUBTOTAL RAWSON & 10TH SIGNAL:		8	2	0
RAWSON & 6TH SIGNAL				
	PB1	--	1	--
	PB2	1	--	--
	PB3	1	--	--
	PB4	1	--	--
	PB6	1	--	--
	PB7	1	--	--
	PB8	1	--	--
	PB9	1	--	--
	PB10	1	--	--
	PB11	1	--	--
	PB12	--	--	--
	PB13	--	1	--
SUBTOTAL RAWSON & 6TH SIGNAL:		9	2	0
COMUNICATIONS				
	CV2	--	--	1
	CV4	--	--	1
	CV5	--	--	1
SUBTOTAL RAWSON & 6TH SIGNAL:		0	0	3
TOTAL:		**17**	**4**	**3**

* FINAL LOCATION TO BE DETERMINED BY ENGINEER IN FIELD

3

TRAFFIC SIGNAL BASES, STANDARDS, POLES, MAST ARMS, FACES AND EQUIPMENT

LOCATION	NO.	654.0101 CONCRETE BASES TYPE 1 EACH*	654.0102 CONCRETE BASES TYPE 2 EACH*	654.0110 CONCRETE BASES TYPE 10 EACH*	654.0113 CONCRETE BASES TYPE 13 EACH*	SPV.0060.01 CONCRETE BASES TYPE 10 MODIFIED EACH*	657.0100 PEDESTAL BASES EACH	657.0255 TRANSFORMER BASES BREAKAWAY 11 1/2-INCH BOLT CIRCLE EACH	657.0315 POLES TYPE 4 EACH	657.0425 TRAFFIC SIGNAL STANDARDS ALUMINUM 15-FT EACH	657.0614 LUMINAIRE ARMS SINGLE MEMBER 4-INCH CLAMP 8-FT EACH	SPV.0060.02 POLES TYPE 10 EACH	SPV.0060.03 POLES TYPE 13 EACH	SPV.0060.04 POLES TYPE 13 MODIFIED EACH	SPV.0060.05 MONOTUBE ARMS 30-FT EACH	SPV.0060.06 MONOTUBE ARMS 50-FT	SPV.0060.07 MONOTUBE ARMS 55-FT EACH	SPV.0060.08 MONOTUBE ARMS 40-FT MODIFIED EACH	SPV.0060.09 LUMINAIRE ARMS 6-FT EACH	658.0173 TRAFFIC SIGNAL FACE 3S 12-INCH EACH	658.0174 TRAFFIC SIGNAL FACE 4S 12-INCH EACH	659.1125 LUMINARES UTILITY LED C EACH
RAWSON & 10TH SIGNAL																						
	SB1	--	1	--	--	--	--	1	1	--	1	--	--	--	--	--	--	--	--	1	1	1
	SB2	--	--	--	1	--	--	--	--	--	--	--	1	--	--	--	1	--	1	3	1	1
	SB3	1	--	--	--	--	1	--	--	1	--	--	--	--	--	--	--	--	--	2	--	--
	SB4	--	--	1	--	--	--	--	--	--	--	1	--	--	1	--	--	--	1	1	--	1
	SB5	--	1	--	--	--	--	1	1	--	1	--	--	--	--	--	--	--	--	1	1	1
	SB6	--	--	--	1	--	--	--	--	--	--	--	1	--	--	1	--	--	1	3	1	1
	SB7	1	--	--	--	--	1	--	--	1	--	--	--	--	--	--	--	--	--	2	--	--
	SB8	--	--	1	--	--	--	--	--	--	--	1	--	--	1	--	--	--	1	1	--	1
SUBTOTAL RAWSON & 10TH SIGNAL:		2	2	2	2	0	2	2	2	2	2	2	2	0	2	1	1	0	4	14	4	6
RAWSON & 6TH SIGNAL																						
	SB1	--	1	--	--	--	--	1	1	--	1	--	--	--	--	--	--	--	--	1	1	1
	SB2	--	--	--	1	--	--	--	--	--	--	--	1	--	--	--	1	--	1	3	1	1
	SB3	--	1	--	--	--	--	1	1	--	1	--	--	--	--	--	--	--	--	1	1	1
	SB5	--	--	--	--	1	--	--	--	--	--	--	--	1	--	--	--	1	1	2	1	1
	SB6	--	1	--	--	--	--	1	1	--	1	--	--	--	--	--	--	--	--	1	1	1
	SB7	--	--	--	1	--	--	--	--	--	--	--	1	--	--	--	1	--	1	3	1	1
	SB8	--	1	--	--	--	--	1	1	--	1	--	--	--	--	--	--	--	--	1	1	1
	SB9	--	--	--	--	1	--	--	--	--	--	--	--	1	--	--	--	1	1	2	1	1
SUBTOTAL RAWSON & 6TH SIGNAL:		0	4	0	2	2	0	4	4	0	4	0	2	2	0	0	2	2	4	14	8	8
TOTAL:		**2**	**6**	**2**	**4**	**2**	**2**	**6**	**6**	**2**	**6**	**2**	**4**	**2**	**2**	**1**	**3**	**2**	**8**	**28**	**12**	**14**

3

TRAFFIC SIGNAL CABLE AND ELECTRICAL WIRING

LOCATION FROM	THROUGH	TO	655.0210 CABLE TRAFFIC SIGNAL 3-14 AWG LF	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG LF	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG LF	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG LF	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS (NEUTRAL) 10 AWG WHITE LF	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS (EQUIPMENT GROUNDING) 10 AWG GREEN LF	655.0900 TRAFFIC SIGNAL EVP DETECTOR CABLE LF
RAWSON & 10TH SIGNAL									
CB1	PB1	SB1	60	--	--	40	--	--	60
CB1	PB1, PB2, PB3	SB2	--	--	--	145	--	--	--
CB1	PB1, PB2, PB3, PB4	SB3	260	--	--	205	--	--	260
CB1	PB1, PB2, PB3, PB4, PB5	SB4	--	--	--	260	--	--	--
CB1	PB10, PB9, PB8, PB7, PB6	SB5	--	--	--	305	--	--	--
CB1	PB10, PB9, PB8	SB6	230	--	--	190	--	--	230
CB1	PB10, PB9	SB7	--	--	--	140	--	--	--
CB1	PB10	SB8	90	--	--	70	--	--	90
CB1	PB1	SB1	--	--	--	--	40	40	--
SB1	PB1, PB2, PB3	SB2	--	--	--	--	155	155	--
SB2	PB3, PB4	SB3	--	--	--	--	90	90	--
SB3	PB4, PB5	SB4	--	--	--	--	80	80	--
SB4	PB5, PB6	SB5	--	--	--	--	75	75	--
SB5	PB6, PB7, PB8	SB6	--	--	--	--	150	150	--
SB6	PB8, PB9	SB7	--	--	--	--	85	85	--
SB7	PB9, PB10	SB8	--	--	--	--	95	95	--
SB8	PB10	CB1	--	--	--	--	70	70	--
PB1		SB1	--	--	--	--	--	20	--
PB3		SB2	--	--	--	--	--	10	--
PB4		SB3	--	--	--	--	--	10	--
PB5		SB4	--	--	--	--	--	10	--
PB6		SB5	--	--	--	--	--	10	--
PB8		SB6	--	--	--	--	--	10	--
PB9		SB7	--	--	--	--	--	10	--
PB10		SB8	--	--	--	--	--	10	--
BASE TO SIGNAL HEAD CABLING				520	200	--	--	--	--
UNDISTRIBUTED			30	80	--	95	5	5	60
RAWSON & 10TH SIGNAL SUBTOTAL:			670	600	200	1450	1780		700

CONTINUED ON NEXT SHEET

3

TRAFFIC SIGNAL CABLE AND ELECTRICAL WIRING - CONTINUED

LOCATION FROM	THROUGH	TO	655.0210 CABLE TRAFFIC SIGNAL 3-14 AWG LF	655.0230 CABLE TRAFFIC SIGNAL 5-14 AWG LF	655.0240 CABLE TRAFFIC SIGNAL 7-14 AWG LF	655.0260 CABLE TRAFFIC SIGNAL 12-14 AWG LF	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS (NEUTRAL) 10 AWG WHITE LF	655.0515 ELECTRICAL WIRE TRAFFIC SIGNALS (EQUIPMENT GROUNDING) 10 AWG GREEN LF	655.0900 TRAFFIC SIGNAL EVP DETECTOR CABLE LF
RAWSON & 6TH SIGNAL									
CB1		SB1	110	--	--	50	--	--	110
CB1		SB2	--	--	--	170	--	--	--
CB1		SB3	--	--	--	200	--	--	--
CB1		SB4	640	--	--	--	--	--	640
CB1		SB5	360	--	--	290	--	--	360
CB1		SB6	--	--	--	355	--	--	--
CB1		SB7	290	--	--	225	--	--	290
CB1		SB8	--	--	--	175	--	--	--
CB1		SB9	120	--	--	75	--	--	120
CB1		SB1	--	--	--	--	50	50	--
SB1		SB2	--	--	--	--	145	145	--
SB2		SB3	--	--	--	--	65	65	--
SB4		SB5	--	--	--	--	115	115	--
SB5		SB6	--	--	--	--	115	115	--
SB6		SB7	--	--	--	--	165	165	--
SB7		SB8	--	--	--	--	75	75	--
SB8		SB9	--	--	--	--	125	125	--
SB9		CB1	--	--	--	--	75	75	--
PB1		SB1	--	--	--	--	--	10	--
PB3		SB2	--	--	--	--	--	20	--
PB4		SB3	--	--	--	--	--	10	--
PB5		SB4	--	--	--	--	--	10	--
PB7		SB5	--	--	--	--	--	10	--
PB8		SB6	--	--	--	--	--	40	--
PB10		SB7	--	--	--	--	--	20	--
PB11		SB8	--	--	--	--	--	10	--
PB13		SB9	--	--	--	--	--	10	--
BASE TO SIGNAL HEAD CABLING			--	560	360	--	--	--	--
UNDISTRIBUTED			10	40	40	10	10	10	80
RAWSON & 6TH SIGNAL SUBTOTAL:			1530	600	400	1550	2020		1600
TOTAL:			**2200**	**1200**	**600**	**3000**	**3800**		**2300**

3

FIBER OPTIC SPLICE ENCLOSURE, SPLICE AND TERMINATION

LOCATION	678.0200 FIBER OPTIC SPLICE ENCLOSURE EACH	678.0300 FIBER OPTIC SPLICE EACH	678.0400 FIBER OPTIC TERMINATION EACH
CV1	--	4	--
CB1 (RAWSON & 10TH)	--	--	4
CV4	1	2	--
CB1 (LAYTON)	--	--	2
TOTAL:	**1**	**6**	**6**

SAW CUTTING

LOCATION	STATION	-	STATION	690.0150 SAWING ASPHALT LF	690.0250 SAWING CONCRETE LF
RAWSON & 6TH					
EAST MEDIAN	113+78	-	118+14	742	--
WEST MEDIAN	119+10	-	122+12	523	--
SUBTOTAL				1265	0
UNDISTRIBUTED				135	100
TOTAL				**1400**	**100**

3

MISC. ITEMS

PROJECT I.D.	213.0100 FINISHING ROADWAY EACH	619.1000 MOBILIZATION EACH	642.5001 FIELD OFFICE TYPE B EACH
2050-05-71	1	1	1

FIBER OPTIC INTERCONNECT

FROM	TO	SPV.0090.01 FURNISH AND INSTALL 12SM FIBER OPTIC COMMUNICATIONS CABLE LF	SPV.0090.02 TRACER WIRE 12 AWG LF	REMARKS
CV1	CV2	110	60	
CV2	CB1 (RAWSON & 10TH)	60	10	
CV4	CV5	130	80	
CV5	CB1 (RAWSON & 6TH)	60	10	
	TOTAL:	**360**	**160**	

3

SIGNAL CONTROL CABINET BASE

LOCATION	654.0217 CONCRETE CONTROL CABINET BASE TYPE 9 SPECIAL EACH
CB1 (RAWSON & 10TH)	1
CB1 (RAWSON & 6TH)	1
TOTAL:	**2**

UTILITY LINE OPENING & HYDRO EXCAVATION

LOCATION	SPV.0060.11 UTILITY LINE OPENING EACH	SPV.0060.12 HYDRO EXCAVATION EACH
RAWSON AVE	10	6
TOTAL	**10**	**6**

3

TRAFFIC SIGNAL LUMP SUM ITEMS

	204.9105.S.01 REMOVING TRAFFIC SIGNAL EQUIPMENT LS	204.9105.S.02 REMOVING TRAFFIC SIGNAL EQUIPMENT LS	656.0200.01 ELECTRICAL SERVICE METER BREAKER PEDESTAL LS	656.0200.02 ELECTRICAL SERVICE METER BREAKER PEDESTAL LS	658.5069.01 SIGNAL MOUNTING HARDWARE LS	658.5069.02 SIGNAL MOUNTING HARDWARE LS	661.0200.01 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS LS	661.0200.02 TEMPORARY TRAFFIC SIGNALS FOR INTERSECTIONS LS	SPV.0105.01 TRAFFIC SIGNAL CABINET 16-PHASE LS	SPV.0105.02 TRAFFIC SIGNAL CABINET 16-PHASE LS	SPV.0105.03 EMERGENCY VEHICLE PREEMPTION SYSTEM LS	SPV.0105.04 EMERGENCY VEHICLE PREEMPTION SYSTEM LS	SPV.0105.05 VEHICULAR VIDEO DETECTION SYSTEM LS	SPV.0105.06 VEHICULAR VIDEO DETECTION SYSTEM LS
RAWSON & 10TH	1	--	1	--	1	--	1	--	1	--	1	--	1	--
RAWSON & 6TH	--	1	--	1	--	1	--	1	--	1	--	1	--	1
TOTAL	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**

RELOCATE RADIO ACTIVATED SOLAR HIGH WATER BEACON

	SPV.0105.07 RELOCATE RADIO ACTIVATED SOLAR HIGH WATER BEACON LS
RAWSON & 6TH	1

3

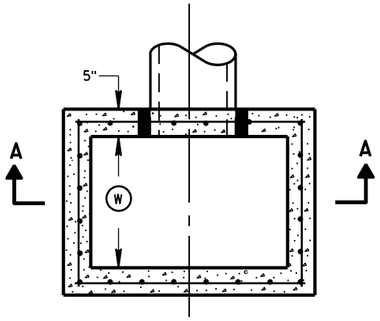
3

MAINTENANCE AND REPAIR
OF HAUL ROADS

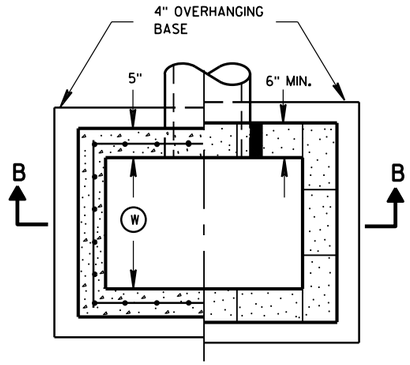
PROJECT I.D.	618.0100 MAINTENANCE AND REPAIR OF HAUL ROADS EACH
2050-05-71	1

Standard Detail Drawing List

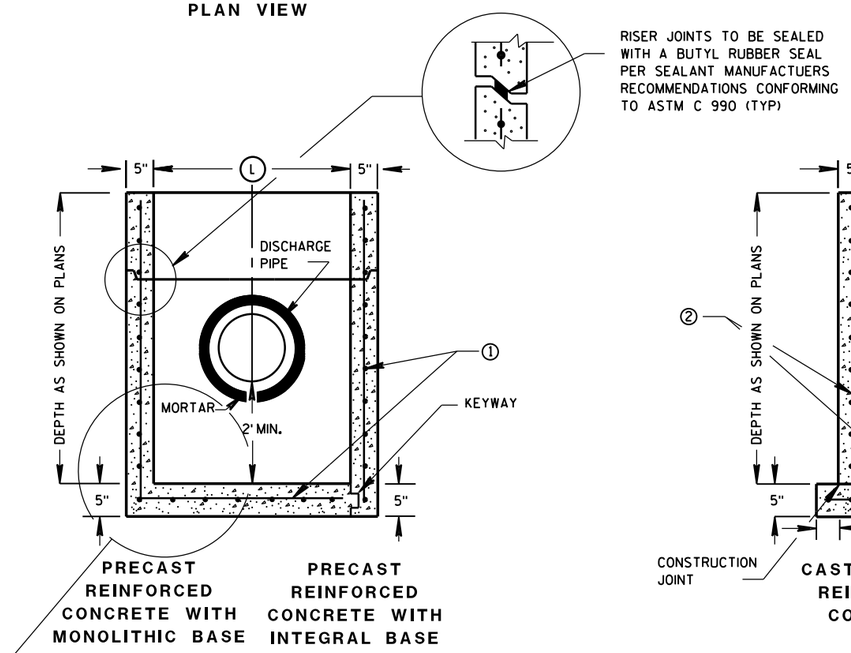
08A09-02	CATCH BASINS 2X3-FT AND 2.5X3-FT
08D04-05	CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES
08D16-10	CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES
08E10-02	INLET PROTECTION TYPE A, B, C AND D
08F04-07	JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL
09B02-10	CONDUIT
09B04-11	PULL BOX
09C02-07	CONCRETE BASES, TYPES 1, 2, 5, & 6
09C03-04	TRANSFORMER/PEDESTAL BASES
09C06-07	CONCRETE CONTROL CABINET BASE, TYPE 9, SPECIAL
09C11-10	CONCRETE BASE TYPE 10
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
09E01-14C	POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS, TYPE 4
09E01-14G	HARDWARE DETAILS FOR POLE MOUNTINGS
09E03-05	NON-FREEWAY LIGHTING UNIT POLE WIRING
09E06-05	TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.
09E08-08B	TYPE 10 POLE 15'-30' MONOTUBE ARM
09E08-08D	TYPE 13 POLE 35'-55' MONOTBE ARM
09E08-08E	GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS
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
09H10-01	COMMUNICATION VAULT TYPE - ROUND
11B02-02	CONCRETE MEDIAN NOSE
15C02-06A	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C05-03	TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS
15C07-13B	PAVEMENT MARKING WORDS
15C07-13C	PAVEMENT MARKING ARROWS
15C08-17A	LONGITUDINAL MARKING (MAINLINE)
15C08-17B	PAVEMENT MARKING (TURN LANES)
15C18-04	MEDIAN ISLAND MARKING
15C33-02	STOP LINE AND CROSSWALK PAVEMENT MARKING



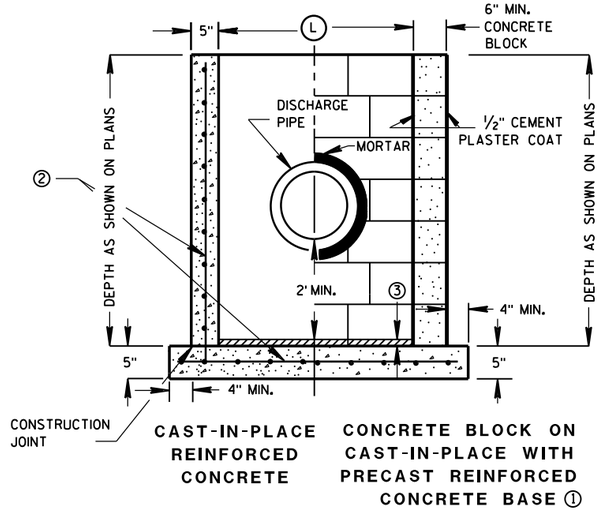
PLAN VIEW



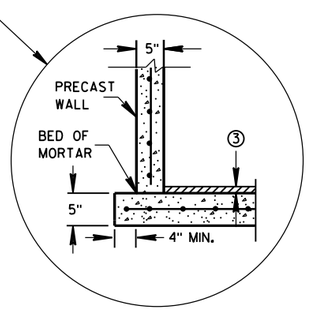
PLAN VIEW



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 CATCH BASIN UNITS REQUIRED FOR THE PROJECT UNTIL A LIST OF SIZES IS FURNISHED BY THE ENGINEER.

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

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

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

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

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

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

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

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

① FOR PRECAST CATCH BASINS PROVIDE REINFORCING STEEL IN ACCORDANCE TO ASTM C 913.

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

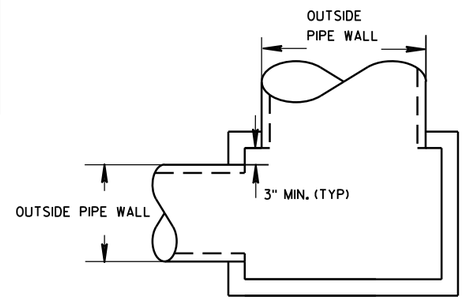
③ 1" CONCRETE KEY POURED AFTER INSTALLATION. 2' SUMP MEASURED FROM TOP OF KEY.

CATCH BASIN COVER MATRIX

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

PIPE MATRIX

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



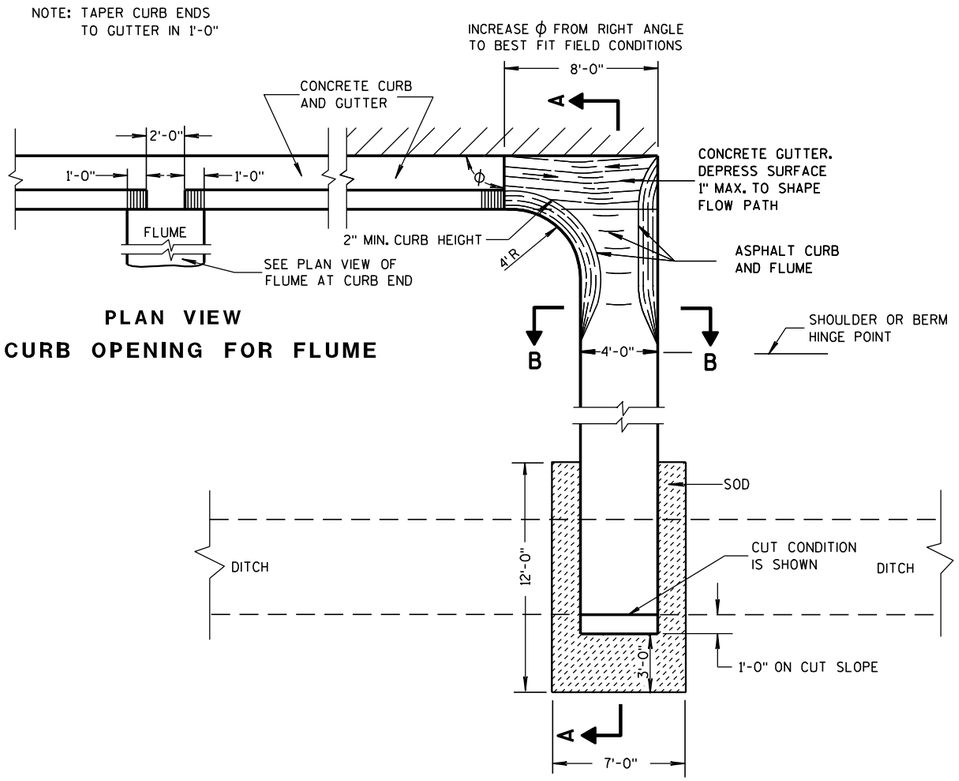
DETAIL "A"

CATCH BASINS 2X3-FT AND 2.5X3-FT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

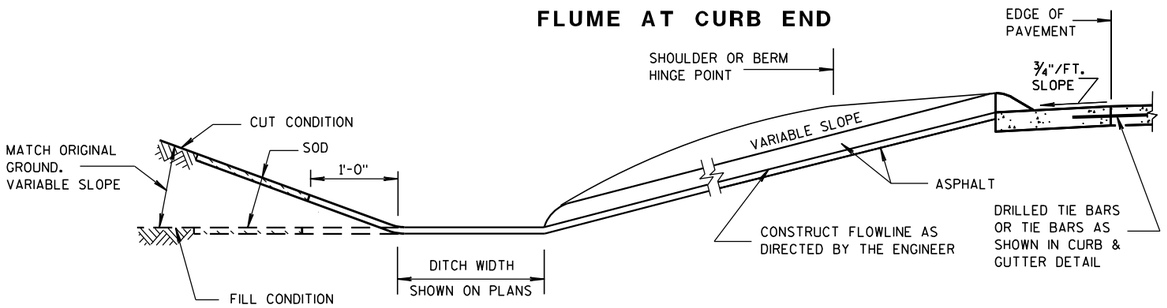
APPROVED
Sept., 2016 — DATE
/S/ Rodney Taylor
ROADWAY STANDARDS UNIT SUPERVISOR
FHWA

ASPHALTIC FLUME

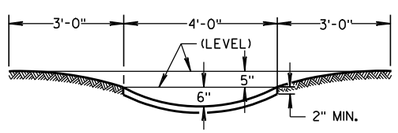


PLAN VIEW
CURB OPENING FOR FLUME

PLAN VIEW
FLUME AT CURB END



SECTION A-A



SECTION B-B

GENERAL NOTES

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

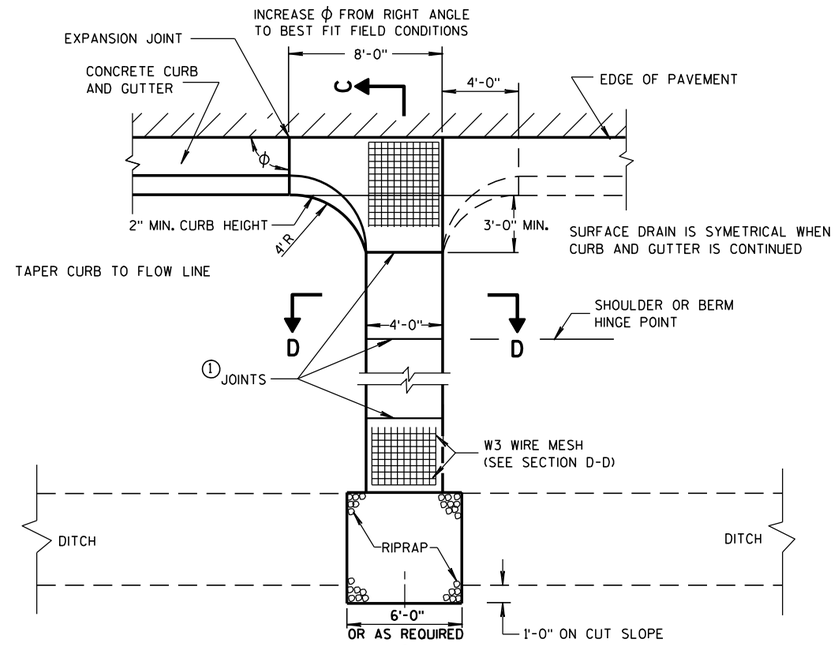
WELDED STEEL WIRE FABRIC SHALL BE IN ACCORDANCE WITH AASHTO SPECIFICATION M55.

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

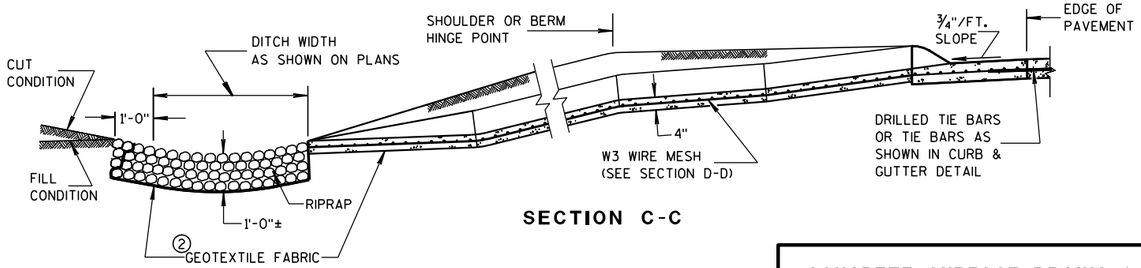
② GEOTEXTILE FABRIC TYPE "R" SHALL UNDERLAY THE FULL LENGTH AND WIDTH OF THE CONCRETE SURFACE DRAIN AND RIPRAP.

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

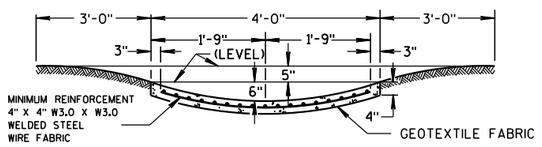
③ CONCRETE SURFACE DRAIN



PLAN VIEW



SECTION C-C



SECTION D-D

CONCRETE SURFACE DRAINS & ASPHALTIC FLUMES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

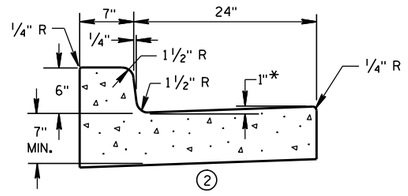
APPROVED
9-4-08 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
75
MENT
FHWA

6

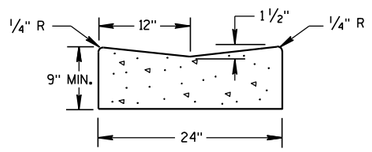
S.D.D. 8 D 4-5

6

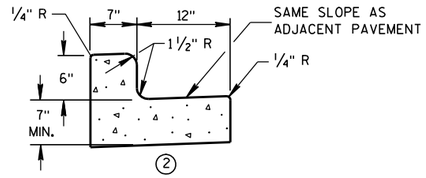
S.D.D. 8 D 4-5



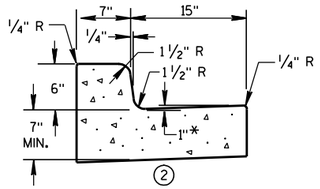
① CONCRETE CURB & GUTTER 31"



① CONCRETE GUTTER 24"

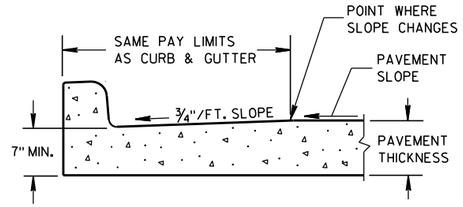


① CONCRETE CURB & GUTTER 19"



① CONCRETE CURB & GUTTER 22"

* TO BE MEASURED TO A MAXIMUM OF 3" WHERE DRAINAGE PROBLEMS EXIST.



PARTIAL SECTION OF PAVEMENT WITH INTEGRAL CURB & GUTTER

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. A LONGITUDINAL CONSTRUCTION JOINT IS NOT REQUIRED WITH INTEGRAL CURB AND GUTTER.

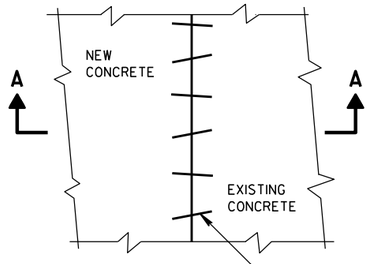
WHERE THE TRANSVERSE JOINTS IN THE PAVEMENT ARE REQUIRED TO BE SEALED, THE JOINTS IN THE INTEGRAL CURB AND GUTTER SHALL BE SEALED TO THE FACE OF CURB WITH THE SAME TYPE OF SEALANT. THE COST OF FURNISHING AND INSTALLING THIS SEALANT SHALL BE INCIDENTAL TO THE ITEM CONCRETE CURB AND GUTTER.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE COURSE AND UNCLASSIFIED EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURB.

① WHEN PLACED ADJACENT TO NEW CONCRETE, TIE BARS ARE REQUIRED FOR CURB AND GUTTER 31", 22", 19" AND CONCRETE GUTTER 24".

② THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE COURSE PROVIDED A 7" MIMIMUM GUTTER THICKNESS IS MAINTAINED.

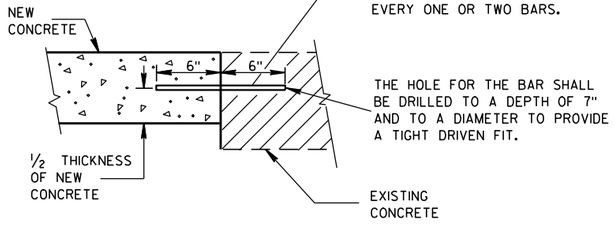
③ WHEN HIGH SIDE CURB SECTION IS REQUIRED, THE LOCATION(S) WILL BE NOTED ON THE PLAN.



PLAN VIEW

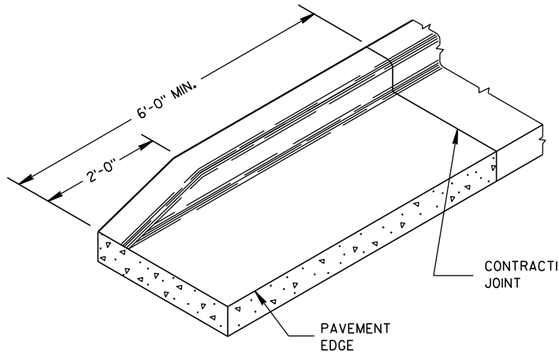
EXISTING AND NEW CONCRETE MAY BE CURB & GUTTER, SURFACE DRAIN, PAVEMENT OR OTHER CONCRETE STRUCTURE.

NO. 6 X 12" DEF. BARS SPACED 3'-0" C-C, INSTALLED ON 6:1 SKEW HORIZONTALLY. DIRECTION OF SKEW ALTERNATING AFTER EVERY ONE OR TWO BARS.

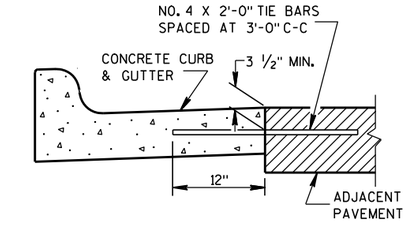


SECTION A-A

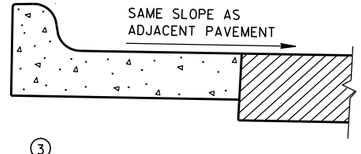
PAVEMENT TIES



END SECTION CURB & GUTTER



① TYPICAL TIE BAR LOCATION



③ HIGH SIDE SECTION

(TYPICAL FOR ALL CURB & GUTTER)

CONCRETE GUTTER, CURB AND GUTTER AND PAVEMENT TIES

(For Optional Use in Milwaukee Co. Only)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

11/2/2010 — DATE

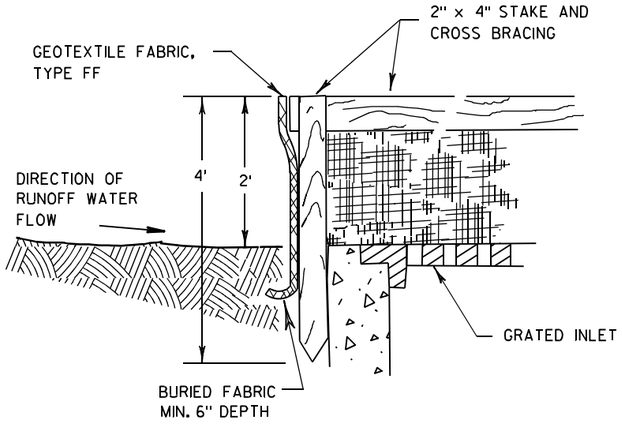
/S/ Jerry Zogg — ROADWAY STANDARDS ENGINEER

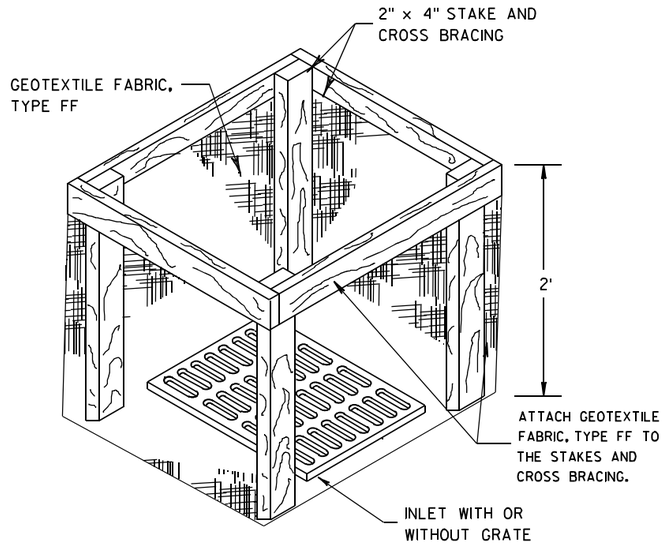
ENT

FHWA

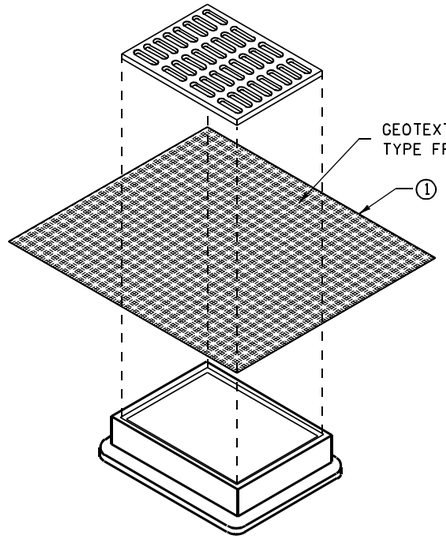
6

S.D.D. 8 D 16-10



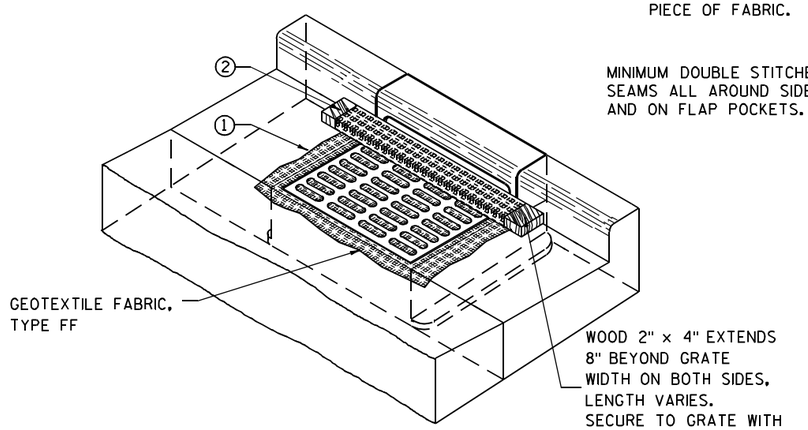


INLET PROTECTION, TYPE A

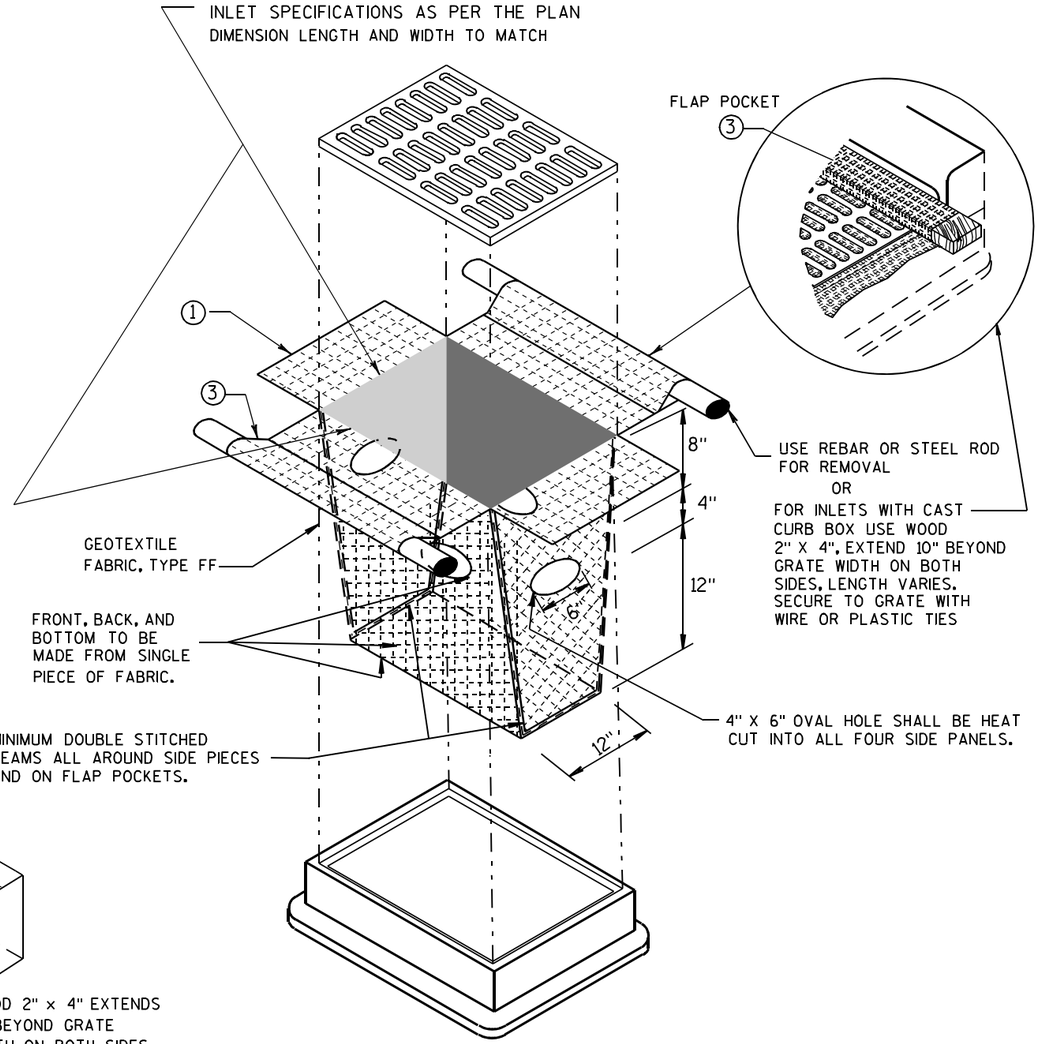


INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)

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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D

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

GENERAL NOTES

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

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

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

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

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

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

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

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

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

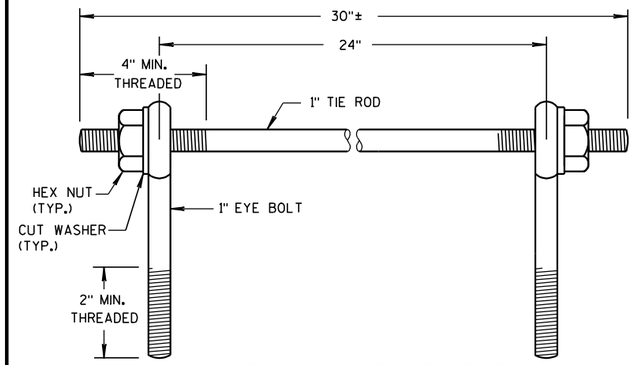
THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE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

INLET PROTECTION
TYPE A, B, C, AND D

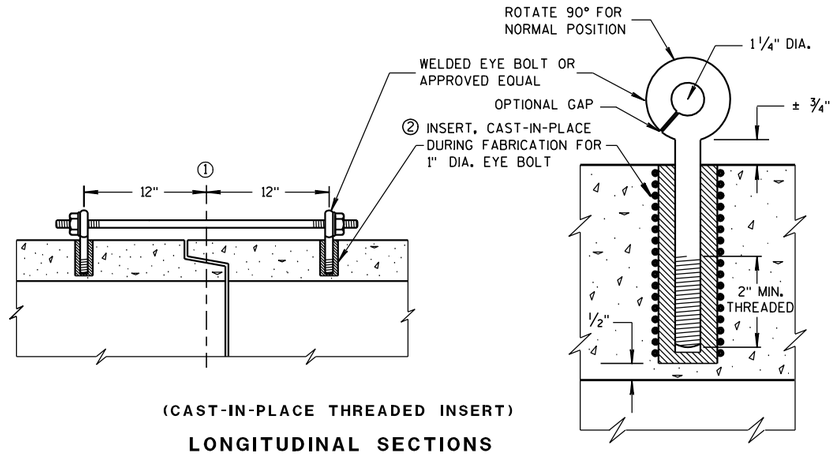
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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



EYE BOLTS AND TIE ROD



(CAST-IN-PLACE THREADED INSERT)

LONGITUDINAL SECTIONS

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

GENERAL NOTES

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

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

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

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

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

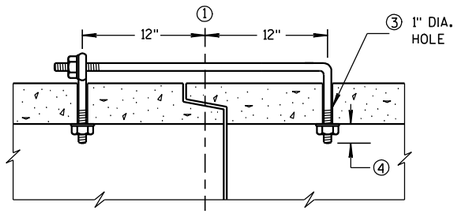
② THE INSIDE OF THE THREADED INSERTS SHALL BE CLEAN TO ALLOW THE INSERTION OF THREADED EYE BOLTS.

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

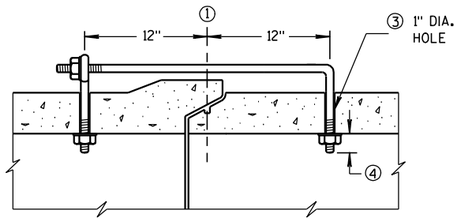
④ BOLT PROJECTION INSIDE OF PIPE SHALL NOT EXCEED 2 INCHES.

⑤ OPENING TO BE ROD DIAMETER PLUS 1 INCH.

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



(TONGUE & GROOVE PIPE)

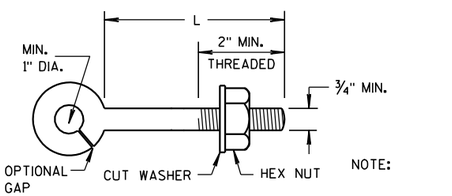


(MODIFIED BELL PIPE)

LONGITUDINAL SECTION

EYE BOLT DIMENSION TABLE

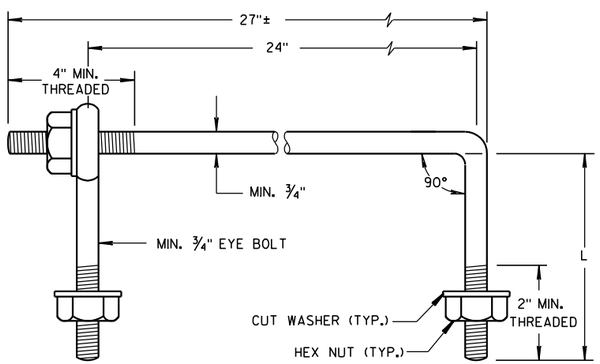
PIPE SIZE	L = LENGTH	
	TONGUE & GROOVE PIPE	MODIFIED BELL PIPE
18" TO 24"	4 1/2"	6 1/4"
30"	5"	7"
36"	5 1/2"	7"
42"	6"	
48"	6 1/2"	
60"	7 1/2"	
66"	8"	



NOTE:

EYE BOLT

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



EYE BOLT AND TIE ROD

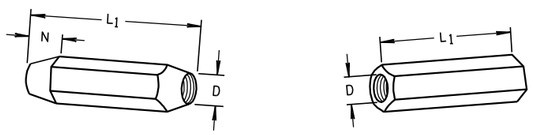
(JOINT TIES FOR 18" TO 66" DIA. CONCRETE PIPE)

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

ADJUSTABLE TIE ROD TABLE

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

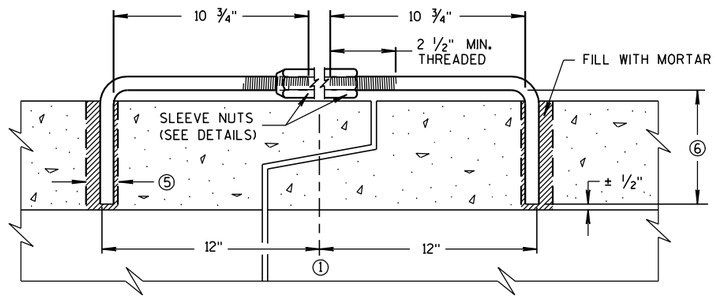
DIMENSIONS SHOWN ARE IN INCHES



TAPERED PLAIN

RIGHT AND LEFT THREADS

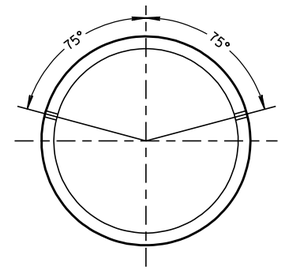
SLEEVE NUTS



LONGITUDINAL SECTION

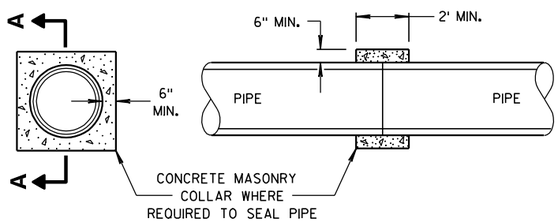
(JOINT TIES FOR 12" TO 108" DIA. CONCRETE PIPE)

ADJUSTABLE TIE ROD (ALTERNATE NO. 3)



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

TRANSVERSE SECTION



SECTION A-A

CONCRETE COLLAR DETAIL

JOINT TIES FOR CONCRETE PIPE AND CONCRETE COLLAR DETAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

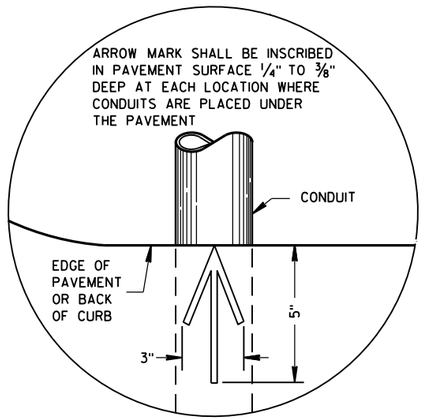
APPROVED
6/5/2012 DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS ENGINEER
FHWA

6

S.D.D. 8 F 4-7

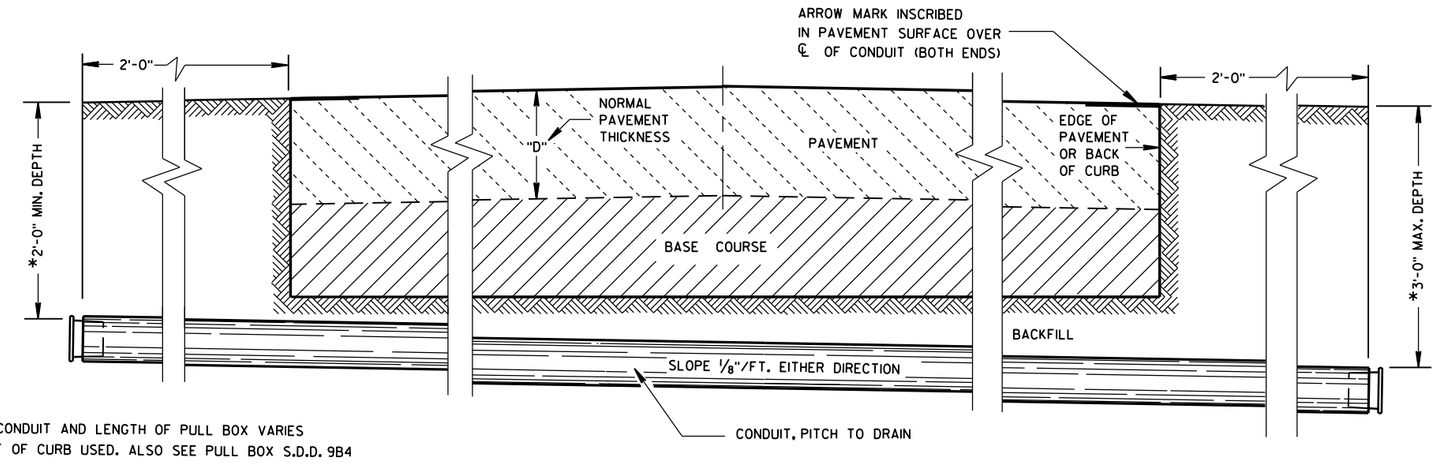
6

S.D.D. 8 F 4-7



PLAN VIEW

ARROW MARK



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

SIDE ELEVATION

DETAIL FOR CONDUIT UNDER PAVED HIGHWAYS

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 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

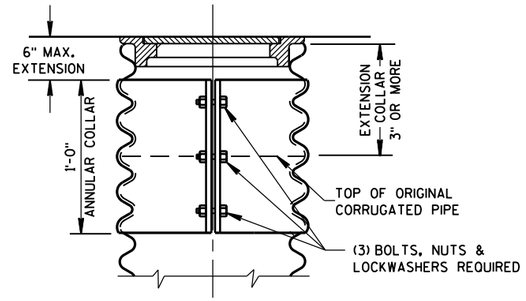
S.D.D. 9 B 2-10

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

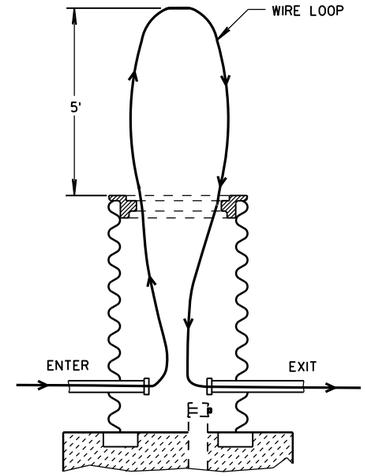
DIMENSION IN INCHES		CORRUGATED STEEL PIPE								
PIPE DIAMETER (INSIDE)	A	12	12	12	18	18	18	24	24	24
PIPE LENGTH **	B	24	30	36	24	30	36	36	42	48
WALL THICKNESS	C	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064	0.064
COVER	D	10 1/4	10 1/4	10 1/4	16 1/4	16 1/4	16 1/4	22 1/4	22 1/4	22 1/4
FRAME	E	14 1/2	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.

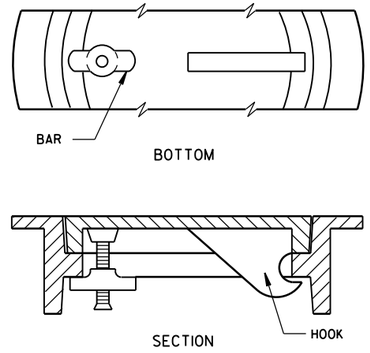
** NORMALLY USED LENGTHS. THE PROJECT ENGINEER SHALL DETERMINE IF PIPE LENGTHS, OTHER THAN THOSE SPECIFIED, SHALL BE USED, TO A MAXIMUM OF 48" (CONTINUOUS LENGTH, NON-SPLICED). THE ADDITIONAL LENGTH SHALL BE INCIDENTAL TO THE PULL BOX BID PRICE.



CORRUGATED PIPE EXTENDER

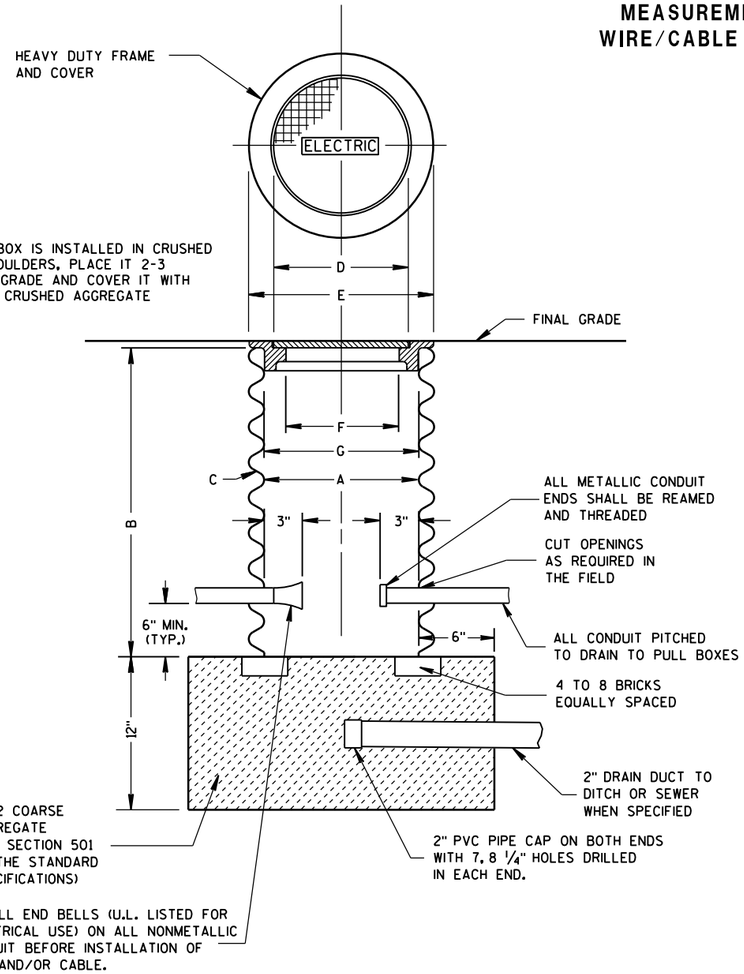


MEASUREMENT DETAIL FOR WIRE/CABLE IN THE PULL BOX



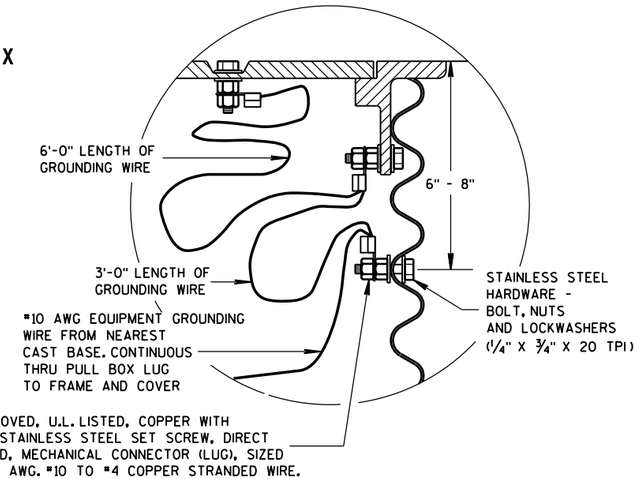
ALTERNATE COVER (LOCKING)

TIGHTENING BAR TYPE

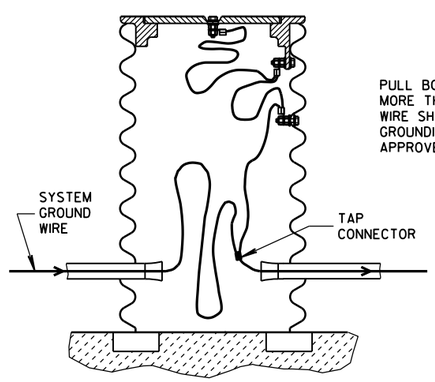


WHEN A PULL BOX IS INSTALLED IN CRUSHED AGGREGATE SHOULDERS, PLACE IT 2-3 INCHES BELOW GRADE AND COVER IT WITH 2-3 INCHES OF CRUSHED AGGREGATE

PULL BOX



EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES



PULL BOX TO NEAREST BASE DISTANCE MORE THAN 20 FEET. PULL BOX GROUND WIRE SHALL CONNECT AT SYSTEM GROUNDING WIRE. USE DEPARTMENT APPROVED TAP CONNECTOR.

EQUIPMENT GROUNDING LUG AND LOCATION IN STEEL PULL BOXES

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.

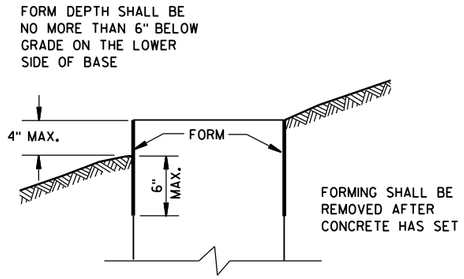
PULL BOX

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 9 B 4-11



FORMING DETAIL

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

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

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

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

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

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

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

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

GENERAL NOTES (CONTINUED)

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

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

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

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

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

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

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

WASHERS AND LOCK WASHERS ARE REQUIRED ON ALL ANCHOR RODS.

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

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

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

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

(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

(2) (4) 1" DIA. X 3'-6" ANCHOR RODS.

(3) (4) 1" DIA. X 5'-0" ANCHOR RODS.

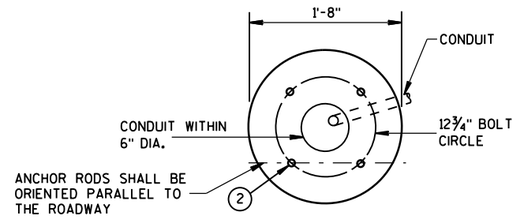
(4) (6) NO. 6 X 6'-8" BAR STEEL REINFORCEMENT.

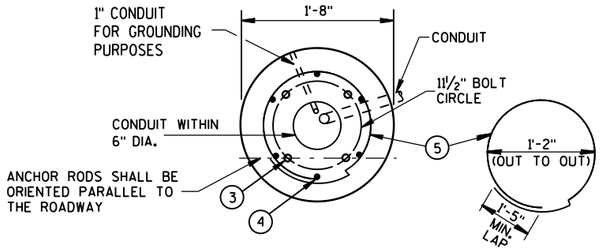
(5) (7) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

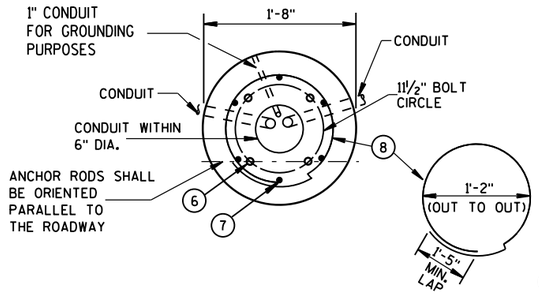
(6) (4) 1" DIA. X 3'-6" ANCHOR RODS.

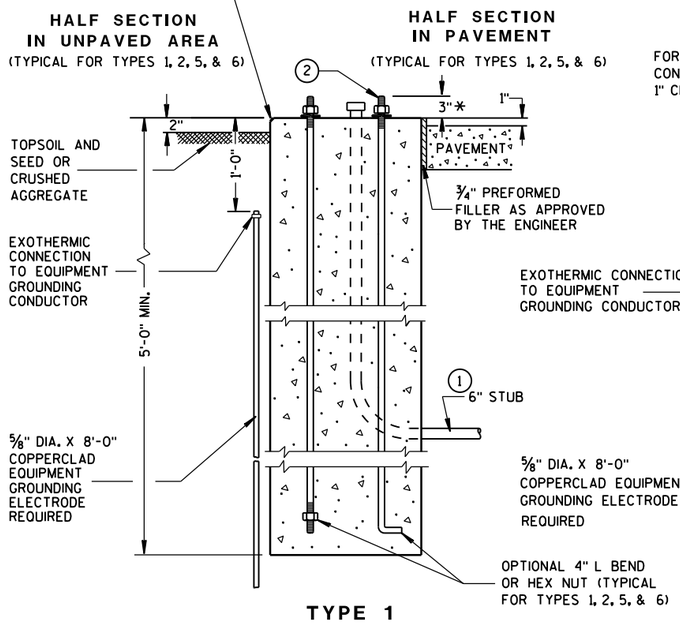
(7) (6) NO.4 X 4'-8" BAR STEEL REINFORCEMENT.

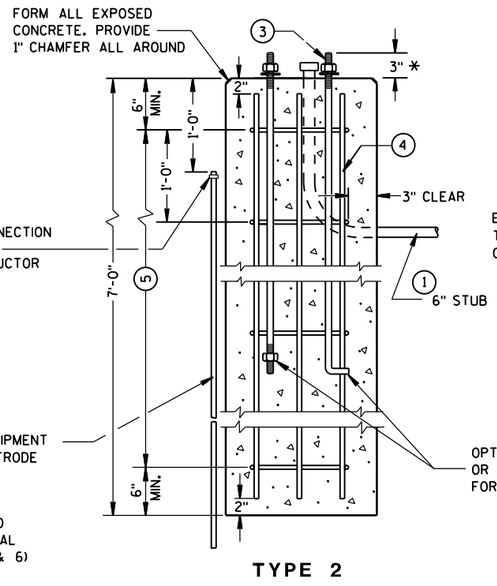
(8) (5) NO. 4 X 5'-1" BAR STEEL REINFORCEMENT @ 1'-0" C-C.

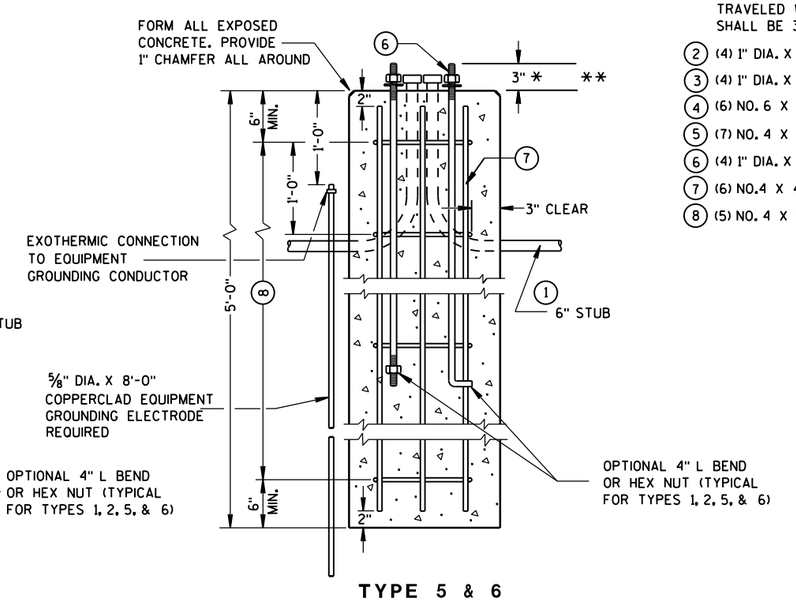












CONCRETE BASES

* ANY ANCHOR ROD PROJECTION SHORTER THAN 2¾" OR LONGER THAN 3¼" SHALL REQUIRE THE BASE TO BE REMOVED AND REPLACED AT THE CONTRACTORS EXPENSE.

** FOR NONBREAKAWAY INSTALLATIONS, 4½" ± ANCHOR ROD PROJECTION WITH THE USE OF LEVELING NUTS. RODENT SCREEN REQUIRED.

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

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 9 C 2-7

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.

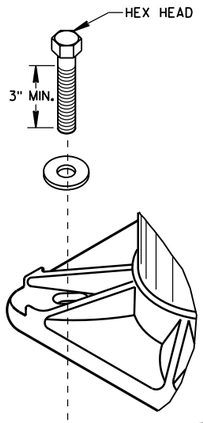
THE MECHANICAL CONNECTOR SHALL BE INSTALLED USING A 1/4" - 20 (TPI) STAINLESS STEEL HEX HEAD BOLT OF SUFFICIENT LENGTH TO FIRMLY ATTACH THE LUG TO THE BASE.

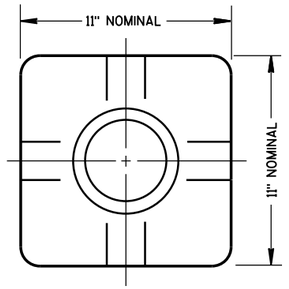
SHOULD THE MANNER OF ATTACHMENT OF THE LUG REQUIRE WASHERS, HEX NUTS, LOCK WASHER - THEY SHALL BE STAINLESS STEEL AS IS THE BOLT. THE MANNER OF ATTACHMENT SHALL NOT BLOCK ACCESSIBILITY TO WIRE PLACEMENT IN THE CONNECTOR.

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

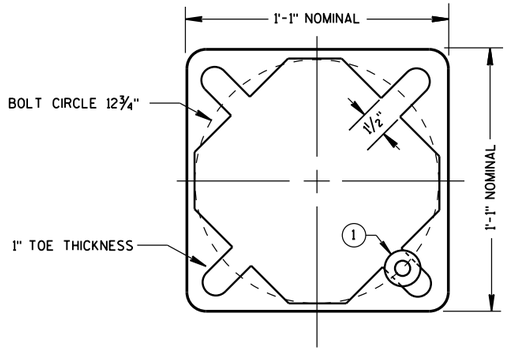
BASE COLLAR THREADING SHALL EXTEND INTO THE BASE COLLAR WITH SUFFICIENT DEPTH TO ACCEPT THE INSTALLATION OF TRAFFIC SIGNAL STANDARDS TO A DEPTH OF 1 1/2", THEN TIGHTENING TO A POINT OF BEING IMMOVABLE.

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

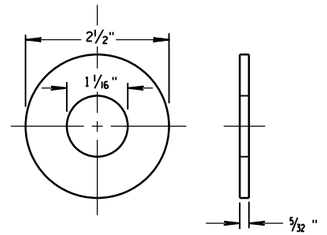




TOP VIEW
(PEDESTAL BASE)

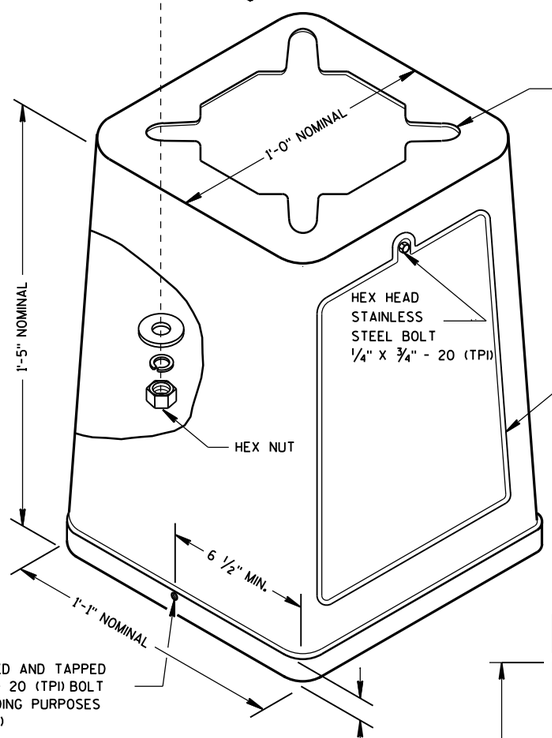


BOTTOM VIEW
(PEDESTAL BASE)

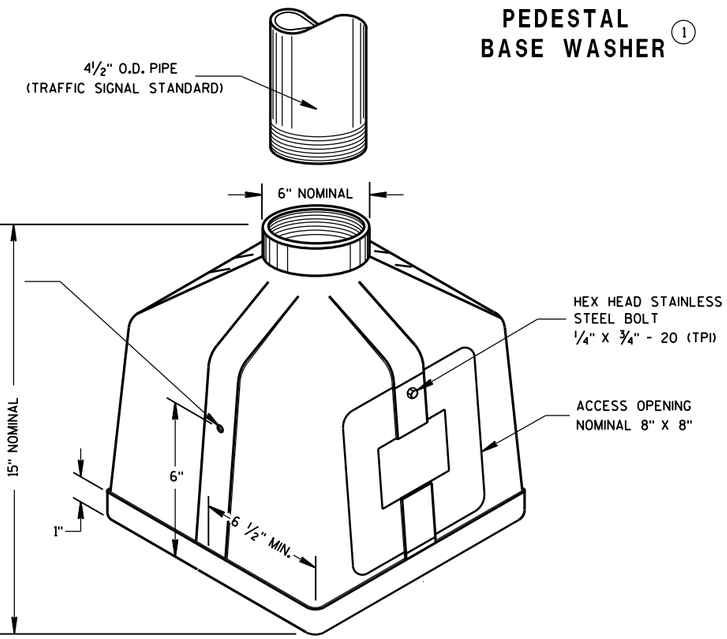


ZINC COATED STEEL WASHER
TO BE PROVIDED BY THE CONTRACTOR

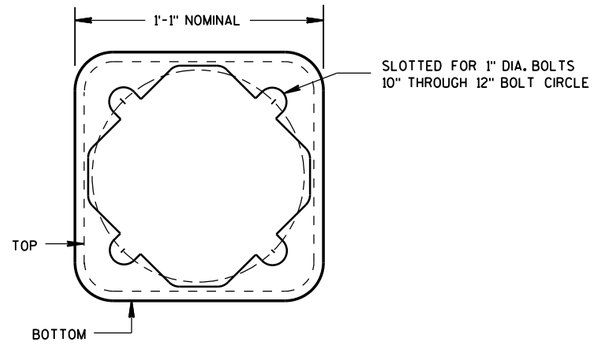
PEDESTAL BASE WASHER (1)



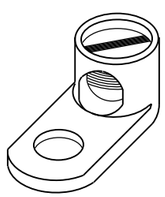
ISOMETRIC VIEW



ISOMETRIC VIEW
PEDESTAL BASE



BOTTOM VIEW
(TRANSFORMER BASE)

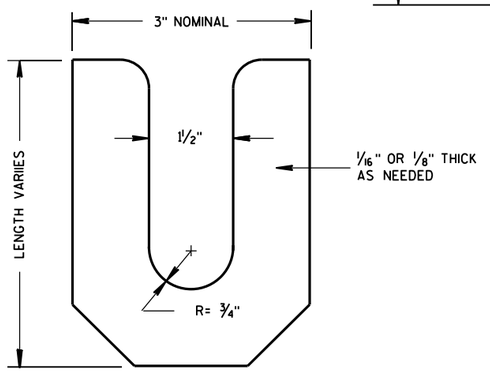


TYPICAL MECHANICAL CONNECTOR LUG

TO BE FURNISHED WITH EACH BASE

TRANSFORMER BASE

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



LEVELING SHIM

TRANSFORMER/PEDESTAL BASES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

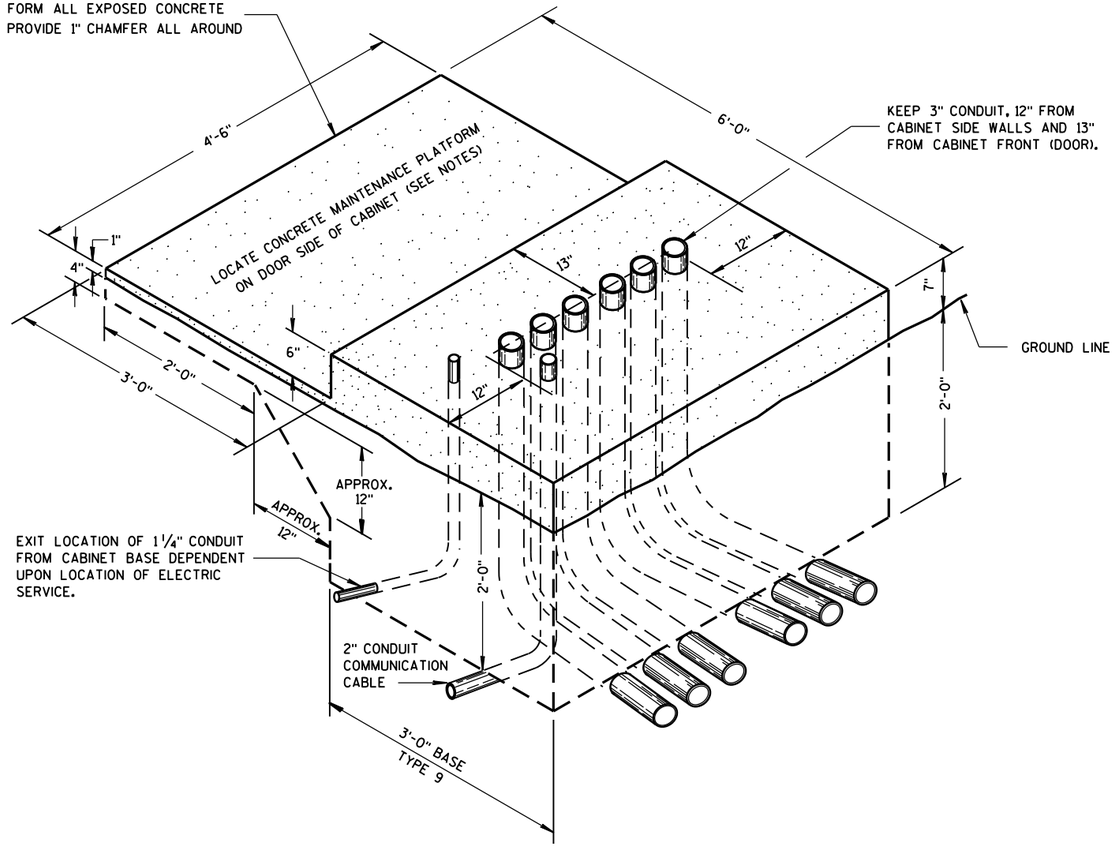
APPROVED
Sept. 2014 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 9 C 3-4

6

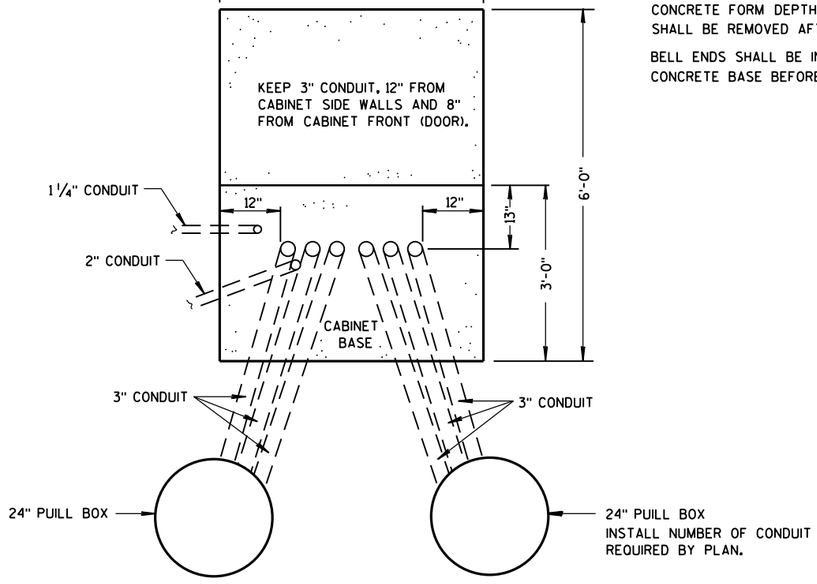
S.D.D. 9 C 3-4



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 ½ 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
FHWA

GENERAL NOTES

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

BASES SHALL BE EXCAVATED BY USE OF A CIRCULAR AUGER.

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

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

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

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

CONDUIT HEIGHT ABOVE CONCRETE BASES SHALL BE 4 INCHES. ALL METALLIC CONDUIT ENDS SHALL BE REAMED AND THREADED. NONMETALLIC CONDUIT SHALL HAVE BELL END INSTALLED. ALL CONDUIT SHALL BE SLOPED TO PULL BOX.

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. CONDUIT 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.

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

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

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

A NO. 4 AWG, STRANDED COPPER EQUIPMENT GROUNDING CONDUCTOR SHALL BE EXOTHERMICALLY WELDED TO THE EQUIPMENT GROUNDING ELECTRODE (GROUND ROD).

THE EQUIPMENT GROUNDING CONDUCTOR SHALL 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.

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

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

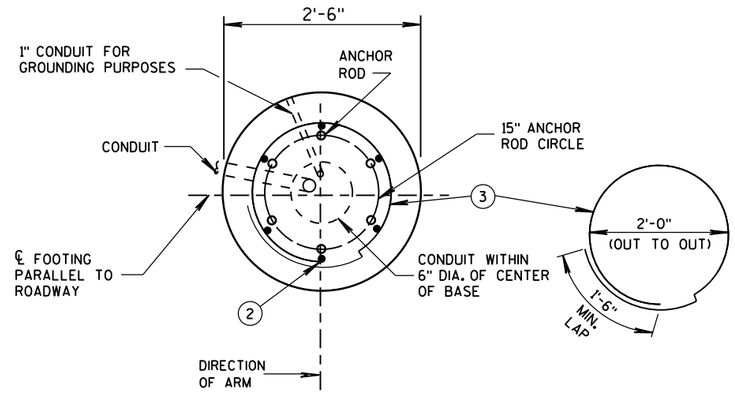
ANCHOR RODS SHALL BE INSTALLED WITH MISALIGNMENTS OF LESS THAN 1:40 FROM VERTICAL.

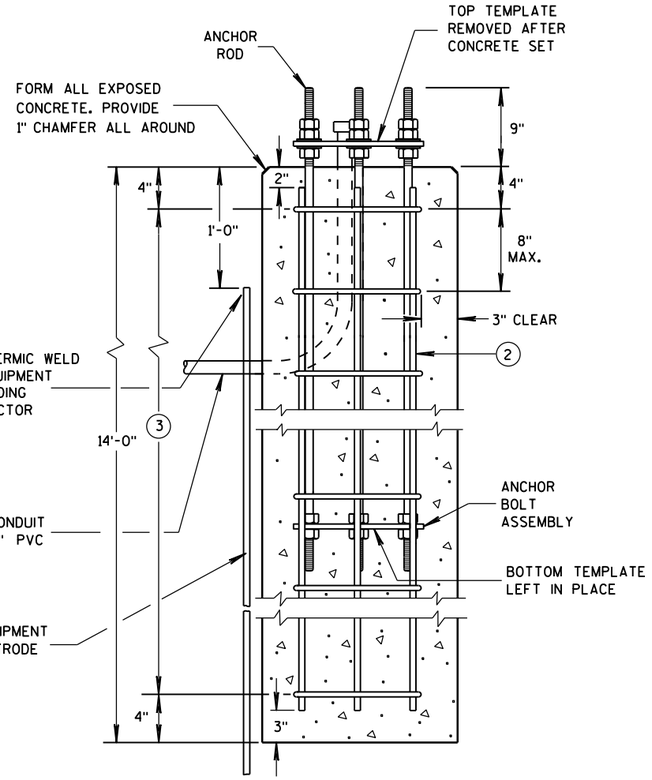
(1) THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE AND INSTALLED BELOW THE TRAVELED WAY SHALL BE 24 INCHES. THE MINIMUM DEPTH OF CONDUIT EXITING THE CONCRETE BASE THAT IS NOT INSTALLED BELOW THE TRAVELED WAY SHALL BE 18 INCHES. THE MAXIMUM DEPTH OF ALL CONDUIT SHALL BE 36 INCHES. (GREATER THAN 36 INCHES IF INSTALLED IN BREAKER-RUN), EXCEPT WITH WRITTEN APPROVAL BY THE ENGINEER.

(2) (6) NO. 6 X 13'-7" BAR STEEL REINFORCEMENT.

(3) (21) NO. 5 X 7'-10" BAR STEEL REINFORCEMENT @ 8" MAX. C-C.

CONCRETE MASONRY	fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy=60,000 p.s.i.
ANCHOR RODS, ASTM F1554 GRADE 55 (IN ACCORDANCE WITH SECTION 641.2.2.3 OF THE STANDARD SPECIFICATION)	fy=55,000 p.s.i.
TEMPLATES, ASTM, A709 GRADE 36	fy=36,000 p.s.i.

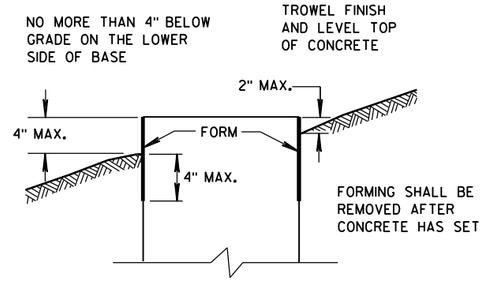




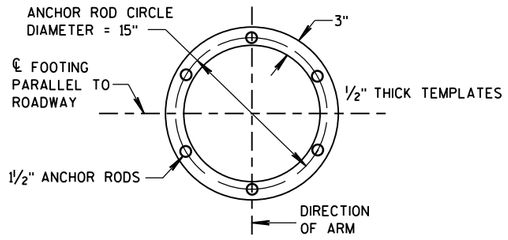
CONCRETE BASE TYPE 10

(FOR TYPE 9 & 10 & OVER HEIGHT (OH) POLES)

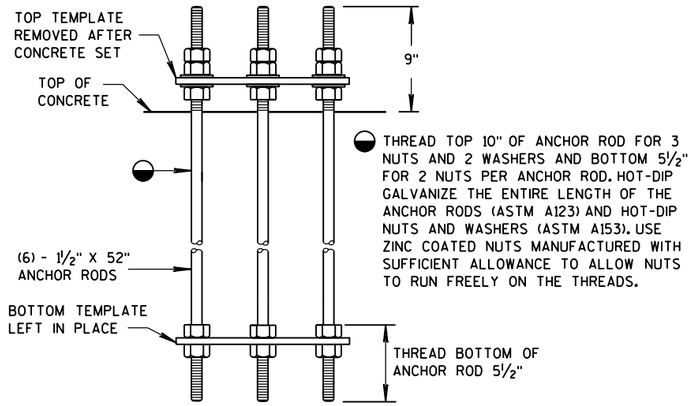
TO BE USED WHEN GROUND ELEVATION AT BASE EQUALS OR IS GREATER THAN HIGH POINT OF ROADWAY ELEVATION. SEE S.D.D. 9C13-2 WHEN GROUND ELEVATION AT BASE IS LOWER THAN HIGH POINT OF ROADWAY ELEVATION.



FORMING DETAIL



TOP AND BOTTOM TEMPLATES



ANCHOR BOLT ASSEMBLY DETAIL

CONCRETE BASE TYPE 10 ANCHOR ASSEMBLY

QUANTITY REQUIREMENTS	
APPROX. CUBIC YARDS OF CONCRETE	2.5
LBS. OF HOOP BAR STEEL	172
LBS. OF VERTICAL BAR STEEL	122

CONCRETE BASE TYPE 10

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

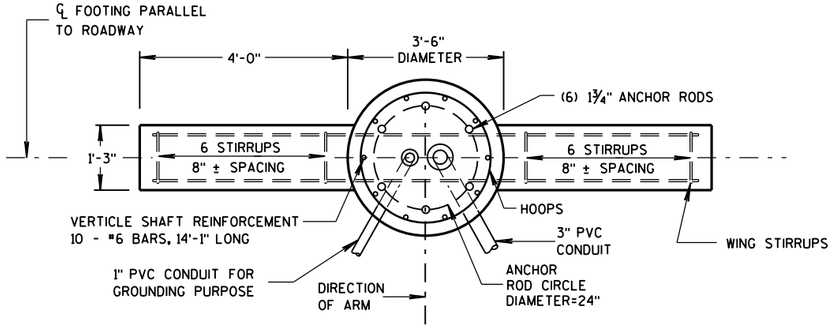
APPROVED
May 2017 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

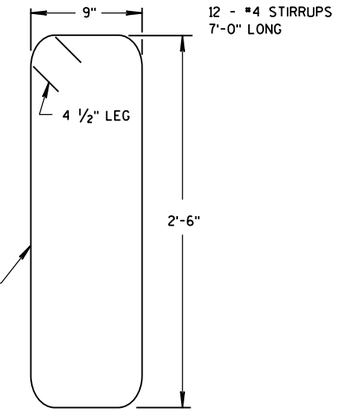
S.D.D. 9 C 11-10

6

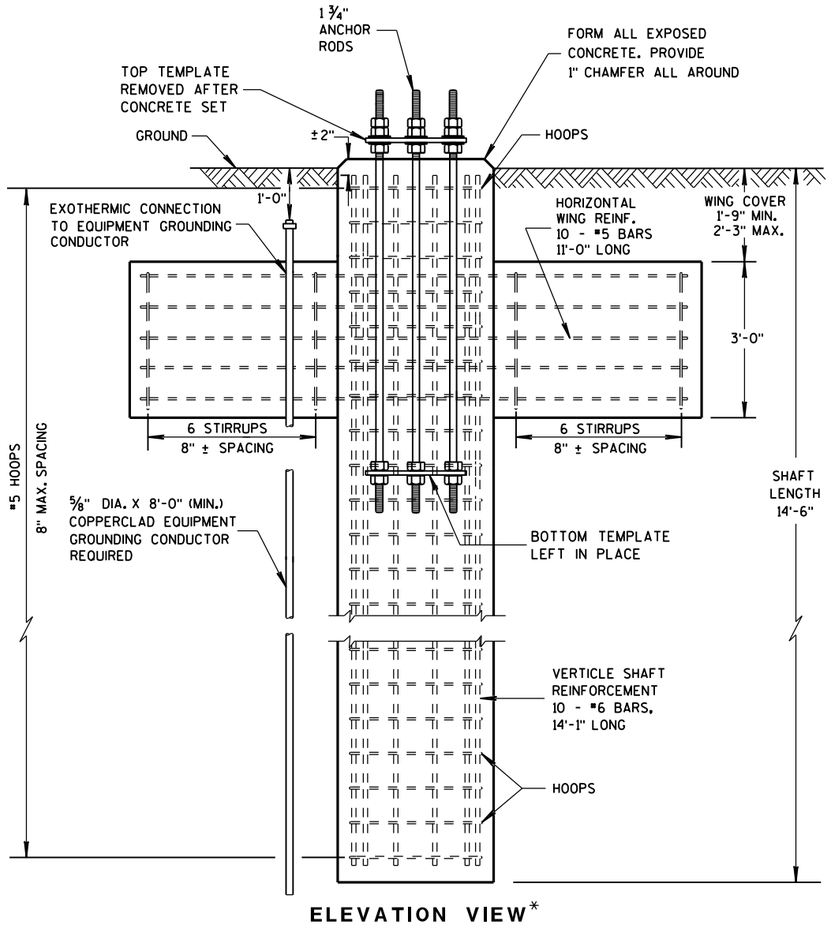
S.D.D. 9 C 11-10



PLAN VIEW

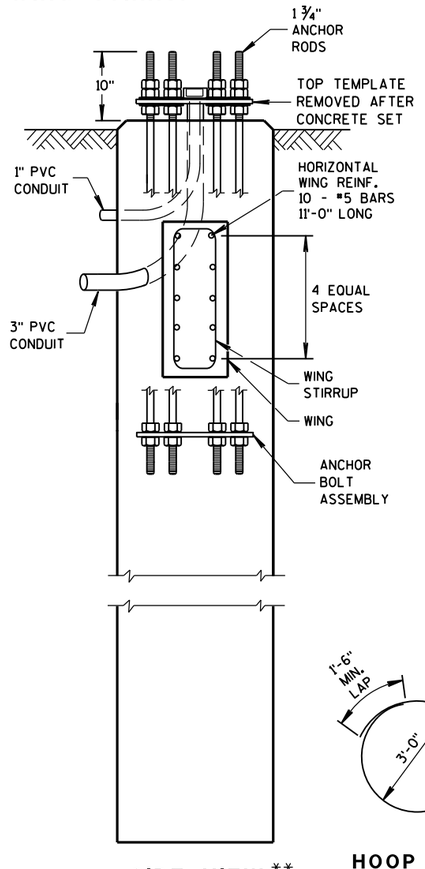


WING STIRRUP



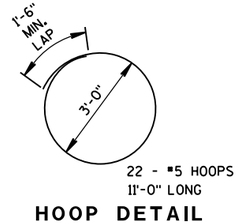
ELEVATION VIEW*

* CONDUITS ARE NOT SHOWN ON THIS VIEW FOR CLARITY



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 AROUNG 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 4½" 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	fc=3,500 p.s.i.
HIGH STRENGTH BAR STEEL REINFORCEMENT, GRADE 60	fy=60,000 p.s.i.
ANCHOR RODS, ASTM F1554 GRADE 55 (IN ACCORDANCE WITH SECTION 641.2.2.3 OF THE STANDARD SPECIFICATIONS	fy=55,000 p.s.i.
TEMPLATES, ASTM A709 GRADE 36	fy=36,000 p.s.i.

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

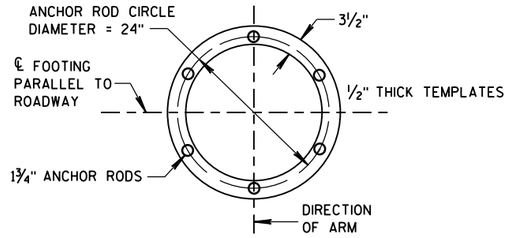
CONCRETE = 6.3 C.Y.
H.S. REINFORCEMENT = 635 LBS.

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.

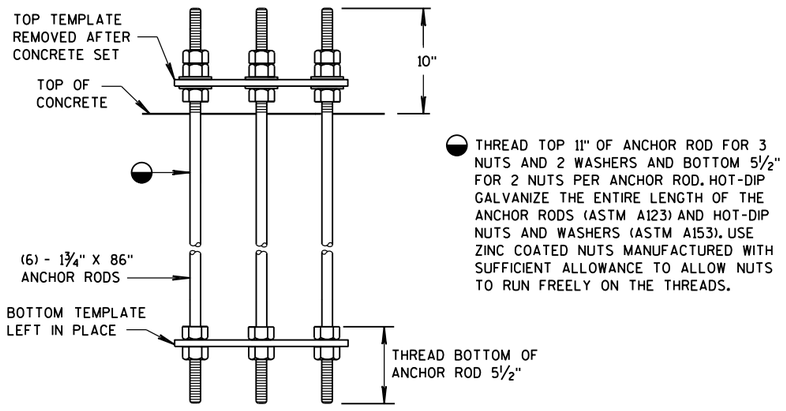
CONCRETE BASE TYPE 13

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6
S.D.D. 9 C 12-9a

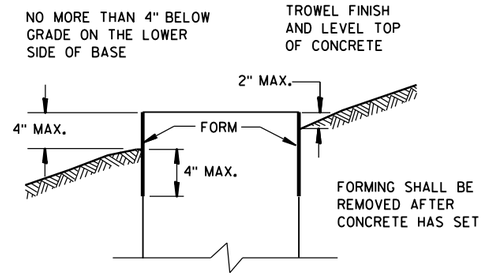


TOP AND BOTTOM TEMPLATES



ANCHOR BOLT ASSEMBLY DETAIL

CONCRETE BASE TYPE 13 ANCHOR ASSEMBLY

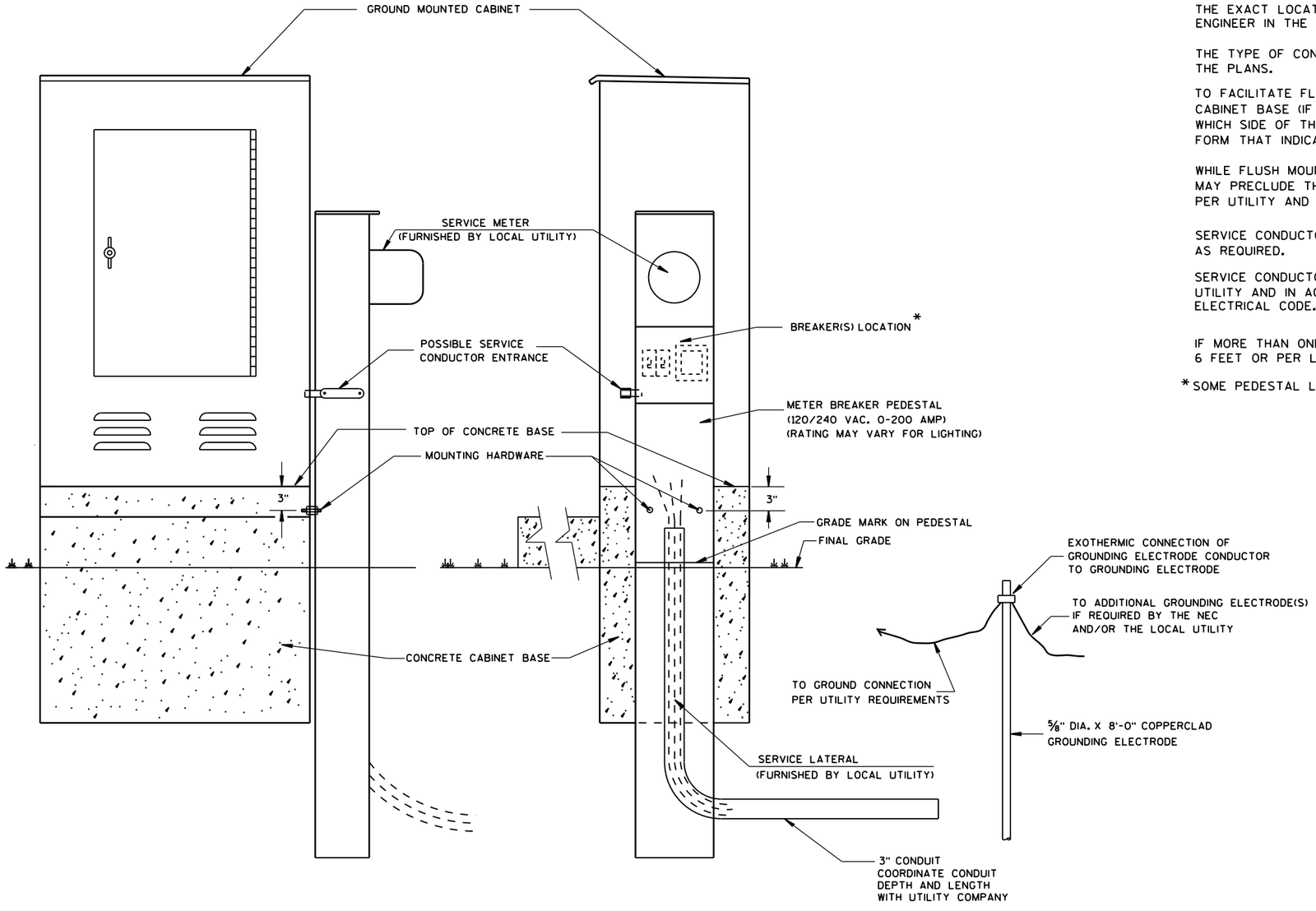


FORMING DETAIL

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

6

S.D.D. 9 C 12-9b



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.

6

S.D.D. 9 D 1-5

6

S.D.D. 9 D 1-5

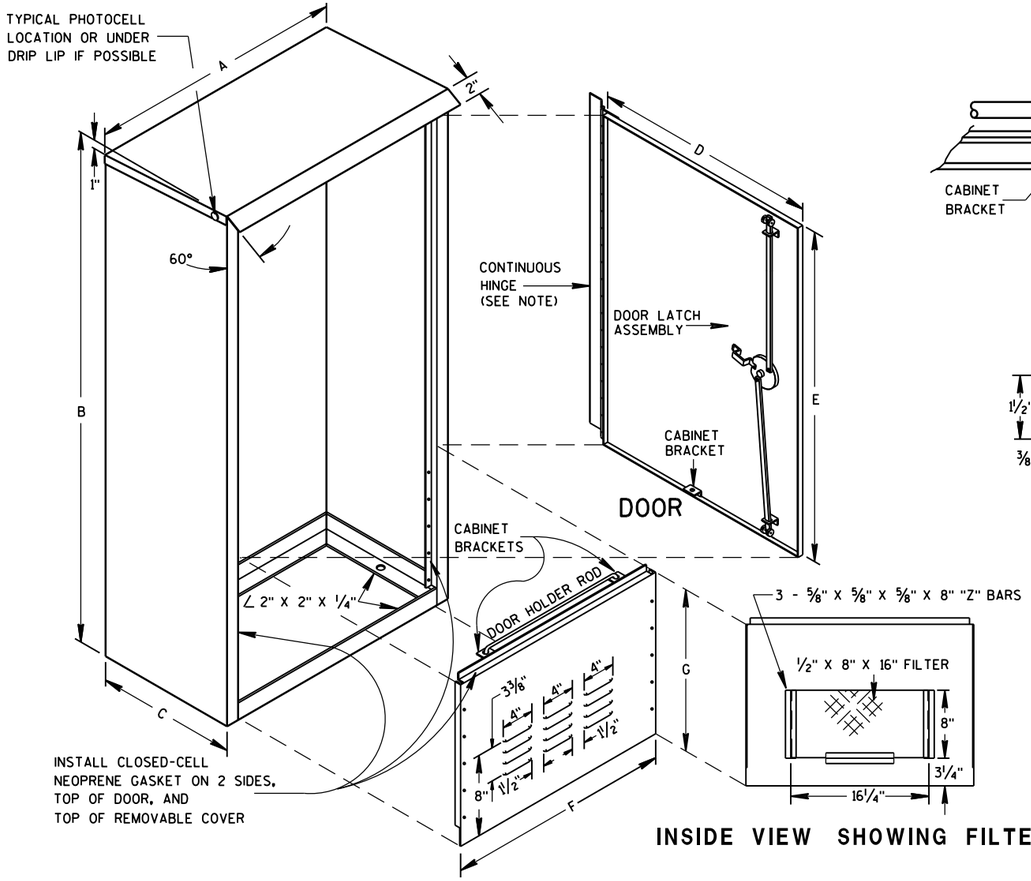
CABINET SERVICE INSTALLATION (METER BREAKER PEDESTAL)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014
DATE

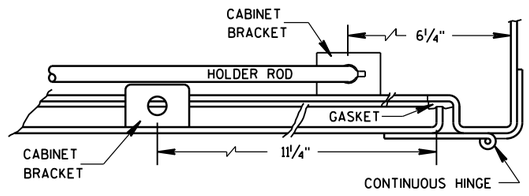
/S/ Ahmet Demirbilek
STATE ELECTRICAL

FHWA

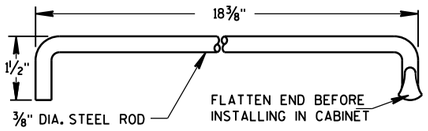


REMOVABLE COVER

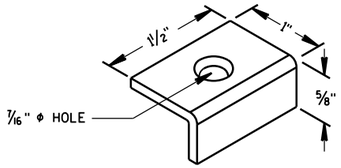
INSIDE VIEW SHOWING FILTER



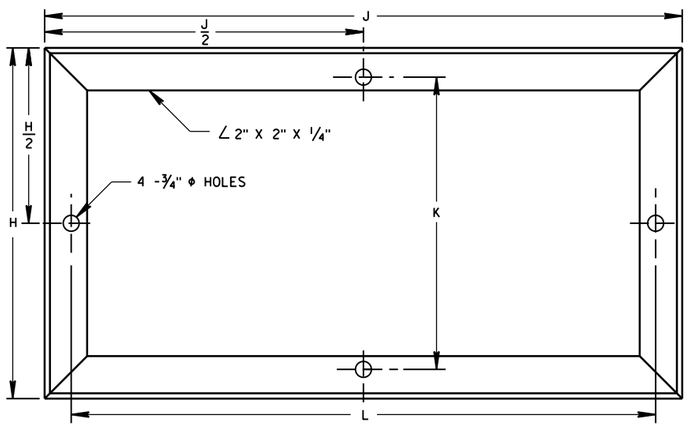
HINGE & DOOR HOLDER



HOLDER ROD



CABINET BRACKET



MOUNTING BASE

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

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.

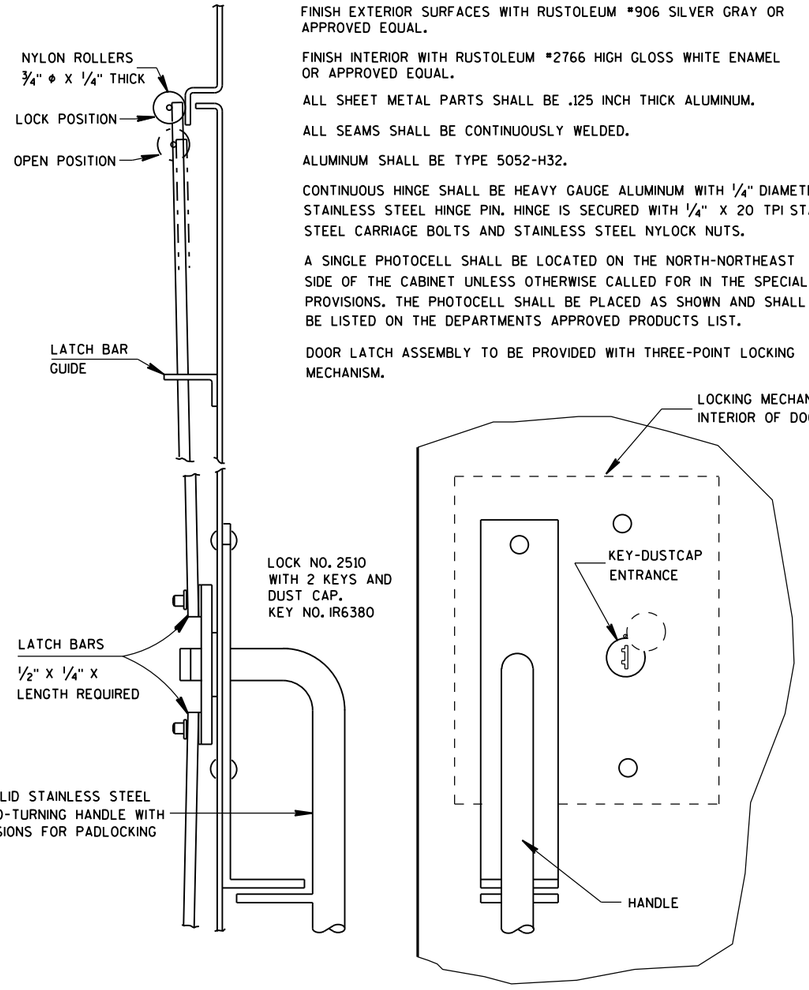
ALL SEAMS SHALL BE CONTINUOUSLY WELDED.

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.

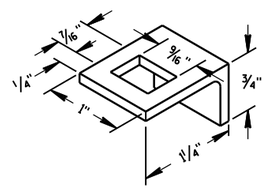
DOOR LATCH ASSEMBLY TO BE PROVIDED WITH THREE-POINT LOCKING MECHANISM.



SIDE VIEW

FRONT VIEW

LATCH ASSEMBLY



LATCH BAR GUIDE

SIGNAL CONTROL CABINET

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2014
DATE

/S/ Ahmet Demirbilek
STATE ELECTRICAL 88

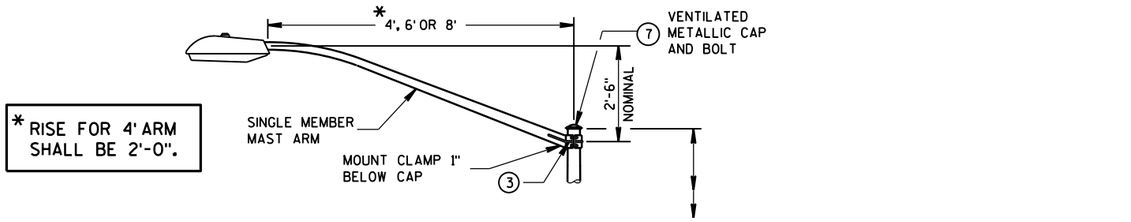
FHWA

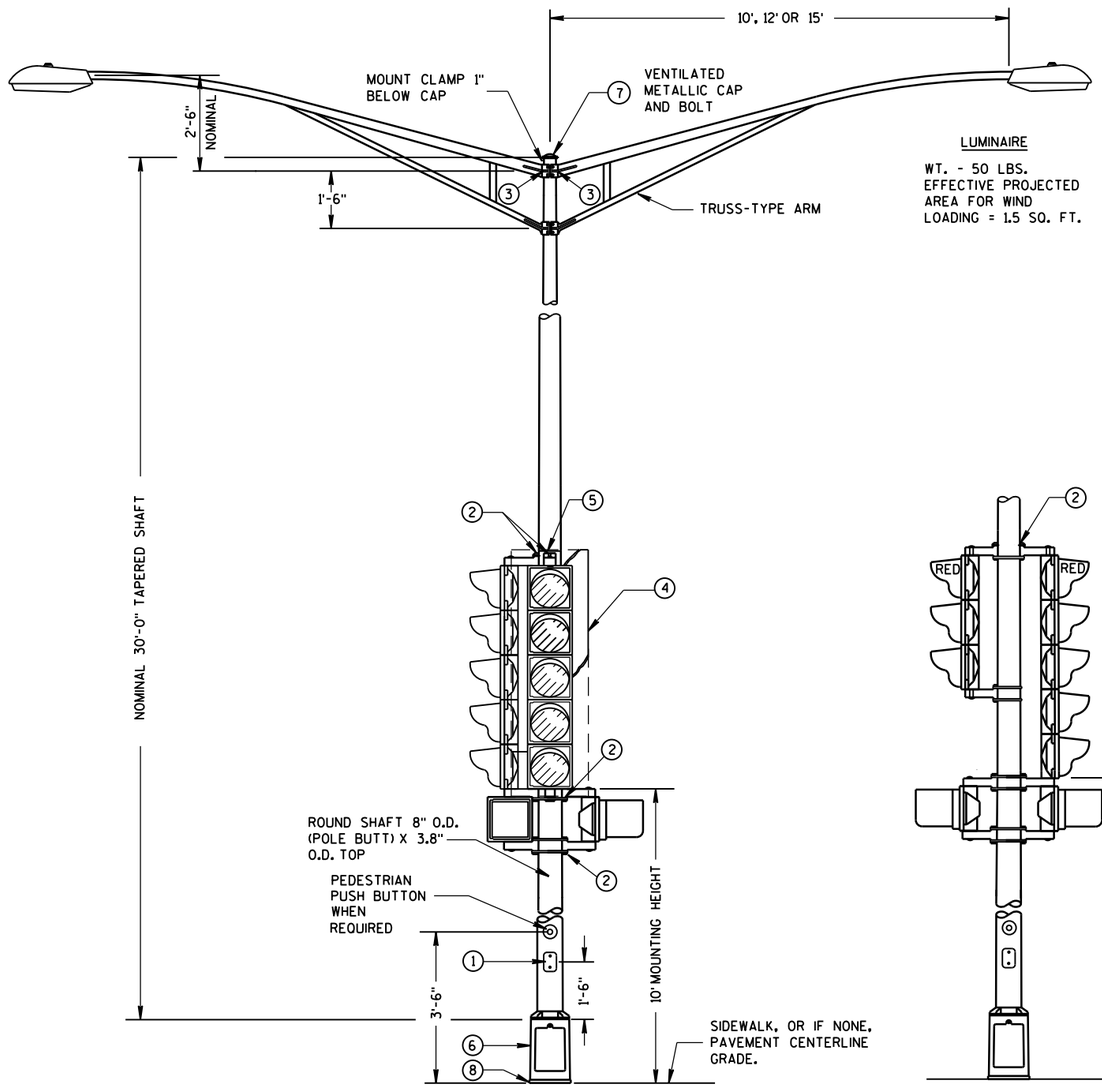
6

S.D.D. 9 D 2-3

6

S.D.D. 9 D 2-3

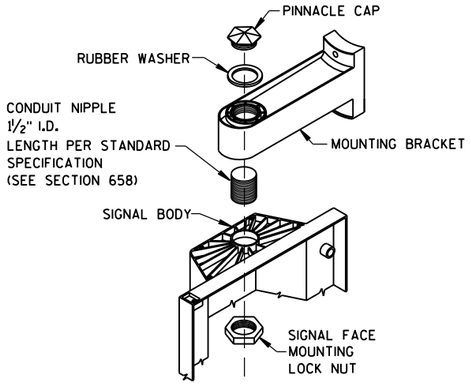




LUMINAIRE

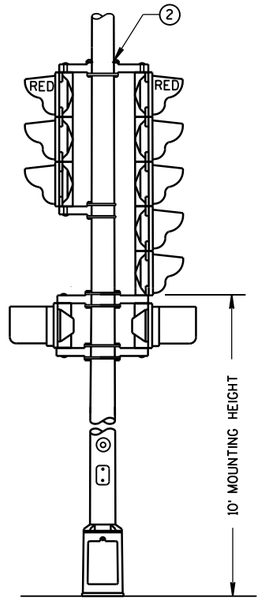
WT. - 50 LBS.
EFFECTIVE PROJECTED AREA FOR WIND LOADING = 1.5 SQ. FT.

(MAXIMUM LOAD)

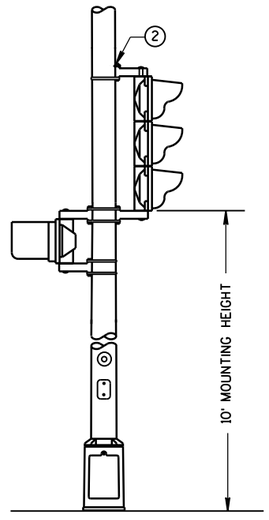


SIGNAL FACE MOUNTING DETAIL

(BANDED)



TYPICAL MOUNTING OF BACK TO BACK 3 AND 5 SECTION SIGNAL FACES



TYPICAL MOUNTING OF 3 SECTION SIGNAL FACE

TYPE 4 POLE MOUNTING CONFIGURATION

GENERAL NOTES

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

ALL TYPE 4 POLE MOUNTINGS SHALL BE DESIGNED TO INCLUDE TWIN 15' ARMS WITH LUMINAIRES.

POLES SHALL BE GALVANIZED STEEL WITH A MINIMUM WALL THICKNESS OF U.S. STANDARD 11 GAGE (.1196").

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

THE SLIPFITTER END OF THE LUMINAIRE MAST ARM SHALL BE A NOMINAL 2⅜ 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, CONNECTIONS SHALL BE MADE IN THE TRANSFORMER BASE.

(1) 4" X 6" REINFORCED HANDHOLE & COVER ASSEMBLY WITH 2 (TWO) ¼" X ¾" - 20 TPI HEX HEAD STAINLESS STEEL BOLTS.

(2) SIGNAL FACE MOUNTING BRACKETS, MOUNT WITH CAP SCREWS AND BANDING. (SEE STANDARD SPECIFICATIONS - SEC. 658).

(3) GROMMETS, 1" CHASE NIPPLES OR 1" CLOSE CONDUIT NIPPLES WITH BUSHINGS SHALL BE PROVIDED FOR 1⅜" HOLE IN POLE SHAFT FOR WIRING.

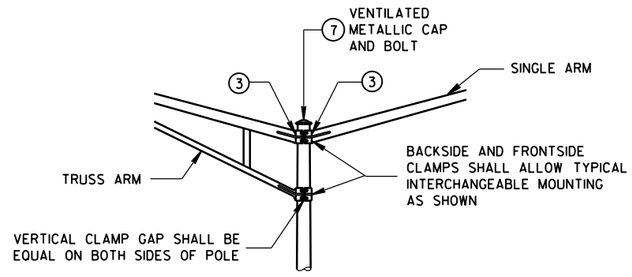
(4) SECURELY MOUNT DULL BLACK POLYCARBONATE BACKPLATES, PROJECTING 5" BEYOND ALL SIDES OF THE SIGNAL FACE HOUSING, PER MANUFACTURER'S RECOMMENDATIONS.

(5) POLE MOUNTED SIGNAL FACES SHALL REQUIRE 1 OR MORE MOUNTING SPACERS UNDER THE TOP MOUNTING BRACKET(S) AS REQUIRED, TO PLUMB THE SIGNAL FACE.

(6) CAST ALUMINUM TRANSFORMER BASE, WHEN REQUIRED.

(7) FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.

(8) SHIMMING, IF NEEDED, SHALL BE LOCATED BETWEEN THE CONCRETE FOUNDATION AND THE TRANSFORMER BASE.



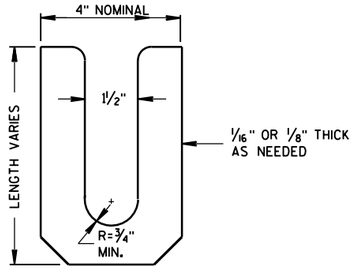
INTERCHANGEABLE MOUNTING DETAIL

POLE MOUNTINGS FOR TRAFFIC SIGNALS AND LIGHTING UNITS, TYPE 4

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

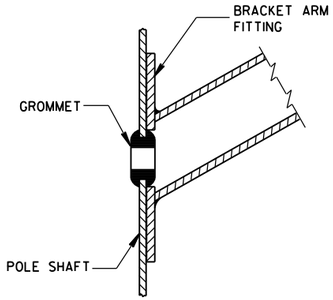
6

S.D.D. 9 E 1-14c

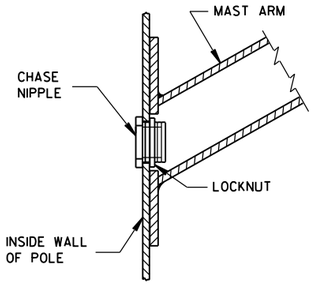


LEVELING SHIM (13)

SHALL BE ALUMINUM



TYPICAL APPLICATION OF GROMMET IN POLE SHAFT



TYPICAL APPLICATION OF CHASE NIPPLE IN POLE SHAFT

GENERAL NOTES

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

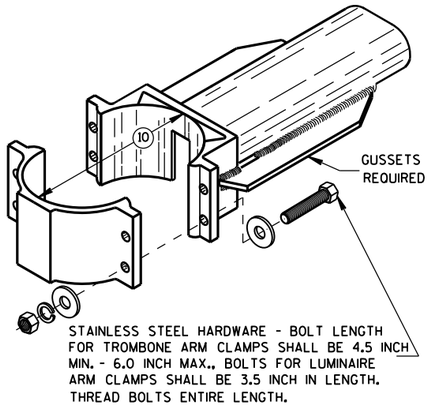
(10) 4.5" I.D. FOR LUMINAIRE MAST ARM CLAMP.
6.625" I.D. FOR TROMBONE MAST ARM CLAMP.

(11) INDIVIDUAL BASE PLATE ANCHOR ROD COVERS. (4 REQUIRED)

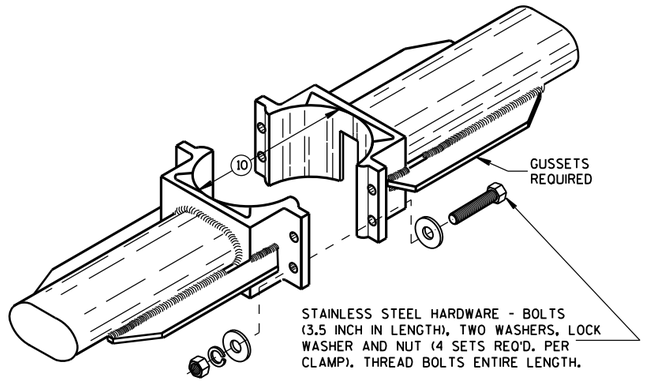
(12) BASE PLATE SLOTTED TO ACCEPT 11" THROUGH 12" BOLT CIRCLE USING 1" DIAMETER ANCHOR RODS.

(13) LEVELING SHIMS, DESIGNED FOR THE PURPOSE, SHALL BE USED WHEN PLUMBING POLES. THE USE OF WASHERS IN LIEU OF PROPER LEVELING SHIMS IS NOT ACCEPTABLE. LEVELING SHIMS SHALL BE USED ONLY BETWEEN THE TOP OF THE CONCRETE BASE AND A METALLIC BASE PLATE.

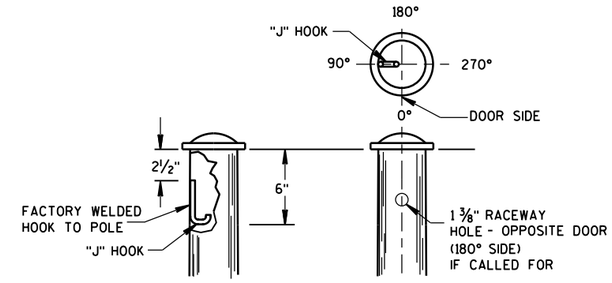
SHIMS SHALL BE LONG ENOUGH AND WIDE ENOUGH TO COMPLETELY COVER THE AREA UNDER THE LENGTH AND WIDTH OF THE BASE MOUNTING FLANGE.



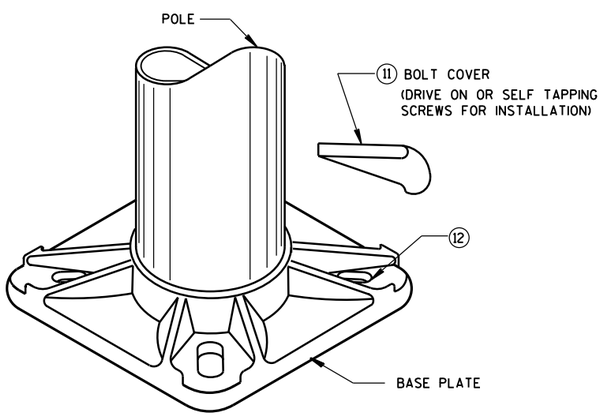
TYPICAL TROMBONE MAST ARM AND SINGLE LUMINAIRE MAST ARM MOUNTING CLAMP



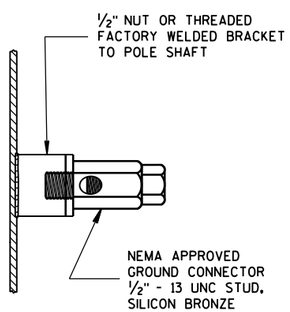
TYPICAL LUMINAIRE MAST ARM (DOUBLE) MOUNTING BRACKETS

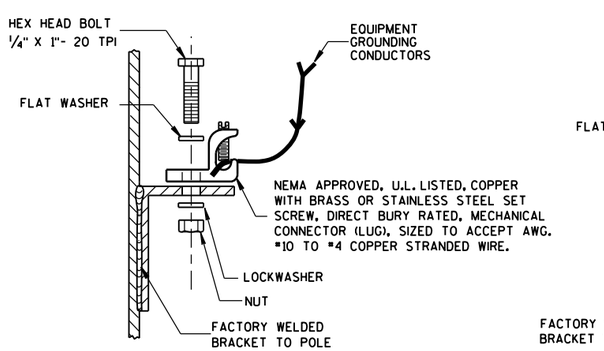


TYPICAL "J" HOOK LOCATION



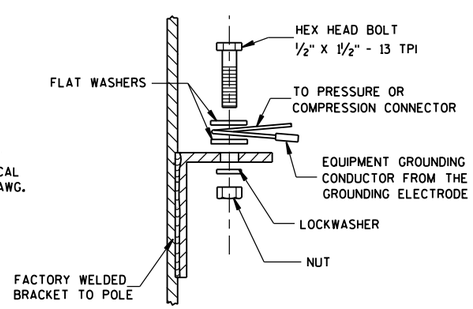
BASE PLATE





TYPICAL GROUNDING CONNECTIONS

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



HARDWARE DETAILS FOR POLE MOUNTINGS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

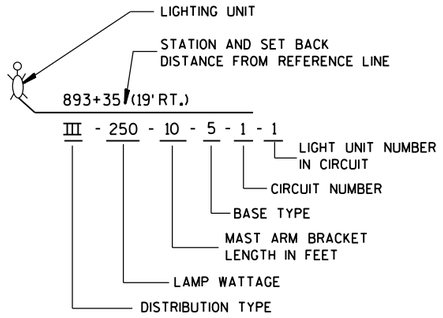
APPROVED
Feb. 2015 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

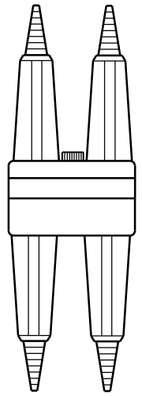
S.D.D. 9 E 1-14g

6

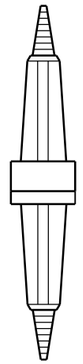
S.D.D. 9 E 1-14g



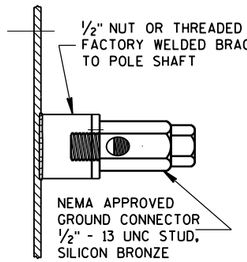
LIGHTING UNIT CODE
(TYPICAL)

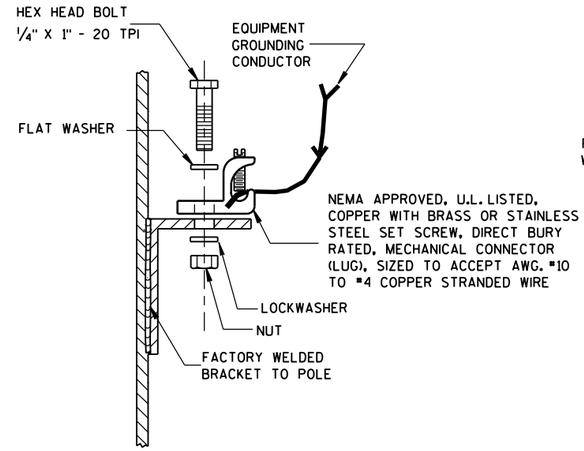


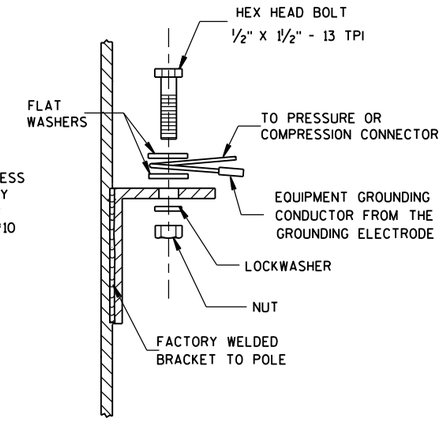
DETAIL "A"
BREAKAWY DOUBLE POLE WITH WATERPROOF INSULATING BOOT



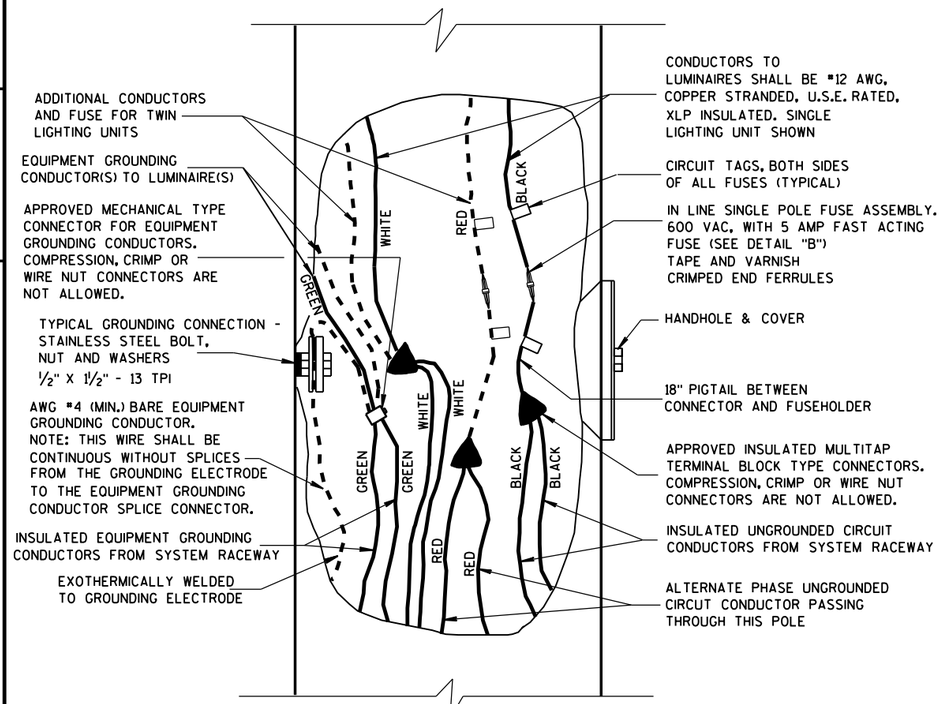
DETAIL "B"
BREAKAWY SINGLE POLE WITH WATERPROOF INSULATING BOOT



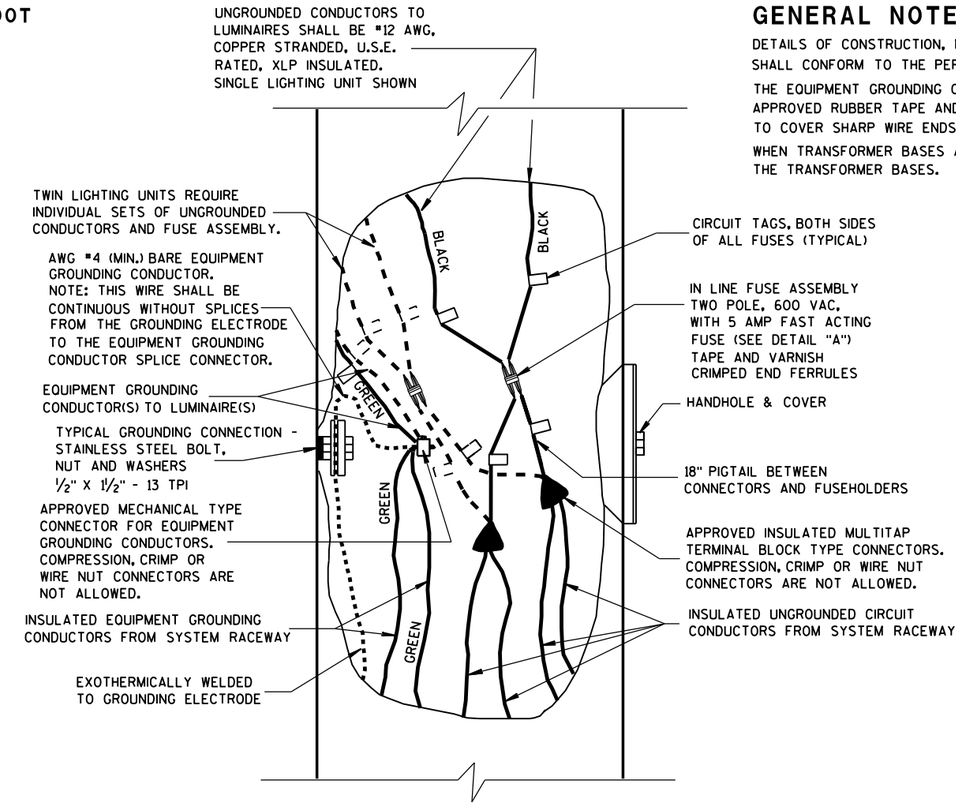




TYPICAL GROUNDING CONNECTIONS
NUT, BOLT, WASHERS AND LOCKWASHERS SHALL BE STAINLESS STEEL



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



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

GENERAL NOTES

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

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

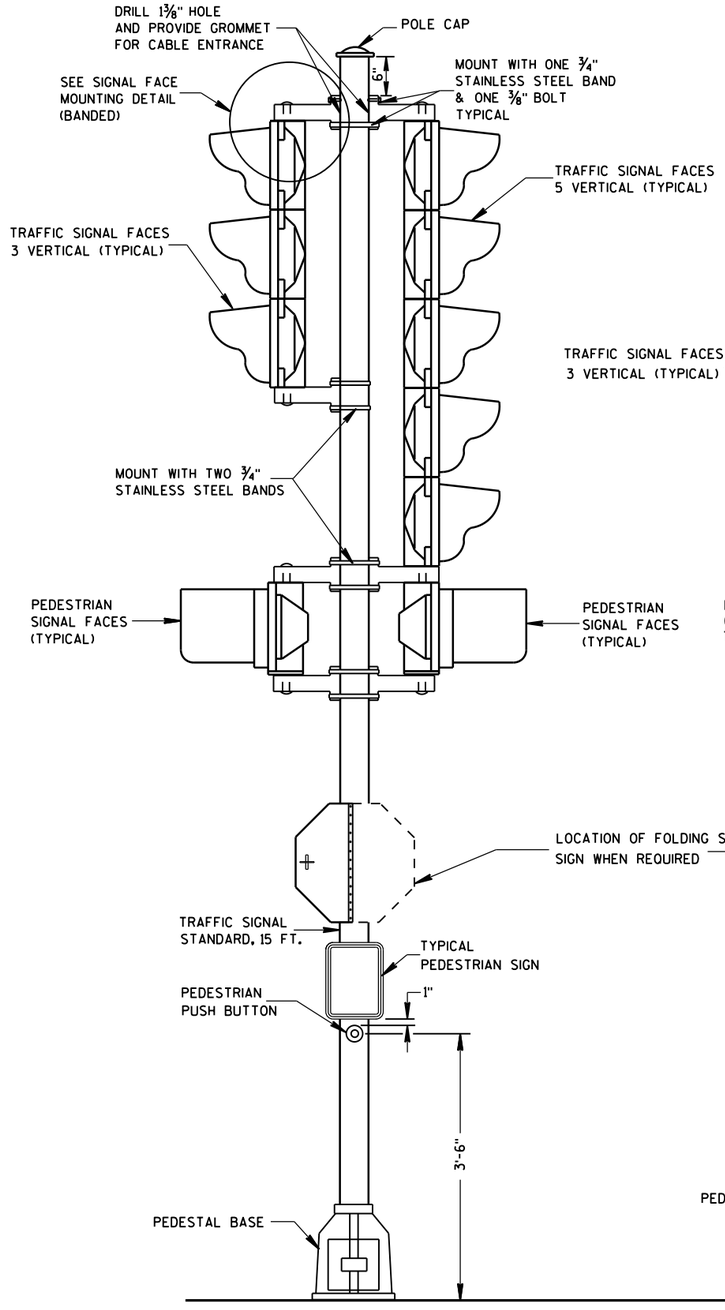
WHEN TRANSFORMER BASES ARE USED, ALL WIRING CONNECTIONS SHALL OCCUR WITHIN THE TRANSFORMER BASES.

NON-FREEWAY LIGHTING UNIT POLE WIRING

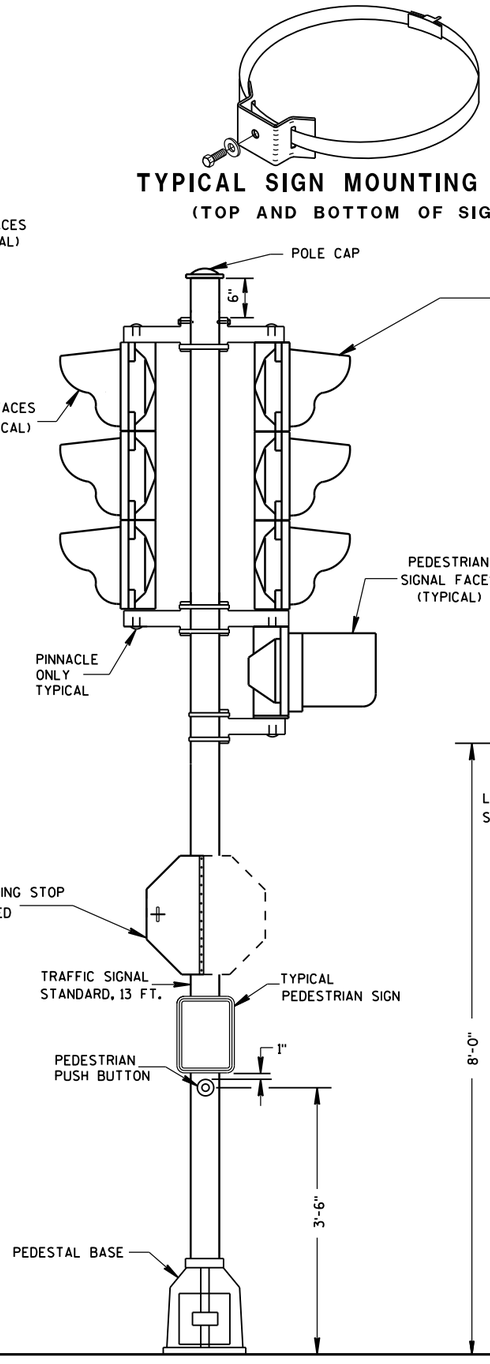
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6
S.D.D. 9 E 3-5



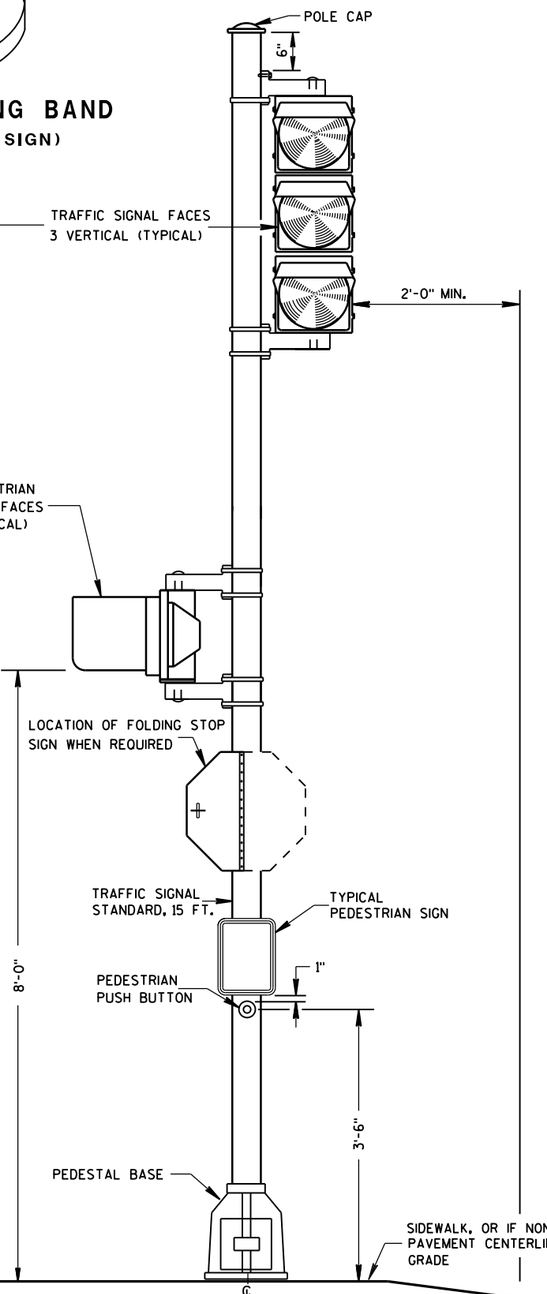
TRAFFIC SIGNAL STANDARD-15 FT.



TRAFFIC SIGNAL STANDARD-13 FT.

TYPICAL SIGN MOUNTING BAND

(TOP AND BOTTOM OF SIGN)



TRAFFIC SIGNAL STANDARD-15 FT.
3M MOUNTING (TYPICAL)

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.

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

FOR APPROVED MOUNTING HARDWARE, SEE THE CONTRACT SPECIAL PROVISIONS.

POLYCARBONATE MOUNTING BRACKETS SHALL BE USED.

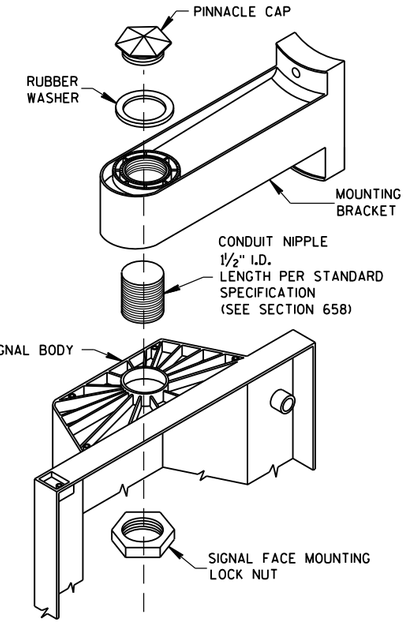
LENGTH AND LOCATION OF TRAFFIC SIGNAL STANDARDS SHALL BE AS SHOWN ON THE PLANS.

OPTICALLY PROGRAMMED SIGNAL FACES SHALL BE MASKED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS, AND UNDER THE DIRECTIONS OF THE REGION TRAFFIC ENGINEER.

FOLDING STOP SIGNS SHALL BE IN ACCORDANCE WITH THE MUTCD AND/OR THE LATEST WISCONSIN SUPPLEMENT. THE SIGNS SHALL BE SIZED AND LOCATED AS CALLED FOR IN IN THE PLANS.

PEDESTRIAN SIGNS SHALL BE AS DESIGNATED IN THE PLANS.

FURNISH AND INSTALL VENTILATED, CAST, METALLIC (ALUMINUM ALLOY) CAPS. FASTEN CAPS WITH ONE (1) ¼" X ¾" - 20 TPI STAINLESS STEEL, HEX HEAD BOLT.



SIGNAL FACE MOUNTING DETAIL

(BANDED)

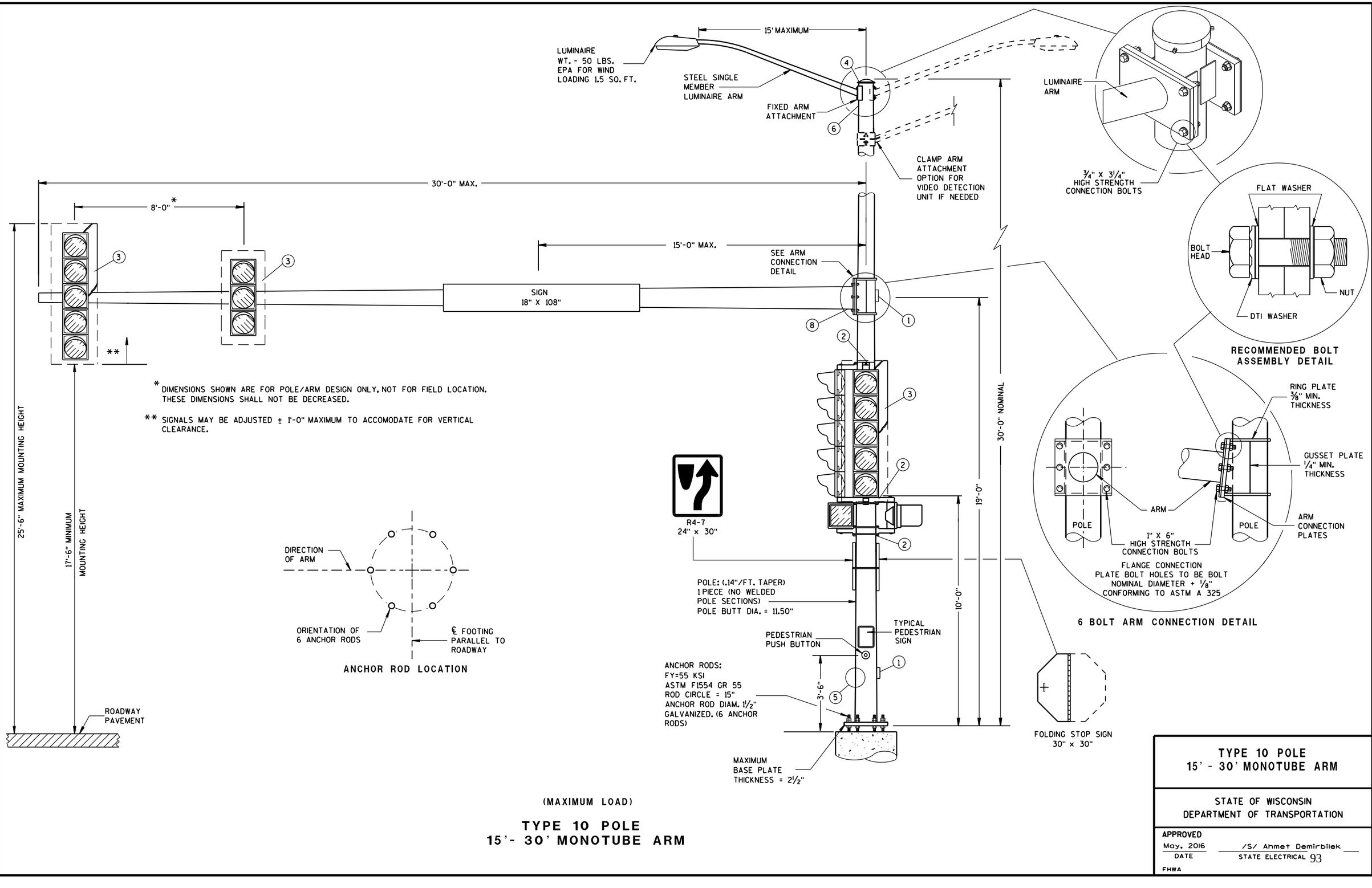
TRAFFIC SIGNAL STANDARD POLY BRACKET MOUNTINGS (TYPICAL) 13 FT. OR 15 FT.

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

6

S.D.D. 9 E 6-5



* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

** SIGNALS MAY BE ADJUSTED ± 1'-0" MAXIMUM TO ACCOMODATE FOR VERTICAL CLEARANCE.

(MAXIMUM LOAD)

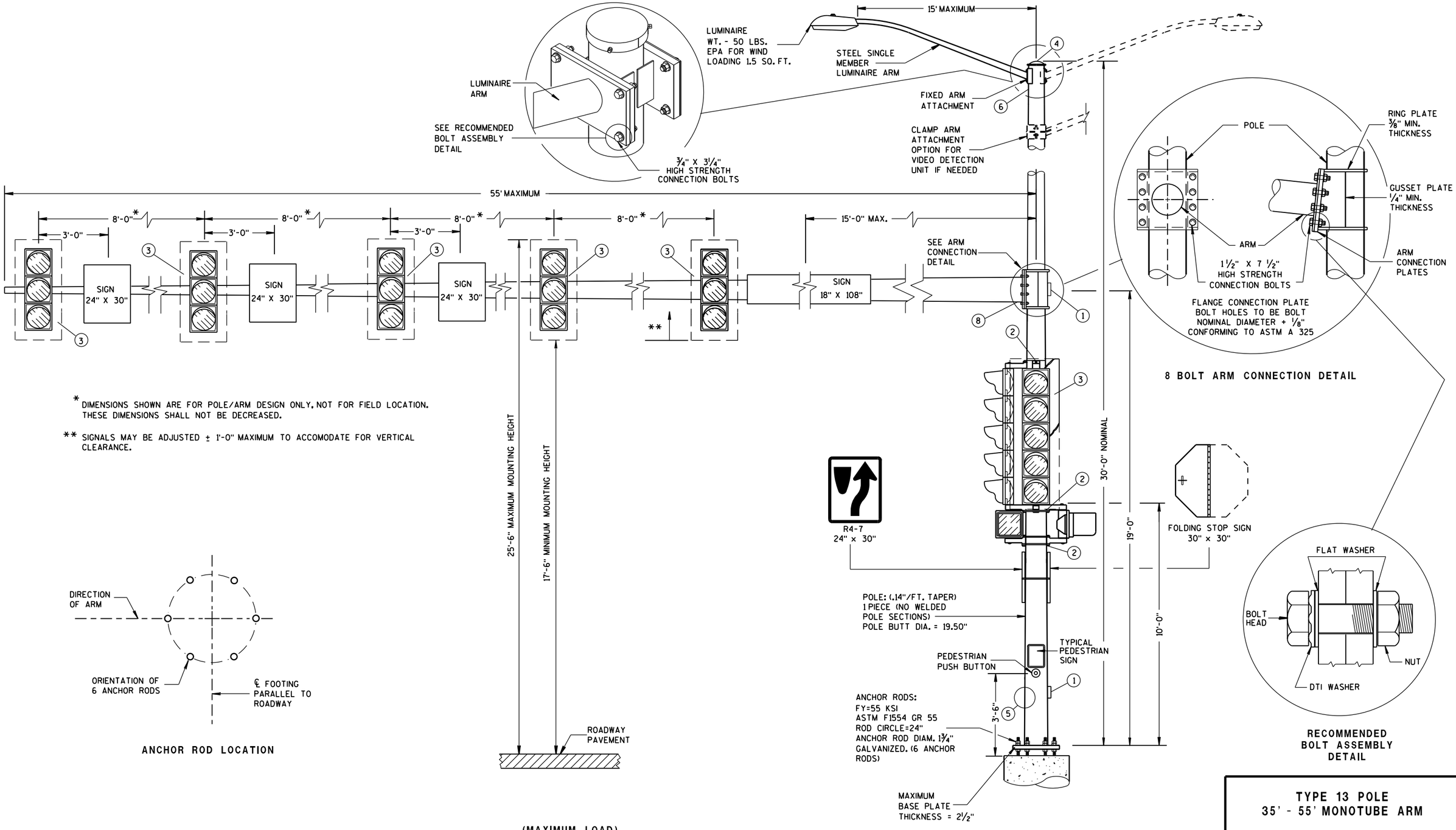
TYPE 10 POLE
15'- 30' MONOTUBE ARM

TYPE 10 POLE
15' - 30' MONOTUBE ARM

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May, 2016 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6
S.D.D. 9 E 8-8b



* DIMENSIONS SHOWN ARE FOR POLE/ARM DESIGN ONLY, NOT FOR FIELD LOCATION. THESE DIMENSIONS SHALL NOT BE DECREASED.

** SIGNALS MAY BE ADJUSTED ± 1'-0" MAXIMUM TO ACCOMODATE FOR VERTICAL CLEARANCE.

8 BOLT ARM CONNECTION DETAIL

RECOMMENDED BOLT ASSEMBLY DETAIL

ANCHOR ROD LOCATION

(MAXIMUM LOAD)

TYPE 13 POLE 35'- 55' MONOTUBE ARM

TYPE 13 POLE 35' - 55' MONOTUBE ARM	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2016 DATE	/S/ Ahmet Demirbilek STATE ELECTRICAL
FHWA	94

6

S.D.D. 9 E 8-8d

6

S.D.D. 9 E 8-8d

GENERAL NOTES

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

POLE TYPES 9 AND 10 ARE FOR ARM LENGTHS 15-FOOT TO 30-FOOT.

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 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 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 ¾" S.S. BANDING AROUND THE LEVELING NUTS.

INDENT PRINT (NOMINAL ½" 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.

(1) DESIGN FOR MAXIMUM ALLOWABLE HANDHOLE WITH COVER ASSEMBLY WITH TWO ¼" X ¾" - 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 ¼" X ¾" - 20 TPI STAINLESS STEEL HEX HEAD BOLT.

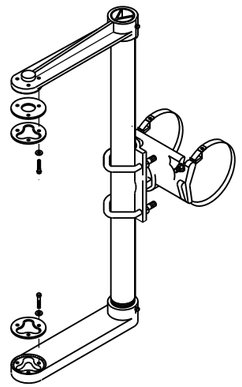
(6) FACTORY-WELDED "J" HOOK FOR STRAIN RELIEF FOR POLE LUMINAIRE WIRE.

(7) INSTALL STRUCTURAL IDENTIFICATION PLAQUES.

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

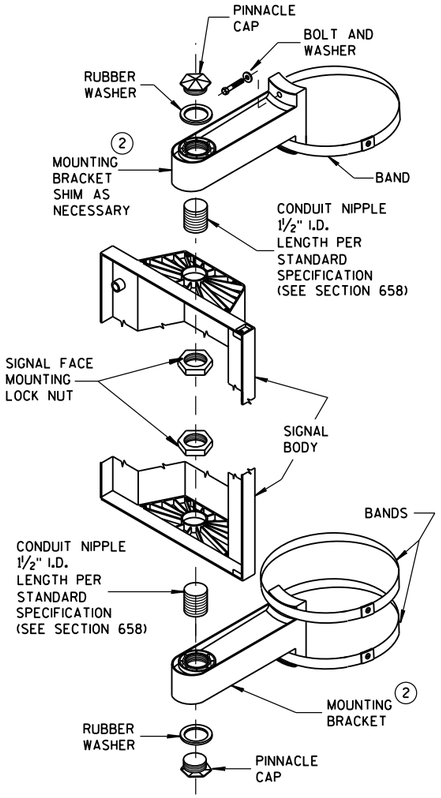
MOUNTING HEIGHT SHALL BE 6'-0" ABOVE THE CURB OR SHOULDER. ADJUST IF IT IS KNOWN THAT REQUIRED TRAFFIC SIGNS WILL BE OBSTRUCTED.

(8) FACTORY DRILLED ½" DRAIN HOLE 2" FROM FLANGE CONNECTION PLATE.

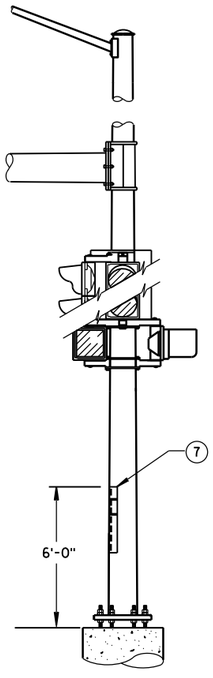


SIGNAL FACE MOUNTING BRACKET DETAIL FOR MONOTUBE ARM

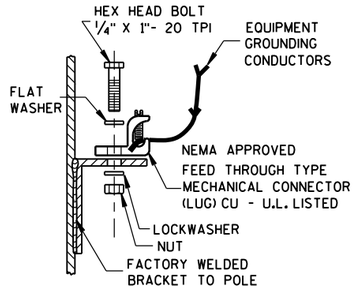
(MOUNT PER MANUFACTURER'S RECOMMENDATION)



SIGNAL FACE VERTICAL MOUNTING DETAIL

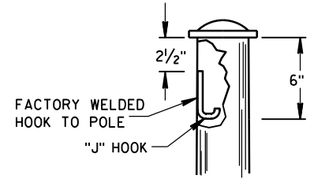


STRUCTURAL IDENTIFICATION PLAQUE PLACEMENT



TYPICAL GROUNDING CONNECTIONS (5)

NUT, BOLT AND WASHERS SHALL BE STAINLESS STEEL



"J" HOOK WIRE SUPPORT (6)

GENERAL NOTES AND HARDWARE DETAILS FOR TYPE 9, 10, 12 & 13 POLES WITH MONOTUBE ARMS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2016 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL 95
FHWA

6

S.D.D. 9 E 8-8e

6

S.D.D. 9 E 8-8e

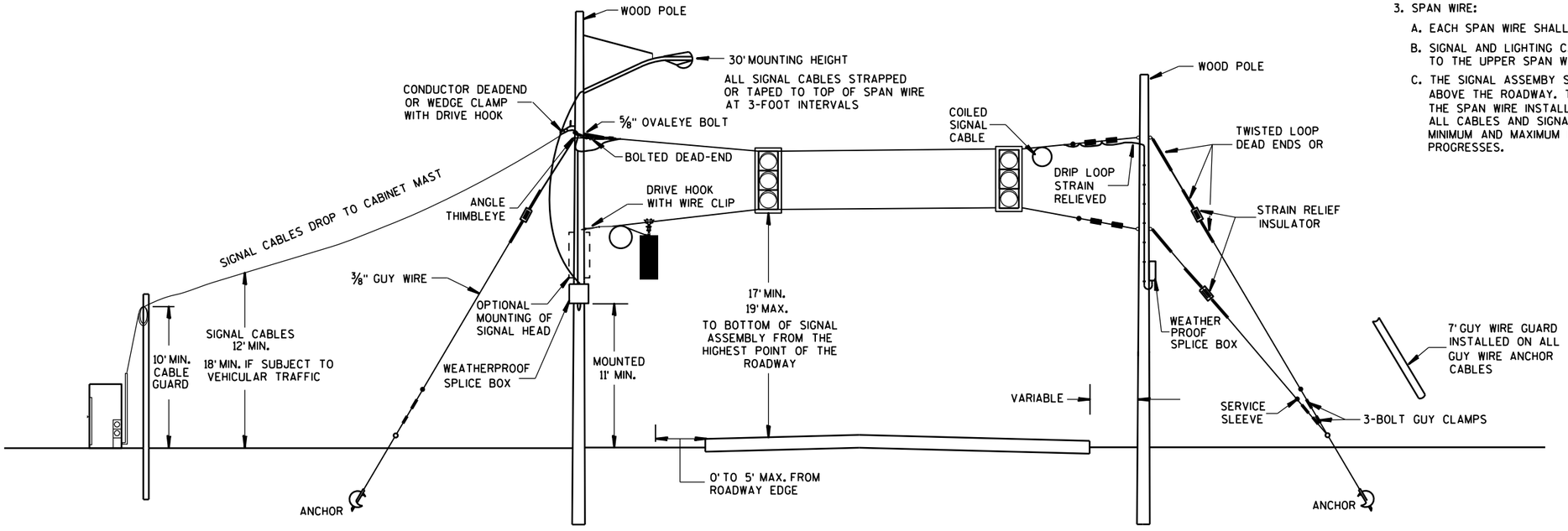
GENERAL NOTES

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

1. WOOD POLES SHALL BE CLASS 4. LENGTH DETERMINED BY SIGNAL PLAN.

2. SIGNAL FACES:
   A. ALL SECTIONS SHALL BE 12" AND POLYCARBONATE.
   B. EACH SHALL CONTAIN A 5" WIDE DULL BLACK POLYCARBONATE BACKPLATE.
   C. EACH SHALL BE WIRED FROM THE TOP SIGNAL MOUNTING BRACKET.
   D. 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.

3. SPAN WIRE:
   A. EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED.
   B. SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.
   C. THE SIGNAL ASSEMBY 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

MINIMUM POLE LENGTHS	POLE BURIEL DEPTHS
25'	5'
30'	6'
35'	7'
40'	8'
45'	9'

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

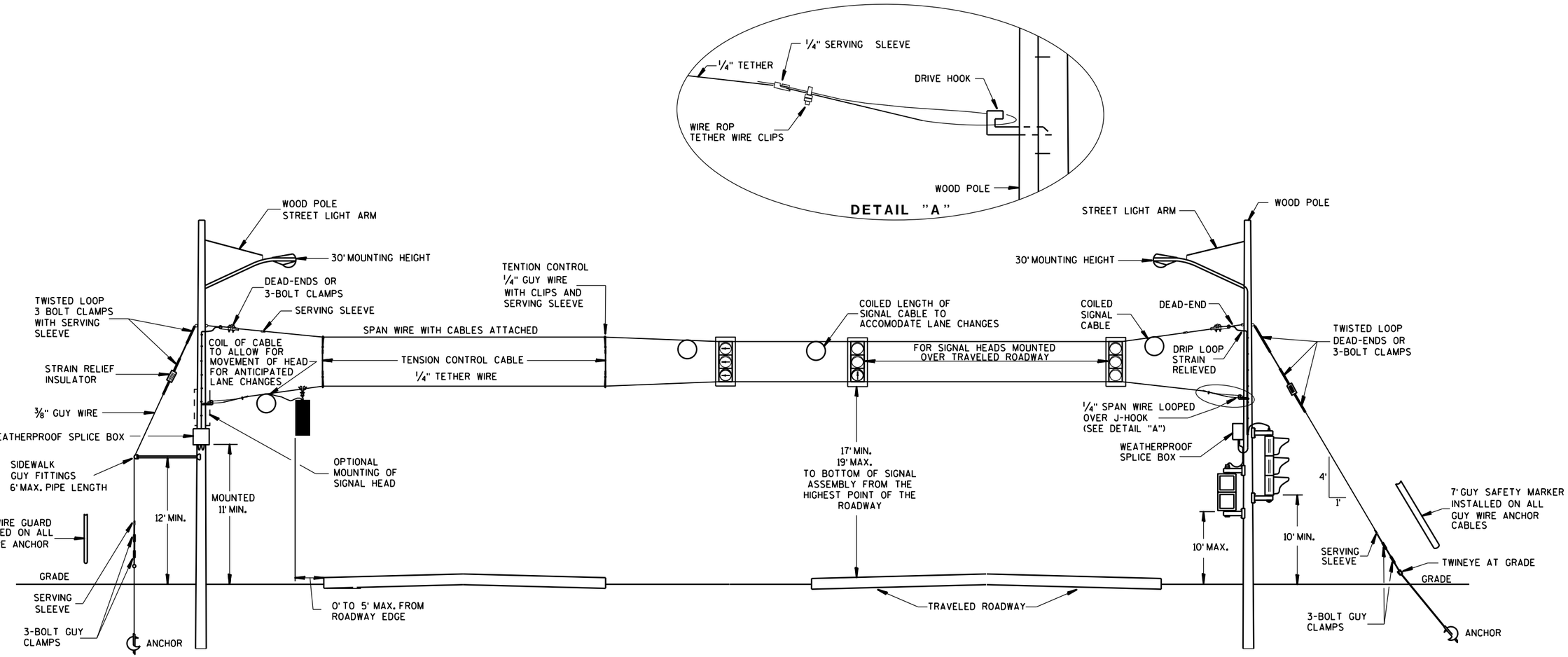
APPROVED
June, 2015 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 9 G 1-4a

6

S.D.D. 9 G 1-4a



GENERAL NOTES

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

1. WOOD POLES SHALL BE CLASS 4. LENGTH DETERMINED BY SIGNAL PLAN.
2. SIGNAL FACES:
   A. ALL SECTIONS SHALL BE 12" AND POLYCARBONATE.
   B. EACH SHALL CONTAIN A 5" WIDE DULL BLACK POLYCARBONATE BACKPLATE.
   C. EACH SHALL BE WIRED FROM THE TOP SIGNAL MOUNTING BRACKET.
   D. 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.
   E. FAR INDICATION SHALL BE MAINTAINED OVER CENTER OF TRAFFIC LANE.
3. SPAN WIRE:
   A. EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED.
   B. SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.
   C. THE SIGNAL ASSEMBY 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
4 LANE ROADWAYS

MINIMUM POLE LENGTHS	CLASS	MIN. BURIAL DEPTHS
25'	V	5'
30'	V	6'
35'	IV	7'
40'	IV	8'
45'	IV	9'

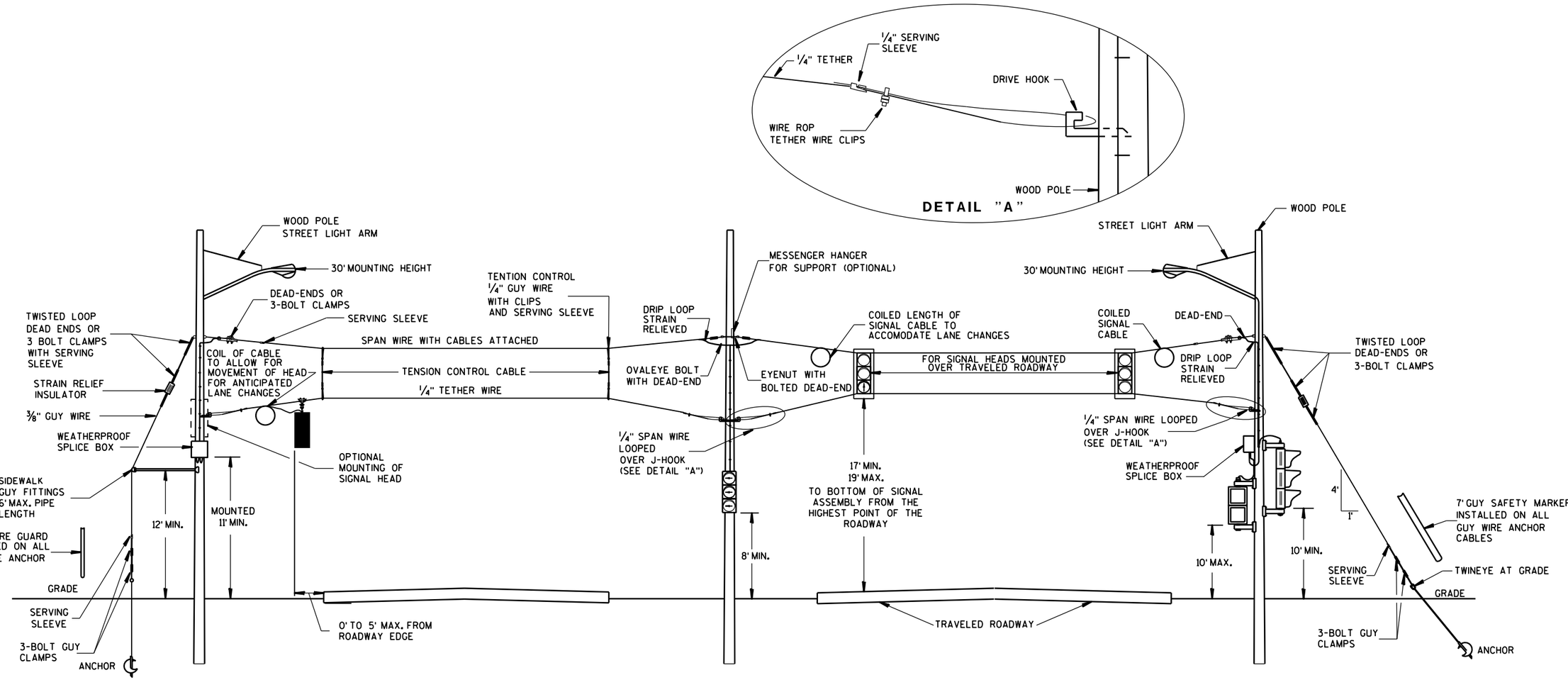
SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 9 G 1-4b



SPAN WIRE
TEMPORARY SIGNALS
4 LANE ROADWAYS

GENERAL NOTES

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

1. WOOD POLES SHALL BE CLASS 4. LENGTH DETERMINED BY SIGNAL PLAN.

2. SIGNAL FACES:
   A. ALL SECTIONS SHALL BE 12" AND POLYCARBONATE.
   B. EACH SHALL CONTAIN A 5" WIDE DULL BLACK POLYCARBONATE BACKPLATE.
   C. EACH SHALL BE WIRED FROM THE TOP SIGNAL MOUNTING BRACKET.
   D. 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.
   E. FAR INDICATION SHALL BE MAINTAINED OVER CENTER OF TRAFFIC LANE.

3. SPAN WIRE:
   A. EACH SPAN WIRE SHALL BE INDIVIDUALLY DOWN GUYED.
   B. SIGNAL AND LIGHTING CABLES SHALL ONLY BE ATTACHED TO THE UPPER SPAN WIRE.
   C. THE SIGNAL ASSEMBY 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.

MINIMUM POLE LENGTHS	CLASS	MIN. BURIAL DEPTHS
25'	V	5'
30'	V	6'
35'	IV	7'
40'	IV	8'
45'	IV	9'

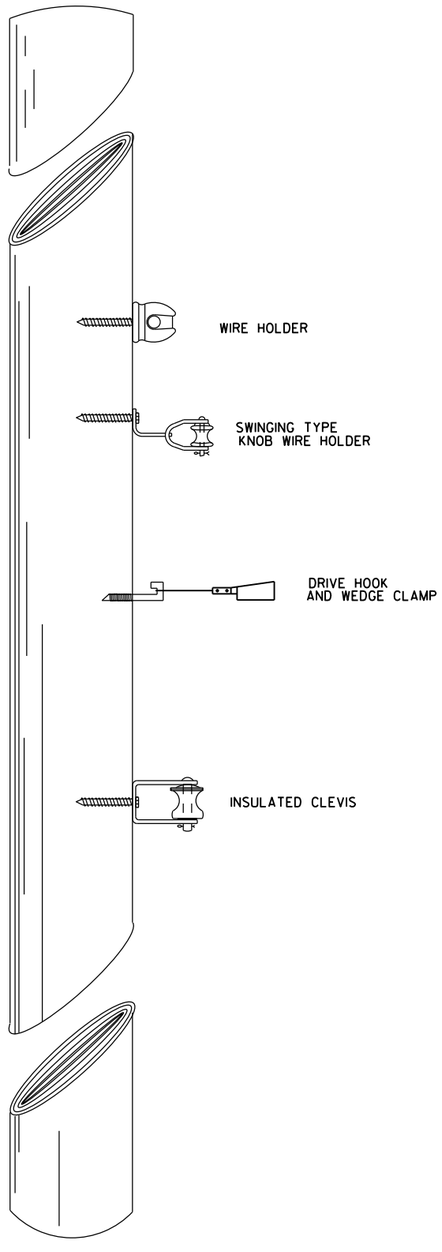
SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

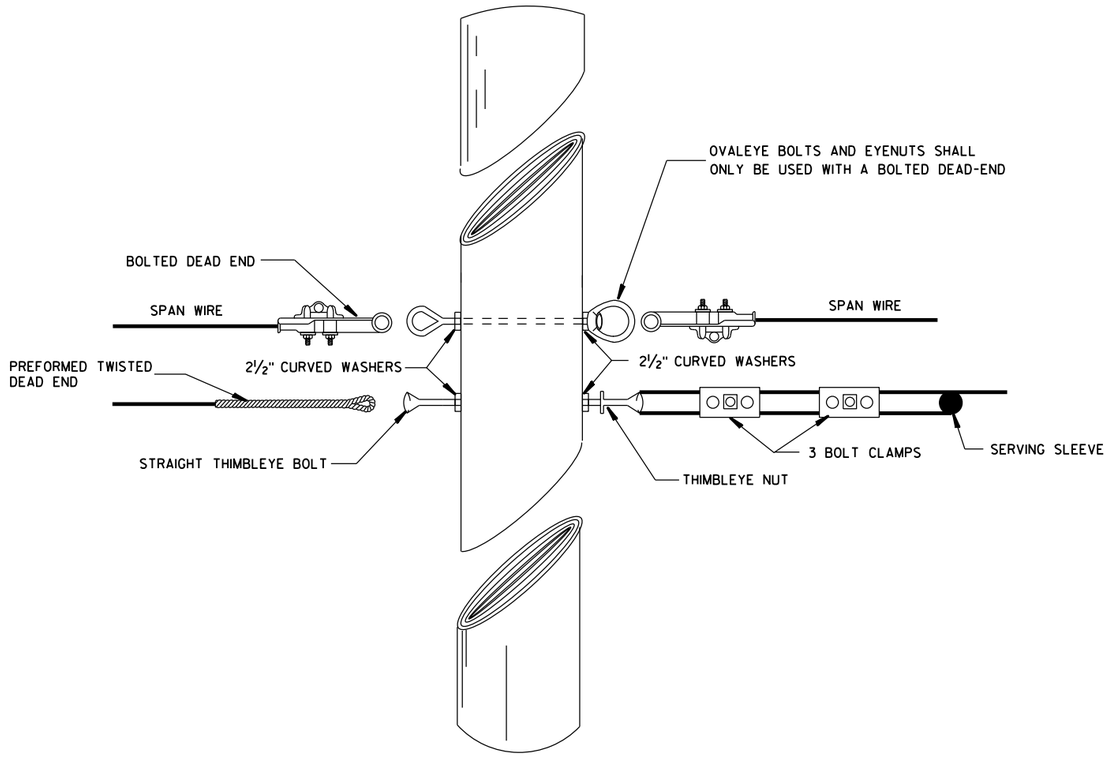
APPROVED
June. 2015 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 9 G 1-4c



TYPICAL CABLE HANGERS



TYPICAL DEAD-ENDING

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

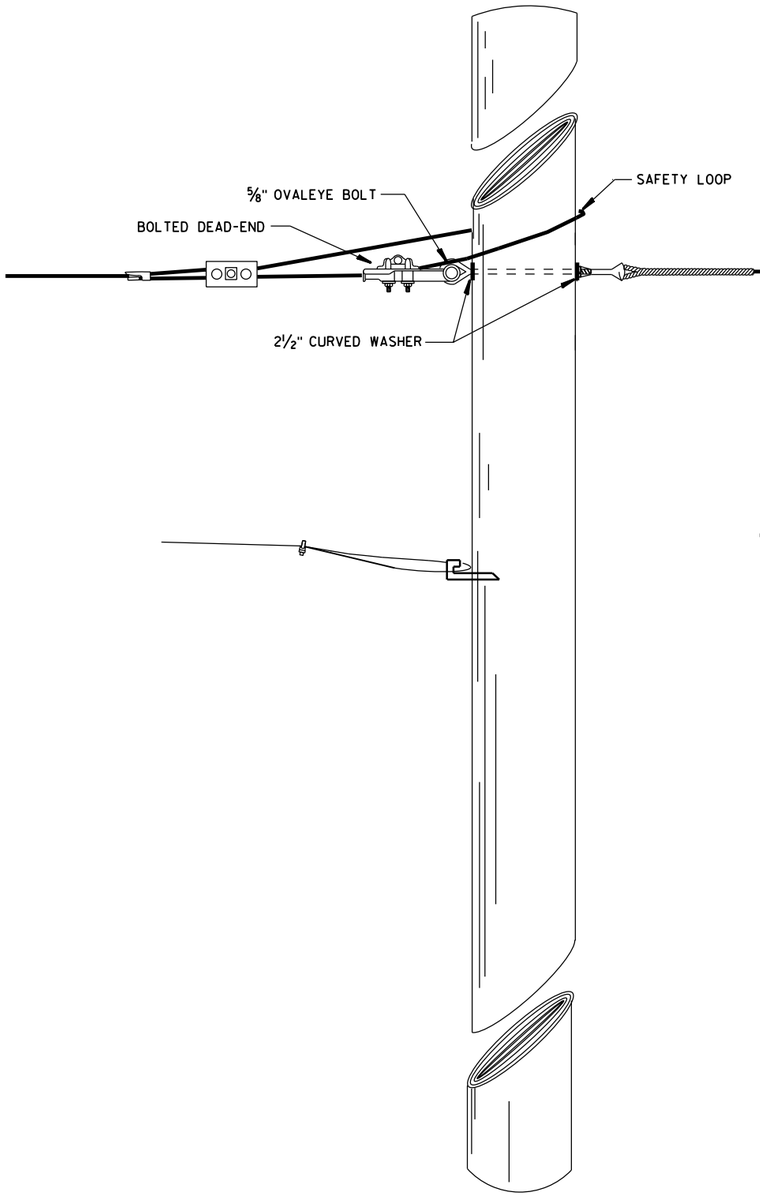
S.D.D. 9 G 1-4d

6

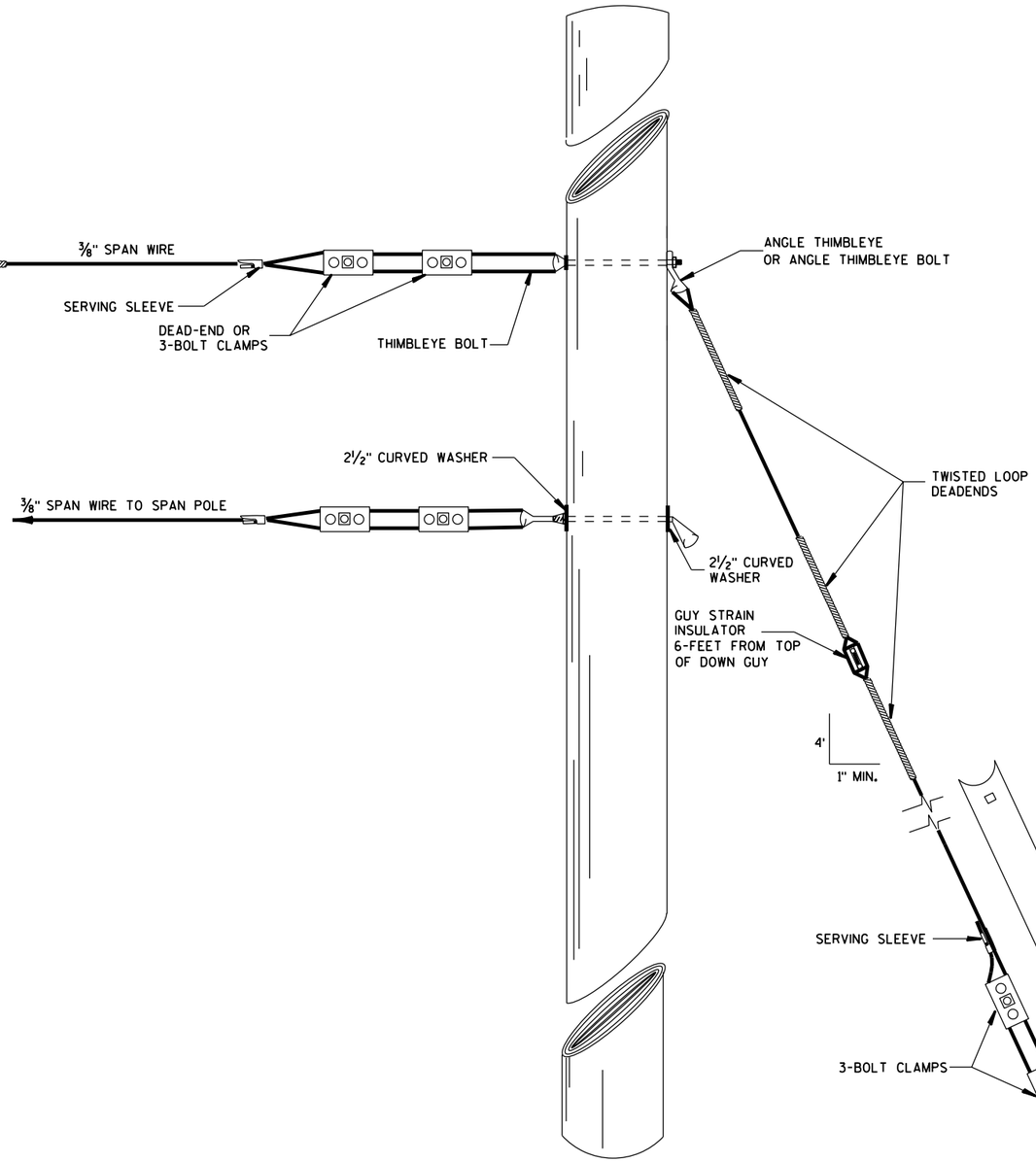
S.D.D. 9 G 1-4d

GENERAL NOTES

1. USE ¾" DRILL IN WOOD POLE TO PROVIDE HOLE FOR ⅝" BOLTS.
2. SAFTY LOOP REQUIRED ON EACH END OF ALL SPAN WIRES.



SPAN WIRE POLE



GUY POLE

TYPICAL DEAD-ENDINGS OR GUYING

SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

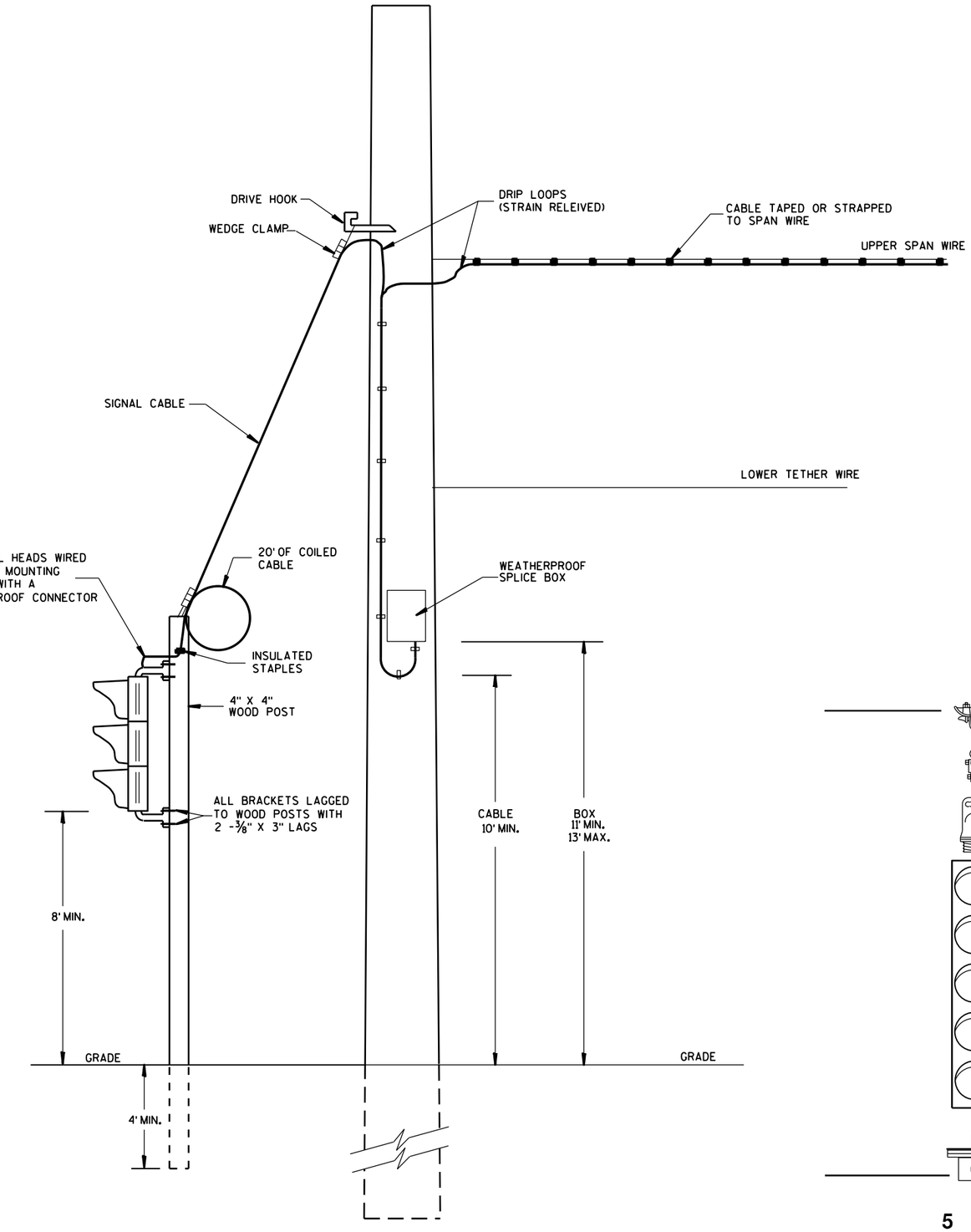
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June. 2015 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

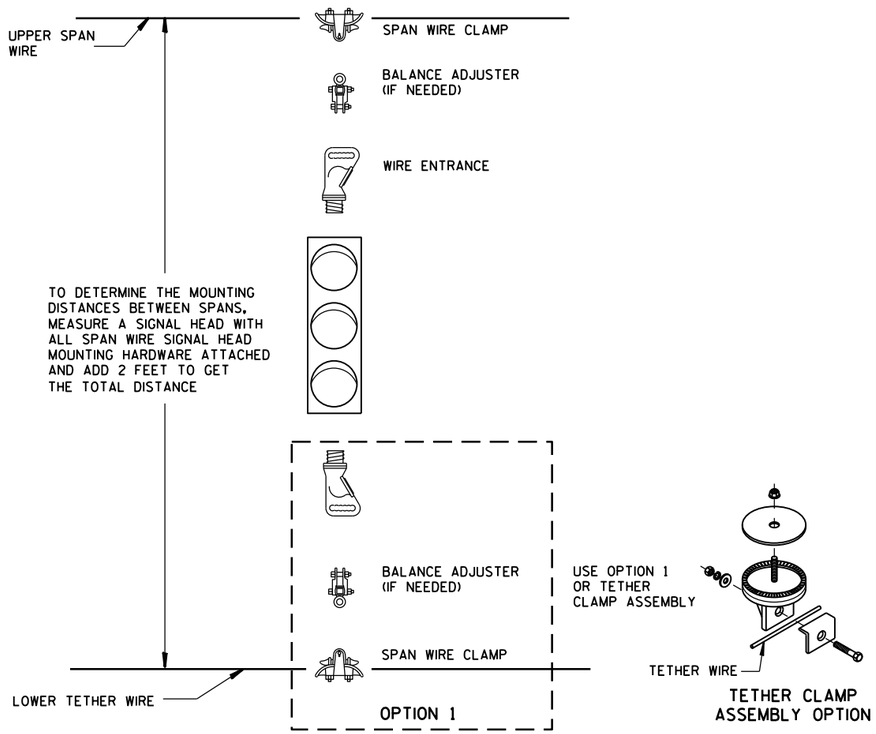
6

S.D.D. 9 G 1-4e

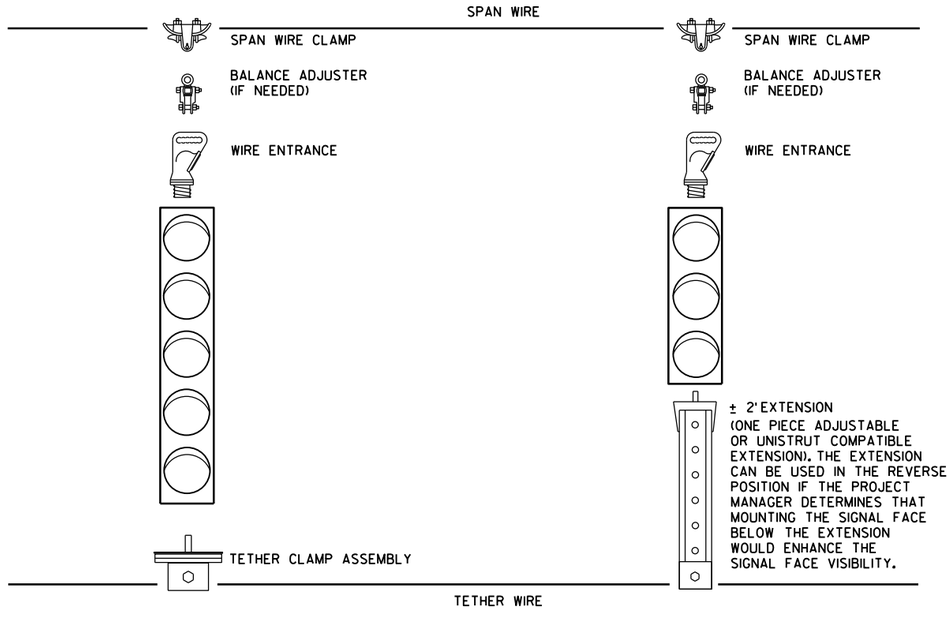
S.D.D. 9 G 1-4e



TYPICAL DROP TO TEMPORARY MOVEABLE SIGNAL



TYPICAL SPAN WIRE MOUNTING HARDWARE



5 SECTION VERTICAL WITH 3 SECTION VERTICAL ON ONE SPAN WIRE

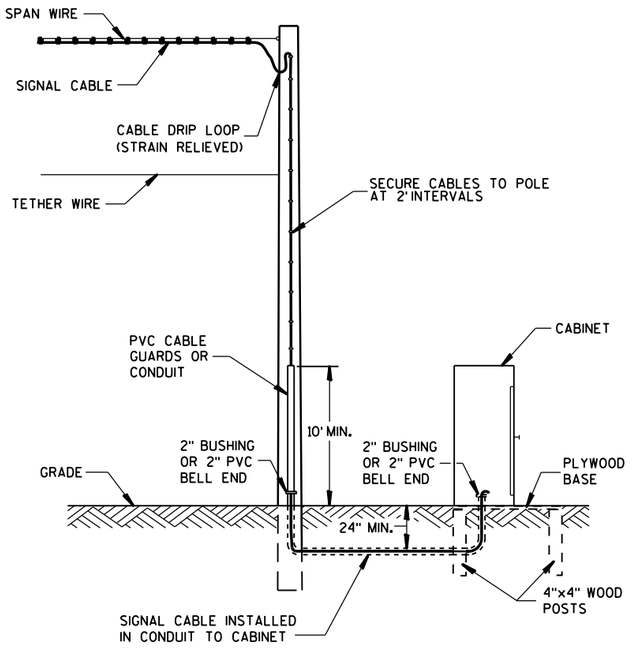
SPAN WIRE
TEMPORARY TRAFFIC SIGNAL

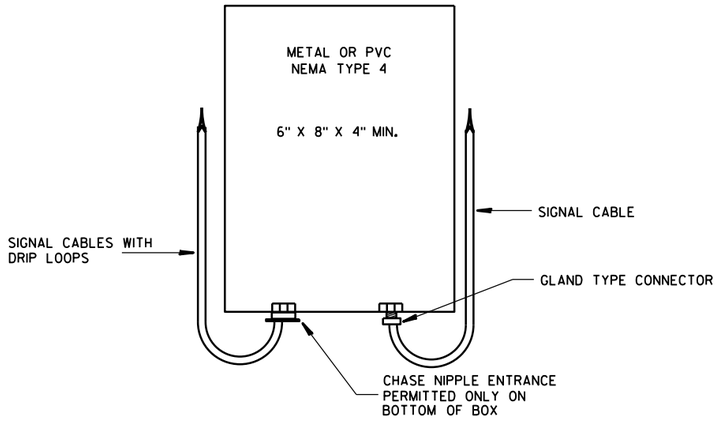
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June. 2015 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

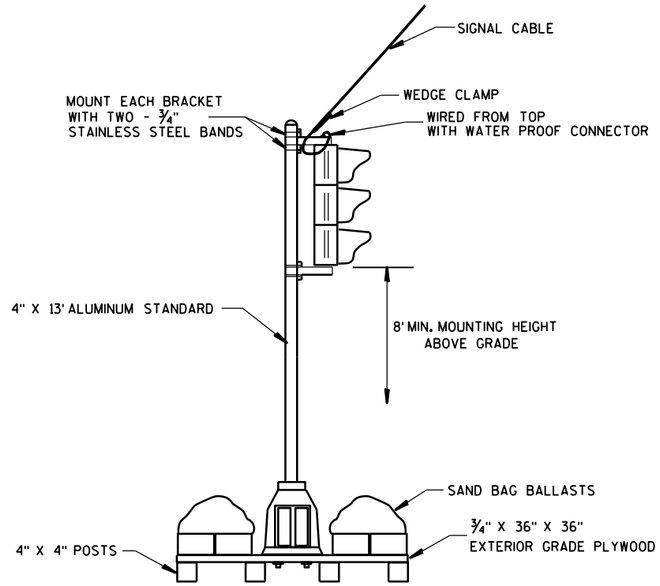
6

S.D.D. 9 G 1-4f

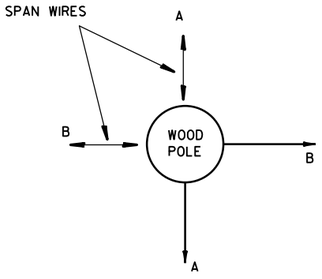




SPLICE BOX

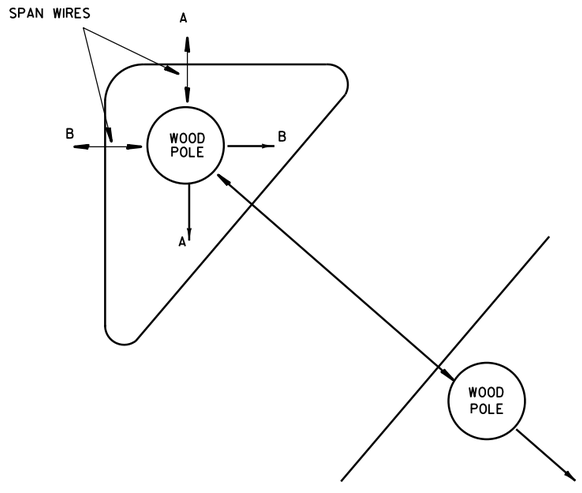


TYPICAL SKID TYPE TEMPORARY

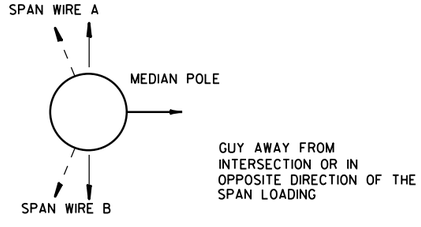


ALL DOWN OR SIDEWALK GUYS
SHALL BE INSTALLED IN THE
OPPOSITE DIRECTION OF THE
STRAIN OF THE SPAN WIRE

CORNER POLES



ISLAND POLES



MEDIAN POLES

SPAN WIRE TEMPORARY TRAFFIC SIGNAL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June, 2015 — DATE
/S/ Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6

S.D.D. 9 G 1-4g

6

S.D.D. 9 G 1-4g

TABLE OF NOMINAL DIMENSIONS AND WEIGHTS

DIMENSION IN INCHES		COMMUNICATIONS VAULT
VAULT DIAMETER (INSIDE) **	A	36
VAULT OVERALL OUTSIDE DIAMETER	B	39
VAULT LENGTH	C	42
FRAME OPENING	D	34 1/2
WEIGHT IN POUNDS *		
COVER		95
VAULT ONLY		85

* THE ACTUAL WEIGHT OF THE COVER AND VAULT MAY VARY NOT TO EXCEED 100 LBS FOR THE COVER AND 100 LBS FOR THE VAULT ONLY.

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

GENERAL NOTES

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

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

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

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

COVER SHALL BE MAGNETICALLY LOCATABLE.

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

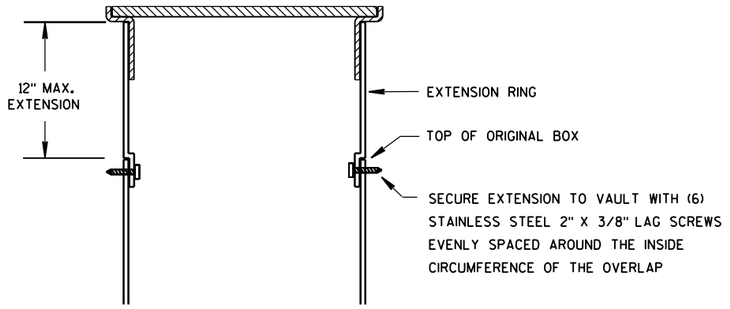
ENTRANCE HOLES INTO VAULT SHALL BE FIELD CUT AT TIME OF PLACEMENT WITH A CIRCULAR HOLE SAW OR HYDRAULIC CONDUIT PUNCH. HOLE SIZE SHALL BE THE OUTSIDE DIAMETER OF THE CONDUIT THAT IS TO FIT IN THE OPENING PLUS NO MORE THAN 1/4".

THE CONTRACTOR SHALL NOT INSTALL CABLE IN ANY VAULT UNTIL ITS INSTALLATION HAS BEEN INSPECTED AND ACCEPTED BY THE ENGINEER.

VAULT EXTENSION MAY ONLY BE USED IF DIRECTED BY THE ENGINEER.

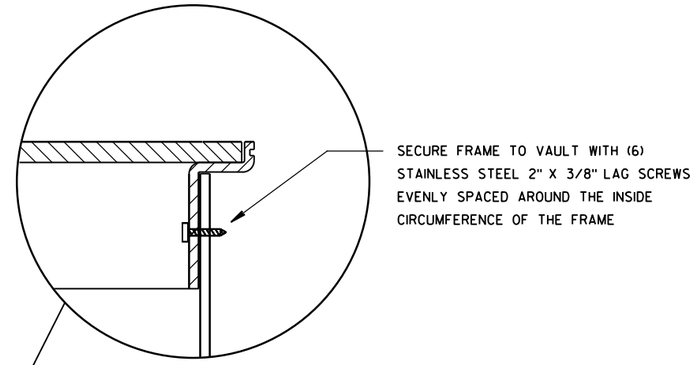
CABLE SUPPORT BRACKETS SHALL BE STAINLESS STEEL AND FASTENED TO THE SIDE WALL WITH 3/8" STAINLESS STEEL BOLT AND NUT. BRACKETS SHALL BE LOCATED AS DIRECTED BY THE ENGINEER.

FIBER TRACER MARKER POSTS SHALL BE CONSTRUCTED WITH HIGH-IMPACT PLASTIC MATERIAL WHICH IS FADE RESISTANT AND UV STABLE. ALL HARWARE SHALL BE STAINLESS STEEL AND CONTAIN A MINIMUM OF FIVE STANDARD TERMINALS.

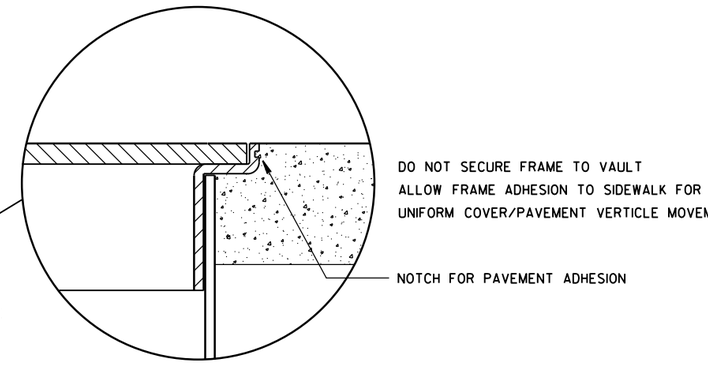


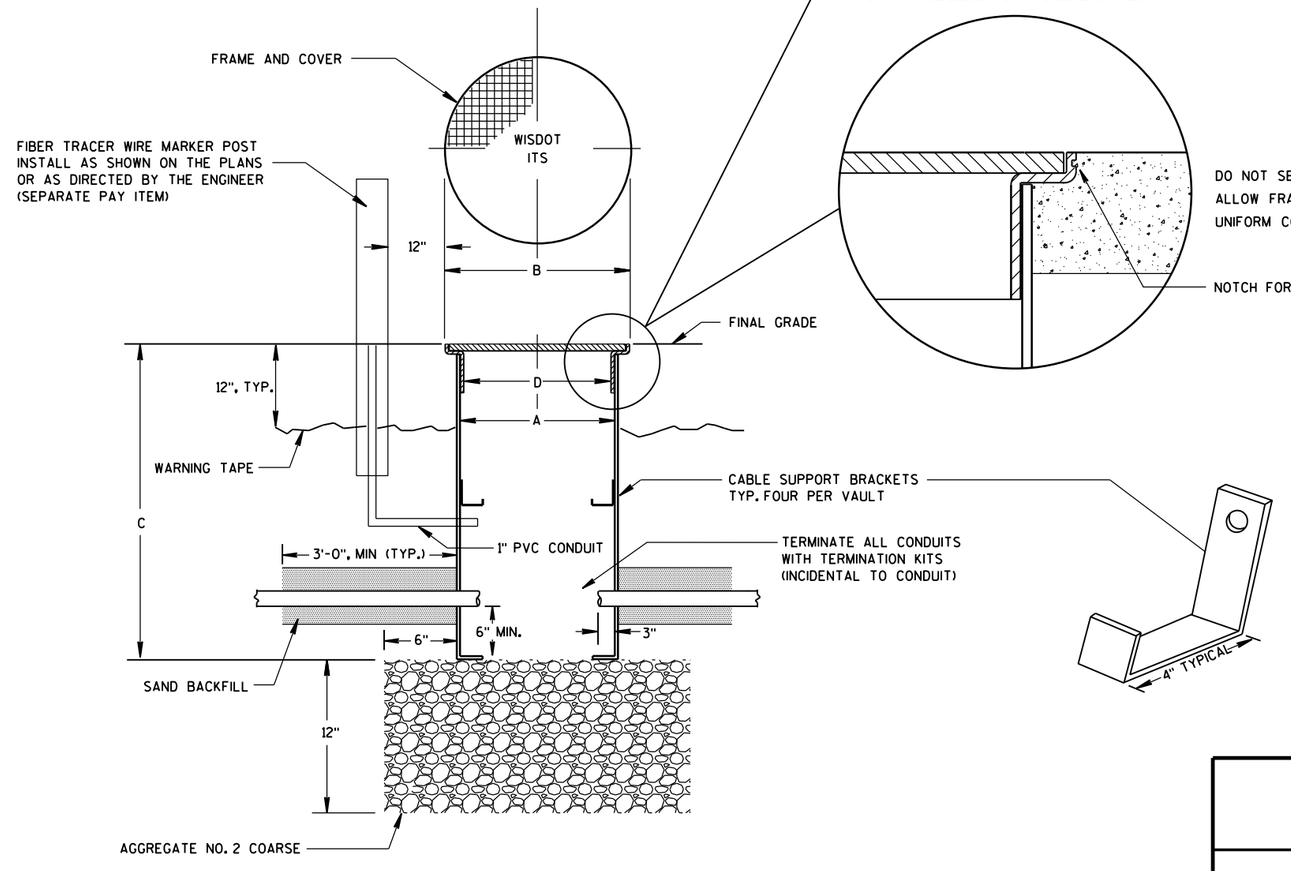
VAULT EXTENSION

INSTALLED IN SOD OR CRUSHED AGGREGATE



INSTALLED IN SIDEWALK





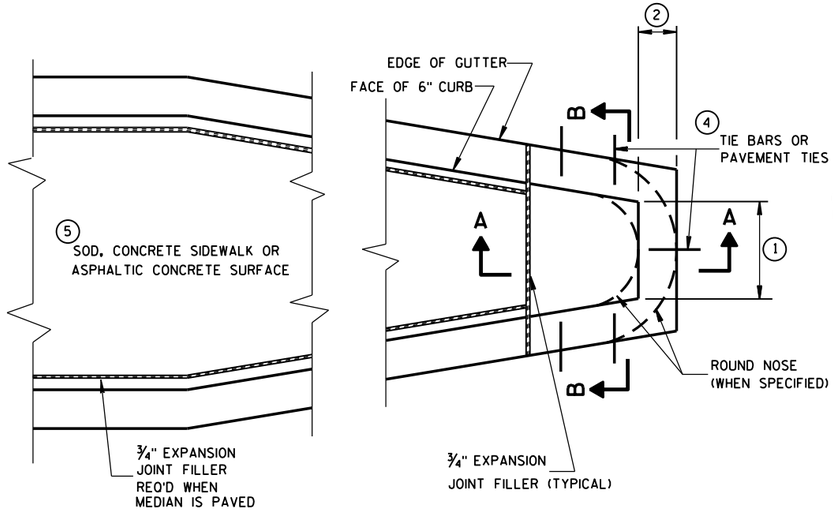
ROUND COMMUNICATIONS VAULT

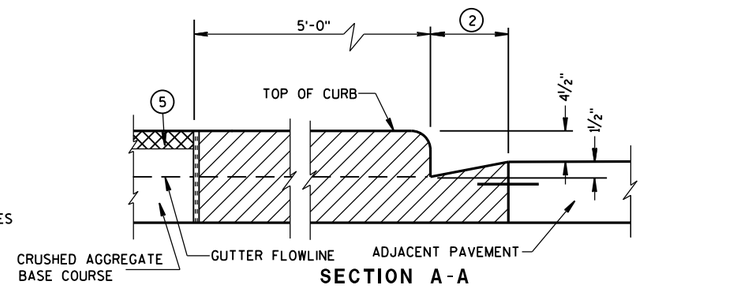
COMMUNICATION VAULT TYPE - ROUND

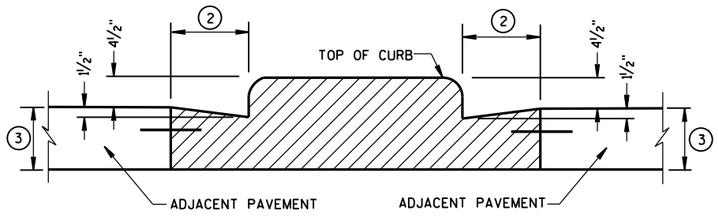
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2017 — DATE
/S/Ahmet Demirbilek — STATE ELECTRICAL
FHWA

6
S.D.D. 9 H 10-1







CONCRETE MEDIAN BLUNT NOSE DETAIL

GENERAL NOTES

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

(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.

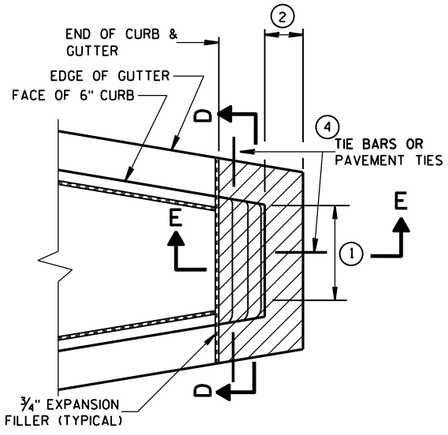
(2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.

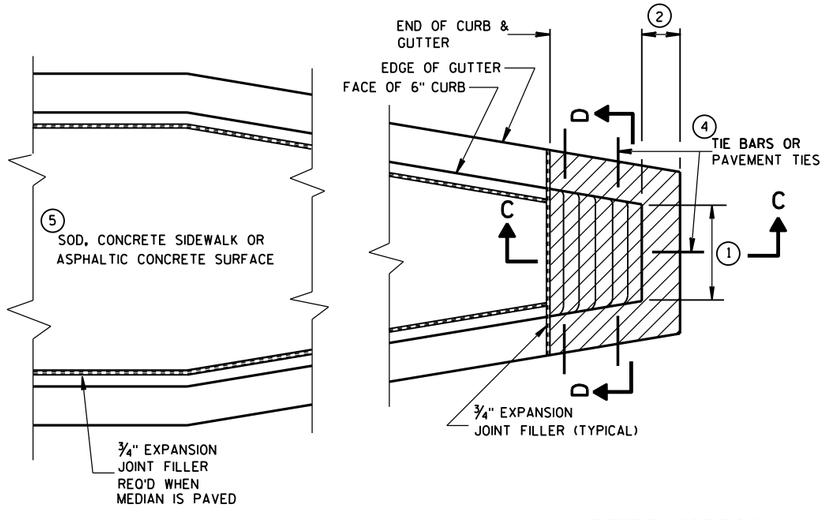
(3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.

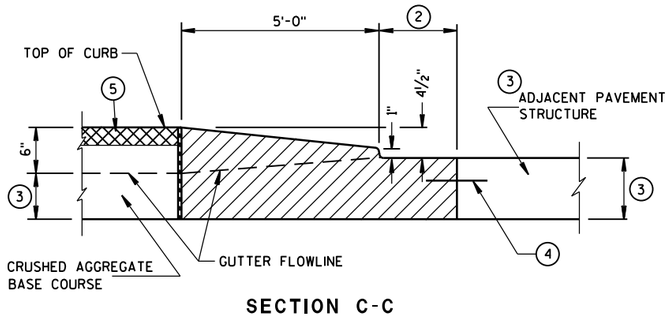
(4) TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

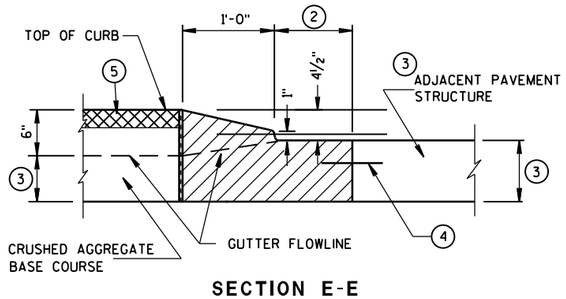
PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6:1. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.

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



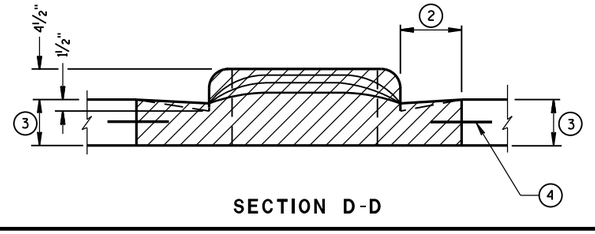






CONCRETE MEDIAN SLOPED NOSE TYPE 2

CONCRETE MEDIAN SLOPED NOSE TYPE 1



CONCRETE MEDIAN NOSE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

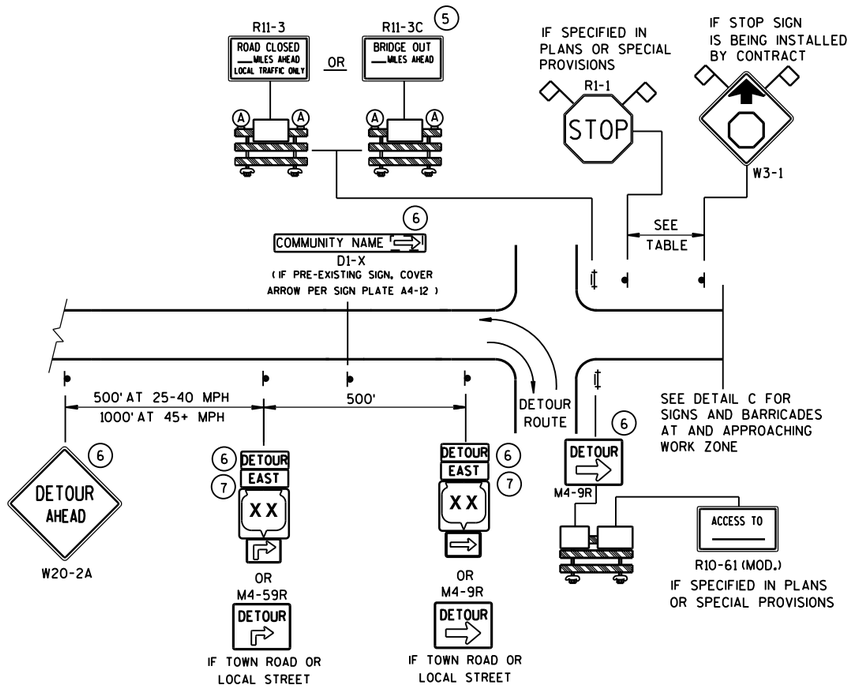
APPROVED
6/8/2006
DATE
/S/ Jerry H. Zogg
ROADWAY STANDARDS D ENGINEER
FHWA

6

S.D.D. 11 B 2-2

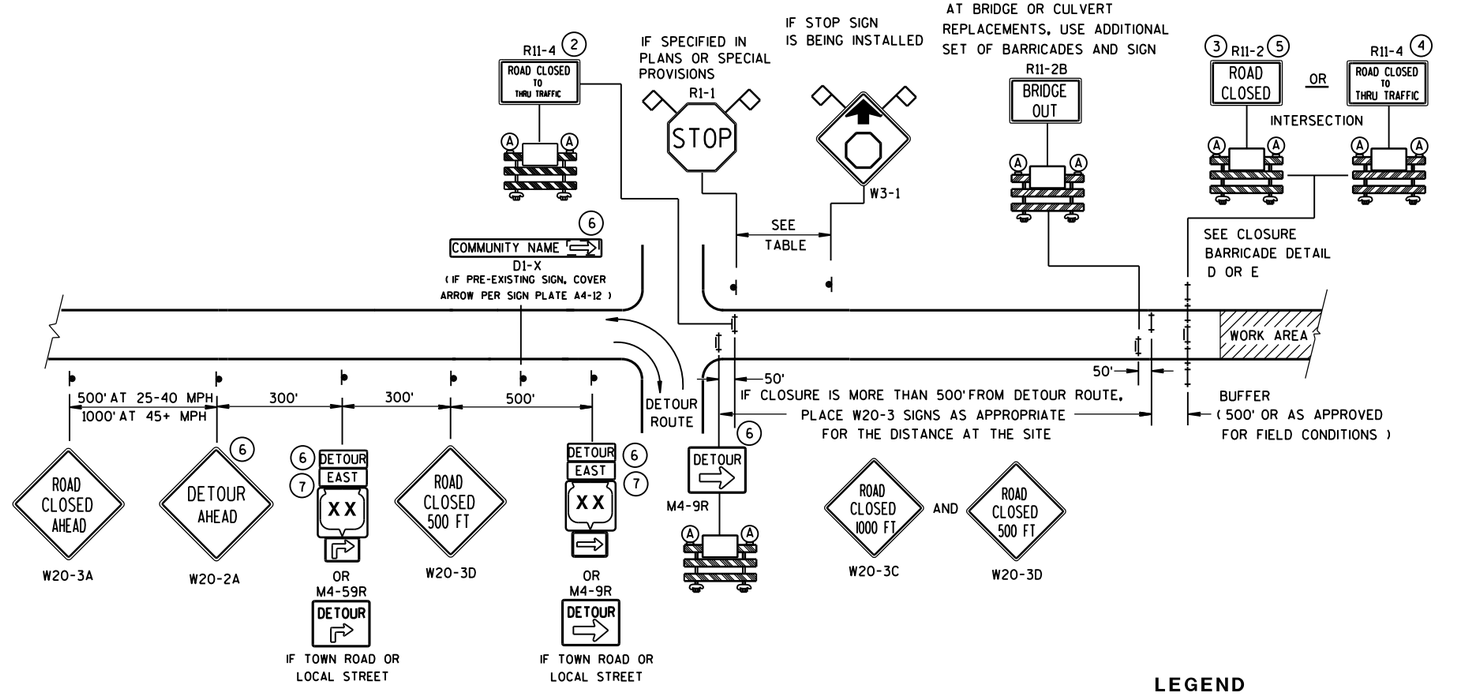
6

S.D.D. 11 B 2-2



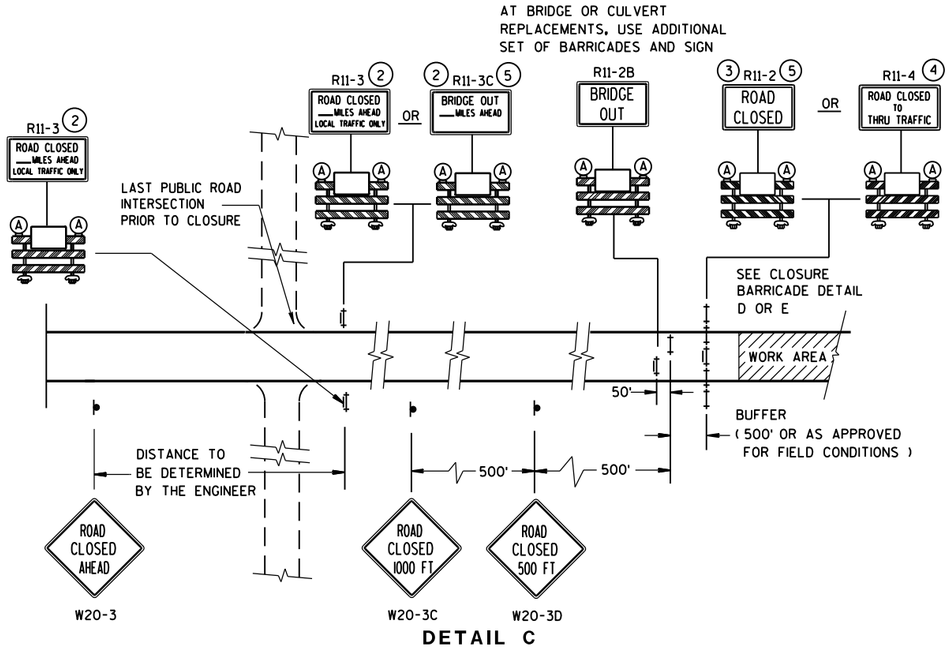
DETAIL A
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL B
MAINLINE CLOSURE WITH POSTED DETOUR

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



DETAIL C
MAINLINE CLOSURE, NO POSTED DETOUR

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

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

LEGEND

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

BARRICADES AND SIGNS FOR MAINLINE CLOSURES

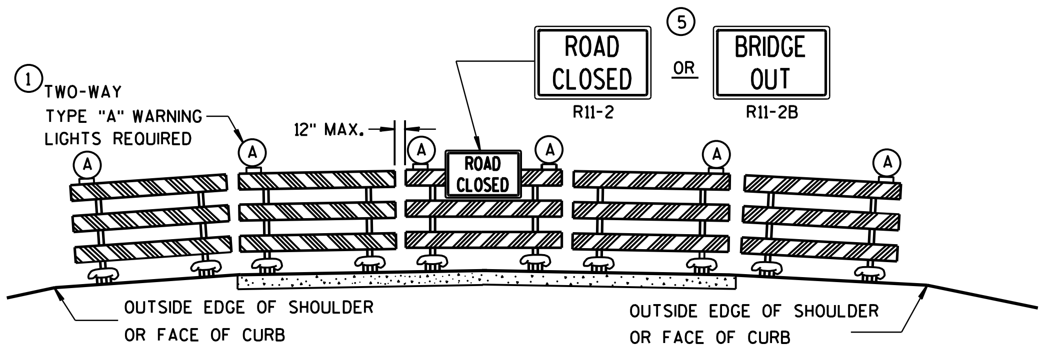
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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

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

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

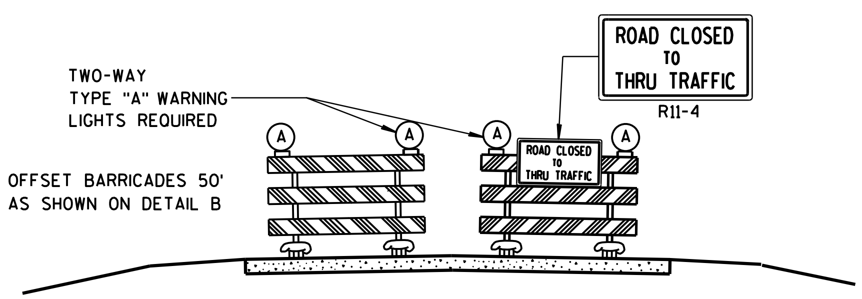
6



DETAIL D

ROAD CLOSURE BARRICADE DETAIL

APPROACH VIEW



DETAIL E

LANE CLOSURE BARRICADE DETAIL

APPROACH VIEW

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

GENERAL NOTES

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

6

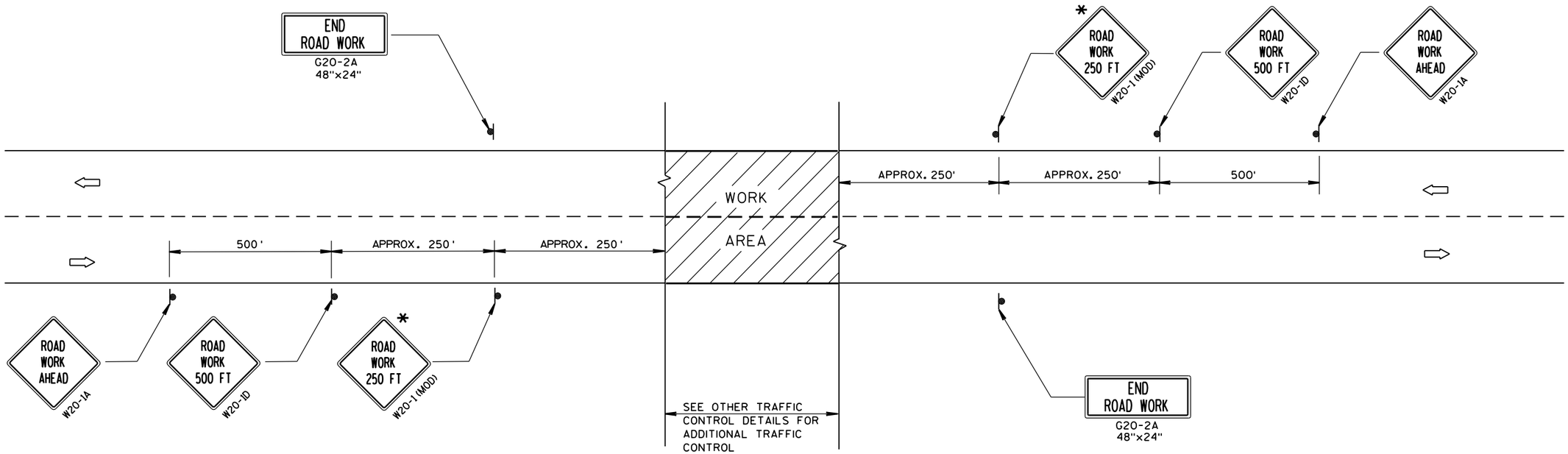
BARRICADES AND SIGNS
FOR
MAINLINE CLOSURES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

Sept. 2015 /S/ Peter Amakobe Atepe
DATE STATEWIDE WORK ZO 106 FIC SAFETY ENGI
FHWA

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

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



TYPICAL SIDEROAD APPROACH WARNING SIGN DETAIL

GENERAL NOTES

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

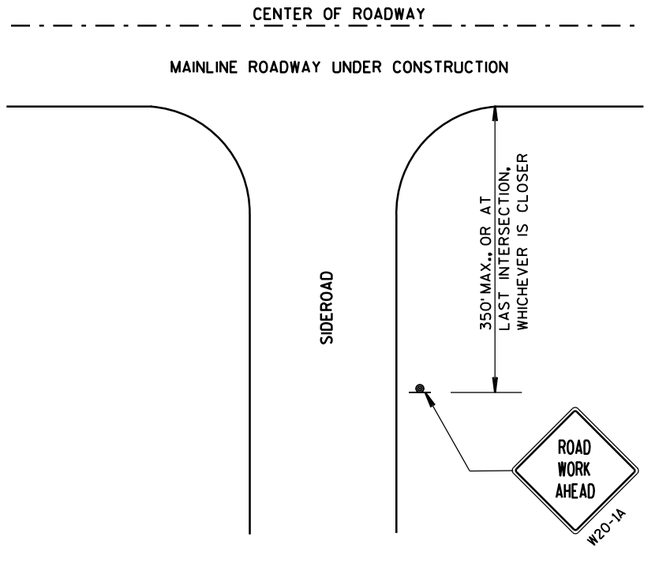
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS, 36"x36" SIGNS MAY BE USED INSTEAD OF 48"x48" SIGNS.

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

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

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



LEGEND

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

TRAFFIC CONTROL, ADVANCE WARNING SIGNS 40 M.P.H. OR LESS TWO-WAY UNDIVIDED ROAD OPEN TO TRAFFIC

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

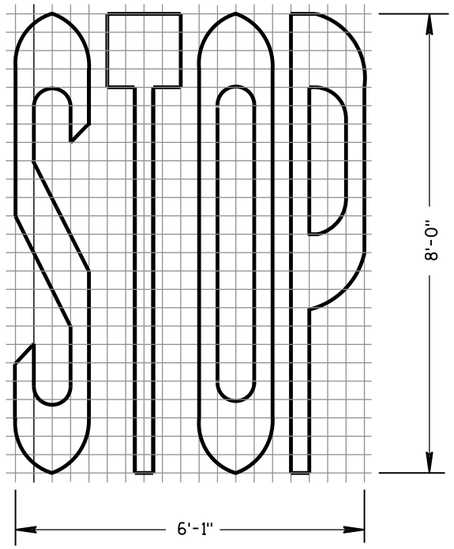
APPROVED
Sept. 2015 — DATE
/S/ Peter Amakobe Atepe — STATEWIDE WORK ZOI SAFETY ENGIN IC
FHWA

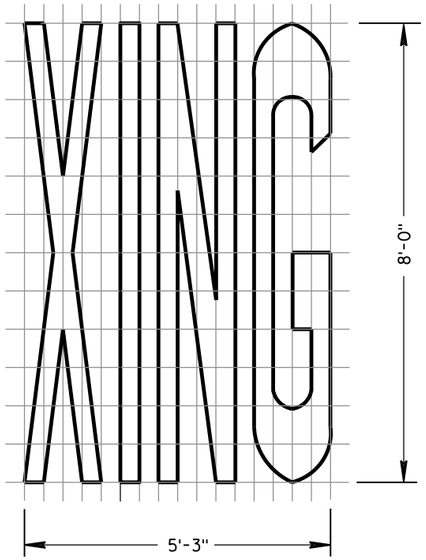
6

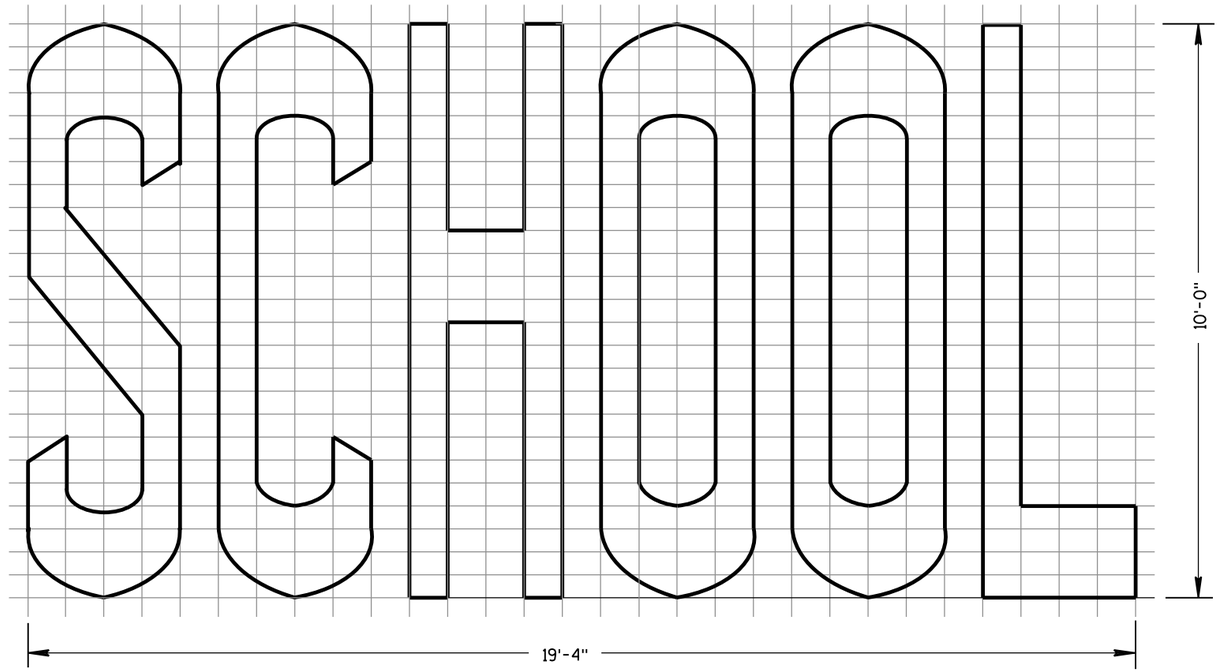
S.D.D. 15 C 5-3

GENERAL NOTES

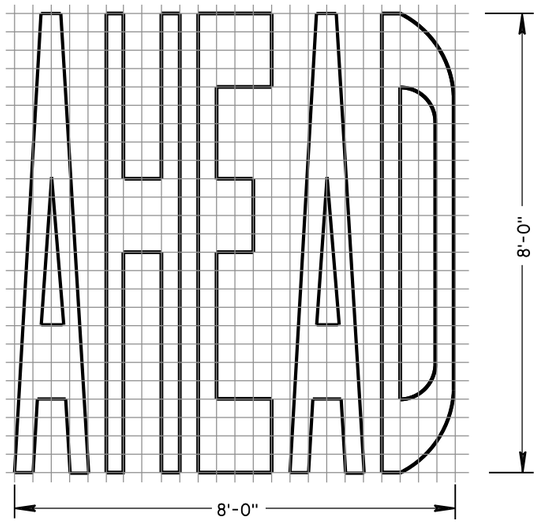
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

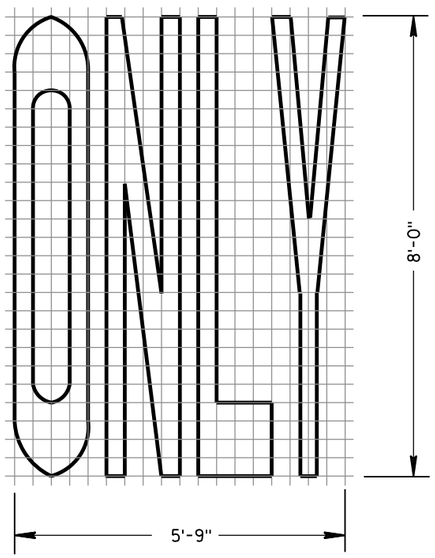


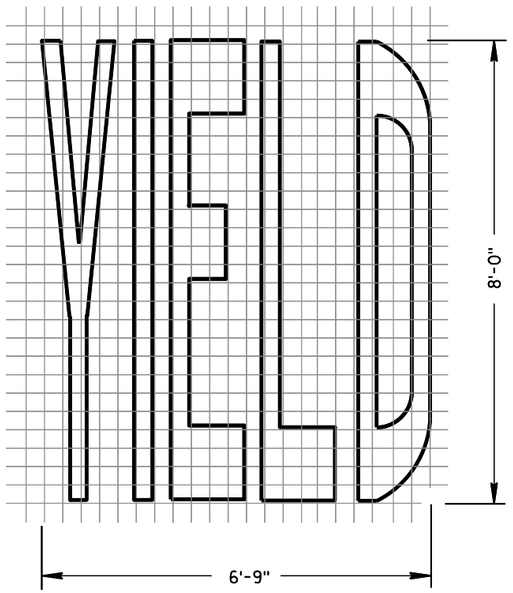


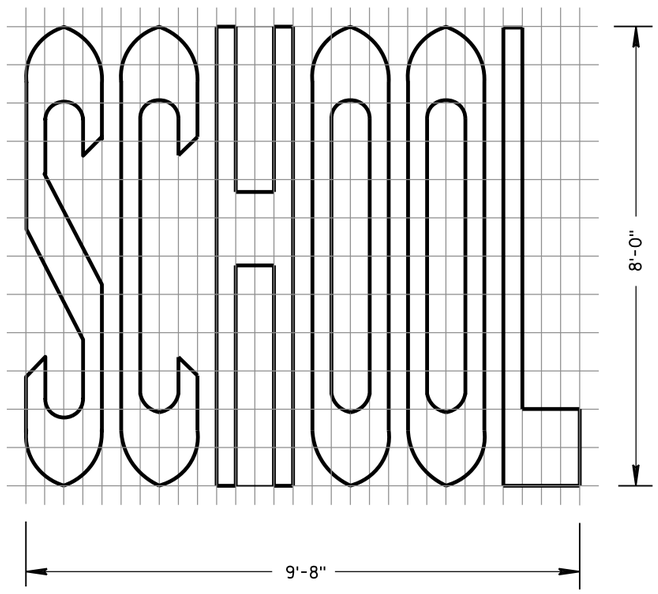


TWO-LANE









SINGLE-LANE

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4-18-16	/S/ Matthew R. Rauch	
DATE	STATE SIGNING AND MARK	EER

FHWA

6

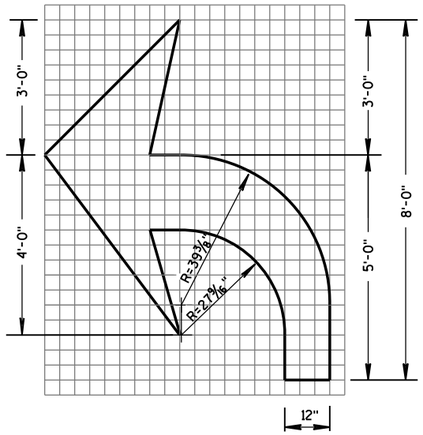
S.D.D. 15 C 7-13b

6

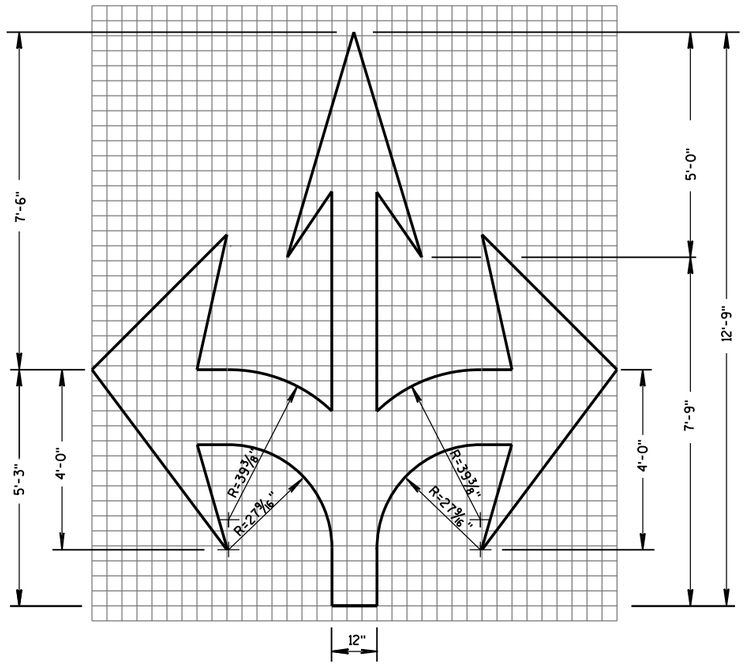
S.D.D. 15 C 7-13b

GENERAL NOTES

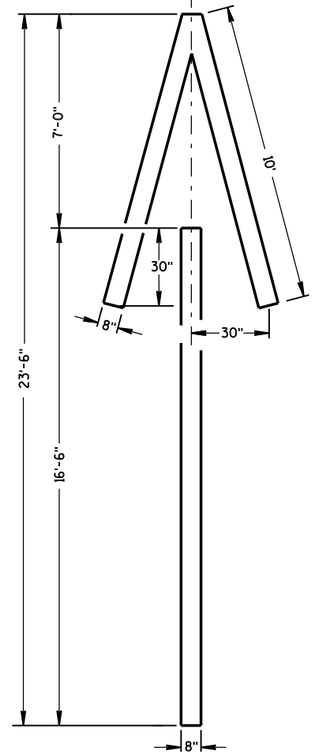
DETAILS OF INSTALLATION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.



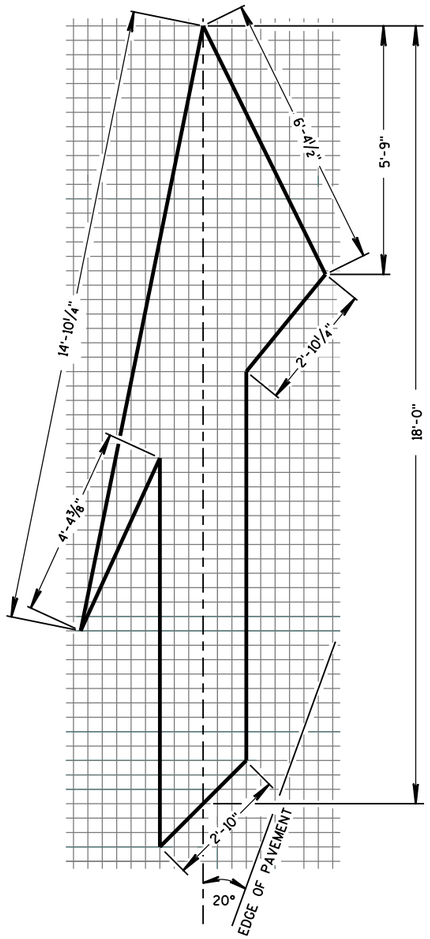
TYPE 2



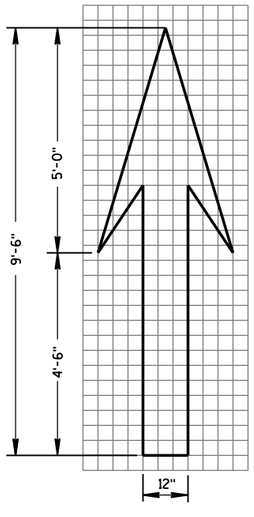
TYPE 6



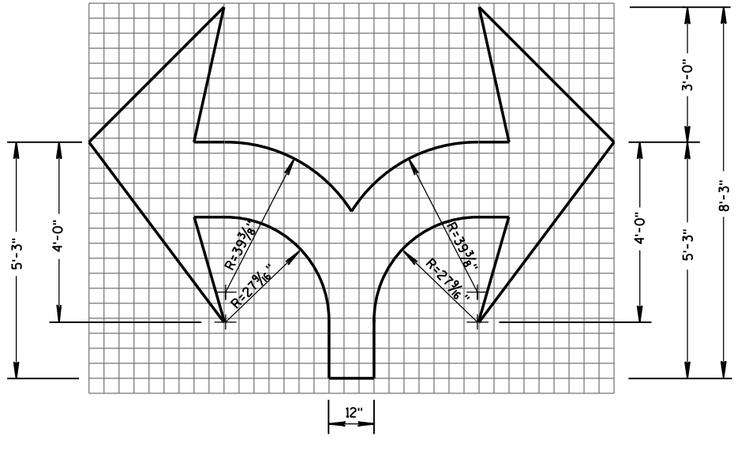
TYPE 4



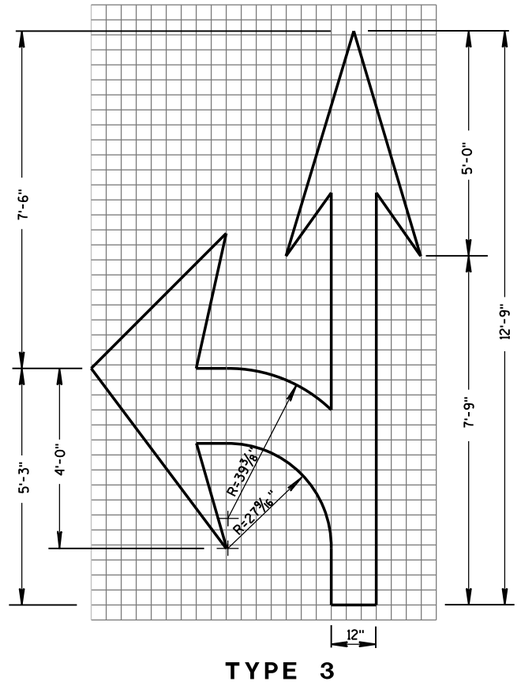
TYPE 5 LANE DROP ARROW



TYPE 1



TYPE 7



TYPE 3

PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

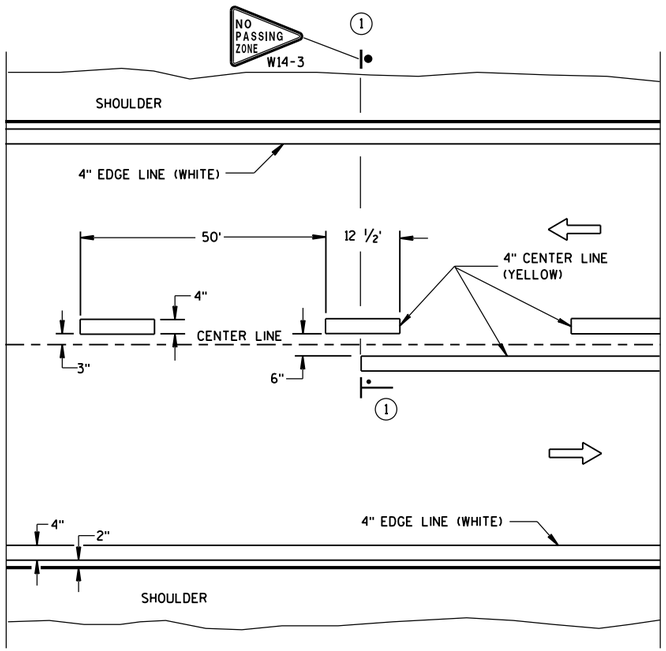
APPROVED
4-18-16
DATE
/S/ Matthew R. Rauch
STATE SIGNING AND MAR
ENGINEER
FHWA

6

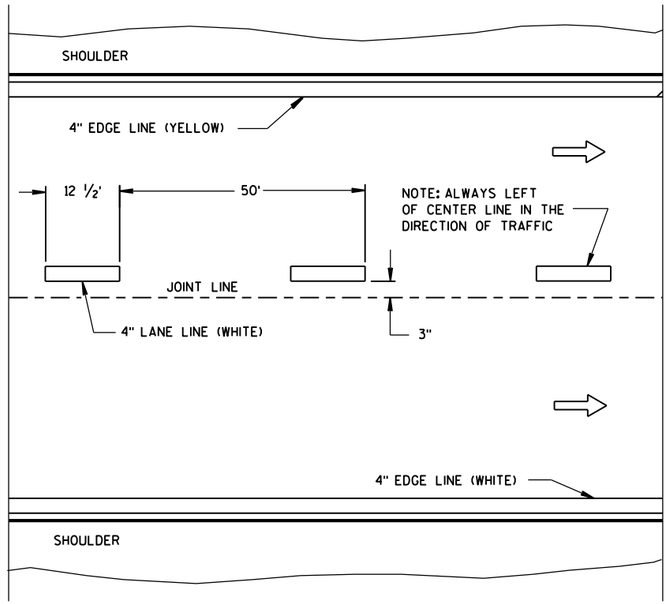
S.D.D. 15 C 7-13c

6

S.D.D. 15 C 7-13c



TWO WAY TRAFFIC



ONE WAY TRAFFIC

PERMANENT PAVEMENT MARKING

GENERAL NOTES

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

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

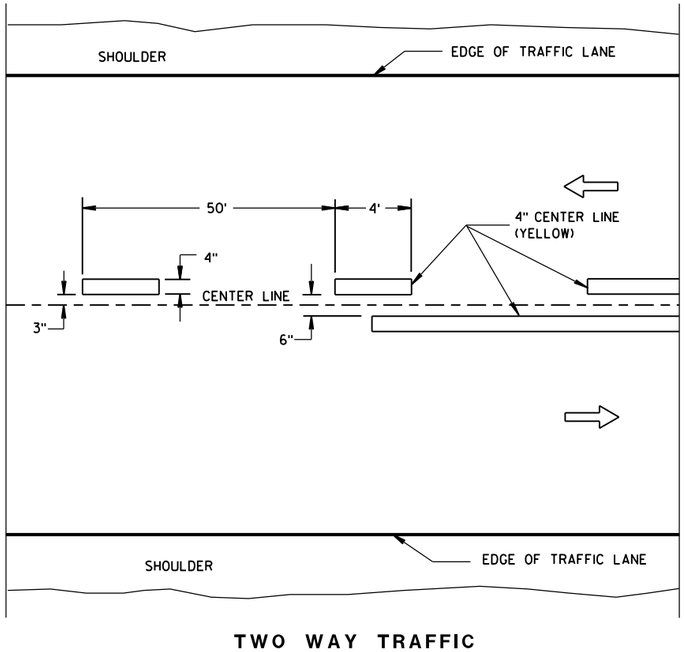
NOTE

ARROW SYMBOL (⇨) SHOWS DIRECTION OF TRAVEL

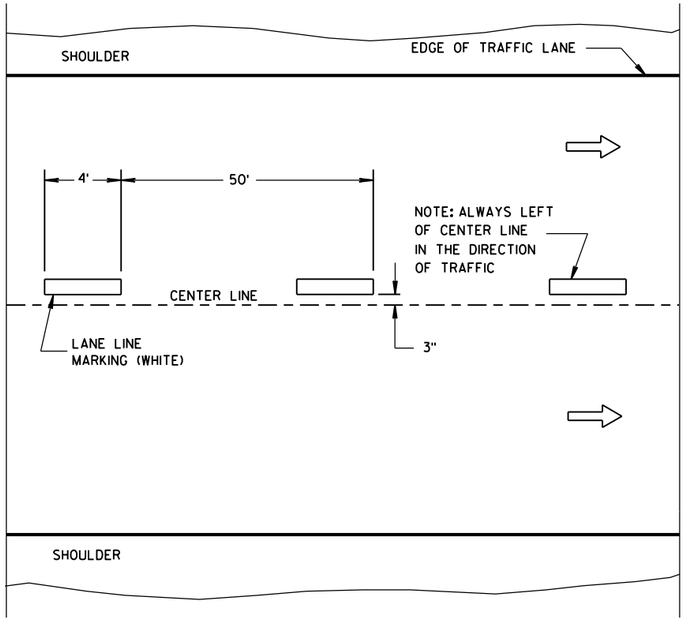
LEGEND

"T" MARKING

POST MOUNTED SIGN



TWO WAY TRAFFIC



ONE WAY TRAFFIC

TEMPORARY PAVEMENT MARKING

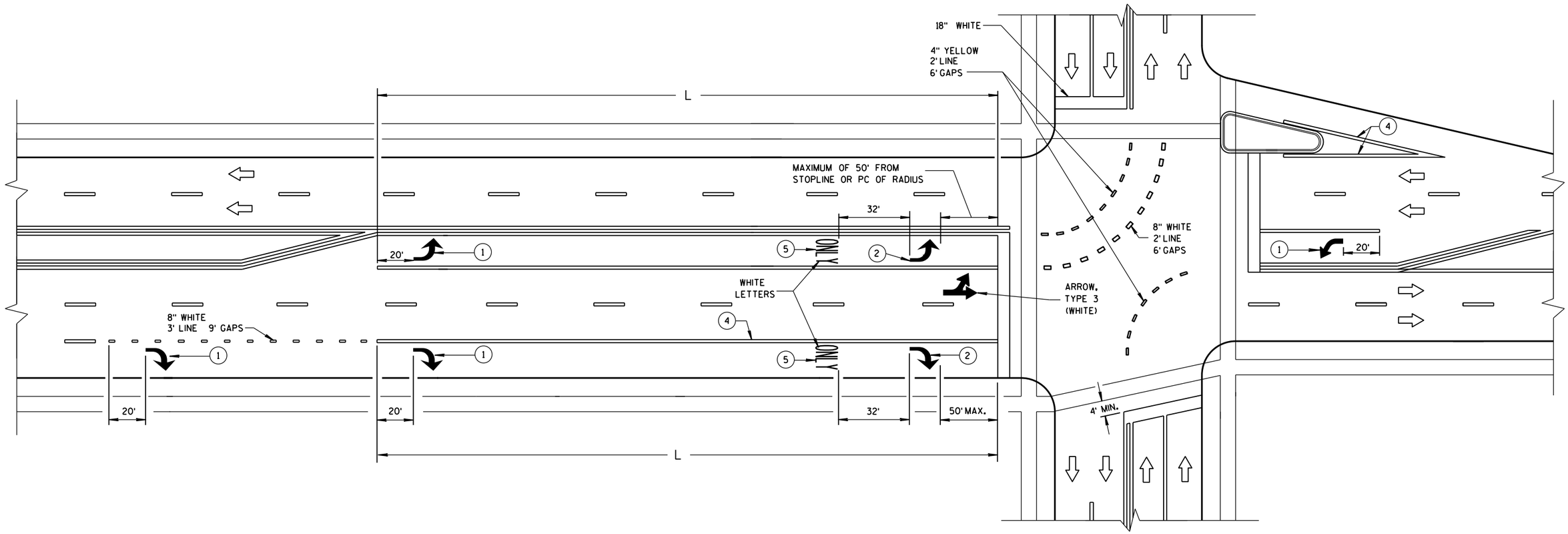
LONGITUDINAL MARKING (MAINLINE)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED	
Sept., 2016	/S/ Matthew R. Rauch
DATE	STATE SIGNING AND MAR[illegible]INEER
FHWA	

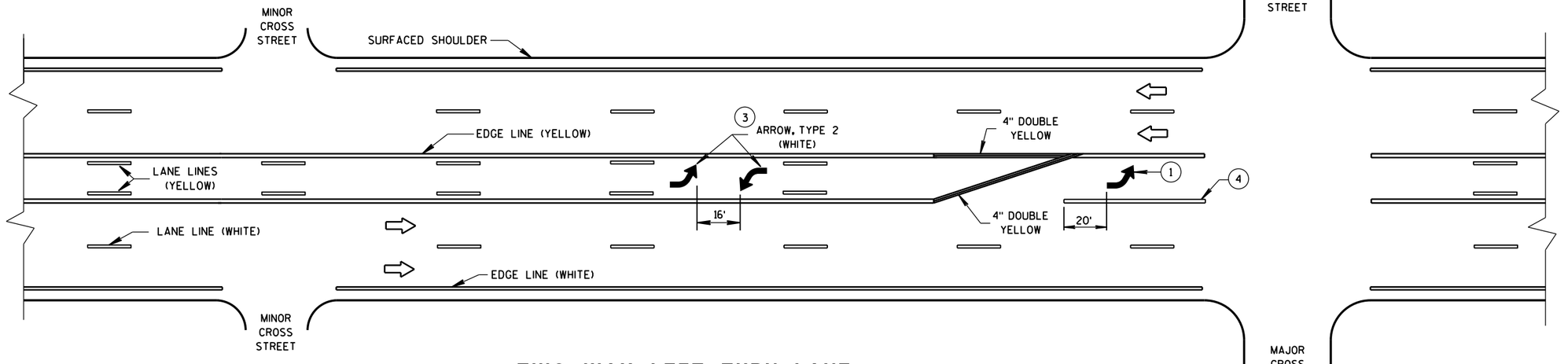
6

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

6

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





GENERAL NOTES

(1) REQUIRED ARROW, TYPE 2 (WHITE).

(2) REQUIRED ARROW, TYPE 2 (WHITE) WHEN L IS GREATER THAN 78 FEET AND LESS THAN OR EQUAL TO 166 FEET.

(3) A SET OF ARROWS IS REQUIRED EVERY 400 FEET OR NEAR INTERSECTIONS OR DRIVEWAYS WITH TURNING TRAFFIC.

(4) 8" WHITE

(5) REQUIRED WORD ONLY WHEN L IS GREATER THAN 166 FEET.

NOTE:
ARROW SYMBOL (⇨)
SHOWS DIRECTION OF TRAVEL

L = LENGTH OF TURN BAY

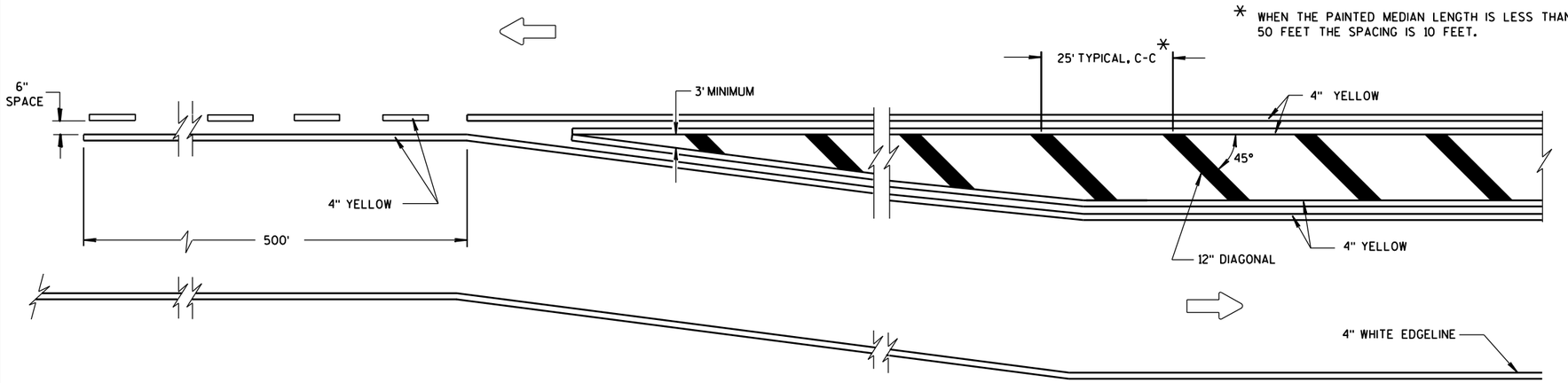
TWO WAY LEFT TURN LANE

PAVEMENT MARKING (TURN LANES)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPOI

6

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

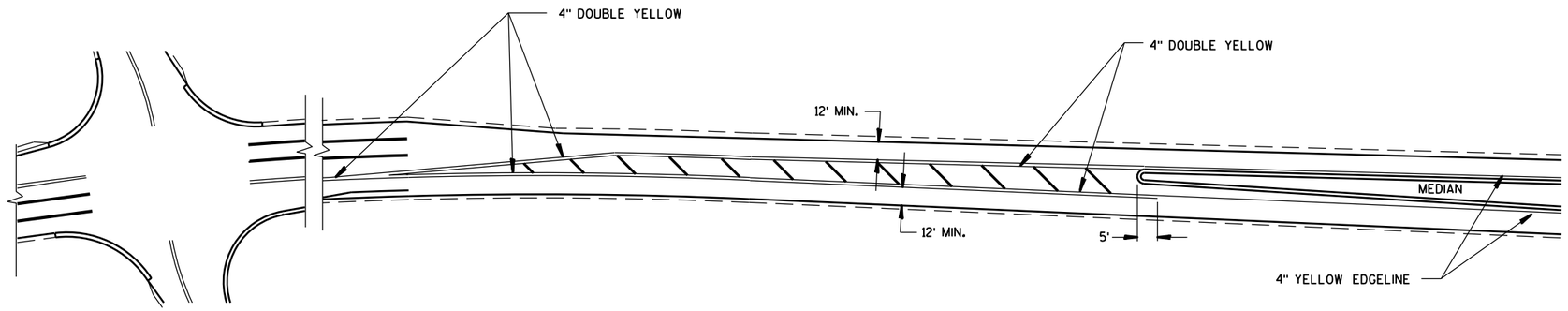


MEDIAN ISLAND DETAIL

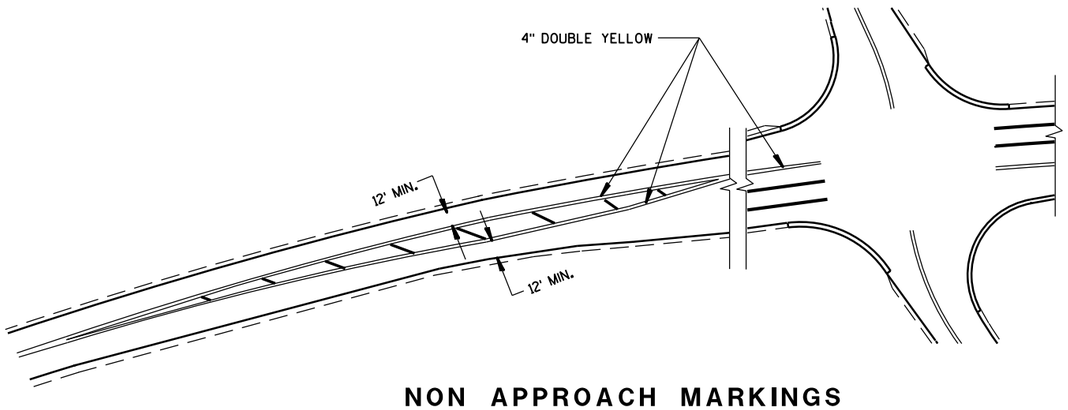
GENERAL NOTE

DIAGONALS ARE OPTIONAL WHEN PAINTED ISLAND IS LESS THAN 6 FEET AT WIDEST POINT.

DIRECTION OF TRAVEL



APPROACH MARKINGS FOR OTHER MEDIAN TYPES



NON APPROACH MARKINGS

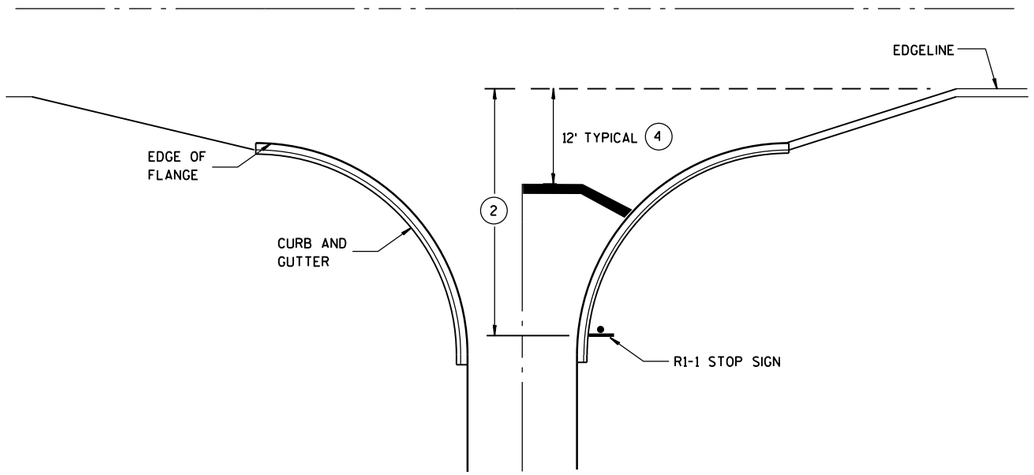
MEDIAN ISLAND MARKING	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2017 DATE FHWA	/S/ Matthew Rauch STATE SIGNING AND MARK ... EER

6

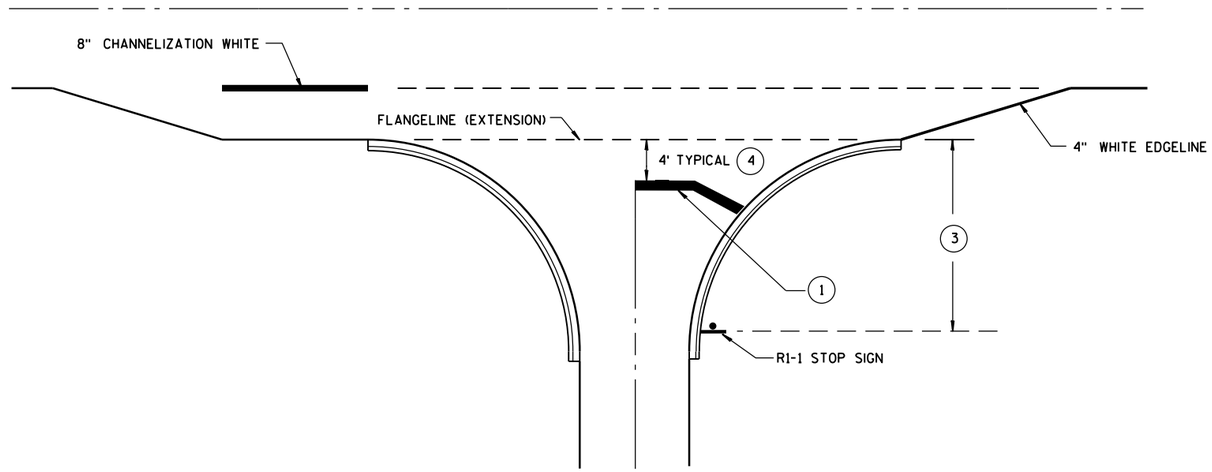
S.D.D. 15 C 18-4

6

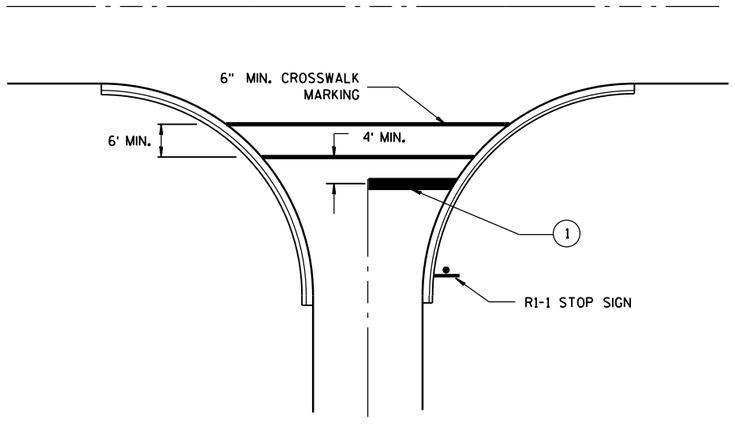
S.D.D. 15 C 18-4



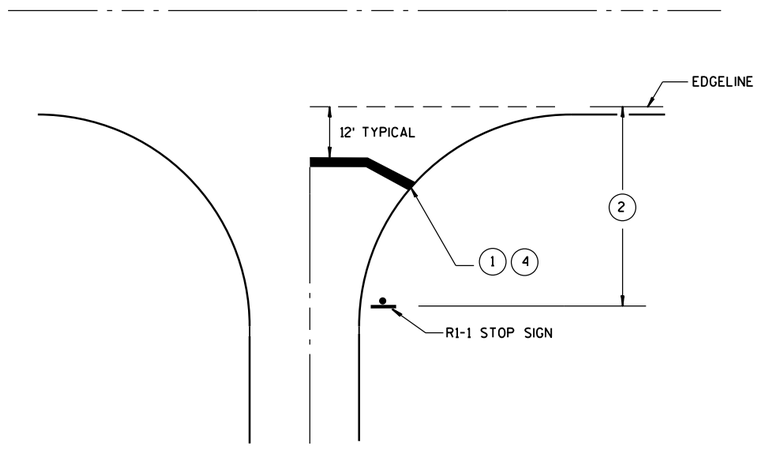
TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

GENERAL NOTES

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

STOP LINE AND CROSSWALK PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

4-18-2016
DATE

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

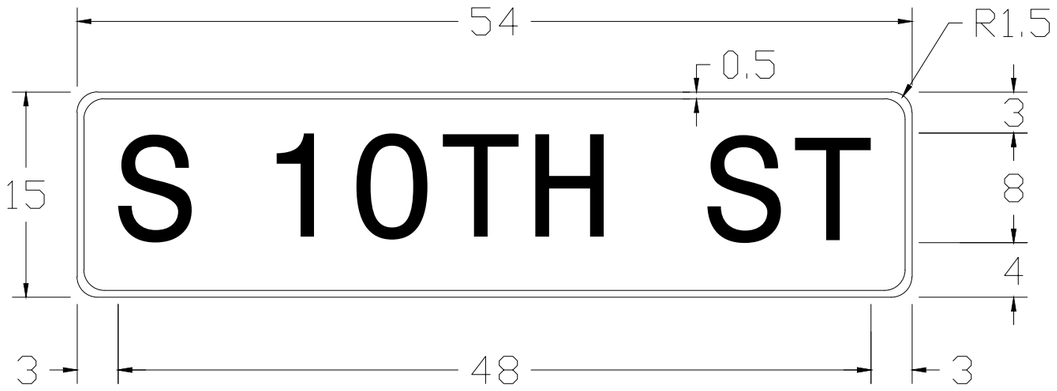
FHWA

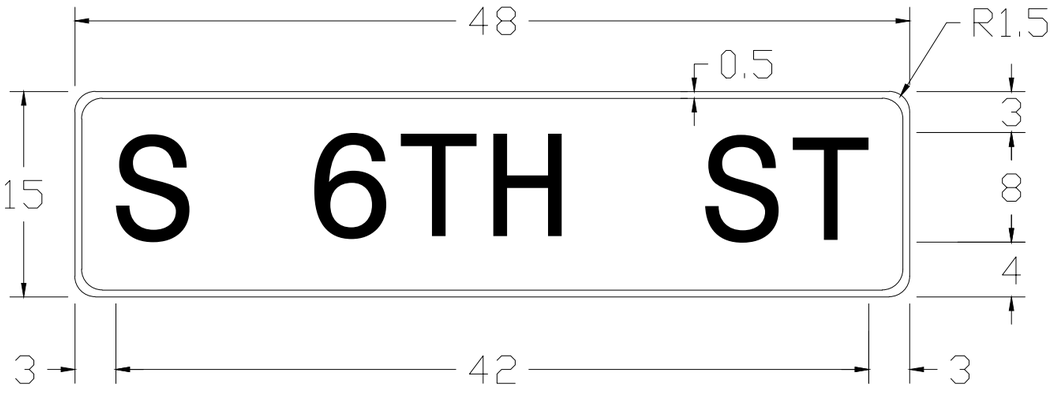
6

S.D.D. 15 C 33-2

STREET NAME SIGN DETAILS

MAST ARM MOUNTED





CONSTRUCTION NOTES:

1. All Signs are Type II - Type SH Sheeting - reference WisDOT Standard Specifications for Highway and Structure Construction, latest edition.
2. Color: Background - Green; Message and Border - White
3. Letters are Series C (spaced to fit); 8" Upper Case; 6" Lower Case
4. Signs shall be sheet aluminum. The corners and borders shall be rounded.
5. Sign message texts shown are typical. See Sign Quantities for message and quantity of each sign type.
6. All dimensions are in inches.

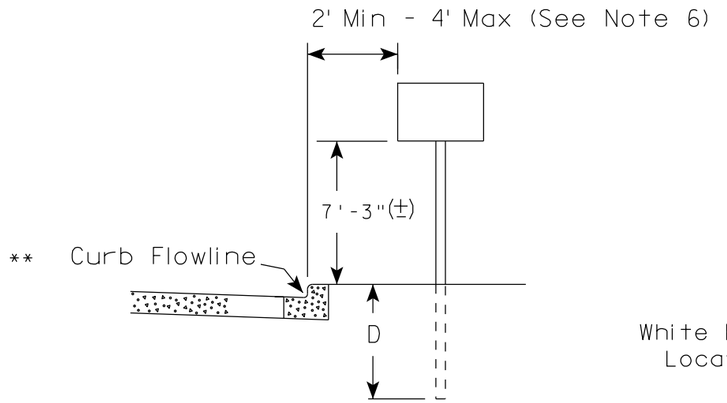
7

7

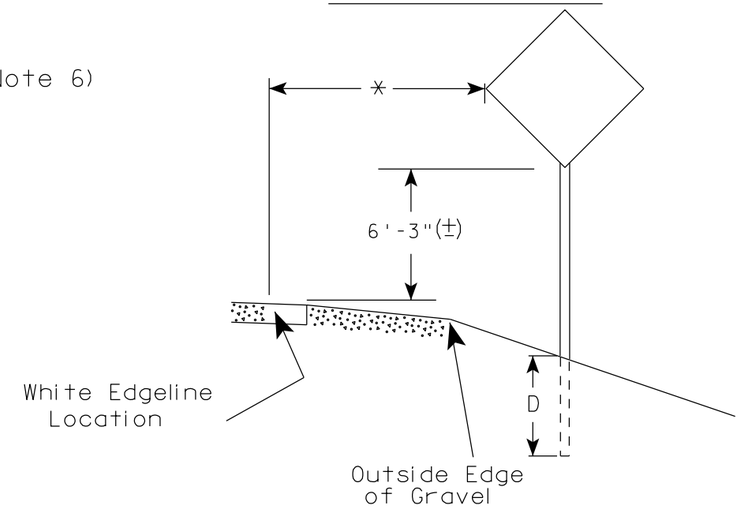
PROJECT NO: 2160–15–70	HWY: CTH U	COUNTY:MILWAUKEE	SIGN DETAIL	NOT TO SCALE	SHEET	E

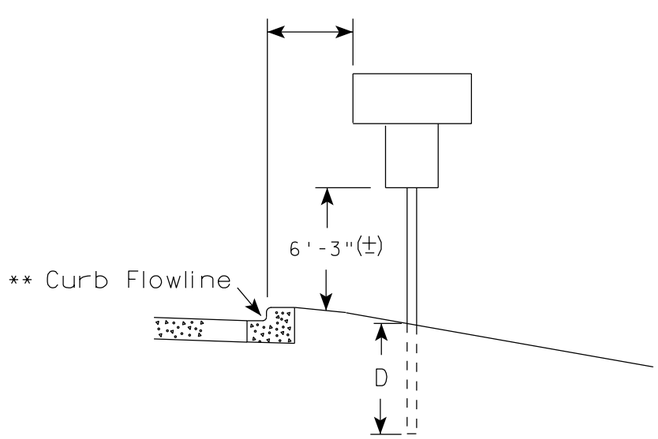
FILE NAME : STREET NAME SIGN DETAIL.dwg PLOT DATE : 1/10/2018 PLOT BY : DMM PLOT NAME : _____ PLOT SCALE : NTS WISDOT/CADDS SHE

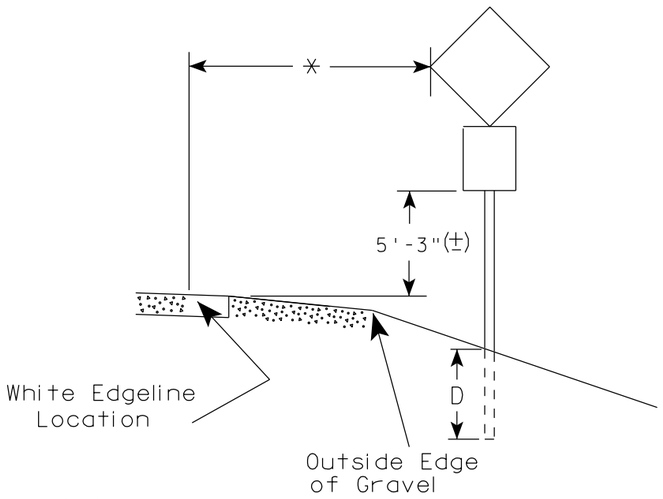
URBAN AREA



RURAL AREA (See Note 2)







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. Minimum mounting height for J assemblies (A2-1S) is 7'-3" (±) or 6'-3" (±) per urban or rural detail respectively.
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 directd 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" (±).

POST EMBEDMENT DEPTH

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

** 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.

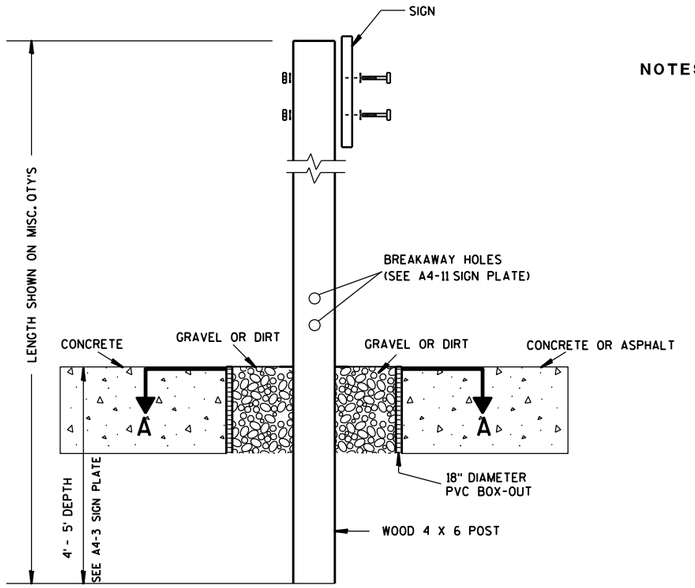
TYPICAL INSTALLATION OF PERMANENT TYPE II SIGNS ON SINGLE POSTS

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 7/23/15 PLATE NO. A4-3.20

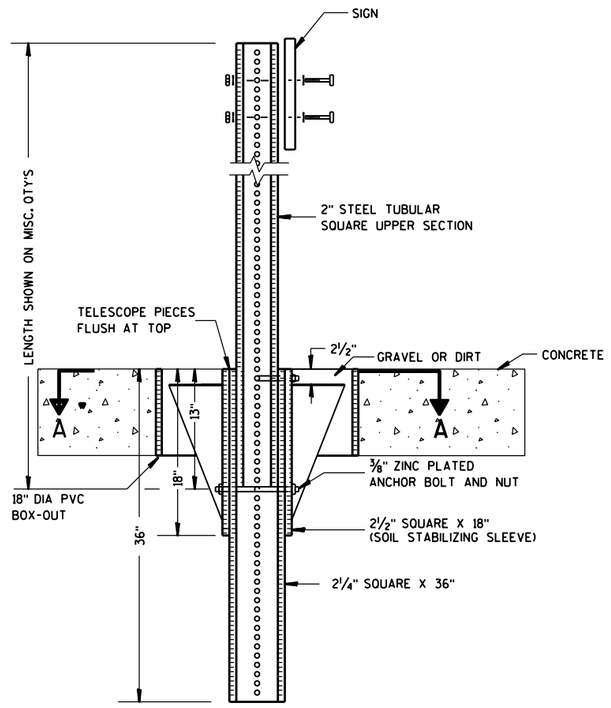
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



ELEVATION VIEW

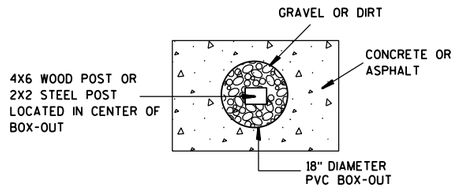
DETAIL OF WOOD 4 X 6 SIGN POST IN BOX-OUT

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



ELEVATION VIEW

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



PLAN VIEW

FOR NEW CONCRETE/ASPHALT INSTALLATIONS

SIGN POST BOX-OUTS A4-3B

WISCONSIN DEPT OF TRANSPORTATION

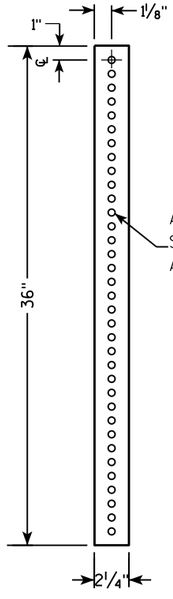
APPROVED Matthew R Rauch
for State Traffic Engineer

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

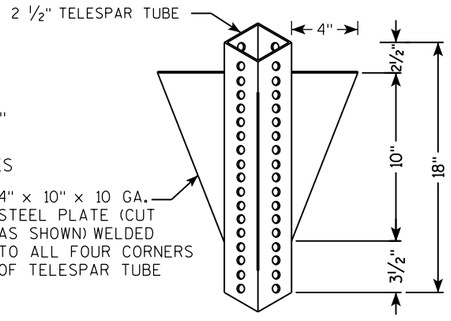
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E

TELESCOPIC TUBING ANCHORS
TWO PIECE SYSTEM

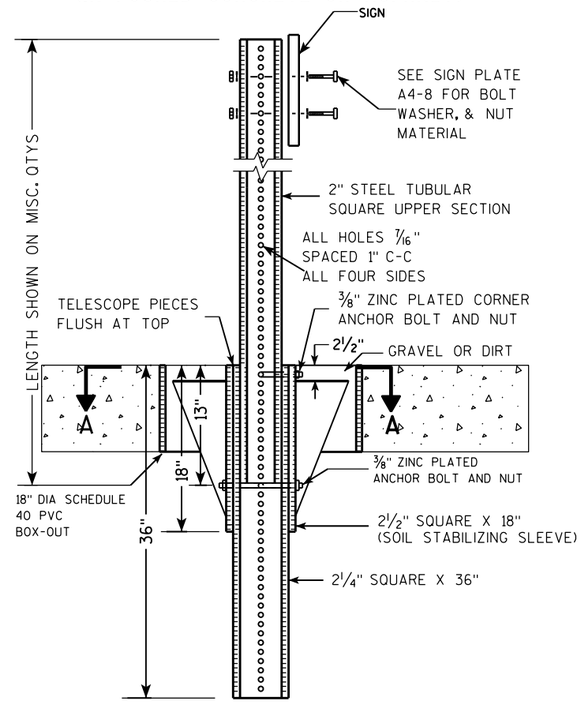
2 1/4 " SQUARE
12 GAUGE
PERFORATED
GALVANIZED FINISH



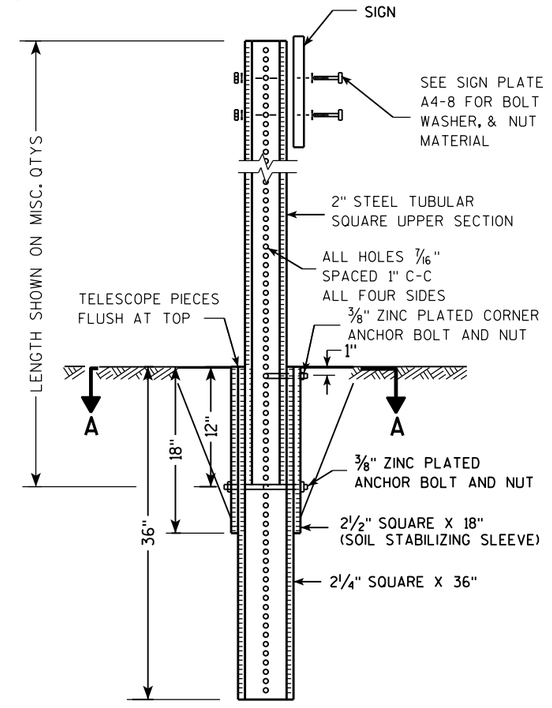
2 1/2 " SQUARE
12 GAUGE
OMNI-DIRECTIONAL
PERFORATED
SOIL STABILIZING SLEEVE
GALVANIZED FINISH

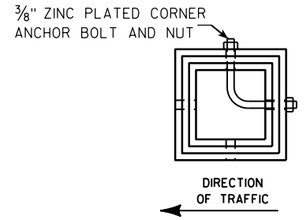


DETAIL OF TUBULAR STEEL SIGN POST
(IN POURED CONCRETE OR ASPHALT)



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





SECTION A-A

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

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

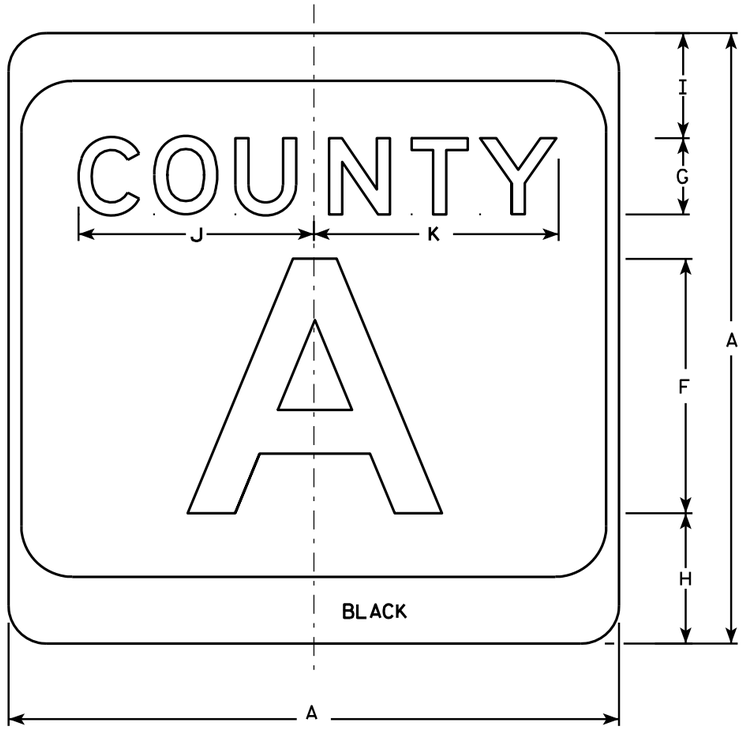
TUBULAR STEEL
SIGN POST
A4-9

WISCONSIN DEPT OF TRANSPORTATION

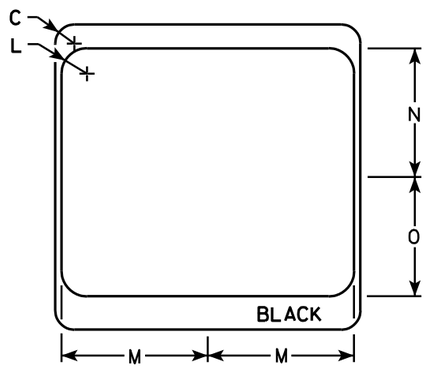
APPROVED Matthew R Rauch
for State Traffic Engineer

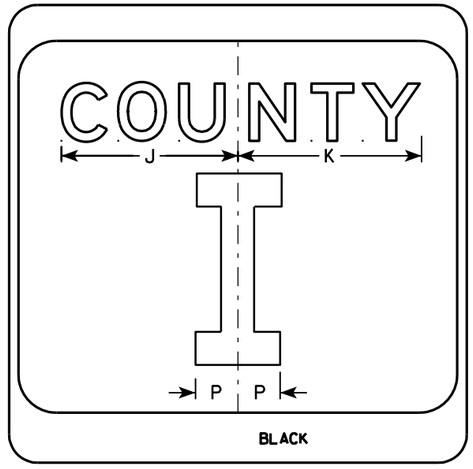
DATE 2/05/15 PLATE 117 A4-9.9

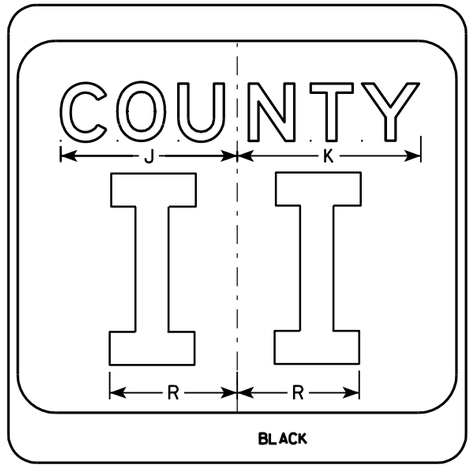
PROJECT NO:	HWY:	COUNTY:		SHEET NO:	E



M1-5A







NOTES

1. Sign is Type II - see Note 7 - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White & Black - See Note 7
   Message - Black
3. Message Series - see Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Message Series E for 1 letter.
   Message Series D for 2 letters unless message is too big then Series C.
   Message Series C for 3 letters unless message is too big then Series B.
6. Substitute appropriate letters & optically center to achieve proper balance.
7. Permanent Signs
   Background - Type H Reflective
   Detour or temporary Signs
   Background - Reflective

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

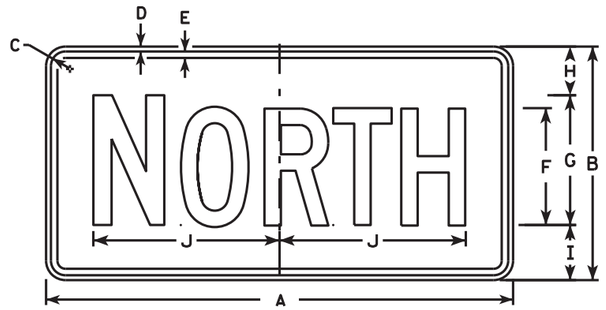
CTH MARKER
M1-5A FOR ASSEMBLIES

WISCONSIN DEPT OF TRANSPORTATION

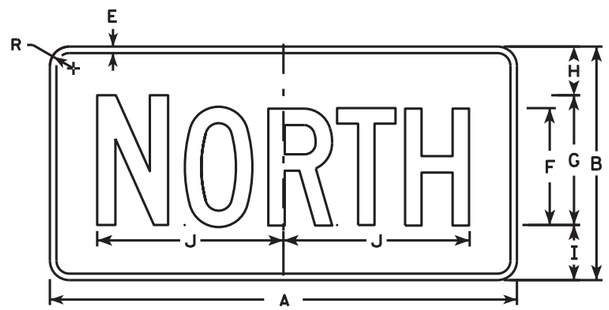
APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 9/27/11 PLATE NO. M1-5A.8

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



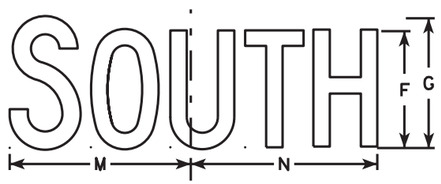
M3-1
MM3-1
MP3-1



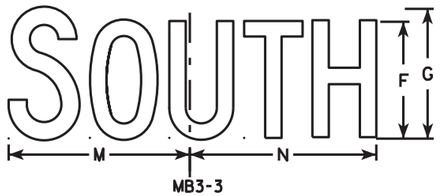
MB3-1
MK3-1
MN3-1

M3-2
MM3-2
MP3-2

MB3-2
MK3-2
MN3-2

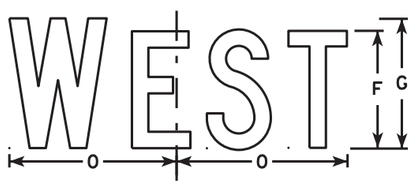


M3-3
MM3-3
MP3-3



MB3-3
MK3-3
MN3-3

M3-4
MM3-4
MP3-4



MB3-4
MK3-4
MN3-4

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 thur M3-4
SERIES

WISCONSIN DEPT OF TRANSPORTATION

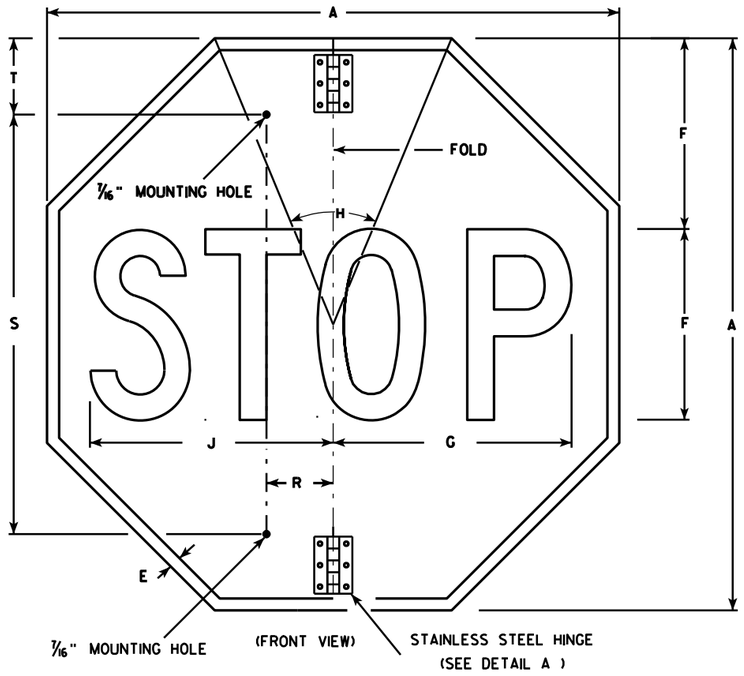
APPROVED Matthew R Rauch for State Traffic Engineer

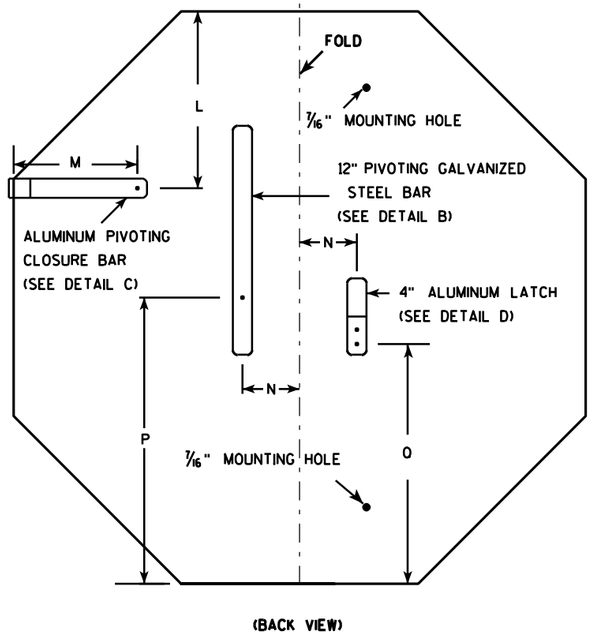
DATE 10/15/15 PLATE NO. M3-1.14

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

7

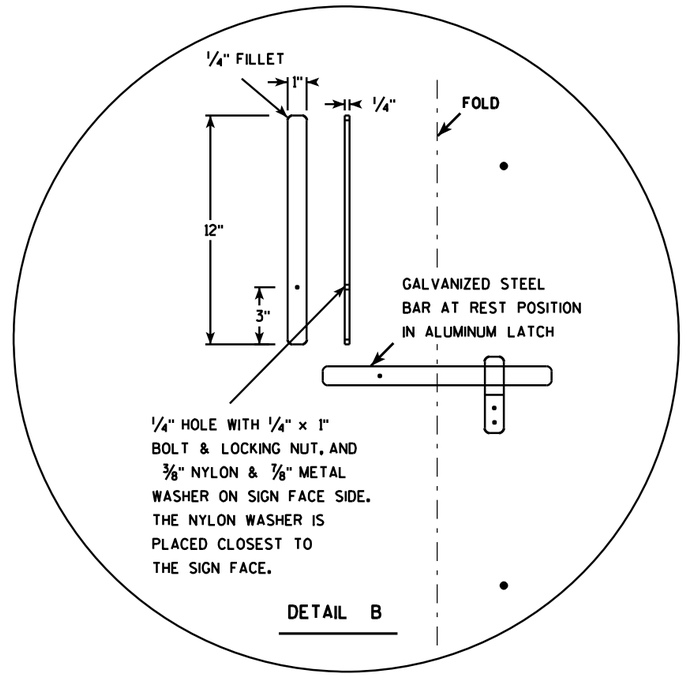
FILE NAME : C:\CAEfiles\Projects\tr_stdplate\M31.DGN PLOT DATE : 15-OCT-2015 12:16 PLOT BY : ss...plotuser...ss PLOT NAME : PLOT SCALE : 18.607113:1.000000
WISDOT/CADDS SHEET 42

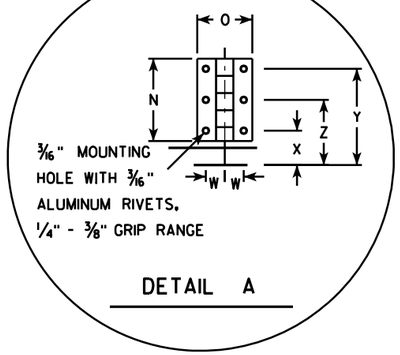


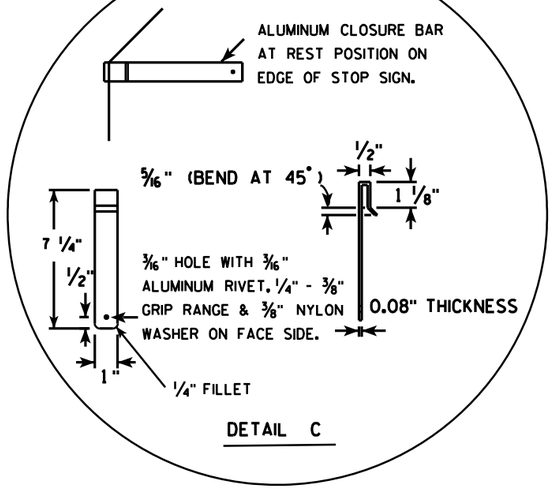


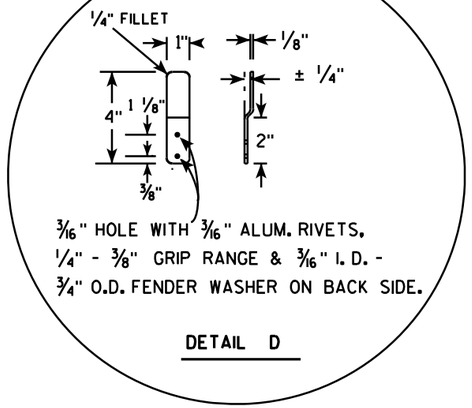
NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - Red
   Message - White
3. Message Series - C
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	O	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30				5/8	10	12 1/2	45		12 3/4		9 1/4	6 1/2	3	2	15	12 3/8	2 1/2	22	5			11/16	1 1/4	3 1/2	2 3/8	5.18
2M	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
3	36				3/4	12	15	45		15 3/8		11	6 1/2	3	2	18	15 3/8	2 1/2	26	5			11/16	1 1/4	3 1/2	2 3/8	7.46
4																											
5																											

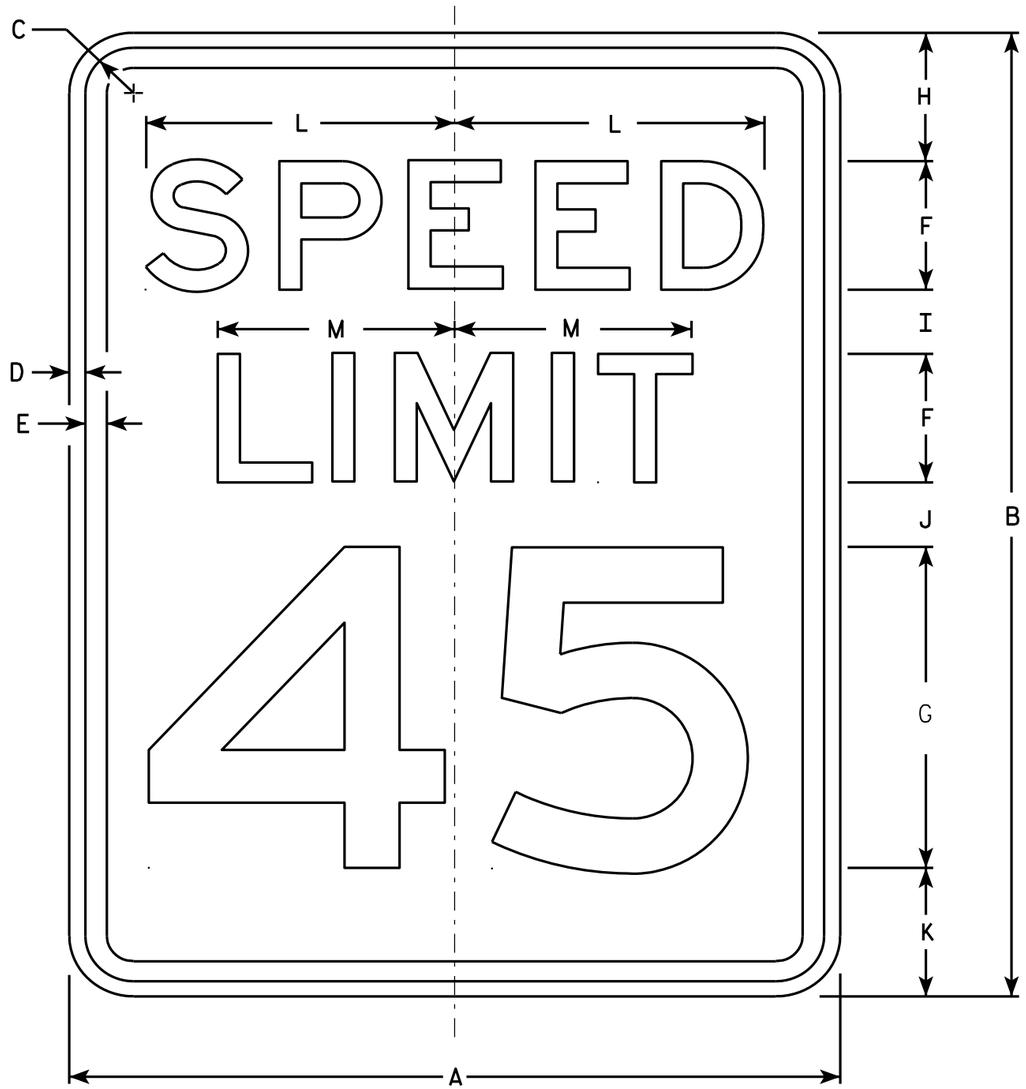
STANDARD SIGN
R1-1F

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 12/03/10 PLATE NO. R1-1F.3

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



R2-1

NOTES

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

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

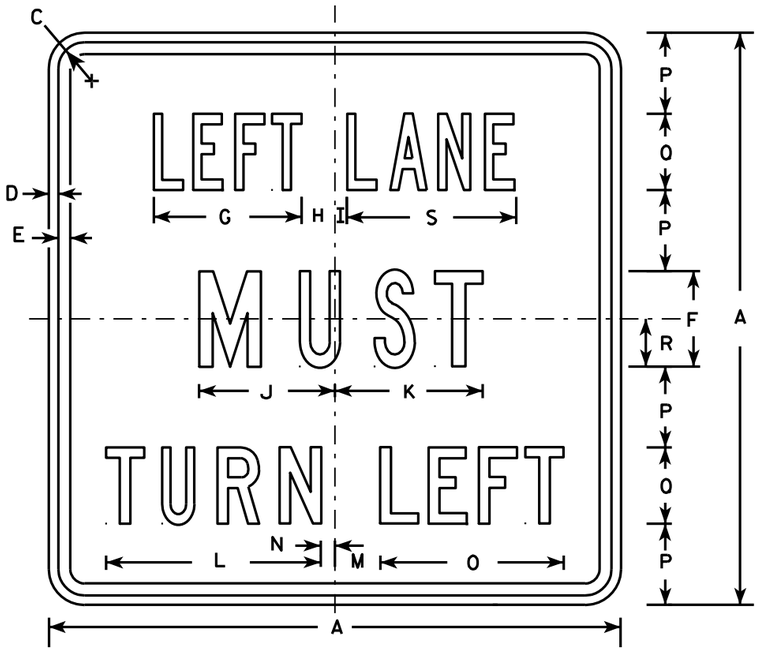
STANDARD SIGN
R2-1

WISCONSIN DEPT OF TRANSPORTATION

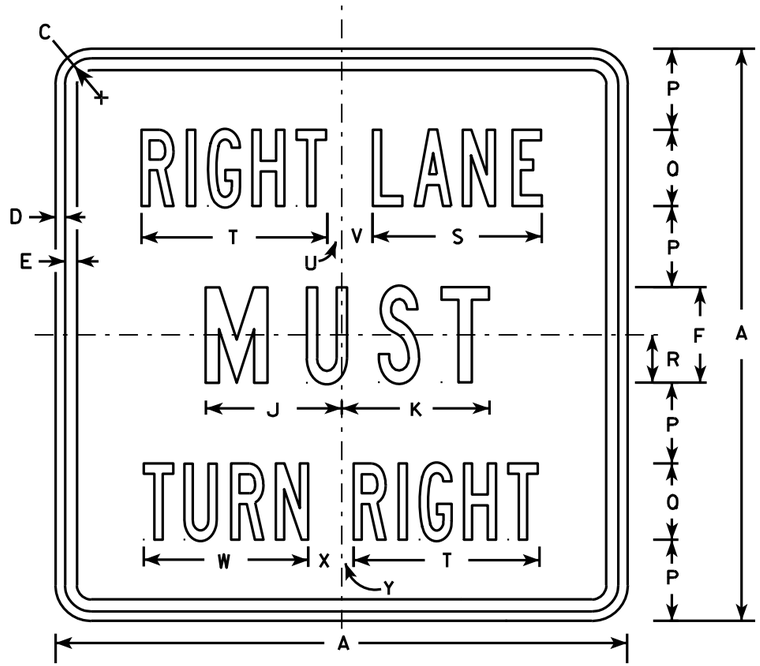
APPROVED Matthew R Rauch
for State Traffic Engineer

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

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



R3-7L



R3-7R

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Black
3. Message Series - Line 1 is Series B.
   Line 2 is Series C.
   Line 3 on plate R3-7R is Series B and Series C on plate R3-7L.
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
2S	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
2M	30		1 3/8	1/2	5/8	5	7 3/4	1 3/4	5/8	7 1/8	7 3/4	11 1/4	2 3/8	3/4	9 5/8	4 1/4	4	2 1/2	8 7/8	9 3/4	3/4	1 5/8	8 5/8	1 5/8	5/8		6.25
3	36		1 5/8	5/8	3/4	6	9 5/8	2	1 1/8	8 3/4	9	13 1/2	3 7/8	1 1/2	12 1/2	5	5	3	10 5/8	12	7/8	2 1/4	10 5/8	2 1/8	1		9.00
4	48		2 1/4	3/4	1	8	13 1/2	2 3/8	1 1/2	11 1/2	11 7/8	17 3/4	3 5/8	2 1/2	16 3/8	6 1/2	7	4	14 3/8	16 7/8	5/8	3 1/4	15 1/8	2 3/4	1 1/8		16.00
5																											

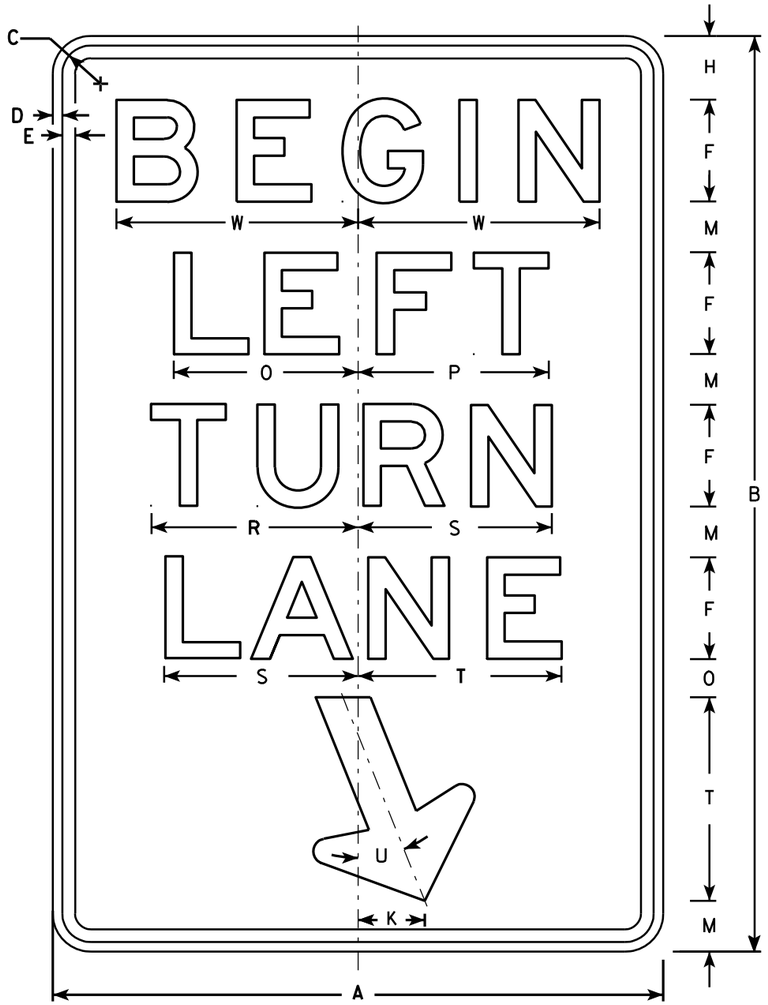
STANDARD SIGN
R3-7L & R3-7R

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

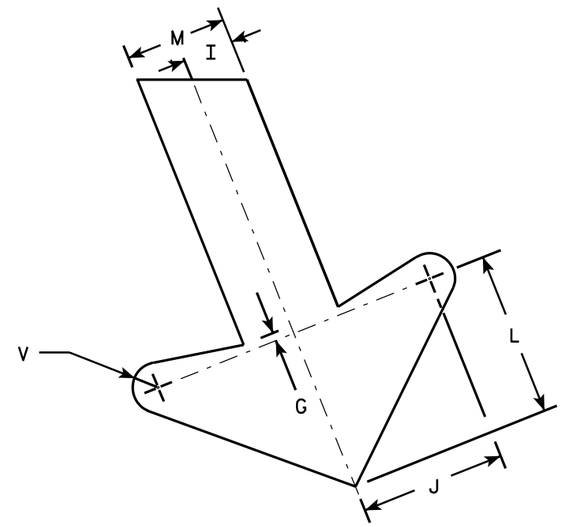
PROJECT NO: | HWY: | COUNTY: | SHEET NO: 122 | E



R3-20L

NOTES

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



ARROW DETAIL

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

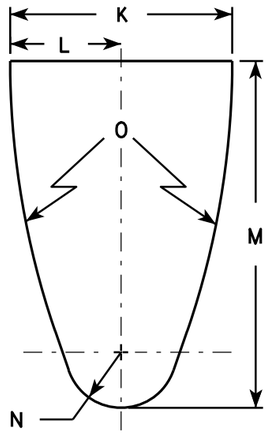
STANDARD SIGN
R3-20L

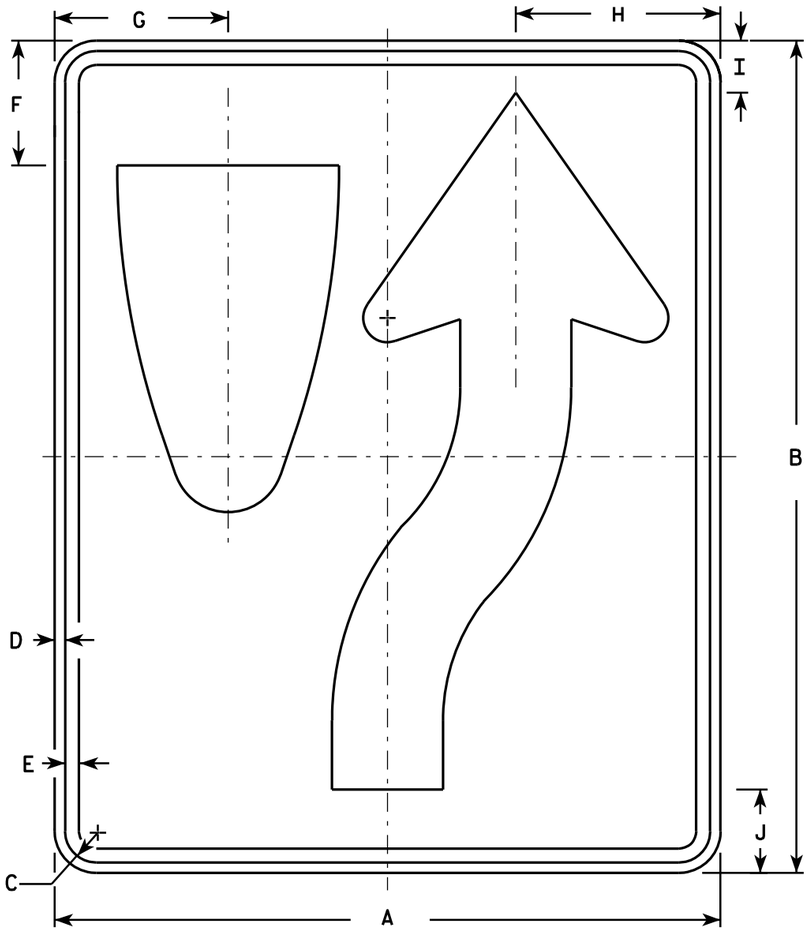
WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO: | HWY: | COUNTY: | SHEET NO: 123 | E

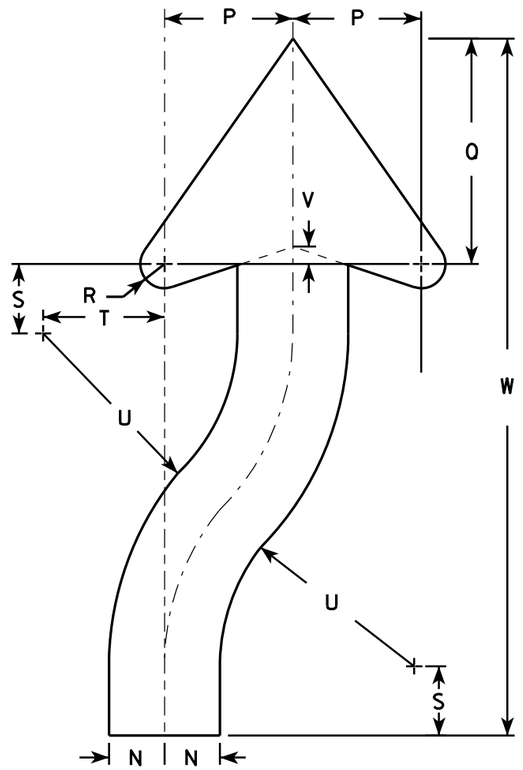




R4-7

NOTES

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



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

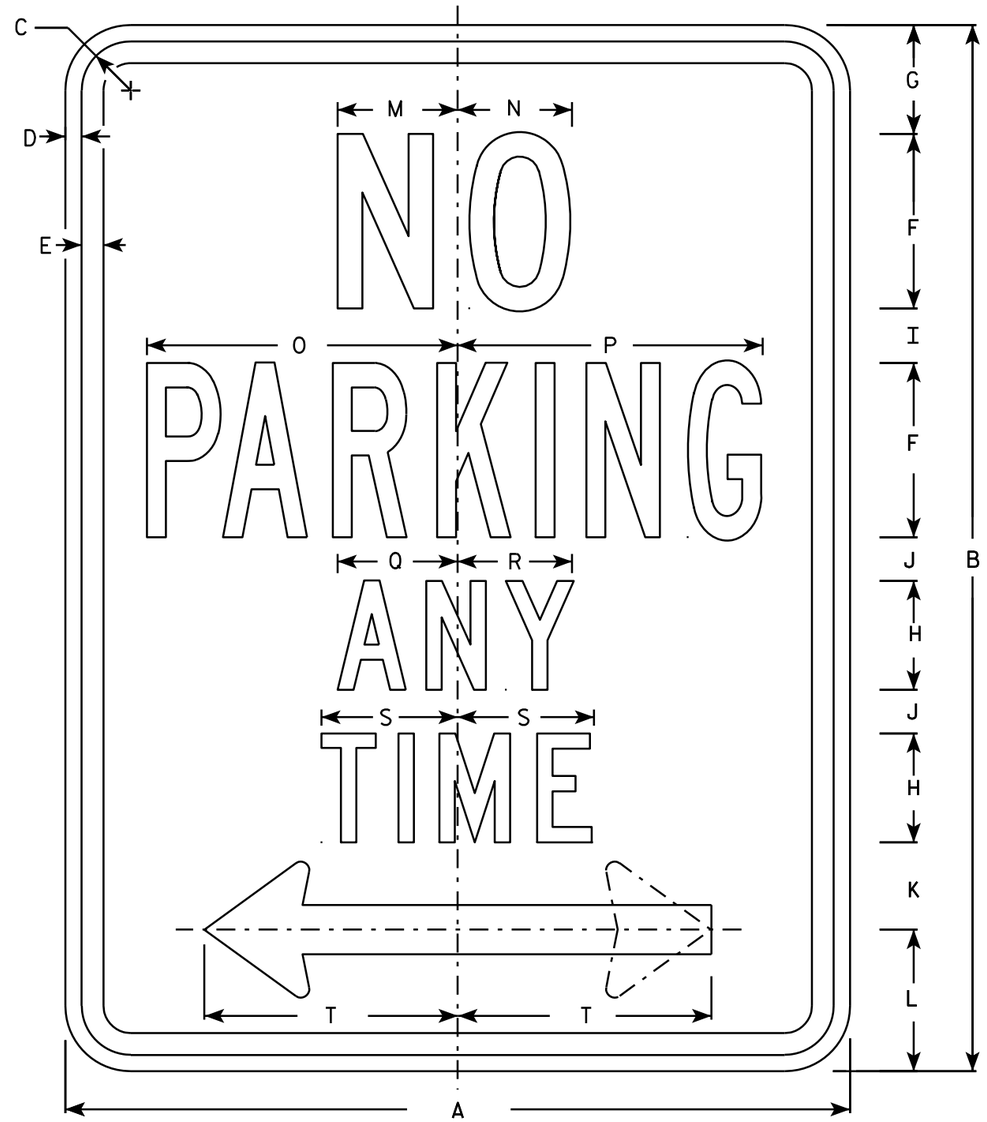
STANDARD SIGN
R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

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

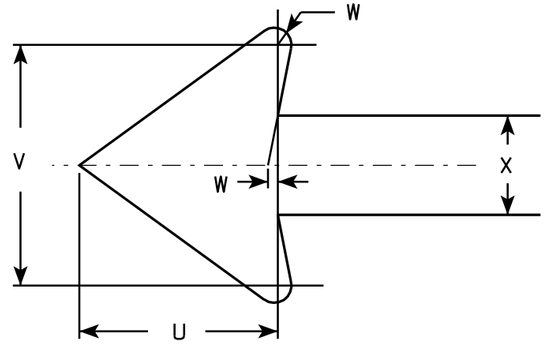
PROJECT NO:	HWY:	COUNTY:		SHEET NO: 124	E



R7-1

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition.
2. Color:
   Background - White
   Message - Red
3. Message Series - See Note 5
4. Corners may be square or rounded when base material is plywood but borders shall be rounded as shown. When base material is metal, the corners and borders shall be rounded.
5. Lines 1, 3 and 4 are series C, line 2 is series B.
6. R7-1D (double arrow)
   R7-1L (left arrow)
   R7-1R (right arrow)



SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	12	18	1 1/8	3/8	3/8	3	1 7/8	2	7/8	5/8	1 1/2	2 1/2	2	2	4 7/8	4 7/8	2 1/4	2 1/8	2 1/2	3 7/8	1 1/2	1 3/4	1/8	3/4			1.5
2S	18	24	1 1/8	3/8	1/2	4	2 1/2	2 1/2	1 1/4	1	2	3 1/4	2 3/4	2 5/8	7 1/8	7	2 3/4	2 5/8	3 1/8	5 7/8	2 1/4	2 5/8	1/4	1 1/8			3.0
2M	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
3	24	30	1 1/8	3/8	1/2	5	3	3	2	1 1/4	2 1/2	4	3 1/4	3 3/8	9 1/4	9 1/4	3 1/4	3 1/4	3 3/4	7 3/4	3	3 1/2	1/4	1 1/2			5.0
4																											
5																											

STANDARD SIGN
R7-1

WISCONSIN DEPT OF TRANSPORTATION

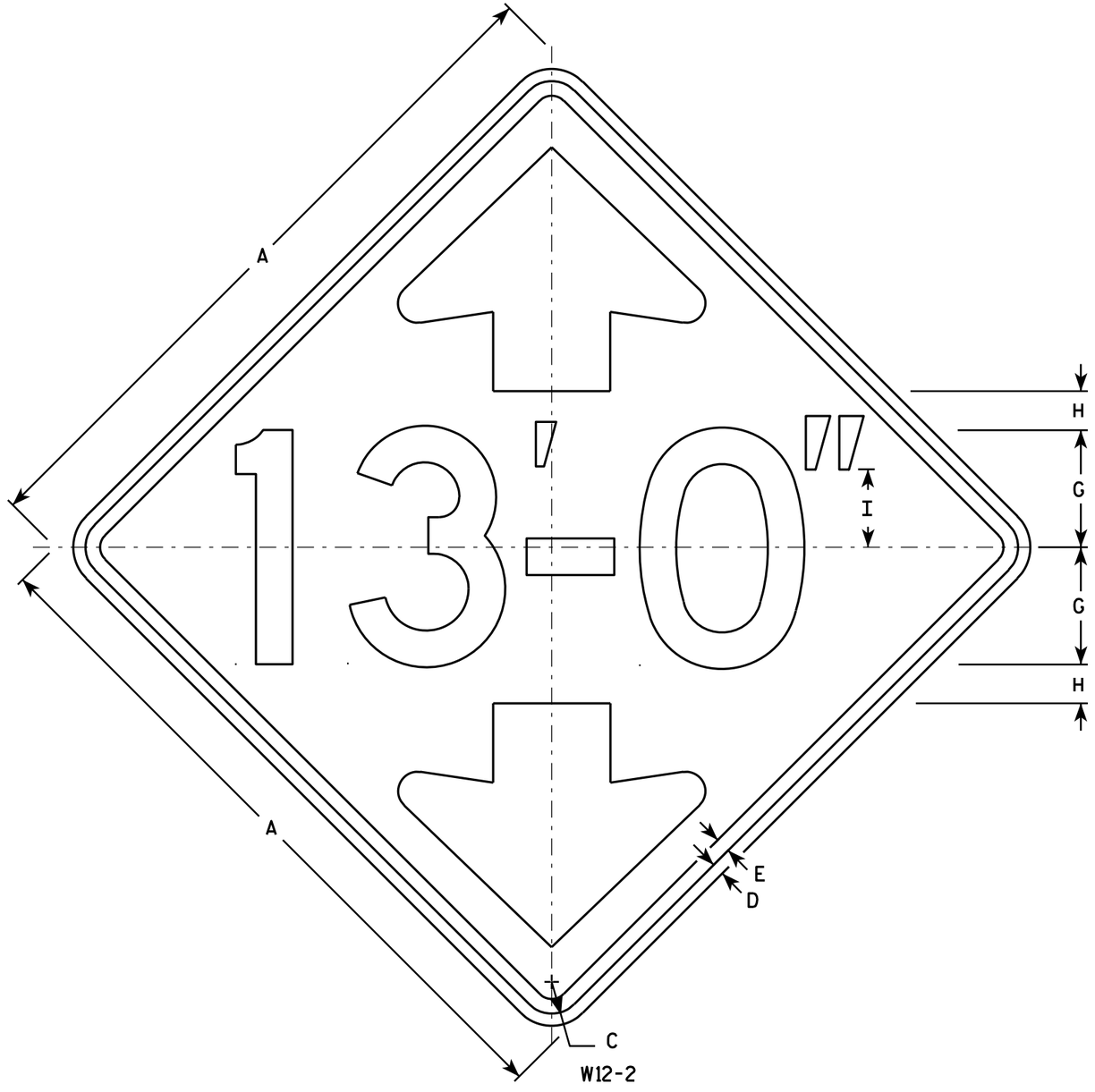
APPROVED Matthew R Rauch
for State Traffic Engineer

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

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 125	E

FILE NAME : C:\Users\PROJECTS\tr_stdplate\R71.DGN PLOT DATE : 31-MAR-2011 09:20 PLOT BY : mscsja PLOT NAME : PLOT SCALE : 3.476110:1.000000

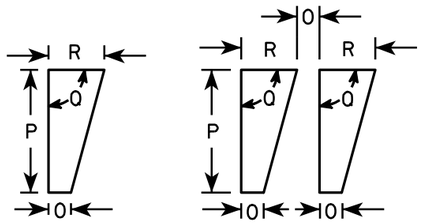
WISDOT/CADDS SHEET 42



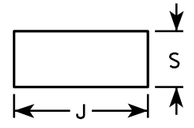
NOTES

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

Arrow Detail



Foot Mark & Inch Mark Detail



Hyphen 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		5	1 5/8	3 3/8	3 3/4	6 5/8	5 3/4	3/4	2 1/2	1/2	2 1/4	90°	1	1 5/8								6.25
2S	36		1 5/8	5/8	3/4		6	2	4	4 1/2	8	6 7/8	1	3	1/2	2 3/4	90°	1 1/4	1 7/8								9.00
2M	36		1 5/8	5/8	3/4		6	2	4	4 1/2	8	6 7/8	1	3	1/2	2 3/4	90°	1 1/4	1 7/8								9.00
3	36		1 5/8	5/8	3/4		6	2	4	4 1/2	8	6 7/8	1	3	1/2	2 3/4	90°	1 1/4	1 7/8								9.00
4	36		1 5/8	5/8	3/4		6	2	4	4 1/2	8	6 7/8	1	3	1/2	2 3/4	90°	1 1/4	1 7/8								9.00
5	48		2 1/4	3/4	1		8	2 5/8	5 1/2	5 7/8	10 5/8	9 1/4	1 3/8	4	5/8	3 5/8	90°	1 5/8	2 1/2								16.00

STANDARD SIGN
W12-2

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch
for State Traffic Engineer

DATE 3/13/13 PLATE NO. W12-2.9

PROJECT NO:	HWY:	COUNTY:		SHEET NO: 126	E

Notes

Wisconsin Department of Transportation

Dedicated people creating transportation solutions through innovation and exceptional service.

http://www.dot.wisconsin.gov